# Open Source Used In NBAR SD-AVC 4.5.0

**Cisco Systems, Inc.**
www.cisco.com

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco website at www.cisco.com/go/offices.

Text Part Number: 78EE117C99-1640921755

**This document contains licenses and notices for open source software used in this product. With respect to the free/open source software listed in this document, if you have any questions or wish to receive a copy of any source code to which you may be entitled under the applicable free/open source license(s) (such as the GNU Lesser/General Public License), please submit this form.**

**In your requests please include the following reference number 78EE117C99-1640921755**

# Contents


**1.1 antlr 2.7.7**
1.1.1 Available under license
**1.2 libjpeg 6b**
1.2.1 Notifications
1.2.2 Available under license
**1.3 pcre 7.6**
1.3.1 Available under license
**1.4 commons-collections 3.2.2**
1.4.1 Available under license
**1.5 ifupdown 0.7.47.2ubuntu4.4**
1.5.1 Available under license
**1.6 bzip2 1.0.6-5**
1.6.1 Available under license
**1.7 plymouth 0.8.8-0ubuntu17.1**
1.7.1 Available under license
**1.8 jsch 0.1.53**
1.8.1 Available under license
**1.9 commons-io 2.5**
1.9.1 Available under license
**1.10 commons-math 3.6.1**
1.10.1 Available under license
**1.11 tcpdump 4.9.2-0ubuntu0.14.04.1**
1.11.1 Available under license
**1.12 annotations 13.0**
1.12.1 Available under license
**1.13 cdebconf 0.213ubuntu1**

1.13.1 Available under license
**1.14 mime-support 3.60ubuntu1**
1.14.1 Available under license
**1.15 dash 0.5.8-2.10**
1.15.1 Available under license
**1.16 debianutils 4.8.4**
1.16.1 Available under license
**1.17 diffutils 3.6-1**
1.17.1 Available under license
**1.18 hostname 3.20**
1.18.1 Available under license
**1.19 init-system-helpers 1.51**
1.19.1 Available under license
**1.20 libffi 3.2.1-8**
1.20.1 Available under license
**1.21 sensible-utils 0.0.12**
1.21.1 Available under license
**1.22 adduser 3.116ubuntu1**
1.22.1 Available under license
**1.23 attr 2.4.47-2build1**
1.23.1 Available under license
**1.24 base-passwd 3.5.44**
1.24.1 Available under license
**1.25 coreutils 8.28-1ubuntu1**
1.25.1 Available under license
**1.26 findutils 4.6.0+git+20170828-2**
1.26.1 Available under license
**1.27 libsemanage-common 2.7-2build2**
1.27.1 Available under license
**1.28 lsb 9.20170808ubuntu1**
1.28.1 Available under license
**1.29 mawk 1.3.3-17ubuntu3**
**1.30 sysv-init 2.88dsf-59.10ubuntu1**
1.30.1 Available under license
**1.31 animal-sniffer-annotation 1.17**
**1.32 zlib 1.2.3**
1.32.1 Available under license
**1.33 failureaccess 1.0.1**
**1.34 libpcap 1.9.0**

1.34.1 Available under license
**1.35 minlog 1.3.1**
1.35.1 Available under license
**1.36 commons-fileupload 1.4**
1.36.1 Available under license
**1.37 openssl 1.0.2g-1ubuntu4.15**
**1.38 debconf 1.5.66ubuntu1**
**1.39 j2objc-annotations 1.3**
1.39.1 Available under license
**1.40 commons-beanutils 1.9.4**
1.40.1 Available under license
**1.41 apparmor 2.12-4ubuntu5.1**
1.41.1 Available under license
**1.42 pygobject 3.26.1-2ubuntu1**
1.42.1 Available under license
**1.43 ucf 3.0038**
1.43.1 Available under license
**1.44 wget 1.19.4-1ubuntu2.2**
1.44.1 Available under license
**1.45 mpdecimal 2.4.2-1ubuntu1**
1.45.1 Available under license
**1.46 libidn 1.33-2.1ubuntu1.2**
1.46.1 Available under license
**1.47 libxcb 1.13-2~ubuntu18.04**
1.47.1 Available under license
**1.48 jjwt 0.7.0**
**1.49 libunistring 0.9.9-0ubuntu2**
1.49.1 Available under license
**1.50 xdg-user-dirs 0.17-1ubuntu1**
1.50.1 Available under license
**1.51 commons-io 2.6**
1.51.1 Available under license
**1.52 guava 15.0**
**1.53 commons-digester 2.1**
1.53.1 Available under license
**1.54 net-tools 1.60+git20161116.90da8a0-1ubuntu1**
1.54.1 Available under license
**1.55 chardet 3.0.4-1**
1.55.1 Available under license

**1.56 python-idna 2.6-1**
1.56.1 Available under license
**1.57 ssh-import-id 5.7-0ubuntu1.1**
1.57.1 Available under license
**1.58 idna 2.6**
1.58.1 Available under license
**1.59 lua 5.3.5**
**1.60 libffi 3.2.1**
1.60.1 Available under license
**1.61 serf 1.3.9-6**
1.61.1 Available under license
**1.62 mysql-defaults 5.8+1.0.4**
1.62.1 Available under license
**1.63 procps 3.3.12-3ubuntu1.2**
1.63.1 Available under license
**1.64 grep 3.1-2build1**
1.64.1 Available under license
**1.65 net-snmp 5.7.3+dfsg-1ubuntu4.4**
1.65.1 Available under license
**1.66 mina 2.0.4**
1.66.1 Available under license
**1.67 python-requests 2.18.4**
1.67.1 Available under license
**1.68 libidn 2.0.4-1.1ubuntu0.2**
1.68.1 Available under license
**1.69 libpng 1.6.37**
1.69.1 Available under license
**1.70 jakarta-persistence-api 2.2.3**
1.70.1 Available under license
**1.71 jakarta-transaction-api 1.3.3**
1.71.1 Available under license
**1.72 python-requests 2.18.4-2ubuntu0.1**
1.72.1 Available under license
**1.73 libxmu 1.1.2-2**
1.73.1 Available under license
**1.74 libedit 3.1-20170329-1**
1.74.1 Available under license
**1.75 sed 4.4-2**
1.75.1 Available under license

**1.76 libcap-ng 0.7.7-3.1**
1.76.1 Available under license
**1.77 gdbm 1.14.1-6**
1.77.1 Available under license
**1.78 libxdmcp 1.1.2-3**
1.78.1 Available under license
**1.79 gpm 1.20.7-5**
1.79.1 Available under license
**1.80 gobject-introspection 1.56.1-1**
1.80.1 Available under license
**1.81 xauth 1.0.10-1**
1.81.1 Available under license
**1.82 libpsl 0.19.1-5build1**
1.82.1 Available under license
**1.83 libxext 1.3.3-1**
1.83.1 Available under license
**1.84 libcap 2.25-1.2**
1.84.1 Available under license
**1.85 ncurses 6.1-1ubuntu1.18.04**
1.85.1 Available under license
**1.86 iptables 1.6.1-2ubuntu2**
1.86.1 Available under license
**1.87 acl 2.2.52-3build1**
1.87.1 Available under license
**1.88 berkeley-db 5.3.28-13.1ubuntu1.1**
1.88.1 Available under license
**1.89 bzip2 1.0.6-8.1ubuntu0.2**
1.89.1 Available under license
**1.90 zip 3.0**
1.90.1 Available under license
**1.91 libgpg-error 1.27-6**
1.91.1 Available under license
**1.92 ethtool 4.5-1**
1.92.1 Available under license
**1.93 nmap 7.80**
1.93.1 Available under license
**1.94 python 2.7.18**
1.94.1 Available under license
**1.95 openssl 1.0.1f-1ubuntu2.23**

1.95.1 Available under license
**1.96 cpp 8.4.0-1ubuntu1~18.04**
1.96.1 Available under license
**1.97 tcp-wrappers 7.6.q-27**
1.97.1 Available under license
**1.98 okio 2.6.0**
1.98.1 Available under license
**1.99 jna 5.4.0**
1.99.1 Available under license
**1.100 json-c 0.12.1-1.3ubuntu0.3**
1.100.1 Available under license
**1.101 lvm2 1.02.145-4.1ubuntu3.18.04.3**
1.101.1 Available under license
**1.102 lvm2 2.02.176-4.1ubuntu3.18.04.3**
1.102.1 Available under license
**1.103 pygobject 3.26.1**
1.103.1 Available under license
**1.104 guava 28.0-jre**
1.104.1 Available under license
**1.105 logging-interceptor 3.14.9**
1.105.1 Available under license
**1.106 libjson-c3 0.12.1-1.3ubuntu0.3**
1.106.1 Available under license
**1.107 retrofit 2.9.0**
1.107.1 Available under license
**1.108 converter-gson 2.9.0**
1.108.1 Available under license
**1.109 converter-scalars 2.9.0**
1.109.1 Available under license
**1.110 libbsd 0.8.7-1ubuntu0.1**
1.110.1 Available under license
**1.111 d3 5.16.0**
1.111.1 Available under license
**1.112 libssh 0.8.0~20170825.94fa1e38-1ubuntu0.7**
1.112.1 Available under license
**1.113 nghttp2 1.30.0-1ubuntu1**
1.113.1 Available under license
**1.114 jackson 2.6.0**
1.114.1 Available under license

**1.115 ftp-server 1.0.6_1**
1.115.1 Available under license
**1.116 checker-qual 3.5.0**
1.116.1 Available under license
**1.117 httpcomponents-client 4.5.13**
1.117.1 Available under license
**1.118 cryptsetup 2.0.2-1ubuntu1.2**
1.118.1 Available under license
**1.119 ncurses 6.1-7.20180224.el8**
1.119.1 Available under license
**1.120 readline-common 7.0-3**
1.120.1 Available under license
**1.121 libgpm 1.20.7-5**
1.121.1 Available under license
**1.122 libncurses 6.1-1ubuntu1.18.04**
1.122.1 Available under license
**1.123 libip4tc0 1.6.1-2ubuntu2**
1.123.1 Available under license
**1.124 libnghttp2-14 1.30.0-1ubuntu1**
1.124.1 Available under license
**1.125 colorama 0.4.1**
1.125.1 Available under license
**1.126 idna 2.8**
1.126.1 Available under license
**1.127 netaddr 0.7.19**
1.127.1 Available under license
**1.128 packaging 19.0**
1.128.1 Available under license
**1.129 six 1.11.0**
1.129.1 Available under license
**1.130 python-setuptools 41.2.0**
1.130.1 Available under license
**1.131 libgirepository 1.56.1-1**
1.131.1 Available under license
**1.132 libargon 0~20161029-1.1**
1.132.1 Available under license
**1.133 python3-idna 2.6-1**
1.133.1 Available under license
**1.134 python3-certifi 2018.1.18-2**

1.134.1 Available under license
**1.135 gir 1.56.1-1**
1.135.1 Available under license
**1.136 python-six 1.11.0-2**
1.136.1 Available under license
**1.137 python-gi 3.26.1-2ubuntu1**
1.137.1 Available under license
**1.138 python-chardet 3.0.4-1**
1.138.1 Available under license
**1.139 ncurses-term 6.1-1ubuntu1.18.04**
1.139.1 Available under license
**1.140 util-linux 2.31.1-0.4ubuntu3.7**
1.140.1 Available under license
**1.141 kmod 24-1ubuntu3.5**
1.141.1 Available under license
**1.142 pythonurllib 1.22-1ubuntu0.18.04.2**
1.142.1 Notifications
1.142.2 Available under license
**1.143 iproute snmp**
1.143.1 Available under license
**1.144 libdnet nmap**
1.144.1 Available under license
**1.145 netcat-openbsd tools/nc**
1.145.1 Available under license
**1.146 psmisc tools/fuser**
1.146.1 Available under license
**1.147 ssh-import-id 5.7**
1.147.1 Available under license
**1.148 file-saver 2.0.5**
1.148.1 Available under license
**1.149 python 3.6.9**
1.149.1 Available under license
**1.150 iconv 2.27**
1.150.1 Available under license
**1.151 file 5.32-2ubuntu0.4**
1.151.1 Available under license
**1.152 selinux 2.7-2build2**
1.152.1 Available under license
**1.153 libxau 1.0.8-1ubuntu1**

1.153.1 Available under license
**1.154 expat 2.2.8**
1.154.1 Available under license
**1.155 audit 2.8.2-1ubuntu1.1**
1.155.1 Available under license
**1.156 dhcp 4.2.4-7ubuntu12.10**
1.156.1 Available under license
**1.157 libmemcached 1.0.18-4.2ubuntu0.18.04.1**
1.157.1 Available under license
**1.158 automation 1.11-8**
1.158.1 Available under license
**1.159 reactive-streams 1.0.3**
1.159.1 Available under license
**1.160 commons-logging 1.2**
1.160.1 Available under license
**1.161 commons-validator 1.7**
1.161.1 Available under license
**1.162 jakarta-annotation-api 1.3.5**
1.162.1 Available under license
**1.163 hibernate-commons-annotations 5.1.2.Final**
1.163.1 Available under license
**1.164 classmate 1.5.1**
1.164.1 Available under license
**1.165 commons-logging 1.1.3**
1.165.1 Available under license
**1.166 jakarta-validation-api 2.0.2**
1.166.1 Available under license
**1.167 jakarta-ws-rs-api 2.1.6**
1.167.1 Available under license
**1.168 javassist 3.19.0-GA**
1.168.1 Available under license
**1.169 joda-time 2.8.1**
1.169.1 Available under license
**1.170 commons-lang3 3.7**
1.170.1 Available under license
**1.171 commons-codec 1.15**
1.171.1 Available under license
**1.172 asm 5.1**
1.172.1 Available under license

**1.173 resourcelocator 1.0.3**
1.173.1 Available under license
**1.174 jakarta-inject 2.6.1**
1.174.1 Available under license
**1.175 commons-net 3.3**
1.175.1 Available under license
**1.176 jewelcli 0.8.2**
1.176.1 Available under license
**1.177 public-suffix 20180223.1310-1**
1.177.1 Available under license
**1.178 six 1.11.0-2**
1.178.1 Available under license
**1.179 python-certifi 2018.1.18-2**
1.179.1 Available under license
**1.180 rxjava 2.2.21**
1.180.1 Available under license
**1.181 jemalloc 5.2.1**
1.181.1 Available under license
**1.182 commons-csv 1.8**
1.182.1 Available under license
**1.183 jpsg-core 1.4**
1.183.1 Available under license
**1.184 smoothie-map 2.0.2**
1.184.1 Available under license
**1.185 zstd 1.3.3+dfsg-2ubuntu1.2**
1.185.1 Available under license
**1.186 lz4 1.9.3**
1.186.1 Available under license
**1.187 tdb 1.44.1**
1.187.1 Available under license
**1.188 libpkit 0.23.9-2ubuntu0.1**
1.188.1 Available under license
**1.189 libtasn 4.13-2**
1.189.1 Available under license
**1.190 asm 9.1**
1.190.1 Available under license
**1.191 fdisk 2.31.1**
1.191.1 Available under license
**1.192 ubuntu-keyring 2018.09.18.1~18.04.2**

1.192.1 Available under license
**1.193 okhttp 3.14.9**
1.193.1 Available under license
**1.194 hamcrest controller**
1.194.1 Available under license
**1.195 google-test 1.10.0**
1.195.1 Available under license
**1.196 liblinear nmap**
1.196.1 Available under license
**1.197 zone 0.10.3**
1.197.1 Available under license
**1.198 urllib3 1.22**
1.198.1 Notifications
1.198.2 Available under license
**1.199 urllib3 1.25.3**
1.199.1 Notifications
1.199.2 Available under license
**1.200 python-requests 2.22.0**
1.200.1 Available under license
**1.201 urllib3 1.25.6**
1.201.1 Notifications
1.201.2 Available under license
**1.202 python-pip 19.2.3**
1.202.1 Available under license
**1.203 rxjs 6.5.4**
1.203.1 Available under license
**1.204 sshd-core 2.5.1**
1.204.1 Available under license
**1.205 sshd-common 2.5.1**
1.205.1 Available under license
**1.206 lz4 0.0~r131-2ubuntu3.1**
1.206.1 Available under license
**1.207 libx11 1.6.4-3ubuntu0.4**
1.207.1 Available under license
**1.208 pyyaml 3.11**
1.208.1 Available under license
**1.209 commons-lang3 3.12.0**
1.209.1 Available under license
**1.210 rfc3986 1.3.2**

1.210.1 Available under license
**1.211 libtommath 1.0.1-1**
1.211.1 Available under license
**1.212 jakarta xml bind api 2.3.3**
1.212.1 Available under license
**1.213 json-path 2.6.0**
1.213.1 Available under license
**1.214 aspect-j 1.9.7**
1.214.1 Available under license
**1.215 libxmuu 1.1.2-2**
1.215.1 Available under license
**1.216 libmemcached11 1.0.18-4.2ubuntu0.18.04.1**
1.216.1 Available under license
**1.217 libdevmapper 1.02.145-4.1ubuntu3.18.04.3**
1.217.1 Available under license
**1.218 dmsetup 1.02.145-4.1ubuntu3.18.04.3**
1.218.1 Available under license
**1.219 libcryptsetup12 2.0.2-1ubuntu1.2**
1.219.1 Available under license
**1.220 apt 1.6.14**
1.220.1 Available under license
**1.221 base-files 10.1ubuntu2.11**
1.221.1 Available under license
**1.222 libgcrypt 1.8.1-4ubuntu1.3**
1.222.1 Available under license
**1.223 inetutils 1.9.4-3ubuntu0.1**
1.223.1 Available under license
**1.224 core-js 2.4.1**
1.224.1 Available under license
**1.225 icu 60.2-3ubuntu3.2**
1.225.1 Available under license
**1.226 jackson 2.13.2**
1.226.1 Available under license
**1.227 jersey-client 2.35**
1.227.1 Available under license
**1.228 jersey 2.35**
1.228.1 Available under license
**1.229 jersey-common 2.35**
1.229.1 Available under license

**1.230 glib 2.56.4-0ubuntu0.18.04.9**
1.230.1 Available under license
**1.231 libseccomp 2.5.1-1ubuntu1~18.04.2**
1.231.1 Available under license
**1.232 pep517 0.5.0**
1.232.1 Available under license
**1.233 httpcomponents-core 4.4.15**
1.233.1 Available under license
**1.234 angular 1.5.9**
1.234.1 Available under license
**1.235 chardet 3.0.4**
1.235.1 Available under license
**1.236 kotlin 1.6.10-release-923**
1.236.1 Available under license
**1.237 hikaricp 4.0.3**
1.237.1 Available under license
**1.238 byte-buddy 1.11.22**
1.238.1 Available under license
**1.239 vim 8.0.1453-1ubuntu1.8**
**1.240 reflections 0.9.10**
1.240.1 Available under license
**1.241 error_prone_annotations 2.3.2**
1.241.1 Available under license
**1.242 jboss-logging 3.4.3.Final**
1.242.1 Available under license
**1.243 jandex 2.4.2.Final**
1.243.1 Available under license
**1.244 hyperscan 1.1.0_3-SNAPSHOT**
1.244.1 Available under license
**1.245 multiregexp 0.5.1_8**
1.245.1 Available under license
**1.246 spring-plugin-core 2.0.0.RELEASE**
1.246.1 Available under license
**1.247 kotlin 1.6.10**
1.247.1 Available under license
**1.248 postgresql-jdbc 42.3.3**
1.248.1 Available under license
**1.249 cyrus-sasl 2.1.27~101-g0780600+dfsg-3ubuntu2.4**
1.249.1 Available under license

**1.250 aws-java-sdk-core 1.11.553**
1.250.1 Available under license
**1.251 aws-java-sdk-cloudwatch 1.11.553**
1.251.1 Available under license
**1.252 jmespath-java 1.11.553**
1.252.1 Available under license
**1.253 jul-to-slf4j 1.7.36**
1.253.1 Available under license
**1.254 spring-security-config 5.6.2**
1.254.1 Available under license
**1.255 txw2 2.3.6**
1.255.1 Available under license
**1.256 spring-security-web 5.6.2**
1.256.1 Available under license
**1.257 accessors-smart 2.4.8**
1.257.1 Available under license
**1.258 jaxb-runtime 2.3.6**
1.258.1 Available under license
**1.259 libtommath1 1.0.1-1**
1.259.1 Available under license
**1.260 apache-log4j 2.17.2**
1.260.1 Available under license
**1.261 flyway-core 8.0.5**
1.261.1 Available under license
**1.262 jackson-datatype-jsr310 2.13.2**
1.262.1 Available under license
**1.263 expat 2.2.5-3ubuntu0.7**
1.263.1 Available under license
**1.264 log4j-api 2.17.2**
1.264.1 Available under license
**1.265 jackson-datatype-jdk8 2.13.2**
1.265.1 Available under license
**1.266 jackson-annotations 2.13.2**
1.266.1 Available under license
**1.267 jackson-module-parameter-names 2.13.2**
1.267.1 Available under license
**1.268 jackson-dataformat-cbor 2.13.2**
1.268.1 Available under license
**1.269 tar 1.29b-2ubuntu0.3**

1.269.1 Available under license
**1.270 spring-hateoas 1.4.1**
1.270.1 Available under license
**1.271 log4j-slf4j-impl 2.17.2**
1.271.1 Available under license
**1.272 spring-data-commons 2.6.3**
1.272.1 Available under license
**1.273 zlib 1.2.12**
1.273.1 Available under license
**1.274 jackson-databind 2.13.2.2**
1.274.1 Available under license
**1.275 tomcat 9.0.60**
1.275.1 Available under license
**1.276 log4j-jul 2.17.2**
1.276.1 Available under license
**1.277 spring-expression 5.3.18**
1.277.1 Available under license
**1.278 spring-context 5.3.18**
1.278.1 Available under license
**1.279 spring-framework 5.3.18**
1.279.1 Available under license
**1.280 spring-web-mvc 5.3.18**
1.280.1 Available under license
**1.281 spring-beans 5.3.18**
1.281.1 Available under license
**1.282 spring-tx 5.3.18**
1.282.1 Available under license
**1.283 spring-web 5.3.18**
1.283.1 Available under license
**1.284 spring-aop 5.3.18**
1.284.1 Available under license
**1.285 spring-aspects 5.3.18**
1.285.1 Available under license
**1.286 spring-jdbc 5.3.18**
1.286.1 Available under license
**1.287 spring-data-jpa 2.6.3**
1.287.1 Available under license
**1.288 python 3.6.9-1~18.04ubuntu1.7**
1.288.1 Available under license

**1.289 tslib 2.0.0**
1.289.1 Available under license
**1.290 json-smart 2.4.8**
1.290.1 Available under license
**1.291 hibernate-validator 6.2.3.Final**
1.291.1 Available under license
**1.292 postgre-sql 42.3.3**
1.292.1 Available under license
**1.293 keyutils 1.5.9-9.2ubuntu2.1**
1.293.1 Available under license
**1.294 libdevmapper 1.02.145**
1.294.1 Available under license
**1.295 inetutils-ping 1.9.4-3ubuntu0.1**
1.295.1 Available under license
**1.296 xz 5.2.2-1.3ubuntu0.1**
1.296.1 Available under license
**1.297 gzip 1.6-5ubuntu1.2**
1.297.1 Available under license
**1.298 evo-inflector 1.3**
1.298.1 Available under license
**1.299 spring-data-rest-webmvc 3.6.3**
1.299.1 Available under license
**1.300 spring-data-rest-core 3.6.3**
1.300.1 Available under license
**1.301 bash 4.4.18-2ubuntu1.3**
1.301.1 Available under license
**1.302 openjdk-jre 11.0.15u10**
1.302.1 Available under license
**1.303 libsepol 2.7-1ubuntu0.1**
1.303.1 Available under license
**1.304 servlet-api 4.0.0**
1.304.1 Available under license
**1.305 openssl 1.1.1-1ubuntu2.1~18.04.17**
1.305.1 Available under license
**1.306 ion-java 1.0.2**
1.306.1 Available under license
**1.307 libldap-common 2.4.45+dfsg-1ubuntu1.11**
1.307.1 Available under license
**1.308 open-ldap 2.4.45+dfsg-1ubuntu1.11**

1.308.1 Available under license
**1.309 pcre 8.39-9ubuntu0.1**
1.309.1 Available under license
**1.310 openssh 7.6p1-4ubuntu0.7**
1.310.1 Available under license
**1.311 networkd-dispatcher 1.7-0ubuntu3.5**
1.311.1 Available under license
**1.312 dpkg 1.19.0.5ubuntu2.4**
1.312.1 Available under license
**1.313 glibc 2.27-3ubuntu1.6**
1.313.1 Available under license
**1.314 libc 2.27-3ubuntu1.6**
1.314.1 Available under license
**1.315 multiarch-support 2.27-3ubuntu1.6**
1.315.1 Available under license
**1.316 firebird3.0-common 3.0.2.32703.ds4-11ubuntu2**
1.316.1 Available under license
**1.317 openssh-sftp-server 7.6p1-4ubuntu0.7**
1.317.1 Available under license
**1.318 libfbclient2 3.0.2.32703.ds4-11ubuntu2**
1.318.1 Available under license
**1.319 subversion 1.9.7-4ubuntu1.1**
1.319.1 Available under license
**1.320 firebird3.0-common-doc 3.0.2.32703.ds4-11ubuntu2**
1.320.1 Available under license
**1.321 e2fsprogs 1.44.1-1ubuntu1.4**
1.321.1 Available under license
**1.322 kryo 5.3.0**
1.322.1 Available under license
**1.323 python-certifi 2019.06.16**
1.323.1 Available under license
**1.324 listenablefuture 9999.0-empty-to-avoid-conflict-with-guava**
1.324.1 Available under license
**1.325 gnupg 2.2.4-1ubuntu1.6**
1.325.1 Available under license
**1.326 python 3.6.7-1~18.04**
1.326.1 Available under license
**1.327 ng-zorro-antd 9.3.0**
1.327.1 Available under license

**1.328 angular-ui-grid 4.0.4**
1.328.1 Available under license
**1.329 primeicons 5.0.0**
1.329.1 Available under license
**1.330 ngx-tippy-wrapper 3.0.0**
1.330.1 Available under license
**1.331 angular-material 11.0.1**
1.331.1 Available under license
**1.332 chartjs-plugin-zoom 0.7.7**
1.332.1 Available under license
**1.333 roboto-fontface 0.10.0**
1.333.1 Available under license
**1.334 ng-circle-progress 1.6.0**
1.334.1 Available under license
**1.335 primeng 11.4.5**
1.335.1 Available under license
**1.336 ipaddr.js 1.7.0**
1.336.1 Available under license
**1.337 ngx-charter 0.0.7**
1.337.1 Available under license
**1.338 protractor-http-client 1.0.4**
1.338.1 Available under license
**1.339 angular-upgrade 11.0.2**
1.339.1 Available under license
**1.340 @angular/material-moment-adapter 11.0.1**
1.340.1 Available under license
**1.341 angular-cdk 11.0.1**
1.341.1 Available under license
**1.342 material-icons 0.6.1**
1.342.1 Available under license
**1.343 material-design-icons-iconfont ^6.1.0**
1.343.1 Available under license
**1.344 ngx-moment 3.4.0**
1.344.1 Available under license
**1.345 json2csv 4.5.3**
1.345.1 Available under license
**1.346 html2canvas 1.0.0-rc.4**
1.346.1 Available under license
**1.347 json-formatter-js 2.2.0**

1.347.1 Available under license
**1.348 angular-tree-component 7.2.0**
1.348.1 Available under license
**1.349 moment 2.29.4**
1.349.1 Available under license
**1.350 libnsl 2.27**
1.350.1 Available under license
**1.351 zlib 1.2.11**
1.351.1 Available under license
**1.352 gnutls 3.5.18-1ubuntu1.6**
1.352.1 Available under license
**1.353 zlib 1.2.11.dfsg-0ubuntu2.2**
1.353.1 Available under license
**1.354 webencodings 0.5.1**
1.354.1 Available under license
**1.355 futures 3.3.0**
1.355.1 Available under license
**1.356 packaging 16.8**
1.356.1 Available under license
**1.357 cglib 3.3.0**
1.357.1 Available under license
**1.358 distlib 0.2.9.post0**
1.358.1 Available under license
**1.359 slf4j 1.7.36**
1.359.1 Available under license
**1.360 systemd 237-3ubuntu10.56**
1.360.1 Available under license
**1.361 libnss-systemd 237-3ubuntu10.56**
1.361.1 Available under license
**1.362 libpam-systemd 237-3ubuntu10.56**
1.362.1 Available under license
**1.363 gmp 6.1.2+dfsg-2ubuntu0.1**
1.363.1 Available under license
**1.364 apache-commons-text 1.4**
1.364.1 Available under license
**1.365 perl 5.26.1-6ubuntu0.6**
1.365.1 Available under license
**1.366 d-bus 1.12.2-1ubuntu1.4**
1.366.1 Available under license

**1.367 commons-compress 1.22**
1.367.1 Available under license
**1.368 sqlite 3.22.0-1ubuntu0.7**
1.368.1 Available under license
**1.369 chartjs 2.9.4**
1.369.1 Available under license
**1.370 mysql-defaults 1.0.4**
1.370.1 Available under license
**1.371 expat 2.2.5-3ubuntu0.9**
1.371.1 Available under license
**1.372 shadow 4.5-1ubuntu2.5**
1.372.1 Available under license
**1.373 spring-security-core 5.6.2**
1.373.1 Available under license
**1.374 libxml2 2.9.4+dfsg1-6.1ubuntu1.8**
1.374.1 Available under license
**1.375 ca-certificates 20211016ubuntu0.18.04.1**
1.375.1 Available under license
**1.376 python 3.6.9-1~18.04ubuntu1.9**
1.376.1 Available under license
**1.377 libpython3-6-stdlib 3.6.9-1~18.04ubuntu1.9**
1.377.1 Available under license
**1.378 python3-6-minimal 3.6.9-1~18.04ubuntu1.9**
1.378.1 Available under license
**1.379 libpython3-6-minimal 3.6.9-1~18.04ubuntu1.9**
1.379.1 Available under license
**1.380 libpython 3.6.9-1~18.04ubuntu1.9**
1.380.1 Available under license
**1.381 swagger-annotations 1.6.1**
1.381.1 Available under license
**1.382 influxdb-client-java 2.0.0**
1.382.1 Available under license
**1.383 influxdb-client-core 2.0.0**
1.383.1 Available under license
**1.384 curl 7.58.0-2ubuntu3.22**
1.384.1 Available under license
**1.385 vim 8.0.1453-1ubuntu1.10**
**1.386 hibernate 5.6.7.Final**
1.386.1 Available under license

**1.387 reload4j 2.17.2**
1.387.1 Available under license
**1.388 sudo 1.8.21p2-3ubuntu1.5**
1.388.1 Available under license
**1.389 python-setuptools 39.0.1-2ubuntu0.1**
1.389.1 Available under license
**1.390 python-pkg-resources 39.0.1-2ubuntu0.1**
1.390.1 Available under license
**1.391 kerberos 1.16-2ubuntu0.3**
1.391.1 Available under license
**1.392 pam 1.1.8-3.6ubuntu2.18.04.4**
1.392.1 Available under license
**1.393 xxd 8.0.1453-1ubuntu1.10**
**1.394 postgre-sql 10.23-0ubuntu0.18.04.1**
1.394.1 Available under license
**1.395 gson 2.8.9**
1.395.1 Available under license
**1.396 openssl 1.0.2n-1ubuntu5.11**
1.396.1 Available under license
**1.397 openssl 1.1.1-1ubuntu2.1~18.04.21**
1.397.1 Available under license
**1.398 heimdal 7.5.0+dfsg-1ubuntu0.4**
1.398.1 Available under license
**1.399 libheimbaseheimdal 7.5.0+dfsg-1ubuntu0.4**
1.399.1 Available under license
**1.400 libhxheimdal 7.5.0+dfsg-1ubuntu0.4**
1.400.1 Available under license
**1.401 librokenheimdal 7.5.0+dfsg-1ubuntu0.4**
1.401.1 Available under license
**1.402 libheimntlmheimdal 7.5.0+dfsg-1ubuntu0.4**
1.402.1 Available under license
**1.403 libasnheimdal 7.5.0+dfsg-1ubuntu0.4**
1.403.1 Available under license
**1.404 libhcryptoheimdal 7.5.0+dfsg-1ubuntu0.4**
1.404.1 Available under license
**1.405 libwindheimdal 7.5.0+dfsg-1ubuntu0.4**
1.405.1 Available under license
**1.406 libgssapiheimdal 7.5.0+dfsg-1ubuntu0.4**
1.406.1 Available under license

**1.407 libkrbheimdal 7.5.0+dfsg-1ubuntu0.4**
1.407.1 Available under license
**1.408 kryo-serializers 0.45**
1.408.1 Available under license
**1.409 jdk-zulu 11.56+19**
1.409.1 Available under license
**1.410 libpcap 1.5.3-2**
1.410.1 Available under license
**1.411 shared-mime-info 1.9-2**
1.411.1 Available under license
**1.412 apr-util 1.6.1-2**
1.412.1 Available under license
**1.413 apr 1.6.3-2**
1.413.1 Available under license
**1.414 firebird 3.0.2.32703.ds4-11ubuntu2**
1.414.1 Available under license
**1.415 rtmpdump 2.4+20151223.gitfa8646d.1-1**
1.415.1 Available under license
**1.416 dbus-python 1.2.6-1**
1.416.1 Available under license
**1.417 readline 7.0-3**
1.417.1 Available under license
**1.418 readline 7.0-10.el8**
1.418.1 Available under license
**1.419 libnettle6 3.4.1-0ubuntu0.18.04.1**
1.419.1 Available under license
**1.420 argon2 0~20161029-1.1**
1.420.1 Available under license
**1.421 gson-fire 1.8.4**
1.421.1 Available under license
**1.422 snake-yaml 1.29**
1.422.1 Available under license
**1.423 jmespath-java 1.12.86**
1.423.1 Available under license
**1.424 aws-java-sdk-s3 1.12.86**
1.424.1 Available under license
**1.425 aws-java-sdk-kms 1.12.86**
1.425.1 Available under license
**1.426 aws-java-sdk-core 1.12.86**

1.426.1 Available under license
**1.427 vim 8.0.1453-1ubuntu1.12**
**1.428 libmysqlclient20 5.7.41-0ubuntu0.18.04.1**
1.428.1 Available under license
**1.429 angular-animations 11.0.5**
1.429.1 Available under license
**1.430 @angular/platform-browser-dynamic 11.0.5**
1.430.1 Available under license
**1.431 angular-router 11.0.5**
1.431.1 Available under license
**1.432 angular-common 11.0.5**
1.432.1 Available under license
**1.433 @angular/core 11.0.5**
1.433.1 Available under license
**1.434 ngx-mat-select-search 3.3.3**
1.434.1 Available under license
**1.435 angular-forms 11.0.5**
1.435.1 Available under license
**1.436 angular-compiler 11.0.5**
1.436.1 Available under license
**1.437 @angular/platform-browser 11.0.5**
1.437.1 Available under license
**1.438 gojs 2.2.14**
1.438.1 Available under license
**1.439 html5lib 1.0.1**
1.439.1 Available under license
**1.440 annotations 2.0.1**
1.440.1 Available under license
**1.441 netbase 5.4**
1.441.1 Available under license
**1.442 python-certifi 2018.1.18**
1.442.1 Available under license
**1.443 python-certifi 2019.9.11**
1.443.1 Available under license
**1.444 python-certifi 2019.09.11**
1.444.1 Available under license
**1.445 reflectasm 1.11.9**
1.445.1 Available under license
**1.446 postgre-sql 15.1-15.1**

1.446.1 Available under license
**1.447 lz4-java 1.8.0**
1.447.1 Available under license
**1.448 istack-commons 3.0.12**
1.448.1 Available under license
**1.449 jaxb-core 2.3.6**
1.449.1 Available under license
**1.450 jaxb-api 2.3.1**
1.450.1 Available under license
**1.451 activation-api 1.2.0**
1.451.1 Available under license
**1.452 objenesis 3.2**
1.452.1 Available under license
**1.453 activation-api 1.2.2**
1.453.1 Available under license
**1.454 jsr305 3.0.2**
1.454.1 Available under license
**1.455 activation 1.2.2**
1.455.1 Available under license

# 1.1 antlr 2.7.7

## 1.1.1 Available under license :

SOFTWARE RIGHTS

ANTLR 1989-2006 Developed by Terence Parr
Partially supported by University of San Francisco & jGuru.com

We reserve no legal rights to the ANTLR--it is fully in the
public domain. An individual or company may do whatever
they wish with source code distributed with ANTLR or the
code generated by ANTLR, including the incorporation of
ANTLR, or its output, into commerical software.

We encourage users to develop software with ANTLR. However,
we do ask that credit is given to us for developing
ANTLR. By "credit", we mean that if you use ANTLR or
incorporate any source code into one of your programs
(commercial product, research project, or otherwise) that
you acknowledge this fact somewhere in the documentation,
research report, etc... If you like ANTLR and have
developed a nice tool with the output, please mention that
you developed it using ANTLR. In addition, we ask that the

headers remain intact in our source code.
As long as these
guidelines are kept, we expect to continue enhancing this
system and expect to make other tools available as they are
completed.

The primary ANTLR guy:

Terence Parr
parrt@cs.usfca.edu
parrt@antlr.org

# 1.2 libjpeg 6b

## 1.2.1 Notifications :

This software is based in part on the work of the Independent JPEG Group.

## 1.2.2 Available under license :

The Independent JPEG Group's JPEG software
==========

README for release 6b of 27-Mar-1998
==========

This distribution contains the sixth public release of the Independent JPEG
Group's free JPEG software. You are welcome to redistribute this software and
to use it for any purpose, subject to the conditions under LEGAL ISSUES, below.

Serious users of this software (particularly those incorporating it into
larger programs) should contact IJG at jpeg-info@uunet.uu.net to be added to
our electronic mailing list. Mailing list members are notified of updates
and have a chance to participate in technical discussions, etc.

This software is the work of Tom Lane, Philip Gladstone, Jim Boucher,
Lee Crocker, Julian Minguillon, Luis Ortiz, George Phillips, Davide Rossi,
Guido Vollbeding, Ge' Weijers, and other members of the Independent JPEG
Group.

IJG is not affiliated with the official ISO JPEG standards committee.

DOCUMENTATION
ROADMAP
==========

This file contains the following sections:

OVERVIEW General description of JPEG and the IJG software.

LEGAL ISSUES Copyright, lack of warranty, terms of distribution.
REFERENCES Where to learn more about JPEG.
ARCHIVE LOCATIONS Where to find newer versions of this software.
RELATED SOFTWARE Other stuff you should get.
FILE FORMAT WARS Software *not* to get.
TO DO Plans for future IJG releases.

Other documentation files in the distribution are:

User documentation:
install.doc How to configure and install the IJG software.
usage.doc Usage instructions for cjpeg, djpeg, jpegtran, rdjpgcom, and wrjpgcom.
*.1 Unix-style man pages for programs (same info as usage.doc).
wizard.doc Advanced usage instructions for JPEG wizards only.
change.log Version-to-version change highlights.
Programmer and internal documentation:
libjpeg.doc How to use the JPEG library in your own programs.
example.c Sample code for calling the JPEG library.
structure.doc Overview of the JPEG library's internal structure.
filelist.doc Road map of IJG files.
coderules.doc Coding style rules --- please read if you contribute code.

Please read at least the files install.doc and usage.doc. Useful information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

OVERVIEW
========

This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images.
JPEG is intended for compressing "real-world" scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images, very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings.

This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the
hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for inserting and extracting textual comments
in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

We welcome the use of this software as a component of commercial products. No royalty is required, but we do ask for an acknowledgement in product documentation, as described under LEGAL ISSUES.

LEGAL ISSUES
============

In plain English:

1. We don't promise that this software works. (But if you find any bugs,
please let us know!)
2. You can use this software for whatever you want. You don't have to pay us.
3. You may not pretend that you wrote this software. If you use it in a
program, you

must acknowledge somewhere in your documentation that
you've used the IJG code.

In legalese:

The authors make NO WARRANTY or representation, either express or implied,
with respect to this software, its quality, accuracy, merchantability, or
fitness for a particular purpose. This software is provided "AS IS", and you,
its user, assume the entire risk as to its quality and accuracy.

This software is copyright (C) 1991-1998, Thomas G. Lane.
All Rights Reserved except as specified below.

Permission is hereby granted to use, copy, modify, and distribute this
software (or portions thereof) for any purpose, without fee, subject to these
conditions:
(1) If any part of the source code for this software is distributed, then this
README file must be included, with this copyright and no-warranty notice
unaltered; and any additions, deletions, or changes to the original files
must be clearly indicated in accompanying documentation.
(2) If only executable code is distributed,
then the accompanying
documentation must state that "this software is based in part on the work of
the Independent JPEG Group".
(3) Permission for use of this software is granted only if the user accepts
full responsibility for any undesirable consequences; the authors accept
NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code,
not just to the unmodified library. If you use our work, you ought to
acknowledge us.

Permission is NOT granted for the use of any IJG author's name or company name
in advertising or publicity relating to this software or products derived from
it. This software may be referred to only as "the Independent JPEG Group's
software".

We specifically permit and encourage the use of this software as the basis of
commercial products, provided that all warranty or liability claims are
assumed by the product vendor.

ansi2knr.c is included in this distribution by permission of
L. Peter Deutsch,
sole proprietor of its copyright holder, Aladdin Enterprises of Menlo Park, CA.
ansi2knr.c is NOT covered by the above copyright and conditions, but instead
by the usual distribution terms of the Free Software Foundation; principally,
that you must include source code if you redistribute it. (See the file

ansi2knr.c for full details.) However, since ansi2knr.c is not needed as part of any program generated from the IJG code, this does not limit you more than the foregoing paragraphs do.

The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltconfig, ltmain.sh). Another support script, install-sh, is copyright by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

We are required to state that

> "The Graphics Interchange Format(c) is the Copyright property of CompuServe Incorporated. GIF(sm) is a Service Mark property of CompuServe Incorporated."

REFERENCES
==========

We highly recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is Wallace, Gregory K. "The JPEG Still Picture Compression Standard", Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44. (Adjacent articles in that issue discuss MPEG motion picture compression, applications of JPEG, and related topics.) If you don't have the CACM issue handy, a PostScript file containing a revised version of Wallace's article is available at ftp://ftp.uu.net/graphics/jpeg/wallace.ps.gz. The file (actually a preprint for an article that appeared in IEEE Trans. Consumer Electronics)

omits the sample images that appeared in CACM, but it includes corrections and some added material. Note: the Wallace article is copyright ACM and IEEE, and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in "The Data Compression Book" by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don't know much about data compression in general. The book's JPEG sample code is far from industrial-strength, but when you are ready to look at a full implementation, you've got one here...

The best full description of JPEG is the textbook "JPEG Still Image Data Compression Standard" by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1. Price US$59.95, 638 pp. The book includes the complete text of the ISO JPEG standards (DIS 10918-1 and draft DIS 10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it.

The JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead; it's much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn't take credit card orders, but Global does.) It's not cheap: as of 1992, ANSI was charging $95 for Part 1 and $47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 1: Requirements and guidelines" and has document numbers ISO/IEC IS 10918-1, ITU-T T.81. Part 2 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing" and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. IJG currently does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the "JFIF" conventions, revision 1.02. A copy of the JFIF spec is available from:
Literature Department
C-Cube Microsystems, Inc.

1778 McCarthy Blvd.
Milpitas, CA 95035
phone (408) 944-6300, fax (408) 944-6314
A PostScript version of this document is available by FTP at
ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz. There is also a plain text
version at ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz, but it is missing
the figures.

The TIFF 6.0 file format specification can be obtained by FTP from
ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz. The JPEG incorporation
scheme
found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems.
IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6).
Instead, we recommend the JPEG design proposed by TIFF Technical Note #2
(Compression tag 7). Copies of this Note can be obtained from ftp.sgi.com or
from ftp://ftp.uu.net/graphics/jpeg/. It is expected that the next revision
of the TIFF spec will replace the 6.0 JPEG design with the Note's design.
Although IJG's own code does not support TIFF/JPEG, the free libtiff library
uses our library to implement TIFF/JPEG per the Note. libtiff is available
from ftp://ftp.sgi.com/graphics/tiff/.

ARCHIVE LOCATIONS
==========

The "official" archive site for this software is ftp.uu.net (Internet
address 192.48.96.9). The most recent released version can always be found
there in directory graphics/jpeg. This particular version will be archived
as ftp://ftp.uu.net/graphics/jpeg/jpegsrc.v6b.tar.gz. If you don't
have
direct Internet access, UUNET's archives are also available via UUCP; contact
help@uunet.uu.net for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only
ftp.uu.net is guaranteed to have the latest official version.

You can also obtain this software in DOS-compatible "zip" archive format from
the SimTel archives (ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/), or
on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12
"JPEG Tools". Again, these versions may sometimes lag behind the ftp.uu.net
release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of
general information about JPEG. It is updated constantly and therefore is
not included in this distribution. The FAQ is posted every two weeks to
Usenet newsgroups comp.graphics.misc, news.answers, and other groups.
It is available on the World Wide Web at http://www.faqs.org/faqs/jpeg-faq/
and other news.answers

archive sites, including the official news.answers
archive at rtfm.mit.edu: ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/.
If you don't have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu
with body
send usenet/news.answers/jpeg-faq/part1
send usenet/news.answers/jpeg-faq/part2

## RELATED SOFTWARE

Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBMPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites,
notably ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/.
Unfortunately PBMPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from ftp://havefun.stanford.edu/pub/jpeg/. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the IJG code, but it is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

## FILE FORMAT WARS

Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read.
(For example, none
of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

The file format we have adopted is called JFIF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JFIF is a minimal or "low end" representation.

We recommend the use of TIFF/JPEG (TIFF revision 6.0 as modified by TIFF Technical Note #2) for "high end" applications that need to record a lot of additional data about an image.  TIFF/JPEG is fairly new and not yet widely supported, unfortunately.

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF.  SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one.  At this point it is unclear whether
SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard.  IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats.  Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files.  Don't use a proprietary file format!

TO DO
=====

The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values.  We also intend to investigate block boundary smoothing, "poor man's variable quantization", and other means of improving quality-vs-file-size performance without
sacrificing compatibility.

In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions --- principally, variable quantization and the SPIFF file format.

As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to jpeg-info@uunet.uu.net.

# 1.3 pcre 7.6

## 1.3.1 Available under license :

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED
TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
PCRE LICENCE
---

PCRE is a library of functions to support regular expressions whose syntax
and semantics are as close as possible to those of the Perl 5 language.

Release 7 of PCRE is distributed under the terms of the "BSD" licence, as
specified below. The documentation for PCRE, supplied in the "doc"
directory, is distributed under the same terms as the software itself.

The basic library functions are written in C and are freestanding. Also
included in the distribution is a set of C++ wrapper functions.

THE BASIC LIBRARY FUNCTIONS
---

Written by: Philip Hazel
Email local part: ph10
Email domain: cam.ac.uk

University of Cambridge Computing Service,
Cambridge, England.

Copyright (c) 1997-2008 University of Cambridge
All rights reserved.

THE C++ WRAPPER FUNCTIONS
---

Contributed by: Google Inc.

Copyright (c) 2007-2008, Google Inc.
All rights reserved.

THE "BSD" LICENCE
---

Redistribution
and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
  this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

* Neither the name of the University of Cambridge nor the name of Google
  Inc. nor the names of their contributors may be used to endorse or
  promote products derived from this software without specific prior
  written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

End

# 1.4 commons-collections 3.2.2

## 1.4.1 Available under license :

Apache Commons Collections
Copyright 2001-2015 The Apache Software Foundation

This product includes software developed by
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object

form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate

as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work

by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.5 ifupdown 0.7.47.2ubuntu4.4

## 1.5.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below,

refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but

does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for

making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot

distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of

this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA  02111-1307  USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year  name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the

library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.
This package was created and debianized by Anthony Towns
<ajt@debian.org>. He is also the upstream author of ifupdown.

Copyright (c) 1999, Anthony Towns.  All rights reserved.

This package is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; version 2 dated June, 1991.

This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this package; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston,
MA 02110-1301, USA.

On Debian GNU/Linux systems, the complete text of the GNU General
Public License can be found in /usr/share/common-licenses/GPL-2.

# 1.6 bzip2 1.0.6-5

## 1.6.1 Available under license :

---

This program, "bzip2", the associated library "libbzip2", and all
documentation, are copyright (C) 1996-2010 Julian R Seward.  All
rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must
not claim that you wrote the original software.  If you use this
software in a product, an acknowledgment in the product
documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must

not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote
products derived from this software without specific
prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, jseward@bzip.org
bzip2/libbzip2 version 1.0.6 of 6 September 2010

---

This bzip2 Debian package was created by Philippe Troin <phil@fifi.org>.
It is currently mantained by Anibal Monsalve Salazar <anibal@debian.org>.
It is Copyright (C) 1999, 2000, 2001, 2002 Philippe Troin
<phil@fifi.org> and Copyright (C) 2004-2011 Anibal Monsalve Salazar.
It is licensed under the GNU General Public License version 2 which
can be found in /usr/share/common-licenses/GPL-2.

The original tarball was downloaded from
http://www.bzip.org/downloads.html

For more information about bzip2, please visit:
http://www.bzip.org/

Author:
Julian Seward <jseward@acm.org>

Copyright: (from LICENSE)

---

This program, "bzip2", the associated library "libbzip2", and all
documentation, are copyright (C) 1996-2010 Julian R Seward. All
rights reserved.

Redistribution and use in source and binary forms, with or without

modification, are permitted provided that the following conditions
are met:

1. Redistributions
 of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must
  not claim that you wrote the original software.  If you use this
  software in a product, an acknowledgment in the product
  documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must
  not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote
  products derived from this software without specific prior written
  permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING,
 BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, jseward@bzip.org
bzip2/libbzip2 version 1.0.6 of 6 September 2010

---

# 1.7 plymouth 0.8.8-0ubuntu17.1

## 1.7.1 Available under license :

This package was debianized by Michael Vogt <mvo@debian.org>
Sat, 07 Feb 2009 12:03:22 +0000.

It was downloaded from git://git.freedesktop.org/git/plymouth

Upstream Authors and Copyright Holder:
Kristian Hgsberg <krh@redhat.com>

Ray Strode <halfline@gmail.com>
Peter Jones <pjones@redhat.com>

License:

This package is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this package; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301
USA

On Debian systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL'.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it

in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered

independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based
on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or
executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary

form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution
of the Program by
all those who receive copies directly or indirectly through you, then

the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free

Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,

or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.8 jsch 0.1.53

## 1.8.1 Available under license :

JSch 0.0.* was released under the GNU LGPL license.  Later, we have switched over to a BSD-style license.

---

Copyright (c) 2002-2015 Atsuhiko Yamanaka, JCraft,Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JCRAFT, INC. OR ANY CONTRIBUTORS TO THIS SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.9 commons-io 2.5

## 1.9.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted"

means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each

Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");

you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
Apache Commons IO
Copyright 2002-2016 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

# 1.10 commons-math 3.6.1

## 1.10.1 Available under license :

/*
* Licensed to the Apache Software Foundation (ASF) under one or more
* contributor license agreements.  See the NOTICE file distributed with
* this work for additional information regarding copyright ownership.
* The ASF licenses this file to You under the Apache License, Version 2.0
* (the "License"); you may not use this file except in compliance with
* the License.  You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by

the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but

excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the

appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache Commons Math includes the following code provided to the ASF under the
Apache License 2.0:

- The inverse error function implementation in the Erf class is based on CUDA
  code developed by Mike Giles, Oxford-Man Institute of Quantitative Finance,
  and published in GPU Computing Gems, volume 2, 2010 (grant received on
  March 23th 2013)
- The LinearConstraint, LinearObjectiveFunction, LinearOptimizer,
  RelationShip, SimplexSolver and SimplexTableau classes in package
  org.apache.commons.math3.optimization.linear include software developed by
  Benjamin McCann (http://www.benmccann.com) and distributed with
  the following
 copyright: Copyright 2009 Google Inc. (grant received on
  March 16th 2009)
- The class "org.apache.commons.math3.exception.util.LocalizedFormatsTest" which
  is an adapted version of "OrekitMessagesTest" test class for the Orekit library
- The "org.apache.commons.math3.analysis.interpolation.HermiteInterpolator"
  has been imported from the Orekit space flight dynamics library.

==========

APACHE COMMONS MATH DERIVATIVE WORKS:

The Apache commons-math library includes a number of subcomponents
whose implementation is derived from original sources written
in C or Fortran.  License terms of the original sources
are reproduced below.

==========
For the lmder, lmpar and qrsolv Fortran routine from minpack and translated in
the LevenbergMarquardtOptimizer class in package
org.apache.commons.math3.optimization.general
Original source copyright
 and license statement:

Minpack Copyright Notice (1999) University of Chicago.  All rights reserved

Redistribution and use in source and binary forms, with or
without modification, are permitted provided that the

following conditions are met:

1. Redistributions of source code must retain the above
copyright notice, this list of conditions and the following
disclaimer.

2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials
provided with the distribution.

3. The end-user documentation included with the
redistribution, if any, must include the following
acknowledgment:

"This product includes software developed by the
University of Chicago, as Operator of Argonne National
Laboratory.

Alternately, this acknowledgment may appear in the software
itself, if and wherever such third-party acknowledgments
normally appear.

4. WARRANTY DISCLAIMER. THE SOFTWARE
IS SUPPLIED "AS IS"
WITHOUT WARRANTY OF ANY KIND. THE COPYRIGHT HOLDER, THE
UNITED STATES, THE UNITED STATES DEPARTMENT OF ENERGY, AND
THEIR EMPLOYEES: (1) DISCLAIM ANY WARRANTIES, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES
OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE
OR NON-INFRINGEMENT, (2) DO NOT ASSUME ANY LEGAL LIABILITY
OR RESPONSIBILITY FOR THE ACCURACY, COMPLETENESS, OR
USEFULNESS OF THE SOFTWARE, (3) DO NOT REPRESENT THAT USE OF
THE SOFTWARE WOULD NOT INFRINGE PRIVATELY OWNED RIGHTS, (4)
DO NOT WARRANT THAT THE SOFTWARE WILL FUNCTION
UNINTERRUPTED, THAT IT IS ERROR-FREE OR THAT ANY ERRORS WILL
BE CORRECTED.

5. LIMITATION OF LIABILITY. IN NO EVENT WILL THE COPYRIGHT
HOLDER, THE UNITED STATES, THE UNITED STATES DEPARTMENT OF
ENERGY, OR THEIR EMPLOYEES: BE LIABLE FOR ANY INDIRECT,
INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF
ANY KIND OR NATURE, INCLUDING BUT NOT LIMITED TO LOSS OF
PROFITS OR LOSS OF DATA, FOR ANY REASON
WHATSOEVER, WHETHER
SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT
(INCLUDING NEGLIGENCE OR STRICT LIABILITY), OR OTHERWISE,
EVEN IF ANY OF SAID PARTIES HAS BEEN WARNED OF THE

POSSIBILITY OF SUCH LOSS OR DAMAGES.
==========

Copyright and license statement for the odex Fortran routine developed by
E. Hairer and G. Wanner and translated in GraggBulirschStoerIntegrator class
in package org.apache.commons.math3.ode.nonstiff:

Copyright (c) 2004, Ernst Hairer

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

- Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided
with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS
IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
==========

Copyright and license statement for the original Mersenne twister C
routines translated in MersenneTwister class in package
org.apache.commons.math3.random:

Copyright (C) 1997 - 2002, Makoto Matsumoto and Takuji Nishimura,
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. The names of its contributors may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========

The initial code for shuffling an array (originally in class
"org.apache.commons.math3.random.RandomDataGenerator", now replaced by
a method in class "org.apache.commons.math3.util.MathArrays") was
inspired from the algorithm description provided in
"Algorithms", by Ian Craw and John Pulham
(University of Aberdeen 1999).
The textbook (containing a proof that the shuffle is uniformly random) is
available here:
http://citeseerx.ist.psu.edu/viewdoc/download;?doi=10.1.1.173.1898&rep=rep1&type=pdf

==========

License statement for the direction numbers in the resource files for Sobol sequences.

---

Licence pertaining to sobol.cc and the accompanying sets of direction numbers

---

Copyright (c) 2008, Frances Y. Kuo and Stephen Joe
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright

notice, this list of conditions and the following disclaimer.

* Redistributions in binary
form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the names of the copyright holders nor the names of the
University of New South Wales and the University of Waikato
and its contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS ``AS IS'' AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY
OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
==========

The initial commit of package "org.apache.commons.math3.ml.neuralnet" is
an adapted version of code developed in the context of the Data Processing
and Analysis Consortium (DPAC) of the "Gaia" project of the European Space
Agency (ESA).
==========

The initial commit of the class "org.apache.commons.math3.special.BesselJ" is
an adapted version of code translated from the netlib Fortran program, rjbesl
http://www.netlib.org/specfun/rjbesl by R.J. Cody at Argonne National
Laboratory (USA). There is no license or copyright statement included with the
original Fortran sources.
==========

The
BracketFinder (package org.apache.commons.math3.optimization.univariate)
and PowellOptimizer (package org.apache.commons.math3.optimization.general)
classes are based on the Python code in module "optimize.py" (version 0.5)
developed by Travis E. Oliphant for the SciPy library (http://www.scipy.org/)
Copyright 2003-2009 SciPy Developers.

SciPy license
Copyright 2001, 2002 Enthought, Inc.

All rights reserved.

Copyright  2003-2013 SciPy Developers.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of Enthought nor the names of the SciPy Developers may
be used to endorse or promote products derived from this software without
specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS AS IS AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
==========
Apache Commons Math
Copyright 2001-2016 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

This product includes software developed for Orekit by
CS Systmes d'Information (http://www.c-s.fr/)
Copyright 2010-2012 CS Systmes d'Information

# 1.11 tcpdump 4.9.2-0ubuntu0.14.04.1

## 1.11.1 Available under license :

License: BSD

Redistribution and use in source and binary forms, with or without

modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
   the documentation and/or other materials provided with the
   distribution.
3. The names of the authors may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED ``AS IS" AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
This package was debianized by Anand Kumria <wildfire@progsoc.org> on
Wed, 22 Nov 2000 13:19:33 +1100, then maintained by Torsten Landschoff
<torsten@debian.org> and Romain Francoise <rfrancoise@debian.org>.

It was downloaded from http://www.tcpdump.org/

Upstream Authors: tcpdump-workers@tcpdump.org

Licensed under the 3-clause BSD license:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
   the documentation and/or other materials provided with the
   distribution.
3. The names of the authors may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED ``AS IS" AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some files in this package are licensed under the 4-clause BSD license,
the copyright on most of them belongs to The Regents of the University
of California.  Since the license was retroactively changed in 1999 to
remove the advertising clause, they are effectively under the 3-clause

license even if the text of the license in the files hasn't been
updated.  See the following document for more details:

<URL: ftp://ftp.cs.berkeley.edu/pub/4bsd/README.Impt.License.Change>

Other files under the 4-clause BSD license and whose copyright doesn't
belong to the The Regents of the University of California are listed
below:
- aodv.h, Copyright (c) 2003 Bruce M. Simpson
- atmuni31.h, Copyright (c) 1997 Yen Yen Lim and North Dakota State University
- ieee802_11.h, Copyright
(c) 2001 Fortress Technologies and Charlie Lenahan
- print-802_11.c, Copyright (c) 2001 Fortress Technologies and Charlie Lenahan
- print-aodv.c, Copyright (c) 2003 Bruce M. Simpson
- print-ascii.c, Copyright (c) 1997, 1998 The NetBSD Foundation, Inc.
- print-cnfp.c, Copyright (c) 1998 Michael Shalayeff
- print-gre.c, Copyright (c) 2002 Jason L. Wright
- print-mobile.c, Copyright (c) 1998 The NetBSD Foundation, Inc.
- print-sunatm.c, Copyright (c) 1997 Yen Yen Lim and North Dakota State
University
- print-telnet.c, Copyright (c) 1997, 1998 The NetBSD Foundation, Inc.
- print-timed.c, Copyright (c) 2000 Ben Smithurst
- missing/inet_aton.c, Copyright (c) 1995, 1996, 1997 Kungliga Tekniska
Hgskolan (Royal Institute of Technology, Stockholm,
Sweden).
- missing/inet_ntop.c, Copyright (c) 1995, 1996, 1997 Kungliga Tekniska
Hgskolan (Royal Institute of Technology, Stockholm,
Sweden).
- missing/inet_pton.c, Copyright (c) 1995, 1996, 1997 Kungliga
Tekniska
Hgskolan (Royal Institute of Technology, Stockholm,
Sweden).

Current upstream maintainers:
Bill Fenner  <fenner@research.att.com>
Fulvio Risso  <risso@polito.it>
Guy Harris  <guy@alum.mit.edu>
Hannes Gredler  <hannes@juniper.net>
Jun-ichiro itojun Hagino <itojun@iijlab.net>
Michael Richardson  <mcr@sandelman.ottawa.on.ca>

Additional people who have contributed patches:

Alan Bawden  <Alan@LCS.MIT.EDU>
Alexey Kuznetsov  <kuznet@ms2.inr.ac.ru>
Albert Chin  <china@thewrittenword.com>
Andrew Brown  <atatat@atatdot.net>
Antti Kantee  <pooka@netbsd.org>

Arkadiusz Miskiewicz <misiek@pld.org.pl>
Armando L. Caro Jr. <acaro@mail.eecis.udel.edu>
Assar Westerlund <assar@sics.se>
Brian Ginsbach <ginsbach@cray.com>
Charles M. Hannum <mycroft@netbsd.org>
Chris G. Demetriou <cgd@netbsd.org>
Chris Pepper <pepper@mail.reppep.com>
Darren Reed <darrenr@reed.wattle.id.au>
David Kaelbling <drk@sgi.com>
David Young <dyoung@ojctech.com>
Don
Ebright <Don.Ebright@compuware.com>
Eric Anderson <anderse@hpl.hp.com>
Franz Schaefer <schaefer@mond.at>
Gianluca Varenni <varenni@netgroup-serv.polito.it>
Gisle Vanem <giva@bgnett.no>
Graeme Hewson <ghewson@cix.compulink.co.uk>
Greg Stark <gsstark@mit.edu>
Greg Troxel <gdt@ir.bbn.com>
Guillaume Pelat <endymion_@users.sourceforge.net>
Hyung Sik Yoon <hsyn@kr.ibm.com>
Igor Khristophorov <igor@atdot.org>
Jan-Philip Velders <jpv@veldersjes.net>
Jason R. Thorpe <thorpej@netbsd.org>
Javier Achirica <achirica@ttd.net>
Jean Tourrilhes <jt@hpl.hp.com>
Jefferson Ogata <jogata@nodc.noaa.gov>
Jesper Peterson <jesper@endace.com>
John Bankier <jbankier@rainfinity.com>
Jon Lindgren <jonl@yubyub.net>
Juergen Schoenwaelder <schoenw@ibr.cs.tu-bs.de>
Kazushi Sugyo <sugyo@pb.jp.nec.com>
Klaus Klein <kleink@netbsd.org>
Koryn Grant <koryn@endace.com>
Krzysztof Halasa <khc@pm.waw.pl>
Lorenzo Cavallaro <sullivan@sikurezza.org>
Loris
Degioanni <loris@netgroup-serv.polito.it>
Love Hrnquist-strand <lha@stacken.kth.se>
Maciej W. Rozycki <macro@ds2.pg.gda.pl>
Marcus Felipe Pereira <marcus@task.com.br>
Martin Husemann <martin@netbsd.org>
Mike Wiacek <mike@iroot.net>
Monroe Williams <monroe@pobox.com>
Octavian Cerna <tavy@ylabs.com>
Olaf Kirch <okir@caldera.de>
Onno van der Linden <onno@simplex.nl>
Paul Mundt <lethal@linux-sh.org>

Pavel Kankovsky <kan@dcit.cz>
Peter Fales <peter@fales-lorenz.net>
Peter Jeremy <peter.jeremy@alcatel.com.au>
Phil Wood <cpw@lanl.gov>
Rafal Maszkowski <rzm@icm.edu.pl>
Rick Jones <raj@cup.hp.com>
Scott Barron <sb125499@ohiou.edu>
Scott Gifford <sgifford@tir.com>
Sebastian Krahmer <krahmer@cs.uni-potsdam.de>
Shaun Clowes <delius@progsoc.uts.edu.au>
Solomon Peachy <pizza@shaftnet.org>
Stefan Hudson <hudson@mbay.net>
Takashi Yamamoto <yamt@mwd.biglobe.ne.jp>
Tony Li <tli@procket.com>
Torsten Landschoff <torsten@debian.org>
Uns
Lider <unslider@miranda.org>
Uwe Girlich <Uwe.Girlich@philosys.de>
Xianjie Zhang <xzhang@cup.hp.com>
Yen Yen Lim
Yoann Vandoorselaere <yoann@prelude-ids.org>

The original LBL crew:
Steve McCanne
Craig Leres
Van Jacobson

# 1.12 annotations 13.0

## 1.12.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2000-2009 JetBrains s.r.o.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /annotations-13-0-sources-jar/org/jetbrains/annotations/Nls.java
* /annotations-13-0-sources-jar/org/jetbrains/annotations/Nullable.java
* /annotations-13-0-sources-jar/org/jetbrains/annotations/NonNls.java
* /annotations-13-0-sources-jar/org/jetbrains/annotations/PropertyKey.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2000-2012 JetBrains s.r.o.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /annotations-13-0-sources-jar/org/jetbrains/annotations/TestOnly.java
* /annotations-13-0-sources-jar/org/intellij/lang/annotations/JdkConstants.java
* /annotations-13-0-sources-jar/org/jetbrains/annotations/NotNull.java
* /annotations-13-0-sources-jar/org/intellij/lang/annotations/MagicConstant.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2000-2013 JetBrains s.r.o.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):

* /annotations-13-0-sources-jar/org/jetbrains/annotations/Contract.java
* /annotations-13-0-sources-jar/org/intellij/lang/annotations/Flow.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2006 Sascha Weinreuter
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /annotations-13-0-sources-jar/org/intellij/lang/annotations/Identifier.java
* /annotations-13-0-sources-jar/org/intellij/lang/annotations/Pattern.java
* /annotations-13-0-sources-jar/org/intellij/lang/annotations/Language.java
* /annotations-13-0-sources-jar/org/intellij/lang/annotations/PrintFormat.java
*
 /annotations-13-0-sources-jar/org/intellij/lang/annotations/RegExp.java
* /annotations-13-0-sources-jar/org/intellij/lang/annotations/Subst.java

# 1.13 cdebconf 0.213ubuntu1

## 1.13.1 Available under license :

CDebConf was initially written by Randolph Chung <tausq@debian.org>

Other contributors include:
 Anthony Towns <ajt@debian.org>
 David Whedon <dwhedon@gordian.com>
 Dan Jacobowitz <dan@debian.org>
 Tollef Fog Heen <tfheen@debian.org>
 Attilio Fiandrotti <fiandro@tiscali.it>
 Colin Watson <cjwatson@debian.org>
      Regis Boudin <regis@debian.org>

CDebConf includes ideas and code from:
 debconf - The original, de facto, perl implementation
  (c) Joey Hess <joeyh@debian.org>
 apt - The Debian Advanced Package Tool

(c) Jason Gunthorpe <jgg@debian.org>
(derived portions are public domain)

CDebConf is copyrighted (c) 2000-2009 by Randolph Chung <tausq@debian.org>,
the d-i team (see above), and Canonical Ltd. under the following license:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the
following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHORS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

# 1.14 mime-support 3.60ubuntu1

## 1.14.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Source: git://anonscm.debian.org/collab-maint/mime-support.git

Files: *
Copyright: public-domain
License: ad-hoc
This package was written by Brian White <bcwhite@pobox.com> and others.
It contains public information compiled from around the 'net and many people.
.
The "update-mime" program was written by Brian White and has been
placed in the public domain.

Files: mailcap.man
Copyright: (c) 1991 Bell Communications Research, Inc. (Bellcore)
License: Bellcore
Permission to use, copy, modify, and distribute this material

for any purpose and without fee is hereby granted, provided
that the above copyright notice and this permission notice
appear in all copies, and that the name of Bellcore not be
used in advertising or publicity pertaining to this
material without the specific, prior written permission
of an authorized representative of Bellcore.  BELLCORE
MAKES NO REPRESENTATIONS ABOUT THE ACCURACY
 OR SUITABILITY
OF THIS MATERIAL FOR ANY PURPOSE.  IT IS PROVIDED "AS IS",
WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES.
Comment: Author: Nathaniel S. Borenstein

# 1.15 dash 0.5.8-2.10

## 1.15.1 Available under license :

This package was debianized by Mark W. Eichin eichin@kitten.gen.ma.us on
Mon, 24 Feb 1997 16:00:16 -0500.

This package was re-ported from NetBSD and debianized by
Herbert Xu herbert@debian.org on Thu, 19 Jun 1997 19:29:16 +1000.

This package was adopted by Gerrit Pape <pape@smarden.org> on
Fri, 28 May 2004 18:38:18 +0000.

It was downloaded from http://gondor.apana.org.au/~herbert/dash/files/

Copyright:

Copyright (c) 1989-1994
 The Regents of the University of California.  All rights reserved.
Copyright (c) 1997 Christos Zoulas.  All rights reserved.
Copyright (c) 1997-2005
 Herbert Xu <herbert@gondor.apana.org.au>.  All rights reserved.

This code is derived from software contributed to Berkeley by Kenneth Almquist.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2.
 Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors

may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

mksignames.c:

This file is not directly linked with dash. However, its output is.

Copyright (C) 1992 Free Software Foundation, Inc.

This file is part of GNU Bash, the Bourne Again SHell.

Bash is free software; you can redistribute it and/or modify it under
the terms of the GNU General Public License as published by the Free
Software Foundation; either version 2, or (at your option) any later
version.

Bash is distributed in the hope that it will be useful, but WITHOUT ANY
WARRANTY; without even the implied warranty of MERCHANTABILITY or
FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License
for more details.

You should have received a copy of the GNU General Public License with
your Debian GNU/Linux system, in /usr/share/common-licenses/GPL, or with the
Debian GNU/Linux hello source package as the file COPYING. If not,
write
to the Free Software Foundation, Inc., 59 Temple Place, Suite 330,
Boston, MA 02111 USA.

# 1.16 debianutils 4.8.4

## 1.16.1 Available under license :

This is the Debian GNU/Linux package debianutils.

It is an original Debian package. Programs in it were maintained by

Guy Maor <maor@debian.org>, and are now maintained by Clint Adams
<schizo@debian.org>.

All its programs except savelog, and which may be
redistributed under the terms of the GNU GPL, Version 2 or later,
found on Debian systems in the file /usr/share/common-licenses/GPL.

which is in the public domain.

savelog may be redistributed under the following terms: (The rest of
this file consists of savelog's distribution terms.)

#ident "@(#)smail:RELEASE-3_2:COPYING,v 1.2 1996/06/14 18:59:10 woods Exp"

SMAIL GENERAL PUBLIC LICENSE
(Clarified 11 Feb 1988)

Copyright (C) 1988 Landon Curt Noll & Ronald S. Karr
Copyright (C) 1992 Ronald S. Karr
Copyleft (GNU) 1988 Landon Curt Noll & Ronald S. Karr

Everyone is permitted to copy and distribute verbatim copies
of this license, but changing it is not allowed. You can also
use this wording to make the terms
for other programs.

The license agreements of most software companies keep you at the
mercy of those companies. By contrast, our general public license is
intended to give everyone the right to share SMAIL. To make sure that
you get the rights we want you to have, we need to make restrictions
that forbid anyone to deny you these rights or to ask you to surrender
the rights. Hence this license agreement.

Specifically, we want to make sure that you have the right to give
away copies of SMAIL, that you receive source code or else can get it
if you want it, that you can change SMAIL or use pieces of it in new
free programs, and that you know you can do these things.

To make sure that everyone has such rights, we have to forbid you to
deprive anyone else of these rights. For example, if you distribute
copies of SMAIL, you must give the recipients all the rights that you
have. You must make sure that they, too, receive or can get the
source code. And you must tell them their
rights.

Also, for our own protection, we must make certain that everyone
finds out that there is no warranty for SMAIL. If SMAIL is modified by
someone else and passed on, we want its recipients to know that what

they have is not what we distributed, so that any problems introduced by others will not reflect on our reputation.

Therefore we (Landon Curt Noll and Ronald S. Karr) make the following terms which say what you must do to be allowed to distribute or change SMAIL.

COPYING POLICIES

1. You may copy and distribute verbatim copies of SMAIL source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy a valid copyright notice "Copyright (C) 1988 Landon Curt Noll & Ronald S. Karr" (or with whatever year is appropriate); keep intact the notices on all files that refer to this License Agreement and to the absence of any warranty; and give any other recipients of the SMAIL program a copy of this License Agreement along
with the program. You may charge a distribution fee
for the physical act of transferring a copy.

2. You may modify your copy or copies of SMAIL or any portion of it, and copy and distribute such modifications under the terms of Paragraph 1 above, provided that you also do the following:

a) cause the modified files to carry prominent notices stating that you changed the files and the date of any change; and

b) cause the whole of any work that you distribute or publish, that in whole or in part contains or is a derivative of SMAIL or any part thereof, to be licensed at no charge to all third parties on terms identical to those contained in this License Agreement (except that you may choose to grant more extensive warranty protection to some or all third parties, at your option).

c) You may charge a distribution fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

Mere
aggregation of another unrelated program with this program (or its derivative) on a volume of a storage or distribution medium does not bring the other program under the scope of these terms.

3. You may copy and distribute SMAIL (or a portion or derivative of it, under Paragraph 2) in object code or executable form under the terms of Paragraphs 1 and 2 above provided that you also do one of the following:

a) accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Paragraphs 1 and 2 above; or,

b) accompany it with a written offer, valid for at least three years, to give any third party free (except for a nominal shipping charge) a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Paragraphs 1 and 2 above; or,

c) accompany it with the information you received as to where the corresponding source code may be obtained. (This alternative is allowed only for non-commercial distribution and only if you received the program in object code or executable form alone.)

For an executable file, complete source code means all the source code for all modules it contains; but, as a special exception, it need not include source code for modules which are standard libraries that accompany the operating system on which the executable file runs.

4. You may not copy, sublicense, distribute or transfer SMAIL except as expressly provided under this License Agreement. Any attempt otherwise to copy, sublicense, distribute or transfer SMAIL is void and your rights to use the program under this License agreement shall be automatically terminated. However, parties who have received computer software programs from you with this License Agreement will not have their licenses terminated so long as such parties remain in full compliance.

5. If you wish to incorporate parts of SMAIL into other free programs whose distribution conditions are different, write to Landon Curt Noll & Ronald S. Karr via the Free Software Foundation at 51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA. We have not yet worked out a simple rule that can be stated here, but we will often permit this. We will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software.

Your comments and suggestions about our licensing policies and our software are welcome! This contract was based on the contract made by the Free Software Foundation. Please contact the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA, or call (617) 542-5942 for details on copylefted material in general.

NO WARRANTY

BECAUSE SMAIL IS LICENSED FREE OF CHARGE, WE PROVIDE ABSOLUTELY NO WARRANTY, TO THE EXTENT PERMITTED BY APPLICABLE STATE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING, LANDON CURT NOLL & RONALD S. KARR AND/OR
OTHER PARTIES PROVIDE SMAIL "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF SMAIL IS WITH YOU. SHOULD SMAIL PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW WILL LANDON CURT NOLL & RONALD S. KARR AND/OR ANY OTHER PARTY WHO MAY MODIFY AND REDISTRIBUTE SMAIL AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY LOST PROFITS, LOST MONIES, OR OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS) SMAIL, EVEN IF YOU HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY
OTHER PARTY.

# 1.17 diffutils 3.6-1

## 1.17.1 Available under license :

This is the Debian prepackaged version of the GNU diffutils package.
GNU `diff' was written by Mike Haertel, David Hayes, Richard Stallman,
Len Tower, and Paul Eggert. Wayne Davison designed and implemented
the unified output format. GNU `diff3' was written by Randy Smith.
GNU `sdiff' was written by Thomas Lord. GNU `cmp' was written by
Torbjorn Granlund and David MacKenzie.

The source for this release was obtained from

http://ftp.gnu.org/gnu/diffutils/diffutils-3.6.tar.xz

Program copyright and license:
==========

Copyright (C) 1988-1996, 1998, 2001-2002, 2004, 2006-2007, 2009-2013, 2015-2017
Free Software Foundation, Inc.

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without
even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

On Debian systems, the complete text of the GNU General Public License
may be found in `/usr/share/common-licenses/GPL'.

Manual copyright and license:
==========

Copyright (C) 1992-1994, 1998, 2001-2002, 2004, 2006, 2009-2017 Free
Software Foundation, Inc.

Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3 or
any later version published by the Free Software Foundation; with no
Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.

On Debian systems, the complete text of the GNU Free Documentation
License may be found in `/usr/share/common-licenses/GFDL'.

# 1.18 hostname 3.20

## 1.18.1 Available under license :

This package was written by Peter Tobias <tobias@et-inf.fho-emden.de>
on Thu, 16 Jan 1997 01:00:34 +0100.

License:

Copyright (C) 2009 Michael Meskes <meskes@debian.org>
Copyright (C) 2004-2005 Graham Wilson <graham@debian.org>
Copyright (C) 1997 Bernd Eckenfels
Copyright (C) 1997 Peter Tobias <tobias@et-inf.fho-emden.de>
Copyright (C) 1996 Free Software Foundation, Inc.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; version 2 of the License.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston,
MA 02110-1301 USA

On Debian systems, the complete text of the GNU General Public License
can be found in /usr/share/common-licenses/GPL-2 file.
hostname -- set the host name or show the host/domain name

Copyright (C) 1994-1997 Peter Tobias <tobias@et-inf.fho-emden.de>
2009- Michael Meskes <meskes@debian.org>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2, or (at your option)
any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

# 1.19 init-system-helpers 1.51

## 1.19.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/

Files: *
Copyright: 2013 Michael Stapelberg
License: BSD-3-clause

Files: debian/*
Copyright: 2013 Michael Stapelberg <stapelberg@debian.org>
License: BSD-3-clause

Files: script/service man8/service.8
Copyright: 2006 Red Hat, Inc
2008 Canonical Ltd
License: GPL-2+

Files: script/invoke-rc.d man8/invoke-rc.d.8
Copyright: 2000,2001 Henrique de Moraes Holschuh <hmh@debian.org>

License: GPL-2+

Files: script/update-rc.d man8/update-rc.d.8
Copyright: 1997-2005 Miquel van Smoorenburg <miquels@cistron.nl>
Members of the pkg-sysvinit project
License: GPL-2+

License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2, or (at your option)
any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied
 warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation,
Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.
.
On Debian systems, the complete text of the GNU General Public License
version 2 can be found in /usr/share/common-licenses/GPL-2.

License: BSD-3-clause
Copyright  2013 Michael Stapelberg
All rights reserved.
.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
.
   * Redistributions of source code must retain the above copyright
     notice, this list of conditions and the following disclaimer.
.
   * Redistributions in binary form must reproduce the above copyright
     notice, this list of conditions and the following disclaimer in the
     documentation
 and/or other materials provided with the distribution.
.
   * Neither the name of Michael Stapelberg nor the
     names of contributors may be used to endorse or promote products
     derived from this software without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY Michael Stapelberg "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE

DISCLAIMED. IN NO EVENT SHALL Michael Stapelberg BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.20 libffi 3.2.1-8

## 1.20.1 Available under license :

This package was debianized by Matthias Klose <doko@debian.org>
on Mon, 10 Mar 2008 05:46:40 +0000.

It was downloaded from ftp://sourceware.org/pub/libffi/

Upstream Authors:

Anthony Green <green@redhat.com>
GCC developers
See the README and below in the list of copyright holders for a more
complete list.

Copyright:
Copyright (c) 1996-2011 Red Hat, Inc.
Copyright (C) 1996-2011 Anthony Green
Copyright (C) 1996-2010 Free Software Foundation, Inc
Copyright (c) 2003, 2004, 2006, 2007, 2008 Kaz Kojima
Copyright (c) 2010, 2011, Plausible Labs Cooperative , Inc.
Copyright (c) 2010 CodeSourcery
Copyright (c) 1998 Andreas Schwab
Copyright (c) 2000 Hewlett Packard Company
Copyright (c) 2009 Bradley Smith
Copyright (c) 2008 David Daney
Copyright (c) 2004 Simon Posnjak
Copyright (c) 2005 Axis Communications AB
Copyright (c) 1998 Cygnus Solutions
Copyright (c) 2004 Renesas Technology
Copyright (c) 2002, 2007 Bo Thorsen
<bo@suse.de>
Copyright (c) 2002 Ranjit Mathew
Copyright (c) 2002 Roger Sayle
Copyright (c) 2000, 2007 Software AG
Copyright (c) 2003 Jakub Jelinek
Copyright (c) 2000, 2001 John Hornkvist
Copyright (c) 1998 Geoffrey Keating
Copyright (c) 2008 Bjrn Knig

License:

libffi - Copyright (c) 1996-2010 Red Hat, Inc and others.
See source files for details.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE
IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Documentation:
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU General Public License as published by the
Free Software Foundation; either version 2, or (at your option) any
later version. A copy of the license is included in the
section entitled ``GNU General Public License''.

doc/*:
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU General Public License as published by the
Free Software
Foundation; either version 2, or (at your option) any
later version. A copy of the license is included in the
section entitled ``GNU General Public License''.

On Debian GNU/Linux systems, the complete text of the GNU General
Public License is in `/usr/share/common-licenses/GPL'.

The Debian packaging is (C) 2008, 2011 Matthias Klose <doko@debian.org>
and is licensed under the GPL, see `/usr/share/common-licenses/GPL'.

# 1.21 sensible-utils 0.0.12

## 1.21.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: sensible-utils
Upstream-Contact: Anibal Monsalve Salazar <anibal@debian.org>
Source: https://alioth.debian.org/projects/collab-maint/sensible-utils.git

Files: *
Copyright: 2002-2009, Clint Adams <schizo@debian.org>
2010- Anibal Monsalve Salazar <anibal@debian.org>
2012, David Prvot <taffit@debian.org>
2013, Thorsten Glaser
2017, Jrmy Bobbio
2017, Ximin Luo
2017- Bastien Roucaris <rouca@debian.org>
License: GPL-2+

Files: sensible-editor*
Copyright: 1997, Guy Maor
2002, 2004, 2006, Clint Adams
2010- Anibal Monsalve Salazar <anibal@debian.org>
License: GPL-2+

Files: sensible-pager*
Copyright: 1997, 1998, Guy Maor
2004, Clint Adams
2010- Anibal Monsalve Salazar <anibal@debian.org>
License: GPL-2+

Files: sensible-browser*
Copyright: 2002, Joey Hess
2003, 2007, 2008, Clint Adams
2010- Anibal Monsalve Salazar <anibal@debian.org>
License: GPL-2+

Files: select-editor*
Copyright:
2009, Dustin Kirkland <kirkland@canonical.com>.
2010- Anibal Monsalve Salazar <anibal@debian.org>
License: GPL-2+

Files: man/Makefile.am
man/utf8toman.sed
Copyright: 2012-2017, Guillaume Jover
License: GPL-2+
Comment: Part of this are copied from dpkg

Files: man/po4a/cs*
Copyright: 2012,  Michal Simunek
License: GPL-2+

Files: man/po4a/de*
Copyright: 2011, Helge Kreutzmann <debian@helgefjell.de>
License: GPL-2+

Files: man/po4a/fr*
Copyright: Nicolas Franois <nicolas.francois@centraliens.net>
License: GPL-2+

Files: man/po4a/es*
Copyright: 2010-2012, Omar Campagne
License: GPL-2+

Files: man/po4a/it*
Copyright: 2012, Beatrice Torracca
License: GPL-2+

Files: man/po4a/ja*
Copyright: 2010, Kurasawa Nozomu
License: GPL-2+

Files: man/po4a/pl*
Copyright: 2004, 2010, Robert Luberda <robert@debian.org>.
License: GPL-2+

Files: man/po4a/pt*
Copyright: 2014, Amrico Monteiro <a_monteiro@gmx.com>
License: GPL-2+

Files: aclocal.m4
Copyright: 1996-2017, Free Software Foundation,
 Inc.
License: All-permissive

Files: *Makefile.in
Copyright: 1994-2017, Free Software Foundation, Inc.
License: All-permissive

Files: configure
Copyright: 1992-1996, 1998-2012, Free Software Foundation, Inc.
License: configure
This configure script is free software; the Free Software Foundation
gives unlimited permission to copy, distribute and modify it.

Files: build-aux/missing
Copyright: 1996-2014, Free Software Foundation, Inc.
License: GPL-2+

Files: build-aux/install-sh
Copyright: 1994 X Consortium
License: installsh
Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:
.
The above copyright notice
and this permission notice shall be included in
all copies or substantial portions of the Software.
.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
.
Except as contained in this notice, the name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.
.
FSF changes to this file are in the public domain.

License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as
published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
.

On Debian systems, the full text of the GNU General Public
License version 2 can be found in the file
`/usr/share/common-licenses/GPL-2'.

License: All-permissive
This file is free software; the Free Software Foundation
gives unlimited permission to copy and/or distribute it,
with or without modifications, as long as this notice is preserved.
.
This program is distributed in the hope that it will be useful,
but WITHOUT
 ANY WARRANTY, to the extent permitted by law; without
even the implied warranty of MERCHANTABILITY or FITNESS FOR A
PARTICULAR PURPOSE.

# 1.22 adduser 3.116ubuntu1

## 1.22.1 Available under license :

This package was first put together by Ian Murdock
<imurdock@debian.org> and was maintained by Steve Phillips
<sjp@cvfn.org> from sources written for the Debian Project by Ian
Murdock, Ted Hajek <tedhajek@boombox.micro.umn.edu>, and Sven Rudolph
<sr1@inf.tu-dresden.de>.

Since Nov 27 1996, it was maintained by Guy Maor <maor@debian.org>.  He
rewrote most of it.

Since May 20 2000, it is maintained by Roland Bauerschmidt
<rb@debian.org>.

Since March 24 2004, it is maintained by Roland Bauerschmidt
<rb@debian.org>, and co-maintained by Marc Haber
<mh+debian-packages@zugschlus.de>

Since 23 Oct 2005, it has been maintained by Joerg Hoh <joerg@joerghoh.de>

Since June 2006, it has been maintained by Stephen Gran <sgran@debian.org>

deluser is Copyright (C) 2000 Roland Bauerschmidt <rb@debian.org>
and based on the source code of adduser.

adduser is Copyright (C) 1997, 1998, 1999 Guy Maor <maor@debian.org>.
adduser is Copyright (C) 1995 Ted Hajek <tedhajek@boombox.micro.umn.edu>
with portions
 Copyright (C) 1994 Debian Association, Inc.

The examples directory has been contributed by John Zaitseff, and is

GPL V2 as well.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the
Free Software Foundation, Inc.,
51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA.

On Debian GNU/Linux systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-2'.

# 1.23 attr 2.4.47-2build1

## 1.23.1 Available under license :

This package was debianized by Nathan Scott nathans@debian.org on
Sun, 19 Nov 2000 07:37:09 -0500.

It can be downloaded from ftp://oss.sgi.com/projects/xfs/download/

Copyright:

Copyright (C) 2001-2002 Silicon Graphics, Inc.  All Rights Reserved.
Copyright (C) 2001 Andreas Gruenbacher.

You are free to distribute this software under Version 2.1
of the GNU Lesser General Public License.
On Debian systems, refer to /usr/share/common-licenses/LGPL-2.1
for the complete text of the GNU Lesser General Public License.

Certain components (as annotated in the source) are licensed
under version 2 of the terms of the GNU General Public License.
On Debian systems, the complete text of the GNU General Public
License can be found in /usr/share/common-licenses/GPL file.
Most components of the "attr" package are licensed under
Version 2.1 of the GNU Lesser General Public License (see below).
below.

Some components (as annotated in the source) are licensed

under Version 2 of the GNU General Public License (see COPYING).

---

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source

code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free
library. Also, if the library is
modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries
into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is

included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or

table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library

into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and

all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution

limitation excluding those countries,
so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs
whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE
COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A

FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990

Ty Coon, President of Vice

That's all there is to it!
Most components of the "attr" package are licensed under
Version 2.1 of the GNU Lesser General Public License (see COPYING.LGPL).

Some components (as annotated in the source) are licensed
under Version 2 of the GNU General Public License (see below),

---

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software
and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients
all the rights that
you have. You must make sure that they, too, receive or can get the

source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its
scope. The act of
running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate

copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications
or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if
the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works

based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections
1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that
component
itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program

except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution

system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation
may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision
will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED

OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts
in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License
does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.24 base-passwd 3.5.44

## 1.24.1 Available under license :

Format-Specification: http://svn.debian.org/wsvn/dep/web/deps/dep5.mdwn?op=file&rev=135
Name: base-passwd
Maintainer: Colin Watson <cjwatson@debian.org>

Files: update-passwd.c, man/*
Copyright: Copyright 1999-2002 Wichert Akkerman <wichert@deephackmode.org>
Copyright 2002, 2003, 2004 Colin Watson <cjwatson@debian.org>
License: GPL-2

Files: passwd.master, group.master
License: PD

X-Notes: Originally written by Ian Murdock <imurdock@debian.org> and
Bruce Perens <bruce@pixar.com>.

Files: doc/*
Copyright: Copyright 2001, 2002 Joey Hess
Copyright 2002, 2003, 2004, 2005, 2007 Colin Watson
Copyright 2007 David Mandelberg
License: GPL-2

License: GPL-2
On Debian and Debian-based systems, a copy of the GNU General Public
License version 2 is available in /usr/share/common-licenses/GPL-2.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses
are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the

source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you

conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or

collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based
on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit
royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the

integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute
software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies
a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED
BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES

PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version
2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

  Gnomovision version 69, Copyright (C) year name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.

The hypothetical
 commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.25 coreutils 8.28-1ubuntu1

## 1.25.1 Available under license :

The empty package mktemp is created by Michael Stone <mstone@debian.org>
and either is in the public domain or too trivial to copyright.
This is the Debian GNU/Linux packaged version of the GNU core
utilities.

This package is maintained by Michael Stone <mstone@debian.org> and
built from sources obtained from:
 ftp://ftp.gnu.org/gnu/coreutils/coreutils-8.24.tar.xz

This debian package was first created by Michael Stone <mstone@debian.org>,

from coreutils 4.5.1.

Changes:
* added Debian GNU/Linux package maintenance system files
* at times, bug fixes awaiting inclusion in the upstream source

Authors
=======

See the file AUTHORS.

Copyright Holders and License
=============================

lib/fts.c
---------

Copyright (C) 2004, 2005, 2006, 2007, 2008 Free Software Foundation, Inc.

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT
ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>. */

/*-
* Copyright (c) 1990, 1993, 1994
* The Regents of the University of California. All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
* notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
* notice, this list of conditions and the following disclaimer in the
* documentation and/or other materials provided with the distribution.
* 4. Neither the name of the University nor the names of its

contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*/

lib/fts_.h
---

Copyright (C) 2004, 2005, 2006, 2007 Free Software Foundation,
Inc.

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program.  If not, see <http://www.gnu.org/licenses/>.  */

/*
* Copyright (c) 1989, 1993
*      The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*
notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright

* notice, this list of conditions and the following disclaimer in the
* documentation and/or other materials provided with the distribution.
* 4. Neither the name of the University nor the names of its contributors
* may be used to endorse or promote products derived from this software
* without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

lib/rand-isaac.[ch]
---

Copyright (C) 1999-2006 Free Software Foundation, Inc.
Copyright (C) 1997, 1998, 1999 Colin Plumb.

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program.
If not, see <http://www.gnu.org/licenses/>.

lib/inet_ntop.c
---

Copyright (C) 2005, 2006 Free Software Foundation, Inc.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by

the Free Software Foundation; either version 3, or (at your option)
any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software Foundation,
Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA. */

/*
* Copyright (c) 1996-1999 by Internet Software Consortium.
*
* Permission to use, copy, modify, and distribute this software for any
* purpose
with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
* ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
* CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
* DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
* PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
* ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
* SOFTWARE.
*/

m4/autobuild.m4
---
dnl Copyright (C) 2004, 2006, 2007 Free Software Foundation, Inc.
dnl This file is free software; the Free Software Foundation
dnl gives unlimited permission to copy and/or distribute it,
dnl with or without modifications, as long as this notice is preserved.

dnl From Simon Josefsson

src/cut.c
---

Copyright (C) 1997-2007 Free Software Foundation, Inc.
Copyright (C) 1984 David M. Ihnat

This program is free software: you can redistribute it and/or modify

it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>. */

src/dircolors.c
---

Copyright (C) 1996-2007 Free Software Foundation, Inc.
Copyright (C) 1994, 1995, 1997, 1998, 1999, 2000 H. Peter Anvin

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>. */

src/paste.c
---

Copyright (C) 1997-2005 Free Software Foundation, Inc.
Copyright (C) 1984 David M. Ihnat

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that
it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the

GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>. */

src/shred.c
---

Copyright (C) 1999-2007 Free Software Foundation, Inc.
Copyright (C) 1997, 1998, 1999 Colin Plumb.

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received
a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

doc/coreutils.texi (The GNU Coreutils Manual)
---

Copyright @copyright{} 1994-1996, 2000-2008 Free Software Foundation, Inc.

Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.2 or
any later version published by the Free Software Foundation; with no
Invariant Sections, with no Front-Cover Texts, and with no Back-Cover
Texts. A copy of the license is included in the section entitled ``GNU
Free Documentation License".

all other files
---

Copyright (C) 1984-2008 Free Software Foundation, Inc.

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or

(at your option) any
later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program.  If not, see <http://www.gnu.org/licenses/>.

On Debian systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-3'.
The empty package realpath is created by Michael Stone <mstone@debian.org>
and either is in the public domain or too trivial to copyright.
Coreutils itself is generally copyrighted under the terms of the GNU General
Public License. Specific copyrights can be found in the coreutils.copyright
file and the *.copyright files for other packages included within the coreutils
source package. (Generally, these are trivial transitional packages.)

# 1.26 findutils 4.6.0+git+20170828-2

## 1.26.1 Available under license :

It was downloaded from ftp://ftp.gnu.org/gnu/findutils

Debian maintainer history: The original package was put together by
Ian Murdock <imurdock@debian.org>, afterwards Kevin Dalley
<kevind@rahul.net> took over. 2003-07 Andreas Metzler
<ametzler@debian.org> followed.

Upstream Authors:
* GNU find was written by Eric Decker <cire@cisco.com>,
with enhancements by David MacKenzie <djm@gnu.org>,
Jay Plett <jay@silence.princeton.nj.us>,
and Tim Wood <axolotl!tim@toad.com>.
The idea for -print0 and xargs -0 came from
Dan Bernstein <brnstnd@kramden.acf.nyu.edu>.
Improvements have been made by James Youngman <jay@gnu.org>.

* GNU xargs
was originally written by Mike Rendell, with enhancements by David
MacKenzie. Modifications by James Youngman Dmitry V. Levin

* GNU locate and its associated utilities were originally
written by James Woods, with enhancements by David MacKenzie, James Youngman
and Bas van Gompel.

Upstream's AUTHORS lists these major contributors:
Eric B. Decker
Michael Rendell
David
J. MacKenzie
Jim Meyering
Tim Wood
Kevin Dalley <kevind@rahul.net>
Paul Eggert <eggert@cs.ucla.edu>
James Youngman <jay@gnu.org>
Jay Plett
Paul Sheer
Dmitry V. Levin
Bas van Gompel
Eric Blake <ebb9@byu.net>
Andreas Metzler
Kamil Dudka <kdudka@redhat.com>
Bernhard Voelker <mail@bernhard-voelker.de>

Current upstream maintainer is James Youngman <jay@gnu.org>.

---

Copyright (C) 1990, 1991, 1992, 1993, 1994, 2000, 2003, 2004, 2005,
2007, 2008, 2009, 2010 Free Software Foundation, Inc.

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

---

On Debian GNU/Linux systems, the complete text of the GNU General
Public License version 3 can be found in `/usr/share/common-licenses/GPL-3'.

==========

DOCUMENTATION

---

Copyright (C) 1994, 1996, 1998, 2000, 2001, 2003-2016 Free Software

Foundation, Inc.

Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3 or
any later version published by the Free Software Foundation; with no
Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.  A
copy of the license is included in the section entitled "GNU Free
Documentation License".
----------

On Debian GNU/Linux systems, the complete text of the GNU Free Documentation
License,
 Version 1.3 can be found in `/usr/share/common-licenses/GFDL-1.3'.

# 1.27 libsemanage-common 2.7-2build2

## 1.27.1 Available under license :

This is the Debian packe for libsemanage, and it is built from sources
obtained from: http://www.nsa.gov/selinux/code/download5.cfm.

libsemanage is Copyright  2004-2007 Tresys Technology, LLC
        Copyright  2005 Red Hat, Inc.

  This library is free software; you can redistribute it and/or
  modify it under the terms of the GNU Lesser General Public
  License as published by the Free Software Foundation; either
  version 2.1 of the License, or (at your option) any later version.

  This library is distributed in the hope that it will be useful,
  but WITHOUT ANY WARRANTY; without even the implied warranty of
  MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
  Lesser General Public License for more details.

  You should have received a copy of the GNU Lesser General Public
  License along with this library; if not, write to the Free Software
  Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA  02110-1

On Debian GNU/Linux systems,
 the complete text of the Lesser GNU General
Public License can be found in `/usr/share/common-licenses/LGPL'.

This package is maintained by Manoj Srivastava <srivasta@debian.org>.

The Debian specific changes are  2005-2009, Manoj Srivastava
<srivasta@debian.org>, and distributed under the terms of the GNU
General Public License, version 2.

On Debian GNU/Linux systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL'.

A copy of the GNU General Public License is also available at
<URL:http://www.gnu.org/copyleft/gpl.html>. You may also obtain
it by writing to the Free Software Foundation, Inc., 51 Franklin
St, Fifth Floor, Boston, MA 02110-1301, USA.

Manoj Srivastava <srivasta@debian.org>
arch-tag: d4250e44-a0e0-4ee0-adb9-2bd74f6eeb27

# 1.28 lsb 9.20170808ubuntu1

## 1.28.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: LSB implementation package

Files: *
Copyright: 2002-2010, Chris Lawrence <lawrencc@debian.org>
License: GPL-2

Files: init-functions.d/50-ubuntu-logging
Copyright: 2005-2011, Canonical Ltd.
License: GPL-2

Files: init-functions
Copyright: 2002-2009, Chris Lawrence <lawrencc@debian.org>
License: BSD-3-clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the author nor the names of other contributors
may be used to endorse or promote
products derived from this software
without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS''
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF

SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

License: GPL-2
This program is free software; you can redistribute it
and/or modify it under the terms of the GNU General Public
License as published by the
 Free Software Foundation;
version 2 dated June 1991.
.
This program is distributed in the hope that it will be
useful, but WITHOUT ANY WARRANTY; without even the implied
warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR
PURPOSE.  See the GNU General Public License for more
details.
.
You should have received a copy of the GNU General Public
License along with this package; if not, write to the Free
Software Foundation, Inc., 51 Franklin St, Fifth Floor,
Boston, MA  02110-1301 USA
.
On Debian systems, the full text of the GNU General Public
License version 2 can be found in the file
`/usr/share/common-licenses/GPL-2'.

# 1.29 mawk 1.3.3-17ubuntu3

# 1.30 sysv-init 2.88dsf-59.10ubuntu1

## 1.30.1 Available under license :

This package contains the mechanism for executing the right scripts
in the right order at bootup/shutdown time, and when changing runlevels.
It works through managing symlinks in /etc/rc?.d

This package is built from the `sysvinit' source package.  Please
consult the copyright file of the sysvinit package for the location of
the upstream sources of the sysvinit package.  Debian-specific files
for sysvinit, such as these initscripts, are maintained by the members
of the pkg-sysvinit project at alioth.debian.org.

http://alioth.debian.org/projects/pkg-sysvinit

Copyright 1997-2005 Miquel van Smoorenburg <miquels@cistron.nl> and
the members pkg-sysvinit project.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,

but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA
02110-1301 USA

On Debian GNU/Linux systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-2'.
This package contains the scripts that are executed at start and
shutdown of Debian systems.

This package is built from the `sysvinit' source package. Please
consult the copyright file of the sysvinit package for the location of
the upstream sources of the sysvinit package. Debian-specific files
for sysvinit, such as these initscripts, are maintained by the members
of the pkg-sysvinit project at alioth.debian.org.

http://alioth.debian.org/projects/pkg-sysvinit

Copyright 1997-2005 Miquel van Smoorenburg <miquels@cistron.nl> and
the members pkg-sysvinit project.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR
A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software

Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA
02110-1301 USA

On Debian GNU/Linux systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-2'.
This is the Debian GNU/Linux prepackaged version of System V Init.

Init was written by Miquel van Smoorenburg <miquels@cistron.nl>.

This package was first put together by Bruce Perens <Bruce@Pixar.com>
from pre-distribution sources. Ian Murdock <imurdock@debian.org>
integrated it into the base system maintained it until the end of 1995.
Miquel van Smoorenburg <miquels@cistron.nl> implemented Debian support.
In version 2.85 the package was split into three (sysvinit, sysv-rc,
and initscripts) in order to make room for alternative rc mechanisms.

The upstream source is available at:

Primary-Site: ftp.cistron.nl /pub/people/miquels/software
92K sysvinit-2.86.tar.gz
Alternate-Site: sunsite.unc.edu /pub/Linux/system/daemons/init
92K sysvinit-2.86.tar.gz

Send patches to sysvinit-devel@nongnu.org.

The sysvinit package in Debian is maintained as an alioth project.
The project page is http://alioth.debian.org/projects/pkg-sysvinit/.

Copyright 1997-2005 Miquel
van Smoorenburg <miquels@cistron.nl> and
the members pkg-sysvinit project.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA
02110-1301 USA

On Debian GNU/Linux systems, the complete text of the GNU General

Public License can be found in `/usr/share/common-licenses/GPL-2'.

The of the start-stop-daemon:

* A rewrite of the original Debian's
start-stop-daemon Perl script
* in C (faster - it is executed many times during system startup).
*
* Written by Marek Michalkiewicz <marekm@i17linuxb.ists.pwr.wroc.pl>,
* public domain.

# 1.31 animal-sniffer-annotation 1.17

# 1.32 zlib 1.2.3

## 1.32.1 Available under license :

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.11, January 15th, 2017

Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source
distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

*/
Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization

obtaining a copy of the software and accompanying documentation covered by
this license (the "Software") to use, reproduce, display, distribute,
execute, and transmit the Software, and to prepare derivative works of the
Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part, and
all derivative works of the Software, unless such copies or derivative
works are solely in the form of machine-executable object code generated by
a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE
FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

# 1.33 failureaccess 1.0.1

# 1.34 libpcap 1.9.0

## 1.34.1 Available under license :

License: BSD

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
   the documentation and/or other materials provided with the
   distribution.
3. The names of the authors may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED

WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

# 1.35 minlog 1.3.1

## 1.35.1 Available under license :

Copyright (c) 2008, Nathan Sweet
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of Esoteric Software nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.36 commons-fileupload 1.4

## 1.36.1 Available under license :

Apache Commons FileUpload
Copyright 2002-2018 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted"

means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each

Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");

you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.37 openssl 1.0.2g-1ubuntu4.15

# 1.38 debconf 1.5.66ubuntu1

# 1.39 j2objc-annotations 1.3

## 1.39.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,

publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and

wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the

Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

```
/*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
```

*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

# 1.40 commons-beanutils 1.9.4

## 1.40.1 Available under license :

Apache Commons BeanUtils
Copyright 2000-2019 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable

(except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,

and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.41 apparmor 2.12-4ubuntu5.1

## 1.41.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients
all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know

that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in

non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for

writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in

themselves,
then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not

compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one

of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally

accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent

infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people
have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and

"any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of
all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the

ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
The pam_apparmor package is licensed under the same license as Linux-PAM <http://www.kernel.org/pub/linux/libs/pam/>, quoted below:

---

Redistribution and use in source and binary forms of Linux-PAM, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain any existing copyright

notice, and this entire permission notice in its entirety,
including the disclaimer of warranties.

2. Redistributions in binary form must reproduce all prior and current
copyright notices, this list of conditions, and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. The name of any author may not be used to endorse or promote
products derived from this software without their specific prior
written permission.

ALTERNATIVELY, this product may be distributed under the terms of the
GNU General
Public License, in which case the provisions of the GNU
GPL are required INSTEAD OF the above restrictions. (This clause is
necessary due to a potential conflict between the GNU GPL and the
restrictions contained in a BSD-style copyright.)

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS
OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR
TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

---

Unless otherwise noted in separate subdirectories, this license applies
to the entire contents of this source tree:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This

General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS

AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the
files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an

announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified
work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not
bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative

is
allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code
from the same place counts as
distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so,
and
all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application
of that
system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems

or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it

free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms
of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome
to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library.
If this is what you want to do, use the GNU Lesser General Public License instead of this License.
This license applies to all source files within the AppArmor parser package.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs,
too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the

source code. And you must show them these terms so they know their rights.

We protect your rights
with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL
PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having
been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you

conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating
that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements
apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or

collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution
medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source
code. (This alternative is
allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent
access
to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the

integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance
on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail
to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES

PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO
LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software;
you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

  Gnomovision version 69, Copyright (C) year name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for
details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more
 useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.42 pygobject 3.26.1-2ubuntu1

## 1.42.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence

the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we
suggest you first think carefully about whether
this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the
recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be

introduced by others.

Finally, software patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination
fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we
use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating

system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves,

then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License
to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be
distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot

use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues),

conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many
people have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and

conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is
safest to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least the
"copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You
should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

# 1.43 ucf 3.0038

## 1.43.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: ucf
Upstream-Contact: Manoj Srivastava <srivasta@debian.org>
Source: https://anonscm.debian.org/users/srivasta/debian/ucf.git
Copyright: 2002, 2003, 2003, 2004, 2005, 2006, 2015 Manoj Srivastava <srivasta@debian.org>

License: GPL-2

Files: *
Copyright: 2002, 2003, 2003, 2004, 2005, 2006, 2015 Manoj Srivastava <srivasta@debian.org>
License: GPL-2

License: GPL-2
 ucf is Copyright (C) 2002, 2003, 2003, 2004, 2005, 2006 Manoj
 Srivastava <srivasta@debian.org>
 .
 This program is free software; you can redistribute it and/or modify
 it under the terms of the GNU General Public License as published by
 the Free Software Foundation; version 2 dated June, 1991.
 .
 This program is distributed in the hope that it will be useful,
 but WITHOUT ANY WARRANTY; without even the implied warranty of
 MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
 GNU General Public License for
 more details.
 .
 On Debian GNU/Linux systems, the complete text of the GNU General
 Public License can be found in `/usr/share/common-licenses/GPL-2'.
 .
 A copy of the GNU General Public License is also available at
 <URL:http://www.gnu.org/copyleft/gpl.html>.  You may also obtain
 it by writing to the Free Software Foundation, Inc., 51 Franklin
 St, Fifth Floor, Boston, MA 02110-1301 USA
    GNU GENERAL PUBLIC LICENSE
      Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
                    59 Temple Place - Suite 330, Boston, MA
                    02111-1307, USA.
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

     Preamble

 The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below,

refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on

the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source

code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even
though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying
the
Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this

License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software

Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM,
TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE
PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>

Copyright (C) 19yy  <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free
Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c'
for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public

License instead of this License.

# 1.44 wget 1.19.4-1ubuntu2.2

## 1.44.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <https://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1)

assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees"
and
"recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the

earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy,
is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The
"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This

License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the

written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source
as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object

code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty
or limiting liability differently from the
terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions;
the above

requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or

otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where
the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program.  If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<https://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs.  If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library.  If this is what you want
to do, use the GNU Lesser General
Public License instead of this License.  But first, please read
<https://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.45 mpdecimal 2.4.2-1ubuntu1

## 1.45.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: mpdecimal
Source: http://www.bytereef.org/mpdecimal/download.html

Files: *
Copyright: Copyright (c) 2008-2013 Stefan Krah. All rights reserved.
License: BSD
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
.
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL
THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: libmpdec/vcstdint.h
Copyright: Copyright (c) 2006-2008 Alexander Chemeris
License: BSD
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
.
1. Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following
disclaimer in the
documentation and/or other materials provided with the distribution.
.
3. The name of the author may be used to endorse or promote products
derived from this software without specific prior written permission.

.
THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files: debian/*
Copyright: 2012 Matthias Klose
 <doko@debian.org>
License: GPL-2+
This package is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>
.
On Debian systems, the complete text of the GNU General
Public License version 2 can be found in "/usr/share/common-licenses/GPL-2".

# 1.46 libidn 1.33-2.1ubuntu1.2

## 1.46.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: Libidn
Upstream-Contact: Simon Josefsson <simon@josefsson.org>
Source: https://www.gnu.org/software/libidn/

Files: *
Copyright: Copyright (C) 2002-2012  Simon Josefsson
License: GPL-3+
The command-line tools, the build environment, the self-tests, the
Emacs Lisp code, and the examples are licensed under the GPLv3+.  For
example quoting src/idn.c:
.

* idn.c --- Command line interface to libidn.
* Copyright (C) 2003-2012 Simon Josefsson
*
* This file is part of GNU Libidn.
*
* This program is free software: you can redistribute it and/or modify
* it under the terms of the GNU General Public License as published by
* the Free Software Foundation, either version 3 of the License, or
* (at your option) any later version.
*
* This program is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of
* MERCHANTABILITY or FITNESS FOR A
 PARTICULAR PURPOSE.  See the
* GNU General Public License for more details.
*
* You should have received a copy of the GNU General Public License
* along with this program.  If not, see <http://www.gnu.org/licenses/>.
.
On Debian systems, the full text of the GNU General Public License
version 3 can be found in the `/usr/share/common-licenses/GPL-3'
file.

Files: doc/libidn.texi
Copyright: Copyright 2002-2012 Simon Josefsson.
License: GFDL-1.3+
This is the manual, licensed under GFDLv1.3+, quoting the file:
.
 Copyright @copyright{} 2002-2012 Simon Josefsson.
.
 Permission is granted to copy, distribute and/or modify this document
 under the terms of the GNU Free Documentation License, Version 1.3 or
 any later version published by the Free Software Foundation; with no
 Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.  A
 copy of the license is included in the section entitled ``GNU Free
 Documentation License".
.
On Debian systems, the complete text
 of the GNU Free Documentation
License Version 1.3 can be found in the file
`/usr/share/common-licenses/GFDL-1.3'.

Files: csharp/*
Copyright: Copyright (C) 2004-2012 Free Software Foundation, Inc.
License: LGPL-3+ or GPL-2+
The C# library is dual-licensed under LGPLv3+ and GPLv2+.  For
example quoting csharp/IDNA.cs:
.

// Copyright (C) 2004-2012 Free Software Foundation, Inc.
//
// Author: Alexander Gnauck AG-Software, mailto:gnauck@ag-software.de
//
// This file is part of GNU Libidn.
//
// GNU Libidn is free software: you can redistribute it and/or
// modify it under the terms of either:
//
//   * the GNU Lesser General Public License as published by the Free
//     Software Foundation; either version 3 of the License, or (at
//     your option) any later version.
//
// or
//
//   * the GNU General Public License as published by the Free
//     Software Foundation; either version 2 of the License, or (at
//     your option) any later version.
//
// or both
 in parallel, as here.
//
// GNU Libidn is distributed in the hope that it will be useful,
// but WITHOUT ANY WARRANTY; without even the implied warranty of
// MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
// General Public License for more details.
//
// You should have received copies of the GNU General Public License and
// the GNU Lesser General Public License along with this program.  If
// not, see <http://www.gnu.org/licenses/>.
.
On Debian systems, the full text of the GNU Lesser General Public
License version 3.0 can be found in the
`/usr/share/common-licenses/LGPL-3' file, and the full text of the
GNU General Public License version 2.0 can be found in the
`/usr/share/common-licenses/GPL-2' file.

Files: java/*
Copyright: Copyright (C) 2004-2007  Free Software Foundation, Inc.
License: LGPL-3+ or GPL-2+
The Java library is dual-licensed under LGPLv3+ and GPLv2+.  For
example quoting java/gnu/inet/encoding/IDNA.java:
.
  Copyright (C) 2004-2012
 Free Software Foundation, Inc.
  Author: Oliver Hitz
.
  This file is part of GNU Libidn.

.
GNU Libidn is free software: you can redistribute it and/or
modify it under the terms of either:
.
* the GNU Lesser General Public License as published by the Free
Software Foundation; either version 3 of the License, or (at
your option) any later version.
.
or
.
* the GNU General Public License as published by the Free
Software Foundation; either version 2 of the License, or (at
your option) any later version.
.
or both in parallel, as here.
.
GNU Libidn is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.
.
You should have received copies of the GNU General Public License and
the GNU Lesser General Public License along with this program. If

not, see <http://www.gnu.org/licenses/>.

Files: gl/* gltests/* build-aux/* GNUmakefile maint.mk
Copyright: Copyright (C) 2007 Free Software Foundation, Inc.
License: GPL-3+
These files are copied from gnulib, and the copyright is normally
held by Free Software Foundation, Inc. For example gl/strerror.c:
.
Copyright (C) 2007-2012 Free Software Foundation, Inc.
.
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 3 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Files:

lib/*
Copyright: Copyright (C) 2002-2012  Simon Josefsson
License: LGPL-3+ or GPL-2+
The C library is dual-licensed under LGPLv3+ and GPLv2+.  For
example quoting lib/stringprep.c:
.
 Copyright (C) 2002-2012 Simon Josefsson
.
 This file is part of GNU Libidn.
.
 GNU Libidn is free software: you can redistribute it and/or
 modify it under the terms of either:
.
   * the GNU Lesser General Public License as published by the Free
     Software Foundation; either version 3 of the License, or (at
     your option) any later version.
.
 or
.
   * the GNU General Public License as published by the Free
     Software Foundation; either version 2 of the License, or (at
     your option) any later version.
.
 or both in parallel, as here.
.
 GNU Libidn is distributed in the hope that it will be useful,
 but WITHOUT ANY WARRANTY; without even the implied warranty of
 MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
  General Public License for more details.
.
 You should have received copies of the GNU General Public License and
 the GNU Lesser General Public License along with this program.  If
 not, see <http://www.gnu.org/licenses/>.

Files: lib/gen-unicode-tables.pl
Copyright: Copyright (C) 2004, 2005, 2006, 2007, 2008 Simon Josefsson
        Copyright (C) 1998, 1999 Tom Tromey
        Copyright (C) 2001 Red Hat Software
License: GPL-3+
This file is originally from glib, quoting the file:
.
#    Copyright (C) 2004-2012 Simon Josefsson
#    Copyright (C) 1998, 1999 Tom Tromey
#    Copyright (C) 2001 Red Hat Software
.
# This program is free software: you can redistribute it and/or modify
# it under the terms of the GNU General Public License as published by
# the Free Software Foundation, either version 3 of the License, or

# (at your option) any later version.
#
# This program is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even
 the implied warranty of
# MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
# GNU General Public License for more details.
#
# You should have received a copy of the GNU General Public License
# along with this program.  If not, see <http://www.gnu.org/licenses/>.
.
# I consider the output of this program to be unrestricted.  Use it as
# you will.

Files: lib/punycode.?
Copyright: Copyright (C) 2002-2015 Simon Josefsson
License: LGPL-3+ or GPL-2+
This file was originally written by Adam M. Costello and is released
under the following license -- see http://www.nicemice.net/idn/
.
* Disclaimer and license: Regarding this entire document or any
* portion of it (including the pseudocode and C code), the author
* makes no guarantees and is not responsible for any damage resulting
* from its use.  The author grants irrevocable permission to anyone
* to use, modify, and distribute it in any way that does not diminish
* the rights of anyone else to use, modify,
 and distribute it,
* provided that redistributed derivative works do not contain
* misleading author or version information.  Derivative works need
* not be licensed under similar terms.
.
The file has been modified and is now distributed under dual LGPLv3+
and GPLv2+, quoting the file:
.
  Copyright (C) 2002-2015 Simon Josefsson
.
  This file is part of GNU Libidn.
.
  GNU Libidn is free software: you can redistribute it and/or
  modify it under the terms of either:
.
    * the GNU Lesser General Public License as published by the Free
      Software Foundation; either version 3 of the License, or (at
      your option) any later version.
.
  or
.
    * the GNU General Public License as published by the Free

Software Foundation; either version 2 of the License, or (at
your option) any later version.
.
or both in parallel, as here.
.
GNU Libidn is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied
warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.
.
You should have received copies of the GNU General Public License and
the GNU Lesser General Public License along with this program. If
not, see <http://www.gnu.org/licenses/>.

Files: lib/nfkc.c
Copyright: Copyright (C) 2002, 2003, 2004, 2006, 2007,
2008, 2009 Simon Josefsson
Copyright (C) 1999, 2000 Tom Tromey
Copyright 2000 Red Hat, Inc.
License: LGPL-3+ or GPL-2+
This file contains some functions derived from glib under LGPLv2+ but
the entire file uses the dual LGPLv3+ and GPLv2+ license, quoting the file:
.
Copyright (C) 2002-2012 Simon Josefsson
.
This file is part of GNU Libidn.
.
GNU Libidn is free software: you can redistribute it and/or
modify it under the terms of either:
.
* the GNU Lesser General Public License as published by the Free
Software Foundation;
either version 3 of the License, or (at
your option) any later version.
.
or
.
* the GNU General Public License as published by the Free
Software Foundation; either version 2 of the License, or (at
your option) any later version.
.
or both in parallel, as here.
.
GNU Libidn is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.

```
.
  You should have received copies of the GNU General Public License and
  the GNU Lesser General Public License along with this program.  If
  not, see <http://www.gnu.org/licenses/>.
.
/* Code from GLIB gmacros.h starts here. */
.
/* GLIB - Library of useful routines for C programming
 * Copyright (C) 1995-1997  Peter Mattis, Spencer Kimball and Josh MacDonald
 *
 * This library is free software; you can redistribute it and/or
 * modify
 it under the terms of the GNU Lesser General Public
 * License as published by the Free Software Foundation; either
 * version 2 of the License, or (at your option) any later version.
 *
 * This library is distributed in the hope that it will be useful,
 * but WITHOUT ANY WARRANTY; without even the implied warranty of
 * MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
 * Lesser General Public License for more details.
.
/* Code from GLIB gunicode.h starts here. */
.
/* gunicode.h - Unicode manipulation functions
 *
 *  Copyright (C) 1999, 2000 Tom Tromey
 *  Copyright 2000, 2005 Red Hat, Inc.
 *
 * The Gnome Library is free software; you can redistribute it and/or
 * modify it under the terms of the GNU Lesser General Public License as
 * published by the Free Software Foundation; either version 2 of the
 * License, or (at your option) any later version.
 *
 * The Gnome Library is distributed in the hope that it will be useful,
 * but WITHOUT ANY
 WARRANTY; without even the implied warranty of
 * MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
 * Lesser General Public License for more details.
.
/* Code from GLIB gutf8.c starts here. */
.
/* gutf8.c - Operations on UTF-8 strings.
 *
 * Copyright (C) 1999 Tom Tromey
 * Copyright (C) 2000 Red Hat, Inc.
 *
 * This library is free software; you can redistribute it and/or
 * modify it under the terms of the GNU Lesser General Public
```

 * License as published by the Free Software Foundation; either
 * version 2 of the License, or (at your option) any later version.
 *
 * This library is distributed in the hope that it will be useful,
 * but WITHOUT ANY WARRANTY; without even the implied warranty of
 * MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
 * Lesser General Public License for more details.
.
/* Code from GLIB gunidecomp.c starts here. */
.
/* decomp.c - Character decomposition.
 *
 *  Copyright (C) 1999, 2000 Tom Tromey
  *  Copyright 2000 Red Hat, Inc.
 *
 * The Gnome Library is free software; you can redistribute it and/or
 * modify it under the terms of the GNU Lesser General Public License as
 * published by the Free Software Foundation; either version 2 of the
 * License, or (at your option) any later version.
 *
 * The Gnome Library is distributed in the hope that it will be useful,
 * but WITHOUT ANY WARRANTY; without even the implied warranty of
 * MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
 * Lesser General Public License for more details.
.
On Debian systems, the full text of the GNU Lesser General Public
License version 2 can be found in the
`/usr/share/common-licenses/LGPL-2' file.

Files: lib/gl/* lib/gltests/*
Copyright: Copyright (C) 2007 Free Software Foundation, Inc.
License: LGPL-2.1+
These files are copied from gnulib, and the copyright is normally
held by Free Software Foundation, Inc.  For example lib/gl/strverscmp.c:
.
  Copyright (C)
 1997, 2000, 2002, 2004, 2006, 2009-2012 Free Software
  Foundation, Inc.
  This file is part of the GNU C Library.
  Contributed by Jean-Franois Bignolles <bignolle@ecoledoc.ibp.fr>, 1997.
.
  This program is free software; you can redistribute it and/or modify
  it under the terms of the GNU Lesser General Public License as published by
  the Free Software Foundation; either version 2.1, or (at your option)
  any later version.
.
  This program is distributed in the hope that it will be useful,
  but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU Lesser General Public License for more details.
.
You should have received a copy of the GNU Lesser General Public
License along
with this program; if not, write to the Free Software Foundation,
Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.  */
.
On Debian systems, the full text of the GNU Lesser General Public
License version 2.1 can be found in the
`/usr/share/common-licenses/LGPL-2.1' file.

Files: doc/gdoc
Copyright: Copyright (c) 2002-2012 Simon Josefsson
        Copyright (c) 2001, 2002 Nikos Mavrogiannopoulos
        Copyright (c) 1998 Michael Zucchi
License: GPL-3+
This tool is used to generate texinfo snippets and man pages from the
source code.
.
# This program is free software: you can redistribute it and/or modify
# it under the terms of the GNU General Public License as published by
# the Free Software Foundation, either version 3 of the License, or
# (at your option) any later version.
#
# This program is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even the implied warranty of
# MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
# GNU General Public License for more details.
#
# You should have received a copy of the GNU General Public License
# along with this program.  If not, see <http://www.gnu.org/licenses/>.

Files:
doc/man/*
Copyright: Copyright  2002-2012 Simon Josefsson.
License: GAP
These are the auto-generated man pages.  For example doc/man/stringprep.3:
.
Copyright  2002-2012 Simon Josefsson.
Copying  and  distribution  of this file, with or without modification,
are permitted in any medium  without  royalty  provided  the  copyright
notice and this notice are preserved.

# 1.47 libxcb 1.13-2~ubuntu18.04

## 1.47.1 Available under license :

Copyright (C) 2001-2006 Bart Massey, Jamey Sharp, and Josh Triplett.
All Rights Reserved.

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated
documentation files (the "Software"), to deal in the
Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute,
sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so,
subject to the following conditions:

The above copyright notice and this permission notice shall
be included in all copies or substantial portions of the
Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY
KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR
PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS
BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT
OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the names of the authors
or their institutions shall not be used in advertising or
otherwise to promote the sale, use or other dealings in this
Software without prior written authorization from the
authors.

# 1.48 jjwt 0.7.0

# 1.49 libunistring 0.9.9-0ubuntu2

## 1.49.1 Available under license :

@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
must themselves be free in the same sense. It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does. But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book. We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License. Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein. The ``Document'', below,
refers
to any such manual or work. Any member of the public is a
licensee, and is addressed as ``you''. You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain @sc{ascii} without markup, Texinfo input format, La@TeX{} input format, @acronym{SGML} or @acronym{XML} using a publicly available @acronym{DTD}, and standard-conforming simple @acronym{HTML}, PostScript or @acronym{PDF} designed for human modification. Examples

of transparent image formats include @acronym{PNG}, @acronym{XCF} and @acronym{JPG}. Opaque formats
include proprietary formats that can be
read and edited only by proprietary word processors, @acronym{SGML} or @acronym{XML} for which the @acronym{DTD} and/or processing tools are not generally available, and the machine-generated @acronym{HTML}, PostScript or @acronym{PDF} produced by some word processors for output purposes only.

The ``Title Page'' means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, ``Title Page'' means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in
another language. (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'', ``Dedications'', ``Endorsements'', or ``History''.) To ``Preserve the Title'' of such a section when you modify the Document means that it remains a section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever
to those of this License. You may not use
technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible.
You may add other material on the covers in addition.
Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that
this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under

the conditions of sections 2 and 3 above, provided that you release
the Modified Version under precisely this License, with the Modified
Version filling the role of the Document, thus licensing distribution
and modification of the Modified Version to whoever possesses a copy
of it.  In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from
 those of previous versions
(which should, if there were any, be listed in the History section
of the Document).  You may use the same title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in
 the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add

to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page. If
there is no section Entitled ``History'' in the Document, create one
stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on. These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least
four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles. Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document,
you may at your option designate some or all
of these sections as invariant. To do this, add their titles to the
list of Invariant Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements", provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has
been approved by an organization as the authoritative definition of a
standard.

You may add a passage of up to five words as a Front-Cover Text, and a
passage of up to 25 words as a Back-Cover Text, to the end of the list
of Cover Texts in the Modified Version.  Only one passage of
Front-Cover Text and one of Back-Cover Text may be added by (or
through arrangements made by) any one entity.  If the Document already
includes a cover text for the same cover, previously added by you or
by arrangement made by the same entity you are acting on behalf
 of,
you may not add another; but you may replace the old one, on explicit
permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License
give permission to use their names for publicity for or to assert or
imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this
License, under the terms defined in section 4 above for modified
versions, provided that you include in the combination all of the
Invariant Sections of all of the original documents, unmodified, and
list them all as Invariant Sections of your combined work in its
license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single
copy.  If there are multiple Invariant Sections with the same name but
different contents, make the title of
 each such section unique by
adding at the end of it, in parentheses, the name of the original
author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of
Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History"
in the various original documents, forming one section Entitled
``History"; likewise combine any sections Entitled ``Acknowledgements",
and any sections Entitled ``Dedications".  You must delete all
sections Entitled ``Endorsements."

@item

COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract
a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an ``aggregate'' if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may
be placed on
covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between

the translation and the original version of this License or a notice
or disclaimer, the original
version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',
``Dedications'', or ``History'', the requirement (section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License.  Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies
you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License.  If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time.  Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.  See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.

If the Document specifies that
a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation.  If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation.  If the Document
specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the
Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works.  A
public wiki that anybody can edit is an example of such a server.  A
``Massive Multiauthor Collaboration'' (or ``MMC'')
contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the
MMC is eligible for relicensing.

@end enumerate

@page

@heading ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group
 Copyright (C)  @var{year}  @var{your name}.
 Permission is granted to copy, distribute and/or modify this document
 under the terms of the GNU Free Documentation License, Version 1.3
 or any later version published by the Free Software Foundation;
 with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
 Texts.  A copy of the license is included in the section entitled ``GNU
 Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts." line with this:

@smallexample
@group
   with the Invariant Sections being @var{list their titles}, with
   the Front-Cover
 Texts being @var{list}, and with the Back-Cover Texts
   being @var{list}.
@end group
@end smallexample

If you have Invariant Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:
                GNU GENERAL PUBLIC LICENSE
                  Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of

protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees"
and
"recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require,

such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to

the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent

works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source

may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source
as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,
procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as
part of a transaction in which the right of possession and use of the
User Product is transferred to the recipient in perpetuity or for a
fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied
by the Installation Information. But this requirement does not apply
if neither you nor any third party retains the ability to install
modified object code on the User Product (for example, the work has

been installed in
ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the
entire Program shall
be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or
limiting liability differently from the
terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or
requiring that modified versions of such material be marked in
reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or
authors of the material; or

e) Declining to grant rights under trademark law for use of some
trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that
material by anyone who conveys the material (or modified versions of
it) with contractual assumptions of liability to the recipient, for
any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further
restrictions" within the meaning of section 10. If the Program as you
received it, or any part of it, contains a notice stating that it is
governed by this License along with a term that is a further
restriction, you may remove that term. If a license document contains
a further restriction but permits relicensing or conveying under this
License, you may add to a covered work material governed by the terms
of that license document, provided that the further restriction does
not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you
must place, in the relevant source files, a statement of the
additional terms that apply to those files, or a notice indicating
where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the
form of a separately written license, or stated as exceptions;
the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly
provided under this License. Any attempt otherwise to propagate or
modify it is void, and will automatically terminate your rights under
this License (including any patent licenses granted under the third
paragraph of section 11).

However, if you cease all violation of this License, then your
license from a particular copyright holder is reinstated (a)
provisionally, unless and until the copyright holder explicitly and

finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the

rights
granted or affirmed under this License. For example, you may
not impose a license fee, royalty, or other charge for exercise of
rights granted under this License, and you may not initiate litigation
(including a cross-claim or counterclaim in a lawsuit) alleging that
any patent claim is infringed by making, using, selling, offering for
sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this
License of the Program or a work on which the Program is based. The
work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims
owned or controlled by the contributor, whether already acquired or
hereafter acquired, that would be infringed by some manner, permitted
by this License, of making, using, or selling its contributor version,
but do not include claims that would be infringed only as a
consequence of further modification of the contributor
version. For
purposes of this definition, "control" includes the right to grant
patent sublicenses in a manner consistent with the requirements of
this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free
patent license under the contributor's essential patent claims, to
make, use, sell, offer for sale, import and otherwise run, modify and
propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express
agreement or commitment, however denominated, not to enforce a patent
(such as an express permission to practice a patent or covenant not to
sue for patent infringement). To "grant" such a patent license to a
party means to make such an agreement or commitment not to enforce a
patent against the party.

If you convey a covered work, knowingly relying on a patent license,
and the Corresponding Source of the work is not available for anyone
to copy, free of charge and under the terms of this
License, through a
publicly available network server or other readily accessible means,
then you must either (1) cause the Corresponding Source to be so
available, or (2) arrange to deprive yourself of the benefit of the
patent license for this particular work, or (3) arrange, in a manner
consistent with the requirements of this License, to extend the patent
license to downstream recipients. "Knowingly relying" means you have
actual knowledge that, but for the patent license, your conveying the

covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
@c The GNU General Public License.
@center Version 3, 29 June 2007

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2007 Free Software Foundation, Inc. @url{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies of this
license document, but changing it is not allowed.
@end display

@heading Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program---to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can
apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know
their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the

practice
 for those products.  If such problems arise substantially in
other domains, we stand ready to extend this provision to those
domains in future versions of the GPL, as needed to protect the
freedom of users.

Finally, every program is threatened constantly by software patents.
States should not allow patents to restrict development and use of
software on general-purpose computers, but in those that do, we wish
to avoid the special danger that patents applied to a free program
could make it effectively proprietary.  To prevent this, the GPL
assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and
modification follow.

@heading TERMS AND CONDITIONS

@enumerate 0
@item Definitions.

``This License'' refers to version 3 of the GNU General Public License.

``Copyright'' also means copyright-like laws that apply to other kinds
of works, such as semiconductor masks.

``The Program'' refers to any copyrightable work licensed
 under this
License.  Each licensee is addressed as ``you''.  ``Licensees'' and
``recipients'' may be individuals or organizations.

To ``modify'' a work means to copy from or adapt all or part of the work
in a fashion requiring copyright permission, other than the making of
an exact copy.  The resulting work is called a ``modified version'' of
the earlier work or a work ``based on'' the earlier work.

A ``covered work'' means either the unmodified Program or a work based
on the Program.

To ``propagate'' a work means to do anything with it that, without
permission, would make you directly or secondarily liable for
infringement under applicable copyright law, except executing it on a
computer or modifying a private copy.  Propagation includes copying,
distribution (with or without modification), making available to the
public, and in some countries other activities as well.

To ``convey'' a work means any kind of propagation that enables other
parties to make or receive copies.  Mere

interaction with a user
through a computer network, with no transfer of a copy, is not
conveying.

An interactive user interface displays ``Appropriate Legal Notices'' to
the extent that it includes a convenient and prominently visible
feature that (1) displays an appropriate copyright notice, and (2)
tells the user that there is no warranty for the work (except to the
extent that warranties are provided), that licensees may convey the
work under this License, and how to view a copy of this License. If
the interface presents a list of user commands or options, such as a
menu, a prominent item in the list meets this criterion.

@item Source Code.

The ``source code'' for a work means the preferred form of the work for
making modifications to it. ``Object code'' means any non-source form
of a work.

A ``Standard Interface'' means an interface that either is an official
standard defined by a recognized standards body, or, in the case of
interfaces specified for a particular programming
language, one that
is widely used among developers working in that language.

The ``System Libraries'' of an executable work include anything, other
than the work as a whole, that (a) is included in the normal form of
packaging a Major Component, but which is not part of that Major
Component, and (b) serves only to enable use of the work with that
Major Component, or to implement a Standard Interface for which an
implementation is available to the public in source code form. A
``Major Component'', in this context, means a major essential component
(kernel, window system, and so on) of the specific operating system
(if any) on which the executable work runs, or a compiler used to
produce the work, or an object code interpreter used to run it.

The ``Corresponding Source'' for a work in object code form means all
the source code needed to generate, install, and (for an executable
work) run the object code and to modify the work, including scripts to
control those activities. However,
it does not include the work's
System Libraries, or general-purpose tools or generally available free
programs which are used unmodified in performing those activities but
which are not part of the work. For example, Corresponding Source
includes interface definition files associated with source files for
the work, and the source code for shared libraries and dynamically
linked subprograms that the work is specifically designed to require,
such as by intimate data communication or control flow between those

subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

@item Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission
to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is
permitted solely under the
conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

@item Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against

the work's users, your or third parties' legal rights to forbid
circumvention of technological measures.

@item Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you
receive
it, in any medium, provided that you conspicuously and
appropriately publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all
recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey,
and you may offer support or warranty protection for a fee.

@item Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to
produce it from the Program, in the form of source code under the
terms of section 4, provided that you also meet all of these
conditions:

@enumerate a
@item
The work must carry prominent notices stating that you modified it,
and giving a relevant date.

@item
The work must carry prominent notices stating that it is released
under this License and any conditions added
under section 7.  This
requirement modifies the requirement in section 4 to ``keep intact all
notices''.

@item
You must license the entire work, as a whole, under this License to
anyone who comes into possession of a copy.  This License will
therefore apply, along with any applicable section 7 additional terms,
to the whole of the work, and all its parts, regardless of how they
are packaged.  This License gives no permission to license the work in
any other way, but it does not invalidate such permission if you have
separately received it.

@item
If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive

interfaces that do not display Appropriate Legal Notices, your work
need not make them do so.
@end enumerate

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in
 or on a volume of a storage or distribution medium, is called an
``aggregate'' if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit.  Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

@item  Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of
sections 4 and 5, provided that you also convey the machine-readable
Corresponding Source under the terms of this License, in one of these
ways:

@enumerate a
@item
Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium customarily
used for software interchange.

@item
Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a written
offer,
 valid for at least three years and valid for as long as you
offer spare parts or customer support for that product model, to give
anyone who possesses the object code either (1) a copy of the
Corresponding Source for all the software in the product that is
covered by this License, on a durable physical medium customarily used
for software interchange, for a price no more than your reasonable
cost of physically performing this conveying of source, or (2) access
to copy the Corresponding Source from a network server at no charge.

@item
Convey individual copies of the object code with a copy of the written
offer to provide the Corresponding Source.  This alternative is
allowed only occasionally and noncommercially, and only if you
received the object code with such an offer, in accord with subsection
6b.

@item
Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through
the same place at no
further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

@item
Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

@end enumerate

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the
object code work.

A ``User Product'' is either (1) a ``consumer product'', which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, ``normally used'' refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

``Installation Information'' for a User Product means any methods, procedures, authorization keys, or other information required to install
and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The

information must suffice to ensure that the continued functioning of
the modified object code is in no case prevented or interfered with
solely because modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as
part of a transaction in which the right of possession and use of the
User Product is transferred to the recipient in perpetuity or for a
fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied
by the Installation Information.  But this requirement does not apply
if neither you nor any third party retains the ability to install
modified object code on the User Product (for example, the work has
been installed in ROM).

The requirement to provide Installation Information
 does not include a
requirement to continue to provide support service, warranty, or
updates for a work that has been modified or installed by the
recipient, or for the User Product in which it has been modified or
installed.  Access to a network may be denied when the modification
itself materially and adversely affects the operation of the network
or violates the rules and protocols for communication across the
network.

Corresponding Source conveyed, and Installation Information provided,
in accord with this section must be in a format that is publicly
documented (and with an implementation available to the public in
source code form), and must require no special password or key for
unpacking, reading or copying.

@item Additional Terms.

``Additional permissions'' are terms that supplement the terms of this
License by making exceptions from one or more of its conditions.
Additional permissions that are applicable to the entire Program shall
be treated as though they were included
 in this License, to the extent
that they are valid under applicable law.  If additional permissions
apply only to part of the Program, that part may be used separately
under those permissions, but the entire Program remains governed by
this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option
remove any additional permissions from that copy, or from any part of
it.  (Additional permissions may be written to require their own
removal in certain cases when you modify the work.)  You may place
additional permissions on material, added by you to a covered work,

for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you
add to a covered work, you may (if authorized by the copyright holders
of that material) supplement the terms of this License with terms:

@enumerate a
@item
Disclaiming warranty or limiting liability differently from the terms
of
sections 15 and 16 of this License; or

@item
Requiring preservation of specified reasonable legal notices or author
attributions in that material or in the Appropriate Legal Notices
displayed by works containing it; or

@item
Prohibiting misrepresentation of the origin of that material, or
requiring that modified versions of such material be marked in
reasonable ways as different from the original version; or

@item
Limiting the use for publicity purposes of names of licensors or
authors of the material; or

@item
Declining to grant rights under trademark law for use of some trade
names, trademarks, or service marks; or

@item
Requiring indemnification of licensors and authors of that material by
anyone who conveys the material (or modified versions of it) with
contractual assumptions of liability to the recipient, for any
liability that these contractual assumptions directly impose on those
licensors and authors.
@end enumerate

All other non-permissive additional terms are considered
``further
restrictions'' within the meaning of section 10. If the Program as you
received it, or any part of it, contains a notice stating that it is
governed by this License along with a term that is a further
restriction, you may remove that term. If a license document contains
a further restriction but permits relicensing or conveying under this
License, you may add to a covered work material governed by the terms
of that license document, provided that the further restriction does
not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

@item Termination.

You may not propagate or modify a
 covered work except as expressly
provided under this License.  Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination
 of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under this License.  If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

@item Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program.  Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance.  However, nothing other than this License grants you permission to propagate or modify any covered work.  These actions infringe copyright if you do

not accept this License.  Therefore, by modifying or propagating a
covered work, you indicate your acceptance of this License to do so.

@item Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient
 automatically
receives a license from the original licensors, to run, modify and
propagate that work, subject to this License.  You are not responsible
for enforcing compliance by third parties with this License.

An ``entity transaction'' is a transaction transferring control of an
organization, or substantially all assets of one, or subdividing an
organization, or merging organizations.  If propagation of a covered
work results from an entity transaction, each party to that
transaction who receives a copy of the work also receives whatever
licenses to the work the party's predecessor in interest had or could
give under the previous paragraph, plus a right to possession of the
Corresponding Source of the work from the predecessor in interest, if
the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the
rights granted or affirmed under this License.  For example, you may
not impose a license fee, royalty, or
 other charge for exercise of
rights granted under this License, and you may not initiate litigation
(including a cross-claim or counterclaim in a lawsuit) alleging that
any patent claim is infringed by making, using, selling, offering for
sale, or importing the Program or any portion of it.

@item Patents.

A ``contributor'' is a copyright holder who authorizes use under this
License of the Program or a work on which the Program is based.  The
work thus licensed is called the contributor's ``contributor version''.

A contributor's ``essential patent claims'' are all patent claims owned
or controlled by the contributor, whether already acquired or
hereafter acquired, that would be infringed by some manner, permitted
by this License, of making, using, or selling its contributor version,
but do not include claims that would be infringed only as a
consequence of further modification of the contributor version.  For
purposes of this definition, ``control'' includes the right to grant
patent
 sublicenses in a manner consistent with the requirements of
this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free

patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a ``patent license'' is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To ``grant'' such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you
must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. ``Knowingly relying'' means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work
and works based on it.

A patent license is ``discriminatory'' if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent

license was granted, prior to 28 March 2007.

Nothing in this License shall
be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

@item No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License.  If you cannot convey
a covered work so as to satisfy simultaneously your obligations under
this License and any other pertinent obligations, then as a
consequence you may not convey it at all.  For example, if you agree
to terms that obligate you to collect a royalty for further conveying
from those to whom you convey the Program, the only way you could
satisfy both those terms and this License would be to refrain entirely
from conveying the Program.

@item Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any
covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work.  The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

@item Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions
of the GNU General Public License from time to time.  Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.

Each version is given a distinguishing version number.  If the Program
specifies that a certain numbered version of the GNU General Public
License ``or any later version'' applies to it, you have the option of
following the terms and conditions either of that numbered version or
of any later version
published by the Free Software Foundation.  If
the Program does not specify a version number of the GNU General
Public License, you may choose any version ever published by the Free
Software Foundation.

If the Program specifies that a proxy can decide which future versions
of the GNU General Public License can be used, that proxy's public
statement of acceptance of a version permanently authorizes you to
choose that version for the Program.

Later license versions may give you additional or different
permissions.  However, no additional obligations are imposed on any
author or copyright holder as a result of your choosing to follow a
later version.

@item Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY
APPLICABLE LAW.  EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT
HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM ``AS IS'' WITHOUT
WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES
 OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE.  THE ENTIRE RISK AS TO THE QUALITY AND
PERFORMANCE OF THE PROGRAM IS WITH YOU.  SHOULD THE PROGRAM PROVE
DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR
CORRECTION.

@item Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR
CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES
ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT
NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR
LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM
TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER
PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

@item Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above
 cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

@end enumerate

@heading END OF TERMS AND CONDITIONS

@heading How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these
terms.

To do so, attach the following notices to the program.  It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the ``copyright'' line and a pointer to where the full notice is found.

@smallexample
@var{one line to give the program's name and a brief idea of what it does.}
Copyright
 (C) @var{year} @var{name of author}

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or (at
your option) any later version.

This program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program.  If not, see @url{http://www.gnu.org/licenses/}.
@end smallexample

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

@smallexample
@var{program} Copyright (C) @var{year} @var{name of author}
This program comes with ABSOLUTELY NO WARRANTY;
 for details type @samp{show w}.
This is free software, and you are welcome to redistribute it
under certain conditions; type @samp{show c} for details.
@end smallexample

The hypothetical commands @samp{show w} and @samp{show c} should show
the appropriate parts of the General Public License.  Of course, your

program's commands might be different; for a GUI interface, you would
use an ``about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a ``copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
@url{http://www.gnu.org/licenses/}.

The GNU General Public License does not permit incorporating your
program into proprietary programs.  If your program is a subroutine
library, you may consider it more useful to permit linking proprietary
applications with the library.  If this is what you want to do, use
the GNU Lesser General Public License instead of this License.
 But
first, please read @url{http://www.gnu.org/philosophy/why-not-lgpl.html}.
    GNU LESSER GENERAL PUBLIC LICENSE
                Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

 This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

 0. Additional Definitions.

 As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

 "The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

 An "Application" is any work that makes use of an interface provided
by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by the Library is
 deemed a mode
of using an interface provided by the Library.

 A "Combined Work" is a work produced by combining or linking an
Application with the Library.  The particular version of the Library
with which the Combined Work was made is also called the "Linked
Version".

 The "Minimal Corresponding Source" for a Combined Work means the

Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying
Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data
structure
layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.

4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation

Information in the manner specified by section 6 of the GNU GPL
for conveying Corresponding Source.)

5. Combined Libraries.

You may place library facilities that are a work based on the
Library side by side in a single library together with other library
facilities that are not Applications and are not covered by this
License, and convey such a combined library under
terms of your
choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based
on the Library, uncombined with any other library facilities,
conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it
is a work based on the Library, and explaining where to find the
accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions
of the GNU Lesser General Public License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the
Library as you received it specifies that a certain numbered version
of the GNU Lesser General Public License "or any later version"
applies to it, you have the option of following
the terms and
conditions either of that published version or of any later version
published by the Free Software Foundation. If the Library as you
received it does not specify a version number of the GNU Lesser
General Public License, you may choose any version of the GNU Lesser
General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide
whether future versions of the GNU Lesser General Public License shall
apply, that proxy's public statement of acceptance of any version is
permanent authorization for you to choose that version for the
Library.

# 1.50 xdg-user-dirs 0.17-1ubuntu1

## 1.50.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we

want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and

distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole
or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered
independent and separate works in
themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based
on it,
under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are

prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING

OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.51 commons-io 2.6

## 1.51.1 Available under license :

Apache Commons IO
Copyright 2002-2017 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all

other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must

include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

See the License for the specific language governing permissions and
limitations under the License.

# 1.52 guava 15.0

# 1.53 commons-digester 2.1

## 1.53.1 Available under license :

Apache Commons Digester
Copyright 2001-2010 The Apache Software Foundation

This product includes software developed by
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical

transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made,

use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,

or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.54 net-tools 1.60+git20161116.90da8a0-1ubuntu1

## 1.54.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any

patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any

part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium

customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to

these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions

of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.55 chardet 3.0.4-1

## 1.55.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it.  You
can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price.  Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get

it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the

entire combination fits
its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General
Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages
are the reason we use the ordinary General Public License for many
libraries. However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free
library does the same job as widely used non-free libraries. In this
case, there is little to gain by limiting the free library to free
software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free
programs enables a greater number of people to use a large body of
free software. For example, permission to use the GNU C Library in
non-free programs enables many more people to use the whole GNU
operating system, as well as its variant, the GNU/Linux operating
system.

Although the Lesser General Public License is Less protective of the
users' freedom, it does ensure that the user of a program that is
linked with the Library has the freedom and the wherewithal to run
that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and
modification follow. Pay close attention to the difference between a
"work based on the library" and a "work that uses the library". The
former contains code derived from the library, whereas the latter must
be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other
program which contains a notice placed by the copyright holder or
other authorized party saying it may be distributed under the terms of
this Lesser General Public License (also called "this License").
Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices
stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no
charge to all third parties under the terms of this License.

d) If a facility in the modified
Library refers to a function or a
table of data to be supplied by an application program that uses
the facility, other than as an argument passed when the facility
is invoked, then you must make a good faith effort to ensure that,
in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves,
then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so

that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this
License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data

structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever
changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user
installs one, as long as the modified version is
interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at
least three years, to give the same user the materials
specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
specified materials from the same place.

e) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the
Library" must include any data and utility programs needed for
reproducing the executable from it. However, as a special exception,
the materials to be distributed need not include anything that is
normally distributed (in either source or binary form) with the
major
components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies
the executable.

It may happen that this requirement contradicts the license
restrictions of other proprietary libraries that do not normally
accompany the operating system. Such a contradiction means you cannot
use both them and the Library together in an executable that you
distribute.

7. You may place library facilities that are a work based on the
Library side-by-side in a single library together with other library
facilities not covered by this License, and distribute such a combined
library, provided that the separate distribution of the work based on
the Library and of the other library facilities is otherwise
permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work
based on the Library, uncombined with any other library
facilities. This must be distributed under
the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any

attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing
the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people

have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish revised and/or new
versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision will be guided by the two goals of preserving the free status
of
all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY

KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public

License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA  02110-1301  USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

# 1.56 python-idna 2.6-1

## 1.56.1 Available under license :

License
-------

Copyright (c) 2013-2017, Kim Davies. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

#. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

#. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided with
the distribution.

#. Neither the name of the copyright holder nor the names of the
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

#. THIS SOFTWARE IS PROVIDED BY THE CONTRIBUTORS "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN
NO EVENT SHALL THE COPYRIGHT HOLDERS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,

SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Portions of the codec implementation and unit tests are derived from the Python standard library, which carries the `Python Software Foundation License <https://docs.python.org/2/license.html>`_:

Copyright (c) 2001-2014 Python Software Foundation; All Rights Reserved

Portions of the unit tests are derived from the Unicode standard, which is subject to the Unicode, Inc. License Agreement:

Copyright (c) 1991-2014 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in
<http://www.unicode.org/copyright.html>.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that

(a) this copyright and permission notice appear with all copies of the Data Files or Software,

(b) this copyright and permission notice appear in associated documentation, and

(c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software that the data
or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,

DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

# 1.57 ssh-import-id 5.7-0ubuntu1.1

## 1.57.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether

gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this

License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major

Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction

and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is

released under this License and any conditions added under section
7. This requirement modifies the requirement in section
4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This
License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts,
regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the

product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the

additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where
the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read

<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.58 idna 2.6

## 1.58.1 Available under license :

License

---

Copyright (c) 2013-2017, Kim Davies. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

#. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

#. Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the following
  disclaimer in the documentation and/or other materials provided with
  the distribution.

#. Neither the name of the copyright holder nor the names of the
  contributors may be used to endorse or promote products derived
  from this software without specific prior written permission.

#. THIS SOFTWARE IS PROVIDED BY THE CONTRIBUTORS "AS IS" AND ANY
  EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
  IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
  PURPOSE ARE DISCLAIMED. IN
 NO EVENT SHALL THE COPYRIGHT HOLDERS OR
  CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
  SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
  LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
  DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
  THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
  (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
  USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
  DAMAGE.

Portions of the codec implementation and unit tests are derived from the
Python standard library, which carries the `Python Software Foundation
License <https://docs.python.org/2/license.html>`_:

  Copyright (c) 2001-2014 Python Software Foundation; All Rights Reserved

Portions of the unit tests are derived from the Unicode standard, which
is subject to the Unicode, Inc. License Agreement:

Copyright (c) 1991-2014 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in
<http://www.unicode.org/copyright.html>.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that

(a) this copyright and permission notice appear with all copies
of the Data Files or Software,

(b) this copyright and permission notice appear in associated
documentation, and

(c) there is clear notice in each modified Data File or in the Software
as well as in the documentation associated with the Data File(s) or
Software that the data
or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS
NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL
DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright holder.

# 1.59 lua 5.3.5

# 1.60 libffi 3.2.1

## 1.60.1 Available under license :

libffi - Copyright (c) 1996-2014  Anthony Green, Red Hat, Inc and others.
See source files for details.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF
 CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.61 serf 1.3.9-6

## 1.61.1 Available under license :

Apache Serf
Copyright 2015 The Apache Software Foundation

This product includes software developed by many people, and distributed
under Contributor License Agreements to The Apache Software Foundation
(http://www.apache.org/).  See the revision logs for an exact contribution
history.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,

and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work,

excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions

of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.62 mysql-defaults 5.8+1.0.4

## 1.62.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/

Files: debian/*
Copyright:
1997-1998, Scott Hanson <shanson@debian.org>
1997, Christian Schwarz <schwarz@debian.org>
1999-2007, 2009, Christian Hammers <ch@debian.org>
2000-2001, Christopher C. Chimelis <chris@debian.org>
2001, Matthew Wilcox <willy@debian.org>
2005-2007, sean finney <seanius@debian.org>
2006, Adam Conrad <adconrad@0c3.net>
2007-2011, Norbert Tretkowski <norbert@tretkowski.de>
2007-2008, Monty Taylor <mordred@inaugust.com>
2008, Devin Carraway <devin@debian.org>
2008, Steffen Joeris <white@debian.org>
2009, Canonical Ltd
2010, Xavier Oswald <xoswald@debian.org>
2011, Clint Byrum <clint@ubuntu.com>
2011, Ondej Sur <ondrej@debian.org>
2012, Nicholas Bamber <nicholas@periapt.co.uk>
2013-2014, Otto Keklinen <otto@seravo.fi>
2016, Andreas Beckmann <anbe@debian.org>
License: GPL-2+

Files: doc/*
Copyright:
2018, Canonical Ltd
License: GPL-2+

License: GPL-2+
This file is part of GNU
Readline, a library for reading lines
of text with interactive input and history editing.
.
Readline is free software; you can redistribute it and/or modify it
under the terms of the GNU General Public License as published by the

Free Software Foundation; either version 2, or (at your option) any
later version.
.
Readline is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with Readline; see the file COPYING.  If not, write to the Free
Software Foundation, 59 Temple Place, Suite 330, Boston, MA 02111 USA. */
.
On Debian and systems the full text of the GNU General Public
License version 2 can be found in the file
`/usr/share/common-licenses/GPL-2`

# 1.63 procps 3.3.12-3ubuntu1.2

## 1.63.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: procps-ng
Source: https://gitlab.com/procps-ng/procps

Files: *
Copyright: 1998-2004 Albert Cahalan
        1991 Tony Rems <rembo@unisoft.com>
        1993 Larry Greenfield
        1996 Charles Blake
        1999 Mike Coleman <mkc@acm.org>
        2004 Nicholas Miell
        2003 Chris Rivera
        2003 Robert Love <rml@tech9.net>
        2008 Morty Abzug
        2009 Jarrod Lowe <procps@rrod.net>
        1992 Branko Lankester
        ???? David Engel <david@ods.com>
        1992-1998 Michael K. Johnson <johnsonm@sunsite.unc.edu>
        2012 Craig Small <csmall@enc.com.au>
        1995      Martin Schulze <joey@infodrom.north.de>
License: LGPL-2.1+

Files: top/*
Copyright: 2002-2014 James C. Warner
License: LGPL-2.0+

Files: pgrep.*
Copyright: 2000 Kjetil Torgrim Homme <kjetilho@ifi.uio.no>

2002,2006 Albert Cahalan
2012 Roberto Polli
<rpolli@babel.it>
License: GPL-2.0+

Files: pidof.*
Copyright: 2013 Jaromir Capik <jcapik@redhat.com>
License: GPL-2.0+

Files: free.*
Copyright: 2011 Sami Kerola <kerolasa@iki.fi>
2002-2003 Robert Love <rml@tech9.net>
1992 Brian Edmonds
1992 Rafal Maszkowski
2004 Albert Cahalan
License: GPL-2.0+

Files: sysctl.*
Copyright: 1999 George Staikos
License: GPL-2.0+

Files: debian/*
Copyright: 1997-2015 Craig Small <csmall@debian.org>
1996-1197 Helmut Geyer <Helmut.Geyer@iwr.uni-heidelberg.de>
License: GPL-2.0+

License: GPL-2.0+
This package is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR
PURPOSE. See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program. If not, see <https://www.gnu.org/licenses/>
.
On Debian systems, the complete text of the GNU General
Public License version 2 can be found in "/usr/share/common-licenses/GPL-2".

License: LGPL-2.0+
This package is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either

version 2 of the License, or (at your option) any later version.
.
This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program. If not, see <https://www.gnu.org/licenses/>.
 .
On Debian systems, the complete text of the GNU Lesser General
Public License can be found in "/usr/share/common-licenses/LGPL-2".

License: LGPL-2.1+
This package is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.
.
This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program. If not, see <https://www.gnu.org/licenses/>.
.
On Debian systems, the complete text of the GNU Lesser General
Public License can be found in "/usr/share/common-licenses/LGPL-2.1".

# 1.64 grep 3.1-2build1

## 1.64.1 Available under license :

@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
must themselves be free in the same sense. It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does. But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book. We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License. Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein. The ``Document'', below,
refers
to any such manual or work. Any member of the public is a
licensee, and is addressed as ``you''. You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the
Document or a portion of it, either copied verbatim, or with
modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section
of the Document that deals exclusively with the relationship of the
publishers or authors of the Document to the Document's overall
subject (or to related matters) and contains nothing that could fall

directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, La@TeX{} input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG@. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page.  For works in
formats which do not have any title page as such, ``Title Page'' means
the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in another language.  (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'',
 or ``History''.)  To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document.  These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either
commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies
to the Document are reproduced in all copies, and that you add no other
conditions whatsoever to those of this License.  You may not use
technical measures to obstruct or control the reading or further
copying of the copies
 you make or distribute.  However, you may accept
compensation in exchange for copies.  If you distribute a large enough
number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and
you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have

printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the
title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute
an
Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

@enumerate A
@item

Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from those of previous versions
(which should, if there were any, be listed in the History section
of the Document). You may use the same
title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the
Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page. If
there is no section Entitled ``History'' in the Document, create one
stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item

Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on.  These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any
 section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles.  Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''.  Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all
of these sections as invariant.  To do this, add their titles to the
list of Invariant
 Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has
been approved by an organization as the authoritative definition of a
standard.

You may add a passage of up to five words as a Front-Cover Text, and a
passage of up to 25 words as a Back-Cover Text, to the end of the list

of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History'' in the various original documents, forming one section Entitled ``History''; likewise combine any sections Entitled ``Acknowledgements'', and any sections Entitled ``Dedications''. You must delete all sections Entitled ``Endorsements.''

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute
it individually under this License, provided you insert a copy of this
License
into the extracted document, and follow this License in all
other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate
and independent documents or works, in or on a volume of a storage or
distribution medium, is called an ``aggregate'' if the copyright
resulting from the compilation is not used to limit the legal rights
of the compilation's users beyond what the individual works permit.
When the Document is included in an aggregate, this License does not
apply to the other works in the aggregate which are not themselves
derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these
copies of the Document, then if the Document is less than one half of
the entire aggregate, the Document's Cover Texts may be placed on
covers that bracket the Document within the aggregate, or the
electronic equivalent of covers if the Document is in electronic
form.
Otherwise they must appear on printed covers that bracket the whole
aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may
distribute translations of the Document under the terms of section 4.
Replacing Invariant Sections with translations requires special
permission from their copyright holders, but you may include
translations of some or all Invariant Sections in addition to the
original versions of these Invariant Sections.  You may include a
translation of this License, and all the license notices in the
Document, and any Warranty Disclaimers, provided that you also include
the original English version of this License and the original versions
of those notices and disclaimers.  In case of a disagreement between
the translation and the original version of this License or a notice
or disclaimer, the original version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',
``Dedications'', or ``History'', the requirement
(section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License.  Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for
 any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License.  If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time.  Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.  See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and
 conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation.  If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation.  If the Document

specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the
Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works.  A
public wiki that anybody can edit is an example of such a server.  A
``Massive Multiauthor Collaboration'' (or ``MMC'') contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons
 Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License
 in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group

Copyright (C)  @var{year}  @var{your name}.
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3
or any later version published by the Free Software Foundation;
with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
Texts.  A copy of the license is included in the section entitled ``GNU
Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts."@: line with this:

@smallexample
@group
  with the Invariant Sections being @var{list their titles}, with
  the Front-Cover Texts being @var{list}, and with the Back-Cover Texts
  being @var{list}.
@end group
@end smallexample

If you have Invariant
Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed

to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand

ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices"

to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The
"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is
covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users

beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for

the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the

violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties

receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered
work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public
License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the

combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF

DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short

notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.65 net-snmp 5.7.3+dfsg-1ubuntu4.4

## 1.65.1 Available under license :

Various copyrights apply to this package, listed in various separate
parts below. Please make sure that you read all the parts.

---- Part 1: Sparta, Inc (BSD) -----

Copyright (c) 2003-2010, Sparta, Inc
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of Sparta, Inc nor the names of its contributors may
be used to endorse or promote products derived from this software

without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 2: ScienceLogic, LLC (BSD) ----

Copyright (c) 2006, ScienceLogic, LLC
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of ScienceLogic, LLC nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED
AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH

DAMAGE.
Various copyrights apply to this package, listed in various separate
parts below. Please make sure that you read all the parts.

---- Part 1: CMU/UCD copyright notice: (BSD like) -----

Copyright 1989, 1991, 1992 by Carnegie Mellon University

Derivative Work - 1996, 1998-2000
Copyright 1996, 1998-2000 The Regents of the University of California

All Rights Reserved

Permission to use, copy, modify and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appears in all copies and
that both that copyright notice and this permission notice appear in
supporting documentation, and that the name of CMU and The Regents of
the University of California not be used in advertising or publicity
pertaining to distribution of the software without specific written
permission.

CMU AND THE REGENTS OF THE UNIVERSITY OF CALIFORNIA DISCLAIM ALL
WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED
WARRANTIES
OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL CMU OR
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA BE LIABLE FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
FROM THE LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF
CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---- Part 2: Networks Associates Technology, Inc copyright notice (BSD) -----

Copyright (c) 2001-2003, Networks Associates Technology, Inc
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation

and/or other materials provided with the distribution.

* Neither the name of the Networks Associates Technology, Inc nor the
names of its contributors may be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 3: Cambridge Broadband Ltd. copyright notice (BSD) -----

Portions of this code are copyright (c) 2001-2003, Cambridge Broadband Ltd.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* The name of Cambridge Broadband Ltd. may not be used to endorse or
promote products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,

WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 4: Sun Microsystems, Inc. copyright notice (BSD) -----

Copyright  2003 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A. All rights reserved.

Use is subject to license terms below.

This distribution may include materials developed by third parties.

Sun, Sun Microsystems, the Sun logo and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc.
in the U.S. and other countries.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of the Sun Microsystems, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL
THE COPYRIGHT HOLDERS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 5: Sparta, Inc copyright notice (BSD) -----

Copyright (c) 2003-2013, Sparta, Inc
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and
the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of Sparta, Inc nor the names of its contributors may
be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS
IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 6: Cisco/BUPTNIC copyright notice (BSD) -----

Copyright (c) 2004, Cisco, Inc and Information Network
Center of Beijing University of Posts and Telecommunications.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of Cisco, Inc, Beijing University of Posts and

Telecommunications, nor the names of their contributors may
be used to endorse or promote products derived from this software
without specific prior written permission.

THIS
SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS
IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 7: Fabasoft R&D Software GmbH & Co KG copyright notice (BSD) -----

Copyright (c) Fabasoft R&D Software GmbH & Co KG, 2003
oss@fabasoft.com
Author: Bernhard Penz <bernhard.penz@fabasoft.com>

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* The name of Fabasoft R&D Software GmbH & Co KG or any of its subsidiaries,
brand or product names may not be used to endorse or promote products
derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER ``AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE

OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 8: Apple Inc. copyright notice (BSD) -----

Copyright (c) 2007 Apple Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of Apple Inc. ("Apple") nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY APPLE AND ITS CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL APPLE OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 9: ScienceLogic, LLC copyright notice (BSD)
-----

Copyright (c) 2009, ScienceLogic, LLC
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of ScienceLogic, LLC nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE COPYRIGHT
HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS
OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR
TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

---- Part 10: IETF copyright notice (BSD) -----

Copyright (c) 2013 IETF Trust and the persons identified as authors of
the code. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above
copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

Neither the name of Internet Society, IETF or IETF Trust, nor the
names of specific contributors, may be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS AS
IS AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER

OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

LICENSE ISSUES
==========

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.

OpenSSL License
---

/* ====================================================================
* Copyright (c) 1998-2008 The OpenSSL Project. All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
* notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above copyright
* notice, this list of conditions and the following disclaimer
in
* the documentation and/or other materials provided with the
* distribution.
*
* 3. All advertising materials mentioning features or use of this
* software must display the following acknowledgment:
* "This product includes software developed by the OpenSSL Project
* for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
* endorse or promote products derived from this software without
* prior written permission. For written permission, please contact
* openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"

```
*    nor may "OpenSSL" appear in their names without prior written
*    permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the following
*    acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit (http://www.openssl.org/)"
 *
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com).  This product includes software
 written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/
```

Original SSLeay License

---

```
/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
```

```
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of the
 library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
*     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can be left out if the rouines from the library
*    being used are not cryptographic
 related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must include an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
 OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed.  i.e. this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/
```

# 1.66 mina 2.0.4

## 1.66.1 Available under license :

Apache MINA Core
Copyright 2004-2011 Apache MINA Project

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses

granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,

any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.67 python-requests 2.18.4

## 1.67.1 Available under license :

Apache License 2.0
Copyright 2017 Kenneth Reitz

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.68 libidn 2.0.4-1.1ubuntu0.2

## 1.68.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided
by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by
the Library is deemed a mode
of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an
Application with the Library. The particular version of the Library
with which the Combined Work was made is also called the "Linked
Version".

The "Minimal Corresponding Source" for a Combined Work means the
Corresponding Source for the Combined Work, excluding any source code
for portions of the Combined Work that, considered in isolation, are
based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the
object code and/or source code for the Application, including any data
and utility programs needed for reproducing the Combined Work from the
Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.

4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by

the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed

under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the
Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause
any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this

License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution
and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for

making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing
or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot

distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of

this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this

is what you want to do, use the GNU Lesser General
Public License instead of this License.
A. Unicode Copyright.

Copyright 1991-2016 Unicode, Inc. All rights reserved.

Certain documents and files on this website contain a legend indicating that "Modification is permitted." Any person is hereby authorized, without fee, to modify such documents and files to create derivative works conforming to the Unicode Standard, subject to Terms and Conditions herein.

Any person is hereby authorized, without fee, to view, use, reproduce, and distribute all documents and files solely for informational purposes and in the creation of products supporting the Unicode Standard, subject to the Terms and Conditions herein.

Further specifications of rights and restrictions pertaining to the use of the particular set of data files known as the "Unicode Character Database" can be found in the License.

Each version of the Unicode Standard has further specifications of rights and restrictions of use. For the book editions (Unicode 5.0 and earlier), these are found on the back of the
title page. The online code charts carry specific restrictions. All other files, including online documentation of the core specification for Unicode 6.0 and later, are covered under these general Terms of Use.

No license is granted to "mirror" the Unicode website where a fee is charged for access to the "mirror" site.

Modification is not permitted with respect to this document. All copies of this document must be verbatim.

B. Restricted Rights Legend.
Any technical data or software which is licensed to the United States of America, its agencies and/or instrumentalities under this Agreement is commercial technical data or commercial computer software developed exclusively at private expense as defined in FAR 2.101, or DFARS 252.227-7014 (June 1995), as applicable. For technical data, use, duplication, or disclosure by the Government is subject to restrictions as set forth in DFARS 202.227-7015 Technical Data, Commercial and Items (Nov 1995) and this Agreement. For Software,
in accordance with FAR 12-212 or DFARS 227-7202, as applicable, use, duplication or disclosure by the Government is subject to the restrictions set forth in this Agreement.

C. Warranties and Disclaimers.

This publication and/or website may include technical or typographical errors or other inaccuracies . Changes are periodically added to the information herein; these changes will be incorporated in new editions of the publication and/or website. Unicode may make improvements and/or changes in the product(s) and/or program(s) described in this publication and/or website at any time.

If this file has been purchased on magnetic or optical media from Unicode, Inc. the sole and exclusive remedy for any claim will be exchange of the defective media within ninety (90) days of original purchase.

EXCEPT AS PROVIDED IN SECTION C.2, THIS PUBLICATION AND/OR SOFTWARE IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND EITHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO,
ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. UNICODE AND ITS LICENSORS ASSUME NO RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THIS PUBLICATION AND/OR SOFTWARE OR OTHER DOCUMENTS WHICH ARE REFERENCED BY OR LINKED TO THIS PUBLICATION OR THE UNICODE WEBSITE.

D. Waiver of Damages.
In no event shall Unicode or its licensors be liable for any special, incidental, indirect or consequential damages of any kind, or any damages whatsoever, whether or not Unicode was advised of the possibility of the damage, including, without limitation, those resulting from the following: loss of use, data or profits, in connection with the

use, modification or distribution of this information or its derivatives.

E. Trademarks & Logos.

The Unicode Word Mark and the Unicode Logo are trademarks of Unicode, Inc. The Unicode Consortium and Unicode, Inc. are trade names of Unicode, Inc. Use of the information and materials found on this website indicates your acknowledgement
of Unicode, Inc.s exclusive worldwide rights in the Unicode Word Mark, the Unicode Logo, and the Unicode trade names.

The Unicode Consortium Name and Trademark Usage Policy (Trademark Policy) are incorporated herein by reference and you agree to abide by the provisions of the Trademark Policy, which may be changed from time to time in the sole discretion of Unicode, Inc.

All third party trademarks referenced herein are the property of their respective owners.

F. Miscellaneous.

Jurisdiction and Venue. This server is operated from a location in the State of California, United States of America. Unicode makes no representation that the materials are appropriate for use in other locations. If you access this server from other locations, you are responsible for compliance with local laws. This Agreement, all use of this site and any claims and damages resulting from use of this site are governed solely by the laws of the State of California without regard to any principles
which would apply the laws of a different jurisdiction. The user agrees that any disputes regarding this site shall be resolved solely in the courts located in Santa Clara County, California. The user agrees said courts have personal jurisdiction and agree to waive any right to transfer the dispute to any other forum.

Modification by Unicode Unicode shall have the right to modify this Agreement at any time by posting it to this site. The user may not assign any part of this Agreement without Unicodes prior written consent.

Taxes. The user agrees to pay any taxes arising from access to this website or use of the information herein, except for those based on Unicodes net income.

Severability. If any provision of this Agreement is declared invalid or unenforceable, the remaining provisions of this Agreement shall remain in effect.

Entire Agreement. This Agreement constitutes the entire agreement between the parties.

EXHIBIT 1

Unicode Data Files include all data files
under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/, http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

Unicode Data Files do not include PDF online code charts under the
directory http://www.unicode.org/Public/.

Software includes any source code published in the Unicode Standard
or under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/, http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE THE DATA FILES OR SOFTWARE.

COPYRIGHT
AND PERMISSION NOTICE

Copyright 1991-2016 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b) this copyright and permission notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED
TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright holder.
Libidn2 COPYING -- Licensing information. -*- outline -*-
Copyright (C) 2011-2016 Simon Josefsson
See the end for copying conditions.

The source code for the C library (libidn2.a or libidn.so) are

licensed under the terms of either the GNU General Public License
version 2.0 or later (see the file COPYINGv2) or the GNU Lesser
General Public License version 3.0 or later (see the file
COPYING.LESSERv3), or both in parallel as here.

The command line tool, self tests, examples, and other auxilliary
files, are licensed under the GNU General Public License version 3.0
or later.

The license of the Unicode character data files (which are parsed into
static storage in the library) are documented in COPYING.unicode.

Other files are licensed as indicated in each file.

There may be exceptions to these general rules, see each file for
precise information.

---
This file is free software: you can redistribute
 it and/or modify it
under the terms of the GNU General Public License as published by the
Free Software Foundation, either version 3 of the License, or (at your
option) any later version.

This file is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this file.  If not, see <http://www.gnu.org/licenses/>.

# 1.69 libpng 1.6.37

## 1.69.1 Available under license :

---

Copyright (c) 1998-2008 Greg Roelofs.  All rights reserved.

This software is provided "as is," without warranty of any kind,
express or implied.  In no event shall the author or contributors
be held liable for any damages arising in any way from the use of
this software.

The contents of this file are DUAL-LICENSED.  You may modify and/or
redistribute this software according to the terms of one of the
following two licenses (at your option):

LICENSE 1 ("BSD-like with advertising clause"):

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute
it freely, subject to the following restrictions:

1. Redistributions of source code must retain the above copyright
notice, disclaimer, and this list of conditions.
2. Redistributions in binary
form must reproduce the above copyright
notice, disclaimer, and this list of conditions in the documenta-
tion and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this
software must display the following acknowledgment:

This product includes software developed by Greg Roelofs
and contributors for the book, "PNG: The Definitive Guide,"
published by O'Reilly and Associates.

LICENSE 2 (GNU GPL v2 or later):

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR
PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software Foundation,
Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

---

pnm2png / png2pnm --- conversion from PBM/PGM/PPM-file to PNG-file

copyright (C) 1999-2019 by Willem van Schaik <willem at schaik dot com>

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights

to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

The software is provided "as is", without warranty of any kind, express or
implied, including but not limited to the warranties of merchantability,
fitness for a particular purpose and noninfringement. In no event shall the
authors or copyright holders be liable for any claim, damages or other
liability,
whether in an action of contract, tort or otherwise, arising from,
out of or in connection with the software or the use or other dealings in the
software.

/* intel_init.c - SSE2 optimized filter functions
*
* Copyright (c) 2018 Cosmin Truta
* Copyright (c) 2016-2017 Glenn Randers-Pehrson
* Written by Mike Klein and Matt Sarett, Google, Inc.
* Derived from arm/arm_init.c
*
* This code is released under the libpng license.
* For conditions of distribution and use, see the disclaimer
* and license in png.h
*/

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not

price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it,

either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a

special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing
or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For

example, if a patent
license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor
to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing
version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the
GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is
what you want to do, use the GNU Library General
Public License instead of this License.

COPYRIGHT NOTICE, DISCLAIMER, and LICENSE
==========

PNG Reference Library License version 2
---

* Copyright (c) 1995-2019 The PNG Reference Library Authors.
* Copyright (c) 2018-2019 Cosmin Truta.
* Copyright (c) 2000-2002, 2004, 2006-2018 Glenn Randers-Pehrson.
* Copyright (c) 1996-1997 Andreas Dilger.
* Copyright (c) 1995-1996 Guy Eric Schalnat, Group 42, Inc.

The software is supplied "as is", without warranty of any kind,
express or implied, including, without limitation, the warranties
of merchantability, fitness for a particular purpose, title, and
non-infringement.  In no event shall the Copyright owners, or
anyone distributing the software, be liable for any damages or
other liability, whether in contract, tort or otherwise, arising
from, out of, or in connection with the software, or the use or
other dealings in the software, even if advised of the possibility
of such damage.

Permission is hereby granted
 to use, copy, modify, and distribute
this software, or portions hereof, for any purpose, without fee,
subject to the following restrictions:

1. The origin of this software must not be misrepresented; you
   must not claim that you wrote the original software.  If you
   use this software in a product, an acknowledgment in the product
   documentation would be appreciated, but is not required.

2. Altered source versions must be plainly marked as such, and must
   not be misrepresented as being the original software.

3. This Copyright notice may not be removed or altered from any
   source or altered source distribution.

PNG Reference Library License version 1 (for libpng 0.5 through 1.6.35)
---

libpng versions 1.0.7, July 1, 2000, through 1.6.35, July 15, 2018 are
Copyright (c) 2000-2002, 2004, 2006-2018 Glenn Randers-Pehrson, are
derived from libpng-1.0.6, and are distributed according to the same
disclaimer
 and license as libpng-1.0.6 with the following individuals
added to the list of Contributing Authors:

Simon-Pierre Cadieux
Eric S. Raymond
Mans Rullgard
Cosmin Truta
Gilles Vollant
James Yu
Mandar Sahastrabuddhe
Google Inc.
Vadim Barkov

and with the following additions to the disclaimer:

There is no warranty against interference with your enjoyment of the library or against infringement. There is no warranty that our efforts or the library will fulfill any of your particular purposes or needs. This library is provided with all faults, and the entire risk of satisfactory quality, performance, accuracy, and effort is with the user.

Some files in the "contrib" directory and some configure-generated files that are distributed with libpng have other copyright owners, and are released under other open source licenses.

libpng versions 0.97, January 1998, through 1.0.6, March 20, 2000, are Copyright (c) 1998-2000 Glenn Randers-Pehrson,
are derived from
libpng-0.96, and are distributed according to the same disclaimer and license as libpng-0.96, with the following individuals added to the list of Contributing Authors:

Tom Lane
Glenn Randers-Pehrson
Willem van Schaik

libpng versions 0.89, June 1996, through 0.96, May 1997, are Copyright (c) 1996-1997 Andreas Dilger, are derived from libpng-0.88, and are distributed according to the same disclaimer and license as libpng-0.88, with the following individuals added to the list of Contributing Authors:

John Bowler
Kevin Bracey
Sam Bushell
Magnus Holmgren
Greg Roelofs
Tom Tanner

Some files in the "scripts" directory have other copyright owners,
but are released under this license.

libpng versions 0.5, May 1995, through 0.88, January 1996, are
Copyright (c) 1995-1996 Guy Eric Schalnat, Group 42, Inc.

For the purposes of this copyright and license, "Contributing Authors"
is defined as the following set of individuals:

Andreas Dilger
Dave Martindale
Guy Eric Schalnat
Paul Schmidt
Tim Wegner

The PNG Reference Library is supplied "AS IS". The Contributing
Authors and Group 42, Inc. disclaim all warranties, expressed or
implied, including, without limitation, the warranties of
merchantability and of fitness for any purpose. The Contributing
Authors and Group 42, Inc. assume no liability for direct, indirect,
incidental, special, exemplary, or consequential damages, which may
result from the use of the PNG Reference Library, even if advised of
the possibility of such damage.

Permission is hereby granted to use, copy, modify, and distribute this
source code, or portions hereof, for any purpose, without fee, subject
to the following restrictions:

1. The origin of this source code must not be misrepresented.

2. Altered versions must be plainly marked as such and must not
be misrepresented as being the original source.

3. This Copyright notice may not be removed or altered from
any
source or altered source distribution.

The Contributing Authors and Group 42, Inc. specifically permit,
without fee, and encourage the use of this source code as a component
to supporting the PNG file format in commercial products. If you use
this source code in a product, acknowledgment is not required but would
be appreciated.

# 1.70 jakarta-persistence-api 2.2.3

## 1.70.1 Available under license :

Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2006, 2019 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at or the Eclipse Distribution License v. 1.0 which is available at'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2017, 2019 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at or the Eclipse Distribution License v. 1.0 which is available at'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2013, 2019 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at or the Eclipse Distribution License v. 1.0 which is available at'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2011, 2019 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at or the Eclipse Distribution License v. 1.0 which is available at'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2008, 2019 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at or the Eclipse Distribution License v. 1.0 which is available at Copyright (c) 2008, 2019 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at or the Eclipse Distribution License v. 1.0 which is available at'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2018, 2019 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at or the Eclipse Distribution License v. 1.0 which is available at <name>Eclipse Public License v. 2.0</name> <name>Eclipse Distribution License v. 1.0</name> <comments>Standard Eclipse Distribution License</comments> Copyright © 2019 Eclipse Foundation. All rights reserved.<br>'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2008, 2019 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at or the Eclipse Distribution License v. 1.0 which is available at'

# 1.71 jakarta-transaction-api 1.3.3

## 1.71.1 Available under license :

Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2012, 2018 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0, which is available at Eclipse Public License v. 2.0 are satisfied: GNU General Public License, <![CDATA[Copyright © 2019 Eclipse Foundation. All Rights Reserved.'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2013, 2018 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0, which is available at Eclipse Public License v. 2.0 are satisfied: GNU General Public License,'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 2010, 2018 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0, which is available at Eclipse Public License v. 2.0 are satisfied: GNU General Public License,'
Found license 'Eclipse Public License 1.0' in 'Copyright (c) 1997, 2018 Oracle and/or its affiliates. All rights reserved. This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0, which is available at Eclipse Public License v. 2.0 are satisfied: GNU General Public License,'

# 1.72 python-requests 2.18.4-2ubuntu0.1

## 1.72.1 Available under license :

Apache License 2.0
Copyright 2017 Kenneth Reitz

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.73 libxmu 1.1.2-2

## 1.73.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
--- libxmu-1.1.2.orig/autogen.sh
+++ libxmu-1.1.2/autogen.sh
@@ -0,0 +1,14 @@
+#! /bin/sh
+
+srcdir=`dirname $0`
+test -z "$srcdir" && srcdir=.
+
+ORIGDIR=`pwd`
+cd $srcdir
+
+autoreconf -v --install || exit 1
+cd $ORIGDIR || exit $?
+
+if test -z "$NOCONFIGURE"; then
+    $srcdir/configure "$@"
+fi
--- libxmu-1.1.2.orig/debian/changelog
+++ libxmu-1.1.2/debian/changelog
@@ -0,0 +1,219 @@
+libxmu (2:1.1.2-2) unstable; urgency=medium
+
+  [ Andreas Boll ]
```

+  * Switch to dh with the autoreconf and quilt addons, fixing possible FTBFS
+    when building in parallel (closes: #801059).  Thanks, Matthias Klose!
+
+  [ Julien Cristau ]
+  * Remove Cyril from Uploaders.
+  * Bump Standards-Version to 3.9.6, update Vcs-* control fields.
+
+ -- Julien Cristau <jcristau@debian.org>  Sat, 14 Nov 2015 10:04:44 +0100
+
+libxmu (2:1.1.2-1) unstable; urgency=low
+
+  * New upstream release.
+  * Add ${misc:Depends} to libxmu-headers.
+
   * Use /usr/share/quilt/quilt.make instead of xsfbs for patching.
+  * Add build-{arch,indep} debian/rules targets.
+  * Bump debhelper compat level from 5 to 7.
+
+ -- Julien Cristau <jcristau@debian.org>  Mon, 05 May 2014 14:13:01 +0200
+
+libxmu (2:1.1.1-1) unstable; urgency=low
+
+  * New upstream release.
+  * Don't require (fake)root for debian/rules clean.
+  * Bump build-deps on xutils-dev, xmlto and xorg-sgml-doctools per
+    configure.ac.
+  * Xmu.html no longer hardcodes the full path to xlogo.svg, drop sed call
+    from debian/rules.
+  * Remove David Nusinow from Uploaders.
+  * Bump debhelper build-dep for ${misc:Pre-Depends} usage.
+
+ -- Julien Cristau <jcristau@debian.org>  Sat, 21 Apr 2012 10:50:11 +0200
+
+libxmu (2:1.1.0-3) unstable; urgency=low
+
+  * Build for multiarch.
+
+ -- Steve Langasek <vorlon@debian.org>  Fri, 21 Oct 2011 14:47:59 -0700
+
+libxmu (2:1.1.0-2) unstable; urgency=low
+
+  [ Christopher James Halse Rogers ]
+  * debian/patches/01_dont_export_private_deps.patch:
+
    - The Xmu.h header uses libXt symbols in a #define, so libXt is not a
+     private dep.  With binutils-gold, the indirect dependency on Xt is not
+     considered when linking with Xmu so this causes build failures.
+

+  [ Julien Cristau ]
+  * Drop Pre-Depends on x11-common, only needed for upgrades from the
+    monolith.
+
+ -- Julien Cristau <jcristau@debian.org>  Thu, 28 Apr 2011 14:10:11 +0200
+
+libxmu (2:1.1.0-1) unstable; urgency=low
+
+  * New upstream release.
+  * Bump xutils-dev build-dep for new macros.
+  * Add xmlto, xorg-sgml-doctools, and w3m build-dep for the doc.
+  * Pass --with-xmlto and --without-fop (we want html and txt only).
+  * Pass --docdir=/usr/share/doc/libxmu-headers and add this directory to
+    libxmu-headers.install file.
+  * Remove the hardcoded path to the X logo in the Xmu.html file.
+  * Kill *.xml in the doc directory, no point in shipping them.
+  * Switch from --list-missing to --fail-missing for additional safety.
+
+
 -- Cyril Brulebois <kibi@debian.org>  Fri, 19 Nov 2010 08:42:29 +0100
+
+libxmu (2:1.0.5-2) unstable; urgency=high
+
+  [ Julien Cristau ]
+  * Rename the build directory to not include DEB_BUILD_GNU_TYPE for no
+    good reason.  Thanks, Colin Watson!
+  * Remove myself from Uploaders
+  * Don't pass both -s and -Nfoo/-pfoo to dh_strip.  This resulted in an empty
+    libxmuu1-dbg (Closes: #594500).  Thanks to Luca Falavigna for the report.
+
+  [ Cyril Brulebois ]
+  * Add myself to Uploaders.
+  * Bump urgency to high for the RC bugfix. Thanks to Jakub Wilk as well
+    for the report.
+
+ -- Cyril Brulebois <kibi@debian.org>  Sat, 04 Sep 2010 14:32:30 +0200
+
+libxmu (2:1.0.5-1) unstable; urgency=low
+
+  [ Timo Aaltonen ]
+  * New upstream release.
+    + Fix 64bit support (closes: #521887)
+
+  [ Julien Cristau ]
+  * Bump Standards-Version to 3.8.3.
+
+ -- Julien Cristau <jcristau@debian.org>  Wed, 25 Nov 2009 19:20:17 +0100
+

+libxmu (2:1.0.4-2) unstable; urgency=low
+
+
  [ Julien Cristau ]
+  * Drop -1 debian revisions from build-deps.
+  * libxmu6{,-dbg}, libxmu-dev, libxmuu1{,-dbg} and libxmuu-dev don't need a
+    dependency on x11-common.
+  * Build libxmu-headers in binary-indep instead of binary-arch
+    (closes: #486418).  Thanks, Martin Koeppe!
+  * Run autoreconf on build; build-depend on automake, libtool, xutils-dev.
+  * Handle parallel builds.
+
+  [ Brice Goglin ]
+  * Add a link to www.X.org and a reference to the upstream module
+    in the long description.
+  * Add upstream URL to debian/copyright.
+  * Add README.source, bump Standards-Version to 3.8.2.
+  * Use updated xsfbs, closes: #538587.
+  * Move -dbg packages to section debug.
+
+ -- Julien Cristau <jcristau@debian.org>  Fri, 07 Aug 2009 14:30:36 +0200
+
+libxmu (2:1.0.4-1) unstable; urgency=low
+
+  [ Julien Cristau ]
+  * New upstream release.
+  * Make libxmu*-dev depend on libxmu-headers (= ${source:Version}).  Thanks,
+    Josh Triplett.
+  * Don't export private
  dependencies in xmu.pc and xmuu.pc. These
+    dependencies are handled by Requires.private.
+  * Due to the above, build-depend on quilt and apply the xsfbs patch rules.
+  * Update xsfbs to the latest version as of 2008-01-06.
+  * Add myself to Uploaders, and remove Branden and Fabio with their
+    permission.
+  * Bump Standards-Version to 3.7.3 (no changes).
+  * s/^XS-Vcs/Vcs/
+
+  [ Timo Aaltonen ]
+  * Bump the epoch so that this can be synced to Ubuntu in the future.
+
+ -- Julien Cristau <jcristau@debian.org>  Thu, 17 Jan 2008 14:57:47 +0100
+
+libxmu (1:1.0.3-1) unstable; urgency=low
+
+  * New upstream release.
+  * Install the upstream changelog.
+  * Remove outdated CVS information from the package descriptions, and add

+    XS-Vcs-Git and XS-Vcs-Browser.
+  * Fix package sections (libraries in libs, development stuff in libdevel).
+  * Use ${binary:Version} instead of ${Source-Version}.
+
+ -- Julien Cristau <jcristau@debian.org>  Thu, 12 Apr 2007 13:40:07 +0200
+
+libxmu
 (1:1.0.2-2) unstable; urgency=low
+
+  [ Andres Salomon ]
+  * Test for obj-$(DEB_BUILD_GNU_TYPE) before creating it during build;
+    idempotency fix.
+
+  [ Drew Parsons ]
+  * dbg package has priority extra.
+
+ -- David Nusinow <dnusinow@debian.org>  Wed, 30 Aug 2006 16:53:25 -0400
+
+libxmu (1:1.0.2-1) experimental; urgency=low
+
+  * New upstream release
+  * Bump debhelper compat to 5
+  * Run dh_install with --list-missing
+  * Version the -headers package's x11-common pre-dep to use version 1:7.0.0
+    to match the rest of Debian and shut lintian up
+  * Bump standards version to 3.7.2.0
+
+ -- David Nusinow <dnusinow@debian.org>  Mon,  3 Jul 2006 18:43:32 -0400
+
+libxmu (1:1.0.1-3) unstable; urgency=low
+
+  * Reorder makeshlib command in rules file so that ldconfig is run
+    properly. Thanks Drew Parsons and Steve Langasek.
+
+ -- David Nusinow <dnusinow@debian.org>  Tue, 18 Apr 2006 21:49:59 -0400
+
+libxmu (1:1.0.1-2) unstable; urgency=low
+
+  * Upload to unstable
+
+
 -- David Nusinow <dnusinow@debian.org>  Thu, 23 Mar 2006 22:44:59 -0500
+
+libxmu (1:1.0.1-1) experimental; urgency=low
+
+  * First upload to Debian
+
+ -- David Nusinow <dnusinow@debian.org>  Thu, 29 Dec 2005 20:53:53 -0500

```
+
+libxmu (1:6.2.3-5) breezy; urgency=low
+
+  * Also, libxmu-dev needs to depend on libxt-dev too.
+
+ -- Adam Conrad <adconrad@ubuntu.com>  Mon, 25 Jul 2005 09:43:47 +0000
+
+libxmu (1:6.2.3-4) breezy; urgency=low
+
+  * Bump libxt-dev build-dep once more, _XOPEN_SOURCE begone!
+
+ -- Adam Conrad <adconrad@ubuntu.com>  Sun, 24 Jul 2005 10:48:14 +0000
+
+libxmu (1:6.2.3-3) breezy; urgency=low
+
+  * Make libxmu-dev depend on libxext-dev, since libxmu links to it.
+
+ -- Adam Conrad <adconrad@ubuntu.com>  Sun, 24 Jul 2005 07:56:02 +0000
+
+libxmu (1:6.2.3-2) breezy; urgency=low
+
+  * Bump Build-Depends on libx11-dev, libxext-dev and libxt-dev to avoid
+    _XOPEN_SOURCE.
+
+ -- Daniel Stone <daniel.stone@ubuntu.com>  Sat, 23 Jul 2005 00:20:50 +1000
+
+libxmu
 (1:6.2.3-1) breezy; urgency=low
+
+  * First libxmu release.
+
+ -- Daniel Stone <daniel.stone@ubuntu.com>  Mon, 16 May 2005 22:10:17 +1000
--- libxmu-1.1.2.orig/debian/compat
+++ libxmu-1.1.2/debian/compat
@@ -0,0 +1 @@
+9
--- libxmu-1.1.2.orig/debian/control
+++ libxmu-1.1.2/debian/control
@@ -0,0 +1,155 @@
+Source: libxmu
+Section: x11
+Priority: optional
+Maintainer: Debian X Strike Force <debian-x@lists.debian.org>
+Build-Depends:
+ debhelper (>= 9),
+ dh-autoreconf,
+ libx11-dev (>= 1:0.99.2),
+ libxt-dev (>= 1:0.99.1),
```

+ libxext-dev (>= 1:0.99.1),
+ pkg-config,
+ quilt,
+ automake,
+ libtool,
+ xutils-dev (>= 1:7.6+2),
+# devel-docs:
+ xmlto (>= 0.0.22),
+ xorg-sgml-doctools (>= 1:1.8),
+ w3m,
+Standards-Version: 3.9.6
+Vcs-Git: git://anonscm.debian.org/git/pkg-xorg/lib/libxmu
+Vcs-Browser: https://anonscm.debian.org/cgit/pkg-xorg/lib/libxmu.git
+
+Package: libxmu6
+Section: libs
+Architecture: any
+Multi-Arch: same
+Pre-Depends: ${misc:Pre-Depends}
+Depends: ${shlibs:Depends},
 ${misc:Depends}
+Description: X11 miscellaneous utility library
+ libXmu provides a set of miscellaneous utility convenience functions for X
+ libraries to use.  libXmuu is a lighter-weight version that does not depend
+ on libXt or libXext; for more information, see libxmuu1.
+ .
+ More information about X.Org can be found at:
+ <URL:http://www.X.org>
+ .
+ This module can be found at
+ git://anongit.freedesktop.org/git/xorg/lib/libXmu
+
+Package: libxmu6-dbg
+Section: debug
+Architecture: any
+Multi-Arch: same
+Priority: extra
+Depends: ${shlibs:Depends}, ${misc:Depends}, libxmu6 (= ${binary:Version})
+Description: X11 miscellaneous utility library (debug package)
+ libXmu provides a set of miscellaneous utility convenience functions for X
+ libraries to use.  libXmuu is a lighter-weight version that does not depend
+ on libXt or libXext; for more information, see libxmuu1.
+ .
+ This package contains the debug versions of the library found in libxmu6.
+ Non-developers likely
 have little use for this package.
+ .
+ More information about X.Org can be found at:

+ <URL:http://www.X.org>
+ .
+ This module can be found at
+ git://anongit.freedesktop.org/git/xorg/lib/libXmu
+
+Package: libxmu-dev
+Section: libdevel
+Architecture: any
+Multi-Arch: same
+Depends: ${shlibs:Depends}, ${misc:Depends}, libxext-dev, libxt-dev, libxmu6 (= ${binary:Version}), libxmu-headers (= ${source:Version})
+Description: X11 miscellaneous utility library (development headers)
+ libXmu provides a set of miscellaneous utility convenience functions for X
+ libraries to use.  libXmuu is a lighter-weight version that does not depend
+ on libXt or libXext; for more information, see libxmuu1.
+ .
+ This package contains the development headers for the library found in
+ libxmu6.  Non-developers likely have little use for this package.
+ .
+ More information about X.Org can be found at:
+ <URL:http://www.X.org>
+ .
+ This module can be found at
+ git://anongit.freedesktop.org/git/xorg/lib/libXmu
+
+Package:
 libxmuu1
+Section: libs
+Architecture: any
+Multi-Arch: same
+Pre-Depends: ${misc:Pre-Depends}
+Depends: ${shlibs:Depends}, ${misc:Depends}
+Description: X11 miscellaneous micro-utility library
+ libXmuu provides a set of miscellaneous utility convenience functions for X
+ libraries to use.  It is a lighter version of libXmu that does not depend
+ on libXt or libXext; for more information on libXmu, see libxmu6.
+ .
+ More information about X.Org can be found at:
+ <URL:http://www.X.org>
+ .
+ This module can be found at
+ git://anongit.freedesktop.org/git/xorg/lib/libXmu
+
+Package: libxmuu1-dbg
+Section: debug
+Architecture: any
+Multi-Arch: same
+Priority: extra

```
+Depends: ${shlibs:Depends}, ${misc:Depends}, libxmuu1 (= ${binary:Version})
+Description: X11 miscellaneous micro-utility library (debug package)
+ libXmuu provides a set of miscellaneous utility convenience functions for X
+ libraries to use.  It is a lighter version of libXmu that does not depend
+ on libXt
 or libXext; for more information on libXmu, see libxmu6.
+ .
+ This package contains the debug versions of the library found in libxmuu1.
+ Non-developers likely have little use for this package.
+ .
+ More information about X.Org can be found at:
+ <URL:http://www.X.org>
+ .
+ This module can be found at
+ git://anongit.freedesktop.org/git/xorg/lib/libXmu
+
+Package: libxmuu-dev
+Section: libdevel
+Architecture: any
+Multi-Arch: same
+Depends: ${shlibs:Depends}, ${misc:Depends}, libxmuu1 (= ${binary:Version}), libxmu-headers (=
${source:Version})
+Description: X11 miscellaneous micro-utility library (development headers)
+ libXmuu provides a set of miscellaneous utility convenience functions for X
+ libraries to use.  It is a lighter version of libXmu that does not depend
+ on libXt or libXext; for more information on libXmu, see libxmu6.
+ .
+ This package contains the development headers for the library found in
+ libxmuu1.  Non-developers likely have little use for this package.
+
 .
+ More information about X.Org can be found at:
+ <URL:http://www.X.org>
+ .
+ This module can be found at
+ git://anongit.freedesktop.org/git/xorg/lib/libXmu
+
+Package: libxmu-headers
+Section: libdevel
+Architecture: all
+Multi-Arch: foreign
+Depends:
+ libx11-dev,
+ x11proto-core-dev,
+ ${misc:Depends},
+Description: X11 miscellaneous utility library headers
+ libXmu and libXmuu are miscellaneous utility libraries for X library
+ developers to abstract some common functions.  This package provides the
```

+ headers for both libraries (as libXmuu is a subset of libXmu), and
+ is depended upon by both.  For more information, please see libxmu-dev or
+ libxmuu-dev.
+ .
+ More information about X.Org can be found at:
+ <URL:http://www.X.org>
+ .
+ This module can be found at
+ git://anongit.freedesktop.org/git/xorg/lib/libXmu
--- libxmu-1.1.2.orig/debian/copyright
+++ libxmu-1.1.2/debian/copyright
@@ -0,0 +1,77 @@
+This package was downloaded from
+http://xorg.freedesktop.org/releases/individual/lib/
+
+Copyright
 1989, 1998  The Open Group
+
+Permission to use, copy, modify, distribute, and sell this software and its
+documentation for any purpose is hereby granted without fee, provided that
+the above copyright notice appear in all copies and that both that
+copyright notice and this permission notice appear in supporting
+documentation.
+
+The above copyright notice and this permission notice shall be included in
+all copies or substantial portions of the Software.
+
+THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
+IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
+FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
+OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
+AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
+CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
+
+Except as contained in this notice, the name of The
 Open Group shall not be
+used in advertising or otherwise to promote the sale, use or other dealings
+in this Software without prior written authorization from The Open Group.
+
+----------
+
+Xmu/StrToBmap.c and Xmu/GrayPixmap.c also have:
+
+Copyright 1987, 1988 by Digital Equipment Corporation, Maynard, Massachusetts.
+
+                        All Rights Reserved
+
+Permission to use, copy, modify, and distribute this software and its

+documentation for any purpose and without fee is hereby granted,
+provided that the above copyright notice appear in all copies and that
+both that copyright notice and this permission notice appear in
+supporting documentation, and that the name of Digital not be
+used in advertising or publicity pertaining to distribution of the
+software without specific, written prior permission.
+
+DIGITAL DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
+ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL
+DIGITAL BE
 LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR
+ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
+WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION,
+ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
+SOFTWARE.
+
+----------
+
+And Xmu/Clip.c has:
+
+Copyright (c) 1998 by The XFree86 Project, Inc.
+
+Permission is hereby granted, free of charge, to any person obtaining a
+copy of this software and associated documentation files (the "Software"),
+to deal in the Software without restriction, including without limitation
+the rights to use, copy, modify, merge, publish, distribute, sublicense,
+and/or sell copies of the Software, and to permit persons to whom the
+Software is furnished to do so, subject to the following conditions:
+
+The above copyright notice and this permission notice shall be included in
+all copies or substantial portions of the Software.
+
+THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF
 ANY KIND, EXPRESS OR
+IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
+FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL
+THE XFREE86 PROJECT BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
+WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF
+OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
+SOFTWARE.
+
+Except as contained in this notice, the name of the XFree86 Project shall
+not be used in advertising or otherwise to promote the sale, use or other
+dealings in this Software without prior written authorization from the
+XFree86 Project.
--- libxmu-1.1.2.orig/debian/libxmu-dev.install
+++ libxmu-1.1.2/debian/libxmu-dev.install
@@ -0,0 +1,3 @@

```
+usr/lib/*/libXmu.a
+usr/lib/*/libXmu.so
+usr/lib/*/pkgconfig/xmu.pc
--- libxmu-1.1.2.orig/debian/libxmu-headers.install
+++ libxmu-1.1.2/debian/libxmu-headers.install
@@ -0,0 +1,2 @@
+usr/include/X11/*
+usr/share/doc/libxmu-headers
--- libxmu-1.1.2.orig/debian/libxmu6.install
+++
 libxmu-1.1.2/debian/libxmu6.install
@@ -0,0 +1 @@
+usr/lib/*/libXmu.so.6*
--- libxmu-1.1.2.orig/debian/libxmuu-dev.install
+++ libxmu-1.1.2/debian/libxmuu-dev.install
@@ -0,0 +1,3 @@
+usr/lib/*/libXmuu.a
+usr/lib/*/libXmuu.so
+usr/lib/*/pkgconfig/xmuu.pc
--- libxmu-1.1.2.orig/debian/libxmuu1.install
+++ libxmu-1.1.2/debian/libxmuu1.install
@@ -0,0 +1 @@
+usr/lib/*/libXmuu.so.1*
--- libxmu-1.1.2.orig/debian/patches/01_dont_export_private_deps.diff
+++ libxmu-1.1.2/debian/patches/01_dont_export_private_deps.diff
@@ -0,0 +1,26 @@
+diff --git a/xmu.pc.in b/xmu.pc.in
+index a086f83..15dabbf 100644
+--- a/xmu.pc.in
++++ b/xmu.pc.in
+@@ -6,7 +6,7 @@ includedir=@includedir@
+ Name: Xmu
+ Description: Xmu Library
+ Version: @PACKAGE_VERSION@
+-Requires: xproto x11 xt
++Requires: xproto xt
+ Requires.private: x11 xt xext
+ Cflags: -I${includedir}
+ Libs: -L${libdir} -lXmu
+diff --git a/xmuu.pc.in b/xmuu.pc.in
+index 1e91ac4..72fa5f9 100644
+--- a/xmuu.pc.in
++++ b/xmuu.pc.in
+@@
+ -6,7 +6,7 @@ includedir=@includedir@
+ Name: Xmuu
+ Description: Mini Xmu Library
+ Version: @PACKAGE_VERSION@
```

```
+-Requires: xproto x11
++Requires: xproto
+ Requires.private: x11
+ Cflags: -I${includedir}
+ Libs: -L${libdir} -lXmuu
--- libxmu-1.1.2.orig/debian/patches/series
+++ libxmu-1.1.2/debian/patches/series
@@ -0,0 +1 @@
+01_dont_export_private_deps.diff
--- libxmu-1.1.2.orig/debian/rules
+++ libxmu-1.1.2/debian/rules
@@ -0,0 +1,34 @@
+#!/usr/bin/make -f
+# debian/rules for the Debian libxmu package.
+# Copyright  2004 Scott James Remnant <scott@netsplit.com>
+# Copyright  2005 Daniel Stone <daniel@fooishbar.org>
+# Copyright  2005 David Nusinow <dnusinow@debian.org>
+
+# Uncomment this to turn on verbose mode.
+#export DH_VERBOSE=1
+
+.PHONY: build
+build:
+ dh build --with quilt,autoreconf --builddirectory=build/ --parallel
+
+%:
+ dh $@ --with quilt,autoreconf --builddirectory=build/ --parallel
+
+override_dh_auto_configure:
+ dh_auto_configure -- \
+  --disable-silent-rules
 \
+  --docdir=\$${prefix}/share/doc/libxmu-headers \
+  --with-xmlto \
+  --without-fop
+
+override_dh_auto_install:
+ dh_auto_install
+ find debian/tmp/usr/share/doc/libxmu-headers -name '*.xml' -delete
+
+override_dh_install-arch:
+ dh_install --fail-missing -Xusr/include -X.la
+
+override_dh_strip:
+ dh_strip -Nlibxmu6 -Nlibxmuu1
+ dh_strip -plibxmu6 --dbg-package=libxmu6-dbg
+ dh_strip -plibxmuu1 --dbg-package=libxmuu1-dbg
--- libxmu-1.1.2.orig/debian/watch
```

+++ libxmu-1.1.2/debian/watch
@@ -0,0 +1,3 @@
+#git=git://anongit.freedesktop.org/xorg/lib/libXmu
+version=3
+http://xorg.freedesktop.org/releases/individual/lib/ libXmu-(.*)\.tar\.gz

Found in path(s):
* /libxmu-1-1-2-2-diff-gz/libxmu_1.1.2-2.diff

# 1.74 libedit 3.1-20170329-1

## 1.74.1 Available under license :

Copyright (c) 1992, 1993
The Regents of the University of California.  All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
 TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

# 1.75 sed 4.4-2

## 1.75.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1)
assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains
that there is no warranty for this free software. For both users' and

authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees"
and
"recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's

System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article

11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source
as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,
procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as

part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in
ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the
entire Program shall
be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or

limiting liability differently from the
terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or
author attributions in that material or in the Appropriate Legal
Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or
requiring that modified versions of such material be marked in
reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or
authors of the material; or

e) Declining to grant rights under trademark law for use of some
trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that
material by anyone who conveys the material (or modified versions of
it) with contractual assumptions of liability to the recipient, for
any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further
restrictions" within the meaning of section 10. If the Program as you
received it, or any part of it, contains a notice stating that it is
governed by this License along with a term that is a further
restriction, you may remove that term. If a license document contains
a further restriction but permits relicensing or conveying under this
License, you may add to a covered work material governed by the terms
of that license document, provided that the further restriction does
not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you
must place, in the relevant source files, a statement of the
additional terms that apply to those files, or a notice indicating
where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the
form of a separately written license, or stated as exceptions;
the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly
provided under this License. Any attempt otherwise to propagate or

modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that

transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this

License, through a
publicly available network server or other readily accessible means,
then you must either (1) cause the Corresponding Source to be so
available, or (2) arrange to deprive yourself of the benefit of the
patent license for this particular work, or (3) arrange, in a manner
consistent with the requirements of this License, to extend the patent
license to downstream recipients. "Knowingly relying" means you have
actual knowledge that, but for the patent license, your conveying the
covered work in a country, or your recipient's use of the covered work
in a country, would infringe one or more identifiable patents in that
country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or
arrangement, you convey, or propagate by procuring conveyance of, a
covered work, and grant a patent license to some of the parties
receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered
work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may

not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS"

WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by

the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
 must themselves be free in the same sense.  It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does.  But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book.  We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License.  Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein.  The ``Document'', below,
refers
 to any such manual or work.  Any member of the public is a
licensee, and is addressed as ``you''.  You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the
Document or a portion of it, either copied verbatim, or with
modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, La@TeX{} input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG@. Opaque formats include proprietary formats that can be read and edited only by proprietary word

processors, SGML or
XML for which the DTD and/or processing tools are
not generally available, and the machine-generated HTML,
PostScript or PDF produced by some word processors for
output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page. For works in
formats which do not have any title page as such, ``Title Page'' means
the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in another language. (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'',
or ``History''.) To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document. These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either
commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies
to the Document are reproduced in all copies, and that you add no other
conditions whatsoever to those of this License. You may not use
technical measures to obstruct or control the reading or further
copying of the copies
you make or distribute. However, you may accept
compensation in exchange for copies. If you distribute a large enough
number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and
you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the
title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute
an
Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution

and modification of the Modified Version to whoever possesses a copy
of it.  In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from those of previous versions
(which should, if there were any, be listed in the History section
of the Document).  You may use the same
 title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the
 Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page.  If
there is no section Entitled ``History'' in the Document, create one

stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on. These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any
section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles. Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all
of these sections as invariant. To do this, add their titles to the
list of Invariant
Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has

been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History'' in the various original documents, forming one section Entitled ``History''; likewise combine any sections Entitled ``Acknowledgements'', and any sections Entitled ``Dedications''. You must delete all sections Entitled ``Endorsements.''

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents

released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License
into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an ``aggregate'' if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form.
Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',
``Dedications'', or ``History'', the requirement
(section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for
any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License. If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns. See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and

conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation. If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation. If the Document
specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the
Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works. A
public wiki that anybody can edit is an example of such a server. A
``Massive Multiauthor Collaboration'' (or ``MMC'') contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons
Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License

in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group
Copyright (C) @var{year} @var{your name}.
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3
or any later version published by the Free Software Foundation;
with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
Texts. A copy of the license is included in the section entitled ``GNU
Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts."@: line with this:

@smallexample
@group
with the Invariant Sections being @var{list their titles}, with
the Front-Cover Texts being @var{list}, and with the Back-Cover Texts
being @var{list}.
@end group
@end smallexample

If you have Invariant
Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:

# 1.76 libcap-ng 0.7.7-3.1

## 1.76.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors
who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations
below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library,
whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.
^L
Finally,
software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore
permits such linking only if the
entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free

library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

^L

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means

all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation
and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it,
in any medium, provided that
you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under
the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and
can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms
of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.
^L
Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form

under the terms of Sections 1 and 2 above provided that you accompany it with the
complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a
"work that uses the
library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute
the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.
^L
6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work

under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2)

will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for

reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.
^L
7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.
^L
11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License,
they do not
excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software
distribution system which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among

countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.
^L
14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF

SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

^L

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James
Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and

(2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies
of the Program's
source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License

along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole
or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered
independent and separate works in
themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of

a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License.

However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that

system; it is up to the author/donor to decide if he or she is willing
to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE

PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) year  name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.77 gdbm 1.14.1-6

## 1.77.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007, 2011 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works.  By contrast,

the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays
"Appropriate Legal Notices"
to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the

extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other
than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing
those activities but
which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content,
constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users'
Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and

appropriately publish on each copy an appropriate copyright notice; keep
intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must
license the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation
and its resulting copyright are not
used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding

Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the
object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and
execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information
does not include a
requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and

protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included
in this License, to the extent
that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections
15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days

after
your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each
time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you
may
not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license

you grant is automatically
extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or that patent license was granted, prior to
28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this
License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),

EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer
of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief
idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes
with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License. But
first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.78 libxdmcp 1.1.2-3

## 1.78.1 Available under license :

Copyright 1989, 1998 The Open Group

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall not be
used in advertising

or otherwise to promote the sale, use or other dealings
in this Software without prior written authorization from The Open Group.

Author:  Keith Packard, MIT X Consortium

# 1.79 gpm 1.20.7-5

## 1.79.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: gpm - general purpose mouse
Upstream-Contact: gpm@lists.linux.it
Source: https://nico.schottelius.org/software/gpm/archives/

Files: *
Copyright: 1993       Andrew Haylett <ajh@gec-mrc.co.uk>
        1994-2000  Alessandro Rubini <rubini@linux.it>
        1998-1999  Ian Zimmerman <itz@rahul.net>
        2001-2012  Nico Schottelius <nico@schottelius.org>
License: GPL-2.0+

Files: scripts/git-archiv-tarbz2.sh scripts/report_success.sh
Copyright: 2008 Nico Schottelius <nico@schottelius.org>
License: GPL-3.0+

Files: debian/*
Copyright: 1996-1997 Martin Schulze <joey@debian.org>
        1997-1999 James Troup <james@nocrew.org>
        1998      Franois Gouget <fgouget@mygale.org>
        1999-2002 Zephaniah E. Hull <warp@debian.org>
        2004-2008 Guillem Jover <guillem@debian.org>
        2004-2012 Peter Samuelson <peter@p12n.org>
        2008-2017 Samuel Thibault <sthibault@debian.org>
         2017      Axel Beckert <abe@debian.org>
License: GPL-2.0+
Comment: It is assumed that the packaging is licensed under the same
terms as the upstream code unless stated otherwise.

Files: debian/gpm-microtouch-setup.8
Copyright: 2008 Franois Wendling <frwendling@free.fr>
License: GPL-2.0+
Comment: It is assumed that the packaging is licensed under the same
terms as the upstream code unless stated otherwise.

License: GPL-2.0+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 2 of the License, or

(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
On a Debian system, you can find the full text of the
 GNU General
Public License, version 2 in /usr/share/common-licenses/GPL-2.

License: GPL-3.0+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
On a Debian system, you can find the full text of the GNU General
Public License, version 3 in /usr/share/common-licenses/GPL-3.

# 1.80 gobject-introspection 1.56.1-1

## 1.80.1 Available under license :

gobject-introspection has two licenses; one for the typelib library,
and one for the tools.

The scanner (giscanner/) and typelib libraries (girepository/) are
licensed under the LGPLv2+.  See the file COPYING.LGPL.

The tools (tools/) are licensed under the GPLv2+.  See the file COPYING.GPL.

There is also some MIT code in giscanner/.  In general where
applicable files should have headers denoting their license status; if
they do not, please file a bug at https://gitlab.gnome.org/GNOME/gobject-introspection/issues.
   GNU LIBRARY GENERAL PUBLIC LICENSE
      Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
      59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library GPL. It is
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some
specially designated Free Software Foundation software, and to any
other libraries whose authors decide to use it. You can use it for
your libraries, too.

When we speak of free software, we are referring
to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if
you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link a program with the library, you must provide
complete object files to the recipients so that they can relink them
with the library, after making
changes to the library and recompiling
it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright
the library, and (2) offer you this license which gives you legal
permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain
that everyone understands that there is no warranty for this free
library. If the library is modified by someone else and passed on, we
want its recipients to know that what they have is not the original
version, so that any problems introduced by others will not reflect on
the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary

General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy,

and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In
addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code
of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative
work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this License.

Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application

to use the modified definitions.)

b) Accompany
the work with a written offer, valid for at
least three years, to give the same user the materials
specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
specified materials from the same place.

d) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the
Library" must include any data and utility programs needed for
reproducing the executable from it. However, as a special exception,
the source code distributed need not include anything that is normally
distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies
the
executable.

It may happen that this requirement contradicts the license
restrictions of other proprietary libraries that do not normally
accompany the operating system. Such a contradiction means you cannot
use both them and the Library together in an executable that you
distribute.

7. You may place library facilities that are a work based on the
Library side-by-side in a single library together with other library
facilities not covered by this License, and distribute such a combined
library, provided that the separate distribution of the work based on
the Library and of the other library facilities is otherwise
permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work
based on the Library, uncombined with any other library
facilities. This must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based
on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions
for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not
distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is

implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system;
it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY
IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR

OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE
OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>
<name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public
License along with this library; if not, write to the
Free Software Foundation, Inc., 59 Temple Place - Suite 330,
Boston, MA  02111-1307  USA.

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.
Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.  Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid

anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program

is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies
of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole
or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered
independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based

on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or
executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under

any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,

but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.
Adam Sampson
Adel Gadllah
Alan Knowles
Alexey Zakhlestin
Andreas Rottmann
Bastien Nocera
Brian Cameron
Chris Rivera

Christian Persch
Christophe Fergeau
Colin Walters
C. Scott Ananian
Damien Lespiau
Danielle Madeley
Dan Winship
David Ignacio
David Zeuthen
Didier 'Ptitjes
dyfet@gnutelephony.org
Eduardo Lima Mitev
Emmanuele Bassi
Florian Mllner
Funda Wang
Gustavo J. A. M. Carneiro
Gustavo Noronha Silva
Halton Huo
Havoc Pennington
Holger Hans Peter Freyther
Iain Nicol
Jani Monoses
Jasper Lievisse Adriaanse
Javier Jardn
Joe Marcus Clarke
Johan Bilien
Johan Dahlin
John (J5) Palmieri
John Ehresman
Jonathan Matthew
Josselin Mouette
Jrg Billeter
Kedar Sovani
Luca Bruno
Lucas Rocha
Maciej Katafiasz
Marc-Andre Lureau
Marco Pesenti Gritti
Marina Zhurakhinskaya
Mark Doffman
Mark Lee
Matthias Clasen
Maxim Ermilov
Michael Meeks
Owen Taylor
Pavel Holejsovsky
Philip Van Hoof
Richard Hult

Robert Ancell
Robert Carr
Rob Taylor
Ryan Lortie
Saikiran Madugula
Saleem Abdulrasool
Saleem Ansari
Simon McVittie
Simon
van der Linden
Simn Pena
Stefan Kost
Steve Frcinaux
Theppitak Karoonboonyanan
Tim Horton
Tobias Mueller
Tomeu Vizoso
Tommi Komulainen
Tor Lillqvist
Torsten Schnfeld
Tristan Van Berkom
Xan Lopez
Zachary Goldberg

# 1.81 xauth 1.0.10-1

## 1.81.1 Available under license :

Copyright 1989, 1993, 1998 The Open Group

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation.

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall not be used in advertising

or otherwise to promote the sale, use or other dealings
in this Software without prior written authorization from The Open Group.

# 1.82 libpsl 0.19.1-5build1

## 1.82.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: libpsl
Source: https://github.com/rockdaboot/libpsl

Files: *
Copyright: 2014-2016 Tim Ruehsen
License: MIT

Files: debian/*
Copyright: 2014-2016 Daniel Kahn Gillmor
License: MIT

Files: src/psl-make-dafsa src/lookup_string_in_fixed_set.c
Copyright: 2014-2015 The Chromium Authors
License: Chromium

License: MIT
* Permission is hereby granted, free of charge, to any person obtaining a
* copy of this software and associated documentation files (the "Software"),
* to deal in the Software without restriction, including without limitation
* the rights to use, copy, modify, merge, publish, distribute, sublicense,
* and/or sell copies of the Software, and to permit persons to whom the
* Software is furnished to do so, subject to the following conditions:
*
* The above copyright notice and this permission notice shall be included in
* all copies or substantial portions of the Software.
*
* THE SOFTWARE
IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
* IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
* FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
* AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
* LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
* FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
* DEALINGS IN THE SOFTWARE.

License: Chromium
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:
.

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer
in the documentation and/or other materials provided with the
distribution.
* Neither
the name of Google Inc. nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.83 libxext 1.3.3-1

## 1.83.1 Available under license :

Copyright 1986, 1987, 1988, 1989, 1994, 1998  The Open Group

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall
not be
used in advertising or otherwise to promote the sale, use or other dealings

in this Software without prior written authorization from The Open Group.

Copyright (c) 1996 Digital Equipment Corporation, Maynard, Massachusetts.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software.

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY CLAIM, DAMAGES, INCLUDING, BUT NOT LIMITED
TO CONSEQUENTIAL OR INCIDENTAL DAMAGES, OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of Digital Equipment Corporation
shall not be used in advertising or otherwise to promote the sale, use or other
dealings in this Software without prior written authorization from Digital
Equipment Corporation.

Copyright (c) 1997 by Silicon Graphics Computer Systems, Inc.
Permission to use, copy, modify, and distribute this
software and its documentation for any purpose and without
fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright
notice and this permission notice appear in supporting
documentation, and that the name of Silicon Graphics not be
used in advertising or publicity pertaining to distribution
of the software without specific prior written permission.
Silicon
Graphics makes no representation about the suitability
of this software for any purpose. It is provided "as is"
without any express or implied warranty.
SILICON GRAPHICS DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright 1992 Network Computing Devices

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the name
of NCD. not be used in advertising or
publicity pertaining to distribution of the software without specific,
written prior permission. NCD. makes no representations about the
suitability of this software for any purpose. It is provided "as is"
without express or implied warranty.

NCD. DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL NCD. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright 1991,1993 by Digital Equipment Corporation, Maynard, Massachusetts,
and Olivetti Research Limited, Cambridge, England.

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without
fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the names of Digital or Olivetti
not be used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

DIGITAL AND OLIVETTI DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL THEY BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright 1986, 1987, 1988 by Hewlett-Packard Corporation

Permission to use, copy, modify, and distribute this
software and its documentation for any purpose and without
fee is hereby granted, provided

that the above copyright
notice appear in all copies and that both that copyright
notice and this permission notice appear in supporting
documentation, and that the name of Hewlett-Packard not be used in
advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

Hewlett-Packard makes no representations about the
suitability of this software for any purpose.  It is provided
"as is" without express or implied warranty.

This software is not subject to any license of the American
Telephone and Telegraph Company or of the Regents of the
University of California.

Copyright (c) 1994, 1995  Hewlett-Packard Company

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software,
and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL HEWLETT-PACKARD COMPANY BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the Hewlett-Packard
Company shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization from the Hewlett-Packard Company.

Copyright Digital Equipment Corporation, 1996

Permission
to use, copy, modify, distribute, and sell this
documentation for any purpose is hereby granted without fee,
provided that the above copyright notice and this permission

notice appear in all copies.  Digital Equipment Corporation
makes no representations about the suitability for any purpose
of the information in this document.  This documentation is
provided ``as is'' without express or implied warranty.

Copyright (c) 1999, 2005, 2006, 2013, Oracle and/or its affiliates.
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice (including the
 next
paragraph) shall be included in all copies or substantial portions of the
Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

Copyright (c) 1989 X Consortium, Inc. and Digital Equipment Corporation.
Copyright (c) 1992 X Consortium, Inc. and Intergraph Corporation.
Copyright (c) 1993 X Consortium, Inc. and Silicon Graphics, Inc.
Copyright (c) 1994, 1995 X Consortium, Inc. and Hewlett-Packard Company.

Permission to use, copy, modify, and distribute this documentation for
any purpose and without fee is hereby granted, provided that the above
copyright notice and this
 permission notice appear in all copies.
Digital Equipment Corporation, Intergraph Corporation, Silicon
Graphics, Hewlett-Packard, and the X Consortium make no
representations about the suitability for any purpose of the
information in this document.  This documentation is provided ``as is''
without express or implied warranty.

# 1.84 libcap 2.25-1.2

## 1.84.1 Available under license :

Unless otherwise *explicitly* stated the following text describes the
licensed conditions under which the contents of this module release
may be distributed:

---

Redistribution and use in source and binary forms of this module, with
or without modification, are permitted provided that the following
conditions are met:

1. Redistributions of source code must retain any existing copyright
  notice, and this entire permission notice in its entirety,
  including the disclaimer of warranties.

2. Redistributions in binary form must reproduce all prior and current
  copyright notices, this list of conditions, and the following
  disclaimer in the documentation and/or other materials provided
  with the distribution.

3. The name of any author may not be used to endorse or promote
  products derived from this software without their specific prior
  written permission.

ALTERNATIVELY, this product may be distributed under
 the terms of the
GNU Library General Public License, in which case the provisions of
the GNU LGPL are required INSTEAD OF the above restrictions.  (This
clause is necessary due to a potential conflict between the GNU LGPL
and the restrictions contained in a BSD-style copyright.)

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS
OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR
TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

---

Unless otherwise *explicitly* stated, the following text describes the
licensed conditions under which the contents of this libcap release
may be used and distributed:

---

Redistribution and use in source and binary forms of libcap, with

or without modification, are permitted provided that the following
conditions are met:

1. Redistributions of source code must retain any existing copyright
  notice, and this entire permission notice in its entirety,
  including the disclaimer of warranties.

2. Redistributions in binary form must reproduce all prior and current
  copyright notices, this list of conditions, and the following
  disclaimer in the documentation and/or other materials provided
  with the distribution.

3. The name of any author may not be used to endorse or promote
  products derived from this software without their specific prior
  written permission.

ALTERNATIVELY, this product may be distributed
 under the terms of the
GNU General Public License (v2.0 - see below), in which case the
provisions of the GNU GPL are required INSTEAD OF the above
restrictions.  (This clause is necessary due to a potential conflict
between the GNU GPL and the restrictions contained in a BSD-style
copyright.)

THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS
OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR
TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.
---

---
Full
 text of gpl-2.0.txt:
---

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU
Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show
them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the

program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the
Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program
(or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your

cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information
you received as to the offer
to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering
access
to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program
(or any work based on the
Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously
your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions
to the wide range of software distributed
through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates

the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year
name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if

necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.
If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.85 ncurses 6.1-1ubuntu1.18.04

## 1.85.1 Available under license :

Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---
Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 2010-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions
of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,

DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.

---

Files: install-sh
Copyright: 1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent `make' implicit rules from creating a file called install from it when there is no Makefile.

This script is compatible with the BSD install script, but was written from scratch. It can only install one file at a time, a restriction shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in '/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
Upstream source https://invisible-island.net/ncurses/ncurses.html
This package is used for testing builds of ncurses.

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 1996-2017,2018 by Thomas E. Dickey
Licence: X11

Files: doc/html/NCURSES-Programming-HOWTO.html
Copyright: 2001 by Pradeep Padala
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the
following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

---

Files: install-sh
Copyright:  1994
 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT
OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

---

Files: progs/tset.c ncurses/tinfo/read_termcap.c
Copyright: 1980,1991,1992,1993 The Regents of the University of California.
License: BSD

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
the
   documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
   may be used to endorse or promote products derived from this software
   without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

-- vile: txtmode file-encoding=utf-8
Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 2003-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions
of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written

authorization.

---

Files: install-sh
Copyright:  1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated
documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the
name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent
`make' implicit rules from creating a file called install from it
when there is no Makefile.

This script is compatible with the BSD install script, but was written
from scratch.  It can only install one file at a time, a restriction
shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in '/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
Copyright (c) 1998-2017,2018 Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a

copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE,
 ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

-- vile:txtmode fc=72
-- $Id: COPYING,v 1.6 2018/01/01 12:00:00 tom Exp $
This is the Debian prepackaged version of the ncurses
library and terminfo utilities. ncurses/terminfo was originally written
by Pavel Curtis and Zeyd M. Ben-Halim <zmbenhal@netcom.com>, and is
currently held by the Free Software Foundation.

This package was put together by Vaidhyanathan G Mayilrangam
<vaidhy@debian.org> and Joel Klecker <espy@debian.org>, using sources
obtained from ftp://ftp.gnu.org/gnu/ncurses/ncurses-5.0.tar.gz.
Current versions of the ncurses sources are found at
ftp://invisible-island.net/ncurses/.

It is based somewhat on work done by Bruce Perens <Bruce@Pixar.com>,
David Engel <david@elo.ods.com>.  Michael Alan Dorman
<mdorman@debian.org>, Richard Braakman <dark@xs4all.nl>, James Troup
<jjtroup@comp.brad.ac.uk>, J.H.M. Dassen (Ray)
<jdassen@wi.LeidenUniv.nl>, and Galen Hazelwood <galenh@micron.net>
over various years.

Copyright (c) 1998-2018 Free Software Foundation, Inc.
Copyright  2001 by Pradeep Padala

Permission is hereby granted, free of charge, to any
person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except
as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

Copyright (C) 1994 X Consortium

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not

be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

Copyright (c) 1980, 1991, 1992, 1993
The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Copyright 1996-2018 by Thomas E. Dickey

All Rights Reserved

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included

in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE ABOVE LISTED COPYRIGHT HOLDER(S) BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.

# 1.86 iptables 1.6.1-2ubuntu2

## 1.86.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program

is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the
Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause
any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based

on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering

access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to

apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.87 acl 2.2.52-3build1

## 1.87.1 Available under license :

This package was debianized by Nathan Scott nathans@debian.org on
Tue, 26 Feb 2002 13:25:26 +1100

It can be downloaded from http://mirror.its.uidaho.edu/pub/savannah/acl/

Copyright:

Copyright (C) 2001 Andreas Gruenbacher.
Copyright (C) 2001-2002 Silicon Graphics, Inc.  All Rights Reserved.

You are free to distribute this software under Version 2.1
of the GNU Lesser General Public License.
On Debian systems, refer to /usr/share/common-licenses/LGPL-2.1
for the complete text of the GNU Lesser General Public License.

Certain components (as annotated in the source) are licensed
under the terms of the GNU General Public License.
On Debian systems, the complete text of the GNU General Public
License can be found in /usr/share/common-licenses/GPL file.
This package was debianized by Nathan Scott nathans@debian.org on
Tue, 26 Feb 2002 13:25:26 +1100

It can be downloaded from ftp://acl.bestbits.at/

Copyright:

Copyright (C) 2001 Andreas Gruenbacher.
Copyright (C) 2001-2002 Silicon Graphics, Inc.  All Rights Reserved.

You are free to distribute this software under Version 2.1
of the GNU Lesser General Public License.
On Debian systems, refer to /usr/share/common-licenses/LGPL-2.1
for the complete text of the GNU Lesser General Public License.

Certain components (as annotated in the source) are licensed
under the terms of the GNU General Public License.
On Debian systems, the complete text of the GNU General Public
License can be found in /usr/share/common-licenses/GPL file.
Most components of the "acl" package are licensed under
Version 2.1 of the GNU Lesser General Public License (see COPYING.LGPL).

Some components (as annotated in the source) are licensed
under Version 2 of the GNU General Public License (see below),

---

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the

program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if
the Program itself is interactive but
does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works
based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your

cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections
1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that
component
itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions
are
prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates

the limitation as if written in the body of this License.

9. The Free Software Foundation
may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision
will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR
DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your

school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice

This General Public License
 does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.
Most components of the "acl" package are licensed under
Version 2.1 of the GNU Lesser General Public License (see below).
below.

Some components (as annotated in the source) are licensed
under Version 2 of the GNU General Public License (see COPYING).

---

   GNU LESSER GENERAL PUBLIC LICENSE
       Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

      Preamble

 The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom
 to share and change
free software--to make sure the software is free for all its users.

 This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it.  You
can use it too, but we suggest you first think carefully about whether

this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions
that forbid
distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free
library. Also, if the library is
modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use

this license for certain libraries in order to permit linking those libraries
into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a
certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions
for copying, distribution and
modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere

aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library
into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of
the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file
is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of
this License. If the work
during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library
mechanism for linking with the
Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate
distribution of the work based on
the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the

Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such
parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence
of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply,

and the section as a whole is intended to apply in other circumstances.

It
is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution
limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs
whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST
OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these
terms (or, alternatively, under the terms of the
ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License
for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

# 1.88 berkeley-db 5.3.28-13.1ubuntu1.1

## 1.88.1 Available under license :

Copyright (c) 1996, 2013 Oracle and/or its affiliates. All rights reserved.
See the file LICENSE for redistribution information.
This software is copyrighted by Christian Werner <chw@ch-werner.de>
and other authors. The following terms apply to all files associated
with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute,
and license this software and its documentation for any purpose, provided
that existing copyright notices are retained in all copies and that this
notice is included verbatim in any distributions. No written agreement,
license, or royalty fee is required for any of the authorized uses.
Modifications to this software may be copyrighted by their authors
and need not follow the licensing terms described here, provided that
the new terms are clearly indicated on the first page of each file where
they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY
FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES
ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY

DERIVATIVES
THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE
IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE
NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR
MODIFICATIONS.
This software is copyrighted by Christian Werner <chw@ch-werner.de> and others.
The following terms apply to all files associated with the software
unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute,
and license this software and its documentation for any purpose, provided
that existing copyright notices are retained in all copies and that this
notice is included verbatim in any distributions. No written agreement,
license, or royalty fee is required for any of the authorized uses.
Modifications to this software may be copyrighted by their authors
and need not follow the licensing terms described here, provided that
the new terms are clearly indicated on the first page of each file where
they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY
FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES
ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY
DERIVATIVES THEREOF,
EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE
IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE
NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR
MODIFICATIONS.
/*-
* $Id$
*/

The following is the license that applies to this copy of the Berkeley DB
software. For a license to use the Berkeley DB software under conditions
other than those described here, or to purchase support for this software,
please contact Oracle at berkeleydb-info_us@oracle.com.

=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
/*

```
* Copyright (c) 1990, 2013 Oracle and/or its affiliates.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Redistributions in any form must be accompanied by information
 on
*    how to obtain complete source code for the DB software and any
*    accompanying software that uses the DB software.  The source code
*    must either be included in the distribution or be available for no
*    more than the cost of distribution plus a nominal fee, and must be
*    freely redistributable under reasonable conditions.  For an
*    executable file, complete source code means the source code for all
*    modules it contains.  It does not include source code for modules or
*    files that typically accompany the major components of the operating
*    system on which the executable file runs.
*
* THIS SOFTWARE IS PROVIDED BY ORACLE ``AS IS'' AND ANY EXPRESS OR
* IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
* WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR
* NON-INFRINGEMENT, ARE DISCLAIMED.  IN NO EVENT SHALL ORACLE BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL
 DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
* BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
* WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
* OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
* IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/
/*
* Copyright (c) 1990, 1993, 1994, 1995
* The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with
```

the distribution.
* 3. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*/
/*
 * Copyright (c) 1995, 1996
* The President and Fellows of Harvard University.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY HARVARD AND ITS CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY
 AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL HARVARD OR ITS CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*/
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
/***

* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2005 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the
 above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES;
 LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/
NOTE

The license is based on the zlib/libpng license. For more details see
http://www.opensource.org/licenses/zlib-license.html. The intent of the
license is to:

- keep the license as simple as possible
- encourage the use of CuTest in both free and commercial applications
 and libraries
- keep the source code together
- give credit to the CuTest contributors for their work

If you ship CuTest in source form with your source distribution, the
following license document must be included with it in unaltered form.
If you find CuTest useful we would like to hear about it.

LICENSE

Copyright (c) 2003 Asim Jalis

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin
of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software in
a product, an acknowledgment in the product documentation would be
appreciated but is not required.

2. Altered source versions must be plainly marked as such, and must not
be misrepresented as being the original software.

3. This notice may not be removed or altered from any source
distribution.
This package was debianized by Clint Adams <schizo@debian.org> on
Wed, 25 Jul 2007 20:37:51 +0700

It was downloaded from
http://www.oracle.com/technology/software/products/berkeley-db/db/index.html

Copyright and license:

The following is the license that applies to this copy of the Berkeley DB
software.  For a license to use the Berkeley DB software under conditions
other than those described here, or to purchase support for this software,
please contact Oracle at berkeleydb-info_us@oracle.com.

=-=-=-

```
*    accompanying software that uses the DB software.  The source code
*    must either be included in the distribution or be available for no
*    more than the cost of distribution plus a nominal fee, and must be
*    freely redistributable under reasonable conditions.  For an
*    executable file, complete source code means the source code for all
*    modules it contains.  It does not include source code for modules or
*    files that typically accompany the major components of the operating
*    system on which the executable file runs.
*
* THIS SOFTWARE IS PROVIDED BY ORACLE ``AS IS'' AND ANY EXPRESS OR
* IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
* WARRANTIES OF
 MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR
* NON-INFRINGEMENT, ARE DISCLAIMED.  IN NO EVENT SHALL ORACLE BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
* BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
* WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
* OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
* IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/
/*
* Copyright (c) 1990, 1993, 1994, 1995
* The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
 WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
```

* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*/
/*
* Copyright (c) 1995, 1996
* The President and Fellows of Harvard University.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific
 prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY HARVARD AND ITS CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL HARVARD OR ITS CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*/
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=
/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2005 INRIA, France Telecom
* All rights reserved.
 *
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from

* this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/
This package was debianized by Sam Clegg <samo@debian.org> on
Tue, 25 Jul 2006 11:43:45 +0100.

It was downloaded from <http://www.ch-werner.de/sqliteodbc/>

Upstream Author: Christian Werner <chw@ch-werner.de>

Copyright: Copyright (c) 2001-2011 Christian Werner <chw@ch-werner.de>
OS/2 Port Copyright (c) 2004 Lorne R. Sunley <lsunley@mb.sympatico.ca>

License:

This software is copyrighted by Christian Werner <chw@ch-werner.de>
and other authors. The following terms apply to all files associated
with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute,
and license this software and its documentation for any purpose, provided
that existing copyright notices are retained in all copies and that this
notice is included verbatim in any distributions. No written agreement,
license, or royalty fee is required for any of the authorized uses.
Modifications to this software may be copyrighted by their authors
and
need not follow the licensing terms described here, provided that
the new terms are clearly indicated on the first page of each file where
they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY
FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES
ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY
DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

The Debian packaging is (C) 2006, Sam Clegg <samo@debian.org> and is licensed under the GPL-3, see `/usr/share/common-licenses/GPL-3'.

# 1.89 bzip2 1.0.6-8.1ubuntu0.2

## 1.89.1 Available under license :

---

This program, "bzip2", the associated library "libbzip2", and all documentation, are copyright (C) 1996-2010 Julian R Seward. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS

INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, jseward@bzip.org
bzip2/libbzip2 version 1.0.6 of 6 September 2010

---

This bzip2 Debian package was created by Philippe Troin <phil@fifi.org>.
It is currently mantained by Anibal Monsalve Salazar <anibal@debian.org>.
It is Copyright (C) 1999, 2000, 2001, 2002 Philippe Troin
<phil@fifi.org> and Copyright (C) 2004-2011 Anibal Monsalve Salazar.
It is licensed under the GNU General Public License version 2 which
can be found in /usr/share/common-licenses/GPL-2.

The original tarball was downloaded from
  http://www.bzip.org/downloads.html

For more information about bzip2, please visit:
  http://www.bzip.org/

Author:
  Julian Seward <jseward@acm.org>

Copyright:  (from LICENSE)

---

This program, "bzip2", the associated library "libbzip2", and all
documentation, are copyright (C) 1996-2010 Julian R Seward.  All
rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions
 of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must
  not claim that you wrote the original software.  If you use this
  software in a product, an acknowledgment in the product
  documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must
  not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, jseward@bzip.org
bzip2/libbzip2 version 1.0.6 of 6 September 2010

---

# 1.90 zip 3.0

## 1.90.1 Available under license :

This is version 2007-Mar-4 of the Info-ZIP license.
The definitive version of this document should be available at
ftp://ftp.info-zip.org/pub/infozip/license.html indefinitely and
a copy at http://www.info-zip.org/pub/infozip/license.html.

Copyright (c) 1990-2007 Info-ZIP. All rights reserved.

For the purposes of this copyright and license, "Info-ZIP" is defined as
the following set of individuals:

Mark Adler, John Bush, Karl Davis, Harald Denker, Jean-Michel Dubois,
Jean-loup Gailly, Hunter Goatley, Ed Gordon, Ian Gorman, Chris Herborth,
Dirk Haase, Greg Hartwig, Robert Heath, Jonathan Hudson, Paul Kienitz,
David Kirschbaum, Johnny Lee, Onno van der Linden, Igor Mandrichenko,
Steve P. Miller, Sergio Monesi, Keith Owens, George Petrov, Greg Roelofs,
Kai Uwe Rommel, Steve Salisbury, Dave Smith, Steven M. Schweda,
Christian Spieler, Cosmin Truta, Antoine Verheijen, Paul von Behren,
Rich Wales, Mike White.

This software is provided "as is," without warranty of

any kind, express
or implied. In no event shall Info-ZIP or its contributors be held liable
for any direct, indirect, incidental, special or consequential damages
arising out of the use of or inability to use this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the above disclaimer and the following restrictions:

1. Redistributions of source code (in whole or in part) must retain
the above copyright notice, definition, disclaimer, and this list
of conditions.

2. Redistributions in binary form (compiled executables and libraries)
must reproduce the above copyright notice, definition, disclaimer,
and this list of conditions in documentation and/or other materials
provided with the distribution. The sole exception to this condition
is redistribution of a standard UnZipSFX binary (including SFXWiz) as
part of
a self-extracting archive; that is permitted without inclusion
of this license, as long as the normal SFX banner has not been removed
from the binary or disabled.

3. Altered versions--including, but not limited to, ports to new operating
systems, existing ports with new graphical interfaces, versions with
modified or added functionality, and dynamic, shared, or static library
versions not from Info-ZIP--must be plainly marked as such and must not
be misrepresented as being the original source or, if binaries,
compiled from the original source. Such altered versions also must not
be misrepresented as being Info-ZIP releases--including, but not
limited to, labeling of the altered versions with the names "Info-ZIP"
(or any variation thereof, including, but not limited to, different
capitalizations), "Pocket UnZip," "WiZ" or "MacZip" without the
explicit permission of Info-ZIP. Such altered versions
are further
prohibited from misrepresentative use of the Zip-Bugs or Info-ZIP
e-mail addresses or the Info-ZIP URL(s), such as to imply Info-ZIP
will provide support for the altered versions.

4. Info-ZIP retains the right to use the names "Info-ZIP," "Zip," "UnZip,"
"UnZipSFX," "WiZ," "Pocket UnZip," "Pocket Zip," and "MacZip" for its
own source and binary releases.
RECORD
Carriage_Control carriage_return
Format stream_lf

# 1.91 libgpg-error 1.27-6

## 1.91.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work
which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim
copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in

whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably
considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work

based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code
or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not
compelled to copy
the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6.
Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free
redistribution of the Program by
all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version
number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE
LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING

WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),
EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author

Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands
`show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide

to use it. You
can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether
gratis
or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the

ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the
free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must

be combined with the library in order to
run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another
language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium,
provided that
you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or

collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses

the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object
code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the
work with the complete corresponding
machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood

that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly
with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally
distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to

refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free

Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA  02110-1301
USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or
your school, if any, to sign a "copyright disclaimer" for the library,
if necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James
Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

# 1.92 ethtool 4.5-1

## 1.92.1 Available under license :

ethtool is available under the terms of the GNU Public License version 2.

See COPYING for details.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third

parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further

restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will

be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program

`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

# 1.93 nmap 7.80

## 1.93.1 Available under license :

Copyright (c) 1999 - 2005 NetGroup, Politecnico di Torino (Italy).
Copyright (c) 2005 - 2010 CACE Technologies, Davis (California).
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the Politecnico di Torino, CACE Technologies nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This product includes software developed by the University of California, Lawrence Berkeley Laboratory and its contributors.
This product includes software developed by the Kungliga Tekniska Hgskolan and its contributors.
This product includes software developed by Yen Yen Lim and North Dakota State University.

Portions Copyright (c) 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997 The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes software developed by the University of California, Berkeley and its contributors."
4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Portions Copyright (c) 1983 Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms are permitted provided that the above copyright notice and this paragraph are duplicated in all such forms and that any documentation, advertising materials, and other materials related to such distribution and use acknowledge that the software was developed by the University of California, Berkeley. The name of the University may not be used to endorse or promote products derived from this software without specific prior written permission. THIS SOFTWARE IS PROVIDED ``AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.
Portions Copyright (c) 1995, 1996, 1997 Kungliga Tekniska Hgskolan (Royal Institute of Technology, Stockholm, Sweden). All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes software developed by the Kungliga Tekniska Hgskolan and its contributors."
4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS" AND ANY

EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Portions Copyright (c) 1997 Yen Yen Lim and North Dakota State University. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes software developed by Yen Yen Lim and North Dakota State University"
4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Portions Copyright (c) 1993 by Digital Equipment Corporation.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies, and that the name of Digital Equipment Corporation not be used in advertising or publicity pertaining to distribution of the document or software without specific, written prior permission.

THE SOFTWARE IS PROVIDED "AS IS" AND DIGITAL EQUIPMENT CORP. DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Portions Copyright (C) 1995, 1996, 1997, 1998, and 1999 WIDE Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification,

are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Portions Copyright (c) 1996 Juniper Networks, Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that: (1) source code distributions retain the above copyright notice and this paragraph in its entirety, (2) distributions including binary code include the above copyright notice and this paragraph in its entirety in the documentation or other materials provided with the distribution. The name of Juniper Networks may not be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
Portions Copyright (c) 2001 Daniel Hartmeier All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Portions Copyright 1989 by Carnegie Mellon.

Permission to use, copy, modify, and distribute this program for any purpose and without fee is hereby granted, provided that this copyright and permission notice appear on all copies and supporting documentation, the name of Carnegie Mellon not be used in advertising or publicity pertaining to distribution of the program without specific prior permission, and notice be given in supporting documentation that copying and distribution is by permission of Carnegie Mellon and Stanford University. Carnegie Mellon makes
no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

Copyright (c) 2000-2006 Dug Song <dugsong@monkey.org>
All rights reserved, all wrongs reversed.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. The names of the authors and copyright holders may not be used
to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE AUTHOR
BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.
Zenmap is distributed under the same license terms as Nmap. See the
COPYING file in the Nmap tarball, the man page legal section, or
https://nmap.org/man/man-legal.html .

Copyright (c) 2007-2011 The LIBLINEAR Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither name of copyright holders nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE
 REGENTS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
$Id: 3rd-party-licenses.txt 29907 2012-10-02 00:53:12Z david $

This file is a list of the licenses of the third-party software used by
Nmap and the other tools distributed with it. What follows is a
description of each third-party package. At the end of this file is the
license of each. The license of Nmap itself is in the COPYING file.

On all platforms, Nmap is normally linked with:
o libpcap: Network packet capture library. Distributed with Nmap in the
  libpcap subdirectory.
  http://www.tcpdump.org/
o libdnet: Networking library, used for low-level tasks such as sending
  ethernet frames. A modified version is distributed with Nmap in the
  libdnet-stripped subdirectory. A summary of Nmap-local modifications
  is in the file NMAP_MODIFICATIONS.
  http://code.google.com/p/libdnet/
o PCRE: Perl-compatible regular expressions. PCRE is part of Nmap's
  version detection and is also made available as an NSE library.
  Distributed with Nmap in the libpcre subdirectory.
  http://www.pcre.org/

o liblua: Lua programming language. Lua is the implementation language
of NSE, the Nmap Scripting Engine. Nmap links with liblua to allow
running Lua programs inside Nmap. Distributed with Nmap in the liblua
subdirectory. liblua can be omitted by configuring with the
--without-liblua configuration directive.
http://www.lua.org/
o OpenSSL: Cryptographic library. OpenSSL is used by service detection
and by NSE to connect to SSL services. NSE also provides access to
OpenSSL functions such as encryption and digest calculation. OpenSSL
can be disabled by configuring with the --without-openssl
configuration directive.
http://www.openssl.org/
o LIBLINEAR. Used for IPv6 OS classifiction.
http://www.csie.ntu.edu.tw/~cjlin/liblinear/
o libsvn. The Subversion library, used by the updater program
nmap-update. http://subversion.apache.org/
o APR (Apache Portable Runtime). Used by libsvn. http://apr.apache.org/

On Windows only, Nmap uses:
o WinPcap: libpcap for Windows. The libpcap license applies to WinPcap,
and it also has its own license. A binary copy of the library is
distributed with Nmap in the subdirectory mswin32/winpcap.
http://www.winpcap.org/

Certain Nmap Scripting Engine scripts use the simplified BSD license in
licenses/BSD-simplified.

Zenmap and Ndiff require:
o Python. The binary distributions of Nmap include a Python interpreter
and various libraries, built using either py2exe or py2app.
http://www.python.org/

The Windows and Mac OS X binary packages include bundled versions of:
o GLib, GTK+, ATK, Pango: These libraries are licensed under the GNU
LGPL 2, a copy of which is in the file licenses/LGPL-2.
http://www.gtk.org/
o Cairo: graphics library. Dual-licensed under the GNU LGPL 2.1 and the
MPL 1.1. See the files licenses/LGPL-2.1 and licenses/MPL-1.1.
http://www.cairographics.org/
o libgailutil: Accessibility support for GTK+.
o libpng, jpeg, LibTIFF: Image file format
libraries used by GTK+.
http://www.libpng.org/ http://www.ijg.org/ http://www.libtiff.org/
o zlib and bzip2: compression libraries.
http://www.zlib.org/ http://www.bzip.org/
o Expat: XML parser library.
http://expat.sourceforge.net/
o fontconfig: font configuration library.

http://www.fontconfig.org/
o FreeType: font rendering library.
http://www.freetype.org/
o libiconv. Under the GNU LGPL 2.
http://www.gnu.org/software/libiconv/
o libintl: gettext translation facilities. Under the GNU LGPL 2 and 2.1.
http://www.gnu.org/software/gettext/
o libxml2: XML parsing library.
http://xmlsoft.org/
o SQLite.
http://www.sqlite.org/
o PyGTK, PyGObject: bindings for Python. Licensed under the GNU LGPL 2.1.
http://www.pygtk.org/
o PyCairo: bindings for Python. Dual-licensed under the GNU LGPL 2.1 and the MPL 1.1.

The Mac OS binary packages also include:
o Various X.org libraries. These were built using MacPorts.
http://www.x.org/ http://www.macports.org/

========

License
of libpcap

License: BSD

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

========

License of libdnet

Copyright (c) 2000-2006 Dug Song <dugsong@monkey.org>
All
rights reserved, all wrongs reversed.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. The names of the authors and copyright holders may not be used
to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

========

PCRE LICENCE
------------

PCRE is a library of functions to support regular expressions whose syntax
and semantics are as close as possible to those of the Perl 5 language.

Release 7 of PCRE is distributed under the terms of the "BSD" licence, as
specified below. The documentation for PCRE, supplied in the "doc"
directory, is distributed under the same terms as the software itself.

The basic library functions are written in C and are freestanding. Also

included in the distribution is a set of C++ wrapper functions.

THE BASIC LIBRARY FUNCTIONS
---

Written
by: Philip Hazel
Email local part: ph10
Email domain: cam.ac.uk

University of Cambridge Computing Service,
Cambridge, England.

Copyright (c) 1997-2008 University of Cambridge
All rights reserved.

THE C++ WRAPPER FUNCTIONS
---

Contributed by: Google Inc.

Copyright (c) 2007-2008, Google Inc.
All rights reserved.

THE "BSD" LICENCE
---

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of the University of Cambridge nor the name of Google
Inc. nor the names
of their contributors may be used to endorse or
promote products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

========

License of liblua

* Copyright (C) 1994-2008 Lua.org, PUC-Rio.  All rights reserved.
*
*
 Permission is hereby granted, free of charge, to any person obtaining
* a copy of this software and associated documentation files (the
* "Software"), to deal in the Software without restriction, including
* without limitation the rights to use, copy, modify, merge, publish,
* distribute, sublicense, and/or sell copies of the Software, and to
* permit persons to whom the Software is furnished to do so, subject to
* the following conditions:
*
* The above copyright notice and this permission notice shall be
* included in all copies or substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
* EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
* MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
* IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
* CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
* TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH
 THE
* SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

========

License of OpenSSL

 LICENSE ISSUES
 ==============

 The OpenSSL toolkit stays under a dual license, i.e. both the conditions of
 the OpenSSL License and the original SSLeay license apply to the toolkit.
 See below for the actual license texts. Actually both licenses are BSD-style
 Open Source licenses. In case of any license issues related to OpenSSL

please contact openssl-core@openssl.org.

OpenSSL License
---

```
/* ====================================================================
* Copyright (c) 1998-2008 The OpenSSL Project.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce
 the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. All advertising materials mentioning features or use of this
*    software must display the following acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
*    endorse or promote products derived from this software without
*    prior written permission. For written permission, please contact
*    openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"
*    nor may "OpenSSL" appear in their names without prior written
*    permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the following
*    acknowledgment:
*    "This product includes
 software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit (http://www.openssl.org/)"
*
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS" AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
```

* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic
 software written by Eric Young
* (eay@cryptsoft.com).  This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/

Original SSLeay License
-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is
 used in a product, Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software

* must display the following acknowledgement:
* "This product includes cryptographic software written by
* Eric Young (eay@cryptsoft.com)"
* The word 'cryptographic'
can be left out if the rouines from the library
* being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
* the apps directory (application code) you must include an acknowledgement:
* "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed. i.e. this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/

========

License of libsvn and APR.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and
all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work"
shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion
in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise

designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation
against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution
notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any

risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge
a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or
class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

SUBVERSION SUBCOMPONENTS:

Subversion includes a number of subcomponents with separate copyright
notices and license terms. Your use of the source code for the these
subcomponents is subject to the terms and conditions of the following
licenses.

For
portions of the Python bindings test suite at
subversion/bindings/swig/python/tests/trac/:

I. Licensed to the Apache Software Foundation (ASF) under one
or more contributor license agreements. See the NOTICE file
distributed with this work for additional information
regarding copyright ownership. The ASF licenses this file
to you under the Apache License, Version 2.0 (the
"License"); you may not use this file except in compliance
with the License. You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing,
software distributed under the License is distributed on an
"AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
KIND, either express or implied. See the License for the
specific language governing permissions and limitations
under the License.

II. Copyright (C) 2003, 2004, 2005 Edgewall Software
Copyright (C) 2003, 2004, 2005 Jonas Borgstrm <jonas@edgewall.com>
Copyright (C) 2005 Christopher Lenz <cmlenz@gmx.de>

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright

notice, this list of conditions and the following disclaimer in the
the documentation and/or other materials provided with the
distribution.
3. The name of the author may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER
IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

========

License of WinPcap

Copyright (c) 1999 - 2005 NetGroup, Politecnico di Torino (Italy).
Copyright (c) 2005 - 2010 CACE Technologies, Davis (California).
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the
above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the Politecnico di Torino, CACE Technologies nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This product includes software developed by the University of California, Lawrence Berkeley Laboratory and its contributors.
This product includes software developed by the Kungliga Tekniska Hgskolan and its contributors.
This product includes software developed by Yen Yen Lim and North Dakota State University.

Further notices about software used by WinPcap are available at
http://www.winpcap.org/misc/copyright.htm.

========

License of LIBLINEAR

Copyright (c) 2007-2011 The LIBLINEAR Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice,
this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither name of copyright holders nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY
OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

========

License of Python

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby
grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce,
analyze, test, perform and/or display publicly, prepare derivative works,
distribute, and otherwise use Python alone or in any derivative version,
provided, however, that PSF's License Agreement and PSF's notice of copyright,
i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006,
2007, 2008, 2009 Python
Software Foundation; All Rights Reserved" are retained in Python alone or in any
derivative version prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY
DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

========

License of GLib

/* GLIB - Library of useful routines for C programming
* Copyright (C) 1995-1997  Peter Mattis, Spencer Kimball and Josh MacDonald
*
* This library is free software; you can redistribute it and/or
* modify it under the terms of the GNU Lesser General Public
* License as published by the Free Software Foundation; either
*
 version 2 of the License, or (at your option) any later version.
*
* This library is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of
* MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
* Lesser General Public License for more details.
*
* You should have received a copy of the GNU Lesser General Public
* License along with this library; if not, write to the
* Free Software Foundation, Inc., 59 Temple Place - Suite 330,
* Boston, MA 02111-1307, USA.
*/

/*
* Modified by the GLib Team and others 1997-2000.  See the AUTHORS
* file for a list of people on the GLib Team.  See the ChangeLog
* files for a list of changes.  These files are distributed with
* GLib at ftp://ftp.gtk.org/pub/gtk/.
*/

========

License of GTK+

/* GTK - The GIMP Toolkit
* Copyright (C) 1995-1997 Peter Mattis, Spencer Kimball and Josh MacDonald
*
* This library is free software; you can redistribute it and/or
* modify
 it under the terms of the GNU Lesser General Public
* License as published by the Free Software Foundation; either
* version 2 of the License, or (at your option) any later version.
*

* This library is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of
* MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
* Lesser General Public License for more details.
*
* You should have received a copy of the GNU Lesser General Public
* License along with this library; if not, write to the
* Free Software Foundation, Inc., 59 Temple Place - Suite 330,
* Boston, MA 02111-1307, USA.
*/

/*
* Modified by the GTK+ Team and others 1997-2000.  See the AUTHORS
* file for a list of people on the GTK+ Team.  See the ChangeLog
* files for a list of changes.  These files are distributed with
* GTK+ at ftp://ftp.gtk.org/pub/gtk/.
*/

========

License of ATK

/* ATK -  Accessibility Toolkit
* Copyright 2001 Sun Microsystems
 Inc.
*
* This library is free software; you can redistribute it and/or
* modify it under the terms of the GNU Library General Public
* License as published by the Free Software Foundation; either
* version 2 of the License, or (at your option) any later version.
*
* This library is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of
* MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
* Library General Public License for more details.
*
* You should have received a copy of the GNU Library General Public
* License along with this library; if not, write to the
* Free Software Foundation, Inc., 59 Temple Place - Suite 330,
* Boston, MA 02111-1307, USA.
*/

========

License of Pango

/* Pango
*

* Copyright (C) 1999 Red Hat Software
*
* This library is free software; you can redistribute it and/or
* modify it under the terms of the GNU Library General Public
* License as published by
 the Free Software Foundation; either
* version 2 of the License, or (at your option) any later version.
*
* This library is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of
* MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
* Library General Public License for more details.
*
* You should have received a copy of the GNU Library General Public
* License along with this library; if not, write to the
* Free Software Foundation, Inc., 59 Temple Place - Suite 330,
* Boston, MA 02111-1307, USA.
*/

========

License of X.Org libraries

The following is the 'standard copyright' agreed upon by most contributors,
and is currently the canonical license preferred by the X.Org Foundation.
This is a slight variant of the common MIT license form published by the
Open Source Initiative at http://www.opensource.org/licenses/mit-license.php

Copyright holders of new code should use this license statement where
possible,
 and insert their name to this list.  Please sort by surname
for people, and by the full name for other entities (e.g.  Juliusz
Chroboczek sorts before Intel Corporation sorts before Daniel Stone).

Copyright  2000-2001 Juliusz Chroboczek
Copyright  1998 Egbert Eich
Copyright  2006-2007 Intel Corporation
Copyright  2006 Nokia Corporation
Copyright  2006-2008 Peter Hutterer
Copyright  2006 Adam Jackson
Copyright  2009 NVIDIA Corporation
Copyright  1999 Keith Packard
Copyright  2007-2009 Red Hat, Inc.
Copyright  2005-2008 Daniel Stone
Copyright  2006-2009 Simon Thum
Copyright  1987, 2003-2006, 2008-2009 Sun Microsystems, Inc.
Copyright  2006 Luc Verhaegen

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software,
 and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice (including the next
paragraph) shall be included in all copies or substantial portions of the
Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

A number of other license notices in X.Org can be found at
http://cgit.freedesktop.org/xorg/xserver/tree/COPYING.

========

License of Cairo

Cairo is free software.

Every source file in the implementation[*] of cairo is available to be
redistributed and/or modified under
 the terms of either the GNU Lesser
General Public License (LGPL) version 2.1 or the Mozilla Public
License (MPL) version 1.1.  Some files are available under more
liberal terms, but we believe that in all cases, each file may be used
under either the LGPL or the MPL.

See the following files in this directory for the precise terms and
conditions of either license:

 COPYING-LGPL-2.1
 COPYING-MPL-1.1

Please see each file in the implementation for copyright and licensing
information, (in the opening comment of each file).

[*] The implementation of cairo is contained entirely within the "src"
directory of the cairo source distribution. There are other components

of the cairo source distribution (such as the "test", "util", and "perf")
that are auxiliary to the library itself. None of the source code in these
directories contributes to a build of the cairo library itself, (libcairo.so
or cairo.dll or similar).

These auxiliary components are also free software, but may be under
different
 license terms than cairo itself. For example, most of the
test cases in the perf and test directories are made available under
an MIT license to simplify any use of this code for reference purposes
in using cairo itself. Other files might be available under the GNU
General Public License (GPL), for example. Again, please see the COPYING
file under each directory and the opening comment of each file for copyright
and licensing information.

========

License of libgailutil

/* GAIL - The GNOME Accessibility Implementation Library
* Copyright 2001 Sun Microsystems Inc.
*
* This library is free software; you can redistribute it and/or
* modify it under the terms of the GNU Library General Public
* License as published by the Free Software Foundation; either
* version 2 of the License, or (at your option) any later version.
*
* This library is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of
* MERCHANTABILITY or
 FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
* Library General Public License for more details.
*
* You should have received a copy of the GNU Library General Public
* License along with this library; if not, write to the
* Free Software Foundation, Inc., 59 Temple Place - Suite 330,
* Boston, MA 02111-1307, USA.
*/

========

License of libpng

/*
* libpng version 1.2.44 - June 26, 2010
* Copyright (c) 1998-2010 Glenn Randers-Pehrson
* (Version 0.96 Copyright (c) 1996, 1997 Andreas Dilger)
* (Version 0.88 Copyright (c) 1995, 1996 Guy Eric Schalnat, Group 42, Inc.)

```
*
* This code is released under the libpng license (See LICENSE, below)
*/

/*
* COPYRIGHT NOTICE, DISCLAIMER, and LICENSE:
*
* If you modify libpng you may insert additional notices immediately following
* this sentence.
*
* This code is released under the libpng license.
*
* libpng versions 1.2.6, August 15, 2004, through 1.2.44, June 26, 2010, are
* Copyright (c) 2004, 2006-2010 Glenn Randers-Pehrson,
 and are
* distributed according to the same disclaimer and license as libpng-1.2.5
* with the following individual added to the list of Contributing Authors:
*
*    Cosmin Truta
*
* libpng versions 1.0.7, July 1, 2000, through 1.2.5, October 3, 2002, are
* Copyright (c) 2000-2002 Glenn Randers-Pehrson, and are
* distributed according to the same disclaimer and license as libpng-1.0.6
* with the following individuals added to the list of Contributing Authors:
*
*    Simon-Pierre Cadieux
*    Eric S. Raymond
*    Gilles Vollant
*
* and with the following additions to the disclaimer:
*
*    There is no warranty against interference with your enjoyment of the
*    library or against infringement.  There is no warranty that our
*    efforts or the library will fulfill any of your particular purposes
*    or needs.  This library is provided with all faults, and the entire
*    risk of satisfactory quality, performance, accuracy, and effort is with
*    the user.
 *
* libpng versions 0.97, January 1998, through 1.0.6, March 20, 2000, are
* Copyright (c) 1998, 1999, 2000 Glenn Randers-Pehrson, and are
* distributed according to the same disclaimer and license as libpng-0.96,
* with the following individuals added to the list of Contributing Authors:
*
*    Tom Lane
*    Glenn Randers-Pehrson
*    Willem van Schaik
*
* libpng versions 0.89, June 1996, through 0.96, May 1997, are
```

* Copyright (c) 1996, 1997 Andreas Dilger
* Distributed according to the same disclaimer and license as libpng-0.88,
* with the following individuals added to the list of Contributing Authors:
*
*    John Bowler
*    Kevin Bracey
*    Sam Bushell
*    Magnus Holmgren
*    Greg Roelofs
*    Tom Tanner
*
* libpng versions 0.5, May 1995, through 0.88, January 1996, are
* Copyright (c) 1995, 1996 Guy Eric Schalnat, Group 42, Inc.
*
* For the purposes of this copyright and license, "Contributing Authors"
* is defined as the following set of individuals:
 *
*    Andreas Dilger
*    Dave Martindale
*    Guy Eric Schalnat
*    Paul Schmidt
*    Tim Wegner
*
* The PNG Reference Library is supplied "AS IS".  The Contributing Authors
* and Group 42, Inc. disclaim all warranties, expressed or implied,
* including, without limitation, the warranties of merchantability and of
* fitness for any purpose.  The Contributing Authors and Group 42, Inc.
* assume no liability for direct, indirect, incidental, special, exemplary,
* or consequential damages, which may result from the use of the PNG
* Reference Library, even if advised of the possibility of such damage.
*
* Permission is hereby granted to use, copy, modify, and distribute this
* source code, or portions hereof, for any purpose, without fee, subject
* to the following restrictions:
*
* 1. The origin of this source code must not be misrepresented.
*
* 2. Altered versions must be plainly marked as such and
* must not be misrepresented as being the original source.
 *
* 3. This Copyright notice may not be removed or altered from
*    any source or altered source distribution.
*
* The Contributing Authors and Group 42, Inc. specifically permit, without
* fee, and encourage the use of this source code as a component to
* supporting the PNG file format in commercial products.  If you use this
* source code in a product, acknowledgment is not required but would be
* appreciated.

*/

========

License of jpeg

In plain English:

1. We don't promise that this software works. (But if you find any bugs,
please let us know!)
2. You can use this software for whatever you want. You don't have to pay us.
3. You may not pretend that you wrote this software. If you use it in a
program, you must acknowledge somewhere in your documentation that
you've used the IJG code.

In legalese:

The authors make NO WARRANTY or representation, either express or implied,
with respect to this software, its quality, accuracy, merchantability, or
fitness for
a particular purpose. This software is provided "AS IS", and you,
its user, assume the entire risk as to its quality and accuracy.

This software is copyright (C) 1991-2010, Thomas G. Lane, Guido Vollbeding.
All Rights Reserved except as specified below.

Permission is hereby granted to use, copy, modify, and distribute this
software (or portions thereof) for any purpose, without fee, subject to these
conditions:
(1) If any part of the source code for this software is distributed, then this
README file must be included, with this copyright and no-warranty notice
unaltered; and any additions, deletions, or changes to the original files
must be clearly indicated in accompanying documentation.
(2) If only executable code is distributed, then the accompanying
documentation must state that "this software is based in part on the work of
the Independent JPEG Group".
(3) Permission for use of this software is granted only if the user accepts
full responsibility for any undesirable consequences;
the authors accept
NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code,
not just to the unmodified library. If you use our work, you ought to
acknowledge us.

Permission is NOT granted for the use of any IJG author's name or company name
in advertising or publicity relating to this software or products derived from
it. This software may be referred to only as "the Independent JPEG Group's

software".

We specifically permit and encourage the use of this software as the basis of
commercial products, provided that all warranty or liability claims are
assumed by the product vendor.

========

License of LibTIFF

Copyright (c) 1988-1997 Sam Leffler
Copyright (c) 1991-1997 Silicon Graphics, Inc.

Permission to use, copy, modify, distribute, and sell this software and
its documentation for any purpose is hereby granted without fee, provided
that (i) the above copyright notices and this permission notice appear in
all copies
of the software and related documentation, and (ii) the names of
Sam Leffler and Silicon Graphics may not be used in any advertising or
publicity relating to the software without the specific, prior written
permission of Sam Leffler and Silicon Graphics.

THE SOFTWARE IS PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND,
EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY
WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL SAM LEFFLER OR SILICON GRAPHICS BE LIABLE FOR
ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND,
OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER OR NOT ADVISED OF THE POSSIBILITY OF DAMAGE, AND ON ANY THEORY OF
LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE
OF THIS SOFTWARE.

========

License of zlib

(C) 1995-2010 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event
will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

========

License of bzip2

This program, "bzip2", the associated library "libbzip2", and all
documentation, are copyright (C) 1996-2010 Julian R Seward. All
rights
reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must
not claim that you wrote the original software. If you use this
software in a product, an acknowledgment in the product
documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must
not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS" AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,

WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, jseward@bzip.org
bzip2/libbzip2 version 1.0.6 of 6 September 2010

========

License of Expat

Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd
and Clark Cooper
Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006 Expat maintainers.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software
without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

========

License of fontconfig

Copyright  2001,2003 Keith Packard

Permission to use, copy, modify, distribute, and sell this software and its
documentation
for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the name of Keith Packard not be used in
advertising or publicity pertaining to distribution of the software without

specific, written prior permission. Keith Packard makes no
representations about the suitability of this software for any purpose. It
is provided "as is" without express or implied warranty.

THE AUTHOR(S) DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO
EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

========

License
of FreeType

The FreeType 2 font engine is copyrighted work and cannot be used
legally without a software license. In order to make this project
usable to a vast majority of developers, we distribute it under two
mutually exclusive open-source licenses.

This means that *you* must choose *one* of the two licenses described
below, then obey all its terms and conditions when using FreeType 2 in
any of your projects or products.

- The FreeType License, found in the file `FTL.TXT', which is similar
to the original BSD license *with* an advertising clause that forces
you to explicitly cite the FreeType project in your product's
documentation. All details are in the license file. This license
is suited to products which don't use the GNU General Public
License.

- The GNU General Public License version 2, found in `GPL.TXT' (any
later version can be used also), for programs which already use the
GPL.
Note that the FTL is incompatible with the GPL due to its
advertisement clause.

The contributed BDF and PCF drivers come with a license similar to that
of the X Window System. It is compatible to the above two licenses (see
file src/bdf/README and src/pcf/README).

The gzip module uses the zlib license (see src/gzip/zlib.h) which too is
compatible to the above two licenses.

--- FTL.TXT ---

The FreeType Project LICENSE
---

2006-Jan-27

Copyright 1996-2002, 2006 by
David Turner, Robert Wilhelm, and Werner Lemberg

## Introduction

The FreeType Project is distributed in several archive packages; some of them may contain, in addition to the FreeType font engine, various tools and contributions which rely on, or relate to, the FreeType Project.

This license applies to all files found in such packages, and which do not fall
under their own explicit license. The license
affects thus the FreeType font engine, the test programs, documentation and makefiles, at the very least.

This license was inspired by the BSD, Artistic, and IJG (Independent JPEG Group) licenses, which all encourage inclusion and use of free software in commercial and freeware products alike. As a consequence, its main points are that:

- We don't promise that this software works. However, we will be interested in any kind of bug reports. (`as is' distribution)

- You can use this software for whatever you want, in parts or full form, without having to pay us. (`royalty-free' usage)

- You may not pretend that you wrote this software. If you use it, or only parts of it, in a program, you must acknowledge somewhere in your documentation that you have used the FreeType code. (`credits')

We specifically permit and encourage the inclusion
of this
software, with or without modifications, in commercial products. We disclaim all warranties covering The FreeType Project and assume no liability related to The FreeType Project.

Finally, many people asked us for a preferred form for a

credit/disclaimer to use in compliance with this license. We thus encourage you to use the following text:

"""
Portions of this software are copyright <year> The FreeType Project (www.freetype.org). All rights reserved.
"""

Please replace <year> with the value from the FreeType version you actually use.

Legal Terms
==========

0. Definitions
---

Throughout this license, the terms `package', `FreeType Project', and `FreeType archive' refer to the set of files originally distributed by the authors (David Turner, Robert Wilhelm, and Werner Lemberg) as the `FreeType Project', be they named as alpha, beta or final release.

`You' refers to the licensee, or person using the project, where `using' is a generic term including compiling the project's source code as well as linking it to form a `program' or `executable'. This program is referred to as `a program using the FreeType engine'.

This license applies to all files distributed in the original FreeType Project, including all source code, binaries and documentation, unless otherwise stated in the file in its original, unmodified form as distributed in the original archive. If you are unsure whether or not a particular file is covered by this license, you must contact us to verify this.

The FreeType Project is copyright (C) 1996-2000 by David Turner, Robert Wilhelm, and Werner Lemberg. All rights reserved except as specified below.

1. No Warranty
---

THE FREETYPE PROJECT IS PROVIDED `AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES

OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL ANY OF THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY DAMAGES CAUSED BY THE USE OR THE INABILITY TO USE, OF THE FREETYPE PROJECT.

2. Redistribution

---

This license grants a worldwide, royalty-free, perpetual and irrevocable right and license to use, execute, perform, compile, display, copy, create derivative works of, distribute and sublicense the FreeType Project (in both source and object code forms) and derivative works thereof for any purpose; and to authorize others to exercise some or all of the rights granted herein, subject to the following conditions:

- Redistribution of source code must retain this license file (`FTL.TXT') unaltered; any additions, deletions or changes to the original files must be clearly indicated in accompanying documentation. The copyright notices of the unaltered, original files must be preserved in all copies of source files.

- Redistribution in binary form must provide a disclaimer that states that the software is based in part of the work of the FreeType Team, in the distribution documentation. We also encourage you to put an URL to the FreeType web page in your documentation, though this isn't mandatory.

These conditions apply to any software derived from or based on the FreeType Project, not just the unmodified files. If you use our work, you must acknowledge us. However, no fee need be paid to us.

3. Advertising

---

Neither the FreeType authors and contributors nor you shall use the name of the other for commercial, advertising, or promotional purposes without specific prior written permission.

We suggest, but do not require, that you use one or more of the following phrases to refer to this software in your documentation or advertising
materials: `FreeType Project', `FreeType Engine', `FreeType library', or `FreeType Distribution'.

As you have not signed this license, you are not required to

accept it. However, as the FreeType Project is copyrighted material, only this license, or another one contracted with the authors, grants you the right to use, distribute, and modify it. Therefore, by using, distributing, or modifying the FreeType Project, you indicate that you understand and accept all the terms of this license.

4. Contacts
---

There are two mailing lists related to FreeType:

o freetype@nongnu.org

Discusses general use and applications of FreeType, as well as future and wanted additions to the library and distribution. If you are looking for support, start in this list if you haven't found anything to help you in the documentation.

o freetype-devel@nongnu.org

Discusses bugs, as well as engine internals, design issues, specific licenses, porting, etc.

Our home page can be found at

http://www.freetype.org

--- end of FTL.TXT ---

========

License of libiconv

The libiconv and libcharset _libraries_ and their header files are under LGPL, see file COPYING.LIB.

The iconv _program_ and the documentation are under GPL, see file COPYING.

========

License of libintl

The gettext-runtime package is partially under the LGPL and partially under the GPL.

The following parts are under the LGPL, see files intl/COPYING.LIB-2.0 and
intl/COPYING.LIB-2.1:
 - the libintl and libasprintf libraries and their header files,
 - the libintl.jar Java library,
 - the GNU.Gettext.dll C# library,
 - the gettext.sh shells script function library.

The following parts are under the GPL, see file COPYING in the toplevel
directory:
 - the _programs_ gettext, ngettext, envsubst,
 - the documentation.

========

License of PyGTK

# pygtk - Python bindings for the GTK toolkit.
# Copyright
 (C) 1998-2003  James Henstridge
#              2004-2006  Johan Dahlin
#
# This library is free software; you can redistribute it and/or
# modify it under the terms of the GNU Lesser General Public
# License as published by the Free Software Foundation; either
# version 2.1 of the License, or (at your option) any later version.
#
# This library is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even the implied warranty of
# MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
# Lesser General Public License for more details.
#
# You should have received a copy of the GNU Lesser General Public
# License along with this library; if not, write to the Free Software
# Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301
# USA

========

License of libxml2

Except where otherwise noted in the source code (e.g. the files hash.c,
list.c and the trio files, which are covered by a similar licence but
with different Copyright
 notices) all the files are:

Copyright (C) 1998-2003 Daniel Veillard.  All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy

of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is fur-
nished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE DANIEL VEILLARD BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CON-
NECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of Daniel Veillard shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from him.

========

License of SQLite

The author disclaims copyright to this source code. In place of
a legal notice, here is a blessing:
May you do good and not evil.
May you find forgiveness for yourself and forgive others.
May you share freely, never taking more than you give.

========

License of PyGObject

# pygobject - Python bindings for the GObject library
# Copyright (C) 2006-2008 Johan Dahlin
#
# glib/__init__.py: initialisation file for glib module
#
# This library is free software; you can redistribute it and/or
# modify it under the terms of the GNU Lesser General Public
# License as published by the Free Software Foundation; either
# version
2.1 of the License, or (at your option) any later version.
#
# This library is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even the implied warranty of

# MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
# Lesser General Public License for more details.
#
# You should have received a copy of the GNU Lesser General Public
# License along with this library; if not, write to the Free Software
# Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301
# USA

========

License of PyCairo

PyCairo is free software.

Every source file in the implementation of PyCairo is available to be
redistributed and/or modified under the terms of either the GNU Lesser
General Public License (LGPL) version 2.1 or the Mozilla Public
License (MPL) version 1.1.  Some files are available under more
liberal terms, but we believe that in all cases, each file may be used
under either the LGPL or the MPL.

See the following files in this directory
 for the precise terms and
conditions of either license:

 COPYING-LGPL-2.1
 COPYING-MPL-1.1

Please see each file in the implementation for Copyright and licensing
information.
/* Copyright (c) 2004-2007 Sara Golemon <sarag@libssh2.org>
* Copyright (c) 2005,2006 Mikhail Gusarov <dottedmag@dottedmag.net>
* Copyright (c) 2006-2007 The Written Word, Inc.
* Copyright (c) 2007 Eli Fant <elifantu@mail.ru>
* Copyright (c) 2009-2014 Daniel Stenberg
* Copyright (C) 2008, 2009 Simon Josefsson
* All rights reserved.
*
* Redistribution and use in source and binary forms,
* with or without modification, are permitted provided
* that the following conditions are met:
*
*   Redistributions of source code must retain the above
*   copyright notice, this list of conditions and the
*   following disclaimer.
*
*   Redistributions in binary form must reproduce the above
*   copyright notice, this list of conditions and the following

```
*   disclaimer in the documentation and/or other materials
*   provided with the distribution.
*
*   Neither the name of the copyright holder nor the names
*   of any other contributors may be used to endorse or
*   promote products
 derived from this software without
*   specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
* CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
* INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR
* CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
* BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
* SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
* WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
* NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
* USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
* OF SUCH DAMAGE.
*/

 LICENSE ISSUES
 ==============

 The OpenSSL toolkit stays under a dual license, i.e. both the conditions of
 the OpenSSL License and the original SSLeay license apply to the toolkit.
 See below for the actual license texts.

 OpenSSL License
 ---------------

/* ====================================================================
* Copyright (c) 1998-2016 The OpenSSL Project.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
```

```
*    distribution.
*
* 3. All advertising materials mentioning features or use of
 this
*    software must display the following acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
*    endorse or promote products derived from this software without
*    prior written permission. For written permission, please contact
*    openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"
*    nor may "OpenSSL" appear in their names without prior written
*    permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the following
*    acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit (http://www.openssl.org/)"
*
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
 TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com).  This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/
```

Original SSLeay License

---

```
/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
```

* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
*     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can be left out if the rouines from the library
*    being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must
include an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY

* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed.  i.e.
 this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/
Copyright  19942016 Lua.org, PUC-Rio.
Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH
 THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Ncat is distributed under the same license terms as Nmap.  See the
COPYING file in the Nmap tarball, the man page legal section, or
https://nmap.org/man/man-legal.html .
COPYING -- Describes the terms under which HIGWIDGETS is distributed.  A copy
of the GNU LGPL is appended to this file.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301, USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public

Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a

restrictive license from a patent holder.  Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License.  This license, the GNU Lesser
General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License.  We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative
of the original library.  The ordinary
General Public License therefore permits such linking only if the
entire combination fits its criteria of freedom.  The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General
Public License.  It also provides other free software developers Less
of an advantage over competing non-free programs.  These disadvantages
are the reason we use the ordinary General Public License for many
libraries.  However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard.  To achieve this, non-free programs must be
allowed to use the library.  A more frequent case is that a free
library does the same job as widely
used non-free libraries.  In this
case, there is little to gain by limiting the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free
programs enables a greater number of people to use a large body of
free software.  For example, permission to use the GNU C Library in
non-free programs enables many more people to use the whole GNU
operating system, as well as its variant, the GNU/Linux operating
system.

Although the Lesser General Public License is Less protective of the
users' freedom, it does ensure that the user of a program that is
linked with the Library has the freedom and the wherewithal to run
that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an

appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote

it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope
of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections
1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked

with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying
library functions into the executable, and (2)
will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the
materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined

library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you

may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free

programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software
Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE
THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each
source file to most effectively
convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street,
Fifth Floor, Boston, MA 02110-1301, USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

/****************************************************************************
* COPYING -- Describes the terms under which Nmap is distributed. *
* *
**********IMPORTANT NMAP LICENSE TERMS**********
* *
* The Nmap Security Scanner is (C) 1996-2019 Insecure.Com LLC ("The Nmap *
* Project"). Nmap is also a registered trademark of the Nmap Project. *
* This program is free software; you may redistribute and/or modify it *
* under the terms of the GNU General Public License as published by the *
* Free Software Foundation; Version 2 ("GPL"), BUT ONLY WITH ALL OF THE *
* CLARIFICATIONS AND EXCEPTIONS DESCRIBED HEREIN. This guarantees your *
* right to use, modify, and redistribute this software under certain *
* conditions. If you wish to embed Nmap technology into proprietary *
* software, we sell alternative licenses (contact sales@nmap.com). *
* Dozens of software vendors already license Nmap technology such as *

* host discovery, port scanning, OS detection, version detection, and *
* the Nmap Scripting Engine. *
* *
* Note that the GPL places important restrictions on "derivative works", *
* yet it does not provide a detailed definition of that term. To avoid *
* misunderstandings, we interpret that term as broadly as copyright law *
* allows. For example, we consider an application to constitute a *
* derivative work for the purpose of this license if it does any of the *
* following with any software or content covered by this license *
* ("Covered Software"): *
*
*
* o Integrates source code from Covered Software. *
* *
* o Reads or includes copyrighted data files, such as Nmap's nmap-os-db *
* or nmap-service-probes. *
* *
* o Is designed specifically to execute Covered Software and parse the *
* results (as opposed to typical shell or execution-menu apps, which will *
* execute anything you tell them to). *
* *
* o Includes Covered Software in a proprietary executable installer. The *
* installers produced by InstallShield are an example of this. Including *
* Nmap with other software in compressed or archival form does not *
* trigger this provision, provided appropriate open source decompression
*
* or de-archiving software is widely available for no charge. For the *
* purposes of this license, an installer is considered to include Covered *
* Software even if it actually retrieves a copy of Covered Software from *
* another source during runtime (such as by downloading it from the *
* Internet). *
* *
* o Links (statically or dynamically) to a library which does any of the *
* above. *
* *
* o Executes a helper program, module, or script to do any of the above. *
* *
* This list is not exclusive, but is meant to clarify our interpretation *
* of derived works with some common examples. Other people may interpret
*
* the plain GPL differently, so we consider this a special exception to *
* the GPL that we apply to Covered Software. Works which meet any of *
* these conditions must conform to all of the terms of this license, *
* particularly including the GPL Section 3 requirements of providing *
* source code and allowing free redistribution of the work as a whole. *
* *
* As another special exception to the GPL terms, the Nmap Project grants *
* permission to link the code of this program with any version of the *

* OpenSSL library which is distributed under a license identical to that *
* listed in the included docs/licenses/OpenSSL.txt file, and distribute *
* linked combinations including the two. *
* *
* The Nmap Project has permission to redistribute Npcap, a packet *
* capturing driver and library for the Microsoft Windows platform. *
* Npcap is a separate work with it's own license rather than this Nmap *
* license. Since the Npcap license does not permit redistribution *
* without special permission, our Nmap Windows binary packages which *
* contain Npcap may not be redistributed without special permission. *
* *
* Any redistribution of Covered Software, including any derived works, *
* must obey and carry forward all of the terms of this license, including *
* obeying all GPL rules and restrictions. For example, source code of *
* the whole work must be provided and free redistribution must be *
* allowed. All GPL references to "this License", are to be treated as *
* including the terms and conditions of this license text as well. *
*
*
* Because this license imposes special exceptions to the GPL, Covered *
* Work may not be combined (even as part of a larger work) with plain GPL *
* software. The terms, conditions, and exceptions of this license must *
* be included as well. This license is incompatible with some other open *
* source licenses as well. In some cases we can relicense portions of *
* Nmap or grant special permissions to use it in other open source *
* software. Please contact fyodor@nmap.org with any such requests. *
* Similarly, we don't incorporate incompatible open source software into *
* Covered Software without special permission from the copyright holders. *
* *
* If you have any questions about the licensing restrictions on using *
* Nmap in other works, we are happy to help. As mentioned above, we also *
* offer an alternative license to integrate Nmap into proprietary *
* applications and appliances. These contracts have been sold to dozens *
* of software vendors, and generally include a perpetual license as well *
* as providing support and updates. They also fund the continued *
* development of Nmap. Please email sales@nmap.com for further *
* information. *
* *
* If you have received a written license agreement or contract for *
* Covered Software stating terms other than these, you may choose to use *
* and redistribute Covered Software under those terms instead of these. *
* *
* Source is provided to this software because we believe users have a *
* right to know exactly what a program is going to do before they run it. *
* This also allows you to audit the software for security holes.

```
      *
*                                                                           *
* Source code also allows you to port Nmap to new platforms, fix bugs,     *
* and add new features.  You are highly encouraged to send your changes    *
* to the dev@nmap.org mailing list for possible incorporation into the     *
* main distribution.  By sending these changes to Fyodor or one of the     *
* Insecure.Org development mailing lists, or checking them into the Nmap   *
* source code repository, it is understood (unless you specify             *
* otherwise) that you are offering the Nmap Project the unlimited,         *
* non-exclusive right to reuse, modify, and relicense the code.  Nmap      *
* will always be available Open Source, but this is important because      *
* the inability to relicense code has caused devastating problems for      *
* other Free Software projects (such as KDE and NASM).  We also            *
* occasionally relicense the code to third parties as discussed above.
   *
* If you wish to specify special license conditions of your                *
* contributions, just say so when you send them.                           *
*                                                                           *
* This program is distributed in the hope that it will be useful, but      *
* WITHOUT ANY WARRANTY; without even the implied warranty of               *
* MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the Nmap       *
* license file for more details (it's in a COPYING file included with      *
* Nmap, and also available from https://svn.nmap.org/nmap/COPYING)         *
*                                                                           *
***************************************************************************/
```

GNU General Public License

---

Table of Contents


* GNU GENERAL PUBLIC LICENSE
    - Preamble
    - TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION
    - How to Apply These Terms to Your New Programs


---

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA  02111-1307, USA

Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your
programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with
two steps: (1) copyright the software, and (2)
offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

* a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

* b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

* c) If the modified program normally reads commands interactively when
  run, you must cause it, when started running for such interactive use
  in the most ordinary way, to print or display an announcement including
  an appropriate copyright notice and a notice that there is no warranty
  (or else, saying that you provide a warranty) and that users may
  redistribute the program under these conditions, and telling the user
  how to view a copy of this License. (Exception: if the Program itself
  is interactive but does not normally print such an announcement, your
  work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections
 of that work are not derived from the Program, and can be
reasonably considered independent and separate works in themselves, then
this License, and its terms, do not apply to those sections when you
distribute them as separate works. But when you distribute the same sections
as part of a whole which is a work based on the Program, the distribution of
the whole must be on the terms of this License, whose permissions for other
licensees extend to the entire whole, and thus to each and every part
regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your
rights to work written entirely by you; rather, the intent is to exercise
the right to control the distribution of derivative or collective works
based on the Program.

In addition, mere aggregation of another work not based on the Program with
the Program (or with a work based on the Program) on a volume of a storage
or distribution medium does not bring the other work under the scope of
 this
License.

3. You may copy and distribute the Program (or a work based on it, under
Section 2) in object code or executable form under the terms of Sections 1
and 2 above provided that you also do one of the following:

* a) Accompany it with the complete corresponding machine-readable source
  code, which must be distributed under the terms of Sections 1 and 2
  above on a medium customarily used for software interchange; or,

* b) Accompany it with a written offer, valid for at least three years,
  to give any third party, for a charge no more than your cost of
  physically performing source distribution, a complete machine-readable
  copy of the corresponding source code, to be distributed under the
  terms of Sections 1 and 2 above on a medium customarily used for
  software interchange; or,

* c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for
noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution
of the source code,
even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing
or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent

infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at
all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor
to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing
version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions

either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM,
TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM
TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright"

line and a pointer to where the full notice is found.

one line to give the program's name and an idea of what it does.
Copyright (C) 19yy  name of author

This program is free software; you can redistribute it and/or
modify it under the terms of the GNU General Public License
as published by the Free Software Foundation; either version 2
of the License,
 or (at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA  02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when
it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details
type `show w'.  This is free software, and you are welcome
to redistribute it under certain conditions; type `show c'
for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the
 General Public License. Of course, the commands you use may be
called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright
interest in the program `Gnomovision'
(which makes passes at compilers) written
by James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General Public
License instead of this License.
Copyright 2008 Insecure.Com LLC
Ndiff is distributed under the same license as Nmap. See the file COPYING in
the Nmap source distribution or https://nmap.org/data/COPYING. See
https://nmap.org/book/man-legal.html for more details.
Copyright (c) <year> <copyright holders>

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library GPL. It is
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some
specially designated Free Software Foundation software, and to any
other libraries whose authors decide to use it. You can use it for
your libraries, too.

When we speak of free software, we are referring
to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if
you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link a program with the library, you must provide
complete object files to the recipients so that they can relink them
with the library, after making
changes to the library and recompiling
it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright
the library, and (2) offer you this license which gives you legal
permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain
that everyone understands that there is no warranty for this free
library. If the library is modified by someone else and passed on, we
want its recipients to know that what they have is not the original
version, so that any problems introduced by others will not reflect on
the original authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that companies distributing free
software will individually obtain patent licenses, thus in effect
transforming the program into proprietary software. To prevent this,
we have made it clear that any patent must
be licensed for everyone's
free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary
GNU General Public License, which was designed for utility programs. This

license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a
"work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work

must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do

this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code
of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative
work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy

from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not

signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions
for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not
distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system;
it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to

be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY

AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE
OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>
<name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Library General Public
License as published by the Free Software Foundation; either
version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Library General Public License for more details.

You should have received a copy of the GNU Library General Public
License along with this library; if not, write to the
Free Software Foundation, Inc., 59 Temple Place - Suite 330,
Boston, MA 02111-1307 USA.

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if

necessary.
Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
License: BSD

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
   the documentation and/or other materials provided with the
   distribution.
3. The names of the authors may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu
PCRE LICENCE
---

PCRE is a library of functions to support regular expressions whose syntax and semantics are as close as possible to those of the Perl 5 language.

Release 7 of PCRE is distributed under the terms of the "BSD" licence, as specified below. The documentation for PCRE, supplied in the "doc" directory, is distributed under the same terms as the software itself.

The basic library functions are written in C and are freestanding. Also included in the distribution is a set of C++ wrapper functions.

THE BASIC LIBRARY FUNCTIONS
---

Written by: Philip Hazel
Email local part: ph10
Email domain: cam.ac.uk

University of Cambridge Computing Service,
Cambridge, England.

Copyright (c) 1997-2008 University of Cambridge
All rights reserved.

THE C++ WRAPPER FUNCTIONS
---

Contributed by: Google Inc.

Copyright (c) 2007-2008, Google Inc.
All rights reserved.

THE "BSD" LICENCE
---

Redistribution and
use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of the University of Cambridge nor the name of Google
Inc. nor the names of their contributors may be used to endorse or
promote products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

End

/***************************************************************************
* COPYING -- Describes the terms under which Nmap is distributed. A copy *
* of the GNU GPL is appended to this file. *
* *
**********IMPORTANT NMAP LICENSE TERMS**********
* *
* The Nmap Security Scanner is (C) 1996-2019 Insecure.Com LLC ("The Nmap *
* Project"). Nmap is also a registered trademark of the Nmap Project. *
* This program is free software; you may redistribute and/or modify it *
* under the terms of the GNU General Public License as published by the *
* Free Software Foundation; Version 2 ("GPL"), BUT ONLY WITH ALL OF THE *
* CLARIFICATIONS AND EXCEPTIONS DESCRIBED HEREIN. This guarantees your *
* right to use, modify, and redistribute this software under certain *
* conditions. If you wish to embed Nmap technology into proprietary *
* software, we sell alternative licenses (contact sales@nmap.com). *
* Dozens of software vendors already license Nmap technology such as *
* host discovery, port scanning, OS detection, version detection, and *
* the Nmap Scripting Engine. *
* *
* Note that the GPL places important restrictions on "derivative works", *
* yet it does not provide a detailed definition of that term. To avoid *
* misunderstandings, we interpret that term as broadly as copyright law *
* allows. For example, we consider an application to constitute a *

* derivative work for the purpose of this license if it does any of the *
* following with any software or content covered by this license *
* ("Covered Software"):
*
*
* o Integrates source code from Covered Software. *
*
* o Reads or includes copyrighted data files, such as Nmap's nmap-os-db *
* or nmap-service-probes. *
*
* o Is designed specifically to execute Covered Software and parse the *
* results (as opposed to typical shell or execution-menu apps, which will *
* execute anything you tell them to). *
*
* o Includes Covered Software in a proprietary executable installer. The *
* installers produced by InstallShield are an example of this. Including *
* Nmap with other software in compressed or archival form does not
*
* trigger this provision, provided appropriate open source decompression *
* or de-archiving software is widely available for no charge. For the *
* purposes of this license, an installer is considered to include Covered *
* Software even if it actually retrieves a copy of Covered Software from *
* another source during runtime (such as by downloading it from the *
* Internet). *
*
* o Links (statically or dynamically) to a library which does any of the *
* above. *
*
* o Executes a helper program, module, or script to do any of the above. *
*
* This list is not exclusive, but is meant to clarify our interpretation
*
* of derived works with some common examples. Other people may interpret *
* the plain GPL differently, so we consider this a special exception to *
* the GPL that we apply to Covered Software. Works which meet any of *
* these conditions must conform to all of the terms of this license, *
* particularly including the GPL Section 3 requirements of providing *
* source code and allowing free redistribution of the work as a whole. *
*
* As another special exception to the GPL terms, the Nmap Project grants *
* permission to link the code of this program with any version of the *
* OpenSSL library which is distributed under a license identical to that *
* listed in the included docs/licenses/OpenSSL.txt file, and distribute *
* linked combinations including the two. *
*
*
* The Nmap Project has permission to redistribute Npcap, a packet *
* capturing driver and library for the Microsoft Windows platform. *

* Npcap is a separate work with it's own license rather than this Nmap *
* license. Since the Npcap license does not permit redistribution *
* without special permission, our Nmap Windows binary packages which *
* contain Npcap may not be redistributed without special permission. *
* *
* Any redistribution of Covered Software, including any derived works, *
* must obey and carry forward all of the terms of this license, including *
* obeying all GPL rules and restrictions. For example, source code of *
* the whole work must be provided and free redistribution must be *
* allowed. All GPL references to "this License", are to be treated as *
* including the terms and conditions of this license text as well. *
* *
* Because this license imposes special exceptions to the GPL, Covered *
* Work may not be combined (even as part of a larger work) with plain GPL *
* software. The terms, conditions, and exceptions of this license must *
* be included as well. This license is incompatible with some other open *
* source licenses as well. In some cases we can relicense portions of *
* Nmap or grant special permissions to use it in other open source *
* software. Please contact fyodor@nmap.org with any such requests. *
* Similarly, we don't incorporate incompatible open source software into *
* Covered Software without special permission from the copyright holders. *
* *
* If you have any questions about the licensing restrictions on using *
* Nmap in other works, we are happy to help. As mentioned above, we
also *
* offer an alternative license to integrate Nmap into proprietary *
* applications and appliances. These contracts have been sold to dozens *
* of software vendors, and generally include a perpetual license as well *
* as providing support and updates. They also fund the continued *
* development of Nmap. Please email sales@nmap.com for further *
* information. *
* *
* If you have received a written license agreement or contract for *
* Covered Software stating terms other than these, you may choose to use *
* and redistribute Covered Software under those terms instead of these. *
* *
* Source is provided to this software because we believe users have a *
* right to know exactly what a program is going to do before they run
it. *
* This also allows you to audit the software for security holes. *
* *
* Source code also allows you to port Nmap to new platforms, fix bugs, *
* and add new features. You are highly encouraged to send your changes *
* to the dev@nmap.org mailing list for possible incorporation into the *
* main distribution. By sending these changes to Fyodor or one of the *
* Insecure.Org development mailing lists, or checking them into the Nmap *
* source code repository, it is understood (unless you specify *

* otherwise) that you are offering the Nmap Project the unlimited, *
* non-exclusive right to reuse, modify, and relicense the code. Nmap *
* will always be available Open Source, but this is important because *
* the inability to relicense code has caused devastating problems for *
* other Free Software projects (such as KDE and NASM). We also *
* occasionally relicense the code to third parties as discussed above. *
* If you wish to specify special license conditions of your *
* contributions, just say so when you send them. *
* *
* This program is distributed in the hope that it will be useful, but *
* WITHOUT ANY WARRANTY; without even the implied warranty of *
* MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the Nmap *
* license file for more details (it's in a COPYING file included with *
* Nmap, and also available from https://svn.nmap.org/nmap/COPYING) *
* *
***************************************************************************/

GNU General Public License

---

Table of Contents


* GNU GENERAL
PUBLIC LICENSE
  - Preamble
  - TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION
  - How to Apply These Terms to Your New Programs


---

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991


Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA 02111-1307, USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.


Preamble

The licenses for most software are designed to take away your freedom to
share and change it. By contrast, the GNU General Public License is intended
to guarantee your freedom to share and change free software--to make sure
the software is free for all its users. This General Public License applies

to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered
by the GNU Library General Public License instead.) You
can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must
show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution
and modification
follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice

placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

* a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

* b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

* c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your

work based on the Program is not required to print an announcement.)

These
requirements apply to the modified work as a whole. If identifiable
sections of that work are not derived from the Program, and can be
reasonably considered independent and separate works in themselves, then
this License, and its terms, do not apply to those sections when you
distribute them as separate works. But when you distribute the same sections
as part of a whole which is a work based on the Program, the distribution of
the whole must be on the terms of this License, whose permissions for other
licensees extend to the entire whole, and thus to each and every part
regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your
rights to work written entirely by you; rather, the intent is to exercise
the right to control the distribution of derivative or collective works
based on the Program.

In addition, mere aggregation of another work not based on the Program with
the Program (or with a work based on the Program) on a volume of a storage
or
distribution medium does not bring the other work under the scope of this
License.

3. You may copy and distribute the Program (or a work based on it, under
Section 2) in object code or executable form under the terms of Sections 1
and 2 above provided that you also do one of the following:

* a) Accompany it with the complete corresponding machine-readable source
code, which must be distributed under the terms of Sections 1 and 2
above on a medium customarily used for software interchange; or,

* b) Accompany it with a written offer, valid for at least three years,
to give any third party, for a charge no more than your cost of
physically performing source distribution, a complete machine-readable
copy of the corresponding source code, to be distributed under the
terms of Sections 1 and 2 above on a medium customarily used for
software interchange; or,

* c) Accompany it with the information you received as to the offer to
distribute
corresponding source code. (This alternative is allowed only
for noncommercial distribution and only if you received the program in
object code or executable form with such an offer, in accord with
Subsection b above.)

The source code for a work means the preferred form of the work for making
modifications to it. For an executable work, complete source code means all

the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering
equivalent access to copy the
source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your
acceptance of
this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent
obligations, then as a consequence you may not distribute
the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies

directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system
in reliance on consistent
application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail
to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make

exceptions for this. Our decision will be guided by the two goals of
preserving the free status of all derivatives of our free software and of
promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE
THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR
THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO
THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM
PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR
CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO
LOSS OF DATA OR DATA BEING RENDERED INACCURATE
OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible
use to the public, the best way to achieve this is to make it free software
which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to
attach them to the start of each source file to most effectively convey the
exclusion of warranty; and each file should have at least the "copyright"
line and a pointer to where the full notice is found.

one line to give the program's name and an idea of what it does.
Copyright (C) 19yy  name of author

This program is free software; you can redistribute it and/or
modify it under the terms of the GNU General Public License
as

published by the Free Software Foundation; either version 2
of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when
it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details
type `show w'. This is free software, and you are welcome
to redistribute it under certain conditions; type `show c'
for details.

The hypothetical
commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may be
called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright
interest in the program `Gnomovision'
(which makes passes at compilers) written
by James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General Public
License instead of this License.
Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization
obtaining a copy of the software and accompanying documentation covered by
this license (the "Software") to use, reproduce, display, distribute,
execute, and transmit the Software, and to prepare derivative works of the
Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part, and
all derivative works of the Software, unless such copies or derivative
works are solely in the form of machine-executable object code generated by
a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
 OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE
FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.
Copyright (c) 2000-2006 Dug Song <dugsong@monkey.org>
All rights reserved, all wrongs reversed.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the following
  disclaimer in the documentation and/or other materials provided
  with the distribution.

3. The names of the authors and copyright holders may not be used
  to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
 LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR

SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright. All rights reserved.

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
   this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice,
   this list of conditions and the following disclaimer in the documentation
   and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHORS ``AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR
 BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The views and conclusions contained in the software and documentation are those
of the authors and should not be interpreted as representing official policies,
either expressed or implied, of the authors.

# 1.94 python 2.7.18

## 1.94.1 Available under license :

Copyright (c) 2002 Jorge Acereda  <jacereda@users.sourceforge.net> &
Peter O'Gorman <ogorman@users.sourceforge.net>

Portions may be copyright others, see the AUTHORS file included with this
distribution.

Maintained by Peter O'Gorman <ogorman@users.sourceforge.net>

Bug Reports and other queries should go to <ogorman@users.sourceforge.net>

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY
KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
libffi - Copyright (c) 1996-2003  Red Hat, Inc.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL CYGNUS SOLUTIONS BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH
THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.
X Window System License - X11R6.4

Copyright (c) 1998 The Open Group

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,

distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION
 WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall
not be used in advertising or otherwise to promote the sale, use or
other dealings in this Software without prior written authorization
from The Open Group.

X Window System is a trademark of The Open Group
A. HISTORY OF THE SOFTWARE
==========

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called ABC.  Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team.  In October of the same
year, the PythonLabs team moved to Digital Creations, which became
Zope Corporation.  In 2001, the Python Software Foundation (PSF, see
https://www.python.org/psf/) was formed, a non-profit organization
created specifically to own Python-related Intellectual Property.
Zope Corporation was a sponsoring member of the PSF.

All
 Python releases are Open Source (see http://www.opensource.org for
the Open Source Definition).  Historically, most, but not all, Python
releases have also been GPL-compatible; the table below summarizes
the various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike the GPL, let you distribute a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

## B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON

### PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2

1. This LICENSE AGREEMENT is between the Python Software Foundation ("PSF"), and the Individual or Organization ("Licensee") accessing and otherwise using this software ("Python") in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce,

analyze, test, perform and/or display publicly, prepare derivative works,
distribute, and otherwise use Python alone or in any derivative version,
provided, however, that PSF's License Agreement and PSF's notice of copyright,
i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010,
2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 Python Software Foundation;
All Rights Reserved" are retained in Python alone or in any derivative version
prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work
available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture
between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an

office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the
Individual or Organization ("Licensee") accessing and otherwise using
this software in source or binary form and its associated
documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License
Agreement, BeOpen hereby grants Licensee a non-exclusive,
royalty-free, world-wide license to reproduce, analyze, test, perform
and/or display publicly,
prepare derivative works, distribute, and
otherwise use the Software alone or in any derivative version,
provided, however, that the BeOpen Python License is retained in the
Software, alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS"
basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE
SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS
AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY
DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

6.
This License Agreement shall be governed by and interpreted in all
respects by the law of the State of California, excluding conflict of
law provisions. Nothing in this License Agreement shall be deemed to
create any relationship of agency, partnership, or joint venture
between BeOpen and Licensee. This License Agreement does not grant
permission to use BeOpen trademarks or trade names in a trademark
sense to endorse or promote products or services of Licensee, or any
third party. As an exception, the "BeOpen Python" logos available at
http://www.pythonlabs.com/logos.html may be used according to the
permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1
---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs
4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all
copies and that
both that copyright notice and this permission notice appear in supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Additional Conditions for this Windows binary build
---

This program is linked with and uses Microsoft Distributable Code,
copyrighted by Microsoft Corporation. The Microsoft Distributable Code
is embedded in each .exe, .dll and .pyd file as a result of running
the code through a linker.

If you further distribute programs that include the Microsoft
Distributable Code, you must comply with the restrictions on
distribution specified by Microsoft. In particular, you must require
distributors and external end users to agree to terms that protect the
Microsoft Distributable Code at least as much as Microsoft's own
requirements for the Distributable Code. See Microsoft's documentation
(included in its developer tools and on its website at microsoft.com)
for specific details.

Redistribution of the Windows binary build of the Python interpreter
complies with this agreement, provided that you do not:

- alter any copyright, trademark or patent
 notice in Microsoft's
Distributable Code;

- use Microsoft's trademarks in your programs' names or in a way that
suggests your programs come from or are endorsed by Microsoft;

- distribute Microsoft's Distributable Code to run on a platform other
than Microsoft operating systems, run-time technologies or application
platforms; or

- include Microsoft Distributable Code in malicious, deceptive or
unlawful programs.

These restrictions apply only to the Microsoft Distributable Code as
defined above, not to Python itself or any programs running on the
Python interpreter. The redistribution of the Python interpreter and
libraries is governed by the Python Software License included with this
file, or by other licenses as marked.
Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper
Copyright (c) 2001-2017 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,

distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN
ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
This license applies to the bootstrapper application that is embedded within the installer. It has no impact on the licensing for the rest of the installer or Python itself, as no code covered by this license exists in any other part of the product.

---

Microsoft Reciprocal License (MS-RL)

This license governs use of the accompanying software. If you use the software, you accept this license. If you do not accept the license, do not use the software.

1. Definitions
The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.
A "contribution" is the original software, or any additions or changes to the software.
A "contributor" is any person that distributes its contribution under this license.
"Licensed patents" are a contributor's patent claims that read directly on its contribution.

2. Grant of Rights
(A) Copyright Grant- Subject to the terms of this license, including the license conditions and limitations
in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.
(B) Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.

3. Conditions and Limitations
(A) Reciprocal Grants- For any file you distribute that contains code from the software (in source code or binary format), you must provide recipients the source code to that file along with a copy of this license, which license will govern that file. You may license other files that are entirely your own work and

do not contain code from the software under any terms you choose.
(B) No Trademark License- This license does not grant you rights to use any contributors' name, logo, or trademarks.
(C) If you bring a patent claim against any contributor over patents that you claim are infringed by the software, your patent license from such contributor to the software ends automatically.
(D) If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.
(E) If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion of the software in compiled or object code form, you may only do so under a license that complies with this license.
(F) The software is licensed "as-is." You bear the risk of using it. The contributors give no express warranties, guarantees or conditions.
You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

# 1.95 openssl 1.0.1f-1ubuntu2.23

## 1.95.1 Available under license :

LICENSE ISSUES
==============

The OpenSSL toolkit stays under a double license, i.e. both the conditions of
the OpenSSL License and the original SSLeay license apply to the toolkit.
See below for the actual license texts.

OpenSSL License
---------------

/* ====================================================================
* Copyright (c) 1998-2019 The OpenSSL Project.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. All advertising materials mentioning features or use

of this
* software must display the following acknowledgment:
* "This product includes software developed by the OpenSSL Project
* for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
* endorse or promote products derived from this software without
* prior written permission. For written permission, please contact
* openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"
* nor may "OpenSSL" appear in their names without prior written
* permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the following
* acknowledgment:
* "This product includes software developed by the OpenSSL Project
* for use in the OpenSSL Toolkit (http://www.openssl.org/)"
*
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com). This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/

Original SSLeay License
-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).

* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
 *
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
*     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can be left out if the rouines from the library
*    being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must include
 an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or

* derivative of this code cannot be changed.  i.e. this
 code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA
02111-1307, USA.
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which

gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This
License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may
copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if
you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even
though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such

parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the
Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if
a patent
license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he

or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number.
If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM,
TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,

REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c'
for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General
Public
License instead of this License.

The "Artistic License"

Preamble

The intent of this document is to state the conditions under which a Package may be copied, such that the Copyright Holder maintains some semblance of artistic control over the development of the package, while giving the users of the package the right to use and distribute the Package in a more-or-less customary fashion, plus the right to make reasonable modifications.

Definitions:

"Package" refers to the collection of files distributed by the Copyright Holder, and derivatives of that collection of files created through textual modification.

"Standard Version" refers to such a Package if it has not been
modified, or has been modified in accordance with the wishes
of the Copyright Holder as specified below.

"Copyright Holder" is whoever is named in the copyright or
copyrights for the package.

"You" is you, if you're thinking about copying or distributing
this Package.

"Reasonable copying fee" is whatever you can justify on the
basis
of media cost, duplication charges, time of people involved,
and so on. (You will not be required to justify it to the
Copyright Holder, but only to the computing community at large
as a market that must bear the fee.)

"Freely Available" means that no fee is charged for the item
itself, though there may be fees involved in handling the item.
It also means that recipients of the item may redistribute it
under the same conditions they received it.

1. You may make and give away verbatim copies of the source form of the
Standard Version of this Package without restriction, provided that you
duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications
derived from the Public Domain or from the Copyright Holder. A Package
modified in such a way shall still be considered the Standard Version.

3. You may otherwise modify your copy of this Package in any way, provided
that you insert a prominent
notice in each changed file stating how and
when you changed that file, and provided that you do at least ONE of the
following:

a) place your modifications in the Public Domain or otherwise make them
Freely Available, such as by posting said modifications to Usenet or
an equivalent medium, or placing the modifications on a major archive
site such as uunet.uu.net, or by allowing the Copyright Holder to include
your modifications in the Standard Version of the Package.

b) use the modified Package only within your corporation or organization.

c) rename any non-standard executables so the names do not conflict
with standard executables, which must also be provided, and provide
a separate manual page for each non-standard executable that clearly

documents how it differs from the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or executable
form, provided that you do at least ONE of the following:

a) distribute a Standard Version of the executables and library files, together with instructions (in the manual page or equivalent) on where to get the Standard Version.

b) accompany the distribution with the machine-readable source of the Package with your modifications.

c) give non-standard executables non-standard names, and clearly document the differences in manual pages (or equivalent), together with instructions on where to get the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this Package. You may charge any fee you choose for support of this Package. You may not charge a fee for this Package itself. However, you may distribute this Package in aggregate with other (possibly commercial) programs as part of a larger (possibly commercial) software distribution provided
that you do not advertise this Package as a
product of your own. You may embed this Package's interpreter within an executable of yours (by linking); this shall be construed as a mere form of aggregation, provided that the complete Standard Version of the interpreter is so embedded.

6. The scripts and library files supplied as input to or produced as output from the programs of this Package do not automatically fall under the copyright of this Package, but belong to whoever generated them, and may be sold commercially, and may be aggregated with this Package. If such scripts or library files are aggregated with this Package via the so-called "undump" or "unexec" methods of producing a binary executable image, then distribution of such an image shall neither be construed as a distribution of this Package nor shall it fall under the restrictions of Paragraphs 3 and 4, provided that you do not represent such an executable image as a Standard Version of this Package.

7. C subroutines
(or comparably compiled subroutines in other
languages) supplied by you and linked into this Package in order to

emulate subroutines and variables of the language defined by this
Package shall not be considered part of this Package, but are the
equivalent of input as in Paragraph 6, provided these subroutines do
not change the language in any way that would cause it to fail the
regression tests for the language.

8. Aggregation of this Package with a commercial distribution is always
permitted provided that the use of this Package is embedded; that is,
when no overt attempt is made to make this Package's interfaces visible
to the end user of the commercial distribution.  Such use shall not be
construed as a distribution of this Package.

9. The name of the Copyright Holder may not be used to endorse or promote
products derived from this software without specific prior written permission.

10. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT
 LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End

# 1.96 cpp 8.4.0-1ubuntu1~18.04

## 1.96.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works.  By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users.  We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors.  You can apply it to
your programs, too.

When we speak of free software, we are referring to

freedom, not
price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1)
assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a

covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your
rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not
convey, without conditions so long as your license otherwise remains
in force. You may convey covered works to others for the sole purpose
of having them make modifications exclusively for you, or provide you
with facilities for running those works, provided that you comply with
the terms of this License in conveying all material for which you do
not control copyright. Those thus making or running the covered works
for you must do so exclusively on your behalf, under your direction
and control, on terms that prohibit them from making any copies of
your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under
the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological
measure under any applicable law fulfilling obligations under article
11 of the WIPO copyright treaty adopted on 20 December 1996, or
similar laws prohibiting or restricting circumvention of such
measures.

When you convey a covered work, you waive any legal power to forbid
circumvention of technological measures to the extent such circumvention
is effected by exercising rights under this License with respect to
the covered work, and you disclaim any intention to limit operation or
modification of the work as a means of enforcing, against the work's
users, your or third parties' legal rights to forbid circumvention of
technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you
receive it, in any medium, provided that you conspicuously and
appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all
recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in
ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently

reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims

owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is

conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided

above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where
the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate

parts of the General Public License.  Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

 You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

 The GNU General Public License does not permit incorporating your program
into proprietary programs.  If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library.  If this is what you want to
 do, use the GNU Lesser General
Public License instead of this License.  But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.97 tcp-wrappers 7.6.q-27

## 1.97.1 Available under license :

<OWNER> = Regents of the University of California
<ORGANIZATION> = University of California, Berkeley
<YEAR> = 1998

In the original BSD license, both occurrences of the phrase "COPYRIGHT HOLDERS AND CONTRIBUTORS" in the disclaimer read "REGENTS AND CONTRIBUTORS".

Here is the license template:

Copyright (c) <YEAR>, <OWNER>

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
Neither the name of the <ORGANIZATION> nor the names of its contributors may be used to endorse or promote products derived from this
 software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,

EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.98 okio 2.6.0

## 1.98.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2018 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /okio-2-6-0-sources-jar/jvmMain/okio/Throttler.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/-DeprecatedUtf8.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/-DeprecatedOkio.kt
* /okio-2-6-0-sources-jar/commonMain/okio/PeekSource.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/-DeprecatedUpgrade.kt

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2019 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
```

* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /okio-2-6-0-sources-jar/commonMain/okio/Timeout.kt
* /okio-2-6-0-sources-jar/commonMain/okio/RealBufferedSink.kt
* /okio-2-6-0-sources-jar/commonMain/okio/BufferedSource.kt
* /okio-2-6-0-sources-jar/commonMain/okio/Buffer.kt
* /okio-2-6-0-sources-jar/commonMain/okio/Source.kt
* /okio-2-6-0-sources-jar/commonMain/okio/BufferedSink.kt
*
 /okio-2-6-0-sources-jar/commonMain/okio/Okio.kt
* /okio-2-6-0-sources-jar/commonMain/okio/internal/Buffer.kt
* /okio-2-6-0-sources-jar/commonMain/okio/Sink.kt
* /okio-2-6-0-sources-jar/commonMain/okio/RealBufferedSource.kt
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014 Square Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /okio-2-6-0-sources-jar/jvmMain/okio/ByteString.kt
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2015 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*

* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /okio-2-6-0-sources-jar/commonMain/okio/SegmentedByteString.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/SegmentedByteString.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/ForwardingTimeout.kt
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2016 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /okio-2-6-0-sources-jar/jvmMain/okio/HashingSource.kt
* /okio-2-6-0-sources-jar/commonMain/okio/Options.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/HashingSink.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/Pipe.kt
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2018 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /okio-2-6-0-sources-jar/commonMain/okio/ByteString.kt
* /okio-2-6-0-sources-jar/commonMain/okio/internal/-Utf8.kt
* /okio-2-6-0-sources-jar/commonMain/okio/-Platform.kt
* /okio-2-6-0-sources-jar/commonMain/okio/internal/ByteString.kt
* /okio-2-6-0-sources-jar/commonMain/okio/-Util.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/-Platform.kt
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2014 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /okio-2-6-0-sources-jar/jvmMain/okio/Timeout.kt
* /okio-2-6-0-sources-jar/commonMain/okio/SegmentPool.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/ForwardingSource.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/Buffer.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/InflaterSource.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/RealBufferedSource.kt
*
 /okio-2-6-0-sources-jar/jvmMain/okio/Sink.kt
* /okio-2-6-0-sources-jar/commonMain/okio/Segment.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/BufferedSink.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/AsyncTimeout.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/JvmOkio.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/GzipSink.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/ForwardingSink.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/RealBufferedSink.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/Source.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/BufferedSource.kt
* /okio-2-6-0-sources-jar/jvmMain/okio/GzipSource.kt

* /okio-2-6-0-sources-jar/jvmMain/okio/DeflaterSink.kt
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2019 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /okio-2-6-0-sources-jar/commonMain/okio/internal/RealBufferedSource.kt
* /okio-2-6-0-sources-jar/commonMain/okio/internal/SegmentedByteString.kt
* /okio-2-6-0-sources-jar/commonMain/okio/internal/RealBufferedSink.kt
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2017 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /okio-2-6-0-sources-jar/commonMain/okio/Utf8.kt
No license file was found, but licenses were detected in source scan.

```
/*
*  Licensed to the Apache Software Foundation (ASF) under one or more
*  contributor license agreements.  See the NOTICE file distributed with
```

*  this work for additional information regarding copyright ownership.
*  The ASF licenses this file to You under the Apache License, Version 2.0
*  (the "License"); you may not use this file except in compliance with
*  the License.  You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
*  Unless required by applicable law or agreed to in writing, software
*  distributed under the License is distributed on an "AS IS" BASIS,
*  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
*  See the License for the specific language governing permissions and
*  limitations under the License.
*/

Found in path(s):
* /okio-2-6-0-sources-jar/commonMain/okio/-Base64.kt

# 1.99 jna 5.4.0

## 1.99.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright (c) 2007 Wayne Meissner, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/ToNativeConverter.java
No license file was found, but licenses were detected in source scan.

<li>Type mapping behavior may be customized by providing a {@link com.sun.jna.TypeMapper} for the {@link com.sun.jna.Library#OPTION_TYPE_MAPPER} option when initializing a library interface. See {@link com.sun.jna.win32.W32APITypeMapper} for an example which provides custom conversion of boolean and String types. You are free to use whatever types are convenient in your defined interfaces, but all custom types must provide a mapping to one of the basic or derived types listed above.

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/overview.html
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2007 Wayne Meissner, All Rights Reserved
* Copyright (c) 2007-2013 Timothy Wall, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/NativeLibrary.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2007 Timothy Wall, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).

*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/AltCallingConvention.java
* /jna-5-4-0-sources-jar/com/sun/jna/ptr/ByteByReference.java
* /jna-5-4-0-sources-jar/com/sun/jna/win32/StdCall.java
* /jna-5-4-0-sources-jar/com/sun/jna/FunctionMapper.java
*
 /jna-5-4-0-sources-jar/com/sun/jna/win32/StdCallLibrary.java
* /jna-5-4-0-sources-jar/com/sun/jna/FunctionResultContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/ptr/NativeLongByReference.java
* /jna-5-4-0-sources-jar/com/sun/jna/ptr/ByReference.java
* /jna-5-4-0-sources-jar/com/sun/jna/ptr/ShortByReference.java
* /jna-5-4-0-sources-jar/com/sun/jna/win32/W32APIFunctionMapper.java
* /jna-5-4-0-sources-jar/com/sun/jna/TypeMapper.java
* /jna-5-4-0-sources-jar/com/sun/jna/PointerType.java
* /jna-5-4-0-sources-jar/com/sun/jna/FromNativeContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/win32/W32APITypeMapper.java
* /jna-5-4-0-sources-jar/com/sun/jna/StructureReadContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/ptr/PointerByReference.java
* /jna-5-4-0-sources-jar/com/sun/jna/WString.java
* /jna-5-4-0-sources-jar/com/sun/jna/NativeMappedConverter.java
* /jna-5-4-0-sources-jar/com/sun/jna/CallbackParameterContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/Callback.java
*
 /jna-5-4-0-sources-jar/com/sun/jna/ptr/DoubleByReference.java
* /jna-5-4-0-sources-jar/com/sun/jna/ptr/LongByReference.java
* /jna-5-4-0-sources-jar/com/sun/jna/ptr/FloatByReference.java
* /jna-5-4-0-sources-jar/com/sun/jna/TypeConverter.java
* /jna-5-4-0-sources-jar/com/sun/jna/win32/StdCallFunctionMapper.java
* /jna-5-4-0-sources-jar/com/sun/jna/ptr/IntByReference.java

No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2018 Matthias Bläsing
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/Klass.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2009 Timothy Wall, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*

* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/LastErrorException.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2007-2015 Timothy Wall, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/Native.java
No license file was found, but licenses were detected in source scan.

/*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*

* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/Library.java
* /jna-5-4-0-sources-jar/com/sun/jna/VarArgsChecker.java
* /jna-5-4-0-sources-jar/com/sun/jna/InvocationMapper.java
* /jna-5-4-0-sources-jar/com/sun/jna/WeakMemoryHolder.java
* /jna-5-4-0-sources-jar/com/sun/jna/NativeString.java
*
 /jna-5-4-0-sources-jar/com/sun/jna/Pointer.java
* /jna-5-4-0-sources-jar/com/sun/jna/win32/W32APIOptions.java
* /jna-5-4-0-sources-jar/com/sun/jna/JNIEnv.java
* /jna-5-4-0-sources-jar/com/sun/jna/Platform.java
* /jna-5-4-0-sources-jar/com/sun/jna/Memory.java
* /jna-5-4-0-sources-jar/com/sun/jna/CallbackResultContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/Function.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2007-2012 Timothy Wall, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/

*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/Version.java
* /jna-5-4-0-sources-jar/com/sun/jna/Union.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2007-2013 Timothy Wall, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/Structure.java
* /jna-5-4-0-sources-jar/com/sun/jna/CallbackReference.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2011 Timothy Wall, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*

* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/CallbackThreadInitializer.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2017 Matthias Bläsing, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/ELFAnalyser.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2019 Matthias Bläsing, All Rights Reserved

*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/internal/ReflectionUtils.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2007-2008 Timothy Wall, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package

* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/StringArray.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2007 Wayne Meissner, All Rights Reserved
*
* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/CallbackProxy.java
* /jna-5-4-0-sources-jar/com/sun/jna/ToNativeContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/IntegerType.java
* /jna-5-4-0-sources-jar/com/sun/jna/StructureWriteContext.java
*
 /jna-5-4-0-sources-jar/com/sun/jna/MethodParameterContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/NativeMapped.java
* /jna-5-4-0-sources-jar/com/sun/jna/NativeLong.java
* /jna-5-4-0-sources-jar/com/sun/jna/FunctionParameterContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/MethodResultContext.java
* /jna-5-4-0-sources-jar/com/sun/jna/DefaultTypeMapper.java
* /jna-5-4-0-sources-jar/com/sun/jna/FromNativeConverter.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2012 Timothy Wall, All Rights Reserved
*

* The contents of this file is dual-licensed under 2
* alternative Open Source/Free licenses: LGPL 2.1 or later and
* Apache License 2.0. (starting with JNA version 4.0.0).
*
* You can freely decide which license you want to apply to
* the project.
*
* You may obtain a copy of the LGPL License at:
*
* http://www.gnu.org/licenses/licenses.html
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "LGPL2.1".
*
* You may obtain a copy of the Apache License at:
*
* http://www.apache.org/licenses/
*
* A copy is also included in the downloadable source code package
* containing JNA, in file "AL2.0".
*/

Found in path(s):
* /jna-5-4-0-sources-jar/com/sun/jna/win32/DLLCallback.java

# 1.100 json-c 0.12.1-1.3ubuntu0.3

## 1.100.1 Available under license :

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,

OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.101 lvm2 1.02.145-4.1ubuntu3.18.04.3

## 1.101.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients

all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence
of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits
its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain

special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is

included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified
Library refers to a function or a
table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that,

in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves,
then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of

the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this
License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user
installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these

materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing

the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people
have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the

original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of
all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL

DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the

library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute

and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies
of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole
or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered
independent and separate works in
themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or
executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such

parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through

any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year  name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.102 lvm2 2.02.176-4.1ubuntu3.18.04.3

## 1.102.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public

Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients
all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence
of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a

restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits
its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact

all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever
changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that

uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user
installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on

the Library and of the other library facilities is otherwise
permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work
based on the Library, uncombined with any other library
facilities. This must be distributed under
the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License. However, parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Library or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing
the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

11. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute
so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent

license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these,

write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of
all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA

Also add information on how to contact you by electronic and paper mail.

You should
 also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the
 library `Frob' (a library for tweaking knobs) written by James Random Hacker.

 <signature of Ty Coon>, 1 April 1990
 Ty Coon, President of Vice

That's all there is to it!
      GNU GENERAL PUBLIC LICENSE
        Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

       Preamble

 The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by

the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which

contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies
of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole
or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide

a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or

executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent

infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number

of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest

to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

# 1.103 pygobject 3.26.1

## 1.103.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these

rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that

there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and

is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it

does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the
reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU

operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by
the copyright holder or
other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code"
for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that
you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in

these notices.

Once this change is made in a given copy, it is irreversible for

that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties
are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the
Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative

work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2)
will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials

specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
specified materials from the same place.

e) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the
Library" must include any data and utility
programs needed for
reproducing the executable from it. However, as a special exception,
the materials to be distributed need not include anything that is
normally distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies
the executable.

It may happen that this requirement contradicts the license
restrictions of other proprietary libraries that do not normally
accompany the operating system. Such a contradiction means you cannot
use both them and the Library together in an executable that you
distribute.

7. You may place library facilities that are a work based on the
Library side-by-side in a single library together with other library
facilities not covered by this License, and distribute such a combined
library, provided
that the separate distribution of the work based on
the Library and of the other library facilities is otherwise
permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work
based on the Library, uncombined with any other library
facilities. This must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License. However,

parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Library or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library

subject to these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

11. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly
through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any
particular circumstance, the balance of the section is intended to apply,
and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing

to
distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but
may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision will be guided by the two goals of preserving the free
status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE

LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the
 library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

 <signature of Ty Coon>, 1 April 1990
 Ty Coon, President of Vice

That's all there is to it!

# 1.104 guava 28.0-jre

## 1.104.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2011 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.

*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/GwtTransient.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AtomicLongMap.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2006 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/io/PatternFilenameFilter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/GwtFluentFutureCatchingSpecialization.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/CaseFormat.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/AppendableWriter.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/CollectionFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/CharEscaper.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/FakeTimeLimiter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/UncheckedTimeoutException.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/TimeLimiter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AbstractTransformFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/TimeoutFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/TypeToken.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AggregateFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/FuturesGetChecked.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ImmediateFuture.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/SimpleTimeLimiter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/FluentFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/CharEscaperBuilder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Futures.java
* /guava-28-0-jre-sources-1-jar/com/google/common/annotations/VisibleForTesting.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AbstractCatchingFuture.java

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2013 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableMapEntry.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/MoreFiles.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/MultimapBuilder.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2011 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not
* use this file except in compliance with the License. You may obtain a copy of
* the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS, WITHOUT
* WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SortedMultisets.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SortedMultiset.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2016 The Guava Authors
*

```
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
/**
* Holder for extra methods of {@code Objects} only in web. Intended to be empty for regular
* version.
*/
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/base/ExtraObjectsMethodsForWeb.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2009 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
/**
* Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain
* {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available
* under GWT but with a slightly different signature.
*
* <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler
 wouldn't recognize
* it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT
* compiler to autostrip the normal server method in order to expose the special, inherited GWT
* version.
*/
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Partially.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2018 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ExecutionSequencer.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/JdkBackedImmutableSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/ImmutableSupplier.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/JdkBackedImmutableMultiset.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2008 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
/*
  * This method was rewritten in Java from an intermediate step of the Murmur hash function in
  * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
  * following header:
  *
  * MurmurHash3 was written by Austin Appleby, and is placed in the public domain. The author
  * hereby
 disclaims copyright to this source code.
  */
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Hashing.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2012 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/EvictingQueue.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableList.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableEnumMap.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractNavigableMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TransformedListIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TreeTraverser.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TransformedIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/FilteredKeySetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RangeMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/FilteredSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TreeRangeMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingDeque.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/FilteredMultimap.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/UnmodifiableSortedMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingNavigableMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/FilteredKeyListMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CompactLinkedHashSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AllEqualOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/FilteredEntryMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedSet.java

* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CompactHashMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/FilteredEntrySetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CompactHashSet.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableAsList.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingNavigableSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SortedMultisetBridge.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CompactLinkedHashMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingBlockingDeque.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/DescendingMultiset.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2018 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/BaseImmutableMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/JdkBackedImmutableMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/JdkBackedImmutableBiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/IndexedImmutableSet.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2012 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under

* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/ChecksumHashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/Parameter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/BaseEncoding.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/base/StandardSystemProperty.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/AbstractByteHasher.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/ByteSink.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/FileWriteMode.java
* /guava-28-0-jre-sources-1-jar/com/google/common/html/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/PairedStatsAccumulator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/LongAddables.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/MutableTypeToInstanceMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/Element.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableRangeMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/SmoothRateLimiter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/escape/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/PairedStats.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CartesianList.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/Stats.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/FilteredKeyMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/LongAddable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/LongAddable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/RateLimiter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/ByteSource.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/CharSink.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/CharSource.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/Invokable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/LinearTransformation.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/TypeCapture.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/reflect/ClassPath.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/Closer.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ServiceManager.java
* /guava-28-0-jre-sources-1-jar/com/google/common/xml/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/AbstractInvocationHandler.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/StatsAccumulator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/LongAddables.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableRangeSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/TypeToInstanceMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/SipHashFunction.java

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2009 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/net/UrlEscapers.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/MapMaker.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Splitter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Service.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/Cut.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/Escapers.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/annotations/GwtIncompatible.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingFluentFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/xml/XmlEscapers.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/ArrayBasedCharEscaper.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/ArrayBasedEscaperMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/ByteProcessor.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/ByteArrayDataOutput.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/Platform.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/cache/LocalCache.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/UnsignedBytes.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/ByteArrayDataInput.java
* /guava-28-0-jre-sources-1-jar/com/google/common/net/HostSpecifier.java
* /guava-28-0-jre-sources-1-jar/com/google/common/html/HtmlEscapers.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Platform.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingListenableFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AbstractIdleService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/LineProcessor.java
* /guava-28-0-jre-sources-1-jar/com/google/common/net/InternetDomainName.java

* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AbstractService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/SignedBytes.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/annotations/GwtCompatible.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/TypeResolver.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/SettableFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/JdkFutureAdapters.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/MapMakerInternalMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/ReferenceEntry.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/DenseImmutableTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SparseImmutableTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/CacheBuilder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Callables.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2015 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you
* may not use this file except in compliance with the License.  You may
* obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
* implied.  See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Streams.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2010 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and

* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/UnmodifiableListIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractSequentialIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/MinMaxPriorityQueue.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RowSortedTable.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingSortedSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingListMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SortedMapDifference.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableCollection.java
No license file was found, but licenses were detected in source scan.

/*
* Written by Doug Lea with assistance from members of JCP JSR-166
* Expert Group and released to the public domain, as explained at
* http://creativecommons.org/publicdomain/zero/1.0/
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/Striped64.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/Striped64.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AtomicDoubleArray.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/LongAdder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/LongAdder.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2012 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
/*
  * This method was rewritten in Java from an intermediate step of the Murmur hash function in
  * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
  * following header:

```
 *
 * MurmurHash3 was written by Austin Appleby, and is placed in the public domain. The author
 * hereby disclaims
copyright to this source code.
 */
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/base/SmallCharMatcher.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2015 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CollectSpliterators.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableBiMapFauxverideShim.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2011 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
/*
 * This method was written by Doug Lea with assistance from members of JCP JSR-166 Expert Group
```

```
 * and released to the public domain, as explained at
 * http://creativecommons.org/licenses/publicdomain
 *
 * As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
 * java.util.HashMap
class.
 */
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Striped.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2011 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/BloomFilter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ExecutionError.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AsyncFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/CacheBuilderSpec.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/hash/Hashing.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/FunctionalEquivalence.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/BloomFilterStrategies.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/Types.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/ParseRequest.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Present.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/UnsignedLongs.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/HashingOutputStream.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AbstractListeningExecutorService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/UnsignedInts.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/RemovalNotification.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/CycleDetectingLockFactory.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/CacheLoader.java
*

/guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingListeningExecutorService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/HashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/DoubleUtils.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TreeRangeSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Enums.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/TypeParameter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/AbstractStreamingHasher.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/ForwardingLoadingCache.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/Funnels.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/UnsignedInteger.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AbstractScheduledService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/AbstractCache.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/hash/MessageDigestHashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/UncheckedExecutionException.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Uninterruptibles.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/net/HostAndPort.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/BoundType.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractSortedMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/AbstractHasher.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/CacheStats.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Optional.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Absent.java
* /guava-28-0-jre-sources-1-jar/com/google/common/net/MediaType.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/BigIntegerMath.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/cache/LoadingCache.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/WrappingExecutorService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/FutureCallback.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/RemovalCause.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/MathPreconditions.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/Hasher.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularContiguousSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/UnsignedLong.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/Weigher.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/HashCode.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/PairwiseEquivalence.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/cache/ForwardingCache.java
* /guava-28-0-jre-sources-1-jar/com/google/common/net/HttpHeaders.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/IntMath.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/EmptyContiguousSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/Murmur3_32HashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/Murmur3_128HashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Ticker.java

* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingExecutorService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/LongMath.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/Cache.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/PrimitiveSink.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/hash/Funnel.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/RemovalListener.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/AbstractNonStreamingHashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/AbstractCompositeHashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/Crc32cHashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/DoubleMath.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Queues.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/AbstractLoadingCache.java
* /guava-28-0-jre-sources-1-jar/com/google/common/cache/RemovalListeners.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2005 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/Reflection.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2017 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,

* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/BaseGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/Traverser.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/AbstractBaseGraph.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2009 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ArrayTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableAsList.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableTable.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableList.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SingletonImmutableTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableClassToInstanceMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableEnumSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/EmptyImmutableSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractIndexedListIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/DiscreteDomain.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableSortedSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SingletonImmutableList.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/ComparisonChain.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ComputationException.java

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2013 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionHandler.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Verify.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/hash/HashingInputStream.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionContext.java
* /guava-28-0-jre-sources-1-jar/com/google/common/reflect/TypeVisitor.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/VerifyException.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/CharSequenceReader.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Runnables.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/FilteredMultimapValues.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Utf8.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractTable.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2014 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ListenerCallQueue.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/Subscriber.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/Dispatcher.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/base/MoreObjects.java
* /guava-28-0-jre-sources-1-jar/com/google/common/math/Quantiles.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/SubscriberRegistry.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2008 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Joiner.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/MultiReader.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/UnicodeEscaper.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/SequentialExecutor.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/CharMatcher.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Floats.java
* /guava-28-0-jre-sources-1-jar/com/google/common/net/PercentEscaper.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Longs.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Converter.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ListenableFutureTask.java
* /guava-28-0-jre-sources-1-jar/com/google/common/escape/Escaper.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Chars.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Booleans.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Doubles.java
* /guava-28-0-jre-sources-1-jar/com/google/common/net/InetAddresses.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Shorts.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Ints.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Stopwatch.java
*

/guava-28-0-jre-sources-1-jar/com/google/common/collect/FluentIterable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/internal/Finalizer.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/FileBackedOutputStream.java
* /guava-28-0-jre-sources-1-jar/com/google/thirdparty/publicsuffix/TrieParser.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Bytes.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2015 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/io/ReaderInputStream.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/MacHashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Platform.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/FarmHashFingerprint64.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/CombinedFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AggregateFutureState.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AsyncCallable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/LittleEndianByteArray.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/InterruptibleTask.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ConsumingQueueIterator.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2017 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express
* or implied. See the License for the specific language governing permissions and limitations under

* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/ImmutableLongArray.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/ImmutableDoubleArray.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingLock.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingCondition.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/hash/AbstractHashFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/ImmutableIntArray.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2009 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the
* License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSortedAsList.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2007 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):

* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/AsyncEventBus.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/Primitives.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Suppliers.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/Resources.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/MultiInputStream.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/io/Files.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Charsets.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/FinalizableReference.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/DirectExecutor.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/Closeables.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/CountingInputStream.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Predicate.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Function.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Interners.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Throwables.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/FinalizableReferenceQueue.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/package-info.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/AbstractFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Predicates.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/FinalizablePhantomReference.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Supplier.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/EventBus.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Defaults.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Objects.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/HashBiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/FinalizableWeakReference.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/Subscribe.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/AllowConcurrentEvents.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Preconditions.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/io/LittleEndianDataOutputStream.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/AbstractIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/EnumMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/LineReader.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/eventbus/DeadEvent.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ExecutionList.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ListenableFuture.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/ByteStreams.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/LineBuffer.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/CharStreams.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Functions.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/CountingOutputStream.java
*

/guava-28-0-jre-sources-1-jar/com/google/common/base/FinalizableSoftReference.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/LittleEndianDataInputStream.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/Flushables.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2014 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/MutableNetwork.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/Network.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/PredecessorsFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/MutableGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/InsecureRecursiveDeleteException.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/graph/ImmutableGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/Graph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ImmutableNetwork.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/SuccessorsFunction.java
* /guava-28-0-jre-sources-1-jar/com/google/common/io/RecursiveDeleteOption.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TopKSelector.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/Graphs.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2011 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the
* License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND,
either

* express or implied. See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/GeneralRange.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableSortedMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/SortedIterable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingSortedMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RangeSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SortedIterables.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Count.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractRangeSet.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2010 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Monitor.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ContiguousSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/annotations/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Ascii.java
* /guava-28-0-jre-sources-1-jar/com/google/common/primitives/package-info.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/base/Equivalence.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Atomics.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SortedLists.java
* /guava-28-0-jre-sources-1-jar/com/google/common/net/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ListeningExecutorService.java
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/Strings.java

* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/UncaughtExceptionHandlers.java
* /guava-28-0-jre-sources-1-jar/com/google/common/annotations/Beta.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2007 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
/**
  * Returns an array containing all of the elements in the specified collection. This method
  * returns the elements in the order they are returned by the collection's iterator. The returned
  * array is "safe" in that no references to it are maintained by the collection. The caller is
  * thus free to modify the returned
 array.
  *
  * <p>This method assumes that the collection size doesn't change while the method is running.
  *
  * <p>TODO(kevinb): support concurrently modified collections?
  *
  * @param c the collection for which to return an array of elements
  */
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ObjectArrays.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2011 The Guava Authors.
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
```

```
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/hash/package-info.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2009 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
/**
  * Not supported. <b>You are attempting to create a map that may contain a non-{@code Comparable}
  * key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy
  * version.
  *
  * @throws UnsupportedOperationException always
  * @deprecated <b>Pass a key of type {@code Comparable}
 to use {@link
  *     ImmutableSortedMap#of(Comparable, Object)}.</b>
  */
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2016 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
```

* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/EdgesConnecting.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/NetworkBuilder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ConfigurableMutableNetwork.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CollectCollectors.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/graph/AbstractDirectedNetworkConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/AbstractGraphBuilder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/DirectedMultiNetworkConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Comparators.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ImmutableValueGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ValueGraphBuilder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/UndirectedGraphConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/UndirectedMultiNetworkConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ValueGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableMultisetGwtSerializationDependencies.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/HashMultimapGwtSerializationDependencies.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/MultiEdgesConnecting.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/collect/RangeGwtSerializationDependencies.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/MoreCollectors.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ConfigurableMutableValueGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/GraphConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/GraphBuilder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/AbstractGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/UndirectedNetworkConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ConfigurableMutableGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ElementOrder.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ConfigurableValueGraph.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/graph/ConfigurableNetwork.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/MutableValueGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/AbstractNetwork.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ForwardingNetwork.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/DirectedNetworkConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/EndpointPair.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ForwardingGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/AbstractValueGraph.java
* /guava-28-0-jre-sources-1-
jar/com/google/common/collect/LinkedHashMultimapGwtSerializationDependencies.java

* /guava-28-0-jre-sources-1-jar/com/google/common/graph/MapRetrievalCache.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/MapIteratorCache.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/graph/DirectedGraphConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/GraphConstants.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/NetworkConnections.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/ForwardingValueGraph.java
* /guava-28-0-jre-sources-1-jar/com/google/common/graph/EndpointPairIterator.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2016 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/base/CommonMatcher.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/CommonPattern.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/JdkPattern.java
* /guava-28-0-jre-sources-1-jar/com/google/common/base/PatternCompiler.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2007 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
/*
  * This following method is a modified version of one found in

```
 * http://gee.cs.oswego.edu/cgi-bin/viewcvs.cgi/jsr166/src/test/tck/AbstractExecutorServiceTest.java?revision=1.30
 * which contained the following notice:
 *
 * Written by Doug Lea with assistance from members of JCP JSR-166 Expert Group and released to
 *
the public domain, as explained at http://creativecommons.org/publicdomain/zero/1.0/
 *
 * Other contributors include Andrew Wright, Jeffrey Hayes, Pat Fisher, Mike Judd.
 */
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/MoreExecutors.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2019 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except
* in compliance with the License. You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/util/concurrent/Internal.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2007 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Sets.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractListMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingListIterator.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/LinkedListMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ReverseNaturalOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Multimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ExplicitOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ByFunctionOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Synchronized.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ClassToInstanceMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Maps.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SingletonImmutableSet.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/UsingToStringOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingSortedSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/EnumHashBiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingObject.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/HashMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingQueue.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/NullsFirstOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractSortedSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Lists.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/package-info.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/NaturalOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Multisets.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/LexicographicalOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/LinkedHashMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/BiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingList.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractMapBasedMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractMapEntry.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CompoundOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Iterators.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TreeMultiset.java
*

/guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingConcurrentMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ConcurrentHashMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/NullsLastOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TreeMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingMapEntry.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingSortedMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractBiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ListMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ArrayListMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/MutableClassToInstanceMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingCollection.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/collect/ForwardingIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SortedSetMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Ordering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableList.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/HashMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/MapDifference.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Interner.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ComparatorOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/EnumBiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Iterables.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/LinkedHashMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ReverseOrdering.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/AbstractMapBasedMultimap.java
*
/guava-28-0-jre-sources-1-jar/com/google/common/collect/Multimaps.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Multiset.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2008 The Guava Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):

* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableBiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableMapEntrySet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/StandardTable.java
* /guava-28-0-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableMapKeySet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Platform.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableListMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/CollectPreconditions.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/TreeBasedTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/HashBasedTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Collections2.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/SingletonImmutableBiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Serialization.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Range.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableCollection.java
*
 /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableMultiset.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/UnmodifiableIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Table.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableMapValues.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/StandardRowSortedTable.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/RegularImmutableBiMap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/Tables.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableSortedSet.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/EmptyImmutableListMultimap.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/PeekingIterator.java
* /guava-28-0-jre-sources-1-jar/com/google/common/collect/ImmutableEntry.java

# 1.105 logging-interceptor 3.14.9

## 1.105.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2015 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software

* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /logging-interceptor-3-14-9-sources-jar/okhttp3/logging/HttpLoggingInterceptor.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2018 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /logging-interceptor-3-14-9-sources-jar/okhttp3/logging/LoggingEventListener.java

# 1.106 libjson-c3 0.12.1-1.3ubuntu0.3

## 1.106.1 Available under license :

Copyright (c) 2009-2012 Eric Haszlakiewicz

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,

FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

---

Copyright (c) 2004, 2005 Metaparadigm Pte Ltd

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE
FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.107 retrofit 2.9.0

## 1.107.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2014 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/http/FieldMap.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/PartMap.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/Streaming.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/QueryMap.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2015 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/http/Url.java
* /retrofit-2-9-0-sources-jar/retrofit2/OkHttpCall.java
* /retrofit-2-9-0-sources-jar/retrofit2/BuiltInConverters.java
* /retrofit-2-9-0-sources-jar/retrofit2/Response.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/OPTIONS.java
* /retrofit-2-9-0-sources-jar/retrofit2/HttpServiceMethod.java
*
 /retrofit-2-9-0-sources-jar/retrofit2/Call.java
* /retrofit-2-9-0-sources-jar/retrofit2/DefaultCallAdapterFactory.java
* /retrofit-2-9-0-sources-jar/retrofit2/ParameterHandler.java
* /retrofit-2-9-0-sources-jar/retrofit2/ServiceMethod.java
* /retrofit-2-9-0-sources-jar/retrofit2/RequestFactory.java
* /retrofit-2-9-0-sources-jar/retrofit2/CallAdapter.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2012 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.

* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/Retrofit.java
* /retrofit-2-9-0-sources-jar/retrofit2/RequestBuilder.java
* /retrofit-2-9-0-sources-jar/retrofit2/Callback.java
* /retrofit-2-9-0-sources-jar/retrofit2/Converter.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2008 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/Utils.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2018 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software

* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/KotlinExtensions.kt
* /retrofit-2-9-0-sources-jar/retrofit2/Invocation.java
* /retrofit-2-9-0-sources-jar/retrofit2/internal/EverythingIsNonNull.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2013 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/http/HEAD.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/FormUrlEncoded.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/PUT.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/Multipart.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/Header.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/GET.java
*
 /retrofit-2-9-0-sources-jar/retrofit2/http/Field.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/DELETE.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/QueryName.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/Query.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/Path.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/POST.java
* /retrofit-2-9-0-sources-jar/retrofit2/Platform.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/HTTP.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/Headers.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/PATCH.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/Part.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2011 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/http/Body.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2016 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/CompletableFutureCallAdapterFactory.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/HeaderMap.java
* /retrofit-2-9-0-sources-jar/retrofit2/HttpException.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2019 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
```

* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/SkipCallbackExecutorImpl.java
* /retrofit-2-9-0-sources-jar/retrofit2/SkipCallbackExecutor.java
* /retrofit-2-9-0-sources-jar/retrofit2/http/Tag.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2017 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /retrofit-2-9-0-sources-jar/retrofit2/OptionalConverterFactory.java

# 1.108 converter-gson 2.9.0

## 1.108.1 Available under license :

kafka-connect-jdbc
Copyright (c) 2015 Confluent Inc.

The following libraries are included in packaged versions of this project:

* SQLite JDBC Driver
* COPYRIGHT: Copyright Taro L. Saito, David Crenshaw

* LICENSE: licenses/LICENSE.apache2.txt
* NOTICE: licenses/NOTICE.sqlite-jdbc.txt
* HOMEPAGE: https://github.com/xerial/sqlite-jdbc

* PostgreSQL JDBC Driver
* COPYRIGHT: Copyright 1997-2011, PostgreSQL Global Development Group
* LICENSE: licenses/LICENSE.bsd.txt
* HOMEPAGE: https://jdbc.postgresql.org/

* MariaDB JDBC Driver
 * COPYRIGHT: Copyright 2012 Monty Program Ab., 2009-2011, Marcus Eriksson
 * LICENSE: licenses/LICENSE.lgpl.txt
 * HOMEPAGE: https://mariadb.com/kb/en/mariadb/about-mariadb-connector-j/
Oracle Free Use Terms and Conditions

Definitions

"Oracle" refers to Oracle America, Inc. "You" and "Your" refers to (a) a company or organization (each an "Entity")

accessing the Programs, if use of the Programs will be on behalf of such Entity; or (b) an individual accessing the Programs, if use of the Programs will not be on behalf of an Entity. "Program(s)" refers to Oracle software provided by Oracle pursuant to the following terms and any updates, error corrections, and/or Program Documentation provided
by Oracle. "Program Documentation" refers to Program user manuals and Program installation manuals, if any. If available, Program Documentation may be delivered with the Programs and/or may be accessed from www.oracle.com/documentation.
"Separate Terms" refers to separate license terms that are specified in the Program Documentation, readmes or notice
files and that apply to Separately Licensed Technology. "Separately Licensed Technology" refers to Oracle or third party technology
 that is licensed under Separate Terms and not under the terms of this license.

Separately Licensed Technology

Oracle may provide certain notices to You in Program Documentation, readmes or notice files in connection with Oracle
or third party technology provided as or with the Programs. If specified in the Program Documentation, readmes or notice files, such technology will be licensed to You under Separate Terms. Your rights to use Separately Licensed Technology under Separate Terms are not restricted in any way by the terms herein. For clarity, notwithstanding the existence of a notice, third party technology that is not Separately Licensed Technology shall be deemed part of the Programs licensed to You under the terms of this license.

Source Code for Open Source Software

For software that You receive from Oracle in binary form that is licensed under an open source license that gives You the right to receive the source code for that binary, You can obtain a copy of
 the applicable source code from
https://oss.oracle.com/sources/ or http://www.oracle.com/goto/opensourcecode. If the source code for such software

was not provided to You with the binary, You can also receive a copy of the source code on physical media by submitting a written request pursuant to the instructions in the "Written Offer for Source Code" section of the latter website.

---

The following license terms apply to those Programs that are not provided to You under Separate Terms.

License Rights and Restrictions

Oracle grants to You, as a recipient of this Program, a nonexclusive, nontransferable, limited license to, subject to the conditions stated herein, (a) internally use the unmodified Programs for the purposes of developing, testing, prototyping and demonstrating your applications, and running the Programs for your own internal business operations;
and (b) redistribute unmodified Programs
and Programs Documentation, under the terms of this License, provided that
You do not charge Your end users any additional fees for the use of the Programs. You may make copies of the Programs
to the extent reasonably necessary for exercising the license rights granted herein and for backup purposes. You are granted the right to use the Programs to provide third party training in the use of the Programs and associated Separately Licensed Technology only if there is express authorization of such use by Oracle on the Program's download
page or in the Program Documentation.

Your license is contingent on Your compliance with the following conditions:

- You include a copy of this license with any distribution by You of the Programs;

- You do not remove markings or notices of either Oracle's or a licensor's proprietary rights from the Programs or Program Documentation;

- You comply with all U.S. and applicable export control and economic sanctions laws and regulations that govern Your
use of the Programs (including technical data);

- You do not cause or permit reverse engineering, disassembly or decompilation of the Programs (except as allowed by law)
by You nor allow an associated party to do so.

For clarity, any source code that may be included in the distribution with the Programs is provided solely for reference
purposes and may not be modified, unless such source code is under Separate Terms permitting modification.

Ownership

Oracle or its licensors retain all ownership and intellectual property rights to the Programs.

Information Collection

The Programs' installation and/or auto-update processes, if any, may transmit a limited amount of data to Oracle or its service provider about those processes to help Oracle understand and optimize them. Oracle does not associate the data with personally identifiable information. Refer to Oracle's Privacy Policy at www.oracle.com/privacy.

Disclaimer of Warranties; Limitation of Liability

THE PROGRAMS ARE PROVIDED
"AS IS" WITHOUT WARRANTY OF ANY KIND. ORACLE FURTHER DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR
A PARTICULAR PURPOSE, OR NONINFRINGEMENT.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW WILL ORACLE BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL,
SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING
BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES
OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN
ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Last updated: 9 October 2018

Confluent Community License Agreement

Version 1.0

This Confluent Community License Agreement Version 1.0 (the Agreement) sets forth the terms on which Confluent, Inc. (Confluent) makes available certain software made available by Confluent under this Agreement (the Software). BY INSTALLING, DOWNLOADING, ACCESSING, USING OR DISTRIBUTING ANY OF THE SOFTWARE, YOU AGREE TO THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF YOU DO NOT AGREE TO SUCH TERMS AND CONDITIONS, YOU MUST NOT USE THE SOFTWARE. IF YOU ARE RECEIVING THE SOFTWARE ON BEHALF OF A LEGAL ENTITY, YOU REPRESENT AND WARRANT THAT YOU HAVE THE ACTUAL AUTHORITY TO AGREE TO THE TERMS AND CONDITIONS OF THIS AGREEMENT ON BEHALF OF SUCH ENTITY. Licensee means you, an individual, or the entity on whose behalf you are receiving the Software.

1. LICENSE GRANT AND CONDITIONS.

1.1 License. Subject to the terms and conditions of this Agreement, Confluent hereby grants to Licensee a non-exclusive, royalty-free, worldwide, non-transferable, non-sublicenseable license during the term of this Agreement to: (a) use the Software; (b) prepare modifications and derivative works of the Software; (c) distribute the Software (including without limitation in source code or object code form); and (d) reproduce copies of the Software (the License). Licensee is not granted the

right to, and Licensee shall not, exercise the License for an Excluded Purpose. For purposes of this Agreement, Excluded Purpose means making available any software-as-a-service, platform-as-a-service, infrastructure-as-a-service or other similar online service that competes with Confluent products or services that provide the Software.

1.2 Conditions. In consideration of the License, Licensees distribution of the Software is subject to the following conditions:

(a) Licensee must cause any Software modified by Licensee to carry prominent notices stating that Licensee modified the Software.

(b) On each Software copy, Licensee shall reproduce and not remove or alter all Confluent or third party copyright or other proprietary notices contained in the Software, and Licensee must provide the notice below with each copy.

This software is made available by Confluent, Inc., under the terms of the Confluent Community License Agreement, Version 1.0 located at http://www.confluent.io/confluent-community-license. BY INSTALLING, DOWNLOADING, ACCESSING, USING OR DISTRIBUTING ANY OF THE SOFTWARE, YOU AGREE TO THE TERMS OF SUCH LICENSE AGREEMENT.

1.3 Licensee Modifications. Licensee may add its own copyright notices to modifications made by Licensee and may provide additional or different license terms and conditions for use, reproduction, or distribution of Licensees modifications. While redistributing the Software or modifications thereof, Licensee may choose to offer, for a fee or free of charge, support, warranty, indemnity, or other obligations. Licensee, and not Confluent, will be responsible for any such obligations.

1.4 No Sublicensing. The License does not include the right to sublicense the Software, however, each recipient to which Licensee provides the Software may exercise the Licenses so long as such recipient agrees to the terms and conditions of this Agreement.

2. TERM AND TERMINATION. This Agreement will continue unless and until earlier terminated as set forth herein. If Licensee breaches any of its conditions or obligations under this Agreement, this Agreement will terminate automatically and the License will terminate automatically and permanently.

3. INTELLECTUAL PROPERTY. As between the parties, Confluent will retain all right, title, and interest in the Software, and all intellectual property rights therein. Confluent hereby reserves all rights not expressly granted

to Licensee in this Agreement. Confluent hereby reserves all rights in its trademarks and service marks, and no licenses therein are granted in this Agreement.

4. DISCLAIMER. CONFLUENT HEREBY DISCLAIMS ANY AND ALL WARRANTIES AND CONDITIONS, EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, AND SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SOFTWARE.

5. LIMITATION OF LIABILITY. CONFLUENT WILL NOT BE LIABLE FOR ANY DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO, LOST PROFITS OR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, INDIRECT, OR DIRECT DAMAGES, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, ARISING OUT OF THIS AGREEMENT. THE FOREGOING SHALL APPLY TO THE EXTENT PERMITTED BY APPLICABLE LAW.

6.GENERAL.

6.1 Governing Law. This Agreement will be governed by and interpreted in accordance with the laws of the state of California, without reference to its conflict of laws principles. If Licensee is located within the United States, all disputes arising out of this Agreement are subject to the exclusive jurisdiction of courts located in Santa Clara County, California. USA. If Licensee is located outside of the United States, any dispute, controversy or claim arising out of or relating to this Agreement will be referred to and finally determined by arbitration in accordance with the JAMS International Arbitration Rules. The tribunal will consist of one arbitrator. The place of arbitration will be Palo Alto, California. The language to be used in the arbitral proceedings will be English. Judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof.

6.2 Assignment. Licensee is not authorized to assign its rights under this Agreement to any third party. Confluent may freely assign its rights under this Agreement to any third party.

6.3 Other. This Agreement is the entire agreement between the parties regarding the subject matter hereof. No amendment or modification of this Agreement will be valid or binding upon the parties unless made in writing and signed by the duly authorized representatives of both parties. In the event that any provision, including without limitation any condition, of this Agreement is held to be unenforceable, this Agreement and all licenses and rights granted hereunder will immediately terminate. Waiver by Confluent of a breach of any provision of this Agreement or the failure by Confluent to exercise any right hereunder will not be construed as a waiver of any subsequent breach of that right or as a waiver of any other right.

Copyright(c) 2019 Microsoft Corporation
All rights reserved.

MIT License
Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files(the "Software"),
to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense,
and / or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions :

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED *AS IS*, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS
IN THE SOFTWARE.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="en" xml:lang="en" dir="ltr">
<head>
 <title>PostgreSQL JDBC License</title>
 <meta http-equiv="Content-Type" content="text/xhtml; charset=utf-8" />
 <meta name="description" content="The official site for the PostgreSQL JDBC Driver" />
 <meta name="copyright" content="The PostgreSQL Global Development Group" />

 <style type="text/css" media="screen" title="Normal Text">@import url("../media/css/base.css");</style>

 <link rel="shortcut icon" href="../media/favicon.ico" />

 <!--
 <script type="text/javascript">
  var _gaq = _gaq || [];
  _gaq.push(['_setAccount', 'UA-1345454-1']);
  _gaq.push(['_trackPageview']);
  (function() {
   var ga = document.createElement('script'); ga.type = 'text/javascript'; ga.async = true;
   ga.src = ('https:' == document.location.protocol ? 'https://ssl' : 'http://www') + '.google-analytics.com/ga.js';
   var
 s = document.getElementsByTagName('script')[0]; s.parentNode.insertBefore(ga, s);
   })();
 </script>
 -->
```

```
</head>

<body>
 <div id="pgContainerWrap">
  <div id="pgContainer">

   <span class="txtOffScreen"><a href="#pgContent" title="Skip site navigation" accesskey="1">Skip site navigation</a> (1)</span>
   <span class="txtOffScreen"><a href="#pgContentWrap" title="Skip section navigation" accesskey="2">Skip section navigation</a> (2)</span>

   <div id="pgHeaderContainer">

    <div id="pgSearch">

     <!-- Old pgjdbc form -->
     <form action="https://www.google.com/search" method="get">
      <input value="jdbc.postgresql.org" name="sitesearch" type="hidden" />
      <input id="q" name="q" type="text" size="20" maxlength="255" onfocus="if( this.value==this.defaultValue ) this.value='';" value="Google Search" accesskey="s" />
      <!-- <input onFocus="getBlank (this, 'Search the site with google');" size="25" name="q" id="query" type="text" value="Search the
 site with google">&amp;nbsp; -->
                  <input name="Search" value="Search" type="submit" />
     </form>

     <!-- New PostgreSQL form
     <form method="get" action="search/">
     <div>
      <h2 class="pgBlockHide"><label for="q">Search</label></h2>
      <input id="q" name="q" type="text" size="20" maxlength="255" onfocus="if( this.value==this.defaultValue ) this.value='';" value="Search" accesskey="s" />
      <input name="a" type="hidden" value="1"/>
      <input id="submit" name="submit" type="submit" value="Search" />
     </div>
     </form>
     -->

    </div> <!-- pgSearch -->
    <br />

    <div id="pgHeader">
     <div id="pgHeaderLogoLeft">
      <img alt="PostgreSQL" height="80" width="390" src="../media/img/layout/hdr_left3.png" usemap="#maplinks" />
      <map name="maplinks">
       <area shape="rect" coords="0,0,231,80" alt="PostgreSQL" href="https://postgresql.org" />
       <area shape="rect" coords="232,0,390,80" alt="PostgreSQL JDBC Driver" href="https://jdbc.postgresql.org"
```

```
/>
     </map>
    </div>
    <div id="pgHeaderLogoRight">
     <a href="https://postgresql.org">
      <img width="210" height="80" alt="The world's most advanced open source database."
src="../media/img/layout/hdr_right.png" />
     </a>
    </div>
   </div> <!-- pgHeader -->

   <div id="pgTopNav">
    <div id="pgTopNavLeft">
     <img width="7" style="height: 100%;" alt="" src="../media/img/layout/nav_lft.png" />
    </div>
    <div id="pgTopNavRight">
     <img width="7" style="height: 100%;" alt="" src="../media/img/layout/nav_rgt.png" />
    </div>
    <ul id="pgTopNavList">
     <li><a href="../index.html" title="Home">Home</a></li>
     <li><a href="../about/about.html" title="About">About</a></li>
     <li><a href="../download.html" title="Download">Download</a></li>
     <li><a href="../documentation/documentation.html" title="Documentation">Documentation</a></li>
     <li><a href="../community/community.html" title="Community">Community</a></li>
     <li><a
 href="../development/development.html" title="Development">Development</a></li>
    </ul>
   </div> <!-- pgTopNav -->
  </div> <!-- pgHeaderContainer -->

  <div id="pgContent">
   <div id="pgSideWrap">
    <div id="pgSideNav">
     <ul>
      <li><a href="about.html">About</a></li>
      <li><a href="license.html">License</a></li>
      <li><a href="extras.html">Extras</a></li>
     </ul>
    </div> <!-- pgSideNam -->
   </div> <!-- pgSideWrap -->

   <div id="pgContentWrap">
    <h1>BSD 2-clause "Simplified" License</h1>
    <p>
     The PostgreSQL JDBC Driver is distributed under the BSD-2-Clause License.
     The simplest explanation of the licensing terms is that
     you can do whatever you want with the product and source code as long
     as you don't claim you wrote it or sue us.  You should give it a read
```

though, it's only half a page.
</p>
<hr />

<pre  style="font-family: monospace,'Courier'; background-color:
#f9f9f9; padding: 1em; border: 1px solid #ddd">
Copyright (c) 1997, PostgreSQL Global Development Group
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.</pre>
 <!-- pgContentWrap -->

<br class="pgClearBoth" />
 <!-- pgContent -->
<hr />

<a class="navFooter" href="https://www.postgresql.org/about/privacypolicy">Privacy Policy</a> |
<a class="navFooter" href="https://www.postgresql.org/about/">About PostgreSQL</a><br/>
Copyright © 1996-2020 The PostgreSQL Global Development Group
 <!-- pgFooter -->
 <!-- pgContainer -->
 <!-- pgContainerWrap -->
</body>
</html>

Apache License
Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including

the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or

Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the

origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier

identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.109 converter-scalars 2.9.0

## 1.109.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2015 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /converter-scalars-2-9-0-sources-jar/retrofit2/converter/scalars/ScalarRequestBodyConverter.java
* /converter-scalars-2-9-0-sources-jar/retrofit2/converter/scalars/ScalarsConverterFactory.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2016 Square, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
```

* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /converter-scalars-2-9-0-sources-jar/retrofit2/converter/scalars/ScalarResponseBodyConverters.java

# 1.110 libbsd 0.8.7-1ubuntu0.1

## 1.110.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/

Files:
*
Copyright:
Copyright  2004-2006, 2008-2017 Guillem Jover <guillem@hadrons.org>
License: BSD-3-clause

Files:
man/arc4random.3bsd
man/tree.3bsd
Copyright:
Copyright 1997 Niels Provos <provos@physnet.uni-hamburg.de>
All rights reserved.
License: BSD-4-clause-Niels-Provos
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software
   must display the following acknowledgement:
     This product includes
 software developed by Niels Provos.
4. The name of the author may not be used to endorse or promote products
   derived from this software without specific prior written permission.
.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files:
man/getprogname.3bsd
Copyright:
Copyright  2001 Christopher G. Demetriou
All rights
reserved.
License: BSD-4-clause-Christopher-G-Demetriou
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software
   must display the following acknowledgement:
        This product includes software developed for the
        NetBSD Project.  See http://www.netbsd.org/ for
        information about NetBSD.
4. The name of the author may not be used to endorse or promote products
   derived from this software without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED
 BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files:
include/bsd/err.h

include/bsd/stdlib.h
include/bsd/unistd.h
src/bsd_getopt.c
src/err.c
src/fgetln.c
src/progname.c
Copyright:
Copyright  2005, 2008-2012 Guillem Jover <guillem@hadrons.org>
Copyright  2005 Hector Garcia Alvarez
Copyright  2005 Aurelien Jarno
Copyright  2006 Robert Millan
License:
 BSD-3-clause

Files:
include/bsd/netinet/ip_icmp.h
include/bsd/sys/bitstring.h
include/bsd/sys/queue.h
include/bsd/sys/time.h
include/bsd/timeconv.h
include/bsd/vis.h
man/bitstring.3bsd
man/errc.3bsd
man/explicit_bzero.3bsd
man/fgetln.3bsd
man/fgetwln.3bsd
man/fpurge.3bsd
man/funopen.3bsd
man/getbsize.3bsd
man/heapsort.3bsd
man/nlist.3bsd
man/queue.3bsd
man/radixsort.3bsd
man/reallocarray.3bsd
man/reallocf.3bsd
man/setmode.3bsd
man/strmode.3bsd
man/strnstr.3bsd
man/unvis.3bsd
man/vis.3bsd
man/wcslcpy.3bsd
src/getbsize.c
src/heapsort.c
src/merge.c
src/nlist.c
src/radixsort.c
src/setmode.c
src/strmode.c

src/strnstr.c
src/unvis.c
src/vis.c
Copyright:
Copyright  1980, 1982, 1986, 1989-1994
The Regents of the University of California.  All rights reserved.
Copyright  2001 Mike Barcroft <mike@FreeBSD.org>
.
Some code is derived from software contributed to Berkeley by
the American National Standards Committee X3, on Information
Processing
Systems.
.
Some code is derived from software contributed to Berkeley by
Peter McIlroy.
.
Some code is derived from software contributed to Berkeley by
Ronnie Kon at Mindcraft Inc., Kevin Lew and Elmer Yglesias.
.
Some code is derived from software contributed to Berkeley by
Dave Borman at Cray Research, Inc.
.
Some code is derived from software contributed to Berkeley by
Paul Vixie.
.
Some code is derived from software contributed to Berkeley by
Chris Torek.
.
Copyright  UNIX System Laboratories, Inc.
All or some portions of this file are derived from material licensed
to the University of California by American Telephone and Telegraph
Co. or Unix System Laboratories, Inc. and are reproduced herein with
the permission of UNIX System Laboratories, Inc.
License: BSD-3-clause-Regents
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must
retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND

ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files:
include/bsd/libutil.h
Copyright:
Copyright 1996 Peter Wemm <peter@FreeBSD.org>.
All rights reserved.
Copyright 2002 Networks Associates Technology, Inc.
All rights reserved.
License: BSD-3-clause-Peter-Wemm
Redistribution and use in source and binary forms, with or without
modification, is permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. The name of the author may
not be used to endorse or promote
products derived from this software without specific prior written
permission.
.
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files:
man/timeradd.3bsd
Copyright:

Copyright  2009 Jukka Ruohonen <jruohonen@iki.fi>
Copyright  1999 Kelly Yancey <kbyanc@posi.net>
All rights reserved.
License: BSD-3-clause-John-Birrell
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the author nor the names of any co-contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY JOHN BIRRELL AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN
NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files:
man/setproctitle.3bsd
Copyright:
Copyright  1995 Peter Wemm <peter@FreeBSD.org>
All rights reserved.
License: BSD-5-clause-Peter-Wemm
Redistribution and use in source and binary forms, with or without
modification, is permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice immediately at the beginning of the file, without modification,
this list of conditions, and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. This work was done expressly for inclusion into FreeBSD.  Other use
is permitted provided this notation is included.
4. Absolutely no warranty of function or purpose is made by the author
Peter Wemm.

5. Modifications may be freely made to this file providing the above
conditions are met.

Files:
include/bsd/stringlist.h
man/fmtcheck.3bsd
man/humanize_number.3bsd
man/stringlist.3bsd
man/timeval.3bsd
src/fmtcheck.c
src/humanize_number.c
src/stringlist.c
Copyright:
Copyright 1994, 1997-2000, 2002, 2008, 2010 The NetBSD Foundation, Inc.
All rights reserved.
.
Some code was contributed to The NetBSD Foundation by Allen Briggs.
.
Some code was contributed to The NetBSD Foundation by Luke Mewburn.
.
Some code is derived from software contributed
to The NetBSD Foundation
by Jason R. Thorpe of the Numerical Aerospace Simulation Facility,
NASA Ames Research Center, by Luke Mewburn and by Tomas Svensson.
.
Some code is derived from software contributed to The NetBSD Foundation
by Julio M. Merino Vidal, developed as part of Google's Summer of Code
2005 program.
.
Some code is derived from software contributed to The NetBSD Foundation
by Christos Zoulas.
.
Some code is derived from software contributed to The NetBSD Foundation
by Jukka Ruohonen.
License: BSD-2-clause-NetBSD
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials
provided with the distribution.
.
THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR

PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files:
include/bsd/sys/endian.h
man/byteorder.3bsd
man/closefrom.3bsd
man/expand_number.3bsd
man/flopen.3bsd
man/getpeereid.3bsd
man/pidfile.3bsd
src/expand_number.c
src/hash/sha512.h
 src/hash/sha512c.c
src/pidfile.c
src/reallocf.c
src/timeconv.c
Copyright:
Copyright  1998, M. Warner Losh <imp@freebsd.org>
All rights reserved.
.
Copyright  2001 Dima Dorfman.
All rights reserved.
.
Copyright  2001 FreeBSD Inc.
All rights reserved.
.
Copyright  2002 Thomas Moestl <tmm@FreeBSD.org>
All rights reserved.
.
Copyright  2002 Mike Barcroft <mike@FreeBSD.org>
All rights reserved.
.
Copyright  2005 Pawel Jakub Dawidek <pjd@FreeBSD.org>
All rights reserved.
.
Copyright  2005 Colin Percival
All rights reserved.
.
Copyright  2007 Eric Anderson <anderson@FreeBSD.org>
Copyright  2007 Pawel Jakub Dawidek <pjd@FreeBSD.org>
All rights reserved.

.
Copyright  2007 Dag-Erling Codan Smrgrav
All rights reserved.
.
Copyright  2009 Advanced Computing Technologies LLC
Written by: John H. Baldwin <jhb@FreeBSD.org>
All rights reserved.
.
Copyright  2011 Guillem Jover <guillem@hadrons.org>
License: BSD-2-clause

Files:
src/flopen.c
Copyright:
Copyright
 2007 Dag-Erling Codan Smrgrav
All rights reserved.
License: BSD-2-clause-verbatim
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer
   in this position and unchanged.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
.
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING,
 BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files:
include/bsd/sys/tree.h
man/fparseln.3bsd
src/fparseln.c
Copyright:
Copyright  1997 Christos Zoulas.
All rights reserved.

.
Copyright  2002 Niels Provos <provos@citi.umich.edu>
All rights reserved.
License: BSD-2-clause-author
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and
 the following disclaimer in the
   documentation and/or other materials provided with the distribution.
.
THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files:
include/bsd/readpassphrase.h
man/readpassphrase.3bsd
man/strlcpy.3bsd
man/strtonum.3bsd
src/arc4random.c
src/arc4random_openbsd.h
src/arc4random_uniform.c
src/arc4random_unix.h
 src/closefrom.c
src/getentropy_aix.c
src/getentropy_bsd.c
src/getentropy_hpux.c
src/getentropy_hurd.c
src/getentropy_linux.c
src/getentropy_osx.c
src/getentropy_solaris.c
src/readpassphrase.c
src/reallocarray.c
src/strlcat.c
src/strlcpy.c
src/strtonum.c
Copyright:

Copyright  2004 Ted Unangst and Todd Miller
All rights reserved.
.
Copyright  1996 David Mazieres <dm@uun.org>
Copyright  1998, 2000-2002, 2004-2005, 2007, 2010, 2012-2015
Todd C. Miller <Todd.Miller@courtesan.com>
Copyright  2004 Ted Unangst
Copyright  2008 Damien Miller <djm@openbsd.org>
Copyright  2008 Otto Moerbeek <otto@drijf.net>
Copyright  2013 Markus Friedl <markus@openbsd.org>
Copyright  2014 Bob Beck <beck@obtuse.com>
Copyright  2014 Brent Cook <bcook@openbsd.org>
Copyright  2014 Pawel Jakub Dawidek <pjd@FreeBSD.org>
Copyright  2014 Theo de Raadt <deraadt@openbsd.org>
Copyright  2015 Michael Felt <aixtools@gmail.com>
Copyright  2015 Guillem Jover <guillem@hadrons.org>
License:
ISC
Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.
.
THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files:
src/inet_net_pton.c
Copyright:
Copyright  1996 by Internet Software Consortium.
License: ISC-Original
Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this
permission notice appear in all copies.
.
THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.

Files:
src/setproctitle.c
Copyright:
Copyright  2010 William Ahern
Copyright  2012 Guillem Jover <guillem@hadrons.org>
License: Expat
Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense,
 and/or sell copies of the Software, and to permit
persons to whom the Software is furnished to do so, subject to the
following conditions:
.
The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.
.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN
NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE
USE OR OTHER DEALINGS IN THE SOFTWARE.

Files:
include/bsd/md5.h
src/hash/md5.c
Copyright:
None
License: public-domain-Colin-Plumb
This code implements the MD5 message-digest algorithm.
The algorithm is due to Ron Rivest. This code was
written by Colin Plumb in 1993, no copyright
 is claimed.
This code is in the public domain; do with it what you wish.

Files:
src/explicit_bzero.c
src/chacha_private.h
Copyright:
None
License: public-domain
Public domain.

Files:

man/mdX.3bsd
src/hash/md5hl.c
src/hash/helper.c
Copyright:
None
License: Beerware
"THE BEER-WARE LICENSE" (Revision 42):
<phk@login.dkuug.dk> wrote this file. As long as you retain this notice you
can do whatever you want with this stuff. If we meet some day, and you think
this stuff is worth it, you can buy me a beer in return. Poul-Henning Kamp

License: BSD-3-clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the

documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
derived from this software without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL
THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

License: BSD-2-clause
Redistribution and use in source and binary forms, with
or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
.
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.111 d3 5.16.0

## 1.111.1 Available under license :

BSD-3-Clause
Copyright 2010-2017 Mike Bostock
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of the author nor the names of contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.112 libssh 0.8.0~20170825.94fa1e38-1ubuntu0.7

## 1.112.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients

all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence
of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits
its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain

special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is

included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library
refers to a function or a
table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that,

in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves,
then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to
a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of

the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this
License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user
installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these

materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing

the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people
have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the

original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL

DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.

Linking with OpenSSL

17. In addition, as a special exception, we give permission to link the code of its release of libssh with the OpenSSL project's "OpenSSL" library (or with modified versions of it that use the same license as the "OpenSSL" library), and distribute the linked executables. You must obey the GNU Lesser General Public License in all respects for all of the code used other than "OpenSSL". If you modify this file, you may extend this exception to your version of the file, but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version.

END OF TERMS AND CONDITIONS

Some parts are under the BSDv2 License :

Copyright (c) 2000 Markus Friedl. All rights reserved.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. The name of the author may not be used to endorse or promote products
derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.113 nghttp2 1.30.0-1ubuntu1

## 1.113.1 Available under license :

The MIT License

Copyright (c) 2012, 2014, 2015, 2016 Tatsuhiro Tsujikawa
Copyright (c) 2012, 2014, 2015, 2016 nghttp2 contributors

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
set yrange [0:]
set terminal pngcairo font 'Sans, 8' lw 1 size 1400,1024
set xtics rotate by -45
set style histogram errorbars gap 2 lw 1
set style fill solid border -1

LEGAL NOTICE INFORMATION
---

All the files in this distribution are covered under the MIT license
(see the file MITL) except some files mentioned below:
If not otherwise noted, the extensions in this package are licensed
under the following license.

Copyright (c) 2010 by the contributors (see AUTHORS file).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
 notice, this list of conditions and the following disclaimer in the
 documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL,
 EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.114 jackson 2.6.0

## 1.114.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* The MIT License
*
* Copyright 2017 Tim Boudreau.
*
* Permission is hereby granted, free of charge, to any person obtaining a copy
* of this software and associated documentation files (the "Software"), to deal

* in the Software without restriction, including without limitation the rights
* to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
* copies of the Software, and to permit persons to whom the Software is
* furnished to do so, subject to the following conditions:
*
* The above copyright notice and this permission notice shall be included in
* all copies or substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
* IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
* FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
* AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER
* LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
* OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
* THE SOFTWARE.
*/

Found in path(s):
* /jackson-2-6-0-sources-jar/com/mastfrog/jackson/DurationSerializationMode.java
* /jackson-2-6-0-sources-jar/com/mastfrog/jackson/LocaleJacksonConfigurer.java
* /jackson-2-6-0-sources-jar/com/mastfrog/jackson/TimeSerializationMode.java
* /jackson-2-6-0-sources-jar/com/mastfrog/jackson/JavaTimeConfigurer.java
No license file was found, but licenses were detected in source scan.

/*
* The MIT License
*
* Copyright 2015 Tim Boudreau.
*
* Permission is hereby granted, free of charge, to any person obtaining a copy
* of this software and associated documentation files (the "Software"), to deal
* in the Software without restriction, including without limitation the rights
* to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
* copies of the Software, and to permit persons to whom the Software is
* furnished to do so, subject to the following conditions:
*
* The above copyright notice and this permission notice shall be included in
* all copies or substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
* IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
* FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
* AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER
* LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
* OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
* THE SOFTWARE.

*/

Found in path(s):
* /jackson-2-6-0-sources-jar/com/mastfrog/jackson/OptionalSerializer.java
* /jackson-2-6-0-sources-jar/com/mastfrog/jackson/OptionalJavaUtilSerializer.java
No license file was found, but licenses were detected in source scan.

/*
* The MIT License
*
* Copyright 2013 Tim Boudreau.
*
* Permission is hereby granted, free of charge, to any person obtaining a copy
* of this software and associated documentation files (the "Software"), to deal
* in the Software without restriction, including without limitation the rights
* to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
* copies of the Software, and to permit persons to whom the Software is
* furnished to do so, subject to the following conditions:
*
* The above copyright notice and this permission notice shall be included in
* all copies or substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
* IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
* FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
* AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR
 ANY CLAIM, DAMAGES OR OTHER
* LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
* OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
* THE SOFTWARE.
*/

Found in path(s):
* /jackson-2-6-0-sources-jar/com/mastfrog/jackson/JacksonConfigurer.java

# 1.115 ftp-server 1.0.6_1

## 1.115.1 Available under license :

// ------------------------------------------------------------------
// NOTICE file corresponding to the section 4d of The Apache License,
// Version 2.0, in this case for Apache FtpServer Core
// ------------------------------------------------------------------

Apache FtpServer Core
Copyright 2003-2011 The Apache Software Foundation

This product includes software developed at

The Apache Software Foundation (http://www.apache.org/).

This product includes/uses software, AOP alliance (http://aopalliance.sourceforge.net)
License: Public Domain

This product includes/uses software, Apache Ftplet API (http://mina.apache.org/ftpserver),
developed by The Apache Software Foundation (http://www.apache.org/)
License: Apache 2.0 License (http://www.apache.org/licenses/LICENSE-2.0)

This product includes/uses software, Apache MINA Core (http://mina.apache.org/mina-core/),
developed by Apache MINA Project (http://mina.apache.org/)
License: Apache 2.0 License (http://www.apache.org/licenses/LICENSE-2.0)

This
product includes/uses software, JCL 1.1.1 implemented over SLF4J (http://www.slf4j.org),
developed by QOS.ch (http://www.qos.ch)

This product includes/uses software, SLF4J API Module (http://www.slf4j.org),
developed by QOS.ch (http://www.qos.ch)

This product includes/uses software, Spring Framework: Beans (http://www.springframework.org),
developed by Spring Framework (http://www.springframework.org/)
License: The Apache Software License, Version 2.0 (http://www.apache.org/licenses/LICENSE-2.0.txt)

This product includes/uses software, Spring Framework: Context (http://www.springframework.org),
developed by Spring Framework (http://www.springframework.org/)
License: The Apache Software License, Version 2.0 (http://www.apache.org/licenses/LICENSE-2.0.txt)

This product includes/uses software, Spring Framework: Core (http://www.springframework.org),
developed by Spring Framework (http://www.springframework.org/)
License: The Apache Software License, Version
2.0 (http://www.apache.org/licenses/LICENSE-2.0.txt)

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its

distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.116 checker-qual 3.5.0

## 1.116.1 Available under license :

Checker Framework qualifiers
Copyright 2004-present by the Checker Framework developers

MIT License:

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

# 1.117 httpcomponents-client 4.5.13

## 1.117.1 Available under license :

Apache HttpClient
Copyright 1999-2020 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner

or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices

stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.118 cryptsetup 2.0.2-1ubuntu1.2

## 1.118.1 Available under license :

CREATIVE COMMONS CORPORATION IS NOT A LAW FIRM AND DOES NOT PROVIDE LEGAL SERVICES. DISTRIBUTION OF THIS DOCUMENT DOES NOT CREATE AN ATTORNEY-CLIENT RELATIONSHIP. CREATIVE COMMONS PROVIDES THIS INFORMATION ON AN "AS-IS" BASIS. CREATIVE COMMONS MAKES NO WARRANTIES REGARDING THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED HEREUNDER, AND DISCLAIMS LIABILITY FOR DAMAGES RESULTING FROM THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED HEREUNDER.

Statement of Purpose

The laws of most jurisdictions throughout the world automatically confer exclusive Copyright and Related Rights (defined below) upon the creator and subsequent owner(s) (each and all, an "owner") of an original work of authorship and/or a database (each, a "Work").

Certain owners wish to permanently relinquish those rights to a Work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement
build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative, cultural and scientific works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.

For these and/or other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and Related Rights in the Work, voluntarily elects to apply CC0 to the Work and publicly distribute the Work under its terms, with knowledge of his or her Copyright and Related Rights in the Work and the meaning and intended legal effect of CC0 on those rights.

1. Copyright and Related Rights. A Work made
available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:

the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;

moral rights retained by the original author(s) and/or performer(s);

publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;

rights protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;

rights protecting the extraction, dissemination, use and reuse of data in a Work;

database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and

other similar, equivalent or corresponding

rights throughout the world based on applicable law or treaty, and any national implementations thereof.

2. Waiver. To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending

that such Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of Purpose.

3. Public License Fallback. Should any part of the Waiver for any reason be judged legally invalid or ineffective under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into account Affirmer's express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for

any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason be judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will not (i) exercise any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any associated claims and causes of action with respect to the Work, in either case contrary to Affirmer's express Statement of Purpose.

4. Limitations and Disclaimers.

No trademark or patent rights held by Affirmer are waived, abandoned, surrendered, licensed or otherwise affected by this document.

Affirmer offers the Work as-is and makes no representations or warranties of any kind concerning the Work, express,

implied, statutory or otherwise, including without limitation warranties of title, merchantability, fitness for a particular purpose, non infringement, or the absence of latent or other defects, accuracy, or the present or absence of

errors, whether or not discoverable, all to the greatest extent permissible under applicable law.

Affirmer disclaims responsibility for clearing rights of other persons that may apply to the Work or any use thereof, including without limitation any person's Copyright and Related Rights in the Work. Further, Affirmer disclaims responsibility for obtaining any necessary consents, permissions or other rights required for any use of the Work.

Affirmer understands and acknowledges that Creative Commons is not a party to this document and has no duty or obligation with respect to this CC0 or use of the Work.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which

gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the
Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot

impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing
version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author

Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

---

In addition, as a special exception, the copyright holders give
permission to link the code of portions of this program with the
OpenSSL library under certain conditions as described in each
individual source file, and distribute linked combinations
including the two.

You must obey the GNU General Public License in all respects
for all of the code used other than OpenSSL. If you modify
file(s) with this exception, you may extend this exception to your
version of the file(s), but you are not obligated to do so. If you
do not wish to do so, delete this exception statement from your
version. If you delete this exception statement from all source
files in the program, then also delete it here.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is

modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original
author's reputation will not be affected by problems that might be
introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License. This license, the GNU Lesser
General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License. We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative of the original library. The ordinary
General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General
Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages
are the reason we use the ordinary General Public License for many
libraries. However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free
library does the same job as widely used non-free libraries. In this
case, there is little to gain by limiting
the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free
programs enables a greater number of people to use a large body of

free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order
to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into
another language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from

such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If

identifiable sections of that work are not derived from the Library, and can be
reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the

source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the

copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision
will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that

everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

---

In addition, as a special exception, the copyright holders give permission to link the code of portions of this program with the OpenSSL library under certain conditions as described in each individual source file, and distribute linked combinations including the two.

You must obey the GNU Lesser General Public License in all respects
for all of the code used other than OpenSSL.  If you modify
file(s) with this exception, you may extend this exception to your
version
 of the file(s), but you are not obligated to do so.  If you
do not wish to do so, delete this exception statement from your
version.  If you delete this exception statement from all source
files in the program, then also delete it here.

# 1.119 ncurses 6.1-7.20180224.el8

## 1.119.1 Available under license :

Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 2010-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions
of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright

holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

---

Files: install-sh
Copyright: 1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated
documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the
name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent
`make' implicit rules from creating a file called install from it
when there is no Makefile.

This script is compatible with the BSD install script, but was written
from scratch. It can only install one file at a time, a restriction
shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in '/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8

Upstream source https://invisible-island.net/ncurses/ncurses.html
This package is used for testing builds of ncurses.

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 1996-2017,2018 by Thomas E. Dickey
Licence: X11

Files: doc/html/NCURSES-Programming-HOWTO.html
Copyright: 2001 by Pradeep Padala
Licence: X11


Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, distribute with modifications, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.


---

Files: install-sh
Copyright: 1994
X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT
OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

---

Files: progs/tset.c ncurses/tinfo/read_termcap.c
Copyright: 1980,1991,1992,1993 The Regents of the University of California.
License: BSD

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS

OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

-- vile: txtmode file-encoding=utf-8
Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 2003-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions
of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

---

Files: install-sh

Copyright:  1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated
documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the
name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent
`make' implicit rules from creating a file called install from it
when there is no Makefile.

This script is compatible with the BSD install script, but was written
from scratch.  It can only install one file at a time, a restriction
shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in '/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
Copyright (c) 1998-2017,2018 Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell

copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE,
 ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

-- vile:txtmode fc=72
-- $Id: COPYING,v 1.6 2018/01/01 12:00:00 tom Exp $

# 1.120 readline-common 7.0-3

## 1.120.1 Available under license :

@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,

with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
must themselves be free in the same sense. It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does. But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book. We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License. Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein. The ``Document'', below,
refers
to any such manual or work. Any member of the public is a
licensee, and is addressed as ``you''. You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the
Document or a portion of it, either copied verbatim, or with
modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section
of the Document that deals exclusively with the relationship of the
publishers or authors of the Document to the Document's overall
subject (or to related matters) and contains nothing that could fall
directly within that overall subject. (Thus, if the Document is in
part a textbook of mathematics, a Secondary Section may not explain
any mathematics.) The relationship could be a matter of historical
connection with the subject or with related matters, or of legal,
commercial, philosophical, ethical or political
position regarding
them.

The ``Invariant Sections'' are certain Secondary Sections whose titles
are designated, as being those of Invariant Sections, in the notice
that says that the Document is released under this License.  If a
section does not fit the above definition of Secondary then it is not
allowed to be designated as Invariant.  The Document may contain zero
Invariant Sections.  If the Document does not identify any Invariant
Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed,
as Front-Cover Texts or Back-Cover Texts, in the notice that says that
the Document is released under this License.  A Front-Cover Text may
be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy,
represented in a format whose specification is available to the
general public, that is suitable for revising the document
straightforwardly with generic text editors or (for
 images composed of
pixels) generic paint programs or (for drawings) some widely available
drawing editor, and that is suitable for input to text formatters or
for automatic translation to a variety of formats suitable for input
to text formatters.  A copy made in an otherwise Transparent file
format whose markup, or absence of markup, has been arranged to thwart
or discourage subsequent modification by readers is not Transparent.
An image format is not Transparent if used for any substantial amount
of text.  A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain
@sc{ascii} without markup, Texinfo input format, La@TeX{} input
format, @acronym{SGML} or @acronym{XML} using a publicly available
@acronym{DTD}, and standard-conforming simple @acronym{HTML},
PostScript or @acronym{PDF} designed for human modification.  Examples
of transparent image formats include @acronym{PNG}, @acronym{XCF} and
@acronym{JPG}.  Opaque formats
 include proprietary formats that can be
read and edited only by proprietary word processors, @acronym{SGML} or
@acronym{XML} for which the @acronym{DTD} and/or processing tools are
not generally available, and the machine-generated @acronym{HTML},
PostScript or @acronym{PDF} produced by some word processors for
output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page.  For works in
formats which do not have any title page as such, ``Title Page'' means
the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in
 another language.  (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'', or ``History''.)  To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document.  These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either
commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies
to the Document are reproduced in all copies, and that you add no other
conditions whatsoever
 to those of this License.  You may not use
technical measures to obstruct or control the reading or further
copying of the copies you make or distribute.  However, you may accept
compensation in exchange for copies.  If you distribute a large enough
number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and
you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have
printed covers) of the Document, numbering more than 100, and the
Document's license notice requires Cover Texts, you must enclose the
copies in covers that carry, clearly and legibly, all these Cover
Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on
the back cover.  Both covers must also clearly and legibly identify
you as the publisher of these copies.  The front cover must present
the full title with all words of the title equally prominent and

visible.
You may add other material on the covers in addition.
Copying with changes limited to the covers, as long as they preserve
the title of the Document and satisfy these conditions, can be treated
as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit
legibly, you should put the first ones listed (as many as fit
reasonably) on the actual cover, and continue the rest onto adjacent
pages.

If you publish or distribute Opaque copies of the Document numbering
more than 100, you must either include a machine-readable Transparent
copy along with each Opaque copy, or state in or with each Opaque copy
a computer-network location from which the general network-using
public has access to download using public-standard network protocols
a complete Transparent copy of the Document, free of added material.
If you use the latter option, you must take reasonably prudent steps,
when you begin distribution of Opaque copies in quantity, to ensure
that
this Transparent copy will remain thus accessible at the stated
location until at least one year after the last time you distribute an
Opaque copy (directly or through your agents or retailers) of that
edition to the public.

It is requested, but not required, that you contact the authors of the
Document well before redistributing any large number of copies, to give
them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under
the conditions of sections 2 and 3 above, provided that you release
the Modified Version under precisely this License, with the Modified
Version filling the role of the Document, thus licensing distribution
and modification of the Modified Version to whoever possesses a copy
of it.  In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from
those of previous versions
(which should, if there were any, be listed in the History section
of the Document).  You may use the same title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in
the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled ``History'' in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the ``History'' section. You may omit a network location for a work that was published at least

four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles. Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document,
you may at your option designate some or all
of these sections as invariant. To do this, add their titles to the
list of Invariant Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has
been approved by an organization as the authoritative definition of a
standard.

You may add a passage of up to five words as a Front-Cover Text, and a
passage of up to 25 words as a Back-Cover Text, to the end of the list
of Cover Texts in the Modified Version. Only one passage of
Front-Cover Text and one of Back-Cover Text may be added by (or
through arrangements made by) any one entity. If the Document already
includes a cover text for the same cover, previously added by you or
by arrangement made by the same entity you are acting on behalf

of,
you may not add another; but you may replace the old one, on explicit
permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License
give permission to use their names for publicity for or to assert or
imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this
License, under the terms defined in section 4 above for modified
versions, provided that you include in the combination all of the
Invariant Sections of all of the original documents, unmodified, and
list them all as Invariant Sections of your combined work in its
license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single
copy.  If there are multiple Invariant Sections with the same name but
different contents, make the title of
each such section unique by
adding at the end of it, in parentheses, the name of the original
author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of
Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History''
in the various original documents, forming one section Entitled
``History''; likewise combine any sections Entitled ``Acknowledgements'',
and any sections Entitled ``Dedications''.  You must delete all
sections Entitled ``Endorsements.''

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents
released under this License, and replace the individual copies of this
License in the various documents with a single copy that is included in
the collection, provided that you follow the rules of this License for
verbatim copying of each of the documents in all other respects.

You may extract
a single document from such a collection, and distribute
it individually under this License, provided you insert a copy of this
License into the extracted document, and follow this License in all
other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate
and independent documents or works, in or on a volume of a storage or
distribution medium, is called an ``aggregate'' if the copyright
resulting from the compilation is not used to limit the legal rights
of the compilation's users beyond what the individual works permit.
When the Document is included in an aggregate, this License does not
apply to the other works in the aggregate which are not themselves
derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these
copies of the Document, then if the Document is less than one half of
the entire aggregate, the Document's Cover Texts may
 be placed on
covers that bracket the Document within the aggregate, or the
electronic equivalent of covers if the Document is in electronic form.
Otherwise they must appear on printed covers that bracket the whole
aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may
distribute translations of the Document under the terms of section 4.
Replacing Invariant Sections with translations requires special
permission from their copyright holders, but you may include
translations of some or all Invariant Sections in addition to the
original versions of these Invariant Sections.  You may include a
translation of this License, and all the license notices in the
Document, and any Warranty Disclaimers, provided that you also include
the original English version of this License and the original versions
of those notices and disclaimers.  In case of a disagreement between
the translation and the original version of this License or a notice
or disclaimer, the original
 version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',
``Dedications'', or ``History'', the requirement (section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document

except as expressly provided under this License.  Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies
 you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License.  If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time.  Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.  See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that
 a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation.  If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation.  If the Document
specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the
Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works.  A
public wiki that anybody can edit is an example of such a server.  A
``Massive Multiauthor Collaboration'' (or ``MMC'')
 contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the
 MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group
 Copyright (C)  @var{year}  @var{your name}.
 Permission is granted to copy, distribute and/or modify this document
 under the terms of the GNU Free Documentation License, Version 1.3
 or any later version published by the Free Software Foundation;
 with no Invariant Sections, no Front-Cover Texts, and no Back-Cover

Texts.  A copy of the license is included in the section entitled ``GNU
Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts." line with this:

@smallexample
@group
  with the Invariant Sections being @var{list their titles}, with
  the Front-Cover
Texts being @var{list}, and with the Back-Cover Texts
  being @var{list}.
@end group
@end smallexample

If you have Invariant Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works.  By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users.  We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors.  You can apply it to

your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1)
assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could

make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of

copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;

keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms

of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded

from the Corresponding Source
as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,
procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as
part of a transaction in which the right of possession and use of the
User Product is transferred to the recipient in perpetuity or for a
fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied
by the Installation Information. But this requirement does not apply
if neither you nor any third party retains the ability to install
modified object code on the User Product (for example, the work has
been installed in
ROM).

The requirement to provide Installation Information does not include a
requirement to continue to provide support service, warranty, or updates
for a work that has been modified or installed by the recipient, or for
the User Product in which it has been modified or installed. Access to a
network may be denied when the modification itself materially and
adversely affects the operation of the network or violates the rules and
protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided,
in accord with this section must be in a format that is publicly

documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for

any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the

licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to

address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.

Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it

under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights.

These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the

Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of

this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based
on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or
executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering

access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to

apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA  02111-1307  USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year  name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.121 libgpm 1.20.7-5

## 1.121.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: gpm - general purpose mouse
Upstream-Contact: gpm@lists.linux.it
Source: https://nico.schottelius.org/software/gpm/archives/

Files: *
Copyright: 1993 Andrew Haylett <ajh@gec-mrc.co.uk>
1994-2000 Alessandro Rubini <rubini@linux.it>
1998-1999 Ian Zimmerman <itz@rahul.net>
2001-2012 Nico Schottelius <nico@schottelius.org>
License: GPL-2.0+

Files: scripts/git-archiv-tarbz2.sh scripts/report_success.sh
Copyright: 2008 Nico Schottelius <nico@schottelius.org>
License: GPL-3.0+

Files: debian/*
Copyright: 1996-1997 Martin Schulze <joey@debian.org>
1997-1999 James Troup <james@nocrew.org>
1998 Franois Gouget <fgouget@mygale.org>
1999-2002 Zephaniah E. Hull <warp@debian.org>
2004-2008 Guillem Jover <guillem@debian.org>
2004-2012 Peter Samuelson <peter@p12n.org>
2008-2017 Samuel Thibault <sthibault@debian.org>
2017 Axel Beckert <abe@debian.org>
License: GPL-2.0+
Comment: It is assumed that the packaging is licensed under the same
terms as the upstream code unless stated otherwise.

Files: debian/gpm-microtouch-setup.8
Copyright: 2008 Franois Wendling <frwendling@free.fr>
License: GPL-2.0+
Comment: It is assumed that the packaging is licensed under the same
terms as the upstream code unless stated otherwise.

License: GPL-2.0+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
.
On a Debian system, you can find the full text of the
GNU General
Public License, version 2 in /usr/share/common-licenses/GPL-2.

License: GPL-3.0+
This program is free software; you can redistribute it and/or modify

it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
On a Debian system, you can find the full text of the GNU General
Public License, version 3 in /usr/share/common-licenses/GPL-3.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
675 Mass Ave, Cambridge, MA 02139, USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.  Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have.  You must make sure that they, too, receive or can get the
source code.  And you must show them these terms so they know their

rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work
which contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim
copies of the Program's
source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate

copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole
or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably
considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program

except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6.
Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free
redistribution of the Program by
all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is

implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through
any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number
of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE
LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED

OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),
EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

```
  Gnomovision version 69, Copyright (C) 19yy name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should
 show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

```
 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.122 libncurses 6.1-1ubuntu1.18.04

## 1.122.1 Available under license :

Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 2010-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, distribute with modifications, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.

---

Files: install-sh
Copyright: 1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the
name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent
`make' implicit rules from creating a file called install from it
when there is no Makefile.

This script is compatible with the BSD install script, but was written
from scratch. It can only install one file at a time, a restriction
shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in '/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
Upstream source https://invisible-island.net/ncurses/ncurses.html
This package is used for testing builds of ncurses.

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 1996-2017,2018 by Thomas E. Dickey
Licence: X11

Files: doc/html/NCURSES-Programming-HOWTO.html
Copyright: 2001 by Pradeep Padala
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the
following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

---

Files: install-sh
Copyright: 1994
X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT
OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

---

Files: progs/tset.c ncurses/tinfo/read_termcap.c
Copyright: 1980,1991,1992,1993 The Regents of the University of California.

License: BSD

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

-- vile: txtmode file-encoding=utf-8
Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 2003-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is

furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions
of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

---

Files: install-sh
Copyright:  1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated
documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the
name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent
`make' implicit rules from creating a file called install from it
when there is no Makefile.

This script is compatible with the BSD install script, but was written
from scratch. It can only install one file at a time, a restriction
shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in '/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
Copyright (c) 1998-2017,2018 Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

-- vile:txtmode fc=72
-- $Id: COPYING,v 1.6 2018/01/01 12:00:00 tom Exp $
This is the Debian prepackaged version of the ncurses
library and terminfo utilities. ncurses/terminfo was originally written
by Pavel Curtis and Zeyd M. Ben-Halim <zmbenhal@netcom.com>, and is
currently held by the Free Software Foundation.

This package was put together by Vaidhyanathan G Mayilrangam
<vaidhy@debian.org> and Joel Klecker <espy@debian.org>, using sources
obtained from ftp://ftp.gnu.org/gnu/ncurses/ncurses-5.0.tar.gz.
Current versions of the ncurses sources are found at
ftp://invisible-island.net/ncurses/.

It is based somewhat on work done by Bruce Perens <Bruce@Pixar.com>,
David Engel <david@elo.ods.com>.  Michael Alan Dorman
<mdorman@debian.org>, Richard Braakman <dark@xs4all.nl>, James Troup
<jjtroup@comp.brad.ac.uk>, J.H.M. Dassen (Ray)
<jdassen@wi.LeidenUniv.nl>, and Galen Hazelwood <galenh@micron.net>
over various years.

Copyright (c) 1998-2018 Free Software Foundation, Inc.
Copyright  2001 by Pradeep Padala

Permission is hereby granted, free of charge, to any
 person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except
 as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

Copyright (C) 1994 X Consortium

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to

deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

Copyright (c) 1980, 1991, 1992, 1993
The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY

OF
SUCH DAMAGE.

Copyright 1996-2018 by Thomas E. Dickey

All Rights Reserved

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE LISTED COPYRIGHT HOLDER(S) BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

# 1.123 libip4tc0 1.6.1-2ubuntu2

## 1.123.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your

freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively

when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is

allowed only for noncommercial distribution
and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing
or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing
version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.124 libnghttp2-14 1.30.0-1ubuntu1

## 1.124.1 Available under license :

The MIT License

Copyright (c) 2012, 2014, 2015, 2016 Tatsuhiro Tsujikawa
Copyright (c) 2012, 2014, 2015, 2016 nghttp2 contributors

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
set yrange [0:]
set terminal pngcairo font 'Sans, 8' lw 1 size 1400,1024
set xtics rotate by -45
set style histogram errorbars gap 2 lw 1
set style fill solid border -1
LEGAL NOTICE INFORMATION
---

All the files in this distribution are covered under the MIT license
(see the file MITL) except some files mentioned below:

If not otherwise noted, the extensions in this package are licensed
under the following license.

Copyright (c) 2010 by the contributors (see AUTHORS file).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
 notice, this list of conditions and the following disclaimer in the
 documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL,
 EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.125 colorama 0.4.1

## 1.125.1 Available under license :

Copyright (c) 2010 Jonathan Hartley
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
 list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
 this list of conditions and the following disclaimer in the documentation
 and/or other materials provided with the distribution.

* Neither the name of the copyright holders, nor those of its contributors

may be used to endorse or promote products derived from this software without
specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
HOLDER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.126 idna 2.8

## 1.126.1 Available under license :

No license file was found, but licenses were detected in source scan.

License
---

Copyright (c) 2013-2018, Kim Davies. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

#. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

#. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided with
the distribution.

#. Neither the name of the copyright holder nor the names of the
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

#. THIS SOFTWARE IS PROVIDED BY THE CONTRIBUTORS "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT

LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Portions of the codec implementation and unit tests are derived from the Python standard library, which carries the `Python Software Foundation License <https://docs.python.org/2/license.html>`_:

Copyright (c) 2001-2014 Python Software Foundation; All Rights Reserved

Portions of the unit tests are derived from the Unicode standard, which is subject to the Unicode, Inc. License Agreement:

Copyright (c) 1991-2014 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in
<http://www.unicode.org/copyright.html>.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that

(a) this copyright and permission notice appear with all copies of the Data Files or Software,

(b) this copyright and permission notice appear in associated documentation, and

(c) there is clear notice in each modified Data File or in the Software as well as in the documentation
associated with the Data File(s) or
Software that the data or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER

TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright
holder.

Found in path(s):
* /kjd-idna-v2-8-0-g1cdf175-1-tar-gz/kjd-idna-375dc46/LICENSE.rst
No license file was found, but licenses were detected in source scan.

"""
A library to support the Internationalised Domain Names in Applications
(IDNA) protocol as specified in RFC 5890 et.al. This new methodology,
known as IDNA 2008, can generate materially different results to the
previous standard. The library can act as a drop-in replacement for
the "encodings.idna" module.
"""

```
import io, sys
from setuptools import setup


def main():

  python_version = sys.version_info[:2]
  if python_version < (2,7):
     raise SystemExit("Sorry, Python 2.7 or newer required")

  package_data = {}
  exec(open('idna/package_data.py').read(), package_data)

  arguments = {
     'name': 'idna',
     'packages': ['idna'],
     'version': package_data['__version__'],
     'description': 'Internationalized Domain Names in Applications (IDNA)',
     'long_description': io.open("README.rst", encoding="UTF-8").read(),
     'author': 'Kim Davies',
     'author_email': 'kim@cynosure.com.au',
      'license': 'BSD-like',
     'url': 'https://github.com/kjd/idna',
     'classifiers': [
        'Development Status :: 5 - Production/Stable',
        'Intended Audience :: Developers',
        'Intended Audience :: System Administrators',
```

```
        'License :: OSI Approved :: BSD License',
        'Operating System :: OS Independent',
        'Programming Language :: Python',
        'Programming Language :: Python :: 2',
        'Programming Language :: Python :: 2.7',
        'Programming Language :: Python :: 3',
        'Programming Language :: Python :: 3.4',
        'Programming Language :: Python :: 3.5',
        'Programming Language :: Python :: 3.6',
        'Topic :: Internet :: Name Service (DNS)',
        'Topic :: Software Development :: Libraries :: Python Modules',
        'Topic :: Utilities',
    ],
    'python_requires': '>=2.7, !=3.0.*, !=3.1.*, !=3.2.*, !=3.3.*',
     'test_suite': 'tests',
}

setup(**arguments)

if __name__ == '__main__':
    main()
```

Found in path(s):
* /kjd-idna-v2-8-0-g1cdf175-1-tar-gz/kjd-idna-375dc46/setup.py

# 1.127 netaddr 0.7.19

## 1.127.1 Available under license :

BSD-style without advertising clause
Here are the licenses applicable to the use of the netaddr library.

---
netaddr
---

COPYRIGHT AND LICENSE

Copyright (c) 2008 by David P. D. Moss. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright

notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of David P. D. Moss nor the names of contributors
may be used to endorse or promote products derived from this
software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Here are the copyright notices applicable to the netaddr library.

---
netaddr
---

Copyright (c) 2008 by David P. D. Moss. All rights reserved.

Released under the BSD license. See the LICENSE file for details.

---
IANA (Internet Assigned Numbers Authority)
---

netaddr is not sponsored nor endorsed by IANA.

Use of data from IANA (Internet Assigned Numbers Authority) is subject to
copyright and is provided with prior written permission.

IANA data files included with netaddr are not modified in any way but are
parsed and made available to end users through an API.

See README file and source code for URLs to latest copies of the relevant
files.

---
IEEE (Institution of Electrical Engineers)
---

netaddr is not sponsored nor endorsed by the IEEE.

Use of data from the IEEE (Institute of Electrical and Electronics Engineers)
is subject to copyright. See the following URL for details :-

http://www.ieee.org/web/publications/rights/legal.html

IEEE data files included with netaddr are not modified in any way but are parsed and made available to end users through an API. There is no guarantee that referenced files are not out of date.

See README file and source code for URLs to latest copies of the relevant files.

# 1.128 packaging 19.0

## 1.128.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,

including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of

this
License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside

or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

This software is made available under the terms of *either* of the licenses
found in LICENSE.APACHE or LICENSE.BSD. Contributions to this software is made
under the terms of *both* these licenses.

Copyright (c) Donald Stufft and individual contributors.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED
TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.129 six 1.11.0

## 1.129.1 Available under license :

The primary author and maintainer of six is Benjamin Peterson. He would like to
acknowledge the following people who submitted bug reports, pull requests, and
otherwise worked to improve six:

Marc Abramowitz
Alexander Artemenko
Aymeric Augustin
Ned Batchelder
Wouter Bolsterlee
Brett Cannon
Jason R. Coombs
Julien Danjou
Ben Darnell
Ben Davis
Tim Graham
Thomas Grainger
Max Grender-Jones
Joshua Harlow
Anselm Kruis
Alexander Lukanin
James Mills
Berker Peksag
Sridhar Ratnakumar
Erik Rose
Mirko Rossini
Peter Ruibal
Miroslav Shubernetskiy
Anthony Sottile
Lucas Wiman
Jordan Moldow

If you think you belong on this list, please let me know! --Benjamin
Copyright (c) 2010-2017 Benjamin Peterson

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS
FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION

WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.130 python-setuptools 41.2.0

## 1.130.1 Available under license :

MIT
Copyright (C) 2016 Jason R Coombs <jaraco@jaraco.com>

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is furnished to do
so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.131 libgirepository 1.56.1-1

## 1.131.1 Available under license :

gobject-introspection has two licenses; one for the typelib library,
and one for the tools.

The scanner (giscanner/) and typelib libraries (girepository/) are
licensed under the LGPLv2+.  See the file COPYING.LGPL.

The tools (tools/) are licensed under the GPLv2+.  See the file COPYING.GPL.

There is also some MIT code in giscanner/.  In general where
applicable files should have headers denoting their license status; if
they do not, please file a bug at https://gitlab.gnome.org/GNOME/gobject-introspection/issues.
GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA  02111-1307  USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library GPL.  It is
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some
specially designated Free Software Foundation software, and to any
other libraries whose authors decide to use it.  You can use it for
your libraries, too.

When we speak of free software, we are referring
to freedom, not
price.  Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if
you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you.  You must make sure that they, too, receive or can get the source
code.  If you link a program with the library, you must provide
complete object files to the recipients so that they can relink them
with the library, after making
changes to the library and recompiling
it.  And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright
the library, and (2) offer you this license which gives you legal
permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain
that everyone understands that there is no warranty for this free
library.  If the library is modified by someone else and passed on, we
want its recipients to know that what they have is not the original

version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only

works together with the library.

Note that it is possible for a library to be covered by the ordinary
General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which
contains a notice placed by the copyright holder or other authorized
party saying it may be distributed under the terms of this Library
General Public License (also called "this License"). Each licensee is
addressed as "you".

A "library" means a collection of software functions and/or data
prepared so as to be conveniently linked with application programs
(which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work
which has been
distributed under these terms. A "work based on the
Library" means either the Library or any derivative work under
copyright law: that is to say, a work containing the Library or a
portion of it, either verbatim or with modifications and/or translated
straightforwardly into another language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for
making modifications to it. For a library, complete source code means
all the source code for all modules it contains, plus any associated
interface definition files, plus the scripts used to control compilation
and installation of the library.

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running a program using the Library is not restricted, and output from
such a program is covered only if its contents constitute a work based
on the Library (independent
of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does
and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's
complete source code as you receive it, in any medium, provided that
you conspicuously and appropriately publish on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact
all the notices that refer to this License and to the absence of any
warranty; and distribute a copy of this License along with the

Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest

your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library

creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified

executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based

on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions
for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not
distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any

patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system;
it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or
concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY

IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE
OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>
<name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Library General Public License for more details.

You should have received a copy of the GNU Library General Public
License along with this library; if not, write to the
Free Software Foundation, Inc., 59 Temple Place - Suite 330,
Boston, MA 02111-1307 USA.

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.
Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it

in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered

independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based
on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or
executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary

form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution
of the Program by
all those who receive copies directly or indirectly through you, then

the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free

Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License,

or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.
Adam Sampson
Adel Gadllah
Alan Knowles
Alexey Zakhlestin

Andreas Rottmann
Bastien Nocera
Brian Cameron
Chris Rivera
Christian Persch
Christophe Fergeau
Colin Walters
C. Scott Ananian
Damien Lespiau
Danielle Madeley
Dan Winship
David Ignacio
David Zeuthen
Didier 'Ptitjes
dyfet@gnutelephony.org
Eduardo Lima Mitev
Emmanuele Bassi
Florian Mllner
Funda Wang
Gustavo J. A. M. Carneiro
Gustavo Noronha Silva
Halton Huo
Havoc Pennington
Holger Hans Peter Freyther
Iain Nicol
Jani Monoses
Jasper Lievisse Adriaanse
Javier Jardn
Joe Marcus Clarke
Johan Bilien
Johan Dahlin
John (J5) Palmieri
John Ehresman
Jonathan Matthew
Josselin Mouette
Jrg Billeter
Kedar Sovani
Luca Bruno
Lucas Rocha
Maciej Katafiasz
Marc-Andre Lureau
Marco Pesenti Gritti
Marina Zhurakhinskaya
Mark Doffman
Mark Lee
Matthias Clasen
Maxim Ermilov
Michael Meeks

Owen Taylor
Pavel Holejsovsky
Philip Van Hoof
Richard Hult
Robert Ancell
Robert Carr
Rob Taylor
Ryan Lortie
Saikiran Madugula
Saleem Abdulrasool
Saleem Ansari
Simon McVittie
Simon
van der Linden
Simn Pena
Stefan Kost
Steve Frcinaux
Theppitak Karoonboonyanan
Tim Horton
Tobias Mueller
Tomeu Vizoso
Tommi Komulainen
Tor Lillqvist
Torsten Schnfeld
Tristan Van Berkom
Xan Lopez
Zachary Goldberg
Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Source: https://download.gnome.org/sources/gobject-introspection/

Files: *
Copyright:
Copyright (C) 2005 Matthias Clasen
Copyright (C) 2008 Philip Van Hoof
Copyright (C) 2008 Johan Dahlin
Copyright (c) 1997 Sandro Sigala <ssigala@globalnet.it>
Copyright (c) 2007-2008 Jrg Billeter <j@bitron.ch>
Copyright (C) 2006 Johann C. Rocholl <johann@browsershots.org>
Copyright (c) 2005-2008 Divmod, Inc.
License: GPL-2+
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
.
On Debian systems, the complete text of the GNU General Public
License can be found in `/usr/share/common-licenses/GPL-2'.

Files: girepository/*.[ch] giscanner/giscannermodule.c giscanner/sourcescanner.[ch] tools/compiler.c tools/generate.c
Copyright:
Copyright (C) 2010 Red Hat, Inc.
License: LGPL-2+
This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2 of the License, or (at your option) any later version.
.
On Debian systems, the complete text of the GNU Lesser General Public
License can be found in `/usr/share/common-licenses/LGPL-2'.

Files: giscanner/scannerlexer.l giscanner/scannerparser.y
Copyright:
Copyright (c) 1997 Sandro Sigala <ssigala@globalnet.it>
Copyright (c) 2007-2008 Jrg Billeter <j@bitron.ch>
Copyright (c) 2010 Andreas Rottmann <a.rottmann@gmx.at>
License: BSD-2-clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions
in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
.
THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS" AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files: misc/pep8.py misc/pyflakes.py
Copyright: Copyright (C) 2006
Johann C. Rocholl <johann@browsershots.org>
(c) 2005-2008 Divmod, Inc.
License: MIT
Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation files
(the "Software"), to deal in the Software without restriction,

including without limitation the rights to use, copy, modify, merge,
publish, distribute, sublicense, and/or sell copies of the Software,
and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:
.
The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.
.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS
BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN
ACTION OF
CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.132 libargon 0~20161029-1.1

## 1.132.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: phc-winner-argon2
Source: https://github.com/P-H-C/phc-winner-argon2
Upstream-Contact: https://github.com/P-H-C/phc-winner-argon2/issues

Files: *
Copyright: 2015, Daniel Dinu
2015, Dmitry Khovratovich
2015, Jean-Philippe Aumasson
2015, Samuel Neves
License: CC0 or Apache-2.0

Files: src/blake2/*
Copyright: 2013-2015, Samuel Neves
License: CC0 or Apache-2.0

Files: src/encoding.c
Copyright: 2015, Thomas Pornin
License: CC0 or Apache-2.0

Files: debian/*
Copyright: 2016, Luca Bruno <lucab@debian.org>
License: CC0

Files: debian/argon2.1
Copyright: 2016, Daniel Kahn Gillmor <dkg@fifthhorseman.net>

License: CC0

License: CC0
/Statement of Purpose/
.
The laws of most jurisdictions throughout the world automatically confer exclusive Copyright and Related Rights (defined below) upon the creator and subsequent owner(s) (each and all, an "owner") of an original work of
authorship and/or a database (each, a "Work").
.
Certain owners wish to permanently relinquish those rights to a Work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative, cultural and scientific works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.
.
For these and/or other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and
Related Rights in the Work, voluntarily
elects to apply CC0 to the Work and publicly distribute the Work under its terms, with knowledge of his or her Copyright and Related Rights in the Work and the meaning and intended legal effect of CC0 on those rights.
.
*1. Copyright and Related Rights.* A Work made available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:
.
1. the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;
2. moral rights retained by the original author(s) and/or performer(s);
3. publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;
4. rights protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;
5. rights protecting the extraction, dissemination, use and reuse of

data in a Work;
6. database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the

legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and

7. other similar, equivalent or corresponding rights throughout the world based on applicable law or treaty, and any national implementations thereof.

.

*2. Waiver.* To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending that such Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of Purpose.

.

*3. Public License Fallback.* Should any part of the Waiver for any reason be judged legally invalid or ineffective under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into account Affirmer's express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason be judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will not (i) exercise any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any

associated claims and causes of action with
respect to the Work, in either case contrary to Affirmer's express
Statement of Purpose.
.
*4. Limitations and Disclaimers.*
.
1. No trademark or patent rights held by Affirmer are waived,
   abandoned, surrendered, licensed or otherwise affected by this document.
2. Affirmer offers the Work as-is and makes no representations or
   warranties of any kind concerning the Work, express, implied,
   statutory or otherwise, including without limitation warranties of
   title, merchantability, fitness for a particular purpose, non
   infringement, or the absence of latent or other defects, accuracy,
   or the present or absence of errors, whether or not discoverable,
   all to the greatest extent permissible under applicable law.
3. Affirmer disclaims responsibility for clearing rights of other
   persons that may apply to the Work or any use thereof, including
   without limitation any person's Copyright and Related Rights
in the
   Work. Further, Affirmer disclaims responsibility for obtaining any
   necessary consents, permissions or other rights required for any use
   of the Work.
4. Affirmer understands and acknowledges that Creative Commons is not a
   party to this document and has no duty or obligation with respect to
   this CC0 or use of the Work.

License: Apache-2.0
Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at
.
https://www.apache.org/licenses/LICENSE-2.0
.
Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
.
On Debian systems, the complete text of the Apache version 2.0 license
can be found
in "/usr/share/common-licenses/Apache-2.0".
Argon2 reference source code package - reference C implementations

Copyright 2015
Daniel Dinu, Dmitry Khovratovich, Jean-Philippe Aumasson, and Samuel Neves

You may use this work under the terms of a Creative Commons CC0 1.0

License/Waiver or the Apache Public License 2.0, at your option. The terms of these licenses can be found at:

- CC0 1.0 Universal : http://creativecommons.org/publicdomain/zero/1.0
- Apache 2.0 : http://www.apache.org/licenses/LICENSE-2.0

The terms of the licenses are reproduced below.

---

Creative Commons Legal Code

CC0 1.0 Universal

CREATIVE COMMONS CORPORATION IS NOT A LAW FIRM AND DOES NOT PROVIDE LEGAL SERVICES. DISTRIBUTION OF THIS DOCUMENT DOES NOT CREATE AN ATTORNEY-CLIENT RELATIONSHIP. CREATIVE COMMONS PROVIDES THIS INFORMATION ON AN "AS-IS" BASIS. CREATIVE COMMONS MAKES NO WARRANTIES REGARDING THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED HEREUNDER, AND DISCLAIMS LIABILITY FOR DAMAGES RESULTING FROM THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED HEREUNDER.

Statement of Purpose

The laws of most jurisdictions throughout the world automatically confer exclusive Copyright and Related Rights (defined below) upon the creator and subsequent owner(s) (each and all, an "owner") of an original work of authorship and/or a database (each, a "Work").

Certain owners wish to permanently relinquish those rights to a Work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative, cultural and scientific works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.

For these and/or other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and Related Rights in the Work, voluntarily elects to apply CC0 to the Work and publicly distribute the Work under its terms, with knowledge of his or her Copyright and Related Rights in the

Work and the meaning and intended legal effect of CC0 on those rights.

1. Copyright and Related Rights. A Work made available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:

i. the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;
ii. moral rights retained by the original author(s) and/or performer(s);
iii. publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;
iv. rights protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;
v. rights protecting the extraction, dissemination, use and reuse of data in a Work;
vi. database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and
vii. other similar, equivalent or corresponding rights throughout the world based on applicable law or treaty, and any national implementations thereof.

2. Waiver. To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending that such Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of Purpose.

3. Public License Fallback. Should any part of the Waiver for any reason be judged legally invalid or ineffective under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into

account Affirmer's express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason
be judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will not (i) exercise any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any associated claims and causes of action with respect to the Work, in either case contrary to Affirmer's express Statement of Purpose.

4. Limitations and Disclaimers.

a. No trademark or patent rights held by Affirmer are waived, abandoned, surrendered, licensed or otherwise affected by this document.
b. Affirmer offers the Work as-is and makes no representations or warranties of any kind concerning the Work, express, implied, statutory or otherwise, including without limitation warranties of title, merchantability, fitness for a particular purpose, non infringement, or the absence of latent or other defects, accuracy, or the present or absence
of errors, whether or not discoverable, all to
the greatest extent permissible under applicable law.
c. Affirmer disclaims responsibility for clearing rights of other persons that may apply to the Work or any use thereof, including without limitation any person's Copyright and Related Rights in the Work. Further, Affirmer disclaims responsibility for obtaining any necessary consents, permissions or other rights required for any use of the Work.
d. Affirmer understands and acknowledges that Creative Commons is not a party to this document and has no duty or obligation with respect to this CC0 or use of the Work.

---

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall
mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software
source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind
by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright
owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer
the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or

Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation,
if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission
of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the

origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS
OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer
failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

# 1.133 python3-idna 2.6-1

## 1.133.1 Available under license :

BSD-style without advertising clause

# 1.134 python3-certifi 2018.1.18-2

## 1.134.1 Available under license :

This packge contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov  3 19:04:19 2011#
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt).  This file can be found in the mozilla source tree:
http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#
It contains the certificates in PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.#

***** BEGIN LICENSE BLOCK *****
This Source Code Form is subject to the terms of the Mozilla Public License,
v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain
one at http://mozilla.org/MPL/2.0/.

***** END LICENSE BLOCK *****
@(#) $RCSfile: certdata.txt,v $
 $Revision: 1.80 $ $Date: 2011/11/03 15:11:58 $

# 1.135 gir 1.56.1-1

## 1.135.1 Available under license :

gobject-introspection has two licenses; one for the typelib library,
and one for the tools.

The scanner (giscanner/) and typelib libraries (girepository/) are
licensed under the LGPLv2+.  See the file COPYING.LGPL.

The tools (tools/) are licensed under the GPLv2+.  See the file COPYING.GPL.

There is also some MIT code in giscanner/.  In general where
applicable files should have headers denoting their license status; if
they do not, please file a bug at https://gitlab.gnome.org/GNOME/gobject-introspection/issues.
   GNU LIBRARY GENERAL PUBLIC LICENSE
      Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
      59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library GPL.  It is

numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software

patents.  We wish to avoid the danger that companies distributing free
software will individually obtain patent licenses, thus in effect
transforming the program into proprietary software.  To prevent this,
we have made it clear that any patent must
be licensed for everyone's
free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary
GNU General Public License, which was designed for utility programs.  This
license, the GNU Library General Public License, applies to certain
designated libraries.  This license is quite different from the ordinary
one; be sure to read it in full, and don't assume that anything in it is
the same as in the ordinary license.

The reason we have a separate public license for some libraries is that
they blur the distinction we usually make between modifying or adding to a
program and simply using it.  Linking a program with a library, without
changing the library, is in some sense simply using the library, and is
analogous to running a utility program or application program.  However, in
a textual and legal sense, the linked executable is a combined work, a
derivative of the original library, and the ordinary General Public License
treats it as such.

Because of this blurred distinction, using the ordinary General
Public License for libraries did not effectively promote software
sharing, because most developers did not use the libraries.  We
concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the
users of those programs of all benefit from the free status of the
libraries themselves.  This Library General Public License is intended to
permit developers of non-free programs to use free libraries, while
preserving your freedom as a user of such programs to change the free
libraries that are incorporated in them.  (We have not seen how to achieve
this as regards changes in header files, but we have achieved it as regards
changes in the actual functions of the Library.)  The hope is that this
will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and
modification follow.  Pay close attention to the difference
between a
"work based on the library" and a "work that uses the library".  The
former contains code derived from the library, while the latter only
works together with the library.

Note that it is possible for a library to be covered by the ordinary
General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a

fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In
addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code
of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative
work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany
the work with a written offer, valid for at
least three years, to give the same user the materials
specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
specified materials from the same place.

d) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the
Library" must include any data and utility programs needed for
reproducing the executable from it. However, as a special exception,
the source code distributed need not include anything that is normally
distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies
the
executable.

It may happen that this requirement contradicts the license
restrictions of other proprietary libraries that do not normally
accompany the operating system. Such a contradiction means you cannot
use both them and the Library together in an executable that you
distribute.

7. You may place library facilities that are a work based on the
Library side-by-side in a single library together with other library
facilities not covered by this License, and distribute such a combined
library, provided that the separate distribution of the work based on
the Library and of the other library facilities is otherwise
permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work
based on the Library, uncombined with any other library
facilities. This must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based
on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute

the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions
for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not
distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made

generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system;
it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY

KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE
OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>
<name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public

License along with this library; if not, write to the
Free Software Foundation, Inc., 59 Temple Place - Suite 330,
Boston, MA  02111-1307  USA.

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.
Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.  Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.

These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the

Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of

this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based
on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or
executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering

access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to

apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.
Adam Sampson
Adel Gadllah
Alan Knowles
Alexey Zakhlestin
Andreas Rottmann
Bastien Nocera
Brian Cameron
Chris Rivera
Christian Persch

Christophe Fergeau
Colin Walters
C. Scott Ananian
Damien Lespiau
Danielle Madeley
Dan Winship
David Ignacio
David Zeuthen
Didier 'Ptitjes
dyfet@gnutelephony.org
Eduardo Lima Mitev
Emmanuele Bassi
Florian Mllner
Funda Wang
Gustavo J. A. M. Carneiro
Gustavo Noronha Silva
Halton Huo
Havoc Pennington
Holger Hans Peter Freyther
Iain Nicol
Jani Monoses
Jasper Lievisse Adriaanse
Javier Jardn
Joe Marcus Clarke
Johan Bilien
Johan Dahlin
John (J5) Palmieri
John Ehresman
Jonathan Matthew
Josselin Mouette
Jrg Billeter
Kedar Sovani
Luca Bruno
Lucas Rocha
Maciej Katafiasz
Marc-Andre Lureau
Marco Pesenti Gritti
Marina Zhurakhinskaya
Mark Doffman
Mark Lee
Matthias Clasen
Maxim Ermilov
Michael Meeks
Owen Taylor
Pavel Holejsovsky
Philip Van Hoof
Richard Hult
Robert Ancell

Robert Carr
Rob Taylor
Ryan Lortie
Saikiran Madugula
Saleem Abdulrasool
Saleem Ansari
Simon McVittie
Simon
van der Linden
Simn Pena
Stefan Kost
Steve Frcinaux
Theppitak Karoonboonyanan
Tim Horton
Tobias Mueller
Tomeu Vizoso
Tommi Komulainen
Tor Lillqvist
Torsten Schnfeld
Tristan Van Berkom
Xan Lopez
Zachary Goldberg
Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Source: https://download.gnome.org/sources/gobject-introspection/

Files: *
Copyright:
Copyright (C) 2005 Matthias Clasen
Copyright (C) 2008 Philip Van Hoof
Copyright (C) 2008 Johan Dahlin
Copyright (c) 1997 Sandro Sigala <ssigala@globalnet.it>
Copyright (c) 2007-2008 Jrg Billeter <j@bitron.ch>
Copyright (C) 2006 Johann C. Rocholl <johann@browsershots.org>
Copyright (c) 2005-2008 Divmod, Inc.
License: GPL-2+
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
.
On Debian systems, the complete text of the GNU General Public
License can be found in `/usr/share/common-licenses/GPL-2'.

Files: girepository/*.[ch] giscanner/giscannermodule.c giscanner/sourcescanner.[ch] tools/compiler.c
tools/generate.c
Copyright:
Copyright (C) 2010 Red Hat, Inc.
License: LGPL-2+

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2 of the License, or (at your option) any later version.
.
On Debian systems, the complete text of the GNU Lesser General Public
License can be found in `/usr/share/common-licenses/LGPL-2'.

Files: giscanner/scannerlexer.l giscanner/scannerparser.y
Copyright:
Copyright (c) 1997 Sandro Sigala  <ssigala@globalnet.it>
Copyright (c) 2007-2008 Jrg Billeter  <j@bitron.ch>
Copyright (c) 2010 Andreas Rottmann <a.rottmann@gmx.at>
License: BSD-2-clause
 Redistribution and use in source and binary forms, with or without
 modification, are permitted provided that the following conditions
 are met:
 1. Redistributions of source code must retain the above copyright
    notice, this list of conditions and the following disclaimer.
 2. Redistributions
 in binary form must reproduce the above copyright
    notice, this list of conditions and the following disclaimer in the
    documentation and/or other materials provided with the distribution.
 .
 THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
 IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
 OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
 IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
 INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
 NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
 DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
 THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
 (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
 THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files: misc/pep8.py misc/pyflakes.py
Copyright: Copyright (C) 2006
 Johann C. Rocholl <johann@browsershots.org>
(c) 2005-2008 Divmod, Inc.
License: MIT
Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation files
(the "Software"), to deal in the Software without restriction,
including without limitation the rights to use, copy, modify, merge,
publish, distribute, sublicense, and/or sell copies of the Software,
and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:
.

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS
BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN
ACTION OF
CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.136 python-six 1.11.0-2

## 1.136.1 Available under license :

MIT
Copyright (c) 2010-2017 Benjamin Peterson

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS
FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.137 python-gi 3.26.1-2ubuntu1

## 1.137.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we
suggest you first think carefully about whether
this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the
recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that

there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free

programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from

such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If

identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves,
then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License
to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be
distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the

source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the

copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed
under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying
or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many
people have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that

everyone can redistribute and change.  You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

 To apply these terms, attach the following notices to the library.  It is
safest to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least the
"copyright" line
 and a pointer to where the full notice is found.

  <one line to give the library's name and a brief idea of what it does.>
  Copyright (C) <year>  <name of author>

  This library is free software; you can redistribute it and/or
  modify it under the terms of the GNU Lesser General Public
  License as published by the Free Software Foundation; either
  version 2.1 of the License, or (at your option) any later version.

  This library is distributed in the hope that it will be useful,
  but WITHOUT ANY WARRANTY; without even the implied warranty of
  MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
  Lesser General Public License for more details.

  You should have received a copy of the GNU Lesser General Public
  License along with this library; if not, write to the Free Software
  Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA

Also add information on how to contact you by electronic and paper mail.

You
 should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the
 library `Frob' (a library for tweaking knobs) written by James Random Hacker.

 <signature of Ty Coon>, 1 April 1990
 Ty Coon, President of Vice

That's all there is to it!

# 1.138 python-chardet 3.0.4-1

## 1.138.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients
all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling

it.  And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library.  Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program.  We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder.  Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License.  This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License.  We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library.  The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom.  The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License.  It also provides other free software developers Less of an advantage over competing non-free programs.  These disadvantages are the reason we use the ordinary General Public License for many libraries.  However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard.  To achieve this, non-free programs must be

allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means

all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified
Library refers to a function or a
table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has

a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves,
then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to
a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany

it with the complete corresponding machine-readable source code, which must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this
License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may
distribute the object code for the work under the terms of Section 6.
Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or
link a "work that uses the Library" with the Library to produce a
work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit

modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception,

the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people
have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

# 1.139 ncurses-term 6.1-1ubuntu1.18.04

## 1.139.1 Available under license :

Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 2010-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions
of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

---

Files: install-sh
Copyright:  1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated
documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the
name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent
`make' implicit rules from creating a file called install from it
when there is no Makefile.

This script is compatible with the BSD install script, but was written
from scratch. It can only install one file at a time, a restriction
shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in '/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
Upstream source https://invisible-island.net/ncurses/ncurses.html
This package is used for testing builds of ncurses.

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 1996-2017,2018 by Thomas E. Dickey
Licence: X11

Files: doc/html/NCURSES-Programming-HOWTO.html
Copyright: 2001 by Pradeep Padala
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, distribute with modifications, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.

---

Files: install-sh
Copyright: 1994
X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

---

Files: progs/tset.c ncurses/tinfo/read_termcap.c
Copyright: 1980,1991,1992,1993 The Regents of the University of California.
License: BSD

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

-- vile: txtmode file-encoding=utf-8
Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

---

Files: *
Copyright: 1998-2017,2018 Free Software Foundation, Inc.
Licence: X11

Files: aclocal.m4 package
Copyright: 2003-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, distribute with modifications, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.

---

Files: install-sh
Copyright:  1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the
name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent
`make' implicit rules from creating a file called install from it
when there is no Makefile.

This script is compatible with the BSD install script, but was written
from scratch. It can only install one file at a time, a restriction
shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in '/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
Copyright (c) 1998-2017,2018 Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,

DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

-- vile:txtmode fc=72
-- $Id: COPYING,v 1.6 2018/01/01 12:00:00 tom Exp $

# 1.140 util-linux 2.31.1-0.4ubuntu3.7

## 1.140.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: util-linux
Upstream-Contact: util-linux@vger.kernel.org
Source: https://www.kernel.org/pub/linux/utils/util-linux/

Files: *
Copyright: Michal Luscon <mluscon@redhat.com>
1986 Gary S. Brown
1990 Gordon Irlam (gordoni@cs.ua.oz.au)
1991, 1992 Linus Torvalds
1991-2004 Miquel van Smoorenburg
1992 A. V. Le Blanc (LeBlanc@mcc.ac.uk)
1992-1997 Michael K. Johnson, johnsonm@redhat.com
1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002,
2003, 2004, 2005, 2008 Theodore Ts'o <tytso@mit.edu>
1994 Kevin E. Martin (martin@cs.unc.edu)
1994 Salvatore Valente <svalente@mit.edu>
1994,1996 Alessandro Rubini (rubini@ipvvis.unipv.it)
1994-2005 Jeff Tranter (tranter@pobox.com)
1995, 1999, 2000 Andries E. Brouwer <aeb@cwi.nl>
1997-2005 Frodo Looijaard
<frodo@frodo.looijaard.name>
1998 Danek Duvall <duvall@alumni.princeton.edu>
1999 Andreas Dilger
1999-2002 Transmeta Corporation
1999, 2000, 2002-2009, 2010, 2011, 2012, 2014 Red Hat, Inc.
2000 Werner Almesberger
2004-2006 Michael Holzt, kju -at- fqdn.org
2005 Adrian Bunk
2007-2014 Karel Zak <kzak@redhat.com>
2007, 2011 SuSE LINUX Products GmbH

2008 Cai Qian <qcai@redhat.com>
2008 Hayden A. James (hayden.james@gmail.com)
2008 James Youngman <jay@gnu.org>
2008 Roy Peled, the.roy.peled -at- gmail.com
2009 Mikhail Gusarov <dottedmag@dottedmag.net>
2010, 2011, 2012 Davidlohr Bueso <dave@gnu.org>
2010 Jason Borden <jborden@bluehost.com>A
2010 Hajime Taira <htaira@redhat.com>
2010 Masatake Yamato <yamato@redhat.com>
2011 IBM Corp.
2012 Andy Lutomirski <luto@amacapital.net>
2012 Lennart Poettering
2012 Sami Kerola <kerolasa@iki.fi>
2012 Cody Maloney <cmaloney@theoreticalchaos.com>
2012 Werner Fink <werner@suse.de>
2013,2014 Ondrej Oprala <ooprala@redhat.com>
License: GPL-2+

Files: schedutils/ionice.c
Copyright: 2005 Jens Axboe <jens@axboe.dk>
License: GPL-2

Files: schedutils/chrt.c
schedutils/taskset.c
Copyright: 2004 Robert Love <rml@tech9.net>
2010 Karel Zak <kzak@redhat.com>
License: GPL-2

Files: disk-utils/raw.c
Copyright: 1999, 2000, Red Hat Software
License: GPL-2

Files: sys-utils/nsenter.c
Copyright: 2012-2013 Eric Biederman <ebiederm@xmission.com>
License: GPL-2

Files: disk-utils/mkfs.minix.c
disk-utils/mkswap.c
Copyright: 1991, 1992 Linus Torvalds
License: GPL-2

Files: lib/at.c
lib/blkdev.c
lib/loopdev.c
lib/sysfs.c
lib/ttyutils.c
lib/xgetpass.c
misc-utils/mcookie.c

sys-utils/setsid.c
text-utils/line.c
Copyright:
n/a
License: public-domain

Files: login-utils/vipw.c
misc-utils/cal.c
misc-utils/kill.c
misc-utils/logger.c
misc-utils/look.c
misc-utils/whereis.c
sys-utils/renice.c
term-utils/mesg.c
term-utils/script.c
term-utils/ttymsg.c
term-utils/wall.c
term-utils/write.c
text-utils/col.c
text-utils/colcrt.c
text-utils/colrm.c
text-utils/column.c
text-utils/hexdump.c
text-utils/hexdump.h
text-utils/hexdump-conv.c
text-utils/hexdump-display.c
text-utils/hexdump-parse.c
text-utils/rev.c
text-utils/ul.c
Copyright: 1980, 1983, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994
The Regents of the University of California
2014 Sami Kerola <kerolasa@iki.fi>
2014 Karel Zak <kzak@redhat.com>
License: BSD-4-clause

Files: text-utils/tailf.c
Copyright: 1996, 2003 Rickard E. Faith (faith@acm.org)
License: MIT

Files:
sys-utils/flock.c
Copyright: 2003-2005 H. Peter Anvin
License: MIT

Files: text-utils/pg.c
Copyright: 2000-2001 Gunnar Ritter
License: BSD-2-clause

Files: login-utils/last-deprecated.c
Copyright: 1987 Regents of the University of California
License: BSD-2-clause

Files: login-utils/login.c
Copyright: 1980, 1987, 1988 The Regents of the University of California.
2011 Karel Zak <kzak@redhat.com>
License: BSD-2-clause

Files: login-utils/logindefs.c
Copyright: 2003, 2004, 2005 Thorsten Kukuk
License: BSD-3-clause

Files: libuuid/*
libuuid/src/*
libuuid/man/*
Copyright: 1996, 1997, 1998, 1999, 2007 Theodore Ts'o.
1999 Andreas Dilger (adilger@enel.ucalgary.ca)
License: BSD-3-clause

Files: lib/procutils.c
include/xalloc.h
Copyright: 2010, 2011 Davidlohr Bueso <dave@gnu.org>
License: LGPL-2+

Files: */colors.*
Copyright: 2012 Ondrej Oprala <ooprala@redhat.com>
2012-2014 Karel Zak <kzak@redhat.com>
License: LGPL-2+

Files: login-utils/setpwnam.h
login-utils/setpwnam.c
Copyright: 1994 Martin Schulze <joey@infodrom.north.de>
1994 Salvatore Valente <svalente@mit.edu>
License: LGPL-2+

Files: libfdisk/*
libfdisk/src/*
Copyright: 2007-2013 Karel Zak <kzak@redhat.com>
2012 Davidlohr Bueso <dave@gnu.org>
License: LGPL-2.1+

Files: lib/cpuset.c
*/match.*
lib/canonicalize.c
include/at.h
Copyright: 2008-2009, 2010, 2011, 2012 Karel Zak <kzak@redhat.com>
License: LGPL-2.1+

Files: */mbsalign.*
Copyright: 2009-2010 Free Software Foundation, Inc.
2010-2013 Karel Zak <kzak@redhat.com>
License: LGPL-2.1+

Files: */readutmp.*
Copyright: 1992-2007, 2009-2014 Free Software Foundation, Inc.
License: GPL-3+

Files: */timeutils.*
Copyright: 2010 Lennart Poettering
License: LGPL-2.1+

Files: include/list.h
Copyright: 2008 Karel Zak <kzak@redhat.com>
1999-2008 by Theodore Ts'o
License: LGPL

Files: libblkid/*
libblkid/src/*
libblkid/samples/*

libblkid/src/partitions/*
libblkid/src/superblocks/*
libblkid/src/topology/*
Copyright: 1999, 2001 Andries Brouwer
1995, 1995, 1996, 1997, 1999, 2000, 2001, 2002, 2003, 2004
Theodore Ts'o.
2001 Andreas Dilger (adilger@turbolinux.com)
2004-2008 Kay Sievers <kay.sievers@vrfy.org>
2008-2013 Karel Zak <kzak@redhat.com>
2009 Bastian Friedrich <bastian.friedrich@collax.com>
2009 Corentin Chary <corentincj@iksaif.net>
2009 Mike Hommey <mh@glandium.org>
2009 Red Hat, Inc.
2009-2010 Andreas Dilger <adilger@sun.com>
2010 Andrew Nayenko <resver@gmail.com>
2010 Jeroen Oortwijn <oortwijn@gmail.com>
2010 Jiro SEKIBA <jir@unicus.jp>
2011 Philipp Marek <philipp.marek@linbit.com>
2012 Milan Broz <mbroz@redhat.com>
2013 Alejandro Martinez Ruiz <alex@nowcomputing.com>
2013 Eric Sandeen <sandeen@redhat.com>
2013 Rolf Fokkens <rolf@fokkens.nl>
2013 Zeeshan Ali (Khattak) <zeeshanak@gnome.org>
License: LGPL-2.1+

Files: include/cpuset.h
    lib/randutils.c
Copyright: *unknown*
License: LGPL

Files: misc-utils/blkid.c
Copyright: 2001 Andreas Dilger
License: LGPL

Files: libmount/*
    libmount/src/*
Copyright: 2008-2012 Karel Zak <kzak@redhat.com>
License: LGPL-2.1+

Files: libmount/python/*
Copyright: 2013, Red Hat, Inc.
License: LGPL-3+

Files: libsmartcols/*
Copyright:  2009-2014 Karel Zak <kzak@redhat.com>
        2014 Ondrej Oprala <ooprala@redhat.com>
License: LGPL

Files: debian/*
Copyright:    Guy Maor <maor@debian.org>
            Sean 'Shaleh' Perry <shaleh@debian.org>
            Adrian Bunk <bunk@stusta.de>
            LaMont Jones <lamont@debian.org>
        2014 Andreas Henriksson <andreas@fatal.se>
License: GPL-2+

License: public-domain
The files tagged with this license contains the following paragraphs:
.
No copyright
 is claimed.  This code is in the public domain; do with
it what you wish.
.
Written by Karel Zak <kzak@redhat.com>

License: GPL-2
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License, v2, as
published by the Free Software Foundation
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
.
On Debian systems, the complete text of the GNU General Public
License version 2 can be found in `/usr/share/common-licenses/GPL-2'.

License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the
 terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
.
On Debian systems, the complete text of the GNU General Public
License version 2 can be found in `/usr/share/common-licenses/GPL-2'.

License: GPL-3+
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 3 of the License, or
(at your option) any later
 version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program.  If not, see <http://www.gnu.org/licenses/>.
.
On Debian systems, the complete text of the GNU General Public
License version 3 can be found in `/usr/share/common-licenses/GPL-3'.

License: BSD-2-clause

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other
 materials provided with the distribution.

License: BSD-3-clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
.
1) Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.
.
2) Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.
.
3) Neither the name of the ORGANIZATION nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.
 IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

License: BSD-4-clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials

provided with the distribution.
3. All advertising materials mentioning features or use of this software
must display the following acknowledgement:
This product includes software developed by the University of
California, Berkeley and its contributors.
4. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

License: LGPL
This file may be redistributed under the terms of the
GNU Lesser General Public License.
.
On Debian systems, the complete text of the GNU Lesser General Public
License can be found in /usr/share/common-licenses/LGPL.

License: LGPL-2+
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU Lesser General Public License as published by
the Free Software Foundation, either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU Lesser General Public License for more details.
.
You should have received
a copy of the GNU Lesser General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.
.
The complete text of the GNU Lesser General Public License
can be found in /usr/share/common-licenses/LGPL-2 file.

License: LGPL-2.1+

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU Lesser General Public License as published by
the Free Software Foundation; either version 2.1, or (at your option)
any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU Lesser General Public License for more details.
.
You should have received a copy of the GNU Lesser General Public License along
with this program; if not, write to the Free Software Foundation,
Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.
.
On Debian systems, the complete text
 of the GNU Lesser General Public
License version 2.1 can be found in /usr/share/common-licenses/LGPL-2.1.

License: LGPL-3+
This package is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 3 of the License, or (at your option) any later version.
.
This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.
.
On Debian systems, the complete text of the GNU Lesser General
Public License can be found in "/usr/share/common-licenses/LGPL-3".

License: MIT
Permission is hereby granted, free of charge, to any person
obtaining a copy of this
 software and associated documentation files
(the "Software"), to deal in the Software without restriction,
including without limitation the rights to use, copy, modify, merge,
publish, distribute, sublicense, and/or sell copies of the Software,
and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:
.
The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.
.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and

(2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the
Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under

the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such

parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to

decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing
version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,

REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.
This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later
version.

The complete text of the license is available in the
../Documentation/licenses/COPYING.LGPLv2.1 file.
WEV @@ WEV[B "1
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, and the entire permission notice in its entirety,
including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
products derived from this software without specific prior

written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.
x ?"U@,5 @mISmIN<GimCN7g1u|E
43mI,5WEV @@ WEV @mImImIAmImImI0mImImI*mImI
A0mImImI...
lost+found...

;9GimCN7g

!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~WEV @@
WEV[B "1
/*
* Copyright (c) 1989 The Regents of the University of California.
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
* notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
* notice, this list of conditions and the following disclaimer in the
* documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
* must display the following acknowledgement:

* This product includes software developed by the University of
* California, Berkeley and its contributors.
* 4. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*
 without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*/
This library is free software; you can redistribute it and/or
modify it under the terms of the Modified BSD License.

The complete text of the license is available in the
../Documentation/licenses/COPYING.BSD-3 file.

# 1.141 kmod 24-1ubuntu3.5

## 1.141.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients
all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence
of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits
its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a

"work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to

exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the

library". The executable is therefore covered by this
License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever
changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood

that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user
installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to

refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our

decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program"

means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on

the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source

code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this

License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software

Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>

Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

This is the Debian GNU/Linux prepackaged version of kmod.

It has been packaged by Marco d'Itri <md@linux.it>.

Original sources were obtained from:
http://www.kernel.org/pub/linux/utils/kernel/kmod/

Copyright (C) 2011 ProFUSION embedded systems.

The kmod tools are licensed under the GNU GPL version 2 or newer.

libkmod is licensed under the GNU LGPL version 2.1 or newer.

On Debian systems the complete text of the licenses can be found in
/usr/share/common-licenses/GPL-2 and /usr/share/common-licenses/LGPL-2.1 .
LGPL
LGPL
LGPL

# 1.142 pythonurllib 1.22-1ubuntu0.18.04.2

## 1.142.1 Notifications :

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).
This product includes software written by Tim Hudson (tjh@cryptsoft.com).
This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)

## 1.142.2 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: urllib3
Upstream-Contact: Andrey Petrov <andrey.petrov@shazow.net>
Source: http://pypi.python.org/pypi/urllib3

Files: *
Copyright: 2008-2016, Andrey Petrov
License: Expat

Files: urllib3/packages/six.py
Copyright: 2010-2011, Benjamin Peterson
License: Expat

Files: urllib3/packages/ordered_dict.py
Copyright: 2009, Raymond Hettinger
License: Expat

Files: urllib3/packages/ssl_match_hostname/__init__.py
Copyright: 2011, Python Software Foundation

License: PSF-2

Files: debian/*
Copyright: 2012-2017, Daniele Tricoli <eriol@mornie.org>
License: Expat

License: Expat
Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:
.
The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.
.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

License: PSF-2
1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing
and otherwise using this software ("Python") in source or binary form
and its associated documentation.
.
2. Subject to the terms and conditions
of this License Agreement, PSF
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python alone
or in any derivative version, provided, however, that PSF's License
Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001,
2002, 2003, 2004, 2005, 2006 Python Software Foundation; All Rights
Reserved" are retained in Python alone or in any derivative version
prepared by Licensee.
.
3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make the
derivative work available to others as provided herein, then Licensee
hereby agrees to include in any such work a brief summary of the
changes made to Python.

.
4. PSF is making Python available to Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT
NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR
FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.
.
5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A
RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON, OR ANY
DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.
.
6. This License Agreement will automatically terminate upon a
material breach of its terms and conditions.
.
7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.
.
8. By copying, installing or otherwise using Python, Licensee agrees
to be bound by the terms and conditions of this License Agreement.
MIT
This is the MIT license: http://www.opensource.org/licenses/mit-license.php

Copyright 2008-2016 Andrey Petrov and contributors (see CONTRIBUTORS.txt)

Permission is hereby granted, free of charge, to any person obtaining a copy of this
software and associated documentation files (the "Software"), to deal in the Software
without restriction, including without limitation the rights to use, copy, modify, merge,
publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons
to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or
substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED,
INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A
PARTICULAR
PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS
BE LIABLE
FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER

DEALINGS IN THE SOFTWARE.
# Contributions to the urllib3 project

## Creator & Maintainer

* Andrey Petrov <andrey.petrov@shazow.net>

## Contributors

In chronological order:

* victor.vde <http://code.google.com/u/victor.vde/>
 * HTTPS patch (which inspired HTTPSConnectionPool)

* erikcederstrand <http://code.google.com/u/erikcederstrand/>
 * NTLM-authenticated HTTPSConnectionPool
 * Basic-authenticated HTTPSConnectionPool (merged into make_headers)

* niphlod <niphlod@gmail.com>
 * Client-verified SSL certificates for HTTPSConnectionPool
 * Response gzip and deflate encoding support
 * Better unicode support for filepost using StringIO buffers

* btoconnor <brian@btoconnor.net>
 * Non-multipart encoding for POST requests

* p.dobrogost <http://code.google.com/u/@WBRSRlBZDhBFXQB6/>
 * Code review, PEP8 compliance, benchmark fix

* kennethreitz <me@kennethreitz.com>
 * Bugfixes, suggestions, Requests integration

* georgemarshall <http://github.com/georgemarshall>
 * Bugfixes, Improvements and Test coverage

*
 Thomas Kluyver <thomas@kluyver.me.uk>
 * Python 3 support

* brandon-rhodes <http://rhodesmill.org/brandon>
 * Design review, bugfixes, test coverage.

* studer <theo.studer@gmail.com>
 * IPv6 url support and test coverage

* Shivaram Lingamneni <slingamn@cs.stanford.edu>
 * Support for explicitly closing pooled connections

* hartator <hartator@gmail.com>
 * Corrected multipart behavior for params

* Thomas Weischuh <thomas@t-8ch.de>
 * Support for TLS SNI
 * API unification of ssl_version/cert_reqs
 * SSL fingerprint and alternative hostname verification
 * Bugfixes in testsuite

* Sune Kirkeby <mig@ibofobi.dk>
 * Optional SNI-support for Python 2 via PyOpenSSL.

* Marc Schlaich <marc.schlaich@gmail.com>
 * Various bugfixes and test improvements.

* Bryce Boe <bbzbryce@gmail.com>
 * Correct six.moves conflict
 * Fixed pickle support of some exceptions

* Boris Figovsky <boris.figovsky@ravellosystems.com>
 * Allowed to skip SSL hostname verification

* Cory Benfield
 <http://lukasa.co.uk/about/>
 * Stream method for Response objects.
 * Return native strings in header values.
 * Generate 'Host' header when using proxies.

* Jason Robinson <jaywink@basshero.org>
 * Add missing WrappedSocket.fileno method in PyOpenSSL

* Audrius Butkevicius <audrius.butkevicius@elastichosts.com>
 * Fixed a race condition

* Stanislav Vitkovskiy <stas.vitkovsky@gmail.com>
 * Added HTTPS (CONNECT) proxy support

* Stephen Holsapple <sholsapp@gmail.com>
 * Added abstraction for granular control of request fields

* Martin von Gagern <Martin.vGagern@gmx.net>
 * Support for non-ASCII header parameters

* Kevin Burke <kev@inburke.com> and Pavel Kirichenko <juanych@yandex-team.ru>
 * Support for separate connect and request timeouts

* Peter Waller <p@pwaller.net>

* HTTPResponse.tell() for determining amount received over the wire

* Nipunn Koorapati <nipunn1313@gmail.com>
* Ignore default ports when comparing hosts for equality

* Danilo @dbrgn <http://dbrgn.ch/>
* Disabled TLS compression by default on Python 3.2+
* Disabled TLS compression in pyopenssl contrib module
* Configurable cipher suites in pyopenssl contrib module

* Roman Bogorodskiy <roman.bogorodskiy@ericsson.com>
* Account retries on proxy errors

* Nicolas Delaby <nicolas.delaby@ezeep.com>
* Use the platform-specific CA certificate locations

* Josh Schneier <https://github.com/jschneier>
* HTTPHeaderDict and associated tests and docs
* Bugfixes, docs, test coverage

* Tahia Khan <http://tahia.tk/>
* Added Timeout examples in docs

* Arthur Grunseid <http://grunseid.com>
* source_address support and tests (with https://github.com/bui)

* Ian Cordasco <graffatcolmingov@gmail.com>
* PEP8 Compliance and Linting
* Add ability to pass socket options to an HTTP Connection

* Erik Tollerud <erik.tollerud@gmail.com>
* Support for standard library io module.

* Krishna Prasad <kprasad.iitd@gmail.com>
* Google App Engine documentation

* Aaron Meurer <asmeurer@gmail.com>
* Added Url.url, which unparses a Url

* Evgeny Kapun <abacabadabacaba@gmail.com>
* Bugfixes

* Benjamen Meyer <bm_witness@yahoo.com>
* Security Warning Documentation update for proper capture

* Shivan Sornarajah <github@sornars.com>
* Support for using ConnectionPool and PoolManager as context managers.

* Alex Gaynor <alex.gaynor@gmail.com>
 * Updates to the default SSL configuration

* Tomas Tomecek <ttomecek@redhat.com>
 * Implemented generator for getting chunks from chunked responses.

* tlynn <https://github.com/tlynn>
 * Respect the warning preferences at import.

* David D. Riddle <ddriddle@illinois.edu>
 * IPv6 bugfixes in testsuite

* Jon Wayne Parrott <jonwayne@google.com>
 * App Engine environment tests.

* John Krauss <https://github.com/talos>
 * Clues to debugging problems with `cryptography` dependency in docs

* Disassem <https://github.com/Disassem>
 * Fix pool-default headers not applying for url-encoded requests like GET.

* James
 Atherfold <jlatherfold@hotmail.com>
 * Bugfixes relating to cleanup of connections during errors.

* Christian Pedersen <https://github.com/chripede>
 * IPv6 HTTPS proxy bugfix

* Jordan Moldow <https://github.com/jmoldow>
 * Fix low-level exceptions leaking from ``HTTPResponse.stream()``.
 * Bugfix for ``ConnectionPool.urlopen(release_conn=False)``.
 * Creation of ``HTTPConnectionPool.ResponseCls``.

* Predrag Gruevski <https://github.com/obi1kenobi>
 * Made cert digest comparison use a constant-time algorithm.

* Adam Talsma <https://github.com/a-tal>
 * Bugfix to ca_cert file paths.

* Evan Meagher <https://evanmeagher.net>
 * Bugfix related to `memoryview` usage in PyOpenSSL adapter

* John Vandenberg <jayvdb@gmail.com>
 * Python 2.6 fixes; pyflakes and pep8 compliance

* Andy Caldwell <andy.m.caldwell@googlemail.com>
 * Bugfix related to reusing connections in indeterminate states.

* Ville Skytt <ville.skytta@iki.fi>
 * Logging efficiency improvements, spelling fixes,
 Travis config.

* Shige Takeda <smtakeda@gmail.com>
 * Started Recipes documentation and added a recipe about handling concatenated gzip data in HTTP response

* Jesse Shapiro <jesse@jesseshapiro.net>
 * Various character-encoding fixes/tweaks
 * Disabling IPv6 DNS when IPv6 connections not supported

* David Foster <http://dafoster.net/>
 * Ensure order of request and response headers are preserved.

* Jeremy Cline <jeremy@jcline.org>
 * Added connection pool keys by scheme

* Aviv Palivoda <palaviv@gmail.com>
 * History list to Retry object.
 * HTTPResponse contains the last Retry object.

* Nate Prewitt <nate.prewitt@gmail.com>
 * Ensure timeouts are not booleans and greater than zero.
 * Fixed infinite loop in ``stream`` when amt=None.
 * Added length_remaining to determine remaining data to be read.
 * Added enforce_content_length to raise exception when incorrect content-length received.

* Seth Michael Larson <sethmichaellarson@protonmail.com>
 * Created selectors
 backport that supports PEP 475.

* Alexandre Dias <alex.dias@smarkets.com>
 * Don't retry on timeout if method not in whitelist

* Moinuddin Quadri <moin18@gmail.com>
 * Lazily load idna package

* Tom White <s6yg1ez3@mail2tor.com>
 * Made SOCKS handler differentiate socks5h from socks5 and socks4a from socks4.

* Tim Burke <tim.burke@gmail.com>
 * Stop buffering entire deflate-encoded responses.

* Tuukka Mustonen <tuukka.mustonen@gmail.com>
 * Add counter for status_forcelist retries.

* Erik Rose <erik@mozilla.com>
 * Bugfix to pyopenssl vendoring

* [Your name or handle] <[email or website]>
 * [Brief summary of your changes]

# 1.143 iproute snmp

## 1.143.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses
are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and

(2) offer you this license which gives you legal permission
to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program
or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute
verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License

along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of

a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License.

However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based
on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit
royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that

system; it is up to the author/donor to decide if he or she is willing to distribute
software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies
a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED
BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE

PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version
2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

  Gnomovision version 69, Copyright (C) year name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.

The hypothetical
 commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.144 libdnet nmap

## 1.144.1 Available under license :

Copyright (c) 2000-2006 Dug Song <dugsong@monkey.org>
All rights reserved, all wrongs reversed.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the following
  disclaimer in the documentation and/or other materials provided

with the distribution.

3. The names of the authors and copyright holders may not be used
to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE AUTHOR
BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.145 netcat-openbsd tools/nc

## 1.145.1 Available under license :

BSD 3-Clause License

Copyright (c) 2017, Wenbo Yang
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

* Neither the name of the copyright holder nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO
EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL

DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.146 psmisc tools/fuser

## 1.146.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses
are designed to make sure that you
have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission
to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program
or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute
verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the

notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt

otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made

generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute
software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies
a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED
BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF

MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),
EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

The hypothetical commands
`show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.147 ssh-import-id 5.7

## 1.147.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand

ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices"

to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The
"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users

beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for

the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the

violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for

sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a

covered work, and grant a patent license to some of the parties
receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered
work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the

combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF

DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

# 1.148 file-saver 2.0.5

## 1.148.1 Available under license :

MIT
The MIT License

Copyright  2016 [Eli Grey][1].

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

[1]: http://eligrey.com

# 1.149 python 3.6.9

## 1.149.1 Available under license :

Copyright (c) 2002 Jorge Acereda  <jacereda@users.sourceforge.net> &
Peter O'Gorman <ogorman@users.sourceforge.net>

Portions may be copyright others, see the AUTHORS file included with this
distribution.

Maintained by Peter O'Gorman <ogorman@users.sourceforge.net>

Bug Reports and other queries should go to <ogorman@users.sourceforge.net>

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY
 KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
libffi - Copyright (c) 1996-2003  Red Hat, Inc.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL CYGNUS SOLUTIONS BE LIABLE FOR ANY CLAIM, DAMAGES OR

OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH
THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.
X Window System License - X11R6.4

Copyright (c) 1998 The Open Group

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall
not be used in advertising or otherwise to promote the sale, use or
other dealings in this Software without prior written authorization
from The Open Group.

X Window System is a trademark of The Open Group
A. HISTORY OF THE SOFTWARE
==========

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called ABC.  Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to

BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations, which became Zope Corporation. In 2001, the Python Software Foundation (PSF, see https://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation was a sponsoring member of the PSF.

All
Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike the GPL, let you distribute a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2

---

1. This LICENSE AGREEMENT is between the
Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby
grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce,
analyze, test, perform and/or display publicly, prepare derivative works,
distribute, and otherwise use Python alone or in any derivative version,
provided, however, that PSF's License Agreement and PSF's notice of copyright,
i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010,
2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 Python Software Foundation;
All Rights Reserved" are retained in Python alone or in any derivative version
prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work
available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture
between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an
office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the
Individual or Organization ("Licensee") accessing and otherwise using
this software in source or binary form and its associated
documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License
Agreement, BeOpen hereby grants Licensee a non-exclusive,
royalty-free, world-wide license to reproduce, analyze, test, perform
and/or display publicly,
prepare derivative works, distribute, and
otherwise use the Software alone or in any derivative version,
provided, however, that the BeOpen Python License is retained in the
Software, alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS"
basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE
SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS
AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY
DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

6.
This License Agreement shall be governed by and interpreted in all
respects by the law of the State of California, excluding conflict of
law provisions. Nothing in this License Agreement shall be deemed to
create any relationship of agency, partnership, or joint venture
between BeOpen and Licensee. This License Agreement does not grant
permission to use BeOpen trademarks or trade names in a trademark

sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1

---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895
Preston White Drive,
Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This
Agreement together with
Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS

FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO
LICENSEE OR ANY OTHER USERS OF PYTHON
1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs
4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all
copies and that
both that copyright notice and this permission notice appear in

supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Additional Conditions for this Windows binary build
---

This program is linked with and uses Microsoft Distributable Code, copyrighted by Microsoft Corporation. The Microsoft Distributable Code is embedded in each .exe, .dll and .pyd file as a result of running the code through a linker.

If you further distribute programs that include the Microsoft Distributable Code, you must comply with the restrictions on distribution specified by Microsoft. In particular, you must require distributors and external end users to agree to terms that protect the Microsoft Distributable Code at least as much as Microsoft's own requirements for the Distributable Code. See Microsoft's documentation (included in its developer tools and on its website at microsoft.com) for specific details.

Redistribution of the Windows binary build of the Python interpreter complies with this agreement, provided that you do not:

- alter any copyright, trademark or patent notice in Microsoft's Distributable Code;

- use Microsoft's trademarks in your programs' names or in a way that suggests your programs come from or are endorsed by Microsoft;

- distribute Microsoft's Distributable Code to run on a platform other than Microsoft operating systems, run-time technologies or application platforms; or

- include Microsoft Distributable Code in malicious, deceptive or unlawful programs.

These restrictions apply only to the Microsoft Distributable Code as
defined above, not to Python itself or any programs running on the
Python interpreter. The redistribution of the Python interpreter and
libraries is governed by the Python Software License included with this
file, or by other licenses as marked.
Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper
Copyright (c) 2001-2017 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN
ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
This license applies to the bootstrapper application that is embedded within the installer. It has no impact on the licensing for the rest of the installer or Python itself, as no code covered by this license exists in any other part of the product.

---

Microsoft Reciprocal License (MS-RL)

This license governs use of the accompanying software. If you use the software, you accept this license. If you do not accept the license, do not use the software.

1. Definitions
The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.
A "contribution" is the original software, or any additions or changes to the software.
A "contributor" is any person that distributes its contribution under this license.
"Licensed patents" are a contributor's patent claims that read directly on its contribution.

2. Grant of Rights
(A) Copyright Grant- Subject to the terms of this license, including the license conditions and limitations

in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.
(B) Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.

3. Conditions and Limitations
(A) Reciprocal Grants- For any file you distribute that contains code from the software (in source code or binary format), you must provide recipients the source code to that file along with a copy of this license, which license will govern that file. You may license other files that are entirely your own work and
do not contain code from the software under any terms you choose.
(B) No Trademark License- This license does not grant you rights to use any contributors' name, logo, or trademarks.
(C) If you bring a patent claim against any contributor over patents that you claim are infringed by the software, your patent license from such contributor to the software ends automatically.
(D) If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.
(E) If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion of the software in compiled or object code form, you may only do so under a license that complies with this license.
(F) The software is licensed "as-is." You bear the risk of using it. The contributors give no express warranties, guarantees or conditions.
You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

# 1.150 iconv 2.27

## 1.150.1 Available under license :

GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library GPL. It is
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change

free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library

General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed
under these terms. A "work based on the
Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent
of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must
itself be a software library.

b) You must cause the files modified to carry prominent notices
stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no
charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a
table of data to be supplied by an application program that uses
the facility, other than as an argument passed when the facility
is invoked, then you must make a good faith effort to ensure that,
in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this
function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition,
mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public

License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the
Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative
work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not

signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for
copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute
the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system;
it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to

be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each
version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY
IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY

AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR
LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>
<name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if

necessary.
Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they

know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A

"Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section

4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This
License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts,
regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no

more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,

procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as
part of a transaction in which the right of possession and use of the
User Product is transferred to the recipient in perpetuity or for a
fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied
by the Installation Information. But this requirement does not apply
if neither you nor any third party retains the ability to install
modified object code on the User Product (for example, the work has
been installed in
ROM).

The requirement to provide Installation Information does not include a
requirement to continue to provide support service, warranty, or updates
for a work that has been modified or installed by the recipient, or for
the User Product in which it has been modified or installed. Access to a
network may be denied when the modification itself materially and
adversely affects the operation of the network or violates the rules and
protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided,
in accord with this section must be in a format that is publicly
documented (and with an implementation available to the public in
source code form), and must require no special password or key for
unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this
License by making exceptions from one or more of its conditions.
Additional permissions that are applicable to the
entire Program shall
be treated as though they were included in this License, to the extent
that they are valid under applicable law. If additional permissions
apply only to part of the Program, that part may be used separately
under those permissions, but the entire Program remains governed by
this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option
remove any additional permissions from that copy, or from any part of

it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting

any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of
the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the
Program specifies that a certain numbered version of the GNU General
Public License "or any later version" applies to it, you
have the
option of following the terms and conditions either of that numbered
version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of the
GNU General Public License, you may choose any version ever published
by the Free Software Foundation.

If the Program specifies that a proxy can decide which future
versions of the GNU General Public License can be used, that proxy's
public statement of acceptance of a version permanently authorizes you
to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest

to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where
the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.151 file 5.32-2ubuntu0.4

## 1.151.1 Available under license :

$File: COPYING,v 1.1 2008/02/05 19:08:11 christos Exp $
Copyright (c) Ian F. Darwin 1986, 1987, 1989, 1990, 1991, 1992, 1994, 1995.
Software written by Ian F. Darwin and others;
maintained 1994- Christos Zoulas.

This software is not subject to any export provision of the United States
Department of Commerce, and may be exported to any country or planet.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice immediately at the beginning of the file, without modification,
  this list of conditions, and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED
 WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR
ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

# 1.152 selinux 2.7-2build2

## 1.152.1 Available under license :

This is the Debian packe for libselinux, and it is built from sources obtained from:
http://userspace.selinuxproject.org/trac/wiki/Releases

This package was debianized by Colin Walters <walters@debian.org> on
Thu,  3 Jul 2003 17:10:57 -0400.

This library (libselinux) is public domain software, i.e. not copyrighted.

Warranty Exclusion
---
You agree that this software is a
non-commercially developed program that may contain "bugs" (as that
term is used in the industry) and that it may not function as intended.
The software is licensed "as is". NSA makes no, and hereby expressly
disclaims all, warranties, express, implied, statutory, or otherwise
with respect to the software, including noninfringement and the implied
warranties of merchantability and fitness for a particular purpose.

Limitation of Liability
---
In no event will NSA be liable for any damages, including loss of data,
lost profits, cost of cover, or other special, incidental,
consequential,
direct or indirect damages arising from the software or
the use thereof, however caused and on any theory of liability. This
limitation will apply even if NSA has been advised of the possibility
of such damage. You acknowledge that this is a reasonable allocation of
risk.

---
However, one file (utils/avcstat.c) is
Copyright: 2004 Red Hat, Inc., James Morris <jmorris@redhat.com>
and is distributed underthe terms of the GNU General Public License,
version 2.

---
In addition, The Debian specific package was modified to include an
excerpt from the GNU libc package in the file
utils/ia64-inline-syscall.h. The GNU C Library is distributed under
the terms of the GNU Lesser General Public License as published by the
Free Software Foundation; either version 2.1 of the License, or (at
your option) any later version.

You should have received
a copy of the GNU Lesser General Public
License along with the GNU C Library; if not, write to
Free Software Foundation, Inc., 51 Franklin St, Fifth Floor,
Boston, MA 02110-1301, USA.

On Debian systems, the complete text of the GNU Library
General Public License can be found in `/usr/share/common-licenses/LGPL-2.1'.
---

This package is maintained by Manoj Srivastava <srivasta@debian.org>.

The Debian specific changes are  2005, 2006, Manoj Srivastava
<srivasta@debian.org>, and distributed under the terms of the GNU
General Public License, version 2.

On Debian GNU/Linux systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-2'.

A copy of the GNU General Public License is also available at
<URL:http://www.gnu.org/copyleft/gpl.html>.  You may also obtain
it by writing to the Free Software Foundation, Inc., 51 Franklin
St, Fifth
Floor, Boston, MA 02110-1301, USA.

Manoj Srivastava <srivasta@debian.org>
arch-tag: d4250e44-a0e0-4ee0-adb9-2bd74f6eeb27

# 1.153 libxau 1.0.8-1ubuntu1

## 1.153.1 Available under license :

Copyright 1988, 1993, 1994, 1998  The Open Group

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall not be
used
 in advertising or otherwise to promote the sale, use or other dealings
in this Software without prior written authorization from The Open Group.

# 1.154 expat 2.2.8

## 1.154.1 Available under license :

Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper
Copyright (c) 2001-2019 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN
ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.155 audit 2.8.2-1ubuntu1.1

## 1.155.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors
who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations
below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library,
whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal
permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that
there is no warranty for the free library. Also, if the library is
modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original
author's reputation will not be affected by problems that might be
introduced by others.
^L
Finally,
software patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be

consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore
permits such linking only if the
entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting
the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

^L

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an

appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under
the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and
can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote

it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms
of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.
^L
Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the
complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a
"work that uses the
library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute
the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.
^L
6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked

with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2)

will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is
normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.
^L
7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined

library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.
^L
11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you

may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software
distribution system which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation
may publish revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.
^L

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

^L

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should

have at least the "copyright" line and a pointer to where the full
notice is found.

<one line to give the library's name and a brief idea of what it
does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor,
Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper
mail.

You should also get your employer (if you work as a programmer) or
your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James
Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third

parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium

customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to

these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions

of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.156 dhcp 4.2.4-7ubuntu12.10

## 1.156.1 Available under license :

# Copyright (c) 2004-2018 by Internet Systems Consortium, Inc. ("ISC")
# Copyright (c) 1995-2003 by Internet Software Consortium
#
# THE SOFTWARE IS PROVIDED "AS IS" AND ISC DISCLAIMS ALL WARRANTIES
# WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
# MERCHANTABILITY AND FITNESS.  IN NO EVENT SHALL ISC BE LIABLE FOR
# ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
# WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
# ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
# OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
#
#   Internet Systems Consortium, Inc.
#   950 Charter Street
#   Redwood City, CA 94063
#   <info@isc.org>
#   https://www.isc.org/
#
# This Source Code Form is subject to the terms of the Mozilla Public
# License, v. 2.0, included below.
#
# See the specific source files for any additional copyright or
# license statements.

Mozilla Public License, version 2.0

1. Definitions

1.1.
"Contributor"

means each individual or legal entity that creates, contributes to the

creation of, or owns Covered Software.

1.2. "Contributor Version"

means the combination of the Contributions of others (if any) used by a Contributor and that particular Contributor's Contribution.

1.3. "Contribution"

means Covered Software of a particular Contributor.

1.4. "Covered Software"

means Source Code Form to which the initial Contributor has attached the notice in Exhibit A, the Executable Form of such Source Code Form, and Modifications of such Source Code Form, in each case including portions thereof.

1.5. "Incompatible With Secondary Licenses"
means

a. that the initial Contributor has attached the notice described in Exhibit B to the Covered Software; or

b. that the Covered Software was made available under the terms of version 1.1 or earlier of the License, but not also under the terms of a
Secondary License.

1.6. "Executable Form"

means any form of the work other than Source Code Form.

1.7. "Larger Work"

means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.

1.8. "License"

means this document.

1.9. "Licensable"

means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.

1.10. "Modifications"

means any of the following:

a. any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or

b. any new file in Source Code Form that contains any Covered Software.

1.11. "Patent Claims" of a Contributor

means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such Contributor that would be infringed, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.

1.12. "Secondary License"

means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

1.13. "Source Code Form"

means the form of the work preferred for making modifications.

1.14. "You" (or "Your")

means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants and Conditions

2.1. Grants

Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

a. under intellectual property rights (other than patent or trademark)

Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and

b. under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first distributes such Contribution.

2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License. Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

a. for any code that a Contributor has removed from Covered Software; or

b. for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or

c. under Patent Claims infringed by Covered Software in the absence of its Contributions.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

2.5. Representation

Each Contributor represents that the Contributor believes its

Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

3. Responsibilities

3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications that You create or to which You contribute, must be under the terms of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then:

a. such Covered Software must also be made available in Source Code Form, as described in Section 3.1, and You must inform recipients of the Executable Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and

b. You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

3.3. Distribution of a Larger Work

You may create and distribute a Larger Work under terms of Your choice, provided that You also comply with the requirements of this License for

the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability)
contained within the Source Code Form of the
Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

3.5. Application of Additional Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

4. Inability to Comply Due to Statute or Regulation

If it is impossible for
You to comply with any of the terms of this License
with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Termination

5.1. The rights granted under this License will terminate automatically if You fail to comply with any of its terms. However, if You become compliant,

then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing basis if such Contributor notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

6. Disclaimer of Warranty

Covered Software is provided under this License on an "as is" basis, without warranty of any kind, either expressed, implied, or statutory, including, without limitation, warranties that the Covered Software is free of defects, merchantable, fit for a particular purpose or non-infringing. The entire risk as to the quality and performance of the Covered Software is with You. Should any Covered Software prove defective in any respect, You (not any Contributor) assume the cost of any necessary servicing, repair, or correction. This disclaimer of warranty constitutes an essential part of this License. No use of any Covered Software is authorized under this License except under this disclaimer.

7. Limitation of Liability

Under no circumstances and under no legal theory, whether tort (including negligence), contract, or otherwise, shall any Contributor, or anyone who distributes Covered Software as permitted above, be liable to You for any direct, indirect, special, incidental, or consequential damages of any character including, without limitation, damages for lost profits, loss of goodwill, work stoppage, computer failure or malfunction, or any and all

other commercial damages or losses, even if such party shall have been informed of the possibility of such damages. This limitation of liability shall not apply to liability for death or personal injury resulting from such party's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to You.

8. Litigation

Any litigation relating to this License may be brought only in the courts of a jurisdiction where the defendant maintains its principal place of business and such litigation shall be governed by laws of that jurisdiction, without reference to its conflict-of-law provisions. Nothing in this Section shall prevent a party's ability to bring cross-claims or counter-claims.

9. Miscellaneous

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

10. Versions of the License

10.1. New Versions

Mozilla Foundation is the license steward. Except as provided in Section 10.3, no one other than the license steward has the right to modify or publish new versions of this License. Each version will be given a distinguishing version number.

10.2. Effect of New Versions

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

10.3. Modified Versions

If you create software not governed by this License, and you want to

create a new license for such software, you may create and use a
modified version of this License if you rename the license and remove
any references to the name of the license steward (except to note that
such modified license differs from this License).

10.4. Distributing Source Code Form that is Incompatible With Secondary
Licenses If You choose to distribute Source Code Form that is
Incompatible With Secondary Licenses under the terms of this version
of
the License, the notice described in Exhibit B of this License must be
attached.

Exhibit A - Source Code Form License Notice

This Source Code Form is subject to the
terms of the Mozilla Public License, v.
2.0. If a copy of the MPL was not
distributed with this file, You can
obtain one at
http://mozilla.org/MPL/2.0/.

If it is not possible or desirable to put the notice in a particular file,
then You may include the notice in a location (such as a LICENSE file in a
relevant directory) where a recipient would be likely to look for such a
notice.

You may add additional accurate notices of copyright ownership.

Exhibit B - "Incompatible With Secondary Licenses" Notice

This Source Code Form is "Incompatible
With Secondary Licenses", as defined by
the Mozilla Public License, v. 2.0.
Redistribution terms Automated Testing Framework
==========

License
*******

Copyright (c) 2007, 2008, 2009, 2010, 2011, 2012 The NetBSD Foundation, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

Copyright 2011, 2012 Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation
and/or other materials provided with the distribution.

* Neither the name of Google Inc. nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

Relicensed
code
**********

The following code snippets have been taken from other projects. Even
though they were not originally licensed under the terms above, the
original authors have agreed to relicense their work so that this project
can be distributed under a single license. This section is put here just to
clarify this fact.

* configure.ac, Makefile.am: The original versions were derived from the
ones in the XML Catalog Manager project, version 2.2.

Author: Julio Merino <jmmv@users.sourceforge.net>

* atf-c/ui.c: The format_paragraph and format_text functions were
derived form the ones in the Monotone project, revision
3a0982da308228d796df35f98d787c5cff2bb5b6.

Author: Julio Merino <jmmv@NetBSD.org>

* atf-c++/detail/io.hpp, atf-c++/detail/io.cpp, atf-c++/detail/io_test.cpp:
These files were derived from the file_handle, systembuf, pipe and pistream
classes and tests found in the Boost.Process library.

Author: Julio Merino <jmmv84@gmail.com>

* admin/check-style.sh,
admin/check-style-common.awk,
admin/check-style-cpp.awk, admin/check-style-shell.awk: These files,
except the first one, were first implemented in the Buildtool project.
They were later adapted to be part of Boost.Process and, during that
process, the shell script was created.

Author: Julio Merino <jmmv84@gmail.com>

==========
vim: filetype=text:textwidth=75:expandtab:shiftwidth=2:softtabstop=2
Mozilla Public License, version 2.0

1. Definitions

1.1. "Contributor"

means each individual or legal entity that creates, contributes to the

creation of, or owns Covered Software.

1.2. "Contributor Version"

means the combination of the Contributions of others (if any) used by a Contributor and that particular Contributor's Contribution.

1.3. "Contribution"

means Covered Software of a particular Contributor.

1.4. "Covered Software"

means Source Code Form to which the initial Contributor has attached the notice in Exhibit A, the Executable Form of such Source Code Form, and Modifications of such Source Code Form, in each case including portions thereof.

1.5. "Incompatible With Secondary Licenses"
means

a. that the initial Contributor has attached the notice described in Exhibit B to the Covered Software; or

b. that the Covered Software was made available under the terms of version 1.1 or earlier of the
License, but not also under the terms of
a Secondary License.

1.6. "Executable Form"

means any form of the work other than Source Code Form.

1.7. "Larger Work"

means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.

1.8. "License"

means this document.

1.9. "Licensable"

means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.

1.10. "Modifications"

means any of the following:

a. any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or

b. any new file in Source Code Form that contains any Covered Software.

1.11. "Patent Claims" of a Contributor

means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such Contributor that would be infringed, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.

1.12. "Secondary License"

means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

1.13. "Source Code Form"

means the form of the work preferred for making modifications.

1.14. "You" (or "Your")

means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants and Conditions

2.1. Grants

Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

a. under intellectual property rights (other than patent or trademark)

Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and

b. under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first distributes such Contribution.

2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License. Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

a. for any code that a Contributor has removed from Covered Software; or

b. for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or

c. under Patent Claims infringed by Covered Software in the absence of its Contributions.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

2.5. Representation

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

3. Responsibilities

3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications
that You create or to which You contribute, must be under the terms of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then:

a. such Covered Software must also be made available in Source Code Form, as described in Section 3.1, and You must inform recipients of the Executable Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and

b. You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license
for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

3.3. Distribution of a Larger Work

You may create and distribute a Larger Work under terms of Your choice,

provided that You also comply with the requirements of this License for the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

3.5. Application of Additional Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

4. Inability to Comply Due to Statute or Regulation

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Termination

5.1. The rights granted under this License will terminate automatically if You

fail to comply with any of its terms. However, if You become compliant, then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly
and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing basis if such Contributor notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License
shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

6. Disclaimer of Warranty

Covered Software is provided under this License on an "as is" basis, without warranty of any kind, either expressed, implied, or statutory, including, without limitation, warranties that the Covered Software is free of defects, merchantable, fit for a particular purpose or non-infringing. The entire risk as to the quality and performance of the Covered Software is with You. Should any Covered Software prove defective in any respect, You (not any Contributor) assume the cost of any necessary servicing, repair, or correction. This disclaimer of warranty constitutes an essential part of this License. No use of any Covered Software is authorized
under
this License except under this disclaimer.

7. Limitation of Liability

Under no circumstances and under no legal theory, whether tort (including negligence), contract, or otherwise, shall any Contributor, or anyone who distributes Covered Software as permitted above, be liable to You for any direct, indirect, special, incidental, or consequential damages of any character including, without limitation, damages for lost profits, loss of

goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses, even if such party shall have been informed of the possibility of such damages. This limitation of liability shall not apply to liability for death or personal injury resulting from such party's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not
apply to You.

8. Litigation

Any litigation relating to this License may be brought only in the courts of a jurisdiction where the defendant maintains its principal place of business and such litigation shall be governed by laws of that jurisdiction, without reference to its conflict-of-law provisions. Nothing in this Section shall prevent a party's ability to bring cross-claims or counter-claims.

9. Miscellaneous

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

10. Versions of the License

10.1. New Versions

Mozilla Foundation is the license steward. Except as provided in Section

10.3, no one other than the license steward has the right to modify or publish new versions of this License. Each version will be given a distinguishing version number.

10.2. Effect of New Versions

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

10.3. Modified Versions

If you create software not governed by this License, and you want to create a new license for such software, you may create and use a modified version of this License if you rename the license and remove any references to the name of the license steward (except to note that such modified license differs from this License).

10.4. Distributing Source Code Form that is Incompatible With Secondary Licenses If You choose to distribute Source Code Form that is Incompatible
With Secondary Licenses under the terms of this version of the License, the notice described in Exhibit B of this License must be attached.

Exhibit A - Source Code Form License Notice

This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at http://mozilla.org/MPL/2.0/.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice.

You may add additional accurate notices of copyright ownership.

Exhibit B - "Incompatible With Secondary Licenses" Notice

This Source Code Form is "Incompatible With Secondary Licenses", as defined by the Mozilla Public License, v. 2.0.

```
<!--
- Copyright (C) 2005, 2007, 2009, 2015, 2016  Internet Systems Consortium, Inc. ("ISC")
-
- This Source Code Form is subject to the terms of the Mozilla Public
- License, v. 2.0. If a copy of the MPL was not distributed with this
- file, You can obtain one at http://mozilla.org/MPL/2.0/.
-->

<!-- $Id$ -->

<!-- Generate ISC copyright comments from Docbook copyright metadata. -->

<xsl:stylesheet version="1.0"
 xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
```

```
 xmlns:xi="http://www.w3.org/2001/XInclude"
 xmlns:db="http://docbook.org/ns/docbook">

 <xsl:template name="isc.copyright.format">
   <xsl:param name="text"/>
   <xsl:value-of select="$isc.copyright.leader"/>
   <xsl:value-of select="normalize-space(substring-before($text, '&#10;'))"/>
   <xsl:text>&#10;</xsl:text>
   <xsl:variable name="rest" select="substring-after($text, '&#10;')"/>
   <xsl:if test="translate($rest, '&#9;&#32;', '')">
     <xsl:call-template name="isc.copyright.format">
       <xsl:with-param
 name="text" select="$rest"/>
     </xsl:call-template>
   </xsl:if>
 </xsl:template>

 <xsl:variable name="isc.copyright.text">
   <xsl:text>
     This Source Code Form is subject to the terms of the Mozilla Public
     License, v. 2.0. If a copy of the MPL was not distributed with this
     file, You can obtain one at http://mozilla.org/MPL/2.0/.
   </xsl:text>
 </xsl:variable>

 <xsl:variable name="isc.copyright">
   <xsl:call-template name="isc.copyright.format">
     <xsl:with-param name="text">
       <xsl:for-each select="book/info/copyright | refentry/docinfo/copyright">
   <xsl:text>Copyright (C) </xsl:text>
   <xsl:call-template name="copyright.years">
     <xsl:with-param name="years" select="year"/>
   </xsl:call-template>
   <xsl:text> </xsl:text>
   <xsl:value-of select="holder"/>
        <xsl:value-of select="$isc.copyright.breakline"/>
   <xsl:text>&#10;</xsl:text>
 </xsl:for-each>
 <xsl:value-of select="$isc.copyright.text"/>
     </xsl:with-param>
    </xsl:call-template>
 </xsl:variable>
</xsl:stylesheet>

<!--
 - Local variables:
 - mode: sgml
 - End:
```

-->
Copyright (C) 1996-2017  Internet Systems Consortium, Inc. ("ISC")

This Source Code Form is subject to the terms of the Mozilla Public
License, v. 2.0. If a copy of the MPL was not distributed with this
file, You can obtain one at http://mozilla.org/MPL/2.0/.

---

Portions of this code release fall under one or more of the
following Copyright notices.  Please see individual source
files for details.

For binary releases also see: OpenSSL-LICENSE.

Copyright (C) 1996-2001  Nominum, Inc.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND NOMINUM DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL NOMINUM BE LIABLE FOR
ANY SPECIAL, DIRECT,
 INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright (C) 1995-2000 by Network Associates, Inc.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND ISC AND NETWORK ASSOCIATES DISCLAIMS
ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS.  IN NO EVENT SHALL ISC BE LIABLE
FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR
 OTHER TORTIOUS ACTION, ARISING OUT OF OR
IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright (C) 2002 Stichting NLnet, Netherlands, stichting@nlnet.nl.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the
above copyright notice and this permission notice appear in all
copies.

THE SOFTWARE IS PROVIDED "AS IS" AND STICHTING NLNET
DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
STICHTING NLNET BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE
USE OR PERFORMANCE OF THIS SOFTWARE.

The development of Dynamically Loadable Zones
(DLZ) for Bind 9 was
conceived and contributed by Rob Butler.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the
above copyright notice and this permission notice appear in all
copies.

THE SOFTWARE IS PROVIDED "AS IS" AND ROB BUTLER
DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
ROB BUTLER BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE
USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright (c) 1987, 1990, 1993, 1994
The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms,
with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the

documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

---

Copyright (C) The Internet Society 2005. This version of
this module is part of RFC 4178; see the RFC itself for
full legal notices.

(The above copyright notice is per RFC 3978 5.6 (a), q.v.)

---

Copyright (c) 2004 Masarykova universita
(Masaryk University, Brno, Czech Republic)
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source
code must retain the above copyright notice,
this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the University nor the names of its contributors may
be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"

AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

Copyright (c) 1997 - 2003 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the
Institute nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

---

Copyright
(c) 1998 Doug Rabson
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

---

Copyright ((c)) 2002, Rice University
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

* Neither the name of Rice University (RICE) nor the names of its

contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

This software is provided by RICE and the contributors on an "as is"
basis, without any representations or warranties of any kind, express
or implied including, but not limited to, representations or
warranties of non-infringement, merchantability or fitness for a
particular purpose. In no event shall RICE or contributors be liable
for any direct, indirect, incidental, special, exemplary, or
consequential damages (including, but not limited to, procurement of
substitute goods or services; loss of use, data, or profits; or
business interruption) however caused and on any theory of liability,
whether in contract, strict liability, or tort (including negligence
or otherwise) arising in any way out of the use of this software, even
if advised of the possibility of such damage.

---

Copyright
(c) 1993 by Digital Equipment Corporation.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies, and that
the name of Digital Equipment Corporation not be used in advertising or
publicity pertaining to distribution of the document or software without
specific, written prior permission.

THE SOFTWARE IS PROVIDED "AS IS" AND DIGITAL EQUIPMENT CORP. DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright
2000 Aaron D. Gifford. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holder nor the names of contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR(S) AND CONTRIBUTOR(S) ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR(S) OR CONTRIBUTOR(S) BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

---

Copyright (c) 1998 Doug Rabson.
Copyright (c) 2001 Jake Burkholder.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions
in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

---

Copyright

(C) 1995, 1996, 1997, and 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN
NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

---

Copyright (c) 1999-2000 by Nortel Networks Corporation

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND NORTEL NETWORKS DISCLAIMS
ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL NORTEL NETWORKS
BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION,
ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.

---

Copyright (c) 2000-2002 Japan Network Information Center.  All rights reserved.

By using this file, you agree to the terms and conditions set forth bellow.

LICENSE TERMS AND CONDITIONS

The following License Terms and Conditions apply, unless a different
license is obtained from Japan Network Information Center ("JPNIC"),
a Japanese association, Kokusai-Kougyou-Kanda Bldg 6F, 2-3-4 Uchi-Kanda,
Chiyoda-ku, Tokyo 101-0047, Japan.

1. Use, Modification and Redistribution (including distribution of any
  modified or derived work) in source and/or
 binary forms is permitted
  under this License Terms and Conditions.

2. Redistribution of source code must retain the copyright notices as they
  appear in each source code file, this License Terms and Conditions.

3. Redistribution in binary form must reproduce the Copyright Notice,
  this License Terms and Conditions, in the documentation and/or other
  materials provided with the distribution.  For the purposes of binary
  distribution the "Copyright Notice" refers to the following language:
  "Copyright (c) 2000-2002 Japan Network Information Center.  All rights
  reserved."

4. The name of JPNIC may not be used to endorse or promote products
  derived from this Software without specific prior written approval of
  JPNIC.

5. Disclaimer/Limitation of Liability: THIS SOFTWARE IS PROVIDED BY JPNIC
  "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
  LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
  PARTICULAR PURPOSE ARE DISCLAIMED.
  IN NO EVENT SHALL JPNIC BE LIABLE
  FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
  CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
  SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
  BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
  WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
  OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
  ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

---

Copyright (C) 2004  Nominet, Ltd.

Permission to use, copy, modify, and distribute this software for any

purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND NOMINET DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS.
IN NO EVENT SHALL ISC BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

---

Portions Copyright RSA Security Inc.

License to copy and use this software is granted provided that it is
identified as "RSA Security Inc. PKCS #11 Cryptographic Token Interface
(Cryptoki)" in all material mentioning or referencing this software.

License is also granted to make and use derivative works provided that
such works are identified as "derived from the RSA Security Inc. PKCS #11
Cryptographic Token Interface (Cryptoki)" in all material mentioning or
referencing the derived work.

RSA Security Inc. makes no representations concerning either the
merchantability of this software or the suitability
of this software for
any particular purpose. It is provided "as is" without express or implied
warranty of any kind.

---

Copyright (c) 1996, David Mazieres <dm@uun.org>
Copyright (c) 2008, Damien Miller <djm@openbsd.org>

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright
(c) 2000-2001 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the documentation and/or other materials provided with the
distribution.

3. All advertising materials mentioning features or use of this
software must display the following acknowledgment:
"This product includes software developed by the OpenSSL Project
for use in the OpenSSL Toolkit. (http://www.OpenSSL.org/)"

4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
endorse or promote products derived
from this software without
prior written permission. For written permission, please contact
licensing@OpenSSL.org.

5. Products derived from this software may not be called "OpenSSL"
nor may "OpenSSL" appear in their names without prior written
permission of the OpenSSL Project.

6. Redistributions of any form whatsoever must retain the following
acknowledgment:
"This product includes software developed by the OpenSSL Project
for use in the OpenSSL Toolkit (http://www.OpenSSL.org/)"

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)

ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

---

Copyright (c) 1995, 1997, 1998 The NetBSD Foundation, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
``AS IS" AND ANY
 EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

---

Copyright (C) 2008-2011  Red Hat, Inc.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE
 SOFTWARE IS PROVIDED "AS IS" AND Red Hat DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS.  IN NO EVENT SHALL Red Hat BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

---

Copyright (c) 2013-2014, Farsight Security, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions
and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holder nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

Copyright (c) 2014 by Farsight Security, Inc.

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Copyright (C) 1999-2014  Internet Systems Consortium, Inc. ("ISC")

This Source Code Form is subject to the terms of the Mozilla Public
License, v. 2.0. If a copy of the MPL was not distributed with this
file, You can obtain one at http://mozilla.org/MPL/2.0/.

Copyright (C) 2009-2015  Red Hat

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND AUTHORS DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS.  IN NO EVENT SHALL ISC BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.
Copyright (c) 2005 - 2008, Holger Zuleger HZnet. All rights reserved.

This software is open source.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

Neither the name of Holger Zuleger HZnet nor the names of its contributors may
be used to endorse or promote products derived from this software without
specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED.
 IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)

ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright (c) 2000-2002 Japan Network Information Center.  All rights reserved.

By using this file, you agree to the terms and conditions set forth bellow.

LICENSE TERMS AND CONDITIONS

The following License Terms and Conditions apply, unless a different
license is obtained from Japan Network Information Center ("JPNIC"),
a Japanese association, Kokusai-Kougyou-Kanda Bldg 6F, 2-3-4 Uchi-Kanda,
Chiyoda-ku, Tokyo 101-0047, Japan.

1. Use, Modification and Redistribution (including distribution of any
modified or derived work) in source and/or binary forms is permitted
under this License Terms and Conditions.

2. Redistribution of source code must retain the copyright notices as they
appear in each source code file, this License Terms and Conditions.

3. Redistribution in binary form must reproduce the Copyright Notice,
this License Terms and Conditions, in the documentation and/or other
materials provided with the distribution.  For the purposes of binary
distribution
the "Copyright Notice" refers to the following language:
"Copyright (c) 2000-2002 Japan Network Information Center.  All rights reserved."

4. The name of JPNIC may not be used to endorse or promote products
derived from this Software without specific prior written approval of
JPNIC.

5. Disclaimer/Limitation of Liability: THIS SOFTWARE IS PROVIDED BY JPNIC
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL JPNIC BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

# 1.157 libmemcached 1.0.18-4.2ubuntu0.18.04.1

## 1.157.1 Available under license :

Software License Agreement (BSD License)

Copyright (c) 2012, Data Differential (http://datadifferential.com/)
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

  * Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

  * Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer
in the documentation and/or other materials provided with the
distribution.

  * Neither the name of TangentOrg nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
 FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.158 automation 1.11-8

## 1.158.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* dk.brics.automaton
*
* Copyright (c) 2001-2011 Anders Moeller
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without

* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. The name of the author may not be used to endorse or promote products
*    derived from this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
* IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
* OF MERCHANTABILITY
 AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
* IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
* INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
* DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
* THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
* THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/

Found in path(s):
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/ShuffleOperations.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/Datatypes.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/RegExp.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/State.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/AutomatonProvider.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/TransitionComparator.java
*
 /automaton-1-11-8-sources-3-jar/dk/brics/automaton/MinimizationOperations.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/BasicOperations.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/Transition.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/StatePair.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/RunAutomaton.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/SpecialOperations.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/BasicAutomata.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/DatatypesAutomatonProvider.java
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/Automaton.java
No license file was found, but licenses were detected in source scan.

/*
* dk.brics.automaton - AutomatonMatcher
*
* Copyright (c) 2008-2011 John Gibson
* All rights reserved.
*

```
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. The name of the author may not be used to endorse or promote products
*    derived from this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
* IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
*
 OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
* IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
* INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
* DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
* THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
* THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/
```

Found in path(s):
* /automaton-1-11-8-sources-3-jar/dk/brics/automaton/AutomatonMatcher.java

# 1.159 reactive-streams 1.0.3

## 1.159.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*************************************************************************
* Licensed under Public Domain (CC0)                                     *
*                                                                        *
* To the extent possible under law, the person who associated CC0 with   *
* this code has waived all copyright and related or neighboring          *
* rights to this code.                                                   *
*                                                                        *
* You should have received a copy of the CC0 legalcode along with this   *
* work. If not, see <http://creativecommons.org/publicdomain/zero/1.0/>.*
*************************************************************************/
```

Found in path(s):
* /reactive-streams-1-0-3-sources-3-jar/org/reactivestreams/Publisher.java
* /reactive-streams-1-0-3-sources-3-jar/org/reactivestreams/FlowAdapters.java
* /reactive-streams-1-0-3-sources-3-jar/org/reactivestreams/Processor.java

*
/reactive-streams-1-0-3-sources-3-jar/org/reactivestreams/Subscription.java
* /reactive-streams-1-0-3-sources-3-jar/org/reactivestreams/Subscriber.java

# 1.160 commons-logging 1.2

## 1.160.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2001-2006 The Apache Software Foundation.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2005 The Apache Software Foundation.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/ServletContextCleaner.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2001-2004,2006 The Apache Software Foundation.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/AvalonLogger.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2004 The Apache Software Foundation.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/WeakHashtable.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2001-2004 The Apache Software Foundation.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
```

*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogConfigurationException.java
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Log4JLogger.java
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogFactoryImpl.java
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk13LumberjackLogger.java
*
 /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/SimpleLog.java
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk14Logger.java
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogSource.java
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/NoOpLog.java
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogKitLogger.java
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/Log.java
No license file was found, but licenses were detected in source scan.

2004 The Apache Software Foundation.

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

    http://www.apache.org/licenses/LICENSE
2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Found in path(s):
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/package.html
* /commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/package.html

# 1.161 commons-validator 1.7

# 1.161.1 Available under license :

Apache Commons Validator
Copyright 2001-2020 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object

form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate

as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work

by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.162 jakarta-annotation-api 1.3.5

## 1.162.1 Available under license :

# Eclipse Public License - v 2.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial content
Distributed under this Agreement, and

b) in the case of each subsequent Contributor:
i) changes to the Program, and
ii) additions to the Program;
where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution "originates" from a Contributor if it was added to the Program by

such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include changes or additions to the Program that are not Modified Works.

"Contributor" means any person or entity that Distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions Distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

"Derivative Works" shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

"Modified Works" shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity any new file in Source Code form that contains any contents of the Program. Modified Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

"Distribute" means the acts of a) distributing or b) making available in any manner that enables the transfer of a copy.

"Source Code" means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Secondary License" means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free

copyright
license to reproduce, prepare Derivative Works of, publicly display, publicly perform, Distribute and sublicense the Contribution of such Contributor, if any, and such Derivative Works.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in Source Code or other form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands
that although each Contributor grants the
licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to Distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant

the copyright license set forth in this Agreement.

e) Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).

3. REQUIREMENTS

3.1 If a Contributor Distributes the Program in any form, then:

a) the Program must also be made available as Source Code, in

accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and

b) the Contributor may Distribute the Program under a license different than this Agreement, provided that such license:

i) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) does not attempt to limit or alter the recipients' rights in the Source Code under section 3.2; and

iv) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.

3.2 When the Program is Distributed as Source Code:

a) it must be made available under this Agreement, or if the Program (i) is combined with other material in a separate file or files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available under the terms of such Secondary Licenses, and

b) a copy of this Agreement must be included with each copy of the Program.

3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ("notices") contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this

license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing

version number. The Program (including Contributions) may always be Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its Contributions) under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel
or otherwise. All rights in the Program not expressly granted under this Agreement are reserved. Nothing in this Agreement is intended to be enforceable by any entity that is not a Contributor or Recipient. No third-party beneficiary rights are created under this Agreement.

Exhibit A - Form of Secondary Licenses Notice

"This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License, v. 2.0 are satisfied: {name license(s), version(s), and exceptions or additional permissions here}."

Simply including a copy of this Agreement, including this Exhibit A is not sufficient to license the Source Code under Secondary Licenses.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely
to
look for such a notice.

You may add additional accurate notices of copyright ownership.

---

## The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor
Boston, MA 02110-1335
USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to

share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.)
You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you
must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed
at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted,
and the output from the Program is
covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications
or work under the terms of Section 1 above, provided
that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice

that there is no warranty (or else, saying that you provide a
warranty) and that users may redistribute the program under these
conditions, and telling the user how
to view a copy of this License.
(Exception: if the Program itself is interactive but does not
normally print such an announcement, your work based on the Program
is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program, and
can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based on
the Program, the distribution of the whole must be on the terms of this
License, whose permissions for other licensees extend to the entire
whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you;
rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of a
storage or distribution medium does not bring the other work under the
scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections 1
and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your cost

of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to
distribute corresponding source code. (This alternative is allowed
only for noncommercial distribution and only if you received the

program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed
need not include anything that is
normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have
their licenses terminated so long as such parties remain in
full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible
for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent

infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular
circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted
in
certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and

conditions either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER
EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF
TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey

the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

One line to give the program's name and a brief idea of what it does.
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1335 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type
`show w'. This is free software, and you are welcome to redistribute
it under certain conditions; type `show c' for details.

The hypothetical commands `show
w' and `show c' should show the
appropriate parts of the General Public License. Of course, the commands
you use may be called something other than `show w' and `show c'; they
could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
program `Gnomovision' (which makes passes at compilers) written by
James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

---

## CLASSPATH EXCEPTION

Linking this library statically or dynamically with other modules is making a combined work based on this library. Thus, the terms and conditions of the GNU General Public License version 2 cover the whole combination.

As a special exception, the copyright holders of this library give you permission to link this library with independent modules to produce an executable, regardless of the license terms of these independent modules, and to copy and distribute the resulting executable under terms of your choice, provided that you also meet, for each linked independent module, the terms and conditions of the license of that module. An independent module is a module which is not derived from or based on this library. If you modify this library, you may extend this exception to your version of the library, but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version.

# Notices for Jakarta Annotations

This content is produced and maintained by the Jakarta Annotations project.

* Project home: https://projects.eclipse.org/projects/ee4j.ca

## Trademarks

Jakarta Annotations is a trademark of the Eclipse Foundation.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU General Public License, version 2 with the GNU Classpath Exception which is available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier: EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/common-annotations-api

##
Third-party Content

## Cryptography

Content may contain encryption software. The country in which you are currently
may have restrictions on the import, possession, and use, and/or re-export to
another country, of encryption software. BEFORE using any encryption software,
please check the country's laws, regulations and policies concerning the import,
possession, or use, and re-export of encryption software, to see if this is
permitted.
/*
* Copyright (c) 2005, 2018 Oracle and/or its affiliates. All rights reserved.
*
* This program and the accompanying materials are made available under the
* terms of the Eclipse Public License v. 2.0, which is available at
* http://www.eclipse.org/legal/epl-2.0.
*
* This Source Code may also be made available under the following Secondary
* Licenses when the conditions for such availability set forth in the
* Eclipse Public License v. 2.0 are satisfied: GNU General Public License,
* version 2 with the GNU Classpath Exception, which is available at
* https://www.gnu.org/software/classpath/license.html.
*
* SPDX-License-Identifier: EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0
*/

# 1.163 hibernate-commons-annotations 5.1.2.Final

## 1.163.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is

modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original
author's reputation will not be affected by problems that might be
introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License. This license, the GNU Lesser
General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License. We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative of the original library. The ordinary
General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General
Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages
are the reason we use the ordinary General Public License for many
libraries. However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free
library does the same job as widely used non-free libraries. In this
case, there is little to gain by limiting
the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free
programs enables a greater number of people to use a large body of

free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from

such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If

identifiable sections of that work are not derived from the Library, and can be
reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the

source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the

copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision
will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that

everyone can redistribute and change.  You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

 To apply these terms, attach the following notices to the library.  It is
safest to attach them to the start of each source file to most effectively
convey
 the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

  <one line to give the library's name and a brief idea of what it does.>
  Copyright (C) <year>  <name of author>

  This library is free software; you can redistribute it and/or
  modify it under the terms of the GNU Lesser General Public
  License as published by the Free Software Foundation; either
  version 2.1 of the License, or (at your option) any later version.

  This library is distributed in the hope that it will be useful,
  but WITHOUT ANY WARRANTY; without even the implied warranty of
  MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
  Lesser General Public License for more details.

  You should have received a copy of the GNU Lesser General Public
  License along with this library; if not, write to the Free Software
  Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA  02110-1301
 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the
 library `Frob' (a library for tweaking knobs) written by James Random Hacker.

 <signature of Ty Coon>, 1 April 1990
 Ty Coon, President of Vice

That's all there is to it!

# 1.164 classmate 1.5.1

## 1.164.1 Available under license :

This copy of Java ClassMate library is licensed under Apache (Software) License,
version 2.0 ("the License").
See the License for details about distribution rights, and the specific rights regarding derivate works.

You may obtain a copy of the License at:

http://www.apache.org/licenses/LICENSE-2.0
Java ClassMate library was originally written by Tatu Saloranta (tatu.saloranta@iki.fi)

Other developers who have contributed code are:

* Brian Langel

# 1.165 commons-logging 1.1.3

## 1.165.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this

License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided

that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
Apache Commons Logging
Copyright 2003-2013 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

# 1.166 jakarta-validation-api 2.0.2

## 1.166.1 Available under license :

No license file was found, but licenses were detected in source scan.

~ Jakarta Bean Validation API
~
~ License: Apache License, Version 2.0
~ See the license.txt file in the root directory or <http://www.apache.org/licenses/LICENSE
<![CDATA[
Comments to: <a href="mailto:bean-validation-dev@eclipse.org">bean-validation-dev@eclipse.org</a>.<br>
Copyright © 2019 Eclipse Foundation.<br>
Use is subject to <a href="{@docRoot}/doc-files/speclicense.html" target="_top">EFSL</a>; this spec is based on material that is licensed under the Apache License, version 2.0.]]>

Found in path(s):
* /jakarta-validation-api-2-0-2-sources-3-jar/META-INF/maven/jakarta.validation/jakarta.validation-api/pom.xml
No license file was found, but licenses were detected in source scan.

/*
* Jakarta Bean Validation API
*
* License: Apache License, Version 2.0
* See the license.txt file in the root directory or <http://www.apache.org/licenses/LICENSE-2.0>.
*/

Found in path(s):
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Validator.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/CascadableDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintTarget.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/FutureOrPresent.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Null.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintValidatorContext.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ExecutableDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/groups/Default.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/MessageInterpolator.java
*
/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/Unwrapping.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/ValueExtractor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraintvalidation/ValidationTarget.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/MethodDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/UnexpectedTypeException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/BeanDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Digits.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/bootstrap/ProviderSpecificBootstrap.java
*
/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/UnwrapByDefault.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/NegativeOrZero.java

* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintViolation.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintDefinitionException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ValidateUnwrappedValue.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraintvalidation/SupportedValidationTarget.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/groups/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/spi/ValidationProvider.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ElementKind.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/GroupConversionDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/ExtractedValue.java
*
 /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/bootstrap/GenericBootstrap.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/MethodType.java
* /jakarta-validation-api-2-0-2-sources-3-
jar/javax/validation/valueextraction/ValueExtractorDeclarationException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ConstructorDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraintvalidation/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/AssertTrue.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Path.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/executable/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/PositiveOrZero.java
*
 /jakarta-validation-api-2-0-2-sources-3-
jar/javax/validation/valueextraction/ValueExtractorDefinitionException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/BootstrapConfiguration.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ElementDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ContainerElementTypeDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/GroupDefinitionException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Min.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/groups/ConvertGroup.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/Scope.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Max.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ReportAsSingleViolation.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ReturnValueDescriptor.java
*
 /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ParameterNameProvider.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Pattern.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/NoProviderFoundException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Validation.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ValidatorContext.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/NotBlank.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/spi/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Constraint.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Valid.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/CrossParameterDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ClockProvider.java
*

/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Configuration.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/executable/ValidateOnExecution.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Size.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/PastOrPresent.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintViolationException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/bootstrap/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/TraversableResolver.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/executable/ExecutableValidator.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ValidationProviderResolver.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ValidatorFactory.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ContainerDescriptor.java
*
/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ConstraintDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/ParameterDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/NotNull.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/package-info.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/GroupSequence.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Negative.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintValidatorFactory.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ValidationException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/OverridesAttribute.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/spi/BootstrapState.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Email.java
*
/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintDeclarationException.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/PropertyDescriptor.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintValidator.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/executable/ExecutableType.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/AssertFalse.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Future.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/DecimalMax.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Positive.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/NotEmpty.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/spi/ConfigurationState.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/Payload.java
*
/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/DecimalMin.java
* /jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Past.java

# 1.167 jakarta-ws-rs-api 2.1.6

## 1.167.1 Available under license :

# Notices for the Jakarta RESTful Web Services Project

This content is produced and maintained by the **Jakarta RESTful Web Services**
project.

* Project home: https://projects.eclipse.org/projects/ee4j.jaxrs

## Trademarks

**Jakarta RESTful Web Services** is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For more information regarding authorship of content, please consult the listed source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU General Public License, version 2 with the GNU Classpath Exception which is available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:
EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jaxrs-api

## Third-party Content

This project leverages the following third party content.

javaee-api (7.0)

* License: Apache-2.0 AND W3C

JUnit (4.11)

* License: Common Public License 1.0

Mockito (2.16.0)

* Project: http://site.mockito.org
* Source: https://github.com/mockito/mockito/releases/tag/v2.16.0

## Cryptography

Content may contain encryption software. The country in which you are currently
may have restrictions on the import, possession, and use, and/or re-export to
another country, of encryption software. BEFORE using any encryption software,
please check the country's laws, regulations and policies concerning the import,
possession, or use, and re-export of encryption software, to see if this is
permitted.
# Eclipse Public License - v 2.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial content
Distributed under this Agreement, and

b) in the case of each subsequent Contributor:
i) changes to the Program, and
ii) additions to the Program;
where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution "originates" from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include changes or additions to the Program that are not Modified Works.

"Contributor" means any person or
entity that Distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions Distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

"Derivative Works" shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

"Modified Works" shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity any new file in Source Code form that contains any contents of the Program. Modified Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

"Distribute" means the acts of a) distributing or b) making available in any manner that enables the transfer of a copy.

"Source Code" means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Secondary License" means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, Distribute and sublicense the Contribution of such Contributor, if any, and such Derivative Works.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in Source Code or other form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the

patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to Distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant

the copyright license set forth in this Agreement.

e) Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).

3. REQUIREMENTS

3.1 If a Contributor Distributes the Program in any form, then:

a) the Program must also be made available as Source Code, in accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and

b) the Contributor may Distribute the Program under a license different than this Agreement, provided that such license:

i) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) does not attempt to limit or alter the recipients' rights in the Source Code under section 3.2; and

iv) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.

3.2 When the Program is Distributed as Source Code:

a) it must be made available under this Agreement, or if the Program (i) is combined with other material in a separate file or files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available under the terms of such Secondary Licenses, and

b) a copy of this Agreement must be included with each copy of the Program.

3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ("notices") contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its Contributions) under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved. Nothing in this Agreement is intended to be enforceable by any entity that is not a Contributor or Recipient. No third-party beneficiary rights are created under this Agreement.

Exhibit A - Form of Secondary Licenses Notice

"This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License, v. 2.0 are satisfied: {name license(s), version(s), and exceptions or additional permissions here}."

Simply including a copy of this Agreement, including this Exhibit A
is not sufficient to license the Source Code under Secondary Licenses.

If it is not possible or desirable to put the notice in a particular
file, then You may include the notice in a location (such as a LICENSE
file in a relevant directory) where a recipient would be likely
to
look for such a notice.

You may add additional accurate notices of copyright ownership.

---

## The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor
Boston, MA 02110-1335
USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to
share and change it. By contrast, the GNU General Public License is
intended to guarantee your freedom to share and change free software--to
make sure the software is free for all its users. This General Public
License applies to most of the Free Software Foundation's software and
to any other program whose authors commit to using it. (Some other Free
Software Foundation software is covered by the GNU Library General
Public License instead.)
You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the
freedom to distribute copies of free software (and charge for this
service if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone
to deny you these rights or to ask you to surrender the rights. These
restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source

code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications
or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how
to view a copy of this License.
(Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you;

rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of a
storage or distribution medium does not bring the other work under the
scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections 1
and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your cost

of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to
distribute corresponding source code. (This alternative is allowed
only for noncommercial distribution and only if you received the
program in object code or executable form with such an offer, in
accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source code
means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to control
compilation and installation of the executable. However, as a special
exception, the source code distributed
need not include anything that is
normally distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies the
executable.

If distribution of executable or object code is made by offering access
to copy from a designated place, then offering equivalent access to copy
the source code from the same place counts as distribution of the source
code, even though third parties are not compelled to copy the source
along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have
their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible
for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular
circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any

such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is implemented
by public license practices. Many people have made generous
contributions to the wide range of software distributed through that
system in reliance on consistent application of that system; it is up to
the author/donor to decide if he or she is willing to distribute
software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be
a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted
in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License may
add an explicit geographical distribution limitation excluding those
countries, so that distribution is permitted only in or among countries
not thus excluded. In such case, this License incorporates the
limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new
versions of the General Public License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free
Software Foundation. If the Program does not specify a version
number of this License, you may choose any version ever published by the
Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the
author to ask for permission. For software which is copyrighted by the
Free Software Foundation, write to the Free Software Foundation; we
sometimes make exceptions for this. Our decision will be guided by the
two goals of preserving the free status of all derivatives of our free
software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND,

EITHER
EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF
TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

One line to give the program's name and a brief idea of what it does.
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1335 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

    Gnomovision version 69, Copyright (C) year name of author
    Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type
    `show w'. This is free software, and you are welcome to redistribute
    it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

    Yoyodyne, Inc., hereby disclaims all copyright interest in the
    program `Gnomovision' (which makes passes at compilers) written by
    James Hacker.

    signature of Ty Coon, 1 April 1989
    Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

---

## CLASSPATH EXCEPTION

Linking this library statically or dynamically with other modules is making a combined work based on this library. Thus, the terms and conditions of the GNU General Public License version 2 cover the whole combination.

As a special exception, the copyright holders of this library give you permission to link this library with independent modules to produce an executable, regardless of the license terms of these independent modules, and to copy and distribute the resulting executable under

terms of your choice, provided that you also meet, for each linked
independent module, the terms and conditions of the license of that
module. An independent module is a module which is not derived from or
based on this library. If you modify this library, you may extend this
exception to your version of the library, but you are not obligated to
do so. If
you do not wish to do so, delete this exception statement
from your version.

```
/*
* Copyright (c) 2017, 2018 Oracle and/or its affiliates. All rights reserved.
*
* This program and the accompanying materials are made available under the
* terms of the Eclipse Public License v. 2.0, which is available at
* http://www.eclipse.org/legal/epl-2.0.
*
* This Source Code may also be made available under the following Secondary
* Licenses when the conditions for such availability set forth in the
* Eclipse Public License v. 2.0 are satisfied: GNU General Public License,
* version 2 with the GNU Classpath Exception, which is available at
* https://www.gnu.org/software/classpath/license.html.
*
* SPDX-License-Identifier: EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0
*/
```

# 1.168 javassist 3.19.0-GA

## 1.168.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*
* Javassist, a Java-bytecode translator toolkit.
* Copyright (C) 2004 Bill Burke. All Rights Reserved.
*
* The contents of this file are subject to the Mozilla Public License Version
* 1.1 (the "License"); you may not use this file except in compliance with
* the License. Alternatively, the contents of this file may be used under
* the terms of the GNU Lesser General Public License Version 2.1 or later,
* or the Apache License Version 2.0.
*
* Software distributed under the License is distributed on an "AS IS" basis,
* WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License
* for the specific language governing rights and limitations under the
* License.
*/
```

Found in path(s):

* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/ByteMemberValue.java

* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/ClassMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/ShortMemberValue.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/AnnotationMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/MemberValueVisitor.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/StringMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/Annotation.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/EnumMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/ArrayMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/DoubleMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/CharMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/BooleanMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/MemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/FloatMemberValue.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/LongMemberValue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/IntegerMemberValue.java
No license file was found, but licenses were detected in source scan.

/*
* Javassist, a Java-bytecode translator toolkit.
* Copyright (C) 1999- Shigeru Chiba. All Rights Reserved.
*
* The contents of this file are subject to the Mozilla Public License Version
* 1.1 (the "License"); you may not use this file except in compliance with
* the License.  Alternatively, the contents of this file may be used under
* the terms of the GNU Lesser General Public License Version 2.1 or later,
* or the Apache License Version 2.0.
*
* Software distributed under the License is distributed on an "AS IS" basis,
* WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License
* for the specific language governing rights and limitations under the
* License.
*/

Found in path(s):
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/RuntimeSupport.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/rmi/ObjectNotFoundException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/CastExpr.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformBefore.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformFieldAccess.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/IntQueue.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/rmi/AppletServer.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/HotSwapper.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/Metalevel.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/AnnotationImpl.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/MethodFilter.java

* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/DoubleConst.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/BadBytecode.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/TypeChecker.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtMember.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/JvstCodeGen.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/ClassClassPath.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/Opcode.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/Sample.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/MemberCodeGen.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtPrimitiveType.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/URLClassPath.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/SignatureAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/CodeIterator.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/stackmap/Tracer.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/MethodHandler.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/ProxyObject.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/LoaderClassPath.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/MethodDecl.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/ByteArrayClassPath.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/SecurityActions.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/AnnotationsWriter.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CodeConverter.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/BinExpr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/FieldDecl.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/Translator.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/Type.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/runtime/Cflow.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/Mnemonic.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/SymbolTable.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformCall.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/AssignExpr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/EnclosingMethodAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtNewNestedClass.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/expr/FieldAccess.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/Proxy.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtNewClass.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/InnerClassesAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/Dump.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/stackmap/TypedBlock.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/Subroutine.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/Lex.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ClassFileWriter.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/DuplicateMemberException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/Loader.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Variable.java

* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/ControlFlow.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/ClassMetaobject.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/StringL.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Expr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/Frame.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Declarator.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/NotFoundException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Member.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/web/Viewer.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtNewWrappedMethod.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Symbol.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/runtime/DotClass.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/CodeGen.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtNewConstructor.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/FramePrinter.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/expr/ExprEditor.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformAccessArrayField.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtNewMethod.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/AccessFlag.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/expr/Expr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/Executor.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/rmi/Proxy.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtArray.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/LocalVariableAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/TokenId.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPool.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/AttributeInfo.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/CodeAnalyzer.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/scopedpool/SoftValueHashMap.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformNew.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/expr/NewExpr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolRepository.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/framedump.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/MultiArrayType.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/runtime/Desc.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolFactory.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/AnnotationDefaultAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/FieldInfo.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/AnnotationsAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/Bytecode.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/web/BadHttpRequest.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/Parser.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ByteArray.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Pair.java

* /javassist-3-19-0-ga-sources-1-jar/javassist/CannotCompileException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/annotation/NoSuchClassError.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolRepositoryImpl.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/StackMapTable.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/SyntheticAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/CompileError.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/KeywordTable.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ByteStream.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtNewWrappedConstructor.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/expr/MethodCall.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/MemberResolver.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/ASTree.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/LineNumberAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/LocalVariableTypeAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/ClassPoolTail.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtBehavior.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtClassType.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Visitor.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/expr/Instanceof.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/SerialVersionUID.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/stackmap/TypeTag.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/SourceFileAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformWriteField.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ClassFilePrinter.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/Metaobject.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/StackMap.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformAfter.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Stmnt.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/ArrayInit.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ConstantAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/FactoryHelper.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/ProxyFactory.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/IntConst.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/Util.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/rmi/StubGenerator.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/CannotCreateException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/stackmap/TypeData.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/SubroutineScanner.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformReadField.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolFactoryImpl.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/runtime/Inner.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/rmi/ObjectImporter.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/rmi/Sample.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/web/Webserver.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/Modifier.java

* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/Compiler.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/CallExpr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtClass.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/Analyzer.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/ClassPool.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ParameterAnnotationsAttribute.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/CtConstructor.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/NewExpr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/CannotReflectException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/expr/NewArray.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/ClassMap.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ConstPool.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtMethod.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/stackmap/BasicBlock.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/stackmap/MapMaker.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/rmi/RemoteRef.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/SerializedProxy.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/CannotInvokeException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ProceedHandler.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/DeprecatedAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/CtField.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/InstructionPrinter.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ExceptionTable.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/AccessorMaker.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/analysis/MultiType.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/Loader.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/rmi/RemoteException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/LongVector.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ExceptionsAttribute.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/Keyword.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/ASTList.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/ClassFile.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/tools/reflect/Reflection.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/InstanceOfExpr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/expr/Handler.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/ProxyObjectOutputStream.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/NoFieldException.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/SyntaxError.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/ClassPath.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/convert/Transformer.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/MethodInfo.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/Descriptor.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/JvstTypeChecker.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/convert/TransformNewClass.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/expr/ConstructorCall.java

* /javassist-3-19-0-ga-sources-1-jar/javassist/bytecode/CodeAttribute.java
*
 /javassist-3-19-0-ga-sources-1-jar/javassist/expr/Cast.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/ast/CondExpr.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/util/proxy/ProxyObjectInputStream.java
* /javassist-3-19-0-ga-sources-1-jar/javassist/compiler/Javac.java

# 1.169 joda-time 2.8.1

## 1.169.1 Available under license :

```
========================================================================
= NOTICE file corresponding to section 4d of the Apache License Version 2.0 =
========================================================================
This product includes software developed by
Joda.org (http://www.joda.org/).
```

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical

transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made,

use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,

or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.170 commons-lang3 3.7

## 1.170.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent

to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works

that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS,

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.

You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache Commons Lang
Copyright 2001-2018 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

# 1.171 commons-codec 1.15

## 1.171.1 Available under license :

Apache Commons Codec
Copyright 2002-2020 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (https://www.apache.org/).

src/test/org/apache/commons/codec/language/DoubleMetaphoneTest.java
contains test data from http://aspell.net/test/orig/batch0.tab.
Copyright (C) 2002 Kevin Atkinson (kevina@gnu.org)

==========

The content of package org.apache.commons.codec.language.bm has been translated
from the original php source code available at http://stevemorse.org/phoneticinfo.htm
with permission from the original authors.
Original source copyright:
Copyright (c) 2008 Alexander Beider & Stephen P. Morse.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,

and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work,

excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions

of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.172 asm 5.1

## 1.172.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2011 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/
/**
    * Creates a new JSRInliner. <i>Subclasses must not use this
    * constructor</i>. Instead, they must use the
    * {@link #JSRInlinerAdapter(int, MethodVisitor, int, String, String, String, String[])}
```

```
   * version.
   *
   * @param mv
   *
  the <code>MethodVisitor</code> to send the resulting inlined
   *          method code to (use <code>null</code> for none).
   * @param access
   *          the method's access flags (see {@link Opcodes}). This
   *          parameter also indicates if the method is synthetic and/or
   *          deprecated.
   * @param name
   *          the method's name.
   * @param desc
   *          the method's descriptor (see {@link Type}).
   * @param signature
   *          the method's signature. May be <tt>null</tt>.
   * @param exceptions
   *          the internal names of the method's exception classes (see
   *          {@link Type#getInternalName() getInternalName}). May be
   *          <tt>null</tt>.
   * @throws IllegalStateException
   *           If a subclass calls this constructor.
   */
```

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/JSRInlinerAdapter.java
No license file was found, but licenses were detected in source scan.

```
/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2011 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
```

```
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/
/**
   * Constructs a new {@link ClassNode}. <i>Subclasses must not use this
   * constructor</i>. Instead, they must use the {@link #ClassNode(int)}
   * version.
   *
   * @throws IllegalStateException
   *             If a subclass calls this constructor.
    */
```

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/ClassNode.java
No license file was found, but licenses were detected in source scan.

2011, Eugene Kuleshov
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holders nor the names of its
   contributors may be used to endorse or promote products derived from
   this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)

ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
THE POSSIBILITY OF SUCH DAMAGE.

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/xml/asm-xml.dtd
No license file was found, but licenses were detected in source scan.

/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2013 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/TypePath.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/TypeReference.java
No license file was found, but licenses were detected in source scan.

/**
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2011 INRIA, France Telecom
* All rights reserved.
*

* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/ASMifiable.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/Textifiable.java
No license file was found, but licenses were detected in source scan.

2011, Eugene Kuleshov
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE

* IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/xml/package.html
No license file was found, but licenses were detected in source scan.

/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2011 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/
/**
   * Constructs a new {@link LocalVariableAnnotationNode}. Subclasses must
   * not use this constructor. Instead, they must use the

```
   * {@link #LocalVariableAnnotationNode(int, TypePath, LabelNode[], LabelNode[], int[], String)}
   * version.
   *

   * @param typeRef
   *          a reference to the annotated type. See {@link TypeReference}.
   * @param typePath
   *          the path to the annotated type argument, wildcard bound, array
   *          element type, or static inner type within 'typeRef'. May be
   *          <tt>null</tt> if the annotation targets 'typeRef' as a whole.
   * @param start
   *          the fist instructions corresponding to the continuous ranges
   *          that make the scope of this local variable (inclusive).
   * @param end
   *          the last instructions corresponding to the continuous ranges
   *          that make the scope of this local variable (exclusive). This
   *          array must have the same size as the 'start' array.
   * @param index
   *          the local variable's index in each range. This array must have
   *          the same size as the 'start' array.
   * @param desc
   *          the class descriptor of
 the annotation class.
   */
```

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/LocalVariableAnnotationNode.java
No license file was found, but licenses were detected in source scan.

```
/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2011 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
```

```
 "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/
/**
   * Creates a new {@link AnalyzerAdapter}. <i>Subclasses must not use this
   * constructor</i>. Instead, they must use the
   * {@link #AnalyzerAdapter(int, String, int, String, String, MethodVisitor)}
   * version.
   *
   * @param owner
   *
     the owner's class name.
   * @param access
   *          the method's access flags (see {@link Opcodes}).
   * @param name
   *          the method's name.
   * @param desc
   *          the method's descriptor (see {@link Type Type}).
   * @param mv
   *          the method visitor to which this adapter delegates calls. May
   *          be <tt>null</tt>.
   * @throws IllegalStateException
   *           If a subclass calls this constructor.
   */

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/AnalyzerAdapter.java
No license file was found, but licenses were detected in source scan.

/***
* ASM XML Adapter
* Copyright (c) 2004-2011, Eugene Kuleshov
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
```

* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES,
 INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/xml/Processor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/xml/SAXCodeAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/xml/SAXFieldAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/xml/SAXAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/xml/SAXAnnotationAdapter.java
*
 /asm-5-1-sources-2-jar/org/objectweb/asm/xml/SAXClassAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/xml/ASMContentHandler.java
No license file was found, but licenses were detected in source scan.

2011 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"

* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/package.html
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/package.html
* /asm-5-1-sources-2-jar/org/objectweb/asm/signature/package.html
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/package.html
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/package.html
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/package.html
No license file was found, but licenses were detected in source scan.

/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2011 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF

```
* THE POSSIBILITY OF SUCH DAMAGE.
*/
/**
   * Creates a new {@link GeneratorAdapter}. <i>Subclasses must not use this
   * constructor</i>. Instead, they must use the
   * {@link #GeneratorAdapter(int, MethodVisitor, int, String, String)}
   * version.
   *
   * @param mv
   *            the
 method visitor to which this adapter delegates calls.
   * @param access
   *            the method's access flags (see {@link Opcodes}).
   * @param name
   *            the method's name.
   * @param desc
   *            the method's descriptor (see {@link Type Type}).
   * @throws IllegalStateException
   *             If a subclass calls this constructor.
   */
```

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/GeneratorAdapter.java
No license file was found, but licenses were detected in source scan.

```
/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2011 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
```

* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/
/**
   * Constructs a new {@link Textifier}. Subclasses must not use this
   * constructor. Instead, they must use the {@link #Textifier(int)}
   * version.
   *
   * @throws IllegalStateException
   *             If a subclass calls this constructor.
    */

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/Textifier.java
No license file was found, but licenses were detected in source scan.

#All rights reserved.
#Redistribution and use in source and binary forms, with or without
#modification, are permitted provided that the following conditions
#are met:
#1. Redistributions of source code must retain the above copyright
#   notice, this list of conditions and the following disclaimer.
#2. Redistributions in binary form must reproduce the above copyright
#   notice, this list of conditions and the following disclaimer in the
#   documentation and/or other materials provided with the distribution.
#3. Neither the name of the copyright holders nor the names of its
#   this software without specific prior written permission.

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/shrink-annotations.properties
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/shrink-writer.properties
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/shrink-resize.properties
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/shrink-signatures.properties
*
 /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/shrink-frames.properties
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/shrink.properties
No license file was found, but licenses were detected in source scan.

/***
* ASM: a very small and fast Java bytecode manipulation framework
* Copyright (c) 2000-2011 INRIA, France Telecom
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without

* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.
*/

Found in path(s):
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/IincInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/MethodWriter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/ClassConstantsCollector.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/MethodVisitor.java
*
 /asm-5-1-sources-2-jar/org/objectweb/asm/commons/CodeSizeEvaluator.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/RemappingAnnotationAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/MethodOptimizer.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Opcodes.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/InvokeDynamicInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/Analyzer.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/TryCatchBlockSorter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/ClassReader.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/JarOptimizer.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/TableSwitchInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Item.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/MethodInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/AnalyzerException.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/InsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/ConstantPool.java
*

/asm-5-1-sources-2-jar/org/objectweb/asm/util/ASMifier.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/LocalVariableNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/TraceFieldVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/AnnotationNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/CheckAnnotationAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/signature/SignatureWriter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Frame.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Label.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/TraceMethodVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/LookupSwitchInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/IntInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/FieldConstantsCollector.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/NameMapping.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/BasicVerifier.java
*
/asm-5-1-sources-2-jar/org/objectweb/asm/ClassVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/Printer.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/Remapper.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/MethodNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Type.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/ClassWriter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/Shrinker.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/MethodRemapper.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Context.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/LabelNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/CheckSignatureAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/LineNumberNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/InnerClassNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/FrameNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/AnnotationConstantsCollector.java
*
/asm-5-1-sources-2-jar/org/objectweb/asm/commons/RemappingClassAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/InsnList.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/StaticInitMerger.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/CheckMethodAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/CheckClassAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/signature/SignatureVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/Subroutine.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/FieldRemapper.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/AnnotationRemapper.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/ClassOptimizer.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/TryCatchBlockNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/ClassRemapper.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/AbstractInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/TypeInsnNode.java
*
/asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/Constant.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/MultiANewArrayInsnNode.java

* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/SignatureRemapper.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/SmallSet.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/RemappingMethodAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Handler.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/CheckFieldAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/FieldVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/BasicInterpreter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/Interpreter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/SerialVersionUIDAdder.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/optimizer/MethodConstantsCollector.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Attribute.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/FieldWriter.java
*
 /asm-5-1-sources-2-jar/org/objectweb/asm/tree/FieldNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/LocalVariablesSorter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/TraceClassVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/Frame.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/BasicValue.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/JumpInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/ByteVector.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/AdviceAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/TypeAnnotationNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/SourceInterpreter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/SourceValue.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/Value.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Edge.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/RemappingSignatureAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/Method.java
*
 /asm-5-1-sources-2-jar/org/objectweb/asm/util/TraceSignatureVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/util/TraceAnnotationVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/signature/SignatureReader.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/FieldInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/AnnotationVisitor.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/RemappingFieldAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/TableSwitchGenerator.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/InstructionAdapter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/VarInsnNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/analysis/SimpleVerifier.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/AnnotationWriter.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/commons/SimpleRemapper.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/tree/ParameterNode.java
* /asm-5-1-sources-2-jar/org/objectweb/asm/Handle.java
*
 /asm-5-1-sources-2-jar/org/objectweb/asm/tree/LdcInsnNode.java

# 1.173 resourcelocator 1.0.3

## 1.173.1 Available under license :

/*
* Copyright (c) 2009, 2018 Oracle and/or its affiliates. All rights reserved.
*
* This program and the accompanying materials are made available under the
* terms of the Eclipse Public License v. 2.0, which is available at
* http://www.eclipse.org/legal/epl-2.0.
*
* This Source Code may also be made available under the following Secondary
* Licenses when the conditions for such availability set forth in the
* Eclipse Public License v. 2.0 are satisfied: GNU General Public License,
* version 2 with the GNU Classpath Exception, which is available at
* https://www.gnu.org/software/classpath/license.html.
*
* SPDX-License-Identifier: EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0
*/
Found license 'Eclipse Public License 1.0' in '* Copyright (c) 2009, 2018 Oracle and/or its affiliates. All rights reserved. * This program and the accompanying materials are made available under the * terms of the Eclipse Public License v. 2.0, which is available at * Eclipse Public License v. 2.0 are satisfied: GNU General Public License,'
Found license 'General Public License 2.0' in '* Copyright (c) 2009, 2018 Oracle and/or its affiliates. All rights reserved. * This program and the accompanying materials are made available under the * terms of the Eclipse Public License v. 2.0, which is available at * Eclipse Public License v. 2.0 are satisfied: GNU General Public License,'
Eclipse Public License - v 2.0
THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE (“AGREEMENT”). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS
“Contribution” means:

a) in the case of the initial Contributor, the initial content Distributed under this Agreement, and
b) in the case of each subsequent Contributor:
i) changes to the Program, and
ii) additions to the Program;
where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution “originates” from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include changes or additions to the Program that are not Modified Works.
“Contributor” means any person or entity that Distributes the Program.

“Licensed Patents” mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

“Program” means the Contributions Distributed in accordance with this Agreement.

“Recipient” means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

“Derivative Works” shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

“Modified Works” shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity any new file in Source Code form that contains any contents of the Program. Modified Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely
in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

“Distribute” means the acts of a) distributing or b) making available in any manner that enables the transfer of a copy.

“Source Code” means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

“Secondary License” means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

2. GRANT OF RIGHTS
a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, Distribute and sublicense the Contribution of such Contributor, if any, and such Derivative Works.
b) Subject to the terms of this Agreement, each
Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in Source Code or other form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.
c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based
on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to Distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.
d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.
e) Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).
3. REQUIREMENTS
3.1 If a Contributor Distributes the Program in any form, then:

a)
the Program must also be made available as Source Code, in accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and
b) the Contributor may Distribute the Program under a license different than this Agreement, provided that such license:
i) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;
ii) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;
iii) does not attempt to limit or alter the recipients' rights
in the Source Code under section 3.2; and
iv) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.
3.2 When the Program is Distributed as Source Code:

a) it must be made available under this Agreement, or if the Program (i) is combined with other material in a separate file or files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available under the terms of such Secondary Licenses, and
b) a copy of this Agreement must be included with each copy of the Program.
3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ('notices') contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

4.
COMMERCIAL DISTRIBUTION
Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply
to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other

Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PROGRAM IS PROVIDED ON AN “AS IS” BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER RECIPIENT
NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations
of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new
versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its

Contributions) under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement
are reserved. Nothing in this Agreement is intended to be enforceable by any entity that is not a Contributor or Recipient. No third-party beneficiary rights are created under this Agreement.

Exhibit A – Form of Secondary Licenses Notice
“This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License, v. 2.0 are satisfied: {name license(s), version(s), and exceptions or additional permissions here}.”

Simply including a copy of this Agreement, including this Exhibit A is not sufficient to license the Source Code under Secondary Licenses.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice.

You may add additional accurate notices of copyright ownership.

# 1.174 jakarta-inject 2.6.1

## 1.174.1 Available under license :

# Eclipse Public License - v 2.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial content
Distributed under this Agreement, and

b) in the case of each subsequent Contributor:
i) changes to the Program, and
ii) additions to the Program;
where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution "originates" from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include changes or additions to the Program that are not Modified Works.

"Contributor"
means any person or entity that Distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions Distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

"Derivative Works" shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

"Modified Works" shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity
any new file
in Source Code form that contains any contents of the Program. Modified Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

"Distribute" means the acts of a) distributing or b) making available in any manner that enables the transfer of a copy.

"Source Code" means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Secondary License" means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, Distribute and sublicense the Contribution of such Contributor, if any, and such Derivative Works.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in Source Code or other form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution.
No hardware per se is
licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to Distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its
knowledge it has
sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

e) Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).

3. REQUIREMENTS

3.1 If a Contributor Distributes the Program in any form, then:

a) the Program must also be made available as Source Code, in accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and

b) the Contributor
may Distribute the Program under a license
different than this Agreement, provided that such license:
i) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) does not attempt to limit or alter the recipients' rights in the Source Code under section 3.2; and

iv) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.

3.2 When the Program is Distributed
as Source Code:

a) it must be made available under this Agreement, or if the Program (i) is combined with other material in a separate file or files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available under the terms of such Secondary Licenses, and

b) a copy of this Agreement must be included with each copy of the Program.

3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ("notices") contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end
users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential

liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT

AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its Contributions)

under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved. Nothing in this Agreement is intended to be enforceable by any entity that is not a Contributor or Recipient. No third-party beneficiary rights are created under this Agreement.

Exhibit A - Form of Secondary Licenses Notice

"This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License, v. 2.0 are satisfied: {name license(s), version(s), and exceptions or additional permissions here}."

Simply including a copy of this Agreement, including this Exhibit A is not sufficient to license
the Source Code under Secondary Licenses.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice.

You may add additional accurate notices of copyright ownership.

---

## The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor
Boston, MA 02110-1335
USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is
free for all its users. This General Public License applies to most of the Free Software Foundation's software and

to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you
if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program
is threatened constantly by software patents.
We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers

to any such program or work, and a "work based on the Program" means
either the Program or any derivative work under copyright law: that is
to say, a work containing the Program or a portion of it, either
verbatim or with modifications and/or translated
into another language.
(Hereinafter, translation is included without limitation in the term
"modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of running
the Program is not restricted, and the output from the Program is
covered only if its contents constitute a work based on the Program
(independent of having been made by running the Program). Whether that
is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source
code as you receive it, in any medium, provided that you conspicuously
and appropriately publish on each copy an appropriate copyright notice
and disclaimer of warranty; keep intact all the notices that refer to
this License and to the absence of any warranty; and give any other
recipients of the Program a copy
of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of
it, thus forming a work based on the Program, and copy and distribute
such modifications or work under the terms of Section 1 above, provided
that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any part
thereof, to be licensed as a whole at no charge to all third parties
under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must
cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a notice
that there is no warranty (or else, saying that you provide a
warranty) and that users may redistribute the program under these
conditions, and telling the user how to view a copy of this License.
(Exception: if the Program itself is interactive but does not

normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same
sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do
one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with
Subsection b above.)

The source code for a work means the preferred form of the work for

making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled
to copy the source
along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions
for copying, distributing or modifying the
Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and

any other pertinent
obligations, then as a consequence you may not
distribute the Program at all. For example, if a patent license would
not permit royalty-free redistribution of the Program by all those who
receive copies directly or indirectly through you, then the only way you
could satisfy both it and this License would be to refrain entirely from
distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is implemented
by public license practices. Many people have made generous
contributions to the wide range of software distributed through that
system in reliance on consistent application of that system; it is up to
the author/donor to decide if he or she is willing to distribute
software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be
a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License may
add an explicit geographical distribution limitation excluding those
countries, so that distribution is permitted only in or among countries
not thus excluded. In such case, this License incorporates the
limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new
versions of the General Public License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Program does not specify a version
number of this License, you may choose any version ever published by the
Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free

programs whose distribution conditions are different, write to the
author to ask for permission. For software which is copyrighted by the
Free Software Foundation, write to the Free Software Foundation; we
sometimes
make exceptions for this. Our decision will be guided by the
two goals of preserving the free status of all derivatives of our free
software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND,
EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE
ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH
YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL
NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER
PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR
DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM
(INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED
INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF
THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR
OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to
attach them to the start of each source file to most effectively
convey
the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

One line to give the program's name and a brief idea of what it does.
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation,
Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1335 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type
`show w'. This is free software, and you are welcome to redistribute
it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the
appropriate parts of the General Public License. Of course, the commands
you use may be called something other than `show w' and `show c'; they
could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program,
if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
program `Gnomovision' (which makes passes at compilers) written by
James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications
with the library. If this is what you want to do, use the GNU Library
General Public License instead of this License.

---

## CLASSPATH EXCEPTION

Linking this library statically or dynamically with other modules is
making a combined work based on this library. Thus, the terms and
conditions of the GNU General Public License version 2 cover the whole
combination.

As a special exception, the copyright holders of
this library give you
permission to link this library with independent modules to produce an
executable, regardless of the license terms of these independent
modules, and to copy and distribute the resulting executable under
terms of your choice, provided that you also meet, for each linked
independent module, the terms and conditions of the license of that
module. An independent module is a module which is not derived from or
based on this library. If you modify this library, you may extend this
exception to your version of the library, but you are not obligated to
do so. If you do not wish to do so, delete this exception statement
from your version.

# Notices for Eclipse GlassFish

This content is produced and maintained by the Eclipse GlassFish project.

* Project home: https://projects.eclipse.org/projects/ee4j.glassfish

## Trademarks

Eclipse GlassFish, and GlassFish are trademarks of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Public License v. 2.0 which is available at
http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made
available under the following Secondary Licenses when the conditions for such
availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU
General Public License, version 2 with the GNU Classpath Exception which is
available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:

EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/glassfish-ha-api
* https://github.com/eclipse-ee4j/glassfish-logging-annotation-processor
* https://github.com/eclipse-ee4j/glassfish-shoal
* https://github.com/eclipse-ee4j/glassfish-cdi-porting-tck
* https://github.com/eclipse-ee4j/glassfish-jsftemplating
* https://github.com/eclipse-ee4j/glassfish-hk2-extra
* https://github.com/eclipse-ee4j/glassfish-hk2
* https://github.com/eclipse-ee4j/glassfish-fighterfish

## Third-party Content

This project leverages the following third party content.

None

## Cryptography

Content may contain encryption software. The country in which you are currently
may have restrictions on the import, possession, and use, and/or re-export to
another country, of encryption software. BEFORE using any encryption software,
please check the country's laws, regulations and
policies concerning the import,
possession, or use, and re-export of encryption software, to see if this is
permitted.

# 1.175 commons-net 3.3

## 1.175.1 Available under license :

Apache Commons Net
Copyright 2001-2013 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or
(iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from)
the Work and for which the
editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted"

means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must

include a readable copy of the attribution notices contained
within such NOTICE file, excluding those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own
copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names
of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or

agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law
(such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your
sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!)  The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.176 jewelcli 0.8.2

## 1.176.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012 Tim Wood
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/AbstractOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/SpecificationMultiplicity.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2006 Tim Wood
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at http://www.apache.org/licenses/LICENSE-2.0
*

* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ArgumentCollectionImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/CliInstanceImpl.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/CliInstanceImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/CliInterfaceImpl.java
*
 /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ArgumentValidatorImpl.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/CliInterfaceImpl.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/OptionsSpecificationImpl.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/Option.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/Option.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ArgumentValidatorImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionsSpecificationImpl.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ArgumentCollectionImpl.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2009 Tim Wood
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/UnparsedOptionSpecificationImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionType.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/UnparsedOptionSpecificationImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ParsedOptionSpecificationImpl.java
*
 /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ParsedOptionSpecificationImpl.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2007 Tim Wood

*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ConvertGetterMethodToParsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/UnparsedOptionSpecificationBuilder.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/InterfaceOptionsSpecificationParser.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/InterfaceOptionsSpecificationParser.java
*
 /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/HelpValidationErrorImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ConvertUnparsedGetterMethodToUnparsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionUtils.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/InstanceOptionsSpecificationParser.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/CliSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/OptionUtils.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ConvertUnparsedSetterMethodToUnparsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionName.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionContext.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ConvertSetterMethodToParsedOptionSpecification.java
*
 /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/HelpRequestedException.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/CliSpecification.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/UnparsedOptionSummary.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/InstanceOptionsSpecificationParser.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/UnparsedOptionSummary.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ParsedOptionSummary.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ParsedOptionSummary.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ConvertUnparsedSetterMethodToUnparsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ConvertUnparsedGetterMethodToUnparsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ConvertGetterMethodToParsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ParsedOptionSpecificationBuilder.java
*
 /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ConvertSetterMethodToParsedOptionSpecification.java

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011 Tim Wood
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureUnexpectedTrailingValue.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/AbstractConvertMethodToOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureWrongNumberOfValues.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionHelpMessage.java
*
 /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ArgumentValidationExceptionFactory.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureType.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/UnparsedAnnotationAdapter.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/InstanceArgumentPresentingStrategy.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ConvertTypeOfObject.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/HelpMessage.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/OptionAnnotationAdapter.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/AbstractConvertMethodToOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/OptionAdapter.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ParsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureUnexpectedValue.java
*
 /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailure.java
No license file was found, but licenses were detected in source scan.

//Copyright    : (c) Teamphone.com Ltd. 2008 - All Rights Reserved

Found in path(s):
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/Argument.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/Argument.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ArgumentImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ArgumentImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/OptionSpecification.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2011 Tim Wood
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):

```
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/AbstractOptionAdapter.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ArgumentCollectionBuilder.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ArgumentPresentingStrategy.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/OptionHelpMessage.java
*
 /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureMissingOption.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/InstanceArgumentPresentingStrategy.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailurePatternMismatch.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureUnableToConstructType.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/AbstractOptionAdapter.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureUnexpectedOption.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/HelpMessageOptionSummaryBuilderImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/AbstractOptionSpecificationBuilder.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureHelpRequested.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionAdapter.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/AbstractCliImpl.java
*
 /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/InterfaceArgumentPresentingStrategy.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/AbstractCliImpl.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/UnparsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/InterfaceArgumentPresentingStrategy.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/UnparsedAnnotationAdapter.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/HelpMessageOptionSummaryBuilderImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionSpecificationBuilder.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureMissingValue.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ConvertTypeOfObject.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureInvalidValueForType.java
*
```

/jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/HelpMessageBuilderImpl.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/HelpMessageBuilderImpl.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/HelpMessage.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ArgumentPresentingStrategy.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ParsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/com/lexicalscope/jewel/cli/ValidationFailureMisplacedOption.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/OptionAnnotationAdapter.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/UnparsedOptionSpecification.java
* /jewelcli-0-8-2-sources-jar/uk/co/flamingpenguin/jewel/cli/ArgumentCollectionBuilder.java

# 1.177 public-suffix 20180223.1310-1

## 1.177.1 Available under license :

Mozilla Public License Version 2.0
==================================

1. Definitions
--------------

1.1. "Contributor"
means each individual or legal entity that creates, contributes to
the creation of, or owns Covered Software.

1.2. "Contributor Version"
means the combination of the Contributions of others (if any) used
by a Contributor and that particular Contributor's Contribution.

1.3. "Contribution"
means Covered Software of a particular Contributor.

1.4. "Covered Software"
means Source Code Form to which the initial Contributor has attached
the notice in Exhibit A, the Executable Form of such Source Code
Form, and Modifications of such Source Code Form, in each case
including portions thereof.

1.5. "Incompatible With Secondary Licenses"
means

(a) that the initial Contributor has attached the notice described
in Exhibit B to the Covered Software; or

(b) that the Covered Software was made available under the terms of

version 1.1 or earlier of the License, but not also under the
terms of a Secondary License.

1.6. "Executable Form"
means any form of the work other than Source Code Form.

1.7. "Larger Work"
means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.

1.8. "License"
means this document.

1.9. "Licensable"
means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.

1.10. "Modifications"
means any of the following:

(a) any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or

(b) any new file in Source Code Form that contains any Covered Software.

1.11. "Patent Claims" of a Contributor
means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such Contributor that would be infringed, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.

1.12. "Secondary License"
means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

1.13. "Source Code Form"
means the form of the work preferred for making modifications.

1.14. "You" (or "Your")
means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity,

whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants and Conditions
---

2.1. Grants

Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and

(b) under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first distributes
such Contribution.

2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License. Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

(a) for any code that a Contributor has removed from Covered Software; or

(b) for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or

(c) under Patent Claims infringed by Covered Software in the absence of its Contributions.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

2.5. Representation

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

3. Responsibilities
---

3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications that You create or to which You contribute, must be under the terms of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then:

(a) such Covered Software must also be made available in Source Code

Form, as described in Section 3.1, and You must inform recipients of the Executable Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and

(b) You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

3.3. Distribution of a Larger Work

You may create and distribute
a Larger Work under terms of Your choice,
provided that You also comply with the requirements of this License for the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

3.5. Application of Additional
Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

4. Inability to Comply Due to Statute or Regulation
---

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the
maximum extent possible; and (b)
describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Termination
---

5.1. The rights granted under this License will terminate automatically if You fail to comply with any of its terms. However, if You become compliant, then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing
basis if such Contributor
notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

**********
*
*
*  6. Disclaimer of Warranty *
*  ---------- *
*  *

* Covered Software is provided under this License on an "as is" *
* basis, without warranty of any kind, either expressed, implied, or *
* statutory, including, without limitation, warranties that the *
* Covered Software is free of defects, merchantable, fit for a *
* particular purpose or non-infringing. The entire risk as to the *
* quality and performance of the Covered Software is with You. *
* Should any Covered Software prove defective in any respect, You *
* (not any Contributor) assume the cost of any necessary servicing, *
* repair, or correction. This disclaimer of warranty constitutes an *
* essential part of this License. No use of any Covered
Software is *
* authorized under this License except under this disclaimer. *
* *
**********

**********
* *
* 7. Limitation of Liability *
* ---------- *
* *
* Under no circumstances and under no legal theory, whether tort *
* (including negligence), contract, or otherwise, shall any *
* Contributor, or anyone who distributes Covered Software as *
* permitted above, be liable to You for any direct, indirect, *
* special, incidental, or consequential damages of any character *
* including, without limitation,
damages for lost profits, loss of *
* goodwill, work stoppage, computer failure or malfunction, or any *
* and all other commercial damages or losses, even if such party *
* shall have been informed of the possibility of such damages. This *
* limitation of liability shall not apply to liability for death or *
* personal injury resulting from such party's negligence to the *
* extent applicable law prohibits such limitation. Some *
* jurisdictions do not allow the exclusion or limitation of *
* incidental or consequential damages, so this exclusion and *
* limitation may not apply to You. *
* *
**********

8. Litigation
---

Any litigation relating to this License may be brought only in the
courts of a jurisdiction where the defendant maintains its principal
place
of business and such litigation shall be governed by laws of that
jurisdiction, without reference to its conflict-of-law provisions.
Nothing in this Section shall prevent a party's ability to bring

cross-claims or counter-claims.

9. Miscellaneous
---

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

10. Versions of the License
---

10.1. New Versions

Mozilla Foundation is the license steward. Except as provided in Section 10.3, no one other than the license steward has the right to modify or publish new versions of this License. Each version will be given a distinguishing version
number.

10.2. Effect of New Versions

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

10.3. Modified Versions

If you create software not governed by this License, and you want to create a new license for such software, you may create and use a modified version of this License if you rename the license and remove any references to the name of the license steward (except to note that such modified license differs from this License).

10.4. Distributing Source Code Form that is Incompatible With Secondary Licenses

If You choose to distribute Source Code Form that is Incompatible With Secondary Licenses under the terms of this version of the License, the notice described in Exhibit B of this License must be attached.

Exhibit A - Source Code Form License Notice
---

This Source
Code Form is subject to the terms of the Mozilla Public
License, v. 2.0. If a copy of the MPL was not distributed with this
file, You can obtain one at https://mozilla.org/MPL/2.0/.

If it is not possible or desirable to put the notice in a particular
file, then You may include the notice in a location (such as a LICENSE
file in a relevant directory) where a recipient would be likely to look
for such a notice.

You may add additional accurate notices of copyright ownership.

Exhibit B - "Incompatible With Secondary Licenses" Notice
---

This Source Code Form is "Incompatible With Secondary Licenses", as
defined by the Mozilla Public License, v. 2.0.

# 1.178 six 1.11.0-2

## 1.178.1 Available under license :

MIT
Copyright (c) 2010-2017 Benjamin Peterson

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS
FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.179 python-certifi 2018.1.18-2

## 1.179.1 Available under license :

This packge contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov  3 19:04:19 2011#
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt).  This file can be found in the mozilla source tree:
http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#
It contains the certificates in PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.#

***** BEGIN LICENSE BLOCK *****
This Source Code Form is subject to the terms of the Mozilla Public License,
v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain
one at http://mozilla.org/MPL/2.0/.

***** END LICENSE BLOCK *****
@(#) $RCSfile: certdata.txt,v $
$Revision: 1.80 $ $Date: 2011/11/03 15:11:58 $

# 1.180 rxjava 2.2.21

## 1.180.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or

otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one

of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be

liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.181 jemalloc 5.2.1

## 1.181.1 Available under license :

Unless otherwise specified, files in the jemalloc source distribution are
subject to the following license:

---

Copyright (C) 2002-present Jason Evans <jasone@canonware.com>.
All rights reserved.
Copyright (C) 2007-2012 Mozilla Foundation.  All rights reserved.
Copyright (C) 2009-present Facebook, Inc.  All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice(s),
  this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice(s),
  this list of conditions and the following disclaimer in the documentation
  and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER(S) ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
 BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE COPYRIGHT HOLDER(S) BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

# 1.182 commons-csv 1.8

## 1.182.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or
(iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from)
the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication

on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant
of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as
of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and

attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must

include a readable copy of the attribution notices contained
within such NOTICE file, excluding those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own
copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names
of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or

implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
Apache Commons CSV
Copyright 2005-2020 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (https://www.apache.org/).

# 1.183 jpsg-core 1.4

## 1.183.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2019 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/Option.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/IntermediateOption.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/MalformedTemplateException.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/concurrent/ForkJoinTasks.kt
*
 /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/GenericsProcessor.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/StringLengthComparator.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/OptionProcessor.java

* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/StringUtils.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/CheckingPattern.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/SimpleOption.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/BitsModifierPreProcessor.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/concurrent/ForkJoinTaskShim.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/function/Predicate.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/GeneratorConstants.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/RawModifierProcessor.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/PrintProcessor.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/RegexpUtils.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/FunctionProcessor.kt
*
/jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/OverviewProcessor.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/Condition.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/PrimitiveTypeModifierPreProcessor.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/CheckingMatcher.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/Jdk8FunctionReplacer.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/AAnProcessor.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/concurrent/RealForkJoinTasks.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/ObjectType.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/Generator.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/Dimensions.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/NonexistentDimensionException.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/ConstProcessor.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/TemplateProcessor.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/function/UnaryOperator.java
*
/jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/FloatingWrappingProcessor.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/PrimitiveType.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/DefinitionProcessor.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/PrimitiveTypeModifierPostProcessor.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/Context.java
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/BitsModifierPostProcessor.kt
* /jpsg-core-1-4-sources-jar/io/timeandspace/jpsg/concurrent/NoForkJoinTasks.kt

# 1.184 smoothie-map 2.0.2

## 1.184.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) The SmoothieMap Authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*

*  http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/EquivalenceBasedHashFunction.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/collect/package-info.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/ComparableClassValue.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/collect/Equivalence.java
*
 /smoothie-map-2-0-2-sources-jar/io/timeandspace/collect/StatelessEquivalence.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/Utils.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/ContinuousSegments.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/FilteringIterator.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/collect/ObjSet.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/KeySearchStats.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/OptimizationObjective.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/LongMath.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/collect/ObjCollection.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/CompileTimeConstant.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/DefaultHashFunction.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/collect/map/KeyValue.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/package-info.java
*
 /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/AmortizedPerSegment.java
* /smoothie-map-2-0-2-sources-
jar/io/timeandspace/smoothie/SmoothieMapWithCustomKeyAndValueEquivalences.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/AmortizedPerOrder.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/ObjectSize.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/VisibleForTesting.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/Segments.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/HashCodeDistribution.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/collect/map/package-info.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/AbstractSegment.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/collect/map/ObjObjMap.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/IntMath.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/ColdPath.java
*
 /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/PoorHashCodeDistributionOccasion.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/BitSetAndState.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/InterleavedSegment_BitSetAndStateArea.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SmoothieMapStats.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/InflatedSegmentQueryContext.java

* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SmoothieMapWithCustomKeyEquivalence.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/BinomialDistributionInverseCdfApproximation.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/OrdinarySegmentStats.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/IsFullCapacitySegmentBitSet.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/OutboundOverflowCounts.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/RarelyCalledAmortizedPerSegment.java
*
 /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SmoothieMapBuilder.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/Statistics.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SmoothieMapWithCustomValueEquivalence.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/AbstractEntry.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SmoothieMapWithCustomKeyHashFunction.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/InterleavedSegments.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SwissTable.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SmoothieMap.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/UnsafeUtils.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/HashTable.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SimpleMutableEntry.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/ContinuousSegment_BitSetAndStateArea.java
*
 /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/BarelyCalled.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/HotPath.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/PrecomputedBinomialCdfValues.java
* /smoothie-map-2-0-2-sources-jar/io/timeandspace/smoothie/SuppressForbidden.java

# 1.185 zstd 1.3.3+dfsg-2ubuntu1.2

## 1.185.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program"

means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on

the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any

associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing
or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you

may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

BSD License

For Zstandard software

Copyright (c) 2016-present, Facebook, Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
  list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
  this list of conditions and the following disclaimer in the documentation
  and/or other materials provided with the distribution.

* Neither the name Facebook nor the names of its contributors may be used to
  endorse or promote products derived from this software without specific
  prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR
ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.186 lz4 1.9.3

## 1.186.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public

License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such

interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution

and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing
or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing

version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this
 is what you want to do, use the GNU Lesser General
Public License instead of this License.
Copyright (c) 2014, lpsantil
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
 list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
 this list of conditions and the following disclaimer in the documentation
 and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES;
 LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
This repository uses 2 different licenses :
- all files in the `lib` directory use a BSD 2-Clause license
- all other files use a GPLv2 license, unless explicitly stated otherwise

Relevant license is reminded at the top of each source file,
and with presence of COPYING or LICENSE file in associated directories.

This model is selected to emphasize that
files in the `lib` directory are designed to be included into 3rd party applications,
while all other files, in `programs`, `tests` or `examples`,
receive more limited attention and support for such scenario.
LZ4 Library
Copyright (c) 2011-2016, Yann Collet
All rights reserved.

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this
list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR
ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: liblz4
Upstream-Contact: Yann Collet <Cyan4973@github.com>
Source: https://github.com/lz4/lz4

Files: *
Copyright: (C) 2011-2020 Yann Collet
License: GPL-2+
The full text of license: https://github.com/lz4/lz4/blob/dev/lib/LICENSE

# 1.187 tdb 1.44.1

## 1.187.1 Available under license :

GNU GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright © 2007 Free Software Foundation, Inc. <https://fsf.org/>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and

change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission
to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect
the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

“This License” refers to version 3 of the GNU General Public License.

“Copyright” also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

“The Program” refers to any copyrightable work licensed under this License. Each licensee is addressed as “you”. “Licensees” and “recipients” may be individuals or organizations.

To “modify” a work means to copy from or adapt all or part of the work in a fashion
requiring copyright permission, other than the making of an exact copy. The resulting work is called a “modified version” of the earlier work or a work “based on” the earlier work.

A “covered work” means either the unmodified Program or a work based on the Program.

To “propagate” a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To “convey” a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays “Appropriate Legal Notices” to the extent that it includes a convenient and prominently visible
feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The “source code” for a work means the preferred form of the work for making modifications to it. “Object code” means any non-source form of a work.

A “Standard Interface” means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The “System Libraries” of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component,
but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A “Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The “Corresponding Source” for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface

definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright
law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any
applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact
all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.
b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to “keep intact all notices”.
c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.
d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an “aggregate” if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.
b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.
c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions

next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.
e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A “User Product” is either (1) a “consumer product”, which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, “normally used” refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

“Installation Information” for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically
for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for
communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

“Additional permissions” are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or
b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or
c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or
d) Limiting
the use for publicity purposes of names of licensors or authors of the material; or
e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or
f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided
that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of

the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An “entity transaction” is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party
to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A “contributor” is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the
contributor's “contributor version”.

A contributor's “essential patent claims” are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, “control” includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a “patent license” is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To “grant” such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. “Knowingly relying” means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is “discriminatory” if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work,

but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or
new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License “or any later version” applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different
permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL
OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according

to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free
software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received
a copy of the GNU General Public License
along with this program. If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an “about box”.

You should also get your employer (if you work as a programmer) or school, if any, to sign a “copyright disclaimer” for the program, if necessary. For more information on this, and how to apply and follow

the GNU GPL, see <https://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <https://www.gnu.org/licenses/why-not-lgpl.html>.

# 1.188 libpkit 0.23.9-2ubuntu0.1

## 1.188.1 Available under license :

Format: http://dep.debian.net/deps/dep5
Upstream-Name: p11-kit
Source: http://p11-glue.freedesktop.org/p11-kit.html

Files: *
Copyright: 2011 Collabora Ltd.
License: BSD-3-Clause

Files: p11-kit/conf.* p11-kit/modules.c p11-kit/proxy.c
common/dict.c common/dict.h
Copyright: 2011 Collabora Ltd.
2004 Stefan Walter
License: BSD-3-Clause

Files: common/buffer.c common/buffer.h
Copyright: 2007, 2012 Stefan Walter
2013 Red Hat Inc.
License: BSD-3-Clause

Files: common/library.c common/library.h common/message.c
p11-kit/client-init.c p11-kit/proxy-init.c
Copyright: 2011 Collabora Ltd.
2012 Stef Walter
License: BSD-3-Clause

Files: common/url.c common/url.h
Copyright: 2011 Collabora Ltd.
2013 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/log.c
Copyright: 2007, Stefan Walter
2013, Red Hat Inc.
License: BSD-3-Clause

Files: common/pkcs11.h
Copyright: 2006, 2007 g10 Code GmbH

2006 Andreas Jellinghaus
Copyright 2017 Red Hat, Inc.
License: permissive-like-automake-output
This file is free software; as a special exception the author gives
unlimited permission to copy and/or distribute it, with or without
modifications, as long as this notice is preserved.
.
This file is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY, to the extent permitted by law; without even
the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR
PURPOSE. */

Files: common/argv.c common/argv.h common/hash.h
trust/oid.c trust/oid.h
trust/pem.c trust/pem.h common/argv.c common/argv.h common/pkcs11x.h
common/pkcs11i.h
common/test-constants.c common/test-hash.c
p11-kit/pkcs11.h p11-kit/test-managed.c
trust/builder.c
trust/builder.h trust/digest.h trust/module.c trust/module.h trust/pem.c
trust/pem.h trust/oid.c trust/oid.h trust/parser.h
trust/session.c trust/session.h trust/frob-cert.c
trust/frob-eku.c trust/frob-token.c
trust/test-digest.c trust/test-enumerate.c
trust/test-index.c trust/test-module.c
trust/test-oid.c
trust/test-parser.c trust/test-pem.c trust/test-token.c
trust/token.c trust/token.h trust/test-trust.c
trust/test-trust.h trust/x509.c trust/x509.h p11-kit/frob-setuid.c
Copyright: 2012 Red Hat Inc.
License: BSD-3-Clause

Files: common/attrs.c common/attrs.h
Copyright: 2012, Redhat Inc.
2011, Collabora Ltd.
License: BSD-3-Clause

Files: common/test-attrs.c common/test-buffer.c
trust/frob-ku.c trust/frob-oid.c trust/test-asn1.c
Copyright: 2012, Redhat Inc.
License: BSD-3-Clause

Files: p11-kit/test-modules.c
Copyright: 2012, 2015, 2016 Red Hat Inc
License: BSD-3-Clause

Files: common/constants.c common/constants.h common/test.c
common/test.h common/test-compat.c common/test-tests.c
common/tool.h p11-kit/deprecated.h
p11-kit/docs.h p11-kit/log.h p11-kit/modules.h p11-kit/proxy.h
p11-kit/test-log.c trust/anchor.c trust/anchor.h
trust/enumerate.c trust/enumerate.h trust/extract.c
trust/extract-cer.c trust/extract.h trust/extract-jks.c
trust/extract-openssl.c trust/extract-pem.c trust/index.c
trust/index.h trust/list.c trust/list.h trust/persist.c
trust/persist.h trust/save.c trust/save.h trust/frob-bc.c
trust/frob-ext.c trust/frob-pow.c
trust/test-base64.c
trust/test-builder.c trust/test-save.c
trust/test-utf8.c trust/test-x509.c
trust/types.h trust/utf8.c trust/utf8.h
Copyright: 2013, Redhat Inc.
License: BSD-3-Clause

Files: p11-kit/remote.h common/frob-getenv.c
common/unix-peer.h
Copyright: 2014 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/server.c
common/unix-peer.h
Copyright: 2014 Red Hat Inc.
License: BSD-3-Clause
Comment: make_private_security_descriptor() and the helper functions were
* copied from putty/windows/winsecur.c in the PuTTY source code as of
* git commit 12bd5a6c722152aa27f24598785593e72b3284ea.
*
* PuTTY is copyright 1997-2017 Simon Tatham.
*
* Portions copyright Robert de Bath, Joris van Rantwijk, Delian
* Delchev, Andreas Schultz, Jeroen Massar, Wez Furlong, Nicolas Barry,
* Justin Bradford, Ben Harris, Malcolm Smith, Ahmad Khalifa, Markus
* Kuhn, Colin Watson, Christopher Staite, and CORE SDI S.A.
*
* Permission is hereby granted, free of charge, to any person
* obtaining a copy of this software and associated documentation files
* (the "Software"), to deal in the Software without restriction,
* including without limitation the rights to use, copy, modify, merge,
* publish, distribute, sublicense, and/or sell copies of the Software,
* and to permit persons to whom the Software is furnished to do so,
* subject to the following conditions:
*

* The above copyright notice and this permission notice shall be
* included in all copies or substantial portions of the Software.

Files: p11-kit/remote.c
Copyright: 2014,2016 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/test-mock.c
Copyright: 2012 Stefan Walter
2012-2013 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/test-virtual.c p11-kit/test-transport.c
Copyright: 2012 Stefan Walter
2012 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/test-rpc.c
Copyright: 2012 Stefan Walter
Copyright (C) 2012-2017 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/rpc-transport.c
Copyright: 2012 Stefan Walter
2013 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/test-deprecated.c
Copyright: 2011, Collabora Ltd.
2012 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/virtual.c trust/asn1.c trust/asn1.h p11-kit/rpc-client.c
p11-kit/rpc-message.c p11-kit/rpc-message.h p11-kit/rpc-server.c
Copyright: 2008 Stefan Walter
2012 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/rpc.h
Copyright: 2012-2013 Stefan Walter
License: BSD-3-Clause

Files: trust/digest.c trust/digest.c common/hash.c
Copyright: 2004, 2005, 2007, 2011 Internet Systems Consortium, Inc. ("ISC")

2000, 2001, 2003 Internet Software Consortium.
License: ISC
Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.
.
THE SOFTWARE IS PROVIDED "AS IS" AND ISC DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL ISC BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

Files: trust/base64.c trust/base64.h
Copyright: 1996, 1998 by Internet Software Consortium
Portions Copyright (c) 1995 by International Business Machines, Inc.
License: ISC+IBM
Copyright (c) 1996, 1998 by Internet Software Consortium.
.
Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all
copies.
.
THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.
.
.
Portions Copyright (c) 1995 by International Business Machines, Inc.
.
International Business Machines, Inc. (hereinafter called IBM) grants
permission under its copyrights to use, copy, modify, and distribute this
Software with or without fee, provided that the above copyright notice and
all paragraphs of this notice appear in all copies, and that the name of IBM
not be used in connection with the marketing of any product incorporating
the
Software or modifications thereof, without specific, written prior
permission.
.
To the extent it has a right to do so, IBM grants an immunity from suit

under its patents, if any, for the use, sale or manufacture of products to
the extent that such products are used for performing Domain Name System
dynamic updates in TCP/IP networks by means of the Software.  No immunity is
granted for any product per se or for any other function of any product.
.
THE SOFTWARE IS PROVIDED "AS IS", AND IBM DISCLAIMS ALL WARRANTIES,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE.  IN NO EVENT SHALL IBM BE LIABLE FOR ANY SPECIAL,
DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER ARISING
OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE, EVEN
IF IBM IS APPRISED OF THE POSSIBILITY OF SUCH DAMAGES.

Files: common/lexer.c common/lexer.h common/path.c
Copyright: 2005 Stefan Walter
2011 Collabora Ltd.
2013 Red Hat Inc.
License:
 BSD-3-Clause

Files: common/compat.c
Copyright: Copyright (c) 2011 Collabora Ltd.
Portions of this file are covered by the following copyright:
Copyright (c) 2001 Mike Barcroft <mike@FreeBSD.org>
Copyright (c) 1990, 1993
Copyright (c) 1987, 1993
    The Regents of the University of California.
License: BSD-3-Clause
This code is derived from software contributed to Berkeley by
Chris Torek.
.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
4. Neither the name of the University nor the names of its contributors
  may be used
 to endorse or promote products derived from this software
  without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL

DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: common/mock.h common/path.h common/frob-getauxval.c
common/test-lexer.c common/test-message.c
common/test-path.c common/test-url.c
p11-kit/test-proxy.c p11-kit/virtual.h p11-kit/test-util.c
trust/frob-nss-trust.c trust/test-parser.c
trust/test-persist.c p11-kit/client.h
Copyright: 2013 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/iter.c p11-kit/iter.h p11-kit/test-iter.c
Copyright: 2013,2016 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/client.c p11-kit/filter.c p11-kit/filter.h
p11-kit/test-filter.c p11-kit/virtual-fixed.h
Copyright: 2016 Red Hat Inc.
License: BSD-3-Clause

Files: common/test-argv.c
Copyright: 2017 Red Hat Inc.
License: BSD-3-Clause

Files: p11-kit/mock-module-ep.c p11-kit/test-progname.c p11-kit/mock-module-ep3.c
Copyright: 2012 Stefan Walter
License: BSD-3-Clause

Files: common/unix-peer.c
Copyright: 2013 Nikos Mavrogiannopoulos
License: BSD-3-Clause

Files: debian/*
Copyright: 2011 Chris Coulson <chris.coulson@canonical.com>
2011-2013 Andreas Metzler <ametzler@debian.org>
License: BSD-3-Clause

Files: po/de.po
Copyright: 2011 Chris Leick
Comment: This file is distributed
 under the same license as the
debian files of the p11-kit package.
License: BSD-3-Clause

Files: po/fi.po
Copyright: 2012 Rosetta Contributors and Canonical Ltd 2012
Eerik Uusi-Illikainen https://launchpad.net/~ekiuusi-4, 2012
Timo Jyrinki <timo.jyrinki@iki.fi>, 2012
License: same-as-rest-of-p11kit
This file is distributed under the same license as the p11-kit
package.

License: BSD-3-Clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
   may be used to endorse
 or promote products derived from this software
   without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

# 1.189 libtasn 4.13-2

## 1.189.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who
decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library,
whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling

it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be

allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for

making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be
reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form

under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work

under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany
the work with the complete corresponding
machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate
properly with a modified version of the library, if
the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for

reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally
distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any
other library
facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if
you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if

written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision
will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH

DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1)
assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains
that there is no warranty for this free software. For both users' and

authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees"
and
"recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's

System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article

11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source
as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,
procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as

part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in
ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the
entire Program shall
be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or

limiting liability differently from the
terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or
author attributions in that material or in the Appropriate Legal
Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or
requiring that modified versions of such material be marked in
reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or
authors of the material; or

e) Declining to grant rights under trademark law for use of some
trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that
material by anyone who conveys the material (or modified versions of
it) with contractual assumptions of liability to the recipient, for
any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further
restrictions" within the meaning of section 10. If the Program as you
received it, or any part of it, contains a notice stating that it is
governed by this License along with a term that is a further
restriction, you may remove that term. If a license document contains
a further restriction but permits relicensing or conveying under this
License, you may add to a covered work material governed by the terms
of that license document, provided that the further restriction does
not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you
must place, in the relevant source files, a statement of the
additional terms that apply to those files, or a notice indicating
where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the
form of a separately written license, or stated as exceptions;
the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly
provided under this License. Any attempt otherwise to propagate or

modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that

transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this

License, through a
publicly available network server or other readily accessible means,
then you must either (1) cause the Corresponding Source to be so
available, or (2) arrange to deprive yourself of the benefit of the
patent license for this particular work, or (3) arrange, in a manner
consistent with the requirements of this License, to extend the patent
license to downstream recipients. "Knowingly relying" means you have
actual knowledge that, but for the patent license, your conveying the
covered work in a country, or your recipient's use of the covered work
in a country, would infringe one or more identifiable patents in that
country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or
arrangement, you convey, or propagate by procuring conveyance of, a
covered work, and grant a patent license to some of the parties
receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered
work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may

not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS"

WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by

the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
 must themselves be free in the same sense.  It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does.  But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book.  We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License.  Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein.  The ``Document'', below,
refers
 to any such manual or work.  Any member of the public is a
licensee, and is addressed as ``you''.  You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the
Document or a portion of it, either copied verbatim, or with
modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, La@TeX{} input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG@. Opaque formats include proprietary formats that can be read and edited only by proprietary word

processors, SGML or
XML for which the DTD and/or processing tools are
not generally available, and the machine-generated HTML,
PostScript or PDF produced by some word processors for
output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page. For works in
formats which do not have any title page as such, ``Title Page'' means
the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in another language. (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'',
or ``History''.) To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document. These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either
commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies
to the Document are reproduced in all copies, and that you add no other
conditions whatsoever to those of this License. You may not use
technical measures to obstruct or control the reading or further
copying of the copies
you make or distribute. However, you may accept
compensation in exchange for copies. If you distribute a large enough
number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and
you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the
title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute
an
Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution

and modification of the Modified Version to whoever possesses a copy
of it.  In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from those of previous versions
(which should, if there were any, be listed in the History section
of the Document).  You may use the same
 title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the
 Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page.  If
there is no section Entitled ``History'' in the Document, create one

stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on.  These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any
 section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles.  Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''.  Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all
of these sections as invariant.  To do this, add their titles to the
list of Invariant
 Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has

been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History'' in the various original documents, forming one section Entitled ``History''; likewise combine any sections Entitled ``Acknowledgements'', and any sections Entitled ``Dedications''. You must delete all sections Entitled ``Endorsements.''

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents

released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License
into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an ``aggregate'' if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form.
Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',
``Dedications'', or ``History'', the requirement
(section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for
any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License. If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns. See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and

conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation. If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation. If the Document
specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the
Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works. A
public wiki that anybody can edit is an example of such a server. A
``Massive Multiauthor Collaboration'' (or ``MMC'') contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons
Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License

in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group
 Copyright (C)  @var{year}  @var{your name}.
 Permission is granted to copy, distribute and/or modify this document
 under the terms of the GNU Free Documentation License, Version 1.3
 or any later version published by the Free Software Foundation;
 with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
 Texts.  A copy of the license is included in the section entitled ``GNU
 Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts."@: line with this:

@smallexample
@group
   with the Invariant Sections being @var{list their titles}, with
   the Front-Cover Texts being @var{list}, and with the Back-Cover Texts
   being @var{list}.
@end group
@end smallexample

If you have Invariant
 Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:

# 1.190 asm 9.1

## 1.190.1 Available under license :

No license file was found, but licenses were detected in source scan.

2011 INRIA, France Telecom

* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the copyright holders nor the names of its
*    contributors may be used to endorse or promote products derived from
*    this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
* AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
* THE POSSIBILITY OF SUCH DAMAGE.

Found in path(s):
* /asm-9-1-sources-jar/org/objectweb/asm/package.html
* /asm-9-1-sources-jar/org/objectweb/asm/signature/package.html
No license file was found, but licenses were detected in source scan.

// All rights reserved.
// Redistribution and use in source and binary forms, with or without
// modification, are permitted provided that the following conditions
// are met:
// 1. Redistributions of source code must retain the above copyright
//    notice, this list of conditions and the following disclaimer.
// 2. Redistributions in binary form must reproduce the above copyright
//    notice, this list of conditions and the following disclaimer in the
//    documentation and/or other materials provided with the distribution.
// 3. Neither the name of the copyright holders nor the names of its
//    this software without specific prior written permission.

Found in path(s):
* /asm-9-1-sources-jar/org/objectweb/asm/signature/SignatureWriter.java
* /asm-9-1-sources-jar/org/objectweb/asm/TypePath.java
* /asm-9-1-sources-jar/org/objectweb/asm/RecordComponentVisitor.java
* /asm-9-1-sources-jar/org/objectweb/asm/signature/SignatureReader.java

*
/asm-9-1-sources-jar/org/objectweb/asm/Context.java
* /asm-9-1-sources-jar/org/objectweb/asm/TypeReference.java
* /asm-9-1-sources-jar/org/objectweb/asm/FieldVisitor.java
* /asm-9-1-sources-jar/org/objectweb/asm/MethodTooLargeException.java
* /asm-9-1-sources-jar/org/objectweb/asm/ModuleVisitor.java
* /asm-9-1-sources-jar/org/objectweb/asm/ClassTooLargeException.java
* /asm-9-1-sources-jar/org/objectweb/asm/ClassWriter.java
* /asm-9-1-sources-jar/org/objectweb/asm/Attribute.java
* /asm-9-1-sources-jar/org/objectweb/asm/ClassVisitor.java
* /asm-9-1-sources-jar/org/objectweb/asm/Handler.java
* /asm-9-1-sources-jar/org/objectweb/asm/FieldWriter.java
* /asm-9-1-sources-jar/org/objectweb/asm/Type.java
* /asm-9-1-sources-jar/org/objectweb/asm/AnnotationWriter.java
* /asm-9-1-sources-jar/org/objectweb/asm/Edge.java
* /asm-9-1-sources-jar/org/objectweb/asm/MethodWriter.java
* /asm-9-1-sources-jar/org/objectweb/asm/ByteVector.java
* /asm-9-1-sources-jar/org/objectweb/asm/Constants.java
*
/asm-9-1-sources-jar/org/objectweb/asm/ConstantDynamic.java
* /asm-9-1-sources-jar/org/objectweb/asm/Label.java
* /asm-9-1-sources-jar/org/objectweb/asm/Handle.java
* /asm-9-1-sources-jar/org/objectweb/asm/Opcodes.java
* /asm-9-1-sources-jar/org/objectweb/asm/ClassReader.java
* /asm-9-1-sources-jar/org/objectweb/asm/AnnotationVisitor.java
* /asm-9-1-sources-jar/org/objectweb/asm/signature/SignatureVisitor.java
* /asm-9-1-sources-jar/org/objectweb/asm/Frame.java
* /asm-9-1-sources-jar/org/objectweb/asm/SymbolTable.java
* /asm-9-1-sources-jar/org/objectweb/asm/ModuleWriter.java
* /asm-9-1-sources-jar/org/objectweb/asm/MethodVisitor.java
* /asm-9-1-sources-jar/org/objectweb/asm/RecordComponentWriter.java
* /asm-9-1-sources-jar/org/objectweb/asm/Symbol.java
* /asm-9-1-sources-jar/org/objectweb/asm/CurrentFrame.java

# 1.191 fdisk 2.31.1

## 1.191.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and

modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer

to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to

this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing
version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it

free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.192 ubuntu-keyring 2018.09.18.1~18.04.2

## 1.192.1 Available under license :

This is Ubuntu GNU's GnuPG keyrings of archive keys.

This package was originally put together by Michael Vogt
<michael.vogt@canonical.com>

The keys in the keyrings don't fall under any copyright.  Everything
else in the package is covered by the GNU GPL.

Ubuntu support files Copyright (C) 2004 Michael Vogt <michael.vogt@canonical.com> based on the debian-keyring package maintained by James Troup

Ubuntu support files for ubuntu-keyring are free software; you can
redistribute them and/or modify them under the terms of the GNU
General Public License as published by the Free Software Foundation;
either version 2, or (at your option) any later version.

Ubuntu support files for ubuntu-keyring are distributed in the hope
that they will be useful, but WITHOUT ANY WARRANTY; without even the
implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR
PURPOSE.  See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License with
your
Ubuntu system, in /usr/share/common-licenses/GPL, or with the
Ubuntu GNU ubuntu-keyring source package as the file COPYING.  If not,
write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth
Floor, Boston, MA 02110-1301 USA.

# 1.193 okhttp 3.14.9

## 1.193.1 Available under license :

Note that publicsuffixes.gz is compiled from The Public Suffix List:
https://publicsuffix.org/list/public_suffix_list.dat

It is subject to the terms of the Mozilla Public License, v. 2.0:
https://mozilla.org/MPL/2.0/

# 1.194 hamcrest controller

## 1.194.1 Available under license :

BSD License

Copyright (c) 2000-2015 www.hamcrest.org
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of
conditions and the following disclaimer. Redistributions in binary form must reproduce
the above copyright notice, this list of conditions and the following disclaimer in
the documentation and/or other materials provided with the distribution.

Neither the name of Hamcrest nor the names of its contributors may be used to endorse
or promote products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
SHALL
 THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY
WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

# 1.195 google-test 1.10.0

## 1.195.1 Available under license :

Copyright 2008, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its

distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [2007] Neal Norwitz
Portions Copyright [2007] Google Inc.

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the
License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# This file contains a list of people who've made non-trivial
# contribution to the Google C++ Mocking Framework project.  People
# who commit code to the project are encouraged to add their names
# here.  Please keep the list sorted by first names.

Benoit Sigoure <tsuna@google.com>
Bogdan Piloca <boo@google.com>
Chandler Carruth <chandlerc@google.com>
Dave MacLachlan <dmaclach@gmail.com>
David Anderson <danderson@google.com>
Dean Sturtevant
Gene Volovich <gv@cite.com>
Hal Burch <gmock@hburch.com>
Jeffrey Yasskin <jyasskin@google.com>
Jim Keller <jimkeller@google.com>
Joe Walnes <joe@truemesh.com>
Jon Wray <jwray@google.com>
Keir Mierle <mierle@gmail.com>
Keith Ray <keith.ray@gmail.com>
Kostya Serebryany <kcc@google.com>
Lev Makhlis
Manuel Klimek <klimek@google.com>
Mario Tanev <radix@google.com>
Mark Paskin
Markus Heule <markus.heule@gmail.com>
Matthew Simmons <simmonmt@acm.org>
Mike Bland <mbland@google.com>
Neal Norwitz <nnorwitz@gmail.com>
Nermin Ozkiranartli <nermin@google.com>
Owen
 Carlsen <ocarlsen@google.com>
Paneendra Ba <paneendra@google.com>
Paul Menage <menage@google.com>
Piotr Kaminski <piotrk@google.com>
Russ Rufer <russ@pentad.com>
Sverre Sundsdal <sundsdal@gmail.com>
Takeshi Yoshino <tyoshino@google.com>
Vadim Berman <vadimb@google.com>
Vlad Losev <vladl@google.com>
Wolfgang Klier <wklier@google.com>
Zhanyong Wan <wan@google.com>

# This file contains a list of people who've made non-trivial
# contribution to the Google C++ Testing Framework project.  People

# who commit code to the project are encouraged to add their names
# here.  Please keep the list sorted by first names.

Ajay Joshi <jaj@google.com>
Balzs Dn <balazs.dan@gmail.com>
Bharat Mediratta <bharat@menalto.com>
Chandler Carruth <chandlerc@google.com>
Chris Prince <cprince@google.com>
Chris Taylor <taylorc@google.com>
Dan Egnor <egnor@google.com>
Eric Roman <eroman@chromium.org>
Hady Zalek <hady.zalek@gmail.com>
Jeffrey Yasskin <jyasskin@google.com>
Ji Sigursson <joi@google.com>
Keir Mierle <mierle@gmail.com>
Keith Ray <keith.ray@gmail.com>
Kenton Varda <kenton@google.com>
Manuel Klimek <klimek@google.com>
Markus Heule <markus.heule@gmail.com>
Mika Raento <mikie@iki.fi>
Mikls Fazekas <mfazekas@szemafor.com>
Pasi Valminen <pasi.valminen@gmail.com>
Patrick Hanna <phanna@google.com>
Patrick Riley <pfr@google.com>
Peter Kaminski <piotrk@google.com>
Preston
 Jackson <preston.a.jackson@gmail.com>
Rainer Klaffenboeck <rainer.klaffenboeck@dynatrace.com>
Russ Cox <rsc@google.com>
Russ Rufer <russ@pentad.com>
Sean Mcafee <eefacm@gmail.com>
Sigurur sgeirsson <siggi@google.com>
Tracy Bialik <tracy@pentad.com>
Vadim Berman <vadimb@google.com>
Vlad Losev <vladl@google.com>
Zhanyong Wan <wan@google.com>

# 1.196 liblinear nmap

## 1.196.1 Available under license :

Copyright (c) 2007-2019 The LIBLINEAR Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither name of copyright holders nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE
 REGENTS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.197 zone 0.10.3

## 1.197.1 Available under license :

/**
@license
The MIT License

Copyright (c) 2010-2020 Google LLC. http://angular.io/license

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,

FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT
OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
*/
MIT
The MIT License

Copyright (c) 2010-2020 Google LLC. http://angular.io/license

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.198 urllib3 1.22

## 1.198.1 Notifications :

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).
This product includes software written by Tim Hudson (tjh@cryptsoft.com).
This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/)

## 1.198.2 Available under license :

This is the MIT license: http://www.opensource.org/licenses/mit-license.php

Copyright 2008-2016 Andrey Petrov and contributors (see CONTRIBUTORS.txt)

Permission is hereby granted, free of charge, to any person obtaining a copy of this
software and associated documentation files (the "Software"), to deal in the Software
without restriction, including without limitation the rights to use, copy, modify, merge,
publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons

to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or
substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED,
INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A
PARTICULAR
PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS
BE LIABLE
FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER
DEALINGS IN THE SOFTWARE.
# Contributions to the urllib3 project

## Creator & Maintainer

* Andrey Petrov <andrey.petrov@shazow.net>

## Contributors

In chronological order:

* victor.vde <http://code.google.com/u/victor.vde/>
 * HTTPS patch (which inspired HTTPSConnectionPool)

* erikcederstrand <http://code.google.com/u/erikcederstrand/>
 * NTLM-authenticated HTTPSConnectionPool
 * Basic-authenticated HTTPSConnectionPool (merged into make_headers)

* niphlod <niphlod@gmail.com>
 * Client-verified SSL certificates for HTTPSConnectionPool
 * Response gzip and deflate encoding support
 * Better unicode support for filepost using StringIO buffers

* btoconnor <brian@btoconnor.net>
 * Non-multipart encoding for POST requests

* p.dobrogost <http://code.google.com/u/@WBRSRlBZDhBFXQB6/>
 * Code review, PEP8 compliance, benchmark fix

* kennethreitz <me@kennethreitz.com>
 * Bugfixes, suggestions, Requests integration

* georgemarshall <http://github.com/georgemarshall>

 * Bugfixes, Improvements and Test coverage

*
 Thomas Kluyver <thomas@kluyver.me.uk>
 * Python 3 support

* brandon-rhodes <http://rhodesmill.org/brandon>
 * Design review, bugfixes, test coverage.

* studer <theo.studer@gmail.com>
 * IPv6 url support and test coverage

* Shivaram Lingamneni <slingamn@cs.stanford.edu>
 * Support for explicitly closing pooled connections

* hartator <hartator@gmail.com>
 * Corrected multipart behavior for params

* Thomas Weischuh <thomas@t-8ch.de>
 * Support for TLS SNI
 * API unification of ssl_version/cert_reqs
 * SSL fingerprint and alternative hostname verification
 * Bugfixes in testsuite

* Sune Kirkeby <mig@ibofobi.dk>
 * Optional SNI-support for Python 2 via PyOpenSSL.

* Marc Schlaich <marc.schlaich@gmail.com>
 * Various bugfixes and test improvements.

* Bryce Boe <bbzbryce@gmail.com>
 * Correct six.moves conflict
 * Fixed pickle support of some exceptions

* Boris Figovsky <boris.figovsky@ravellosystems.com>
 * Allowed to skip SSL hostname verification

* Cory Benfield
 <http://lukasa.co.uk/about/>
 * Stream method for Response objects.
 * Return native strings in header values.
 * Generate 'Host' header when using proxies.

* Jason Robinson <jaywink@basshero.org>
 * Add missing WrappedSocket.fileno method in PyOpenSSL

* Audrius Butkevicius <audrius.butkevicius@elastichosts.com>
 * Fixed a race condition

* Stanislav Vitkovskiy <stas.vitkovsky@gmail.com>
 * Added HTTPS (CONNECT) proxy support

* Stephen Holsapple <sholsapp@gmail.com>
 * Added abstraction for granular control of request fields

* Martin von Gagern <Martin.vGagern@gmx.net>
 * Support for non-ASCII header parameters

* Kevin Burke <kev@inburke.com> and Pavel Kirichenko <juanych@yandex-team.ru>
 * Support for separate connect and request timeouts

* Peter Waller <p@pwaller.net>
 * HTTPResponse.tell() for determining amount received over the wire

* Nipunn Koorapati <nipunn1313@gmail.com>
 * Ignore default ports when comparing hosts for equality

* Danilo @dbrgn <http://dbrgn.ch/>
  * Disabled TLS compression by default on Python 3.2+
 * Disabled TLS compression in pyopenssl contrib module
 * Configurable cipher suites in pyopenssl contrib module

* Roman Bogorodskiy <roman.bogorodskiy@ericsson.com>
 * Account retries on proxy errors

* Nicolas Delaby <nicolas.delaby@ezeep.com>
 * Use the platform-specific CA certificate locations

* Josh Schneier <https://github.com/jschneier>
 * HTTPHeaderDict and associated tests and docs
 * Bugfixes, docs, test coverage

* Tahia Khan <http://tahia.tk/>
 * Added Timeout examples in docs

* Arthur Grunseid <http://grunseid.com>
 * source_address support and tests (with https://github.com/bui)

* Ian Cordasco <graffatcolmingov@gmail.com>
 * PEP8 Compliance and Linting
 * Add ability to pass socket options to an HTTP Connection

* Erik Tollerud <erik.tollerud@gmail.com>
 * Support for standard library io module.

* Krishna Prasad <kprasad.iitd@gmail.com>

* Google App Engine documentation

* Aaron Meurer <asmeurer@gmail.com>
 * Added Url.url, which unparses a Url

* Evgeny Kapun <abacabadabacaba@gmail.com>
 * Bugfixes

* Benjamen Meyer <bm_witness@yahoo.com>
 * Security Warning Documentation update for proper capture

* Shivan Sornarajah <github@sornars.com>
 * Support for using ConnectionPool and PoolManager as context managers.

* Alex Gaynor <alex.gaynor@gmail.com>
 * Updates to the default SSL configuration

* Tomas Tomecek <ttomecek@redhat.com>
 * Implemented generator for getting chunks from chunked responses.

* tlynn <https://github.com/tlynn>
 * Respect the warning preferences at import.

* David D. Riddle <ddriddle@illinois.edu>
 * IPv6 bugfixes in testsuite

* Jon Wayne Parrott <jonwayne@google.com>
 * App Engine environment tests.

* John Krauss <https://github.com/talos>
 * Clues to debugging problems with `cryptography` dependency in docs

* Disassem <https://github.com/Disassem>
 * Fix pool-default headers not applying for url-encoded requests like GET.

* James
 Atherfold <jlatherfold@hotmail.com>
 * Bugfixes relating to cleanup of connections during errors.

* Christian Pedersen <https://github.com/chripede>
 * IPv6 HTTPS proxy bugfix

* Jordan Moldow <https://github.com/jmoldow>
 * Fix low-level exceptions leaking from ``HTTPResponse.stream()``.
 * Bugfix for ``ConnectionPool.urlopen(release_conn=False)``.
 * Creation of ``HTTPConnectionPool.ResponseCls``.

* Predrag Gruevski <https://github.com/obi1kenobi>

* Made cert digest comparison use a constant-time algorithm.

* Adam Talsma <https://github.com/a-tal>
* Bugfix to ca_cert file paths.

* Evan Meagher <https://evanmeagher.net>
* Bugfix related to `memoryview` usage in PyOpenSSL adapter

* John Vandenberg <jayvdb@gmail.com>
* Python 2.6 fixes; pyflakes and pep8 compliance

* Andy Caldwell <andy.m.caldwell@googlemail.com>
* Bugfix related to reusing connections in indeterminate states.

* Ville Skytt <ville.skytta@iki.fi>
* Logging efficiency improvements, spelling fixes,
Travis config.

* Shige Takeda <smtakeda@gmail.com>
* Started Recipes documentation and added a recipe about handling concatenated gzip data in HTTP response

* Jesse Shapiro <jesse@jesseshapiro.net>
* Various character-encoding fixes/tweaks
* Disabling IPv6 DNS when IPv6 connections not supported

* David Foster <http://dafoster.net/>
* Ensure order of request and response headers are preserved.

* Jeremy Cline <jeremy@jcline.org>
* Added connection pool keys by scheme

* Aviv Palivoda <palaviv@gmail.com>
* History list to Retry object.
* HTTPResponse contains the last Retry object.

* Nate Prewitt <nate.prewitt@gmail.com>
* Ensure timeouts are not booleans and greater than zero.
* Fixed infinite loop in ``stream`` when amt=None.
* Added length_remaining to determine remaining data to be read.
* Added enforce_content_length to raise exception when incorrect content-length received.

* Seth Michael Larson <sethmichaellarson@protonmail.com>
* Created selectors
backport that supports PEP 475.

* Alexandre Dias <alex.dias@smarkets.com>
* Don't retry on timeout if method not in whitelist

* Moinuddin Quadri <moin18@gmail.com>
 * Lazily load idna package

* Tom White <s6yg1ez3@mail2tor.com>
 * Made SOCKS handler differentiate socks5h from socks5 and socks4a from socks4.

* Tim Burke <tim.burke@gmail.com>
 * Stop buffering entire deflate-encoded responses.

* Tuukka Mustonen <tuukka.mustonen@gmail.com>
 * Add counter for status_forcelist retries.

* Erik Rose <erik@mozilla.com>
 * Bugfix to pyopenssl vendoring

* [Your name or handle] <[email or website]>
 * [Brief summary of your changes]

# 1.199 urllib3 1.25.3

## 1.199.1 Notifications :

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).
This product includes software written by Tim Hudson (tjh@cryptsoft.com).
This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit
(http://www.openssl.org/)

## 1.199.2 Available under license :

MIT License

Copyright (c) 2008-2019 Andrey Petrov and contributors (see CONTRIBUTORS.txt)

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
 OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE

SOFTWARE.
# Contributions to the urllib3 project

## Creator & Maintainer

* Andrey Petrov <andrey.petrov@shazow.net>

## Contributors

In chronological order:

* victor.vde <http://code.google.com/u/victor.vde/>
 * HTTPS patch (which inspired HTTPSConnectionPool)

* erikcederstrand <http://code.google.com/u/erikcederstrand/>
 * NTLM-authenticated HTTPSConnectionPool
 * Basic-authenticated HTTPSConnectionPool (merged into make_headers)

* niphlod <niphlod@gmail.com>
 * Client-verified SSL certificates for HTTPSConnectionPool
 * Response gzip and deflate encoding support
 * Better unicode support for filepost using StringIO buffers

* btoconnor <brian@btoconnor.net>
 * Non-multipart encoding for POST requests

* p.dobrogost <http://code.google.com/u/@WBRSRlBZDhBFXQB6/>
 * Code review, PEP8 compliance, benchmark fix

* kennethreitz <me@kennethreitz.com>
 * Bugfixes, suggestions, Requests integration

* georgemarshall <https://github.com/georgemarshall>
 * Bugfixes, Improvements and Test
 coverage

* Thomas Kluyver <thomas@kluyver.me.uk>
 * Python 3 support

* brandon-rhodes <http://rhodesmill.org/brandon>
 * Design review, bugfixes, test coverage.

* studer <theo.studer@gmail.com>
 * IPv6 url support and test coverage

* Shivaram Lingamneni <slingamn@cs.stanford.edu>
 * Support for explicitly closing pooled connections

* hartator <hartator@gmail.com>
 * Corrected multipart behavior for params

* Thomas Weischuh <thomas@t-8ch.de>
 * Support for TLS SNI
 * API unification of ssl_version/cert_reqs
 * SSL fingerprint and alternative hostname verification
 * Bugfixes in testsuite

* Sune Kirkeby <mig@ibofobi.dk>
 * Optional SNI-support for Python 2 via PyOpenSSL.

* Marc Schlaich <marc.schlaich@gmail.com>
 * Various bugfixes and test improvements.

* Bryce Boe <bbzbryce@gmail.com>
 * Correct six.moves conflict
 * Fixed pickle support of some exceptions

* Boris Figovsky <boris.figovsky@ravellosystems.com>
 * Allowed to skip SSL hostname verification

* Cory Benfield
 <https://lukasa.co.uk/about/>
 * Stream method for Response objects.
 * Return native strings in header values.
 * Generate 'Host' header when using proxies.

* Jason Robinson <jaywink@basshero.org>
 * Add missing WrappedSocket.fileno method in PyOpenSSL

* Audrius Butkevicius <audrius.butkevicius@elastichosts.com>
 * Fixed a race condition

* Stanislav Vitkovskiy <stas.vitkovsky@gmail.com>
 * Added HTTPS (CONNECT) proxy support

* Stephen Holsapple <sholsapp@gmail.com>
 * Added abstraction for granular control of request fields

* Martin von Gagern <Martin.vGagern@gmx.net>
 * Support for non-ASCII header parameters

* Kevin Burke <kev@inburke.com> and Pavel Kirichenko <juanych@yandex-team.ru>
 * Support for separate connect and request timeouts

* Peter Waller <p@pwaller.net>

* HTTPResponse.tell() for determining amount received over the wire

* Nipunn Koorapati <nipunn1313@gmail.com>
* Ignore default ports when comparing hosts for equality

* Danilo @dbrgn <https://dbrgn.ch/>
* Disabled TLS compression by default on Python 3.2+
* Disabled TLS compression in pyopenssl contrib module
* Configurable cipher suites in pyopenssl contrib module

* Roman Bogorodskiy <roman.bogorodskiy@ericsson.com>
* Account retries on proxy errors

* Nicolas Delaby <nicolas.delaby@ezeep.com>
* Use the platform-specific CA certificate locations

* Josh Schneier <https://github.com/jschneier>
* HTTPHeaderDict and associated tests and docs
* Bugfixes, docs, test coverage

* Tahia Khan <http://tahia.tk/>
* Added Timeout examples in docs

* Arthur Grunseid <https://grunseid.com>
* source_address support and tests (with https://github.com/bui)

* Ian Cordasco <graffatcolmingov@gmail.com>
* PEP8 Compliance and Linting
* Add ability to pass socket options to an HTTP Connection

* Erik Tollerud <erik.tollerud@gmail.com>
* Support for standard library io module.

* Krishna Prasad <kprasad.iitd@gmail.com>
* Google App Engine documentation

* Aaron Meurer
<asmeurer@gmail.com>
* Added Url.url, which unparses a Url

* Evgeny Kapun <abacabadabacaba@gmail.com>
* Bugfixes

* Benjamen Meyer <bm_witness@yahoo.com>
* Security Warning Documentation update for proper capture

* Shivan Sornarajah <github@sornars.com>
* Support for using ConnectionPool and PoolManager as context managers.

* Alex Gaynor <alex.gaynor@gmail.com>
 * Updates to the default SSL configuration

* Tomas Tomecek <ttomecek@redhat.com>
 * Implemented generator for getting chunks from chunked responses.

* tlynn <https://github.com/tlynn>
 * Respect the warning preferences at import.

* David D. Riddle <ddriddle@illinois.edu>
 * IPv6 bugfixes in testsuite

* Thea Flowers <magicalgirl@google.com>
 * App Engine environment tests.
 * Documentation re-write.

* John Krauss <https://github.com/talos>
 * Clues to debugging problems with `cryptography` dependency in docs

* Disassem <https://github.com/Disassem>
 * Fix pool-default headers not applying for url-encoded
 requests like GET.

* James Atherfold <jlatherfold@hotmail.com>
 * Bugfixes relating to cleanup of connections during errors.

* Christian Pedersen <https://github.com/chripede>
 * IPv6 HTTPS proxy bugfix

* Jordan Moldow <https://github.com/jmoldow>
 * Fix low-level exceptions leaking from ``HTTPResponse.stream()``.
 * Bugfix for ``ConnectionPool.urlopen(release_conn=False)``.
 * Creation of ``HTTPConnectionPool.ResponseCls``.

* Predrag Gruevski <https://github.com/obi1kenobi>
 * Made cert digest comparison use a constant-time algorithm.

* Adam Talsma <https://github.com/a-tal>
 * Bugfix to ca_cert file paths.

* Evan Meagher <https://evanmeagher.net>
 * Bugfix related to `memoryview` usage in PyOpenSSL adapter

* John Vandenberg <jayvdb@gmail.com>
 * Python 2.6 fixes; pyflakes and pep8 compliance

* Andy Caldwell <andy.m.caldwell@googlemail.com>

* Bugfix related to reusing connections in indeterminate states.

* Ville Skytt <ville.skytta@iki.fi>
* Logging efficiency
improvements, spelling fixes, Travis config.

* Shige Takeda <smtakeda@gmail.com>
* Started Recipes documentation and added a recipe about handling concatenated gzip data in HTTP response

* Jess Shapiro <jesse@jesseshapiro.net>
* Various character-encoding fixes/tweaks
* Disabling IPv6 DNS when IPv6 connections not supported

* David Foster <http://dafoster.net/>
* Ensure order of request and response headers are preserved.

* Jeremy Cline <jeremy@jcline.org>
* Added connection pool keys by scheme

* Aviv Palivoda <palaviv@gmail.com>
* History list to Retry object.
* HTTPResponse contains the last Retry object.

* Nate Prewitt <nate.prewitt@gmail.com>
* Ensure timeouts are not booleans and greater than zero.
* Fixed infinite loop in ``stream`` when amt=None.
* Added length_remaining to determine remaining data to be read.
* Added enforce_content_length to raise exception when incorrect content-length received.

* Seth Michael Larson <sethmichaellarson@protonmail.com>
* Created selectors backport that supports PEP 475.

* Alexandre Dias <alex.dias@smarkets.com>
* Don't retry on timeout if method not in whitelist

* Moinuddin Quadri <moin18@gmail.com>
* Lazily load idna package

* Tom White <s6yg1ez3@mail2tor.com>
* Made SOCKS handler differentiate socks5h from socks5 and socks4a from socks4.

* Tim Burke <tim.burke@gmail.com>
* Stop buffering entire deflate-encoded responses.

* Tuukka Mustonen <tuukka.mustonen@gmail.com>
* Add counter for status_forcelist retries.

* Erik Rose <erik@mozilla.com>

* Bugfix to pyopenssl vendoring

* Wolfgang Richter <wolfgang.richter@gmail.com>
* Bugfix related to loading full certificate chains with PyOpenSSL backend.

* Mike Miller <github@mikeage.net>
* Logging improvements to include the HTTP(S) port when opening a new connection

* Ioannis Tziakos <mail@itziakos.gr>
* Fix ``util.selectors._fileobj_to_fd`` to accept ``long``.
* Update appveyor tox setup to use the 64bit python.

* Akamai
(through Jess Shapiro) <jshapiro@akamai.com>
* Ongoing maintenance; 2017-2018

* Dominique Leuenberger <dimstar@opensuse.org>
* Minor fixes in the test suite

* Will Bond <will@wbond.net>
* Add Python 2.6 support to ``contrib.securetransport``

* Aleksei Alekseev <alekseev.yeskela@gmail.com>
* using auth info for socks proxy

* Chris Wilcox <git@crwilcox.com>
* Improve contribution guide
* Add ``HTTPResponse.geturl`` method to provide ``urllib2.urlopen().geturl()`` behavior

* Bruce Merry <https://www.brucemerry.org.za>
* Fix leaking exceptions when system calls are interrupted with zero timeout

* Hugo van Kemenade <https://github.com/hugovk>
* Drop support for EOL Python 2.6

* Tim Bell <https://github.com/timb07>
* Bugfix for responses with Content-Type: message/* logging warnings

* Justin Bramley <https://github.com/jbramleycl>
* Add ability to handle multiple Content-Encodings

* Katsuhiko YOSHIDA <https://github.com/kyoshidajp>
* Remove Authorization header
regardless of case when redirecting to cross-site

* [Your name or handle] <[email or website]>
* [Brief summary of your changes]

# 1.200 python-requests 2.22.0

## 1.200.1 Available under license :

Copyright 2018 Kenneth Reitz

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License 2.0

# 1.201 urllib3 1.25.6

## 1.201.1 Notifications :

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).
This product includes software written by Tim Hudson (tjh@cryptsoft.com).
This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit
(http://www.openssl.org/)

## 1.201.2 Available under license :

MIT License

Copyright (c) 2008-2019 Andrey Petrov and contributors (see CONTRIBUTORS.txt)

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR

OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
# Contributions to the urllib3 project

## Creator & Maintainer

* Andrey Petrov <andrey.petrov@shazow.net>

## Contributors

In chronological order:

* victor.vde <http://code.google.com/u/victor.vde/>
 * HTTPS patch (which inspired HTTPSConnectionPool)

* erikcederstrand <http://code.google.com/u/erikcederstrand/>
 * NTLM-authenticated HTTPSConnectionPool
 * Basic-authenticated HTTPSConnectionPool (merged into make_headers)

* niphlod <niphlod@gmail.com>
 * Client-verified SSL certificates for HTTPSConnectionPool
 * Response gzip and deflate encoding support
 * Better unicode support for filepost using StringIO buffers

* btoconnor <brian@btoconnor.net>
 * Non-multipart encoding for POST requests

* p.dobrogost <http://code.google.com/u/@WBRSRlBZDhBFXQB6/>
 * Code review, PEP8 compliance, benchmark fix

* kennethreitz <me@kennethreitz.com>
 * Bugfixes, suggestions, Requests integration

* georgemarshall <https://github.com/georgemarshall>
 * Bugfixes, Improvements and Test
 coverage

* Thomas Kluyver <thomas@kluyver.me.uk>
 * Python 3 support

* brandon-rhodes <http://rhodesmill.org/brandon>
 * Design review, bugfixes, test coverage.

* studer <theo.studer@gmail.com>
 * IPv6 url support and test coverage

* Shivaram Lingamneni <slingamn@cs.stanford.edu>
 * Support for explicitly closing pooled connections

* hartator <hartator@gmail.com>
 * Corrected multipart behavior for params

* Thomas Weischuh <thomas@t-8ch.de>
 * Support for TLS SNI
 * API unification of ssl_version/cert_reqs
 * SSL fingerprint and alternative hostname verification
 * Bugfixes in testsuite

* Sune Kirkeby <mig@ibofobi.dk>
 * Optional SNI-support for Python 2 via PyOpenSSL.

* Marc Schlaich <marc.schlaich@gmail.com>
 * Various bugfixes and test improvements.

* Bryce Boe <bbzbryce@gmail.com>
 * Correct six.moves conflict
 * Fixed pickle support of some exceptions

* Boris Figovsky <boris.figovsky@ravellosystems.com>
 * Allowed to skip SSL hostname verification

* Cory Benfield
 <https://lukasa.co.uk/about/>
 * Stream method for Response objects.
 * Return native strings in header values.
 * Generate 'Host' header when using proxies.

* Jason Robinson <jaywink@basshero.org>
 * Add missing WrappedSocket.fileno method in PyOpenSSL

* Audrius Butkevicius <audrius.butkevicius@elastichosts.com>
 * Fixed a race condition

* Stanislav Vitkovskiy <stas.vitkovsky@gmail.com>
 * Added HTTPS (CONNECT) proxy support

* Stephen Holsapple <sholsapp@gmail.com>
 * Added abstraction for granular control of request fields

* Martin von Gagern <Martin.vGagern@gmx.net>
 * Support for non-ASCII header parameters

* Kevin Burke <kev@inburke.com> and Pavel Kirichenko <juanych@yandex-team.ru>
 * Support for separate connect and request timeouts

* Peter Waller <p@pwaller.net>
 * HTTPResponse.tell() for determining amount received over the wire

* Nipunn Koorapati <nipunn1313@gmail.com>
 * Ignore default ports when comparing hosts for equality

* Danilo @dbrgn <https://dbrgn.ch/>
  * Disabled TLS compression by default on Python 3.2+
 * Disabled TLS compression in pyopenssl contrib module
 * Configurable cipher suites in pyopenssl contrib module

* Roman Bogorodskiy <roman.bogorodskiy@ericsson.com>
 * Account retries on proxy errors

* Nicolas Delaby <nicolas.delaby@ezeep.com>
 * Use the platform-specific CA certificate locations

* Josh Schneier <https://github.com/jschneier>
 * HTTPHeaderDict and associated tests and docs
 * Bugfixes, docs, test coverage

* Tahia Khan <http://tahia.tk/>
 * Added Timeout examples in docs

* Arthur Grunseid <https://grunseid.com>
 * source_address support and tests (with https://github.com/bui)

* Ian Cordasco <graffatcolmingov@gmail.com>
 * PEP8 Compliance and Linting
 * Add ability to pass socket options to an HTTP Connection

* Erik Tollerud <erik.tollerud@gmail.com>
 * Support for standard library io module.

* Krishna Prasad <kprasad.iitd@gmail.com>
 * Google App Engine documentation

* Aaron Meurer
 <asmeurer@gmail.com>
 * Added Url.url, which unparses a Url

* Evgeny Kapun <abacabadabacaba@gmail.com>
 * Bugfixes

* Benjamen Meyer <bm_witness@yahoo.com>
 * Security Warning Documentation update for proper capture

* Shivan Sornarajah <github@sornars.com>
 * Support for using ConnectionPool and PoolManager as context managers.

* Alex Gaynor <alex.gaynor@gmail.com>
 * Updates to the default SSL configuration

* Tomas Tomecek <ttomecek@redhat.com>
 * Implemented generator for getting chunks from chunked responses.

* tlynn <https://github.com/tlynn>
 * Respect the warning preferences at import.

* David D. Riddle <ddriddle@illinois.edu>
 * IPv6 bugfixes in testsuite

* Thea Flowers <magicalgirl@google.com>
 * App Engine environment tests.
 * Documentation re-write.

* John Krauss <https://github.com/talos>
 * Clues to debugging problems with `cryptography` dependency in docs

* Disassem <https://github.com/Disassem>
 * Fix pool-default headers not applying for url-encoded
 requests like GET.

* James Atherfold <jlatherfold@hotmail.com>
 * Bugfixes relating to cleanup of connections during errors.

* Christian Pedersen <https://github.com/chripede>
 * IPv6 HTTPS proxy bugfix

* Jordan Moldow <https://github.com/jmoldow>
 * Fix low-level exceptions leaking from ``HTTPResponse.stream()``.
 * Bugfix for ``ConnectionPool.urlopen(release_conn=False)``.
 * Creation of ``HTTPConnectionPool.ResponseCls``.

* Predrag Gruevski <https://github.com/obi1kenobi>
 * Made cert digest comparison use a constant-time algorithm.

* Adam Talsma <https://github.com/a-tal>
 * Bugfix to ca_cert file paths.

* Evan Meagher <https://evanmeagher.net>
 * Bugfix related to `memoryview` usage in PyOpenSSL adapter

* John Vandenberg <jayvdb@gmail.com>
 * Python 2.6 fixes; pyflakes and pep8 compliance

* Andy Caldwell <andy.m.caldwell@googlemail.com>
 * Bugfix related to reusing connections in indeterminate states.

* Ville Skytt <ville.skytta@iki.fi>
 * Logging efficiency
 improvements, spelling fixes, Travis config.

* Shige Takeda <smtakeda@gmail.com>
 * Started Recipes documentation and added a recipe about handling concatenated gzip data in HTTP response

* Jess Shapiro <jesse@jesseshapiro.net>
 * Various character-encoding fixes/tweaks
 * Disabling IPv6 DNS when IPv6 connections not supported

* David Foster <http://dafoster.net/>
 * Ensure order of request and response headers are preserved.

* Jeremy Cline <jeremy@jcline.org>
 * Added connection pool keys by scheme

* Aviv Palivoda <palaviv@gmail.com>
 * History list to Retry object.
 * HTTPResponse contains the last Retry object.

* Nate Prewitt <nate.prewitt@gmail.com>
 * Ensure timeouts are not booleans and greater than zero.
 * Fixed infinite loop in ``stream`` when amt=None.
 * Added length_remaining to determine remaining data to be read.
 * Added enforce_content_length to raise exception when incorrect content-length received.

* Seth Michael Larson <sethmichaellarson@protonmail.com>
  * Created selectors backport that supports PEP 475.

* Alexandre Dias <alex.dias@smarkets.com>
 * Don't retry on timeout if method not in whitelist

* Moinuddin Quadri <moin18@gmail.com>
 * Lazily load idna package

* Tom White <s6yg1ez3@mail2tor.com>
 * Made SOCKS handler differentiate socks5h from socks5 and socks4a from socks4.

* Tim Burke <tim.burke@gmail.com>
 * Stop buffering entire deflate-encoded responses.

* Tuukka Mustonen <tuukka.mustonen@gmail.com>
 * Add counter for status_forcelist retries.

* Erik Rose <erik@mozilla.com>
 * Bugfix to pyopenssl vendoring

* Wolfgang Richter <wolfgang.richter@gmail.com>
 * Bugfix related to loading full certificate chains with PyOpenSSL backend.

* Mike Miller <github@mikeage.net>
 * Logging improvements to include the HTTP(S) port when opening a new connection

* Ioannis Tziakos <mail@itziakos.gr>
 * Fix ``util.selectors._fileobj_to_fd`` to accept ``long``.
 * Update appveyor tox setup to use the 64bit python.

* Akamai
 (through Jess Shapiro) <jshapiro@akamai.com>
 * Ongoing maintenance; 2017-2018

* Dominique Leuenberger <dimstar@opensuse.org>
 * Minor fixes in the test suite

* Will Bond <will@wbond.net>
 * Add Python 2.6 support to ``contrib.securetransport``

* Aleksei Alekseev <alekseev.yeskela@gmail.com>
 * using auth info for socks proxy

* Chris Wilcox <git@crwilcox.com>
 * Improve contribution guide
 * Add ``HTTPResponse.geturl`` method to provide ``urllib2.urlopen().geturl()`` behavior

* Bruce Merry <https://www.brucemerry.org.za>
 * Fix leaking exceptions when system calls are interrupted with zero timeout

* Hugo van Kemenade <https://github.com/hugovk>
 * Drop support for EOL Python 2.6

* Tim Bell <https://github.com/timb07>
 * Bugfix for responses with Content-Type: message/* logging warnings

* Justin Bramley <https://github.com/jbramleycl>
 * Add ability to handle multiple Content-Encodings

* Katsuhiko YOSHIDA <https://github.com/kyoshidajp>
 * Remove Authorization header
 regardless of case when redirecting to cross-site

* James Meickle <https://permadeath.com/>

* Improve handling of Retry-After header

* Chris Jerdonek <chris.jerdonek@gmail.com>
* Remove a spurious TypeError from the exception chain inside
  HTTPConnectionPool._make_request(), also for BaseExceptions.

* [Your name or handle] <[email or website]>
* [Brief summary of your changes]

# 1.202 python-pip 19.2.3

## 1.202.1 Available under license :

# This is the MIT license

Copyright (c) 2010 ActiveState Software Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING
 FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2007 Ian Bicking and Contributors
Copyright (c) 2009 Ian Bicking, The Open Planning Project
Copyright (c) 2011-2013 The virtualenv developers

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES
OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
The MIT License (MIT)

Copyright (c) 2017 Thomas Kluyver

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR
IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
This is the MIT license: http://www.opensource.org/licenses/mit-license.php

Copyright (c) 2007 Skip Montanaro.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR

IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
# Copyright (c) 2012 Giorgos Verigakis <verigak@gmail.com>
#
# Permission to use, copy, modify, and distribute this software for any
# purpose with or without fee is hereby granted, provided that the above
# copyright notice and this permission notice appear in all copies.
#
# THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
# WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
# MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
# ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
# WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
# ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
# OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
Copyright (C) 2016 Jason R Coombs <jaraco@jaraco.com>

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is furnished to do
so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients
all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know

that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in

non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for

writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in

themselves,
then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not

compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one

of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally

accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent

infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people
have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and

"any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of
all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the

ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent

to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works

that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS,

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

This software is made available under the terms of *either* of the licenses found in LICENSE.APACHE or LICENSE.BSD. Contributions to this software is made under the terms of *both* these licenses.

Copyright (c) 2010 Jonathan Hartley
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of the copyright holders, nor those of its contributors
may be used to endorse or promote products derived from this software without
specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
HOLDER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright (c) 2012 by Simon Sapin.

Some rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

* The names of the contributors may not be used to endorse or
promote products derived from this software without specific
prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER
OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

No-notice MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Pylons Project Contributor Agreement
==========

The submitter agrees by adding his or her name within the section below named
"Contributors" and submitting the resulting modified document to the
canonical shared repository location for this software project (whether
directly, as a user with "direct commit access", or via a "pull request"), he
or she is signing a contract electronically.  The submitter becomes a
Contributor after a) he or she signs this document by adding their name
beneath the "Contributors" section below, and b) the resulting document is
accepted into the canonical version control repository.

Treatment of Account
---

Contributor will not allow anyone other than the Contributor to use his or
her username or source repository login to submit code to a Pylons Project
source repository. Should Contributor become aware of any such use,
Contributor will immediately by notifying Agendaless Consulting.
Notification must be performed
 by sending an email to
webmaster@agendaless.com.  Until such notice is received, Contributor will be
presumed to have taken all actions made through Contributor's account. If the
Contributor has direct commit access, Agendaless Consulting will have
complete control and discretion over capabilities assigned to Contributor's
account, and may disable Contributor's account for any reason at any time.

Legal Effect of Contribution
---

Upon submitting a change or new work to a Pylons Project source Repository (a
"Contribution"), you agree to assign, and hereby do assign, a one-half

interest of all right, title and interest in and to copyright and other
intellectual property rights with respect to your new and original portions
of the Contribution to Agendaless Consulting. You and Agendaless Consulting
each agree that the other shall be free to exercise any and all exclusive
rights in and to the Contribution, without accounting to one another,
including without limitation,
the right to license the Contribution to others
under the Repoze Public License. This agreement shall run with title to the
Contribution. Agendaless Consulting does not convey to you any right, title
or interest in or to the Program or such portions of the Contribution that
were taken from the Program. Your transmission of a submission to the Pylons
Project source Repository and marks of identification concerning the
Contribution itself constitute your intent to contribute and your assignment
of the work in accordance with the provisions of this Agreement.

License Terms
---

Code committed to the Pylons Project source repository (Committed Code) must
be governed by the Repoze Public License (http://repoze.org/LICENSE.txt, aka
"the RPL") or another license acceptable to Agendaless Consulting. Until
Agendaless Consulting declares in writing an acceptable license other than
the RPL, only the RPL shall be used. A list of exceptions is detailed within
the "Licensing Exceptions"
section of this document, if one exists.

Representations, Warranty, and Indemnification
---

Contributor represents and warrants that the Committed Code does not violate
the rights of any person or entity, and that the Contributor has legal
authority to enter into this Agreement and legal authority over Contributed
Code. Further, Contributor indemnifies Agendaless Consulting against
violations.

Cryptography
---

Contributor understands that cryptographic code may be subject to government
regulations with which Agendaless Consulting and/or entities using Committed
Code must comply. Any code which contains any of the items listed below must
not be checked-in until Agendaless Consulting staff has been notified and has
approved such contribution in writing.

- Cryptographic capabilities or features

- Calls to cryptographic features

- User interface elements which provide context relating to cryptography

- Code which may, under
 casual inspection, appear to be cryptographic.

Notices
-------

Contributor confirms that any notices required will be included in any
Committed Code.

Licensing Exceptions
====================

None.

List of Contributors
====================

The below-signed are contributors to a code repository that is part of the
project named "Translationstring".  Each below-signed contributor has read,
understands and agrees to the terms above in the section within this document
entitled "Pylons Project Contributor Agreement" as of the date beside his or
her name.

Contributors
------------

- Chris McDonough, 2011/02/16
- Wichert Akkerman, 2012/02/02
Copyright (C) 2008-2011 INADA Naoki <songofacandy@gmail.com>

 Licensed under the Apache License, Version 2.0 (the "License");
 you may not use this file except in compliance with the License.
 You may obtain a copy of the License at

     http://www.apache.org/licenses/LICENSE-2.0

 Unless required by applicable law or agreed to in writing, software
 distributed under the License is distributed on an "AS IS" BASIS,
 WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
 See the License for the specific language governing permissions and
 limitations under the License.
A. HISTORY OF THE SOFTWARE
==========

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands

as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see http://www.cnri.reston.va.us) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see http://www.zope.com). In 2001, the Python Software Foundation (PSF, see http://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2.1 | 2.2 | 2002 | PSF | yes |
| 2.2.2 | 2.2.1 | 2002 | PSF | yes |
| 2.2.3 | 2.2.2 | 2003 | PSF | yes |
| 2.3 | 2.2.2 | 2002-2003 | PSF | yes |
| 2.3.1 | 2.3 | 2002-2003 | PSF | yes |
| 2.3.2 | 2.3.1 | 2002-2003 | PSF | yes |
| 2.3.3 | 2.3.2 | 2002-2003 | PSF | yes |
| 2.3.4 | 2.3.3 | 2004 | PSF | yes |
| 2.3.5 | 2.3.4 | 2005 | PSF | yes |
| 2.4 | 2.3 | 2004 | PSF | yes |

| | | | | |
|---|---|---|---|---|
| 2.4.1 | 2.4 | 2005 | PSF | yes |
| 2.4.2 | 2.4.1 | 2005 | PSF | yes |
| 2.4.3 | 2.4.2 | 2006 | PSF | yes |
| 2.4.4 | 2.4.3 | 2006 | PSF | yes |
| 2.5 | 2.4 | 2006 | PSF | yes |
| 2.5.1 | 2.5 | 2007 | PSF | yes |
| 2.5.2 | 2.5.1 | 2008 | PSF | yes |
| 2.5.3 | 2.5.2 | 2008 | PSF | yes |
| 2.6 | 2.5 | 2008 | PSF | yes |
| 2.6.1 | 2.6 | 2008 | PSF | yes |
| 2.6.2 | 2.6.1 | 2009 | PSF | yes |
| 2.6.3 | 2.6.2 | 2009 | PSF | yes |
| 2.6.4 | 2.6.3 | 2009 | PSF | yes |
| 2.6.5 | 2.6.4 | 2010 | PSF | yes |
| 2.7 | 2.6 | 2010 | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under
the GPL. All Python licenses, unlike the GPL, let you distribute
a modified version without making your changes open source. The
GPL-compatible licenses make it possible to combine Python with
other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible,
because its license has a choice
of law clause. According to
CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1
is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's
direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby
grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce,
analyze, test, perform and/or display publicly, prepare derivative works,

distribute, and otherwise use Python alone or in any
derivative version,
provided, however, that PSF's License Agreement and PSF's notice of copyright,
i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010
Python Software Foundation; All Rights Reserved" are retained in Python alone or
in any derivative version prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR
ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"),
having an
office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the

Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software, alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS" basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR
PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos
available at
http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1
---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License
Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work
a brief summary of
the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without

limitation the federal copyright law, and, to the extent such
U.S.
federal law does not apply, by the law of the Commonwealth of
Virginia, excluding Virginia's conflict of law provisions.
Notwithstanding the foregoing, with regard to derivative works based
on Python 1.6.1 that incorporate non-separable material that was
previously distributed under the GNU General Public License (GPL), the
law of the Commonwealth of Virginia shall govern this License
Agreement only as to issues arising under or with respect to
Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this
License Agreement shall be deemed to create any relationship of
agency, partnership, or joint venture between CNRI and Licensee. This
License Agreement does not grant permission to use CNRI trademarks or
trade name in a trademark sense to endorse or promote products or
services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying,
installing or otherwise using Python 1.6.1, Licensee agrees to be
bound by the terms and conditions
of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam,
The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Stichting Mathematisch
Centrum or CWI not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Apache License

Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems
that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants
to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work
or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You

meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding those notices that do not

pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution
of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental,
or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted
against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "{}"
replaced with your own identifying information. (Don't include

the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

A. HISTORY OF THE SOFTWARE
==========

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called ABC. Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team. In October of the same
year, the PythonLabs team moved to Digital Creations (now Zope
Corporation, see http://www.zope.com). In 2001, the Python Software
Foundation (PSF, see http://www.python.org/psf/) was formed, a
non-profit organization created specifically to own Python-related
Intellectual Property. Zope Corporation is a sponsoring member
of
the PSF.

All Python releases are Open Source (see http://www.opensource.org for
the Open Source Definition). Historically, most, but not all, Python
releases have also been GPL-compatible; the table below summarizes
the various releases.

| Release | Derived | Year | Owner | GPL- |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| | from | | | compatible? (1) |
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | | | | |
| 2.1.2 | 2002 | PSF | yes | |
| 2.2.1 | 2.2 | 2002 | PSF | yes |
| 2.2.2 | 2.2.1 | 2002 | PSF | yes |
| 2.2.3 | 2.2.2 | 2003 | PSF | yes |
| 2.3 | 2.2.2 | 2002-2003 | PSF | yes |
| 2.3.1 | 2.3 | 2002-2003 | PSF | yes |
| 2.3.2 | 2.3.1 | 2002-2003 | PSF | yes |
| 2.3.3 | 2.3.2 | 2002-2003 | PSF | yes |
| 2.3.4 | 2.3.3 | 2004 | PSF | yes |
| 2.3.5 | 2.3.4 | 2005 | PSF | yes |
| 2.4 | 2.3 | 2004 | PSF | yes |
| 2.4.1 | 2.4 | 2005 | PSF | yes |
| 2.4.2 | 2.4.1 | 2005 | PSF | yes |
| 2.4.3 | 2.4.2 | 2006 | PSF | yes |
| 2.4.4 | 2.4.3 | 2006 | PSF | yes |
| 2.5 | 2.4 | 2006 | PSF | yes |
| 2.5.1 | 2.5 | 2007 | PSF | yes |
| 2.5.2 | 2.5.1 | 2008 | PSF | yes |
| 2.5.3 | 2.5.2 | 2008 | PSF | yes |
| 2.6 | 2.5 | 2008 | PSF | yes |
| 2.6.1 | 2.6 | 2008 | PSF | yes |
| 2.6.2 | 2.6.1 | 2009 | PSF | yes |
| 2.6.3 | 2.6.2 | 2009 | PSF | yes |
| 2.6.4 | 2.6.3 | 2009 | PSF | yes |
| 2.6.5 | 2.6.4 | 2010 | PSF | yes |
| 3.0 | 2.6 | 2008 | PSF | yes |
| 3.0.1 | 3.0 | 2009 | PSF | yes |
| 3.1 | 3.0.1 | 2009 | PSF | yes |
| 3.1.1 | 3.1 | 2009 | PSF | yes |
| 3.1.2 | 3.1 | 2010 | PSF | yes |
| 3.2 | 3.1 | 2010 | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under

the GPL. All Python licenses, unlike the GPL, let you distribute a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation ("PSF"), and the Individual or Organization ("Licensee") accessing and otherwise using this software ("Python") in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python alone or in any derivative version, provided, however, that PSF's License Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010 Python Software Foundation; All Rights Reserved" are retained in Python alone or in any derivative version prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on or incorporates Python or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS" basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT

INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between PSF and Licensee. This License Agreement does not grant permission to use PSF trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee agrees to be bound by the terms and conditions of this License Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0

---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software, alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS" basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of
agency, partnership, or joint venture
between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1
---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions
of this License Agreement, CNRI
hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with

Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following
URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6.
This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission
to use CNRI trademarks or
trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be

bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam,
The Netherlands.  All rights reserved.

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Stichting Mathematisch
Centrum or CWI not be used in advertising or publicity pertaining to
distribution of the software
 without specific, written prior
permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
argparse is (c) 2006-2009 Steven J. Bethard <steven.bethard@gmail.com>.

The argparse module was contributed to Python as of Python 2.7 and thus
was licensed under the Python license. Same license applies to all files in
the argparse package project.

For details about the Python License, please see doc/Python-License.txt.

History
---

Before (and including) argparse 1.1, the argparse package was licensed under
Apache License v2.0.

After argparse 1.1, all project files from the argparse project were deleted
due to license compatibility issues between Apache License 2.0 and GNU GPL v2.

The project repository then had a clean start with some files taken from
Python 2.7.1, so definitely all files are under Python License now.

============
Contributors
============

* Alex Grnholm
* Alice Bevan-McGregor
* Arfrever Frehtes Taifersar Arahesis
* Christophe Combelles
* Daniel Stutzbach
* Daniel Holth
* Hanno Schlichting
* Jannis Leidel
* Jason R. Coombs
* Jim Fulton
* Jonathan Lange
* Justin Azoff
* Lennart Regebro
* Marc Abramowitz
* Martin von Lwis
* Noufal Ibrahim
* Pete Hollobon
* Philip Jenvey
* Reinout van Rees
* Robert Myers
* Stefan H. Holek
* Tarek Ziad
* Toshio Kuratomi

If you think you name is missing, please add it (alpha order by first name)
MIT License

Copyright (c) 2008-2019 Andrey Petrov and contributors (see CONTRIBUTORS.txt)

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR

OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright 2018 Kenneth Reitz

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
This packge contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov  3 19:04:19 2011#
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt).  This file can be found in the mozilla source tree:
http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#
It contains the certificates in PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.#

***** BEGIN LICENSE BLOCK *****
This Source Code Form is subject to the terms of the Mozilla Public License,
v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain
one at http://mozilla.org/MPL/2.0/.

***** END LICENSE BLOCK *****
@(#) $RCSfile: certdata.txt,v $
$Revision: 1.80 $ $Date: 2011/11/03 15:11:58 $
Copyright (c) 2010-2018 Benjamin Peterson

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:

The above copyright notice and this permission notice shall be included in all

copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
License

A copyright notice accompanies this license document that identifies the copyright holders.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions in source code must retain the accompanying copyright notice, this list of conditions, and the following disclaimer.

2. Redistributions in binary form must reproduce the accompanying copyright notice, this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. Names of the copyright holders must not be used to endorse or promote products derived from this software without prior written permission from the copyright holders.

4. If any files are modified, you must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

Disclaimer

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF

SUCH DAMAGE.
Copyright (c) 2006-2013 James Graham and other contributors

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF
OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2011 Agendaless Consulting and Contributors.
(http://www.agendaless.com), All Rights Reserved
Copyright 2015 Eric Larson

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied.

See the License for the specific language governing permissions and
limitations under the License.
============
Contributors
============

* Alex Grnholm
* Alice Bevan-McGregor
* Arfrever Frehtes Taifersar Arahesis
* Christophe Combelles
* Daniel Stutzbach

* Daniel Holth
* Dirley Rodrigues
* Donald Stufft
* Grigory Petrov
* Hanno Schlichting
* Jannis Leidel
* Jason R. Coombs
* Jim Fulton
* Jonathan Lange
* Justin Azoff
* Lennart Regebro
* Marc Abramowitz
* Martin von Lwis
* Noufal Ibrahim
* Pete Hollobon
* Phillip J. Eby
* Philip Jenvey
* Philip Thiem
* Reinout van Rees
* Robert Myers
* Stefan H. Holek
* Tarek Ziad
* Toshio Kuratomi

If you think you name is missing, please add it (alpha order by first name)
This package is a modified version of cpython's ipaddress module.
It is therefore distributed under the PSF license, as follows:

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby
grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce,
analyze, test, perform and/or display publicly, prepare derivative works,
distribute, and otherwise use Python alone or in any derivative version,
provided, however, that PSF's License Agreement and PSF's notice of copyright,
i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010,
2011, 2012, 2013, 2014 Python Software Foundation; All Rights Reserved" are
retained
in Python alone or in any derivative version prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make

the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6.
This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.
Copyright (c) Donald Stufft and individual contributors.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
   this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED

TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the

editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of

this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS
IN THE SOFTWARE.

Copyright (c) 2008-2019 The pip developers (see AUTHORS.txt file)

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,

distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
 OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2008-2013 The pip developers (see AUTHORS.txt file)

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
 OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.


License for Bundle of CA Root Certificates (pip/cacert.pem)
==========

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301

# 1.203 rxjs 6.5.4

## 1.203.1 Available under license :

Apache License 2.0


```
{
 "ben": {
   "name": "Ben Lesh",
   "role": "Developer",
   "github": "https://github.com/benlesh",
   "picture": "https://avatars2.githubusercontent.com/u/1540597",
   "twitter": "https://twitter.com/BenLesh",
   "website": "http://www.benlesh.com",
   "group": "Core Team"
 },
 "paul": {
   "name": "Paul Taylor",
   "role": "Developer",
   "github": "https://github.com/trxcllnt",
   "picture": "https://avatars2.githubusercontent.com/u/178183",
   "twitter": "https://twitter.com/trxcllnt",
   "website": "http://graphistry.com",
   "group": "Core Team"
 },
 "oj": {
   "name": "OJ Kwon",
   "role": "Developer",
   "github": "https://github.com/kwonoj",
   "picture": "https://avatars1.githubusercontent.com/u/1210596",
   "twitter": "https://twitter.com/_ojkwon",
   "group": "Core Team"
 },
 "david": {
   "name": "David Driscoll",
   "role": "Developer",
   "github": "https://github.com/david-driscoll",
   "picture": "https://avatars0.githubusercontent.com/u/1269157",
    "twitter": "https://twitter.com/david_dotnet",
   "website": "http://david-driscoll.github.io",
   "group": "Core Team"
```

```
},
"tracy": {
  "name": "Tracy Lee",
  "role": "Developer",
  "github": "https://github.com/ladyleet",
  "picture": "https://avatars0.githubusercontent.com/u/8270563",
  "twitter": "https://twitter.com/ladyleet",
  "website": "http://thisdot.co",
  "group": "Core Team"
},
"nic": {
  "name": "Nicholas Jamieson",
  "group": "Core Team",
  "github": "https://github.com/cartant",
  "picture": "https://avatars0.githubusercontent.com/u/3878593",
  "twitter": "https://twitter.com/ncjamieson",
  "website": "http://cartant.com",
  "role": "Developer"
},
"tracy-lee": {
  "name": "Tracy Lee",
  "role": "Developer",
  "github": "https://github.com/ladyleet",
  "picture": "https://avatars0.githubusercontent.com/u/8270563",
  "twitter": "https://twitter.com/ladyleet",
  "website": "http://thisdot.co",
  "group":
"Learning Team"
},
"ashwin": {
  "name": "Ashwin Sureshkumar",
  "role": "Developer",
  "github": "https://github.com/ashwin-sureshkumar",
  "picture": "https://avatars0.githubusercontent.com/u/4744080",
  "twitter": "https://twitter.com/Sureshkumar_Ash",
  "website": "https://t.co/XduklnxpK3",
  "group": "Learning Team"
},
"brian": {
  "name": "Brian Troncone",
  "role": "Developer",
  "github": "https://github.com/btroncone",
  "picture": "https://avatars3.githubusercontent.com/u/5085101",
  "twitter": "http://twitter.com/btroncone",
  "group": "Learning Team"
},
"sumit": {
  "name": "Sumit Arora",
```

```
  "role": "Developer",
  "github": "https://github.com/sumitarora",
  "picture": "https://avatars3.githubusercontent.com/u/198247",
  "twitter": "https://twitter.com/arorasumit",
  "website": "http://www.arorasumit.com/",
  "group": "Learning Team"
},
"jen": {
  "name": "Jen Luker",
  "role": "Developer, A11y",
  "github": "https://github.com/knitcodemonkey",
   "picture": "https://avatars0.githubusercontent.com/u/1584489",
  "twitter": "https://twitter.com/knitcodemonkey",
  "website": "http://jenluker.com",
  "group": "Learning Team"
},
"jan": {
  "name": "Jan-Niklas Wortmann",
  "role": "Developer",
  "github": "https://github.com/JWO719",
  "picture": "https://avatars3.githubusercontent.com/u/6104311",
  "twitter": "https://twitter.com/niklas_wortmann",
  "group": "Learning Team"
},
"matthew": {
  "name": "Matthew Podwysocki",
  "role": "Developer",
  "github": "https://github.com/mattpodwysocki",
  "picture": "https://avatars0.githubusercontent.com/u/49051",
  "twitter": "https://twitter.com/mattpodwysocki",
  "group": "Alumn"
},
"andre": {
  "name": "Andr Staltz",
  "role": "Developer",
  "github": "https://github.com/staltz",
  "picture": "https://avatars0.githubusercontent.com/u/90512",
  "twitter": "https://twitter.com/andrestaltz",
  "website":
"http://staltz.com",
  "group": "Alumn"
},
"nat": {
  "name": "Natalie Smith",
  "role": "Developer",
  "github": "https://github.com/natmegs",
  "picture": "https://avatars0.githubusercontent.com/u/19582796",
  "twitter": "https://twitter.com/natalie_megan",
```

```
  "website": "http://nataliesmith.ca/",
  "group": "Contributors"
 },
 "cedric": {
  "name": "Cdric Soulas",
  "role": "Developer",
  "github": "https://github.com/cedricss",
  "picture": "https://avatars0.githubusercontent.com/u/802010",
  "twitter": "https://twitter.com/CedricSoulas",
  "website": "http://reactive.how/",
  "group": "Contributors"
 },
 "jason": {
  "name": "Jason Aden",
  "role": "Developer",
  "github": "https://github.com/jasonaden",
  "picture": "https://avatars1.githubusercontent.com/u/516168",
  "twitter": "https://twitter.com/jasonaden1",
  "group": "Contributors"
 },
 "jan-niklas": {
  "name": "Jan-Niklas Wortmann",
  "role": "Developer",
  "github":
 "https://github.com/JWO719",
  "picture": "https://avatars3.githubusercontent.com/u/6104311",
  "twitter": "https://twitter.com/niklas_wortmann",
  "group": "Core Team"
 }
}
```


MIT

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition,

"control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and

subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one

of the following places: within a NOTICE text file distributed as
part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the
conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES
OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly

negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure
or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following

boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!)  The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright (c) 2015-2018 Google, Inc., Netflix, Inc., Microsoft Corp. and contributors

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language

governing permissions and
limitations under the License.
@title
@description
The MIT License

Copyright (c) 2014-2018 Google, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

# 1.204 sshd-core 2.5.1

## 1.204.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common

control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity

on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained

within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,

whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and

limitations under the License.

Apache MINA SSHD
Copyright 2008-2020 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

# 1.205 sshd-common 2.5.1

## 1.205.1 Available under license :

Apache MINA SSHD
Copyright 2018-2020 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this

License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided

that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
   the Work or Derivative Works thereof, You may choose to offer,
   and charge a fee for, acceptance of support, warranty, indemnity,
   or other liability obligations and/or rights consistent with this
   License. However, in accepting such obligations, You may act only
   on Your own behalf and on Your sole responsibility, not on behalf
   of any other Contributor, and only if You agree to indemnify,
   defend, and hold each Contributor harmless for any liability
    incurred by, or claims asserted against, such Contributor by reason
   of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

   To apply the Apache License to your work, attach the following
   boilerplate notice, with the fields enclosed by brackets "[]"
   replaced with your own identifying information. (Don't include
   the brackets!)  The text should be enclosed in the appropriate
   comment syntax for the file format. We also recommend that a
   file or class name and description of purpose be included on the
   same "printed page" as the copyright notice for easier
   identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

    http://www.apache.org/licenses/LICENSE-2.0

 Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.206 lz4 0.0~r131-2ubuntu3.1

## 1.206.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the

program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause

any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete

machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the

Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if

necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.
Copyright (c) 2014, lpsantil
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
LZ4 Library
Copyright (c) 2011-2014, Yann Collet
All rights reserved.

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this
list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.207 libx11 1.6.4-3ubuntu0.4

## 1.207.1 Available under license :

The following is the 'standard copyright' agreed upon by most contributors,
and is currently the canonical license preferred by the X.Org Foundation.
This is a slight variant of the common MIT license form published by the
Open Source Initiative at http://www.opensource.org/licenses/mit-license.php

Copyright holders of new code should use this license statement where
possible, and insert their name to this list.  Please sort by surname
for people, and by the full name for other entities (e.g.  Juliusz
Chroboczek sorts before Intel Corporation sorts before Daniel Stone).

See each individual source file or directory for the license that applies
to that file.

Copyright (C) 2003-2006,2008 Jamey Sharp, Josh Triplett
Copyright  2009 Red Hat, Inc.
Copyright 1990-1992,1999,2000,2004,2009,2010 Oracle and/or its affiliates.
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to
deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice (including the next
paragraph) shall be included in all copies or substantial portions of the

Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

The following licenses
are 'legacy' - usually MIT/X11 licenses with the name
of the copyright holder(s) in the license statement:

Copyright 1984-1994, 1998 The Open Group

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS
IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall not be
used in advertising or otherwise to promote the sale, use or other dealings
in this Software without prior written authorization from The Open Group.

X Window System is a trademark of The Open Group.

---

Copyright 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1994, 1996 X Consortium
Copyright 2000 The XFree86 Project, Inc.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the

"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions
of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall
not be used in advertising or otherwise to promote the sale, use or
other dealings in this Software without prior written authorization
from the X Consortium.

Copyright 1985, 1986, 1987, 1988, 1989, 1990, 1991 by
Digital Equipment Corporation

Portions Copyright 1990, 1991 by Tektronix, Inc.

Permission to use, copy, modify and distribute this documentation for
any purpose and without fee is hereby granted, provided that the above
copyright notice appears
in all copies and that both that copyright notice
and this permission notice appear in all copies, and that the names of
Digital and Tektronix not be used in in advertising or publicity pertaining
to this documentation without specific, written prior permission.
Digital and Tektronix makes no representations about the suitability
of this documentation for any purpose.
It is provided ``as is'' without express or implied warranty.

---

Copyright (c) 1999-2000  Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is

furnished to do so, subject to the following conditions:

The above copyright notice
and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE FREE SOFTWARE FOUNDATION BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the Free Software Foundation shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the Free Software Foundation.

---

Code and supporting documentation (c) Copyright 1990 1991 Tektronix, Inc.
All Rights Reserved

This file is a component of an X Window System-specific
implementation
of Xcms based on the TekColor Color Management System. TekColor is a trademark of Tektronix, Inc. The term "TekHVC" designates a particular color space that is the subject of U.S. Patent No. 4,985,853 (equivalent foreign patents pending). Permission is hereby granted to use, copy, modify, sell, and otherwise distribute this software and its documentation for any purpose and without fee, provided that:

1. This copyright, permission, and disclaimer notice is reproduced in all copies of this software and any modification thereof and in supporting documentation;
2. Any color-handling application which displays TekHVC color cooordinates identifies these as TekHVC color coordinates in any interface that displays these coordinates and in any associated documentation;
3. The term "TekHVC" is always used, and is only used, in association with the mathematical derivations of the TekHVC Color Space, including those provided in this file and any equivalent
pathways and
mathematical derivations, regardless of digital (e.g., floating point or integer) representation.

Tektronix makes no representation about the suitability of this software for any purpose. It is provided "as is" and with all faults.

TEKTRONIX DISCLAIMS ALL WARRANTIES APPLICABLE TO THIS SOFTWARE, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL TEKTRONIX BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA, OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE, OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR THE PERFORMANCE OF THIS SOFTWARE.

---

(c) Copyright 1995 FUJITSU LIMITED
This is source code modified by FUJITSU LIMITED under the Joint Development Agreement for the CDE/Motif PST.

---

Copyright 1992 by Oki Technosystems Laboratory, Inc.
Copyright 1992 by Fuji Xerox Co., Ltd.

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Oki Technosystems Laboratory and Fuji Xerox not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.
Oki Technosystems Laboratory and Fuji Xerox make no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

OKI TECHNOSYSTEMS LABORATORY AND FUJI XEROX DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL OKI TECHNOSYSTEMS LABORATORY AND FUJI XEROX BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1990, 1991, 1992, 1993, 1994 by FUJITSU LIMITED

Permission to use, copy, modify, distribute, and sell this software

and its documentation for any purpose is hereby granted without fee,
provided that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear
in supporting documentation, and that the name of FUJITSU LIMITED
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
FUJITSU LIMITED makes no representations about the suitability of
this software for any purpose.
It is provided "as is" without express or implied warranty.

FUJITSU LIMITED DISCLAIM ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL FUJITSU LIMITED BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright (c) 1995 David E. Wexelblat. All rights reserved

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission
notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL DAVID E. WEXELBLAT BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of David E. Wexelblat shall
not be used in advertising or otherwise to promote the sale, use or
other dealings in this Software without prior written authorization
from David E. Wexelblat.

---

Copyright 1990, 1991 by OMRON Corporation

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided
 that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the name OMRON not be used in
advertising or publicity pertaining to distribution of the software without
specific, written prior permission.  OMRON makes no representations
about the suitability of this software for any purpose.  It is provided
"as is" without express or implied warranty.

OMRON DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO
EVENT SHALL OMRON BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTUOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1985, 1986, 1987, 1988, 1989, 1990, 1991 by
Digital Equipment
 Corporation

Portions Copyright 1990, 1991 by Tektronix, Inc

Rewritten for X.org by Chris Lee <clee@freedesktop.org>

Permission to use, copy, modify, distribute, and sell this documentation
for any purpose and without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.
Chris Lee makes no representations about the suitability for any purpose
of the information in this document.  It is provided \`\`as-is" without
express or implied warranty.

---

Copyright 1993 by Digital Equipment Corporation, Maynard, Massachusetts,
Copyright 1994 by FUJITSU LIMITED
Copyright 1994 by Sony Corporation

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice
 appear in
supporting documentation, and that the names of Digital, FUJITSU
LIMITED and Sony Corporation not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

DIGITAL, FUJITSU LIMITED AND SONY CORPORATION DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL DIGITAL, FUJITSU LIMITED
AND SONY CORPORATION BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF
USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

 ----------

Copyright 1991 by the Open Software Foundation

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above
 copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the name of Open Software Foundation
not be used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.  Open Software
Foundation makes no representations about the suitability of this
software for any purpose.  It is provided "as is" without express or
implied warranty.

OPEN SOFTWARE FOUNDATION DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL OPEN SOFTWARE FOUNDATIONN BE
LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

 ----------

Copyright

1990, 1991, 1992,1993, 1994 by FUJITSU LIMITED
Copyright 1993, 1994 by Sony Corporation

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of FUJITSU LIMITED and Sony Corporation not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. FUJITSU LIMITED and Sony Corporation makes no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

FUJITSU LIMITED AND SONY CORPORATION DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL FUJITSU LIMITED OR SONY CORPORATION BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright (c) 1993, 1995 by Silicon Graphics Computer Systems, Inc.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Silicon Graphics not be used in advertising or publicity pertaining to distribution of the software without specific prior written permission. Silicon Graphics makes no representation about the suitability of this software for any purpose. It is provided "as is" without any express or implied warranty.

SILICON
GRAPHICS DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1991, 1992, 1993, 1994 by FUJITSU LIMITED
Copyright 1993 by Digital Equipment Corporation

Permission to use, copy, modify, distribute, and sell this software
and its documentation for any purpose is hereby granted without fee,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of FUJITSU LIMITED and
Digital Equipment Corporation not
be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission. FUJITSU LIMITED and Digital Equipment Corporation
makes no representations about the suitability of this software for
any purpose. It is provided "as is" without express or implied
warranty.

FUJITSU LIMITED AND DIGITAL EQUIPMENT CORPORATION DISCLAIM ALL
WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL
FUJITSU LIMITED AND DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION,
ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF
THIS SOFTWARE.

---

Copyright 1992, 1993 by FUJITSU LIMITED
Copyright 1993 by Fujitsu Open Systems Solutions, Inc.
Copyright 1994 by Sony
Corporation

Permission to use, copy, modify, distribute and sell this software
and its documentation for any purpose is hereby granted without fee,
provided that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear
in supporting documentation, and that the name of FUJITSU LIMITED,
Fujitsu Open Systems Solutions, Inc. and Sony Corporation not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.
FUJITSU LIMITED, Fujitsu Open Systems Solutions, Inc. and
Sony Corporation make no representations about the suitability of
this software for any purpose. It is provided "as is" without
express or implied warranty.

FUJITSU LIMITED, FUJITSU OPEN SYSTEMS SOLUTIONS, INC. AND SONY CORPORATION DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL FUJITSU OPEN SYSTEMS SOLUTIONS, INC., FUJITSU LIMITED AND SONY CORPORATION BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1987, 1988, 1990, 1993 by Digital Equipment Corporation, Maynard, Massachusetts,

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Digital not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

DIGITAL DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL DIGITAL BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1993 by SunSoft, Inc.
Copyright 1999-2000 by Bruno Haible

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the names of SunSoft, Inc. and Bruno Haible not be used in advertising or publicity pertaining to distribution of the software without specific, written prior

permission.  SunSoft, Inc. and
Bruno Haible make no representations
about the suitability of this software for any purpose.  It is
provided "as is" without express or implied warranty.

SunSoft Inc. AND Bruno Haible DISCLAIM ALL WARRANTIES WITH REGARD
TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS, IN NO EVENT SHALL SunSoft, Inc. OR Bruno Haible BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1991 by the Open Software Foundation
Copyright 1993 by the TOSHIBA Corp.

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and
this permission notice appear in supporting
documentation, and that the names of Open Software Foundation and TOSHIBA
not be used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.  Open Software
Foundation and TOSHIBA make no representations about the suitability of this
software for any purpose.  It is provided "as is" without express or
implied warranty.

OPEN SOFTWARE FOUNDATION AND TOSHIBA DISCLAIM ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL OPEN SOFTWARE FOUNDATIONN OR TOSHIBA BE
LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1988 by Wyse Technology, Inc.,
San Jose, Ca.,

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that

both that copyright notice and this permission notice appear in
supporting documentation, and that the name Wyse not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

WYSE DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL DIGITAL BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright
1991 by the Open Software Foundation
Copyright 1993, 1994 by the Sony Corporation

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the names of Open Software Foundation and
Sony Corporation not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.
Open Software Foundation and Sony Corporation make no
representations about the suitability of this software for any purpose.
It is provided "as is" without express or implied warranty.

OPEN SOFTWARE FOUNDATION AND SONY CORPORATION DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL OPEN SOFTWARE FOUNDATIONN OR SONY CORPORATION BE LIABLE
FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1992, 1993 by FUJITSU LIMITED
Copyright 1993 by Fujitsu Open Systems Solutions, Inc.

Permission to use, copy, modify, distribute and sell this software
and its documentation for any purpose is hereby granted without fee,

provided that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear
in supporting documentation, and that the name of FUJITSU LIMITED and
Fujitsu Open Systems Solutions, Inc. not be used in advertising or
publicity pertaining to distribution of the software without specific,
written prior permission.
FUJITSU LIMITED and Fujitsu Open Systems Solutions, Inc. makes no
representations about
the suitability of this software for any purpose.
It is provided "as is" without express or implied warranty.

FUJITSU LIMITED AND FUJITSU OPEN SYSTEMS SOLUTIONS, INC. DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL FUJITSU OPEN SYSTEMS SOLUTIONS, INC. AND FUJITSU LIMITED BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1993, 1994 by Sony Corporation

Permission to use, copy, modify, distribute, and sell this software
and its documentation for any purpose is hereby granted without fee,
provided that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear
in
supporting documentation, and that the name of Sony Corporation
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
Sony Corporation makes no representations about the suitability of
this software for any purpose. It is provided "as is" without
express or implied warranty.

SONY CORPORATION DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL SONY CORPORATION BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1986, 1998 The Open Group
Copyright (c) 2000 The XFree86 Project, Inc.

Permission to use, copy, modify, distribute, and sell this software
and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM OR THE XFREE86 PROJECT BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

Except as contained in this notice, the name of the X Consortium or of the
XFree86 Project shall not be used in advertising or otherwise to promote the
sale, use or
other dealings in this Software without prior written
authorization from the X Consortium and the XFree86 Project.

---

Copyright 1990, 1991 by OMRON Corporation, NTT Software Corporation,
and Nippon Telegraph and Telephone Corporation
Copyright 1991 by the Open Software Foundation
Copyright 1993 by the FUJITSU LIMITED

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the names of OMRON, NTT Software, NTT, and
Open Software Foundation not be used in advertising or publicity
pertaining to distribution of the software without specific,
written prior permission. OMRON, NTT Software, NTT, and Open Software
Foundation make no representations about the suitability of this
software
for any purpose. It is provided "as is" without express or
implied warranty.

OMRON, NTT SOFTWARE, NTT, AND OPEN SOFTWARE FOUNDATION
DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT

SHALL OMRON, NTT SOFTWARE, NTT, OR OPEN SOFTWARE FOUNDATION BE
LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1988 by Wyse Technology, Inc., San Jose, Ca,
Copyright 1987 by Digital Equipment Corporation, Maynard, Massachusetts,

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice
appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name Digital not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

DIGITAL AND WYSE DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO
EVENT SHALL DIGITAL OR WYSE BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF
USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

---

Copyright 1991, 1992 by Fuji Xerox Co., Ltd.
Copyright 1992, 1993, 1994 by FUJITSU LIMITED

Permission to use, copy, modify, distribute, and sell this software
and its documentation for any purpose is hereby granted without
fee,
provided that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear
in supporting documentation, and that the name of Fuji Xerox,
FUJITSU LIMITED not be used in advertising or publicity pertaining
to distribution of the software without specific, written prior
permission. Fuji Xerox, FUJITSU LIMITED make no representations
about the suitability of this software for any purpose.
It is provided "as is" without express or implied warranty.

FUJI XEROX, FUJITSU LIMITED DISCLAIM ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL FUJI XEROX,
FUJITSU LIMITED BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA
OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

---

Copyright
2006 Josh Triplett

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

---

(c) Copyright 1996 by Sebastien Marineau and Holger Veit
<marineau@genie.uottawa.ca>
<Holger.Veit@gmd.de>

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in

all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL
HOLGER VEIT BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of Sebastien Marineau or Holger Veit shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from Holger Veit or Sebastien Marineau.

---

Copyright 1990, 1991 by OMRON Corporation, NTT Software Corporation,
and Nippon Telegraph and Telephone Corporation
Copyright 1991 by the Open Software Foundation
Copyright 1993 by the TOSHIBA Corp.
Copyright 1993, 1994 by Sony Corporation
Copyright 1993, 1994 by the FUJITSU LIMITED

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee,
provided that
the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the names of OMRON, NTT Software, NTT, Open Software Foundation, and Sony Corporation not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. OMRON, NTT Software, NTT, Open Software Foundation, and Sony Corporation make no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

OMRON, NTT SOFTWARE, NTT, OPEN SOFTWARE FOUNDATION, AND SONY CORPORATION DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL OMRON, NTT SOFTWARE, NTT, OPEN SOFTWARE FOUNDATION, OR SONY CORPORATION BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA
OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 2000 by Bruno Haible

Permission to use, copy, modify, distribute, and sell this software
and its documentation for any purpose is hereby granted without fee,
provided that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear
in supporting documentation, and that the name of Bruno Haible not
be used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission. Bruno Haible
makes no representations about the suitability of this software for
any purpose. It is provided "as is" without express or implied
warranty.

Bruno Haible DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN
NO EVENT
SHALL Bruno Haible BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE
OR PERFORMANCE OF THIS SOFTWARE.

---

Copyright 2003 Keith Packard

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the name of Keith Packard not be used in
advertising or publicity pertaining to distribution of the software without
specific, written prior permission. Keith Packard makes no
representations about the suitability of this software for any purpose. It
is provided "as is" without express or implied warranty.

KEITH
PACKARD DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO
EVENT SHALL KEITH PACKARD BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

---

Copyright (c) 2007-2009, Troy D. Hanson
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS
IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER
OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

Copyright 1992, 1993 by TOSHIBA Corp.

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted, provided
that the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the name of TOSHIBA not be used in advertising
or
publicity pertaining to distribution of the software without specific,
written prior permission. TOSHIBA make no representations about the
suitability of this software for any purpose. It is provided "as is"
without express or implied warranty.

TOSHIBA DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL
TOSHIBA BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION,
ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.

---

Copyright IBM Corporation 1993

All Rights Reserved

License to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both
 that copyright notice and this permission notice appear in
supporting documentation, and that the name of IBM not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

IBM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS, AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS, IN NO EVENT SHALL
IBM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION,
ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.

 ----------

Copyright 1990, 1991 by OMRON Corporation, NTT Software Corporation,
 and Nippon Telegraph and Telephone Corporation

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby
 granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation, and that the names of OMRON, NTT Software, and NTT
not be used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission. OMRON, NTT Software,
and NTT make no representations about the suitability of this
software for any purpose.  It is provided "as is" without express or
implied warranty.

OMRON, NTT SOFTWARE, AND NTT, DISCLAIM ALL WARRANTIES WITH REGARD
TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS, IN NO EVENT SHALL OMRON, NTT SOFTWARE, OR NTT, BE
LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS

SOFTWARE.
This notice applies to the files in this directory. They are taken from
the libiconv-1.1 package, which is covered by the LGPL license. The files
in this directory have been placed under the following copyright, with
permission from the Free Software Foundation.

Copyright (c) 1999-2000  Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
FREE SOFTWARE FOUNDATION BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR
IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the Free Software Foundation
shall not be used in advertising or otherwise to promote the sale, use or
other dealings in this Software without prior written authorization from the
Free Software Foundation.

Notes:

1. This copyright applies only to the files in this directory, and not to
the remaining files in libiconv.

2. The Free Software Foundation does not encourage the use of the above
license for newly written software.

# 1.208 pyyaml 3.11

## 1.208.1 Available under license :

Copyright (c) 2006 Kirill Simonov

Permission is hereby granted, free of charge, to any person obtaining a copy of

this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is furnished to do
so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.209 commons-lang3 3.12.0

## 1.209.1 Available under license :

Apache Commons Lang
Copyright 2001-2021 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (https://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the

outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of

this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed

as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.210 rfc3986 1.3.2

## 1.210.1 Available under license :

Copyright 2014 Ian Cordasco, Rackspace

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.211 libtommath 1.0.1-1

## 1.211.1 Available under license :

LibTomMath is licensed under DUAL licensing terms.

Choose and use the license of your needs.

[LICENSE #1]

LibTomMath is public domain.  As should all quality software be.

Tom St Denis

[/LICENSE #1]

[LICENSE #2]

DO WHAT THE FUCK YOU WANT TO PUBLIC LICENSE
Version 2, December 2004

Copyright (C) 2004 Sam Hocevar <sam@hocevar.net>

Everyone is permitted to copy and distribute verbatim or modified
copies of this license document, and changing it is allowed as long
as the name is changed.

DO WHAT THE FUCK YOU WANT TO PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. You just DO WHAT THE FUCK YOU WANT TO.

[/LICENSE #2]

# 1.212 jakarta xml bind api 2.3.3

## 1.212.1 Available under license :

COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL) Version 1.0

1. Definitions.

1.1. "Contributor" means each individual or entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Software, prior Modifications used by a Contributor (if any), and the Modifications made by that particular Contributor.

1.3. "Covered Software" means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.

1.4. "Executable" means the Covered Software in any form other than Source Code.

1.5. "Initial Developer" means the individual or entity that first makes Original Software available under this License.

1.6. "Larger Work" means a work which combines Covered Software or portions thereof with code not governed by the terms of this License.

1.7. "License" means this document.

1.8. "Licensable" means
having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means the Source Code and Executable form of any of the following:

A. Any file that results from an addition to,

deletion from or modification of the contents of a
file containing Original Software or previous
Modifications;

B. Any new file that contains any part of the
Original Software or previous Modification; or

C. Any new file that is contributed or otherwise made
available under the terms of this License.

1.10. "Original Software" means the Source Code and
Executable form of computer software code that is
originally released under this License.

1.11. "Patent Claims" means any patent claim(s), now owned
or hereafter acquired, including without limitation,
method, process, and apparatus claims, in any patent
Licensable by grantor.

1.12. "Source Code" means (a) the common form of computer
software
code in which modifications are made and (b)
associated documentation included in or with such code.

1.13. "You" (or "Your") means an individual or a legal
entity exercising rights under, and complying with all of
the terms of, this License. For legal entities, "You"
includes any entity which controls, is controlled by, or is
under common control with You. For purposes of this
definition, "control" means (a) the power, direct or
indirect, to cause the direction or management of such
entity, whether by contract or otherwise, or (b) ownership
of more than fifty percent (50%) of the outstanding shares
or beneficial ownership of such entity.

2. License Grants.

2.1. The Initial Developer Grant.

Conditioned upon Your compliance with Section 3.1 below and
subject to third party intellectual property claims, the
Initial Developer hereby grants You a world-wide,
royalty-free, non-exclusive license:

(a) under intellectual property rights (other than
patent or trademark) Licensable
by Initial Developer,
to use, reproduce, modify, display, perform,

sublicense and distribute the Original Software (or portions thereof), with or without Modifications, and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using or selling of Original Software, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Software (or portions thereof).

(c) The licenses granted in Sections 2.1(a) and (b) are effective on the date Initial Developer first distributes or otherwise makes the Original Software available to a third party under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: (1) for code that You delete from the Original Software, or (2) for infringements caused by: (i) the modification of the Original Software, or (ii) the combination of the Original Software with other software or devices.

2.2. Contributor Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof), either on an unmodified basis, with other Modifications, as Covered Software and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: (1) Modifications made by that Contributor (or portions thereof); and (2) the combination of Modifications made by that Contributor with its Contributor Version

(or portions of such combination).

(c)
The licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first distributes or otherwise makes the Modifications available to a third party.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: (1) for any code that Contributor has deleted from the Contributor Version; (2) for infringements caused by: (i) third party modifications of Contributor Version, or (ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or (3) under Patent Claims infringed by Covered Software in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Availability of Source Code.

Any Covered Software that You distribute or otherwise make available in Executable form must also be made available in Source Code form and that Source Code form must be distributed only under the terms of this License. You must include a copy of this License
with every copy of the
Source Code form of the Covered Software You distribute or otherwise make available. You must inform recipients of any such Covered Software in Executable form as to how they can obtain such Covered Software in Source Code form in a reasonable manner on or through a medium customarily used for software exchange.

3.2. Modifications.

The Modifications that You create or to which You contribute are governed by the terms of this License. You represent that You believe Your Modifications are Your original creation(s) and/or You have sufficient rights to grant the rights conveyed by this License.

3.3. Required Notices.

You must include a notice in each of Your Modifications that identifies You as the Contributor of the Modification.

You may not remove or alter any copyright, patent or trademark notices contained within the Covered Software, or any notices of licensing or any descriptive text giving attribution to any Contributor or the Initial Developer.

3.4. Application of Additional Terms.

You may not offer or impose any terms on any Covered Software in Source Code form that alters or restricts the applicable version of this License or the recipients' rights hereunder. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, you may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.5. Distribution of Executable Versions.

You may distribute the Executable form of the Covered Software under the terms of this License or under the terms of a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable form does not attempt to limit or alter the recipient's rights in the Source Code form from the rights set forth in this License. If You distribute the Covered Software in Executable form under a different license, You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.6. Larger Works.

You may create a Larger Work by combining Covered Software with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such

a case, You must make sure the requirements of this License are fulfilled
for the Covered Software.

4. Versions of the License.

4.1. New Versions.

Sun Microsystems, Inc. is the initial license steward and may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Except as provided in Section 4.3, no one other than the license steward has the right to modify this License.

4.2. Effect of New Versions.

You may always continue to use, distribute or otherwise make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. If the Initial Developer includes a notice in the Original Software prohibiting it from being distributed or otherwise made available under any subsequent version of the License, You must distribute and make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. Otherwise, You may also choose to use, distribute
or otherwise make the Covered Software
available under the terms of any subsequent version of the License published by the license steward.

4.3. Modified Versions.

When You are an Initial Developer and You want to create a new license for Your Original Software, You may create and use a modified version of this License if You: (a) rename the license and remove any references to the name of the license steward (except to note that the license differs from this License); and (b) otherwise make it clear that the license contains terms which differ from this License.

5. DISCLAIMER OF WARRANTY.

COVERED SOFTWARE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED SOFTWARE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR

PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED SOFTWARE IS WITH YOU. SHOULD ANY COVERED SOFTWARE PROVE
DEFECTIVE IN ANY RESPECT, YOU (NOT THE
INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED SOFTWARE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

6. TERMINATION.

6.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

6.2. If You assert a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You assert such claim is referred to as "Participant") alleging that the Participant Software (meaning the Contributor Version where the Participant is a Contributor or the Original
Software where the Participant is the
Initial Developer) directly or indirectly infringes any patent, then any and all rights granted directly or indirectly to You by such Participant, the Initial Developer (if the Initial Developer is not the Participant) and all Contributors under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively and automatically at the expiration of such 60 day notice period, unless if within such 60 day period You withdraw Your claim with respect to the Participant Software against such Participant either unilaterally or pursuant to a written agreement with Participant.

6.3. In the event of termination under Sections 6.1 or 6.2 above, all end user licenses that have been validly granted by You or any distributor hereunder prior to termination (excluding licenses granted to You by any distributor) shall survive termination.

7. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT
(INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED SOFTWARE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOST PROFITS, LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

8. U.S. GOVERNMENT END USERS.

The Covered Software is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" (as that term is defined at 48 C.F.R. 252.227-7014(a)(1)) and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Software with only those rights set forth herein. This U.S. Government Rights clause is in lieu of, and supersedes, any other FAR, DFAR, or other clause or provision that addresses Government rights in computer software under this License.

9. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by the law of the jurisdiction specified in a notice contained within the Original Software (except to the extent applicable law, if any, provides otherwise), excluding such jurisdiction's conflict-of-law provisions. Any litigation relating to this License shall be subject to the jurisdiction of the courts located in the jurisdiction and venue specified in a notice contained within the Original Software, with the losing party responsible for costs, including, without limitation, court

costs and reasonable attorneys' fees and expenses. The
application of the United Nations Convention on Contracts for the
International Sale of Goods is expressly excluded. Any law or
regulation which provides that the language of a contract shall
be construed against the drafter shall not apply to this License.
You agree that You alone are responsible for compliance with the
United States export administration regulations (and the export
control laws and regulation of any other countries) when You use,
distribute or otherwise make available any Covered Software.

10. RESPONSIBILITY FOR CLAIMS.

As between Initial
Developer and the Contributors, each party is
responsible for claims and damages arising, directly or
indirectly, out of its utilization of rights under this License
and You agree to work with Initial Developer and Contributors to
distribute such responsibility on an equitable basis. Nothing
herein is intended or shall be deemed to constitute any admission
of liability.
/*
* Copyright (c) 2005, 2019 Oracle and/or its affiliates. All rights reserved.
*
* This program and the accompanying materials are made available under the
* terms of the Eclipse Distribution License v. 1.0, which is available at
* http://www.eclipse.org/org/documents/edl-v10.php.
*
* SPDX-License-Identifier: BSD-3-Clause
*/
Eclipse Distribution License - v 1.0
Copyright (c) 2007, Eclipse Foundation, Inc. and its licensors.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
Neither the name of the Eclipse Foundation, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL

DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 2017, 2018 Oracle and/or its affiliates. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- Neither the name of the Eclipse Foundation, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,

THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

[//]: # " Copyright (c) 2018, 2019 Oracle and/or its affiliates. All rights reserved. "
[//]: # "  "
[//]: # " This program and the accompanying materials are made available under the "
[//]: # " terms of the Eclipse Distribution License v. 1.0, which is available at "
[//]: # " http://www.eclipse.org/org/documents/edl-v10.php. "
[//]: # "  "
[//]: # " SPDX-License-Identifier: BSD-3-Clause "

# Notices for Jakarta XML Binding

This content is produced and maintained by the Jakarta XML Binding project.

* Project home: https://projects.eclipse.org/projects/ee4j.jaxb

## Trademarks

Jakarta XML Binding is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Distribution License v. 1.0
 which is available at
http://www.eclipse.org/org/documents/edl-v10.php.

SPDX-License-Identifier: BSD-3-Clause

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jaxb-api
* https://github.com/eclipse-ee4j/jaxb-tck

## Third-party Content

This project leverages the following third party content.

Apache River (3.0.0)

* License: Apache-2.0 AND BSD-3-Clause

ASM 7 (n/a)

* License: BSD-3-Clause
* Project: https://asm.ow2.io/
* Source:
  https://repository.ow2.org/nexus/#nexus-search;gav~org.ow2.asm~asm-commons~~~~kw,versionexpand

JTHarness (5.0)

* License: (GPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0)
* Project: https://wiki.openjdk.java.net/display/CodeTools/JT+Harness
* Source: http://hg.openjdk.java.net/code-tools/jtharness/

normalize.css (3.0.2)

* License: MIT

SigTest (n/a)

* License: GPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Cryptography

Content may contain encryption software. The country in which
you are currently
may have restrictions on the import, possession, and use, and/or re-export to
another country, of encryption software. BEFORE using any encryption software,
please check the country's laws, regulations and policies concerning the import,
possession, or use, and re-export of encryption software, to see if this is
permitted.

# 1.213 json-path 2.6.0

## 1.213.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2013 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*       http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /json-path-2-6-0-sources-jar/com/jayway/restassured/path/json/exception/JsonPathException.java
* /json-path-2-6-0-sources-
jar/com/jayway/restassured/internal/path/json/mapping/JsonPathJackson1ObjectDeserializer.groovy
* /json-path-2-6-0-sources-jar/com/jayway/restassured/mapper/factory/DefaultJackson1ObjectMapperFactory.java
*

/json-path-2-6-0-sources-jar/com/jayway/restassured/internal/path/json/JsonPrettifier.groovy
* /json-path-2-6-0-sources-jar/com/jayway/restassured/internal/path/json/JSONAssertion.groovy
* /json-path-2-6-0-sources-jar/com/jayway/restassured/path/json/config/JsonPathConfig.java
* /json-path-2-6-0-sources-jar/com/jayway/restassured/path/json/config/JsonParserType.java
* /json-path-2-6-0-sources-jar/com/jayway/restassured/internal/path/json/ConfigurableJsonSlurper.groovy
* /json-path-2-6-0-sources-jar/com/jayway/restassured/mapper/factory/DefaultGsonObjectMapperFactory.java
* /json-path-2-6-0-sources-jar/com/jayway/restassured/internal/path/json/mapping/JsonObjectDeserializer.groovy
* /json-path-2-6-0-sources-jar/com/jayway/restassured/mapper/factory/DefaultJackson2ObjectMapperFactory.java
* /json-path-2-6-0-sources-
jar/com/jayway/restassured/internal/path/json/mapping/JsonPathGsonObjectDeserializer.groovy
* /json-path-2-6-0-sources-jar/com/jayway/restassured/path/json/JsonPath.java
*
/json-path-2-6-0-sources-jar/com/jayway/restassured/mapper/factory/GsonObjectMapperFactory.java
* /json-path-2-6-0-sources-
jar/com/jayway/restassured/internal/path/json/mapping/JsonPathJackson2ObjectDeserializer.groovy
* /json-path-2-6-0-sources-jar/com/jayway/restassured/path/json/mapping/JsonPathObjectDeserializer.java
* /json-path-2-6-0-sources-jar/com/jayway/restassured/mapper/factory/Jackson2ObjectMapperFactory.java
* /json-path-2-6-0-sources-jar/com/jayway/restassured/mapper/factory/Jackson1ObjectMapperFactory.java

# 1.214 aspect-j 1.9.7

## 1.214.1 Available under license :

Found license 'Eclipse Public License 1.0' in '* All rights reserved. This program and the accompanying materials * are made available under the terms of the Eclipse Public License v 2.0'
Found license 'Eclipse Public License 1.0' in '* All rights reserved. * This program and the accompanying materials are made available * under the terms of the Eclipse Public License v 2.0'

# 1.215 libxmuu 1.1.2-2

## 1.215.1 Available under license :

This package was downloaded from
http://xorg.freedesktop.org/releases/individual/lib/

Copyright 1989, 1998  The Open Group

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,

FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except
as contained in this notice, the name of The Open Group shall not be
used in advertising or otherwise to promote the sale, use or other dealings
in this Software without prior written authorization from The Open Group.

---

Xmu/StrToBmap.c and Xmu/GrayPixmap.c also have:

Copyright 1987, 1988 by Digital Equipment Corporation, Maynard, Massachusetts.

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Digital not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

DIGITAL DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO
EVENT SHALL
DIGITAL BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

And Xmu/Clip.c has:

Copyright (c) 1998 by The XFree86 Project, Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY
OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE XFREE86 PROJECT BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the XFree86 Project shall
not be used in advertising or otherwise to promote the sale, use or other
dealings in this Software without prior written authorization from the
XFree86 Project.
Copyright 1988, 1989, 1990, 1991, 1994, 1998 The Open Group

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall
not be
used in advertising or otherwise to promote the sale, use or other dealings
in this Software without prior written authorization from The Open Group.

---

Xmu/StrToBmap.c and Xmu/GrayPixmap.c also have:

Copyright 1987, 1988 by Digital Equipment Corporation, Maynard, Massachusetts.

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its

documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Digital not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

DIGITAL DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL DIGITAL BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

---

Xmu/Clip.c and Xmu/Lookup.h have:

Copyright (c) 1998 by The XFree86 Project, Inc.
Copyright 1999 by Thomas E. Dickey <dickey@clark.net>

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY
OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE XFREE86 PROJECT BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the XFree86 Project shall
not be used in advertising or otherwise to promote the sale, use or other
dealings in this Software without prior written authorization from the
XFree86 Project.

# 1.216 libmemcached11 1.0.18-4.2ubuntu0.18.04.1

## 1.216.1 Available under license :

Software License Agreement (BSD License)

Copyright (c) 2012, Data Differential (http://datadifferential.com/)
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer
in the documentation and/or other materials provided with the
distribution.

* Neither the name of TangentOrg nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.217 libdevmapper 1.02.145-4.1ubuntu3.18.04.3

## 1.217.1 Available under license :

This package was downloaded from:

ftp://sources.redhat.com/pub/lvm2/

Copyright:

Copyright (C) 1997-2004 Sistina Software
2004 Luca Berra
2004-2009 Red Hat, Inc
2005-2007 NEC Corporation

License for libdevmapper, liblvm and the lvm tools lib:

This package is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License version 2.1 as published by the Free Software Foundation.

This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this package; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

On Debian systems,
the complete text of the GNU Lesser General
Public License v2.1 can be found in `/usr/share/common-licenses/LGPL-2.1'.

License for the daemons, tools, tests and build system:

This package is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License version 2 as
published by the Free Software Foundation.

This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this package; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

On Debian systems, the complete text of the GNU General
Public License v2 can be found in `/usr/share/common-licenses/GPL-2'.

The Debian packaging is:

Copyright
(C) 2005-2009 Bastian Blank

and is licensed under the GPL v2, see above.

# 1.218 dmsetup 1.02.145-4.1ubuntu3.18.04.3

## 1.218.1 Available under license :

This package was downloaded from:

ftp://sources.redhat.com/pub/lvm2/

Copyright:

Copyright (C) 1997-2004 Sistina Software
2004 Luca Berra
2004-2009 Red Hat, Inc
2005-2007 NEC Corporation

License for libdevmapper, liblvm and the lvm tools lib:

This package is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License version 2.1 as published by the Free Software Foundation.

This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this package; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

On Debian systems,
the complete text of the GNU Lesser General
Public License v2.1 can be found in `/usr/share/common-licenses/LGPL-2.1'.

License for the daemons, tools, tests and build system:

This package is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License version 2 as
published by the Free Software Foundation.

This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this package; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA  02110-1301 USA

On Debian systems, the complete text of the GNU General
Public License v2 can be found in `/usr/share/common-licenses/GPL-2'.

The Debian packaging is:

Copyright
(C) 2005-2009 Bastian Blank

and is licensed under the GPL v2, see above.

# 1.219 libcryptsetup12 2.0.2-1ubuntu1.2

## 1.219.1 Available under license :

CREATIVE COMMONS CORPORATION IS NOT A LAW FIRM AND DOES NOT PROVIDE LEGAL SERVICES. DISTRIBUTION OF THIS DOCUMENT DOES NOT CREATE AN ATTORNEY-CLIENT RELATIONSHIP. CREATIVE COMMONS PROVIDES THIS INFORMATION ON AN "AS-IS" BASIS. CREATIVE COMMONS MAKES NO WARRANTIES REGARDING THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED HEREUNDER, AND DISCLAIMS LIABILITY FOR DAMAGES RESULTING FROM THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED HEREUNDER.

Statement of Purpose

The laws of most jurisdictions throughout the world automatically confer exclusive Copyright and Related Rights (defined below) upon the creator and subsequent owner(s) (each and all, an "owner") of an original work of authorship and/or a database (each, a "Work").

Certain owners wish to permanently relinquish those rights to a Work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement
build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative, cultural and scientific works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.

For these and/or other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and Related Rights in the Work, voluntarily elects to apply CC0 to the Work and publicly distribute the

Work under its terms, with knowledge of his or her Copyright and Related Rights in the Work and the meaning and intended legal effect of CC0 on those rights.

1. Copyright and Related Rights. A Work made
available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:

the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;
moral rights retained by the original author(s) and/or performer(s);
publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;
rights protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;
rights protecting the extraction, dissemination, use and reuse of data in a Work;
database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and
other similar, equivalent or corresponding
rights throughout the world based on applicable law or treaty, and any national implementations thereof.

2. Waiver. To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending
that such Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of Purpose.

3. Public License Fallback. Should any part of the Waiver for any reason be judged legally invalid or ineffective under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into account Affirmer's express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for
any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason be judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will not (i) exercise any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any associated claims and causes of action with respect to the Work, in either case contrary to Affirmer's express Statement of Purpose.

4. Limitations and Disclaimers.

No trademark or patent rights held by Affirmer are waived, abandoned, surrendered, licensed or otherwise affected by this document.

Affirmer offers the Work as-is and makes no representations or warranties of any kind concerning the Work, express,
implied, statutory or otherwise, including without limitation warranties of title, merchantability, fitness for a particular purpose, non infringement, or the absence of latent or other defects, accuracy, or the present or absence of errors, whether or not discoverable, all to the greatest extent permissible under applicable law.

Affirmer disclaims responsibility for clearing rights of other persons that may apply to the Work or any use thereof, including without limitation any person's Copyright and Related Rights in the Work. Further, Affirmer disclaims responsibility for obtaining any necessary consents, permissions or other rights required for any use of the Work.

Affirmer understands and acknowledges that Creative Commons is not a party to this document and has no duty or obligation with respect to this CC0 or use of the Work.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that

you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you

conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or

collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program

except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is

implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED

OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

```
  Gnomovision version 69, Copyright (C) year name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute
it
  under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

```
 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this
 is what you want to do, use the GNU Lesser General
Public License instead of this License.

---

In addition, as a special exception, the copyright holders give
permission to link the code of portions of this program with the
OpenSSL library under certain conditions as described in each
individual source file, and distribute linked combinations
including the two.

You must obey the GNU General Public License in all respects
for all of the code used other than OpenSSL.  If you modify
file(s) with this exception, you may extend this exception to your
version of the file(s), but you are not obligated to do so.  If you
do not wish to do so, delete this exception statement from your
version.  If you delete this exception statement from all source
files in the program, then also delete it here.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free

library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means

all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has

a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be
reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany

it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that
uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may
distribute the
object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or
link a "work that uses the Library" with the Library to produce a
work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit

modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception,

the materials to be distributed need not include anything that is normally
distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any
other library
facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if
you do not accept this License. Therefore, by
modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision
will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

---

In addition, as a special exception, the copyright holders give
permission to link the code of portions of this program with the
OpenSSL library under certain conditions as described in each
individual source file, and distribute linked combinations
including the two.

You must obey the GNU Lesser General Public License in all respects
for all of the code used other than OpenSSL.  If you modify
file(s) with this exception, you may extend this exception to your
version
 of the file(s), but you are not obligated to do so.  If you
do not wish to do so, delete this exception statement from your
version.  If you delete this exception statement from all source
files in the program, then also delete it here.

# 1.220 apt 1.6.14

## 1.220.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.
Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of

running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you

distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution
and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under

any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful,

but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.
Apt is copyright 1997, 1998, 1999 Jason Gunthorpe and others.
Apt is currently developed by APT Development Team <deity@lists.debian.org>.

License: GPLv2+

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or

(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA.

See /usr/share/common-licenses/GPL-2, or
<http://www.gnu.org/copyleft/gpl.txt> for the terms of the latest version
of the
GNU General Public License.
Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS
IN
THE SOFTWARE.

# 1.221 base-files 10.1ubuntu2.11

## 1.221.1 Available under license :

Copyright (c) The Regents of the University of California.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the

documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT
SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided
by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by
the Library is deemed a mode
of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an
Application with the Library. The particular version of the Library
with which the Combined Work was made is also called the "Linked
Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.

4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application

Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.

51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library GPL.  It is
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some
specially designated Free Software Foundation software, and to any
other libraries whose authors decide to use it.  You can use it for
your libraries, too.

When
we speak of free software, we are referring to freedom, not
price.  Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if
you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you.  You must make sure that they, too, receive or can get the source
code.  If you link a program with the library, you must provide
complete object files to the recipients so that they
can relink them
with the library, after making changes to the library and recompiling
it.  And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright
the library, and (2) offer you this license which gives you legal
permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain
that everyone understands that there is no warranty for this free
library.  If the library is modified by someone else and passed on, we

want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we
have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary
General Public License
treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification
follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The

former contains code derived from the library, while the latter only
works together with the library.

Note that it is possible for a library to be covered by the ordinary
General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which
contains a notice placed by the copyright holder or other authorized
party saying it may be distributed under the terms of this Library
General Public License (also called "this License"). Each licensee is
addressed as "you".

A "library" means a collection of software functions and/or data
prepared so as to be conveniently linked with application programs
(which use some of those functions and data) to form executables.

The "Library", below,
refers to any such software library or work
which has been distributed under these terms. A "work based on the
Library" means either the Library or any derivative work under
copyright law: that is to say, a work containing the Library or a
portion of it, either verbatim or with modifications and/or translated
straightforwardly into another language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for
making modifications to it. For a library, complete source code means
all the source code for all modules it contains, plus any associated
interface definition files, plus the scripts used to control compilation
and installation of the library.

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running a program using the Library is not restricted, and output from
such a program is covered only if
its contents constitute a work based
on the Library (independent of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does
and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's
complete source code as you receive it, in any medium, provided that
you conspicuously and appropriately publish on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact
all the notices that refer to this License and to the absence of any

warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution
of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that
uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library

creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified

executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining

where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any

such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through
that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but
may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software
generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO

WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY
(INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU

Library General Public License for more details.

You should have received a copy of the GNU Library General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer)
 or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.
Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program

is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the
Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause
any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based

on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering

access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to

apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

GNU GENERAL PUBLIC LICENSE

Version 1, February 1989

Copyright (C) 1989 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

## Preamble

The license agreements of most software companies try to keep users at the mercy of those companies. By contrast, our General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. The General Public License applies to the Free Software Foundation's software and to any other program whose authors commit to using it. You can use it for your programs, too.

When we speak of free software, we are referring to freedom, not price. Specifically, the General Public License is designed to make sure that you have the freedom to
give away or sell copies of free
software, that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of a such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must tell them their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that
everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any work containing the Program or a portion of it, either verbatim or with modifications. Each licensee is addressed as "you".

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this General Public License and to the absence of any warranty; and give any other recipients of the Program a copy of this General Public License along with the Program. You may charge a fee for the physical act of transferring a copy.

2. You may modify your copy or copies of the Program or any portion of it, and copy and distribute such modifications under the terms of Paragraph 1 above, provided that you also do the following:

a) cause the modified files to carry prominent notices stating that you changed the files and the date of any change; and

b) cause the whole of any work that you distribute or publish, that in whole or in part contains the Program or any part thereof, either with or without modifications, to be licensed at no charge to all third parties under the terms of this General Public License (except that you may choose to grant warranty protection to some or all third parties, at your option).

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the simplest and most usual way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this General Public License.

d) You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

Mere aggregation of another independent work with the Program (or its derivative) on a volume of a storage or distribution medium does not bring the other work under the scope of these terms.

3. You may copy and distribute the Program (or a portion or derivative of it, under Paragraph 2) in object code or executable form under the terms of Paragraphs 1 and 2 above provided that you also do one of the following:

a) accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Paragraphs 1 and 2 above; or,

b) accompany it with a written offer, valid for at least three years, to give any third party free (except for a nominal charge for the cost of distribution) a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Paragraphs 1 and 2 above; or,

c) accompany it with the information you received as to where the corresponding source code may be obtained. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form alone.)

Source code for a work means the preferred form of the work for making modifications to it. For an executable file, complete source code means all the source code for all modules it contains; but, as a special exception, it need not include source code for modules which are standard libraries that accompany the operating system on which the executable file runs, or for standard header files or definitions files that accompany that operating system.

4. You may not copy, modify, sublicense, distribute or transfer the Program except as expressly provided under this General Public License. Any attempt otherwise to copy, modify, sublicense, distribute or transfer the Program is void, and will automatically terminate your rights to use the Program under this License. However, parties who have received copies, or rights to use copies, from you under this General Public License will not have their licenses terminated so long as such parties remain in full compliance.

5. By copying, distributing or modifying the Program (or any work based

on the Program) you indicate your acceptance of this license to do so, and all its terms and conditions.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein.

7. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of the license which applies to it and "any later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the license, you may choose any version ever published by the Free Software Foundation.

8. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

9. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE
THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

10. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING

OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to humanity, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 1, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19xx name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (a program to direct compilers to make passes at assemblers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1)
assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of

interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not

convey, without conditions so long as your license otherwise remains
in force.  You may convey covered works to others for the sole purpose
of having them make modifications exclusively for you, or provide you
with facilities for running those works, provided that you comply with
the terms of this License in conveying all material for which you do
not control copyright.  Those thus making or running the covered works
for you must do so exclusively on your behalf, under your direction
and control, on terms that prohibit them from making any copies of
your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under
the conditions stated below.  Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological
measure under any applicable law fulfilling obligations under article
11 of the WIPO copyright treaty adopted on 20 December 1996, or
similar laws prohibiting or restricting circumvention of such
measures.

When you convey a covered work, you waive any legal power to forbid
circumvention of technological measures to the extent such circumvention
is effected by exercising rights under this License with respect to
the covered work, and you disclaim any intention to limit operation or
modification of the work as a means of enforcing, against the work's
users, your or third parties' legal rights to forbid circumvention of
technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you
receive it, in any medium, provided that you conspicuously and
appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all
recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey,
and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to

produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular

product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the

entire Program shall
be treated as though they were included in this License, to the extent
that they are valid under applicable law. If additional permissions
apply only to part of the Program, that part may be used separately
under those permissions, but the entire Program remains governed by
this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option
remove any additional permissions from that copy, or from any part of
it. (Additional permissions may be written to require their own
removal in certain cases when you modify the work.) You may place
additional permissions on material, added by you to a covered work,
for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you
add to a covered work, you may (if authorized by the copyright holders of
that material) supplement the terms of this License with terms:

a) Disclaiming warranty or
limiting liability differently from the
terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or
author attributions in that material or in the Appropriate Legal
Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or
requiring that modified versions of such material be marked in
reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or
authors of the material; or

e) Declining to grant rights under trademark law for use of some
trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that
material by anyone who conveys the material (or modified versions of
it) with contractual assumptions of liability to the recipient, for
any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further
restrictions" within the meaning of section 10. If the Program as you
received it, or any part of it, contains a notice stating that it is
governed by this License along with a term that is a further
restriction, you may remove that term. If a license document contains

a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work

occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant

patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory

patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the
option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the

GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

The "Artistic License"

Preamble

The intent of this document is to state the conditions under which a Package may be copied, such that the Copyright Holder maintains some semblance of artistic control over the development of the package, while giving the users of the package the right to use and distribute the Package in a more-or-less customary fashion, plus the right to make reasonable modifications.

Definitions:

"Package" refers to the collection of files distributed by the Copyright Holder, and derivatives of that collection of files created through textual modification.

"Standard Version" refers to such a Package if it has not been modified, or has been modified in accordance with the wishes of the Copyright Holder as specified below.

"Copyright Holder" is whoever is named in the copyright or copyrights for the package.

"You" is you, if you're thinking about copying or distributing this Package.

"Reasonable copying fee" is whatever you can justify on the basis of media cost, duplication charges, time of people involved, and so on. (You will not be required to justify it to the Copyright Holder, but only to the computing community at large as a market that must bear the fee.)

"Freely Available" means that no fee is charged for the item itself, though there may be fees involved in handling the item.

It also means that recipients of the item may redistribute it
under the same conditions they received it.

1. You may make and give away verbatim copies of the source form of the Standard Version of this Package without restriction, provided that you duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications derived from the Public Domain or from the Copyright Holder. A Package modified in such a way shall still be considered the Standard Version.

3. You may otherwise modify your copy of this Package in any way, provided that you insert a prominent
notice in each changed file stating how and
when you changed that file, and provided that you do at least ONE of the following:

a) place your modifications in the Public Domain or otherwise make them Freely Available, such as by posting said modifications to Usenet or an equivalent medium, or placing the modifications on a major archive site such as uunet.uu.net, or by allowing the Copyright Holder to include your modifications in the Standard Version of the Package.

b) use the modified Package only within your corporation or organization.

c) rename any non-standard executables so the names do not conflict with standard executables, which must also be provided, and provide a separate manual page for each non-standard executable that clearly documents how it differs from the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or executable
form, provided that you do at least ONE of the following:

a) distribute a Standard Version of the executables and library files, together with instructions (in the manual page or equivalent) on where to get the Standard Version.

b) accompany the distribution with the machine-readable source of the Package with your modifications.

c) give non-standard executables non-standard names, and clearly document the differences in manual pages (or equivalent), together with instructions on where to get the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this Package. You may charge any fee you choose for support of this Package. You may not charge a fee for this Package itself. However, you may distribute this Package in aggregate with other (possibly commercial) programs as part of a larger (possibly commercial) software distribution provided
that you do not advertise this Package as a
product of your own. You may embed this Package's interpreter within an executable of yours (by linking); this shall be construed as a mere form of aggregation, provided that the complete Standard Version of the interpreter is so embedded.

6. The scripts and library files supplied as input to or produced as output from the programs of this Package do not automatically fall under the copyright of this Package, but belong to whoever generated them, and may be sold commercially, and may be aggregated with this Package. If such scripts or library files are aggregated with this Package via the so-called "undump" or "unexec" methods of producing a binary executable image, then distribution of such an image shall neither be construed as a distribution of this Package nor shall it fall under the restrictions of Paragraphs 3 and 4, provided that you do not represent such an executable image as a Standard Version of this Package.

7. C subroutines
(or comparably compiled subroutines in other
languages) supplied by you and linked into this Package in order to emulate subroutines and variables of the language defined by this Package shall not be considered part of this Package, but are the equivalent of input as in Paragraph 6, provided these subroutines do not change the language in any way that would cause it to fail the regression tests for the language.

8. Aggregation of this Package with a commercial distribution is always permitted provided that the use of this Package is embedded; that is, when no overt attempt is made to make this Package's interfaces visible to the end user of the commercial distribution. Such use shall not be construed as a distribution of this Package.

9. The name of the Copyright Holder may not be used to endorse or promote products derived from this software without specific prior written permission.

10. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT
LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End

# 1.222 libgcrypt 1.8.1-4ubuntu1.3

## 1.222.1 Available under license :

This package was debianized by Ivo Timmermans <ivo@debian.org> on
Fri,  3 Aug 2001 10:02:38 +0200.
It was taken over by Matthias Urlichs <smurf@debian.org>, and is now
maintained by Andreas Metzler <ametzler@debian.org> Eric Dorland
<eric@debian.org>, James Westby <jw+debian@jameswestby.net>

It was downloaded from https://ftp.gnupg.org/gcrypt/libgcrypt/.

Up to end of 2012 libgcrypt copyright was owned solely by FSF, since then
contributions without copyright assignment to the FSF have been integrated.

Upstream Authors (from AUTHORS)
8X----------
List of Copyright holders
==========

Copyright (C) 1989,1991-2017 Free Software Foundation, Inc.
Copyright (C) 1994 X Consortium
Copyright (C) 1996 L. Peter Deutsch
Copyright (C) 1997 Werner Koch
Copyright (C) 1998 The Internet Society
Copyright (C) 1996-1999 Peter Gutmann, Paul Kendall, and Chris Wedgwood
Copyright (C) 1996-2006 Peter Gutmann, Matt Thomlinson and Blake
Coverett
Copyright (C) 2003 Nikos Mavroyanopoulos
Copyright (C) 2006-2007 NTT (Nippon Telegraph and Telephone Corporation)
Copyright (C) 2012-2017 g10 Code GmbH
Copyright (C) 2012 Simon Josefsson, Niels Mller
Copyright (c) 2012 Intel Corporation
Copyright (C) 2013 Christian Grothoff
Copyright (C) 2013-2017 Jussi Kivilinna
Copyright (C) 2013-2014 Dmitry Eremin-Solenikov
Copyright (C) 2014 Stephan Mueller
Copyright (C) 2017 Bundesamt fr Sicherheit in der Informationstechnik

Authors with a FSF copyright assignment
======================================

LIBGCRYPT       Werner Koch    2001-06-07
Assigns past and future changes.

Assignment for future changes terminated on 2012-12-04.
wk@gnupg.org
Designed and implemented Libgcrypt.

GNUPG Matthew Skala 1998-08-10
Disclaims changes.
mskala@ansuz.sooke.bc.ca
Wrote cipher/twofish.c.

GNUPG Natural Resources Canada 1998-08-11
Disclaims changes by Matthew Skala.

GNUPG Michael Roth Germany 1998-09-17
Assigns changes.
mroth@nessie.de
Wrote
cipher/des.c.
Changes and bug fixes all over the place.

GNUPG Niklas Hernaeus 1998-09-18
Disclaims changes.
nh@df.lth.se
Weak key patches.

GNUPG Rmi Guyomarch 1999-05-25
Assigns past and future changes. (g10/compress.c, g10/encr-data.c,
g10/free-packet.c, g10/mdfilter.c, g10/plaintext.c, util/iobuf.c)
rguyom@mail.dotcom.fr

ANY g10 Code GmbH 2001-06-07
Assignment for future changes terminated on 2012-12-04.
Code marked with ChangeLog entries of g10 Code employees.

LIBGCRYPT Timo Schulz 2001-08-31
Assigns past and future changes.
twoaday@freakmail.de

LIBGCRYPT Simon Josefsson 2002-10-25
Assigns past and future changes to FSF (cipher/{md4,crc}.c, CTR mode,
CTS/MAC flags, self test improvements)
simon@josefsson.org

LIBGCRYPT Moritz Schulte 2003-04-17
Assigns past and future changes.
moritz@g10code.com

GNUTLS Nikolaos Mavrogiannopoulos 2003-11-22
nmav@gnutls.org

Original code for cipher/rfc2268.c.

LIBGCRYPT The Written Word 2005-04-15
Assigns
past and future changes. (new: src/libgcrypt.pc.in,
src/Makefile.am, src/secmem.c, mpi/hppa1.1/mpih-mul3.S,
mpi/hppa1.1/udiv-qrnnd.S, mpi/hppa1.1/mpih-mul2.S,
mpi/hppa1.1/mpih-mul1.S, mpi/Makefile.am, tests/prime.c,
tests/register.c, tests/ac.c, tests/basic.c, tests/tsexp.c,
tests/keygen.c, tests/pubkey.c, configure.ac, acinclude.m4)

LIBGCRYPT Brad Hards 2006-02-09
Assigns Past and Future Changes
bradh@frogmouth.net
(Added OFB mode. Changed cipher/cipher.c, test/basic.c doc/gcrypt.tex.
added SHA-224, changed cipher/sha256.c, added HMAC tests.)

LIBGCRYPT Hye-Shik Chang 2006-09-07
Assigns Past and Future Changes
perky@freebsd.org
(SEED cipher)

LIBGCRYPT Werner Dittmann 2009-05-20
Assigns Past and Future Changes
werner.dittmann@t-online.de
(mpi/amd64, tests/mpitests.c)

GNUPG David Shaw
Assigns past and future changes.
dshaw@jabberwocky.com
(cipher/camellia-glue.c and related stuff)

LIBGCRYPT Andrey Jivsov 2010-12-09
Assigns
Past and Future Changes
openpgp@brainhub.org
(cipher/ecc.c and related files)

LIBGCRYPT Ulrich Mller 2012-02-15
Assigns Past and Future Changes
ulm@gentoo.org
(Changes to cipher/idea.c and related files)

LIBGCRYPT Vladimir Serbinenko 2012-04-26
Assigns Past and Future Changes
phcoder@gmail.com
(cipher/serpent.c)

Authors with a DCO
==========

Andrei Scherer <andsch@inbox.com>
2014-08-22:BF7CEF794F9.000003F0andsch@inbox.com:

Christian Aistleitner <christian@quelltextlich.at>
2013-02-26:20130226110144.GA12678@quelltextlich.at:

Christian Grothoff <christian@grothoff.org>
2013-03-21:514B5D8A.6040705@grothoff.org:

Dmitry Eremin-Solenikov <dbaryshkov@gmail.com>
2013-07-13:20130713144407.GA27334@fangorn.rup.mentorg.com:

Dmitry Kasatkin <dmitry.kasatkin@intel.com>
2012-12-14:50CAE2DB.80302@intel.com:

Jrmie Courrges-Anglas <jca@wxcvbn.org>
2016-05-26:87bn3ssqg0.fsf@ritchie.wxcvbn.org

Jussi Kivilinna <jussi.kivilinna@mbnet.fi>
2012-11-15:20121115172331.150537dzb5i6jmy8@www.dalek.fi:

Jussi
Kivilinna <jussi.kivilinna@iki.fi>
2013-05-06:5186720A.4090101@iki.fi:

Markus Teich <markus dot teich at stusta dot mhn dot de>
2014-10-08:20141008180509.GA2770@trolle:

Mathias L. Baumann <mathias.baumann at sociomantic.com>
2017-01-30:07c06d79-0828-b564-d604-fd16c7c86ebe@sociomantic.com:

Milan Broz <gmazyland@gmail.com>
2014-01-13:52D44CC6.4050707@gmail.com:

Peter Wu <peter@lekensteyn.nl>
2015-07-22:20150722191325.GA8113@al:

Rafal Carr <funman@videolan.org>
2012-04-20:4F91988B.1080502@videolan.org:

Sergey V. <sftp.mtuci@gmail.com>
2013-11-07:2066221.5IYa7Yq760@darkstar:

Stephan Mueller <smueller@chronox.de>

2014-08-22:2008899.25OeoelVVA@myon.chronox.de:

Tom Mrz <tm@t8m.info>
2012-04-16:1334571250.5056.52.camel@vespa.frost.loc:

Vitezslav Cizek <vcizek@suse.com>
2015-11-05:20151105131424.GA32700@kolac.suse.cz

Werner Koch <wk@gnupg.org> (g10 Code GmbH)
2012-12-05:87obi8u4h2.fsf@vigenere.g10code.de:

More credits
============

Libgcrypt used
 to be part of GnuPG but has been taken out into its own
package on 2000-12-21.

Most of the stuff in mpi has been taken from an old GMP library
version by Torbjorn Granlund <tege@noisy.tmg.se>.

The files cipher/rndunix.c and cipher/rndw32.c are based on those
files from Cryptlib.  Copyright Peter Gutmann, Paul Kendall, and Chris
Wedgwood 1996-1999.

The ECC code cipher/ecc.c was based on code by Sergi Blanch i Torne,
sergi at calcurco dot org.

The implementation of the Camellia cipher has been taken from the
original NTT provided GPL source.

The CAVS testing program tests/cavs_driver.pl is not to be considered
a part of libgcrypt proper.  We distribute it merely for convenience.
It has a permissive license and is copyrighted by atsec information
security corporation.  See the file for details.

The file salsa20.c is based on D.J. Bernstein's public domain code and
taken from Nettle.  Copyright 2012 Simon Josefsson and Niels Mller.

This file is free software; as a special exception
 the author gives
unlimited permission to copy and/or distribute it, with or without
modifications, as long as this notice is preserved.

This file is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY, to the extent permitted by law; without even the

implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
8X----------

License:

Most of the package is licensed under the GNU Lesser General Public
License (LGPL) version 2.1 (or later), except for helper and debugging
binaries. See below for details. The documentation is licensed under
the GPLv2 (or later), see below.

Excerpt from upstream's README:

> The library is distributed under the terms of the GNU Lesser
> General Public License (LGPL); see the file COPYING.LIB for the
> actual terms. The helper programs (e.g. gcryptrnd and getrandom)
> as well as the documentation are distributed under the terms of
> the GNU General Public License
> (GPL); see the file COPYING for the
> actual terms.
>
> This library used to be available under the GPL - this was changed
> with version 1.1.7 with the rationale that there are now many free
> crypto libraries available and many of them come with capabilities
> similar to Libcrypt. We decided that to foster the use of
> cryptography in Free Software an LGPLed library would make more
> sense because it avoids problems due to license incompatibilities
> between some Free Software licenses and the GPL.
>
> Please note that in many cases it is better for a library to be
> licensed under the GPL, so that it provides an advantage for free
> software projects. The Lesser GPL is so named because it does
> less to protect the freedom of the users of the code that it
> covers. See http://www.gnu.org/philosophy/why-not-lgpl.html for
> more explanation.

An example of the license headers of the LGPL is

---

> Copyright (C) 1998, 1999, 2000, 2001, 2002, 2003,
> 2004, 2006
> 2007, 2008, 2009, 2010, 2011 Free Software Foundation, Inc.
>
> This file is part of Libgcrypt.
>
> Libgcrypt is free software; you can redistribute it and/or modify
> it under the terms of the GNU Lesser General Public License as
> published by the Free Software Foundation; either version 2.1 of
> the License, or (at your option) any later version.

Libgcrypt is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this program; if not, see <http://www.gnu.org/licenses/>.
---

On Debian GNU/Linux systems, the complete text of the GNU Lesser
General Public License can be found in
`/usr/share/common-licenses/LGPL';

The documentation licensed under the GPL
---
Copyright
@copyright{} 2000, 2002, 2003, 2004, 2006, 2007, 2008, 2009, 2011, 2012 Free Software Foundation, Inc. @*
Copyright @copyright{} 2012, 2013, 2016 2017 g10 Code GmbH

@quotation
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU General Public License as published by the
Free Software Foundation; either version 2 of the License, or (at your
option) any later version. The text of the license can be found in the
section entitled ``GNU General Public License".
---

Further details on licensing:
From upstream's LICENSES file
8X----------
Additional license notices for Libgcrypt.                -*- org -*-

This file contains the copying permission notices for various files in
the Libgcrypt distribution which are not covered by the GNU Lesser
General Public License (LGPL) or the GNU General Public License (GPL).

These notices all require that a copy of the notice be included
in the
accompanying documentation and be distributed with binary
distributions of the code, so be sure to include this file along
with any binary distributions derived from the GNU C Library.

* BSD_3Clause

For files:
- cipher/sha256-avx-amd64.S
- cipher/sha256-avx2-bmi2-amd64.S

- cipher/sha256-ssse3-amd64.S
- cipher/sha512-avx-amd64.S
- cipher/sha512-avx2-bmi2-amd64.S
- cipher/sha512-ssse3-amd64.S

#+begin_quote
Copyright (c) 2012, Intel Corporation

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the
  distribution.

*
Neither the name of the Intel Corporation nor the names of its
  contributors may be used to endorse or promote products derived from
  this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY INTEL CORPORATION "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL CORPORATION OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
#+end_quote

For files:
- random/jitterentropy-base.c
 - random/jitterentropy.h
- random/rndjent.c (plus common Libgcrypt copyright holders)

#+begin_quote

* Copyright Stephan Mueller <smueller@chronox.de>, 2013
*
* License
* =======
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, and the entire permission notice in its entirety,
*    including the disclaimer of warranties.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. The name of the author may not be used to endorse or promote
*    products derived from this software without specific prior
*    written permission.
*
* ALTERNATIVELY, this product may be distributed under the terms of
* the GNU General
 Public License, in which case the provisions of the GPL are
* required INSTEAD OF the above restrictions.  (This clause is
* necessary due to a potential bad interaction between the GPL and
* the restrictions contained in a BSD-style copyright.)
*
* THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
* WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
* WHICH ARE HEREBY DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
* OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
* BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
* LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
* USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
* DAMAGE.
#+end_quote

*
 X License

 For files:
 - install.sh

#+begin_quote
 Copyright (C) 1994 X Consortium

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.
#+end_quote

* Public domain

For files:
- cipher/arcfour-amd64.S

#+begin_quote
Author: Marc Bevand <bevand_m (at) epita.fr>
Licence: I hereby disclaim the copyright on this code and place it
in the public domain.
#+end_quote

* OCB license 1

For files:
- cipher/cipher-ocb.c

#+begin_quote
OCB is covered by several patents but may be used freely by most
software. See http://web.cs.ucdavis.edu/~rogaway/ocb/license.htm .
In particular license 1 is suitable for Libgcrypt: See
http://web.cs.ucdavis.edu/~rogaway/ocb/license1.pdf for the full
license document; it basically says:

License 1 License for Open-Source Software Implementations of OCB (Jan 9, 2013)

Under this license, you are authorized to make, use, and distribute open-source software implementations of OCB. This license terminates for you if you sue someone over their open-source software implementation of OCB claiming that you have a patent covering their implementation.

License for Open Source Software Implementations of OCB
January 9, 2013

1 Definitions

1.1 Licensor means Phillip Rogaway.

1.2 Licensed Patents means any patent that claims priority to United States Patent Application No. 09/918,615 entitled Method and Apparatus for Facilitating Efficient Authenticated Encryption, and any utility, divisional, provisional, continuation, continuations-in-part, reexamination, reissue, or foreign counterpart patents that may issue with respect to the aforesaid patent application. This includes, but is not limited to, United States Patent No. 7,046,802;
United States Patent No. 7,200,227; United States Patent No. 7,949,129; United States Patent No. 8,321,675 ; and any patent that issues out of United States Patent Application No. 13/669,114.

1.3 Use means any practice of any invention claimed in the Licensed Patents.

1.4 Software Implementation means any practice of any invention claimed in the Licensed Patents that takes the form of software executing on a user-programmable, general-purpose computer or that takes the form of a computer-readable medium storing such software. Software Implementation does not include, for example, application-specific integrated circuits (ASICs), field-programmable gate arrays (FPGAs), embedded systems, or IP cores.

1.5 Open Source Software means software whose source code is published and made available for inspection and use by anyone because either (a) the source code is subject to a license that permits recipients to copy, modify, and distribute the source code without payment of
fees or royalties, or
(b) the source code is in the public domain, including code released for public use through a CC0 waiver. All licenses certified by the Open Source Initiative at opensource.org as of January 9, 2013 and all Creative Commons licenses identified on the creativecommons.org website as of January 9, 2013, including the Public License Fallback of the CC0 waiver, satisfy these

requirements for the purposes of this license.

1.6 Open Source Software Implementation means a Software Implementation in which the software implicating the Licensed Patents is Open Source Software. Open Source Software Implementation does not include any Software Implementation in which the software implicating the Licensed Patents is combined, so as to form a larger program, with software that is not Open Source Software.

2 License Grant

2.1 License. Subject to your compliance with the term s of this license, including the restriction set forth in Section 2.2, Licensor hereby grants to you a perpetual, worldwide, non-exclusive, non-transferable, non-sublicenseable, no-charge, royalty-free, irrevocable license to practice any invention claimed in the Licensed Patents in any Open Source Software Implementation.

2.2 Restriction. If you or your affiliates institute patent litigation (including, but not limited to, a cross-claim or counterclaim in a lawsuit) against any entity alleging that any Use authorized by this license infringes another patent, then any rights granted to you under this license automatically terminate as of the date such litigation is filed.

3 Disclaimer
YOUR USE OF THE LICENSED PATENTS IS AT YOUR OWN RISK AND UNLESS REQUIRED BY APPLICABLE LAW, LICENSOR MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND CONCERNING THE LICENSED PATENTS OR ANY PRODUCT EMBODYING ANY LICENSED PATENT, EXPRESS OR IMPLIED, STATUT ORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF TITLE, MERCHANTIBILITY, FITNESS FOR A PARTICULAR PURPOSE,
OR NONINFRINGEMENT. IN NO EVENT WILL LICENSOR BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM OR RELATED TO ANY USE OF THE LICENSED PATENTS, INCLUDING, WITHOUT LIMITATION, DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES, EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES PRIOR TO SUCH AN OCCURRENCE.
#+end_quote
8X----------

On Debian GNU/Linux systems, the text of the GNU General Public License, version 2 can be found in `/usr/share/common-licenses/GPL-2'.

# 1.223 inetutils 1.9.4-3ubuntu0.1

## 1.223.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses
are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer
you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains
that there is no warranty for this free software. For both users' and

authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate
Legal Notices"
to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than
the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's

System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing
those activities but
which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes
a covered work. This License acknowledges your
rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal
Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article

11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep
intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license
the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in the same way through the same place at no
further charge.
You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source as a System Library, need not be
included in conveying the object
code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,
procedures, authorization keys, or other information required to install
and execute
modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as

part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the

terms of sections
15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional
terms are considered "further
restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may
not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or

modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your
receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time
you convey a covered work, the recipient automatically
receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that

transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not
impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes
the right to grant
patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other

readily accessible means,
then you must either (1) cause the Corresponding Source to be so
available, or (2) arrange to deprive yourself of the benefit of the
patent license for this particular work, or (3) arrange, in a manner
consistent with the requirements of this License, to extend the patent
license to downstream recipients. "Knowingly relying" means you have
actual knowledge that, but for the patent license, your conveying the
covered work in a country, or your recipient's use of the covered work
in a country, would infringe one or more identifiable patents in that
country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or
arrangement, you convey, or propagate by procuring conveyance of, a
covered work, and grant a patent license to some of the parties
receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered work, then the patent license
you grant is automatically extended
to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or that patent license was granted, prior to 28 March
2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you

to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY

OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING,
BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of
warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea
of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by

the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY
NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License. But first, please
read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
 must themselves be free in the same sense.  It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does.  But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book.  We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License.  Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein.  The ``Document'', below,
refers
 to any such manual or work.  Any member of the public is a
licensee, and is addressed as ``you''.  You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the
Document or a portion of it, either copied verbatim, or with
modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, La@TeX{} input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG@. Opaque formats include proprietary formats that can be read and edited only by proprietary word

processors, SGML or
XML for which the DTD and/or processing tools are
not generally available, and the machine-generated HTML,
PostScript or PDF produced by some word processors for
output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page. For works in
formats which do not have any title page as such, ``Title Page'' means
the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in another language. (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'',
or ``History''.) To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document. These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either
commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies
to the Document are reproduced in all copies, and that you add no other
conditions whatsoever to those of this License. You may not use
technical measures to obstruct or control the reading or further
copying of the copies
you make or distribute. However, you may accept
compensation in exchange for copies. If you distribute a large enough
number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and
you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the
title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute
an
Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution

and modification of the Modified Version to whoever possesses a copy
of it.  In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from those of previous versions
(which should, if there were any, be listed in the History section
of the Document).  You may use the same
 title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the
 Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page.  If
there is no section Entitled ``History'' in the Document, create one

stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on.  These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any
 section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles.  Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''.  Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all
of these sections as invariant.  To do this, add their titles to the
list of Invariant
 Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has

been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History'' in the various original documents, forming one section Entitled ``History''; likewise combine any sections Entitled ``Acknowledgements'', and any sections Entitled ``Dedications''. You must delete all sections Entitled ``Endorsements.''

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents

released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License
into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an ``aggregate'' if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form.
Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',
``Dedications'', or ``History'', the requirement
(section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for
any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License. If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns. See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and

conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation. If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation. If the Document
specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the
Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works. A
public wiki that anybody can edit is an example of such a server. A
``Massive Multiauthor Collaboration'' (or ``MMC'') contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons
Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License

in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group
Copyright (C) @var{year} @var{your name}.
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3
or any later version published by the Free Software Foundation;
with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
Texts. A copy of the license is included in the section entitled ``GNU
Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts."@: line with this:

@smallexample
@group
with the Invariant Sections being @var{list their titles}, with
the Front-Cover Texts being @var{list}, and with the Back-Cover Texts
being @var{list}.
@end group
@end smallexample

If you have Invariant
Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:

# 1.224 core-js 2.4.1

## 1.224.1 Available under license :

MIT
Copyright (c) 2014-2016 Denis Pushkarev

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH
 THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

# 1.225 icu 60.2-3ubuntu3.2

## 1.225.1 Available under license :

## -*-makefile-*-
## Copyright (C) 2016 and later: Unicode, Inc. and others.
## License & terms of use: http://www.unicode.org/copyright.html
## BSD-specific setup (FreeBSD, OpenBSD, NetBSD, *BSD)
## Copyright (c) 1999-2013, International Business Machines Corporation and
## others. All Rights Reserved.

## Commands to generate dependency files
GEN_DEPS.c= $(CC) -E -MM $(DEFS) $(CPPFLAGS)
GEN_DEPS.cc= $(CXX) -E -MM $(DEFS) $(CPPFLAGS)

## Flags for position independent code
SHAREDLIBCFLAGS = -fPIC
SHAREDLIBCXXFLAGS = -fPIC
SHAREDLIBCPPFLAGS = -DPIC

## Additional flags when building libraries and with threads
THREADSCPPFLAGS = -D_REENTRANT
LIBCPPFLAGS =

## Compiler switch to embed a runtime search path
LD_RPATH=
LD_RPATH_PRE= -Wl,-rpath,

## Compiler switch to embed a library name

```
LD_SONAME = -Wl,-soname -Wl,$(notdir $(MIDDLE_SO_TARGET))

## Shared library options
LD_SOOPTIONS= -Wl,-Bsymbolic

## Shared object suffix
SO = so
## Non-shared intermediate object suffix
STATIC_O = ao

## Compilation
 rules
%.$(STATIC_O): $(srcdir)/%.c
 $(COMPILE.c) $(STATICCPPFLAGS) $(STATICCFLAGS) -o $@ $<
%.o: $(srcdir)/%.c
 $(COMPILE.c) $(DYNAMICCPPFLAGS) $(DYNAMICCFLAGS) -o $@ $<

%.$(STATIC_O): $(srcdir)/%.cpp
 $(COMPILE.cc) $(STATICCPPFLAGS) $(STATICCXXFLAGS) -o $@ $<
%.o: $(srcdir)/%.cpp
 $(COMPILE.cc) $(DYNAMICCPPFLAGS) $(DYNAMICCXXFLAGS) -o $@ $<


## Dependency rules
%.d: $(srcdir)/%.c
 @echo "generating dependency information for $<"
 @$(SHELL) -ec '$(GEN_DEPS.c) $< \
  | sed '\"s/\($*\)\.o[ :]*/\1.o $@ : /g'\" > $@; \
  [ -s $@ ] || rm -f $@'

%.d: $(srcdir)/%.cpp
 @echo "generating dependency information for $<"
 @$(SHELL) -ec '$(GEN_DEPS.cc) $< \
  | sed '\"s/\($*\)\.o[ :]*/\1.o $@ : /g'\" > $@; \
  [ -s $@ ] || rm -f $@'

## Versioned libraries rules

%.$(SO).$(SO_TARGET_VERSION_MAJOR): %.$(SO).$(SO_TARGET_VERSION)
 $(RM) $@ && ln -s ${<F} $@
%.$(SO): %.$(SO).$(SO_TARGET_VERSION_MAJOR)
 $(RM) $@ && ln -s ${*F}.$(SO).$(SO_TARGET_VERSION) $@

##  Bind internal references

# LDflags that pkgdata will use
BIR_LDFLAGS= -Wl,-Bsymbolic
```

# Dependencies [i.e. map files] for the final library
BIR_DEPS=

## Remove shared library 's'
STATIC_PREFIX_WHEN_USED =
STATIC_PREFIX =

## End BSD-specific setup
COPYRIGHT AND PERMISSION NOTICE (ICU 58 and later)

Copyright  1991-2017 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b) this copyright and permission notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT
 NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS
NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL
DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright holder.

---

Third-Party Software Licenses

This section contains third-party software notices and/or additional

terms for licensed third-party software components included within ICU
libraries.

1. ICU License - ICU 1.8.1 to ICU 57.1

COPYRIGHT
AND PERMISSION NOTICE

Copyright (c) 1995-2016 International Business Machines Corporation and others
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, and/or sell copies of the Software, and to permit persons
to whom the Software is furnished to do so, provided that the above
copyright notice(s) and this permission notice appear in all copies of
the Software and that both the above copyright notice(s) and this
permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT
OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER
OR
HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY
SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER
RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF
CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale, use
or other dealings in this Software without prior written authorization
of the copyright holder.

All trademarks and registered trademarks mentioned herein are the
property of their respective owners.

2. Chinese/Japanese Word Break Dictionary Data (cjdict.txt)

# The Google Chrome software developed by Google is licensed under
# the BSD license. Other software included in this distribution is
# provided under other licenses, as set forth below.
#
# The BSD License
# http://opensource.org/licenses/bsd-license.php

```
 #  Copyright (C) 2006-2008, Google Inc.
#
#  All rights reserved.
#
#  Redistribution and use in source and binary forms, with or without
# modification, are permitted provided that the following conditions are met:
#
#  Redistributions of source code must retain the above copyright notice,
# this list of conditions and the following disclaimer.
#  Redistributions in binary form must reproduce the above
# copyright notice, this list of conditions and the following
# disclaimer in the documentation and/or other materials provided with
# the distribution.
#  Neither the name of  Google Inc. nor the names of its
# contributors may be used to endorse or promote products derived from
# this software without specific prior written permission.
#
#
#  THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
# CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
# INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
# MERCHANTABILITY AND FITNESS FOR A PARTICULAR
 PURPOSE ARE
# DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
# LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
# CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
# SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
# BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
# LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
# NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
# SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
#
#
#  The word list in cjdict.txt are generated by combining three word lists
# listed below with further processing for compound word breaking. The
# frequency is generated with an iterative training against Google web
# corpora.
#
#  * Libtabe (Chinese)
#    - https://sourceforge.net/project/?group_id=1519
#    - Its license terms and conditions are shown below.
#
#  * IPADIC (Japanese)
#    - http://chasen.aist-nara.ac.jp/chasen/distribution.html
 #    - Its license terms and conditions are shown below.
#
#  ---------COPYING.libtabe ---- BEGIN--------------------
#
```

```
# /*
#  * Copyright (c) 1999 TaBE Project.
#  * Copyright (c) 1999 Pai-Hsiang Hsiao.
#  * All rights reserved.
#  *
#  * Redistribution and use in source and binary forms, with or without
#  * modification, are permitted provided that the following conditions
#  * are met:
#  *
#  * . Redistributions of source code must retain the above copyright
#  *   notice, this list of conditions and the following disclaimer.
#  * . Redistributions in binary form must reproduce the above copyright
#  *   notice, this list of conditions and the following disclaimer in
#  *   the documentation and/or other materials provided with the
#  *   distribution.
#  * . Neither the name of the TaBE Project nor the names of its
#  *   contributors may be used to endorse or promote products derived
#  *   from this software
 without specific prior written permission.
#  *
#  * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
#  * "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
#  * LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
#  * FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
#  * REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
#  * INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
#  * (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
#  * SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
#  * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
#  * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
#  * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
#  * OF THE POSSIBILITY OF SUCH DAMAGE.
#  */
#
# /*
#  * Copyright (c) 1999 Computer Systems and Communication Lab,
#  *                    Institute
 of Information Science, Academia
#      *                    Sinica. All rights reserved.
#  *
#  * Redistribution and use in source and binary forms, with or without
#  * modification, are permitted provided that the following conditions
#  * are met:
#  *
#  * . Redistributions of source code must retain the above copyright
#  *   notice, this list of conditions and the following disclaimer.
#  * . Redistributions in binary form must reproduce the above copyright
#  *   notice, this list of conditions and the following disclaimer in
```

```
#   *   the documentation and/or other materials provided with the
#   *   distribution.
#   * . Neither the name of the Computer Systems and Communication Lab
#   *   nor the names of its contributors may be used to endorse or
#   *   promote products derived from this software without specific
#   *   prior written permission.
#   *
#   * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
#   * "AS IS" AND
 ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
#   * LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
#   * FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
#   * REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
#   * INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
#   * (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
#   * SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
#   * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
#   * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
#   * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
#   * OF THE POSSIBILITY OF SUCH DAMAGE.
#   */
#
#  Copyright 1996 Chih-Hao Tsai @ Beckman Institute,
#     University of Illinois
#  c-tsai4@uiuc.edu  http://casper.beckman.uiuc.edu/~c-tsai4
#
#  ----------------COPYING.libtabe-----END--------------------------------
#
#
#  ----------------COPYING.ipadic-----BEGIN-------------------------------
 #
#  Copyright 2000, 2001, 2002, 2003 Nara Institute of Science
#  and Technology.  All Rights Reserved.
#
#  Use, reproduction, and distribution of this software is permitted.
#  Any copy of this software, whether in its original form or modified,
#  must include both the above copyright notice and the following
#  paragraphs.
#
#  Nara Institute of Science and Technology (NAIST),
#  the copyright holders, disclaims all warranties with regard to this
#  software, including all implied warranties of merchantability and
#  fitness, in no event shall NAIST be liable for
#  any special, indirect or consequential damages or any damages
#  whatsoever resulting from loss of use, data or profits, whether in an
#  action of contract, negligence or other tortuous action, arising out
#  of or in connection with the use or performance of this software.
#
```

# A large portion of the dictionary entries
# originate from ICOT Free
Software. The following conditions for ICOT
# Free Software applies to the current dictionary as well.
#
# Each User may also freely distribute the Program, whether in its
# original form or modified, to any third party or parties, PROVIDED
# that the provisions of Section 3 ("NO WARRANTY") will ALWAYS appear
# on, or be attached to, the Program, which is distributed substantially
# in the same form as set out herein and that such intended
# distribution, if actually made, will neither violate or otherwise
# contravene any of the laws and regulations of the countries having
# jurisdiction over the User or the intended distribution itself.
#
# NO WARRANTY
#
# The program was produced on an experimental basis in the course of the
# research and development conducted during the project and is provided
# to users as so produced on an experimental basis. Accordingly, the
# program is provided without any warranty whatsoever, whether express,
# implied,
statutory or otherwise. The term "warranty" used herein
# includes, but is not limited to, any warranty of the quality,
# performance, merchantability and fitness for a particular purpose of
# the program and the nonexistence of any infringement or violation of
# any right of any third party.
#
# Each user of the program will agree and understand, and be deemed to
# have agreed and understood, that there is no warranty whatsoever for
# the program and, accordingly, the entire risk arising from or
# otherwise connected with the program is assumed by the user.
#
# Therefore, neither ICOT, the copyright holder, or any other
# organization that participated in or was otherwise related to the
# development of the program and their respective officials, directors,
# officers and other employees shall be held liable for any and all
# damages, including, without limitation, general, special, incidental
# and consequential damages, arising out of or otherwise in
connection
# with the use or inability to use the program or any product, material
# or result produced or otherwise obtained by using the program,
# regardless of whether they have been advised of, or otherwise had
# knowledge of, the possibility of such damages at any time during the
# project or thereafter. Each user will be deemed to have agreed to the
# foregoing by his or her commencement of use of the program. The term
# "use" as used herein includes, but is not limited to, the use,
# modification, copying and distribution of the program and the
# production of secondary products from the program.

#
#  In the case where the program, whether in its original form or
#  modified, was distributed or delivered to or received by a user from
#  any person, organization or entity other than ICOT, unless it makes or
#  grants independently of ICOT any specific warranty to the user in
#  writing, such person, organization or entity, will also be exempted
#  from
 and not be held liable to the user for any such damages as noted
#  above as far as the program is concerned.
#
#  ----------COPYING.ipadic-----END----------

3. Lao Word Break Dictionary Data (laodict.txt)

#  Copyright (c) 2013 International Business Machines Corporation
#  and others. All Rights Reserved.
#
# Project: http://code.google.com/p/lao-dictionary/
# Dictionary: http://lao-dictionary.googlecode.com/git/Lao-Dictionary.txt
# License: http://lao-dictionary.googlecode.com/git/Lao-Dictionary-LICENSE.txt
#             (copied below)
#
#  This file is derived from the above dictionary, with slight
#  modifications.
#  ----------------------------------------------------------------------
#  Copyright (C) 2013 Brian Eugene Wilson, Robert Martin Campbell.
#  All rights reserved.
#
#  Redistribution and use in source and binary forms, with or without
#  modification,
#  are permitted provided that the following conditions are met:
 #
#
# Redistributions of source code must retain the above copyright notice, this
#  list of conditions and the following disclaimer. Redistributions in
#  binary form must reproduce the above copyright notice, this list of
#  conditions and the following disclaimer in the documentation and/or
#  other materials provided with the distribution.
#
#
# THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
# "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
# LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
# FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
# COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
# INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
# (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
# SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)

# HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
# STRICT LIABILITY, OR
TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
# ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
# OF THE POSSIBILITY OF SUCH DAMAGE.
# ----------------------------------------------------------------------

4. Burmese Word Break Dictionary Data (burmesedict.txt)

# Copyright (c) 2014 International Business Machines Corporation
# and others. All Rights Reserved.
#
# This list is part of a project hosted at:
# github.com/kanyawtech/myanmar-karen-word-lists
#
# ----------------------------------------------------------------------
# Copyright (c) 2013, LeRoy Benjamin Sharon
# All rights reserved.
#
# Redistribution and use in source and binary forms, with or without
# modification, are permitted provided that the following conditions
# are met: Redistributions of source code must retain the above
# copyright notice, this list of conditions and the following
# disclaimer. Redistributions in binary form must reproduce the
# above copyright
notice, this list of conditions and the following
# disclaimer in the documentation and/or other materials provided
# with the distribution.
#
# Neither the name Myanmar Karen Word Lists, nor the names of its
# contributors may be used to endorse or promote products derived
# from this software without specific prior written permission.
#
# THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
# CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
# INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
# MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
# DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS
# BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
# EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
# TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
# DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
# ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR
# TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF
# THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
# SUCH DAMAGE.
# ----------------------------------------------------------------------

5. Time Zone Database

ICU uses the public domain data and code derived from Time Zone Database for its time zone support. The ownership of the TZ database is explained in BCP 175: Procedure for Maintaining the Time Zone Database section 7.

# 7. Database Ownership
#
# The TZ database itself is not an IETF Contribution or an IETF
# document. Rather it is a pre-existing and regularly updated work
# that is in the public domain, and is intended to remain in the
# public domain. Therefore, BCPs 78 [RFC5378] and 79 [RFC3979] do
# not apply to the TZ Database or contributions that individuals make
# to it. Should any claims be made and substantiated against the TZ
# Database, the organization that is providing
the IANA
# Considerations defined in this RFC, under the memorandum of
# understanding with the IETF, currently ICANN, may act in accordance
# with all competent court orders. No ownership claims will be made
# by ICANN or the IETF Trust on the database or the code. Any person
# making a contribution to the database or code waives all rights to
# future claims in that contribution or in the TZ Database.

# 1.226 jackson 2.13.2

## 1.226.1 Available under license :

Camel :: Jackson
Copyright 2007-2014 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).
=========================================================================
== NOTICE file corresponding to the section 4 d of ==
== the Apache License, Version 2.0, ==
== in this case for the Apache Camel distribution. ==
=========================================================================

This product includes software developed by
The Apache Software Foundation (http://www.apache.org/).

Please read the different LICENSE files present in the licenses directory of
this distribution.
/**
* Licensed to the Apache Software Foundation (ASF) under one or more

* contributor license agreements.  See the NOTICE file distributed with
* this work for additional information regarding copyright ownership.
* The ASF licenses this file to You under the Apache License, Version 2.0
* (the "License"); you may not use this file except in compliance with
* the License.  You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,

and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable

by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only

on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.227 jersey-client 2.35

## 1.227.1 Available under license :

```
/*
* Copyright (c) 2012, 2019 Oracle and/or its affiliates. All rights reserved.
*
* This program and the accompanying materials are made available under the
* terms of the Eclipse Public License v. 2.0, which is available at
* http://www.eclipse.org/legal/epl-2.0.
*
* This Source Code may also be made available under the following Secondary
* Licenses when the conditions for such availability set forth in the
* Eclipse Public License v. 2.0 are satisfied: GNU General Public License,
* version 2 with the GNU Classpath Exception, which is available at
```

* https://www.gnu.org/software/classpath/license.html.
*
* SPDX-License-Identifier: EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0
*/
# Notice for Jersey
This content is produced and maintained by the Eclipse Jersey project.

*  Project home: https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Public License v. 2.0 which is available at
http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made
available under the following Secondary Licenses when the conditions for such
availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU
General Public License, version 2 with the GNU Classpath Exception which is
available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:
 EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code
The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey

## Third-party Content

Angular JS, v1.6.6
* License MIT (http://www.opensource.org/licenses/mit-license.php)
* Project: http://angularjs.org
* Coyright: (c) 2010-2017 Google, Inc.

aopalliance Version 1
* License: all the source code provided by AOP Alliance is Public Domain.
* Project: http://aopalliance.sourceforge.net
* Copyright: Material in the public domain is not protected by copyright

Bean Validation API 2.0.2
* License: Apache License, 2.0
* Project: http://beanvalidation.org/1.1/
* Copyright: 2009, Red Hat, Inc. and/or its affiliates, and individual contributors
* by the @authors tag.

Hibernate Validator CDI, 6.1.2.Final
* License: Apache License, 2.0
* Project: https://beanvalidation.org/
* Repackaged in org.glassfish.jersey.server.validation.internal.hibernate

Bootstrap
v3.3.7
* License: MIT license (https://github.com/twbs/bootstrap/blob/master/LICENSE)
* Project: http://getbootstrap.com
* Copyright: 2011-2016 Twitter, Inc

Google Guava Version 18.0
* License: Apache License, 2.0
* Copyright (C) 2009 The Guava Authors

javax.inject Version: 1
* License: Apache License, 2.0
* Copyright (C) 2009 The JSR-330 Expert Group

Javassist Version 3.25.0-GA
* License: Apache License, 2.0
* Project: http://www.javassist.org/
* Copyright (C) 1999- Shigeru Chiba. All Rights Reserved.

Jackson JAX-RS Providers Version 2.10.1
* License: Apache License, 2.0
* Project: https://github.com/FasterXML/jackson-jaxrs-providers
* Copyright: (c) 2009-2011 FasterXML, LLC. All rights reserved unless otherwise indicated.

jQuery v1.12.4
* License: jquery.org/license
* Project: jquery.org
* Copyright: (c) jQuery Foundation

jQuery Barcode plugin 0.3
* License: MIT & GPL (http://www.opensource.org/licenses/mit-license.php &
http://www.gnu.org/licenses/gpl.html)
*
Project: http://www.pasella.it/projects/jQuery/barcode
* Copyright: (c) 2009 Antonello Pasella antonello.pasella@gmail.com

JSR-166 Extension - JEP 266

* License: CC0
* No copyright
* Written by Doug Lea with assistance from members of JCP JSR-166 Expert Group and released to the public domain, as explained at http://creativecommons.org/publicdomain/zero/1.0/

KineticJS, v4.7.1
* License: MIT license (http://www.opensource.org/licenses/mit-license.php)
* Project: http://www.kineticjs.com, https://github.com/ericdrowell/KineticJS
* Copyright: Eric Rowell

org.objectweb.asm Version 8.0
* License: Modified BSD (http://asm.objectweb.org/license.html)
* Copyright (c) 2000-2011 INRIA, France Telecom. All rights reserved.

org.osgi.core version 6.0.0
* License: Apache License, 2.0
* Copyright (c) OSGi Alliance (2005, 2008). All Rights Reserved.

org.glassfish.jersey.server.internal.monitoring.core
* License: Apache License, 2.0
* Copyright
(c) 2015-2018 Oracle and/or its affiliates. All rights reserved.
* Copyright 2010-2013 Coda Hale and Yammer, Inc.

W3.org documents
* License: W3C License
* Copyright: Copyright (c) 1994-2001 World Wide Web Consortium, (Massachusetts Institute of Technology, Institut National de Recherche en Informatique et en Automatique, Keio University). All Rights Reserved. http://www.w3.org/Consortium/Legal/
# Eclipse Public License - v 2.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial content
Distributed under this Agreement, and

b) in the case of each subsequent Contributor:
i) changes to the Program, and
ii) additions to the Program;
where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution "originates" from a Contributor if it was added to the Program by

such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include changes or additions to the Program that are not Modified Works.

"Contributor" means any person or entity that Distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions Distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

"Derivative Works" shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

"Modified Works" shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity any new file in Source Code form that contains any contents of the Program. Modified Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

"Distribute" means the acts of a) distributing or b) making available in any manner that enables the transfer of a copy.

"Source Code" means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Secondary License" means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free

copyright
license to reproduce, prepare Derivative Works of, publicly display, publicly perform, Distribute and sublicense the Contribution of such Contributor, if any, and such Derivative Works.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in Source Code or other form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands
that although each Contributor grants the
licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to Distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant

the copyright license set forth in this Agreement.

e) Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).

3. REQUIREMENTS

3.1 If a Contributor Distributes the Program in any form, then:

a) the Program must also be made available as Source Code, in

accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and

b) the Contributor may Distribute the Program under a license different than this Agreement, provided that such license:

i) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) does not attempt to limit or alter the recipients' rights in the Source Code under section 3.2; and

iv) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.

3.2 When the Program is Distributed as Source Code:

a) it must be made available under this Agreement, or if the Program (i) is combined with other material in a separate file or files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available under the terms of such Secondary Licenses, and

b) a copy of this Agreement must be included with each copy of the Program.

3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ("notices") contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this

license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be

Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its Contributions) under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel
or otherwise. All rights in the Program not expressly granted under this Agreement are reserved. Nothing in this Agreement is intended to be enforceable by any entity that is not a Contributor or Recipient. No third-party beneficiary rights are created under this Agreement.

Exhibit A - Form of Secondary Licenses Notice

"This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License, v. 2.0 are satisfied: {name license(s), version(s), and exceptions or additional permissions here}."

Simply including a copy of this Agreement, including this Exhibit A is not sufficient to license the Source Code under Secondary Licenses.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely
to
look for such a notice.

You may add additional accurate notices of copyright ownership.

---

## The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor
Boston, MA 02110-1335
USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is

intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.)
You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you
must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at
all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted,
and the output from the Program is
covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications
or work under the terms of Section 1 above, provided
that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a

warranty) and that users may redistribute the program under these conditions, and telling the user how
to view a copy of this License.
(Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you;
rather, the intent is to
exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of
physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in

accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues),

conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular
circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software

Foundation. If the Program does not specify a version
number of this License, you may choose any version ever published by the
Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the
author to ask for permission. For software which is copyrighted by the
Free Software Foundation, write to the Free Software Foundation; we
sometimes make exceptions for this. Our decision will be guided by the
two goals of preserving the free status of all derivatives of our free
software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND,
EITHER
EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE
ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH
YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL
NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR
DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM
(INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED
INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF
THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR
OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF
TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to
attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

One line to give the program's name and a brief idea of what it does.
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This
program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1335 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type
`show w'. This is free software, and you are welcome to redistribute
it under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the
appropriate parts of the General Public License. Of course, the commands
you use may be called something other than `show w' and `show c'; they
could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
program `Gnomovision' (which makes passes at compilers) written by
James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you

may consider it more useful to permit linking proprietary applications
with the library. If this is what you want to do, use the GNU Library
General Public License instead of this License.

---

## CLASSPATH EXCEPTION

Linking this library statically or dynamically with other modules is
making a combined work based on this library. Thus, the terms and
conditions of the GNU General Public License version 2 cover the whole
combination.

As a special exception, the copyright holders of this library give you
permission to link this library with independent modules to produce an
executable, regardless of the license terms of these independent
modules, and to copy and distribute the resulting executable under
terms of your choice, provided that you also meet, for each linked
independent module, the terms and conditions of the license of that
module. An independent module is a module which is not derived from or
based on this library. If you modify this library, you may extend this
exception to your version of the library, but you are not obligated to
do so. If
you do not wish to do so, delete this exception statement
from your version.

# 1.228 jersey 2.35

## 1.228.1 Available under license :

# Notice for Jersey Json Jackson module
This content is produced and maintained by the Eclipse Jersey project.

* https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Public License v. 2.0 which is available at

http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU General Public License, version 2 with the GNU Classpath Exception which is available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:
EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code
The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey

## Third-party Content

Jackson JAX-RS Providers version 2.10.1
* License: Apache License, 2.0
* Project: https://github.com/FasterXML/jackson-jaxrs-providers
* Copyright: (c) 2009-2011 FasterXML, LLC. All rights reserved unless otherwise indicated.
/*
* Copyright (c) 2012, 2019 Oracle and/or its affiliates. All rights reserved.
*
* This program and the accompanying materials are made available under the
* terms of the Eclipse Public License v. 2.0, which is available at
* http://www.eclipse.org/legal/epl-2.0.
*
* This Source Code may also be made available under the following Secondary
* Licenses when the conditions for such availability set forth in the
* Eclipse Public License v. 2.0 are satisfied: GNU General Public License,
* version 2 with the GNU Classpath Exception, which is available at
* https://www.gnu.org/software/classpath/license.html.
*
* SPDX-License-Identifier: EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0
*/
/*
* Copyright (c) YYYY Oracle and/or its affiliates. All rights reserved.
*
* This program and the accompanying materials are made available under the
* terms of the Eclipse Distribution License v. 1.0, which is available at
* http://www.eclipse.org/org/documents/edl-v10.php.
*
* SPDX-License-Identifier: BSD-3-Clause
*/
# Notice for Jersey
This content is produced and maintained by the Eclipse Jersey project.

*  Project home: https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For more information regarding authorship of content, please consult the listed source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU General Public License, version 2 with the GNU Classpath Exception which is available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:
EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code
The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey

## Third-party Content

Angular JS, v1.6.6
* License MIT (http://www.opensource.org/licenses/mit-license.php)
* Project: http://angularjs.org
* Coyright: (c) 2010-2017 Google, Inc.

aopalliance Version 1
* License: all the source code provided by AOP Alliance is Public Domain.
* Project: http://aopalliance.sourceforge.net
* Copyright: Material in the public domain is not protected by copyright

Bean Validation API 2.0.2
* License: Apache License, 2.0
* Project: http://beanvalidation.org/1.1/
* Copyright: 2009, Red Hat, Inc. and/or its affiliates, and individual contributors
* by the @authors tag.

Hibernate Validator CDI, 6.1.2.Final
* License: Apache License, 2.0

* Project: https://beanvalidation.org/
* Repackaged in org.glassfish.jersey.server.validation.internal.hibernate

Bootstrap
v3.3.7
* License: MIT license (https://github.com/twbs/bootstrap/blob/master/LICENSE)
* Project: http://getbootstrap.com
* Copyright: 2011-2016 Twitter, Inc

Google Guava Version 18.0
* License: Apache License, 2.0
* Copyright (C) 2009 The Guava Authors

javax.inject Version: 1
* License: Apache License, 2.0
* Copyright (C) 2009 The JSR-330 Expert Group

Javassist Version 3.25.0-GA
* License: Apache License, 2.0
* Project: http://www.javassist.org/
* Copyright (C) 1999- Shigeru Chiba. All Rights Reserved.

Jackson JAX-RS Providers Version 2.10.1
* License: Apache License, 2.0
* Project: https://github.com/FasterXML/jackson-jaxrs-providers
* Copyright: (c) 2009-2011 FasterXML, LLC. All rights reserved unless otherwise indicated.

jQuery v1.12.4
* License: jquery.org/license
* Project: jquery.org
* Copyright: (c) jQuery Foundation

jQuery Barcode plugin 0.3
* License: MIT & GPL (http://www.opensource.org/licenses/mit-license.php &
http://www.gnu.org/licenses/gpl.html)
*
Project: http://www.pasella.it/projects/jQuery/barcode
* Copyright: (c) 2009 Antonello Pasella antonello.pasella@gmail.com

JSR-166 Extension - JEP 266
* License: CC0
* No copyright
* Written by Doug Lea with assistance from members of JCP JSR-166 Expert Group and released to the public domain, as explained at http://creativecommons.org/publicdomain/zero/1.0/

KineticJS, v4.7.1
* License: MIT license (http://www.opensource.org/licenses/mit-license.php)
* Project: http://www.kineticjs.com, https://github.com/ericdrowell/KineticJS

* Copyright: Eric Rowell

org.objectweb.asm Version 8.0
* License: Modified BSD (http://asm.objectweb.org/license.html)
* Copyright (c) 2000-2011 INRIA, France Telecom. All rights reserved.

org.osgi.core version 6.0.0
* License: Apache License, 2.0
* Copyright (c) OSGi Alliance (2005, 2008). All Rights Reserved.

org.glassfish.jersey.server.internal.monitoring.core
* License: Apache License, 2.0
* Copyright
(c) 2015-2018 Oracle and/or its affiliates. All rights reserved.
* Copyright 2010-2013 Coda Hale and Yammer, Inc.

W3.org documents
* License: W3C License
* Copyright: Copyright (c) 1994-2001 World Wide Web Consortium, (Massachusetts Institute of Technology, Institut National de Recherche en Informatique et en Automatique, Keio University). All Rights Reserved.
http://www.w3.org/Consortium/Legal/
/*
* Copyright (c) YYYY Oracle and/or its affiliates. All rights reserved.
*
* This program and the accompanying materials are made available under the
* terms of the Eclipse Public License v. 2.0, which is available at
* http://www.eclipse.org/legal/epl-2.0.
*
* This Source Code may also be made available under the following Secondary
* Licenses when the conditions for such availability set forth in the
* Eclipse Public License v. 2.0 are satisfied: GNU General Public License,
* version 2 with the GNU Classpath Exception, which is available at
* https://www.gnu.org/software/classpath/license.html.
*
* SPDX-License-Identifier: EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0
*/
# Notice for Jersey Core Common module
This content is produced and maintained by the Eclipse Jersey project.

* https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For

more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Public License v. 2.0 which is available at
http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made
available under the following Secondary Licenses when the conditions for such
availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU
General Public License, version 2 with the GNU Classpath Exception which is
available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:
EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code
The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey

## Third-party Content

Google Guava Version 18.0
* License: Apache License, 2.0
* Copyright: (C) 2009 The Guava Authors

JSR-166 Extension - JEP 266
* License: Creative Commons 1.0 (CC0)
* No copyright
* Written by Doug Lea with assistance from members of JCP JSR-166
* Expert Group and released to the public domain, as explained at
* http://creativecommons.org/publicdomain/zero/1.0/
# Notice for Jersey
This content is produced and maintained by the Eclipse Jersey project.

*  Project home: https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Distribution License v. 1.0 which is available at
https://www.eclipse.org/org/documents/edl-v10.php.

SPDX-License-Identifier: BSD-3-Clause

## Source Code
The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey/examples

## Third-party Content

Angular JS, v1.6.6
* License MIT (http://www.opensource.org/licenses/mit-license.php)
* Project: http://angularjs.org
* Coyright: (c) 2010-2017 Google,
Inc.

aopalliance Version 1
* License: all the source code provided by AOP Alliance is Public Domain.
* Project: http://aopalliance.sourceforge.net
* Copyright: Material in the public domain is not protected by copyright

Bean Validation API 2.0.2
* License: Apache License, 2.0
* Project: http://beanvalidation.org/1.1/
* Copyright: 2009, Red Hat, Inc. and/or its affiliates, and individual contributors
* by the @authors tag.

Bootstrap v3.3.7
* License: MIT license (https://github.com/twbs/bootstrap/blob/master/LICENSE)
* Project: http://getbootstrap.com
* Copyright: 2011-2016 Twitter, Inc

Google Guava Version 18.0
* License: Apache License, 2.0
* Copyright (C) 2009 The Guava Authors

javax.inject Version: 1
* License: Apache License, 2.0
* Copyright (C) 2009 The JSR-330 Expert Group

Javassist Version 3.25.0-GA
* License: Apache License, 2.0
* Project: http://www.javassist.org/
* Copyright (C) 1999- Shigeru Chiba. All Rights Reserved.

Jackson JAX-RS Providers Version 2.9.9
* License:
Apache License, 2.0
* Project: https://github.com/FasterXML/jackson-jaxrs-providers
* Copyright: (c) 2009-2011 FasterXML, LLC. All rights reserved unless otherwise indicated.

jQuery v1.12.4
* License: jquery.org/license
* Project: jquery.org
* Copyright: (c) jQuery Foundation

jQuery Barcode plugin 0.3
* License: MIT & GPL (http://www.opensource.org/licenses/mit-license.php &
http://www.gnu.org/licenses/gpl.html)
* Project: http://www.pasella.it/projects/jQuery/barcode
* Copyright: (c) 2009 Antonello Pasella antonello.pasella@gmail.com

JSR-166 Extension - JEP 266
* License: CC0
* No copyright
* Written by Doug Lea with assistance from members of JCP JSR-166 Expert Group and released to the public domain, as explained at http://creativecommons.org/publicdomain/zero/1.0/

KineticJS, v4.7.1
* License: MIT license (http://www.opensource.org/licenses/mit-license.php)
* Project: http://www.kineticjs.com, https://github.com/ericdrowell/KineticJS
* Copyright: Eric Rowell

org.objectweb.asm
Version 7.2
* License: Modified BSD (http://asm.objectweb.org/license.html)
* Copyright (c) 2000-2011 INRIA, France Telecom. All rights reserved.

org.osgi.core version 6.0.0
* License: Apache License, 2.0
* Copyright (c) OSGi Alliance (2005, 2008). All Rights Reserved.

org.glassfish.jersey.server.internal.monitoring.core
* License: Apache License, 2.0
* Copyright (c) 2015-2018 Oracle and/or its affiliates. All rights reserved.
* Copyright 2010-2013 Coda Hale and Yammer, Inc.

W3.org documents
* License: W3C License
* Copyright: Copyright (c) 1994-2001 World Wide Web Consortium, (Massachusetts Institute of Technology, Institut National de Recherche en Informatique et en Automatique, Keio University). All Rights Reserved. http://www.w3.org/Consortium/Legal/

# Notice for Jersey Bean Validation module
This content is produced and maintained by the Eclipse Jersey project.

* https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Public License v. 2.0 which is available at
http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made
available under the following Secondary Licenses when the conditions for such
availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU
General Public License, version 2 with the GNU Classpath Exception which is
available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:
EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code
The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey

## Third-party Content

Hibernate Validator CDI, 6.1.2.Final
* License: Apache License, 2.0
* Project: https://beanvalidation.org/
* Repackaged in org.glassfish.jersey.server.validation.internal.hibernate

Copyright (c) 2018 Oracle and/or its affiliates. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

- Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

- Neither the name of the Eclipse Foundation, Inc. nor the names of its
  contributors may be used to endorse or promote products derived
  from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# Notice for Jersey Core Server module
This content is produced and maintained by the Eclipse Jersey project.

* https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For more information regarding authorship of content, please consult the listed source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms of the Eclipse Public License v. 2.0 which is available at http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU General Public License, version 2 with the GNU Classpath Exception which is available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:
EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey

## Third-party Content

org.glassfish.jersey.server.internal.monitoring.core
* License: Apache License, 2.0
* Copyright (c) 2015-2018 Oracle and/or its affiliates. All rights reserved.
* Copyright 2010-2013 Coda Hale and Yammer, Inc.

org.objectweb.asm Version 8.0
* License: Modified BSD (http://asm.objectweb.org/license.html)
* Copyright: (c) 2000-2011 INRIA, France Telecom. All rights reserved.

W3.org documents
* License: W3C License
* Copyright: Copyright (c) 1994-2001 World Wide Web Consortium, (Massachusetts Institute of Technology, Institut National de Recherche en Informatique et en Automatique, Keio University). All Rights Reserved. http://www.w3.org/Consortium/Legal/
# Eclipse Public License - v 2.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial content
Distributed under this Agreement, and

b) in the case of each subsequent Contributor:
i) changes to the Program, and
ii) additions to the Program;
where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution "originates" from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include changes or additions to the Program that are not Modified Works.

"Contributor" means any person or entity that Distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone

or when combined with the Program.

"Program" means the Contributions Distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

"Derivative Works" shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

"Modified Works" shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity any new file in Source Code form that
contains any contents of the Program. Modified
Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

"Distribute" means the acts of a) distributing or b) making available in any manner that enables the transfer of a copy.

"Source Code" means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Secondary License" means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free
copyright
license to reproduce, prepare Derivative Works of, publicly display, publicly perform, Distribute and sublicense the Contribution of such Contributor, if any, and such Derivative Works.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor,

if any, in Source Code or other form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands
that although each Contributor grants the
licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to Distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant

the copyright license set forth in this Agreement.

e) Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).

3. REQUIREMENTS

3.1 If a Contributor Distributes the Program in any form, then:

a) the Program must also be made available as Source Code, in accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and

b) the Contributor may Distribute the Program under a license different than this Agreement, provided that such license:

i) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) does not attempt to limit or alter the recipients' rights in the Source Code under section 3.2; and

iv) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.

3.2 When the Program is Distributed as Source Code:

a) it must be made available under this Agreement, or if the Program (i) is combined with other material in a separate file or files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available under the terms of such Secondary Licenses, and

b) a copy of this Agreement must be included with each copy of the Program.

3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ("notices") contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses,

damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of
such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS
AGREEMENT, AND TO THE EXTENT
PERMITTED BY APPLICABLE LAW, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)

ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its Contributions) under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication,

estoppel
or otherwise. All rights in the Program not expressly granted
under this Agreement are reserved. Nothing in this Agreement is intended
to be enforceable by any entity that is not a Contributor or Recipient.
No third-party beneficiary rights are created under this Agreement.

Exhibit A - Form of Secondary Licenses Notice

"This Source Code may also be made available under the following
Secondary Licenses when the conditions for such availability set forth
in the Eclipse Public License, v. 2.0 are satisfied: {name license(s),
version(s), and exceptions or additional permissions here}."

Simply including a copy of this Agreement, including this Exhibit A
is not sufficient to license the Source Code under Secondary Licenses.

If it is not possible or desirable to put the notice in a particular
file, then You may include the notice in a location (such as a LICENSE
file in a relevant directory) where a recipient would be likely
to
look for such a notice.

You may add additional accurate notices of copyright ownership.

---

## The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor
Boston, MA 02110-1335
USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to
share and change it. By contrast, the GNU General Public License is
intended to guarantee your freedom to share and change free software--to
make sure the software is free for all its users. This General Public
License applies to most of the Free Software Foundation's software and
to any other program whose authors commit to using it. (Some other Free
Software Foundation software is covered by the GNU Library General
Public License instead.)
You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you
must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at
all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language.

(Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted,
and the output from the Program is
covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications
or work under the terms of Section 1 above, provided
that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how
to view a copy of this License.
(Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If

identifiable sections of that work are not derived from the Program, and
can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based on
the Program, the distribution of the whole must be on the terms of this
License, whose permissions for other licensees extend to the entire
whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you;
rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of a
storage or distribution medium does not bring the other work under the
scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections 1
and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your cost
of
physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to
distribute corresponding source code. (This alternative is allowed
only for noncommercial distribution and only if you received the
program in object code or executable form with such an offer, in
accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source code
means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to control
compilation and installation of the executable. However, as a special
exception, the source code distributed

need not include anything that is
normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have
their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible
for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you

could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular
circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we

sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER
EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF
TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

> One line to give the program's name and a brief idea of what it does.
> Copyright (C) <year> <name of author>
>
> This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This
program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1335 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type
`show w'. This is free software, and you are welcome to redistribute
it under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the
appropriate parts of the General Public License. Of course, the commands
you use may be called something other than `show w' and `show c'; they
could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
program `Gnomovision' (which makes passes at compilers) written by
James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications
with the library. If this is what you want to do, use the GNU Library
General Public License instead of this License.

---

## CLASSPATH EXCEPTION

Linking this library statically or dynamically with other modules is
making a combined work based on this library.  Thus, the terms and
conditions of the GNU General Public License version 2 cover the whole
combination.

As a special exception, the copyright holders of this library give you
permission to link this library with independent modules to produce an
executable, regardless of the license terms of these independent
modules, and to copy and distribute the resulting executable under
terms of your choice, provided that you also meet, for each linked
independent module, the terms and conditions of the license of that
module.  An independent module is a module which is not derived from or
based on this library.  If you modify this library, you may extend this
exception to your version of the library, but you are not obligated to
do so.  If
you do not wish to do so, delete this exception statement
from your version.

# 1.229 jersey-common 2.35

## 1.229.1 Available under license :

# Notice for Jersey Core Common module
This content is produced and maintained by the Eclipse Jersey project.

* https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Public License v. 2.0 which is available at
http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made
available under the following Secondary Licenses when the conditions for such
availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU
General Public License, version 2 with the GNU Classpath Exception which is
available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier:

EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code
The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey

## Third-party Content

Google Guava Version 18.0
* License: Apache License, 2.0
* Copyright: (C) 2009 The Guava Authors

JSR-166 Extension - JEP 266
* License: Creative Commons 1.0 (CC0)
* No copyright
* Written by Doug Lea with assistance from members of JCP JSR-166
* Expert Group and released to the public domain, as explained at
* http://creativecommons.org/publicdomain/zero/1.0/
# Notice for Jersey
This content is produced and maintained by the Eclipse Jersey project.

*  Project home: https://projects.eclipse.org/projects/ee4j.jersey

## Trademarks
Eclipse Jersey is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Public License v. 2.0 which is available at
http://www.eclipse.org/legal/epl-2.0. This Source Code may also be made
available under the following Secondary Licenses when the conditions for such
availability set forth in the Eclipse Public License v. 2.0 are satisfied: GNU
General Public License, version 2 with the GNU Classpath Exception which is
available at https://www.gnu.org/software/classpath/license.html.

SPDX-License-Identifier: EPL-2.0
 OR GPL-2.0 WITH Classpath-exception-2.0

## Source Code
The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jersey

## Third-party Content

Angular JS, v1.6.6
* License MIT (http://www.opensource.org/licenses/mit-license.php)
* Project: http://angularjs.org
* Coyright: (c) 2010-2017 Google, Inc.

aopalliance Version 1
* License: all the source code provided by AOP Alliance is Public Domain.
* Project: http://aopalliance.sourceforge.net
* Copyright: Material in the public domain is not protected by copyright

Bean Validation API 2.0.2
* License: Apache License, 2.0
* Project: http://beanvalidation.org/1.1/
* Copyright: 2009, Red Hat, Inc. and/or its affiliates, and individual contributors
* by the @authors tag.

Hibernate Validator CDI, 6.1.2.Final
* License: Apache License, 2.0
* Project: https://beanvalidation.org/
* Repackaged in org.glassfish.jersey.server.validation.internal.hibernate

Bootstrap v3.3.7
* License: MIT license (https://github.com/twbs/bootstrap/blob/master/LICENSE)
*
Project: http://getbootstrap.com
* Copyright: 2011-2016 Twitter, Inc

Google Guava Version 18.0
* License: Apache License, 2.0
* Copyright (C) 2009 The Guava Authors

javax.inject Version: 1
* License: Apache License, 2.0
* Copyright (C) 2009 The JSR-330 Expert Group

Javassist Version 3.25.0-GA
* License: Apache License, 2.0
* Project: http://www.javassist.org/
* Copyright (C) 1999- Shigeru Chiba. All Rights Reserved.

Jackson JAX-RS Providers Version 2.10.1
* License: Apache License, 2.0
* Project: https://github.com/FasterXML/jackson-jaxrs-providers

* Copyright: (c) 2009-2011 FasterXML, LLC. All rights reserved unless otherwise indicated.

jQuery v1.12.4
* License: jquery.org/license
* Project: jquery.org
* Copyright: (c) jQuery Foundation

jQuery Barcode plugin 0.3
* License: MIT & GPL (http://www.opensource.org/licenses/mit-license.php &
http://www.gnu.org/licenses/gpl.html)
* Project: http://www.pasella.it/projects/jQuery/barcode
*
Copyright: (c) 2009 Antonello Pasella antonello.pasella@gmail.com

JSR-166 Extension - JEP 266
* License: CC0
* No copyright
* Written by Doug Lea with assistance from members of JCP JSR-166 Expert Group and released to the public domain, as explained at http://creativecommons.org/publicdomain/zero/1.0/

KineticJS, v4.7.1
* License: MIT license (http://www.opensource.org/licenses/mit-license.php)
* Project: http://www.kineticjs.com, https://github.com/ericdrowell/KineticJS
* Copyright: Eric Rowell

org.objectweb.asm Version 8.0
* License: Modified BSD (http://asm.objectweb.org/license.html)
* Copyright (c) 2000-2011 INRIA, France Telecom. All rights reserved.

org.osgi.core version 6.0.0
* License: Apache License, 2.0
* Copyright (c) OSGi Alliance (2005, 2008). All Rights Reserved.

org.glassfish.jersey.server.internal.monitoring.core
* License: Apache License, 2.0
* Copyright (c) 2015-2018 Oracle and/or its affiliates. All rights reserved.
* Copyright 2010-2013 Coda Hale and Yammer,
Inc.

W3.org documents
* License: W3C License
* Copyright: Copyright (c) 1994-2001 World Wide Web Consortium, (Massachusetts Institute of Technology, Institut National de Recherche en Informatique et en Automatique, Keio University). All Rights Reserved.
http://www.w3.org/Consortium/Legal/
# Eclipse Public License - v 2.0

> THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION

OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial content
Distributed under this Agreement, and

b) in the case of each subsequent Contributor:
i) changes to the Program, and
ii) additions to the Program;
where such changes and/or additions to the Program originate from and are Distributed by that particular Contributor. A Contribution "originates" from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include changes or additions to the Program that are not Modified Works.

"Contributor" means any person or entity
that Distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions Distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement or any Secondary License (as applicable), including Contributors.

"Derivative Works" shall mean any work, whether in Source Code or other form, that is based on (or derived from) the Program and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship.

"Modified Works" shall mean any work in Source Code or other form that results from an addition to, deletion from, or modification of the contents of the Program, including, for purposes of clarity any new file in Source Code form that
contains any contents of the Program. Modified
Works shall not include works that contain only declarations, interfaces, types, classes, structures, or files of the Program solely in each case in order to link to, bind by name, or subclass the Program or Modified Works thereof.

"Distribute" means the acts of a) distributing or b) making available

in any manner that enables the transfer of a copy.

"Source Code" means the form of a Program preferred for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Secondary License" means either the GNU General Public License, Version 2.0, or any later versions of that license, including any exceptions or additional permissions as identified by the initial Contributor.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, Distribute and sublicense the Contribution of such Contributor, if any, and such Derivative Works.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in Source Code or other form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to Distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has

sufficient copyright rights in its Contribution, if any, to grant

the copyright license set forth in this Agreement.

e) Notwithstanding the terms of any Secondary License, no Contributor makes additional grants to any Recipient (other than those set forth in this Agreement) as a result of such Recipient's receipt of the Program under the terms of a Secondary License (if permitted under the terms of Section 3).

3. REQUIREMENTS

3.1 If a Contributor Distributes the Program in any form, then:

a) the Program must also be made available as Source Code, in accordance with section 3.2, and the Contributor must accompany the Program with a statement that the Source Code for the Program is available under this Agreement, and informs Recipients how to obtain it in a reasonable manner on or through a medium customarily used for software exchange; and

b) the Contributor may Distribute the Program under a license different than this Agreement, provided that such license:
i) effectively disclaims on behalf of all other Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all other Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) does not attempt to limit or alter the recipients' rights in the Source Code under section 3.2; and

iv) requires any subsequent distribution of the Program by any party to be under a license that satisfies the requirements of this section 3.

3.2 When the Program is Distributed as Source Code:

a) it must be made available under this Agreement, or if the Program (i) is combined with other material in
a separate file or
files made available under a Secondary License, and (ii) the initial Contributor attached to the Source Code the notice described in Exhibit A of this Agreement, then the Program may be made available

under the terms of such Secondary Licenses, and

b) a copy of this Agreement must be included with each copy of the Program.

3.3 Contributors may not remove or alter any copyright, patent, trademark, attribution notices, disclaimers of warranty, or limitations of liability ("notices") contained within the Program from any copy of the Program which they Distribute, provided that Contributors may add their own appropriate notices.

4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS
AGREEMENT, AND TO THE EXTENT
PERMITTED BY APPLICABLE LAW, THE PROGRAM IS PROVIDED ON AN "AS IS"
BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR
IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF
TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR
PURPOSE. Each Recipient is solely responsible for determining the
appropriateness of using and distributing the Program and assumes all
risks associated with its exercise of rights under this Agreement,
including but not limited to the risks and costs of program errors,
compliance with applicable laws, damage to or loss of data, programs
or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, AND TO THE EXTENT
PERMITTED BY APPLICABLE LAW, NEITHER RECIPIENT NOR ANY CONTRIBUTORS
SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST
PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE
EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under
applicable law, it shall not affect the validity or enforceability of
the remainder of the terms of this Agreement, and without further
action by the parties hereto, such provision shall be reformed to the
minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity
(including a cross-claim or counterclaim in a lawsuit) alleging that the
Program itself (excluding combinations of the Program with other
software
or hardware) infringes such Recipient's patent(s), then such Recipient's
rights granted under Section 2(b) shall terminate as of the date such
litigation is filed.

All Recipient's rights under this Agreement shall terminate if it
fails to comply with any of the material terms or conditions of this
Agreement and does not cure such failure in a reasonable period of
time after becoming aware of such noncompliance. If all Recipient's
rights under this Agreement terminate, Recipient agrees to cease use

and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves
the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be Distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to Distribute the Program (including its Contributions) under the new version.

Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel
or otherwise. All rights in the Program not expressly granted under this Agreement are reserved. Nothing in this Agreement is intended to be enforceable by any entity that is not a Contributor or Recipient. No third-party beneficiary rights are created under this Agreement.

Exhibit A - Form of Secondary Licenses Notice

"This Source Code may also be made available under the following Secondary Licenses when the conditions for such availability set forth in the Eclipse Public License, v. 2.0 are satisfied: {name license(s), version(s), and exceptions or additional permissions here}."

Simply including a copy of this Agreement, including this Exhibit A is not sufficient to license the Source Code under Secondary Licenses.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely
to
look for such a notice.

You may add additional accurate notices of copyright ownership.

---

## The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor
Boston, MA 02110-1335
USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.)
You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you
must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we

want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications

or work under the terms of Section 1 above, provided
that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any part
thereof, to be licensed as a whole at no charge to all third parties
under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a notice
that there is no warranty (or else, saying that you provide a
warranty) and that users may redistribute the program under these
conditions, and telling the user how
to view a copy of this License.
(Exception: if the Program itself is interactive but does not
normally print such an announcement, your work based on the Program
is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program, and
can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based on
the Program, the distribution of the whole must be on the terms of this
License, whose permissions for other licensees extend to the entire
whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you;
rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of a
storage or distribution medium does not bring the other work under the
scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of
physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed
need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have
their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are

prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible
for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular
circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in

certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER
EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED

INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF
TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

One line to give the program's name and a brief idea of what it does.
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This
program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1335 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w'

and `show c' should show the
appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

---

## CLASSPATH EXCEPTION

Linking this library statically or dynamically with other modules is making a combined work based on this library. Thus, the terms and conditions of the GNU General Public License version 2 cover the whole combination.

As a special exception, the copyright holders of this library give you permission to link this library with independent modules to produce an executable, regardless of the license terms of these independent modules, and to copy and distribute the resulting executable under terms of your choice, provided that you also meet, for each linked independent module, the terms and conditions of the license of that module. An independent module is a module which is not derived from or based on this library. If you modify this library, you may extend this exception to your version of the library, but you are not obligated to do so. If
you do not wish to do so, delete this exception statement
from your version.

# 1.230 glib 2.56.4-0ubuntu0.18.04.9

## 1.230.1 Available under license :

This work may be reproduced and distributed in whole or in part, in
any medium, physical or electronic, so as long as this copyright
notice remains intact and unchanged on all copies.  Commercial
redistribution is permitted and encouraged, but you may not
redistribute, in whole or in part, under terms more restrictive than
those under which you received it. If you redistribute a modified or
translated version of this work, you must also make the source code to
the modified or translated version available in electronic form
without charge.  However, mere aggregation as part of a larger work
shall not count as a modification for this purpose.

All code examples in this work are placed into the public domain,
and may be used, modified and redistributed without restriction.

BECAUSE THIS WORK IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE WORK, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE
 WORK "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE.  SHOULD THE WORK PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY REPAIR OR CORRECTION.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE WORK AS PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
WORK, EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.
PCRE LICENCE

Please see the file LICENCE in the PCRE distribution for licensing details.

End

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License. This license, the GNU Lesser
General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License. We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative of the original library. The ordinary
General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General
Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages
are the reason we use the ordinary General Public License for many
libraries. However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free
library does the same job as widely used non-free libraries. In this
case, there is little to gain by limiting
the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free
programs enables a greater number of people to use a large body of
free software. For example, permission to use the GNU C Library in
non-free programs enables many more people to use the whole GNU
operating system, as well as its variant, the GNU/Linux operating
system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those

sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany
the work with the complete corresponding
machine-readable source code for the Library including whatever
changes were used in the work (which must be distributed under
Sections 1 and 2 above); and, if the work is an executable linked
with the Library, with the complete machine-readable "work that
uses the Library", as object code and/or source code, so that the
user can modify the Library and then relink to produce a modified
executable containing the modified Library. (It is understood
that the user who changes the contents of definitions files in the
Library will not necessarily be able to recompile the application
to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the
Library. A suitable mechanism is one that (1) uses at run time a
copy of the library already present on the user's computer system,
rather than copying library functions into the executable, and (2)
will operate
properly with a modified version of the library, if
the user installs one, as long as the modified version is
interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at
least three years, to give the same user the materials
specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
specified materials from the same place.

e) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the
Library" must include any data and utility programs needed for
reproducing the executable from it. However, as a special exception,
the materials to be distributed need not include anything that is
normally
distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies
the executable.

It may happen that this requirement contradicts the license
restrictions of other proprietary libraries that do not normally
accompany the operating system. Such a contradiction means you cannot
use both them and the Library together in an executable that you

distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or

otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any
particular circumstance, the balance of the section is intended to apply,
and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system
which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by

the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision
will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301
USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

# 1.231 libseccomp 2.5.1-1ubuntu1~18.04.2

## 1.231.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that

there is no warranty for the free library. Also, if the library is
modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original
author's reputation will not be affected by problems that might be
introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License. This license, the GNU Lesser
General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License. We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative of the original library. The ordinary
General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General
Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages
are the reason we use the ordinary General Public License for many
libraries. However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free
library does the same job as widely used non-free libraries. In this
case, there is little to gain by limiting
the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free

programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of

running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be
reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy

from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work

during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with

this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision
will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

# 1.232 pep517 0.5.0

## 1.232.1 Available under license :

The MIT License (MIT)

Copyright (c) 2017 Thomas Kluyver

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR
IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
UNRECOGNIZED LICENSE; MD5 sum: cfda3229d2d5570f1340f93669b7c345

# 1.233 httpcomponents-core 4.4.15

## 1.233.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the

direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding

those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,

unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS
Apache HttpComponents Core
Copyright 2005-2020 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

# 1.234 angular 1.5.9

## 1.234.1 Available under license :

MIT

# 1.235 chardet 3.0.4

## 1.235.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts

as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients
all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal
permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that
there is no warranty for the free library. Also, if the library is
modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original

author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU

operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does

and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves,

then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot

use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues),

conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people
have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and

conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of
all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is
safest to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least the
"copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

# 1.236 kotlin 1.6.10-release-923

## 1.236.1 Available under license :

Copyright JS Foundation and other contributors, https://js.foundation

This software consists of voluntary contributions made by many
individuals. For exact contribution history, see the revision history
available at https://github.com/qunitjs/qunit

The following license applies to all parts of this software except as
documented below:

====

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING
BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

====

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the

Free Software Foundation and other authors who decide to use it. You can use
it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee,
you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant
threat to the existence of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the

ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire
combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software
only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must

be combined with the library in order to run.

GNU LESSER
GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously
and appropriately publish on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or

collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead
of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source
code, which
must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is

therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application

to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library

facilities. This
must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License. However, parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Library or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore,
by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

11. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this
License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license
practices. Many people have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the
Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of

preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL,
SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should
have at least the
"copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or

modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic
and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
MIT License

Copyright (c) 2018 Chad Retz

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION

WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.
/**
* Copyright 2010 Tim Down.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
Copyright (C) 2009-2021 The Project Lombok Authors.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
==========
== NOTICE file corresponding to the section 4 d of ==
== the Apache License, Version 2.0, ==
== in this case for the Kotlin Compiler distribution. ==
==========

Kotlin Compiler
Copyright 2010-2017 JetBrains s.r.o and respective authors and developers

Apache License
Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including

the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or

Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the

origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier

identification within third-party archives.

Copyright 2000-2020 JetBrains s.r.o.

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

The MIT License

Copyright (C) 2011-2019 Google, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is furnished to do
so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS
FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.11, January 15th, 2017

Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

SCALA LICENSE

Copyright (c) 2002-2012 EPFL, Lausanne, unless otherwise specified.
All rights reserved.

This software was developed by the Programming Methods Laboratory of the
Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland.

Permission to use, copy, modify, and distribute this software in source
or binary form for any purpose with or without fee is hereby granted,
provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.

3. Neither the name of the EPFL nor the names of its contributors
   may be used to endorse or promote products derived from this
   software without specific prior written permission.

THIS SOFTWARE
IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

The MIT License (MIT)

Copyright (c) 2016 Jamie Sherriff

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR
IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

ASM: a very small and fast Java bytecode manipulation framework
Copyright (c) 2000-2005 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holders nor the names of its
   contributors may be used to endorse or promote products derived from
   this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN

CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

```
/*
* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this

License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided

that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

==========

Licenses for included components:

---

Eclipse Public License 1.0
https://opensource.org/licenses/EPL-1.0

junit:junit
org.sonatype.aether:aether-api
org.sonatype.aether:aether-connector-wagon
org.sonatype.aether:aether-impl
org.sonatype.aether:aether-spi
org.sonatype.aether:aether-util

---

3-Clause BSD
https://opensource.org/licenses/BSD-3-Clause

com.google.code.findbugs:jsr305

org.hamcrest:hamcrest-core
BSD License

Copyright (c) 2000-2015 www.hamcrest.org
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that
the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of
conditions and the following disclaimer. Redistributions in binary form must reproduce
the above copyright notice, this list of conditions and the following disclaimer in
the documentation and/or other materials provided with the distribution.

Neither the name of Hamcrest nor the names of its contributors may be used to endorse
or promote products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO
EVENT
SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED
TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN
ANY
WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

com.esotericsoftware.kryo:kryo
com.esotericsoftware.minlog:minlog
Copyright (c) 2008-2018, Nathan Sweet All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
Neither the name of Esoteric Software nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

org.ow2.asm:asm
org.ow2.asm:asm-analysis

org.ow2.asm:asm-commons
org.ow2.asm:asm-tree
org.ow2.asm:asm-util
ASM: a very small and fast Java bytecode manipulation framework
Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
THE POSSIBILITY OF SUCH DAMAGE.

---
MIT

com.googlecode.plist:dd-plist
dd-plist - An open source library to parse and generate property lists
Copyright (C) 2016 Daniel Dreibrodt

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

org.bouncycastle:bcpg-jdk15on
org.bouncycastle:bcprov-jdk15on
Copyright (c) 2000 - 2019 The Legion of the Bouncy Castle Inc. (https://www.bouncycastle.org)

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

org.slf4j:jcl-over-slf4j
org.slf4j:jul-to-slf4j
org.slf4j:log4j-over-slf4j
org.slf4j:slf4j-api
Copyright (c) 2004-2017 QOS.ch
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,

EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

CDDL
https://opensource.org/licenses/CDDL-1.0

com.sun.xml.bind:jaxb-impl

---

LGPL 2.1
https://www.gnu.org/licenses/old-licenses/lgpl-2.1.en.html

org.samba.jcifs:jcifs

org.jetbrains.intellij.deps:trove4j

---

License for the GNU Trove library included by the Kotlin embeddable compiler

---

The source code for GNU Trove is licensed under the Lesser GNU Public License (LGPL).

Copyright (c) 2001, Eric D. Friedman All Rights Reserved. This library is free software; you can redistribute it and/or modify it under
the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or
(at your option) any later version. This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without
even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.
You should have received a copy of the GNU Lesser General Public License along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Two classes (HashFunctions and PrimeFinder) included in Trove are licensed under the following terms:

Copyright (c) 1999 CERN - European Organization for Nuclear Research. Permission to use, copy, modify, distribute and sell this software
and its documentation for any purpose is hereby granted without fee, provided
that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear in supporting documentation. CERN makes no

representations about the
suitability of this software for any purpose. It is provided "as is" without expressed or implied warranty.

The source code of modified GNU Trove library is available at
https://github.com/JetBrains/intellij-deps-trove4j (with trove4j_changes.txt describing the changes)

---

Eclipse Distribution License 1.0
https://www.eclipse.org/org/documents/edl-v10.php

org.eclipse.jgit:org.eclipse.jgit

---

BSD-style

com.jcraft:jsch
com.jcraft:jzlib

Copyright (c) 2000-2011 ymnk, JCraft,Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

1. Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the documentation and/or other materials provided with the distribution.

3. The names of the authors may not be used to endorse or promote products
derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JCRAFT,
INC. OR ANY CONTRIBUTORS TO THIS SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA,
OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

Eclipse Public License 2.0

https://www.eclipse.org/legal/epl-2.0/

org.junit.platform:junit-platform-launcher

---

Mozilla Public License 2.0
https://www.mozilla.org/en-US/MPL/2.0/

org.mozilla:rhino
musl as a whole is licensed under the following standard MIT license:

---

Copyright  2005-2014 Rich Felker, et al.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
 LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
---

Authors/contributors include:

Anthony G. Basile
Arvid Picciani
Bobby Bingham
Boris Brezillon
Chris Spiegel
Emil Renner Berthing
Hiltjo Posthuma
Isaac Dunham
Jens Gustedt
Jeremy Huntwork
John Spencer

Justin Cormack
Luca Barbato
Luka Perkov
Michael Forney
Nicholas J. Kain
orc
Pascal Cuoq
Pierre Carrier
Rich Felker
Richard Pennington
Solar Designer
Strake
Szabolcs Nagy
Timo Ters
Valentin Ochs
William Haddon

Portions of this software are derived from third-party works licensed
under terms compatible with the above MIT license:

The TRE regular expression implementation (src/regex/reg* and
src/regex/tre*) is Copyright  2001-2008 Ville Laurikari and licensed
under a 2-clause BSD license (license text in the source files).
 The
included version has been heavily modified by Rich Felker in 2012, in
the interests of size, simplicity, and namespace cleanliness.

Much of the math library code (src/math/* and src/complex/*) is
Copyright  1993,2004 Sun Microsystems or
Copyright  2003-2011 David Schultz or
Copyright  2003-2009 Steven G. Kargl or
Copyright  2003-2009 Bruce D. Evans or
Copyright  2008 Stephen L. Moshier
and labelled as such in comments in the individual source files. All
have been licensed under extremely permissive terms.

The ARM memcpy code (src/string/armel/memcpy.s) is Copyright  2008
The Android Open Source Project and is licensed under a two-clause BSD
license. It was taken from Bionic libc, used on Android.

The implementation of DES for crypt (src/misc/crypt_des.c) is
Copyright  1994 David Burren. It is licensed under a BSD license.

The implementation of blowfish crypt (src/misc/crypt_blowfish.c) was
originally written by Solar Designer and placed into the public
domain. The code also
 comes with a fallback permissive license for use
in jurisdictions that may not recognize the public domain.

The smoothsort implementation (src/stdlib/qsort.c) is Copyright 2011
Valentin Ochs and is licensed under an MIT-style license.

The BSD PRNG implementation (src/prng/random.c) and XSI search API
(src/search/*.c) functions are Copyright 2011 Szabolcs Nagy and
licensed under following terms: "Permission to use, copy, modify,
and/or distribute this code for any purpose with or without fee is
hereby granted. There is no warranty."

The x86_64 port was written by Nicholas J. Kain. Several files (crt)
were released into the public domain; others are licensed under the
standard MIT license terms at the top of this file. See individual
files for their copyright status.

The mips and microblaze ports were originally written by Richard
Pennington for use in the ellcc project. The original code was adapted
by Rich Felker for build system and code conventions during upstream
integration.
It is licensed under the standard MIT terms.

The powerpc port was also originally written by Richard Pennington,
and later supplemented and integrated by John Spencer. It is licensed
under the standard MIT terms.

All other files which have no copyright comments are original works
produced specifically for use as part of this library, written either
by Rich Felker, the main author of the library, or by one or more
contibutors listed above. Details on authorship of individual files
can be found in the git version control history of the project. The
omission of copyright and license comments in each file is in the
interest of source tree size.

All public header files (include/* and arch/*/bits/*) should be
treated as Public Domain as they intentionally contain no content
which can be covered by copyright. Some source modules may fall in
this category as well. If you believe that a file is so trivial that
it should be in the Public Domain, please contact the authors and
request an explicit
statement releasing it from copyright.

The following files are trivial, believed not to be copyrightable in
the first place, and hereby explicitly released to the Public Domain:

All public headers: include/*, arch/*/bits/*
Startup files: crt/*
UNLESS SPECIFIED OTHERWISE IN THE INDIVIDUAL SOURCE FILES INCLUDED WITH
THIS PACKAGE, they may freely be used, modified and/or redistributed for

any purpose.
Portions, Copyright 1991-2005 Unicode, Inc. The following applies to Unicode.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2005 Unicode, Inc. All rights reserved. Distributed under the Terms of Use in http://www.unicode.org/copyright.html. Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear
notice in each modified Data File or in the Software
as well as in the documentation associated with the Data File(s) or Software that the data or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior
written
authorization of the copyright holder.

2. Additional terms from the Database:

Copyright 1995-1999 Unicode, Inc. All Rights reserved.

Disclaimer

The Unicode Character Database is provided as is by Unicode, Inc.
No claims are made as to fitness for any particular purpose. No warranties of any kind are expressed or implied. The recipient agrees to determine applicability of information provided. If this file has been purchased

on magnetic or optical media from Unicode, Inc., the sole remedy for any claim will be exchange of defective media within 90 days of receipt. This disclaimer is applicable for all other data files accompanying the Unicode Character Database, some of which have been compiled by the Unicode Consortium, and some of which have been supplied by other sources.

Limitations on Rights to Redistribute This Data

Recipient is granted the right to make copies in any form for internal distribution and to freely use the information supplied in the creation of products
supporting the UnicodeTM Standard. The files in
the Unicode Character Database can be redistributed to third parties or other organizations (whether for profit or not) as long as this notice and the disclaimer notice are retained. Information can be extracted from these files and used in documentation or programs, as long as there is an accompanying notice indicating the source.
Google Dart Js backend was removed - https://code.google.com/p/dart/source/detail?r=4771

According to http://www.apache.org/legal/3party.html we can include "Google Dart Js backend" in source form, because code license is "New BSD License" (Authorized License).

This part of code will be removed when kotlin will be rewritten on kotlin.
Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS
FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The files in this package are taken from mozilla's Rhino project.
See http://www.mozilla.org/rhino/

The files modified from Rhino 1.5R3
(ftp://ftp.mozilla.org/pub/js/rhino15R3.zip).

--

The contents of this package are subject to the Netscape Public
License Version 1.1 (the "License"); you may not use this file
except in compliance with the License. You may obtain a copy of
the License at http://www.mozilla.org/NPL/

Software distributed under the License is distributed on an "AS
IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or
implied. See the License for the specific language governing
rights and limitations under the License.

The Original Code is Rhino code, released
May 6, 1999.

The Initial Developer of the Original Code is Netscape
Communications Corporation. Portions created by Netscape are
Copyright (C) 1997-2000 Netscape Communications Corporation. All
Rights Reserved.

Alternatively, the contents of this file may be used under the
terms of the GNU Public License
(the "GPL"), in which case the
provisions of the GPL are applicable instead of those above.
If you wish to allow use of your version of this file only
under the terms of the GPL and not to allow others to use your
version of this file under the NPL, indicate your decision by
deleting the provisions above and replace them with the notice
and other provisions required by the GPL. If you do not delete
the provisions above, a recipient may use your version of this
file under either the NPL or the GPL.
http://fastutil.di.unimi.it/

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,

and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares,
or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and
for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to

communication on electronic mailing
lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms
and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution.
You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works

that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within
such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license
terms and conditions
for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of
the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS,

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You
for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor
harmless for any liability
incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");

you may not use this file except in compliance with the License.
You may obtain a copy of the
License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
The majority of Rhino is MPL 1.1 / GPL 2.0 dual licensed:

The Mozilla Public License (http://www.mozilla.org/MPL/MPL-1.1.txt):
==========

MOZILLA PUBLIC LICENSE
Version 1.1

---

1. Definitions.

1.0.1. "Commercial Use" means distribution or otherwise making the
Covered Code available to a third party.

1.1. "Contributor" means each entity that creates or contributes to
the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original
Code, prior Modifications used by a Contributor, and the Modifications
made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the
combination of the Original Code and Modifications, in each case
including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally
accepted
in the software development community for the electronic
transfer of data.

1.5. "Executable" means Covered Code in any form other than Source
Code.

1.6. "Initial Developer" means the individual or entity identified
as the Initial Developer in the Source Code notice required by Exhibit
A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

B. Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent

(50%) of the outstanding shares or beneficial ownership of such

entity.

2. Source Code License.

2.1. The Initial Developer Grant.
The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:
(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).

(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

(d) Notwithstanding Section
2.1(b) above, no patent license is
granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant.
Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone

and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have

made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other
devices; or 4) under Patent Claims
infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.
The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code.
Any
Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications.

You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

(a) Third Party Claims.

If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs.

If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations.

Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely

to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than

any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions.

You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You

may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.

You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions.
Netscape Communications Corporation ("Netscape") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions.
Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Netscape. No one other than Netscape has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.
If You create or use a modified version of this License (which you may only
do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS,
MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING.
THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License

shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice,
a reasonable royalty and payment arrangement are not
mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b)

and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the NPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Mozilla Public License.

``The contents of this file are subject to the Mozilla Public License Version 1.1 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.mozilla.org/MPL/

Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the

License for the specific language governing rights and limitations
under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____.
Portions created by _____
are Copyright (C) _____
_____. All Rights Reserved.

Contributor(s): _____.

Alternatively, the contents of this file may be used under the terms
of the _____ license (the "[___] License"), in which case the
provisions of [_____] License are applicable instead of those
above. If you wish to allow use of your version of this file only
under the terms of the [____] License and not to allow others to use
your version of this file under the MPL, indicate your decision by
deleting the provisions above and replace them with the notice and
other provisions required by the [___] License. If you do not delete
the provisions above, a recipient may use your version of this file
under either the MPL or the [___] License."

[NOTE: The text of this Exhibit A may differ slightly from the text of
the notices in the Source Code files of
the Original Code. You should
use the text of this Exhibit A rather than the text found in the
Original Code Source Code for Your Modifications.]

==========

==========

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software

and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis
or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains

a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than
copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy
or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty)

and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section
to claim rights or contest
your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party,
for a charge no more than your
cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception,
the source code distributed need not include
anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their
licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance
by third parties to
this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues),

conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free

Software Foundation. If the Program does not specify a version number of this License, you may
choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS
FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could
even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the

library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.
==========

Additionally, some files (currently the contents of
toolsrc/org/mozilla/javascript/tools/debugger/treetable/)
are available
only under the following license:

==========
* Copyright 1997, 1998 Sun Microsystems, Inc.  All Rights Reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
*   - Redistributions of source code must retain the above copyright
*     notice, this list of conditions and the following disclaimer.
*
*   - Redistributions in binary form must reproduce the above copyright
*     notice, this list of conditions and the following disclaimer in the
*     documentation and/or other materials provided with the distribution.
*
*   - Neither the name of Sun Microsystems nor the names of its
*     contributors may be used to endorse or promote products derived
*     from this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS
 AND CONTRIBUTORS "AS
* IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
* THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE COPYRIGHT OWNER OR
* CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
* EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
* PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
* PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
* LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
* NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
* SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
==========
Copyright (c) 2013 Aaron Forsander

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who
decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid

distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no

charge to all third parties under the
terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be
reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in

these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that
uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the

Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the
object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany
the work with the complete corresponding
machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate
properly with a modified version of the library, if
the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more

than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally
distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any
other library
facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses

terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot

impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision
will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the
 library `Frob' (a library for tweaking knobs) written by James Random Hacker.

 <signature of Ty Coon>, 1 April 1990
 Ty Coon, President of Vice

That's all there is to it!
Copyright JS Foundation and other contributors, https://js.foundation/

This software consists of voluntary contributions made by many
individuals. For exact contribution history, see the revision history
available at https://github.com/jquery/jquery

The following license applies to all parts of this software except as
documented below:

====

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING
 BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

====
The MIT License

Copyright (c) 2003, Kohsuke Kawaguchi

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR
IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
The MIT License

Copyright JS Foundation and other contributors <https://js.foundation/>

Based on Underscore.js, copyright Jeremy Ashkenas,
DocumentCloud and Investigative Reporters & Editors <http://underscorejs.org/>

This software consists of voluntary contributions made by many
individuals. For exact contribution history, see the revision history
available at https://github.com/lodash/lodash

The following license applies to all parts of this software except as
documented below:

====

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF

MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

====

Copyright and related rights for sample code are waived via CC0. Sample
code is defined as all source code displayed within the prose of the
documentation.

CC0: http://creativecommons.org/publicdomain/zero/1.0/

====

Files located in the node_modules and vendor directories are externally
maintained libraries used by this software which have their own
licenses; we recommend you read them, as their terms may differ from the
terms above.
COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1996 - 2021, Daniel Stenberg, <daniel@haxx.se>, and many
contributors, see the THANKS file.

All rights reserved.

Permission to use, copy, modify, and distribute this software for any purpose
with or without fee is hereby granted, provided that the above copyright
notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN
NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE
OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not
be used in advertising or otherwise to promote the sale, use or other
dealings
in this Software without prior written authorization of the copyright holder.
The Trove library is licensed under the Lesser GNU Public License,
which is included with the distribution in a file called trove_license.txt.

The PrimeFinder and HashFunctions classes in Trove are subject to the

following license restrictions:

Copyright (c) 1999 CERN - European Organization for Nuclear Research.

Permission to use, copy, modify, distribute and sell this software and
its documentation for any purpose is hereby granted without fee,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation. CERN makes no representations about the
suitability of this software for any purpose. It is provided "as is"
without expressed or implied warranty.
The version of Rhino used in GWT is licensed under a dual license,
Netscape Public License 1.1 / GNU General Public License.
The text of the Netscape Public License
is provided below (http://website-archive.mozilla.org/www.mozilla.org/mpl/MPL/NPL/1.1/):

AMENDMENTS

The Netscape Public License Version 1.1 ("NPL") consists of the
Mozilla Public License Version 1.1 with the following Amendments,
including Exhibit A-Netscape Public License. Files identified with
"Exhibit A-Netscape Public License" are governed by the Netscape
Public License Version 1.1.

Additional Terms applicable to the Netscape Public License.

I. Effect.

These additional terms described in this Netscape Public
License -- Amendments shall apply to the Mozilla Communicator
client code and to all Covered Code under this License.

II. "Netscape's Branded Code" means Covered Code that Netscape
distributes and/or permits others to distribute under one or
more trademark(s) which are
controlled by Netscape but which
are not licensed for use under this License.

III. Netscape and logo.

This License does not grant any rights to use the trademarks
"Netscape", the "Netscape N and horizon" logo or the
"Netscape lighthouse" logo, "Netcenter", "Gecko", "Java" or
"JavaScript", "Smart Browsing" even if such marks are included
in the Original Code or Modifications.

IV. Inability to Comply Due to Contractual Obligation.

Prior to licensing the Original Code under this License, Netscape has licensed third party code for use in Netscape's Branded Code. To the extent that Netscape is limited contractually from making such third party code available under this License, Netscape may choose to reintegrate such code into Covered Code without being required to distribute such code in Source Code form, even if such code would otherwise be considered "Modifications" under this License.

V. Use of Modifications and Covered Code by Initial Developer.

V.1. In General.

The obligations of Section 3 apply to Netscape, except to the extent specified in this Amendment, Section V.2 and V.3.

V.2. Other Products.

Netscape may include Covered Code in products other than the Netscape's Branded Code which are released by Netscape during the two (2) years following the release date of the Original Code, without such additional products becoming subject to the terms of this License, and may license such additional products on different terms from those contained in this License.

V.3. Alternative Licensing.

Netscape may license the Source Code of Netscape's Branded Code, including Modifications incorporated therein, without such Netscape Branded Code becoming subject to the terms of this License, and may license such Netscape Branded Code on different terms from those contained in this License.

VI. Litigation.

Notwithstanding the limitations of Section 11 above, the provisions regarding litigation in Section 11(a), (b) and (c) of the License shall apply to all disputes relating to this License.

EXHIBIT A-Netscape Public License.

"The contents of this file are subject to the Netscape Public License Version 1.1 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.mozilla.org/NPL/

Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is Mozilla Communicator client code, released March 31, 1998.

The Initial Developer of the Original Code is Netscape Communications Corporation. Portions created by Netscape are Copyright (C) 1998-1999 Netscape Communications Corporation. All Rights Reserved.

Contributor(s): _____.

Alternatively, the contents of this file may be used under the terms of the _____ license (the [___] License), in which case the provisions of [_____] License are applicable instead of those above. If you wish to allow use of your version of this file only under the terms of the [____] License and not to allow others to use your version of this file under the NPL, indicate your decision by deleting the provisions above and replace them with the notice and other provisions required by the [___] License. If you do not delete the provisions above, a recipient may use your version of this file under either the NPL or the [___] License."

---

MOZILLA
PUBLIC LICENSE
Version 1.1

1. Definitions.

1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

B. Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or

hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for
no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant.

The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer
to use, reproduce,
modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).

(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant.

Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.

The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code.

Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications.

You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

(a) Third Party Claims.

If Contributor has knowledge that a license under a third

party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs.

If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations.

Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include
such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such

warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions.

You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.

You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they

affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions.

Netscape Communications Corporation ("Netscape") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions.

Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Netscape. No one other than Netscape has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly

infringes any patent, then any rights granted to You by such Participant under
Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES
AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all

U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity
chartered or registered to do
business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as Multiple-Licensed. Multiple-Licensed means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the NPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Mozilla Public License.

``The contents of this file are subject to the Mozilla Public

License Version 1.1 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.mozilla.org/MPL/

Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____. Portions created by _____ are Copyright (C) _____ _____. All Rights Reserved.

Contributor(s): _____.

Alternatively, the contents of this file may be used under the terms of the _____ license (the [___] License), in which case the provisions of [_____] License are applicable instead of those above. If you wish to allow use of your version of this file only under the terms of the [____] License and not to allow others to use your version of this file under the MPL, indicate your decision by deleting the provisions above and replace them with the notice and other provisions required by the [___] License. If you do not delete the provisions above, a recipient may use your version of this file under either the MPL or the [___] License."

[NOTE: The text of this Exhibit A may differ slightly from the text of the notices in the Source Code files of the Original Code. You should use the text of this Exhibit A rather than the text found in the Original Code Source Code for Your Modifications.]

==========

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate
copyright notice and a
notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange;
or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files,
plus the scripts used to
control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under
this License.
However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions

on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties to
this License.

7. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion
of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution
and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will

be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program

`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

==========

SDL 2.0 and newer are available under the zlib license :

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the

outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of

this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed

as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========
==========

APACHE HARMONY SUBCOMPONENTS:

Apache Harmony includes a number of subcomponents with separate
copyright notices and license terms. Your use of the source code
for the these subcomponents is subject to the terms and conditions
of the following licenses.

License Notice for ICU4C version 3.4
==========

ICU License - ICU 1.8.1 and later

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1995-2005 International Business Machines Corporation and others
All
rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, and/or sell copies of the Software, and to permit persons
to whom the Software is furnished to do so, provided that the above
copyright notice(s) and this permission notice appear in all copies of
the Software and that both the above copyright notice(s) and this
permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT
OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR
HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL
INDIRECT OR CONSEQUENTIAL DAMAGES,
OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale, use

or other dealings in this Software without prior written authorization
of the copyright holder.

---
All trademarks and registered trademarks mentioned herein are the property of
their respective owners.

==========
==========

License Notice for ICU4J version 4.2.1
==========

ICU4J license - ICU4J 1.8.1 and later

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1995-2009 International Business
Machines Corporation and others

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, and/or sell copies of the
Software, and to permit persons to whom the Software is furnished to do so,
provided that the above copyright notice(s) and this permission notice appear
in all copies of the Software and that both the above copyright notice(s) and
this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT
OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR
HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL
INDIRECT
OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale, use

or other dealings in this Software without prior written authorization
of the copyright holder.

---

All trademarks and registered trademarks mentioned herein are the property of
their respective owners.

==========
==========

License Notice for FDLIBM version 5.2
==========

Copyright (C) 2004 by Sun Microsystems, Inc. All rights reserved.

Developed
at SunSoft, a Sun Microsystems, Inc. business.
Permission to use, copy, modify, and distribute this software is freely
granted, provided that this notice is preserved.

==========
==========

License Notice for ZLIB version 1.2.3
==========

(C) 1995-2004 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product,

an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

==========
==========

Visual C++ Runtime Files
========================

The file msvcr71.dll is the Microsoft(R) C Runtime Library.
The file msvcp71.dll is the Microsoft Multithreaded Standard C++ Library.

These files are redistributed from Microsoft(R) Visual Studio 7.1 as described in
the file "redist.txt" available with that product.

==========
==========

License
Notice for Bouncy Castle version 1.45
=========================================

Copyright (c) 2000 - 2009 The Legion Of The Bouncy Castle (http://www.bouncycastle.org)

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the
Software, and to permit persons to whom the Software is furnished to do so, subject
to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN
NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========
==========

License Notice for MX4J 3.0.2.
==========

The MX4J License, Version 1.0

Copyright (c) 2001-2004 by the MX4J contributors. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer
in
the documentation and/or other materials provided with the
distribution.

3. The end-user documentation included with the redistribution,
if any, must include the following acknowledgment:
"This product includes software developed by the
MX4J project (http://mx4j.sourceforge.net)."
Alternately, this acknowledgment may appear in the software itself,
if and wherever such third-party acknowledgments normally appear.

4. The name "MX4J" must not be used to endorse or promote
products derived from this software without prior written
permission.
For written permission, please contact
biorn_steedom [at] users [dot] sourceforge [dot] net

5. Products derived from this software may not be called "MX4J",
nor may "MX4J" appear in their name, without prior written
permission of Simone Bordet.

THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESSED OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE MX4J CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT
OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.
==========

This software consists of voluntary contributions made by many
individuals on behalf of the MX4J project. For more information on
MX4J, please see the MX4J website (http://mx4j.sourceforge.net/).

==========
==========

Notice
for The Independent JPEG Group's JPEG software
==========

This distribution may contain software that is based in part on the work of
the Independent JPEG Group for which the following notice applies:

The authors make NO WARRANTY or representation, either express or implied,
with respect to this software, its quality, accuracy, merchantability, or
fitness for a particular purpose. This software is provided "AS IS", and you,
its user, assume the entire risk as to its quality and accuracy.

This software is copyright (C) 1991-1998, Thomas G. Lane.
All Rights Reserved except as specified below.

Permission is hereby granted to use, copy, modify, and distribute this
software (or portions thereof) for any purpose, without fee, subject to these
conditions:

(1) If any part of the source code for this software is distributed, then this
README file must be included, with this copyright and no-warranty notice
unaltered; and any
 additions, deletions, or changes to the original files
must be clearly indicated in accompanying documentation.
(2) If only executable code is distributed, then the accompanying
documentation must state that "this software is based in part on the work of
the Independent JPEG Group".
(3) Permission for use of this software is granted only if the user accepts
full responsibility for any undesirable consequences; the authors accept
NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code,
not just to the unmodified library.  If you use our work, you ought to
acknowledge us.

Permission is NOT granted for the use of any IJG author's name or company name
in advertising or publicity relating to this software or products derived from
it.  This software may be referred to only as "the Independent JPEG Group's
software".

We specifically permit and encourage the use of this software as the basis of
commercial products, provided that all
 warranty or liability claims are
assumed by the product vendor.

==========
==========

Notice for Little CMS
=====================

This distribution may contain software that is based in part on Little cms
for which the following notice applies:

Copyright (c) 1998-2007 Marti Maria Saguer

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is furnished
to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE
SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========
==========

Notice for libpng
==========

This distribution may contain software that is based in part on libpng
v1.2.38 for which the following notice applies:

libpng versions 1.2.6, August 15, 2004, through 1.2.38, July 16, 2009, are
Copyright (c) 2004, 2006-2009 Glenn Randers-Pehrson, and are
distributed according to the same disclaimer and license as libpng-1.2.5
with the
following individual added to the list of Contributing Authors:

Cosmin Truta

libpng versions 1.0.7, July 1, 2000, through 1.2.5, October 3, 2002, are
Copyright (c) 2000-2002 Glenn Randers-Pehrson, and are
distributed according to the same disclaimer and license as libpng-1.0.6
with the following individuals added to the list of Contributing Authors:

Simon-Pierre Cadieux
Eric S. Raymond
Gilles Vollant

and with the following additions to the disclaimer:

There is no warranty against interference with your enjoyment of the
library or against infringement. There is no warranty that our
efforts or the library will fulfill any of your particular purposes
or needs. This library is provided with all faults, and the entire

risk of satisfactory quality, performance, accuracy, and effort is with
the user.

libpng versions 0.97, January 1998, through 1.0.6, March 20, 2000, are
Copyright (c) 1998, 1999, 2000 Glenn Randers-Pehrson, and are
distributed according to
the same disclaimer and license as libpng-0.96,
with the following individuals added to the list of Contributing Authors:

Tom Lane
Glenn Randers-Pehrson
Willem van Schaik

libpng versions 0.89, June 1996, through 0.96, May 1997, are
Copyright (c) 1996, 1997 Andreas Dilger
Distributed according to the same disclaimer and license as libpng-0.88,
with the following individuals added to the list of Contributing Authors:

John Bowler
Kevin Bracey
Sam Bushell
Magnus Holmgren
Greg Roelofs
Tom Tanner

libpng versions 0.5, May 1995, through 0.88, January 1996, are
Copyright (c) 1995, 1996 Guy Eric Schalnat, Group 42, Inc.

For the purposes of this copyright and license, "Contributing Authors"
is defined as the following set of individuals:

Andreas Dilger
Dave Martindale
Guy Eric Schalnat
Paul Schmidt
Tim Wegner

The PNG Reference Library is supplied "AS IS". The Contributing Authors
and Group 42, Inc. disclaim all warranties, expressed or implied,
including,
without limitation, the warranties of merchantability and of
fitness for any purpose. The Contributing Authors and Group 42, Inc.
assume no liability for direct, indirect, incidental, special, exemplary,
or consequential damages, which may result from the use of the PNG
Reference Library, even if advised of the possibility of such damage.

Permission is hereby granted to use, copy, modify, and distribute this
source code, or portions hereof, for any purpose, without fee, subject

to the following restrictions:

1. The origin of this source code must not be misrepresented.

2. Altered versions must be plainly marked as such and must not
  be misrepresented as being the original source.

3. This Copyright notice may not be removed or altered from any
  source or altered source distribution.

The Contributing Authors and Group 42, Inc. specifically permit, without
fee, and encourage the use of this source code as a component to
supporting the PNG file format in commercial products.
  If you use this
source code in a product, acknowledgment is not required but would be
appreciated.

==========
==========

Notice for Unicode Character Database
==========

Copyright (c) 1991-2005 Unicode, Inc. All rights reserved. Distributed under the
Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of
the Unicode data files and any associated documentation (the "Data Files") or
Unicode software and any associated documentation (the "Software") to deal in
the Data Files or Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, and/or sell copies
of the Data Files or Software, and to permit persons to whom the Data Files or
Software are furnished to do so, provided
  that (a) the above copyright
notice(s) and this permission notice appear with all copies of the Data Files
or Software, (b) both the above copyright notice(s) and this permission notice
appear in associated documentation, and (c) there is clear notice in each
modified Data File or in the Software as well as in the documentation
associated with the Data File(s) or Software that the data or software has been
modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD

PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR
SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

==========
==========

Notice for IETF RFCs prior to 2005
==========

This distribution may contain software that is based in part on the work of the following IETF RFCs. Portions of the IETF RFC specifications may be included in source code comments for reference, and in accordance with the licensing terms, the licenses are reproduced here:

RFC 1779 - A String Representation of Distinguished Names

RFC 2045 - Multipurpose Internet Mail Extensions (MIME) Part One: Format of
Internet Message Bodies

RFC 2251 - Lightweight
Directory Access Protocol (v3)
Copyright (C) The Internet Society (1997). All Rights Reserved.

RFC 2253 - Lightweight Directory Access Protocol (v3): UTF-8 String
Representation of Distinguished Names
Copyright (C) The Internet Society (1997). All Rights Reserved.

RFC 2313 - PKCS #1: RSA Encryption
Copyright (C) The Internet Society (1998). All Rights Reserved.

RFC 2315 - PKCS #7: Cryptographic Message Syntax
Copyright (C) The Internet Society (1998). All Rights Reserved.

RFC 2459 - Internet X.509 Public Key Infrastructure Certificate and CRL Profile

Copyright (C) The Internet Society (1999). All Rights Reserved.

RFC 2616 - Hypertext Transfer Protocol -- HTTP/1.1
Copyright (C) The Internet Society (1999). All Rights Reserved.

RFC 2781 - UTF-16, an encoding of ISO 10646
Copyright (C) The Internet Society (2000). All Rights Reserved.

RFC 2891 - LDAP Control Extension for Server Side
Sorting of Search Results
Copyright (C) The Internet Society (2000). All Rights Reserved.

RFC 2985 - PKCS #9: Selected Object Classes and Attribute Types
Copyright (C) The Internet Society (2000). All Rights Reserved.

RFC 3161 - Internet X.509 Public Key Infrastructure Time-Stamp Protocol (TSP)
Copyright (C) The Internet Society (2001). All Rights Reserved.

RFC 3280 - Internet X.509 Public Key Infrastructure, Certificate and
Certificate Revocation List (CRL) Profile
Copyright (C) The Internet Society (2002). All Rights Reserved.

INTERNET-DRAFT - Persistent Search: A Simple LDAP Change Notification Mechanism
<draft-ietf-ldapext-psearch-03.txt>
Copyright (C) The Internet Society (1997-2000). All Rights Reserved.

The following statement applies to each RFC:

This document and translations of it may be copied and furnished to
others, and derivative works that comment on or otherwise explain it
or
assist in its implementation may be prepared, copied, published
and distributed, in whole or in part, without restriction of any
kind, provided that the above copyright notice and this paragraph are
included on all such copies and derivative works. However, this
document itself may not be modified in any way, such as by removing
the copyright notice or references to the Internet Society or other
Internet organizations, except as needed for the purpose of
developing Internet standards in which case the procedures for
copyrights defined in the Internet Standards process must be
followed, or as required to translate it into languages other than
English.

The limited permissions granted above are perpetual and will not be
revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an
"AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING

TASK FORCE DISCLAIMS ALL
WARRANTIES, EXPRESS OR IMPLIED, INCLUDING
BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION
HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF
MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Notice for IETF RFCs from 2005 onwards
==========

This distribution may contain software that is based in part on the work of
the following IETF RFCs. Portions of the IETF RFC specifications may be
included in source code comments for reference, and in accordance with
the licensing terms, the licenses are reproduced here:

RFC 4122 - A Universally Unique Identifier (UUID) URN Namespace
Copyright (C) The Internet Society (2005).

The following statement applies to this RFC:

Copyright (C) The Internet Society (2005).

This document is subject to the rights, licenses and restrictions
contained in BCP 78, and except as set forth therein, the authors
retain all their rights.

This document
and the information contained herein are provided
on an "AS IS" basis and THE CONTRIBUTOR, THE ORGANIZATION HE/SHE
REPRESENTS OR IS SPONSORED BY (IF ANY), THE INTERNET SOCIETY AND
THE INTERNET ENGINEERING TASK FORCE DISCLAIM ALL WARRANTIES,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT
THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR
ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A
PARTICULAR PURPOSE.

==========
==========

Notice for RSA Public-Key Cryptography Standards
==========

Portions of Apache Harmony reference RSA Public-Key Cryptography Standards:

PKCS#7, PKCS#8 and PKSC#10. Portions of these standards are included
in Harmony Javadoc for reference, and in accordance with the licensing terms
for PKCS#7,
PKCS#8 and PKSC#10, the full copyright statement is here:

Copyright 1991-1993 RSA Laboratories, a division of RSA Data Security, Inc.
License to copy this document is granted provided that it is identified as
"RSA Data Security, Inc. Public-Key Cryptography Standards (PKCS)" in all
material mentioning or referencing this document.

==========
==========

Notice for Apache Yoko
==========

This distribution may contain software that is based in part on Apache Yoko
for which the following notice applies:

Apache Yoko is an effort undergoing incubation at the Apache Software
Foundation (ASF). Incubation is required of all newly accepted projects until
a further review indicates that the infrastructure, communications, and decision
making process have stabilized in a manner consistent with other successful
ASF projects. While incubation
status is not necessarily a reflection of the
completeness or stability of the code, it does indicate that the project has
yet to be fully endorsed by the ASF.

http://incubator.apache.org/yoko/

==========
==========

Notice for the Eclipse JDT Core Batch Compiler
==========

The license terms for the Eclipse JDT Core Batch Compiler are available at
http://www.eclipse.org/legal/epl-v10.html

Source code for the Eclipse JDT Core Batch Compiler can be found at:
http://download.eclipse.org/eclipse/downloads/

Navigate to the version of ECJ used in this distribution, and the source is provided in a ZIP file in the section titled "JDT Core Batch Compiler".

==========
==========

License
notice for the DejaVu fonts package
==========

Fonts are (c) Bitstream (see below). DejaVu changes are in public domain.
Glyphs imported from Arev fonts are (c) Tavmjung Bah (see below)

Bitstream Vera Fonts Copyright
---

Copyright (c) 2003 by Bitstream, Inc. All Rights Reserved. Bitstream Vera is a trademark of Bitstream, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of the fonts accompanying this license ("Fonts") and associated documentation files (the "Font Software"), to reproduce and distribute the Font Software, including without limitation the rights to use, copy, merge, publish, distribute, and/or sell copies of the Font Software, and to permit persons to whom the Font Software is furnished to do so, subject to the following conditions:

The above copyright and trademark notices and this permission notice shall be included in all copies of one or more of
the Font Software typefaces.

The Font Software may be modified, altered, or added to, and in particular the designs of glyphs or characters in the Fonts may be modified and additional glyphs or characters may be added to the Fonts, only if the fonts are renamed to names not containing either the words "Bitstream" or the word "Vera".

This License becomes null and void to the extent applicable to Fonts or Font Software that has been modified and is distributed under the "Bitstream Vera" names.

The Font Software may be sold as part of a larger software package but no copy of one or more of the Font Software typefaces may be sold by itself.

THE FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL BITSTREAM OR THE GNOME FOUNDATION BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING
ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

Except as contained in this notice, the names of Gnome, the Gnome Foundation, and Bitstream Inc., shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Font Software without prior written authorization from the Gnome Foundation or Bitstream Inc., respectively. For further information, contact: fonts at gnome dot org.

Arev Fonts Copyright
---

Copyright (c) 2006 by Tavmjong Bah. All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of the fonts accompanying this license ("Fonts") and associated documentation files (the "Font Software"), to reproduce and distribute the modifications to the Bitstream Vera Font Software, including
without limitation the rights to use, copy, merge, publish, distribute, and/or sell copies of the Font Software, and to permit persons to whom the Font Software is furnished to do so, subject to the following conditions:

The above copyright and trademark notices and this permission notice shall be included in all copies of one or more of the Font Software typefaces.

The Font Software may be modified, altered, or added to, and in particular the designs of glyphs or characters in the Fonts may be modified and additional glyphs or characters may be added to the Fonts, only if the fonts are renamed to names not containing either the words "Tavmjong Bah" or the word "Arev".

This License becomes null and void to the extent applicable to Fonts or Font Software that has been modified and is distributed under the

"Tavmjong Bah Arev" names.

The Font Software may be sold as part of a larger software package but no copy of one or more of the Font Software typefaces may be sold by itself.

THE
FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL TAVMJONG BAH BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

Except as contained in this notice, the name of Tavmjong Bah shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Font Software without prior written authorization from Tavmjong Bah. For further information, contact: tavmjong @ free . fr.

==========
==========

License
notice for ASM
==========

ASM: a very small and fast Java bytecode manipulation framework
Copyright (c) 2000-2005 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holders nor the names of its contributors may be used to endorse or promote products derived from

this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

License notice for Junit
==========

This distribution may contain a jar file based on Junit 4.2.1 for
which the following notice applies:

Copyright
2001-2009 Kent Beck <kent@threeriversinstitute.org>
Copyright 2000-2009 Erich Gamma <erich_gamma@acm.org>
Copyright 2006-2009 David Saff <david@saff.net>

Common Public License - v 1.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS COMMON PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial code and documentation distributed under this Agreement, and
b) in the case of each subsequent Contributor:

i) changes to the Program, and

ii) additions to the Program;

where such changes and/or additions to the Program originate from and are distributed by that particular Contributor. A Contribution 'originates' from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf.
Contributions do not
include additions to the Program which: (i) are separate modules of software distributed in conjunction with the Program under their own license agreement, and (ii) are not derivative works of the Program.

"Contributor" means any person or entity that distributes the Program.

"Licensed Patents " mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement, including all Contributors.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare derivative works of, publicly display, publicly perform, distribute and sublicense the Contribution of such Contributor, if
any, and
such derivative works, in source code and object code form.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in source code and object code form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does

not infringe the patent or other
intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

3. REQUIREMENTS

A Contributor may choose to distribute the Program in object code form under its own license agreement, provided that:

a) it
complies with the terms and conditions of this Agreement; and

b) its license agreement:

i) effectively disclaims on behalf of all Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) states that any provisions which differ from this Agreement are offered by that Contributor alone and not by any other party; and

iv) states that source code for the Program is available from such Contributor, and informs licensees how to obtain it in a reasonable manner on or through a medium customarily used for software exchange.

When the Program is made available in source code form:

a) it
must be made available under this Agreement; and

b) a copy of this Agreement must be included with each copy of the Program.

Contributors may not remove or alter any copyright notices contained within the Program.

Each Contributor must identify itself as the originator of its Contribution, if any, in a manner that reasonably allows subsequent Recipients to identify the originator of the Contribution.

4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each

Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of
rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and
without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against a Contributor with respect to a patent applicable to software (including a cross-claim or counterclaim in a lawsuit), then any patent licenses granted by that Contributor to such Recipient under this Agreement shall terminate as of the date such litigation is filed. In addition, if Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does
not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in

order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. IBM is the initial Agreement Steward. IBM may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing
version number. The Program
(including Contributions) may always be distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to distribute the Program (including its Contributions) under the new version. Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved.

This Agreement is governed by the laws of the State of New York and the intellectual property laws of the United States of America. No party to this Agreement will bring a legal action under this Agreement more than one year after the cause of action arose. Each party waives its rights to a jury trial in any resulting litigation.

==========
==========

The
Apache Harmony DRLVM uses the Apache Portable Runtime which includes a number of subcomponents with separate copyright notices and license terms. Your use of the source code for the these subcomponents is subject to the terms and conditions of the following licenses.

From strings/apr_fnmatch.c, include/apr_fnmatch.h, misc/unix/getopt.c, file_io/unix/mktemp.c, strings/apr_strings.c:

/*
* Copyright (c) 1987, 1993, 1994
*  The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*  notice, this list of conditions and the following disclaimer.

* 2. Redistributions in binary form must reproduce the above copyright
*
   notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*      This product includes software developed by the University of
*      California, Berkeley and its contributors.
* 4. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING,
 BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

From network_io/unix/inet_ntop.c, network_io/unix/inet_pton.c:

/* Copyright (c) 1996 by Internet Software Consortium.
*
* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
* ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
* CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT,
 OR CONSEQUENTIAL
* DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
* PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
* ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
* SOFTWARE.

From dso/aix/dso.c:

*  Based on libdl (dlfcn.c/dlfcn.h) which is
*  Copyright (c) 1992,1993,1995,1996,1997,1988
*  Jens-Uwe Mager, Helios Software GmbH, Hannover, Germany.

*
*  Not derived from licensed software.
*
*  Permission is granted to freely use, copy, modify, and redistribute
*  this software, provided that the author is not construed to be liable
*  for any results of using the software, alterations are clearly marked
*  as such, and this notice is not modified.

From strings/apr_strnatcmp.c, include/apr_strings.h:

strnatcmp.c -- Perform 'natural order' comparisons of strings in C.
Copyright (C) 2000 by Martin Pool <mbp@humbug.org.au>

This software is provided 'as-is', without any express or implied
warranty.
In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

From strings/apr_snprintf.c:

*
* cvt - IEEE floating point formatting routines.
*       Derived from UNIX V7, Copyright(C) Caldera International Inc.
*

Copyright(C) Caldera International Inc.  2001-2002.  All rights
reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

Redistributions of source code and documentation must retain the above
copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright

notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

All advertising materials mentioning features or use of this software must display the following acknowledgement:

This product includes software developed or owned by Caldera International, Inc.

Neither the name of Caldera International, Inc. nor the names of other contributors may be used to endorse or promote products derived from this software without specific prior written permission.

USE OF THE SOFTWARE PROVIDED FOR UNDER THIS LICENSE BY CALDERA INTERNATIONAL, INC. AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL CALDERA INTERNATIONAL, INC. BE LIABLE FOR ANY DIRECT, INDIRECT INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

License notice for Hamcrest
==========

BSD License

Copyright (c) 2000-2006,
www.hamcrest.org
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in

the documentation and/or other materials provided with the distribution.

Neither the name of Hamcrest nor the names of its contributors may be used to endorse
or promote products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY
WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

==========
==========
==========
libc++ License
==========

The libc++ library is dual licensed under both the University of Illinois
"BSD-Like" license and the MIT license.  As a user of this code you may choose
to use it under either license.  As a contributor, you agree to allow your code
to be used under both.

Full text of the relevant licenses is included below.

==========

University of Illinois/NCSA
Open Source License

Copyright (c) 2009-2017 by the contributors listed in CREDITS.TXT

All rights reserved.

Developed by:

LLVM Team

University of Illinois at Urbana-Champaign

http://llvm.org

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal with the Software without restriction, including
without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimers.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimers in the documentation and/or other materials provided with the distribution.

* Neither the names of the LLVM Team, University of Illinois at Urbana-Champaign, nor the names of its contributors may be used to endorse or promote products derived from this Software without specific prior written permission.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS
FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE CONTRIBUTORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS WITH THE SOFTWARE.

==============================================================================

Copyright (c) 2009-2014 by the contributors listed in CREDITS.TXT

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in

all copies or substantial
portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2005-2010 Sam Stephenson

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
MIT License

Copyright (c) 2019 Microsoft Corporation, Daan Leijen

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT
OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright (C) 2009-2015 The Project Lombok Authors.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
Eclipse Public License - v 1.0
THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC
LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM
CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial code and documentation distributed under this Agreement, and

b) in the case of each subsequent Contributor:

i) changes to the Program, and

ii) additions to the Program;

where such changes and/or additions to the Program originate from and are distributed by that particular Contributor. A Contribution 'originates' from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include additions to the Program which: (i) are separate modules of software distributed in conjunction with the Program under their own license agreement, and (ii) are not derivative works of the Program.

"Contributor"
means any person or entity that distributes the Program.

"Licensed Patents" mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement, including all Contributors.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare derivative works of, publicly display, publicly perform, distribute and sublicense the Contribution of such Contributor, if any, and such derivative works, in source code and object code form.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer
to sell, import and otherwise transfer the Contribution of such Contributor, if any, in source code and object code form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder,
each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

3. REQUIREMENTS

A Contributor may choose to distribute the Program in object code form under its own license agreement, provided that:

a) it complies with the terms and conditions of this Agreement; and

b) its license agreement:

i) effectively disclaims on behalf of all Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;

ii) effectively
excludes on behalf of all Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) states that any provisions which differ from this Agreement are offered by that Contributor alone and not by any other party; and

iv) states that source code for the Program is available from such Contributor, and informs licensees how to obtain it in a reasonable manner on or through a medium customarily used for software exchange.

When the Program is made available in source code form:

a) it must be made available under this Agreement; and

b) a copy of this Agreement must be included with each copy of the Program.

Contributors may not remove or alter any copyright notices contained within the Program.

Each Contributor must identify itself as the originator of its Contribution, if any, in a manner that reasonably allows subsequent Recipients to identify the originator of the Contribution.

4. COMMERCIAL
DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any
claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor
to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is

solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement , including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such
Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement
Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to distribute the Program (including its Contributions) under the new version. Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved.

This Agreement is governed by the laws of the State of New York and the intellectual

property laws of the United States of America. No party to this Agreement will bring a legal action under this Agreement more than one year after the cause of action arose. Each party waives its rights to a jury trial in any resulting litigation.

```
 ========================================================================
 ==  NOTICE file corresponding to the section 4 d of                  ==
 ==  the Apache License, Version 2.0,                                 ==
 ==  in this case for the Kotlin Compiler distribution.               ==
 ========================================================================
```

Kotlin Compiler
Copyright 2010-2020 JetBrains s.r.o and respective authors and developers
Eclipse Distribution License - v 1.0

Copyright (c) 2007, Eclipse Foundation, Inc. and its licensors.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
Neither the name of the Eclipse Foundation, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
This license applies to all parts of Dart that are not externally
maintained libraries. The external maintained libraries used by
Dart are:

7-Zip - in third_party/7zip
JSCRE - in runtime/third_party/jscre
Ant - in third_party/apache_ant
args4j - in third_party/args4j
bzip2 - in third_party/bzip2
dromaeo - in samples/third_party/dromaeo

Eclipse - in third_party/eclipse
gsutil = in third_party/gsutil
Guava - in third_party/guava
hamcrest - in third_party/hamcrest
Httplib2 - in samples/third_party/httplib2
JSON - in third_party/json
JUnit - in third_party/junit
Oauth - in samples/third_party/oauth2client
Rhino - in third_party/rhino
weberknecht - in third_party/weberknecht

The libraries may have their own licenses; we recommend you read them,
as their terms may differ from the terms below.

Copyright 2012, the Dart project authors. All rights reserved.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:
* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.
* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,

and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to

communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and

attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or

implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

The Apache 2 license (given in full in [LICENSE.txt](LICENSE.txt)) applies to all code in this repository which is copyright
by JetBrains. The following sections of the repository contain third-party code, to which different licenses may apply:

## Kotlin Compiler

The following modules contain third-party code and are incorporated into the Kotlin compiler and/or the Kotlin IntelliJ IDEA plugin:

- Path: compiler/backend/src/org/jetbrains/kotlin/codegen/inline/MaxStackFrameSizeAndLocalsCalculator.java
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France Telecom

- Path: compiler/backend/src/org/jetbrains/kotlin/codegen/inline/MaxLocalsCalculator.java
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France
  Telecom

- Path: compiler/backend/src/org/jetbrains/kotlin/codegen/optimization/common/FastMethodAnalyzer.kt
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France Telecom

- Path: compiler/backend/src/org/jetbrains/kotlin/codegen/optimization/common/InstructionLivenessAnalyzer.kt
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France Telecom

- Path: compiler/backend/src/org/jetbrains/kotlin/codegen/optimization/common/ControlFlowGraph.kt
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France Telecom

- Path: compiler/backend/src/org/jetbrains/kotlin/codegen/optimization/fixStack/FastStackAnalyzer.kt
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France Telecom

- Path: compiler/backend/src/org/jetbrains/kotlin/codegen/optimization/temporaryVals/FastStoreLoadAnalyzer.kt
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France Telecom

- Path: core/reflection.jvm/src/kotlin.reflect/jvm/internal/pcollections
  - License: MIT ([license/third_party/pcollections_LICENSE.txt][pcollections])
  - Origin: Derived from PCollections, A Persistent Java Collections Library (https://pcollections.org/)

- Path: eval4j/src/org/jetbrains/eval4j/interpreterLoop.kt
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and
fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France Telecom

- Path: compiler/backend/src/org/jetbrains/kotlin/codegen/optimization/common/OptimizationBasicInterpreter.java
  - License: BSD ([license/third_party/asm_license.txt][asm])
  - Origin: Derived from ASM: a very small and fast Java bytecode manipulation framework, Copyright (c) 2000-2011 INRIA, France Telecom

- Path: js/js.ast
  - License: BSD ([license/third_party/dart_LICENSE.txt][dart])
  - Origin: Originally part of the Dart compiler, (c) 2011 the Dart Project Authors,

- Path: js/js.inliner/src/org/jetbrains/kotlin/js/inline/FunctionInlineMutator.kt
  - License: BSD ([license/third_party/dart_LICENSE.txt][dart])
  - Origin: Originally part of the Dart compiler, (c) 2011 the Dart Project Authors,

- Path: js/js.parser/src/com/google
  - License: Netscape Public License 1.1 ([license/third_party/rhino_LICENSE.txt][rhino])
  - Origin: Originally part of GWT, (C) 2007-08
Google Inc., distributed under the Apache 2 license. The code
    is derived from Rhino, (C) 1997-1999 Netscape Communications Corporation, distributed under the
    Netscape Public License.

- Path: js/js.translator/qunit/qunit.js
  - License: MIT ([license/third_party/qunit_license.txt][qunit])
  - Origin: QUnit, Copyright (c) 2012 John Resig, Jrn Zaefferer,

- Path: libraries/stdlib/src/kotlin/collections
  - License: Apache 2 ([license/third_party/gwt_license.txt][gwt])
  - Origin: Derived from GWT, (C) 2007-08 Google Inc.

- Path: libraries/stdlib/unsigned/src/kotlin/UnsignedUtils.kt
  - License: Apache 2 ([license/third_party/guava_license.txt][guava])
  - Origin: Derived from Guava's UnsignedLongs, (C) 2011 The Guava Authors

- Path: libraries/stdlib/jvm/src/kotlin/util/MathJVM.kt

- License: Boost Software License 1.0 ([license/third_party/boost_LICENSE.txt][boost])
- Origin: Derived from boost special math functions, Copyright
Eric Ford & Hubert Holin 2001.

- Path: libraries/stdlib/js/src/kotlin/collections
- License: Apache 2 ([license/third_party/gwt_license.txt][gwt])
- Origin: Derived from GWT, (C) 2007-08 Google Inc.

- Path: libraries/stdlib/js-v1/src/js/long.js
- License: Apache 2 ([license/third_party/closure-compiler_LICENSE.txt][closure-compiler])
- Origin: Google Closure Library, Copyright 2009 The Closure Library Authors

- Path: libraries/stdlib/js-v1/src/js/polyfills.js
- License: Boost Software License 1.0 ([license/third_party/boost_LICENSE.txt][boost])
- Origin: Derived from boost special math functions, Copyright Eric Ford & Hubert Holin 2001.

- Path: libraries/stdlib/wasm/internal/kotlin/wasm/internal/Number2String.kt
- License: Apache 2 ([third_party/assemblyscript_license.txt][assemblyscript])
- Origin: Derived from assemblyscript standard library

- Path: plugins/lint/android-annotations
- License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
- Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: plugins/lint/lint-api
- License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
- Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: plugins/lint/lint-checks
- License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
- Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: plugins/lint/lint-idea
- License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
- Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: wasm/ir/src/org/jetbrains/kotlin/wasm/ir/convertors
- License: MIT ([license/third_party/asmble_license.txt][asmble])
- Origin: Copyright (C) 2018 Chad Retz

- Path: compiler/tests-common/tests/org/jetbrains/kotlin/codegen/ir/ComposeLikeGenerationExtension.kt
- License: Apache 2 ([license/third_party/aosp_license.txt][aosp])

- Origin: Derived from JetPack Compose compiler plugin code, Copyright 2019 The Android Open Source Project

## Kotlin Test Data

The following source code is used for testing the Kotlin compiler and/or plugin and is not incorporated into

any distributions of the compiler, libraries or plugin:

- Path: third-party/annotations/android
  - License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
  - Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: third-party/annotations/com/android
  - License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
  - Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: third-party/annotations/org/eclipse
  - License: Eclipse Public License v1.0 ([license/third_party/testdata/eclipse_license.txt][eclipse])
  - Origin: Eclipse JDT, Copyright (c) 2011, 2013 Stephan Herrmann and others.

- Path: third-party/annotations/androidx
  - License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
  - Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: third-party/annotations/edu/umd/cs/findbugs
  - License: LGPL 2.1 ([license/third_party/testdata/findbugs_license.txt][findbugs])
  - Origin: Bytecode Analysis Framework, Copyright (C) 2005 University of Maryland

- Path: third-party/java8-annotations/org/eclipse
  - License: Eclipse Public License v1.0 ([license/third_party/testdata/eclipse_license.txt][eclipse])
  - Origin: Eclipse JDT, Copyright (c) 2011, 2013 Stephan Herrmann and others.

- Path: third-party/annotations/io/reactivex
  - License: Apache 2 ([license/third_party/testdata/rxjava_license.txt][rxjava])
  - Origin: RxJava, Copyright (c) 2016-present, RxJava Contributors

- Path: third-party/java8-annotations/org/jspecify
  - License: Apache 2 ([license/third_party/testdata/jspecify_license.txt][jspecify])
  - Origin: JSpecify, Copyright (C) 2020 The JSpecify Authors

- Path: third-party/java9-annotations/org/jspecify
  - License: Apache 2 ([license/third_party/testdata/jspecify_license.txt][jspecify])
  - Origin: JSpecify, Copyright (C) 2020 The JSpecify Authors

- Path: third-party/annotations/lombok
  - License: MIT ([license/third_party/testdata/lombok_license.txt][lombok])
  - Origin: Project Lombok, Copyright (C) 2009-2013 The Project Lombok Authors

- Path: idea/idea-android/tests/org/jetbrains/kotlin/android/AndroidTestBase.java
  - License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
  - Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: idea/testData/android/lintQuickfix/requiresApi/RequiresApi.java
  - License: Apache 2 ([license/third_party/aosp_license.txt][aosp])

- Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: idea/testData/android/lint/IntRange.java
  - License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
  - Origin: Copyright (C) 2011-15
The Android Open Source Project

- Path: idea/testData/android/lint/RequiresPermission.java
  - License: Apache 2 ([license/third_party/aosp_license.txt][aosp])
  - Origin: Copyright (C) 2011-15 The Android Open Source Project

- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/allOpenSpring/src/org/springframework/stereotype/Component.java
  - License: Apache 2 ([license/third_party/testdata/spring_license.txt][spring])
  - Origin: Spring Framework, Copyright 2002-2007 the original author or authors.

- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/AndroidDaggerProject
  - License: Apache 2 ([license/third_party/testdata/dagger_license.txt][dagger])
  - Origin: Dagger, Copyright (C) 2013 Square, Inc.

- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/kapt2
  - License: Apache 2 ([license/third_party/testdata/dagger_license.txt][dagger])
  - Origin: Dagger, Copyright (C) 2013 Square, Inc.

- Path: libraries/tools/kotlin-maven-plugin-test/src/it/test-allopen-spring/src/main/java/org/springframework/stereotype/Component.java
  - License: Apache 2 ([license/third_party/testdata/spring_license.txt][spring])
  - Origin: Spring Framework, Copyright 2002-2007 the original author or authors.

## Kotlin Tools and Libraries Tests

The following source code is used for testing the Kotlin tools and/or libraries and is not incorporated into any distributions of the tools or libraries:

- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/kotlin/org/jetbrains/kotlin/gradle/PluginsDslIT.kt
  - License: Apache 2 ([license/third_party/gradle_license.txt][gradle])
  - Origin: Gradle, Copyright 2002-2017 Gradle, Inc.

- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/target/test-classes/testProject/noArgJpa/src/javax/persistence/Entity.java
  - License: Eclipse Public License v1.0 ([license/third_party/testdata/eclipse_license.txt][eclipse])
    and Eclipse Distribution License - v1.0 ([license/third_party/testdata/eclipse_distribution_license.txt][eclipse-distribution])
  - Origin: javax.persistence, Copyright (c) 2008, 2017 Sun Microsystems, Oracle Corporation.

- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/noArgJpa/src/javax/persistence/Entity.java

- License: Eclipse Public License v1.0 ([license/third_party/testdata/eclipse_license.txt][eclipse])
and Eclipse Distribution License - v1.0
([license/third_party/testdata/eclipse_distribution_license.txt][eclipse-distribution])
- Origin: javax.persistence, Copyright (c) 2008, 2017 Sun Microsystems, Oracle Corporation.

- Path: libraries/tools/kotlin-gradle-plugin-integration-tests/src/test/resources/testProject/noArgJpa/src/javax/persistence/Embeddable.java
- License: Eclipse Public License v1.0 ([license/third_party/testdata/eclipse_license.txt][eclipse])
and Eclipse Distribution License - v1.0
([license/third_party/testdata/eclipse_distribution_license.txt][eclipse-distribution])
- Origin: javax.persistence, Copyright (c) 2008, 2017 Sun Microsystems, Oracle Corporation.

- Path: libraries/tools/kotlin-test-js-runner/karma-kotlin-reporter.js
- License: MIT ([license/third_party/karma_LICENSE.txt](third_party/karma_LICENSE.txt)
and [license/third_party/karma-teamcity-reporter_LICENSE.txt](third_party/karma-teamcity-reporter_LICENSE.txt))
- Origin: Copyright (C) 2011-2019 Google, Inc. and Copyright (C) 2011-2013 Vojta Jna and contributors.

- Path: libraries/tools/kotlin-test-js-runner/mocha-kotlin-reporter.js
- License: MIT ([license/third_party/mocha-teamcity-reporter_LICENSE.txt](third_party/mocha-teamcity-reporter_LICENSE.txt))
- Origin: Copyright (c) 2016 Jamie Sherriff

- Path: libraries/tools/kotlin-test-js-runner/src/utils.ts
- License: MIT ([license/third_party/teamcity-service-messages_LICENSE.txt](third_party/teamcity-service-messages_LICENSE.txt)
and [license/third_party/lodash_LICENSE.txt](third_party/lodash_LICENSE.txt))
- Origin: Copyright (c) 2013 Aaron Forsander and Copyright JS Foundation and other contributors <https://js.foundation/>

- Path: libraries/tools/kotlin-test-js-runner/src/teamcity-format.js
- License: MIT ([license/third_party/mocha-teamcity-reporter_LICENSE.txt](third_party/mocha-teamcity-reporter_LICENSE.txt)
and [license/third_party/teamcity-service-messages_LICENSE.txt](third_party/teamcity-service-messages_LICENSE.txt))
- Origin: Copyright (c) 2016 Jamie Sherriff and Copyright (c) 2013 Aaron Forsander

## Example Code

The following code is provided as examples and is not incorporated into
any distributions of the compiler, libraries or plugin:

- Path: libraries/examples/browser-example/src/js/jquery.js
- License: MIT ([license/third_party/jquery_license.txt][jquery])
- Origin: jQuery JavaScript Library v1.6.2, Copyright 2011, John Resig

- Path: libraries/examples/browser-example-with-library/src/js/jquery.js
- License: MIT ([license/third_party/jquery_license.txt][jquery])

- Origin: jQuery JavaScript Library v1.6.2, Copyright 2011, John Resig

[aosp]: third_party/aosp_license.txt
[asm]: third_party/asm_license.txt
[boost]: third_party/boost_LICENSE.txt
[closure-compiler]: third_party/closure-compiler_LICENSE.txt
[dagger]: third_party/testdata/dagger_license.txt
[dart]: third_party/dart_LICENSE.txt
[eclipse]: third_party/testdata/eclipse_license.txt
[eclipse-distribution]: third_party/testdata/eclipse_distribution_license.txt
[findbugs]: third_party/testdata/findbugs_license.txt
[gradle]: third_party/gradle_license.txt
[guava]: third_party/guava_license.txt
[gwt]: third_party/gwt_license.txt
[jquery]: third_party/jquery_license.txt
[lombok]: third_party/testdata/lombok_license.txt
[pcollections]:
third_party/pcollections_LICENSE.txt
[qunit]: third_party/qunit_license.txt
[rhino]: third_party/rhino_LICENSE.txt
[rxjava]: third_party/testdata/rxjava_license.txt
[spring]: third_party/testdata/spring_license.txt
[assemblyscript]: third_party/assemblyscript_license.txt
/*
* Copyright 2000-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
*/

package tasks

import groovy.util.Node
import groovy.util.XmlParser
import org.gradle.api.DefaultTask
import org.gradle.api.file.RegularFileProperty
import org.gradle.api.provider.Property
import org.gradle.api.tasks.Input
import org.gradle.api.tasks.InputFile
import org.gradle.api.tasks.OutputFile
import org.gradle.api.tasks.TaskAction
import java.util.*

abstract class WriteCopyrightToFile : DefaultTask() {
  @InputFile
  val path = project.file("${project.rootDir}/.idea/copyright/apache.xml")

  @get:OutputFile
  abstract val outputFile: RegularFileProperty

```
  @get:Input
  val commented: Property<Boolean> = project.objects.property(Boolean::class.java).convention(true)

  @TaskAction
  fun write() {
     val file = outputFile.asFile.get()
     file.writeText(if
(commented.get()) readCopyrightCommented() else readCopyright())
  }

  private fun readCopyright(): String {
     assert(path.exists()) {
        "File $path with copyright not found"
     }

     val xmlParser = XmlParser()
     val node = xmlParser.parse(path)
     assert(node.attribute("name") == "CopyrightManager") {
        "Format changed occasionally?"
     }

     val copyrightBlock = node.children().filterIsInstance<Node>().single()
     val noticeNode = copyrightBlock.children().filterIsInstance<Node>().single { it.attribute("name") == "notice" }
     return noticeNode.attribute("value").toString().replace("&#36;today.year",
GregorianCalendar()[Calendar.YEAR].toString())
  }

  private fun readCopyrightCommented(): String {
     return "/*\n" + readCopyright().prependIndent(" * ") + "\n */"
  }
}
```

```
libffi - Copyright (c) 1996-2014  Anthony Green, Red Hat, Inc and others.
See source files for details.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
```

IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF
CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
/*
* Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
*/
Copyright (c) 2008 Harold Cooper

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
GCC RUNTIME LIBRARY EXCEPTION

Version 3.1, 31 March 2009

Copyright (C) 2009 Free Software Foundation, Inc.

Everyone is permitted to copy and distribute verbatim copies of this
license document, but changing it is not allowed.

This GCC Runtime Library Exception ("Exception") is an additional
permission under section 7 of the GNU General Public License, version
3 ("GPLv3"). It applies to a given file (the "Runtime Library") that
bears a notice placed by the copyright holder of the file stating that
the file is governed by GPLv3 along with this Exception.

When you use GCC to compile a program, GCC may combine portions of
certain GCC header files and runtime libraries with the compiled
program. The purpose of this Exception is to allow compilation of
non-GPL (including proprietary) programs to use, in this way, the

header files and runtime libraries covered by this Exception.

0. Definitions.

A file is an "Independent Module" if it either requires the Runtime Library for execution after
a Compilation Process, or makes use of an
interface provided by the Runtime Library, but is not otherwise based on the Runtime Library.

"GCC" means a version of the GNU Compiler Collection, with or without modifications, governed by version 3 (or a specified later version) of the GNU General Public License (GPL) with the option of using any subsequent versions published by the FSF.

"GPL-compatible Software" is software whose conditions of propagation, modification and use would permit combination with GCC in accord with the license of GCC.

"Target Code" refers to output from any compiler for a real or virtual target processor architecture, in executable form or suitable for input to an assembler, loader, linker and/or execution
phase. Notwithstanding that, Target Code does not include data in any format that is used as a compiler intermediate representation, or used for producing a compiler intermediate representation.

The "Compilation Process" transforms code entirely represented
in
non-intermediate languages designed for human-written code, and/or in Java Virtual Machine byte code, into Target Code. Thus, for example, use of source code generators and preprocessors need not be considered part of the Compilation Process, since the Compilation Process can be understood as starting with the output of the generators or preprocessors.

A Compilation Process is "Eligible" if it is done using GCC, alone or with other GPL-compatible software, or if it is done without using any work based on GCC. For example, using non-GPL-compatible Software to optimize any GCC intermediate representations would not qualify as an Eligible Compilation Process.

1. Grant of Additional Permission.

You have permission to propagate a work of Target Code formed by combining the Runtime Library with Independent Modules, even if such propagation would otherwise violate the terms of GPLv3, provided that all Target Code was generated by Eligible Compilation Processes. You may then convey such

a combination under terms of your choice,
consistent with the licensing of the Independent Modules.

2. No Weakening of GCC Copyleft.

The availability of this Exception does not imply any general
presumption that third-party software is unaffected by the copyleft
requirements of the license of GCC.

Hopefully that text is self-explanatory. If it isn't, you need to speak to your lawyer, or the Free Software Foundation.
JSON

Copyright (c) 2002 JSON.org

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

The Software shall be used for Good, not Evil.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by

the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but

excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the

appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Eclipse Public License, Version 1.0 (EPL-1.0)

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS ECLIPSE PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

1. DEFINITIONS

"Contribution" means:

a) in the case of the initial Contributor, the initial code and documentation distributed under this Agreement, and

b) in the case of each subsequent Contributor:
i) changes to the Program, and
ii) additions to the Program;

where such changes and/or additions to the Program originate from and are distributed by that particular Contributor. A Contribution 'originates' from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include additions to the Program which: (i) are separate modules of software distributed in conjunction with the Program under their own license agreement, and
(ii) are not derivative works of the Program.

"Contributor" means any person or entity that distributes the Program.

"Licensed Patents " mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement, including all Contributors.

2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare derivative works of, publicly display, publicly

perform, distribute and sublicense the Contribution of such Contributor, if any, and such derivative works, in source code and object code form.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in source code and object code form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

3. REQUIREMENTS

A Contributor may choose to distribute the Program in object code form under its own license agreement, provided that:

a) it complies with the terms and conditions of this Agreement; and

b) its license agreement:

i) effectively disclaims on behalf of all Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or

conditions of merchantability and fitness for a particular purpose;

ii) effectively excludes on behalf of all Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;

iii) states that any provisions which differ from this Agreement are offered by that Contributor alone and not by any other party; and

iv) states that source code for the Program is available from such Contributor, and informs licensees how to obtain it in a reasonable manner on or through a medium customarily used for software exchange.

When the Program is made available in source code form:

a) it must be made available under this Agreement; and
b) a copy of this Agreement must be included with each copy of the Program.

Contributors may not remove or alter any copyright notices contained within the Program.

Each Contributor must identify itself as the originator of its Contribution, if any, in a manner that reasonably allows subsequent Recipients to identify the originator of the Contribution.

4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses,
damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must:
a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROGRAM IS PROVIDED ON AN "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OR CONDITIONS OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement , including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself

(excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program
shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. The Eclipse Foundation is the initial Agreement Steward. The Eclipse Foundation may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to distribute the Program (including its Contributions) under the new version. Except as expressly stated
in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved.

This Agreement is governed by the laws of the State of New York and the intellectual property laws of the United States of America. No party to this Agreement will bring a legal action under this Agreement more than one year after the cause of action arose. Each party waives its rights to a jury trial in any resulting litigation.
The MIT License

Copyright (C) 2011-2013 Vojta Jna and contributors.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.237 hikaricp 4.0.3

## 1.237.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2014 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/PoolEntry.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/dropwizard/CodahaleHealthChecker.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2013 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*

* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyCallableStatement.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/prometheus/PrometheusMetricsTracker.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/hibernate/HikariConfigurationUtil.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/HikariDataSource.java
*
 /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/UtilityElf.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/HikariConfigMXBean.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/dropwizard/CodahaleMetricsTrackerFactory.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyPreparedStatement.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/HikariPoolMXBean.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/prometheus/PrometheusHistogramMetricsTracker.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/PropertyElf.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/hibernate/HikariConnectionProvider.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyStatement.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2013,2014 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/MetricsTrackerFactory.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/HikariJNDIFactory.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/HikariPool.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/dropwizard/CodaHaleMetricsTracker.java
*
 /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/MetricsTracker.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2019 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/IsolationLevel.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2015 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/PoolStats.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/ClockSource.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2013, 2014 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
```

* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/PoolBase.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2016 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/metrics/prometheus/PrometheusHistogramMetricsTrackerFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2017 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/IMetricsTracker.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2016 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/prometheus/PrometheusMetricsTrackerFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2013, 2014 Brett Wooldridge
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/SuspendResumeLock.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyResultSet.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/JavassistProxyFactory.java

* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/HikariConfig.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/prometheus/HikariCPCollector.java
*
/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/FastList.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/ConcurrentBag.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/DriverDataSource.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyFactory.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyConnection.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyLeakTaskFactory.java
* /hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyLeakTask.java

# 1.238 byte-buddy 1.11.22

## 1.238.1 Available under license :

Apache License

Version 2.0, January 2004

http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You"
(or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,

and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations,
or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems
that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants
to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,

where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work
or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not

pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and

may provide additional or different license terms and conditions
for use, reproduction, or distribution
of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental,
or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this

License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted
against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS
Copyright ${project.inceptionYear} - ${current.year} ${copyright.holder}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.239 vim 8.0.1453-1ubuntu1.8

# 1.240 reflections 0.9.10

## 1.240.1 Available under license :

WTFPL OR BSD-3-Clause

# 1.241 error_prone_annotations 2.3.2

## 1.241.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016 The Error Prone Authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*

* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/MustBeClosed.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/FormatMethod.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/CompatibleWith.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/RestrictedApi.java
*
 /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/FormatString.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014 The Error Prone Authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/NoAllocation.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/concurrent/UnlockMethod.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/concurrent/LockMethod.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2017 The Error Prone Authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software

* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/CheckReturnValue.java
* /error-prone-annotations-2-3-2-sources-
jar/com/google/errorprone/annotations/OverridingMethodsMustInvokeSuper.java
*
/error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/DoNotCall.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015 The Error Prone Authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/CompileTimeConstant.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/RequiredModifiers.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/concurrent/LazyInit.java
*
/error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/Var.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/ForOverride.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/Immutable.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/IncompatibleModifiers.java
* /error-prone-annotations-2-3-2-sources-jar/com/google/errorprone/annotations/SuppressPackageLocation.java

# 1.242 jboss-logging 3.4.3.Final

# 1.242.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain

separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without

modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include

the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.243 jandex 2.4.2.Final

## 1.243.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* JBoss, Home of Professional Open Source.
* Copyright 2021 Red Hat, Inc., and individual contributors
* as indicated by the @author tags.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*  http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/ModuleInfo.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/RecordComponentInfo.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/RecordComponentInternal.java

*
/jandex-2-4-2-final-sources-jar/org/jboss/jandex/RecordComponentInfoGenerator.java
No license file was found, but licenses were detected in source scan.

/*
* JBoss, Home of Professional Open Source.
* Copyright 2013 Red Hat, Inc., and individual contributors
* as indicated by the @author tags.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/MethodInfo.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/DotName.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/Type.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/FieldInternal.java
*
/jandex-2-4-2-final-sources-jar/org/jboss/jandex/UnsupportedVersion.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/AnnotationTarget.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/NameTable.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/JarIndexer.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/AnnotationValue.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexView.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/AnnotationInstance.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/CompositeIndex.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/Main.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/Result.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexWriter.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/JandexAntTask.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/ClassInfo.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexReader.java
*
/jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexReaderV1.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/ClassType.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/PackedDataOutputStream.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/Index.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/MethodParameterInfo.java

* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/FieldInfo.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexWriterV1.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/PackedDataInputStream.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/PrimitiveType.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/StrongInternPool.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/Indexer.java
No license file was found, but licenses were detected in source scan.

/*
* JBoss, Home of Professional Open Source.
* Copyright 2020 Red Hat, Inc., and individual contributors
* as indicated by the @author tags.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/Modifiers.java
No license file was found, but licenses were detected in source scan.

/*
* JBoss, Home of Professional Open Source.
* Copyright 2014 Red Hat, Inc., and individual contributors
* as indicated by the @author tags.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexReaderV2.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexWriterV2.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/VoidType.java
*
/jandex-2-4-2-final-sources-jar/org/jboss/jandex/MethodInfoGenerator.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/MethodParameterTypeTarget.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/FieldInfoGenerator.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/ThrowsTypeTarget.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/ArrayType.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/WildcardType.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/ParameterizedType.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/TypeVariable.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/TypeParameterTypeTarget.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/GenericSignatureParser.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/MethodInternal.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexWriterImpl.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/TypeTarget.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/IndexReaderImpl.java
*
/jandex-2-4-2-final-sources-jar/org/jboss/jandex/ClassExtendsTypeTarget.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/UnresolvedTypeVariable.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/TypeParameterBoundTypeTarget.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/AnnotationTargetFilterCollection.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/PositionBasedTypeTarget.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/Utils.java
* /jandex-2-4-2-final-sources-jar/org/jboss/jandex/EmptyTypeTarget.java

# 1.244 hyperscan 1.1.0_3-SNAPSHOT

## 1.244.1 Available under license :

No license file was found, but licenses were detected in source scan.

<name>3-Clause BSD License</name>

Found in path(s):
* /hyperscan-1-0-0-jar/META-INF/maven/com.gliwka.hyperscan/hyperscan/pom.xml

# 1.245 multiregexp 0.5.1_8

## 1.245.1 Available under license :

No license file was found, but licenses were detected in source scan.

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
<modelVersion>4.0.0</modelVersion>

```
<groupId>com.fulmicoton</groupId>
<artifactId>multiregexp</artifactId>
<description>
  Library to search/match/tokenize using many regular expression all
  at once with greater performance.
</description>

<version>0.5.1</version>
<packaging>jar</packaging>
<name>MultiRegexp</name>
<url>https://github.com/fulmicoton/multiregexp</url>
<licenses>
  <license>
    <name>The MIT License (MIT)</name>
    <url>https://github.com/fulmicoton/multiregexp/blob/master/LICENSE</url>
    <distribution>repo</distribution>
  </license>
</licenses>
<scm>
  <url>https://github.com/fulmicoton/multiregexp/</url>
  <connection>scm:git:git@github.com:fulmicoton/multiregexp.git</connection>
   <developerConnection>scm:git:git@github.com:fulmicoton/multiregexp.git</developerConnection>
</scm>
<developers>
  <developer>
    <name>Paul Masurel</name>
    <email>paul.masurel@gmail.com</email>
    <url>http://fulmicoton.com</url>
  </developer>
</developers>
<dependencies>
  <dependency>
    <groupId>dk.brics.automaton</groupId>
    <artifactId>automaton</artifactId>
    <version>1.11-8</version>
  </dependency>
  <dependency>
    <groupId>junit</groupId>
    <artifactId>junit</artifactId>
    <version>4.8.2</version>
    <scope>test</scope>
  </dependency>
</dependencies>
<distributionManagement>
  <snapshotRepository>
    <id>ossrh</id>
    <url>https://oss.sonatype.org/content/repositories/snapshots</url>
  </snapshotRepository>
```

```
</distributionManagement>
<build>
 <plugins>
  <plugin>
   <groupId>org.apache.maven.plugins</groupId>
   <artifactId>maven-compiler-plugin</artifactId>
    <version>2.3.2</version>
   <configuration>
    <source>1.7</source>
    <target>1.7</target>
   </configuration>
  </plugin>
  <plugin>
   <groupId>org.apache.maven.plugins</groupId>
   <artifactId>maven-surefire-plugin</artifactId>
   <version>2.16</version>
  </plugin>
  <plugin>
   <groupId>org.sonatype.plugins</groupId>
   <artifactId>nexus-staging-maven-plugin</artifactId>
   <version>1.6.3</version>
   <extensions>true</extensions>
   <configuration>
    <serverId>ossrh</serverId>
    <nexusUrl>https://oss.sonatype.org/</nexusUrl>
    <autoReleaseAfterClose>true</autoReleaseAfterClose>
   </configuration>
  </plugin>
  <plugin>
   <groupId>org.apache.maven.plugins</groupId>
   <artifactId>maven-source-plugin</artifactId>
   <version>2.2.1</version>
   <executions>
    <execution>
     <id>attach-sources</id>
     <goals>
      <goal>jar-no-fork</goal>
     </goals>
    </execution>
   </executions>
  </plugin>
  <plugin>
   <groupId>org.apache.maven.plugins</groupId>
   <artifactId>maven-javadoc-plugin</artifactId>
   <version>2.9.1</version>
   <executions>
    <execution>
     <id>attach-javadocs</id>
```

```
        <goals>
          <goal>jar</goal>
        </goals>
      </execution>
    </executions>
  </plugin>
  <plugin>
    <groupId>org.apache.maven.plugins</groupId>
    <artifactId>maven-gpg-plugin</artifactId>
    <version>1.5</version>
    <configuration>
      <useAgent>false</useAgent>
    </configuration>
    <executions>
      <execution>
        <id>sign-artifacts</id>
        <phase>verify</phase>
        <goals>
          <goal>sign</goal>
        </goals>
      </execution>
    </executions>
  </plugin>
 </plugins>
</build>
</project>
```

Found
in path(s):
* /multiregexp-0-5-1-jar/META-INF/maven/com.fulmicoton/multiregexp/pom.xml

# 1.246 spring-plugin-core 2.0.0.RELEASE

## 1.246.1 Available under license :

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise

designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any

risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

To the extent any open source subcomponents are licensed under the EPL and/or other
similar licenses that require the source code and/or modifications to
source code to be made available (as would be noted above), you may obtain a
copy of the source code corresponding to the binaries for such open source
components and modifications thereto, if any, (the "Source Files"), by
downloading the Source Files from https://www.springsource.org/download,
or by sending a request, with your name and address to: VMware, Inc., 3401 Hillview
Avenue, Palo Alto, CA 94304, United
States of America or email info@vmware.com. All
such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General
Counsel. VMware shall mail a copy of the Source Files to you on a CD or equivalent
physical medium. This offer to obtain a copy of the Source Files is valid for three
years from the date you acquired this Software product.
${project.name} ${project.version}
Copyright (c) [2008-2019] Pivotal Software, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License").
You may not use this product except in compliance with the License.

This product may include a number of subcomponents with
separate copyright notices and license terms. Your use of the source
code for the these subcomponents is subject to the terms and
conditions of the subcomponent's license, as noted in the LICENSE file.

# 1.247 kotlin 1.6.10

## 1.247.1 Available under license :

Apache License 2.0

# 1.248 postgresql-jdbc 42.3.3

## 1.248.1 Available under license :

Copyright (c) 1997, PostgreSQL Global Development Group
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Additional License files can be found in the 'licenses' folder located in the same directory as the LICENSE file (i.e. this file)

- Software produced outside the ASF which is available under other licenses (not Apache-2.0)

BSD-2-Clause
* com.ongres.scram:client:2.1
* com.ongres.scram:common:2.1
* com.ongres.stringprep:saslprep:1.1
* com.ongres.stringprep:stringprep:1.1
Copyright 2017, OnGres.

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;

OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright 2019, OnGres.

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR
ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.249 cyrus-sasl 2.1.27~101-g0780600+dfsg-3ubuntu2.4

## 1.249.1 Available under license :

/* CMU libsasl
* Tim Martin
* Rob Earhart
* Rob Siemborski
*/
/*
* Copyright (c) 1998-2003 Carnegie Mellon University.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.

```
*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. The name "Carnegie Mellon University" must not be used to
*    endorse or promote products derived from this software without
*    prior written permission. For permission or any other legal
*    details, please contact
*      Office of Technology Transfer
*      Carnegie Mellon University
*      5000 Forbes Avenue
*      Pittsburgh, PA  15213-3890
*      (412) 268-4387, fax: (412) 268-7395
*      tech-transfer@andrew.cmu.edu
*
* 4. Redistributions of any form whatsoever must retain the following
*    acknowledgment:
*    "This product includes software developed by Computing Services
*     at Carnegie Mellon University (http://www.cmu.edu/computing/)."
*
* CARNEGIE MELLON UNIVERSITY DISCLAIMS ALL WARRANTIES WITH REGARD TO
* THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
* AND FITNESS, IN NO EVENT SHALL CARNEGIE MELLON UNIVERSITY BE LIABLE
* FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
* WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN
* AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING
* OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
*/
/* CMU libsasl
* Tim Martin
* Rob Earhart
* Rob Siemborski
*/
/*
* Copyright (c) 2001 Carnegie Mellon University.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
```

* distribution.
*
* 3. The name "Carnegie Mellon University" must not be used to
* endorse or promote products derived from this software without
* prior written permission. For permission or any other legal
* details, please contact
* Office of Technology Transfer
* Carnegie Mellon University
* 5000 Forbes Avenue
* Pittsburgh, PA 15213-3890
* (412) 268-4387, fax: (412) 268-7395
* tech-transfer@andrew.cmu.edu
*
* 4. Redistributions of any form whatsoever must retain the following
* acknowledgment:
* "This product includes software developed by Computing Services
* at Carnegie Mellon University (http://www.cmu.edu/computing/)."
*
* CARNEGIE MELLON UNIVERSITY DISCLAIMS ALL WARRANTIES WITH REGARD TO
* THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
* AND FITNESS, IN NO EVENT SHALL CARNEGIE MELLON UNIVERSITY BE LIABLE
* FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
* WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN
* AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING
* OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
*/
Copyright (C) 1995-1997 Eric Young (eay@mincom.oz.au)
All rights reserved.

This package is an DES implementation written by Eric Young (eay@mincom.oz.au).
The implementation was written so as to conform with MIT's libdes.

This library is free for commercial and non-commercial use as long as
the following conditions are aheared to. The following conditions
apply to all code found in this distribution.

Copyright remains Eric Young's, and as such any Copyright notices in
the code are not to be removed.
If this package is used in a product, Eric Young should be given attribution
as the author of that the SSL library. This can be in the form of a textual
message at program startup or in documentation (online or textual) provided
with the package.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the copyright
notice, this list of conditions and the

following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software
must display the following acknowledgement:
This product includes software developed by Eric Young (eay@mincom.oz.au)

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

The license and distribution terms for any publically available version or
derivative of this code cannot be changed. i.e. this code cannot simply be
copied and put under another distrubution license
[including the GNU Public License.]

The reason behind this being stated in this direct manner is past
experience in code simply being copied and the attribution removed
from it and then being distributed as part of other packages. This
implementation was a non-trivial and unpaid effort.
APPLE PUBLIC SOURCE LICENSE
Version 1.1 - April 19,1999

Please read this License carefully before downloading this software.
By downloading and using this software, you are agreeing to be bound
by the terms of this License. If you do not or cannot agree to the
terms of this License, please do not download or use the software.

1. General; Definitions. This License applies to any program or other
work which Apple Computer, Inc. ("Apple") publicly announces as
subject to this Apple Public Source License and which contains a
notice placed by Apple identifying such program or work as "Original
Code" and stating that it is subject to the terms of this Apple Public
Source License version 1.1 (or subsequent version thereof), as it may
be revised from time to time by Apple ("License"). As used in this
License:

1.1 "Affected Original Code" means only those specific portions of

Original Code that allegedly infringe upon any party's intellectual property rights or are otherwise the subject of a claim of infringement.

1.2 "Applicable Patent Rights" mean: (a) in the case where Apple is the grantor of rights, (i) claims of patents that are now or hereafter acquired, owned by or assigned to Apple and (ii) that cover subject matter contained in the Original Code, but only to the extent necessary to use, reproduce and/or distribute the Original Code without infringement; and (b) in the case where You are the grantor of rights, (i) claims of patents that are now or hereafter acquired, owned by or assigned to You and (ii) that cover subject matter in Your Modifications, taken alone or in combination with Original Code.

1.3 "Covered Code" means the Original Code, Modifications, the combination of Original Code and any Modifications, and/or any respective portions thereof.

1.4 "Deploy" means to use, sublicense or distribute Covered Code other than for Your internal research and development (R&D), and includes without limitation, any and all internal use or distribution of Covered Code within Your business or organization except for R&D use, as well as direct or indirect sublicensing or distribution of Covered Code by You to any third party in any form or manner.

1.5 "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.6 "Modifications" mean any addition to, deletion from, and/or change to, the substance and/or structure of Covered Code. When code is released as a series of files, a Modification is: (a) any addition to or deletion from the contents of a file containing Covered Code; and/or (b) any new file or other representation of computer program statements that contains any part of Covered Code.

1.7 "Original Code" means (a) the Source Code of a program or other work as originally made available by Apple under this License, including the Source Code of any updates or upgrades to such programs or works made available by Apple under this License, and that has been expressly identified by Apple as such in the header file(s) of such work; and (b) the object code compiled from such Source Code and originally made available by Apple under this License.

1.8 "Source Code" means the human readable form of a program or other work that is suitable for making modifications to it, including all

modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an executable (object code).

1.9 "You" or "Your" means an individual or a legal entity exercising rights under this License. For legal entities, "You" or "Your" includes any entity which controls, is controlled by, or is under common control with, You, where "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of fifty percent (50%) or more of the outstanding shares or beneficial ownership of such entity.

2. Permitted Uses; Conditions & Restrictions. Subject to the terms and conditions of this License, Apple hereby grants You, effective on the date You accept this License and download the Original Code, a world-wide, royalty-free, non- exclusive license, to the extent of Apple's Applicable Patent Rights and copyrights covering the Original Code, to do the following:

2.1 You may use, copy, modify and distribute Original Code, with or without Modifications, solely for Your internal research and development, provided that You must in each instance:

(a) retain and reproduce in all copies of Original Code the copyright and other proprietary notices and disclaimers of Apple as they appear in the Original Code, and keep intact all notices in the Original Code that refer to this License;

(b) include a copy of this License with every copy of Source Code of Covered Code and documentation You distribute, and You may not offer or impose any terms on such Source Code that alter or restrict this License or the recipients' rights hereunder, except as permitted under Section 6; and

(c) completely and accurately document all Modifications that you have made and the date of each such Modification, designate the version of the Original Code you used, prominently include a file carrying such information with the Modifications, and duplicate the notice in Exhibit A in each file of the Source Code of all such Modifications.

2.2 You may Deploy Covered Code, provided that You must in each instance:

(a) satisfy all the conditions of Section 2.1 with respect to the Source Code of the Covered Code;

(b) make all Your Deployed Modifications publicly available in Source Code form via electronic distribution (e.g. download from a web site) under the terms of this License and subject to the license grants set forth in Section 3 below, and any additional terms You may choose to offer under Section 6. You must continue to make the Source Code of Your Deployed Modifications available for as long as you Deploy the Covered Code or twelve (12)
months from the date of initial
Deployment, whichever is longer;

(c) if You Deploy Covered Code containing Modifications made by You, inform others of how to obtain those Modifications by filling out and submitting the information found at
http://www.apple.com/publicsource/modifications.html, if available; and

(d) if You Deploy Covered Code in object code, executable form only, include a prominent notice, in the code itself as well as in related documentation, stating that Source Code of the Covered Code is available under the terms of this License with information on how and where to obtain such Source Code.

3. Your Grants. In consideration of, and as a condition to, the licenses granted to You under this License:

(a) You hereby grant to Apple and all third parties a non-exclusive, royalty-free license, under Your Applicable Patent Rights and other intellectual property rights owned or controlled by You, to use, reproduce, modify, distribute and Deploy Your Modifications of the same
scope and extent as Apple's licenses under Sections 2.1 and 2.2; and

(b) You hereby grant to Apple and its subsidiaries a non-exclusive, worldwide, royalty-free, perpetual and irrevocable license, under Your Applicable Patent Rights and other intellectual property rights owned or controlled by You, to use, reproduce, execute, compile, display, perform, modify or have modified (for Apple and/or its subsidiaries), sublicense and distribute Your Modifications, in any form, through multiple tiers of distribution.

4. Larger Works. You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In each such instance, You must make sure the requirements of this License are fulfilled for the Covered Code or any portion thereof.

5. Limitations on Patent License. Except as expressly stated in Section 2, no other patent rights, express or implied, are granted by Apple herein. Modifications and/or Larger Works may require additional patent licenses from Apple which Apple may grant in its sole discretion.

6. Additional Terms. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations and/or other rights consistent with the scope of the license granted herein ("Additional Terms") to one or more recipients of Covered Code. However, You may do so only on Your own behalf and as Your sole responsibility, and not on behalf of Apple. You must obtain the recipient's agreement that any such Additional Terms are offered by You alone, and You hereby agree to indemnify, defend and hold Apple harmless for any liability incurred by or claims asserted against Apple by reason of any such Additional Terms.

7. Versions of the License. Apple may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Once Original Code has been published under a particular version of this License, You may continue to use it under the terms of that version. You may also choose to use such Original Code under the terms of any subsequent version of this License published by Apple. No one other than Apple has the right to modify the terms applicable to Covered Code created under this License.

8. NO WARRANTY OR SUPPORT. The Original Code may contain in whole or in part pre-release, untested, or not fully tested works. The Original Code may contain errors that could cause failures or loss of data, and may be incomplete or contain inaccuracies. You expressly acknowledge and agree that use of the Original Code, or any portion thereof, is at Your sole and entire risk. THE ORIGINAL CODE IS PROVIDED "AS IS" AND WITHOUT WARRANTY, UPGRADES OR SUPPORT OF ANY KIND AND APPLE AND APPLE'S LICENSOR(S) (FOR THE PURPOSES OF SECTIONS 8 AND 9, APPLE AND APPLE'S LICENSOR(S) ARE COLLECTIVELY REFERRED TO AS "APPLE") EXPRESSLY DISCLAIM ALL WARRANTIES AND/OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES AND/OR CONDITIONS OF MERCHANTABILITY OR SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. APPLE DOES NOT WARRANT THAT THE FUNCTIONS CONTAINED IN THE ORIGINAL CODE WILL MEET YOUR REQUIREMENTS, OR THAT THE OPERATION OF THE ORIGINAL CODE WILL BE UNINTERRUPTED OR ERROR- FREE, OR THAT DEFECTS IN THE ORIGINAL CODE WILL BE CORRECTED. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY APPLE OR AN APPLE AUTHORIZED

REPRESENTATIVE SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS WARRANTY. You acknowledge that the Original Code is not intended for use in the operation of nuclear facilities, aircraft navigation, communication systems, or air traffic control machines in which case the failure of the Original Code could lead to death, personal injury, or severe physical or environmental damage.

9. Liability.

9.1 Infringement. If any portion of, or functionality implemented by, the Original Code becomes the subject of a claim of infringement, Apple may, at its option: (a) attempt to procure the rights necessary for Apple and You to continue using the Affected Original Code; (b) modify the Affected Original Code so that it is no longer infringing; or (c) suspend Your rights to use, reproduce, modify, sublicense and distribute the Affected Original Code until a final determination of the claim is made by a court or governmental administrative agency of competent jurisdiction and Apple lifts the suspension as set forth below. Such suspension of rights will be effective immediately upon Apple's posting of a notice to such effect on the Apple web site that is used for implementation of this License. Upon such final determination being made, if Apple is legally able, without the payment of a fee or royalty, to resume use, reproduction, modification, sublicensing and distribution of the Affected Original Code, Apple will lift the suspension of rights to the Affected Original Code by posting a notice to such effect on the Apple web site that is used for implementation of this License. If Apple suspends Your rights to Affected Original Code, nothing in this License shall be construed to restrict You, at Your option and subject to applicable law, from replacing the Affected Original Code with non-infringing code or independently negotiating for necessary rights from such third party.

9.2 LIMITATION OF LIABILITY. UNDER NO CIRCUMSTANCES SHALL APPLE BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR RELATING TO THIS LICENSE OR YOUR USE OR INABILITY TO USE THE ORIGINAL CODE, OR ANY PORTION THEREOF, WHETHER UNDER A THEORY OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), PRODUCTS LIABILITY OR OTHERWISE, EVEN IF APPLE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND NOTWITHSTANDING THE FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY. In no event shall Apple's total liability to You for all damages under this License exceed the amount of fifty dollars ($50.00).

10. Trademarks. This License does not grant any rights to use the

trademarks or trade names "Apple", "Apple Computer", "Mac OS X", "Mac OS X Server" or any other trademarks or trade names belonging to Apple (collectively "Apple Marks") and no Apple Marks may be used to endorse or promote products derived from the Original Code other than as permitted by and in strict compliance at all times with Apple's third party trademark usage guidelines which are posted at http://www.apple.com/legal/guidelinesfor3rdparties.html.

11. Ownership. Apple retains all rights, title and interest in and to the Original Code and any Modifications made by or on behalf of Apple ("Apple Modifications"), and such Apple Modifications will not be automatically subject to this License. Apple may, at its sole discretion, choose to license such Apple Modifications under this License, or on different terms from those contained in this License or may
choose not to license them at all. Apple's development, use, reproduction, modification, sublicensing and distribution of Covered Code will not be subject to this License.

12. Termination.

12.1 Termination. This License and the rights granted hereunder will terminate:

(a) automatically without notice from Apple if You fail to comply with any term(s) of this License and fail to cure such breach within 30 days of becoming aware of such breach; (b) immediately in the event of the circumstances described in Section 13.5(b); or (c) automatically without notice from Apple if You, at any time during the term of this License, commence an action for patent infringement against Apple.

12.2 Effect of Termination. Upon termination, You agree to immediately stop any further use, reproduction, modification, sublicensing and distribution of the Covered Code and to destroy all copies of the Covered Code that are in your possession or control. All sublicenses to the Covered Code which have
been properly granted
prior to termination shall survive any termination of this License. Provisions which, by their nature, should remain in effect beyond the termination of this License shall survive, including but not limited to Sections 3, 5, 8, 9, 10, 11, 12.2 and 13. Neither party will be liable to the other for compensation, indemnity or damages of any sort solely as a result of terminating this License in accordance with its terms, and termination of this License will be without prejudice to any other right or remedy of either party.

13. Miscellaneous.

13.1 Government End Users. The Covered Code is a "commercial item" as defined in FAR 2.101. Government software and technical data rights in the Covered Code include only those rights customarily provided to the public as defined in this License. This customary commercial license in technical data and software is provided in accordance with FAR 12.211 (Technical Data) and 12.212 (Computer Software) and, for Department of
Defense purchases, DFAR 252.227-7015 (Technical Data -- Commercial Items) and 227.7202-3 (Rights in Commercial Computer Software or Computer Software Documentation). Accordingly, all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

13.2 Relationship of Parties. This License will not be construed as creating an agency, partnership, joint venture or any other form of legal association between You and Apple, and You will not represent to the contrary, whether expressly, by implication, appearance or otherwise.

13.3 Independent Development. Nothing in this License will impair Apple's right to acquire, license, develop, have others develop for it, market and/or distribute technology or products that perform the same or similar functions as, or otherwise compete with, Modifications, Larger Works, technology or products that You may develop, produce, market or distribute.

13.4 Waiver; Construction. Failure by Apple to enforce any provision of this
License will not be deemed a waiver of future enforcement of that or any other provision. Any law or regulation which provides that the language of a contract shall be construed against the drafter will not apply to this License.

13.5 Severability. (a) If for any reason a court of competent jurisdiction finds any provision of this License, or portion thereof, to be unenforceable, that provision of the License will be enforced to the maximum extent permissible so as to effect the economic benefits and intent of the parties, and the remainder of this License will continue in full force and effect. (b) Notwithstanding the foregoing, if applicable law prohibits or restricts You from fully and/or specifically complying with Sections 2 and/or 3 or prevents the enforceability of either of those Sections, this License will immediately terminate and You must immediately discontinue any use of the Covered Code and destroy all copies of it that are in your possession or control.

13.6 Dispute

Resolution. Any litigation or other dispute resolution between You and Apple relating to this License shall take place in the Northern District of California, and You and Apple hereby consent to the personal jurisdiction of, and venue in, the state and federal courts within that District with respect to this License. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded.

13.7 Entire Agreement; Governing Law. This License constitutes the entire agreement between the parties with respect to the subject matter hereof. This License shall be governed by the laws of the United States and the State of California, except that body of California law concerning conflicts of law.

Where You are located in the province of Quebec, Canada, the following clause applies: The parties hereby confirm that they have requested that this License and all related documents be drafted in English. Les parties ont exige que le present contrat et tous les documents connexes soient rediges en anglais.

EXHIBIT A.

"Portions Copyright (c) 1999 Apple Computer, Inc. All Rights Reserved. This file contains Original Code and/or Modifications of Original Code as defined in and that are subject to the Apple Public Source License Version 1.1 (the "License"). You may not use this file except in compliance with the License. Please obtain a copy of the License at http://www.apple.com/publicsource and read it before using this file.

The Original Code and all software distributed under the License are distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, AND APPLE HEREBY DISCLAIMS ALL SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON- INFRINGEMENT. Please see the License for the specific language governing rights and limitations under the License."

# 1.250 aws-java-sdk-core 1.11.553

## 1.250.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*

* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/AcceptorPathMatcher.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/Principal.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/endpointdiscovery/EndpointDiscoveryProviderChain.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/conditions/NumericCondition.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/DefaultErrorResponseHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/CompositeAcceptor.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/ServiceMetricType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/ByteThroughputProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/conditions/ConditionFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWS4UnsignedPayloadSigner.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/StandardErrorUnmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/ApiMonitoringEvent.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/conditions/IpAddressCondition.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/VoidJsonUnmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/CollectionUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/MetricType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/RequestHandler2Adaptor.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/cache/Cache.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/CsmConfiguration.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/EndpointDiscoveryConfig.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/NoOpSigner.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/AWSRequestMetrics.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/NoOpWaiterHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/AwsSdkMetrics.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/ApiCallAttemptMonitoringEvent.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/conditions/package-info.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/ServiceMetricCollector.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/AbstractRequestHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/ApiCallMonitoringEvent.java

* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/endpointdiscovery/DefaultEndpointDiscoveryProviderChain.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/monitoring/internal/AsynchronousAgentDispatcher.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/Action.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/RequestMetricCollector.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ResponseMetadata.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ServiceNameFactory.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/SignerFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/SDKGlobalConfiguration.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/CRC32ChecksumCalculatingInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/endpointdiscovery/DaemonThreadFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/ProgressListenerChain.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ApacheHttpClientConfig.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/JsonUnmarshallerContextImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/SimpleServiceMetricType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AnonymousAWSCredentials.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/ProgressEventType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/apache/utils/HttpContextUtils.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/JsonUnmarshallerContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/conditions/DateCondition.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/SignerParams.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/QueryStringSigner.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/internal/AgentMonitoringListener.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/Presigner.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/actions/package-info.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/ClientConnectionRequestFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/HostRegexToRegionMapping.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/ProgressEvent.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/AwsClientSideMonitoringMetrics.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/endpointdiscovery/EndpointDiscoveryProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/InternalConfig.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/SignerTypeAware.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/internal/ServiceMetricTypeGuesser.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/MonitoringEvent.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/package-info.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/internal/JsonPolicyWriter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/HandlerAfterAttemptContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/Response.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/ProgressListener.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterExecution.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/RetryUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/CsmConfigurationProviderChain.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/HttpSuccessStatusAcceptor.java

* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/monitoring/SystemPropertyCsmConfigurationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/VoidStaxUnmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/endpointdiscovery/EndpointDiscoveryRefreshCache.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/HttpResponse.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/conditions/StringCondition.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/ProfileCsmConfigurationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/ServiceEndpointBuilder.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/SimpleThroughputMetricType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/IdentityEndpointBuilder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/RequestHandler2.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/SimpleMetricType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/SdkFunction.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/RepeatableInputStreamRequestEntity.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/impl/client/SdkHttpRequestRetryHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/AWSRequestMetricsFullSupport.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/protocol/SdkHttpRequestExecutor.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/MetricFilterInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/XpathUtils.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/InternalConfigJsonHelper.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/StringUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/HttpResponseHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/apache/request/impl/HttpGetWithBody.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/RetryPolicy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterTimedOutException.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/monitoring/EnvironmentVariableCsmConfigurationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterParameters.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/StaticCsmConfigurationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/AmazonServiceException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/MaxAttemptsRetryStrategy.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/SimpleTypeStaxUnmarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/cache/KeyConverter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/Statement.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkPredicate.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/ResponseMetadataCache.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/AmazonWebServiceResponse.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/endpointdiscovery/AwsProfileEndpointDiscoveryProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/MetricCollector.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ClientConfiguration.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/PropertiesFileCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/Condition.java
*

/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/builder/AdvancedConfig.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/Resource.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/internal/AuthRetryParameters.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/AWSServiceMetrics.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/NamespaceRemovingInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/DefaultRequest.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/HandlerChainFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/HttpClientConfig.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/Signer.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/endpointdiscovery/Constants.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/resources/package-info.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/MonitoringListener.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/PolicyReaderOptions.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/ThroughputMetricType.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/internal/config/HostRegexToRegionMappingJsonHelper.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/Policy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterUnrecoverableException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/RequestMetricType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/PredefinedRetryPolicies.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/DefaultServiceEndpointBuilder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/CountingInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterExecutionBuilder.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/HttpMethod.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/Waiter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/HandlerBeforeAttemptContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/BasicAWSCredentials.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/RequestHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/impl/client/HttpRequestNoRetryHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterAcceptor.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/PollingStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/StructuredJsonMarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/VersionInfoUtils.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/monitoring/DefaultCsmConfigurationProviderChain.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/MetricInputStreamEntity.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/ServiceLatencyProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/Wrapped.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/package-info.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/endpointdiscovery/SystemPropertyEndpointDiscoveryProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/StaxResponseHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/MapEntry.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/internal/AuthErrorRetryStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AbstractAWSSigner.java

* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/ByteThroughputHelper.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/HttpClientConfigJsonHelper.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/RuntimeHttpUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterState.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/ClientConnectionManagerFactory.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/monitoring/internal/ClientSideMonitoringRequestHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/CredentialsRequestHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/internal/JsonPolicyReader.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/TimestampFormat.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/SimpleTypeJsonUnmarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/Request.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/AmazonWebServiceClient.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/conditions/ArnCondition.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/Marshaller.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/endpointdiscovery/EnvironmentVariableEndpointDiscoveryProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/StaxUnmarshallerContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/monitoring/CsmConfigurationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/PollingStrategyContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ProxyAuthenticationMethod.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/internal/JsonDocumentFields.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/FixedDelayStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/AmazonHttpClient.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWS3Signer.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/AmazonWebServiceRequest.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/policy/conditions/BooleanCondition.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/cache/CacheLoader.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/HttpFailureStatusAcceptor.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/SdkPlainSocketFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/waiters/WaiterBuilder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/PropertiesCredentials.java
No license file was found, but licenses were detected in source scan.

/**
* Copyright 2016-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
* <p/>
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
* <p/>
* http://aws.amazon.com/apache2.0
* <p/>
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR

* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/model/Partitions.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2019 Amazon.com, Inc. or its affiliates. All Rights
* Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/adapters/types/StringToInputStreamAdapter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/NullResponseMetadataCache.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/auth/SignerProviderContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/adapters/types/StringToByteBufferAdapter.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/adapters/types/TypeAdapter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/auth/DefaultSignerProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/auth/NoOpSignerProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/MetadataCache.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/auth/SignerProvider.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*

*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Classes.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/DateUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/BinaryUtils.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/SimpleTypeUnmarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/Unmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/SigningAlgorithm.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/VoidUnmarshaller.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/XmlUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/HttpMethodName.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/AmazonClientException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/LegacyErrorUnmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/SignatureVersion.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWSCredentials.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.

* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/SignerAsRequestSigner.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ImmutableRequest.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/RequestSigner.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2019 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/ssl/SdkTLSSocketFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/ssl/TLSProtocol.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either

* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/MarshallingInfo.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/JsonContent.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/BackoffStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/internal/AllProfiles.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/internal/AwsProfileNameLoader.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/presign/PresignerParams.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/JsonMarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/ClientHandlerImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/builder/AwsSyncClientBuilder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/XMLWriter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/ProtocolRequestMarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/MarshallerRegistry.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/JsonProtocolMarshallerBuilder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/MarshallingType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/internal/BasicProfile.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkStructuredJsonFactoryImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/AndRetryCondition.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/SimpleTypeJsonMarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/OrRetryCondition.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/client/SdkInterruptedException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/RetryOnStatusCodeCondition.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/JsonContentTypeResolverImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/profile/path/AwsProfileFileLocationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/AwsProfileRegionProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/RetryCondition.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/PathMarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/DefaultValueSupplier.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/OperationInfo.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/profile/path/config/ConfigEnvVarOverrideLocationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/request/HttpRequestFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/presign/PresignerFacade.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/AwsErrorResponseHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/builder/ExecutorFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/StaticCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/auth/profile/internal/ProfileAssumeRoleCredentialsProvider.java
*
 /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/profile/path/cred/CredentialsDefaultLocationProvider.java

* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/RetryPolicyContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/TimingInfo.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/AwsAsyncClientParams.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/JsonErrorShapeMetadata.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/profile/path/AwsDirectoryBasePathProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/JsonClientMetadata.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/TimingInfoUnmodifiable.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/ValueToStringConverters.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/MapUnmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/MaxNumberOfRetriesCondition.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/V2CompatibleBackoffStrategyAdapter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/StructuredPojo.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkJsonGenerator.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/ListUnmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/DefaultAwsRegionProviderChain.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/profile/path/cred/CredentialsLegacyConfigLocationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/PredefinedBackoffStrategies.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/StringInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkFunction.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/AwsSystemPropertyRegionProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/SdkClientException.java
*
 /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/protocol/json/internal/NullAsEmptyBodyProtocolRequestMarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/JsonErrorResponseMetadata.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/ClientExecutionParams.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/AbstractErrorUnmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/JsonOperationMetadata.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/response/AwsResponseHandlerAdapter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/AwsEnvVarOverrideRegionProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/ProtocolMarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/AwsRegionProviderChain.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/SimpleRetryPolicy.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWSStaticCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/SdkBaseException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/TimingInfoFullSupport.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/Protocol.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/internal/ProfileKeyConstants.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/RetryPolicyAdapter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/profile/path/AwsProfileFileLocationProviderChain.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/SdkClock.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/SimpleTypePathMarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/ClientHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/builder/AwsClientBuilder.java
*

/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/builder/AwsAsyncClientBuilder.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/profile/path/cred/CredentialsEnvVarOverrideLocationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/MarshallLocation.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/DefaultMarshallingType.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/RequestConfig.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/FixedDelayBackoffStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/ClientHandlerParams.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/InstanceMetadataRegionProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/V2CompatibleBackoffStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/JsonContentTypeResolver.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWSRefreshableSessionCredentials.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/SdkHttpMetadata.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/AmazonWebServiceRequestAdapter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/StaticSignerProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/AmazonWebServiceResult.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkJsonMarshallerFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ClientConfigurationFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/client/AwsSyncClientParams.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/JsonMarshallerContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/HeaderMarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/ExecutionContext.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/RetryPolicy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/QueryParamMarshallers.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/auth/profile/internal/ProfileStaticCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/profile/path/config/SharedConfigDefaultLocationProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/v2/RetryOnExceptionsCondition.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2019 Amazon Technologies, Inc.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and

* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Md5Utils.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/ThreadSafe.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/GuardedBy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/Beta.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/SdkInternalApi.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/NotThreadSafe.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/Immutable.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/SdkTestInternalApi.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/SdkProtectedApi.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.

```
*/
/**
* Interface for providing AWS region information. Implementations are free to use any strategy for
* providing region information.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/AwsRegionProvider.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2016-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not
* use this file except in compliance with the License. A copy of the License is
* located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on
* an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/http/IonErrorCodeParser.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/http/ErrorCodeParser.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/http/CompositeErrorCodeParser.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2010-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/JsonIndex.java

* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/ImmutableMapParameter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/SignerConfig.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/Protocol.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/Builder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/config/SignerConfigJsonHelper.java
No license file was found, but licenses were detected in source scan.

/*
* ============================================================================
* Licensed to the Apache Software Foundation (ASF) under one
* or more contributor license agreements.  See the NOTICE file
* distributed with this work for additional information
* regarding copyright ownership.  The ASF licenses this file
* to you under the Apache License, Version 2.0 (the
* "License"); you may not use this file except in compliance
* with the License.  You may obtain a copy of the License at
*
*   http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing,
* software distributed under the License is distributed on an
* "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
* KIND, either express or implied.  See the License for the
* specific language governing permissions and limitations
* under the License.
* ============================================================================
 *
* This software consists of voluntary contributions made by many
* individuals on behalf of the Apache Software Foundation.  For more
* information on the Apache Software Foundation, please see
* <http://www.apache.org/>.
*
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/URLEncodedUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/NameValuePair.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/BasicNameValuePair.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*

*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/conn/ssl/privileged/PrivilegedMasterSecretValidator.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ReadLimitInfo.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkInternalMap.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/timers/client/ClientExecutionAbortTrackerTask.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkSSLMetricsSocket.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/DelegateSocket.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/ssl/MasterSecretValidators.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/request/HttpRequestAbortTaskImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/SdkConnectionKeepAliveStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/NumberUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/JsonErrorResponseHandler.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/log/JulLog.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/client/HttpClientFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/client/ClientExecutionAbortTask.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/StackedRequestHandler.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/client/ClientExecutionAbortTaskImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkMetricsSocket.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/request/HttpRequestAbortTaskTracker.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/JsonErrorUnmarshaller.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Base16Lower.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/DelegateInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/http/JsonErrorMessageParser.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkInternalList.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/timers/client/ClientExecutionAbortTrackerTaskImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/SignableRequest.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/ComparableUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/SdkThreadLocals.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/SDKGlobalTime.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/exception/HttpRequestTimeoutException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/http/JsonErrorCodeParser.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/PredefinedClientConfigurations.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/SdkHttpUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/HandlerContextKey.java

* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/SystemDefaultDnsResolver.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/TimeoutThreadPoolBuilder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/client/ConnectionManagerFactory.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/timers/request/NoOpHttpRequestAbortTaskTracker.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/client/ClientExecutionTimer.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/request/HttpRequestAbortTask.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/log/InternalLog.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkIOUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/UriResourcePathUtils.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/timers/request/HttpRequestAbortTaskTrackerImpl.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/timers/client/NoOpClientExecutionAbortTrackerTask.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/ValidationUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkThreadLocalsRegistry.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/DnsResolver.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/client/ClientExecutionTimeoutException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/JavaVersionParser.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/log/JulLogFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/DelegatingDnsResolver.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/log/CommonsLog.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/log/CommonsLogFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/settings/HttpClientSettings.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/request/HttpRequestTimer.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015-2019 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkSSLContext.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/annotation/package-info.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2015-2019 Amazon.com, Inc. or its affiliates. All Rights
* Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is
* distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
* KIND, either
* express or implied. See the License for the specific language
* governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/CredentialUtils.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2014-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/StringMapBuilder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/JodaTime.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2011-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
```

* Licensed under the Apache License, Version 2.0 (the "License"). You may not
* use this file except in compliance with the License. A copy of the License is
* located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on
* an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/SimpleTypeIonUnmarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/IonParser.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/IonFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/ConnectionUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/ContainerCredentialsRetryPolicy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/internal/CredentialsEndpointRetryPolicy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/EndpointPrefixAwareSigner.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/EC2CredentialsFetcher.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/EC2ContainerCredentialsProviderWrapper.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/internal/CredentialsEndpointRetryParameters.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/CredentialsEndpointProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/ContainerCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/EC2CredentialsUtils.java
No license file was found, but licenses were detected in source scan.

/*

* Copyright 2018-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/PolicyUtils.java
No license file was found, but licenses were detected in source scan.

/*
*
* Copyright (c) 2016 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkJsonProtocolFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkStructuredCborFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/StructuredJsonGenerator.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/JsonResponseHandler.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkCborGenerator.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkStructuredPlainJsonFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*

* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/ClasspathPropertiesFileCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/CustomBackoffStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/InstanceProfileCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWSCredentialsProviderChain.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/CRC32MismatchException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/DynamoDBBackoffStrategy.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/EC2MetadataClient.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/AwsHostNameUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/SystemPropertiesCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/HandlerContextAware.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/IdleConnectionReaper.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/DefaultAWSCredentialsProviderChain.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/EnvironmentVariableCredentialsProvider.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/AsyncHandler.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2019-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/retry/ClockSkewAdjuster.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2011-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
/**
* Interface for providing AWS credentials. Implementations are free to use any
* strategy for providing AWS credentials, such as simply providing static
* credentials that don't change, or more complicated implementations, such as
* integrating with existing key management systems.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWSCredentialsProvider.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2011-2019 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
```

* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/MetricAdmin.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/jmx/JmxInfoProviderSupport.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/json/Jackson.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWSSessionCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/RequestClientOptions.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/metrics/MetricAdminMBean.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/ServiceClientHolderInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWSSessionCredentials.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/BasicSessionCredentials.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/jmx/spi/JmxInfoProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/jmx/spi/SdkMBeanRegistry.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/ClassLoaderHelper.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/ProgressTracker.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/FIFOCache.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/LengthCheckInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Platform.java
*

/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkSSLSocket.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/auth/profile/internal/securitytoken/ProfileCredentialsService.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/Releasable.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/auth/profile/internal/ProfileProcessCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/internal/AWS4SignerRequestParams.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/internal/AWS4SignerUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/BoundedLinkedHashMap.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/internal/BasicProfileConfigLoader.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/internal/securitytoken/RoleInfo.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/auth/profile/internal/AbstractProfilesConfigFileScanner.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/ProfileCredentialsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/SyncProgressListener.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/ResponseProgressInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/request/Progress.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/package-info.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/ProgressInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/ProfilesConfigFileWriter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/internal/Profile.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/auth/profile/internal/securitytoken/STSProfileCredentialsServiceProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/internal/SignerKey.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/DeliveryMode.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/SDKProgressPublisher.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/profile/ProfilesConfigFile.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/ProgressEventFilter.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/UnreliableFilterInputStream.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/auth/profile/internal/securitytoken/STSProfileCredentialsServiceLoader.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/request/ProgressSupport.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/internal/SignerConstants.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkSocket.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/DelegateSSLSocket.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/ProcessCredentialsProvider.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/event/RequestProgressInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/UnreliableTestConfig.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt

* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/ReleasableInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/ResettableInputStream.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2013-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/EC2MetadataUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Base32Codec.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/EncodingScheme.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/ServiceAwareSigner.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/MetricsInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/RegionMetadata.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Codec.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/HttpClientWrappingInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/AWS4Signer.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkBufferedInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/IOUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/Region.java

* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/EncodingSchemeEnum.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Base32.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkDigestInputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Base64Codec.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkFilterInputStream.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/jmx/SdkMBeanRegistrySupport.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Base16Codec.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Base16.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/MetricAware.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/CodecUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Throwables.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/Base64.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/SdkFilterOutputStream.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/jmx/MBeans.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/RegionMetadataParser.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/AbstractBase32Codec.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/RegionAwareSigner.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/SdkRuntime.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/AbortedException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/ResetException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/RegionUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/ListWithAutoConstructFlag.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/model/Endpoint.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/PartitionsLoader.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/model/Region.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/PartitionRegionImpl.java
*

/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/apache/SdkProxyRoutePlanner.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/LegacyRegionXmlMetadataBuilder.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkStructuredIonFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/transform/SimpleTypeCborUnmarshallers.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/RegionImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/InMemoryRegionImpl.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/model/CredentialScope.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/model/Partition.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/InMemoryRegionsProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkIonGenerator.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/PartitionMetadataProvider.java
*
/aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/AbstractRegionMetadataProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/LegacyRegionXmlLoadUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/partitions/model/Service.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/RegionMetadataProvider.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/RegionMetadataFactory.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/apache/client/impl/CRC32ChecksumResponseInterceptor.java
No license file was found, but licenses were detected in source scan.

/*
* Licensed to the Apache Software Foundation (ASF) under one or more
* contributor license agreements.  See the NOTICE file distributed with
* this work for additional information regarding copyright ownership.
* The ASF licenses this file to You under the Apache License, Version 2.0
* (the "License"); you may not use this file except in compliance with
* the License.  You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/log/InternalLogApi.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (c) 2016. Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at

*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/IdempotentUtils.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/apache/client/impl/ApacheConnectionManagerFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/internal/DateTimeJsonSerializer.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/apache/request/impl/ApacheHttpRequestFactory.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/log/InternalLogFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/FakeIOException.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/timers/package-info.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/apache/client/impl/SdkHttpClient.java
* /aws-java-sdk-core-1-11-553-sources-
jar/com/amazonaws/http/apache/client/impl/ConnectionManagerAwareHttpClient.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/apache/utils/ApacheUtils.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/apache/client/impl/ApacheHttpClientFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/SdkStructuredJsonFactory.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/auth/CanHandleNullCredentials.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/http/conn/ssl/ShouldClearSslSessionPredicate.java
*
 /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/util/CapacityManager.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/handlers/IRequestHandler2.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is divalibuted
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/protocol/json/internal/JsonProtocolMarshaller.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2013-2019 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/Regions.java
* /aws-java-sdk-core-1-11-553-sources-jar/com/amazonaws/regions/ServiceAbbreviations.java

# 1.251 aws-java-sdk-cloudwatch 1.11.553

## 1.251.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/DashboardInvalidInputErrorException.java

* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/StatisticSet.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/GetMetricStatisticsRequestMarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/GetMetricDataResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DashboardValidationMessageStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DescribeAlarmsResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/Statistic.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/StandardUnit.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/EnableAlarmActionsRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/auth/policy/actions/CloudWatchActions.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/MetricAlarmStaxUnmarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/GetDashboardResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DashboardEntry.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/ListTagsForResourceRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DimensionStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/StatisticSetStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/GetMetricWidgetImageResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/ListTagsForResourceResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DisableAlarmActionsRequestMarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DescribeAlarmsForMetricRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DashboardValidationMessage.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/GetMetricWidgetImageRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/MetricDatumStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/AmazonCloudWatchAsyncClientBuilder.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/AlarmHistoryItem.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-

jar/com/amazonaws/services/cloudwatch/model/transform/DescribeAlarmHistoryResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/MetricStaxUnmarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/PutDashboardRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/PutMetricDataResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/TagResourceRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/StatusCode.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DisableAlarmActionsResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/InvalidFormatExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/ListDashboardsResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/EnableAlarmActionsResultStaxUnmarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/UntagResourceResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DisableAlarmActionsRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/HistoryItemType.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DashboardNotFoundErrorException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DeleteAlarmsRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/PutMetricAlarmRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DescribeAlarmsForMetricResultStaxUnmarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/InternalServiceExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/LimitExceededExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DescribeAlarmHistoryRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/GetMetricStatisticsResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/GetMetricDataRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/AbstractAmazonCloudWatch.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-

jar/com/amazonaws/services/cloudwatch/waiters/DescribeAlarmsFunction.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DashboardInvalidInputErrorExceptionUnmarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/MetricDataResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DeleteAlarmsResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/ListMetricsResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/waiters/AlarmExists.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DescribeAlarmsRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/MetricAlarm.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DatapointStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/ScanBy.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DashboardEntryStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/LimitExceededException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/SetAlarmStateRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/GetMetricStatisticsResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DimensionFilterStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DescribeAlarmHistoryResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/ConcurrentModificationException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/AmazonCloudWatchAsyncClient.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/InvalidParameterValueExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/PutMetricDataRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/MetricDataQueryStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/Tag.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/ResourceNotFoundExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DeleteDashboardsResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/MetricStatStaxUnmarshaller.java

* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/DashboardNotFoundErrorExceptionUnmarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/PutMetricAlarmRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/ComparisonOperator.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/UntagResourceRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/DisableAlarmActionsResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/ListDashboardsRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/PutMetricAlarmResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/GetMetricDataResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/AbstractAmazonCloudWatchAsync.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/InvalidFormatException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/Metric.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/InternalServiceException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/ListDashboardsResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/DescribeAlarmHistoryRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/ListTagsForResourceRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/PutMetricDataResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/Datapoint.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/DescribeAlarmsResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/GetDashboardRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/Dimension.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/DeleteDashboardsRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/MetricStat.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/InvalidParameterCombinationExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/GetMetricStatisticsRequest.java

* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/StateValue.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/InvalidParameterCombinationException.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/AmazonCloudWatchAsync.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/EnableAlarmActionsResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DeleteAlarmsResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/MissingRequiredParameterExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/ListMetricsRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/TagResourceRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/ListDashboardsRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DeleteDashboardsResultStaxUnmarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/MetricDatum.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/SetAlarmStateResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/package-info.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/GetMetricWidgetImageResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/ListMetricsResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DescribeAlarmsForMetricResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/AmazonCloudWatchClient.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/ListTagsForResourceResult.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/GetMetricWidgetImageRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/ListMetricsRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/DescribeAlarmsForMetricRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/InvalidParameterValueException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/AmazonCloudWatchClientBuilder.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/PutMetricDataRequest.java

* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/waiters/AmazonCloudWatchWaiters.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/TagStaxUnmarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/UntagResourceRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/InvalidNextTokenExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/InvalidNextTokenException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/PutDashboardResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/PutDashboardResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/MetricDataQuery.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/MessageData.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/EnableAlarmActionsRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/AmazonCloudWatch.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/DeleteAlarmsRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/TagResourceResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/ResourceNotFoundException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/SetAlarmStateResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/GetMetricDataRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/AmazonCloudWatchException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/MessageDataStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/SetAlarmStateRequestMarshaller.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/ConcurrentModificationExceptionUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/TagResourceResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/transform/GetDashboardRequestMarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-jar/com/amazonaws/services/cloudwatch/model/PutDashboardRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-

jar/com/amazonaws/services/cloudwatch/model/DescribeAlarmsRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/MissingRequiredParameterException.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/UntagResourceResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DimensionFilter.java
*
/aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/DeleteDashboardsRequest.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/AlarmHistoryItemStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/transform/GetDashboardResultStaxUnmarshaller.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/MetricDataResult.java
* /aws-java-sdk-cloudwatch-1-11-553-sources-
jar/com/amazonaws/services/cloudwatch/model/PutMetricAlarmResult.java

# 1.252 jmespath-java 1.11.553

## 1.252.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2019 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/CamelCaseUtils.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathAndExpression.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathValueProjection.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathField.java
*
/jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathNotExpression.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathLengthFunction.java

* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathFilter.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/OpLessThanOrEqualTo.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathSubExpression.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/InvalidTypeException.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathLiteral.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/OpGreaterThanOrEqualTo.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathContainsFunction.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/OpNotEquals.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathMultiSelectList.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathProjection.java
*
/jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathVisitor.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathIdentity.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathFlatten.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/OpLessThan.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/NumericComparator.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/Comparator.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/OpEquals.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathFunction.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/OpGreaterThan.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathExpression.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/JmesPathEvaluationVisitor.java
* /jmespath-java-1-11-553-sources-jar/com/amazonaws/jmespath/ObjectMapperSingleton.java
No license file was found, but licenses were detected in source scan.

<name>Apache License, Version 2.0</name>

Found in path(s):
* /jmespath-java-1-11-553-sources-jar/META-INF/maven/com.amazonaws/jmespath-java/pom.xml

# 1.253 jul-to-slf4j 1.7.36

## 1.253.1 Available under license :

No license file was found, but licenses were detected in source scan.

/**
* Copyright (c) 2004-2011 QOS.ch
* All rights reserved.
*
* Permission is hereby granted, free of charge, to any person obtaining
* a copy of this software and associated documentation files (the
* "Software"), to deal in the Software without restriction, including
* without limitation the rights to use, copy, modify, merge, publish,
* distribute, sublicense, and/or sell copies of the Software, and to
* permit persons to whom the Software is furnished to do so, subject to
* the following conditions:
*

* The above copyright notice and this permission notice shall be
* included in all copies or substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
* EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
* MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
* NONINFRINGEMENT. IN
NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
* LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
* OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
* WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
*
*/

Found in path(s):
* /jul-to-slf4j-1-7-36-sources-jar/org/slf4j/bridge/SLF4JBridgeHandler.java

# 1.254 spring-security-config 5.6.2

## 1.254.1 Available under license :

Apache-2.0

# 1.255 txw2 2.3.6

## 1.255.1 Available under license :

Copyright (c) 2018 Oracle and/or its affiliates. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

- Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

- Neither the name of the Eclipse Foundation, Inc. nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS
IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE

DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
# Notices for Eclipse Implementation of JAXB

This content is produced and maintained by the Eclipse Implementation of JAXB project.

* Project home: https://projects.eclipse.org/projects/ee4j.jaxb-impl

## Trademarks

Eclipse Implementation of JAXB is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For more information regarding authorship of content, please consult the listed source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms of the Eclipse Distribution License v. 1.0 which is available at http://www.eclipse.org/org/documents/edl-v10.php.

SPDX-License-Identifier: BSD-3-Clause

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jaxb-ri
* https://github.com/eclipse-ee4j/jaxb-istack-commons
* https://github.com/eclipse-ee4j/jaxb-dtd-parser
* https://github.com/eclipse-ee4j/jaxb-fi
*
https://github.com/eclipse-ee4j/jaxb-stax-ex
* https://github.com/eclipse-ee4j/jax-rpc-ri

## Third-party Content

This project leverages the following third party content.

Apache Ant (1.10.2)

* License: Apache-2.0 AND W3C AND LicenseRef-Public-Domain

Apache Ant (1.10.2)

* License: Apache-2.0 AND W3C AND LicenseRef-Public-Domain

Apache Felix (1.2.0)

* License: Apache License, 2.0

args4j (2.33)

* License: MIT License

dom4j (1.6.1)

* License: Custom license based on Apache 1.1

file-management (3.0.0)

* License: Apache-2.0
* Project: https://maven.apache.org/shared/file-management/
* Source:
  https://svn.apache.org/viewvc/maven/shared/tags/file-management-3.0.0/

JUnit (4.12)

* License: Eclipse Public License

JUnit (4.12)

* License: Eclipse Public License

maven-compat (3.5.2)

* License: Apache-2.0
* Project: https://maven.apache.org/ref/3.5.2/maven-compat/
* Source:
  https://mvnrepository.com/artifact/org.apache.maven/maven-compat/3.5.2

maven-core
(3.5.2)

* License: Apache-2.0
* Project: https://maven.apache.org/ref/3.5.2/maven-core/index.html

* Source: https://mvnrepository.com/artifact/org.apache.maven/maven-core/3.5.2

maven-plugin-annotations (3.5)

* License: Apache-2.0
* Project: https://maven.apache.org/plugin-tools/maven-plugin-annotations/
* Source:
  https://github.com/apache/maven-plugin-tools/tree/master/maven-plugin-annotations

maven-plugin-api (3.5.2)

* License: Apache-2.0

maven-resolver-api (1.1.1)

* License: Apache-2.0

maven-resolver-api (1.1.1)

* License: Apache-2.0

maven-resolver-connector-basic (1.1.1)

* License: Apache-2.0

maven-resolver-impl (1.1.1)

* License: Apache-2.0

maven-resolver-spi (1.1.1)

* License: Apache-2.0

maven-resolver-transport-file (1.1.1)

* License: Apache-2.0
* Project: https://maven.apache.org/resolver/maven-resolver-transport-file/
* Source:
  https://github.com/apache/maven-resolver/tree/master/maven-resolver-transport-file

maven-resolver-util (1.1.1)

* License: Apache-2.0

maven-settings
(3.5.2)

* License: Apache-2.0

* Source:
  https://mvnrepository.com/artifact/org.apache.maven/maven-settings/3.5.2

OSGi Service Platform Core Companion Code (6.0)

* License: Apache License, 2.0

plexus-archiver (3.5)

* License: Apache-2.0
* Project: https://codehaus-plexus.github.io/plexus-archiver/
* Source: https://github.com/codehaus-plexus/plexus-archiver

plexus-io (3.0.0)

* License: Apache-2.0

plexus-utils (3.1.0)

* License: Apache- 2.0 or Apache- 1.1 or BSD or Public Domain or Indiana
  University Extreme! Lab Software License V1.1.1 (Apache 1.1 style)

relaxng-datatype (1.0)

* License: New BSD license

Sax (0.2)

* License: SAX-PD
* Project: http://www.megginson.com/downloads/SAX/
* Source: http://sourceforge.net/project/showfiles.php?group_id=29449

testng (6.14.2)

* License: Apache-2.0 AND (MIT OR GPL-1.0+)
* Project: https://testng.org/doc/index.html
* Source: https://github.com/cbeust/testng

wagon-http-lightweight (3.0.0)

* License: Pending
*
 Project: https://maven.apache.org/wagon/
* Source:
  https://mvnrepository.com/artifact/org.apache.maven.wagon/wagon-http-lightweight/3.0.0

xz for java (1.8)

* License: LicenseRef-Public-Domain

## Cryptography

Content may contain encryption software. The country in which you are currently may have restrictions on the import, possession, and use, and/or re-export to another country, of encryption software. BEFORE using any encryption software, please check the country's laws, regulations and policies concerning the import, possession, or use, and re-export of encryption software, to see if this is permitted.

# 1.256 spring-security-web 5.6.2

## 1.256.1 Available under license :

Apache-2.0

# 1.257 accessors-smart 2.4.8

## 1.257.1 Available under license :

No license file was found, but licenses were detected in source scan.

Manifest-Version: 1.0
Bnd-LastModified: 1644737816481
Build-Jdk: 11.0.14
Built-By: uriel
Bundle-Description: Java reflect give poor performance on getter sette
r an constructor calls, accessors-smart use ASM to speed up those cal
ls.
Bundle-DocURL: https://urielch.github.io/
Bundle-License: http://www.apache.org/licenses/LICENSE-2.0.txt
Bundle-ManifestVersion: 2
Bundle-Name: accessors-smart
Bundle-SymbolicName: net.minidev.accessors-smart
Bundle-Vendor: Chemouni Uriel
Bundle-Version: 2.4.8
Created-By: Apache Maven Bundle Plugin
Export-Package: net.minidev.asm;uses:="org.objectweb.asm";version="2.4
.8",net.minidev.asm.ex;version="2.4.8"
Import-Package: org.objectweb.asm;version="[8.0,10)",net.minidev.asm.e
x
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"
Tool: Bnd-5.1.1.202006162103

Found in path(s):
* /accessors-smart-2-4-8-jar/META-INF/MANIFEST.MF

No license file was found, but licenses were detected in source scan.

<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>

Found in path(s):
* /accessors-smart-2-4-8-jar/META-INF/maven/net.minidev/accessors-smart/pom.xml

# 1.258 jaxb-runtime 2.3.6

## 1.258.1 Available under license :

Copyright (c) 2018 Oracle and/or its affiliates. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

- Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

- Neither the name of the Eclipse Foundation, Inc. nor the names of its
  contributors may be used to endorse or promote products derived
  from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
# Notices for Eclipse Implementation of JAXB

This content is produced and maintained by the Eclipse Implementation of JAXB
project.

* Project home: https://projects.eclipse.org/projects/ee4j.jaxb-impl

## Trademarks

Eclipse Implementation of JAXB is a trademark of the Eclipse Foundation.

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Distribution License v. 1.0 which is available at
http://www.eclipse.org/org/documents/edl-v10.php.

SPDX-License-Identifier: BSD-3-Clause

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jaxb-ri
* https://github.com/eclipse-ee4j/jaxb-istack-commons
* https://github.com/eclipse-ee4j/jaxb-dtd-parser
* https://github.com/eclipse-ee4j/jaxb-fi
*
 https://github.com/eclipse-ee4j/jaxb-stax-ex
* https://github.com/eclipse-ee4j/jax-rpc-ri

## Third-party Content

This project leverages the following third party content.

Apache Ant (1.10.2)

* License: Apache-2.0 AND W3C AND LicenseRef-Public-Domain

Apache Ant (1.10.2)

* License: Apache-2.0 AND W3C AND LicenseRef-Public-Domain

Apache Felix (1.2.0)

* License: Apache License, 2.0

args4j (2.33)

* License: MIT License

dom4j (1.6.1)

* License: Custom license based on Apache 1.1

file-management (3.0.0)

* License: Apache-2.0
* Project: https://maven.apache.org/shared/file-management/
* Source:
  https://svn.apache.org/viewvc/maven/shared/tags/file-management-3.0.0/

JUnit (4.12)

* License: Eclipse Public License

JUnit (4.12)

* License: Eclipse Public License

maven-compat (3.5.2)

* License: Apache-2.0
* Project: https://maven.apache.org/ref/3.5.2/maven-compat/
* Source:
  https://mvnrepository.com/artifact/org.apache.maven/maven-compat/3.5.2

maven-core
(3.5.2)

* License: Apache-2.0
* Project: https://maven.apache.org/ref/3.5.2/maven-core/index.html
* Source: https://mvnrepository.com/artifact/org.apache.maven/maven-core/3.5.2

maven-plugin-annotations (3.5)

* License: Apache-2.0
* Project: https://maven.apache.org/plugin-tools/maven-plugin-annotations/
* Source:
  https://github.com/apache/maven-plugin-tools/tree/master/maven-plugin-annotations

maven-plugin-api (3.5.2)

* License: Apache-2.0

maven-resolver-api (1.1.1)

* License: Apache-2.0

maven-resolver-api (1.1.1)

* License: Apache-2.0

maven-resolver-connector-basic (1.1.1)

* License: Apache-2.0

maven-resolver-impl (1.1.1)

* License: Apache-2.0

maven-resolver-spi (1.1.1)

* License: Apache-2.0

maven-resolver-transport-file (1.1.1)

* License: Apache-2.0
* Project: https://maven.apache.org/resolver/maven-resolver-transport-file/
* Source:
  https://github.com/apache/maven-resolver/tree/master/maven-resolver-transport-file

maven-resolver-util (1.1.1)

* License: Apache-2.0

maven-settings
(3.5.2)

* License: Apache-2.0
* Source:
  https://mvnrepository.com/artifact/org.apache.maven/maven-settings/3.5.2

OSGi Service Platform Core Companion Code (6.0)

* License: Apache License, 2.0

plexus-archiver (3.5)

* License: Apache-2.0
* Project: https://codehaus-plexus.github.io/plexus-archiver/
* Source: https://github.com/codehaus-plexus/plexus-archiver

plexus-io (3.0.0)

* License: Apache-2.0

plexus-utils (3.1.0)

* License: Apache- 2.0 or Apache- 1.1 or BSD or Public Domain or Indiana
  University Extreme! Lab Software License V1.1.1 (Apache 1.1 style)

relaxng-datatype (1.0)

* License: New BSD license

Sax (0.2)

* License: SAX-PD
* Project: http://www.megginson.com/downloads/SAX/
* Source: http://sourceforge.net/project/showfiles.php?group_id=29449

testng (6.14.2)

* License: Apache-2.0 AND (MIT OR GPL-1.0+)
* Project: https://testng.org/doc/index.html
* Source: https://github.com/cbeust/testng

wagon-http-lightweight (3.0.0)

* License: Pending
*
 Project: https://maven.apache.org/wagon/
* Source:
  https://mvnrepository.com/artifact/org.apache.maven.wagon/wagon-http-lightweight/3.0.0

xz for java (1.8)

* License: LicenseRef-Public-Domain

## Cryptography

Content may contain encryption software. The country in which you are currently may have restrictions on the import, possession, and use, and/or re-export to another country, of encryption software. BEFORE using any encryption software, please check the country's laws, regulations and policies concerning the import, possession, or use, and re-export of encryption software, to see if this is permitted.

# 1.259 libtommath1 1.0.1-1

## 1.259.1 Available under license :

LibTomMath is licensed under DUAL licensing terms.

Choose and use the license of your needs.

[LICENSE #1]

LibTomMath is public domain.  As should all quality software be.

Tom St Denis

[/LICENSE #1]

[LICENSE #2]

DO WHAT THE FUCK YOU WANT TO PUBLIC LICENSE
Version 2, December 2004

Copyright (C) 2004 Sam Hocevar <sam@hocevar.net>

Everyone is permitted to copy and distribute verbatim or modified
copies of this license document, and changing it is allowed as long
as the name is changed.

DO WHAT THE FUCK YOU WANT TO PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. You just DO WHAT THE FUCK YOU WANT TO.

[/LICENSE #2]

# 1.260 apache-log4j 2.17.2

## 1.260.1 Available under license :

Apache Log4j Core
Copyright 1999-2012 Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

ResolverUtil.java
Copyright 2005-2006 Tim Fennell

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally

submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright 1999-2005 The Apache Software Foundation

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.261 flyway-core 8.0.5

## 1.261.1 Available under license :

No license file was found, but licenses were detected in source scan.

2021

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE
2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Found in path(s):
* /flyway-core-8-0-5-sources-jar/META-INF/maven/org.flywaydb/flyway-core/pom.xml
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) Red Gate Software Ltd 2010-2021
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*

*  http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/migration/BaseJavaMigration.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/CloseableIterator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/buffered/BufferedLog.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/Function.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/BaseDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/snowflake/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/MySQLConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/callback/SqlScriptCallbackFactory.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/logging/apachecommons/ApacheCommonsLogCreator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/PositionTrackingReader.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/PositionTracker.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/info/MigrationInfoImpl.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/license/FlywayTrialExpiredException.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/BomFilter.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/IOUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/saphana/SAPHANAParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/MigrateResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/Database.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/info/MigrationInfoDumper.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/sql/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/resource/LoadableResource.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/schemahistory/AppliedMigration.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/BomStrippingReader.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/h2/H2Database.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/extensibility/ConfigurationProvider.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/command/DbInfo.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/authentication/ExternalAuthFileReader.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/TransactionalExecutionTemplate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/saphana/SAPHANAConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/ParserSqlScript.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/Parser.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/MigrateOutput.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/cockroachdb/CockroachDBParser.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/informix/InformixSchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/snowflake/SnowflakeConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/cloud/CloudScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/cockroachdb/CockroachDBSchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/redshift/RedshiftDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/h2/H2Parser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/ResourceNameValidator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/DB2Function.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/exception/FlywaySqlException.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/schemahistory/JdbcTableSchemaHistory.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/Schema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/DB2Type.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/ClassPathLocationScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/Result.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/ValidateResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/saphana/SAPHANADatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/OsgiClassPathLocationScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/snowflake/SnowflakeSchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/callback/Context.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/license/Edition.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/AbbreviationUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/synapse/SynapseDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/configuration/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/ClassProvider.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/StatementType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/callback/CallbackExecutor.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/jboss/JBossVFSv2UrlResolver.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/ClassUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/InsertRowLock.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/hsqldb/HSQLDBParser.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/logging/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/UndoOutput.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/ParsedSqlStatement.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/executor/Context.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/Connection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/h2/H2Connection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/redshift/RedshiftTable.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLCopyParsedStatement.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/MigrationPattern.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/s3/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/CleanResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/OracleSqlScriptExecutor.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/synapse/SynapseSchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/package-info.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/database/cockroachdb/CockroachDBDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/cockroachdb/CockroachDBConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/informix/InformixParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/configuration/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/Location.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/DefaultSqlScriptExecutor.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/ResolvedMigrationComparator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/TestContainersDatabaseType.java
*
 /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/database/cockroachdb/CockroachDBRetryingStrategy.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/DatabaseExecutionStrategy.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/clazz/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/OracleResults.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/database/sybasease/SybaseASEJTDSDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/derby/DerbyDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/MigrateErrorResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/info/MigrationInfoContext.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/ParsingContext.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/h2/H2DatabaseType.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/license/VersionPrinter.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/filesystem/FileSystemResource.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/derby/DerbyParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/mariadb/MariaDBDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/authentication/postgres/PgpassFileReader.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/resource/Resource.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/DB2Table.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/SqlScriptExecutorFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/apachecommons/ApacheCommonsLog.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/firebird/FirebirdConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/derby/DerbySchema.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/configuration/ConfigurationValidator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/configuration/S3ClientFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/OracleDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/resolver/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/apachecommons/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sybasease/SybaseASEDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/SqlScriptExecutor.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/AsciiTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/snowflake/SnowflakeDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/SQLServerParser.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/java/ScanningJavaMigrationResolver.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/executor/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/JdbcNullTypes.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/UndoResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/callback/DefaultCallbackExecutor.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/firebird/FirebirdParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/ParserContext.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/StringResource.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlite/SQLiteTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/resolver/ResolvedMigration.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/callback/Error.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/exception/FlywayDbUpgradeRequiredException.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/ResourceName.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/h2/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/DatabaseTypeRegister.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/MySQLNamedLockTemplate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/callback/NoopCallbackExecutor.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/snowflake/SnowflakeParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/logging/LogCreator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/informix/InformixConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/derby/DerbyTable.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/redshift/RedshiftType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/MigrationInfo.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/redshift/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/license/FlywayTeamsUpgradeMessage.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/logging/LogFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/ChecksumCalculator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/ResourceNameCache.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/saphana/SAPHANASchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/authentication/mysql/MySQLOptionFileReader.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/BaselineResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/SqlCallable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/Type.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/java/ResolvedJavaMigration.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/mariadb/MariaDBDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/DefaultExecutionStrategy.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/MySQLParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/FlywayExecutor.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/DB2DatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/saphana/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/firebird/FirebirdSchema.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/OracleSchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/TableLockingExecutionTemplate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/DefaultUrlResolver.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/Results.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/DB2Schema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/resource/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/resolver/Context.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/sql/SqlMigrationExecutorFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/Table.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/javautil/JavaUtilLog.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/package-info.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/derby/DerbyConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/InfoResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/Locations.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/resolver/MigrationResolver.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/jboss/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/FlywaySqlScriptException.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/logging/Log.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/ClasspathClassScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlite/SQLiteSchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/OperationResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/java/FixedJavaMigrationResolver.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/configuration/FluentConfiguration.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/MigrationVersion.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/SchemaObject.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/MigrationInfoHelper.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/snowflake/SnowflakeTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/ExceptionUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/command/DbBaseline.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/schemahistory/SchemaHistory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/schemahistory/SchemaHistoryFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/SQLServerEngineEdition.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/PeekingReader.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/ResourceProvider.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/SQLServerDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/ResourceNameParser.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLAdvisoryLockTemplate.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/scanner/classpath/FileSystemClassPathLocationScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/SqlScriptMetadata.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/callback/Event.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/Token.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/mariadb/MariaDBParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/classpath/ClassPathResource.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/Recorder.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/MigrationInfoService.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/derby/DerbyDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/informix/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/callback/Callback.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/informix/InformixTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/callback/Warning.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/filesystem/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/OracleConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/hsqldb/HSQLDBTable.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sybasease/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/FlywayTeamsObjectResolver.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/SqlScript.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/ResourceAndClassScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/log4j2/Log4j2Log.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sybasease/SybaseASEParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/MigrationState.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/MachineFingerprintUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/h2/H2Table.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/command/DbMigrate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/postgresql/package-info.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/RowMapper.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/saphana/SAPHANATable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/s3/AwsS3Resource.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/firebird/FirebirdTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/synapse/SynapseDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/DB2Database.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/ExecutionTemplateFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/extensibility/Plugin.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/command/DbValidate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/cockroachdb/package-info.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/log4j2/Log4j2LogCreator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/synapse/SynapseConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/cockroachdb/CockroachDBDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/FlywayException.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/UnboundedReadAheadReader.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/resolver/ChecksumMatcher.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/info/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/configuration/ClassicConfiguration.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/saphana/SAPHANADatabaseType.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/strategy/BackoffStrategy.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/slf4j/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/Pair.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/javautil/JavaUtilLogCreator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/CompositeResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/OracleTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/MySQLTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/clazz/NoopClassProvider.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/SQLServerTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/migration/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/package-info.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/license/FlywayEditionUpgradeRequiredException.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/filesystem/FileSystemScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/license/FlywayTeamsUpgradeRequiredException.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/FeatureDetector.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/cloud/s3/AwsS3Scanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/slf4j/Slf4jLog.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/ErrorOutput.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/JdbcTemplate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/WarningImpl.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/DB2Parser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/hsqldb/HSQLDBSchema.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/MySQLDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/informix/InformixDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/SqlStatement.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/RepairResult.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/ValidateOutput.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/FlywayDbWebsiteLinks.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/MySQLSchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/hsqldb/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/EvolvingLog.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sybasease/SybaseASEConnection.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/callback/Statement.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/snowflake/SnowflakeDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/DatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/SqlStatementIterator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlite/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/InfoOutput.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/info/MigrationInfoServiceImpl.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/CommandResultFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlite/SQLiteConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/command/DbClean.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/callback/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/callback/SimpleContext.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/firebird/FirebirdDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/sql/SqlMigrationResolver.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/database/sybasease/SybaseASEJConnectDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/firebird/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/ExecutionTemplate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/slf4j/Slf4jLogCreator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/MigrationType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sybasease/SybaseASESchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/BooleanEvaluator.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/exception/FlywayValidateException.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/StopWatch.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/command/DbSchemas.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/pattern/ValidatePattern.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/db2/DB2Connection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/license/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/DataUnits.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/callback/BaseCallback.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/command/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/info/AppliedMigrationAttributes.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/PlaceholderReplacingReader.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/multi/MultiLogCreator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/firebird/FirebirdDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/configuration/Configuration.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/mysql/MySQLDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/h2/H2Schema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/command/DbRepair.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/Flyway.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/JdbcConnectionFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/strategy/RetryStrategy.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlite/SQLiteDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/executor/MigrationExecutor.java
*
 /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/cockroachdb/CockroachDBTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/UrlResolver.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/PlainExecutionTemplate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlite/SQLiteDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/derby/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/RepairOutput.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/FileCopyUtils.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/scanner/classpath/jboss/JBossVFSv3ClassPathLocationScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/migration/Context.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/LocationScannerCache.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/StatementInterceptor.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/RecordingReader.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLSchema.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/TokenType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/sql/DefaultSqlMigrationExecutorFactory.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/migration/JavaMigration.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/hsqldb/HSQLDBDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/exception/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/OracleDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/synapse/SynapseTable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/package-info.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/CompositeMigrationResolver.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/extensibility/ConfigurationExtension.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/postgresql/PostgreSQLParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/OperationResultBase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/plugin/PluginRegister.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/configuration/ConfigUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/schemahistory/package-info.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/scanner/classpath/JarFileClassPathLocationScanner.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/database/sqlserver/SQLServerApplicationLockTemplate.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/DriverDataSource.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/classpath/ClassPathScanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/oracle/OracleParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/JdbcUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sybasease/SybaseASETable.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/multi/MultiLogger.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/scanner/Scanner.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/ResolvedMigrationImpl.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/hsqldb/HSQLDBConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/extensibility/PluginMetadata.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/StringUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/informix/InformixDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/base/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/java/package-info.java

* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/redshift/RedshiftConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/callback/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/parser/Statement.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/InfoOutputProvider.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/classpath/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/ResourceType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlite/SQLiteParser.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/authentication/ExternalAuthPropertiesProvider.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/SQLServerDatabase.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/redshift/RedshiftSchema.java
* /flyway-core-8-0-5-sources-
jar/org/flywaydb/core/internal/database/cockroachdb/CockroachRetryingTransactionalExecutionTemplate.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/java/JavaMigrationExecutor.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/ErrorDetails.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/buffered/BufferedLogCreator.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/callback/NoopCallback.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/redshift/RedshiftParser.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/SqlScriptFactory.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/sqlscript/Delimiter.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/SQLServerConnection.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resolver/sql/SqlMigrationExecutor.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/hsqldb/HSQLDBDatabaseType.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/TimeFormat.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/jdbc/ErrorImpl.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/ErrorCode.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/UrlUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/api/output/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/resource/NoopResourceProvider.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/sqlserver/SQLServerSchema.java
*
/flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/util/DateUtils.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/logging/javautil/package-info.java
* /flyway-core-8-0-5-sources-jar/org/flywaydb/core/internal/database/redshift/RedshiftDatabaseType.java

# 1.262 jackson-datatype-jsr310 2.13.2

## 1.262.1 Available under license :

This copy of Jackson JSON processor streaming parser/generator is licensed under the
Apache (Software) License, version 2.0 ("the License").
See the License for details about distribution rights, and the
specific rights regarding derivate works.

You may obtain a copy of the License at:

http://www.apache.org/licenses/LICENSE-2.0

# 1.263 expat 2.2.5-3ubuntu0.7

## 1.263.1 Available under license :

Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper
Copyright (c) 2001-2017 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN
ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.264 log4j-api 2.17.2

## 1.264.1 Available under license :

Apache Log4j API
Copyright 1999-2022 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent

to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works

that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS,

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.

You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.265 jackson-datatype-jdk8 2.13.2

## 1.265.1 Available under license :

Apache-2.0

# 1.266 jackson-annotations 2.13.2

## 1.266.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,

including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of

this
License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside

or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
   the Work or Derivative Works thereof, You may choose to offer,
   and charge a fee for, acceptance of support, warranty, indemnity,
   or other liability obligations and/or rights consistent with this
   License. However, in accepting such obligations, You may act only
   on Your own behalf and on Your sole responsibility, not on behalf
   of any other Contributor, and only if You agree to indemnify,
   defend, and hold each Contributor harmless for any liability
    incurred by, or claims asserted against, such Contributor by reason
   of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

   To apply the Apache License to your work, attach the following
   boilerplate notice, with the fields enclosed by brackets "[]"
   replaced with your own identifying information. (Don't include
   the brackets!)  The text should be enclosed in the appropriate
   comment syntax for the file format. We also recommend that a
   file or class name and description of purpose be included on the
   same "printed page" as the copyright notice for easier
   identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

    http://www.apache.org/licenses/LICENSE-2.0

 Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.267 jackson-module-parameter-names 2.13.2

## 1.267.1 Available under license :

Apache-2.0

# 1.268 jackson-dataformat-cbor 2.13.2

## 1.268.1 Available under license :

Apache-2.0

# 1.269 tar 1.29b-2ubuntu0.3

## 1.269.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they

know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A

"Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section

4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This
License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts,
regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no

more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source
as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,

procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as
part of a transaction in which the right of possession and use of the
User Product is transferred to the recipient in perpetuity or for a
fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied
by the Installation Information. But this requirement does not apply
if neither you nor any third party retains the ability to install
modified object code on the User Product (for example, the work has
been installed in
ROM).

The requirement to provide Installation Information does not include a
requirement to continue to provide support service, warranty, or updates
for a work that has been modified or installed by the recipient, or for
the User Product in which it has been modified or installed. Access to a
network may be denied when the modification itself materially and
adversely affects the operation of the network or violates the rules and
protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided,
in accord with this section must be in a format that is publicly
documented (and with an implementation available to the public in
source code form), and must require no special password or key for
unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this
License by making exceptions from one or more of its conditions.
Additional permissions that are applicable to the
entire Program shall
be treated as though they were included in this License, to the extent
that they are valid under applicable law. If additional permissions
apply only to part of the Program, that part may be used separately
under those permissions, but the entire Program remains governed by
this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option
remove any additional permissions from that copy, or from any part of

it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting

any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of
the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the
Program specifies that a certain numbered version of the GNU General
Public License "or any later version" applies to it, you
have the
option of following the terms and conditions either of that numbered
version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of the
GNU General Public License, you may choose any version ever published
by the Free Software Foundation.

If the Program specifies that a proxy can decide which future
versions of the GNU General Public License can be used, that proxy's
public statement of acceptance of a version permanently authorizes you
to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest

to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where
the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.270 spring-hateoas 1.4.1

## 1.270.1 Available under license :

Spring HATEOAS 0.22
Copyright (c) [2012-2016] Pivotal Software, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License").
You may not use this product except in compliance with the License.

This product may include a number of subcomponents with
separate copyright notices and license terms. Your use of the source
code for the these subcomponents is subject to the terms and
conditions of the subcomponent's license, as noted in the LICENSE file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,

and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable

by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only

on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

To the extent any open source subcomponents are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://www.springsource.org/download, or by sending a request, with your name and address to: VMware, Inc., 3401 Hillview Avenue, Palo Alto, CA 94304,
United States of America or email info@vmware.com. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. VMware shall mail a copy of the Source Files to you on a CD or equivalent physical medium. This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product.

# 1.271 log4j-slf4j-impl 2.17.2

## 1.271.1 Available under license :

Apache Log4j SLF4J Binding
Copyright 1999-2022 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or

Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You

institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,

reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability

incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.272 spring-data-commons 2.6.3

## 1.272.1 Available under license :

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its

distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

To the extent any open source subcomponents are licensed under the EPL and/or other
similar licenses that require the source code and/or modifications to
source code to be made available (as would be noted above), you may obtain a
copy of the source code corresponding to the binaries for such open source
components and modifications thereto, if any, (the "Source Files"), by
downloading the Source Files from https://www.springsource.org/download,
or by sending a request, with your name and address to: VMware, Inc., 3401 Hillview
Avenue, Palo Alto, CA 94304,
United States of America or email info@vmware.com. All
such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General
Counsel. VMware shall mail a copy of the Source Files to you on a CD or equivalent
physical medium. This offer to obtain a copy of the Source Files is valid for three
years from the date you acquired this Software product.
Spring Data Commons 2.6.3 (2021.1.3)
Copyright (c) [2010-2021] Pivotal Software, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License").
You may not use this product except in compliance with the License.

This product may include a number of subcomponents with
separate copyright notices and license terms. Your use of the source
code for the these subcomponents is subject to the terms and
conditions of the subcomponent's license, as noted in the LICENSE file.

# 1.273 zlib 1.2.12

## 1.273.1 Available under license :

* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.12, March 11th, 2022

Copyright (C) 1995-2022 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not

claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for
Comments) 1950 to 1952 in the files http://tools.ietf.org/html/rfc1950
(zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).
*/
Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization
obtaining a copy of the software and accompanying documentation covered by
this license (the "Software") to use, reproduce, display, distribute,
execute, and transmit the Software, and to prepare derivative works of the
Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part, and
all derivative works of the Software, unless such copies or derivative
works are solely in the form of machine-executable object code generated by
a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE
FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

# 1.274 jackson-databind 2.13.2.2

## 1.274.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library.
It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has
been in development since 2007.
It is currently developed by a community of developers.

## Licensing

Jackson 2.x core and extension components are licensed under Apache License 2.0
To find the details that apply to this artifact see the accompanying LICENSE file.

## Credits

A list of contributors may be found from CREDITS(-2.x) file, which is included
in some artifacts (usually source distributions); but is always available
from the source code management (SCM) system project uses.

# 1.275 tomcat 9.0.60

## 1.275.1 Available under license :

Apache Tomcat
Copyright 1999-2022 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

The original XML Schemas for Java EE Deployment Descriptors:
- javaee_5.xsd
- javaee_web_services_1_2.xsd
- javaee_web_services_client_1_2.xsd
- javaee_6.xsd
- javaee_web_services_1_3.xsd

- javaee_web_services_client_1_3.xsd
- jsp_2_2.xsd
- web-app_3_0.xsd
- web-common_3_0.xsd
- web-fragment_3_0.xsd
- javaee_7.xsd
- javaee_web_services_1_4.xsd
- javaee_web_services_client_1_4.xsd
- jsp_2_3.xsd
- web-app_3_1.xsd
- web-common_3_1.xsd
- web-fragment_3_1.xsd
- javaee_8.xsd
- web-app_4_0.xsd
- web-common_4_0.xsd
- web-fragment_4_0.xsd

may be obtained from:
http://www.oracle.com/webfolder/technetwork/jsc/xml/ns/javaee/index.html

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation

source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this

License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided

that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

APACHE TOMCAT SUBCOMPONENTS:

Apache Tomcat includes a number of subcomponents with separate copyright notices
and license terms. Your use of these subcomponents is subject to the terms and
conditions of the following licenses.

For the following XML Schemas for Java EE Deployment Descriptors:

- javaee_5.xsd
- javaee_web_services_1_2.xsd
- javaee_web_services_client_1_2.xsd
- javaee_6.xsd
- javaee_web_services_1_3.xsd
- javaee_web_services_client_1_3.xsd
- jsp_2_2.xsd
- web-app_3_0.xsd
- web-common_3_0.xsd
- web-fragment_3_0.xsd
- javaee_7.xsd
- javaee_web_services_1_4.xsd
- javaee_web_services_client_1_4.xsd
- jsp_2_3.xsd
- web-app_3_1.xsd
- web-common_3_1.xsd
- web-fragment_3_1.xsd
- javaee_8.xsd
- web-app_4_0.xsd
- web-common_4_0.xsd
- web-fragment_4_0.xsd

COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL) Version 1.0

1. Definitions.

1.1. Contributor. means each individual or entity that creates or contributes to the creation of Modifications.

1.2. Contributor Version. means the combination of the Original Software, prior Modifications used by a Contributor (if any), and the Modifications made by that particular Contributor.

1.3. Covered Software. means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.

1.4. Executable. means the Covered Software in any form other than Source Code.

1.5. Initial Developer. means the individual or entity that first makes Original Software available
under this License.

1.6. Larger Work. means a work which combines Covered Software or portions thereof with code not governed by the terms of this License.

1.7. License. means this document.

1.8. Licensable. means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. Modifications. means the Source Code and Executable form of any of the following:

A. Any file that results from an addition to, deletion from or modification of the contents of a file containing Original Software or previous Modifications;

B. Any new file that contains any part of the Original Software or previous Modification; or

C. Any new file that is contributed or otherwise made available under the terms of this License.

1.10. Original Software. means the Source Code and Executable form of computer software code that is originally released under this License.

1.11. Patent Claims. means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.12. Source Code. means (a) the common form of computer software code in which modifications are made and (b) associated documentation included in or with such code.

1.13. You. (or .Your.) means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, .You. includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, .control. means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants.

2.1. The Initial Developer Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, the Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer, to use, reproduce, modify, display, perform, sublicense and distribute the Original Software (or portions thereof), with or without Modifications, and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using or selling of Original Software, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Software (or portions thereof).

(c) The licenses granted in Sections 2.1(a) and (b) are effective on the date Initial Developer first distributes or otherwise makes the Original Software available to a third party under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: (1) for code that You delete from the Original Software, or (2) for infringements caused by: (i) the modification of the Original Software, or (ii) the combination of the Original Software with other software or devices.

2.2. Contributor Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof), either on an unmodified basis, with other Modifications, as Covered Software and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: (1) Modifications made by that Contributor (or portions thereof); and (2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) The licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first distributes or otherwise makes the Modifications available to a third party.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: (1) for any code that Contributor has deleted from the Contributor Version; (2) for infringements caused by: (i) third party modifications of Contributor Version, or (ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or (3) under Patent Claims infringed by Covered Software in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Availability of Source Code.
Any Covered Software that You distribute or otherwise make available in Executable form must also be made available in Source Code form and that Source Code form must be distributed only under the terms of this License. You must include a copy of this License
with every copy of the Source Code
form of the Covered Software You distribute or otherwise make available. You must inform recipients of any such Covered Software in Executable form as to how they can obtain such Covered Software in Source Code form in a reasonable manner on or through a medium customarily used for software exchange.

3.2. Modifications.
The Modifications that You create or to which You contribute are governed by the terms of this License. You represent that You believe Your Modifications are Your original creation(s) and/or You have sufficient rights to grant the rights conveyed by this License.

3.3. Required Notices.
You must include a notice in each of Your Modifications that identifies You as the Contributor of the Modification. You may not remove or alter any copyright, patent or trademark notices contained within the Covered Software, or any notices of licensing or any descriptive
text giving
attribution to any Contributor or the Initial Developer.

3.4. Application of Additional Terms.
You may not offer or impose any terms on any Covered Software in Source Code form that alters or restricts the applicable version of this License or the recipients. rights hereunder. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, you may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as

a result of warranty, support, indemnity or liability terms You offer.

3.5.
Distribution of Executable Versions.
You may distribute the Executable form of the Covered Software under the terms of this License or under the terms of a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable form does not attempt to limit or alter the recipient.s rights in the Source Code form from the rights set forth in this License. If You distribute the Covered Software in Executable form under a different license, You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.6. Larger Works.
You
may create a Larger Work by combining Covered Software with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Software.

4. Versions of the License.

4.1. New Versions.
Sun Microsystems, Inc. is the initial license steward and may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Except as provided in Section 4.3, no one other than the license steward has the right to modify this License.

4.2. Effect of New Versions.
You may always continue to use, distribute or otherwise make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. If the Initial Developer includes a notice in the Original Software
prohibiting it from
being distributed or otherwise made available under any subsequent version of the License, You must distribute and make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. Otherwise, You may also choose to use, distribute or otherwise make the Covered Software available under the terms of any subsequent version of the License published by the license steward.

4.3. Modified Versions.

When You are an Initial Developer and You want to create a new license for Your Original Software, You may create and use a modified version of this License if You: (a) rename the license and remove any references to the name of the license steward (except to note that the license differs from this License); and (b) otherwise make it clear that the license contains terms which differ from this License.

5. DISCLAIMER
OF WARRANTY.

COVERED SOFTWARE IS PROVIDED UNDER THIS LICENSE ON AN .AS IS. BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED SOFTWARE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED SOFTWARE IS WITH YOU. SHOULD ANY COVERED SOFTWARE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED SOFTWARE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

6. TERMINATION.

6.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach.

Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

6.2. If You assert a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You assert such claim is referred to as .Participant.) alleging that the Participant Software (meaning the Contributor Version where the Participant is a Contributor or the Original Software where the Participant is the Initial Developer) directly or indirectly infringes any patent, then any and all rights granted directly or indirectly to You by such Participant, the Initial Developer (if the Initial Developer is not the Participant) and all Contributors under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate

prospectively and automatically at the expiration of such 60 day notice period, unless if within such 60 day period You withdraw Your claim with respect to the Participant Software against such Participant either unilaterally or pursuant to a written agreement with Participant.

6.3. In the event of termination under Sections 6.1 or 6.2 above, all end user licenses that have been validly granted by You or any distributor hereunder prior to termination (excluding licenses granted to You by any distributor) shall survive termination.

7. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED SOFTWARE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES
OF ANY CHARACTER INCLUDING, WITHOUT
LIMITATION, DAMAGES FOR LOST PROFITS, LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY.S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

8. U.S. GOVERNMENT END USERS.

The Covered Software is a .commercial item,. as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of .commercial computer software. (as that term is defined at 48 C.F.R. ? 252.227-7014(a)(1)) and commercial computer software documentation. as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent
with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1
through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Software with only those rights set forth herein. This U.S. Government Rights clause is in lieu of, and supersedes, any other FAR, DFAR, or other clause or provision that addresses Government rights in computer software under this License.

9. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by the law of the jurisdiction specified in a notice contained within the Original Software (except to the extent applicable law, if any, provides otherwise), excluding such jurisdiction's conflict-of-law provisions. Any litigation relating to this License shall be subject to the jurisdiction of the courts located
in the
jurisdiction and venue specified in a notice contained within the Original

Software, with the losing party responsible for costs, including, without limitation, court costs and reasonable attorneys. fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License. You agree that You alone are responsible for compliance with the United States export administration regulations (and the export control laws and regulation of any other countries) when You use, distribute or otherwise make available any Covered Software.

10. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License
and You agree to work with Initial
Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

NOTICE PURSUANT TO SECTION 9 OF THE COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)

The code released under the CDDL shall be governed by the laws of the State of California (excluding conflict-of-law provisions). Any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California and the state courts of the State of California, with venue lying in Santa Clara County, California.

# 1.276 log4j-jul 2.17.2

## 1.276.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise

designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any

risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache Log4j JUL Adapter
Copyright 1999-2022 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

# 1.277 spring-expression 5.3.18

## 1.277.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0
(the "License"). You may not use this product except in compliance with
the License.

This product may include a number of subcomponents with separate
copyright notices and license terms. Your use of the source code for
these subcomponents is subject to the terms and conditions of the
subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the

outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of

this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed

as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.278 spring-context 5.3.18

## 1.278.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License"). You may not use this product except in compliance with the License.

This product may include a number of subcomponents with separate copyright notices and license terms. Your use of the source code for these subcomponents is subject to the terms and conditions of the subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership

of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,

worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or

documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.279 spring-framework 5.3.18

## 1.279.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License"). You may not use this product except in compliance with the License.

This product may include a number of subcomponents with separate copyright notices and license terms. Your use of the source code for these subcomponents is subject to the terms and conditions of the subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership

of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,

worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or

documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.280 spring-web-mvc 5.3.18

## 1.280.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License"). You may not use this product except in compliance with the License.

This product may include a number of subcomponents with separate copyright notices and license terms. Your use of the source code for these subcomponents is subject to the terms and conditions of the subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership

of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,

worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or

documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.281 spring-beans 5.3.18

## 1.281.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License"). You may not use this product except in compliance with the License.

This product may include a number of subcomponents with separate copyright notices and license terms. Your use of the source code for these subcomponents is subject to the terms and conditions of the subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership

of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,

worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or

documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.282 spring-tx 5.3.18

## 1.282.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License"). You may not use this product except in compliance with the License.

This product may include a number of subcomponents with separate copyright notices and license terms. Your use of the source code for these subcomponents is subject to the terms and conditions of the subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership

of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,

worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or

documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.283 spring-web 5.3.18

## 1.283.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License"). You may not use this product except in compliance with the License.

This product may include a number of subcomponents with separate copyright notices and license terms. Your use of the source code for these subcomponents is subject to the terms and conditions of the subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership

of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,

worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or

documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.284 spring-aop 5.3.18

## 1.284.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License"). You may not use this product except in compliance with the License.

This product may include a number of subcomponents with separate copyright notices and license terms. Your use of the source code for these subcomponents is subject to the terms and conditions of the subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership

of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,

worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or

documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.285 spring-aspects 5.3.18

## 1.285.1 Available under license :

Spring Framework ${version}
Copyright (c) 2002-${copyright} Pivotal, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License"). You may not use this product except in compliance with the License.

This product may include a number of subcomponents with separate copyright notices and license terms. Your use of the source code for these subcomponents is subject to the terms and conditions of the subcomponent's license, as noted in the license.txt file.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership

of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,

worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or

documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions

to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the

content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

SPRING FRAMEWORK ${version} SUBCOMPONENTS:

Spring Framework ${version} includes a number of subcomponents
with separate copyright notices and license terms. The product that
includes this file does not necessarily use all the open source
subcomponents referred to below. Your use of the source
code for these subcomponents is subject to the terms and
conditions of the following licenses.

>>> ASM 9.1 (org.ow2.asm:asm:9.1, org.ow2.asm:asm-commons:9.1):

Copyright (c) 2000-2011 INRIA, France Telecom
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999-2009, OW2 Consortium <https://www.ow2.org/>

>>> CGLIB 3.3 (cglib:cglib:3.3):

Per the LICENSE file in the CGLIB JAR distribution downloaded from https://github.com/cglib/cglib/releases/download/RELEASE_3_3_0/cglib-3.3.0.jar, CGLIB 3.3 is licensed under the Apache License, version 2.0, the text of which is included above.

>>> Objenesis 3.2 (org.objenesis:objenesis:3.2):

Per the LICENSE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html, Objenesis 3.2 is licensed under the Apache License, version 2.0, the text of which is included above.

Per
the NOTICE file in the Objenesis ZIP distribution downloaded from http://objenesis.org/download.html and corresponding to section 4d of the Apache License, Version 2.0, in this case for Objenesis:

Objenesis
Copyright 2006-2019 Joe Walnes, Henri Tremblay, Leonardo Mesquita

==========

To the extent any open source components are licensed under the EPL and/or other similar licenses that require the source code and/or modifications to source code to be made available (as would be noted above), you may obtain a copy of the source code corresponding to the binaries for such open source components and modifications thereto, if any, (the "Source Files"), by downloading the Source Files from https://spring.io/projects, Pivotal's website at https://network.pivotal.io/open-source, or by sending a request, with your

name and address to: Pivotal Software, Inc., 875 Howard Street, 5th floor, San Francisco, CA 94103,
Attention: General Counsel. All such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General Counsel. Pivotal can mail a copy of the Source Files to you on a CD or equivalent physical medium.

This offer to obtain a copy of the Source Files is valid for three years from the date you acquired this Software product. Alternatively, the Source Files may accompany the Software.

# 1.286 spring-jdbc 5.3.18

## 1.286.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2002-2020 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/support/AbstractLobCreatingPreparedStatementCallback.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/rowset/ResultSetWrappingSqlRowSet.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/RdbmsOperation.java
*
/spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/JdbcAccessor.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/CallableStatementCreatorFactory.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/lookup/AbstractRoutingDataSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlReturnType.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/SQLErrorCodeSQLExceptionTranslator.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/namedparam/SqlParameterSourceUtils.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/embedded/DataSourceFactory.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/JdbcTransactionManager.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlParameterValue.java

* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlParameter.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/LazyConnectionDataSourceProxy.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/DriverManagerDataSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SingleColumnRowMapper.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/GeneratedKeyHolder.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/CallMetaDataProviderFactory.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/SimpleDriverDataSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/support/JdbcBeanDefinitionReader.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/namedparam/ParsedSql.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/DataSourceTransactionManager.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/StatementCreatorUtils.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/AbstractFallbackSQLExceptionTranslator.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/namedparam/NamedParameterJdbcTemplate.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/KeyHolder.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/JdbcTemplate.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/PreparedStatementCreatorFactory.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/JdbcUtils.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/SingleConnectionDataSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/SQLErrorCodesFactory.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/embedded/AbstractEmbeddedDatabaseConfigurer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/DatabaseStartupValidator.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/CallParameterMetaData.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/DatabaseMetaDataCallback.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2016 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/PreparedStatementSetter.java

* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/RowCallbackHandler.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/lob/LobHandler.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/lookup/DataSourceLookup.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2012 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/xml/XmlBinaryStreamProvider.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/xml/SqlXmlFeatureNotImplementedException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/GenericStoredProcedure.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/lookup/JndiDataSourceLookup.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/xml/XmlCharacterStreamProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/lookup/SingleDataSourceLookup.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/config/JdbcNamespaceHandler.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/SQLWarningException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/SqlValue.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/lookup/DataSourceLookupFailureException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/InterruptibleBatchPreparedStatementSetter.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/AbstractSequenceMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/SmartDataSource.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/xml/XmlResultProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/MetaDataAccessException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/BatchPreparedStatementSetter.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/embedded/SimpleDriverDataSourceFactory.java
No license file was found, but licenses were detected in source scan.

/*

* Copyright 2002-2019 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/namedparam/AbstractSqlParameterSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/SQLStateSQLExceptionTranslator.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/JdbcTransactionObjectSupport.java
*
 /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/core/support/AbstractLobStreamingResultSetExtractor.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/namedparam/MapSqlParameterSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/CustomSQLExceptionTranslatorRegistry.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/rowset/SqlRowSet.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/core/namedparam/BeanPropertySqlParameterSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/SqlFunction.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/ResourceDatabasePopulator.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/namedparam/SqlParameterSource.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2021 the original author or authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*  https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/JdbcOperationsExtensions.kt
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2002-2020 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
/**
* Strategy interface for translating between {@link SQLException SQLExceptions}
* and Spring's data access strategy-agnostic {@link DataAccessException}
* hierarchy.
*
* <p>Implementations can be generic (for example, using
* {@link java.sql.SQLException#getSQLState() SQLState} codes for JDBC) or
 wholly
* proprietary (for example, using Oracle error codes) for greater precision.
*
* @author Rod Johnson
* @author Juergen Hoeller
* @see org.springframework.dao.DataAccessException
*/
```

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/SQLExceptionTranslator.java
No license file was found, but licenses were detected in source scan.

```
/**
* The classes in this package make JDBC easier to use and
* reduce the likelihood of common errors. In particular, they:
* <ul>
* <li>Simplify error handling, avoiding the need for try/catch/finally
* blocks in application code.
* <li>Present exceptions to application code in a generic hierarchy of
* unchecked exceptions, enabling applications to catch data access
* exceptions without being dependent on JDBC, and to ignore fatal
* exceptions there is no value in catching.
```

* <li>Allow the implementation of error handling to be modified
* to target different RDBMSes without introducing proprietary
* dependencies into application code.
* </ul>
*
* <p>This package and related packages are discussed in Chapter 9 of
* <a href="https://www.amazon.com/exec/obidos/tg/detail/-/0764543857/">Expert One-On-One J2EE Design and Development</a>
* by Rod Johnson (Wrox, 2002).
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/package-info.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2014 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/embedded/ConnectionProperties.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/incrementer/SqlServerMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/rowset/SqlRowSetMetaData.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/incrementer/HsqlMaxValueIncrementer.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2018 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0

```
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
/**
* Implement this interface when parameters need to be customized based
* on the connection. We might need to do this to make use of proprietary
* features, available only with a specific Connection type.
*
* @author Rod Johnson
* @author Thomas Risberg
* @see CallableStatementCreatorFactory#newCallableStatementCreator(ParameterMapper)
 * @see org.springframework.jdbc.object.StoredProcedure#execute(ParameterMapper)
*/
/**
  * Create a Map of input parameters, keyed by name.
  * @param con a JDBC connection. This is useful (and the purpose of this interface)
  * if we need to do something RDBMS-specific with a proprietary Connection
  * implementation class. This class conceals such proprietary details. However,
  * it is best to avoid using such proprietary RDBMS features if possible.
  * @return a Map of input parameters, keyed by name (never {@code null})
  * @throws SQLException if an SQLException is encountered setting
  * parameter values (that is, there's no need to catch SQLException)
  */
```

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ParameterMapper.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2002-2017 the original author or authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*  https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/core/namedparam/MapSqlParameterSourceExtensions.kt
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2021 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/StoredProcedure.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/GenericTableMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/ScriptUtils.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/GenericCallMetaDataProvider.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/simple/AbstractJdbcInsert.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/ScriptException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/DataSourceUtils.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/CannotReadScriptException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/JdbcOperations.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/CompositeDatabasePopulator.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/CallableStatementCallback.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/UncategorizedScriptException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/TableMetaDataContext.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ColumnMapRowMapper.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/simple/SimpleJdbcInsert.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/core/namedparam/NamedParameterJdbcOperations.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/CallMetaDataContext.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/DataClassRowMapper.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/namedparam/NamedParameterUtils.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/simple/AbstractJdbcCall.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/TableMetaDataProviderFactory.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/DatabasePopulatorUtils.java
* /spring-jdbc-5-3-18-sources-

jar/org/springframework/jdbc/support/incrementer/AbstractIdentityColumnMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/TransactionAwareDataSourceProxy.java
*
/spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/ScriptParseException.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/MySQLMaxValueIncrementer.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2007 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/DataFieldMaxValueIncrementer.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2015 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/embedded/EmbeddedDatabase.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/ScriptStatementFailedException.java

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2018 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ConnectionCallback.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/CallableStatementCreator.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/Db2LuwMaxValueIncrementer.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/SQLErrorCodes.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/TableParameterMetaData.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/CallMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/CannotGetJdbcConnectionException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/WebSphereDataSourceAdapter.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/AbstractDataSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/HanaCallMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/embedded/EmbeddedDatabaseConfigurerFactory.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/lookup/IsolationLevelDataSourceRouter.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/config/DatabasePopulatorConfigUtils.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/incrementer/SybaseMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/UpdatableSqlQuery.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/IncorrectResultSetColumnCountException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/incrementer/DerbyMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/SqlQuery.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/HanaSequenceMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ResultSetSupportingSqlParameter.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/PostgreSQLSequenceMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/simple/SimpleJdbcInsertOperations.java

* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/RowMapper.java
*
/spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/PostgresTableMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/SqlUpdate.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/PreparedStatementCreator.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/simple/SimpleJdbcCallOperations.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/TableMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/CustomSQLExceptionTranslatorRegistrar.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/core/namedparam/NamedParameterBatchUpdateUtils.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/AbstractColumnMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/PostgresSequenceMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/BatchSqlUpdate.java
*
/spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/simple/SimpleJdbcCall.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlOutParameter.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/core/namedparam/NamedParameterJdbcDaoSupport.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlReturnResultSet.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/OracleSequenceMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/embedded/EmbeddedDatabaseFactory.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/embedded/EmbeddedDatabaseBuilder.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/BatchUpdateUtils.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/embedded/EmbeddedDatabaseType.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlRowSetResultSetExtractor.java
*
/spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/Db2CallMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/StatementCallback.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ParameterizedPreparedStatementSetter.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/SimpleConnectionHandle.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/HsqlTableMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/xml/SqlXmlHandler.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/SqlOperation.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/IsolationLevelDataSourceAdapter.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/config/SortedResourcesFactoryBean.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/support/AbstractSqlTypeValue.java
*
/spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/JdbcUpdateAffectedIncorrectNumberOfRowsException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ResultSetExtractor.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/PreparedStatementCallback.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/rowset/ResultSetWrappingSqlRowSetMetaData.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/embedded/EmbeddedDatabaseConfigurer.java

* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/GenericSqlQuery.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/ConnectionHandle.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/embedded/HsqlEmbeddedDatabaseConfigurer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/lob/TemporaryLobCreator.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/LobRetrievalFailureException.java
*
/spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/namedparam/EmptySqlParameterSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/MappingSqlQuery.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/DerbyCallMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/DerbyTableMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/AbstractDataFieldMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlReturnUpdateCount.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/SybaseAnywhereMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/RowMapperResultSetExtractor.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ArgumentTypePreparedStatementSetter.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/UncategorizedSQLException.java
*
/spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/lookup/MapDataSourceLookup.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/BadSqlGrammarException.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/UserCredentialsDataSourceAdapter.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/embedded/H2EmbeddedDatabaseConfigurer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/OracleTableMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/embedded/DerbyEmbeddedDatabaseConfigurer.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/core/support/AbstractInterruptibleBatchPreparedStatementSetter.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/SqlCall.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/embedded/OutputStreamFactory.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/InvalidResultSetAccessException.java
*
/spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/RowCountCallbackHandler.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/HsqlSequenceMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlTypeValue.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/support/JdbcDaoSupport.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/ConnectionHolder.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/object/MappingSqlQueryWithParameters.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/SqlInOutParameter.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/Db2MainframeMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ArgumentPreparedStatementSetter.java
No license file was found, but licenses were detected in source scan.

/*

```
* Copyright 2002-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/BeanPropertyRowMapper.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/incrementer/H2SequenceMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/DatabasePopulator.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2002-2016 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
/**
  * Close this LobCreator session and free its temporarily created BLOBs and CLOBs.
  * Will not need to do anything if using PreparedStatement's standard methods,
  * but might be necessary to free database resources if using proprietary means.
  * <p><b>NOTE</b>: Needs to be invoked after the involved
 PreparedStatements have
  * been executed or the affected O/R mapping sessions have been flushed.
  * Otherwise, the database resources for the temporary BLOBs might stay allocated.
  */
```

Found in path(s):

* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/lob/LobCreator.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2008 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/DisposableSqlTypeValue.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/DB2MainframeSequenceMaxValueIncrementer.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/support/incrementer/DB2SequenceMaxValueIncrementer.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/xml/SqlXmlValue.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2013 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/lob/AbstractLobHandler.java

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2002-2017 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/lob/PassThroughClob.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/CustomSQLErrorCodesTranslation.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/config/EmbeddedDatabaseBeanDefinitionParser.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/lob/PassThroughBlob.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/init/DataSourceInitializer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/config/InitializeDatabaseBeanDefinitionParser.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/OracleCallMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/support/SqlLobValue.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/SybaseCallMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/ParameterDisposer.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/DelegatingDataSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/AbstractDriverBasedDataSource.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/lookup/BeanFactoryDataSourceLookup.java
*
 /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/xml/Jdbc4SqlXmlHandler.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/datasource/ConnectionProxy.java
* /spring-jdbc-5-3-18-sources-
jar/org/springframework/jdbc/datasource/embedded/EmbeddedDatabaseFactoryBean.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/SqlServerCallMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/lob/DefaultLobHandler.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/core/metadata/PostgresCallMetaDataProvider.java
* /spring-jdbc-5-3-18-sources-jar/org/springframework/jdbc/support/SQLExceptionSubclassTranslator.java

# 1.287 spring-data-jpa 2.6.3

# 1.287.1 Available under license :

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of,

the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You

meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate

comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

==========

To the extent any open source subcomponents are licensed under the EPL and/or other
similar licenses that require the source code and/or modifications to
source code to be made available (as would be noted above), you may obtain a
copy of the source code corresponding to the binaries for such open source
components and modifications thereto, if any, (the "Source Files"), by
downloading the Source Files from https://www.springsource.org/download,
or by sending a request, with your name and address to: VMware, Inc., 3401 Hillview
Avenue, Palo Alto, CA 94304,
United States of America or email info@vmware.com. All
such requests should clearly specify: OPEN SOURCE FILES REQUEST, Attention General
Counsel. VMware shall mail a copy of the Source Files to you on a CD or equivalent
physical medium. This offer to obtain a copy of the Source Files is valid for three
years from the date you acquired this Software product.
Spring Data JPA 2.6.3 (2021.1.3)
Copyright (c) [2011-2019] Pivotal Software, Inc.

This product is licensed to you under the Apache License, Version 2.0 (the "License").
You may not use this product except in compliance with the License.

This product may include a number of subcomponents with
separate copyright notices and license terms. Your use of the source
code for the these subcomponents is subject to the terms and
conditions of the subcomponent's license, as noted in the LICENSE file.

# 1.288 python 3.6.9-1~18.04ubuntu1.7

## 1.288.1 Available under license :

This package was put together by Klee Dienes <klee@debian.org> from
sources from ftp.python.org:/pub/python, based on the Debianization by
the previous maintainers Bernd S. Brentrup <bsb@uni-muenster.de> and
Bruce Perens. Current maintainer is Matthias Klose <doko@debian.org>.

It was downloaded from http://python.org/

Copyright:

Upstream Author: Guido van Rossum <guido@cwi.nl> and others.

License:

The following text includes the Python license and licenses and
acknowledgements for incorporated software. The licenses can be read
in the HTML and texinfo versions of the documentation as well, after
installing the pythonx.y-doc package. Licenses for files not licensed
under the Python Licenses are found at the end of this file.

Python License
==============

A. HISTORY OF THE SOFTWARE
==========================

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called
 ABC.  Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team.  In October of the same
year, the PythonLabs team moved to Digital Creations (now Zope
Corporation, see http://www.zope.com).  In 2001, the Python Software
Foundation (PSF, see http://www.python.org/psf/) was formed, a
non-profit organization created specifically to own Python-related
Intellectual Property.  Zope Corporation is a sponsoring member of

the PSF.

All Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the
various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike
the GPL, let you distribute
a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source
or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python alone
or in any derivative version, provided, however, that PSF's License
Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001,
2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012,
2013, 2014 Python Software Foundation; All Rights Reserved" are
retained in Python alone or in any derivative version prepared by
Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to
Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee,
or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License

Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software,
alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS" basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License
Agreement shall be deemed to
create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the

permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1
---

1. This LICENSE AGREEMENT is between the Corporation for National
Research Initiatives, having an office at 1895 Preston White Drive,
Reston, VA 20191 ("CNRI"), and the Individual or Organization
("Licensee") accessing and otherwise using Python 1.6.1 software in
source or binary form and its associated
documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python 1.6.1
alone or in any derivative version, provided, however, that CNRI's
License Agreement and CNRI's notice of copyright, i.e., "Copyright (c)
1995-2001 Corporation for National Research Initiatives; All Rights
Reserved" are retained in Python 1.6.1 alone or in any derivative
version prepared by Licensee. Alternately, in lieu of CNRI's License
Agreement, Licensee may substitute the following text (omitting the
quotes): "Python 1.6.1 is made available subject to the terms and
conditions in CNRI's License Agreement. This Agreement together with
Python 1.6.1 may be located on the Internet using the following
unique, persistent identifier (known as a handle): 1895.22/1013. This
Agreement may also be
obtained from a proxy server on the Internet
using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python 1.6.1 or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS"
basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR
ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This
License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising
or publicity pertaining to
distribution of the software without specific, written prior

permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Licenses and Acknowledgements for Incorporated Software
==========

Mersenne Twister
---

The `_random' module includes code based on a download from `http://www.math.keio.ac.jp/~matumoto/MT2002/emt19937ar.html'. The following are the verbatim comments from the original code:

A C-program for MT19937, with initialization improved 2002/1/26.
Coded by Takuji Nishimura and Makoto Matsumoto.

Before using, initialize the state by using init_genrand(seed)
or init_by_array(init_key, key_length).

Copyright (C) 1997 - 2002, Makoto Matsumoto and Takuji Nishimura,
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. The names of its contributors may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED
BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT

LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Any feedback is very welcome.
http://www.math.keio.ac.jp/matumoto/emt.html
email: matumoto@math.keio.ac.jp

Sockets
---

The `socket' module uses the functions, `getaddrinfo', and `getnameinfo',
which are coded in separate source files from the WIDE Project, `http://www.wide.ad.jp/about/index.html'.

Copyright (C) 1995, 1996, 1997, and 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND GAI_ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE FOR GAI_ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON GAI_ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN GAI_ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED

OF THE POSSIBILITY OF SUCH DAMAGE.

Floating point exception control
---

The source for the `fpectl' module includes the following notice:

```
  ----------------------------------------------------------------------
 /                    Copyright (c) 1996.
                     \
|         The Regents of the University of California.               |
|                     All rights reserved.                           |
|                                                                    |
|  Permission to use, copy, modify, and distribute this software for  |
|  any purpose without fee is hereby granted, provided that this en-  |
|  tire notice is included in all copies of any software which is or  |
|  includes  a  copy  or  modification  of  this software and in all  |
|  copies of the supporting documentation for such software.          |
|                                                                    |
|  This  work was produced at the University of California, Lawrence  |
|  Livermore National Laboratory under  contract  no.  W-7405-ENG-48  |
|  between  the  U.S.  Department  of  Energy and The Regents of the  |
|  University of California for the operation
 of UC LLNL.             |
|                                                                    |
|                          DISCLAIMER                                |
|                                                                    |
|  This  software was prepared as an account of work sponsored by an  |
|  agency of the United States Government. Neither the United States  |
|  Government  nor the University of California nor any of their em-  |
|  ployees, makes any warranty, express or implied, or  assumes  any  |
|  liability  or  responsibility  for the accuracy, completeness, or  |
|  usefulness of any information,  apparatus,  product,  or  process  |
|  disclosed,   or  represents  that  its  use  would  not  infringe  |
|  privately-owned rights. Reference herein to any specific  commer-  |
|  cial  products,  process,  or  service  by trade name, trademark,  |
|  manufacturer, or otherwise, does not  necessarily
 constitute  or  |
|  imply  its endorsement, recommendation, or favoring by the United  |
|  States Government or the University of California. The views  and  |
|  opinions  of authors expressed herein do not necessarily state or  |
|  reflect those of the United States Government or  the  University  |
|  of  California,  and shall not be used for advertising or product  |
 \ endorsement purposes.                                            /
  ----------------------------------------------------------------------
```

Cookie management
---

The `Cookie' module contains the following notice:

Copyright 2000 by Timothy O'Malley <timo@alum.mit.edu>

All Rights Reserved

Permission to use, copy, modify, and distribute this software
and its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in all
copies and that both that
copyright notice and this permission
notice appear in supporting documentation, and that the name of
Timothy O'Malley not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

Timothy O'Malley DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS, IN NO EVENT SHALL Timothy O'Malley BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

Execution tracing
---

The `trace' module contains the following notice:

portions copyright 2001, Autonomous Zones Industries, Inc., all rights...
err... reserved and offered to the public under the
terms of the
Python 2.2 license.
Author: Zooko O'Whielacronx
http://zooko.com/
mailto:zooko@zooko.com

Copyright 2000, Mojam Media, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1999, Bioreason, Inc., all rights reserved.
Author: Andrew Dalke

Copyright 1995-1997, Automatrix, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1991-1995, Stichting Mathematisch Centrum, all rights reserved.

Permission to use, copy, modify, and distribute this Python software and
its associated documentation for any purpose without fee is hereby
granted, provided that the above copyright notice appears in all copies,
and that both that copyright notice and this permission notice appear in
supporting documentation, and that the name of neither Automatrix,
Bioreason or Mojam Media be used in advertising or publicity pertaining
to distribution of the software without specific,
written prior
permission.

UUencode and UUdecode functions
---

The `uu' module contains the following notice:

Copyright 1994 by Lance Ellinghouse
Cathedral City, California Republic, United States of America.
All Rights Reserved
Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE
CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Modified by Jack Jansen, CWI, July 1995:
- Use binascii module to do the actual line-by-line conversion
between ascii and binary. This results in a 1000-fold speedup. The C
version is still 5 times faster, though.
- Arguments more compliant with python standard

XML Remote Procedure Calls

---

The `xmlrpclib' module contains the following notice:

The XML-RPC client interface is

Copyright (c) 1999-2002 by Secret Labs AB
Copyright (c) 1999-2002 by Fredrik Lundh

By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and
its associated documentation for any purpose and without fee is
hereby granted, provided that the above copyright notice appears in
all copies, and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of
Secret Labs AB or the author not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD
TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANT-
ABILITY AND FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR
BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY
DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE
OF THIS SOFTWARE.

Licenses for Software linked to
==========

Note that the choice of GPL compatibility outlined above doesn't extend
to modules linked to particular libraries, since they change the
effective License of the module binary.

GNU Readline
---

The 'readline' module makes use of GNU Readline.

The GNU Readline Library is free software; you can redistribute it
and/or modify it under the terms of the GNU General Public License as
published by the Free Software Foundation; either version 2, or (at

your option) any later version.

On Debian systems, you can find the complete statement in
/usr/share/doc/readline-common/copyright'. A copy of the GNU General
Public License is available in /usr/share/common-licenses/GPL-2'.

OpenSSL
---

The '_ssl' module makes use of OpenSSL.

The
OpenSSL toolkit stays under a dual license, i.e. both the
conditions of the OpenSSL License and the original SSLeay license
apply to the toolkit. Actually both licenses are BSD-style Open
Source licenses. Note that both licenses are incompatible with
the GPL.

On Debian systems, you can find the complete license text in
/usr/share/doc/openssl/copyright'.

Files with other licenses than the Python License
---

Files: Include/dynamic_annotations.h
Files: Python/dynamic_annotations.c
Copyright: (c) 2008-2009, Google Inc.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or
promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY

THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files: Include/unicodeobject.h
Copyright: (c) Corporation for National Research Initiatives.
Copyright: (c) 1999 by Secret Labs AB.
Copyright:
(c) 1999 by Fredrik Lundh.
License: By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and its
associated documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appears in all
copies, and that both that copyright notice and this permission notice
appear in supporting documentation, and that the name of Secret Labs
AB or the author not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/logging/*
Copyright: 2001-2010 by Vinay Sajip. All Rights Reserved.
License: Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Vinay Sajip
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
VINAY SAJIP DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
VINAY SAJIP BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/multiprocessing/*
Files: Modules/_multiprocessing/*
Copyright: (c) 2006-2008, R Oudkerk. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of author nor the names of any contributors may be
   used to endorse or promote products derived from this software
    without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Lib/sqlite3/*
Files: Modules/_sqlite/*
Copyright: (C) 2004-2005 Gerhard Hring <gh@ghaering.de>
License: This software is provided 'as-is', without any express or implied
warranty.  In no event
 will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Files: Lib/async*
Copyright: Copyright 1996 by Sam Rushing
License: Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in
all
copies and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of Sam
Rushing not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SAM RUSHING DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN
NO EVENT SHALL SAM RUSHING BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/tarfile.py
Copyright: (C) 2002 Lars Gustaebel <lars@gustaebel.de>
License: Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software
without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following
conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Files: Lib/turtle.py
Copyright: (C) 2006 - 2010 Gregor Lingl
License:

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

is copyright Gregor Lingl and licensed under a BSD-like license

Files: Modules/_ctypes/libffi/*
Copyright: Copyright (C) 1996-2011 Red Hat, Inc and others.
  Copyright
 (C) 1996-2011 Anthony Green
  Copyright (C) 1996-2010 Free Software Foundation, Inc
  Copyright (c) 2003, 2004, 2006, 2007, 2008 Kaz Kojima
  Copyright (c) 2010, 2011, Plausible Labs Cooperative , Inc.
  Copyright (c) 2010 CodeSourcery
  Copyright (c) 1998 Andreas Schwab
  Copyright (c) 2000 Hewlett Packard Company
  Copyright (c) 2009 Bradley Smith
  Copyright (c) 2008 David Daney
  Copyright (c) 2004 Simon Posnjak
  Copyright (c) 2005 Axis Communications AB
  Copyright (c) 1998 Cygnus Solutions
  Copyright (c) 2004 Renesas Technology
  Copyright (c) 2002, 2007 Bo Thorsen <bo@suse.de>
  Copyright (c) 2002 Ranjit Mathew
  Copyright (c) 2002 Roger Sayle
  Copyright (c) 2000, 2007 Software AG
  Copyright (c) 2003 Jakub Jelinek
  Copyright (c) 2000, 2001 John Hornkvist
  Copyright (c) 1998 Geoffrey Keating
  Copyright (c) 2008 Bjrn Knig

License: Permission is hereby granted, free of charge, to any person obtaining
 a copy of this software
 and associated documentation files (the
 ``Software''), to deal in the Software without restriction, including
 without limitation the rights to use, copy, modify, merge, publish,

distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

Documentation:
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU General Public License as published by the
Free Software Foundation; either version 2, or (at your option) any
later version. A copy of the license is included in the
section entitled ``GNU General Public License''.

Files: Modules/_gestalt.c
Copyright: 1991-1997 by Stichting Mathematisch Centrum, Amsterdam.
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the names of Stichting Mathematisch
Centrum or CWI not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/syslogmodule.c
Copyright: 1994 by Lance Ellinghouse
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in

supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.

LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES
WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE BE LIABLE FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/zlib/*
Copyright: (C) 1995-2010 Jean-loup Gailly and Mark Adler
License: This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software.
If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving
lengthy legal documents to sign. The sources are provided for free but without
warranty of any kind. The library has been entirely written by Jean-loup
Gailly and Mark Adler; it does not include third-party code.

Files: Modules/expat/*
Copyright: Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd
and Clark Cooper
Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006 Expat maintainers
License: Permission is hereby granted, free of charge, to any person
obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including

without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Files:
Modules/_decimal/libmpdec/*
Copyright: Copyright (c) 2008-2012 Stefan Krah. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
,
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Misc/python-mode.el
Copyright: Copyright (C) 1992,1993,1994 Tim Peters
License: This software is provided as-is, without express or implied
warranty. Permission to use, copy, modify, distribute or sell this
software, without fee, for any purpose and by any individual or

organization, is hereby granted, provided that the above copyright
notice and this paragraph appear in all copies.

Files: Python/dtoa.c
Copyright: (c) 1991, 2000, 2001 by Lucent Technologies.
License: Permission to use, copy, modify, and distribute this software for any
purpose without fee is hereby granted, provided that this entire notice
is included
in all copies of any software which is or includes a copy
or modification of this software and in all copies of the supporting
documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED
WARRANTY. IN PARTICULAR, NEITHER THE AUTHOR NOR LUCENT MAKES ANY
REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY
OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

Files: Python/getopt.c
Copyright: 1992-1994, David Gottner
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice, this permission notice and
the following disclaimer notice appear unmodified in all copies.

I DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL I
BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY
DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA, OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/_subprocess.c
Copyright: Copyright (c) 2004 by Fredrik Lundh <fredrik@pythonware.com>
Copyright (c) 2004 by Secret Labs AB, http://www.pythonware.com
Copyright (c) 2004 by Peter Astrand <astrand@lysator.liu.se>
License:
* Permission to use, copy, modify, and distribute this software and
* its associated documentation for any purpose and without fee is
* hereby granted, provided that the above copyright notice appears in
* all copies, and that both that copyright notice and this permission
* notice appear in supporting documentation, and that the name of the
* authors not be used in advertising or publicity pertaining to
* distribution of the software without specific, written prior
* permission.
*
* THE AUTHORS DISCLAIMS ALL WARRANTIES

WITH REGARD TO THIS SOFTWARE,
* INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.
* IN NO EVENT SHALL THE AUTHORS BE LIABLE FOR ANY SPECIAL, INDIRECT OR
* CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
* OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
* NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
* WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/winsound.c
Copyright: Copyright (c) 1999 Toby Dickenson
License: * Permission to use this software in any way is granted without
* fee, provided that the copyright notice above appears in all
* copies. This software is provided "as is" without any warranty.
*/

/* Modified by Guido van Rossum */
/* Beep added by Mark Hammond */
/* Win9X Beep and platform identification added by Uncle Timmy */

Files: Tools/pybench/*
Copyright: (c), 1997-2006, Marc-Andre Lemburg (mal@lemburg.com)
(c), 2000-2006, eGenix.com Software GmbH (info@egenix.com)
License: Permission
to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee or royalty is hereby
granted, provided that the above copyright notice appear in all copies
and that both that copyright notice and this permission notice appear
in supporting documentation or portions thereof, including
modifications, that you make.

THE AUTHOR MARC-ANDRE LEMBURG DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE !

# 1.289 tslib 2.0.0

## 1.289.1 Available under license :

Copyright (c) Microsoft Corporation.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH

REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
/*! ******************************************************************************
Copyright (c) Microsoft Corporation.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
***************************************************************************** */

# 1.290 json-smart 2.4.8

## 1.290.1 Available under license :

No license file was found, but licenses were detected in source scan.

<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>

Found in path(s):
* /json-smart-2-4-8-1-jar/META-INF/maven/net.minidev/json-smart/pom.xml
No license file was found, but licenses were detected in source scan.

Manifest-Version: 1.0
Bnd-LastModified: 1644737862078
Build-Jdk: 11.0.14
Built-By: uriel
Bundle-Description: JSON (JavaScript Object Notation) is a lightweight
 data-interchange format. It is easy for humans to read and write. It
 is easy for machines to parse and generate. It is based on a subset
of the JavaScript Programming Language, Standard ECMA-262 3rd Edition
 - December 1999. JSON is a text format that is completely language i
ndependent but uses conventions that are familiar to programmers of t
he C-family of languages, including C, C++, C#, Java, JavaScript, Per
l, Python, and many others. These properties make JSON an ideal data-
interchange language.
Bundle-DocURL: https://urielch.github.io/
Bundle-License: http://www.apache.org/licenses/LICENSE-2.0.txt

Bundle-ManifestVersion: 2
Bundle-Name: json-smart
Bundle-SymbolicName: net.minidev.json-smart
Bundle-Vendor: Chemouni Uriel
Bundle-Version:
2.4.8
Created-By: Apache Maven Bundle Plugin
Export-Package: net.minidev.json;uses:="net.minidev.asm,net.minidev.js
on.parser,net.minidev.json.reader,net.minidev.json.writer";version="2
.4.8",net.minidev.json.annotate;version="2.4.8",net.minidev.json.pars
er;uses:="net.minidev.json.writer";version="2.4.8",net.minidev.json.r
eader;uses:="net.minidev.json";version="2.4.8",net.minidev.json.write
r;uses:="net.minidev.json,net.minidev.json.parser";version="2.4.8"
Import-Package: net.minidev.asm;version="[2.4,3)",net.minidev.json,net
.minidev.json.annotate,net.minidev.json.parser,net.minidev.json.reade
r,net.minidev.json.writer
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"
Tool: Bnd-5.1.1.202006162103

Found in path(s):
* /json-smart-2-4-8-1-jar/META-INF/MANIFEST.MF

# 1.291 hibernate-validator 6.2.3.Final

## 1.291.1 Available under license :

Apache-2.0

# 1.292 postgre-sql 42.3.3

## 1.292.1 Available under license :

Copyright (c) 1997, PostgreSQL Global Development Group
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
  this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice,
  this list of conditions and the following disclaimer in the documentation
  and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE

LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.293 keyutils 1.5.9-9.2ubuntu2.1

## 1.293.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: keyutils
Upstream-Contact: David Howells <dhowells@redhat.com>
Source: http://people.redhat.com/~dhowells/keyutils/

Files: *
Copyright: 2005-2014, Red Hat <http://www.redhat.com/>
License: GPL-2+

Files: keyutils.*
Copyright: 2005-2014, Red Hat <http://www.redhat.com/>
License: LGPL-2+

Files: debian/*
Copyright: 2006-2013, Daniel Baumann <mail@daniel-baumann.ch>
2013, Luk Claes <luk@debian.org>
2014-2016, Christian Kastner <ckk@debian.org>
License: LGPL-2+

License: GPL-2+
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR
PURPOSE. See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.
.
The complete text of the GNU General Public License

can be found in /usr/share/common-licenses/GPL-2 file.

License: LGPL-2+
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU Lesser General Public License as published by
the Free Software Foundation, either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU Lesser General Public License for more details.
.
You should have received a copy of the GNU Lesser General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.
.
The complete text
of the GNU Lesser General Public License
can be found in /usr/share/common-licenses/LGPL-2 file.

# 1.294 libdevmapper 1.02.145

## 1.294.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest

you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients
all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal
permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that
there is no warranty for the free library. Also, if the library is
modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original
author's reputation will not be affected by problems that might be
introduced by others.

Finally, software patents pose a constant threat to the existence
of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License. This license, the GNU Lesser
General Public License, applies to certain designated libraries, and

is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits
its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library

with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this
License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user
installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under

the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing
the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any

particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of

all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public

License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed

to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,

either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to

control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent

license would not permit royalty-free redistribution
of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.295 inetutils-ping 1.9.4-3ubuntu0.1

## 1.295.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses
are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer

you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains
in future versions
of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify"
a work means to copy from or adapt all or part of the work
in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the

earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate
Legal Notices"
to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than
the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal
Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep
intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license
the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This

License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the

written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge.

You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object

code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections
15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional
terms are considered "further
restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may
not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your
receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time
you convey a covered work, the recipient automatically
receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not
impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes
the right to grant
patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or

otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING,
BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of
warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea

of what it does.>
  Copyright (C) <year>  <name of author>

  This program is free software: you can redistribute it and/or modify
  it under the terms of the GNU General Public License as published by
  the Free Software Foundation, either version 3 of the License, or
  (at your option) any later version.

  This program is distributed in the hope that it will be useful,
  but WITHOUT ANY WARRANTY; without even the implied warranty of
  MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
  GNU General Public License for more details.

  You should have received a copy of the GNU General Public License
  along with this program.  If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

 If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

  <program>  Copyright (C) <year>  <name of author>
  This program comes with ABSOLUTELY
NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

 You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

 The GNU General Public License does not permit incorporating your program
into proprietary programs.  If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.  But first, please
 read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
 must themselves be free in the same sense.  It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does.  But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book.  We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License.  Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein.  The ``Document'', below,
refers
 to any such manual or work.  Any member of the public is a
licensee, and is addressed as ``you''.  You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, La@TeX{} input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML,

PostScript or PDF designed for human modification. Examples
of transparent image formats include PNG, XCF and
JPG@. Opaque formats include proprietary formats that can be
read and edited only by proprietary word
processors, SGML or
XML for which the DTD and/or processing tools are
not generally available, and the machine-generated HTML,
PostScript or PDF produced by some word processors for
output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page. For works in
formats which do not have any title page as such, ``Title Page'' means
the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in another language. (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'',
or ``History''.) To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document. These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either
commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies
to the Document are reproduced in all copies, and that you add no other
conditions whatsoever to those of this License. You may not use
technical measures to obstruct or control the reading or further
copying of the copies
you make or distribute. However, you may accept
compensation in exchange for copies. If you distribute a large enough

number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the
title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute
an
Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under
the conditions of sections 2 and 3 above, provided that you release
the Modified Version under precisely this License, with the Modified
Version filling the role of the Document, thus licensing distribution
and modification of the Modified Version to whoever possesses a copy
of it.  In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from those of previous versions
(which should, if there were any, be listed in the History section
of the Document).  You may use the same
 title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the
 Document's license notice.

@item
Include an unaltered copy of this License.

@item

Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page.  If
there is no section Entitled ``History'' in the Document, create one
stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on.  These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any
 section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles.  Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''.  Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all
of these sections as invariant.  To do this, add their titles to the
list of Invariant
 Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties---for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History" in the various original documents, forming one section Entitled ``History"; likewise combine any sections Entitled ``Acknowledgements", and any sections Entitled ``Dedications". You must delete all sections Entitled ``Endorsements."

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License
into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an ``aggregate'' if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form.
Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions

of those notices and disclaimers.  In case of a disagreement between
the translation and the original version of this License or a notice
or disclaimer, the original version will prevail.

If a section in the Document is Entitled ``Acknowledgements",
``Dedications", or ``History", the requirement
 (section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License.  Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for
 any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License.  If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time.  Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.  See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and
conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation. If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation. If the Document
specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the
Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works. A
public wiki that anybody can edit is an example of such a server. A
``Massive Multiauthor Collaboration'' (or ``MMC'') contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons
Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the MMC is eligible for relicensing.

@end enumerate

@page

@heading ADDENDUM: How to use this License for your documents

To use this License
 in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group
 Copyright (C)  @var{year}  @var{your name}.
 Permission is granted to copy, distribute and/or modify this document
 under the terms of the GNU Free Documentation License, Version 1.3
 or any later version published by the Free Software Foundation;
 with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
 Texts.  A copy of the license is included in the section entitled ``GNU
 Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts."@: line with this:

@smallexample
@group
   with the Invariant Sections being @var{list their titles}, with
   the Front-Cover Texts being @var{list}, and with the Back-Cover Texts
   being @var{list}.
@end group
@end smallexample

If you have Invariant
 Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:

# 1.296 xz 5.2.2-1.3ubuntu0.1

# 1.296.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we

want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1

above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause
any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable

source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution
and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the

Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in

certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY

YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate

parts of the General Public License.  Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs.  If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library.  If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

XZ Utils Licensing
==========

Different licenses apply to different files in this package. Here is a rough summary of which licenses apply to which parts of this package (but check the individual files to be sure!):

- liblzma is in the public domain.

- xz, xzdec, and lzmadec command line tools are in the public domain unless GNU getopt_long had to be compiled and linked in from the lib directory. The getopt_long code is under GNU LGPLv2.1+.

- The scripts to grep, diff, and view compressed files have been adapted from gzip. These scripts and their documentation are under GNU GPLv2+.

- All the documentation in the doc directory and most of the XZ Utils specific documentation files in other directories are in the public domain.

- Translated messages are in the public domain.

- The build system contains public domain files, and files that are under GNU GPLv2+ or GNU

GPLv3+. None of these files end up
in the binaries being built.

- Test files and test code in the tests directory, and debugging
utilities in the debug directory are in the public domain.

- The extra directory may contain public domain files, and files
that are under various free software licenses.

You can do whatever you want with the files that have been put into
the public domain. If you find public domain legally problematic,
take the previous sentence as a license grant. If you still find
the lack of copyright legally problematic, you have too many
lawyers.

As usual, this software is provided "as is", without any warranty.

If you copy significant amounts of public domain code from XZ Utils
into your project, acknowledging this somewhere in your software is
polite (especially if it is proprietary, non-free software), but
naturally it is not legally required. Here is an example of a good
notice to
put into "about box" or into documentation:

This software includes code from XZ Utils <http://tukaani.org/xz/>.

The following license texts are included in the following files:
- COPYING.LGPLv2.1: GNU Lesser General Public License version 2.1
- COPYING.GPLv2: GNU General Public License version 2
- COPYING.GPLv3: GNU General Public License version 3

Note that the toolchain (compiler, linker etc.) may add some code
pieces that are copyrighted. Thus, it is possible that e.g. liblzma
binary wouldn't actually be in the public domain in its entirety
even though it contains no copyrighted code from the XZ Utils source
package.

If you have questions, don't hesitate to ask the author(s) for more
information.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we

have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees"
and
"recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is

not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The
"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of

technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution

medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the

Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of

rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this

License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of
the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the
Program specifies that a certain numbered version of the GNU General
Public License "or any later version" applies to it, you
have the
option of following the terms and conditions either of that numbered
version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of the
GNU General Public License, you may choose any version ever published
by the Free Software Foundation.

If the Program specifies that a proxy can decide which future
versions of the GNU General Public License can be used, that proxy's
public statement of acceptance of a version permanently authorizes you
to choose that version for the Program.

Later license versions may give you additional or different
permissions. However, no additional obligations are imposed on any
author or copyright holder as a result of your choosing to follow a
later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY
APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT
HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS"
WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM
IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF
ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS

THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.297 gzip 1.6-5ubuntu1.2

## 1.297.1 Available under license :

This package is maintained for Debian by Bdale Garbee <bdale@gag.com>, and
was built from the sources found at:

ftp://ftp.gnu.org/gnu/gzip/

Copyright (C) 1999, 2001-2002, 2006-2007, 2009-2010 Free Software Foundation,
Inc.
Copyright (C) 1992-1993 Jean-loup Gailly

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 3, or (at your option)
any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software Foundation,
Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.  */

On Debian GNU/Linux
systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL'.

# 1.298 evo-inflector 1.3

## 1.298.1 Available under license :

No license file was found, but licenses were detected in source scan.

<name>Apache License, Version 2.0</name>
<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>

Found in path(s):
* /evo-inflector-1-3-1-jar/META-INF/maven/org.atteo/evo-inflector/pom.xml

# 1.299 spring-data-rest-webmvc 3.6.3

## 1.299.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/config/RepositoryRestMvcConfiguration.java

* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/ResourceMetadataHandlerMethodArgumentResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/PersistentEntityJackson2Module.java
*
 /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/PersistentEntityToJsonSchemaConverter.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/PersistentEntityResourceHandlerMethodArgumentResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RepositoryRestHandlerMapping.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/RepositoryEntityLinks.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/RootResourceInformationHandlerMethodArgumentResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/convert/UriListHttpMessageConverter.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/AbstractRepositoryRestController.java
*
 /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/JsonSchema.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/PersistentEntityResource.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RootResourceInformation.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RepositoryController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/RepositoryConstraintViolationExceptionMessage.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RepositoryRestHandlerAdapter.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RepositoryPropertyReferenceController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/ResourceNotFoundException.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2020-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/RestControllerImportSelector.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/WebMvcRepositoryRestConfiguration.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/util/InputStreamHttpInputMessage.java
*
 /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/CorsConfigurationAware.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RestControllerConfiguration.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/EnumTranslator.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/ProfileController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/PagingAndSortingTemplateVariables.java
*
 /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/RepositoryRestConfigurer.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/RepositoryRestConfigurerDelegate.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/ArgumentResolverPagingAndSortingTemplateVariables.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RepositorySearchesResource.java

* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/ProjectionDefinitionRegistar.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/JacksonSerializers.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/DelegatingHandlerMapping.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/QuerydslAwareRootResourceInformationHandlerMethodArgumentResolver.java
*
/spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/JsonSchemaPropertyCustomizer.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2021-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/mapping/DefaultLinkCollector.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/HalFormsAdaptingResponseBodyAdvice.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/AggregateReferenceResolvingModule.java
*
/spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/JMoleculesConfigurer.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2017-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
```

* https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/patch/SpelPath.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/MappingAwareSortArgumentResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/WrappedProperties.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/config/RepositoryCorsRegistry.java
*
/spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/mapping/LinkCollector.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/JacksonMappingAwareSortTranslator.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/support/DomainClassResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/MappingAwareDefaultedPageableArgumentResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/HttpHeadersPreparer.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/support/DefaultExcerptProjector.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/ResourceStatus.java

* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/EmbeddedResourcesAssembler.java
*
 /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/MappedProperties.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/MappingAwarePageableArgumentResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/ExcerptProjector.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/patch/PatchOperation.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/patch/PatchConverter.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/alps/RootResourceInformationToAlpsDescriptorConverter.java
*
 /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RepositoryRestExceptionHandler.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/spi/BackendIdConverter.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/patch/RemoveOperation.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/util/UriUtils.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/BaseUri.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/ETagDoesntMatchException.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/config/PersistentEntityResourceAssemblerArgumentResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/DefaultedPageable.java

*
/spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/BasePathAwareController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/alps/AlpsJsonHttpMessageConverter.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/TestOperation.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/alps/AlpsController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/LateObjectEvaluator.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/BasePathAwareHandlerMapping.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/CopyOperation.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/ReplaceOperation.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/support/HttpMethodHandlerMethodArgumentResolver.java
*
/spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/PatchException.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/ProfileResourceProcessor.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/JsonLateObjectEvaluator.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/MoveOperation.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/support/DefaultedPageableHandlerMethodArgumentResolver.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/JacksonMetadata.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/DomainObjectReader.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/RestMediaTypes.java
*
/spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/mapping/Associations.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/config/JsonPatchHandler.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/ETag.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/JsonPatchPatchConverter.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/BackendId.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/support/Projector.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/IncomingRequest.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/patch/AddOperation.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/support/BackendIdHandlerMethodArgumentResolver.java
*

/spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/patch/Patch.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/support/PersistentEntityProjector.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/support/ETagArgumentResolver.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2013-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/RepositoryLinksResource.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/RepositorySearchController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/json/Jackson2DatatypeHelper.java
*
/spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/RepositoryRestController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/RepositoryEntityController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/PersistentEntityResourceAssembler.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/RepositorySchemaController.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/ControllerUtils.java
* /spring-data-rest-webmvc-3-6-3-sources-1-jar/org/springframework/data/rest/webmvc/json/package-info.java
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/support/RepositoryLinkBuilder.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2019-2022 the original author or authors.
*

* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-webmvc-3-6-3-sources-1-
jar/org/springframework/data/rest/webmvc/config/StaticResourceProvider.java

# 1.300 spring-data-rest-core 3.6.3

## 1.300.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/CrudMethodsSupportedHttpMethods.java
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/TypedResourceDescription.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/Projection.java
*
 /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/annotation/RepositoryRestResource.java

* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/MappingResourceMetadata.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/ProjectionDefinitionConfiguration.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ResourceMappings.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/SimpleResourceDescription.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ResourceType.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ResourceDescription.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/AnnotationBasedResourceDescription.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/projection/ProjectionDefinitions.java
*
 /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ParametersMetadata.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ParameterMetadata.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ResolvableResourceDescriptionSupport.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/MetadataConfiguration.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/SupportedHttpMethods.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2013-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/RepositoryResourceMappings.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/support/ResourceStringUtils.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/Path.java
*
 /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/support/SimpleRelProvider.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/CollectionResourceMapping.java

* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/ResourceMappingConfiguration.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/SearchResourceMappings.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/support/RepositoryRelProvider.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/RepositoryCollectionResourceMapping.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/ResourceMapping.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ResourceMetadata.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/util/MapUtils.java
*
 /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/EvoInflectorTypeBasedCollectionResourceMapping.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/RepositoryMethodResourceMapping.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/MethodResourceMapping.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ResourceMapping.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/RepositoryAwareResourceMetadata.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/TypeBasedCollectionResourceMapping.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/support/EntityLookup.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/EnumTranslationConfiguration.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/EntityLookupConfiguration.java
*

/spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/JsonSchemaFormat.java
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/RepositoryDetectionStrategy.java
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/support/UnwrappingRepositoryInvokerFactory.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/EntityLookupRegistrar.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/support/SelfLinkProvider.java
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/support/DefaultSelfLinkProvider.java
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/PropertyAwareResourceMapping.java
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/PersistentEntitiesResourceMappings.java
*
/spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/PersistentPropertyResourceMapping.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/support/EntityLookupSupport.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2018-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/ConfigurableHttpMethods.java
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/ExposureConfiguration.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/HttpMethods.java
*
/spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ExposureConfigurer.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/StringToLdapNameConverter.java
* /spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/mapping/ConfigurationApplyingSupportedHttpMethodsAdapter.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/mapping/ComposableFilter.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2012-2022 the original author or authors.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      https://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):

* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/event/AnnotatedEventHandlerInvoker.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/event/ValidatingRepositoryEventListener.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleBeforeDelete.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleAfterCreate.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/UriToEntityConverter.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleAfterLinkSave.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/event/LinkedEntityEvent.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleBeforeSave.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/ValidationErrors.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleAfterLinkDelete.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/config/RepositoryRestConfiguration.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleBeforeLinkSave.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleBeforeCreate.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/RestResource.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleAfterDelete.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/support/ResourceMappingUtils.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleBeforeLinkDelete.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/Description.java
* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/event/AbstractRepositoryEventListener.java

* /spring-data-rest-core-3-6-3-sources-1-jar/org/springframework/data/rest/core/annotation/HandleAfterSave.java
*
/spring-data-rest-core-3-6-3-sources-1-
jar/org/springframework/data/rest/core/annotation/RepositoryEventHandler.java

# 1.301 bash 4.4.18-2ubuntu1.3

## 1.301.1 Available under license :

This is Debian GNU/Linux's prepackaged version of the FSF's GNU Bash,
the Bourne Again SHell.

This package was put together by Matthias Klose <doko@debian.org>, from
the following sources:

bash: ftp.gnu.org:/pub/gnu/bash/bash-4.3.tar.gz

Bash homepage: http://tiswww.case.edu/php/chet/bash/bashtop.html

Copyright (C) 1987-2014 Free Software Foundation, Inc.

Bash is free software; you can redistribute it and/or modify it under
the terms of the GNU General Public License as published by the Free
Software Foundation; either version 3, or (at your option) any later
version.

Bash is distributed in the hope that it will be useful, but WITHOUT
ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or
FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License
for more details.

You should have received a copy of the GNU General Public License
along with Bash. If not, see <http://www.gnu.org/licenses/>.
On Debian systems, the complete text of the GNU General Public
License
can be found in `/usr/share/common-licenses/GPL-3'.

The Free Software Foundation has exempted Bash from the requirement of
Paragraph 2c of the General Public License. This is to say, there is
no requirement for Bash to print a notice when it is started
interactively in the usual way. We made this exception because users
and standards expect shells not to print such messages. This
exception applies to any program that serves as a shell and that is
based primarily on Bash as opposed to other GNU software.

Files with other copyright statement than: Copyright FSF, License GPL
---

doc/FAQ ("the Bash FAQ")

This document is Copyright 1995-2005 by Chester Ramey.

Permission is hereby granted, without written agreement and
without license or royalty fees, to use, copy, and distribute
this document for any purpose, provided that the above copyright
notice appears in all copies of this document and that the
contents of this document remain unaltered.

doc/bashref.texi ("Bash Reference Manual"):

Copyright (c) 1988-2014 Free Software Foundation, Inc.

Permission is granted to make and distribute verbatim copies of
this manual provided the copyright notice and this permission notice
are preserved on all copies.

Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3 or
any later version published by the Free Software Foundation; with no
Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.
A copy of the license is included in the section entitled
``GNU Free Documentation License".

lib/readline/doc/rlman.texi (part of the GNU Readline Library manual)

Copyright (c) 1988-2014 Free Software Foundation, Inc.

Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3 or
any later version published by the Free
Software Foundation; with no
Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.
A copy of the license is included in the section entitled
``GNU Free Documentation License".

lib/readline/doc/rltech.texi (part of the GNU Readline Library manual)

Copyright (C) 1988-2014 Free Software Foundation, Inc.

Permission is granted to make and distribute verbatim copies of
this manual provided the copyright notice and this permission notice
pare preserved on all copies.

Permission is granted to process this file through TeX and print the
results, provided the printed document carries copying permission
notice identical to this one except for the removal of this paragraph
(this paragraph not being relevant to the printed manual).

Permission is granted to copy and distribute modified versions of this
manual under the conditions for verbatim copying, provided that the entire
resulting derived work is distributed under the terms of a permission
notice identical
to this one.

Permission is granted to copy and distribute translations of this manual
into another language, under the above conditions for modified versions,
except that this permission notice may be stated in a translation approved
by the Foundation.

lib/readline/doc/rluser.texi (part of the GNU Readline Library manual)

Copyright (C) 1988-2014 Free Software Foundation, Inc.

Authored by Brian Fox and Chet Ramey.

Permission is granted to process this file through Tex and print the
results, provided the printed document carries copying permission notice
identical to this one except for the removal of this paragraph (this
paragraph not being relevant to the printed manual).

Permission is granted to make and distribute verbatim copies of this manual
provided the copyright notice and this permission notice are preserved on
all copies.

Permission is granted to copy and distribute modified versions of this
manual under the conditions for verbatim copying, provided also
that the
GNU Copyright statement is available to the distributee, and provided that
the entire resulting derived work is distributed under the terms of a
permission notice identical to this one.

Permission is granted to copy and distribute translations of this manual
into another language, under the above conditions for modified versions.

readline/doc/history.texi (GNU History Library Manual)

Copyright (C) 1988-2014 Free Software Foundation, Inc.
Authored by Brian Fox and Chet Ramey.

Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3 or
any later version published by the Free Software Foundation; with no
Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts.
A copy of the license is included in the section entitled
``GNU Free Documentation License".

readline/doc/{hstech,hsuser}.texi (GNU History Library Manual)

Copyright (C) 1988-2014 Free Software Foundation, Inc.
Authored by Brian Fox and Chet Ramey.

Permission is granted to make and distribute verbatim copies of this manual
provided the copyright notice and this permission notice are preserved on
all copies.

Permission is granted to process this file through Tex and print the
results, provided the printed document carries copying permission notice
identical to this one except for the removal of this paragraph (this
paragraph not being relevant to the printed manual).

Permission is granted to copy and distribute modified versions of this
manual under the conditions for verbatim copying, provided also that the
GNU Copyright statement is available to the distributee, and provided that
the entire resulting derived work is distributed under the terms of a
permission notice identical to this one.

Permission is granted to copy and distribute translations of this manual
into another language, under the above conditions for modified versions.

lib/sh/inet_aton.c:

* Copyright (c) 1983,
1990, 1993
*    The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*     This product includes software developed by the University of

* California, Berkeley and its contributors.
* 4. Neither the name of the University nor the names of its contributors
* may be used to endorse or promote products derived from this software
* without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
* -
* Portions Copyright (c) 1993 by Digital Equipment Corporation.
*
* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee
is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies, and that
* the name of Digital Equipment Corporation not be used in advertising or
* publicity pertaining to distribution of the document or software without
* specific, written prior permission.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND DIGITAL EQUIPMENT CORP. DISCLAIMS ALL
* WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL DIGITAL EQUIPMENT
* CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
* DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
* PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
* ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
* SOFTWARE.

support/man2html.c

* This program was written by Richard Verhoeven (NL:5482ZX35)
* at the Eindhoven University of Technology. Email: rcb5@win.tue.nl
*
* Permission is granted to distribute, modify and use this program as long
* as this comment is not removed or changed.
*
* THIS IS A MODIFIED VERSION. IT WAS MODIFIED BY chet@po.cwru.edu FOR
* USE BY BASH.

# 1.302 openjdk-jre 11.0.15u10

## 1.302.1 Available under license :

## c-libutl 20160225

### c-libutl License
```

This software is distributed under the terms of the BSD license.

== BSD LICENSE ============================================================

(C) 2009 by Remo Dentato (rdentato@gmail.com)

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

  * Redistributions of source code must retain the above copyright notice,
    this list of conditions and the following disclaimer.
  * Redistributions in binary form must reproduce the above copyright notice,
    this list of conditions and the following disclaimer in the documentation
    and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT
 SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR
ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

http://opensource.org/licenses/bsd-license.php

```
## The Unicode Standard, Unicode Character Database, Version 10.0.0

### Unicode Character Database

```

UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE
```

Unicode Data Files include all data files under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

Unicode Data Files do not include PDF online code charts under the
directory http://www.unicode.org/Public/.

Software includes any source code published in the Unicode Standard
or under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S
DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU
UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE
TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE
THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2018 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b)
this copyright and permission notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.

IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

```
## JLine v3.20.0

### JLine License
<pre>

Copyright (c) 2002-2018, the original author or authors.
All rights reserved.

https://opensource.org/licenses/BSD-3-Clause

Redistribution and use in source and binary forms, with or
without modification, are permitted provided that the following
conditions are met:

Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer
in the documentation and/or other materials provided with
the distribution.

Neither the name of JLine nor the names of its contributors
may be used to endorse or promote products derived from this
software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND
 FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO
EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
```

DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED
AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING
IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>
## Pako v1.0

### Pako License
<pre>
Copyright (C) 2014-2017 by Vitaly Puzrin and Andrei Tuputcyn

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
 TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
(C) 1995-2013 Jean-loup Gailly and Mark Adler
(C) 2014-2017 Vitaly Puzrin and Andrey Tupitsin

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.

3. This notice may not be removed or altered from any
source distribution.

</pre>
## Mozilla Elliptic Curve Cryptography (ECC)

### Mozilla ECC Notice

This notice is provided with respect to Elliptic Curve Cryptography,
which is included with JRE, JDK, and OpenJDK.

You are receiving a
[copy](http://hg.openjdk.java.net/jdk9/jdk9/jdk/file/tip/src/jdk.crypto.ec/share/native/libsunec/impl)
of the Elliptic Curve Cryptography library in source
form with the JDK and OpenJDK source distributions, and as object code in
the JRE & JDK runtimes.
<pre>
In the case of the JRE & JDK runtimes, the terms of the Oracle license do
NOT apply to the Elliptic Curve Cryptography library; it is licensed under the
following license, separately from Oracle's JDK & JRE.  If you do not wish to
install the Elliptic Curve Cryptography library, you may delete the
Elliptic Curve Cryptography library:
  - On Solaris and Linux systems: delete $(JAVA_HOME)/lib/libsunec.so
  - On Mac OSX systems: delete $(JAVA_HOME)/lib/libsunec.dylib
  - On Windows systems: delete $(JAVA_HOME)\bin\sunec.dll

</pre>

###
 Written Offer for Source Code
<pre>

For third party technology that you receive from Oracle in binary form
which is licensed under an open source license that gives you the right
to receive the source code for that binary, you can obtain a copy of
the applicable source code from this page:
   http://hg.openjdk.java.net/jdk9/jdk9/jdk/file/tip/src/jdk.crypto.ec/share/native/libsunec/impl

If the source code for the technology was not provided to you with the
binary, you can also receive a copy of the source code on physical
media by submitting a written request to:

  Oracle America, Inc.
  Attn: Associate General Counsel,
  Development and Engineering Legal
  500 Oracle Parkway, 10th Floor
  Redwood Shores, CA 94065

Or, you may send an email to Oracle using the form at:

http://www.oracle.com/goto/opensourcecode/request

Your request should include:

- The name of the component or binary file(s) for which you are requesting the source code

- The name and version
number of the Oracle product containing the binary

- The date you received the Oracle product

- Your name

- Your company name (if applicable)

- Your return mailing address and email and

- A telephone number in the event we need to reach you.

We may charge you a fee to cover the cost of physical media and processing.
Your request must be sent (i) within three (3) years of the date you
received the Oracle product that included the component or binary
file(s) that are the subject of your request, or (ii) in the case of
code licensed under the GPL v3, for as long as Oracle offers spare
parts or customer support for that product model.

</pre>

### LGPL 2.1
<pre>

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document,
but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not
price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library
after making changes to the library and recompiling
it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot

effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is

linked with the Library has the freedom and the wherewithal to run
that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and
modification follow. Pay close attention to the difference between a
"work based on the library" and a "work that uses the library". The
former contains code derived from the library, whereas the latter must
be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other
program which contains a notice placed by the copyright holder or
other authorized party saying it may be distributed
under the terms of
this Lesser General Public License (also called "this License").
Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data
prepared so as to be conveniently linked with application programs
(which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work
which has been distributed under these terms. A "work based on the
Library" means either the Library or any derivative work under
copyright law: that is to say, a work containing the Library or a
portion of it, either verbatim or with modifications and/or translated
straightforwardly into another language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for
making modifications to it. For a library, complete source code means
all the source code for all modules it contains, plus any associated
interface
definition files, plus the scripts used to control compilation
and installation of the library.

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running a program using the Library is not restricted, and output from
such a program is covered only if its contents constitute a work based
on the Library (independent of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does
and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's
complete source code as you receive it, in any medium, provided that

you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole

must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary
GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source
code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or

linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even
though the source code is not.
Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to
produce a
work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever

changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute
the Library (or any work based on the
Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot

distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution
of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any
particular circumstance, the balance of the section is intended to apply,
and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version
number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by

the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively

convey the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

  <one line to give the library's name and a brief idea of what it does.>
  Copyright (C) <year>  <name of author>

  This library is free software; you can
redistribute it and/or
  modify it under the terms of the GNU Lesser General Public
  License as published by the Free Software Foundation; either
  version 2.1 of the License, or (at your option) any later version.

  This library is distributed in the hope that it will be useful,
  but WITHOUT ANY WARRANTY; without even the implied warranty of
  MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
  Lesser General Public License for more details.

  You should have received a copy of the GNU Lesser General Public
  License along with this library; if not, write to the Free Software
  Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims
 all copyright interest in the
 library `Frob' (a library for tweaking knobs) written by James Random Hacker.

 <signature of Ty Coon>, 1 April 1990
 Ty Coon, President of Vice

That's all there is to it!

</pre>
## xwd v1.0.7

### xwd utility
<pre>

This is the copyright for the files in src/java.desktop/unix/native/libawt_xawt:
list.h, multiVis.h, wsutils.h, list.c, multiVis.c

Copyright 1994 Hewlett-Packard Co.
Copyright 1996, 1998  The Open Group

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall
not be used in advertising or otherwise to promote the sale, use or
other dealings in this Software without prior written authorization
from The Open Group.

</pre>
## IAIK (Institute for Applied Information Processing and Communication) PKCS#11 wrapper files v1

### IAIK License
<pre>

Copyright (c) 2002 Graz University of Technology. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

3. The end-user documentation included with the redistribution, if any, must
include the following acknowledgment:

"This product includes software developed by IAIK of Graz University of
Technology."

Alternately, this acknowledgment may appear in the software itself, if and

wherever such third-party
acknowledgments normally appear.

4. The names "Graz University of Technology" and "IAIK of Graz University of
Technology" must not be used to endorse or promote products derived from this
software without prior written permission.

5. Products derived from this software may not be called "IAIK PKCS Wrapper",
nor may "IAIK" appear in their name, without prior written permission of
Graz University of Technology.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
LICENSOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

</pre>
## CUP Parser Generator for Java v 0.11b

### CUP Parser Generator License
<pre>

Copyright 1996-2015 by Scott Hudson, Frank Flannery, C. Scott Ananian, Michael Petter

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted, provided
that the above copyright notice appear in all copies and that both
the copyright notice and this permission notice and warranty disclaimer
appear in supporting documentation, and that the names of the authors or
their employers not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.

The authors and their employers disclaim all warranties with regard to
this software, including all implied warranties of merchantability and
fitness. In no event shall the authors or their employers be liable for
any special, indirect or consequential damages or any damages whatsoever
resulting from loss of use, data or profits,
whether in an action of
contract, negligence or other tortious action, arising out of or in
connection with the use or performance of this software.

</pre>
## JSZip v3.7.1

JSZip is dual licensed. You may use it under the MIT license *or* the GPLv3
license.

### The MIT License
```
Copyright (c) 2009-2016 Stuart Knightley, David Duponchel, Franz Buchinger, Antnio Afonso

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS
 OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
```

### GPL version 3
```
                    GNU GENERAL PUBLIC LICENSE
                       Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

                            Preamble

 The GNU General Public License is a free, copyleft license for
software and other kinds of works.

 The licenses for most software and other practical works are designed
to take away your freedom to share and change the works.  By contrast,
the GNU General Public License is intended to guarantee your freedom to
```

share and change all versions of a program--to make sure it remains free software for all its
users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must
pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such
abuse occurs in the area of products for individuals to
use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the
GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making
available to the
public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the

extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A
"Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means
all
the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted
under this License are granted for the term of
copyright on the Program, and are irrevocable provided the stated
conditions are met. This License explicitly affirms your unlimited
permission to run the unmodified Program. The output from running a
covered work is covered by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your
rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not
convey, without conditions so long as your license otherwise remains
in force. You may convey covered works to others for the sole purpose
of having them make modifications exclusively for you, or provide you
with facilities for running those works, provided that you comply with
the terms of this License in conveying all material for which you do
not control copyright. Those thus making or running the covered works
for you must do so exclusively on your behalf, under
your direction
and control, on terms that prohibit them from making any copies of
your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under
the conditions stated below. Sublicensing is not allowed; section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological
measure under any applicable law fulfilling obligations under article
11 of the WIPO copyright treaty adopted on 20 December 1996, or
similar laws prohibiting or restricting circumvention of such
measures.

When you convey a covered work, you waive any legal power to forbid
circumvention of technological measures to the extent such circumvention
is effected by exercising rights under this License with respect to
the covered work, and you disclaim any intention to limit operation or
modification of the work as a means of enforcing, against the work's
users,
your or third parties' legal rights to forbid circumvention of
technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you

receive it, in any medium, provided that you conspicuously and
appropriately publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all
recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey,
and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to
produce it from the Program, in the form of source code under the
terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent
notices stating that you modified
it, and giving a relevant date.

b) The work must carry prominent notices stating that it is
released under this License and any conditions added under section
7. This requirement modifies the requirement in section 4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This
License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts,
regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not
make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided

you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer
product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source
conveyed under this section must be accompanied
by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and

protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification
of licensors and authors of that
material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files,
a statement of the
additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover,
your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that

copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other
than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under
the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify

or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD

PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

```

## Double-conversion v1.1.5

### Double-conversion License

https://raw.githubusercontent.com/google/double-conversion/master/LICENSE

<pre>

Copyright 2006-2011, the V8 project authors. All rights reserved.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
 copyright notice, this list of conditions and the following
 disclaimer in the documentation and/or other materials provided
 with the distribution.
* Neither the name of Google Inc. nor the names of its
 contributors may be used to endorse or promote products derived
 from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
 BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
```

(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>
## jQuery UI v1.12.1

### jQuery UI License
```
Copyright jQuery Foundation and other contributors, https://jquery.org/

This software consists of voluntary contributions made by many
individuals. For exact contribution history, see the revision history
available at https://github.com/jquery/jquery-ui

The following license applies to all parts of this software except as
documented below:

====

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT
 WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

====

Copyright and related rights for sample code are waived via CC0. Sample
code is defined as all source code contained within the demos directory.

CC0: http://creativecommons.org/publicdomain/zero/1.0/

====
```

All files located in the node_modules and external directories are
externally maintained libraries used by this software which have their
own licenses; we recommend you read them, as their terms may differ from
the terms above.

```
## Harfbuzz v2.3.1

### Harfbuzz License

http://cgit.freedesktop.org/harfbuzz/tree/COPYING

<pre>

HarfBuzz is licensed under the so-called "Old MIT" license. Details follow.
For parts of HarfBuzz that are licensed under different licenses see individual
files names COPYING in subdirectories where applicable.

Copyright  2010,2011,2012  Google, Inc.
Copyright  2012  Mozilla Foundation
Copyright  2011  Codethink Limited
Copyright  2008,2010  Nokia Corporation and/or its subsidiary(-ies)
Copyright  2009  Keith Stribley
Copyright  2009  Martin Hosken and SIL International
Copyright  2007  Chris Wilson
Copyright  2006  Behdad Esfahbod
Copyright  2005  David Turner
Copyright  2004,2007,2008,2009,2010  Red Hat, Inc.
Copyright  1998-2004  David Turner and Werner Lemberg

For full copyright notices consult the individual files in the package.


Permission is hereby granted, without written agreement and without
license or royalty fees, to use, copy, modify, and distribute this
software and its
 documentation for any purpose, provided that the
above copyright notice and the following two paragraphs appear in
all copies of this software.

IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE TO ANY PARTY FOR
DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES
ARISING OUT OF THE USE OF THIS SOFTWARE AND ITS DOCUMENTATION, EVEN
IF THE COPYRIGHT HOLDER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

THE COPYRIGHT HOLDER SPECIFICALLY DISCLAIMS ANY WARRANTIES, INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND
```

FITNESS FOR A PARTICULAR PURPOSE.  THE SOFTWARE PROVIDED HEREUNDER IS
ON AN "AS IS" BASIS, AND THE COPYRIGHT HOLDER HAS NO OBLIGATION TO
PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

All source code, except for one section, is licensed as above. The one
exception is licensed with a slightly different MIT variant:
The contents of this directory are licensed under the following terms:

Copyright (C) 2012 Grigori Goronzy
 <greg@kinoho.net>

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

</pre>
## Eastman Kodak Company: Portions of color management and imaging software

### Eastman Kodak Notice
<pre>
Portions Copyright Eastman Kodak Company 1991-2003
</pre>
## Thai Dictionary

### Thai Dictionary License
<pre>

Copyright (C) 1982 The Royal Institute, Thai Royal Government.

Copyright (C) 1998 National Electronics and Computer Technology Center,
National Science and Technology Development Agency,
Ministry of Science Technology and Environment,
Thai Royal Government.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

</pre>
## Apache Xerces v2.12.1

### Apache Xerces Notice
<pre>
  ========================================================================
  == NOTICE file corresponding to section 4(d) of the Apache License,    ==
  == Version 2.0, in this case for the Apache Xerces Java distribution.  ==
  ========================================================================

  Apache Xerces Java
  Copyright 1999-2020 The Apache Software Foundation

  This product includes software developed at
  The Apache Software Foundation (http://www.apache.org/).

  Portions of this software were originally based on the following:
  - software copyright (c) 1999, IBM Corporation., http://www.ibm.com.
  - software copyright (c) 1999, Sun Microsystems., http://www.sun.com.
  - voluntary contributions made by Paul Eng on behalf of the
  Apache Software Foundation that were originally developed at iClick, Inc.,
  software copyright (c) 1999.
</pre>

### Apache 2.0 License
<pre>

                    Apache License
                  Version 2.0, January 2004
               http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean
an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work
of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"

means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work,
but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make,
have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients
of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with
the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any
Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each

Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of
TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such
damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should
be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

</pre>
## Apache Santuario v2.3.0

### Apache Santuario Notice
<pre>

Apache Santuario - XML Security for Java
Copyright 1999-2021 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

It was originally based on software copyright (c) 2001, Institute for
Data Communications Systems, <http://www.nue.et-inf.uni-siegen.de/>.

The development of this software was partly funded by the European
Commission in the <WebSig> project in the ISIS Programme.

</pre>

### Apache 2.0 License
<pre>

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity

authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object
code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but

excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a

cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that

do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from
the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not
grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A

PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless
required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except
in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

</pre>

ADDITIONAL INFORMATION ABOUT LICENSING

Certain files distributed by Oracle America, Inc. and/or its affiliates are
subject to the following clarification and special exception to the GPLv2,
based on the GNU Project exception for its Classpath libraries, known as the
GNU Classpath Exception.

Note that Oracle includes multiple, independent programs in this software
package. Some of those programs are provided under licenses deemed
incompatible with the GPLv2 by the Free Software Foundation and others.
For example, the package includes programs licensed under the Apache
License, Version 2.0 and may include FreeType. Such programs are licensed
to you under their original licenses.

Oracle facilitates your further distribution of this package by adding the
Classpath Exception to the necessary parts of its GPLv2 code, which permits
you to use that code in combination with other independent modules not
licensed under the GPLv2. However, note that this would
not permit you to
commingle code under an incompatible license with Oracle's GPLv2 licensed
code by, for example, cutting and pasting such code into a file also
containing Oracle's GPLv2 licensed code and then distributing the result.

Additionally, if you were to remove the Classpath Exception from any of the
files to which it applies and distribute the result, you would likely be
required to license some or all of the other code in that distribution under
the GPLv2 as well, and since the GPLv2 is incompatible with the license terms
of some items included in the distribution by Oracle, removing the Classpath
Exception could therefore effectively compromise your ability to further
distribute the package.

Failing to distribute notices associated with some files may also create
unexpected legal consequences.

Proceed with caution and we recommend that you obtain the advice of a lawyer
skilled in open source matters before removing the Classpath Exception or
making modifications

to this package which may subsequently be redistributed
and/or involve the use of third party software.
## OASIS PKCS #11 Cryptographic Token Interface v3.0

### OASIS PKCS #11 Cryptographic Token Interface License
<pre>

Copyright  OASIS Open 2020. All Rights Reserved.

All capitalized terms in the following text have the meanings
assigned to them in the OASIS Intellectual Property Rights Policy (the
"OASIS IPR Policy"). The full Policy may be found at the OASIS website:
[http://www.oasis-open.org/policies-guidelines/ipr]

This document and translations of it may be copied and furnished to
others, and derivative works that comment on or otherwise explain it or
assist in its implementation may be prepared, copied, published, and
distributed, in whole or in part, without restriction of any kind,
provided that the above copyright notice and this section are included
on all such copies and derivative works. However, this document itself
may not be modified in any way, including by removing the copyright
notice or references to OASIS, except as needed for the purpose of
developing any
document or deliverable produced by an OASIS Technical
Committee (in which case the rules applicable to copyrights, as set
forth in the OASIS IPR Policy, must be followed) or as required to
translate it into languages other than English.

The limited permissions granted above are perpetual and will not be
revoked by OASIS or its successors or assigns.

This document and the information contained herein is provided on an
"AS IS" basis and OASIS DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED,
INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE
INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS OR ANY IMPLIED
WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. OASIS
AND ITS MEMBERS WILL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF ANY USE OF THIS DOCUMENT OR ANY
PART THEREOF.

[OASIS requests that any OASIS Party or any other party that
believes it has patent claims that would necessarily be infringed by
implementations
of this OASIS Standards Final Deliverable, to notify
OASIS TC Administrator and provide an indication of its willingness to
grant patent licenses to such patent claims in a manner consistent with
the IPR Mode of the OASIS Technical Committee that produced this
deliverable.]

[OASIS invites any party to contact the OASIS TC Administrator if it is aware of a claim of ownership of any patent claims that would necessarily be infringed by implementations of this OASIS Standards Final Deliverable by a patent holder that is not willing to provide a license to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this OASIS Standards Final Deliverable. OASIS may include such claims on its website, but disclaims any obligation to do so.]

[OASIS takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology
described in this OASIS
Standards Final Deliverable or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on OASIS' procedures with respect to rights in any document or deliverable produced by an OASIS Technical Committee can be found on the OASIS website. Copies of claims of rights made available for publication and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this OASIS Standards Final Deliverable, can be obtained from the OASIS TC Administrator. OASIS makes no representation that any information or list of intellectual property rights will at any time be complete, or that any claims in such list are, in fact, Essential Claims.]

</pre>
## Cryptix AES v3.2.0

### Cryptix General License
<pre>

Cryptix General License

Copyright (c) 1995-2005 The Cryptix Foundation Limited.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in

the documentation and/or other materials provided with the
distribution.

THIS SOFTWARE IS PROVIDED BY THE CRYPTIX FOUNDATION LIMITED AND
CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE CRYPTIX FOUNDATION LIMITED OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>

OPENJDK ASSEMBLY EXCEPTION

The OpenJDK source code made available by Oracle America, Inc. (Oracle) at
openjdk.java.net ("OpenJDK Code") is distributed under the terms of the GNU
General Public License <http://www.gnu.org/copyleft/gpl.html> version 2
only ("GPL2"), with the following clarification and special exception.

Linking this OpenJDK Code statically or dynamically with other code
is making a combined work based on this library. Thus, the terms
and conditions of GPL2 cover the whole combination.

As a special exception, Oracle gives you permission to link this
OpenJDK Code with certain code licensed by Oracle as indicated at
http://openjdk.java.net/legal/exception-modules-2007-05-08.html
("Designated Exception Modules") to produce an executable,
regardless of the license terms of the Designated Exception Modules,
and to copy and distribute the resulting executable under GPL2,
provided that the Designated Exception Modules continue to be
governed by the licenses under which they were offered by Oracle.

As such, it allows licensees and sublicensees of Oracle's GPL2 OpenJDK Code
to build an executable that includes those portions of necessary code that
Oracle could not provide under GPL2 (or that Oracle has provided under GPL2
with the Classpath exception). If you modify or add to the OpenJDK code,
that new GPL2 code may still be combined with Designated Exception Modules
if the new code is made subject to this exception by its copyright holder.
## PC/SC Lite v1.8.26

### PC/SC Lite License

<pre>

Copyright (c) 1999-2003 David Corcoran <corcoran@linuxnet.com>
Copyright (c) 2001-2011 Ludovic Rousseau <ludovic.rousseau@free.fr>
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
  derived from this software without specific prior written permission.

Changes to this license can be made only by the copyright author with
explicit written consent.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS
 OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>
## International Components for Unicode (ICU4J) v60.2

### ICU4J License

```

UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE
Unicode Data Files include all data files under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

Unicode Data Files do not include PDF online code charts under the
```

directory http://www.unicode.org/Public/.

Software includes any source code published in the Unicode Standard
or under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S
DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU UNEQUIVOCALLY ACCEPT,
AND AGREE TO BE BOUND BY, ALL OF THE
TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE
THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright  1991-2018 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b) this copyright and permission
notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS
NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL
DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright holder.

```
## jopt-simple v5.0.4

### MIT License
<pre>

Copyright (c) 2004-2015 Paul R. Holser, Jr.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
 OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

</pre>
## Independent JPEG Group: JPEG release 6b

### JPEG License
<pre>

Must reproduce following license in documentation and/or other materials
provided with distribution:

The authors make NO WARRANTY or representation, either express or implied,
with respect to this software, its quality, accuracy, merchantability, or
fitness for a particular purpose.  This software is provided "AS IS",
and you, its user, assume the entire risk as to its quality and accuracy.

This software is copyright (C) 1991-1998, Thomas G. Lane.
```

All Rights Reserved except as specified below.

Permission is hereby granted to use, copy, modify, and distribute
this software (or portions thereof) for any purpose, without fee,
subject to these conditions:

(1) If any part of the source code for this software is distributed,
then this README file must be included, with this copyright and no-warranty
notice unaltered; and any additions, deletions, or changes to the original
files must be clearly indicated in accompanying documentation.

(2)
If only executable code is distributed, then the accompanying documentation
must state that "this software is based in part on the work of the
Independent JPEG Group".

(3) Permission for use of this software is granted only if the user accepts
full responsibility for any undesirable consequences; the authors accept
NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code,
not just to the unmodified library. If you use our work, you ought to
acknowledge us.

Permission is NOT granted for the use of any IJG author's name or company name
in advertising or publicity relating to this software or products derived
from it. This software may be referred to only as "the Independent JPEG
Group's software".

We specifically permit and encourage the use of this software as the basis
of commercial products, provided that all warranty or liability claims are
assumed by the product vendor.

ansi2knr.c is included in this
distribution by permission of L. Peter Deutsch,
sole proprietor of its copyright holder, Aladdin Enterprises of Menlo Park, CA.
ansi2knr.c is NOT covered by the above copyright and conditions, but instead
by the usual distribution terms of the Free Software Foundation; principally,
that you must include source code if you redistribute it.
(See the file ansi2knr.c for full details.) However, since ansi2knr.c is
not needed as part of any program generated from the IJG code, this does not
limit you more than the foregoing paragraphs do.

The Unix configuration script "configure" was produced with GNU Autoconf.
It is copyright by the Free Software Foundation but is freely distributable.
The same holds for its supporting scripts (config.guess, config.sub,
ltconfig, ltmain.sh). Another support script, install-sh, is copyright

by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered
by patents owned by IBM, AT&T, and Mitsubishi.
 Hence arithmetic coding
cannot legally be used without obtaining one or more licenses. For this
reason, support for arithmetic coding has been removed from the free
JPEG software. (Since arithmetic coding provides only a marginal gain
over the unpatented Huffman mode, it is unlikely that very many
implementations will support it.) So far as we are aware, there are
no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files.
To avoid entanglement with the Unisys LZW patent, GIF reading support
has been removed altogether, and the GIF writer has been simplified to
produce "uncompressed GIFs". This technique does not use the LZW algorithm;
the resulting GIF files are larger than usual, but are readable by all
standard GIF decoders.

We are required to state that "The Graphics Interchange Format(c) is
the Copyright property of CompuServe Incorporated. GIF(sm) is a
Service Mark property of CompuServe Incorporated."

</pre>
## Apache Xalan v2.7.2

### Apache Xalan Notice
<pre>

```
=============================================================================
====
  ==  NOTICE file corresponding to the section 4d of the Apache License, Version 2.0, ==
  ==  in this case for the Apache Xalan distribution.                        ==
=============================================================================
====
```

 This product includes software developed by
 The Apache Software Foundation (http://www.apache.org/).

 Specifically, we only include the XSLTC portion of the source from the Xalan distribution.
 The Xalan project has two processors: an interpretive one (Xalan Interpretive) and a
 compiled one (The XSLT Compiler (XSLTC)). We *only* use the XSLTC part of Xalan; We use
 the source from the packages that are part of the XSLTC sources.

 Portions of this software was originally based on the following:

  - software copyright (c) 1999-2002, Lotus Development Corporation.,

http://www.lotus.com.
- software copyright (c) 2001-2002, Sun Microsystems., http://www.sun.com.
- software copyright (c) 2003, IBM Corporation., http://www.ibm.com.
- voluntary contributions made by Ovidiu Predescu (ovidiu@cup.hp.com) on behalf of the Apache Software Foundation and was originally developed at Hewlett Packard Company.

</pre>

### Apache 2.0 License
<pre>

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control,
are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made

available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright
owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare
Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You

institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement,
then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative
Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement
to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,

reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability

incurred by, or claims asserted
against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to
in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

JLEX COPYRIGHT NOTICE, LICENSE AND DISCLAIMER.
Copyright 1996-2003 by Elliot Joel Berk and C. Scott Ananian
Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both the copyright notice and this permission notice and warranty
disclaimer appear in supporting documentation, and that the name of
the authors or their employers not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.
The authors and their employers disclaim all warranties with regard to
this software, including all implied warranties of merchantability
and
fitness. In no event shall the authors or their employers be liable for
any special, indirect or consequential damages or any damages whatsoever

resulting from loss of use, data or profits, whether in an action of
contract, negligence or other tortious action, arising out of or in
connection with the use or performance of this software.The portions of
JLex output which are hard-coded into the JLex source code are (naturally)
covered by this same license.

</pre>
## DOM Level 3 Core Specification v1.0

### W3C License
<pre>

W3C SOFTWARE NOTICE AND LICENSE

http://www.w3.org/Consortium/Legal/2002/copyright-software-20021231

This work (and included software, documentation such as READMEs, or other
related items) is being provided by the copyright holders under the following
license. By obtaining, using and/or copying this work, you (the licensee)
agree that you have read, understood, and will comply with the following terms
and conditions.

Permission to copy, modify, and distribute this software and its
documentation, with or without modification, for any purpose and without fee
or royalty is hereby granted, provided that you include the following on ALL
copies of the software and documentation or portions thereof, including
modifications:

1.The full text of this NOTICE in a location viewable to users of the
redistributed or derivative work.

2.Any pre-existing intellectual property disclaimers, notices, or terms and
conditions. If
none exist, the W3C Software Short Notice should be included
(hypertext is preferred, text is permitted) within the body of any
redistributed or derivative code.

3.Notice of any changes or modifications to the files, including the date
changes were made. (We recommend you provide URIs to the location from
which the code is derived.)

THIS SOFTWARE AND DOCUMENTATION IS PROVIDED "AS IS," AND COPYRIGHT HOLDERS
MAKE NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT
LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR
PURPOSE OR THAT THE USE OF THE SOFTWARE OR DOCUMENTATION WILL NOT INFRINGE ANY
THIRD PARTY PATENTS,COPYRIGHTS, TRADEMARKS OR OTHER RIGHTS.

COPYRIGHT HOLDERS WILL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL

OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY USE OF THE SOFTWARE OR DOCUMENTATION. The name and trademarks of copyright holders may NOT be used in advertising or publicity pertaining to the software without specific, written
prior permission. Title to copyright in this software and any associated documentation will at all times remain with copyright holders.

---

This formulation of W3C's notice and license became active on December 31 2002. This version removes the copyright ownership notice such that this license can be used with materials other than those owned by the W3C, reflects that ERCIM is now a host of the W3C, includes references to this specific dated version of the license, and removes the ambiguous grant of "use". Otherwise, this version is the same as the previous version and is written so as to preserve the Free Software Foundation's assessment of GPL compatibility and OSI's certification under the Open Source Definition. Please see our Copyright FAQ for common questions about using materials from our site, including specific terms and conditions for packages like libwww, Amaya, and Jigsaw. Other questions about this notice can be directed to site-policy@w3.org.

</pre>
## JRuby Joni v2.1.16

### MIT License
<pre>

Copyright (c) 2017 JRuby Team

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

</pre>
## GIFLIB v5.2.1

### GIFLIB License
```

The GIFLIB distribution is Copyright (c) 1997  Eric S. Raymond

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
 TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.


https://sourceforge.net/p/giflib/code/ci/master/tree/openbsd-reallocarray.c

Copyright (c) 2008 Otto Moerbeek <otto@drijf.net>
SPDX-License-Identifier: MIT

All images in this directory are copyright 1995 by Jeff Dinkins.
Unauthorized reproduction is prohibited.

For more information about Jeff's photographs, please see:
    http://www.theFixx.org/Jeff
## libpng v1.6.37

### libpng License
<pre>

COPYRIGHT NOTICE, DISCLAIMER, and LICENSE
=========================================

PNG Reference Library License version 2
```

---

* Copyright (c) 1995-2019 The PNG Reference Library Authors.
* Copyright (c) 2018-2019 Cosmin Truta.
* Copyright (c) 2000-2002, 2004, 2006-2018 Glenn Randers-Pehrson.
* Copyright (c) 1996-1997 Andreas Dilger.
* Copyright (c) 1995-1996 Guy Eric Schalnat, Group 42, Inc.

The software is supplied "as is", without warranty of any kind,
express or implied, including, without limitation, the warranties
of merchantability, fitness for a particular purpose, title, and
non-infringement.  In no event shall the Copyright owners, or
anyone distributing the software, be liable for any damages or
other liability, whether in contract, tort or otherwise, arising
from, out of, or in connection with the software, or the use or
other dealings in the software, even if advised of the possibility
of
 such damage.

Permission is hereby granted to use, copy, modify, and distribute
this software, or portions hereof, for any purpose, without fee,
subject to the following restrictions:

1. The origin of this software must not be misrepresented; you
   must not claim that you wrote the original software.  If you
   use this software in a product, an acknowledgment in the product
   documentation would be appreciated, but is not required.

2. Altered source versions must be plainly marked as such, and must
   not be misrepresented as being the original software.

3. This Copyright notice may not be removed or altered from any
   source or altered source distribution.

PNG Reference Library License version 1 (for libpng 0.5 through 1.6.35)
---

libpng versions 1.0.7, July 1, 2000, through 1.6.35, July 15, 2018 are
Copyright (c) 2000-2002, 2004, 2006-2018 Glenn Randers-Pehrson, are
derived from libpng-1.0.6, and
 are distributed according to the same
disclaimer and license as libpng-1.0.6 with the following individuals
added to the list of Contributing Authors:

   Simon-Pierre Cadieux
   Eric S. Raymond
   Mans Rullgard

Cosmin Truta
Gilles Vollant
James Yu
Mandar Sahastrabuddhe
Google Inc.
Vadim Barkov

and with the following additions to the disclaimer:

There is no warranty against interference with your enjoyment of the library or against infringement. There is no warranty that our efforts or the library will fulfill any of your particular purposes or needs. This library is provided with all faults, and the entire risk of satisfactory quality, performance, accuracy, and effort is with the user.

Some files in the "contrib" directory and some configure-generated files that are distributed with libpng have other copyright owners, and are released under other open source licenses.

libpng versions 0.97, January 1998, through 1.0.6, March 20, 2000, are
Copyright (c) 1998-2000 Glenn Randers-Pehrson, are derived from libpng-0.96, and are distributed according to the same disclaimer and license as libpng-0.96, with the following individuals added to the list of Contributing Authors:

Tom Lane
Glenn Randers-Pehrson
Willem van Schaik

libpng versions 0.89, June 1996, through 0.96, May 1997, are
Copyright (c) 1996-1997 Andreas Dilger, are derived from libpng-0.88, and are distributed according to the same disclaimer and license as libpng-0.88, with the following individuals added to the list of Contributing Authors:

John Bowler
Kevin Bracey
Sam Bushell
Magnus Holmgren
Greg Roelofs
Tom Tanner

Some files in the "scripts" directory have other copyright owners, but are released under this license.

libpng versions 0.5, May 1995, through 0.88, January 1996, are

Copyright (c) 1995-1996 Guy Eric Schalnat, Group 42, Inc.

For the purposes of this copyright and license, "Contributing Authors"
is defined
as the following set of individuals:

Andreas Dilger
Dave Martindale
Guy Eric Schalnat
Paul Schmidt
Tim Wegner

The PNG Reference Library is supplied "AS IS". The Contributing
Authors and Group 42, Inc. disclaim all warranties, expressed or
implied, including, without limitation, the warranties of
merchantability and of fitness for any purpose. The Contributing
Authors and Group 42, Inc. assume no liability for direct, indirect,
incidental, special, exemplary, or consequential damages, which may
result from the use of the PNG Reference Library, even if advised of
the possibility of such damage.

Permission is hereby granted to use, copy, modify, and distribute this
source code, or portions hereof, for any purpose, without fee, subject
to the following restrictions:

1. The origin of this source code must not be misrepresented.

2. Altered versions must be plainly marked as such and must not
be misrepresented as being the original source.

3. This Copyright
notice may not be removed or altered from any
source or altered source distribution.

The Contributing Authors and Group 42, Inc. specifically permit,
without fee, and encourage the use of this source code as a component
to supporting the PNG file format in commercial products. If you use
this source code in a product, acknowledgment is not required but would
be appreciated.

</pre>
The GNU General Public License (GPL)

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that
you have the freedom to
distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also,
for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its
terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections
1 and
2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in

object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy

simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you,
then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make
thoroughly clear what is believed to be a
consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the
terms and conditions either of
that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs

whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS"
WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE
PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How
to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

One line to give the program's name and a brief idea of what it does.

Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it

under the terms of the GNU General Public License as published by the Free
Software Foundation; either version 2 of the License, or (at your option)
any later version.

This program is distributed in the hope that it will be useful, but WITHOUT
ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or
FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for
more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it
starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author Gnomovision comes
with ABSOLUTELY NO WARRANTY; for details type 'show w'. This is free
software, and you are welcome to redistribute it under certain conditions;
type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may be
called something
other than 'show w' and 'show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school,
if any, to sign a "copyright disclaimer" for the program, if necessary. Here
is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
'Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989

Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General Public
License instead of this License.

"CLASSPATH" EXCEPTION TO THE GPL

Certain source files distributed by Oracle America and/or its affiliates are
subject to the following
 clarification and special exception to the GPL, but
only where Oracle has expressly included in the particular source file's header
the words "Oracle designates this particular file as subject to the "Classpath"
exception as provided by Oracle in the LICENSE file that accompanied this code."

  Linking this library statically or dynamically with other modules is making
  a combined work based on this library.  Thus, the terms and conditions of
  the GNU General Public License cover the whole combination.

  As a special exception, the copyright holders of this library give you
  permission to link this library with independent modules to produce an
  executable, regardless of the license terms of these independent modules,
  and to copy and distribute the resulting executable under terms of your
  choice, provided that you also meet, for each linked independent module,
  the terms and conditions of the license of that module.  An independent
  module is a module
 which is not derived from or based on this library.  If
  you modify this library, you may extend this exception to your version of
  the library, but you are not obligated to do so.  If you do not wish to do
  so, delete this exception statement from your version.
## Unicode Common Local Data Repository (CLDR) v33

### CLDR License

```

UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE
Unicode Data Files include all data files under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

Unicode Data Files do not include PDF online code charts under the
directory http://www.unicode.org/Public/.

Software includes any source code published in the Unicode Standard
or under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S
```

DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU UNEQUIVOCALLY ACCEPT,
AND AGREE TO BE BOUND BY, ALL OF THE
TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE
THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2018 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b) this copyright and permission
notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS
NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL
DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright holder.

```
## Dynalink v.5

### Dynalink License
<pre>
```

Copyright (c) 2009-2013, Attila Szegedi

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:
* Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright
 notice, this list of conditions and the following disclaimer in the
 documentation and/or other materials provided with the distribution.
* Neither the name of the copyright holder nor the names of
 contributors may be used to endorse or promote products derived from
 this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS
IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN
 NO EVENT SHALL COPYRIGHT HOLDER
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>
## jQuery v3.5.1

### jQuery License
```
jQuery v 3.5.1
Copyright 2005, 2018 jQuery Foundation, Inc. and other contributors
http://jquery.com/

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
```

EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

**********

The jQuery JavaScript Library v3.5.1 also includes Sizzle.js

Sizzle.js includes the following license:

Copyright JS Foundation and other contributors, https://js.foundation/

This software consists of voluntary contributions made by many
individuals. For exact contribution history, see the revision history
available at https://github.com/jquery/sizzle

The following license applies to all parts of this software except as
documented below:

====

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit
persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

====

All files located in the node_modules and external directories are

externally maintained libraries used by this software which have their
own licenses; we recommend you read them, as their terms may differ from
the terms above.

**********

```
The copyrights in this software and any visual or audio work distributed with
the software belong to Azul Systems, Inc. and those included in all other notice
files either listed in the readme file or contained in any other included notice
files with this distribution. All rights are reserved. Installation of this
software and any Azul software bundled with or derived from this software is
licensed only in accordance with these terms.

Provided you have not received the software directly from Azul and have already
agreed to the terms of a separate license agreement, by installing, using or
distributing this software you, on your own behalf and on behalf of your
employer or principal, agree to be bound by these terms. If you do not agree to
any of these terms, you may not use, copy, transmit, distribute nor install this
software.

The software is developed and owned by Azul and/or any of its affiliates,
subsidiaries or respective suppliers and licensors. The software also includes
certain
 software components and materials ("Open Source Materials") of third
parties ("Third Party Licensors") licensed under certain licenses ("Open Source
Licenses").

Nothing in this Agreement limits your rights under, or grants you rights that
supersede the terms and conditions of any applicable Open Source Licenses.
You must review the Open Source Licenses located at
http://www.azulsystems.com/license/zulu_third_party_licenses.html
to understand your rights under them. In the event that no such third party
license agreements exist, the restrictions contained in this Agreement shall
apply.

With respect to the Open Source Licenses the following shall apply:

 1) You hereby acknowledge and agree that you will be licensing any Open Source
 Materials directly from the applicable Third Party Licensors including the
 right to use such Third Party Materials in connection with the software

 2) In the event of any inconsistencies or conflicting provisions of the Open
 Source Licenses and the
 provisions of this Agreement, the provisions of the
 Open Source Licenses shall prevail.

THIS SOFTWARE IS PROVIDED BY AZUL "AS-IS" AND WITHOUT EXPRESS OR IMPLIED
```

WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL AZUL BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICE, LOSS OF USE, DATA OR PROFITS; OR BUSINESS INTERRUPTION, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY WHETHER IN CONTRACT, STRICT LIABILITY OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
## Mozilla Public Suffix List

### Public Suffix Notice
```
You are receiving a copy of the Mozilla Public Suffix List in the following
file: <java-home>/lib/security/public_suffix_list.dat. The terms of the
Oracle license do NOT apply to this file; it is licensed under the
Mozilla Public License 2.0, separately from the Oracle programs you receive.
If you do not wish to use the Public Suffix List, you may remove the
<java-home>/lib/security/public_suffix_list.dat file.

The Source Code of this file is available under the
Mozilla Public License, v. 2.0 and is located at
https://raw.githubusercontent.com/publicsuffix/list/cbbba1d234670453df9c930dfbf510c0474d4301/public_suffix_list.dat.
If a copy of the MPL was not distributed with this file, you can obtain one
at https://mozilla.org/MPL/2.0/.

Software distributed under the License is distributed on an "AS IS" basis,
WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License
for the specific language governing rights and limitations
 under the License.
```

### MPL v2.0
```
Mozilla Public License Version 2.0
==================================

1. Definitions
--------------

1.1. "Contributor"
  means each individual or legal entity that creates, contributes to
  the creation of, or owns Covered Software.

1.2. "Contributor Version"
  means the combination of the Contributions of others (if any) used
  by a Contributor and that particular Contributor's Contribution.
```

1.3. "Contribution"
means Covered Software of a particular Contributor.

1.4. "Covered Software"
means Source Code Form to which the initial Contributor has attached the notice in Exhibit A, the Executable Form of such Source Code Form, and Modifications of such Source Code Form, in each case including portions thereof.

1.5. "Incompatible With Secondary Licenses"
means

(a) that the initial Contributor has attached the notice described in Exhibit B to the Covered Software; or

(b) that the Covered Software was made available under the terms of version 1.1 or earlier of the License, but not also under the terms of a Secondary License.

1.6. "Executable Form"
means any form of the work other than Source Code Form.

1.7. "Larger Work"
means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.

1.8. "License"
means this document.

1.9. "Licensable"
means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.

1.10. "Modifications"
means any of the following:

(a) any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or

(b) any new file in Source Code Form that contains any Covered Software.

1.11. "Patent Claims" of a Contributor
means any patent

claim(s), including without limitation, method,
process, and apparatus claims, in any patent Licensable by such
Contributor that would be infringed, but for the grant of the
License, by the making, using, selling, offering for sale, having
made, import, or transfer of either its Contributions or its
Contributor Version.

1.12. "Secondary License"
means either the GNU General Public License, Version 2.0, the GNU
Lesser General Public License, Version 2.1, the GNU Affero General
Public License, Version 3.0, or any later versions of those
licenses.

1.13. "Source Code Form"
means the form of the work preferred for making modifications.

1.14. "You" (or "Your")
means an individual or a legal entity exercising rights under this
License. For legal entities, "You" includes any entity that
controls, is controlled by, or is under common control with You. For
purposes of this definition, "control" means (a) the power, direct
or indirect,
to cause the direction or management of such entity,
whether by contract or otherwise, or (b) ownership of more than
fifty percent (50%) of the outstanding shares or beneficial
ownership of such entity.

2. License Grants and Conditions
---

2.1. Grants

Each Contributor hereby grants You a world-wide, royalty-free,
non-exclusive license:

(a) under intellectual property rights (other than patent or trademark)
Licensable by such Contributor to use, reproduce, make available,
modify, display, perform, distribute, and otherwise exploit its
Contributions, either on an unmodified basis, with Modifications, or
as part of a Larger Work; and

(b) under Patent Claims of such Contributor to make, use, sell, offer
for sale, have made, import, and otherwise transfer either its
Contributions or its Contributor Version.

2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution

become effective for
each Contribution on the date the Contributor first
distributes such Contribution.

2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License. Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

(a) for any code that a Contributor has removed from Covered Software; or

(b) for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or

(c) under Patent Claims infringed by Covered Software in the absence of its Contributions.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section
3.4).

2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

2.5. Representation

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

3. Responsibilities
---

3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications that You create or to which You contribute, must be under the terms
of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then:

(a) such Covered Software must also be made available in Source Code Form, as described in Section 3.1, and You must inform recipients of the Executable Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and

(b) You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

3.3.
Distribution of a Larger Work

You may create and distribute a Larger Work under terms of Your choice, provided that You also comply with the requirements of this License for the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

3.5. Application of Additional Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

4. Inability to Comply Due to Statute or Regulation
---

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Termination
---

5.1. The rights granted under this License will terminate automatically if You fail to comply with any of its terms. However, if You become compliant, then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing basis if such Contributor

notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

```
************************************************************************
*                                                                      *
*  6. Disclaimer of Warranty                                           *
*  -------------------------                                           *
*                                                                      *
*  Covered Software is provided under this License on an "as is"       *
*  basis, without warranty of any kind, either expressed, implied, or  *
*  statutory, including, without limitation, warranties that the       *
*  Covered Software is free of defects, merchantable, fit for a        *
*  particular purpose or non-infringing. The entire risk as to the     *
*  quality and performance of the Covered Software is with You.        *
*  Should any Covered Software prove defective in any respect, You     *
*  (not any Contributor) assume the cost of any necessary servicing,   *
*  repair, or correction. This disclaimer of warranty constitutes an   *
*
 essential part of this License. No use of any Covered Software is   *
*  authorized under this License except under this disclaimer.         *
*                                                                      *
************************************************************************

************************************************************************
*                                                                      *
*  7. Limitation of Liability                                          *
*  --------------------------                                          *
*                                                                      *
*  Under no circumstances and under no legal theory, whether tort      *
*  (including negligence), contract, or otherwise, shall any           *
*  Contributor, or anyone who distributes Covered Software as          *
*  permitted above, be liable to You for any direct, indirect,         *
*  special, incidental, or consequential damages of any
```

character *
* including, without limitation, damages for lost profits, loss of *
* goodwill, work stoppage, computer failure or malfunction, or any *
* and all other commercial damages or losses, even if such party *
* shall have been informed of the possibility of such damages. This *
* limitation of liability shall not apply to liability for death or *
* personal injury resulting from such party's negligence to the *
* extent applicable law prohibits such limitation. Some *
* jurisdictions do not allow the exclusion or limitation of *
* incidental or consequential damages, so this exclusion and *
* limitation may not apply to You. *
* *
**********

8. Litigation
---

Any litigation relating to this License may be brought only in the courts
of a jurisdiction where the defendant maintains its principal place of business and such litigation shall be governed by laws of that jurisdiction, without reference to its conflict-of-law provisions. Nothing in this Section shall prevent a party's ability to bring cross-claims or counter-claims.

9. Miscellaneous
---

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

10. Versions of the License
---

10.1. New Versions

Mozilla Foundation is the license steward. Except as provided in Section 10.3, no one other than the license steward has the right to modify or publish new versions of this License.
Each version will be given a distinguishing version number.

10.2. Effect of New Versions

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

10.3. Modified Versions

If you create software not governed by this License, and you want to create a new license for such software, you may create and use a modified version of this License if you rename the license and remove any references to the name of the license steward (except to note that such modified license differs from this License).

10.4. Distributing Source Code Form that is Incompatible With Secondary Licenses

If You choose to distribute Source Code Form that is Incompatible With Secondary Licenses under the terms of this version of the License, the notice described in Exhibit B of this License must be attached.

Exhibit A - Source Code Form License Notice
---

This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at https://mozilla.org/MPL/2.0/.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice.

You may add additional accurate notices of copyright ownership.

Exhibit B - "Incompatible With Secondary Licenses" Notice
---

This Source Code Form is "Incompatible With Secondary Licenses", as defined by the Mozilla Public License, v. 2.0.

```
## Mesa 3-D Graphics Library v21.0.3

### Mesa License

```
Copyright (C) 1999-2007  Brian Paul   All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN
ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

Attention, Contributors

When contributing to the Mesa project you must agree to the licensing terms
of the component to which you're contributing.
The following section lists the primary components of the Mesa distribution
and their respective licenses.
Mesa Component Licenses

| Component | Location | License |
|---|---|---|
| Main Mesa code | src/mesa/ | MIT |
| Device drivers | src/mesa/drivers/* | MIT, generally |
| Gallium code | src/gallium/ | MIT |
| Ext headers | GL/glext.h | Khronos |
| | GL/glxext.h | Khronos |
| | GL/wglext.h | Khronos |
| | KHR/khrplatform.h | Khronos |

**********

---
include/GL/gl.h :

Mesa 3-D

graphics library

Copyright (C) 1999-2006  Brian Paul   All Rights Reserved.
Copyright (C) 2009  VMware, Inc.  All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR
 OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

**********

---
include/GL/glext.h
include/GL/glxext.h
include/GL/wglxext.h :

Copyright (c) 2013 - 2018 The Khronos Group Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and/or associated documentation files (the
"Materials"), to deal in the Materials without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Materials, and to
permit persons to whom the Materials are furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Materials.

THE MATERIALS ARE PROVIDED "AS IS", WITHOUT
 WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
MATERIALS OR THE USE OR OTHER DEALINGS IN THE MATERIALS.

**********

---
include/KHR/khrplatform.h :

Copyright (c) 2008 - 2018 The Khronos Group Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and/or associated documentation files (the
"Materials"), to deal in the Materials without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Materials, and to
permit persons to whom the Materials are furnished to do
 so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Materials.

THE MATERIALS ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
MATERIALS OR THE USE OR OTHER DEALINGS IN THE MATERIALS.

**********

```
## The FreeType Project: Freetype v2.10.4


### FreeType Notice

```
FreeType comes with two licenses from which you can choose the one
which fits your needs best.

  The FreeType License (FTL) is the most commonly used one. It is
  a BSD-style license with a credit clause and thus compatible with
  the GNU Public License (GPL) version 3, but not with the
  GPL version 2.

The GNU General Public License (GPL), version 2. Use it for all projects which use the GPLv2 also, or which need a license compatible to the GPLv2.

```

### FreeType License
```
The FreeType Project LICENSE
----------------------------

2006-Jan-27

Copyright 1996-2002, 2006 by
David Turner, Robert Wilhelm, and Werner Lemberg



Introduction
============

The FreeType Project is distributed in several archive packages;
some of them may contain, in addition to the FreeType font engine,
various tools
and contributions which rely on, or relate to, the
FreeType Project.

This license applies to all files found in such packages, and
which do not fall under their own explicit license. The license
affects thus the FreeType font engine, the test programs,
documentation and makefiles, at the very least.

This license was inspired by the BSD, Artistic, and IJG
(Independent JPEG Group) licenses, which all encourage inclusion
and use of free software in commercial and freeware products
alike. As a consequence, its main points are that:

o We don't promise that this software works. However, we will be
interested in any kind of bug reports. (`as is' distribution)

o You can use this software for whatever you want, in parts or
full form, without having to pay us. (`royalty-free' usage)

o You may not pretend that you wrote this software. If you use
it, or only parts of it, in a program, you must acknowledge
somewhere in your documentation that you have used the
FreeType code. (`credits')

We specifically permit and encourage the inclusion of this software, with or without modifications, in commercial products. We disclaim all warranties covering The FreeType Project and assume no liability related to The FreeType Project.

Finally, many people asked us for a preferred form for a credit/disclaimer to use in compliance with this license. We thus encourage you to use the following text:

```
"""
  Portions of this software are copyright <year> The FreeType
  Project (www.freetype.org).  All rights reserved.
"""
```

Please replace <year> with the value from the FreeType version you actually use.

Legal Terms
==========

0. Definitions
---

Throughout this license, the terms `package', `FreeType Project', and `FreeType archive' refer to the set of files originally distributed by the authors
(David Turner, Robert Wilhelm, and
Werner Lemberg) as the `FreeType Project', be they named as alpha, beta or final release.

`You' refers to the licensee, or person using the project, where `using' is a generic term including compiling the project's source code as well as linking it to form a `program' or `executable'. This program is referred to as `a program using the FreeType engine'.

This license applies to all files distributed in the original FreeType Project, including all source code, binaries and documentation, unless otherwise stated in the file in its original, unmodified form as distributed in the original archive. If you are unsure whether or not a particular file is covered by this license, you must contact us to verify this.

The FreeType Project is copyright (C) 1996-2000 by David Turner, Robert Wilhelm, and Werner Lemberg. All rights reserved except as

specified below.

1. No Warranty
---

THE FREETYPE PROJECT IS PROVIDED `AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL ANY OF THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY DAMAGES CAUSED BY THE USE OR THE INABILITY TO USE, OF THE FREETYPE PROJECT.

2. Redistribution
---

This license grants a worldwide, royalty-free, perpetual and irrevocable right and license to use, execute, perform, compile, display, copy, create derivative works of, distribute and sublicense the FreeType Project (in both source and object code forms) and derivative works thereof for any purpose; and to authorize others to exercise some or all of the rights granted herein, subject to the following conditions:

o Redistribution of source code must retain this license file (`FTL.TXT') unaltered; any additions, deletions or changes to the original files must be clearly indicated in accompanying documentation. The copyright notices of the unaltered, original files must be preserved in all copies of source files.

o Redistribution in binary form must provide a disclaimer that states that the software is based in part of the work of the FreeType Team, in the distribution documentation. We also encourage you to put an URL to the FreeType web page in your documentation, though this isn't mandatory.

These conditions apply to any software derived from or based on the FreeType Project, not just the unmodified files. If you use our work, you must acknowledge us. However, no fee need be paid to us.

3. Advertising
---

Neither the FreeType authors and contributors nor you shall use the name of the other for commercial, advertising, or promotional purposes without specific prior written

permission.

We suggest, but do not require, that you use one or more of the following phrases to refer to this software in your documentation or advertising materials: `FreeType Project', `FreeType Engine', `FreeType library', or `FreeType Distribution'.

As you have not signed this license, you are not required to accept it. However, as the FreeType Project is copyrighted material, only this license, or another one contracted with the authors, grants you the right to use, distribute, and modify it. Therefore, by using, distributing, or modifying the FreeType Project, you indicate that you understand and accept all the terms of this license.

4. Contacts
---

There are two mailing lists related to FreeType:

o freetype@nongnu.org

Discusses general use and applications of FreeType, as well as future and wanted additions to the library and distribution. If you are looking for support, start in this list if you haven't found anything to help you in the documentation.

o freetype-devel@nongnu.org

Discusses bugs, as well as engine internals, design issues, specific licenses, porting, etc.

Our home page can be found at

http://www.freetype.org

```

### GPL v2

```
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
```
```

of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the

program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program
itself is interactive but
does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on
the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your

cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution
system, which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates

the limitation as if written in the body of this License.

9. The Free Software Foundation may publish
revised and/or new versions
of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be
guided by the two goals
of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING
ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to
give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice

This General Public License does not
 permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

##############################################################################

--- fthash.c and fthash.h are covered by the following notices ---

/*
* Copyright 2000 Computing Research Labs, New Mexico State University
* Copyright 2001-2015
*   Francesco Zappa Nardelli
*
* Permission is hereby granted, free of charge, to any person obtaining a
* copy of this software and associated documentation files (the "Software"),
* to deal in the Software without restriction, including without limitation
* the rights to use, copy, modify, merge, publish, distribute, sublicense,
* and/or sell copies of the Software, and to permit persons to whom the
* Software is furnished to do so, subject to the
 following conditions:
*
* The above copyright notice and this permission notice shall be included in
* all copies or substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
* IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
* FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL
* THE COMPUTING RESEARCH LAB OR NEW MEXICO STATE UNIVERSITY BE LIABLE FOR ANY
* CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT
* OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
* THE USE OR OTHER DEALINGS IN THE SOFTWARE.
*/

 /*************************************************************************
  *

```
 * This file is based on code from bdf.c,v 1.22 2000/03/16 20:08:50
 *
 * taken from Mark Leisher's xmbdfed package
 *
 */
```

```
###########################################################################
```

```
--- FreeType 2 PSaux module
 is covered by the following notices ---

Copyright 2006-2014 Adobe Systems Incorporated.

This software, and all works of authorship, whether in source or
object code form as indicated by the copyright notice(s) included
herein (collectively, the "Work") is made available, and may only be
used, modified, and distributed under the FreeType Project License,
LICENSE.TXT.  Additionally, subject to the terms and conditions of the
FreeType Project License, each contributor to the Work hereby grants
to any individual or legal entity exercising permissions granted by
the FreeType Project License and this section (hereafter, "You" or
"Your") a perpetual, worldwide, non-exclusive, no-charge,
royalty-free, irrevocable (except as stated in this section) patent
license to make, have made, use, offer to sell, sell, import, and
otherwise transfer the Work, where such license applies only to those
patent claims licensable by such contributor that are necessarily
infringed by their contribution(s) alone
 or by combination of their
contribution(s) with the Work to which such contribution(s) was
submitted.  If You institute patent litigation against any entity
(including a cross-claim or counterclaim in a lawsuit) alleging that
the Work or a contribution incorporated within the Work constitutes
direct or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate as of
the date such litigation is filed.

By using, modifying, or distributing the Work you indicate that you
have read and understood the terms and conditions of the
FreeType Project License as well as those provided in this section,
and you accept them fully.
```

```
###########################################################################
```

```
## Apache Commons Byte Code Engineering Library (BCEL) Version 6.5.0

### Apache Commons BCEL Notice
```

<pre>

 ========================================================================
 == NOTICE file corresponding to the section 4 d of ==
 == the Apache License, Version 2.0, ==
 == in this case for the Apache Commons BCEL distribution. ==
 ========================================================================

 This product includes software developed by
 The Apache Software Foundation (http://www.apache.org/).

</pre>

### Apache 2.0 License
<pre>

 Apache License
 Version 2.0, January 2004
 http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

 "License" shall mean the terms and conditions for use, reproduction,
 and distribution as defined by Sections 1 through 9 of
 this document.

 "Licensor" shall mean the copyright owner or entity authorized by
 the copyright owner that is granting the License.

 "Legal Entity" shall mean the union of the acting entity and all
 other entities that control, are controlled by, or are under common
 control with that entity. For the purposes of this definition,
 "control" means (i) the power, direct or indirect, to cause the
 direction or management of such entity, whether by contract or
 otherwise, or (ii) ownership of fifty percent (50%) or more of the
 outstanding shares, or (iii) beneficial ownership of such entity.

 "You" (or "Your") shall mean an individual or Legal Entity
 exercising permissions granted by this License.

 "Source" form shall mean the preferred form for making modifications,
 including but not limited to software source code, documentation
 source, and configuration files.

 "Object" form shall mean any form resulting from mechanical
 transformation or translation

of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or
additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of
Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,

use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from
the Source form of the Work,
excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute,
alongside
or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this

License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License,
Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

</pre>
## Little Color Management System (LCMS) v2.12

### LCMS License
<pre>

Little Color Management System
Copyright (c) 1998-2020 Marti Maria Saguer

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation

the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the Software
is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO
THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

</pre>
## ASM Bytecode Manipulation Framework v6.0

### ASM License
<pre>

Copyright (c) 2000-2011 France Tlcom
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS

INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>

# 1.303 libsepol 2.7-1ubuntu0.1

## 1.303.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these

rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it

does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work

which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified
Library refers to a function or a
table of data to be supplied by an application program that uses
the facility, other than as an argument passed when the facility
is invoked, then you must make a good faith effort to ensure that,
in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves,
then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this
License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever
changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user
installs one, as long as the modified version is
interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing
the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people
have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish revised and/or new
versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision will be guided by the two goals of preserving the free status
of
all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN

WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL
DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should

also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

# 1.304 servlet-api 4.0.0

## 1.304.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
*
* Copyright (c) 2013 - 2018 Lijun Liao
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /servlet-api-4-0-0-sources-4-jar/org/xipki/http/servlet/HttpServlet.java
* /servlet-api-4-0-0-sources-4-jar/org/xipki/http/servlet/AbstractHttpServlet.java
* /servlet-api-4-0-0-sources-4-jar/org/xipki/http/servlet/SimpleLruCache.java
* /servlet-api-4-0-0-sources-4-jar/org/xipki/http/servlet/ServletURIPool.java
*
 /servlet-api-4-0-0-sources-4-jar/org/xipki/http/servlet/TlsHelper.java
* /servlet-api-4-0-0-sources-4-jar/org/xipki/http/servlet/ServletURI.java
* /servlet-api-4-0-0-sources-4-jar/org/xipki/http/servlet/SslReverseProxyMode.java
* /servlet-api-4-0-0-sources-4-jar/org/xipki/http/servlet/package-info.java
No license file was found, but licenses were detected in source scan.

2018 Lijun Liao

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE
2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Found in path(s):
* /servlet-api-4-0-0-sources-4-jar/META-INF/maven/org.xipki/servlet-api/pom.xml

# 1.305 openssl 1.1.1-1ubuntu2.1~18.04.17

## 1.305.1 Available under license :

LICENSE ISSUES
==============

The OpenSSL toolkit stays under a double license, i.e. both the conditions of
the OpenSSL License and the original SSLeay license apply to the toolkit.
See below for the actual license texts.

OpenSSL License
---------------

/* ====================================================================
* Copyright (c) 1998-2019 The OpenSSL Project.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. All advertising materials mentioning features or use

of this
* software must display the following acknowledgment:
* "This product includes software developed by the OpenSSL Project
* for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
* endorse or promote products derived from this software without
* prior written permission. For written permission, please contact
* openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"
* nor may "OpenSSL" appear in their names without prior written
* permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the following
* acknowledgment:
* "This product includes software developed by the OpenSSL Project
* for use in the OpenSSL Toolkit (http://www.openssl.org/)"
*
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com). This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/

Original SSLeay License
-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).

* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
 *
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
*     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can be left out if the rouines from the library
*    being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must include
 an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or

* derivative of this code cannot be changed.  i.e. this
 code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA
02111-1307, USA.
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which

gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This
License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may
copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if
you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even
though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such

parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the
Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if
a patent
license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he

or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number.
If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM,
TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,

REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c'
for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General
Public
License instead of this License.

The "Artistic License"

Preamble

The intent of this document is to state the conditions under which a Package may be copied, such that the Copyright Holder maintains some semblance of artistic control over the development of the package, while giving the users of the package the right to use and distribute the Package in a more-or-less customary fashion, plus the right to make reasonable modifications.

Definitions:

"Package" refers to the collection of files distributed by the Copyright Holder, and derivatives of that collection of files created through textual modification.

"Standard Version" refers to such a Package if it has not been
modified, or has been modified in accordance with the wishes
of the Copyright Holder as specified below.

"Copyright Holder" is whoever is named in the copyright or
copyrights for the package.

"You" is you, if you're thinking about copying or distributing
this Package.

"Reasonable copying fee" is whatever you can justify on the
basis
of media cost, duplication charges, time of people involved,
and so on.  (You will not be required to justify it to the
Copyright Holder, but only to the computing community at large
as a market that must bear the fee.)

"Freely Available" means that no fee is charged for the item
itself, though there may be fees involved in handling the item.
It also means that recipients of the item may redistribute it
under the same conditions they received it.

1. You may make and give away verbatim copies of the source form of the
Standard Version of this Package without restriction, provided that you
duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications
derived from the Public Domain or from the Copyright Holder.  A Package
modified in such a way shall still be considered the Standard Version.

3. You may otherwise modify your copy of this Package in any way, provided
that you insert a prominent
notice in each changed file stating how and
when you changed that file, and provided that you do at least ONE of the
following:

a) place your modifications in the Public Domain or otherwise make them
Freely Available, such as by posting said modifications to Usenet or
an equivalent medium, or placing the modifications on a major archive
site such as uunet.uu.net, or by allowing the Copyright Holder to include
your modifications in the Standard Version of the Package.

b) use the modified Package only within your corporation or organization.

c) rename any non-standard executables so the names do not conflict
with standard executables, which must also be provided, and provide
a separate manual page for each non-standard executable that clearly

documents how it differs from the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or executable
form, provided that you do at least ONE of the following:

a) distribute a Standard Version of the executables and library files, together with instructions (in the manual page or equivalent) on where to get the Standard Version.

b) accompany the distribution with the machine-readable source of the Package with your modifications.

c) give non-standard executables non-standard names, and clearly document the differences in manual pages (or equivalent), together with instructions on where to get the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this Package. You may charge any fee you choose for support of this Package. You may not charge a fee for this Package itself. However, you may distribute this Package in aggregate with other (possibly commercial) programs as part of a larger (possibly commercial) software distribution provided
that you do not advertise this Package as a
product of your own. You may embed this Package's interpreter within an executable of yours (by linking); this shall be construed as a mere form of aggregation, provided that the complete Standard Version of the interpreter is so embedded.

6. The scripts and library files supplied as input to or produced as output from the programs of this Package do not automatically fall under the copyright of this Package, but belong to whoever generated them, and may be sold commercially, and may be aggregated with this Package. If such scripts or library files are aggregated with this Package via the so-called "undump" or "unexec" methods of producing a binary executable image, then distribution of such an image shall neither be construed as a distribution of this Package nor shall it fall under the restrictions of Paragraphs 3 and 4, provided that you do not represent such an executable image as a Standard Version of this Package.

7. C subroutines
(or comparably compiled subroutines in other
languages) supplied by you and linked into this Package in order to

emulate subroutines and variables of the language defined by this Package shall not be considered part of this Package, but are the equivalent of input as in Paragraph 6, provided these subroutines do not change the language in any way that would cause it to fail the regression tests for the language.

8. Aggregation of this Package with a commercial distribution is always permitted provided that the use of this Package is embedded; that is, when no overt attempt is made to make this Package's interfaces visible to the end user of the commercial distribution. Such use shall not be construed as a distribution of this Package.

9. The name of the Copyright Holder may not be used to endorse or promote products derived from this software without specific prior written permission.

10. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End

# 1.306 ion-java 1.0.2

## 1.306.1 Available under license :

Amazon Ion Java
Copyright 2007-2016 Amazon.com, Inc. or its affiliates. All Rights Reserved.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the

outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of

this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed

as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

# 1.307 libldap-common 2.4.45+dfsg-1ubuntu1.11

## 1.307.1 Available under license :

Copyright 1998-2017 The OpenLDAP Foundation. All rights reserved.

COPYING RESTRICTIONS APPLY.

See COPYRIGHT and LICENSE files in the top-level directory of this distribution (i.e., ../../COPYRIGHT and ../../LICENSE, respectively).

```
/*****************************************************************************
*
* Copyright (C) 2000 Pierangelo Masarati, <ando@sys-net.it>
* All rights reserved.
*
* Permission is granted to anyone to use this software for any purpose
* on any computer system, and to alter it and redistribute it, subject
* to the following restrictions:
*
* 1. The author is not responsible for the consequences of use of this
* software, no matter how awful, even if they arise from flaws in it.
*
* 2. The origin of this software must not be misrepresented, either by
* explicit claim or by omission. Since few users ever read sources,
* credits should appear in the documentation.
```

*
* 3. Altered versions must be plainly marked as such, and must not be
* misrepresented as being the original software.  Since few users
* ever read sources, credits should appear in the documentation.
*
* 4. This notice may not be removed or altered.
*
*********************************************************************************/
Copyright 2011-2017 Howard Chu, Symas Corp.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted only as authorized by the OpenLDAP
Public License.

A copy of this license is available in the file LICENSE in the
top-level directory of the distribution or, alternatively, at
<http://www.OpenLDAP.org/license.html>.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

Individual files and/or contributed packages may be copyright by
other parties and/or subject to additional restrictions.

This work also contains materials derived from public sources.

Additional information about OpenLDAP can be obtained at
<http://www.openldap.org/>.
Copyright 1998-2017 The OpenLDAP Foundation.  All rights reserved.

COPYING RESTRICTIONS APPLY.

See COPYRIGHT and LICENSE files in the top-level directory of this
distribution (i.e., ../../COPYRIGHT and ../../LICENSE, respectively).

---
NeoSoft Tcl client extensions to Lightweight Directory Access Protocol.

Copyright (c) 1998-1999 NeoSoft, Inc.
All Rights Reserved.

This software may be used, modified, copied, distributed, and sold,
in both source and binary form provided that these copyrights are
retained and their terms are followed.

Under no circumstances are the authors or NeoSoft Inc. responsible
for the proper functioning of this software, nor do the authors
assume any liability for damages incurred with its use.

Redistribution and use in source and binary forms are permitted
provided that this notice is preserved and that due credit is given
to NeoSoft, Inc.

NeoSoft, Inc. may not be used to endorse or promote products derived
from this software without specific prior written
permission. This
software is provided ``as is'' without express or implied warranty.

Requests for permission may be sent to NeoSoft Inc, 1770 St. James Place,
Suite 500, Houston, TX, 77056.
Copyright 1998-2017 The OpenLDAP Foundation
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted only as authorized by the OpenLDAP
Public License.

A copy of this license is available in the file LICENSE in the
top-level directory of the distribution or, alternatively, at
<http://www.OpenLDAP.org/license.html>.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

Individual files and/or contributed packages may be copyright by
other parties and/or subject to additional restrictions.

This work is derived from the University of Michigan LDAP v3.3
distribution.  Information concerning this software is available
at <http://www.umich.edu/~dirsvcs/ldap/ldap.html>.

This work also contains materials derived from public sources.

Additional information about OpenLDAP can be obtained at
<http://www.openldap.org/>.

---

Portions Copyright 1998-2012 Kurt D. Zeilenga.
Portions Copyright 1998-2006 Net Boolean Incorporated.
Portions
 Copyright 2001-2006 IBM Corporation.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted only as authorized by the OpenLDAP
Public License.

---

Portions Copyright 1999-2008 Howard Y.H. Chu.
Portions Copyright 1999-2008 Symas Corporation.
Portions Copyright 1998-2003 Hallvard B. Furuseth.
Portions Copyright 2007-2011 Gavin Henry.
Portions Copyright 2007-2011 Suretec Systems Ltd.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that this notice is preserved.
The names of the copyright holders may not be used to endorse or
promote products derived from this software without their specific
prior written permission.  This software is provided ``as is''
without express or implied warranty.

---

Portions Copyright (c) 1992-1996 Regents of the University of Michigan.
All rights reserved.

Redistribution and use in source and binary forms are
 permitted
provided that this notice is preserved and that due credit is given
to the University of Michigan at Ann Arbor.  The name of the
University may not be used to endorse or promote products derived
from this software without specific prior written permission.  This
software is provided ``as is'' without express or implied warranty.
The OpenLDAP Public License
 Version 2.8, 17 August 2003

Redistribution and use of this software and associated documentation
("Software"), with or without modification, are permitted provided
that the following conditions are met:

1. Redistributions in source form must retain copyright statements
  and notices,

2. Redistributions in binary form must reproduce applicable copyright
  statements and notices, this list of conditions, and the following
  disclaimer in the documentation and/or other materials provided
  with the distribution, and

3. Redistributions must contain a verbatim copy of this document.

The OpenLDAP Foundation may revise this license from time to time.
Each revision is distinguished by a version number.  You may use

this Software under terms of this license revision or under the
terms of any subsequent revision of the license.

THIS SOFTWARE IS PROVIDED BY THE OPENLDAP FOUNDATION AND ITS
CONTRIBUTORS ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES,
INCLUDING,
 BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT
SHALL THE OPENLDAP FOUNDATION, ITS CONTRIBUTORS, OR THE AUTHOR(S)
OR OWNER(S) OF THE SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN
ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

The names of the authors and copyright holders must not be used in
advertising or otherwise to promote the sale, use or other dealing
in this Software without specific, written prior permission.  Title
to copyright in this Software shall at all times remain with copyright
holders.

OpenLDAP is a registered trademark
 of the OpenLDAP Foundation.

Copyright 1999-2003 The OpenLDAP Foundation, Redwood City,
California, USA.  All Rights Reserved.  Permission to copy and
distribute verbatim copies of this document is granted.

# 1.308 open-ldap 2.4.45+dfsg-1ubuntu1.11

## 1.308.1 Available under license :

Copyright 1998-2017 The OpenLDAP Foundation.  All rights reserved.

COPYING RESTRICTIONS APPLY.

See COPYRIGHT and LICENSE files in the top-level directory of this
distribution (i.e., ../../COPYRIGHT and ../../LICENSE, respectively).
/*****************************************************************************
*
* Copyright (C) 2000 Pierangelo Masarati, <ando@sys-net.it>
* All rights reserved.
*
* Permission is granted to anyone to use this software for any purpose
* on any computer system, and to alter it and redistribute it, subject

* to the following restrictions:
*
* 1. The author is not responsible for the consequences of use of this
* software, no matter how awful, even if they arise from flaws in it.
*
* 2. The origin of this software must not be misrepresented, either by
* explicit claim or by omission.  Since few users ever read sources,
* credits should appear in the documentation.
*
* 3. Altered versions must be plainly marked as such, and must not be
* misrepresented as being the original software.  Since few users
* ever read sources, credits should appear in the documentation.
*
* 4. This notice may not be removed or altered.
*
*********************************************************************************/

Copyright 2011-2017 Howard Chu, Symas Corp.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted only as authorized by the OpenLDAP
Public License.

A copy of this license is available in the file LICENSE in the
top-level directory of the distribution or, alternatively, at
<http://www.OpenLDAP.org/license.html>.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

Individual files and/or contributed packages may be copyright by
other parties and/or subject to additional restrictions.

This work also contains materials derived from public sources.

Additional information about OpenLDAP can be obtained at
<http://www.openldap.org/>.
Copyright 1998-2017 The OpenLDAP Foundation.  All rights reserved.

COPYING RESTRICTIONS APPLY.

See COPYRIGHT and LICENSE files in the top-level directory of this
distribution (i.e., ../../COPYRIGHT and ../../LICENSE, respectively).

---

NeoSoft Tcl client extensions to Lightweight Directory Access Protocol.

Copyright (c) 1998-1999 NeoSoft, Inc.
All Rights Reserved.

This software may be used, modified, copied, distributed, and sold,
in both source and binary form provided that these copyrights are
retained and their terms are followed.

Under no circumstances are the authors or NeoSoft Inc. responsible
for the proper functioning of this software, nor do the authors
assume any liability for damages incurred with its use.

Redistribution and use in source and binary forms are permitted
provided that this notice is preserved and that due credit is given
to NeoSoft, Inc.

NeoSoft, Inc. may not be used to endorse or promote products derived
from this software without specific prior written
permission. This
software is provided ``as is'' without express or implied warranty.

Requests for permission may be sent to NeoSoft Inc, 1770 St. James Place,
Suite 500, Houston, TX, 77056.
Copyright 1998-2017 The OpenLDAP Foundation
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted only as authorized by the OpenLDAP
Public License.

A copy of this license is available in the file LICENSE in the
top-level directory of the distribution or, alternatively, at
<http://www.OpenLDAP.org/license.html>.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

Individual files and/or contributed packages may be copyright by
other parties and/or subject to additional restrictions.

This work is derived from the University of Michigan LDAP v3.3
distribution.  Information concerning this software is available
at <http://www.umich.edu/~dirsvcs/ldap/ldap.html>.

This work also contains materials derived from public sources.

Additional information about OpenLDAP can be obtained at
<http://www.openldap.org/>.

---

Portions Copyright 1998-2012 Kurt D. Zeilenga.

Portions Copyright 1998-2006 Net Boolean Incorporated.
Portions
Copyright 2001-2006 IBM Corporation.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted only as authorized by the OpenLDAP
Public License.

---

Portions Copyright 1999-2008 Howard Y.H. Chu.
Portions Copyright 1999-2008 Symas Corporation.
Portions Copyright 1998-2003 Hallvard B. Furuseth.
Portions Copyright 2007-2011 Gavin Henry.
Portions Copyright 2007-2011 Suretec Systems Ltd.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that this notice is preserved.
The names of the copyright holders may not be used to endorse or
promote products derived from this software without their specific
prior written permission. This software is provided ``as is''
without express or implied warranty.

---

Portions Copyright (c) 1992-1996 Regents of the University of Michigan.
All rights reserved.

Redistribution and use in source and binary forms are
permitted
provided that this notice is preserved and that due credit is given
to the University of Michigan at Ann Arbor. The name of the
University may not be used to endorse or promote products derived
from this software without specific prior written permission. This
software is provided ``as is'' without express or implied warranty.
The OpenLDAP Public License
Version 2.8, 17 August 2003

Redistribution and use of this software and associated documentation
("Software"), with or without modification, are permitted provided
that the following conditions are met:

1. Redistributions in source form must retain copyright statements
and notices,

2. Redistributions in binary form must reproduce applicable copyright

statements and notices, this list of conditions, and the following
disclaimer in the documentation and/or other materials provided
with the distribution, and

3. Redistributions must contain a verbatim copy of this document.

The OpenLDAP Foundation may revise this license from time to time.
Each revision is distinguished by a version number. You may use
this Software under terms of this license revision or under the
terms of any subsequent revision of the license.

THIS SOFTWARE IS PROVIDED BY THE OPENLDAP FOUNDATION AND ITS
CONTRIBUTORS ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES,
INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
SHALL THE OPENLDAP FOUNDATION, ITS CONTRIBUTORS, OR THE AUTHOR(S)
OR OWNER(S) OF THE SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN
ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

The names of the authors and copyright holders must not be used in
advertising or otherwise to promote the sale, use or other dealing
in this Software without specific, written prior permission. Title
to copyright in this Software shall at all times remain with copyright
holders.

OpenLDAP is a registered trademark
of the OpenLDAP Foundation.

Copyright 1999-2003 The OpenLDAP Foundation, Redwood City,
California, USA. All Rights Reserved. Permission to copy and
distribute verbatim copies of this document is granted.

# 1.309 pcre 8.39-9ubuntu0.1

## 1.309.1 Available under license :

PCRE LICENCE
---

PCRE is a library of functions to support regular expressions whose syntax
and semantics are as close as possible to those of the Perl 5 language.

Release 8 of PCRE is distributed under the terms of the "BSD" licence, as specified below. The documentation for PCRE, supplied in the "doc" directory, is distributed under the same terms as the software itself. The data in the testdata directory is not copyrighted and is in the public domain.

The basic library functions are written in C and are freestanding. Also included in the distribution is a set of C++ wrapper functions, and a just-in-time compiler that can be used to optimize pattern matching. These are both optional features that can be omitted when the library is built.

THE BASIC LIBRARY FUNCTIONS
---

Written by: Philip Hazel
Email local part: ph10
Email domain: cam.ac.uk

University of Cambridge Computing Service,
Cambridge, England.

Copyright (c) 1997-2016 University
of Cambridge
All rights reserved.

PCRE JUST-IN-TIME COMPILATION SUPPORT
---

Written by: Zoltan Herczeg
Email local part: hzmester
Emain domain: freemail.hu

Copyright(c) 2010-2016 Zoltan Herczeg
All rights reserved.

STACK-LESS JUST-IN-TIME COMPILER
---

Written by: Zoltan Herczeg
Email local part: hzmester
Emain domain: freemail.hu

Copyright(c) 2009-2016 Zoltan Herczeg
All rights reserved.

THE C++ WRAPPER FUNCTIONS
---

Contributed by: Google Inc.

Copyright (c) 2007-2012, Google Inc.
All rights reserved.

THE "BSD" LICENCE
---

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce
the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* Neither the name of the University of Cambridge nor the name of Google
Inc. nor the names of their contributors may be used to endorse or
promote products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

End
PCRE LICENCE

Please see the file LICENCE in the PCRE distribution for licensing details.

End

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
  derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT
 OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.310 openssh 7.6p1-4ubuntu0.7

## 1.310.1 Available under license :

This file is part of the OpenSSH software.

The licences which components of this software fall under are as
follows.  First, we will summarize and say that all components
are under a BSD licence, or a licence more free than that.

OpenSSH contains no GPL code.

1)
   * Copyright (c) 1995 Tatu Ylonen <ylo@cs.hut.fi>, Espoo, Finland
   *                    All rights reserved
   *
   * As far as I am concerned, the code I have written for this software
   * can be used freely for any purpose.  Any derived versions of this
   * software must be clearly marked as such, and if the derived work is
   * incompatible with the protocol description in the RFC file, it must be
   * called by a name other than "ssh" or "Secure Shell".

  [Tatu continues]
   *  However, I am not implying to give any licenses to any patents or

* copyrights held by third parties, and the software includes parts that
* are not under my direct control. As far as I know, all included

* source code is used in accordance with the relevant license agreements
* and can be used freely for any purpose (the GNU license being the most
* restrictive); see below for details.

[However, none of that term is relevant at this point in time. All of
these restrictively licenced software components which he talks about
have been removed from OpenSSH, i.e.,

- RSA is no longer included, found in the OpenSSL library
- IDEA is no longer included, its use is deprecated
- DES is now external, in the OpenSSL library
- GMP is no longer used, and instead we call BN code from OpenSSL
- Zlib is now external, in a library
- The make-ssh-known-hosts script is no longer included
- TSS has been removed
- MD5 is now external, in the OpenSSL library
- RC4 support has been replaced with ARC4 support from OpenSSL
- Blowfish is now external, in the OpenSSL library

[The licence continues]

Note that any information and
cryptographic algorithms used in this
software are publicly available on the Internet and at any major
bookstore, scientific library, and patent office worldwide. More
information can be found e.g. at "http://www.cs.hut.fi/crypto".

The legal status of this program is some combination of all these
permissions and restrictions. Use only at your own responsibility.
You will be responsible for any legal consequences yourself; I am not
making any claims whether possessing or using this is legal or not in
your country, and I am not taking any responsibility on your behalf.

NO WARRANTY

BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,

REPAIR OR CORRECTION.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

3)
ssh-keyscan was contributed by David Mazieres under a BSD-style
license.

* Copyright 1995, 1996 by David Mazieres <dm@lcs.mit.edu>.
 *
 * Modification and redistribution in source and binary forms is
 * permitted provided that due credit is given to the author and the
 * OpenBSD project by leaving this copyright notice intact.

4)
The Rijndael implementation by Vincent Rijmen, Antoon Bosselaers
and Paulo Barreto is in the public domain and distributed
with the following license:

 * @version 3.0 (December 2000)
 *
 * Optimised ANSI C code for the Rijndael cipher (now AES)
 *
 * @author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
 * @author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
 * @author Paulo Barreto <paulo.barreto@terra.com.br>
 *
 * This code is hereby placed in the public domain.
 *
 * THIS SOFTWARE IS PROVIDED BY THE AUTHORS "AS IS" AND ANY EXPRESS
 * OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
 * WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE
 * ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
 * LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
 * CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
 * SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
 * BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
 * WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE

* OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
* EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

5)

One component of the ssh source code is under a 3-clause BSD license, held by the University of California, since we pulled these parts from original Berkeley code.

* Copyright (c) 1983, 1990, 1992, 1993, 1995
* The Regents of the University of California. All rights reserved.
*
* Redistribution and use in source and binary forms, with
or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
* notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
* notice, this list of conditions and the following disclaimer in the
* documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
* may be used to endorse or promote products derived from this software
* without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS
BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

6)

Remaining components of the software are provided under a standard 2-term BSD licence with the following names as copyright holders:

Markus Friedl
Theo de Raadt
Niels Provos
Dug Song
Aaron Campbell
Damien Miller
Kevin Steves

Daniel Kouril
Wesley Griffin
Per Allansson
Nils Nordman
Simon Wilkinson

Portable OpenSSH additionally includes code from the following copyright holders, also under the 2-term BSD license:

Ben Lindstrom
Tim Rice
Andre
Lucas
Chris Adams
Corinna Vinschen
Cray Inc.
Denis Parker
Gert Doering
Jakob Schlyter
Jason Downs
Juha Yrjl
Michael Stone
Networks Associates Technology, Inc.
Solar Designer
Todd C. Miller
Wayne Schroeder
William Jones
Darren Tucker
Sun Microsystems
The SCO Group
Daniel Walsh
Red Hat, Inc
Simon Vallet / Genoscope

* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
* notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
* notice, this list of conditions and the following disclaimer in the
* documentation and/or other materials provided with the distribution.
*
* THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
* IMPLIED WARRANTIES, INCLUDING, BUT
NOT LIMITED TO, THE IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
* IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,

* INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
* DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
* THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
* THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

8) Portable OpenSSH contains the following additional licenses:

a) md5crypt.c, md5crypt.h

* "THE BEER-WARE LICENSE" (Revision 42):
* <phk@login.dknet.dk> wrote this file. As long as you retain this
* notice you can do whatever you want with this stuff. If we meet
* some day, and you think this stuff is worth it, you can buy
me a
* beer in return. Poul-Henning Kamp

b) snprintf replacement

* Copyright Patrick Powell 1995
* This code is based on code written by Patrick Powell
* (papowell@astart.com) It may be used for any purpose as long as this
* notice remains intact on all source code distributions

c) Compatibility code (openbsd-compat)

Apart from the previously mentioned licenses, various pieces of code
in the openbsd-compat/ subdirectory are licensed as follows:

Some code is licensed under a 3-term BSD license, to the following
copyright holders:

Todd C. Miller
Theo de Raadt
Damien Miller
Eric P. Allman
The Regents of the University of California
Constantin S. Svintsoff

* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
* notice, this list of conditions and the following disclaimer.
*
2. Redistributions in binary form must reproduce the above copyright
* notice, this list of conditions and the following disclaimer in the

* documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
* may be used to endorse or promote products derived from this software
* without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

Some code is licensed under an ISC-style license, to the following
copyright holders:

Internet Software Consortium.
Todd C. Miller
Reyk Floeter
Chad Mynhier

* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND TODD C. MILLER DISCLAIMS ALL
* WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL TODD C. MILLER BE LIABLE
* FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
* WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION
* OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
* CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Some code is licensed under a MIT-style license to the following
copyright holders:

Free Software Foundation, Inc.

* Permission is hereby granted, free of charge, to any person obtaining a *
* copy of this software and associated documentation files (the *
* "Software"), to deal in the Software without restriction, including *
* without limitation the rights to use, copy, modify, merge, publish, *

* distribute, distribute with modifications, sublicense, and/or sell *
* copies of the Software, and to permit persons to whom the Software is *
* furnished to do so, subject to the following conditions: *
* *
* The above copyright notice and this permission notice shall be included *
* in all copies or substantial portions of the
Software. *
* *
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS *
* OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF *
* MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. *
* IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, *
* DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR *
* OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR *
* THE USE OR OTHER DEALINGS IN THE SOFTWARE. *
* *
* Except as contained in this notice, the name(s) of the above copyright *
* holders shall not be used in advertising or otherwise to promote the *
* sale, use or other dealings in this Software without prior written *
* authorization.
*
**********/

---
$OpenBSD: LICENCE,v 1.20 2017/04/30 23:26:16 djm Exp $

# 1.311 networkd-dispatcher 1.7-0ubuntu3.5

## 1.311.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the

GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of

software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If

the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately

publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all
recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey,
and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to
produce it from the Program, in the form of source code under the
terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified
it, and giving a relevant date.

b) The work must carry prominent notices stating that it is
released under this License and any conditions added under section
7. This requirement modifies the requirement in section
4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This
License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts,
regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no

charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright

holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered

work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF

SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

{one line to give the program's name and a brief idea of what it does.}
Copyright (C) {year} {name of author}

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

{project}  Copyright (C) {year}  {fullname}
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs.  If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library.  If this is what you want to do, use
the GNU Lesser General
Public License instead of this License.  But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.312 dpkg 1.19.0.5ubuntu2.4

## 1.312.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: dpkg

Files: *
Copyright:
Copyright  1994 Ian Murdock <imurdock@debian.org>
Copyright  1994 Matt Welsh <mdw@sunsite.unc.edu>
Copyright  1994 Carl Streeter <streeter@cae.wisc.edu>
Copyright  1994-1999, 2008 Ian Jackson <ijackson@chiark.greenend.org.uk>
Copyright  1995 Bruce Perens <bruce@pixar.com>
Copyright  1995-1996 Erick Branderhorst <branderhorst@heel.fgg.eur.nl>
Copyright  1996 Michael Shields <shields@crosslink.net>
Copyright  1996 Klee Dienes <klee@debian.org>
Copyright  1996 Kim-Minh Kaplan <kkaplan@cdfhp3.in2p3.fr>
Copyright  1996-1998 Miquel van Smoorenburg <miquels@cistron.nl>
Copyright  1997-1998 Charles Briscoe-Smith <cpbs@debian.org>
Copyright  1997-1998 Juho Vuori <javuori@cc.helsinki.fi>
Copyright  1998 Koichi Sekido <sekido@mbox.kyoto-inet.or.jp>
Copyright  1998 Jim Van Zandt <jrv@vanzandt.mv.com>
Copyright  1998 Juan Cespedes <cespedes@debian.org>
Copyright  1998 Nils

Rennebarth <nils@debian.org>
Copyright 1998 Heiko Schlittermann <hs@schlittermann.de>
Copyright 1998-1999, 2001, 2003, 2006 Martin Schulze <joey@infodrom.org>
Copyright 1999 Roderick Shertler <roderick@argon.org>
Copyright 1999 Ben Collins <bcollins@debian.org>
Copyright 1999 Richard Kettlewell <rjk@sfere.greenend.org.uk>
Copyright 1999-2001 Marcus Brinkmann <brinkmd@debian.org>
Copyright 1999-2002 Wichert Akkerman <wakkerma@debian.org>
Copyright 2001, 2007, 2010 Joey Hess <joeyh@debian.org>
Copyright 2004-2005, 2007-2008, 2010 Canonical Ltd.
Copyright 2004-2005 Scott James Remnant <scott@netsplit.com>
Copyright 2006-2008 Frank Lichtenheld <djpig@debian.org>
Copyright 2006-2015 Guillem Jover <guillem@debian.org>
Copyright 2007-2012 Raphal Hertzog <hertzog@debian.org>
Copyright 2007 Nicolas Franois <nicolas.francois@centraliens.net>
Copyright 2007 Don Armstrong <don@donarmstrong.com>
Copyright 2007 Colin Watson <cjwatson@debian.org>
Copyright 2007,
2008 Tollef Fog Heen <tfheen@err.no>
Copyright 2008 Zack Weinberg <zackw@panix.com>
Copyright 2008 Pierre Habouzit <madcoder@debian.org>
Copyright 2009 Romain Francoise <rfrancoise@debian.org>
Copyright 2009-2010 Modestas Vainius <modax@debian.org>
Copyright 2009-2011 Kees Cook <kees@debian.org>
License: GPL-2+

Files:
lib/compat/getopt*
lib/compat/gettext.h
lib/compat/obstack.*
lib/compat/strnlen.c
Copyright:
Copyright 1987-2006 Free Software Foundation, Inc.
License: GPL-2+

Files:
dselect/methods/Dselect/Ftp.pm
dselect/methods/ftp/*
Copyright:
Copyright 1996 Andy Guy <awpguy@acs.ucalgary.ca>
Copyright 1998 Martin Schulze <joey@infodrom.org>
Copyright 1999-2001, 2005-2006, 2009 Raphal Hertzog <hertzog@debian.org>
License: GPL-2

Files:
scripts/Dpkg/Gettext.pm
Copyright:
Copyright 2000 Joey Hess <joeyh@debian.org>

Copyright  2007, 2009-2010, 2012-2015 Guillem Jover <guillem@debian.org>
License: BSD-2-clause

Files:
utils/start-stop-daemon.c
Copyright:
Copyright
  1999 Marek Michalkiewicz <marekm@i17linuxb.ists.pwr.wroc.pl>
Copyright  1999 Christian Schwarz <schwarz@monet.m.isar.de>
Copyright  1999 Klee Dienes <klee@debian.org>
Copyright  1999 Ben Collins <bcollins@debian.org>
Copyright  1999-2002 Wichert Akkerman <wakkerma@debian.org>
Copyright  2000-2003 Adam Heath <doogie@debian.org>
Copyright  2001 Sontri Tomo Huynh <huynh.29@osu.edu>
Copyright  2001 Andreas Schuldei <andreas@schuldei.org>
Copyright  2001 Ian Jackson <ijackson@chiark.greenend.org.uk>
Copyright  2004-2005 Scott James Remnant <keybuk@debian.org>
Copyright  2006-2014 Guillem Jover <guillem@debian.org>
Copyright  2008 Samuel Thibault <samuel.thibault@ens-lyon.org>
Copyright  2008 Andreas Phlsson <andreas.pahlsson@xcerion.com>
Copyright  2009 Chris Coulson <chrisccoulson@googlemail.com>
Copyright  2012 Carsten Hey <carsten@debian.org>
Copyright  2014 Nir Soffer <nirs@hyperms.com>
License: public-domain-s-s-d
Written by Marek Michalkiewicz <marekm@i17linuxb.ists.pwr.wroc.pl>,
 public domain.  Based conceptually on start-stop-daemon.pl, by Ian
Jackson <ijackson@gnu.ai.mit.edu>.  May be used and distributed
freely for any purpose.  Changes by Christian Schwarz
<schwarz@monet.m.isar.de>, to make output conform to the Debian
Console Message Standard, also placed in public domain.  Minor
changes by Klee Dienes <klee@debian.org>, also placed in the Public
Domain.
.
Changes by Ben Collins <bcollins@debian.org>, added --chuid, --background
and --make-pidfile options, placed in public domain as well.

Files: lib/compat/md5.*
Copyright:
Copyright  1993 Colin Plumb
License: public-domain-md5
This code implements the MD5 message-digest algorithm.
The algorithm is due to Ron Rivest.  This code was
written by Colin Plumb in 1993, no copyright is claimed.
This code is in the public domain; do with it what you wish.
.
Equivalent code is available from RSA Data Security, Inc.
This code has been tested against that, and is equivalent,
except

that you don't need to include two pages of legalese
with every copy.

License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program.  If not, see <https://www.gnu.org/licenses/>.
Comment:
On Debian systems, the complete text of the GNU General Public License
can be found in /usr/share/common-licenses/GPL-2 or in the dpkg source
as the file COPYING.

License: GPL-2
This is free software; you can redistribute it and/or modify
it under the terms of version
2 of the GNU General Public
License version 2 as published by the Free Software Foundation.
.
This is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program.  If not, see <https://www.gnu.org/licenses/>.

License: BSD-2-clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
.
THIS SOFTWARE
IS PROVIDED BY AUTHORS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies
of the Program's
source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty;

and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole
or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered
independent and separate works in
themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program

with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is

void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution
of the Program by
all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed

through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS

TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

  Gnomovision version 69, Copyright (C) year name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.

The hypothetical commands `show w'
 and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.313 glibc 2.27-3ubuntu1.6

## 1.313.1 Available under license :

Copyright 1992, 1993, 1994, 1997 Henry Spencer.  All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this
  software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
  explicit claim or by omission.  Since few users ever read sources,
  credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be misrepresented as being the original software. Since few users ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which

gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the
Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot

impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing
version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author

Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who

decide to use it. You
can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library,
whether gratis
or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser

General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order

to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy,

and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the
terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be
reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that
uses the
library". The executable is therefore covered by this License.

Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the
object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany
the work with the complete corresponding
machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application

to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate
properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally
distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any

other library
facilities. This must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License. However, parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Library or its derivative works. These actions are
prohibited by law if
you do not accept this License. Therefore, by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

11. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse
you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision

will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest
possible use to the public, we recommend making it free software that
everyone can redistribute and change. You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

To apply these terms, attach the following notices to the library. It is
safest to attach them to the start of each source file to most effectively
convey
the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or

modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301
USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE

Unicode Data Files include all data files under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/, and
http://www.unicode.org/cldr/data/. Unicode Data Files do not include PDF
online code charts under the directory http://www.unicode.org/Public/.
Software includes any source code published in the Unicode Standard or under
the directories http://www.unicode.org/Public/,
http://www.unicode.org/reports/, and http://www.unicode.org/cldr/data/.

NOTICE TO USER: Carefully read the following legal agreement. BY
DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S DATA FILES
("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"), YOU UNEQUIVOCALLY ACCEPT, AND
AGREE TO BE BOUND BY, ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF
YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE THE DATA
FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2013 Unicode,

Inc. All rights reserved. Distributed under
the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software
that the data or
software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.
This file contains the copying permission notices for various files in the GNU C Library distribution that have copyright owners other than the Free Software Foundation. These notices all require that a copy of the notice be included in the accompanying documentation and be distributed with binary distributions of the code, so be sure to include this file along with any binary distributions derived from the GNU C Library.

All code incorporated from 4.4 BSD is distributed under the following license:

Copyright (C) 1991 Regents of the University of California.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions

are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the
documentation and/or other materials provided with the distribution.
3. [This condition was removed.]
4. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF
SUCH DAMAGE.

The DNS resolver code, taken from BIND 4.9.5, is copyrighted by UC
Berkeley, by Digital Equipment Corporation and by Internet Software
Consortium. The DEC portions are under the following license:

Portions Copyright (C) 1993 by Digital Equipment Corporation.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies, and
that the name of Digital Equipment Corporation not be used in
advertising or publicity pertaining to distribution of the document or
software without specific, written prior permission.

THE SOFTWARE IS PROVIDED ``AS IS" AND DIGITAL EQUIPMENT CORP.
DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The ISC portions are under the following license:

Portions Copyright (c) 1996-1999 by Internet Software Consortium.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING
OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The Sun RPC support (from rpcsrc-4.0) is covered by the following license:

Copyright (c) 2010, Oracle America, Inc.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of the "Oracle America, Inc." nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,

WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following CMU license covers some of the support code for Mach,
derived from Mach 3.0:

Mach Operating System
Copyright (C) 1991,1990,1989 Carnegie Mellon University
All Rights Reserved.

Permission to use, copy, modify and distribute this software and its
documentation is hereby granted, provided that
both the copyright
notice and this permission notice appear in all copies of the
software, derivative works or modified versions, and any portions
thereof, and that both notices appear in supporting documentation.

CARNEGIE MELLON ALLOWS FREE USE OF THIS SOFTWARE IN ITS ``AS IS''
CONDITION. CARNEGIE MELLON DISCLAIMS ANY LIABILITY OF ANY KIND FOR
ANY DAMAGES WHATSOEVER RESULTING FROM THE USE OF THIS SOFTWARE.

Carnegie Mellon requests users of this software to return to

Software Distribution Coordinator
School of Computer Science
Carnegie Mellon University
Pittsburgh PA 15213-3890

or Software.Distribution@CS.CMU.EDU any improvements or
extensions that they make and grant Carnegie Mellon the rights to
redistribute these changes.

The file if_ppp.h is under the following CMU license:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the
above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY CARNEGIE MELLON UNIVERSITY AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE UNIVERSITY OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following license covers the files from Intel's "Highly Optimized Mathematical Functions for Itanium" collection:

Intel License Agreement

Copyright (c) 2000, Intel Corporation

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* The name of Intel Corporation may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF

LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The files inet/getnameinfo.c and sysdeps/posix/getaddrinfo.c are copyright (C) by Craig Metz and are distributed under the following license:

/* The Inner Net License,
Version 2.00

The author(s) grant permission for redistribution and use in source and binary forms, with or without modification, of the software and documentation provided that the following conditions are met:

0. If you receive a version of the software that is specifically labelled as not being for redistribution (check the version message and/or README), you are not permitted to redistribute that version of the software in any way or form.
1. All terms of the all other applicable copyrights and licenses must be followed.
2. Redistributions of source code must retain the authors' copyright notice(s), this list of conditions, and the following disclaimer.
3. Redistributions in binary form must reproduce the authors' copyright notice(s), this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.
4. [The copyright holder has authorized the removal of this clause.]
5. Neither the name(s)
of the author(s) nor the names of its contributors
may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY ITS AUTHORS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

If these license terms cause you a real problem, contact the author. */

The file sunrpc/des_impl.c
is copyright Eric Young:

Copyright (C) 1992 Eric Young

Collected from libdes and modified for SECURE RPC by Martin Kuck 1994
This file is distributed under the terms of the GNU Lesser General
Public License, version 2.1 or later - see the file COPYING.LIB for details.
If you did not receive a copy of the license with this program, please
see <http://www.gnu.org/licenses/> to obtain a copy.

The libidn code is copyright Simon Josefsson, with portions copyright
The Internet Society, Tom Tromey and Red Hat, Inc.:

Copyright (C) 2002, 2003, 2004, 2011  Simon Josefsson

This file is part of GNU Libidn.

GNU Libidn is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

GNU Libidn is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY
 or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with GNU Libidn; if not, see <http://www.gnu.org/licenses/>.

The following notice applies to portions of libidn/nfkc.c:

This file contains functions from GLIB, including gutf8.c and
gunidecomp.c, all licensed under LGPL and copyright hold by:

Copyright (C) 1999, 2000 Tom Tromey
Copyright 2000 Red Hat, Inc.

The following applies to portions of libidn/punycode.c and
libidn/punycode.h:

This file is derived from RFC 3492bis written by Adam M. Costello.

Disclaimer and license: Regarding this entire document or any
portion of it (including the pseudocode and C code), the author
makes no guarantees and is not responsible for any damage resulting
from its use.  The author grants irrevocable permission to anyone
to use, modify, and distribute it in any way that does not diminish
the rights of anyone else
 to use, modify, and distribute it,
provided that redistributed derivative works do not contain

misleading author or version information. Derivative works need
not be licensed under similar terms.

Copyright (C) The Internet Society (2003). All Rights Reserved.

This document and translations of it may be copied and furnished to
others, and derivative works that comment on or otherwise explain it
or assist in its implementation may be prepared, copied, published
and distributed, in whole or in part, without restriction of any
kind, provided that the above copyright notice and this paragraph are
included on all such copies and derivative works. However, this
document itself may not be modified in any way, such as by removing
the copyright notice or references to the Internet Society or other
Internet organizations, except as needed for the purpose of
developing Internet standards in which case the procedures for
copyrights defined in the Internet Standards process must be
followed,
or as required to translate it into languages other than
English.

The limited permissions granted above are perpetual and will not be
revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an
"AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING
TASK FORCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING
BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION
HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF
MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

The file inet/rcmd.c is under a UCB copyright and the following:

Copyright (C) 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions
in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

The file posix/runtests.c is copyright Tom Lord:

Copyright 1995 by Tom Lord

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of the copyright holder not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

Tom Lord DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO
EVENT SHALL TOM LORD BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF
USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

The posix/rxspencer tests are copyright Henry Spencer:

Copyright 1992, 1993, 1994, 1997 Henry Spencer. All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this
software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. Since few users ever read sources,
credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
misrepresented
as being the original software. Since few users
ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

The file posix/PCRE.tests is copyright University of Cambridge:

Copyright (c) 1997-2003 University of Cambridge

Permission is granted to anyone to use this software for any purpose on any
computer system, and to redistribute it freely, subject to the following
restrictions:

1. This software is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. In practice, this means that if you use
PCRE in software that you distribute to others, commercially or
otherwise, you must put a sentence like this

Regular expression support is provided by the PCRE library package,
which is open source software,
written by Philip Hazel, and copyright
by the University of Cambridge, England.

somewhere reasonably visible in your documentation and in any relevant
files or online help data or similar. A reference to the ftp site for
the source, that is, to

ftp://ftp.csx.cam.ac.uk/pub/software/programming/pcre/

should also be given in the documentation. However, this condition is not
intended to apply to whole chains of software. If package A includes PCRE,
it must acknowledge it, but if package B is software that includes package
A, the condition is not imposed on package B (unless it uses PCRE
independently).

3. Altered versions must be plainly marked as such, and must not be
misrepresented as being the original software.

4. If PCRE is embedded in any software that is released under the GNU
 General Purpose Licence (GPL), or Lesser General Purpose Licence (LGPL),
 then the terms of that licence shall supersede any condition above with
 which it is incompatible.

Files
 from Sun fdlibm are copyright Sun Microsystems, Inc.:

Copyright (C) 1993 by Sun Microsystems, Inc. All rights reserved.

Developed at SunPro, a Sun Microsystems, Inc. business.
Permission to use, copy, modify, and distribute this
software is freely granted, provided that this notice
is preserved.

Part of stdio-common/tst-printf.c is copyright C E Chew:

(C) Copyright C E Chew

Feel free to copy, use and distribute this software provided:

1. you do not pretend that you wrote it
2. you leave this copyright notice intact.

Various long double libm functions are copyright Stephen L. Moshier:

Copyright 2001 by Stephen L. Moshier <moshier@na-net.ornl.gov>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be
 useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, see
<http://www.gnu.org/licenses/>.  */

# 1.314 libc 2.27-3ubuntu1.6

## 1.314.1 Available under license :

Copyright 1992, 1993, 1994, 1997 Henry Spencer. All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this
software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. Since few users ever read sources,
credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
misrepresented as being the original software. Since few users
ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.
Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of

running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you

distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution
and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under

any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful,

but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know

that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in

non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based

on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library,

and can be
reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to

distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference

directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license

restrictions of other proprietary libraries that do not normally
accompany the operating system. Such a contradiction means you cannot
use both them and the Library together in an executable that you
distribute.

7. You may place library facilities that are a work based on the
Library side-by-side in a single library together with other library
facilities not covered by this License, and distribute such a combined
library, provided that the separate distribution of the work based on
the Library and of the other library facilities is otherwise
permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work
based on the Library, uncombined with any
other library
facilities. This must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License. However, parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Library or its derivative works. These actions are
prohibited by law if
you do not accept this License. Therefore, by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library

specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision
will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting

redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE

Unicode Data Files include all data files under the directories http://www.unicode.org/Public/, http://www.unicode.org/reports/, and http://www.unicode.org/cldr/data/. Unicode Data Files do not include PDF online code charts under the directory http://www.unicode.org/Public/. Software includes any source code published in the Unicode Standard or under the directories http://www.unicode.org/Public/,

http://www.unicode.org/reports/, and http://www.unicode.org/cldr/data/.

NOTICE TO USER: Carefully read the following legal agreement. BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"), YOU UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2013 Unicode,
Inc. All rights reserved. Distributed under
the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software
that the data or
software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.
This file contains the copying permission notices for various files in the GNU C Library distribution that have copyright owners other than the Free Software Foundation. These notices all require that a copy of the notice be included in the accompanying documentation and be distributed with

binary distributions of the code, so be sure to include this file along
with any binary distributions derived from the GNU C Library.

All code incorporated from 4.4 BSD is distributed under the following
license:

Copyright (C) 1991 Regents of the University of California.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in
 the
  documentation and/or other materials provided with the distribution.
3. [This condition was removed.]
4. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
 OF THE POSSIBILITY OF
SUCH DAMAGE.

The DNS resolver code, taken from BIND 4.9.5, is copyrighted by UC
Berkeley, by Digital Equipment Corporation and by Internet Software
Consortium.  The DEC portions are under the following license:

Portions Copyright (C) 1993 by Digital Equipment Corporation.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies, and
that the name of Digital Equipment Corporation not be used in

advertising or publicity pertaining to distribution of the document or
software without specific, written prior permission.

THE SOFTWARE IS PROVIDED ``AS IS" AND DIGITAL EQUIPMENT CORP.
DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The ISC portions are under the following license:

Portions Copyright (c) 1996-1999 by Internet Software Consortium.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING
OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.

The Sun RPC support (from rpcsrc-4.0) is covered by the following
license:

Copyright (c) 2010, Oracle America, Inc.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the following
  disclaimer in the documentation and/or other materials
  provided with the distribution.
* Neither the name of the "Oracle America, Inc." nor the names of its
  contributors may be used to endorse or promote products derived

from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following CMU license covers some of the support code for Mach, derived from Mach 3.0:

Mach Operating System
Copyright (C) 1991,1990,1989 Carnegie Mellon University
All Rights Reserved.

Permission to use, copy, modify and distribute this software and its documentation is hereby granted, provided that
both the copyright
notice and this permission notice appear in all copies of the software, derivative works or modified versions, and any portions thereof, and that both notices appear in supporting documentation.

CARNEGIE MELLON ALLOWS FREE USE OF THIS SOFTWARE IN ITS ``AS IS'' CONDITION. CARNEGIE MELLON DISCLAIMS ANY LIABILITY OF ANY KIND FOR ANY DAMAGES WHATSOEVER RESULTING FROM THE USE OF THIS SOFTWARE.

Carnegie Mellon requests users of this software to return to

Software Distribution Coordinator
School of Computer Science
Carnegie Mellon University
Pittsburgh PA 15213-3890

or Software.Distribution@CS.CMU.EDU any improvements or extensions that they make and grant Carnegie Mellon the rights to redistribute these changes.

The file if_ppp.h is under the following CMU license:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the
 above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY CARNEGIE MELLON UNIVERSITY AND
CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE UNIVERSITY OR CONTRIBUTORS BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
 BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER
IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following license covers the files from Intel's "Highly Optimized
Mathematical Functions for Itanium" collection:

Intel License Agreement

Copyright (c) 2000, Intel Corporation

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* The name of Intel Corporation may not be used to endorse

or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The files inet/getnameinfo.c and sysdeps/posix/getaddrinfo.c are copyright
(C) by Craig Metz and are distributed under the following license:

/* The Inner Net License,
Version 2.00

The author(s) grant permission for redistribution and use in source and
binary forms, with or without modification, of the software and documentation
provided that the following conditions are met:

0. If you receive a version of the software that is specifically labelled
as not being for redistribution (check the version message and/or README),
you are not permitted to redistribute that version of the software in any
way or form.
1. All terms of the all other applicable copyrights and licenses must be
followed.
2. Redistributions of source code must retain the authors' copyright
notice(s), this list of conditions, and the following disclaimer.
3. Redistributions in binary form must reproduce the authors' copyright
notice(s), this list of conditions, and the following disclaimer in the
documentation and/or other materials provided with the distribution.
4. [The copyright holder has authorized the removal of this clause.]
5. Neither the name(s)
of the author(s) nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY ITS AUTHORS AND CONTRIBUTORS ``AS IS'' AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES

(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

If these license terms cause you a real problem, contact the author. */

The file sunrpc/des_impl.c
is copyright Eric Young:

Copyright (C) 1992 Eric Young
Collected from libdes and modified for SECURE RPC by Martin Kuck 1994
This file is distributed under the terms of the GNU Lesser General
Public License, version 2.1 or later - see the file COPYING.LIB for details.
If you did not receive a copy of the license with this program, please
see <http://www.gnu.org/licenses/> to obtain a copy.

The libidn code is copyright Simon Josefsson, with portions copyright
The Internet Society, Tom Tromey and Red Hat, Inc.:

Copyright (C) 2002, 2003, 2004, 2011 Simon Josefsson

This file is part of GNU Libidn.

GNU Libidn is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

GNU Libidn is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY
or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with GNU Libidn; if not, see <http://www.gnu.org/licenses/>.

The following notice applies to portions of libidn/nfkc.c:

This file contains functions from GLIB, including gutf8.c and
gunidecomp.c, all licensed under LGPL and copyright hold by:

Copyright (C) 1999, 2000 Tom Tromey
Copyright 2000 Red Hat, Inc.

The following applies to portions of libidn/punycode.c and

libidn/punycode.h:

This file is derived from RFC 3492bis written by Adam M. Costello.

Disclaimer and license: Regarding this entire document or any
portion of it (including the pseudocode and C code), the author
makes no guarantees and is not responsible for any damage resulting
from its use. The author grants irrevocable permission to anyone
to use, modify, and distribute it in any way that does not diminish
the rights of anyone else
to use, modify, and distribute it,
provided that redistributed derivative works do not contain
misleading author or version information. Derivative works need
not be licensed under similar terms.

Copyright (C) The Internet Society (2003). All Rights Reserved.

This document and translations of it may be copied and furnished to
others, and derivative works that comment on or otherwise explain it
or assist in its implementation may be prepared, copied, published
and distributed, in whole or in part, without restriction of any
kind, provided that the above copyright notice and this paragraph are
included on all such copies and derivative works. However, this
document itself may not be modified in any way, such as by removing
the copyright notice or references to the Internet Society or other
Internet organizations, except as needed for the purpose of
developing Internet standards in which case the procedures for
copyrights defined in the Internet Standards process must be
followed,
or as required to translate it into languages other than
English.

The limited permissions granted above are perpetual and will not be
revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an
"AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING
TASK FORCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING
BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION
HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF
MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

The file inet/rcmd.c is under a UCB copyright and the following:

Copyright (C) 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without

modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions
 in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE
 OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

The file posix/runtests.c is copyright Tom Lord:

Copyright 1995 by Tom Lord

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of the copyright holder not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

Tom Lord DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO
EVENT SHALL TOM LORD BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF
USE, DATA OR PROFITS,
 WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

The posix/rxspencer tests are copyright Henry Spencer:

Copyright 1992, 1993, 1994, 1997 Henry Spencer. All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this
software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. Since few users ever read sources,
credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
misrepresented
as being the original software. Since few users
ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

The file posix/PCRE.tests is copyright University of Cambridge:

Copyright (c) 1997-2003 University of Cambridge

Permission is granted to anyone to use this software for any purpose on any
computer system, and to redistribute it freely, subject to the following
restrictions:

1. This software is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. In practice, this means that if you use
PCRE in software that you distribute to others, commercially or
otherwise, you must put a sentence like this

Regular expression support is provided by the PCRE library package,
which is open source software,
written by Philip Hazel, and copyright
by the University of Cambridge, England.

somewhere reasonably visible in your documentation and in any relevant
files or online help data or similar. A reference to the ftp site for

the source, that is, to

ftp://ftp.csx.cam.ac.uk/pub/software/programming/pcre/

should also be given in the documentation. However, this condition is not intended to apply to whole chains of software. If package A includes PCRE, it must acknowledge it, but if package B is software that includes package A, the condition is not imposed on package B (unless it uses PCRE independently).

3. Altered versions must be plainly marked as such, and must not be misrepresented as being the original software.

4. If PCRE is embedded in any software that is released under the GNU General Purpose Licence (GPL), or Lesser General Purpose Licence (LGPL), then the terms of that licence shall supersede any condition above with which it is incompatible.

Files
from Sun fdlibm are copyright Sun Microsystems, Inc.:

Copyright (C) 1993 by Sun Microsystems, Inc. All rights reserved.

Developed at SunPro, a Sun Microsystems, Inc. business.
Permission to use, copy, modify, and distribute this
software is freely granted, provided that this notice
is preserved.

Part of stdio-common/tst-printf.c is copyright C E Chew:

(C) Copyright C E Chew

Feel free to copy, use and distribute this software provided:

1. you do not pretend that you wrote it
2. you leave this copyright notice intact.

Various long double libm functions are copyright Stephen L. Moshier:

Copyright 2001 by Stephen L. Moshier <moshier@na-net.ornl.gov>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be

useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, see
<http://www.gnu.org/licenses/>.  */

# 1.315 multiarch-support 2.27-3ubuntu1.6

## 1.315.1 Available under license :

Copyright 1992, 1993, 1994, 1997 Henry Spencer.  All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this
  software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
  explicit claim or by omission.  Since few users ever read sources,
  credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
  misrepresented as being the original software.  Since few users
  ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.
                GNU GENERAL PUBLIC LICENSE
                 Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

                     Preamble

 The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software

Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide

a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution
and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing
or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or

otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions

either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least

the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may

consider it more useful to permit linking proprietary applications with the library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who
decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library,
whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source

code.  If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it.  And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal
permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that
there is no warranty for the free library.  Also, if the library is
modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original
author's reputation will not be affected by problems that might be
introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program.  We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder.  Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License.  This license, the GNU Lesser
General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License.  We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative of the original library.  The ordinary
General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom.  The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General
Public License.  It also provides other free software developers Less
of an advantage over competing non-free programs.  These disadvantages
are the reason we use the ordinary General Public License for many
libraries.  However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into

another language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium,
provided that
you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the
terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that,

in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be
reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of

the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany
the work with the complete corresponding
machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate
properly with a modified version of the library, if
the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these

materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally
distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any
other library
facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if

you do not accept this License. Therefore, by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

11. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse
you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any
particular circumstance, the balance of the section is intended to apply,
and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system
which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in

certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR

CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the

library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE

Unicode Data Files include all data files under the directories http://www.unicode.org/Public/, http://www.unicode.org/reports/, and http://www.unicode.org/cldr/data/. Unicode Data Files do not include PDF online code charts under the directory http://www.unicode.org/Public/. Software includes any source code published in the Unicode Standard or under the directories http://www.unicode.org/Public/, http://www.unicode.org/reports/, and http://www.unicode.org/cldr/data/.

NOTICE TO USER: Carefully read the following legal agreement. BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"), YOU UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2013 Unicode, Inc. All rights reserved. Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software that the data or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN

THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

This file contains the copying permission notices for various files in the GNU C Library distribution that have copyright owners other than the Free Software Foundation. These notices all require that a copy of the notice be included in the accompanying documentation and be distributed with binary distributions of the code, so be sure to include this file along with any binary distributions derived from the GNU C Library.

All code incorporated from 4.4 BSD is distributed under the following license:

Copyright (C) 1991 Regents of the University of California.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. [This condition was removed.]
4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY

OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF
SUCH DAMAGE.

The DNS resolver code, taken from BIND 4.9.5, is copyrighted by UC Berkeley, by Digital Equipment Corporation and by Internet Software Consortium. The DEC portions are under the following license:

Portions Copyright (C) 1993 by Digital Equipment Corporation.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies, and that the name of Digital Equipment Corporation not be used in advertising or publicity pertaining to distribution of the document or software without specific, written prior permission.

THE SOFTWARE IS PROVIDED ``AS IS" AND DIGITAL EQUIPMENT CORP. DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The ISC portions are under the following license:

Portions Copyright (c) 1996-1999 by Internet Software Consortium.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING
OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The Sun RPC support (from rpcsrc-4.0) is covered by the following license:

Copyright (c) 2010, Oracle America, Inc.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials
provided with the distribution.
* Neither the name of the "Oracle America, Inc." nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following CMU license covers some of the support code for Mach,
derived from Mach 3.0:

Mach Operating System
Copyright (C) 1991,1990,1989 Carnegie Mellon University
All Rights Reserved.

Permission to use, copy, modify and distribute this software and its
documentation is hereby granted, provided that
both the copyright
notice and this permission notice appear in all copies of the
software, derivative works or modified versions, and any portions
thereof, and that both notices appear in supporting documentation.

CARNEGIE MELLON ALLOWS FREE USE OF THIS SOFTWARE IN ITS ``AS IS''
CONDITION.  CARNEGIE MELLON DISCLAIMS ANY LIABILITY OF ANY KIND FOR
ANY DAMAGES WHATSOEVER RESULTING FROM THE USE OF THIS SOFTWARE.

Carnegie Mellon requests users of this software to return to

Software Distribution Coordinator
School of Computer Science
Carnegie Mellon University
Pittsburgh PA 15213-3890

or Software.Distribution@CS.CMU.EDU any improvements or
extensions that they make and grant Carnegie Mellon the rights to
redistribute these changes.

The file if_ppp.h is under the following CMU license:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the
 above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY CARNEGIE MELLON UNIVERSITY AND
CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE UNIVERSITY OR CONTRIBUTORS BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
 BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER
IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following license covers the files from Intel's "Highly Optimized
Mathematical Functions for Itanium" collection:

Intel License Agreement

Copyright (c) 2000, Intel Corporation

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

* The name of Intel Corporation may not be used to endorse
 or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The files inet/getnameinfo.c and sysdeps/posix/getaddrinfo.c are copyright
(C) by Craig Metz and are distributed under the following license:

/* The Inner Net License,
 Version 2.00

 The author(s) grant permission for redistribution and use in source and
binary forms, with or without modification, of the software and documentation
provided that the following conditions are met:

0. If you receive a version of the software that is specifically labelled
  as not being for redistribution (check the version message and/or README),
  you are not permitted to redistribute that version of the software in any
  way or form.
1. All terms of the all other applicable copyrights and licenses must be
  followed.
2. Redistributions of source code must retain the authors' copyright
  notice(s), this list of conditions, and the following disclaimer.

3. Redistributions in binary form must reproduce the authors' copyright
notice(s), this list of conditions, and the following disclaimer in the
documentation and/or other materials provided with the distribution.
4. [The copyright holder has authorized the removal of this clause.]
5. Neither the name(s)
of the author(s) nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY ITS AUTHORS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

If these license terms cause you a real problem, contact the author. */

The file sunrpc/des_impl.c
is copyright Eric Young:

Copyright (C) 1992 Eric Young
Collected from libdes and modified for SECURE RPC by Martin Kuck 1994
This file is distributed under the terms of the GNU Lesser General
Public License, version 2.1 or later - see the file COPYING.LIB for details.
If you did not receive a copy of the license with this program, please
see <http://www.gnu.org/licenses/> to obtain a copy.

The libidn code is copyright Simon Josefsson, with portions copyright
The Internet Society, Tom Tromey and Red Hat, Inc.:

Copyright (C) 2002, 2003, 2004, 2011 Simon Josefsson

This file is part of GNU Libidn.

GNU Libidn is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

GNU Libidn is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY

or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with GNU Libidn; if not, see <http://www.gnu.org/licenses/>.

The following notice applies to portions of libidn/nfkc.c:

This file contains functions from GLIB, including gutf8.c and
gunidecomp.c, all licensed under LGPL and copyright hold by:

Copyright (C) 1999, 2000 Tom Tromey
Copyright 2000 Red Hat, Inc.

The following applies to portions of libidn/punycode.c and
libidn/punycode.h:

This file is derived from RFC 3492bis written by Adam M. Costello.

Disclaimer and license: Regarding this entire document or any
portion of it (including the pseudocode and C code), the author
makes no guarantees and is not responsible for any damage resulting
from its use. The author grants irrevocable permission to anyone
to use, modify, and distribute it in any way that does not diminish
the rights of anyone else
to use, modify, and distribute it,
provided that redistributed derivative works do not contain
misleading author or version information. Derivative works need
not be licensed under similar terms.

Copyright (C) The Internet Society (2003). All Rights Reserved.

This document and translations of it may be copied and furnished to
others, and derivative works that comment on or otherwise explain it
or assist in its implementation may be prepared, copied, published
and distributed, in whole or in part, without restriction of any
kind, provided that the above copyright notice and this paragraph are
included on all such copies and derivative works. However, this
document itself may not be modified in any way, such as by removing
the copyright notice or references to the Internet Society or other
Internet organizations, except as needed for the purpose of
developing Internet standards in which case the procedures for
copyrights defined in the Internet Standards process must be
followed,
or as required to translate it into languages other than
English.

The limited permissions granted above are perpetual and will not be

revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an
"AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING
TASK FORCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING
BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION
HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF
MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

The file inet/rcmd.c is under a UCB copyright and the following:

Copyright (C) 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions
 in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE
 OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

The file posix/runtests.c is copyright Tom Lord:

Copyright 1995 by Tom Lord

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,

provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of the copyright holder not be
used in advertising or publicity pertaining to distribution of the
software without specific, written prior permission.

Tom Lord DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO
EVENT SHALL TOM LORD BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF
USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

The posix/rxspencer tests are copyright Henry Spencer:

Copyright 1992, 1993, 1994, 1997 Henry Spencer. All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this
software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. Since few users ever read sources,
credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
misrepresented
as being the original software. Since few users
ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

The file posix/PCRE.tests is copyright University of Cambridge:

Copyright (c) 1997-2003 University of Cambridge

Permission is granted to anyone to use this software for any purpose on any
computer system, and to redistribute it freely, subject to the following
restrictions:

1. This software is distributed in the hope that it will be useful,

but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. In practice, this means that if you use
PCRE in software that you distribute to others, commercially or
otherwise, you must put a sentence like this

Regular expression support is provided by the PCRE library package,
which is open source software,
written by Philip Hazel, and copyright
by the University of Cambridge, England.

somewhere reasonably visible in your documentation and in any relevant
files or online help data or similar. A reference to the ftp site for
the source, that is, to

ftp://ftp.csx.cam.ac.uk/pub/software/programming/pcre/

should also be given in the documentation. However, this condition is not
intended to apply to whole chains of software. If package A includes PCRE,
it must acknowledge it, but if package B is software that includes package
A, the condition is not imposed on package B (unless it uses PCRE
independently).

3. Altered versions must be plainly marked as such, and must not be
misrepresented as being the original software.

4. If PCRE is embedded in any software that is released under the GNU
General Purpose Licence (GPL), or Lesser General Purpose Licence (LGPL),
then the terms of that licence shall supersede any condition above with
which it is incompatible.

Files
from Sun fdlibm are copyright Sun Microsystems, Inc.:

Copyright (C) 1993 by Sun Microsystems, Inc. All rights reserved.

Developed at SunPro, a Sun Microsystems, Inc. business.
Permission to use, copy, modify, and distribute this
software is freely granted, provided that this notice
is preserved.

Part of stdio-common/tst-printf.c is copyright C E Chew:

(C) Copyright C E Chew

Feel free to copy, use and distribute this software provided:

1. you do not pretend that you wrote it
2. you leave this copyright notice intact.

Various long double libm functions are copyright Stephen L. Moshier:

Copyright 2001 by Stephen L. Moshier <moshier@na-net.ornl.gov>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be
 useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, see
<http://www.gnu.org/licenses/>.  */

# 1.316 firebird3.0-common 3.0.2.32703.ds4-11ubuntu2

## 1.316.1 Available under license :

/*
*  The contents of this file are subject to the Initial
*  Developer's Public License Version 1.0 (the "License");
*  you may not use this file except in compliance with the
*  License. You may obtain a copy of the License at
*  http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/.
*
*  Software distributed under the License is distributed AS IS,
*  WITHOUT WARRANTY OF ANY KIND, either express or implied.
*  See the License for the specific language governing rights
*  and limitations under the License.
*
*  The Original Code was created by [Initial Developer's Name]
*  for the Firebird Open Source RDBMS project.
*
*  Copyright (c) [Year] [Initial Developer's Name] [Email]
*  and all contributors signed below.
*
*  All Rights Reserved.

* Contributor(s): _____.
*/
INTERBASE PUBLIC LICENSE
Version 1.0
1. Definitions.
1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.
1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.
1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.
1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.
1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.
1.5. "Executable" means Covered Code in any form other than Source Code.
1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.
1.7. "Larger Work"
means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.
1.8. "License" means this document.
1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.
1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:
A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.
B. Any new file that contains any part of the Original Code or previous Modifications.
1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered
Code governed by this License.
1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.
1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.
1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with, all of the terms of, this License or a future version of this License issued under Section 6.1. For legal
entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.
2. Source Code License.
2.1. The Initial Developer Grant.
The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:
(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use,

reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and
(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice,
sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.
(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.
2.2. Contributor Grant.
Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license
(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified
basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and
(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).
(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.
(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination
of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.
3. Distribution Obligations.
3.1. Application of License.
The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.
3.2. Availability of Source
Code.
Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.
3.3. Description of Modifications.

You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement
that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

(a) Third Party Claims.

If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take
other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs.

If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations.

Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory)
where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions.

You
may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different

license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.

You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the

code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions.

Inprise Corporation ("Inprise") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions.

Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Inprise.

No one other than Inprise has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", "Inprise", "ISC", "InterBase", "IB" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the InterBase Public License.

The InterBase Public

License V 1.0 is based on the Mozilla Public License V 1.1 with the following changes:

1. The license is published by Inprise Corporation. Only Inprise Corporation can modify the terms applicable to Covered Code.

2. The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's or Inprise Corporation's public license and must include a description of changes from the InterBase Public License.

3. The name of the license in Exhibit A is the "InterBase Public License".

4. The reference to an alternative license in Exhibit A has been removed.

5. Amendments I, II, III, V, and VI have been deleted.

6. Exhibit A, Netscape Public License has been deleted

7. A new amendment (II) has been added, describing the required and restricted rights to use the trademarks of

Inprise Corporation.

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS,
WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect
beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not
mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into
account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN

INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY

FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party

is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the IPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A - InterBase Public License.

``The contents of this file are subject to the InterBase Public License Version 1.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

http://www.Inprise.com/IPL.html

Software distributed under the License

is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code was created by Inprise Corporation and its predecessors.

Portions created by Inprise Corporation are Copyright (C) Inprise Corporation. All Rights Reserved.

Contributor(s): _____.

AMENDMENTS

I. Inprise and logo. This License does not grant any rights to use the trademarks "Inprise", "InterBase," "Java" or "JavaScript" even if such marks are included in the Original Code or Modifications.

II. Trademark Usage.

II.1. Advertising Materials. All advertising materials mentioning features or use of the covered Code must display the following acknowledgement: "This product includes software developed by Inprise Corporation. "

II.2. Endorsements. The names "Inprise," "InterBase," "ISC," and "IB" must not be used to endorse or promote

Contributor Versions
or Larger Works without the prior written permission of Inprise.
II.3. Product Names. Contributor Versions and Larger Works may not be called "Inprise" or "InterBase" nor may the words "Inprise" or "InterBase" appear in their names without the prior written permission of Inprise Corporation.

Initial Developer's PUBLIC LICENSE
Version 1.0

1. Definitions

1.0 "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1 "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2 "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means
the individual or entity identified as the Initial
Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

Any new file that contains any part of the Original Code or previous

Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity w hich controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant. The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual

property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original

Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).

(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

d) Notwithstanding Section 2.1(b) above, no patent license is granted:

1) for code that You delete from the Original Code;

2) separate from the Original Code; or

3) for infringements caused by:

i) the modification of the Original Code or

ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant. Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted:

1) for any code that Contributor has deleted from the Contributor Version;

2) separate from the Contributor Version;

3) for infringements caused by:

i) third party modifications of Contributor Version or

ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or

4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License. The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code. Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications. You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in

(a) the Source Code, and

(b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

a) Third Party Claims. If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor
shall promptly modify
the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs. If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations. Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices. You must
duplicate the notice in Exhibit A in each file
of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty,

support, indemnity
or liability obligation is offered by You alone, and You
hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions. You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code
or ownership rights under a license of
Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and hat the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works. You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute

the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must:

(a) comply with the terms of this License to the maximum extent possible; and

(b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with

all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions. The Initial Developer of this code may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions. Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by the Initial Developer. No one other than the Initial Developer has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works. If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must

(a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", or any confusingly similar phrases do not appear in your license (except to note that your license differs from this License) and

(b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the Initial Developer's Public License. The Initial Developer's

Public License is based on the Mozilla Public License V 1.1 with the following changes:

1) The license is published by the Initial Developer of this code. Only the Initial Developer
can modify the terms applicable to Covered Code.

2) The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's license Initial Developer's's license and must include a description of changes from the Initial Developer's Public License.

3) The name of the license in Exhibit A is the "Initial Developer's Public License".

4) The reference to an alternative license in Exhibit A has been removed

.

5) Amendments I, II, III, V, and VI have been deleted.

6) Exhibit A, Netscape Public License has been deleted

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS,

MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code

which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either:

(i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or

(ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant.

If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as
by license or settlement) prior to the
initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall

survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable

attorneys' fees and
expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Devpoeloper permits you to utilize portions of the Covered Code
under Your choice of the IDPL or the alternative licenses, if any,
specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Initial Developer's Public License.

The contents of this file are subject to the Initial Developer's Public License Version 1.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.ibphoenix.com/idpl.html Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____.

Portions created by _____ are Copyright (C) _____
_____.

All Rights Reserved.

Contributor(s): _____.

LICENSES
---

The applicable and approved licenses for the source files
of the Firebird RDBMS project are:

1) InterBase Public License (IPL), version 1.0
   http://www.firebirdsql.org/en/interbase-public-license

2) Initial Developer's Public License (IDPL), version 1.0
   http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/

The IPL is copyright of Borland Corp., the other licenses are copyright
by the source code authors and contributors.

USAGE RULES
---

1) The source code which was released under the IPL must keep this license.
   All modifications / adaptations of this code are still subjects of the IPL.

2) The files that are derived from the IPL covered code, must also keep
   this license. It means that if any new file contains some code covered by
   the IPL, then this file should be released under the IPL too.

3) The new files developed by the members of the Firebird project should
   be released under the IDPL.

4) The new files
   contributed by people who are not members of the Firebird
   project should follow the rule #3. If an author (initial developer) doesn't
   specify the license to be used, the person who applies the contributed code
   to the SVN tree (a committer) becomes responsible for the license assigned
   to the contributed code.

5) Every non-binary file that exists in the SVN tree, should have a header
   section which describes the license this code is released under. If a file
   contains no header, it means that this code is freeware and nobody owns the
   appropriate copyrights.

You may find the exhibits for the approved licenses in /doc/license directory
of the SVN tree.

# 1.317 openssh-sftp-server 7.6p1-4ubuntu0.7

## 1.317.1 Available under license :

This file is part of the OpenSSH software.

The licences which components of this software fall under are as
follows.  First, we will summarize and say that all components
are under a BSD licence, or a licence more free than that.

OpenSSH contains no GPL code.

1)
```
 * Copyright (c) 1995 Tatu Ylonen <ylo@cs.hut.fi>, Espoo, Finland
 *                    All rights reserved
 *
 * As far as I am concerned, the code I have written for this software
 * can be used freely for any purpose.  Any derived versions of this
 * software must be clearly marked as such, and if the derived work is
 * incompatible with the protocol description in the RFC file, it must be
 * called by a name other than "ssh" or "Secure Shell".
```

[Tatu continues]
```
 *  However, I am not implying to give any licenses to any patents or
 * copyrights held by third parties, and the software includes parts that
 * are not under my direct control.  As far as I know, all included

* source code is used in accordance with the relevant license agreements
 * and can be used freely for any purpose (the GNU license being the most
 * restrictive); see below for details.
```

[However, none of that term is relevant at this point in time.  All of
these restrictively licenced software components which he talks about
have been removed from OpenSSH, i.e.,

- RSA is no longer included, found in the OpenSSL library
- IDEA is no longer included, its use is deprecated
- DES is now external, in the OpenSSL library
- GMP is no longer used, and instead we call BN code from OpenSSL
- Zlib is now external, in a library
- The make-ssh-known-hosts script is no longer included
- TSS has been removed
- MD5 is now external, in the OpenSSL library
- RC4 support has been replaced with ARC4 support from OpenSSL
- Blowfish is now external, in the OpenSSL library

[The licence continues]

Note that any information and
cryptographic algorithms used in this
software are publicly available on the Internet and at any major

bookstore, scientific library, and patent office worldwide. More
information can be found e.g. at "http://www.cs.hut.fi/crypto".

The legal status of this program is some combination of all these
permissions and restrictions. Use only at your own responsibility.
You will be responsible for any legal consequences yourself; I am not
making any claims whether possessing or using this is legal or not in
your country, and I am not taking any responsibility on your behalf.

NO WARRANTY

BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

3)
ssh-keyscan was contributed by David Mazieres under a BSD-style
license.

* Copyright 1995, 1996 by David Mazieres <dm@lcs.mit.edu>.
*
* Modification and redistribution in source and binary forms is
* permitted provided that due credit is given to the author and the
* OpenBSD project by leaving this copyright notice intact.

4)
The Rijndael implementation by Vincent Rijmen, Antoon Bosselaers
and Paulo Barreto is in the public domain and distributed
with the following license:

```
 * @version 3.0 (December 2000)
 *
 * Optimised ANSI C code for the Rijndael cipher (now AES)
 *
 * @author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
 * @author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
 * @author Paulo Barreto <paulo.barreto@terra.com.br>
 *
 * This code is hereby placed in the public domain.
 *
 * THIS SOFTWARE IS PROVIDED BY THE AUTHORS "AS IS" AND ANY EXPRESS
 * OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
 * WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE
 * ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
 * LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
 * CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
 * SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
 * BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
 * WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
 * OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
 * EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
```

5)

One component of the ssh source code is under a 3-clause BSD license, held by the University of California, since we pulled these parts from original Berkeley code.

```
 * Copyright (c) 1983, 1990, 1992, 1993, 1995
 *      The Regents of the University of California.  All rights reserved.
 *
 * Redistribution and use in source and binary forms, with
or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 1. Redistributions of source code must retain the above copyright
 *    notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
 *    notice, this list of conditions and the following disclaimer in the
 *    documentation and/or other materials provided with the distribution.
 * 3. Neither the name of the University nor the names of its contributors
 *    may be used to endorse or promote products derived from this software
 *    without specific prior written permission.
 *
 * THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS" AND
 * ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
```

* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS
BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

6)
Remaining components of the software are provided under a standard
2-term BSD licence with the following names as copyright holders:

Markus Friedl
Theo de Raadt
Niels Provos
Dug Song
Aaron Campbell
Damien Miller
Kevin Steves
Daniel Kouril
Wesley Griffin
Per Allansson
Nils Nordman
Simon Wilkinson

Portable OpenSSH additionally includes code from the following copyright
holders, also under the 2-term BSD license:

Ben Lindstrom
Tim Rice
Andre
Lucas
Chris Adams
Corinna Vinschen
Cray Inc.
Denis Parker
Gert Doering
Jakob Schlyter
Jason Downs
Juha Yrjl
Michael Stone
Networks Associates Technology, Inc.
Solar Designer
Todd C. Miller
Wayne Schroeder
William Jones

Darren Tucker
Sun Microsystems
The SCO Group
Daniel Walsh
Red Hat, Inc
Simon Vallet / Genoscope

```
   * Redistribution and use in source and binary forms, with or without
   * modification, are permitted provided that the following conditions
   * are met:
   * 1. Redistributions of source code must retain the above copyright
   *    notice, this list of conditions and the following disclaimer.
   * 2. Redistributions in binary form must reproduce the above copyright
   *    notice, this list of conditions and the following disclaimer in the
   *    documentation and/or other materials provided with the distribution.
   *
   * THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
   * IMPLIED WARRANTIES, INCLUDING, BUT
NOT LIMITED TO, THE IMPLIED WARRANTIES
   * OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
   * IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
   * INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
   * NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
   * DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
   * THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
   * (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
   * THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
```

8) Portable OpenSSH contains the following additional licenses:

a) md5crypt.c, md5crypt.h

```
 * "THE BEER-WARE LICENSE" (Revision 42):
 * <phk@login.dknet.dk> wrote this file.  As long as you retain this
 * notice you can do whatever you want with this stuff. If we meet
 * some day, and you think this stuff is worth it, you can buy
me a
 * beer in return.   Poul-Henning Kamp
```

b) snprintf replacement

```
* Copyright Patrick Powell 1995
* This code is based on code written by Patrick Powell
* (papowell@astart.com) It may be used for any purpose as long as this
* notice remains intact on all source code distributions
```

c) Compatibility code (openbsd-compat)

Apart from the previously mentioned licenses, various pieces of code
in the openbsd-compat/ subdirectory are licensed as follows:

Some code is licensed under a 3-term BSD license, to the following
copyright holders:

Todd C. Miller
Theo de Raadt
Damien Miller
Eric P. Allman
The Regents of the University of California
Constantin S. Svintsoff

* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

Some code is licensed under an ISC-style license, to the following
copyright holders:

Internet Software Consortium.
Todd C. Miller
Reyk Floeter
Chad Mynhier

* Permission to use, copy, modify, and distribute this software for any

* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND TODD C. MILLER DISCLAIMS ALL
* WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL TODD C. MILLER BE LIABLE
* FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
* WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION
* OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
* CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Some code is licensed under a MIT-style license to the following
copyright holders:

Free Software Foundation, Inc.

* Permission is hereby granted, free of charge, to any person obtaining a *
* copy of this software and associated documentation files (the *
* "Software"), to deal in the Software without restriction, including *
* without limitation the rights to use, copy, modify, merge, publish, *
* distribute, distribute with modifications, sublicense, and/or sell *
* copies of the Software, and to permit persons to whom the Software is *
* furnished to do so, subject to the following conditions: *
* *
* The above copyright notice and this permission notice shall be included *
* in all copies or substantial portions of the
Software. *
* *
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS *
* OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF *
* MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. *
* IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, *
* DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR *
* OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR *
* THE USE OR OTHER DEALINGS IN THE SOFTWARE. *
* *
* Except as contained in this notice, the name(s) of the above copyright *
* holders shall not be used in advertising or otherwise to promote the *
* sale, use or other dealings in this Software without prior written *
* authorization.
*
**********/

---

$OpenBSD: LICENCE,v 1.20 2017/04/30 23:26:16 djm Exp $

# 1.318 libfbclient2 3.0.2.32703.ds4-11ubuntu2

## 1.318.1 Available under license :

/*
* The contents of this file are subject to the Initial
* Developer's Public License Version 1.0 (the "License");
* you may not use this file except in compliance with the
* License. You may obtain a copy of the License at
* http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/.
*
* Software distributed under the License is distributed AS IS,
* WITHOUT WARRANTY OF ANY KIND, either express or implied.
* See the License for the specific language governing rights
* and limitations under the License.
*
* The Original Code was created by [Initial Developer's Name]
* for the Firebird Open Source RDBMS project.
*
* Copyright (c) [Year] [Initial Developer's Name] [Email]
* and all contributors signed below.
*
* All Rights Reserved.
* Contributor(s): _____.
*/

INTERBASE PUBLIC LICENSE

Version 1.0

1. Definitions.

1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work"

means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.
B. Any new file that contains any part of the Original Code or previous Modifications.
1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered
Code governed by this License.
1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.
1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.
1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with, all of the terms of, this License or a future version of this License issued under Section 6.1. For legal
entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.
2. Source Code License.
2.1. The Initial Developer Grant.
The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:
(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and
(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice,
sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.
(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.
2.2. Contributor Grant.
Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license
(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified
basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and
(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).
(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination
of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.

The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source
Code.

Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications.

You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement
that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

(a) Third Party Claims.

If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take
other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs.

If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations.

Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory)
where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.
3.6. Distribution of Executable Versions.
You
may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different
license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.
3.7. Larger Works.
You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.
4. Inability to Comply Due to Statute or Regulation.
If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the
code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.
5. Application of this License.
This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.
6. Versions of the License.
6.1. New Versions.
Inprise Corporation ("Inprise") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.
6.2. Effect of New Versions.
Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent

version of the License published by Inprise.

No one other than Inprise has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", "Inprise", "ISC", "InterBase", "IB" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the InterBase Public License.

The InterBase Public

License V 1.0 is based on the Mozilla Public License V 1.1 with the following changes:

1. The license is published by Inprise Corporation. Only Inprise Corporation can modify the terms applicable to Covered Code.

2. The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's or Inprise Corporation's public license and must include a description of changes from the InterBase Public License.

3. The name of the license in Exhibit A is the "InterBase Public License".

4. The reference to an alternative license in Exhibit A has been removed.

5. Amendments I, II, III, V, and VI have been deleted.

6. Exhibit A, Netscape Public License has been deleted

7. A new amendment (II) has been added, describing the required and restricted rights to use the trademarks of Inprise Corporation.

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS,

WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect

beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If

within 60 days of notice, a reasonable royalty and payment arrangement are not
mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into
account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY
FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party

is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the IPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A - InterBase Public License.

``The contents of this file are subject to the InterBase Public License Version 1.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.Inprise.com/IPL.html

Software distributed under the License

is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code was created by Inprise Corporation and its predecessors.

Portions created by Inprise Corporation are Copyright (C) Inprise Corporation. All Rights Reserved.

Contributor(s): _____.

AMENDMENTS

I. Inprise and logo. This License does not grant any rights to use the trademarks "Inprise", "InterBase," "Java" or "JavaScript" even if such marks are included in the Original Code or Modifications.

II. Trademark Usage.

II.1. Advertising Materials. All advertising materials mentioning features or use of the covered Code must display the following acknowledgement: "This product includes software developed by Inprise Corporation. "

II.2. Endorsements. The names "Inprise," "InterBase," "ISC," and "IB" must not be used to endorse or promote Contributor Versions

or Larger Works without the prior written permission of Inprise.

II.3. Product Names. Contributor Versions and Larger Works may not be called "Inprise" or "InterBase" nor may the words "Inprise" or "InterBase" appear in their names without the prior written permission of Inprise Corporation.

Initial Developer's PUBLIC LICENSE

Version 1.0

1. Definitions

1.0 "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1 "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2 "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally

accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity w hich controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant. The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual

property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

d) Notwithstanding Section 2.1(b) above, no patent license is granted:

1) for code that You delete from the Original Code;

2) separate from the Original Code; or

3) for infringements caused by:

i) the modification of the Original Code or

ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant. Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform,

sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise
dispose of: 1) Modifications made
by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted:

1) for any code that Contributor has deleted from the Contributor Version;

2) separate from the Contributor Version;

3) for infringements caused by:

i) third party modifications of Contributor Version or

ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or

4) under Patent Claims infringed by Covered Code in the absence of

Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License. The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described

in Section 3.5.

3.2. Availability of Source Code. Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications. You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in

(a) the Source Code, and

(b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

a) Third Party Claims. If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs. If Contributor's Modifications include an application

programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations. Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices. You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions. You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and hat the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to

indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works. You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must:

(a) comply with the terms of this License to the maximum extent possible; and

(b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions. The Initial Developer of this code may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions. Once Covered Code has been published under a particular version of the License, You may always continue to use it under

the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by the Initial Developer. No one other than the Initial Developer has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works. If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed
by this License), You must

(a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", or any confusingly similar phrases do not appear in your license (except to note that your license differs from this License) and

(b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the Initial Developer's Public License. The Initial Developer's Public License is based on the Mozilla Public License V 1.1 with the following changes:

1) The license is published by the Initial Developer of this code. Only the Initial Developer
can modify the terms applicable to Covered Code.

2) The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's license Initial Developer's's license and must include a description of changes from the Initial Developer's Public License.

3) The name of the license in Exhibit A is the "Initial Developer's Public License".

4) The reference to an alternative license in Exhibit A has been removed

.

5) Amendments I, II, III, V, and VI have been deleted.

6) Exhibit A, Netscape Public License has been deleted

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS,

MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either:

(i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or

(ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant.

If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S.
Government End Users acquire Covered Code with only those rights
set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable
attorneys' fees and
expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Devpoeloper permits you to utilize portions of the Covered Code

under Your choice of the IDPL or the alternative licenses, if any,
specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Initial Developer's Public License.

The contents of this file are subject to the Initial Developer's Public License Version 1.0
(the "License"); you may not use this file except in compliance with the License. You
may obtain a copy of the License at http://www.ibphoenix.com/idpl.html Software
distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY
OF ANY KIND, either express or implied. See the License for the specific language
governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____.

Portions created by _____ are Copyright (C) _____
_____.

All Rights Reserved.

Contributor(s): _____.

LICENSES
---

The applicable and approved licenses for the source files
of the Firebird RDBMS project are:

1) InterBase Public License (IPL), version 1.0
http://www.firebirdsql.org/en/interbase-public-license

2) Initial Developer's Public License (IDPL), version 1.0
http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/

The IPL is copyright of Borland Corp., the other licenses are copyright
by the source code authors and contributors.

USAGE RULES
---

1) The source code which was released under the IPL must keep this license.
All modifications / adaptations of this code are still subjects of the IPL.

2) The files that are derived from the IPL covered code, must also keep
this license. It means that if any new file contains some code covered by
the IPL, then this file should be released under the IPL too.

3) The new files developed by the members of the Firebird project should
be released under the IDPL.

4) The new files
contributed by people who are not members of the Firebird
project should follow the rule #3. If an author (initial developer) doesn't
specify the license to be used, the person who applies the contributed code
to the SVN tree (a committer) becomes responsible for the license assigned
to the contributed code.

5) Every non-binary file that exists in the SVN tree, should have a header
section which describes the license this code is released under. If a file
contains no header, it means that this code is freeware and nobody owns the
appropriate copyrights.

You may find the exhibits for the approved licenses in /doc/license directory
of the SVN tree.

# 1.319 subversion 1.9.7-4ubuntu1.1

## 1.319.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of,

publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and

wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the

Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

SUBVERSION SUBCOMPONENTS:

Subversion includes a number of subcomponents with separate copyright
notices and license terms. Your use of the source code for the these

subcomponents is subject to the terms and conditions of the following licenses.

For portions of the Python bindings test suite at subversion/bindings/swig/python/tests/trac/:

I. Licensed to the Apache Software Foundation (ASF) under one
or more contributor license agreements. See the NOTICE file
distributed with this work for additional information
regarding copyright ownership. The ASF licenses this file
to you under the Apache License, Version
2.0 (the
"License"); you may not use this file except in compliance
with the License. You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing,
software distributed under the License is distributed on an
"AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
KIND, either express or implied. See the License for the
specific language governing permissions and limitations
under the License.

II. Copyright (C) 2003, 2004, 2005 Edgewall Software
Copyright (C) 2003, 2004, 2005 Jonas BorgstrÃ¶m <jonas@edgewall.com>
Copyright (C) 2005 Christopher Lenz <cmlenz@gmx.de>

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this
list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
the documentation and/or other materials provided with the
distribution.
3. The name of the author may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE

ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER
IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

For the file subversion/libsvn_subr/utf_width.c

* Markus Kuhn -- 2007-05-26 (Unicode 5.0)
*
* Permission to use, copy, modify, and distribute this software
* for any purpose and without fee is hereby granted. The author
* disclaims all warranties with regard to this software.

For the (modified) utf8proc library in subversion/libsvn_subr/utf8proc

Copyright (c) 2009 Public Software Group e. V., Berlin, Germany

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to
whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

This software distribution contains derived data from a modified version of
the Unicode data files. The following license applies to that data:

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1991-2007 Unicode, Inc. All rights reserved. Distributed

under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software that the data or software has been modified.

THE DATA FILES AND SOFTWARE
ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY
KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

Unicode and the Unicode logo are trademarks of Unicode, Inc., and may be registered in some jurisdictions. All other trademarks
and registered
trademarks mentioned herein are the property of their respective owners.

For the files subversion/libsvn_subr/x509parse.c and
subversion/libsvn_subr/x509.h

* Based on XySSL: Copyright (C) 2006-2008 Christophe Devine
*
* Copyright (C) 2009 Paul Bakker <polarssl_maintainer at polarssl dot org>
*
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions

```
*  are met:
*
*    * Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*    * Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
*    * Neither the names of PolarSSL or XySSL nor the names of its contributors
*    may be used to endorse or promote
 products derived from this software
*    without specific prior written permission.
*
*  THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
*  "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
*  LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
*  FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
*  OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
*  SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
*  TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
*  PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
*  LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
*  NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
*  SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
/*
*  dump_editor.c: The svn_delta_editor_t editor used by svnrdump to
*  dump revisions.
*
* ====================================================================
*    Licensed to the Apache Software Foundation (ASF) under one
*    or more contributor license agreements.  See the NOTICE file
*    distributed with this work for additional information
*    regarding copyright ownership.  The ASF licenses this file
*    to you under the Apache License, Version 2.0 (the
*    "License"); you may not use this file except in compliance
*    with the License.  You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
*    Unless required by applicable law or agreed to in writing,
*    software distributed under the License is distributed on an
*    "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
*    KIND, either express or implied.  See the License for the
*    specific language governing permissions and limitations
*    under the
 License.
* ====================================================================
*/
```

# 1.320 firebird3.0-common-doc 3.0.2.32703.ds4-11ubuntu2

## 1.320.1 Available under license :

/*
*  The contents of this file are subject to the Initial
*  Developer's Public License Version 1.0 (the "License");
*  you may not use this file except in compliance with the
*  License. You may obtain a copy of the License at
*  http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/.
*
*  Software distributed under the License is distributed AS IS,
*  WITHOUT WARRANTY OF ANY KIND, either express or implied.
*  See the License for the specific language governing rights
*  and limitations under the License.
*
*  The Original Code was created by [Initial Developer's Name]
*  for the Firebird Open Source RDBMS project.
*
*  Copyright (c) [Year] [Initial Developer's Name] [Email]
*  and all contributors signed below.
*
*  All Rights Reserved.
*  Contributor(s): _____.
*/

INTERBASE PUBLIC LICENSE

Version 1.0

1. Definitions.

1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work"

means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:
A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.
B. Any new file that contains any part of the Original Code or previous Modifications.
1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered
Code governed by this License.
1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.
1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.
1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with, all of the terms of, this License or a future version of this License issued under Section 6.1. For legal
entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.
2. Source Code License.
2.1. The Initial Developer Grant.
The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:
(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and
(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice,
sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.
(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.
2.2. Contributor Grant.
Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license
(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified
basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and
(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.
(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination
of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.
3. Distribution Obligations.
3.1. Application of License.
The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.
3.2. Availability of Source
Code.
Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.
3.3. Description of Modifications.
You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement
that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.
3.4. Intellectual Property Matters
(a) Third Party Claims.
If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take
other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.
(b) Contributor APIs.
If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.
(c) Representations.
Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the

rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory)

where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions.

You

may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different

license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.

You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the

code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions.

Inprise Corporation ("Inprise") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions.

Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Inprise.

No one other than Inprise has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", "Inprise", "ISC", "InterBase", "IB" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the InterBase Public License.

The InterBase Public

License V 1.0 is based on the Mozilla Public License V 1.1 with the following changes:

1. The license is published by Inprise Corporation. Only Inprise Corporation can modify the terms applicable to Covered Code.

2. The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's or Inprise Corporation's public license and must include a description of changes from the InterBase Public License.

3. The name of the license in Exhibit A is the "InterBase Public License".

4. The reference to an alternative license in Exhibit A has been removed.

5. Amendments I, II, III, V, and VI have been deleted.

6. Exhibit A, Netscape Public License has been deleted

7. A new amendment (II) has been added, describing the required and restricted rights to use the trademarks of Inprise Corporation.

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS,

WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect

beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay

Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not
mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.
(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.
8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into
account in determining the amount or value of any payment or license.
8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.
9. LIMITATION OF LIABILITY.
UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY
FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.
10. U.S. GOVERNMENT END USERS.
The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.
11. MISCELLANEOUS.
This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.
12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party
is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.
13. MULTIPLE-LICENSED CODE.
Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the IPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.
EXHIBIT A - InterBase Public License.
``The contents of this file are subject to the InterBase Public License Version 1.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at
http://www.Inprise.com/IPL.html
Software distributed under the License
is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.
The Original Code was created by Inprise Corporation and its predecessors.
Portions created by Inprise Corporation are Copyright (C) Inprise Corporation. All Rights Reserved.
Contributor(s): _____.
AMENDMENTS
I. Inprise and logo. This License does not grant any rights to use the trademarks "Inprise", "InterBase," "Java" or "JavaScript" even if such marks are included in the Original Code or Modifications.
II. Trademark Usage.
II.1. Advertising Materials. All advertising materials mentioning features or use of the covered Code must display the following acknowledgement: "This product includes software developed by Inprise Corporation. "
II.2. Endorsements. The names "Inprise," "InterBase," "ISC," and "IB" must not be used to endorse or promote Contributor Versions
or Larger Works without the prior written permission of Inprise.
II.3. Product Names. Contributor Versions and Larger Works may not be called "Inprise" or "InterBase" nor may the words "Inprise" or "InterBase" appear in their names without the prior written permission of Inprise Corporation.

Initial Developer's PUBLIC LICENSE

Version 1.0

1. Definitions

1.0 "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1 "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2 "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity w hich controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant. The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual

property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

d) Notwithstanding Section 2.1(b) above, no patent license is granted:

1) for code that You delete from the Original Code;

2) separate from the Original Code; or

3) for infringements caused by:

i) the modification of the Original Code or

ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant. Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark)

Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise
dispose of: 1) Modifications made
by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted:

1) for any code that Contributor has deleted from the Contributor Version;

2) separate from the Contributor Version;

3) for infringements caused by:

i) third party modifications of Contributor Version or

ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or

4) under Patent Claims infringed by Covered Code in the absence of

Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License. The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However,

You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code. Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications. You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in

(a) the Source Code, and

(b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

a) Third Party Claims. If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs. If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations. Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices. You must
duplicate the notice in Exhibit A in each file
of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity
or liability obligation is offered by You alone, and You
hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions. You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code
or ownership rights under a license of
Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and hat the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by

You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works. You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute

the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must:

(a) comply with the terms of this License to the maximum extent possible; and

(b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer
has attached the notice in
Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions. The Initial Developer of this code may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions. Once Covered Code has been published under

a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by the Initial Developer. No one other than the Initial Developer has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works. If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed
by this License), You must

(a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", or any confusingly similar phrases do not appear in your license (except to note that your license differs from this License) and

(b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the Initial Developer's Public License. The Initial Developer's Public License is based on the Mozilla Public License V 1.1 with the following changes:

1) The license is published by the Initial Developer of this code. Only the Initial Developer
can modify the terms applicable to Covered Code.

2) The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's license Initial Developer's's license and must include a description of changes from the Initial Developer's Public License.

3) The name of the license in Exhibit A is the "Initial Developer's Public License".

4) The reference to an alternative license in Exhibit A has been removed

.

5) Amendments I, II, III, V, and VI have been deleted.

6) Exhibit A, Netscape Public License has been deleted

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS,

MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either:

(i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or

(ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant.

If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S.
Government End Users acquire Covered Code with only those rights
set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable
attorneys' fees and
expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Devpoeloper permits you to utilize portions of the Covered Code

under Your choice of the IDPL or the alternative licenses, if any,
specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Initial Developer's Public License.

The contents of this file are subject to the Initial Developer's Public License Version 1.0
(the "License"); you may not use this file except in compliance with the License. You
may obtain a copy of the License at http://www.ibphoenix.com/idpl.html Software
distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY
OF ANY KIND, either express or implied. See the License for the specific language
governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____.

Portions created by _____ are Copyright (C) _____
_____.

All Rights Reserved.

Contributor(s): _____.

LICENSES
---

The applicable and approved licenses for the source files
of the Firebird RDBMS project are:

1) InterBase Public License (IPL), version 1.0
http://www.firebirdsql.org/en/interbase-public-license

2) Initial Developer's Public License (IDPL), version 1.0
http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/

The IPL is copyright of Borland Corp., the other licenses are copyright
by the source code authors and contributors.

USAGE RULES
---

1) The source code which was released under the IPL must keep this license.
All modifications / adaptations of this code are still subjects of the IPL.

2) The files that are derived from the IPL covered code, must also keep
this license. It means that if any new file contains some code covered by
the IPL, then this file should be released under the IPL too.

3) The new files developed by the members of the Firebird project should
be released under the IDPL.

4) The new files
contributed by people who are not members of the Firebird
project should follow the rule #3. If an author (initial developer) doesn't
specify the license to be used, the person who applies the contributed code
to the SVN tree (a committer) becomes responsible for the license assigned
to the contributed code.

5) Every non-binary file that exists in the SVN tree, should have a header
section which describes the license this code is released under. If a file
contains no header, it means that this code is freeware and nobody owns the
appropriate copyrights.

You may find the exhibits for the approved licenses in /doc/license directory
of the SVN tree.

# 1.321 e2fsprogs 1.44.1-1ubuntu1.4

## 1.321.1 Available under license :

This package was added to the e2fsprogs debian source package by
Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

http://sourceforge.net/projects/e2fsprogs

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright:

Copyright (C) 1999, 2001 by Andries Brouwer
Copyright (C) 1999, 2000, 2003 by Theodore Ts'o

You are free to distribute this software under the terms of the GNU
Lesser (Library) General Public License.

On Debian systems, the complete text of the GNU Lesser (Library)
General Public License can be found in /usr/share/common-licenses/LGPL-2.
This is the Debian GNU/Linux prepackaged version of the static EXT2
file system consistency checker (e2fsck.static). The EXT2 utilities
were written by Theodore Ts'o <tytso@mit.edu> and Remy Card
<card@masi.ibp.fr>.

Sources were obtained from http://sourceforge.net/projects/e2fsprogs

Packaging is Copyright (c) 2003-2006 Theodore Ts'o <tytso@mit.edu>
Copyright (c) 1997-2003 Yann Dirson <dirson@debian.org>
Copyright (c) 2001 Alcove <http://www.alcove.com/>
Copyright (c) 1997 Klee Dienes
Copyright (c) 1995-1996 Michael Nonweiler <mrn20@cam.ac.uk>

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright notice:

This package, the EXT2 filesystem utilities, is protected by the GNU
General Public License.

Copyright (c) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Theodore Ts'o

On Debian GNU systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-2'.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, and the entire permission notice in its entirety,
including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.
This is the Debian GNU/Linux prepackaged version of the translation
files of the EXT2 file system utilities. The EXT2 utilities were

written by Theodore Ts'o <tytso@mit.edu> and Remy Card
<card@masi.ibp.fr>.

Sources were obtained from http://sourceforge.net/projects/e2fsprogs

Packaging is Copyright (c) 2003-2006 Theodore Ts'o <tytso@mit.edu>
Copyright (c) 1997-2003 Yann Dirson <dirson@debian.org>
Copyright (c) 2001 Alcove <http://www.alcove.com/>
Copyright (c) 1997 Klee Dienes
Copyright (c) 1995-1996 Michael Nonweiler <mrn20@cam.ac.uk>

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright notice:

This package, the EXT2 filesystem utilities, is protected by the GNU
General Public License.

Copyright (c) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Theodore Ts'o

On Debian GNU systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-2'.
This package was added to the e2fsprogs debian source package by
Theodore Ts'o <tytso@mit.edu> on Fri Dec 14 22:24:35 EST 2007

It is part of the main e2fsprogs distribution, which can be found at:

http://sourceforge.net/projects/e2fsprogs

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright:

Copyright (C) 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007 by
Theodore Ts'o

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, and the entire permission notice in its entirety,
including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
products derived from

this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.
Index: tdbsa/tdb.c
===================================================================
--- tdbsa.orig/tdb.c
+++ tdbsa/tdb.c
@@ -4,11 +4,11 @@ Rev: 23371
Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)
*/
 /*
- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes
-
- Copyright (C) Andrew Tridgell 2005
+ Copyright (C) Andrew Tridgell 1999-2005
+ Copyright (C) Jeremy Allison 2000-2006
+ Copyright (C) Paul `Rusty' Russell 2000

    ** NOTE! The following LGPL license applies to the tdb
    ** library. This does NOT imply that all of Samba is released
EXT2ED is hereby placed under the terms of the GNU General Public License.
Follows the GNU license.

Gadi Oxman, August 1995

---

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
675 Mass Ave, Cambridge, MA 02139, USA
Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the

program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program
is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or
with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your

cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information
you received as to the offer
to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering
access
to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program
(or any work based on the
Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously
your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to
the wide range of software distributed
through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates

the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY;
for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if

necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider
it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.
This is the Debian GNU/Linux prepackaged version of the EXT2 file
system utilities (e2fsck, mke2fs, etc.). The EXT2 utilities were
written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from http://sourceforge.net/projects/e2fsprogs

Packaging is Copyright (c) 2003-2007 Theodore Ts'o <tytso@mit.edu>
Copyright (c) 1997-2003 Yann Dirson <dirson@debian.org>
Copyright (c) 2001 Alcove <http://www.alcove.com/>
Copyright (c) 1997 Klee Dienes
Copyright (c) 1995-1996 Michael Nonweiler <mrn20@cam.ac.uk>

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright notice:

This package, the EXT2 filesystem utilities, are made available under
the GNU General Public License version 2, with the exception of the
lib/ext2fs and lib/e2p libraries, which are made available under the
GNU Library General Public License Version 2, the lib/uuid library
which is made available under a BSD-style license and the lib/et and
lib/ss libraries
which are made available under an MIT-style license.

Copyright (c) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Theodore Ts'o

On Debian GNU systems, the complete text of the GNU General Public
License can be found in `/usr/share/common-licenses/GPL-2'. The
complete text of the GNU Library General Public License can be found
in '/usr/share/common-licenses/LGPL-2'.

The license used for lib/et and lib/ss libraries is:

Copyright 1987 by the Student Information Processing Board
of the Massachusetts Institute of Technology

Permission to use, copy, modify, and distribute this software and
its documentation for any purpose is hereby granted, provided that
the names of M.I.T. and the M.I.T. S.I.P.B. not be used in
advertising or publicity pertaining to distribution of the software
without specific, written prior permission. M.I.T. and the
M.I.T. S.I.P.B. make no representations about the suitability of
this
software for any purpose. It is provided "as is" without
express or implied warranty.

The license used for lib/uuid is:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, and the entire permission notice in its entirety,
   including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND
FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

This package was added to the e2fsprogs debian source package by
Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

http://sourceforge.net/projects/e2fsprogs

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright:

Copyright (C) 1999, 2000, 2003, 2004 by Theodore Ts'o

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, and the entire permission notice in its entirety,
  including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
  products derived from this software without specific
 prior
  written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.
#
# This is a Makefile stub which handles the creation of BSD shared
# libraries.
#
# In order to use this stub, the following makefile variables must be defined.
#
# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#

all:: image

real-subdirs:: Makefile

```
 @echo " MKDIR pic"
 @mkdir -p pic

BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
BSDLIB_PIC_FLAG = -fpic

image:  $(BSD_LIB)

$(BSD_LIB): $(OBJS)
 (cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
 $(MV) pic/$(BSD_LIB) .
 $(RM) -f ../$(BSD_LIB)
 (cd ..; $(LN) $(LINK_BUILD_FLAGS) \
  `echo $(my_dir) | sed -e 's;lib/;;'`/$(BSD_LIB) $(BSD_LIB))

install-shlibs install:: $(BSD_LIB)
 @echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
 @$(INSTALL_PROGRAM) $(BSD_LIB) \
  $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
 @-$(LDCONFIG)

install-strip: install

install-shlibs-strip: install-shlibs

uninstall-shlibs uninstall::
 $(RM) -f $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)

clean::
 $(RM)
 -rf pic
 $(RM) -f $(BSD_LIB)
 $(RM) -f ../$(BSD_LIB)
This is the Debian GNU/Linux prepackaged version of the ss
command-line interface parsing library. It is currently
distributed together with the EXT2 file system utilities, which are
otherwise packaged as "e2fsprogs".

This package was put together by Yann Dirson <dirson@debian.org>,
from sources obtained from a mirror of:
tsx-11.mit.edu:/pub/linux/packages/ext2fs/

From the original distribution:

Copyright 1987, 1988 by the Student Information Processing Board
 of the Massachusetts Institute of Technology

Permission to use, copy, modify, and distribute this software
```

and its documentation for any purpose and without fee is
hereby granted, provided that the above copyright notice
appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation,
and that the names of M.I.T. and the M.I.T. S.I.P.B. not be
used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
M.I.T. and
 the M.I.T. S.I.P.B. make no representations about
the suitability of this software for any purpose.  It is
provided "as is" without express or implied warranty.
This package, the EXT2 filesystem utilities, are made available under
the GNU Public License version 2, with the exception of the lib/ext2fs
and lib/e2p libraries, which are made available under the GNU Library
General Public License Version 2, the lib/uuid library which is made
available under a BSD-style license and the lib/et and lib/ss
libraries which are made available under an MIT-style license.  Please
see lib/uuid/COPYING for more details for the license for the files
comprising the libuuid library, and the source file headers of the
libet and libss libraries for more information.

The most recent officially distributed version can be found at
http://e2fsprogs.sourceforge.net.  If you need to make a distribution,
that's the one you should use.  If there is some reason why you'd like
a more recent version that is still in ALPHA testing (i.e., either
using the "WIP" test distributions or one from the hg or git
repository from the development branch, please contact me
(tytso@mit.edu)
 before you ship.  The release schedules for this
package are flexible, if you give me enough lead time.

    Theodore Ts'o
    23-June-2007

---

     GNU GENERAL PUBLIC LICENSE
       Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
   59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

      Preamble

 The licenses for most software are designed to take away your

freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and

conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered
only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with
the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering
access
to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing
the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein.

You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new

versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software
and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE
OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine
library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

---

GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library GPL.  It is
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some
specially designated Free Software Foundation software, and to any
other libraries whose authors decide to use it.  You can use it for
your libraries, too.

When we speak of free software, we are referring to freedom, not
price.  Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if

you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General

Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files,
but we have achieved it as regards
changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated

interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2.
You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the

application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which

must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to
copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if
the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification

of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally

accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent

infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise)
that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose
of protecting the
integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in
the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and

"any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software
Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the

ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
This is the Debian GNU/Linux prepackaged version of the Common Error Description library. It is currently distributed together with the EXT2 file system utilities, which are otherwise packaged as "e2fsprogs".

This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:
tsx-11.mit.edu:/pub/linux/packages/ext2fs/

From the original distribution:

Copyright 1987, 1988 by the Student Information Processing Board
of the Massachusetts Institute of Technology

Permission to use, copy, modify, and distribute this software
and its documentation for any purpose and without fee is
hereby granted, provided that the above copyright notice
appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation,
and that the names of M.I.T. and the M.I.T. S.I.P.B. not be
used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
M.I.T. and the M.I.T.
S.I.P.B. make no representations about
the suitability of this software for any purpose. It is
provided "as is" without express or implied warranty.

# 1.322 kryo 5.3.0

## 1.322.1 Available under license :

No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2008-2022, Nathan Sweet
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following
* conditions are met:
*
* - Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* - Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following
* disclaimer in the documentation and/or other materials provided with the distribution.
* - Neither the name of Esoteric Software nor the names of its contributors may be used to endorse or promote products derived
* from this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
* BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
* SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS

* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
* NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. */

Found in path(s):
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/KryoException.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/BeanSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/KryoCopyable.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/unsafe/UnsafeByteBufferInput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/HashMapReferenceResolver.java
*
/kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/CollectionSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/ByteBufferOutput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/DefaultGenerics.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/ByteBufferOutputStream.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/CompatibleFieldSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/Output.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/KryoObjectInput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/IntArray.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/ClosureSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/OptionalSerializers.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/unsafe/UnsafeUtil.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/DefaultClassResolver.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/ReflectField.java
*
/kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/ClassResolver.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/DefaultSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/EnumNameSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/ImmutableCollectionsSerializers.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/Null.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/ReferenceResolver.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/OutputChunked.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/FieldSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/ObjectMap.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/ListReferenceResolver.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/EnumMapSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/unsafe/UnsafeInput.java
*
/kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/InputChunked.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/UnsafeField.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/Kryo.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/KryoDataOutput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/SerializerFactory.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/ByteBufferInput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/DefaultSerializers.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/AsmField.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/ExternalizableSerializer.java

* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/KryoDataInput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/ImmutableSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/unsafe/UnsafeOutput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/TimeSerializers.java
*
/kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/CachedFields.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/IdentityMap.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/Serializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/KryoBufferOverflowException.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/KryoObjectOutput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/GenericsUtil.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/TaggedFieldSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/MapReferenceResolver.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/Util.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/Input.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/BlowfishSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/JavaSerializer.java
*
/kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/KryoSerializable.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/ByteBufferInputStream.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/DefaultInstantiatorStrategy.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/IdentityObjectIntMap.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/MapSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/DefaultArraySerializers.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/VersionFieldSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/unsafe/UnsafeByteBufferOutput.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/IntMap.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/Registration.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/io/KryoBufferUnderflowException.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/Pool.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/DeflateSerializer.java
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2008-2022, Nathan Sweet
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following
* conditions are met:
*
* - Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* - Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following
* disclaimer in the documentation and/or other materials provided with the distribution.
* - Neither the name of Esoteric Software nor the names of its contributors may be used to endorse or promote products derived
* from this software without specific prior written permission.

*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
* BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
* SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
* NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. */

Found in path(s):
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/ObjectIntMap.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/NoGenerics.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/CuckooObjectMap.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/serializers/RecordSerializer.java
* /kryo-5-3-0-sources-jar/com/esotericsoftware/kryo/util/Generics.java

# 1.323 python-certifi 2019.06.16

## 1.323.1 Available under license :

This packge contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov  3 19:04:19 2011#
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt).  This file can be found in the mozilla source tree:
http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#
It contains the certificates in PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.#

***** BEGIN LICENSE BLOCK *****
This Source Code Form is subject to the terms of the Mozilla Public License,
v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain
one at http://mozilla.org/MPL/2.0/.

***** END LICENSE BLOCK *****
@(#) $RCSfile: certdata.txt,v $

# 1.324 listenablefuture 9999.0-empty-to-avoid-conflict-with-guava

## 1.324.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct

or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.325 gnupg 2.2.4-1ubuntu1.6

## 1.325.1 Available under license :

Here is a list with collected copyright notices. For details see the description of each individual package. [Compiled by wk 2017-11-07]

GNUPG is

Copyright (C) 1997-2017 Werner Koch
Copyright (C) 1994-2017 Free Software Foundation, Inc.
Copyright (C) 2003-2017 g10 Code GmbH
Copyright (C) 2002 Klarlvdalens Datakonsult AB
Copyright (C) 1995-1997, 2000-2007 Ulrich Drepper <drepper@gnu.ai.mit.edu>
Copyright (C) 1994 X Consortium
Copyright (C) 1998 by The Internet Society.
Copyright (C) 1998-2004 The OpenLDAP Foundation
Copyright (C) 1998-2004 Kurt D. Zeilenga.
Copyright (C) 1998-2004 Net Boolean Incorporated.
Copyright (C) 2001-2004 IBM Corporation.

Copyright (C) 1999-2003 Howard Y.H. Chu.
Copyright (C) 1999-2003 Symas Corporation.
Copyright (C) 1998-2003 Hallvard B. Furuseth.
Copyright (C) 1992-1996 Regents of the University of Michigan.
Copyright (C) 2000 Dimitrios Souflis
Copyright (C) 2008,2009,2010,2012-2016 William Ahern

GnuPG is free software;
you can redistribute it and/or modify it
under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 3 of the License, or
(at your option) any later version.

GnuPG is distributed in the hope that it will be useful, but WITHOUT
ANY WARRANTY; without even the implied warranty of MERCHANTABILITY
or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public
License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, see <https://www.gnu.org/licenses/>.

LIBGCRYPT is

Copyright (C) 1989,1991-2017 Free Software Foundation, Inc.
Copyright (C) 1994 X Consortium
Copyright (C) 1996 L. Peter Deutsch
Copyright (C) 1997 Werner Koch
Copyright (C) 1998 The Internet Society
Copyright (C) 1996-1999 Peter Gutmann, Paul Kendall, and Chris Wedgwood
Copyright (C) 1996-2006 Peter Gutmann, Matt Thomlinson and Blake Coverett
Copyright (C) 2003 Nikos Mavroyanopoulos
Copyright (C) 2006-2007 NTT (Nippon Telegraph and Telephone Corporation)
Copyright (C) 2012-2017 g10 Code GmbH
Copyright (C) 2012 Simon Josefsson, Niels Mller
Copyright (c) 2012 Intel Corporation
Copyright (C) 2013 Christian Grothoff
Copyright (C) 2013-2017 Jussi Kivilinna
Copyright (C) 2013-2014 Dmitry Eremin-Solenikov
Copyright (C) 2014 Stephan Mueller
Copyright (C) 2017 Bundesamt fr Sicherheit in der Informationstechnik

Libgcrypt is free software; you can redistribute it and/or modify
it under the terms of the GNU Lesser General Public License as
published by the Free Software Foundation; either version 2.1 of
the License, or (at your option) any later version.

Libgcrypt is distributed in the hope that it will be useful,

but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU Lesser General Public License for more details.

You should have received a copy of the
GNU Lesser General Public
License along with this program; if not, see <http://www.gnu.org/licenses/>.

LIBGPG-ERROR is

Copyright (C) 2003-2004, 2010, 2013-2017 g10 Code GmbH

libgpg-error is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public License
as published by the Free Software Foundation; either version 2.1 of
the License, or (at your option) any later version.

libgpg-error is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License
along with this program; if not, see <http://www.gnu.org/licenses/>.

LIBASSUAN is

Copyright (C) 1992-2013 Free Software Foundation, Inc.
Copyright (C) 1994 X Consortium
Copyright (C) 2000 Werner Koch (dd9jn)
Copyright (C)
2001-2016 g10 Code GmbH
Copyright (C) 2004 Simon Josefsson

Assuan is free software; you can redistribute it and/or modify it
under the terms of the GNU Lesser General Public License as
published by the Free Software Foundation; either version 2.1 of
the License, or (at your option) any later version.

Assuan is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this program; if not, see <http://www.gnu.org/licenses/>.

LIBKSBA is

Copyright (C) 2001, 2002, 2003, 2004, 2005, 2006, 2010, 2011
2012, 2013, 2014, 2015 g10 Code GmbH
Copyright (C) 2001, 2002, 2003, 2007 Free Software Foundation, Inc.
Copyright (C) 2000, 2001 Fabio Fiorina

The library and the header files are distributed under
the following
terms (LGPLv3+/GPLv2+):

KSBA is free software; you can redistribute it and/or modify
it under the terms of either

- the GNU Lesser General Public License as published by the Free
  Software Foundation; either version 3 of the License, or (at
  your option) any later version.

or

- the GNU General Public License as published by the Free
  Software Foundation; either version 2 of the License, or (at
  your option) any later version.

or both in parallel, as here.

KSBA is distributed in the hope that it will be useful, but WITHOUT
ANY WARRANTY; without even the implied warranty of MERCHANTABILITY
or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public
License for more details.

The other parts (e.g. manual, build system, tests) are distributed
under the following terms (GPLv3):

KSBA is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the
Free Software Foundation; either version 3 of the License, or
(at your option) any later version.

KSBA is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

NPTH is

Copyright (C) 2011, 2012, 2014, 2015, 2017 g10 Code GmbH

nPth is free software; you can redistribute it and/or modify
it under the terms of the GNU Lesser General Public License as
published by the Free Software Foundation; either version 2.1 of
the License, or (at your option) any later version.

nPth is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See
the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this program;
if not, see <https://www.gnu.org/licenses/>.

NTBTLS is

Copyright (C) 2006-2014 Brainspark B.V.
Copyright (C) 2014-2017 g10 Code GmbH

NTBTLS is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 3 of the License, or
(at your option) any later version.

NTBTLS is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, see <http://www.gnu.org/licenses/>.

PINENTRY is

Copyright (C) 1999 Robert Bihlmeyer <robbe@orcus.priv.at>
Copyright (C) 2001-2004, 2007-2008, 2010, 2015-2016 g10 Code GmbH
Copyright (C) 2002, 2008 Klarlvdalens Datakonsult AB (KDAB)
Copyright (C) 2004 by Albrecht
Dre <albrecht.dress@arcor.de>
Copyright 2007 Ingo Klcker
Copyright (C) 2014 Serge Voilokov
Copyright (C) 2015 Daiki Ueno

Copyright (C) 2015 Daniel Kahn Gillmor <dkg@fifthhorseman.net>
Copyright 2016 Intevation GmbH

PINENTRY is free software; you can redistribute it and/or modify it
under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

PINENTRY is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, see <https://www.gnu.org/licenses/>.

GPGME is

Copyright (C) 1991-2013 Free Software Foundation, Inc.
Copyright (C) 2000-2001 Werner Koch
Copyright (C) 2001-2017 g10 Code GmbH

Copyright (C) 2002 Klarlvdalens Datakonsult AB
Copyright (C) 2004-2008 Igor Belyi
Copyright (C) 2002 John Goerzen
Copyright (C) 2014, 2015 Martin Albrecht
Copyright (C) 2015 Ben McGinnes
Copyright (C) 2015-2016 Bundesamt fr Sicherheit in der Informationstechnik
Copyright (C) 2016 Intevation GmbH

GPGME is free software; you can redistribute it and/or modify it
under the terms of the GNU Lesser General Public License as
published by the Free Software Foundation; either version 2.1 of
the License, or (at your option) any later version.

GPGME is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License
along with this program; if not, see <http://www.gnu.org/licenses/>.

NSIS is

Copyright 1999-2009 Nullsoft and Contributors

Copyright 2002-2008 Amir Szekely
Copyright 2003 Ramon

This license applies to everything in the NSIS package, except where otherwise noted.

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.

2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.

3. This notice may not be removed or altered from any source distribution.

The user interface used with the installer is

Copyright 2002-2009 Joost Verburg

[It is distributed along with NSIS and the same conditions as stated above apply]

TinySCHEME is part of the GnuPG package and is

Copyright (c) 2000, Dimitrios Souflis
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of Dimitrios Souflis nor the names of the
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED
BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

LIBDNS is part of the GnuPG package and is

Copyright (c) 2008, 2009, 2010, 2012-2016  William Ahern

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"),
to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to permit
persons to whom the Software is furnished to do so, subject to the
following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN
NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE
USE OR OTHER DEALINGS IN THE SOFTWARE.

ZLIB is

(C) 1995-2013 Jean-loup Gailly and Mark Adler

This software is provided
'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly  Mark Adler
jloup@gzip.org  madler@alumni.caltech.edu

BZIP2 is

This program, "bzip2", the associated library "libbzip2", and all
documentation,
are copyright (C) 1996-2010 Julian R Seward.  All
rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must
   not claim that you wrote the original software.  If you use this
   software in a product, an acknowledgment in the product
   documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must
   not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote
   products derived from this software without specific prior written
   permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS

OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

SQLITE has

been put into the public-domain by its author D. Richard Hipp:
The author disclaims copyright to this source code. In place of
a legal notice, here is a blessing:

May you do good and not evil.
May you find forgiveness for yourself and forgive others.
May you share freely, never taking more than you give.

[Note that only a few files are distributed under this license.]

Creative Commons Legal Code

CC0 1.0 Universal

CREATIVE COMMONS CORPORATION IS NOT A LAW FIRM AND DOES NOT PROVIDE
LEGAL SERVICES. DISTRIBUTION OF THIS DOCUMENT DOES NOT CREATE AN
ATTORNEY-CLIENT RELATIONSHIP. CREATIVE COMMONS PROVIDES THIS
INFORMATION ON AN "AS-IS" BASIS. CREATIVE COMMONS MAKES NO WARRANTIES
REGARDING THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS
PROVIDED HEREUNDER, AND DISCLAIMS LIABILITY FOR DAMAGES RESULTING FROM
THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED
HEREUNDER.

Statement of Purpose

The laws of most jurisdictions throughout the world automatically confer
exclusive Copyright and Related Rights (defined below) upon the creator
and subsequent owner(s) (each and all, an "owner") of an original work of
authorship and/or a database (each, a "Work").

Certain owners wish to permanently relinquish those rights to a Work for
the purpose of contributing
to a commons of creative, cultural and
scientific works ("Commons") that the public can reliably and without fear

of later claims of infringement build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative, cultural and scientific works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.

For these and/or other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and Related Rights in the Work, voluntarily elects to apply CC0 to the Work and publicly distribute the Work under its terms, with knowledge of his or her Copyright and Related Rights in the Work and the meaning and intended legal effect of CC0 on those rights.

1. Copyright and Related Rights. A Work made available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:

i. the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;
ii. moral rights retained by the original author(s) and/or performer(s);
iii. publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;
iv. rights protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;
v. rights protecting the extraction, dissemination, use and reuse of data in a Work;
vi. database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and
vii. other similar, equivalent or corresponding rights throughout the world based on applicable law or treaty, and any national implementations thereof.

2. Waiver. To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or

treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending that such Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of Purpose.

3. Public License Fallback. Should any part of the Waiver for any reason be judged legally invalid or ineffective under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into account Affirmer's express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason be judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will not (i) exercise any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any associated claims and causes of action with respect to the Work, in either case contrary to Affirmer's express Statement of Purpose.

4. Limitations and Disclaimers.

a. No trademark or patent rights held by Affirmer are waived, abandoned, surrendered, licensed or otherwise affected by this document.
b. Affirmer offers the Work as-is and makes no representations or warranties of any kind concerning the Work, express, implied, statutory or otherwise, including without limitation warranties of title, merchantability, fitness for a particular purpose, non infringement, or the absence of latent or other defects, accuracy, or the present or absence of errors, whether or not discoverable, all to the greatest extent permissible under applicable law.
c. Affirmer disclaims responsibility for clearing rights of other persons that may apply to the Work or any use thereof, including without

limitation any person's Copyright and Related Rights in the Work. Further, Affirmer disclaims responsibility for obtaining any necessary consents, permissions or other rights required for any use of the Work.

d. Affirmer understands and acknowledges that Creative Commons is not a party to this document and has no duty or obligation with respect to this CC0 or use of the Work.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <https://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer
you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains
that there is no warranty for this free software. For both users' and
authors' sake, the GPL requires that modified versions be marked as
changed, so that their problems will not be attributed erroneously to
authors of previous versions.

Some devices are designed to deny users access to install or run
modified versions of the software inside them, although the manufacturer
can do so. This is fundamentally incompatible with the aim of
protecting users' freedom to change the software. The systematic
pattern of such abuse occurs in the area of products for individuals to
use, which is precisely where it is most unacceptable. Therefore, we
have designed this version of the GPL to prohibit the practice for those
products. If such problems arise substantially in other domains, we
stand ready to extend this provision to those
domains in future versions
of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents.
States should not allow patents to restrict development and use of
software on general-purpose computers, but in those that do, we wish to
avoid the special danger that patents applied to a free program could
make it effectively proprietary. To prevent this, the GPL assures that
patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and
modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of
works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this
License. Each licensee is addressed as "you". "Licensees" and
"recipients" may be individuals or organizations.

To

"modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate
Legal Notices"
to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than
the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component

(kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under

the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users'
Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep
intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license
the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This
License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts,
regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution medium, is called an
"aggregate" if the compilation and
its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years and valid for as
long as you offer spare parts or customer
support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the

Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge.
You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object
code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute

modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place

additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections
15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional
terms are considered "further
restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the

form of a separately written license, or stated as exceptions;
the above requirements apply either way.

8. Termination.

You may
not propagate or modify a covered work except as expressly
provided under this License. Any attempt otherwise to propagate or
modify it is void, and will automatically terminate your rights under
this License (including any patent licenses granted under the third
paragraph of section 11).

However, if you cease all violation of this License, then your
license from a particular copyright holder is reinstated (a)
provisionally, unless and until the copyright holder explicitly and
finally terminates your license, and (b) permanently, if the copyright
holder fails to notify you of the violation by some reasonable means
prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that
copyright holder, and you cure the violation prior to 30 days after
your
receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License. If your rights have been terminated and not permanently
reinstated, you do not qualify to receive new licenses for the same
material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or
run a copy of the Program. Ancillary propagation of a covered work
occurring solely as a consequence of using peer-to-peer transmission
to receive a copy likewise does not require acceptance. However,
nothing other than this License grants you permission to propagate or
modify any covered work. These actions infringe copyright if you do
not accept this License. Therefore, by modifying or propagating a
covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time

you convey a covered work, the recipient automatically
receives a license from the original licensors, to run, modify and
propagate that work, subject to this License. You are not responsible
for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an
organization, or substantially all assets of one, or subdividing an
organization, or merging organizations. If propagation of a covered
work results from an entity transaction, each party to that
transaction who receives a copy of the work also receives whatever
licenses to the work the party's predecessor in interest had or could
give under the previous paragraph, plus a right to possession of the
Corresponding Source of the work from the predecessor in interest, if
the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the
rights granted or affirmed under this License. For example, you may
not
impose a license fee, royalty, or other charge for exercise of
rights granted under this License, and you may not initiate litigation
(including a cross-claim or counterclaim in a lawsuit) alleging that
any patent claim is infringed by making, using, selling, offering for
sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this
License of the Program or a work on which the Program is based. The
work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims
owned or controlled by the contributor, whether already acquired or
hereafter acquired, that would be infringed by some manner, permitted
by this License, of making, using, or selling its contributor version,
but do not include claims that would be infringed only as a
consequence of further modification of the contributor version. For
purposes of this definition, "control"
includes the right to grant
patent sublicenses in a manner consistent with the requirements of
this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free
patent license under the contributor's essential patent claims, to
make, use, sell, offer for sale, import and otherwise run, modify and
propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express
agreement or commitment, however denominated, not to enforce a patent

(such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered
version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different

permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING,
BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer
of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively

state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

  <one line to give the program's name and a brief idea
 of what it does.>
  Copyright (C) <year>  <name of author>

  This program is free software: you can redistribute it and/or modify
  it under the terms of the GNU General Public License as published by
  the Free Software Foundation, either version 3 of the License, or
  (at your option) any later version.

  This program is distributed in the hope that it will be useful,
  but WITHOUT ANY WARRANTY; without even the implied warranty of
  MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
  GNU General Public License for more details.

  You should have received a copy of the GNU General Public License
  along with this program.  If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

 If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

  <program>  Copyright (C) <year>  <name of author>
  This program comes with ABSOLUTELY
 NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

 You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<https://www.gnu.org/licenses/>.

 The GNU General Public License does not permit incorporating your program
into proprietary programs.  If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.  But first,
 please read
<https://www.gnu.org/philosophy/why-not-lgpl.html>.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so

that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause
any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work
are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections

1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution
and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and

all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the

original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing
version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR

THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may

be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

 Yoyodyne, Inc., hereby disclaims all copyright interest in the program
 `Gnomovision' (which makes passes at compilers) written by James Hacker.

 <signature of Ty Coon>, 1 April 1989
 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this
 is what you want to do, use the GNU Lesser General
Public License instead of this License.
[Note that only a few files are distributed under this license.]

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

 The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

 This license, the Lesser General Public License, applies to some
specially designated software packages--typically
 libraries--of the
Free Software Foundation and other authors who decide to use it.  You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations
below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.
^L
Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

^L

GNU LESSER GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion

of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under

the
scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.
^L
Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections
1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library
(because it
contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a

derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise,
if the work is a derivative of the Library, you may
distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.
^L
6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy
of this License. Also, you must do one
of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a

copy of the library already present on the user's computer system, rather than
copying library functions into the executable, and (2)
will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the
materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.
^L
7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library
with a copy of the same work
based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the
Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.
^L
11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement
or
otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole
purpose of protecting the
integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written
in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.
^L
14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the
Free
Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY
OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

^L

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It
is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either

version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free
Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or
your school, if any, to sign a "copyright disclaimer" for the library,
if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James
Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

LICENSE TERMS

Copyright (c) 2000, Dimitrios Souflis
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

Neither the name of Dimitrios Souflis nor the names of the
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT

LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE REGENTS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
[Note that only a few files are distributed under this license.]

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <https://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser General Public License, and the "GNU GPL" refers to version 3 of the GNU General Public License.

"The Library" refers to a covered work governed by this License, other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without
being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material
is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.

4. Combined Works.

You may convey a Combined Work under terms of your choice that,

taken together, effectively do not restrict modification of the
portions of the Library contained in the Combined Work and reverse
engineering for debugging such modifications, if you also do each of
the following:

a) Give prominent notice with each copy of the Combined Work that
the Library is used in it and that the Library and its use are
covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this
license
document.

c) For a Combined Work that displays copyright notices during
execution, include the copyright notice for the Library among
these notices, as well as a reference directing the user to the
copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this
License, and the Corresponding Application Code in a form
suitable for, and under terms that permit, the user to
recombine or relink the Application with a modified version of
the Linked Version to produce a modified Combined Work, in the
manner specified by section 6 of the GNU GPL for conveying
Corresponding Source.

1) Use a suitable shared library mechanism for linking with the
Library. A suitable mechanism is one that (a) uses at run time
a copy of the Library already present on the user's computer
system, and (b) will operate properly with
a modified version
of the Library that is interface-compatible with the Linked
Version.

e) Provide Installation Information, but only if you would otherwise
be required to provide such information under section 6 of the
GNU GPL, and only to the extent that such information is
necessary to install and execute a modified version of the
Combined Work produced by recombining or relinking the
Application with a modified version of the Linked Version. (If
you use option 4d0, the Installation Information must accompany
the Minimal Corresponding Source and Corresponding Application
Code. If you use option 4d1, you must provide the Installation
Information in the manner specified by section 6 of the GNU GPL
for conveying Corresponding Source.)

5. Combined Libraries.

You may place library facilities that are a work based on the
Library side by side in a single library together with other library
facilities that are not Applications and are not
covered by this
License, and convey such a combined library under terms of your
choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based
on the Library, uncombined with any other library facilities,
conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it
is a work based on the Library, and explaining where to find the
accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions
of the GNU Lesser General Public License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the
Library as you received it specifies that a certain numbered version
of the GNU Lesser General Public License "or
any later version"
applies to it, you have the option of following the terms and
conditions either of that published version or of any later version
published by the Free Software Foundation. If the Library as you
received it does not specify a version number of the GNU Lesser
General Public License, you may choose any version of the GNU Lesser
General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide
whether future versions of the GNU Lesser General Public License shall
apply, that proxy's public statement of acceptance of any version is
permanent authorization for you to choose that version for the
Library.
# COPYING.other -*- org -*-
#+TITLE: List of code with permissive licenses as used by GnuPG.
#+STARTUP: showall

* DNS resolver (dirmngr/dns.c)

dns.c - Recursive, Reentrant DNS Resolver.
---

Copyright (c) 2008, 2009, 2010, 2012-2016  William Ahern

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to permit
persons to whom the Software is furnished to do so, subject to the
following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY
OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN
NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE
USE OR OTHER DEALINGS IN THE SOFTWARE.

* TinySCHEME (tests/gpgscm/LICENSE.TinySCHEME)

Copyright (c) 2000, Dimitrios Souflis
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided
with the distribution.

Neither the name of Dimitrios Souflis nor the names of the
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,

EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.326 python 3.6.7-1~18.04

## 1.326.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the Python programming
language. Python was written by Guido van Rossum <guido@cwi.nl> and others.

This package was put together by Klee Dienes <klee@debian.org> from
sources from ftp.python.org:/pub/python, based on the Debianization by
the previous maintainers Bernd S. Brentrup <bsb@uni-muenster.de> and
Bruce Perens.

Current maintainer is Matthias Klose <doko@debian.org> until the final
2.3 version is released.

Copyright notice (as found in LICENSE in the original source).
---

A. HISTORY OF THE SOFTWARE
==========

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called ABC.  Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National
 Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team.  In October of the same
year, the PythonLabs team moved to Digital Creations (now Zope
Corporation, see http://www.zope.com).  In 2001, the Python Software
Foundation (PSF, see http://www.python.org/psf/) was formed, a
non-profit organization created specifically to own Python-related
Intellectual Property.  Zope Corporation is a sponsoring member of
the PSF.

All Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2.1 | 2.2 | 2002 | PSF | yes |
| 2.2.2 | 2.2.1 | 2002 | PSF | yes |
| 2.2.3 | 2.2.2 | 2003 | PSF | yes |
| 2.3 | 2.2.2 | 2002-2003 | PSF | yes |
| 2.3.1 | 2.3 | 2002-2003 | PSF | yes |
| 2.3.2 | 2.3.1 | 2002-2003 | PSF | yes |
| 2.3.3 | 2.3.2 | 2002-2003 | PSF | yes |
| 2.3.4 | 2.3.3 | 2004 | PSF | yes |
| 2.3.5 | 2.3.4 | 2005 | PSF | yes |
| 2.4 | 2.3 | 2004 | PSF | yes |
| 2.4.1 | 2.4 | 2005 | PSF | yes |
| 2.4.2 | 2.4.1 | 2005 | PSF | yes |
| 2.4.3 | 2.4.2 | 2006 | PSF | yes |
| 2.4.4 | 2.4.3 | 2006 | PSF | yes |
| 2.5 | 2.4 | 2006 | PSF | yes |
| 2.5.1 | 2.5 | 2007 | PSF | yes |
| 2.5.2 | 2.5.1 | 2008 | PSF | yes |
| 2.5.3 | 2.5.2 | 2008 | PSF | yes |
| 2.6 | 2.5 | 2008 | PSF | yes |
| 2.6.1 | 2.6 | 2008 | PSF | yes |
| 2.6.2 | 2.6.1 | 2009 | PSF | yes |
| 2.6.3 | 2.6.2 | 2009 | PSF | yes |
| 2.6.4 | 2.6.3 | 2009 | PSF | yes |
| 3.0 | 2.6 | 2008 | PSF | yes |
| 3.0.1 | 3.0 | 2009 | PSF | yes |
| 3.1 | 3.0.1 | 2009 | PSF | yes |

| | | | | |
|---|---|---|---|---|
| 3.1.1 | 3.1 | 2009 | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike the GPL, let you distribute a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

B. TERMS AND CONDITIONS
FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation ("PSF"), and the Individual or Organization ("Licensee") accessing and otherwise using this software ("Python") in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python alone or in any derivative version, provided, however, that PSF's License Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010 Python Software Foundation; All Rights Reserved" are retained in Python alone or in any derivative version
prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on or incorporates Python or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS"

basis.  PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED.  BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate
 upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee.  This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an
office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the
Individual or Organization ("Licensee") accessing and otherwise using
this software in source or binary form and its associated
documentation ("the Software").

2. Subject to the terms and conditions
 of this BeOpen Python License
Agreement, BeOpen hereby grants Licensee a non-exclusive,
royalty-free, world-wide license to reproduce, analyze, test, perform
and/or display publicly, prepare derivative works, distribute, and
otherwise use the Software alone or in any derivative version,
provided, however, that the BeOpen Python License is retained in the
Software, alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS"
basis.  BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR

IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE,
OR ANY
DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT
FOR PYTHON 1.6.1
---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative

version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement,
Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION
OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed
under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or

services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

Permission to
use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

py3compile, py3clean and debpython module:
==========

Copyright
2010-2013 Piotr Oarowski <piotr@debian.org>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT
OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.327 ng-zorro-antd 9.3.0

## 1.327.1 Available under license :

```
<nz-calendar>
  <ul *nzDateCell="let date" class="events">
    <ng-container [ngSwitch]="date.getDate()">
      <ng-container *ngSwitchCase="8">
        <li *ngFor="let item of listDataMap.eight">
          <nz-badge [nzStatus]="item.type" [nzText]="item.content"></nz-badge>
        </li>
      </ng-container>
      <ng-container *ngSwitchCase="10">
        <li *ngFor="let item of listDataMap.ten">
          <nz-badge [nzStatus]="item.type" [nzText]="item.content"></nz-badge>
        </li>
      </ng-container>
      <ng-container *ngSwitchCase="11">
        <li *ngFor="let item of listDataMap.eleven">
          <nz-badge [nzStatus]="item.type" [nzText]="item.content"></nz-badge>
        </li>
      </ng-container>
    </ng-container>
  </ul>
  <ng-container *nzMonthCell="let month">
    <div *ngIf="getMonthData(month) as monthData" class="notes-month">
      <section>{{ monthData }}</section>
       <span>Backlog number</span>
    </div>
  </ng-container>
</nz-calendar>
```

{"version":3,"file":"index.js","sourceRoot":"","sources":["../../../../schematics/demo/calendar-notice-calendar/index.ts"],"names":[],"mappings":";;AAAA,2DAAGoC;AACpC,iEAAA6D;AAI7D,mBAAAwB,OAAAe;IACrC,OAAAO,kBAAAK;IAAK,OAAAC,kBAAAK;IAAK,OAAAC,kBAAAK;IAAK,OAAAC

```
import { Component } from '@angular/core';

@Component({
 selector: '<%= selector %>',
 <% if(inlineTemplate) { %>template: `
  <nz-calendar>
    <ul *nzDateCell="let date" class="events">
      <ng-container [ngSwitch]="date.getDate()">
        <ng-container *ngSwitchCase="8">
          <li *ngFor="let item of listDataMap.eight">
            <nz-badge [nzStatus]="item.type" [nzText]="item.content"></nz-badge>
          </li>
        </ng-container>
        <ng-container *ngSwitchCase="10">
          <li *ngFor="let item of listDataMap.ten">
            <nz-badge [nzStatus]="item.type" [nzText]="item.content"></nz-badge>
          </li>
        </ng-container>
        <ng-container *ngSwitchCase="11">
          <li *ngFor="let item of listDataMap.eleven">
            <nz-badge [nzStatus]="item.type" [nzText]="item.content"></nz-badge>
          </li>
        </ng-container>
      </ng-container>
    </ul>
    <ng-container *nzMonthCell="let month">
      <div *ngIf="getMonthData(month) as monthData" class="notes-month">
       <section>{{ monthData }}</section>
       <span>Backlog number</span>
      </div>
    </ng-container>
  </nz-calendar>
`<% } else { %>templateUrl: './<%= dasherize(name) %>.component.html'<% } %>,
<% if(inlineStyle) { %>styles: [`
    .events {
      list-style: none;
      margin: 0;
      padding: 0;
    }

    .events .ant-badge-status {
      overflow: hidden;
      white-space: nowrap;
      width: 100%;
      text-overflow: ellipsis;
      font-size: 12px;
    }
```

```
    .notes-month {
      text-align: center;
      font-size: 28px;
    }

    .notes-month section {
      font-size: 28px;
    }
  `]<% } else { %>styleUrls: ['./<%= dasherize(name) %>.component.<%= style %>']<% } %>
})
export class <%= classify(name) %>Component {
 listDataMap = {
  eight: [
    { type: 'warning', content: 'This is warning event.' },
    { type: 'success',
 content: 'This is usual event.' }
  ],
  ten: [
    { type: 'warning', content: 'This is warning event.' },
    { type: 'success', content: 'This is usual event.' },
    { type: 'error', content: 'This is error event.' }
  ],
  eleven: [
    { type: 'warning', content: 'This is warning event' },
    { type: 'success', content: 'This is very long usual event.....' },
    { type: 'error', content: 'This is error event 1.' },
    { type: 'error', content: 'This is error event 2.' },
    { type: 'error', content: 'This is error event 3.' },
    { type: 'error', content: 'This is error event 4.' }
  ]
 };

 getMonthData(date: Date): number | null {
  if (date.getMonth() === 8) {
    return 1394;
  }
  return null;
 }
}
```

{"$schema":"http://json-schema.org/schema","id":"notice-calendar-calendar","title":"NG-ZORRO notice-calendar calendar","type":"object","properties":{"path":{"type":"string","format":"path","description":"The path to create the component.","visible":false},"project":{"type":"string","description":"The name of the project.","$default":{"$source":"projectName"}},"name":{"type":"string","description":"The name of the component.","$default":{"$source":"argv","index":0},"x-prompt":"What should be the name of the component?"},"inlineStyle":{"description":"When true, includes styles inline in the component.ts file. Only CSS styles can be included inline. By default, an external styles file is created and referenced in the component.ts file.","type":"boolean","default":false,"alias":"s"},"inlineTemplate":{"description":"When true, includes template inline in the component.ts file. By default, an external template file is created and referenced in the component.ts

file.","type":"boolean","default":false,"alias":"t"},"prefix":{"type":"string","description":"The
prefix to apply to the generated component
selector.","alias":"p","oneOf":[{"maxLength":0},{"minLength":1,"format":"html-
selector"}]},"styleext":{"description":"The file extension to use for style files.","type":"string","default":"css","x-
deprecated":"Use \"style\" instead."},"style":{"description":"The file extension or preprocessor to use for style
files.","type":"string","default":"css","enum":["css","scss","sass","less","styl"]},"spec":{"type":"boolean","descripti
on":"When true (the default), generates a \"spec.ts\" test file for the new component.","default":true,"x-
deprecated":"Use \"skipTests\" instead."},"skipTests":{"type":"boolean","description":"When true, does not create
\"spec.ts\" test files for the new component."},"flat":{"type":"boolean","description":"Flag to indicate if a dir is
created.","default":false},"skipImport":{"type":"boolean","description":"When true, does not import this component
into the
owning NgModule."},"selector":{"type":"string","format":"html-selector","description":"The selector to use for the
component."},"module":{"type":"string","description":"Allows specification of the declaring
module.","alias":"m"},"export":{"type":"boolean","default":false,"description":"When true, the declaring NgModule
exports this component."},"entryComponent":{"type":"boolean","default":false,"description":"When true, the new
component is the entry component of the declaring
NgModule."},"classnameWithModule":{"type":"boolean","description":"When true, Use module class name as
additional prefix for the component classname.","default":false}},"required":["name"]}
MIT
{"version":3,"file":"schema.js","sourceRoot":"","sources":["../../../../schematics/demo/calendar-notice-
calendar/schema.ts"],"names":[],"mappings":""}
```
import { fakeAsync, ComponentFixture, TestBed } from '@angular/core/testing';
import { <%= classify(name) %>Component } from './<%= dasherize(name) %>.component';

describe('<%= classify(name) %>Component', () => {
 let component: <%= classify(name) %>Component;
 let fixture: ComponentFixture<<%= classify(name) %>Component>;

 beforeEach(fakeAsync(() => {
   TestBed.configureTestingModule({
     declarations: [ <%= classify(name) %>Component ]
   })
   .compileComponents();

   fixture = TestBed.createComponent(<%= classify(name) %>Component);
   component = fixture.componentInstance;
   fixture.detectChanges();
 }));

 it('should compile', () => {
   expect(component).toBeTruthy();
 });
});
```

# 1.328 angular-ui-grid 4.0.4

### 1.328.1 Available under license :

MIT

## 1.329 primeicons 5.0.0

### 1.329.1 Available under license :

MIT License

Copyright (c) 2018-2021 PrimeTek

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.
MIT

## 1.330 ngx-tippy-wrapper 3.0.0

### 1.330.1 Available under license :

MIT
The MIT License (MIT)

Copyright (c) 2019 Sebastian Fuss

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all

copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR
IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.331 angular-material 11.0.1

## 1.331.1 Available under license :

The MIT License

Copyright (c) 2020 Google LLC.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
MIT

# 1.332 chartjs-plugin-zoom 0.7.7

## 1.332.1 Available under license :

MIT
The MIT License (MIT)
Copyright (c) 2013-2016 Nick Downie

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated

documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF
OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.333 roboto-fontface 0.10.0

## 1.333.1 Available under license :

Apache-2.0

# 1.334 ng-circle-progress 1.6.0

## 1.334.1 Available under license :

MIT

# 1.335 primeng 11.4.5

## 1.335.1 Available under license :

MIT

# 1.336 ipaddr.js 1.7.0

## 1.336.1 Available under license :

MIT

# 1.337 ngx-charter 0.0.7

## 1.337.1 Available under license :


```
{
 "$schema": "../../node_modules/ng-packagr/ng-package.schema.json",
 "dest": "../../dist/ngx-charter",
 "lib": {
   "entryFile": "src/public-api.ts"
 }
```

}
MIT License

Copyright (c) 2022 Eliran Elnasi

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.338 protractor-http-client 1.0.4

## 1.338.1 Available under license :

MIT License

Copyright (c) 2018 marcodave

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION

WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
MIT

# 1.339 angular-upgrade 11.0.2

## 1.339.1 Available under license :

No license file was found, but licenses were detected in source scan.

/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/

Found in path(s):
* /upgrade-11-0-2-tgz/package/esm2015/static/src/downgrade_module.js
* /upgrade-11-0-2-tgz/package/esm2015/static/testing/src/create_angularjs_testing_module.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/constants.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/downgrade_component.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/downgrade_component_adapter.js
* /upgrade-11-0-2-tgz/package/esm2015/static/src/util.js
* /upgrade-11-0-2-tgz/package/esm2015/static/testing/src/create_angular_testing_module.js
* /upgrade-11-0-2-tgz/package/esm2015/static/index.js
* /upgrade-11-0-2-tgz/package/esm2015/static/src/angular1_providers.js
* /upgrade-11-0-2-tgz/package/esm2015/src/dynamic/src/upgrade_ng1_adapter.js
*
/upgrade-11-0-2-tgz/package/esm2015/public_api.js
* /upgrade-11-0-2-tgz/package/esm2015/static/testing/public_api.js
* /upgrade-11-0-2-tgz/package/esm2015/static/src/upgrade_module.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/component_info.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/upgrade_helper.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/downgrade_injectable.js
* /upgrade-11-0-2-tgz/package/esm2015/index.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/promise_util.js
* /upgrade-11-0-2-tgz/package/esm2015/static/src/upgrade_component.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/version.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/angular1.js
* /upgrade-11-0-2-tgz/package/esm2015/src/common/src/util.js
* /upgrade-11-0-2-tgz/package/esm2015/static/public_api.js
* /upgrade-11-0-2-tgz/package/esm2015/static/testing/index.js
* /upgrade-11-0-2-tgz/package/esm2015/src/dynamic/src/upgrade_adapter.js
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/upgrade/upgrade-

static.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","upgrade","stati
c","core","platformBrowser","this","noNg","Error","noNgElement","cleanData","angular","bootstrap","element","in
jector","version","undefined","resumeBootstrap","getTestability","window","hasOwnProperty","_a","setAngularJS
Global","getAngularJSGlobal","module_","prefix","dependencies","e","nodes","extendStatics","d","b","Object","set
PrototypeOf","__proto__","Array","p","__read","o","n","m","Symbol","iterator","r","i","call","ar","next","done","p
ush","value","error","__spread","arguments","length","concat","INJECTOR_KEY","PropertyBinding","prop","attr"
,"parseBinding","prototype","bracketAttr","parenAttr","bracketParenAttr","capitalAttr","charAt","toUpperCase","su
bstr","onAttr","bindAttr","bindonAttr","DIRECTIVE_PREFIX_REGEXP","DIRECTIVE_SPECIAL_CHARS_RE
GEXP","controllerKey","name","getTypeName","type","overriddenName","toString","split","getDowngradedModu
leCount","$injector","has","get","getUpgradeAppType","isFunction","validateInjectionKey","downgradedModule",
"injectionKey","attemptedAction","upgradeAppType","downgradedModuleCount","_matches","INITIAL_VALUE
","__UNINITIALIZED__","DowngradeComponentAdapter","attrs","scope","ngModel","parentInjector","$compile"
,"$parse","componentFactory","wrapCallback","implementsOnChanges","inputChangeCount","inputChanges","co
mponentScope","$new","compileContents","_this","compiledProjectableNodes","linkFns","groupProjectableNodes
","map","empty","forEach","linkFn","clone","append","createComponent","projectableNodes","childInjector","Inje
ctor","create","providers","provide","useValue","parent","componentRef","viewChangeDetector","ChangeDetector
Ref","changeDetector","changeDetectorRef","component","instance","testability","Testability","TestabilityRegistry
","registerApplication","location","nativeElement","hookupNgModel","supportsNgModel","writeValue","registerO
nChange","$render","$viewValue","$setViewValue","bind","registerOnTouched","$setTouched","setupInputs","ma
nuallyAttachView","propagateDigest","inputs","_loop_1","prevValue","input","propName","templateName","expr"
,"observeFn_1","currValue","strictEquals","val1","val2","updateInput","$observe","unwatch_1","this_1","$watch","
watchFn","detectChanges","componentType","ngOnChanges","markForCheck","unwatch_2","ApplicationRef","att
achView","hostView","setupOutputs","outputs","j","output","substring","subscribeToOutput","isAssignment","gette
r","setter","assign","emitter","subscribe","v","$event","registerCleanup","testabilityRegistry","destroyComponentRe
f","destroy","destroyed","on","$destroy","$on","unregisterApplication","getInjector","SimpleChange","groupNodes
BySelector","ngContentSelectors","ii","jj","node","ngContentIndex","findMatchingNgContentIndex","contents","ng
ContentIndices","wildcardNgContentIndex","selector","matchesSelector","sort","el","elProto","Element","matches",
"mozMatchesSelector","msMatchesSelector","oMatchesSelector","webkitMatchesSelector","nodeType","Node","E
LEMENT_NODE","SyncPromise","resolved","callbacks","all","valuesOrPromises","aggrPromise","resolvedCount"
,"results","resolve","idx","isThenable","obj","then","callback","ParentInjectorPromise","_super","injectorKey","dat
a","__extends","__","constructor","VERSION","Version","tempInjectorRef","setTempInjectorRef","injectorFactory
","rootScopeFactory","compileFactory","parseFactory","angular1Providers","useFactory","deps","NgAdapterInjecto
r","modInjector","token","notFoundValue","NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR","moduleUi
d","identity","x","REQUIRE_PREFIX_RE","UpgradeHelper","elementRef","directive","$controller","$element","g
etDirective","directives","compile","link","notSupported","replace","terminal","getTemplate","fetchRemoteTemplat
e","template","getOrCall","templateUrl","$templateCache_1","url_1","Promise","reject","$httpBackend","status","r
esponse","put","buildController","controllerType","$scope","controller","controllerAs","compileTemplate","compil
eHtml","onDestroy","controllerInstance","$onDestroy","querySelectorAll","prepareTransclusion","transclude","con
tentChildNodes","extractChildNodes","attachChildrenFn","cloneAttachFn","$template","slots_1","slotMap_1","fille
dSlots_1","keys","slotName","optional","directiveNormalize","_","letter","nodeName","toLowerCase","filter","clon
eAttach","$$slots","TEXT_NODE","nodeValue","resolveAndBindRequiredControllers","directiveRequire","getDir
ectiveRequire","requiredControllers","resolveRequire","bindToController","isMap","requiredControllersMap_1","k
ey","html","innerHTML","childNodes","childNode","firstChild","removeChild","match","isArray","req","value_1",
"inheritType","isOptional","searchParents","startOnParent","ctrlKey","elem","inheritedData","property","args","_i",
"apply","feature","INITIAL_VALUE$1","Bindings","twoWayBoundProperties","twoWayBoundLastValues","expr
essionBoundProperties","propertyToOutputMap","UpgradeComponent","helper","bindings","initializeBindings","$
parentScope","$componentScope","initializeOutputs","ngOnInit","attachChildNodes","bindingDestination","bindO
utputs","pendingChanges","forwardChanges","$onInit","$doCheck","callDoCheck","unregisterDoCheckWatcher","

$parent","preLink","pre","postLink","post","parentBoundTranscludeFn","$postLink","changes","ngDoCheck","new
Value","is","emit","ngOnDestroy","btcIsObject","context","bindingType","json","JSON","stringify","EventEmitter"
,"currentValue","$onChanges","decorators","Directive","ctorParameters","String","ElementRef","UpgradeModule",
"ngZone","element$1","modules","config","INIT_MODULE_NAME","UPGRADE_MODULE_NAME","upgrade
Module","constant","$provide","decorator","testabilityDelegate","originalWhenStable","whenStable","newWhenSta
ble","ng2Testability","isStable","intervalDelegate","wrappedInterval","fn","delay","count","invokeApply","pass","r
unOutsideAngular","setTimeout","run","cancel","$rootScope","subscription","onMicrotaskEmpty","$$phase","isDe
vMode","console","warn","$evalAsync","$digest","unsubscribe","windowAngular","originalResumeBootstrap_1","
ngZone_1","NgModule","NgZone","downgradeComponent","info","directiveFactory","isNgUpgradeLite","cb","isI
nAngularZone","hasMultipleDowngradedModules","restrict","required","moduleInjector","ranAsync","lazyModule
RefKey","lazyModuleRef","promise","doDowngrade","ComponentFactoryResolver","resolveComponentFactory","i
njectorPromise","facade","downgradeFn","pInjector","mInjector","_b","downgradeInjectable","err","message","do
wngradeModule","moduleFactoryOrBootstrapFn","lazyModuleName","lazyInjectorKey","bootstrapFn","extraProvi
ders","bootstrapModuleFactory","result","ref","getAngularLib","setAngularLib","angular_packages_upgrade_static
_static_a","angular_packages_upgrade_static_static_b","angular_packages_upgrade_static_static_c","angular_packa
ges_upgrade_static_static_d","angular_packages_upgrade_static_static_e","defineProperty"],"mappings":";;;;;CAM
C,SAAUA,EAAAQC,GACI,iBAAAZC,SAA0C,oBAAAXC,OAAAyBF,EAAAQC,GAAQ,QAASE,QAAAQ,iBAAAkBA,QAAAQ,8BA
ChG,mBAAAXC,QAAAyBA,OAAAOC,IAAAMD,OAAAO,0BAA2BC,CAAAC,UAAAW,gBAAAiB,6BAA8BC,GAAAhB,HA,IAAAz
BD,EAASA,GAAAUO,MAAAsBC,GAAAKR,EAAAQ,IAAAM,EAAAQ,GAAAC,QAAAUT,EAAAQ,GAAAC,SAAAW,EAAAC,GAAAC,
SAAAW,GAAAC,QAAAC,OAAAS,GAAAC,QAAAC,OAAAS,GAAAC,QAAAC,OAAAS,GAAAC,QAAAC,OAAAS,GAAAC,QAAAC,
;;;;;;OASjD,SAASE,IACL,MAAM,IAAIC,MAAM,mCAAqC,CAAA,CAAA,CAAA,CAAA,CAAA,CAAA,CAAA,CAAA,CAAA,CAAA,CAAA,
IAAIC,EAAAc,WAAAX,EAAAY,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
QAAWC,EACRM,QAASJ,EACTK,KAAMC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
OAAOC,eAAeC,EAAAC,UAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
,SAASsB,IACL,MAAMC,OAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
1Eb,EAAU,SAAWc,GAAAK,OAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
AQE,QAAQH,UAAUkB,IACxE,IAAmBIC,EAAAgB,SAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
B,CAAEC,EAAW,cAAAgBC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
IAAK,IAAIK,KAAKL,EACxBA,EAAEX,eAAegB,KAAKC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
B,SAASM,EAAOC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
,OAAOF,EAAAG,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
OAAOC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
OC,GAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
K,IAAIN,EAAAO,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
,UAAUT,EAAAU,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
;;;;;;;;AAgGX,IAAIBIU,EAAAe,oBAAqBC,EAAAiC,WAAAC,SAAAC,SAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
AC3BrD,KAAKoD,KAAAOA,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
,aAAAe,WAAAC,CrD,KAAKwD,YAAAc,IAAAMxD,EAAAqD,KAAAO,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
KAAO,IAAAC,CnCrD,KAAK0D,iBAAAmB,IAAAM,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
OAAO,GAAAC,cAAAC,cAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
OAAO,GAAAC,cAAAC,cAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
,SAAW,OAAASL,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
AwEsBD,EAAAUE,IAAAxE,EAAAyE,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
AAqBL,EAAAWM,EAAAkBC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
AAQS,GAACJ,KAAAK,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,
ACJ,KAAAK,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,EAAAC,

R,EAAUC,IAAIM,GACf,MAAM,IAAIjF,MAAM,eAAiBkF,EAAkB,gJAIvD,MACJ,QACI,MAAM,IAAIlF,MAAM,eAAiBkF,EAAkB;;;;;;;;AAqD/D,IAuPIG,EAvPAC,EAAgB,CAChBC,mBAAmB,GAEnBC,EAA2C,WAC3C,SAASA,EAA0BnF,EAASoF,EAAOC,EAAOC,EAASC,EAAgBlB,EAAWmB,EAAUC,EAAQC,EAAkBC,GAC9HlG,KAAKO,QAAUA,EACfP,KAAKmG,MAAQA,EACbnG,KAAKoG,MAAQA,EACbpG,KAAKqG,SAAWA,EAChBrG,KAAKsG,eAAiBA,EACtBtG,KAAKuG,UAAYA,EACjBvG,KAAKwG,SAAWA,EAChBxG,KAAKyG,OAASA,EACdzG,KAAK0G,iBAAmBA,EACxB1G,KAAK2G,UAAYA,EAEjB3G,KAAK4G,MAAQ,IAAIC,MAAM7G,KAAKmG,MAAQnG,KAAKoG,OACzCpG,KAAK8G,QAAU,IAAIC,YAAY/G,KAAK4G,MAAMI,QAC1ChH,KAAKiH,QAAU,IAAIC,SAASlH,KAAK8G,SACjC9G,KAAKmH,QAAU,IAAIC,WAAWpH,KAAK8G,SACnC9G,KAAKqH,QAAU,IAAIC,WAAWtH,KAAK8G,SACnC9G,KAAKuH,QAAU,IAAIC,WAAWxH,KAAK8G,SACnC9G,KAAKyH,QAAU,IAAIC,WAAW1H,KAAK8G,SACnC9G,KAAK2H,QAAU,IAAIC,WAAW5H,KAAK8G,SACnC9G,KAAK6H,QAAU,IAAIC,WAAW9H,KAAK8G,SACnC9G,KAAK+H,QAAU,IAAIC,WAAWhI,KAAK8G,SACnC9G,KAAKiI,QAAU,IAAIC,WAAWlI,KAAK8G,SACnC9G,KAAKmI,QAAU,IAAIC,WAAWpI,KAAK8G,SACnC9G,KAAKqI,QAAU,IAAIC,WAAWtI,KAAK8G,SACnC9G,KAAKuI,QAAU,IAAIC,WAAWxI,KAAK8G,SACnC9G,KAAKyI,QAAU,IAAIC,WAAW1I,KAAK8G,SACnC9G,KAAK2I,QAAU,IAAIC,WAAW5I,KAAK8G,SACnC9G,KAAK6I,QAAU,IAAIC,WAAW9I,KAAK8G,SACnC9G,KAAK+I,QAAU,IAAIC,WAAWhJ,KAAK8G,SACnC9G,KAAKiJ,QAAU,IAAIC,WAAWlJ,KAAK8G,SACnC9G,KAAKmJ,QAAU,IAAIC,WAAWpJ,KAAK8G,SACnC9G,KAAKqJ,QAAU,IAAIC,WAAWtJ,KAAK8G,SACnC9G,KAAKuJ,QAAU,IAAIC,WAAWxJ,KAAK8G,SACnC9G,KAAKyJ,QAAU,IAAIC,WAAW1J,KAAK8G,SACnC9G,KAAK2J,QAAU,IAAIC,WAAW5J,KAAK8G,SACnC9G,KAAK6J,QAAU,IAAIC,WAAW9J,KAAK8G,SACnC9G,KAAK+J,QAAU,IAAIC,WAAWhK,KAAK8G,SACnC9G,KAAKiK,QAAU,IAAIC,WAAWlK,KAAK8G,SACnC9G,KAAKmK,QAAU,IAAIC,WAAWpK,KAAK8G,SACnC9G,KAAKqK,QAAU,IAAIC,WAAWtK,KAAK8G,SACnC9G,KAAKuK,QAAU,IAAIC,WAAWxK,KAAK8G,SACnC9G,KAAKyK,QAAU,IAAIC,WAAW1K,KAAK8G,SACnC9G,KAAK2K,QAAU,IAAIC,WAAW5K,KAAK8G,SACnC9G,KAAK6K,QAAU,IAAIC,WAAW9K,KAAK8G,SACnC9G,KAAK+K,QAAU,IAAIC,WAAWhL,KAAK8G,SACnC9G,KAAKiL,QAAU,IAAIC,WAAWlL,KAAK8G,SACnC9G,KAAKmL,QAAU,IAAIC,WAAWpL,KAAK8G,SACnC9G,KAAKqL,QAAU,IAAIC,WAAWtL,KAAK8G,SACnC9G,KAAKuL,QAAU,IAAIC,WAAWxL,KAAK8G,SACnC9G,KAAKyL,QAAU,IAAIC,WAAW1L,KAAK8G,SACnC9G,KAAK2L,QAAU,IAAIC,WAAW5L,KAAK8G,SACnC9G,KAAK6L,QAAU,IAAIC,WAAW9L,KAAK8G,SACnC9G,KAAK+L,QAAU,IAAIC,WAAWhM,KAAK8G,SACnC9G,KAAKiM,QAAU,IAAIC,WAAWlM,KAAK8G,SACnC9G,KAAKmM,QAAU,IAAIC,WAAWpM,KAAK8G,SACnC9G,KAAKqM,QAAU,IAAIC,WAAWtM,KAAK8G,SACnC9G,KAAKuM,QAAU,IAAIC,WAAWxM,KAAK8G,SACnC9G,KAAKyM,QAAU,IAAIC,WAAW1M,KAAK8G,SACnC9G,KAAK2M,QAAU,IAAIC,WAAW5M,KAAK8G,SACnC9G,KAAK6M,QAAU,IAAIC,WAAW9M,KAAK8G,SACnC9G,KAAK+M,QAAU,IAAIC,WAAWhN,KAAK8G,SACnC9G,KAAKiN,QAAU,IAAIC,WAAWlN,KAAK8G,SACnC9G,KAAKmN,QAAU,IAAIC,WAAWpN,KAAK8G,SACnC9G,KAAKqN,QAAU,IAAIC,WAAWtN,KAAK8G,SACnC9G,KAAKuN,QAAU,IAAIC,WAAWxN,KAAK8G,SACnC9G,KAAKyN,QAAU,IAAIC,WAAW1N,KAAK8G,SACnC9G,KAAK2N,QAAU,IAAIC,WAAW5N,KAAK8G,SACnC9G,KAAK6N,QAAU,IAAIC,WAAW9N,KAAK8G,SACnC9G,KAAK+N,QAAU,IAAIC,WAAWhO,KAAK8G,SACnC9G,KAAKiO,QAAU,IAAIC,WAAWlO,KAAK8G,SACnC9G,KAAKmO,QAAU,IAAIC,WAAWpO,KAAK8G,SACnC9G,KAAKqO,QAAU,IAAIC,WAAWtO,KAAK8G,SACnC9G,KAAKuO,QAAU,IAAIC,WAAWxO,KAAK8G,SACnC9G,KAAKyO,QAAU,IAAIC,WAAW1O,KAAK8G,SACnC9G,KAAK2O,QAAU,IAAIC,WAAW5O,KAAK8G,SACnC9G,KAAK6O,QAAU,IAAIC,WAAW9O,KAAK8G,SACnC9G,KAAK+O,QAAU,IAAIC,WAAWhP,KAAK8G,SACnC9G,KAAKiP,QAAU,IAAIC,WAAWlP,KAAK8G,SACnC9G,KAAKmP,QAAU,IAAIC,WAAWpP,KAAK8G,SACnC9G,KAAKqP,QAAU,IAAIC,WAAWtP,KAAK8G,SACnC9G,KAAKuP,QAAU,IAAIC,WAAWxP,KAAK8G,SACnC9G,KAAKyP,QAAU,IAAIC,WAAW1P,KAAK8G,SACnC9G,KAAK2P,QAAU,IAAIC,WAAW5P,KAAK8G,SACnC9G,KAAK6P,QAAU,IAAIC,WAAW9P,KAAK8G,SACnC9G,KAAK+P,QAAU,IAAIC,WAAWhQ,KAAK8G,SACnC9G,KAAKiQ,QAAU,IAAIC,WAAWlQ,KAAK8G,SACnC9G,KAAKmQ,QAAU,IAAIC,WAAWpQ,KAAK8G,SACnC9G,KAAKqQ,QAAU,IAAIC,WAAWtQ,KAAK8G,SACnC9G,KAAKuQ,QAAU,IAAIC,WAAWxQ,KAAK8G,SACnC9G,KAAKyQ,QAAU,IAAIC,WAAW1Q,KAAK8G,SACnC9G,KAAK2Q,QAAU,IAAIC,WAAW5Q,KAAK8G,SACnC9G,KAAK6Q,QAAU,IAAIC,WAAW9Q,KAAK8G,SACnC9G,KAAK+Q,QAAU,IAAIC,WAAWhR,KAAK8G,SACnC9G,KAAKiR,QAAU,IAAIC,WAAWlR,KAAK8G,SACnC9G,KAAKmR,QAAU,IAAIC,WAAWpR,KAAK8G,SACnC9G,KAAKqR,QAAU,IAAIC,WAAWtR,KAAK8G,SACnC9G,KAAKuR,QAAU,IAAIC,WAAWxR,KAAK8G,SACnC9G,KAAKyR,QAAU,IAAIC,WAAW1R,KAAK8G,SACnC9G,KAAK2R,QAAU,IAAIC,WAAW5R,KAAK8G,SACnC9G,KAAK6R,QAAU,IAAIC,WAAW9R,KAAK8G,SACnC9G,KAAK+R,QAAU,IAAIC,WAAWhS,KAAK8G,SACnC9G,KAAKiS,QAAU,IAAIC,WAAWlS,KAAK8G,SACnC9G,KAAKmS,QAAU,IAAIC,WAAWpS,KAAK8G,SACnC9G,KAAKqS,QAAU,IAAIC,WAAWtS,KAAK8G,SACnC9G,KAAKuS,QAAU,IAAIC,WAAWxS,KAAK8G,SACnC9G,KAAKyS,QAAU,IAAIC,WAAW1S,KAAK8G,SACnC9G,KAAK2S,QAAU,IAAIC,WAAW5S,KAAK8G,SACnC9G,KAAK6S,QAAU,IAAIC,WAAW9S,KAAK8G,SACnC9G,KAAK+S,QAAU,IAAIC,WAAWhT,KAAK8G,SACnC9G,KAAKiT,QAAU,IAAIC,WAAWlT,KAAK8G,SACnC9G,KAAKmT,QAAU,IAAIC,WAAWpT,KAAK8G,SACnC9G,KAAKqT,QAAU,IAAIC,WAAWtT,KAAK8G,SACnC9G,KAAKuT,QAAU,IAAIC,WAAWxT,KAAK8G,SACnC9G,KAAKyT,QAAU,IAAIC,WAAW1T,KAAK8G,SACnC9G,KAAK2T,QAAU,IAAIC,WAAW5T,KAAK8G,SACnC9G,KAAK6T,QAAU,IAAIC,WAAW9T,KAAK8G,SACnC9G,KAAK+T,QAAU,IAAIC,WAAWhU,KAAK8G,SACnC9G,KAAKiU,QAAU,IAAIC,WAAWlU,KAAK8G,SACnC9G,KAAKmU,QAAU,IAAIC,WAAWpU,KAAK8G,SACnC9G,KAAKqU,QAAU,IAAIC,WAAWtU,KAAK8G,SACnC9G,KAAKuU,QAAU,IAAIC,WAAWxU,KAAK8G,SACnC9G,KAAKyU,QAAU,IAAIC,WAAW1U,KAAK8G,SACnC9G,KAAK2U,QAAU,IAAIC,WAAW5U,KAAK8G,SACnC9G,KAAK6U,QAAU,IAAIC,WAAW9U,KAAK8G,SACnC9G,KAAK+U,QAAU,IAAIC,WAAWhV,KAAK8G,SACnC9G,KAAKiV,QAAU,IAAIC,WAAWlV,KAAK8G,SACnC9G,KAAKmV,QAAU,IAAIC,WAAWpV,KAAK8G,SACnC9G,KAAKqV,QAAU,IAAIC,WAAWtV,KAAK8G,SACnC9G,KAAKuV,QAAU,IAAIC,WAAWxV,KAAK8G,SACnC9G,KAAKyV,QAAU,IAAIC,WAAW1V,KAAK8G,SACnC9G,KAAK2V,QAAU,IAAIC,WAAW5V,KAAK8G,SACnC9G,KAAK6V,QAAU,IAAIC,WAAW9V,KAAK8G,SACnC9G,KAAK+V,QAAU,IAAIC,WAAWhW,KAAK8G,SACnC9G,KAAKiW,QAAU,IAAIC,WAAWlW,KAAK8G,SACnC9G,KAAKmW,QAAU,IAAIC,WAAWpW,KAAK8G,SACnC9G,KAAKqW,QAAU,IAAIC,WAAWtW,KAAK8G,SACnC9G,KAAKuW,QAAU,IAAIC,WAAWxW,KAAK8G,SACnC9G,KAAKyW,QAAU,IAAIC,WAAW1W,KAAK8G,SACnC9G,KAAK2W,QAAU,IAAIC,WAAW5W,KAAK8G,SACnC9G,KAAK6W,QAAU,IAAIC,WAAW9W,KAAK8G,SACnC9G,KAAK+W,QAAU,IAAIC,WAAWhX,KAAK8G,SACnC9G,KAAKiX,QAAU,IAAIC,WAAWlX,KAAK8G,SACnC9G,KAAKmX,QAAU,IAAIC,WAAWpX,KAAK8G,SACnC9G,KAAKqX,QAAU,IAAIC,WAAWtX,KAAK8G,SACnC9G,KAAKuX,QAAU,IAAIC,WAAWxX,KAAK8G,SACnC9G,KAAKyX,QAAU,IAAIC,WAAW1X,KAAK8G,SACnC9G,KAAK2X,QAAU,IAAIC,WAAW5X,KAAK8G,SACnC9G,KAAK6X,QAAU,IAAIC,WAAW9X,KAAK8G,SACnC9G,KAAK+X,QAAU,IAAIC,WAAWhY,KAAK8G,SACnC9G,KAAKiY,QAAU,IAAIC,WAAWlY,KAAK8G,SACnC9G,KAAKmY,QAAU,IAAIC,WAAWpY,KAAK8G,SACnC9G,KAAKqY,QAAU,IAAIC,WAAWtY,KAAK8G,SACnC9G,KAAKuY,QAAU,IAAIC,WAAWxY,KAAK8G,SACnC9G,KAAKyY,QAAU,IAAIC,WAAW1Y,KAAK8G,SACnC9G,KAAK2Y,QAAU,IAAIC,WAAW5Y,KAAK8G,SACnC9G,KAAK6Y,QAAU,IAAIC,WAAW9Y,KAAK8G,SACnC9G,KAAK+Y,QAAU,IAAIC,WAAWhZ,KAAK8G,SACnC9G,KAAKiZ,QAAU,IAAIC,WAAWlZ,KAAK8G,SACnC9G,KAAKmZ,QAAU,IAAIC,WAAWpZ,KAAK8G,SACnC9G,KAAKqZ,QAAU,IAAIC,WAAWtZ,KAAK8G,SACnC9G,KAAKuZ,QAAU,IAAIC,WAAWxZ,KAAK8G,SACnC9G,KAAKyZ,QAAU,IAAIC,WAAW1Z,KAAK8G,SACnC9G,KAAK2Z,QAAU,IAAIC,WAAW5Z,KAAK8G,SACnC9G,KAAK6Z,QAAU,IAAIC,WAAW9Z,KAAK8G,SACnC9G,KAAK+Z,QAAU,IAAIC,WAAWha,KAAK8G,SACnC9G,KAAKia,QAAU,IAAIC,WAAWla,KAAK8G,SACnC9G,KAAKma,QAAU,IAAIC,WAAWpa,KAAK8G,SACnC9G,KAAKqa,QAAU,IAAIC,WAAWta,KAAK8G,SACnC9G,KAAKua,QAAU,IAAIC,WAAWxa,KAAK8G,SACnC9G,KAAKya,QAAU,IAAIC,WAAW1a,KAAK8G,SACnC9G,KAAK2a,QAAU,IAAIC,WAAW5a,KAAK8G,SACnC9G,KAAK6a,QAAU,IAAIC,WAAW9a,KAAK8G,SACnC9G,KAAK+a,QAAU,IAAIC,WAAWhb,KAAK8G,SACnC9G,KAAKib,QAAU,IAAIC,WAAWlb,KAAK8G,SACnC9G,KAAKmb,QAAU,IAAIC,WAAWpb,KAAK8G,SACnC9G,KAAKqb,QAAU,IAAIC,WAAWtb,KAAK8G,SACnC9G,KAAKub,QAAU,IAAIC,WAAWxb,KAAK8G,SACnC9G,KAAKyb,QAAU,IAAIC,WAAW1b,KAAK8G,SACnC9G,KAAK2b,QAAU,IAAIC,WAAW5b,KAAK8G,SACnC9G,KAAK6b,QAAU,IAAIC,WAAW9b,KAAK8G,SACnC9G,KAAK+b,QAAU,IAAIC,WAAWhc,KAAK8G,SACnC9G,KAAKic,QAAU,IAAIC,WAAWlc,KAAK8G,SACnC9G,KAAKmc,QAAU,IAAIC,WAAWpc,KAAK8G,SACnC9G,KAAKqc,QAAU,IAAIC,WAAWtc,KAAK8G,SACnC9G,KAAKuc,QAAU,IAAIC,WAAWxc,KAAK8G,SACnC9G,KAAKyc,QAAU,IAAIC,WAAW1c,KAAK8G,SACnC9G,KAAK2c,QAAU,IAAIC,WAAW5c,KAAK8G,SACnC9G,KAAK6c,QAAU,IAAIC,WAAW9c,KAAK8G,SACnC9G,KAAK+c,QAAU,IAAIC,WAAWhd,KAAK8G,SACnC9G,KAAKid,QAAU,IAAIC,WAAWld,KAAK8G,SACnC9G,KAAKmd,QAAU,IAAIC,WAAWpd,KAAK8G,SACnC9G,KAAKqd,QAAU,IAAIC,WAAWtd,KAAK8G,SACnC9G,KAAKud,QAAU,IAAIC,WAAWxd,KAAK8G,SACnC9G,KAAKyd,QAAU,IAAIC,WAAW1d,KAAK8G,SACnC9G,KAAK2d,QAAU,IAAIC,WAAW5d,KAAK8G,SACnC9G,KAAK6d,QAAU,IAAIC,WAAW9d,KAAK8G,SACnC9G,KAAK+d,QAAU,IAAIC,WAAWhe,KAAK8G,SACnC9G,KAAKie,QAAU,IAAIC,WAAWle,KAAK8G,SACnC9G,KAAKme,QAAU,IAAIC,WAAWpe,KAAK8G,SACnC9G,KAAKqe,QAAU,IAAIC,WAAWte,KAAK8G,SACnC9G,KAAKue,QAAU,IAAIC,WAAWxe,KAAK8G,SACnC9G,KAAKye,QAAU,IAAIC,WAAW1e,KAAK8G,SACnC9G,KAAK2e,QAAU,IAAIC,WAAW5e,KAAK8G,SACnC9G,KAAK6e,QAAU,IAAIC,WAAW9e,KAAK8G,SACnC9G,KAAK+e,QAAU,IAAIC,WAAWhf,KAAK8G,SACnC9G,KAAKif,QAAU,IAAIC,WAAWlf,KAAK8G,SACnC9G,KAAKmf,QAAU,IAAIC,WAAWpf,KAAK8G,SACnC9G,KAAKqf,QAAU,IAAIC,WAAWtf,KAAK8G,SACnC9G,KAAKuf,QAAU,IAAIC,WAAWxf,KAAK8G,SACnC9G,KAAKyf,QAAU,IAAIC,WAAW1f,KAAK8G,SACnC9G,KAAK2f,QAAU,IAAIC,WAAW5f,KAAK8G,SACnC9G,KAAK6f,QAAU,IAAIC,WAAW9f,KAAK8G,SACnC9G,KAAK+f,QAAU,IAAIC,WAAWhgB,KAAK8G,SACnC9G,KAAKigB,QAAU,IAAIC,WAAWlgB,KAAK8G,SACnC9G,KAAKmgB,QAAU,IAAIC,WAAWpgB,KAAK8G,SACnC9G,KAAKqgB,QAAU,IAAIC,WAAWtgB,KAAK8G,SACnC9G,KAAKugB,QAAU,IAAIC,WAAWxgB,KAAK8G,SACnC9G,KAAKygB,QAAU,IAAIC,WAAW1gB,KAAK8G,SACnC9G,KAAK2gB,QAAU,IAAIC,WAAW5gB,KAAK8G,SACnC9G,KAAK6gB,QAAU,IAAIC,WAAW9gB,KAAK8G,SACnC9G,KAAK+gB,QAAU,IAAIC,WAAWhhB,KAAK8G,SACnC9G,KAAKihB,QAAU,IAAIC,WAAWlhB,KAAK8G,SACnC9G,KAAKmhB,QAAU,IAAIC,WAAWphB,KAAK8G,SACnC9G,KAAKqhB,QAAU,IAAIC,WAAWthB,KAAK8G,SACnC9G,KAAKuhB,QAAU,IAAIC,WAAWxhB,KAAK8G,SACnC9G,KAAKyhB,QAAU,IAAIC,WAAW1hB,KAAK8G,SACnC9G,KAAK2hB,QAAU,IAAIC,WAAW5hB,KAAK8G,SACnC9G,KAAK6hB,QAAU,IAAIC,WAAW9hB,KAAK8G,SACnC9G,KAAK+hB,QAAU,IAAIC,WAAWhiB,KAAK8G,SACnC9G,KAAKiiB,QAAU,IAAIC,WAAWliB,KAAK8G,SACnC9G,KAAKmiB,QAAU,IAAIC,WAAWpiB,KAAK8G,SACnC9G,KAAKqiB,QAAU,IAAIC,WAAWtiB,KAAK8G,SACnC9G,KAAKuiB,QAAU,IAAIC,WAAWxiB,KAAK8G,SACnC9G,KAAKyiB,QAAU,IAAIC,WAAW1iB,KAAK8G,SACnC9G,KAAK2iB,QAAU,IAAIC,WAAW5iB,KAAK8G,SACnC9G,KAAK6iB,QAAU,IAAIC,WAAW9iB,KAAK8G,SACnC9G,KAAK+iB,QAAU,IAAIC,WAAWhjB,KAAK8G,SACnC9G,KAAKijB,QAAU,IAAIC,WAAWljB,KAAK8G,SACnC9G,KAAKmjB,QAAU,IAAIC,WAAWpjB,KAAK8G,SACnC9G,KAAKqjB,QAAU,IAAIC,WAAWtjB,KAAK8G,SACnC9G,KAAKujB,QAAU,IAAIC,WAAWxjB,KAAK8G,SACnC9G,KAAKyjB,QAAU,IAAIC,WAAW1jB,KAAK8G,SACnC9G,KAAK2jB,QAAU,IAAIC,WAAW5jB,KAAK8G,SACnC9G,KAAK6jB,QAAU,IAAIC,WAAW9jB,KAAK8G,SACnC9G,KAAK+jB,QAAU,IAAIC,WAAWhkB,KAAK8G,SACnC9G,KAAKikB,QAAU,IAAIC,WAAWlkB,KAAK8G,SACnC9G,KAAKmkB,QAAU,IAAIC,WAAWpkB,KAAK8G,SACnC9G,KAAKqkB,QAAU,IAAIC,WAAWtkB,KAAK8G,SACnC9G,KAAKukB,QAAU,IAAIC,WAAWxkB,KAAK8G,SACnC9G,KAAKykB,QAAU,IAAIC,WAAW1kB,KAAK8G,SACnC9G,KAAK2kB,QAAU,IAAIC,WAAW5kB,KAAK8G,SACnC9G,KAAK6kB,QAAU,IAAIC,WAAW9kB,KAAK8G,SACnC9G,KAAK+kB,QAAU,IAAIC,WAAWhlB,KAAK8G,SACnC9G,KAAKilB,QAAU,IAAIC,WAAWllB,KAAK8G,SACnC9G,KAAKmlB,QAAU,IAAIC,WAAWplB,KAAK8G,SACnC9G,KAAKqlB,QAAU,IAAIC,WAAWtlB,KAAK8G,SACnC9G,KAAKulB,QAAU,IAAIC,WAAWxlB,KAAK8G,SACnC9G,KAAKylB,QAAU,IAAIC,WAAW1lB,KAAK8G,SACnC9G,KAAK2lB,QAAU,IAAIC,WAAW5lB,KAAK8G,SACnC9G,KAAK6lB,QAAU,IAAIC,WAAW9lB,KAAK8G,SACnC9G,KAAK+lB,QAAU,IAAIC,WAAWhmB,KAAK8G,SACnC9G,KAAKimB,QAAU,IAAIC,WAAWlmB,KAAK8G,SACnC9G,KAAKmmB,QAAU,IAAIC,WAAWpmB,KAAK8G,SACnC9G,KAAKqmB,QAAU,IAAIC,WAAWtmB,KAAK8G,SACnC9G,KAAKumB,QAAU,IAAIC,WAAWxmB,KAAK8G,SACnC9G,KAAKymB,QAAU,IAAIC,WAAW1mB,KAAK8G,SACnC9G,KAAK2mB,QAAU,IAAIC,WAAW5mB,KAAK8G,SACnC9G,KAAK6mB,QAAU,IAAIC,WAAW9mB,KAAK8G,SACnC9G,KAAK+mB,QAAU,IAAIC,WAAWhnB,KAAK8G,SACnC9G,KAAKinB,QAAU,IAAIC,WAAWlnB,KAAK8G,SACnC9G,KAAKmnB,QAAU,IAAIC,WAAWpnB,KAAK8G,SACnC9G,KAAKqnB,QAAU,IAAIC,WAAWtnB,KAAK8G,SACnC9G,KAAKunB,QAAU,IAAIC,WAAWxnB,KAAK8G,SACnC9G,KAAKynB,QAAU,IAAIC,WAAW1nB,KAAK8G,SACnC9G,KAAK2nB,QAAU,IAAIC,WAAW5nB,KAAK8G,SACnC9G,KAAK6nB,QAAU,IAAIC,WAAW9nB,KAAK8G,SACnC9G,KAAK+nB,QAAU,IAAIC,WAAWhoB,KAAK8G,SACnC9G,KAAKioB,QAAU,IAAIC,WAAWloB,KAAK8G,SACnC9G,KAAKmoB,QAAU,IAAIC,WAAWpoB,KAAK8G,SACnC9G,KAAKqoB,QAAU,IAAIC,WAAWtoB,KAAK8G,SACnC9G,KAAKuoB,QAAU,IAAIC,WAAWxoB,KAAK8G,SACnC9G,KAAKyoB,QAAU,IAAIC,WAAW1oB,KAAK8G,SACnC9G,KAAK2oB,QAAU,IAAIC,WAAW5oB,KAAK8G,SACnC9G,KAAK6oB,QAAU,IAAIC,WAAW9oB,KAAK8G,SACnC9G,KAAK+oB,QAAU,IAAIC,WAAWhpB,KAAK8G,SACnC9G,KAAKipB,QAAU,IAAIC,WAAWlpB,KAAK8G,SACnC9G,KAAKmpB,QAAU,IAAIC,WAAWppB,KAAK8G,SACnC9G,KAAKqpB,QAAU,IAAIC,WAAWtpB,KAAK8G,SACnC9G,KAAKupB,QAAU,IAAIC,WAAWxpB,KAAK8G,SACnC9G,KAAKypB,QAAU,IAAIC,WAAW1pB,KAAK8G,SACnC9G,KAAK2pB,QAAU,IAAIC,WAAW5pB,KAAK8G,SACnC9G,KAAK6pB,QAAU,IAAIC,WAAW9pB,KAAK8G,SACnC9G,KAAK+pB,QAAU,IAAIC,WAAWhqB,KAAK8G,SACnC9G,KAAKiqB,QAAU,IAAIC,WAAWlqB,KAAK8G,SACnC9G,KAAKmqB,QAAU,IAAIC,WAAWpqB,KAAK8G,SACnC9G,KAAKqqB,QAAU,IAAIC,WAAWtqB,KAAK8G,SACnC9G,KAAKuqB,QAAU,IAAIC,WAAWxqB,KAAK8G,SACnC9G,KAAKyqB,QAAU,IAAIC,WAAW1qB,KAAK8G,SACnC9G,KAAK2qB,QAAU,IAAIC,WAAW5qB,KAAK8G,SACnC9G,KAAK6qB,QAAU,IAAIC,WAAW9qB,KAAK8G,SACnC9G,KAAK+qB,QAAU,IAAIC,WAAWhrB,KAAK8G,SACnC9G,KAAKirB,QAAU,IAAIC,WAAWlrB,KAAK8G,SACnC9G,KAAKmrB,QAAU,IAAIC,WAAWprB,KAAK8G,SACnC9G,KAAKqrB,QAAU,IAAIC,WAAWtrB,KAAK8G,SACnC9G,KAAKurB,QAAU,IAAIC,WAAWxrB,KAAK8G,SACnC9G,KAAKyrB,QAAU,IAAIC,WAAW1rB,KAAK8G,SACnC9G,KAAK2rB,QAAU,IAAIC,WAAW5rB,KAAK8G,SACnC9G,KAAK6rB,QAAU,IAAIC,WAAW9rB,KAAK8G,SACnC9G,KAAK+rB,QAAU,IAAIC,WAAWhsB,KAAK8G,SACnC9G,KAAKisB,QAAU,IAAIC,WAAWlsB,KAAK8G,SACnC9G,KAAKmsB,QAAU,IAAIC,WAAWpsB,KAAK8G,SACnC9G,KAAKqsB,QAAU,IAAIC,WAAWtsB,KAAK8G,SACnC9G,KAAKusB,QAAU,IAAIC,WAAWxsB,KAAK8G,SACnC9G,KAAKysB,QAAU,IAAIC,WAAW1sB,KAAK8G,SACnC9G,KAAK2sB,QAAU,IAAIC,WAAW5sB,KAAK8G,SACnC9G,KAAK6sB,QAAU,IAAIC,WAAW9sB,KAAK8G,SACnC9G,KAAK+sB,QAAU,IAAIC,WAAWhtB,KAAK8G,SACnC9G,KAAKitB,QAAU,IAAIC,WAAWltB,KAAK8G,SACnC9G,KAAKmtB,QAAU,IAAIC,WAAWptB,KAAK8G,SACnC9G,KAAKqtB,QAAU,IAAIC,WAAWttB,KAAK8G,SACnC9G,KAAKutB,QAAU,IAAIC,WAAWxtB,KAAK8G,SACnC9G,KAAKytB,QAAU,IAAIC,WAAW1tB,KAAK8G,SACnC9G,KAAK2tB,QAAU,IAAIC,WAAW5tB,KAAK8G,SACnC9G,KAAK6tB,QAAU,IAAIC,WAAW9tB,KAAK8G,SACnC9G,KAAK+tB,QAAU,IAAIC,WAAWhuB,KAAK8G,SACnC9G,KAAKiuB,QAAU,IAAIC,WAAWluB,KAAK8G,SACnC9G,KAAKmuB,QAAU,IAAIC,WAAWpuB,KAAK8G,SACnC9G,KAAKquB,QAAU,IAAIC,WAAWtuB,KAAK8G,SACnC9G,KAAKuuB,QAAU,IAAIC,WAAWxuB,KAAK8G,SACnC9G,KAAKyuB,QAAU,IAAIC,WAAW1uB,KAAK8G,SACnC9G,KAAK2uB,QAAU,IAAIC,WAAW5uB,KAAK8G,SACnC9G,KAAK6uB,QAAU,IAAIC,WAAW9uB,KAAK8G,SACnC9G,KAAK+uB,QAAU,IAAIC,WAAWhvB,KAAK8G,SACnC9G,KAAKivB,QAAU,IAAIC,WAAWlvB,KAAK8G,SACnC9G,KAAKmvB,QAAU,IAAIC,WAAWpvB,KAAK8G,SACnC9G,KAAKqvB,QAAU,IAAIC,WAAWtvB,KAAK8G,SACnC9G,KAAKuvB,QAAU,IAAIC,WAAWxvB,KAAK8G,SACnC9G,KAAKyvB,QAAU,IAAIC,WAAW1vB,KAAK8G,SACnC9G,KAAK2vB,QAAU,IAAIC,WAAW5vB,KAAK8G,SACnC9G,KAAK6vB,QAAU,IAAIC,WAAW9vB,KAAK8G,SACnC9G,KAAK+vB,QAAU,IAAIC,WAAWhwB,KAAK8G,SACnC9G,KAAKiwB,QAAU,IAAIC,WAAWlwB,KAAK8G,SACnC9G,KAAKmwB,QAAU,IAAIC,WAAWpwB,KAAK8G,SACnC9G,KAAKqwB,QAAU,IAAIC,WAAWtwB,KAAK8G,SACnC9G,KAAKuwB,QAAU,IAAIC,WAAWxwB,KAAK8G,SACnC9G,KAAKywB,QAAU,IAAIC,WAAW1wB,KAAK8G,SACnC9G,KAAK2wB,QAAU,IAAIC,WAAW5wB,KAAK8G,SACnC9G,KAAK6wB,QAAU,IAAIC,WAAW9wB,KAAK8G,SACnC9G,KAAK+wB,QAAU,IAAIC,WAAWhxB,KAAK8G,SACnC9G,KAAKixB,QAAU,IAAIC,WAAWlxB,KAAK8G,SACnC9G,KAAKmxB,QAAU,IAAIC,WAAWpxB,KAAK8G,SACnC9G,KAAKqxB,QAAU,IAAIC,WAAWtxB,KAAK8G,SACnC9G,KAAKuxB,QAAU,IAAIC,WAAWxxB,KAAK8G,SACnC9G,KAAKyxB,QAAU,IAAIC,WAAW1xB,KAAK8G,SACnC9G,KAAK2xB,QAAU,IAAIC,WAAW5xB,KAAK8G,SACnC9G,KAAK6xB,QAAU,IAAIC,WAAW9xB,KAAK8G,SACnC9G,KAAK+xB,QAAU,IAAIC,WAAWhyB,KAAK8G,SACnC9G,KAAKiyB,QAAU,IAAIC,WAAWlyB,KAAK8G,SACnC9G,KAAKmyB,QAAU,IAAIC,WAAWpyB,KAAK8G,SACnC9G,KAAKqyB,QAAU,IAAIC,WAAWtyB,KAAK8G,SACnC9G,KAAKuyB,QAAU,IAAIC,WAAWxyB,KAAK8G,SACnC9G,KAAKyyB,QAAU,IAAIC,WAAW1yB,KAAK8G,SACnC9G,KAAK2yB,QAAU,IAAIC,WAAW5yB,KAAK8G,SACnC9G,KAAK6yB,QAAU,IAAIC,WAAW9yB,KAAK8G,SACnC9G,KAAK+yB,QAAU,IAAIC,WAAWhzB,KAAK8G,SACnC9G,KAAKizB,QAAU,IAAIC,WAAWlzB,KAAK8G,SACnC9G,KAAKmzB,QAAU,IAAIC,WAAWpzB,KAAK8G,SACnC9G,KAAKqzB,QAAU,IAAIC,WAAWtzB,KAAK8G,SACnC9G,KAAKuzB,QAAU,IAAIC,WAAWxzB,KAAK8G,SACnC9G,KAAKyzB,QAAU,IAAIC,WAAW1zB,KAAK8G,SACnC9G,KAAK2zB,QAAU,IAAIC,WAAW5zB,KAAK8G,SACnC9G,KAAK6zB,QAAU,IAAIC,WAAW9zB,KAAK8G,SACnC9G,KAAK+zB,QAAU,IAAIC,WAAWh0B,KAAK8G,SACnC9G,KAAKi0B,QAAU,IAAIC,WAAWl0B,KAAK8G,SACnC9G,KAAKm0B,QAAU,IAAIC,WAAWp0B,KAAK8G,SACnC9G,KAAKq0B,QAAU,IAAIC,WAAWt0B,KAAK8G,SACnC9G,KAAKu0B,QAAU,IAAIC,WAAWx0B,KAAK8G,SACnC9G,KAAKy0B,QAAU,IAAIC,WAAW10B,KAAK8G,SACnC9G,KAAK20B,QAAU,IAAIC,WAAW50B,KAAK8G,SACnC9G,KAAK60B,QAAU,IAAIC,WAAW90B,KAAK8G,SACnC9G,KAAK+0B,QAAU,IAAIC,WAAWh1B,KAAK8G,SACnC9G,KAAKi1B,QAAU,IAAIC,WAAWl1B,KAAK8G,SACnC9G,KAAKm1B,QAAU,IAAIC,WAAWp1B,KAAK8G,SACnC9G,KAAKq1B,QAAU,IAAIC,WAAWt1B,KAAK8G,SACnC9G,KAAKu1B,QAAU,IAAIC,WAAWx1B,KAAK8G,SACnC9G,KAAKy1B,QAAU,IAAIC,WAAW11B,KAAK8G,SACnC9G,KAAK21B,QAAU,IAAIC,WAAW51B,KAAK8G,SACnC9G,KAAK61B,QAAU,IAAIC,WAAW91B,KAAK8G,SACnC9G,KAAK+1B,QAAU,IAAIC,WAAWh2B,KAAK8G,SACnC9G,KAAKi2B,QAAU,IAAIC,WAAWl2B,KAAK8G,SACnC9G,KAAKm2B,QAAU,IAAIC,WAAWp2B,KAAK8G,SACnC9G,KAAKq2B,QAAU,IAAIC,WAAWt2B,KAAK8G,SACnC9G,KAAKu2B,QAAU,IAAIC,WAAWx2B,KAAK8G,SACnC9G,KAAKy2B,QAAU,IAAIC,WAAW12B,KAAK8G,SACnC9G,KAAK22B,QAAU,IAAIC,WAAW52B,KAAK8G,SACnC9G,KAAK62B,QAAU,IAAIC,WAAW92B,KAAK8G,SACnC9G,KAAK+2B,QAAU,IAAIC,WAAWh3B,KAAK8G,SACnC9G,KAAKi3B,QAAU,IAAIC,WAAWl3B,KAAK8G,SACnC9G,KAAKm3B,QAAU,IAAIC,WAAWp3B,KAAK8G,SACnC9G,KAAKq3B,QAAU,IAAIC,WAAWt3B,KAAK8G,SACnC9G,KAAKu3B,QAAU,IAAIC,

AMwF,EAAO1H,cAIxDiC,EAA0BnC,UAAU8H,kBAAoB,SAAUF,EAAQvB,EAAM0B,GAC5E,IAAI7E,EAAQzG,UACS,IAAjBsL,IAA2BA,GAAe,GAC9C,IAAIC,EAASvL,KAAKgG,OAAO4D,GACrB4B,EASD,EAAOE,OACpB,GAAIH,IAAiBE,EACjB,MAAM,IAAItL,MAAM,eAAiB0J,EAAO,wBAE5C,IAAI8B,EAAU1L,KAAKiL,UAAUkD,EAAO/H,MACpC,IAAIsI,EAAOzD,EAAO0D,IAAIxD,EAAQ,MAAM,IAAIxL,MAAM,oBAAsBqL,EAAO,mBAAqBkB,EAAYtE,KAAKiG,iBAAiBwE,eAAiB,MAAN5HiB,EAAQC,UAAU,CACdlJ,KAAM6I,EAAM,EAAEe,EAAQ,MAAMA,EAAQ,EAAEA,EAAQ,MAAMA,EAAQ,EAAEA,EAAQ,MAAMA,EAAQ,EAAEA

Q,YAAYpL,IAAIqL,EAAOC,IAEhCH,EAd2B,GAwBlCK,EAAY;;;;;;;OAwJhB,SAASC,EAASC,GACd,OAAOA,EAIX,IAAIC,EAAoB,yBAEpBC,EAA+B,WAC/B,SAASA,EAAclQ,EAAU6D,EAAMsM,EAAYC,GAC/C5Q,KAAKQ,SAAWA,EAChBR,KAAKqE,KAAOA,EACZrE,KAAK4E,UAAYpE,EAASsE,IAt/BlB,aAu/BR9E,KAAK+E,KAAOA,EACZ/E,KAAK4E,UAAYpE,EAASsE,IAA6/BlB,aAAu/BR9E,KAAK+E,KAAOA,EACZ/E,KAAK4E,UAAYpE,EAASsE,IAA5/BlB,aAAu/BR9E,KAAK+E,KAAOA,EACZ/E,KAAKO,QAAUoQ,EAAWnI,cAAc1BxI,KAAK8Q,SAAWvQ,EAASwQ,IAAIC,GAAGhR

AcnN,UAAUkR,eAAiB,SAAUlV,EAASoT,GACxD,IAAIlM,EAAQzG,KACZ,GAAKT,EAGA,CAAA,GAAIsC,MAAMwT,QAAQ9V,GACnB,OAAOA,EAAQsH,KAAI,SAAUyO,GAAO,OAAO7O,EAAMgO,eAAea,MAE/D,GAAuB,iBAAZ/V,EAAsB,CAClC,IAAIgW,EAAU,GAAEd,EAAOlV,GAAS,GAAIiW,EAAUf,EAAOlV,GAAS,GAAIkW,EAAUhB,EAAOlV,GAAS,GAAImW,EAAUjB,EAAOlV,GAAS,GAAIoW,EAAUlB,EAAOlV,GAAS,GAAIqW,EAAUnB,EAAOlV,GAAS,GAAIsW,EAAUpB,EAAOlV,GAAS,GAAIuW,EAAUrB,EAAOlV,GAAS,GAAIwW,EAAUtB,EAAOlV,GAAS,GAAIyW,EAAUvB,EAAOlV,GAAS,GAAI0W,EAAUxB,EAAOlV,GAAS,GAAI2W,EAAUzB,EAAOlV,GAAS,GAAI4W,EAAU1B,EAAOlV,GAAS,GAAI6W,EAAU3B,EAAOlV,GAAS,GAAI8W,EAAU5B,EAAOlV,GAAS,GAAI+W,EAAU7B,EAAOlV,GAAS,GAAIgX,EAAU9B,EAAOlV,GAAS,GAAIiX,EAAU/B,EAAOlV,GAAS,GAAIkX,EAAUhC,EAAOlV,GAAS,GAAImX,EAAUjC,EAAOlV,GAAS,GAAIoX,EAAUlC,EAAOlV,GAAS,GAAIqX,EAAUnC,EAAOlV,GAAS,GAAIsX,EAAUpC,EAAOlV,GAAS,GAAIuX,EAAUrC,EAAOlV,GAAS,GAAIwX,EAAUtC,EAAOlV,GAAS,GAAIyX,EAAUvC,EAAOlV,GAAS,GAAI0X,EAAUxC,EAAOlV,GAAS,GAAI2X,EAAUzC,EAAOlV,GAAS,GAAI4X,EAAU1C,EAAOlV,GAAS,GAAI6X,EAAU3C,EAAOlV,GAAS,GAAI8X,EAAU5C,EAAOlV,GAAS,GAAI+X,EAAU7C,EAAOlV,GAAS,GAAIgY,EAAU9C,EAAOlV,GAAS,GAAIiY,EAAU/C,EAAOlV,GAAS,GAAIkY,EAAUhD,EAAOlV,GAAS,GAAImY,EAAUjD,EAAOlV,GAAS,GAAIoY,EAAUlD,EAAOlV,GAAS,GAAIqY,EAAUnD,EAAOlV,GAAS,GAAIsY,EAAUpD,EAAOlV,GAAS,GAAIuY,EAAUrD,EAAOlV,GAAS,GAAIwY,EAAUtD,EAAOlV,GAAS,GAAIyY,EAAUvD,EAAOlV,GAAS,GAAI0Y,EAAUxD,EAAOlV,GAAS,GAAI2Y,EAAUzD,EAAOlV,GAAS,GAAI4Y,EAAU1D,EAAOlV,GAAS,GAAI6Y,EAAU3D,EAAOlV,GAAS,GAAI8Y,EAAU5D,EAAOlV,GAAS,GAAI+Y,EAAU7D,EAAOlV,GAAS,GAAIgZ,EAAU9D,EAAOlV,GAAS,GAAIiZ,EAAU/D,EAAOlV,GAAS,GAAIkZ,EAAUhE,EAAOlV,GAAS,GAAImZ,EAAUjE,EAAOlV,GAAS,GAAIoZ,EAAUlE,EAAOlV,GAAS,GAAIqZ,EAAUnE,EAAOlV,GAAS,GAAIsZ,EAAUpE,EAAOlV,GAAS,GAAIuZ,EAAUrE,EAAOlV,GAAS,GAAIwZ,EAAUtE,EAAOlV,GAAS,GAAIyZ,EAAUvE,EAAOlV,GAAS,GAAI0Z,EAAUxE,EAAOlV,GAAS,GAAI2Z,EAAUzE,EAAOlV,GAAS,GAAI4Z,EAAU1E,EAAOlV,GAAS,GAAI6Z,EAAU3E,EAAOlV,GAAS,GAAI8Z,EAAU5E,EAAOlV,GAAS,GAAI+Z,EAAU7E,EAAOlV,GAAS,GAAIga,EAAU9E,EAAOlV,GAAS,GAAIia,EAAU/E,EAAOlV,GAAS,GAAIka,EAAUhF,EAAOlV,GAAS,GAAIma,EAAUjF,EAAOlV,GAAS,GAAIoa,EAAUlF,EAAOlV,GAAS,GAAIqa,EAAUnF,EAAOlV,GAAS,GAAIsa,EAAUpF,EAAOlV,GAAS,GAAIua,EAAUrF,EAAOlV,GAAS,GAAIwa,EAAUtF,EAAOlV,GAAS,GAAIya,EAAUvF,EAAOlV,GAAS,GAAI0a,EAAUxF,EAAOlV,GAAS,GAAI2a,EAAUzF,EAAOlV,GAAS,GAAI4a,EAAU1F,EAAOlV,GAAS,GAAI6a,EAAU3F,EAAOlV,GAAS,GAAI8a,EAAU5F,EAAOlV,GAAS,GAAI+a,EAAU7F,EAAOlV,GAAS,GAAIgb,EAAU9F,EAAOlV,GAAS,GAAIib,EAAU/F,EAAOlV,GAAS,GAAIkb,EAAUhG,EAAOlV,GAAS,GAAImb,EAAUjG,EAAOlV,GAAS,GAAIob,EAAUlG,EAAOlV,GAAS,GAAIqb,EAAUnG,EAAOlV,GAAS,GAAIsb,EAAUpG,EAAOlV,GAAS,GAAIub,EAAUrG,EAAOlV,GAAS,GAAIwb,EAAUtG,EAAOlV,GAAS,GAAIyb,EAAUvG,EAAOlV,GAAS,GAAI0b,EAAUxG,EAAOlV,GAAS,GAAI2b,EAAUzG,EAAOlV,GAAS,GAAI4b,EAAU1G,EAAOlV,GAAS,GAAI6b,EAAU3G,EAAOlV,GAAS,GAAI8b,EAAU5G,EAAOlV,GAAS,GAAI+b,EAAU7G,EAAOlV,GAAS,GAAIgc,EAAU9G,EAAOlV,GAAS,GAAIic,EAAU/G,EAAOlV,GAAS,GAAIkc,EAAUhH,EAAOlV,GAAS,GAAImc,EAAUjH,EAAOlV,GAAS,GAAIoc,EAAUlH,EAAOlV,GAAS,GAAIqc,EAAUnH,EAAOlV,GAAS,GAAIsc,EAAUpH,EAAOlV,GAAS,GAAIuc,EAAUrH,EAAOlV,GAAS,GAAIwc,EAAUtH,EAAOlV,GAAS,GAAIyc,EAAUvH,EAAOlV,GAAS,GAAI0c,EAAUxH,EAAOlV,GAAS,GAAI2c,EAAUzH,EAAOlV,GAAS,GAAI4c,EAAU1H,EAAOlV,GAAS,GAAI6c,EAAU3H,EAAOlV,GAAS,GAAI8c,EAAU5H,EAAOlV,GAAS,GAAI+c,EAAU7H,EAAOlV,GAAS,GAAIgd,EAAU9H,EAAOlV,GAAS,GAAIid,EAAU/H,EAAOlV,GAAS,GAAIkd,EAAUhI,EAAOlV,GAAS,GAAImd,EAAUjI,EAAOlV,GAAS,GAAIod,EAAUlI,EAAOlV,GAAS,GAAIqd,EAAUnI,EAAOlV,GAAS,GAAIsd,EAAUpI,EAAOlV,GAAS,GAAIud,EAAUrI,EAAOlV,GAAS,GAAIwd,EAAUtI,EAAOlV,GAAS,GAAIyd,EAAUvI,EAAOlV,GAAS,GAAI0d,EAAUxI,EAAOlV,GAAS,GAAI2d,EAAUzI,EAAOlV,GAAS,GAAI4d,EAAU1I,EAAOlV,GAAS,GAAI6d,EAAU3I,EAAOlV,GAAS,GAAI8d,EAAU5I,EAAOlV,GAAS,GAAI+d,EAAU7I,EAAOlV,GAAS,GAAIge,EAAU9I,EAAOlV,GAAS,GAAIie,EAAU/I,EAAOlV,GAAS,GAAIke,EAAUhJ,EAAOlV,GAAS,GAAIme,EAAUjJ,EAAOlV,GAAS,GAAIoe,EAAUlJ,EAAOlV,GAAS,GAAIqe,EAAUnJ,EAAOlV,GAAS,GAAIse,EAAUpJ,EAAOlV,GAAS,GAAIue,EAAUrJ,EAAOlV,GAAS,GAAIwe,EAAUtJ,EAAOlV,GAAS,GAAIye,EAAUvJ,EAAOlV,GAAS,GAAI0e,EAAUxJ,EAAOlV,GAAS,GAAI2e,EAAUzJ,EAAOlV,GAAS,GAAI4e,EAAU1J,EAAOlV,GAAS,GAAI6e,EAAU3J,EAAOlV,GAAS,GAAI8e,EAAU5J,EAAOlV,GAAS,GAAI+e,EAAU7J,EAAOlV,GAAS,GAAIgf,EAAU9J,EAAOlV,GAAS,GAAIif,EAAU/J,EAAOlV,GAAS,GAAIkf,EAAUhK,EAAOlV,GAAS,GAAImf,EAAUjK,EAAOlV,GAAS,GAAIof,EAAUlK,EAAOlV,GAAS,GAAIqf,EAAUnK,EAAOlV,GAAS,GAAIsf,EAAUpK,EAAOlV,GAAS,GAAIuf,EAAUrK,EAAOlV,GAAS,GAAIwf,EAAUtK,EAAOlV,GAAS,GAAIyf,EAAUvK,EAAOlV,GAAS,GAAI0f,EAAUxK,EAAOlV,GAAS,GAAI2f,EAAUzK,EAAOlV,GAAS,GAAI4f,EAAU1K,EAAOlV,GAAS,GAAI6f,EAAU3K,EAAOlV,GAAS,GAAI8f,EAAU5K,EAAOlV,GAAS,GAAI+f,EAAU7K,EAAOlV,GAAS,GAAIggB,EAAU9K,EAAOlV,GAAS,GAAIigB,EAAU/K,EAAOlV,GAAS,GAAIkgB,EAAUhL,EAAOlV,GAAS,GAAImgB,EAAUjL,EAAOlV,GAAS,GAAIogB,EAAUlL,EAAOlV,GAAS,GAAIqgB,EAAUnL,EAAOlV,GAAS,GAAIsgB,EAAUpL,EAAOlV,GAAS,GAAIugB,EAAUrL,EAAOlV,GAAS,GAAIwgB,EAAUtL,EAAOlV,GAAS,GAAIygB,EAAUvL,EAAOlV,GAAS,GAAI0gB,EAAUxL,EAAOlV,GAAS,GAAI2gB,EAAUzL,EAAOlV,GAAS,GAAI4gB,EAAU1L,EAAOlV,GAAS,GAAI6gB,EAAU3L,EAAOlV,GAAS,GAAI8gB,EAAU5L,EAAOlV,GAAS,GAAI+gB,EAAU7L,EAAOlV,GAAS,GAAIghB,EAAU9L,EAAOlV,GAAS,GAAIihB,EAAU/L,EAAOlV,GAAS,GAAIkhB,EAAUhM,EAAOlV,GAAS,GAAImhB,EAAUjM,EAAOlV,GAAS,GAAIohB,EAAUlM,EAAOlV,GAAS,GAAIqhB,EAAUnM,EAAOlV,GAAS,GAAIshB,EAAUpM,EAAOlV,GAAS,GAAIuhB,EAAUrM,EAAOlV,GAAS,GAAIwhB,EAAUtM,EAAOlV,GAAS,GAAIyhB,EAAUvM,EAAOlV,GAAS,GAAI0hB,EAAUxM,EAAOlV,GAAS,GAAI2hB,EAAUzM,EAAOlV,GAAS,GAAI4hB,EAAU1M,EAAOlV,GAAS,GAAI6hB,EAAU3M,EAAOlV,GAAS,GAAI8hB,EAAU5M,EAAOlV,GAAS,GAAI+hB,EAAU7M,EAAOlV,GAAS,GAAIgiB,EAAU9M,EAAOlV,GAAS,GAAIiiB,EAAU/M,EAAOlV,GAAS,GAAIkiB,EAAUhN,EAAOlV,GAAS,GAAImiB,EAAUjN,EAAOlV,GAAS,GAAIoiB,EAAUlN,EAAOlV,GAAS,GAAIqiB,EAAUnN,EAAOlV,GAAS,GAAIsiB,EAAUpN,EAAOlV,GAAS,GAAIuiB,EAAUrN,EAAOlV,GAAS,GAAIwiB,EAAUtN,EAAOlV,GAAS,GAAIyiB,EAAUvN,EAAOlV,GAAS,GAAI0iB,EAAUxN,EAAOlV,GAAS,GAAI2iB,EAAUzN,EAAOlV,GAAS,GAAI4iB,EAAU1N,EAAOlV,GAAS,GAAI6iB,EAAU3N,EAAOlV,GAAS,GAAI8iB,EAAU5N,EAAOlV,GAAS,GAAI+iB,EAAU7N,EAAOlV,GAAS,GAAIgjB,EAAU9N,EAAOlV,GAAS,GAAIijB,EAAU/N,EAAOlV,GAAS,GAAIkjB,EAAUhO,EAAOlV,GAAS,GAAImjB,EAAUjO,EAAOlV,GAAS,GAAIojB,EAAUlO,EAAOlV,GAAS,GAAIqjB,EAAUnO,EAAOlV,GAAS,GAAIsjB,EAAUpO,EAAOlV,GAAS,GAAIujB,EAAUrO,EAAOlV,GAAS,GAAIwjB,EAAUtO,EAAOlV,GAAS,GAAIyjB,EAAUvO,EAAOlV,GAAS,GAAI0jB,EAAUxO,EAAOlV,GAAS,GAAI2jB,EAAUzO,EAAOlV,GAAS,GAAI4jB,EAAU1O,EAAOlV,GAAS,GAAI6jB,EAAU3O,EAAOlV,GAAS,GAAI8jB,EAAU5O,EAAOlV,GAAS,GAAI+jB,EAAU7O,EAAOlV,GAAS,GAAIgkB,EAAU9O,EAAOlV,GAAS,GAAIikB,EAAU/O,EAAOlV,GAAS,GAAIkkB,EAAUhP,EAAOlV,GAAS,GAAImkB,EAAUjP,EAAOlV,GAAS,GAAIokB,EAAUlP,EAAOlV,GAAS,GAAIqkB,EAAUnP,EAAOlV,GAAS,GAAIskB,EAAUpP,EAAOlV,GAAS,GAAIukB,EAAUrP,EAAOlV,GAAS,GAAIwkB,EAAUtP,EAAOlV,GAAS,GAAIykB,EAAUvP,EAAOlV,GAAS,GAAI0kB,EAAUxP,EAAOlV,GAAS,GAAI2kB,EAAUzP,EAAOlV,GAAS,GAAI4kB,EAAU1P,EAAOlV,GAAS,GAAI6kB,EAAU3P,EAAOlV,GAAS,GAAI8kB,EAAU5P,EAAOlV,GAAS,GAAI+kB,EAAU7P,EAAOlV,GAAS,GAAIglB,EAAU9P,EAAOlV,GAAS,GAAIilB,EAAU/P,EAAOlV,GAAS,GAAIklB,EAAUhQ,EAAOlV,GAAS,GAAImlB,EAAUjQ,EAAOlV,GAAS,GAAIolB,EAAUlQ,EAAOlV,GAAS,GAAIqlB,EAAUnQ,EAAOlV,GAAS,GAAIslB,EAAUpQ,EAAOlV,GAAS,GAAIulB,EAAUrQ,EAAOlV,GAAS,GAAIwlB,EAAUtQ,EAAOlV,GAAS,GAAIylB,EAAUvQ,EAAOlV,GAAS,GAAI0lB,EAAUxQ,EAAOlV,GAAS,GAAI2lB,EAAUzQ,EAAOlV,GAAS,GAAI4lB,EAAU1Q,EAAOlV,GAAS,GAAI6lB,EAAU3Q,EAAOlV,GAAS,GAAI8lB,EAAU5Q,EAAOlV,GAAS,GAAI+lB,EAAU7Q,EAAOlV,GAAS,GAAIgmB,EAAU9Q,EAAOlV,GAAS,GAAIimB,EAAU/Q,EAAOlV,GAAS,GAAIkmB,EAAUhR,EAAOlV,GAAS,GAAImmB,EAAUjR,EAAOlV,GAAS,GAAIomB,EAAUlR,EAAOlV,GAAS,GAAIqmB,EAAUnR,EAAOlV,GAAS,GAAIsmB,EAAUpR,EAAOlV,GAAS,GAAIumB,EAAUrR,EAAOlV,GAAS,GAAIwmB,EAAUtR,EAAOlV,GAAS,GAAIymB,EAAUvR,EAAOlV,GAAS,GAAI0mB,EAAUxR,EAAOlV,GAAS,GAAI2mB,EAAUzR,EAAOlV,GAAS,GAAI4mB,EAAU1R,EAAOlV,GAAS,GAAI6mB,EAAU3R,EAAOlV,GAAS,GAAI8mB,EAAU5R,EAAOlV,GAAS,GAAI+mB,EAAU7R,EAAOlV,GAAS,GAAIgnB,EAAU9R,EAAOlV,GAAS,GAAIinB,EAAU/R,EAAOlV,GAAS,GAAIknB,EAAUhS,EAAOlV,GAAS,GAAImnB,EAAUjS,EAAOlV,GAAS,GAAIonB,EAAUlS,EAAOlV,GAAS,GAAIqnB,EAAUnS,EAAOlV,GAAS,GAAIsnB,EAAUpS,EAAOlV,GAAS,GAAIunB,EAAUrS,EAAOlV,GAAS,GAAIwnB,EAAUtS,EAAOlV,GAAS,GAAIynB,EAAUvS,EAAOlV,GAAS,GAAI0nB,EAAUxS,EAAOlV,GAAS,GAAI2nB,EAAUzS,EAAOlV,GAAS,GAAI4nB,EAAU1S,EAAOlV,GAAS,GAAI6nB,EAAU3S,EAAOlV,GAAS,GAAI8nB,EAAU5S,EAAOlV,GAAS,GAAI+nB,EAAU7S,EAAOlV,GAAS,GAAIgoB,EAAU9S,EAAOlV,GAAS,GAAIioB,EAAU/S,EAAOlV,GAAS,GAAIkoB,EAAUhT,EAAOlV,GAAS,GAAImoB,EAAUjT,EAAOlV,GAAS,GAAIooB,EAAUlT,EAAOlV,GAAS,GAAIqoB,EAAUnT,EAAOlV,GAAS,GAAIsoB,EAAUpT,EAAOlV,GAAS,GAAIuoB,EAAUrT,EAAOlV,GAAS,GAAIwoB,EAAUtT,EAAOlV,GAAS,GAAIyoB,EAAUvT,EAAOlV,GAAS,GAAI0oB,EAAUxT,EAAOlV,GAAS,GAAI2oB,EAAUzT,EAAOlV,GAAS,GAAI4oB,EAAU1T,EAAOlV,GAAS,GAAI6oB,EAAU3T,EAAOlV,GAAS,GAAI8oB,EAAU5T,EAAOlV,GAAS,GAAI+oB,EAAU7T,EAAOlV,GAAS,GAAIgpB,EAAU9T,EAAOlV,GAAS,GAAIipB,EAAU/T,EAAOlV,GAAS,GAAIkpB,EAAUhU,EAAOlV,GAAS,GAAImpB,EAAUjU,EAAOlV,GAAS,GAAIopB,EAAUlU,EAAOlV,GAAS,GAAIqpB,EAAUnU,EAAOlV,GAAS,GAAIspB,EAAUpU,EAAOlV,GAAS,GAAIupB,EAAUrU,EAAOlV,GAAS,GAAIwpB,EAAUtU,EAAOlV,GAAS,GAAIypB,EAAUvU,EAAOlV,GAAS,GAAI0pB,EAAUxU,EAAOlV,GAAS,GAAI2pB,EAAUzU,EAAOlV,GAAS,GAAI4pB,EAAU1U,EAAOlV,GAAS,GAAI6pB,EAAU3U,EAAOlV,GAAS,GAAI8pB,EAAU5U,EAAOlV,GAAS,GAAI+pB,EAAU7U,EAAOlV,GAAS,GAAIgqB,EAAU9U,EAAOlV,GAAS,GAAIiqB,EAAU/U,EAAOlV,GAAS,GAAIkqB,EAAUhV,EAAOlV,GAAS,GAAImqB,EAAUjV,EAAOlV,GAAS,GAAIoqB,EAAUlV,EAAOlV,GAAS,GAAIqqB,EAAUnV,EAAOlV,GAAS,GAAIsqB,EAAUpV,EAAOlV,GAAS,GAAIuqB,EAAUrV,EAAOlV,GAAS,GAAIwqB,EAAUtV,EAAOlV,GAAS,GAAIyqB,EAAUvV,EAAOlV,GAAS,GAAI0qB,EAAUxV,EAAOlV,GAAS,GAAI2qB,EAAUzV,EAAOlV,GAAS,GAAI4qB,EAAU1V,EAAOlV,GAAS,GAAI6qB,EAAU3V,EAAOlV,GAAS,GAAI8qB,EAAU5V,EAAOlV,GAAS,GAAI+qB,EAAU7V,EAAOlV,GAAS,GAAIgrB,EAAU9V,EAAOlV,GAAS,GAAIirB,EAAU/V,EAAOlV,GAAS,GAAIkrB,EAAUhW,EAAOlV,GAAS,GAAImrB,EAAUjW,EAAOlV,GAAS,GAAIorB,EAAUlW,EAAOlV,GAAS,GAAIqrB,EAAUnW,EAAOlV,GAAS,GAAIsrB,EAAUpW,EAAOlV,GAAS,GAAIurB,EAAUrW,EAAOlV,GAAS,GAAIwrB,EAAUtW,EAAOlV,GAAS,GAAIyrB,EAAUvW,EAAOlV,GAAS,GAAI0rB,EAAUxW,EAAOlV,GAAS,GAAI2rB,EAAUzW,EAAOlV,GAAS,GAAI4rB,EAAU1W,EAAOlV,GAAS,GAAI6rB,EAAU3W,EAAOlV,GAAS,GAAI8rB,EAAU5W,EAAOlV,GAAS,GAAI+rB,EAAU7W,EAAOlV,GAAS,GAAIgsB,EAAU9W,EAAOlV,GAAS,GAAIisB,EAAU/W,EAAOlV,GAAS,GAAIksB,EAAUhX,EAAOlV,GAAS,GAAImsB,EAAUjX,EAAOlV,GAAS,GAAIosB,EAAUlX,EAAOlV,GAAS,GAAIqsB,EAAUnX,EAAOlV,GAAS,GAAIssB,EAAUpX,EAAOlV,GAAS,GAAIusB,EAAUrX,EAAOlV,GAAS,GAAIwsB,EAAUtX,EAAOlV,GAAS,GAAIysB,EAAUvX,EAAOlV,GAAS,GAAI0sB,EAAUxX,EAAOlV,GAAS,GAAI2sB,EAAUzX,EAAOlV,GAAS,GAAI4sB,EAAU1X,EAAOlV,GAAS,GAAI6sB,EAAU3X,EAAOlV,GAAS,GAAI8sB,EAAU5X,EAAOlV,GAAS,GAAI+sB,EAAU7X,EAAOlV,GAAS,GAAIgtB,EAAU9X,EAAOlV,GAAS,GAAIitB,EAAU/X,EAAOlV,GAAS,GAAIktB,EAAUhY,EAAOlV,GAAS,GAAImtB,EAAUjY,EAAOlV,GAAS,GAAIotB,EAAUlY,EAAOlV,GAAS,GAAIqtB,EAAUnY,EAAOlV,GAAS,GAAIstB,EAAUpY,EAAOlV,GAAS,GAAIutB,EAAUrY,EAAOlV,GAAS,GAAIwtB,EAAUtY,EAAOlV,GAAS,GAAIytB,EAAUvY,EAAOlV,GAAS,GAAI0tB,EAAUxY,EAAOlV,GAAS,GAAI2tB,EAAUzY,EAAOlV,GAAS,GAAI4tB,EAAU1Y,EAAOlV,GAAS,GAAI6tB,EAAU3Y,EAAOlV,GAAS,GAAI8tB,EAAU5Y,EAAOlV,GAAS,GAAI+tB,EAAU7Y,EAAOlV,GAAS,GAAIguB,EAAU9Y,EAAOlV,GAAS,GAAIiuB,EAAU/Y,EAAOlV,GAAS,GAAIkuB,EAAUhZ,EAAOlV,GAAS,GAAImuB,EAAUjZ,EAAOlV,GAAS,GAAIouB,EAAUlZ,EAAOlV,GAAS,GAAIquB,EAAUnZ,EAAOlV,GAAS,GAAIsuB,EAAUpZ,EAAOlV,GAAS,GAAIuuB,EAAUrZ,EAAOlV,GAAS,GAAIwuB,EAAUtZ,EAAOlV,GAAS,GAAIyuB,EAAUvZ,EAAOlV,GAAS,GAAI0uB,EAAUxZ,EAAOlV,GAAS,GAAI2uB,EAAUzZ,EAAOlV,GAAS,GAAI4uB,EAAU1Z,EAAOlV,GAAS,GAAI6uB,EAAU3Z,EAAOlV,GAAS,GAAI8uB,EAAU5Z,EAAOlV,GAAS,GAAI+uB,EAAU7Z,EAAOlV,GAAS,GAAIgvB,EAAU9Z,EAAOlV,GAAS,GAAIivB,EAAU/Z,EAAOlV,GAAS,GAAIkvB,EAAUha,EAAOlV,GAAS,GAAImvB,EAAUja,EAAOlV,GAAS,GAAIovB,EAAUla,EAAOlV,GAAS,GAAIqvB,EAAUna,EAAOlV,GAAS,GAAIsvB,EAAUpa,EAAOlV,GAAS,GAAIuvB,EAAUra,EAAOlV,GAAS,GAAIwvB,EAAUta,EAAOlV,GAAS,GAAIyvB,EAAUva,EAAOlV,GAAS,GAAI0vB,EAAUxa,EAAOlV,GAAS,GAAI2vB,EAAUza,EAAOlV,GAAS,GAAI4vB,EAAU1a,EAAOlV,GAAS,GAAI6vB,EAAU3a,EAAOlV,GAAS,GAAI8vB,EAAU5a,EAAOlV,GAAS,GAAI+vB,EAAU7a,EAAOlV,GAAS,GAAIgwB,EAAU9a,EAAOlV,GAAS,GAAIiwB,EAAU/a,EAAOlV,GAAS,GAAIkwB,EAAUhb,EAAOlV,GAAS,GAAImwB,EAAUjb,EAAOlV,GAAS,GAAIowB,EAAUlb,EAAOlV,GAAS,GAAIqwB,EAAUnb,EAAOlV,GAAS,GAAIswB,EAAUpb,EAAOlV,GAAS,GAAIuwB,EAAUrb,EAAOlV,GAAS,GAAIwwB,EAAUtb,EAAOlV,GAAS,GAAIywB,EAAUvb,EAAOlV,GAAS,GAAI0wB,EAAUxb,EAAOlV,GAAS,GAAI2wB,EAAUzb,EAAOlV,GAAS,GAAI4wB,EAAU1b,EAAOlV,GAAS,GAAI6wB,EAAU3b,EAAOlV,GAAS,GAAI8wB,EAAU5b,EAAOlV,GAAS,GAAI+wB,EAAU7b,EAAOlV,GAAS,GAAIgxB,EAAU9b,EAAOlV,GAAS,GAAIixB,EAAU/b,EAAOlV,GAAS,GAAIkxB,EAAUhc,EAAOlV,GAAS,GAAImxB,EAAUjc,EAAOlV,GAAS,GAAIoxB,EAAUlc,EAAOlV,GAAS,GAAIqxB,EAAUnc,EAAOlV,GAAS,GAAIsxB,EAAUpc,EAAOlV,GAAS,GAAIuxB,EAAUrc,EAAOlV,GAAS,GAAIwxB,EAAUtc,EAAOlV,GAAS,GAAIyxB,EAAUvc,EAAOlV,GAAS,GAAI0xB,EAAUxc,EAAOlV,GAAS,GAAI2xB,EAAUzc,EAAOlV,GAAS,GAAI4xB,EAAU1c,EAAOlV,GAAS,GAAI6xB,EAAU3c,EAAOlV,GAAS,GAAI8xB,EAAU5c,EAAOlV,GAAS,GAAI+xB,EAAU7c,EAAOlV,GAAS,GAAIgyB,EAAU9c,EAAOlV,GAAS,GAAIiyB,EAAU/c,EAAOlV,GAAS,GAAIkyB,EAAUhd,EAAOlV,GAAS,GAAImyB,EAAUjd,EAAOlV,GAAS,GAAIoyB,EAAUld,EAAOlV,GAAS,GAAIqyB,EAAUnd,EAAOlV,GAAS,GAAIsyB,EAAUpd,EAAOlV,GAAS,GAAIuyB,EAAUrd,EAAOlV,GAAS,GAAIwyB,EAAUtd,EAAOlV,GAAS,GAAIyyB,EAAUvd,EAAOlV,GAAS,GAAI0yB,EAAUxd,EAAOlV,GAAS,GAAI2yB,EAAUzd,EAAOlV,GAAS,GAAI4yB,EAAU1d,EAAOlV,GAAS,GAAI6yB,EAAU3d,EAAOlV,GAAS,GAAI8yB,EAAU5d,EAAOlV,GAAS,GAAI+yB,EAAU7d,EAAOlV,GAAS,GAAIgzB,EAAU9d,EAAOlV,GAAS,GAAIizB,EAAU/d,EAAOlV,GAAS,GAAIkzB,EAAUhe,EAAOlV,GAAS,GAAImzB,EAAUje,EAAOlV,GAAS,GAAIozB,EAAUle,EAAOlV,GAAS,GAAIqzB,EAAUne,EAAOlV,GAAS,GAAIszB,EAAUpe,EAAOlV,GAAS,GAAIuzB,EAAUre,EAAOlV,GAAS,GAAIwzB,EAAUte,EAAOlV,GAAS,GAAIyzB,EAAUve,EAAOlV,GAAS,GAAI0zB,EAAUxe,EAAOlV,GAAS,GAAI2zB,EAAUze,EAAOlV,GAAS,GAAI4zB,EAAU1e,EAAOlV,GAAS,GAAI6zB,EAAU3e,EAAOlV,GAAS,GAAI8zB,EAAU5e,EAAOlV,GAAS,GAAI+zB,EAAU7e,EAAOlV,GAAS,GAAIg0B,EAAU9e,EAAOlV,GAAS,GAAIi0B,EAAU/e,EAAOlV,GAAS,GAAIk0B,EAAUhf,EAAOlV,GAAS,GAAIm0B,EAAUjf,EAAOlV,GAAS,GAAIo0B,EAAUlf,EAAOlV,GAAS,GAAIq0B,EAAUnf,EAAOlV,GAAS,GAAIs0B,EAAUpf,EAAOlV,GAAS,GAAIu0B,EAAUrf,EAAOlV,GAAS,GAAIw0B,EAAUtf,EAAOlV,GAAS,GAAIy0B,EAAUvf,EAAOlV,GAAS,GAAI00B,EAAUxf,EAAOlV,GAAS,GAAI20B,EAAUzf,EAAOlV,GAAS,GAAI40B,EAAU1f,EAAOlV,GAAS,GAAI60B,EAAU3f,EAAOlV,GAAS,GAAI80B,EAAU5f,EAAOlV,GAAS,GAAI+0B,EAAU7f,EAAOlV,GAAS,GAAIg1B,EAAU9f,EAAOlV,GAAS,GAAIi1B,EAAU/f,EAAOlV,GAAS,GAAIk1B,EAAUhgB,EAAOlV,GAAS,GAAIm1B,EAAUjgB,EAAOlV,GAAS,GAAIo1B,EAAUlgB,EAAOlV,GAAS,GAAIq1B,EAAUngB,EAAOlV,GAAS,GAAIs1B,EAAUpgB,EAAOlV,GAAS,GAAIu1B,EAAUrgB,EAAOlV,GAAS,GAAIw1B,EAAUtgB,EAAOlV,GAAS,GAAIy1B,EAAUvgB,EAAOlV,GAAS,GAAI01B,EAAUxgB,EAAOlV,GAAS,GAAI21B,EAAUzgB,EAAOlV,GAAS,GAAI41B,EAAU1gB,EAAOlV,GAAS,GAAI61B,EAAU3gB,EAAOlV,GAAS,GAAI81B,EAAU5gB,EAAOlV,GAAS,GAAI+1B,EAAU7gB,EAAOlV,GAAS,GAAIg2B,EAAU9gB,EAAOlV,GAAS,GAAIi2B,EAAU/gB,EAAOlV,GAAS,GAAIk2B,EAAUhhB,EAAOlV,GAAS,GAAIm2B,EAAUjhB,EAAOlV,GAAS,GAAIo2B,EAAUlhB,EAAOlV,GAAS,GAAIq2B,EAAUnhB,EAAOlV,GAAS,GAAIs2B,EAAUphB,EAAOlV,GAAS,GAAIu2B,EAAUrhB,EAAOlV,GAAS,GAAIw2B,EAAUthB,EAAOlV,GAAS,GAAIy2B,EAAUvhB,EAAOlV,GAAS,GAAI02B,EAAUxhB,EAAOlV,GAAS,GAAI22B,EAAUzhB,EAAOlV,GAAS,GAAI42B,EAAU1hB,EAAOlV,GAAS,GAAI62B,EAAU3hB,EAAOlV,GAAS,GAAI82B,EAAU5hB,EAAOlV,GAAS,GAAI+2B,EAAU7hB,EAAOlV,GAAS,GAAIg3B,EAAU9hB,EAAOlV,GAAS,GAAIi3B,EAAU/hB,EAAOlV,GAAS,GAAIk3B,EAAUhiB,EAAOlV,GAAS,GAAIm3B,EAAUjiB,EAAOlV,GAAS,GAAIo3B,EAAUliB,EAAOlV,GAAS,GAAIq3B,EAAUniB,EAAOlV,GAAS,GAAIs3B,EAAUpiB,EAAOlV,GAAS,GAAIu3B,EAAUriB,EAAOlV,GAAS,GAAIw3B,EAAUtiB,EAAOlV,GAAS,GAAIy3B,EAAUviB,EAAOlV,GAAS,GAAI03B,EAAUxiB,EAAOlV,GAAS,GAAI23B,EAAUziB,EAAOlV,GAAS,GAAI43B,EAAU1iB,EAAOlV,GAAS,GAAI63B,EAAU3iB,EAAOlV,GAAS,GAAI83B,EAAU5iB,EAAOlV,GAAS,GAAI+3B,EAAU7iB,EAAOlV,GAAS,GAAIg4B,EAAU9iB,EAAOlV,GAAS,GAAIi4B,EAAU/iB,EAAOlV,GAAS,GAAIk4B,EAAUhjB,EAAOlV,GAAS,GAAIm4B,EAAUjjB,EAAOlV,GAAS,GAAIo4B,EAAUljB,EAAOlV,GAAS,GAAIq4B,EAAUnjB,EAAOlV,GAAS,GAAIs4B,EAAUpjB,EAAOlV,GAAS,GAAIu4B,EAAUrjB,EAAOlV,GAAS,GAAIw4B,EAAUtjB,EAAOlV,GAAS,GAAIy4B,EAAUvjB,EAAOlV,GAAS,GAAI04B,EAAUxjB,EAAOlV,GAAS,GAAI24B,EAAUzjB,EAAOlV,GAAS,GAAI44B,EAAU1jB,EAAOlV,GAAS,GAAI64B,EAAU3jB,EAAOlV,GAAS,GAAI84B,EAAU5jB,EAAOlV,GAAS,GAAI+4B,EAAU7jB,EAAOlV,GAAS,GAAIg5B,EAAU9jB,EAAOlV,GAAS,GAAIi5B,EAAU/jB,EAAOlV,GAAS,GAAIk5B,EAAUhkB,EAAOlV,GAAS,GAAIm5B,EAAUjkB,EAAOlV,GAAS,GAAIo5B,EAAUlkB,EAAOlV,GAAS,GAAIq5B,EAAUnkB,EAAOlV,GAAS,GAAIs5B,EAAUpkB,EAAOlV,GAAS,GAAIu5B,EAAUrkB,EAAOlV,GAAS,GAAIw5B,EAAUtkB,EAAOlV,GAAS,GAAIy5B,EAAUvkB,EAAOlV,GAAS,GAAI05B,EAAUxkB,EAAOlV,GAAS,GAAI25B,EAAUzkB,EAAOlV,GAAS,GAAI45B,EAAU1kB,EAAOlV,GAAS,GAAI65B,EAAU3kB,EAAOlV,GAAS,GAAI85B,EAAU5kB,EAAOlV,GAAS,GAAI+5B,EAAU7kB,EAAOlV,GAAS,GAAIg6B,EAAU9kB,EAAOlV,GAAS,GAAIi6B,EAAU/kB,EAAOlV,GAAS,GAAIk6B,EAAUhlB,EAAOlV,GAAS,GAAIm6B,EAAUjlB,EAAOlV,GAAS,GAAIo6B,EAAUllB,EAAOlV,GAAS,GAAIq6B,EAAUnlB,EAAOlV,GAAS,GAAIs6B,EAAUplB,EAAOlV,GAAS,GAAIu6B,EAAUrlB,EAAOlV,GAAS,GAAIw6B,EAAUtlB,EAAOlV,GAAS,GAAIy6B,EAAUvlB,EAAOlV,GAAS,GAAI06B,EAAUxlB,EAAOlV,GAAS,GAAI26B,EAAUzlB,EAAOlV,GAAS,GAAI46B,EAAU1lB,EAAOlV,GAAS,GAAI66B,EAAU3lB,EAAOlV,GAAS,GAAI86B,EAAU5lB,EAAOlV,GAAS,GAAI+6B,EAAU7lB,EAAOlV,GA

N,EAASH,oBAAoB/M,GAAYA,EACzC,MACJ,QACI,IAAIiP,EAAOC,KAAKC,UAAUJ,GAC1B,MAAM,IAAIv
Y,MAAM,uBAAyBwY,EAAc,SAAWC,EAAO,SAAWlS,EAAMpC,KAAO,oBAI1GuS,GAEXF,EAAiBnT,UAAU
yT,kBAAoB,WAC3C,IAAIvQ,EAAQzG,KAEZA,KAAK4W,SAASN,sBAAsBrT,OAAOjD,KAAK4W,SASJ,2B
ACpDzP,SAAQ,SAAU2C,GAEnBjD,EADiBA,EAAMmQ,SASH,oBAAoB/M,IAChC,IAAI5J,EAAKgZ,iBAGrC
pC,EAAiBnT,UAAU6T,YAAc,WACrC,IAAI3Q,EAAQzG,KAEZA,KAAK4W,SASJ,0BAA0BzP,SAAQ,SAAU
2C,GACtD,IACIgC,EAAUjF,EADGA,EAAMmQ,SASH,oBAAoB/M,IAEpDjD,EAAM0Q,mBAAmBzN,GAAY,
SAAU9G,GAAS,OAAO8I,EAAQ4M,KAAK1V,QAGpF8T,EAAiBnT,UAAU+T,eAAeC,SAAUC,EAAeC,
EAAQzG,KAEZ0B,OAAO8R,EAASnR,KAAK0E,GAASnR,OAAOqT,EAAQ0M,mBAAmBzN,G
AAYwO,EAAQxO,GAAUqP,gBAC7G/T,EAAWhF,KAAKmX,mBAAmB6B,aAAcnZ,KAAKmX,mBAAmB6B,
WAAWd,IAGpCxB,EA/K0B,GAAiLrCA,EAAiBuC,WAAa,CAC1B,EAAiBxC,EAAQ
iByC,eAAiB,WAAc,MAAO,CAAnD,SAAUyC,EAAMC,GAAQ,OAAOD,EAAKE,MAAMD,EAAM,EAAIC,
,KAAMzE,EAAKwH,YAAgIjB,IAAIgS,EAA+B,WAAc/B,EAAET9Y,EAAEA+Y,GAAKD,IAAIvZ,KAAKuZ,uZ,OAASA,
EACdvZ,KAAKQ,SAAW,IAAIyP,EAAkBzP,EAAUR,KAAKwP,gBAAgBxP,KAAKyP,mBAAmBzP,KAAK0P,
,EAASC,GAC9D,IAAIjT,EAAQqT,EAAUC,EAAQC,EAAUC,EAAQC,EAAUC,EAAQC

C,EAAc,SAAUvc,EAAUkc,GAGlC,IACIzW,EAD2ByW,EAAe5X,IAAIhF,EAAKkd,0BACPC,wBAAwBf,EAAKjU,WAC7E,IAAKhC,EACD,MAAM,IAAI/F,MAAM,mCAAqCoE,EAAY4X,EAAKjU,YAE1E,IAAIiV,EAAkB,IAAInO,EAAsBxO,GAC5C5c,EAAS,IAAIzX,EAA0BnF,EAASoF,EAAOC,EAAOC,EAASrF,EAAUoE,EAAWmB,EAAUC,EAAQC,EAAkBC,EAAhIhB,EAAgJ,EAAGC,EAAgBC,EAAgBC,EAAgB

```
{\n        return angular;\n    }\n    var bootstrap = function (e, modules, config) { return angular.bootstrap(e, modules, config); };\n    // Do not declare as `module` to avoid webpack bug\n    // (see https://github.com/angular/angular/issues/30050).\n    var module_ = function (prefix, dependencies) { return angular.module(prefix, dependencies); };\n    var element = (function (e) { return angular.element(e); });\n element.cleanData = function (nodes) { return angular.element.cleanData(nodes); };\n    var injector = function (modules, strictDi) { return angular.injector(modules, strictDi); };\n    var resumeBootstrap = function () { return angular.resumeBootstrap(); };\n    var getTestability = function (e) { return angular.getTestability(e); };\n\n    /*!
*****************************************************************************\n    Copyright (c) Microsoft Corporation.\n\n    Permission to use, copy, modify, and/or distribute this software for any\n    purpose with or without fee is hereby granted.\n\n    THE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\n    REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\n    AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\n    INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\n    LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\n    OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\n    PERFORMANCE OF THIS SOFTWARE.\n
***************************************************************************** */\n    /* global Reflect, Promise */\n    var extendStatics = function (d, b) {\n        extendStatics = Object.setPrototypeOf ||\n            ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\n            function (d, b) { for (var p in b)\n                if (b.hasOwnProperty(p))\n                    d[p] = b[p];\n        };\n        return extendStatics(d, b);\n    };\n    function __extends(d, b) {\n        extendStatics(d, b);\n        function __() { this.constructor = d; }\n        d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\n    }\n    var __assign = function () {\n        __assign = Object.assign || function __assign(t) {\n            for (var s, i = 1, n = arguments.length; i < n; i++) {\n                s = arguments[i];\n                for (var p in s)\n                    if (Object.prototype.hasOwnProperty.call(s, p))\n                        t[p] = s[p];\n            }\n            return t;\n        };\n        return __assign.apply(this, arguments);\n    };\n    function __rest(s, e) {\n        var t = {};\n        for (var p in s)\n            if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\n                t[p] = s[p];\n        if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\n            for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\n                if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\n                    t[p[i]] = s[p[i]];\n            }\n        return t;\n    }\n    function __decorate(decorators, target, key, desc) {\n        var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\n        if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\")\n            r = Reflect.decorate(decorators, target, key, desc);\n        else\n            for (var i = decorators.length - 1; i >= 0; i--)\n                if (d = decorators[i])\n                    r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\n        return c > 3 && r && Object.defineProperty(target, key, r), r;\n    }\n    function __param(paramIndex, decorator) {\n        return function (target, key) { decorator(target, key, paramIndex); };\n    }\n    function __metadata(metadataKey, metadataValue) {\n        if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n            return Reflect.metadata(metadataKey, metadataValue);\n    }\n    function __awaiter(thisArg, _arguments, P, generator) {\n        function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\n        return new (P || (P = Promise))(function (resolve, reject) {\n            function fulfilled(value) { try {\n                step(generator.next(value));\n            }\n            catch (e) {\n                reject(e);\n            } }\n            function rejected(value) { try {\n                step(generator[\"throw\"](value));\n            }\n            catch (e) {\n                reject(e);\n            } }\n            function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\n            step((generator = generator.apply(thisArg, _arguments || [])).next());\n        });\n    }\n    function __generator(thisArg, body) {\n        var _ = { label: 0, sent: function () { if (t[0] & 1)\n                throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n        return g = { next:
```

verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function () { return this; }), g;\n function verb(n) { return function (v) { return step([n, v]); }; }\n function step(op) {\n if (f)\n throw new TypeError(\"Generator is already executing.\");\n while (_)\n try {\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n return t;\n if (y = 0, t)\n op = [op[0] & 2, t.value];\n switch (op[0]) {\n case 0:\n case 1:\n t = op;\n break;\n case 4:\n _.label++;\n return { value: op[1], done: false };\n case 5:\n _.label++;\n y = op[1];\n op = [0];\n continue;\n case 7:\n op = _.ops.pop();\n _.trys.pop();\n continue;\n default:\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) {\n _ = 0;\n continue;\n }\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n _.label = op[1];\n break;\n }\n if (op[0] === 6 && _.label < t[1]) {\n _.label = t[1];\n t = op;\n break;\n }\n if (t && _.label < t[2]) {\n _.label = t[2];\n _.ops.push(op);\n break;\n }\n if (t[2])\n _.ops.pop();\n _.trys.pop();\n continue;\n }\n op = body.call(thisArg, _);\n }\n catch (e) {\n op = [6, e];\n y = 0;\n }\n finally {\n f = t = 0;\n }\n if (op[0] & 5)\n throw op[1];\n return { value: op[0] ? op[1] : void 0, done: true };\n }\n }\n var __createBinding = Object.create ? (function (o, m, k, k2) {\n if (k2 === undefined)\n k2 = k;\n Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n }) : (function (o, m, k, k2) {\n if (k2 === undefined)\n k2 = k;\n o[k2] = m[k];\n });\n function __exportStar(m, exports) {\n for (var p in m)\n if (p !== \"default\" && !exports.hasOwnProperty(p))\n __createBinding(exports, m, p);\n }\n function __values(o) {\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n if (m)\n return m.call(o);\n if (o && typeof o.length === \"number\")\n return {\n next: function () {\n if (o && i >= o.length)\n o = void 0;\n return { value: o && o[i++], done: !o };\n }\n };\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n }\n function __read(o, n) {\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n if (!m)\n return o;\n var i = m.call(o), r, ar = [], e;\n try {\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n ar.push(r.value);\n }\n catch (error) {\n e = { error: error };\n }\n finally {\n try {\n if (r && !r.done && (m = i[\"return\"]))\n m.call(i);\n }\n finally {\n if (e)\n throw e.error;\n }\n }\n return ar;\n }\n function __spread() {\n for (var ar = [], i = 0; i < arguments.length; i++)\n ar = ar.concat(__read(arguments[i]));\n return ar;\n }\n function __spreadArrays() {\n for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n s += arguments[i].length;\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n r[k] = a[j];\n return r;\n }\n ;\n function __await(v) {\n return this instanceof __await ? (this.v = v, this) : new __await(v);\n }\n function __asyncGenerator(thisArg, _arguments, generator) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\n function verb(n) { if (g[n])\n i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n function resume(n, v) { try {\n step(g[n](v));\n }\n catch (e) {\n settle(q[0][3], e);\n } }\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n function fulfill(value) { resume(\"next\", value); }\n function reject(value) { resume(\"throw\", value); }\n function settle(f, v) { if (f(v), q.shift(),

q.length)\n resume(q[0][0], q[0][1]); }\n }\n function __asyncDelegator(o) {\n var i, p;\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n }\n function __asyncValues(o) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var m = o[Symbol.asyncIterator], i;\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n }\n function __makeTemplateObject(cooked, raw) {\n if (Object.defineProperty) {\n Object.defineProperty(cooked, \"raw\", { value: raw });\n }\n else {\n cooked.raw = raw;\n }\n return cooked;\n }\n ;\n var __setModuleDefault = Object.create ? (function (o, v) {\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n }) : function (o, v) {\n o[\"default\"] = v;\n };\n function __importStar(mod) {\n if (mod && mod.__esModule)\n return mod;\n var result = {};\n if (mod != null)\n for (var k in mod)\n if (Object.hasOwnProperty.call(mod, k))\n __createBinding(result, mod, k);\n __setModuleDefault(result, mod);\n return result;\n }\n function __importDefault(mod) {\n return (mod && mod.__esModule) ? mod : { default: mod };\n }\n function __classPrivateFieldGet(receiver, privateMap) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to get private field on non-instance\");\n }\n return privateMap.get(receiver);\n }\n function __classPrivateFieldSet(receiver, privateMap, value) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to set private field on non-instance\");\n }\n privateMap.set(receiver, value);\n return value;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var $COMPILE = '$compile';\n var $CONTROLLER = '$controller';\n var $DELEGATE = '$delegate';\n var $EXCEPTION_HANDLER = '$exceptionHandler';\n var $HTTP_BACKEND = '$httpBackend';\n var $INJECTOR = '$injector';\n var $INTERVAL = '$interval';\n var $PARSE = '$parse';\n var $PROVIDE = '$provide';\n var $ROOT_SCOPE = '$rootScope';\n var $SCOPE = '$scope';\n var $TEMPLATE_CACHE = '$templateCache';\n var $TEMPLATE_REQUEST = '$templateRequest';\n var $$TESTABILITY = '$$testability';\n var COMPILER_KEY = '$$angularCompiler';\n var DOWNGRADED_MODULE_COUNT_KEY = '$$angularDowngradedModuleCount';\n var GROUP_PROJECTABLE_NODES_KEY = '$$angularGroupProjectableNodes';\n var INJECTOR_KEY = '$$angularInjector';\n var LAZY_MODULE_REF = '$$angularLazyModuleRef';\n var NG_ZONE_KEY = '$$angularNgZone';\n var UPGRADE_APP_TYPE_KEY = '$$angularUpgradeAppType';\n var REQUIRE_INJECTOR = '?^^' + INJECTOR_KEY;\n var REQUIRE_NG_MODEL = '?ngModel';\n var UPGRADE_MODULE_NAME = '$$UpgradeModule';\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A `PropertyBinding` represents a mapping between a property name\n * and an attribute name. It is parsed from a string of the form\n * `\"prop: attr\"`; or simply `\"propAndAttr\" where the property\n * and attribute have the same identifier.\n */\n var PropertyBinding = /** @class */ (function () {\n function PropertyBinding(prop, attr) {\n this.prop = prop;\n this.attr = attr;\n this.parseBinding();\n }\n PropertyBinding.prototype.parseBinding = function () {\n this.bracketAttr = \"[\" + this.attr + \"]\";\n this.parenAttr = \"(\" + this.attr + \")\";\n this.bracketParenAttr = \"[(\" + this.attr + \")]\";\n var capitalAttr = this.attr.charAt(0).toUpperCase() + this.attr.substr(1);\n this.onAttr = \"on\" + capitalAttr;\n this.bindAttr = \"bind\" + capitalAttr;\n

```
this.bindonAttr = \"bindon\" + capitalAttr;\n        };\n        return PropertyBinding;\n    }());\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var DIRECTIVE_PREFIX_REGEXP = /^(?:x|data)[:\\-_]/i;\n
    var DIRECTIVE_SPECIAL_CHARS_REGEXP = /[:\\-_]+(.)/g;\n    function onError(e) {\n        // TODO: (misko): We seem to not have a stack trace here!\n        if (console.error) {\n            console.error(e, e.stack);\n        }\n        else {\n            // tslint:disable-next-line:no-console\n            console.log(e, e.stack);\n        }\n        throw e;\n    }\n    function controllerKey(name) {\n        return '$' + name + 'Controller';\n    }\n    function directiveNormalize(name) {\n        return name.replace(DIRECTIVE_PREFIX_REGEXP, '')\n            .replace(DIRECTIVE_SPECIAL_CHARS_REGEXP, function (_, letter) { return letter.toUpperCase(); });\n    }\n    function getTypeName(type) {\n        // Return the name of the type or the first line of its stringified version.\n        return type.overriddenName || type.name || type.toString().split('\\n')[0];\n    }\n    function getDowngradedModuleCount($injector) {\n        return $injector.has(DOWNGRADED_MODULE_COUNT_KEY) ? $injector.get(DOWNGRADED_MODULE_COUNT_KEY) :\n            0;\n    }\n    function getUpgradeAppType($injector) {\n        return $injector.has(UPGRADE_APP_TYPE_KEY) ? $injector.get(UPGRADE_APP_TYPE_KEY) :\n            0 /* None */;\n    }\n    function isFunction(value) {\n        return typeof value === 'function';\n    }\n    function validateInjectionKey($injector, downgradedModule, injectionKey, attemptedAction) {\n        var upgradeAppType = getUpgradeAppType($injector);\n        var downgradedModuleCount = getDowngradedModuleCount($injector);\n        // Check for common errors.\n        switch (upgradeAppType) {\n            case 1 /* Dynamic */:\n            case 2 /* Static */:\n                if (downgradedModule) {\n                    throw new Error(\"Error while \" + attemptedAction + \": 'downgradedModule' unexpectedly specified.\\n\\n\" +\n                        'You should not specify a value for \\'downgradedModule\\', unless you are downgrading\n' +\n                        'more than one Angular module (via \\'downgradeModule()\\').');\n                }\n                break;\n            case 3 /* Lite */:\n                if (!downgradedModule && (downgradedModuleCount >= 2)) {\n                    throw new Error(\"Error while \" + attemptedAction + \": 'downgradedModule' not specified.\\n\\n\" +\n                        'This application contains more than one downgraded Angular module, thus you need to ' +\n                        'always specify \\'downgradedModule\\' when downgrading components and injectables.');\n                }\n                if (!$injector.has(injectionKey)) {\n                    throw new Error(\"Error while \" + attemptedAction + \": Unable to find the specified downgraded module.\\n\\n\" +\n                        'Did you forget to downgrade an Angular module or include it in the AngularJS ' +\n                        'application?');\n                }\n                break;\n            default:\n                throw new Error(\"Error while \" + attemptedAction + \": Not a valid '@angular/upgrade' application.\\n\\n\" +\n                    'Did you forget to downgrade an Angular module or include it in the AngularJS ' +\n                    'application?');\n        }\n    }\n    var Deferred = /** @class */ (function () {\n        function Deferred() {\n            var _this = this;\n            this.promise = new Promise(function (res, rej) {\n                _this.resolve = res;\n                _this.reject = rej;\n            });\n        }\n        return Deferred;\n    }());\n    /**\n     * @return Whether the passed-in component implements the subset of the\n     *     `ControlValueAccessor` interface needed for AngularJS `ng-model`\n     *     compatibility.\n     */\n    function supportsNgModel(component) {\n        return typeof component.writeValue === 'function' &&\n            typeof component.registerOnChange === 'function';\n    }\n    /**\n     * Glue the AngularJS `NgModelController` (if it exists) to the component\n     * (if it implements the needed subset of the `ControlValueAccessor` interface).\n     */\n    function hookupNgModel(ngModel, component) {\n        if (ngModel && supportsNgModel(component)) {\n            ngModel.$render = function () {\n                component.writeValue(ngModel.$viewValue);\n            };\n            component.registerOnChange(ngModel.$setViewValue.bind(ngModel));\n            if (typeof component.registerOnTouched === 'function') {\n                component.registerOnTouched(ngModel.$setTouched.bind(ngModel));\n            }\n        }\n    }\n    /**\n     * Test two values for strict equality, accounting for the fact that `NaN !== NaN`.\n     */\n    function strictEquals(val1,
```

val2) {\n return val1 === val2 || (val1 !== val1 && val2 !== val2);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var INITIAL_VALUE = {\n __UNINITIALIZED__: true\n };\n var DowngradeComponentAdapter = /** @class */ (function () {\n function DowngradeComponentAdapter(element, attrs, scope, ngModel, parentInjector, $injector, $compile, $parse, componentFactory, wrapCallback) {\n this.element = element;\n this.attrs = attrs;\n this.scope = scope;\n this.ngModel = ngModel;\n this.parentInjector = parentInjector;\n this.$injector = $injector;\n this.$compile = $compile;\n this.$parse = $parse;\n this.componentFactory = componentFactory;\n this.wrapCallback = wrapCallback;\n this.implementsOnChanges = false;\n this.inputChangeCount = 0;\n this.inputChanges = {};\n this.componentScope = scope.$new();\n }\n DowngradeComponentAdapter.prototype.compileContents = function () {\n var _this = this;\n var compiledProjectableNodes = [];\n var projectableNodes = this.groupProjectableNodes();\n var linkFns = projectableNodes.map(function (nodes) { return _this.$compile(nodes); });\n this.element.empty();\n linkFns.forEach(function (linkFn) {\n linkFn(_this.scope, function (clone) {\n compiledProjectableNodes.push(clone);\n _this.element.append(clone);\n });\n });\n return compiledProjectableNodes;\n };\n DowngradeComponentAdapter.prototype.createComponent = function (projectableNodes) {\n var providers = [{ provide: $SCOPE, useValue: this.componentScope }];\n var childInjector = core.Injector.create({ providers: providers, parent: this.parentInjector, name: 'DowngradeComponentAdapter' });\n this.componentRef =\n this.componentFactory.create(childInjector, projectableNodes, this.element[0]);\n this.viewChangeDetector = this.componentRef.injector.get(core.ChangeDetectorRef);\n this.changeDetector = this.componentRef.changeDetectorRef;\n this.component = this.componentRef.instance;\n // testability hook is commonly added during component bootstrap in\n // packages/core/src/application_ref.bootstrap()\n // in downgraded application, component creation will take place here as well as adding the\n // testability hook.\n var testability = this.componentRef.injector.get(core.Testability, null);\n if (testability) {\n this.componentRef.injector.get(core.TestabilityRegistry)\n .registerApplication(this.componentRef.location.nativeElement, testability);\n }\n hookupNgModel(this.ngModel, this.component);\n };\n DowngradeComponentAdapter.prototype.setupInputs = function (manuallyAttachView, propagateDigest) {\n var _this = this;\n if (propagateDigest === void 0) { propagateDigest = true; }\n var attrs = this.attrs;\n var inputs = this.componentFactory.inputs || [];\n var _loop_1 = function (i) {\n var input = new PropertyBinding(inputs[i].propName, inputs[i].templateName);\n var expr = null;\n if (attrs.hasOwnProperty(input.attr)) {\n var observeFn_1 = (function (prop) {\n var prevValue = INITIAL_VALUE;\n return function (currValue) {\n // Initially, both `$observe()` and `$watch()` will call this function.\n if (!strictEquals(prevValue, currValue)) {\n if (prevValue === INITIAL_VALUE) {\n prevValue = currValue;\n }\n _this.updateInput(prop, prevValue, currValue);\n prevValue = currValue;\n }\n };\n })(input.prop);\n attrs.$observe(input.attr, observeFn_1);\n // Use `$watch()` (in addition to `$observe()`) in order to initialize the input in time\n // for `ngOnChanges()`. This is necessary if we are already in a `$digest`, which means that\n // `ngOnChanges()` (which is called by a watcher) will run before the `$observe()` callback.\n var unwatch_1 = this_1.componentScope.$watch(function () {\n unwatch_1();\n unwatch_1 = null;\n observeFn_1(attrs[input.attr]);\n });\n }\n else if (attrs.hasOwnProperty(input.bindAttr)) {\n expr = attrs[input.bindAttr];\n }\n else if (attrs.hasOwnProperty(input.bracketAttr)) {\n expr = attrs[input.bracketAttr];\n }\n else if (attrs.hasOwnProperty(input.bindonAttr))

{\n expr = attrs[input.bindonAttr];\n }\n else if (attrs.hasOwnProperty(input.bracketParenAttr)) {\n expr = attrs[input.bracketParenAttr];\n }\n if (expr != null) {\n var watchFn = (function (prop) { return function (currValue, prevValue) { return _this.updateInput(prop, prevValue, currValue); }; })(input.prop);\n this_1.componentScope.$watch(expr, watchFn);\n }\n };\n var this_1 = this;\n for (var i = 0; i < inputs.length; i++) {\n _loop_1(i);\n }\n // Invoke `ngOnChanges()` and Change Detection (when necessary)\n var detectChanges = function () { return _this.changeDetector.detectChanges(); };\n var prototype = this.componentFactory.componentType.prototype;\n this.implementsOnChanges = !!(prototype && prototype.ngOnChanges);\n this.componentScope.$watch(function () { return _this.inputChangeCount; }, this.wrapCallback(function () {\n // Invoke `ngOnChanges()`\n if (_this.implementsOnChanges) {\n var inputChanges = _this.inputChanges;\n _this.inputChanges = {};\n _this.component.ngOnChanges(inputChanges);\n }\n _this.viewChangeDetector.markForCheck();\n // If opted out of propagating digests, invoke change detection when inputs change.\n if (!propagateDigest) {\n detectChanges();\n }\n }));\n // If not opted out of propagating digests, invoke change detection on every digest\n if (propagateDigest) {\n this.componentScope.$watch(this.wrapCallback(detectChanges));\n }\n // If necessary, attach the view so that it will be dirty-checked.\n // (Allow time for the initial input values to be set and `ngOnChanges()` to be called.)\n if (manuallyAttachView || !propagateDigest) {\n var unwatch_2 = this.componentScope.$watch(function () {\n unwatch_2();\n unwatch_2 = null;\n var appRef = _this.parentInjector.get(core.ApplicationRef);\n appRef.attachView(_this.componentRef.hostView);\n });\n }\n };\n DowngradeComponentAdapter.prototype.setupOutputs = function () {\n var attrs = this.attrs;\n var outputs = this.componentFactory.outputs || [];\n for (var j = 0; j < outputs.length; j++) {\n var output = new PropertyBinding(outputs[j].propName, outputs[j].templateName);\n var bindonAttr = output.bindonAttr.substring(0, output.bindonAttr.length - 6);\n var bracketParenAttr = \"[(\" + output.bracketParenAttr.substring(2, output.bracketParenAttr.length - 8) + \")]\";\n // order below is important - first update bindings then evaluate expressions\n if (attrs.hasOwnProperty(bindonAttr)) {\n this.subscribeToOutput(output, attrs[bindonAttr], true);\n }\n if (attrs.hasOwnProperty(bracketParenAttr)) {\n this.subscribeToOutput(output, attrs[bracketParenAttr], true);\n }\n if (attrs.hasOwnProperty(output.onAttr)) {\n this.subscribeToOutput(output, attrs[output.onAttr]);\n }\n if (attrs.hasOwnProperty(output.parenAttr)) {\n this.subscribeToOutput(output, attrs[output.parenAttr]);\n }\n }\n };\n DowngradeComponentAdapter.prototype.subscribeToOutput = function (output, expr, isAssignment) {\n var _this = this;\n if (isAssignment === void 0) { isAssignment = false; }\n var getter = this.$parse(expr);\n var setter = getter.assign;\n if (isAssignment && !setter) {\n throw new Error(\"Expression '\" + expr + \"' is not assignable!\");\n }\n var emitter = this.component[output.prop];\n if (emitter) {\n emitter.subscribe({\n next: isAssignment ? function (v) { return setter(_this.scope, v); } :\n function (v) { return getter(_this.scope, { '$event': v }); }\n });\n }\n else {\n throw new Error(\"Missing emitter '\" + output.prop + \"' on component '\" + getTypeName(this.componentFactory.componentType) + \"'!\");\n }\n };\n DowngradeComponentAdapter.prototype.registerCleanup = function () {\n var _this = this;\n var testabilityRegistry = this.componentRef.injector.get(core.TestabilityRegistry);\n var destroyComponentRef = this.wrapCallback(function () { return _this.componentRef.destroy(); });\n var destroyed = false;\n this.element.on('$destroy', function () { return _this.componentScope.$destroy(); });\n this.componentScope.$on('$destroy', function () {\n if (!destroyed) {\n destroyed = true;\n testabilityRegistry.unregisterApplication(_this.componentRef.location.nativeElement);\n

```
destroyComponentRef();\n            }\n        });\n    };\n
DowngradeComponentAdapter.prototype.getInjector = function () {\n        return this.componentRef.injector;\n
};\n    DowngradeComponentAdapter.prototype.updateInput
= function (prop, prevValue, currValue) {\n        if (this.implementsOnChanges) {\n
this.inputChanges[prop] = new core.SimpleChange(prevValue, currValue, prevValue === currValue);\n        }\n
this.inputChangeCount++;\n        this.component[prop] = currValue;\n    };\n
DowngradeComponentAdapter.prototype.groupProjectableNodes = function () {\n        var ngContentSelectors =
this.componentFactory.ngContentSelectors;\n        return groupNodesBySelector(ngContentSelectors,
this.element.contents());\n    };\n    return DowngradeComponentAdapter;\n}());\n /**\n * Group a set of
DOM nodes into `ngContent` groups, based on the given content selectors.\n */\n function
groupNodesBySelector(ngContentSelectors, nodes) {\n    var projectableNodes = [];\n    var
wildcardNgContentIndex;\n    for (var i = 0, ii = ngContentSelectors.length; i < ii; ++i) {\n
projectableNodes[i]
= [];\n    }\n    for (var j = 0, jj = nodes.length; j < jj; ++j) {\n        var node = nodes[j];\n        var
ngContentIndex = findMatchingNgContentIndex(node, ngContentSelectors);\n        if (ngContentIndex != null)
{\n            projectableNodes[ngContentIndex].push(node);\n        }\n    }\n    return projectableNodes;\n
}\n function findMatchingNgContentIndex(element, ngContentSelectors) {\n    var ngContentIndices = [];\n
var wildcardNgContentIndex = -1;\n    for (var i = 0; i < ngContentSelectors.length; i++) {\n        var selector =
ngContentSelectors[i];\n        if (selector === '*') {\n            wildcardNgContentIndex = i;\n        }\n
else {\n            if (matchesSelector(element, selector)) {\n                ngContentIndices.push(i);\n            }\n
}\n    }\n    ngContentIndices.sort();\n    if (wildcardNgContentIndex !== -1) {\n
ngContentIndices.push(wildcardNgContentIndex);\n
}\n    return ngContentIndices.length ? ngContentIndices[0] : null;\n}\n var _matches;\n function
matchesSelector(el, selector) {\n    if (!_matches) {\n        var elProto = Element.prototype;\n        _matches =
elProto.matches || elProto.matchesSelector || elProto.mozMatchesSelector ||\n            elProto.msMatchesSelector ||
elProto.oMatchesSelector || elProto.webkitMatchesSelector;\n    }\n    return el.nodeType ===
Node.ELEMENT_NODE ? _matches.call(el, selector) : false;\n}\n\n /**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can
be\n * found in the LICENSE file at https://angular.io/license\n */\n function isThenable(obj) {\n    return
!!obj && isFunction(obj.then);\n}\n /**\n * Synchronous, promise-like object.\n */\n var SyncPromise =
/** @class */
(function () {\n    function SyncPromise() {\n        this.resolved = false;\n        this.callbacks = [];\n    }\n
SyncPromise.all = function (valuesOrPromises) {\n        var aggrPromise = new SyncPromise();\n        var
resolvedCount = 0;\n        var results = [];\n        var resolve = function (idx, value) {\n            results[idx] =
value;\n            if (++resolvedCount === valuesOrPromises.length)\n                aggrPromise.resolve(results);\n
};\n        valuesOrPromises.forEach(function (p, idx) {\n            if (isThenable(p)) {\n
p.then(function (v) { return resolve(idx, v); });\n            }\n            else {\n                resolve(idx, p);\n
}\n        });\n        return aggrPromise;\n    };\n    SyncPromise.prototype.resolve = function (value) {\n
// Do nothing, if already resolved.\n        if (this.resolved)\n
return;\n        this.value = value;\n        this.resolved = true;\n        // Run the queued callbacks.\n
this.callbacks.forEach(function (callback) { return callback(value); });\n        this.callbacks.length = 0;\n
};\n    SyncPromise.prototype.then = function (callback) {\n        if (this.resolved) {\n
callback(this.value);\n        }\n        else {\n            this.callbacks.push(callback);\n        }\n    };\n
return SyncPromise;\n}());\n\n /**\n * @description\n *\n * A helper function that allows an Angular
component to be used from AngularJS.\n *\n * *Part of the [upgrade/static](api?query=upgrade%2Fstatic)\n
* library for hybrid upgrade apps that support AOT compilation*\n *\n * This helper function returns a factory
function to be used for registering\n * an AngularJS wrapper directive for \"downgrading\" an Angular
component.\n
```

```
 *\n * @usageNotes\n * ### Examples\n *\n * Let's assume that you have an Angular component called `ng2Heroes` that needs\n * to be made available in AngularJS templates.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-heroes\"}\n *\n * We must create an AngularJS [directive](https://docs.angularjs.org/guide/directive)\n * that will make this Angular component available inside AngularJS templates.\n * The `downgradeComponent()` function returns a factory function that we\n * can use to define the AngularJS directive that wraps the \"downgraded\" component.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-heroes-wrapper\"}\n *\n * For more details and examples on downgrading Angular components to AngularJS components please\n * visit the [Upgrade guide](guide/upgrade#using-angular-components-from-angularjs-code).\n *\n * @param info contains information about the Component that is
 being downgraded:\n *\n * - `component: Type<any>`: The type of the Component that will be downgraded\n * - `downgradedModule?: string`: The name of the downgraded module (if any) that the component\n * \"belongs to\", as returned by a call to `downgradeModule()`. It is the module, whose\n * corresponding Angular module will be bootstrapped, when the component needs to be instantiated.\n * <br />\n * (This option is only necessary when using `downgradeModule()` to downgrade more than one\n * Angular module.)\n * - `propagateDigest?: boolean`: Whether to perform {@link ChangeDetectorRef#detectChanges\n * change detection} on the component on every\n * [$digest](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest). If set to `false`,\n * change detection will still be performed when any of the component's inputs changes.\n * (Default: true)\n *\n * @returns a factory function that can be used to register
 the component in an\n * AngularJS module.\n *\n * @publicApi\n */\n function downgradeComponent(info) {\n var directiveFactory = function ($compile, $injector, $parse) {\n // When using `downgradeModule()`, we need to handle certain things specially. For example:\n // - We always need to attach the component view to the `ApplicationRef` for it to be\n // dirty-checked.\n // - We need to ensure callbacks to Angular APIs (e.g. change detection) are run inside the\n // Angular zone.\n // NOTE: This is not needed, when using `UpgradeModule`, because `$digest()` will be run\n // inside the Angular zone (except if explicitly escaped, in which case we shouldn't\n // force it back in).\n var isNgUpgradeLite = getUpgradeAppType($injector) === 3 /* Lite */;\n var wrapCallback = !isNgUpgradeLite ? function (cb) { return cb; } : function
 (cb) { return function () { return core.NgZone.isInAngularZone() ? cb() : ngZone.run(cb); }; };\n var ngZone;\n // When downgrading multiple modules, special handling is needed wrt injectors.\n var hasMultipleDowngradedModules = isNgUpgradeLite && (getDowngradedModuleCount($injector) > 1);\n return {\n restrict: 'E',\n terminal: true,\n require: [REQUIRE_INJECTOR, REQUIRE_NG_MODEL],\n link: function (scope, element, attrs, required) {\n // We might have to compile the contents asynchronously, because this might have been\n // triggered by `UpgradeNg1ComponentAdapterBuilder`, before the Angular templates have\n // been compiled.\n var ngModel = required[1];\n var parentInjector = required[0];\n var moduleInjector = undefined;\n var ranAsync = false;\n
 if (!parentInjector || hasMultipleDowngradedModules) {\n var downgradedModule = info.downgradedModule || '';\n var lazyModuleRefKey = \"\" + LAZY_MODULE_REF + downgradedModule;\n var attemptedAction = \"instantiating component '\" + getTypeName(info.component) + \"'\";\n validateInjectionKey($injector, downgradedModule, lazyModuleRefKey, attemptedAction);\n var lazyModuleRef = $injector.get(lazyModuleRefKey);\n moduleInjector = lazyModuleRef.injector || lazyModuleRef.promise;\n }\n // Notes:\n //\n // There are two injectors: `finalModuleInjector` and `finalParentInjector` (they might be\n // the same instance, but that is irrelevant):\n // - `finalModuleInjector` is used to retrieve `ComponentFactoryResolver`, thus it
```

```
must be\n // on the same tree as the `NgModule` that declares this downgraded component.\n // - `finalParentInjector` is used for all other injection purposes.\n // (Note that Angular knows to only traverse the component-tree part of that injector,\n // when looking for an injectable and then switch to the module injector.)\n //\n // There are basically three cases:\n // - If there is no parent component (thus no `parentInjector`), we bootstrap the downgraded\n // `NgModule` and use its injector as both `finalModuleInjector` and\n // `finalParentInjector`.\n // - If there is a parent component (and thus a `parentInjector`) and we are sure that it\n // belongs to the same `NgModule` as this downgraded component (e.g. because there is only\n // one downgraded module, we use that `parentInjector` as both `finalModuleInjector` and\n // `finalParentInjector`.\n // - If there is a parent component, but it may belong to a different `NgModule`, then we\n // use the `parentInjector` as `finalParentInjector` and this downgraded component's\n // declaring `NgModule`'s injector as `finalModuleInjector`.\n // Note 1: If the `NgModule` is already bootstrapped, we just get its injector (we don't\n // bootstrap again).\n // Note 2: It is possible that (while there are multiple downgraded modules) this\n // downgraded component and its parent component both belong to the same NgModule.\n // In that case, we could have used the `parentInjector` as both\n // `finalModuleInjector` and `finalParentInjector`, but\n // (for simplicity) we are\n // treating this case as if they belong to different `NgModule`s. That doesn't\n // really affect anything, since `parentInjector` has `moduleInjector` as ancestor\n // and trying to resolve `ComponentFactoryResolver` from either one will return\n // the same instance.\n // If there is a parent component, use its injector as parent injector.\n // If this is a \"top-level\" Angular component, use the module injector.\n var finalParentInjector = parentInjector || moduleInjector;\n // If this is a \"top-level\" Angular component or the parent component may belong to a\n // different `NgModule`, use the module injector for module-specific dependencies.\n // If there is a parent component that belongs to the same `NgModule`, use its injector.\n var finalModuleInjector = moduleInjector || parentInjector;\n var doDowngrade = function (injector, moduleInjector) {\n // Retrieve `ComponentFactoryResolver` from the injector tied to the `NgModule` this\n // component belongs to.\n var componentFactoryResolver = moduleInjector.get(core.ComponentFactoryResolver);\n var componentFactory = componentFactoryResolver.resolveComponentFactory(info.component);\n if (!componentFactory) {\n throw new Error(\"Expecting ComponentFactory for: \" + getTypeName(info.component));\n }\n var injectorPromise = new ParentInjectorPromise(element);\n var facade = new DowngradeComponentAdapter(element, attrs, scope, ngModel, injector, $injector, $compile, $parse, componentFactory, wrapCallback);\n var projectableNodes = facade.compileContents();\n facade.createComponent(projectableNodes);\n facade.setupInputs(isNgUpgradeLite, info.propagateDigest);\n facade.setupOutputs();\n facade.registerCleanup();\n injectorPromise.resolve(facade.getInjector());\n if (ranAsync) {\n // If this is run async, it is possible that it is not run inside a\n // digest and initial input values will not be detected.\n scope.$evalAsync(function () { });\n }\n };\n var downgradeFn = !isNgUpgradeLite ? doDowngrade : function (pInjector, mInjector) {\n if (!ngZone) {\n ngZone = pInjector.get(core.NgZone);\n }\n wrapCallback(function () { return doDowngrade(pInjector, mInjector); })();\n };\n // NOTE:\n // Not using `ParentInjectorPromise.all()` (which is inherited from `SyncPromise`), because\n // Closure Compiler (or some related tool) complains:\n // `TypeError: ...$src$downgrade_component_ParentInjectorPromise.all is not a function`\n SyncPromise.all([finalParentInjector, finalModuleInjector])\n .then(function (_a) {\n
```

var _b = __read(_a, 2), pInjector = _b[0], mInjector = _b[1];\n return downgradeFn(pInjector, mInjector);\n });\n ranAsync = true;\n }\n };\n };\n // bracket-notation because of closure - see #14441\n directiveFactory['$inject'] = [$COMPILE, $INJECTOR, $PARSE];\n return directiveFactory;\n }\n /**\n * Synchronous promise-like object to wrap parent injectors,\n * to preserve the synchronous nature of AngularJS's `$compile`.\n */\n var ParentInjectorPromise = /** @class */ (function (_super) {\n __extends(ParentInjectorPromise, _super);\n function ParentInjectorPromise(element) {\n var _this = _super.call(this) || this;\n _this.element = element;\n _this.injectorKey = controllerKey(INJECTOR_KEY);\n // Store the promise on the element.\n element.data(_this.injectorKey, _this);\n return _this;\n }\n ParentInjectorPromise.prototype.resolve = function (injector) {\n // Store the real injector on the element.\n this.element.data(this.injectorKey, injector);\n // Release the element to prevent memory leaks.\n this.element = null;\n // Resolve the promise.\n _super.prototype.resolve.call(this, injector);\n };\n return ParentInjectorPromise;\n }(SyncPromise));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @description\n *\n * A helper function to allow an Angular service to be accessible from AngularJS.\n *\n * *Part of the [upgrade/static](api?query=upgrade%2Fstatic)\n * library for hybrid upgrade apps that support AOT compilation*\n *\n * This helper function returns a factory function that provides access to the Angular\n * service identified by the `token` parameter.\n *\n * @usageNotes\n * ### Examples\n *\n * First ensure that the service to be downgraded is provided in an `NgModule`\n * that will be part of the upgrade application. For example, let's assume we have\n * defined `HeroesService`\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-heroes-service\"}\n *\n * and that we have included this in our upgrade app `NgModule`\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-module\"}\n *\n * Now we can register the `downgradeInjectable` factory function for the service\n * on an AngularJS module.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"downgrade-ng2-heroes-service\"}\n *\n * Inside an AngularJS component's controller we can get hold of the\n * downgraded service via the name we gave when downgrading.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"example-app\"}\n *\n * <div class=\"alert is-important\">\n *\n * When using `downgradeModule()`, downgraded injectables will not be available until the Angular\n * module that provides them is instantiated. In order to be safe, you need to ensure that the\n * downgraded injectables are not used anywhere _outside_ the part of the app where it is\n * guaranteed that their module has been instantiated.\n *\n * For example, it is _OK_ to use a downgraded service in an upgraded component that is only used\n * from a downgraded Angular component provided by the same Angular module as the injectable, but\n * it is _not OK_ to use it in an AngularJS component that may be used independently of Angular or\n * use it in a downgraded Angular component from a different module.\n *\n * \n *\n * @param token an `InjectionToken` that identifies a service provided from Angular.\n * @param downgradedModule the name of the downgraded module (if any) that the injectable\n * \"belongs to\", as returned by a call to `downgradeModule()`. It is the module, whose injector will\n * be used for instantiating the injectable.<br />\n * (This option is only necessary when using `downgradeModule()` to downgrade more than one Angular\n * module.)\n *\n * @returns a [factory function](https://docs.angularjs.org/guide/di) that can be\n * used to register the service on an AngularJS module.\n *\n * @publicApi\n */\n function downgradeInjectable(token, downgradedModule) {\n if (downgradedModule === void 0) { downgradedModule = ''; }\n var factory = function ($injector) {\n var injectorKey = \"\" + INJECTOR_KEY + downgradedModule;\n var injectableName = isFunction(token) ? getTypeName(token) : String(token);\n var attemptedAction = \"instantiating injectable '\" + injectableName + \"'\";\n validateInjectionKey($injector, downgradedModule, injectorKey, attemptedAction);\n try {\n var injector = $injector.get(injectorKey);\n return

injector.get(token);\n }\n catch (err) {\n throw new Error(\"Error while \" + attemptedAction + \": \" + (err.message || err));\n
}\n };\n factory['$inject'] = [$INJECTOR];\n return factory;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @publicApi\n */\n var VERSION = new core.Version('11.0.2');\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // We have to do a little dance to get the ng1 injector into the module injector.\n // We store the ng1 injector so that the provider in the module injector can access it\n // Then we \"get\" the ng1 injector from the module injector, which triggers the provider to read\n // the stored injector and release the reference to it.\n
var tempInjectorRef = null;\n function setTempInjectorRef(injector) {\n tempInjectorRef = injector;\n }\n function injectorFactory() {\n if (!tempInjectorRef) {\n throw new Error('Trying to get the AngularJS injector before it being set.');\n }\n var injector = tempInjectorRef;\n tempInjectorRef = null; // clear the value to prevent memory leaks\n return injector;\n }\n function rootScopeFactory(i) {\n return i.get('$rootScope');\n }\n function compileFactory(i) {\n return i.get('$compile');\n }\n function parseFactory(i) {\n return i.get('$parse');\n }\n var angular1Providers = [\n // We must use exported named functions for the ng2 factories to keep the compiler happy:\n // > Metadata collected contains an error that will be reported at runtime:\n // > Function calls are not supported.\n // > Consider replacing the function or lambda with a reference
to an exported function\n { provide: '$injector', useFactory: injectorFactory, deps: [] },\n { provide: '$rootScope', useFactory: rootScopeFactory, deps: ['$injector'] },\n { provide: '$compile', useFactory: compileFactory, deps: ['$injector'] },\n { provide: '$parse', useFactory: parseFactory, deps: ['$injector'] }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var NgAdapterInjector = /** @class */ (function () {\n function NgAdapterInjector(modInjector) {\n this.modInjector = modInjector;\n }\n // When Angular locate a service in the component injector tree, the not found value is set to\n // `NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR`. In such a case we should not walk up to the module\n // injector.\n
// AngularJS only supports a single tree and should always check the module injector.\n NgAdapterInjector.prototype.get = function (token, notFoundValue) {\n if (notFoundValue === core.NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR) {\n return notFoundValue;\n }\n return this.modInjector.get(token, notFoundValue);\n };\n return NgAdapterInjector;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var moduleUid = 0;\n /**\n * @description\n *\n * A helper function for creating an AngularJS module that can bootstrap an Angular module\n * \"on-demand\" (possibly lazily) when a {@link downgradeComponent downgraded component} needs to be\n * instantiated.\n *\n * **Part of the [upgrade/static](api?query=upgrade/static)
library for hybrid upgrade apps that\n * support AOT compilation.**\n *\n * It allows loading/bootstrapping the Angular part of a hybrid application lazily and not having to\n * pay the cost up-front. For example, you can have an AngularJS application that uses Angular for\n * specific routes and only instantiate the Angular modules if/when the user visits one of these\n * routes.\n *\n * The Angular module will be bootstrapped once (when requested for the first time) and the same\n * reference will be used from that point onwards.\n *\n * `downgradeModule()` requires either an `NgModuleFactory` or a function:\n * - `NgModuleFactory`: If you pass an `NgModuleFactory`, it will be used to instantiate a module\n * using `platformBrowser`'s {@link PlatformRef#bootstrapModuleFactory bootstrapModuleFactory()}.\n * - `Function`: If you pass a function, it is expected to return a promise resolving to an\n * `NgModuleRef`.

```
 The function is called with an array of extra {@link StaticProvider Providers}\n     *   that are expected to be available from the returned `NgModuleRef`'s `Injector`.\n     *\n     * `downgradeModule()` returns the name of the created AngularJS wrapper module. You can use it to\n     * declare a dependency in your main AngularJS module.\n     *\n     * {@example upgrade/static/ts/lite/module.ts region=\"basic-how-to\"}\n     *\n     * For more details on how to use `downgradeModule()` see\n     * [Upgrading for Performance](guide/upgrade-performance).\n     *\n     * @usageNotes\n     *\n     * Apart from `UpgradeModule`, you can use the rest of the `upgrade/static` helpers as usual to\n     * build a hybrid application. Note that the Angular pieces (e.g. downgraded services) will not be\n     * available until the downgraded module has been bootstrapped, i.e. by instantiating a downgraded\n     * component.\n     *\n     * <div class=\"alert is-important\">\n     *\n     *   You cannot use `downgradeModule()` and `UpgradeModule` in the same hybrid application.<br />\n     *   Use one or the other.\n     *\n     * </div>\n     *\n     * ### Differences with `UpgradeModule`\n     *\n     * Besides their different API, there are two important internal differences between\n     * `downgradeModule()` and `UpgradeModule` that affect the behavior of hybrid applications:\n     *\n     * 1. Unlike `UpgradeModule`, `downgradeModule()` does not bootstrap the main AngularJS module\n     *    inside the {@link NgZone Angular zone}.\n     * 2. Unlike `UpgradeModule`, `downgradeModule()` does not automatically run a\n     * [$digest()](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest) when changes are\n     *    detected in the Angular part of the application.\n     *\n     * What this means is that applications using `UpgradeModule` will run change detection more\n     * frequently in order to ensure that both frameworks are properly notified about possible changes.\n     * This will inevitably result in more change detection runs than necessary.\n     *\n     * `downgradeModule()`, on the other side, does not try to tie the two change detection systems as\n     * tightly, restricting the explicit change detection runs only to cases where it knows it is\n     * necessary (e.g. when the inputs of a downgraded component change). This improves performance,\n     * especially in change-detection-heavy applications, but leaves it up to the developer to manually\n     * notify each framework as needed.\n     *\n     * For a more detailed discussion of the differences and their implications, see\n     * [Upgrading for Performance](guide/upgrade-performance).\n     *\n     * <div class=\"alert is-helpful\">\n     *\n     *   You can manually trigger a change detection run in AngularJS using\n     *   [scope.$apply(...)](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$apply) or\n     *   [$rootScope.$digest()](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest).\n     *\n     *   You can manually trigger a change detection run in Angular using {@link NgZone#run\n     *   ngZone.run(...)}.\n     *\n     * </div>\n     *\n     * ### Downgrading multiple modules\n     *\n     * It is possible to downgrade multiple modules and include them in an AngularJS application. In\n     * that case, each downgraded module will be bootstrapped when an associated downgraded component or\n     * injectable needs to be instantiated.\n     *\n     * Things to keep in mind, when downgrading multiple modules:\n     *\n     * - Each downgraded component/injectable needs to be explicitly associated with a downgraded\n     *   module. See `downgradeComponent()` and `downgradeInjectable()` for more details.\n     *\n     * - If you want some injectables to be shared among all downgraded modules, you can provide them as\n     *   `StaticProvider`s, when creating the `PlatformRef` (e.g. via `platformBrowser` or\n     *   `platformBrowserDynamic`).\n     *\n     * - When using {@link PlatformRef#bootstrapmodule `bootstrapModule()`} or\n     *   {@link PlatformRef#bootstrapmodulefactory `bootstrapModuleFactory()`} to bootstrap the\n     *   downgraded modules, each one is considered a \"root\" module. As a consequence, a new instance\n     *   will be created for every injectable provided in `\"root\"` (via\n     *   {@link Injectable#providedIn `providedIn`}).\n     *   If this is not your intention, you can have a shared module (that will act as act as the \"root\"\n     *   module) and create all downgraded modules using that module's injector:\n     *\n     *   {@example upgrade/static/ts/lite-multi-shared/module.ts region=\"shared-root-module\"}\n     *\n     * @publicApi\n     */\n    function downgradeModule(moduleFactoryOrBootstrapFn) {\n        var lazyModuleName = UPGRADE_MODULE_NAME + \".lazy\" + ++moduleUid;\n        var lazyModuleRefKey = \"\" + LAZY_MODULE_REF + lazyModuleName;\n        var
```

```
 lazyInjectorKey = \"\" + INJECTOR_KEY + lazyModuleName;\n        var bootstrapFn =
isFunction(moduleFactoryOrBootstrapFn) ?\n            moduleFactoryOrBootstrapFn :\n            function
(extraProviders) { return
platformBrowser.platformBrowser(extraProviders).bootstrapModuleFactory(moduleFactoryOrBootstrapFn); };\n
 var injector;\n        // Create an ng1 module to bootstrap.\n        module_(lazyModuleName, [])\n
.constant(UPGRADE_APP_TYPE_KEY, 3 /* Lite */)\n            .factory(INJECTOR_KEY, [lazyInjectorKey,
identity])\n            .factory(lazyInjectorKey, function () {\n            if (!injector) {\n                throw new
Error('Trying to get the Angular injector before bootstrapping the corresponding ' +\n                    'Angular
module.');\n            }\n            return injector;\n        })\n            .factory(LAZY_MODULE_REF,
[lazyModuleRefKey, identity])\n            .factory(lazyModuleRefKey, [\n            $INJECTOR,\n            function
($injector)
 {\n                setTempInjectorRef($injector);\n                var result = {\n                    promise:
bootstrapFn(angular1Providers).then(function (ref) {\n                        injector = result.injector = new
NgAdapterInjector(ref.injector);\n                        injector.get($INJECTOR);\n                        return injector;\n
        })\n                };\n                return result;\n            }\n        ])\n            .config([\n            $INJECTOR,
$PROVIDE,\n            function ($injector, $provide) {\n
$provide.constant(DOWNGRADED_MODULE_COUNT_KEY, getDowngradedModuleCount($injector) + 1);\n
    }\n        ]);\n        return lazyModuleName;\n    }\n    function identity(x) {\n        return x;\n    }\n\n    //
Constants\n    var REQUIRE_PREFIX_RE = /^(\\^\\^?)?(\\?)?(\\^\\^?)?/;\n    // Classes\n    var UpgradeHelper = /**
@class */ (function () {\n        function UpgradeHelper(injector, name, elementRef,
 directive) {\n            this.injector = injector;\n            this.name = name;\n            this.$injector =
injector.get($INJECTOR);\n            this.$compile = this.$injector.get($COMPILE);\n            this.$controller =
this.$injector.get($CONTROLLER);\n            this.element = elementRef.nativeElement;\n            this.$element =
element(this.element);\n            this.directive = directive || UpgradeHelper.getDirective(this.$injector, name);\n
    }\n        UpgradeHelper.getDirective = function ($injector, name) {\n            var directives = $injector.get(name +
'Directive');\n            if (directives.length > 1) {\n                throw new Error(\"Only support single directive
definition for: \" + name);\n            }\n            var directive = directives[0];\n            // AngularJS will transform
`link: xyz` to `compile: () => xyz`. So we can only tell there was a\n            // user-defined `compile` if there is no
`link`. In other cases, we will just
 ignore `compile`.\n            if (directive.compile && !directive.link)\n                notSupported(name, 'compile');\n
    if (directive.replace)\n                notSupported(name, 'replace');\n            if (directive.terminal)\n
notSupported(name, 'terminal');\n            return directive;\n        };\n        UpgradeHelper.getTemplate = function
($injector, directive, fetchRemoteTemplate, $element) {\n            if (fetchRemoteTemplate === void 0) {
fetchRemoteTemplate = false; }\n            if (directive.template !== undefined) {\n                return
getOrCall(directive.template, $element);\n            }\n            else if (directive.templateUrl) {\n                var
$templateCache_1 = $injector.get($TEMPLATE_CACHE);\n                var url_1 = getOrCall(directive.templateUrl,
$element);\n                var template = $templateCache_1.get(url_1);\n                if (template !== undefined) {\n
        return template;\n
        }\n                else if (!fetchRemoteTemplate) {\n                    throw new Error('loading directive templates
asynchronously is not supported');\n                }\n                return new Promise(function (resolve, reject) {\n
    var $httpBackend = $injector.get($HTTP_BACKEND);\n                    $httpBackend('GET', url_1, null, function
(status, response) {\n                        if (status === 200) {\n                            resolve($templateCache_1.put(url_1,
response));\n                        }\n                        else {\n                            reject(\"GET component template from '\" +
url_1 + \"' returned '\" + status + \": \" + response + \"'\");\n                        }\n                    });\n                });\n
}\n            else {\n                throw new Error(\"Directive '\" + directive.name + \"' is not a component, it is missing
template.\");\n            }\n        };\n        UpgradeHelper.prototype.buildController
 = function (controllerType, $scope) {\n            // TODO: Document that we do not pre-assign bindings on the
controller instance.\n            // Quoted properties below so that this code can be optimized with Closure Compiler.\n
```

```
var locals = { '$scope': $scope, '$element': this.$element };\n var controller =
this.$controller(controllerType, locals, null, this.directive.controllerAs);\n
this.$element.data(controllerKey(this.directive.name), controller);\n return controller;\n };\n
UpgradeHelper.prototype.compileTemplate = function (template) {\n if (template === undefined) {\n
template =\n UpgradeHelper.getTemplate(this.$injector, this.directive, false, this.$element);\n
}\n return this.compileHtml(template);\n };\n UpgradeHelper.prototype.onDestroy = function
($scope, controllerInstance) {\n if (controllerInstance &&
isFunction(controllerInstance.$onDestroy)) {\n controllerInstance.$onDestroy();\n }\n
$scope.$destroy();\n // Clean the jQuery/jqLite data on the component+child elements.\n // Equivelent
to how jQuery/jqLite invoke `cleanData` on an Element (this.element)\n //
https://github.com/jquery/jquery/blob/e743cbd28553267f955f71ea7248377915613fd9/src/manipulation.js#L223\n
//
https://github.com/angular/angular.js/blob/26ddc5f830f902a3d22f4b2aab70d86d4d688c82/src/jqLite.js#L306-
L312\n // `cleanData` will invoke the AngularJS `$destroy` DOM event\n //
https://github.com/angular/angular.js/blob/26ddc5f830f902a3d22f4b2aab70d86d4d688c82/src/Angular.js#L1911-
L1924\n element.cleanData([this.element]);\n element.cleanData(this.element.querySelectorAll('*'));\n
};\n UpgradeHelper.prototype.prepareTransclusion = function () {\n var _this = this;\n
var transclude = this.directive.transclude;\n var contentChildNodes = this.extractChildNodes();\n
var attachChildrenFn = function (scope, cloneAttachFn) {\n // Since AngularJS v1.5.8, `cloneAttachFn`
will try to destroy the transclusion scope if\n // `$template` is empty. Since the transcluded content comes
from Angular, not AngularJS,\n // there will be no transclusion scope here.\n // Provide a dummy
`scope.$destroy()` method to prevent `cloneAttachFn` from throwing.\n scope = scope || { $destroy:
function () { return undefined; } };\n return cloneAttachFn($template, scope);\n };\n var
$template = contentChildNodes;\n if (transclude) {\n var slots_1 = Object.create(null);\n if
(typeof transclude === 'object') {\n $template = [];\n var slotMap_1 = Object.create(null);\n
var filledSlots_1 = Object.create(null);\n // Parse the element selectors.\n
Object.keys(transclude).forEach(function (slotName) {\n var selector = transclude[slotName];\n
var optional = selector.charAt(0) === '?';\n selector = optional ? selector.substring(1) :
selector;\n slotMap_1[selector] = slotName;\n slots_1[slotName] = null; // `null`:
Defined but not yet filled.\n filledSlots_1[slotName] = optional; // Consider optional slots as filled.\n
});\n // Add the matching elements into their slot.\n
contentChildNodes.forEach(function (node) {\n var slotName =
slotMap_1[directiveNormalize(node.nodeName.toLowerCase())];\n if (slotName) {\n
filledSlots_1[slotName] =
true;\n slots_1[slotName] = slots_1[slotName] || [];\n
slots_1[slotName].push(node);\n }\n else {\n $template.push(node);\n
}\n });\n // Check for required slots that were not filled.\n
Object.keys(filledSlots_1).forEach(function (slotName) {\n if (!filledSlots_1[slotName]) {\n
throw new Error(\"Required transclusion slot '\" + slotName + \"' on directive: \" + _this.name);\n
}\n });\n Object.keys(slots_1).filter(function (slotName) { return slots_1[slotName];
}).forEach(function (slotName) {\n var nodes = slots_1[slotName];\n slots_1[slotName]
= function (scope, cloneAttach) {\n return cloneAttach(nodes,
scope);\n };\n });\n }\n // Attach `$$slots` to default slot transclude
fn.\n attachChildrenFn.$$slots = slots_1;\n // AngularJS v1.6+ ignores empty or whitespace-only
transcluded text nodes. But Angular\n // removes all text content after the first interpolation and updates it
later, after\n // evaluating the expressions. This would result in AngularJS failing to recognize text\n
// nodes that start with an interpolation as transcluded content and use the fallback\n // content instead.\n
// To avoid this issue, we add a\n // [zero-width non-joiner
```

character](https://en.wikipedia.org/wiki/Zero-width_non-joiner)\n // to empty text nodes (which can only be a result of Angular removing their initial content).\n // NOTE: Transcluded text content that starts with whitespace
followed by an interpolation\n // will still fail to be detected by AngularJS v1.6+\n $template.forEach(function (node) {\n if (node.nodeType === Node.TEXT_NODE && !node.nodeValue) {\n node.nodeValue = '\\u200C';\n }\n });\n }\n return attachChildrenFn;\n };\n UpgradeHelper.prototype.resolveAndBindRequiredControllers = function (controllerInstance) {\n var directiveRequire = this.getDirectiveRequire();\n var requiredControllers = this.resolveRequire(directiveRequire);\n if (controllerInstance && this.directive.bindToController && isMap(directiveRequire)) {\n var requiredControllersMap_1 = requiredControllers;\n Object.keys(requiredControllersMap_1).forEach(function (key) {\n controllerInstance[key] = requiredControllersMap_1[key];\n });\n }\n return requiredControllers;\n };\n UpgradeHelper.prototype.compileHtml = function (html) {\n this.element.innerHTML = html;\n return this.$compile(this.element.childNodes);\n };\n UpgradeHelper.prototype.extractChildNodes = function () {\n var childNodes = [];\n var childNode;\n while (childNode = this.element.firstChild) {\n this.element.removeChild(childNode);\n childNodes.push(childNode);\n }\n return childNodes;\n };\n UpgradeHelper.prototype.getDirectiveRequire = function () {\n var require = this.directive.require || (this.directive.controller && this.directive.name);\n if (isMap(require)) {\n Object.keys(require).forEach(function (key) {\n var value = require[key];\n var match = value.match(REQUIRE_PREFIX_RE);\n var
name = value.substring(match[0].length);\n if (!name) {\n require[key] = match[0] + key;\n }\n });\n }\n return require;\n };\n UpgradeHelper.prototype.resolveRequire = function (require, controllerInstance) {\n var _this = this;\n if (!require) {\n return null;\n }\n else if (Array.isArray(require)) {\n return require.map(function (req) { return _this.resolveRequire(req); });\n }\n else if (typeof require === 'object') {\n var value_1 = {};\n Object.keys(require).forEach(function (key) { return value_1[key] = _this.resolveRequire(require[key]); });\n return value_1;\n }\n else if (typeof require === 'string') {\n var match = require.match(REQUIRE_PREFIX_RE);\n var inheritType = match[1]
|| match[3];\n var name = require.substring(match[0].length);\n var isOptional = !!match[2];\n var searchParents = !!inheritType;\n var startOnParent = inheritType === '^^';\n var ctrlKey = controllerKey(name);\n var elem = startOnParent ? this.$element.parent() : this.$element;\n var value = searchParents ? elem.inheritedData(ctrlKey) : elem.data(ctrlKey);\n if (!value && !isOptional) {\n throw new Error(\"Unable to find required '\" + require + \"' in upgraded directive '\" + this.name + \"'.\");\n }\n return value;\n }\n else {\n throw new Error(\"Unrecognized 'require' syntax on upgraded directive '\" + this.name + \"': \" + require);\n }\n };\n return UpgradeHelper;\n }());\n function getOrCall(property) {\n var args = [];\n for
(var _i = 1; _i < arguments.length; _i++) {\n args[_i - 1] = arguments[_i];\n }\n return isFunction(property) ? property.apply(void 0, __spread(args)) : property;\n }\n // NOTE: Only works for `typeof T !== 'object'`.\n function isMap(value) {\n return value && !Array.isArray(value) && typeof value === 'object';\n }\n function notSupported(name, feature) {\n throw new Error(\"Upgraded directive '\" + name + \"' contains unsupported feature: '\" + feature + \"'.\");\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var NOT_SUPPORTED = 'NOT_SUPPORTED';\n var INITIAL_VALUE$1 = {\n __UNINITIALIZED__: true\n };\n var Bindings = /** @class */ (function () {\n function Bindings() {\n this.twoWayBoundProperties

```
= [];\n            this.twoWayBoundLastValues = [];\n            this.expressionBoundProperties = [];\n
this.propertyToOutputMap = {};\n        }\n        return Bindings;\n    }());\n    /**\n     * @description\n     *\n     * A
helper class that allows an AngularJS component to be used from Angular.\n     *\n     * *Part of the
[upgrade/static](api?query=upgrade%2Fstatic)\n     * library for hybrid upgrade apps that support AOT
compilation.*\n     *\n     * This helper class should be used as a base class for creating Angular directives\n     * that
wrap AngularJS components that need to be \"upgraded\".\n     *\n     * @usageNotes\n     * ### Examples\n     *\n
* Let's assume that you have an AngularJS component called `ng1Hero` that needs\n     * to be made available in
Angular templates.\n     *\n     * {@example upgrade/static/ts/full/module.ts region=\"ng1-hero\"}\n     *\n     * We
must create a `Directive` that will make this AngularJS component\n     * available
 inside Angular templates.\n     *\n     * {@example upgrade/static/ts/full/module.ts region=\"ng1-hero-wrapper\"}\n
 *\n     * In this example you can see that we must derive from the `UpgradeComponent`\n     * base class but also
provide an {@link Directive `@Directive`} decorator. This is\n     * because the AOT compiler requires that this
information is statically available at\n     * compile time.\n     *\n     * Note that we must do the following:\n     * *
specify the directive's selector (`ng1-hero`)\n     * * specify all inputs and outputs that the AngularJS component
expects\n     * * derive from `UpgradeComponent`\n     * * call the base class from the constructor, passing\n     *   *
the AngularJS name of the component (`ng1Hero`)\n     *   * the `ElementRef` and `Injector` for the component
wrapper\n     *\n     * @publicApi\n     */\n    var UpgradeComponent = /** @class */ (function () {\n        /**\n
* Create a new `UpgradeComponent` instance. You should
 not normally need to do this.\n         * Instead you should derive a new class from this one and call the super
constructor\n         * from the base class.\n         *\n         * {@example upgrade/static/ts/full/module.ts
region=\"ng1-hero-wrapper\" }\n         *\n         * * The `name` parameter should be the name of the AngularJS
directive.\n         * * The `elementRef` and `injector` parameters should be acquired from Angular by dependency\n
     *   injection into the base class constructor.\n         */\n        function UpgradeComponent(name, elementRef,
injector) {\n            this.name = name;\n            this.elementRef = elementRef;\n            this.injector = injector;\n
  this.helper = new UpgradeHelper(injector, name, elementRef);\n            this.$injector = this.helper.$injector;\n
  this.element = this.helper.element;\n            this.$element = this.helper.$element;\n            this.directive =
this.helper.directive;\n            this.bindings
 = this.initializeBindings(this.directive);\n            // We ask for the AngularJS scope from the Angular injector,
since\n            // we will put the new component scope onto the new injector for each component\n            var
$parentScope = injector.get($SCOPE);\n            // QUESTION 1: Should we create an isolated scope if the scope is
only true?\n            // QUESTION 2: Should we make the scope accessible through
`$element.scope()/isolateScope()`?\n            this.$componentScope = $parentScope.$new(!!this.directive.scope);\n
      this.initializeOutputs();\n        }\n        UpgradeComponent.prototype.ngOnInit = function () {\n            var _this
= this;\n            // Collect contents, insert and compile template\n            var attachChildNodes =
this.helper.prepareTransclusion();\n            var linkFn = this.helper.compileTemplate();\n            // Instantiate
controller\n            var controllerType = this.directive.controller;\n            var
 bindToController = this.directive.bindToController;\n            if (controllerType) {\n                this.controllerInstance
= this.helper.buildController(controllerType, this.$componentScope);\n            }\n            else if (bindToController)
{\n                throw new Error(\"Upgraded directive '\" + this.directive.name + \"' specifies 'bindToController' but no
controller.\");\n            }\n            // Set up outputs\n            this.bindingDestination = bindToController ?
this.controllerInstance : this.$componentScope;\n            this.bindOutputs();\n            // Require other controllers\n
     var requiredControllers = this.helper.resolveAndBindRequiredControllers(this.controllerInstance);\n            //
Hook: $onChanges\n            if (this.pendingChanges) {\n                this.forwardChanges(this.pendingChanges);\n
       this.pendingChanges = null;\n            }\n            // Hook: $onInit\n            if (this.controllerInstance &&
isFunction(this.controllerInstance.$onInit))
 {\n                this.controllerInstance.$onInit();\n            }\n            // Hook: $doCheck\n            if
(this.controllerInstance && isFunction(this.controllerInstance.$doCheck)) {\n                var callDoCheck = function
() { return _this.controllerInstance.$doCheck(); };\n                this.unregisterDoCheckWatcher =
```

```
this.$componentScope.$parent.$watch(callDoCheck);\n callDoCheck();\n }\n // Linking\n
var link = this.directive.link;\n var preLink = typeof link == 'object' && link.pre;\n var postLink =
typeof link == 'object' ? link.post : link;\n var attrs = NOT_SUPPORTED;\n var transcludeFn =
NOT_SUPPORTED;\n if (preLink) {\n preLink(this.$componentScope, this.$element, attrs,
requiredControllers, transcludeFn);\n }\n linkFn(this.$componentScope, null, {
parentBoundTranscludeFn: attachChildNodes
});\n if (postLink) {\n postLink(this.$componentScope, this.$element, attrs, requiredControllers,
transcludeFn);\n }\n // Hook: $postLink\n if (this.controllerInstance &&
isFunction(this.controllerInstance.$postLink)) {\n this.controllerInstance.$postLink();\n }\n };\n
UpgradeComponent.prototype.ngOnChanges = function (changes) {\n if (!this.bindingDestination) {\n
this.pendingChanges = changes;\n }\n else {\n this.forwardChanges(changes);\n
}\n };\n UpgradeComponent.prototype.ngDoCheck = function () {\n var _this = this;\n var
twoWayBoundProperties = this.bindings.twoWayBoundProperties;\n var twoWayBoundLastValues =
this.bindings.twoWayBoundLastValues;\n var propertyToOutputMap =
this.bindings.propertyToOutputMap;\n twoWayBoundProperties.forEach(function
(propName, idx) {\n var newValue = _this.bindingDestination[propName];\n var oldValue =
twoWayBoundLastValues[idx];\n if (!Object.is(newValue, oldValue)) {\n var outputName =
propertyToOutputMap[propName];\n var eventEmitter = _this[outputName];\n
eventEmitter.emit(newValue);\n twoWayBoundLastValues[idx] = newValue;\n }\n });\n
};\n UpgradeComponent.prototype.ngOnDestroy = function () {\n if
(isFunction(this.unregisterDoCheckWatcher)) {\n this.unregisterDoCheckWatcher();\n }\n
this.helper.onDestroy(this.$componentScope, this.controllerInstance);\n };\n
UpgradeComponent.prototype.initializeBindings = function (directive) {\n var _this = this;\n var
btcIsObject = typeof directive.bindToController === 'object';\n if (btcIsObject
&& Object.keys(directive.scope).length) {\n throw new Error(\"Binding definitions on scope and
controller at the same time is not supported.\");\n }\n var context = btcIsObject ?
directive.bindToController : directive.scope;\n var bindings = new Bindings();\n if (typeof context ==
'object') {\n Object.keys(context).forEach(function (propName) {\n var definition =
context[propName];\n var bindingType = definition.charAt(0);\n // QUESTION: What about
`=*`? Ignore? Throw? Support?\n switch (bindingType) {\n case '@':\n case
'<':\n // We don't need to do anything special. They will be defined as inputs on the\n
// upgraded component facade and the change propagation will be handled by\n //
`ngOnChanges()`.\n
break;\n case '=':\n
bindings.twoWayBoundProperties.push(propName);\n
bindings.twoWayBoundLastValues.push(INITIAL_VALUE$1);\n
bindings.propertyToOutputMap[propName] = propName + 'Change';\n break;\n case
'&':\n bindings.expressionBoundProperties.push(propName);\n
bindings.propertyToOutputMap[propName] = propName;\n break;\n default:\n
var json = JSON.stringify(context);\n throw new Error(\"Unexpected mapping '\" +
bindingType + \"' in '\" + json + \"' in '\" + _this.name + \"' directive.\");\n }\n });\n }\n
return bindings;\n };\n UpgradeComponent.prototype.initializeOutputs = function
() {\n var _this = this;\n // Initialize the outputs for `=` and `&` bindings\n
this.bindings.twoWayBoundProperties.concat(this.bindings.expressionBoundProperties)\n
.forEach(function (propName) {\n var outputName = _this.bindings.propertyToOutputMap[propName];\n
_this[outputName] = new core.EventEmitter();\n });\n };\n
UpgradeComponent.prototype.bindOutputs = function () {\n var _this = this;\n // Bind `&` bindings to
the corresponding outputs\n this.bindings.expressionBoundProperties.forEach(function (propName) {\n
```

```
    var outputName = _this.bindings.propertyToOutputMap[propName];\n                var emitter = _this[outputName];\n                _this.bindingDestination[propName] = function (value) { return emitter.emit(value); };\n            });\n        };\n        UpgradeComponent.prototype.forwardChanges = function (changes) {\n            var _this = this;\n            // Forward input changes to `bindingDestination`\n            Object.keys(changes).forEach(function (propName) { return _this.bindingDestination[propName] = changes[propName].currentValue; });\n            if (isFunction(this.bindingDestination.$onChanges)) {\n                this.bindingDestination.$onChanges(changes);\n            }\n        };\n        return UpgradeComponent;\n    }());\n    UpgradeComponent.decorators = [\n        { type: core.Directive }\n    ];\n    UpgradeComponent.ctorParameters = function () { return [\n        { type: String },\n        { type: core.ElementRef },\n        { type: core.Injector }\n    ]; };\n\n    /**\n     * @description\n     *\n     * An `NgModule`, which you import to provide AngularJS core services,\n     * and has an instance method used to bootstrap the hybrid upgrade application.\n     *\n     * *Part of the [upgrade/static](api?query=upgrade/static)\n     * library for hybrid upgrade apps that support AOT compilation*\n     *\n     * The `upgrade/static` package contains helpers that allow AngularJS and Angular components\n     * to be used together inside a hybrid upgrade application, which supports AOT compilation.\n     *\n     * Specifically, the classes and functions in the `upgrade/static` module allow the following:\n     *\n     * 1. Creation of an Angular directive that wraps and exposes an AngularJS component so\n     *    that it can be used in an Angular template. See `UpgradeComponent`.\n     * 2. Creation of an AngularJS directive that wraps and exposes an Angular component so\n     *    that it can be used in an AngularJS template. See `downgradeComponent`.\n     * 3. Creation of an Angular root injector provider that wraps and exposes an AngularJS\n     *    service so that it can be injected into an Angular context. See\n     *    {@link UpgradeModule#upgrading-an-angular-1-service Upgrading an AngularJS service} below.\n     * 4. Creation of an AngularJS service that wraps and exposes an Angular injectable\n     *    so that it can be injected into an AngularJS context. See `downgradeInjectable`.\n     * 3. Bootstrapping of a hybrid Angular application which contains both of the frameworks\n     *    coexisting in a single application.\n     *\n     * @usageNotes\n     *\n     * ```ts\n     * import {UpgradeModule} from '@angular/upgrade/static';\n     * ```\n     *\n     * See also the {@link UpgradeModule#examples examples} below.\n     *\n     * ### Mental Model\n     *\n     * When reasoning about how a hybrid application works it is useful to have a mental model which\n     * describes what is happening and explains what is happening at the lowest level.\n     *\n     * 1. There are two independent frameworks running in a single application, each framework treats\n     *    the other as a black box.\n     * 2. Each DOM element on the page is owned exactly by one framework. Whichever framework\n     *    instantiated the element is the owner. Each framework only updates/interacts with its own\n     *    DOM elements and ignores others.\n     * 3. AngularJS directives always execute inside the AngularJS framework codebase regardless of\n     *    where they are instantiated.\n     * 4. Angular components always execute inside the Angular framework codebase regardless of\n     *    where they are instantiated.\n     * 5. An AngularJS component can be \"upgraded\"\" to an Angular component. This is achieved by\n     *    defining an Angular directive, which bootstraps the AngularJS component at its location\n     *    in the DOM. See `UpgradeComponent`.\n     * 6. An Angular component can be \"downgraded\" to an AngularJS component. This is achieved by\n     *    defining an AngularJS directive, which bootstraps the Angular component at its location\n     *    in the DOM. See `downgradeComponent`.\n     * 7. Whenever an \"upgraded\"/\"downgraded\" component is instantiated the host element is owned by\n     *    the framework doing the instantiation. The other framework then instantiates and owns the\n     *    view for that component.\n     *    1. This implies that the component bindings will always follow the semantics of the\n     *    instantiation framework.\n     *    2. The DOM attributes are parsed by the framework that owns the current template. So\n     *       attributes in AngularJS templates must use kebab-case, while AngularJS templates must use\n     *    camelCase.\n     *    3. However the template binding syntax will always use the Angular style, e.g. square\n     *    brackets (`[...]`) for property binding.\n     * 8. Angular is bootstrapped first; AngularJS is bootstrapped second. AngularJS always owns the\n     *    root component of the application.\n     * 9. The new application is running in an Angular zone, and therefore it no longer needs calls to\n     *    `$apply()`.\n     *\n     * ### The
```

```
`UpgradeModule` class\n     *\n     * This class is an `NgModule`,
 which you import to provide AngularJS core services,\n     * and has an instance method used to bootstrap the
hybrid upgrade application.\n     *\n     * * Core AngularJS services\n     *   Importing this `NgModule` will add
providers for the core\n     *   [AngularJS services](https://docs.angularjs.org/api/ng/service) to the root injector.\n
*\n     * * Bootstrap\n     *   The runtime instance of this class contains a {@link UpgradeModule#bootstrap
`bootstrap()`}\n     *   method, which you use to bootstrap the top level AngularJS module onto an element in the\n
*   DOM for the hybrid upgrade app.\n     *\n     *   It also contains properties to access the {@link
UpgradeModule#injector root injector}, the\n     *   bootstrap `NgZone` and the\n     *   [AngularJS
$injector](https://docs.angularjs.org/api/auto/service/$injector).\n     *\n     * ### Examples\n     *\n     * Import the
`UpgradeModule` into your top level {@link NgModule Angular `NgModule`}.\n     *\n     * {@example
 upgrade/static/ts/full/module.ts region='ng2-module'}\n     *\n     * Then inject `UpgradeModule` into your Angular
`NgModule` and use it to bootstrap the top level\n     * [AngularJS
module](https://docs.angularjs.org/api/ng/type/angular.Module) in the\n     * `ngDoBootstrap()` method.\n     *\n
* {@example upgrade/static/ts/full/module.ts region='bootstrap-ng1'}\n     *\n     * Finally, kick off the whole
process, by bootstraping your top level Angular `NgModule`.\n     *\n     * {@example
upgrade/static/ts/full/module.ts region='bootstrap-ng2'}\n     *\n     * {@a upgrading-an-angular-1-service}\n     *
### Upgrading an AngularJS service\n     *\n     * There is no specific API for upgrading an AngularJS service.
Instead you should just follow the\n     * following recipe:\n     *\n     * Let's say you have an AngularJS service:\n
*\n     * {@example upgrade/static/ts/full/module.ts region=\"ng1-text-formatter-service\"}\n     *\n     * Then you
should define an Angular
 provider to be included in your `NgModule` `providers`\n     * property.\n     *\n     * {@example
upgrade/static/ts/full/module.ts region=\"upgrade-ng1-service\"}\n     *\n     * Then you can use the \"upgraded\"
AngularJS service by injecting it into an Angular component\n     * or service.\n     *\n     * {@example
upgrade/static/ts/full/module.ts region=\"use-ng1-upgraded-service\"}\n     *\n     * @publicApi\n     */\n     var
UpgradeModule = /** @class */ (function () {\n         function UpgradeModule(\n         /** The root `Injector` for the
upgrade application. */\n         injector, \n         /** The bootstrap zone for the upgrade application */\n         ngZone)
{\n             this.ngZone = ngZone;\n             this.injector = new NgAdapterInjector(injector);\n         }\n         /**\n
* Bootstrap an AngularJS application from this NgModule\n          * @param element the element on which to
bootstrap the AngularJS application\n          * @param [modules] the AngularJS modules
 to bootstrap for this application\n          * @param [config] optional extra AngularJS bootstrap configuration\n
*/\n         UpgradeModule.prototype.bootstrap = function (element$1, modules, config
/*angular.IAngularBootstrapConfig*/) {\n             var _this = this;\n             if (modules === void 0) { modules = [];
}\n             var INIT_MODULE_NAME = UPGRADE_MODULE_NAME + '.init';\n             // Create an ng1 module
to bootstrap\n             var initModule = module_(INIT_MODULE_NAME, [])\n
.constant(UPGRADE_APP_TYPE_KEY, 2 /* Static */)\n                 .value(INJECTOR_KEY, this.injector)\n
  .factory(LAZY_MODULE_REF, [INJECTOR_KEY, function (injector) { return ({ injector: injector }); }])\n
    .config([\n                 $PROVIDE, $INJECTOR,\n                 function ($provide, $injector) {\n                     if
($injector.has($$TESTABILITY)) {\n                         $provide.decorator($$TESTABILITY, [\n
          $DELEGATE,\n                         function (testabilityDelegate) {\n                             var
originalWhenStable = testabilityDelegate.whenStable;\n                             var injector = _this.injector;\n
             // Cannot use arrow function below because we need the context\n                             var newWhenStable =
function (callback) {\n                                 originalWhenStable.call(testabilityDelegate, function () {\n
                 var ng2Testability = injector.get(core.Testability);\n                                 if
(ng2Testability.isStable()) {\n                                     callback();\n                                 }\n
        else {\n                                     ng2Testability.whenStable(newWhenStable.bind(testabilityDelegate,
callback));\n                                 }\n
                 });\n                         };\n                         testabilityDelegate.whenStable = newWhenStable;\n
                             return testabilityDelegate;\n                         }\n                     ]);\n                 }\n                 if
```

```
($injector.has($INTERVAL)) {\n                $provide.decorator($INTERVAL, [\n
$DELEGATE,\n                function (intervalDelegate) {\n                // Wrap the $interval service so
that setInterval is called outside NgZone,\n                // but the callback is still invoked within it. This is so
that $interval\n                // won't block stability, which preserves the behavior from AngularJS.\n
        var wrappedInterval = function (fn, delay, count, invokeApply) {\n                var pass = [];\n

    for (var _i = 4; _i < arguments.length; _i++) {\n                pass[_i - 4] = arguments[_i];\n
            }\n                return _this.ngZone.runOutsideAngular(function () {\n
return intervalDelegate.apply(void 0, __spread([function () {\n                var args = [];\n
                for (var _i = 0; _i < arguments.length; _i++) {\n                args[_i] =
arguments[_i];\n                }\n                // Run callback in the next VM turn -
$interval calls\n                // $rootScope.$apply, and running the callback in NgZone will\n
                // cause a '$digest already in progress' error if it's in the\n
            // same vm turn.\n                setTimeout(function () {\n
  _this.ngZone.run(function () { return fn.apply(void 0, __spread(args)); });\n                });\n
                }, delay, count, invokeApply], pass));\n                });\n                };\n
            wrappedInterval['cancel'] = intervalDelegate.cancel;\n                return wrappedInterval;\n
            }\n                ]);\n            }\n        }\n    ])\n        .run([\n
$INJECTOR,\n            function ($injector) {\n                _this.$injector = $injector;\n                // Initialize
the ng1 $injector provider\n                setTempInjectorRef($injector);\n
_this.injector.get($INJECTOR);\n
            // Put the injector on the DOM, so that it can be \"required\"\n
element(element$1).data(controllerKey(INJECTOR_KEY), _this.injector);\n                // Wire up the ng1
rootScope to run a digest cycle whenever the zone settles\n                // We need to do this in the next tick so that
we don't prevent the bootup\n                // stabilizing\n                setTimeout(function () {\n                var
$rootScope = $injector.get('$rootScope');\n                var subscription =
_this.ngZone.onMicrotaskEmpty.subscribe(function () {\n                if ($rootScope.$$phase) {\n
        if (core.isDevMode()) {\n                console.warn('A digest was triggered while one was already in
progress. This may mean that something is triggering digests outside the Angular zone.');\n                }\n

            return $rootScope.$evalAsync();\n                }\n                return $rootScope.$digest();\n
            });\n                $rootScope.$on('$destroy', function () {\n                subscription.unsubscribe();\n
                });\n                }, 0);\n            }\n        ]);\n        var upgradeModule =
module_(UPGRADE_MODULE_NAME, [INIT_MODULE_NAME].concat(modules));\n        // Make sure
resumeBootstrap() only exists if the current bootstrap is deferred\n        var windowAngular =
window['angular'];\n        windowAngular.resumeBootstrap = undefined;\n        // Bootstrap the AngularJS
application inside our zone\n        this.ngZone.run(function () {\n            bootstrap(element$1,
[upgradeModule.name], config);\n        });\n        // Patch resumeBootstrap() to run inside the ngZone\n
if (windowAngular.resumeBootstrap) {\n
      var originalResumeBootstrap_1 = windowAngular.resumeBootstrap;\n            var ngZone_1 =
this.ngZone;\n            windowAngular.resumeBootstrap = function () {\n                var _this = this;\n
var args = arguments;\n                windowAngular.resumeBootstrap = originalResumeBootstrap_1;\n
return ngZone_1.run(function () { return windowAngular.resumeBootstrap.apply(_this, args); });\n            };\n
  }\n    };\n    return UpgradeModule;\n}());\n UpgradeModule.decorators = [\n    { type:
core.NgModule, args: [{ providers: [angular1Providers] },] }\n ];\n UpgradeModule.ctorParameters = function ()
{ return [\n    { type: core.Injector },\n    { type: core.NgZone }\n ]; };\n\n /**\n * @license\n *
Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
license that can be\n * found in the LICENSE file
```

at https://angular.io/license\n */\n // This file only re-exports items to appear in the public api. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.UpgradeComponent = UpgradeComponent;\n exports.UpgradeModule = UpgradeModule;\n exports.VERSION = VERSION;\n exports.downgradeComponent = downgradeComponent;\n exports.downgradeInjectable = downgradeInjectable;\n exports.downgradeModule = downgradeModule;\n exports.getAngularJSGlobal = getAngularJSGlobal;\n exports.getAngularLib = getAngularLib;\n exports.setAngularJSGlobal = setAngularJSGlobal;\n exports.setAngularLib = setAngularLib;\n exports.angular_packages_upgrade_static_static_a = injectorFactory;\n exports.angular_packages_upgrade_static_static_b = rootScopeFactory;\n exports.angular_packages_upgrade_static_static_c = compileFactory;\n exports.angular_packages_upgrade_static_static_d = parseFactory;\n exports.angular_packages_upgrade_static_static_e = angular1Providers;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}))));\n//# sourceMappingURL=upgrade-static.umd.js.map\n"]}

Found in path(s):
* /upgrade-11-0-2-tgz/package/bundles/upgrade-static.umd.min.js.map
No license file was found, but licenses were detected in source scan.

```
/**
* @license Angular v11.0.2
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
   * @license
   * Copyright Google LLC All Rights Reserved.
   *
   * Use of this source code is governed by an MIT-style license that can be
   * found in the LICENSE file at https://angular.io/license
   */
```

Found in path(s):
* /upgrade-11-0-2-tgz/package/bundles/upgrade-static-testing.umd.min.js
* /upgrade-11-0-2-tgz/package/bundles/upgrade-static-testing.umd.js
* /upgrade-11-0-2-tgz/package/bundles/upgrade-static.umd.min.js
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"static.js","sources":["../../../../../../packages/upgrade/src/common/src/angular1.ts","../../../../../../packages/upgrade/src/common/src/constants.ts","../../../../../../packages/upgrade/src/common/src/component_info.ts","../../../../../../packages/upgrade/src/common/src/util.ts","../../../../../../packages/upgrade/src/common/src/downgrade_component_adapter.ts","../../../../../../packages/upgrade/src/common/src/promise_util.ts","../../../../../../packages/upgrade/src/common/src/downgrade_component.ts","../../../../../../packages/upgrade/src/common/src/downgrade_injectable.ts","../../../../../../packages/upgrade/src/common/src/version.ts","../../../../../../packages/upgrade/static/src/angular1_providers.ts","../../../../../../packages/upgrade/static/src/util.ts","../../../../../../packages/upgrade/static/src/downgrade_module.ts","../../../../../../packages/upgrade/src/common/src/upgrade_helper.ts","../../../../../../packages/upgrade/static/src/upgrade_component.ts","../../../../../../packages/upgrade/static/src/upgrade_module.ts","../../../../../../packages/upgrade/static/public_api.ts","../../../../../../packages/upgrade/static/index.ts","../../../../../../packages/upgrade/static/static.ts"],"so

urcesContent":["/**\n
 * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport type Ng1Token = string;\n\nexport type Ng1Expression = string|Function;\n\nexport interface IAnnotatedFunction extends Function {\n  // Older versions of `@types/angular` typings extend the global `Function` interface with\n  // `$inject?: string[]`, which is not compatible with `$inject?: ReadonlyArray<string>` (used in\n  // latest versions).\n $inject?: Function extends {$inject?: string[]}? Ng1Token[]: ReadonlyArray<Ng1Token>;\n}\n\nexport type IInjectable
 = (Ng1Token|Function)[]|IAnnotatedFunction;\n\nexport type SingleOrListOrMap<T> = T|T[]|{[key: string]: T};\n\nexport interface IModule {\n  name: string;\n  requires: (string|IInjectable)[];\n  config(fn: IInjectable): IModule;\n  directive(selector: string, factory: IInjectable): IModule;\n  component(selector: string, component: IComponent): IModule;\n  controller(name: string, type: IInjectable): IModule;\n  factory(key: Ng1Token, factoryFn: IInjectable): IModule;\n  value(key: Ng1Token, value: any): IModule;\n  constant(token: Ng1Token, value: any): IModule;\n  run(a: IInjectable): IModule;\n}\nexport interface ICompileService {\n  (element: Element|NodeList|Node[]|string, transclude?: Function): ILinkFn;\n}\nexport interface ILinkFn {\n  (scope: IScope, cloneAttachFn?: ICloneAttachFunction, options?: ILinkFnOptions): IAugmentedJQuery;\n  $$slots?: {[slotName: string]: ILinkFn};\n}\nexport interface ILinkFnOptions {\n  parentBoundTranscludeFn?: Function;\n transcludeControllers?:
 {[key: string]: any};\n  futureParentElement?: Node;\n}\nexport interface IRootScopeService {\n  $new(isolate?: boolean): IScope;\n  $id: string;\n  $parent: IScope;\n  $root: IScope;\n  $watch(exp: Ng1Expression, fn?: (a1?: any, a2?: any) => void): Function;\n  $on(event: string, fn?: (event?: any, ...args: any[]) => void): Function;\n  $destroy(): any;\n  $apply(exp?: Ng1Expression): any;\n  $digest(): any;\n  $evalAsync(exp: Ng1Expression, locals?: any): void;\n  $on(event: string, fn?: (event?: any, ...args: any[]) => void): Function;\n  $$childTail: IScope;\n $$childHead: IScope;\n  $$nextSibling: IScope;\n  [key: string]: any;\n}\nexport interface IScope extends IRootScopeService {}\n\nexport interface IAngularBootstrapConfig {\n  strictDi?: boolean;\n}\nexport interface IDirective {\n  compile?: IDirectiveCompileFn;\n  controller?: IController;\n  controllerAs?: string;\n bindToController?: boolean|{[key: string]: string};\n  link?: IDirectiveLinkFn|IDirectivePrePost;\n
  name?: string;\n  priority?: number;\n  replace?: boolean;\n  require?: DirectiveRequireProperty;\n  restrict?: string;\n  scope?: boolean|{[key: string]: string};\n  template?: string|Function;\n  templateUrl?: string|Function;\n templateNamespace?: string;\n  terminal?: boolean;\n  transclude?: DirectiveTranscludeProperty;\n}\nexport type DirectiveRequireProperty = SingleOrListOrMap<string>;\nexport type DirectiveTranscludeProperty = boolean|'element'|{[key: string]: string};\nexport interface IDirectiveCompileFn {\n  (templateElement: IAugmentedJQuery, templateAttributes: IAttributes,\n   transclude: ITranscludeFunction): IDirectivePrePost;\n}\nexport interface IDirectivePrePost {\n  pre?: IDirectiveLinkFn;\n  post?: IDirectiveLinkFn;\n}\nexport interface IDirectiveLinkFn {\n  (scope: IScope, instanceElement: IAugmentedJQuery, instanceAttributes: IAttributes,\n   controller: any, transclude: ITranscludeFunction): void;\n}\nexport interface IComponent {\n  bindings?: {[key: string]:
 string};\n  controller?: string|IInjectable;\n  controllerAs?: string;\n  require?: DirectiveRequireProperty;\n template?: string|Function;\n  templateUrl?: string|Function;\n  transclude?: DirectiveTranscludeProperty;\n}\nexport interface IAttributes {\n  $observe(attr: string, fn: (v: string) => void): void;\n  [key: string]: any;\n}\nexport interface ITranscludeFunction {\n  // If the scope is provided, then the cloneAttachFn must be as well.\n  (scope: IScope, cloneAttachFn: ICloneAttachFunction): IAugmentedJQuery;\n  // If one argument is provided, then it's assumed to be the cloneAttachFn.\n  (cloneAttachFn?: ICloneAttachFunction): IAugmentedJQuery;\n}\nexport interface ICloneAttachFunction {\n  (clonedElement: IAugmentedJQuery, scope: IScope): any;\n}\nexport type IAugmentedJQuery = Node[]&{\n  on?: (name: string, fn: () => void) => void;\n data?: (name: string, value?: any) => any;\n  text?: () => string;\n  inheritedData?: (name: string, value?: any) => any;\n  contents?:

() => IAugmentedJQuery;\n  parent?: () => IAugmentedJQuery;\n  empty?: () => void;\n  append?: (content: IAugmentedJQuery|string) => IAugmentedJQuery;\n  controller?: (name: string) => any;\n  isolateScope?: () => IScope;\n  injector?: () => IInjectorService;\n  triggerHandler?: (eventTypeOrObject: string|Event, extraParameters?: any[]) => IAugmentedJQuery;\n  remove?: () => void;\n  removeData?: () => void;\n};\nexport interface IProvider {\n  $get: IInjectable;\n}\nexport interface IProvideService {\n  provider(token: Ng1Token, provider: IProvider): IProvider;\n  factory(token: Ng1Token, factory: IInjectable): IProvider;\n  service(token: Ng1Token, type: IInjectable): IProvider;\n  value(token: Ng1Token, value: any): IProvider;\n  constant(token: Ng1Token, value: any): void;\n  decorator(token: Ng1Token, factory: IInjectable): void;\n}\nexport interface IParseService {\n  (expression: string): ICompiledExpression;\n}\nexport interface ICompiledExpression {\n  (context: any, locals: any): any;\n  assign?: (context: any, value: any) => any;\n}\nexport interface IHttpBackendService {\n  (method: string, url: string, post?: any, callback?: Function, headers?: any, timeout?: number,\n  withCredentials?: boolean): void;\n}\nexport interface ICacheObject {\n  put<T>(key: string, value?: T): T;\n  get(key: string): any;\n}\nexport interface ITemplateCacheService extends ICacheObject {}\nexport interface ITemplateRequestService {\n  (template: string|any /* TrustedResourceUrl */, ignoreRequestError?: boolean): Promise<string>;\n  totalPendingRequests: number;\n}\nexport type IController = string|IInjectable;\nexport interface IControllerService {\n  (controllerConstructor: IController, locals?: any, later?: any, ident?: any): any;\n  (controllerName: string, locals?: any): any;\n}\n\nexport interface IInjectorService {\n  get(key: string): any;\n  has(key: string): boolean;\n}\n\nexport interface IIntervalService {\n  (func: Function, delay: number, count?: number, invokeApply?:
boolean,\n  ...args: any[]): Promise<any>;\n  cancel(promise: Promise<any>): boolean;\n}\n\nexport interface ITestabilityService {\n  findBindings(element: Element, expression: string, opt_exactMatch?: boolean): Element[];\n  findModels(element: Element, expression: string, opt_exactMatch?: boolean): Element[];\n  getLocation(): string;\n  setLocation(url: string): void;\n  whenStable(callback: Function): void;\n}\n\nexport interface INgModelController {\n  $render(): void;\n  $isEmpty(value: any): boolean;\n  $setValidity(validationErrorKey: string, isValid: boolean): void;\n  $setPristine(): void;\n  $setDirty(): void;\n  $setUntouched(): void;\n  $setTouched(): void;\n  $rollbackViewValue(): void;\n  $validate(): void;\n  $commitViewValue(): void;\n  $setViewValue(value: any, trigger: string): void;\n\n  $viewValue: any;\n  $modelValue: any;\n  $parsers: Function[];\n  $formatters: Function[];\n  $validators: {[key: string]: Function};\n  $asyncValidators: {[key: string]: Function};\n
  $viewChangeListeners: Function[];\n  $error: Object;\n  $pending: Object;\n  $untouched: boolean;\n  $touched: boolean;\n  $pristine: boolean;\n  $dirty: boolean;\n  $valid: boolean;\n  $invalid: boolean;\n  $name: string;\n}\n\nfunction noNg(): never {\n  throw new Error('AngularJS v1.x is not loaded!');\n}\n\nconst noNgElement: typeof angular.element = (() => noNg()) as any;\nnoNgElement.cleanData = noNg;\n\nlet angular: {\n  bootstrap: (e: Element, modules: (string|IInjectable)[], config?: IAngularBootstrapConfig) =>\n  IInjectorService,\n  module: (prefix: string, dependencies?: string[]) => IModule,\n  element: {\n    (e: string|Element|Document|IAugmentedJQuery): IAugmentedJQuery;\n    cleanData: (nodes: Node[]|NodeList) => void;\n  },\n  injector: (modules: Array<string|IInjectable>, strictDi?: boolean) => IInjectorService,\n  version: {major: number},\n  resumeBootstrap: () => void,\n  getTestability: (e: Element) => ITestabilityService\n} = {\n  bootstrap: noNg,\n
  module: noNg,\n  element: noNgElement,\n  injector: noNg,\n  version: undefined as any,\n  resumeBootstrap: noNg,\n  getTestability: noNg\n};\n\ntry {\n  if (window.hasOwnProperty('angular')) {\n    angular = (<any>window).angular;\n  }\n} catch {\n  // ignore in CJS mode.\n}\n\n/**\n * @deprecated Use `setAngularJSGlobal` instead.\n *\n * @publicApi\n */\nexport function setAngularLib(ng: any): void {\n  setAngularJSGlobal(ng);\n}\n\n/**\n * @deprecated Use `getAngularJSGlobal` instead.\n *\n * @publicApi\n */\nexport function getAngularLib(): any {\n  return getAngularJSGlobal();\n}\n\n/**\n * Resets the AngularJS global.\n *\n * Used when AngularJS is loaded lazily, and not available on `window`.\n *\n * @publicApi\n */\nexport function setAngularJSGlobal(ng: any): void {\n  angular = ng;\n}\n\n/**\n * Returns the current AngularJS global.\n *\n * @publicApi\n */\nexport function getAngularJSGlobal(): any {\n  return angular;\n}\n\nexport const bootstrap: typeof angular.bootstrap

= (e, modules, config?) =>\n  angular.bootstrap(e, modules, config);\n\n// Do not declare as `module` to avoid webpack bug\n// (see https://github.com/angular/angular/issues/30050).\nexport const module_: typeof angular.module = (prefix, dependencies?) =>\n  angular.module(prefix, dependencies);\n\nexport const element: typeof angular.element = (e => angular.element(e)) as typeof angular.element;\nelement.cleanData = nodes => angular.element.cleanData(nodes);\n\nexport const injector: typeof angular.injector =\n  (modules: Array<string|IInjectable>, strictDi?: boolean) => angular.injector(modules, strictDi);\n\nexport const resumeBootstrap: typeof angular.resumeBootstrap = () => angular.resumeBootstrap();\n\nexport const getTestability: typeof angular.getTestability = e => angular.getTestability(e);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nexport const $COMPILE = '$compile';\nexport const $CONTROLLER = '$controller';\nexport const $DELEGATE = '$delegate';\nexport const $EXCEPTION_HANDLER = '$exceptionHandler';\nexport const $HTTP_BACKEND = '$httpBackend';\nexport const $INJECTOR = '$injector';\nexport const $INTERVAL = '$interval';\nexport const $PARSE = '$parse';\nexport const $PROVIDE = '$provide';\nexport const $ROOT_SCOPE = '$rootScope';\nexport const $SCOPE = '$scope';\nexport const $TEMPLATE_CACHE = '$templateCache';\nexport const $TEMPLATE_REQUEST = '$templateRequest';\n\nexport const $$TESTABILITY = '$$testability';\n\nexport const COMPILER_KEY = '$$angularCompiler';\nexport const DOWNGRADED_MODULE_COUNT_KEY = '$$angularDowngradedModuleCount';\nexport const GROUP_PROJECTABLE_NODES_KEY = '$$angularGroupProjectableNodes';\nexport const INJECTOR_KEY = '$$angularInjector';\nexport const LAZY_MODULE_REF = '$$angularLazyModuleRef';\nexport const NG_ZONE_KEY = '$$angularNgZone';\nexport
const UPGRADE_APP_TYPE_KEY = '$$angularUpgradeAppType';\n\nexport const REQUIRE_INJECTOR = '?^^' + INJECTOR_KEY;\nexport const REQUIRE_NG_MODEL = '?ngModel';\n\nexport const UPGRADE_MODULE_NAME = '$$UpgradeModule';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A `PropertyBinding` represents a mapping between a property name\n * and an attribute name. It is parsed from a string of the form\n * `\"prop: attr\"`; or simply `\"propAndAttr\" where the property\n * and attribute have the same identifier.\n */\nexport class PropertyBinding {\n  // TODO(issue/24571): remove '!'.\n  bracketAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  bracketParenAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  parenAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  onAttr!: string;\n  // TODO(issue/24571): remove '!'.\n
  bindAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  bindonAttr!: string;\n\n  constructor(public prop: string, public attr: string) {\n    this.parseBinding();\n  }\n\n  private parseBinding() {\n    this.bracketAttr = `[${this.attr}]`;\n    this.parenAttr = `(${this.attr})`;\n    this.bracketParenAttr = `[(${this.attr})]`;\n    const capitalAttr = this.attr.charAt(0).toUpperCase() + this.attr.substr(1);\n    this.onAttr = `on${capitalAttr}`;\n    this.bindAttr = `bind${capitalAttr}`;\n    this.bindonAttr = `bindon${capitalAttr}`;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, Type} from '@angular/core';\n\nimport {IInjectorService, INgModelController} from './angular1';\nimport {DOWNGRADED_MODULE_COUNT_KEY, UPGRADE_APP_TYPE_KEY} from './constants';\n\nconst DIRECTIVE_PREFIX_REGEXP
= /^(?:x|data)[:\\-_]/i;\nconst DIRECTIVE_SPECIAL_CHARS_REGEXP = /[:\\-_]+(.)/g;\n\nexport function onError(e: any) {\n  // TODO: (misko): We seem to not have a stack trace here!\n  if (console.error) {\n    console.error(e, e.stack);\n  } else {\n    // tslint:disable-next-line:no-console\n    console.log(e, e.stack);\n  }\n  throw e;\n}\n\nexport function controllerKey(name: string): string {\n  return '$' + name + 'Controller';\n}\n\nexport function directiveNormalize(name: string): string {\n  return name.replace(DIRECTIVE_PREFIX_REGEXP, '')\n    .replace(DIRECTIVE_SPECIAL_CHARS_REGEXP, (_, letter) => letter.toUpperCase());\n}\n\nexport function

getTypeName(type: Type<any>): string {\n  // Return the name of the type or the first line of its stringified version.\n  return (type as any).overriddenName || type.name || type.toString().split('\\n')[0];\n}\n\nexport function getDowngradedModuleCount($injector: IInjectorService): number {\n  return $injector.has(DOWNGRADED_MODULE_COUNT_KEY)
 ? $injector.get(DOWNGRADED_MODULE_COUNT_KEY) :\n 0;\n}\n\nexport function getUpgradeAppType($injector: IInjectorService): UpgradeAppType {\n  return $injector.has(UPGRADE_APP_TYPE_KEY) ? $injector.get(UPGRADE_APP_TYPE_KEY) :\n UpgradeAppType.None;\n}\n\nexport function isFunction(value: any): value is Function {\n  return typeof value === 'function';\n}\n\nexport function validateInjectionKey(\n  $injector: IInjectorService, downgradedModule: string, injectionKey: string,\n  attemptedAction: string): void {\n  const upgradeAppType = getUpgradeAppType($injector);\n  const downgradedModuleCount = getDowngradedModuleCount($injector);\n\n  // Check for common errors.\n  switch (upgradeAppType) {\n    case UpgradeAppType.Dynamic:\n    case UpgradeAppType.Static:\n      if (downgradedModule) {\n        throw new Error(\n            `Error while ${attemptedAction}: 'downgradedModule'
 unexpectedly specified.\\n` +\n            'You should not specify a value for \\'downgradedModule\\', unless you are downgrading ' +\n            'more than one Angular module (via \\'downgradeModule()\\').');\n      }\n      break;\n    case UpgradeAppType.Lite:\n      if (!downgradedModule && (downgradedModuleCount >= 2)) {\n        throw new Error(\n            `Error while ${attemptedAction}: 'downgradedModule' not specified.\\n` +\n            'This application contains more than one downgraded Angular module, thus you need to ' +\n            'always specify \\'downgradedModule\\' when downgrading components and injectables.');\n      }\n\n      if (!$injector.has(injectionKey)) {\n        throw new Error(\n            `Error while ${attemptedAction}: Unable to find the specified downgraded module.\\n` +\n            'Did you forget to downgrade an Angular module or include it in the AngularJS ' +\n            'application?');\n      }\n\n      break;\n    default:\n      throw new Error(\n          `Error while ${attemptedAction}: Not a valid '@angular/upgrade' application.\\n` +\n          'Did you forget to downgrade an Angular module or include it in the AngularJS ' +\n          'application?');\n  }\n}\n\nexport class Deferred<R> {\n  promise: Promise<R>;\n  // TODO(issue/24571): remove '!'.\n  resolve!: (value?: R|PromiseLike<R>) => void;\n  // TODO(issue/24571): remove '!'.\n  reject!: (error?: any) => void;\n\n  constructor() {\n    this.promise = new Promise((res, rej) => {\n      this.resolve = res;\n      this.reject = rej;\n    });\n  }\n}\n\nexport interface LazyModuleRef {\n  injector?: Injector;\n  promise?: Promise<Injector>;\n}\n\nexport const enum UpgradeAppType {\n  // App NOT using `@angular/upgrade`. (This should never happen in an `ngUpgrade` app.)\n  None,\n\n  // App using the deprecated `@angular/upgrade` APIs (a.k.a. dynamic `ngUpgrade`).\n  Dynamic,\n\n  // App using `@angular/upgrade/static` with `UpgradeModule`.\n  Static,\n\n  // App using @angular/upgrade/static` with `downgradeModule()` (a.k.a `ngUpgrade`-lite ).\n  Lite,\n}\n\n/**\n * @return Whether the passed-in component implements the subset of the\n *     `ControlValueAccessor` interface needed for AngularJS `ng-model`\n *     compatibility.\n */\nfunction supportsNgModel(component: any) {\n  return typeof component.writeValue === 'function' &&\n      typeof component.registerOnChange === 'function';\n}\n\n/**\n * Glue the AngularJS `NgModelController` (if it exists) to the component\n * (if it implements the needed subset of the `ControlValueAccessor` interface).\n */\nexport function hookupNgModel(ngModel: INgModelController, component: any) {\n  if (ngModel && supportsNgModel(component)) {\n    ngModel.$render = () => {\n      component.writeValue(ngModel.$viewValue);\n    };\n    component.registerOnChange(ngModel.$setViewValue.bind(ngModel));\n    if (typeof component.registerOnTouched === 'function') {\n      component.registerOnTouched(ngModel.$setTouched.bind(ngModel));\n    }\n  }\n}\n\n/**\n * Test two values for strict equality, accounting for the fact that `NaN !== NaN`.\n */\nexport function strictEquals(val1: any, val2: any): boolean {\n  return val1 === val2 || (val1 !== val1 && val2 !== val2);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n

```
*/\n\nimport {ApplicationRef, ChangeDetectorRef, ComponentFactory, ComponentRef, EventEmitter, Injector, OnChanges, SimpleChange, SimpleChanges, StaticProvider, Testability, TestabilityRegistry, Type} from '@angular/core';\n\nimport {IAttributes, IAugmentedJQuery, ICompileService, IInjectorService, INgModelController, IParseService, IScope} from './angular1';\nimport {PropertyBinding} from './component_info';\nimport {$SCOPE} from './constants';\nimport {getTypeName, hookupNgModel, strictEquals} from './util';\n\nconst
 INITIAL_VALUE = {\n  __UNINITIALIZED__: true\n};\n\nexport class DowngradeComponentAdapter {\n private implementsOnChanges = false;\n  private inputChangeCount: number = 0;\n  private inputChanges: SimpleChanges = {};\n  private componentScope: IScope;\n  // TODO(issue/24571): remove '!'.\n  private componentRef!: ComponentRef<any>;\n  private component: any;\n  // TODO(issue/24571): remove '!'.\n  private changeDetector!: ChangeDetectorRef;\n  // TODO(issue/24571): remove '!'.\n  private viewChangeDetector!: ChangeDetectorRef;\n\n  constructor(\n      private element: IAugmentedJQuery, private attrs: IAttributes, private scope: IScope,\n      private ngModel: INgModelController, private parentInjector: Injector,\n      private $injector: IInjectorService, private $compile: ICompileService,\n      private $parse: IParseService, private componentFactory: ComponentFactory<any>,\n      private wrapCallback: <T>(cb: () => T) => () => T) {\n    this.componentScope = scope.$new();\n  }\n\n
  compileContents(): Node[][] {\n    const compiledProjectableNodes: Node[][] = [];\n    const projectableNodes: Node[][] = this.groupProjectableNodes();\n    const linkFns = projectableNodes.map(nodes => this.$compile(nodes));\n\n    this.element.empty!();\n\n    linkFns.forEach(linkFn => {\n      linkFn(this.scope, (clone: Node[]) => {\n        compiledProjectableNodes.push(clone);\n        this.element.append!(clone);\n      });\n    });\n\n    return compiledProjectableNodes;\n  }\n\n  createComponent(projectableNodes: Node[][]) {\n    const providers: StaticProvider[] = [{provide: $SCOPE, useValue: this.componentScope}];\n    const childInjector = Injector.create(\n        {providers: providers, parent: this.parentInjector, name: 'DowngradeComponentAdapter'});\n\n    this.componentRef =\n        this.componentFactory.create(childInjector, projectableNodes, this.element[0]);\n    this.viewChangeDetector = this.componentRef.injector.get(ChangeDetectorRef);\n    this.changeDetector =
 this.componentRef.changeDetectorRef;\n    this.component = this.componentRef.instance;\n\n    // testability hook is commonly added during component bootstrap in\n    // packages/core/src/application_ref.bootstrap()\n    // in downgraded application, component creation will take place here as well as adding the\n    // testability hook.\n    const testability = this.componentRef.injector.get(Testability, null);\n    if (testability) {\n      this.componentRef.injector.get(TestabilityRegistry)\n          .registerApplication(this.componentRef.location.nativeElement, testability);\n    }\n\n    hookupNgModel(this.ngModel, this.component);\n  }\n\n  setupInputs(manuallyAttachView: boolean, propagateDigest = true): void {\n    const attrs = this.attrs;\n    const inputs = this.componentFactory.inputs || [];\n    for (let i = 0; i < inputs.length; i++) {\n      const input = new PropertyBinding(inputs[i].propName, inputs[i].templateName);\n      let expr: string|null = null;\n\n      if (attrs.hasOwnProperty(input.attr))
 {\n        const observeFn = (prop => {\n          let prevValue = INITIAL_VALUE;\n          return (currValue: any) => {\n            // Initially, both `$observe()` and `$watch()` will call this function.\n            if (!strictEquals(prevValue, currValue)) {\n              if (prevValue === INITIAL_VALUE) {\n                prevValue = currValue;\n              }\n\n              this.updateInput(prop, prevValue, currValue);\n              prevValue = currValue;\n            }\n          };\n        })(input.prop);\n        attrs.$observe(input.attr, observeFn);\n\n        // Use `$watch()` (in addition to `$observe()`) in order to initialize the input in time\n        // for `ngOnChanges()`. This is necessary if we are already in a `$digest`, which means that\n        // `ngOnChanges()` (which is called by a watcher) will run before the `$observe()` callback.\n        let unwatch: Function|null = this.componentScope.$watch(() => {\n          unwatch!();\n
          unwatch = null;\n          observeFn(attrs[input.attr]);\n        });\n\n      } else if (attrs.hasOwnProperty(input.bindAttr)) {\n        expr = attrs[input.bindAttr];\n      } else if (attrs.hasOwnProperty(input.bracketAttr)) {\n        expr = attrs[input.bracketAttr];\n      } else if
```

(attrs.hasOwnProperty(input.bindonAttr)) {\n expr = attrs[input.bindonAttr];\n } else if (attrs.hasOwnProperty(input.bracketParenAttr)) {\n expr = attrs[input.bracketParenAttr];\n }\n if (expr != null) {\n const watchFn =\n (prop => (currValue: any, prevValue: any) =>\n this.updateInput(prop, prevValue, currValue))(input.prop);\n this.componentScope.$watch(expr, watchFn);\n }\n }\n\n // Invoke `ngOnChanges()` and Change Detection (when necessary)\n const detectChanges = () => this.changeDetector.detectChanges();\n const prototype = this.componentFactory.componentType.prototype;\n this.implementsOnChanges
= !!(prototype && (<OnChanges>prototype).ngOnChanges);\n\n this.componentScope.$watch(() => this.inputChangeCount, this.wrapCallback(() => {\n // Invoke `ngOnChanges()`\n if (this.implementsOnChanges) {\n const inputChanges = this.inputChanges;\n this.inputChanges = {};\n (<OnChanges>this.component).ngOnChanges(inputChanges!);\n }\n\n this.viewChangeDetector.markForCheck();\n\n // If opted out of propagating digests, invoke change detection when inputs change.\n if (!propagateDigest) {\n detectChanges();\n }\n }));\n\n // If not opted out of propagating digests, invoke change detection on every digest\n if (propagateDigest) {\n this.componentScope.$watch(this.wrapCallback(detectChanges));\n }\n\n // If necessary, attach the view so that it will be dirty-checked.\n // (Allow time for the initial input values to be set and `ngOnChanges()` to be called.)\n if (manuallyAttachView || !propagateDigest)
{\n let unwatch: Function|null = this.componentScope.$watch(() => {\n unwatch!();\n unwatch = null;\n\n const appRef = this.parentInjector.get<ApplicationRef>(ApplicationRef);\n appRef.attachView(this.componentRef.hostView);\n });\n }\n }\n\n setupOutputs() {\n const attrs = this.attrs;\n const outputs = this.componentFactory.outputs || [];\n for (let j = 0; j < outputs.length; j++) {\n const output = new PropertyBinding(outputs[j].propName, outputs[j].templateName);\n const bindonAttr = output.bindonAttr.substring(0, output.bindonAttr.length - 6);\n const bracketParenAttr =\n `[(${output.bracketParenAttr.substring(2, output.bracketParenAttr.length - 8)})]`;\n // order below is important - first update bindings then evaluate expressions\n if (attrs.hasOwnProperty(bindonAttr)) {\n this.subscribeToOutput(output, attrs[bindonAttr], true);\n }\n if (attrs.hasOwnProperty(bracketParenAttr))
{\n this.subscribeToOutput(output, attrs[bracketParenAttr], true);\n }\n if (attrs.hasOwnProperty(output.onAttr)) {\n this.subscribeToOutput(output, attrs[output.onAttr]);\n }\n if (attrs.hasOwnProperty(output.parenAttr)) {\n this.subscribeToOutput(output, attrs[output.parenAttr]);\n }\n }\n }\n\n private subscribeToOutput(output: PropertyBinding, expr: string, isAssignment: boolean = false) {\n const getter = this.$parse(expr);\n const setter = getter.assign;\n if (isAssignment && !setter) {\n throw new Error(`Expression '${expr}' is not assignable!`);\n }\n const emitter = this.component[output.prop] as EventEmitter<any>;\n if (emitter) {\n emitter.subscribe({\n next: isAssignment ? (v: any) => setter!(this.scope, v) :\n (v: any) => getter(this.scope, {'$event': v})\n });\n } else {\n throw new Error(`Missing emitter '${output.prop}' on component '${\n getTypeName(this.componentFactory.componentType)}'!`);\n }\n }\n\n registerCleanup() {\n const testabilityRegistry = this.componentRef.injector.get(TestabilityRegistry);\n const destroyComponentRef = this.wrapCallback(() => this.componentRef.destroy());\n let destroyed = false;\n\n this.element.on!('$destroy', () => this.componentScope.$destroy());\n this.componentScope.$on('$destroy', () => {\n if (!destroyed) {\n destroyed = true;\n testabilityRegistry.unregisterApplication(this.componentRef.location.nativeElement);\n destroyComponentRef();\n }\n });\n }\n\n getInjector(): Injector {\n return this.componentRef.injector;\n }\n\n private updateInput(prop: string, prevValue: any, currValue: any) {\n if (this.implementsOnChanges) {\n this.inputChanges[prop] = new SimpleChange(prevValue, currValue, prevValue === currValue);\n }\n\n this.inputChangeCount++;\n this.component[prop] = currValue;\n }\n\n
groupProjectableNodes() {\n let ngContentSelectors = this.componentFactory.ngContentSelectors;\n return groupNodesBySelector(ngContentSelectors, this.element.contents!());\n }\n}\n\n/**\n * Group a set of DOM nodes into `ngContent` groups, based on the given content selectors.\n */\nexport function groupNodesBySelector(ngContentSelectors: string[], nodes: Node[]): Node[][] {\n const projectableNodes:

Node[][] = [];\n  let wildcardNgContentIndex: number;\n\n  for (let i = 0, ii = ngContentSelectors.length; i < ii; ++i) {\n    projectableNodes[i] = [];\n  }\n\n  for (let j = 0, jj = nodes.length; j < jj; ++j) {\n    const node = nodes[j];\n const ngContentIndex = findMatchingNgContentIndex(node, ngContentSelectors);\n    if (ngContentIndex != null) {\n      projectableNodes[ngContentIndex].push(node);\n    }\n  }\n\n  return projectableNodes;\n}\n\nfunction findMatchingNgContentIndex(element: any, ngContentSelectors: string[]): number|null {\n  const ngContentIndices: number[]
 = [];\n  let wildcardNgContentIndex: number = -1;\n  for (let i = 0; i < ngContentSelectors.length; i++) {\n    const selector = ngContentSelectors[i];\n    if (selector === '*') {\n      wildcardNgContentIndex = i;\n    } else {\n      if (matchesSelector(element, selector)) {\n        ngContentIndices.push(i);\n      }\n    }\n  }\n ngContentIndices.sort();\n\n  if (wildcardNgContentIndex !== -1) {\n ngContentIndices.push(wildcardNgContentIndex);\n  }\n  return ngContentIndices.length ? ngContentIndices[0] : null;\n}\n\nlet _matches: (this: any, selector: string) => boolean;\n\nfunction matchesSelector(el: any, selector: string): boolean {\n  if (!_matches) {\n    const elProto = <any>Element.prototype;\n    _matches = elProto.matches || elProto.matchesSelector || elProto.mozMatchesSelector ||\n        elProto.msMatchesSelector || elProto.oMatchesSelector || elProto.webkitMatchesSelector;\n  }\n  return el.nodeType === Node.ELEMENT_NODE ? _matches.call(el, selector) : false;\n}\n","/**\n
 * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {isFunction} from './util';\n\nexport interface Thenable<T> {\n  then(callback: (value: T) => any): any;\n}\n\nexport function isThenable<T>(obj: unknown): obj is Thenable<T> {\n  return !!obj && isFunction((obj as any).then);\n}\n\n/**\n * Synchronous, promise-like object.\n */\nexport class SyncPromise<T> {\n  protected value: T|undefined;\n private resolved = false;\n  private callbacks: ((value: T) => unknown)[] = [];\n\n  static all<T>(valuesOrPromises: (T|Thenable<T>)[]): SyncPromise<T[]> {\n    const aggrPromise = new SyncPromise<T[]>();\n\n    let resolvedCount = 0;\n    const results: T[] = [];\n    const resolve = (idx: number, value: T) => {\n      results[idx] = value;\n      if (++resolvedCount === valuesOrPromises.length) aggrPromise.resolve(results);\n    };\n\n    valuesOrPromises.forEach((p, idx) => {\n      if (isThenable(p)) {\n        p.then(v => resolve(idx, v));\n      } else {\n        resolve(idx, p);\n      }\n    });\n\n    return aggrPromise;\n  }\n\n  resolve(value: T): void {\n    // Do nothing, if already resolved.\n    if (this.resolved) return;\n\n    this.value = value;\n    this.resolved = true;\n\n    // Run the queued callbacks.\n    this.callbacks.forEach(callback => callback(value));\n    this.callbacks.length = 0;\n  }\n\n  then(callback: (value: T) => unknown): void {\n    if (this.resolved) {\n      callback(this.value!);\n    } else {\n      this.callbacks.push(callback);\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentFactory, ComponentFactoryResolver, Injector, NgZone, Type} from '@angular/core';\n\nimport
 {IAnnotatedFunction, IAttributes, IAugmentedJQuery, ICompileService, IDirective, IInjectorService, INgModelController, IParseService, IScope} from './angular1';\nimport {$COMPILE, $INJECTOR, $PARSE, INJECTOR_KEY, LAZY_MODULE_REF, REQUIRE_INJECTOR, REQUIRE_NG_MODEL} from './constants';\nimport {DowngradeComponentAdapter} from './downgrade_component_adapter';\nimport {SyncPromise, Thenable} from './promise_util';\nimport {controllerKey, getDowngradedModuleCount, getTypeName, getUpgradeAppType, LazyModuleRef, UpgradeAppType, validateInjectionKey} from './util';\n\n\n/**\n * @description\n *\n * A helper function that allows an Angular component to be used from AngularJS.\n *\n * *Part of the [upgrade/static](api?query=upgrade%2Fstatic)\n * library for hybrid upgrade apps that support AOT compilation*\n *\n * This helper function returns a factory function to be used for registering\n * an AngularJS wrapper directive for \"downgrading\" an Angular component.\n *\n * @usageNotes\n * ### Examples\n
 *\n * Let's assume that you have an Angular component called `ng2Heroes` that needs\n * to be made available in AngularJS templates.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-heroes\"}\n *\n * We must create an AngularJS [directive](https://docs.angularjs.org/guide/directive)\n * that will make this Angular

component available inside AngularJS templates.\n * The `downgradeComponent()` function returns a factory function that we\n * can use to define the AngularJS directive that wraps the \"downgraded\" component.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-heroes-wrapper\"}\n *\n * For more details and examples on downgrading Angular components to AngularJS components please\n * visit the [Upgrade guide](guide/upgrade#using-angular-components-from-angularjs-code).\n *\n * @param info contains information about the Component that is being downgraded:\n *\n * - `component: Type<any>`: The type of the Component that will be downgraded\n *
- `downgradedModule?: string`: The name of the downgraded module (if any) that the component\n * \"belongs to\", as returned by a call to `downgradeModule()`. It is the module, whose\n * corresponding Angular module will be bootstrapped, when the component needs to be instantiated.\n * <br />\n * (This option is only necessary when using `downgradeModule()` to downgrade more than one\n * Angular module.)\n * - `propagateDigest?: boolean`: Whether to perform {@link ChangeDetectorRef#detectChanges\n * change detection} on the component on every\n * [$digest](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest). If set to `false`,\n * change detection will still be performed when any of the component's inputs changes.\n * (Default: true)\n *\n * @returns a factory function that can be used to register the component in an\n * AngularJS module.\n *\n * @publicApi\n */\nexport function downgradeComponent(info: {\n component: Type<any>;\n downgradedModule?: string;\n propagateDigest?: boolean;\n /** @deprecated since v4. This parameter is no longer used */\n inputs?: string[];\n /** @deprecated since v4. This parameter is no longer used */\n outputs?: string[];\n /** @deprecated since v4. This parameter is no longer used */\n selectors?: string[];\n}): any /* angular.IInjectable */ {\n const directiveFactory: IAnnotatedFunction = function(\n $compile: ICompileService, $injector: IInjectorService, $parse: IParseService): IDirective {\n // When using `downgradeModule()`, we need to handle certain things specially. For example:\n // - We always need to attach the component view to the `ApplicationRef` for it to be\n // dirty-checked.\n // - We need to ensure callbacks to Angular APIs (e.g. change detection) are run inside the\n // Angular zone.\n // NOTE: This is not needed, when using `UpgradeModule`, because `$digest()` will be run\n // inside the Angular zone (except if explicitly escaped, in
which case we shouldn't\n // force it back in).\n const isNgUpgradeLite = getUpgradeAppType($injector) === UpgradeAppType.Lite;\n const wrapCallback: <T>(cb: () => T) => typeof cb =\n !isNgUpgradeLite ? cb => cb : cb => () => NgZone.isInAngularZone() ? cb() : ngZone.run(cb);\n let ngZone: NgZone;\n\n // When downgrading multiple modules, special handling is needed wrt injectors.\n const hasMultipleDowngradedModules =\n isNgUpgradeLite && (getDowngradedModuleCount($injector) > 1);\n\n return {\n restrict: 'E',\n terminal: true,\n require: [REQUIRE_INJECTOR, REQUIRE_NG_MODEL],\n link: (scope: IScope, element: IAugmentedJQuery, attrs: IAttributes, required: any[]) => {\n // We might have to compile the contents asynchronously, because this might have been\n // triggered by `UpgradeNg1ComponentAdapterBuilder`, before the Angular templates have\n // been compiled.\n\n const ngModel: INgModelController
= required[1];\n const parentInjector: Injector|Thenable<Injector>|undefined = required[0];\n let moduleInjector: Injector|Thenable<Injector>|undefined = undefined;\n let ranAsync = false;\n\n if (!parentInjector || hasMultipleDowngradedModules) {\n const downgradedModule = info.downgradedModule || '';\n const lazyModuleRefKey = `${LAZY_MODULE_REF}${downgradedModule}`;\n const attemptedAction = `instantiating component '${getTypeName(info.component)}'`;\n\n validateInjectionKey($injector, downgradedModule, lazyModuleRefKey, attemptedAction);\n\n const lazyModuleRef = $injector.get(lazyModuleRefKey) as LazyModuleRef;\n moduleInjector = lazyModuleRef.injector || lazyModuleRef.promise as Promise<Injector>;\n }\n\n // Notes:\n //\n // There are two injectors: `finalModuleInjector` and `finalParentInjector` (they might be\n // the same instance, but that is irrelevant):\n\n // - `finalModuleInjector` is used to retrieve `ComponentFactoryResolver`, thus it must be\n // on the same tree as the `NgModule` that declares this downgraded component.\n // - `finalParentInjector` is used for all other injection purposes.\n // (Note that Angular knows to only traverse the component-tree part of that injector,\n

```
// when looking for an injectable and then switch to the module injector.)\n //\n // There are basically three cases:\n // - If there is no parent component (thus no `parentInjector`), we bootstrap the downgraded\n // `NgModule` and use its injector as both `finalModuleInjector` and\n // `finalParentInjector`.\n // - If there is a parent component (and thus a `parentInjector`) and we are sure that it\n // belongs to the same `NgModule` as this downgraded component (e.g. because there is only\n // one downgraded module, we use that `parentInjector` as both `finalModuleInjector`
and\n // `finalParentInjector`.\n // - If there is a parent component, but it may belong to a different `NgModule`, then we\n // use the `parentInjector` as `finalParentInjector` and this downgraded component's\n // declaring `NgModule`'s injector as `finalModuleInjector`.\n // Note 1: If the `NgModule` is already bootstrapped, we just get its injector (we don't\n // bootstrap again).\n // Note 2: It is possible that (while there are multiple downgraded modules) this\n // downgraded component and its parent component both belong to the same NgModule.\n // In that case, we could have used the `parentInjector` as both\n // `finalModuleInjector` and `finalParentInjector`, but (for simplicity) we are\n // treating this case as if they belong to different `NgModule`s. That doesn't\n // really affect anything, since `parentInjector` has `moduleInjector` as ancestor\n // and trying to resolve `ComponentFactoryResolver` from either one will return\n // the same instance.\n\n // If there is a parent component, use its injector as parent injector.\n // If this is a \"top-level\" Angular component, use the module injector.\n const finalParentInjector = parentInjector || moduleInjector!;\n\n // If this is a \"top-level\" Angular component or the parent component may belong to a\n // different `NgModule`, use the module injector for module-specific dependencies.\n // If there is a parent component that belongs to the same `NgModule`, use its injector.\n const finalModuleInjector = moduleInjector || parentInjector!;\n\n const doDowngrade = (injector: Injector, moduleInjector: Injector) => {\n // Retrieve `ComponentFactoryResolver` from the injector tied to the `NgModule` this\n // component belongs to.\n
const componentFactoryResolver: ComponentFactoryResolver =\n moduleInjector.get(ComponentFactoryResolver);\n const componentFactory: ComponentFactory<any> =\n componentFactoryResolver.resolveComponentFactory(info.component)!;\n\n if (!componentFactory) {\n throw new Error(`Expecting ComponentFactory for: ${getTypeName(info.component)}`);\n }\n\n const injectorPromise = new ParentInjectorPromise(element);\n const facade = new DowngradeComponentAdapter(\n element, attrs, scope, ngModel, injector, $injector, $compile, $parse,\n componentFactory, wrapCallback);\n\n const projectableNodes = facade.compileContents();\n facade.createComponent(projectableNodes);\n facade.setupInputs(isNgUpgradeLite, info.propagateDigest);\n facade.setupOutputs();\n facade.registerCleanup();\n\n injectorPromise.resolve(facade.getInjector());\n\n
if (ranAsync) {\n // If this is run async, it is possible that it is not run inside a\n // digest and initial input values will not be detected.\n scope.$evalAsync(() => {});\n }\n };\n\n const downgradeFn =\n !isNgUpgradeLite ? doDowngrade : (pInjector: Injector, mInjector: Injector) => {\n if (!ngZone) {\n ngZone = pInjector.get(NgZone);\n }\n\n wrapCallback(() => doDowngrade(pInjector, mInjector))();\n };\n\n // NOTE:\n // Not using `ParentInjectorPromise.all()` (which is inherited from `SyncPromise`), because\n // Closure Compiler (or some related tool) complains:\n // `TypeError: ...$src$downgrade_component_ParentInjectorPromise.all is not a function`\n SyncPromise.all([finalParentInjector, finalModuleInjector])\n .then(([pInjector, mInjector]) => downgradeFn(pInjector, mInjector));\n\n
ranAsync = true;\n }\n };\n };\n\n // bracket-notation because of closure - see #14441\n directiveFactory['$inject'] = [$COMPILE, $INJECTOR, $PARSE];\n return directiveFactory;\n}\n\n/**\n * Synchronous promise-like object to wrap parent injectors,\n * to preserve the synchronous nature of AngularJS's `$compile`.\n */\nclass ParentInjectorPromise extends SyncPromise<Injector> {\n private injectorKey: string = controllerKey(INJECTOR_KEY);\n\n constructor(private element: IAugmentedJQuery) {\n super();\n\n // Store the promise on the element.\n element.data!(this.injectorKey, this);\n }\n\n resolve(injector: Injector): void {\n
```

// Store the real injector on the element.\n this.element.data!(this.injectorKey, injector);\n\n // Release the element to prevent memory leaks.\n this.element = null!;\n\n // Resolve the promise.\n super.resolve(injector);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\nimport {IInjectorService} from './angular1';\nimport {$INJECTOR, INJECTOR_KEY} from './constants';\nimport {getTypeName, isFunction, validateInjectionKey} from './util';\n\n/**\n * @description\n *\n * A helper function to allow an Angular service to be accessible from AngularJS.\n *\n * *Part of the [upgrade/static](api?query=upgrade%2Fstatic)\n * library for hybrid upgrade apps that support AOT compilation*\n *\n * This helper function returns a factory function that provides access to the Angular\n * service identified by the `token` parameter.\n *\n * @usageNotes\n * ### Examples\n *\n * First ensure that the service to be downgraded is provided in an `NgModule`\n * that will be part of the upgrade application. For example, let's assume we have\n * defined `HeroesService`\n *\n * {@example upgrade/static/ts/full/module.ts
region=\"ng2-heroes-service\"}\n *\n * and that we have included this in our upgrade app `NgModule`\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-module\"}\n *\n * Now we can register the `downgradeInjectable` factory function for the service\n * on an AngularJS module.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"downgrade-ng2-heroes-service\"}\n *\n * Inside an AngularJS component's controller we can get hold of the\n * downgraded service via the name we gave when downgrading.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"example-app\"}\n *\n * <div class=\"alert is-important\">\n *\n * When using `downgradeModule()`, downgraded injectables will not be available until the Angular\n * module that provides them is instantiated. In order to be safe, you need to ensure that the\n * downgraded injectables are not used anywhere _outside_ the part of the app where it is\n * guaranteed that their module has been instantiated.\n *\n
* For example, it is _OK_ to use a downgraded service in an upgraded component that is only used\n * from a downgraded Angular component provided by the same Angular module as the injectable, but\n * it is _not OK_ to use it in an AngularJS component that may be used independently of Angular or\n * use it in a downgraded Angular component from a different module.\n *\n * \n *\n * @param token an `InjectionToken` that identifies a service provided from Angular.\n * @param downgradedModule the name of the downgraded module (if any) that the injectable\n * \"belongs to\", as returned by a call to `downgradeModule()`. It is the module, whose injector will\n * be used for instantiating the injectable.<br />\n * (This option is only necessary when using `downgradeModule()` to downgrade more than one Angular\n * module.)\n *\n * @returns a [factory function](https://docs.angularjs.org/guide/di) that can be\n * used to register the service on an AngularJS module.\n *\n * @publicApi\n
*/\nexport function downgradeInjectable(token: any, downgradedModule: string = ''): Function {\n const factory = function($injector: IInjectorService) {\n const injectorKey = `${INJECTOR_KEY}${downgradedModule}`;\n const injectableName = isFunction(token) ? getTypeName(token) : String(token);\n const attemptedAction = `instantiating injectable '${injectableName}'`;\n\n validateInjectionKey($injector, downgradedModule, injectorKey, attemptedAction);\n\n try {\n const injector: Injector = $injector.get(injectorKey);\n return injector.get(token);\n } catch (err) {\n throw new Error(`Error while ${attemptedAction}: ${err.message || err}`);\n }\n };\n (factory as any)['$inject'] = [$INJECTOR];\n\n return factory;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n
* @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.2');\n","\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {IInjectorService} from '../../src/common/src/angular1';\n\n// We have to do a little dance to get the ng1 injector into the module injector.\n// We store the ng1 injector so that the provider in the module injector can access it\n// Then

we \"get\" the ng1 injector from the module injector, which triggers the provider to read\n// the stored injector and release the reference to it.\nlet tempInjectorRef: IInjectorService|null = null;\nexport function setTempInjectorRef(injector: IInjectorService) {\n tempInjectorRef = injector;\n}\nexport function injectorFactory() {\n if (!tempInjectorRef) {\n throw new Error('Trying to get the AngularJS injector before it being set.');\n }\n\n const injector: IInjectorService = tempInjectorRef;\n tempInjectorRef = null; // clear the value to prevent memory leaks\n return injector;\n}\n\nexport function rootScopeFactory(i: IInjectorService) {\n return i.get('$rootScope');\n}\n\nexport function compileFactory(i: IInjectorService) {\n return i.get('$compile');\n}\n\nexport function parseFactory(i: IInjectorService) {\n return i.get('$parse');\n}\n\nexport const angular1Providers = [\n // We must use exported named functions for the ng2 factories to keep the compiler happy:\n // > Metadata collected contains an error that will be reported at runtime:\n // > Function calls are not supported.\n // > Consider replacing the function or lambda with a reference to an exported function\n {provide: '$injector', useFactory: injectorFactory, deps: []},\n {provide: '$rootScope', useFactory: rootScopeFactory, deps: ['$injector']},\n {provide: '$compile', useFactory: compileFactory, deps: ['$injector']},\n {provide: '$parse', useFactory: parseFactory, deps: ['$injector']}\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR as NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR} from '@angular/core';\n\n\nexport class NgAdapterInjector implements Injector {\n constructor(private modInjector: Injector) {}\n\n // When Angular locate a service in the component injector tree, the not found value is set to\n // `NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR`. In such a case we should not walk up to the module\n // injector.\n // AngularJS only supports a single tree and should always check the module injector.\n get(token: any, notFoundValue?: any): any {\n if (notFoundValue === NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n {\n return notFoundValue;\n }\n\n return this.modInjector.get(token, notFoundValue);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, NgModuleFactory, NgModuleRef, StaticProvider} from '@angular/core';\nimport {platformBrowser} from '@angular/platform-browser';\n\nimport {IInjectorService, IProvideService, module_ as angularModule} from '../../src/common/src/angular1';\nimport {$INJECTOR, $PROVIDE, DOWNGRADED_MODULE_COUNT_KEY, INJECTOR_KEY, LAZY_MODULE_REF, UPGRADE_APP_TYPE_KEY, UPGRADE_MODULE_NAME} from '../../src/common/src/constants';\nimport {getDowngradedModuleCount, isFunction, LazyModuleRef, UpgradeAppType} from '../../src/common/src/util';\n\nimport {angular1Providers, setTempInjectorRef} from './angular1_providers';\nimport {NgAdapterInjector} from './util';\n\n\nlet moduleUid = 0;\n\n/**\n * @description\n *\n * A helper function for creating an AngularJS module that can bootstrap an Angular module\n * \"on-demand\" (possibly lazily) when a {@link downgradeComponent downgraded component} needs to be\n * instantiated.\n *\n * *Part of the [upgrade/static](api?query=upgrade/static) library for hybrid upgrade apps that\n * support AOT compilation.*\n *\n * It allows loading/bootstrapping the Angular part of a hybrid application lazily and not having to\n * pay the cost up-front. For example, you can have an AngularJS application that uses Angular for\n * specific routes and only instantiate the Angular modules if/when the user visits one of these\n * routes.\n *\n * The Angular module will be bootstrapped once (when requested for the first time) and the same\n * reference will be used from that point onwards.\n *\n * `downgradeModule()` requires either an `NgModuleFactory` or a function:\n * - `NgModuleFactory`: If you pass an `NgModuleFactory`, it will be used to instantiate a module\n * using `platformBrowser`'s {@link PlatformRef#bootstrapModuleFactory bootstrapModuleFactory()}.\n * - `Function`: If you pass a function, it is expected to return a promise resolving to an\n * `NgModuleRef`. The function is called with an array of extra {@link StaticProvider Providers}\n * that are expected to be available from the returned `NgModuleRef`'s `Injector`.\n *\n * `downgradeModule()` returns the

name of the created AngularJS wrapper module. You can use it to\n * declare a dependency in your main AngularJS module.\n *\n * {@example upgrade/static/ts/lite/module.ts region=\"basic-how-to\"}\n *\n * For more details on how to use `downgradeModule()` see\n * [Upgrading for Performance](guide/upgrade-performance).\n *\n * @usageNotes\n *\n * Apart from `UpgradeModule`, you can use the rest of the `upgrade/static` helpers as usual to\n * build a hybrid application. Note that the Angular pieces (e.g. downgraded services)
will not be\n * available until the downgraded module has been bootstrapped, i.e. by instantiating a downgraded\n * component.\n *\n * <div class=\"alert is-important\">\n *\n * You cannot use `downgradeModule()` and `UpgradeModule` in the same hybrid application.<br />\n * Use one or the other.\n *\n * \n *\n * ### Differences with `UpgradeModule`\n *\n * Besides their different API, there are two important internal differences between\n * `downgradeModule()` and `UpgradeModule` that affect the behavior of hybrid applications:\n *\n * 1. Unlike `UpgradeModule`, `downgradeModule()` does not bootstrap the main AngularJS module\n * inside the {@link NgZone Angular zone}.\n * 2. Unlike `UpgradeModule`, `downgradeModule()` does not automatically run a\n * [$digest()](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest) when changes are\n * detected in the Angular part of the application.\n *\n * What this means is that applications using `UpgradeModule` will
run change detection more\n * frequently in order to ensure that both frameworks are properly notified about possible changes.\n * This will inevitably result in more change detection runs than necessary.\n *\n * `downgradeModule()`, on the other side, does not try to tie the two change detection systems as\n * tightly, restricting the explicit change detection runs only to cases where it knows it is\n * necessary (e.g. when the inputs of a downgraded component change). This improves performance,\n * especially in change-detection-heavy applications, but leaves it up to the developer to manually\n * notify each framework as needed.\n *\n * For a more detailed discussion of the differences and their implications, see\n * [Upgrading for Performance](guide/upgrade-performance).\n *\n * <div class=\"alert is-helpful\">\n *\n * You can manually trigger a change detection run in AngularJS using\n * [scope.$apply(...)](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$apply) or\n * [$rootScope.$digest()](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest).\n *\n * You can manually trigger a change detection run in Angular using {@link NgZone#run\n * ngZone.run(...)}.\n *\n * \n *\n * ### Downgrading multiple modules\n *\n * It is possible to downgrade multiple modules and include them in an AngularJS application. In\n * that case, each downgraded module will be bootstrapped when an associated downgraded component or\n * injectable needs to be instantiated.\n *\n * Things to keep in mind, when downgrading multiple modules:\n *\n * - Each downgraded component/injectable needs to be explicitly associated with a downgraded\n * module. See `downgradeComponent()` and `downgradeInjectable()` for more details.\n *\n * - If you want some injectables to be shared among all downgraded modules, you can provide them as\n * `StaticProvider`s, when creating the `PlatformRef` (e.g. via `platformBrowser` or\n * `platformBrowserDynamic`).\n *\n * -
When using {@link PlatformRef#bootstrapmodule `bootstrapModule()`} or\n * {@link PlatformRef#bootstrapmodulefactory `bootstrapModuleFactory()`} to bootstrap the\n * downgraded modules, each one is considered a \"root\" module. As a consequence, a new instance\n * will be created for every injectable provided in `\"root\"` (via\n * {@link Injectable#providedIn `providedIn`}).\n * If this is not your intention, you can have a shared module (that will act as act as the \"root\"\n * module) and create all downgraded modules using that module's injector:\n *\n * {@example upgrade/static/ts/lite-multi-shared/module.ts region=\"shared-root-module\"}\n *\n * @publicApi\n */\nexport function downgradeModule<T>(moduleFactoryOrBootstrapFn: NgModuleFactory<T>|(\n (extraProviders: StaticProvider[]) => Promise<NgModuleRef<T>>)): string {\n const lazyModuleName = `${UPGRADE_MODULE_NAME}.lazy${++moduleUid}`;\n const lazyModuleRefKey = `${LAZY_MODULE_REF}${lazyModuleName}`;\n const
lazyInjectorKey = `${INJECTOR_KEY}${lazyModuleName}`;\n\n const bootstrapFn = isFunction(moduleFactoryOrBootstrapFn) ?\n moduleFactoryOrBootstrapFn :\n (extraProviders: StaticProvider[]) =>\n platformBrowser(extraProviders).bootstrapModuleFactory(moduleFactoryOrBootstrapFn);\n\n let injector:

Injector;\n\n  // Create an ng1 module to bootstrap.\n  angularModule(lazyModuleName, [])\n .constant(UPGRADE_APP_TYPE_KEY, UpgradeAppType.Lite)\n      .factory(INJECTOR_KEY, [lazyInjectorKey, identity])\n      .factory(\n          lazyInjectorKey,\n          () => {\n            if (!injector) {\n              throw new Error(\n                  'Trying to get the Angular injector before bootstrapping the corresponding ' +\n                  'Angular module.');\n            }\n            return injector;\n          })\n      .factory(LAZY_MODULE_REF, [lazyModuleRefKey, identity])\n      .factory(\n          lazyModuleRefKey,\n          [\n            $INJECTOR,\n            ($injector: IInjectorService) => {\n              setTempInjectorRef($injector);\n              const result: LazyModuleRef = {\n                promise: bootstrapFn(angular1Providers).then(ref => {\n                  injector = result.injector = new NgAdapterInjector(ref.injector);\n                  injector.get($INJECTOR);\n\n                  return injector;\n                })\n              };\n              return result;\n            }\n          ])\n      .config([\n        $INJECTOR,\n        $PROVIDE,\n        ($injector: IInjectorService, $provide: IProvideService) => {\n          $provide.constant(DOWNGRADED_MODULE_COUNT_KEY, getDowngradedModuleCount($injector) + 1);\n        }\n      ]);\n\n  return lazyModuleName;\n}\n\nfunction identity<T = any>(x: T): T {\n  return x;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ElementRef, Injector, SimpleChanges} from '@angular/core';\n\nimport {DirectiveRequireProperty, element as angularElement, IAugmentedJQuery, ICloneAttachFunction, ICompileService, IController, IControllerService, IDirective, IHttpBackendService, IInjectorService, ILinkFn, IScope, ITemplateCacheService, SingleOrListOrMap} from './angular1';\nimport {$COMPILE, $CONTROLLER, $HTTP_BACKEND, $INJECTOR, $TEMPLATE_CACHE} from './constants';\nimport {controllerKey, directiveNormalize, isFunction} from './util';\n\n\n\n// Constants\nconst REQUIRE_PREFIX_RE = /^(\\^\\^?)?(\\?)?(\\^\\^?)?/;\n\n// Interfaces\nexport interface IBindingDestination {\n  [key: string]: any;\n  $onChanges?: (changes: SimpleChanges) => void;\n}\n\nexport interface IControllerInstance extends IBindingDestination {\n  $doCheck?: () => void;\n  $onDestroy?: () => void;\n  $onInit?: () => void;\n  $postLink?: () => void;\n}\n\n// Classes\nexport class UpgradeHelper {\n  public readonly $injector: IInjectorService;\n  public readonly element: Element;\n  public readonly $element: IAugmentedJQuery;\n  public readonly directive: IDirective;\n\n  private readonly $compile: ICompileService;\n  private readonly $controller: IControllerService;\n\n constructor(\n      private injector: Injector, private name: string, elementRef: ElementRef,\n      directive?: IDirective) {\n    this.$injector = injector.get($INJECTOR);\n    this.$compile = this.$injector.get($COMPILE);\n    this.$controller = this.$injector.get($CONTROLLER);\n\n    this.element = elementRef.nativeElement;\n    this.$element = angularElement(this.element);\n\n    this.directive = directive || UpgradeHelper.getDirective(this.$injector, name);\n  }\n\n  static getDirective($injector: IInjectorService, name: string): IDirective {\n    const directives: IDirective[] = $injector.get(name + 'Directive');\n    if (directives.length > 1) {\n      throw new Error(`Only support single directive definition for: ${name}`);\n    }\n\n    const directive = directives[0];\n\n    // AngularJS will transform `link: xyz` to `compile: () => xyz`. So we can only tell there was a\n    // user-defined `compile` if there is no `link`. In other cases, we will just ignore `compile`.\n    if (directive.compile && !directive.link) notSupported(name, 'compile');\n    if (directive.replace) notSupported(name, 'replace');\n    if (directive.terminal) notSupported(name, 'terminal');\n\n    return directive;\n  }\n\n  static getTemplate(\n      $injector: IInjectorService, directive: IDirective, fetchRemoteTemplate = false,\n      $element?: IAugmentedJQuery): string|Promise<string> {\n    if (directive.template !== undefined) {\n      return getOrCall<string>(directive.template, $element);\n    } else if (directive.templateUrl) {\n      const $templateCache = $injector.get($TEMPLATE_CACHE) as ITemplateCacheService;\n      const url = getOrCall<string>(directive.templateUrl, $element);\n      const template = $templateCache.get(url);\n\n      if (template !== undefined) {\n        return template;\n      } else if (!fetchRemoteTemplate) {\n        throw new Error('loading directive templates asynchronously is not supported');\n      }\n\n      return new Promise((resolve, reject) => {\n        const $httpBackend = $injector.get($HTTP_BACKEND) as IHttpBackendService;\n        $httpBackend('GET', url, null, (status: number, response: string) => {\n          if (status === 200) {\n            resolve($templateCache.put(url, response));\n          } else {\n            reject(`GET component template from '${url}'

```
returned '${status}: ${response}'`);\n          }\n        });\n      });\n    } else {\n      throw new Error(`Directive
'${directive.name}' is not a component, it is missing template.`);\n    }\n  }\n\n  buildController(controllerType:
IController, $scope: IScope) {\n    // TODO: Document that we do not pre-assign bindings on the controller
instance.\n    // Quoted properties below so that this code can be optimized
 with Closure Compiler.\n    const locals = {'$scope': $scope, '$element': this.$element};\n    const controller =
this.$controller(controllerType, locals, null, this.directive.controllerAs);\n\n
this.$element.data!(controllerKey(this.directive.name!), controller);\n\n    return controller;\n  }\n\n
compileTemplate(template?: string): ILinkFn {\n    if (template === undefined) {\n      template =\n
UpgradeHelper.getTemplate(this.$injector, this.directive, false, this.$element) as string;\n    }\n\n    return
this.compileHtml(template);\n  }\n\n  onDestroy($scope: IScope, controllerInstance?: any) {\n    if
(controllerInstance && isFunction(controllerInstance.$onDestroy)) {\n      controllerInstance.$onDestroy();\n    }\n
$scope.$destroy();\n\n    // Clean the jQuery/jqLite data on the component+child elements.\n    // Equivelent to how
jQuery/jqLite invoke `cleanData` on an Element (this.element)\n    //
https://github.com/jquery/jquery/blob/e743cbd28553267f955f71ea7248377915613fd9/src/manipulation.js#L223\n
    //  https://github.com/angular/angular.js/blob/26ddc5f830f902a3d22f4b2aab70d86d4d688c82/src/jqLite.js#L306-
L312\n    // `cleanData` will invoke the AngularJS `$destroy` DOM event\n    //
https://github.com/angular/angular.js/blob/26ddc5f830f902a3d22f4b2aab70d86d4d688c82/src/Angular.js#L1911-
L1924\n    angularElement.cleanData([this.element]);\n
angularElement.cleanData(this.element.querySelectorAll('*'));\n  }\n\n  prepareTransclusion(): ILinkFn|undefined
{\n    const transclude = this.directive.transclude;\n    const contentChildNodes = this.extractChildNodes();\n    const
attachChildrenFn: ILinkFn = (scope, cloneAttachFn) => {\n      // Since AngularJS v1.5.8, `cloneAttachFn` will try
to destroy the transclusion scope if\n      // `$template` is empty. Since the transcluded content comes from Angular,
not AngularJS,\n      // there will be no transclusion scope here.\n      // Provide a dummy `scope.$destroy()` method
to prevent `cloneAttachFn`
 from throwing.\n      scope = scope || {$destroy: () => undefined};\n      return cloneAttachFn!($template, scope);\n
};\n    let $template = contentChildNodes;\n\n    if (transclude) {\n      const slots = Object.create(null);\n\n      if
(typeof transclude === 'object') {\n        $template = [];\n\n        const slotMap = Object.create(null);\n        const
filledSlots = Object.create(null);\n\n        // Parse the element selectors.\n
Object.keys(transclude).forEach(slotName => {\n          let selector = transclude[slotName];\n          const optional =
selector.charAt(0) === '?';\n          selector = optional ? selector.substring(1) : selector;\n\n          slotMap[selector] =
slotName;\n          slots[slotName] = null;           // `null`: Defined but not yet filled.\n          filledSlots[slotName] =
optional;  // Consider optional slots as filled.\n        });\n\n        // Add the matching elements into their slot.\n
contentChildNodes.forEach(node
 => {\n          const slotName = slotMap[directiveNormalize(node.nodeName.toLowerCase())];\n          if (slotName)
{\n            filledSlots[slotName] = true;\n            slots[slotName] = slots[slotName] || [];\n
slots[slotName].push(node);\n          } else {\n            $template.push(node);\n          }\n        });\n\n        // Check for
required slots that were not filled.\n        Object.keys(filledSlots).forEach(slotName => {\n          if
(!filledSlots[slotName]) {\n            throw new Error(`Required transclusion slot '${slotName}' on directive:
${this.name}`);\n          }\n        });\n\n        Object.keys(slots).filter(slotName =>
slots[slotName]).forEach(slotName => {\n          const nodes = slots[slotName];\n          slots[slotName] = (scope:
IScope, cloneAttach: ICloneAttachFunction) => {\n            return cloneAttach!(nodes, scope);\n          };\n        });\n
    }\n\n      // Attach `$$slots` to default slot transclude fn.\n      attachChildrenFn.$$slots
 = slots;\n\n      // AngularJS v1.6+ ignores empty or whitespace-only transcluded text nodes. But Angular\n      //
removes all text content after the first interpolation and updates it later, after\n      // evaluating the expressions. This
would result in AngularJS failing to recognize text\n      // nodes that start with an interpolation as transcluded
content and use the fallback\n      // content instead.\n      // To avoid this issue, we add a\n      // [zero-width non-
joiner character](https://en.wikipedia.org/wiki/Zero-width_non-joiner)\n      // to empty text nodes (which can only
be a result of Angular removing their initial content).\n      // NOTE: Transcluded text content that starts with
```

whitespace followed by an interpolation\n // will still fail to be detected by AngularJS v1.6+\n $template.forEach(node => {\n if (node.nodeType === Node.TEXT_NODE && !node.nodeValue) {\n node.nodeValue = '\\u200C';\n }\n });\n }\n\n return attachChildrenFn;\n }\n\n resolveAndBindRequiredControllers(controllerInstance: IControllerInstance|null) {\n const directiveRequire = this.getDirectiveRequire();\n const requiredControllers = this.resolveRequire(directiveRequire);\n\n if (controllerInstance && this.directive.bindToController && isMap(directiveRequire)) {\n const requiredControllersMap = requiredControllers as {[key: string]: IControllerInstance};\n Object.keys(requiredControllersMap).forEach(key => {\n controllerInstance[key] = requiredControllersMap[key];\n });\n }\n\n return requiredControllers;\n }\n\n private compileHtml(html: string): ILinkFn {\n this.element.innerHTML = html;\n return this.$compile(this.element.childNodes);\n }\n\n private extractChildNodes(): Node[] {\n const childNodes: Node[] = [];\n let childNode: Node|null;\n\n while (childNode = this.element.firstChild) {\n this.element.removeChild(childNode);\n childNodes.push(childNode);\n }\n\n return childNodes;\n }\n\n private getDirectiveRequire(): DirectiveRequireProperty {\n const require = this.directive.require || (this.directive.controller && this.directive.name)!;\n\n if (isMap(require)) {\n Object.keys(require).forEach(key => {\n const value = require[key];\n const match = value.match(REQUIRE_PREFIX_RE)!;\n const name = value.substring(match[0].length);\n\n if (!name) {\n require[key] = match[0] + key;\n }\n });\n }\n\n return require;\n }\n\n private resolveRequire(require: DirectiveRequireProperty, controllerInstance?: any):\n SingleOrListOrMap<IControllerInstance>|null {\n if (!require) {\n return null;\n } else if (Array.isArray(require)) {\n return require.map(req => this.resolveRequire(req));\n } else if (typeof require === 'object') {\n const value: {[key: string]: IControllerInstance} = {};\n Object.keys(require).forEach(key => value[key] = this.resolveRequire(require[key])!);\n return value;\n } else if (typeof require === 'string') {\n const match = require.match(REQUIRE_PREFIX_RE)!;\n const inheritType = match[1] || match[3];\n\n const name = require.substring(match[0].length);\n const isOptional = !!match[2];\n const searchParents = !!inheritType;\n const startOnParent = inheritType === '^^';\n\n const ctrlKey = controllerKey(name);\n const elem = startOnParent ? this.$element.parent!() : this.$element;\n const value = searchParents ? elem.inheritedData!(ctrlKey) : elem.data!(ctrlKey);\n\n if (!value && !isOptional) {\n throw new Error(\n `Unable to find required '${require}' in upgraded directive '${this.name}'.`);\n }\n\n return value;\n } else {\n throw new Error(\n `Unrecognized 'require' syntax on upgraded directive '${this.name}': ${require}`);\n }\n }\n}\n\nfunction getOrCall<T>(property: T|Function, ...args: any[]): T {\n return isFunction(property) ? property(...args) : property;\n}\n\n// NOTE: Only works for `typeof T !== 'object'`.\nfunction isMap<T>(value: SingleOrListOrMap<T>): value is {[key: string]: T} {\n return value && !Array.isArray(value) && typeof value === 'object';\n}\n\nfunction notSupported(name: string, feature: string) {\n throw new Error(`Upgraded directive '${name}' contains unsupported feature: '${feature}'.`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, DoCheck, ElementRef, EventEmitter, Injector, OnChanges, OnDestroy, OnInit, SimpleChanges} from '@angular/core';\n\nimport {IAttributes, IAugmentedJQuery, IDirective, IInjectorService, ILinkFn, IScope, ITranscludeFunction} from '../../src/common/src/angular1';\nimport {$SCOPE} from '../../src/common/src/constants';\nimport {IBindingDestination, IControllerInstance, UpgradeHelper} from '../../src/common/src/upgrade_helper';\nimport {isFunction} from '../../src/common/src/util';\n\nconst NOT_SUPPORTED: any = 'NOT_SUPPORTED';\nconst INITIAL_VALUE = {\n __UNINITIALIZED__: true\n};\n\nclass Bindings {\n twoWayBoundProperties: string[] = [];\n twoWayBoundLastValues: any[] = [];\n\n expressionBoundProperties: string[] = [];\n\n propertyToOutputMap: {[propName: string]: string} = {};\n}\n\n/**\n * @description\n *\n * A helper class that allows an AngularJS component to be used from Angular.\n *\n * *Part of the [upgrade/static](api?query=upgrade%2Fstatic)\n * library for hybrid upgrade apps that support AOT

compilation.*\n *\n * This helper class should be used as a base class for creating Angular directives\n * that wrap AngularJS components that need to be \"upgraded\".\n *\n * @usageNotes\n * ### Examples\n *\n * Let's assume that you have an AngularJS component called `ng1Hero` that
needs\n * to be made available in Angular templates.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng1-hero\"}\n *\n * We must create a `Directive` that will make this AngularJS component\n * available inside Angular templates.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng1-hero-wrapper\"}\n *\n * In this example you can see that we must derive from the `UpgradeComponent`\n * base class but also provide an {@link Directive `@Directive`} decorator. This is\n * because the AOT compiler requires that this information is statically available at\n * compile time.\n *\n * Note that we must do the following:\n * * specify the directive's selector (`ng1-hero`)\n * * specify all inputs and outputs that the AngularJS component expects\n * * derive from `UpgradeComponent`\n * * call the base class from the constructor, passing\n *   * the AngularJS name of the component (`ng1Hero`)\n *   * the `ElementRef` and `Injector` for the component wrapper\n *\n * @publicApi\n */\n@Directive()\nexport class UpgradeComponent implements OnInit, OnChanges, DoCheck, OnDestroy {\n private helper: UpgradeHelper;\n\n private $injector: IInjectorService;\n\n private element: Element;\n private $element: IAugmentedJQuery;\n private $componentScope: IScope;\n\n private directive: IDirective;\n private bindings: Bindings;\n\n // TODO(issue/24571): remove '!'.\n private controllerInstance!: IControllerInstance;\n // TODO(issue/24571): remove '!'.\n private bindingDestination!: IBindingDestination;\n\n // We will be instantiating the controller in the `ngOnInit` hook, when the\n // first `ngOnChanges` will have been already triggered. We store the\n // `SimpleChanges` and \"play them back\" later.\n // TODO(issue/24571): remove '!'.\n private pendingChanges!: SimpleChanges|null;\n\n // TODO(issue/24571): remove '!'.\n private unregisterDoCheckWatcher!: Function;\n\n /**\n   * Create a new `UpgradeComponent` instance. You should not normally need
to do this.\n   * Instead you should derive a new class from this one and call the super constructor\n   * from the base class.\n   *\n   * {@example upgrade/static/ts/full/module.ts region=\"ng1-hero-wrapper\" }\n   *\n   * * The `name` parameter should be the name of the AngularJS directive.\n   * * The `elementRef` and `injector` parameters should be acquired from Angular by dependency\n   *   injection into the base class constructor.\n   */\n constructor(private name: string, private elementRef: ElementRef, private injector: Injector) {\n    this.helper = new UpgradeHelper(injector, name, elementRef);\n\n    this.$injector = this.helper.$injector;\n\n    this.element = this.helper.element;\n    this.$element = this.helper.$element;\n\n    this.directive = this.helper.directive;\n    this.bindings = this.initializeBindings(this.directive);\n\n    // We ask for the AngularJS scope from the Angular injector, since\n    // we will put the new component scope onto the new injector for
each component\n    const $parentScope = injector.get($SCOPE);\n    // QUESTION 1: Should we create an isolated scope if the scope is only true?\n    // QUESTION 2: Should we make the scope accessible through `$element.scope()/isolateScope()`?\n    this.$componentScope = $parentScope.$new(!!this.directive.scope);\n\n    this.initializeOutputs();\n  }\n\n  ngOnInit() {\n    // Collect contents, insert and compile template\n    const attachChildNodes: ILinkFn|undefined = this.helper.prepareTransclusion();\n    const linkFn = this.helper.compileTemplate();\n\n    // Instantiate controller\n    const controllerType = this.directive.controller;\n    const bindToController = this.directive.bindToController;\n    if (controllerType) {\n      this.controllerInstance = this.helper.buildController(controllerType, this.$componentScope);\n    } else if (bindToController) {\n      throw new Error(`Upgraded directive '${\n          this.directive.name}' specifies 'bindToController' but no controller.`);\n    }\n\n    // Set up outputs\n    this.bindingDestination = bindToController ? this.controllerInstance : this.$componentScope;\n    this.bindOutputs();\n\n    // Require other controllers\n    const requiredControllers =\n      this.helper.resolveAndBindRequiredControllers(this.controllerInstance);\n\n    // Hook: $onChanges\n    if (this.pendingChanges) {\n      this.forwardChanges(this.pendingChanges);\n      this.pendingChanges = null;\n    }\n\n    // Hook: $onInit\n    if (this.controllerInstance && isFunction(this.controllerInstance.$onInit)) {\n      this.controllerInstance.$onInit();\n    }\n\n    // Hook: $doCheck\n    if (this.controllerInstance && isFunction(this.controllerInstance.$doCheck)) {\n      const callDoCheck = () => this.controllerInstance.$doCheck!();\n\n      this.unregisterDoCheckWatcher =

```
this.$componentScope.$parent.$watch(callDoCheck);\n      callDoCheck();\n    }\n\n    // Linking\n    const link =
this.directive.link;\n    const preLink = typeof
 link == 'object' && link.pre;\n    const postLink = typeof link == 'object' ? link.post : link;\n    const attrs:
IAttributes = NOT_SUPPORTED;\n    const transcludeFn: ITranscludeFunction = NOT_SUPPORTED;\n    if
(preLink) {\n      preLink(this.$componentScope, this.$element, attrs, requiredControllers, transcludeFn);\n    }\n\n
linkFn(this.$componentScope, null!, {parentBoundTranscludeFn: attachChildNodes});\n\n    if (postLink) {\n
postLink(this.$componentScope, this.$element, attrs, requiredControllers, transcludeFn);\n    }\n\n    // Hook:
$postLink\n    if (this.controllerInstance && isFunction(this.controllerInstance.$postLink)) {\n
this.controllerInstance.$postLink();\n    }\n  }\n\n  ngOnChanges(changes: SimpleChanges) {\n    if
(!this.bindingDestination) {\n      this.pendingChanges = changes;\n    } else {\n      this.forwardChanges(changes);\n
  }\n  }\n\n  ngDoCheck() {\n    const twoWayBoundProperties = this.bindings.twoWayBoundProperties;\n    const
twoWayBoundLastValues
 = this.bindings.twoWayBoundLastValues;\n    const propertyToOutputMap =
this.bindings.propertyToOutputMap;\n\n    twoWayBoundProperties.forEach((propName, idx) => {\n      const
newValue = this.bindingDestination[propName];\n      const oldValue = twoWayBoundLastValues[idx];\n\n      if
(!Object.is(newValue, oldValue)) {\n        const outputName = propertyToOutputMap[propName];\n        const
eventEmitter: EventEmitter<any> = (this as any)[outputName];\n\n        eventEmitter.emit(newValue);\n
twoWayBoundLastValues[idx] = newValue;\n      }\n    });\n  }\n\n  ngOnDestroy() {\n    if
(isFunction(this.unregisterDoCheckWatcher)) {\n      this.unregisterDoCheckWatcher();\n    }\n
this.helper.onDestroy(this.$componentScope, this.controllerInstance);\n  }\n\n  private initializeBindings(directive:
IDirective) {\n    const btcIsObject = typeof directive.bindToController === 'object';\n    if (btcIsObject &&
Object.keys(directive.scope!).length) {\n      throw new Error(\n
        `Binding definitions on scope and controller at the same time is not supported.`);\n    }\n\n    const context =
btcIsObject ? directive.bindToController : directive.scope;\n    const bindings = new Bindings();\n\n    if (typeof
context == 'object') {\n      Object.keys(context).forEach(propName => {\n        const definition =
context[propName];\n        const bindingType = definition.charAt(0);\n\n        // QUESTION: What about `=*`?
Ignore? Throw? Support?\n\n        switch (bindingType) {\n          case '@':\n          case '<':\n            // We don't need
to do anything special. They will be defined as inputs on the\n            // upgraded component facade and the change
propagation will be handled by\n            // `ngOnChanges()`.\n            break;\n          case '=':\n
bindings.twoWayBoundProperties.push(propName);\n
bindings.twoWayBoundLastValues.push(INITIAL_VALUE);\n            bindings.propertyToOutputMap[propName]
= propName +
 'Change';\n            break;\n          case '&':\n            bindings.expressionBoundProperties.push(propName);\n
bindings.propertyToOutputMap[propName] = propName;\n            break;\n          default:\n            let json =
JSON.stringify(context);\n            throw new Error(\n                `Unexpected mapping '${bindingType}' in '${json}'
in '${this.name}' directive.`);\n        }\n      });\n    }\n\n    return bindings;\n  }\n\n  private initializeOutputs() {\n    //
Initialize the outputs for `=` and `&` bindings\n
this.bindings.twoWayBoundProperties.concat(this.bindings.expressionBoundProperties)\n        .forEach(propName
=> {\n          const outputName = this.bindings.propertyToOutputMap[propName];\n          (this as
any)[outputName] = new EventEmitter();\n        });\n  }\n\n  private bindOutputs() {\n    // Bind `&` bindings to the
corresponding outputs\n    this.bindings.expressionBoundProperties.forEach(propName => {\n      const outputName
= this.bindings.propertyToOutputMap[propName];\n
    const emitter = (this as any)[outputName];\n\n      this.bindingDestination[propName] = (value: any) =>
emitter.emit(value);\n    });\n  }\n\n  private forwardChanges(changes: SimpleChanges) {\n    // Forward input
changes to `bindingDestination`\n    Object.keys(changes).forEach(\n        propName =>
this.bindingDestination[propName] = changes[propName].currentValue);\n\n    if
(isFunction(this.bindingDestination.$onChanges)) {\n      this.bindingDestination.$onChanges(changes);\n    }\n
}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is
```

governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, isDevMode, NgModule, NgZone, Testability} from '@angular/core';\n\nimport {bootstrap, element as angularElement, IInjectorService, IIntervalService, IProvideService, ITestabilityService, module_ as angularModule} from '../../src/common/src/angular1';\nimport {$$TESTABILITY, $DELEGATE, $INJECTOR, $INTERVAL, $PROVIDE, INJECTOR_KEY, LAZY_MODULE_REF, UPGRADE_APP_TYPE_KEY, UPGRADE_MODULE_NAME} from '../../src/common/src/constants';\nimport {controllerKey, LazyModuleRef, UpgradeAppType} from '../../src/common/src/util';\n\nimport {angular1Providers, setTempInjectorRef} from './angular1_providers';\nimport {NgAdapterInjector} from './util';\n\n\n\n/**\n * @description\n *\n * An `NgModule`, which you import to provide AngularJS core services,\n * and has an instance method used to bootstrap the hybrid upgrade application.\n *\n * *Part of the [upgrade/static](api?query=upgrade/static)\n * library for hybrid upgrade apps that support AOT compilation*\n *\n * The `upgrade/static` package contains helpers that allow AngularJS and Angular components\n * to be used together inside a hybrid upgrade application, which supports AOT compilation.\n *\n * Specifically, the classes and functions in the `upgrade/static`
module allow the following:\n *\n * 1. Creation of an Angular directive that wraps and exposes an AngularJS component so\n * that it can be used in an Angular template. See `UpgradeComponent`.\n * 2. Creation of an AngularJS directive that wraps and exposes an Angular component so\n * that it can be used in an AngularJS template. See `downgradeComponent`.\n * 3. Creation of an Angular root injector provider that wraps and exposes an AngularJS\n * service so that it can be injected into an Angular context. See\n * {@link UpgradeModule#upgrading-an-angular-1-service Upgrading an AngularJS service} below.\n * 4. Creation of an AngularJS service that wraps and exposes an Angular injectable\n * so that it can be injected into an AngularJS context. See `downgradeInjectable`.\n * 3. Bootstrapping of a hybrid Angular application which contains both of the frameworks\n * coexisting in a single application.\n *\n * @usageNotes\n *\n * ```ts\n * import {UpgradeModule} from '@angular/upgrade/static';\n
* ```\n *\n * See also the {@link UpgradeModule#examples examples} below.\n *\n * ### Mental Model\n *\n * When reasoning about how a hybrid application works it is useful to have a mental model which\n * describes what is happening and explains what is happening at the lowest level.\n *\n * 1. There are two independent frameworks running in a single application, each framework treats\n * the other as a black box.\n * 2. Each DOM element on the page is owned exactly by one framework. Whichever framework\n * instantiated the element is the owner. Each framework only updates/interacts with its own\n * DOM elements and ignores others.\n * 3. AngularJS directives always execute inside the AngularJS framework codebase regardless of\n * where they are instantiated.\n * 4. Angular components always execute inside the Angular framework codebase regardless of\n * where they are instantiated.\n * 5. An AngularJS component can be \"upgraded\"\" to an Angular component. This is achieved by\n * defining an Angular directive, which bootstraps the AngularJS component at its location\n * in the DOM. See `UpgradeComponent`.\n * 6. An Angular component can be \"downgraded\" to an AngularJS component. This is achieved by\n * defining an AngularJS directive, which bootstraps the Angular component at its location\n * in the DOM. See `downgradeComponent`.\n * 7. Whenever an \"upgraded\"/\"downgraded\" component is instantiated the host element is owned by\n * the framework doing the instantiation. The other framework then instantiates and owns the\n * view for that component.\n * 1. This implies that the component bindings will always follow the semantics of the\n * instantiation framework.\n * 2. The DOM attributes are parsed by the framework that owns the current template. So\n * attributes in AngularJS templates must use kebab-case, while AngularJS templates must use\n * camelCase.\n * 3. However the
template binding syntax will always use the Angular style, e.g. square\n * brackets (`[...]`) for property binding.\n * 8. Angular is bootstrapped first; AngularJS is bootstrapped second. AngularJS always owns the\n * root component of the application.\n * 9. The new application is running in an Angular zone, and therefore it no longer needs calls to\n * `$apply()`.\n *\n * ### The `UpgradeModule` class\n *\n * This class is an `NgModule`, which you import to provide AngularJS core services,\n * and has an instance method used to bootstrap the hybrid

upgrade application.\n *\n * * Core AngularJS services\n * Importing this `NgModule` will add providers for the core\n * [AngularJS services](https://docs.angularjs.org/api/ng/service) to the root injector.\n *\n * * Bootstrap\n * The runtime instance of this class contains a {@link UpgradeModule#bootstrap `bootstrap()`}\n * method, which you use to bootstrap the top level AngularJS module onto an element in the\n * DOM
for the hybrid upgrade app.\n *\n * It also contains properties to access the {@link UpgradeModule#injector root injector}, the\n * bootstrap `NgZone` and the\n * [AngularJS $injector](https://docs.angularjs.org/api/auto/service/$injector).\n *\n * ### Examples\n *\n * Import the `UpgradeModule` into your top level {@link NgModule Angular `NgModule`}.\n *\n * {@example upgrade/static/ts/full/module.ts region='ng2-module'}\n *\n * Then inject `UpgradeModule` into your Angular `NgModule` and use it to bootstrap the top level\n * [AngularJS module](https://docs.angularjs.org/api/ng/type/angular.Module) in the\n * `ngDoBootstrap()` method.\n *\n * {@example upgrade/static/ts/full/module.ts region='bootstrap-ng1'}\n *\n * Finally, kick off the whole process, by bootstraping your top level Angular `NgModule`.\n *\n * {@example upgrade/static/ts/full/module.ts region='bootstrap-ng2'}\n *\n * {@a upgrading-an-angular-1-service}\n * ### Upgrading an AngularJS service\n *\n * There is no
specific API for upgrading an AngularJS service. Instead you should just follow the\n * following recipe:\n *\n * Let's say you have an AngularJS service:\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng1-text-formatter-service\"}\n *\n * Then you should define an Angular provider to be included in your `NgModule` `providers`\n * property.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"upgrade-ng1-service\"}\n *\n * Then you can use the \"upgraded\" AngularJS service by injecting it into an Angular component\n * or service.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"use-ng1-upgraded-service\"}\n *\n * @publicApi\n */\n@NgModule({providers: [angular1Providers]})\nexport class UpgradeModule {\n /**\n * The AngularJS `$injector` for the upgrade application.\n */\n public $injector: any /*angular.IInjectorService*/;\n /** The Angular Injector **/\n public injector: Injector;\n\n constructor(\n /** The root `Injector` for the upgrade application. */\n injector: Injector,\n /** The bootstrap zone for the upgrade application */\n public ngZone: NgZone) {\n this.injector = new NgAdapterInjector(injector);\n }\n\n /**\n * Bootstrap an AngularJS application from this NgModule\n * @param element the element on which to bootstrap the AngularJS application\n * @param [modules] the AngularJS modules to bootstrap for this application\n * @param [config] optional extra AngularJS bootstrap configuration\n */\n bootstrap(\n element: Element, modules: string[] = [], config?: any /*angular.IAngularBootstrapConfig*/) {\n const INIT_MODULE_NAME = UPGRADE_MODULE_NAME + '.init';\n\n // Create an ng1 module to bootstrap\n const initModule =\n angularModule(INIT_MODULE_NAME, [])\n\n .constant(UPGRADE_APP_TYPE_KEY, UpgradeAppType.Static)\n\n .value(INJECTOR_KEY, this.injector)\n\n .factory(\n LAZY_MODULE_REF,\n [INJECTOR_KEY,
(injector: Injector) => ({injector} as LazyModuleRef)])\n\n .config([\n $PROVIDE, $INJECTOR,\n ($provide: IProvideService, $injector: IInjectorService) => {\n if ($injector.has($$TESTABILITY)) {\n $provide.decorator($$TESTABILITY, [\n $DELEGATE,\n (testabilityDelegate: ITestabilityService) => {\n const originalWhenStable: Function = testabilityDelegate.whenStable;\n const injector = this.injector;\n // Cannot use arrow function below because we need the context\n const newWhenStable = function(callback: Function) {\n originalWhenStable.call(testabilityDelegate, function() {\n const ng2Testability: Testability = injector.get(Testability);\n if (ng2Testability.isStable()) {\n callback();\n
} else {\n ng2Testability.whenStable(\n newWhenStable.bind(testabilityDelegate, callback));\n }\n });\n };\n\n testabilityDelegate.whenStable = newWhenStable;\n return testabilityDelegate;\n }\n ]);\n }\n\n if ($injector.has($INTERVAL)) {\n $provide.decorator($INTERVAL, [\n $DELEGATE,\n (intervalDelegate: IIntervalService)

=> {\n // Wrap the $interval service so that setInterval is called outside NgZone,\n // but the callback is still invoked within it. This is so that $interval\n // won't block stability, which preserves the behavior from AngularJS.\n let wrappedInterval =\n (fn: Function, delay: number, count?: number, invokeApply?: boolean,\n ...pass: any[]) => {\n return this.ngZone.runOutsideAngular(() => {\n return intervalDelegate((...args: any[]) => {\n // Run callback in the next VM turn - $interval calls\n // $rootScope.$apply, and running the callback in NgZone will\n // cause a '$digest already in progress' error if it's in the\n // same vm turn.\n setTimeout(() => {\n this.ngZone.run(() => fn(...args));\n });\n }, delay, count, invokeApply, ...pass);\n });\n };\n\n (wrappedInterval as any)['cancel'] = intervalDelegate.cancel;\n return wrappedInterval;\n }\n ]);\n }\n }\n ])\n\n .run([\n $INJECTOR,\n ($injector: IInjectorService) => {\n this.$injector = $injector;\n\n // Initialize the ng1 $injector provider\n setTempInjectorRef($injector);\n this.injector.get($INJECTOR);\n\n // Put the injector on the DOM, so that it can be \"required\"\n angularElement(element).data!(controllerKey(INJECTOR_KEY), this.injector);\n\n // Wire up the ng1 rootScope to run a digest cycle whenever the zone settles\n // We need to do this in the next tick so that we don't prevent the bootup\n // stabilizing\n setTimeout(() => {\n const $rootScope = $injector.get('$rootScope');\n const subscription = this.ngZone.onMicrotaskEmpty.subscribe(() => {\n if ($rootScope.$$phase) {\n if (isDevMode()) {\n console.warn(\n 'A digest was triggered while one was already in progress. This may mean that something is triggering digests outside the Angular zone.');\n }\n\n return $rootScope.$evalAsync();\n }\n\n return $rootScope.$digest();\n });\n $rootScope.$on('$destroy', () => {\n subscription.unsubscribe();\n });\n }, 0);\n }\n ]);\n\n const upgradeModule = angularModule(UPGRADE_MODULE_NAME, [INIT_MODULE_NAME].concat(modules));\n\n // Make sure resumeBootstrap() only exists if the current bootstrap is deferred\n const windowAngular = (window as any)['angular'];\n windowAngular.resumeBootstrap = undefined;\n\n // Bootstrap the AngularJS application\n inside our zone\n this.ngZone.run(() => {\n bootstrap(element, [upgradeModule.name], config);\n });\n\n // Patch resumeBootstrap() to run inside the ngZone\n if (windowAngular.resumeBootstrap) {\n const originalResumeBootstrap: () => void = windowAngular.resumeBootstrap;\n const ngZone = this.ngZone;\n windowAngular.resumeBootstrap = function() {\n let args = arguments;\n windowAngular.resumeBootstrap = originalResumeBootstrap;\n return ngZone.run(() => windowAngular.resumeBootstrap.apply(this, args));\n };\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {getAngularJSGlobal, getAngularLib, setAngularJSGlobal, setAngularLib} from '../src/common/src/angular1';\nexport {downgradeComponent} from '../src/common/src/downgrade_component';\nexport {downgradeInjectable} from '../src/common/src/downgrade_injectable';\nexport {VERSION} from '../src/common/src/version';\nexport {downgradeModule} from './src/downgrade_module';\nexport {UpgradeComponent} from './src/upgrade_component';\nexport {UpgradeModule} from './src/upgrade_module';\n\n\n// This file only re-exports items to appear in the public api. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {angular1Providers as angular_packages_upgrade_static_static_e,compileFactory

as angular_packages_upgrade_static_static_c,injectorFactory as
angular_packages_upgrade_static_static_a,parseFactory as
angular_packages_upgrade_static_static_d,rootScopeFactory as angular_packages_upgrade_static_static_b} from
'./src/angular1_providers';"],"names":["NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR","angularModule
","angularElement","INITIAL_VALUE","element"],"mappings":";;;;;;;;;AAAA;;;;;;;AAkOA,SAAS,IAAI;IACX,M
AAM,IAAI,KAAK,CAAC,+BAA+B,CAAC,CAAC;AACnD,CAAC;AAED,MAAM,WAAW,IAA4B,MAAM,IAA
I,EAAE,CAAQ,CAAC;AAClE,WAAW,CAAC,SAAS,GAAG,IAAI,CAAC;AAE7B,IAAI,OAAO,GAAYP;IACF,SA
AS,EAAE,IAAI;IACf,MAAM,EAAE,IAAI;IACZ,OAAO,EAAE,WAAW;IACpB,QAAQ,EAAE,IAAI;IACd,OAA
O,EAAE,SAAgB;IACzB,eAAe,EAAE,IAAI;IACrB,cAAc,EAAE,IAAI;CACrB,CAAC;AAEF,IAAI;IACF,IAAI,M
AAM,CAAC,cAAc,CAAC,SAAS,CAAC,EAAE;QACpC,OAAO,GAAS,MAAO,CAAC,OAAO,CAAC;KACjC;C
ACF;AAAC,WAAM;;CAEP;AAED;;;;;SAKgB,aAAa,CAAC,EAAO;IACnC,kBAAkB,CAAC,EAAE,CAAC,CAAC;C
AACzB,CAAC;AAED;;;;;SAKgB,aAAa,CAAC,IAA3B,OAAO,kBAAkB,CAAC,EAAE,CAAC;AAC9B,CAAC;AAED;;;;;;;SA
OgB,kBAAkB,CAAC,EAAO;IACxC,OAAO,GAAG,EAAE,CAAC;AACf,CAAC;AAED;;;;;SAKgB,kBAAkB;IAC
hC,OAAO,OAAO,CAAC;AACjB,CAAC;AAEM,MAAM,SAAS,GAAG,CAAC,CAAC,EAAE,CAAC,KAAK,CAAC,KAAK,CAAC,
KAAK,CAAC,CAAC,CAAC

AS,CAAC,GAAG,CAAC,2BAA2B,CAAC,GAAG,SAAS,CAAC,GAAG,CAAC,2BAA2B,CAAC;QAC1C,CAAC,CAAC;AACxD,CAAC;SAEe,iBAAiB,CAAC,SAA2B;IAC3D,OAAO,SAAS,CAAC,GAAG,CAAC,oBAAoB,CAAC,GAAG,SAAS,CAAC,GAAG,CAAC,oBAAoB,CAAC;qBACf;AACnE,CAAC;SAEe,UAAU,CAAC,KAAU;IACnC,OAAO,OAAO,KAAK,KAAK,UAAU,CAAC;AACrC,CAAC;SAEe,oBAAoB,CAAC,SAA2B;IAC9D,OAAO,CAAC,SAAS,CAAC,SAAS,CAAC,GAAG

IAAI,CAAC,KAAK,CAAC;QACzB,MAAM,MAAM,GAAG,IAAI,CAAC,gBAAgB,CAAC,MAAM,IAAI,EAAE,
CAAC;QAClD,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC,MAAM,EAAE,CAAC,E
AAE,EAAE;YACtC,MAAM,KAAK,GAAG,IAAI,eAAe,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,QAAQ,EA
AE,MAAM,CAAC,CAAC,CAAC,CAAC,YAAY,CAAC,CAAC;YAC9E,IAAI,IAAI,GAAgB,IAAI,CAAC;YAE7
B,IAAI,KAAK,CAAC,cAAc,CAAC,KAAK,CAAC,IAAI,CAAC,EAAE;gBACpC,MAAM,SAAS,GAAG,CAAC,I
AAI;oBACrB,IAAI,SAAS,GAAG,aAAa,CAAC;oBAC9B,OAAO,CAAC,SAAc;;wBAEpB,IAAI,CAAC,YAAY,C
AAC,SAAS,EAAE,SAAS,CAAC,EAAE;4BACvC,IAAI,SAAS,KAAK,aAAa,EAAE;gCAC/B,SAAS,GAAG,SAA
S,CAAC;6BACvB;4BAED,IAAI,CAAC,WAAW,CAAC,IAAI,EAAE,SAAS,EAAE,SAAS,CAAC,CAAC;4BAC7
C,SAAS,GAAG,SAAS,CAAC;yBACvB;qBACF,CAAC;iBACH,EAAE,KAAK,CAAC,IAAI,CAAC,CAAC;gBAC
f,KAAK,CAAC,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;;;;gBAKtC,IAAI,OAAO,GAAkB
,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC;oBACtD,OAAQ,EAAE,CAAC;oBACX,OAAO,GAAG,IAAI,CAAC;o
BACf,SAAS,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC;iBAC9B,CAAC,CAAC;aAEJ;iBA
AM,IAAI,KAAK,CAAC,cAAc,CAAC,KAAK,CAAC,QAAQ,CAAC,EAAE;gBAC/C,IAAI,GAAG,KAAK,CAAC,
KAAK,CAAC,QAAQ,CAAC,CAAC;aAC9B;iBAAM,IAAI,KAAK,CAAC,cAAc,CAAC,KAAK,CAAC,WAAW,C
AAC,EAAE;gBAClD,IAAI,GAAG,KAAK,CAAC,KAAK,CAAC,WAAW,CAAC,CAAC;aACjC;iBAAM,IAAI,K
AAK,CAAC,cAAc,CAAC,KAAK,CAAC,UAAU,CAAC,EAAE;gBACjD,IAAI,GAAG,KAAK,CAAC,KAAK,CAAC,CA
AC,UAAU,CAAC,CAAC;aAChC;iBAAM,IAAI,KAAK,CAAC,cAAc,CAAC,KAAK,CAAC,gBAAgB,CAAC,EA
AE;gBACvD,IAAI,GAAG,KAAK,CAAC,KAAK,CAAC,gBAAgB,CAAC,CAAC;aACtC;YACD,IAAI,IAAI,IAAI
,IAAI,EAAE;gBAChB,MAAM,OAAO,GACT,CAAC,IAAI,IAAI,CAAC,SAAc,CAAC,KAAK,CAAC,EAAE,SAAc,KAAC,nC,IAAI,CAA
C,WAAW,CAAC,IAAI,EAAE,SAAS,EAAE,SAAS,CAAC,EAAE,KAAK,CAAC,IAAI,CAAC,CAAC;gBACnE,I
AAI,cAAc,CAAC,MAAM,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;aAC5C;SACF;;QAGD,MAAM,aAA
a,GAAG,MAAM,IAAI,CAAC,cAAc,CAAC,aAAa,EAAE,CAAC;QAChE,gBAAgB,CAAC,SAAS,GAAG,SAAS,
gBAAgB,CAAC,aAAa,CAAC,SAAS,CAAC;QAEvE,IAAI,CAAC,mBAAmB,CAAC,gBAAgB,CAAC;QAE1C,
SAAS,CAAC;QAEV,MAAM,CAAC,gBAAgB,CAAC;IAC1B,CAAC;IAED,KAAK,CAAC,cAAc,CAAC,IAAY,EAAE,
gBAAgB,CAAC,aAAa,CAAC,IAAI,CAAC;QAC1D,IAAI,CAAC,aAAa,EAAE;YAClB,MAAM,IAAI,KAAK,CAAC,
mBAAmB,IAAI,EAAE,CAAC;SACtC;QAED,MAAM,aAAa,CAAC,IAAI,EAAE;IAC5

AAI,CAAC,CAAC;QACjC,MAAM,MAAM,GAAG,MAAM,CAAC,MAAM,CAAC;QAC7B,IAAI,YAAY,IAAI,CAAC,MAAM,EAAE;YAC3B,MAAM,IAAI,KAAK,CAAC,eAAe,IAAI,sBAAsB,CAAC,CAAC;SAC5D;QACD,MAAM,OAAO,GAAG,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,IAAI,CAAC,CAAsB,CAAC;QACjE,IAAI,OAAO,GAAG,EAAE;YACd,MAAM,IAAI,KAAK,CAAC,SAAS,CAAC;gBAChB,IAAI,EAAE,YAAY,GAAG,CAAC,CAAC,CAAC

AAG,EAAE,CAAC,CAAC,CAAC,CAAC;aAC9B;iBAAM;gBACL,OAAO,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC;aACjB;SACF,CAAC,CAAC;QAEH,OAAO,WAAW,CAAC;KACpB;IAED,OAAO,CAAC,KAAQ;;QAEd,IAAI,IAAAI,CAAC,QAAQ;YAAE,OAAO;QAE1B,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC;QACnB,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC;QACrB,IAAI,CAAC,SAAS,CAAC,MAAM,GAAG,CAAC,CAAC;QAC1B

AAc,GAAG,UAAU,CAAC,KAAK,CAAC,GAAG,WAAW,CAAC,KAAK,CAAC,GAAG,MAAM,CAAC,KAAK,
CAAC,CAAC;QAC9E,MAAM,eAAe,GAAG,6BAA6B,cAAc,GAAG,CAAC;QAEvE,oBAAoB,CAAC,SAAS,EA
AE,gBAAgB,EAAE,WAAW,EAAE,eAAe,CAAC,CAAC;QAEhF,IAAI;YACF,MAAM,QAAQ,GAAa,SAAS,CAA
C,GAAG,CAAC,WAAW,CAAC,CAAC;YACtD,OAAO,QAAQ,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;SAC
5B;QAAC,OAAO,GAAG,EAAE;YACZ,MAAM,IAAI,KAAK,CAAC,eAAe,KAAK,GAAG,CAAC,OAAO,I
AAI,GAAG,EAAE,CAAC,CAAC;SAC1E;KACF,CAAC;IACD,OAAe,CAAC,SAAS,CAAC,GAAG,CAAC,SAAS
,CAAC,CAAC;IAE1C,OAAO,OAAO,CAAC;AACjB;;AC3FA;;;;;;;AAgBA;;;MAGa,OAAO,GAAG,IAAI,OAAO,
CAAC,mBAAmB;;AClBtD;;;;;;;AAUA;AACA;AACA;AACA;AACA,IAAI,eAAe,GA0B,IAAI,CAAC;SAClC,k
BAAkB,CAAC,QAA0B;IAC3D,eAAe,GAAG,QAAQ,CAAC;AAC7B,CAAC;SACe,eAAe;IAC7B,IAAI,CAAC,e
AAe,EAAE;QACpB,MAAM,IAAI,KAAK,CAAC,2DAA2D,CAAC,CAAC;KAC9E;IAED,MAAM,QAAQ,GAAGq
B,eAAe,CAAC;IACnD,eAAe,GAAG,IAAI,CAAC;IACvB,OAAO,QAAQ,CAAC;AAClB,CAAC;SAEe,gBAAgB,
CAAC,CAAmB;IAClD,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,YAAY,CAAC,CAAC,CAAC;AAC7B,CAAC,CAAC;SAEe,cAAc,
CAAC,CAAmB;IAChD,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC;AAC3B,CAAC,CAAC;SAEe,eAAe,
CAAC,CAAmB;IACjD,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,QAAQ,CAAC,CAAC,CAAC;AACzB,CAAC,CAAC;SAEe,aAAa,
CAAC,CAAmB;IAC/C,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,MAAM,CAAC,CAAC,CAAC;AACvB,CAAC,CAAC;SAEe,cAAc,
CAAC,CAAmB;IAChD,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,OAAO,CAAC,CAAC,CAAC;AACtB,CAAC,CAAC;SAEe,eAAe,
CAAC,CAAmB;IACjD,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,QAAQ,CAAC,CAAC,CAAC;AACvB,CAAC,CAAC;SAEe,aAAa,
CAAC,CAAmB;IAC/C,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,MAAM,CAAC,CAAC,CAAC;AACr

AAC,iDAAiD,IAAI,EAAE,CAAC,CAAC;SAC1E;QAED,MAAM,SAAS,GAAG,UAAU,CAAC,CAAC,CAAC,C
AAC;;;QAIhC,IAAI,SAAS,CAAC,OAAO,IAAI,CAAC,SAAS,CAAC,IAAI;YAAE,YAAY,CAAC,IAAI,EAAE,S
AAS,CAAC,CAAC;QACxE,IAAI,SAAS,CAAC,OAAO;YAAE,YAAY,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;
QACrD,IAAI,SAAS,CAAC,QAAQ;YAAE,YAAY,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QAEvD,OAAO,SA
AS,CAAC;KAClB;IAED,OAAO,WAAW,CACd,SAA2B,EAAE,SAAqB,EAAE,mBAAmB,GAAG,KAAK,EAC/E,
QAA2B;QAC7B,IAAI,SAAS,CAAC,QAAQ,KAAK,SAAS,EAAE;YACpC,OAAO,SAAS,CAAS,CAAC,CAAC,Q
AAQ,EAAE,QAAQ,CAAC,CAAC;SACxD;aAAM,IAAI,SAAS,CAAC,WAAW,EAAE;YAChC,MAAM,cAAc,GA
AG,SAAS,CAAC,GAAG,CAAC,eAAe,CAA0B,CAAC;YAC/E,MAAM,GAAG,GAAG,SAAS,CAAS,CAAC,CAAC,WAAW,EAAE,QAAQ,CAAC,CAAC;YAC
C,WAAW,EAAE,QAAQ,CAAC,CAAC;YACzD,MAAM,QAAQ,GAAG,cAAc,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,
C,CAAC;YAEzC,IAAI,QAAQ,KAAK,SAAS,EAAE;gBAC1B,OAAO,QAAQ,CAAC,CAAC;aACjB;iBAAM,IAAI,CAAC,mBAAmB,IAAI,CAA
C,mBAAmB,EAAE;gBAC/B,MAAM,IAAI,KAAK,CAAC,6DAA6D,CAAC,CAAC,CAAC;aAChF;YAED,OAAO,IAAI,
OAAO,CAAC,CAAC,OAAO,EAAE,MAAM;gBACjC,MAAM,YAAY,GAAG,SAAS,CAAC,GAAG,CAAC,aAAa
,CAAwB,CAAC,CAAC;gBACzE,YAAY,CAAC,KAAK,EAAE,GAAG,EAAE,IAAI,EAAE,CAAC,MAAc,EAAE,QAAgB
;oBAC9D,IAAI,MAAM,KAAK,GAAG,EAAE;wBAClB,OAAO,CAAC,cAAc,CAAC,GAAG,CAAC,CAAC,CAAC,GAAG,EAAE,QAAQ,CAAC,CAAC,CAAC;qBAC
C;yBAAM;wBACL,MAAM,CAAC,gCAAgC,GAAG,eAAe,MAAM,KAAK,QAAQ,GAAG,CAAC,CAAC,CAAC;qBAClF;iBACF,CAAC,CAAC;aACJ,CAAC,CAAC;SACJ;aAAM;YACL,MAAM,IAAI,KAAK,CAAC,+C
,IAAI,KAAK,CAAC,cAAc,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC

AAC,MAAM,CAAC,QAAQ,IAAI,KAAK,CAAC,QAAQ,CAAC,CAAC,CAAC,OAAO,CAAC,QAAQ;oBACrE,MAAM,KAAK,GAAG,KAAK,CAAC,QAAQ,CAAC,CAAC;oBAC9B,KAAK,CAAC,QAAQ,CAAC,GAAG,CAAC,KAAa,EAAE,WAAiC;wBACjE,OAAO,WAAY,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;qBACnC,CAAC;iBACH,CAAC,CAAC;aACJ;;YAGD,gBAAgB,CAAC,OAAO,GAAG,KAAK,CAAC;;;;;;;;;;YAYjC,SAAS,CAAC,OAAO,CAAC,IAAI;gBACpB,IAAI,IAAI,CAAC,QAAQ,KAAK,IAAI,CAAC,SAAS,IAAI,CAAC,IAAI,CAAC,SAAS,EAAE;oBACvD,IAAI,CAAC,SAAS,GAAG,QAAQ;iBAC3B;aACF,CAAC,CAAC;SACJ;QAED,OAAO,gBAAgB,CAAC;KACzB;IAED,iCAAiC,CAAC,kBAA4C;QAC5E,MAAM,gBAAgB,CAAC,OAAO,mBAAmB,EAAE,CAAC,CAAC;KACtD;IAED,qCAAqC,CAAC,OAAO,EAAE,cAAc,EAAE,cAAc,EAAE,cAAc

;;;;MAwCa,gBAAgB;;;;;;;;;;;;IAqC3B,YAAoB,IAAY,EAAU,UAAsB,EAAU,QAAkB;QAAxE,SAAI,GAAJ,IAAI,
CAAQ;QAAU,eAAU,GAAV,UAAU,CAAY;QAAU,aAAQ,GAAR,QAAQ,CAAU;QAC1F,IAAI,CAAC,MAAM,
GAAG,IAAI,aAAa,CAAC,QAAQ,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;QAE5D,IAAI,CAAC,SAAS,GAAG,
IAAI,CAAC,MAAM,CAAC,SAAS,CAAC;QAEvC,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,MAAM,CAAC,OA
AO,CAAC;QACnC,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,MAAM,CAAC,QAAQ,CAAC;QAErC,IAAI,CAAC,
SAAS,GAAG,IAAI,CAAC,SAAS,CAAC;QACvC,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,kBA
AkB,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;;;QAIxD,MAAM,YAAY,GAAG,QAAQ,CAAC,GAAG,CAAC,M
AAM,CAAC,CAAC;;;QAG1C,IAAI,CAAC,eAAe,GAAG,YAAY,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC
,SAAS,CAAC,KAAK,CAAC,CAAC;QAEjE,IAAI,CAAC,iBAAiB,EAAE,CAAC;KAC1B;IAED,QAAQ;;QAEN,
MAAM,gBAAgB,GAAsB,IAAI,CAAC,MAAM,CAAC,mBAAmB,EAAE,CAAC;QAC9E,MAAM,MAAM,G
,IAAI,CAAC,MAAM,CAAC,eAAe,EAAE,CAAC;;QAG7C,MAAM,cAAc,GAAG,IAAI,CAAC,SAAS,CAAC,UA
AU,CAAC;QACjD,MAAM,gBAAgB,GAAG,IAAI,CAAC,SAAS,CAAC,gBAAgB,CAAC;QACzD,IAAI,cAAc,E
AAE;YAClB,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,MAAM,CAAC,eAAe,CAAC,cAAc,EAAE,IAAI,CAAC,
eAAe,CAAC,CAAC;SAC7F;aAAM,IAAI,gBAAgB,EAAE;YAC3B,MAAM,IAAI,KAAK,CAAC,uBACZ,IAAI,CAAC,
SAAS,CAAC,mDAAmD,CAAC,CAAC;SAE5E;;QAGD,IAAI,CAAC,kBAAkB,GAAG,gBAAgB,GA
AG,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,eAAe,CAAC;QAC5F,IAAI,CAAC,WAAW,,EAAE,CAAC;;QAGnB,MAAM,mBAAmB,GACrB,IAAI,CAAC,iCAAiC,CAAC,IAAI,CAAC,kBAAkB,CAAC,CAAC;;
QAG3E,IAAI,CAAC,cAAc,EAAE;YACvB,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,SAAS,CAAC,YAC
zC,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC;SAC5B;;QAGD,IAAI,CAAC,kBAAkB,IAAI,CAAC,UAAU,CAAC,I
AAI,CAAC,kBAAkB,CAAC,OAAO,CAAC,EAAE;YAC1E,IAAI,CAAC,kBAAkB,CAAC,OAAO,EAAE,CAAC;
SAC;;QAGD,IAAI,CAAC,kBAAkB,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,kBAAkB,CAAC,QAAQ,CAAC,E
AAE;YAC3E,MAAM,WAAW,GAAG,MAAM,IAAI,CAAC,kBAAkB,CAAC,QAAS,EAAE,CAAC;YAE9D,IAAI,
CAAC,wBAAwB,GAAG,IAAI,CAAC,eAAe,CAAC,OAAO,CAAC,MAAM,CAAC,WAAW,CAAC,CAAC;YACj
F,WAAW,EAAE,CAAC;SACf;;QAGD,MAAM,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC;QACjC,M
AAM,OAAO,GAAG,OAAO,IAAI,IAAI,QAAQ,IAAI,IAAI,CAAC,GAAG,CAAC;QACpD,MAAM,QAAQ,GAA
G,OAAO,IAAI,IAAI,QAAQ,GAAG,IAAI,CAAC,IAAI,IAAI,CAAC;QAC5D,MAAM,KAAK,GAAgB,aA
Aa,CAAC;QACzC,MAAM,YAAY,GAAwB,aAAa,CAAC;QACxD,IAAI,OAAO,E
AAE;YACX,OAAO,CAAC,IAAI,CAAC,eAAe,EAAE,KAAK,EAAE,mBAAmB,EAAE,YAAY,CAAC,CAAC;SACx
F;QAED,MAAM,CAAC,IAAI,CAAC,eAAe,EAAE,IAAK,EAAE,EAAC,uBAAuB,EAAE,gBAAgB,EAAC,CAAC
,CAAC;QAEjF,IAAI,QAAQ,EAAE;YACZ,MAAM,CAAC,IAAI,CAAC,eAAe,EAAE,IAAI,CAAC,SAAS,CAAC,eAAe,EAAE,IAAI,CAAC,CAAC,QAAQ,EAAE,
KAAK,EAAE,mBAAmB,EAAE,YAAY,CAAC,CAAC;SACzF;;QAGD,IAAI,CAAC,kBAAkB,IAAI,CAAC,UAAU,,
CAAC,IAAI,CAAC,kBAAkB,CAAC,SAAS,CAAC,EAAE;YAC5E,IAAI,CAAC,kBAAkB,CAAC,SAAS,EAAE,CAAC;SACrC;aAAM;YACL,MAAM,IAAI,KAAK,CAAC,uBAAuB,IAAI,CAAC,SAAS,CAAC,gBAAgB,CAAC,CAAC;SACzE;;QAGD,IAAI,CAAC,kBAAkB,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,kBAAkB,CAAC,QAAQ,CAAC,EAAE;YACxE,IAAI,CAAC,kBAAkB,CAAC,QAAQ,EAAE,CAAC;SACpC

AG,IAAI,QAAQ,EAAE,CAAC;QAEhC,IAAI,OAAO,OAAO,IAAI,QAAQ,EAAE;YAC9B,MAAM,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC,OAAO,CAAC,QAAQ;gBACnC,MAAM,UAAU,GAAG,OAAO,CAAC,QAAQ,CAAC,CAAC;gBACrC,MAAM,WAAW,GAAG,UAAU,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;;gBAIzC,QAAQ,WAAW;oBACjB,KAAK,GAAG,CAAC;oBACT,KAAK,GAAG;;;;wBAIN,MAAM;oBACR,KAAK,GAAG;wBACN,QAAQ,CAAC,qBAAqB,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;wBAC9C,QAAQ,CAAC,qBAAqB,CAAC,IAAI,CAACA,eAAa,CAAC,CAAC;wBACnD,QAAQ,CAAC,mBAAmB,CAAC,QAAQ,CAAC,GAAG,QAAQ,GAAG,QAAQ,CAAC;wBAC7D,MAAM;oBACR,KAAK,GAAG;wBACN,QAAQ,CAAC,yBAAyB,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;wBACpD,QAAQ,CAAC,mBAAmB,CAAC,QAAQ,CAAC,GAAG,QAAQ,CAAC;wBAClD,MAAM;oBACR;wBACE,IAAI,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,CAAC;wBACnC,MAAM,IAAI,IAAI,KAAK,CAAC,uBAAuB,CAAC,WAAW,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,CAAC;iBACzF;aACF,CAAC,CAAC;SACJ;QAED,OAAO,QAAQ,CAAC;KACjB;IAEO,iBAAiB;;QAEvB,IAAI,CAAC,qBAAqB,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;aAC3C,yBAAyB,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;aACzC,mBAAmB,CAAC,QAAQ,CAAC,GAAG,QAAQ,CAAC,CAAC;aAC1C

AG,SAAS,CAAC,GAAG,CAAC,YAAY,CAAC,CAAC;oBAC/C,MAAM,YAAY,GAAG,IAAI,CAAC,MAAM,CAAC,gBAAgB,CAAC,SAAS,CAAC;wBAC1D,IAAI,UAAU,CAAC,OAAO,EAAE;4BACtB,IAAI,SAAS,EAAE,EAAE;gCACf,OAAO,CAAC,IAAI,CACR,wIAAwI,CAAC,CAAC;6BAC/I;4BAED,OAAO,UAAU,CAAC,UAAU,EAAE,CAAC;yBAChC;wBAED,OAAO,UAAU,CAAC,OAAO,EAAE,CAAC;qBAC7B,CAAC,CAAC;oBACH,UAAU,CAAC,GAAG,CAAC,UAAU,EAAE;wBACzB,YAAY,CAAC,WAAW,EAAE,CAAC;qBAC5B,CAAC,CAAC;iBACJ,EAAE,CAAC,CAAC,CAAC;aACP;SACF,CAAC,CAAC;QAEX,MAAM,aAAa,GAAG,IAAI,CAAC,MAAM,CAAC,aAAa,CAAC,CAAC,CAAC;;QAG7F,MAAM,aAAa,GAAG,IAAI,CAAC,MAAM,CAAC,aAAa,CAAC,CAAC,CAAC;;QAG1C,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;YACd,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gBACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oBACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wBACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4BACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gCACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oCACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wCACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4CACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gDACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oDACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wDACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4DACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gEACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oEACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wEACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4EACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gFACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oFACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wFACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4FACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gGACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oGACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wGACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4GACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gHACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oHACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wHACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4HACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gIACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oIACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wIACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4IACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gJACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oJACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wJACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4JACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gKACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oKACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wKACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4KACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gLACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oLACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wLACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4LACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gMACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oMACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wMACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4MACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gNACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oNACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wNACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4NACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gOACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oOACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wOACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4OACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gPACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oPACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wPACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4PACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gQACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oQACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wQACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4QACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gRACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oRACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wRACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4RACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gSACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oSACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wSACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4SACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gTACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oTACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wTACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4TACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gUACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oUACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wUACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4UACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gVACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oVACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wVACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4VACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gWACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oWACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wWACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4WACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gXACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oXACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wXACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4XACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gYACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oYACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wYACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4YACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gZACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oZACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wZACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4ZACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gaACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;oaACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;waACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4aACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gbACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;obACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wbACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4bACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gcACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;ocACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wcACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4cACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gdACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;odACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wdACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4dACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gfACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;ofACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;wfACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;4fACf,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gg

Function;\n
transcludeControllers?: {[key: string]: any};\n futureParentElement?: Node;\n}\nexport interface IRootScopeService {\n $new(isolate?: boolean): IScope;\n $id: string;\n $parent: IScope;\n $root: IScope;\n $watch(exp: Ng1Expression, fn?: (a1?: any, a2?: any) => void): Function;\n $on(event: string, fn?: (event?: any, ...args: any[]) => void): Function;\n $destroy(): any;\n $apply(exp?: Ng1Expression): any;\n $digest(): any;\n $evalAsync(exp: Ng1Expression, locals?: any): void;\n $on(event: string, fn?: (event?: any, ...args: any[]) => void): Function;\n $$childTail: IScope;\n $$childHead: IScope;\n $$nextSibling: IScope;\n [key: string]: any;\n}\nexport interface IScope extends IRootScopeService {}\n\nexport interface IAngularBootstrapConfig {\n strictDi?: boolean;\n}\nexport interface IDirective {\n compile?: IDirectiveCompileFn;\n controller?: IController;\n controllerAs?: string;\n bindToController?: boolean|{[key: string]: string};\n link?: IDirectiveLinkFn|IDirectivePrePost;\n
name?: string;\n priority?: number;\n replace?: boolean;\n require?: DirectiveRequireProperty;\n restrict?: string;\n scope?: boolean|{[key: string]: string};\n template?: string|Function;\n templateUrl?: string|Function;\n templateNamespace?: string;\n terminal?: boolean;\n transclude?: DirectiveTranscludeProperty;\n}\nexport type DirectiveRequireProperty = SingleOrListOrMap<string>;\nexport type DirectiveTranscludeProperty = boolean|'element'|{[key: string]: string};\nexport interface IDirectiveCompileFn {\n (templateElement: IAugmentedJQuery, templateAttributes: IAttributes,\n transclude: ITranscludeFunction): IDirectivePrePost;\n}\nexport interface IDirectivePrePost {\n pre?: IDirectiveLinkFn;\n post?: IDirectiveLinkFn;\n}\nexport interface IDirectiveLinkFn {\n (scope: IScope, instanceElement: IAugmentedJQuery, instanceAttributes: IAttributes,\n controller: any, transclude: ITranscludeFunction): void;\n}\nexport interface IComponent {\n bindings?:
{[key: string]: string};\n controller?: string|IInjectable;\n controllerAs?: string;\n require?: DirectiveRequireProperty;\n template?: string|Function;\n templateUrl?: string|Function;\n transclude?: DirectiveTranscludeProperty;\n}\nexport interface IAttributes {\n $observe(attr: string, fn: (v: string) => void): void;\n [key: string]: any;\n}\nexport interface ITranscludeFunction {\n // If the scope is provided, then the cloneAttachFn must be as well.\n (scope: IScope, cloneAttachFn: ICloneAttachFunction): IAugmentedJQuery;\n // If one argument is provided, then it's assumed to be the cloneAttachFn.\n (cloneAttachFn?: ICloneAttachFunction): IAugmentedJQuery;\n}\nexport interface ICloneAttachFunction {\n (clonedElement: IAugmentedJQuery, scope: IScope): any;\n}\nexport type IAugmentedJQuery = Node[]&{\n on?: (name: string, fn: () => void) => void;\n data?: (name: string, value?: any) => any;\n text?: () => string;\n inheritedData?: (name: string, value?: any) =>
any;\n contents?: () => IAugmentedJQuery;\n parent?: () => IAugmentedJQuery;\n empty?: () => void;\n append?: (content: IAugmentedJQuery|string) => IAugmentedJQuery;\n controller?: (name: string) => any;\n isolateScope?: () => IScope;\n injector?: () => IInjectorService;\n triggerHandler?: (eventTypeOrObject: string|Event, extraParameters?: any[]) => IAugmentedJQuery;\n remove?: () => void;\n removeData?: () => void;\n};\nexport interface IProvider {\n $get: IInjectable;\n}\nexport interface IProvideService {\n provider(token: Ng1Token, provider: IProvider): IProvider;\n factory(token: Ng1Token, factory: IInjectable): IProvider;\n service(token: Ng1Token, type: IInjectable): IProvider;\n value(token: Ng1Token, value: any): IProvider;\n constant(token: Ng1Token, value: any): void;\n decorator(token: Ng1Token, factory: IInjectable): void;\n}\nexport interface IParseService {\n (expression: string): ICompiledExpression;\n}\nexport interface ICompiledExpression {\n (context:
any, locals: any): any;\n assign?: (context: any, value: any) => any;\n}\nexport interface IHttpBackendService {\n (method: string, url: string, post?: any, callback?: Function, headers?: any, timeout?: number,\n withCredentials?: boolean): void;\n}\nexport interface ICacheObject {\n put<T>(key: string, value?: T): T;\n get(key: string): any;\n}\nexport interface ITemplateCacheService extends ICacheObject {}\nexport interface ITemplateRequestService {\n (template: string|any /* TrustedResourceUrl */, ignoreRequestError?: boolean): Promise<string>;\n totalPendingRequests: number;\n}\nexport type IController = string|IInjectable;\nexport interface IControllerService {\n (controllerConstructor: IController, locals?: any, later?: any, ident?: any): any;\n (controllerName: string, locals?: any): any;\n}\n\nexport interface IInjectorService {\n get(key: string): any;\n

has(key: string): boolean;\n}\n\nexport interface IIntervalService {\n  (func: Function, delay: number, count?: number, invokeApply?: boolean,\n  ...args: any[]): Promise<any>;\n  cancel(promise: Promise<any>): boolean;\n}\n\nexport interface ITestabilityService {\n  findBindings(element: Element, expression: string, opt_exactMatch?: boolean): Element[];\n  findModels(element: Element, expression: string, opt_exactMatch?: boolean): Element[];\n  getLocation(): string;\n  setLocation(url: string): void;\n  whenStable(callback: Function): void;\n}\n\nexport interface INgModelController {\n  $render(): void;\n  $isEmpty(value: any): boolean;\n  $setValidity(validationErrorKey: string, isValid: boolean): void;\n  $setPristine(): void;\n  $setDirty(): void;\n  $setUntouched(): void;\n  $setTouched(): void;\n  $rollbackViewValue(): void;\n  $validate(): void;\n  $commitViewValue(): void;\n  $setViewValue(value: any, trigger: string): void;\n\n  $viewValue: any;\n  $modelValue: any;\n  $parsers: Function[];\n  $formatters: Function[];\n  $validators: {[key: string]: Function};\n  $asyncValidators:
{[key: string]: Function};\n  $viewChangeListeners: Function[];\n  $error: Object;\n  $pending: Object;\n  $untouched: boolean;\n  $touched: boolean;\n  $pristine: boolean;\n  $dirty: boolean;\n  $valid: boolean;\n  $invalid: boolean;\n  $name: string;\n}\n\nfunction noNg(): never {\n  throw new Error('AngularJS v1.x is not loaded!');\n}\n\nconst noNgElement: typeof angular.element = (() => noNg()) as any;\nnoNgElement.cleanData = noNg;\n\nlet angular: {\n  bootstrap: (e: Element, modules: (string|IInjectable)[], config?: IAngularBootstrapConfig) =>\n    IInjectorService,\n  module: (prefix: string, dependencies?: string[]) => IModule,\n  element: {\n    (e: string|Element|Document|IAugmentedJQuery): IAugmentedJQuery;\n    cleanData: (nodes: Node[]|NodeList) => void;\n  },\n  injector: (modules: Array<string|IInjectable>, strictDi?: boolean) => IInjectorService,\n  version: {major: number},\n  resumeBootstrap: () => void,\n  getTestability: (e: Element) => ITestabilityService\n} = {\n  bootstrap: noNg,\n  module: noNg,\n  element: noNgElement,\n  injector: noNg,\n  version: undefined as any,\n  resumeBootstrap: noNg,\n  getTestability: noNg\n};\n\ntry {\n  if (window.hasOwnProperty('angular')) {\n    angular = (<any>window).angular;\n  }\n} catch {\n  // ignore in CJS mode.\n}\n\n/**\n * @deprecated Use `setAngularJSGlobal` instead.\n *\n * @publicApi\n */\nexport function setAngularLib(ng: any): void {\n  setAngularJSGlobal(ng);\n}\n\n/**\n * @deprecated Use `getAngularJSGlobal` instead.\n *\n * @publicApi\n */\nexport function getAngularLib(): any {\n  return getAngularJSGlobal();\n}\n\n/**\n * Resets the AngularJS global.\n *\n * Used when AngularJS is loaded lazily, and not available on `window`.\n *\n * @publicApi\n */\nexport function setAngularJSGlobal(ng: any): void {\n  angular = ng;\n}\n\n/**\n * Returns the current AngularJS global.\n *\n * @publicApi\n */\nexport function getAngularJSGlobal(): any {\n  return angular;\n}\n\nexport const bootstrap: typeof
angular.bootstrap = (e, modules, config?) =>\n    angular.bootstrap(e, modules, config);\n\n// Do not declare as `module` to avoid webpack bug\n// (see https://github.com/angular/angular/issues/30050).\nexport const module_: typeof angular.module = (prefix, dependencies?) =>\n    angular.module(prefix, dependencies);\n\nexport const element: typeof angular.element = (e => angular.element(e)) as typeof angular.element;\nelement.cleanData = nodes => angular.element.cleanData(nodes);\n\nexport const injector: typeof angular.injector =\n    (modules: Array<string|IInjectable>, strictDi?: boolean) => angular.injector(modules, strictDi);\n\nexport const resumeBootstrap: typeof angular.resumeBootstrap = () => angular.resumeBootstrap();\n\nexport const getTestability: typeof angular.getTestability = e => angular.getTestability(e);\n","/*!
**********\r\n\r\nCopyright (c) Microsoft Corporation.\r\n\r\n\r\nPermission to use, copy, modify,
and/or distribute this software for any\r\npurpose with or without fee is hereby granted.\r\n\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS SOFTWARE.\r\n**********

*/\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics = Object.setPrototypeOf ||\r\n        ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n        function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d; }\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n        for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n            for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n                t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n    var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n            if (y = 0, t) op = [op[0] & 2, t.value];\r\n            switch (op[0]) {\r\n                case 0: case 1: t = op; break;\r\n                case 4: _.label++; return { value: op[1], done: false };\r\n                case 5: _.label++; y = op[1]; op = [0]; continue;\r\n                case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n                default:\r\n                    if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n                    if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n                    if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n                    if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n                    if (t[2]) _.ops.pop();\r\n                    _.trys.pop(); continue;\r\n            }\r\n            op = body.call(thisArg, _);\r\n        } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n        if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n    }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n    for (var p in m) if (p !== \"default\"

&& !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n if (m) return m.call(o);\r\n if (o && typeof o.length === \"number\") return {\r\n next: function () {\r\n if (o && i >= o.length) o = void 0;\r\n return { value: o && o[i++], done: !o };\r\n }\r\n };\r\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n if (!m) return o;\r\n var i = m.call(o), r, ar = [], e;\r\n try {\r\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n }\r\n catch (error) { e = { error: error }; }\r\n finally {\r\n try {\r\n if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n }\r\n

finally { if (e) throw e.error; }\r\n }\r\n return ar;\r\n}\r\n\r\nexport function __spread() {\r\n for (var ar = [], i = 0; i < arguments.length; i++)\r\n ar = ar.concat(__read(arguments[i]));\r\n return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n r[k] = a[j];\r\n return r;\r\n};\r\n\r\nexport function __await(v) {\r\n return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n function fulfill(value) { resume(\"next\", value); }\r\n function reject(value) { resume(\"throw\", value); }\r\n function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n var i, p;\r\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var m = o[Symbol.asyncIterator], i;\r\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n if (mod && mod.__esModule) return mod;\r\n var result = {};\r\n if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n __setModuleDefault(result, mod);\r\n return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to get private field on non-instance\");\r\n }\r\n return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to set private field on non-instance\");\r\n }\r\n privateMap.set(receiver, value);\r\n return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at

https://angular.io/license\n */\n\nexport const $COMPILE = '$compile';\nexport const $CONTROLLER = '$controller';\nexport const $DELEGATE = '$delegate';\nexport const $EXCEPTION_HANDLER = '$exceptionHandler';\nexport const $HTTP_BACKEND = '$httpBackend';\nexport const $INJECTOR = '$injector';\nexport const $INTERVAL = '$interval';\nexport const $PARSE = '$parse';\nexport const $PROVIDE = '$provide';\nexport const $ROOT_SCOPE = '$rootScope';\nexport const $SCOPE = '$scope';\nexport const $TEMPLATE_CACHE = '$templateCache';\nexport const $TEMPLATE_REQUEST = '$templateRequest';\n\nexport const $$TESTABILITY = '$$testability';\n\nexport const COMPILER_KEY = '$$angularCompiler';\nexport const DOWNGRADED_MODULE_COUNT_KEY = '$$angularDowngradedModuleCount';\nexport const GROUP_PROJECTABLE_NODES_KEY = '$$angularGroupProjectableNodes';\nexport const INJECTOR_KEY = '$$angularInjector';\nexport const LAZY_MODULE_REF = '$$angularLazyModuleRef';\nexport const NG_ZONE_KEY = '$$angularNgZone';\nexport const UPGRADE_APP_TYPE_KEY = '$$angularUpgradeAppType';\n\nexport const REQUIRE_INJECTOR = '?^^' + INJECTOR_KEY;\nexport const REQUIRE_NG_MODEL = '?ngModel';\n\nexport const UPGRADE_MODULE_NAME = '$$UpgradeModule';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A `PropertyBinding` represents a mapping between a property name\n * and an attribute name. It is parsed from a string of the form\n * `\"prop: attr\"`; or simply `\"propAndAttr\" where the property\n * and attribute have the same identifier.\n */\nexport class PropertyBinding {\n  // TODO(issue/24571): remove '!'.\n  bracketAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  bracketParenAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  parenAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  onAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  bindAttr!: string;\n  // TODO(issue/24571): remove '!'.\n  bindonAttr!: string;\n\n  constructor(public prop: string, public attr: string) {\n    this.parseBinding();\n  }\n\n  private parseBinding() {\n    this.bracketAttr = `[${this.attr}]`;\n    this.parenAttr = `(${this.attr})`;\n    this.bracketParenAttr = `[(${this.attr})]`;\n    const capitalAttr = this.attr.charAt(0).toUpperCase() + this.attr.substr(1);\n    this.onAttr = `on${capitalAttr}`;\n    this.bindAttr = `bind${capitalAttr}`;\n    this.bindonAttr = `bindon${capitalAttr}`;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, Type} from '@angular/core';\n\nimport {IInjectorService, INgModelController} from './angular1';\nimport {DOWNGRADED_MODULE_COUNT_KEY, UPGRADE_APP_TYPE_KEY} from './constants';\n\nconst DIRECTIVE_PREFIX_REGEXP = /^(?:x|data)[:\\-_]/i;\nconst DIRECTIVE_SPECIAL_CHARS_REGEXP = /[:\\-_]+(.)/g;\n\nexport function onError(e: any) {\n  // TODO: (misko): We seem to not have a stack trace here!\n  if (console.error) {\n    console.error(e, e.stack);\n  } else {\n    // tslint:disable-next-line:no-console\n    console.log(e, e.stack);\n  }\n  throw e;\n}\n\nexport function controllerKey(name: string): string {\n  return '$' + name + 'Controller';\n}\n\nexport function directiveNormalize(name: string): string {\n  return name.replace(DIRECTIVE_PREFIX_REGEXP, '')\n      .replace(DIRECTIVE_SPECIAL_CHARS_REGEXP, (_, letter) => letter.toUpperCase());\n}\n\nexport function getTypeName(type: Type<any>): string {\n  // Return the name of the type or the first line of its stringified version.\n  return (type as any).overriddenName || type.name || type.toString().split('\\n')[0];\n}\n\nexport function getDowngradedModuleCount($injector: IInjectorService): number {\n  return $injector.has(DOWNGRADED_MODULE_COUNT_KEY) ? $injector.get(DOWNGRADED_MODULE_COUNT_KEY) :\n                                                      0;\n}\n\nexport function getUpgradeAppType($injector: IInjectorService): UpgradeAppType {\n  return $injector.has(UPGRADE_APP_TYPE_KEY) ? $injector.get(UPGRADE_APP_TYPE_KEY) :\n                                               UpgradeAppType.None;\n}\n\nexport function isFunction(value: any): value is Function {\n  return typeof value === 'function';\n}\n\nexport function validateInjectionKey(\n    $injector: IInjectorService, downgradedModule: string, injectionKey: string,\n    attemptedAction: string): void {\n  const upgradeAppType =

getUpgradeAppType($injector);\n  const downgradedModuleCount = getDowngradedModuleCount($injector);\n\n
// Check
 for common errors.\n  switch (upgradeAppType) {\n    case UpgradeAppType.Dynamic:\n    case
UpgradeAppType.Static:\n      if (downgradedModule) {\n        throw new Error(\n            `Error while
${attemptedAction}: 'downgradedModule' unexpectedly specified.\\n` +\n            'You should not specify a value for
\\'downgradedModule\\', unless you are downgrading ' +\n            'more than one Angular module (via
\\'downgradeModule()\\').');\n      }\n      break;\n    case UpgradeAppType.Lite:\n      if (!downgradedModule &&
(downgradedModuleCount >= 2)) {\n        throw new Error(\n            `Error while ${attemptedAction}:
'downgradedModule' not specified.\\n` +\n            'This application contains more than one downgraded Angular
module, thus you need to ' +\n            'always specify \\'downgradedModule\\' when downgrading components and
injectables.');\n      }\n\n      if (!$injector.has(injectionKey)) {\n        throw new Error(\n            `Error while
${attemptedAction}:
 Unable to find the specified downgraded module.\\n` +\n            'Did you forget to downgrade an Angular module
or include it in the AngularJS ' +\n            'application?');\n      }\n\n      break;\n    default:\n      throw new Error(\n
    `Error while ${attemptedAction}: Not a valid '@angular/upgrade' application.\\n` +\n            'Did you forget to
downgrade an Angular module or include it in the AngularJS ' +\n            'application?');\n  }\n}\n\nexport class
Deferred<R> {\n  promise: Promise<R>;\n  // TODO(issue/24571): remove '!'.\n  resolve!: (value?:
R|PromiseLike<R>) => void;\n  // TODO(issue/24571): remove '!'.\n  reject!: (error?: any) => void;\n\n
constructor() {\n    this.promise = new Promise((res, rej) => {\n      this.resolve = res;\n      this.reject = rej;\n    });\n
}\n}\n\nexport interface LazyModuleRef {\n  injector?: Injector;\n  promise?: Promise<Injector>;\n}\n\nexport
const enum UpgradeAppType {\n  // App NOT using `@angular/upgrade`. (This
 should never happen in an `ngUpgrade` app.)\n  None,\n\n  // App using the deprecated `@angular/upgrade` APIs
(a.k.a. dynamic `ngUpgrade`).\n  Dynamic,\n\n  // App using `@angular/upgrade/static` with `UpgradeModule`.\n
Static,\n\n  // App using @angular/upgrade/static` with `downgradeModule()` (a.k.a `ngUpgrade`-lite ).\n
Lite,\n}\n\n/**\n * @return Whether the passed-in component implements the subset of the\n *
`ControlValueAccessor` interface needed for AngularJS `ng-model`\n *     compatibility.\n */\nfunction
supportsNgModel(component: any) {\n  return typeof component.writeValue === 'function' &&\n      typeof
component.registerOnChange === 'function';\n}\n\n/**\n * Glue the AngularJS `NgModelController` (if it exists) to
the component\n * (if it implements the needed subset of the `ControlValueAccessor` interface).\n */\nexport
function hookupNgModel(ngModel: INgModelController, component: any) {\n  if (ngModel &&
supportsNgModel(component)) {\n    ngModel.$render = ()
 => {\n      component.writeValue(ngModel.$viewValue);\n    };\n
component.registerOnChange(ngModel.$setViewValue.bind(ngModel));\n    if (typeof
component.registerOnTouched === 'function') {\n
component.registerOnTouched(ngModel.$setTouched.bind(ngModel));\n    }\n  }\n}\n\n/**\n * Test two values for
strict equality, accounting for the fact that `NaN !== NaN`.\n */\nexport function strictEquals(val1: any, val2: any):
boolean {\n  return val1 === val2 || (val1 !== val1 && val2 !== val2);\n}\n","/**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n\nimport {ApplicationRef, ChangeDetectorRef,
ComponentFactory, ComponentRef, EventEmitter, Injector, OnChanges, SimpleChange, SimpleChanges,
StaticProvider, Testability, TestabilityRegistry, Type} from '@angular/core';\n\nimport {IAttributes,
IAugmentedJQuery, ICompileService, IInjectorService,
 INgModelController, IParseService, IScope} from './angular1';\nimport {PropertyBinding} from
'./component_info';\nimport {$SCOPE} from './constants';\nimport {getTypeName, hookupNgModel, strictEquals}
from './util';\n\nconst INITIAL_VALUE = {\n  __UNINITIALIZED__: true\n};\n\nexport class
DowngradeComponentAdapter {\n  private implementsOnChanges = false;\n  private inputChangeCount: number =
0;\n  private inputChanges: SimpleChanges = {};\n  private componentScope: IScope;\n  // TODO(issue/24571):
remove '!'.\n  private componentRef!: ComponentRef<any>;\n  private component: any;\n  // TODO(issue/24571):

```
remove '!'.\n  private changeDetector!: ChangeDetectorRef;\n  // TODO(issue/24571): remove '!'.\n  private viewChangeDetector!: ChangeDetectorRef;\n\n  constructor(\n      private element: IAugmentedJQuery, private attrs: IAttributes, private scope: IScope,\n      private ngModel: INgModelController, private parentInjector: Injector,\n      private $injector: IInjectorService,
  private $compile: ICompileService,\n      private $parse: IParseService, private componentFactory: ComponentFactory<any>,\n      private wrapCallback: <T>(cb: () => T) => () => T) {\n    this.componentScope = scope.$new();\n  }\n\n  compileContents(): Node[][] {\n    const compiledProjectableNodes: Node[][] = [];\n    const projectableNodes: Node[][] = this.groupProjectableNodes();\n    const linkFns = projectableNodes.map(nodes => this.$compile(nodes));\n\n    this.element.empty!();\n\n    linkFns.forEach(linkFn => {\n      linkFn(this.scope, (clone: Node[]) => {\n        compiledProjectableNodes.push(clone);\n        this.element.append!(clone);\n      });\n    });\n\n    return compiledProjectableNodes;\n  }\n\n  createComponent(projectableNodes: Node[][]) {\n    const providers: StaticProvider[] = [{provide: $SCOPE, useValue: this.componentScope}];\n    const childInjector = Injector.create(\n        {providers: providers, parent: this.parentInjector, name: 'DowngradeComponentAdapter'});\n\n
    this.componentRef =\n        this.componentFactory.create(childInjector, projectableNodes, this.element[0]);\n    this.viewChangeDetector = this.componentRef.injector.get(ChangeDetectorRef);\n    this.changeDetector = this.componentRef.changeDetectorRef;\n    this.component = this.componentRef.instance;\n\n    // testability hook is commonly added during component bootstrap in\n    // packages/core/src/application_ref.bootstrap()\n    // in downgraded application, component creation will take place here as well as adding the\n    // testability hook.\n    const testability = this.componentRef.injector.get(Testability, null);\n    if (testability) {\n      this.componentRef.injector.get(TestabilityRegistry)\n          .registerApplication(this.componentRef.location.nativeElement, testability);\n    }\n\n    hookupNgModel(this.ngModel, this.component);\n  }\n\n  setupInputs(manuallyAttachView: boolean, propagateDigest = true): void {\n    const attrs = this.attrs;\n
    const inputs = this.componentFactory.inputs || [];\n    for (let i = 0; i < inputs.length; i++) {\n      const input = new PropertyBinding(inputs[i].propName, inputs[i].templateName);\n      let expr: string|null = null;\n\n      if (attrs.hasOwnProperty(input.attr)) {\n        const observeFn = (prop => {\n          let prevValue = INITIAL_VALUE;\n          return (currValue: any) => {\n            // Initially, both `$observe()` and `$watch()` will call this function.\n            if (!strictEquals(prevValue, currValue)) {\n              if (prevValue === INITIAL_VALUE) {\n                prevValue = currValue;\n              }\n\n              this.updateInput(prop, prevValue, currValue);\n              prevValue = currValue;\n            }\n          };\n        })(input.prop);\n        attrs.$observe(input.attr, observeFn);\n\n        // Use `$watch()` (in addition to `$observe()`) in order to initialize the input in time\n        // for `ngOnChanges()`. This is necessary if we
  are already in a `$digest`, which means that\n        // `ngOnChanges()` (which is called by a watcher) will run before the `$observe()` callback.\n        let unwatch: Function|null = this.componentScope.$watch(() => {\n          unwatch!();\n          unwatch = null;\n          observeFn(attrs[input.attr]);\n        });\n\n      } else if (attrs.hasOwnProperty(input.bindAttr)) {\n        expr = attrs[input.bindAttr];\n      } else if (attrs.hasOwnProperty(input.bracketAttr)) {\n        expr = attrs[input.bracketAttr];\n      } else if (attrs.hasOwnProperty(input.bindonAttr)) {\n        expr = attrs[input.bindonAttr];\n      } else if (attrs.hasOwnProperty(input.bracketParenAttr)) {\n        expr = attrs[input.bracketParenAttr];\n      }\n      if (expr != null) {\n        const watchFn =\n            (prop => (currValue: any, prevValue: any) =>\n                this.updateInput(prop, prevValue, currValue))(input.prop);\n        this.componentScope.$watch(expr, watchFn);\n      }\n
    }\n\n    // Invoke `ngOnChanges()` and Change Detection (when necessary)\n    const detectChanges = () => this.changeDetector.detectChanges();\n    const prototype = this.componentFactory.componentType.prototype;\n    this.implementsOnChanges = !!(prototype && (<OnChanges>prototype).ngOnChanges);\n\n    this.componentScope.$watch(() => this.inputChangeCount, this.wrapCallback(() => {\n      // Invoke `ngOnChanges()`\n      if (this.implementsOnChanges) {\n        const inputChanges = this.inputChanges;\n
```

```
this.inputChanges = {};\n        (<OnChanges>this.component).ngOnChanges(inputChanges!);\n      }\n\n
this.viewChangeDetector.markForCheck();\n\n      // If opted out of propagating digests, invoke change detection
when inputs change.\n      if (!propagateDigest) {\n        detectChanges();\n      }\n    }));\n\n    // If not opted out of
propagating digests, invoke change detection on every digest\n    if (propagateDigest) {\n
this.componentScope.$watch(this.wrapCallback(detectChanges));\n
    }\n\n    // If necessary, attach the view so that it will be dirty-checked.\n    // (Allow time for the initial input
values to be set and `ngOnChanges()` to be called.)\n    if (manuallyAttachView || !propagateDigest) {\n      let
unwatch: Function|null = this.componentScope.$watch(() => {\n        unwatch!();\n        unwatch = null;\n\n
const appRef = this.parentInjector.get<ApplicationRef>(ApplicationRef);\n
appRef.attachView(this.componentRef.hostView);\n      });\n    }\n  }\n\n  setupOutputs() {\n    const attrs =
this.attrs;\n    const outputs = this.componentFactory.outputs || [];\n    for (let j = 0; j < outputs.length; j++) {\n
const output = new PropertyBinding(outputs[j].propName, outputs[j].templateName);\n      const bindonAttr =
output.bindonAttr.substring(0, output.bindonAttr.length - 6);\n      const bracketParenAttr =\n
`[(${output.bracketParenAttr.substring(2, output.bracketParenAttr.length - 8)})]`;\n      //
 order below is important - first update bindings then evaluate expressions\n      if
(attrs.hasOwnProperty(bindonAttr)) {\n        this.subscribeToOutput(output, attrs[bindonAttr], true);\n      }\n      if
(attrs.hasOwnProperty(bracketParenAttr)) {\n        this.subscribeToOutput(output, attrs[bracketParenAttr], true);\n
}\n      if (attrs.hasOwnProperty(output.onAttr)) {\n        this.subscribeToOutput(output, attrs[output.onAttr]);\n
}\n      if (attrs.hasOwnProperty(output.parenAttr)) {\n        this.subscribeToOutput(output,
attrs[output.parenAttr]);\n      }\n    }\n  }\n\n  private subscribeToOutput(output: PropertyBinding, expr: string,
isAssignment: boolean = false) {\n    const getter = this.$parse(expr);\n    const setter = getter.assign;\n    if
(isAssignment && !setter) {\n      throw new Error(`Expression '${expr}' is not assignable!`);\n    }\n    const emitter
= this.component[output.prop] as EventEmitter<any>;\n    if (emitter) {\n      emitter.subscribe({\n
        next: isAssignment ? (v: any) => setter!(this.scope, v) :\n                             (v: any) => getter(this.scope,
{'$event': v})\n      });\n    } else {\n      throw new Error(`Missing emitter '${output.prop}' on component '${\n
getTypeName(this.componentFactory.componentType)}'!`);\n    }\n  }\n\n  registerCleanup() {\n    const
testabilityRegistry = this.componentRef.injector.get(TestabilityRegistry);\n    const destroyComponentRef =
this.wrapCallback(() => this.componentRef.destroy());\n    let destroyed = false;\n\n    this.element.on!('$destroy', ()
=> this.componentScope.$destroy());\n    this.componentScope.$on('$destroy', () => {\n      if (!destroyed) {\n
destroyed = true;\n        testabilityRegistry.unregisterApplication(this.componentRef.location.nativeElement);\n
destroyComponentRef();\n      }\n    });\n  }\n\n  getInjector(): Injector {\n    return this.componentRef.injector;\n
}\n\n  private updateInput(prop: string, prevValue: any,
 currValue: any) {\n    if (this.implementsOnChanges) {\n      this.inputChanges[prop] = new
SimpleChange(prevValue, currValue, prevValue === currValue);\n    }\n\n    this.inputChangeCount++;\n
this.component[prop] = currValue;\n  }\n\n  groupProjectableNodes() {\n    let ngContentSelectors =
this.componentFactory.ngContentSelectors;\n    return groupNodesBySelector(ngContentSelectors,
this.element.contents!());\n  }\n}\n\n/**\n * Group a set of DOM nodes into `ngContent` groups, based on the given
content selectors.\n */\nexport function groupNodesBySelector(ngContentSelectors: string[], nodes: Node[]):
Node[][] {\n  const projectableNodes: Node[][] = [];\n  let wildcardNgContentIndex: number;\n\n  for (let i = 0, ii =
ngContentSelectors.length; i < ii; ++i) {\n    projectableNodes[i] = [];\n  }\n\n  for (let j = 0, jj = nodes.length; j < jj;
++j) {\n    const node = nodes[j];\n    const ngContentIndex = findMatchingNgContentIndex(node,
ngContentSelectors);\n    if (ngContentIndex
 != null) {\n      projectableNodes[ngContentIndex].push(node);\n    }\n  }\n\n  return
projectableNodes;\n}\n\nfunction findMatchingNgContentIndex(element: any, ngContentSelectors: string[]):
number|null {\n  const ngContentIndices: number[] = [];\n  let wildcardNgContentIndex: number = -1;\n  for (let i =
0; i < ngContentSelectors.length; i++) {\n    const selector = ngContentSelectors[i];\n    if (selector === '*') {\n
wildcardNgContentIndex = i;\n    } else {\n      if (matchesSelector(element, selector)) {\n
ngContentIndices.push(i);\n      }\n    }\n  }\n  ngContentIndices.sort();\n\n  if (wildcardNgContentIndex !== -1) {\n
```

ngContentIndices.push(wildcardNgContentIndex);\n  }\n  return ngContentIndices.length ? ngContentIndices[0] : null;\n}\n\nlet _matches: (this: any, selector: string) => boolean;\n\nfunction matchesSelector(el: any, selector: string): boolean {\n  if (!_matches) {\n    const elProto = <any>Element.prototype;\n    _matches = elProto.matches || elProto.matchesSelector
 || elProto.mozMatchesSelector ||\n        elProto.msMatchesSelector || elProto.oMatchesSelector || elProto.webkitMatchesSelector;\n  }\n  return el.nodeType === Node.ELEMENT_NODE ? _matches.call(el, selector) : false;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {isFunction} from './util';\n\nexport interface Thenable<T> {\n  then(callback: (value: T) => any): any;\n}\n\nexport function isThenable<T>(obj: unknown): obj is Thenable<T> {\n  return !!obj && isFunction((obj as any).then);\n}\n\n/**\n * Synchronous, promise-like object.\n */\nexport class SyncPromise<T> {\n  protected value: T|undefined;\n  private resolved = false;\n  private callbacks: ((value: T) => unknown)[] = [];\n\n  static all<T>(valuesOrPromises: (T|Thenable<T>)[]): SyncPromise<T[]> {\n    const aggrPromise = new SyncPromise<T[]>();\n\n
    let resolvedCount = 0;\n    const results: T[] = [];\n    const resolve = (idx: number, value: T) => {\n      results[idx] = value;\n      if (++resolvedCount === valuesOrPromises.length) aggrPromise.resolve(results);\n    };\n\n    valuesOrPromises.forEach((p, idx) => {\n      if (isThenable(p)) {\n        p.then(v => resolve(idx, v));\n      } else {\n        resolve(idx, p);\n      }\n    });\n\n    return aggrPromise;\n  }\n\n  resolve(value: T): void {\n    // Do nothing, if already resolved.\n    if (this.resolved) return;\n\n    this.value = value;\n    this.resolved = true;\n\n    // Run the queued callbacks.\n    this.callbacks.forEach(callback => callback(value));\n    this.callbacks.length = 0;\n  }\n\n  then(callback: (value: T) => unknown): void {\n    if (this.resolved) {\n      callback(this.value!);\n    } else {\n      this.callbacks.push(callback);\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this
 source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentFactory, ComponentFactoryResolver, Injector, NgZone, Type} from '@angular/core';\n\nimport {IAnnotatedFunction, IAttributes, IAugmentedJQuery, ICompileService, IDirective, IInjectorService, INgModelController, IParseService, IScope} from './angular1';\nimport {$COMPILE, $INJECTOR, $PARSE, INJECTOR_KEY, LAZY_MODULE_REF, REQUIRE_INJECTOR, REQUIRE_NG_MODEL} from './constants';\nimport {DowngradeComponentAdapter} from './downgrade_component_adapter';\nimport {SyncPromise, Thenable} from './promise_util';\nimport {controllerKey, getDowngradedModuleCount, getTypeName, getUpgradeAppType, LazyModuleRef, UpgradeAppType, validateInjectionKey} from './util';\n\n\n/**\n * @description\n *\n * A helper function that allows an Angular component to be used from AngularJS.\n *\n * *Part of the [upgrade/static](api?query=upgrade%2Fstatic)\n * library for hybrid
 upgrade apps that support AOT compilation*\n *\n * This helper function returns a factory function to be used for registering\n * an AngularJS wrapper directive for \"downgrading\" an Angular component.\n *\n * @usageNotes\n * ### Examples\n *\n * Let's assume that you have an Angular component called `ng2Heroes` that needs\n * to be made available in AngularJS templates.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-heroes\"}\n *\n * We must create an AngularJS [directive](https://docs.angularjs.org/guide/directive)\n * that will make this Angular component available inside AngularJS templates.\n * The `downgradeComponent()` function returns a factory function that we\n * can use to define the AngularJS directive that wraps the \"downgraded\" component.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-heroes-wrapper\"}\n *\n * For more details and examples on downgrading Angular components to AngularJS components please\n * visit the [Upgrade guide](guide/upgrade#using-angular-components-from-angularjs-code).\n
 *\n * @param info contains information about the Component that is being downgraded:\n *\n * - `component: Type<any>`: The type of the Component that will be downgraded\n * - `downgradedModule?: string`: The name of the downgraded module (if any) that the component\n *   \"belongs to\", as returned by a call to `downgradeModule()`. It is the module, whose\n *   corresponding Angular module will be bootstrapped, when the

component needs to be instantiated.\n *  <br />\n *  (This option is only necessary when using `downgradeModule()` to downgrade more than one\n *  Angular module.)\n * - `propagateDigest?: boolean`: Whether to perform {@link ChangeDetectorRef#detectChanges\n *  change detection} on the component on every\n *  [$digest](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest). If set to `false`,\n *  change detection will still be performed when any of the component's inputs changes.\n *  (Default: true)\n *\n * @returns a factory function that can be used to register the component in an\n * AngularJS module.\n *\n * @publicApi\n */\nexport function downgradeComponent(info: {\n  component: Type<any>;\n  downgradedModule?: string;\n  propagateDigest?: boolean;\n  /** @deprecated since v4. This parameter is no longer used */\n  inputs?: string[];\n  /** @deprecated since v4. This parameter is no longer used */\n  outputs?: string[];\n  /** @deprecated since v4. This parameter is no longer used */\n  selectors?: string[];\n}): any /* angular.IInjectable */ {\n  const directiveFactory: IAnnotatedFunction = function(\n      $compile: ICompileService, $injector: IInjectorService, $parse: IParseService): IDirective {\n    // When using `downgradeModule()`, we need to handle certain things specially. For example:\n    // - We always need to attach the component view to the `ApplicationRef` for it to be\n    //  dirty-checked.\n    // - We need to ensure callbacks to Angular APIs (e.g. change detection) are run inside the\n    //  Angular zone.\n    //  NOTE: This is not needed, when using `UpgradeModule`, because `$digest()` will be run\n    //  inside the Angular zone (except if explicitly escaped, in which case we shouldn't\n    //  force it back in).\n    const isNgUpgradeLite = getUpgradeAppType($injector) === UpgradeAppType.Lite;\n    const wrapCallback: <T>(cb: () => T) => typeof cb =\n        !isNgUpgradeLite ? cb => cb : cb => () => NgZone.isInAngularZone() ? cb() : ngZone.run(cb);\n    let ngZone: NgZone;\n\n    // When downgrading multiple modules, special handling is needed wrt injectors.\n    const hasMultipleDowngradedModules =\n        isNgUpgradeLite && (getDowngradedModuleCount($injector) > 1);\n\n    return {\n      restrict: 'E',\n      terminal: true,\n      require: [REQUIRE_INJECTOR, REQUIRE_NG_MODEL],\n      link: (scope: IScope, element: IAugmentedJQuery, attrs: IAttributes, required: any[]) => {\n        // We might have to compile the contents asynchronously, because this might have been\n        // triggered by `UpgradeNg1ComponentAdapterBuilder`, before the Angular templates have\n        // been compiled.\n\n        const ngModel: INgModelController = required[1];\n        const parentInjector: Injector|Thenable<Injector>|undefined = required[0];\n        let moduleInjector: Injector|Thenable<Injector>|undefined = undefined;\n        let ranAsync = false;\n\n        if (!parentInjector || hasMultipleDowngradedModules) {\n          const downgradedModule = info.downgradedModule || '';\n          const lazyModuleRefKey = `${LAZY_MODULE_REF}${downgradedModule}`;\n          const attemptedAction = `instantiating component '${getTypeName(info.component)}'`;\n\n          validateInjectionKey($injector, downgradedModule, lazyModuleRefKey, attemptedAction);\n\n          const lazyModuleRef = $injector.get(lazyModuleRefKey) as LazyModuleRef;\n          moduleInjector = lazyModuleRef.injector || lazyModuleRef.promise as Promise<Injector>;\n        }\n\n        // Notes:\n        //\n        // There are two injectors: `finalModuleInjector` and `finalParentInjector` (they might be\n        // the same instance, but that is irrelevant):\n        // - `finalModuleInjector` is used to retrieve `ComponentFactoryResolver`, thus it must be\n        //  on the same tree as the `NgModule` that declares this downgraded component.\n        // - `finalParentInjector` is used for all other injection purposes.\n        //  (Note that Angular knows to only traverse the component-tree part of that injector,\n        //  when looking for an injectable and then switch to the module injector.)\n        //\n        // There are basically three cases:\n        // - If there is no parent component (thus no `parentInjector`), we bootstrap the downgraded\n        //  `NgModule` and use its injector as both `finalModuleInjector` and\n        //  `finalParentInjector`.\n        // - If there is a parent component (and thus a `parentInjector`) and we are sure that it\n        //  belongs to the same `NgModule` as this downgraded component (e.g. because there is only\n        //  one downgraded module, we use that `parentInjector` as both `finalModuleInjector` and\n        //  `finalParentInjector`.\n        // - If there is a parent component, but it may belong to a different `NgModule`, then we\n        //  use the `parentInjector` as `finalParentInjector` and this downgraded component's\n        //  declaring `NgModule`'s injector as `finalModuleInjector`.\n        //  Note 1: If the `NgModule` is already bootstrapped, we just get its injector (we don't\n        //  bootstrap again).\n        //  Note

2: It is possible that (while there are multiple downgraded modules) this\n // downgraded component and its parent component both belong to the same NgModule.\n // In that case, we could have used the `parentInjector` as both\n //

`finalModuleInjector` and `finalParentInjector`, but (for simplicity) we are\n // treating this case as if they belong to different `NgModule`s. That doesn't\n // really affect anything, since `parentInjector` has `moduleInjector` as ancestor\n // and trying to resolve `ComponentFactoryResolver` from either one will return\n // the same instance.\n\n // If there is a parent component, use its injector as parent injector.\n

// If this is a \"top-level\" Angular component, use the module injector.\n const finalParentInjector = parentInjector || moduleInjector!;\n\n // If this is a \"top-level\" Angular component or the parent component may belong to a\n // different `NgModule`, use the module injector for module-specific dependencies.\n // If there is a parent component that belongs to the same `NgModule`, use its injector.\n const finalModuleInjector = moduleInjector

|| parentInjector!;\n\n const doDowngrade = (injector: Injector, moduleInjector: Injector) => {\n // Retrieve `ComponentFactoryResolver` from the injector tied to the `NgModule` this\n // component belongs to.\n const componentFactoryResolver: ComponentFactoryResolver =\n moduleInjector.get(ComponentFactoryResolver);\n const componentFactory: ComponentFactory<any> =\n

componentFactoryResolver.resolveComponentFactory(info.component)!;\n\n if (!componentFactory) {\n

throw new Error(`Expecting ComponentFactory for: ${getTypeName(info.component)}`);\n }\n\n const injectorPromise = new ParentInjectorPromise(element);\n const facade = new DowngradeComponentAdapter(\n element, attrs, scope, ngModel, injector, $injector, $compile, $parse,\n

componentFactory, wrapCallback);\n\n const projectableNodes = facade.compileContents();\n facade.createComponent(projectableNodes);\n

facade.setupInputs(isNgUpgradeLite, info.propagateDigest);\n facade.setupOutputs();\n facade.registerCleanup();\n\n injectorPromise.resolve(facade.getInjector());\n\n if (ranAsync) {\n // If this is run async, it is possible that it is not run inside a\n // digest and initial input values will not be detected.\n scope.$evalAsync(() => {});\n }\n };\n\n const downgradeFn =\n !isNgUpgradeLite ? doDowngrade : (pInjector: Injector, mInjector: Injector) => {\n if (!ngZone) {\n

ngZone = pInjector.get(NgZone);\n }\n\n wrapCallback(() => doDowngrade(pInjector, mInjector))();\n };\n\n // NOTE:\n // Not using `ParentInjectorPromise.all()` (which is inherited from `SyncPromise`), because\n // Closure Compiler (or some related tool) complains:\n // `TypeError:

...$src$downgrade_component_ParentInjectorPromise.all is not a function`\n SyncPromise.all([finalParentInjector, finalModuleInjector])\n .then(([pInjector, mInjector]) => downgradeFn(pInjector, mInjector));\n\n ranAsync = true;\n }\n };\n };\n\n // bracket-notation because of closure - see #14441\n directiveFactory['$inject'] = [$COMPILE, $INJECTOR, $PARSE];\n return directiveFactory;\n}\n\n/**\n * Synchronous promise-like object to wrap parent injectors,\n * to preserve the synchronous nature of AngularJS's `$compile`.\n */\nclass ParentInjectorPromise extends SyncPromise<Injector> {\n private injectorKey: string = controllerKey(INJECTOR_KEY);\n\n constructor(private element: IAugmentedJQuery) {\n super();\n\n // Store the promise on the element.\n element.data!(this.injectorKey, this);\n }\n\n resolve(injector: Injector): void {\n // Store the real injector on the element.\n this.element.data!(this.injectorKey, injector);\n\n

// Release the element to prevent memory leaks.\n this.element = null!;\n\n // Resolve the promise.\n super.resolve(injector);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\nimport {IInjectorService} from './angular1';\nimport {$INJECTOR, INJECTOR_KEY} from './constants';\nimport {getTypeName, isFunction, validateInjectionKey} from './util';\n\n/**\n * @description\n *\n * A helper function to allow an Angular service to be accessible from AngularJS.\n *\n * *Part of the [upgrade/static](api?query=upgrade%2Fstatic)\n * library for hybrid upgrade apps that support AOT compilation*\n *\n * This helper function returns a factory function that

provides access to the Angular\n * service identified by the `token` parameter.\n *\n * @usageNotes\n * ### Examples\n *\n
 * First ensure that the service to be downgraded is provided in an `NgModule`\n * that will be part of the upgrade application. For example, let's assume we have\n * defined `HeroesService`\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-heroes-service\"}\n *\n * and that we have included this in our upgrade app `NgModule`\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng2-module\"}\n *\n * Now we can register the `downgradeInjectable` factory function for the service\n * on an AngularJS module.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"downgrade-ng2-heroes-service\"}\n *\n * Inside an AngularJS component's controller we can get hold of the\n * downgraded service via the name we gave when downgrading.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"example-app\"}\n *\n * <div class=\"alert is-important\">\n *\n *  When using `downgradeModule()`, downgraded injectables will not be available until the Angular\n * module that
 provides them is instantiated. In order to be safe, you need to ensure that the\n *  downgraded injectables are not used anywhere _outside_ the part of the app where it is\n *  guaranteed that their module has been instantiated.\n *\n *  For example, it is _OK_ to use a downgraded service in an upgraded component that is only used\n *  from a downgraded Angular component provided by the same Angular module as the injectable, but\n *  it is _not OK_ to use it in an AngularJS component that may be used independently of Angular or\n *  use it in a downgraded Angular component from a different module.\n *\n * \n *\n * @param token an `InjectionToken` that identifies a service provided from Angular.\n * @param downgradedModule the name of the downgraded module (if any) that the injectable\n * \"belongs to\", as returned by a call to `downgradeModule()`. It is the module, whose injector will\n * be used for instantiating the injectable.<br />\n * (This option is only necessary
 when using `downgradeModule()` to downgrade more than one Angular\n * module.)\n *\n * @returns a [factory function](https://docs.angularjs.org/guide/di) that can be\n * used to register the service on an AngularJS module.\n *\n * @publicApi\n */\nexport function downgradeInjectable(token: any, downgradedModule: string = ''): Function {\n  const factory = function($injector: IInjectorService) {\n    const injectorKey = `${INJECTOR_KEY}${downgradedModule}`;\n    const injectableName = isFunction(token) ? getTypeName(token) : String(token);\n    const attemptedAction = `instantiating injectable '${injectableName}'`;\n\n
  validateInjectionKey($injector, downgradedModule, injectorKey, attemptedAction);\n\n    try {\n      const injector: Injector = $injector.get(injectorKey);\n      return injector.get(token);\n    } catch (err) {\n      throw new Error(`Error while ${attemptedAction}: ${err.message || err}`);\n    }\n  };\n  (factory as any)['$inject'] = [$INJECTOR];\n\n return factory;\n}\n","/**\n
 * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.2');\n","\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {IInjectorService} from '../../src/common/src/angular1';\n\n// We have to do a little dance to get the ng1 injector into the module injector.\n// We store the ng1 injector so that the provider in the module injector can access it\n// Then we \"get\" the ng1 injector from the module injector, which triggers the provider to read\n// the stored
 injector and release the reference to it.\nlet tempInjectorRef: IInjectorService|null = null;\nexport function setTempInjectorRef(injector: IInjectorService) {\n  tempInjectorRef = injector;\n}\nexport function injectorFactory() {\n  if (!tempInjectorRef) {\n    throw new Error('Trying to get the AngularJS injector before it being set.');\n  }\n\n  const injector: IInjectorService = tempInjectorRef;\n  tempInjectorRef = null;  // clear the value to prevent memory leaks\n  return injector;\n}\n\nexport function rootScopeFactory(i: IInjectorService) {\n  return i.get('$rootScope');\n}\n\nexport function compileFactory(i: IInjectorService) {\n  return i.get('$compile');\n}\n\nexport function parseFactory(i: IInjectorService) {\n  return i.get('$parse');\n}\n\nexport const angular1Providers = [\n  // We must use exported named functions for the ng2 factories to keep the compiler

happy:\n  // > Metadata collected contains an error that will be reported at runtime:\n  // >   Function calls are not supported.\n  // >   Consider replacing the function or lambda with a reference to an exported function\n {provide: '$injector', useFactory: injectorFactory, deps: []},\n  {provide: '$rootScope', useFactory: rootScopeFactory, deps: ['$injector']},\n  {provide: '$compile', useFactory: compileFactory, deps: ['$injector']},\n  {provide: '$parse', useFactory: parseFactory, deps: ['$injector']}\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR as NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR} from '@angular/core';\n\n\nexport class NgAdapterInjector implements Injector {\n  constructor(private modInjector: Injector) {}\n\n  // When Angular locate a service in the component injector tree, the not found value is set to\n  // `NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR`. In such a case we should not walk up to the module\n  // injector.\n  // AngularJS only supports a single tree and should always check the module injector.\n  get(token: any, notFoundValue?: any): any {\n    if (notFoundValue === NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR) {\n      return notFoundValue;\n    }\n\n    return this.modInjector.get(token, notFoundValue);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, NgModuleFactory, NgModuleRef, StaticProvider} from '@angular/core';\nimport {platformBrowser} from '@angular/platform-browser';\n\nimport {IInjectorService, IProvideService, module_ as angularModule} from '../../src/common/src/angular1';\nimport {$INJECTOR, $PROVIDE, DOWNGRADED_MODULE_COUNT_KEY, INJECTOR_KEY, LAZY_MODULE_REF, UPGRADE_APP_TYPE_KEY, UPGRADE_MODULE_NAME} from '../../src/common/src/constants';\nimport {getDowngradedModuleCount, isFunction, LazyModuleRef, UpgradeAppType} from '../../src/common/src/util';\n\nimport {angular1Providers, setTempInjectorRef} from './angular1_providers';\nimport {NgAdapterInjector} from './util';\n\n\nlet moduleUid = 0;\n\n/**\n * @description\n *\n * A helper function for creating an AngularJS module that can bootstrap an Angular module\n * \"on-demand\" (possibly lazily) when a {@link downgradeComponent downgraded component} needs to be\n * instantiated.\n *\n * *Part of the [upgrade/static](api?query=upgrade/static) library for hybrid upgrade apps that\n * support AOT compilation.*\n *\n * It allows loading/bootstrapping the Angular part of a hybrid application lazily and not having to\n * pay the cost up-front. For example, you can have an AngularJS application that uses Angular for\n * specific routes and only instantiate the Angular modules if/when the user visits one of these\n * routes.\n *\n * The Angular module will be bootstrapped once (when requested for the first time) and the same\n * reference will be used from that point onwards.\n *\n * `downgradeModule()` requires either an `NgModuleFactory` or a function:\n * - `NgModuleFactory`: If you pass an `NgModuleFactory`, it will be used to instantiate a module\n *   using `platformBrowser`'s {@link PlatformRef#bootstrapModuleFactory bootstrapModuleFactory()}.\n * - `Function`: If you pass a function, it is expected to return a promise resolving to an\n *   `NgModuleRef`. The function is called with an array of extra {@link StaticProvider Providers}\n *   that are expected to be available from the returned `NgModuleRef`'s `Injector`.\n *\n * `downgradeModule()` returns the name of the created AngularJS wrapper module. You can use it to\n * declare a dependency in your main AngularJS module.\n *\n * {@example upgrade/static/ts/lite/module.ts region=\"basic-how-to\"}\n *\n * For more details on how to use `downgradeModule()` see\n * [Upgrading for Performance](guide/upgrade-performance).\n *\n * @usageNotes\n *\n * Apart from `UpgradeModule`, you can use the rest of the `upgrade/static` helpers as usual to\n * build a hybrid application. Note that the Angular pieces (e.g. downgraded services) will not be\n * available until the downgraded module has been bootstrapped, i.e. by instantiating a downgraded\n * component.\n *\n * <div class=\"alert is-important\">\n *\n *   You cannot use `downgradeModule()` and `UpgradeModule` in the same hybrid application.<br />\n *   Use one or the other.\n *\n * \n *\n * ### Differences with

`UpgradeModule`\n *\n * Besides their different API, there are two important internal differences between\n * `downgradeModule()` and `UpgradeModule` that affect the behavior of hybrid applications:\n *\n * 1. Unlike `UpgradeModule`, `downgradeModule()` does not bootstrap the main AngularJS module\n * inside the {@link NgZone Angular zone}.\n * 2. Unlike `UpgradeModule`, `downgradeModule()` does not automatically run a\n * [$digest()](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest) when changes are\n * detected in the Angular part of the application.\n *\n * What this means is that applications using `UpgradeModule` will run change detection more\n * frequently in order to ensure that both frameworks are properly notified about possible changes.\n * This will inevitably result in more change detection runs than necessary.\n *\n * `downgradeModule()`, on the other side, does not try to tie the two change detection systems as\n * tightly, restricting the explicit change detection runs only to cases where it knows it is\n * necessary (e.g. when the inputs of a downgraded component change). This improves performance,\n * especially in change-detection-heavy applications, but leaves it up to the developer to manually\n * notify each framework as needed.\n *\n * For a more detailed discussion of the differences and their implications, see\n * [Upgrading for Performance](guide/upgrade-performance).\n *\n * <div class=\"alert is-helpful\">\n *\n * You can manually trigger a change detection run in AngularJS using\n * [scope.$apply(...)](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$apply) or\n * [$rootScope.$digest()](https://docs.angularjs.org/api/ng/type/$rootScope.Scope#$digest).\n *\n * You can manually trigger a change detection run in Angular using {@link NgZone#run\n * ngZone.run(...)}.\n *\n * </div>\n *\n * ### Downgrading multiple modules\n *\n * It is possible to downgrade multiple modules and include them in an AngularJS application. In\n * that case, each downgraded module will be bootstrapped when an associated downgraded component or\n * injectable needs to be instantiated.\n *\n * Things to keep in mind, when downgrading multiple modules:\n *\n * - Each downgraded component/injectable needs to be explicitly associated with a downgraded\n * module. See `downgradeComponent()` and `downgradeInjectable()` for more details.\n *\n * - If you want some injectables to be shared among all downgraded modules, you can provide them as\n * `StaticProvider`s, when creating the `PlatformRef` (e.g. via `platformBrowser` or\n * `platformBrowserDynamic`).\n *\n * - When using {@link PlatformRef#bootstrapmodule `bootstrapModule()`} or\n * {@link PlatformRef#bootstrapmodulefactory `bootstrapModuleFactory()`} to bootstrap the\n * downgraded modules, each one is considered a \"root\" module. As a consequence, a new instance\n * will be created for every injectable provided in `\"root\"` (via\n * {@link Injectable#providedIn `providedIn`}).\n * If this is not your intention, you can have a shared module (that will act as act as the \"root\"\n * module) and create all downgraded modules using that module's injector:\n *\n * {@example upgrade/static/ts/lite-multi-shared/module.ts region=\"shared-root-module\"}\n *\n * @publicApi\n */\nexport function downgradeModule<T>(moduleFactoryOrBootstrapFn: NgModuleFactory<T>|(\n (extraProviders: StaticProvider[]) => Promise<NgModuleRef<T>>)): string {\n const lazyModuleName = `${UPGRADE_MODULE_NAME}.lazy${++moduleUid}`;\n const lazyModuleRefKey = `${LAZY_MODULE_REF}${lazyModuleName}`;\n const lazyInjectorKey = `${INJECTOR_KEY}${lazyModuleName}`;\n\n const bootstrapFn = isFunction(moduleFactoryOrBootstrapFn) ?\n moduleFactoryOrBootstrapFn :\n (extraProviders: StaticProvider[]) =>\n platformBrowser(extraProviders).bootstrapModuleFactory(moduleFactoryOrBootstrapFn);\n\n let injector: Injector;\n\n // Create an ng1 module to bootstrap.\n angularModule(lazyModuleName, [])\n .constant(UPGRADE_APP_TYPE_KEY, UpgradeAppType.Lite)\n .factory(INJECTOR_KEY, [lazyInjectorKey, identity])\n .factory(\n lazyInjectorKey,\n () => {\n if (!injector) {\n throw new Error(\n 'Trying to get the Angular injector before bootstrapping the corresponding ' +\n 'Angular module.');\n }\n return injector;\n })\n .factory(LAZY_MODULE_REF, [lazyModuleRefKey, identity])\n .factory(\n lazyModuleRefKey,\n [\n $INJECTOR,\n ($injector: IInjectorService) => {\n setTempInjectorRef($injector);\n const result: LazyModuleRef = {\n promise: bootstrapFn(angular1Providers).then(ref => {\n injector = result.injector = new NgAdapterInjector(ref.injector);\n injector.get($INJECTOR);\n\n return injector;\n

```
})\n    };\n    return result;\n  }\n  ])\n  .config([\n    $INJECTOR, $PROVIDE,\n  ($injector: IInjectorService, $provide: IProvideService) => {\n
$provide.constant(DOWNGRADED_MODULE_COUNT_KEY, getDowngradedModuleCount($injector) + 1);\n  }\n  ]);\n\n  return lazyModuleName;\n}\n\nfunction identity<T
 = any>(x: T): T {\n  return x;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ElementRef, Injector, SimpleChanges} from '@angular/core';\n\nimport {DirectiveRequireProperty, element as angularElement, IAugmentedJQuery, ICloneAttachFunction, ICompileService, IController, IControllerService, IDirective, IHttpBackendService, IInjectorService, ILinkFn, IScope, ITemplateCacheService, SingleOrListOrMap} from './angular1';\nimport {$COMPILE, $CONTROLLER, $HTTP_BACKEND, $INJECTOR, $TEMPLATE_CACHE} from './constants';\nimport {controllerKey, directiveNormalize, isFunction} from './util';\n\n\n\n// Constants\nconst REQUIRE_PREFIX_RE = /^(\\^\\^?)?(\\?)?(\\^\\^?)?/;\n\n// Interfaces\nexport interface IBindingDestination {\n  [key: string]: any;\n  $onChanges?: (changes: SimpleChanges) => void;\n}\n\nexport interface IControllerInstance
 extends IBindingDestination {\n  $doCheck?: () => void;\n  $onDestroy?: () => void;\n  $onInit?: () => void;\n  $postLink?: () => void;\n}\n\n// Classes\nexport class UpgradeHelper {\n  public readonly $injector: IInjectorService;\n  public readonly element: Element;\n  public readonly $element: IAugmentedJQuery;\n  public readonly directive: IDirective;\n\n  private readonly $compile: ICompileService;\n  private readonly $controller: IControllerService;\n\n  constructor(\n      private injector: Injector, private name: string, elementRef: ElementRef,\n    directive?: IDirective) {\n    this.$injector = injector.get($INJECTOR);\n    this.$compile = this.$injector.get($COMPILE);\n    this.$controller = this.$injector.get($CONTROLLER);\n\n    this.element = elementRef.nativeElement;\n    this.$element = angularElement(this.element);\n\n    this.directive = directive || UpgradeHelper.getDirective(this.$injector, name);\n  }\n\n  static getDirective($injector: IInjectorService,
 name: string): IDirective {\n    const directives: IDirective[] = $injector.get(name + 'Directive');\n    if (directives.length > 1) {\n      throw new Error(`Only support single directive definition for: ${name}`);\n    }\n\n    const directive = directives[0];\n\n    // AngularJS will transform `link: xyz` to `compile: () => xyz`. So we can only tell there was a\n    // user-defined `compile` if there is no `link`. In other cases, we will just ignore `compile`.\n    if (directive.compile && !directive.link) notSupported(name, 'compile');\n    if (directive.replace) notSupported(name, 'replace');\n    if (directive.terminal) notSupported(name, 'terminal');\n\n    return directive;\n  }\n\n  static getTemplate(\n      $injector: IInjectorService, directive: IDirective, fetchRemoteTemplate = false,\n      $element?: IAugmentedJQuery): string|Promise<string> {\n    if (directive.template !== undefined) {\n      return getOrCall<string>(directive.template, $element);\n    } else if (directive.templateUrl) {\n      const $templateCache = $injector.get($TEMPLATE_CACHE) as ITemplateCacheService;\n      const url = getOrCall<string>(directive.templateUrl, $element);\n      const template = $templateCache.get(url);\n\n      if (template !== undefined) {\n        return template;\n      } else if (!fetchRemoteTemplate) {\n        throw new Error('loading directive templates asynchronously is not supported');\n      }\n\n      return new Promise((resolve, reject) => {\n        const $httpBackend = $injector.get($HTTP_BACKEND) as IHttpBackendService;\n        $httpBackend('GET', url, null, (status: number, response: string) => {\n          if (status === 200) {\n            resolve($templateCache.put(url, response));\n          } else {\n            reject(`GET component template from '${url}' returned '${status}: ${response}'`);\n          }\n        });\n      });\n    } else {\n      throw new Error(`Directive '${directive.name}' is not a component, it is missing template.`);\n    }\n  }\n\n  buildController(controllerType: IController, $scope: IScope) {\n    // TODO: Document that we do not pre-assign bindings on the controller instance.\n    // Quoted properties below so that this code can be optimized with Closure Compiler.\n    const locals = {'$scope': $scope, '$element': this.$element};\n    const controller = this.$controller(controllerType, locals, null, this.directive.controllerAs);\n\n    this.$element.data!(controllerKey(this.directive.name!), controller);\n\n    return controller;\n  }\n\n  compileTemplate(template?: string): ILinkFn {\n    if (template === undefined) {\n      template =\n          UpgradeHelper.getTemplate(this.$injector, this.directive, false, this.$element) as string;\n    }\n\n    return
```

```
this.compileHtml(template);\n  }\n\n  onDestroy($scope: IScope, controllerInstance?: any) {\n    if (controllerInstance && isFunction(controllerInstance.$onDestroy)) {\n      controllerInstance.$onDestroy();\n    }\n    $scope.$destroy();\n\n
    // Clean the jQuery/jqLite data on the component+child elements.\n    // Equivelent to how jQuery/jqLite invoke `cleanData` on an Element (this.element)\n    // https://github.com/jquery/jquery/blob/e743cbd28553267f955f71ea7248377915613fd9/src/manipulation.js#L223\n    //  https://github.com/angular/angular.js/blob/26ddc5f830f902a3d22f4b2aab70d86d4d688c82/src/jqLite.js#L306-L312\n    // `cleanData` will invoke the AngularJS `$destroy` DOM event\n    // https://github.com/angular/angular.js/blob/26ddc5f830f902a3d22f4b2aab70d86d4d688c82/src/Angular.js#L1911-L1924\n    angularElement.cleanData([this.element]);\n    angularElement.cleanData(this.element.querySelectorAll('*'));\n  }\n\n  prepareTransclusion(): ILinkFn|undefined {\n    const transclude = this.directive.transclude;\n    const contentChildNodes = this.extractChildNodes();\n    const attachChildrenFn: ILinkFn = (scope, cloneAttachFn) => {\n      // Since AngularJS v1.5.8, `cloneAttachFn` will try to destroy the
     transclusion scope if\n      // `$template` is empty. Since the transcluded content comes from Angular, not AngularJS,\n      // there will be no transclusion scope here.\n      // Provide a dummy `scope.$destroy()` method to prevent `cloneAttachFn` from throwing.\n      scope = scope || {$destroy: () => undefined};\n      return cloneAttachFn!($template, scope);\n    };\n    let $template = contentChildNodes;\n\n    if (transclude) {\n      const slots = Object.create(null);\n\n      if (typeof transclude === 'object') {\n        $template = [];\n\n        const slotMap = Object.create(null);\n        const filledSlots = Object.create(null);\n\n        // Parse the element selectors.\n        Object.keys(transclude).forEach(slotName => {\n          let selector = transclude[slotName];\n          const optional = selector.charAt(0) === '?';\n          selector = optional ? selector.substring(1) : selector;\n\n          slotMap[selector] = slotName;\n          slots[slotName] = null;
            // `null`: Defined but not yet filled.\n          filledSlots[slotName] = optional;  // Consider optional slots as filled.\n        });\n\n        // Add the matching elements into their slot.\n        contentChildNodes.forEach(node => {\n
      const slotName = slotMap[directiveNormalize(node.nodeName.toLowerCase())];\n          if (slotName) {\n
     filledSlots[slotName] = true;\n            slots[slotName] = slots[slotName] || [];\n            slots[slotName].push(node);\n          } else {\n            $template.push(node);\n          }\n        });\n\n        // Check for required slots that were not filled.\n        Object.keys(filledSlots).forEach(slotName => {\n          if (!filledSlots[slotName]) {\n            throw new Error(`Required transclusion slot '${slotName}' on directive: ${this.name}`);\n          }\n        });\n\n        Object.keys(slots).filter(slotName => slots[slotName]).forEach(slotName => {\n          const nodes = slots[slotName];\n
       slots[slotName] = (scope: IScope, cloneAttach: ICloneAttachFunction) => {\n            return cloneAttach!(nodes, scope);\n          };\n        });\n      }\n\n      // Attach `$$slots` to default slot transclude fn.\n      attachChildrenFn.$$slots = slots;\n\n      // AngularJS v1.6+ ignores empty or whitespace-only transcluded text nodes. But Angular\n      // removes all text content after the first interpolation and updates it later, after\n      // evaluating the expressions. This would result in AngularJS failing to recognize text\n      // nodes that start with an interpolation as transcluded content and use the fallback\n      // content instead.\n      // To avoid this issue, we add a\n      // [zero-width non-joiner character](https://en.wikipedia.org/wiki/Zero-width_non-joiner)\n      // to empty text nodes (which can only be a result of Angular removing their initial content).\n      // NOTE: Transcluded text content that starts with whitespace followed by an interpolation\n
     //       will still fail to be detected by AngularJS v1.6+\n      $template.forEach(node => {\n        if (node.nodeType === Node.TEXT_NODE && !node.nodeValue) {\n          node.nodeValue = '\\u200C';\n        }\n      });\n    }\n\n    return attachChildrenFn;\n  }\n\n  resolveAndBindRequiredControllers(controllerInstance: IControllerInstance|null) {\n    const directiveRequire = this.getDirectiveRequire();\n    const requiredControllers = this.resolveRequire(directiveRequire);\n\n    if (controllerInstance && this.directive.bindToController && isMap(directiveRequire)) {\n      const requiredControllersMap = requiredControllers as {[key: string]: IControllerInstance};\n      Object.keys(requiredControllersMap).forEach(key => {\n        controllerInstance[key] =
```

requiredControllersMap[key];\n });\n }\n\n return requiredControllers;\n }\n\n private compileHtml(html: string): ILinkFn {\n this.element.innerHTML = html;\n return this.$compile(this.element.childNodes);\n }\n\n private extractChildNodes(): Node[] {\n const childNodes: Node[] = [];\n let childNode: Node|null;\n\n while (childNode = this.element.firstChild) {\n this.element.removeChild(childNode);\n childNodes.push(childNode);\n }\n\n return childNodes;\n }\n\n private getDirectiveRequire(): DirectiveRequireProperty {\n const require = this.directive.require || (this.directive.controller && this.directive.name)!;\n\n if (isMap(require)) {\n Object.keys(require).forEach(key => {\n const value = require[key];\n const match = value.match(REQUIRE_PREFIX_RE)!;\n const name = value.substring(match[0].length);\n\n if (!name) {\n require[key] = match[0] + key;\n }\n });\n }\n\n return require;\n }\n\n private resolveRequire(require: DirectiveRequireProperty, controllerInstance?: any):\n SingleOrListOrMap<IControllerInstance>|null {\n if (!require) {\n return null;\n } else if (Array.isArray(require)) {\n return require.map(req => this.resolveRequire(req));\n } else if (typeof require === 'object') {\n const value: {[key: string]: IControllerInstance} = {};\n Object.keys(require).forEach(key => value[key] = this.resolveRequire(require[key])!);\n return value;\n } else if (typeof require === 'string') {\n const match = require.match(REQUIRE_PREFIX_RE)!;\n const inheritType = match[1] || match[3];\n\n const name = require.substring(match[0].length);\n const isOptional = !!match[2];\n const searchParents = !!inheritType;\n const startOnParent = inheritType === '^^';\n\n const ctrlKey = controllerKey(name);\n const elem = startOnParent ? this.$element.parent!() : this.$element;\n const value = searchParents ? elem.inheritedData!(ctrlKey) : elem.data!(ctrlKey);\n\n if (!value && !isOptional) {\n throw new Error(\n `Unable to find required '${require}' in upgraded directive '${this.name}'.`);\n }\n\n return value;\n } else {\n throw new Error(\n `Unrecognized 'require' syntax on upgraded directive '${this.name}': ${require}`);\n }\n }\n}\n\nfunction getOrCall<T>(property: T|Function, ...args: any[]): T {\n return isFunction(property) ? property(...args) : property;\n}\n\n// NOTE: Only works for `typeof T !== 'object'`.\nfunction isMap<T>(value: SingleOrListOrMap<T>): value is {[key: string]: T} {\n return value && !Array.isArray(value) && typeof value === 'object';\n}\n\nfunction notSupported(name: string, feature: string) {\n throw new Error(`Upgraded directive '${name}' contains unsupported feature: '${feature}'.`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, DoCheck, ElementRef, EventEmitter, Injector, OnChanges, OnDestroy, OnInit, SimpleChanges} from '@angular/core';\n\nimport {IAttributes, IAugmentedJQuery, IDirective, IInjectorService, ILinkFn, IScope, ITranscludeFunction} from '../../src/common/src/angular1';\nimport {$SCOPE} from '../../src/common/src/constants';\nimport {IBindingDestination, IControllerInstance, UpgradeHelper} from '../../src/common/src/upgrade_helper';\nimport {isFunction} from '../../src/common/src/util';\n\nconst NOT_SUPPORTED: any = 'NOT_SUPPORTED';\nconst INITIAL_VALUE = {\n __UNINITIALIZED__: true\n};\n\nclass Bindings {\n twoWayBoundProperties: string[] = [];\n twoWayBoundLastValues: any[] = [];\n\n expressionBoundProperties: string[] = [];\n\n propertyToOutputMap: {[propName: string]: string} = {};\n}\n\n/**\n * @description\n *\n * A helper class that allows an AngularJS component to be used from Angular.\n *\n * *Part of the [upgrade/static](api?query=upgrade%2Fstatic)\n * library for hybrid upgrade apps that support AOT compilation.*\n *\n * This helper class should be used as a base class for creating Angular directives\n * that wrap AngularJS components that need to be \"upgraded\".\n *\n * @usageNotes\n * ### Examples\n *\n * Let's assume that you have an AngularJS component called `ng1Hero` that needs\n * to be made available in Angular templates.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng1-hero\"}\n *\n * We must create a `Directive` that will make this AngularJS component\n * available inside Angular templates.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng1-hero-wrapper\"}\n *\n * In this example you can see that we must derive from the `UpgradeComponent`\n * base class but also provide an {@link Directive `@Directive`} decorator. This is\n * because the AOT compiler requires that this information is statically available at\n * compile time.\n *\n * Note that we must do the following:\n * * specify the directive's selector (`ng1-hero`)\n * * specify all inputs and outputs that

```
the AngularJS component
 expects\n * * derive from `UpgradeComponent`\n * * call the base class from the constructor, passing\n *   * the AngularJS name of the component (`ng1Hero`)\n *   * the `ElementRef` and `Injector` for the component wrapper\n *\n * @publicApi\n */\n@Directive()\nexport class UpgradeComponent implements OnInit, OnChanges, DoCheck, OnDestroy {\n  private helper: UpgradeHelper;\n\n  private $injector: IInjectorService;\n\n  private element: Element;\n  private $element: IAugmentedJQuery;\n  private $componentScope: IScope;\n\n  private directive: IDirective;\n  private bindings: Bindings;\n\n  // TODO(issue/24571): remove '!'.\n  private controllerInstance!: IControllerInstance;\n  // TODO(issue/24571): remove '!'.\n  private bindingDestination!: IBindingDestination;\n\n  // We will be instantiating the controller in the `ngOnInit` hook, when the\n  // first `ngOnChanges` will have been already triggered. We store the\n  // `SimpleChanges` and \"play them back\" later.\n  // TODO(issue/24571): remove '!'.\n  private pendingChanges!: SimpleChanges|null;\n\n  // TODO(issue/24571): remove '!'.\n  private unregisterDoCheckWatcher!: Function;\n\n  /**\n   * Create a new `UpgradeComponent` instance. You should not normally need to do this.\n   * Instead you should derive a new class from this one and call the super constructor\n   * from the base class.\n   *\n   * {@example upgrade/static/ts/full/module.ts region=\"ng1-hero-wrapper\" }\n   *\n   * * The `name` parameter should be the name of the AngularJS directive.\n   * * The `elementRef` and `injector` parameters should be acquired from Angular by dependency\n   *   injection into the base class constructor.\n   */\n  constructor(private name: string, private elementRef: ElementRef, private injector: Injector) {\n    this.helper = new UpgradeHelper(injector, name, elementRef);\n\n    this.$injector = this.helper.$injector;\n\n    this.element = this.helper.element;\n    this.$element = this.helper.$element;\n\n    this.directive
 = this.helper.directive;\n    this.bindings = this.initializeBindings(this.directive);\n\n    // We ask for the AngularJS scope from the Angular injector, since\n    // we will put the new component scope onto the new injector for each component\n    const $parentScope = injector.get($SCOPE);\n    // QUESTION 1: Should we create an isolated scope if the scope is only true?\n    // QUESTION 2: Should we make the scope accessible through `$element.scope()/isolateScope()`?\n    this.$componentScope = $parentScope.$new(!!this.directive.scope);\n\n    this.initializeOutputs();\n  }\n\n  ngOnInit() {\n    // Collect contents, insert and compile template\n    const attachChildNodes: ILinkFn|undefined = this.helper.prepareTransclusion();\n    const linkFn = this.helper.compileTemplate();\n\n    // Instantiate controller\n    const controllerType = this.directive.controller;\n    const bindToController = this.directive.bindToController;\n    if (controllerType) {\n      this.controllerInstance
 = this.helper.buildController(controllerType, this.$componentScope);\n    } else if (bindToController) {\n      throw new Error(`Upgraded directive '${\n          this.directive.name}' specifies 'bindToController' but no controller.`);\n    }\n\n    // Set up outputs\n    this.bindingDestination = bindToController ? this.controllerInstance : this.$componentScope;\n    this.bindOutputs();\n\n    // Require other controllers\n    const requiredControllers =\n
  this.helper.resolveAndBindRequiredControllers(this.controllerInstance);\n\n    // Hook: $onChanges\n    if (this.pendingChanges) {\n      this.forwardChanges(this.pendingChanges);\n      this.pendingChanges = null;\n    }\n\n    // Hook: $onInit\n    if (this.controllerInstance && isFunction(this.controllerInstance.$onInit)) {\n      this.controllerInstance.$onInit();\n    }\n\n    // Hook: $doCheck\n    if (this.controllerInstance && isFunction(this.controllerInstance.$doCheck)) {\n      const callDoCheck = () => this.controllerInstance.$doCheck!();\n\n
      this.unregisterDoCheckWatcher = this.$componentScope.$parent.$watch(callDoCheck);\n      callDoCheck();\n    }\n\n    // Linking\n    const link = this.directive.link;\n    const preLink = typeof link == 'object' && link.pre;\n    const postLink = typeof link == 'object' ? link.post : link;\n    const attrs: IAttributes = NOT_SUPPORTED;\n    const transcludeFn: ITranscludeFunction = NOT_SUPPORTED;\n    if (preLink) {\n      preLink(this.$componentScope, this.$element, attrs, requiredControllers, transcludeFn);\n    }\n\n    linkFn(this.$componentScope, null!, {parentBoundTranscludeFn: attachChildNodes});\n\n    if (postLink) {\n      postLink(this.$componentScope, this.$element, attrs, requiredControllers, transcludeFn);\n    }\n\n    // Hook: $postLink\n    if (this.controllerInstance && isFunction(this.controllerInstance.$postLink)) {\n      this.controllerInstance.$postLink();\n    }\n  }\n\n  ngOnChanges(changes: SimpleChanges) {\n    if (!this.bindingDestination)
```

{\n this.pendingChanges = changes;\n } else {\n this.forwardChanges(changes);\n }\n }\n\n ngDoCheck() {\n const twoWayBoundProperties = this.bindings.twoWayBoundProperties;\n const twoWayBoundLastValues = this.bindings.twoWayBoundLastValues;\n const propertyToOutputMap = this.bindings.propertyToOutputMap;\n\n twoWayBoundProperties.forEach((propName, idx) => {\n const newValue = this.bindingDestination[propName];\n const oldValue = twoWayBoundLastValues[idx];\n\n if (!Object.is(newValue, oldValue)) {\n const outputName = propertyToOutputMap[propName];\n const eventEmitter: EventEmitter<any> = (this as any)[outputName];\n\n eventEmitter.emit(newValue);\n twoWayBoundLastValues[idx] = newValue;\n }\n });\n }\n\n ngOnDestroy() {\n if (isFunction(this.unregisterDoCheckWatcher)) {\n this.unregisterDoCheckWatcher();\n }\n this.helper.onDestroy(this.$componentScope, this.controllerInstance);\n }\n\n private initializeBindings(directive: IDirective) {\n const btcIsObject = typeof directive.bindToController === 'object';\n if (btcIsObject && Object.keys(directive.scope!).length) {\n throw new Error(\n `Binding definitions on scope and controller at the same time is not supported.`);\n }\n\n const context = btcIsObject ? directive.bindToController : directive.scope;\n const bindings = new Bindings();\n\n if (typeof context == 'object') {\n Object.keys(context).forEach(propName => {\n const definition = context[propName];\n const bindingType = definition.charAt(0);\n\n // QUESTION: What about `=*`? Ignore? Throw? Support?\n\n switch (bindingType) {\n case '@':\n case '<':\n // We don't need to do anything special. They will be defined as inputs on the\n // upgraded component facade and the change propagation will be handled by\n // `ngOnChanges()`.\n break;\n case '=':\n bindings.twoWayBoundProperties.push(propName);\n bindings.twoWayBoundLastValues.push(INITIAL_VALUE);\n bindings.propertyToOutputMap[propName] = propName + 'Change';\n break;\n case '&':\n bindings.expressionBoundProperties.push(propName);\n bindings.propertyToOutputMap[propName] = propName;\n break;\n default:\n let json = JSON.stringify(context);\n throw new Error(\n `Unexpected mapping '${bindingType}' in '${json}' in '${this.name}' directive.`);\n }\n });\n }\n\n return bindings;\n }\n\n private initializeOutputs() {\n // Initialize the outputs for `=` and `&` bindings\n this.bindings.twoWayBoundProperties.concat(this.bindings.expressionBoundProperties)\n .forEach(propName => {\n const outputName = this.bindings.propertyToOutputMap[propName];\n (this as any)[outputName] = new EventEmitter();\n });\n }\n\n private bindOutputs() {\n // Bind `&` bindings to the corresponding outputs\n this.bindings.expressionBoundProperties.forEach(propName => {\n const outputName = this.bindings.propertyToOutputMap[propName];\n const emitter = (this as any)[outputName];\n\n this.bindingDestination[propName] = (value: any) => emitter.emit(value);\n });\n }\n\n private forwardChanges(changes: SimpleChanges) {\n // Forward input changes to `bindingDestination`\n Object.keys(changes).forEach(\n propName => this.bindingDestination[propName] = changes[propName].currentValue);\n\n if (isFunction(this.bindingDestination.$onChanges)) {\n this.bindingDestination.$onChanges(changes);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, isDevMode, NgModule, NgZone, Testability} from '@angular/core';\n\nimport {bootstrap, element as angularElement, IInjectorService, IIntervalService, IProvideService, ITestabilityService, module_ as angularModule} from '../../src/common/src/angular1';\nimport {$$TESTABILITY, $DELEGATE, $INJECTOR, $INTERVAL, $PROVIDE, INJECTOR_KEY, LAZY_MODULE_REF, UPGRADE_APP_TYPE_KEY, UPGRADE_MODULE_NAME} from '../../src/common/src/constants';\nimport {controllerKey, LazyModuleRef, UpgradeAppType} from '../../src/common/src/util';\n\nimport {angular1Providers, setTempInjectorRef} from './angular1_providers';\nimport {NgAdapterInjector} from './util';\n\n\n\n/**\n * @description\n *\n * An `NgModule`, which you import to provide AngularJS core services,\n * and has an instance method used to bootstrap the hybrid upgrade application.\n *\n * *Part of the [upgrade/static](api?query=upgrade/static)\n * library for hybrid upgrade apps that support AOT compilation*\n *\n * The `upgrade/static`

package contains helpers that allow AngularJS and Angular components\n * to be used together inside a hybrid upgrade application, which supports AOT compilation.\n *\n * Specifically, the classes and functions in the `upgrade/static` module allow the following:\n *\n * 1. Creation of an Angular directive that wraps and exposes an AngularJS component so\n * that it can be used in an Angular template. See `UpgradeComponent`.\n * 2. Creation of an AngularJS directive that wraps and exposes an Angular component so\n * that it can be used in an AngularJS template. See `downgradeComponent`.\n * 3. Creation of an Angular root injector provider that wraps and exposes an AngularJS\n * service so that it can be injected into an Angular context. See\n * {@link UpgradeModule#upgrading-an-angular-1-service Upgrading an AngularJS service} below.\n * 4. Creation of an AngularJS service that wraps and exposes an Angular injectable\n * so that it can be injected into an AngularJS context.

See `downgradeInjectable`.\n * 3. Bootstrapping of a hybrid Angular application which contains both of the frameworks\n * coexisting in a single application.\n *\n * @usageNotes\n *\n * ```ts\n * import {UpgradeModule} from '@angular/upgrade/static';\n * ```\n *\n * See also the {@link UpgradeModule#examples examples} below.\n *\n * ### Mental Model\n *\n * When reasoning about how a hybrid application works it is useful to have a mental model which\n * describes what is happening and explains what is happening at the lowest level.\n *\n * 1. There are two independent frameworks running in a single application, each framework treats\n * the other as a black box.\n * 2. Each DOM element on the page is owned exactly by one framework. Whichever framework\n * instantiated the element is the owner. Each framework only updates/interacts with its own\n * DOM elements and ignores others.\n * 3. AngularJS directives always execute inside the AngularJS framework codebase regardless of\n * where they are instantiated.\n * 4. Angular components always execute inside the Angular framework codebase regardless of\n * where they are instantiated.\n * 5. An AngularJS component can be \"upgraded\"\" to an Angular component. This is achieved by\n * defining an Angular directive, which bootstraps the AngularJS component at its location\n * in the DOM. See `UpgradeComponent`.\n * 6. An Angular component can be \"downgraded\" to an AngularJS component. This is achieved by\n * defining an AngularJS directive, which bootstraps the Angular component at its location\n * in the DOM. See `downgradeComponent`.\n * 7. Whenever an \"upgraded\"/\"downgraded\" component is instantiated the host element is owned by\n * the framework doing the instantiation. The other framework then instantiates and owns the\n * view for that component.\n * 1. This implies that the component bindings will always follow the semantics of the\n * instantiation framework.\n * 2. The DOM attributes are parsed by the framework that owns the current template. So\n * attributes in AngularJS templates must use kebab-case, while AngularJS templates must use\n * camelCase.\n * 3. However the template binding syntax will always use the Angular style, e.g. square\n * brackets (`[...]`) for property binding.\n * 8. Angular is bootstrapped first; AngularJS is bootstrapped second. AngularJS always owns the\n * root component of the application.\n * 9. The new application is running in an Angular zone, and therefore it no longer needs calls to\n * `$apply()`.\n *\n * ### The `UpgradeModule` class\n *\n * This class is an `NgModule`, which you import to provide AngularJS core services,\n * and has an instance method used to bootstrap the hybrid upgrade application.\n *\n * * Core AngularJS services\n * Importing this `NgModule` will add providers for the core\n * [AngularJS services](https://docs.angularjs.org/api/ng/service) to the root injector.\n *\n * * Bootstrap\n * The runtime instance of this class contains a {@link UpgradeModule#bootstrap `bootstrap()`}\n * method, which you use to bootstrap the top level AngularJS module onto an element in the\n * DOM for the hybrid upgrade app.\n *\n * It also contains properties to access the {@link UpgradeModule#injector root injector}, the\n * bootstrap `NgZone` and the\n * [AngularJS $injector](https://docs.angularjs.org/api/auto/service/$injector).\n *\n * ### Examples\n *\n * Import the `UpgradeModule` into your top level {@link NgModule Angular `NgModule`}.\n *\n * {@example upgrade/static/ts/full/module.ts region='ng2-module'}\n *\n * Then inject `UpgradeModule` into your Angular `NgModule` and use it to bootstrap the top level\n * [AngularJS module](https://docs.angularjs.org/api/ng/type/angular.Module) in the\n * `ngDoBootstrap()` method.\n *\n * {@example upgrade/static/ts/full/module.ts region='bootstrap-ng1'}\n *\n * Finally, kick off the whole

process, by bootstraping your top level Angular `NgModule`.\n *\n * {@example upgrade/static/ts/full/module.ts region='bootstrap-ng2'}\n *\n * {@a upgrading-an-angular-1-service}\n * ### Upgrading an AngularJS service\n *\n * There is no specific API for upgrading an AngularJS service. Instead you should just follow the\n * following recipe:\n *\n * Let's say you have an AngularJS service:\n *\n * {@example upgrade/static/ts/full/module.ts region=\"ng1-text-formatter-service\"}\n *\n * Then you should define an Angular provider to be included in your `NgModule` `providers`\n * property.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"upgrade-ng1-service\"}\n *\n * Then you can use the \"upgraded\" AngularJS service by injecting it into an Angular component\n * or service.\n *\n * {@example upgrade/static/ts/full/module.ts region=\"use-ng1-upgraded-service\"}\n *\n * @publicApi\n */\n@NgModule({providers: [angular1Providers]})\nexport class UpgradeModule {\n /**\n * The AngularJS `$injector` for the upgrade application.\n */\n public $injector: any /*angular.IInjectorService*/;\n /** The Angular Injector **/\n public injector: Injector;\n\n constructor(\n /** The root `Injector` for the upgrade application. */\n injector: Injector,\n /** The bootstrap zone for the upgrade application */\n public ngZone: NgZone) {\n this.injector = new NgAdapterInjector(injector);\n }\n\n /**\n * Bootstrap an AngularJS application from this NgModule\n * @param element the element on which to bootstrap the AngularJS application\n * @param [modules] the AngularJS modules to bootstrap for this application\n * @param [config] optional extra AngularJS bootstrap configuration\n */\n bootstrap(\n element: Element, modules: string[] = [], config?: any /*angular.IAngularBootstrapConfig*/) {\n const INIT_MODULE_NAME = UPGRADE_MODULE_NAME + '.init';\n\n // Create an ng1 module to bootstrap\n const initModule =\n angularModule(INIT_MODULE_NAME,
[])\n\n .constant(UPGRADE_APP_TYPE_KEY, UpgradeAppType.Static)\n\n .value(INJECTOR_KEY, this.injector)\n\n .factory(\n LAZY_MODULE_REF,\n [INJECTOR_KEY, (injector: Injector) => ({injector} as LazyModuleRef)])\n\n .config([\n $PROVIDE, $INJECTOR,\n ($provide: IProvideService, $injector: IInjectorService) => {\n if ($injector.has($$TESTABILITY)) {\n $provide.decorator($$TESTABILITY, [\n $DELEGATE,\n (testabilityDelegate: ITestabilityService) => {\n const originalWhenStable: Function = testabilityDelegate.whenStable;\n const injector = this.injector;\n // Cannot use arrow function below because we need the context\n const newWhenStable = function(callback: Function) {\n originalWhenStable.call(testabilityDelegate,
function() {\n const ng2Testability: Testability = injector.get(Testability);\n if (ng2Testability.isStable()) {\n callback();\n } else {\n ng2Testability.whenStable(\n newWhenStable.bind(testabilityDelegate, callback));\n }\n });\n };\n\n testabilityDelegate.whenStable = newWhenStable;\n return testabilityDelegate;\n }\n ]);\n }\n\n if ($injector.has($INTERVAL)) {\n $provide.decorator($INTERVAL, [\n $DELEGATE,\n (intervalDelegate: IIntervalService) => {\n // Wrap the $interval service so that setInterval is called outside NgZone,\n //
but the callback is still invoked within it. This is so that $interval\n // won't block stability, which preserves the behavior from AngularJS.\n let wrappedInterval =\n (fn: Function, delay: number, count?: number, invokeApply?: boolean,\n ...pass: any[]) => {\n return this.ngZone.runOutsideAngular(() => {\n return intervalDelegate((...args: any[]) => {\n // Run callback in the next VM turn - $interval calls\n // $rootScope.$apply, and running the callback in NgZone will\n // cause a '$digest already in progress' error if it's in the\n // same vm turn.\n setTimeout(() => {\n this.ngZone.run(() => fn(...args));\n });\n }, delay, count, invokeApply, ...pass);\n });\n };\n\n (wrappedInterval as any)['cancel'] = intervalDelegate.cancel;\n return wrappedInterval;\n }\n ]);\n }\n }\n ])\n\n .run([\n $INJECTOR,\n ($injector: IInjectorService) => {\n this.$injector = $injector;\n\n // Initialize the ng1 $injector provider\n

setTempInjectorRef($injector);\n this.injector.get($INJECTOR);\n\n // Put the injector on the DOM, so that it can be \"required\"\n angularElement(element).data!(controllerKey(INJECTOR_KEY), this.injector);\n\n // Wire up the ng1 rootScope to run a digest cycle whenever the zone settles\n // We need to do this in the next tick so that we don't prevent the bootup\n // stabilizing\n setTimeout(() => {\n const $rootScope = $injector.get('$rootScope');\n const subscription = this.ngZone.onMicrotaskEmpty.subscribe(() => {\n if ($rootScope.$$phase) {\n if (isDevMode()) {\n console.warn(\n 'A digest was triggered while one was already in progress. This may mean that something is triggering digests outside the Angular zone.');\n }\n\n return $rootScope.$evalAsync();\n }\n\n return $rootScope.$digest();\n });\n $rootScope.$on('$destroy', () => {\n subscription.unsubscribe();\n });\n }, 0);\n }\n ]);\n\n const upgradeModule = angularModule(UPGRADE_MODULE_NAME, [INIT_MODULE_NAME].concat(modules));\n\n // Make sure resumeBootstrap() only exists if the current bootstrap is deferred\n const windowAngular = (window as any)['angular'];\n windowAngular.resumeBootstrap = undefined;\n\n // Bootstrap the AngularJS application inside our zone\n this.ngZone.run(() => {\n bootstrap(element, [upgradeModule.name], config);\n });\n\n // Patch resumeBootstrap() to run inside the ngZone\n if (windowAngular.resumeBootstrap) {\n const originalResumeBootstrap: () => void = windowAngular.resumeBootstrap;\n const ngZone = this.ngZone;\n windowAngular.resumeBootstrap = function() {\n let args = arguments;\n windowAngular.resumeBootstrap = originalResumeBootstrap;\n return ngZone.run(() => windowAngular.resumeBootstrap.apply(this, args));\n };\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {getAngularJSGlobal, getAngularLib, setAngularJSGlobal, setAngularLib} from '../src/common/src/angular1';\nexport {downgradeComponent} from '../src/common/src/downgrade_component';\nexport {downgradeInjectable} from '../src/common/src/downgrade_injectable';\nexport {VERSION} from '../src/common/src/version';\nexport {downgradeModule} from './src/downgrade_module';\nexport {UpgradeComponent} from './src/upgrade_component';\nexport {UpgradeModule} from './src/upgrade_module';\n\n\n// This file only re-exports items to appear in the public api. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {angular1Providers as angular_packages_upgrade_static_static_e,compileFactory as angular_packages_upgrade_static_static_c,injectorFactory as angular_packages_upgrade_static_static_a,parseFactory as angular_packages_upgrade_static_static_d,rootScopeFactory as angular_packages_upgrade_static_static_b} from './src/angular1_providers';"],"names":["Injector","ChangeDetectorRef","Testability","TestabilityRegistry","ApplicationRef","SimpleChange","NgZone","ComponentFactoryResolver","Version","NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR","platformBrowser","angularModule","angularElement","INITIAL_VALUE","EventEmitter","Directive","ElementRef","element","isDevMode","NgModule"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;IAkOA,SAAS,IAAI;QACX,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE

AAC,OAAO,CAAC;SACjC;KACF;IAAC,WAAM;;KAEP;IAED;;;;;aAKgB,aAAa,CAAC,EAAO;QACnC,kBAAkB,CAAC,EAAE,CAAC,CAAC;IACzB,CAAC;IAED;;;;;aAKgB,aAAa;QAC3B,OAAO,kBAAkB,EAAE,CAAC;IAC9B,CAAC;IAED;;;;;;;aAOgB,kBAAkB,CAAC,EAAO;QACxC,OAAO,GAAG,EAAE,CAAC;IACf,CAAC;IAED;;;;;aAKgB,kBAAkB;QAChC,OAAO,OAAO,CAAC;IACjB,CAAC;IAEM,IAAM,WAAW,SAAS,GAAG,EAAE,OAAO,EAAE,EAAE,MAAM,EAAE,MAAM,EAAE,OAAO,EAAE,EAAE,MAAM,CAAC,GAAG,EAAE,CAAC;IAE/E,IAAM,WAAW,SAAS,GAAG,EAAE,OAAO,EAAE,GAA0B,EAAE,MAAM,EAAE,MAAM,EAAE,OAAO,EAAE,EAAE,MAAM,CAAC,GAAG,EAAE,CAAC;IAE3G

AAE,UAAU,CAAC,CAAC,EAAE,CAAA;IACzE,CAAC;aAEe,UAAU,CAAC,WAAW,EAAE,aAAa;QACjD,IAAA
I,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,OAAO,OAAO,CAAC,
QAAQ,CAAC,WAAW,EAAE,aAAa,CAAC,CAAC;IACnI,CAAC;aAEe,SAAS,CAAC,OAAO,EAAE,UAAU,EAAA
E,CAAC,EAAE,SAAS;QACvD,SAAS,KAAK,CAAC,KAAK,IAAI,OAAO,KAAK,YAAY,CAAC,GAAG,KAAK,
GAAG,IAAI,CAAC,CAAC,UAAU,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,EAA
E;QAC5G,OAAO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,EAAE,UAAU,OAAO,EAAE,MAAM;YA
CrD,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CA
AC,CAAC;aAAE;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAAE;YAC
3F,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,CAAC,KAAK,CA
AC,CAAC,CAAC;aAAE;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAA
E;YAC9F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,
CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CA
AC,EAAE;YAC9G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,E
AAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,CAAC;aAEe,WAAW,CAAC,OAAO,
EAAE,IAAI;QACrC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,cAAa,IAAI,CAAC,CA
AC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,CA
AC,CAAC,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAAE,EAAE,EAAE,CAAC,E
AAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,EAAE,IAAI,EAAE,EAAE,IAAI,EAAE,IAAI,CAAC,
CAAC,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC
,EAAE,EAAE,OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAa,
OAAO,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzJ,SAAS,IAAI,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,OAAO,UAAU,
CAAC,IAAI,OAAO,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE;QACl
E,SAAS,IAAI,CAAC,EAAE;YACZ,IAAI,CAAC;gBAAE,MAAM,IAAI,SAAS,iCAAiC,CAAC,CAAC;YA
C9D,OAAO,CAAC;gBAAE,IAAI;oBACV,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,KAAK,CAAC,GAAG,EAA
E,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,
GAAG,CAAC,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,KAAK,CAAC,C
AAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,C
AAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI;wBAAE
,OAAO,CAAC,CAAC;oBAC7J,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC;wBAAE,EAAE,GAAG,CAAC,CAAC,
CAAC,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;oBACxC,QAAQ,EAAE,CAAC,
CAAC,CAAC;wBACT,KAAK,CAAC,CAAC;wBAAC,KAAK,CAAC;4BAAE,CAAC,GAAG,EAAE,CAAC;4BA
AC,MAAM;wBAC9B,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,OAAO,EAAE,KAAK
,EAAE,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;wBACxD,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,CAAC,GAAG,CAAC,CAAC;4BA
AC,MAAM;wBAC9B,KAAK,CAAC;4BAAE,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,CAAC;4BA
AC,MAAM,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,CAAC;4BAAC,MAAM,
GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,CAAC;4BAAC,MAAM,GAAG,CAAC,
CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,CAAC;4BAAC,MAAM,GAAG,CAAC,CAAC,IAAI,
CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,CAAC;4BAAC,MAAM,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,
KAAK,CAAC,CAAC,IAAI,EAAE,CAAC;4BAAC,MAAM,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,
CAAC,IAAI,EAAE,CAAC;4BAAC,MAAM,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,
EAAE,CAAC;4BAAC,MAAM,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,CAAC;
4BAA

G,EAAE,CAAC;4BACtB,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;4BAAC,SAAS;qBAC9B;oBACD,EAAE,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,CAAC,CAAC,CAAC;iBAC9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,EAAE,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;oBAAC,CAAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAAE;YAC1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC,CAAC;YAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAAK,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;SAAC;pFACpF;IACL,CAAC;IAEM,eAAA,GAAG,MAAM,IAAI,eAAA,CAAC,eAAA,CAAC,eAAA,CAAC

AAC,CAAC,CAAC,CAAC,GAAG,UAAU,CAAC,IAAI,OAAO,IAAI,OAAO,CAAC,UAAU,CAAC,EAAE,CAAC
,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC,GAA
G,CAAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE;Q
AC1I,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI;YAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,C
AAC,CAAC,CAAC,CAAC,CAAC;SAAE;QAAC,OAAO,CAAC,EAAE;YAAE,MAAM,CAAC,CAAC,CAAC,CA
AC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;SAAE,EAAE;QAClF,SAAS,IAAI,CAAC,CAAC,I
AAI,CAAC,CAAC,KAAK,YAAY,OAAO,GAAG,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,KAAK,CAAC,CA
AC,CAAC,CAAC,IAAI,CAAC,OAAO,EAAE,MAAM,CAAC,GAAG,MAAM,CAAC,CAAC,CAAC,CAAC,CAA
C,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE;QACxH,SAAS,OAAO,CAAC,KAAK,IAAI,MAAM,
CAAC,MAAM,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,KAAK,IAAI,MAAM,CAAC,
OAAO,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI,CAA
C,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,KAAK,EAAE,EAAE,CAAC,CAAC,MAAM;YAAE,MAAM,CAAC
,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,C
AAC,CAAC,EAAE;IACtF,CAAC;aAEe,gBAAgB,CAAC,CAAC;QAC9B,IAAI,CAAC,EAAE,CAAC,CAAC,CAAC,
CAT,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,EAAE,UAAU,C
AAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAA
M,CAAC,QAAQ,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QAC5I,SAAS,IAAI,CA
AC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,UAAU,
CAAC,IAAI,OAAO,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,KAAK,EAAE,OAAO,CAAC,CAAC,CAA
C,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,CAAC,KAAK,QAAQ,EAAE,GAAG,CAAC,G
AAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,EAAE,GAAG,CAAC,CAAC,EAAE;IACnJ,CAAC;aAE
e,aAAa,CAAC,CAAC;QAC3B,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,CAAC,sCAAsC,C
AAC,CAAC;QACvF,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,EAAE,CAAC,CAAC;QAC
nC,OAAO,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,GAAG,OAAO,QAAQ,KAAK,
UAAU,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,EAAE,EAAE,
CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,
QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAA
E,CAAC,CAAC;QACjN,SAAS,IAAI,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CA
AC,CAAC,IAAI,UAAU,CAAC,IAAI,OAAO,IAAI,OAAO,CAAC,UAAU,OAAO,EAAE,MAAM,IAAI,CA
AC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,MAAM,CAAC,OAAO,EAAE,MAAM,EA
AE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE;Q
AChK,SAAS,MAAM,CAAC,OAAO,EAAE,MAAM,EAAE,CAAC,IAAI,CAAC,OAAO,CAAC,OAAO,CA
AC,CAAC,CAAC,IAAI,CAAC,UAAS,CAAC,IAAI,OAAO,CAAC,EAAE,KAAK,EAAE,CAAC,EAAE,IA
AI,EAAE,CAAC,EAAE,CAAC,CAAC,EAAE,EAAE,MAAM,CAAC,CAAC,CAAC,EAAE;IAChI,CAAC;aAAe,oBAAoB
,CAAC,MAAM,EAAE,GAAG;QAC5C,IAAI,MAAM,CAAC,cAAc,EAAE;YAAE,MAAM,CAAC,cAAc,CAAC,M
AAM,EAAE,KAAK,EAAE,EAAE,KAAK,EAAE,GAAG,EAAE,CAAC,CAAC;SAAE;aAAM;YAAE,MAAM,CA
AC,GAAG,GAAG,GAAG,CAAC;SAAE;IAC/E,CAAC;IAED,SAAS,IAAI,CAAC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
kBAAkB,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,EAAE,SAAS,EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,KAAK,EAAE,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;IAC
xE,CAAC,IAAI,UAAS,CAAC,EAAE,CAAC;QACd,CAAC,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC,CAAC;IACrB,C
AAC,CAAC;aAEc,YAAY,CAAC,GAAG;QAC5B,IAAI,GAAG,IAAI,UAAU,CAAC,UAAU;YAAE,OAAO,GAAG;QAC
G,CAAC;QACtC,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,GAAG,EAAE;YACZ,IAAI,GAAG,CAAC,cAAc,CAAC,GAAG,CAAC,EAAE;gBAAE,MAAM,CAAC,GAAG,CAAC,GAAG,GAAG,CAAC,
kBAAkB,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,EAAE,SAAS,EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,KAAK,EAAE,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;oBAAE,MAAM,CAAC,GAAG,CAAC,GAAG,GAAG,CAAC,GAAG,CAAC;iBAAE;aAAM;gBAAE,MAAM,CAAC,GAAG,CAAC,GAAG,GAAG,CAAC,GAAG,CAAC;aAAE;SAAE;QAAC,OAAO,MAAM,CAAC;IAAE,CAAC;IAAA,CAAC;IAAA,CAAC;IAAA

G,CAAC,QAAQ,CAAC,CAAC;IACpC,CAAC;aAEe,sBAAsB,CAAC,QAAQ,EAAE,UAAU,EAAE,KAAK;QAC9
D,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,EAAE;YAC3B,MAAM,IAAI,SAAS,CAAC,gDAAg
D,CAAC,CAAC;SACzE;QACD,UAAU,CAAC,GAAG,CAAC,QAAQ,EAAE,KAAK,CAAC,CAAC;QAChC,OAA
O,KAAK,CAAC;IACjB;;ICIOA;;;;;;;IAQO,IAAM,QAAQ,GAAG,UAAU,CAAC;IAC5B,IAAM,WAAW,GAAG,a
AAa,CAAC;IAClC,IAAM,SAAS,GAAG,WAAW,CAAC;IAC9B,IAAM,kBAAkB,GAAG,mBAAmB,CAAC;IAC/
C,IAAM,aAAa,GAAG,cAAc,CAAC;IACrC,IAAM,SAAS,GAAG,WAAW,CAAC;IAC9B,IAAM,SAAS,GAAG,W
AAW,CAAC;IAC9B,IAAM,MAAM,GAAG,QAAQ,CAAC;IACxB,IAAM,QAAQ,GAAG,UAAU,CAAC;IAC5B,IAAM,SAAS,GAAG,WAAW,CAAC;IAC9B,IAAM,WAAW,GAAG,YAAY,CAAC;IACjC,IAAM,MAAM,GAAG,QAAQ,CAAC;IACxB,IAAM,eAAe,GAAG,gBAAgB,CAAC;IACzC,IAAM,iBAAiB,GAAG,kBAAkB,CAAC;IAE7C,IAAM,aAAa,GAAG,cAAc,CAAC;IACrC,IAAM,eAAe,GAAG,gBAAgB,CAAC;IACzC,IAAM,mBAAmB,GAAG,oBAAoB,CAAC;IACjD,IAAM,2BAA2B,GAAG,4BAA4B,CAAC;IACjE,IAAM,2BAA2B,GAAG,4BAA4B,CAAC;IACjE,IAAM,mBAAmB,GAAG,oBAAoB,CAAC;IACjD,IAAM,eAAe,GAAG,gBAAgB,CAAC;IACzC

AAC,OAAO,CAAC,UAAU,CAAC,CAAC;aAC1C,CAAC;YACF,SAAS,CAAC,gBAAgB,CAAC,OAAO,CAAC,aAAa,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC,CAAC;YAChE,IAAI,OAAO,SAAS,CAAC,iBAAAiB,KAAK,UAAU,EAAE;gBACrD,SAAS,CAAC,iBAAAiB,CAAC,OAAO,CAAC,WAAW,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC,CAAC;aAChE;SACF;IACH,CAAC;IAED;;;aAGgB,YAAY,CAAC,IAAS,EAAE,IAAS;QAC/C,OAAO,IAAI,KAAK,IAAI,CAAC;IACvB,CAAC;IAED;;;

iBACtC;gBACD,IAAI,IAAI,IAAI,IAAI,EAAE;oBAChB,IAAM,OAAO,GACT,CAAC,UAAA,IAAI,IAAI,OAAA,
UAAC,SAAc,EAAE,SAAc,IACnC,OAAA,KAAI,CAAC,WAAW,CAAC,IAAI,EAAE,SAAS,EAAE,SAAS,CAAC
,GAAA,GAAA,EAAE,KAAK,CAAC,IAAI,CAAC,CAAC;oBACnE,OAAK,cAAc,CAAC,MAAM,CAAC,IAAI,E
AAE,OAAO,CAAC,CAAC;iBAC3C;;;YA5CH,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,
CAAC,MAAM,EAAE,CAAC,EAAE;wBAA7B,CAAC;aA6CT;;YAGD,IAAM,aAAa,GAAG,cAAM,OAAA,KAAI
,CAAC,cAAc,CAAC,aAAa,EAAE,GAAA,CAAC;YAChE,IAAM,SAAS,GAAG,IAAI,CAAC,gBAAgB,CAAC,aA
Aa,CAAC,SAAS,CAAC;YAChE,IAAI,CAAC,mBAAmB,GAAG,CAAC,EAAE,SAAS,IAAgB,SAAU,CAAC,WA
AW,CAAC,CAAC;YAE/E,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,cAAM,OAAA,KAAI,CAAC,gBAAgB,GA
AA,EAAE,IAAI,CAAC,YAAY,CAAC;;gBAExE,IAAI,KAAI,CAAC,mBAAmB,EAAE;oBAC5B,IAAM,YAAY,G
AAG,KAAI,CAAC,YAAY,CAAC;oBACvC,IAAI,CAAC,YAAY,GAAG,EAAE,CAAC;oBACX,IAAI,CAAC,S
AAU,CAAC,WAAW,CAAC,YAAa,CAAC,CAAC;iBACxD;gBAED,KAAI,CAAC,kBAAkB,CAAC,YAAY,EAA
E,CAAC;;gBAGvC,IAAI,CAAC,eAAe,EAAE;oBACpB,aAAa,EAAE,CAAC;iBACjB;aACF,CAAC,CAAC,CAAC
;;YAGJ,IAAI,eAAe,EAAE;gBACnB,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,IAAI,CAAC,YAAY,CAAC,aAa
,CAAC,CAAC,CAAC;aAC9D;;;YAID,IAAI,kBAAkB,IAAI,CAAC,eAAe,EAAE;gBAC1C,IAAI,SAAO,GAAkB,I
AAI,CAAC,cAAc,CAAC,MAAM,CAAC;oBACtD,SAAQ,EAAE,CAAC;oBACX,IAAI,SAAO,EAAE;wBACX,IAAI,gBAAgB,GAAG,CAAC,EAAE,CAAC;oBAEf,IAAf,mBAAmB,CAAC,SAAO,CAAC,MAAM,EAAE,gBAAgB,EAAE,CAAC,CAAC;iBAC3D;aACF;YAED,IAAI,CAAC,eAAe,GAAG,IAAI,CAAC;YAC5B,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC;YAC/B,IAAI,CAAC,mBAAmB,GAAG,IAAI,CAAC;YAChC,IAAI,CAAC,YAAY,GAAG,IAAI,CAAC;YACzB,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC;YAC3B,IAAI,CAAC,gBAAgB,GAAG,IAAI,CAAC;YAC7B,IAAI,CAAC,aAAa,GAAG,IAAI,CAAC;YAC1B

AY,CAAC,QAAQ,CAAC;SACnC;QAEO,+CAAW,GAAX,UAAY,IAAY,EAAE,SAAc,EAAE,SAAc;YAC9D,IAAI,IAAI,CAAC,mBAAmB,EAAE;gBAC5B,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,GAAG,IAAIE,iBAAY,CAAC,SAAS,EAAE,SAAS,EAAE,SAAS,KAAK,SAAS,CAAC,CAAC;aAC3F;YAED,IAAI,CAAC,gBAAgB,EAAE,CAAC;YACxB,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC;SAClC;QAED,yDAAqB,GAArB;YACE,IAAI,kBAAkB,GAAG,IAAI,CAAC,gBAAgB,EAAE,CAAC;YACjD,IAAI,kBAAkB,GAAG,IAAI,CAAC,gBAAgB,EAAE,CAAC;YACjD,IAAI,CAAC,kBAAkB,EAAE,OAAO,oBAAoB,CAAC,kBAAkB,EAAE,IAAI,CAAC,OAAO,CAAC,QAAQ,EAAE,CAAC,CAAC;SAC3G;QAED,wCACE,KAAa,EACb,IAAa,EACb,KAAc;YAEd,IAAI,CAAC,KAAK,EAAE;gBACV,KAAK,GAAG,IAAI,CAAC,gBAAgB,EAAE,CAAC;aACjC;YACD,IAAI,CAAC,IAAI,EAAE;gBACT,IAAI,GAAG,IAAI,CAAC,gBAAgB,EAAE,CAAC;aAChC;YACD,IAAI,CAAC,KAAK,EAAE;gBACV,KAAK,GAAG,IAAI,CAAC,gBAAgB,EAAE,CAAC;aACjC;YACD,OAAO,IAAI,CAAC,OAAO,CAAC,KAAK,EAAE,IAAI,EAAE,KAAK,CAAC,CAAC;SACzC

AAE,CAAC,gBAAgB,EAAE,gBAAgB,CAAC;gBAC7C,IAAI,EAAE,UAAC,KAAa,EAAE,OAAyB,EAAE,KAAkB,EAAE,QAAe;;;;oBAKlF,IAAM,OAAO,GAAuB,QAAQ,CAAC,CAAC,CAAC,CAAC;oBAChD,IAAM,cAAc,GAA0C,QAAQ,CAAC,CAAC,CAAC,CAAC;oBAC1E,IAAI,cAAc,,GAA0C,SAAS,CAAC;oBACtE,IAAI,QAAQ,GAAG,KAAK,CAAC;oBAErB,IAAI,CAAC,cAAc,IAAI,4BAA4B,EAAE;wBACnD,IAAM,gBAAgB,GAAG,IAAI,4BAA4B,EAAE,CAAC,gBAAgB,CAAC;wBAC7E,IAAI,EAAE,CAAC;wBACrD,IAAM,gBAAgB,GAAG,KAAK,GAAG,eAAe,GAAG,gBAAgB,kBAAkB,CAAC;wBACjE,8BAA4B,WAAW,CAAC,IAAI,CAAC,CAAC,SAAS,CAAC,MAAM,CAAC,wBAAwF,oBAAoB,CAAC,SAAS,CAAC,EAAE,gBAAgB,EAAE,gBAAgB,EAAE,eAAe,CAAC,CAAC;wBAErF,IAAM,aAAa,GAAG,KAAK,GAAG,eAAe,GAAG,gBAAgB,kBAAkB,CAAC,CAAC,CAAC;wBAAC,IAAI,CAAC,CAAC,CAAC,CAAC,gBAAgB,CAAC,CAAC,CAAC,CAAC

OAAO,CAAC,CAAC,GAAG,CAAC,UAAU,CAAC,CAAC;IAC3B,CAAC;aAEe,YAAY,CAAC,CAAmB;QAC9C,OAAO,CAAC,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;IACzB,CAAC;QAEY,iBAAiB,GAAG;;;;;QAK/B,EAAC,OAAO,EAAE,WAAW,EAAE,UAAU,EAAE,eAAe,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7D,EAAC,OAAO,EAAE,YAAY,EAAE,UAAU,EAAE,gBAAgB,EAAE,IAAI,EAAE,CAAC,WAAW,CAAC,EAAC;QAC1E,EAAC,OAAO,EAAE,UAAU,EAAE,UAAU,EAAE,cAAc,EAAE,IAAI,EAAE,CAAC,WAAW,CAAC,EAAC;QACtE,EAAC,OAAO,EAAE,QAAQ,EAAE,UAAU,EAAE,UAAU,EAAE,YAAY,EAAE,IAAI,EAAE,CAAC,WAAW,CAAC,EAAC;;;ICjDpE;;;;;;;IAWA;QACE,2BAAoB,WAAqB;YAArB,gBAAW,GAAX,WAAW,CAAU;SAAI;;;;;QAM7C,7C,+BAAoB,GAAA,IAAI,GAAA,KAAK,GAAA,KAAK,GAAA,KAAK

CAAwB,CAAC;oBACzE,YAAY,CAAC,KAAK,EAAE,KAAG,EAAE,IAAI,EAAE,UAAC,MAAc,EAAE,QAAgB
;wBAC9D,IAAI,MAAM,KAAK,GAAG,EAAE;4BAClB,OAAO,CAAC,gBAAc,CAAC,GAAG,CAAC,KAAG,EA
AE,QAAQ,CAAC,CAAC,CAAC;yBAC5C;6BAAM;4BACL,MAAM,CAAC,kCAAgC,KAAG,oBAAAe,MAAM,U
AAK,QAAQ,MAAG,CAAC,CAAC;yBAClF;qBACF,CAAC,CAAC;iBACJ,CAAC,CAAC;aACJ;iBAAM;gBACL,
MAAM,IAAI,KAAK,CAAC,gBAAc,SAAS,CAAC,IAAI,kDAA+C,CAAC,CAAC;aAC9F;SACF;QAED,uCAAAe,G
AAf,UAAgB,cAA2B,EAAE,MAAc;;;YAGzD,IAAM,MAAM,GAAG,EAAC,QAAQ,EAAE,MAAM,EAAE,UAA
U,EAAE,IAAI,CAAC,QAAQ,EAAC,CAAC;YAC7D,IAAM,UAAU,GAAG,IAAI,CAAC,WAAW,CAAC,cAAc,E
AAE,MAAM,EAAE,IAAI,EAAE,IAAI,CAAC,SAAS,CAAC,YAAY,CAAC,CAAC;YAE/F,IAAI,CAAC,QAAQ,C
AAC,IAAK,CAAC,aAAa,CAAC,IAAI,CAAC,SAAS,CAAC,IAAK,CAAC,EAAE,UAAU,CAAC,CAAC;YAErE,
OAAO,UAAU,CAAC;SACnB;QAED,uCAAAe,GAAf,UAAgB,QAAiB;YAC/B,IAAI,QAAQ,KAAK,SAAS,EAAE;
gBAC1B,QAAQ;oBACJ,aAAa,CAAC,WAAW,CAAC,IAAI,CAAC,SAAS,EAAE,IAAI,CAAC,SAAS,EAAE,KA
AK,EAAE,IAAI,CAAC,QAAQ,CAAW,CAAC;aAC/F;YAED,OAAO,IAAI,CAAC,WAAW,CAAC,QAAQ,CAAC,
CAAC;SACnC;QAED,iCAAS,GAAT,UAAU,kBAAAe,MAAM,EAAE,aAAa,EAAE,kBAAwB;YAChD,IAAI,kBAAkB,IAAI,UAAU,CAA
C,kBAAkB,CAAC,UAAU,CAAC,EAAE;gBACnE,kBAAkB,CAAC,UAAU,EAAE,CAAC;aACjC;YACD,MAAM,
CAAC,QAAQ,EAAE,CAAC;;;;;;;YAQlB,OAAc,CAAC,SAAS,CAAC,CAAC,IAAI,CAAC,OAAO,CAAC,CAA
C,CAAC;YACzC,OAAc,CAAC,SAAS,CAAC,IAAI,CAAC,OAAO,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAA
C,CAAC;SAC9D;QAED,2CAAAe,GAAT,UAAU,kBAAAe,MAAM,EAAE,aAAa,EAAE,kBAAwB;YAAE,UAAU,CAAC,kBAAkB,CAAC,UAAU,CAAC,EAAE;gBAAE,kBAAkB,CAAC,UAAU,EAAE,CAAC;aAAE;YAAC,IAAM,MAAM,GAAG,EAAC,QAAQ,EAAE,MAAM,EAAE,UAAU,EAAE,IAAI,CAAC,QAAQ,EAAC,CAAC;YAAC,IAAM,UAAU,GAAG,IAAI,CAAC,WAAW,CAAC,cAAc,EAAE,MAAM,EAAE,IAAI,EAAE,IAAI,CAAC,SAAS,CAAC,YAAY,CAAC,CAAC;YAAC,IAAI,CAAC,QAAQ,CAAC,IAAK,CAAC,aAAa,CAAC,IAAI,CAAC,SAAS,CAAC,IAAK,CAAC,EAAE,UAAU,CAAC,CAAC;YAAC,OAAO,UAAU,CAAC,MAAM,CAAC;SAAE;QAAA,CAAC;QAAA,CAAC;QAAA,CAAC

AAG,CAAC,CAAC;iBACvD,CAAC,CAAC;aACJ;YAED,OAAO,mBAAmB,CAAC;SAC5B;QAEO,mCAAW,GAAX,UAAY,IAAY;YAC9B,IAAI,CAAC,OAAO,CAAC,SAAS,GAAG,IAAI,CAAC;YAC9B,OAAO,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,UAAU,CAAC,CAAC;SAC/C;QAEO,yCAAiB,GAAjB;YACN,IAAI,CAAC,OAAO,CAAC,SAAS,GAAG,IAAI,CAAC;YAC9B,IAAI,CAAC,OAAO,CAAC,SAAS,GAAG,IAAI,CAAC;SAC/B;QAEO,yCAAiB,GAAjB,UAAkB,IAAY;YACpC

AAM,CAAC,mBAAmB,EAAE,CAAC;YAC9E,IAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,eAAe,EAAE,CAAC;;YAG7C,IAAM,cAAc,GAAG,IAAI,CAAC,SAAS,CAAC,UAAU,CAAC;YACjD,IAAM,gBAAgB,GAAG,IAAI,CAAC,SAAS,CAAC,gBAAgB,CAAC;YACzD,IAAI,cAAc,EAAE;gBAClB,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,MAAM,CAAC,eAAe,EAAE,IAAI,CAAC,eAAe,EAAE,CAAC,CAAC;aAC7F;iBAAM,IAAI,gBAAgB,EAAE;gBAC3B,IAAI,CAAC,MAAM,GAAG,IAAI,CAAC,KAAK,CAAC,yBACZ,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,sDAAmD,CAAC,CAAC,CAAC;aAC7E;;YAGD,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,gBAAgB,GAAG,IAAI,CAAC,eAAe,EAAE,CAAC;YAC5F,IAAI,CAAC,MAAM,GAAG,IAAI,CAAC,WAAW,EAAE,CAAC;;YAGnB,IAAI,CAAC,mBAAmB,GAAG,IAAI,CAAC,MAAM,CAAC,iCAAiC,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;;YAG3G,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,MAAM,CAAC,kBAAkB,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;;YAG3E,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,MAAM,CAAC,kBAAkB,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;gBAC/E,IAAI,CAAC,mBAAmB,GAAG,IAAI,CAAC,MAAM,CAAC,mBAAmB,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;;YAGzF,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,MAAM,CAAC,kBAAkB,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;;YAG3E

AAC,OAAO,CAAC,CAAC;4BACnC,MAAM,IAAI,KAAK,CACX,yBAAuB,WAAW,cAAS,IAAI,cAAS,KAAI,C
AAC,IAAI,iBAAc,CAAC,CAAC;qBACxF;iBACF,CAAC,CAAC;aACJ;YAED,OAAO,QAAQ,CAAC;SACjB;QA
EO,4CAAiB,GAAjB;YAAA,iBAOP;;YALC,IAAI,CAAC,QAAQ,CAAC,qBAAqB,CAAC,MAAM,CAAC,IAAI,C
AAC,QAAQ,CAAC,yBAAyB,CAAC;iBAC9E,OAAO,CAAC,UAAA,QAAQ;gBACf,IAAM,UAAU,GAAG,KAAI
,CAAC,QAAQ,CAAC,mBAAmB,CAAC,QAAQ,CAAC,CAAC;gBAC9D,KAAY,CAAC,UAAU,CAAC,GAAG,I
AAIC,iBAAY,EAAE,CAAC;aAChD,CAAC,CAAC;SACR;QAEO,sCAAW,GAAX;YAAA,iBAQP;;YANC,IAAI,
CAAC,QAAQ,CAAC,yBAAyB,CAAC,OAAO,CAAC,UAAA,QAAQ;gBACtD,IAAM,UAAU,GAAG,KAAI,CAAC,QAAQ,CAAC,mBAAmB,CAAC,QAAQ,CAAC,CAAC;gBAC/D,KAAY,CAAC,UAAU,CAAC,GAAG,IAAM,OAAO,GAAI,KAAY,CAAC,UAAU,CAAC,C
AAC,CAAC;gBAE1C,KAAI,CAAC,kBAAkB,CAAC,QAAQ,CAAC,GAAG,UAAC,KAAK,IAAO,OAAO,CAAC,
CAAC,IAAI,CAAC,KAAK,CAAC,GAAA,CAAC;aAC1E,CAAC,CAAC;SACJ;QAEO,yCAAc,GAAtB,UAAuB,QAAQ,EAAE,KAAK;YACpC,IAAM,aAAa,GAAG,QAAQ,CAAC,aAAa,CAAC,KAAK,CAAC,CAAC;YACpD,IAAI,aAAa,EAAE;gBACjB,OAAO,aAAa,CAAC;aACtB;YAED,IAAM,aAAa,GAAG,QAAQ,CAAC,aAAa,CAAC,KAAK,CAAC,CAAC;YACpD,aAAa,CAAC,KAAK,GAAG,KAAK,CAAC;YAC5B,OAAO,aAAa,CAAC;SACtB

AAmB,EAAE,CAAC,gBAAgB,CAAC,CAAC,MAAM,CAAC,OAAO,CAAC,CAAC,CAAC;;YAG7F,IAAM,aAAa,GAAI,MAAc,CAAC,SAAS,CAAC,CAAC;YACjD,aAAa,CAAC,eAAe,GAAG,SAAS,CAAC;;YAG1C,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC;gBACd,SAAS,CAACM,SAAO,EAAE,CAAC,MAAM,CAAC,aAAa,CAAC,IAAI,CAAC,EAAE,MAAM,CAAC,CAAC;aAClD,CAAC,CAAC;;YAGH,IAAI,aAAa,CAAC,eAAe,EAAE;gBACjC,IAAM,yBAAuB,GAAG,aAAa,CAAC,eAAe,CAAC;gBAC1E,IAAM,QAAM,GAAG,IAAI,CAAC,MAAM,CAAC,QAAM,EAAE,yBAAuB,CAAC,CAAC;aAC3D;;YAGD,IAAM,iBAAiB,GAAG,IAAI,CAAC,MAAM,CAAC,QAAM,EAAE,SAAS,CAAC,CAAC;YACzD,IAAM,QAAM,GAAG,IAAI,CAAC,MAAM,CAAC,QAAM,EAAE,SAAS,CAAC,CAAC;YAC9C,IAAM,KAAK,GAAG,IAAI,CAAC,MAAM,CAAC,QAAM,EAAE,QAAQ,CAAC,CAAC;YAC5

value: any): IModule;\n  run(a: IInjectable): IModule;\n}\nexport interface ICompileService {\n  (element: Element|NodeList|Node[]|string,
 transclude?: Function): ILinkFn;\n}\nexport interface ILinkFn {\n  (scope: IScope, cloneAttachFn?: ICloneAttachFunction, options?: ILinkFnOptions): IAugmentedJQuery;\n  $$slots?: {[slotName: string]: ILinkFn};\n}\nexport interface ILinkFnOptions {\n  parentBoundTranscludeFn?: Function;\n transcludeControllers?: {[key: string]: any};\n  futureParentElement?: Node;\n}\nexport interface IRootScopeService {\n  $new(isolate?: boolean): IScope;\n  $id: string;\n  $parent: IScope;\n  $root: IScope;\n  $watch(exp: Ng1Expression, fn?: (a1?: any, a2?: any) => void): Function;\n  $on(event: string, fn?: (event?: any, ...args: any[]) => void): Function;\n  $destroy(): any;\n  $apply(exp?: Ng1Expression): any;\n  $digest(): any;\n  $evalAsync(exp: Ng1Expression, locals?: any): void;\n  $on(event: string, fn?: (event?: any, ...args: any[]) => void): Function;\n  $$childTail: IScope;\n  $$childHead: IScope;\n  $$nextSibling: IScope;\n  [key: string]: any;\n}\nexport interface IScope extends IRootScopeService
 {}\n\nexport interface IAngularBootstrapConfig {\n  strictDi?: boolean;\n}\nexport interface IDirective {\n  compile?: IDirectiveCompileFn;\n  controller?: IController;\n  controllerAs?: string;\n  bindToController?: boolean|{[key: string]: string};\n  link?: IDirectiveLinkFn|IDirectivePrePost;\n  name?: string;\n  priority?: number;\n  replace?: boolean;\n  require?: DirectiveRequireProperty;\n  restrict?: string;\n  scope?: boolean|{[key: string]: string};\n  template?: string|Function;\n  templateUrl?: string|Function;\n  templateNamespace?: string;\n  terminal?: boolean;\n  transclude?: DirectiveTranscludeProperty;\n}\nexport type DirectiveRequireProperty = SingleOrListOrMap<string>;\nexport type DirectiveTranscludeProperty = boolean|'element'|{[key: string]: string};\nexport interface IDirectiveCompileFn {\n  (templateElement: IAugmentedJQuery, templateAttributes: IAttributes,\n   transclude: ITranscludeFunction): IDirectivePrePost;\n}\nexport interface IDirectivePrePost
 {\n  pre?: IDirectiveLinkFn;\n  post?: IDirectiveLinkFn;\n}\nexport interface IDirectiveLinkFn {\n  (scope: IScope, instanceElement: IAugmentedJQuery, instanceAttributes: IAttributes,\n   controller: any, transclude: ITranscludeFunction): void;\n}\nexport interface IComponent {\n  bindings?: {[key: string]: string};\n  controller?: string|IInjectable;\n  controllerAs?: string;\n  require?: DirectiveRequireProperty;\n  template?: string|Function;\n  templateUrl?: string|Function;\n  transclude?: DirectiveTranscludeProperty;\n}\nexport interface IAttributes {\n  $observe(attr: string, fn: (v: string) => void): void;\n  [key: string]: any;\n}\nexport interface ITranscludeFunction
 {\n  // If the scope is provided, then the cloneAttachFn must be as well.\n  (scope: IScope, cloneAttachFn: ICloneAttachFunction): IAugmentedJQuery;\n  // If one argument is provided, then it's assumed to be the cloneAttachFn.\n  (cloneAttachFn?: ICloneAttachFunction): IAugmentedJQuery;\n}\nexport interface ICloneAttachFunction
 {\n  (clonedElement: IAugmentedJQuery, scope: IScope): any;\n}\nexport type IAugmentedJQuery = Node[]&{\n  on?: (name: string, fn: () => void) => void;\n  data?: (name: string, value?: any) => any;\n  text?: () => string;\n  inheritedData?: (name: string, value?: any) => any;\n  contents?: () => IAugmentedJQuery;\n  parent?: () => IAugmentedJQuery;\n  empty?: () => void;\n  append?: (content: IAugmentedJQuery|string) => IAugmentedJQuery;\n  controller?: (name: string) => any;\n  isolateScope?: () => IScope;\n  injector?: () => IInjectorService;\n  triggerHandler?: (eventTypeOrObject: string|Event, extraParameters?: any[]) => IAugmentedJQuery;\n  remove?: () => void;\n  removeData?: () => void;\n};\nexport interface IProvider {\n  $get: IInjectable;\n}\nexport interface IProvideService {\n  provider(token: Ng1Token, provider: IProvider): IProvider;\n  factory(token: Ng1Token, factory: IInjectable): IProvider;\n  service(token: Ng1Token, type: IInjectable): IProvider;\n
  value(token: Ng1Token, value: any): IProvider;\n  constant(token: Ng1Token, value: any): void;\n  decorator(token: Ng1Token, factory: IInjectable): void;\n}\nexport interface IParseService {\n  (expression: string): ICompiledExpression;\n}\nexport interface ICompiledExpression {\n  (context: any, locals: any): any;\n  assign?: (context: any, value: any) => any;\n}\nexport interface IHttpBackendService {\n  (method: string, url: string, post?: any, callback?: Function, headers?: any, timeout?: number,\n   withCredentials?: boolean): void;\n}\nexport interface ICacheObject {\n  put<T>(key: string, value?: T): T;\n  get(key: string): any;\n}\nexport interface ITemplateCacheService extends ICacheObject {}\nexport interface ITemplateRequestService {\n  (template:

string|any /* TrustedResourceUrl */, ignoreRequestError?: boolean): Promise<string>;\n totalPendingRequests: number;\n}\nexport type IController = string|IInjectable;\nexport interface IControllerService {\n (controllerConstructor:
IController, locals?: any, later?: any, ident?: any): any;\n (controllerName: string, locals?: any): any;\n}\n\nexport interface IInjectorService {\n get(key: string): any;\n has(key: string): boolean;\n}\n\nexport interface IIntervalService {\n (func: Function, delay: number, count?: number, invokeApply?: boolean,\n ...args: any[]): Promise<any>;\n cancel(promise: Promise<any>): boolean;\n}\n\nexport interface ITestabilityService {\n findBindings(element: Element, expression: string, opt_exactMatch?: boolean): Element[];\n findModels(element: Element, expression: string, opt_exactMatch?: boolean): Element[];\n getLocation(): string;\n setLocation(url: string): void;\n whenStable(callback: Function): void;\n}\n\nexport interface INgModelController {\n $render(): void;\n $isEmpty(value: any): boolean;\n $setValidity(validationErrorKey: string, isValid: boolean): void;\n $setPristine(): void;\n $setDirty(): void;\n $setUntouched(): void;\n $setTouched(): void;\n
$rollbackViewValue(): void;\n $validate(): void;\n $commitViewValue(): void;\n $setViewValue(value: any, trigger: string): void;\n\n $viewValue: any;\n $modelValue: any;\n $parsers: Function[];\n $formatters: Function[];\n $validators: {[key: string]: Function};\n $asyncValidators: {[key: string]: Function};\n $viewChangeListeners: Function[];\n $error: Object;\n $pending: Object;\n $untouched: boolean;\n $touched: boolean;\n $pristine: boolean;\n $dirty: boolean;\n $valid: boolean;\n $invalid: boolean;\n $name: string;\n}\n\nfunction noNg(): never {\n throw new Error('AngularJS v1.x is not loaded!');\n}\n\nconst noNgElement: typeof angular.element = (() => noNg()) as any;\nnoNgElement.cleanData = noNg;\n\nlet angular: {\n bootstrap: (e: Element, modules: (string|IInjectable)[], config?: IAngularBootstrapConfig) =>\n IInjectorService,\n module: (prefix: string, dependencies?: string[]) => IModule,\n element: {\n (e: string|Element|Document|IAugmentedJQuery):
IAugmentedJQuery;\n cleanData: (nodes: Node[]|NodeList) => void;\n },\n injector: (modules: Array<string|IInjectable>, strictDi?: boolean) => IInjectorService,\n version: {major: number},\n resumeBootstrap: () => void,\n getTestability: (e: Element) => ITestabilityService\n} = {\n bootstrap: noNg,\n module: noNg,\n element: noNgElement,\n injector: noNg,\n version: undefined as any,\n resumeBootstrap: noNg,\n getTestability: noNg\n};\n\ntry {\n if (window.hasOwnProperty('angular')) {\n angular = (<any>window).angular;\n }\n} catch {\n // ignore in CJS mode.\n}\n\n/**\n * @deprecated Use `setAngularJSGlobal` instead.\n *\n * @publicApi\n */\nexport function setAngularLib(ng: any): void {\n setAngularJSGlobal(ng);\n}\n\n/**\n * @deprecated Use `getAngularJSGlobal` instead.\n *\n * @publicApi\n */\nexport function getAngularLib(): any {\n return getAngularJSGlobal();\n}\n\n/**\n * Resets the AngularJS global.\n *\n * Used when AngularJS is loaded lazily, and not
available on `window`.\n *\n * @publicApi\n */\nexport function setAngularJSGlobal(ng: any): void {\n angular = ng;\n}\n\n/**\n * Returns the current AngularJS global.\n *\n * @publicApi\n */\nexport function getAngularJSGlobal(): any {\n return angular;\n}\n\nexport const bootstrap: typeof angular.bootstrap = (e, modules, config?) =>\n angular.bootstrap(e, modules, config);\n\n// Do not declare as `module` to avoid webpack bug\n// (see https://github.com/angular/angular/issues/30050).\nexport const module_: typeof angular.module = (prefix, dependencies?) =>\n angular.module(prefix, dependencies);\n\nexport const element: typeof angular.element = (e => angular.element(e)) as typeof angular.element;\nelement.cleanData = nodes => angular.element.cleanData(nodes);\n\nexport const injector: typeof angular.injector =\n (modules: Array<string|IInjectable>, strictDi?: boolean) => angular.injector(modules, strictDi);\n\nexport const resumeBootstrap: typeof angular.resumeBootstrap
= () => angular.resumeBootstrap();\n\nexport const getTestability: typeof angular.getTestability = e => angular.getTestability(e);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport const $COMPILE = '$compile';\nexport const $CONTROLLER = '$controller';\nexport const $DELEGATE = '$delegate';\nexport const $EXCEPTION_HANDLER = '$exceptionHandler';\nexport const $HTTP_BACKEND = '$httpBackend';\nexport const $INJECTOR =

'$injector';\nexport const $INTERVAL = '$interval';\nexport const $PARSE = '$parse';\nexport const $PROVIDE = '$provide';\nexport const $ROOT_SCOPE = '$rootScope';\nexport const $SCOPE = '$scope';\nexport const $TEMPLATE_CACHE = '$templateCache';\nexport const $TEMPLATE_REQUEST = '$templateRequest';\n\nexport const $$TESTABILITY = '$$testability';\n\nexport const COMPILER_KEY = '$$angularCompiler';\nexport
const DOWNGRADED_MODULE_COUNT_KEY = '$$angularDowngradedModuleCount';\nexport const GROUP_PROJECTABLE_NODES_KEY = '$$angularGroupProjectableNodes';\nexport const INJECTOR_KEY = '$$angularInjector';\nexport const LAZY_MODULE_REF = '$$angularLazyModuleRef';\nexport const NG_ZONE_KEY = '$$angularNgZone';\nexport const UPGRADE_APP_TYPE_KEY = '$$angularUpgradeAppType';\n\nexport const REQUIRE_INJECTOR = '?^^' + INJECTOR_KEY;\nexport const REQUIRE_NG_MODEL = '?ngModel';\n\nexport const UPGRADE_MODULE_NAME = '$$UpgradeModule';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, NgModule, Type} from '@angular/core';\n\nimport * as angular from '../../../src/common/src/angular1';\nimport {$INJECTOR, INJECTOR_KEY, UPGRADE_APP_TYPE_KEY} from '../../../src/common/src/constants';\nimport {UpgradeAppType} from '../../../src/common/src/util';\n\nlet
$injector: angular.IInjectorService|null = null;\nlet injector: Injector;\n\nexport function $injectorFactory() {\n return $injector;\n}\n\n@NgModule({providers: [{provide: $INJECTOR, useFactory: $injectorFactory}]})\nexport class AngularTestingModule {\n constructor(i: Injector) {\n injector = i;\n }\n}\n\n/**\n * A helper function to use when unit testing Angular services that depend upon upgraded AngularJS\n * services.\n *\n * This function returns an `NgModule` decorated class that is configured to wire up the Angular\n * and AngularJS injectors without the need to actually bootstrap a hybrid application.\n * This makes it simpler and faster to unit test services.\n *\n * Use the returned class as an \"import\" when configuring the `TestBed`.\n *\n * In the following code snippet, we are configuring the TestBed with two imports.\n * The `Ng2AppModule` is the Angular part of our hybrid application and the `ng1AppModule` is the\n * AngularJS part.\n
*\n * <code-example path=\"upgrade/static/ts/full/module.spec.ts\" region=\"angular-setup\"></code-example>\n *\n * Once this is done we can get hold of services via the Angular `Injector` as normal.\n * Services that are (or have dependencies on) an upgraded AngularJS service, will be instantiated\n * as needed by the AngularJS `$injector`.\n *\n * In the following code snippet, `HeroesService` is an Angular service that depends upon an\n * AngularJS service, `titleCase`.\n *\n * <code-example path=\"upgrade/static/ts/full/module.spec.ts\" region=\"angular-spec\"></code-example>\n *\n * <div class=\"alert is-important\">\n *\n * This helper is for testing services not Components.\n * For Component testing you must still bootstrap a hybrid app. See `UpgradeModule` or\n * `downgradeModule` for more information.\n *\n * \n *\n * <div class=\"alert is-important\">\n *\n * The resulting configuration does not wire up AngularJS digests to Zone hooks. It is the\n * responsibility of
the test writer to call `$rootScope.$apply`, as necessary, to trigger\n * AngularJS handlers of async events from Angular.\n *\n * \n *\n * <div class=\"alert is-important\">\n *\n * The helper sets up global variables to hold the shared Angular and AngularJS injectors.\n *\n * * Only call this helper once per spec.\n * * Do not use `createAngularTestingModule` in the same spec as `createAngularJSTestingModule`.\n *\n * \n *\n * Here is the example application and its unit tests that use `createAngularTestingModule`\n * and `createAngularJSTestingModule`.\n *\n * <code-tabs>\n * <code-pane header=\"module.spec.ts\" path=\"upgrade/static/ts/full/module.spec.ts\"></code-pane>\n * <code-pane header=\"module.ts\" path=\"upgrade/static/ts/full/module.ts\"></code-pane>\n * </code-tabs>\n *\n *\n * @param angularJSModules a collection of the names of AngularJS modules to include in the\n * configuration.\n * @param [strictDi] whether the AngularJS injector should have `strictDI`
enabled.\n *\n * @publicApi\n */\nexport function createAngularTestingModule(\n angularJSModules: string[], strictDi?: boolean): Type<any> {\n angular.module_('$$angularJSTestingModule', angularJSModules)\n .constant(UPGRADE_APP_TYPE_KEY, UpgradeAppType.Static)\n .factory(INJECTOR_KEY, () =>

injector);\n  $injector = angular.injector(['ng', '$$angularJSTestingModule'], strictDi);\n  return AngularTestingModule;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\nimport {TestBed} from '@angular/core/testing';\n\nimport * as ng from '../../../src/common/src/angular1';\nimport {$INJECTOR, INJECTOR_KEY, UPGRADE_APP_TYPE_KEY} from '../../../src/common/src/constants';\nimport {UpgradeAppType} from '../../../src/common/src/util';\n\n\n/**\n * A helper function to use when unit testing AngularJS services that depend upon downgraded Angular\n * services.\n *\n * This function returns an AngularJS module that is configured to wire up the AngularJS and Angular\n * injectors without the need to actually bootstrap a hybrid application.\n * This makes it simpler and faster to unit test services.\n *\n * Use the returned AngularJS module in a call to\n * [`angular.mocks.module`](https://docs.angularjs.org/api/ngMock/function/angular.mock.module) to\n * include this module in the unit test injector.\n *\n * In the following code snippet, we are configuring the `$injector` with two modules:\n * The AngularJS `ng1AppModule`, which is the AngularJS part of our hybrid application and the\n * `Ng2AppModule`, which is the Angular part.\n *\n * <code-example path=\"upgrade/static/ts/full/module.spec.ts\"\n * region=\"angularjs-setup\"></code-example>\n *\n * Once this is done we can get hold of services via the AngularJS `$injector` as normal.\n * Services that are (or have dependencies on) a downgraded Angular service, will be instantiated as\n * needed by the Angular root `Injector`.\n *\n * In the following code snippet, `heroesService` is a downgraded Angular service that we are\n * accessing from AngularJS.\n *\n * <code-example path=\"upgrade/static/ts/full/module.spec.ts\"\n * region=\"angularjs-spec\"></code-example>\n *\n * <div class=\"alert is-important\">\n *\n * This helper is for testing services not components.\n * For Component testing you must still bootstrap a hybrid app. See `UpgradeModule` or\n * `downgradeModule` for more information.\n *\n * \n *\n * <div class=\"alert is-important\">\n *\n * The resulting configuration does not wire up AngularJS digests to Zone hooks. It is the\n * responsibility of the test writer to call `$rootScope.$apply`, as necessary, to trigger\n * AngularJS handlers of async events from Angular.\n *\n * \n *\n * <div class=\"alert is-important\">\n *\n * The helper sets up global variables to hold the shared Angular and AngularJS injectors.\n *\n * * Only call this helper once per spec.\n * * Do not use `createAngularJSTestingModule` in the same spec as `createAngularTestingModule`.\n *\n * \n *\n * Here is the example application and its unit tests that use `createAngularTestingModule`\n * and `createAngularJSTestingModule`.\n *\n * <code-tabs>\n *  <code-pane header=\"module.spec.ts\" path=\"upgrade/static/ts/full/module.spec.ts\"></code-pane>\n *  <code-pane header=\"module.ts\" path=\"upgrade/static/ts/full/module.ts\"></code-pane>\n * </code-tabs>\n *\n *\n * @param angularModules a collection of Angular modules to include in the configuration.\n *\n * @publicApi\n */\nexport function createAngularJSTestingModule(angularModules: any[]): string {\n  return ng.module_('$$angularJSTestingModule', [])\n      .constant(UPGRADE_APP_TYPE_KEY, UpgradeAppType.Static)\n      .factory(\n          INJECTOR_KEY,\n          [\n            $INJECTOR,\n            ($injector: ng.IInjectorService) => {\n              TestBed.configureTestingModule({\n                imports: angularModules,\n                providers: [{provide: $INJECTOR, useValue: $injector}]\n              });\n              return TestBed.inject(Injector);\n            }\n          ])\n      .name;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {createAngularTestingModule} from './src/create_angular_testing_module';\nexport {createAngularJSTestingModule} from './src/create_angularjs_testing_module';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport

{module_ as angular_packages_upgrade_static_testing_testing_a} from '../../src/common/src/angular1';\nexport {INJECTOR_KEY as angular_packages_upgrade_static_testing_testing_d,UPGRADE_APP_TYPE_KEY as angular_packages_upgrade_static_testing_testing_b} from '../../src/common/src/constants';\nexport {UpgradeAppType as angular_packages_upgrade_static_testing_testing_c} from '../../src/common/src/util';"],"names":["injector","NgModule","Injector","angular.module_","angular.injector","ng.module_","TestBed"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;IAkOA,SAAS,IAAI;QACX,MAAM,IAAI,KAAK,CAAC,+BAA+B,CAAC,CAAC;IACnD,CAAC,CAAC;IAED,IAAM,WAAW,IAAI4B,cAAM,CAAC,CAAC,CAAC,CAAC;IAE7B,IAAM,OAAO,IAAI,EAAE,GAAG,CAAC,CAAC;IAExB,IAAM,IAAI,GAAG,IAAI,CAAC,CAAC,CAAC,CAAC;IAEr

in path(s):
* /upgrade-11-0-2-tgz/package/bundles/upgrade-static-testing.umd.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/upgrade/upgrade-static-testing.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","upgrade","static","testing","core","this","noNg","Error","noNgElement","cleanData","angular","bootstrap","element","injector","version","undefined","resumeBootstrap","getTestability","window","hasOwnProperty","_a","injector$1","AngularTestingModule","module_","prefix","dependencies","$injector","i","decorators","type","NgModule","args","providers","provide","useFactory","$injectorFactory","ctorParameters","Injector","createAngularJSTestingModule","angularModules","constant","TestBed","configureTestingModule","imports","useValue","inject","name","createAngularTestingModule","angularJSModules","strictDi","modules","angular_packages_upgrade_static_testing_testing_a","angular_packages_upgrade_static_testing_testing_b","angular_packages_upgrade_static_testing_testing_d","Object","defineProperty","value"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GACpB,OAAOC,SAAY,UAAY,OAAOC,QAAW,YAAcF,EAAQC,QAAQE,QAAQ,mBAAoBA,QAAQ,4BAA8B,OAAOC,SAAW,YAAcA,OAAOC,KAAOD,OAAO,CAAC,UAAW,mBAAoB,4BAA6BH,GAAWA,EAAQK,QAAUL,EAAQK,OAAOC,QAAUN,EAAQK,OAAOC,QAAU,GAAIN,EAAQK,OAAOC,QAAQC,QAAUP,EAAQK,OAAOC,QAAQC,QAAQC,SAAW,GAAIR,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAS,IAAKT,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAO,GAAIV,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAU,IAAKV,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAO,GAAIX,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAU,IAAKZ,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAO,GAAIb,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKd,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAO,GAAIf,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKhB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAO,GAAIjB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKlB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAO,GAAInB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKpB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAO,GAAIrB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKtB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAO,GAAIvB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKxB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAO,GAAIzB,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK1B,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAO,GAAI3B,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK5B,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK7B,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK9B,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK/B,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKhC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKjC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKlC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKnC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKpC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKrC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKtC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKvC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKxC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKzC,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK1C,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK3C,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK5C,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK7C,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK9C,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK/C,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKhD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKjD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKlD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKnD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKpD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKrD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKtD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKvD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKxD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKzD,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK1D,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK3D,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK5D,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK7D,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK9D,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK/D,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKhE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKjE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKlE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKnE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKpE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKrE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKtE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKvE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKxE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKzE,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK1E,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK3E,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK5E,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK7E,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK9E,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK/E,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKhF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKjF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKlF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKnF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKpF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKrF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKtF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKvF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKxF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKzF,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK1F,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK3F,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK5F,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK7F,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK9F,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK/F,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKhG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKjG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKlG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKnG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKpG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKrG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKtG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKvG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKxG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAKzG,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK1G,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK3G,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK5G,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAU,IAAK7G,EAAQK,OAAOC,QAAQC,QAAQC,SAASC,OAAOC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,QAAQC,KAAKC,

```
getTestability: noNg\n    };\n    try {\n        if (window.hasOwnProperty('angular')) {\n            angular = window.angular;\n        }\n    }\n    catch (_a) {\n        // ignore in CJS mode.\n    }\n    /**\n     * @deprecated Use `setAngularJSGlobal` instead.\n     *\n     * @publicApi\n     */\n    function setAngularLib(ng) {\n        setAngularJSGlobal(ng);\n    }\n    /**\n     * @deprecated Use `getAngularJSGlobal` instead.\n     *\n     * @publicApi\n     */\n    function getAngularLib() {\n        return getAngularJSGlobal();\n    }\n    /**\n     * Resets the AngularJS global.\n     *\n     * Used when AngularJS is loaded lazily, and not available on `window`.\n     *\n     * @publicApi\n     */\n    function setAngularJSGlobal(ng) {\n        angular = ng;\n    }\n    /**\n     * Returns the current AngularJS global.\n     *\n     * @publicApi\n     */\n    function getAngularJSGlobal() {\n        return angular;\n    }\n    var bootstrap = function (e, modules,
 config) { return angular.bootstrap(e, modules, config); };\n    // Do not declare as `module` to avoid webpack bug\n    // (see https://github.com/angular/angular/issues/30050).\n    var module_ = function (prefix, dependencies) { return angular.module(prefix, dependencies); };\n    var element = (function (e) { return angular.element(e); });\n    element.cleanData = function (nodes) { return angular.element.cleanData(nodes); };\n    var injector = function (modules, strictDi) { return angular.injector(modules, strictDi); };\n    var resumeBootstrap = function () { return angular.resumeBootstrap(); };\n    var getTestability = function (e) { return angular.getTestability(e); };\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var $COMPILE = '$compile';\n    var $CONTROLLER = '$controller';\n
    var $DELEGATE = '$delegate';\n    var $EXCEPTION_HANDLER = '$exceptionHandler';\n    var $HTTP_BACKEND = '$httpBackend';\n    var $INJECTOR = '$injector';\n    var $INTERVAL = '$interval';\n    var $PARSE = '$parse';\n    var $PROVIDE = '$provide';\n    var $ROOT_SCOPE = '$rootScope';\n    var $SCOPE = '$scope';\n    var $TEMPLATE_CACHE = '$templateCache';\n    var $TEMPLATE_REQUEST = '$templateRequest';\n    var $$TESTABILITY = '$$testability';\n    var COMPILER_KEY = '$$angularCompiler';\n    var DOWNGRADED_MODULE_COUNT_KEY = '$$angularDowngradedModuleCount';\n    var GROUP_PROJECTABLE_NODES_KEY = '$$angularGroupProjectableNodes';\n    var INJECTOR_KEY = '$$angularInjector';\n    var LAZY_MODULE_REF = '$$angularLazyModuleRef';\n    var NG_ZONE_KEY = '$$angularNgZone';\n    var UPGRADE_APP_TYPE_KEY = '$$angularUpgradeAppType';\n    var REQUIRE_INJECTOR = '?^^' + INJECTOR_KEY;\n    var REQUIRE_NG_MODEL = '?ngModel';\n    var UPGRADE_MODULE_NAME = '$$UpgradeModule';\n\n    /**\n
    * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var $injector = null;\n    var injector$1;\n    function $injectorFactory() {\n        return $injector;\n    }\n    var AngularTestingModule = /** @class */ (function () {\n        function AngularTestingModule(i) {\n            injector$1 = i;\n        }\n        return AngularTestingModule;\n    }());\n    AngularTestingModule.decorators = [\n        { type: core.NgModule, args: [{ providers: [{ provide: $INJECTOR, useFactory: $injectorFactory }] },] }\n    ];\n    AngularTestingModule.ctorParameters = function () { return [\n        { type: core.Injector }\n    ]; };\n    /**\n     * A helper function to use when unit testing Angular services that depend upon upgraded AngularJS\n     * services.\n     *\n     * This function returns an `NgModule` decorated
 class that is configured to wire up the Angular\n     * and AngularJS injectors without the need to actually bootstrap a hybrid application.\n     * This makes it simpler and faster to unit test services.\n     *\n     * Use the returned class as an \"import\" when configuring the `TestBed`.\n     *\n     * In the following code snippet, we are configuring the TestBed with two imports.\n     * The `Ng2AppModule` is the Angular part of our hybrid application and the `ng1AppModule` is the\n     * AngularJS part.\n     *\n     * <code-example path=\"upgrade/static/ts/full/module.spec.ts\" region=\"angular-setup\"></code-example>\n     *\n     * Once this is done we can get hold of services via the Angular `Injector` as normal.\n     * Services that are (or have dependencies on) an upgraded AngularJS service, will be instantiated\n     * as needed by the AngularJS `$injector`.\n     *\n     * In the following code snippet, `HeroesService` is an Angular service that depends upon an\n     *
```

AngularJS service, `titleCase`.\n *\n * <code-example path=\"upgrade/static/ts/full/module.spec.ts\" region=\"angular-spec\"></code-example>\n *\n * <div class=\"alert is-important\">\n *\n * This helper is for testing services not Components.\n * For Component testing you must still bootstrap a hybrid app. See `UpgradeModule` or\n * `downgradeModule` for more information.\n *\n * \n *\n * <div class=\"alert is-important\">\n *\n * The resulting configuration does not wire up AngularJS digests to Zone hooks. It is the\n * responsibility of the test writer to call `$rootScope.$apply`, as necessary, to trigger\n * AngularJS handlers of async events from Angular.\n *\n * \n *\n * <div class=\"alert is-important\">\n *\n * The helper sets up global variables to hold the shared Angular and AngularJS injectors.\n *\n * * Only call this helper once per spec.\n * * Do not use `createAngularTestingModule` in the same spec as `createAngularJSTestingModule`.\n *\n * \n *\n * Here is the example application and its unit tests that use `createAngularTestingModule`\n * and `createAngularJSTestingModule`.\n *\n * <code-tabs>\n * <code-pane header=\"module.spec.ts\" path=\"upgrade/static/ts/full/module.spec.ts\"></code-pane>\n * <code-pane header=\"module.ts\" path=\"upgrade/static/ts/full/module.ts\"></code-pane>\n * </code-tabs>\n *\n *\n * @param angularJSModules a collection of the names of AngularJS modules to include in the\n * configuration.\n * @param [strictDi] whether the AngularJS injector should have `strictDI` enabled.\n *\n * @publicApi\n */\n function createAngularTestingModule(angularJSModules, strictDi) {\n module_('$$angularJSTestingModule', angularJSModules)\n .constant(UPGRADE_APP_TYPE_KEY, 2 /* Static */)\n .factory(INJECTOR_KEY, function ()
{ return injector$1; });\n $injector = injector(['ng', '$$angularJSTestingModule'], strictDi);\n return AngularTestingModule;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A helper function to use when unit testing AngularJS services that depend upon downgraded Angular\n * services.\n *\n * This function returns an AngularJS module that is configured to wire up the AngularJS and Angular\n * injectors without the need to actually bootstrap a hybrid application.\n * This makes it simpler and faster to unit test services.\n *\n * Use the returned AngularJS module in a call to\n * [`angular.mocks.module`](https://docs.angularjs.org/api/ngMock/function/angular.mock.module) to\n * include this module in the unit test injector.\n *\n * In the following code snippet, we are configuring the `$injector` with two modules:\n * The AngularJS `ng1AppModule`, which is the AngularJS part of our hybrid application and the\n * `Ng2AppModule`, which is the Angular part.\n *\n * <code-example path=\"upgrade/static/ts/full/module.spec.ts\"\n * region=\"angularjs-setup\"></code-example>\n *\n * Once this is done we can get hold of services via the AngularJS `$injector` as normal.\n * Services that are (or have dependencies on) a downgraded Angular service, will be instantiated as\n * needed by the Angular root `Injector`.\n *\n * In the following code snippet, `heroesService` is a downgraded Angular service that we are\n * accessing from AngularJS.\n *\n * <code-example path=\"upgrade/static/ts/full/module.spec.ts\"\n * region=\"angularjs-spec\"></code-example>\n *\n * <div class=\"alert is-important\">\n *\n * This helper is for testing services not components.\n * For Component testing you must still bootstrap a hybrid app. See `UpgradeModule` or\n * `downgradeModule` for more information.\n *\n * \n *\n * <div class=\"alert is-important\">\n *\n * The resulting configuration does not wire up AngularJS digests to Zone hooks. It is the\n * responsibility of the test writer to call `$rootScope.$apply`, as necessary, to trigger\n * AngularJS handlers of async events from Angular.\n *\n * \n *\n * <div class=\"alert is-important\">\n *\n * The helper sets up global variables to hold the shared Angular and AngularJS injectors.\n *\n * * Only call this helper once per spec.\n * * Do not use `createAngularJSTestingModule` in the same spec as `createAngularTestingModule`.\n *\n * \n *\n * Here is the example application and its unit tests that use `createAngularTestingModule`\n * and `createAngularJSTestingModule`.\n

*\n * <code-tabs>\n * <code-pane header=\"module.spec.ts\" path=\"upgrade/static/ts/full/module.spec.ts\"></code-pane>\n * <code-pane header=\"module.ts\" path=\"upgrade/static/ts/full/module.ts\"></code-pane>\n * </code-tabs>\n *\n *\n * @param angularModules a collection of Angular modules to include in the configuration.\n *\n * @publicApi\n */\n function createAngularJSTestingModule(angularModules) {\n return module_('$$angularJSTestingModule', [])\n .constant(UPGRADE_APP_TYPE_KEY, 2 /* Static */)\n .factory(INJECTOR_KEY, [\n $INJECTOR,\n function ($injector) {\n testing.TestBed.configureTestingModule({\n imports: angularModules,\n providers: [{ provide: $INJECTOR, useValue: $injector }]\n });\n return testing.TestBed.inject(core.Injector);\n }\n ])\n .name;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.createAngularJSTestingModule = createAngularJSTestingModule;\n exports.createAngularTestingModule = createAngularTestingModule;\n exports.angular_packages_upgrade_static_testing_testing_a = module_;\n exports.angular_packages_upgrade_static_testing_testing_b = UPGRADE_APP_TYPE_KEY;\n exports.angular_packages_upgrade_static_testing_testing_d = INJECTOR_KEY;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n})));\n//# sourceMappingURL=upgrade-static-testing.umd.js.map\n"]}

Found in path(s):
* /upgrade-11-0-2-tgz/package/bundles/upgrade-static-testing.umd.min.js.map
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.2
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
 * @license
 * Copyright Google LLC All Rights Reserved.
 *
 * Use of this source code is governed by an MIT-style license that can be
 * found in the LICENSE file at https://angular.io/license
 */
/*! *****************************************************************************
Copyright (c) Microsoft Corporation.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS,

WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.
********** */

Found in path(s):
* /upgrade-11-0-2-tgz/package/bundles/upgrade.umd.min.js
* /upgrade-11-0-2-tgz/package/bundles/upgrade.umd.js
* /upgrade-11-0-2-tgz/package/bundles/upgrade-static.umd.js
No license file was found, but licenses were detected in source scan.

Angular
=======

The sources for this package are in the main [Angular](https://github.com/angular/angular) repo. Please file issues and pull requests against that repo.

Usage information and reference details can be found in [Angular documentation](https://angular.io/docs).

License: MIT

Found in path(s):
* /upgrade-11-0-2-tgz/package/README.md

# 1.340 @angular/material-moment-adapter 11.0.1

## 1.340.1 Available under license :

The MIT License

Copyright (c) 2020 Google LLC.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER

LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
MIT

# 1.341 angular-cdk 11.0.1

## 1.341.1 Available under license :

The MIT License

Copyright (c) 2020 Google LLC.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
MIT

# 1.342 material-icons 0.6.1

## 1.342.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,

and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to

communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and

attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or

implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.343 material-design-icons-iconfont ^6.1.0

## 1.343.1 Available under license :

```
/*!
 * vue-router v3.4.3
 * (c) 2020 Evan You
 * @license MIT
 */

/*!
* Vue.js v2.6.12
* (c) 2014-2020 Evan You
* Released under the MIT License.
*/

/*!
* vue-client-only v2.0.0
* (c) 2019-present egoist <0x142857@gmail.com>
* Released under the MIT License.
*/

/*!
* vue-no-ssr v1.1.1
* (c) 2018-present egoist <0x142857@gmail.com>
* Released under the MIT License.
*/
```

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,

and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work,

excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions

of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.344 ngx-moment 3.4.0

## 1.344.1 Available under license :

The MIT License (MIT)

Copyright (c) 2013-2017 Uri Shaked and contributors

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
MIT

# 1.345 json2csv 4.5.3

## 1.345.1 Available under license :

Copyright (C) 2012 [Mirco Zeiss](mailto: mirco.zeiss@gmail.com)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the

Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED
TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT
OF OR IN CONNECTION WITH THE SOFTWARE
OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
MIT

# 1.346 html2canvas 1.0.0-rc.4

## 1.346.1 Available under license :

MIT
Copyright (c) 2012 Niklas von Hertzen

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following
conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH
THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

# 1.347 json-formatter-js 2.2.0

## 1.347.1 Available under license :

The MIT License (MIT)

Copyright (c) 2015 Mohsen Azimi

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR
IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
MIT

# 1.348 angular-tree-component 7.2.0

## 1.348.1 Available under license :

The MIT License (MIT)

Copyright (c) 2016 500Tech LTD

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,

OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

# 1.349 moment 2.29.4

## 1.349.1 Available under license :

Copyright (c) JS Foundation and other contributors

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following
conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.
MIT

# 1.350 libnsl 2.27

## 1.350.1 Available under license :

@c The GNU Lesser General Public License.
@center Version 2.1, February 1999

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence the
version number 2.1.]
@end display

@subheading Preamble

 The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software---to make sure the software is free for all its users.

 This license, the Lesser General Public License, applies to some
specially designated software---typically
 libraries---of the Free
Software Foundation and other authors who decide to use it.  You can use
it too, but we suggest you first think carefully about whether this
license or the ordinary General Public License is the better strategy to
use in any particular case, based on the explanations below.

 When we speak of free software, we are referring to freedom of use,
not price.  Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of it
in new free programs; and that you are informed that you can do these
things.

 To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights.  These restrictions translate to certain responsibilities for
you if you distribute copies of the library
 or if you modify it.

 For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you.  You must make sure that they, too, receive or can get the source
code.  If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it.  And you must show them these terms so they know their rights.

 We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal
permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that
there is no warranty for the free library. Also, if the library is
modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original
author's reputation
will not be affected by problems that might be
introduced by others.

Finally, software patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License. This license, the GNU Lesser
General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License. We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative
of the original library. The ordinary
General Public License therefore permits such linking only if the
entire combination fits its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the @dfn{Lesser} General Public License because it
does @emph{Less} to protect the user's freedom than the ordinary General
Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages
are the reason we use the ordinary General Public License for many
libraries. However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free
library does the
same job as widely used non-free libraries. In this
case, there is little to gain by limiting the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a ``work based on the library'' and a ``work that uses the library''. The former
contains code derived from the library, whereas the latter must be combined with the library in order to run.

@subheading TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@enumerate 0
@item
This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called ``this License''). Each licensee is addressed as ``you''.

A ``library'' means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The ``Library'', below, refers to any such software library or work which has been distributed under these terms. A ``work based on the Library'' means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it,
either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term ``modification''.)

``Source code'' for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running a program using the Library is not restricted, and output from
such a program is covered only if its contents constitute a work based
on the Library (independent of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does
and what the program that uses the Library does.

@item
You may copy and distribute
verbatim copies of the Library's
complete source code as you receive it, in any medium, provided that
you conspicuously and appropriately publish on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact
all the notices that refer to this License and to the absence of any
warranty; and distribute a copy of this License along with the
Library.

You may charge a fee for the physical act of transferring a copy,
and you may at your option offer warranty protection in exchange for a
fee.

@item
You may modify your copy or copies of the Library or any portion
of it, thus forming a work based on the Library, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

@enumerate a
@item
The modified work must itself be a software library.

@item
You must cause the files modified to carry prominent notices
stating that you changed the files and the date of any change.

@item
You must
cause the whole of the work to be licensed at no
charge to all third parties under the terms of this License.

@item
If a facility in the modified Library refers to a function or a
table of data to be supplied by an application program that uses
the facility, other than as an argument passed when the facility
is invoked, then you must make a good faith effort to ensure that,
in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of

its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application.  Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)
@end enumerate

These requirements apply to the modified work as a whole.  If
identifiable sections
 of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works.  But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this
 License.

@item
You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library.  To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License.  (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.)  Do not make any other change in
these notices.

 Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

 This option is useful when you wish to copy part of the code of

the Library into a program that is not a library.

@item
You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and
2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

@item
A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a ``work that uses the Library''. Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a ``work that uses the Library'' with the Library
creates an executable that is a derivative of the Library (because
it
contains portions of the Library), rather than a ``work that uses the
library''. The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a ``work that uses the Library'' uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise,
if the work is a derivative of the Library, you may
distribute the object code for the work under the terms of Section 6.

Any executables containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

@item
As an exception to the Sections above, you may also combine or
link a ``work that uses the Library'' with the Library to produce a
work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit
modification of the work for the customer's own use and reverse
engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the
Library is used in it and that the Library and its use are covered by
this License. You must supply a copy of this License. If the work
during execution displays copyright notices, you must include the
copyright notice for the Library among them, as well as a reference
directing the user to the copy of
this License. Also, you must do one
of these things:

@enumerate a
@item
Accompany the work with the complete corresponding
machine-readable source code for the Library including whatever
changes were used in the work (which must be distributed under
Sections 1 and 2 above); and, if the work is an executable linked
with the Library, with the complete machine-readable ``work that
uses the Library'', as object code and/or source code, so that the
user can modify the Library and then relink to produce a modified
executable containing the modified Library. (It is understood
that the user who changes the contents of definitions files in the
Library will not necessarily be able to recompile the application
to use the modified definitions.)

@item
Use a suitable shared library mechanism for linking with the Library. A
suitable mechanism is one that (1) uses at run time a copy of the
library already present on the user's computer system, rather than
copying library functions into the executable,
and (2) will operate
properly with a modified version of the library, if the user installs
one, as long as the modified version is interface-compatible with the
version that the work was made with.

@item
Accompany the work with a written offer, valid for at
least three years, to give the same user the materials
specified in Subsection 6a, above, for a charge no more

than the cost of performing this distribution.

@item
If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
specified materials from the same place.

@item
Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.
@end enumerate

For an executable, the required form of the ``work that uses the
Library" must include any data and utility programs needed for
reproducing the executable from it. However, as a special exception,
the materials to be distributed need not include anything that
is
normally distributed (in either source or binary form) with the major
components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies the
executable.

It may happen that this requirement contradicts the license
restrictions of other proprietary libraries that do not normally
accompany the operating system. Such a contradiction means you cannot
use both them and the Library together in an executable that you
distribute.

@item
You may place library facilities that are a work based on the
Library side-by-side in a single library together with other library
facilities not covered by this License, and distribute such a combined
library, provided that the separate distribution of the work based on
the Library and of the other library facilities is otherwise
permitted, and provided that you do these two things:

@enumerate a
@item
Accompany the combined library with a copy of the same work
based on the Library,
uncombined with any other library
facilities. This must be distributed under the terms of the
Sections above.

@item
Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

@end enumerate

@item
You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License.  Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License.  However, parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

@item
You are not required to accept this License, since you have not
signed it.  However, nothing else grants you permission to modify or
distribute the Library or its derivative works.  These actions are
prohibited
 by law if you do not accept this License.  Therefore, by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

@item
Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions.  You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

@item
If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License,
 they do not
excuse you from the conditions of this License.  If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all.  For example, if a patent
license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any
particular circumstance, the balance of the section is intended to apply,

and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software
 distribution system which is
implemented by public license practices.  Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

@item
If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded.  In such case, this License incorporates the limitation as if
written in the body of this License.

@item
The Free Software Foundation
 may publish revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number.  If the Library
specifies a version number of this License which applies to it and
``any later version'', you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation.  If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

@item
If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission.  For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for

this.  Our
decision will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

@center @b{NO WARRANTY}

@item
BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY ``AS IS'' WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE.  THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU.  SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

@item
IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
 BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.
@end enumerate

@subheading END OF TERMS AND CONDITIONS

@page
@subheading How to Apply These Terms to Your New Libraries

 If you develop a new library, and you want it to be of the greatest
possible use to the public, we recommend making it free software that
everyone can redistribute and change.  You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

 To apply these terms, attach the following notices to the library.  It is
safest to attach them to the start of each source
 file to most effectively
convey the exclusion of warranty; and each file should have at least the
``copyright'' line and a pointer to where the full notice is found.

@smallexample
@var{one line to give the library's name and an idea of what it does.}
Copyright (C) @var{year}  @var{name of author}

This library is free software; you can redistribute it and/or modify it
under the terms of the GNU Lesser General Public License as published by
the Free Software Foundation; either version 2.1 of the License, or (at
your option) any later version.

This library is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301,
USA.
@end
 smallexample

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a ``copyright disclaimer'' for the library, if
necessary.  Here is a sample; alter the names:

@smallexample
Yoyodyne, Inc., hereby disclaims all copyright interest in the library
`Frob' (a library for tweaking knobs) written by James Random Hacker.

@var{signature of Ty Coon}, 1 April 1990
Ty Coon, President of Vice
@end smallexample

That's all there is to it!
Copyright 1992, 1993, 1994, 1997 Henry Spencer.  All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this
  software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. Since few users ever read sources,
credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
misrepresented as being the original software. Since few users
ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License

along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of

a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under

this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to

decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing
version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,

REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some

specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who
decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library,
whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal
permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that
there is no warranty for the free library. Also, if the library is
modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original
author's reputation will not be affected by problems that might be
introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting
the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The

former contains code derived from the library, whereas the latter must be combined with the library in order
to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into
another language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium,
provided that
you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to

exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary
GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding
machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that

uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the
object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany
the work with the complete corresponding
machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood

that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate
properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally
distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to

refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our

decision
will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE,
BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301
USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to

assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
must themselves be free in the same sense. It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does. But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book. We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License. Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein. The ``Document'', below,
refers
to any such manual or work. Any member of the public is a
licensee, and is addressed as ``you''. You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the
Document or a portion of it, either copied verbatim, or with
modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section
of the Document that deals exclusively with the relationship of the
publishers or authors of the Document to the Document's overall
subject (or to related matters) and contains nothing that could fall
directly within that overall subject. (Thus, if the Document is in
part a textbook of mathematics, a Secondary Section may not explain
any mathematics.) The relationship could be a matter of historical
connection with the subject or with related matters, or of legal,
commercial, philosophical, ethical or political

position regarding
them.

The ``Invariant Sections'' are certain Secondary Sections whose titles
are designated, as being those of Invariant Sections, in the notice
that says that the Document is released under this License. If a
section does not fit the above definition of Secondary then it is not
allowed to be designated as Invariant. The Document may contain zero
Invariant Sections. If the Document does not identify any Invariant
Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed,
as Front-Cover Texts or Back-Cover Texts, in the notice that says that
the Document is released under this License. A Front-Cover Text may
be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy,
represented in a format whose specification is available to the
general public, that is suitable for revising the document
straightforwardly with generic text editors or (for
images composed of
pixels) generic paint programs or (for drawings) some widely available
drawing editor, and that is suitable for input to text formatters or
for automatic translation to a variety of formats suitable for input
to text formatters. A copy made in an otherwise Transparent file
format whose markup, or absence of markup, has been arranged to thwart
or discourage subsequent modification by readers is not Transparent.
An image format is not Transparent if used for any substantial amount
of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain
ASCII without markup, Texinfo input format, La@TeX{} input
format, SGML or XML using a publicly available
DTD, and standard-conforming simple HTML,
PostScript or PDF designed for human modification. Examples
of transparent image formats include PNG, XCF and
JPG. Opaque formats include proprietary formats that can be
read and edited only by proprietary word
processors, SGML or
XML for which the DTD and/or processing tools are
not generally available, and the machine-generated HTML,
PostScript or PDF produced by some word processors for
output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page. For works in
formats which do not have any title page as such, ``Title Page'' means

the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in another language.  (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'',
 or ``History''.)  To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document.  These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either
commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies
to the Document are reproduced in all copies, and that you add no other
conditions whatsoever to those of this License.  You may not use
technical measures to obstruct or control the reading or further
copying of the copies
 you make or distribute.  However, you may accept
compensation in exchange for copies.  If you distribute a large enough
number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and
you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have
printed covers) of the Document, numbering more than 100, and the
Document's license notice requires Cover Texts, you must enclose the
copies in covers that carry, clearly and legibly, all these Cover
Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on
the back cover.  Both covers must also clearly and legibly identify

you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the
title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute
an
Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same

title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the Document's
license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page. If
there is no section Entitled ``History'' in the Document, create one
stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on. These may be placed in the ``History'' section.

You may omit a network location for a work that was published at
least four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any
section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles. Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all
of these sections as invariant. To do this, add their titles to the
list of Invariant
Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has
been approved by an organization as the authoritative definition of a
standard.

You may add a passage of up to five words as a Front-Cover Text, and a
passage of up to 25 words as a Back-Cover Text, to the end of the list
of Cover Texts in the Modified Version. Only one passage of
Front-Cover Text and one of Back-Cover Text may be added by (or
through arrangements made by) any one entity. If the Document already
includes a cover text for the same cover, previously added by you or

by arrangement made by the same entity you are acting on behalf of,
you may not add another; but you may replace the old one, on explicit
permission from the previous publisher that added the old
one.

The author(s) and publisher(s) of the Document do not by this License
give permission to use their names for publicity for or to assert or
imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this
License, under the terms defined in section 4 above for modified
versions, provided that you include in the combination all of the
Invariant Sections of all of the original documents, unmodified, and
list them all as Invariant Sections of your combined work in its
license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single
copy. If there are multiple Invariant Sections with the same name but
different contents, make the title of each such section unique by
adding at the end of it, in parentheses, the name of the original
author or publisher of that section if known,
or else a unique number.
Make the same adjustment to the section titles in the list of
Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History''
in the various original documents, forming one section Entitled
``History''; likewise combine any sections Entitled ``Acknowledgements'',
and any sections Entitled ``Dedications''. You must delete all
sections Entitled ``Endorsements.''

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents
released under this License, and replace the individual copies of this
License in the various documents with a single copy that is included in
the collection, provided that you follow the rules of this License for
verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute
it individually under this License, provided you insert a copy of this
License

into the extracted document, and follow this License in all
other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate
and independent documents or works, in or on a volume of a storage or
distribution medium, is called an ``aggregate'' if the copyright
resulting from the compilation is not used to limit the legal rights
of the compilation's users beyond what the individual works permit.
When the Document is included in an aggregate, this License does not
apply to the other works in the aggregate which are not themselves
derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these
copies of the Document, then if the Document is less than one half of
the entire aggregate, the Document's Cover Texts may be placed on
covers that bracket the Document within the aggregate, or the
electronic equivalent of covers if the Document is in electronic
form.
Otherwise they must appear on printed covers that bracket the whole
aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may
distribute translations of the Document under the terms of section 4.
Replacing Invariant Sections with translations requires special
permission from their copyright holders, but you may include
translations of some or all Invariant Sections in addition to the
original versions of these Invariant Sections.  You may include a
translation of this License, and all the license notices in the
Document, and any Warranty Disclaimers, provided that you also include
the original English version of this License and the original versions
of those notices and disclaimers.  In case of a disagreement between
the translation and the original version of this License or a notice
or disclaimer, the original version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',
``Dedications'', or ``History'', the requirement
(section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License.  Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any
 work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License.  If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time.  Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.  See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and
 conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation.  If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation.  If the Document
specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the

Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works.  A
public wiki that anybody can edit is an example of such a server.  A
``Massive Multiauthor Collaboration'' (or ``MMC'') contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons
 Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License
 in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group
 Copyright (C)  @var{year}  @var{your name}.
 Permission is granted to copy, distribute and/or modify this document
 under the terms of the GNU Free Documentation License, Version 1.3

or any later version published by the Free Software Foundation;
with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
Texts.  A copy of the license is included in the section entitled ``GNU
Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts."@: line with this:

@smallexample
@group
  with the Invariant Sections being @var{list their titles}, with
  the Front-Cover Texts being @var{list}, and with the Back-Cover Texts
  being @var{list}.
@end group
@end smallexample

If you have Invariant
Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:
This file contains the copying permission notices for various files in the
GNU C Library distribution that have copyright owners other than the Free
Software Foundation.  These notices all require that a copy of the notice
be included in the accompanying documentation and be distributed with
binary distributions of the code, so be sure to include this file along
with any binary distributions derived from the GNU C Library.

All code incorporated from 4.4 BSD is distributed under the following
license:

Copyright (C) 1991 Regents of the University of California.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the
documentation and/or other materials provided with the distribution.
3. [This condition was removed.]
4. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF
SUCH DAMAGE.

The DNS resolver code, taken from BIND 4.9.5, is copyrighted by UC
Berkeley, by Digital Equipment Corporation and by Internet Software
Consortium. The DEC portions are under the following license:

Portions Copyright (C) 1993 by Digital Equipment Corporation.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies, and
that the name of Digital Equipment Corporation not be used in
advertising or publicity pertaining to distribution of the document or
software without specific, written prior permission.

THE SOFTWARE IS PROVIDED ``AS IS'' AND DIGITAL EQUIPMENT CORP.
DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The ISC portions are under the following license:

Portions Copyright (c) 1996-1999 by Internet Software Consortium.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING
OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The Sun RPC support (from rpcsrc-4.0) is covered by the following license:

Copyright (c) 2010, Oracle America, Inc.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of the "Oracle America, Inc." nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING

NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following CMU license covers some of the support code for Mach,
derived from Mach 3.0:

Mach Operating System
Copyright (C) 1991,1990,1989 Carnegie Mellon University
All Rights Reserved.

Permission to use, copy, modify and distribute this software and its
documentation is hereby granted, provided that
both the copyright
notice and this permission notice appear in all copies of the
software, derivative works or modified versions, and any portions
thereof, and that both notices appear in supporting documentation.

CARNEGIE MELLON ALLOWS FREE USE OF THIS SOFTWARE IN ITS ``AS IS''
CONDITION. CARNEGIE MELLON DISCLAIMS ANY LIABILITY OF ANY KIND FOR
ANY DAMAGES WHATSOEVER RESULTING FROM THE USE OF THIS SOFTWARE.

Carnegie Mellon requests users of this software to return to

Software Distribution Coordinator
School of Computer Science
Carnegie Mellon University
Pittsburgh PA 15213-3890

or Software.Distribution@CS.CMU.EDU any improvements or
extensions that they make and grant Carnegie Mellon the rights to
redistribute these changes.

The file if_ppp.h is under the following CMU license:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the
above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY CARNEGIE MELLON UNIVERSITY AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE UNIVERSITY OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following license covers the files from Intel's "Highly Optimized Mathematical Functions for Itanium" collection:

Intel License Agreement

Copyright (c) 2000, Intel Corporation

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* The name of Intel Corporation may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING

NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The files inet/getnameinfo.c and sysdeps/posix/getaddrinfo.c are copyright (C) by Craig Metz and are distributed under the following license:

/* The Inner Net License,
Version 2.00

The author(s) grant permission for redistribution and use in source and binary forms, with or without modification, of the software and documentation provided that the following conditions are met:

0. If you receive a version of the software that is specifically labelled as not being for redistribution (check the version message and/or README), you are not permitted to redistribute that version of the software in any way or form.
1. All terms of the all other applicable copyrights and licenses must be followed.
2. Redistributions of source code must retain the authors' copyright notice(s), this list of conditions, and the following disclaimer.
3. Redistributions in binary form must reproduce the authors' copyright notice(s), this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.
4. [The copyright holder has authorized the removal of this clause.]
5. Neither the name(s) of the author(s) nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY ITS AUTHORS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

If these license terms cause you a real problem, contact the author. */

The file sunrpc/des_impl.c
is copyright Eric Young:

Copyright (C) 1992 Eric Young
Collected from libdes and modified for SECURE RPC by Martin Kuck 1994

This file is distributed under the terms of the GNU Lesser General
Public License, version 2.1 or later - see the file COPYING.LIB for details.
If you did not receive a copy of the license with this program, please
see <http://www.gnu.org/licenses/> to obtain a copy.

The libidn code is copyright Simon Josefsson, with portions copyright
The Internet Society, Tom Tromey and Red Hat, Inc.:

Copyright (C) 2002, 2003, 2004, 2011  Simon Josefsson

This file is part of GNU Libidn.

GNU Libidn is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

GNU Libidn is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY
 or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with GNU Libidn; if not, see <http://www.gnu.org/licenses/>.

The following notice applies to portions of libidn/nfkc.c:

This file contains functions from GLIB, including gutf8.c and
gunidecomp.c, all licensed under LGPL and copyright hold by:

Copyright (C) 1999, 2000 Tom Tromey
Copyright 2000 Red Hat, Inc.

The following applies to portions of libidn/punycode.c and
libidn/punycode.h:

This file is derived from RFC 3492bis written by Adam M. Costello.

Disclaimer and license: Regarding this entire document or any
portion of it (including the pseudocode and C code), the author
makes no guarantees and is not responsible for any damage resulting
from its use.  The author grants irrevocable permission to anyone
to use, modify, and distribute it in any way that does not diminish
the rights of anyone else
 to use, modify, and distribute it,
provided that redistributed derivative works do not contain
misleading author or version information.  Derivative works need

not be licensed under similar terms.

Copyright (C) The Internet Society (2003). All Rights Reserved.

This document and translations of it may be copied and furnished to
others, and derivative works that comment on or otherwise explain it
or assist in its implementation may be prepared, copied, published
and distributed, in whole or in part, without restriction of any
kind, provided that the above copyright notice and this paragraph are
included on all such copies and derivative works. However, this
document itself may not be modified in any way, such as by removing
the copyright notice or references to the Internet Society or other
Internet organizations, except as needed for the purpose of
developing Internet standards in which case the procedures for
copyrights defined in the Internet Standards process must be
followed,
or as required to translate it into languages other than
English.

The limited permissions granted above are perpetual and will not be
revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an
"AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING
TASK FORCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING
BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION
HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF
MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

The file inet/rcmd.c is under a UCB copyright and the following:

Copyright (C) 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions
in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND

ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The file posix/runtests.c is copyright Tom Lord:

Copyright 1995 by Tom Lord

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of the copyright holder not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

Tom Lord DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL TOM LORD BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The posix/rxspencer tests are copyright Henry Spencer:

Copyright 1992, 1993, 1994, 1997 Henry Spencer. All rights reserved.
This software is not subject to any license of the American Telephone and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on any computer system, and to alter it and redistribute it, subject to the following restrictions:

1. The author is not responsible for the consequences of use of this software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. Since few users ever read sources,
credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
misrepresented
as being the original software. Since few users
ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

The file posix/PCRE.tests is copyright University of Cambridge:

Copyright (c) 1997-2003 University of Cambridge

Permission is granted to anyone to use this software for any purpose on any
computer system, and to redistribute it freely, subject to the following
restrictions:

1. This software is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. In practice, this means that if you use
PCRE in software that you distribute to others, commercially or
otherwise, you must put a sentence like this

Regular expression support is provided by the PCRE library package,
which is open source software,
written by Philip Hazel, and copyright
by the University of Cambridge, England.

somewhere reasonably visible in your documentation and in any relevant
files or online help data or similar. A reference to the ftp site for
the source, that is, to

ftp://ftp.csx.cam.ac.uk/pub/software/programming/pcre/

should also be given in the documentation. However, this condition is not
intended to apply to whole chains of software. If package A includes PCRE,
it must acknowledge it, but if package B is software that includes package
A, the condition is not imposed on package B (unless it uses PCRE
independently).

3. Altered versions must be plainly marked as such, and must not be
misrepresented as being the original software.

4. If PCRE is embedded in any software that is released under the GNU
General Purpose Licence (GPL), or Lesser General Purpose Licence (LGPL),
then the terms of that licence shall supersede any condition above with
which it is incompatible.

Files
from Sun fdlibm are copyright Sun Microsystems, Inc.:

Copyright (C) 1993 by Sun Microsystems, Inc. All rights reserved.

Developed at SunPro, a Sun Microsystems, Inc. business.
Permission to use, copy, modify, and distribute this
software is freely granted, provided that this notice
is preserved.

Various long double libm functions are copyright Stephen L. Moshier:

Copyright 2001 by Stephen L. Moshier <moshier@na-net.ornl.gov>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser
General Public
License along with this library; if not, see
<http://www.gnu.org/licenses/>. */
UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE

Unicode Data Files include all data files under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/, and
http://www.unicode.org/cldr/data/. Unicode Data Files do not include PDF
online code charts under the directory http://www.unicode.org/Public/.
Software includes any source code published in the Unicode Standard or under
the directories http://www.unicode.org/Public/,
http://www.unicode.org/reports/, and http://www.unicode.org/cldr/data/.

NOTICE TO USER: Carefully read the following legal agreement. BY
DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S DATA FILES
("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"), YOU UNEQUIVOCALLY ACCEPT, AND
AGREE TO BE BOUND BY, ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF
YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE THE DATA

FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2013 Unicode,
Inc. All rights reserved. Distributed under
the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software
that the data or
software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

# 1.351 zlib 1.2.11

## 1.351.1 Available under license :

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the

Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part, and
all derivative works of the Software, unless such copies or derivative
works are solely in the form of machine-executable object code generated by
a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS
FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.11, January 15th, 2017

Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source
distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for
Comments) 1950 to 1952 in the files http://tools.ietf.org/html/rfc1950
(zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).
*/

# 1.352 gnutls 3.5.18-1ubuntu1.6

## 1.352.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest
you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients

all the rights that we gave
you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence
of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits
its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain

special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use
the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is

included without
limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified
Library refers to a function or a
table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that,

in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves,
then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to
a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of

the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed
under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this
License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables
containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable
source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user
installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these

materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing

the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people
have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the

original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public
License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of
all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL

DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line
and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should
also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the

library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
Statement of Purpose

The laws of most jurisdictions throughout the world automatically confer exclusive Copyright and Related Rights (defined below) upon the creator and subsequent owner(s) (each and all, an "owner") of an original work of authorship and/or a database (each, a "Work").

Certain owners wish to permanently relinquish those rights to a Work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative, cultural and scientific works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.

For these and/or
other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and Related Rights in the Work, voluntarily elects to apply CC0 to the Work and publicly distribute the Work under its terms, with knowledge of his or her Copyright and Related Rights in the Work and the meaning and intended legal effect of CC0 on those rights.

1. Copyright and Related Rights. A Work made available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:

the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;
moral rights retained by the original author(s) and/or performer(s);
publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;
rights
protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;
rights protecting the extraction, dissemination, use and reuse of data in a Work;
database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and
other similar, equivalent or corresponding rights throughout the world based on applicable law or treaty, and any national implementations thereof.

2. Waiver. To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims
and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number

of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending that such Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of Purpose.

3. Public License Fallback. Should any part of the Waiver for any reason be judged legally invalid or ineffective under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into account Affirmer's
express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason be judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will
not (i) exercise any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any associated claims and causes of action with respect to the Work, in either case contrary to Affirmer's express Statement of Purpose.

4. Limitations and Disclaimers.

No trademark or patent rights held by Affirmer are waived, abandoned, surrendered, licensed or otherwise affected by this document.

Affirmer offers the Work as-is and makes no representations or warranties of any kind concerning the Work, express, implied, statutory or otherwise, including without limitation warranties of title, merchantability, fitness for a particular purpose, non infringement, or the absence of latent or other defects, accuracy, or the present or absence of errors, whether or not discoverable, all to the greatest extent permissible under applicable law.

Affirmer disclaims responsibility for clearing rights of other persons that may apply to the Work or any use thereof, including without
limitation any person's Copyright and Related Rights in the Work. Further, Affirmer disclaims responsibility for obtaining any necessary consents, permissions or other rights required for any use of the Work.

Affirmer understands and acknowledges that Creative Commons is not a party to this document and has no duty or obligation with respect to this CC0 or use of the Work.

==========

Written by Andy Polyakov <appro@fy.chalmers.se> for the OpenSSL
project. The module is, however, dual licensed under OpenSSL and
CRYPTOGAMS licenses depending on where you obtain it. For further
details see http://www.openssl.org/~appro/cryptogams/.

==========

Copyright (c) 2006-2012, CRYPTOGAMS by <appro@openssl.org>
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions

are met:

    * Redistributions of source code must retain copyright notices,
 this list of conditions and the following disclaimer.

    * Redistributions in binary form must reproduce the above
 copyright notice, this list of conditions and the following
 disclaimer in the documentation and/or other materials
 provided with the distribution.

    * Neither the name of the CRYPTOGAMS nor
 the names of its
 copyright holder and contributors may be used to endorse or
 promote products derived from this software without specific
 prior written permission.

ALTERNATIVELY, provided that this notice is retained in full, this
product may be distributed under the terms of the GNU General Public
License (GPL), in which case the provisions of the GPL apply INSTEAD OF
those given above.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
 OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

########################################################################
## Constant-time SSSE3 AES core implementation.
## version 0.1
##
## By Mike Hamburg (Stanford University), 2009
## Public domain.
##
## For details see http://shiftleft.org/papers/vector_aes/ and
## http://crypto.stanford.edu/vpaes/.
LICENSING
=========

Since GnuTLS version 3.1.10, the core library is released under

the GNU Lesser General Public License (LGPL) version 2.1 or later
(see doc/COPYING.LESSER for the license terms).

The GNU LGPL applies to the main GnuTLS library, while the
included applications as well as gnutls-openssl
library are under the GNU GPL version 3. The gnutls library is
located in the lib/ and libdane/ directories, while the applications
in src/ and, the gnutls-openssl library is at extra/.

The documentation in doc/ is under the GNU FDL license 1.3.

Note, however, that the nettle and the gmp libraries which are
GnuTLS dependencies, they are distributed under a LGPLv3+ or GPLv2+ dual
license. As such binaries linking to them need to adhere to either LGPLv3+
or the GPLv2+ license.

For any copyright year range specified as YYYY-ZZZZ in this package
note that the range specifies every single year in that closed interval.

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 1992-2015 by Bruce Korb - all rights reserved
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided
by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by the Library is deemed
a mode
of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an
Application with the Library. The particular version of the Library

with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.

4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the

Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

Copyright (C) 1992-2015 by Bruce Korb - all rights reserved
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
   copyright notice, this list of conditions and the following
   disclaimer in the documentation and/or other materials provided
   with the distribution.

3. The name of the author may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS" AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT,
INDIRECT,
 INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING
IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works.  By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users.  We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors.  You can apply it to
your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1)
assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we
stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that

patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The
"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated

conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all

recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the

machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source

as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,
procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as
part of a transaction in which the right of possession and use of the
User Product is transferred to the recipient in perpetuity or for a
fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied
by the Installation Information. But this requirement does not apply
if neither you nor any third party retains the ability to install
modified object code on the User Product (for example, the work has
been installed in
ROM).

The requirement to provide Installation Information does not include a
requirement to continue to provide support service, warranty, or updates
for a work that has been modified or installed by the recipient, or for
the User Product in which it has been modified or installed. Access to a
network may be denied when the modification itself materially and
adversely affects the operation of the network or violates the rules and
protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided,
in accord with this section must be in a format that is publicly
documented (and with an implementation available to the public in

source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under

this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within

the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of
the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where
the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs.  If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library.  If this is what you want to
do, use the GNU Lesser General
Public License instead of this License.  But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
The MIT License (MIT)

Copyright (c) 2016 Wrymouth Innovation Ltd

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.
GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 1992-2015 by Bruce Korb - all rights reserved
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for

software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those

products. If such problems arise substantially in other domains, we stand ready
to extend this provision to those domains in future versions
of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients"
may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding

Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish
on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium,
is called an
"aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users

beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a

network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall
be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors
and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions;
the above requirements
apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have

received notice of violation of this License (for any work) from that copyright holder,
and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic
Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted
or affirmed under this License. For example, you may
not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties

receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered work,
 then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

 A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License.  You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
 that patent license was granted, prior to 28 March 2007.

 Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

 12. No Surrender of Others' Freedom.

 If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License.  If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all.  For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

 13. Use with the GNU Affero General Public License.

  Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work.  The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option
of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD

PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation
of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) by Bruce Korb - all rights reserved

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C)  by Bruce Korb - all rights reserved
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs.  If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library.  If this is what
you want to do, use the GNU Lesser General
Public License instead of this License.  But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.353 zlib 1.2.11.dfsg-0ubuntu2.2

## 1.353.1 Available under license :

No license file was found, but licenses were detected in source scan.

# For conditions of distribution and use, see copyright notice in zlib.h

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/msdos/Makefile.dj2
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/msdos/Makefile.emx
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/win32/Makefile.gcc
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/old/Makefile.emx
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/old/os2/Makefile.os2
No license file was found, but licenses were detected in source scan.

/* inftrees.h -- header to use inftrees.c
* Copyright (C) 1995-2005, 2010 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/inftrees.h
No license file was found, but licenses were detected in source scan.

/* zutil.c -- target dependent utility functions for the compression library
* Copyright (C) 1995-2017 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/zutil.c
No license file was found, but licenses were detected in source scan.

/* gzwrite.c -- zlib functions for writing gzip files
* Copyright (C) 2004-2017 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/gzwrite.c
No license file was found, but licenses were detected in source scan.

/* deflate.c -- compress data using the deflation algorithm
* Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/deflate.c
No license file was found, but licenses were detected in source scan.

MiniZip - Copyright (c) 1998-2010 - by Gilles Vollant - version 1.1 64 bits from Mathias Svensson

Introduction
---
MiniZip 1.1 is built from MiniZip 1.0 by Gilles Vollant ( http://www.winimage.com/zLibDll/minizip.html )

When adding ZIP64 support into minizip it would result into risk of breaking compatibility with minizip 1.0.
All possible work was done for compatibility.

Background
---
When adding ZIP64 support Mathias Svensson found that Even Rouault have added ZIP64
support for unzip.c into minizip for a open source project called gdal ( http://www.gdal.org/ )

That was used as a starting point. And after that ZIP64 support was added to zip.c
some refactoring and code cleanup was also done.

Changed from MiniZip 1.0 to MiniZip 1.1
---

* Added ZIP64 support for unzip ( by Even Rouault )
* Added ZIP64 support for zip ( by Mathias Svensson
)
* Reverted some changed that Even Rouault did.
* Bunch of patches received from Gulles Vollant that he received for MiniZip from various users.
* Added unzip patch for BZIP Compression method (patch create by Daniel Borca)
* Added BZIP Compress method for zip
* Did some refactoring and code cleanup

Credits

Gilles Vollant - Original MiniZip author
Even Rouault - ZIP64 unzip Support
Daniel Borca - BZip Compression method support in unzip
Mathias Svensson - ZIP64 zip support
Mathias Svensson - BZip Compression method support in zip

Resources

ZipLayout http://result42.com/projects/ZipFileLayout
Command line tool for Windows that shows the layout and information of the headers in a zip archive.
Used when debugging and validating the creation of zip files using MiniZip64

ZIP App Note http://www.pkware.com/documents/casestudies/APPNOTE.TXT
Zip File specification

Notes.
* To be able to use BZip compression method in
zip64.c or unzip64.c the BZIP2 lib is needed and HAVE_BZIP2 need to be defined.

License
---
Condition of use and distribution are the same than zlib :

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be

appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may
not be removed or altered from any source distribution.

---

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/contrib/minizip/MiniZip64_info.txt
No license file was found, but licenses were detected in source scan.

/* deflate.h -- internal compression state
* Copyright (C) 1995-2016 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/deflate.h
No license file was found, but licenses were detected in source scan.

/* zran.c -- example of zlib/gzip stream indexing and random access
* Copyright (C) 2005, 2012 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
Version 1.1 29 Sep 2012 Mark Adler */

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/zran.c
No license file was found, but licenses were detected in source scan.

Permission is granted to anyone to use this software for any purpose,
The origin of this software must not be misrepresented; you must not
Altered source versions must be plainly marked as such, and must not be
This notice may not be removed or altered from any source distribution.

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/zlib.3
No license file was found, but licenses were detected in source scan.

/* crc32.c -- compute the CRC-32 of a data stream
* Copyright (C) 1995-2006, 2010, 2011, 2012, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*
* Thanks to Rodney Brown <rbrown64@csc.com.au> for his contribution of faster
* CRC methods: exclusive-oring 32 bits of data at a time, and pre-computing
* tables for updating the shift register in one step with three exclusive-ors
* instead of four steps with four exclusive-ors. This results in about a
* factor of two increase in speed on a Power PC G4 (PPC7455) using gcc -O3.

*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/crc32.c
No license file was found, but licenses were detected in source scan.

/* compress.c -- compress a memory buffer
* Copyright (C) 1995-2005, 2014, 2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/compress.c
No license file was found, but licenses were detected in source scan.

/* infback.c -- inflate using a call-back interface
* Copyright (C) 1995-2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/infback.c
No license file was found, but licenses were detected in source scan.

/*
* gzlog.c
* Copyright (C) 2004, 2008, 2012, 2016 Mark Adler, all rights reserved
* For conditions of distribution and use, see copyright notice in gzlog.h
* version 2.2, 14 Aug 2012
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/gzlog.c
No license file was found, but licenses were detected in source scan.

/* zutil.h -- internal interface and configuration of the compression library
* Copyright (C) 1995-2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/zutil.h
No license file was found, but licenses were detected in source scan.

/* infcover.c -- test zlib's inflate routines with full code coverage
* Copyright (C) 2011, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/test/infcover.c
No license file was found, but licenses were detected in source scan.

/* example.c -- usage example of the zlib compression library
* Copyright (C) 1995-2006, 2011, 2016 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/test/example.c
No license file was found, but licenses were detected in source scan.

Not copyrighted -- provided to the public domain

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/zlib_how.html
No license file was found, but licenses were detected in source scan.

/* minigzip.c -- simulate gzip using the zlib compression library
* Copyright (C) 1995-2006, 2010, 2011, 2016 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/test/minigzip.c
No license file was found, but licenses were detected in source scan.

/* gzlib.c -- zlib functions common to reading and writing gzip files
* Copyright (C) 2004-2017 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/gzlib.c
No license file was found, but licenses were detected in source scan.

/* inflate.c -- zlib decompression
* Copyright (C) 1995-2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/inflate.c
No license file was found, but licenses were detected in source scan.

/* gun.c -- simple gunzip to give an example of the use of inflateBack()

* Copyright (C) 2003, 2005, 2008, 2010, 2012 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
  Version 1.7  12 August 2012  Mark Adler */

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/gun.c
No license file was found, but licenses were detected in source scan.

/* adler32.c -- compute the Adler-32 checksum of a data stream
* Copyright (C) 1995-2011, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/adler32.c
No license file was found, but licenses were detected in source scan.

/* uncompr.c -- decompress a memory buffer
* Copyright (C) 1995-2003, 2010, 2014, 2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/uncompr.c
No license file was found, but licenses were detected in source scan.

/* gzjoin -- command to join gzip files into one gzip file

 Copyright (C) 2004, 2005, 2012 Mark Adler, all rights reserved
 version 1.2, 14 Aug 2012

 This software is provided 'as-is', without any express or implied
 warranty.  In no event will the author be held liable for any damages
 arising from the use of this software.

 Permission is granted to anyone to use this software for any purpose,
 including commercial applications, and to alter it and redistribute it
 freely, subject to the following restrictions:

 1. The origin of this software must not be misrepresented; you must not
    claim that you wrote the original software. If you use this software
    in a product, an acknowledgment in the product documentation would be
    appreciated but is not required.
 2. Altered source versions must be plainly marked as such, and must not be
    misrepresented as being the original software.
 3. This
notice may not be removed or altered from any source distribution.

Mark Adler madler@alumni.caltech.edu
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/gzjoin.c
No license file was found, but licenses were detected in source scan.

/* unzip.c -- IO for uncompress .zip files using zlib
Version 1.1, February 14h, 2010
part of the MiniZip project - ( http://www.winimage.com/zLibDll/minizip.html )

Copyright (C) 1998-2010 Gilles Vollant (minizip) ( http://www.winimage.com/zLibDll/minizip.html )

Modifications of Unzip for Zip64
Copyright (C) 2007-2008 Even Rouault

Modifications for Zip64 support on both zip and unzip
Copyright (C) 2009-2010 Mathias Svensson ( http://result42.com )

For more info read MiniZip_info.txt

---

Decryption code comes from crypt.c by Info-ZIP but has been greatly reduced in terms of
compatibility with older software. The following is from the original crypt.c.
Code woven in by Terry Thorsen 1/2003.

Copyright (c) 1990-2000 Info-ZIP. All rights reserved.

See the accompanying
file LICENSE, version 2000-Apr-09 or later
(the contents of which are also included in zip.h) for terms of use.
If, for some reason, all these files are missing, the Info-ZIP license
also may be found at: ftp://ftp.info-zip.org/pub/infozip/license.html

crypt.c (full version) by Info-ZIP. Last revised: [see crypt.h]

The encryption/decryption parts of this source code (as opposed to the
non-echoing password parts) were originally written in Europe. The
whole source package can be freely distributed, including from the USA.
(Prior to January 2000, re-export from the US was a violation of US law.)

This encryption code is a direct transcription of the algorithm from
Roger Schlafly, described by Phil Katz in the file appnote.txt. This
file (appnote.txt) is distributed with the PKZIP program (even in the
version without encryption capabilities).

---

Changes in unzip.c

2007-2008 - Even Rouault - Addition of cpl_unzGetCurrentFileZStreamPos
2007-2008 - Even Rouault - Decoration of symbol names unz* -> cpl_unz*
2007-2008 - Even Rouault - Remove old C style function prototypes
2007-2008 - Even Rouault - Add unzip support for ZIP64

Copyright (C) 2007-2008 Even Rouault

Oct-2009 - Mathias Svensson - Removed cpl_* from symbol names (Even Rouault added them but since this is now moved to a new project (minizip64) I renamed them again).
Oct-2009 - Mathias Svensson - Fixed problem if uncompressed size was > 4G and compressed size was <4G
should only read the compressed/uncompressed size from the Zip64 format if
the size from normal header was 0xFFFFFFFF
Oct-2009 - Mathias Svensson - Applied some bug fixes from paches recived from Gilles Vollant
Oct-2009 - Mathias Svensson - Applied support to unzip files with compression mathod
BZIP2 (bzip2 lib is required)
Patch created by Daniel Borca

Jan-2010 - back to unzip and minizip 1.0 name scheme, with compatibility layer

Copyright (C) 1998 - 2010 Gilles Vollant, Even Rouault, Mathias Svensson

*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/contrib/minizip/unzip.c
No license file was found, but licenses were detected in source scan.

ZLIB DATA COMPRESSION LIBRARY

zlib 1.2.11 is a general purpose data compression library. All the code is
thread safe. The data format used by the zlib library is described by RFCs
(Request for Comments) 1950 to 1952 in the files
http://tools.ietf.org/html/rfc1950 (zlib format), rfc1951 (deflate format) and
rfc1952 (gzip format).

All functions of the compression library are documented in the file zlib.h
(volunteer to write man pages welcome, contact zlib@gzip.org). A usage example
of the library is given in the file test/example.c which also tests that
the library is working correctly. Another example is given in the file
test/minigzip.c. The compression library itself is composed of all source
files in the root directory.

To compile all files and run the test program, follow the instructions given at
the top of Makefile.in. In short "./configure; make test", and if that goes

well, "make install" should work
for most flavors of Unix. For Windows, use
one of the special makefiles in win32/ or contrib/vstudio/ . For VMS, use
make_vms.com.

Questions about zlib should be sent to <zlib@gzip.org>, or to Gilles Vollant
<info@winimage.com> for the Windows DLL version. The zlib home page is
http://zlib.net/ . Before reporting a problem, please check this site to
verify that you have the latest version of zlib; otherwise get the latest
version and check whether the problem still exists or not.

PLEASE read the zlib FAQ http://zlib.net/zlib_faq.html before asking for help.

Mark Nelson <markn@ieee.org> wrote an article about zlib for the Jan. 1997
issue of Dr. Dobb's Journal; a copy of the article is available at
http://marknelson.us/1997/01/01/zlib-engine/ .

The changes made in version 1.2.11 are documented in the file ChangeLog.

Unsupported third party contributions are provided in directory contrib/ .

zlib is available in Java using the java.util.zip package, documented at
http://java.sun.com/developer/technicalArticles/Programming/compression/
.

A Perl interface to zlib written by Paul Marquess <pmqs@cpan.org> is available
at CPAN (Comprehensive Perl Archive Network) sites, including
http://search.cpan.org/~pmqs/IO-Compress-Zlib/ .

A Python interface to zlib written by A.M. Kuchling <amk@amk.ca> is
available in Python 1.5 and later versions, see
http://docs.python.org/library/zlib.html .

zlib is built into tcl: http://wiki.tcl.tk/4610 .

An experimental package to read and write files in .zip format, written on top
of zlib by Gilles Vollant <info@winimage.com>, is available in the
contrib/minizip directory of zlib.

Notes for some targets:

- For Windows DLL versions, please see win32/DLL_FAQ.txt

- For 64-bit Irix, deflate.c must be compiled without any optimization. With
-O, one libpng test fails. The test works in 32 bit mode (with the -n32
compiler flag). The compiler bug has been reported to SGI.

- zlib doesn't work with gcc 2.6.3 on a DEC 3000/300LX under
OSF/1 2.1 it works
when compiled with cc.

- On Digital Unix 4.0D (formely OSF/1) on AlphaServer, the cc option -std1 is
necessary to get gzprintf working correctly. This is done by configure.

- zlib doesn't work on HP-UX 9.05 with some versions of /bin/cc. It works with
other compilers. Use "make test" to check your compiler.

- gzdopen is not supported on RISCOS or BEOS.

- For PalmOs, see http://palmzlib.sourceforge.net/

Acknowledgments:

The deflate format used by zlib was defined by Phil Katz. The deflate and
zlib specifications were written by L. Peter Deutsch. Thanks to all the
people who reported problems and suggested various improvements in zlib; they
are too numerous to cite here.

Copyright notice:

(C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted
to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving
lengthy legal documents to sign. The sources are provided for free but without

warranty of any kind.  The library has been entirely written by Jean-loup Gailly and Mark Adler; it does not include
 third-party code.

If you redistribute modified sources, we would appreciate that you include in the file ChangeLog history information documenting your changes.  Please read the FAQ for more information on the distribution of modified source versions.

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/README
No license file was found, but licenses were detected in source scan.

/* gzguts.h -- zlib internal header definitions for gz* operations
* Copyright (C) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/gzguts.h
No license file was found, but licenses were detected in source scan.

Frequently Asked Questions about zlib

If your question is not there, please check the zlib home page http://zlib.net/ which may have more recent information.
The lastest zlib FAQ is at http://zlib.net/zlib_faq.html

1. Is zlib Y2K-compliant?

   Yes. zlib doesn't handle dates.

2. Where can I get a Windows DLL version?

   The zlib sources can be compiled without change to produce a DLL.  See the file win32/DLL_FAQ.txt in the zlib distribution.  Pointers to the precompiled DLL are found in the zlib web site at http://zlib.net/ .

3. Where can I get a Visual Basic interface to zlib?

   See
      * http://marknelson.us/1997/01/01/zlib-engine/
      * win32/DLL_FAQ.txt in the zlib distribution

4. compress() returns Z_BUF_ERROR.

   Make sure that before the call of compress(), the length of the compressed

buffer is equal to the available size of the compressed buffer and not zero. For Visual Basic, check that this parameter is passed by reference ("as any"), not by value ("as long").

5. deflate() or inflate() returns Z_BUF_ERROR.

Before making the call, make sure that avail_in and avail_out are not zero. When setting the parameter flush equal to Z_FINISH, also make sure that avail_out is big enough to allow processing all pending input. Note that a Z_BUF_ERROR is not fatal--another call to deflate() or inflate() can be made with more input or output space. A Z_BUF_ERROR may in fact be unavoidable depending on how the functions are used, since it is not possible to tell whether or not there is more output pending when strm.avail_out returns with zero. See http://zlib.net/zlib_how.html for a heavily annotated example.

6. Where's the zlib documentation (man pages, etc.)?

It's in zlib.h . Examples of zlib usage are in the files test/example.c and test/minigzip.c, with more in examples/ .

7. Why don't you use GNU autoconf or libtool or ...?

Because we would like to keep zlib as a very small and simple package. zlib is rather portable and doesn't need much configuration.

8. I found a bug in zlib.

Most of the time, such problems are due to an incorrect usage of zlib. Please try to reproduce the problem with a small program and send the corresponding source to us at zlib@gzip.org . Do not send multi-megabyte data files without prior agreement.

9. Why do I get "undefined reference to gzputc"?

If "make test" produces something like

example.o(.text+0x154): undefined reference to `gzputc'

check that you don't have old files libz.* in /usr/lib, /usr/local/lib or /usr/X11R6/lib. Remove any old versions, then do "make install".

10. I need a Delphi interface to zlib.

See the contrib/delphi directory in the zlib distribution.

11. Can zlib handle .zip archives?

Not by itself, no. See the directory contrib/minizip in the zlib distribution.

12.
Can zlib handle .Z files?

No, sorry. You have to spawn an uncompress or gunzip subprocess, or adapt the code of uncompress on your own.

13. How can I make a Unix shared library?

By default a shared (and a static) library is built for Unix. So:

make distclean
./configure
make

14. How do I install a shared zlib library on Unix?

After the above, then:

make install

However, many flavors of Unix come with a shared zlib already installed. Before going to the trouble of compiling a shared version of zlib and trying to install it, you may want to check if it's already there! If you can #include <zlib.h>, it's there. The -lz option will probably link to it. You can check the version at the top of zlib.h or with the ZLIB_VERSION symbol defined in zlib.h .

15. I have a question about OttoPDF.

We are not the authors of OttoPDF. The real author is on the OttoPDF web site: Joel Hainley, jhainley@myndkryme.com.

16.
Can zlib decode Flate data in an Adobe PDF file?

Yes. See http://www.pdflib.com/ . To modify PDF forms, see http://sourceforge.net/projects/acroformtool/ .

17. Why am I getting this "register_frame_info not found" error on Solaris?

After installing zlib 1.1.4 on Solaris 2.6, running applications using zlib generates an error such as:

ld.so.1: rpm: fatal: relocation error: file /usr/local/lib/libz.so:
symbol __register_frame_info: referenced symbol not found

The symbol __register_frame_info is not part of zlib, it is generated by the C compiler (cc or gcc). You must recompile applications using zlib which have this problem. This problem is specific to Solaris. See http://www.sunfreeware.com for Solaris versions of zlib and applications using zlib.

18. Why does gzip give an error on a file I make with compress/deflate?

The compress and deflate functions produce data in the zlib format, which is different and incompatible
with the gzip format. The gz* functions in
zlib on the other hand use the gzip format. Both the zlib and gzip formats use the same compressed data format internally, but have different headers and trailers around the compressed data.

19. Ok, so why are there two different formats?

The gzip format was designed to retain the directory information about a single file, such as the name and last modification date. The zlib format on the other hand was designed for in-memory and communication channel applications, and has a much more compact header and trailer and uses a faster integrity check than gzip.

20. Well that's nice, but how do I make a gzip file in memory?

You can request that deflate write the gzip format instead of the zlib format using deflateInit2(). You can also request that inflate decode the gzip format using inflateInit2(). Read zlib.h for more details.

21. Is zlib thread-safe?

Yes. However any library routines
that zlib uses and any application-
provided memory allocation routines must also be thread-safe. zlib's gz* functions use stdio library routines, and most of zlib's functions use the library memory allocation routines by default. zlib's *Init* functions allow for the application to provide custom memory allocation routines.

Of course, you should only operate on any given zlib or gzip stream from a single thread at a time.

22. Can I use zlib in my commercial application?

Yes. Please read the license in zlib.h.

23. Is zlib under the GNU license?

No. Please read the license in zlib.h.

24. The license says that altered source versions must be "plainly marked". So what exactly do I need to do to meet that requirement?

You need to change the ZLIB_VERSION and ZLIB_VERNUM #defines in zlib.h. In particular, the final version number needs to be changed to "f", and an identification string should be appended to ZLIB_VERSION. Version numbers x.x.x.f are reserved for modifications to zlib by others than the zlib maintainers. For example, if the version of the base zlib you are altering is "1.2.3.4", then in zlib.h you should change ZLIB_VERNUM to 0x123f, and ZLIB_VERSION to something like "1.2.3.f-zachary-mods-v3". You can also update the version strings in deflate.c and inftrees.c.

For altered source distributions, you should also note the origin and nature of the changes in zlib.h, as well as in ChangeLog and README, along with the dates of the alterations. The origin should include at least your name (or your company's name), and an email address to contact for help or issues with the library.

Note that distributing a compiled zlib library along with zlib.h and zconf.h is also a source distribution, and so you should change ZLIB_VERSION and ZLIB_VERNUM and note the origin and nature of the changes in zlib.h as you would for a full source distribution.

25. Will zlib work on a big-endian or little-endian architecture, and can I exchange compressed data between them?

Yes and yes.

26. Will zlib work on a 64-bit machine?

Yes. It has been tested on 64-bit machines, and has no dependence on any data types being limited to 32-bits in length. If you have any difficulties, please provide a complete problem report to zlib@gzip.org

27. Will zlib decompress data from the PKWare Data Compression Library?

No. The PKWare DCL uses a completely different compressed data format than does PKZIP and zlib. However, you can look in zlib's contrib/blast directory for a possible solution to your problem.

28. Can I access data randomly in a compressed stream?

No, not without some preparation. If when compressing you periodically use

Z_FULL_FLUSH, carefully write all the pending data at those points, and keep an index of those locations, then you can start decompression at those points. You have to be careful to not use Z_FULL_FLUSH too often, since it can significantly degrade compression. Alternatively, you can scan a deflate stream once to generate an index, and then use that index for random access. See examples/zran.c .

29. Does zlib work on MVS, OS/390, CICS, etc.?

It has in the past, but we have not heard of any recent evidence. There were working ports of zlib 1.1.4 to MVS, but those links no longer work. If you know of recent, successful applications of zlib on these operating systems, please let us know. Thanks.

30. Is there some simpler, easier to read version of inflate I can look at to understand the deflate format?

First off, you should read RFC 1951. Second, yes. Look in zlib's contrib/puff directory.

31. Does zlib infringe on any patents?

As far as we know, no. In fact, that was originally the whole point behind zlib. Look here for some more information:

http://www.gzip.org/#faq11

32. Can zlib work with greater than 4 GB of data?

Yes. inflate() and deflate() will process any amount of data correctly. Each call of inflate() or deflate() is limited to input and output chunks of the maximum value that can be stored in the compiler's "unsigned int" type, but there is no limit to the number of chunks. Note however that the strm.total_in and strm_total_out counters may be limited to 4 GB. These counters are provided as a convenience and are not used internally by inflate() or deflate(). The application can easily set up its own counters updated after each call of inflate() or deflate() to count beyond 4 GB. compress() and uncompress() may be limited to 4 GB, since they operate in a single call. gzseek() and gztell() may be limited to 4 GB depending on how zlib is compiled. See the zlibCompileFlags() function in zlib.h.

The word "may" appears several times above since there is a 4 GB limit only if the compiler's "long" type is 32 bits. If the compiler's "long" type is 64 bits, then the limit is 16 exabytes.

33. Does zlib have any security vulnerabilities?

The only one that we are aware of is potentially in gzprintf(). If zlib is compiled to use sprintf() or vsprintf(), then there is no protection against a buffer overflow of an 8K string space (or other value as set by gzbuffer()), other than the caller of gzprintf() assuring that the output will not exceed 8K. On the other hand, if zlib is compiled to use snprintf() or vsnprintf(), which should normally be the case, then there is no vulnerability. The ./configure script will display warnings if an insecure variation of sprintf() will be used by gzprintf(). Also the zlibCompileFlags() function will return information on what variant of sprintf() is used by gzprintf().

If you don't have snprintf() or vsnprintf() and would like one, you can find a portable implementation here:

http://www.ijs.si/software/snprintf/

Note that you should be using the most recent version of zlib. Versions 1.1.3 and before were subject to a double-free vulnerability, and versions 1.2.1 and 1.2.2 were subject to an access exception when decompressing invalid compressed data.

34. Is there a Java version of zlib?

Probably what you want is to use zlib in Java. zlib is already included as part of the Java SDK in the java.util.zip package. If you really want a version of zlib written in the Java language, look on the zlib home page for links: http://zlib.net/ .

35. I get this or that compiler or source-code scanner warning when I crank it up to maximally-pedantic. Can't you guys write proper code?

Many years ago, we gave up attempting to avoid warnings on every compiler in the universe. It just got to be a waste of time, and some compilers were downright silly as well as contradicted each other. So now, we simply make sure that the code always
works.

36. Valgrind (or some similar memory access checker) says that deflate is performing a conditional jump that depends on an uninitialized value. Isn't that a bug?

No. That is intentional for performance reasons, and the output of deflate is not affected. This only started showing up recently since zlib 1.2.x uses malloc() by default for allocations, whereas earlier versions used calloc(), which zeros out the allocated memory. Even though the code was correct, versions 1.2.4 and later was changed to not stimulate these

checkers.

37. Will zlib read the (insert any ancient or arcane format here) compressed data format?

Probably not. Look in the comp.compression FAQ for pointers to various formats and associated software.

38. How can I encrypt/decrypt zip files with zlib?

zlib doesn't support encryption. The original PKZIP encryption is very weak and can be broken with freely available programs. To get strong encryption,
use GnuPG, http://www.gnupg.org/ , which already includes zlib compression. For PKZIP compatible "encryption", look at http://www.info-zip.org/

39. What's the difference between the "gzip" and "deflate" HTTP 1.1 encodings?

"gzip" is the gzip format, and "deflate" is the zlib format. They should probably have called the second one "zlib" instead to avoid confusion with the raw deflate compressed data format. While the HTTP 1.1 RFC 2616 correctly points to the zlib specification in RFC 1950 for the "deflate" transfer encoding, there have been reports of servers and browsers that incorrectly produce or expect raw deflate data per the deflate specification in RFC 1951, most notably Microsoft. So even though the "deflate" transfer encoding using the zlib format would be the more efficient approach (and in fact exactly what the zlib format was designed for), using the "gzip" transfer encoding is probably more reliable due to an
unfortunate choice of name on the part of the HTTP 1.1 authors.

Bottom line: use the gzip format for HTTP 1.1 encoding.

40. Does zlib support the new "Deflate64" format introduced by PKWare?

No. PKWare has apparently decided to keep that format proprietary, since they have not documented it as they have previous compression formats. In any case, the compression improvements are so modest compared to other more modern approaches, that it's not worth the effort to implement.

41. I'm having a problem with the zip functions in zlib, can you help?

There are no zip functions in zlib. You are probably using minizip by Giles Vollant, which is found in the contrib directory of zlib. It is not part of zlib. In fact none of the stuff in contrib is part of zlib. The files in there are not supported by the zlib authors. You need to contact the authors of the respective contribution for help.

42. The match.asm code in contrib is under the GNU General
Public License.
Since it's part of zlib, doesn't that mean that all of zlib falls under the
GNU GPL?

No. The files in contrib are not part of zlib. They were contributed by
other authors and are provided as a convenience to the user within the zlib
distribution. Each item in contrib has its own license.

43. Is zlib subject to export controls? What is its ECCN?

zlib is not subject to export controls, and so is classified as EAR99.

44. Can you please sign these lengthy legal documents and fax them back to us
so that we can use your software in our product?

No. Go away. Shoo.

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/FAQ
No license file was found, but licenses were detected in source scan.

/* inffast.c -- fast decoding
* Copyright (C) 1995-2017 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/inffast.c
No license file was found, but licenses were detected in source scan.

/* trees.c -- output deflated data using Huffman coding
* Copyright (C) 1995-2017 Jean-loup Gailly
* detect_data_type() function provided freely by Cosmin Truta, 2006
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/trees.c
No license file was found, but licenses were detected in source scan.

/* inflate.h -- internal inflate state definition
* Copyright (C) 1995-2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):

* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/inflate.h
No license file was found, but licenses were detected in source scan.

ZLIB DATA COMPRESSION LIBRARY

zlib 1.2.11 is a general purpose data compression library. All the code is thread safe. The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files http://www.ietf.org/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).

All functions of the compression library are documented in the file zlib.h (volunteer to write man pages welcome, contact zlib@gzip.org). Two compiled examples are distributed in this package, example and minigzip. The example_d and minigzip_d flavors validate that the zlib1.dll file is working correctly.

Questions about zlib should be sent to <zlib@gzip.org>. The zlib home page is http://zlib.net/ . Before reporting a problem, please check this site to verify that you have the latest version of zlib; otherwise get the latest version and check whether the problem still exists or not.

PLEASE read DLL_FAQ.txt, and the the zlib FAQ http://zlib.net/zlib_faq.html before asking for help.

Manifest:

The package zlib-1.2.11-win32-x86.zip will contain the following files:

README-WIN32.txt This document
ChangeLog Changes since previous zlib packages
DLL_FAQ.txt Frequently asked questions about zlib1.dll
zlib.3.pdf Documentation of this library in Adobe Acrobat format

example.exe A statically-bound example (using zlib.lib, not the dll)
example.pdb Symbolic information for debugging example.exe

example_d.exe A zlib1.dll bound example (using zdll.lib)
example_d.pdb Symbolic information for debugging example_d.exe

minigzip.exe A statically-bound test program (using zlib.lib, not the dll)
minigzip.pdb Symbolic information for debugging minigzip.exe

minigzip_d.exe A zlib1.dll bound test program (using zdll.lib)
minigzip_d.pdb Symbolic information for debugging minigzip_d.exe

zlib.h

Install these files into the compilers' INCLUDE path to
zconf.h compile programs which use zlib.lib or zdll.lib

zdll.lib Install these files into the compilers' LIB path if linking
zdll.exp a compiled program to the zlib1.dll binary

zlib.lib Install these files into the compilers' LIB path to link zlib
zlib.pdb into compiled programs, without zlib1.dll runtime dependency
(zlib.pdb provides debugging info to the compile time linker)

zlib1.dll Install this binary shared library into the system PATH, or
the program's runtime directory (where the .exe resides)
zlib1.pdb Install in the same directory as zlib1.dll, in order to debug
an application crash using WinDbg or similar tools.

All .pdb files above are entirely optional, but are very useful to a developer attempting to diagnose program misbehavior or a crash. Many additional important files for developers
can be found in the zlib127.zip source package
available from http://zlib.net/ - review that package's README file for details.

Acknowledgments:

The deflate format used by zlib was defined by Phil Katz. The deflate and zlib specifications were written by L. Peter Deutsch. Thanks to all the people who reported problems and suggested various improvements in zlib; they are too numerous to cite here.

Copyright notice:

(C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.

3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving lengthy legal documents to sign. The sources are provided for free but without warranty of any kind. The library has been entirely written by Jean-loup Gailly and Mark Adler; it does not include third-party code.

If you redistribute modified sources, we would appreciate that you include in the file ChangeLog history information documenting your changes. Please read the FAQ for more information on the distribution of modified source versions.

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/win32/README-WIN32.txt
No license file was found, but licenses were detected in source scan.

/* gzclose.c -- zlib gzclose() function
* Copyright (C) 2004, 2010 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/gzclose.c
No license file was found, but licenses were detected in source scan.

/* fitblk.c: example of fitting compressed output to a specified size
Not copyrighted -- provided to the public domain
Version 1.1 25 November 2004 Mark Adler */

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/fitblk.c
No license file was found, but licenses were detected in source scan.

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.11, January 15th, 2017

Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for
Comments) 1950 to 1952 in the files http://tools.ietf.org/html/rfc1950
(zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/zlib.h
No license file was found, but licenses were detected in source scan.

/* inftrees.c -- generate Huffman trees for efficient decoding
* Copyright (C) 1995-2017 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/inftrees.c
No license file was found, but licenses were detected in source scan.

/* inffast.h -- header to use inffast.c
* Copyright (C) 1995-2003, 2010 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/inffast.h
No license file was found, but licenses were detected in source scan.

/* zip.h -- IO on .zip files using zlib
  Version 1.1, February 14h, 2010
  part of the MiniZip project - ( http://www.winimage.com/zLibDll/minizip.html )

      Copyright (C) 1998-2010 Gilles Vollant (minizip) ( http://www.winimage.com/zLibDll/minizip.html )

      Modifications for Zip64 support
      Copyright (C) 2009-2010 Mathias Svensson ( http://result42.com )

For more info read MiniZip_info.txt

---

Condition of use and distribution are the same than zlib :

This software is provided 'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the
following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

---

Changes

See header of zip.h

*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/contrib/minizip/zip.h
No license file was found, but licenses were detected in source scan.

/* gzread.c -- zlib functions for reading gzip files
* Copyright (C) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/gzread.c
No license file was found, but licenses were detected in source scan.

/* gzappend -- command to append to a gzip file

Copyright (C) 2003, 2012 Mark Adler, all rights reserved
version 1.2, 11 Oct 2012

This software is provided 'as-is', without any express or implied
warranty.  In no event will the author be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be
removed or altered from any source distribution.

Mark Adler    madler@alumni.caltech.edu
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/gzappend.c
No license file was found, but licenses were detected in source scan.

/* gzlog.h
Copyright (C) 2004, 2008, 2012 Mark Adler, all rights reserved
version 2.2, 14 Aug 2012

This software is provided 'as-is', without any express or implied
warranty.  In no event will the author be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source
distribution.

Mark Adler    madler@alumni.caltech.edu
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/gzlog.h
No license file was found, but licenses were detected in source scan.

/* unzip.h -- IO for uncompress .zip files using zlib
  Version 1.1, February 14h, 2010
  part of the MiniZip project - ( http://www.winimage.com/zLibDll/minizip.html )

        Copyright (C) 1998-2010 Gilles Vollant (minizip) ( http://www.winimage.com/zLibDll/minizip.html )

        Modifications of Unzip for Zip64
        Copyright (C) 2007-2008 Even Rouault

        Modifications for Zip64 support on both zip and unzip
        Copyright (C) 2009-2010 Mathias Svensson ( http://result42.com )

        For more info read MiniZip_info.txt

        ---------------------------------------------------------------------------

       Condition of use and distribution are the same than zlib :

This software is provided 'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone
to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

---------------------------------------------------------------------------

       Changes

       See header of unzip64.c

*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/contrib/minizip/unzip.h
No license file was found, but licenses were detected in source scan.

Frequently Asked Questions about ZLIB1.DLL

This document describes the design, the rationale, and the usage
of the official DLL build of zlib, named ZLIB1.DLL. If you have
general questions about zlib, you should see the file "FAQ" found
in the zlib distribution, or at the following location:
http://www.gzip.org/zlib/zlib_faq.html

1. What is ZLIB1.DLL, and how can I get it?

- ZLIB1.DLL is the official build of zlib as a DLL.
(Please remark the character '1' in the name.)

Pointers to a precompiled ZLIB1.DLL can be found in the zlib
web site at:
http://www.zlib.net/

Applications that link to ZLIB1.DLL can rely on the following
specification:

* The exported symbols are exclusively defined in the source
files "zlib.h" and "zlib.def", found in an official zlib
source distribution.
* The symbols are exported by name, not by ordinal.
* The exported names are undecorated.
* The calling convention of functions is "C" (CDECL).
* The ZLIB1.DLL binary is linked to MSVCRT.DLL.

The archive in which ZLIB1.DLL is bundled contains compiled
test programs that must run with a valid build of ZLIB1.DLL.
It is recommended to download the prebuilt DLL from the zlib
web site, instead of building it yourself, to avoid potential
incompatibilities that could be introduced by your compiler
and build settings. If you do build the DLL yourself, please
make sure that it complies with all the above requirements,
and it runs with the precompiled test programs, bundled with
the original ZLIB1.DLL distribution.

If, for any reason, you need to build an incompatible DLL,
please use a different file name.

2. Why did you change the name of the DLL to ZLIB1.DLL?
What happened to the old ZLIB.DLL?

- The old ZLIB.DLL, built from zlib-1.1.4 or earlier, required compilation settings that were incompatible to those used by a static build. The DLL settings were supposed to be enabled by defining the macro ZLIB_DLL, before including "zlib.h". Incorrect handling of this macro was silently accepted at build time, resulting in two major problems:

* ZLIB_DLL was missing from the old makefile. When building the DLL, not all people added it to the build options. In consequence, incompatible incarnations of ZLIB.DLL started to circulate around the net.

* When switching from using the static library to using the DLL, applications had to define the ZLIB_DLL macro and to recompile all the sources that contained calls to zlib functions. Failure to do so resulted in creating binaries that were unable to run with the official ZLIB.DLL build.

The only possible solution that we could foresee was to make a binary-incompatible change in the DLL interface, in order to remove the dependency on the ZLIB_DLL macro, and to release the new DLL under a different name.

We chose the name ZLIB1.DLL, where '1' indicates the major zlib version number. We hope that we will not have to break the binary compatibility again, at least not as long as the zlib-1.x series will last.

There is still a ZLIB_DLL macro, that can trigger a more efficient build and use of the DLL, but compatibility no longer dependents on it.

3. Can I build ZLIB.DLL from the new zlib sources, and replace an old ZLIB.DLL, that was built from zlib-1.1.4 or earlier?

- In principle, you can do it by assigning calling convention keywords to the macros ZEXPORT and ZEXPORTVA. In practice, it depends on what you mean by "an old ZLIB.DLL", because the old DLL exists in several mutually-incompatible versions. You have to find out first what kind of calling convention is being used in your particular ZLIB.DLL build, and to use the same one in the new build. If you don't know what this is all

about, you might be better off if you would just leave the old DLL intact.

4. Can I compile my application using the new zlib interface, and link it to an old ZLIB.DLL, that was built from zlib-1.1.4 or earlier?

- The official answer is "no"; the real answer depends again on what kind of ZLIB.DLL you have. Even if you are lucky, this course of action is unreliable.

If you rebuild your application and you intend to use a newer version of zlib (post- 1.1.4), it is strongly recommended to link it to the new ZLIB1.DLL.

5. Why are the zlib symbols exported by name, and not by ordinal?

- Although exporting symbols by ordinal is a little faster, it is risky. Any single glitch in the maintenance or use of the DEF file that contains the ordinals can result in incompatible builds and frustrating crashes. Simply put, the benefits of exporting symbols by ordinal do not justify the risks.

Technically, it should be possible to
maintain ordinals in
the DEF file, and still export the symbols by name. Ordinals exist in every DLL, and even if the dynamic linking performed at the DLL startup is searching for names, ordinals serve as hints, for a faster name lookup. However, if the DEF file contains ordinals, the Microsoft linker automatically builds an implib that will cause the executables linked to it to use those ordinals, and not the names. It is interesting to notice that the GNU linker for Win32 does not suffer from this problem.

It is possible to avoid the DEF file if the exported symbols are accompanied by a "__declspec(dllexport)" attribute in the source files. You can do this in zlib by predefining the ZLIB_DLL macro.

6. I see that the ZLIB1.DLL functions use the "C" (CDECL) calling convention. Why not use the STDCALL convention? STDCALL is the standard convention in Win32, and I need it in my Visual Basic project!

(For readability,
we use CDECL to refer to the convention
triggered by the "__cdecl" keyword, STDCALL to refer to
the convention triggered by "__stdcall", and FASTCALL to
refer to the convention triggered by "__fastcall".)

- Most of the native Windows API functions (without varargs) use
indeed the WINAPI convention (which translates to STDCALL in
Win32), but the standard C functions use CDECL. If a user
application is intrinsically tied to the Windows API (e.g.
it calls native Windows API functions such as CreateFile()),
sometimes it makes sense to decorate its own functions with
WINAPI. But if ANSI C or POSIX portability is a goal (e.g.
it calls standard C functions such as fopen()), it is not a
sound decision to request the inclusion of <windows.h>, or to
use non-ANSI constructs, for the sole purpose to make the user
functions STDCALL-able.

The functionality offered by zlib is not in the category of
"Windows functionality", but
is more like "C functionality".

Technically, STDCALL is not bad; in fact, it is slightly
faster than CDECL, and it works with variable-argument
functions, just like CDECL. It is unfortunate that, in spite
of using STDCALL in the Windows API, it is not the default
convention used by the C compilers that run under Windows.
The roots of the problem reside deep inside the unsafety of
the K&R-style function prototypes, where the argument types
are not specified; but that is another story for another day.

The remaining fact is that CDECL is the default convention.
Even if an explicit convention is hard-coded into the function
prototypes inside C headers, problems may appear. The
necessity to expose the convention in users' callbacks is one
of these problems.

The calling convention issues are also important when using
zlib in other programming languages. Some of them, like Ada
(GNAT) and Fortran (GNU G77), have C bindings
implemented
initially on Unix, and relying on the C calling convention.
On the other hand, the pre- .NET versions of Microsoft Visual
Basic require STDCALL, while Borland Delphi prefers, although
it does not require, FASTCALL.

In fairness to all possible uses of zlib outside the C
programming language, we choose the default "C" convention.

Anyone interested in different bindings or conventions is encouraged to maintain specialized projects. The "contrib/" directory from the zlib distribution already holds a couple of foreign bindings, such as Ada, C++, and Delphi.

7. I need a DLL for my Visual Basic project. What can I do?

- Define the ZLIB_WINAPI macro before including "zlib.h", when building both the DLL and the user application (except that you don't need to define anything when using the DLL in Visual Basic). The ZLIB_WINAPI macro will switch on the WINAPI (STDCALL) convention. The name of this DLL must be different than the official ZLIB1.DLL.

Gilles Vollant has contributed a build named ZLIBWAPI.DLL, with the ZLIB_WINAPI macro turned on, and with the minizip functionality built in. For more information, please read the notes inside "contrib/vstudio/readme.txt", found in the zlib distribution.

8. I need to use zlib in my Microsoft .NET project. What can I do?

- Henrik Ravn has contributed a .NET wrapper around zlib. Look into contrib/dotzlib/, inside the zlib distribution.

9. If my application uses ZLIB1.DLL, should I link it to MSVCRT.DLL? Why?

- It is not required, but it is recommended to link your application to MSVCRT.DLL, if it uses ZLIB1.DLL.

The executables (.EXE, .DLL, etc.) that are involved in the same process and are using the C run-time library (i.e. they are calling standard C functions), must link to the same library. There are several libraries in the Win32 system: CRTDLL.DLL, MSVCRT.DLL, the static C libraries, etc.
Since ZLIB1.DLL is linked to MSVCRT.DLL, the executables that depend on it should also be linked to MSVCRT.DLL.

10. Why are you saying that ZLIB1.DLL and my application should be linked to the same C run-time (CRT) library? I linked my application and my DLLs to different C libraries (e.g. my

application to a static library, and my DLLs to MSVCRT.DLL), and everything works fine.

- If a user library invokes only pure Win32 API (accessible via <windows.h> and the related headers), its DLL build will work in any context. But if this library invokes standard C API, things get more complicated.

There is a single Win32 library in a Win32 system. Every function in this library resides in a single DLL module, that is safe to call from anywhere. On the other hand, there are multiple versions of the C library, and each of them has its own separate internal state. Standalone executables and user DLLs that call
standard C functions must link to a C run-time (CRT) library, be it static or shared (DLL). Intermixing occurs when an executable (not necessarily standalone) and a DLL are linked to different CRTs, and both are running in the same process.

Intermixing multiple CRTs is possible, as long as their internal states are kept intact. The Microsoft Knowledge Base articles KB94248 "HOWTO: Use the C Run-Time" and KB140584 "HOWTO: Link with the Correct C Run-Time (CRT) Library" mention the potential problems raised by intermixing.

If intermixing works for you, it's because your application and DLLs are avoiding the corruption of each of the CRTs' internal states, maybe by careful design, or maybe by fortune.

Also note that linking ZLIB1.DLL to non-Microsoft CRTs, such as those provided by Borland, raises similar problems.

11. Why are you linking ZLIB1.DLL to MSVCRT.DLL?

- MSVCRT.DLL exists on every Windows 95 with a new service pack
installed, or with Microsoft Internet Explorer 4 or later, and on all other Windows 4.x or later (Windows 98, Windows NT 4, or later). It is freely distributable; if not present in the system, it can be downloaded from Microsoft or from other software provider for free.

The fact that MSVCRT.DLL does not exist on a virgin Windows 95 is not so problematic. Windows 95 is scarcely found nowadays, Microsoft ended its support a long time ago, and many recent applications from various vendors, including Microsoft, do not

even run on it. Furthermore, no serious user should run
Windows 95 without a proper update installed.

12. Why are you not linking ZLIB1.DLL to
<<my favorite C run-time library>> ?

- We considered and abandoned the following alternatives:

* Linking ZLIB1.DLL to a static C library (LIBC.LIB, or
LIBCMT.LIB) is not a good option. People are using the DLL
mainly to save disk space. If you are linking
your program
to a static C library, you may as well consider linking zlib
in statically, too.

* Linking ZLIB1.DLL to CRTDLL.DLL looks appealing, because
CRTDLL.DLL is present on every Win32 installation.
Unfortunately, it has a series of problems: it does not
work properly with Microsoft's C++ libraries, it does not
provide support for 64-bit file offsets, (and so on...),
and Microsoft discontinued its support a long time ago.

* Linking ZLIB1.DLL to MSVCR70.DLL or MSVCR71.DLL, supplied
with the Microsoft .NET platform, and Visual C++ 7.0/7.1,
raises problems related to the status of ZLIB1.DLL as a
system component. According to the Microsoft Knowledge Base
article KB326922 "INFO: Redistribution of the Shared C
Runtime Component in Visual C++ .NET", MSVCR70.DLL and
MSVCR71.DLL are not supposed to function as system DLLs,
because they may clash with MSVCRT.DLL. Instead, the
application's
installer is supposed to put these DLLs
(if needed) in the application's private directory.
If ZLIB1.DLL depends on a non-system runtime, it cannot
function as a redistributable system component.

* Linking ZLIB1.DLL to non-Microsoft runtimes, such as
Borland's, or Cygwin's, raises problems related to the
reliable presence of these runtimes on Win32 systems.
It's easier to let the DLL build of zlib up to the people
who distribute these runtimes, and who may proceed as
explained in the answer to Question 14.

13. If ZLIB1.DLL cannot be linked to MSVCR70.DLL or MSVCR71.DLL,
how can I build/use ZLIB1.DLL in Microsoft Visual C++ 7.0
(Visual Studio .NET) or newer?

- Due to the problems explained in the Microsoft Knowledge Base
article KB326922 (see the previous answer), the C runtime that
comes with the VC7 environment is no longer considered a
system component. That is, it should not be assumed that this
runtime
exists, or may be installed in a system directory.
Since ZLIB1.DLL is supposed to be a system component, it may
not depend on a non-system component.

In order to link ZLIB1.DLL and your application to MSVCRT.DLL
in VC7, you need the library of Visual C++ 6.0 or older. If
you don't have this library at hand, it's probably best not to
use ZLIB1.DLL.

We are hoping that, in the future, Microsoft will provide a
way to build applications linked to a proper system runtime,
from the Visual C++ environment. Until then, you have a
couple of alternatives, such as linking zlib in statically.
If your application requires dynamic linking, you may proceed
as explained in the answer to Question 14.

14. I need to link my own DLL build to a CRT different than
MSVCRT.DLL. What can I do?

- Feel free to rebuild the DLL from the zlib sources, and link
it the way you want. You should, however, clearly state that
your build is unofficial.
You should give it a different file
name, and/or install it in a private directory that can be
accessed by your application only, and is not visible to the
others (i.e. it's neither in the PATH, nor in the SYSTEM or
SYSTEM32 directories). Otherwise, your build may clash with
applications that link to the official build.

For example, in Cygwin, zlib is linked to the Cygwin runtime
CYGWIN1.DLL, and it is distributed under the name CYGZ.DLL.

15. May I include additional pieces of code that I find useful,
link them in ZLIB1.DLL, and export them?

- No. A legitimate build of ZLIB1.DLL must not include code
that does not originate from the official zlib source code.
But you can make your own private DLL build, under a different
file name, as suggested in the previous answer.

For example, zlib is a part of the VCL library, distributed
with Borland Delphi and C++ Builder. The DLL build of VCL
is a redistributable file, named
VCLxx.DLL.

16. May I remove some functionality out of ZLIB1.DLL, by enabling
macros like NO_GZCOMPRESS or NO_GZIP at compile time?

- No. A legitimate build of ZLIB1.DLL must provide the complete
zlib functionality, as implemented in the official zlib source
code. But you can make your own private DLL build, under a
different file name, as suggested in the previous answer.

17. I made my own ZLIB1.DLL build. Can I test it for compliance?

- We prefer that you download the official DLL from the zlib
web site. If you need something peculiar from this DLL, you
can send your suggestion to the zlib mailing list.

However, in case you do rebuild the DLL yourself, you can run
it with the test programs found in the DLL distribution.
Running these test programs is not a guarantee of compliance,
but a failure can imply a detected problem.

**

This document is written and maintained by
Cosmin Truta <cosmint@cs.ubbcluj.ro>

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/win32/DLL_FAQ.txt
No license file was found, but licenses were detected in source scan.

/* zconf.h -- configuration of the zlib compression library
* Copyright (C) 1995-2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/zconf.h.cmakein
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/zconf.h.in
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/zconf.h
No license file was found, but licenses were detected in source scan.

/* zpipe.c: example of proper use of zlib's inflate() and deflate()
Not copyrighted -- provided to the public domain

Version 1.4  11 December 2005  Mark Adler */

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/examples/zpipe.c
No license file was found, but licenses were detected in source scan.

/*
 Additional tools for Minizip
 Code: Xavier Roche '2004
 License: Same as ZLIB (www.gzip.org)
*/

Found in path(s):
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/contrib/minizip/mztools.h
* /zlib-1-2-11-dfsg-orig-2-tar-xz/zlib-1.2.11/contrib/minizip/mztools.c

# 1.354 webencodings 0.5.1

## 1.354.1 Available under license :

BSD-style without advertising clause

# 1.355 futures 3.3.0

## 1.355.1 Available under license :

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
--------------------------------------------

1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python
alone or in any derivative version, provided, however, that PSF's
License Agreement and PSF's notice of copyright, i.e., "Copyright (c)
2001, 2002, 2003, 2004, 2005, 2006 Python Software Foundation; All Rights
Reserved" are retained in Python alone or in any derivative version
prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part
 thereof, and wants to make
the derivative work available to others as provided herein, then

Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS"
basis.  PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED.  BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship
 of agency, partnership, or joint venture between PSF and
Licensee.  This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

# 1.356 packaging 16.8

## 1.356.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its

distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS
This software is made available under the terms of *either* of the licenses
found in LICENSE.APACHE or LICENSE.BSD. Contributions to this software is made
under the terms of *both* these licenses.
Copyright (c) Donald Stufft and individual contributors.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED

TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.357 cglib 3.3.0

## 1.357.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work

(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work

or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
This product includes software developed by
The Apache Software Foundation (http://www.apache.org/).

# 1.358 distlib 0.2.9.post0

## 1.358.1 Available under license :

A. HISTORY OF THE SOFTWARE
==========

Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see http://www.cnri.reston.va.us) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to

BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see http://www.zope.com). In 2001, the Python Software Foundation (PSF, see http://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2.1 | 2.2 | 2002 | PSF | yes |
| 2.2.2 | 2.2.1 | 2002 | PSF | yes |
| 2.2.3 | 2.2.2 | 2003 | PSF | yes |
| 2.3 | 2.2.2 | 2002-2003 | PSF | yes |
| 2.3.1 | 2.3 | 2002-2003 | PSF | yes |
| 2.3.2 | 2.3.1 | 2002-2003 | PSF | yes |
| 2.3.3 | 2.3.2 | 2002-2003 | PSF | yes |
| 2.3.4 | 2.3.3 | 2004 | PSF | yes |
| 2.3.5 | 2.3.4 | 2005 | PSF | yes |
| 2.4 | 2.3 | 2004 | PSF | yes |
| 2.4.1 | 2.4 | 2005 | PSF | yes |
| 2.4.2 | 2.4.1 | 2005 | PSF | yes |
| 2.4.3 | 2.4.2 | 2006 | PSF | yes |
| 2.4.4 | 2.4.3 | 2006 | PSF | yes |
| 2.5 | 2.4 | 2006 | PSF | yes |
| 2.5.1 | 2.5 | 2007 | PSF | yes |
| 2.5.2 | 2.5.1 | 2008 | PSF | yes |
| 2.5.3 | 2.5.2 | 2008 | PSF | yes |
| 2.6 | 2.5 | 2008 | PSF | yes |

| | | | | |
|---|---|---|---|---|
| 2.6.1 | 2.6 | 2008 | PSF | yes |
| 2.6.2 | 2.6.1 | 2009 | PSF | yes |
| 2.6.3 | 2.6.2 | 2009 | PSF | yes |
| 2.6.4 | 2.6.3 | 2009 | PSF | yes |
| 2.6.5 | 2.6.4 | 2010 | PSF | yes |
| 3.0 | 2.6 | 2008 | PSF | yes |
| 3.0.1 | 3.0 | 2009 | PSF | yes |
| 3.1 | 3.0.1 | 2009 | PSF | yes |
| 3.1.1 | 3.1 | 2009 | PSF | yes |
| 3.1.2 | 3.1 | 2010 | PSF | yes |
| 3.2 | 3.1 | 2010 | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike the GPL, let you distribute a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation ("PSF"), and the Individual or Organization ("Licensee") accessing and otherwise using this software ("Python") in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python alone or in any derivative version, provided, however, that PSF's License Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010

Python Software Foundation; All Rights Reserved" are retained in Python alone or in any derivative version prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on or incorporates Python or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS" basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between PSF and Licensee. This License Agreement does not grant permission to use PSF trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee agrees to be bound by the terms and conditions of this License Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0

---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software, alone or in any derivative version prepared by Licensee.

3.
BeOpen is making the Software available to Licensee on an "AS IS" basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of
agency, partnership, or joint venture
between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1
---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in

source or binary form and its associated documentation.

2. Subject to the terms and conditions
of this License Agreement, CNRI
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python 1.6.1
alone or in any derivative version, provided, however, that CNRI's
License Agreement and CNRI's notice of copyright, i.e., "Copyright (c)
1995-2001 Corporation for National Research Initiatives; All Rights
Reserved" are retained in Python 1.6.1 alone or in any derivative
version prepared by Licensee. Alternately, in lieu of CNRI's License
Agreement, Licensee may substitute the following text (omitting the
quotes): "Python 1.6.1 is made available subject to the terms and
conditions in CNRI's License Agreement. This Agreement together with
Python 1.6.1 may be located on the Internet using the following
unique, persistent identifier (known as a handle): 1895.22/1013. This
Agreement may also be obtained from a proxy server on the Internet
using the following
URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python 1.6.1 or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS"
basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6.
This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. This License Agreement shall be governed by the federal
intellectual property law of the United States, including without
limitation the federal copyright law, and, to the extent such
U.S. federal law does not apply, by the law of the Commonwealth of
Virginia, excluding Virginia's conflict of law provisions.

Notwithstanding the foregoing, with regard to derivative works based
on Python 1.6.1 that incorporate non-separable material that was
previously distributed under the GNU General Public License (GPL), the
law of the Commonwealth of Virginia shall govern this License
Agreement only as to issues arising under or with respect to
Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this
License Agreement shall be deemed to create any relationship of
agency, partnership, or joint venture between CNRI and Licensee. This
License Agreement does not grant permission
to use CNRI trademarks or
trade name in a trademark sense to endorse or promote products or
services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying,
installing or otherwise using Python 1.6.1, Licensee agrees to be
bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam,
The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Stichting Mathematisch
Centrum or CWI not be used in advertising or publicity pertaining to
distribution of the software
without specific, written prior
permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
==========
Distutils2 Contributors
==========

The Distutils2 project was started by Tarek Ziad and is currently

maintained by ric Araujo.  Many people have contributed to the project.

distlib has started off using some of the code from distutil2.

If you're making a patch, please add your name below in alphabetical order,
and welcome into the Fellowship of the Packaging!

Thanks to:

- Rajiv Abraham
- Ali Afshar
- David Barnett
- Pior Bastida
- Anthony Baxter
- Erik Bray
- C. Titus Brown
- Francisco Martn Brugu
- Nicolas Cadou
- Godefroid Chapelle
- Julien Courteau
- Christophe Combelles
- Jason R. Coombs
- Pierre-Yves David
- Ned Deily
- Konrad Delong
- Josip Djolonga
- John Edmonds
- Andr Espaze
- Boris Feld
- Andrew Francis
- Hallvard B Furuseth
- Patrice Gauthier
- Yannick Gingras
- Filip Gruszczyski
- Walker Hale IV
- Alexandre Hamelin
- Kelsey Hightower
- Thomas Holmes
- Preston Holmes
- Christian Hudon
- Julien Jehannet
- Jeremy Kloth
- Thomas Kluyver
-
 Amos Latteier
- Mathieu Leduc-Hamel
- Pierre Paul Lefebvre
- Tshepang Lekhonkhobe

- Alain Leufroy
- Janusz Lewandowski
- Martin von Lwis
- Hugo Lopes Tavares
- Guillermo Lpez-Anglada
- Justin Love
- Simon Mathieu
- Carl Meyer
- Alexis Mtaireau
- Julien Miotte
- Zubin Mithra
- Derek McTavish Mounce
- Paul Moore
- Michael Mulich
- Louis Munro
- Gal Pasgrimaud
- George Peristerakis
- Mathieu Perreault
- Guillaume Pratte
- Sean Reifschneider
- Antoine Reversat
- Arc Riley
- C. Anthony Risinger
- Elson Rodriguez
- Luis Rojas
- Erik Rose
- Brian Rosner
- Vinay Sajip
- Victor Stinner
- Alexandre Vassalotti
- Nadeem Vawda

Copyright (C) 2013 by Test User.

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Vinay Sajip
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.

VINAY SAJIP DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
VINAY SAJIP BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN
AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR
IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

BSD-licensed.

# 1.359 slf4j 1.7.36

## 1.359.1 Available under license :

Copyright (c) 2004-2007 QOS.ch
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2004-2022 QOS.ch Sarl
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF

CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes

of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute

copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify

the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following

boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright 1999-2005 The Apache Software Foundation

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Copyright (c) 2004-2013 QOS.ch
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright (c) 2004-2022 QOS.ch
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining

a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable

(except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,

and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Copyright (c) 2004-2022 QOS.ch Sarl (Switzerland)
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
This product includes software developed by
The Apache Software Foundation (http://www.apache.org/).

# 1.360 systemd 237-3ubuntu10.56

## 1.360.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third

parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium

customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to

these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions

of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.361 libnss-systemd 237-3ubuntu10.56

## 1.361.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.  Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies
of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole
or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered
independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or
executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as

distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

# 1.362 libpam-systemd 237-3ubuntu10.56

## 1.362.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any

patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole

or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered
independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based
on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete

machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each

time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates

the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your

school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

# 1.363 gmp 6.1.2+dfsg-2ubuntu0.1

## 1.363.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid

anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the

Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of

this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent

access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other

circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the

GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for

software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those

products. If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions
of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and
"recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is

not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The
"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of

technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution

medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the

Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of

rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this

License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of
the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the
Program specifies that a certain numbered version of the GNU General
Public License "or any later version" applies to it, you
have the
option of following the terms and conditions either of that numbered
version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of the
GNU General Public License, you may choose any version ever published
by the Free Software Foundation.

If the Program specifies that a proxy can decide which future
versions of the GNU General Public License can be used, that proxy's
public statement of acceptance of a version permanently authorizes you
to choose that version for the Program.

Later license versions may give you additional or different
permissions. However, no additional obligations are imposed on any
author or copyright holder as a result of your choosing to follow a
later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY
APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT
HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS"
WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM
IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF
ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS

THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.

GNU LESSER GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated

material is not limited to numerical parameters, data
structure
layouts and accessors, or small macros, inline functions and templates
(ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the
Library is used in it and that the Library and its use are
covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license
document.

4. Combined Works.

You may convey a Combined Work under terms of your choice that,
taken together, effectively do not restrict modification of the
portions of the Library contained in the Combined Work and reverse
engineering for debugging such modifications, if you also do each of
the following:

a) Give prominent notice with each copy of the Combined Work that
the Library is used in it and that the Library and its use are
covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license
document.

c) For a Combined Work that displays copyright
notices during
execution, include the copyright notice for the Library among
these notices, as well as a reference directing the user to the
copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this
License, and the Corresponding Application Code in a form
suitable for, and under terms that permit, the user to
recombine or relink the Application with a modified version of
the Linked Version to produce a modified Combined Work, in the
manner specified by section 6 of the GNU GPL for conveying
Corresponding Source.

1) Use a suitable shared library mechanism for linking with the
Library. A suitable mechanism is one that (a) uses at run time
a copy of the Library already present on the user's computer
system, and (b) will operate properly with a modified version
of the Library that is interface-compatible

with the Linked
Version.

e) Provide Installation Information, but only if you would otherwise
be required to provide such information under section 6 of the
GNU GPL, and only to the extent that such information is
necessary to install and execute a modified version of the
Combined Work produced by recombining or relinking the
Application with a modified version of the Linked Version. (If
you use option 4d0, the Installation Information must accompany
the Minimal Corresponding Source and Corresponding Application
Code. If you use option 4d1, you must provide the Installation
Information in the manner specified by section 6 of the GNU GPL
for conveying Corresponding Source.)

5. Combined Libraries.

You may place library facilities that are a work based on the
Library side by side in a single library together with other library
facilities that are not Applications and are not covered by this
License, and convey such a combined library under
terms of your
choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based
on the Library, uncombined with any other library facilities,
conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it
is a work based on the Library, and explaining where to find the
accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions
of the GNU Lesser General Public License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the
Library as you received it specifies that a certain numbered version
of the GNU Lesser General Public License "or any later version"
applies to it, you have the option of following
the terms and
conditions either of that published version or of any later version
published by the Free Software Foundation. If the Library as you
received it does not specify a version number of the GNU Lesser
General Public License, you may choose any version of the GNU Lesser

General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps:

(1)
assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains
that there is no warranty for this free software. For both users' and
authors' sake, the GPL requires that modified versions be marked as
changed, so that their problems will not be attributed erroneously to
authors of previous versions.

Some devices are designed to deny users access to install or run
modified versions of the software inside them, although the manufacturer
can do so. This is fundamentally incompatible with the aim of
protecting users' freedom to change the software. The systematic
pattern of such abuse occurs in the area of products for individuals to
use, which is precisely where it is most unacceptable. Therefore, we
have designed this version of the GPL to prohibit the practice for those
products. If such problems arise substantially in other domains, we
stand
ready to extend this provision to those domains in future versions
of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents.
States should not allow patents to restrict development and use of
software on general-purpose computers, but in those that do, we wish to
avoid the special danger that patents applied to a free program could
make it effectively proprietary. To prevent this, the GPL assures that
patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and
modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of
works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this
License. Each licensee is addressed as "you". "Licensees"
and
"recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work
in a fashion requiring copyright permission, other than the making of an

exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to

produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;

section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This
License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts,
regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source
as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from

a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in
ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the
entire Program shall
be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work,

for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions;

the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and

propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a

party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the
option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS"
WITHOUT WARRANTY
OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where

the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<https://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<https://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.364 apache-commons-text 1.4

## 1.364.1 Available under license :

Apache Commons Text
Copyright 2014-2018 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work

(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work

or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.365 perl 5.26.1-6ubuntu0.6

## 1.365.1 Available under license :

No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_time.U,v 3.0 1993/08/18 12:08:45 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: i_time.U,v $
?RCS: Revision 3.0 1993/08/18 12:08:45 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:

```
?X:
?X: This unit finds which "time" include to use. If 'timezone' is used by the
?X: program, we also try to find which header should be included. Eventually,
?X: we look for <sys/select.h> if I_SYSSELECT is used, to get struct timeval.
?X:
?MAKE:i_time i_systime i_systimek timeincl d_tm_tm_zone d_tm_tm_gmtoff: \
 Compile cat \
 contains rm_try echo n
 c +i_sysselct Findhdr Hasfield i_stdlib
?MAKE: -pick add $@ %<
?S:i_time:
?S: This variable conditionally defines I_TIME, which indicates
?S: to the C program that it should include <time.h>.
?S:.
?S:i_systime:
?S: This variable conditionally defines I_SYS_TIME, which indicates
?S: to the C program that it should include <sys/time.h>.
?S:.
?S:i_systimek:
?S: This variable conditionally defines I_SYS_TIME_KERNEL, which
?S: indicates to the C program that it should include <sys/time.h>
?S: with KERNEL defined.
?S:.
?S:timeincl:
?S: This variable holds the full path of the included time header(s).
?S:.
?S:d_tm_tm_zone:
?S: This variable conditionally defines HAS_TM_TM_ZONE, which indicates
?S: indicates to the C program that the struct tm has the tm_zone field.
?S:.
?S:d_tm_tm_gmtoff:
?S: This variable conditionally defines HAS_TM_TM_GMTOFF, which indicates
?S: indicates to the C program that the struct tm has the tm_gmtoff field.
?S:.
?C:I_TIME (USE_TIME_H):
?C: This symbol, if defined,
 indicates to the C program that it should
?C: include <time.h>.
?C:.
?C:I_SYS_TIME (I_SYSTIME USE_SYS_TIME_H NO_TIME_WITH_SYS_TIME):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/time.h>.
?C:.
?C:I_SYS_TIME_KERNEL (I_SYSTIMEKERNEL):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/time.h> with KERNEL defined.
?C:.
?C:HAS_TM_TM_ZONE:
```

```
?C: This symbol, if defined, indicates to the C program that
?C: the struct tm has a tm_zone field.
?C:.
?C:HAS_TM_TM_GMTOFF:
?C: This symbol, if defined, indicates to the C program that
?C: the struct tm has a tm_gmtoff field.
?C:.
?H:#$i_time I_TIME  /**/
?H:#$i_systime I_SYS_TIME  /**/
?H:#$i_systimek I_SYS_TIME_KERNEL  /**/
?H:#$d_tm_tm_zone HAS_TM_TM_ZONE  /**/
?H:#$d_tm_tm_gmtoff HAS_TM_TM_GMTOFF  /**/
?H:.
?W::timezone
?T:xselect flags sysselect s_timeval s_timezone
?LINT:change i_sysselct
?LINT:set d_tm_tm_zone
?LINT:set d_tm_tm_gmtoff
: see if we should include time.h,
 sys/time.h, or both
echo " "
if test "X$timeincl" = X; then
 echo "Testing to see if we should include <time.h>, <sys/time.h> or both." >&4
 $echo $n "I'm now running the test program...$c"
 $cat >try.c <<EOCP
#include <sys/types.h>
#ifdef I_TIME
#include <time.h>
#endif
#ifdef I_SYSTIME
#ifdef SYSTIMEKERNEL
#define KERNEL
#endif
#include <sys/time.h>
#endif
#ifdef I_SYSSELECT
#include <sys/select.h>
#endif
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
int main()
{
 struct tm foo;
#ifdef S_TIMEVAL
 struct timeval bar;
#endif
```

```
#ifdef S_TIMEZONE
 struct timezone tzp;
#endif
 if (foo.tm_sec == foo.tm_sec)
  exit(0);
#ifdef S_TIMEVAL
 if (bar.tv_sec == bar.tv_sec)
  exit(0);
#endif
 exit(1);
}
EOCP
 flags="
@if I_SYSSELECT
 if $contains 'timeval.*{' `./findhdr sys/select.h` >/dev/null 2>&1; then
  xselect='-DI_SYSSELECT'
 else
  xselect="
 fi
@end
@if timezone
 for s_timezone in '-DS_TIMEZONE' ''; do
@else
 s_timezone="
@end
?X: Every package is given a try with 'struct
 timeval'
@if I_SYSSELECT
 for sysselect in $xselect ''; do
@else
 sysselect="
@end
 for s_timeval in '-DS_TIMEVAL' ''; do
 for i_systimek in '' '-DSYSTIMEKERNEL'; do
 for i_time in '' '-DI_TIME'; do
 for i_systime in '-DI_SYSTIME' ''; do
  case "$flags" in
  ") $echo $n ".$c"
   set try $i_time $i_systime $i_systimek $sysselect $s_timeval $s_timezone
   if eval $compile; then
    set X $i_time $i_systime $i_systimek $sysselect $s_timeval
    shift
    flags="$*"
    echo " "
    $echo $n "Succeeded with $flags$c"
   fi
   ;;
  esac
```

```
 done
 done
 done
 done
@if I_SYSSELECT
 done
@end
@if timezone
 done
@end
 timeincl="
 echo " "
 case "$flags" in
 *SYSTIMEKERNEL*) i_systimek="$define"
  timeincl=`./findhdr sys/time.h`
  echo "We'll include <sys/time.h> with KERNEL defined." >&4;;
 *) i_systimek="$undef";;
 esac
 case "$flags" in
 *I_TIME*) i_time="$define"
  timeincl=`./findhdr time.h`" $timeincl"
  echo "We'll include <time.h>." >&4;;
 *) i_time="$undef";;
 esac
 case "$flags" in
 *I_SYSTIME*)
 i_systime="$define"
  timeincl=`./findhdr sys/time.h`" $timeincl"
  echo "We'll include <sys/time.h>." >&4;;
 *) i_systime="$undef";;
 esac
@if I_SYSSELECT
 case "$flags" in
 *I_SYSSELECT*) i_sysselct="$define"
  timeincl=`./findhdr sys/select.h`" $timeincl"
  echo "We'll also include <sys/select.h> to get struct timeval." >&4;;
 *) case "$i_sysselct" in
  ") i_sysselct="$undef";;
  esac
 esac
@end
 $rm_try
fi
: see if struct tm knows about tm_zone
case "$i_systime$i_time" in
*$define*)
      echo " "
      echo "Checking to see if your struct tm has tm_zone field..." >&4
```

```
	set d_tm_tm_zone tm tm_zone $i_systime sys/time.h $i_time time.h
	eval $hasfield
	;;
*)	val="$undef"
	set d_tm_tm_zone
	eval $setvar
	;;
esac
case "$d_tm_tm_zone" in
"$define")	echo "Yes, it does."	;;
*)		echo "No, it doesn't." ;;
esac
: see if struct tm knows about tm_gmtoff
case "$i_systime$i_time" in
*$define*)
	echo " "

    echo "Checking to see if your struct tm has tm_gmtoff field..." >&4
	set d_tm_tm_gmtoff tm tm_gmtoff $i_systime sys/time.h $i_time time.h
	eval $hasfield
	;;
*)	val="$undef"
	set d_tm_tm_gmtoff
	eval $setvar
	;;
esac
case "$d_tm_tm_gmtoff" in
"$define")	echo "Yes, it does."	;;
*)		echo "No, it doesn't." ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/i_time.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setpgrp.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:44:16  ram
?RCS: patch61: obsoleted USE_BSDGRP in favor of USE_BSD_SETPGRP
```

```
?RCS: patch61: another unit now also defines a USE_BSD_GETPGRP
?RCS: patch61: fallback for test program failure improved
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  13:59:30  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:15:37  ram
?RCS: patch36: added 'ldflags' to the test compile line (ADO)
?RCS:
 patch36: call ./usg explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setpgrp d_bsdsetpgrp: cat rm +cc +libs +ccflags \
 +ldflags Inlibc Guess Setvar i_unistd
?MAKE: -pick add $@ %<
?S:d_setpgrp:
?S: This variable conditionally defines HAS_SETPGRP if setpgrp() is
?S: available to set the current process group.
?S:.
?S:d_bsdsetpgrp (d_bsdpgrp):
?S: This variable conditionally defines USE_BSD_SETPGRP if
?S: setpgrp needs two arguments whereas USG one needs none.
?S: See also d_setpgid for a POSIX interface.
?S:.
?C:HAS_SETPGRP (SETPGRP):
?C: This symbol, if defined, indicates that the setpgrp routine is
?C: available to set the current process group.
?C:.
?C:USE_BSD_SETPGRP (USE_BSDPGRP BSDPGRP):
?C: This symbol, if defined, indicates that setpgrp needs two
?C: arguments whereas USG one needs none.  See also HAS_SETPGID
?C: for a POSIX interface.
?C:.
?H:#$d_setpgrp HAS_SETPGRP  /**/
?H:#$d_bsdsetpgrp
 USE_BSD_SETPGRP /**/
?H:.
?F:!set.c !set
?T:xxx
?LINT:set d_setpgrp d_bsdsetpgrp
: see if setpgrp exists
set setpgrp d_setpgrp
eval $inlibc

@if USE_BSD_SETPGRP || d_bsdsetpgrp
case "$d_setpgrp" in
```

```
"$define")
 echo " "
 echo "Checking to see which flavor of setpgrp is in use..."
 $cat >set.c <<EOP
#$i_unistd I_UNISTD
#include <sys/types.h>
#ifdef I_UNISTD
#  include <unistd.h>
#endif
int main()
{
 if (getuid() == 0) {
  printf("(I see you are running Configure as super-user...)\n");
  setuid(1);
 }
#ifdef TRY_BSD_PGRP
 if (-1 == setpgrp(1, 1))
  exit(0);
#else
 if (setpgrp() != -1)
  exit(0);
#endif
 exit(1);
}
EOP
 if $cc -DTRY_BSD_PGRP $ccflags $ldflags -o set set.c $libs >/dev/null 2>&1 && ./set; then
  echo 'You have to use setpgrp(pid,pgrp) instead of setpgrp().' >&4
  val="$define"
 elif $cc $ccflags $ldflags -o set set.c $libs >/dev/null 2>&1 && ./set; then
  echo 'You have to use setpgrp() instead of setpgrp(pid,pgrp).' >&4
  val="$undef"
 else
  echo "(I can't
 seem to compile and run the test program.)"
  if ./usg; then
   xxx="a USG one, i.e. you use setpgrp()."
  else
   # SVR4 systems can appear rather BSD-ish.
   case "$i_unistd" in
   $undef)
    xxx="a BSD one, i.e. you use setpgrp(pid,pgrp)."
    val="$define"
    ;;
   $define)
    xxx="probably a USG one, i.e. you use setpgrp()."
    val="$undef"
    ;;
   esac
```

```
 fi
 echo "Assuming your setpgrp is $xxx" >&4
fi
;;
*) val="$undef";;
esac
set d_bsdsetpgrp
eval $setvar
$rm -f set set.c
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setpgrp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extras.U,v$
?RCS:
?RCS: Copyright (c) 2001, Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:extras: Myread Oldconfig Setvar rm
?MAKE: -pick add $@ %<
?Y:TOP
?S:extras:
?S: This variable holds a list of extra modules to install.
?S:.
: See if we want extra modules installed
echo " "
case "$extras" in
'') dflt='n';;
*) dflt='y';;
esac
cat <<EOM
Perl can be built with extra modules or bundles of modules which
will be fetched from the CPAN and installed alongside Perl.

Notice that you will need access to the CPAN; either via the Internet,
or a local copy, for example a CD-ROM or a local CPAN mirror.  (You will
be asked later to configure the CPAN.pm module which will in turn do
the installation of the rest of the extra modules or bundles.)

Notice also that if the modules require
 any external software such as
libraries and headers (the libz library and the zlib.h header for the
Compress::Zlib module, for example) you MUST have any such software
already installed, this configuration process will NOT install such
```

```
things for you.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Install any extra modules (y or n)?'
. ./myread
case "$ans" in
y|Y)
 cat <<EOM

Please list any extra modules or bundles to be installed from CPAN,
with spaces between the names.  The names can be in any format the
'install' command of CPAN.pm will understand.  (Answer 'none',
without the quotes, to install no extra modules or bundles.)
EOM
 rp='Extras?'
 dflt="$extras"
 . ./myread
 extras="$ans"
esac
case "$extras" in
''|'none')
 val=''
 $rm -f ../extras.lst
 ;;
*) echo "(Saving the list of extras for later...)"
 echo "$extras" > ../extras.lst
 val="'$extras'"
 ;;
esac
set extras
eval $setvar
echo " "

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/Extras.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorhtml3dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
```

```
?RCS: $Log: vendorhtml3dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml3dir vendorhtml3direxp installvendorhtml3dir: html3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml3dir:
?S: This variable contains the name of the directory for html
?S: library pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing
 in this directory.
?S: Vendors who distribute perl may wish to place their own
?S: html pages for modules and extensions in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml3direxp:
?S: This variable is the ~name expanded version of vendorhtml3dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorhtml3dir="
?S:installvendorhtml3dir:
?S: This variable is really the same as vendorhtml3direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml3dir
: Set the vendorhtml3dir variables
case "$vendorprefix" in
") vendorhtml3dir="
 vendorhtml3direxp="
 ;;
*) : determine where vendor-supplied module html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default
 suggestions would be welcome.
 case "$vendorhtml3dir" in
 ") dflt=`echo "$html3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml3dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=dn+~
```

```
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml3dir="$ans"
 vendorhtml3direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml3dir" = "X" && vendorhtml3dir=' '
prefixvar=vendorhtml3dir
. ./installprefix
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorhtml3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: n.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: n.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:n c: contains
?MAKE: -pick add $@ %<
?S:n:
?S: This variable contains the -n flag if that is what causes the echo
?S: command to suppress newline.  Otherwise it is null.  Correct usage is
?S:     $echo $n "prompt for a question: $c".
?S:.
?S:c:
?S: This variable contains the \c string if that is what causes the echo
?S: command to suppress newline.
  Otherwise it is null.  Correct usage is
?S:     $echo $n "prompt for a question: $c".
?S:.
: first determine how to suppress newline on echo command
echo " "
echo "Checking echo to see how to suppress newlines..."
(echo "hi there\c" ; echo " ") >.echotmp
if $contains c .echotmp >/dev/null 2>&1 ; then
 echo "...using -n."
```

```
 n='-n'
 c=''
else
 cat <<'EOM'
...using \c
EOM
 n=''
 c='\c'
fi
echo $n "The star should be here-->$c"
echo '*'
rm -f .echotmp
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/n.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorhtml1dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml1dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml1dir vendorhtml1direxp installvendorhtml1dir: html1dir Getfile \
 Setprefixvar Oldconfig Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml1dir:
?S: This variable contains the name of the directory for html
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this
 directory.
?S: Vendors who distribute perl may wish to place their own
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml1direxp:
?S: This variable is the ~name expanded version of vendorhtml1dir, so that you
?S: may use it directly in Makefiles or shell scripts.
```

```
?S:.
?D:installvendorhtml1dir="
?S:installvendorhtml1dir:
?S: This variable is really the same as vendorhtml1direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml1dir
: Set the vendorhtml1dir variables
case "$vendorprefix" in
") vendorhtml1dir="
 vendorhtml1direxp="
 ;;
*) : determine where vendor-supplied html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default suggestions would be welcome.
 case "$vendorhtml1dir"
 in
 ") dflt=`echo "$html1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml1dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=dn+~
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml1dir="$ans"
 vendorhtml1direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml1dir" = "X" && vendorhtml1dir=' '
prefixvar=vendorhtml1dir
. ./installprefix
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorhtml1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_lseekproto: Hasproto i_systypes i_unistd
?MAKE: -pick add $@ %<
?S:d_lseekproto:
?S: This variable conditionally defines the HAS_LSEEK_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the lseek() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_LSEEK_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the lseek() function.  Otherwise, it is up
?C: to the program to supply one.  A good guess is
?C:  extern
 off_t lseek(int, off_t, int);
?C:.
?H:#$d_lseekproto HAS_LSEEK_PROTO /**/
?H:.
?LINT:set d_lseekproto
: see if prototype for lseek is available
echo " "
set d_lseekproto lseek $i_systypes sys/types.h $i_unistd unistd.h
eval $hasproto

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/d_lseekproto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_mqueue.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_mqueue: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_mqueue:
?S: This variable conditionally defines the I_MQUEUE symbol, and indicates
?S: whether a C program should include <mqueue.h>.
?S:.
?C:I_MQUEUE:
?C: This symbol, if defined, indicates that <mqueue.h> exists and
?C: should be included.
?C:.
```

?H:#$i_mqueue I_MQUEUE  /**/
?H:.
?LINT:set i_mqueue
: see if this is a mqueue.h system
set mqueue.h i_mqueue
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_mqueue.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: usrinc.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:27:12  ram
?RCS: patch61: don't ask for the include path unless they are on a MIPS
?RCS:
?RCS: Revision 3.0.1.2  1995/05/12  12:24:36  ram
?RCS: patch54: ensure that ./mips always exists (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:18:31  ram
?RCS: patch23: ensure usrinc value is preserved across sessions (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usrinc incpath mips_type:
 test cat echo n c Getfile Guess \
 Oldconfig eunicefix contains rm
?MAKE: -pick add $@ %<
?S:usrinc:
?S: This variable holds the path of the include files, which is
?S: usually /usr/include. It is mainly used by other Configure units.
?S:.
?S:incpath:
?S: This variable must preceed the normal include path to get hte
?S: right one, as in "$incpath/usr/include" or "$incpath/usr/lib".
?S: Value can be "" or "/bsd43" on mips.
?S:.
?S:mips_type:

```
?S: This variable holds the environment type for the mips system.
?S: Possible values are "BSD 4.3" and "System V".
?S:.
?D:usrinc='/usr/include'
?LINT:create mips
?T:xxx_prompt
?F:./mips
: What should the include directory be ?
echo " "
$echo $n "Hmm...  $c"
dflt='/usr/include'
incpath=''
?X: mips_type is used later, to add -DSYSTYPE_BSD43 to cppflags if needed.
mips_type=''
?X:
?X: Cannot put the following in Guess, or we get a circular dependency.
?X:
if $test -f /bin/mips && /bin/mips; then
 echo "Looks like a MIPS system..."
 $cat >usr.c
 <<'EOCP'
#ifdef SYSTYPE_BSD43
/bsd43
#endif
EOCP
 if cc -E usr.c > usr.out && $contains / usr.out >/dev/null 2>&1; then
  dflt='/bsd43/usr/include'
  incpath='/bsd43'
  mips_type='BSD 4.3'
 else
  mips_type='System V'
 fi
 $rm -f usr.c usr.out
 echo "and you're compiling with the $mips_type compiler and libraries."
 xxx_prompt=y
 echo "exit 0" >mips
else
 echo "Doesn't look like a MIPS system."
 xxx_prompt=n
 echo "exit 1" >mips
fi
chmod +x mips
$eunicefix mips
case "$usrinc" in
'') ;;
*) dflt="$usrinc";;
esac
case "$xxx_prompt" in
```

```
y) fn=d/
 echo " "
 rp='Where are the include files you want to use?'
 . ./getfile
 usrinc="$ans"
 ;;
*) usrinc="$dflt"
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/usrinc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_tmpnam_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_tmpnam_r tmpnam_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads extern_C
?MAKE: -pick add $@ %<
?S:d_tmpnam_r:
?S: This variable conditionally defines the HAS_TMPNAM_R symbol,
?S: which indicates to the C program that the tmpnam_r()
?S: routine is available.
?S:.
?S:tmpnam_r_proto:
?S: This variable encodes the prototype of tmpnam_r.
?S: It is zero if d_tmpnam_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_tmpnam_r
?S: is defined.
?S:.
?C:HAS_TMPNAM_R:
?C: This symbol, if defined, indicates that the tmpnam_r routine
?C: is available to tmpnam re-entrantly.
?C:.
?C:TMPNAM_R_PROTO:
?C: This
 symbol encodes the prototype of tmpnam_r.
?C: It is zero if d_tmpnam_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_tmpnam_r
?C: is defined.
?C:.
?H:#$d_tmpnam_r HAS_TMPNAM_R    /**/
```

```
?H:#define TMPNAM_R_PROTO $tmpnam_r_proto    /**/
?H:.
?T:try hdrs d_tmpnam_r_proto
: see if tmpnam_r exists
set tmpnam_r d_tmpnam_r
eval $inlibc
case "$d_tmpnam_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h "
 case "$d_tmpnam_r_proto:$usethreads" in
 ":define") d_tmpnam_r_proto=define
  set d_tmpnam_r_proto tmpnam_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_tmpnam_r_proto" in
 define)
 case "$tmpnam_r_proto" in
 "|0) try='char* tmpnam_r(char*);'
 ./protochk "$extern_C $try" $hdrs && tmpnam_r_proto=B_B ;;
 esac
 case "$tmpnam_r_proto" in
 "|0) d_tmpnam_r=undef
        tmpnam_r_proto=0
  echo "Disabling tmpnam_r, cannot determine prototype." >&4 ;;
 * ) case "$tmpnam_r_proto" in
  REENTRANT_PROTO*) ;;
  *) tmpnam_r_proto="REENTRANT_PROTO_$tmpnam_r_proto"
 ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "tmpnam_r has no prototype, not using it." >&4 ;;
  esac
  d_tmpnam_r=undef
  tmpnam_r_proto=0
  ;;
 esac
 ;;
*) tmpnam_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_tmpnam_r.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: oldarchlib.U,v $
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_oldarchlib oldarchlib oldarchlibexp : archname privlib \
 archlib sitearch Getfile test Setvar Prefixit
?MAKE: -pick add $@ %<
?Y:TOP
?S:d_oldarchlib:
?S: This variable conditionally defines OLDARCHLIB to hold the pathname
?S: of architecture-dependent library files for a previous
?S: version of $package.
?S:.
?S:oldarchlib:
?S: This variable holds the name of the directory in which perl5.000
?S: and perl5.001 stored
?S: architecture-dependent public library files.
?S:.
?S:oldarchlibexp:
?S: This variable is the same as the oldarchlib variable, but is
?S: filename expanded at configuration time, for convenient use.
?S:.
?C:OLDARCHLIB:
?C: This variable, if defined, holds the
 name of the directory in
?C: which the user has perl5.000 or perl5.001 architecture-dependent
?C: public library files for $package.  For the most part, these
?C: files will work with 5.002 (and later), but that is not
?C: guaranteed.
?C:.
?C:OLDARCHLIB_EXP:
?C: This symbol contains the ~name expanded version of OLDARCHLIB, to be
?C: used in programs that are not prepared to deal with ~ expansion at
?C: run-time.
?C:.
?H:#$d_oldarchlib OLDARCHLIB "$oldarchlib"  /**/
?H:#$d_oldarchlib OLDARCHLIB_EXP "$oldarchlibexp"  /**/
?H:.
?LINT:set d_oldarchlib
: determine where old public architecture dependent libraries might be
case "$oldarchlib" in
") case "$privlib" in
 ") ;;
```

```
 *) dflt="$privlib/$archname"
  ;;
 esac
 ;;
*) dflt="$oldarchlib"
 ;;
esac
if $test ! -d "$dflt/auto"; then
 dflt=none
fi
cat <<EOM

In 5.001, Perl stored architecture-dependent library files in a directory
with a name such as $privlib/$archname,
and this directory contained files from the standard extensions and
files
 from any additional extensions you might have added.  Starting
with version 5.002, all the architecture-dependent standard extensions
will go into a version-specific directory such as
$archlib,
while locally-added extensions will go into
$sitearch.

If you wish Perl to continue to search the old architecture-dependent
library for your local extensions, give the path to that directory.
If you do not wish to use your old architecture-dependent library
files, answer 'none'.

EOM
fn=dn~
rp='Directory for your old 5.001 architecture-dependent libraries?'
. ./getfile
oldarchlib="$ans"
oldarchlibexp="$ansexp"
case "$oldarchlib" in
"|' ') val="$undef" ;;
*) val="$define" ;;
esac
set d_oldarchlib
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/oldarchlib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_waitpid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_waitpid.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_waitpid: Inlibc
?MAKE: -pick add $@ %<
?S:d_waitpid:
?S: This variable conditionally defines HAS_WAITPID if waitpid() is
?S: available to wait for child process.
?S:.
?C:HAS_WAITPID (WAITPID):
?C: This symbol, if defined, indicates that the waitpid routine is
?C: available to wait for child process.
?C:.
?H:#$d_waitpid HAS_WAITPID /**/
?H:.
?LINT:set
 d_waitpid
: see if waitpid exists
set waitpid d_waitpid
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_waitpid.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_ftello: Inlibc longsize
?MAKE: -pick add $@ %<
?S:d_ftello:
?S: This variable conditionally defines the HAS_FTELLO symbol, which
?S: indicates to the C program that the ftello() routine is available.
?S:.
?C:HAS_FTELLO:
?C: This symbol, if defined, indicates that the ftello routine is
```

```
?C: available to ftell beyond 32 bits (useful for ILP32 hosts).
?C:.
?H:#$d_ftello HAS_FTELLO  /**/
?H:.
?LINT:set d_ftello
: see if ftello exists
set ftello d_ftello
eval $inlibc
case "$longsize" in
8) echo "(Your long is 64 bits, so you could use ftell.)" ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_ftello.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Prefixit.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Prefixit.U,v $
?RCS: Revision 3.0.1.1  1995/01/30  14:29:22  ram
?RCS: patch49: created
?RCS:
?X:
?X: Used as: "set dflt var dir; eval $prefixit" to set $dflt to be
?X: $prefix/dir by default, or the previous $var depending on certain
?X: conditions:
?X: - If the $oldprefix variable is empty, then $prefix holds the same
?X:   value as on previous runs. Therefore, reuse $var if set, otherwise
?X:   set $dflt to $prefix/dir.
?X: - If $oldprefix is not
 empty, then set $dflt to $prefix/dir if $var
?X:   is empty (first run). Otherwise, if $var is $oldprefix/dir, then
?X:   change it to $prefix/dir. If none of the above, reuse the old $var.
?X:
?X: When dir is omitted, the dflt variable is set to $var if prefix did not
?X: change, to an empty value otherwise. If dir=none, then a single space
?X: in var is kept as-is, even if the prefix changes.
?X:
?MAKE:Prefixit: prefix oldprefix
?MAKE: -pick add $@ %<
```

```
?LINT:define prefixit
?S:prefixit:
?S: This shell variable is used internally by Configure to reset
?S: the leading installation prefix correctly when it is changed.
?S:  set dflt var [dir]
?S:  eval $prefixit
?S: That will set $dflt to $var or $prefix/dir depending on the
?S: value of $var and $oldprefix.
?S:.
?V:prefixit
?T:tp
: set the prefixit variable, to compute a suitable default value
prefixit='case "$3" in
""|none)
 case "$oldprefix" in
 "") eval "$1=\"\$$2\"";;
 *)
  case "$3" in
  "") eval "$1=";;
  none)
   eval "tp=\"\$$2\"";
   case
 "$tp" in
   ""|" ") eval "$1=\"\$$2\"";;
   *) eval "$1=";;
   esac;;
  esac;;
 esac;;
*)
 eval "tp=\"$oldprefix-\$$2-\""; eval "tp=\"$tp\"";
 case "$tp" in
 --|/*--|\~*--) eval "$1=\"$prefix/$3\"";;
 /*-$oldprefix/*|\~*-$oldprefix/*)
  eval "$1=\`echo \$$2 | sed \"s,^$oldprefix,$prefix,\"\`";;
 *) eval "$1=\"\$$2\"";;
 esac;;
esac'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Prefixit.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2008 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?MAKE:d_timegm: Inlibc
?MAKE: -pick add $@ %<
?S:d_timegm:
?S: This variable conditionally defines the HAS_TIMEGM symbol, which
?S: indicates to the C program that the timegm () routine is available.
?S:.
?C:HAS_TIMEGM:
?C: This symbol, if defined, indicates that the timegm routine is
?C: available to do the opposite of gmtime ()
?C:.
?H:#$d_timegm HAS_TIMEGM  /**/
?H:.
?LINT:set d_timegm
: see if timegm exists
set timegm d_timegm
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_timegm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_wcstombs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_wcstombs.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_wcstombs: Inlibc
?MAKE: -pick add $@ %<
?S:d_wcstombs:
?S: This variable conditionally defines the HAS_WCSTOMBS symbol, which
?S: indicates to the C program that the wcstombs() routine is available
?S: to convert wide character strings to multibyte strings.
?S:.
?C:HAS_WCSTOMBS:
?C: This symbol, if defined, indicates that the wcstombs
 routine is
?C: available to convert wide character strings to multibyte strings.
?C:.
```

```
?H:#$d_wcstombs HAS_WCSTOMBS /**/
?H:.
?LINT:set d_wcstombs
: see if wcstombs exists
set wcstombs d_wcstombs
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_wcstombs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_xdrs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_xdrs.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_xdrs: cat Csym Setvar
?MAKE: -pick add $@ %<
?S:d_xdrs:
?S: This symbol conditionally defines HAS_XDRS which indicates to the C
?S: program that XDR serialization routines are available.
?S:.
?C:HAS_XDRS (XDRS):
?C: This symbol if defined indicates to the C program that the XDR
?C: serialization routines are available to transfer data
 accross
?C: various architectures.
?C:.
?H:#$d_xdrs HAS_XDRS /**/
?H:.
?LINT:set d_xdrs
: see if XDR is available
echo " "
if set xdr_int val -f d_xdrs; eval $csym; $val; then
 echo "Ahh! You have XDR routines for network communications." >&4
 val="$define"
else
 $cat >&4 <<EOM
Sigh! You do not have XDR routines -- Network communications may be hazardous.
```

```
EOM
 val="$undef"
fi
set d_xdrs
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_xdrs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_times.U,v 3.0.1.2 1995/07/25 14:07:50 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_times.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  14:07:50  ram
?RCS: patch56: typo fix, sytem -> system
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:14:00  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: What is the type returned by times() ?
?X:
?X: Force inclusion of <sys/types.h>
?X:INC: i_systypes
?MAKE:d_times clocktype:
 Csym Myread Typedef i_systimes
?MAKE: -pick add $@ %<
?S:d_times:
?S: This variable conditionally defines the HAS_TIMES symbol, which indicates
?S: that the times() routine exists.  The times() routine is normally
?S: provided on UNIX systems. You may have to include <sys/times.h>.
?S:.
?S:clocktype:
?S: This variable holds the type returned by times(). It can be long,
?S: or clock_t on BSD sites (in which case <sys/types.h> should be
?S: included).
?S:.
```

```
?C:HAS_TIMES (TIMES):
?C: This symbol, if defined, indicates that the times() routine exists.
?C: Note that this became obsolete on some systems (SUNOS), which now
?C: use getrusage(). It may be necessary to include <sys/times.h>.
?C:.
?C:Clock_t (CLOCKTYPE):
?C: This symbol holds the type returned by times(). It can be long,
?C: or clock_t on BSD sites (in which case <sys/types.h> should be
?C: included).
?C:.
?H:#$d_times HAS_TIMES  /**/
?H:#define Clock_t $clocktype /* Clock time */
?H:.
?T:val inc
: see if times exists
echo "
 "
if set times val -f d_times; eval $csym; $val; then
 echo 'times() found.' >&4
 d_times="$define"
 inc="
 case "$i_systimes" in
 "$define") inc='sys/times.h';;
 esac
 rp="What is the type returned by times() on this system?"
 set clock_t clocktype long stdio.h sys/types.h $inc
 eval $typedef_ask
else
 echo 'times() NOT found, hope that will do.' >&4
 d_times="$undef"
?X: The following is needed for typedef (won't like an empty variable)
 clocktype='int'
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/d_times.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_dbm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: i_dbm.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:48:20  ram
?RCS: patch61: added I_RPCSVC_DBM check
?RCS:
?RCS: Revision 3.0.1.1  1995/05/12  12:16:05  ram
?RCS: patch54: made more robust by checking both header and lib (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:15  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_dbm i_rpcsvcdbm: Inhdr Inlibc Setvar
?MAKE: -pick add $@ %<
?S:i_dbm (d_odbm):
?S: This variable conditionally defines
 the I_DBM symbol, which
?S: indicates to the C program that <dbm.h> exists and should
?S: be included.
?S:.
?S:i_rpcsvcdbm:
?S: This variable conditionally defines the I_RPCSVC_DBM symbol, which
?S: indicates to the C program that <rpcsvc/dbm.h> exists and should
?S: be included.  Some System V systems might need this instead of <dbm.h>.
?S:.
?C:I_DBM (HAS_ODBM ODBM):
?C: This symbol, if defined, indicates that <dbm.h> exists and should
?C: be included.
?C:.
?C:I_RPCSVC_DBM:
?C: This symbol, if defined, indicates that <rpcsvc/dbm.h> exists and
?C: should be included.
?C:.
?H:#$i_dbm I_DBM /**/
?H:#$i_rpcsvcdbm I_RPCSVC_DBM /**/
?H:.
?T:d_dbmclose
?LINT:set i_dbm i_rpcsvcdbm
: see if dbm.h is available
?X: We might just have the header, not the library.
?X: We look for dbmclose() rather than dbminit() because
?X: some versions of SCO Unix have -ldbm, but are missing dbmclose(). -- ADO
?X: Some System V systems have <rpcsvc/dbm.h> instead of <dbm.h>.
: see if dbmclose exists
set dbmclose
 d_dbmclose
eval $inlibc

case "$d_dbmclose" in
$define)
```

```
 set dbm.h i_dbm
 eval $inhdr
 case "$i_dbm" in
 $define)
  val="$undef"
  set i_rpcsvcdbm
  eval $setvar
  ;;
 *) set rpcsvc/dbm.h i_rpcsvcdbm
  eval $inhdr
  ;;
 esac
 ;;
*) echo "We won't be including <dbm.h>"
 val="$undef"
 set i_dbm
 eval $setvar
 val="$undef"
 set i_rpcsvcdbm
 eval $setvar
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_dbm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_NOFILE.U,v 3.0.1.1 1994/10/29 16:08:38 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_NOFILE.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:08:38  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:nofile d_gettblsz tablesize: Compile Myread Guess cat \
 test rm Csym +cc +ccflags +optimize +ldflags +libs
?MAKE: -pick add $@ %<
?S:nofile:
```

```
?S: This variable contains the number of file descriptors available to the
?S: process.
?S:.
?S:d_gettblsz:
?S: This
 variable conditionally handles remapping of the getdtablesize()
?S: subroutine to ulimit(4,0), or the NOFILE manifest constant.
?S:.
?S:tablesize:
?S: This variable contains either the 'NOFILE' constant or 'ulimit(4, 0L)'
?S: and is used as the remapped value for the getdtablesize() macro.
?S:.
?C:getdtablesize:
?C: This catches use of the getdtablesize() subroutine, and remaps it
?C: to either ulimit(4,0) or NOFILE, if getdtablesize() isn't available.
?C:.
?C:VAL_NOFILE:
?C: This symbol contains the number of file descriptors available to the
?C: process, as determined at configuration time. Unless a static constant
?C: is needed, you should rely on getdtablesize() to obtain that number.
?C:.
?H:#$d_gettblsz getdtablesize() $tablesize /**/
?H:#define VAL_NOFILE $nofile /* Number of file descriptors */
?H:.
?F:!nofile
?T:d_ulimit4 val
: see if getdtablesize exists
echo " "
?X: Revert logical value (d_gettblsz is undef if getdtablesize is present)
case "$d_gettblsz"
 in
$define) d_gettblsz="$undef";;
$undef) d_gettblsz="$define";;
esac
if set getdtablesize val -f d_gettblsz; eval $csym; $val; then
 echo 'getdtablesize() found.' >&4
 d_gettblsz="$undef"
 tablesize="
@if VAL_NOFILE || nofile
 $cat >nofile.c <<'EOCP'
#include <stdio.h>
int main()
{
 printf("%d\n", getdtablesize());
}
EOCP
 nofile="
 set nofile
```

```
 if eval $compile_ok; then
  nofile=`./nofile 2>/dev/null`
 fi
 if $test "$nofile"; then
  echo "(You have $nofile file descriptors available per process.)"
 else
  nofile='20'
  if ./bsd; then
   nofile='64'
  fi
 echo "(Hmm... Let's say you have $nofile file descriptors available.)"
 fi
@end
else
 echo 'getdtablesize() NOT found...' >&4
 if set ulimit val -f; eval $csym; $val; then
  echo 'Maybe ulimit(4,0) will work...'
  $cat >nofile.c <<'EOCP'
#include <stdio.h>
#ifdef GETPARAM_H
#include <sys/param.h>
#endif
int main()
{
 printf("%d %d\n",
#ifdef NOFILE
  NOFILE,
#else
  0,
#endif
  ulimit(4,0));
  exit(0);
}
EOCP
  if $cc $optimize
 $ccflags -DGETPARAM_H $ldflags -o nofile nofile.c $libs >/dev/null 2>&1 \
   || $cc $optimize $ccflags $ldflags -o nofile nofile.c $libs >/dev/null 2>&1 ; then
   set `./nofile`
   d_gettblsz=$1
   d_ulimit4=$2
   if $test "$d_ulimit4" -lt 0; then
    echo "Your ulimit() call doesn't tell me what I want to know."
    echo "We'll just use NOFILE in this case."
    nofile=$d_gettblsz
    d_gettblsz="$define"
    tablesize='NOFILE'
   else
    if $test "$d_gettblsz" -gt 0; then
```

```
    echo "Your system defines NOFILE to be $d_gettblsz, and" >&4
    else
    echo "I had trouble getting NOFILE from your system, but" >&4
    fi
echo "ulimit returns $d_ulimit4 as the number of available file descriptors." >&4
    dflt='y';
    echo " "
 rp='Should I use ulimit to get the number of available file descriptors?'
    . ./myread
    case "$ans" in
    y*)
     nofile=$d_ulimit4
     d_gettblsz="$define"
     tablesize='ulimit(4, 0L)'
     echo "Using ulimit(4,0)."
     ;;
    *)
     nofile=$d_gettblsz
     d_gettblsz="$define"
     tablesize='NOFILE'
     echo
 "Using NOFILE."
     ;;
    esac
   fi
  else
   echo "Strange, I couldn't get my test program to compile."
   echo "We'll just use NOFILE in this case."
   d_gettblsz="$define"
   tablesize='NOFILE'
   nofile="
  fi
 else
  echo 'Using NOFILE instead.'
  d_gettblsz="$define"
  tablesize='NOFILE'
  nofile="
 fi
fi
@if VAL_NOFILE || nofile
case "$nofile" in
")
 $cat >nofile.c <<'EOCP'
#include <stdio.h>
#ifdef GETPARAM_H
#include <sys/param.h>
#endif
int main()
```

```
{
 printf("%d\n",
#ifdef NOFILE
  NOFILE,
#else
  0,
#endif
  );
  exit(0);
}
EOCP
 if $cc $ccflags -DGETPARAM_H nofile.c -o nofile $libs >/dev/null 2>&1 \
  || $cc $ccflags nofile.c -o nofile $libs >/dev/null 2>&1 ; then
  nofile=`./nofile 2>/dev/null`
 fi
 if $test "$nofile"; then
  echo "(You have $nofile file descriptors available per process.)"
 else
  nofile='20'
  if ./bsd; then
   nofile='64'
  fi
 echo "(Hmm... Let's say you have $nofile file descriptors
 available.)"
 fi
 ;;
esac
@end
$rm -f nofile*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_NOFILE.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libyacc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libyacc.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:09:19  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
```

```
?RCS: Revision 3.0.1.3  1994/05/13  15:27:12  ram
?RCS: patch27: added byacc case (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:09:01  ram
?RCS: patch23: now uses full library path instead of -l notation
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:13:49  ram
?RCS: patch16: un-obsoleted this unit for smooth yacc compilations
?RCS:
?RCS:
 Revision 3.0  1993/08/18  12:09:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libyacc: Loc yacc libpth _a
?MAKE: -pick add $@ %<
?S:libyacc:
?S: This variable contains the argument to pass to the loader in order
?S: to get the yacc library routines.  If there is no yacc or yacc
?S: library, it is null.
?S:.
?T:xxx
: see if we should include -ly
echo " "
case "$yacc" in
*byacc*)
 echo "You are using byacc, so I won't look for a yacc library." >&4
 libyacc="
 ;;
*yacc)
 xxx=`./loc liby$_a x $libpth`
 case "$xxx" in
 x)
  echo "No yacc library found." >&4
  libyacc="
  ;;
 *)
  echo "yacc library found in $xxx." >&4
  libyacc="$xxx"
  ;;
 esac
 ;;
*bison*)
 echo "You are using bison, so I won't look for a yacc library." >&4
 libyacc="
 ;;
*)
echo "You don't seem to have yacc, so I won't look for the yacc library." >&4
 libyacc="
```

```
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/libyacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_posix_mq: Setvar d_mq_open d_mq_unlink d_mq_close d_mq_send d_mq_receive d_mq_notify
d_mq_setattr d_mq_getattr i_mqueue
?MAKE: -pick add $@ %<
?S:d_posix_mq:
?S: This variable conditionally defines the HAS_POSIX_MQ symbol, which
?S: indicates that the entire POSIX mq_*(2) library is present.
?S:.
?C:HAS_POSIX_MQ:
?C: This symbol, if defined, indicates that the entire POSIX mq_*(2)
?C: library is supported.
?C:.
?H:#$d_posix_mq HAS_POSIX_MQ  /**/
?H:.
?LINT:set d_posix_mq
: see how much of the 'POSIX mq_*(2)' library
 is present.
echo " "
case
"$i_mqueue$d_mq_open$d_mq_close$d_mq_send$d_mq_receive$d_mq_notify$d_mq_setattr$d_mq_getattr$d_mq
_unlink" in
*"$undef"*) val="$undef" ;;
*) val="$define" ;;
esac
case "$val" in
"$define") echo "You have the full POSIX mq_*(2) library." >&4 ;;
"$undef")  echo "You don't have the full POSIX mq_*(2) library." >&4 ;;
esac
set d_posix_mq
eval $setvar
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_posix_mq.U
No license file was found, but licenses were detected in source scan.

?RCS: Copyright (c) 2012 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_strptime: Inlibc
?MAKE: -pick add $@ %<
?S:d_strptime:
?S: This variable conditionally defines the HAS_STRPTIME symbol, which
?S: indicates to the C program that the strptime() routine is available.
?S:.
?C:HAS_STRPTIME:
?C: This symbol, if defined, indicates that the strptime routine is
?C: available to set process title.
?C:.
?H:#$d_strptime HAS_STRPTIME  /**/
?H:.
?LINT:set d_strptime
: see if strptime exists
set strptime d_strptime
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strptime.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: cpp_stuff.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cpp_stuff.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:08:24  ram
?RCS: patch36: now uses cppstdin instead of plain cpp for consistency (ADO)
?RCS: patch36: remove temporary files when done
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:36  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:cpp_stuff: cat contains cppstdin cppflags cppminus rm

?MAKE: -pick add $@ %<
?S:cpp_stuff:
?S: This variable contains an identification of the concatenation
 mechanism
?S: used by the C preprocessor.
?S:.
?C:CAT2:
?C: This macro concatenates 2 tokens together.
?C:.
?C:CAT3:
?C: This macro concatenates 3 tokens together.
?C:.
?C:CAT4:
?C: This macro concatenates 4 tokens together.
?C:.
?C:CAT5:
?C: This macro concatenates 5 tokens together.
?C:.
?C:STRINGIFY:
?C: This macro surrounds its token with double quotes.
?C:.
?C:SCAT2:
?C: This macro concatenates 2 tokens together and stringifies the result.
?C: It might not exist, so #ifdef it in your code!
?C:.
?C:SCAT3:
?C: This macro concatenates 3 tokens together and stringifies the result.
?C: It might not exist, so #ifdef it in your code!
?C:.
?C:SCAT4:
?C: This macro concatenates 4 tokens together and stringifies the result.
?C: It might not exist, so #ifdef it in your code!
?C:.
?C:SCAT5:
?C: This macro concatenates 5 tokens together and stringifies the result.
?C: It might not exist, so #ifdef it in your code!
?C:.
?X: Dist pl70 included the following, but AIX's xlc compiler
?X: (which
 is ANSI-ish and has cpp_stuff == 42)) rejects
?X: The SQuoTe/EQuoTe stuff because the string literals are on
?X: separate lines.  Sigh.
?X:  Andy Dougherty   24 Feb 1998
?X: ?H:?%<:#if $cpp_stuff == 1
?X: ?H:?CAT2:#define CAT2(a,b)a/**/b
?X: ?H:?CAT3:#define CAT3(a,b,c)a/**/b/**/c
?X: ?H:?CAT4:#define CAT4(a,b,c,d)a/**/b/**/c/**/d
?X: ?H:?CAT5:#define CAT5(a,b,c,d,e)a/**/b/**/c/**/d/**/e

```
?X: ?H:?STRINGIFY:#define STRINGIFY(a)"a"
?X: ?H:?%<:#define SQuoTe(a)"a
?X: ?H:?%<:#define EQuoTe(a)a"
?X: ?H:?SCAT2:#define SCAT2(a,b)EQuoTe(SQuoTe(a)b)
?X: ?H:?SCAT3:#define SCAT3(a,b,c)EQuoTe(SQuoTe(a)b/**/c)
?X: ?H:?SCAT4:#define SCAT4(a,b,c,d)EQuoTe(SQuoTe(a)b/**/c/**/d)
?X: ?H:?SCAT5:#define SCAT5(a,b,c,d,e)EQuoTe(SQuoTe(a)b/**/c/**/d/**/e)
?X: ?H:?%<:#endif
?H:?%<:#if $cpp_stuff == 1
?H:?CAT2:#define CAT2(a,b) a/**/b
?H:?CAT3:#define CAT3(a,b,c) a/**/b/**/c
?H:?CAT4:#define CAT4(a,b,c,d) a/**/b/**/c/**/d
?H:?CAT5:#define CAT5(a,b,c,d,e) a/**/b/**/c/**/d/**/e
?H:?STRINGIFY:#define STRINGIFY(a) "a"
?X: If
 you can get stringification with catify, tell me how!
?H:?%<:#endif
?H:?%<:#if $cpp_stuff == 42
?H:?%<:#define PeRl_CaTiFy(a, b) a ## b
?H:?%<:#define PeRl_StGiFy(a) #a
?X: The additional level of indirection enables these macros to be
?X: used as arguments to other macros.  See K&R 2nd ed., page 231.
?H:?CAT2:#define CAT2(a,b) PeRl_CaTiFy(a,b)
?H:?CAT3:#define CAT3(a,b,c) CAT2(PeRl_CaTiFy(a,b),c)
?H:?CAT4:#define CAT4(a,b,c,d) CAT2(CAT3(a,b,c),d)
?H:?CAT5:#define CAT5(a,b,c,d,e) CAT2(CAT4(a,b,c,d),e)
?H:?%<:#define StGiFy(a) PeRl_StGiFy(a)
?H:?STRINGIFY:#define STRINGIFY(a) PeRl_StGiFy(a)
?H:?SCAT2:#define SCAT2(a,b) PeRl_StGiFy(a) PeRl_StGiFy(b)
?H:?SCAT3:#define SCAT3(a,b,c) PeRl_StGiFy(a) PeRl_StGiFy(b) PeRl_StGiFy(c)
?H:?SCAT4:#define SCAT4(a,b,c,d) PeRl_StGiFy(a) PeRl_StGiFy(b) PeRl_StGiFy(c) PeRl_StGiFy(d)
?H:?SCAT5:#define SCAT5(a,b,c,d,e) PeRl_StGiFy(a) PeRl_StGiFy(b) PeRl_StGiFy(c) PeRl_StGiFy(d)
PeRl_StGiFy(e)
?H:?%<:#endif
?H:?%<:#if $cpp_stuff != 1 && $cpp_stuff
 != 42
?H:?%<:#include "Bletch: How does this C preprocessor concatenate tokens?"
?H:?%<:#endif
?H:.
?W:%<:CAT2 CAT3 CAT4 CAT5 STRINGIFY SCAT2 SCAT3 SCAT4 SCAT5
?F:!cpp_stuff.c
?LINT:known StGiFy
?LINT:known PeRl_CaTiFy
?LINT:known PeRl_StGiFy
: how do we concatenate cpp tokens here?
echo " "
echo "Checking to see how your cpp does stuff like concatenate tokens..." >&4
$cat >cpp_stuff.c <<'EOCP'
```

```
#define RCAT(a,b)a/**/b
#define ACAT(a,b)a ## b
RCAT(Rei,ser)
ACAT(Cir,cus)
EOCP
$cppstdin $cppflags $cppminus <cpp_stuff.c >cpp_stuff.out 2>&1
if $contains 'Circus' cpp_stuff.out >/dev/null 2>&1; then
 echo "Oh!  Smells like ANSI's been here." >&4
 echo "We can catify or stringify, separately or together!"
 cpp_stuff=42
elif $contains 'Reiser' cpp_stuff.out >/dev/null 2>&1; then
 echo "Ah, yes!  The good old days!" >&4
 echo "However, in the good old days we don't know how to stringify and"
 echo "catify at the same time."
 cpp_stuff=1
else
 $cat >&4 <<EOM
Hmm, I don't seem to be able to concatenate
 tokens with your cpp.
You're going to have to edit the values of CAT[2-5] in config.h...
EOM
?X: It would be nice to have configure remind us at the end that some manual
?X: intervention is needed -- FIXME
 cpp_stuff="/* Help! How do we handle cpp_stuff? */*/"
fi
$rm -f cpp_stuff.*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/cpp_stuff.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_ulimit.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_ulimit.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_ulimit: Inlibc
?MAKE: -pick add $@ %<
?S:d_ulimit:
```

?S: This variable conditionally defines HAS_ULIMIT if ulimit() is
?S: available to get the user limits.
?S:.
?C:HAS_ULIMIT (ULIMIT):
?C: This symbol, if defined, indicates that the ulimit system call is
?C: available to get the user limits.
?C:.
?H:#$d_ulimit HAS_ULIMIT  /**/
?H:.
?LINT:set
 d_ulimit
: see if ulimit exists
set ulimit d_ulimit
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_ulimit.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_features.U,v $
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_features: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_features:
?S: This variable conditionally defines the I_FEATURES symbol,
?S: and indicates whether a C program should include <features.h>.
?S:.
?C:I_FEATURES:
?C: This symbol, if defined, indicates that <features.h> exists and
?C: should be included.
?C:.
?H:#$i_features I_FEATURES  /**/
?H:.
?LINT:set i_features
: see if this is a features.h system
set features.h i_features
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_features.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: bin.U,v 3.1 1999/07/09 18:20:13 doughera Exp doughera $

```
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: bin.U,v $
?RCS: Revision 3.1  1999/07/09 18:20:13  doughera
?RCS: Updated for installprefix
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:15:32  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:32:40  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:05:28  ram
?RCS: patch32: now uses installation prefix
?RCS:
?RCS:
 Revision 3.0.1.1  1993/09/13  15:56:51  ram
?RCS: patch10: made prompting more explicit (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:bin binexp installbin userelocatableinc initialinstalllocation: \
 Myread Prefixit Getfile Setvar Setprefixvar Oldconfig \
 test prefix prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?D:bin="
?S:bin:
?S: This variable holds the name of the directory in which the user wants
?S: to put publicly executable images for the package in question.  It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S:.
?D:binexp="
?S:binexp:
?S: This is the same as the bin variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installbin="
?S:installbin:
```

```
?S: This variable is the same as binexp unless AFS is running in which case
?S: the user is explicitly prompted for it. This variable
 should always
?S: be used in your makefiles for maximum portability.
?S:.
?D:userelocatableinc="
?S:userelocatableinc:
?S:  This variable is set to true to indicate that perl should relocate
?S:  @INC entries at runtime based on the path to the perl binary.
?S:  Any @INC paths starting ".../" are relocated relative to the directory
?S:  containing the perl binary, and a logical cleanup of the path is then
?S:  made around the join point (removing "dir/../" pairs)
?S:.
?S:initialinstalllocation:
?S: When userelocatableinc is true, this variable holds the location
?S: that make install should copy the perl binary to, with all the
?S: run-time relocatable paths calculated from this at install time.
?S: When used, it is initialized to the original value of binexp, and
?S: then binexp is set to '.../', as the other binaries are found
?S: relative to the perl binary.
?S:.
?C:BIN:
?C: This symbol holds the path of the bin directory where the package will
?C: be installed. Program must
 be prepared to deal with ~name substitution.
?C:.
?C:BIN_EXP:
?C: This symbol is the filename expanded version of the BIN symbol, for
?C: programs that do not want to deal with that at run-time.
?C:.
?C:PERL_RELOCATABLE_INC:
?C: This symbol, if defined, indicates that we'd like to relocate entries
?C: in @INC at run time based on the location of the perl binary.
?C:.
?H:#define BIN "$bin" /**/
?H:#define BIN_EXP "$binexp" /**/
?H:#define PERL_RELOCATABLE_INC "$userelocatableinc"   /**/
?H:.
?D:bin='/usr/local/bin'
?LINT:change prefix
?LINT:change prefixexp
?LINT:change prefixvar
?LINT:change installprefixexp
?LINT:set userelocatableinc
: determine where public executables go
echo " "
set dflt bin bin
eval $prefixit
```

```
fn=d~
rp='Pathname where the public executables will reside?'
. ./getfile
if $test "X$ansexp" != "X$binexp"; then
 installbin="
fi
prefixvar=bin
: XXX Bug? -- ignores Configure -Dinstallprefix setting.
: XXX If this is fixed, also fix the "start perl" hunk below, which relies
 on
:     this via initialinstalllocation
. ./setprefixvar

case "$userelocatableinc" in
$define|true|[yY]*) dflt='y' ;;
*)   dflt='n' ;;
esac
cat <<EOM

Would you like to build Perl so that the installation is relocatable, so that
library paths in @INC are determined relative to the path of the perl binary?
This is not advised for system Perl installs, or if you need to run setid
scripts or scripts under taint mode.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Use relocatable @INC?'
. ./myread
case "$ans" in
y|Y) val="$define" ;;
*) val="$undef"  ;;
esac
set userelocatableinc
eval $setvar

initialinstalllocation="$binexp"
: Default prefix is now "up one level from where the binaries are"
case "$userelocatableinc" in
$define|true|[yY]*)
   bin=".../"
   binexp=".../"
   prefix=".../.."
   prefixexp=".../.."
   installprefixexp=".../.."
   ;;
esac
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/bin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: nametype.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: nametype.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:26:09  ram
?RCS: patch36: call ./usg and ./bsd explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:36:48  ram
?RCS: patch32: fixed typo: /etc/password -> /etc/passwd (WED)
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:10:09  ram
?RCS: patch10: made questions more explicit for 'Configure -s' prompting (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:20  ram
?RCS: Baseline
 for dist 3.0 netwide release.
?RCS:
?MAKE:nametype d_passnames d_berknames d_usgnames: Myread Guess Oldconfig cat
?MAKE: -pick add $@ %<
?S:nametype:
?S: This variable indicates how full names are stored on this system.
?S: Values are bsd, usg, and other.
?S:.
?S:d_passnames:
?S: This variable conditionally defines the PASSNAMES symbol,
?S: which indicates to the C program that full names are stored in
?S: the /etc/passwd file.
?S:.
?S:d_berknames:
?S: This variable conditionally defines the PASSNAMES symbol,
?S: which indicates to the C program that full names are stored in
?S: the /etc/passwd file in Berkeley format.
?S:.
?S:d_usgnames:
?S: This variable conditionally defines the PASSNAMES symbol,
?S: which indicates to the C program that full names are stored in
?S: the /etc/passwd file in USG format.
?S:.
```

```
?C:PASSNAMES:
?C: This symbol, if defined, indicates that full names are stored in
?C: the /etc/passwd file.
?C:.
?C:BERKNAMES:
?C: This symbol, if defined, indicates that full
 names are stored in
?C: the /etc/passwd file in Berkeley format (name first thing, everything
?C: up to first comma, with & replaced by capitalized login id, yuck).
?C:.
?C:USGNAMES:
?C: This symbol, if defined, indicates that full names are stored in
?C: the /etc/passwd file in USG format (everything after - and before ( is
?C: the name).
?C:.
?H:#$d_passnames PASSNAMES /*  (undef to take name from ~/.fullname) */
?H:#$d_berknames BERKNAMES /* (that is, ":name,stuff:") */
?H:#$d_usgnames USGNAMES  /* (that is, ":stuff-name(stuff):") */
?H:.
: find out how to find out full name
case "$d_berknames" in
"$define")
 dflt=y;;
"$undef")
 dflt=n;;
*)
 if ./bsd; then
  dflt=y
 elif ./xenix; then
  dflt=y
 else
  dflt=n
 fi
 ;;
esac
$cat <<'EOM'

Does your /etc/passwd file keep full names in Berkeley/V7 format (name first
thing after ':' in GCOS field)?  In that case, a typical entry in the password
file looks like this:

   guest:**paswword**:10:100:Mister Guest User:/usr/users:/bin/sh

                        ^^^^^^^^^^^^^^^^^^

EOM
rp="Berkeley/V7 format for full name in /etc/passwd?"
. ./myread
case "$ans" in
```

```
y*) d_passnames="$define"
 d_berknames="$define"
 d_usgnames="$undef"
 nametype=bsd
 ;;
*)
 case "$d_usgnames" in
 "$define") dflt=y;;
 "$undef") dflt=n;;
 *)
  if ./usg; then
   dflt=y
  else
   dflt=n
  fi
  ;;
 esac
$cat <<'EOM'

Does your passwd file keep full names in USG format (name sandwiched between a
'-' and a '(')?  In that case, a typical entry in the password file looks like
this:

   guest:**paswword**:10:100:000-Mister Guest User(000):/usr/users:/bin/sh
                              ^^^^^^^^^^^^^^^^^^
EOM
 rp="USG format for full name in /etc/passwd?"
 . ./myread
 case "$ans" in
 n*) echo "Full name will be taken from ~/.fullname"
  d_passnames="$undef"
  d_berknames="$undef"
  d_usgnames="$undef"
  nametype=other
  ;;
 *)
  d_passnames="$define"
  d_berknames="$undef"
  d_usgnames="$define"
  nametype=usg
  ;;
 esac;;
esac
```

Found in path(s):

*

/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/nametype.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: usenm.U,v 3.0.1.1 1997/02/28 16:26:40 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: usenm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:26:40  ram
?RCS: patch61: don't use nm with the GNU C library
?RCS: patch61: added support for Linux shared libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usenm runnm nm_opt nm_so_opt: cat test Myread Oldconfig myuname grep \
 nm d_gnulibc osname egrep rsrc
?MAKE: -pick add $@ %<
?S:usenm:
?S: This variable contains 'true' or 'false' depending
 whether the
?S: nm extraction is wanted or not.
?S:.
?S:runnm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction should be performed or not, according to the value
?S: of usenm and the flags on the Configure command line.
?S:.
?S:nm_opt:
?S: This variable holds the options that may be necessary for nm.
?S:.
?S:nm_so_opt:
?S: This variable holds the options that may be necessary for nm
?S: to work on a shared library but that can not be used on an
?S: archive library.  Currently, this is only used by Linux, where
?S: nm --dynamic is *required* to get symbols from an ELF library which
?S: has been stripped, but nm --dynamic is *fatal* on an archive library.
?S: Maybe Linux should just always set usenm=false.
?S:.
: see if nm is to be used to determine whether a symbol is defined or not
?X: If there is enough inquiries, it might be worth to wait for the nm
?X: extraction. Otherwise, the C compilations might be a better deal.
?X:
```

```
?X: Don't bother if we're
 using GNU libc -- skimo
?LINT:extern PASE
case "$usenm" in
")
 dflt="
 case "$d_gnulibc" in
 "$define")
  echo " "
  echo "nm probably won't work on the GNU C Library." >&4
  dflt=n
  ;;
 esac
 case "$dflt" in
 ")
  if $test "$osname" = aix -a "X$PASE" != "Xdefine" -a ! -f /lib/syscalls.exp; then
   echo " "
   echo "Whoops!  This is an AIX system without /lib/syscalls.exp!" >&4
   echo "'nm' won't be sufficient on this system." >&4
   dflt=n
  fi
  ;;
 esac
 case "$dflt" in
 ") dflt=`$egrep 'inlibc|csym' $rsrc/Configure | wc -l 2>/dev/null`
  if $test $dflt -gt 20; then
   dflt=y
  else
   dflt=n
  fi
  ;;
 esac
 ;;
*)
 case "$usenm" in
 true|$define) dflt=y;;
 *) dflt=n;;
 esac
 ;;
esac
$cat <<EOM

I can use $nm to extract the symbols from your C libraries. This
is a time consuming task which may generate huge output on the disk (up
to 3 megabytes) but that should make the symbols extraction faster. The
alternative is to skip the 'nm' extraction part and to compile a small
test
```

```
 program instead to determine whether each symbol is present. If
you have a fast C compiler and/or if your 'nm' output cannot be parsed,
this may be the best solution.

You probably shouldn't let me use 'nm' if you are using the GNU C Library.

EOM
rp="Shall I use $nm to extract C symbols from the libraries?"
. ./myread
case "$ans" in
[Nn]*) usenm=false;;
*) usenm=true;;
esac

?X: Name extraction is to be run if 'nm' usage is wanted and if no -r flag
?X: was provided to configure (in which case we simply re-use the previous
?X: values).
runnm=$usenm
case "$reuseval" in
true) runnm=false;;
esac

: nm options which may be necessary
case "$nm_opt" in
'') if $test -f /mach_boot; then
  nm_opt='' # Mach
 elif $test -d /usr/ccs/lib; then
  nm_opt='-p' # Solaris (and SunOS?)
 elif $test -f /dgux; then
  nm_opt='-p' # DG-UX
 elif $test -f /lib64/rld; then
  nm_opt='-p' # 64-bit Irix
 else
  nm_opt=''
 fi;;
esac

: nm options which may be necessary for shared libraries but illegal
: for archive
 libraries.  Thank you, Linux.
case "$nm_so_opt" in
'') case "$myuname" in
 *linux*|gnu*)
  if $nm --help | $grep 'dynamic' > /dev/null 2>&1; then
   nm_so_opt='--dynamic'
  fi
  ;;
 esac
```

```
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/usenm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setpwent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_setpwent_r setpwent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_pwd extern_C
?MAKE: -pick add $@ %<
?S:d_setpwent_r:
?S: This variable conditionally defines the HAS_SETPWENT_R symbol,
?S: which indicates to the C program that the setpwent_r()
?S: routine is available.
?S:.
?S:setpwent_r_proto:
?S: This variable encodes the prototype of setpwent_r.
?S: It is zero if d_setpwent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setpwent_r
?S: is defined.
?S:.
?C:HAS_SETPWENT_R:
?C: This symbol, if defined, indicates that the setpwent_r routine
?C: is available to
 setpwent re-entrantly.
?C:.
?C:SETPWENT_R_PROTO:
?C: This symbol encodes the prototype of setpwent_r.
?C: It is zero if d_setpwent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setpwent_r
?C: is defined.
?C:.
?H:#$d_setpwent_r HAS_SETPWENT_R    /**/
?H:#define SETPWENT_R_PROTO $setpwent_r_proto    /**/
?H:.
?T:try hdrs d_setpwent_r_proto
: see if setpwent_r exists
set setpwent_r d_setpwent_r
eval $inlibc
case "$d_setpwent_r" in
```

```
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_pwd pwd.h"
 case "$d_setpwent_r_proto:$usethreads" in
 ":define") d_setpwent_r_proto=define
  set d_setpwent_r_proto setpwent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_setpwent_r_proto" in
 define)
 case "$setpwent_r_proto" in
 "|0) try='int setpwent_r(FILE**);'
 ./protochk "$extern_C $try" $hdrs && setpwent_r_proto=I_H ;;
 esac
 case "$setpwent_r_proto" in
 "|0) try='void setpwent_r(FILE**);'
 ./protochk "$extern_C $try" $hdrs && setpwent_r_proto=V_H ;;
 esac
 case
 "$setpwent_r_proto" in
 "|0) d_setpwent_r=undef
        setpwent_r_proto=0
  echo "Disabling setpwent_r, cannot determine prototype." >&4 ;;
 * ) case "$setpwent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) setpwent_r_proto="REENTRANT_PROTO_$setpwent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "setpwent_r has no prototype, not using it." >&4 ;;
  esac
  d_setpwent_r=undef
  setpwent_r_proto=0
  ;;
 esac
 ;;
*) setpwent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_setpwent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Tye McQueen <tye@metronet.com>
?RCS:
?RCS: $Log: d_stdstdio.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:46:32  ram
?RCS: patch61: merged with perl5's unit
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  14:06:54  ram
?RCS: patch56: typo fix on ?C: line for FILE_bufsiz
?RCS: patch56: fixed unbalanced parenthesis (ADO)
?RCS: patch56: check whether FILE_cnt and FILE_ptr can be assigned to (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1995/05/12  12:12:11  ram
?RCS: patch54: complete rewrite by Tye McQueen
 to fit modern systems
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_stdstdio d_stdiobase stdio_ptr stdio_cnt stdio_base \
 stdio_bufsiz d_stdio_cnt_lval d_stdio_ptr_lval stdio_filbuf: cat \
 +cc +ccflags contains +ldflags +libs rm_try \
 Setvar Findhdr Oldconfig
?MAKE: -pick add $@ %<
?S:d_stdstdio:
?S: This variable conditionally defines USE_STDIO_PTR if this system
?S: has a FILE structure declaring usable _ptr and _cnt fields (or
?S: equivalent) in stdio.h.
?S:.
?S:stdio_ptr:
?S: This variable defines how, given a FILE pointer, fp, to access the
?S: _ptr field (or equivalent) of stdio.h's FILE structure.  This will
?S: be used to define the macro FILE_ptr(fp).
?S:.
?S:d_stdio_ptr_lval:
?S: This variable conditionally defines STDIO_PTR_LVALUE if the
?S: FILE_ptr macro can be used as an lvalue.
?S:.
?S:stdio_cnt:
?S: This variable defines how, given a FILE pointer, fp, to access the
?S: _cnt field (or equivalent) of
```

stdio.h's FILE structure.  This will
?S: be used to define the macro FILE_cnt(fp).
?S:.
?S:d_stdio_cnt_lval:
?S: This variable conditionally defines STDIO_CNT_LVALUE if the
?S: FILE_cnt macro can be used as an lvalue.
?S:.
?S:stdio_filbuf:
?S: This variable defines how, given a FILE pointer, fp, to tell
?S: stdio to refill it's internal buffers (?).  This will
?S: be used to define the macro FILE_filbuf(fp).
?S:.
?S:d_stdiobase:
?S: This variable conditionally defines USE_STDIO_BASE if this system
?S: has a FILE structure declaring a usable _base field (or equivalent)
?S: in stdio.h.
?S:.
?S:stdio_base:
?S: This variable defines how, given a FILE pointer, fp, to access the
?S: _base field (or equivalent) of stdio.h's FILE structure.  This will
?S: be used to define the macro FILE_base(fp).
?S:.
?S:stdio_bufsiz:
?S: This variable defines how, given a FILE pointer, fp, to determine
?S: the number of bytes store in the I/O buffer pointer to by the
?S: _base field (or equivalent) of stdio.h's
FILE structure.  This will
?S: be used to define the macro FILE_bufsiz(fp).
?S:.
?C:USE_STDIO_PTR ~ d_stdstdio (USE_STD_STDIO STDSTDIO):
?C: This symbol is defined if the _ptr and _cnt fields (or similar)
?C: of the stdio FILE structure can be used to access the stdio buffer
?C: for a file handle.  If this is defined, then the FILE_ptr(fp)
?C: and FILE_cnt(fp) macros will also be defined and should be used
?C: to access these fields.
?C:.
?C:FILE_ptr:
?C: This macro is used to access the _ptr field (or equivalent) of the
?C: FILE structure pointed to by its argument. This macro will always be
?C: defined if USE_STDIO_PTR is defined.
?C:.
?C:STDIO_PTR_LVALUE:
?C: This symbol is defined if the FILE_ptr macro can be used as an
?C: lvalue.
?C:.
?C:FILE_cnt:
?C: This macro is used to access the _cnt field (or equivalent) of the
?C: FILE structure pointed to by its argument. This macro will always be

?C: defined if USE_STDIO_PTR is defined.
?C:.
?C:STDIO_CNT_LVALUE:
?C: This symbol is defined
 if the FILE_cnt macro can be used as an
?C: lvalue.
?C:.
?C:FILE_filbuf:
?C: This macro is used to access the internal stdio _filbuf function
?C: (or equivalent), if STDIO_CNT_LVALUE and STDIO_PTR_LVALUE
?C: are defined.  It is typically either _filbuf or __filbuf.
?C: This macro will only be defined if both STDIO_CNT_LVALUE and
?C: STDIO_PTR_LVALUE are defined.
?C:.
?H:?d_stdstdio:#$d_stdstdio USE_STDIO_PTR  /**/
?H:?d_stdstdio:#ifdef USE_STDIO_PTR
?H:#define FILE_ptr(fp) $stdio_ptr
?H:#$d_stdio_ptr_lval STDIO_PTR_LVALUE   /**/
?H:#define FILE_cnt(fp) $stdio_cnt
?H:#$d_stdio_cnt_lval STDIO_CNT_LVALUE   /**/
?H:?d_stdstdio:#if defined(STDIO_PTR_LVALUE) && defined(STDIO_CNT_LVALUE)
?H:#define FILE_filbuf(fp) $stdio_filbuf   /**/
?H:?d_stdstdio:#endif
?H:?d_stdstdio:#endif
?H:.
?W:d_stdstdio:FILE_ptr FILE_cnt FILE_filbuf
?C:USE_STDIO_BASE ~ d_stdiobase:
?C: This symbol is defined if the _base field (or similar) of the
?C: stdio FILE structure can be used to access the stdio buffer
 for
?C: a file handle.  If this is defined, then the FILE_base(fp) macro
?C: will also be defined and should be used to access this field.
?C: Also, the FILE_bufsiz(fp) macro will be defined and should be used
?C: to determine the number of bytes in the buffer.  USE_STDIO_BASE
?C: will never be defined unless USE_STDIO_PTR is.
?C:.
?C:FILE_base:
?C: This macro is used to access the _base field (or equivalent) of the
?C: FILE structure pointed to by its argument. This macro will always be
?C: defined if USE_STDIO_BASE is defined.
?C:.
?C:FILE_bufsiz:
?C: This macro is used to determine the number of bytes in the I/O
?C: buffer pointed to by _base field (or equivalent) of the FILE
?C: structure pointed to its argument. This macro will always be defined
?C: if USE_STDIO_BASE is defined.
?C:.
?H:?d_stdiobase:#$d_stdiobase USE_STDIO_BASE  /**/

```
?H:?d_stdiobase:#ifdef USE_STDIO_BASE
?H:#define FILE_base(fp) $stdio_base
?H:#define FILE_bufsiz(fp) $stdio_bufsiz
?H:?d_stdiobase:#endif
?H:.
?W:d_stdiobase:FILE_base
 FILE_bufsiz
?LINT:set d_stdstdio d_stdiobase
?T:ptr_lval cnt_lval filbuf xxx
?F:!try
: see if _ptr and _cnt from stdio act std
echo " "
if $contains '_IO_fpos_t' `./findhdr stdio.h` >/dev/null 2>&1 ; then
 echo "(Looks like you have stdio.h from Linux.)"
 case "$stdio_ptr" in
 '') stdio_ptr='((fp)->_IO_read_ptr)'
  ptr_lval=$define
  ;;
 *) ptr_lval=$d_stdio_ptr_lval;;
 esac
 case "$stdio_cnt" in
 '') stdio_cnt='((fp)->_IO_read_end - (fp)->_IO_read_ptr)'
  cnt_lval=$undef
  ;;
 *) cnt_lval=$d_stdio_cnt_lval;;
 esac
 case "$stdio_base" in
 '') stdio_base='((fp)->_IO_read_base)';;
 esac
 case "$stdio_bufsiz" in
 '') stdio_bufsiz='((fp)->_IO_read_end - (fp)->_IO_read_base)';;
 esac
else
 case "$stdio_ptr" in
 '') stdio_ptr='((fp)->_ptr)'
  ptr_lval=$define
  ;;
 *) ptr_lval=$d_stdio_ptr_lval;;
 esac
 case "$stdio_cnt" in
 '') stdio_cnt='((fp)->_cnt)'
  cnt_lval=$define
  ;;
 *) cnt_lval=$d_stdio_cnt_lval;;
 esac
 case "$stdio_base" in
 '') stdio_base='((fp)->_base)';;
 esac
```

```
 case
 "$stdio_bufsiz" in
 '') stdio_bufsiz='((fp)->_cnt + (fp)->_ptr - (fp)->_base)';;
 esac
fi
: test whether _ptr and _cnt really work
echo "Checking how std your stdio is..." >&4
$cat >try.c <<EOP
#include <stdio.h>
#define FILE_ptr(fp) $stdio_ptr
#define FILE_cnt(fp) $stdio_cnt
int main() {
 FILE *fp = fopen("try.c", "r");
 char c = getc(fp);
 if (
  18 <= FILE_cnt(fp) &&
  strncmp(FILE_ptr(fp), "include <stdio.h>\n", 18) == 0
 )
  exit(0);
 exit(1);
}
EOP
val="$undef"
if $cc $ccflags $ldflags -o try try.c $libs >/dev/null 2>&1; then
 if ./try; then
  echo "Your stdio acts pretty std."
  val="$define"
 else
  echo "Your stdio isn't very std."
 fi
else
 echo "Your stdio doesn't appear very std."
fi
$rm_try
set d_stdstdio
eval $setvar

@if STDIO_PTR_LVALUE || d_stdio_ptr_lval
: Can _ptr be used as an lvalue?
?X: Only makes sense if we have a known stdio implementation.
case "$d_stdstdio$ptr_lval" in
$define$define) val=$define ;;
*) val=$undef ;;
esac
set d_stdio_ptr_lval
eval
 $setvar
```

```
@end
@if STDIO_CNT_LVALUE || d_stdio_cnt_lval
: Can _cnt be used as an lvalue?
?X: Only makes sense if we have a known stdio implementation.
case "$d_stdstdio$cnt_lval" in
$define$define) val=$define ;;
*) val=$undef ;;
esac
set d_stdio_cnt_lval
eval $setvar

@end
@if FILE_filbuf
: How to access the stdio _filbuf or __filbuf function.
: If this fails, check how the getc macro in stdio.h works.
case "${d_stdio_ptr_lval}${d_stdio_cnt_lval}" in
${define}${define})
 : Try hint value, if any, then _filbuf, __filbuf, _fill, then punt.
 : _fill is for OS/2.
 xxx='notok'
 for filbuf in $stdio_filbuf '_filbuf(fp)' '__filbuf(fp) ' '_fill(fp)' ; do
  $cat >try.c <<EOP
#include <stdio.h>
#define FILE_ptr(fp) $stdio_ptr
#define FILE_cnt(fp) $stdio_cnt
#define FILE_filbuf(fp) $filbuf
int main() {
 FILE *fp = fopen("try.c", "r");
 int c;
 c = getc(fp);
 c = FILE_filbuf(fp);  /* Just looking for linker errors.*/
 exit(0);
}
EOP
  if $cc $ccflags $ldflags -o try try.c $libs >/dev/null 2>&1 &&
 ./try; then
   echo "Your stdio appears to use $filbuf"
   stdio_filbuf="$filbuf"
   xxx='ok'
   break
  else
   echo "Hmm.  $filbuf doesn't seem to work."
  fi
  $rm_try
 done
 case "$xxx" in
 notok) echo "I can't figure out how to access _filbuf"
   echo "I'll just have to work around it."
```

```
  d_stdio_ptr_lval="$undef"
  d_stdio_cnt_lval="$undef"
  ;;
 esac
 ;;
esac
@end
@if d_stdiobase || USE_STDIO_BASE || FILE_base || FILE_bufsiz
: see if _base is also standard
val="$undef"
case "$d_stdstdio" in
$define)
 $cat >try.c <<EOP
#include <stdio.h>
#define FILE_base(fp) $stdio_base
#define FILE_bufsiz(fp) $stdio_bufsiz
int main() {
 FILE *fp = fopen("try.c", "r");
 char c = getc(fp);
 if (
  19 <= FILE_bufsiz(fp) &&
  strncmp(FILE_base(fp), "#include <stdio.h>\n", 19) == 0
 )
  exit(0);
 exit(1);
}
EOP
 if $cc $ccflags $ldflags -o try try.c $libs > /dev/null 2>&1; then
  if ./try; then
   echo "And its _base field acts std."
   val="$define"
  else
   echo "But its _base field isn't std."
  fi
 else
  echo
 "However, it seems to be lacking the _base field."
 fi
 $rm_try
 ;;
esac
set d_stdiobase
eval $setvar

@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_stdstdio.U
```

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getservbyport_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getservbyport_r getservbyport_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_getservbyport_r:
?S: This variable conditionally defines the HAS_GETSERVBYPORT_R symbol,
?S: which indicates to the C program that the getservbyport_r()
?S: routine is available.
?S:.
?S:getservbyport_r_proto:
?S: This variable encodes the prototype of getservbyport_r.
?S: It is zero if d_getservbyport_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getservbyport_r
?S: is defined.
?S:.
?C:HAS_GETSERVBYPORT_R:
?C: This symbol, if defined, indicates
 that the getservbyport_r routine
?C: is available to getservbyport re-entrantly.
?C:.
?C:GETSERVBYPORT_R_PROTO:
?C: This symbol encodes the prototype of getservbyport_r.
?C: It is zero if d_getservbyport_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getservbyport_r
?C: is defined.
?C:.
?H:#$d_getservbyport_r HAS_GETSERVBYPORT_R    /**/
?H:#define GETSERVBYPORT_R_PROTO $getservbyport_r_proto    /**/
?H:.
?T:try hdrs d_getservbyport_r_proto
: see if getservbyport_r exists
set getservbyport_r d_getservbyport_r
eval $inlibc
case "$d_getservbyport_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getservbyport_r_proto:$usethreads" in
 ":define") d_getservbyport_r_proto=define
  set d_getservbyport_r_proto getservbyport_r $hdrs
```

```
 eval $hasproto ;;
*) ;;
esac
case "$d_getservbyport_r_proto" in
define)
case "$getservbyport_r_proto" in
"|0) try='int getservbyport_r(int, const char*, struct servent*, char*, size_t,
struct servent**);'
./protochk "$extern_C $try" $hdrs && getservbyport_r_proto=I_ICSBWR ;;
esac
case "$getservbyport_r_proto" in
"|0) try='struct servent* getservbyport_r(int, const char*, struct servent*, char*, int);'
./protochk "$extern_C $try" $hdrs && getservbyport_r_proto=S_ICSBI ;;
esac
case "$getservbyport_r_proto" in
"|0) try='int getservbyport_r(int, const char*, struct servent*, struct servent_data*);'
./protochk "$extern_C $try" $hdrs && getservbyport_r_proto=I_ICSD ;;
esac
case "$getservbyport_r_proto" in
"|0) d_getservbyport_r=undef
        getservbyport_r_proto=0
 echo "Disabling getservbyport_r, cannot determine prototype." >&4 ;;
* ) case "$getservbyport_r_proto" in
 REENTRANT_PROTO*) ;;
 *) getservbyport_r_proto="REENTRANT_PROTO_$getservbyport_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "getservbyport_r has no prototype, not using it." >&4 ;;
 esac
 d_getservbyport_r=undef
 getservbyport_r_proto=0
 ;;
esac
;;
*) getservbyport_r_proto=0
 ;;
esac

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getservbyport_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: privlib.U,v 3.1 1999/07/08 18:32:29 doughera Exp doughera $
?RCS:
```

```
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: privlib.U,v $
?RCS: Revision 3.1  1999/07/08 18:32:29  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:17:09  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:44:23  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:31:52  ram
?RCS:
 patch32: now uses installation prefix
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:12:34  ram
?RCS: patch10: added support for /local/lib (WED)
?RCS: patch10: prompt phrasing made more explicit (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:privlib privlibexp installprivlib: package cat Getfile Oldconfig \
 Setprefixvar Prefixit version installstyle binexp
?MAKE: -pick add $@ %<
?Y:TOP
?D:privlib="
?S:privlib:
?S: This variable contains the eventual value of the PRIVLIB symbol,
?S: which is the name of the private library for this package.  It may
?S: have a ~ on the front. It is up to the makefile to eventually create
?S: this directory while performing installation (with ~ substitution).
?S:.
?D:privlibexp="
?S:privlibexp:
?S: This variable is the ~name expanded version of privlib, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installprivlib="
?S:installprivlib:
```

```
?S: This variable
 is really the same as privlibexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?C:PRIVLIB:
?C: This symbol contains the name of the private library for this package.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.  The program
?C: should be prepared to do ~ expansion.
?C:.
?C:PRIVLIB_EXP:
?C: This symbol contains the ~name expanded version of PRIVLIB, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?H:#define PRIVLIB "$privlib"  /**/
?H:#define PRIVLIB_EXP "$privlibexp"  /**/
?H:.
?LINT:change prefixvar
?LINT:set installprivlib
?LINT:set privlib
?LINT:set privlibexp
: determine where private library files go
: Usual default is /usr/local/lib/perl5/$version.
: Also allow things like /opt/perl/lib/$version, since
: /opt/perl/lib/perl5... would be redundant.
: The default "style"
 setting is made in installstyle.U
case "$installstyle" in
*lib/perl5*) set dflt privlib lib/$package/$version ;;
*)  set dflt privlib lib/$version ;;
esac
eval $prefixit
$cat <<EOM

There are some auxiliary files for $package that need to be put into a
private library directory that is accessible by everyone.

EOM
?X: Force dependency on bin.U
fn=$binexp
fn=d~+
rp='Pathname where the private library files will reside?'
. ./getfile
prefixvar=privlib
. ./setprefixvar

Found in path(s):
```

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/privlib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_clock_settime: Inlibc
?MAKE: -pick add $@ %<
?S:d_clock_settime:
?S: This variable conditionally defines HAS_CLOCK_SETTIME
?S: if clock_settime() is available to set the time of a POSIX clock.
?S:.
?C:HAS_CLOCK_SETTIME:
?C: This symbol, if defined, indicates that the clock_settime
?C: system call is available to set the time of a POSIX clock.
?C:.
?H:#$d_clock_settime HAS_CLOCK_SETTIME  /**/
?H:.
?LINT:set d_clock_settime
: see if clock_settime exists
set clock_settime d_clock_settime
eval $inlibc

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_clock_settime.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_pause.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_pause.U,v $

```
?RCS: Revision 3.0.1.1  1994/08/29  16:09:54  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_pause: Inlibc
?MAKE: -pick add $@ %<
?S:d_pause:
?S: This variable conditionally defines the HAS_PAUSE symbol, which
?S: indicates to the C program that the pause() routine is available
?S: to suspend a process until a signal is received.
?S:.
?C:HAS_PAUSE :
?C: This symbol,
 if defined, indicates that the pause routine is
?C: available to suspend a process until a signal is received.
?C:.
?H:#$d_pause HAS_PAUSE  /**/
?H:.
?LINT:set d_pause
: see if pause exists
set pause d_pause
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_pause.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getmnt: Inlibc
?MAKE: -pick add $@ %<
?S:d_getmnt:
?S: This variable conditionally defines the HAS_GETMNT symbol, which
?S: indicates to the C program that the getmnt() routine is available
?S: to retrieve one or more mount info blocks by filename.
?S:.
?C:HAS_GETMNT:
?C: This symbol, if defined, indicates that the getmnt routine is
?C: available to get filesystem mount info by filename.
?C:.
?H:#$d_getmnt HAS_GETMNT  /**/
?H:.
?LINT:set d_getmnt
: see if getmnt exists
```

```
set getmnt d_getmnt
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getmnt.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_sem.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_sem: test d_semctl d_semget d_semop Setvar Findhdr osname
?MAKE: -pick add $@ %<
?S:d_sem:
?S: This variable conditionally defines the HAS_SEM symbol, which
?S: indicates that the entire sem*(2) library is present.
?S:.
?C:HAS_SEM:
?C: This symbol, if defined, indicates that the entire sem*(2) library is
?C: supported.
?C:.
?H:#$d_sem HAS_SEM  /**/
?H:.
?T:h_sem
?LINT:set d_sem
:
 see how much of the 'sem*(2)' library is present.
h_sem=true
echo " "
case "$d_semctl$d_semget$d_semop" in
*"$undef"*) h_sem=false;;
esac
case "$osname" in
freebsd)
   case "`ipcs 2>&1`" in
   "SVID messages"*"not configured"*)
 echo "Your $osname does not have the sem*(2) configured." >&4
       h_sem=false
```

```
 val="$undef"
 set semctl d_semctl
 eval $setvar
 set semget d_semget
 eval $setvar
 set semop d_semop
 eval $setvar
 ;;
  esac
  ;;
esac
: we could also check for sys/ipc.h ...
if $h_sem && $test `./findhdr sys/sem.h`; then
 echo "You have the full sem*(2) library." >&4
 val="$define"
else
 echo "You don't have the full sem*(2) library." >&4
 val="$undef"
fi
set d_sem
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_sem.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sem.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_stat.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_stat.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:28  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_stat: Inlibc
?MAKE: -pick add $@ %<
?S:d_stat:
?S: This variable conditionally defines HAS_STAT if stat() is
?S: available to get file status.
?S:.
?C:HAS_STAT (STAT):
```

?C: This symbol, if defined, indicates that the stat routine is
?C: available to get file status.
?C:.
?H:#$d_stat HAS_STAT /**/
?H:.
?LINT:set d_stat
: see if stat exists
set
 stat d_stat
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_stat.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strftime.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:36  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_strftime: Inlibc
?MAKE: -pick add $@ %<
?S:d_strftime:
?S: This variable conditionally defines HAS_STRFTIME if strftime() is
?S: available to format locale-specific times.
?S:.
?C:HAS_STRFTIME:
?C: This symbol, if defined, indicates that the strftime routine is
?C: available to format locale-specific times.
?C:.
?H:#$d_strftime HAS_STRFTIME /**/
?H:.
?LINT:set d_strftime
: see
 if strftime exists
set strftime d_strftime
eval $inlibc

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strftime.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_nearbyint: Inlibc
?MAKE: -pick add $@ %<
?S:d_nearbyint:
?S: This variable conditionally defines HAS_NEARBYINT if nearbyint()
?S: is available to return the integral value closest to (according to
?S: the current rounding mode) to x.
?S:.
?C:HAS_NEARBYINT:
?C: This symbol, if defined, indicates that the nearbyint routine is
?C: available to return the integral value closest to (according to
?C: the current rounding mode) to x.
?C:.
?H:#$d_nearbyint HAS_NEARBYINT  /**/
?H:.
?LINT:set d_nearbyint
: see if nearbyint exists
set nearbyint d_nearbyint
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_nearbyint.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setpgrp.U,v 3.0.1.3 1997/02/28 15:44:16 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_setpgrp.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:44:16  ram
?RCS: patch61: obsoleted USE_BSDGRP in favor of USE_BSD_SETPGRP
?RCS: patch61: another unit now also defines a USE_BSD_GETPGRP
?RCS: patch61: fallback for test program failure improved
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  13:59:30  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:

```
?RCS: Revision 3.0.1.1  1994/10/29  16:15:37  ram
?RCS: patch36: added
 'ldflags' to the test compile line (ADO)
?RCS: patch36: call ./usg explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setpgrp d_bsdsetpgrp: cat rm_try +cc +libs +ccflags \
 +ldflags Inlibc Guess Setvar i_unistd i_stdlib run
?MAKE: -pick add $@ %<
?S:d_setpgrp:
?S: This variable conditionally defines HAS_SETPGRP if setpgrp() is
?S: available to set the current process group.
?S:.
?S:d_bsdsetpgrp (d_bsdpgrp):
?S: This variable conditionally defines USE_BSD_SETPGRP if
?S: setpgrp needs two arguments whereas USG one needs none.
?S: See also d_setpgid for a POSIX interface.
?S:.
?C:HAS_SETPGRP (SETPGRP):
?C: This symbol, if defined, indicates that the setpgrp routine is
?C: available to set the current process group.
?C:.
?C:USE_BSD_SETPGRP (USE_BSDPGRP BSDPGRP):
?C: This symbol, if defined, indicates that setpgrp needs two
?C: arguments whereas USG one needs none.  See also HAS_SETPGID
?C: for
 a POSIX interface.
?C:.
?H:#$d_setpgrp HAS_SETPGRP  /**/
?H:#$d_bsdsetpgrp USE_BSD_SETPGRP /**/
?H:.
?T:xxx
?F:!try
?LINT:set d_setpgrp d_bsdsetpgrp
: see if setpgrp exists
set setpgrp d_setpgrp
eval $inlibc

@if USE_BSD_SETPGRP || d_bsdsetpgrp
case "$d_setpgrp" in
"$define")
 echo " "
 echo "Checking to see which flavor of setpgrp is in use..."
 $cat >try.c <<EOP
#$i_unistd I_UNISTD
#include <sys/types.h>
```

```
#ifdef I_UNISTD
#  include <unistd.h>
#endif
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
int main()
{
 if (getuid() == 0) {
  printf("(I see you are running Configure as super-user...)\n");
  setuid(1);
 }
#ifdef TRY_BSD_PGRP
 if (-1 == setpgrp(1, 1))
  exit(0);
#else
 if (setpgrp() != -1)
  exit(0);
#endif
 exit(1);
}
EOP
 if $cc -o try -DTRY_BSD_PGRP $ccflags $ldflags try.c $libs >/dev/null 2>&1 && $run ./try; then
  echo 'You have to use setpgrp(pid,pgrp) instead of setpgrp().' >&4
  val="$define"
 elif $cc -o try $ccflags $ldflags try.c $libs >/dev/null 2>&1 &&
 $run ./try; then
  echo 'You have to use setpgrp() instead of setpgrp(pid,pgrp).' >&4
  val="$undef"
 else
  echo "(I can't seem to compile and run the test program.)"
  if ./usg; then
   xxx="a USG one, i.e. you use setpgrp()."
  else
   # SVR4 systems can appear rather BSD-ish.
   case "$i_unistd" in
   $undef)
    xxx="a BSD one, i.e. you use setpgrp(pid,pgrp)."
    val="$define"
    ;;
   $define)
    xxx="probably a USG one, i.e. you use setpgrp()."
    val="$undef"
    ;;
   esac
  fi
  echo "Assuming your setpgrp is $xxx" >&4
```

```
 fi
 ;;
*) val="$undef";;
esac
set d_bsdsetpgrp
eval $setvar
$rm_try
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_setpgrp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_htonl.U,v $
?RCS: Revision 3.0.1.2  1994/08/29  16:09:25  ram
?RCS: patch32: now properly handles htonl() and friends when macros (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:45:00  ram
?RCS: patch23: now also check for htonl() macro (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:22  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_htonl: Inlibc Setvar i_niin i_sysin cat rm contains \
 cppstdin cppflags cppminus
?MAKE: -pick add $@ %<
?S:d_htonl:
?S: This variable conditionally
 defines HAS_HTONL if htonl() and its
?S: friends are available to do network order byte swapping.
?S:.
?C:HAS_HTONL (HTONL):
?C: This symbol, if defined, indicates that the htonl() routine (and
?C: friends htons() ntohl() ntohs()) are available to do network
?C: order byte swapping.
?C:.
?C:HAS_HTONS (HTONS):
?C: This symbol, if defined, indicates that the htons() routine (and
```

```
?C: friends htonl() ntohl() ntohs()) are available to do network
?C: order byte swapping.
?C:.
?C:HAS_NTOHL (NTOHL):
?C: This symbol, if defined, indicates that the ntohl() routine (and
?C: friends htonl() htons() ntohs()) are available to do network
?C: order byte swapping.
?C:.
?C:HAS_NTOHS (NTOHS):
?C: This symbol, if defined, indicates that the ntohs() routine (and
?C: friends htonl() htons() ntohl()) are available to do network
?C: order byte swapping.
?C:.
?H:#$d_htonl HAS_HTONL  /**/
?H:#$d_htonl HAS_HTONS  /**/
?H:#$d_htonl HAS_NTOHL  /**/
?H:#$d_htonl HAS_NTOHS  /**/
?H:.
?F:!htonl.c
?LINT:set d_htonl
:
 see if htonl --and friends-- exists
val="
set htonl val
eval $inlibc

: Maybe they are macros.
case "$val" in
$undef)
 $cat >htonl.c <<EOM
#include <stdio.h>
#include <sys/types.h>
#$i_niin I_NETINET_IN
#$i_sysin I_SYS_IN
#ifdef I_NETINET_IN
#include <netinet/in.h>
#endif
#ifdef I_SYS_IN
#include <sys/in.h>
#endif
#ifdef htonl
printf("Defined as a macro.");
#endif
EOM
 $cppstdin $cppflags $cppminus < htonl.c >htonl.E 2>/dev/null
 if $contains 'Defined as a macro' htonl.E >/dev/null 2>&1; then
  val="$define"
  echo "But it seems to be defined as a macro." >&4
```

```
 fi
 $rm -f htonl.?
 ;;
esac
set d_htonl
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_htonl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_atolf: Inlibc
?MAKE: -pick add $@ %<
?S:d_atolf:
?S: This variable conditionally defines the HAS_ATOLF symbol, which
?S: indicates to the C program that the atolf() routine is available.
?S:.
?C:HAS_ATOLF:
?C: This symbol, if defined, indicates that the atolf routine is
?C: available to convert strings into long doubles.
?C:.
?H:#$d_atolf HAS_ATOLF  /**/
?H:.
?LINT:set d_atolf
: see if atolf exists
set atolf d_atolf
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/atolf.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
```

```
?RCS:
?MAKE:siteman1 siteman1exp installsiteman1: test Getfile Setprefixvar \
 prefix siteprefix man1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman1="
?S:siteman1:
?S: This variable contains the name of the directory in which site-specific
?S: manual source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl has been installed,
 users may install their own local
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman1exp="
?S:siteman1exp:
?S: This variable is the same as the siteman1 variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsiteman1="
?S:installsiteman1:
?S: This variable is really the same as siteman1exp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman1
?LINT:set siteman1exp
: determine where add-on manual pages go
case "$siteman1" in
") dflt=`echo "$man1dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman1 ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific manual pages should
 be installed?'
. ./getfile
prefixvar=siteman1
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
```

$test X"$siteman1" = "X" && siteman1=' '

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/siteman1.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: scriptdir.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:17:15  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:46:13  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:32:04  ram
?RCS: patch32: now uses installation prefix
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:scriptdir scriptdirexp installscript:
 afs cat test Getfile Loc \
 Oldconfig +bin Prefixit prefixexp Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?S:scriptdir:
?S: This variable holds the name of the directory in which the user wants
?S: to put publicly scripts for the package in question.  It is either
?S: the same directory as for binaries, or a special one that can be
?S: mounted across different architectures, like /usr/share. Programs
?S: must be prepared to deal with ~name expansion.
?S:.
?S:scriptdirexp:
?S: This variable is the same as scriptdir, but is filename expanded
?S: at configuration time, for programs not wanting to bother with it.
?S:.
?S:installscript:
?S: This variable is usually the same as scriptdirexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You

```
?S: should always use this variable within your makefiles for portability.
?S:.
?C:SCRIPTDIR:
?C: This symbol holds the name of the directory in which the user wants
?C: to put publicly executable scripts for the
 package in question.  It
?C: is often a directory that is mounted across diverse architectures.
?C: Programs must be prepared to deal with ~name expansion.
?C:.
?C:SCRIPTDIR_EXP:
?C: This is the same as SCRIPTDIR, but is filename expanded at
?C: configuration time, for use in programs not prepared to do
?C: ~name substitutions at run-time.
?C:.
?H:#define SCRIPTDIR "$scriptdir" /**/
?H:#define SCRIPTDIR_EXP "$scriptdirexp" /**/
?H:.
: determine where public executable scripts go
set scriptdir scriptdir
eval $prefixit
case "$scriptdir" in
")
 dflt="$bin"
 : guess some guesses
 $test -d /usr/share/scripts && dflt=/usr/share/scripts
 $test -d /usr/share/bin && dflt=/usr/share/bin
 $test -d /usr/local/script && dflt=/usr/local/script
 $test -d $prefixexp/script && dflt=$prefixexp/script
 set dflt
 eval $prefixup
 ;;
*)  dflt="$scriptdir"
 ;;
esac
$cat <<EOM

Some installations have a separate directory just for executable scripts so
that they can mount it across multiple architectures but
 keep the scripts in
one spot.  You might, for example, have a subdirectory of /usr/share for this.
Or you might just lump your scripts in with all your other executables.

EOM
fn=d~
rp='Where do you keep publicly executable scripts?'
. ./getfile
if $test "X$ansexp" != "X$scriptdirexp"; then
 installscript="
```

```
fi
scriptdir="$ans"
scriptdirexp="$ansexp"
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
scripts reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installscript" in
 '') dflt=`echo $scriptdirexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installscript";;
 esac
 fn=de~
 rp='Where will public scripts be installed?'
 . ./getfile
 installscript="$ans"
else
 installscript="$scriptdirexp"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/scriptdir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:i_poll: Inhdr
?MAKE: -pick add $@ %<
?S:i_poll:
?S: This variable conditionally defines the I_POLL symbol, which
?S: indicates to the C program that it should include <poll.h>.
?S:.
?C:I_POLL:
?C: This symbol, if defined, indicates that the program may include
?C: <poll.h>.  If there is no <poll.h>, then you may check I_SYS_POLL
?C: instead to see whether there is a <sys/poll.h> to include.
?C:.
```

?H:#$i_poll I_POLL /**/
?H:.
?LINT:set i_poll
: see if there is a poll.h file
set poll.h i_poll
eval $inhdr

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_poll.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: models.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:13:17  ram
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:02:39  ram
?RCS: patch6: added default for large
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:models split small medium large huge: test cat Myread sysman Oldconfig \
 Loc Warn contains rm
?MAKE: -pick add $@ %<
?S:models:
?S: This variable contains the list of memory models supported by
 this
?S: system.  Possible component values are none, split, unsplit, small,
?S: medium, large, and huge.  The component values are space separated.
?S:.
?S:split:
?S: This variable contains a flag which will tell the C compiler and loader
?S: to produce a program that will run in separate I and D space, for those
?S: machines that support separation of instruction and data space.  It is
?S: up to the Makefile to use this.
?S:.
?S:small:

```
?S: This variable contains a flag which will tell the C compiler and loader
?S: to produce a program running with a small memory model.  It is up to
?S: the Makefile to use this.
?S:.
?S:medium:
?S: This variable contains a flag which will tell the C compiler and loader
?S: to produce a program running with a medium memory model.  If the
?S: medium model is not supported, contains the flag to produce large
?S: model programs.  It is up to the Makefile to use this.
?S:.
?S:large:
?S: This variable contains a flag which will tell the C compiler and loader
?S: to
 produce a program running with a large memory model.  It is up to
?S: the Makefile to use this.
?S:.
?S:huge:
?S: This variable contains a flag which will tell the C compiler and loader
?S: to produce a program running with a huge memory model.  If the
?S: huge model is not supported, contains the flag to produce large
?S: model programs.  It is up to the Makefile to use this.
?S:.
?T:unsplit tans modelcc
?F:!pdp11
?D:large="
?LINT:extern cc
: see what memory models we can support
case "$models" in
")
?X: We may not use Cppsym or we get a circular dependency through cc.
?X: But this should work regardless of which cc we eventually use.
 $cat >pdp11.c <<'EOP'
int main() {
#ifdef pdp11
 exit(0);
#else
 exit(1);
#endif
}
EOP
?X: Run cc in a subshell in case they don't have a 'cc' command.
?X: Presumably they do have gcc or something.
 case "$cc" in
 ") modelcc="$cc" ;;
 *) modelcc="cc" ;;
 esac
 ( $modelcc -o pdp11 pdp11.c ) >/dev/null 2>&1
 if $test -f pdp11 && ./pdp11 2>/dev/null;
```

```
 then
  dflt='unsplit split'
 else
  tans=`./loc . X /lib/small /lib/large /usr/lib/small /usr/lib/large /lib/medium /usr/lib/medium /lib/huge`
  case "$tans" in
  X) dflt='none';;
  *) if $test -d /lib/small || $test -d /usr/lib/small; then
    dflt='small'
   else
    dflt=''
   fi
   if $test -d /lib/medium || $test -d /usr/lib/medium; then
    dflt="$dflt medium"
   fi
   if $test -d /lib/large || $test -d /usr/lib/large; then
    dflt="$dflt large"
   fi
   if $test -d /lib/huge || $test -d /usr/lib/huge; then
    dflt="$dflt huge"
   fi
  esac
 fi;;
*) dflt="$models";;
esac
$cat <<EOM

Some systems have different model sizes.  On most systems they are called
small, medium, large, and huge.  On the PDP11 they are called unsplit and
split.  If your system doesn't support different memory models, say "none".
If you wish to force everything to one memory model, say "none" here and
put the appropriate flags later when it asks you for other cc and ld flags.
Venix systems may wish
 to put "none" and let the compiler figure things out.
(In the following question multiple model names should be space separated.)

The default for most systems is "none".

EOM
rp="Which memory models are supported?"
. ./myread
models="$ans"

case "$models" in
none)
 small=''
 medium=''
 large=''
 huge=''
```

```
unsplit="
split="
;;
*split)
case "$split" in
") if $contains '\-i' $sysman/ld.1 >/dev/null 2>&1 || \
   $contains '\-i' $sysman/cc.1 >/dev/null 2>&1; then
  dflt='-i'
 else
  dflt='none'
 fi;;
*) dflt="$split";;
esac
rp="What flag indicates separate I and D space?"
. ./myread
tans="$ans"
case "$tans" in
none) tans=";;
esac
split="$tans"
unsplit=";;
*large*|*small*|*medium*|*huge*)
case "$models" in
*large*)
 case "$large" in
 ") dflt='-Ml';;
 *) dflt="$large";;
 esac
rp="What flag indicates large model?"
. ./myread
tans="$ans"
case "$tans" in
none) tans=";
esac
large="$tans";;
*) large=";;
esac
case "$models" in
*huge*) case "$huge" in
 ")
dflt='-Mh';;
 *) dflt="$huge";;
 esac
 rp="What flag indicates huge model?"
 . ./myread
 tans="$ans"
 case "$tans" in
 none) tans=";
```

```
 esac
 huge="$tans";;
*) huge="$large";;
esac
case "$models" in
*medium*) case "$medium" in
 '') dflt='-Mm';;
 *) dflt="$medium";;
 esac
 rp="What flag indicates medium model?"
 . ./myread
 tans="$ans"
 case "$tans" in
 none) tans='';
 esac
 medium="$tans";;
*) medium="$large";;
esac
case "$models" in
*small*) case "$small" in
 '') dflt='none';;
 *) dflt="$small";;
 esac
 rp="What flag indicates small model?"
 . ./myread
 tans="$ans"
 case "$tans" in
 none) tans='';
 esac
 small="$tans";;
*) small='';;
esac
;;
*)
 ./warn "Unrecognized memory models--you may have to edit Makefile.SH"
 ;;
esac
$rm -f pdp11.* pdp11
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/models.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
```

?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strtoul.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:46:43  ram
?RCS: patch61: created
?RCS:
?RCS:
?MAKE:d_strtoul: Inlibc
?MAKE: -pick add $@ %<
?S:d_strtoul:
?S: This variable conditionally defines the HAS_STRTOUL symbol, which
?S: indicates to the C program that the strtoul() routine is available
?S: to provide conversion of strings to unsigned long.
?S:.
?C:HAS_STRTOUL (STRTOUL):
?C: This symbol, if defined, indicates that the strtoul routine is
?C: available
 to provide conversion of strings to unsigned long.
?C:.
?H:#$d_strtoul HAS_STRTOUL /**/
?H:.
?LINT:set d_strtoul
: see if strtoul exists
set strtoul d_strtoul
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strtoul.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Obsol_sh.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Obsol_sh.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:11  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:

?X:
?X: This file is prepended to .MT/Obsol_sh if that file is not empty. That file
?X: contains the necessary mappings of new symbols to obsolete ones.
?X:
?MAKE:Obsol_sh:
?MAKE: -pick prepend $@ ./Obsol_sh
?LINT:nocomment
#
# The following symbols are obsolete. They are mapped to the the new
# symbols only to ease the transition process.
 The sources should be
# updated so as to use the new symbols only, since supporting of those
# obsolete symbols may end without notice.
#

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Obsol_sh.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_memset.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_memset.U,v $
?RCS: Revision 3.0.1.1  1993/09/13  16:03:11  ram
?RCS: patch10: removed text recommending bzero over memset (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:36  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_memset: Inlibc
?MAKE: -pick add $@ %<
?S:d_memset:
?S: This variable conditionally defines the HAS_MEMSET symbol, which
?S: indicates to the C program that the memset() routine is available
?S: to set blocks of memory.
?S:.
?C:HAS_MEMSET
 (MEMSET):
?C: This symbol, if defined, indicates that the memset routine is available
?C: to set blocks of memory.
?C:.

```
?H:#$d_memset HAS_MEMSET /**/
?H:.
?LINT:set d_memset
: see if memset exists
set memset d_memset
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_memset.U
No license file was found, but licenses were detected in source scan.

```
# $Id: errnolist.sh,v 3.0.1.1 1994/01/24 14:00:00 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
#  You may redistribute only under the terms of the Artistic Licence,
#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Harlan Stenn <harlan@mumps.pfcs.com>
#
# $Log: errnolist.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:00  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:36  ram
# Baseline for dist 3.0 netwide release.
#

case $CONFIG in
'')
 if test -f config.sh; then TOP=.;
 elif test -f ../config.sh; then TOP=..;
 elif test -f ../../config.sh; then TOP=../..;
 elif test -f ../../../config.sh; then TOP=../../..;
 elif
 test -f ../../../../config.sh; then TOP=../../../..;
 else
  echo "Can't find config.sh."; exit 1
 fi
 . $TOP/config.sh
 ;;
esac
case "$0" in
*/*) cd `expr X$0 : 'X\(.*\)/'` ;;
esac
```

```
case "$errnolistc" in
") ;;
*)
 echo "Making $errnolistc ..."
 awk -f errnolist.a < /usr/include/sys/errno.h > $errnolistc
 echo "It would be a good idea to make sure that $errnolistc is correct."
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/errnolist.SH
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getsent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_getsent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getsent: Inlibc
?MAKE: -pick add $@ %<
?S:d_getsent:
?S: This variable conditionally defines HAS_GETSERVENT if getservent() is
?S: available to look up network services in some data base or another.
?S:.
?C:HAS_GETSERVENT:
?C: This symbol, if defined, indicates that the getservent() routine is
?C: available to look up network services in some
 data base or another.
?C:.
?H:#$d_getsent HAS_GETSERVENT  /**/
?H:.
?LINT:set d_getsent
: see if getservent exists
set getservent d_getsent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getsent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_hasmntopt: Inlibc
?MAKE: -pick add $@ %<
?S:d_hasmntopt:
?S: This variable conditionally defines the HAS_HASMNTOPT symbol, which
?S: indicates to the C program that the hasmntopt() routine is available
?S: to query the mount options of file systems.
?S:.
?C:HAS_HASMNTOPT:
?C: This symbol, if defined, indicates that the hasmntopt routine is
?C: available to query the mount options of file systems.
?C:.
?H:#$d_hasmntopt HAS_HASMNTOPT  /**/
?H:.
?LINT:set d_hasmntopt
: see if hasmntopt exists
set hasmntopt d_hasmntopt
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_hasmntopt.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_shm_unlink: Inlibc
?MAKE: -pick add $@ %<
?S:d_shm_unlink:
?S: This variable conditionally defines HAS_SHM_UNLINK if shm_unlink() is
?S: available to unlink a POSIX shared memory object.
?S:.
?C:HAS_SHM_UNLINK:
?C: This symbol, if defined, indicates that the shm_unlink system call is
?C: available to unlink a POSIX shared memory object.

?C:.
?H:#$d_shm_unlink HAS_SHM_UNLINK  /**/
?H:.
?LINT:set d_shm_unlink
: see if shm_unlink exists
set shm_unlink d_shm_unlink
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_shm_unlink.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_memcmp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_memcmp.U,v $
?RCS: Revision 3.0.1.1  1993/09/13  16:02:35  ram
?RCS: patch10: removed text recommending bcmp over memcmp (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:33  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_memcmp: Inlibc
?MAKE: -pick add $@ %<
?S:d_memcmp:
?S: This variable conditionally defines the HAS_MEMCMP symbol, which
?S: indicates to the C program that the memcmp() routine is available
?S: to compare blocks of
 memory.
?S:.
?C:HAS_MEMCMP (MEMCMP):
?C: This symbol, if defined, indicates that the memcmp routine is available
?C: to compare blocks of memory.
?C:.
?H:#$d_memcmp HAS_MEMCMP /**/
?H:.
?LINT:set d_memcmp
: see if memcmp exists
set memcmp d_memcmp
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_memcmp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sysndir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sysndir.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:33  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_sysndir: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysndir:
?S: This variable conditionally defines the I_SYS_NDIR symbol, and indicates
?S: whether a C program should include <sys/ndir.h>.
?S:.
?C:I_SYS_NDIR (I_SYSNDIR):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/ndir.h>.
?C:.
?H:#$i_sysndir
 I_SYS_NDIR /**/
?H:.
?LINT:set i_sysndir
: see if this is an sysndir system
set sys/ndir.h i_sysndir
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysndir.U
No license file was found, but licenses were detected in source scan.

#  You may redistribute only under the terms of the Artistic Licence,

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/errnolist.mk
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/files/fixcpp
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/bindex
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/makegloss

No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_readv: Inlibc
?MAKE: -pick add $@ %<
?S:d_readv:
?S: This variable conditionally defines the HAS_READV symbol, which
?S: indicates to the C program that the readv() routine is available.
?S:.
?C:HAS_READV:
?C: This symbol, if defined, indicates that the readv routine is
?C: available to do gather reads.  You will also need <sys/uio.h>
?C: and there I_SYSUIO.
?C:.
?H:#$d_readv HAS_READV  /**/
?H:.
?LINT:set d_readv
: see if readv exists
set readv d_readv
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_readv.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_msem_lck.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_msem_lck.U,v $
?MAKE:d_msem_lck: Inlibc
?MAKE: -pick add $@ %<
?S:d_msem_lck:
?S: This variable conditionally defines HAS_MSEM_LOCK if msem_lock() is
?S: available, thereby indicating kernel support for memory semaphores.
?S:.

?C:HAS_MSEM_LOCK:
?C: This symbol, if defined, indicates that memory semaphores are
?C: available to protect mmap()'ed regions.
?C:.
?H:#$d_msem_lck HAS_MSEM_LOCK  /**/
?H:.
?LINT:set d_msem_lck
: see if msem_lock exists
set
 msem_lock d_msem_lck
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_msem_lck.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getpagsz.U,v 3.0.1.1 1994/10/29 16:13:10 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_getpagsz.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:13:10  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getpagsz: Compile Oldconfig Myread Inlibc Findhdr
?MAKE: -pick add $@ %<
?S:d_getpagsz:
?S: This variable conditionally defines HAS_GETPAGESIZE if getpagesize()
?S: is available to get the system page size.
?S:.
?C:HAS_GETPAGESIZE
 (GETPAGESIZE):
?C: This symbol, if defined, indicates that the getpagesize system call
?C: is available to get system page size, which is the granularity of
?C: many memory management calls.
?C:.
?H:#$d_getpagsz HAS_GETPAGESIZE  /**/
?H:.
?LINT:set d_getpagsz

: see if getpagesize exists
set getpagesize d_getpagsz
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_getpagsz.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml1 sitehtml1exp installsitehtml1: Getfile Setprefixvar \
 prefix siteprefix html1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml1="
?S:sitehtml1:
?S: This variable contains the name of the directory in which site-specific
?S: html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl has been installed,
 users may install their own local
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml1exp="
?S:sitehtml1exp:
?S: This variable is the same as the sitehtml1 variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml1="
?S:installsitehtml1:
?S: This variable is really the same as sitehtml1exp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar

```
?LINT:set installsitehtml1
?LINT:set sitehtml1
?LINT:set sitehtml1exp
: determine where add-on html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case "$sitehtml1" in
") dflt=`echo "$html1dir" | $sed "s#^$prefix#$siteprefix#"`
 ;;
*) dflt=$sitehtml1 ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific html pages should be installed?'
. ./getfile
prefixvar=sitehtml1
. ./setprefixvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitehtml1.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: ccflags.U,v $
?RCS: Revision 3.0.1.9  1997/02/28  15:27:07  ram
?RCS: patch61: removed support for NO_PROTOTYPE detection on SCO
?RCS: patch61: new locincpth variable
?RCS: patch61: added info on the "additional ld flags" question
?RCS:
?RCS: Revision 3.0.1.8  1995/07/25  13:48:54  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
?RCS: Revision 3.0.1.7  1995/05/12  12:08:33  ram
?RCS: patch54: now checks for cc/ccflags/ldflags coherency
?RCS:
?RCS: Revision 3.0.1.6
```

```
 1994/10/29  16:07:02  ram
?RCS: patch36: gcc versioning no longer relies on the C compiler's name
?RCS: patch36: simplified check for gcc version checking (ADO)
?RCS:
?RCS: Revision 3.0.1.5  1994/08/29  16:06:35  ram
?RCS: patch32: propagate -posix flag from ccflags to ldflags
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  14:28:45  ram
?RCS: patch23: -fpcc-struct-return only needed in gcc 1.x (ADO)
?RCS: patch23: cppflags now computed on an option-by-option basis
?RCS: patch23: magically added cc flags now only done the first time
?RCS:
?RCS: Revision 3.0.1.3  1993/09/13  15:58:29  ram
?RCS: patch10: explicitly mention -DDEBUG just in case they need it (WAD)
?RCS: patch10: removed all the "tans" variable usage (WAD)
?RCS:
?RCS: Revision 3.0.1.2  1993/08/27  14:39:38  ram
?RCS: patch7: added support for OSF/1 machines
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:00:24  ram
?RCS: patch6: added defaults for cppflags, ccflags and ldflags
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:31  ram
?RCS:
 Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:ccflags ldflags lkflags cppflags optimize locincpth: test cat \
 Myread Guess Options Oldconfig gccversion mips_type +usrinc \
 package contains rm rm_try +cc cppstdin cppminus cpprun cpplast libpth \
 loclibpth hint
?MAKE: -pick add $@ %<
?S:ccflags:
?S: This variable contains any additional C compiler flags desired by
?S: the user.  It is up to the Makefile to use this.
?S:.
?S:cppflags:
?S: This variable holds the flags that will be passed to the C pre-
?S: processor. It is up to the Makefile to use it.
?S:.
?S:optimize:
?S: This variable contains any optimizer/debugger flag that should be used.
?S: It is up to the Makefile to use it.
?S:.
?S:ldflags:
?S: This variable contains any additional C loader flags desired by
?S: the user.  It is up to the Makefile to use this.
?S:.
?S:lkflags:
```

```
?S: This variable contains any additional C partial linker flags desired by
?S: the user.  It is up to the Makefile to use this.
?S:.
?S:locincpth:
?S: This
 variable contains a list of additional directories to be
?S: searched by the compiler.  The appropriate -I directives will
?S: be added to ccflags.  This is intended to simplify setting
?S: local directories from the Configure command line.
?S: It's not much, but it parallels the loclibpth stuff in libpth.U.
?S:.
?T:inctest thisincl xxx flag inclwanted ftry previous thislibdir
?F:!cpp.c
?D:cppflags=''
?D:ccflags=''
?D:ldflags=''
?D:optimize=''
?INIT:: Possible local include directories to search.
?INIT:: Set locincpth to "" in a hint file to defeat local include searches.
?INIT:locincpth="/usr/local/include /opt/local/include /usr/gnu/include"
?INIT:locincpth="$locincpth /opt/gnu/include /usr/GNU/include /opt/GNU/include"
?INIT::
?INIT:: no include file wanted by default
?INIT:inclwanted=''
?INIT:
: determine optimize, if desired, or use for debug flag also
case "$optimize" in
' '|$undef) dflt='none';;
'')
 case "$gccversion" in
 '') dflt='-O';;
 *) dflt='-O2 -g';;
 esac
 ;;
*)
 dflt="$optimize";;
esac
case "$gccversion" in
'') $cat <<EOH

Some C compilers have problems with their optimizers.  By default, $package
compiles with the -O flag to use the optimizer.  Alternately, you might want
to use the symbolic debugger, which uses the -g flag (on traditional Unix
systems).  Either flag can be specified here.  To use neither flag, specify
the word "none".

EOH
 ;;
```

```
*) $cat <<EOH

With the GNU C compiler, it is possible to supply both -O2 and -g flags, to
be able to reasonably optimize, whilst retaining the ability to use a
symbolic debugger.  Either flag can be specified here.  To use neither flag,
specify the word "none".

EOH
 ;;
esac
rp="What optimizer/debugger flag should be used?"
. ./myread
optimize="$ans"
case "$optimize" in
'none') optimize=" ";;
esac

dflt="
: We will not override a previous value, but we might want to
: augment a hint file
case "$hint" in
default|recommended)
 case "$gccversion" in
 1*) dflt='-fpcc-struct-return' ;;
 esac
?X:
 check for POSIXized ISC
 case "$gccversion" in
 2*) if test -d /etc/conf/kconfig.d &&
   $contains _POSIX_VERSION $usrinc/sys/unistd.h >/dev/null 2>&1
  then
   dflt="$dflt -posix"
  fi
  ;;
 esac
?X: turn warnings on if they're using gcc
 case "$gccversion" in
 1*|2*) dflt="$dflt -Wall";;
?X: starting with version 3, add "-W -Wall -Wformat=2 -Wshadow" by default
 *) dflt="$dflt -W -Wall -Wformat=2 -Wshadow";;
 esac
 ;;
esac

?X: In USG mode, a MIPS system may need some BSD includes
case "$mips_type" in
*BSD*|'') inclwanted="$locincpth $usrinc";;
*) inclwanted="$locincpth $inclwanted $usrinc/bsd";;
```

```
esac
for thisincl in $inclwanted; do
 if $test -d $thisincl; then
  if $test x$thisincl != x$usrinc; then
   case "$dflt" in
   *$thisincl*);;
   *) dflt="$dflt -I$thisincl";;
   esac
  fi
 fi
done

?X: Include test function (header, symbol)
inctest='if $contains $2 $usrinc/$1 >/dev/null 2>&1; then
 xxx=true;
elif $contains $2 $usrinc/sys/$1 >/dev/null 2>&1; then
 xxx=true;
else
 xxx=false;
fi;
if
 $xxx; then
 case "$dflt" in
 *$2*);;
 *) dflt="$dflt -D$2";;
 esac;
fi'

?X:
?X: OSF/1 uses __LANGUAGE_C__ instead of LANGUAGE_C
?X:
if ./osf1; then
 set signal.h __LANGUAGE_C__; eval $inctest
else
 set signal.h LANGUAGE_C; eval $inctest
fi

case "$hint" in
default|recommended) dflt="$ccflags $dflt" ;;
*) dflt="$ccflags";;
esac

case "$dflt" in
"|' ') dflt=none;;
esac
$cat <<EOH

Your C compiler may want other flags.  For this question you should include
```

```
-I/whatever and -DWHATEVER flags and any other flags used by the C compiler,
but you should NOT include libraries or ld flags like -lwhatever.

To use no flags, specify the word "none".

EOH
?X: strip leading space
set X $dflt
shift
dflt=${1+"$@"}
rp="Any additional cc flags?"
. ./myread
case "$ans" in
none) ccflags=";;
*) ccflags="$ans";;
esac

: the following weeds options from ccflags that are of no interest to cpp
cppflags="$ccflags"
case "$gccversion" in
1*) cppflags="$cppflags -D__GNUC__"
esac
case "$mips_type" in
");;
*BSD*)
 cppflags="$cppflags -DSYSTYPE_BSD43";;
esac
case "$cppflags" in
");;
*)
 echo " "
 echo "Let me guess what the preprocessor flags are..." >&4
 set X $cppflags
 shift
 cppflags="
 $cat >cpp.c <<'EOM'
#define BLURFL foo

BLURFL xx LFRULB
EOM
?X:
?X: For each cc flag, try it out with both cppstdin and cpprun, since the
?X: first is almost surely a cc wrapper. We have to try both in case
?X: of cc flags like '-Olimit 2900' that are actually two words...
?X:
 previous="
 for flag in $*
 do
```

```
 case "$flag" in
 -*) ftry="$flag";;
 *) ftry="$previous $flag";;
 esac
 if $cppstdin -DLFRULB=bar $ftry $cppminus <cpp.c \
  >cpp1.out 2>/dev/null && \
  $cpprun -DLFRULB=bar $ftry $cpplast <cpp.c \
  >cpp2.out 2>/dev/null && \
  $contains 'foo.*xx.*bar' cpp1.out >/dev/null 2>&1 && \
  $contains 'foo.*xx.*bar' cpp2.out >/dev/null 2>&1
 then
  cppflags="$cppflags $ftry"
  previous="
 else
  previous="$flag"
 fi
done
set X $cppflags
shift
cppflags=${1+"$@"}
case "$cppflags"
in
*-*)  echo "They appear to be: $cppflags";;
esac
$rm -f cpp.c cpp?.out
;;
esac

: flags used in final linking phase
case "$ldflags" in
') if ./venix; then
  dflt='-i -z'
 else
  dflt='
 fi
 case "$ccflags" in
 *-posix*) dflt="$dflt -posix" ;;
 esac
 ;;
*) dflt="$ldflags";;
esac

: Try to guess additional flags to pick up local libraries.
for thislibdir in $libpth; do
 case " $loclibpth " in
 *" $thislibdir "*)
  case "$dflt " in
  *"-L$thislibdir "*) ;;
```

```
  *)  dflt="$dflt -L$thislibdir" ;;
  esac
  ;;
 esac
done

case "$dflt" in
') dflt='none' ;;
*) set X $dflt; shift; dflt="$@";;
esac

$cat <<EOH

Your C linker may need flags.  For this question you should
include -L/whatever and any other flags used by the C linker, but you
should NOT include libraries like -lwhatever.

Make sure you include the appropriate -L/path flags if your C linker
does not normally search all of the directories you specified above,
namely
 $libpth
To use no flags, specify the word "none".

EOH

rp="Any
 additional ld flags (NOT including libraries)?"
. ./myread
case "$ans" in
none) ldflags=";;
*) ldflags="$ans";;
esac
rmlist="$rmlist pdp11"

@if lkflags
: partial linking may need other flags
case "$lkflags" in
') case "$ldflags" in
 ') dflt='none';;
 *) dflt="$ldflags";;
 esac;;
*) dflt="$lkflags";;
esac
echo " "
rp="Partial linking flags to be used (NOT including -r)?"
. ./myread
case "$ans" in
none) lkflags=";;
```

```
*) lkflags="$ans";;
esac

@end
?X:
?X: If the user changes compilers after selecting a hint file, it's
?X: possible that the suggested ccflags/ldflags will be wrong.  Try to
?X: compile and run a simple test program.  Let the user see all the
?X: error messages. -- ADO and RAM
?X:
: coherency check
echo " "
echo "Checking your choice of C compiler and flags for coherency..." >&4
?X: Strip extra blanks in case some of the following variables are empty
set X $cc $optimize $ccflags $ldflags -o try try.c
shift
$cat >try.msg <<EOM
I've tried to compile and run a simple program
 with:

 $*
 ./try

and I got the following output:

EOM
$cat > try.c <<'EOF'
#include <stdio.h>
int main() { exit(0); }
EOF
dflt=y
?X: Use "sh -c" to avoid error messages tagged with leading "Configure:".
?X: We need to try the resulting executable, because cc might yield a 0 status
?X: even when ld failed, in which case the executable will not run properly,
?X: if its x bit is set at all...
if sh -c "$cc $optimize $ccflags $ldflags -o try try.c" >>try.msg 2>&1; then
 if sh -c './try' >>try.msg 2>&1; then
  dflt=n
 else
  echo "The program compiled OK, but exited with status $?." >>try.msg
  rp="You have a problem.  Shall I abort Configure"
  dflt=y
 fi
else
 echo "I can't compile the test program." >>try.msg
 rp="You have a BIG problem.  Shall I abort Configure"
 dflt=y
fi
```

```
case "$dflt" in
y)
 $cat try.msg >&4
?X: using -K will prevent default aborting--maybe they're cross compiling?
 case "$knowitall" in
 '')
  echo "(The supplied flags might be incorrect with this C compiler.)"
 ;;
 *)
 dflt=n;;
 esac
 echo " "
 . ./myread
 case "$ans" in
 n*|N*) ;;
 *) echo "Ok.  Stopping Configure." >&4
  exit 1
 ;;
 esac
 ;;
n) echo "OK, that should do.";;
esac
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/ccflags.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_memalign.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_memalign.U,v $
?RCS:
?MAKE:d_memalign: Inlibc
?MAKE: -pick add $@ %<
?S:d_memalign:
?S: This variable conditionally defines the HAS_MEMALIGN symbol, which
?S: indicates to the C program that the memalign() routine is available.
?S:.
?C:HAS_MEMALIGN :
?C: This symbol, if defined, indicates that the memalign routine is
```

?C: available to allocate aligned memory.
?C:.
?H:#$d_memalign HAS_MEMALIGN  /**/
?H:.
?LINT:set d_memalign
: see if memalign exists
set
 memalign d_memalign
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_memalign.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_syswait.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_syswait.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:42  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit looks wether <sys/wait.h> is available or not
?X:
?MAKE:i_syswait: Inhdr
?MAKE: -pick add $@ %<
?S:i_syswait:
?S: This variable conditionally defines I_SYS_WAIT, which indicates
?S: to the C program that it should include <sys/wait.h>.
?S:.
?C:I_SYS_WAIT (I_SYSWAIT):
?C: This symbol, if defined, indicates to the C program
 that it should
?C: include <sys/wait.h>.
?C:.
?H:#$i_syswait I_SYS_WAIT /**/
?H:.
?LINT:set i_syswait
: see if this is a syswait system
set sys/wait.h i_syswait
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_syswait.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_rand_r: Inlibc
?MAKE: -pick add $@ %<
?S:d_rand_r:
?S: This variable conditionally defines the HAS_RAND_R symbol,
?S: which indicates to the C program that the rand_r()
?S: routine is available.
?S:.
?C:HAS_RAND_R:
?C: This symbol, if defined, indicates that the rand_r routine
?C: is available to rand re-entrantly.
?C:.
?H:#$d_rand_r HAS_RAND_R  /**/
?H:.
?LINT:set d_rand_r
: see if rand_r exists
set rand_r d_rand_r
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_rand_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_wait: Inlibc
?MAKE: -pick add $@ %<
?S:d_sem_wait:
?S: This variable conditionally defines HAS_SEM_WAIT if sem_wait() is

?S: available to wait (grab, lock) a POSIX semaphore.
?S:.
?C:HAS_SEM_WAIT:
?C: This symbol, if defined, indicates that the sem_wait system call is
?C: available to wait (grab, lock) a POSIX semaphore.
?C:.
?H:#$d_sem_wait HAS_SEM_WAIT  /**/
?H:.
?LINT:set d_sem_wait
: see if sem_wait exists
set sem_wait d_sem_wait
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_wait.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_madvise: Inlibc
?MAKE: -pick add $@ %<
?S:d_madvise:
?S: This variable conditionally defines HAS_MADVISE if madvise() is
?S: available to map a file into memory.
?S:.
?C:HAS_MADVISE:
?C: This symbol, if defined, indicates that the madvise system call is
?C: available to map a file into memory.
?C:.
?H:#$d_madvise HAS_MADVISE  /**/
?H:.
?LINT:set d_madvise
: see if madvise exists
set madvise d_madvise
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_madvise.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysmman.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysmman: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sysmman:
?S: This variable conditionally defines the I_SYS_MMAN symbol, and
?S: indicates whether a C program should include <sys/mman.h>.
?S:.
?C:I_SYS_MMAN:
?C: This symbol, if defined, indicates that <sys/mman.h> exists and
?C: should be included.
?C:.
?H:#$i_sysmman I_SYS_MMAN  /**/
?H:.
?LINT:set i_sysmman
: see if this is a sys/mman.h system
set sys/mman.h i_sysmman
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sysmman.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_mq_getattr: Inlibc
?MAKE: -pick add $@ %<
?S:d_mq_getattr:
?S: This variable conditionally defines HAS_MQ_GETATTR if mq_getattr() is
?S: available to get the attributes and status of a POSIX message queue.
?S:.
?C:HAS_MQ_GETATTR:
?C: This symbol, if defined, indicates that the mq_getattr system call is
?C: available to get the attributes and status of a POSIX message queue.
?C:.
```

?H:#$d_mq_getattr HAS_MQ_GETATTR  /**/
?H:.
?LINT:set d_mq_getattr
: see if mq_getattr exists
set mq_getattr d_mq_getattr
eval $inlibc

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mq_getattr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: charorder.U,v 3.0.1.1 1994/10/29 16:07:08 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: charorder.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:07:08  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:33  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:chorder_int chorder_short chorder_long: Myread cat Compile rm
?MAKE: -pick add $@ %<
?S:chorder_short (d_cos d_bos):
?S: Holds the value describing the byte ordering of characters in a short.
?S: On a Big-Endian machine, that
 would be "c0c1".
?S:.
?S:chorder_int (charoder):
?S: Holds the value describing the byte ordering of characters in an int.
?S: For instance, on a Big-Endian machine, this would be: "c0c1c2c3".
?S:.
?S:chorder_long (d_col d_bol):
?S: Holds the value describing the byte ordering of characters in a long.
?S: On a 64 bits Big-Endian machine, that would yield: "c0c1c2c3c4c5c6c7".
?S:.
?C:CHAR_ORDER_SHORT:
?C: Holds the byte ordering of characters in a short. It's a string
?C: value like "c0c1" on a Big-Endian machine.
?C:.

```
?C:CHAR_ORDER_INT:
?C: Holds the byte ordering of characters in an int. It's a string
?C: value like "c0c1c2c3" on a Big-Endian machine.
?C:.
?C:CHAR_ORDER_LONG:
?C: Holds the byte ordering of characters in a long. It's a string
?C: value like "c0c1c2c3c4c5c6c7" on a 64 bits Big-Endian machine.
?C:.
?H:#define CHAR_ORDER_SHORT "$chorder_short" /* byte order in a short */
?H:#define CHAR_ORDER_INT "$chorder_int" /* byte order in an int */
?H:#define CHAR_ORDER_LONG "$chorder_long"
 /* byte order in a long */
?H:.
?F:!byteorder
: check for character ordering
echo " "
echo "Checking out byte order..." >&4
$cat >byteorder.c <<'EOCP'
#include <stdio.h>

int main(argc, argv)
 int argc;
 char *argv[]; {
 int i;
 int max;
 union {
  short u_s;
  int u_i;
  long u_l;
  char u_c[sizeof(long)];
 } u;
 switch (argv[1][0]) {
 case 'l':
  u.u_l = 0L;
  /* HMS: ASSERT: sizeof(long) < 10. */
  for(i = 0; i < sizeof(long); ++i) {
   u.u_l *= 0x100L;
   u.u_l += (0xc0 + i);
  }
  max = sizeof(long);
  break;
 case 's':
  u.u_s = 0;
  /* HMS: ASSERT: sizeof(short) < 10. */
  for(i = 0; i < sizeof(short); ++i) {
   u.u_s *= 0x100L;
   u.u_s += (0xc0 + i);
  }
```

```
 max = sizeof(short);
 break;
case 'i':
 u.u_i = 0;
 /* RAM: ASSERT: sizeof(int) < 10. */
 for(i = 0; i < sizeof(int); ++i) {
  u.u_l *= 0x100L;
  u.u_l += (0xc0 + i);
 }
 max = sizeof(int);
 break;
default:
 max = 0;
 break;
}
for(i = 0; i < max; i++) {
 printf("%x", u.u_c[i] & 0x00FF);
}
printf("\n");
exit(0);
}
EOCP
set
 byteorder
if eval $compile_ok ; then
 : null statement
@if chorder_short
   chorder_short=`./byteorder s`
@end
@if chorder_int
   chorder_int=`./byteorder i`
@end
@if chorder_long
   chorder_long=`./byteorder l`
@end
else
 $cat <<EOM
(I can't seem to get my test program to work.  Guessing 32 bits big-endian.)
EOM
   chorder_short="c0c1"
   chorder_int="c0c1c2c3"
   chorder_long="c0c1c2c3"
fi
@if chorder_short
dflt=$chorder_short
rp='What is the order of characters in a short?'
. ./myread
chorder_short="$ans"
```

```
@end
@if chorder_int
dflt=$chorder_int
rp='What is the order of characters in an int?'
. ./myread
chorder_int="$ans"
@end
@if chorder_long
dflt=$chorder_long
rp='What is the order of characters in a long?'
. ./myread
chorder_long="$ans"
@end
$rm -f byteorder* core
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/charorder.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_clock_gettime: Inlibc
?MAKE: -pick add $@ %<
?S:d_clock_gettime:
?S: This variable conditionally defines HAS_CLOCK_GETTIME
?S: if clock_gettime() is available to get the time of a POSIX clock.
?S:.
?C:HAS_CLOCK_GETTIME:
?C: This symbol, if defined, indicates that the clock_gettime
?C: system call is available to get the time of a POSIX clock.
?C:.
?H:#$d_clock_gettime HAS_CLOCK_GETTIME  /**/
?H:.
?LINT:set d_clock_gettime
: see if clock_gettime exists
set clock_gettime d_clock_gettime
eval $inlibc
```

Found in path(s):
*

/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_clock_gettime.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_locconv.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_locconv.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:14:11  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_locconv: Inlibc
?MAKE: -pick add $@ %<
?S:d_locconv:
?S: This variable conditionally defines HAS_LOCALECONV if localeconv() is
?S: available for numeric and monetary formatting conventions.
?S:.
?C:HAS_LOCALECONV:
?C: This symbol, if defined, indicates that the localeconv
 routine is
?C: available for numeric and monetary formatting conventions.
?C:.
?H:#$d_locconv HAS_LOCALECONV /**/
?H:.
?LINT:set d_locconv
: see if localeconv exists
set localeconv d_locconv
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_locconv.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getprotobynumber_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.

```
?RCS:
?MAKE:d_getprotobynumber_r getprotobynumber_r_proto: Inlibc Protochk \
 Hasproto i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_getprotobynumber_r:
?S: This variable conditionally defines the HAS_GETPROTOBYNUMBER_R symbol,
?S: which indicates to the C program that the getprotobynumber_r()
?S: routine is available.
?S:.
?S:getprotobynumber_r_proto:
?S: This variable encodes the prototype of getprotobynumber_r.
?S: It is zero if d_getprotobynumber_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getprotobynumber_r
?S: is defined.
?S:.
?C:HAS_GETPROTOBYNUMBER_R:
?C: This
 symbol, if defined, indicates that the getprotobynumber_r routine
?C: is available to getprotobynumber re-entrantly.
?C:.
?C:GETPROTOBYNUMBER_R_PROTO:
?C: This symbol encodes the prototype of getprotobynumber_r.
?C: It is zero if d_getprotobynumber_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getprotobynumber_r
?C: is defined.
?C:.
?H:#$d_getprotobynumber_r HAS_GETPROTOBYNUMBER_R    /**/
?H:#define GETPROTOBYNUMBER_R_PROTO $getprotobynumber_r_proto    /**/
?H:.
?T:try hdrs d_getprotobynumber_r_proto
: see if getprotobynumber_r exists
set getprotobynumber_r d_getprotobynumber_r
eval $inlibc
case "$d_getprotobynumber_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getprotobynumber_r_proto:$usethreads" in
 ":define") d_getprotobynumber_r_proto=define
  set d_getprotobynumber_r_proto getprotobynumber_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getprotobynumber_r_proto" in
 define)
 case "$getprotobynumber_r_proto"
 in
 "|0) try='int getprotobynumber_r(int, struct protoent*, char*, size_t, struct protoent**);'
 ./protochk "$extern_C $try" $hdrs && getprotobynumber_r_proto=I_ISBWR ;;
```

```
esac
case "$getprotobynumber_r_proto" in
"|0) try='struct protoent* getprotobynumber_r(int, struct protoent*, char*, int);'
./protochk "$extern_C $try" $hdrs && getprotobynumber_r_proto=S_ISBI ;;
esac
case "$getprotobynumber_r_proto" in
"|0) try='int getprotobynumber_r(int, struct protoent*, struct protoent_data*);'
./protochk "$extern_C $try" $hdrs && getprotobynumber_r_proto=I_ISD ;;
esac
case "$getprotobynumber_r_proto" in
"|0) d_getprotobynumber_r=undef
        getprotobynumber_r_proto=0
 echo "Disabling getprotobynumber_r, cannot determine prototype." >&4 ;;
* ) case "$getprotobynumber_r_proto" in
 REENTRANT_PROTO*) ;;
 *) getprotobynumber_r_proto="REENTRANT_PROTO_$getprotobynumber_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo
"getprotobynumber_r has no prototype, not using it." >&4 ;;
 esac
 d_getprotobynumber_r=undef
 getprotobynumber_r_proto=0
 ;;
esac
;;
*) getprotobynumber_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getprotobynumber_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_endhostent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_endhostent_r endhostent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
```

```
?S:d_endhostent_r:
?S: This variable conditionally defines the HAS_ENDHOSTENT_R symbol,
?S: which indicates to the C program that the endhostent_r()
?S: routine is available.
?S:.
?S:endhostent_r_proto:
?S: This variable encodes the prototype of endhostent_r.
?S: It is zero if d_endhostent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endhostent_r
?S: is defined.
?S:.
?C:HAS_ENDHOSTENT_R:
?C: This symbol, if defined, indicates that the endhostent_r routine
?C: is
 available to endhostent re-entrantly.
?C:.
?C:ENDHOSTENT_R_PROTO:
?C: This symbol encodes the prototype of endhostent_r.
?C: It is zero if d_endhostent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endhostent_r
?C: is defined.
?C:.
?H:#$d_endhostent_r HAS_ENDHOSTENT_R    /**/
?H:#define ENDHOSTENT_R_PROTO $endhostent_r_proto    /**/
?H:.
?T:try hdrs d_endhostent_r_proto
: see if endhostent_r exists
set endhostent_r d_endhostent_r
eval $inlibc
case "$d_endhostent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_endhostent_r_proto:$usethreads" in
 ":define") d_endhostent_r_proto=define
  set d_endhostent_r_proto endhostent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_endhostent_r_proto" in
 define)
 case "$endhostent_r_proto" in
 "|0) try='int endhostent_r(struct hostent_data*);'
 ./protochk "$extern_C $try" $hdrs && endhostent_r_proto=I_D ;;
 esac
 case "$endhostent_r_proto" in
 "|0) try='void
 endhostent_r(struct hostent_data*);'
 ./protochk "$extern_C $try" $hdrs && endhostent_r_proto=V_D ;;
```

```
 esac
 case "$endhostent_r_proto" in
 "|0) d_endhostent_r=undef
        endhostent_r_proto=0
 echo "Disabling endhostent_r, cannot determine prototype." >&4 ;;
 * ) case "$endhostent_r_proto" in
 REENTRANT_PROTO*) ;;
 *) endhostent_r_proto="REENTRANT_PROTO_$endhostent_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
 define) echo "endhostent_r has no prototype, not using it." >&4 ;;
 esac
 d_endhostent_r=undef
 endhostent_r_proto=0
 ;;
 esac
 ;;
*) endhostent_r_proto=0
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_endhostent_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_perror.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_perror.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:11:38  ram
?RCS: patch32: always define HAS_PERROR even when not used in C code
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_perror: Inlibc
?MAKE: -pick add $@ %<
?S:d_perror:
```

```
?S: This variable conditionally remaps perror to a null action and
?S: defines the symbol HAS_PERROR, which indicates to the C program
?S: that the perror()
 routine is not available to print system
?S: error messages.
?S:.
?C:HAS_PERROR ~ %<:
?C: This symbol, if defined, indicates that the perror() routine is
?C: available to print system error messages. If not defined, you should
?C: use your own diagnostic routine...
?C:.
?C:perror ~ %<:
?C: This symbol is maped to null if the  perror() routine is not
?C: available to print system error messages.
?C:.
?H:?%<:#$d_perror HAS_PERROR /**/
?H:?%<:#ifndef HAS_PERROR
?H:?%<:#define perror(s) ;  /* mapped to a null statement */
?H:?%<:#endif
?H:.
?LINT:set d_perror
: see if perror exists
set perror d_perror
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_perror.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_iconv: Inlibc
?MAKE: -pick add $@ %<
?S:d_iconv:
?S: This variable conditionally defines the HAS_ICONV symbol, which
?S: indicates to the C program that the iconv() routine is available.
?S:.
?C:HAS_ICONV:
?C: This symbol, if defined, indicates that the iconv routine is
?C: available to do character set conversions.
?C:.
?H:#$d_iconv HAS_ICONV  /**/
?H:.
```

```
?LINT:set d_iconv
: see if iconv exists
set iconv d_iconv
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_iconv.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: perlxv.U,v 1.1 2000/08/31 17:53:56 jhi Exp jhi $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:ivtype uvtype nvtype ivsize uvsize nvsize \
    i8type u8type i16type u16type i32type u32type i64type u64type \
    i8size u8size i16size u16size i32size u32size i64size u64size \
    d_nv_preserves_uv nv_preserves_uv_bits nv_overflows_integers_at \
    d_nv_zero_is_allbits_zero: \
 echo rm_try use64bitint d_quad quadtype uquadtype usequadmath \
 d_longdbl uselongdouble longdblsize doublesize i_quadmath \
 shortsize intsize longsize i_stdlib i_string libs gccversion \
 cat Compile i_inttypes test d_volatile signal_t run
?MAKE: -pick add $@ %<
?S:ivtype:
?S: This variable contains the C type used for Perl's IV.
?S:.
?S:uvtype:
?S: This variable
 contains the C type used for Perl's UV.
?S:.
?S:nvtype:
?S: This variable contains the C type used for Perl's NV.
?S:.
?S:i8type:
?S: This variable contains the C type used for Perl's I8.
?S:.
?S:u8type:
?S: This variable contains the C type used for Perl's U8.
?S:.
?S:i16type:
?S: This variable contains the C type used for Perl's I16.
?S:.
?S:u16type:
?S: This variable contains the C type used for Perl's U16.
?S:.
```

?S:i32type:
?S: This variable contains the C type used for Perl's I32.
?S:.
?S:u32type:
?S: This variable contains the C type used for Perl's U32.
?S:.
?S:i64type:
?S: This variable contains the C type used for Perl's I64.
?S:.
?S:u64type:
?S: This variable contains the C type used for Perl's U64.
?S:.
?S:ivsize:
?S: This variable is the size of an IV in bytes.
?S:.
?S:uvsize:
?S: This variable is the size of a UV in bytes.
?S:.
?S:i8size:
?S: This variable is the size of an I8 in bytes.
?S:.
?S:u8size:
?S: This variable is the size of an U8 in bytes.
?S:.
?S:i16size:
?S: This
 variable is the size of an I16 in bytes.
?S:.
?S:u16size:
?S: This variable is the size of an U16 in bytes.
?S:.
?S:i32size:
?S: This variable is the size of an I32 in bytes.
?S:.
?S:u32size:
?S: This variable is the size of an U32 in bytes.
?S:.
?S:i64size:
?S: This variable is the size of an I64 in bytes.
?S:.
?S:u64size:
?S: This variable is the size of an U64 in bytes.
?S:.
?S:nvsize:
?S: This variable is the size of a Perl NV in bytes.
?S: Note that some floating point formats have unused bytes.
?S:.
?S:d_nv_preserves_uv:

?S: This variable indicates whether a variable of type nvtype
?S: can preserve all the bits a variable of type uvtype.
?S:.
?S:nv_preserves_uv_bits:
?S: This variable indicates how many of bits type uvtype
?S: a variable nvtype can preserve.
?S:.
?S:nv_overflows_integers_at:
?S: This variable gives the largest integer value that NVs can hold
?S: as a constant floating point expression.
?S: If it could not be determined, it holds the value 0.
?S:.
?S:d_nv_zero_is_allbits_zero:
?S: This
 variable indicates whether a variable of type nvtype
?S: stores 0.0 in memory as all bits zero.
?S:.
?C:IVTYPE:
?C: This symbol defines the C type used for Perl's IV.
?C:.
?C:UVTYPE:
?C: This symbol defines the C type used for Perl's UV.
?C:.
?C:I8TYPE:
?C: This symbol defines the C type used for Perl's I8.
?C:.
?C:U8TYPE:
?C: This symbol defines the C type used for Perl's U8.
?C:.
?C:I16TYPE:
?C: This symbol defines the C type used for Perl's I16.
?C:.
?C:U16TYPE:
?C: This symbol defines the C type used for Perl's U16.
?C:.
?C:I32TYPE:
?C: This symbol defines the C type used for Perl's I32.
?C:.
?C:U32TYPE:
?C: This symbol defines the C type used for Perl's U32.
?C:.
?C:I64TYPE:
?C: This symbol defines the C type used for Perl's I64.
?C:.
?C:U64TYPE:
?C: This symbol defines the C type used for Perl's U64.
?C:.
?C:NVTYPE:

?C: This symbol defines the C type used for Perl's NV.
?C:.
?C:IVSIZE:
?C: This symbol contains the sizeof(IV).
?C:.
?C:UVSIZE:
?C: This
 symbol contains the sizeof(UV).
?C:.
?C:I8SIZE:
?C: This symbol contains the sizeof(I8).
?C:.
?C:U8SIZE:
?C: This symbol contains the sizeof(U8).
?C:.
?C:I16SIZE:
?C: This symbol contains the sizeof(I16).
?C:.
?C:U16SIZE:
?C: This symbol contains the sizeof(U16).
?C:.
?C:I32SIZE:
?C: This symbol contains the sizeof(I32).
?C:.
?C:U32SIZE:
?C: This symbol contains the sizeof(U32).
?C:.
?C:I64SIZE:
?C: This symbol contains the sizeof(I64).
?C:.
?C:U64SIZE:
?C: This symbol contains the sizeof(U64).
?C:.
?C:NVSIZE:
?C: This symbol contains the sizeof(NV).
?C: Note that some floating point formats have unused bytes.
?C: The most notable example is the x86* 80-bit extended precision
?C: which comes in byte sizes of 12 and 16 (for 32 and 64 bit
?C: platforms, respectively), but which only uses 10 bytes.
?C: Perl compiled with -Duselongdouble on x86* is like this.
?C:.
?C:NV_PRESERVES_UV:
?C: This symbol, if defined, indicates that a variable of type NVTYPE
?C: can preserve all the bits of a variable
 of type UVTYPE.
?C:.
?C:NV_PRESERVES_UV_BITS:
?C: This symbol contains the number of bits a variable of type NVTYPE

```
?C: can preserve of a variable of type UVTYPE.
?C:.
?C:NV_OVERFLOWS_INTEGERS_AT:
?C: This symbol gives the largest integer value that NVs can hold. This
?C: value + 1.0 cannot be stored accurately. It is expressed as constant
?C: floating point expression to reduce the chance of decimal/binary
?C: conversion issues. If it can not be determined, the value 0 is given.
?C:.
?C:NV_ZERO_IS_ALLBITS_ZERO:
?C: This symbol, if defined, indicates that a variable of type NVTYPE
?C: stores 0.0 in memory as all bits zero.
?C:.
?H:#define IVTYPE  $ivtype  /**/
?H:#define UVTYPE  $uvtype  /**/
?H:#define I8TYPE  $i8type  /**/
?H:#define U8TYPE  $u8type  /**/
?H:#define I16TYPE  $i16type /**/
?H:#define U16TYPE  $u16type /**/
?H:#define I32TYPE  $i32type /**/
?H:#define U32TYPE  $u32type /**/
?H:?%<:#ifdef HAS_QUAD
?H:?%<:#define I64TYPE  $i64type /**/
?H:?%<:#define U64TYPE  $u64type /**/
?H:?%<:#endif
?H:#define NVTYPE  $nvtype  /**/
?H:#define IVSIZE  $ivsize  /**/
?H:#define UVSIZE  $uvsize  /**/
?H:#define I8SIZE  $i8size  /**/
?H:#define U8SIZE  $u8size  /**/
?H:#define I16SIZE  $i16size /**/
?H:#define U16SIZE  $u16size /**/
?H:#define I32SIZE  $i32size /**/
?H:#define U32SIZE  $u32size /**/
?H:?%<:#ifdef
 HAS_QUAD
?H:?%<:#define I64SIZE  $i64size /**/
?H:?%<:#define U64SIZE  $u64size /**/
?H:?%<:#endif
?H:#define NVSIZE  $nvsize  /**/
?H:#$d_nv_preserves_uv NV_PRESERVES_UV
?H:#define NV_PRESERVES_UV_BITS $nv_preserves_uv_bits
?H:#define NV_OVERFLOWS_INTEGERS_AT $nv_overflows_integers_at
?H:#$d_nv_zero_is_allbits_zero NV_ZERO_IS_ALLBITS_ZERO
?H:?%<:#if UVSIZE == 8
?H:?%<:#   ifdef BYTEORDER
?H:?%<:#       if BYTEORDER == 0x1234
?H:?%<:#           undef BYTEORDER
?H:?%<:#           define BYTEORDER 0x12345678
```

```
?H:?%<:#       else
?H:?%<:#           if BYTEORDER == 0x4321
?H:?%<:#               undef BYTEORDER
?H:?%<:#               define BYTEORDER 0x87654321
?H:?%<:#
           endif
?H:?%<:#       endif
?H:?%<:#   endif
?H:?%<:#endif
?H:.
?T:volatile
?T:xxx
?T:d
?F:!try
: Check basic sizes
echo " "
$echo "Choosing the C types to be used for Perl's internal types..." >&4

case "$use64bitint:$d_quad:$quadtype" in
define:define:?*)
 ivtype="$quadtype"
 uvtype="$uquadtype"
 ivsize=8
 uvsize=8
 ;;
*) ivtype="long"
 uvtype="unsigned long"
 ivsize=$longsize
 uvsize=$longsize
 ;;
esac

case "$uselongdouble:$d_longdbl" in
define:define)
 nvtype="long double"
 nvsize=$longdblsize
 ;;
*) nvtype=double
 nvsize=$doublesize
 ;;
esac

case "$usequadmath:$i_quadmath" in
define:define)
 nvtype="__float128"
 nvsize=16
 case "$libs" in
 *quadmath*) ;;
```

```
 *) $cat <<EOM >&4

*** You requested the use of the quadmath library, but you
*** do not seem to have the quadmath library installed.
*** Cannot continue, aborting.
EOM
   exit 1
   ;;
 esac
 ;;
define:*) $cat <<EOM >&4

*** You requested the use of the quadmath library, but you
*** do not seem to
 have the required header, <quadmath.h>.
EOM
 case "$gccversion" in
 [23].*|4.[0-5]*)
  $cat <<EOM >&4
*** Your gcc looks a bit old:
*** $gccversion
EOM
   ;;
 ")
  $cat <<EOM >&4
*** You are not running a gcc.
EOM
   ;;
 esac
 $cat <<EOM >&4
*** For the quadmath library you need at least gcc 4.6.
*** Cannot continue, aborting.
EOM
 exit 1
 ;;
esac

$echo "(IV will be "$ivtype", $ivsize bytes)"
$echo "(UV will be "$uvtype", $uvsize bytes)"
$echo "(NV will be "$nvtype", $nvsize bytes)"

$cat >try.c <<EOCP
#$i_inttypes I_INTTYPES
#ifdef I_INTTYPES
#include <inttypes.h>
#endif
#include <stdio.h>
int main() {
```

```
#ifdef INT8
  int8_t i =  INT8_MAX;
 uint8_t u = UINT8_MAX;
 printf("int8_t\n");
#endif
#ifdef INT16
  int16_t i =  INT16_MAX;
 uint16_t u = UINT16_MAX;
 printf("int16_t\n");
#endif
#ifdef INT32
  int32_t i =  INT32_MAX;
 uint32_t u = UINT32_MAX;
 printf("int32_t\n");
#endif
}
EOCP

i8type="signed char"
u8type="unsigned char"
i8size=1
u8size=1

case "$i16type" in
") case
 "$shortsize" in
 2) i16type=short
  u16type="unsigned short"
  i16size=$shortsize
  u16size=$shortsize
  ;;
 esac
 ;;
esac
case "$i16type" in
") set try -DINT16
 if eval $compile; then
  case "`$run ./try`" in
  int16_t)
   i16type=int16_t
   u16type=uint16_t
   i16size=2
   u16size=2
   ;;
  esac
 fi
 ;;
esac
```

```
case "$i16type" in
") if $test $shortsize -ge 2; then
  i16type=short
  u16type="unsigned short"
  i16size=$shortsize
  u16size=$shortsize
 fi
 ;;
esac

case "$i32type" in
") case "$longsize" in
 4) i32type=long
  u32type="unsigned long"
  i32size=$longsize
  u32size=$longsize
  ;;
 *) case "$intsize" in
  4) i32type=int
   u32type="unsigned int"
   i32size=$intsize
   u32size=$intsize
   ;;
  esac
  ;;
 esac
 ;;
esac
case "$i32type" in
") set try -DINT32
 if eval $compile; then
  case "`$run ./try`" in
  int32_t)
   i32type=int32_t
   u32type=uint32_t
   i32size=4
   u32size=4
   ;;
  esac
 fi
 ;;
esac
case "$i32type" in
") if $test $intsize -ge 4; then
  i32type=int
  u32type="unsigned
 int"
  i32size=$intsize
```

```
  u32size=$intsize
 fi
 ;;
esac

case "$i64type" in
") case "$d_quad:$quadtype" in
 define:?*)
  i64type="$quadtype"
  u64type="$uquadtype"
  i64size=8
  u64size=8
  ;;
 esac
 ;;
esac

$echo "Checking how many bits of your UVs your NVs can preserve..." >&4
: volatile so that the compiler has to store it out to memory.
if test X"$d_volatile" = X"$define"; then
 volatile=volatile
fi
$cat <<EOP >try.c
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#include <sys/types.h>
#include <signal.h>
#ifdef SIGFPE
$volatile int bletched = 0;
$signal_t blech(int s) { bletched = 1; }
#endif
int main() {
   $uvtype u = 0;
   $nvtype d;
   int     n = 8 * $uvsize;
   int     i;
#ifdef SIGFPE
   signal(SIGFPE, blech);
#endif

   for (i = 0; i < n; i++) {
     u = u << 1 | ($uvtype)1;
     d = ($nvtype)u;
     if (($uvtype)d != u)
       break;
```

```
    if (d <= 0)
 break;
    d = ($nvtype)(u - 1);
    if (($uvtype)d
 != (u - 1))
      break;
#ifdef SIGFPE
    if (bletched)
 break;
#endif
   }
   printf("%d\n", ((i == n) ? -n : i));
   exit(0);
}
EOP
set try

d_nv_preserves_uv="$undef"
if eval $compile; then
 nv_preserves_uv_bits="`$run ./try`"
fi
case "$nv_preserves_uv_bits" in
\-[1-9]*)
 nv_preserves_uv_bits=`expr 0 - $nv_preserves_uv_bits`
 $echo "Your NVs can preserve all $nv_preserves_uv_bits bits of your UVs."  2>&1
 d_nv_preserves_uv="$define"
 ;;
[1-9]*) $echo "Your NVs can preserve only $nv_preserves_uv_bits bits of your UVs."  2>&1
 d_nv_preserves_uv="$undef" ;;
*) $echo "Can't figure out how many bits your NVs preserve." 2>&1
 nv_preserves_uv_bits="0" ;;
esac
$rm_try

$echo "Checking to find the largest integer value your NVs can hold..." >&4
: volatile so that the compiler has to store it out to memory.
if test X"$d_volatile" = X"$define"; then
 volatile=volatile
fi
$cat <<EOP >try.c
#include <stdio.h>

typedef $nvtype NV;

int
main() {
 NV value = 2;
 int count = 1;
```

```
 while(count
 < 256) {
   $volatile NV up = value + 1.0;
   $volatile NV negated = -value;
   $volatile NV down = negated - 1.0;
   $volatile NV got_up = up - value;
   int up_good = got_up == 1.0;
   int got_down = down - negated;
   int down_good = got_down == -1.0;

   if (down_good != up_good) {
     fprintf(stderr,
       "Inconsistency - up %d %f; down %d %f; for 2**%d (%.20f)\n",
       up_good, (double) got_up, down_good, (double) got_down,
       count, (double) value);
     return 1;
   }
   if (!up_good) {
     while (1) {
 if (count > 8) {
   count -= 8;
   fputs("256.0", stdout);
 } else {
   count--;
   fputs("2.0", stdout);
 }
 if (!count) {
   puts("");
   return 0;
 }
 fputs("*", stdout);
     }
   }
   value *= 2;
   ++count;
 }
 fprintf(stderr, "Cannot overflow integer range, even at 2**%d (%.20f)\n",
   count, (double) value);
 return 1;
}
EOP
set try

nv_overflows_integers_at='0'
if eval $compile; then
   xxx="`$run ./try`"
   case "$?" in
```

```
0)

case "$xxx" in
 2*)  cat >&4 <<EOM
The largest integer your NVs can preserve is equal to $xxx
EOM
     nv_overflows_integers_at="$xxx"
     ;;
 *)  cat >&4 <<EOM
Cannot determine the largest integer value your NVs can hold, unexpected output
'$xxx'
EOM
     ;;
    esac
    ;;
 *)  cat >&4 <<EOM
Cannot determine the largest integer value your NVs can hold
EOM
    ;;
  esac
fi
$rm_try

$echo "Checking whether NV 0.0 is all bits zero in memory..." >&4
: volatile so that the compiler has to store it out to memory.
if test X"$d_volatile" = X"$define"; then
 volatile=volatile
fi
$cat <<EOP >try.c
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#$i_string I_STRING
#ifdef I_STRING
#  include <string.h>
#else
#  include <strings.h>
#endif
#include <sys/types.h>
#include <signal.h>
#ifdef SIGFPE
$volatile int bletched = 0;
$signal_t blech(int s) { bletched = 1; }
#endif

int checkit($nvtype d, const char *where) {
```

```
  void *v = &d;
  unsigned char *p
 = (unsigned char *)v;
  unsigned char *end = p + sizeof(d);
  int fail = 0;

  while (p < end)
 fail += *p++;

  if (!fail)
 return 0;

  p = (unsigned char *)v;
  printf("No - %s: 0x", where);
  while (p < end)
 printf ("%02X", *p++);
  printf("\n");
  return 1;
}

int main(int argc, char **argv) {
  $nvtype d = 0.0;
  int fail = 0;
  fail += checkit(d, "0.0");

  /* The compiler shouldn't be assuming that bletched is 0  */
  d = bletched;

  fail += checkit(d, "bleched");

#ifdef SIGFPE
  signal(SIGFPE, blech);
#endif

  /* Paranoia - the compiler should have no way of knowing that ANSI says
     that argv[argc] will always be NULL.  Actually, if it did assume this it
     would be buggy, as this is C and main() can be called from elsewhere in
     the program.  */
  d = argv[argc] ? 1 : 0;

  if (d) {
 printf("Odd argv[argc]=%p, d=%g\n", argv[argc], d);
  }

  fail += checkit(d, "ternary");

  memset(&d, sizeof(d), argv[argc] ? 1 :
```

```
0);

  if (d != 0.0) {
printf("No - memset doesn't give 0.0\n");
/* This might just blow up:  */
printf("(gives %g)\n", d);
return 1;
  }

#ifdef SIGFPE
  if (bletched) {
printf("No - something bleched\n");
return 1;
  }
#endif
  if (fail) {
    printf("No - %d fail(s)\n", fail);
    return 1;
  }
  printf("Yes\n");
  return 0;
}
EOP
set try

d_nv_zero_is_allbits_zero="$undef"
if eval $compile; then
  xxx="`$run ./try`"
  case "$?" in
0)
    case "$xxx" in
  Yes)  cat >&4 <<EOM
0.0 is represented as all bits zero in memory
EOM
     d_nv_zero_is_allbits_zero="$define"
     ;;
  *)  cat >&4 <<EOM
0.0 is not represented as all bits zero in memory
EOM
     d_nv_zero_is_allbits_zero="$undef"
     ;;
    esac
    ;;
 *)  cat >&4 <<EOM
0.0 is not represented as all bits zero in memory
EOM
    d_nv_zero_is_allbits_zero="$undef"
    ;;
```

```
  esac
fi
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/perlxv.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_sethostent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_sethostent_r sethostent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_sethostent_r:
?S: This variable conditionally defines the HAS_SETHOSTENT_R symbol,
?S: which indicates to the C program that the sethostent_r()
?S: routine is available.
?S:.
?S:sethostent_r_proto:
?S: This variable encodes the prototype of sethostent_r.
?S: It is zero if d_sethostent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_sethostent_r
?S: is defined.
?S:.
?C:HAS_SETHOSTENT_R:
?C: This symbol, if defined, indicates that the sethostent_r routine
?C: is
 available to sethostent re-entrantly.
?C:.
?C:SETHOSTENT_R_PROTO:
?C: This symbol encodes the prototype of sethostent_r.
?C: It is zero if d_sethostent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_sethostent_r
?C: is defined.
?C:.
?H:#$d_sethostent_r HAS_SETHOSTENT_R    /**/
?H:#define SETHOSTENT_R_PROTO $sethostent_r_proto    /**/
?H:.
?T:try hdrs d_sethostent_r_proto
: see if sethostent_r exists
set sethostent_r d_sethostent_r
eval $inlibc
```

```
case "$d_sethostent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_sethostent_r_proto:$usethreads" in
 ":define") d_sethostent_r_proto=define
  set d_sethostent_r_proto sethostent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_sethostent_r_proto" in
 define)
 case "$sethostent_r_proto" in
 "|0) try='int sethostent_r(int, struct hostent_data*);'
 ./protochk "$extern_C $try" $hdrs && sethostent_r_proto=I_ID ;;
 esac
 case "$sethostent_r_proto" in
 "|0) try='void
 sethostent_r(int, struct hostent_data*);'
 ./protochk "$extern_C $try" $hdrs && sethostent_r_proto=V_ID ;;
 esac
 case "$sethostent_r_proto" in
 "|0) d_sethostent_r=undef
        sethostent_r_proto=0
  echo "Disabling sethostent_r, cannot determine prototype." >&4 ;;
 * ) case "$sethostent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) sethostent_r_proto="REENTRANT_PROTO_$sethostent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "sethostent_r has no prototype, not using it." >&4 ;;
  esac
  d_sethostent_r=undef
  sethostent_r_proto=0
  ;;
 esac
 ;;
*) sethostent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_sethostent_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_lchown.U,v 3.0.1.1 1994/08/29 16:07:14 ram Exp $

```
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_lchown.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:07:14  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_lchown: Compile Setvar cat echo
?MAKE: -pick add $@ %<
?S:d_lchown:
?S: This variable conditionally defines the HAS_LCHOWN symbol, which
?S: indicates to the C program that the lchown() routine is available
?S: to operate on a symbolic link (instead of following the link).
?S:.
?C:HAS_LCHOWN
 :
?C: This symbol, if defined, indicates that the lchown routine is
?C: available to operate on a symbolic link (instead of following the
?C: link).
?C:.
?H:#$d_lchown HAS_LCHOWN  /**/
?H:.
?LINT:set d_lchown
: see if lchown exists
echo " "
?X: Some functions (such as lchown()) are present in libc, but are
?X: unimplemented.  That is, they always fail and set errno=ENOSYS.
?X:
?X: Thomas Bushnell provided the following sample code and the explanation
?X: that follows.
?X:
?X: The choice of <assert.h> is essentially arbitrary.  The GNU libc
?X: macros are found in <gnu/stubs.h>.  You can include that file instead
?X: of <assert.h> (which itself includes <gnu/stubs.h>) if you test for
?X: its existence first.  <assert.h> is assumed to exist on every system,
?X: which is why it's used here.  Any GNU libc header file will include
?X: the stubs macros.  If either __stub_NAME or __stub___NAME is defined,
?X: then the function doesn't actually exist.  Tests using <assert.h>
 work
?X: on every system around.
```

```
?X:
?X: The declaration of FOO is there to override builtin prototypes for
?X: ANSI C functions.
?X:
?X:  I really ought to enhance the inlibc test to check for this, but
?X:  I don't have time now.  --A.D.  5/1998
?X:
$cat > try.c <<'EOCP'
/* System header to define __stub macros and hopefully few prototypes,
   which can conflict with char lchown(); below.  */
#include <assert.h>
/* Override any gcc2 internal prototype to avoid an error.  */
/* We use char because int might match the return type of a gcc2
  builtin and then its argument prototype would still apply.  */
char lchown();
int main() {
   /*  The GNU C library defines this for functions which it implements
       to always fail with ENOSYS.  Some functions are actually named
 something starting with __ and the normal name is an alias.  */
#if defined (__stub_lchown) || defined (__stub___lchown)
choke me
#else
lchown();
#endif
; return 0; }
EOCP
set try
if eval $compile; then
   $echo
 "lchown() found." >&4
   val="$define"
else
   $echo "lchown() NOT found." >&4
   val="$undef"
fi
set d_lchown
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_lchown.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getnetbyname_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
```

```
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getnetbyname_r getnetbyname_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_getnetbyname_r:
?S: This variable conditionally defines the HAS_GETNETBYNAME_R symbol,
?S: which indicates to the C program that the getnetbyname_r()
?S: routine is available.
?S:.
?S:getnetbyname_r_proto:
?S: This variable encodes the prototype of getnetbyname_r.
?S: It is zero if d_getnetbyname_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getnetbyname_r
?S: is defined.
?S:.
?C:HAS_GETNETBYNAME_R:
?C: This symbol, if defined, indicates that
 the getnetbyname_r routine
?C: is available to getnetbyname re-entrantly.
?C:.
?C:GETNETBYNAME_R_PROTO:
?C: This symbol encodes the prototype of getnetbyname_r.
?C: It is zero if d_getnetbyname_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getnetbyname_r
?C: is defined.
?C:.
?H:#$d_getnetbyname_r HAS_GETNETBYNAME_R    /**/
?H:#define GETNETBYNAME_R_PROTO $getnetbyname_r_proto    /**/
?H:.
?T:try hdrs d_getnetbyname_r_proto
: see if getnetbyname_r exists
set getnetbyname_r d_getnetbyname_r
eval $inlibc
case "$d_getnetbyname_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getnetbyname_r_proto:$usethreads" in
 ":define") d_getnetbyname_r_proto=define
  set d_getnetbyname_r_proto getnetbyname_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getnetbyname_r_proto" in
 define)
 case "$getnetbyname_r_proto" in
 "|0) try='int getnetbyname_r(const char*, struct netent*, char*, size_t, struct netent**, int*);'
 ./protochk
```

```
 "$extern_C $try" $hdrs && getnetbyname_r_proto=I_CSBWRE ;;
 esac
 case "$getnetbyname_r_proto" in
 "|0) try='int getnetbyname_r(const char*, struct netent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getnetbyname_r_proto=I_CSBI ;;
 esac
 case "$getnetbyname_r_proto" in
 "|0) try='struct netent* getnetbyname_r(const char*, struct netent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getnetbyname_r_proto=S_CSBI ;;
 esac
 case "$getnetbyname_r_proto" in
 "|0) try='int getnetbyname_r(const char*, struct netent*, struct netent_data*);'
 ./protochk "$extern_C $try" $hdrs && getnetbyname_r_proto=I_CSD ;;
 esac
 case "$getnetbyname_r_proto" in
 "|0) d_getnetbyname_r=undef
        getnetbyname_r_proto=0
  echo "Disabling getnetbyname_r, cannot determine prototype." >&4 ;;
 * ) case "$getnetbyname_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getnetbyname_r_proto="REENTRANT_PROTO_$getnetbyname_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define)
 echo "getnetbyname_r has no prototype, not using it." >&4 ;;
  esac
  d_getnetbyname_r=undef
  getnetbyname_r_proto=0
  ;;
 esac
 ;;
*) getnetbyname_r_proto=0
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getnetbyname_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_statblks.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:29  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_statblks: contains Setvar Findhdr
?MAKE: -pick add $@ %<
?S:d_statblks:
?S: This variable conditionally defines USE_STAT_BLOCKS if this system
?S: has a stat structure declaring st_blksize and st_blocks.
?S:.
?C:USE_STAT_BLOCKS (STATBLOCKS):
?C: This symbol is defined if this system has a stat structure declaring
?C: st_blksize and st_blocks.
?C:.
?H:#$d_statblks USE_STAT_BLOCKS
 /**/
?H:.
?T:xxx
?LINT:set d_statblks
: see if stat knows about block sizes
echo " "
xxx=`./findhdr sys/stat.h`
if $contains 'st_blocks;' "$xxx" >/dev/null 2>&1 ; then
 if $contains 'st_blksize;' "$xxx" >/dev/null 2>&1 ; then
  echo "Your stat() knows about block sizes." >&4
  val="$define"
 else
  echo "Your stat() doesn't know about block sizes." >&4
  val="$undef"
 fi
else
 echo "Your stat() doesn't know about block sizes." >&4
 val="$undef"
fi
set d_statblks
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_statblks.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorman1.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman1.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman1 vendorman1exp installvendorman1: man1dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman1:
?S: This variable contains the name of the directory for man1
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors who
 distribute perl may wish to place their own
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman1exp:
?S: This variable is the ~name expanded version of vendorman1, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorman1="
?S:installvendorman1:
?S: This variable is really the same as vendorman1exp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman1
: Set the vendorman1 variables
case "$vendorprefix" in
") vendorman1="
 vendorman1exp="
 ;;
*) : determine where vendor-supplied manual pages go.
 case "$vendorman1" in
 ") dflt=`echo "$man1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorman1 ;;
 esac
 case "$dflt" in
```

```
"| ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname for the vendor-supplied manual section 1 pages?'
 .
 ./getfile
 vendorman1="$ans"
 vendorman1exp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman1" = "X" && vendorman1=' '
prefixvar=vendorman1
. ./installprefix
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorman1.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_trywait: Inlibc
?MAKE: -pick add $@ %<
?S:d_sem_trywait:
?S: This variable conditionally defines HAS_SEM_TRYWAIT if sem_trywait() is
?S: available to attempt to wait (grab, lock) a POSIX semaphore.
?S:.
?C:HAS_SEM_TRYWAIT:
?C: This symbol, if defined, indicates that the sem_trywait system call is
?C: available to attempt to wait (grab, lock) a POSIX semaphore.
?C:.
?H:#$d_sem_trywait HAS_SEM_TRYWAIT  /**/
?H:.
?LINT:set d_sem_trywait
: see if sem_trywait exists
set sem_trywait d_sem_trywait
eval $inlibc
```

Found

in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_trywait.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_nexttoward: Inlibc
?MAKE: -pick add $@ %<
?S:d_nexttoward:
?S: This variable conditionally defines HAS_NEXTTOWARD if nexttoward()
?S: is available to return the next machine representable long double from
?S: x in direction y.
?S:.
?C:HAS_NEXTTOWARD:
?C: This symbol, if defined, indicates that the nexttoward routine is
?C: available to return the next machine representable long double from
?C: x in direction y.
?C:.
?H:#$d_nexttoward HAS_NEXTTOWARD  /**/
?H:.
?LINT:set d_nexttoward
: see if nexttoward exists
set nexttoward d_nexttoward
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_nexttoward.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_strerror_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_strerror_r strerror_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_string extern_C
?MAKE: -pick add $@ %<
?S:d_strerror_r:
?S: This variable conditionally defines the HAS_STRERROR_R symbol,
?S: which indicates to the C program that the strerror_r()
?S: routine is available.
?S:.
?S:strerror_r_proto:
?S: This variable encodes the prototype of strerror_r.

```
?S: It is zero if d_strerror_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_strerror_r
?S: is defined.
?S:.
?C:HAS_STRERROR_R:
?C: This symbol, if defined, indicates that the strerror_r routine
?C: is available
 to strerror re-entrantly.
?C:.
?C:STRERROR_R_PROTO:
?C: This symbol encodes the prototype of strerror_r.
?C: It is zero if d_strerror_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_strerror_r
?C: is defined.
?C:.
?H:#$d_strerror_r HAS_STRERROR_R    /**/
?H:#define STRERROR_R_PROTO $strerror_r_proto    /**/
?H:.
?T:try hdrs d_strerror_r_proto
: see if strerror_r exists
set strerror_r d_strerror_r
eval $inlibc
case "$d_strerror_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_string string.h"
 case "$d_strerror_r_proto:$usethreads" in
 ":define") d_strerror_r_proto=define
  set d_strerror_r_proto strerror_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_strerror_r_proto" in
 define)
 case "$strerror_r_proto" in
 "|0) try='int strerror_r(int, char*, size_t);'
 ./protochk "$extern_C $try" $hdrs && strerror_r_proto=I_IBW ;;
 esac
 case "$strerror_r_proto" in
 "|0) try='int strerror_r(int, char*, int);'
 ./protochk "$extern_C $try" $hdrs &&
 strerror_r_proto=I_IBI ;;
 esac
 case "$strerror_r_proto" in
 "|0) try='char* strerror_r(int, char*, size_t);'
 ./protochk "$extern_C $try" $hdrs && strerror_r_proto=B_IBW ;;
 esac
 case "$strerror_r_proto" in
 "|0) d_strerror_r=undef
```

```
        strerror_r_proto=0
 echo "Disabling strerror_r, cannot determine prototype." >&4 ;;
* ) case "$strerror_r_proto" in
 REENTRANT_PROTO*) ;;
 *) strerror_r_proto="REENTRANT_PROTO_$strerror_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "strerror_r has no prototype, not using it." >&4 ;;
 esac
 d_strerror_r=undef
 strerror_r_proto=0
 ;;
esac
;;
*) strerror_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_strerror_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cf_email.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:05:06  ram
?RCS: patch16: created
?RCS:
?RCS:
?MAKE:cf_email: cat cf_by test myhostname mydomain Oldconfig Myread
?MAKE: -pick add $@ %<
?S:cf_email:
?S: Electronic mail address of the person who ran Configure. This can be
?S: used by units that require the user's e-mail, like MailList.U.
?S:.
?T:cont maildomain
?LINT:extern MAILDOMAIN
```

```
: determine the e-mail address of the user who is running us
$cat <<EOM

I need to get your e-mail address
 in Internet format if possible, i.e.
something like user@host.domain. Please answer accurately since I have
no easy means to double check it. The default value provided below
is most probably close to reality but may not be valid from outside
your organization...

EOM
cont=x
while test "$cont"; do
 case "$MAILDOMAIN" in
 '')
  if $test -s /etc/mailname; then
   maildomain=`$cat /etc/mailname`
  else
   maildomain="$myhostname$mydomain"
  fi
  ;;
 *)  maildomain="$MAILDOMAIN";;
 esac
 case "$cf_email" in
 '') dflt="$cf_by@$maildomain";;
 *)  dflt="$cf_email";;
 esac
 rp='What is your e-mail address?'
 . ./myread
 cf_email="$ans"
 case "$cf_email" in
 *@*.*) cont='' ;;
 *)
  rp='Address does not look like an Internet one.  Use it anyway?'
  case "$fastread" in
  yes) dflt=y ;;
  *) dflt=n ;;
  esac
  . ./myread
  case "$ans" in
  y*) cont='' ;;
  *) echo ' ' ;;
  esac
  ;;
 esac
done
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/cf_email.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_shmat.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  14:04:23  ram
?RCS: patch56: use findhdr to find <sys/shm.h>, to get the right one (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:18:56  ram
?RCS: patch27: added new symbol HAS_SHMAT_PROTOTYPE (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:54:18  ram
?RCS: patch23: new Shmat_t symbol to declare return type of shmat()
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_shmat shmattype
 d_shmatprototype: Inlibc cat +cc +ccflags \
 rm cppstdin cppflags cppminus Findhdr Setvar contains
?MAKE: -pick add $@ %<
?S:d_shmat:
?S: This variable conditionally defines the HAS_SHMAT symbol, which
?S: indicates to the C program that the shmat() routine is available.
?S:.
?S:shmattype:
?S: This symbol contains the type of pointer returned by shmat().
?S: It can be 'void *' or 'char *'.
?S:.
?S:d_shmatprototype:
?S: This variable conditionally defines the HAS_SHMAT_PROTOTYPE
?S: symbol, which indicates that sys/shm.h has a prototype for
?S: shmat.
?S:.
?C:HAS_SHMAT:
?C: This symbol, if defined, indicates that the shmat() routine is
?C: available to attach a shared memory segment to the process space.
?C:.
?C:Shmat_t:
```

```
?C: This symbol holds the return type of the shmat() system call.
?C: Usually set to 'void *' or 'char *'.
?C:.
?C:HAS_SHMAT_PROTOTYPE:
?C: This symbol, if defined, indicates that the sys/shm.h includes
?C: a prototype for shmat().  Otherwise, it is up to the program
 to
?C: guess one.  Shmat_t shmat _((int, Shmat_t, int)) is a good guess,
?C: but not always right so it should be emitted by the program only
?C: when HAS_SHMAT_PROTOTYPE is not defined to avoid conflicting defs.
?C:.
?H:#$d_shmat HAS_SHMAT  /**/
?H:#define Shmat_t $shmattype /**/
?H:#$d_shmatprototype HAS_SHMAT_PROTOTYPE /**/
?H:.
?LINT:set d_shmat d_shmatprototype
?T:xxx
: see if shmat exists
set shmat d_shmat
eval $inlibc
: see what shmat returns
case "$d_shmat" in
"$define")
 $cat >shmat.c <<'END'
#include <sys/shm.h>
void *shmat();
END
 if $cc $ccflags -c shmat.c >/dev/null 2>&1; then
  shmattype='void *'
 else
  shmattype='char *'
 fi
 echo "and it returns ($shmattype)." >&4
 : see if a prototype for shmat is available
 xxx=`./findhdr sys/shm.h`
 $cppstdin $cppflags $cppminus < $xxx > shmat.c 2>/dev/null
 if $contains 'shmat.*(' shmat.c >/dev/null 2>&1; then
  val="$define"
 else
  val="$undef"
 fi
 $rm -f shmat.[co]
 ;;
*)
 val="$undef"
 ;;
esac
set d_shmatprototype
```

eval $setvar

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_shmat.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_pwd.U,v 3.0.1.2 1995/07/25 14:10:57 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: i_pwd.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  14:10:57  ram
?RCS: patch56: use setvar so hint file values can override our guesses (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:03:27  ram
?RCS: patch23: had forgotten cppminus in cppstdin test (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:25  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks whether there is a pwd system or not
?X:
?MAKE:i_pwd d_pwquota d_pwage d_pwchange
 d_pwclass d_pwexpire \
 d_pwgecos d_pwpasswd d_pwcomment: \
 contains rm cppstdin cppflags cppminus Inhdr Findhdr Setvar
?MAKE: -pick add $@ %<
?S:i_pwd:
?S: This variable conditionally defines I_PWD, which indicates
?S: to the C program that it should include <pwd.h>.
?S:.
?S:d_pwquota:
?S: This variable conditionally defines PWQUOTA, which indicates
?S: that struct passwd contains pw_quota.
?S:.
?S:d_pwage:
?S: This variable conditionally defines PWAGE, which indicates
?S: that struct passwd contains pw_age.
?S:.
?S:d_pwchange:

?S: This variable conditionally defines PWCHANGE, which indicates
?S: that struct passwd contains pw_change.
?S:.
?S:d_pwclass:
?S: This variable conditionally defines PWCLASS, which indicates
?S: that struct passwd contains pw_class.
?S:.
?S:d_pwexpire:
?S: This variable conditionally defines PWEXPIRE, which indicates
?S: that struct passwd contains pw_expire.
?S:.
?S:d_pwcomment:
?S: This variable conditionally defines PWCOMMENT, which indicates
?S: that
 struct passwd contains pw_comment.
?S:.
?S:d_pwgecos:
?S: This variable conditionally defines PWGECOS, which indicates
?S: that struct passwd contains pw_gecos.
?S:.
?S:d_pwpasswd:
?S: This variable conditionally defines PWPASSWD, which indicates
?S: that struct passwd contains pw_passwd.
?S:.
?C:I_PWD:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <pwd.h>.
?C:.
?C:PWQUOTA:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_quota.
?C:.
?C:PWAGE:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_age.
?C:.
?C:PWCHANGE:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_change.
?C:.
?C:PWCLASS:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_class.
?C:.
?C:PWEXPIRE:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_expire.
?C:.

```
?C:PWCOMMENT:
?C: This
 symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_comment.
?C:.
?C:PWGECOS:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_gecos.
?C:.
?C:PWPASSWD:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_passwd.
?C:.
?H:#$i_pwd I_PWD  /**/
?H:#$d_pwquota PWQUOTA /**/
?H:#$d_pwage PWAGE /**/
?H:#$d_pwchange PWCHANGE /**/
?H:#$d_pwclass PWCLASS /**/
?H:#$d_pwexpire PWEXPIRE /**/
?H:#$d_pwcomment PWCOMMENT /**/
?H:#$d_pwgecos PWGECOS /**/
?H:#$d_pwpasswd PWPASSWD /**/
?H:.
?LINT: set i_pwd d_pwquota d_pwage d_pwchange d_pwclass d_pwexpire d_pwcomment
?LINT: set d_pwgecos d_pwpasswd
?T:xxx
: see if this is a pwd.h system
set pwd.h i_pwd
eval $inhdr

case "$i_pwd" in
$define)
 xxx=`./findhdr pwd.h`
 $cppstdin $cppflags $cppminus < $xxx >$$.h

 if $contains 'pw_quota' $$.h >/dev/null 2>&1; then
  val="$define"
 else
  val="$undef"
 fi
 set d_pwquota
 eval $setvar

 if $contains 'pw_age'
 $$.h >/dev/null 2>&1; then
  val="$define"
 else
  val="$undef"
```

```
fi
set d_pwage
eval $setvar

if $contains 'pw_change' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwchange
eval $setvar

if $contains 'pw_class' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwclass
eval $setvar

if $contains 'pw_expire' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwexpire
eval $setvar

if $contains 'pw_comment' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwcomment
eval $setvar

if $contains 'pw_gecos' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwgecos
eval $setvar

if $contains 'pw_passwd' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
```

```
 fi
 set d_pwpasswd
 eval $setvar

 $rm -f $$.h
 ;;
*)
 val="$undef";
 set d_pwquota; eval $setvar
 set d_pwage; eval $setvar
 set d_pwchange; eval $setvar
 set d_pwclass; eval $setvar
 set
 d_pwexpire; eval $setvar
 set d_pwcomment; eval $setvar
 set d_pwgecos; eval $setvar
 set d_pwpasswd; eval $setvar
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_pwd.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_mbtowc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_mbtowc.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:30  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_mbtowc: Inlibc
?MAKE: -pick add $@ %<
?S:d_mbtowc:
?S: This variable conditionally defines the HAS_MBTOWC symbol, which
?S: indicates to the C program that the mbtowc() routine is available
?S: to convert multibyte to a wide character.
?S:.
?C:HAS_MBTOWC (MBTOWC):
?C: This symbol, if defined, indicates that the mbtowc routine is available
?C: to
```

convert a multibyte to a wide character.
?C:.
?H:#$d_mbtowc HAS_MBTOWC  /**/
?H:.
?LINT:set d_mbtowc
: see if mbtowc exists
set mbtowc d_mbtowc
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_mbtowc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setpwent.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_setpwent.U,v $
?RCS:
?MAKE:d_setpwent: Inlibc
?MAKE: -pick add $@ %<
?S:d_setpwent:
?S: This variable conditionally defines the HAS_SETPWENT symbol, which
?S: indicates to the C program that the setpwent() routine is available
?S: for initializing sequential access to the passwd database.
?S:.
?C:HAS_SETPWENT:
?C: This symbol, if defined, indicates that the setpwent routine is
?C: available for initializing sequential access of the passwd database.
?C:.
?H:#$d_setpwent HAS_SETPWENT  /**/
?H:.
?LINT:set d_setpwent
: see if setpwent exists
set setpwent d_setpwent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_setpwent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: startsh.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:

```
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: startsh.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:25:31  ram
?RCS: patch61: avoid needless chatter since this is now done very early
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:startsh: sh sharpbang eunicefix
?MAKE: -pick add $@ %<
?S:startsh:
?S: This variable contains the string to put on the front of a shell
?S: script to make sure (hopefully) that it runs with sh and not some
?S: other
 shell.
?S:.
?F:!sharp
: figure out how to guarantee sh startup
?X: Avoid needless chatter since this is now done very early.
?X: echo " "
?X: echo "Checking out how to guarantee sh startup..." >&2
case "$startsh" in
") startsh=${sharpbang}${sh} ;;
*)
?X: echo "Let's see if '$startsh' works..." ;;
esac
cat >sharp <<EOSS
$startsh
set abc
test "$?abc" != 1
EOSS

chmod +x sharp
$eunicefix sharp
if ./sharp; then
 : echo "Yup, it does."
else
 echo "Hmm... '$startsh' does not guarantee sh startup..."
 echo "You may have to fix up the shell scripts to make sure $sh runs them."
fi
rm -f sharp
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/startsh.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getpent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_getpent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getpent: Inlibc
?MAKE: -pick add $@ %<
?S:d_getpent:
?S: This variable conditionally defines HAS_GETPROTOENT if getprotoent() is
?S: available to look up protocols in some data base or another.
?S:.
?C:HAS_GETPROTOENT:
?C: This symbol, if defined, indicates that the getprotoent() routine is
?C: available to look up protocols in some data base
 or another.
?C:.
?H:#$d_getpent HAS_GETPROTOENT  /**/
?H:.
?LINT:set d_getpent
: see if getprotoent exists
set getprotoent d_getpent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getpent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: ansi2knr.U,v 3.0.1.3 1994/05/06 15:11:49 ram Exp $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:ansi2knr: prototype +cc +ccflags package
?MAKE: -pick add $@ %<

```
?S:ansi2knr:
?S: This variable is set if the user needs to run ansi2knr.
?S: Currently, this is not supported, so we just abort.
?S:.
?Y:TOP
: Check if ansi2knr is required
case "$prototype" in
"$define") ;;
*) ansi2knr='ansi2knr'
 echo " "
 cat <<EOM >&4

$me:  FATAL ERROR:
This version of $package can only be compiled by a compiler that
understands function prototypes.  Unfortunately, your C compiler
 $cc $ccflags
doesn't seem to understand them.  Sorry about that.

If GNU cc is available for your system, perhaps you could try that instead.

Eventually, we hope to support building Perl
 with pre-ANSI compilers.
If you would like to help in that effort, please contact <perlbug@perl.org>.

Aborting Configure now.
EOM
 exit 2
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/ansi2knr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_netdb.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_netdb: Inhdr
?MAKE: -pick add $@ %<
?S:i_netdb:
?S: This variable conditionally defines the I_NETDB symbol, and indicates
?S: whether a C program should include <netdb.h>.
?S:.
?C:I_NETDB:
```

?C: This symbol, if defined, indicates that <netdb.h> exists and
?C: should be included.
?C:.
?H:#$i_netdb I_NETDB  /**/
?H:.
?LINT:set i_netdb
: see if this is a netdb.h system
set netdb.h i_netdb
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_netdb.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_endsent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_endsent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_endsent: Inlibc
?MAKE: -pick add $@ %<
?S:d_endsent:
?S: This variable conditionally defines HAS_ENDSERVENT if endservent() is
?S: available to close whatever was being used for service queries.
?S:.
?C:HAS_ENDSERVENT:
?C: This symbol, if defined, indicates that the endservent() routine is
?C: available to close whatever was being used for
 service queries.
?C:.
?H:#$d_endsent HAS_ENDSERVENT  /**/
?H:.
?LINT:set d_endsent
: see if endservent exists
set endservent d_endsent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_endsent.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_speedopt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_speedopt.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:15:51  ram
?RCS: patch36: call ./Cppsym explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:27  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_speedopt: Myread Cppsym Oldconfig cat models Setvar
?MAKE: -pick add $@ %<
?S:d_speedopt:
?S: This variable conditionally defines the SPEED_OVER_MEM symbol, which
?S: indicates to the C program that it can
 burn memory in order to save
?S: CPU time.
?S:.
?C:SPEED_OVER_MEM (SPEEDOVERMEM):
?C: This symbol, if defined, indicates that the program can use more
?C: memory in order to reduce CPU time.  The symbol doesn't say whether
?C: we are more interested in saving text space or data space.
?C:.
?H:#$d_speedopt SPEED_OVER_MEM /**/
?H:.
?LINT:set d_speedopt
: do we want speed at the expense of memory
$cat <<'EOM'

I can try to optimize this package for either speed or memory.  If you have
limited address space you may wish to optimize for memory.  Otherwise you
should probably optimize for speed.

EOM
case "$d_speedopt" in
") if ./Cppsym $smallmach; then
 case "$models" in
  *large*|*huge*) dflt=speed;;
  *) dflt=memory;;
```

```
 esac
else
 dflt=speed
fi
;;
*define*) dflt=speed;;
*) dflt=memory;;
esac
rp="What to optimize for?"
. ./myread
case "$ans" in
mem*) val="$undef";;
*) val="$define";;
esac
set d_speedopt
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_speedopt.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sitelib.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitelib.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:21:35  ram
?RCS: patch61: created
?RCS:
?MAKE:sitelib sitelibexp installsitelib sitelib_stem: cat Getfile Oldconfig \
 Setprefixvar Prefixit package version sed installstyle siteprefix
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitelib="
?S:sitelib:
?S: This variable contains the
 eventual value of the SITELIB symbol,
?S: which is the name of the private library for this package.  It may
```

?S: have a ~ on the front. It is up to the makefile to eventually create
?S: this directory while performing installation (with ~ substitution).
?S: The standard distribution will put nothing in this directory.
?S: After perl has been installed, users may install their own local
?S: architecture-independent modules in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitelibexp="
?S:sitelibexp:
?S: This variable is the ~name expanded version of sitelib, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installsitelib="
?S:installsitelib:
?S: This variable is really the same as sitelibexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?S:sitelib_stem:
?S: This variable is $sitelibexp with any trailing version-specific component
?S: removed.
 The elements in inc_version_list (inc_version_list.U) can
?S: be tacked onto this variable to generate a list of directories to search.
?S:.
?C:SITELIB:
?C: This symbol contains the name of the private library for this package.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.  The program
?C: should be prepared to do ~ expansion.
?C: The standard distribution will put nothing in this directory.
?C: After perl has been installed, users may install their own local
?C: architecture-independent modules in this directory with
?C:  MakeMaker Makefile.PL
?C: or equivalent.  See INSTALL for details.
?C:.
?C:SITELIB_EXP:
?C: This symbol contains the ~name expanded version of SITELIB, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?C:SITELIB_STEM:
?C: This define is SITELIB_EXP with any trailing version-specific component
?C: removed.  The elements in
 inc_version_list (inc_version_list.U) can
?C: be tacked onto this variable to generate a list of directories to search.
?C:.
?H:#define SITELIB "$sitelib"  /**/
?H:#define SITELIB_EXP "$sitelibexp"  /**/

```
?H:#define SITELIB_STEM "$sitelib_stem"  /**/
?H:.
?T:prog
?LINT:change prefixvar
?LINT:set installsitelib
?LINT:set sitelib
?LINT:set sitelibexp
: determine where site specific libraries go.
: Usual default is /usr/local/lib/perl5/site_perl/$version
: The default "style" setting is made in installstyle.U
: XXX No longer works with Prefixit stuff.
?X: remove any trailing -3.0 or other version identification
prog=`echo $package | $sed 's/-*[0-9.]*$//'`
case "$sitelib" in
'') case "$installstyle" in
 *lib/perl5*) dflt=$siteprefix/lib/$package/site_$prog/$version ;;
 *)  dflt=$siteprefix/lib/site_$prog/$version ;;
 esac
 ;;
*) dflt="$sitelib"
 ;;
esac
$cat <<EOM

The installation process will create a directory for
site-specific extensions and modules.  Most users find it convenient
to place
 all site-specific files in this directory rather than in the
main distribution directory.

EOM
fn=d~+
rp='Pathname for the site-specific library files?'
. ./getfile
prefixvar=sitelib
. ./setprefixvar
sitelib_stem=`echo "$sitelibexp" | sed "s,/$version$,,"`

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitelib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setreuid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setreuid.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setreuid d_setresuid: Inlibc
?MAKE: -pick add $@ %<
?S:d_setreuid:
?S: This variable conditionally defines HAS_SETREUID if setreuid() is
?S: available to change the real and effective uid of the current
?S: process.
?S:.
?S:d_setresuid:
?S: This variable conditionally defines HAS_SETREUID if setresuid() is
?S: available to change
 the real, effective and saved uid of the current
?S: process.
?S:.
?C:HAS_SETREUID (SETREUID):
?C: This symbol, if defined, indicates that the setreuid routine is
?C: available to change the real and effective uid of the current
?C: process.
?C:.
?C:HAS_SETRESUID (SETRESUID):
?C: This symbol, if defined, indicates that the setresuid routine is
?C: available to change the real, effective and saved uid of the current
?C: process.
?C:.
?H:#$d_setreuid HAS_SETREUID  /**/
?H:#$d_setresuid HAS_SETRESUID  /**/
?H:.
?LINT:set d_setreuid d_setresuid
: see if setreuid exists
set setreuid d_setreuid
eval $inlibc
set setresuid d_setresuid
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setreuid.U
No license file was found, but licenses were detected in source scan.

;###########################################################################
;# Jmake rules for building libraries, programs, scripts, and data files
;# $Id: Jmake.rules 18 2006-12-27 10:35:09Z rmanfredi $
```

```
/*
*     MACHINE-INDEPENDENT RULES -- DO NOT MODIFY
*/

/* $Id: Jmake.rules 18 2006-12-27 10:35:09Z rmanfredi $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: Jmake.rules,v $
* Revision 3.0.1.7  2004/08/22 08:28:58  ram
* patch71: random cleanup
*
* Revision 3.0.1.6  1997/02/28  14:56:01  ram
* patch61: now handles USRINC for dependencies
* patch61: smarter about dependencies
 computation
*
* Revision 3.0.1.5  1995/09/25  09:07:19  ram
* patch59: smarter sed command to strip /usr/include dependencies
*
* Revision 3.0.1.4  1995/07/25  13:33:59  ram
* patch56: install of script man pages can now cope with missing files
* patch56: the clobber target now removes the .config directory as well
*
* Revision 3.0.1.3  1995/03/21  08:35:28  ram
* patch52: suppressed extra argument to NormalProgramTarget call
*
* Revision 3.0.1.2  1995/01/11  14:49:55  ram
* patch45: new macros ShellScriptTargetExt and SimpleShellScriptTargetExt
* patch45: directory installation is now made via INSTALLDIR (Configure)
*
* Revision 3.0.1.1  1994/10/29  15:46:30  ram
* patch36: added RemoteDependency rule
*
* Revision 3.0  1993/08/18  12:04:14  ram
* Baseline for dist 3.0 netwide release.
*
*/

/* Please, edit only with tabstops = 4 (":set ts=4" under vi) */
```

```
/*
* AddedByConfigure:
* Gives name of the files generated by Configure that can safely
* be removed
 when a "make clobber" is issued. Not that it is useless
* to name config.h or config.sh because these are already taken care
* of by jmake.
*/
#define AddedByConfigure(files) @!\
local_clobber::   @@\
 $(RM) files

/*
* AddSuffix:
* Adds a sufix to the .SUFFIXES: list.
*/
#define AddSuffix(ext) @!\
|suffix ext


/*
* AllTarget:
* Generate rules to build necessary things during make all.
*/
#define AllTarget(depends) @!\
all:: depends    @!\
      @!\
local_realclean::   @@\
 $(RM) depends

/*
* RemoveTargetProgram:
* This is used in some other macros in order to remove the target
* before starting its building (saves disk space).  There should be
* no '@!' at the end of the '#define' line, because this macro is
* used *inside* building rules.
*/
#define RemoveTargetProgram(program) \
 $(RM) program @@\
 if test -f program^^^$(_EXE); then \ @@\
  $(MV) program^^^$(_EXE) program^^~^^^$(_EXE); fi

/*
* NormalProgramTarget:
* Generate rules to compile and link the
 indicated program; since
* it does not use any default object files, it may be used for
* multiple programs in the same Jmakefile.
```

```
*/
#define NormalProgramTarget(program,sources,objects) @!\
++OBJECTS objects @!\
++SOURCES sources @!\
NormalObjectRule()    @!\
AllTarget(program)    @!\
        @!\
program: objects    @@\
 RemoveTargetProgram($@)  @@\
 $(CC) -o $@ objects $(JLDFLAGS) $(LIBS) @!\


/*
* SingleProgramTarget:
* Obsolete version of NormalProgramTarget that doesn't have
* deplibs.
*/
#define SingleProgramTarget(program,objects,libs)  \
NormalProgramTarget(program,objects,libs)

/*
* SimpleProgramTarget:
* Generate rules for compiling and linking programs that only have
* one C source file.  It should only be used in Jmakefiles that
* describe a single program.
*/
#define SimpleProgramTarget(program) @!\
NormalProgramTarget(program,program.c,program.o)



/*
* ComplexProgramTarget:
* Generate rules for compiling and linking the program specified by
* $(OBJS) and
 $(SRCS), installing the program and its man page, and
* generating dependencies.  It should only be used in Jmakefiles
* that describe a single program.
*/
#define ComplexProgramTarget(program) @!\
++OBJECTS $(OBJS) @!\
++SOURCES $(SRCS) @!\
NormalObjectRule()     @!\
AllTarget(program)     @!\
        @!\
program: $(OBJS)     @@\
 RemoveTargetProgram($@)   @@\
 $(CC) -o $@ $(OBJS) $(JLDFLAGS) $(LIBS) @!\
```

```
        @!\
InstallProgram(program,$(BINDIR)) @!\
InstallManPage(program,$(MANSRC)) @!\
DependTarget()      @!\
LintTarget()


/*
* ComplexProgramTarget_1:
* Generate rules for compiling and linking the program specified by
* $(OBJS1) and $(SRCS1), installing the program and its man page,
* and generating dependencies for it and any programs described by
* $(SRCS2) and $(SRCS3).  It should be used to build the primary
* program in Jmakefiles that describe multiple programs.
*/
#define ComplexProgramTarget_1(program) @!\
++OBJECTS $(OBJS1) @!\
++SOURCES $(SRCS1) @!\
NormalObjectRule()     @!\
AllTarget(program)     @!\
        @!\
program:
 $(OBJS1)     @@\
 RemoveTargetProgram($@)   @@\
 $(CC) -o $@ $(OBJS1) $(JLDFLAGS) $(LIBS) @!\
        @!\
InstallProgram(program,$(BINDIR)) @!\
InstallManPage(program,$(MANSRC)) @!\
        @!\
DependTarget()      @!\
LintTarget()


/*
* ComplexProgramTarget_2:
* Generate rules for compiling and linking the program specified by
* $(OBJS2) and $(SRCS2) and installing the program and man page.
* It should be used to build the second program in Jmakefiles
* describing more than one program.
*/
#define ComplexProgramTarget_2(program) @!\
++OBJECTS $(OBJS2) @!\
++SOURCES $(SRCS2) @!\
NormalObjectRule()     @!\
AllTarget(program)     @!\
        @!\
program: $(OBJS2)     @@\
 RemoveTargetProgram($@)   @@\
```

```
 $(CC) -o $@ $(OBJS2) $(JLDFLAGS) $(LIBS) @!\
        @!\
InstallProgram(program,$(BINDIR)) @!\
InstallManPage(program,$(MANSRC))


/*
* ComplexProgramTarget_3:
* Generate rules for compiling and linking the
 program specified by
* $(OBJS3) and $(SRCS3) and installing the program and man page.  It
* should be used to build the third program in Jmakefiles describing
* more than one program.
*/
#define ComplexProgramTarget_3(program) @!\
++OBJECTS $(OBJS3) @!\
++SOURCES $(SRCS3) @!\
NormalObjectRule()     @!\
AllTarget(program)     @!\
        @!\
program: $(OBJS3)     @@\
 RemoveTargetProgram($@)   @@\
 $(CC) -o $@ $(OBJS3) $(JLDFLAGS) $(LIBS) @!\
        @!\
InstallProgram(program,$(BINDIR)) @!\
InstallManPage(program,$(MANSRC))


/*
* ComplexShellManualTarget:
* Builds manual pages that are to be extracted from .SH files into
* .$manext files.
*/
#define ComplexShellManualTarget(manpages) @!\
++MANPAGE manpages @!\
|once _ShellManualRule_  @!\
|rule:.SH.$manext:   @!\
|rule: /bin/sh $<   @!\
|rule:      @!\
-once      @!\
AddSuffix(.SH)    @!\
AddSuffix(.$manext)   @!\
AllTarget(manpages)   @!\
      @!\
local_install.man::   @@\
 _MakeInstallDirIgnore($(MANSRC)) \     @@\
 for
```

```
 file in manpages; do \  @@\
  (set -x; $(INSTALL) -c -m 444 $$file \ @@\
   $(INSTALL_PREFIX)$(MANSRC)) || exit 1; \ @@\
 done     @!\
       @!\
local_deinstall.man::  @@\
 @case '${MFLAGS}' in *[i]*) set +e;; esac; \ @@\
 for file in manpages; do \  @@\
  (set -x; $(RM) $(INSTALL_PREFIX)$(MANSRC)/$$file); \ @@\
 done


/*
* Initialize:
* Puts the line symbol = value in the initialization section of
* Makefile.SH (the one that is subject to parameter substitutions).
*/
#define Initialize(symbol,value) @!\
+symbol = value


/*
* InstallLibrary:
* Generate rules to install the indicated library.
*/
#define InstallLibrary(libname,dest) @!\
local_install:: lib^^libname.a  @@\
 _MakeInstallDirIgnore(dest) \ @@\
 $(INSTALL) -c -m 644 lib^^libname.a $(INSTALL_PREFIX)^^^dest  @@\
 $(RANLIB) dest/lib^^libname.a @@\
 chmod 444 dest/lib^^libnane.a @!\
        @!\
local_deinstall::     @@\
 $(RM) $(INSTALL_PREFIX)^^^dest/lib^^libname.a


/*
* InstallSharedLibrary:
* Generate rules to install
 the shared library.
*/
#define InstallSharedLibrary(libname,rev,dest) @!\
local_install:: lib^^libname.so.rev  @@\
 _MakeInstallDirIgnore(dest) \  @@\
 $(INSTALL) -c -m 444 lib^^libname.so.rev $(INSTALL_PREFIX)^^^dest @!\
         @!\
local_deinstall::      @@\
 $(RM) $(INSTALL_PREFIX)^^^dest/lib^^libname.so.rev
```

```
/*
* InstallSharedLibraryData:
* Generate rules to install the shared library data
*/
#define InstallSharedLibraryData(libname,rev,dest) @!\
local_install:: lib^^libname.sa.rev  @@\
 _MakeInstallDirIgnore(dest) \  @@\
 $(INSTALL) -c -m 444 lib^^libname.sa.rev $(INSTALL_PREFIX)^^^dest @!\
        @!\
local_deinstall::     @@\
 $(RM) $(INSTALL_PREFIX)^^^dest/lib^^libname.sa.rev


/*
* InstallLibraryAlias:
* Generate rules to create a link from one library name to another
* for the purposes of aliasing.
*/
#define InstallLibraryAlias(libname,alias,dest) @!\
local_install:: lib^^libname.a @@\
 $(RM) lib^^alias.a  @@\
 -(cd dest; $(LN) lib^^libname.a lib^^alias.a)
 @!\
       @!\
local_deinstall::   @@\
 $(RM) dest/lib^^alias.a


/*
* InstallLintLibrary:
* Generate rules to install the indicated lint library.
*/
#define InstallLintLibrary(libname,dest) @!\
install.ln:: llib-l^^libname.ln   @@\
 _MakeInstallDirIgnore(dest) \  @@\
 $(INSTALL) -c -m 444 llib-l^^libname.ln $(INSTALL_PREFIX)^^^dest @!\
       @!\
deinstall.ln::    @@\
 $(RM) $(INSTALL_PREFIX)^^^dest/llib-l^^libname.ln


/*
* InstallManPageLong:
* Generate rules to install the indicated manual page, giving it an
* alternate name.  This is used for installing man pages whose base
* name without the .man suffix would normally be longer than 8
```

```
* characters (the limit for using source code control systems on
* files systems with short file names).
*/
#define InstallManPageLong(file,destdir,dest) @!\
local_install.man:: file.man   @@\
 _MakeInstallDirIgnore(destdir) \ @@\
 $(INSTALL) -c -m 444 file.man $(INSTALL_PREFIX)^^^destdir/dest.$(L) @!\
        @!\
local_deinstall.man::     @@\
 $(RM)
 $(INSTALL_PREFIX)^^^destdir/dest.$(L)  @!\


/*
* InstallManPage:
* Generate rules to install the indicated manual page.
*/
#define InstallManPage(file,dest) @!\
InstallManPageLong(file,dest,file)


/*
* InstallNonExec:
* Generate rules to install a data file using any special
*  install flags.
*/
#define InstallNonExec(file,dest) @!\
local_install:: file    @@\
 _MakeInstallDirIgnore(dest) \ @@\
 $(INSTALL) -c -m 444 file $(INSTALL_PREFIX)^^^dest @!\
        @!\
local_deinstall::     @@\
 $(RM) $(INSTALL_PREFIX)^^^dest/file


/*
* InstallProgramWithFlags:
* Generate rules to install an executable program using given
* install flags.
*/
#define InstallProgramWithFlags(program,dest,flags) @!\
local_install:: program    @@\
 _MakeInstallDirIgnore(dest) \ @@\
 $(INSTALL) -c -s -m 555 flags program^^^$(_EXE) $(INSTALL_PREFIX)^^^dest @!\
        @!\
local_deinstall::     @@\
 $(RM) $(INSTALL_PREFIX)^^^dest/program^^^$(_EXE)
```

```
/*
* InstallProgramNoStripWithFlags:
 * Generate rules to install an executable program using given
* install flags.
*/
#define InstallProgramNoStripWithFlags(program,dest,flags) @!\
local_install:: program    @@\
 _MakeInstallDirIgnore(dest) \ @@\
 $(INSTALL) -c -m 555 flags program^^^$(_EXE) $(INSTALL_PREFIX)^^^dest @!\
        @!\
local_deinstall::     @@\
 $(RM) $(INSTALL_PREFIX)^^^dest/program^^^$(_EXE)


/*
* InstallProgram:
* Generate rules to install an executable program using any special
* install flags set in $(INSTALLFLAGS).
*/
#define InstallProgram(program,dest) @!\
InstallProgramWithFlags(program,dest,^^)


/*
* InstallProgramNoStrip:
* Generate rules to install an executable program using any special
* install flags set in $(INSTALLFLAGS), but without stripping the
* executable from debugging symbols.
*/
#define InstallProgramNoStrip(program,dest) @!\
InstallProgramNoStripWithFlags(program,dest,^^)


/*
* InstallScriptWithFlags:
* Generate rules to install an executable script using given
* install
 flags.
*/
#define InstallScriptWithFlags(script,dest,flags) @!\
local_install:: script    @@\
 _MakeInstallDirIgnore(dest) \ @@\
 $(INSTALL) -c -m 555 flags script $(INSTALL_PREFIX)^^^dest @!\
        @!\
local_deinstall::     @@\
 $(RM) $(INSTALL_PREFIX)^^^dest/script
```

```
/*
* InstallScript:
* Generate rules to install an executable script using any special
* install flags set in $(INSTALLFLAGS).
*/
#define InstallScript(script,dest) @!\
InstallScriptWithFlags(script,dest,^^)


/*
* InstallScripts:
* Generate rules to install all the scripts listed in the generated
*  $(SCRIPTS) and $(LSCRIPTS) macros.
*/
#define InstallScripts() @!\
|once _InstallScripts_  @!\
local_install:: $(SCRIPTS) $(LSCRIPTS)    @@\
 _MakeInstallDirIgnore($(SCRIPTDIR)) \  @@\
 for file in $(SCRIPTS) $(LSCRIPTS); do \ @@\
  (set -x; \ @@\
  $(INSTALL) -c -m 555 $$file $(INSTALL_PREFIX)$(SCRIPTDIR)) || \ @@\
  exit 1; \ @@\
 done     @!\
      @!\
local_deinstall::   @@\
 @for file in $(SCRIPTS)
 $(LSCRIPTS); do \ @@\
  case '${MFLAGS}' in *[i]*) set +e;; esac; \ @@\
  (set -x; $(RM) $(INSTALL_PREFIX)$(SCRIPTDIR)/$$file); \ @@\
 done     @!\
-once

/*
* InstallManScripts:
* Generate rule to install/deinstall manual pages for scripts listed
* in the automatically generated $(SCRIPTS) macro.
*/
#define InstallManScripts() @!\
|once _InstallManScripts_ @!\
?NOMAN:|skip    @!\
local_install.man::   @@\
 _MakeInstallDirIgnore($(MANSRC)) \  @@\
 for file in $(SCRIPTS); do \   @@\
  if test -f $$file.man; then \  @@\
   (set -x; \      @@\
   $(INSTALL) -c -m 444 $$file.man \ @@\
    $(INSTALL_PREFIX)$(MANSRC)/$$file.$(L)) || \ @@\
```

```
    exit 1; \ @@\
  fi; \    @@\
 done     @!\
       @!\
local_deinstall.man::  @@\
 case '${MFLAGS}' in *[i]*) set +e;; esac; \ @@\
 for file in $(SCRIPTS); do \ @@\
  (set -x; $(RM) $(INSTALL_PREFIX)$(MANSRC)/$$file.$(L)); \ @@\
 done     @!\
       @!\
-skip      @!\
-once



/*
* LinkFileList:
* Link a list of list of files from one place to another
 */
#define LinkFileList(step,list,dir,sub) @!\
step:: list       @@\
 @case '${MFLAGS}' in *[i]*) set +e;; esac; \ @@\
 echo " cd" dir; cd dir; for i in list; do (set -x; $(LN) sub/$$i .); done



/*
* InstallMultipleDestFlags:
* Generate rules to install multiple files at once during a particular
* step in the build using a specific set of install flags.
*/
#define InstallMultipleDestFlags(step,list,dest,flags) @!\
step:: list       @@\
 _MakeInstallDirIgnore(dest) \ @@\
 for i in list; do \    @@\
  (set -x; $(INSTALL) -c flags \ @@\
   $$i $(INSTALL_PREFIX)^^^dest) || exit 1;\ @@\
 done

/*
* DeinstallMultipleDest:
* Generate rules to deinstall multiple files at once during a particular
* step in the build.
*/
#define DeinstallMultipleDest(step,list,dest) @!\
step::        @@\
 @case '${MFLAGS}' in *[i]*) set +e;; esac; \ @@\
 for i in list; do \    @@\
  (set -x; $(RM) $(INSTALL_PREFIX)^^^dest/$$i); \ @@\
```

```
 done

/*
* InstallMultiple:
* Generate rules to install multiple
 files at once during the install
* step of the build using any install flags set in $(INSTALLFLAGS)
* and deinstall them.
*/
#define InstallMultiple(list,dest) @!\
InstallMultipleDestFlags(local_install,list,dest,$(INSTALLFLAGS)) @!\
DeinstallMultipleDest(local_deinstall,list,dest)


/*
* InstallMultipleFlags:
* Generate rules to install multiple files at once during the
* install step of the build using the given install flags.
*/
#define InstallMultipleFlags(list,dest,flags) @!\
InstallMultipleDestFlags(local_install,list,dest,flags) @!\
DeinstallMultipleDest(local_deinstall,list,dest)


/*
* InstallMultipleMan:
* Generate rules to install a variety of manual pages
* during the install.man step of the build.
*/
#define InstallMultipleMan(list,dest) @!\
InstallMultipleDestFlags(local_install.man,list,dest,$(INSTALLFLAGS)) @!\
DeinstallMultipleDest(local_deinstall.man,list,dest)


/*
* DependDependency:
* Generate rules to build the makedepend program.
*/
#define DependDependency()
   @!\
depend:: TOPDIR/mkdep    @!\
       @!\
TOPDIR/mkdep:      @!\
?TOP: @echo "You have to run Configure first."; exit 1 @!\
%TOP: @echo "You have to run Configure in $(TOP) first."; exit 1


/*
```

```
* DependTarget:
* Generate rules to compute dependencies for all files listed
* in $(SOURCES) (automatically generated macro).
*/
#define DependTarget()    @!\
+USRINC = $usrinc @!\
|once _DependTarget_    @!\
DependDependency()    @!\
        @!\
depend::       @@\
 ($(SED) '/^# DO NOT DELETE/q' Makefile && \ @@\
 $(MKDEP) $(SOURCES) | \   @@\
 $(SED) -e 's:/usr/lib[^ ]*::g; s:$(USRINC)[^ ]*::g; ' \ @@\
  -e '/: / b print' -e '$$ b print' -e 'H; d; n; : print' \ @@\
  -e 'x; s/\\$$//; s/\\\n//g; s/ ^^ */ /g; s/ :/:/;' -e '/: *$$/d' \ @@\
 ) > Makefile.new    @@\
 cp Makefile Makefile.bak  @@\
 cp Makefile.new Makefile  @@\
 $(RM) Makefile.new    @!\
        @!\
-once


/*
* CleanTarget:
* Generate rules to remove any garbage files.
*/
#define CleanTarget()    @!\
?SUBDIRS:clean:
 sub_clean local_clean    @!\
%SUBDIRS:clean: local_clean       @!\
?SUBDIRS:realclean: sub_realclean local_realclean @!\
%SUBDIRS:realclean: local_realclean     @!\
?SUBDIRS:clobber: sub_clobber local_clobber   @!\
%SUBDIRS:clobber: local_clobber      @!\
        @!\
local_clean::       @@\
 if test -f core; then $(RM) core; fi @@\
 $(RM) *~ *.o     @!\
        @!\
local_realclean:: local_clean  @!\
?TOP: $(RM) -r UU     @!\
        @!\
local_clobber:: local_realclean  @!\
%TOP: $(RM) Makefile config.sh  @!\
?TOP: $(RM) config.sh config.h  @!\
?TOP: $(RM) -r .config    @!\
?TOP: $(RM) Makefile    @!\
```

```
/*
* InstallTarget:
* Generate rules to recursively install files
*/
#define InstallTarget()          @!\
?SUBDIRS:install:: local_install sub_install     @!\
%SUBDIRS:install:: local_install        @!\
?SUBDIRS:install.man:: maybe_install.man sub_install.man  @!\
%SUBDIRS:install.man:: maybe_install.man      @!\
?SUBDIRS:deinstall:: sub_deinstall local_deinstall    @!\
%SUBDIRS:deinstall::
 local_deinstall       @!\
?SUBDIRS:deinstall.man:: sub_deinstall.man maybe_deinstall.man @!\
%SUBDIRS:deinstall.man:: maybe_deinstall.man     @!\
            @!\
?MANSRC:install.man-yes: local_install.man      @!\
install.man-no:           @!\
?MANSRC:deinstall.man-yes: local_deinstall.man     @!\
deinstall.man-no:          @!\


/*
* TagsTarget:
* Generate rules to compute tags files for C source code.
*/
#define TagsTarget()    @!\
tags::       @@\
 $(CTAGS) -w *.[ch]    @@\
 $(CTAGS) -xw *.[ch] > tags  @!\
       @!\
local_clobber::      @@\
 $(RM) tags



/*
* BuildMakefileSH:
* Generate rules to build a Makefile.SH from an Jmakefile and any
* special jmake flags.  This is generally done automatically by the
* template or by any special Jmakefiles.
* This function will simply touch Makefile.SH if no $(TOP)/.package
* exists, assuming the Jmakefile is not in a production environment.
*/
#define BuildMakefileSH(jmakeflags) @!\
Makefile.SH:
```

```
 Jmakefile     @@\
-@if test -f $(TOP)/.package; then \ @@\
 if test -f Makefile.SH; then \ @@\
  echo " $(RM) Makefile.SH~; $(MV) Makefile.SH Makefile.SH~"; \ @@\
  $(RM) Makefile.SH~; $(MV) Makefile.SH Makefile.SH~; \ @@\
 fi; \      @@\
 echo " $(JMAKE) -DTOPDIR=$(TOP) -DCURDIR=$(CURRENT)" jmakeflags; \ @@\
 $(JMAKE) -DTOPDIR=$(TOP) -DCURDIR=$(CURRENT) jmakeflags; \ @@\
else touch $@; fi


/*
* BuildMakefile:
* Generate rules to build a Makefile from a Makefile.SH.
*/
#define BuildMakefile() @!\
Makefile: Makefile.SH    @@\
 /bin/sh Makefile.SH


/*
* MakefileTarget:
* Generate rules to build a normal Makefile.
*/
#define MakefileTarget()  @!\
BuildMakefileSH(^^)    @!\
BuildMakefile()


/*
* NormalObjectRule:
* Generate make rule to build usual object files.
*/
#define NormalObjectRule()   @!\
|once _ObjectRule_     @!\
|rule:.c.o:       @!\
|rule: $(CC) -c $(JCFLAGS) $<  @!\
|rule:        @!\
-once

/*
* NormalLibraryObjectRule:
* Generate make rules to build
 "normal" objects.
*/
#define NormalLibraryObjectRule() @!\
|once _ObjectRule_     @!\
|rule:.c.o:       @!\
```

```
|rule: $(RM) $@      @!\
|rule: $(CC) -c $(JCFLAGS) $<  @!\
|rule:       @!\
-once

/*
* ProfiledLibraryObjectRule:
* Generate make rules to build both profiled and "normal" objects.
*/
#define ProfiledLibraryObjectRule() @!\
all::       @@\
 @if [ ! -d profiled ]; then mkdir profiled; fi @!\
        @!\
|rule:.c.o:       @!\
|rule: $(RM) $@ profiled/$@   @!\
|rule: $(CC) -pg -c $(JCFLAGS) $*.c @!\
|rule: $(MV) $*.o profiled/$*.o  @!\
|rule: $(CC) -c $(JCFLAGS) $*.c  @!\
|rule:       @!\
local_clean::       @@\
 -@if [ -d profiled ]; then echo " $(RM) profiled/?*.o"; \ @@\
  $(RM) profiled/?*.o; fi


/*
* DebuggedLibraryObjectRule:
* Generate make rules to build both debuggable and "normal"
* objects.
*/
#define DebuggedLibraryObjectRule()     @!\
all::       @@\
 @if [ ! -d debugger ]; then mkdir debugger; fi @!\
        @!\
|rule:.c.o:       @!\
|rule: $(RM) $@
 debugger/$@   @!\
|rule: $(CC) -g -c $(JCFLAGS) $*.c @!\
|rule: $(MV) $*.o debugger/$*.o  @!\
|rule: $(CC) -c $(JCFLAGS) $*.c  @!\
|rule:       @!\
local_clean::       @@\
 -@if [ -d debugger ]; then echo " $(RM) debugger/?*.o"; \ @@\
  $(RM) debugger/?*.o; fi


/*
* DebuggedAndProfiledLibraryOjbectRule:
* Generate make rules to build debuggable, profiled, and "normal"
```

```
* objects.
*/
#define DebuggedAndProfiledLibraryObjectRule() @!\
all::        @@\
 @if [ ! -d profiled ]; then mkdir profiled; fi @@\
 @if [ ! -d debugger ]; then mkdir debugger; fi @!\
         @!\
|rule:.c.o:        @!\
|rule: $(RM) $@ profiled/$@ debugger/$@ @!\
|rule: $(CC) -pg -c $(JCFLAGS) $*.c  @!\
|rule: $(MV) $*.o profiled/$*.o   @!\
|rule: $(CC) -g -c $(JCFLAGS) $*.c  @!\
|rule: $(MV) $*.o debugger/$*.o   @!\
|rule: $(CC) -c $(JCFLAGS) $*.c   @!\
|rule:         @!\
local_clean::       @@\
 -@if [ -d profiled ]; then echo " $(RM) profiled/?*.o"; \ @@\
  $(RM) profiled/?*.o; fi   @@\
 -@if [ -d debugger ];
 then echo " $(RM) debugger/?*.o"; \ @@\
  $(RM) debugger/?*.o; fi


/*
* SharedLibraryObjectRule:
* Generate make rules to build shared and "normal" object files.
*/
#define SharedLibraryObjectRule()     @!\
all::        @@\
 @if [ ! -d shared ]; then mkdir shared; fi  @!\
         @!\
|rule:.c.o:       @!\
|rule: $(RM) $@ shared/$@   @!\
|rule: $(CC) -pic -c $(SHAREDCODEDEF) $(SHLIBDEF) $(JCFLAGS) $*.c @!\
|rule: $(MV) $*.o shared/$*.o  @!\
|rule: $(CC) -c $(SHLIBDEF) $(JCFLAGS) $*.c    @!\
|rule:        @!\
local_clean::      @@\
 -@if [ -d shared ]; then echo " $(RM) shared/?*.o"; \  @@\
  $(RM) shared/?*.o; fi

/*
* SharedAndDebuggedLibraryObjectRule:
* Generate make rules to build shared, debuggable, and "normal"
* object files.
*/
#define SharedAndDebuggedLibraryObjectRule() @!\
all::          @@\
```

```
 @if [ ! -d shared ]; then mkdir shared; fi  @@\
 @if [ ! -d debugger ]; then mkdir debugger; fi @!\
         @!\
|rule:.c.o:        @!\
|rule: $(RM) $@ shared/$@ debugger/$@  @!\
|rule:
 $(CC) -pic -c $(SHAREDCODEDEF) $(SHLIBDEF) $(JCFLAGS) $*.c @!\
|rule: $(MV) $*.o shared/$*.o    @!\
|rule: $(CC) -g -c $(SHLIBDEF) $(JCFLAGS) $*.c @!\
|rule: $(MV) $*.o debugger/$*.o    @!\
|rule: $(CC) -c $(SHLIBDEF) $(JCFLAGS) $*.c @!\
|rule:         @!\
local_clean::        @@\
 -@if [ -d shared ]; then echo " $(RM) shared/?*.o"; \  @@\
  $(RM) shared/?*.o; fi    @@\
 -@if [ -d debugger ]; then echo " $(RM) debugger/?*.o"; \ @@\
  $(RM) debugger/?*.o; fi

/*
* SpecialSharedAndDebuggedObjectRule:
* Generate rules to compile a file with special flags and to make
* shared and debuggable versions.
*/
#define SpecialSharedAndDebuggedObjectRule(objs,depends,options) @!\
all::        @@\
 @if [ ! -d shared ]; then mkdir shared; fi  @@\
 @if [ ! -d debugger ]; then mkdir debugger; fi @!\
        @!\
objs: depends       @@\
 $(RM) $@ shared/$@ debugger/$@  @@\
 $(CC) -pic -c $(SHAREDCODEDEF) $(SHLIBDEF) $(JCFLAGS) options $*.c @@\
 $(MV) $*.o shared/$*.o    @@\
 $(CC)
 -g -c $(SHLIBDEF) $(JCFLAGS) options $*.c   @@\
 $(MV) $*.o debugger/$*.o   @@\
 $(CC) -c $(SHLIBDEF) $(JCFLAGS) options $*.c

/*
* SpecialSharedObjectRule:
* Generate rules to compile a file with special flags and to make
* shared and debuggable versions.
*/
#define SpecialSharedObjectRule(objs,depends,options)  @!\
all::        @@\
 @if [ ! -d shared ]; then mkdir shared; fi  @!\
        @!\
objs: depends       @@\
 $(RM) $@ shared/$@      @@\
```

```
 $(CC) -pic -c $(SHAREDCODEDEF) $(SHLIBDEF) $(JCFLAGS) options $*.c @@\
 $(MV) $*.o shared/$*.o    @@\
 $(CC) -c $(SHLIBDEF) $(JCFLAGS) options $*.c


/*
* SpecialObjectRule:
* Generate rules to compile a file with special flags.
*/
#define SpecialObjectRule(objs,depends,options)  @!\
objs: depends       @@\
 $(RM) $@       @@\
 $(CC) -c $(JCFLAGS) options $*.c


/*
* SpecialProfiledObjectRule:
* Generate rules to compile a file with special flags and to make a
* profiled version.
*/
#define SpecialProfiledObjectRule(objs,depends,options)   @!\
all::        @@\
 @if
 [ ! -d profiled ]; then mkdir profiled; fi @!\
        @!\
objs: depends       @@\
 $(RM) $@ profiled/$@    @@\
 $(CC) -pg -c $(JCFLAGS) options $*.c @@\
 $(MV) $*.o profiled/$*.o   @@\
 $(CC) -c $(JCFLAGS) options $*.c


/*
* SpecialDebuggedObjectRule:
* Generate rules to compile a file with special flags and to make a
* debuggable version.
*/
#define SpecialDebuggedObjectRule(objs,depends,options) @!\
all::        @@\
 @if [ ! -d debugger ]; then mkdir debugger; fi @!\
        @!\
objs: depends       @@\
 $(RM) $@ debugger/$@    @@\
 $(CC) -g -c $(JCFLAGS) options $*.c @@\
 $(MV) $*.o debugger/$*.o   @@\
 $(CC) -c $(JCFLAGS) options $*.c
```

```
/*
* SpecialDebuggedAndProfiledObjectRule:
* Generate rules to compile a file with special flags and to make
* debuggable and profiled versions.
*/
#define SpecialDebuggedAndProfiledObjectRule(objs,depends,options) @!\
all::        @@\
 @if [ ! -d profiled ]; then mkdir profiled; fi @@\
 @if [ ! -d
 debugger ]; then mkdir debugger; fi @!\
        @!\
objs: depends       @@\
 $(RM) $@ profiled/$@ debugger/$@ @@\
 $(CC) -pg -c $(JCFLAGS) options $*.c @@\
 $(MV) $*.o profiled/$*.o   @@\
 $(CC) -g -c $(JCFLAGS) options $*.c @@\
 $(MV) $*.o debugger/$*.o   @@\
 $(CC) -c $(JCFLAGS) options $*.c


/*
* NormalLibraryTarget:
* Generate rules to create a library. The 'srclist' and 'objlist'
* parameters are added to SOURCES and OBJECTS macros. The 'srclist'
* is not otherwise used by this rule, but is necessary for make depend.
*/
#define NormalLibraryTarget(libname,srclist,objlist) @!\
++OBJECTS objlist @!\
++SOURCES srclist @!\
NormalLibraryObjectRule()  @!\
AllTarget(lib^^libname.a)  @!\
       @!\
lib^^libname.a: objlist   @@\
 $(RM) $@     @@\
 $(AR) $@ objlist   @@\
 $(RANLIB) $@


/*
* NormalSharedLibraryTarget:
* Generate rules to create a shared library; build it into a
* different name so that the we don't hose people by having the
* library gone for long periods.
*/
#define
 NormalSharedLibraryTarget(libname,rev,solist) @!\
AllTarget(lib^^libname.so.rev) @!\
        @!\
```

```
lib^^libname.so.rev:  solist  @@\
 $(RM) $@~      @@\
 (cd shared; $(LD) -o ../$@~ -assert pure-text solist)  @@\
 $(RM) $@       @@\
 $(MV) $@~ $@

/*
* NormalSharedLibraryDataTarget:
* Generate rules to create shlib data file; build it into a
* different name so that the we don't hose people by having the
* library gone for long periods.
*/
#define NormalSharedLibraryDataTarget(libname,rev,salist) @!\
AllTarget(lib^^libname.sa.rev) @!\
        @!\
lib^^libname.sa.rev:  salist  @@\
 $(RM) $@      @@\
 $(AR) $@ salist     @@\
 $(RANLIB) $@


/*
* NormalLibraryTarget2:
* Generate rules to create a library in two steps.  This is used to
* create libraries with large numbers of files.
*/
#define NormalLibraryTarget2(libname,srclist,objlist1,objlist2) @!\
++SOURCES srclist @!\
++OBJECTS objlist1 @!\
++OBJECTS objlist2 @!\
NormalLibraryObjectRule()   @!\
AllTarget(lib^^libname.a)   @!\
        @!\
lib^^libname.a:
 objlist1 objlist2 @@\
 $(RM) $@      @@\
 $(AR) $@ objlist1    @@\
 $(AR) $@ objlist2    @@\
 $(RANLIB) $@


/*
* ProfiledLibraryTarget:
* Generate rules to create a profiled library.
*/
#define ProfiledLibraryTarget(libname,srclist,objlist) @!\
++SOURCES srclist @!\
++OBJECTS objlist @!\
```

```
AllTarget(lib^^libname^^_p.a)  @!\
        @!\
lib^^libname^^_p.a: objlist   @@\
 $(RM) $@      @@\
 cd profiled; $(AR) ../$@ objlist @@\
 $(RANLIB) $@


/*
* DebuggedLibraryTarget:
* Generate rules to create a debuggable library.
*/
#define DebuggedLibraryTarget(libname,srclist,objlist) @!\
++SOURCES srclist @!\
++OBJECTS objlist @!\
AllTarget(lib^^libname^^_d.a)  @!\
        @!\
lib^^libname^^_d.a: objlist   @@\
 $(RM) $@       @@\
 cd debugger; $(AR) ../$@ objlist @@\
 $(RANLIB) $@


/*
* AliasedLibraryTarget:
* Generate rules to link one library to another.
*/
#define AliasedLibraryTarget(libname,alias) @!\
AllTarget(lib^^alias.a)   @!\
       @!\
lib^^alias.a:
 lib^^libname.a @@\
 $(RM) $@     @@\
 $(LN) lib^^libname.a $@


/*
* PrelinkedRelocatableTarget:
* Generate rules to produce a relocatable object file instead of a
* library.
*/
#define PrelinkedRelocatableTarget(objname,objlist,libs) @!\
AllTarget(objname.o)    @!\
        @!\
objname.o: objlist     @@\
 $(RM) $@      @@\
 $(LD) $(JLDFLAGS) -r objlist -o $@ libs
```

```
/*
* NormalObjectTarget:
* Generate rules to produce a single object file.o from a file.c.
*/
#define NormalObjectTarget(file) @!\
++SOURCES file^^.c     @!\
AllTarget(file^^.o)     @!\
NormalObjectRule()

/*
* NormalRelocatableTarget:
* Generate rules to produce a relocatable object file instead of a
* library.
*/
#define NormalRelocatableTarget(objname,objlist) @!\
AllTarget(objname.o)    @!\
        @!\
objname.o: objlist     @@\
 $(RM) $@      @@\
 $(LD) $(JLDFLAGS) -r objlist -o $@


/*
* ProfiledRelocatableTarget:
* Generate rules to produce a profiled relocatable object file
* instead
 of a library.
*/
#define ProfiledRelocatableTarget(objname,objlist) @!\
AllTarget(objname^^_p.o)  @!\
       @!\
objname^^_p.o: objlist   @@\
 $(RM) $@     @@\
 $(LD) -X -r objlist -o $@


/*
* DebuggedRelocatableTarget:
* Generate rules to produce a debuggable relocatable object file
* instead of a library.
*/
#define DebuggedRelocatableTarget(objname,objlist) @!\
AllTarget(objname^^_d.o)  @!\
       @!\
objname^^_d.o: objlist   @@\
 $(RM) $@     @@\
 $(LD) -X -r objlist -o $@
```

```
/*
* LintLibraryTarget:
* Generate rules to create a lint library.  Note that the lint
* library is always forced to be newer than the library itself.
*/
#define LintLibraryTarget(libname,srclist) @!\
lintlib:: llib-l^^libname.ln @!\
	@!\
llib-l^^libname.ln: srclist  @@\
 $(RM) $@     @@\
 $(LINT) $(LINTLIBFLAG)^^libname $(LINTFLAGS) srclist


/*
* NormalLintTarget:
* Generate rules to lint a set of sources.
*/
#define NormalLintTarget(srclist) @!\
lint:       @@\
 $(LINT) $(LINTFLAGS) srclist
 $(LINTLIBS)


/*
* LintTarget:
* Generate rules to lint $(SOURCES) (automatically generated)
*/
#define LintTarget()   @!\
|once _LintTarget_    @!\
NormalLintTarget($(SOURCES)) @!\
-once


/*
* LinkSourceFile:
* Snag source file from some other directory
*/
#define LinkSourceFile(src,dir)  @!\
src:  dir/src   @@\
 $(RM) $@   @@\
 $(LN) $? $@   @!\


/*
* MakeSubincludesForBuild:
* Make includes in sub directories.
*/
```

```
#define MakeSubincludesForBuild(step,dir,srclist) @!\
step::  dir srclist        @@\
 @-(list=`echo srclist | sed -e 's/[^ ]*\///g'`; \  @@\
  set -x; cd dir; $(RM) $$list)   @@\
 @for i in srclist; do \      @@\
  (set -x; cd dir; $(LN) ../$$i .) || exit 1; \  @@\
 done          @!\
          @!\
MakeDirectories(dir,dir)      @!\
          @!\
local_realclean::         @@\
 @-(if [ -d dir ]; then \     @@\
  list=`echo srclist | sed -e 's/[^ ]*\///g'`; \  @@\
  set -x; cd dir; $(RM) $$list; fi)


/*
* CommonSubdirsRule:
* Rule for making $(TARGET) in
 every subdirectory, with $(VERB) as
* verbose message and $(FLAGS) as additional flags.
*/
#define CommonSubdirsRule(dirs) @!\
subdirs:       @@\
 @case '${MFLAGS}' in *[ik]*) set +e;; esac; \   @@\
 for i in dirs ;\     @@\
 do \        @@\
  (cd $$i ; echo $(VERB) "in $(DIR)$$i..."; \  @@\
   $(MAKE) $(MFLAGS) $(FLAGS) $(TARGET)) || exit 1; \ @@\
 done


/*
* NamedTargetSubdirsRule:
* Recursively make a series of steps in the specified directories.
*/
#define NamedTargetSubdirsRule(dirs,name,verb,flags) @!\
name::         @@\
 @case '${MFLAGS}' in *[ik]*) set +e;; esac; \  @@\
 for i in dirs ;\     @@\
 do \        @@\
  (cd $$i ; echo verb "in $(DIR)$$i..."; \ @@\
   $(MAKE) $(MFLAGS) flags name) || exit 1; \ @@\
 done


/*
* NamedTargetSubdirs:
```

```
* Recursively make a series of steps.
*/
#define NamedTargetSubdirs(name,verb,flags)  @!\
name::          @@\
 @$(MAKE) subdirs TARGET=name VERB=verb FLAGS=flags


/*
* NamedSubTargetSubdirs:
* Recursively make a series of steps,
 like NamedTargetSubdirs.
* However, the supplied "name" has "sub_" prefixed to it.
*/
#define NamedSubTargetSubdirs(name,verb,flags) @!\
sub_^^^name::          @@\
 @$(MAKE) subdirs TARGET=name VERB=verb FLAGS=flags

/*
* NamedDepthTargetSubdirs:
* Recursively make a series of steps. We first enter the
* subdirectories, then perform the local entries.
* The supplied "name" has "sub_" prefixed to it.
*/
#define NamedDepthTargetSubdirs(name,verb,flags)  @!\
sub_^^^name::      @@\
 @$(MAKE) subdirs TARGET=name VERB=verb FLAGS=flags @@\
 @echo "Back to $(CURRENT) for "name^^...


/*
* MakeSubdirs:
* Generate rules to do makes in the given subdirectories.
*/
#define MakeSubdirs() \
NamedTargetSubdirs(all,"Making all",^^)


/*
* DependDirs:
* Generate rules to recursively compute dependencies as part of the
* make depend step.
*/
#define DependDirs(dirs) \
NamedTargetSubdirsRule(dirs,depend,"Depending",^^)


/*
* DependSubdirs:
```

```
* Generate rules to recursively compute dependencies
 as part of the
* make depend step.
*/
#define DependSubdirs() \
DependDirs($(SUBDIRS))


/*
* InstallSubdirs:
* Generate rules to recursively install and deinstall programs and
* files.
*/
#define InstallSubdirs() \
NamedSubTargetSubdirs(install,"Installing",^^) @!\
NamedDepthTargetSubdirs(deinstall,"Deinstalling",^^)


/*
* InstallManSubdirs:
* Generate rules to recursively install and deinstall manual pages.
*/
#define InstallManSubdirs() \
NamedSubTargetSubdirs(install.man,"Installing man pages",^^) @!\
NamedDepthTargetSubdirs(deinstall.man,"Deinstalling man pages",^^)


/*
* IncludesSubdirs:
* Generate rules to recursively put include files in build
*/
#define IncludesSubdirs() \
NamedTargetSubdirs(includes,including,^^)


/*
* CleanSubdirs:
* Generate rules to recursively clean out garbage files.
*/
#define CleanSubdirs() \
NamedDepthTargetSubdirs(clean,"Cleaning",^^) @!\
NamedDepthTargetSubdirs(realclean,"Real cleaning",^^) @!\
NamedDepthTargetSubdirs(clobber,"Clobbering",^^)


/*
 * TagSubdirs:
* Generate rules to recursively create tags files.
```

```
*/
#define TagSubdirs(dirs) \
NamedTargetSubdirsRule(dirs,tag,"Tagging",^^)

/*
* MakeLintSubdirs:
* Generate rules to recursively lint directories as part of the
* named step.
*/
#define MakeLintSubdirs(dirs,target) \
NamedTargetSubdirsRule(dirs,target,"Linting",^^)


/*
* LintDirs:
* Generate rules to recursively lint directories as part of the
* make lint step.
*/
#define LintDirs(dirs) \
MakeLintSubdirs(dirs,lint)


/*
* LintSubdirs:
* Generate rules to recursively lint directories as part of the
* make lint step.
*/
#define LintSubdirs() \
LintDirs($(SUBDIRS))


/*
* MakeDirs:
* Creates a set of directories, even if some directories in the path
* do not already exist. There should be no '@!' at the end of the
* '#define' line, because this macro is used *inside* building rules.
*/
#define MakeDirs(dirs) \
 @case '${MFLAGS}' in *[i]*) set +e;; esac; \   @@\
 for dir in dirs;
 do \         @@\
  (set -x; test -d $$dir || $(INSTALLDIR) $$dir) || \ @@\
  exit 1; \  @@\
 done

/*
* _MakeInstallDirs:
* Creates a set of intall directories, even if some directories in the path
```

```
* do not already exist. There should be no '@!' at the end of the
* '#define' line, because this macro is used *inside* building rules.
*/
#define _MakeInstallDirs(dirs) \
 @case '${MFLAGS}' in *[i]*) set +e;; esac; \ @@\
 for dir in dirs; do \       @@\
  _MakeInstallDir($$dir) \     @@\
 done

/*
* _MakeInstallDir:
* Internal macro to create a missing install directory.
*/
#define _MakeInstallDir(dir) \
 (set -x; test -d $(INSTALL_PREFIX)^^^dir || \ @@\
  $(INSTALLDIR) $(INSTALL_PREFIX)^^^dir);

/*
* _MakeInstallDirIgnore:
* Same as _MakeInstallDir but handles "make -i" as well.
*/
#define _MakeInstallDirIgnore(dir) \
 @case '${MFLAGS}' in *[i]*) set +e;; esac;  \ @@\
 _MakeInstallDir(dir)

/*
* _RmInstallDirs:
* Removes a set of intall directories.
* There should be no '@!'
 at the end of the '#define' line, because this
* macro is used *inside* building rules.
*/
#define _RmInstallDirs(dirs) \
 @case '${MFLAGS}' in *[i]*) set +e;; esac; \ @@\
 for dir in dirs; do \       @@\
  (set -x; test -d $$dir && $(RM) -r $(INSTALL_PREFIX)$$dir); \ @@\
 done

/*
* MakeDirectories:
* Generate rules to create a hierarchy of directories.
*/
#define MakeDirectories(step,dirs)  @!\
step::         @@\
 MakeDirs(dirs)


/*
```

```
* MakeInstallDirectories:
* Generate a rule to create a set of directories at installation
* time (removed by deinstall).
*/
#define MakeInstallDirectories(dirs) @!\
local_install::    @@\
 _MakeInstallDirs(dirs) @!\
      @!\
local_deinstall::   @@\
 _RmInstallDirs(dirs)


/*
* MakeLintLibSubdirs:
* Generate rules to recursively create lint libraries.
*/
#define MakeLintLibSubdirs(dirs) @!\
MakeLintSubdirs(dirs,lintlib)


/*
* MakeMakeSubdirs:
* Generate rules to recursively recreate target as part of the
* specified step in the build.
  This assumes Makefile.SH has
* already been built (which is the case for a delivery), but does
* not rely on the existence of a Makefile.
*/
#define MakeMakeSubdirs(target) @!\
target::        @@\
 @case '${MFLAGS}' in *[ik]*) set +e;; esac; \ @@\
 for i in $(SUBDIRS);\    @@\
 do \        @@\
  echo "Making "target" in $(DIR)$$i..."; \ @@\
  (cd $$i || exit 1; \   @@\
  if test ! -f Makefile; then /bin/sh Makefile.SH; fi; \ @@\
  $(MAKE) $(MFLAGS) target) || exit 1;\ @@\
 done


/*
* MakeMakefilesSH:
* Generate rules to recursively recreate target as part of the
* specified step in the build.  If $(TOP) is set to an absolute
* path, don't prepend the ../ prefix.  This makes running things
* outside of the source tree to be much easier.
*/
#define MakeMakefilesSH()  @!\
```

```
Makefiles.SH:: Makefile.SH    @@\
 @case '${MFLAGS}' in *[ik]*) set +e;; esac; \ @@\
 for i in $(SUBDIRS);\     @@\
 do \        @@\
  case "$(DIR)$$i/" in \        @@\
  ^^*^^/^^*^^/^^*^^/^^*^^/) newtop=../../../..;;
 \ @@\
  ^^*^^/^^*^^/^^*^^/) newtop=../../..;; \    @@\
  ^^*^^/^^*^^/) newtop=../..;; \      @@\
  *^^/) newtop=..;; \         @@\
  esac; \            @@\
  case "$(TOP)" in \    @@\
  /^^*) newtop="$(TOP)" ;; \  @@\
  esac; \       @@\
  echo "Making Makefiles.SH in $(DIR)$$i..."; \ @@\
  (cd $$i || exit 1; \   @@\
   if test -f Jmakefile; then \ @@\
    $(MAKE) $(MFLAGS) -f ../Makefile \ @@\
     Makefile TOP=$$newtop CURRENT=$(DIR)$$i && \  @@\
    $(MAKE) $(MFLAGS) Makefiles.SH; \ @@\
   fi; \      @@\
  ) || exit 1; \ @@\
  done


/*
* MakefileSubdirs:
* Generate rules to create Makefiles.
*/
#define MakefileSubdirs()  @!\
MakeMakeSubdirs(Makefiles)  @!\
MakeMakefilesSH()


/*
* CppScriptTarget:
* Generate rules to create a shell script by running the input
* through cpp.
*/
#define CppScriptTarget(dst,src,defs,deplist) @!\
dst::  src deplist      @@\
 $(RM) $@       @@\
 $(CPP) defs <src | \    @@\
  sed -e '/^#  *[0-9][0-9]*  *.*$$/d' >$@  @@\
 chmod a+x $@


/*
```

```
 * MakeScriptFromCpp:
* Generate rules to create a script from a file with a
* .cpp suffix.
*/
#define MakeScriptFromCpp(name,defs) @!\
CppScriptTarget(name,name.cpp,defs,^^)


/*
* ShellScriptTargetExt:
* Generate rules to create and install a set of scripts from
* ext files (.sh and .SH are the most common examples). Man pages
* derived from the name of the scripts are also installed unless
* NoManPages() is specified.
*/
#define ShellScriptTargetExt(scripts,ext) @!\
++SCRIPTS scripts @!\
SimpleShellScriptTargetExt(scripts,ext)  @!\
InstallScripts()       @!\
InstallManScripts()


/*
* ShellScriptTarget:
* Generate rules to create and install a set of scripts from
* .SH files. Man pages derived from the name of the scripts are
* also installed unless NoManPages() is specified.
*/
#define ShellScriptTarget(scripts) @!\
ShellScriptTargetExt(scripts,.SH)


/*
* SimpleShellScriptTargetExt:
* Generate rules to create a set of scripts from ext files where
* ext is usually
 something like .sh or .SH, or whatever file
* extension you like..
*/
#define SimpleShellScriptTargetExt(scripts,ext) @!\
AllTarget(scripts)   @!\
      @!\
|expand s!scripts!   @!\
!s: !s^^ext     @@\
 /bin/sh !s^^ext   @!\
      @!\
-expand
```

```
/*
* SimpleShellScriptTarget:
* Generate rules to create a set of scripts from .SH files.
*/
#define SimpleShellScriptTarget(scripts) @!\
SimpleShellScriptTargetExt(scripts,.SH)


/*
* ShellScriptLongTarget:
* Generate rules to create a set of scripts from .SH files where
* the name of the generated file is different from the basename of
* the .SH file (when, for instance, the total length with the .SH
* extension would not leave enough space for RCS ,v extension).
*/
#define ShellScriptLongTarget(basename,scriptname) @!\
++LSCRIPTS scriptname @!\
AllTarget(scriptname)  @!\
      @!\
scriptname: basename^^.SH @@\
 /bin/sh basename^^.SH @!\
      @!\
InstallScripts()   @!\
?NOMAN:|skip    @!\
InstallManPageLong(basename,$(MANSRC),scriptname) @!\
-skip


/*
 * ForceTarget:
* The force target will force reconstruction of all the other
* targets which include .FORCE in their own dependencies.
*/
#define ForceTarget() @!\
|once _force_   @!\
.FORCE:     @!\
     @!\
-once


/*
* RemoteTargetDependency:
* A local target may rely on a remote dependency (e.g. a library)
* made in a separate directory. This rule explicits the dependency
* and forces a make of that dependency in the remote directory.
*/
#define RemoteTargetDependency(target,directory,dependency) @!\
```

```
RemoteDependency(directory,dependency) @!\
target: directory/^^^dependency @!\


/*
* RemoteDependency:
* Specify rules for making a remote dependency.
*/
#define RemoteDependency(directory,dependency) @!\
ForceTarget()       @!\
|once =directory/^^^dependency=   @!\
directory/^^^dependency: .FORCE   @@\
 @echo "Checking "^^^dependency" in "^^^directory"..." @@\
 cd ^^^directory; $(MAKE) ^^^dependency @@\
 @echo "Continuing in $(CURRENT)..." @!\
    @!\
-once

/*
 * SetSubdirs:
* Actually forces the definition of SUBDIRS, and lets the user
* specify what the sub-directories are.  This will be added to the
* customization part.
*/
#define SetSubdirs(subdirs) @!\
>SUBDIRS @!\
+SUBDIRS = subdirs


/*
* NoManPages:
* Actually forces the definition of NOMAN, which tells the jmake
* program to not generate rules for installing manual pages.
*/
#define NoManPages() @!\
>NOMAN


/*
* Expand:
* This powerful macro expands the `rule' given a `pattern'. It
* relies on a built-in command in jmake. The expansion is
* documented in the short notes file that comes with jmake and
* gives some insights on the internal syntax.
*/
#define Expand(rule, pattern) @!\
|expand pattern @!\
rule @!\
```

```
-expand


/*
* Lex and yacc stuff.
*/

/*
* YaccRule:
* This is the rule which is used to build a .c file from a .y file.
*/
#define YaccRule() @!\
AddSuffix(.y)     @!\
|once _YaccRule_    @!\
|rule:.y.c:      @!\
|rule: $(YACC) $(JYFLAGS)
 $< @!\
|rule: $(MV) y.tab.c $@   @!\
|rule:       @!\
-once

/*
* SimpleYaccTarget:
* Declare a yacc base.y file to be used in the building of the
* specified target program. The source file must be given without
* its final .y extension. The name of the .c and .o will be
* derived from the source file basename provided.
*/
#define SimpleYaccTarget(program,base) @!\
++SOURCES base.y @!\
++OBJECTS base.o @!\
YaccRule()    @!\
program: base.c   @!\
     @!\
local_realclean::  @@\
 $(RM) base.c  @!\


/*
* ComplexYaccTarget:
* Declare a yacc base.y file to be used in the building of the
* specified target program. The source file must be given without
* its final .y extension. The name of the .c and .o will be
* derived from the source file basename provided.
* The difference with SimpleYaccTarget is the identifying process
* where all the 'yy' are replaced by the specified prefix.
*/
#define ComplexYaccTarget(program,base,prefix) @!\
```

```
++SOURCES base.y @!\
++OBJECTS base.o
 @!\
program: base.c   @!\
     @!\
base.c: base.y     @@\
 $(YACC) $(JYFLAGS) base.y @@\
 $(SED) -e 's/yy\(.\)/prefix\1/g' < y.tab.c > base.c @@\
 $(SED) -e 's/yy\(.\)/prefix\1/g' < y.tab.h > base.h @@\
 $(RM) y.tab.c y.tab.h @!\
      @!\
local_realclean::  @@\
 $(RM) base.c  @!\


/*
* SimpleYaccInclude:
* Declare that program will need an include file produced by
* the output of yacc on base.y, which typically produces a file
* named y.tab.h, which will be renamed as base.h.
* The only problem is that the dependencies towards base.h have
* to be manually given in the Jmakefile.
*/
#define SimpleYaccInclude(base) @!\
base.h: base.c  @@\
 @if test -f y.tab.h; then \ @@\
  echo " $(MV) y.tab.h $@"; \ @@\
  $(MV) y.tab.h $@; \  @@\
 fi       @!\
       @!\
local_realclean::    @@\
 $(RM) base.h

/*
* ComplexYaccInclude:
* Declare that program will need an include file produced by
* the output of yacc on base.y, which typically produces a file
* named y.tab.h, which will
 be renamed as base.h.
* The difference with SimpleYaccInclude is the identifying process
* of the y.tab.h file where all 'yy' are renamed to prefix.
* The only problem is that the dependencies towards base.h have
* to be manually given in the Jmakefile.
*/
#define ComplexYaccInclude(base,prefix) @!\
base.h: base.c  @@\
 @if test -f y.tab.h; then \ @@\
  echo " $(SED) -e 's/yy\(.\)/prefix\1/g' < y.tab.h > base.h"; \ @@\
```

```
  $(SED) -e 's/yy\(.\)/prefix\1/g' < y.tab.h > base.h; \ @@\
  echo " $(RM) y.tab.h"; \ @@\
  $(RM) y.tab.h; \  @@\
 elif test -f base.h; then \ @@\
  echo " $(CP) base.h base.ht"; \ @@\
  $(CP) base.h base.ht; \ @@\
  echo " $(SED) -e 's/yy\(.\)/prefix\1/g' < base.ht > base.h"; \ @@\
  $(SED) -e 's/yy\(.\)/prefix\1/g' < base.ht > base.h; \ @@\
  echo " $(RM) base.ht"; \ @@\
  $(RM) base.ht; \  @@\
 fi       @!\
       @!\
local_realclean::    @@\
 $(RM) base.h


/*
* NormalYaccTarget:
* Declare a yacc base.y file which should produce a base.c and
* base.h file
 as derived from the output of yacc, to be used by
* the specified program.
*/
#define NormalYaccTarget(program,base) @!\
SimpleYaccTarget(program,base) @!\
SimpleYaccInclude(base)


/*
* IdentifiedYaccTarget:
* Declare a yacc base.y file which should produce a base.c and
* base.h file as derived from the output of yacc, to be used by
* the specified program. The specified prefix is used to remplace
* all the 'yy' in the generated file, for use when more than a
* single parser is needed in one executable.
*/
#define IdentifiedYaccTarget(program,base,prefix) @!\
ComplexYaccTarget(program,base,prefix) @!\
ComplexYaccInclude(base,prefix)


/*
* SimpleLexTarget:
* This declares a lex base.l file which is to be ran through
* lex to produce a base.c file.
*/
#define SimpleLexTarget(program,base) @!\
++SOURCES base.l @!\
```

```
++OBJECTS base.o @!\
|once _LexRule_     @!\
|rule:.l.c:      @!\
|rule: $(LEX) $(JLFLAGS) $<  @!\
|rule: $(MV) lex.yy.c $@  @!\
|rule:       @!\
-once       @!\
AddSuffix(.l)   @!\
program:
 base.c   @!\
      @!\
local_realclean::  @@\
 $(RM) base.c  @!\


/*
* IdentifiedLexTarget:
* This declares a lex base.l file which is to be ran through
* lex to produce a base.c file. The prefix is used to replace
* the 'yy', so that the lexical analyzer may be identified.
*/
#define IdentifiedLexTarget(program,base,prefix) @!\
++SOURCES base.l @!\
++OBJECTS base.o @!\
program: base.c   @!\
      @!\
base.c: base.l     @@\
 $(LEX) $(JLFLAGS) base.l @@\
 $(SED) -e 's/yy\(.\)/prefix\1/g' < lex.yy.c > base.c @@\
 $(RM) lex.yy.c    @!\
      @!\
local_realclean::  @@\
 $(RM) base.c  @!\


/*
* NormalLexDependTarget:
* Declare that program will need an include file produced by
* the output of lex on base.l, which typically produces a file
* named lex.yy.c which will be renamed as base.c. Besides, the
* lexical analyzer needs the file parser.h produced by running
* parser.y through yacc and renaming y.tab.h as parser.h.
*/
#define NormalLexDependTarget(program,base,parser)
 @!\
base.o: parser.h @!\
    @!\
SimpleLexTarget(program,base)
```

```
/*
* IdentifiedLexDependTarget:
* Declare that program will need an include file produced by
* the output of lex on base.l, which typically produces a file
* named lex.yy.c which will be renamed as base.c. Besides, the
* lexical analyzer needs the file parser.h produced by running
* parser.y through yacc and renaming y.tab.h as parser.h.
* The lexical analyzer is identified with the supplied prefix,
* which replaces the regular 'yy' prefix in the symbol names.
*/
#define IdentifiedLexDependTarget(program,base,parser,prefix) @!\
base.o: parser.h @!\
    @!\
IdentifiedLexTarget(program,base,prefix)


/*
* NormalParserTarget:
* Specify that program is using the lex/yacc combination to
* produce a parser. The lexic and parser parameters are the
* base name of the .l and .y file, respectively.
*/
#define NormalParserTarget(program,lexic,parser) @!\
NormalLexDependTarget(program,lexic,parser)
 @!\
NormalYaccTarget(program,parser)


/*
* IdentifiedParserTarget:
* Specify that program is using the lex/yacc combination to
* produce a parser. The lexic and parser parameters are the
* base name of the .l and .y file, respectively. The parser
* produced is identified via its prefix, which replaces all
* the normally supplied 'yy' prefix, hence making it possible
* to have multiple parsers in a single executable.
*/
#define IdentifiedParserTarget(program,lexic,parser,prefix) @!\
IdentifiedLexDependTarget(program,lexic,parser,prefix) @!\
IdentifiedYaccTarget(program,parser,prefix)

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/files/Jmake.rules
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
```

```
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_utimes: Inlibc
?MAKE: -pick add $@ %<
?S:d_utimes:
?S: This variable conditionally defines the HAS_UTIMES symbol, which
?S: indicates to the C program that the utimes() routine is available.
?S:.
?C:HAS_UTIMES:
?C: This symbol, if defined, indicates that the utimes routine is
?C: available to do change file time stamps using struct timevals.
?C:.
?H:#$d_utimes HAS_UTIMES  /**/
?H:.
?LINT:set d_utimes
: see if utimes exists
set utimes d_utimes
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_utimes.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d__fwalk: Inlibc
?MAKE: -pick add $@ %<
?S:d__fwalk:
?S: This variable conditionally defines HAS__FWALK if _fwalk() is
?S: available to apply a function to all the file handles.
?S:.
?C:HAS__FWALK:
?C: This symbol, if defined, indicates that the _fwalk system call is
?C: available to apply a function to all the file handles.
?C:.
?H:#$d__fwalk HAS__FWALK  /**/
```

?H:.
?LINT:set d__fwalk
: see if _fwalk exists
set fwalk d__fwalk
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d__fwalk.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: uidtype.U,v 3.0.1.3 1994/08/29 16:33:25 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: uidtype.U,v $
?RCS: Revision 3.0.1.3  1994/08/29  16:33:25  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0.1.2  1994/06/20  07:09:36  ram
?RCS: patch30: comment for uidtype referred to the obsoleted symbol
?RCS:
?RCS: Revision 3.0.1.1  1994/05/13  15:28:27  ram
?RCS: patch27: made conformant to its gidtype.U companion
?RCS: patch27: question now explicitly mentions getuid()
?RCS:
?RCS: Revision 3.0  1993/08/18
  12:09:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:uidtype: Myread Typedef Findhdr
?MAKE: -pick add $@ %<
?S:uidtype:
?S: This variable defines Uid_t to be something like uid_t, int,
?S: ushort, or whatever type is used to declare user ids in the kernel.
?S:.
?C:Uid_t (UIDTYPE):
?C: This symbol holds the type used to declare user ids in the kernel.
?C: It can be int, ushort, uid_t, etc... It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?H:#define Uid_t $uidtype  /* UID type */
?H:.

```
?T:xxx
: see what type uids are declared as in the kernel
echo " "
echo "Looking for the type for user ids returned by getuid()."
set uid_t uidtype xxx stdio.h sys/types.h
eval $typedef
case "$uidtype" in
xxx)
 xxx=`./findhdr sys/user.h`
 set `grep '_ruid;' "$xxx" 2>/dev/null` unsigned short
 case $1 in
 unsigned) dflt="$1 $2" ;;
 *) dflt="$1" ;;
 esac
 ;;
*) dflt="$uidtype";;
esac
case "$uidtype" in
uid_t) echo "uid_t found." ;;
*) rp="What
 is the type for user ids returned by getuid()?"
 . ./myread
 uidtype="$ans"
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/uidtype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Obsol_h.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Obsol_h.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:11  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file is prepended to .MT/Obsol_h if that file is not empty. That file
?X: contains the necessary mappings of new symbols to obsolete ones.
?X:
```

```
?MAKE:Obsol_h:
?MAKE: -pick prepend $@ ./Obsol_h
?LINT:nocomment
/*
* The following symbols are obsolete. They are mapped to the the new
* symbols only to ease the transition process. The
 sources should be
* updated so as to use the new symbols only, as the support for these
* obsolete symbols may end without notice.
*/
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Obsol_h.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: rename.C,v 3.0.1.1 1994/01/24 13:58:42 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: rename.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:42  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/C/fake/rename.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sched_getscheduler: Inlibc
?MAKE: -pick add $@ %<
```

?S:d_sched_getscheduler:
?S: This variable conditionally defines HAS_SCHED_GETSCHEDULER if
?S: sched_getscheduler() is available to get the scheduling policy.
?S:.
?C:HAS_SCHED_GETSCHEDULER:
?C: This symbol, if defined, indicates that the sched_getscheduler
?C: system call is available to get the scheduling policy.
?C:.
?H:#$d_sched_getscheduler HAS_SCHED_GETSCHEDULER  /**/
?H:.
?LINT:set d_sched_getscheduler
: see if sched_getscheduler exists
set sched_getscheduler
 d_sched_getscheduler
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sched_getscheduler.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sfio.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sfio.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:48:27  ram
?RCS: patch61: created
?RCS:
?MAKE:i_sfio: Inhdr Setvar
?MAKE: -pick add $@ %<
?S:i_sfio:
?S: This variable conditionally defines the I_SFIO symbol,
?S: and indicates whether a C program should include <sfio.h>.
?S:.
?C:I_SFIO:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sfio.h>.
?C:.
?H:#$i_sfio I_SFIO  /**/
?H:.
?LINT:set

```
 i_sfio
: see if sfio.h is available
set sfio.h i_sfio
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sfio.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_itimer.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_itimer.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:25  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_itimer: Inlibc
?MAKE: -pick add $@ %<
?S:d_itimer:
?S: This variable conditionally defines the HAS_ITIMER symbol, which
?S: indicates that the setitimer() routine exists.  The setitimer()
?S: routine supports sub-second accuracy for one real-time and two
?S: cpu clocks.
?S:.
?C:HAS_ITIMER (ITIMER):
?C: This symbol, if defined, indicates
 that the setitimer() routine exists.
?C:.
?H:#$d_itimer HAS_ITIMER /**/
?H:.
?LINT:set d_itimer
: see if setitimer exists
set setitimer d_itimer
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_itimer.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?MAKE:d_hypot: Inlibc
?MAKE: -pick add $@ %<
?S:d_hypot:
?S: This variable conditionally defines HAS_HYPOT if hypot is available
?S: for numerically stable hypotenuse function.
?S:.
?C:HAS_HYPOT:
?C: This symbol, if defined, indicates that the hypot routine is
?C: available to do the hypotenuse function.
?C:.
?H:#$d_hypot HAS_HYPOT  /**/
?H:.
?LINT:set d_hypot
: see if hypot exists
set hypot d_hypot
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_hypot.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_chown.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_chown.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:07:14  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_chown: Inlibc
?MAKE: -pick add $@ %<
?S:d_chown:
?S: This variable conditionally defines the HAS_CHOWN symbol, which
?S: indicates to the C program that the chown() routine is available.
?S:.
?C:HAS_CHOWN :
?C: This symbol, if defined, indicates that the chown routine is
?C: available.
?C:.
```

?H:#$d_chown
 HAS_CHOWN  /**/
?H:.
?LINT:set d_chown
: see if chown exists
set chown d_chown
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_chown.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1997, Chip Salzenberg
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sh.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:20:13  ram
?RCS: patch61: created
?RCS:
?MAKE:sh: Head
?MAKE: -pick wipe $@ %<
?S:sh:
?S: This variable contains the full pathname of the shell used
?S: on this system to execute Bourne shell scripts.  Usually, this will be
?S: /bin/sh, though it's possible that some systems will have /bin/ksh,
?S: /bin/pdksh, /bin/ash, /bin/bash, or even something such as
?S: D:/bin/sh.exe.
?S: This unit comes before Options.U,
 so you can't set sh with a -D
?S: option, though you can override this (and startsh)
?S: with -O -Dsh=/bin/whatever -Dstartsh=whatever
?S:.
?C:SH_PATH:
?C: This symbol contains the full pathname to the shell used on this
?C: on this system to execute Bourne shell scripts.  Usually, this will be
?C: /bin/sh, though it's possible that some systems will have /bin/ksh,
?C: /bin/pdksh, /bin/ash, /bin/bash, or even something such as
?C: D:/bin/sh.exe.
?C:.
?H:#define SH_PATH "$sh"  /**/

```
?H:.
?T:xxx try pth p SYSTYPE
?LINT:extern maintloc maintname
?X:
?X: Be quiet unless something unusual happens because this gets
?X: loaded up even before options are processed.
?X: Can't use ./loc because that depends on startsh, which, in turn
?X: depends on this unit.
?X:
: Find the basic shell for Bourne shell scripts
case "$sh" in
")
?X: SYSTYPE is for some older MIPS systems.
?X: I do not know if it is still needed.
 case "$SYSTYPE" in
 *bsd*|sys5*) xxx="/$SYSTYPE/bin/sh";;
 *) xxx='/bin/sh';;
 esac
 if
 test -f "$xxx"; then
  sh="$xxx"
 else
  : Build up a list and do a single loop so we can 'break' out.
  pth=`echo $PATH | sed -e "s/$p_/ /g"`
  for xxx in sh bash ksh pdksh ash; do
   for p in $pth; do
    try="$try ${p}/${xxx}"
   done
  done
  for xxx in $try; do
   if test -f "$xxx"; then
    sh="$xxx"
    break
   elif test -f "$xxx$_exe"; then
    sh="$xxx"
    break
   elif test -f "$xxx.exe"; then
    sh="$xxx"
    break
   fi
  done
 fi
 ;;
esac

?X: fd 4 isn't open yet...
case "$sh" in
") cat >&2 <<EOM
```

```
$me:  Fatal Error:  I can't find a Bourne Shell anywhere.

Usually it's in /bin/sh.  How did you even get this far?
Please contact me (<$maintname>) at <$maintloc> and
we'll try to straighten this all out.
EOM
 exit 1
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sh.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: getopt.C,v 3.0.1.1 1994/01/24 13:58:40 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* Original Author: unknown, got this off net.sources
*
* $Log: getopt.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:40  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/C/fake/getopt.C
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 2016 Dagfinn Ilmari Mannsker & H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X:
?X: This unit produces a variable that is intended to be eval'ed in
?X: order to define/undefine a symbol. A consistency check is made
?X: regarding any previous value and a warning is issued if there
?X: is any discrepancy.
?X:
```

```
?X: To use it, say:
?X: set d_siginfo_si_errno siginfo_t int si_errno $d_sigaction signal.h
?X: eval $hasfield_t;
?X:
?MAKE:Hasfield_t: test Compile rm_try Setvar
?MAKE: -pick add $@ %<
?LINT:define hasfield_t
?S:hasfield_t:
?S: Internal macro for Configure
?S:.
?V:hasfield_t:
?T:varname struct type field
: Define hasfield_t macro for Configure internal use
hasfield_t='varname=$1; struct=$2; type=$3; field=$4; shift; shift; shift; shift;
while $test $# -ge 2; do
   case
 "$1" in
 $define) echo "#include <$2>";;
   esac ;
   shift 2;
done > try.c;
echo "int main () { $struct foo; $type bar = foo.$field; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/Hasfield_t.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_localtime_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS: Copyright (c) 2006,2007 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_localtime_r d_localtime_r_needs_tzset localtime_r_proto: Inlibc \
 cat run Protochk Hasproto i_systypes usethreads i_time i_systime \
 rm_try Compile extern_C i_stdlib i_unistd i_string i_malloc
```

```
?MAKE: -pick add $@ %<
?S:d_localtime_r:
?S: This variable conditionally defines the HAS_LOCALTIME_R symbol,
?S: which indicates to the C program that the localtime_r()
?S: routine is available.
?S:.
?S:d_localtime_r_needs_tzset:
?S: This variable conditionally defines the LOCALTIME_R_NEEDS_TZSET
?S: symbol, which makes us call tzset before localtime_r()
?S:.
?S:localtime_r_proto:
?S: This
 variable encodes the prototype of localtime_r.
?S: It is zero if d_localtime_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_localtime_r
?S: is defined.
?S:.
?C:HAS_LOCALTIME_R:
?C: This symbol, if defined, indicates that the localtime_r routine
?C: is available to localtime re-entrantly.
?C:.
?C:LOCALTIME_R_NEEDS_TZSET:
?C: Many libc's localtime_r implementations do not call tzset,
?C: making them differ from localtime(), and making timezone
?C: changes using \$ENV{TZ} without explicitly calling tzset
?C: impossible. This symbol makes us call tzset before localtime_r
?C:.
?H:?%<:#$d_localtime_r_needs_tzset LOCALTIME_R_NEEDS_TZSET /**/
?H:?%<:#ifdef LOCALTIME_R_NEEDS_TZSET
?H:?%<:#define L_R_TZSET tzset(),
?H:?%<:#else
?H:?%<:#define L_R_TZSET
?H:?%<:#endif
?H:.
?C:L_R_TZSET:
?C: If localtime_r() needs tzset, it is defined in this define
?C:.
?C:LOCALTIME_R_PROTO:
?C: This symbol encodes the prototype of localtime_r.
?C: It is zero if
 d_localtime_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_localtime_r
?C: is defined.
?C:.
?H:#$d_localtime_r HAS_LOCALTIME_R    /**/
?H:#define LOCALTIME_R_PROTO $localtime_r_proto    /**/
?H:.
?T:try hdrs d_localtime_r_proto
```

```
?F:!try
: see if localtime_r exists
set localtime_r d_localtime_r
eval $inlibc
case "$d_localtime_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_time time.h $i_systime sys/time.h"
 case "$d_localtime_r_proto:$usethreads" in
 ":define") d_localtime_r_proto=define
  set d_localtime_r_proto localtime_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_localtime_r_proto" in
 define)
 case "$localtime_r_proto" in
 "|0) try='struct tm* localtime_r(const time_t*, struct tm*);'
 ./protochk "$extern_C $try" $hdrs && localtime_r_proto=S_TS ;;
 esac
 case "$localtime_r_proto" in
 "|0) try='int localtime_r(const time_t*, struct tm*);'
 ./protochk "$extern_C $try" $hdrs && localtime_r_proto=I_TS ;;
 esac
 case "$localtime_r_proto"
 in
 "|0) d_localtime_r=undef
        localtime_r_proto=0
  echo "Disabling localtime_r, cannot determine prototype." >&4 ;;
 * ) case "$localtime_r_proto" in
  REENTRANT_PROTO*) ;;
  *) localtime_r_proto="REENTRANT_PROTO_$localtime_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "localtime_r has no prototype, not using it." >&4 ;;
  esac
  d_localtime_r=undef
  localtime_r_proto=0
  ;;
 esac
 ;;
*) localtime_r_proto=0
 ;;
esac

: see if localtime_r calls tzset
```

```
case "$localtime_r_proto" in
REENTRANT_PROTO*)
 $cat >try.c <<EOCP
/*  Does our libc's localtime_r call tzset ?
*  return 0 if so, 1 otherwise.
*/
#$i_systypes I_SYS_TYPES
#$i_unistd I_UNISTD
#$i_time I_TIME
#$i_stdlib I_STDLIB
#$i_string I_STRING
#$i_malloc I_MALLOC
#ifdef I_SYS_TYPES
#  include <sys/types.h>
#endif
#ifdef I_UNISTD
#  include <unistd.h>
#endif
#ifdef I_TIME
#  include <time.h>
#endif
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#ifdef I_STRING
#  include
 <string.h>
#else
#  include <strings.h>
#endif
#ifdef I_MALLOC
#  include <malloc.h>
#endif
int main()
{
   time_t t = time(0L);
   char w_tz[]="TZ" "=GMT+5",
  e_tz[]="TZ" "=GMT-5",
 *tz_e = (char*)malloc(16),
 *tz_w = (char*)malloc(16);
   struct tm tm_e, tm_w;
   memset(&tm_e,'\0',sizeof(struct tm));
   memset(&tm_w,'\0',sizeof(struct tm));
   strcpy(tz_e,e_tz);
   strcpy(tz_w,w_tz);

   putenv(tz_e);
   localtime_r(&t, &tm_e);
```

```
  putenv(tz_w);
  localtime_r(&t, &tm_w);

  if( memcmp(&tm_e, &tm_w, sizeof(struct tm)) == 0 )
 return 1;
  return 0;
}
EOCP
 set try
 if eval $compile; then
    if $run ./try; then
  d_localtime_r_needs_tzset=undef;
    else
  d_localtime_r_needs_tzset=define;
    fi;
 else
    d_localtime_r_needs_tzset=undef;
 fi;
   ;;
 *)
   d_localtime_r_needs_tzset=undef;
   ;;
esac
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_localtime_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_gnulibc.U,v 3.0.1.1 1997/02/28 15:34:33 ram Exp $
?RCS:
?RCS: Copyright (c) 1996,1998 Andy Dougherty
?RCS: Copyright (c) 1996, Sven Verdoolaege
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_gnulibc.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:34:33  ram
?RCS: patch61: created
?RCS:
?MAKE:d_gnulibc gnulibc_version: Myread Oldconfig Setvar rm_try \
 cat Compile run
```

```
?MAKE: -pick add $@ %<
?S:d_gnulibc:
?S: Defined if we're dealing with the GNU C Library.
?S:.
?S:gnulibc_version:
?S: This variable contains the version number of the GNU C library.
?S: It is
 usually something like '2.2.5'.  It is a plain " if this
?S: is not the GNU C library, or if the version is unknown.
?S:.
?C:HAS_GNULIBC:
?C: This symbol, if defined, indicates to the C program that
?C: the GNU C library is being used.  A better check is to use
?C: the __GLIBC__ and __GLIBC_MINOR__ symbols supplied with glibc.
?C:.
?H:#$d_gnulibc HAS_GNULIBC   /**/
?H:?%<:#if defined(HAS_GNULIBC) && !defined(_GNU_SOURCE)
?H:?%<:#   define _GNU_SOURCE
?H:?%<:#endif
?H:.
?F:!glibc.ver !try
?LINT: set d_gnulibc
?X: gnulibc can be executed by calling __libc_main().
?X: Ulrich Drepper doesn't think any other libc does that,
?X: but we check if it says 'GNU C Library' to be sure.
?X:
?X: Alas, as of 3/1998 glibc 2.0.7 reportedly isn't going to
?X: have __libc_main() anymore. :-(.  Fortunately, all released
?X: versions of glibc 2.x.x _do_ have CPP variables.  For 2.0.6,
?X: they are:
?X: #define __GLIBC__  2
?X: #define__GLIBC_MINOR__ 0.
?X: (The '6' isn't available :-(.
?X: glibc2.1 will
 also have
?X:  extern const char * __gnu_get_libc_release(void);
?X:  extern const char * __gnu_get_libc_version(void);
?X: functions.   --thanks to Andreas Jaeger.   --AD  6/1998.
?X: Although the exact format isn't documented, __gnu_get_libc_version()
?X: returns a simple string '2.1.3' in glibc 2.1.3.
?X:
: Check if we are using the GNU C library
echo " "
echo "Checking for GNU C Library..." >&4
cat >try.c <<'EOCP'
/* Find out version of GNU C library.  __GLIBC__ and __GLIBC_MINOR__
  alone are insufficient to distinguish different versions, such as
  2.0.6 and 2.0.7.  The function gnu_get_libc_version() appeared in
```

```
  libc version 2.1.0.      A. Dougherty,  June 3, 2002.
*/
#include <stdio.h>
int main(void)
{
#ifdef __GLIBC__
#   ifdef __GLIBC_MINOR__
#       if __GLIBC__ >= 2 && __GLIBC_MINOR__ >= 1 && !defined(__cplusplus)
#           include <gnu/libc-version.h>
    printf("%s\n",  gnu_get_libc_version());
#       else
    printf("%d.%d\n",  __GLIBC__, __GLIBC_MINOR__);
#
    endif
#   else
 printf("%d\n",  __GLIBC__);
#   endif
  return 0;
#else
  return 1;
#endif
}
EOCP
set try
if eval $compile_ok && $run ./try > glibc.ver; then
 val="$define"
 gnulibc_version=`$cat glibc.ver`
 echo "You are using the GNU C Library version $gnulibc_version"
else
 val="$undef"
 gnulibc_version=''
 echo "You are not using the GNU C Library"
fi
$rm_try glibc.ver
set d_gnulibc
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_gnulibc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sysparam.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

```
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sysparam.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:22:43  ram
?RCS: patch32: created
?RCS:
?MAKE:i_sysparam: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysparam:
?S: This variable conditionally defines the I_SYS_PARAM symbol, and indicates
?S: whether a C program should include <sys/param.h>.
?S:.
?C:I_SYS_PARAM:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/param.h>.
?C:.
?H:#$i_sysparam I_SYS_PARAM  /**/
?H:.
?LINT:set
 i_sysparam
: see if this is a sys/param system
set sys/param.h i_sysparam
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysparam.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysstatfs.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysstatfs: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sysstatfs:
?S: This variable conditionally defines the I_SYSSTATFS symbol,
?S: and indicates whether a C program should include <sys/statfs.h>.
?S:.
?C:I_SYS_STATFS:
?C: This symbol, if defined, indicates that <sys/statfs.h> exists.
?C:.
?H:#$i_sysstatfs I_SYS_STATFS  /**/
?H:.
?LINT:set i_sysstatfs
```

```
: see if this is a sys/statfs.h system
set sys/statfs.h i_sysstatfs
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sysstatfs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: cf_name.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: cf_name.U,v $
?RCS: Revision 3.0.1.2  1994/05/06  14:29:36  ram
?RCS: patch23: fixed user name computation from /etc/passwd in bsd systems
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:05:11  ram
?RCS: patch16: created
?RCS:
?RCS:
?MAKE:+cf_name: cf_by passcat Filexp nametype cat test
?MAKE: -pick add $@ %<
?S:cf_name:
?S: Full name of the person who ran the Configure script and
 answered the
?S: questions. This can be used by units that require the user's full name.
?S: This variable is for internal use only.
?S:.
?T:xxx fn NAME
: figure out their full name
case "$NAME" in
") case "$nametype" in
 other)
  fn=`./filexp ~/.fullname`
  xxx=usg
  $test -f $fn && xxx=other
  ;;
 *)
  xxx="$nametype"
  ;;
```

```
 esac

 case "$xxx" in
 bsd)
  cf_name=`$passcat | grep "^$cf_by:" | \
   sed -e 's/^[^:]*:[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\):.*/\1/' \
   -e 's/,.*//'`
  ;;
   usg)
  cf_name=`$passcat | grep "^$cf_by:" | \
   sed -e 's/^[^:]*:[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\):.*/\1/' \
   -e 's/[^-]*-\(.*\)(.*)/\1/'`
  ;;
 *)
  cf_name=`$cat $fn`
  ;;
 esac
 ;;
*)
 cf_name="$NAME"
 ;;
esac
?X:
?X: In the original unit, Graham asked for the user name, in case the above
?X: code was unable to figure it out correctly. Since now cf_name has been
?X: made an internal variable only (i.e. it is not saved in config.sh), letting
?X: the user override the computed default each time would be a pain.
?X:
 Therefore, I have decided to trust the above code to get it right, and for
?X: those rare cases where it will fail, too bad :-) --RAM.
?X:
echo " "
echo "Pleased to meet you, $cf_name."
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/cf_name.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: Cppsym.U,v $
?RCS: Revision 3.0.1.5  1995/05/12  11:59:11  ram
?RCS: patch54: split awk command onto two lines for older awks (ADO)
?RCS:
?RCS: Revision 3.0.1.4  1995/01/11  14:55:57  ram
?RCS: patch45: new cc vs. cpp symbol checking suggested by JHI
?RCS: patch45: added more cpp symbols (JHI)
?RCS:
?RCS: Revision 3.0.1.3  1994/10/29  15:51:32  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: new symbols ardent and titan (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/06/20
  06:53:32  ram
?RCS: patch30: extended cpp symbol lookup list (JHI)
?RCS: patch30: renamed attrlist symbol into al for brevity
?RCS:
?RCS: Revision 3.0.1.1  1993/12/15  08:14:14  ram
?RCS: patch15: added new cpp symbols __bsdi__ and BSD_NET2
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script called Cppsym, which can be used to
?X: determine whether any in a list of symbols is defined by the C compilation
?X: chain (C preprocessor symbols plus C compiler native ones).
?X: It can determine the status of any symbol, though the symbols in $al
?X: are more easily determined.  If you want to add to $al you can do
?X: it in Myinit.U.
?X:
?MAKE:Cppsym ccsymbols cppsymbols cppccsymbols: run \
 eunicefix Guess awk cat tr sed sort rm startsh osname \
 +cc gccversion test comm uniq echo Options trnl \
 optimize ccflags ldflags libs
?MAKE: -pick add $@ %<
?S:ccsymbols:
?S: The variable contains the symbols
 defined by the C compiler alone.
?S: The symbols defined by cpp or by cc when it calls cpp are not in
?S: this list, see cppsymbols and cppccsymbols.
?S: The list is a space-separated list of symbol=value tokens.
?S:.
?S:cppsymbols:
?S: The variable contains the symbols defined by the C preprocessor
?S: alone.  The symbols defined by cc or by cc when it calls cpp are
?S: not in this list, see ccsymbols and cppccsymbols.
?S: The list is a space-separated list of symbol=value tokens.
```

```
?S:.
?S:cppccsymbols:
?S: The variable contains the symbols defined by the C compiler
?S: when it calls cpp.  The symbols defined by the cc alone or cpp
?S: alone are not in this list, see ccsymbols and cppsymbols.
?S: The list is a space-separated list of symbol=value tokens.
?S:.
?T:also symbols i postprocess_cc_v flags
?F:./Cppsym
?F:!Cppsym.true !Cppsym.know !ccsym.com !ccsym.cpp !ccsym.own
: determine known pre-processor and compiler symbols
echo " "
$echo "Guessing which symbols your C compiler and preprocessor
 define..." >&4
?X:
?X: The symbol list is in alpha order for ease of maintenance...
?X:
?X: Lots of new symbols (mostly rummaged from gcc), courtesy of
?X: Jarkko Hietaniemi <jhi@snakemail.hut.fi> -- RAM, 06/06/94
?X:
?X: If your symbol is mixed case, just add it as-is.
?X: All symbols will be transformed to both all-lower and all-upper.
?X: Also drop any leading/trailing underscores, the scan will try all those.
?X:
$cat <<'EOSH' > Cppsym.know
a29k ABI64 aegis AES_SOURCE AIX AIX32 AIX370
AIX41 AIX42 AIX43 AIX_SOURCE aixpc ALL_SOURCE
alliant alpha am29000 AM29000 AMD64 amiga AMIGAOS AMIX
ansi ANSI_C_SOURCE apollo ardent ARM32 atarist att386 att3b
BeOS BIG_ENDIAN BIT_MSF bsd BSD bsd43 bsd4_2 bsd4_3 BSD4_3 bsd4_4
BSD_4_3 BSD_4_4 BSD_NET2 BSD_TIME BSD_TYPES BSDCOMPAT bsdi
bull c cadmus clipper CMU COFF COMPILER_VERSION
concurrent convex cpu cray CRAY CRAYMPP ctix CX_UX
CYGWIN DGUX DGUX_SOURCE DJGPP dmert DOLPHIN DPX2 DSO
Dynix DynixPTX ELF encore EPI EXTENSIONS FAVOR_BSD
FILE_OFFSET_BITS
 FreeBSD GCC_NEW_VARARGS gcos gcx gimpel
GLIBC GLIBC_MINOR
GNU_SOURCE GNUC GNUC_MINOR GNU_LIBRARY GO32 gould GOULD_PN
H3050R H3050RX hbullx20 hcx host_mips
hp200 hp300 hp700 HP700 hp800 hp9000
hp9000s200 hp9000s300 hp9000s400 hp9000s500
hp9000s700 hp9000s800 hp9k8 hp_osf hppa hpux HPUX_SOURCE
i186 i286 i386 i486 i586 i686 i8086 i80960 i860 I960
IA64 iAPX286 ibm ibm032 ibmesa IBMR2 ibmrt ILP32 ILP64
INLINE_INTRINSICS INTRINSICS INT64 interdata is68k ksr1
LANGUAGE_C LARGE_FILE_API LARGEFILE64_SOURCE
LARGEFILE_SOURCE LFS64_LARGEFILE LFS_LARGEFILE
```

Linux LITTLE_ENDIAN LONG64 LONG_DOUBLE LONG_LONG
LONGDOUBLE LONGLONG LP64 luna luna88k Lynx
M68000 m68k m88100 m88k M88KBCS_TARGET M_COFF
M_I186 M_I286 M_I386 M_I8086 M_I86 M_I86SM M_SYS3
M_SYS5 M_SYSIII M_SYSV M_UNIX M_XENIX MACH machine MachTen
MATH_HAS_NO_SIDE_EFFECTS
mc300 mc500 mc68000 mc68010 mc68020 mc68030 mc68040
mc68060 mc68k mc68k32 mc700 mc88000 mc88100 merlin
mert MiNT mips MIPS_FPSET MIPS_ISA MIPS_SIM MIPS_SZINT
MIPS_SZLONG
MIPS_SZPTR MIPSEB MIPSEL MODERN_C motorola
mpeix MSDOS MTXINU MULTIMAX mvs MVS n16 ncl_el ncl_mr
NetBSD news1500 news1700 news1800 news1900 news3700
news700 news800 news900 NeXT NLS nonstopux ns16000 ns32000
ns32016 ns32332 ns32k nsc32000
OCS88 OEMVS OpenBSD os OS2 OS390 osf OSF1 OSF_SOURCE
pa_risc PA_RISC1_1 PA_RISC2_0 PARAGON parisc
pc532 pdp11 PGC PIC plexus PORTAR posix
POSIX1B_SOURCE POSIX2_SOURCE POSIX4_SOURCE
POSIX_C_SOURCE POSIX_SOURCE POWER
PROTOTYPES PWB pyr QNX R3000 REENTRANT RES Rhapsody RISC6000
riscix riscos RT S390 SA110 scs SCO sequent sgi SGI_SOURCE SH3 sinix
SIZE_INT SIZE_LONG SIZE_PTR SOCKET_SOURCE SOCKETS_SOURCE
sony sony_news sonyrisc sparc sparclite spectrum
stardent stdc STDC_EXT stratos sun sun3 sun386
Sun386i svr3 svr4 SVR4_2 SVR4_SOURCE svr5
SX system SYSTYPE_BSD SYSTYPE_BSD43 SYSTYPE_BSD44
SYSTYPE_SVR4 SYSTYPE_SVR5 SYSTYPE_SYSV SYSV SYSV3 SYSV4 SYSV5
sysV68 sysV88 Tek4132 Tek4300 titan
TM3200 TM5400 TM5600
tower tower32 tower32_200 tower32_600 tower32_700
tower32_800
tower32_850 tss
u370 u3b u3b2 u3b20 u3b200 u3b20d u3b5
ultrix UMAXV UnicomPBB UnicomPBD UNICOS UNICOSMK
unix UNIX95 UNIX99 unixpc unos
USE_BSD USE_FILE_OFFSET64 USE_GNU USE_ISOC9X USE_LARGEFILE USE_LARGEFILE64
USE_MISC USE_POSIX USE_POSIX199309 USE_POSIX199506 USE_POSIX2
USE_REENTRANT USE_SVID USE_UNIX98 USE_XOPEN USE_XOPEN_EXTENDED
USGr4 USGr4_2
Utek UTek UTS UWIN uxpm uxps vax venix VMESA vms xenix Xenix286
XOPEN_SOURCE XOPEN_SOURCE_EXTENDED XPG2 XPG2_EXTENDED
XPG3 XPG3_EXTENDED XPG4 XPG4_EXTENDED
z8000
EOSH
?X: Maybe put other stuff here too.
cat <<EOSH >>Cppsym.know
$osname

```
EOSH
./tr '[a-z]' '[A-Z]' < Cppsym.know > Cppsym.a
./tr '[A-Z]' '[a-z]' < Cppsym.know > Cppsym.b
$cat Cppsym.know > Cppsym.c
$cat Cppsym.a Cppsym.b Cppsym.c | $tr ' ' $trnl | $sort | $uniq > Cppsym.know
$rm -f Cppsym.a Cppsym.b Cppsym.c
cat <<EOSH > Cppsym
$startsh
if $test \$# -gt 0; then
   echo \$* | $tr " " "$trnl" | ./Cppsym.try > Cppsym.got
   if $test -s Cppsym.got; then
       $rm -f Cppsym.got
        exit 0
   fi
   $rm -f Cppsym.got
   exit 1
else
   $tr " " "$trnl" | ./Cppsym.try
   exit 0
fi
EOSH
chmod +x Cppsym
$eunicefix Cppsym
?X: The below awk script will die a horrible death if
?X: some of the tested symbols are not long ints.
?X: Also, we do not make difference between just defined and defined zero.
cat <<EOSH > Cppsym.try
$startsh
cat <<'EOCP' > try.c
#include <stdio.h>
int main() {
EOCP
?X: The length($1) command guards against possible empty entries.
?X: The awk snippet is know to give heartburn to UNICOS/mk awk.
$awk \\
EOSH
cat <<'EOSH' >> Cppsym.try
'length($1) > 0 {
   printf "#ifdef %s\n#if %s+0\nprintf(\"%s=%%ld\\n\", (long)%s);\n#else\nprintf(\"%s\\n\");\n#endif\n#endif\n", $1,
$1, $1, $1, $1
   printf "#ifdef _%s\n#if _%s+0\nprintf(\"_%s=%%ld\\n\",
(long)_%s);\n#else\nprintf(\"_%s\\n\");\n#endif\n#endif\n", $1, $1, $1, $1, $1
   printf "#ifdef __%s\n#if __%s+0\nprintf(\"__%s=%%ld\\n\",
(long)__%s);\n#else\nprintf(\"__%s\\n\");\n#endif\n#endif\n",
 $1, $1, $1, $1, $1
   printf "#ifdef __%s__\n#if __%s__+0\nprintf(\"__%s__=%%ld\\n\",
(long)__%s__);\n#else\nprintf(\"__%s__\\n\");\n#endif\n#endif\n", $1, $1, $1, $1, $1
}'  >> try.c
```

```
echo 'return 0;}' >> try.c
EOSH
cat <<EOSH >> Cppsym.try
flags="$ccflags"
case "$osname-$gccversion" in
irix-) flags="\$flags -woff 1178" ;;
os2-*) flags="\$flags -Zlinker /PM:VIO" ;;
esac
$cc -o try $optimize \$flags $ldflags try.c $libs && $run ./try
EOSH
chmod +x Cppsym.try
$eunicefix Cppsym.try
./Cppsym < Cppsym.know > Cppsym.true
: now check the C compiler for additional symbols
?X: suggested by Jarkko Hietaniemi <jhi@snakemail.hut.fi>, thanks!
postprocess_cc_v="
case "$osname" in
aix) postprocess_cc_v="|$tr , ' '" ;;
esac
$cat >ccsym <<EOS
$startsh
$cat >tmp.c <<EOF
extern int foo;
EOF
for i in \`$cc -v -c tmp.c 2>&1 $postprocess_cc_v\`
do
 case "\$i" in
 -D*) echo "\$i" | $sed 's/^-D//';;
 -A*) $test "$gccversion" && echo "\$i" | $sed 's/^-A//' | $sed 's/\(.*\)(\(.*\))/\1=\2/';;
 esac
done
$rm
 -f try.c
EOS
postprocess_cc_v="
chmod +x ccsym
$eunicefix ccsym
./ccsym > ccsym1.raw
?X: AIX complains if $uniq is passed an empty file.  ($sort apparently
?X: doesn't care.)  --AD  14 July 1998
if $test -s ccsym1.raw; then
    $sort ccsym1.raw | $uniq >ccsym.raw
else
    mv ccsym1.raw ccsym.raw
fi

?X: canonicalize symbols for easier sort/uniq/comm usage: append =1 if no = sign
?X: the awk script must be on two lines for older awk programs, sigh! -- ADO
```

```
$awk '/\=/ { print $0; next }
 { print $0"=1" }' ccsym.raw >ccsym.list
$awk '/\=/ { print $0; next }
 { print $0"=1" }' Cppsym.true >ccsym.true
$comm -13 ccsym.true ccsym.list >ccsym.own
$comm -12 ccsym.true ccsym.list >ccsym.com
$comm -23 ccsym.true ccsym.list >ccsym.cpp
also="
if $test -z ccsym.raw; then
 echo "Your C compiler doesn't seem to define any symbols!" >&4
 echo " "
 echo "However, your C preprocessor defines the following symbols:"
 $cat Cppsym.true
   ccsymbols="
 cppsymbols=`$cat Cppsym.true`
      cppsymbols=`echo
 $cppsymbols`
 cppccsymbols="$cppsymbols"
else
 if $test -s ccsym.com; then
  echo "Your C compiler and pre-processor define these symbols:"
  $sed -e 's/\(..*\)=.*/\1/' ccsym.com
  also='also '
  symbols='ones'
  cppccsymbols=`$cat ccsym.com`
  cppccsymbols=`echo $cppccsymbols`
  $test "$silent" || sleep 1
 fi
 if $test -s ccsym.cpp; then
  $test "$also" && echo " "
  echo "Your C pre-processor ${also}defines the following symbols:"
  $sed -e 's/\(..*\)=.*/\1/' ccsym.cpp
  also='further '
  cppsymbols=`$cat ccsym.cpp`
  cppsymbols=`echo $cppsymbols`
  $test "$silent" || sleep 1
 fi
 if $test -s ccsym.own; then
  $test "$also" && echo " "
  echo "Your C compiler ${also}defines the following cpp symbols:"
  $sed -e 's/\(..*\)=1/\1/' ccsym.own
  $sed -e 's/\(..*\)=.*/\1/' ccsym.own | $uniq >>Cppsym.true
       ccsymbols=`$cat ccsym.own`
       ccsymbols=`echo $ccsymbols`
  $test "$silent" || sleep 1
 fi
fi
$rm -f Cppsym.know Cppsym.true
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Cppsym.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getopt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_getopt.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getopt: Inlibc
?MAKE: -pick add $@ %<
?S:d_getopt:
?S: This variable conditionally defines the HAS_GETOPT symbol, which
?S: indicates that the getopt() routine exists.  The getopt() routine
?S: parses command line options in a standard fashion.
?S:.
?C:HAS_GETOPT (GETOPT):
?C: This symbol, if defined, indicates that the getopt() routine
 exists.
?C:.
?H:#$d_getopt HAS_GETOPT  /**/
?H:.
?LINT:set d_getopt
: see if getopt exists
set getopt d_getopt
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getopt.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: cc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of

```
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cc.U,v $
?RCS: Revision 3.0.1.4  1995/05/12  12:06:47  ram
?RCS: patch54: may now abort Configure when cc does not work
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:20:11  ram
?RCS: patch45: changed gcc checking message to a more explicit one (WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:04:29  ram
?RCS: patch36: detect gcc even when not called as 'gcc' (ADO)
?RCS: patch36: simplified gcc version checking (ADO)
?RCS: patch36: added ?F: line for metalint
 file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:26:06  ram
?RCS: patch23: added support for gcc version (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:30  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:cc: Myread Oldconfig Checkcc test
?MAKE: -pick add $@ %<
?S:cc:
?S: This variable holds the name of a command to execute a C compiler which
?S: can resolve multiple global references that happen to have the same
?S: name.  Usual values are 'cc' and 'gcc'.
?S: Fervent ANSI compilers may be called 'c89'.  AIX has xlc.
?S:.
?F:!cc.cbu
?D:cc='cc'
: Determine the C compiler to be used
echo " "
case "$cc" in
") dflt=cc;;
*) dflt="$cc";;
esac
rp="Use which C compiler?"
. ./myread
cc="$ans"

: See whether they have no cc but they do have gcc
. ./trygcc
?X: Look for a hint-file generated 'call-back-unit'.  Now that the
?X: user has specified the compiler, we may need to set or change some
?X: other defaults.
if $test -f cc.cbu; then
```

```
   . ./cc.cbu
fi
. ./checkcc

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/cc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: man1dir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:10:29  ram
?RCS: patch61: created
?RCS:
?X:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man1 used instead of man everywhere.
?X:
?MAKE:man1dir man1direxp man1ext installman1dir: afs cat nroff Loc Oldconfig \
 spackage test Getfile Prefixit prefixexp
 Prefixup sysman Myread
?MAKE: -pick add $@ %<
?Y:TOP
?S:man1dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:man1direxp:
?S: This variable is the same as the man1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installman1dir:
?S: This variable is really the same as man1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
```

```
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man1ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See man1dir.
?S:.
?T:lookpath
: determine
 where manual pages go
set man1dir man1dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$man1dir" in
 '') man1dir="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$man1dir" in
' ') dflt=none
 ;;
'')
 lookpath="$prefixexp/man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath $prefixexp/man/p_man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1"
 lookpath="$lookpath $prefixexp/man/man.1"
?X: Experience has shown people expect man1dir to be under prefix,
?X: so we now always put it there.  Users who want other behavior
?X: can answer interactively or use a command line option.
?X: Does user have System V-style man paths.
 case "$sysman" in
 */?_man*) dflt=`./loc . $prefixexp/l_man/man1 $lookpath` ;;
 *) dflt=`./loc . $prefixexp/man/man1 $lookpath` ;;
 esac
 set dflt
 eval $prefixup
 ;;
*)
  dflt="$man1dir"
 ;;
esac
```

```
echo " "
fn=dn+~
rp="Where do the main $spackage manual pages (source) go?"
. ./getfile
if $test "X$man1direxp" != "X$ansexp"; then
 installman1dir="
fi
man1dir="$ans"
man1direxp="$ansexp"
case "$man1dir" in
") man1dir=' '
 installman1dir=";;
esac
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installman1dir" in
 ") dflt=`echo $man1direxp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installman1dir";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installman1dir="$ans"
else
 installman1dir="$man1direxp"
fi

: What suffix to use on installed man pages

case "$man1dir" in
' ')
 man1ext='0'
 ;;
*)
 rp="What suffix should be used for the main $spackage man pages?"
 case "$man1ext" in
 ") case "$man1dir" in
  *1)  dflt=1 ;;
  *1p)
 dflt=1p ;;
  *1pm) dflt=1pm ;;
  *l) dflt=l;;
```

```
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L1) dflt=L1;;
  *) dflt=1;;
  esac
  ;;
 *) dflt="$man1ext";;
 esac
 . ./myread
 man1ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/man1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_poll.U 15 2006-08-30 18:21:51Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_poll.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:38:17  ram
?RCS: patch61: mention that <poll.h> can be included if HAS_POLL defined
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:26:31  ram
?RCS: patch45: created
?RCS:
?MAKE:d_poll: Inlibc
?MAKE: -pick add $@ %<
?S:d_poll:
?S: This variable conditionally defines the HAS_POLL symbol, which
?S: indicates to the C program that the poll() routine is available
?S: to poll active file descriptors.
?S:.
?C:HAS_POLL
 :
?C: This symbol, if defined, indicates that the poll routine is
?C: available to poll active file descriptors.  Please check I_POLL and
```

?C: I_SYS_POLL to know which header should be included as well.
?C:.
?H:#$d_poll HAS_POLL  /**/
?H:.
?LINT:set d_poll
: see if poll exists
set poll d_poll
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_poll.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_strerror_l: Inlibc
?MAKE: -pick add $@ %<
?S:d_strerror_l:
?S: This variable conditionally defines the HAS_STRERROR_L symbol, which
?S: indicates to the C program that the strerror_l() routine is available
?S: to return the error message for a given errno value in a particular
?S: locale (identified by a locale_t object).
?S:.
?C:HAS_STRERROR_L:
?C: This symbol, if defined, indicates that the strerror_l routine is
?C: available to return the error message for a given errno value in
?C: a particular locale (identified by a locale_t object).
?C:.
?H:#$d_strerror_l HAS_STRERROR_L  /**/
?H:.
?LINT:set d_strerror_l
: see if strerror_l exists
set strerror_l d_strerror_l
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strerror_l.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getservent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:

```
?MAKE:d_getservent_r getservent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_getservent_r:
?S: This variable conditionally defines the HAS_GETSERVENT_R symbol,
?S: which indicates to the C program that the getservent_r()
?S: routine is available.
?S:.
?S:getservent_r_proto:
?S: This variable encodes the prototype of getservent_r.
?S: It is zero if d_getservent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getservent_r
?S: is defined.
?S:.
?C:HAS_GETSERVENT_R:
?C: This symbol, if defined, indicates that the getservent_r routine
?C: is
 available to getservent re-entrantly.
?C:.
?C:GETSERVENT_R_PROTO:
?C: This symbol encodes the prototype of getservent_r.
?C: It is zero if d_getservent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getservent_r
?C: is defined.
?C:.
?H:#$d_getservent_r HAS_GETSERVENT_R    /**/
?H:#define GETSERVENT_R_PROTO $getservent_r_proto    /**/
?H:.
?T:try hdrs d_getservent_r_proto
: see if getservent_r exists
set getservent_r d_getservent_r
eval $inlibc
case "$d_getservent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getservent_r_proto:$usethreads" in
 ":define") d_getservent_r_proto=define
  set d_getservent_r_proto getservent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getservent_r_proto" in
 define)
 case "$getservent_r_proto" in
 "|0) try='int getservent_r(struct servent*, char*, size_t, struct servent**);'
 ./protochk "$extern_C $try" $hdrs && getservent_r_proto=I_SBWR ;;
 esac
 case "$getservent_r_proto"
```

```
 in
 "|0) try='int getservent_r(struct servent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getservent_r_proto=I_SBI ;;
 esac
 case "$getservent_r_proto" in
 "|0) try='struct servent* getservent_r(struct servent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getservent_r_proto=S_SBI ;;
 esac
 case "$getservent_r_proto" in
 "|0) try='int getservent_r(struct servent*, struct servent_data*);'
 ./protochk "$extern_C $try" $hdrs && getservent_r_proto=I_SD ;;
 esac
 case "$getservent_r_proto" in
 "|0) d_getservent_r=undef
        getservent_r_proto=0
  echo "Disabling getservent_r, cannot determine prototype." >&4 ;;
 * ) case "$getservent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getservent_r_proto="REENTRANT_PROTO_$getservent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getservent_r has no prototype, not using it." >&4 ;;
  esac
  d_getservent_r=undef
  getservent_r_proto=0
  ;;
 esac
 ;;
*) getservent_r_proto=0
 ;;
esac

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getservent_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_usleep.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_usleep.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:53  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_usleep: Inlibc
?MAKE: -pick add $@ %<
?S:d_usleep:
?S: This variable conditionally defines HAS_USLEEP if usleep() is
?S: available to do high granularity sleeps.
?S:.
?C:HAS_USLEEP (USLEEP):
?C: This symbol, if defined, indicates that the usleep routine is
?C: available to let the process sleep on a sub-second accuracy.
?C:.
?H:#$d_usleep
 HAS_USLEEP  /**/
?H:.
?LINT:set d_usleep
: see if usleep exists
set usleep d_usleep
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_usleep.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorscript.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorscript.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:d_vendorscript vendorscript vendorscriptexp installvendorscript: Getfile \
 vendorbin cat Setprefixvar Oldconfig Prefixit test vendorprefix
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorscript:
?S: This variable contains the eventual value of the VENDORSCRIPT symbol.
```

```
?S: It may have a ~ on the front.
?S: The standard distribution will put nothing in this
 directory.
?S: Vendors who distribute perl may wish to place additional
?S: executable scripts in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorscriptexp:
?S: This variable is the ~name expanded version of vendorscript, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorscript="
?S:installvendorscript:
?S: This variable is really the same as vendorscriptexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?S:d_vendorscript:
?S: This variable conditionally defines PERL_VENDORSCRIPT.
?S:.
?C:PERL_VENDORSCRIPT:
?C: If defined, this symbol contains the name of a directory
?C: for holding vendor-supplied executable scripts.
?C: It may have a ~ on the front.
?C: The standard distribution will put nothing in this directory.
?C: Vendors who distribute perl may wish to place additional
?C: executable
 scripts in this directory with
?C:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?C: or equivalent.  See INSTALL for details.
?C:.
?C:PERL_VENDORSCRIPT_EXP:
?C: This symbol contains the ~name expanded version of VENDORSCRIPT, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?H:#$d_vendorscript PERL_VENDORSCRIPT "$vendorscript"  /**/
?H:#$d_vendorscript PERL_VENDORSCRIPT_EXP "$vendorscriptexp"  /**/
?H:.
?LINT:change prefixvar
?LINT:set installvendorscript
: Set the vendorscript variables
case "$vendorprefix" in
'') d_vendorscript="$undef"
 vendorscript="
 vendorscriptexp="
 ;;
*) d_vendorscript="$define"
```

```
 : determine where vendor-supplied scripts go.
 case "$vendorscript" in
 '') dflt=$vendorprefix/script
  $test -d $dflt || dflt=$vendorbin ;;
 *)  dflt="$vendorscript" ;;
 esac
 $cat <<EOM

The installation process will create a directory for
vendor-supplied scripts.

EOM
 fn=d~+
 rp='Pathname for the vendor-supplied scripts directory?'
 . ./getfile
 vendorscript="$ans"
 vendorscriptexp="$ansexp"
 ;;
esac
prefixvar=vendorscript
.
 ./installprefix

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorscript.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setgrent.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_setgrent.U,v $
?RCS:
?MAKE:d_setgrent: Inlibc
?MAKE: -pick add $@ %<
?S:d_setgrent:
?S: This variable conditionally defines the HAS_SETGRENT symbol, which
?S: indicates to the C program that the setgrent() routine is available
?S: for initializing sequential access to the group database.
?S:.
?C:HAS_SETGRENT:
?C: This symbol, if defined, indicates that the setgrent routine is
?C: available for initializing sequential access of the group database.
?C:.
?H:#$d_setgrent HAS_SETGRENT  /**/
```

?H:.
?LINT:set d_setgrent
: see if setgrent exists
set setgrent d_setgrent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_setgrent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_recvmsg: Inlibc
?MAKE: -pick add $@ %<
?S:d_recvmsg:
?S: This variable conditionally defines the HAS_RECVMSG symbol, which
?S: indicates to the C program that the recvmsg() routine is available.
?S:.
?C:HAS_RECVMSG:
?C: This symbol, if defined, indicates that the recvmsg routine is
?C: available to send structured socket messages.
?C:.
?H:#$d_recvmsg HAS_RECVMSG  /**/
?H:.
?LINT:set d_recvmsg
: see if recvmsg exists
set recvmsg d_recvmsg
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_recvmsg.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:

```
?RCS: $Log: Csym.U,v $
?RCS: Revision 3.0.1.4  1995/07/25  13:36:29  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS: patch56: added quotes for OS/2 support
?RCS:
?RCS: Revision 3.0.1.3  1995/05/12  12:00:33  ram
?RCS: patch54: fixed C test program to bypass gcc builtin type checks (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/10/31  09:34:13  ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:00:05  ram
?RCS:
 patch6: added ldflags as a conditional dependency and to compile line
?RCS: patch6: a final double quote was missing in csym variable after eval
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Csym: Options contains libc libs runnm +cc +ccflags +ldflags rm
?MAKE: -pick add $@ %<
?LINT:define csym
?LINT:use libc
?S:csym:
?S: This shell variable is used internally by Configure to check
?S: wether a given C symbol is defined or not. A typical use is:
?S:  set symbol result [-fva] [previous]
?S:  eval $csym
?S: That will set result to 'true' if the function [-f], variable [-v]
?S: or array [-a] is defined, 'false' otherwise. If a previous value is
?S: given and the -r flag was provided on the command line, that value
?S: is reused without questioning.
?S:.
?V:csym
?T:tval tx tlook tf tdc tc
: is a C symbol defined?
csym='tlook=$1;
case "$3" in
-v) tf=libc.tmp; tc=""; tdc="";;
-a) tf=libc.tmp; tc="[0]"; tdc="[]";;
*) tlook="^$1\$";
 tf=libc.list; tc=""; tdc="()";;
esac;
tx=yes;
case "$reuseval-$4" in
true-) ;;
true-*) tx=no; eval "tval=\$$4"; case "$tval" in "") tx=yes;; esac;;
esac;
```

```
case "$tx" in
yes)
 case "$runnm" in
 true)
  if $contains $tlook $tf >/dev/null 2>&1;
  then tval=true;
  else tval=false;
  fi;;
 *)
?X:
?X: We use 'char' instead of 'int' to try to circumvent overzealous
?X: optimizing compilers using built-in prototypes for commonly used
?X: routines to complain when seeing a different external declaration. For
?X: instance, gcc 2.6.3 fails if we use 'int' and we attempt a test against
?X: memcpy() on machines where sizeof(int) == sizeof(char *) (the usual return
?X: type), the compiler assuming it's a built-in declaration given that the
?X: returned size matches. At least with 'char' we are safe! -- RAM, for ADO
?X:
?X: Let's thank GNU cc for making our lifes so easy! :-)
?X: (An alternative for the future would be to use our knowledge about gcc
?X: to force a -fno-builtin option in the
 compile test, in case the 'char'
?X: trick is obsoleted by future gcc releases). -- RAM
?X:
?X: Lastly, gcc 3.4 otimizes &missing == 0 away, so we use + 2 instead now.
?X: The GNU folks like to do weird things, don't they? -- RAM, 2004-06-05
?X:
  echo "extern char $1$tdc; int main() { return &$1$tc + 2; }" > t.c;
  if $cc $ccflags $ldflags -o t t.c $libs >/dev/null 2>&1;
  then tval=true;
  else tval=false;
  fi;
  $rm -f t t.c;;
 esac;;
*)
 case "$tval" in
 $define) tval=true;;
 *) tval=false;;
 esac;;
esac;
eval "$2=$tval"'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Csym.U
No license file was found, but licenses were detected in source scan.

case $CONFIG in
")
```

```
 if test -f config.sh; then TOP=.;
 elif test -f ../config.sh; then TOP=..;
 elif test -f ../../config.sh; then TOP=../..;
 elif test -f ../../../config.sh; then TOP=../../..;
 elif test -f ../../../../config.sh; then TOP=../../../..;
 else
  echo "Can't find config.sh."; exit 1
 fi
 . $TOP/config.sh
 ;;
esac
case "$0" in
*/*) cd `expr X$0 : 'X\(.*\)/'` ;;
esac
echo "Extracting makedir (with variable substitutions)"
$spitshell >makedir <<!GROK!THIS!
$startsh
# $Id: makedir.sh,v 3.0.1.1 1994/01/24 14:00:08 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
#  You may redistribute only under the terms of the Artistic Licence,
#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original
 Author: Larry Wall <lwall@netlabs.com>
#
# $Log: makedir.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:08  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:38  ram
# Baseline for dist 3.0 netwide release.
#

export PATH || (echo "OOPS, this isn't sh.  Desperation time.  I will feed myself to sh."; sh \$0; kill \$\$)

case \$# in
 0)
   $echo "makedir pathname filenameflag"
   exit 1
   ;;
esac

: guarantee one slash before 1st component
```

```
case \$1 in
 /*) ;;
 *)  set ./\$1 \$2 ;;
esac

: strip last component if it is to be a filename
case X\$2 in
 X1) set \`\$echo \$1 | \$sed 's:\(.*\)/[^/]*\$:\1:'\` ;;
 *)  set \$1 ;;
esac

: return reasonable status if nothing to be created
if \$test -d "\$1" ; then
   exit 0
fi

list="
while true ; do
   case \$1 in
   */*)
 list="\$1 \$list"
 set \`echo \$1 | \$sed 's:\(.*\)/:\1 :'\`
 ;;
   *)
 break
 ;;
   esac
done

set \$list

for dir do
   \$mkdir \$dir >/dev/null 2>&1
done
!GROK!THIS!
$eunicefix
 makedir
chmod +x makedir
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/makedir.SH
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_flock.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_flock.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_flock: Inlibc
?MAKE: -pick add $@ %<
?S:d_flock:
?S: This variable conditionally defines HAS_FLOCK if flock() is
?S: available to do file locking.
?S:.
?C:HAS_FLOCK (FLOCK):
?C: This symbol, if defined, indicates that the flock routine is
?C: available to do file locking.
?C:.
?H:#$d_flock HAS_FLOCK  /**/
?H:.
?LINT:set d_flock
: see
 if flock exists
set flock d_flock
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_flock.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_remquo: Inlibc
?MAKE: -pick add $@ %<
?S:d_remquo:
?S: This variable conditionally defines the HAS_REMQUO symbol, which
?S: indicates to the C program that the remquo() routine is available.
?S:.
?C:HAS_REMQUO:
?C: This symbol, if defined, indicates that the remquo routine is
?C: available to return the remainder and part of quotient.
?C:.
?H:#$d_remquo HAS_REMQUO  /**/
?H:.
?LINT:set d_remquo
: see if remquo exists

set remquo d_remquo
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_remquo.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_memory.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_memory.U,v $
?RCS: Revision 3.0.1.3  1994/06/20  07:01:55  ram
?RCS: patch30: cosmetic changes
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:23:56  ram
?RCS: patch27: modified to avoid spurious Whoa warnings (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:02:25  ram
?RCS: patch23: avoid conflicts with <string.h>
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:22  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_memory: Inhdr strings cppstdin
 cppflags cppminus contains rm Setvar
?MAKE: -pick add $@ %<
?S:i_memory:
?S: This variable conditionally defines the I_MEMORY symbol, and indicates
?S: whether a C program should include <memory.h>.
?S:.
?C:I_MEMORY:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <memory.h>.
?C:.
?H:#$i_memory I_MEMORY  /**/
?H:.
?LINT:set i_memory
?X:
?X: Unfortunately, the definitions of memory functions sometimes
?X: conflict with those in <string.h>.  We'll assume that if
?X: <string.h> contains memcpy, then we don't need memory.h

```
?X:
: see if memory.h is available.
val="
set memory.h val
eval $inhdr

: See if it conflicts with string.h
case "$val" in
$define)
 case "$strings" in
 '') ;;
 *)
  $cppstdin $cppflags $cppminus < $strings > mem.h
  if $contains 'memcpy' mem.h >/dev/null 2>&1; then
   echo " "
   echo "We won't be including <memory.h>."
   val="$undef"
  fi
  $rm -f mem.h
  ;;
 esac
esac
set i_memory
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_memory.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_mmap.U,v $
?RCS: Revision 3.0.1.1  1993/12/15  08:19:12  ram
?RCS: patch15: created
?RCS:
?MAKE:d_mmap: Inlibc
?MAKE: -pick add $@ %<
?S:d_mmap:
?S: This variable conditionally defines HAS_MMAP if mmap() is
?S: available to map a file into memory.
```

```
?S:.
?C:HAS_MMAP:
?C: This symbol, if defined, indicates that the mmap system call is
?C: available to map a file into memory.
?C:.
?H:#$d_mmap HAS_MMAP  /**/
?H:.
?LINT:set d_mmap
: see if mmap exists
set mmap d_mmap
eval $inlibc
```

Found in path(s):

```
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_mmap.U
```

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_closedir.U,v 3.0.1.3 1997/02/28 15:31:26 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_closedir.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:31:26  ram
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:11:18  ram
?RCS: patch36: added 'ldflags' to the test compile line (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:07:21  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_closedir d_void_closedir: Inlibc i_dirent i_sysdir i_sysndir
 \
 i_systypes Compile Setvar rm_try run
?MAKE: -pick add $@ %<
?S:d_closedir:
?S: This variable conditionally defines HAS_CLOSEDIR if closedir() is
?S: available.
?S:.
?C:HAS_CLOSEDIR:
```

```
?C: This symbol, if defined, indicates that the closedir() routine is
?C: available.
?C:.
?H:#$d_closedir HAS_CLOSEDIR  /**/
?H:.
?S:d_void_closedir:
?S: This variable conditionally defines VOID_CLOSEDIR if closedir()
?S: does not return a value.
?S:.
?C:VOID_CLOSEDIR:
?C: This symbol, if defined, indicates that the closedir() routine
?C: does not return a value.
?C:.
?H:#$d_void_closedir VOID_CLOSEDIR  /**/
?H:.
?F:!try
?LINT:set d_closedir d_void_closedir
: see if closedir exists
set closedir d_closedir
eval $inlibc

@if VOID_CLOSEDIR || d_void_closedir
?X: The following contortions are designed so we can call closedir()
?X: and check whether it returns a value.  The contortions are designed
?X: to portably pick up the correct directory header, for those
?X: systems that support various mutually incompatible
 directory functions.
?X: This is from perl5's perl.h
case "$d_closedir" in
"$define")
 echo " "
 echo "Checking whether closedir() returns a status..." >&4
 cat > try.c <<EOM
#$i_dirent I_DIRENT  /**/
#$i_sysdir I_SYS_DIR  /**/
#$i_sysndir I_SYS_NDIR  /**/
#$i_systypes I_SYS_TYPES /**/

#if defined(I_SYS_TYPES)
#include <sys/types.h>
#endif
#if defined(I_DIRENT)
#include <dirent.h>
#else
#ifdef I_SYS_NDIR
#include <sys/ndir.h>
#else
#ifdef I_SYS_DIR
```

```
#ifdef hp9000s500
#include <ndir.h> /* may be wrong in the future */
#else
#include <sys/dir.h>
#endif
#endif
#endif
#endif
int main() { return closedir(opendir(".")); }
EOM
 set try
 if eval $compile_ok; then
  if $run ./try > /dev/null 2>&1 ; then
   echo "Yes, it does."
   val="$undef"
  else
   echo "No, it doesn't."
   val="$define"
  fi
 else
  echo "(I can't seem to compile the test program--assuming it doesn't)"
  val="$define"
 fi
 ;;
*)
 val="$undef";
 ;;
esac
set d_void_closedir
eval $setvar
$rm_try
@end

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_closedir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Protochk.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a ./protochk script that is used internally
?X: by Configure to check if this system will accept a particular
?X: prototype.
```

```
?X:
?X: To use it, say something like:
?X: hdrs="$define sys/types.h
?X:  $i_systime sys/time.h
?X:  $i_sysselct sys/select.h
?X:  $d_socket sys/socket.h"
?X: $xxx='fd_set *'
?X: try='extern int select _((int, $xxx, $xxx, $xxx, struct timeval *'));'
?X: if ./protochk "$try" $hdrs; then
?X:  echo "Your system accepts $xxx for the arguments to select."
?X: fi
?X:  (Of course select is harder, since the first arg can be int,
?X: size_t, or unsigned long, and the last arg may or may not have a
?X: 'const' before the 'struct timeval' :-(.  Also SunOS
 4.1.3 doesn't
?X: provide a select prototype so the compiler accepts anything :-).
?X:
?X: The C compiler on QNX warns about invalid pointer types, but
?X: still exits with a 0 exit status, so it's not much help here.
?X: (It does correctly detect incorrect non-pointer arguments).
?X: Still, since QNX is a POSIX-ish system, just make your first
?X: a POSIX-ish one, and QNX will probably accept it.
?X:
?X: For determining argument types, your compiler must support
?X: prototypes, and the header files must use them.  Determining
?X: return types, however, is easier.  Just give an ridiculous
?X: return type, something like
?X: ./protochk 'extern int atof _((void));' $i_stdlib stdlib.h
?X: that should surely fail if atof() is defined in <stdlib.h>
?X:
?X: There is also an 'escape' hatch built in.  If you have a pair
?X: of args   'literal 'stuff' then 'stuff' gets included literally
?X: into the test program.  This could be useful for doing something
?X: like
?X: hdrs="$define stdio.h
?X:  $define
 sys/types.h"
?X: ./protochk 'extern int fsetpos(FILE *, Fpos_t);' $args \
?X:   'literal' '#define Fpos_t long long'
?X: but you have to be really careful about the spaces in "literal".
?X:
?X:  Andy Dougherty   Feb. 1998
?MAKE:Protochk: cat rm_try startsh eunicefix +cc +optimize +ccflags \
 prototype i_pthread usethreads
?MAKE: -pick add $@ %<
?F:./protochk
?X: Comfort metalint.  All these are actually used in the protochk script.
?T:foo status pthread_h_done
```

```
?LINT: change cc optimize ccflags prototype define rm_try
?LINT: extern pthread_h_first
?LINT: change pthread_h_first
?LINT: change usethreads
?LINT: change i_pthread
: define a function to check prototypes
$cat > protochk <<EOSH
$startsh
cc="$cc"
optimize="$optimize"
ccflags="$ccflags"
prototype="$prototype"
define="$define"
rm_try="$rm_try"
usethreads=$usethreads
i_pthread=$i_pthread
pthread_h_first=$pthread_h_first
EOSH

$cat >> protochk <<'EOSH'

$rm_try
foo="$1"
shift
while test $# -ge 2; do
 case "$1" in
  $define)
 echo "#include <$2>" >> try.c ;;
  literal) echo "$2" >> try.c ;;
 esac
   # Extra magic for the benefit of systems that need pthread.h
   # to be included early to correctly detect threadsafe functions.
   # Such functions must guarantee themselves, though, that the usethreads
   # and i_pthread have been defined, before calling protochk.
   if test "$usethreads" = "$define" -a "$i_pthread" = "$define" -a "$pthread_h_first" = "$define" -a
"$pthread_h_done" = ""; then
 echo "#include <pthread.h>" >> try.c
 pthread_h_done=yes
   fi
   shift 2
done
test "$prototype" = "$define"  && echo '#define CAN_PROTOTYPE' >> try.c
cat >> try.c <<'EOCP'
#ifdef CAN_PROTOTYPE
#define _(args) args
#else
#define _(args) ()
#endif
```

```
EOCP
echo "$foo" >> try.c
?X: Just so we have something to compile.
echo 'int no_real_function_has_this_name _((void)) { return 0; }' >> try.c
$cc $optimize $ccflags -c try.c > /dev/null 2>&1
status=$?
$rm_try
exit $status
EOSH
chmod +x protochk
$eunicefix protochk
```

Found
in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/Protochk.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_semop.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_semop.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_semop: Inlibc
?MAKE: -pick add $@ %<
?S:d_semop:
?S: This variable conditionally defines the HAS_SEMOP symbol, which
?S: indicates to the C program that the semop() routine is available.
?S:.
?C:HAS_SEMOP:
?C: This symbol, if defined, indicates that the semop() routine is
?C: available to execute semaphore operations.
?C:.
?H:#$d_semop
 HAS_SEMOP  /**/
?H:.
?LINT:set d_semop
: see if semop exists
set semop d_semop
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_semop.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_grp.U,v 3.0 1993/08/18 12:08:20 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: GRPASSWD detection added by Andy Dougherty  July 14, 1998.
?RCS:
?RCS: $Log: i_grp.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:20  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_grp d_grpasswd: \
 contains rm cppstdin cppflags cppminus Inhdr Findhdr Setvar
?MAKE: -pick add $@ %<
?S:i_grp:
?S: This variable conditionally defines the I_GRP symbol, and indicates
?S: whether a C program should include <grp.h>.
?S:.
?S:d_grpasswd:
?S: This variable conditionally
 defines GRPASSWD, which indicates
?S: that struct group in <grp.h> contains gr_passwd.
?S:.
?C:I_GRP:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <grp.h>.
?C:.
?C:GRPASSWD:
?C: This symbol, if defined, indicates to the C program that struct group
?C: in <grp.h> contains gr_passwd.
?C:.
?H:#$i_grp I_GRP  /**/
?H:#$d_grpasswd GRPASSWD /**/
?H:.
?LINT:set i_grp d_grpasswd
?T: xxx
: see if this is an grp system
set grp.h i_grp
```

```
eval $inhdr

case "$i_grp" in
$define)
 xxx=`./findhdr grp.h`
 $cppstdin $cppflags $cppminus < $xxx >$$.h

 if $contains 'gr_passwd' $$.h >/dev/null 2>&1; then
  val="$define"
 else
  val="$undef"
 fi
 set d_grpasswd
 eval $setvar

 $rm -f $$.h
 ;;
*)
 val="$undef";
 set d_grpasswd; eval $setvar
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_grp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_mprotect: Inlibc
?MAKE: -pick add $@ %<
?S:d_mprotect:
?S: This variable conditionally defines HAS_MPROTECT if mprotect() is
?S: available to modify the access protection of a memory mapped file.
?S:.
?C:HAS_MPROTECT:
?C: This symbol, if defined, indicates that the mprotect system call is
?C: available to modify the access protection of a memory mapped file.
?C:.
?H:#$d_mprotect HAS_MPROTECT  /**/
```

?H:.
?LINT:set d_mprotect
: see if mprotect exists
set mprotect d_mprotect
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mprotect.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_bzero.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_bzero.U,v $
?RCS: Revision 3.0.1.2  1993/10/16  13:48:15  ram
?RCS: patch12: added magic support for bzero()
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:01:33  ram
?RCS: patch10: now only defines HAS_BZERO, no macro remap on memset (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_bzero: Inlibc
?MAKE: -pick add $@ %<
?S:d_bzero:
?S: This variable conditionally defines the HAS_BZERO
 symbol if
?S: the bzero() routine is available to set memory to 0.
?S:.
?C:HAS_BZERO:
?C: This symbol is defined if the bzero() routine is available to
?C: set a memory block to 0.
?C:.
?H:#$d_bzero HAS_BZERO /**/
?H:.
?M:bzero: HAS_BZERO
?M:#ifndef HAS_BZERO
?M:#ifndef bzero
?M:#define bzero(s,l) memset((s),0,(l))
?M:#endif

```
?M:#endif
?M:.
?LINT:set d_bzero
: see if bzero exists
set bzero d_bzero
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_bzero.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_cbrt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_cbrt.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:48  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_cbrt: Inlibc
?MAKE: -pick add $@ %<
?S:d_cbrt:
?S: This variable conditionally defines the HAS_CBRT symbol, which
?S: indicates to the C program that the cbrt() (cube root) function
?S: is available.
?S:.
?C:HAS_CBRT (CBRT):
?C: This symbol, if defined, indicates that the cbrt() (cube root)
?C: function is available.
?C:.
?H:#$d_cbrt HAS_CBRT /**/
?H:.
?LINT:set
 d_cbrt
: see if cbrt exists
set cbrt d_cbrt
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_cbrt.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorlib.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorlib.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:d_vendorlib vendorlib vendorlibexp installvendorlib vendorlib_stem: \
 Getfile Setprefixvar Oldconfig Prefixit package vendorprefix sed \
 installstyle version
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorlib:
?S: This variable contains the eventual value of the VENDORLIB symbol,
?S: which is the name of the private library for this package.
?S: The standard
 distribution will put nothing in this directory.
?S: Vendors who distribute perl may wish to place their own
?S: modules in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorlibexp:
?S: This variable is the ~name expanded version of vendorlib, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorlib="
?S:installvendorlib:
?S: This variable is really the same as vendorlibexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?S:d_vendorlib:
?S: This variable conditionally defines PERL_VENDORLIB.
?S:.
?S:vendorlib_stem:
?S: This variable is $vendorlibexp with any trailing version-specific component
?S: removed.  The elements in inc_version_list (inc_version_list.U) can
?S: be tacked onto this variable to generate a list of directories to search.
?S:.
?C:PERL_VENDORLIB:
```

```
?C: If defined, this symbol contains
 the name of a private library.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.  The program
?C: should be prepared to do ~ expansion.
?C: The standard distribution will put nothing in this directory.
?C: Vendors who distribute perl may wish to place their own
?C: modules in this directory with
?C:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?C: or equivalent.  See INSTALL for details.
?C:.
?C:PERL_VENDORLIB_EXP:
?C: This symbol contains the ~name expanded version of VENDORLIB, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?C:PERL_VENDORLIB_STEM:
?C: This define is PERL_VENDORLIB_EXP with any trailing version-specific component
?C: removed.  The elements in inc_version_list (inc_version_list.U) can
?C: be tacked onto this variable to generate a list of directories to search.
?C:.
?H:#$d_vendorlib PERL_VENDORLIB "$vendorlib"  /**/
?H:#$d_vendorlib PERL_VENDORLIB_EXP
 "$vendorlibexp"  /**/
?H:#$d_vendorlib PERL_VENDORLIB_STEM "$vendorlib_stem"  /**/
?H:.
?T:prog
?LINT:change prefixvar
?LINT:set installvendorlib
: Set the vendorlib variables
case "$vendorprefix" in
'') d_vendorlib="$undef"
 vendorlib=''
 vendorlibexp=''
 ;;
*) d_vendorlib="$define"
 : determine where vendor-supplied modules go.
 : Usual default is /usr/local/lib/perl5/vendor_perl/$version
 case "$vendorlib" in
 '')
?X:  remove any trailing -3.0 or other version identification
  prog=`echo $package | $sed 's/-*[0-9.]*$//'`
  case "$installstyle" in
  *lib/perl5*) dflt=$vendorprefix/lib/$package/vendor_$prog/$version ;;
  *)      dflt=$vendorprefix/lib/vendor_$prog/$version ;;
  esac
  ;;
 *) dflt="$vendorlib"
  ;;
```

```
 esac
 fn=d~+
 rp='Pathname for the vendor-supplied library files?'
 . ./getfile
 vendorlib="$ans"
 vendorlibexp="$ansexp"
 ;;
esac
vendorlib_stem=`echo "$vendorlibexp" | sed "s,/$version$,,"`
prefixvar=vendorlib
. ./installprefix

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorlib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_ndbm.U,v 3.0.1.1 1995/05/12 12:16:53 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: i_ndbm.U,v $
?RCS: Revision 3.0.1.1  1995/05/12  12:16:53  ram
?RCS: patch54: made more robust by checking both header and lib (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:23  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_ndbm i_gdbmndbm i_gdbm_ndbm d_ndbm d_ndbm_h_uses_prototypes \
 d_gdbmndbm_h_uses_prototypes d_gdbm_ndbm_h_uses_prototypes: \
    Inhdr Inlibc Setvar test d_cplusplus extern_C echo Protochk
?MAKE: -pick add $@ %<
?S:i_ndbm:
?S: This
 variable conditionally defines the I_NDBM symbol, which
?S: indicates to the C program that <ndbm.h> exists and should
?S: be included.
?S:.
?C:I_NDBM:
?C: This symbol, if defined, indicates that <ndbm.h> exists and should
?C: be included.
?C:.
?S:i_gdbmndbm:
```

?S: This variable conditionally defines the I_GDBMNDBM symbol, which
?S: indicates to the C program that <gdbm/ndbm.h> exists and should
?S: be included.  This was the location of the ndbm.h compatibility file
?S: in RedHat 7.1.
?S:.
?C:I_GDBMNDBM:
?C: This symbol, if defined, indicates that <gdbm/ndbm.h> exists and should
?C: be included.  This was the location of the ndbm.h compatibility file
?C: in RedHat 7.1.
?C:.
?S:i_gdbm_ndbm:
?S: This variable conditionally defines the I_GDBM_NDBM symbol, which
?S: indicates to the C program that <gdbm-ndbm.h> exists and should
?S: be included.  This is the location of the ndbm.h compatibility file
?S: in Debian 4.0.
?S:.
?C:I_GDBM_NDBM:
?C: This symbol, if defined, indicates
 that <gdbm-ndbm.h> exists and should
?C: be included.  This is the location of the ndbm.h compatibility file
?C: in Debian 4.0.
?C:.
?S:d_ndbm:
?S: This variable conditionally defines the HAS_NDBM symbol, which
?S: indicates that both the ndbm.h include file and an appropriate ndbm
?S: library exist.  Consult the different i_*ndbm variables
?S: to find out the actual include location.  Sometimes, a system has the
?S: header file but not the library.  This variable will only be set if
?S: the system has both.
?S:.
?C:HAS_NDBM:
?C: This symbol, if defined, indicates that some form of ndbm.h or compatibility
?C: include exists, along with the appropriate library.
?C:.
?S:d_ndbm_h_uses_prototypes:
?S: This variable conditionally defines the NDBM_H_USES_PROTOTYPES symbol,
?S: which indicates that the ndbm.h include file uses real ANSI C
?S: prototypes instead of K&R style function declarations. K&R style
?S: declarations are unsupported in C++, so the include file requires
?S: special handling
 when using a C++ compiler and this variable is
?S: undefined. Consult the different d_*ndbm_h_uses_prototypes variables
?S: to get the same information for alternative ndbm.h include files.
?S:.
?C:NDBM_H_USES_PROTOTYPES:
?C: This symbol, if defined, indicates that <ndbm.h> uses real ANSI C
?C: prototypes instead of K&R style function declarations without any
?C: parameter information. While ANSI C prototypes are supported in C++,

?C: K&R style function declarations will yield errors.
?C:.
?S:d_gdbmndbm_h_uses_prototypes:
?S: This variable conditionally defines the NDBM_H_USES_PROTOTYPES symbol,
?S: which indicates that the gdbm/ndbm.h include file uses real ANSI C
?S: prototypes instead of K&R style function declarations. K&R style
?S: declarations are unsupported in C++, so the include file requires
?S: special handling when using a C++ compiler and this variable is
?S: undefined. Consult the different d_*ndbm_h_uses_prototypes variables
?S: to get the same information for alternative
 ndbm.h include files.
?S:.
?C:GDBMNDBM_H_USES_PROTOTYPES:
?C: This symbol, if defined, indicates that <gdbm/ndbm.h> uses real ANSI C
?C: prototypes instead of K&R style function declarations without any
?C: parameter information. While ANSI C prototypes are supported in C++,
?C: K&R style function declarations will yield errors.
?C:.
?S:d_gdbm_ndbm_h_uses_prototypes:
?S: This variable conditionally defines the NDBM_H_USES_PROTOTYPES symbol,
?S: which indicates that the gdbm-ndbm.h include file uses real ANSI C
?S: prototypes instead of K&R style function declarations. K&R style
?S: declarations are unsupported in C++, so the include file requires
?S: special handling when using a C++ compiler and this variable is
?S: undefined. Consult the different d_*ndbm_h_uses_prototypes variables
?S: to get the same information for alternative ndbm.h include files.
?S:.
?C:GDBM_NDBM_H_USES_PROTOTYPES:
?C: This symbol, if defined, indicates that <gdbm-ndbm.h> uses real ANSI C
?C: prototypes
 instead of K&R style function declarations without any
?C: parameter information. While ANSI C prototypes are supported in C++,
?C: K&R style function declarations will yield errors.
?C:.
?H:#$i_ndbm I_NDBM /**/
?H:#$i_gdbmndbm I_GDBMNDBM /**/
?H:#$i_gdbm_ndbm I_GDBM_NDBM /**/
?H:#$d_ndbm HAS_NDBM /**/
?H:#$d_ndbm_h_uses_prototypes NDBM_H_USES_PROTOTYPES /**/
?H:#$d_gdbmndbm_h_uses_prototypes GDBMNDBM_H_USES_PROTOTYPES /**/
?H:#$d_gdbm_ndbm_h_uses_prototypes GDBM_NDBM_H_USES_PROTOTYPES /**/
?H:.
?T:d_dbm_open name hdr ihdr ndbm_hdr_protochk
?LINT:set d_ndbm d_gdbmndbm_h_uses_prototypes d_gdbm_ndbm_h_uses_prototypes
d_ndbm_h_uses_prototypes
: see if ndbm.h is available
set ndbm.h i_ndbm
eval $inhdr

```
: Compatibility location for RedHat 7.1
set gdbm/ndbm.h i_gdbmndbm
eval $inhdr
: Compatibility location for Debian 4.0
set gdbm-ndbm.h i_gdbm_ndbm
eval $inhdr

val="$undef"
if $test "$i_ndbm" = "$define" -o "$i_gdbmndbm" = "$define" -o "$i_gdbm_ndbm" = "$define"; then
 : see if dbm_open exists
 set
 dbm_open d_dbm_open
 eval $inlibc
 case "$d_dbm_open" in
 $undef)
  i_ndbm="$undef"
  i_gdbmndbm="$undef"
  i_gdbm_ndbm="$undef"
  echo "We won't be including <ndbm.h>"
  val="$undef"
  ;;
 *) val="$define"
    ;;
 esac
fi
set d_ndbm
eval $setvar

ndbm_hdr_protochk='name=$1; hdr=$2;
eval "ihdr=\$""i_$name";
val="$undef";
if $test "$ihdr" = "$define"; then
 $echo "Checking if your <$hdr> uses prototypes..." >&4;
 case "$d_cplusplus" in
 $define) ./protochk "$extern_C void dbm_close(DBM *);" literal "extern \"C\" {" $ihdr $hdr literal "}" &&
val="$define" ;;
 *) ./protochk "$extern_C void dbm_close(int, int);" $ihdr $hdr || val="$define" ;;
 esac;
 case "$val" in
 $define) $echo "Your <$hdr> seems to have prototypes";;
 *) $echo "Your <$hdr> does not seem to have prototypes";;
 esac;
fi;
set "d_${name}_h_uses_prototypes";
eval $setvar'

set ndbm ndbm.h
eval $ndbm_hdr_protochk
```

set gdbmndbm gdbm/ndbm.h
eval $ndbm_hdr_protochk
set gdbm_ndbm gdbm-ndbm.h
eval $ndbm_hdr_protochk

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_ndbm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_nanosleep: Inlibc
?MAKE: -pick add $@ %<
?S:d_nanosleep:
?S: This variable conditionally defines HAS_NANOSLEEP
?S: if nanosleep() is available to sleep with 1E-9 sec accuracy.
?S:.
?C:HAS_NANOSLEEP:
?C: This symbol, if defined, indicates that the nanosleep
?C: system call is available to sleep with 1E-9 sec accuracy.
?C:.
?H:#$d_nanosleep HAS_NANOSLEEP  /**/
?H:.
?LINT:set d_nanosleep
: see if nanosleep exists
set nanosleep d_nanosleep
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_nanosleep.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_inetaton.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Spider Boardman
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_inetaton.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:36:35  ram
?RCS: patch61: created
?RCS:
?MAKE:d_inetaton: Inlibc
?MAKE: -pick add $@ %<
?S:d_inetaton:
?S: This variable conditionally defines the HAS_INET_ATON symbol, which
?S: indicates to the C program that the inet_aton() function is available
?S: to parse IP address "dotted-quad" strings.
?S:.
?C:HAS_INET_ATON:
?C: This symbol, if defined, indicates
 to the C program that the
?C: inet_aton() function is available to parse IP address "dotted-quad"
?C: strings.
?C:.
?H:#$d_inetaton HAS_INET_ATON  /**/
?H:.
?LINT:set d_inetaton
: check whether inet_aton exists
set inet_aton d_inetaton
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_inetaton.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_endhent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_endhent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_endhent: Inlibc
?MAKE: -pick add $@ %<
```

```
?S:d_endhent:
?S: This variable conditionally defines HAS_ENDHOSTENT if endhostent() is
?S: available to close whatever was being used for host queries.
?S:.
?C:HAS_ENDHOSTENT:
?C: This symbol, if defined, indicates that the endhostent() routine is
?C: available to close whatever was being used for host
 queries.
?C:.
?H:#$d_endhent HAS_ENDHOSTENT  /**/
?H:.
?LINT:set d_endhent
: see if endhostent exists
set endhostent d_endhent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_endhent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: Original author Jarkko Hietaniemi <jhi@iki.fi>
?RCS: Merged into dist by Andy Dougherty  July 13, 1998
?RCS:
?MAKE:trnl: Nothing
?MAKE: -pick add $@ %<
?S:trnl:
?S: This variable contains the value to be passed to the tr(1)
?S: command to transliterate a newline.  Typical values are
?S: '\012' and '\n'.  This is needed for EBCDIC systems where
?S: newline is not necessarily '\012'.
?S:.
?T: DJGPP
: Find the appropriate value for a newline for tr
?X: We can't
 use $tr since that would cause a circular dependency via Myread
?X: dos djgpp uses '\015\012', but reportedly is happy with '\012' in the
```

```
?X: tr command.  I don't know why it passes the '\n' test but later
?X: refuses to work correctly with it.  --AD  6/14/98
if test -n "$DJGPP"; then
     trnl='\012'
fi
if test X"$trnl" = X; then
 case "`echo foo | tr '\n' x 2>/dev/null`" in
 foox) trnl='\n' ;;
 esac
fi
if test X"$trnl" = X; then
 case "`echo foo | tr '\012' x 2>/dev/null`" in
 foox) trnl='\012' ;;
 esac
fi
if test X"$trnl" = X; then
     case "`echo foo | tr '\r\n' xy 2>/dev/null`" in
     fooxy) trnl='\n\r' ;;
     esac
fi
if test X"$trnl" = X; then
 cat <<EOM >&2

$me: Fatal Error: cannot figure out how to translate newlines with 'tr'.

EOM
 exit 1
fi

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/trnl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_finitel: Inlibc
?MAKE: -pick add $@ %<
?S:d_finitel:
?S: This variable conditionally defines the HAS_FINITEL symbol, which
?S: indicates to the C program that the finitel() routine is available.
?S:.
?C:HAS_FINITEL:
?C: This symbol, if defined, indicates that the finitel routine is
```

?C: available to check whether a long double is finite
?C: (non-infinity non-NaN).
?C:.
?H:#$d_finitel HAS_FINITEL  /**/
?H:.
?LINT:set d_finitel
: see if finitel exists
set finitel d_finitel
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_finitel.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_mknod.U,v 3.0.1.1 1994/10/29 16:14:17 ram Exp $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafayette.edu>
?RCS:
?RCS: $Log: d_mknod.U,v $
?RCS:
?MAKE:d_mknod: Inlibc
?MAKE: -pick add $@ %<
?S:d_mknod:
?S: This variable conditionally defines the HAS_MKNOD symbol, which
?S: indicates to the C program that the mknod() routine is available.
?S:.
?C:HAS_MKNOD :
?C: This symbol, if defined, indicates that the mknod routine is
?C: available.  If you just want to create FIFOs, you should try
?C: to use mkfifo instead.  mknod might require super-user privileges.
?C:.
?H:#$d_mknod HAS_MKNOD  /**/
?H:.
?LINT:set d_mknod
: see if mknod exists
set mknod d_mknod
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_mknod.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_pwritev.U 1 2006-08-24 12:32:52Z rmanfredi $

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_pwritev.U,v $
?RCS:
?MAKE:d_pwritev: Inlibc
?MAKE: -pick add $@ %<
?S:d_pwritev:
?S: This variable conditionally defines the HAS_PWRITEV symbol, which
?S: indicates to the C program that the pwritev() routine is available.
?S:.
?C:HAS_PWRITEV :
?C: This symbol, if defined, indicates that the pwritev routine is
?C: available to perform vectored writes on a file descriptor at a
?C: given offset.
?C:.
?H:#$d_pwritev HAS_PWRITEV  /**/
?H:.
?LINT:set
 d_pwritev
: see if pwritev exists
set pwritev d_pwritev
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_pwritev.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_drand48proto: Hasproto i_stdlib i_unistd
?MAKE: -pick add $@ %<
?S:d_drand48proto:
?S: This variable conditionally defines the HAS_DRAND48_PROTO symbol,
```

?S: which indicates to the C program that the system provides
?S: a prototype for the drand48() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_DRAND48_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the drand48() function.  Otherwise, it is up
?C: to the program to supply one.  A good guess
 is
?C:  extern double drand48(void);
?C:.
?H:#$d_drand48proto HAS_DRAND48_PROTO /**/
?H:.
?LINT:set d_drand48proto
: see if prototype for drand48 is available
echo " "
set d_drand48proto drand48 $i_stdlib stdlib.h $i_unistd unistd.h
eval $hasproto

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/d_drand48proto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_memmove.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_memmove.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_memmove: Inlibc
?MAKE: -pick add $@ %<
?S:d_memmove:
?S: This variable conditionally defines the HAS_MEMMOVE symbol, which
?S: indicates to the C program that the memmove() routine is available
?S: to copy potentially overlapping blocks of memory.
?S:.
?C:HAS_MEMMOVE:
?C: This symbol, if defined, indicates that the memmove routine
 is available
?C: to copy potentially overlapping blocks of memory. This should be used

?C: only when HAS_SAFE_BCOPY is not defined. If neither is there, roll your
?C: own version.
?C:.
?H:#$d_memmove HAS_MEMMOVE /**/
?H:.
?LINT:set d_memmove
: see if memmove exists
set memmove d_memmove
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_memmove.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: archname.U,v 3.0.1.3 1997/02/28 15:24:32 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: archname.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:24:32  ram
?RCS: patch61: changed the way the archname is mangled from uname
?RCS:
?RCS: Revision 3.0.1.2  1995/05/12  12:05:24  ram
?RCS: patch54: protect against spaces in "uname -m" output (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:14:21  ram
?RCS: patch51: created
?RCS:
?MAKE:archname myarchname useversionedarchname: sed Loc Myread Oldconfig \
 osname test rm usethreads usemultiplicity use64bitint
 use64bitall \
 archname64 uselongdouble longdblsize doublesize targetarch Setvar \
 api_versionstring usequadmath
?MAKE: -pick add $@ %<
?S:archname:
?S: This variable is a short name to characterize the current
?S: architecture.  It is used mainly to construct the default archlib.
?S:.
?S:myarchname:
?S: This variable holds the architecture name computed by Configure in
?S: a previous run. It is not intended to be perused by any user and
?S: should never be set in a hint file.

```
?S:.
?S:useversionedarchname:
?S: This variable indicates whether to include the $api_versionstring
?S: as a component of the $archname.
?S:.
?C:ARCHNAME:
?C: This symbol holds a string representing the architecture name.
?C: It may be used to construct an architecture-dependant pathname
?C: where library files may be held under a private library, for
?C: instance.
?C:.
?H:#define ARCHNAME "$archname"  /**/
?H:.
?T:xxx tarch
?F:!archname.cbu
?INIT:archname=''
: determine the architecture name
echo " "
?X:
 We always recompute archname in case osname changes. However, we need
?X: to be careful since, as ADO rightfully pointed out, some systems pick
?X: silly architecture names (0001307135000-aix on AIX or 9000/715-ux under
?X: HP-UX). Therefore, we allow hint files to superseed our guess and ask
?X: the user for confirmation.
if xxx=`./loc arch blurfl $pth`; $test -f "$xxx"; then
 tarch=`arch`"-$osname"
elif xxx=`./loc uname blurfl $pth`; $test -f "$xxx" ; then
 if uname -m > tmparch 2>&1 ; then
  tarch=`$sed -e 's/ *$//' -e 's/ /_/g' \
   -e 's/$/"'"-$osname/" tmparch`
 else
  tarch="$osname"
 fi
 $rm -f tmparch
else
 tarch="$osname"
fi
case "$myarchname" in
"|"$tarch") ;;
*)
 echo "(Your architecture name used to be $myarchname.)"
 archname=''
 ;;
esac
case "$targetarch" in
'') ;;
?X: Very GCCian.
*)  archname=`echo $targetarch|sed 's,^[^-]*-,,'` ;;
```

```
esac
myarchname="$tarch"
case "$archname" in
'') dflt="$tarch";;
*) dflt="$archname";;
esac
rp='What is your architecture name'
. ./myread
archname="$ans"

:
 optionally add API version to the architecture for versioned archlibs
case "$useversionedarchname" in
$define|true|[yY]*) dflt='y';;
*)                  dflt='n';;
esac
rp='Add the Perl API version to your archname?'
. ./myread
case "$ans" in
y|Y) useversionedarchname="$define" ;;
*)      useversionedarchname="$undef" ;;
esac
case "$useversionedarchname" in
$define)
 case "$archname" in
 *-$api_versionstring)
  echo "...and architecture name already has -$api_versionstring" >&4
  ;;
 *)
  archname="$archname-$api_versionstring"
  echo "...setting architecture name to $archname." >&4
  ;;
 esac
 ;;
esac

@if usethreads
case "$usethreads" in
$define)
 echo "Threads selected." >&4
 case "$archname" in
 *-thread*) echo "...and architecture name already has -thread." >&4
  ;;
 *)      archname="$archname-thread"
  echo "...setting architecture name to $archname." >&4
  ;;
 esac
 ;;
```

```
esac
@end
@if usemultiplicity
case "$usemultiplicity" in
$define)
 echo "Multiplicity selected."
 >&4
 case "$archname" in
 *-multi*) echo "...and architecture name already has -multi." >&4
  ;;
 *)      archname="$archname-multi"
  echo "...setting architecture name to $archname." >&4
  ;;
 esac
 ;;
esac
@end
@if use64bitint
case "$use64bitint$use64bitall" in
*"$define"*)
 case "$archname64" in
 '')
  echo "This architecture is naturally 64-bit, not changing architecture name." >&4
  ;;
 *)
  case "$use64bitint" in
  "$define") echo "64 bit integers selected." >&4 ;;
  esac
  case "$use64bitall" in
  "$define") echo "Maximal 64 bitness selected." >&4 ;;
  esac
  case "$archname" in
  *-$archname64*) echo "...and architecture name already has $archname64." >&4
   ;;
  *)      archname="$archname-$archname64"
   echo "...setting architecture name to $archname." >&4
   ;;
  esac
  ;;
 esac
esac
@end
@if uselongdouble
case "$uselongdouble" in
$define)
 echo "Long doubles selected." >&4
 case "$longdblsize" in
 $doublesize)
```

```
 echo "...but long doubles are equal to doubles, not
changing architecture name." >&4
 ;;
*)
 case "$archname" in
 *-ld*) echo "...and architecture name already has -ld." >&4
  ;;
 *)      archname="$archname-ld"
  echo "...setting architecture name to $archname." >&4
  ;;
 esac
 ;;
esac
;;
esac
@end
@if usequadmath
case "$usequadmath" in
$define)
 echo "quadmath selected." >&4
 case "$archname" in
 *-quadmath*) echo "...and architecture name already has -quadmath." >&4
  ;;
 *)      archname="$archname-quadmath"
  echo "...setting architecture name to $archname." >&4
  ;;
 esac
 ;;
esac
@end
if $test -f archname.cbu; then
 echo "Your platform has some specific hints for architecture name, using them..."
 . ./archname.cbu
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/archname.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_strtold: Inlibc
?MAKE: -pick add $@ %<
```

```
?S:d_strtold:
?S: This variable conditionally defines the HAS_STRTOLD symbol, which
?S: indicates to the C program that the strtold() routine is available.
?S:.
?C:HAS_STRTOLD:
?C: This symbol, if defined, indicates that the strtold routine is
?C: available to convert strings to long doubles.
?C:.
?H:#$d_strtold HAS_STRTOLD  /**/
?H:.
?LINT:set d_strtold
: see if strtold exists
set strtold d_strtold
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strtold.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getprotoent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getprotoent_r getprotoent_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_getprotoent_r:
?S: This variable conditionally defines the HAS_GETPROTOENT_R symbol,
?S: which indicates to the C program that the getprotoent_r()
?S: routine is available.
?S:.
?S:getprotoent_r_proto:
?S: This variable encodes the prototype of getprotoent_r.
?S: It is zero if d_getprotoent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getprotoent_r
?S: is defined.
?S:.
?C:HAS_GETPROTOENT_R:
?C: This symbol, if defined, indicates that the getprotoent_r
 routine
?C: is available to getprotoent re-entrantly.
?C:.
?C:GETPROTOENT_R_PROTO:
?C: This symbol encodes the prototype of getprotoent_r.
```

```
?C: It is zero if d_getprotoent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getprotoent_r
?C: is defined.
?C:.
?H:#$d_getprotoent_r HAS_GETPROTOENT_R    /**/
?H:#define GETPROTOENT_R_PROTO $getprotoent_r_proto    /**/
?H:.
?T:try hdrs d_getprotoent_r_proto
: see if getprotoent_r exists
set getprotoent_r d_getprotoent_r
eval $inlibc
case "$d_getprotoent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getprotoent_r_proto:$usethreads" in
 ":define") d_getprotoent_r_proto=define
  set d_getprotoent_r_proto getprotoent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getprotoent_r_proto" in
 define)
 case "$getprotoent_r_proto" in
 "|0) try='int getprotoent_r(struct protoent*, char*, size_t, struct protoent**);'
 ./protochk "$extern_C $try" $hdrs && getprotoent_r_proto=I_SBWR
 ;;
 esac
 case "$getprotoent_r_proto" in
 "|0) try='int getprotoent_r(struct protoent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getprotoent_r_proto=I_SBI ;;
 esac
 case "$getprotoent_r_proto" in
 "|0) try='struct protoent* getprotoent_r(struct protoent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getprotoent_r_proto=S_SBI ;;
 esac
 case "$getprotoent_r_proto" in
 "|0) try='int getprotoent_r(struct protoent*, struct protoent_data*);'
 ./protochk "$extern_C $try" $hdrs && getprotoent_r_proto=I_SD ;;
 esac
 case "$getprotoent_r_proto" in
 "|0) d_getprotoent_r=undef
        getprotoent_r_proto=0
  echo "Disabling getprotoent_r, cannot determine prototype." >&4 ;;
 * ) case "$getprotoent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getprotoent_r_proto="REENTRANT_PROTO_$getprotoent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
```

```
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getprotoent_r has no prototype, not using it." >&4 ;;
  esac
  d_getprotoent_r=undef
  getprotoent_r_proto=0
  ;;
 esac
 ;;
*) getprotoent_r_proto=0
 ;;
esac

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getprotoent_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: modetype.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:25:07  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:modetype: Myread Typedef
?MAKE: -pick add $@ %<
?S:modetype:
?S: This variable defines modetype to be something like mode_t,
?S: int, unsigned short, or whatever type is used to declare file
?S: modes for system calls.
?S:.
?C:Mode_t:
?C: This symbol holds the type used to declare file modes
?C: for systems calls.
  It is usually mode_t, but may be
?C: int or unsigned short.  It may be necessary to include <sys/types.h>
?C: to get any typedef'ed information.
```

```
?C:.
?H:#define Mode_t $modetype  /* file mode parameter for system calls */
?H:.
: see what type is used for mode_t
set mode_t modetype int stdio.h sys/types.h
eval $typedef
dflt="$modetype"
echo " "
rp="What type is used for file modes?"
. ./myread
modetype="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/modetype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_sigsetmk.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_sigsetmk.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:23  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_sigsetmk: Csym Setvar
?MAKE: -pick add $@ %<
?S:d_sigsetmk:
?S: This variable conditionally defines the HAS_SIGSETMASK symbol, which
?S: indicates to the C program that the sigsetmask() routine is available
?S: to set current signal mask.
?S:.
?C:HAS_SIGSETMASK (SIGSETMASK):
?C: This symbol, if defined, indicates that the sigsetmask()
 routine is
?C: available to set current signal mask. Otherwise, you should probably
?C: emulate this by using signal(), but fear race conditions...
?C:.
?H:#$d_sigsetmk HAS_SIGSETMASK  /**/
?H:.
?LINT:set d_sigsetmk
: see if sigsetmask exists
echo " "
```

```
if set sigsetmask val -f d_sigsetmk; eval $csym; $val; then
 echo 'sigsetmask() found.' >&4
 val="$define"
else
 echo "sigsetmask() not found -- We'll use signal()." >&4
 val="$undef"
fi
set d_sigsetmk
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sigsetmk.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_popen.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_popen.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:47  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_popen: Inlibc
?MAKE: -pick add $@ %<
?S:d_popen:
?S: This variable conditionally defines HAS_POPEN if popen() is
?S: available to open a pipe from a process.
?S:.
?C:HAS_POPEN (POPEN):
?C: This symbol, if defined, indicates that the popen routine is
?C: available to open a pipe from a process.
?C:.
?H:#$d_popen HAS_POPEN  /**/
?H:.
?LINT:set
 d_popen
: see if popen exists
set popen d_popen
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_popen.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extract.U,v 3.0.1.2 1997/02/28 14:58:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can be doted in order to extract
?X: .SH files with variable substitutions.
?X:
?X: When running
 Configure from a remote directory ($src is not '.'),
?X: then the files will be created in that directory, so beware!
?X:
?MAKE:Extract: src
?MAKE: -pick add $@ %<
?F:./extract
?T:PERL_CONFIG_SH dir file name create mkdir_p
: script used to extract .SH files with variable substitutions
cat >extract <<'EOS'
PERL_CONFIG_SH=true
echo "Doing variable substitutions on .SH files..."
if test -f MANIFEST; then
 set x `awk '{print $1}' < MANIFEST | grep '\.SH$'`
else
 echo "(Looking for .SH files under the source directory.)"
 set x `(cd "$src"; find . -name "*.SH" -print)`
fi
shift
case $# in
0) set x `(cd "$src"; echo *.SH)`; shift;;
esac
```

```
if test ! -f "$src/$1"; then
 shift
fi
?X: script to emulate mkdir -p
mkdir_p='
name=$1;
create="";
while test $name; do
 if test ! -d "$name"; then
  create="$name $create";
  name=`echo $name | sed -e "s|^[^/]*$||"`;
  name=`echo $name | sed -e "s|\(.*\)/.*|\1|"`;
 else
  name="";
 fi;
done;
for file in $create; do
 mkdir $file;
done
'
for file in $*;
 do
 case "$src" in
 ".")
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (cd "$dir" && . ./$file)
   ;;
  *)
   . ./$file
   ;;
  esac
  ;;
 *)
?X:
?X: When running Configure remotely ($src is not '.'), we cannot source
?X: the files directly, since that would wrongly cause the extraction
?X: where the source lie instead of withing the current directory. Therefore,
?X: we need to 'sh <file' then, which is okay since they will source the
?X: existing config.sh file. It's not possible to use:
?X:  ../src/Configure -S -O -Dsomething
?X: unfortunately since no new config.sh with the -Dsomething override
?X: will be created before running the .SH files. A minor buglet.
?X:
?X: Note that we must create the directory hierarchy ourselves if it does
?X: not exist already, and that is done through a shell emulation of the
```

```
?X: 'mkdir -p' command. We don't want to use the $installdir metaconfig
?X: symbol here since that would require too much to
 be configured for
?X: this simple extraction task that may happen quickly with 'Configure -S'.
?X:  -- RAM, 18/03/96
?X:
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (set x $dir; shift; eval $mkdir_p)
   sh <"$src/$dir/$file"
   ;;
  *)
   sh <"$src/$file"
   ;;
  esac
  ;;
 esac
done
if test -f "$src/config_h.SH"; then
 if test ! -f config.h; then
 : oops, they left it out of MANIFEST, probably, so do it anyway.
 . "$src/config_h.SH"
 fi
fi
EOS

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Extract.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: man1dir.U,v 3.2 1999/07/08 20:57:21 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996, 1999 Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: man1dir.U,v $
?RCS: Revision 3.2  1999/07/08 20:57:21  doughera
?RCS: Used installprefix.
?RCS:
?RCS: Revision 3.1  1999/07/08 20:52:19  doughera
```

```
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:10:29  ram
?RCS: patch61: created
?RCS:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and
 man3dir.  This unit is basically dist's mansrc.U with
?X: man1 used instead of man everywhere.
?X:
?MAKE:man1dir man1direxp man1ext installman1dir: cat nroff Loc Oldconfig \
 spackage test Getfile Setprefixvar Prefixit Prefixup sysman Myread \
 prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?D:man1dir="
?S:man1dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?D:man1direxp="
?S:man1direxp:
?S: This variable is the same as the man1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installman1dir="
?S:installman1dir:
?S: This variable is really the same as man1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location.
 For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man1ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See man1dir.
?S:.
?T:lookpath
?LINT:change prefixvar
?LINT:set man1direxp
: determine where manual pages go
set man1dir man1dir none
eval $prefixit
$cat <<EOM
```

```
$spackage has manual pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$man1dir" in
 '') man1dir="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$man1dir" in
' ') dflt=none
 ;;
'')
 lookpath="$prefixexp/share/man/man1"
 lookpath="$lookpath $prefixexp/man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath $prefixexp/man/p_man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1"
 lookpath="$lookpath $prefixexp/man/man.1"
?X: Experience has shown people
 expect man1dir to be under prefix,
?X: so we now always put it there.  Users who want other behavior
?X: can answer interactively or use a command line option.
?X: Does user have System V-style man paths.
 case "$sysman" in
 */?_man*) dflt=`./loc . $prefixexp/l_man/man1 $lookpath` ;;
 *) dflt=`./loc . $prefixexp/man/man1 $lookpath` ;;
 esac
 set dflt
 eval $prefixup
 ;;
*)  dflt="$man1dir"
 ;;
esac
echo " "
fn=dn+~
rp="Where do the main $spackage manual pages (source) go?"
. ./getfile
if $test "X$man1direxp" != "X$ansexp"; then
 installman1dir="
fi
prefixvar=man1dir
. ./setprefixvar

case "$man1dir" in
'') man1dir=' '
 installman1dir='';;
```

```
esac

: What suffix to use on installed man pages

case "$man1dir" in
' ')
 man1ext='0'
 ;;
*)
 rp="What suffix should be used for the main $spackage man pages?"
 case "$man1ext" in
 '') case "$man1dir" in
  *1)  dflt=1 ;;
  *1p) dflt=1p ;;
  *1pm) dflt=1pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L1)
 dflt=L1;;
  *) dflt=1;;
  esac
  ;;
 *) dflt="$man1ext";;
 esac
 . ./myread
 man1ext="$ans"
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/man1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2005 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_unsetenv: Inlibc
?MAKE: -pick add $@ %<
?S:d_unsetenv:
?S: This variable conditionally defines the HAS_UNSETENV symbol, which
```

?S: indicates to the C program that the unsetenv () routine is available.
?S:.
?C:HAS_UNSETENV:
?C: This symbol, if defined, indicates that the unsetenv () routine is
?C: available for use.
?C:.
?H:#$d_unsetenv HAS_UNSETENV  /**/
?H:.
?LINT:set d_unsetenv
: see if unsetenv exists
set unsetenv d_unsetenv
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_unsetenv.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fp_class: Inlibc
?MAKE: -pick add $@ %<
?S:d_fp_class:
?S: This variable conditionally defines the HAS_FP_CLASS symbol, which
?S: indicates to the C program that the fp_class() routine is available.
?S:.
?C:HAS_FP_CLASS:
?C: This symbol, if defined, indicates that the fp_class routine is
?C: available to classify doubles.  Available for example in Digital UNIX.
?C: The returned values are defined in <math.h> and are:
?C:
?C: FP_SNAN           Signaling NaN (Not-a-Number)
?C: FP_QNAN           Quiet NaN (Not-a-Number)
?C: FP_POS_INF        +infinity
?C: FP_NEG_INF        -infinity
?C: FP_POS_NORM       Positive normalized
?C: FP_NEG_NORM       Negative normalized
?C: FP_POS_DENORM     Positive denormalized
?C: FP_NEG_DENORM
    Negative denormalized
?C: FP_POS_ZERO       +0.0 (positive zero)
?C: FP_NEG_ZERO       -0.0 (negative zero)
?C:.
?H:#$d_fp_class HAS_FP_CLASS  /**/

```
?H:.
?LINT:set d_fp_class
: see if fp_class exists
set fp_class d_fp_class
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fp_class.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:sysroot: Head
?MAKE: -pick add $@ %<
?S:sysroot:
?S: This variable is empty unless supplied by the Configure user.
?S: It can contain a path to an alternative root directory, under which
?S: headers and libraries for the compilation target can be found. This
?S: is generally used when cross-compiling using a gcc-like compiler.
?S:.
?LINT:extern cc
?LINT:extern cppflags
?LINT:change cppflags
?LINT:extern ccflags
?LINT:change ccflags
?LINT:extern ldflags
?LINT:change ldflags
?LINT:extern cccdlflags
?X: _sysroot is later used in ccflags, but we do not want it in config.sh
?T:var xxx path _sysroot
: Set 'sysroot' to change the logical root directory to your headers and libraries see man gcc
: This is primarily meant for cross-compile environments, and
 may fail to be useful in other cases
if test "X$sysroot" = X; then
   sysroot=""
else
   case "$cc" in
 *gcc*|*g++*)
     echo "Using $sysroot to find your headers and libraries, adding to ccflags"
     # _sysroot is used in places where we need --sysroot=foo
     # but using the rest of the flags could cause issues.
     _sysroot="--sysroot=$sysroot";
     case "$ccflags" in
  *sysroot*) ;;
  'undef'|*)
```

```
 ccflags="$ccflags $_sysroot"
   esac
   case "$ldflags" in
*sysroot*) ;;
'undef'|*)
 ldflags="$ldflags $_sysroot"
   esac
   case "$cppflags" in
*sysroot*) ;;
'undef'|*)
 cppflags="$cppflags $_sysroot"
   esac
   # lddlflags updated below in lddlflags section;
   # same with cccdlflags
   ;;
 esac

  # Adjust some defaults to also use $sysroot
  for var in xlibpth loclibpth locincpth glibpth; do
eval xxx=\$$var
eval $var=''
for path in $xxx; do
   eval $var=\"\$$var $sysroot$path\"
done
  done

fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/Sysroot.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: prefshell.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: prefshell.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:28:13  ram
?RCS: patch36: added SHELL temporary since metalint now sees ${SHELL}
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:11:47  ram
?RCS: patch10: non-portable var substitution was used (WAD)
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:34  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:prefshell: cat package Getfile Oldconfig ksh csh bash
?MAKE: -pick add $@ %<
?S:prefshell:
?S: This
 variable contains the eventual value of the PREFSHELL symbol,
?S: which contains the full name of the preferred user shell on this
?S: system.  Usual values are /bin/csh, /bin/ksh, /bin/sh.
?S:.
?C:PREFSHELL:
?C: This symbol contains the full name of the preferred user shell on this
?C: system.  Usual values are /bin/csh, /bin/ksh, /bin/sh.
?C:.
?H:#define PREFSHELL "$prefshell"  /**/
?H:.
?T:SHELL
: find out which shell people like to use most
case "$prefshell" in
")
 case "$ksh $bash $csh" in
 */ksh*) dflt="$ksh" ;;
 */bash*) dflt="$bash" ;;
 */csh*) dflt="$csh" ;;
 *) dflt='/bin/sh' ;;
 esac
 ;;
*)  dflt="$prefshell";;
esac
?X: Some shells (Ultrix) do not understand ${SHELL:-/bin/sh}, sigh!
$cat <<EOM

Give the full path name of the shell most people like to use on your system.
This will be used by $package whenever the user wants to get a shell
escape (for instance) and is not necessarily the same as the shell you are
currently using (${SHELL-/bin/sh}).

EOM
fn=f/~
rp='Preferred
 shell to be used?'
. ./getfile
prefshell=$ans
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/prefshell.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_scorfl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_scorfl.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_scorfl: cat Myread Oldconfig nametype Setvar
?MAKE: -pick add $@ %<
?S:d_scorfl:
?S: This variable conditionally defines the SCOREFULL symbol, which
?S: indicates to the C program that any scoreboard kept by the program
?S: should be kept on the basis of the user's full name as opposed to
?S: the user's login name.
?S:.
?C:SCOREFULL:
?C: This
 symbol, if defined, indicates that any scoreboard kept by the
?C: program should be kept on the basis of the user's full name as opposed
?C: to the user's login name.  If the user can change his full name he
?C: can enter multiple scores if this is defined.
?C:.
?H:#$d_scorfl SCOREFULL /**/
?H:.
?LINT:set d_scorfl
: see how they want the scoreboard kept
case "$d_scorfl" in
"$define") dflt=y ;;
*) dflt=n ;;
esac
case "$nametype" in
other) val="$undef" ;;
*)
 $cat <<'EOM'

The scoreboard can be kept with one score per login name, or one score per full
name.  If users can change their full name, or if there is more than one person
on your system with the same full name, you should keep the score by login name
(the full name is still printed).
```

```
EOM
 rp='Do you want the scoreboard kept by full name?'
 . ./myread
 case "$ans" in
 y*) val="$define" ;;
 *) val="$undef" ;;
 esac
 ;;
esac
set d_scorfl
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_scorfl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Extensions.U,v$
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: Extensions.U,v $
?RCS:
?MAKE:known_extensions extensions dynamic_ext static_ext nonxs_ext \
 useposix useopcode : \
 Myread hint usedl d_sem d_socket i_db i_dbm i_rpcsvcdbm i_gdbm \
 d_ndbm usethreads use5005threads package test cat rsrc \
 d_msg d_shm osname use64bitint i_langinfo d_nl_langinfo \
 libs d_cplusplus sed ls rm contains trnl sort
?MAKE: -pick add $@ %<
?Y:BOTTOM
?S:known_extensions:
?S: This variable holds a list of all extensions (both XS and non-xs)
?S: included in the package source distribution.  This information is
?S: only really of use during the Perl build, as the list makes no
?S: distinction between extensions which were build and installed, and
?S: those
 which where not.  See "extensions" for the list of extensions
?S: actually built and available.
?S:.
?S:dynamic_ext:
?S: This variable holds a list of XS extension files we want to
?S: link dynamically into the package.  It is used by Makefile.
?S:.
?S:static_ext:
```

```
?S: This variable holds a list of XS extension files we want to
?S: link statically into the package.  It is used by Makefile.
?S:.
?S:nonxs_ext:
?S: This variable holds a list of all non-xs extensions built and
?S: installed by the package.  By default, all non-xs extensions
?S: distributed will be built, with the exception of platform-specific
?S: extensions (currently only one VMS specific extension).
?S:.
?S:extensions:
?S: This variable holds a list of all extension files (both XS and
?S: non-xs) installed with the package.  It is propagated to Config.pm
?S: and is typically used to test whether a particular extension
?S: is available.
?S:.
?S:useposix:
?S: This variable holds either 'true' or 'false' to indicate
?S: whether
 the POSIX extension should be used.  The sole
?S: use for this currently is to allow an easy mechanism
?S: for hints files to indicate that POSIX will not compile
?S: on a particular system.
?S:.
?S:useopcode:
?S: This variable holds either 'true' or 'false' to indicate
?S: whether the Opcode extension should be used.  The sole
?S: use for this currently is to allow an easy mechanism
?S: for users to skip the Opcode extension from the Configure
?S: command line.
?S:.
?T:xxx avail_ext this_ext tdir xs_extensions nonxs_extensions find_extensions
?INIT:: set useposix=false in your hint file to disable the POSIX extension.
?INIT:useposix=true
?INIT:: set useopcode=false in your hint file to disable the Opcode extension.
?INIT:useopcode=true
?LINT:extern noextensions
?LINT:extern onlyextensions
?T:keepextensions i
: Check extensions
echo " "
echo "Looking for extensions..." >&4
: If we are using the old config.sh, nonxs_extensions and xs_extensions may
: contain old or inaccurate
 or duplicate values.
nonxs_extensions="
xs_extensions="
: We do not use find because it might not be available.
: We do not just use MANIFEST because the user may have dropped
```

```
: some additional extensions into the source tree and expect them
: to be built.

: Function to recursively find available extensions, ignoring DynaLoader
: NOTE: recursion limit of 10 to prevent runaway in case of symlink madness
: In 5.10.1 and later, extensions are stored in directories
: like File-Glob instead of the older File/Glob/.
find_extensions='
   for xxx in *; do
 case "$xxx" in
    DynaLoader|dynaload) ;;
    *)
    this_ext=`echo "$xxx" | $sed -e s/-/\\\//g`;
    case "$this_ext" in
 Scalar/List/Utils) this_ext="List/Util" ;;
 PathTools)         this_ext="Cwd" ;;
    esac;
    echo " $xs_extensions $nonxs_extensions" > "$tdir/$$.tmp";
    if $contains " $this_ext " "$tdir/$$.tmp"; then
 echo >&4;
 echo "Duplicate directories detected for extension $xxx" >&4;
 echo "Configure cannot
correctly recover from this - shall I abort?" >&4;
 case "$knowitall" in
 "") dflt=y;;
 *) dflt=n;;
 esac;
 . ../UU/myread;
 case "$ans" in
 n*|N*) ;;
 *) echo >&4;
     echo "Ok.  Stopping Configure." >&4;
     echo "Please remove the duplicate directory (e.g. using git clean) and then re-run Configure" >&4;
     exit 1;;
 esac;
 echo "Ok.  You will need to correct config.sh before running make." >&4;
    fi;
    $ls -1 "$xxx" > "$tdir/$$.tmp";
    if   $contains "\.xs$" "$tdir/$$.tmp" > /dev/null 2>&1; then
 xs_extensions="$xs_extensions $this_ext";
    elif $contains "\.c$"  "$tdir/$$.tmp" > /dev/null 2>&1; then
 xs_extensions="$xs_extensions $this_ext";
    elif $test -d "$xxx"; then
 nonxs_extensions="$nonxs_extensions $this_ext";
    fi;
    $rm -f "$tdir/$$.tmp";
    ;;
esac;
```

```
  done'
tdir=`pwd`
cd "$rsrc/cpan"
set X
shift
eval $find_extensions
cd "$rsrc/dist"
set X
shift
eval $find_extensions
cd "$rsrc/ext"
set X
shift
eval $find_extensions
set X $xs_extensions
shift
xs_extensions=`echo
 "$*" | tr ' ' $trnl | $sort | tr $trnl ' '`
set X $nonxs_extensions
shift
nonxs_extensions=`echo "$*" | tr ' ' $trnl | $sort | tr $trnl ' '`
cd "$tdir"
known_extensions=`echo $nonxs_extensions $xs_extensions  | tr ' ' $trnl | $sort | tr $trnl ' '`

: Now see which are supported on this system.
?X: avail_ext lists available XS extensions.
avail_ext="
for xxx in $xs_extensions ; do
 case "$xxx" in
?X: Handle possible DOS 8.3 filename and case alterations
 Amiga*)
  case "$osname" in
  amigaos) avail_ext="$avail_ext $xxx" ;;
  esac
  ;;
 DB_File|db_file)
  case "$i_db" in
  $define) avail_ext="$avail_ext $xxx" ;;
  esac
  ;;
 GDBM_File|gdbm_fil)
  case "$i_gdbm" in
  $define) avail_ext="$avail_ext $xxx" ;;
  esac
  ;;
 I18N/Langinfo|i18n_lan)
  case "$i_langinfo$d_nl_langinfo" in
  $define$define) avail_ext="$avail_ext $xxx" ;;
```

```
 esac
 ;;
IPC/SysV|ipc/sysv)
 : XXX Do we need a useipcsysv variable here
 case "${d_msg}${d_sem}${d_shm}" in
 *"${define}"*)
avail_ext="$avail_ext $xxx" ;;
 esac
 ;;
NDBM_File|ndbm_fil)
 case "$d_ndbm" in
 $define)
    case "$osname-$use64bitint" in
    hpux-define)
 case "$libs" in
 *-lndbm*) avail_ext="$avail_ext $xxx" ;;
 esac
 ;;
    *) avail_ext="$avail_ext $xxx" ;;
    esac
    ;;
 esac
 ;;
ODBM_File|odbm_fil)
 case "${i_dbm}${i_rpcsvcdbm}" in
 *"${define}"*)
    case "$d_cplusplus" in
    define) ;; # delete as a function name will not work
    *)  case "$osname-$use64bitint" in
 hpux-define)
     case "$libs" in
     *-ldbm*) avail_ext="$avail_ext $xxx" ;;
     esac
     ;;
 *) avail_ext="$avail_ext $xxx" ;;
 esac
 ;;
    esac
    ;;
 esac
 ;;
Opcode|opcode)
 case "$useopcode" in
 true|define|y) avail_ext="$avail_ext $xxx" ;;
 esac
 ;;
POSIX|posix)
 case "$useposix" in
```

```
 true|define|y) avail_ext="$avail_ext $xxx" ;;
 esac
 ;;
Socket|socket)
 case "$d_socket" in
 true|$define|y) avail_ext="$avail_ext $xxx" ;;
 esac
 ;;
Sys/Syslog|sys/syslog)
 case
$osname in
  amigaos) ;; # not really very useful on AmigaOS
  *)
  : XXX syslog requires socket
  case "$d_socket" in
  true|$define|y) avail_ext="$avail_ext $xxx" ;;
  esac
  ;;
 esac
 ;;
Thread|thread)
            case "$usethreads" in
            true|$define|y)
                  case "$use5005threads" in
                  $define|true|[yY]*) avail_ext="$avail_ext $xxx" ;;
                  esac
 esac
 ;;
threads|threads/shared)
 # threads and threads::shared are special cases.
 # To stop people from asking "Perl 5.8.0 was supposed
 # to have this new fancy threads implementation but my
 # perl doesn't have it" and from people trying to
 # (re)install the threads module using CPAN.pm and
 # CPAN.pm then offering to reinstall Perl 5.8.0,
 # the threads.pm and threads/shared.pm will always be
 # there, croaking informatively ("you need to rebuild
 # all of Perl with threads, sorry") when threads haven't
 # been
compiled in.
 # --jhi
 avail_ext="$avail_ext $xxx"
 ;;
VMS*)
 ;;
Win32*)
 case "$osname" in
 cygwin) avail_ext="$avail_ext $xxx" ;;
```

```
 esac
 ;;
XS/APItest|xs/apitest)
 # This is just for testing.  Skip it unless we have dynamic loading.

 case "$usedl" in
 $define) avail_ext="$avail_ext $xxx" ;;
 esac
 ;;
XS/Typemap|xs/typemap)
 # This is just for testing.  Skip it unless we have dynamic loading.
 case "$usedl" in
 $define) avail_ext="$avail_ext $xxx" ;;
 esac
 ;;
*) avail_ext="$avail_ext $xxx"
 ;;
esac
done

set X $avail_ext
shift
avail_ext="$*"

case "$onlyextensions" in
'') ;;
*)  keepextensions="
  echo "You have requested that only certain extensions be included..." >&4
  for i in $onlyextensions; do
      case " $avail_ext " in
      *" $i "*)
          echo "Keeping extension $i."
          keepextensions="$keepextensions $i"
          ;;
      *) echo "Ignoring extension $i." ;;
      esac
  done
  avail_ext="$keepextensions"
  ;;
esac

case
 "$noextensions" in
'') ;;
*)  keepextensions="
  echo "You have requested that certain extensions be ignored..." >&4
  for i in $avail_ext; do
      case " $noextensions " in
```

```
      *" $i "*) echo "Ignoring extension $i." ;;
      *) echo "Keeping extension $i.";
         keepextensions="$keepextensions $i"
         ;;
      esac
   done
   avail_ext="$keepextensions"
   ;;
esac

: Now see which nonxs extensions are supported on this system.
: For now assume all are.
nonxs_ext="
for xxx in $nonxs_extensions ; do
 case "$xxx" in
 VMS*)
  ;;
 *) nonxs_ext="$nonxs_ext $xxx"
  ;;
 esac
done

set X $nonxs_ext
shift
nonxs_ext="$*"

case $usedl in
$define)
 $cat <<EOM
A number of extensions are supplied with $package.  You may choose to
compile these extensions for dynamic loading (the default), compile
them into the $package executable (static loading), or not include
them at all.  Answer "none" to include no extensions.
Note that DynaLoader is always built and
 need not be mentioned here.

EOM
 case "$dynamic_ext" in
 ")
  : Exclude those listed in static_ext
  dflt="
  for xxx in $avail_ext; do
   case " $static_ext " in
   *" $xxx "*) ;;
   *) dflt="$dflt $xxx" ;;
   esac
  done
  set X $dflt
```

```
 shift
 dflt="$*"
 ;;
*) dflt="$dynamic_ext"
 # Perhaps we are reusing an old out-of-date config.sh.
 case "$hint" in
 previous)
  if test X"$dynamic_ext" != X"$avail_ext"; then
   $cat <<EOM
NOTICE:  Your previous config.sh list may be incorrect.
The extensions now available to you are
 ${avail_ext}
but the default list from your previous config.sh is
 ${dynamic_ext}

EOM
  fi
  ;;
 esac
 ;;
esac
case "$dflt" in
'') dflt=none;;
esac
rp="What extensions do you wish to load dynamically?"
. ./myread
case "$ans" in
?X: Use ' ' so a subsequent Configure will preserve that value.
none) dynamic_ext=' ' ;;
*) dynamic_ext="$ans" ;;
esac

case "$static_ext" in
'')
 : Exclude those already listed in dynamic linking
 dflt=''
 for
xxx in $avail_ext; do
  case " $dynamic_ext " in
  *" $xxx "*) ;;
  *) dflt="$dflt $xxx" ;;
  esac
 done
 set X $dflt
 shift
 dflt="$*"
 ;;
*)  dflt="$static_ext"
```

```
 ;;
 esac

 case "$dflt" in
 ") dflt=none;;
 esac
 rp="What extensions do you wish to load statically?"
 . ./myread
 case "$ans" in
?X: Use ' ' so a subsequent Configure will preserve that value.
 none) static_ext=' ' ;;
 *) static_ext="$ans" ;;
 esac
 ;;
*)
 $cat <<EOM
A number of extensions are supplied with $package.  Answer "none"
to include no extensions.
Note that DynaLoader is always built and need not be mentioned here.

EOM
 case "$static_ext" in
 ") dflt="$avail_ext" ;;
 *) dflt="$static_ext"
  # Perhaps we are reusing an old out-of-date config.sh.
  case "$hint" in
  previous)
   if test X"$static_ext" != X"$avail_ext"; then
    $cat <<EOM
NOTICE:  Your previous config.sh list may be incorrect.
The extensions now available to you are
 ${avail_ext}
but the default list from your previous config.sh is
 ${static_ext}

EOM
   fi
   ;;
  esac
  ;;
 esac
 :
 Exclude those that are not xs extensions
 case "$dflt" in
 ") dflt=none;;
 esac
 rp="What extensions do you wish to include?"
 . ./myread
```

```
 case "$ans" in
?X: Use ' ' so a subsequent Configure will preserve that value.
 none) static_ext=' ' ;;
 *) static_ext="$ans" ;;
 esac
 ;;
esac
#
# Encode is a special case.  If we are building Encode as a static
# extension, we need to explicitly list its subextensions as well.
# For other nested extensions, this is handled automatically by
# the appropriate Makefile.PL.
case " $static_ext " in
 *" Encode "*) # Add the subextensions of Encode
 cd "$rsrc/cpan"
 for xxx in `ls Encode/*/Makefile.PL|awk -F/ '{print $2}'`; do
  static_ext="$static_ext Encode/$xxx"
  known_extensions="$known_extensions Encode/$xxx"
 done
 cd "$tdir"
 ;;
esac

set X $dynamic_ext $static_ext $nonxs_ext
shift
extensions="$*"

# Sanity check:  We require an extension suitable for use with
# AnyDBM_File, as well as Fcntl and
 IO.  (Failure to have these
# should show up as failures in the test suite, but it's helpful to
# catch them now.) The 'extensions' list is normally sorted
# alphabetically, so we need to accept either
#    DB_File ... Fcntl ... IO  ....
# or something like
#    Fcntl ... NDBM_File ... IO  ....
case " $extensions"  in
*"_File "*" Fcntl "*" IO "*) ;; # DB_File
*" Fcntl "*"_File "*" IO "*) ;; # GDBM_File
*" Fcntl "*" IO "*"_File "*) ;; # NDBM_File
*) echo "WARNING: Extensions DB_File or *DBM_File, Fcntl, and IO not configured." >&4
  echo "WARNING: The Perl you are building will be quite crippled." >& 4
  ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/Extensions.U
```

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Filexp.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  15:52:53  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: added HOME to the ?T: line since metalint now checks ${HOME}
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:03:00  ram
?RCS: patch23: made sure error status from csh is propagated (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:53  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which will expand filenames beginning
?X:
 with tildes.  The script is deleted at the end of Configure.
?X:
?MAKE:Filexp: startsh sed test expr eunicefix
?MAKE: -pick add $@ %<
?F:./filexp
?T:HOME LOGDIR dir me name failed
: set up shell script to do ~ expansion
cat >filexp <<EOSS
$startsh
: expand filename
?X:
?X: The case entries below escape the ~ as some shells have shown expansion
?X: of the ~ during here-doc processing.
?X:
case "\$1" in
\~/*|\~)
 echo \$1 | $sed "s|~|\${HOME-\$LOGDIR}|"
 ;;
\~*)
 if $test -f /bin/csh; then
  /bin/csh -f -c "glob \$1"
  failed=\$?
```

```
 echo ""
 exit \$failed
else
 name=\`$expr x\$1 : '..\([^/]*\)'\`
 dir=\`$sed -n -e "/^\${name}:/{s/^[^:]*:[^:]*:[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\).*"'\$'"/\1/" -e p -e q -e '}' </etc/passwd\`
 if $test ! -d "\$dir"; then
  me=\`basename \$0\`
  echo "\$me: can't locate home directory for: \$name" >&2
  exit 1
 fi
 case "\$1" in
 */*)
  echo \$dir/\`$expr x\$1 : '..[^/]*/\(.*\)'\`
  ;;
 *)
  echo \$dir
  ;;
 esac
fi
;;
*)
 echo \$1
 ;;
esac
EOSS
chmod
 +x filexp
$eunicefix filexp
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Filexp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_vfork.U,v 3.0.1.6 1994/08/29 16:18:21 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_vfork.U,v $
?RCS: Revision 3.0.1.6  1994/08/29  16:18:21  ram
?RCS: patch32: set default to 'y' the first time
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  06:59:14  ram
```

?RCS: patch30: usevfork was not always properly set
?RCS:
?RCS: Revision 3.0.1.4  1994/05/13  15:20:56  ram
?RCS: patch27: modified to avoid spurious Whoa warnings (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  14:59:09  ram
?RCS: patch23: now explicitly ask whether vfork() should be used
 (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1993/10/16  13:49:39  ram
?RCS: patch12: added magic for vfork()
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:06:57  ram
?RCS: patch10: removed automatic remapping of vfork on fork (WAD)
?RCS: patch10: added compatibility code for older config.sh (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_vfork usevfork d_pseudofork: Inlibc Myread Oldconfig Setvar
?MAKE: -pick add $@ %<
?S:d_vfork:
?S: This variable conditionally defines the HAS_VFORK symbol, which
?S: indicates the vfork() routine is available.
?S:.
?S:usevfork:
?S: This variable is set to true when the user accepts to use vfork.
?S: It is set to false when no vfork is available or when the user
?S: explicitly requests not to use vfork.
?S:.
?S:d_pseudofork:
?S: This variable conditionally defines the HAS_PSEUDOFORK symbol,
?S: which indicates that an emulation of the fork routine is available.
?S:.
?C:HAS_VFORK (VFORK):
?C: This
 symbol, if defined, indicates that vfork() exists.
?C:.
?H:#$d_vfork HAS_VFORK /**/
?H:.
?C:HAS_PSEUDOFORK:
?C: This symbol, if defined, indicates that an emulation of the
?C: fork routine is available.
?C:.
?H:#$d_pseudofork HAS_PSEUDOFORK /**/
?H:.
?M:vfork: HAS_VFORK
?M:#ifndef HAS_VFORK

```
?M:#define vfork fork
?M:#endif
?M:.
?T:d_hvfork
: backward compatibility for d_hvfork
if test X$d_hvfork != X; then
 d_vfork="$d_hvfork"
 d_hvfork="
fi
?X:==========================
: see if there is a vfork
val="
set vfork val
eval $inlibc

d_pseudofork=$undef

: Ok, but do we want to use it. vfork is reportedly unreliable in
: perl on Solaris 2.x, and probably elsewhere.
case "$val" in
$define)
 echo " "
 case "$usevfork" in
 false) dflt='n';;
 *) dflt='y';;
 esac
 cat <<'EOM'

Perl can only use a vfork() that doesn't suffer from strict
restrictions on calling functions or modifying global data in
the child.  For example, glibc-2.1 contains such a vfork()
that is unsuitable.  If your system
 provides a proper fork()
call, chances are that you do NOT want perl to use vfork().

EOM
 rp="Do you still want to use vfork()?"
 . ./myread
 case "$ans" in
 y|Y) ;;
 *)
  echo "Ok, we won't use vfork()."
  val="$undef"
  ;;
 esac
 ;;
esac
?X:
```

```
?X: Only set it when final value is known to avoid spurious Whoa's
?X: Then set usevfork accordingly to the current value, for next run
?X:
set d_vfork
eval $setvar
case "$d_vfork" in
$define) usevfork='true';;
*) usevfork='false';;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_vfork.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_stddef.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_stddef.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:27  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_stddef: Inhdr
?MAKE: -pick add $@ %<
?S:i_stddef:
?S: This variable conditionally defines the I_STDDEF symbol, which
?S: indicates to the C program that <stddef.h> exists and should
?S: be included.
?S:.
?C:I_STDDEF:
?C: This symbol, if defined, indicates that <stddef.h> exists and should
?C: be included.
?C:.
?H:#$i_stddef I_STDDEF /**/
?H:.
?LINT:set
 i_stddef
: see if stddef is available
set stddef.h i_stddef
eval $inhdr
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_stddef.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_acosh: Inlibc
?MAKE: -pick add $@ %<
?S:d_acosh:
?S: This variable conditionally defines the HAS_ACOSH symbol, which
?S: indicates to the C program that the acosh() routine is available.
?S:.
?C:HAS_ACOSH:
?C: This symbol, if defined, indicates that the acosh routine is
?C: available to do the inverse hyperbolic cosine function.
?C:.
?H:#$d_acosh HAS_ACOSH  /**/
?H:.
?LINT:set d_acosh
: see if acosh exists
set acosh d_acosh
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_acosh.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sig_name.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  16:21:25  ram
?RCS: patch61: brand new algorithm for sig_name and (new!) sig_num
?RCS:
?RCS: Revision 3.0.1.4  1995/07/25  14:14:54  ram
?RCS: patch56: added <asm/signal.h> lookup for linux
?RCS:
?RCS: Revision 3.0.1.3  1995/05/12  12:24:11  ram
?RCS: patch54: now looks for <linux/signal.h> too (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/06/20  07:06:57  ram

```
?RCS: patch30: final echo was missing to close awk-printed string
?RCS:
?RCS: Revision 3.0.1.1
  1994/05/06  15:17:55  ram
?RCS: patch23: signal list now formatted to avoid scroll-ups (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:47  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:sig_name sig_name_init sig_num sig_num_init sig_count sig_size: \
 awk Signal Oldconfig rm
?MAKE: -pick add $@ %<
?S:sig_name:
?S: This variable holds the signal names, space separated. The leading
?S: SIG in signal name is removed.  A ZERO is prepended to the
?S: list.  This is currently not used.
?S:.
?S:sig_name_init:
?S: This variable holds the signal names, enclosed in double quotes and
?S: separated by commas, suitable for use in the SIG_NAME definition
?S: below.  A "ZERO" is prepended to the list, and the list is
?S: terminated with a plain 0.  The leading SIG in signal names
?S: is removed. See sig_num.
?S:.
?S:sig_num:
?S: This variable holds the signal numbers, space separated. A ZERO is
?S: prepended to the list (corresponding to the fake SIGZERO), and
?S: the list is terminated
 with a 0.  Those numbers correspond to
?S: the value of the signal listed in the same place within the
?S: sig_name list.
?S:.
?S:sig_num_init:
?S: This variable holds the signal numbers, enclosed in double quotes and
?S: separated by commas, suitable for use in the SIG_NUM definition
?S: below.  A "ZERO" is prepended to the list, and the list is
?S: terminated with a plain 0.
?S:.
?S:sig_count (sig_name.U):
?S:  This variable holds a number larger than the largest valid
?S:  signal number.  This is usually the same as the NSIG macro.
?S:.
?S:sig_size:
?S:  This variable contains the number of elements of the sig_name
?S:  and sig_num arrays, excluding the final NULL entry.
?S:.
?C:SIG_NAME:
?C: This symbol contains a list of signal names in order of
```

```
?C: signal number. This is intended
?C: to be used as a static array initialization, like this:
?C:  char *sig_name[] = { SIG_NAME };
?C: The signals in the list are separated with commas, and each signal
?C: is surrounded by double
 quotes. There is no leading SIG in the signal
?C: name, i.e. SIGQUIT is known as "QUIT".
?C: Gaps in the signal numbers (up to NSIG) are filled in with NUMnn,
?C: etc., where nn is the actual signal number (e.g. NUM37).
?C: The signal number for sig_name[i] is stored in sig_num[i].
?C: The last element is 0 to terminate the list with a NULL.  This
?C: corresponds to the 0 at the end of the sig_num list.
?C:.
?C:SIG_NUM:
?C: This symbol contains a list of signal numbers, in the same order as the
?C: SIG_NAME list. It is suitable for static array initialization, as in:
?C:  int sig_num[] = { SIG_NUM };
?C: The signals in the list are separated with commas, and the indices
?C: within that list and the SIG_NAME list match, so it's easy to compute
?C: the signal name from a number or vice versa at the price of a small
?C: dynamic linear lookup.
?C: Duplicates are allowed, but are moved to the end of the list.
?C: The signal number corresponding to sig_name[i] is sig_number[i].
?C: if (i
 < NSIG) then sig_number[i] == i.
?C: The last element is 0, corresponding to the 0 at the end of
?C: the sig_name list.
?C:.
?C:SIG_COUNT:
?C: This variable contains a number larger than the largest
?C: signal number.  This is usually the same as the NSIG macro.
?C:.
?C:SIG_SIZE:
?C: This variable contains the number of elements of the sig_name
?C: and sig_num arrays, excluding the final NULL entry.
?C:.
?H:#define SIG_NAME $sig_name_init  /**/
?H:#define SIG_NUM  $sig_num_init  /**/
?H:#define SIG_COUNT $sig_count   /**/
?H:#define SIG_SIZE $sig_size   /**/
?H:.
?T:i doinit
?F:!= !signal_cmd
?X: signal.cmd creates a file  signal.lst which has two columns:
?X: NAME  number, e.g.
?X:  HUP 1
?X: The list is sorted on signal number, with duplicates moved to
?X: the end..
```

```
: generate list of signal names
echo " "
case "$sig_name_init" in
") doinit=yes ;;
*)  case "$sig_num_init" in
   "|*,*) doinit=yes ;;
   esac ;;
esac
case "$doinit" in
yes)
 echo "Generating a list of signal names and
 numbers..." >&4
 . ./signal_cmd
 sig_count=`$awk '/^NSIG/ { printf "%d", $2 }' signal.lst`
 sig_name=`$awk 'BEGIN { printf "ZERO " }
   !/^NSIG/ { printf "%s ", $1 }' signal.lst`
 sig_num=`$awk  'BEGIN { printf "0 " }
   !/^NSIG/ { printf "%d ", $2 }' signal.lst`
 sig_name_init=`$awk 'BEGIN { printf "\"ZERO\", " }
        !/^NSIG/ { printf "\"%s\", ", $1 }
        END { printf "0\n" }' signal.lst`
 sig_num_init=`$awk  'BEGIN { printf "0, " }
        !/^NSIG/ { printf "%d, ", $2}
        END { printf "0\n"}' signal.lst`
 ;;
esac
echo "The following $sig_count signals are available:"
echo " "
echo $sig_name | $awk \
'BEGIN { linelen = 0 }
{
 for (i = 1; i <= NF; i++) {
  name = "SIG" $i " "
  linelen = linelen + length(name)
  if (linelen > 70) {
   printf "\n"
   linelen = length(name)
  }
  printf "%s", name
 }
 printf "\n"
}'
sig_size=`echo $sig_name | awk '{print NF}'`
$rm -f signal signal.c signal.awk signal.lst signal_cmd
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sig_name.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?X:
?X: This unit checks whether symbolic links are really supported.
?X: We can't rely on d_symlink because that may be listed in the
?X: C library but unimplemented.
?X:
?MAKE:lns: ln rm touch test
?MAKE: -pick add $@ %<
?S:lns:
?S: This variable holds the name of the command to make
?S: symbolic links (if they are supported).
  It can be used
?S: in the Makefile. It is either 'ln -s' or 'ln'
?S:.
: determine whether symbolic links are supported
echo " "
$rm -f blurfl sym
$touch blurfl
if $ln -s blurfl sym > /dev/null 2>&1 && $test -f sym; then
 echo "Symbolic links are supported." >&4
 lns="$ln -s"
else
 echo "Symbolic links are NOT supported." >&4
 lns="$ln"
fi
$rm -f blurfl sym
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/lns.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_srandom_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_srandom_r srandom_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_stdlib extern_C
?MAKE: -pick add $@ %<
?S:d_srandom_r:
?S: This variable conditionally defines the HAS_SRANDOM_R symbol,
?S: which indicates to the C program that the srandom_r()
?S: routine is available.
?S:.
?S:srandom_r_proto:
?S: This variable encodes the prototype of srandom_r.
?S: It is zero if d_srandom_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_srandom_r
?S: is defined.
?S:.
?C:HAS_SRANDOM_R:
?C: This symbol, if defined, indicates that the srandom_r routine
?C: is available to srandom re-entrantly.
?C:.
?C:SRANDOM_R_PROTO:
?C: This
 symbol encodes the prototype of srandom_r.
?C: It is zero if d_srandom_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_srandom_r
?C: is defined.
?C:.
?H:#$d_srandom_r HAS_SRANDOM_R    /**/
?H:#define SRANDOM_R_PROTO $srandom_r_proto    /**/
?H:.
?T:try hdrs d_srandom_r_proto
: see if srandom_r exists
set srandom_r d_srandom_r
eval $inlibc
case "$d_srandom_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_stdlib stdlib.h"
 case "$d_srandom_r_proto:$usethreads" in
 ":define") d_srandom_r_proto=define
  set d_srandom_r_proto srandom_r $hdrs
  eval $hasproto ;;
 *) ;;
```

```
esac
case "$d_srandom_r_proto" in
define)
case "$srandom_r_proto" in
"|0) try='int srandom_r(unsigned int, struct random_data*);'
./protochk "$extern_C $try" $hdrs && srandom_r_proto=I_TS ;;
esac
case "$srandom_r_proto" in
"|0) d_srandom_r=undef
        srandom_r_proto=0
 echo "Disabling srandom_r, cannot determine prototype."
>&4 ;;
* ) case "$srandom_r_proto" in
 REENTRANT_PROTO*) ;;
 *) srandom_r_proto="REENTRANT_PROTO_$srandom_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "srandom_r has no prototype, not using it." >&4 ;;
 esac
 d_srandom_r=undef
 srandom_r_proto=0
 ;;
esac
;;
*) srandom_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_srandom_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_tzmin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_tzmin.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:16:58  ram
?RCS: patch36: call ./bsd explicitly instead of relying on PATH
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_tzmin: contains cppstdin cppminus timeincl rm Setvar Guess
?MAKE: -pick add $@ %<
?S:d_tzmin:
?S: This symbol conditionally defines TZ_MINUTESWEST if the system uses
?S: tz_minuteswest in time header instead of timezone.
?S:.
?C:TZ_MINUTESWEST:
?C: This
 symbol is defined if this system uses tz_minuteswest
?C: in time header instead of timezone.
?C: If not defined, you may have to use struct timeb and ftime() rather
?C: than the new gettimeofday() system call.
?C:.
?H:#$d_tzmin TZ_MINUTESWEST  /**/
?H:.
?LINT:set d_tzmin
: see if tz_minuteswest is defined in time header
echo " "
val="$undef"
$cppstdin $cppminus < $timeincl > try 2>&1
if $contains 'tz_minuteswest' try >/dev/null 2>&1; then
echo "You have tz_minuteswest defined in $timeincl rather than timezone." >&4
 val="$define"
elif $contains 'timezone' try >/dev/null 2>&1; then
echo "You have timezone defined in $timeincl rather than tz_minuteswest." >&4
else
 echo "Your $timeincl file looks strange." >&4
fi
if ./bsd; then
 case "$d_tzmin" in
 "$undef") echo "(Maybe your system is an USG one after all?)";;
 esac
fi
set d_tzmin
eval $setvar
$rm -f try

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_tzmin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_mkfifo.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_mkfifo.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:14:17  ram
?RCS: patch36: created by ADO
?RCS:
?RCS:
?MAKE:d_mkfifo: Inlibc
?MAKE: -pick add $@ %<
?S:d_mkfifo:
?S: This variable conditionally defines the HAS_MKFIFO symbol, which
?S: indicates to the C program that the mkfifo() routine is available.
?S:.
?C:HAS_MKFIFO :
?C: This symbol, if defined, indicates that the mkfifo
 routine is
?C: available to create FIFOs. Otherwise, mknod should be able to
?C: do it for you. However, if mkfifo is there, mknod might require
?C: super-user privileges which mkfifo will not.
?C:.
?H:#$d_mkfifo HAS_MKFIFO  /**/
?H:.
?LINT:set d_mkfifo
: see if mkfifo exists
set mkfifo d_mkfifo
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_mkfifo.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_copysignl: Inlibc
?MAKE: -pick add $@ %<
?S:d_copysignl:
```

?S: This variable conditionally defines the HAS_COPYSIGNL symbol, which
?S: indicates to the C program that the copysignl() routine is available.
?S: If aintl is also present we can emulate modfl.
?S:.
?C:HAS_COPYSIGNL:
?C: This symbol, if defined, indicates that the copysignl routine is
?C: available.  If aintl is also present we can emulate modfl.
?C:.
?H:#$d_copysignl HAS_COPYSIGNL  /**/
?H:.
?LINT:set d_copysignl
: see if copysignl exists
set copysignl d_copysignl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_copysignl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sigprocmask: Inlibc
?MAKE: -pick add $@ %<
?S:d_sigprocmask:
?S: This variable conditionally defines HAS_SIGPROCMASK
?S: if sigprocmask() is available to examine or change the signal mask
?S: of the calling process.
?S:.
?C:HAS_SIGPROCMASK:
?C: This symbol, if defined, indicates that the sigprocmask
?C: system call is available to examine or change the signal mask
?C: of the calling process.
?C:.
?H:#$d_sigprocmask HAS_SIGPROCMASK  /**/
?H:.
?LINT:set d_sigprocmask
: see if sigprocmask exists
set sigprocmask d_sigprocmask
eval

```
 $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sigprocmask.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Mkdirp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can launched to create a
?X: directory path like "mkdir -p" would do.
?X:
?MAKE:Mkdirp:
 eunicefix startsh
?MAKE: -pick add $@ %<
?F:./mkdirp
?T:name create file
: script used to emulate mkdir -p
cat >mkdirp <<EOS
$startsh
EOS
cat >>mkdirp <<'EOS'
name=$1;
create="";
while test $name; do
 if test ! -d "$name"; then
  create="$name $create"
  name=`echo $name | sed -e "s|^[^/]*$||"`
  name=`echo $name | sed -e "s|\(.*\)/.*|\1|"`
 else
```

```
  name=""
 fi
done
for file in $create; do
 mkdir $file
done
EOS
chmod +x mkdirp
$eunicefix mkdirp
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Mkdirp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_sqrtl: Inlibc
?MAKE: -pick add $@ %<
?S:d_sqrtl:
?S: This variable conditionally defines the HAS_SQRTL symbol, which
?S: indicates to the C program that the sqrtl() routine is available.
?S:.
?C:HAS_SQRTL:
?C: This symbol, if defined, indicates that the sqrtl routine is
?C: available to do long double square roots.
?C:.
?H:#$d_sqrtl HAS_SQRTL  /**/
?H:.
?LINT:set d_sqrtl
: see if sqrtl exists
set sqrtl d_sqrtl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sqrtl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_times.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  14:07:50  ram
?RCS: patch56: typo fix, sytem -> system
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:14:00  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: What is the type returned by times() ?
?X:
?X: Force inclusion of <sys/types.h>
?X:INC: i_systypes
?MAKE:d_times clocktype: Csym Myread Typedef i_systimes
?MAKE: -pick
 add $@ %<
?S:d_times:
?S: This variable conditionally defines the HAS_TIMES symbol, which indicates
?S: that the times() routine exists.  The times() routine is normally
?S: provided on UNIX systems. You may have to include <sys/times.h>.
?S:.
?S:clocktype:
?S: This variable holds the type returned by times(). It can be long,
?S: or clock_t on BSD sites (in which case <sys/types.h> should be
?S: included).
?S:.
?C:HAS_TIMES (TIMES):
?C: This symbol, if defined, indicates that the times() routine exists.
?C: Note that this became obsolete on some systems (SUNOS), which now
?C: use getrusage(). It may be necessary to include <sys/times.h>.
?C:.
?C:Clock_t (CLOCKTYPE):
?C: This symbol holds the type returned by times(). It can be long,
?C: or clock_t on BSD sites (in which case <sys/types.h> should be
?C: included).
?C:.
?H:#$d_times HAS_TIMES  /**/
?H:#define Clock_t $clocktype /* Clock time */
?H:.
?T:val inc
: see if times exists
echo " "
```

```
if set times val -f d_times; eval $csym;
 $val; then
 echo 'times() found.' >&4
 d_times="$define"
 inc="
 case "$i_systimes" in
 "$define") inc='sys/times.h';;
 esac
 set clock_t clocktype long stdio.h sys/types.h $inc
 eval $typedef
 dflt="$clocktype"
 echo " "
 rp="What type is returned by times() on this system?"
 . ./myread
 clocktype="$ans"
else
 echo 'times() NOT found, hope that will do.' >&4
 d_times="$undef"
?X: The following is needed for typedef (won't like an empty variable)
 clocktype='int'
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_times.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:uselargefiles \
 ccflags_uselargefiles \
 ldflags_uselargefiles \
 libswanted_uselargefiles: \
 Myread Oldconfig Setvar test lseeksize fpossize \
 fpostype Compile echo n c cat lseektype rm_try run \
 use64bitint use64bitall i_stdlib
?MAKE: -pick add $@ %<
?Y:TOP
?S:uselargefiles:
?S: This variable conditionally defines the USE_LARGE_FILES symbol,
?S: and indicates that large file interfaces should be used when
?S: available.
?S:.
?S:ccflags_uselargefiles:
```

```
?S: This variable contains the compiler flags needed by large file builds
?S: and added to ccflags by hints files.
?S:.
?S:ldflags_uselargefiles:
?S: This variable contains the loader flags needed by large file builds
?S: and added to ldflags by
 hints files.
?S:.
?S:libswanted_uselargefiles:
?S: This variable contains the libraries needed by large file builds
?S: and added to ldflags by hints files.  It is a space separated list
?S: of the library names without the "lib" prefix or any suffix, just
?S: like libswanted..
?S:.
?C:USE_LARGE_FILES:
?C: This symbol, if defined, indicates that large file support
?C: should be used when available.
?C:.
?H:?%<:#ifndef USE_LARGE_FILES
?H:?%<:#$uselargefiles USE_LARGE_FILES  /**/
?H:?%<:#endif
?H:.
?INIT:ccflags_uselargefiles="
?INIT:ldflags_uselargefiles="
?INIT:libswanted_uselargefiles="
?T:yyy zzz
?F:!uselargefiles.cbu !try
?LINT:change lseeksize
?LINT:change fpossize
?LINT:extern uselfs
?LINT:use use64bitint
?LINT:use use64bitall
: Check for large file support
# Backward compatibility (uselfs is deprecated).
case "$uselfs" in
"$define"|true|[yY]*)
 cat <<EOM >&4

*** Configure -Duselfs is deprecated, using -Duselargefiles instead.
EOM
 uselargefiles="$define"
 ;;
esac

case "$lseeksize:$fpossize"
 in
8:8) cat <<EOM
```

```
You can have files larger than 2 gigabytes.
EOM
  val="$define" ;;
*)    case "$uselargefiles" in
  "$undef"|false|[nN]*) dflt='n' ;;
  *) dflt='y' ;;
  esac
  cat <<EOM

Perl can be built to understand large files (files larger than 2 gigabytes)
on some systems.  To do so, Configure can be run with -Duselargefiles.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
  rp='Try to understand large files, if available?'
  . ./myread
  case "$ans" in
  y|Y)  val="$define" ;;
  *)    val="$undef"  ;;
  esac
  ;;
esac
set uselargefiles
eval $setvar
: Look for a hint-file generated 'call-back-unit'.  If the
: user has specified that a large files perl is to be built,
: we may need to set or change some other defaults.
if $test -f uselargefiles.cbu; then
 echo "Your platform has some specific hints regarding large file builds, using them..."
 . ./uselargefiles.cbu
fi
case "$uselargefiles" in
"$define")
 if $test -f uselargefiles.cbu;
 then
  echo " "
  echo "Rechecking to see how big your file offsets are..." >&4
  $cat >try.c <<EOCP
#include <sys/types.h>
#include <stdio.h>
int main()
{
   printf("%d\n", (int)sizeof($lseektype));
   return(0);
}
EOCP
  set try
  if eval $compile_ok; then
```

```
 lseeksize=`$run ./try`
 $echo "Your file offsets are now $lseeksize bytes long."
else
 dflt="$lseeksize"
 echo " "
 echo "(I can't seem to compile the test program.  Guessing...)"
 rp="What is the size of your file offsets (in bytes)?"
 . ./myread
 lseeksize="$ans"
fi
case "$fpostype" in
*_t) zzz="$fpostype" ;;
*)   zzz="fpos_t" ;;
esac
$echo $n "Rechecking the size of $zzz...$c" >&4
$cat > try.c <<EOCP
#include <sys/types.h>
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
int main() {
  printf("%d\n", (int)sizeof($fpostype));
  return(0);
}
EOCP
 set try
 if eval $compile_ok; then
  yyy=`$run ./try`
  dflt="$lseeksize"
  case "$yyy" in
  '') echo
" "
   echo "(I can't execute the test program--guessing $fpossize.)" >&4
   ;;
  *) fpossize=$yyy
   echo " $fpossize bytes." >&4
   ;;
  esac
 else
  dflt="$fpossize"
  echo " "
  echo "(I can't compile the test program.  Guessing...)" >&4
  rp="What is the size of your file positions (in bytes)?"
  . ./myread
  fpossize="$ans"
 fi
```

```
  $rm_try
 fi
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/uselfs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mailer.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mailer.U,v $
?RCS: Revision 3.0.1.3  1995/01/11  15:32:11  ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:10:04  ram
?RCS: patch23: ensure full path value is used for rmail also
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:14:18  ram
?RCS: patch16: now use _sendmail vars and friends for portability issues
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:10  ram
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:mailer: test cat rmail mail smail sendmail Getfile Oldconfig
?MAKE: -pick add $@ %<
?S:mailer:
?S: This variable contains the full pathname of a reasonable mailer.
?S: By reasonable, we mean some program which can understand internet
?S: addresses or at least forward them to some internet router. This
?S: mailer should be invoked as "mailer [options] recipients <mail".
?S:.
: determine the name of a reasonable mailer
case "$mailer" in
")
 if $test -f "$sendmail"; then
  dflt="$sendmail"
 elif $test -f "$smail"; then
  dflt="$smail"
```

```
 elif $test -f "$rmail"; then
  dflt="$rmail"
 elif $test -f /bin/mail; then
  dflt=/bin/mail
 else
  dflt=$mail
 fi
 ;;
*)  dflt="$mailer";;
esac
$cat <<EOM

I need the full pathname of the program used to deliver mail on your system.
A typical answer would be /usr/lib/sendmail or /bin/rmail, but you may choose
any other program, as long as it can be fed from standard input and will
honour any user-supplied headers.

EOM
fn=f
rp='Mail
 transport agent to be used?'
. ./getfile
mailer="$ans"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/mailer.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_syspoll.U 15 2006-08-30 18:21:51Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:i_syspoll: Inhdr
?MAKE: -pick add $@ %<
?S:i_syspoll:
?S: This variable conditionally defines the I_SYS_POLL symbol, which
?S: indicates to the C program that it should include <sys/poll.h>.
?S:.
?C:I_SYS_POLL:
?C: This symbol, if defined, indicates that the program may include
?C: <sys/poll.h>.  When I_POLL is also defined, it's probably safest
?C: to only include <poll.h>.
```

```
?C:.
?H:#$i_syspoll I_SYS_POLL /**/
?H:.
?LINT:set i_syspoll
: see if there is
 a sys/poll.h file
set sys/poll.h i_syspoll
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_syspoll.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: filexp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: filexp.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:filexp: privlib
?MAKE: -pick add $@ %<
?S:filexp:
?S: This symbol contains the full pathname of the filexp script, in case we
?S: are saving the script for posterity.
?S:.
: must not allow self reference
case "$privlib" in
 /*)
 filexp=$privlib/filexp
 ;;
 *)
 filexp=`pwd`/filexp
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/filexp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_siglist.U 1 2006-08-24 12:32:52Z rmanfredi $
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_siglist.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:22  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_siglist: Csym Setvar
?MAKE: -pick add $@ %<
?S:d_siglist:
?S: This variable conditionally defines HAS_SYS_SIGLIST if sys_siglist[] is
?S: available to translate signal numbers to strings.
?S:.
?C:HAS_SYS_SIGLIST (SYS_SIGLIST):
?C: This symbol, if defined, indicates that the sys_siglist array is
?C: available to translate signal numbers
 to strings.
?C:.
?H:#$d_siglist HAS_SYS_SIGLIST  /**/
?H:.
?LINT:set d_siglist
: see if sys_siglist[] exist
echo " "
if set sys_siglist val -a d_siglist; eval $csym; $val; then
 echo "You have sys_siglist[] for signal description." >&4
 val="$define"
else
 echo "You don't have sys_siglist[]." >&4
 val="$undef"
fi
set d_siglist
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_siglist.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_nextafter: Inlibc
?MAKE: -pick add $@ %<
```

?S:d_nextafter:
?S: This variable conditionally defines HAS_NEXTAFTER if nextafter()
?S: is available to return the next machine representable double from
?S: x in direction y.
?S:.
?C:HAS_NEXTAFTER:
?C: This symbol, if defined, indicates that the nextafter routine is
?C: available to return the next machine representable double from
?C: x in direction y.
?C:.
?H:#$d_nextafter HAS_NEXTAFTER  /**/
?H:.
?LINT:set d_nextafter
: see if nextafter exists
set nextafter d_nextafter
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_nextafter.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_rusage.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_rusage.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X: We may need to include <sys/resource.h> and <sys/time.h> FIXME
?X:INC: i_sysresrc i_systime
?MAKE:d_rusage: Inlibc
?MAKE: -pick add $@ %<
?S:d_rusage (d_getrusg):
?S: This variable conditionally defines the HAS_GETRUSAGE symbol, which
?S: indicates that the getrusage() routine exists.  The getrusage() routine
?S: supports sub-second accuracy
 for process cpu accounting. You may need
?S: to include <sys/resource.h> and <sys/time.h>.
?S:.
?C:HAS_GETRUSAGE (RUSAGE GETRUSAGE):
?C: This symbol, if defined, indicates that the getrusage() routine is

```
?C: available to get process statistics with a sub-second accuracy.
?C: Inclusion of <sys/resource.h> and <sys/time.h> may be necessary.
?C:.
?H:#$d_rusage HAS_GETRUSAGE  /**/
?H:.
?LINT:set d_rusage
: see if getrusage exists
set getrusage d_rusage
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_rusage.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: kernel.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: kernel.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:kernel: Getfile test
?MAKE: -pick add $@ %<
?S:kernel:
?S: This variable becomes the (fully rooted) path name of the kernel.
?S:.
: find the name of the kernel.
echo " "
case "$kernel" in
")
 if $test -r /unix; then
  dflt=/unix
 elif $test -r /vmunix; then
  dflt=/vmunix
 elif $test -r /xenix; then
  dflt=/xenix
 elif $test -r /mach; then
  dflt=/mach
 elif
 $test -r /dgux; then
  dflt=/dgux
```

```
 elif $test -r /hp-ux; then
  dflt=/hp-ux
 elif $test -r /syst; then
  dflt=/syst
 elif $test -r /arix; then
  dflt=/arix
 elif $test -r /irix; then
  dflt=/arix
 else
  dflt='unknown'
  set X /*x
  shift
  case $# in
  1)
   if $test -r "$1"; then
    dflt="$1"
   fi
   ;;
  esac
 fi
 ;;
*)
 dflt="$kernel"
 ;;
esac
fn=f
rp='What is the name of your kernel?'
. ./getfile
kernel="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/kernel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_mq_receive: Inlibc
?MAKE: -pick add $@ %<
?S:d_mq_receive:
?S: This variable conditionally defines HAS_MQ_RECEIVE if mq_receive() is
```

?S: available to receive a message from a POSIX message queue.
?S:.
?C:HAS_MQ_RECEIVE:
?C: This symbol, if defined, indicates that the mq_receive system call is
?C: available to receive a message from a POSIX message queue.
?C:.
?H:#$d_mq_receive HAS_MQ_RECEIVE  /**/
?H:.
?LINT:set d_mq_receive
: see if mq_receive exists
set mq_receive d_mq_receive
eval $inlibc

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mq_receive.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sched.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sched: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sched:
?S: This variable conditionally defines the I_SCHED symbol, and indicates
?S: whether a C program should include <sched.h>.
?S:.
?C:I_SCHED:
?C: This symbol, if defined, indicates that <sched.h> exists and
?C: should be included.
?C:.
?H:#$i_sched I_SCHED  /**/
?H:.
?LINT:set i_sched
: see if this is a sched.h system
set sched.h i_sched
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sched.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:

```
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?X:
?X: Useless unit dropped.  Use randfunc instead.
?X:
?LINT:empty
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/randbits.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_posix_timer: Setvar d_timer_create d_timer_delete d_timer_gettime d_timer_settime
d_timer_getoverrun i_time
?MAKE: -pick add $@ %<
?S:d_posix_timer:
?S: This variable conditionally defines the HAS_POSIX_TIMER symbol, which
?S: indicates that the entire POSIX timer_*(2) library is present.
?S:.
?C:HAS_POSIX_TIMER:
?C: This symbol, if defined, indicates that the entire POSIX timer_*(2)
?C: library is supported.
?C:.
?H:#$d_posix_timer HAS_POSIX_TIMER  /**/
?H:.
?LINT:set d_posix_timer
: see how much of the 'POSIX timer_*(2)'
 library is present.
echo " "
case "$i_time$d_timer_create$d_timer_delete$d_timer_gettime$d_timer_settime$d_timer_getoverrun" in
*"$undef"*) val="$undef" ;;
*) val="$define" ;;
esac
case "$val" in
```

```
"$define") echo "You have the full POSIX timer_*(2) library." >&4 ;;
"$undef")  echo "You don't have the full POSIX timer_*(2) library." >&4 ;;
esac
set d_posix_timer
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_posix_timer.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 2000,2014 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fpclassify d_fp_classify: Inlibc cat i_math Compile rm_try Setvar
?MAKE: -pick add $@ %<
?X:the short story is that C99 says use fpclassify.  But the story is confused
?X:by systems "partially C99" (or fully "pre C99") which either user fpclassify
?X:but with different return values, or they use fp_classify (with the expected)
?X:return values, or they use some other spelling of *fp*class* (sometimes even
?X:without the *fp* part), with yet another set(s) of return values ...
?S:d_fpclassify:
?S: This variable conditionally defines the HAS_FPCLASSIFY symbol, which
?S: indicates to the C program that the fpclassify() routine is available.
?S:.
?S:d_fp_classify:
?S: This variable conditionally defines the HAS_FP_CLASSIFY
 symbol, which
?S: indicates to the C program that the fp_classify() routine is available.
?S:.
?C:HAS_FPCLASSIFY:
?C: This symbol, if defined, indicates that the fpclassify routine is
?C: available to classify doubles.  Available for example in HP-UX.
?C: The returned values are defined in <math.h> and are
?C:
?C:         FP_NORMAL     Normalized
?C:         FP_ZERO       Zero
?C:         FP_INFINITE   Infinity
?C:         FP_SUBNORMAL  Denormalized
?C:         FP_NAN        NaN
?C:
?C:.
?C:HAS_FP_CLASSIFY:
?C: This symbol, if defined, indicates that the fp_classify routine is
?C: available to classify doubles. The values are defined in <math.h>
?C:
?C:         FP_NORMAL     Normalized
```

```
?C:	FP_ZERO	Zero
?C:	FP_INFINITE	Infinity
?C:	FP_SUBNORMAL	Denormalized
?C:	FP_NAN	NaN
?C:
?C:.
?H:#$d_fpclassify HAS_FPCLASSIFY  /**/
?H:#$d_fp_classify HAS_FP_CLASSIFY  /**/
?H:.
?LINT:set d_fpclassify
?LINT:set d_fp_classify
:
 check for fpclassify
?X:classified (Comment by jhi)
?X:fpclassify i_math
?X:fp_classify i_math
?X:fpclass i_math i_ieeefp i_fp
?X:fp_class i_math i_fp_class
?X:  No i_fp_class yet. But the systems that have
?X:  this (Tru64 and IRIX) both had <fp_class.h>
?X:class i_math
echo "Checking to see if you have fpclassify..." >&4
$cat >try.c <<EOCP
#$i_math I_MATH
#ifdef I_MATH
#include <math.h>
#endif
int main() { return fpclassify(1.0) == FP_NORMAL ? 0 : 1; }
EOCP
set try
if eval $compile; then
 val="$define"
 echo "You have fpclassify."
else
 val="$undef"
 echo "You do not have fpclassify."
fi
$rm_try
set d_fpclassify
eval $setvar

: see if fp_classify exists
set fp_classify d_fp_classify
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fpclassify.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_systypes.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_systypes.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:41  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Look wether <sys/types.h> needs to be included.
?X:
?MAKE:i_systypes: Inhdr
?MAKE: -pick add $@ %<
?S:i_systypes:
?S: This variable conditionally defines the I_SYS_TYPES symbol,
?S: and indicates whether a C program should include <sys/types.h>.
?S:.
?C:I_SYS_TYPES (I_SYSTYPES):
?C: This symbol, if defined, indicates to the C program
 that it should
?C: include <sys/types.h>.
?C:.
?H:#$i_systypes I_SYS_TYPES  /**/
?H:.
?LINT:set i_systypes
: see if sys/types.h has to be included
set sys/types.h i_systypes
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_systypes.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:

```
?MAKE:d_fp_class_l: Inlibc
?MAKE: -pick add $@ %<
?S:d_fp_class_l:
?S: This variable conditionally defines the HAS_FP_CLASS_L symbol, which
?S: indicates to the C program that the fp_class_l() routine is available.
?S:.
?C:HAS_FP_CLASS_L:
?C: This symbol, if defined, indicates that the fp_class_l routine is
?C: available to classify long doubles.  Available for example in IRIX.
?C: The returned values are defined in <fp_class.h> and are:
?C:
?C: FP_SNAN           Signaling NaN (Not-a-Number)
?C: FP_QNAN           Quiet NaN (Not-a-Number)
?C: FP_POS_INF        +infinity
?C: FP_NEG_INF        -infinity
?C: FP_POS_NORM       Positive normalized
?C: FP_NEG_NORM       Negative normalized
?C: FP_POS_DENORM
  Positive denormalized
?C: FP_NEG_DENORM     Negative denormalized
?C: FP_POS_ZERO       +0.0 (positive zero)
?C: FP_NEG_ZERO       -0.0 (negative zero)
?C:.
?H:#$d_fp_class_l HAS_FP_CLASS_L  /**/
?H:.
?LINT:set d_fp_class_l
: see if fp_class_l exists
set fp_class_l d_fp_class_l
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fp_class_l.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Inlibc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Inlibc.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  15:55:08  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
```

```
?RCS: Revision 3.0  1993/08/18  12:05:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks for the definition of a given function.
?X:
?X: To use it, say:
?X: set function d_func
?X: eval $inlibc
?X:
?MAKE:Inlibc: Csym Whoa Oldconfig
?MAKE: -pick add $@ %<
?LINT:define inlibc
?V:inlibc
?S:inlibc:
?S: This
 shell variable is used internally by Configure to check
?S: wether a given function is defined or not. A typical use is:
?S:  set function d_func
?S:  eval $inlibc
?S: That will print a message, saying wether function was found or
?S: not and set d_func accordingly.
?S:.
?T:was tx sym tres td tu var
: define an is-in-libc? function
inlibc='echo " "; td=$define; tu=$undef;
sym=$1; var=$2; eval "was=\$$2";
tx=yes;
case "$reuseval$was" in
true) ;;
true*) tx=no;;
esac;
case "$tx" in
yes)
 set $sym tres -f;
 eval $csym;
 case "$tres" in
 true)
  echo "$sym() found." >&4;
  case "$was" in $undef) . ./whoa; esac; eval "$var=\$td";;
 *)
  echo "$sym() NOT found." >&4;
  case "$was" in $define) . ./whoa; esac; eval "$var=\$tu";;
 esac;;
*)
 case "$was" in
 $define) echo "$sym() found." >&4;;
 *) echo "$sym() NOT found." >&4;;
```

```
 esac;;
esac'
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Inlibc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: gidtype.U,v $
?RCS: Revision 3.0.1.3  1994/08/29  16:21:44  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS: patch32: removed useless usage of Setvar (for now)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:21:07  ram
?RCS: patch27: added lint hint
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:01:51  ram
?RCS: patch23: protected gidtype setting via setvar (ADO)
?RCS: patch23: made Gid_t comment more explicit (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:11  ram
?RCS:
 Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:gidtype: Myread Typedef Findhdr
?MAKE: -pick add $@ %<
?S:gidtype:
?S: This variable defines Gid_t to be something like gid_t, int,
?S: ushort, or whatever type is used to declare the return type
?S: of getgid().  Typically, it is the type of group ids in the kernel.
?S:.
?C:Gid_t (GIDTYPE):
?C: This symbol holds the return type of getgid() and the type of
?C: argument to setrgid() and related functions.  Typically,
?C: it is the type of group ids in the kernel. It can be int, ushort,
?C: uid_t, etc... It may be necessary to include <sys/types.h> to get
?C: any typedef'ed information.
?C:.
?H:#define Gid_t $gidtype  /* Type for getgid(), etc... */
```

```
?H:.
?T:xxx
: see what type gids are declared as in the kernel
set gid_t gidtype xxx stdio.h sys/types.h
eval $typedef
case "$gidtype" in
xxx)
 xxx=`./findhdr sys/user.h`
 set `grep 'groups\[NGROUPS\];' "$xxx" 2>/dev/null` unsigned short
 case $1 in
 unsigned) dflt="$1 $2" ;;
 *) dflt="$1"
 ;;
 esac
 ;;
*) dflt="$gidtype";;
esac
echo " "
rp="What is the type for group ids returned by getgid()?"
. ./myread
gidtype="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/gidtype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setservent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_setservent_r setservent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_setservent_r:
?S: This variable conditionally defines the HAS_SETSERVENT_R symbol,
?S: which indicates to the C program that the setservent_r()
?S: routine is available.
?S:.
?S:setservent_r_proto:
?S: This variable encodes the prototype of setservent_r.
?S: It is zero if d_setservent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setservent_r
?S: is defined.
?S:.
```

```
?C:HAS_SETSERVENT_R:
?C: This symbol, if defined, indicates that the setservent_r routine
?C: is
 available to setservent re-entrantly.
?C:.
?C:SETSERVENT_R_PROTO:
?C: This symbol encodes the prototype of setservent_r.
?C: It is zero if d_setservent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setservent_r
?C: is defined.
?C:.
?H:#$d_setservent_r HAS_SETSERVENT_R    /**/
?H:#define SETSERVENT_R_PROTO $setservent_r_proto    /**/
?H:.
?T:try hdrs d_setservent_r_proto
: see if setservent_r exists
set setservent_r d_setservent_r
eval $inlibc
case "$d_setservent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_setservent_r_proto:$usethreads" in
 ":define") d_setservent_r_proto=define
  set d_setservent_r_proto setservent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_setservent_r_proto" in
 define)
 case "$setservent_r_proto" in
 "|0) try='int setservent_r(int, struct servent_data*);'
 ./protochk "$extern_C $try" $hdrs && setservent_r_proto=I_ID ;;
 esac
 case "$setservent_r_proto" in
 "|0) try='void
 setservent_r(int, struct servent_data*);'
 ./protochk "$extern_C $try" $hdrs && setservent_r_proto=V_ID ;;
 esac
 case "$setservent_r_proto" in
 "|0) d_setservent_r=undef
        setservent_r_proto=0
  echo "Disabling setservent_r, cannot determine prototype." >&4 ;;
 * ) case "$setservent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) setservent_r_proto="REENTRANT_PROTO_$setservent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
```

```
 ;;
 *) case "$usethreads" in
  define) echo "setservent_r has no prototype, not using it." >&4 ;;
  esac
  d_setservent_r=undef
  setservent_r_proto=0
  ;;
 esac
 ;;
*) setservent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_setservent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: dlsrc.U,v$
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: dlext.U,v $
?RCS:
?X:  hpux support thanks to Jeff Okamoto <okamoto@hpcc101.corp.hp.com>
?X:
?X:  To create a shared library, you must compile ALL source files in the
?X:  library with +z (or possibly +Z if the library is whopping huge),
?X:  then link the library with -b.  Example:
?X:   cc -c +z module_a.c
?X:   cc -c +z module_b.c
?X:   ld -b module_a.o module_b.o -o module.sl
?X:
?MAKE:dlext: \
 Getfile Myread cat usedl so
?MAKE: -pick add $@ %<
?Y:BOTTOM
?S:dlext:
?S: This variable contains the extension that is to be used for the
?S: dynamically loaded modules that perl generates.
?S:.
: Check what extension to use for shared libs
case "$usedl" in
$define|y|true)
 $cat <<
```

```
 EOM

On a few systems, the dynamically loaded modules that perl generates and uses
will need a different extension than shared libs. The default will probably
be appropriate.

EOM
 case "$dlext" in
 '') dflt="$so" ;;
 *) dflt="$dlext" ;;
 esac
 rp='What is the extension of dynamically loaded modules'
 . ./myread
 dlext="$ans"
 ;;
*)
 dlext="none"
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/dlext.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_ustat: Inlibc
?MAKE: -pick add $@ %<
?S:d_ustat:
?S: This variable conditionally defines HAS_USTAT if ustat() is
?S: available to query file system statistics by dev_t.
?S:.
?C:HAS_USTAT:
?C: This symbol, if defined, indicates that the ustat system call is
?C: available to query file system statistics by dev_t.
?C:.
?H:#$d_ustat HAS_USTAT  /**/
?H:.
?LINT:set d_ustat
: see if ustat exists
```

```
set ustat d_ustat
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_ustat.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getppid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_getppid.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:07:45  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_getppid: Inlibc
?MAKE: -pick add $@ %<
?S:d_getppid:
?S: This variable conditionally defines the HAS_GETPPID symbol, which
?S: indicates to the C program that the getppid() routine is available
?S: to get the parent process ID.
?S:.
?C:HAS_GETPPID :
?C: This symbol,
 if defined, indicates that the getppid routine is
?C: available to get the parent process ID.
?C:.
?H:#$d_getppid HAS_GETPPID  /**/
?H:.
?LINT:set d_getppid
: see if getppid exists
set getppid d_getppid
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getppid.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_preadv.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_preadv.U,v $
?RCS:
?MAKE:d_preadv: Inlibc
?MAKE: -pick add $@ %<
?S:d_preadv:
?S: This variable conditionally defines the HAS_PREADV symbol, which
?S: indicates to the C program that the preadv() routine is available.
?S:.
?C:HAS_PREADV :
?C: This symbol, if defined, indicates that the preadv routine is
?C: available to perform vectored reads on a file descriptor at a
?C: given offset.
?C:.
?H:#$d_preadv HAS_PREADV  /**/
?H:.
?LINT:set d_preadv
:
 see if preadv exists
set preadv d_preadv
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_preadv.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: pidtype.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:31:27  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:33  ram
```

```
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:pidtype: Myread Typedef
?MAKE: -pick add $@ %<
?S:pidtype:
?S: This variable defines PIDTYPE to be something like pid_t, int,
?S: ushort, or whatever type is used to declare process ids in the kernel.
?S:.
?C:Pid_t (PIDTYPE):
?C: This symbol holds the type
 used to declare process ids in the kernel.
?C: It can be int, uint, pid_t, etc... It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?H:#define Pid_t $pidtype  /* PID type */
?H:.
: see what type pids are declared as in the kernel
set pid_t pidtype int stdio.h sys/types.h
eval $typedef
dflt="$pidtype"
echo " "
rp="What type are process ids on this system declared as?"
. ./myread
pidtype="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/pidtype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_voidsig.U,v 3.0.1.3 1995/05/12 12:12:46 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_voidsig.U,v $
?RCS: Revision 3.0.1.3  1995/05/12  12:12:46  ram
?RCS: patch54: made cppflags dependency optional
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:20:35  ram
?RCS: patch32: now sets signal_t only once d_voidsig is known (WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:59:54  ram
?RCS: patch30: now properly sets signal_t when re-using previous value
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_voidsig
 signal_t: rm contains cppstdin cppminus +cppflags test Myread \
 Oldconfig Setvar Findhdr
?MAKE: -pick add $@ %<
?S:d_voidsig:
?S: This variable conditionally defines VOIDSIG if this system
?S: declares "void (*signal(...))()" in signal.h.  The old way was to
?S: declare it as "int (*signal(...))()".
?S:.
?S:signal_t:
?S: This variable holds the type of the signal handler (void or int).
?S:.
?C:VOIDSIG:
?C: This symbol is defined if this system declares "void (*signal(...))()" in
?C: signal.h.  The old way was to declare it as "int (*signal(...))()".  It
?C: is up to the package author to declare things correctly based on the
?C: symbol.
?C:.
?C:Signal_t (SIGNAL_T):
?C: This symbol's value is either "void" or "int", corresponding to the
?C: appropriate return type of a signal handler.  Thus, you can declare
?C: a signal handler using "Signal_t (*handler)()", and define the
?C: handler using "Signal_t handler(sig)".
?C:.
?H:#$d_voidsig VOIDSIG  /**/
?H:#define
 Signal_t $signal_t /* Signal handler's return type */
?H:.
?T:xxx
?LINT:set d_voidsig
: see if signal is declared as pointer to function returning int or void
echo " "
xxx=`./findhdr signal.h`
$test "$xxx" && $cppstdin $cppminus $cppflags < $xxx >$$.tmp 2>/dev/null
if $contains 'int.*\*[  ]*signal' $$.tmp >/dev/null 2>&1 ; then
 echo "You have int (*signal())() instead of void." >&4
 val="$undef"
elif $contains 'void.*\*[  ]*signal' $$.tmp >/dev/null 2>&1 ; then
 echo "You have void (*signal())()." >&4
 val="$define"
elif $contains 'extern[  ]*[(\*]*signal' $$.tmp >/dev/null 2>&1 ; then
 echo "You have int (*signal())() instead of void." >&4
 val="$undef"
?X: This next test is kind of sloppy, but it catches Linux
```

```
?X: which has a
?X:  typedef void (*__sighandler_t)  (int)  ;
?X: A better fix would be to compile a C program with the proper
?X: prototype, but since nearly everyone uses void, we'll just go with
?X: this.
elif $contains 'void.*\*.*sig' $$.tmp >/dev/null 2>&1 ; then
 echo "You
 have void (*signal())()." >&4
 val="$define"
else
 case "$d_voidsig" in
 '')
 echo "I can't determine whether signal handler returns void or int..." >&4
  dflt=void
  rp="What type does your signal handler return?"
  . ./myread
  case "$ans" in
  v*) val="$define";;
  *) val="$undef";;
  esac;;
 "$define")
  echo "As you already told me, signal handler returns void." >&4
  val="$define"
  ;;
 *) echo "As you already told me, signal handler returns int." >&4
  val="$undef"
  ;;
 esac
fi
set d_voidsig
eval $setvar
case "$d_voidsig" in
"$define") signal_t="void";;
*) signal_t="int";;
esac
$rm -f $$.tmp

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_voidsig.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_wait3.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

```
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_wait3.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_wait3: Inlibc
?MAKE: -pick add $@ %<
?S:d_wait3:
?S: This variable conditionally defines the HAS_WAIT3 symbol, which
?S: indicates to the C program that the wait3() subroutine exists.
?S:.
?C:HAS_WAIT3:
?C: This symbol, if defined, indicates that the wait3() subroutine
?C: exists.
?C:.
?H:#$d_wait3 HAS_WAIT3 /**/
?H:.
?LINT:set d_wait3
:
 see if 'wait3()' exists
set wait3 d_wait3
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_wait3.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: patchlevel.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:18:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:patchlevel: package baserev test rsrc
?MAKE: -pick add $@ %<
```

```
?T:Revision
?S:patchlevel:
?S: The patchlevel level of this package.
?S: The value of patchlevel comes from the patchlevel.h file.
?S:.
: get the patchlevel
echo " "
echo "Getting the current patchlevel..." >&4
if $test -r
 $rsrc/patchlevel.h;then
 patchlevel=`awk \
  '/^#[  ]*define[  ][  ]*PATCHLEVEL/ {print $3}' \
  < $rsrc/patchlevel.h`
else
 patchlevel=0
fi
echo "(You have $package $baserev PL$patchlevel.)"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/patchlevel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getrlimit: Inlibc
?MAKE: -pick add $@ %<
?S:d_getrlimit:
?S: This variable conditionally defines the HAS_GETRLIMIT symbol, which
?S: indicates to the C program that the getrlimit() routine is available.
?S:.
?C:HAS_GETRLIMIT:
?C: This symbol, if defined, indicates that the getrlimit routine is
?C: available to get process resource limits.
?C:.
?H:#$d_getrlimit HAS_GETRLIMIT  /**/
?H:.
?LINT:set d_getrlimit
: see if getrlimit exists
set getrlimit d_getrlimit
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getrlimit.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_msync.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_msync.U,v $
?RCS: Revision 3.0.1.1  1993/12/15  08:19:17  ram
?RCS: patch15: created
?RCS:
?MAKE:d_msync: Inlibc
?MAKE: -pick add $@ %<
?S:d_msync:
?S: This variable conditionally defines HAS_MSYNC if msync() is
?S: available to synchronize a mapped file.
?S:.
?C:HAS_MSYNC:
?C: This symbol, if defined, indicates that the msync system call is
?C: available to synchronize a mapped file.
?C:.
?H:#$d_msync HAS_MSYNC  /**/
?H:.
?LINT:set d_msync
: see if
 msync exists
set msync d_msync
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_msync.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_gconvert.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:33:38  ram
?RCS: patch61: integrated new unit from perl5
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  13:55:59  ram
?RCS: patch56: improved comments about the Gconvert macro (ADO)
?RCS: patch56: force compile-link test since it may exist but be unusable (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:12:51  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_Gconvert:
 cat cc ccflags ldflags libs rm_try _o
?MAKE: -pick add $@ %<
?S:d_Gconvert:
?S: This variable holds what Gconvert is defined as to convert
?S: floating point numbers into strings. It could be 'gconvert'
?S: or a more complex macro emulating gconvert with gcvt() or sprintf.
?S:.
?C:Gconvert:
?C: This preprocessor macro is defined to convert a floating point
?C: number to a string without a trailing decimal point.  This
?C: emulates the behavior of sprintf("%g"), but is sometimes much more
?C: efficient.  If gconvert() is not available, but gcvt() drops the
?C: trailing decimal point, then gcvt() is used.  If all else fails,
?C: a macro using sprintf("%g") is used. Arguments for the Gconvert
?C: macro are: value, number of digits, whether trailing zeros should
?C: be retained, and the output buffer.
?C: Possible values are:
?C:  d_Gconvert='gconvert((x),(n),(t),(b))'
?C:  d_Gconvert='gcvt((x),(n),(b))'
?C:  d_Gconvert='sprintf((b),"%.*g",(n),(x))'
?C: The last two assume trailing zeros should
 not be kept.
?C:.
?H:#define Gconvert(x,n,t,b) $d_Gconvert
?H:.
?T: xxx_list xxx_convert
?F:!try
?X:
: Check how to convert floats to strings.
echo " "
echo "Checking for an efficient way to convert floats to strings."
?X: We want to be sure to drop trailing decimal points (perl5
?X: needs this).
$cat >try.c <<'EOP'
```

```
#ifdef TRY_gconvert
#define Gconvert(x,n,t,b) gconvert((x),(n),(t),(b))
char *myname = "gconvert";
#endif
#ifdef TRY_gcvt
#define Gconvert(x,n,t,b) gcvt((x),(n),(b))
char *myname = "gcvt";
#endif
#ifdef TRY_sprintf
#define Gconvert(x,n,t,b) sprintf((b),"%.*g",(n),(x))
char *myname = "sprintf";
#endif

#include <stdio.h>

int
checkit(expect, got)
char *expect;
char *got;
{
  if (strcmp(expect, got)) {
 printf("%s oddity:  Expected %s, got %s\n",
  myname, expect, got);
 exit(1);
 }
}

int
int main()
{
 char buf[64];
 buf[63] = '\0';

 /* This must be 1st test on (which?) platform */
 /* Alan Burlison <AlanBurlsin@unn.unisys.com> */
 Gconvert(0.1, 8, 0, buf);
 checkit("0.1",
 buf);

 Gconvert(1.0, 8, 0, buf);
 checkit("1", buf);

 Gconvert(0.0, 8, 0, buf);
 checkit("0", buf);

 Gconvert(-1.0, 8, 0, buf);
 checkit("-1", buf);
```

```
 /* Some Linux gcvt's give 1.e+5 here. */
 Gconvert(100000.0, 8, 0, buf);
 checkit("100000", buf);

 /* Some Linux gcvt's give -1.e+5 here. */
 Gconvert(-100000.0, 8, 0, buf);
 checkit("-100000", buf);

 exit(0);
}
EOP
?X: List of order in which to search for functions.
?X: Usual order of efficiency is gconvert gcvt sprintf
?X: Respect a previous or hinted value.
case "$d_Gconvert" in
gconvert*) xxx_list='gconvert gcvt sprintf' ;;
gcvt*) xxx_list='gcvt gconvert sprintf' ;;
sprintf*) xxx_list='sprintf gconvert gcvt' ;;
*) xxx_list='gconvert gcvt sprintf' ;;
esac

for xxx_convert in $xxx_list; do
 echo "Trying $xxx_convert"
 $rm_try
 if $cc $ccflags -DTRY_$xxx_convert $ldflags -o try \
  try.c $libs > /dev/null 2>&1 ; then
  echo "$xxx_convert" found. >&4
  if ./try; then
   echo "I'll use $xxx_convert to convert floats
 into a string." >&4
   break;
  else
   echo "...But $xxx_convert didn't work as I expected."
  fi
 else
  echo "$xxx_convert NOT found." >&4
 fi
done

case "$xxx_convert" in
gconvert) d_Gconvert='gconvert((x),(n),(t),(b))' ;;
gcvt) d_Gconvert='gcvt((x),(n),(b))' ;;
*) d_Gconvert='sprintf((b),"%.*g",(n),(x))' ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_gconvert.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_mq_unlink: Inlibc
?MAKE: -pick add $@ %<
?S:d_mq_unlink:
?S: This variable conditionally defines HAS_MQ_UNLINK if mq_unlink() is
?S: available to unlink a POSIX message queue.
?S:.
?C:HAS_MQ_UNLINK:
?C: This symbol, if defined, indicates that the mq_unlink system call is
?C: available to unlink a POSIX message queue.
?C:.
?H:#$d_mq_unlink HAS_MQ_UNLINK  /**/
?H:.
?LINT:set d_mq_unlink
: see if mq_unlink exists
set mq_unlink d_mq_unlink
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mq_unlink.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_endpwent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_endpwent_r endpwent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_pwd extern_C
?MAKE: -pick add $@ %<
?S:d_endpwent_r:
?S: This variable conditionally defines the HAS_ENDPWENT_R symbol,
?S: which indicates to the C program that the endpwent_r()
?S: routine is available.

```
?S:.
?S:endpwent_r_proto:
?S: This variable encodes the prototype of endpwent_r.
?S: It is zero if d_endpwent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endpwent_r
?S: is defined.
?S:.
?C:HAS_ENDPWENT_R:
?C: This symbol, if defined, indicates that the endpwent_r routine
?C: is available to
 endpwent re-entrantly.
?C:.
?C:ENDPWENT_R_PROTO:
?C: This symbol encodes the prototype of endpwent_r.
?C: It is zero if d_endpwent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endpwent_r
?C: is defined.
?C:.
?H:#$d_endpwent_r HAS_ENDPWENT_R    /**/
?H:#define ENDPWENT_R_PROTO $endpwent_r_proto    /**/
?H:.
?T:try hdrs d_endpwent_r_proto
: see if endpwent_r exists
set endpwent_r d_endpwent_r
eval $inlibc
case "$d_endpwent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_pwd pwd.h"
 case "$d_endpwent_r_proto:$usethreads" in
 ":define") d_endpwent_r_proto=define
  set d_endpwent_r_proto endpwent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_endpwent_r_proto" in
 define)
 case "$endpwent_r_proto" in
 "|0) try='int endpwent_r(FILE**);'
 ./protochk "$extern_C $try" $hdrs && endpwent_r_proto=I_H ;;
 esac
 case "$endpwent_r_proto" in
 "|0) try='void endpwent_r(FILE**);'
 ./protochk "$extern_C $try" $hdrs && endpwent_r_proto=V_H ;;
 esac
 case
 "$endpwent_r_proto" in
 "|0) d_endpwent_r=undef
        endpwent_r_proto=0
```

```
 echo "Disabling endpwent_r, cannot determine prototype." >&4 ;;
* ) case "$endpwent_r_proto" in
 REENTRANT_PROTO*) ;;
 *) endpwent_r_proto="REENTRANT_PROTO_$endpwent_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "endpwent_r has no prototype, not using it." >&4 ;;
 esac
 d_endpwent_r=undef
 endpwent_r_proto=0
 ;;
esac
;;
*) endpwent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_endpwent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: so.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: so.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:30:04  ram
?RCS: patch36: now tells user how he can suppress shared lib lookup (ADO)
?RCS: patch36: removed echo at the top, since it's now in the here-doc (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:07:02  ram
?RCS: patch30: created
?RCS:
?X:
?X: This unit computes the shared-object / shared-lib extension
?X:
?MAKE:so d_libname_unique: test libpth Loc Myread Oldconfig cat Setvar
?MAKE: -pick add $@ %<
?S:so:
```

```
?S: This
 variable holds the extension used to identify shared libraries
?S: (also known as shared objects) on the system. Usually set to 'so'.
?S:.
?S:d_libname_unique:
?S: This variable is defined if the target system insists on unique
?S: basenames for shared library files. This is currently true on Android,
?S: false everywhere else we know of.
?S: Defaults to 'undef'.
?S:.
?LINT:set d_libname_unique
?T: xxx
: compute shared library extension
case "$so" in
")
 if xxx=`./loc libc.sl X $libpth`; $test -f "$xxx"; then
  dflt='sl'
 else
  dflt='so'
 fi
 ;;
*) dflt="$so";;
esac
$cat <<EOM

On some systems, shared libraries may be available.  Answer 'none' if
you want to suppress searching of shared libraries for the remainder
of this configuration.

EOM
rp='What is the file extension used for shared libraries?'
. ./myread
so="$ans"

: Does target system insist that shared library basenames are unique
$cat << EOM

Some dynamic loaders assume that the *basename* of shared library
 filenames
are globally unique.  We'll default this to undef as we assume your system
is not this weird. Set to defined if you're on one of them.

EOM

dflt='n'
rp='Make shared library basenames unique?'
. ./myread
case "$ans" in
```

```
y|Y) val="$define" ;;
*)   val="$undef"  ;;
esac
set d_libname_unique
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/so.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_wifstat.U,v 3.0.1.3 1997/02/28 15:47:43 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_wifstat.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:47:43  ram
?RCS: patch61: added a ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  14:09:10  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
?RCS: Revision 3.0.1.1  1995/03/21  08:47:46  ram
?RCS: patch52: created
?RCS:
?MAKE:d_wifstat: Compile d_uwait Oldconfig cat rm
?MAKE: -pick add $@ %<
?S:d_wifstat:
?S: This symbol conditionally defines USE_WIFSTAT
 if the C program can
?S: safely use the WIFxxx macros with the kind of wait() parameter
?S: declared in the program (see UNION_WAIT), or if it can't. Should
?S: only matter on HP-UX, where the macros are incorrectly written and
?S: therefore cause programs using them with an 'union wait' variable
?S: to not compile properly.
?S:.
?C:USE_WIFSTAT:
?C: This symbol, if defined, indicates to the C program that the argument
?C: for the WIFxxx set of macros such as WIFSIGNALED or WIFEXITED can
?C: be of the same kind as the one used to hold the wait() status. Should
?C: only matter on HP-UX, where the macros are incorrectly written and
?C: therefore cause programs using them with an 'union wait' variable
?C: to not compile properly. See also UNION_WAIT.
```

```
?C:.
?H:#$d_wifstat USE_WIFSTAT  /**/
?H:.
?T:type
?F:!foo
: see if we can use WIFxxx macros
echo " "
case "$d_wifstat" in
"$define") echo "As before, you can safely use WIFEXITED and friends!" >&4;;
"$undef") echo "You still can't use WIFEXITED
 and friends!" >&4;;
*)
 echo "Let's see whether you can use the WIFEXITED(status) macro and its"
 case "$d_uwait" in
 "$define") type='union wait';;
 *) type='int';;
 esac
 echo "friends with status declared as '$type status'..."
 $cat >foo.c <<EOCP
#include <sys/types.h>
#include <sys/wait.h>

int main()
{
 $type status;
 int e = 0;

#ifdef WIFEXITED
 if (WIFEXITED(status))
  printf("\n");
 exit(0);
#else
 exit(2);
#endif
}
EOCP
 d_wifstat="$undef"
 set foo
 if eval $compile; then
  if ./foo >/dev/null; then
   echo "Great! Looks like we can use the WIFxxx macros." >&4
   d_wifstat="$define"
  else
   echo "You don't seem to have WIFxxx macros, but that's ok." >&4
  fi
 else
  echo "Apparently you can't use WIFxxx macros properly." >&4
 fi
```

```
 $rm -f foo.* foo core
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_wifstat.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sresgproto: Hasproto i_unistd
?MAKE: -pick add $@ %<
?S:d_sresgproto:
?S: This variable conditionally defines the HAS_SETRESGID_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the setresgid() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_SETRESGID_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the setresgid() function.  Otherwise, it is up
?C: to the program to supply one.  Good guesses are
?C:  extern
 int setresgid(uid_t ruid, uid_t euid, uid_t suid);
?C:.
?H:#$d_sresgproto HAS_SETRESGID_PROTO /**/
?H:.
?LINT:set d_sresgproto
: see if prototype for setresgid is available
echo " "
set d_sresgproto setresgid $i_unistd unistd.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sresgproto.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
```

?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fgetpos64 d_fopen64 d_freopen64 d_fseek64 d_fseeko64 d_fsetpos64 \
 d_ftell64 d_ftello64 d_tmpfile64: Inlibc use64bitint Setvar test
?MAKE: -pick add $@ %<
?S:d_fgetpos64:
?S: This variable conditionally defines the HAS_FGETPOS64 symbol, which
?S: indicates to the C program that the fgetpos64() routine is available.
?S:.
?S:d_fopen64:
?S: This variable conditionally defines the HAS_FOPEN64 symbol, which
?S: indicates to the C program that the fopen64() routine is available.
?S:.
?S:d_freopen64:
?S: This variable conditionally defines the HAS_FREOPEN64 symbol, which
?S: indicates to the C program that the freopen64() routine is available.
?S:.
?S:d_fseek64:
?S: This variable conditionally defines
 the HAS_FSEEK64 symbol, which
?S: indicates to the C program that the fseek64() routine is available.
?S:.
?S:d_fseeko64:
?S: This variable conditionally defines the HAS_FSEEKO64 symbol, which
?S: indicates to the C program that the fseeko64() routine is available.
?S:.
?S:d_fsetpos64:
?S: This variable conditionally defines the HAS_FSETPOS64 symbol, which
?S: indicates to the C program that the fsetpos64() routine is available.
?S:.
?S:d_ftell64:
?S: This variable conditionally defines the HAS_FTELL64 symbol, which
?S: indicates to the C program that the ftell64() routine is available.
?S:.
?S:d_ftello64:
?S: This variable conditionally defines the HAS_FTELLO64 symbol, which
?S: indicates to the C program that the ftello64() routine is available.
?S:.
?S:d_tmpfile64:
?S: This variable conditionally defines the HAS_TMPFILE64 symbol, which
?S: indicates to the C program that the tmpfile64() routine is available.
?S:.
?C:HAS_FGETPOS64:
?C: This symbol, if defined, indicates that the fgetpos64
 routine is
?C: available to getpos files larger than 2 gigabytes.

?C:.
?C:HAS_FOPEN64:
?C: This symbol, if defined, indicates that the fopen64 routine is
?C: available to open files larger than 2 gigabytes.
?C:.
?C:HAS_FREOPEN64:
?C: This symbol, if defined, indicates that the freopen64 routine is
?C: available to reopen files larger than 2 gigabytes.
?C:.
?C:HAS_FSEEK64:
?C: This symbol, if defined, indicates that the fseek64 routine is
?C: available to seek files larger than 2 gigabytes.
?C:.
?C:HAS_FSEEKO64:
?C: This symbol, if defined, indicates that the fseeko64 routine is
?C: available to seek files larger than 2 gigabytes.
?C:.
?C:HAS_FSETPOS64:
?C: This symbol, if defined, indicates that the fsetpos64 routine is
?C: available to setpos files larger than 2 gigabytes.
?C:.
?C:HAS_FTELL64:
?C: This symbol, if defined, indicates that the ftell64 routine is
?C: available to tell files larger than 2 gigabytes.
?C:.
?C:HAS_FTELLO64:
?C: This symbol, if defined, indicates that the
 ftello64 routine is
?C: available to tell files larger than 2 gigabytes.
?C:.
?C:HAS_TMPFILE64:
?C: This symbol, if defined, indicates that the tmpfile64 routine is
?C: available to tmpfile files larger than 2 gigabytes.
?C:.
?H:#$d_fgetpos64   HAS_FGETPOS64 /**/
?H:#$d_fopen64     HAS_FOPEN64  /**/
?H:#$d_freopen64   HAS_FREOPEN64 /**/
?H:#$d_fseek64     HAS_FSEEK64  /**/
?H:#$d_fseeko64    HAS_FSEEKO64  /**/
?H:#$d_fsetpos64   HAS_FSETPOS64 /**/
?H:#$d_ftell64     HAS_FTELL64  /**/
?H:#$d_ftello64    HAS_FTELLO64  /**/
?H:#$d_tmpfile64   HAS_TMPFILE64 /**/
?H:.
?T:xxx
?LINT:set d_fgetpos64
?LINT:set d_fopen64
?LINT:set d_freopen64

```
?LINT:set d_fseek64
?LINT:set d_fseeko64
?LINT:set d_fsetpos64
?LINT:set d_ftell64
?LINT:set d_ftello64
?LINT:set d_tmpfile64
: Check for 64bit versions of basic file IO
if $test X"$use64bitint" = X"$define"; then
 : see if fgetpos64 exists
 set fgetpos64 d_fgetpos64
 eval $inlibc

 : see if fopen64 exists
 set freopen64 d_fopen64
 eval $inlibc

 : see if
 freopen64 exists
 set freopen64 d_freopen64
 eval $inlibc

 : see if fseek64 exists
 set fseek64 d_fseek64
 eval $inlibc

 : see if fseeko64 exists
 set fseeko64 d_fseeko64
 eval $inlibc

 : see if fsetpos64 exists
 set fsetpos64 d_fsetpos64
 eval $inlibc

 : see if ftell64 exists
 set ftell64 d_ftell64
 eval $inlibc

 : see if ftello64 exists
 set ftello64 d_ftello64
 eval $inlibc

 : see if tmpfile64 exists
 set tmpfile64 d_tmpfile64
 eval $inlibc
else
 val="$undef"
 for xxx in d_fgetpos64 d_fopen64 d_freopen64 d_fseek64 d_fseeko64 d_fsetpos64 d_ftell64 d_ftello64 d_tmpfile64
 do
```

```
  set $xxx
  eval $setvar
 done
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/stdio64.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_posix_sched: Setvar d_sched_getparam d_sched_setparam d_sched_getscheduler d_sched_setscheduler
d_sched_rr_get_interval d_sched_get_priority_min d_sched_get_priority_max i_sched
?MAKE: -pick add $@ %<
?S:d_posix_sched:
?S: This variable conditionally defines the HAS_POSIX_SCHED symbol, which
?S: indicates that the entire POSIX sched_*(2) library is present.
?S:.
?C:HAS_POSIX_SCHED:
?C: This symbol, if defined, indicates that the entire POSIX sched_*(2)
?C: library is supported.
?C:.
?H:#$d_posix_sched HAS_POSIX_SCHED  /**/
?H:.
?LINT:set
 d_posix_sched
: see how much of the 'POSIX sched_*(2)' library is present.
echo " "
case
"$i_sched$d_sched_getparam$d_sched_getscheduler$d_sched_setscheduler$d_sched_rr_get_interval$d_sched_get_
priority_min$d_sched_get_priority_max$d_sched_setparam" in
*"$undef"*) val="$undef" ;;
*) val="$define" ;;
esac
case "$val" in
"$define") echo "You have the full POSIX sched_*(2) library." >&4 ;;
"$undef")  echo "You don't have the full POSIX sched_*(2) library." >&4 ;;
esac
set d_posix_sched
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_posix_sched.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: lex.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:22:50  ram
?RCS: patch36: spurious single quote could cause Configure to crash
?RCS: patch36: (reported by Xavier Le Vourch <xavierl@eiffel.com>.)
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:27:09  ram
?RCS: patch32: added lexflags variable for lex flags setting
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:06:01  ram
?RCS: patch23: added
 trailing blank line for metalint
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lex lexflags: Guess Myread Oldconfig flex test
?MAKE: -pick add $@ %<
?S:lex:
?S: This variable holds the name of the lexical analyser generator we
?S: want to use in the Makefile. It can be lex or flex.
?S:.
?S:lexflags:
?S: This variable holds any flags that should be passed to the lexical
?S: analyzer.  It is up to the Makefile to use it.
?S:.
: determine lexical analyser generator
case "$lex" in
")
 dflt=lex;;
*)
 dflt="$lex";;
```

```
esac
echo " "
if $test -f "$flex"; then
 rp='Which lexical analyser generator (lex or flex) shall I use?'
else
 rp='Which lexical analyser generator shall I use?'
fi
. ./myread
lex="$ans"

@if lexflags
: if using lex this will normally be useless, but flex frequently takes args
echo " "
case "$lexflags" in
") dflt='none';;
*) dflt="$lexflags";;
esac
rp="What flags should be given to $lex?"
. ./myread
case "$ans"
 in
none) lexflags='';;
*) lexflags="$ans";;
esac

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/lex.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_lutimes: Inlibc
?MAKE: -pick add $@ %<
?S:d_lutimes:
?S: This variable conditionally defines the HAS_LUTIMES symbol, which
?S: indicates to the C program that the lutimes() routine is available.
?S:.
?C:HAS_LUTIMES:
?C: This symbol, if defined, indicates that the lutimes routine is
?C: available to change symbolic link timestamps with struct timevals.
?C:.
```

```
?H:#$d_lutimes HAS_LUTIMES  /**/
?H:.
?LINT:set d_lutimes
: see if lutimes exists
set lutimes d_lutimes
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lutimes.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setgrps.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setgrps.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setgrps: Inlibc
?MAKE: -pick add $@ %<
?S:d_setgrps:
?S: This variable conditionally defines the HAS_SETGROUPS symbol, which
?S: indicates to the C program that the setgroups() routine is available
?S: to set the list of process groups.
?S:.
?C:HAS_SETGROUPS:
?C: This symbol, if defined, indicates that the setgroups() routine is
?C: available
 to set the list of process groups.  If unavailable, multiple
?C: groups are probably not supported.
?C:.
?H:#$d_setgrps HAS_SETGROUPS  /**/
?H:.
?LINT:set d_setgrps
: see if setgroups exists
set setgroups d_setgrps
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setgrps.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setpgrp2.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setpgrp2.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:10  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setpgrp2: Inlibc
?MAKE: -pick add $@ %<
?S:d_setpgrp2:
?S: This variable conditionally defines the HAS_SETPGRP2 symbol, which
?S: indicates to the C program that the setpgrp2() (as in DG/UX) routine
?S: is available to set the current process group.
?S:.
?C:HAS_SETPGRP2 (SETPGRP2):
?C: This symbol, if defined, indicates that the
 setpgrp2() (as in DG/UX)
?C: routine is available to set the current process group.
?C:.
?H:#$d_setpgrp2 HAS_SETPGRP2  /**/
?H:.
?LINT:set d_setpgrp2
: see if setpgrp2 exists
set setpgrp2 d_setpgrp2
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setpgrp2.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: lintlib.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.

```
?RCS:
?RCS: $Log: lintlib.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lintlib lintlibexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:lintlib:
?S: This variable holds the name of the directory in which the user wants
?S: to put public lint-library files for the package in question.  It is
?S: most often a local directory such as /usr/local/lib/lint. Programs using
?S: this variable must be prepared to
 deal with ~name expansion.
?S:.
?S:lintlibexp:
?S: This variable is the same as the lintlib variable, but is filename
?S: expanded at configuration time, for convenient use in your makefiles.
?S:.
: determine where public lint libraries go
case "$lintlib" in
") dflt=`./loc . "." /usr/local/lib/lint /usr/lib/lint /usr/lib`;;
*) dflt="$lintlib" ;;
esac
echo " "
fn=d~
rp='Where do you want to put the public lint libraries?'
. ./getfile
lintlib="$ans"
lintlibexp="$ansexp"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/lintlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_lround: Inlibc
?MAKE: -pick add $@ %<
?S:d_lround:
?S: This variable conditionally defines the HAS_LROUND symbol, which
?S: indicates to the C program that the lround() routine is available
?S: to return the integral value nearest to x.
?S:.
?C:HAS_LROUND:
?C: This symbol, if defined, indicates that the lround routine is
?C: available to return the nearest integral value.
?C:.
```

```
?H:#$d_lround HAS_LROUND  /**/
?H:.
?LINT:set d_lround
: see if lround exists
set lround d_lround
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lround.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mboxchar.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mboxchar.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  14:13:12  ram
?RCS: patch56: ensure ctrl-A characters are visible in prompt (WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:11:22  ram
?RCS: patch23: added support for MMDF mailboxes (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:15  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:mboxchar: cat package shsharp Myread Oldconfig
?MAKE: -pick add $@ %<
?S:mboxchar:
?S: This variable
 contains the eventual value of the MBOXCHAR symbol,
?S: which is how a C program can identify a file as a mailbox.
?S:.
?C:MBOXCHAR:
?C: This symbol contains a character which will match the beginning
?C: of a mailbox file.
?C:.
?H:#define MBOXCHAR '$mboxchar'  /**/
?H:.
?T:CTRLA
?INIT:CTRLA=`echo a | tr a '\001'`
: determine how to determine when a file is a mailbox
case "$mboxchar" in
```

") dflt=F;;
?X: The following ^A is two-chars to ensure it will print out -- WED
"$CTRLA") dflt='^A';;
*)  dflt="$mboxchar";;
esac
$cat <<EOM

In saving articles, $package wants to differentiate between saving to
mailbox format files and normal files.  It does this by examining the
first character of the file in question.  On most systems the first line
starts with "From ...", so the first character is an F.  Other systems
use magic cookies like control codes between articles, so one of those
would be first.  For example, MMDF messages are separated with lines of
four control-A's (you may specify one
 as ^A, i.e. caret A).

EOM
rp="What's the first character of a mailbox file?"
. ./myread
mboxchar="$ans"
case "$mboxchar" in
'F') ;;
"$CTRLA") ;;
'^A'|'^a') mboxchar="$CTRLA";;
*)  cat <<'EOM'

You will need to edit the shell script mbox.saver to properly append an
article to a mailbox.  The arguments to the script are documented in
EOM
 case "$shsharp" in
 false) echo "comments in mbox.saver.std.";;
 true) echo "comments in the shell script itself.";;
 esac
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/mboxchar.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.

```
?RCS:
?MAKE:i_netinettcp: Inhdr
?MAKE: -pick add $@ %<
?S:i_netinettcp:
?S:     This variable conditionally defines the I_NETINET_TCP symbol,
?S:     and indicates whether a C program should include <netinet/tcp.h>.
?S:.
?C:I_NETINET_TCP:
?C:     This symbol, if defined, indicates to the C program that it should
?C:     include <netinet/tcp.h>.
?C:.
?H:#$i_netinettcp   I_NETINET_TCP               /**/
?H:.
?LINT:set i_netinettcp
: see if netinet/tcp.h is available
set netinet/tcp.h i_netinettcp
eval $inhdr
```

Found in path(s):

```
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_netinettcp.U
```

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_gdbm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_gdbm.U,v $
?RCS: Revision 3.0.1.1  1995/05/12  12:16:39  ram
?RCS: patch54: made more robust by checking both header and lib (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_gdbm: Inhdr Inlibc Setvar
?MAKE: -pick add $@ %<
?S:i_gdbm (d_gdbm):
?S: This variable conditionally defines the I_GDBM symbol, which
?S: indicates to the C program that <gdbm.h> exists and should
?S: be included.
?S:.
?C:I_GDBM
```

```
 (HAS_GDBM):
?C: This symbol, if defined, indicates that <gdbm.h> exists and should
?C: be included.
?C:.
?H:#$i_gdbm I_GDBM /**/
?H:.
?T:t_gdbm d_gdbm_open
?LINT:set i_gdbm
: see if gdbm.h is available
?X: t_gdbm is a tentative check. We might just have the .h, not the lib -- ADO
set gdbm.h t_gdbm
eval $inhdr
case "$t_gdbm" in
$define)
 : see if gdbm_open exists
 set gdbm_open d_gdbm_open
 eval $inlibc
 case "$d_gdbm_open" in
 $undef)
  t_gdbm="$undef"
  echo "We won't be including <gdbm.h>"
  ;;
 esac
 ;;
esac
val="$t_gdbm"
set i_gdbm
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_gdbm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_killpg.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_killpg.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:27  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_killpg: Inlibc
```

?MAKE: -pick add $@ %<
?S:d_killpg:
?S: This variable conditionally defines the HAS_KILLPG symbol, which
?S: indicates to the C program that the killpg() routine is available
?S: to kill process groups.
?S:.
?C:HAS_KILLPG (KILLPG):
?C: This symbol, if defined, indicates that the killpg routine is available
?C: to kill
 process groups.  If unavailable, you probably should use kill
?C: with a negative process number.
?C:.
?H:#$d_killpg HAS_KILLPG /**/
?H:.
?LINT:set d_killpg
: see if killpg exists
set killpg d_killpg
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_killpg.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml1dir sitehtml1direxp installsitehtml1dir: Getfile \
 Setprefixvar prefix siteprefix html1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml1dir="
?S:sitehtml1dir:
?S: This variable contains the name of the directory in which site-specific
?S: html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl
 has been installed, users may install their own local
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL

```
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml1direxp="
?S:sitehtml1direxp:
?S: This variable is the same as the sitehtml1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml1dir="
?S:installsitehtml1dir:
?S: This variable is really the same as sitehtml1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml1dir
?LINT:set sitehtml1dir
?LINT:set sitehtml1direxp
: determine where add-on html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case "$sitehtml1dir" in
")
   dflt=`echo "$html1dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*)     dflt=$sitehtml1dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific html pages should be installed?'
. ./getfile
prefixvar=sitehtml1dir
. ./setprefixvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitehtml1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sitebin.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
```

```
?RCS:
?RCS: $Log: sitebin.U,v $
?RCS:
?MAKE:sitebin sitebinexp installsitebin : Getfile Oldconfig \
 Setprefixvar siteprefix
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitebin="
?S:sitebin:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question.  It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S: The standard distribution will put nothing
 in this directory.
?S: After perl has been installed, users may install their own local
?S: executables in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitebinexp="
?S:sitebinexp:
?S: This is the same as the sitebin variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installsitebin="
?S:installsitebin:
?S: This variable is usually the same as sitebinexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
?LINT:set installsitebin
?LINT:set sitebin
?LINT:set sitebinexp
: determine where add-on public executables go
case "$sitebin" in
") dflt=$siteprefix/bin ;;
*) dflt=$sitebin ;;
esac
fn=d~
rp='Pathname where the add-on public executables should be installed?'
. ./getfile
prefixvar=sitebin
. ./setprefixvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitebin.U
```

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: prefix.U,v $
?RCS: Revision 3.0.1.2  1995/01/30  14:44:05  ram
?RCS: patch49: new prefixexp variable holding a fully expanded prefix
?RCS: patch49: save off previous prefix value in oldprefix if changed (WED)
?RCS: patch49: added the INSTALLPREFIX define for C programs to use (WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:31:34  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:prefix prefixexp +oldprefix: Getfile Loc Oldconfig
 cat package
?MAKE: -pick add $@ %<
?S:prefix:
?S: This variable holds the name of the directory below which the
?S: user will install the package.  Usually, this is /usr/local, and
?S: executables go in /usr/local/bin, library stuff in /usr/local/lib,
?S: man pages in /usr/local/man, etc.  It is only used to set defaults
?S: for things in bin.U, mansrc.U, privlib.U, or scriptdir.U.
?S:.
?S:prefixexp:
?S: This variable holds the full absolute path of the directory below
?S: which the user will install the package.  Derived from prefix.
?S:.
?S:oldprefix:
?S: This variable is set non-null if the prefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
?C:INSTALLPREFIX:
?C: This symbol contains the name of the install prefix for this package.
?C:.
?H:#define INSTALLPREFIX "$prefix"  /**/
?H:.
: determine root of directory hierarchy where package will be installed.
case "$prefix" in
```

```
")
 dflt=`./loc . /usr/local /usr/local /local /opt
 /usr`
 ;;
*)
 dflt="$prefix"
 ;;
esac
$cat <<EOM

By default, $package will be installed in $dflt/bin, manual
pages under $dflt/man, etc..., i.e. with $dflt as prefix for
all installation directories. Typically set to /usr/local, but you
may choose /usr if you wish to install $package among your system
binaries. If you wish to have binaries under /bin but manual pages
under /usr/local/man, that's ok: you will be prompted separately
for each of the installation directories, the prefix being only used
to set the defaults.

EOM
fn=d~
rp='Installation prefix to use?'
. ./getfile
oldprefix=''
case "$prefix" in
'') ;;
*)
 case "$ans" in
 "$prefix") ;;
 *) oldprefix="$prefix";;
 esac
 ;;
esac
prefix="$ans"
prefixexp="$ansexp"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/prefix.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fchdir: Inlibc
```

?MAKE: -pick add $@ %<
?S:d_fchdir:
?S: This variable conditionally defines the HAS_FCHDIR symbol, which
?S: indicates to the C program that the fchdir() routine is available.
?S:.
?C:HAS_FCHDIR:
?C: This symbol, if defined, indicates that the fchdir routine is
?C: available to change directory using a file descriptor.
?C:.
?H:#$d_fchdir HAS_FCHDIR  /**/
?H:.
?LINT:set d_fchdir
: see if fchdir exists
set fchdir d_fchdir
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fchdir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_bcmp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_bcmp.U,v $
?RCS: Revision 3.0.1.2  1993/10/16  13:47:52  ram
?RCS: patch12: added magic support for bcmp()
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:00:44  ram
?RCS: patch10: now only defines HAS_BCMP, no macro remap on memcmp (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:42  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_bcmp: Inlibc
?MAKE: -pick add $@ %<
?S:d_bcmp:
?S: This variable conditionally defines the HAS_BCMP symbol
 if
?S: the bcmp() routine is available to compare strings.
?S:.
?C:HAS_BCMP:

?C: This symbol is defined if the bcmp() routine is available to
?C: compare blocks of memory.
?C:.
?H:#$d_bcmp HAS_BCMP /**/
?H:.
?M:bcmp: HAS_BCMP
?M:#ifndef HAS_BCMP
?M:#ifndef bcmp
?M:#define bcmp(s,d,l) memcmp((s),(d),(l))
?M:#endif
?M:#endif
?M:.
?LINT:set d_bcmp
: see if bcmp exists
set bcmp d_bcmp
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_bcmp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_open: Inlibc
?MAKE: -pick add $@ %<
?S:d_sem_open:
?S: This variable conditionally defines HAS_SEM_OPEN if sem_open() is
?S: available to open a POSIX semaphore.
?S:.
?C:HAS_SEM_OPEN:
?C: This symbol, if defined, indicates that the sem_open system call is
?C: available to open a POSIX semaphore.
?C:.
?H:#$d_sem_open HAS_SEM_OPEN  /**/
?H:.
?LINT:set d_sem_open
: see if sem_open exists
set sem_open d_sem_open
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_open.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Signal.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:20:01  ram
?RCS: patch61: created
?RCS:
?X:
?X: This unit produces three files:
?X:
?X: 1- A signal.c file, which, when compiled and run, produces an output like:
?X:
?X:   HUP 1
?X:   INT 2
?X:   QUIT 3
?X:   etc...
?X:
?X: 2- A signal.awk script to parse the output of signal.c, fill
?X: in gaps (up to NSIG) and move duplicates to the end.
?X:
?X: 3- A signal_cmd script to compile signal.c and run it
?X: through sort -n -k 2 | uniq | awk -f signal.awk.
?X:
 (we try also sort -n +1 since some old hosts don't grok sort -k)
?X: (This is called signal_cmd to avoid OS/2 confusion with
?X: signal.cmd vs. signal.
?X: The signal_cmd script also falls back on checking signals one at a
?X: time in case the signal.c program fails.  On at least one version of
?X: Linux 2.1.x, the header file #define'd SIGRTMAX to a symbol that
?X: is not defined by the compiler/linker. :-(.  Further, on that same
?X: version of Linux, the user had a defective C-shell that gave an
?X: incorrect list for kill -l, so the fall-back didn't work.
?X:
?X: This unit is then used by sig_name.U.
?X:
?MAKE:Signal: test tr rm awk cat grep startsh eunicefix sed sort uniq \
 Findhdr cppstdin +cppflags cppminus Compile trnl run
```

```
?MAKE: -pick add $@ %<
?X:all files declared as "public" since they're used from other units
?F:signal.c signal_cmd signal.lst signal signal.awk
?T: xx xxx xxxfiles
?LINT:use rm run
: Trace out the files included by signal.h, then look for SIGxxx
 names.
?X: Remove SIGARRAYSIZE used by HPUX.
?X: Remove SIGSTKSIZE used by Linux.
?X: Remove SIGSTKSZ used by Posix.
?X: Remove SIGTYP void lines used by OS2.
?X: Some cpps, like os390, dont give the file name anywhere
if [ "X$fieldn" = X ]; then
 : Just make some guesses.  We check them later.
 xxx='/usr/include/signal.h /usr/include/sys/signal.h'
else
 xxx=`echo '#include <signal.h>' |
 $cppstdin $cppminus $cppflags 2>/dev/null |
 $grep '^[  ]*#.*include' |
 $awk "{print \\$$fieldn}" | $sed 's!"!!g' |\
  $sed 's!\\\\\\\\!/!g' | $sort | $uniq`
fi
?X: Check this list of files to be sure we have parsed the cpp output ok.
?X: This will also avoid potentially non-existent files, such
?X: as ../foo/bar.h
xxxfiles="
?X: Add /dev/null in case the $xxx list is empty.
for xx in $xxx /dev/null ; do
 $test -f "$xx" && xxxfiles="$xxxfiles $xx"
done
?X: If we have found no files, at least try signal.h
case "$xxxfiles" in
") xxxfiles=`./findhdr signal.h` ;;
esac
xxx=`awk '
$1 ~ /^#define$/ &&
 $2 ~ /^SIG[A-Z0-9]*$/ && $2 !~ /SIGARRAYSIZE/ && $2 !~ /SIGSTKSIZE/ && $2 !~ /SIGSTKSZ/ && $3 !~
/void/ {
 print substr($2, 4, 20)
}
$1 == "#" && $2 ~ /^define$/ && $3 ~ /^SIG[A-Z0-9]*$/ && $3 !~ /SIGARRAYSIZE/ && $4 !~ /void/ {
 print substr($3, 4, 20)
}' $xxxfiles`
: Append some common names just in case the awk scan failed.
xxx="$xxx ABRT ALRM BUS CANCEL CHLD CLD CONT DIL EMT FPE"
xxx="$xxx FREEZE HUP ILL INT IO IOT KILL LOST LWP PHONE"
xxx="$xxx PIPE POLL PROF PWR QUIT RTMAX RTMIN SEGV STKFLT STOP"
xxx="$xxx SYS TERM THAW TRAP TSTP TTIN TTOU URG USR1 USR2"
```

```
xxx="$xxx USR3 USR4 VTALRM WAITING WINCH WIND WINDOW XCPU XFSZ"

: generate a few handy files for later
$cat > signal.c <<'EOCP'
#include <sys/types.h>
#include <signal.h>
#include <stdio.h>
int main() {

/* Strange style to avoid deeply-nested #if/#else/#endif */
#ifndef NSIG
#  ifdef _NSIG
#    define NSIG (_NSIG)
#  endif
#endif

#ifndef NSIG
#  ifdef SIGMAX
#    define NSIG (SIGMAX+1)
#  endif
#endif

#ifndef NSIG
#  ifdef SIG_MAX
#
   define NSIG (SIG_MAX+1)
#  endif
#endif

#ifndef NSIG
#  ifdef MAXSIG
#    define NSIG (MAXSIG+1)
#  endif
#endif

#ifndef NSIG
#  ifdef MAX_SIG
#    define NSIG (MAX_SIG+1)
#  endif
#endif

#ifndef NSIG
#  ifdef SIGARRAYSIZE
#    define NSIG (SIGARRAYSIZE+1) /* Not sure of the +1 */
#  endif
#endif

#ifndef NSIG
```

```
#  ifdef _sys_nsig
#    define NSIG (_sys_nsig) /* Solaris 2.5 */
#  endif
#endif

/* Default to some arbitrary number that's big enough to get most
  of the common signals.
*/
#ifndef NSIG
#    define NSIG 50
#endif

printf("NSIG %d\n", NSIG);

#ifndef JUST_NSIG

EOCP

echo $xxx | $tr ' ' $trnl | $sort | $uniq | $awk '
{
 printf "#ifdef SIG"; printf $1; printf "\n"
 printf "printf(\""; printf $1; printf " %%d\\n\",SIG";
 printf $1; printf ");\n"
 printf "#endif\n"
}
END {
 printf "#endif /* JUST_NSIG */\n";
 printf "exit(0);\n}\n";
}
' >>signal.c
$cat >signal.awk <<'EOP'
BEGIN { ndups = 0 }
$1 ~ /^NSIG$/ { nsig = $2 }
($1 !~ /^NSIG$/) && (NF == 2) {
  if ($2 >
 maxsig) { maxsig = $2 }
  if (sig_name[$2]) {
 dup_name[ndups] = $1
 dup_num[ndups] = $2
 ndups++
  }
  else {
 sig_name[$2] = $1
 sig_num[$2] = $2
  }
}
END {
  if (nsig == 0) {
```

```
    nsig = maxsig + 1
   }
   printf("NSIG %d\n", nsig);
   for (n = 1; n < nsig; n++) {
 if (sig_name[n]) {
     printf("%s %d\n", sig_name[n], sig_num[n])
 }
 else {
     printf("NUM%d %d\n", n, n)
 }
   }
   for (n = 0; n < ndups; n++) {
 printf("%s %d\n", dup_name[n], dup_num[n])
   }
}
EOP
$cat >signal_cmd <<EOS
$startsh
if $test -s signal.lst; then
   echo "Using your existing signal.lst file"
 exit 0
fi
xxx="$xxx"
EOS
?X: Avoid variable interpolation problems, especially with
?X: xxx, which contains newlines.
$cat >>signal_cmd <<'EOS'

set signal
if eval $compile_ok; then
 $run ./signal$_exe | ($sort -n -k 2 2>/dev/null || $sort -n +1) |\
  $uniq | $awk -f signal.awk >signal.lst
else
 echo "(I can't seem be able to compile the whole test program)" >&4
 echo "(I'll try it in little
 pieces.)" >&4
 set signal -DJUST_NSIG
 if eval $compile_ok; then
  $run ./signal$_exe > signal.nsg
  $cat signal.nsg
 else
  echo "I can't seem to figure out how many signals you have." >&4
  echo "Guessing 50." >&4
  echo 'NSIG 50' > signal.nsg
 fi
 : Now look at all the signal names, one at a time.
 for xx in `echo $xxx | $tr ' ' $trnl | $sort | $uniq`; do
  $cat > signal.c <<EOCP
```

```
#include <sys/types.h>
#include <signal.h>
#include <stdio.h>
int main() {
printf("$xx %d\n", SIG${xx});
return 0;
}
EOCP
  set signal
  if eval $compile; then
   echo "SIG${xx} found."
   $run ./signal$_exe  >> signal.ls1
  else
   echo "SIG${xx} NOT found."
  fi
 done
 if $test -s signal.ls1; then
  $cat signal.nsg signal.ls1 |
   $sort -n | $uniq | $awk -f signal.awk >signal.lst
 fi

fi
if $test -s signal.lst; then
 :
else
 echo "(AAK! I can't compile the test programs -- Guessing)" >&4
 echo 'kill -l' >signal
 set X `csh -f <signal`
 $rm -f signal
 shift
 case $# in
 0) set HUP INT QUIT ILL TRAP ABRT
 EMT FPE KILL BUS SEGV SYS PIPE ALRM TERM;;
 esac
 echo $@ | $tr ' ' $trnl | \
     $awk '{ printf "%s %d\n", $1, ++s; }
    END { printf "NSIG %d\n", ++s }' >signal.lst
fi
$rm -f signal.c signal$_exe signal$_o signal.nsg signal.ls1
EOS
chmod a+x signal_cmd
$eunicefix signal_cmd
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Signal.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: newsspool.U 1 2006-08-24 12:32:52Z rmanfredi $

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: newsspool.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:newsspool newsspoolexp: Getfile Oldconfig
?MAKE: -pick add $@ %<
?S:newsspool:
?S: This variable contains the eventual value of the NEWSSPOOL symbol,
?S: which is the directory name where news articles are spooled.  It
?S: may have a ~ on the front of it.
?S:.
?S:newsspoolexp:
?S: This is the same as the newsspool variable, but is
 filename expanded
?S: at configuration time, for programs not wanting to deal with it at
?S: run-time.
?S:.
?C:NEWSSPOOL:
?C: This symbol contains the directory name where news articles are
?C: spooled.  The program must be prepared to do ~ expansion on it.
?C:.
?C:NEWSSPOOL_EXP:
?C: This is the same as NEWSSPOOL, but is filename expanded at
?C: configuration time, for use in programs not willing to do so
?C: at run-time.
?C:.
?H:#define NEWSSPOOL "$newsspool" /**/
?H:#define NEWSSPOOL_EXP "$newsspoolexp" /**/
?H:.
: locate news spool directory
case "$newsspool" in
")
 dflt=/usr/spool/news
 ;;
*) dflt="$newsspool";;
esac
echo " "
fn=d~
rp='Where are news spooled?'
```

```
. ./getfile
newsspool="$ans"
newsspoolexp="$ansexp"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/newsspool.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:uidformat: uidsize uidsign ivsize uvsize longsize intsize shortsize \
 ivdformat uvuformat test echo
?MAKE: -pick add $@ %<
?S:uidformat:
?S: This variable contains the format string used for printing a Uid_t.
?S:.
?C:Uid_t_f:
?C: This symbol defines the format string used for printing a Uid_t.
?C:.
?H:#define Uid_t_f  $uidformat  /**/
?H:.
: Check format string for UID
echo " "
$echo "Checking the format string to be used for uids..." >&4

case "$uidsign" in
-1) if $test X"$uidsize" = X"$ivsize"; then
  uidformat="$ivdformat"
 else
  if $test X"$uidsize" = X"$longsize"; then
   uidformat="'ld"'
  else
   if $test X"$uidsize" = X"$intsize"; then
    uidformat="'d"'
   else
    if $test X"$uidsize"
 = X"$shortsize"; then
     uidformat="'hd"'
    fi
   fi
  fi
 fi
 ;;
```

```
*) if $test X"$uidsize" = X"$uvsize"; then
  uidformat="$uvuformat"
 else
  if $test X"$uidsize" = X"$longsize"; then
   uidformat="'lu'"
  else
   if $test X"$uidsize" = X"$intsize"; then
    uidformat="'u'"
   else
    if $test X"$uidsize" = X"$shortsize"; then
     uidformat="'hu'"
    fi
   fi
  fi
 fi
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/uidf.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_regex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Sidney C. Smith <scsmith@cbda9.apgea.army.mil>
?RCS:
?RCS: $Log: i_regex.U,v $
?RCS: Revision 3.0.1.1  1995/01/30  14:35:45  ram
?RCS: patch49: created
?RCS:
?RCS:
?MAKE:i_regex: Inhdr
?MAKE: -pick add $@ %<
?S:i_regex:
?S: This variable conditionally defines the I_REGEX symbol, which
?S: indicates to the C program that <regex.h> exists and should
?S: be included.
?S:.
?C:I_REGEX:
?C: This symbol, if defined, indicates that <regex.h> exists
```

and should
?C: be included.
?C:.
?H:#$i_regex I_REGEX /**/
?H:.
?LINT:set i_regex
: see if regex is available
set regex.h i_regex
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_regex.U
No license file was found, but licenses were detected in source scan.

?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS:
?MAKE:i_fenv: Inhdr
?MAKE: -pick add $@ %<
?S:i_fenv:
?S: This variable conditionally defines the I_FENV symbol, which
?S: indicates to the C program that <fenv.h> exists and should
?S: be included.
?S:.
?C:I_FENV:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <fenv.h> to get the floating point environment definitions.
?C:.
?H:#$i_fenv I_FENV  /**/
?H:.
?LINT:set i_fenv
: see if this is a fenv.h system
set fenv.h i_fenv
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_fenv.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.

```
?RCS:
?RCS: $Log: i_sysun.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:42  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit looks wether <inttypes.h> is available or not
?X:
?MAKE:i_inttypes: Inhdr
?MAKE: -pick add $@ %<
?S:i_inttypes:
?S: This variable conditionally defines I_INTTYPES, which indicates
?S: to the C program that it should include <inttypes.h> to get
?S: format conversions of integer types.
?S:.
?C:I_INTTYPES:
?C: This symbol, if defined, indicates to the C program that it should
?C: include
 <inttypes.h> to get format conversions of integer types.
?C:.
?H:#$i_inttypes I_INTTYPES  /**/
?H:.
?LINT:set i_inttypes
: see if this is a inttypes.h system
set inttypes.h i_inttypes
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_inttypes.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getspnam_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getspnam_r getspnam_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_shadow extern_C
?MAKE: -pick add $@ %<
?S:d_getspnam_r:
?S: This variable conditionally defines the HAS_GETSPNAM_R symbol,
?S: which indicates to the C program that the getspnam_r()
?S: routine is available.
?S:.
?S:getspnam_r_proto:
```

```
?S: This variable encodes the prototype of getspnam_r.
?S: It is zero if d_getspnam_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getspnam_r
?S: is defined.
?S:.
?C:HAS_GETSPNAM_R:
?C: This symbol, if defined, indicates that the getspnam_r routine
?C: is available
 to getspnam re-entrantly.
?C:.
?C:GETSPNAM_R_PROTO:
?C: This symbol encodes the prototype of getspnam_r.
?C: It is zero if d_getspnam_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getspnam_r
?C: is defined.
?C:.
?H:#$d_getspnam_r HAS_GETSPNAM_R    /**/
?H:#define GETSPNAM_R_PROTO $getspnam_r_proto    /**/
?H:.
?T:try hdrs d_getspnam_r_proto
: see if getspnam_r exists
set getspnam_r d_getspnam_r
eval $inlibc
case "$d_getspnam_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_shadow shadow.h"
 case "$d_getspnam_r_proto:$usethreads" in
 ":define") d_getspnam_r_proto=define
  set d_getspnam_r_proto getspnam_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getspnam_r_proto" in
 define)
 case "$getspnam_r_proto" in
 "|0) try='int getspnam_r(const char*, struct spwd*, char*, size_t, struct spwd**);'
 ./protochk "$extern_C $try" $hdrs && getspnam_r_proto=I_CSBWR ;;
 esac
 case "$getspnam_r_proto" in
 "|0) try='struct spwd* getspnam_r(const char*,
 struct spwd*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getspnam_r_proto=S_CSBI ;;
 esac
 case "$getspnam_r_proto" in
 "|0) d_getspnam_r=undef
        getspnam_r_proto=0
  echo "Disabling getspnam_r, cannot determine prototype." >&4 ;;
 * ) case "$getspnam_r_proto" in
```

```
 REENTRANT_PROTO*) ;;
 *) getspnam_r_proto="REENTRANT_PROTO_$getspnam_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "getspnam_r has no prototype, not using it." >&4 ;;
 esac
 d_getspnam_r=undef
 getspnam_r_proto=0
 ;;
esac
;;
*) getspnam_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getspnam_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Init.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:45:59  ram
?RCS: patch44: removed Options from MAKE to prevent Init overrides
?RCS: patch44: option processing now done after Myinit thanks to new Begin.U
?RCS: patch44: moved "Beginning of configuration questions" to Begin.U
?RCS: patch44: moved signal trapping instruction to Begin.U as well
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file initializes certain default variables
 used by Configure.  They
?X: may be overridden or added to by definitions in Myinit.U.
?X:
?MAKE:Init eunicefix _exe: Null
```

```
?MAKE: -pick add $@ %<
?MAKE: -pick weed $@ ./Init
?S:eunicefix:
?S: When running under Eunice this variable contains a command which will
?S: convert a shell script to the proper form of text file for it to be
?S: executable by the shell.  On other systems it is a no-op.
?S:.
?S:_exe (exe_ext):
?S: This variable defines the extension used for executable files.
?S: For unix it is empty.  Other possible values include '.exe'.
?S: DJGPP, Cygwin and OS/2 use '.exe'.  Stratus VOS uses '.pm'.
?S: On operating systems which do not require a specific extension
?S: for executable files, this variable is empty.
?S:.
?V:define undef smallmach:rmlist
?X:
?X: Throughout the units, one may make use of $define and $undef to reference
?X: a defined symbol or an undefined one. There is no need to add them in
?X: the dependency line since this unit makes them visible via ?V:, and
?X:
 everyone inherits from those symbols since by convention Init.U is the
?X: root dependency.
?X:
?T: DJGPP
: Initialize wide constants
define='define'
undef='undef'
smallmach='pdp11 i8086 z8000 i80286 iAPX286'
rmlist=''

: We must find out about Eunice early
eunicefix=':'
if test -f /etc/unixtovms; then
 eunicefix=/etc/unixtovms
fi
if test -f /etc/unixtovms.exe; then
 eunicefix=/etc/unixtovms.exe
fi

: Set executable suffix now -- needed before hints available
if test -f "/libs/version.library"; then
 : Amiga OS
  _exe=""
elif test -f "/system/gnu_library/bin/ar.pm"; then
 : Stratus VOS
 _exe=".pm"
elif test -n "$DJGPP"; then
 : DOS DJGPP
```

```
  _exe=".exe"
elif test -d c:/. ; then
 : OS/2 or cygwin
 _exe=".exe"
else
 : All other UNIX systems
 _exe=""
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_quadmath: Inhdr
?MAKE: -pick add $@ %<
?S:i_quadmath:
?S: This variable conditionally defines I_QUADMATH, which indicates
?S: to the C program that it should include <quadmath.h>.
?S:.
?C:I_QUADMATH:
?C: This symbol, if defined, indicates that <quadmath.h> exists and
?C: should be included.
?C:.
?H:#$i_quadmath I_QUADMATH  /**/
?H:.
?LINT:set i_quadmath
: see if this is a quadmath.h system
set quadmath.h i_quadmath
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_quadmath.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: patchlevel.U,v 3.0.1.1 1997/02/28 16:18:41 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
```

```
?RCS: $Log: patchlevel.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:18:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:patchlevel revision version subversion \
 perl_patchlevel version_patchlevel_string \
 api_revision api_version api_subversion api_versionstring: \
 package test rsrc echo awk osname
?MAKE: -pick
 add $@ %<
?S:revision:
?S: The value of revision comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "5".
?S: In patchlevel.h, this is referred to as "PERL_REVISION".
?S:.
?S:patchlevel:
?S: The patchlevel level of this package.
?S: The value of patchlevel comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "6".
?S: In patchlevel.h, this is referred to as "PERL_VERSION".
?S:.
?S:subversion:
?S: The subversion level of this package.
?S: The value of subversion comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "1".
?S: In patchlevel.h, this is referred to as "PERL_SUBVERSION".
?S: This is unique to perl.
?S:.
?S:version:
?S: The full version number of this package, such as 5.6.1 (or 5_6_1).
?S: This combines revision, patchlevel, and subversion to get the
?S: full version number, including any possible subversions.
?S: This is suitable for use as a directory name, and hence is
?S: filesystem
 dependent.
?S:.
?S:api_revision:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl.  In a full version string
?S: such as '5.6.1', api_revision is the '5'.
?S: Prior to 5.5.640, the format was a floating point number,
?S: like 5.00563.
?S:
?S: perl.c:incpush() and lib/lib.pm will automatically search in
```

?S: $sitelib/.. for older directories back to the limit specified
?S: by these api_ variables.  This is only useful if you have a
?S: perl library directory tree structured like the default one.
?S: See INSTALL for how this works.  The versioned site_perl
?S: directory was introduced in 5.005, so that is the lowest
?S: possible value.  The version list appropriate for the current
?S: system is determined in inc_version_list.U.
?S:
?S: XXX To do:  Since compatibility can depend on compile time
?S: options (such as bincompat, longlong, etc.) it should
?S: (perhaps) be set by
 Configure, but currently it isn't.
?S: Currently, we read a hard-wired value from patchlevel.h.
?S: Perhaps what we ought to do is take the hard-wired value from
?S: patchlevel.h but then modify it if the current Configure
?S: options warrant.  patchlevel.h then would use an #ifdef guard.
?S:.
?S:api_version:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl.  In a full version string
?S: such as '5.6.1', api_version is the '6'.  See api_revision for
?S: full details.  As a special case, 5.5.0 is rendered in the
?S: old-style as 5.005.  (In the 5.005_0x maintenance series,
?S: this was the only versioned directory in $sitelib.)
?S:.
?S:api_subversion:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl.  In a full version string
?S: such as '5.6.1', api_subversion is the
 '1'.  See api_revision for
?S: full details.
?S:.
?S:api_versionstring:
?S: This variable combines api_revision, api_version, and
?S: api_subversion in a format such as 5.6.1 (or 5_6_1) suitable
?S: for use as a directory name.  This is filesystem dependent.
?S:.
?S:perl_patchlevel:
?S: This is the Perl patch level, a numeric change identifier,
?S: as defined by whichever source code maintenance system
?S: is used to maintain the patches; currently Perforce.
?S: It does not correlate with the Perl version numbers or
?S: the maintenance versus development dichotomy except
?S: by also being increasing.
?S:.
?S:version_patchlevel_string:

```
?S: This is a string combining version, subversion and
?S: perl_patchlevel (if perl_patchlevel is non-zero).
?S: It is typically something like
?S: 'version 7 subversion 1'  or
?S: 'version 7 subversion 1 patchlevel 11224'
?S: It is computed here to avoid duplication of code in myconfig.SH
?S: and lib/Config.pm.
?S:.
?LINT:extern LC_ALL
?LINT:extern LANGUAGE
:
 get the patchlevel
echo " "
echo "Getting the current patchlevel..." >&4
if $test -r $rsrc/patchlevel.h;then
 revision=`awk '/define[  ]+PERL_REVISION/ {print $3}' $rsrc/patchlevel.h`
 patchlevel=`awk '/define[  ]+PERL_VERSION/ {print $3}' $rsrc/patchlevel.h`
 subversion=`awk '/define[  ]+PERL_SUBVERSION/ {print $3}' $rsrc/patchlevel.h`
 api_revision=`awk '/define[  ]+PERL_API_REVISION/ {print $3}' $rsrc/patchlevel.h`
 api_version=`awk '/define[  ]+PERL_API_VERSION/ {print $3}' $rsrc/patchlevel.h`
 api_subversion=`awk '/define[  ]+PERL_API_SUBVERSION/ {print $3}' $rsrc/patchlevel.h`
 perl_patchlevel=`egrep ',"(MAINT|SMOKE)[0-9][0-9]*"' $rsrc/patchlevel.h|tail -1|sed 's/[^0-9]//g'`
else
 revision=0
 patchlevel=0
 subversion=0
 api_revision=0
 api_version=0
 api_subversion=0
 perl_patchlevel=0
 $echo "(You do not have patchlevel.h.  Eek.)"
fi
: Define a handy string here to avoid duplication in myconfig.SH and configpm.
version_patchlevel_string="version $patchlevel subversion $subversion"
case
 "$perl_patchlevel" in
0|'') ;;
*)  perl_patchlevel=`echo $perl_patchlevel | sed 's/.* //'`
   version_patchlevel_string="$version_patchlevel_string patch $perl_patchlevel"
   ;;
esac

$echo "(You have $package $version_patchlevel_string.)"

case "$osname" in
dos|vms)
 : XXX Should be a Configure test for double-dots in filenames.
 version=`echo $revision $patchlevel $subversion | \
```

```
  $awk '{ printf "%d_%d_%d", $1, $2, $3 }'`
 api_versionstring=`echo $api_revision $api_version $api_subversion | \
  $awk '{ printf "%d_%d_%d", $1, $2, $3 }'`
 ;;
*)
 version=`echo $revision $patchlevel $subversion | \
  $awk '{ printf "%d.%d.%d", $1, $2, $3 }'`
 api_versionstring=`echo $api_revision $api_version $api_subversion | \
  $awk '{ printf "%d.%d.%d", $1, $2, $3 }'`
 ;;
esac
: Special case the 5.005_xx maintenance series, which used 5.005
: without any subversion label as a subdirectory in $sitelib
if test "${api_revision}${api_version}${api_subversion}" = "550"; then
 api_versionstring='5.005'
fi
```

Found
in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/patchlevel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2004 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_strlcpy: Inlibc
?MAKE: -pick add $@ %<
?S:d_strlcpy:
?S: This variable conditionally defines the HAS_STRLCPY symbol, which
?S: indicates to the C program that the strlcpy () routine is available.
?S:.
?C:HAS_STRLCPY:
?C: This symbol, if defined, indicates that the strlcpy () routine is
?C: available to do string copying.
?C:.
?H:#$d_strlcpy HAS_STRLCPY  /**/
?H:.
?LINT:set d_strlcpy
: see if strlcpy exists
set strlcpy d_strlcpy
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strlcpy.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_varhdr.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_varhdr.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:54:42  ram
?RCS: patch61: varargs script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:21:02  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/13  15:26:05  ram
?RCS: patch27: this unit now supersedes old i_stdarg.U and i_varargs.U
?RCS: patch27: modified to avoid spurious Whoa warnings (ADO)
?RCS:
?RCS: Revision 3.0
?RCS: 1993/08/18  12:08:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_stdarg i_varargs i_varhdr: cat +cc +ccflags rm test Setvar \
Findhdr startsh _o
?MAKE: -pick add $@ %<
?S:i_stdarg:
?S: This variable conditionally defines the I_STDARG symbol, which
?S: indicates to the C program that <stdarg.h> exists and should
?S: be included.
?S:.
?S:i_varargs:
?S: This variable conditionally defines I_VARARGS, which indicates
?S: to the C program that it should include <varargs.h>.
?S:.
?S:i_varhdr:
?S: Contains the name of the header to be included to get va_dcl definition.
?S: Typically one of varargs.h or stdarg.h.
?S:.
?C:I_STDARG:
?C: This symbol, if defined, indicates that <stdarg.h> exists and should
?C: be included.
?C:.
?C:I_VARARGS:

```
?C: This symbol, if defined, indicates to the C program that it should
?C: include <varargs.h>.
?C:.
?H:#$i_stdarg I_STDARG  /**/
?H:#$i_varargs I_VARARGS /**/
?H:.
?W:%<:va_dcl
?F:!varargs
?T:valstd
?LINT:set i_stdarg i_varargs
?X:
?X:
 Don't use setvar because the varargs test below might override these.
?X: Actually, the messages here are just informative. We don't wish to set
?X: i_varargs or i_stdarg to their final value before knowing which of the
?X: two we'll include.
?X:
: see if stdarg is available
echo " "
if $test `./findhdr stdarg.h`; then
 echo "<stdarg.h> found." >&4
 valstd="$define"
else
 echo "<stdarg.h> NOT found." >&4
 valstd="$undef"
fi

: see if varargs is available
echo " "
if $test `./findhdr varargs.h`; then
 echo "<varargs.h> found." >&4
else
 echo "<varargs.h> NOT found, but that's ok (I hope)." >&4
fi

?X:
?X: if you have stdarg.h, you need to support prototypes to actually use it;
?X: but if stdarg.h exists and the compiler doesn't support prototypes (for some
?X: bizarre reason), we'll fall back to varargs.h anyway so it's not so bad.
?X:
: set up the varargs testing programs
$cat > varargs.c <<EOP
#ifdef I_STDARG
#include <stdarg.h>
#endif
#ifdef I_VARARGS
#include <varargs.h>
#endif
```

```
#ifdef
 I_STDARG
int f(char *p, ...)
#else
int f(va_alist)
va_dcl
#endif
{
 va_list ap;
#ifndef I_STDARG
 char *p;
#endif
#ifdef I_STDARG
 va_start(ap,p);
#else
 va_start(ap);
 p = va_arg(ap, char *);
#endif
 va_end(ap);
 return 0;
}
EOP
$cat > varargs <<EOP
$startsh
if $cc -c $ccflags -D\$1 varargs.c >/dev/null 2>&1; then
 echo "true"
else
 echo "false"
fi
$rm -f varargs$_o
EOP
chmod +x varargs

: now check which varargs header should be included
echo " "
i_varhdr="
val="
case "$valstd" in
"$define")
 if `./varargs I_STDARG`; then
  val='stdarg.h'
 elif `./varargs I_VARARGS`; then
  val='varargs.h'
 fi
 ;;
*)
 if `./varargs I_VARARGS`; then
```

```
 val='varargs.h'
 fi
 ;;
esac
case "$val" in
")
 echo " "
 echo "*** WHOA THERE!!! ***" >&4
 echo "    Your C compiler \"$cc\" doesn't seem to support stdarg or varargs!" >&4
 case "$knowitall" in
 ")
 echo "    I'm giving up; maybe you can try again with a different compiler?" >&4
  exit 1
  ;;
 esac
echo "I could not find the definition for va_dcl...
 You have problems..." >&4
 val="$undef"; set i_stdarg; eval $setvar
 val="$undef"; set i_varargs; eval $setvar
 ;;
*)
 set i_varhdr
 eval $setvar
 case "$i_varhdr" in
 stdarg.h)
  val="$define"; set i_stdarg; eval $setvar
  val="$undef"; set i_varargs; eval $setvar
  ;;
 varargs.h)
  val="$undef"; set i_stdarg; eval $setvar
  val="$define"; set i_varargs; eval $setvar
  ;;
 esac
 echo "We'll include <$i_varhdr> to get va_dcl definition." >&4;;
esac
$rm -f varargs*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_varhdr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_strxfrm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_strxfrm.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:12:04  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_strxfrm: Inlibc
?MAKE: -pick add $@ %<
?S:d_strxfrm:
?S: This variable conditionally defines HAS_STRXFRM if strxfrm() is
?S: available to transform strings.
?S:.
?C:HAS_STRXFRM:
?C: This symbol, if defined, indicates that the strxfrm() routine is
?C: available to transform
 strings.
?C:.
?H:#$d_strxfrm HAS_STRXFRM /**/
?H:.
?LINT:set d_strxfrm
: see if strxfrm exists
set strxfrm d_strxfrm
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strxfrm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: lseektype.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:30:10  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:

```
?MAKE:lseektype: Myread Typedef
?MAKE: -pick add $@ %<
?S:lseektype:
?S: This variable defines lseektype to be something like off_t, long,
?S: or whatever type is used to declare lseek offset's type in the
?S: kernel (which also appears to be lseek's return type).
?S:.
?C:Off_t
 (LSEEKTYPE):
?C: This symbol holds the type used to declare offsets in the kernel.
?C: It can be int, long, off_t, etc... It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?H:#define Off_t $lseektype  /* <offset> type */
?H:.
: see what type lseek is declared as in the kernel
set off_t lseektype long stdio.h sys/types.h
eval $typedef
echo " "
dflt="$lseektype"
rp="What type is lseek's offset on this system declared as?"
. ./myread
lseektype="$ans"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/lseektype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: xs_apiversion.U $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: xs_apiversion.U,v $
?RCS:
?MAKE:xs_apiversion pm_apiversion: version
?MAKE: -pick add $@ %<
?S:xs_apiversion:
?S: This variable contains the version of the oldest perl binary
?S: compatible with the present perl.  perl.c:incpush() and
?S: lib/lib.pm will automatically search in $sitearch for older
?S: directories across major versions back to xs_apiversion.
?S: This is only useful if you have a perl library directory tree
```

?S: structured like the default one.
?S: See INSTALL for how this works.
?S: The
 versioned site_perl directory was introduced in 5.005,
?S: so that is the lowest possible value.
?S: Since this can depend on compile time options
?S: it is set by Configure.  Other non-default sources
?S: of potential incompatibility, such as multiplicity, threads,
?S: debugging, 64bits, sfio, etc., are not checked for currently,
?S: though in principle we could go snooping around in old
?S: Config.pm files.
?S:.
?S:pm_apiversion:
?S: This variable contains the version of the oldest perl
?S: compatible with the present perl.  (That is, pure perl modules
?S: written for $pm_apiversion will still work for the current
?S: version).  perl.c:incpush() and lib/lib.pm will automatically
?S: search in $sitelib for older directories across major versions
?S: back to pm_apiversion.  This is only useful if you have a perl
?S: library directory tree structured like the default one.  The
?S: versioned site_perl library was introduced in 5.005, so that's
?S: the default setting for this variable.
  It's hard to imagine
?S: it changing before Perl6.  It is included here for symmetry
?S: with xs_apiveprsion -- the searching algorithms will
?S: (presumably) be similar.
?S: See the INSTALL file for how this works.
?S:.
?C:PERL_XS_APIVERSION:
?C: This variable contains the version of the oldest perl binary
?C: compatible with the present perl.  perl.c:incpush() and
?C: lib/lib.pm will automatically search in $sitearch for older
?C: directories across major versions back to xs_apiversion.
?C: This is only useful if you have a perl library directory tree
?C: structured like the default one.
?C: See INSTALL for how this works.
?C: The versioned site_perl directory was introduced in 5.005,
?C: so that is the lowest possible value.
?C: Since this can depend on compile time options
?C: it is set by Configure.  Other non-default sources
?C: of potential incompatibility, such as multiplicity, threads,
?C: debugging, 64bits, sfio, etc., are not checked for currently,
?C: though in principle
 we could go snooping around in old
?C: Config.pm files.
?C:.
?C:PERL_PM_APIVERSION:
?C: This variable contains the version of the oldest perl

?C: compatible with the present perl.  (That is, pure perl modules
?C: written for pm_apiversion will still work for the current
?C: version).  perl.c:incpush() and lib/lib.pm will automatically
?C: search in $sitelib for older directories across major versions
?C: back to pm_apiversion.  This is only useful if you have a perl
?C: library directory tree structured like the default one.  The
?C: versioned site_perl library was introduced in 5.005, so that's
?C: the default setting for this variable.  It's hard to imagine
?C: it changing before Perl6.  It is included here for symmetry
?C: with xs_apiveprsion -- the searching algorithms will
?C: (presumably) be similar.
?C: See the INSTALL file for how this works.
?C:.
?H:#define PERL_XS_APIVERSION "$xs_apiversion"
?H:#define PERL_PM_APIVERSION "$pm_apiversion"
?H:.
: Find earliest binary compatible
 site_perl subdirectory perl can use.
xs_apiversion=$version # The current site_perl version.
: Find earliest pure perl site_perl subdirectory perl can use.
: The versioned directories started at 5.005.
pm_apiversion='5.005'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/xs_apiversion.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getnetprotos.U,v $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_getnetprotos : Hasproto i_netdb
?MAKE: -pick add $@ %<
?S:d_getnetprotos:
?S: This variable conditionally defines the HAS_GETNET_PROTOS symbol,
?S: which indicates to the C program that <netdb.h> supplies
?S: prototypes for the various getnet*() functions.
?S: See also netdbtype.U for probing for various netdb types.
?S:.
?C:HAS_GETNET_PROTOS:
?C: This symbol, if defined, indicates that <netdb.h> includes
?C: prototypes for getnetent(), getnetbyname(), and

```
?C: getnetbyaddr().  Otherwise,
 it is up to the program to guess
?C: them.  See netdbtype.U for probing for various Netdb_xxx_t types.
?C:.
?H:#$d_getnetprotos HAS_GETNET_PROTOS /**/
?H:.
?LINT:set d_getnetprotos
: see if prototypes for various getnetxxx netdb.h functions are available
echo " "
set d_getnetprotos getnetent $i_netdb netdb.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/d_getnetprotos.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_socks5_init: Inlibc
?MAKE: -pick add $@ %<
?S:d_socks5_init:
?S: This variable conditionally defines the HAS_SOCKS5_INIT symbol, which
?S: indicates to the C program that the socks5_init() routine is available.
?S:.
?C:HAS_SOCKS5_INIT:
?C: This symbol, if defined, indicates that the socks5_init routine is
?C: available to initialize SOCKS 5.
?C:.
?H:#$d_socks5_init HAS_SOCKS5_INIT  /**/
?H:.
?LINT:set d_socks5_init
: see if socks5_init exists
set socks5_init d_socks5_init
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_socks5_init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_syslog.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
```

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_syslog: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_syslog:
?S: This variable conditionally defines the I_SYSLOG symbol,
?S: and indicates whether a C program should include <syslog.h>.
?S:.
?C:I_SYSLOG:
?C: This symbol, if defined, indicates that <syslog.h> exists and
?C: should be included.
?C:.
?H:#$i_syslog I_SYSLOG  /**/
?H:.
?LINT:set i_syslog
: see if this is a syslog.h system
set syslog.h i_syslog
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_syslog.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_strftime: Inlibc
?MAKE: -pick add $@ %<
?S:d_strftime:
?S: This variable conditionally defines the HAS_STRFTIME symbol, which
?S: indicates to the C program that the strftime() routine is available.
?S:.
?C:HAS_STRFTIME:
?C: This symbol, if defined, indicates that the strftime routine is
?C: available to do time formatting.
?C:.
?H:#$d_strftime HAS_STRFTIME  /**/
?H:.
?LINT:set d_strftime
: see if strftime exists
set strftime d_strftime
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strftime.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_gethbynm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_gethbynm.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_gethbyname: Inlibc
?MAKE: -pick add $@ %<
?S:d_gethbyname (d_gethbynm d_gethhstby):
?S: This variable conditionally defines the HAS_GETHOSTBYNAME symbol, which
?S: indicates to the C program that the gethostbyname() routine is available
?S: to look up host names in some data base or other.
?S:.
?C:HAS_GETHOSTBYNAME (GETHOSTBYNAME):
?C: This
 symbol, if defined, indicates that the gethostbyname() routine is
?C: available to look up host names in some data base or other.
?C:.
?H:#$d_gethbyname HAS_GETHOSTBYNAME  /**/
?H:.
?LINT:set d_gethbyname
: see if gethostbyname exists
set gethostbyname d_gethbyname
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_gethbynm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getgrnam_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.

```
?RCS:
?MAKE:d_getgrnam_r getgrnam_r_proto: Inlibc Protochk Hasproto i_systypes \
  usethreads i_grp extern_C
?MAKE: -pick add $@ %<
?S:d_getgrnam_r:
?S: This variable conditionally defines the HAS_GETGRNAM_R symbol,
?S: which indicates to the C program that the getgrnam_r()
?S: routine is available.
?S:.
?S:getgrnam_r_proto:
?S: This variable encodes the prototype of getgrnam_r.
?S: It is zero if d_getgrnam_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getgrnam_r
?S: is defined.
?S:.
?C:HAS_GETGRNAM_R:
?C: This symbol, if defined, indicates that the getgrnam_r routine
?C: is available to
 getgrnam re-entrantly.
?C:.
?C:GETGRNAM_R_PROTO:
?C: This symbol encodes the prototype of getgrnam_r.
?C: It is zero if d_getgrnam_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getgrnam_r
?C: is defined.
?C:.
?H:#$d_getgrnam_r HAS_GETGRNAM_R    /**/
?H:#define GETGRNAM_R_PROTO $getgrnam_r_proto    /**/
?H:.
?T:try hdrs d_getgrnam_r_proto
: see if getgrnam_r exists
set getgrnam_r d_getgrnam_r
eval $inlibc
case "$d_getgrnam_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_grp grp.h"
 case "$d_getgrnam_r_proto:$usethreads" in
 ":define") d_getgrnam_r_proto=define
  set d_getgrnam_r_proto getgrnam_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getgrnam_r_proto" in
 define)
 case "$getgrnam_r_proto" in
 "|0) try='int getgrnam_r(const char*, struct group*, char*, size_t, struct group**);'
 ./protochk "$extern_C $try" $hdrs && getgrnam_r_proto=I_CSBWR ;;
 esac
```

```
 case "$getgrnam_r_proto" in
 "|0) try='int getgrnam_r(const char*, struct group*,
 char*, int, struct group**);'
 ./protochk "$extern_C $try" $hdrs && getgrnam_r_proto=I_CSBIR ;;
 esac
 case "$getgrnam_r_proto" in
 "|0) try='struct group* getgrnam_r(const char*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getgrnam_r_proto=S_CBI ;;
 esac
 case "$getgrnam_r_proto" in
 "|0) try='int getgrnam_r(const char*, struct group*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getgrnam_r_proto=I_CSBI ;;
 esac
 case "$getgrnam_r_proto" in
 "|0) try='struct group* getgrnam_r(const char*, struct group*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getgrnam_r_proto=S_CSBI ;;
 esac
 case "$getgrnam_r_proto" in
 "|0) d_getgrnam_r=undef
        getgrnam_r_proto=0
  echo "Disabling getgrnam_r, cannot determine prototype." >&4 ;;
 * ) case "$getgrnam_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getgrnam_r_proto="REENTRANT_PROTO_$getgrnam_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getgrnam_r has no prototype,
 not using it." >&4 ;;
  esac
  d_getgrnam_r=undef
  getgrnam_r_proto=0
  ;;
 esac
 ;;
*) getgrnam_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getgrnam_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sched_get_priority_min: Inlibc
?MAKE: -pick add $@ %<
?S:d_sched_get_priority_min:
?S: This variable conditionally defines HAS_SCHED_GET_PRIORITY_MIN if
?S: sched_get_priority_min() is available to get the minimum scheduling
?S: priority.
?S:.
?C:HAS_SCHED_GET_PRIORITY_MIN:
?C: This symbol, if defined, indicates that the sched_get_priority_min
?C: system call is available to get the minimum scheduling priority.
?C:.
?H:#$d_sched_get_priority_min HAS_SCHED_GET_PRIORITY_MIN  /**/
?H:.
?LINT:set d_sched_get_priority_min
:
 see if sched_get_priority_min exists
set sched_get_priority_min d_sched_get_priority_min
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sched_gpmin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_posix_shm: Setvar d_shm_open d_shm_unlink i_sysmman
?MAKE: -pick add $@ %<
?S:d_posix_shm:
?S: This variable conditionally defines the HAS_POSIX_SHM symbol, which
?S: indicates that the entire POSIX shm_*(2) library is present.
?S:.
?C:HAS_POSIX_SHM:
?C: This symbol, if defined, indicates that the entire POSIX shm_*(2)
```

```
?C: library is supported.
?C:.
?H:#$d_posix_shm HAS_POSIX_SHM  /**/
?H:.
?LINT:set d_posix_shm
: see how much of the 'POSIX shm_*(2)' library is present.
echo " "
case "$i_sysmman$d_shm_open$d_shm_unlink"
 in
*"$undef"*) val="$undef" ;;
*) val="$define" ;;
esac
case "$val" in
"$define") echo "You have the full POSIX shm_*(2) library." >&4 ;;
"$undef")  echo "You don't have the full POSIX shm_*(2) library." >&4 ;;
esac
set d_posix_shm
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_posix_shm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Thomas Neumann <tom@smart.bo.open.de>
?RCS:
?RCS: $Log: Findhdr.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  15:53:08  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:03:56  ram
?RCS: patch23: cppminus must be after other cppflags, not before
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a findhdr script which is used to locate the header
?X: files
```

```
 in $usrinc or other stranger places using cpp capabilities. The
?X: script is given an include file base name, like 'stdio.h' or 'sys/file.h'
?X: and it returns the full path of the include file and a zero status or an
?X: empty string with an error status if the file could not be located.
?X:
?MAKE:Findhdr: grep test tr rm +usrinc awk cat startsh \
 cppstdin cppminus +cppflags eunicefix osname
?MAKE: -pick add $@ %<
?LINT:define fieldn
?S:fieldn:
?S: This variable is used internally by Configure. It contains the position
?S: of the included file name in cpp output. That is to say, when cpp
?S: pre-processes a #include <file> line, it replaces it by a # line which
?S: contains the original position in the input file and the full name of
?S: included file, between "quotes".
?S:.
?V:fieldn
?F:./findhdr !fieldn
?T:cline pos wanted name awkprg cppfilter testaccess status usrincdir
: determine filename position in cpp output
echo " "
echo "Computing filename position in cpp output for #include
 directives..." >&4
echo '#include <stdio.h>' > foo.c
case "$osname" in
vos)
 testaccess=-e
?X: VOS: path component separator is >
 cppfilter="tr '\\\\>' '/' |"
 ;;
*)
 testaccess=-r
 cppfilter="
 ;;
esac
$cat >fieldn <<EOF
$startsh
$cppstdin $cppflags $cppminus <foo.c 2>/dev/null | \
$grep '^[  ]*#.*stdio\.h' | \
while read cline; do
 pos=1
 set \$cline
 while $test \$# -gt 0; do
  if $test $testaccess \`echo \$1 | $tr -d ""\`; then
   echo "\$pos"
   exit 0
  fi
  shift
```

```
  pos=\`expr \$pos + 1\`
 done
done
EOF
chmod +x fieldn
fieldn=`./fieldn`
$rm -f foo.c fieldn
case $fieldn in
") pos='???';;
1) pos=first;;
2) pos=second;;
3) pos=third;;
*) pos="${fieldn}th";;
esac
echo "Your cpp writes the filename in the $pos field of the line."

?X: To locate a header file, we cannot simply check for $usrinc/file.h, since
?X: some machine have the headers in weird places and our only hope is that
?X: the C pre-processor will know how to find those headers. Thank you NexT!
: locate header file
$cat
 >findhdr <<EOF
$startsh
wanted=\$1
name="
for usrincdir in $usrinc; do
 if test -f \$usrincdir/\$wanted; then
  echo "\$usrincdir/\$wanted"
  exit 0
 fi
done
awkprg='{ print \$$fieldn }'
echo "#include <\$wanted>" > foo\$\$.c
$cppstdin $cppminus $cppflags < foo\$\$.c 2>/dev/null | \
$cppfilter $grep "^[  ]*#.*\$wanted" | \
while read cline; do
 name=\`echo \$cline | $awk "\$awkprg" | $tr -d '"'\`
 case "\$name" in
 *[/\\\\]\$wanted) echo "\$name"; exit 1;;
 *[\\\\/]\$wanted) echo "\$name"; exit 1;;
 *) exit 2;;
 esac
done
?X: status = 0: grep returned 0 lines, case statement not executed
?X: status = 1: headerfile found
?X: status = 2: while loop executed, no headerfile found
status=\$?
$rm -f foo\$\$.c
```

```
if test \$status -eq 1; then
 exit 0
fi
exit 1
EOF
chmod +x findhdr
$eunicefix findhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Findhdr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_system.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_system.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:44  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_system: Inlibc
?MAKE: -pick add $@ %<
?S:d_system:
?S: This variable conditionally defines HAS_SYSTEM if system() is
?S: available to issue a shell command.
?S:.
?C:HAS_SYSTEM (SYSTEM):
?C: This symbol, if defined, indicates that the system routine is
?C: available to issue a shell command.
?C:.
?H:#$d_system HAS_SYSTEM /**/
?H:.
?LINT:set
 d_system
: see if system exists
set system d_system
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_system.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: warnflags.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: warnflags.U,v $
?RCS: Revision 3.0  1993/08/18  12:10:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:warnflags: cat cc contains Myread Guess Oldconfig Findhdr
?MAKE: -pick add $@ %<
?S:warnflags:
?S: This variable contains any additional C compiler flags to generate
?S: warnings from the compiler. It is up to the Makefile to use this.
?S:.
: offer additional
 warning flags for compilation
$cat <<EOH

You may wish to compile with extra compiler warnings enabled.
Note that doing so enhances your chance of receiving your free set of steak
knives, particularly if you find any bugs and report them.
If you don't want extra warnings, answer "none".

EOH
case "$warnflags" in
'') case "$cc" in
 *gcc*)
  dflt="-Wall -Wno-comment"
  if $contains 'fprintf' `./findhdr stdio.h` >/dev/null 2>&1; then
   :
  else
   dflt="$dflt -Wno-implicit"
  fi
  ;;
 *) dflt="none";;
 esac
 ;;
' ') dflt="none";;
*) dflt="$warnflags";;
esac
```

```
rp="Any $cc flags to enable warnings?"
. ./myread
case "$ans" in
none) warnflags=' ';;
*) warnflags="$ans";;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/warnflags.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_fchown.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_fchown.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_fchown: Inlibc
?MAKE: -pick add $@ %<
?S:d_fchown:
?S: This variable conditionally defines the HAS_FCHOWN symbol, which
?S: indicates to the C program that the fchown() routine is available
?S: to change ownership of opened files.
?S:.
?C:HAS_FCHOWN (FCHOWN):
?C: This symbol, if defined, indicates that the fchown routine is available
?C: to
 change ownership of opened files.  If unavailable, use chown().
?C:.
?H:#$d_fchown HAS_FCHOWN  /**/
?H:.
?LINT:set d_fchown
: see if fchown exists
set fchown d_fchown
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_fchown.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_normsig.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_normsig.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:37:03  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:14:48  ram
?RCS: patch36: call ./bsd explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:44  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_normsig jobslib: test Setvar Guess _a
?MAKE: -pick add $@ %<
?S:d_normsig:
?S: This variable conditionally
 defines the NORMSIG symbol, which
?S: indicates to the C program that the normal signal handling routines
?S: should be used, as opposed to the ones in 4.1bsd (sigset, etc.).
?S:.
?S:jobslib:
?S: This variable holds the argument to be passed to the loader to include
?S: the strange signal handling routines from 4.1bsd.  On systems that
?S: have NORMSIG defined this variable is null.
?S:.
?C:NORMSIG:
?C: This symbol, if defined, indicates that normal signal handling routines
?C: should be used, as opposed to the ones in 4.1bsd (sigset, etc.).
?C:.
?H:#$d_normsig NORMSIG  /**/
?H:.
?LINT:set d_normsig
: see if we need -ljobs and if we have sigset, etc.
echo " "
if $test -r /usr/lib/libjobs$_a || $test -r /usr/local/lib/libjobs$_a ; then
 echo "Jobs library found." >&4
 val="$undef"
 jobslib='-ljobs'
```

```
else
 if ./bsd; then
  echo "No jobs library found. (I suppose this is at least 4.2...)" >&4
 else
  echo "No jobs library found. (That's okay, we all have our faults.)" >&4
 fi
 val="$define"
 jobslib="
fi
set
 d_normsig
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_normsig.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_sysconf.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_sysconf.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:15:57  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_sysconf: Inlibc
?MAKE: -pick add $@ %<
?S:d_sysconf:
?S: This variable conditionally defines the HAS_SYSCONF symbol, which
?S: indicates to the C program that the sysconf() routine is available
?S: to determine system related limits and options.
?S:.
?C:HAS_SYSCONF:
?C: This
 symbol, if defined, indicates that sysconf() is available
?C: to determine system related limits and options.
?C:.
?H:#$d_sysconf HAS_SYSCONF /**/
?H:.
?LINT:set d_sysconf
```

```
: see if sysconf exists
set sysconf d_sysconf
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sysconf.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: pager.U,v $
?RCS: Revision 3.0.1.2  1995/01/30  14:41:26  ram
?RCS: patch49: ensure dflt gets initialized in case no pagers are found (WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:27:45  ram
?RCS: patch36: replaced Myread by Getfile in the dependency line
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:30  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:pager: pg more less Getfile Oldconfig
?MAKE: -pick add $@ %<
?S:pager:
?S: This variable contains the name of the preferred pager
 on the system.
?S: Usual values are (the full pathnames of) more, less, pg, or cat.
?S:.
: locate the preferred pager for this system
fn=f/
case "$pager" in
")
 dflt="
 case "$pg" in
 /*) dflt=$pg;;
 [a-zA-Z]:/*) dflt=$pg;;
 esac
 case "$more" in
 /*) dflt=$more;;
 [a-zA-Z]:/*) dflt=$more;;
 esac
```

```
 case "$less" in
 /*) dflt=$less;;
 [a-zA-Z]:/*) dflt=$less;;
 esac
 case "$dflt" in
 '') dflt=/usr/ucb/more;;
 esac
 ;;
*) dflt="$pager"
 ;;
esac
?X: Instruct ./getfile to trust the default pager value,
?X: even if it does not begin with a slash.  For example, on os2,
?X: pager might be cmd /c more.  Also, it might include some options,
?X: such as '/usr/bin/less -R'.  ./getfile would report that
?X: "/usr/bin/less -R" doesn't exist.
?X: See comments in Getfile.U.
fn="f/($dflt)"
echo " "
rp='What pager is used on your system?'
. ./getfile
pager="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/pager.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: stdchar.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:stdchar: contains Findhdr cppstdin cppminus rm
?MAKE: -pick add $@ %<
?S:stdchar:
?S: This variable conditionally defines STDCHAR to be the type of char
?S: used in stdio.h.  It has the values "unsigned char" or "char".
?S:.
?C:STDCHAR:
```

```
?C: This symbol is defined to be the type of char used in stdio.h.
?C: It has the values "unsigned char" or "char".
?C:.
?H:#define STDCHAR $stdchar /**/
?H:.
?F:!stdioh
:
 see what type of char stdio uses.
echo " "
?X: untangle the #include nest
echo '#include <stdio.h>' | $cppstdin $cppminus > stdioh
if $contains 'unsigned.*char.*_ptr;' stdioh >/dev/null 2>&1 ; then
 echo "Your stdio uses unsigned chars." >&4
 stdchar="unsigned char"
else
 echo "Your stdio uses signed chars." >&4
 stdchar="char"
fi
$rm -f stdioh

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/stdchar.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libdbm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libdbm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:56:57  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libdbm: test Loc libpth _a
?MAKE: -pick add $@ %<
?S:libdbm:
?S: This variable contains the argument to pass to the loader in order
?S: to get the dbm library routines.  If there is no dbm or ndbm
?S: library, it is null.
?S:.
```

```
?T:xxx
:
 see if we should include -ldbm
echo " "
if $test -r /usr/lib/libndbm$_a || $test -r /usr/local/lib/libndbm$_a ; then
 echo "-lndbm found." >&4
 libdbm='-lndbm'
elif $test -r /usr/lib/libdbm$_a || $test -r /usr/local/lib/libdbm$_a ; then
 echo "-ldbm found." >&4
 libdbm='-ldbm'
else
 xxx=`./loc libdbm$_a x $libpth`
 case "$xxx" in
 x)
  echo "No dbm library found." >&4
  libdbm=''
  ;;
 *)
  echo "DBM library found in $xxx." >&4
  libdbm="$xxx"
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/libdbm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_lroundl: Inlibc
?MAKE: -pick add $@ %<
?S:d_lroundl:
?S: This variable conditionally defines the HAS_LROUNDL symbol, which
?S: indicates to the C program that the lroundl() routine is available
?S: to return the integral value nearest to x away from zero.
?S:.
?C:HAS_LROUNDL:
?C: This symbol, if defined, indicates that the lroundl routine is
?C: available to return the nearest integral value away from zero of
?C: the long double argument value.
?C:.
?H:#$d_lroundl HAS_LROUNDL  /**/
?H:.
?LINT:set d_lroundl
: see if lroundl exists
set lroundl d_lroundl
```

```
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lroundl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_unlink: Inlibc
?MAKE: -pick add $@ %<
?S:d_sem_unlink:
?S: This variable conditionally defines HAS_SEM_UNLINK if sem_unlink() is
?S: available to unlink a POSIX semaphore.
?S:.
?C:HAS_SEM_UNLINK:
?C: This symbol, if defined, indicates that the sem_unlink system call is
?C: available to unlink a POSIX semaphore.
?C:.
?H:#$d_sem_unlink HAS_SEM_UNLINK  /**/
?H:.
?LINT:set d_sem_unlink
: see if sem_unlink exists
set sem_unlink d_sem_unlink
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_unlink.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysresrc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sysresrc.U,v $
```

?RCS: Revision 3.0  1993/08/18  12:08:34  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Look wether <sys/resource.h> needs to be included
?X:
?MAKE:i_sysresrc: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysresrc:
?S: This variable conditionally defines the I_SYS_RESOURCE symbol,
?S: and indicates whether a C program should include <sys/resource.h>.
?S:.
?C:I_SYS_RESOURCE (I_SYSRESOURCE):
?C: This symbol, if defined, indicates
 to the C program that it should
?C: include <sys/resource.h>.
?C:.
?H:#$i_sysresrc I_SYS_RESOURCE  /**/
?H:.
?LINT:set i_sysresrc
: see if sys/resource.h has to be included
set sys/resource.h i_sysresrc
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysresrc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorman3.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999-2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman3.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman3 vendorman3exp installvendorman3: man3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman3:
?S: This variable contains the name of the directory for man3

```
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman3exp:
?S: This variable is the ~name expanded version of vendorman3, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorman3="
?S:installvendorman3:
?S: This variable is really the same as vendorman3exp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman3
: Set the vendorman3 variables
case "$vendorprefix" in
") vendorman3="
 vendorman3exp="
 ;;
*) : determine where vendor-supplied module manual pages go.
 case "$vendorman3" in
 ") dflt=`echo "$man3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorman3 ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname for the vendor-supplied manual section 3
 pages?'
 . ./getfile
 vendorman3="$ans"
 vendorman3exp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman3" = "X" && vendorman3=' '
prefixvar=vendorman3
. ./installprefix
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorman3.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_chsize.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_chsize.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_chsize: Inlibc
?MAKE: -pick add $@ %<
?S:d_chsize:
?S: This variable conditionally defines the CHSIZE symbol, which
?S: indicates to the C program that the chsize() routine is available
?S: to truncate files.  You might need a -lx to get this routine.
?S:.
?C:HAS_CHSIZE (CHSIZE):
?C: This symbol, if defined, indicates that the chsize
 routine is available
?C: to truncate files.  You might need a -lx to get this routine.
?C:.
?H:#$d_chsize HAS_CHSIZE  /**/
?H:.
?LINT:set d_chsize
: see if chsize exists
set chsize d_chsize
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_chsize.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.

```
?RCS:
?RCS: $Log: d_gethname.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:13:00  ram
?RCS: patch36: call ./xenix explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:11  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_gethname d_uname d_phostname aphostname: phostname cat \
 myhostname package d_portable Loc echo n c +i_whoami +usrinc \
 Myread Guess Oldconfig Csym
?MAKE: -pick add $@ %<
?S:d_gethname:
?S: This variable conditionally defines the HAS_GETHOSTNAME symbol,
 which
?S: indicates to the C program that the gethostname() routine may be
?S: used to derive the host name.
?S:.
?S:d_uname:
?S: This variable conditionally defines the HAS_UNAME symbol, which
?S: indicates to the C program that the uname() routine may be
?S: used to derive the host name.
?S:.
?S:d_phostname:
?S: This variable conditionally defines the PHOSTNAME symbol, which
?S: contains the shell command which, when fed to popen(), may be
?S: used to derive the host name.
?S:.
?S:aphostname:
?S: Thie variable contains the command which can be used to compute the
?S: host name. The command is fully qualified by its absolute path, to make
?S: it safe when used by a process with super-user privileges.
?S:.
?C:HAS_GETHOSTNAME (GETHOSTNAME):
?C: This symbol, if defined, indicates that the C program may use the
?C: gethostname() routine to derive the host name.  See also HAS_UNAME
?C: and PHOSTNAME.
?C:.
?C:HAS_UNAME (UNAME):
?C: This symbol, if defined, indicates that the C program may
 use the
?C: uname() routine to derive the host name.  See also HAS_GETHOSTNAME
?C: and PHOSTNAME.
?C:.
?C:PHOSTNAME:
?C: This symbol, if defined, indicates that the C program may use the
?C: contents of PHOSTNAME as a command to feed to the popen() routine
?C: to derive the host name.  See also HAS_GETHOSTNAME and HAS_UNAME.
```

```
?C: Note that the command uses a fully qualified path, so that it is safe
?C: even if used by a process with super-user privileges.
?C:.
?H:#$d_gethname HAS_GETHOSTNAME /**/
?H:#$d_uname HAS_UNAME  /**/
?H:#$d_phostname PHOSTNAME "$aphostname" /* How to get the host name */
?H:.
?T:file val call
?LINT:change i_whoami
: see how we will look up host name
echo " "
if false; then
 : dummy stub to allow use of elif
@if HAS_GETHOSTNAME
elif set gethostname val -f d_gethname; eval $csym; $val; then
 echo 'gethostname() found.' >&4
 d_gethname="$define"
 call=gethostname
@end
@if HAS_UNAME
elif set uname val -f d_uname; eval $csym; $val; then
 if ./xenix; then
  $cat <<'EOM'
uname()
 was found, but you're running xenix, and older versions of xenix
have a broken uname(). If you don't really know whether your xenix is old
enough to have a broken system call, use the default answer.

EOM
  dflt=y
  case "$d_uname" in
  "$define") dflt=n;;
  esac
  rp='Is your uname() broken?'
  . ./myread
  case "$ans" in
  n*) d_uname="$define"; call=uname;;
  esac
 else
  echo 'uname() found.' >&4
  d_uname="$define"
  call=uname
 fi
@end
fi
case "$d_gethname" in
") d_gethname="$undef";;
esac
```

```
case "$d_uname" in
") d_uname="$undef";;
esac
@if PHOSTNAME || MYHOSTNAME
case "$d_uname$d_gethname" in
*define*)
 dflt=n
 cat <<EOM

Every now and then someone has a $call() that lies about the hostname
but can't be fixed for political or economic reasons.  If you wish, I can
@if MYHOSTNAME && PHOSTNAME
pretend $call() isn't there and maybe compile in the hostname or
compute it from the '$phostname' command at run-time.
@elsif MYHOSTNAME
pretend $call() isn't there and maybe compile
 in the hostname.
@elsif PHOSTNAME
pretend $call() isn't there and maybe compute hostname at run-time
thanks to the '$phostname' command.
@elsif WHOAMI
get the hostname from whomai.h (provided you have one).
@else
simply ignore your host name and use someting like "noname" instead.
@end

EOM
 rp="Shall I ignore $call() from now on?"
 . ./myread
 case "$ans" in
 y*) d_uname="$undef" d_gethname="$undef"; $echo $n "Okay...$c";;
 esac;;
esac
@end
@if PHOSTNAME || aphostname
?X: Compute the full path name for the command
case "$phostname" in
") aphostname=";;
*) case "$aphostname" in
 /*) ;;
 *) set X $phostname
  shift
  file=$1
  shift
  file=`./loc $file $file $pth`
  aphostname=`echo $file $*`
  ;;
 esac
```

```
 ;;
esac
@end
@if PHOSTNAME && MYHOSTNAME
case "$d_uname$d_gethname" in
*define*) ;;
*)
 case "$phostname" in
 '') ;;
 *)
  $cat <<EOT

There is no gethostname() or uname() on this system.  You have two
possibilities at this point:

1)  You can have your host name ($myhostname) compiled
 into $package, which
   lets $package start up faster, but makes your binaries non-portable, or
2)  you can have $package use a

 popen("$aphostname","r")

   which will start slower but be more portable.

@ if WHOAMI
Option 1 will give you the option of using whoami.h if you have one.
@ end
If you want option 2 but with a different command, you can edit config.sh at
the end of this shell script.

EOT
  case "$d_phostname" in
  "$define") dflt=n;;
  "$undef")  dflt=y;;
  '')
   case "$d_portable" in
   "$define") dflt=n ;;
   *) dflt=y ;;
   esac;;
  esac
  rp="Do you want your host name compiled in?"
  . ./myread
  case "$ans" in
  n*) d_phostname="$define" ;;
  *) aphostname=''; d_phostname="$undef";;
  esac;;
 esac
 case "$aphostname" in
```

```
 ")
@ if WHOAMI
  case "$i_whoami" in
  "$define")
   dflt=y
   $cat <<EOM

No hostname function--you can either use the whoami.h file, which has this line:

 `grep sysname $usrinc/whoami.h`

or you can have the name we came up with earlier
 ($myhostname) hardwired in.
EOM
   rp="Use whoami.h to get hostname?"
   . ./myread
   case "$ans" in
   n*) i_whoami="$undef";;
   esac
   ;;
  "$undef")
   $cat <<EOM
No hostname function and no whoami.h -- hardwiring "$myhostname".
EOM
   ;;
  esac;;
@ else
  echo 'No hostname function -- hardwiring "'"$myhostname"'".' >&4;;
@ end
 esac;;
esac
@elsif PHOSTNAME
case "$d_uname$d_gethname" in
*define*) ;;
*)
 case "$phostname" in
 ")
@ if WHOAMI
  case "$i_whoami" in
  "$define")
   $cat <<EOM

No hostname function--we'll use the whoami.h file, which has this line:

 `grep sysname $usrinc/whoami.h`

EOM
   ;;
```

```
  *) echo "There will be no way for $package to get your hostname." >&4;;
  esac;;
@ else
  echo "There will be no way for $package to get your hostname." >&4;;
@ end
 *)
 echo "I'll use 'popen(""""$aphostname"', "r")"" to get your hostname." >&4
  ;;
 esac;;
esac
@elsif MYHOSTNAME
case "$d_uname$d_gethname" in
*define*) ;;
*)
@ if WHOAMI
 case "$i_whoami" in
 "$define")
  dflt=y
  $cat
 <<EOM

No hostname function--you can either use the whoami.h file, which has this line:

 `grep sysname $usrinc/whoami.h`

or you can have the name we came up with earlier ($myhostname) hardwired in.
EOM
  rp="Use whoami.h to get hostname?"
  . ./myread
  case "$ans" in
  n*) i_whoami="$undef";;
  esac
  ;;
 "$undef")
  echo 'No whoami.h--hardwiring "'$myhostname'".' >&4;;
 esac;;
@ else
 echo 'Hardwiring "'$myhostname'".' >&4;;
@ end
esac
@end
case "$d_phostname" in
") d_phostname="$undef";;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_gethname.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_readdir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_readdir.U,v $
?RCS: Revision 3.0.1.1  1994/05/06  14:46:37  ram
?RCS: patch23: added support for seekdir, telldir and rewinddir (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X: Force checking for <dirent.h> inclusion
?X:INC: i_dirent
?MAKE:d_readdir d_seekdir d_telldir d_rewinddir: Inlibc
?MAKE: -pick add $@ %<
?S:d_readdir:
?S: This variable conditionally defines HAS_READDIR if readdir()
 is
?S: available to read directory entries.
?S:.
?C:HAS_READDIR (READDIR):
?C: This symbol, if defined, indicates that the readdir routine is
?C: available to read directory entries. You may have to include
?C: <dirent.h>. See I_DIRENT.
?C:.
?H:#$d_readdir HAS_READDIR  /**/
?H:.
?S:d_seekdir:
?S: This variable conditionally defines HAS_SEEKDIR if seekdir() is
?S: available.
?S:.
?C:HAS_SEEKDIR:
?C: This symbol, if defined, indicates that the seekdir routine is
?C: available. You may have to include <dirent.h>. See I_DIRENT.
?C:.
?H:#$d_seekdir HAS_SEEKDIR  /**/
?H:.
?S:d_telldir:
?S: This variable conditionally defines HAS_TELLDIR if telldir() is
?S: available.

```
?S:.
?C:HAS_TELLDIR:
?C: This symbol, if defined, indicates that the telldir routine is
?C: available. You may have to include <dirent.h>. See I_DIRENT.
?C:.
?H:#$d_telldir HAS_TELLDIR  /**/
?H:.
?S:d_rewinddir:
?S: This variable conditionally defines HAS_REWINDDIR if rewinddir() is
?S: available.
?S:.
?C:HAS_REWINDDIR:
?C: This
 symbol, if defined, indicates that the rewinddir routine is
?C: available. You may have to include <dirent.h>. See I_DIRENT.
?C:.
?H:#$d_rewinddir HAS_REWINDDIR  /**/
?H:.
?LINT:set d_readdir d_seekdir d_telldir d_rewinddir
: see if readdir and friends exist
set readdir d_readdir
eval $inlibc
@if d_seekdir || HAS_SEEKDIR
set seekdir d_seekdir
eval $inlibc
@end
@if d_telldir || HAS_TELLDIR
set telldir d_telldir
eval $inlibc
@end
@if d_rewinddir || HAS_REWINDDIR
set rewinddir d_rewinddir
eval $inlibc
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_readdir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_j0 d_j0l: Inlibc
?MAKE: -pick add $@ %<
?S:d_j0:
?S: This variable conditionally defines the HAS_J0 symbol, which
?S: indicates to the C program that the j0() routine is available.
?S:.
```

```
?S:d_j0l:
?S: This variable conditionally defines the HAS_J0L symbol, which
?S: indicates to the C program that the j0l() routine is available.
?S:.
?C:HAS_J0:
?C: This symbol, if defined, indicates to the C program that the
?C: j0() function is available for Bessel functions of the first
?C: kind of the order zero, for doubles.
?C:.
?C:HAS_J0L:
?C: This symbol, if defined, indicates to the C program that the
?C: j0l() function is available for Bessel functions of the first
?C: kind of the order zero, for long doubles.
?C:.
?H:#$d_j0 HAS_J0  /**/
?H:#$d_j0l HAS_J0L  /**/
?H:.
?LINT:set
 d_j0
?LINT:set d_j0l
: see if j0 exists
set j0 d_j0
eval $inlibc

: see if j0l exists
set j0l d_j0l
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_j0.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Inhdr.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Inhdr.U,v $
?RCS: Revision 3.0.1.2  1995/05/12  12:01:31  ram
?RCS: patch54: deleted tabs that caused some /bin/sh to core dump (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:55:01  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks wether a set of header files exists or not.
?X: If the first header is not
 found, the function tries to locate
?X: the next header, and so on, until one is found or there is no
?X: more header in the list.
?X:
?X: To use it, say:
?X: set header i_header [ header2 i_header2 ... ]
?X: eval $inhdr
?X:
?MAKE:Inhdr: test Findhdr Whoa
?MAKE: -pick add $@ %<
?LINT:define inhdr
?V:inhdr
?S:inhdr:
?S: This shell variable is used internally by Configure to check
?S: wether a set of headers exist or not. A typical use is:
?S:  set header i_header [ header2 i_header2 ... ]
?S:  eval $inhdr
?S: That will print a message, saying wether header was found or
?S: not and set i_header* accordingly. If the first header is not
?S: found, we try the next one, until the list is empty or one is found.
?S:.
?T:xxx xxf var td xxnf tu yyy instead was cont
: define an alternate in-header-list? function
inhdr='echo " "; td=$define; tu=$undef; yyy=$@;
cont=true; xxf="echo \"<\$1> found.\" >&4";
case $# in 2) xxnf="echo \"<\$1> NOT found.\" >&4";;
*) xxnf="echo \"<\$1> NOT found, ...\" >&4";;
esac;
case
 $# in 4) instead=instead;; *) instead="at last";; esac;
while $test "$cont"; do
 xxx=`./findhdr $1`
 var=$2; eval "was=\$$2";
 if $test "$xxx" && $test -r "$xxx";
 then eval $xxf;
?X: Next line shifted left 1 tabstop to avoid sh core dump on MachTen 2.1.1.
 eval "case \"\$$var\" in $undef) . ./whoa; esac"; eval "$var=\$td";
  cont="";
 else eval $xxnf;
?X: Likewise, the next line has been shifted left 1 tabstop -- ADO, 08/03/95
 eval "case \"\$$var\" in $define) . ./whoa; esac"; eval "$var=\$tu"; fi;
```

```
 set $yyy; shift; shift; yyy=$@;
 case $# in 0) cont="";;
 2) xxf="echo \"but I found <\$1> $instead.\" >&4";
  xxnf="echo \"and I did not find <\$1> either.\" >&4";;
 *) xxf="echo \"but I found <\$1\> instead.\" >&4";
  xxnf="echo \"there is no <\$1>, ...\" >&4";;
 esac;
done;
?X: Remaining values are set to 'undef'
while $test "$yyy";
do set $yyy; var=$2; eval "was=\$$2";
 eval "case \"\$$var\" in $define) . ./whoa; esac"; eval "$var=\$tu";
 set $yyy; shift; shift; yyy=$@;
done'

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Inhdr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: perl5.U,v $
?RCS:
?RCS: Copyright (c) 2000 Andrew Dougherty
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: perl5.U,v $
?RCS:
?X:
?X: The purpose of this unit is to locate a previously installed
?X: version of perl5 suitable for running inc_version_list.U.
?X: We check for 5.005 and later because inc_version_list is
?X: irrelevant for earlier versions.
?X:
?MAKE:perl5: path_sep binexp test sed exe_ext
?MAKE: -pick add $@ %<
?Y:TOP
?S:perl5:
?S: This variable contains the full path (if any) to a previously
?S: installed perl5.005 or later suitable for running the script
?S: to determine inc_version_list.
?S:.
?T: tdir
: Find perl5.005 or later.
echo "Looking for a previously installed perl5.005 or later... "
case "$perl5" in
'') for tdir in `echo "$binexp$path_sep$PATH" | $sed "s/$path_sep/
```

```
/g"`; do
 : Check if this perl is recent and can load a simple module
 if $test -x $tdir/perl$exe_ext && $tdir/perl -Mless -e 'use 5.005;' >/dev/null 2>&1; then
  perl5=$tdir/perl
  break;
 elif $test -x $tdir/perl5$exe_ext && $tdir/perl5 -Mless -e 'use 5.005;' >/dev/null 2>&1; then
  perl5=$tdir/perl5
  break;
 fi
done
;;
*) perl5="$perl5"
;;
esac
case "$perl5" in
") echo "None found.  That's ok.";;
*) echo "Using $perl5." ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/perl5.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: manfmt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: manfmt.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  16:11:57  ram
?RCS: patch61: don't ask for AFS when they choose to not install pages
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:16:52  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:39:20  ram
?RCS: patch49: new installmanfmt and AFS-lookup for formatted man pages
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS:
 Revision 3.0.1.2  1994/08/29  16:30:31  ram
?RCS: patch32: now uses installation prefix for default setting
?RCS:
```

```
?RCS: Revision 3.0.1.1  1993/09/13  16:09:22  ram
?RCS: patch10: allows for L1 man page extension (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:manfmt manfmtexp installmanfmt: Getfile Loc Oldconfig cat manext \
 spackage Prefixit prefixexp Prefixup afs test
?MAKE: -pick add $@ %<
?Y:TOP
?S:manfmt:
?S: This variable contains the name of the directory in which formatted
?S: manual pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command. Note
?S: that you may have to do ~name substitution. Use manfmtexp otherwise.
?S:.
?S:manfmtexp:
?S: This is the same as the manfmt variable, but is filename expanded
?S: at configuration time, for programs not willing to deal with it at
?S: run-time.
?S:.
?S:installmanfmt:
?S: This variable is really
 the same as manfmtexp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: mansrcexp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change manext
?T:lookpath
: determine where manual pages go
set manfmt manfmt
eval $prefixit
$cat <<EOM

$spackage has pre-formatted manual pages.  If you don't want these installed,
answer 'none' to the next question.

EOM
case "$manfmt" in
")
 lookpath="$prefixexp/catman/man1 $prefixexp/man/cat1"
 lookpath="$lookpath $prefixexp/catman/u_man/man1"
 lookpath="$lookpath $prefixexp/catman/l_man/man1"
 lookpath="$lookpath $prefixexp/catman/cat1 /usr/catman/local/man1"
 lookpath="$lookpath /usr/catman/manl /usr/man/cat1"
 lookpath="$lookpath /usr/catman/mann /usr/catman/l_man/man1"
 lookpath="$lookpath /usr/catman/u_man/man1 /usr/catman/man1"
```

```
 dflt=`./loc . none $lookpath`
 set dflt
 eval $prefixup
 ;;
*)  dflt="$manfmt"
 ;;
esac
fn=dn~
rp='Where
 do pre-formatted manual pages go?'
. ./getfile
if test "X$manfmtexp" != "X$ansexp"; then
 installmanfmt="
fi
manfmt="$ans"
manfmtexp="$ansexp"
if $afs && $test "$manfmt"; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installmanfmt" in
 '') dflt=`echo $manfmtexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installmanfmt";;
 esac
 fn=de~
 rp='Where will pre-formatted man pages be installed?'
 . ./getfile
 installmanfmt="$ans"
else
 installmanfmt="$manfmtexp"
fi

case "$manfmt" in
'') manext='0';;
*l) manext=l;;
*n) manext=n;;
*o) manext=l;;
*p) manext=n;;
*C) manext=C;;
*L) manext=L;;
*L1) manext=L1;;
*) manext=1;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/manfmt.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:fflushNULL fflushall: Compile cat rm rm_try test osname run to from \
 Oldconfig Myread Setvar echo targethost \
 d_sysconf i_unistd d_stdio_stream_array stdio_stream_array i_stdlib
?MAKE: -pick add $@ %<
?S:fflushNULL:
?S: This symbol, if defined, tells that fflush(NULL) correctly
?S: flushes all pending stdio output without side effects. In
?S: particular, on some platforms calling fflush(NULL) *still*
?S: corrupts STDIN if it is a pipe.
?S:.
?S:fflushall:
?S: This symbol, if defined, tells that to flush
?S: all
 pending stdio output one must loop through all
?S: the stdio file handles stored in an array and fflush them.
?S: Note that if fflushNULL is defined, fflushall will not
?S: even be probed for and will be left undefined.
?S:.
?C:FFLUSH_NULL:
?C: This symbol, if defined, tells that fflush(NULL) correctly
?C: flushes all pending stdio output without side effects. In
?C: particular, on some platforms calling fflush(NULL) *still*
?C: corrupts STDIN if it is a pipe.
?C:.
?C:FFLUSH_ALL:
?C: This symbol, if defined, tells that to flush
?C: all pending stdio output one must loop through all
?C: the stdio file handles stored in an array and fflush them.
?C: Note that if fflushNULL is defined, fflushall will not
?C: even be probed for and will be left undefined.
?C:.
?H:#$fflushNULL FFLUSH_NULL   /**/
?H:#$fflushall FFLUSH_ALL   /**/
?H:.

```
?T:output code
?F:!try.out !try !tryp
: Check how to flush
echo " "
$cat >&4 <<EOM
Checking how to flush all pending stdio output...
EOM
# I only know how to find
 the first 32 possibly open files on SunOS.
# See also hints/sunos_4_1.sh and util.c  --AD
case "$osname" in
sunos) $echo '#define PERL_FFLUSH_ALL_FOPEN_MAX 32' > try.c ;;
esac
$cat >>try.c <<EOCP
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#$i_unistd I_UNISTD
#ifdef I_UNISTD
# include <unistd.h>
#endif
#$d_sysconf HAS_SYSCONF
#$d_stdio_stream_array HAS_STDIO_STREAM_ARRAY
#ifdef HAS_STDIO_STREAM_ARRAY
# define STDIO_STREAM_ARRAY $stdio_stream_array
#endif
int main() {
 FILE* p;
 unlink("try.out");
 p = fopen("try.out", "w");
#ifdef TRY_FPUTC
 fputc('x', p);
#else
# ifdef TRY_FPRINTF
 fprintf(p, "x");
# endif
#endif
#ifdef TRY_FFLUSH_NULL
 fflush(NULL);
#endif
#ifdef TRY_FFLUSH_ALL
 {
   long open_max = -1;
# ifdef PERL_FFLUSH_ALL_FOPEN_MAX
   open_max = PERL_FFLUSH_ALL_FOPEN_MAX;
# else
```

```
#  if defined(HAS_SYSCONF) && defined(_SC_OPEN_MAX)
   open_max = sysconf(_SC_OPEN_MAX);
#  else
#   ifdef FOPEN_MAX
   open_max = FOPEN_MAX;
#   else
#
    ifdef OPEN_MAX
   open_max = OPEN_MAX;
#    else
#     ifdef _NFILE
   open_max = _NFILE;
#     endif
#    endif
#   endif
#  endif
# endif
# ifdef HAS_STDIO_STREAM_ARRAY
   if (open_max > 0) {
     long i;
     for (i = 0; i < open_max; i++)
     if (STDIO_STREAM_ARRAY[i]._file >= 0 &&
  STDIO_STREAM_ARRAY[i]._file < open_max &&
  STDIO_STREAM_ARRAY[i]._flag)
  fflush(&STDIO_STREAM_ARRAY[i]);
   }
 }
# endif
#endif
 _exit(42);
}
EOCP
: first we have to find out how _not_ to flush
$to try.c
if $test "X$fflushNULL" = X -o "X$fflushall" = X; then
   output="
   set try -DTRY_FPUTC
   if eval $compile; then
     $run ./try 2>/dev/null
     code="$?"
     $from try.out
     if $test ! -s try.out -a "X$code" = X42; then
  output=-DTRY_FPUTC
     fi
   fi
   case "$output" in
   ")
     set try -DTRY_FPRINTF
```

```
    if eval $compile; then
     $run ./try 2>/dev/null
     code="$?"
     $from try.out
     if $test ! -s try.out -a "X$code" = X42; then
  output=-DTRY_FPRINTF

   fi
    fi
;;
  esac
fi
: check for fflush NULL behavior
case "$fflushNULL" in
")  set try -DTRY_FFLUSH_NULL $output
 if eval $compile; then
  $run ./try 2>/dev/null
  code="$?"
  $from try.out
  if $test -s try.out -a "X$code" = X42; then
   fflushNULL="`$cat try.out`"
  else
   if $test "X$code" != X42; then
    $cat >&4 <<EOM
(If this test failed, don't worry, we'll try another method shortly.)
EOM
   fi
  fi
 fi
 $rm -f core try.core core.try.*
 case "$fflushNULL" in
 x) $cat >&4 <<EOM
Your fflush(NULL) works okay for output streams.
Let's see if it clobbers input pipes...
EOM
# As of mid-March 2000 all versions of Solaris appear to have a stdio
# bug that improperly flushes the input end of pipes.  So we avoid the
# autoflush on fork/system/exec support for now. :-(
$cat >tryp.c <<EOCP
#include <stdio.h>
int
main(int argc, char **argv)
{
   char buf[1024];
   int i;
   char *bp = buf;
   while (1) {
 while ((i = getc(stdin)) != -1
```

```
       && (*bp++ = i) != '\n'

      && bp < &buf[1024])
 /* DO NOTHING */ ;
 *bp = '\0';
 fprintf(stdout, "%s", buf);
 fflush(NULL);
 if (i == -1)
    return 0;
 bp = buf;
  }
}
EOCP
 fflushNULL="$define"
 set tryp
 if eval $compile; then
    $rm -f tryp.out
    # Copy the .c file to the remote host ($to is an ssh-alike if targethost is set)
    if $test "X$targethost" != X; then
  $to tryp.c
  $to tryp
  $run "cat tryp.c | ./tryp " 2>/dev/null > tryp.out
    else
  $cat tryp.c | $run ./tryp   2>/dev/null > tryp.out
    fi
    if cmp tryp.c tryp.out >/dev/null 2>&1; then
      $cat >&4 <<EOM
fflush(NULL) seems to behave okay with input streams.
EOM
  fflushNULL="$define"
    else
  $cat >&4 <<EOM
Ouch, fflush(NULL) clobbers input pipes!  We will not use it.
EOM
  fflushNULL="$undef"
    fi
 fi
 $rm -f core tryp.c tryp.core core.tryp.*
 ;;
") $cat >&4 <<EOM
Your fflush(NULL) isn't working (contrary to ANSI C).
EOM
 fflushNULL="$undef"
 ;;
*) $cat >&4 <<EOM
Cannot figure out whether
 your fflush(NULL) works or not.
I'm assuming it doesn't (contrary to ANSI C).
```

```
EOM
  fflushNULL="$undef"
  ;;
 esac
 ;;
$define|true|[yY]*)
 fflushNULL="$define"
 ;;
*)
 fflushNULL="$undef"
 ;;
esac
: check explicit looping only if NULL did not work, and if the pipe
: bug does not show up on an explicit flush too
case "$fflushNULL" in
"$undef")
 $cat >tryp.c <<EOCP
#include <stdio.h>
int
main(int argc, char **argv)
{
   char buf[1024];
   int i;
   char *bp = buf;
   while (1) {
 while ((i = getc(stdin)) != -1
        && (*bp++ = i) != '\n'
        && bp < &buf[1024])
 /* DO NOTHING */ ;
 *bp = '\0';
 fprintf(stdout, "%s", buf);
 fflush(stdin);
 if (i == -1)
     return 0;
 bp = buf;
   }
}
EOCP
 set tryp
 if eval $compile; then
     $rm -f tryp.out
     if $test "X$targethost" != X; then
  $to tryp.c
  $to tryp
  $run "cat tryp.c | ./tryp " 2>/dev/null > tryp.out
     else
  $cat tryp.c | $run ./tryp   2>/dev/null > tryp.out
     fi
```

```
    if cmp tryp.c tryp.out >/dev/null 2>&1;
 then
        $cat >&4 <<EOM
Good, at least fflush(stdin) seems to behave okay when stdin is a pipe.
EOM
  : now check for fflushall behaviour
  case "$fflushall" in
  '')  set try -DTRY_FFLUSH_ALL $output
   if eval $compile; then
    $cat >&4 <<EOM
(Now testing the other method--but note that this also may fail.)
EOM
    $run ./try 2>/dev/null
    code=$?
    $from try.out
    if $test -s try.out -a "X$code" = X42; then
     fflushall="`$cat try.out`"
    fi
   fi
   $rm_try
   case "$fflushall" in
   x) $cat >&4 <<EOM
Whew. Flushing explicitly all the stdio streams works.
EOM
    fflushall="$define"
    ;;
   ") $cat >&4 <<EOM
Sigh. Flushing explicitly all the stdio streams doesn't work.
EOM
    fflushall="$undef"
    ;;
   *) $cat >&4 <<EOM
Cannot figure out whether flushing stdio streams explicitly works or not.
I'm assuming it doesn't.
EOM
    fflushall="$undef"
    ;;
   esac
   ;;
  "$define"|true|[yY]*)
   fflushall="$define"
   ;;
  *)
   fflushall="$undef"
   ;;
  esac
```

```
   else
 $cat >&4 <<EOM
All is futile.  Even fflush(stdin) clobbers input pipes!
EOM
 fflushall="$undef"
    fi
 else
    fflushall="$undef"
 fi
 $rm -f core tryp.c tryp.core core.tryp.*
 ;;
*) fflushall="$undef"
 ;;
esac

case "$fflushNULL$fflushall" in
undefundef)
 $cat <<EOM
OK, I give up.  I cannot figure out how to flush pending stdio output.
We won't be flushing handles at all before fork/exec/popen.
EOM
 ;;
esac
$rm_try tryp

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/fflushall.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_ulimit.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_ulimit: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_ulimit:
?S: This variable conditionally defines the I_ULIMIT symbol, and indicates
?S: whether a C program should include <ulimit.h>.
?S:.
?C:I_ULIMIT:
?C: This symbol, if defined, indicates that <ulimit.h> exists and
?C: should be included.
?C:.
?H:#$i_ulimit I_ULIMIT  /**/
?H:.
```

```
?LINT:set i_ulimit
: see if this is a ulimit.h system
set ulimit.h i_ulimit
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_ulimit.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_atoll: Inlibc
?MAKE: -pick add $@ %<
?S:d_atoll:
?S: This variable conditionally defines the HAS_ATOLL symbol, which
?S: indicates to the C program that the atoll() routine is available.
?S:.
?C:HAS_ATOLL:
?C: This symbol, if defined, indicates that the atoll routine is
?C: available to convert strings into long longs.
?C:.
?H:#$d_atoll HAS_ATOLL  /**/
?H:.
?LINT:set d_atoll
: see if atoll exists
set atoll d_atoll
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/atoll.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_close: Inlibc
```

?MAKE: -pick add $@ %<
?S:d_sem_close:
?S: This variable conditionally defines HAS_SEM_CLOSE if sem_close() is
?S: available to close a POSIX semaphore.
?S:.
?C:HAS_SEM_CLOSE:
?C: This symbol, if defined, indicates that the sem_close system call is
?C: available to close a POSIX semaphore.
?C:.
?H:#$d_sem_close HAS_SEM_CLOSE  /**/
?H:.
?LINT:set d_sem_close
: see if sem_close exists
set sem_close d_sem_close
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_close.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_dirent.U,v $
?RCS: Revision 3.0.1.4  1994/10/29  16:20:01  ram
?RCS: patch36: failed scanning for 'd_namlen' with missing <dirent.h> (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:01:25  ram
?RCS: patch30: added direntrytype for hints, merely for NeXT (ADO)
?RCS: patch30: now checks for both struct dirent and direct (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:22:37  ram
?RCS: patch27: new variable direntrytype for proper type setting (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24
 14:11:15  ram
?RCS: patch16: added new Direntry_t pseudo-type for directory entries
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:

```
?X:
?X: This unit looks whether there is a dirent system or not
?X:
?MAKE:i_dirent d_dirnamlen direntrytype: test contains Setvar \
 Myread Findhdr cppstdin cppflags cppminus rm_try
?MAKE: -pick add $@ %<
?S:i_dirent:
?S: This variable conditionally defines I_DIRENT, which indicates
?S: to the C program that it should include <dirent.h>.
?S:.
?S:d_dirnamlen:
?S: This variable conditionally defines DIRNAMLEN, which indicates
?S: to the C program that the length of directory entry names is
?S: provided by a d_namelen field.
?S:.
?S:direntrytype:
?S: This symbol is set to 'struct direct' or 'struct dirent' depending on
?S: whether dirent is available or not. You should use this pseudo type to
?S: portably declare your directory entries.
?S:.
?C:I_DIRENT:
?C: This symbol, if defined, indicates to the C program
 that it should
?C: include <dirent.h>. Using this symbol also triggers the definition
?C: of the Direntry_t define which ends up being 'struct dirent' or
?C: 'struct direct' depending on the availability of <dirent.h>.
?C:.
?C:DIRNAMLEN:
?C: This symbol, if defined, indicates to the C program that the length
?C: of directory entry names is provided by a d_namlen field.  Otherwise
?C: you need to do strlen() on the d_name field.
?C:.
?C:Direntry_t:
?C: This symbol is set to 'struct direct' or 'struct dirent' depending on
?C: whether dirent is available or not. You should use this pseudo type to
?C: portably declare your directory entries.
?C:.
?H:#$i_dirent I_DIRENT  /**/
?H:#$d_dirnamlen DIRNAMLEN /**/
?H:?%<:@if I_DIRENT && Direntry_t
?H:?%<:#define Direntry_t $direntrytype
?H:?%<:@end
?H:.
?T:xinc guess1 guess2
?LINT:set i_dirent d_dirnamlen
: see if this is a dirent system
echo " "
if xinc=`./findhdr dirent.h`; $test "$xinc"; then
```

```
 val="$define"
 echo "<dirent.h> found." >&4
else
 val="$undef"
 if
 xinc=`./findhdr sys/dir.h`; $test "$xinc"; then
  echo "<sys/dir.h> found." >&4
  echo " "
 else
  xinc=`./findhdr sys/ndir.h`
 fi
 echo "<dirent.h> NOT found." >&4
fi
set i_dirent
eval $setvar

?X: Use struct dirent or struct direct?   If we're using dirent.h,
?X: it's probably struct dirent, but apparently not always.
?X: Assume $xinc still contains the name of the header file we're using.
@if direntrytype || Direntry_t
: Look for type of directory structure.
echo " "
$cppstdin $cppflags $cppminus < "$xinc" > try.c

case "$direntrytype" in
"|' ')
 case "$i_dirent" in
 $define) guess1='struct dirent' ;;
 *) guess1='struct direct'  ;;
 esac
 ;;
*) guess1="$direntrytype"
 ;;
esac

case "$guess1" in
'struct dirent') guess2='struct direct' ;;
*) guess2='struct dirent' ;;
esac

if $contains "$guess1" try.c >/dev/null 2>&1; then
 direntrytype="$guess1"
 echo "Your directory entries are $direntrytype." >&4
elif $contains "$guess2" try.c >/dev/null 2>&1; then
 direntrytype="$guess2"
 echo
 "Your directory entries seem to be $direntrytype." >&4
else
```

```
 echo "I don't recognize your system's directory entries." >&4
 rp="What type is used for directory entries on this system?"
 dflt="$guess1"
 . ./myread
 direntrytype="$ans"
fi
$rm_try

@end

@if d_dirnamlen || DIRNAMLEN
: see if the directory entry stores field length
echo " "
$cppstdin $cppflags $cppminus < "$xinc" > try.c
if $contains 'd_namlen' try.c >/dev/null 2>&1; then
 echo "Good, your directory entry keeps length information in d_namlen." >&4
 val="$define"
else
 echo "Your directory entry does not know about the d_namlen field." >&4
 val="$undef"
fi
set d_dirnamlen
eval $setvar
$rm_try

@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_dirent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_ustat.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_ustat: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_ustat:
?S: This variable conditionally defines the I_USTAT symbol, and indicates
?S: whether a C program should include <ustat.h>.
?S:.
?C:I_USTAT:
?C: This symbol, if defined, indicates that <ustat.h> exists and
?C: should be included.
?C:.
```

?H:#$i_ustat I_USTAT  /**/
?H:.
?LINT:set i_ustat
: see if this is a ustat.h system
set ustat.h i_ustat
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_ustat.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_semget.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_semget.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_semget: Inlibc
?MAKE: -pick add $@ %<
?S:d_semget:
?S: This variable conditionally defines the HAS_SEMGET symbol, which
?S: indicates to the C program that the semget() routine is available.
?S:.
?C:HAS_SEMGET:
?C: This symbol, if defined, indicates that the semget() routine is
?C: available to get a set of semaphores.
?C:.
?H:#$d_semget
 HAS_SEMGET /**/
?H:.
?LINT:set d_semget
: see if semget exists
set semget d_semget
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_semget.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_shmctl.U 1 2006-08-24 12:32:52Z rmanfredi $

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_shmctl.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_shmctl: Inlibc
?MAKE: -pick add $@ %<
?S:d_shmctl:
?S: This variable conditionally defines the HAS_SHMCTL symbol, which
?S: indicates to the C program that the shmctl() routine is available.
?S:.
?C:HAS_SHMCTL:
?C: This symbol, if defined, indicates that the shmctl() routine is
?C: available to perform shared memory control operations.
?C:.
?H:#$d_shmctl
 HAS_SHMCTL  /**/
?H:.
?LINT:set d_shmctl
: see if shmctl exists
set shmctl d_shmctl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_shmctl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_rdchk.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_rdchk.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:51  ram
?RCS: Baseline for dist 3.0 netwide release.
```

```
?RCS:
?MAKE:d_rdchk: Inlibc
?MAKE: -pick add $@ %<
?S:d_rdchk:
?S: This variable conditionally defines the HAS_RDCHK symbol, which
?S: indicates to the C program that the rdchk() routine is available
?S: to find out if there is input pending on an IO channel.
?S:.
?C:HAS_RDCHK (RDCHK):
?C: This symbol, if defined, indicates that the rdchk routine
 is available
?C: to find out if there is input pending on an IO channel.  Generally
?C: the routine is used only if FIONREAD and O_NDELAY aren't available.
?C:.
?H:#$d_rdchk HAS_RDCHK  /**/
?H:.
?LINT:set d_rdchk
: see if rdchk exists
set rdchk d_rdchk
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_rdchk.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysstatvfs.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysstatvfs: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sysstatvfs:
?S: This variable conditionally defines the I_SYSSTATVFS symbol,
?S: and indicates whether a C program should include <sys/statvfs.h>.
?S:.
?C:I_SYS_STATVFS:
?C: This symbol, if defined, indicates that <sys/statvfs.h> exists and
?C: should be included.
?C:.
?H:#$i_sysstatvfs I_SYS_STATVFS  /**/
?H:.
?LINT:set i_sysstatvfs
: see if this is a sys/statvfs.h system
set sys/statvfs.h i_sysstatvfs
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sysstatvfs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman3dir siteman3direxp installsiteman3dir: Getfile \
 Setprefixvar prefix siteprefix man3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman3dir=''
?S:siteman3dir:
?S: This variable contains the name of the directory in which site-specific
?S: library man source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After
 perl has been installed, users may install their own local
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman3direxp=''
?S:siteman3direxp:
?S: This variable is the same as the siteman3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsiteman3dir=''
?S:installsiteman3dir:
?S: This variable is really the same as siteman3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman3dir
?LINT:set siteman3dir
?LINT:set siteman3direxp

```
: determine where add-on library man pages go
case "$siteman3dir" in
") dflt=`echo $man3dir | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman3dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname
 where the site-specific library manual pages should be installed?'
. ./getfile
prefixvar=siteman3dir
. ./setprefixvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/siteman3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Begin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Begin.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  14:56:35  ram
?RCS: patch61: added Extractall dependency
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:25:08  ram
?RCS: patch49: avoid an empty rmlist: systems might choke on it (WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/31  09:32:20  ram
?RCS: patch44: created
?RCS:
?X:
?X: This file comes after option processing had been done and after all
?X: the default values have been set up. It marks the beginning
 of questions.
?X: It is important that Options be listed *after* Myinit to ensure that the
?X: default initializations performed by Init and Myinit will not clobber
?X: any setting done on the command line via -D or -U.
?X:
?MAKE:Begin: Myinit Options package Extractall
```

```
?MAKE: -pick add $@ %<
: Eunice requires " " instead of "", can you believe it
echo " "
: Here we go...
echo "Beginning of configuration questions for $package."

?X: Make sure the rm below is given a non-empty list for some systems.
?X: This is run only when within the UU directory, hence we can safely
?X: attempt to rm a non-existent 'X' file...
trap 'echo " "; test -d ../UU && rm -rf X $rmlist; exit 1' 1 2 3 15
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Begin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: pkgsrc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:pkgsrc: src rsrc
?MAKE: -pick add $@ %<
?S:pkgsrc:
?S: This variable holds the absolute path of the package source.
?S:.
?C:PACKAGE_SOURCE_DIR:
?C: Holds the directory name holding the package source.
?C:.
?H:#define PACKAGE_SOURCE_DIR "$pkgsrc"
?H:.
: define absolute package source directory
case "$src" in
/*) pkgsrc=$src;;
*) pkgsrc=`cd $rsrc; pwd`;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/pkgsrc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_iconv.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
```

?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_iconv: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_iconv:
?S: This variable conditionally defines the I_ICONV symbol, and indicates
?S: whether a C program should include <iconv.h>.
?S:.
?C:I_ICONV:
?C: This symbol, if defined, indicates that <iconv.h> exists and
?C: should be included.
?C:.
?H:#$i_iconv I_ICONV  /**/
?H:.
?LINT:set i_iconv
: see if this is a iconv.h system
set iconv.h i_iconv
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_iconv.U
No license file was found, but licenses were detected in source scan.

?RCS: Copyright (c) 2016 Dagfinn Ilmari Mannsker & H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_siginfo_si_errno d_siginfo_si_pid d_siginfo_si_uid d_siginfo_si_addr d_siginfo_si_status
d_siginfo_si_band d_siginfo_si_value d_siginfo_si_fd: d_sigaction pidtype uidtype Hasfield_t
?MAKE: -pick add $@ %<
?S:d_siginfo_si_errno:
?S: This variable conditionally defines the HAS_SIGINFO_SI_ERRNO symbol,
?S: which indicates that the siginfo_t struct has the si_errno member.
?S:.
?S:d_siginfo_si_pid:
?S: This variable conditionally defines the HAS_SIGINFO_SI_PID symbol,
?S: which indicates that the siginfo_t struct has the si_pid member.
?S:.
?S:d_siginfo_si_uid:
?S: This variable conditionally defines the HAS_SIGINFO_SI_UID symbol,
?S: which indicates that the siginfo_t struct has the si_uid member.
?S:.
?S:d_siginfo_si_addr:
?S: This

variable conditionally defines the HAS_SIGINFO_SI_ADDR symbol,
?S: which indicates that the siginfo_t struct has the si_addr member.
?S:.
?S:d_siginfo_si_status:
?S: This variable conditionally defines the HAS_SIGINFO_SI_STATUS symbol,
?S: which indicates that the siginfo_t struct has the si_status member.
?S:.
?S:d_siginfo_si_band:
?S: This variable conditionally defines the HAS_SIGINFO_SI_BAND symbol,
?S: which indicates that the siginfo_t struct has the si_band member.
?S:.
?S:d_siginfo_si_value:
?S: This variable conditionally defines the HAS_SIGINFO_SI_VALUE symbol,
?S: which indicates that the siginfo_t struct has the si_value member.
?S:.
?S:d_siginfo_si_fd:
?S: This variable conditionally defines the HAS_SIGINFO_SI_FD symbol,
?S: which indicates that the siginfo_t struct has the si_fd member.
?S:.
?C:HAS_SIGINFO_SI_ERRNO:
?C: This symbol, if defined, indicates that siginfo_t has the
?C: si_errno member
?C:.
?C:HAS_SIGINFO_SI_PID:
?C: This
symbol, if defined, indicates that siginfo_t has the
?C: si_pid member
?C:.
?C:HAS_SIGINFO_SI_UID:
?C: This symbol, if defined, indicates that siginfo_t has the
?C: si_uid member
?C:.
?C:HAS_SIGINFO_SI_ADDR:
?C: This symbol, if defined, indicates that siginfo_t has the
?C: si_addr member
?C:.
?C:HAS_SIGINFO_SI_STATUS:
?C: This symbol, if defined, indicates that siginfo_t has the
?C: si_status member
?C:.
?C:HAS_SIGINFO_SI_BAND:
?C: This symbol, if defined, indicates that siginfo_t has the
?C: si_band member
?C:.
?C:HAS_SIGINFO_SI_VALUE:
?C: This symbol, if defined, indicates that siginfo_t has the
?C: si_value member
?C:.

```
?C:HAS_SIGINFO_SI_FD:
?C: This symbol, if defined, indicates that siginfo_t has the
?C: si_fd member
?C:.
?H:#$d_siginfo_si_errno HAS_SIGINFO_SI_ERRNO /**/
?H:#$d_siginfo_si_pid HAS_SIGINFO_SI_PID /**/
?H:#$d_siginfo_si_uid HAS_SIGINFO_SI_UID /**/
?H:#$d_siginfo_si_addr HAS_SIGINFO_SI_ADDR /**/
?H:#$d_siginfo_si_status HAS_SIGINFO_SI_STATUS /**/
?H:#$d_siginfo_si_band HAS_SIGINFO_SI_BAND /**/
?H:#$d_siginfo_si_value HAS_SIGINFO_SI_VALUE /**/
?H:#$d_siginfo_si_fd HAS_SIGINFO_SI_FD /**/
?H:.
:
 see what siginfo fields we have
case "$d_sigaction" in
"$define")
 echo "Checking if your siginfo_t has si_errno field..."">&4
 set d_siginfo_si_errno siginfo_t int si_errno $d_sigaction signal.h
 eval $hasfield_t;

 echo "Checking if your siginfo_t has si_pid field..."">&4
 set d_siginfo_si_pid siginfo_t $pidtype si_pid $d_sigaction signal.h
 eval $hasfield_t;

 echo "Checking if your siginfo_t has si_uid field..."">&4
 set d_siginfo_si_uid siginfo_t $uidtype si_uid $d_sigaction signal.h
 eval $hasfield_t;

 echo "Checking if your siginfo_t has si_addr field..."">&4
 set d_siginfo_si_addr siginfo_t "void *" si_addr $d_sigaction signal.h
 eval $hasfield_t;

 echo "Checking if your siginfo_t has si_status field..."">&4
 set d_siginfo_si_status siginfo_t int si_status $d_sigaction signal.h
 eval $hasfield_t;

 echo "Checking if your siginfo_t has si_band field..."">&4
 set
 d_siginfo_si_band siginfo_t long si_band $d_sigaction signal.h
 eval $hasfield_t;

 echo "Checking if your siginfo_t has si_value field..."">&4
 set d_siginfo_si_value siginfo_t "union sigval" si_value $d_sigaction signal.h
 eval $hasfield_t;

 echo "Checking if your siginfo_t has si_fd field..."">&4
 set d_siginfo_si_fd siginfo_t int si_fd $d_sigaction signal.h
```

```
 eval $hasfield_t;

 ;;
*)
 d_siginfo_si_errno="$undef"
 d_siginfo_si_pid="$undef"
 d_siginfo_si_uid="$undef"
 d_siginfo_si_addr="$undef"
 d_siginfo_si_status="$undef"
 d_siginfo_si_band="$undef"
 d_siginfo_si_value="$undef"
 d_siginfo_si_fd="$undef"
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_siginfo_si.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysutsname.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysutsname: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sysutsname:
?S: This variable conditionally defines the I_SYSUTSNAME symbol,
?S: and indicates whether a C program should include <sys/utsname.h>.
?S:.
?C:I_SYSUTSNAME:
?C: This symbol, if defined, indicates that <sys/utsname.h> exists and
?C: should be included.
?C:.
?H:#$i_sysutsname I_SYSUTSNAME  /**/
?H:.
?LINT:set i_sysutsname
: see if this is a sys/utsname.h system
set sys/utsname.h i_sysutsname
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sysutsname.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 1996, Chip Salzenberg
```

```
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:bincompat3 d_bincompat3: Oldconfig Myread Setvar cat \
 patchlevel subversion
?MAKE: -pick add $@ %<
?Y:TOP
?S:bincompat3:
?S: This variable contains y if Perl 5.004 should be binary-compatible
?S: with Perl 5.003.
?S:.
?S:d_bincompat3:
?S: This variable conditionally defines BINCOMPAT3 so that embed.h
?S: can take special action if Perl 5.004 should be binary-compatible
?S: with Perl 5.003.  This is impossible for 5.004_50 and later, so
?S: it is always $undef for those versions.
?S:.
?C:BINCOMPAT3:
?C: This symbol, if defined, indicates that Perl 5.004 should be
?C: binary-compatible with Perl 5.003.  This is impossible for
?C: 5.004_50 and later, so it is always undefined for those versions.
?C:.
?H:#$d_bincompat3
 BINCOMPAT3   /**/
?H:.
: Binary compatibility with 5.003 is not possible with 5.004_50 and later.
if test $patchlevel -gt 4 -o $subversion -ge 50; then
   d_bincompat3=$undef
else
 $cat <<EOM

Perl 5.004 can be compiled for binary compatibility with 5.003.
If you decide to do so, you will be able to continue using any
extensions that were compiled for Perl 5.003.  However, binary
compatibility forces Perl to expose some of its internal symbols
in the same way that 5.003 did.  So you may have symbol conflicts
if you embed a binary-compatible Perl in other programs.

EOM
 case "$d_bincompat3" in
 "$undef") dflt=n ;;
 *) dflt=y ;;
 esac
 rp='Binary compatibility with Perl 5.003?'
 . ./myread
 case "$ans" in
 y*) val="$define" ;;
```

```
 *)  val="$undef" ;;
 esac
 set d_bincompat3
 eval $setvar
 case "$d_bincompat3" in
 "$define") bincompat3=y ;;
 *) bincompat3=n ;;
 esac
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/bincompat3.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_shmdt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_shmdt.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_shmdt: Inlibc
?MAKE: -pick add $@ %<
?S:d_shmdt:
?S: This variable conditionally defines the HAS_SHMDT symbol, which
?S: indicates to the C program that the shmdt() routine is available.
?S:.
?C:HAS_SHMDT:
?C: This symbol, if defined, indicates that the shmdt() routine is
?C: available to detach a shared memory segment from the process
 space.
?C:.
?H:#$d_shmdt HAS_SHMDT  /**/
?H:.
?LINT:set d_shmdt
: see if shmdt exists
set shmdt d_shmdt
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_shmdt.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_getprpwnam: Inlibc
?MAKE: -pick add $@ %<
?S:d_getprpwnam:
?S: This variable conditionally defines HAS_GETPRPWNAM if getprpwnam() is
?S: available to retrieve protected (shadow) password entries by name.
?S:.
?C:HAS_GETPRPWNAM:
?C: This symbol, if defined, indicates that the getprpwnam system call is
?C: available to retrieve protected (shadow) password entries by name.
?C:.
?H:#$d_getprpwnam HAS_GETPRPWNAM  /**/
?H:.
?LINT:set d_getprpwnam
: see if getprpwnam exists
set getprpwnam d_getprpwnam
eval $inlibc

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getprpwnam.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: usecbacktrace.U,v $
?RCS:
?RCS: Copyright (c) 2014 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: usecbacktrace.U,v $
?RCS:
?MAKE:usecbacktrace: Myread Oldconfig Setvar Getfile d_backtrace
?MAKE: -pick add $@ %<
?Y:TOP
?S:usecbacktrace:
?S: This variable indicates whether we are compiling with backtrace

```
?S: support.
?S:.
?C:USE_CBACKTRACE:
?C: This symbol, if defined, indicates that Perl should
?C: be built with support for backtrace.
?C:.
?H:#$usecbacktrace USE_CBACKTRACE  /**/
?H:.
?LINT:extern ccflags
?LINT:change ccflags
: add flags if using c backtrace
case "$usecbacktrace" in
 "") usecbacktrace=$undef ;;
 [yY]*|true|$define)
   case "$d_backtrace" in
     [yY]*|true|$define)
       case " $ccflags " in
   *" -DUSE_C_BACKTRACE "*) ;; # Already there.
   *) ccflags="$ccflags
 -DUSE_C_BACKTRACE -g" ;;
   esac
      ;;
     *)
       echo "This system does not support backtrace" >&4
       usecbacktrace=$undef
       ;;
     esac
   ;;
 esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/usebacktrace.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setnent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_setnent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

?MAKE:d_setnent: Inlibc
?MAKE: -pick add $@ %<
?S:d_setnent:
?S: This variable conditionally defines HAS_SETNETENT if setnetent() is
?S: available.
?S:.
?C:HAS_SETNETENT:
?C: This symbol, if defined, indicates that the setnetent() routine is
?C: available.
?C:.
?H:#$d_setnent HAS_SETNETENT  /**/
?H:.
?LINT:set d_setnent
: see if setnetent exists
set
 setnetent d_setnent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_setnent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: orgname.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: orgname.U,v $
?RCS: Revision 3.0.1.1  1993/09/13  16:10:25  ram
?RCS: patch10: added support for /local/src to the search (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:27  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:orgname: sed cat Myread Loc Oldconfig
?MAKE: -pick add $@ %<
?S:orgname:
?S: This variable contains the eventual value of the ORGNAME symbol,
?S: which contains either the organizaton name or the full pathname
?S: of
 a file containing the organization name.
?S:.
?C:ORGNAME:

```
?C: This symbol contains either the organizaton name or the full pathname
?C: of a file containing the organization name, which the program must
?C: be prepared to open and substitute the contents of.
?C:.
?H:#define ORGNAME "$orgname"  /**/
?H:.
?T:longshots xxx
: get organization name
longshots='/local/src /usr/src/new /usr/src/local /usr/local/src'
case "$orgname" in
") if xxx=`./loc news/src/defs.h x $longshots`; then
  dflt=`$sed -n 's/^.*MYORG[  ]*"\(.*\)".*$/\1/p' $xxx`
 else
  dflt="
 fi
 ;;
*)  dflt="$orgname";;
esac
$cat << 'EOH'

Please type the name of your organization as you want it to appear on the
Organization line of outgoing articles.  (It's nice if this also specifies
your location.  Your city name is probably sufficient if well known.)
For example:

   University of Southern North Dakota, Hoople

You may also put the name of a file, as long as it begins with a slash.
For example:

   /etc/organization

EOH
orgname=""
while
 test "X$orgname" = "X"; do
 rp='Organization:'
 . ./myread
 orgname="$ans"
done

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/orgname.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: longsize.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: longsize.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:09:35  ram
?RCS: patch61: code moved to intsize.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:24:31  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: 'longsize' is now defined within intsize.U
?X:
?LINT: empty

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/longsize.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libpth.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:08:49  ram
?RCS: patch61: new loclibpth variable
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:31:30  ram
?RCS: patch45: call ./mips instead of just mips (WED)
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:29:15  ram
?RCS: patch32: added /lib/pa1.1 for HP-UX specially tuned PA-RISC libs (ADO)
?RCS: patch32: fixed information message, making it clearer (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:03:54  ram

?RCS: patch30: added /usr/shlib to
 glibpth for shared-only libraries
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:26:57  ram
?RCS: patch27: fixed a typo (libpth -> glibpth)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:07:53  ram
?RCS: patch23: now asks for library directories to be searched (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit initializes the path for C library lookup.
?X:
?MAKE:libpth glibpth xlibpth plibpth loclibpth: \
 usrinc incpath test cat Myread Oldconfig
?MAKE: -pick add $@ %<
?S:libpth:
?S: This variable holds the general path (space-separated) used to find
?S: libraries. It is intended to be used by other units.
?S:.
?S:glibpth:
?S: This variable holds the general path (space-separated) used to
?S: find libraries.  It may contain directories that do not exist on
?S: this platform, libpth is the cleaned-up version.
?S:.
?S:xlibpth:
?S: This variable holds extra path (space-separated) used to find
?S: libraries on this platform,
 for example CPU-specific libraries
?S: (on multi-CPU platforms) may be listed here.
?S:.
?S:loclibpth:
?S: This variable holds the paths (space-separated) used to find local
?S: libraries.  It is prepended to libpth, and is intended to be easily
?S: set from the command line.
?S:.
?S:plibpth:
?S: Holds the private path used by Configure to find out the libraries.
?S: Its value is prepend to libpth. This variable takes care of special
?S: machines, like the mips.  Usually, it should be empty.
?S:.
?T: xxx dlist
?LINT:use usrinc
?INIT:: change the next line if compiling for Xenix/286 on Xenix/386
?INIT:xlibpth='/usr/lib/386 /lib/386'
?INIT:: Possible local library directories to search.

```
?INIT:loclibpth="/usr/local/lib /opt/local/lib /usr/gnu/lib"
?INIT:loclibpth="$loclibpth /opt/gnu/lib /usr/GNU/lib /opt/GNU/lib"
?INIT:
?INIT:: general looking path for locating libraries
?INIT:glibpth="/lib /usr/lib $xlibpth"
?INIT:glibpth="$glibpth /usr/ccs/lib /usr/ucblib /usr/local/lib"
?X: /shlib
 is for Digital Unix 4.0
?X: /usr/shlib is for OSF/1 systems.
?INIT:test -f /usr/shlib/libc.so && glibpth="/usr/shlib $glibpth"
?INIT:test -f /shlib/libc.so     && glibpth="/shlib $glibpth"
?INIT:
?INIT:: Private path used by Configure to find libraries.  Its value
?INIT:: is prepended to libpth. This variable takes care of special
?INIT:: machines, like the mips.  Usually, it should be empty.
?INIT:plibpth="
?INIT:
: Set private lib path
case "$plibpth" in
") if ./mips; then
?X: on mips, we DO NOT want /lib, and we want $incpath/usr/lib
  plibpth="$incpath/usr/lib /usr/local/lib /usr/ccs/lib"
 fi;;
esac
case "$libpth" in
' ') dlist=";;
") dlist="$loclibpth $plibpth $glibpth";;
*) dlist="$libpth";;
esac

: Now check and see which directories actually exist, avoiding duplicates
libpth="
for xxx in $dlist
do
   if $test -d $xxx; then
  case " $libpth " in
  *" $xxx "*) ;;
  *) libpth="$libpth $xxx";;
  esac
   fi
done
$cat <<'EOM'

Some systems have incompatible or broken versions
 of libraries.  Among
the directories listed in the question below, please remove any you
know not to be holding relevant libraries, and add any that are needed.
Say "none" for none.
```

```
EOM
case "$libpth" in
') dflt='none';;
*)
?X: strip leading space
 set X $libpth
 shift
 dflt=${1+"$@"}
 ;;
esac
rp="Directories to use for library searches?"
. ./myread
case "$ans" in
none) libpth=' ';;
*) libpth="$ans";;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/libpth.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Myinit.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:47:29  ram
?RCS: patch44: leading comment states this unit comes before option processing
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: If you want to initialize any default values, copy this unit to your
?X: personal U directory and add the assignments to the end.  This file
?X: is included after variables are initialized but before any old
?X: config.sh file is read in and before
 any Configure switch processing.
?X:
?MAKE:Myinit: Init
?MAKE: -pick add $@ %<
```

```
?LINT: nocomment

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Myinit.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: End.U,v 3.0 1993/08/18 12:04:51 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: End.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit serves as the goal which forces make to choose all the units that
?X: ask questions.  The $W on the ?MAKE: line is the list of all symbols wanted.
?X: To force any unit to be included, copy this unit to your private U directory
?X: and add the name of the unit desired to the ?MAKE: dependency line.
?X:
?MAKE:End perllibs: $W cppstdin gzip zip
 libs usedl osname osvers
?MAKE: -pick add $@ %<
?S:perllibs:
?S: The list of libraries needed by Perl only (any libraries needed
?S: by extensions only will by dropped, if using dynamic loading).
?S:.
?INIT:perllibs="
?LINT:use $W
?LINT:use gzip zip
?LINT:change cppstdin
: Remove libraries needed only for extensions
: The appropriate ext/Foo/Makefile.PL will add them back in, if necessary.
: The exception is SunOS 4.x, which needs them.
case "${osname}X${osvers}" in
sunos*X4*)
   perllibs="$libs"
   ;;
*) case "$usedl" in
   $define|true|[yY]*)
     set X `echo " $libs " | sed -e 's@ -lndbm @ @' -e 's@ -lgdbm @ @' -e 's@ -lgdbm_compat @ @' -e 's@ -ldbm @
@' -e 's@ -ldb @ @'`
```

```
    shift
    perllibs="$*"
    ;;
  *) perllibs="$libs"
    ;;
  esac
  ;;
esac

?X: If the user has the cppstdin wrapper, perl.c will try to call
?X: CPPSTDIN, but that will point to a location in the build
?X: directory, not the installed version!.  Here, we'll just strip the
?X: name down to 'cppstdin',
 and rely on the fact that perl.c will
?X: then call SCRIPTDIR/cppstdin, but local things like 'make depend'
?X: will continue to work.
: Remove build directory name from cppstdin so it can be used from
: either the present location or the final installed location.
echo " "
: Get out of the UU directory to get correct path name.
cd ..
case "$cppstdin" in
`pwd`/cppstdin)
 echo "Stripping down cppstdin path name"
 cppstdin=cppstdin
 ;;
esac
cd UU

: end of configuration questions
echo " "
echo "End of configuration questions."
echo " "

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/End.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:use64bitint use64bitall archname64: Myread Oldconfig Setvar test \
 usemorebits longsize ccflags d_quad uquadtype Compile rm_try run
?MAKE: -pick add $@ %<
```

```
?Y:TOP
?S:use64bitint:
?S: This variable conditionally defines the USE_64_BIT_INT symbol,
?S: and indicates that 64-bit integer types should be used
?S: when available.  The minimal possible 64-bitness
?S: is employed, just enough to get 64-bit integers into Perl.
?S: This may mean using for example "long longs", while your memory
?S: may still be limited to 2 gigabytes.
?S:.
?S:use64bitall:
?S: This variable conditionally defines the USE_64_BIT_ALL symbol,
?S: and indicates that 64-bit integer types should be used
?S: when available.  The maximal
 possible
?S: 64-bitness is employed: LP64 or ILP64, meaning that you will
?S: be able to use more than 2 gigabytes of memory.  This mode is
?S: even more binary incompatible than USE_64_BIT_INT. You may not
?S: be able to run the resulting executable in a 32-bit CPU at all or
?S: you may need at least to reboot your OS to 64-bit mode.
?S:.
?S:archname64:
?S: This variable is used for the 64-bitness part of $archname.
?S:.
?C:USE_64_BIT_INT:
?C: This symbol, if defined, indicates that 64-bit integers should
?C: be used when available.  If not defined, the native integers
?C: will be employed (be they 32 or 64 bits).  The minimal possible
?C: 64-bitness is used, just enough to get 64-bit integers into Perl.
?C: This may mean using for example "long longs", while your memory
?C: may still be limited to 2 gigabytes.
?C:.
?C:USE_64_BIT_ALL:
?C: This symbol, if defined, indicates that 64-bit integers should
?C: be used when available.  If not defined, the native integers
?C: will be used (be
 they 32 or 64 bits).  The maximal possible
?C: 64-bitness is employed: LP64 or ILP64, meaning that you will
?C: be able to use more than 2 gigabytes of memory.  This mode is
?C: even more binary incompatible than USE_64_BIT_INT. You may not
?C: be able to run the resulting executable in a 32-bit CPU at all or
?C: you may need at least to reboot your OS to 64-bit mode.
?C:.
?H:?%<:#ifndef USE_64_BIT_INT
?H:?%<:#$use64bitint USE_64_BIT_INT  /**/
?H:?%<:#endif
?H:?%<:#ifndef USE_64_BIT_ALL
?H:?%<:#$use64bitall USE_64_BIT_ALL  /**/
?H:?%<:#endif
```

```
?H:.
?INIT:archname64="
?LINT:extern ccflags
?LINT:use usemorebits
?LINT:extern use64bits
?LINT:extern uselonglong
?LINT:extern uselonglongs
?LINT:extern use64bitints
?LINT:extern use64bitsint
?LINT:extern use64bitsall
?T:libcquad
?F:!try
?F:!use64bitint.cbu
?F:!use64bitall.cbu
: Do we want 64bit support
case "$uselonglong" in
"$define"|true|[yY]*)
 cat <<EOM >&4

*** Configure -Duselonglong is deprecated, using -Duse64bitint instead.
EOM
 use64bitint="$define"
 ;;
esac
case
 "$use64bits" in
"$define"|true|[yY]*)
 cat <<EOM >&4

*** Configure -Duse64bits is deprecated, using -Duse64bitint instead.
EOM
 use64bitint="$define"
 ;;
esac
case "$use64bitints" in
"$define"|true|[yY]*)
 cat <<EOM >&4

*** There is no Configure -Duse64bitints, using -Duse64bitint instead.
EOM
 use64bitint="$define"
 ;;
esac
case "$use64bitsint" in
"$define"|true|[yY]*)
 cat <<EOM >&4

*** There is no Configure -Duse64bitsint, using -Duse64bitint instead.
```

```
EOM
 use64bitint="$define"
 ;;
esac
case "$uselonglongs" in
"$define"|true|[yY]*)
 cat <<EOM >&4

*** There is no Configure -Duselonglongs, using -Duse64bitint instead.
EOM
 use64bitint="$define"
 ;;
esac
case "$use64bitsall" in
"$define"|true|[yY]*)
 cat <<EOM >&4

*** There is no Configure -Duse64bitsall, using -Duse64bitall instead.
EOM
 use64bitall="$define"
 ;;
esac

case "$ccflags" in
*-DUSE_LONG_LONG*|*-DUSE_64_BIT_INT*|*-DUSE_64_BIT_ALL*) use64bitint="$define";;
esac
case "$use64bitall" in
"$define"|true|[yY]*)
 use64bitint="$define" ;;
esac

case "$longsize" in
8) cat <<EOM

You have natively 64-bit long integers.
EOM
  val="$define"
  ;;
*) case "$use64bitint" in
  "$define"|true|[yY]*) dflt='y';;
  *) dflt='n';;
  esac
  case "$d_quad" in
  "$define") ;;
  *) dflt='n' ;;
  esac
  cat <<EOM
```

```
Perl can be built to take advantage of 64-bit integer types
on some systems.  To do so, Configure can be run with -Duse64bitint.
Choosing this option will most probably introduce binary incompatibilities.

If this doesn't make any sense to you, just accept the default '$dflt'.
(The default has been chosen based on your configuration.)
EOM
  rp='Try to use 64-bit integers, if available?'
  . ./myread
  case "$ans" in
  [yY]*) val="$define" ;;
  *)     val="$undef"  ;;
  esac
  ;;
esac
set use64bitint
eval $setvar

case "$use64bitall" in
"$define"|true|[yY]*) dflt='y' ;;
*) case "$longsize" in
  8) dflt='y' ;;
  *) dflt='n' ;;
  esac
  ;;
esac
cat <<EOM

You may also
 choose to try maximal 64-bitness.  It means using as much
64-bitness as possible on the platform.  This in turn means even more
binary incompatibilities.  On the other hand, your platform may not
have any more 64-bitness available than what you already have chosen.

If this doesn't make any sense to you, just accept the default '$dflt'.
(The default has been chosen based on your configuration.)
EOM
rp='Try to use maximal 64-bit support, if available?'
. ./myread
case "$ans" in
[yY]*) val="$define" ;;
*)     val="$undef"  ;;
esac
set use64bitall
eval $setvar
case "$use64bitall" in
"$define")
 case "$use64bitint" in
```

```
 "$undef")
  cat <<EOM

Since you have chosen a maximally 64-bit build, I'm also turning on
the use of 64-bit integers.
EOM
  use64bitint="$define" ;;
 esac
 ;;
esac

: Look for a hint-file generated 'call-back-unit'.  If the
: user has specified that a 64-bit perl is to be built,
: we may need to set or change some other defaults.
if $test -f use64bitint.cbu; then
 echo "Your
 platform has some specific hints regarding 64-bit integers, using them..."
 . ./use64bitint.cbu
fi
case "$use64bitint" in
"$define"|true|[yY]*)
 : This test was common to all the OpenBSD forks, and seems harmless for
 : other platforms:
 echo " "
 echo "Checking if your C library has broken 64-bit functions..." >&4
 cat >try.c <<EOCP
#include <stdio.h>
typedef $uquadtype myULL;
int main (void)
{
   struct {
 double d;
 myULL  u;
   } *p, test[] = {
 {4294967303.15, 4294967303ULL},
 {4294967294.2,  4294967294ULL},
 {4294967295.7,  4294967295ULL},
 {0.0, 0ULL}
   };
   for (p = test; p->u; p++) {
 myULL x = (myULL)p->d;
 if (x != p->u) {
     printf("buggy\n");
     return 0;
 }
   }
   printf("ok\n");
   return 0;
```

```
}
EOCP
 set try
 if eval $compile_ok; then
    libcquad=`$run ./try`
    echo "Your C library's 64-bit functions are $libcquad."
 else
    echo "(I can't seem to compile the test program.)"
    echo "Assuming that your C library's 64-bit functions are ok."
    libcquad="ok"
 fi
 $rm_try

 case
 "$libcquad" in
    buggy*)
  cat >&4 <<EOM

*** You have a C library with broken 64-bit functions.
*** 64-bit support does not work reliably in this configuration.
*** Please rerun Configure without -Duse64bitint and/or -Dusemorebits.
*** Cannot continue, aborting.

EOM
  exit 1
  ;;
 esac
 case "$longsize" in
 4) case "$archname64" in
    ") archname64=64int ;;
    esac
    ;;
 esac
 ;;
esac

: Look for a hint-file generated 'call-back-unit'.  If the
: user has specified that a maximally 64-bit perl is to be built,
: we may need to set or change some other defaults.
if $test -f use64bitall.cbu; then
 echo "Your platform has some specific hints regarding 64-bit builds, using them..."
 . ./use64bitall.cbu
fi
case "$use64bitall" in
"$define"|true|[yY]*)
 case "$longsize" in
 4) case "$archname64" in
    "|64int) archname64=64all ;;
```

```
   esac
   ;;
 esac
 ;;
esac

case "$d_quad:$use64bitint" in
$undef:$define)
 cat >&4 <<EOF

*** You have chosen to use 64-bit
 integers,
*** but none can be found.
*** Please rerun Configure without -Duse64bitint and/or -Dusemorebits.
*** Cannot continue, aborting.

EOF
 exit 1
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/use64bits.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_nan: Inlibc
?MAKE: -pick add $@ %<
?S:d_nan:
?S: This variable conditionally defines HAS_NAN if nan() is
?S: available to generate NaN.
?S:.
?C:HAS_NAN:
?C: This symbol, if defined, indicates that the nan routine is
?C: available to generate NaN.
?C:.
?H:#$d_nan HAS_NAN  /**/
?H:.
?LINT:set d_nan
: see if nan exists
set nan d_nan
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_nan.U

No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_ilogb: Inlibc
?MAKE: -pick add $@ %<
?S:d_ilogb:
?S: This variable conditionally defines the HAS_ILOGB symbol, which
?S: indicates to the C program that the ilogb() routine is available
?S: for extracting the exponent of double x as a signed integer.
?S:.
?C:HAS_ILOGB:
?C: This symbol, if defined, indicates that the ilogb routine is
?C: available to get integer exponent of a floating-point value.
?C:.
?H:#$d_ilogb HAS_ILOGB  /**/
?H:.
?LINT:set d_ilogb
: see if ilogb exists
set ilogb d_ilogb
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_ilogb.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:i_pthread: Inhdr
?MAKE: -pick add $@ %<
?S:i_pthread:
?S:	This variable conditionally defines the I_PTHREAD symbol,
?S:	and indicates whether a C program should include <pthread.h>.
?S:.
?C:I_PTHREAD:
?C:	This symbol, if defined, indicates to the C program that it should
?C:	include <pthread.h>.
?C:.
?H:#$i_pthread	I_PTHREAD /**/

?H:.
?LINT:set i_pthread
: see if POSIX threads are available
set pthread.h i_pthread
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/i_pthread.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_expm1: Inlibc
?MAKE: -pick add $@ %<
?S:d_expm1:
?S: This variable conditionally defines the HAS_EXPM1 symbol, which
?S: indicates to the C program that the expm1() routine is available.
?S:.
?C:HAS_EXPM1:
?C: This symbol, if defined, indicates that the expm1 routine is
?C: available to do the exp(x) - 1 when x is near 1 function.
?C:.
?H:#$d_expm1 HAS_EXPM1  /**/
?H:.
?LINT:set d_expm1
: see if expm1 exists
set expm1 d_expm1
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_expm1.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: prototype.U,v $
?RCS: Revision 3.0.1.3  1994/05/06  15:11:49  ram
?RCS: patch23: ensure cc flags used when looking for prototype support
?RCS:

?RCS: Revision 3.0.1.2  1994/01/24  14:15:36  ram
?RCS: patch16: prototype handling macros now appear only when needed
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:03:12  ram
?RCS: patch6: defines were referring to non-existent VOID symbol
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:36  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:prototype:
 Myread Oldconfig cat +cc +ccflags rm Setvar
?MAKE: -pick add $@ %<
?S:prototype:
?S: This variable holds the eventual value of CAN_PROTOTYPE, which
?S: indicates the C compiler can handle funciton prototypes.
?S:.
?C:CAN_PROTOTYPE ~ %<:
?C: If defined, this macro indicates that the C compiler can handle
?C: function prototypes.
?C:.
?C:DOTS:
?C: This macro is used to specify the ... in function prototypes which
?C: have arbitrary additional arguments.
?C:.
?C:NXT_ARG:
?C: This macro is used to separate arguments in the declared argument list.
?C:.
?C:P_FUNC:
?C: This macro is used to declare "private" (static) functions.
?C: It takes three arguments: the function type and name, a parenthesized
?C: traditional (comma separated) argument list, and the declared argument
?C: list (in which arguments are separated with NXT_ARG, and additional
?C: arbitrary arguments are specified with DOTS).  For example:
?C:
?C:  P_FUNC(int foo, (bar, baz), int bar NXT_ARG char *baz[])
?C:.
?C:P_FUNC_VOID:
?C: This
 macro is used to declare "private" (static) functions that have
?C: no arguments.  The macro takes one argument: the function type and name.
?C: For example:
?C:
?C:  P_FUNC_VOID(int subr)
?C:.
?C:V_FUNC:
?C: This macro is used to declare "public" (non-static) functions.
?C: It takes three arguments: the function type and name, a parenthesized
?C: traditional (comma separated) argument list, and the declared argument

```
?C: list (in which arguments are separated with NXT_ARG, and additional
?C: arbitrary arguments are specified with DOTS).  For example:
?C:
?C:  V_FUNC(int main, (argc, argv), int argc NXT_ARG char *argv[])
?C:.
?C:V_FUNC_VOID:
?C: This macro is used to declare "public" (non-static) functions that have
?C: no arguments.  The macro takes one argument: the function type and name.
?C: For example:
?C:
?C:  V_FUNC_VOID(int fork)
?C:.
?C:_ (P):
?C: This macro is used to declare function parameters for folks who want
?C: to make declarations with prototypes using a
 different style than
?C: the above macros.  Use double parentheses.  For example:
?C:
?C:  int main _((int argc, char *argv[]));
?C:.
?H:?%<:#$prototype CAN_PROTOTYPE /**/
?H:?%<:#ifdef CAN_PROTOTYPE
?H:?NXT_ARG:#define NXT_ARG ,
?H:?DOTS:#define DOTS , ...
?H:?V_FUNC:#define V_FUNC(name, arglist, args)name(args)
?H:?P_FUNC:#define P_FUNC(name, arglist, args)static name(args)
?H:?V_FUNC_VOID:#define V_FUNC_VOID(name)name(void)
?H:?P_FUNC_VOID:#define P_FUNC_VOID(name)static name(void)
?H:?_:#define _(args) args
?H:?%<:#else
?H:?NXT_ARG:#define NXT_ARG ;
?H:?DOTS:#define DOTS
?H:?V_FUNC:#define V_FUNC(name, arglist, args)name arglist args;
?H:?P_FUNC:#define P_FUNC(name, arglist, args)static name arglist args;
?H:?V_FUNC_VOID:#define V_FUNC_VOID(name)name()
?H:?P_FUNC_VOID:#define P_FUNC_VOID(name)static name()
?H:?_:#define _(args) ()
?H:?%<:#endif
?H:.
?W:%<:NXT_ARG DOTS V_FUNC P_FUNC V_FUNC_VOID P_FUNC_VOID _
?LINT:set prototype
: Cruising for prototypes
echo " "
echo "Checking out
 function prototypes..." >&4
$cat >prototype.c <<'EOCP'
int main(int argc, char *argv[]) {
 exit(0);}
```

```
EOCP
if $cc $ccflags -c prototype.c >prototype.out 2>&1 ; then
 echo "Your C compiler appears to support function prototypes."
 val="$define"
else
 echo "Your C compiler doesn't seem to understand function prototypes."
 val="$undef"
fi
set prototype
eval $setvar
$rm -f prototype*

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/prototype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorman3dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999-2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman3dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman3dir vendorman3direxp installvendorman3dir: man3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman3dir:
?S: This variable contains the name of the directory for man3
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman3direxp:
?S: This variable is the ~name expanded version of vendorman3dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
```

```
?D:installvendorman3dir="
?S:installvendorman3dir:
?S: This variable is really the same as vendorman3direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman3dir
: Set the vendorman3dir variables
case "$vendorprefix" in
") vendorman3dir="
 vendorman3direxp="
 ;;
*) : determine where vendor-supplied module manual pages go.
 case "$vendorman3dir" in
 ") dflt=`echo "$man3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorman3dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname
 for the vendor-supplied manual section 3 pages?'
 . ./getfile
 vendorman3dir="$ans"
 vendorman3direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman3dir" = "X" && vendorman3dir=' '
prefixvar=vendorman3dir
. ./installprefix
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorman3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_cuserid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_cuserid.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:07:25  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_cuserid: Inlibc
?MAKE: -pick add $@ %<
?S:d_cuserid:
?S: This variable conditionally defines the HAS_CUSERID symbol, which
?S: indicates to the C program that the cuserid() routine is available
?S: to get character login names.
?S:.
?C:HAS_CUSERID :
?C: This symbol,
 if defined, indicates that the cuserid routine is
?C: available to get character login names.
?C:.
?H:#$d_cuserid HAS_CUSERID  /**/
?H:.
?LINT:set d_cuserid
: see if cuserid exists
set cuserid d_cuserid
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_cuserid.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_safebcpy.U,v 3.0.1.4 1997/02/28 15:40:58 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_safebcpy.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  15:40:58  ram
?RCS: patch61: improved overlapping copy check
?RCS: patch61: comfort them if they have memmove
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.3  1995/07/25  13:58:40  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
```

```
?RCS: Revision 3.0.1.2  1995/01/11  15:29:23  ram
?RCS: patch45: added 'ldflags' to the test compile line (ADO)
?RCS:
?RCS:
 Revision 3.0.1.1  1994/05/06  14:49:03  ram
?RCS: patch23: ensure string is not optimized in read-only memory (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_safebcpy: cat d_bcopy Compile rm_try run \
 d_memmove i_memory i_stdlib i_string i_unistd Oldconfig Setvar
?MAKE: -pick add $@ %<
?S:d_safebcpy:
?S: This variable conditionally defines the HAS_SAFE_BCOPY symbol if
?S: the bcopy() routine can do overlapping copies.  Normally, you
?S: should probably use memmove().
?S:.
?C:HAS_SAFE_BCOPY (SAFE_BCOPY):
?C: This symbol, if defined, indicates that the bcopy routine is available
?C: to copy potentially overlapping memory blocks. Normally, you should
?C: probably use memmove() or memcpy(). If neither is defined, roll your
?C: own version.
?C:.
?H:#$d_safebcpy HAS_SAFE_BCOPY /**/
?H:.
?F:!try
?LINT: set d_safebcpy
: can bcopy handle overlapping blocks?
echo " "
?X: assume the worst.
val="$undef"
case "$d_memmove" in
"$define")
 echo "I'll use memmove() instead of bcopy() for overlapping copies." ;;
*) case "$d_bcopy" in
 "$define")
  echo "Checking to see if bcopy() can do overlapping copies..." >&4
  $cat >try.c <<EOCP
#$i_memory I_MEMORY
#$i_stdlib I_STDLIB
#$i_string I_STRING
#$i_unistd I_UNISTD
EOCP
 $cat >>try.c <<'EOCP'
#include <stdio.h>
#ifdef I_MEMORY
#  include <memory.h>
```

```
#endif
#ifdef I_STDLIB
#  include <stdlib.h>
#endif
#ifdef I_STRING
#  include <string.h>
#else
#  include <strings.h>
#endif
#ifdef I_UNISTD
#  include <unistd.h>  /* Needed for NetBSD */
#endif
int main()
{
char buf[128], abc[128];
char *b;
int len;
int off;
int align;

/* Copy "abcde..." string to char abc[] so that gcc doesn't
  try to store the string in read-only memory. */
bcopy("abcdefghijklmnopqrstuvwxyz0123456789", abc, 36);

for (align = 7; align >= 0; align--) {
 for (len = 36; len; len--) {
  b = buf+align;
  bcopy(abc, b, len);
  for (off = 1; off <= len; off++) {
   bcopy(b, b+off, len);
   bcopy(b+off,
 b, len);
   if (bcmp(b, abc, len))
    exit(1);
  }
 }
}
exit(0);
}
EOCP
  set try
  if eval $compile_ok; then
   if $run ./try 2>/dev/null; then
    echo "Yes, it can."
    val="$define"
   else
    echo "It can't, sorry."
   fi
```

```
 else
  echo "(I can't compile the test program, so we'll assume not...)"
 fi
 ;;
esac
$rm_try
;;
esac
set d_safebcpy
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_safebcpy.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getspent_r: Inlibc
?MAKE: -pick add $@ %<
?S:d_getspent_r:
?S: This variable conditionally defines the HAS_GETSPENT_R symbol,
?S: which indicates to the C prospam that the getspent_r()
?S: routine is available.
?S:.
?C:HAS_GETSPENT_R:
?C: This symbol, if defined, indicates that the getspent_r routine
?C: is available to getspent re-entrantly.
?C:.
?H:#$d_getspent_r HAS_GETSPENT_R  /**/
?H:.
?LINT:set d_getspent_r
: see if getspent_r exists
set getspent_r d_getspent_r
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getspent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: packadmin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:packadmin: cf_email Oldconfig Myread cat spackage package
?MAKE: -pick add $@ %<
?Y:TOP
?S:packadmin:
?S: Electronic mail address of the package administrator.
?S:.
: check wehther they will act as local admin for the package
$cat <<EOM

If you or somebody else will be maintaining $package at your site, please
fill in the correct e-mail address here so that they may be contacted
if necessary.  You may enter "none"
 for no administrator.

EOM
case "$packadmin" in
") dflt="$cf_email";;
*) dflt="$packadmin";;
esac
rp="$spackage administrator e-mail address"
. ./myread
packadmin="$ans"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/packadmin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_safemcpy.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  15:41:12  ram
?RCS: patch61: improved overlapping copy check
?RCS: patch61: comfort them if they have memmove
```

```
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.4  1995/07/25  13:58:46  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
?RCS: Revision 3.0.1.3  1995/03/21  08:47:26  ram
?RCS: patch52: swapped two first arguments of memcpy() calls
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:15:10
  ram
?RCS: patch36: added 'ldflags' to the test compile line (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:53:12  ram
?RCS: patch23: ensure string is not optimized in read-only memory (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_safemcpy: cat d_memcpy +cc +optimize +ccflags +libs +ldflags rm \
 d_memmove i_memory i_stdlib i_string i_unistd Oldconfig Setvar
?MAKE: -pick add $@ %<
?S:d_safemcpy:
?S: This variable conditionally defines the HAS_SAFE_MEMCPY symbol if
?S: the memcpy() routine can do overlapping copies.
?S:.
?C:HAS_SAFE_MEMCPY (SAFE_MEMCPY):
?C: This symbol, if defined, indicates that the memcpy routine is available
?C: to copy potentially overlapping memory blocks. Otherwise you should
?C: probably use memmove() or memcpy(). If neither is defined, roll your
?C: own version.
?C:.
?H:#$d_safemcpy HAS_SAFE_MEMCPY /**/
?H:.
?F:!safemcpy
?LINT: set d_safemcpy
: can memcpy handle overlapping blocks?
?X:
 assume the worst
val="$undef"
case "$d_memcpy" in
"$define")
 echo " "
 echo "Checking to see if your memcpy() can do overlapping copies..." >&4
 $cat >foo.c <<EOCP
#$i_memory I_MEMORY
#$i_stdlib I_STDLIB
#$i_string I_STRING
#$i_unistd I_UNISTD
```

```
EOCP
 $cat >>foo.c <<'EOCP'
#include <stdio.h>
#ifdef I_MEMORY
#  include <memory.h>
#endif
#ifdef I_STDLIB
#  include <stdlib.h>
#endif
#ifdef I_STRING
#  include <string.h>
#else
#  include <strings.h>
#endif
#ifdef I_UNISTD
#  include <unistd.h>  /* Needed for NetBSD */
#endif
int main()
{
char buf[128], abc[128];
char *b;
int len;
int off;
int align;

/* Copy "abcde..." string to char abc[] so that gcc doesn't
  try to store the string in read-only memory. */
memcpy(abc, "abcdefghijklmnopqrstuvwxyz0123456789", 36);

for (align = 7; align >= 0; align--) {
 for (len = 36; len; len--) {
  b = buf+align;
  memcpy(b, abc, len);
  for (off = 1; off <= len; off++) {
   memcpy(b+off, b, len);
   memcpy(b, b+off, len);
   if (memcmp(b, abc, len))
    exit(1);
  }
 }
}
exit(0);
}
EOCP
 if
 $cc $optimize $ccflags $ldflags \
      -o safemcpy foo.c $libs >/dev/null 2>&1; then
  if ./safemcpy 2>/dev/null; then
```

```
  echo "Yes, it can."
  val="$define"
 else
  echo "It can't, sorry."
  case "$d_memmove" in
  "$define") echo "But that's Ok since you have memmove()." ;;
  esac
 fi
else
 echo "(I can't compile the test program, so we'll assume not...)"
 case "$d_memmove" in
 "$define") echo "But that's Ok since you have memmove()." ;;
 esac
fi
;;
esac
$rm -f foo.* safemcpy core
set d_safemcpy
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_safemcpy.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Instruct.U,v 3.0.1.3 1997/02/28 15:02:55 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Instruct.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:02:55  ram
?RCS: patch61: logname / whoami sequence rewritten to use case
?RCS:
?RCS: Revision 3.0.1.2  1995/02/15  14:11:34  ram
?RCS: patch51: author name now appears at the end of the paragraph (WED)
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:12:05  ram
?RCS: patch45: now documents the & escape to turn -d on at the read prompt
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:04  ram
?RCS: Baseline for
 dist 3.0 netwide release.
?RCS:
```

```
?X:
?X: This unit spew out the directions that we want everyone to read.  I try to
?X: keep the first "pagefull" much less than a page since they don't know it
?X: isn't going to go shooting off the top of the screen, and we don't want
?X: to panic them yet.
?X:
?MAKE:Instruct: Myread Configdir Devel contains
?MAKE: -pick wipe $@ %<
?T:user needman firsttime
: general instructions
needman=true
firsttime=true
user=`(logname) 2>/dev/null`
case "$user" in
") user=`whoami 2>&1`;;
esac
if $contains "^$user\$" ../.config/instruct >/dev/null 2>&1; then
 firsttime=false
 echo " "
 rp='Would you like to see the instructions?'
 dflt=n
 . ./myread
 case "$ans" in
 [yY]*) ;;
 *) needman=false;;
 esac
fi
if $needman; then
 cat <<EOH

This installation shell script will examine your system and ask you questions
to determine how the <PACKAGENAME> package should be installed. If you get
stuck on a question, you may use a ! shell escape to start a subshell or
execute a
 command.  Many of the questions will have default answers in square
brackets; typing carriage return will give you the default.

On some of the questions which ask for file or directory names you are allowed
to use the ~name construct to specify the login directory belonging to "name",
even if you don't have a shell which knows about that.  Questions where this is
allowed will be marked "(~name ok)".

EOH
 rp=''
 dflt='Type carriage return to continue'
 . ./myread
 cat <<'EOH'
```

```
The prompter used in this script allows you to use shell variables and
backticks in your answers.  You may use $1, $2, etc...  to refer to the words
in the default answer, as if the default line was a set of arguments given to a
script shell.  This means you may also use $* to repeat the whole default line,
so you do not have to re-type everything to add something to the default.

Every time there is a substitution, you will have to confirm.  If there is an
error (e.g. an unmatched backtick), the default answer
 will remain unchanged
and you will be prompted again.

If you are in a hurry, you may run 'Configure -d'.  This will bypass nearly all
the questions and use the computed defaults (or the previous answers if there
was already a config.sh file). Type 'Configure -h' for a list of options.
You may also start interactively and then answer '& -d' at any prompt to turn
on the non-interactive behaviour for the remainder of the execution.

EOH
 . ./myread
 cat <<EOH

Much effort has been expended to ensure that this shell script will run on any
Unix system.  If despite that it blows up on yours, your best bet is to edit
Configure and run it again.  If you can't run Configure for some reason,
you'll have to generate a config.sh file by hand.  Whatever problems you
have, let me (<MAINTLOC>) know how I blew it.

This installation script affects things in two ways:

1) it may do direct variable substitutions on some of the files included
  in this kit.
2) it builds a config.h file for inclusion in
 C programs.  You may edit
  any of these files as the need arises after running this script.

If you make a mistake on a question, there is no easy way to back up to it
currently.  The easiest thing to do is to edit config.sh and rerun all the SH
files.  Configure will offer to let you do this before it runs the SH files.

EOH
?X: In case they played with the prompter...
 dflt='Type carriage return to continue'
 . ./myread
 case "$firsttime" in
 true) echo $user >>../.config/instruct;;
 esac
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Instruct.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_strcspn.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strcspn.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:33  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_strcspn: Inlibc
?MAKE: -pick add $@ %<
?S:d_strcspn:
?S: This variable conditionally defines the HAS_STRCSPN symbol, which
?S: indicates to the C program that the strcspn() routine is available
?S: to scan strings.
?S:.
?C:HAS_STRCSPN (STRCSPN):
?C: This symbol, if defined, indicates that the strcspn routine is
?C: available to scan
 strings.
?C:.
?H:#$d_strcspn HAS_STRCSPN  /**/
?H:.
?LINT:set d_strcspn
: see if strcspn exists
set strcspn d_strcspn
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strcspn.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_ctime_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.

```
?RCS:
?MAKE:d_ctime_r ctime_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_time i_systime extern_C
?MAKE: -pick add $@ %<
?S:d_ctime_r:
?S: This variable conditionally defines the HAS_CTIME_R symbol,
?S: which indicates to the C program that the ctime_r()
?S: routine is available.
?S:.
?S:ctime_r_proto:
?S: This variable encodes the prototype of ctime_r.
?S: It is zero if d_ctime_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_ctime_r
?S: is defined.
?S:.
?C:HAS_CTIME_R:
?C: This symbol, if defined, indicates that the ctime_r routine
?C: is available to ctime re-entrantly.
?C:.
?C:CTIME_R_PROTO:
?C: This
 symbol encodes the prototype of ctime_r.
?C: It is zero if d_ctime_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_ctime_r
?C: is defined.
?C:.
?H:#$d_ctime_r HAS_CTIME_R    /**/
?H:#define CTIME_R_PROTO $ctime_r_proto    /**/
?H:.
?T:try hdrs d_ctime_r_proto
: see if ctime_r exists
set ctime_r d_ctime_r
eval $inlibc
case "$d_ctime_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_time time.h $i_systime sys/time.h"
 case "$d_ctime_r_proto:$usethreads" in
 ":define") d_ctime_r_proto=define
  set d_ctime_r_proto ctime_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_ctime_r_proto" in
 define)
 case "$ctime_r_proto" in
 "|0) try='char* ctime_r(const time_t*, char*);'
 ./protochk "$extern_C $try" $hdrs && ctime_r_proto=B_SB ;;
 esac
```

```
 case "$ctime_r_proto" in
 "|0) try='char* ctime_r(const time_t*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && ctime_r_proto=B_SBI ;;
 esac
 case "$ctime_r_proto" in
 "|0) try='int
 ctime_r(const time_t*, char*);'
 ./protochk "$extern_C $try" $hdrs && ctime_r_proto=I_SB ;;
 esac
 case "$ctime_r_proto" in
 "|0) try='int ctime_r(const time_t*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && ctime_r_proto=I_SBI ;;
 esac
 case "$ctime_r_proto" in
 "|0) d_ctime_r=undef
        ctime_r_proto=0
  echo "Disabling ctime_r, cannot determine prototype." >&4 ;;
 * ) case "$ctime_r_proto" in
  REENTRANT_PROTO*) ;;
  *) ctime_r_proto="REENTRANT_PROTO_$ctime_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "ctime_r has no prototype, not using it." >&4 ;;
  esac
  d_ctime_r=undef
  ctime_r_proto=0
  ;;
 esac
 ;;
*) ctime_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_ctime_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: gidtype.U,v 3.0.1.3 1994/08/29 16:21:44 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: gidtype.U,v $
?RCS: Revision 3.0.1.3  1994/08/29  16:21:44  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS: patch32: removed useless usage of Setvar (for now)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:21:07  ram
?RCS: patch27: added lint hint
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:01:51  ram
?RCS: patch23: protected gidtype setting via setvar (ADO)
?RCS: patch23: made Gid_t comment more explicit (ADO)
?RCS:
?RCS: Revision
 3.0  1993/08/18  12:08:11  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:gidtype: Myread Typedef Findhdr
?MAKE: -pick add $@ %<
?S:gidtype:
?S: This variable defines Gid_t to be something like gid_t, int,
?S: ushort, or whatever type is used to declare the return type
?S: of getgid().  Typically, it is the type of group ids in the kernel.
?S:.
?C:Gid_t (GIDTYPE):
?C: This symbol holds the return type of getgid() and the type of
?C: argument to setrgid() and related functions.  Typically,
?C: it is the type of group ids in the kernel. It can be int, ushort,
?C: gid_t, etc... It may be necessary to include <sys/types.h> to get
?C: any typedef'ed information.
?C:.
?H:#define Gid_t $gidtype  /* Type for getgid(), etc... */
?H:.
?T:xxx
: see what type gids are declared as in the kernel
echo " "
echo "Looking for the type for group ids returned by getgid()."
set gid_t gidtype xxx stdio.h sys/types.h
eval $typedef
case "$gidtype" in
xxx)
 xxx=`./findhdr sys/user.h`
 set `grep
 'groups\[NGROUPS\];' "$xxx" 2>/dev/null` unsigned short
 case $1 in
 unsigned) dflt="$1 $2" ;;
 *) dflt="$1" ;;
```

```
 esac
 ;;
*) dflt="$gidtype";;
esac
case "$gidtype" in
gid_t) echo "gid_t found." ;;
*) rp="What is the type for group ids returned by getgid()?"
 . ./myread
 gidtype="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/gidtype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_pwrite.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_pwrite.U,v $
?RCS:
?MAKE:d_pwrite: Inlibc
?MAKE: -pick add $@ %<
?S:d_pwrite:
?S: This variable conditionally defines the HAS_PWRITE symbol, which
?S: indicates to the C program that the pwrite() routine is available.
?S:.
?C:HAS_PWRITE :
?C: This symbol, if defined, indicates that the pwrite routine is
?C: available to perform writes on a file descriptor at a given offset.
?C:.
?H:#$d_pwrite HAS_PWRITE  /**/
?H:.
?LINT:set d_pwrite
: see if pwrite
 exists
set pwrite d_pwrite
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_pwrite.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_timer_delete: Inlibc
?MAKE: -pick add $@ %<
?S:d_timer_delete:
?S: This variable conditionally defines HAS_TIMER_DELETE if timer_delete()
?S: is available to delete a POSIX timer.
?S:.
?C:HAS_TIMER_DELETE:
?C: This symbol, if defined, indicates that the timer_delete system call is
?C: available to delete a POSIX timer.
?C:.
?H:#$d_timer_delete HAS_TIMER_DELETE  /**/
?H:.
?LINT:set d_timer_delete
: see if timer_delete exists
set timer_delete d_timer_delete
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_timer_delete.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: mailfile.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mailfile.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:24:57  ram
?RCS: patch36: the Loc unit was missing from the dependency line
?RCS:
?RCS: Revision 3.0.1.1  1993/12/15  08:22:08  ram

```
?RCS: patch15: now also looks under /var/mail for BSD/386
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:11  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:mailfile: Myread Oldconfig Filexp Loc
?MAKE: -pick add $@ %<
?S:mailfile:
?S: This variable contains
 the eventual value of the MAILFILE symbol,
?S: which contains an interpretable name of the mail spool file for the
?S: current user.
?S:.
?C:MAILFILE:
?C: This symbol contains the interpretable name of the mail spool file
?C: for the current user.  The program must be prepared to substitute
?C: the HOME directory for %~, and the login id for %L.
?C:.
?H:#define MAILFILE "$mailfile"  /**/
?H:.
: determine where mail is spooled
case "$mailfile" in
")
 dflt=`./loc . XXX /usr/spool/mail /usr/mail /var/mail`
 case "$dflt" in
 XXX) dflt='%~/mailbox';;
 *) dflt="$dflt/%L";;
 esac
 ;;
*)  dflt="$mailfile"
 ;;
esac
cat <<'EOM'

In the following question, you may use %~ to represent the user's home
directory, and %L to represent a users name.

EOM
rp='In which file is yet-to-be-read mail spooled? (~name ok)'
. ./myread
mailfile=`./filexp "$ans"`

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/mailfile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 2005, H.Merijn Brand
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_malloc_size d_malloc_good_size: Inlibc
?MAKE: -pick add $@ %<
?S:d_malloc_size:
?S: This symbol, if defined, indicates that the malloc_size
?S: routine is available for use.
?S:.
?S:d_malloc_good_size:
?S: This symbol, if defined, indicates that the malloc_good_size
?S: routine is available for use.
?S:.
?C:HAS_MALLOC_SIZE:
?C: This symbol, if defined, indicates that the malloc_size
?C: routine is available for use.
?C:.
?H:#$d_malloc_size HAS_MALLOC_SIZE  /**/
?H:.
?C:HAS_MALLOC_GOOD_SIZE:
?C: This symbol, if defined,
 indicates that the malloc_good_size
?C: routine is available for use.
?C:.
?H:#$d_malloc_good_size HAS_MALLOC_GOOD_SIZE /**/
?H:.
?LINT:set d_malloc_size
?LINT:set d_malloc_good_size
: see if malloc_size exists
set malloc_size d_malloc_size
eval $inlibc

: see if malloc_size_good exists
set malloc_good_size d_malloc_good_size
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_malloc_size.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
```

?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_nl_langinfo: Inlibc i_langinfo
?MAKE: -pick add $@ %<
?S:d_nl_langinfo:
?S: This variable conditionally defines the HAS_NL_LANGINFO symbol, which
?S: indicates to the C program that the nl_langinfo() routine is available.
?S:.
?C:HAS_NL_LANGINFO:
?C: This symbol, if defined, indicates that the nl_langinfo routine is
?C: available to return local data.  You will also need <langinfo.h>
?C: and therefore I_LANGINFO.
?C:.
?H:#$d_nl_langinfo HAS_NL_LANGINFO  /**/
?H:.
?LINT:set d_nl_langinfo
?LINT:use i_langinfo
: see if nl_langinfo exists
set nl_langinfo d_nl_langinfo
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_nl_langinfo.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_memcpy.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_memcpy.U,v $
?RCS: Revision 3.0.1.1  1993/09/13  16:02:58  ram
?RCS: patch10: removed text recommending bcopy over memcpy (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:34  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_memcpy: Inlibc
?MAKE: -pick add $@ %<
?S:d_memcpy:
?S: This variable conditionally defines the HAS_MEMCPY symbol, which

?S: indicates to the C program that the memcpy() routine is available
?S: to copy blocks of
 memory.
?S:.
?C:HAS_MEMCPY (MEMCPY):
?C: This symbol, if defined, indicates that the memcpy routine is available
?C: to copy blocks of memory.
?C:.
?H:#$d_memcpy HAS_MEMCPY /**/
?H:.
?LINT:set d_memcpy
: see if memcpy exists
set memcpy d_memcpy
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_memcpy.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_unorderedl: Inlibc
?MAKE: -pick add $@ %<
?S:d_unorderedl:
?S: This variable conditionally defines the HAS_UNORDEREDL symbol, which
?S: indicates to the C program that the unorderedl() routine is available.
?S:.
?C:HAS_UNORDEREDL:
?C: This symbol, if defined, indicates that the unorderedl routine is
?C: available to check whether two long doubles are unorderedl
?C: (effectively: whether either of them is NaN)
?C:.
?H:#$d_unorderedl HAS_UNORDEREDL  /**/
?H:.
?LINT:set d_unorderedl
: see if unorderedl exists
set unorderedl d_unorderedl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_unorderedl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?MAKE:usesocks: Myread Oldconfig Setvar spackage package
?MAKE: -pick add $@ %<
?Y:TOP
?S:usesocks:
?S: This variable conditionally defines the USE_SOCKS symbol,
?S: and indicates that Perl should be built to use SOCKS.
?S:.
?C:USE_SOCKS:
?C: This symbol, if defined, indicates that Perl should
?C: be built to use socks.
?C:.
?H:?%<:#$usesocks USE_SOCKS  /**/
?H:.
?D:usesocks="
?LINT:set usesocks
: check for requested SOCKS support
case "$usesocks" in
$define|true|[yY]*) dflt='y';;
*)
 dflt='n';;
esac
cat <<EOM

$spackage can be built to use the SOCKS proxy protocol library.
If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp="Build $package for SOCKS?"
. ./myread
case "$ans" in
y|Y) val="$define" ;;
*)      val="$undef" ;;
esac
set usesocks
eval $setvar

Found in path(s):
```

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/usesocks.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_table.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_table.U,v $
?RCS: Revision 3.0.1.2  1993/11/10  17:34:14  ram
?RCS: patch14: wrongly mentionned an obsolete symbol
?RCS:
?RCS: Revision 3.0.1.1  1993/10/16  13:49:29  ram
?RCS: patch12: created
?RCS:
?MAKE:d_table: Inlibc
?MAKE: -pick add $@ %<
?S:d_table:
?S: This variable conditionally defines HAS_TABLE if table() is
?S: available to examine/update elements from a system table.
?S:.
?C:HAS_TABLE:
?C: This symbol, if defined, indicates that the OSF/1
 table() system
?C: call is available to examine/update items from a system table.
?C:.
?H:#$d_table HAS_TABLE /**/
?H:.
?LINT:set d_table
: see if table exists
set table d_table
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_table.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_time.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  14:07:43  ram
?RCS: patch56: typo fix, sytem -> system
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:16:38  ram
?RCS: patch36: now uses new Typedef unit to compute type information (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X: Maybe <sys/types.h> should be included?
?X:INC: i_systypes
?MAKE:d_time timetype: Csym Setvar Findhdr Myread Typedef
?MAKE: -pick add $@ %<
?S:d_time:
?S: This
 variable conditionally defines the HAS_TIME symbol, which indicates
?S: that the time() routine exists.  The time() routine is normally
?S: provided on UNIX systems.
?S:.
?S:timetype:
?S: This variable holds the type returned by time(). It can be long,
?S: or time_t on BSD sites (in which case <sys/types.h> should be
?S: included). Anyway, the type Time_t should be used.
?S:.
?C:HAS_TIME (TIMER):
?C: This symbol, if defined, indicates that the time() routine exists.
?C:.
?C:Time_t (TIMETYPE):
?C: This symbol holds the type returned by time(). It can be long,
?C: or time_t on BSD sites (in which case <sys/types.h> should be
?C: included).
?C:.
?H:#$d_time HAS_TIME  /**/
?H:#define Time_t $timetype  /* Time type */
?H:.
?LINT:set d_time
: see if time exists
echo " "
if set time val -f d_time; eval $csym; $val; then
 echo 'time() found.' >&4
 val="$define"
 set time_t timetype long stdio.h sys/types.h
 eval $typedef
```

```
 dflt="$timetype"
 echo " "
 rp="What type is returned by time() on this
 system?"
 . ./myread
 timetype="$ans"
else
 echo 'time() not found, hope that will do.' >&4
 val="$undef"
 timetype='int';
fi
set d_time
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_time.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_poll.U,v $
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_langinfo: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_langinfo:
?S: This variable conditionally defines the I_LANGINFO symbol,
?S: and indicates whether a C program should include <langinfo.h>.
?S:.
?C:I_LANGINFO:
?C: This symbol, if defined, indicates that <langinfo.h> exists and
?C: should be included.
?C:.
?H:#$i_langinfo I_LANGINFO  /**/
?H:.
?LINT:set i_langinfo
: see if this is a langinfo.h system
set langinfo.h i_langinfo
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_langinfo.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
```

?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Oldconfig.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:06:39  ram
?RCS: patch61: added support for src.U
?RCS: patch61: new OSNAME define
?RCS: patch61: can now sense new OSes
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  13:40:51  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:04:18  ram
?RCS: patch54: config.sh reload logic now knows about new -K switch
?RCS: patch54: cleaned up and extended osvers for DEC OSF/1 (ADO)
?RCS: patch54: added MachTen detection
 (ADO)
?RCS:
?RCS: Revision 3.0.1.7  1995/02/15  14:13:41  ram
?RCS: patch51: adapted osvers computation for AIX (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1995/01/30  14:27:15  ram
?RCS: patch49: unit Options.U now exports file optdef.sh, not a variable
?RCS: patch49: update code for myuname changed (WED)
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:15:36  ram
?RCS: patch45: added quotes around the INITPROG variable (ADO)
?RCS: patch45: allows variable overriding after config file loading
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  15:57:05  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: merged with the version used for perl5's Configure (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  14:24:17  ram
?RCS: patch23: added support for osf1 hints
?RCS: patch23: new support for solaris and i386 systems (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/01/24  14:05:02  ram
?RCS: patch16: added post-processing on myuname for Xenix targets
?RCS: patch16: message proposing config.sh
 defaults made consistent
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  15:56:32  ram

?RCS: patch10: force use of config.sh when -d option is used (WAD)
?RCS: patch10: complain about non-existent hint files (WAD)
?RCS: patch10: added Options dependency for fastread variable
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit tries to remember what we did last time we ran Configure, mostly
?X: for the sake of setting defaults.
?X:
?MAKE:Oldconfig hint myuname osname osvers: Instruct Myread Checkcc \
 Mksymlinks Loc Options Tr src trnl ln uname sh awk sed test cat grep \
 rm lns tr n c contains targetarch
?MAKE: -pick wipe $@ %<
?S:myuname:
?S: The output of 'uname -a' if available, otherwise the hostname. On Xenix,
?S: pseudo variables assignments in the output are stripped, thank you. The
?S: whole thing is then lower-cased.
?S:.
?S:hint:
?S: Gives the type of hints used for previous answers. May be one of
?S: "default",
 "recommended" or "previous".
?S:.
?S:osname:
?S: This variable contains the operating system name (e.g. sunos,
?S: solaris, hpux, etc.).  It can be useful later on for setting
?S: defaults.  Any spaces are replaced with underscores.  It is set
?S: to a null string if we can't figure it out.
?S:.
?S:osvers:
?S: This variable contains the operating system version (e.g.
?S: 4.1.3, 5.2, etc.).  It is primarily used for helping select
?S: an appropriate hints file, but might be useful elsewhere for
?S: setting defaults.  It is set to '' if we can't figure it out.
?S: We try to be flexible about how much of the version number
?S: to keep, e.g. if 4.1.1, 4.1.2, and 4.1.3 are essentially the
?S: same for this package, hints files might just be os_4.0 or
?S: os_4.1, etc., not keeping separate files for each little release.
?S:.
?C:OSNAME:
?C: This symbol contains the name of the operating system, as determined
?C: by Configure.  You shouldn't rely on it too much; the specific
?C: feature
 tests from Configure are generally more reliable.
?C:.
?C:OSVERS:

```
?C: This symbol contains the version of the operating system, as determined
?C: by Configure.  You shouldn't rely on it too much; the specific
?C: feature tests from Configure are generally more reliable.
?C:.
?H:#define OSNAME "$osname"  /**/
?H:#define OSVERS "$osvers"  /**/
?H:.
?F:!config.sh
?T:tmp tmp_n tmp_c tmp_sh file
?T:xxxxfile xxxfile xxfile xfile hintfile newmyuname
?T:tans _ isesix INITPROG DJGPP has_uname
?D:osname="
?LINT:change n c sh
?LINT:extern hostarch
?LINT:change hostarch
: Determine the name of the machine
myuname=`$uname -a 2>/dev/null`
$test -z "$myuname" && myuname=`hostname 2>/dev/null`
?X: Special mention for Xenix, whose 'uname -a' gives us output like this:
?X:  sysname=XENIX
?X:  nodename=whatever
?X:  release=2.3.2 .. etc...
?X: Therefore, we strip all this variable assignment junk and remove all the
?X: new lines to keep the myuname variable sane... --RAM
myuname=`echo $myuname | $sed -e
 's/^[^=]*=//' -e 's/\///g' | \
 ./tr '[A-Z]' '[a-z]' | $tr $trnl ' '`
?X: Save the value we just computed to reset myuname after we get done here.
newmyuname="$myuname"
$test -f "$uname$_exe" && has_uname=y

: Guessing of the OS name -- half the following guesses are probably wrong...
: If you have better tests or hints, please send them to the metaconfig
: authors and to <MAINTLOC>
$test -f /irix && osname=irix
$test -f /xenix && osname=sco_xenix
$test -f /dynix && osname=dynix
$test -f /dnix && osname=dnix
$test -f /lynx.os && osname=lynxos
$test -f /unicos && osname=unicos && osvers=`$uname -r`
$test -f /unicosmk && osname=unicosmk && osvers=`$uname -r`
$test -f /unicosmk.ar && osname=unicosmk && osvers=`$uname -r`
$test -f /bin/mips && /bin/mips && osname=mips
$test -d /NextApps && set X `hostinfo | $grep 'NeXT Mach.*:' | \
 $sed -e 's/://' -e 's/\./_/'` && osname=next && osvers=$4
$test -d /usr/apollo/bin && osname=apollo
$test -f /etc/saf/_sactab && osname=svr4
$test -d /usr/include/minix
```

```
 && osname=minix
$test -f /system/gnu_library/bin/ar.pm && osname=vos
if $test -d /MachTen -o -d /MachTen_Folder; then
?X:  MachTen uname -a output looks like
?X:  xxx 4 0.0 Macintosh
?X:  MachTen /sbin/version output looks like
?X:  MachTen 4.0 Mon Aug 28 10:18:00 1995
?X:  MachTen 3.x had the 'version' command in /usr/etc/version.
 osname=machten
 if $test -x /sbin/version; then
  osvers=`/sbin/version | $awk '{print $2}' |
  $sed -e 's/[A-Za-z]$//'`
 elif $test -x /usr/etc/version; then
  osvers=`/usr/etc/version | $awk '{print $2}' |
  $sed -e 's/[A-Za-z]$//'`
 else
  osvers="$2.$3"
 fi
fi
$test -f /sys/posix.dll &&
 $test -f /usr/bin/what &&
 set X `/usr/bin/what /sys/posix.dll` &&
 $test "$3" = UWIN &&
 osname=uwin &&
 osvers="$5"
?X: If we have uname, we already computed a suitable uname -a output, correctly
?X: formatted for Xenix, and it lies in $myuname.
if $test "X$has_uname" != X; then
 set X $myuname
 shift
 case "$5" in
 fps*) osname=fps ;;
 mips*)
  case "$4"
 in
  umips) osname=umips ;;
  *) osname=mips ;;
  esac;;
 [23]100) osname=mips ;;
 next*) osname=next ;;
?X: Interactive Unix.
 i386*)
  tmp=`/bin/uname -X 2>/dev/null|awk '/3\.2v[45]/{ print $(NF) }'`
  if $test "$tmp" != "" -a "$3" = "3.2" -a -f '/etc/systemid'; then
   osname='sco'
   osvers=$tmp
  elif $test -f /etc/kconfig; then
   osname=isc
```

```
  if $test "$lns" = "$ln -s"; then
   osvers=4
  elif $contains _SYSV3 /usr/include/stdio.h > /dev/null 2>&1 ; then
   osvers=3
  elif $contains _POSIX_SOURCE /usr/include/stdio.h > /dev/null 2>&1 ; then
   osvers=2
  fi
 fi
 tmp=''
 ;;
?X: MS-DOS djgpp uname -a output looks like:
?X: ms-dos xxx 6 22 pc
?X:  $1 is the "dos flavor" (need not be "ms-dos").
?X:  $2 is the node name
?X:  $3 and $4 are version/subversion
?X:  $5 is always "pc", but that might not be unique to DJGPP.
?X: (e.g. Solaris_x86 has $5 = i86pc, which doesn't actually conflict,
?X: but it's close enought that I can easily imagine other vendors also
?X: using variants
 of pc* in $5.)
?X:  The "DJGPP" environment variable is always set when djgpp is active.
 pc*)
  if $test -n "$DJGPP"; then
   osname=dos
   osvers=djgpp
  fi
  ;;
 esac
 case "$1" in
 aix) osname=aix
?X: aix 4.1 uname -a output looks like
?X:  AIX  foo  1 4 000123456789
?X: where $4 is the major release number and $3 is the (minor) version.
?X: More detail on the version is available with the oslevel command.
?X: in 3.2.x, it output a string (see case statements below).  In 4.1,
?X: it puts out something like  4.1.1.0
  tmp=`( (oslevel) 2>/dev/null || echo "not found") 2>&1`
  case "$tmp" in
  'not found') osvers="$4"."$3" ;;
  '<3240'|'<>3240') osvers=3.2.0 ;;
  '=3240'|'>3240'|'<3250'|'<>3250') osvers=3.2.4 ;;
  '=3250'|'>3250') osvers=3.2.5 ;;
  *) osvers=$tmp;;
  esac
  ;;
 bsd386) osname=bsd386
  osvers=`$uname -r`
  ;;
```

```
 cygwin*) osname=cygwin
  osvers="$3"
  ;;
 *dc.osx) osname=dcosx
  osvers="$3"
  ;;
 dnix) osname=dnix
  osvers="$3"
  ;;
 domainos) osname=apollo
  osvers="$3"
  ;;
 dgux)
 osname=dgux
  osvers="$3"
  ;;
?X:  uname -a returns
?X:  DYNIX/ptx xxx 4.0 V4.1.2 i386
 dynixptx*) osname=dynixptx
  osvers=`echo "$4"|sed 's/^v//'`
  ;;
 freebsd) osname=freebsd
  osvers="$3" ;;
 genix) osname=genix ;;
?X: HP-UX uname -a gives something like
?X: HP-UX foobar B.10.20 A 9000/735 2016483812 two-user license
?X: Preserve the full 10.20 string instead of the previous plain '10'.
?X:  Thanks to Graham Barr.    --AD 6/30/1998
 hp*) osname=hpux
  osvers=`echo "$3" | $sed 's,.*\.\([0-9]*\.[0-9]*\),\1,'`
  ;;
 irix*) osname=irix
  case "$3" in
  4*) osvers=4 ;;
  5*) osvers=5 ;;
  *) osvers="$3" ;;
  esac
  ;;
 linux) osname=linux
  case "$3" in
  *) osvers="$3" ;;
  esac
  ;;
 MiNT) osname=mint
  ;;
 netbsd*) osname=netbsd
  osvers="$3"
  ;;
```

```
news-os) osvers="$3"
 case "$3" in
 4*) osname=newsos4 ;;
 *) osname=newsos ;;
 esac
 ;;
next*) osname=next ;;
nonstop-ux) osname=nonstopux ;;
openbsd) osname=openbsd
   osvers="$3"
   ;;
POSIX-BC | posix-bc
) osname=posix-bc
 osvers="$3"
 ;;
powerux | power_ux | powermax_os | powermaxos | \
powerunix | power_unix) osname=powerux
 osvers="$3"
 ;;
qnx) osname=qnx
 osvers="$4"
 ;;
solaris) osname=solaris
 case "$3" in
 5*) osvers=`echo $3 | $sed 's/^5/2/g'` ;;
 *) osvers="$3" ;;
 esac
 ;;
sunos) osname=sunos
 case "$3" in
 5*) osname=solaris
  osvers=`echo $3 | $sed 's/^5/2/g'` ;;
 *) osvers="$3" ;;
 esac
 ;;
titanos) osname=titanos
 case "$3" in
 1*) osvers=1 ;;
 2*) osvers=2 ;;
 3*) osvers=3 ;;
 4*) osvers=4 ;;
 *) osvers="$3" ;;
 esac
 ;;
ultrix) osname=ultrix
 osvers="$3"
 ;;
osf1|mls+) case "$5" in
```

```
 alpha)
?X: DEC OSF/1 myuname -a output looks like:  osf1 xxxx t3.2 123.4 alpha
?X: where the version number can be something like [xvt]n.n
   osname=dec_osf
?X: sizer knows the minor minor version: the letter
   osvers=`sizer -v | awk '{print $3}' | \
    ./tr '[A-Z]' '[a-z]' | sed 's/^[xvt]//'`
   case "$osvers" in
   [1-9].[0-9]*) ;;
   *) osvers=`echo
 "$3" | sed 's/^[xvt]//'` ;;
   esac
   ;;
 hp*) osname=hp_osf1 ;;
 mips) osname=mips_osf1 ;;
?X: hp and mips were unsupported Technology Releases -- ADO, 24/10/94
 esac
 ;;
 unixware) osname=svr5
 osvers="$4"
 ;;
 uts) osname=uts
 osvers="$3"
 ;;
 vos) osvers="$3"
 ;;
 $2) case "$osname" in
 *isc*) ;;
 *freebsd*) ;;
 svr*)
  : svr4.x or possibly later
  case "svr$3" in
  ${osname}*)
   osname=svr$3
   osvers=$4
   ;;
  esac
  case "$osname" in
  svr4.0)
   : Check for ESIX
   if $test -f /stand/boot ; then
    eval `$grep '^INITPROG=[a-z/0-9]*$' /stand/boot`
    if $test -n "$INITPROG" -a -f "$INITPROG"; then
     isesix=`strings -a $INITPROG | \
      $grep 'ESIX SYSTEM V/386 Release 4.0'`
     if $test -n "$isesix"; then
      osname=esix4
     fi
```

```
    fi
   fi
   ;;
  esac
  ;;
 *) if $test -f /etc/systemid; then
   osname=sco
   set `echo $3 | $sed 's/\./ /g'` $4
   if $test -f $src/hints/sco_$1_$2_$3.sh; then
    osvers=$1.$2.$3
   elif $test
-f $src/hints/sco_$1_$2.sh; then
    osvers=$1.$2
   elif $test -f $src/hints/sco_$1.sh; then
    osvers=$1
   fi
  else
   case "$osname" in
   '') : Still unknown.  Probably a generic Sys V.
    osname="sysv"
    osvers="$3"
    ;;
   esac
  fi
  ;;
 esac
 ;;
 *) case "$osname" in
 '') : Still unknown.  Probably a generic BSD.
  osname="$1"
  osvers="$3"
  ;;
 esac
 ;;
esac
else
?X: Try to identify sony's NEWS-OS (BSD unix)
 if $test -f /vmunix -a -f $src/hints/news_os.sh; then
  (what /vmunix | UU/tr '[A-Z]' '[a-z]') > UU/kernel.what 2>&1
  if $contains news-os UU/kernel.what >/dev/null 2>&1; then
   osname=news_os
  fi
  $rm -f UU/kernel.what
?X: Maybe it's OS/2 or DOS or something similar
 elif $test -d c:/.; then
  set X $myuname
  osname=os2
  osvers="$5"
```

```
 fi
fi

: Try to determine whether config.sh was made on this system
case "$config_sh" in
'')
?X: indentation wrong on purpose--RAM
dflt=n
case "$knowitall" in
'')
 if test -f ../config.sh; then
  if $contains
 myuname= ../config.sh >/dev/null 2>&1; then
   eval "`$grep myuname= ../config.sh`"
  fi
  if test "X$myuname" = "X$newmyuname"; then
   dflt=y
  fi
 fi
 ;;
*) dflt=y;;
esac

: Get old answers from config file if it was generated on the same system
hint=default
if $test -f ../config.sh; then
 echo " "
 rp="I see a config.sh file.  Shall I use it to set the defaults?"
 . ./myread
 case "$ans" in
 n*|N*) echo "OK, I'll ignore it."
  mv ../config.sh ../config.sh.old
  myuname="$newmyuname"
  ;;
 *)  echo "Fetching default answers from your old config.sh file..." >&4
  tmp_n="$n"
  tmp_c="$c"
  tmp_sh="$sh"
  . ../config.sh
  cp ../config.sh .
  n="$tmp_n"
  c="$tmp_c"
  hint=previous
  ;;
 esac
fi
?X: remember, case indentation is wrong--RAM
;;
```

```
*)
 echo " "
 echo "Fetching default answers from $config_sh..." >&4
 tmp_n="$n"
 tmp_c="$c"
 tmp_sh="$sh"
 cd ..
?X: preserve symbolic links, if any
 cp $config_sh config.sh 2>/dev/null
 chmod +w config.sh
 . ./config.sh
 cd UU
 cp ../config.sh
 .
 n="$tmp_n"
 c="$tmp_c"
 hint=previous
 ;;
esac
?X: Older versions did not always set $sh.
case "$sh" in
'') sh="$tmp_sh" ;;
esac
$test "$override" && . ./optdef.sh

: Restore computed paths
for file in $loclist $trylist; do
 eval $file="\$_$file"
done

. ./checkcc
?X: Cross-compiling support
case "$targetarch" in
'') ;;
*)  hostarch=$osname
 osname=`echo $targetarch|sed 's,^[^-]*-,,'`
 osvers=''
 ;;
esac

@if {test -d ../hints}
: Offer them some hints based on their OS
cd ..
?X: Since we are now at the root of the source tree, we must use $src
?X: to access the sources and not $rsrc. See src.U for details...
if $test ! -f config.sh; then
 $cat <<EOM
```

First time through, eh?  I have some defaults handy for some systems
that need some extra help getting the Configure answers right:

```
EOM
 (cd $src/hints; ls -C *.sh) | $sed 's/\.sh/   /g' >&4
 dflt="

 : Now look for a hint file osname_osvers, unless one has been
 : specified already.
 case "$hintfile" in
 "|' ')
  file=`echo "${osname}_${osvers}"
 | $sed -e 's%\.%_%g' -e 's%_$%%'`
  : Also try without trailing minor version numbers.
  xfile=`echo $file | $sed -e 's%_[^_]*$%%'`
  xxfile=`echo $xfile | $sed -e 's%_[^_]*$%%'`
  xxxfile=`echo $xxfile | $sed -e 's%_[^_]*$%%'`
  xxxxfile=`echo $xxxfile | $sed -e 's%_[^_]*$%%'`
  case "$file" in
  '') dflt=none ;;
  *)  case "$osvers" in
   '') dflt=$file
    ;;
   *)  if $test -f $src/hints/$file.sh ; then
     dflt=$file
    elif $test -f $src/hints/$xfile.sh ; then
     dflt=$xfile
    elif $test -f $src/hints/$xxfile.sh ; then
     dflt=$xxfile
    elif $test -f $src/hints/$xxxfile.sh ; then
     dflt=$xxxfile
    elif $test -f $src/hints/$xxxxfile.sh ; then
     dflt=$xxxxfile
    elif $test -f "$src/hints/${osname}.sh" ; then
     dflt="${osname}"
    else
     dflt=none
    fi
    ;;
   esac
   ;;
  esac
  if $test -f Policy.sh ; then
   case "$dflt" in
   *Policy*) ;;
   none) dflt="Policy" ;;
   *) dflt="Policy $dflt" ;;
   esac
```

```
 fi
 ;;
*)
 dflt=`echo
$hintfile | $sed 's/\.sh$//'`
 ;;
esac

if $test -f Policy.sh ; then
 $cat <<EOM

There's also a Policy hint file available, which should make the
site-specific (policy) questions easier to answer.
EOM

 fi

 $cat <<EOM

You may give one or more space-separated answers, or "none" if appropriate.
A well-behaved OS will have no hints, so answering "none" or just "Policy"
is a good thing.  DO NOT give a wrong version or a wrong OS.

EOM

 rp="Which of these apply, if any?"
 . UU/myread
 tans=$ans
 for file in $tans; do
  if $test X$file = XPolicy -a -f Policy.sh; then
   . Policy.sh
   $cat Policy.sh >> UU/config.sh
  elif $test -f $src/hints/$file.sh; then
   . $src/hints/$file.sh
   $cat $src/hints/$file.sh >> UU/config.sh
  elif $test X"$tans" = X -o X"$tans" = Xnone ; then
   : nothing
  else
   : Give one chance to correct a possible typo.
   echo "$file.sh does not exist"
   dflt=$file
   rp="hint to use instead?"
   . UU/myread
   for file in $ans; do
    if $test -f "$src/hints/$file.sh";
 then
     . $src/hints/$file.sh
     $cat $src/hints/$file.sh >> UU/config.sh
```

```
    elif $test X$ans = X -o X$ans = Xnone ; then
     : nothing
    else
     echo "$file.sh does not exist -- ignored."
    fi
   done
  fi
 done

 hint=recommended
 : Remember our hint file for later.
 if $test -f "$src/hints/$file.sh" ; then
  hintfile="$file"
 else
  hintfile="
 fi
fi
cd UU
?X: From here on, we must use $rsrc instead of $src

@end
: Process their -A options
. ./posthint.sh

@if osname || osvers
: Ask them to confirm the OS name
cat << EOM

Configure uses the operating system name and version to set some defaults.
The default value is probably right if the name rings a bell. Otherwise,
since spelling matters for me, either accept the default or answer "none"
to leave it blank.

EOM
@end
@if osname
case "$osname" in
 "|' ')
  case "$hintfile" in
  "|' '|none) dflt=none ;;
  *)  dflt=`echo $hintfile | $sed -e 's/\.sh$//' -e 's/_.*$//'` ;;
  esac
  ;;
 *) dflt="$osname" ;;
esac
rp="Operating
 system name?"
. ./myread
```

```
case "$ans" in
none)  osname='' ;;
*) osname=`echo "$ans" | $sed -e 's/[  ][ ]*/_/g' | ./tr '[A-Z]' '[a-z]'`;;
esac
@end
@if osvers
@if osname
echo " "
@end
case "$osvers" in
 "|' ')
  case "$hintfile" in
  "|' '|none) dflt=none ;;
  *) dflt=`echo $hintfile | $sed -e 's/\.sh$//' -e 's/^[^_]*//'`
   dflt=`echo $dflt | $sed -e 's/^_//' -e 's/_/./g'`
   case "$dflt" in
   "|' ') dflt=none ;;
   esac
   ;;
  esac
  ;;
 *) dflt="$osvers" ;;
esac
rp="Operating system version?"
. ./myread
case "$ans" in
none)  osvers='' ;;
*) osvers="$ans" ;;
esac

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Oldconfig.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lseektype.U,v 3.0.1.1 1994/08/29 16:30:10 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: lseektype.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:30:10  ram
```

```
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lseektype lseeksize: Myread Typedef cat Compile rm_try longsize run
?MAKE: -pick add $@ %<
?S:lseektype:
?S: This variable defines lseektype to be something like off_t, long,
?S: or whatever type is used to declare
 lseek offset's type in the
?S: kernel (which also appears to be lseek's return type).
?S:.
?S:lseeksize:
?S: This variable defines lseektype to be something like off_t, long,
?S: or whatever type is used to declare lseek offset's type in the
?S: kernel (which also appears to be lseek's return type).
?S:.
?C:Off_t (LSEEKTYPE):
?C: This symbol holds the type used to declare offsets in the kernel.
?C: It can be int, long, off_t, etc... It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?C:LSEEKSIZE:
?C: This symbol holds the number of bytes used by the Off_t.
?C:.
?C:Off_t_size:
?C: This symbol holds the number of bytes used by the Off_t.
?C:.
?H:#define Off_t $lseektype  /* <offset> type */
?H:#define LSEEKSIZE $lseeksize  /* <offset> size */
?H:#define Off_t_size $lseeksize /* <offset> size */
?H:.
?F:!try
?LINT:set lseektype
: see what type lseek is declared as in the kernel
rp="What is the type used for lseek's offset on this system?"
set off_t lseektype
 long stdio.h sys/types.h
eval $typedef_ask

echo " "
echo "Checking to see how big your file offsets are..." >&4
$cat >try.c <<EOCP
#include <sys/types.h>
#include <stdio.h>
int main()
{
```

```
  printf("%d\n", (int)sizeof($lseektype));
  return(0);
}
EOCP
set try
if eval $compile_ok; then
 lseeksize=`$run ./try`
 echo "Your file offsets are $lseeksize bytes long."
else
 dflt=$longsize
 echo " "
 echo "(I can't seem to compile the test program.  Guessing...)"
 rp="What is the size of your file offsets (in bytes)?"
 . ./myread
 lseeksize="$ans"
fi
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/lseektype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setnetent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_setnetent_r setnetent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_setnetent_r:
?S: This variable conditionally defines the HAS_SETNETENT_R symbol,
?S: which indicates to the C program that the setnetent_r()
?S: routine is available.
?S:.
?S:setnetent_r_proto:
?S: This variable encodes the prototype of setnetent_r.
?S: It is zero if d_setnetent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setnetent_r
?S: is defined.
?S:.
?C:HAS_SETNETENT_R:
?C: This symbol, if defined, indicates that the setnetent_r routine
?C: is
```

```
 available to setnetent re-entrantly.
?C:.
?C:SETNETENT_R_PROTO:
?C: This symbol encodes the prototype of setnetent_r.
?C: It is zero if d_setnetent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setnetent_r
?C: is defined.
?C:.
?H:#$d_setnetent_r HAS_SETNETENT_R    /**/
?H:#define SETNETENT_R_PROTO $setnetent_r_proto    /**/
?H:.
?T:try hdrs d_setnetent_r_proto
: see if setnetent_r exists
set setnetent_r d_setnetent_r
eval $inlibc
case "$d_setnetent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_setnetent_r_proto:$usethreads" in
 ":define") d_setnetent_r_proto=define
  set d_setnetent_r_proto setnetent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_setnetent_r_proto" in
 define)
 case "$setnetent_r_proto" in
 "|0) try='int setnetent_r(int, struct netent_data*);'
 ./protochk "$extern_C $try" $hdrs && setnetent_r_proto=I_ID ;;
 esac
 case "$setnetent_r_proto" in
 "|0) try='void setnetent_r(int, struct netent_data*);'
 ./protochk
 "$extern_C $try" $hdrs && setnetent_r_proto=V_ID ;;
 esac
 case "$setnetent_r_proto" in
 "|0) d_setnetent_r=undef
        setnetent_r_proto=0
  echo "Disabling setnetent_r, cannot determine prototype." >&4 ;;
 * ) case "$setnetent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) setnetent_r_proto="REENTRANT_PROTO_$setnetent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "setnetent_r has no prototype, not using it." >&4 ;;
```

```
 esac
 d_setnetent_r=undef
 setnetent_r_proto=0
 ;;
esac
;;
*) setnetent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_setnetent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setrgid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setrgid.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setrgid: Inlibc
?MAKE: -pick add $@ %<
?S:d_setrgid:
?S: This variable conditionally defines the HAS_SETRGID symbol, which
?S: indicates to the C program that the setrgid() routine is available
?S: to change the real gid of the current program.
?S:.
?C:HAS_SETRGID (SETRGID):
?C: This symbol, if defined, indicates that the setrgid
 routine is available
?C: to change the real gid of the current program.
?C:.
?H:#$d_setrgid HAS_SETRGID  /**/
?H:.
?LINT:set d_setrgid
: see if setrgid exists
set setrgid d_setrgid
eval $inlibc
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setrgid.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_execinfo.U 34 2010-11-27 11:55:39Z rmanfredi $
?RCS:
?RCS: Copyright (c) 2011, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:i_execinfo: Inhdr
?MAKE: -pick add $@ %<
?S:i_execinfo:
?S: This variable conditionally defines the I_EXECINFO symbol, and indicates
?S: whether a C program may include <execinfo.h>, for backtrace() support.
?S:.
?C:I_EXECINFO:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <execinfo.h> for backtrace() support.
?C:.
?H:#$i_execinfo I_EXECINFO  /**/
?H:.
?LINT:set i_execinfo
: see if this is an execinfo.h system
set execinfo.h i_execinfo
eval
 $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_execinfo.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_libutil.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_libutil: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_libutil:
?S: This variable conditionally defines the I_LIBUTIL symbol, and indicates
?S: whether a C program should include <libutil.h>.
?S:.

?C:I_LIBUTIL:
?C: This symbol, if defined, indicates that <libutil.h> exists and
?C: should be included.
?C:.
?H:#$i_libutil I_LIBUTIL  /**/
?H:.
?LINT:set i_libutil
: see if this is a libutil.h system
set libutil.h i_libutil
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_libutil.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mallocsrc.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:10:26  ram
?RCS: patch61: added support for Free_t, the type of free()
?RCS: patch61: replaced .o with $_o all over the place
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:10:46  ram
?RCS: patch23: added support for MYMALLOC, mainly  for perl5 (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:mallocsrc mallocobj usemymalloc malloctype d_mymalloc \
 freetype: Myread \
 Oldconfig
 package Guess Setvar rm cat +cc +ccflags Findhdr \
 i_malloc i_stdlib sed libs _o ptrsize
?MAKE: -pick add $@ %<
?X: Put near top so that other tests don't erroneously include
?X: -lmalloc.  --AD  22 June 1998
?Y:TOP
?S:usemymalloc:
?S: This variable contains y if the malloc that comes with this package
?S: is desired over the system's version of malloc.  People often include

```
?S: special versions of malloc for effiency, but such versions are often
?S: less portable.  See also mallocsrc and mallocobj.
?S: If this is 'y', then -lmalloc is removed from $libs.
?S:.
?S:mallocsrc:
?S: This variable contains the name of the malloc.c that comes with
?S: the package, if that malloc.c is preferred over the system malloc.
?S: Otherwise the value is null.  This variable is intended for generating
?S: Makefiles.
?S:.
?S:d_mymalloc:
?S: This variable conditionally defines MYMALLOC in case other parts
?S: of the source want to take special action if MYMALLOC is used.
?S: This may include different sorts
 of profiling or error detection.
?S:.
?S:mallocobj:
?S: This variable contains the name of the malloc.o that this package
?S: generates, if that malloc.o is preferred over the system malloc.
?S: Otherwise the value is null.  This variable is intended for generating
?S: Makefiles.  See mallocsrc.
?S:.
?S:freetype:
?S: This variable contains the return type of free().  It is usually
?S: void, but occasionally int.
?S:.
?S:malloctype:
?S: This variable contains the kind of ptr returned by malloc and realloc.
?S:.
?C:Free_t:
?C: This variable contains the return type of free().  It is usually
?C: void, but occasionally int.
?C:.
?C:Malloc_t (MALLOCPTRTYPE):
?C: This symbol is the type of pointer returned by malloc and realloc.
?C:.
?H:#define Malloc_t $malloctype   /**/
?H:#define Free_t $freetype   /**/
?H:.
?C:MYMALLOC:
?C: This symbol, if defined, indicates that we're using our own malloc.
?C:.
?H:#$d_mymalloc MYMALLOC   /**/
?H:.
?LINT:change libs
?X: Cannot test for mallocsrc; it
 is the unit's name and there is a bug in
?X: the interpreter which defines all the names, even though they are not used.
```

```
@if mallocobj
: determine which malloc to compile in
echo " "
case "$usemymalloc" in
[yY]*|true|$define) dflt='y' ;;
[nN]*|false|$undef) dflt='n' ;;
*)
 case "$ptrsize" in
 4) dflt='y' ;;
 *) dflt='n' ;;
 esac
 ;;
esac
rp="Do you wish to attempt to use the malloc that comes with $package?"
. ./myread
usemymalloc="$ans"
case "$ans" in
y*|true)
 usemymalloc='y'
 mallocsrc='malloc.c'
 mallocobj="malloc$_o"
 d_mymalloc="$define"
?X: Maybe libs.U should be dependent on mallocsrc.U, but then
?X: most packages that use dist probably don't supply their own
?X: malloc, so this is probably an o.k. comprpomise
 case "$libs" in
 *-lmalloc*)
  : Remove malloc from list of libraries to use
  echo "Removing unneeded -lmalloc from library list" >&4
  set `echo X $libs | $sed -e 's/-lmalloc / /' -e 's/-lmalloc$//'`
  shift
  libs="$*"
  echo "libs = $libs" >&4
  ;;
 esac
 ;;
*)
 usemymalloc='n'
 mallocsrc=''
 mallocobj=''
 d_mymalloc="$undef"
 ;;
esac

@end
@if
 MALLOCPTRTYPE || Malloc_t || Free_t
: compute the return types of malloc and free
```

```
echo " "
$cat >malloc.c <<END
#$i_malloc I_MALLOC
#$i_stdlib I_STDLIB
#include <stdio.h>
#include <sys/types.h>
#ifdef I_MALLOC
#include <malloc.h>
#endif
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#ifdef TRY_MALLOC
void *malloc();
#endif
#ifdef TRY_FREE
void free();
#endif
END
@if MALLOCPTRTYPE || Malloc_t
case "$malloctype" in
")
 if $cc $ccflags -c -DTRY_MALLOC malloc.c >/dev/null 2>&1; then
  malloctype='void *'
 else
  malloctype='char *'
 fi
 ;;
esac
echo "Your system wants malloc to return '$malloctype', it would seem." >&4
@end

@if Free_t
case "$freetype" in
")
 if $cc $ccflags -c -DTRY_FREE malloc.c >/dev/null 2>&1; then
  freetype='void'
 else
  freetype='int'
 fi
 ;;
esac
echo "Your system uses $freetype free(), it would seem." >&4
@end
$rm -f malloc.[co]
@end
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/mallocsrc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: locdist.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: locdist.U,v $
?RCS: Revision 3.0.1.1  1994/05/06  15:09:20  ram
?RCS: patch23: added support for multi-state regions (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:06  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:locdist orgdist citydist statedist multistatedist cntrydist contdist: \
 test newslibexp cat Myread Oldconfig
?MAKE: -pick add $@ %<
?S:locdist:
?S: This variable contains the eventual value of the LOCDIST symbol,
?S: which
 is the local organization's distribution name for news.
?S:.
?S:orgdist:
?S: This variable contains the eventual value of the ORGDIST symbol,
?S: which is the organization's distribution name for news.
?S:.
?S:citydist:
?S: This variable contains the eventual value of the CITYDIST symbol,
?S: which is the city's distribution name for news.
?S:.
?S:statedist:
?S: This variable contains the eventual value of the STATEDIST symbol,
?S: which is the state's or province's distribution name for news.
?S:.
?S:multistatedist:
?S: This variable contains the eventual value of the MULTISTATEDIST symbol,
?S: which is the news distribution code for multi-state region.
?S:.
?S:cntrydist:
?S: This variable contains the eventual value of the CNTRYDIST symbol,
?S: which is the country's distribution name for news.
?S:.
```

```
?S:contdist:
?S: This variable contains the eventual value of the CONTDIST symbol,
?S: which is the continent's distribution name for news.
?S:.
?C:LOCDIST:
?C: This symbol contains the
 distribution name for the news system that
?C: restricts article distribution to the local organization.
?C:.
?C:ORGDIST:
?C: This symbol contains the distribution name for the news system that
?C: restricts article distribution to the organization.
?C:.
?C:CITYDIST:
?C: This symbol contains the distribution name for the news system that
?C: restricts article distribution to the city.
?C:.
?C:STATEDIST:
?C: This symbol contains the distribution name for the news system that
?C: restricts article distribution to the state or province.
?C:.
?C:MULTISTATEDIST:
?C: This symbol contains the distribution name for the news system that
?C: restricts article distribution to a multi-state region.
?C:.
?C:CNTRYDIST:
?C: This symbol contains the distribution name for the news system that
?C: restricts article distribution to the country.
?C:.
?C:CONTDIST:
?C: This symbol contains the distribution name for the news system that
?C: restricts article distribution to the continent.
?C:.
?H:#define LOCDIST
 "$locdist"  /**/
?H:#define ORGDIST "$orgdist"  /**/
?H:#define CITYDIST "$citydist"  /**/
?H:#define MULTISTATEDIST "$multistatedist" /**/
?H:#define STATEDIST "$statedist"  /**/
?H:#define CNTRYDIST "$cntrydist"  /**/
?H:#define CONTDIST "$contdist"  /**/
?H:.
: get the local distributions
$cat <<'EOH'

Distribution groups are the things you use on the Distribution line to limit
where an article will go to.  You are likely to be a member of several
distribution groups, such as organization, city, state, province, country,
```

```
continent, etc.  For example, Los Angeles has the distribution code "la",
New Jersey has the code "nj", and Europe has the code "eunet".

The categories you will be asked are:

local organization (Could be just one machine or a cluster or an office)
organization  att, dec, kgb, ...
city   la, ny, mosc, ...
state/province  ca, nj, bc, ...
multi-state region pnw, ne, ...
country   usa, can, rok, whatever
continent  na (North America), asia, etc.

EOH
if $test
 -f $newslibexp/distributions; then
 case "$silent" in
 true) ;;
 *) dflt='Hit return to continue'
  rp="
  . ./myread
  ;;
 esac
 echo "Here is your distributions file:" >&4
 echo " " >&4
 $cat >&4 $newslibexp/distributions
 echo " " >&4
fi
echo "Use 'none' for any distributions you don't have."
echo " "
case "$locdist" in
") dflt="none";;
*)  dflt="$locdist";;
esac
rp="What is the distribution code for your local organization?"
. ./myread
locdist="$ans"
case "$orgdist" in
") dflt="none";;
*)  dflt="$orgdist";;
esac
rp="What is the distribution code for your organization?"
. ./myread
orgdist="$ans"
case "$citydist" in
") dflt="none";;
*)  dflt="$citydist";;
esac
```

```
rp="What is the distribution code for your city?"
. ./myread
citydist="$ans"
case "$statedist" in
') dflt="none";;
*)  dflt="$statedist";;
esac
rp="What is the distribution code for your state/province?"
. ./myread
statedist="$ans"
case "$multistatedist" in
') dflt="none";;
*) dflt="$multistatedist";;
esac
rp="What is the
 distribution code for your multi-state region?"
. ./myread
multistatedist="$ans"
case "$cntrydist" in
') dflt="none";;
*)  dflt="$cntrydist";;
esac
rp="What is the distribution code for your country?"
. ./myread
cntrydist="$ans"
case "$contdist" in
') dflt="none";;
*)  dflt="$contdist";;
esac
rp="What is the distribution code for your continent?"
. ./myread
contdist="$ans"
$cat <<'EOM'

If you have any other distribution groups you will need to edit Pnews
and newsetup to add them.
EOM

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/locdist.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_rint: Inlibc
?MAKE: -pick add $@ %<
?S:d_rint:
```

?S: This variable conditionally defines the HAS_RINT symbol, which
?S: indicates to the C program that the rint() routine is available.
?S:.
?C:HAS_RINT:
?C: This symbol, if defined, indicates that the rint routine is
?C: available to return the nearest integral value to x as double
?C: using the current rounding mode.
?C:.
?H:#$d_rint HAS_RINT  /**/
?H:.
?LINT:set d_rint
: see if rint exists
set rint d_rint
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_rint.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_exp2: Inlibc
?MAKE: -pick add $@ %<
?S:d_exp2:
?S: This variable conditionally defines the HAS_EXP2 symbol, which
?S: indicates to the C program that the exp2() routine is available.
?S:.
?C:HAS_EXP2:
?C: This symbol, if defined, indicates that the exp2 routine is
?C: available to do the 2**x function.
?C:.
?H:#$d_exp2 HAS_EXP2  /**/
?H:.
?LINT:set d_exp2
: see if exp2 exists
set exp2 d_exp2
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_exp2.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_lgamma_r: Inlibc
?MAKE: -pick add $@ %<

```
?S:d_lgamma_r:
?S: This variable conditionally defines the HAS_LGAMMA_R symbol, which
?S: indicates to the C program that the lgamma_r() routine is available
?S: for the log gamma function, without using the global signgam variable.
?S:.
?C:HAS_LGAMMA_R:
?C: This symbol, if defined, indicates that the lgamma_r routine is
?C: available to do the log gamma function without using the global
?C: signgam variable.
?C:.
?H:#$d_lgamma_r HAS_LGAMMA_R  /**/
?H:.
?LINT:set d_lgamma_r
: see if lgamma_r exists
set lgamma_r d_lgamma_r
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lgamma_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_sendmsg: Inlibc
?MAKE: -pick add $@ %<
?S:d_sendmsg:
?S: This variable conditionally defines the HAS_SENDMSG symbol, which
?S: indicates to the C program that the sendmsg() routine is available.
?S:.
?C:HAS_SENDMSG:
?C: This symbol, if defined, indicates that the sendmsg routine is
?C: available to send structured socket messages.
?C:.
?H:#$d_sendmsg HAS_SENDMSG  /**/
?H:.
?LINT:set d_sendmsg
: see if sendmsg exists
set sendmsg d_sendmsg
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sendmsg.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_csh.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:32:18  ram
?RCS: patch61: added full_csh to preserve the full path even when portable
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:53  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_csh full_csh: csh Setvar
?MAKE: -pick add $@ %<
?S:d_csh:
?S: This variable conditionally defines the CSH symbol, which
?S: indicates to the C program that the C-shell exists.
?S:.
?S:full_csh:
?S: This variable contains the full pathname to 'csh', whether
 or
?S: not the user has specified 'portability'.  This is only used
?S: in the compiled C program, and we assume that all systems which
?S: can share this executable will have the same full pathname to
?S: 'csh.'
?S:.
?C:HAS_CSH:
?C: This symbol, if defined, indicates that the C-shell exists.
?C:.
?C:CSH:
?C: This symbol, if defined, contains the full pathname of csh.
?C:.
?X: Previously, I just did $d_csh CSH "$full_csh", but that caused
?X: problems on VMS where the config.sh extraction program changes
?X: $undef to a real cpp undef, and they then had  #undef CSH ""
?X: which the compiler didn't like.  It's easy to work around this,
?X: so I did.  --AD  3/1998.
?X: And we don't want to define CSH if !HAS_CSH, but we don't want
?X: those lines in config.h if they don't need CSH, so protect with ?CSH
?X: and not ?%<. --RAM, 15/02/2004
?H:?%<:#$d_csh HAS_CSH  /**/

```
?H:?CSH:#ifdef HAS_CSH
?H:?CSH:#define CSH "$full_csh" /**/
?H:?CSH:#endif
?H:.
?LINT:set d_csh
: get csh whereabouts
case
 "$csh" in
'csh') val="$undef" ;;
*) val="$define" ;;
esac
set d_csh
eval $setvar
: Respect a hint or command line value for full_csh.
case "$full_csh" in
'') full_csh=$csh ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_csh.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_sigvec.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_sigvec.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:45:37  ram
?RCS: patch61: there is now a separate routine for sigaction()
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X: d_sigvec.U, from d_ftime.U 1.0
?X:
?MAKE:d_sigvec d_sigvectr d_sigintrp: Csym Inlibc Setvar
?MAKE: -pick add $@ %<
?S:d_sigvec:
?S: This variable conditionally defines the HAS_SIGVEC symbol, which indicates
?S: that BSD
 reliable signals are supported.
?S:.
```

```
?S:d_sigvectr:
?S: This variable conditionally defines the HAS_SIGVECTOR symbol, which
?S: indicates that the sigvec() routine is called sigvector() instead, for
?S: reasons known only to Hewlett-Packard.
?S:.
?S:d_sigintrp:
?S: This variable conditionally defines the HAS_SIGINTRP symbol, which
?S: indicates that the siginterrupt() routine is available.
?S:.
?C:HAS_SIGVEC (SIGVEC):
?C: This symbol, if defined, indicates that BSD reliable signals are
?C: supported.
?C:.
?C:HAS_SIGVECTOR (SIGVECTOR):
?C: This symbol, if defined, indicates that the sigvec() routine is called
?C: sigvector() instead, and that sigspace() is provided instead of
?C: sigstack().  This is probably only true for HP-UX.
?C:.
?C:HAS_SIGINTRP (SIGINTRP):
?C: This symbol, if defined, indicates that the siginterrupt() routine
?C: is available.
?C:.
?H:#$d_sigvec HAS_SIGVEC /**/
?H:#$d_sigvectr HAS_SIGVECTOR /**/
?H:#$d_sigintrp HAS_SIGINTRP /**/
?H:.
?T:val
?LINT:set d_sigvec d_sigintrp
@if
 d_sigvectr || d_sigvec || HAS_SIGVEC || HAS_SIGVECTOR
: see if sigvector exists -- since sigvec will match the substring
echo " "
if set sigvector val -f d_sigvectr; eval $csym; $val; then
 echo 'sigvector() found--you must be running HP-UX.' >&4
 val="$define"; set d_sigvectr; eval $setvar
 val="$define"; set d_sigvec; eval $setvar
else
: try the original name
 d_sigvectr="$undef"
 if set sigvec val -f d_sigvec; eval $csym; $val; then
  echo 'sigvec() found.' >&4
  val="$define"; set d_sigvec; eval $setvar
 else
  echo 'sigvec() not found--race conditions with signals may occur.' >&4
  val="$undef"; set d_sigvec; eval $setvar
 fi
fi
```

```
@end
@if d_sigintrp || HAS_SIGINTRP
: see if we have siginterrupt
set siginterrupt d_sigintrp
eval $inlibc

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sigvec.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Nothing.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Nothing.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this file is to supply an empty target for the private
?X: Makefile built by metaconfig to order the units.
?X:
?MAKE:Nothing: Head
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Nothing.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Unix.U,v 3.0.1.1 1997/02/28 15:20:06 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Unix.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:20:06  ram
```

?RCS: patch61: created
?RCS:
?X:
?X: The purpose of this unit is to define things that are common across all
?X: known UNIX platforms. If Configure is ported/used on a non-UNIX
?X: environment, then some of the following variables can be redefined in hint
?X: files.
?X:
?MAKE:Unix _exe _a _o exe_ext lib_ext obj_ext path_sep \
 firstmakefile archobjs rm_try: Oldconfig rm
?MAKE: -pick add $@ %<
?S:_exe:
?S: This
 variable defines the extension used for executable files.
?S: DJGPP, Cygwin and OS/2 use '.exe'.  Stratus VOS uses '.pm'.
?S: On operating systems which do not require a specific extension
?S: for executable files, this variable is empty.
?S:.
?S:_a:
?S: This variable defines the extension used for ordinary library files.
?S: For unix, it is '.a'.  The '.' is included.  Other possible
?S: values include '.lib'.
?S:.
?S:_o:
?S: This variable defines the extension used for object files.
?S: For unix, it is '.o'.  The '.' is included.  Other possible
?S: values include '.obj'.
?S:.
?S:firstmakefile:
?S: This variable defines the first file searched by make.  On unix,
?S: it is makefile (then Makefile).  On case-insensitive systems,
?S: it might be something else.  This is only used to deal with
?S: convoluted make depend tricks.
?S:.
?S:archobjs:
?S: This variable defines any additional objects that must be linked
?S: in with the program on this architecture.  On unix, it is usually
?S: empty.
  It is typically used to include emulations of unix calls
?S: or other facilities.  For perl on OS/2, for example, this would
?S: include os2/os2.obj.
?S:.
?X: Metaconfig's Obsolete symbol stuff is too over-eager.  In the
?X: perl sources, it picks up things like "P" and "FLOCK" that are
?X: not used in the way Metaconfig thinks they are.  Thus I can't
?X: just declare these obsolete and then run metaconfig -o.
?X: Instead, I'll just handle them here.
?X: Sadly, history has conspired to give us a web of definitions;

```
?X: this could have been much simpler.
?S:lib_ext:
?S: This is an old synonym for _a.
?S:.
?S:exe_ext:
?S: This is an old synonym for _exe.
?S:.
?S:obj_ext:
?S: This is an old synonym for _o.
?S:.
?S:path_sep:
?S: This is an old synonym for p_ in Head.U, the character
?S: used to separate elements in the command shell search PATH.
?S:.
?S:rm_try:
?S: This is a cleanup variable for try test programs.
?S: Internal Configure use only.
?S:.
?LINT: change p_
?INIT::
 Trailing extension.  Override this in a hint file, if needed.
?INIT:: Extra object files, if any, needed on this platform.
?INIT:archobjs="
: Define several unixisms.
: Hints files or command line option can be used to override them.
: The convoluted testing is in case hints files set either the old
: or the new name.
case "$_exe" in
") case "$exe_ext" in
 ") ;;
 *) _exe="$exe_ext" ;;
 esac
 ;;
esac
case "$_a" in
") case "$lib_ext" in
   ") _a='.a';;
 *) _a="$lib_ext" ;;
 esac
 ;;
esac
case "$_o" in
") case "$obj_ext" in
 ") _o='.o';;
 *) _o="$obj_ext";;
 esac
 ;;
esac
```

```
case "$p_" in
") case "$path_sep" in
 ") p_=':';;
 *) p_="$path_sep";;
 esac
 ;;
esac
exe_ext=$_exe
lib_ext=$_a
obj_ext=$_o
path_sep=$p_

rm_try="$rm -f try try$_exe a.out .out try.[cho] try.$_o core core.try* try.core*"

@if firstmakefile
: Which makefile gets called first.  This is used by make depend.
case "$firstmakefile" in
") firstmakefile='makefile';;
esac

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Unix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_float.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: i_float.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:21:57  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:i_float: Inhdr
?MAKE: -pick add $@ %<
?S:i_float:
?S: This variable conditionally defines the I_FLOAT symbol, and indicates
?S: whether a C program may include <float.h> to get symbols like DBL_MAX
?S: or DBL_MIN, i.e. machine dependent floating point values.
```

```
?S:.
?C:I_FLOAT:
?C: This
 symbol, if defined, indicates to the C program that it should
?C: include <float.h> to get definition of symbols like DBL_MAX or
?C: DBL_MIN, i.e. machine dependent floating point values.
?C:.
?H:#$i_float I_FLOAT  /**/
?H:.
?LINT:set i_float
: see if this is a float.h system
set float.h i_float
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_float.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?X:
?X: This unit allows the duplication of the source tree to the current
?X: directory via symbolic links.  This must be requested explicitly
?X: by them issuing a -Dmksymlinks on the command line.
?X:
?MAKE:Mksymlinks: Mkdirp lns issymlink src rsrc pkgsrc
?MAKE: -pick add $@ %<
?F:!UU
?T: dir filename tmppwd filelist
?LINT:extern mksymlinks
@if {test -f ../MANIFEST}
: Duplicate the tree with symbolic links if -Dmksymlinks was supplied
case "$mksymlinks"
 in
$define|true|[yY]*)
 echo " "
 case "$src" in
 "|'.') echo "Cannot create symlinks in the original directory." >&4
```

```
 exit 1
 ;;
*) case "$lns:$issymlink" in
 *"ln"*" -s:"*"test -"?)
  echo "Creating the symbolic links..." >&4
  echo "(First creating the subdirectories...)" >&4
  cd ..
  awk '{print $1}' $src/MANIFEST | grep / | sed 's:/[^/]*$::' | \
   sort -u | while true
  do
   read dir
   test -z "$dir" && break
   ./UU/mkdirp $dir 2>/dev/null
   if test -d $dir; then
    : ok
   else
    echo "Failed to create '$dir'.  Aborting." >&4
    exit 1
   fi
  done
  echo "(Now creating the symlinks...)" >&4
  awk '{print $1}' $src/MANIFEST | while true; do
   read filename
   test -z "$filename" && break
   if test -f $filename; then
    if $issymlink $filename; then
     rm -f $filename
    fi
   fi
   if test -f $filename; then
    echo "$filename already exists, not symlinking."
   else
?X: Note that the following works because "$pkgsrc" is absolute
    ln
 -s $pkgsrc/$filename $filename
   fi
  done
?X: Check that everything was correctly copied
  echo "(Checking current directory...)" >&4
  cd UU
  awk '$1 !~ /PACK[A-Z]+/ {print $1}' "$rsrc/MANIFEST" | \
   (split -l 50 2>/dev/null || split -50)
  rm -f missing
  tmppwd=`pwd`
  for filelist in x??; do
   (cd ..; ls `cat "$tmppwd/$filelist"` \
    >/dev/null 2>>"$tmppwd/missing")
  done
```

```
  if test -s missing; then
   echo "Failed duplication of source tree.  Aborting." >&4
   exit 1
  fi
  ;;
 *) echo "(I cannot figure out how to do symbolic links, ignoring!)" >&4
  ;;
 esac
 ;;
esac
;;
esac

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Mksymlinks.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_fcntl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_fcntl.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_fcntl: Inlibc
?MAKE: -pick add $@ %<
?S:d_fcntl:
?S: This variable conditionally defines the HAS_FCNTL symbol, and indicates
?S: whether the fcntl() function exists
?S:.
?C:HAS_FCNTL:
?C: This symbol, if defined, indicates to the C program that
?C: the fcntl() function exists.
?C:.
?H:#$d_fcntl HAS_FCNTL  /**/
?H:.
?LINT:set d_fcntl
:
```

see if this is an fcntl system
set fcntl d_fcntl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_fcntl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_termio.U,v $
?RCS: Revision 3.0.1.4  1994/10/29  16:20:54  ram
?RCS: patch36: call ./usg and ./Cppsym explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0.1.3  1994/08/29  16:26:38  ram
?RCS: patch32: don't include all three I_* symbols in config.h
?RCS: patch32: (had forgotten to undo this part last time)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:25:03  ram
?RCS: patch27: undone ADO's fix in previous patch since it was useless
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:05:23
 ram
?RCS: patch23: now include all three defines in config.h (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:44  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_termio i_sgtty i_termios: test Inlibc Cppsym Guess Setvar Findhdr Warn
?MAKE: -pick add $@ %<
?S:i_termio:
?S: This variable conditionally defines the I_TERMIO symbol, which
?S: indicates to the C program that it should include <termio.h> rather
?S: than <sgtty.h>.
?S:.
?S:i_termios:
?S: This variable conditionally defines the I_TERMIOS symbol, which
?S: indicates to the C program that the POSIX <termios.h> file is
?S: to be included.
?S:.

```
?S:i_sgtty:
?S: This variable conditionally defines the I_SGTTY symbol, which
?S: indicates to the C program that it should include <sgtty.h> rather
?S: than <termio.h>.
?S:.
?C:I_TERMIO:
?C: This symbol, if defined, indicates that the program should include
?C: <termio.h> rather than <sgtty.h>.  There are also differences in
?C: the ioctl() calls that depend on the value of
 this symbol.
?C:.
?C:I_TERMIOS:
?C: This symbol, if defined, indicates that the program should include
?C: the POSIX termios.h rather than sgtty.h or termio.h.
?C: There are also differences in the ioctl() calls that depend on the
?C: value of this symbol.
?C:.
?C:I_SGTTY:
?C: This symbol, if defined, indicates that the program should include
?C: <sgtty.h> rather than <termio.h>.  There are also differences in
?C: the ioctl() calls that depend on the value of this symbol.
?C:.
?H:#$i_termio I_TERMIO  /**/
?H:#$i_termios I_TERMIOS  /**/
?H:#$i_sgtty I_SGTTY  /**/
?H:.
?T:val2 val3
?LINT:set i_termio i_sgtty i_termios
: see if this is a termio system
val="$undef"
val2="$undef"
val3="$undef"
?X: Prefer POSIX-approved termios.h over all else
if $test `./findhdr termios.h`; then
 set tcsetattr i_termios
 eval $inlibc
 val3="$i_termios"
fi
echo " "
case "$val3" in
"$define") echo "You have POSIX termios.h... good!" >&4;;
*) if ./Cppsym pyr; then
  case "`/bin/universe`" in
  ucb) if $test `./findhdr
 sgtty.h`; then
    val2="$define"
    echo "<sgtty.h> found." >&4
   else
```

```
   echo "System is pyramid with BSD universe."
   ./warn "<sgtty.h> not found--you could have problems."
  fi;;
 *) if $test `./findhdr termio.h`; then
   val="$define"
   echo "<termio.h> found." >&4
  else
   echo "System is pyramid with USG universe."
   ./warn "<termio.h> not found--you could have problems."
  fi;;
 esac
?X: Start with USG to avoid problems if both usg/bsd was guessed
 elif ./usg; then
  if $test `./findhdr termio.h`; then
   echo "<termio.h> found." >&4
   val="$define"
  elif $test `./findhdr sgtty.h`; then
   echo "<sgtty.h> found." >&4
   val2="$define"
  else
   ./warn "Neither <termio.h> nor <sgtty.h> found--cross fingers!"
  fi
 else
  if $test `./findhdr sgtty.h`; then
   echo "<sgtty.h> found." >&4
   val2="$define"
  elif $test `./findhdr termio.h`; then
   echo "<termio.h> found." >&4
   val="$define"
  else
   ./warn "Neither <sgtty.h> nor <termio.h> found--cross
 fingers!"
  fi
 fi;;
esac
set i_termio; eval $setvar
val=$val2; set i_sgtty; eval $setvar
val=$val3; set i_termios; eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_termio.U
No license file was found, but licenses were detected in source scan.

*  You may redistribute only under the terms of the Artistic Licence,

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/files/Jmake.tmpl
```

No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sysmount.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysmount: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sysmount:
?S: This variable conditionally defines the I_SYSMOUNT symbol,
?S: and indicates whether a C program should include <sys/mount.h>.
?S:.
?C:I_SYS_MOUNT:
?C: This symbol, if defined, indicates that <sys/mount.h> exists and
?C: should be included.
?C:.
?H:#$i_sysmount I_SYS_MOUNT  /**/
?H:.
?LINT:set i_sysmount
: see if this is a sys/mount.h system
set sys/mount.h i_sysmount
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sysmount.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Csym.U,v 3.0.1.4 1995/07/25 13:36:29 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Csym.U,v $
?RCS: Revision 3.0.1.4  1995/07/25  13:36:29  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS: patch56: added quotes for OS/2 support
?RCS:
?RCS: Revision 3.0.1.3  1995/05/12  12:00:33  ram
?RCS: patch54: fixed C test program to bypass gcc builtin type checks (ADO)
?RCS:

```
?RCS: Revision 3.0.1.2  1994/10/31  09:34:13  ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision
 3.0.1.1  1993/08/25  14:00:05  ram
?RCS: patch6: added ldflags as a conditional dependency and to compile line
?RCS: patch6: a final double quote was missing in csym variable after eval
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Csym mistrustnm extern_C: Options contains libc libs runnm test \
 +cc +optimize +ccflags +ldflags run rm_try _exe d_cplusplus
?MAKE: -pick add $@ %<
?LINT:define csym
?LINT:use libc
?LINT:extern mistrustnm
?LINT:set mistrustnm
?S:csym:
?S: This shell variable is used internally by Configure to check
?S: whether a given C symbol is defined or not. A typical use is:
?S:  set symbol result [-fva] [previous]
?S:  eval $csym
?S: That will set result to 'true' if the function [-f], variable [-v]
?S: or array [-a] is defined, 'false' otherwise. If a previous value is
?S: given and the -r flag was provided on the command line, that value
?S: is reused without questioning.
?S:.
?S:extern_C:
?S: ANSI C
 requires 'extern' where C++ requires 'extern "C"'. This
?S: variable can be used in Configure to do the right thing.
?S:.
?S:mistrustnm:
?S:  This variable can be used to establish a fallthrough for the cases
?S:  where nm fails to find a symbol.  If usenm is false or usenm is true
?S:  and mistrustnm is false, this variable has no effect.  If usenm is true
?S:  and mistrustnm is "compile", a test program will be compiled to try to
?S:  find any symbol that can't be located via nm lookup.  If mistrustnm is
?S:  "run", the test program will be run as well as being compiled.
?S:.
?V:csym
?T:tval tx tlook tf tdc
?F:!try
: is a C symbol defined?
csym='tlook=$1;
case "$3" in
-v) tf=libc.tmp; tdc="";;
```

```
-a) tf=libc.tmp; tdc="[]";;
*) tlook="^$1\$"; tf=libc.list; tdc="()";;
esac;
case "$d_cplusplus" in
  $define) extern_C="extern \"C\"" ;;
  *)  extern_C="extern" ;;
esac;
tx=yes;
case "$reuseval-$4" in
true-) ;;
true-*) tx=no; eval "tval=\$$4"; case "$tval" in "") tx=yes;; esac;;
esac;
case
 "$tx" in
yes)
?X:
?X: Put symbol inside a printf to fool optimizing compilers...
?X:
?X: We use 'short' instead of 'int' to try to circumvent overzealous
?X: optimizing compilers using built-in prototypes for commonly used
?X: routines to complain when seeing a different external declaration. For
?X: instance, gcc 2.6.3 fails if we use 'int' and we attempt a test against
?X: memcpy() on machines where sizeof(int) == sizeof(char *) (the usual return
?X: type), the compiler assuming it's a built-in declaration given that the
?X: returned size matches. At least with 'short' we are safe! -- RAM, for ADO
?X:
?X: Let's thank GNU cc for making our lives so easy! :-)
?X: (An alternative for the future would be to use our knowledge about gcc
?X: to force a -fno-builtin option in the compile test, in case the 'short'
?X: trick is obsoleted by future gcc releases). -- RAM
?X:
 tval=false;
 if $test "$runnm" = true; then
  if $contains $tlook $tf >/dev/null 2>&1; then
   tval=true;
  elif $test
 "$mistrustnm" = compile -o "$mistrustnm" = run; then
   echo "$extern_C void *$1$tdc; void *(*(p()))$tdc { return &$1; } int main(int argc, char **argv) { if(p() && p() !=
(void *)argv[0]) return(0); else return(1); }"> try.c;
   $cc -o try $optimize $ccflags $ldflags try.c >/dev/null 2>&1 $libs && tval=true;
   $test "$mistrustnm" = run -a -x try && { $run ./try$_exe >/dev/null 2>&1 || tval=false; };
   $rm_try;
  fi;
 else
  echo "$extern_C void *$1$tdc; void *(*(p()))$tdc { return &$1; } int main(int argc, char **argv) { if(p() && p() !=
(void *)argv[0]) return(0); else return(1); }"> try.c;
  $cc -o try $optimize $ccflags $ldflags try.c $libs >/dev/null 2>&1 && tval=true;
  $rm_try;
```

```
 fi;
 ;;
*)
 case "$tval" in
 $define) tval=true;;
 *) tval=false;;
 esac;
 ;;
esac;
eval "$2=$tval"'
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/Csym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_values.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_values.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:48:34  ram
?RCS: patch61: created
?RCS:
?MAKE:i_values: Inhdr
?MAKE: -pick add $@ %<
?S:i_values:
?S: This variable conditionally defines the I_VALUES symbol, and indicates
?S: whether a C program may include <values.h> to get symbols like MAXLONG
?S: and friends.
?S:.
?C:I_VALUES:
?C: This symbol, if defined, indicates to the C program that it should
?C: include
 <values.h> to get definition of symbols like MINFLOAT or
?C: MAXLONG, i.e. machine dependant limitations.  Probably, you
?C: should use <limits.h> instead, if it is available.
?C:.
?H:#$i_values I_VALUES  /**/
?H:.
?LINT:set i_values
: see if this is a values.h system
```

```
set values.h i_values
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_values.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_llrint: Inlibc
?MAKE: -pick add $@ %<
?S:d_llrint:
?S: This variable conditionally defines the HAS_LLRINT symbol, which
?S: indicates to the C program that the llrint() routine is available
?S: to return the long long value closest to a double (according
?S: to the current rounding mode).
?S:.
?C:HAS_LLRINT:
?C: This symbol, if defined, indicates that the llrint routine is
?C: available to return the long long value closest to a double
?C: (according to the current rounding mode).
?C:.
?H:#$d_llrint HAS_LLRINT  /**/
?H:.
?LINT:set d_llrint
: see if llrint exists
set llrint d_llrint
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_llrint.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_atanh: Inlibc
?MAKE: -pick add $@ %<
?S:d_atanh:
?S: This variable conditionally defines the HAS_ATANH symbol, which
?S: indicates to the C program that the atanh() routine is available.
?S:.
?C:HAS_ATANH:
?C: This symbol, if defined, indicates that the atanh routine is
?C: available to do the inverse hyperbolic tangent function.
?C:.
?H:#$d_atanh HAS_ATANH  /**/
```

```
?H:.
?LINT:set d_atanh
: see if atanh exists
set atanh d_atanh
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_atanh.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_msgget.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_msgget.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_msgget: Inlibc
?MAKE: -pick add $@ %<
?S:d_msgget:
?S: This variable conditionally defines the HAS_MSGGET symbol, which
?S: indicates to the C program that the msgget() routine is available.
?S:.
?C:HAS_MSGGET:
?C: This symbol, if defined, indicates that the msgget() routine is
?C: available to get a new message queue.
?C:.
?H:#$d_msgget
 HAS_MSGGET  /**/
?H:.
?LINT:set d_msgget
: see if msgget exists
set msgget d_msgget
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_msgget.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Instruct.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:02:55  ram
?RCS: patch61: logname / whoami sequence rewritten to use case
?RCS:
?RCS: Revision 3.0.1.2  1995/02/15  14:11:34  ram
?RCS: patch51: author name now appears at the end of the paragraph (WED)
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:12:05  ram
?RCS: patch45: now documents the & escape to turn -d on at the read prompt
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X:
 This unit spew out the directions that we want everyone to read.  I try to
?X: keep the first "pagefull" much less than a page since they don't know it
?X: isn't going to go shooting off the top of the screen, and we don't want
?X: to panic them yet.
?X:
?MAKE:Instruct: Begin Myread Configdir contains
?MAKE: -pick wipe $@ %<
?T:user needman firsttime
: general instructions
needman=true
firsttime=true
user=`(logname) 2>/dev/null`
case "$user" in
") user=`whoami 2>&1`;;
esac
if $contains "^$user\$" ../.config/instruct >/dev/null 2>&1; then
 firsttime=false
 echo " "
 rp='Would you like to see the instructions?'
 dflt=n
 . ./myread
 case "$ans" in
 [yY]*) ;;
 *) needman=false;;
 esac
```

```
fi
if $needman; then
 cat <<EOH

This installation shell script will examine your system and ask you questions
to determine how the <PACKAGENAME> package should be installed. If you get
stuck on a question, you may use a ! shell escape to start a subshell or
execute a command.  Many of the questions will have
 default answers in square
brackets; typing carriage return will give you the default.

On some of the questions which ask for file or directory names you are allowed
to use the ~name construct to specify the login directory belonging to "name",
even if you don't have a shell which knows about that.  Questions where this is
allowed will be marked "(~name ok)".

EOH
 rp="
 dflt='Type carriage return to continue'
 . ./myread
 cat <<'EOH'

The prompter used in this script allows you to use shell variables and
backticks in your answers.  You may use $1, $2, etc...  to refer to the words
in the default answer, as if the default line was a set of arguments given to a
script shell.  This means you may also use $* to repeat the whole default line,
so you do not have to re-type everything to add something to the default.

Everytime there is a substitution, you will have to confirm.  If there is an
error (e.g. an unmatched backtick), the default answer will remain unchanged
and you will be prompted
 again.

If you are in a hurry, you may run 'Configure -d'.  This will bypass nearly all
the questions and use the computed defaults (or the previous answers if there
was already a config.sh file). Type 'Configure -h' for a list of options.
You may also start interactively and then answer '& -d' at any prompt to turn
on the non-interactive behaviour for the remainder of the execution.

EOH
 . ./myread
 cat <<EOH

Much effort has been expended to ensure that this shell script will run on any
Unix system.  If despite that it blows up on yours, your best bet is to edit
Configure and run it again.  If you can't run Configure for some reason,
you'll have to generate a config.sh file by hand.  Whatever problems you
have, let me (<MAINTLOC>) know how I blew it.
```

This installation script affects things in two ways:

1) it may do direct variable substitutions on some of the files included
 in this kit.
2) it builds a config.h file for inclusion in C programs.  You may edit
 any of these
 files as the need arises after running this script.

If you make a mistake on a question, there is no easy way to back up to it
currently.  The easiest thing to do is to edit config.sh and rerun all the SH
files.  Configure will offer to let you do this before it runs the SH files.

EOH
?X: In case they played with the prompter...
 dflt='Type carriage return to continue'
 . ./myread
 case "$firsttime" in
 true) echo $user >>../.config/instruct;;
 esac
fi

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Instruct.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2016 H.Merijn Brand & Todd Rinaldo
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:default_inc_excludes_dot: Myread cat
?MAKE: -pick add $@ %<
?S:default_inc_excludes_dot:
?S: When defined, remove the legacy '.' from @INC
?S:.
?C:DEFAULT_INC_EXCLUDES_DOT:
?C: This symbol, if defined, removes the legacy default behavior of
?C: including '.' at the end of @INC.
?C:.
?H:#$default_inc_excludes_dot DEFAULT_INC_EXCLUDES_DOT /**/
?H:.
: Include . in @INC
$cat <<EOM

Historically Perl has provided a final fallback of the current working

directory '.' when searching for a library. This, however, can lead to
problems when a Perl program which loads optional modules is called from
a shared directory. This can lead to executing unexpected code.

EOM

```
# When changing to exclude by
 default:
case "$default_inc_excludes_dot" in
   $undef|false|[nN]*) dflt="n" ;;
   *)                  dflt="y" ;;
esac
# To turn exclude off by default:
#case "$default_inc_excludes_dot" in
#    $define|true|[yY]*) dflt="y" ;;
#    *)                  dflt="n" ;;
#esac

rp='Exclude '.' from @INC by default? '
. ./myread
case "$ans" in
   [nN]|undef) default_inc_excludes_dot="$undef"  ;;
   *)          default_inc_excludes_dot="$define" ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/defaultincdot.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:usemultiplicity: useithreads Myread Oldconfig Setvar
?MAKE: -pick add $@ %<
?Y:TOP
?S:usemultiplicity:
?S: This variable conditionally defines the MULTIPLICITY symbol,
?S: and indicates that Perl should be built to use multiplicity.
?S:.
?C:MULTIPLICITY:
?C: This symbol, if defined, indicates that Perl should
?C: be built to use multiplicity.
?C:.
?H:?%<:#ifndef MULTIPLICITY
```

```
?H:?%<:#$usemultiplicity MULTIPLICITY  /**/
?H:?%<:#endif
?H:.
?LINT:set usemultiplicity
?INIT:: set usemultiplicity on the Configure command line to enable multiplicity.
: Check if multiplicity is required
?X: We should really have some explanatory text here, and some
?X: automatic setting of sensible defaults.
cat <<EOM

Perl
 can be built so that multiple Perl interpreters can coexist
within the same Perl executable.
EOM

case "$useithreads" in
$define)
 cat <<EOM
This multiple interpreter support is required for interpreter-based threads.
EOM
 val="$define"
 ;;
*) case "$usemultiplicity" in
 $define|true|[yY]*) dflt='y';;
 *) dflt='n';;
 esac
 echo " "
 echo "If this doesn't make any sense to you, just accept the default '$dflt'."
 rp='Build Perl for multiplicity?'
 . ./myread
 case "$ans" in
 y|Y) val="$define" ;;
 *)      val="$undef" ;;
 esac
 ;;
esac
set usemultiplicity
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/usemultiplicity.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
```

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Whoa.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:21:21  ram
?RCS: patch61: whoa script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:01  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to warn the user in case a change into a variable is noticed.
?X:
?X: To use this
 unit, $was must hold the old value that has changed. Upon
?X: exit, the two variables $td and $tu are set to the correct value for
?X: respectively defining or undefining a variable. For instance, if $vas was
?X: $undef, but now $var is $define, after calling . whoa, you should use
?X: eval "$var=\$tu" to finally set $var to the correct value. See unit Inlibc.
?X:
?MAKE:Whoa: Myread startsh hint
?MAKE: -pick add $@ %<
?F:./whoa
?T:var was
?LINT:change td tu
: set up the script used to warn in case of inconsistency
cat <<EOS >whoa
$startsh
EOS
cat <<'EOSC' >>whoa
dflt=y
echo " "
echo "*** WHOA THERE!!! ***" >&4
echo "    The $hint value for \$$var on this machine was \"$was\"!" >&4
rp="    Keep the $hint value?"
. ./myread
case "$ans" in
y) td=$was; tu=$was;;
esac
EOSC
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Whoa.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Head.U 6 2006-08-25 22:21:46Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Head.U,v $
?RCS: Revision 3.0.1.9  1997/02/28  15:02:09  ram
?RCS: patch61: make sure we unset CDPATH for shells that support this
?RCS: patch61: improved Korn shell detection and handling
?RCS:
?RCS: Revision 3.0.1.8  1995/07/25  13:40:02  ram
?RCS: patch56: added SVR4-ish /opt directories to path list (ADO)
?RCS: patch56: OS/2 platforms are using another path separator
?RCS:
?RCS: Revision 3.0.1.7  1995/03/21  08:46:15  ram
?RCS: patch52: definition of
 paths wrongly added spurious ':' chars
?RCS:
?RCS: Revision 3.0.1.6  1994/10/29  15:54:19  ram
?RCS: patch36: make sure ENV is unset before calling /bin/ksh
?RCS:
?RCS: Revision 3.0.1.5  1994/08/29  16:03:44  ram
?RCS: patch32: now sets PATH only using existing directories
?RCS:
?RCS: Revision 3.0.1.4  1994/06/20  06:54:28  ram
?RCS: patch30: now computes its invocation name into 'me'
?RCS: patch30: symbol me is made visible to all units read-only
?RCS:
?RCS: Revision 3.0.1.3  1993/12/15  08:15:07  ram
?RCS: patch15: added /sbin:/usr/sbin:/usr/libexec in PATH for BSD/386
?RCS:
?RCS: Revision 3.0.1.2  1993/11/10  17:32:35  ram
?RCS: patch14: ensure PATH is reset to '.' before testing for alias
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:38:07  ram
?RCS: patch7: not all 'test' programs support the -x option
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:

```
?X:
?X: This is the very first unit in the Configure script.  It is mostly just
?X:
 things to keep people from getting into a tizzy right off the bat.
?X:
?MAKE:Head:
?MAKE: -pick wipe $@ %<
?V:PATH p_ _exe me newsh
?T:argv p paths OS2_SHELL DJGPP
?T:inksh needksh avoidksh newsh changesh reason
?F:!*
?LINT:extern ENV CDPATH SHELL MACHTYPE _exe is_os2
?LINT:change ENV CDPATH is_os2
?LINT:nocomment
#! /bin/sh
#
# If these # comments don't work, trim them. Don't worry about any other
# shell scripts, Configure will trim # comments from them for you.
#
# (If you are trying to port this package to a machine without sh,
# I would suggest you have a look at the prototypical config_h.SH file
# and edit it to reflect your system. Some packages may include samples
# of config.h for certain machines, so you might look for one of those.)
#
?X:
?X: NOTE THAT A CONFIGURE SCRIPT IS IN THE PUBLIC DOMAIN (whether or not
?X: the software which uses it is in the public domain).
?X:
# Yes, you may rip this off to use in other distribution packages. This
# script belongs to the public
 domain and cannot be copyrighted.
#
?X:
?X: WE ASK YOU NOT TO REMOVE OR ALTER THE FOLLOWING PARAGRAPH, PLEASE:
?X:
# Note: this Configure script was generated automatically by the tool
# called "metaconfig". Rather than working with this copy of Configure,
# you may wish to get metaconfig. Perl uses a modified version of this
# tool, available in the "dist" folder in the checkout of the git repo
#    $ git clone git://perl5.git.perl.org/metaconfig.git metaconfig
# The original dist package (including metaconfig) is available via SVN:
#    $ svn co https://svn.code.sf.net/p/dist/code/trunk/dist
#
?X: OK, I'll not alter, but I'll add to it then ...
# Though this script was generated by metaconfig from metaunits, it is
# OK to send patches against Configure itself. It's up to the Configure
# pumpkin to backport the patch to the metaunits if it is accepted.
# For more information on patching Configure, see pod/perlhack.pod
```

```
#
# The metaunits are also available from the public git repository:
#
    http://perl5.git.perl.org/metaconfig.git/ or
#     $ git clone git://perl5.git.perl.org/metaconfig.git metaconfig
#
# See Porting/pumpkin.pod for more information on metaconfig.
?X:
?X: NOTA BENE:
?X: If you develop you own version of metaconfig based on this work,
?X: you have to add some comments telling that the script was generated
?X: by your version, not mine: It credits your work.
?X:

# Generated using [metaconfig <VERSION> PL<PATCHLEVEL>]
# (with additional metaconfig patches by <MAINTLOC>)

cat >c1$$ <<EOF
ARGGGHHHH!!!!!

SCO csh still thinks true is false.  Write to SCO today and tell them that next
year Configure ought to "rm /bin/csh" unless they fix their blasted shell. :-)

(Actually, Configure ought to just patch csh in place.  Hmm.  Hmmmmm.  All
we'd have to do is go in and swap the && and || tokens, wherever they are.)

[End of diatribe. We now return you to your regularly scheduled programming...]
EOF
cat >c2$$ <<EOF

OOPS!  You naughty creature!  You didn't
 run Configure with sh!
I will attempt to remedy the situation by running sh for you...
EOF

true || cat c1$$ c2$$
true || exec sh $0 $argv:q

(exit $?0) || cat c2$$
(exit $?0) || exec sh $0 $argv:q
rm -f c1$$ c2$$

if test -f /dev/cputype -a -f /dev/drivers -a -f /dev/osversion; then
 cat <<EOF
***
*** I'm sorry but this system looks like Plan 9 and Plan 9 doesn't do
*** Configure that well.  (Plan 9 is close to UNIX but not close enough.)
*** Please read the README.plan9 for further instructions.
```

```
*** Cannot continue, aborting.
***
EOF
 exit 1
fi

if test -f /sys/utilities/MultiView ; then
 # AmigaOS, test -c for /dev/null is not useful
 :
elif test ! -c /dev/null ; then
 cat <<EOF
***
*** I'm sorry, but /dev/null appears to be a file rather than a device.
*** Please consult your operating sytem's notes for making a device
*** in /dev.
*** Cannot continue, aborting.
***
EOF
 exit 1
fi

: compute my invocation name
me=$0
case "$0" in
*/*)
 me=`echo $0 | sed -e 's!.*/\(.*\)!\1!' 2>/dev/null`
 test
 "$me" || me=$0
 ;;
esac

?X:
?X: To be able to run under OS/2, we must detect that early enough to use
?X: the proper path separator, stored in $p_. It is : on UNIX and ; on
?X: DOS-ish systems such as OS/2.
?X:
: Proper separator for the PATH environment variable
p_=:
: On OS/2 this directory should exist if this is not floppy only system ":-]"
if test -d c:/. || ( uname -a | grep -i 'os\(/\|\)2' 2>&1 ) 2>&1 >/dev/null ; then
 if test -n "$OS2_SHELL"; then
  p_=\;
  PATH=`cmd /c "echo %PATH%" | tr '\\\\' / `
?X: That's a bug in ksh5.22
  OS2_SHELL=`cmd /c "echo %OS2_SHELL%" | tr '\\\\' / | tr '[A-Z]' '[a-z]'`
  is_os2=yes
 elif test -n "$DJGPP"; then
  case "X${MACHTYPE:-nonesuchmach}" in
```

```
  *cygwin|*msys) ;;
  *) p_=\; ;;
  esac
 fi
fi

?X:
?X: There are two schools of thoughts here. Some people correctly argue that
?X: the user has a better chance than we do of setting a reasonable PATH and
?X: others argue that Configure is the best place there is to set up a suitable
?X:
 PATH. Well, here we try to compromise by keeping the user's PATH and
?X: appending some directories which are known to work on some machine or the
?X: other. The rationale behind this being that a novice user might not have a
?X: proper environment variable set, and some directories like /etc (where
?X: chown is located on some BSD systems) may be missing--RAM.
?X:
?X: SVR4 adds an /opt directory for optional packages.  Some sites use
?X: various permutations on /opt as opposed to /usr or /usr/local.-- ADO
?X:
?X: We only add directories that are not already in the PATH of the
?X: user and the directories must exist also.
?X:
?X: 20040627, Merijn, HP-UX's ANSI compiler is in /opt/ansic/bin if present
?X:  and should be before /usr/ccs/bin, where the braindead bundled compiler
?X:  can be found. The /usr/ccs/bin compiler cannot be used to build perl.
?X:
: Proper PATH setting
paths='/bin /usr/bin /usr/local/bin /usr/ucb /usr/local /usr/lbin'
paths="$paths /opt/bin /opt/local/bin /opt/local
 /opt/lbin"
paths="$paths /usr/5bin /etc /usr/gnu/bin /usr/new /usr/new/bin /usr/nbin"
paths="$paths /opt/gnu/bin /opt/new /opt/new/bin /opt/nbin"
paths="$paths /sys5.3/bin /sys5.3/usr/bin /bsd4.3/bin /bsd4.3/usr/ucb"
paths="$paths /bsd4.3/usr/bin /usr/bsd /bsd43/bin /opt/ansic/bin /usr/ccs/bin"
paths="$paths /etc /usr/lib /usr/ucblib /lib /usr/ccs/lib"
paths="$paths /sbin /usr/sbin /usr/libexec"
paths="$paths /system/gnu_library/bin"

for p in $paths
do
 case "$p_$PATH$p_" in
 *$p_$p$p_*) ;;
 *) test -d $p && PATH=$PATH$p_$p ;;
 esac
done

PATH=.$p_$PATH
```

```
export PATH

: shall we be using ksh?
inksh="
needksh="
avoidksh="
newsh=/bin/ksh
changesh="
?X: Use (alias -x) and not (alias) since zsh and bash recognize the alias
?X: builtin but not the -x option which is typically ksh...
?X: We need to set up PATH before calling the "alias" built-in since some
?X: systems like HP-UX have a binary called /bin/alias.
if (PATH=.; alias -x) >/dev/null 2>&1; then
  inksh=true
fi
?X: On HP-UX,
 large Configure scripts may exercise a bug in /bin/sh, use ksh
if test -f /hp-ux -a -f /bin/ksh; then
 needksh='to avoid sh bug in "here document" expansion'
fi
?X: On AIX4, /bin/sh is really ksh and it causes problems, use sh
if test -d /usr/lpp -a -f /usr/bin/bsh -a -f /usr/bin/uname; then
 if test X`/usr/bin/uname -v` = X4; then
  avoidksh="to avoid AIX 4's /bin/sh"
  newsh=/usr/bin/bsh
 fi
fi
?X: On Digital UNIX, /bin/sh may start up buggy /bin/ksh, use sh
if test -f /osf_boot -a -f /usr/sbin/setld; then
 if test X`/usr/bin/uname -s` = XOSF1; then
  avoidksh="to avoid Digital UNIX' ksh"
  newsh=/bin/sh
?X: if BIN_SH is set to 'xpg4', sh will start up ksh
  unset BIN_SH
 fi
fi
?X: If we are not in ksh and need it, then feed us back to it
case "$inksh/$needksh" in
/[a-z]*)
?X: Clear ENV to avoid any ~/.kshrc that could alias cd or whatever...
?X: Don't use "unset ENV", that is not portable enough
  ENV="
  changesh=true
  reason="$needksh"
 ;;
esac
?X: If we are in ksh and must
```

```
 avoid it, then feed us back to a new shell
case "$inksh/$avoidksh" in
true/[a-z]*)
 changesh=true
 reason="$avoidksh"
 ;;
esac
?X: Warn them if they use ksh on other systems, which are those where
?X: we don't need ksh nor want to avoid it explicitly, yet are using it.
case "$inksh/$needksh-$avoidksh-" in
true/--)
  cat <<EOM
(I see you are using the Korn shell.  Some ksh's blow up on $me,
mainly on older exotic systems.  If yours does, try the Bourne shell instead.)
EOM
 ;;
esac
case "$changesh" in
true)
 export newsh
 echo "(Feeding myself to $newsh $reason.)"
?X: Make sure they didn't say sh <Configure by checking whether $0 ends
?X: with Configure or not. If they did say sh <../../Configure, then too
?X: bad for them anyway, since we lost that path indication...
?X: Otherwise, execing $0 ensures we keep the full remote source dir
?X: indication for src.U.
 case "$0" in
 Configure|*/Configure) exec $newsh $0 "$@";;
 *) exec $newsh Configure "$@";;
 esac
 ;;
esac
?X: 2004.06.09 rac
?X:
 having $newsh persist as ksh here is bad news if ksh doesn't really
?X: exist. this causes us to toss away a perfectly good working test in
?X: bash in favor of more exotic external options. see bug 42665.
test -x "${newsh}" || unset newsh

?X: Unset CDPATH to avoid surprises when using cd under some shells
?X: Can't unset it because that's not portable to very old shells.
?X: Can't set it to " because then bash 2.02 won't do "cd UU"  --AD  6/98.
?X: Don't want to set it to '.' because then ksh prints out the
?X: name of the directory every time you cd to it. --AD 6/98
?X: In order to inflict the least harm, change it only if it's set.
: if needed, set CDPATH to a harmless value that is not chatty
: avoid bash 2.02 problems with empty CDPATH.
case "$CDPATH" in
```

```
") ;;
*) case "$SHELL" in
 *bash*) CDPATH='.' ;;
 *) CDPATH='' ;;
 esac
 ;;
esac

: Configure runs within the UU subdirectory
test -d UU || mkdir UU
?X: Use ./* to avoid any confirmation prompts from enhanced shells -- WED
cd
 UU && rm -f ./*

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Head.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_sjis2jis.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_sjis2jis.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:25  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_sjis2jis: Inlibc
?MAKE: -pick add $@ %<
?S:d_sjis2jis:
?S: This variable conditionally defines the HAS_SJIS2JIS symbol, which
?S: indicates to the C program that the sjis2jis() routine is available
?S: to convert SJIS to JIS.
?S:.
?C:HAS_SJIS2JIS:
?C: This symbol, if defined, indicates that the sjis2jis routine is
?C: available
 to convert SJIS to JIS.
?C:.
?H:#$d_sjis2jis HAS_SJIS2JIS  /**/
?H:.
?LINT:set d_sjis2jis
: see if sjis2jis exists
```

```
set sjis2jis d_sjis2jis
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sjis2jis.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_flexfnam.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_flexfnam.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_flexfnam: cat rm test Setvar
?MAKE: -pick add $@ %<
?S:d_flexfnam:
?S: This variable conditionally defines the FLEXFILENAMES symbol, which
?S: indicates that the system supports filenames longer than 14 characters.
?S:.
?C:FLEXFILENAMES:
?C: This symbol, if defined, indicates that the system supports filenames
?C: longer than 14
 characters.
?C:.
?H:#$d_flexfnam FLEXFILENAMES  /**/
?H:.
?T:first
?LINT:set d_flexfnam
: see if we can have long filenames
echo " "
?X:
?X: We have to test in both /tmp and . because of NFS (remote server may allow
?X: long filenames while the local filesystem cannot support them). If at least
?X: one of those file systems cannot support long filenames, then we assume the
?X: whole system can't.
?X:
first=123456789abcdef
$rm -f $first
if (echo hi >$first) 2>/dev/null; then
 if $test -f 123456789abcde; then
```

```
 echo 'You cannot have filenames longer than 14 characters.  Sigh.' >&4
 val="$undef"
else
 echo 'You can have filenames longer than 14 characters.'>&4
 val="$define"
fi
else
 $cat <<'EOM'
You can't have filenames longer than 14 chars.
You can't even think about them!
EOM
 val="$undef"
fi
set d_flexfnam
eval $setvar
$rm -rf 123456789abcde*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_flexfnam.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: randfunc.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This is the new unit that should be used when random
?X: functions are to be used. It thus makes randbits.U obsolete.
?X:
?MAKE:randfunc mrand seedfunc nrandbits: cat +cc rm test Myread Csym
?MAKE: -pick add $@ %<
?S:randfunc:
?S: Indicates the name of the random number function to use.
?S: Values include drand48, random, and rand. In C programs,
?S: the 'nrand' macro is defined
 to generate uniformly distributed
?S: random numbers over the range [0., 1.] (see mrand and nrand).
?S:.
```

```
?S:mrand:
?S: Indicates the macro to be used to generate normalized
?S: random numbers.  Uses randfunc, often divided by
?S: (double) ((1 << nrandbits) -1) in order to normalize the result.
?S: In C programs, the macro 'nrand' is maped on mrand.
?S:.
?S:seedfunc:
?S: Indicates the random number generating seed function.
?S: Values include srand48, srandom, and srand.
?S:.
?S:nrandbits:
?S: Indicates how many bits are produced by the function used to
?S: generate normalized random numbers.
?S:.
?C:nrand:
?C: This macro is to be used to generate uniformly distributed
?C: random numbers over the range [0., 1.].
?C:.
?C:seednrand:
?C: This symbol defines the macro to be used in seeding the
?C: random number generator (see nrand).
?C:.
?H:#define nrand()  $mrand  /**/
?H:#define seednrand(x) $seedfunc(x) /**/
?H:.
?T:cont val
?LINT:nothere $nrandbits)
: How can we generate normalized
 random numbers ?
echo " "
case "$randfunc" in
")
 if set drand48 val -f; eval $csym; $val; then
  dflt="drand48"
  echo "Good, found drand48()." >&4
 elif set random val -f; eval $csym; $val; then
  dflt="random"
  echo "OK, found random()." >&4
 else
  dflt="rand"
  echo "Yick, looks like I have to use rand()." >&4
 fi
 echo " "
 ;;
*)
 dflt="$randfunc"
 ;;
esac
```

```
cont=true
while $test "$cont"; do
 rp="Use which function to generate random numbers?"
 . ./myread
?X: Invalidates nrandbits if the answer is not the default so
?X: that the value stored in config.sh will not be used when
?X: we change our random function.
 if $test "$ans" = "$dflt"; then
  : null
 else
  nrandbits="
 fi
 randfunc="$ans"
 if set $ans val -f; eval $csym; $val; then
  cont="
 else
  dflt=n
  rp="Function $ans does not exists. Use that name anyway?"
  . ./myread
  dflt=rand
  case "$ans" in
   [yY]*) cont=";;
  esac
 fi
 case "$cont" in
 ")
  case "$randfunc" in
  drand48)
   mrand="drand48()"
   seedfunc="srand48"
   ;;
  rand*)
   case
 "$nrandbits" in
   ")
echo "Checking to see how many bits your $randfunc() function produces..." >&4
   $cat >try.c <<EOCP
#include <stdio.h>
int main()
{
 register int i;
 register unsigned long tmp;
 register unsigned long max = 0L;
 extern long random();

 for (i = 1000; i; i--) {
  tmp = (unsigned long)$randfunc();
  if (tmp > max) max = tmp;
```

```
 }
 for (i = 0; max; i++)
  max /= 2;
 printf("%d\n",i);
}
EOCP
  if $cc -o try try.c >/dev/null 2>&1 ; then
  dflt=`try`
  else
  dflt='?'
  echo "(I can't seem to compile the test program...)"
  fi
  ;;
  *)
   dflt="$nrandbits"
   ;;
  esac
  rp="How many bits does your $randfunc() function produce?"
  . ./myread
  nrandbits="$ans"
  $rm -f try.c try
  mrand="($randfunc() / (double) ((1 << $nrandbits) -1))"
  seedfunc="srand"
  ;;
?X: The following is provided just in case...
  *)
  dflt="31"
  rp="How many bits does your $randfunc() function produce?"
  . ./myread
  nrandbits="$ans"
  seedfunc="s$randfunc"
  mrand="($randfunc()
 / (double) ((1 << $nrandbits) -1))"
  if set $seedfunc val -f; eval $csym; $val; then
   echo "(Using $seedfunc() to seed random generator)"
  else
   echo "(Warning: no $seedfunc() to seed random generator)"
   seedfunc=rand
  fi
  ;;
 esac
 ;;
 esac
done
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/randfunc.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Warn_v7EXT.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Warn_v7EXT.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:01:42  ram
?RCS: patch36: call ./v7 explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit issues warnings to V7 sites that they are living dangerously.
?X: This unit needs to get mentioned in End.U to get included.
?X:
?MAKE:Warn_v7EXT: package Guess
?MAKE: -pick add $@ %<
: Warnings
if ./v7;
 then
 cat <<EOM

NOTE: the V7 compiler may ignore some #undefs that $package uses.  If so,
you may get messages about redefining EXT.  Some V7 compilers also have
difficulties with #defines near buffer boundaries, so beware.  You may have
to play with the spacing in some .h files, believe it or not.
EOM
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Warn_v7EXT.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Rcs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Rcs.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:15  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This is a unit that helps people who write SH scripts and keep them under
?X: RCS, but don't think to protect the $Log and other $Id keywords from
?X: variable substitution (or people like me who do not like to).
?X:
?MAKE:Author Date Header Id Locker Log RCSfile Revision Source State: Oldconfig
?MAKE: -pick weed $@ %<
?LINT:describe Author
 Date Header Id Locker Log RCSfile Revision Source State
: preserve RCS keywords in files with variable substitution, grrr
?Author:Author='$Author'
?Date:Date='$Date'
?Header:Header='$Header'
?Id:Id='$Id'
?$Locker'
?Log:Log='$Log'
?RCSfile:RCSfile='$RCSfile'
?Revision:Revision='$Revision'
?Source:Source='$Source'
?State:State='$State'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Rcs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_math.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: i_math.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:21:59  ram
?RCS: patch32: created by ADO
?RCS:

```
?MAKE:i_math: Inhdr
?MAKE: -pick add $@ %<
?X: Are there really systems that *DON'T* have math.h?
?S:i_math:
?S: This variable conditionally defines the I_MATH symbol, and indicates
?S: whether a C program may include <math.h>.
?S:.
?C:I_MATH:
?C: This symbol, if defined, indicates
 to the C program that it should
?C: include <math.h>.
?C:.
?H:#$i_math I_MATH  /**/
?H:.
?LINT:set i_math
: see if this is a math.h system
set math.h i_math
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_math.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_post: Inlibc
?MAKE: -pick add $@ %<
?S:d_sem_post:
?S: This variable conditionally defines HAS_SEM_POST if sem_post() is
?S: available to post (release, unlock) a POSIX semaphore.
?S:.
?C:HAS_SEM_POST:
?C: This symbol, if defined, indicates that the sem_post system call is
?C: available to post (release, unlock) a POSIX semaphore.
?C:.
?H:#$d_sem_post HAS_SEM_POST  /**/
?H:.
?LINT:set d_sem_post
: see if sem_post exists
set sem_post d_sem_post
```

```
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_post.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libnm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libnm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:08:26  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libnm: test Loc libpth _a
?MAKE: -pick add $@ %<
?S:libnm:
?S: This variable contains the argument to pass to the loader in order
?S: to get the new math library routines.  If there is no new math
?S: library, it is null.
?S:.
?T:ans
?O:
 use libswanted='-lnm' instead (see libs.U).
: see if we should include -lnm
echo " "
if $test -r /usr/lib/libnm$_a || $test -r /usr/local/lib/libnm$_a ; then
 echo "New math library found." >&4
 libnm='-lnm'
else
 ans=`./loc libnm$_a x $libpth`
 case "$ans" in
 x)
  echo "No nm library found--the normal math library will have to do." >&4
  libnm=''
  ;;
 *)
  echo "New math library found in $ans." >&4
  libnm="$ans"
```

```
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/libnm.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: setsid.C,v 3.0.1.1 1994/01/24 13:58:47 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: setsid.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:47  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/C/fake/setsid.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_setrlimit: Inlibc
?MAKE: -pick add $@ %<
?S:d_setrlimit:
?S: This variable conditionally defines the HAS_SETRLIMIT symbol, which
?S: indicates to the C program that the setrlimit() routine is available.
?S:.
?C:HAS_SETRLIMIT:
?C: This symbol, if defined, indicates that the setrlimit routine is
?C: available to set process resource limits.
?C:.
?H:#$d_setrlimit HAS_SETRLIMIT  /**/
?H:.
```

?LINT:set d_setrlimit
: see if setrlimit exists
set setrlimit d_setrlimit
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_setrlimit.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_locale.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_locale.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:48:23  ram
?RCS: patch61: created
?RCS:
?MAKE:i_locale: Inhdr
?MAKE: -pick add $@ %<
?S:i_locale:
?S: This variable conditionally defines the I_LOCALE symbol,
?S: and indicates whether a C program should include <locale.h>.
?S:.
?C:I_LOCALE:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <locale.h>.
?C:.
?H:#$i_locale I_LOCALE  /**/
?H:.
?LINT:set
 i_locale
: see if locale.h is available
set locale.h i_locale
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_locale.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:

```
?RCS: Copyright (c) 2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:usefaststdio: Myread Oldconfig Setvar rsrc
?MAKE: -pick add $@ %<
?Y:TOP
?S:usefaststdio:
?S: This variable conditionally defines the USE_FAST_STDIO symbol,
?S: and indicates that Perl should be built to use 'fast stdio'.
?S: Defaults to define in Perls 5.8 and earlier, to undef later.
?S:.
?C:USE_FAST_STDIO:
?C: This symbol, if defined, indicates that Perl should
?C: be built to use 'fast stdio'.
?C: Defaults to define in Perls 5.8 and earlier, to undef later.
?C:.
?H:?%<:#ifndef USE_FAST_STDIO
?H:?%<:#$usefaststdio USE_FAST_STDIO  /**/
?H:?%<:#endif
?H:.
?T:xversion
?LINT:set usefaststdio
: Check if faststdio is requested and available
case "$usefaststdio" in
$define|true|[yY]*|'')
 xversion=`awk
 '/define[  ]+PERL_VERSION/ {print $3}' $rsrc/patchlevel.h`
 case "$xversion" in
 [68]) dflt='y' ;;
 *) dflt='n' ;;
 esac
 ;;
*) dflt='n';;
esac
cat <<EOM

Perl can be built to use 'fast stdio', which means using the stdio
library but also directly manipulating the stdio buffers to enable
faster I/O.  Using stdio is better for backward compatibility (especially
for Perl extensions), but on the other hand since Perl 5.8 the 'perlio'
interface has been preferred instead of stdio.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Use the "fast stdio" if available?'
. ./myread
```

```
case "$ans" in
y|Y) val="$define" ;;
*)      val="$undef" ;;
esac
set usefaststdio
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/usefaststdio.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_mq_setattr: Inlibc
?MAKE: -pick add $@ %<
?S:d_mq_setattr:
?S: This variable conditionally defines HAS_MQ_SETATTR if mq_setattr() is
?S: available to set the attributes of a POSIX message queue.
?S:.
?C:HAS_MQ_SETATTR:
?C: This symbol, if defined, indicates that the mq_setattr system call is
?C: available to set the attributes of a POSIX message queue.
?C:.
?H:#$d_mq_setattr HAS_MQ_SETATTR  /**/
?H:.
?LINT:set d_mq_setattr
: see if mq_setattr exists
set mq_setattr d_mq_setattr
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mq_setattr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?MAKE:d_quad quadtype uquadtype quadkind: \
 longsize intsize d_longlong longlongsize d_int64_t \
 Inhdr Setvar
?MAKE: -pick add $@ %<
?S:d_quad:
?S: This variable, if defined, tells that there's a 64-bit integer type,
?S: quadtype.
?S:.
?S:quadtype:
?S: This variable defines Quad_t to be something like long, int,
?S: long long, int64_t, or whatever type is used for 64-bit integers.
?S:.
?S:quadkind:
?S: This variable, if defined, encodes the type of a quad:
?S: 1 = int, 2 = long, 3 = long long, 4 = int64_t.
?S:.
?S:uquadtype:
?S: This variable defines Uquad_t to be something like unsigned long,
?S: unsigned int, unsigned long long, uint64_t, or whatever type is
?S: used for 64-bit integers.
?S:.
?C:HAS_QUAD:
?C: This
 symbol, if defined, tells that there's a 64-bit integer type,
?C: Quad_t, and its unsigned counterpart, Uquad_t. QUADKIND will be one
?C: of QUAD_IS_INT, QUAD_IS_LONG, QUAD_IS_LONG_LONG, QUAD_IS_INT64_T,
?C: or QUAD_IS___INT64.
?C:.
?H:#$d_quad HAS_QUAD /**/
?H:?%<:#ifdef HAS_QUAD
?H:?%<:#   define Quad_t $quadtype /**/
?H:?%<:#   define Uquad_t $uquadtype /**/
?H:?%<:#   define QUADKIND $quadkind /**/
?H:?%<:#   define QUAD_IS_INT 1
?H:?%<:#   define QUAD_IS_LONG 2
?H:?%<:#   define QUAD_IS_LONG_LONG 3
?H:?%<:#   define QUAD_IS_INT64_T 4
?H:?%<:#   define QUAD_IS___INT64 5
?H:?%<:#endif
?H:.
?LINT:set quadtype
?LINT:set uquadtype
: Check if 64bit ints have a quad type
echo " "
echo "Checking which 64-bit integer type we could use..." >&4
?X: We prefer quad types in order of int, long, long long, int64_t.
```

```
case "$intsize" in
8) val=int
  set quadtype
  eval $setvar
  val="'unsigned int'"
  set uquadtype
  eval $setvar
  quadkind=1
  ;;
*) case "$longsize" in
  8)
 val=long
     set quadtype
     eval $setvar
     val="'unsigned long'"
     set uquadtype
     eval $setvar
     quadkind=2
     ;;
  *) case "$d_longlong:$longlongsize" in
     define:8)
       val="'long long'"
       set quadtype
       eval $setvar
       val="'unsigned long long'"
       set uquadtype
       eval $setvar
       quadkind=3
       ;;
     *) case "$d_int64_t" in
        define)
          val=int64_t
          set quadtype
          eval $setvar
          val=uint64_t
          set uquadtype
          eval $setvar
          quadkind=4
          ;;
        esac
        ;;
     esac
     ;;
  esac
  ;;
esac

case "$quadtype" in
```

") echo "Alas, no 64-bit integer types in sight." >&4
 d_quad="$undef"
 ;;
*) echo "We could use '$quadtype' for 64-bit integers." >&4
 d_quad="$define"
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/a_dvisory/quadtype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_mkstemps: Inlibc
?MAKE: -pick add $@ %<
?S:d_mkstemps:
?S: This variable conditionally defines the HAS_MKSTEMPS symbol, which
?S: indicates to the C program that the mkstemps() routine is available
?S: to exclusively create and open a uniquely named (with a suffix)
?S: temporary file.
?S:.
?C:HAS_MKSTEMPS :
?C: This symbol, if defined, indicates that the mkstemps routine is
?C: available to exclusively create and open a uniquely named
?C: (with a suffix) temporary file.
?C:.
?H:#$d_mkstemps HAS_MKSTEMPS  /**/
?H:.
?LINT:set d_mkstemps
: see if mkstemps exists
set mkstemps d_mkstemps
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mkstemps.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_string.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_string.U,v $
?RCS: Revision 3.0.1.2  1993/10/16  13:50:12  ram
?RCS: patch12: special units Loc and Guess were missing from dependencies
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:07:26  ram
?RCS: patch10: removed "(Actually, this looks more like...)" messages (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:28  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: See if we should include <string.h> or <strings.h>
?X:
?MAKE:i_string strings:
 test Setvar Findhdr Warn
?MAKE: -pick add $@ %<
?S:i_string:
?S: This variable conditionally defines the I_STRING symbol, which
?S: indicates that <string.h> should be included rather than <strings.h>.
?S:.
?S:strings:
?S: This variable holds the full path of the string header that will be
?S: used. Typically /usr/include/string.h or /usr/include/strings.h.
?S:.
?C:I_STRING:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <string.h> (USG systems) instead of <strings.h> (BSD systems).
?C:.
?H:#$i_string I_STRING  /**/
?H:.
?LINT:set i_string
: see which of string.h or strings.h is needed
echo " "
strings=`./findhdr string.h`
if $test "$strings" && $test -r "$strings"; then
 echo "Using <string.h> instead of <strings.h>." >&4
 val="$define"
else
 val="$undef"
 strings=`./findhdr strings.h`
 if $test "$strings" && $test -r "$strings"; then
  echo "Using <strings.h> instead of <string.h>." >&4
 else
```

```
  ./warn "No string header found -- You'll surely
 have problems."
 fi
fi
set i_string
eval $setvar
case "$i_string" in
"$undef") strings=`./findhdr strings.h`;;
*)   strings=`./findhdr string.h`;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_string.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_init: Inlibc
?MAKE: -pick add $@ %<
?S:d_sem_init:
?S: This variable conditionally defines HAS_SEM_INIT if sem_init() is
?S: available to initialize a POSIX semaphore.
?S:.
?C:HAS_SEM_INIT:
?C: This symbol, if defined, indicates that the sem_init system call is
?C: available to initialize a POSIX semaphore.
?C:.
?H:#$d_sem_init HAS_SEM_INIT  /**/
?H:.
?LINT:set d_sem_init
: see if sem_init exists
set sem_init d_sem_init
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sched_setscheduler: Inlibc
?MAKE: -pick add $@ %<
?S:d_sched_setscheduler:
?S: This variable conditionally defines HAS_SCHED_SETSCHEDULER if
?S: sched_setscheduler() is available to set the scheduling policy.
?S:.
?C:HAS_SCHED_SETSCHEDULER:
?C: This symbol, if defined, indicates that the sched_setscheduler
?C: system call is available to set the scheduling policy.
?C:.
?H:#$d_sched_setscheduler HAS_SCHED_SETSCHEDULER  /**/
?H:.
?LINT:set d_sched_setscheduler
: see if sched_setscheduler exists
set sched_setscheduler
 d_sched_setscheduler
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sched_setscheduler.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_sitecustomize.U,v $
?RCS:
?RCS: Copyright (c) 2005-2006 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_sitecustomize.U,v $
?RCS:
?MAKE:usesitecustomize: Oldconfig Setvar
?MAKE: -pick add $@ %<
?S:usesitecustomize:
?S: This variable is set to true when the user requires a mechanism that
?S: allows the sysadmin to add entries to @INC at runtime.  This variable
?S: being set, makes perl run '$sitelib/sitecustomize.pl' at startup.
?S:.
?C:USE_SITECUSTOMIZE:
?C: This symbol, if defined, indicates that sitecustomize should
```

```
?C: be used.
?C:.
?H:?%<:@if USE_SITECUSTOMIZE
?H:?%<:#ifndef USE_SITECUSTOMIZE
?H:?%<:#$usesitecustomize USE_SITECUSTOMIZE  /**/
?H:?%<:#endif
?H:?%<:@end
?H:.
: Check if site customization support was requested
case "$usesitecustomize" in
  $define|true|[Yy]*)
 usesitecustomize="$define"
 ;;
   *)
 usesitecustomize="$undef"
 ;;
  esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sitecustomize.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Setvar.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Setvar.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  15:58:28  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:16  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a variable that is intended to be eval'ed in
?X: order to define/undefine a symbol. A consistency check is made
?X: regarding any previous value and a warning is issued if there
?X: is any discrepancy.
?X:
?X:
 To use it, say:
?X: val=<value>
```

```
?X: set d_variable
?X: eval $setvar
?X:
?MAKE:Setvar: Whoa
?MAKE: -pick add $@ %<
?LINT:define setvar
?S:setvar:
?S: This shell variable is used internally by Configure to set a value
?S: to a given symbol that is defined or not. A typical use is:
?S:     val=<value computed>
?S:  set d_variable
?S:  eval $setvar
?S: That will print a message in case the $val value is not the same
?S: as the previous value of $d_variable.
?S:.
?V:setvar:val
?T:var was td tu
: function used to set '$1' to '$val'
setvar='var=$1; eval "was=\$$1"; td=$define; tu=$undef;
case "$val$was" in
$define$undef) . ./whoa; eval "$var=\$td";;
$undef$define) . ./whoa; eval "$var=\$tu";;
*) eval "$var=$val";;
esac'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Setvar.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:multiarch: osname
?MAKE: -pick add $@ %<
?S:multiarch:
?S: This variable conditionally defines the MULTIARCH symbol
?S: which signifies the presence of multiplatform files.
?S: This is normally set by hints files.
?S:.
?C:MULTIARCH:
```

```
?C: This symbol, if defined, signifies that the build
?C: process will produce some binary files that are going to be
?C: used in a cross-platform environment.  This is the case for
?C: example with the NeXT "fat" binaries that contain executables
?C: for
 several CPUs.
?C:.
?H:#$multiarch MULTIARCH  /**/
?H:.
: Check if is a multiplatform env
case "$osname" in
darwin) multiarch="$define" ;;
esac
case "$multiarch" in
"|[nN]*) multiarch="$undef" ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/a_dvisory/multiarch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: registers.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: registers.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:19:41  ram
?RCS: patch61: removed empty ?LINT lines
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:28:33  ram
?RCS: patch36: call ./Cppsym explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:41  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:registers reg1 reg2 reg3 reg4 reg5 reg6 reg7 reg8 reg9 reg10 reg11 \
 reg12 reg13 reg14 reg15 reg16: awk rm Cppsym
 Myread Oldconfig
?MAKE: -pick add $@ %<
?S:registers:
?S: This variable contains the number of register declarations paid
?S: attention to by the C compiler.
```

```
?S:.
?S:reg1:
?S: This variable, along with reg2, reg3, etc. contains the eventual
?S: value for the symbols register1, register2, register3, etc.  It has
?S: either the value "register" or is null.
?S:.
?C:register1:
?C: This symbol, along with register2, register3, etc. is either the word
?C: "register" or null, depending on whether the C compiler pays attention
?C: to this many register declarations.  The intent is that you don't have
?C: to order your register declarations in the order of importance, so you
?C: can freely declare register variables in sub-blocks of code and as
?C: function parameters.  Do not use register<n> more than once per routine.
?C:.
?LINT:describe reg2 reg3 reg4 reg5 reg6 reg7 reg8 reg9 reg10 reg11
?LINT:describe reg12 reg13 reg14 reg15 reg16
?LINT:known register2 register3 register4 register5 register6
 register7
?LINT:known register8 register9 register10 register11 register12 register13
?LINT:known register14 register15 register16
?H:#define register1 $reg1  /**/
?H:#define register2 $reg2  /**/
?H:#define register3 $reg3  /**/
?H:#define register4 $reg4  /**/
?H:#define register5 $reg5  /**/
?H:#define register6 $reg6  /**/
?H:#define register7 $reg7  /**/
?H:#define register8 $reg8  /**/
?H:#define register9 $reg9  /**/
?H:#define register10 $reg10 /**/
?H:#define register11 $reg11 /**/
?H:#define register12 $reg12 /**/
?H:#define register13 $reg13 /**/
?H:#define register14 $reg14 /**/
?H:#define register15 $reg15 /**/
?H:#define register16 $reg16 /**/
?H:.
?F:!.foo
: see how many register declarations we want to use
case "$registers" in
")
 if ./Cppsym vax; then
  dflt=6
 elif ./Cppsym sun mc68000 mips; then
  dflt=10
 elif ./Cppsym pyr; then
  dflt=14
 elif ./Cppsym ns32000 ns16000; then
```

```
 dflt=5
elif ./Cppsym $smallmach; then
 dflt=3
else
 : if you have any other numbers
for me, please send them in
 dflt=6
fi;;
*) dflt=$registers ;;
esac
?LINT:set reg2 reg3 reg4 reg5 reg6 reg7 reg8 reg9 reg10 reg11
?LINT:set reg12 reg13 reg14 reg15 reg16
cat <<EOM

Different C compilers on different machines pay attention to different numbers
of register declarations.  About how many register declarations in each routine
does your C compiler pay attention to?  (OK to guess)

EOM
rp="Maximum register declarations?"
. ./myread
registers=$ans
reg1="
$awk "BEGIN { for (i=1; i<=16; i++) printf \"reg%d="\n\", i}" \
 </dev/null >.foo
. ./.foo
$awk "BEGIN { for (i=1; i<=$registers; i++) printf \"reg%d=register\n\", i}" \
 </dev/null >.foo
. ./.foo
$rm -f .foo

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/registers.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:usemorebits: Setvar
?MAKE: -pick add $@ %<
?Y:TOP
?S:usemorebits:
?S: This variable conditionally defines the USE_MORE_BITS symbol,
?S: and indicates that explicit 64-bit interfaces and long doubles
```

```
?S: should be used when available.
?S:.
?C:USE_MORE_BITS:
?C: This symbol, if defined, indicates that 64-bit interfaces and
?C: long doubles should be used when available.
?C:.
?H:?%<:#ifndef USE_MORE_BITS
?H:?%<:#$usemorebits USE_MORE_BITS  /**/
?H:?%<:#endif
?H:.
?LINT:extern use64bitint
?LINT:change use64bitint
?LINT:extern uselongdouble
?LINT:change uselongdouble
: Check if morebits is requested
case "$usemorebits" in
"$define"|true|[yY]*)
 use64bitint="$define"
 uselongdouble="$define"
 usemorebits="$define"
 ;;
*) usemorebits="$undef"
 ;;
esac

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/usemorebits.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: inc_version_list.U,v $
?RCS:
?RCS: Copyright (c) 2000 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: inc_version_list.U,v $
?RCS:
?MAKE:inc_version_list inc_version_list_init d_inc_version_list: cat sed \
 Getfile perl5 version api_versionstring rm Myread archname \
 prefix sitelib_stem exe_ext
?MAKE: -pick add $@ %<
?Y:TOP
?S:inc_version_list:
```

```
?S: This variable specifies the list of subdirectories in over
?S: which perl.c:incpush() and lib/lib.pm will automatically
?S: search when adding directories to @INC.  The elements in
?S: the list are separated by spaces.  This is only useful
?S: if
 you have a perl library directory tree structured like the
?S: default one.  See INSTALL for how this works.  The versioned
?S: site_perl directory was introduced in 5.005, so that is the
?S: lowest possible value.
?S:
?S: This list includes architecture-dependent directories back to
?S: version $api_versionstring (e.g. 5.5.640) and
?S: architecture-independent directories all the way back to
?S: 5.005.
?S:.
?S:inc_version_list_init:
?S:     This variable holds the same list as inc_version_list, but
?S: each item is enclosed in double quotes and separated by commas,
?S: suitable for use in the PERL_INC_VERSION_LIST initialization.
?S:.
?S:d_inc_version_list:
?S: This variable conditionally defines PERL_INC_VERSION_LIST.
?S: It is set to undef when PERL_INC_VERSION_LIST is empty.
?S:.
?C:PERL_INC_VERSION_LIST:
?C: This variable specifies the list of subdirectories in over
?C: which perl.c:incpush() and lib/lib.pm will automatically
?C: search when adding directories to @INC, in a format
 suitable
?C: for a C initialization string.  See the inc_version_list entry
?C: in Porting/Glossary for more details.
?C:.
?H:#$d_inc_version_list PERL_INC_VERSION_LIST $inc_version_list_init  /**/
?H:.
?T:stem
: Determine list of previous versions to include in @INC
$cat > getverlist <<EOPL
#!$perl5 -w
use File::Basename;
\$api_versionstring = "$api_versionstring";
\$version = "$version";
\$stem = "$sitelib_stem";
\$archname = "$archname";
EOPL
 $cat >> getverlist <<'EOPL'
# The list found is store twice for each entry: the original name, and
# the binary broken down version as pack "sss", so sorting is easy and
# unambiguous. This will work for all versions that have a maximum of
```

```
# three digit groups, separate by '.'s or '_'s. Names are extended with
# ".0.0" to ensure at least three elements for the pack.
#     -- H.Merijn Brand (m)'06 23-10-2006

# Can't have leading @ because metaconfig interprets it as a command!
;@inc_version_list=();
# XXX Redo to do opendir/readdir?
if (-d
 $stem) {
   chdir($stem);
   ;@candidates = map {
 [ $_, pack "sss", split m/[._]/, "$_.0.0" ] } glob("5.*");
   ;@candidates = sort { $a->[1] cmp $b->[1]} @candidates;
}
else {
   ;@candidates = ();
}

($pversion, $aversion, $vsn5005) = map {
   pack "sss", split m/[._]/, "$_.0.0" } $version, $api_versionstring, "5.005";
foreach $d (@candidates) {
   if ($d->[1] lt $pversion) {
 if ($d->[1] ge $aversion) {
     unshift(@inc_version_list, grep { -d } $d->[0]."/$archname", $d->[0]);
 }
 elsif ($d->[1] ge $vsn5005) {
     unshift(@inc_version_list, grep { -d } $d->[0]);
 }
   }
   else {
 # Skip newer version.  I.e. don't look in
 # 5.7.0 if we're installing 5.6.1.
   }
}

if (@inc_version_list) {
   print join(' ', @inc_version_list);
}
else {
   # Blank space to preserve value for next Configure run.
   print " ";
}
EOPL
chmod +x getverlist
case "$inc_version_list" in
") if test -x "$perl5$exe_ext"; then
  dflt=`$perl5 getverlist`
 else
```

```
 dflt='none'
 fi
 ;;
$undef) dflt='none'
 ;;
?X:     Configure -Dinc_version_list='5.6.0/$archname 5.6.0' ...
*)  eval dflt=\"$inc_version_list\" ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
case "$dflt" in
5.005) dflt=none ;;
esac
$cat <<EOM

In order to ease the process of upgrading, this version of perl
can be configured to use modules built and installed with earlier
versions of perl that were installed under $prefix.  Specify here
the list of earlier versions that this version of perl should check.
If Configure detected no earlier versions of perl installed under
$prefix, then the list will be empty.  Answer 'none' to tell perl
to not search earlier versions.

The default should almost always be sensible, so if you're not sure,
just accept the default.
EOM

rp='List of earlier versions to include in @INC?'
. ./myread
case "$ans" in
[Nn]one|"|' '|$undef) inc_version_list=' ' ;;
*) inc_version_list="$ans" ;;
esac
case "$inc_version_list" in
"|' ')
 inc_version_list_init='0'
 d_inc_version_list="$undef"
 ;;
*) inc_version_list_init=`echo
 $inc_version_list |
  $sed -e 's/^/"/' -e 's/ /","/g' -e 's/$/",0/'`
 d_inc_version_list="$define"
 ;;
esac
$rm -f getverlist
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/inc_version_list.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sysman.U,v 3.0.1.2 1994/06/20 07:08:43 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sysman.U,v $
?RCS: Revision 3.0.1.2  1994/06/20  07:08:43  ram
?RCS: patch30: now explicitly states that /usr/man/man1 is the default
?RCS: patch30: added /usr/local/man/man1 to the search list
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:13:50  ram
?RCS: patch10: added support for /local/man/man1 (WAD)
?RCS: patch10: added temporary syspath variable to cut down on line length
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:55  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:sysman: test Loc Oldconfig
?MAKE: -pick add $@ %<
?S:sysman:
?S: This variable holds the place where the manual is located on this
?S: system. It is not the place where the user wants to put his manual
?S: pages. Rather it is the place where Configure may look to find manual
?S: for unix commands (section 1 of the manual usually). See mansrc.
?S:.
?T:syspath
: determine where manual pages are on this system
echo " "
case "$sysman" in
")
 syspath='/usr/share/man/man1 /usr/man/man1'
 syspath="$syspath /usr/man/mann /usr/man/manl /usr/man/local/man1"
 syspath="$syspath /usr/man/u_man/man1"
 syspath="$syspath /usr/catman/u_man/man1 /usr/man/l_man/man1"
 syspath="$syspath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 syspath="$syspath /usr/man/man.L /local/man/man1 /usr/local/man/man1"
 sysman=`./loc . /usr/man/man1 $syspath`
 ;;
esac
```

```
if $test -d "$sysman"; then
 echo "System manual is in $sysman." >&4
else
 echo "Could not find manual pages in source form."
 >&4
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/sysman.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysselct.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sysselct.U,v $
?RCS: Revision 3.0.1.1  1993/08/25  14:01:33  ram
?RCS: patch6: added default for i_sysselct
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Look wether <sys/select.h> exists
?X:
?MAKE:i_sysselct: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysselct:
?S: This variable conditionally defines I_SYS_SELECT, which indicates
?S: to the C program that it should include <sys/select.h> in
 order to
?S: get the definition of struct timeval.
?S:.
?C:I_SYS_SELECT (I_SYSSELECT):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/select.h> in order to get definition of struct timeval.
?C:.
?H:#$i_sysselct I_SYS_SELECT /**/
?H:.
?D:i_sysselct="
?LINT:set i_sysselct
: see if sys/select.h has to be included
```

```
set sys/select.h i_sysselct
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysselct.U
No license file was found, but licenses were detected in source scan.

```
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_memchr: Inlibc
?MAKE: -pick add $@ %<
?S:d_memchr:
?S: This variable conditionally defines the HAS_MEMCHR symbol, which
?S: indicates to the C program that the memchr() routine is available
?S: to locate characters within a C string.
?S:.
?C:HAS_MEMCHR:
?C: This symbol, if defined, indicates that the memchr routine is available
?C: to locate characters within a C string.
?C:.
?H:#$d_memchr HAS_MEMCHR /**/
?H:.
?LINT:set d_memchr
: see if memchr exists
set memchr d_memchr
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_memchr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: locallib.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
```

?RCS:
?MAKE:uselocallib locallib locallibexp installlocallib installlocallibexp: \
 cat Getfile Oldconfig Prefixit test afs sitelib
?MAKE: -pick add $@ %<
?Y:TOP
?S:uselocallib:
?S: This variable tells whether the USELOCALLIB is defined.
?S:.
?S:locallib:
?S: This variable contains the eventual value of the LOCALLIB symbol,
?S: which is the name of the private library for this package.  It may
?S: have a ~ on the front. It is up to the makefile to eventually create
?S: this
 directory while performing installation (with ~ substitution).
?S: This differs from $sitelib in that $sitelib is often
?S: a shared network directory while $locallib is
?S: at a local disk, because of policy/administrative issues
?S: like for example caching (performance), licensing, or security.
?S:.
?S:locallibexp:
?S: This variable is the ~name expanded version of locallib, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?S:installlocallib:
?S: This variable is really the same as locallibexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?S:installlocallibexp:
?S: This variable is the ~name expanded version of installlocallib,
?S: so that you may use it directly in Makefiles or shell scripts.
?S:.
?C:USELOCALLIB:
?C: This symbol, if defined, tells that the directories
?C: LOCALLIB, LOCALLIB_EXP, LOCALARCH, and LOCALARCH_EXP,
?C: are used in this installation.
?C:.
?C:LOCALLIB:
?C: This
 symbol contains the name of the private library for this package.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.  The program
?C: should be prepared to do ~ expansion.
?C: The standard distribution will put nothing in this directory.
?C: Local administration may place extensions and modules in
?C: this directory.
?C: This differs from SITELIB in that SITELIB is often
?C: a shared network directory while LOCALLIB is

```
?C: at a local disk, because of policy/administrative issues
?C: like for example caching (performance), licensing, or security.
?C:.
?C:LOCALLIB_EXP:
?C: This symbol contains the ~name expanded version of LOCALLIB, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?H:#$uselocallib USELOCALLIB   /**/
?H:#define LOCALLIB "$locallib"  /**/
?H:#define LOCALLIB_EXP "$locallibexp"  /**/
?H:.
: determine where local libraries go.
case
 "$locallib" in
'') dflt=none ;;
*)  dflt=$locallib ;;
esac
$cat <<EOM

For various local software administration reasons and
especially if $sitelib
happens to be a shared network resource, you may want to have
a directory for extensions and modules that resides on a possibly local disk.
If this scenario doesn't sound applicable, accept the default 'none'.

EOM
fn=nd~+
rp='Pathname for such local library files?'
. ./getfile
if $test "X$ans" = X; then
 uselocallib="$undef"
 locallib=""
 locallibexp=""
 installlocallib=""
 installlocallibexp=""
else
 uselocallib="$define"
 if $test "X$locallibexp" != "X$ansexp"; then
  installlocallib="
 fi
 locallib="$ans"
 locallibexp="$ansexp"
 if $afs; then
  $cat <<EOM

Since you are running AFS, I need to distinguish the directory in
which locally installed files reside from the directory in which they
are installed (and from which they are presumably copied to the former
```

directory by occult means).

EOM
  case "$installlocallib" in
  '') dflt=`echo
 $locallibexp | sed 's#^/afs/#/afs/.#'`;;
  *) dflt="$installlocallib";;
  esac
  fn=de~
  rp='Where will the locally installed files be installed?'
  . ./getfile
  installlocallib="$ans"
 else
  installlocallibexp="$locallibexp"
 fi
fi

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/locallib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: socksizetype.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:socksizetype: \
 Protochk Oldconfig Myread cat d_socket d_socklen_t sizetype \
 usesocks i_socks i_systypes extern_C
?MAKE: -pick add $@ %<
?S:socksizetype:
?S: This variable holds the type used for the size argument
?S: for various socket calls like accept.  Usual values include
?S: socklen_t, size_t, and int.
?S:.
?C:Sock_size_t:
?C: This symbol holds the type used for the size argument of
?C: various socket calls (just the base type, not the pointer-to).
?C:.
?H:#define Sock_size_t  $socksizetype /**/
?H:.
?T:xxx yyy try
@if Sock_size_t
: check for type of the size argument to socket calls
case "$d_socket" in
"$define")

```
 $cat <<EOM

Checking to see what type is the last argument
 of accept().
EOM
 yyy="
 case "$d_socklen_t" in
 "$define") yyy="$yyy socklen_t"
 esac
 yyy="$yyy $sizetype int long unsigned"
 for xxx in $yyy; do
  case "$socksizetype" in
  ") try="$extern_C int accept(int, struct sockaddr *, $xxx *);"
   case "$usesocks" in
   "$define")
    if ./protochk "$try" $i_systypes sys/types.h $d_socket sys/socket.h literal '#define INCLUDE_PROTOTYPES'
$i_socks socks.h.; then
     echo "Your system accepts '$xxx *' for the last argument of accept()."
     socksizetype="$xxx"
    fi
    ;;
   *) if ./protochk "$try"  $i_systypes sys/types.h $d_socket sys/socket.h; then
     echo "Your system accepts '$xxx *' for the last argument of accept()."
     socksizetype="$xxx"
    fi
    ;;
   esac
   ;;
  esac
 done
: In case none of those worked, prompt the user.
 case "$socksizetype" in
 ") rp='What is the type for socket address structure sizes?'
  dflt='int'
  . ./myread
  socksizetype=$ans
  ;;
 esac
 ;;
*) : no sockets, so pick relatively harmless default
 socksizetype='int'
 ;;
esac
@end

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/socksizetype.U
```

No license file was found, but licenses were detected in source scan.

?RCS: $Id: intsize.U,v 3.0.1.2 1997/02/28 15:55:26 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: intsize.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:55:26  ram
?RCS: patch61: avoid prompting the user if the test runs ok
?RCS: patch61: moved code from longsize.U into there
?RCS: patch61: new tests for shortsize as well
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:21:06  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:intsize longsize
 shortsize: Compile Myread cat run i_stdlib rm_try
?MAKE: -pick add $@ %<
?S:intsize:
?S: This variable contains the value of the INTSIZE symbol, which
?S: indicates to the C program how many bytes there are in an int.
?S:.
?S:longsize:
?S: This variable contains the value of the LONGSIZE symbol, which
?S: indicates to the C program how many bytes there are in a long.
?S:.
?S:shortsize:
?S: This variable contains the value of the SHORTSIZE symbol which
?S: indicates to the C program how many bytes there are in a short.
?S:.
?C:INTSIZE:
?C: This symbol contains the value of sizeof(int) so that the C
?C: preprocessor can make decisions based on it.
?C:.
?C:LONGSIZE:
?C: This symbol contains the value of sizeof(long) so that the C
?C: preprocessor can make decisions based on it.
?C:.
?C:SHORTSIZE:

```
?C: This symbol contains the value of sizeof(short) so that the C
?C: preprocessor can make decisions based on it.
?C:.
?H:#define INTSIZE $intsize  /**/
?H:#define LONGSIZE $longsize  /**/
?H:#define
 SHORTSIZE $shortsize  /**/
?H:.
?F:!try
: check for lengths of integral types
echo " "
case "$intsize" in
")
 echo "Checking to see how big your integers are..." >&4
 $cat >try.c <<EOCP
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
int main()
{
@if INTSIZE || intsize
 printf("intsize=%d;\n", (int)sizeof(int));
@end
@if LONGSIZE || longsize
 printf("longsize=%d;\n", (int)sizeof(long));
@end
@if SHORTSIZE || shortsize
 printf("shortsize=%d;\n", (int)sizeof(short));
@end
 exit(0);
}
EOCP
 set try
 if eval $compile_ok && $run ./try > /dev/null; then
  eval `$run ./try`
@if INTSIZE || intsize
  echo "Your integers are $intsize bytes long."
@end
@if LONGSIZE || longsize
  echo "Your long integers are $longsize bytes long."
@end
@if SHORTSIZE || shortsize
  echo "Your short integers are $shortsize bytes long."
@end
 else
  $cat >&4 <<EOM
```

```
!
Help! I can't compile and run the intsize test program: please enlighten me!
(This is probably a misconfiguration
 in your system or libraries, and
you really ought to fix it.  Still, I'll try anyway.)
!
EOM
@if INTSIZE || intsize
  dflt=4
  rp="What is the size of an integer (in bytes)?"
  . ./myread
  intsize="$ans"
@end
@if LONGSIZE || longsize
  dflt=$intsize
  rp="What is the size of a long integer (in bytes)?"
  . ./myread
  longsize="$ans"
@end
@if SHORTSIZE || shortsize
  dflt=2
  rp="What is the size of a short integer (in bytes)?"
  . ./myread
  shortsize="$ans"
@end
 fi
 ;;
esac
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/a_dvisory/intsize.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Whoa.U,v 3.0.1.2 1997/02/28 15:21:21 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Whoa.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:21:21  ram
?RCS: patch61: whoa script now starts with leading "startsh"
?RCS:
```

```
?RCS: Revision 3.0.1.1  1994/10/29  16:02:01  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to warn the user in case a change into a variable
 is noticed.
?X:
?X: To use this unit, $was must hold the old value that has changed. Upon
?X: exit, the two variables $td and $tu are set to the correct value for
?X: respectively defining or undefining a variable. For instance, if $vas was
?X: $undef, but now $var is $define, after calling . whoa, you should use
?X: eval "$var=\$tu" to finally set $var to the correct value. See unit Inlibc.
?X:
?MAKE:Whoa: Myread startsh hint
?MAKE: -pick add $@ %<
?F:./whoa
?T:var was td tu hintfile
: set up the script used to warn in case of inconsistency
cat <<EOS >whoa
$startsh
EOS
cat <<'EOSC' >>whoa
dflt=y
case "$hint" in
  recommended)
 case "$hintfile" in
 ") echo "The $hint value for \$$var on this machine was \"$was\"!" >&4
  ;;
 *) echo "Hmm.  Based on the hints in hints/$hintfile.sh, " >&4
  echo "the $hint value for \$$var on this machine was \"$was\"!" >&4
  ;;
 esac
 ;;
  *) echo " "
 echo "*** WHOA THERE!!! ***" >&4
 echo "    The $hint value for \$$var on this machine was
 \"$was\"!" >&4
 ;;
esac
rp="    Keep the $hint value?"
. ./myread
case "$ans" in
y) td=$was; tu=$was;;
esac
```

EOSC

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Whoa.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?MAKE:issymlink: lns test rm
?MAKE: -pick add $@ %<
?S:issymlink:
?S: This variable holds the test command to test for a symbolic link
?S: (if they are supported).  Typical values include 'test -h' and
?S: 'test -L'.
?S:.
?T:pth p
?LINT:change PATH test
?LINT:extern newsh
: determine whether symbolic links are supported
echo
 " "
case "$lns" in
*"ln"*" -s")
 echo "Checking how to test for symbolic links..." >&4
 $lns blurfl sym
 if $test "X$issymlink" = X; then
?X:
?X: In some AIX 4 versions the (ksh) builtin test (-h) is broken.
?X:
  case "$newsh" in
  ") sh     -c "PATH= test -h sym" >/dev/null 2>&1 ;;
  *)  $newsh -c "PATH= test -h sym" >/dev/null 2>&1 ;;
  esac
  if test $? = 0; then
```

```
  issymlink="test -h"
 else
  echo "Your builtin 'test -h' may be broken." >&4
  case "$test" in
  /*) ;;
  *) pth=`echo $PATH | sed -e "s/$p_/ /g"`
   for p in $pth
   do
    if test -f "$p/$test"; then
     test="$p/$test"
     break
    fi
   done
   ;;
  esac
  case "$test" in
  /*)
   echo "Trying external '$test -h'." >&4
   issymlink="$test -h"
   if $test ! -h sym >/dev/null 2>&1; then
    echo "External '$test -h' is broken, too." >&4
    issymlink="
   fi
   ;;
  *) issymlink=" ;;
  esac
 fi
fi
if $test "X$issymlink" = X; then
 if $test -L sym 2>/dev/null; then
  issymlink="$test
-L"
  echo "The builtin '$test -L' worked." >&4
 fi
fi
if $test "X$issymlink" != X; then
 echo "You can test for symbolic links with '$issymlink'." >&4
else
 echo "I do not know how you can test for symbolic links." >&4
fi
$rm -f blurfl sym
;;
*) echo "No symbolic links, so not testing for their testing..." >&4
;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/issymlink.U

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/issymlink.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_ftime.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_ftime.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:06  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_ftime d_gettimeod: Inlibc Setvar
?MAKE: -pick add $@ %<
?S:d_ftime:
?S: This variable conditionally defines the HAS_FTIME symbol, which indicates
?S: that the ftime() routine exists.  The ftime() routine is basically
?S: a sub-second accuracy clock.
?S:.
?S:d_gettimeod:
?S: This variable conditionally defines the HAS_GETTIMEOFDAY symbol,
 which
?S: indicates that the gettimeofday() system call exists (to obtain a
?S: sub-second accuracy clock). You should probably include <sys/resource.h>.
?S:.
?C:HAS_FTIME (FTIMER):
?C: This symbol, if defined, indicates that the ftime() routine exists.
?C: It is basically a sub-second accuracy clock, but is less accurate
?C: than gettimeofday(2) anyway. The type "Timeval" should be used to
?C: refer to "struct timeb".
?C:.
?C:HAS_GETTIMEOFDAY (GETTIMEOFDAY):
?C: This symbol, if defined, indicates that the gettimeofday() system
?C: call is available for a sub-second accuracy clock. Usually, the file
?C: <sys/resource.h> needs to be included (see I_SYS_RESOURCE).
?C: The type "Timeval" should be used to refer to "struct timeval".
?C:.
?H:#$d_ftime HAS_FTIME  /**/
?H:#$d_gettimeod HAS_GETTIMEOFDAY /**/
?H:?%<:@if HAS_FTIME
?H:?%<:#ifdef HAS_FTIME
?H:?%<:#define Timeval struct timeb  /* Structure used by ftime() */
?H:?%<:#endif

```
?H:?%<:@end
?H:?%<:@if HAS_GETTIMEOFDAY
?H:?%<:#ifdef HAS_GETTIMEOFDAY
?H:?%<:#define
 Timeval struct timeval /* Structure used by gettimeofday() */
?H:?%<:#endif
?H:?%<:@end
?H:.
?X:FIXME
?X:?I:?d_ftime:i_systimeb
?X:?I:?d_gettimeod:i_sysresrc
?LINT:set d_gettimeod d_ftime
?LINT:known Timeval
: see if gettimeofday or ftime exists
?X:
?X: Give priority to gettimeofday(2) because timing is more accurate
?X:
set gettimeofday d_gettimeod
eval $inlibc
case "$d_gettimeod" in
"$undef")
 set ftime d_ftime
 eval $inlibc
 ;;
*)
 val="$undef"; set d_ftime; eval $setvar
 ;;
esac
case "$d_gettimeod$d_ftime" in
"$undef$undef")
 echo " "
 echo 'No ftime() nor gettimeofday() -- timing may be less accurate.' >&4
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_ftime.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mansrc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
```

?RCS:
?RCS: $Log: mansrc.U,v $
?RCS: Revision 3.0.1.9  1997/02/28  16:12:03  ram
?RCS: patch61: don't ask for AFS when they choose to not install pages
?RCS:
?RCS: Revision 3.0.1.8  1995/09/25  09:16:58  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.7  1995/02/15  14:15:31  ram
?RCS: patch51: was mistakenly duplicating /usr/local/man/man1 (ADO)
?RCS: patch51: added /opt/man/man1 to the lookpath (ADO)
?RCS:
?RCS: Revision
 3.0.1.6  1995/01/30  14:39:34  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:32:25  ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:30:38  ram
?RCS: patch32: now uses installation prefix for default setting
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  15:11:10  ram
?RCS: patch23: added lint hint, assuring that nroff is used
?RCS:
?RCS: Revision 3.0.1.2  1994/01/24  14:14:39  ram
?RCS: patch16: now uses _nroff in case user asked for portability
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:09:31  ram
?RCS: patch10: allows for L1 man page extension (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:mansrc mansrcexp manext installmansrc: afs cat nroff Loc Oldconfig \
 sysman spackage test Getfile Prefixit prefixexp Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?S:mansrc:
?S: This variable
 contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:mansrcexp:
?S: This variable is the same as the mansrc variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.

```
?S:.
?S:installmansrc:
?S: This variable is really the same as mansrcexp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: mansrcexp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:manext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See mansrc.
?S:.
?T:lookpath
: determine where manual pages go
set mansrc mansrc none
eval $prefixit
$cat <<EOM

$spackage has manual
 pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$mansrc" in
 '') mansrc="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$mansrc" in
'')
 lookpath="$prefixexp/share/man/man1 $prefixexp/man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath /usr/local/man/man1 /opt/man/man1 /usr/man/manl"
 lookpath="$lookpath /usr/share/man/man1 /usr/local/share/man/man1"
 lookpath="$lookpath /usr/man/local/man1 /usr/man/l_man/man1"
 lookpath="$lookpath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 lookpath="$lookpath /usr/man/man.L"
 mansrc=`./loc . $prefixexp/man/man1 $lookpath`
 if $test -d "$mansrc"; then
  dflt="$mansrc"
 else
  dflt="$sysman"
 fi
 set dflt
 eval $prefixup
 ;;
' ') dflt=none;;
```

```
*)  dflt="$mansrc"
 ;;
esac
echo " "
fn=dn~
rp='Where do the manual pages (source) go?'
. ./getfile
if test
 "X$mansrcexp" != "X$ansexp"; then
 installmansrc="
fi
mansrc="$ans"
mansrcexp="$ansexp"
case "$mansrc" in
") mansrc=' '
 installmansrc=";;
esac
if $afs && $test "$mansrc"; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installmansrc" in
 ") dflt=`echo $mansrcexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installmansrc";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installmansrc="$ans"
else
 installmansrc="$mansrcexp"
fi

case "$mansrc" in
' ') manext='0';;
*l) manext=l;;
*n) manext=n;;
*o) manext=l;;
*p) manext=n;;
*C) manext=C;;
*L) manext=L;;
*L1) manext=L1;;
*) manext=1;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/mansrc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_time.U,v 3.0.1.2 1995/07/25 14:07:43 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_time.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  14:07:43  ram
?RCS: patch56: typo fix, sytem -> system
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:16:38  ram
?RCS: patch36: now uses new Typedef unit to compute type information (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X: Maybe <sys/types.h> should be included?
?X:INC: i_systypes
?MAKE:d_time timetype: Csym Setvar Findhdr Myread Typedef
?MAKE: -pick
 add $@ %<
?S:d_time:
?S: This variable conditionally defines the HAS_TIME symbol, which indicates
?S: that the time() routine exists.  The time() routine is normally
?S: provided on UNIX systems.
?S:.
?S:timetype:
?S: This variable holds the type returned by time(). It can be long,
?S: or time_t on BSD sites (in which case <sys/types.h> should be
?S: included). Anyway, the type Time_t should be used.
?S:.
?C:HAS_TIME (TIMER):
?C: This symbol, if defined, indicates that the time() routine exists.
?C:.
?C:Time_t (TIMETYPE):
?C: This symbol holds the type returned by time(). It can be long,
?C: or time_t on BSD sites (in which case <sys/types.h> should be
?C: included).
?C:.

```
?H:#$d_time HAS_TIME  /**/
?H:#define Time_t $timetype  /* Time type */
?H:.
?LINT:set d_time
: see if time exists
echo " "
?X: MPE/iX needs this protection of hint values.
?X: See d_sterror.U for more explanation.
if test "X$d_time" = X -o X"$timetype" = X; then
   if set time val -f d_time; eval $csym; $val;
 then
  echo 'time() found.' >&4
  val="$define"
  rp="What is the type returned by time() on this system?"
  set time_t timetype long stdio.h sys/types.h
  eval $typedef_ask
   else
  echo 'time() not found, hope that will do.' >&4
  val="$undef"
  timetype='int';
   fi
   set d_time
   eval $setvar
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/d_time.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysmode.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysmode: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sysmode:
?S: This variable conditionally defines the I_SYSMODE symbol,
?S: and indicates whether a C program should include <sys/mode.h>.
?S:.
?C:I_SYSMODE:
?C: This symbol, if defined, indicates that <sys/mode.h> exists and
?C: should be included.
?C:.
?H:#$i_sysmode I_SYSMODE  /**/
?H:.
```

?LINT:set i_sysmode
: see if this is a sys/mode.h system
set sys/mode.h i_sysmode
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sysmode.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_PRId64 d_PRIi64 d_PRIu64 d_PRIo64 d_PRIx64 d_PRIXU64 \
 sPRId64 sPRIi64 sPRIu64 sPRIo64 sPRIx64 sPRIXU64: \
 quadtype i_inttypes test cat rm_try Setvar Compile run
?MAKE: -pick add $@ %<
?S:d_PRId64:
?S: This variable conditionally defines the PERL_PRId64 symbol, which
?S: indicates that stdio has a symbol to print 64-bit decimal numbers.
?S:.
?S:d_PRIi64:
?S: This variable conditionally defines the PERL_PRIi64 symbol, which
?S: indicates that stdio has a symbol to print 64-bit decimal numbers.
?S:.
?S:d_PRIu64:
?S: This variable conditionally defines the PERL_PRIu64 symbol, which
?S: indicates that stdio has a symbol to print 64-bit unsigned decimal
?S: numbers.
?S:.
?S:d_PRIo64:
?S: This variable
 conditionally defines the PERL_PRIo64 symbol, which
?S: indicates that stdio has a symbol to print 64-bit octal numbers.
?S:.
?S:d_PRIx64:
?S: This variable conditionally defines the PERL_PRIx64 symbol, which
?S: indicates that stdio has a symbol to print 64-bit hexadecimal numbers.
?S:.
?S:d_PRIXU64:
?S: This variable conditionally defines the PERL_PRIXU64 symbol, which
?S: indicates that stdio has a symbol to print 64-bit hExADECimAl numbers.
?S: The 'U' in the name is to separate this from d_PRIx64 so that even
?S: case-blind systems can see the difference.
?S:.

?S:sPRId64:
?S: This variable, if defined, contains the string used by stdio to
?S: format 64-bit decimal numbers (format 'd') for output.
?S:.
?S:sPRIi64:
?S: This variable, if defined, contains the string used by stdio to
?S: format 64-bit decimal numbers (format 'i') for output.
?S:.
?S:sPRIu64:
?S: This variable, if defined, contains the string used by stdio to
?S: format 64-bit unsigned decimal numbers (format 'u')
 for output.
?S:.
?S:sPRIo64:
?S: This variable, if defined, contains the string used by stdio to
?S: format 64-bit octal numbers (format 'o') for output.
?S:.
?S:sPRIx64:
?S: This variable, if defined, contains the string used by stdio to
?S: format 64-bit hexadecimal numbers (format 'x') for output.
?S:.
?S:sPRIXU64:
?S: This variable, if defined, contains the string used by stdio to
?S: format 64-bit hExADECimAl numbers (format 'X') for output.
?S: The 'U' in the name is to separate this from sPRIx64 so that even
?S: case-blind systems can see the difference.
?S:.
?C:PERL_PRId64:
?C: This symbol, if defined, contains the string used by stdio to
?C: format 64-bit decimal numbers (format 'd') for output.
?C:.
?C:PERL_PRIi64:
?C: This symbol, if defined, contains the string used by stdio to
?C: format 64-bit decimal numbers (format 'i') for output.
?C:.
?C:PERL_PRIu64:
?C: This symbol, if defined, contains the string used by stdio to
?C: format 64-bit unsigned decimal numbers (format 'u')
 for output.
?C:.
?C:PERL_PRIo64:
?C: This symbol, if defined, contains the string used by stdio to
?C: format 64-bit octal numbers (format 'o') for output.
?C:.
?C:PERL_PRIx64:
?C: This symbol, if defined, contains the string used by stdio to
?C: format 64-bit hexadecimal numbers (format 'x') for output.
?C:.

```
?C:PERL_PRIXU64:
?C: This symbol, if defined, contains the string used by stdio to
?C: format 64-bit hExADECimAl numbers (format 'X') for output.
?C:.
?H:#$d_PRId64 PERL_PRId64 $sPRId64 /**/
?H:#$d_PRIi64 PERL_PRIi64 $sPRIi64 /**/
?H:#$d_PRIu64 PERL_PRIu64 $sPRIu64 /**/
?H:#$d_PRIo64 PERL_PRIo64 $sPRIo64 /**/
?H:#$d_PRIx64 PERL_PRIx64 $sPRIx64 /**/
?H:#$d_PRIx64 PERL_PRIXU64 $sPRIXU64 /**/
?H:.
?T:yyy
?F:!try
: Check 64bit sizes
echo " "

if $test X"$quadtype" != X; then

echo "Checking how to print 64-bit integers..." >&4

if $test X"$sPRId64" = X -a X"$quadtype" = Xint; then
 $cat >try.c <<'EOCP'
#include <sys/types.h>
#include <stdio.h>
int main() {
 int q = 12345678901;

 printf("%ld\n", q);
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run ./try`
  case "$yyy" in
  12345678901)
   sPRId64="'d'"; sPRIi64="'i'"; sPRIu64="'u'";
            sPRIo64="'o'"; sPRIx64="'x'"; sPRIXU64="'X'";
   echo "We will use %d."
   ;;
  esac
 fi
fi

if $test X"$sPRId64" = X -a X"$quadtype" = Xlong; then
 $cat >try.c <<'EOCP'
#include <sys/types.h>
#include <stdio.h>
int main() {
```

```
 long q = 12345678901;
 printf("%ld\n", q);
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run ./try`
  case "$yyy" in
  12345678901)
   sPRId64="'ld"; sPRIi64="'li"; sPRIu64="'lu";
            sPRIo64="'lo"; sPRIx64="'lx"; sPRIXU64="'lX";
   echo "We will use %ld."
   ;;
  esac
 fi
fi

if $test X"$sPRId64" = X -a X"$i_inttypes" = X"$define" -a X"$quadtype" = Xint64_t; then
 $cat >try.c <<'EOCP'
#include <sys/types.h>
#include <inttypes.h>
#include <stdio.h>
int main() {
 int64_t q = 12345678901;
 printf("%" PRId64 "\n", q);
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run
 ./try`
  case "$yyy" in
  12345678901)
   sPRId64=PRId64; sPRIi64=PRIi64; sPRIu64=PRIu64;
            sPRIo64=PRIo64; sPRIx64=PRIx64; sPRIXU64=PRIXU64;
   echo "We will use the C9X style."
   ;;
  esac
 fi
fi

if $test X"$sPRId64" = X -a X"$quadtype" != X; then
 $cat >try.c <<EOCP
#include <sys/types.h>
#include <stdio.h>
int main() {
 $quadtype q = 12345678901;
 printf("%Ld\n", q);
```

```
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run ./try`
  case "$yyy" in
  12345678901)
   sPRId64="'Ld'"; sPRIi64="'Li'"; sPRIu64="'Lu'";
               sPRIo64="'Lo'"; sPRIx64="'Lx'"; sPRIXU64="'LX'";
   echo "We will use %Ld."
   ;;
  esac
 fi
fi

if $test X"$sPRId64" = X -a X"$quadtype" = X"long long"; then
 $cat >try.c <<'EOCP'
#include <sys/types.h>
#include <stdio.h>
int main() {
 long long q = 12345678901LL; /* AIX cc requires the LL suffix. */
 printf("%lld\n", q);
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run ./try`
  case "$yyy" in
  12345678901)
   sPRId64="'lld'"; sPRIi64="'lli'";
 sPRIu64="'llu'";
               sPRIo64="'llo'"; sPRIx64="'llx'"; sPRIXU64="'llX'";
   echo "We will use the %lld style."
   ;;
  esac
 fi
fi

if $test X"$sPRId64" = X -a X"$quadtype" != X; then
 $cat >try.c <<EOCP
#include <sys/types.h>
#include <stdio.h>
int main() {
 $quadtype q = 12345678901;
 printf("%qd\n", q);
}
EOCP
 set try
```

```
 if eval $compile; then
  yyy=`$run ./try`
  case "$yyy" in
  12345678901)
   sPRId64="'qd'"; sPRIi64="'qi'"; sPRIu64="'qu'";
               sPRIo64="'qo'"; sPRIx64="'qx'"; sPRIXU64="'qX'";
   echo "We will use %qd."
   ;;
  esac
 fi
fi

if $test X"$sPRId64" = X; then
 echo "Cannot figure out how to print 64-bit integers." >&4
fi
$rm_try

fi

case "$sPRId64" in
'') d_PRId64="$undef"; d_PRIi64="$undef"; d_PRIu64="$undef";
 d_PRIo64="$undef"; d_PRIx64="$undef"; d_PRIXU64="$undef";
 ;;
*) d_PRId64="$define"; d_PRIi64="$define"; d_PRIu64="$define";
 d_PRIo64="$define"; d_PRIx64="$define"; d_PRIXU64="$define";
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/quadfio.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_rmdir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_rmdir.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_rmdir: Inlibc
?MAKE: -pick add $@ %<
```

```
?S:d_rmdir:
?S: This variable conditionally defines HAS_RMDIR if rmdir() is
?S: available to remove directories.
?S:.
?C:HAS_RMDIR (RMDIR):
?C: This symbol, if defined, indicates that the rmdir routine is
?C: available to remove directories. Otherwise you should fork off a
?C: new process to exec
 /bin/rmdir.
?C:.
?H:#$d_rmdir HAS_RMDIR  /**/
?H:.
?LINT:set d_rmdir
: see if rmdir exists
set rmdir d_rmdir
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_rmdir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_logb: Inlibc
?MAKE: -pick add $@ %<
?S:d_logb:
?S: This variable conditionally defines the HAS_LOGB symbol, which
?S: indicates to the C program that the logb() routine is available
?S: to extract the exponent of x.
?S:.
?C:HAS_LOGB:
?C: This symbol, if defined, indicates that the logb routine is
?C: available to do the logb function.
?C:.
?H:#$d_logb HAS_LOGB  /**/
?H:.
?LINT:set d_logb
: see if logb exists
set logb d_logb
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_logb.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?MAKE:d_remainder: Inlibc
?MAKE: -pick add $@ %<
?S:d_remainder:
?S: This variable conditionally defines the HAS_REMAINDER symbol, which
?S: indicates to the C program that the remainder() routine is available.
?S:.
?C:HAS_REMAINDER:
?C: This symbol, if defined, indicates that the remainder routine is
?C: available to return the floating-point remainder.
?C:.
?H:#$d_remainder HAS_REMAINDER  /**/
?H:.
?LINT:set d_remainder
: see if remainder exists
set remainder d_remainder
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_remainder.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Oldsym.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Oldsym.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:06:58  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit follows the creation of the config.sh file. It adds some
?X: special symbols: defines from patchlevel.h file if any and PERL_CONFIG_SH,
?X: which is set to true. Then, we try to keep all the new symbols that
?X: may come from a hint
 file or a previous config.sh file.
?X:
?MAKE:Oldsym: Config_sh cat test hint src sed sort uniq perl_patchlevel
?MAKE: -pick add $@ %<
```

```
?T:PERL_CONFIG_SH PERL_PATCHLEVEL sym tmp
?F:!UU
: add special variables
$test -f $src/patchlevel.h && \
awk '/^#define[  ]+PERL_/ {printf "%s=%s\n",$2,$3}' $src/patchlevel.h >>config.sh
echo "PERL_PATCHLEVEL='$perl_patchlevel'" >>config.sh
echo "PERL_CONFIG_SH=true" >>config.sh

: propagate old symbols
if $test -f UU/config.sh; then
?X: Make sure each symbol is unique in oldconfig.sh
 <UU/config.sh $sort | $uniq >UU/oldconfig.sh
?X:
?X: All the symbols that appear twice come only from config.sh (hence the
?X: two config.sh in the command line). These symbols will be removed by
?X: the uniq -u command. The oldsyms file thus contains all the symbols
?X: that did not appear in the produced config.sh (Larry Wall).
?X:
?X: Do not touch the -u flag of uniq.  This means you too, Jarkko.
?X:
 $sed -n 's/^\([a-zA-Z_0-9]*\)=.*/\1/p' \
  config.sh config.sh UU/oldconfig.sh
 |\
  $sort | $uniq -u >UU/oldsyms
 set X `$cat UU/oldsyms`
 shift
 case $# in
 0) ;;
 *)
  $cat <<EOM
Hmm...You had some extra variables I don't know about...I'll try to keep 'em...
EOM
  echo ": Variables propagated from previous config.sh file." >>config.sh
  for sym in `$cat UU/oldsyms`; do
   echo "    Propagating $hint variable "'$'"$sym..."
   eval 'tmp="$'"${sym}"'"'
   echo "$tmp" | \
    sed -e "s/'/'\"'\"'/g" -e "s/^/$sym='/" -e "s/$/'/" >>config.sh
  done
  ;;
 esac
fi

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Oldsym.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_lstat.U 1 2006-08-24 12:32:52Z rmanfredi $
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_lstat.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:28  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_lstat: Inlibc
?MAKE: -pick add $@ %<
?S:d_lstat:
?S: This variable conditionally defines HAS_LSTAT if lstat() is
?S: available to do file stats on symbolic links.
?S:.
?C:HAS_LSTAT (LSTAT):
?C: This symbol, if defined, indicates that the lstat routine is
?C: available to do file stats on symbolic links.
?C:.
?H:#$d_lstat HAS_LSTAT  /**/
?H:.
?LINT:set
 d_lstat
: see if lstat exists
set lstat d_lstat
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_lstat.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: shm_for.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: shm_for.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:28:37  ram
?RCS: patch36: call ./Cppsym explicitly instead of relying on PATH
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:shm_for shm_att shm_lim: Cppsym Myread ipc uname
?MAKE: -pick add $@ %<
?S:shm_for:
?S: This variable tells us the type of machine we're expecting the
?S: shared memory code to run on.  The value is available to C
 programs
?S: in the C_SHM_FOR manifest.
?S:.
?S:shm_att:
?S: This variable tells us where a shared memory segment should be
?S: attached.  Good values are HIGH, LOW, and ZERO.
?S:.
?S:shm_lim:
?S: This variable tells us if shared memory attached HIGH should
?S: have an upper limit.
?S:.
?X: ------------------------------------------------------------
?X: It's a potential lose to define anything beginning with SHM...
?X: At least we can think that S_ stands for "String version of ..." -- HMS
?X: ------------------------------------------------------------
?C:S_SHM_FOR ~ %<:
?C: This symbol identifies what we chose for the target system's
?C: default shared memory configuration parameters.
?C:.
?C:S_SHM_ATT ~ %<:
?C: This symbol holds the default "place" to attach shared memory.
?C: Values are "HIGH", "ZERO", and "LOW".
?C:.
?C:S_SHM_LIM ~ %<:
?C: This symbol holds the default upper bound address limit if shared
?C: memory is attached HIGH.  If zero, there is no upper limit.
?C:.
?H:?%<:#ifdef
 SERVE_SHM
?H:?%<:#define S_SHM_FOR "$shm_for"
?H:?%<:#define S_SHM_ATT "$shm_att"
?H:?%<:#define S_SHM_LIM "$shm_lim"
?H:?%<:#endif
?H:.
?W:%<:S_SHM_FOR S_SHM_ATT S_SHM_LIM
: see how to attach shared memory
echo " "
echo "Deciding how to attach shared memory..." >&4
```

```
case "$ipc" in
shm)
 shm_for='Default case'
 shm_att='HIGH'
 shm_lim='0x0'
 if ./Cppsym tower32 tower32_600; then
  echo "NCR Towers are usually normal..."
  : echo "Oh, an NCR Tower."
  : This works for the 600
  shm_for='NCR Tower 32'
  shm_att='LOW'
 else
  case "$uname" in
  */uname)
   case "`uname -m`" in
   ACS??68*)
    echo "Oh, an Altos 3068."
    shm_for='Altos 3068:'
    shm_lim='0x800000'
    ;;
    esac
    ;;
  *)
   echo "Looks normal to me..."
   ;;
  esac
 fi

 dflt="$shm_for"
 rp='Description of shared memory configuration?'
 . ./myread
 shm_for="$ans"

 dflt="$shm_att"
 rp='Where should shared memory be attached?'
 . ./myread
 shm_att="$ans"

 case "$shm_att" in
 HIGH)
  dflt="$shm_lim"
  rp='What is
 the upper address limit for shared memory?'
  . ./myread
  shm_lim="$ans"
  ;;
 *)
  shm_lim="
```

```
  ;;
 esac
 ;;

*)
 echo "but you aren't using shared memory so I won't bother." >&4
 shm_for='NOT CONFIGURED'
 shm_att='NONE'
 shm_lim='-1'
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/shm_for.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_llround: Inlibc
?MAKE: -pick add $@ %<
?S:d_llround:
?S: This variable conditionally defines the HAS_LLROUND symbol, which
?S: indicates to the C program that the llround() routine is available
?S: to return the long long value nearest to x.
?S:.
?C:HAS_LLROUND:
?C: This symbol, if defined, indicates that the llround routine is
?C: available to return the nearest long long value.
?C:.
?H:#$d_llround HAS_LLROUND  /**/
?H:.
?LINT:set d_llround
: see if llround exists
set llround d_llround
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_llround.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_timer_getoverrun: Inlibc
?MAKE: -pick add $@ %<
?S:d_timer_getoverrun:
?S: This variable conditionally defines HAS_TIMER_GETOVERRUN
?S: if timer_getoverrun() is available to get the number of
?S: overruns of a POSIX timer.
?S:.
?C:HAS_TIMER_GETOVERRUN:
?C: This symbol, if defined, indicates that the timer_getoverrun
?C: system call is available to get the number of overruns of
?C: a POSIX timer.
?C:.
?H:#$d_timer_getoverrun HAS_TIMER_GETOVERRUN  /**/
?H:.
?LINT:set d_timer_getoverrun
: see if timer_getoverrun exists
set
 timer_getoverrun d_timer_getoverrun
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_timer_getoverrun.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: prototype.U,v 3.0.1.3 1994/05/06 15:11:49 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: prototype.U,v $
?RCS: Revision 3.0.1.3  1994/05/06  15:11:49  ram
?RCS: patch23: ensure cc flags used when looking for prototype support
?RCS:
?RCS: Revision 3.0.1.2  1994/01/24  14:15:36  ram
?RCS: patch16: prototype handling macros now appear only when needed
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:03:12  ram
?RCS: patch6: defines were referring to non-existent VOID symbol
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:36  ram

?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:prototype: Myread Oldconfig cat +cc +ccflags rm Setvar i_stdlib
?MAKE: -pick add $@ %<
?S:prototype:
?S: This variable holds the eventual value of CAN_PROTOTYPE, which
?S: indicates the C compiler can handle function prototypes.
?S:.
?C:CAN_PROTOTYPE ~ %<:
?C: If defined, this macro indicates that the C compiler can handle
?C: function prototypes.
?C:.
?C:DOTS:
?C: This macro is used to specify the ... in function prototypes which
?C: have arbitrary additional arguments.
?C:.
?C:NXT_ARG:
?C: This macro is used to separate arguments in the declared argument list.
?C:.
?C:P_FUNC:
?C: This macro is used to declare "private" (static) functions.
?C: It takes three arguments: the function type and name, a parenthesized
?C: traditional (comma separated) argument list, and the declared argument
?C: list (in which arguments are separated with NXT_ARG, and additional
?C: arbitrary arguments are specified with DOTS).  For example:
?C:
?C:  P_FUNC(int foo, (bar, baz),
 int bar NXT_ARG char *baz[])
?C:.
?C:P_FUNC_VOID:
?C: This macro is used to declare "private" (static) functions that have
?C: no arguments.  The macro takes one argument: the function type and name.
?C: For example:
?C:
?C:  P_FUNC_VOID(int subr)
?C:.
?C:V_FUNC:
?C: This macro is used to declare "public" (non-static) functions.
?C: It takes three arguments: the function type and name, a parenthesized
?C: traditional (comma separated) argument list, and the declared argument
?C: list (in which arguments are separated with NXT_ARG, and additional
?C: arbitrary arguments are specified with DOTS).  For example:
?C:
?C:  V_FUNC(int main, (argc, argv), int argc NXT_ARG char *argv[])
?C:.
?C:V_FUNC_VOID:
?C: This macro is used to declare "public" (non-static) functions that have

```
?C: no arguments.  The macro takes one argument: the function type and name.
?C: For example:
?C:
?C:  V_FUNC_VOID(int fork)
?C:.
?C:_ (P):
?C: This macro is used to declare function parameters for folks who want
?C: to
 make declarations with prototypes using a different style than
?C: the above macros.  Use double parentheses.  For example:
?C:
?C:  int main _((int argc, char *argv[]));
?C:.
?H:?%<:#$prototype CAN_PROTOTYPE /**/
?H:?_:#ifdef CAN_PROTOTYPE
?H:?NXT_ARG:#define NXT_ARG ,
?H:?DOTS:#define DOTS , ...
?H:?V_FUNC:#define V_FUNC(name, arglist, args)name(args)
?H:?P_FUNC:#define P_FUNC(name, arglist, args)static name(args)
?H:?V_FUNC_VOID:#define V_FUNC_VOID(name)name(void)
?H:?P_FUNC_VOID:#define P_FUNC_VOID(name)static name(void)
?H:?_:#define _(args) args
?H:?_:#else
?H:?NXT_ARG:#define NXT_ARG ;
?H:?DOTS:#define DOTS
?H:?V_FUNC:#define V_FUNC(name, arglist, args)name arglist args;
?H:?P_FUNC:#define P_FUNC(name, arglist, args)static name arglist args;
?H:?V_FUNC_VOID:#define V_FUNC_VOID(name)name()
?H:?P_FUNC_VOID:#define P_FUNC_VOID(name)static name()
?H:?_:#define _(args) ()
?H:?_:#endif
?H:.
?W:%<:NXT_ARG DOTS V_FUNC P_FUNC V_FUNC_VOID P_FUNC_VOID _
?LINT:set prototype
: Cruising
 for prototypes
echo " "
echo "Checking out function prototypes..." >&4
$cat >prototype.c <<EOCP
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
int main(int argc, char *argv[]) {
 exit(0);}
EOCP
if $cc $ccflags -c prototype.c >prototype.out 2>&1 ; then
 echo "Your C compiler appears to support function prototypes."
```

```
 val="$define"
else
 echo "Your C compiler doesn't seem to understand function prototypes."
 val="$undef"
fi
set prototype
eval $setvar
$rm -f prototype*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/prototype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999-2016 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_PRIfldbl sPRIfldbl d_PRIgldbl d_PRIFUldbl sPRIGUldbl d_PRIEUldbl \
 sPRIgldbl d_PRIeldbl sPRIeldbl sPRIFUldbl d_PRIGUldbl sPRIEUldbl \
 d_SCNfldbl  d_double_style_vax d_double_style_ieee \
 d_double_style_ibm d_double_style_cray d_double_has_subnormals \
 d_double_has_inf d_double_has_nan d_double_has_negative_zero \
 sSCNfldbl doublekind: \
 d_longdbl longdblsize doublesize uselongdouble test echo cat rm_try \
 Setvar Compile run i_stdlib osname gccversion ccflags
?MAKE: -pick add $@ %<
?S:doublekind:
?S: This variable, if defined, encodes the type of a double:
?S:  1 = IEEE 754 32-bit little endian,
?S:  2 = IEEE 754 32-bit big endian,
?S:  3 = IEEE 754 64-bit little endian,
?S:  4 = IEEE
 754 64-bit big endian,
?S:  5 = IEEE 754 128-bit little endian,
?S:  6 = IEEE 754 128-bit big endian,
?S:  7 = IEEE 754 64-bit mixed endian le-be,
?S:  8 = IEEE 754 64-bit mixed endian be-le,
?S:  9 = VAX 32bit little endian F float format
?S: 10 = VAX 64bit little endian D float format
?S: 11 = VAX 64bit little endian G float format
?S: 12 = IBM 32bit format
?S: 13 = IBM 64bit format
?S: 14 = Cray 64bit format
?S: -1 = unknown format.
?S:.
```

?S:d_PRIfldbl:
?S: This variable conditionally defines the PERL_PRIfldbl symbol, which
?S: indicates that stdio has a symbol to print long doubles.
?S:.
?S:d_PRIgldbl:
?S: This variable conditionally defines the PERL_PRIfldbl symbol, which
?S: indicates that stdio has a symbol to print long doubles.
?S:.
?S:d_PRIeldbl:
?S: This variable conditionally defines the PERL_PRIfldbl symbol, which
?S: indicates that stdio has a symbol to print long doubles.
?S:.
?S:d_PRIFUldbl:
?S: This variable conditionally defines the PERL_PRIfldbl symbol, which
?S: indicates
 that stdio has a symbol to print long doubles.
?S: The 'U' in the name is to separate this from d_PRIfldbl so that even
?S: case-blind systems can see the difference.
?S:.
?S:d_PRIGUldbl:
?S: This variable conditionally defines the PERL_PRIfldbl symbol, which
?S: indicates that stdio has a symbol to print long doubles.
?S: The 'U' in the name is to separate this from d_PRIgldbl so that even
?S: case-blind systems can see the difference.
?S:.
?S:d_PRIEUldbl:
?S: This variable conditionally defines the PERL_PRIfldbl symbol, which
?S: indicates that stdio has a symbol to print long doubles.
?S: The 'U' in the name is to separate this from d_PRIeldbl so that even
?S: case-blind systems can see the difference.
?S:.
?S:d_SCNfldbl:
?S: This variable conditionally defines the PERL_PRIfldbl symbol, which
?S: indicates that stdio has a symbol to scan long doubles.
?S:.
?S:sPRIfldbl:
?S: This variable, if defined, contains the string used by stdio to
?S: format long doubles (format 'f') for
 output.
?S:.
?S:sPRIgldbl:
?S: This variable, if defined, contains the string used by stdio to
?S: format long doubles (format 'g') for output.
?S:.
?S:sPRIeldbl:
?S: This variable, if defined, contains the string used by stdio to
?S: format long doubles (format 'e') for output.
?S:.

?S:sPRIFUldbl:
?S: This variable, if defined, contains the string used by stdio to
?S: format long doubles (format 'F') for output.
?S: The 'U' in the name is to separate this from sPRIfldbl so that even
?S: case-blind systems can see the difference.
?S:.
?S:sPRIGUldbl:
?S: This variable, if defined, contains the string used by stdio to
?S: format long doubles (format 'G') for output.
?S: The 'U' in the name is to separate this from sPRIgldbl so that even
?S: case-blind systems can see the difference.
?S:.
?S:sPRIEUldbl:
?S: This variable, if defined, contains the string used by stdio to
?S: format long doubles (format 'E') for output.
?S: The 'U' in the name is to separate this from sPRIeldbl so that even
?S: case-blind
 systems can see the difference.
?S:.
?S:sSCNfldbl:
?S: This variable, if defined, contains the string used by stdio to
?S: format long doubles (format 'f') for input.
?S:.
?S:d_double_has_inf:
?S: This variable conditionally defines the symbol DOUBLE_HAS_INF
?S: which indicates that the double type has an infinity.
?S:.
?S:d_double_has_nan:
?S: This variable conditionally defines the symbol DOUBLE_HAS_INF
?S: which indicates that the double type has a not-a-number.
?S:.
?S:d_double_has_negative_zero:
?S: This variable conditionally defines the symbol DOUBLE_HAS_NEGATIVE_ZERO
?S: which indicates that the double type has a negative zero.
?S:.
?S:d_double_has_subnormals:
?S: This variable conditionally defines the symbol DOUBLE_HAS_SUBNORMALS
?S: which indicates that the double type has subnormals (denormals).
?S:.
?S:d_double_style_cray:
?S: This variable conditionally defines the symbol DOUBLE_STYLE_CRAY
?S: which indicates that the double is the 64-bit CRAY mainframe
 format.
?S:.
?S:d_double_style_ibm:
?S: This variable conditionally defines the symbol DOUBLE_STYLE_IBM,
?S: which indicates that the double is the 64-bit IBM mainframe format.
?S:.

?S:d_double_style_ieee:
?S: This variable conditionally defines the symbol DOUBLE_STYLE_IEEE,
?S: which indicates that the double is the 64-bit IEEE 754.
?S:.
?S:d_double_style_vax:
?S: This variable conditionally defines the symbol DOUBLE_STYLE_VAX,
?S: which indicates that the double is the 64-bit VAX format D or G.
?S:.
?C:PERL_PRIfldbl:
?C: This symbol, if defined, contains the string used by stdio to
?C: format long doubles (format 'f') for output.
?C:.
?C:PERL_PRIgldbl:
?C: This symbol, if defined, contains the string used by stdio to
?C: format long doubles (format 'g') for output.
?C:.
?C:PERL_PRIeldbl:
?C: This symbol, if defined, contains the string used by stdio to
?C: format long doubles (format 'e') for output.
?C:.
?C:PERL_PRIFldbl:
?C: This symbol, if defined, contains the string used by stdio
 to
?C: format long doubles (format 'f') for output.
?C:.
?C:PERL_PRIGldbl:
?C: This symbol, if defined, contains the string used by stdio to
?C: format long doubles (format 'g') for output.
?C:.
?C:PERL_PRIEldbl:
?C: This symbol, if defined, contains the string used by stdio to
?C: format long doubles (format 'e') for output.
?C:.
?C:PERL_SCNfldbl:
?C: This symbol, if defined, contains the string used by stdio to
?C: format long doubles (format 'f') for input.
?C:.
?C:DOUBLEKIND:
?C: DOUBLEKIND will be one of
?C: DOUBLE_IS_IEEE_754_32_BIT_LITTLE_ENDIAN
?C: DOUBLE_IS_IEEE_754_32_BIT_BIG_ENDIAN
?C: DOUBLE_IS_IEEE_754_64_BIT_LITTLE_ENDIAN
?C: DOUBLE_IS_IEEE_754_64_BIT_BIG_ENDIAN
?C: DOUBLE_IS_IEEE_754_128_BIT_LITTLE_ENDIAN
?C: DOUBLE_IS_IEEE_754_128_BIT_BIG_ENDIAN
?C: DOUBLE_IS_IEEE_754_64_BIT_MIXED_ENDIAN_LE_BE
?C: DOUBLE_IS_IEEE_754_64_BIT_MIXED_ENDIAN_BE_LE
?C: DOUBLE_IS_VAX_F_FLOAT

?C: DOUBLE_IS_VAX_D_FLOAT
?C: DOUBLE_IS_VAX_G_FLOAT
?C: DOUBLE_IS_IBM_SINGLE_32_BIT
?C: DOUBLE_IS_IBM_DOUBLE_64_BIT
?C: DOUBLE_IS_CRAY_SINGLE_64_BIT
?C: DOUBLE_IS_UNKNOWN_FORMAT
?C:.
?C:DOUBLE_HAS_INF:
?C: This
 symbol, if defined, indicates that the double has
?C: the infinity.
?C:.
?C:DOUBLE_HAS_NAN:
?C: This symbol, if defined, indicates that the double has
?C: the not-a-number.
?C:.
?C:DOUBLE_HAS_NEGATIVE_ZERO:
?C: This symbol, if defined, indicates that the double has
?C: the negative_zero.
?C:.
?C:DOUBLE_HAS_SUBNORMALS:
?C: This symbol, if defined, indicates that the double has
?C: the subnormals (denormals).
?C:.
?C:DOUBLE_STYLE_CRAY:
?C: This symbol, if defined, indicates that the double is
?C: the 64-bit CRAY mainframe format.
?C:.
?C:DOUBLE_STYLE_IBM:
?C: This symbol, if defined, indicates that the double is
?C: the 64-bit IBM mainframe format.
?C:.
?C:DOUBLE_STYLE_IEEE:
?C: This symbol, if defined, indicates that the double is
?C: the 64-bit IEEE 754.
?C:.
?C:DOUBLE_STYLE_VAX:
?C: This symbol, if defined, indicates that the double is
?C: the 64-bit VAX format D or G.
?C:.
?LINT:known
 DOUBLE_IS_IEEE_754_32_BIT_LITTLE_ENDIAN
?LINT:known DOUBLE_IS_IEEE_754_32_BIT_BIG_ENDIAN
?LINT:known DOUBLE_IS_IEEE_754_64_BIT_LITTLE_ENDIAN
?LINT:known DOUBLE_IS_IEEE_754_64_BIT_BIG_ENDIAN
?LINT:known DOUBLE_IS_IEEE_754_128_BIT_LITTLE_ENDIAN
?LINT:known DOUBLE_IS_IEEE_754_128_BIT_BIG_ENDIAN
?LINT:known DOUBLE_IS_IEEE_754_64_BIT_MIXED_ENDIAN_LE_BE

```
?LINT:known DOUBLE_IS_IEEE_754_64_BIT_MIXED_ENDIAN_BE_LE
?LINT:known DOUBLE_IS_VAX_F_FLOAT
?LINT:known DOUBLE_IS_VAX_D_FLOAT
?LINT:known DOUBLE_IS_VAX_G_FLOAT
?LINT:known DOUBLE_IS_IBM_SINGLE_32_BIT
?LINT:known DOUBLE_IS_IBM_DOUBLE_64_BIT
?LINT:known DOUBLE_IS_CRAY_SINGLE_64_BIT
?LINT:known DOUBLE_IS_UNKNOWN_FORMAT
?H:#define DOUBLEKIND $doublekind  /**/
?H:?DOUBLEKIND:#define DOUBLE_IS_IEEE_754_32_BIT_LITTLE_ENDIAN 1
?H:?DOUBLEKIND:#define DOUBLE_IS_IEEE_754_32_BIT_BIG_ENDIAN 2
?H:?DOUBLEKIND:#define DOUBLE_IS_IEEE_754_64_BIT_LITTLE_ENDIAN 3
?H:?DOUBLEKIND:#define DOUBLE_IS_IEEE_754_64_BIT_BIG_ENDIAN 4
?H:?DOUBLEKIND:#define DOUBLE_IS_IEEE_754_128_BIT_LITTLE_ENDIAN 5
?H:?DOUBLEKIND:#define
 DOUBLE_IS_IEEE_754_128_BIT_BIG_ENDIAN 6
?H:?DOUBLEKIND:#define DOUBLE_IS_IEEE_754_64_BIT_MIXED_ENDIAN_LE_BE 7
?H:?DOUBLEKIND:#define DOUBLE_IS_IEEE_754_64_BIT_MIXED_ENDIAN_BE_LE 8
?H:?DOUBLEKIND:#define DOUBLE_IS_VAX_F_FLOAT 9
?H:?DOUBLEKIND:#define DOUBLE_IS_VAX_D_FLOAT 10
?H:?DOUBLEKIND:#define DOUBLE_IS_VAX_G_FLOAT 11
?H:?DOUBLEKIND:#define DOUBLE_IS_IBM_SINGLE_32_BIT 12
?H:?DOUBLEKIND:#define DOUBLE_IS_IBM_DOUBLE_64_BIT 13
?H:?DOUBLEKIND:#define DOUBLE_IS_CRAY_SINGLE_64_BIT 14
?H:?DOUBLEKIND:#define DOUBLE_IS_UNKNOWN_FORMAT  -1
?H:#$d_PRIfldbl PERL_PRIfldbl $sPRIfldbl /**/
?H:#$d_PRIgldbl PERL_PRIgldbl $sPRIgldbl /**/
?H:#$d_PRIeldbl PERL_PRIeldbl $sPRIeldbl /**/
?H:#$d_PRIFUldbl PERL_PRIFldbl $sPRIFUldbl /**/
?H:#$d_PRIGUldbl PERL_PRIGldbl $sPRIGUldbl /**/
?H:#$d_PRIEUldbl PERL_PRIEldbl $sPRIEUldbl /**/
?H:#$d_SCNfldbl PERL_SCNfldbl $sSCNfldbl /**/
?H:#$d_double_has_inf DOUBLE_HAS_INF
?H:#$d_double_has_nan DOUBLE_HAS_NAN
?H:#$d_double_has_negative_zero
 DOUBLE_HAS_NEGATIVE_ZERO
?H:#$d_double_has_subnormals DOUBLE_HAS_SUBNORMALS
?H:#$d_double_style_cray DOUBLE_STYLE_CRAY
?H:#$d_double_style_ibm DOUBLE_STYLE_IBM
?H:#$d_double_style_ieee DOUBLE_STYLE_IEEE
?H:#$d_double_style_vax DOUBLE_STYLE_VAX
?H:.
?T:yyy message saveccflags
?F:!try
?LINT:change ccflags
?LINT:change uselongdouble
: Check what kind of doubles your system has
$echo "Checking the kind of doubles you have..." >&4
```

```
$cat >try.c <<EOP
#$i_stdlib I_STDLIB
#define DOUBLESIZE $doublesize
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#include <stdio.h>
static const double d = -0.1;
int main() {
 unsigned const char* b = (unsigned const char*)(&d);
#if DOUBLESIZE == 4
 if (b[0] == 0xCD && b[3] == 0xBD) {
   /* IEEE 754 32-bit little-endian */
   printf("1\n");
   exit(0);
 }
 if (b[0] == 0xBD && b[3] == 0xCD) {
   /* IEEE 754 32-bit big-endian */
   printf("2\n");
   exit(0);
 }
 if (b[0] == 0xCC && b[3] == 0xCC) {
   /* VAX format F, 32-bit
 PDP-style mixed endian. */
   printf("9\n");
   exit(0);
 }
 if (b[0] == 0xC0 && b[3] == 0x9A) {
   /* IBM single 32-bit */
   printf("12\n");
   exit(0);
 }
#endif
#if DOUBLESIZE == 8
 if (b[0] == 0x9A && b[7] == 0xBF) {
   /* IEEE 754 64-bit little-endian */
   printf("3\n");
   exit(0);
 }
 if (b[0] == 0xBF && b[7] == 0x9A) {
   /* IEEE 754 64-bit big-endian */
   printf("4\n");
   exit(0);
 }
 if (b[0] == 0x99 && b[3] == 0xBF && b[4] == 0x9A && b[7] == 0x99) {
  /* ARM mixed endian: two little-endian 32-bit floats, in big endian order:
   * 4 5 6 7 0 1 2 3 (MSB = 7, LSB = 0)
   * 99 99 b9 bf 9a 99 99 99 */
```

```
  printf("7\n");
  exit(0);
 }
 if (b[0] == 0x99 && b[3] == 0x9A && b[4] == 0xBF && b[7] == 0x99) {
  /* The opposite of case 7, mixed endian: two big-endian 32-bit floats,
   * in little endian order: 3 2 1 0 7 6 5 4 (MSB = 7, LSB = 0)
   * 99 99 99 9a bf b9 99 99 */
  printf("8\n");
  exit(0);
 }
 if (b[0] == 0xCC && b[7] == 0xCC) {
  /* VAX
 format D, 64-bit PDP-style mixed endian. */
  printf("10\n");
  exit(0);
 }
 if (b[0] == 0xD9 && b[7] == 0x99) {
  /* VAX format G, 64-bit PDP-style mixed endian. */
  printf("11\n");
  exit(0);
 }
 if (b[0] == 0xC0 && b[7] == 0x9A) {
   /* IBM double 64-bit */
   printf("13\n");
   exit(0);
 }
 if (b[0] == 0xBF && b[7] == 0xCD) {
   /* CRAY single 64-bit */
   printf("14\n");
   exit(0);
 }
#endif
#if DOUBLESIZE == 16
 if (b[0] == 0x9A && b[15] == 0xBF) {
   /* IEEE 754 128-bit little-endian */
   printf("5\n");
   exit(0);
 }
 if (b[0] == 0xBF && b[15] == 0x9A) {
   /* IEEE 754 128-bit big-endian */
   printf("6\n");
   exit(0);
 }
#endif
 /* Then there are old mainframe/miniframe formats like IBM and CRAY.
  * Whether those environments can still build Perl is debatable. */
 printf("-1\n"); /* unknown */
 exit(0);
```

```
}
EOP
set try
if eval $compile; then
  doublekind=`$run ./try`
else
  doublekind=-1
fi
case "$doublekind" in
1) echo "You have IEEE
 754 32-bit little endian doubles." >&4 ;;
2) echo "You have IEEE 754 32-bit big endian doubles." >&4 ;;
3) echo "You have IEEE 754 64-bit little endian doubles." >&4 ;;
4) echo "You have IEEE 754 64-bit big endian doubles." >&4 ;;
5) echo "You have IEEE 754 128-bit little endian doubles." >&4 ;;
6) echo "You have IEEE 754 128-bit big endian doubles." >&4 ;;
7) echo "You have IEEE 754 64-bit mixed endian doubles (32-bit LEs in BE)." >&4 ;;
8) echo "You have IEEE 754 64-bit mixed endian doubles (32-bit BEs in LE)." >&4 ;;
9) echo "You have VAX format F 32-bit PDP-style mixed endian doubles." >&4 ;;
10) echo "You have VAX format D 64-bit PDP-style mixed endian doubles." >&4 ;;
11) echo "You have VAX format G 64-bit PDP-style mixed endian doubles." >&4 ;;
12) echo "You have IBM short 32-bit doubles." >&4 ;;
13) echo "You have IBM long 64-bit doubles." >&4 ;;
14) echo "You have Cray single 64-bit doubles." >&4 ;;
*) echo "Cannot figure out your double.  You Cyber, or something?" >&4 ;;
esac
d_double_style_ieee=$undef
d_double_style_vax=$undef
d_double_style_ibm=$undef
d_double_style_cray=$undef
case
 "$doublekind" in
1|2|3|4|5|6|7|8) d_double_style_ieee=$define ;;
9|10|11) d_double_style_vax=$define ;;
12|13) d_double_style_ibm=$define ;;
14) d_double_style_cray=$define ;;
esac
case "$d_double_style_ieee" in
$define)
  d_double_has_inf=$define
  d_double_has_nan=$define
  d_double_has_negative_zero=$define
  d_double_has_subnormals=$define
  ;;
*)
  d_double_has_inf=$undef
  d_double_has_nan=$undef
  d_double_has_negative_zero=$undef
```

```
  d_double_has_subnormals=$undef
  ;;
esac
$rm_try

: Check print/scan long double stuff
echo " "

if $test X"$d_longdbl" = X"$define"; then

echo "Checking how to print long doubles..." >&4

if $test X"$sPRIfldbl" = X -a X"$doublesize" = X"$longdblsize"; then
 $cat >try.c <<'EOCP'
#include <sys/types.h>
#include <stdio.h>
int main() {
 double d = 123.456;
 printf("%.3f\n", d);
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run
 ./try`
  case "$yyy" in
  123.456)
   sPRIfldbl='"f"'; sPRIgldbl='"g"'; sPRIeldbl='"e"';
   sPRIFUldbl='"F"'; sPRIGUldbl='"G"'; sPRIEUldbl='"E"';
   echo "We will use %f."
   ;;
  esac
 fi
fi

if $test X"$sPRIfldbl" = X; then
 $cat >try.c <<'EOCP'
#include <sys/types.h>
#include <stdio.h>
int main() {
 long double d = 123.456;
 printf("%.3Lf\n", d);
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run ./try`
  case "$yyy" in
```

```
  123.456)
   sPRIfldbl="'Lf"'; sPRIgldbl="'Lg"'; sPRIeldbl="'Le"';
   sPRIFUldbl="'LF"'; sPRIGUldbl="'LG"'; sPRIEUldbl="'LE"';
   echo "We will use %Lf."
   ;;
  esac
 fi
fi

if $test X"$sPRIfldbl" = X; then
 $cat >try.c <<'EOCP'
#include <sys/types.h>
#include <stdio.h>
int main() {
 long double d = 123.456;
 printf("%.3llf\n", d);
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run ./try`
  case "$yyy" in
  123.456)
   sPRIfldbl="'llf"'; sPRIgldbl="'llg"'; sPRIeldbl="'lle"';
   sPRIFUldbl="'llF"'; sPRIGUldbl="'llG"'; sPRIEUldbl="'llE"';
   echo "We
 will use %llf."
   ;;
  esac
 fi
fi

if $test X"$sPRIfldbl" = X; then
 $cat >try.c <<'EOCP'
#include <sys/types.h>
#include <stdio.h>
int main() {
 long double d = 123.456;
 printf("%.3lf\n", d);
}
EOCP
 set try
 if eval $compile; then
  yyy=`$run ./try`
  case "$yyy" in
  123.456)
   sPRIfldbl="'lf"'; sPRIgldbl="'lg"'; sPRIeldbl="'le"';
   sPRIFUldbl="'lF"'; sPRIGUldbl="'lG"'; sPRIEUldbl="'lE"';
```

```
  echo "We will use %lf."
  ;;
 esac
fi
fi

if $test X"$sPRIfldbl" = X; then
 echo "Cannot figure out how to print long doubles." >&4
else
 sSCNfldbl=$sPRIfldbl # expect consistency
fi

$rm_try

fi # d_longdbl

case "$sPRIfldbl" in
") d_PRIfldbl="$undef"; d_PRIgldbl="$undef"; d_PRIeldbl="$undef";
 d_PRIFUldbl="$undef"; d_PRIGUldbl="$undef"; d_PRIEUldbl="$undef";
 d_SCNfldbl="$undef";
 ;;
*) d_PRIfldbl="$define"; d_PRIgldbl="$define"; d_PRIeldbl="$define";
 d_PRIFUldbl="$define"; d_PRIGUldbl="$define"; d_PRIEUldbl="$define";
 d_SCNfldbl="$define";
 ;;
esac

: Before committing on uselongdouble,
 see whether that looks sane.
if $test "$uselongdouble" = "$define"; then
  message=""
  echo " "
  echo "Checking if your long double math functions work right..." >&4
  $cat > try.c <<EOF
#include <math.h>
#include <stdio.h>
int main() {
 printf("%"$sPRIgldbl"\n", sqrtl(logl(expl(cosl(sinl(0.0L))))+powl(2.0L, 3.0L)));
}
EOF
  case "$osname:$gccversion" in
  aix:) saveccflags="$ccflags"
 ccflags="$ccflags -qlongdouble" ;; # to avoid core dump
  esac
  set try
  if eval $compile_ok; then
    yyy=`$run ./try`
  fi
```

```
  case "$yyy" in
  3) echo "Your long double math functions are working correctly." >&4 ;;
  *) echo "Your long double math functions are broken, not using long doubles." >&4
    uselongdouble=$undef
    ;;
  esac
  $rm_try
  case "$osname:$gccversion" in
  aix:) ccflags="$saveccflags" ;; # restore
  esac
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/longdblfio.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_mkdir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_mkdir.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:37  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_mkdir: Inlibc
?MAKE: -pick add $@ %<
?S:d_mkdir:
?S: This variable conditionally defines the HAS_MKDIR symbol, which
?S: indicates to the C program that the mkdir() routine is available
?S: to create directories..
?S:.
?C:HAS_MKDIR (MKDIR):
?C: This symbol, if defined, indicates that the mkdir routine is available
?C: to create directories.
  Otherwise you should fork off a new process to
?C: exec /bin/mkdir.
?C:.
?H:#$d_mkdir HAS_MKDIR  /**/
?H:.
?LINT:set d_mkdir
: see if mkdir exists
set mkdir d_mkdir
```

```
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_mkdir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_setitimer: Inlibc
?MAKE: -pick add $@ %<
?S:d_setitimer:
?S: This variable conditionally defines the HAS_SETITIMER symbol, which
?S: indicates to the C program that the setitimer() routine is available.
?S:.
?C:HAS_SETITIMER:
?C: This symbol, if defined, indicates that the setitimer routine is
?C: available to set interval timers.
?C:.
?H:#$d_setitimer HAS_SETITIMER  /**/
?H:.
?LINT:set d_setitimer
: see if setitimer exists
set setitimer d_setitimer
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_setitimer.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_strtoq: Inlibc
?MAKE: -pick add $@ %<
?S:d_strtoq:
?S: This variable conditionally defines the HAS_STRTOQ symbol, which
?S: indicates to the C program that the strtoq() routine is available.
?S:.
?C:HAS_STRTOQ:
```

?C: This symbol, if defined, indicates that the strtoq routine is
?C: available to convert strings to long longs (quads).
?C:.
?H:#$d_strtoq HAS_STRTOQ  /**/
?H:.
?LINT:set d_strtoq
: see if strtoq exists
set strtoq d_strtoq
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strtoq.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_endgrent.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_endgrent.U,v $
?RCS:
?MAKE:d_endgrent: Inlibc
?MAKE: -pick add $@ %<
?S:d_endgrent:
?S: This variable conditionally defines the HAS_ENDGRENT symbol, which
?S: indicates to the C program that the endgrent() routine is available
?S: for sequential access of the group database.
?S:.
?C:HAS_ENDGRENT:
?C: This symbol, if defined, indicates that the getgrent routine is
?C: available for finalizing sequential access of the group database.
?C:.
?H:#$d_endgrent HAS_ENDGRENT  /**/
?H:.
?LINT:set d_endgrent
: see if endgrent exists
set endgrent d_endgrent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_endgrent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_gethbyad.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty

```
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_gethbyaddr: Inlibc
?MAKE: -pick add $@ %<
?S:d_gethbyaddr:
?S: This variable conditionally defines the HAS_GETHOSTBYADDR symbol, which
?S: indicates to the C program that the gethostbyaddr() routine is available
?S: to look up hosts by their IP addresses.
?S:.
?C:HAS_GETHOSTBYADDR:
?C: This symbol, if defined, indicates that the gethostbyaddr() routine is
?C: available to look up hosts by their IP addresses.
?C:.
?H:#$d_gethbyaddr HAS_GETHOSTBYADDR  /**/
?H:.
?LINT:set d_gethbyaddr
: see if gethostbyaddr exists
set gethostbyaddr d_gethbyaddr
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_gethbyad.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getservprotos.U,v $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_getservprotos : Hasproto i_netdb
?MAKE: -pick add $@ %<
?S:d_getservprotos:
?S: This variable conditionally defines the HAS_GETSERV_PROTOS symbol,
?S: which indicates to the C program that <netdb.h> supplies
?S: prototypes for the various getserv*() functions.
?S: See also netdbtype.U for probing for various netdb types.
?S:.
?C:HAS_GETSERV_PROTOS:
?C: This symbol, if defined, indicates that <netdb.h> includes
?C: prototypes for getservent(), getservbyname(), and
?C: getservbyaddr().  Otherwise,
```

```
 it is up to the program to guess
?C: them.  See netdbtype.U for probing for various Netdb_xxx_t types.
?C:.
?H:#$d_getservprotos HAS_GETSERV_PROTOS /**/
?H:.
?LINT:set d_getservprotos
: see if prototypes for various getservxxx netdb.h functions are available
echo " "
set d_getservprotos getservent $i_netdb netdb.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/d_getservprotos.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the WRITEME file.
?RCS:
?MAKE:d_writev: Inlibc
?MAKE: -pick add $@ %<
?S:d_writev:
?S: This variable conditionally defines the HAS_WRITEV symbol, which
?S: indicates to the C program that the writev() routine is available.
?S:.
?C:HAS_WRITEV:
?C: This symbol, if defined, indicates that the writev routine is
?C: available to do scatter writes.
?C:.
?H:#$d_writev HAS_WRITEV  /**/
?H:.
?LINT:set d_writev
: see if writev exists
set writev d_writev
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_writev.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getpwnam_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getpwnam_r getpwnam_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_pwd extern_C
?MAKE: -pick add $@ %<
?S:d_getpwnam_r:
?S: This variable conditionally defines the HAS_GETPWNAM_R symbol,
?S: which indicates to the C program that the getpwnam_r()
?S: routine is available.
?S:.
?S:getpwnam_r_proto:
?S: This variable encodes the prototype of getpwnam_r.
?S: It is zero if d_getpwnam_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getpwnam_r
?S: is defined.
?S:.
?C:HAS_GETPWNAM_R:
?C: This symbol, if defined, indicates that the getpwnam_r routine
?C: is available to
 getpwnam re-entrantly.
?C:.
?C:GETPWNAM_R_PROTO:
?C: This symbol encodes the prototype of getpwnam_r.
?C: It is zero if d_getpwnam_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getpwnam_r
?C: is defined.
?C:.
?H:#$d_getpwnam_r HAS_GETPWNAM_R    /**/
?H:#define GETPWNAM_R_PROTO $getpwnam_r_proto    /**/
?H:.
?T:try hdrs d_getpwnam_r_proto
: see if getpwnam_r exists
set getpwnam_r d_getpwnam_r
eval $inlibc
case "$d_getpwnam_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_pwd pwd.h"
 case "$d_getpwnam_r_proto:$usethreads" in
 ":define") d_getpwnam_r_proto=define
  set d_getpwnam_r_proto getpwnam_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getpwnam_r_proto" in
 define)
 case "$getpwnam_r_proto" in
 "|0) try='int getpwnam_r(const char*, struct passwd*, char*, size_t, struct passwd**);'
```

```
 ./protochk "$extern_C $try" $hdrs && getpwnam_r_proto=I_CSBWR ;;
 esac
 case "$getpwnam_r_proto" in
 "|0) try='int getpwnam_r(const char*, struct passwd*,
 char*, int, struct passwd**);'
 ./protochk "$extern_C $try" $hdrs && getpwnam_r_proto=I_CSBIR ;;
 esac
 case "$getpwnam_r_proto" in
 "|0) try='struct passwd* getpwnam_r(const char*, struct passwd*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getpwnam_r_proto=S_CSBI ;;
 esac
 case "$getpwnam_r_proto" in
 "|0) try='int getpwnam_r(const char*, struct passwd*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getpwnam_r_proto=I_CSBI ;;
 esac
 case "$getpwnam_r_proto" in
 "|0) d_getpwnam_r=undef
        getpwnam_r_proto=0
  echo "Disabling getpwnam_r, cannot determine prototype." >&4 ;;
 * ) case "$getpwnam_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getpwnam_r_proto="REENTRANT_PROTO_$getpwnam_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getpwnam_r has no prototype, not using it." >&4 ;;
  esac
  d_getpwnam_r=undef
  getpwnam_r_proto=0
  ;;
 esac
 ;;
*) getpwnam_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getpwnam_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?MAKE:d_ualarm: Inlibc
?MAKE: -pick add $@ %<
?S:d_ualarm:
?S: This variable conditionally defines the HAS_UALARM symbol, which
?S: indicates to the C program that the ualarm() routine is available.
?S:.
?C:HAS_UALARM:
?C: This symbol, if defined, indicates that the ualarm routine is
?C: available to do alarms with microsecond granularity.
?C:.
?H:#$d_ualarm HAS_UALARM  /**/
?H:.
?LINT:set d_ualarm
: see if ualarm exists
set ualarm d_ualarm
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_ualarm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getpgrp2.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_getpgrp2.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:15  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getpgrp2: Inlibc
?MAKE: -pick add $@ %<
?S:d_getpgrp2:
?S: This variable conditionally defines the HAS_GETPGRP2 symbol, which
?S: indicates to the C program that the getpgrp2() (as in DG/UX) routine
?S: is available to get the current process group.
?S:.
?C:HAS_GETPGRP2 (GETPGRP2):
?C: This symbol, if defined, indicates that the
 getpgrp2() (as in DG/UX)
?C: routine is available to get the current process group.
?C:.
```

```
?H:#$d_getpgrp2 HAS_GETPGRP2  /**/
?H:.
?LINT:set d_getpgrp2
: see if getpgrp2 exists
set getpgrp2 d_getpgrp2
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getpgrp2.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_strtol.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strtol.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_strtol: Inlibc
?MAKE: -pick add $@ %<
?S:d_strtol:
?S: This variable conditionally defines the HAS_STRTOL symbol, which
?S: indicates to the C program that the strtol() routine is available
?S: to provide better numeric string conversion than atoi() and friends.
?S:.
?C:HAS_STRTOL (STRTOL):
?C: This symbol, if defined, indicates that
 the strtol routine is available
?C: to provide better numeric string conversion than atoi() and friends.
?C:.
?H:#$d_strtol HAS_STRTOL /**/
?H:.
?LINT:set d_strtol
: see if strtol exists
set strtol d_strtol
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strtol.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_isinfl: Inlibc
?MAKE: -pick add $@ %<
?S:d_isinfl:
?S: This variable conditionally defines the HAS_ISINFL symbol, which
?S: indicates to the C program that the isinfl() routine is available.
?S:.
?C:HAS_ISINFL:
?C: This symbol, if defined, indicates that the isinfl routine is
?C: available to check whether a long double is an infinity.
?C:.
?H:#$d_isinfl HAS_ISINFL  /**/
?H:.
?LINT:set d_isinfl
: see if isinfl exists
set isinfl d_isinfl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isinfl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_erfc: Inlibc
?MAKE: -pick add $@ %<
?S:d_erfc:
?S: This variable conditionally defines the HAS_ERFC symbol, which
?S: indicates to the C program that the erfc() routine is available.
?S:.
?C:HAS_ERFC:
?C: This symbol, if defined, indicates that the erfc routine is
?C: available to do the complementary error function.
?C:.
?H:#$d_erfc HAS_ERFC  /**/
?H:.
?LINT:set d_erfc
: see if erfc exists
set erfc d_erfc
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_erfc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_setproctitle: Inlibc
?MAKE: -pick add $@ %<
?S:d_setproctitle:
?S: This variable conditionally defines the HAS_SETPROCTITLE symbol,
?S: which indicates to the C program that the setproctitle() routine
?S: is available.
?S:.
?C:HAS_SETPROCTITLE:
?C: This symbol, if defined, indicates that the setproctitle routine is
?C: available to set process title.
?C:.
?H:#$d_setproctitle HAS_SETPROCTITLE  /**/
?H:.
?LINT:set d_setproctitle
: see if setproctitle exists
set setproctitle d_setproctitle
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_setproctitle.U
No license file was found, but licenses were detected in source scan.

?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS:
?MAKE:i_stdint: Inhdr
?MAKE: -pick add $@ %<
?S:i_stdint:
?S: This variable conditionally defines the I_STDINT symbol, which
?S: indicates to the C program that <stdint.h> exists and should
?S: be included.
?S:.
?C:I_STDINT:
?C: This symbol, if defined, indicates that <stdint.h> exists and
?C: should be included.
?C:.
?H:#$i_stdint I_STDINT  /**/

?H:.
?LINT:set i_stdint
: see if stdint is available
set stdint.h i_stdint
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_stdint.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fegetround: Inlibc
?MAKE: -pick add $@ %<
?S:d_fegetround:
?S: This variable conditionally defines HAS_FEGETROUND if fegetround() is
?S: available to get the floating point rounding mode.
?S:.
?C:HAS_FEGETROUND:
?C: This symbol, if defined, indicates that the fegetround routine is
?C: available to return the macro corresponding to the current rounding
?C: mode.
?C:.
?H:#$d_fegetround HAS_FEGETROUND /**/
?H:.
?LINT:set d_fegetround
: see if fegetround exists
set fegetround d_fegetround
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fegetround.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_tgamma: Inlibc
?MAKE: -pick add $@ %<
?S:d_tgamma:
?S: This variable conditionally defines the HAS_TGAMMA symbol, which
?S: indicates to the C program that the tgamma() routine is available
?S: for the gamma function.  See also d_lgamma.
?S:.
?C:HAS_TGAMMA:
?C: This symbol, if defined, indicates that the tgamma routine is
?C: available to do the gamma function. See also HAS_LGAMMA.

?C:.
?H:#$d_tgamma HAS_TGAMMA  /**/
?H:.
?LINT:set d_tgamma
: see if tgamma exists
set tgamma d_tgamma
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_tgamma.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sigwaitinfo: Inlibc
?MAKE: -pick add $@ %<
?S:d_sigwaitinfo:
?S: This variable conditionally defines HAS_SIGWAITINFO
?S: if sigwaitinfo() is available to wait a signal and additional
?S: information.
?S:.
?C:HAS_SIGWAITINFO:
?C: This symbol, if defined, indicates that the sigwaitinfo
?C: system call is available to wait a signal and additional information.
?C:.
?H:#$d_sigwaitinfo HAS_SIGWAITINFO  /**/
?H:.
?LINT:set d_sigwaitinfo
: see if sigwaitinfo exists
set sigwaitinfo d_sigwaitinfo
eval $inlibc

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sigwaitinfo.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi

?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:56:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: added support for HPUX-10 nm output
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  14:11:56  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:20:47  ram
?RCS: patch54: made sure only most recent version of shared lib is picked
?RCS: patch54: final "nm -p" check now uses xscan and xrun like everybody
?RCS: patch54: can now grok
 linux nm output with lead __IO (ADO)
?RCS: patch54: added support for linux ELF output, using 'W' for alias (ADO)
?RCS:
?RCS: Revision 3.0.1.7  1994/10/29  16:23:40  ram
?RCS: patch36: now looks for shared libraries before anything else (ADO)
?RCS: patch36: added new nm output format (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1994/08/29  16:28:10  ram
?RCS: patch32: added I-type symbols for nm output parsing on Linux
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  07:03:24  ram
?RCS: patch30: checks are now presented by succession of if/elif
?RCS: patch30: uniformized checks for shared objects with new so symbol
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  15:06:33  ram
?RCS: patch23: added shared library knowledge (ADO and WED)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:12:17  ram
?RCS: patch16: can now export nm_extract as an internal-use only variable
?RCS:
?RCS: Revision 3.0.1.2  1993/09/13  16:09:03  ram
?RCS: patch10: added special handling for Apollo systems (WAD)
?RCS:
?RCS: Revision 3.0.1.1
  1993/08/27  14:40:03  ram
?RCS: patch7: added entry for /usr/shlib/libc.so (OSF/1 machines)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:57  ram
?RCS: Baseline for dist 3.0 netwide release.

```
?RCS:
?MAKE:libc libnames +nm_extract: echo n c rm test grep Getfile Myread \
 Oldconfig Loc sed libs incpath libpth ar runnm nm nm_opt nm_so_opt \
 contains xlibpth so osname trnl tr sort uniq _o _a
?MAKE: -pick add $@ %<
?S:libc:
?S: This variable contains the location of the C library.
?S:.
?S:libnames:
?S: The constructed list of library names.  Normally empty, but hint files
?S: may set this for later perusal by Configure.
?S:.
?S:nm_extract:
?S: This variable holds the name of the extraction command used to process
?S: the output of nm and yield the list of defined symbols. It is used
?S: internally by Configure.
?S:.
?T:thislib try libnames xxx xscan xrun thisname com tans file
?F:!libnames !libc.tmp !tmp.imp
?LINT:change nm_opt runnm
?INIT:libnames="
: Figure out where the libc is located
case
 "$runnm" in
true)
?X: indentation is wrong on purpose--RAM
: get list of predefined functions in a handy place
echo " "
case "$libc" in
") libc=unknown
 case "$libs" in
 *-lc_s*) libc=`./loc libc_s$_a $libc $libpth`
 esac
 ;;
esac
case "$libs" in
") ;;
*)  for thislib in $libs; do
 case "$thislib" in
 -lc|-lc_s)
  : Handle C library specially below.
  ;;
 -l*)
  thislib=`echo $thislib | $sed -e 's/^-l//'`
  if try=`./loc lib$thislib.$so.'*' X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib.$so X $libpth`; $test -f "$try"; then
   :
```

```
 elif try=`./loc lib$thislib$_a X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc $thislib$_a X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc lib$thislib X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc $thislib X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc Slib$thislib$_a X $xlibpth`; $test -f "$try"; then
  :
 else
  try=''
 fi
 libnames="$libnames $try"
 ;;
*) libnames="$libnames $thislib"
;;
 esac
 done
 ;;
esac
?X:
?X: Some systems (e.g. DG/UX) use "environmental" links, which make the test
?X: -f fail. Ditto for symbolic links. So in order to reliably check the
?X: existence of a file, we use test -r. It will still fail with DG/UX links
?X: though, but at least it will detect symbolic links. At some strategic
?X: points, we make use of (test -h), using a sub-shell in case builtin test
?X: does not implement the -h check for symbolic links. This makes it
?X: possible to preset libc in a hint file for instance and have it show up
?X: as-is in the question.
?X:
xxx=normal
case "$libc" in
unknown)
?X:
?X: The sed below transforms .so.9 .so.12 into something like .so.0009 .so.0012,
?X: then sorts on it to allow keeping .so.12 instead of .so.9 as the latest
?X: up-to-date library. The initial filename (before sed munging, saved in hold
?X: space via 'h') is appended via 'G' before sorting, then the leading munged
?X: part is removed after sorting. Nice efficient work
 from Tye McQueen.
?X: The initial blurfl is here to prevent the trailing pipe from producing an
?X: empty string, causing Configure to output all its set variables!
?X:
 set /lib/libc.$so
 for xxx in $libpth; do
  $test -r $1 || set $xxx/libc.$so
  : The messy sed command sorts on library version numbers.
```

```
  $test -r $1 || \
   set `echo blurfl; echo $xxx/libc.$so.[0-9]* | \
   tr ' ' $trnl | egrep -v '\.[A-Za-z]*$' | $sed -e '
    h
    s/[0-9][0-9]*/0000&/g
    s/0*\([0-9][0-9][0-9][0-9][0-9]\)/\1/g
    G
    s/\n/ /' | \
    $sort | $sed -e 's/^.* //'`
  eval set \$$#
 done
 $test -r $1 || set /usr/ccs/lib/libc.$so
 $test -r $1 || set /lib/libsys_s$_a
 ;;
*)
?X: ensure the test below for the (shared) C library will fail
 set blurfl
 ;;
esac
if $test -r "$1"; then
 echo "Your (shared) C library seems to be in $1."
 libc="$1"
elif $test -r /lib/libc && $test -r /lib/clib; then
?X:
?X: Apollo has its C library in /lib/clib AND /lib/libc
?X: not to mention its math library in /lib/syslib...
?X:
 echo
 "Your C library seems to be in both /lib/clib and /lib/libc."
 xxx=apollo
 libc='/lib/clib /lib/libc'
 if $test -r /lib/syslib; then
  echo "(Your math library is in /lib/syslib.)"
?X: Put syslib in libc -- not quite right, but won't hurt
  libc="$libc /lib/syslib"
 fi
elif $test -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 echo "Your C library seems to be in $libc, as you said before."
?X: For mips, and...
elif $test -r $incpath/usr/lib/libc$_a; then
 libc=$incpath/usr/lib/libc$_a;
 echo "Your C library seems to be in $libc.  That's fine."
elif $test -r /lib/libc$_a; then
 libc=/lib/libc$_a;
 echo "Your C library seems to be in $libc.  You're normal."
else
 if tans=`./loc libc$_a blurfl/dyick $libpth`; $test -r "$tans"; then
  :
```

```
 elif tans=`./loc libc blurfl/dyick $libpth`; $test -r "$tans"; then
  libnames="$libnames "`./loc clib blurfl/dyick $libpth`
 elif tans=`./loc clib blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Slibc$_a blurfl/dyick
 $xlibpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Mlibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 else
  tans=`./loc Llibc$_a blurfl/dyick $xlibpth`
 fi
 if $test -r "$tans"; then
  echo "Your C library seems to be in $tans, of all places."
  libc=$tans
 else
  libc='blurfl'
 fi
fi
if $test $xxx = apollo -o -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 dflt="$libc"
 cat <<EOM

If the guess above is wrong (which it might be if you're using a strange
compiler, or your machine supports multiple models), you can override it here.

EOM
else
 dflt="
 echo $libpth | $tr ' ' $trnl | $sort | $uniq > libpath
 cat >&4 <<EOM
I can't seem to find your C library.  I've looked in the following places:

EOM
 $sed 's/^/ /' libpath
 cat <<EOM

None of these seems to contain your C library. I need to get its name...

EOM
fi
fn=f
rp='Where is your C library?'
. ./getfile
libc="$ans"

echo " "
echo $libc $libnames | $tr ' ' $trnl | $sort | $uniq > libnames
```

```
set X `cat libnames`
shift
xxx=files
case
 $# in 1) xxx=file; esac
echo "Extracting names from the following $xxx for later perusal:" >&4
echo " "
$sed 's/^/ /' libnames >&4
echo " "
$echo $n "This may take a while...$c" >&4

?X:
?X: Linux may need the special Dynamic option to nm for shared libraries.
?X: In general, this is stored in the nm_so_opt variable.
?X: Unfortunately, that option may be fatal on non-shared libraries.
?X:
for file in $*; do
 case $file in
 *$so*) $nm $nm_so_opt $nm_opt $file 2>/dev/null;;
 *) $nm $nm_opt $file 2>/dev/null;;
 esac
done >libc.tmp

$echo $n ".$c"
?X:
?X: To accelerate processing, we look at the correct 'sed' command
?X: by using a small subset of libc.tmp, i.e. fprintf function.
?X: When we know which sed command to use, do the name extraction
?X:
$grep fprintf libc.tmp > libc.ptf
?X:
?X: In order to enhance readability and save some space, we define
?X: some variables that will be "eval"ed.
?X:
xscan='eval "<libc.ptf $com >libc.list"; $echo $n ".$c" >&4'
xrun='eval
 "<libc.tmp $com >libc.list"; echo "done." >&4'
?X: BSD-like output, I and W types added for Linux
?X: Some versions of Linux include a leading __IO in the symbol name.
?X: HPUX10 reportedly has trailing spaces, though I'm surprised it has
?X: BSD-like output.  (AD).
xxx='[ADTSIW]'
if com="$sed -n -e 's/__IO//' -e 's/^.* $xxx  *_[_.]*//p' -e 's/^.* $xxx  *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: SYSV-like output
elif com="$sed -n -e 's/^__*//' -e 's/^\([a-zA-Z_0-9$]*\).*xtern.*/\1/p'";\
```

```
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/|UNDEF/d' -e '/FUNC..GL/s/^.*|__*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.* D __*//p' -e 's/^.* D //p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^_//' -e 's/^\([a-zA-Z_0-9]*\).*xtern.*text.*/\1/p'";\
 eval
 $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$grep '|' | $sed -n -e '/|COMMON/d' -e '/|DATA/d' \
    -e '/ file/d' -e 's/^\([^  ]*\).*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p' -e 's/^.*|FUNC |WEAK .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: mips nm output (sysV)
elif com="$sed -n -e 's/^__//' -e '/|Undef/d' -e '/|Proc/s/ .*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|Proc .*|Text *| *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/Def. Text/s/.* \([^ ]*\)\$/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null
 2>&1; then
  eval $xrun
?X: OS/2 nm output
elif com="$sed -n -e 's/^[-0-9a-f ]*_\(.*\)=.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
```

```
elif com="$sed -n -e 's/.*\.text n\ \ \ \.//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: AIX nm output
elif com="sed -n -e 's/^__.*//' -e 's/[       ]*D[    ]*[0-9]*.*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
else
 $nm -p $* 2>/dev/null >libc.tmp
 $grep fprintf libc.tmp > libc.ptf
 if com="$sed -n -e 's/^.* [ADTSIW]  *_[_.]*//p' -e 's/^.* [ADTSIW] //p'";\
  eval $xscan; $contains '^fprintf$' libc.list >/dev/null 2>&1
 then
  nm_opt='-p'
  eval $xrun
 else
  echo " "
  echo "$nm didn't seem to work right. Trying $ar instead..." >&4
  com="
  if $ar t $libc > libc.tmp && \
   $contains '^fprintf$' libc.tmp >/dev/null 2>&1
  then
   for thisname in $libnames $libc; do
    $ar t $thisname >>libc.tmp
   done
   $sed
 -e "s/\\$_o\$//" < libc.tmp > libc.list
   echo "Ok." >&4
  elif test "X$osname" = "Xos2" && $ar tv $libc > libc.tmp; then
?X: Repeat libc to extract forwarders to DLL entries too
   for thisname in $libnames $libc; do
    $ar tv $thisname >>libc.tmp
?X: Revision 50 of EMX has bug in ar: it will not extract forwarders
?X: to DLL entries.  Use emximp which will extract exactly them.
    emximp -o tmp.imp $thisname \
        2>/dev/null && \
        $sed -e 's/^\([_a-zA-Z0-9]*\) .*$/\1/p' \
        < tmp.imp >>libc.tmp
    $rm -f tmp.imp
   done
   $sed -e "s/\\$_o\$//" -e 's/^ \+//' < libc.tmp > libc.list
   echo "Ok." >&4
  else
   echo "$ar didn't seem to work right." >&4
   echo "Maybe this is a Cray...trying bld instead..." >&4
   if
```

```
    bld t $libc | \
     $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" > libc.list &&
    $test -s libc.list
   then
    for thisname in $libnames; do
     bld t $libnames | \
     $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" >>libc.list
     $ar t $thisname >>libc.tmp
    done
    echo
 "Ok." >&4
   else
    echo "That didn't work either." >&4
    echo "No problem, I'll be compiling test programs then..." >&4
    runnm=false
   fi
  fi
 fi
fi
nm_extract="$com"
if $test -f /lib/syscalls.exp; then
 echo " "
 echo "Also extracting names from /lib/syscalls.exp for good ole AIX..." >&4
 $sed -n 's/^\([^  ]*\)[  ]*syscall[0-9]*[  ]*$/\1/p' \
  /lib/syscalls.exp >>libc.list
fi
?X: remember, indentation is wrong on purpose--RAM
;;
esac
$rm -f libnames libpath
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/libc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mandirstyle.U,v 3.1 1999/07/08 20:52:19 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: mandirstyle.U,v $
?RCS:
?MAKE:mandirstyle: test
```

```
?MAKE: -pick add $@ %<
?S:mandirstyle:
?S: This variable indicates the style of man page directory layout
?S: used on this system.  Current possible values are sysv, svr4, and
?S: bsd.  This information is used for determining where to put various
?S: man pages.  Configure uses the BSD convention internally (we've got
?S: to give *some* name to the variables).
?S:
?S: BSD     SVR4    Description
      Example
?S: Number  Number                    man page
?S: 1       1       Commands              cat
?S: 2       2       system calls          creat
?S: 3       3       library functions     fread
?S: 4       7       special files         fd
?S: 5       4       file formats          magic
?S: 6       6       games and demos       magic
?S: 7       5       miscellany            eqnchar
?S: 8       1M      Administrative commands mount
?S:
?S: The SysV style is almost the same as SVR4, but instead of
?S: /usr/man/man1, there is /usr/man/u_man/man1.
?S:.
: determine style of existing man page installation
if $test "$mandirstyle" = ""; then
 if $test -d /usr/man/u_man/man1; then
  mandirstyle=sysv
 elif $test -d /usr/man/man1m; then
  mandirstyle=svr4
 elif $test -d /usr/share/man/man1m; then
  mandirstyle=svr4
 elif $test -d /usr/share/man/sman1m; then
  mandirstyle=svr4  # Solaris 8 and beyond
 else
  # We could work a lot harder here, but there isn't
  # really
 much point.
  mandirstyle=bsd
 fi
fi
echo "You appear to have $mandirstyle style man page directories."
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/mandirstyle.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: installprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
```

```
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: installprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?RCS:
?MAKE:installprefix installprefixexp: Getfile Loc \
 Oldconfig afs cat package prefix
?MAKE: -pick add $@ %<
?S:installprefix:
?S: This variable holds the name of the directory below which
?S: "make install" will install the package.  For most users, this
?S: is the same
 as prefix.  However, it is useful for
?S: installing the software into a different (usually temporary)
?S: location after which it can be bundled up and moved somehow
?S: to the final location specified by prefix.
?S:.
?S:installprefixexp:
?S: This variable holds the full absolute path of installprefix
?S: with all ~-expansion done.
?S:.
: determine installation prefix for where package is to be installed.
if $afs; then
$cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
files will reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installprefix" in
 '') dflt=`echo $prefix | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installprefix";;
 esac
else
$cat <<EOM

In some special cases, particularly when building $package for distribution,
```

```
it is convenient to distinguish the directory in which files should be
installed from the directory ($prefix) in which they will
eventually
 reside.  For most users, these two directories are the same.

EOM
 case "$installprefix" in
 '') dflt=$prefix ;;
 *) dflt=$installprefix;;
 esac
fi
fn=d~
rp='What installation prefix should I use for installing files?'
. ./getfile
installprefix="$ans"
installprefixexp="$ansexp"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/installprefix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_csh.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:32:18  ram
?RCS: patch61: added full_csh to preserve the full path even when portable
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:53  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_csh full_csh: csh Setvar
?MAKE: -pick add $@ %<
?S:d_csh:
?S: This variable conditionally defines the CSH symbol, which
?S: indicates to the C program that the C-shell exists.
?S:.
?S:full_csh:
?S: This variable contains the full pathname to 'csh', whether
 or
?S: not the user has specified 'portability'.  This is only used
```

```
?S: in the compiled C program, and we assume that all systems which
?S: can share this executable will have the same full pathname to
?S: 'csh.'
?S:.
?X: Yes, I know about the C symbol PORTABLE, but I think csh
?X: is unlikely to move, and I'm too lazy to add all the
?X: #ifdef PORTABLE sections to the perl source.
?X:
?C:HAS_CSH:
?C: This symbol, if defined, indicates that the C-shell exists.
?C:.
?C:CSH:
?C: This symbol, if defined, contains the full pathname of csh.
?C:.
?X: Previously, I just did $d_csh CSH "$full_csh", but that caused
?X: problems on VMS where the config.sh extraction program changes
?X: $undef to a real cpp undef, and they then had  #undef CSH ""
?X: which the compiler didn't like.  It's easy to work around this,
?X: so I did.  --AD  3/1998.
?X: And we don't want to define CSH if !HAS_CSH, but we don't want
?X: those lines in config.h if they don't need CSH, so protect with ?CSH
?X: and not
 ?%<. --RAM, 15/02/2004
?H:?%<:#$d_csh HAS_CSH  /**/
?H:?CSH:#ifdef HAS_CSH
?H:?CSH:#define CSH "$full_csh" /**/
?H:?CSH:#endif
?H:.
?LINT:set d_csh
: get csh whereabouts
case "$csh" in
'csh') val="$undef" ;;
*) val="$define" ;;
esac
set d_csh
eval $setvar
: Respect a hint or command line value for full_csh.
case "$full_csh" in
'') full_csh=$csh ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_csh.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_usleepproto: Hasproto i_unistd
?MAKE: -pick add $@ %<
?S:d_usleepproto:
?S: This variable conditionally defines the HAS_USLEEP_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the usleep() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_USLEEP_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the usleep() function.  Otherwise, it is up
?C: to the program to supply one.  A good guess is
?C:  extern int
 usleep(useconds_t);
?C:.
?H:#$d_usleepproto HAS_USLEEP_PROTO /**/
?H:.
?LINT:set d_usleepproto
: see if prototype for usleep is available
echo " "
set d_usleepproto usleep $i_unistd unistd.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_usleepproto.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sigqueue: Inlibc
?MAKE: -pick add $@ %<
?S:d_sigqueue:
?S: This variable conditionally defines HAS_SIGQUEUE
```

```
?S: if sigqueue() is available to queue a signal and data to a process.
?S:.
?C:HAS_SIGQUEUE:
?C: This symbol, if defined, indicates that the sigqueue
?C: system call is available to queue a signal and data to a process.
?C:.
?H:#$d_sigqueue HAS_SIGQUEUE  /**/
?H:.
?LINT:set d_sigqueue
: see if sigqueue exists
set sigqueue d_sigqueue
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sigqueue.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Chk_whoami.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Chk_whoami.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit makes sure we don't try to include whoami.h if uname() exists.
?X:
?MAKE:Chk_whoami: d_uname i_whoami
?MAKE: -pick add $@ %<
?LINT:change i_whoami
: weed out incompatibilities
case "$d_uname" in
 "$define") i_whoami="$undef" ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Chk_whoami.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_mktime.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_mktime.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:09:44  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_mktime: Inlibc
?MAKE: -pick add $@ %<
?S:d_mktime:
?S: This variable conditionally defines the HAS_MKTIME symbol, which
?S: indicates to the C program that the mktime() routine is available.
?S:.
?C:HAS_MKTIME :
?C: This symbol, if defined, indicates that the mktime routine
 is
?C: available.
?C:.
?H:#$d_mktime HAS_MKTIME  /**/
?H:.
?LINT:set d_mktime
: see if mktime exists
set mktime d_mktime
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_mktime.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_shm.U,v 3.0 1993/08/18 12:07:17 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_shm.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:17  ram
```

```
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_shm: test d_shmctl d_shmget d_shmat d_shmdt Setvar Findhdr osname
?MAKE: -pick add $@ %<
?S:d_shm:
?S: This variable conditionally defines the HAS_SHM symbol, which
?S: indicates that the entire shm*(2) library is present.
?S:.
?C:HAS_SHM:
?C: This symbol, if defined, indicates that the entire shm*(2) library is
?C: supported.
?C:.
?H:#$d_shm HAS_SHM  /**/
?H:.
?T:h_shm
?LINT:set
 d_shm
: see how much of the 'shm*(2)' library is present.
h_shm=true
echo " "
case "$d_shmctl$d_shmget$d_shmat$d_shmdt" in
*"$undef"*) h_shm=false;;
esac
case "$osname" in
freebsd)
   case "`ipcs 2>&1`" in
   "SVID shared memory"*"not configured"*)
 echo "Your $osname does not have the shm*(2) configured." >&4
       h_shm=false
 val="$undef"
 set shmctl d_shmctl
 eval $setvar
 set shmget d_shmget
 eval $setvar
 set shmat d_shmat
 eval $setvar
 set shmdt d_shmdt
 eval $setvar
 ;;
   esac
   ;;
esac
: we could also check for sys/ipc.h ...
if $h_shm && $test `./findhdr sys/shm.h`; then
 echo "You have the full shm*(2) library." >&4
 val="$define"
else
 echo "You don't have the full shm*(2) library." >&4
```

```
 val="$undef"
fi
set d_shm
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_shm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: voidflags.U,v 3.0.1.2 1997/02/28 16:27:58 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: voidflags.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:27:58  ram
?RCS: patch61: don't prompt them if the void support is high enough for us
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:37:44  ram
?RCS: patch45: cosmetic change to avoid spurious blank lines when using -s
?RCS:
?RCS: Revision 3.0  1993/08/18  12:10:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:voidflags defvoidused: cat rm_try contains +cc +ccflags package \
 Oldconfig
 Myread i_stdlib
?MAKE: -pick add $@ %<
?S:voidflags:
?S: This variable contains the eventual value of the VOIDFLAGS symbol,
?S: which indicates how much support of the void type is given by this
?S: compiler.  See VOIDFLAGS for more info.
?S:.
?S:defvoidused:
?S: This variable contains the default value of the VOIDUSED symbol (15).
?S:.
?X: Exceptionally, we have to explicitly alias the symbol name for
?X: config_h.SH, otherwise the comment would not appear.
?C:VOIDFLAGS ~ %<:
?C: This symbol indicates how much support of the void type is given by this
?C: compiler.  What various bits mean:
?C:
?C:     1 = supports declaration of void
```

```
?C:     2 = supports arrays of pointers to functions returning void
?C:     4 = supports comparisons between pointers to void functions and
?C:      addresses of void functions
?C:     8 = supports declaration of generic void pointers
?C:
?C: The package designer should define VOIDUSED to indicate the requirements
?C: of the package.  This can be done either
 by #defining VOIDUSED before
?C: including config.h, or by defining defvoidused in Myinit.U.  If the
?C: latter approach is taken, only those flags will be tested.  If the
?C: level of void support necessary is not present, defines void to int.
?C:.
?H:?%<:#ifndef VOIDUSED
?H:?%<:#define VOIDUSED $defvoidused
?H:?%<:#endif
?H:?%<:#define VOIDFLAGS $voidflags
?H:?%<:#if (VOIDFLAGS & VOIDUSED) != VOIDUSED
?H:?%<:#define void int  /* is void to be avoided? */
?H:?%<:#define M_VOID   /* Xenix strikes again */
?H:?%<:#endif
?H:.
?INIT:: full support for void wanted by default
?INIT:defvoidused=15
?INIT:
?LINT:known void M_VOID VOIDUSED
: check for void type
echo " "
echo "Checking to see how well your C compiler groks the void type..." >&4
case "$voidflags" in
")
 $cat >try.c <<EOCP
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#if TRY & 1
void sub() {
#else
sub() {
#endif
 extern void moo(); /* function returning void */
 void (*goo)();  /* ptr to func returning void
 */
#if TRY & 8
 void *hue;  /* generic ptr */
#endif
#if TRY & 2
 void (*foo[10])();
```

```
#endif

#if TRY & 4
 if(goo == moo) {
  exit(0);
 }
#endif
 exit(0);
}
int main() { sub(); }
EOCP
?X: This unit used to use cc -S in those tests to try to speed up things, but
?X: unfortunately, AIX 3.2 does not support this option.
 if $cc $ccflags -c -DTRY=$defvoidused try.c >.out 2>&1 ; then
  voidflags=$defvoidused
 echo "Good.  It appears to support void to the level $package wants.">&4
  if $contains warning .out >/dev/null 2>&1; then
   echo "However, you might get some warnings that look like this:"
   $cat .out
  fi
 else
echo "Hmm, your compiler has some difficulty with void. Checking further..." >&4
  if $cc $ccflags -c -DTRY=1 try.c >/dev/null 2>&1; then
   echo "It supports 1..."
   if $cc $ccflags -c -DTRY=3 try.c >/dev/null 2>&1; then
    echo "It also supports 2..."
    if $cc $ccflags -c -DTRY=7 try.c >/dev/null 2>&1; then
     voidflags=7
     echo "And it supports 4 but not 8 definitely."
    else
     echo
 "It doesn't support 4..."
     if $cc $ccflags -c -DTRY=11 try.c >/dev/null 2>&1; then
      voidflags=11
      echo "But it supports 8."
     else
      voidflags=3
      echo "Neither does it support 8."
     fi
    fi
   else
    echo "It does not support 2..."
    if $cc $ccflags -c -DTRY=13 try.c >/dev/null 2>&1; then
     voidflags=13
     echo "But it supports 4 and 8."
    else
     if $cc $ccflags -c -DTRY=5 try.c >/dev/null 2>&1; then
      voidflags=5
```

```
     echo "And it supports 4 but has not heard about 8."
    else
     echo "However it supports 8 but not 4."
    fi
   fi
  fi
 else
  echo "There is no support at all for void."
  voidflags=0
 fi
fi
esac
?X: Only prompt user if support does not match the level we want
case "$voidflags" in
"$defvoidused") ;;
*) $cat >&4 <<'EOM'
 Support flag bits are:
   1: basic void declarations.
   2: arrays of pointers to functions returning void.
   4: operations between pointers to and addresses of
 void functions.
   8: generic void pointers.
EOM
 dflt="$voidflags";
 rp="Your void support flags add up to what?"
 . ./myread
 voidflags="$ans"
 ;;
esac
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/voidflags.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Warn.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?X:
?X: This unit produces a shell script which can be run in order to emit
```

```
?X: an important warning to the user, which will be remembered and shown
?X: at the end of the Configure run as well.
?X:
?X: A typical use would be:
?X:
?X:  ./warn <<EOM
?X:  Problem with your C compiler: can't turn debugging on.
?X:  EOM
?X:
?X: or:
?X:
?X:  ./warn "Problem with your C compiler: can't turn debugging on."
?X:
?X: Which will both display to the user:
?X:
?X:  ***
 WARNING:
?X:  *** Problem with your C compiler: can't turn debugging on.
?X:  ***
?X:
?MAKE:Warn: startsh eunicefix
?MAKE: -pick add $@ %<
?F:./warn
: script used to emit important warnings
cat >warn <<EOS
$startsh
?X: Read the whole warning message from stdin into a temporary file
?X: when no argument was supplied.
if test \$# -gt 0; then
 echo "\$@" >msg
else
 cat >msg
fi
?X: Emit the warning, prefixing all lines with '*** '
echo "*** WARNING:" >&4
sed -e 's/^/*** /' <msg >&4
echo "*** " >&4
?X: Save the warning in the logs, which will be shown again at the end
cat msg >>config.msg
echo " " >>config.msg
rm -f msg
EOS
chmod +x warn
$eunicefix warn
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Warn.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: errnolist.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:48:01  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:10:54  ram
?RCS: patch16: created
?RCS:
?MAKE:errnolist errnolist_SH errnolist_a errnolist_c errnolist_o: cat +cc \
 +ccflags +libs +d_sysernlst _a _o
?MAKE: -pick add $@ %<
?S:errnolist:
?S: This variable holds the base name of a file containing the
?S: definition of the sys_errnolist
 array, if the C library
?S: doesn't provide it already.  Otherwise, its value is empty.
?S: The following lines should be included in your Makefile.SH:
?S:
?S:  case "$errnolist" in
?S:  '') ;;
?S:  *)
?S:   $spitshell >>Makefile <<!GROK!THIS!
?S:  $errnolist_c: $errnolist_SH $errnolist_a
?S:   sh ./$errnolist_SH
?S:
?S:  !GROK!THIS!
?S:   ;;
?S:  esac
?S:
?S: You may define the 'errnolist' variable in your Myinit.U if you
?S: wish to override its default value "errnolist".
?S:.
?S:errnolist_SH:
?S: This is the name of a file which will generate errnolistc.
?S:.
?S:errnolist_a:
```

```
?S: This is the name of the awk script called by errnolist_SH.
?S:.
?S:errnolist_c:
?S: This is the name of a generated C file which provides the
?S: definition of the sys_errnolist array.
?S:.
?S:errnolist_o:
?S: This is the name of the object file which provides the
?S: definition of the sys_errnolist array, if the C library
?S: doesn't provide it already.  Otherwise, its value is empty.
?S:.
?INIT:errnolist=errnolist
:
 check for sys_errnolist
@if d_sysernlst || HAS_SYS_ERRNOLIST
case "$d_sysernlst" in
"$define")
  errnolist="
  errnolist_SH="
  errnolist_a="
  errnolist_c="
  errnolist_o="
 ;;
*)
 echo " "
 echo "I'll make sure your Makefile provides sys_errnolist in $errnolist.c"
  errnolist_SH=$errnolist.SH
  errnolist_a=$errnolist$_a
  errnolist_c=$errnolist.c
  errnolist_o=$errnolist$_o
 ;;
esac
@else
echo " "
$cat <<EOM
Checking to see if your C library provides us with sys_errnolist[]...
EOM
$cat >errnolist.c <<'EOCP'
extern char *sys_errnolist[];
int main() {
  char *p0 = sys_errnolist[0];
  char *p1 = sys_errnolist[1];

  return (p0 == p1); /* Make sure they're not optimized away */
}
EOCP
if $cc $ccflags -o errnolist errnolist.c $libs >/dev/null 2>&1 ; then
  echo "It does."
```

```
  errnolist=''
  errnolist_SH=''
  errnolist_a=''
  errnolist_c=''
  errnolist_o=''
else
 echo "I'll make sure your Makefile provides sys_errnolist in $errnolist.c"

  errnolist_SH=$errnolist.SH
  errnolist_a=$errnolist$_a
  errnolist_c=$errnolist.c
  errnolist_o=$errnolist$_o
fi
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/errnolist.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_timer_create: Inlibc
?MAKE: -pick add $@ %<
?S:d_timer_create:
?S: This variable conditionally defines HAS_TIMER_CREATE if timer_create()
?S: is available to create a POSIX timer.
?S:.
?C:HAS_TIMER_CREATE:
?C: This symbol, if defined, indicates that the timer_create system call is
?C: available to create a POSIX timer.
?C:.
?H:#$d_timer_create HAS_TIMER_CREATE  /**/
?H:.
?LINT:set d_timer_create
: see if timer_create exists
set timer_create d_timer_create
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_timer_create.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: make.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: make.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:09:40  ram
?RCS: patch61: created
?RCS:
?MAKE:make_set_make : Loc rm sed make
?MAKE: -pick add $@ %<
?S:make_set_make:
?S: Some versions of 'make' set the variable MAKE.  Others do not.
?S: This variable contains the string to be included in Makefile.SH
?S: so that MAKE is set if needed, and not if not needed.
?S: Possible values are:
?S:
?S: make_set_make='#'  #
 If your make program handles this for you,
?S:
?S: make_set_make="MAKE=$make" # if it doesn't.
?S:
?S: This uses a comment character so that we can distinguish a
?S: 'set' value (from a previous config.sh or Configure -D option)
?S: from an uncomputed value.
?S:.
?LINT: extern MAKE
?LINT: change MAKE
?X: This test is based on one from an autoconf-generated configure
?X: script. Autoconf stole a lot from Configure, but now it's our
?X: turn to do so... ;-) -- RAM, 21/02/97
: check whether make sets MAKE
echo " "
echo "Checking if your $make program sets \$(MAKE)..." >&4
case "$make_set_make" in
")
?X: Use sed so we don't have a line begining with @echo.  Metaconfig
?X: will think that's a command like @if or @end.
 $sed 's/^X //' > testmake.mak << 'EOF'
Xall:
```

```
X  @echo 'maketemp="$(MAKE)"'
EOF
?X: GNU make sometimes prints "make[1]: Entering...", which would confuse us
 case "`$make -f testmake.mak 2>/dev/null`" in
 *maketemp=*) make_set_make='#' ;;
 *) make_set_make="MAKE=$make" ;;
 esac
 $rm
 -f testmake.mak
 ;;
esac
case "$make_set_make" in
'#') echo "Yup, it does.";;
*) echo "Nope, it doesn't.";;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/make.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: nis.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:17:38  ram
?RCS: patch61: ensure suitable defaults for hostcat and friends
?RCS:
?RCS: Revision 3.0.1.2  1995/03/21  08:48:34  ram
?RCS: patch52: continued fix for NeXT NIS/NetInfo handling
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:16:23  ram
?RCS: patch51: now correctly handles NeXT using NIS rather than NetInfo
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:passcat groupcat hostcat:
 Myread Oldconfig test contains
?MAKE: -pick add $@ %<
?S:passcat:
?S: This variable contains a command that produces the text of the
```

```
?S: /etc/passwd file.  This is normally "cat /etc/passwd", but can be
?S: "ypcat passwd" when NIS is used.
?S:.
?S:groupcat:
?S: This variable contains a command that produces the text of the
?S: /etc/group file.  This is normally "cat /etc/group", but can be
?S: "ypcat group" when NIS is used.
?S:.
?S:hostcat:
?S: This variable contains a command that produces the text of the
?S: /etc/hosts file.  This is normally "cat /etc/hosts", but can be
?S: "ypcat hosts" when NIS is used.
?S:.
: see if we have to deal with yellow pages, now NIS.
?X: NeXT gives us some fun here, as always, by having both NIS (former YP)
?X: and NetInfo. But since it has both, it's ok to put the test inside the if.
?X: Contributed by Thomas Neumann <tom@smart.bo.open.de>.
if $test -d /usr/etc/yp || $test -d /etc/yp || $test -d /usr/lib/yp; then
 if $test -f /usr/etc/nibindd; then
  echo
 " "
  echo "I'm fairly confident you're on a NeXT."
@if passcat || groupcat
  echo " "
  rp='Do you get the passwd file via NetInfo?'
  dflt=y
  case "$passcat" in
  nidump*) ;;
  ") ;;
  *) dflt=n;;
  esac
  . ./myread
  case "$ans" in
  y*) passcat='nidump passwd .'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='nidump group .'
@end
   ;;
  *) echo "You told me, so don't blame me."
   case "$passcat" in
   nidump*) passcat="
@if groupcat
     groupcat=";;
@end
   esac
@if groupcat
   echo "(Assuming /etc/group is handled the same way.)"
```

```
@end
  ;;
 esac
@end
@if hostcat
 echo " "
 rp='Do you get the hosts file via NetInfo?'
 dflt=y
 case "$hostcat" in
 nidump*) ;;
 '') ;;
 *) dflt=n;;
 esac
 . ./myread
 case "$ans" in
 y*) hostcat='nidump hosts .';;
 *) case "$hostcat" in
  nidump*) hostcat='';;
  esac
  ;;
 esac
@end
 fi
@if passcat || groupcat
 case "$passcat" in
 nidump*) ;;
 *)
  case "$passcat" in
  *ypcat*) dflt=y;;
  *)
  if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the passwd file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) passcat='ypcat passwd'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='ypcat group'
@end
   ;;
  *) passcat='cat /etc/passwd'
```

```
@if groupcat
   echo "(Assuming /etc/group is also local.)"
   groupcat='cat /etc/group'
@end
   ;;
  esac
  ;;
 esac
@end
@if hostcat
 case "$hostcat" in
 nidump*) ;;
 *)
  case "$hostcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the hosts file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) hostcat='ypcat hosts';;
  *) hostcat='cat /etc/hosts';;
  esac
  ;;
 esac
@end
fi
?X: Ensure suitable default -- Manoj Srivastava
case "$hostcat" in
") hostcat=':'
 $test -f /etc/hosts && hostcat='cat
 /etc/hosts';;
esac
case "$groupcat" in
") groupcat=':'
 $test -f /etc/group && groupcat='cat /etc/group';;
esac
case "$passcat" in
") passcat=':'
 $test -f /etc/passwd && passcat='cat /etc/passwd';;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/nis.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sysrusage.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysrusage: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sysrusage:
?S: This variable conditionally defines the I_SYSRUSAGE symbol,
?S: and indicates whether a C program should include <sys/rusage.h>.
?S:.
?C:I_SYSRUSAGE:
?C: This symbol, if defined, indicates that <sys/rusage.h> exists and
?C: should be included.
?C:.
?H:#$i_sysrusage I_SYSRUSAGE  /**/
?H:.
?LINT:set i_sysrusage
: see if this is a sys/rusage.h system
set sys/rusage.h i_sysrusage
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sysrusage.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fsync: Inlibc
?MAKE: -pick add $@ %<
?S:d_fsync:
?S: This variable conditionally defines the HAS_FSYNC symbol, which
?S: indicates to the C program that the fsync() routine is available.
?S:.
?C:HAS_FSYNC:
?C: This symbol, if defined, indicates that the fsync routine is
?C: available to write a file's modified data and attributes to

?C: permanent storage.
?C:.
?H:#$d_fsync HAS_FSYNC  /**/
?H:.
?LINT:set d_fsync
: see if fsync exists
set fsync d_fsync
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fsync.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: models.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: models.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:13:17  ram
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:02:39  ram
?RCS: patch6: added default for large
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:models split small medium large huge: test cat Myread sysman Oldconfig \
 Loc contains rm
?MAKE: -pick add $@ %<
?S:models:
?S: This variable contains
 the list of memory models supported by this
?S: system.  Possible component values are none, split, unsplit, small,
?S: medium, large, and huge.  The component values are space separated.
?S:.
?S:split:
?S: This variable contains a flag which will tell the C compiler and loader
?S: to produce a program that will run in separate I and D space, for those
?S: machines that support separation of instruction and data space.  It is
?S: up to the Makefile to use this.
?S:.

```
?S:small:
?S: This variable contains a flag which will tell the C compiler and loader
?S: to produce a program running with a small memory model.  It is up to
?S: the Makefile to use this.
?S:.
?S:medium:
?S: This variable contains a flag which will tell the C compiler and loader
?S: to produce a program running with a medium memory model.  If the
?S: medium model is not supported, contains the flag to produce large
?S: model programs.  It is up to the Makefile to use this.
?S:.
?S:large:
?S: This variable contains a flag
 which will tell the C compiler and loader
?S: to produce a program running with a large memory model.  It is up to
?S: the Makefile to use this.
?S:.
?S:huge:
?S: This variable contains a flag which will tell the C compiler and loader
?S: to produce a program running with a huge memory model.  If the
?S: huge model is not supported, contains the flag to produce large
?S: model programs.  It is up to the Makefile to use this.
?S:.
?T:unsplit tans modelcc
?F:!pdp11
?D:large="
?LINT:extern cc
: see what memory models we can support
case "$models" in
")
?X: We may not use Cppsym or we get a circular dependency through cc.
?X: But this should work regardless of which cc we eventually use.
 $cat >pdp11.c <<'EOP'
int main() {
#ifdef pdp11
 exit(0);
#else
 exit(1);
#endif
}
EOP
?X: Run cc in a subshell in case they don't have a 'cc' command.
?X: Presumably they do have gcc or something.
 case "$cc" in
 ") modelcc="$cc" ;;
 *) modelcc="cc" ;;
 esac
 ( $modelcc -o pdp11 pdp11.c ) >/dev/null 2>&1
```

```
if
$test -f pdp11 && ./pdp11 2>/dev/null; then
 dflt='unsplit split'
else
 tans=`./loc . X /lib/small /lib/large /usr/lib/small /usr/lib/large /lib/medium /usr/lib/medium /lib/huge`
 case "$tans" in
 X) dflt='none';;
 *) if $test -d /lib/small || $test -d /usr/lib/small; then
   dflt='small'
  else
   dflt=''
  fi
  if $test -d /lib/medium || $test -d /usr/lib/medium; then
   dflt="$dflt medium"
  fi
  if $test -d /lib/large || $test -d /usr/lib/large; then
   dflt="$dflt large"
  fi
  if $test -d /lib/huge || $test -d /usr/lib/huge; then
   dflt="$dflt huge"
  fi
 esac
fi;;
*) dflt="$models";;
esac
$cat <<EOM

Some systems have different model sizes.  On most systems they are called
small, medium, large, and huge.  On the PDP11 they are called unsplit and
split.  If your system doesn't support different memory models, say "none".
If you wish to force everything to one memory model, say "none" here and
put the appropriate flags later when it asks you for other
 cc and ld flags.
Venix systems may wish to put "none" and let the compiler figure things out.
(In the following question multiple model names should be space separated.)

The default for most systems is "none".

EOM
rp="Which memory models are supported?"
. ./myread
models="$ans"

case "$models" in
none)
 small=''
 medium=''
 large=''
```

```
huge="
unsplit="
split="
;;
*split)
case "$split" in
") if $contains '\-i' $sysman/ld.1 >/dev/null 2>&1 || \
   $contains '\-i' $sysman/cc.1 >/dev/null 2>&1; then
  dflt='-i'
 else
  dflt='none'
 fi;;
*) dflt="$split";;
esac
rp="What flag indicates separate I and D space?"
. ./myread
tans="$ans"
case "$tans" in
none) tans=";;
esac
split="$tans"
unsplit=";;
*large*|*small*|*medium*|*huge*)
case "$models" in
*large*)
 case "$large" in
 ") dflt='-Ml';;
 *) dflt="$large";;
 esac
rp="What flag indicates large model?"
. ./myread
tans="$ans"
case "$tans" in
none) tans=";
esac
large="$tans";;
*) large=";;
esac
case "$models"
in
*huge*) case "$huge" in
 ") dflt='-Mh';;
 *) dflt="$huge";;
 esac
 rp="What flag indicates huge model?"
 . ./myread
 tans="$ans"
 case "$tans" in
```

```
 none) tans='';
 esac
 huge="$tans";;
*) huge="$large";;
esac
case "$models" in
*medium*) case "$medium" in
 '') dflt='-Mm';;
 *) dflt="$medium";;
 esac
 rp="What flag indicates medium model?"
 . ./myread
 tans="$ans"
 case "$tans" in
 none) tans='';
 esac
 medium="$tans";;
*) medium="$large";;
esac
case "$models" in
*small*) case "$small" in
 '') dflt='none';;
 *) dflt="$small";;
 esac
 rp="What flag indicates small model?"
 . ./myread
 tans="$ans"
 case "$tans" in
 none) tans='';
 esac
 small="$tans";;
*) small='';;
esac
;;
*)
 echo "Unrecognized memory models--you may have to edit Makefile.SH" >&4
 ;;
esac
$rm -f pdp11.* pdp11
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/models.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
```

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_qgcvt: Inlibc
?MAKE: -pick add $@ %<
?S:d_qgcvt:
?S: This variable conditionally defines the HAS_QGCVT symbol, which
?S: indicates to the C program that the qgcvt() routine is available.
?S:.
?C:HAS_QGCVT:
?C: This symbol, if defined, indicates that the qgcvt routine is
?C: available to convert long doubles ("quad doubles") to strings.
?C: This is a low-level routine hopefully faster than sprintf.
?C:.
?H:#$d_qgcvt HAS_QGCVT  /**/
?H:.
?LINT:set d_qgcvt
: see if qgcvt exists
set qgcvt d_qgcvt
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_qgcvt.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sched_setparam: Inlibc
?MAKE: -pick add $@ %<
?S:d_sched_setparam:
?S: This variable conditionally defines HAS_SCHED_SETPARAM if
?S: sched_setparam() is available to set the scheduling parameters.
?S:.
?C:HAS_SCHED_SETPARAM:
?C: This symbol, if defined, indicates that the sched_setparam
?C: system call is available to set the scheduling parameters.
?C:.
?H:#$d_sched_setparam HAS_SCHED_SETPARAM  /**/
?H:.
?LINT:set d_sched_setparam
```

: see if sched_setparam exists
set sched_setparam d_sched_setparam
eval $inlibc

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sched_setparam.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2009 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getnameinfo: Inlibc
?MAKE: -pick add $@ %<
?S:d_getnameinfo:
?S: This variable conditionally defines the HAS_GETNAMEINFO symbol,
?S: which indicates to the C program that the getnameinfo() function
?S: is available.
?S:.
?C:HAS_GETNAMEINFO:
?C: This symbol, if defined, indicates that the getnameinfo() function
?C: is available for use.
?C:.
?H:#$d_getnameinfo HAS_GETNAMEINFO  /**/
?H:.
?LINT:set d_getnameinfo
: see if getnameinfo exists
set getnameinfo d_getnameinfo
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getnameinfo.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getservbyname_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getservbyname_r getservbyname_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C

```
?MAKE: -pick add $@ %<
?S:d_getservbyname_r:
?S: This variable conditionally defines the HAS_GETSERVBYNAME_R symbol,
?S: which indicates to the C program that the getservbyname_r()
?S: routine is available.
?S:.
?S:getservbyname_r_proto:
?S: This variable encodes the prototype of getservbyname_r.
?S: It is zero if d_getservbyname_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getservbyname_r
?S: is defined.
?S:.
?C:HAS_GETSERVBYNAME_R:
?C: This symbol, if defined, indicates
 that the getservbyname_r routine
?C: is available to getservbyname re-entrantly.
?C:.
?C:GETSERVBYNAME_R_PROTO:
?C: This symbol encodes the prototype of getservbyname_r.
?C: It is zero if d_getservbyname_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getservbyname_r
?C: is defined.
?C:.
?H:#$d_getservbyname_r HAS_GETSERVBYNAME_R    /**/
?H:#define GETSERVBYNAME_R_PROTO $getservbyname_r_proto    /**/
?H:.
?T:try hdrs d_getservbyname_r_proto
: see if getservbyname_r exists
set getservbyname_r d_getservbyname_r
eval $inlibc
case "$d_getservbyname_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getservbyname_r_proto:$usethreads" in
 ":define") d_getservbyname_r_proto=define
  set d_getservbyname_r_proto getservbyname_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getservbyname_r_proto" in
 define)
 case "$getservbyname_r_proto" in
 "|0) try='int getservbyname_r(const char*, const char*, struct servent*,
 char*, size_t, struct servent**);'
 ./protochk "$extern_C $try" $hdrs && getservbyname_r_proto=I_CCSBWR ;;
 esac
 case "$getservbyname_r_proto" in
 "|0) try='struct servent* getservbyname_r(const char*, const char*, struct servent*, char*, int);'
```

```
 ./protochk "$extern_C $try" $hdrs && getservbyname_r_proto=S_CCSBI ;;
 esac
 case "$getservbyname_r_proto" in
 "|0) try='int getservbyname_r(const char*, const char*, struct servent*, struct servent_data*);'
 ./protochk "$extern_C $try" $hdrs && getservbyname_r_proto=I_CCSD ;;
 esac
 case "$getservbyname_r_proto" in
 "|0) d_getservbyname_r=undef
        getservbyname_r_proto=0
  echo "Disabling getservbyname_r, cannot determine prototype." >&4 ;;
 * ) case "$getservbyname_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getservbyname_r_proto="REENTRANT_PROTO_$getservbyname_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getservbyname_r has no prototype, not using it." >&4 ;;
  esac
  d_getservbyname_r=undef
  getservbyname_r_proto=0
  ;;
 esac
 ;;
*) getservbyname_r_proto=0
 ;;
esac

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getservbyname_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_flexfnam.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?MAKE:d_flexfnam: cat rm test Setvar
?MAKE: -pick add $@ %<
?S:d_flexfnam:
?S: This variable conditionally defines the FLEXFILENAMES symbol, which
?S: indicates that the system supports filenames longer than 14 characters.
?S:.
?C:FLEXFILENAMES:
?C: This symbol, if defined, indicates that the system supports filenames
?C: longer than 14 characters.
?C:.
?H:#$d_flexfnam FLEXFILENAMES  /**/
?H:.
?T:first
 second
?LINT:set d_flexfnam
: see if we can have long filenames
echo " "
?X:
?X: We have to test in both /tmp and . because of NFS (remote server may allow
?X: long filenames while the local filesystem cannot support them). If at least
?X: one of those file systems cannot support long filenames, then we assume the
?X: whole system can't.
?X:
rmlist="$rmlist /tmp/cf$$"
$test -d /tmp/cf$$ || mkdir /tmp/cf$$
first=123456789abcdef
second=/tmp/cf$$/$first
$rm -f $first $second
if (echo hi >$first) 2>/dev/null; then
 if $test -f 123456789abcde; then
  echo 'You cannot have filenames longer than 14 characters.  Sigh.' >&4
  val="$undef"
 else
  if (echo hi >$second) 2>/dev/null; then
   if $test -f /tmp/cf$$/123456789abcde; then
    $cat <<'EOM'
That's peculiar... You can have filenames longer than 14 characters, but only
on some of the filesystems.  Maybe you are using NFS.  Anyway, to avoid problems
I shall consider your system cannot support long filenames at all.
EOM
    val="$undef"
   else
    echo
 'You can have filenames longer than 14 characters.' >&4
    val="$define"
   fi
  else
   $cat <<'EOM'
```

```
How confusing! Some of your filesystems are sane enough to allow filenames
longer than 14 characters but some others like /tmp can't even think about them.
So, for now on, I shall assume your kernel does not allow them at all.
EOM
   val="$undef"
  fi
 fi
else
 $cat <<'EOM'
You can't have filenames longer than 14 chars.  You can't even think about them!
EOM
 val="$undef"
fi
set d_flexfnam
eval $setvar
$rm -rf /tmp/cf$$ 123456789abcde*

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_flexfnam.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_bcopy.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_bcopy.U,v $
?RCS: Revision 3.0.1.2  1993/10/16  13:48:04  ram
?RCS: patch12: added magic support for bcopy()
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:01:11  ram
?RCS: patch10: now only defines HAS_BCOPY, no macro remap on memcpy (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:44  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_bcopy: Inlibc
?MAKE: -pick add $@ %<
?S:d_bcopy:
?S: This variable conditionally defines the HAS_BCOPY
 symbol if
?S: the bcopy() routine is available to copy strings.
?S:.
```

?C:HAS_BCOPY:
?C: This symbol is defined if the bcopy() routine is available to
?C: copy blocks of memory.
?C:.
?H:#$d_bcopy HAS_BCOPY /**/
?H:.
?M:bcopy: HAS_BCOPY
?M:#ifndef HAS_BCOPY
?M:#ifndef bcopy
?M:#define bcopy(s,d,l) memcpy((d),(s),(l))
?M:#endif
?M:#endif
?M:.
?LINT:set d_bcopy
: see if bcopy exists
set bcopy d_bcopy
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_bcopy.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_ffs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_ffs.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_ffs: Inlibc
?MAKE: -pick add $@ %<
?S:d_ffs:
?S: This variable conditionally defines the HAS_FFS symbol, which
?S: indicates to the C program that the ffs() routine is available
?S: to find the first bit which is set in its integer argument.
?S:.
?C:HAS_FFS:
?C: This symbol, if defined, indicates that the ffs routine is available
?C: to
 find the first bit set in its argument.  If it's not available,
?C: roll your own.

```
?C:.
?H:#$d_ffs HAS_FFS  /**/
?H:.
?LINT:set d_ffs
: see if ffs exists
set ffs d_ffs
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_ffs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: usethreads.U,v $
?RCS:
?RCS: Copyright (c) 1998-2000 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: usethreads.U,v $
?RCS:
?MAKE:usethreads useithreads use5005threads d_oldpthreads usereentrant: \
 Myread Oldconfig Setvar test cat patchlevel
?MAKE: -pick add $@ %<
?Y:TOP
?S:usethreads:
?S: This variable conditionally defines the USE_THREADS symbol,
?S: and indicates that Perl should be built to use threads.
?S:.
?S:useithreads:
?S: This variable conditionally defines the USE_ITHREADS symbol,
?S: and indicates that Perl should be built to use the interpreter-based
?S: threading implementation.
?S:.
?S:use5005threads:
?S: This variable conditionally defines the USE_5005THREADS symbol,
?S: and indicates that Perl should be built to use the 5.005-based
?S: threading implementation.
 Only valid up to 5.8.x.
?S:.
?X: I'm putting old_pthreads in this unit because it might eventually
?X: be part of an automatic determination to see if we can use threads
?X: at all.
?S:d_oldpthreads:
?S: This variable conditionally defines the OLD_PTHREADS_API symbol,
?S: and indicates that Perl should be built to use the old
?S: draft POSIX threads API.  This is only potentially meaningful if
?S: usethreads is set.
```

```
?S:.
?S:usereentrant:
?S: This variable conditionally defines the USE_REENTRANT_API symbol,
?S: which indicates that the thread code may try to use the various
?S: _r versions of library functions.  This is only potentially
?S: meaningful if usethreads is set and is very experimental, it is
?S: not even prompted for.
?S:.
?C:USE_ITHREADS:
?C: This symbol, if defined, indicates that Perl should be built to
?C: use the interpreter-based threading implementation.
?C:.
?C:USE_5005THREADS:
?C: This symbol, if defined, indicates that Perl should be built to
?C: use the 5.005-based
 threading implementation.
?C: Only valid up to 5.8.x.
?C:.
?C:USE_THREADS:
?C: This symbol, if defined, indicates that Perl should
?C: be built to use threads.  At present, it is a synonym for
?C: USE_5005THREADS for perl older than 5.8 and USE_ITHREADS
?C: for 5.8.x and newer, but eventually the source ought to be
?C: changed to use this to mean _any_ threading implementation.
?C:.
?C:OLD_PTHREADS_API:
?C: This symbol, if defined, indicates that Perl should
?C: be built to use the old draft POSIX threads API.
?C:.
?C:USE_REENTRANT_API:
?C: This symbol, if defined, indicates that Perl should
?C: try to use the various _r versions of library functions.
?C: This is extremely experimental.
?C:.
?H:#$use5005threads USE_5005THREADS  /**/
?H:#$useithreads USE_ITHREADS  /**/
?H:?%<:#if defined(USE_5005THREADS) && !defined(USE_ITHREADS)
?H:?%<:#define  USE_THREADS  /* until src is revised*/
?H:?%<:#endif
?H:#$d_oldpthreads OLD_PTHREADS_API  /**/
?H:#$usereentrant USE_REENTRANT_API /**/
?H:.
?X:
      [hmb] Removed LINT for use5005threads, useithreads, and
?X:           usereentrant, as LINT is only run on blead
?LINT:set usethreads d_oldpthreads
?INIT:: set usethreads on the Configure command line to enable threads.
?INIT:usereentrant='undef'
```

```
?F:!usethreads.cbu
: Do we want threads support and if so, what type
?X: We should really have some explanatory text here, and some
?X: automatic setting of sensible defaults.
case "$usethreads" in
$define|true|[yY]*)     dflt='y';;
*)     # Catch case where user specified ithreads or 5005threads but
      # forgot -Dusethreads (A.D. 4/2002)
      case "$useithreads$use5005threads" in
      *$define*) dflt='y';;
      *)  dflt='n';;
      esac
      ;;
esac
cat <<EOM

Perl can be built to offer a form of threading support on some systems
To do so, Configure can be run with -Dusethreads.

Note that Perl built with threading support runs slightly slower
and uses slightly more memory than plain Perl.

If this doesn't make
 any sense to you, just accept the default '$dflt'.
EOM
rp='Build a threading Perl?'
. ./myread
case "$ans" in
y|Y)    val="$define" ;;
*)      val="$undef" ;;
esac
set usethreads
eval $setvar

if $test $patchlevel -lt 9; then
   case "$usethreads" in
   $define)
 : Default to ithreads unless overridden on command line or with
 : old config.sh
 dflt='y'
 case "$use5005threads" in
  $define|true|[yY]*)
   echo "5.005 threads are no longer supported"
   exit 1
  ;;
 esac
 case "$useithreads" in
  $undef|false|[nN]*) dflt='n';;
```

```
esac
rp='Use the newer interpreter-based ithreads?'
. ./myread
case "$ans" in
y|Y)    val="$define" ;;
*)      val="$undef" ;;
esac
set useithreads
eval $setvar
: Now set use5005threads to the opposite value.
case "$useithreads" in
$define) val="$undef" ;;
*) val="$define" ;;
esac
set use5005threads
eval $setvar
;;
  *)
useithreads="$undef"
use5005threads="$undef"
;;
  esac

?X: This is not supposed to be possible but with some trickery,
 maybe.
  case "$useithreads$use5005threads" in
  "$define$define")
 $cat >&4 <<EOM

You cannot have both the ithreads and the 5.005 threads enabled
at the same time.  Disabling the 5.005 threads since they are
much less stable than the ithreads.

EOM
 use5005threads="$undef"
 ;;
  esac

else
: perl-5.9.x and later

  if test X"$usethreads" = "X$define"; then
 case "$use5005threads" in
    $define|true|[yY]*)
  $cat >&4 <<EOM

5.005 threads has been removed for 5.10.  Perl will be built using ithreads.
```

```
EOM
    ;;
 esac
  fi

  use5005threads="$undef"
  useithreads="$usethreads"
fi

?X: Check out what kind of threads API we have
case "$d_oldpthreads" in
") : Configure tests would be welcome here.  For now, assume undef.
 val="$undef" ;;
*) val="$d_oldpthreads" ;;
esac
set d_oldpthreads
eval $setvar

?X: In general, -lpthread needs to come before -lc but after other
?X: libraries such as -lgdbm and such like. We assume here that -lc
?X: is present in libswanted. If that
 fails to be true, then this
?X: can be changed to add pthread to the very end of libswanted.

: Look for a hint-file generated 'call-back-unit'.  If the
: user has specified that a threading perl is to be built,
: we may need to set or change some other defaults.
if $test -f usethreads.cbu; then
  echo "Your platform has some specific hints regarding threaded builds, using them..."
  . ./usethreads.cbu
else
  case "$usethreads" in
 "$define"|true|[yY]*)
  $cat <<EOM
(Your platform does not have any specific hints for threaded builds.
Assuming POSIX threads, then.)
EOM
 ;;
  esac
fi

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/usethreads.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: uidtype.U,v $
?RCS: Revision 3.0.1.3  1994/08/29  16:33:25  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0.1.2  1994/06/20  07:09:36  ram
?RCS: patch30: comment for uidtype referred to the obsoleted symbol
?RCS:
?RCS: Revision 3.0.1.1  1994/05/13  15:28:27  ram
?RCS: patch27: made conform to its gidtype.U companion
?RCS: patch27: question now explicitly mentions getuid()
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:56  ram
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:uidtype: Myread Typedef Findhdr
?MAKE: -pick add $@ %<
?S:uidtype:
?S: This variable defines Uid_t to be something like uid_t, int,
?S: ushort, or whatever type is used to declare user ids in the kernel.
?S:.
?C:Uid_t (UIDTYPE):
?C: This symbol holds the type used to declare user ids in the kernel.
?C: It can be int, ushort, uid_t, etc... It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?H:#define Uid_t $uidtype  /* UID type */
?H:.
?T:xxx
: see what type uids are declared as in the kernel
set uid_t uidtype xxx stdio.h sys/types.h
eval $typedef
case "$uidtype" in
xxx)
 xxx=`./findhdr sys/user.h`
 set `grep '_ruid;' "$xxx" 2>/dev/null` unsigned short
 case $1 in
 unsigned) dflt="$1 $2" ;;
 *) dflt="$1" ;;
 esac
 ;;
```

```
*) dflt="$uidtype";;
esac
echo " "
rp="What is the type for user ids returned by getuid()?"
. ./myread
uidtype="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/uidtype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:gidformat: gidsize gidsign ivsize uvsize longsize intsize shortsize \
 ivdformat uvuformat test echo
?MAKE: -pick add $@ %<
?S:gidformat:
?S: This variable contains the format string used for printing a Gid_t.
?S:.
?C:Gid_t_f:
?C: This symbol defines the format string used for printing a Gid_t.
?C:.
?H:#define Gid_t_f  $gidformat  /**/
?H:.
: Check format string for GID

echo " "
$echo "Checking the format string to be used for gids..." >&4

case "$gidsign" in
-1) if $test X"$gidsize" = X"$ivsize"; then
  gidformat="$ivdformat"
 else
  if $test X"$gidsize" = X"$longsize"; then
   gidformat="'ld"'
  else
   if $test X"$gidsize" = X"$intsize"; then
    gidformat="'d"'
   else
    if $test X"$gidsize"
 = X"$shortsize"; then
     gidformat="'hd"'
    fi
```

```
  fi
 fi
fi
;;
*) if $test X"$gidsize" = X"$uvsize"; then
 gidformat="$uvuformat"
else
 if $test X"$gidsize" = X"$longsize"; then
  gidformat="'lu'"
 else
  if $test X"$gidsize" = X"$intsize"; then
   gidformat="'u'"
  else
   if $test X"$gidsize" = X"$shortsize"; then
    gidformat="'hu'"
   fi
  fi
 fi
fi
;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/gidf.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libs.U,v 3.0.1.6 1997/02/28 16:09:11 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: libs.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:09:11  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.5  1995/07/25  14:12:05  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  16:24:22  ram
?RCS: patch36: removed old broken thislib/thatlib processing (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:05:44  ram
?RCS: patch30: code cleanup with if/elif by ADO and RAM
```

?RCS: patch30:
 undone patch23 for libswanted default setting
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:08:45  ram
?RCS: patch23: now includes ordered default libswanted variable (ADO)
?RCS: patch23: major cleanup for library lookups (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:02:31  ram
?RCS: patch6: added default for libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libs ignore_versioned_solibs libsfound libsfiles libsdirs libspath: \
 test cat Myread Oldconfig Loc libpth package xlibpth so _a \
 usesocks sed uselongdouble usequadmath
?MAKE: -pick add $@ %<
?S:libs:
?S: This variable holds the additional libraries we want to use.
?S: It is up to the Makefile to deal with it.  The list can be empty.
?S:.
?S:libsfound:
?S: This variable holds the full pathnames of the libraries
?S: we found and accepted.
?S:.
?S:libsfiles:
?S: This variable holds the filenames aka basenames of the libraries
?S: we found and accepted.
?S:.
?S:libsdirs:
?S: This
 variable holds the directory names aka dirnames of the libraries
?S: we found and accepted, duplicates are removed.
?S:.
?S:libspath:
?S: This variable holds the directory names probed for libraries.
?S:.
?S:ignore_versioned_solibs:
?S: This variable should be non-empty if non-versioned shared
?S: libraries (libfoo.so.x.y) are to be ignored (because they
?S: cannot be linked against).
?S:.
?T:xxx yyy thislib thisdir libswanted libstyle
?D:libs="
?X:
?X: This order is chosen so that libraries  -lndir, -ldir, -lucb, -lbsd,
?X: -lBSD, -lPW, and -lx only get used if there are unresolved
?X: routines at link time.  Usually, these are backwards compatibility

```
?X: libraries, and may not be as reliable as the standard c library.
?X:
?X: The -lsocket -linet -lnsl order has been reported to be necessary
?X: for at least one SVR4 implementation.
?X: -lc must proceed -lucb or -lbsd for most Solaris applications.
?X: -lc_s proceeds -lc so we pick up the shared library version,
 if
?X: it is available.
?X:
?X: The ordering of c, posix, and cposix is a guess and almost
?X: certainly wrong on about half of all systems.
?X:
?X: Set proper libswanted in your private Myinit.U if needed.
?X:
?X:: default ordered library list
?X:libswanted='net socket inet bind nsl nm sdbm gdbm ndbm dbm malloc dl'
?X:libswanted="$libswanted dld sun m c_s c posix cposix ndir dir ucb"
?X:libswanted="$libswanted bsd BSD PW x"
?X:
?INIT:: default library list
?INIT:libswanted="
?INIT:: some systems want to use only the non-versioned libso:s
?INIT:ignore_versioned_solibs="
?LINT:extern usecbacktrace
?LINT:extern libscheck
?LINT:extern p
?LINT:use uselongdouble
: Looking for optional libraries
echo " "
echo "Checking for optional libraries..." >&4
case "$libs" in
' '|'') dflt='';;
*) dflt="$libs";;
esac
case "$libswanted" in
'') libswanted='c_s';;
esac
?X: libsocks has nasty naming scheme.
?X: This does not work if somebody wants SOCKS 4.
case "$usesocks" in
"$define") libswanted="$libswanted
 socks5 socks5_sh" ;;
esac
case "$usecbacktrace" in
"$define") libswanted="$libswanted bfd" ;;
esac
case "$usequadmath" in
"$define") libswanted="$libswanted quadmath" ;;
```

```
esac
libsfound="
libsfiles="
libsdirs="
libspath="
for thisdir in $libpth $xlibpth; do
 test -d $thisdir && libspath="$libspath $thisdir"
done
for thislib in $libswanted; do
 for thisdir in $libspath; do
    xxx="
    if $test ! -f "$xxx" -a "X$ignore_versioned_solibs" = "X"; then
 xxx=`ls $thisdir/lib$thislib.$so.[0-9] 2>/dev/null|sed -n '$p'`
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=shared
 xxx=`ls $thisdir/lib$thislib.[0-9].$so 2>/dev/null|sed -n '$p'`
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/lib$thislib.$so
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/lib$thislib$_a
        $test -f "$xxx"
&& eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/$thislib$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/lib${thislib}_s$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
 $test -f "$xxx" && thislib=${thislib}_s
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/Slib$thislib$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if $test -f "$xxx"; then
 case "$libstyle" in
```

```
 shared) echo "Found -l$thislib (shared)." ;;
 static) echo "Found -l$thislib." ;;
 *)      echo "Found -l$thislib ($libstyle)." ;;
 esac
 case " $dflt " in
 *"-l$thislib "*);;
 *) dflt="$dflt -l$thislib"
            libsfound="$libsfound $xxx"
            yyy=`basename $xxx`
            libsfiles="$libsfiles $yyy"
            yyy=`echo $xxx|$sed -e
"s%/$yyy\\$%%"`
            case " $libsdirs " in
            *" $yyy "*) ;;
            *) libsdirs="$libsdirs $yyy" ;;
            esac
   ;;
 esac
 break
   fi
 done
 if $test ! -f "$xxx"; then
   echo "No -l$thislib."
 fi
done
set X $dflt
shift
dflt="$*"
case "$libs" in
") dflt="$dflt";;
*) dflt="$libs";;
esac
case "$dflt" in
' '|") dflt='none';;
esac

$cat <<EOM

In order to compile $package on your machine, a number of libraries
are usually needed.  Include any other special libraries here as well.
Say "none" for none.  The default list is almost always right.
EOM

echo " "
rp="What libraries to use?"
. ./myread
case "$ans" in
none) libs=' ';;
```

```
*) libs="$ans";;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/libs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_getvalue: Inlibc
?MAKE: -pick add $@ %<
?S:d_sem_getvalue:
?S: This variable conditionally defines HAS_SEM_GETVALUE if sem_getvalue()
?S: is available to get the value of a POSIX semaphore.
?S:.
?C:HAS_SEM_GETVALUE:
?C: This symbol, if defined, indicates that the sem_getvalue system call is
?C: available to get the value of a POSIX semaphore.
?C:.
?H:#$d_sem_getvalue HAS_SEM_GETVALUE  /**/
?H:.
?LINT:set d_sem_getvalue
: see if sem_getvalue exists
set sem_getvalue d_sem_getvalue
eval $inlibc
```

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_getvalue.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Loc.U 14 2006-08-28 16:51:14Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
```

?RCS:
?RCS: $Log: Loc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:04:16  ram
?RCS: patch61: allow users to specify paths on the command line
?RCS: patch61: will now substitute cp for ln if not supported
?RCS:
?RCS: Revision 3.0.1.9  1995/09/25  09:11:24  ram
?RCS: patch59: commented the purpose of the #un-def directive
?RCS: patch59: abort Configure run when mandatory command is missing
?RCS:
?RCS: Revision 3.0.1.8  1995/07/25  13:40:40  ram
?RCS: patch56: now knows about
 OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.7  1995/01/11  15:13:37  ram
?RCS: patch45: protected "sh -c" within backquotes for Linux and SGI
?RCS: patch45: added path lookup for the 'comm' program
?RCS:
?RCS: Revision 3.0.1.6  1994/10/29  15:56:14  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: be careful and guard against wildcard searching (ADO)
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  06:54:55  ram
?RCS: patch30: now locates find
?RCS:
?RCS: Revision 3.0.1.4  1994/05/13  15:18:15  ram
?RCS: patch27: added byacc to the trylist (ADO)
?RCS: patch27: lint lines reformatted (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:01:44  ram
?RCS: patch16: added metalint hint on changed PATH variable
?RCS:
?RCS: Revision 3.0.1.2  1993/12/15  08:16:52  ram
?RCS: patch15: now set _test variable when test is built-in
?RCS: patch15: fixed rare cases where echo is not needed
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  15:47:13  ram
?RCS: patch10: test program not always
 in /bin/test (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script "loc" which can be used to find out
?X: where in a list of directories something is.  It then uses loc to
?X: determine the location of commonly used programs.  It leaves loc sitting
?X: around for other Configure units to use, but arranges for its demise

```
?X: at the end of Configure.
?X:
?X: To add a new program to find, add it both to the ?MAKE: line and to either
?X: the loclist or trylist variable.
?X:
?X: I put startsh at the end of the dependency list, in order to avoid the
?X: loading of the spitshell unit before the instructions.
?X:
?MAKE:Loc awk ar bash bison byacc cat chgrp chmod chown \
 comm compress cp cpio cpp csh date echo egrep emacs expr find flex \
 gmake gzip grep inews ksh less line lint ln lp lpr ls mail mailx \
 make mkdir more mv nm nroff perl pg pmake pr rm rmail sed sendmail \
 shar sleep smail sort
 submit tail tar tbl tee test touch tr troff \
 uname uniq uuname vi zcat zip: eunicefix n c startsh Instruct sysroot
?MAKE: -pick weed $@ %<
?LINT:describe awk ar bash bison byacc cat chgrp chmod chown \
 comm compress cp cpio cpp csh date echo egrep emacs expr find flex \
 gmake gzip grep inews ksh less line lint ln lp lpr ls mail mailx \
 make mkdir more mv nm nroff perl pg pmake pr rm rmail sed sendmail \
 shar sleep smail sort submit tail tar tbl tee test touch tr troff \
 uname uniq uuname vi zcat zip
?V::pth loclist trylist
?F:./loc test_h
?T:thisthing thing xxx dir file say _test DJGPP
?LINT:change PATH _egrep _ln _make _less
?LINT:extern _exe
: find out where common programs are
echo " "
echo "Locating common programs..." >&4
cat <<EOSC >loc
$startsh
case \$# in
0) exit 1;;
esac
thing=\$1
shift
dflt=\$1
shift
for dir in \$*; do
 case "\$thing" in
 .)
 if test -d \$dir/\$thing; then
  echo \$dir
  exit 0
 fi
 ;;
 *)
```

```
?X: Be careful in case thing includes wildcards that might expand
 to multiple
?X: files.  Choose the last one.  This happens when searching for shared
?X: libraries with version numbers.  How to choose which one we want is
?X: probably an insoluble problem, in general.
?X: Some folks leave things like libc.so.orig around w/o read
?X: permission.  A -r test would handle that, but since ./loc is
?X: also used to find executables (which are installed w/o read
?X: permission on SCO ODT 3.0, we can't include the -r test.
?X: If you need to use an _exe that is different from .exe
?X: you need to set it in Head.U.
 for thisthing in \$dir/\$thing; do
  : just loop through to pick last item
 done
 if test -f \$thisthing; then
  echo \$thisthing
  exit 0
 elif test "X$_exe" != X -a -f \$thisthing$_exe; then
  echo \$thisthing
  exit 0
 elif test -f \$dir/\$thing.exe; then
  if test -n "$DJGPP"; then
   echo \$dir/\$thing.exe
  elif test "$eunicefix" != ":"; then
   : on Eunice apparently
   echo \$dir/\$thing
  fi
  exit 0
 fi
 ;;
 esac
done
echo \$dflt
exit
 1
EOSC
chmod +x loc
$eunicefix loc
loclist="
?awk:awk
?cat:cat
?chgrp:chgrp
?chmod:chmod
?chown:chown
?comm:comm
?cp:cp
?echo:echo
?expr:expr
```

?find:find
?grep:grep
?ls:ls
?mkdir:mkdir
?mv:mv
?rm:rm
?sed:sed
?sleep:sleep
?sort:sort
?tail:tail
?touch:touch
?tr:tr
?uniq:uniq
"
trylist="
?Mcc:Mcc
?ar:ar
?bash:bash
?bison:bison
?byacc:byacc
?compress:compress
?cpio:cpio
?cpp:cpp
?csh:csh
?date:date
?egrep:egrep
?emacs:emacs
?flex:flex
?gmake:gmake
?gzip:gzip
?inews:inews
?ksh:ksh
?less:less
?line:line
?lint:lint
?ln:ln
?lp:lp
?lpr:lpr
?mail:mail
?mailx:mailx
?make:make
?more:more
?nm:nm
?nroff:nroff
?perl:perl
?pg:pg
?pmake:pmake
?pr:pr

```
?rmail:rmail
?sendmail:sendmail
?shar:shar
?smail:smail
?submit:submit
?tar:tar
?tbl:tbl
?tee:tee
?test:test
?troff:troff
?uname:uname
?uuname:uuname
?vi:vi
?zcat:zcat
?zip:zip
"
?LINT:set awk ar bash bison byacc cat chgrp chmod chown \
 comm compress cp cpio cpp csh date echo emacs expr find flex \
 gmake gzip grep inews ksh line lint lp lpr ls mail mailx
 \
 mkdir more mv nm nroff perl pg pmake pr rm rmail sed sendmail \
 shar sleep smail sort submit tail tar tbl tee touch tr troff \
 uname uniq uuname vi zcat zip
pth=`echo $PATH | sed -e "s/$p_/ /g"`
pth="$pth $sysroot/lib $sysroot/usr/lib"
for file in $loclist; do
?X:
?X: Allow them to -Dmake=pmake on the command line for instance...
?X: If the file is not fully qualified, as in -Dmake=pmake, then we
?X: look the for the specified command (pmake here). If they say
?X: -Dmake=/sbin/make for instance, then we make sure the file
?X: exists, or we die...
?X:
 eval xxx=\$$file
 case "$xxx" in
 /*|?:[\\/]*)
  if test -f "$xxx"; then
   : ok
  else
   echo "WARNING: no $xxx -- ignoring your setting for $file." >&4
   xxx=`./loc $file $file $pth`
  fi
  ;;
 ") xxx=`./loc $file $file $pth`;;
 *) xxx=`./loc $xxx $xxx $pth`;;
 esac
 eval $file=$xxx$_exe
 eval _$file=$xxx
```

```
 case "$xxx" in
 /*)
  echo $file is in $xxx.
  ;;
?X: Under OS/2, we have PC-like paths
 ?:[\\/]*)
  echo $file is in $xxx.
  ;;
 *)
  echo
 "I don't know where '$file' is, and my life depends on it." >&4
  echo "Go find a public domain implementation or fix your PATH setting!" >&4
  exit 1
  ;;
 esac
done
echo " "
echo "Don't worry if any of the following aren't found..."
say=offhand
for file in $trylist; do
?X: Allow them to -Dmake=pmake on the command line for instance (see above)
 eval xxx=\$$file
 case "$xxx" in
 /*|?:[\\/]*)
  if test -f "$xxx"; then
   : ok
  else
   echo "WARNING: no $xxx -- ignoring your setting for $file." >&4
   xxx=`./loc $file $file $pth`
  fi
  ;;
 '') xxx=`./loc $file $file $pth`;;
 *) xxx=`./loc $xxx $xxx $pth`;;
 esac
 eval $file=$xxx$_exe
 eval _$file=$xxx
 case "$xxx" in
 /*)
  echo $file is in $xxx.
  ;;
?X: Under OS/2, we have PC-like paths
 ?:[\\/]*)
  echo $file is in $xxx.
  ;;
 *)
  echo "I don't see $file out there, $say."
  say=either
  ;;
```

```
 esac
done
case "$egrep" in
egrep)
 echo "Substituting grep for egrep."
 egrep=$grep
 _egrep=$grep
 ;;
esac
@if less
case "$less"
 in
") ;;
*) if $less -R </dev/null >/dev/null 2>&1; then
        echo "Substituting less -R for less."
        less="$less -R"
        _less=$less
 fi
 ;;
esac
@end
@if ln
case "$ln" in
ln)
 echo "Substituting cp for ln."
 ln=$cp
 _ln=$cp
 ;;
esac
@end
@if make || gmake
case "$make" in
make)
 case "$gmake" in
 gmake)
 echo "I can't find make or gmake, and my life depends on it." >&4
 echo "Go find a public domain implementation or fix your PATH setting!" >&4
 exit 1
 ;;
 esac
 ;;
esac
case "$gmake" in
gmake) ;;
*) # We can't have osname yet.
 if test -f "/system/gnu_library/bin/ar.pm"; then # Stratus VOS
  # Assume that gmake, if found, is definitely GNU make
  # and prefer it over the system make.
```

```
 echo "Substituting gmake for make."
 make=$gmake
 _make=$gmake
fi
;;
esac
@end
case "$test" in
test)
 echo "Hopefully test is built into your sh."
 ;;
*)
 if `sh -c "PATH= test true" >/dev/null 2>&1`; then
  echo "Using the test built into your sh."
?X:
?X: We need to set both test
 and _test, since Oldconfig.U will use the _test
?X: value to systematically restore computed paths, which may be wrong if
?X: we choose to load an old config.sh generated on another platform.
?X:
  test=test
  _test=test
 fi
 ;;
esac
?LINT:change n c
case "$echo" in
echo)
 echo "Hopefully echo is built into your sh."
 ;;
?X: For those rare cases where we don't need $echo...
") ;;
*)
 echo " "
echo "Checking compatibility between $echo and builtin echo (if any)..." >&4
 $echo $n "hi there$c" >foo1
 echo $n "hi there$c" >foo2
 if cmp foo1 foo2 >/dev/null 2>&1; then
  echo "They are compatible.  In fact, they may be identical."
 else
  case "$n" in
  '-n') n='' c='\c';;
  *) n='-n' c='';;
  esac
  cat <<FOO
They are not compatible!  You are probably running ksh on a non-USG system.
I'll have to use $echo instead of the builtin, since Bourne shell doesn't
have echo built in and we may have to run some Bourne shell scripts.  That
```

means I'll have to use '$n$c' to suppress newlines now.
  Life is ridiculous.

FOO
  $echo $n "The star should be here-->$c"
  $echo "*"
 fi
 $rm -f foo1 foo2
 ;;
esac

?X: The next part is irrelevant to the real process
# This question was auctioned at YAPC::Europe-2007 in Vienna
# I never promised you could answer it. I only auctioned the question.
cat <<FOO
The following message is sponsored by

 Dresden.pm<--The stars should be here.

Dear Perl user, system administrator or package
maintainer, the Perl community sends greetings to
you. Do you (emblematical) greet back [Y/n]? n

FOO

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Loc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sched_getparam: Inlibc
?MAKE: -pick add $@ %<
?S:d_sched_getparam:
?S: This variable conditionally defines HAS_SCHED_GETPARAM if
?S: sched_getparam() is available to get the scheduling parameters.
?S:.
?C:HAS_SCHED_GETPARAM:
?C: This symbol, if defined, indicates that the sched_getparam
?C: system call is available to get the scheduling parameters.

?C:.
?H:#$d_sched_getparam HAS_SCHED_GETPARAM  /**/
?H:.
?LINT:set d_sched_getparam
: see if sched_getparam exists
set sched_getparam d_sched_getparam
eval $inlibc

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sched_getparam.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sitescript.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitescript.U,v $
?RCS:
?MAKE:sitescript sitescriptexp installsitescript : Getfile Oldconfig test \
 Setprefixvar sitebin siteprefix
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitescript="
?S:sitescript:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question.  It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S: The standard
 distribution will put nothing in this directory.
?S: After perl has been installed, users may install their own local
?S: scripts in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitescriptexp="
?S:sitescriptexp:
?S: This is the same as the sitescript variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installsitescript="

```
?S:installsitescript:
?S: This variable is usually the same as sitescriptexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
?LINT:set installsitescript
?LINT:set sitescript
?LINT:set sitescriptexp
: determine where add-on public executable scripts go
case "$sitescript" in
") dflt=$siteprefix/script
 $test -d $dflt || dflt=$sitebin ;;
*)  dflt="$sitescript" ;;
esac
fn=d~+
rp='Pathname where add-on public executable scripts
 should be installed?'
. ./getfile
prefixvar=sitescript
. ./setprefixvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitescript.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman3 siteman3exp installsiteman3: test Getfile Setprefixvar \
 prefix siteprefix man3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman3="
?S:siteman3:
?S: This variable contains the name of the directory in which site-specific
?S: library man source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl has been
```

```
 installed, users may install their own local
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman3exp="
?S:siteman3exp:
?S: This variable is the same as the siteman3 variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsiteman3="
?S:installsiteman3:
?S: This variable is really the same as siteman3exp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman3
?LINT:set siteman3exp
: determine where add-on library man pages go
case "$siteman3" in
") dflt=`echo "$man3dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman3 ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific library manual
 pages should be installed?'
. ./getfile
prefixvar=siteman3
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$siteman3" = "X" && siteman3=' '

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/siteman3.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_dirent.U,v 3.0.1.4 1994/10/29 16:20:01 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: i_dirent.U,v $
?RCS: Revision 3.0.1.4  1994/10/29  16:20:01  ram
?RCS: patch36: failed scanning for 'd_namlen' with missing <dirent.h> (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:01:25  ram
?RCS: patch30: added direntrytype for hints, merely for NeXT (ADO)
?RCS: patch30: now checks for both struct dirent and direct (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:22:37  ram
?RCS: patch27: new variable direntrytype for proper type setting (ADO)
?RCS:
?RCS:
 Revision 3.0.1.1  1994/01/24  14:11:15  ram
?RCS: patch16: added new Direntry_t pseudo-type for directory entries
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit looks whether there is a dirent system or not
?X:
?MAKE:i_dirent d_dirnamlen direntrytype: test contains Setvar \
 Myread Findhdr cppstdin cppflags cppminus rm_try
?MAKE: -pick add $@ %<
?S:i_dirent:
?S: This variable conditionally defines I_DIRENT, which indicates
?S: to the C program that it should include <dirent.h>.
?S:.
?S:d_dirnamlen:
?S: This variable conditionally defines DIRNAMLEN, which indicates
?S: to the C program that the length of directory entry names is
?S: provided by a d_namelen field.
?S:.
?S:direntrytype:
?S: This symbol is set to 'struct direct' or 'struct dirent' depending on
?S: whether dirent is available or not. You should use this pseudo type to
?S: portably declare your directory entries.
?S:.
?C:I_DIRENT:
?C: This symbol,
 if defined, indicates to the C program that it should
?C: include <dirent.h>. Using this symbol also triggers the definition
?C: of the Direntry_t define which ends up being 'struct dirent' or
?C: 'struct direct' depending on the availability of <dirent.h>.
?C:.

```
?C:DIRNAMLEN:
?C: This symbol, if defined, indicates to the C program that the length
?C: of directory entry names is provided by a d_namlen field.  Otherwise
?C: you need to do strlen() on the d_name field.
?C:.
?C:Direntry_t:
?C: This symbol is set to 'struct direct' or 'struct dirent' depending on
?C: whether dirent is available or not. You should use this pseudo type to
?C: portably declare your directory entries.
?C:.
?H:#$i_dirent I_DIRENT  /**/
?H:#$d_dirnamlen DIRNAMLEN /**/
?H:?%<:@if I_DIRENT && Direntry_t
?H:?%<:#define Direntry_t $direntrytype
?H:?%<:@end
?H:.
?T:xinc guess1 guess2
?LINT:set i_dirent d_dirnamlen
: see if this is a dirent system
echo " "
if xinc=`./findhdr dirent.h`; $test "$xinc"; then
 val="$define"
 echo
 "<dirent.h> found." >&4
else
 val="$undef"
 if xinc=`./findhdr sys/dir.h`; $test "$xinc"; then
  echo "<sys/dir.h> found." >&4
  echo " "
 else
  xinc=`./findhdr sys/ndir.h`
 fi
 echo "<dirent.h> NOT found." >&4
fi
set i_dirent
eval $setvar

?X: Use struct dirent or struct direct?   If we're using dirent.h,
?X: it's probably struct dirent, but apparently not always.
?X: Assume $xinc still contains the name of the header file we're using.
@if direntrytype || Direntry_t
: Look for type of directory structure.
echo " "
$cppstdin $cppflags $cppminus < "$xinc" > try.c

case "$direntrytype" in
"|' ')
 case "$i_dirent" in
```

```
 $define) guess1='struct dirent' ;;
 *) guess1='struct direct'  ;;
 esac
 ;;
*) guess1="$direntrytype"
 ;;
esac

case "$guess1" in
'struct dirent') guess2='struct direct' ;;
*) guess2='struct dirent' ;;
esac

if $contains "$guess1" try.c >/dev/null 2>&1; then
 direntrytype="$guess1"
 echo "Your directory entries are $direntrytype." >&4
elif $contains "$guess2"
 try.c >/dev/null 2>&1; then
 direntrytype="$guess2"
 echo "Your directory entries seem to be $direntrytype." >&4
else
 echo "I don't recognize your system's directory entries." >&4
 rp="What type is used for directory entries on this system?"
 dflt="$guess1"
 . ./myread
 direntrytype="$ans"
fi
$rm_try

@end
@if d_dirnamlen || DIRNAMLEN
: see if the directory entry stores field length
echo " "
$cppstdin $cppflags $cppminus < "$xinc" > try.c
if $contains 'd_namlen' try.c >/dev/null 2>&1; then
 echo "Good, your directory entry keeps length information in d_namlen." >&4
 val="$define"
else
 echo "Your directory entry does not know about the d_namlen field." >&4
 val="$undef"
fi
set d_dirnamlen
eval $setvar
$rm_try

@end
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_dirent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_shm_open: Inlibc
?MAKE: -pick add $@ %<
?S:d_shm_open:
?S: This variable conditionally defines HAS_SHM_OPEN if shm_open() is
?S: available to open a POSIX shared memory object.
?S:.
?C:HAS_SHM_OPEN:
?C: This symbol, if defined, indicates that the shm_open system call is
?C: available to open a POSIX shared memory object.
?C:.
?H:#$d_shm_open HAS_SHM_OPEN  /**/
?H:.
?LINT:set d_shm_open
: see if shm_open exists
set shm_open d_shm_open
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_shm_open.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setvbuf.U,v 3.0.1.1 1994/08/29 16:11:57 ram Exp $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_setvbuf.U,v $
?RCS:
?MAKE:d_setvbuf: Inlibc
?MAKE: -pick add $@ %<
?S:d_setvbuf:
```

?S: This variable conditionally defines the HAS_SETVBUF symbol, which
?S: indicates to the C program that the setvbuf() routine is available
?S: to change buffering on an open stdio stream.
?S:.
?C:HAS_SETVBUF :
?C: This symbol, if defined, indicates that the setvbuf routine is
?C: available to change buffering on an open stdio stream.
?C: to a line-buffered mode.
?C:.
?H:#$d_setvbuf HAS_SETVBUF  /**/
?H:.
?LINT:set d_setvbuf
: see if setvbuf exists
set setvbuf d_setvbuf
eval $inlibc

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_setvbuf.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_telldirproto: Hasproto i_systypes i_dirent
?MAKE: -pick add $@ %<
?S:d_telldirproto:
?S: This variable conditionally defines the HAS_TELLDIR_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the telldir() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_TELLDIR_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the telldir() function.  Otherwise, it is up
?C: to the program to supply one.  A good guess
 is
?C:  extern long telldir(DIR*);
?C:.
?H:#$d_telldirproto HAS_TELLDIR_PROTO /**/
?H:.

```
?LINT:set d_telldirproto
: see if prototype for telldir is available
echo " "
set d_telldirproto telldir $i_systypes sys/types.h $i_dirent dirent.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_telldirproto.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_mq_notify: Inlibc
?MAKE: -pick add $@ %<
?S:d_mq_notify:
?S: This variable conditionally defines HAS_MQ_NOTIFY if mq_notify() is
?S: available to ask for a notification from a POSIX message queue.
?S:.
?C:HAS_MQ_NOTIFY:
?C: This symbol, if defined, indicates that the mq_notify system call is
?C: available to ask for a notification from a POSIX message queue.
?C:.
?H:#$d_mq_notify HAS_MQ_NOTIFY  /**/
?H:.
?LINT:set d_mq_notify
: see if mq_notify exists
set mq_notify d_mq_notify
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mq_notify.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_gethbynm.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_gethbynm: Inlibc
?MAKE: -pick add $@ %<
?S:d_gethbynm (d_gethhstby):
?S: This variable conditionally defines the HAS_GETHOSTBYNAME symbol, which
?S: indicates to the C program that the gethostbyname() routine is available
?S: to lookup host names in some data base or other.
?S:.
?C:HAS_GETHOSTBYNAME (GETHOSTBYNAME):
?C: This symbol, if defined, indicates that the gethostbyname()
 routine is
?C: available to lookup host names in some data base or other.
?C:.
?H:#$d_gethbynm HAS_GETHOSTBYNAME  /**/
?H:.
?LINT:set d_gethbynm
: see if gethostbyname exists
set gethostbyname d_gethbynm
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_gethbynm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_mbstowcs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_mbstowcs.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:29  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_mbstowcs: Inlibc
?MAKE: -pick add $@ %<
?S:d_mbstowcs:
?S: This variable conditionally defines the HAS_MBSTOWCS symbol, which

?S: indicates to the C program that the mbstowcs() routine is available
?S: to convert a multibyte string into a wide character string.
?S:.
?C:HAS_MBSTOWCS (MBSTOWCS):
?C: This symbol, if defined, indicates
 that the mbstowcs routine is
?C: available to convert a multibyte string into a wide character string.
?C:.
?H:#$d_mbstowcs HAS_MBSTOWCS  /**/
?H:.
?LINT:set d_mbstowcs
: see if mbstowcs exists
set mbstowcs d_mbstowcs
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_mbstowcs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_endgrent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_endgrent_r endgrent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_grp extern_C
?MAKE: -pick add $@ %<
?S:d_endgrent_r:
?S: This variable conditionally defines the HAS_ENDGRENT_R symbol,
?S: which indicates to the C program that the endgrent_r()
?S: routine is available.
?S:.
?S:endgrent_r_proto:
?S: This variable encodes the prototype of endgrent_r.
?S: It is zero if d_endgrent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endgrent_r
?S: is defined.
?S:.
?C:HAS_ENDGRENT_R:
?C: This symbol, if defined, indicates that the endgrent_r routine
?C: is available to
 endgrent re-entrantly.
?C:.
?C:ENDGRENT_R_PROTO:
?C: This symbol encodes the prototype of endgrent_r.

```
?C: It is zero if d_endgrent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endgrent_r
?C: is defined.
?C:.
?H:#$d_endgrent_r HAS_ENDGRENT_R    /**/
?H:#define ENDGRENT_R_PROTO $endgrent_r_proto    /**/
?H:.
?T:try hdrs d_endgrent_r_proto
: see if endgrent_r exists
set endgrent_r d_endgrent_r
eval $inlibc
case "$d_endgrent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_grp grp.h"
 case "$d_endgrent_r_proto:$usethreads" in
 ":define") d_endgrent_r_proto=define
  set d_endgrent_r_proto endgrent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_endgrent_r_proto" in
 define)
 case "$endgrent_r_proto" in
 "|0) try='int endgrent_r(FILE**);'
 ./protochk "$extern_C $try" $hdrs && endgrent_r_proto=I_H ;;
 esac
 case "$endgrent_r_proto" in
 "|0) try='void endgrent_r(FILE**);'
 ./protochk "$extern_C $try" $hdrs && endgrent_r_proto=V_H ;;
 esac
 case
 "$endgrent_r_proto" in
 "|0) d_endgrent_r=undef
        endgrent_r_proto=0
  echo "Disabling endgrent_r, cannot determine prototype." >&4 ;;
 * ) case "$endgrent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) endgrent_r_proto="REENTRANT_PROTO_$endgrent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "endgrent_r has no prototype, not using it." >&4 ;;
  esac
  d_endgrent_r=undef
  endgrent_r_proto=0
  ;;
```

```
 esac
 ;;
*) endgrent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_endgrent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_semaphore.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_semaphore: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_semaphore:
?S: This variable conditionally defines the I_SEMAPHORE symbol, and indicates
?S: whether a C program should include <semaphore.h>.
?S:.
?C:I_SEMAPHORE:
?C: This symbol, if defined, indicates that <semaphore.h> exists and
?C: should be included.
?C:.
?H:#$i_semaphore I_SEMAPHORE  /**/
?H:.
?LINT:set i_semaphore
: see if this is a semaphore.h system
set semaphore.h i_semaphore
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_semaphore.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_attribut.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
```

```
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_attribut.U,v $
?RCS: Revision 3.0.1.3  1995/01/30  14:33:45  ram
?RCS: patch49: test C program now includes <stdio.h> (WED)
?RCS:
?RCS: Revision 3.0.1.2  1995/01/11  15:25:47  ram
?RCS: patch45: fixed typo in the d_attribut variable (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:08:55  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_attribute_deprecated d_attribute_format
 d_attribute_malloc \
 d_attribute_nonnull d_attribute_noreturn d_attribute_pure \
 d_attribute_unused d_attribute_warn_unused_result \
 d_printf_format_null: \
    Myread Oldconfig cat cc ccflags rm Setvar contains i_stdlib run
?MAKE: -pick add $@ %<
?S:d_attribute_format:
?S: This variable conditionally defines HASATTRIBUTE_FORMAT, which
?S: indicates the C compiler can check for printf-like formats.
?S:.
?S:d_attribute_deprecated:
?S: This variable conditionally defines HASATTRIBUTE_DEPRECATED, which
?S: indicates that GCC can handle the attribute for marking deprecated
?S: APIs
?S:.
?S:d_printf_format_null:
?S: This variable conditionally defines PRINTF_FORMAT_NULL_OK, which
?S: indicates the C compiler allows printf-like formats to be null.
?S:.
?S:d_attribute_malloc:
?S: This variable conditionally defines HASATTRIBUTE_MALLOC, which
?S: indicates the C compiler can understand functions as having
?S: malloc-like semantics.
?S:.
?S:d_attribute_nonnull:
?S: This variable conditionally
 defines HASATTRIBUTE_NONNULL, which
?S: indicates that the C compiler can know that certain arguments
?S: must not be NULL, and will check accordingly at compile time.
?S:.
?S:d_attribute_noreturn:
?S: This variable conditionally defines HASATTRIBUTE_NORETURN, which
?S: indicates that the C compiler can know that certain functions
?S: are guaranteed never to return.
?S:.
```

?S:d_attribute_pure:
?S: This variable conditionally defines HASATTRIBUTE_PURE, which
?S: indicates that the C compiler can know that certain functions
?S: are "pure" functions, meaning that they have no side effects, and
?S: only rely on function input and/or global data for their results.
?S:.
?S:d_attribute_unused:
?S: This variable conditionally defines HASATTRIBUTE_UNUSED, which
?S: indicates that the C compiler can know that certain variables
?S: and arguments may not always be used, and to not throw warnings
?S: if they don't get used.
?S:.
?S:d_attribute_warn_unused_result:
?S: This variable conditionally
 defines
?S: HASATTRIBUTE_WARN_UNUSED_RESULT, which indicates that the C
?S: compiler can know that certain functions have a return values
?S: that must not be ignored, such as malloc() or open().
?S:.
?C:HASATTRIBUTE_FORMAT ~ %< (GNUC_ATTRIBUTE_CHECK):
?C: Can we handle GCC attribute for checking printf-style formats
?C:.
?C:PRINTF_FORMAT_NULL_OK:
?C: Allows __printf__ format to be null when checking printf-style
?C:.
?C:HASATTRIBUTE_MALLOC:
?C: Can we handle GCC attribute for malloc-style functions.
?C:.
?C:HASATTRIBUTE_NONNULL:
?C: Can we handle GCC attribute for nonnull function parms.
?C:.
?C:HASATTRIBUTE_NORETURN:
?C: Can we handle GCC attribute for functions that do not return
?C:.
?C:HASATTRIBUTE_PURE:
?C: Can we handle GCC attribute for pure functions
?C:.
?C:HASATTRIBUTE_UNUSED:
?C: Can we handle GCC attribute for unused variables and arguments
?C:.
?C:HASATTRIBUTE_DEPRECATED:
?C: Can we handle GCC attribute for marking deprecated APIs
?C:.
?C:HASATTRIBUTE_WARN_UNUSED_RESULT
 ~ %< (HASATTRIBUTE):
?C: Can we handle GCC attribute for warning on unused results
?C:.
?H:?%<:#$d_attribute_deprecated HASATTRIBUTE_DEPRECATED /**/

```
?H:?%<:#$d_attribute_format HASATTRIBUTE_FORMAT /**/
?H:?%<:#$d_printf_format_null PRINTF_FORMAT_NULL_OK /**/
?H:?%<:#$d_attribute_noreturn HASATTRIBUTE_NORETURN /**/
?H:?%<:#$d_attribute_malloc HASATTRIBUTE_MALLOC /**/
?H:?%<:#$d_attribute_nonnull HASATTRIBUTE_NONNULL /**/
?H:?%<:#$d_attribute_pure HASATTRIBUTE_PURE /**/
?H:?%<:#$d_attribute_unused HASATTRIBUTE_UNUSED /**/
?H:?%<:#$d_attribute_warn_unused_result HASATTRIBUTE_WARN_UNUSED_RESULT /**/
?H:.
?F:!attrib !attrib.out !attrib.c
?LINT:set d_attribute_deprecated
?LINT:set d_attribute_format
?LINT:set d_printf_format_null
?LINT:set d_attribute_malloc
?LINT:set d_attribute_nonnull
?LINT:set d_attribute_noreturn
?LINT:set d_attribute_pure
?LINT:set d_attribute_unused
?LINT:set d_attribute_warn_unused_result
: Look for GCC-style attribute format
case "$d_attribute_format" in
")
echo
 " "
echo "Checking whether your compiler can handle __attribute__((format)) ..." >&4
$cat >attrib.c <<'EOCP'
#include <stdio.h>
void my_special_printf(char* pat,...) __attribute__((__format__(__printf__,1,2)));
EOCP
if $cc $ccflags -c attrib.c >attrib.out 2>&1 ; then
 if $contains 'warning' attrib.out >/dev/null 2>&1; then
  echo "Your C compiler doesn't support __attribute__((format))."
  val="$undef"
 else
  echo "Your C compiler supports __attribute__((format))."
  val="$define"
 fi
else
 echo "Your C compiler doesn't seem to understand __attribute__ at all."
 val="$undef"
fi
;;
*) val="$d_attribute_format" ;;
esac
set d_attribute_format
eval $setvar
$rm -f attrib*
```

```
: Look for GCC-style attribute format with null format allowed
case "$d_printf_format_null" in
") case "$d_attribute_format" in
   $define)
 echo " "
 echo "Checking whether your compiler allows __printf__ format to be null ..." >&4
$cat >attrib.c <<EOCP
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include
 <stdlib.h>
#endif
int null_printf (char* pat,...) __attribute__((__format__(__printf__,1,2)));
int null_printf (char* pat,...) { return (int)pat; }
int main () { exit(null_printf(NULL)); }
EOCP
 if $cc $ccflags -o attrib attrib.c >attrib.out 2>&1 ; then
     : run the executable in case it produces a run-time warning
     if $run ./attrib >>attrib.out 2>&1; then
  if $contains 'warning' attrib.out >/dev/null 2>&1; then
      echo "Your C compiler doesn't allow __printf__ format to be null."
      val="$undef"
  else
      echo "Your C compiler allows __printf__ format to be null."
      val="$define"
  fi
     else
     echo "Your C compiler executable failed with __printf__ format null."
     val="$undef"
 fi
   else
 echo "Your C compiler fails with __printf__ format null."
 val="$undef"
   fi
   ;;
   *)  val="$undef" ;;
   esac
;;
*)  val="$d_printf_format_null" ;;
esac
set d_printf_format_null
eval $setvar
$rm -f attrib*

: Look for GCC-style attribute malloc
case "$d_attribute_malloc"
```

```
 in
")
echo " "
echo "Checking whether your compiler can handle __attribute__((malloc)) ..." >&4
$cat >attrib.c <<'EOCP'
#include <stdio.h>
char *go_get_some_memory( int how_many_bytes ) __attribute__((malloc));
EOCP
if $cc $ccflags -c attrib.c >attrib.out 2>&1 ; then
 if $contains 'warning' attrib.out >/dev/null 2>&1; then
  echo "Your C compiler doesn't support __attribute__((malloc))."
  val="$undef"
 else
  echo "Your C compiler supports __attribute__((malloc))."
  val="$define"
 fi
else
 echo "Your C compiler doesn't seem to understand __attribute__ at all."
 val="$undef"
fi
;;
*) val="$d_attribute_malloc" ;;
esac
set d_attribute_malloc
eval $setvar
$rm -f attrib*

: Look for GCC-style attribute nonnull
case "$d_attribute_nonnull" in
")
echo " "
echo "Checking whether your compiler can handle __attribute__((nonnull(1))) ..." >&4
$cat >attrib.c <<'EOCP'
#include <stdio.h>
void do_something (char *some_pointer,...) __attribute__((nonnull(1)));
EOCP
if $cc $ccflags -c attrib.c
 >attrib.out 2>&1 ; then
 if $contains 'warning' attrib.out >/dev/null 2>&1; then
  echo "Your C compiler doesn't support __attribute__((nonnull))."
  val="$undef"
 else
  echo "Your C compiler supports __attribute__((nonnull))."
  val="$define"
 fi
else
 echo "Your C compiler doesn't seem to understand __attribute__ at all."
 val="$undef"
```

```
fi
;;
*) val="$d_attribute_nonnull" ;;
esac
set d_attribute_nonnull
eval $setvar
$rm -f attrib*

: Look for GCC-style attribute noreturn
case "$d_attribute_noreturn" in
")
echo " "
echo "Checking whether your compiler can handle __attribute__((noreturn)) ..." >&4
$cat >attrib.c <<'EOCP'
#include <stdio.h>
void fall_over_dead( void ) __attribute__((noreturn));
EOCP
if $cc $ccflags -c attrib.c >attrib.out 2>&1 ; then
 if $contains 'warning' attrib.out >/dev/null 2>&1; then
  echo "Your C compiler doesn't support __attribute__((noreturn))."
  val="$undef"
 else
  echo "Your C compiler supports __attribute__((noreturn))."
  val="$define"
 fi
else
 echo
 "Your C compiler doesn't seem to understand __attribute__ at all."
 val="$undef"
fi
;;
*) val="$d_attribute_noreturn" ;;
esac
set d_attribute_noreturn
eval $setvar
$rm -f attrib*

: Look for GCC-style attribute pure
case "$d_attribute_pure" in
")
echo " "
echo "Checking whether your compiler can handle __attribute__((pure)) ..." >&4
$cat >attrib.c <<'EOCP'
#include <stdio.h>
int square( int n ) __attribute__((pure));
EOCP
if $cc $ccflags -c attrib.c >attrib.out 2>&1 ; then
 if $contains 'warning' attrib.out >/dev/null 2>&1; then
```

```
 echo "Your C compiler doesn't support __attribute__((pure))."
 val="$undef"
else
 echo "Your C compiler supports __attribute__((pure))."
 val="$define"
fi
else
 echo "Your C compiler doesn't seem to understand __attribute__ at all."
 val="$undef"
fi
;;
*) val="$d_attribute_pure" ;;
esac
set d_attribute_pure
eval $setvar
$rm -f attrib*

: Look for GCC-style attribute unused
case "$d_attribute_unused" in
")
echo " "
echo "Checking whether your compiler
 can handle __attribute__((unused)) ..." >&4
$cat >attrib.c <<'EOCP'
#include <stdio.h>
int do_something( int dummy __attribute__((unused)), int n );
EOCP
if $cc $ccflags -c attrib.c >attrib.out 2>&1 ; then
 if $contains 'warning' attrib.out >/dev/null 2>&1; then
  echo "Your C compiler doesn't support __attribute__((unused))."
  val="$undef"
 else
  echo "Your C compiler supports __attribute__((unused))."
  val="$define"
 fi
else
 echo "Your C compiler doesn't seem to understand __attribute__ at all."
 val="$undef"
fi
;;
*) val="$d_attribute_unused" ;;
esac
set d_attribute_unused
eval $setvar
$rm -f attrib*

: Look for GCC-style attribute deprecated
case "$d_attribute_deprecated" in
```

```
")
echo " "
echo "Checking whether your compiler can handle __attribute__((deprecated)) ..." >&4
$cat >attrib.c <<'EOCP'
#include <stdio.h>
int I_am_deprecated(void) __attribute__((deprecated));
EOCP
if $cc $ccflags -c attrib.c >attrib.out 2>&1 ; then
 if $contains 'warning' attrib.out >/dev/null 2>&1;
 then
  echo "Your C compiler doesn't support __attribute__((deprecated))."
  val="$undef"
 else
  echo "Your C compiler supports __attribute__((deprecated))."
  val="$define"
 fi
else
 echo "Your C compiler doesn't seem to understand __attribute__ at all."
 val="$undef"
fi
;;
*) val="$d_attribute_deprecated" ;;
esac
set d_attribute_deprecated
eval $setvar
$rm -f attrib*

: Look for GCC-style attribute warn_unused_result
case "$d_attribute_warn_unused_result" in
")
echo " "
echo "Checking whether your compiler can handle __attribute__((warn_unused_result)) ..." >&4
$cat >attrib.c <<'EOCP'
#include <stdio.h>
int I_will_not_be_ignored(void) __attribute__((warn_unused_result));
EOCP
if $cc $ccflags -c attrib.c >attrib.out 2>&1 ; then
 if $contains 'warning' attrib.out >/dev/null 2>&1; then
  echo "Your C compiler doesn't support __attribute__((warn_unused_result))."
  val="$undef"
 else
  echo "Your C compiler supports __attribute__((warn_unused_result))."
  val="$define"
 fi
else
 echo
 "Your C compiler doesn't seem to understand __attribute__ at all."
 val="$undef"
```

```
fi
;;
*) val="$d_attribute_warn_unused_result" ;;
esac
set d_attribute_warn_unused_result
eval $setvar
$rm -f attrib*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_attribut.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: dup2.C,v 3.0.1.1 1994/01/24 13:58:37 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* Original Author: Larry Wall <lwall@netlabs.com>
*
* $Log: dup2.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:37  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/C/fake/dup2.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_llseek: Inlibc
?MAKE: -pick add $@ %<
?S:d_llseek:
?S: This variable conditionally defines the HAS_LLSEEK symbol, which
?S: indicates to the C program that the llseek() routine is available.
?S:.
```

```
?C:HAS_LLSEEK:
?C: This symbol, if defined, indicates that the llseek routine is
?C: available to seek files larger than 2 gigabytes.
?C:.
?H:#$d_llseek HAS_LLSEEK  /**/
?H:.
?LINT:set d_llseek
: see if llseek exists
set llseek d_llseek
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_llseek.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_perlio.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_perlio.U,v $
?RCS:
?MAKE:useperlio: Myread Oldconfig Setvar
?MAKE: -pick add $@ %<
?Y:TOP
?S:useperlio:
?S: This variable conditionally defines the USE_PERLIO symbol,
?S: and indicates that the PerlIO abstraction should be
?S: used throughout.
?S:.
?C:USE_PERLIO:
?C: This symbol, if defined, indicates that the PerlIO abstraction should
?C: be used throughout.  If not defined, stdio should be
?C: used in a fully backward compatible manner.
?C:.
?H:?%<:#ifndef USE_PERLIO
?H:?%<:#$useperlio USE_PERLIO  /**/
?H:?%<:#endif
?H:.
: Check if we want perlio
useperlio="$define"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/useperlio.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Loc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:04:16  ram
?RCS: patch61: allow users to specify paths on the command line
?RCS: patch61: will now substitute cp for ln if not supported
?RCS:
?RCS: Revision 3.0.1.9  1995/09/25  09:11:24  ram
?RCS: patch59: commented the purpose of the #un-def directive
?RCS: patch59: abort Configure run when mandatory command is missing
?RCS:
?RCS: Revision 3.0.1.8  1995/07/25  13:40:40  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.7
 1995/01/11  15:13:37  ram
?RCS: patch45: protected "sh -c" within backquotes for Linux and SGI
?RCS: patch45: added path lookup for the 'comm' program
?RCS:
?RCS: Revision 3.0.1.6  1994/10/29  15:56:14  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: be careful and guard against wildcard searching (ADO)
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  06:54:55  ram
?RCS: patch30: now locates find
?RCS:
?RCS: Revision 3.0.1.4  1994/05/13  15:18:15  ram
?RCS: patch27: added byacc to the trylist (ADO)
?RCS: patch27: lint lines reformatted (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:01:44  ram
?RCS: patch16: added metalint hint on changed PATH variable
?RCS:
?RCS: Revision 3.0.1.2  1993/12/15  08:16:52  ram
?RCS: patch15: now set _test variable when test is built-in
?RCS: patch15: fixed rare cases where echo is not needed
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  15:47:13  ram
?RCS: patch10: test program not always in /bin/test (WAD)
?RCS:

```
?RCS: Revision
 3.0  1993/08/18  12:05:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script "loc" which can be used to find out
?X: where in a list of directories something is.  It then uses loc to
?X: determine the location of commonly used programs.  It leaves loc sitting
?X: around for other Configure units to use, but arranges for its demise
?X: at the end of Configure.
?X:
?X: To add a new program to find, add it both to the ?MAKE: line and to either
?X: the loclist or trylist variable.
?X:
?X: I put startsh at the end of the dependency list, in order to avoid the
?X: loading of the spitshell unit before the instructions.
?X:
?MAKE:Loc awk ar bash bison byacc cat chgrp chmod chown \
 comm compress cp cpio cpp csh date echo egrep emacs expr find flex \
 gmake gzip grep inews ksh less line lint ln lp lpr ls mail mailx \
 make mkdir more mv nm nroff perl pg pmake pr rm rmail sed sendmail \
 shar sleep smail sort submit tail tar tbl tee test touch tr troff
 \
 uname uniq uuname vi zcat zip:  eunicefix n c startsh Instruct Warn
?MAKE: -pick weed $@ %<
?LINT:describe awk ar bash bison byacc cat chgrp chmod chown \
 comm compress cp cpio cpp csh date echo egrep emacs expr find flex \
 gmake gzip grep inews ksh less line lint ln lp lpr ls mail mailx \
 make mkdir more mv nm nroff perl pg pmake pr rm rmail sed sendmail \
 shar sleep smail sort submit tail tar tbl tee test touch tr troff \
 uname uniq uuname vi zcat zip
?V::pth loclist trylist
?F:./loc
?T:thisthing thing xxx dir file say DJGPP
?T:_test _grep _cp _gmake _egrep _ln _make dflt
?LINT: change PATH
: find out where common programs are
echo " "
echo "Locating common programs..." >&4
cat <<EOSC >loc
$startsh
case \$# in
0) exit 1;;
esac
thing=\$1
shift
dflt=\$1
shift
```

```
for dir in \$*; do
 case "\$thing" in
 .)
 if test -d \$dir/\$thing; then
  echo \$dir
  exit 0
 fi
 ;;
 *)
?X: Be careful in case thing includes wildcards that might expand to multiple
?X: files.  Choose the last one.
  This happens when searching for shared
?X: libraries with version numbers.  How to choose which one we want is
?X: probably an insoluble problem, in general.
?X: Some folks leave things like libc.so.orig around w/o read
?X: permission.  A -r test would handle that, but since ./loc is
?X: also used to find executables (which are installed w/o read
?X: permission on SCO ODT 3.0, we can't include the -r test.
 for thisthing in \$dir/\$thing; do
  : just loop through to pick last item
 done
 if test -f \$thisthing; then
  echo \$thisthing
  exit 0
 elif test -f \$thisthing$_exe; then
  echo \$thisthing
  exit 0
 elif test -f \$dir/\$thing.exe; then
  if test -n "$DJGPP"; then
   echo \$dir/\$thing.exe
  else
   : on Eunice apparently
   echo \$dir/\$thing
  fi
  exit 0
 fi
 ;;
 esac
done
echo \$dflt
exit 1
EOSC
chmod +x loc
$eunicefix loc
loclist="
?awk:awk
?cat:cat
?chgrp:chgrp
```

?chmod:chmod
?chown:chown
?comm:comm
?cp:cp
?echo:echo
?expr:expr
?find:find
?grep:grep
?ls:ls
?mkdir:mkdir
?mv:mv
?rm:rm
?sed:sed
?sleep:sleep
?sort:sort
?tail:tail
?touch:touch
?tr:tr
?uniq:uniq
"
trylist="
?Mcc:Mcc
?ar:ar
?bash:bash
?bison:bison
?byacc:byacc
?compress:compress
?cpio:cpio
?cpp:cpp
?csh:csh
?date:date
?egrep:egrep
?emacs:emacs
?flex:flex
?gmake:gmake
?gzip:gzip
?inews:inews
?ksh:ksh
?less:less
?line:line
?lint:lint
?ln:ln
?lp:lp
?lpr:lpr
?mail:mail
?mailx:mailx
?make:make
?more:more

```
?nm:nm
?nroff:nroff
?perl:perl
?pg:pg
?pmake:pmake
?pr:pr
?rmail:rmail
?sendmail:sendmail
?shar:shar
?smail:smail
?submit:submit
?tar:tar
?tbl:tbl
?tee:tee
?test:test
?troff:troff
?uname:uname
?uuname:uuname
?vi:vi
?zcat:zcat
?zip:zip
"
?LINT:set
 awk ar bash bison byacc cat chgrp chmod chown \
 comm compress cp cpio cpp csh date echo emacs expr find flex \
 gmake gzip grep inews ksh less line lint lp lpr ls mail mailx \
 mkdir more mv nm nroff perl pg pmake pr rm rmail sed sendmail \
 shar sleep smail sort submit tail tar tbl tee touch tr troff \
 uname uniq uuname vi zcat zip
pth=`echo $PATH | sed
 -e "s/$p_/ /g"`
pth="$pth /lib /usr/lib"
for file in $loclist; do
?X:
?X: Allow them to -Dmake=pmake on the command line for instance...
?X: If the file is not fully qualified, as in -Dmake=pmake, then we
?X: look the for the specified command (pmake here). If they say
?X: -Dmake=/sbin/make for instance, then we make sure the file
?X: exists, or we die...
?X:
 eval xxx=\$$file
 case "$xxx" in
 /*|?:[\/]*)
  if test -f "$xxx"; then
   : ok
  else
   ./warn "no $xxx -- ignoring your setting for $file."
   xxx=`./loc $file $file $pth`
```

```
 fi
 ;;
") xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
 echo $file is in $xxx.
 ;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
 echo $file is in $xxx.
 ;;
*)
 echo "I don't know where '$file' is, and my life depends on it." >&4
 echo "Go find a public domain implementation or fix your PATH setting!" >&4
 exit 1
 ;;
esac
done
echo " "
echo "Don't worry
 if any of the following aren't found..."
say=offhand
for file in $trylist; do
?X: Allow them to -Dmake=pmake on the command line for instance (see above)
 eval xxx=\$$file
 case "$xxx" in
 /*|?:[\\/]*)
  if test -f "$xxx"; then
   : ok
  else
   ./warn "no $xxx -- ignoring your setting for $file."
   xxx=`./loc $file $file $pth`
  fi
  ;;
 ") xxx=`./loc $file $file $pth`;;
 *) xxx=`./loc $xxx $xxx $pth`;;
 esac
 eval $file=$xxx$_exe
 eval _$file=$xxx
 case "$xxx" in
 /*)
  echo $file is in $xxx.
  ;;
?X: Under OS/2, we have PC-like paths
```

```
?:[\\/]*)
 echo $file is in $xxx.
 ;;
*)
 echo "I don't see $file out there, $say."
 say=either
 ;;
 esac
done
case "$egrep" in
egrep)
 echo "Substituting grep for egrep."
 egrep=$grep
 _egrep=$_grep
 ;;
esac
@if ln
case "$ln" in
ln)
 echo "Substituting cp for ln."
 ln=$cp
 _ln=$_cp
 ;;
esac
@end
@if make || gmake
case "$make" in
make)
 case "$gmake" in
 gmake)
 echo "I can't find make or gmake, and my life depends on it." >&4
 echo "Go find a
 public domain implementation or fix your PATH setting!" >&4
 exit 1
 ;;
 esac
 ;;
esac
case "$gmake" in
gmake) ;;
*) # We can't have osname yet.
 if test -f "/system/gnu_library/bin/ar.pm"; then # Stratus VOS
  # Assume that gmake, if found, is definitely GNU make
  # and prefer it over the system make.
  echo "Substituting gmake for make."
  make=$gmake
  _make=$_gmake
 fi
```

```
 ;;
esac
@end
case "$test" in
test)
 echo "Hopefully test is built into your sh."
 ;;
*)
 if `sh -c "PATH= test true" >/dev/null 2>&1`; then
  echo "Using the test built into your sh."
?X:
?X: We need to set both test and _test, since Oldconfig.U will use the _test
?X: value to systematically restore computed paths, which may be wrong if
?X: we choose to load an old config.sh generated on another platform.
?X:
  test=test
  _test=test
 fi
 ;;
esac
?LINT:change n c
case "$echo" in
echo)
 echo "Hopefully echo is built into your sh."
 ;;
?X: For those rare cases where we don't need $echo...
") ;;
*)
 echo " "
echo "Checking
 compatibility between $echo and builtin echo (if any)..." >&4
 $echo $n "hi there$c" >foo1
 echo $n "hi there$c" >foo2
 if cmp foo1 foo2 >/dev/null 2>&1; then
  echo "They are compatible.  In fact, they may be identical."
 else
  case "$n" in
  '-n') n='' c='\c';;
  *) n='-n' c='';;
  esac
  cat <<FOO
They are not compatible!  You are probably running ksh on a non-USG system.
I'll have to use $echo instead of the builtin, since Bourne shell doesn't
have echo built in and we may have to run some Bourne shell scripts.  That
means I'll have to use '$n$c' to suppress newlines now.  Life is ridiculous.

FOO
  $echo $n "The star should be here-->$c"
```

```
 $echo "*"
fi
$rm -f foo1 foo2
;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Loc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_systable.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_systable.U,v $
?RCS: Revision 3.0.1.1  1993/10/16  13:50:20  ram
?RCS: patch12: created
?RCS:
?RCS:
?MAKE:i_systable: Inhdr
?MAKE: -pick add $@ %<
?S:i_systable:
?S: This variable conditionally defines the I_SYS_TABLE symbol, and
?S: indicates whether a C program should include <sys/table.h>.
?S:.
?C:I_SYS_TABLE:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/table.h> for the OSF/1 table() system call.
?C:.
?H:#$i_systable
 I_SYS_TABLE  /**/
?H:.
?LINT:set i_systable
: see if this is an OSF sys/table system
set sys/table.h i_systable
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_systable.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_syslog.U 1 2006-08-24 12:32:52Z rmanfredi $
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_syslog.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:46:56  ram
?RCS: patch61: replaced .o with $_o all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:43  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_syslog: test Csym Setvar Findhdr
?MAKE: -pick add $@ %<
?S:d_syslog:
?S: This variable conditionally defines the HAS_SYSLOG symbol, which
?S: indicates to the C program that syslog() exists on this system.
?S:.
?C:HAS_SYSLOG
 (LIBSYSLOG):
?C: This symbol, if defined, indicates that the program can rely on the
?C: system providing syslog().  Otherwise, the syslog code provided by
?C: the package should be used.
?C:.
?H:#$d_syslog HAS_SYSLOG /**/
?H:.
?LINT:set d_syslog
: see if syslog is available
echo " "
if $test `./findhdr syslog.h` && \
 (set syslog val -f d_syslog; eval $csym; $val); then
 echo "syslog() found." >&4
 val="$define"
else
 echo "syslog() not found in your C library." >&4
 val="$undef"
fi
set d_syslog
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_syslog.U
No license file was found, but licenses were detected in source scan.
```

```
?RCS: $Id: d_gethid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_gethid.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:10  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_gethid: Inlibc
?MAKE: -pick add $@ %<
?S:d_gethid:
?S: This variable conditionally defines HAS_GETHOSTID if gethostid() is
?S: available to get the host id.
?S:.
?C:HAS_GETHOSTID (GETHOSTID):
?C: This symbol, if defined, indicates that the gethostid system call is
?C: available to get the host id.
?C:.
?H:#$d_gethid HAS_GETHOSTID  /**/
?H:.
?LINT:set
 d_gethid
: see if gethid exists
set gethostid d_gethid
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_gethid.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_dlfcn.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
```

```
?RCS: $Log: i_dlfcn.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:21:53  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:i_dlfcn: Inhdr
?MAKE: -pick add $@ %<
?S:i_dlfcn:
?S: This variable conditionally defines the I_DLFCN symbol, which
?S: indicates to the C program that <dlfcn.h> exists and should
?S: be included.
?S:.
?C:I_DLFCN:
?C: This symbol, if defined, indicates that <dlfcn.h> exists
 and should
?C: be included.
?C:.
?H:#$i_dlfcn I_DLFCN  /**/
?H:.
?LINT:set i_dlfcn
: see if dlfcn is available
set dlfcn.h i_dlfcn
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_dlfcn.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: errnolist.U,v 3.0.1.2 1997/02/28 15:48:01 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: errnolist.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:48:01  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:10:54  ram
?RCS: patch16: created
?RCS:
?MAKE:errnolist errnolist_SH errnolist_a errnolist_c errnolist_o: cat \
 Compile +d_sysernlst _a _o
?MAKE: -pick add $@ %<
```

```
?S:errnolist:
?S: This variable holds the base name of a file containing the
?S: definition
 of the sys_errnolist array, if the C library
?S: doesn't provide it already.  Otherwise, its value is empty.
?S: The following lines should be included in your Makefile.SH:
?S:
?S:  case "$errnolist" in
?S:  '') ;;
?S:  *)
?S:   $spitshell >>Makefile <<!GROK!THIS!
?S:  $errnolist_c: $errnolist_SH $errnolist_a
?S:   sh ./$errnolist_SH
?S:
?S:  !GROK!THIS!
?S:   ;;
?S:  esac
?S:
?S: You may define the 'errnolist' variable in your Myinit.U if you
?S: wish to override its default value "errnolist".
?S:.
?S:errnolist_SH:
?S: This is the name of a file which will generate errnolistc.
?S:.
?S:errnolist_a:
?S: This is the name of the awk script called by errnolist_SH.
?S:.
?S:errnolist_c:
?S: This is the name of a generated C file which provides the
?S: definition of the sys_errnolist array.
?S:.
?S:errnolist_o:
?S: This is the name of the object file which provides the
?S: definition of the sys_errnolist array, if the C library
?S: doesn't provide it already.  Otherwise, its value is
 empty.
?S:.
?INIT:errnolist=errnolist
: check for sys_errnolist
@if d_sysernlst || HAS_SYS_ERRNOLIST
case "$d_sysernlst" in
"$define")
  errnolist=''
  errnolist_SH=''
  errnolist_a=''
  errnolist_c=''
  errnolist_o=''
 ;;
```

```
*)
 echo " "
 echo "I'll make sure your Makefile provides sys_errnolist in $errnolist.c"
   errnolist_SH=$errnolist.SH
   errnolist_a=$errnolist$_a
   errnolist_c=$errnolist.c
   errnolist_o=$errnolist$_o
 ;;
esac
@else
echo " "
$cat <<EOM
Checking to see if your C library provides us with sys_errnolist[]...
EOM
$cat >errnolist.c <<'EOCP'
extern char *sys_errnolist[];
int main() {
   char *p0 = sys_errnolist[0];
   char *p1 = sys_errnolist[1];

   return (p0 == p1); /* Make sure they're not optimized away */
}
EOCP
set errnolist
if eval $compile; then
   echo "It does."
   errnolist="
   errnolist_SH="
   errnolist_a="
   errnolist_c="
   errnolist_o="
else
 echo "I'll make sure your Makefile provides sys_errnolist in $errnolist.c"
   errnolist_SH=$errnolist.SH
    errnolist_a=$errnolist$_a
   errnolist_c=$errnolist.c
   errnolist_o=$errnolist$_o
fi
@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/errnolist.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
```

```
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:i_machcthr: Inhdr usethreads
?MAKE: -pick add $@ %<
?S:i_machcthr:
?S:     This variable conditionally defines the I_MACH_CTHREADS symbol,
?S:     and indicates whether a C program should include <mach/cthreads.h>.
?S:.
?C:I_MACH_CTHREADS:
?C:     This symbol, if defined, indicates to the C program that it should
?C:     include <mach/cthreads.h>.
?C:.
?H:#$i_machcthr   I_MACH_CTHREADS /**/
?H:.
: see if mach cthreads are available
if test "X$usethreads" = "X$define"; then
 set mach/cthreads.h i_machcthr
 eval $inhdr
else
 i_machcthr="$undef"
fi

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/i_machcthr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: installstyle.U,v 1.2 1999/07/13 14:56:06 doughera Exp $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: installstyle.U,v $
?RCS: Revision 1.2  1999/07/13 14:56:06  doughera
?RCS: Fix dependencies.  Add more comments.
?RCS:
?RCS: Revision 1.1  1999/07/12 17:30:41  doughera
?RCS: Initial revision
?RCS:
```

```
?RCS:
?MAKE:installstyle: prefix Myread
?MAKE: -pick add $@ %<
?X: Myread dependence is for dflt.
?S:installstyle:
?S: This variable describes the "style" of the perl installation.
?S: This is intended to be useful for tools that need to
?S: manipulate entire perl
 distributions.  Perl itself doesn't use
?S: this to find its libraries -- the library directories are
?S: stored directly in Config.pm.  Currently, there are only two
?S: styles:  "lib" and "lib/perl5".  The default library locations
?S: (e.g. privlib, sitelib) are either $prefix/lib or
?S: $prefix/lib/perl5.  The former is useful if $prefix is a
?S: directory dedicated to perl (e.g. /opt/perl), while the latter
?S: is useful if $prefix is shared by many packages, e.g. if
?S: $prefix=/usr/local.
?S:
?S: Unfortunately, while this "style" variable is used to set
?S: defaults for all three directory hierarchies (core, vendor, and
?S: site), there is no guarantee that the same style is actually
?S: appropriate for all those directories.  For example, $prefix
?S: might be /opt/perl, but $siteprefix might be /usr/local.
?S: (Perhaps, in retrospect, the "lib" style should never have been
?S: supported, but it did seem like a nice idea at the time.)
?S:
?S: The situation is even less clear for
 tools such as MakeMaker
?S: that can be used to install additional modules into
?S: non-standard places.  For example, if a user intends to install
?S: a module into a private directory (perhaps by setting PREFIX on
?S: the Makefile.PL command line), then there is no reason to
?S: assume that the Configure-time $installstyle setting will be
?S: relevant for that PREFIX.
?S:
?S: This may later be extended to include other information, so
?S: be careful with pattern-matching on the results.
?S:
?S: For compatibility with perl5.005 and earlier, the default
?S: setting is based on whether or not $prefix contains the string
?S: "perl".
?S:.
: determine installation style
: For now, try to deduce it from prefix unless it is already set.
: Reproduce behavior of 5.005 and earlier, maybe drop that in 5.7.
case "$installstyle" in
'') case "$prefix" in
  *perl*) dflt='lib';;
```

```
  *) dflt='lib/perl5' ;;
 esac
 ;;
*) dflt="$installstyle" ;;
esac
: Probably not worth prompting for this since we prompt
 for all
: the directories individually, and the prompt would be too long and
: confusing anyway.
installstyle=$dflt
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/installstyle.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: scriptdir.U,v 3.1 1999/07/09 18:20:13 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: scriptdir.U,v $
?RCS: Revision 3.1  1999/07/09 18:20:13  doughera
?RCS: Updated for installprefix
?RCS:
?RCS: Revision 3.0.1.3  1995/09/25  09:17:15  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:46:13  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:32:04  ram
?RCS: patch32: now uses installation prefix
?RCS:
?RCS:
 Revision 3.0  1993/08/18  12:09:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:scriptdir scriptdirexp installscript: cat test Getfile Loc \
 Oldconfig +bin Prefixit Setprefixvar prefixexp Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?D:scriptdir="
?S:scriptdir:
```

```
?S: This variable holds the name of the directory in which the user wants
?S: to put publicly scripts for the package in question.  It is either
?S: the same directory as for binaries, or a special one that can be
?S: mounted across different architectures, like /usr/share. Programs
?S: must be prepared to deal with ~name expansion.
?S:.
?D:scriptdirexp="
?S:scriptdirexp:
?S: This variable is the same as scriptdir, but is filename expanded
?S: at configuration time, for programs not wanting to bother with it.
?S:.
?S:installscript:
?S: This variable is usually the same as scriptdirexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable
 within your makefiles for portability.
?S:.
?C:SCRIPTDIR:
?C: This symbol holds the name of the directory in which the user wants
?C: to put publicly executable scripts for the package in question.  It
?C: is often a directory that is mounted across diverse architectures.
?C: Programs must be prepared to deal with ~name expansion.
?C:.
?C:SCRIPTDIR_EXP:
?C: This is the same as SCRIPTDIR, but is filename expanded at
?C: configuration time, for use in programs not prepared to do
?C: ~name substitutions at run-time.
?C:.
?H:#define SCRIPTDIR "$scriptdir" /**/
?H:#define SCRIPTDIR_EXP "$scriptdirexp" /**/
?H:.
?T:installscriptdir
?LINT:change prefixvar
?LINT:set scriptdir
?LINT:set scriptdirexp
: determine where public executable scripts go
set scriptdir scriptdir
eval $prefixit
case "$scriptdir" in
")
 dflt="$bin"
 : guess some guesses
 $test -d /usr/share/scripts && dflt=/usr/share/scripts
 $test -d /usr/share/bin     && dflt=/usr/share/bin
 $test -d /usr/local/script  && dflt=/usr/local/script
 $test
 -d /usr/local/scripts && dflt=/usr/local/scripts
 $test -d $prefixexp/script  && dflt=$prefixexp/script
```

```
 set dflt
 eval $prefixup
 ;;
*)  dflt="$scriptdir"
 ;;
esac
$cat <<EOM

Some installations have a separate directory just for executable scripts so
that they can mount it across multiple architectures but keep the scripts in
one spot.  You might, for example, have a subdirectory of /usr/share for this.
Or you might just lump your scripts in with all your other executables.

EOM
fn=d~
rp='Where do you keep publicly executable scripts?'
. ./getfile
if $test "X$ansexp" != "X$scriptdirexp"; then
 installscript="
fi
installscriptdir="
prefixvar=scriptdir
. ./setprefixvar
: A little fix up for an irregularly named variable.
installscript="$installscriptdir"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/scriptdir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_assert.U,v $
?RCS:
?RCS: Copyright (c) 2007 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_assert: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_assert:
?S: This variable conditionally defines the I_ASSERT symbol, which
?S: indicates to the C program that <assert.h> exists and could be
?S: included.
?S:.
?C:I_ASSERT:
?C: This symbol, if defined, indicates that <assert.h> exists and
?C: could be included by the C program to get the assert() macro.
?C:.
```

```
?H:#$i_assert I_ASSERT  /**/
?H:.
?LINT:set i_assert
: see if this is a assert.h system
set assert.h i_assert
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_assert.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: End.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit serves as the goal which forces make to choose all the units that
?X: ask questions.  The $W on the ?MAKE: line is the list of all symbols wanted.
?X: To force any unit to be included, copy this unit to your private U directory
?X: and add the name of the unit desired to the ?MAKE: dependency line.
?X:
?MAKE:End: $W
?MAKE: -pick add $@ %<
?LINT:use $W
: end of configuration
 questions
echo " "
echo "End of configuration questions."
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/End.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Configdir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Configdir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  14:58:36  ram
?RCS: patch61: have README explicitly mention the package name
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Configdir: package
?MAKE: -pick add $@ %<
: create .config dir to save info across Configure sessions
test -d ../.config || mkdir ../.config
cat >../.config/README <<EOF
This directory created by Configure to save
 information that should
persist across sessions for $package.

You may safely delete it if you wish.
EOF

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Configdir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_class: Inlibc
?MAKE: -pick add $@ %<
?S:d_class:
?S: This variable conditionally defines the HAS_CLASS symbol, which
?S: indicates to the C program that the class() routine is available.
?S:.
?C:HAS_CLASS:
?C: This symbol, if defined, indicates that the class routine is
?C: available to classify doubles.  Available for example in AIX.
?C: The returned values are defined in <float.h> and are:
?C:
?C: FP_PLUS_NORM Positive normalized, nonzero
?C: FP_MINUS_NORM Negative normalized, nonzero
```

?C: FP_PLUS_DENORM Positive denormalized, nonzero
?C: FP_MINUS_DENORM Negative denormalized, nonzero
?C: FP_PLUS_ZERO +0.0
?C: FP_MINUS_ZERO -0.0
?C: FP_PLUS_INF +INF
?C: FP_MINUS_INF -INF
?C: FP_NANS  Signaling
 Not a Number (NaNS)
?C: FP_NANQ  Quiet Not a Number (NaNQ)
?C:.
?H:#$d_class HAS_CLASS  /**/
?H:.
?LINT:set d_class
: see if class exists
set class d_class
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_class.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fdim: Inlibc
?MAKE: -pick add $@ %<
?S:d_fdim:
?S: This variable conditionally defines the HAS_FDIM symbol, which
?S: indicates to the C program that the fdim() routine is available.
?S:.
?C:HAS_FDIM:
?C: This symbol, if defined, indicates that the fdim routine is
?C: available to do the positive difference function.
?C:.
?H:#$d_fdim HAS_FDIM  /**/
?H:.
?LINT:set d_fdim
: see if fdim exists
set fdim d_fdim
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fdim.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS:
?X:
?X: This unit is just a quick shorthand for the compile command
?X: to be used in all the other metaconfig units.
?X:
?MAKE:Compile: +cc +optimize +ccflags +ldflags +libs
?MAKE: -pick add $@ %<
?LINT:define compile compile_ok
?V:compile compile_ok mc_file
?S:compile:
?S: This shell variable is used internally
 by Configure to provide
?S: a convenient shorthand for the typical compile command, namely
?S: $cc $optimize $ccflags $ldflags -o $1 $1.c $libs > /dev/null 2>&1
?S: Note that the output filename does _not_ include the _exe
?S: extension.  Instead we assume that the linker will be
?S: "helpful" and automatically appending the correct suffix.
?S: OS/2 users will apparently need to supply the -Zexe flag to
?S: get this behavior.
?S:
?S: To use this variable, say something like:
?S:  echo 'int main() { exit(0); }' > try.c
?S:  set try
?S:  if eval $compile; then
?S:   echo "success"   # and do whatever . . .
?S:  else
?S:   echo "failure"   # and do whatever . . .
?S:  fi
?S: To add extra flags cc flags (e.g. -DWHATEVER) just put them
?S: in $*, e.g.
?S:  set try -DTRY_THIS_FLAG
?S:.
?S:compile_ok:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command that you
?S: expect to work ok.  It is the same as $compile,
```

```
 except we
?S: deliberately let the user see any error messages.
?S:.
: define a shorthand compile call
compile='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
: define a shorthand compile call for compilations that should be ok.
compile_ok='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs;'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Compile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Compile.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS:
?X:
?X: This unit is just a quick shorthand for the compile command
?X: to be used in all the other metaconfig units.
?X:
?MAKE:Compile: +cc +optimize +ccflags +ldflags +libs test
?MAKE: -pick add $@ %<
?LINT:extern usedevel
?LINT:define compile compile_ok
?V:compile compile_ok mc_file
?S:compile:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command, namely
?S: $cc $optimize $ccflags $ldflags -o $1 $1.c $libs > /dev/null 2>&1
?S: Note that the output filename does _not_ include the _exe
?S: extension.  Instead we assume that the linker will be
?S: "helpful" and automatically appending the correct suffix.
?S: OS/2 users
 will apparently need to supply the -Zexe flag to
?S: get this behavior.
?S:
?S: To use this variable, say something like:
?S:  echo 'int main() { exit(0); }' > try.c
```

```
?S:  set try
?S:  if eval $compile; then
?S:   echo "success"   # and do whatever . . .
?S:  else
?S:   echo "failure"   # and do whatever . . .
?S:  fi
?S: To add extra flags cc flags (e.g. -DWHATEVER) just put them
?S: in $*, e.g.
?S:  set try -DTRY_THIS_FLAG
?S:.
?S:compile_ok:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command that you
?S: expect to work ok.  It is the same as $compile, except we
?S: deliberately let the user see any error messages.
?S:.
: define a shorthand compile call
compile='
mc_file=$1;
shift;
case "$usedevel" in $define|true|[yY]*) if $test ! -f "${mc_file}.c"; then
echo "Internal Configure script bug - compiler test file ${mc_file}.c is missing. Please report this to
perlbug@perl.org" >&4;
exit 1;
fi;
esac;
$cc -o ${mc_file}
 $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
: define a shorthand compile call for compilations that should be ok.
compile_ok='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs;'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/Compile.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_lgamma: Inlibc
?MAKE: -pick add $@ %<
?S:d_lgamma:
?S: This variable conditionally defines the HAS_LGAMMA symbol, which
?S: indicates to the C program that the lgamma() routine is available
?S: for the log gamma function.  See also d_tgamma and d_lgamma_r.
?S:.
```

?C:HAS_LGAMMA:
?C: This symbol, if defined, indicates that the lgamma routine is
?C: available to do the log gamma function.  See also HAS_TGAMMA and
?C: HAS_LGAMMA_R.
?C:.
?H:#$d_lgamma HAS_LGAMMA  /**/
?H:.
?LINT:set d_lgamma
: see if lgamma exists
set lgamma d_lgamma
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lgamma.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: lib.U,v 3.0.1.3 1995/09/25 09:16:47 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: lib.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:16:47  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:38:08  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:27:40  ram
?RCS: patch32: now uses installation prefix to set the default
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?LINT:
 empty
?X:?MAKE:lib libexp: Getfile Loc Oldconfig Prefixit Prefixup prefixexp
?X:?MAKE: -pick add $@ %<
?X:?Y:TOP
?X:?S:lib:
?X:?S: This variable holds the name of the directory in which the user wants
?X:?S: to put public library files for the package in question.  It is most
?X:?S: often a local directory such as /usr/local/lib. Programs using this

?X:?S: variable must be prepared to deal with filename expansion.
?X:?S:.
?X:?S:libexp:
?X:?S: This variable is the same as the lib variable, but is filename expanded
?X:?S: at configuration time, for convenient use in your makefiles.
?X:?S:.
?X:: determine where public libraries go
?X:set lib lib
?X:eval $prefixit
?X:case "$lib" in
?X:")
?X: dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
?X: set dflt
?X: eval $prefixup
?X: ;;
?X:*)  dflt="$lib";;
?X:esac
?X:echo " "
?X:fn=d~
?X:rp='Where do you want to put the public libraries?'
?X:. ./getfile
?X:lib="$ans"
?X:libexp="$ansexp"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/nullified/lib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_dup2.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_dup2.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_dup2: Inlibc
?MAKE: -pick add $@ %<
?S:d_dup2:
?S: This variable conditionally defines HAS_DUP2 if dup2() is
?S: available to duplicate file descriptors.
?S:.

```
?C:HAS_DUP2 (DUP2):
?C: This symbol, if defined, indicates that the dup2 routine is
?C: available to duplicate file descriptors.
?C:.
?H:#$d_dup2 HAS_DUP2 /**/
?H:.
?LINT:set d_dup2
:
 see if dup2 exists
set dup2 d_dup2
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_dup2.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_gethostbyname_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_gethostbyname_r gethostbyname_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_gethostbyname_r:
?S: This variable conditionally defines the HAS_GETHOSTBYNAME_R symbol,
?S: which indicates to the C program that the gethostbyname_r()
?S: routine is available.
?S:.
?S:gethostbyname_r_proto:
?S: This variable encodes the prototype of gethostbyname_r.
?S: It is zero if d_gethostbyname_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_gethostbyname_r
?S: is defined.
?S:.
?C:HAS_GETHOSTBYNAME_R:
?C: This symbol, if defined, indicates
 that the gethostbyname_r routine
?C: is available to gethostbyname re-entrantly.
?C:.
?C:GETHOSTBYNAME_R_PROTO:
?C: This symbol encodes the prototype of gethostbyname_r.
?C: It is zero if d_gethostbyname_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_gethostbyname_r
?C: is defined.
```

```
?C:.
?H:#$d_gethostbyname_r HAS_GETHOSTBYNAME_R    /**/
?H:#define GETHOSTBYNAME_R_PROTO $gethostbyname_r_proto    /**/
?H:.
?T:try hdrs d_gethostbyname_r_proto
: see if gethostbyname_r exists
set gethostbyname_r d_gethostbyname_r
eval $inlibc
case "$d_gethostbyname_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_gethostbyname_r_proto:$usethreads" in
 ":define") d_gethostbyname_r_proto=define
  set d_gethostbyname_r_proto gethostbyname_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_gethostbyname_r_proto" in
 define)
 case "$gethostbyname_r_proto" in
 "|0) try='int gethostbyname_r(const char*, struct hostent*, char*, size_t,
 struct hostent**, int*);'
 ./protochk "$extern_C $try" $hdrs && gethostbyname_r_proto=I_CSBWRE ;;
 esac
 case "$gethostbyname_r_proto" in
 "|0) try='struct hostent* gethostbyname_r(const char*, struct hostent*, char*, int, int*);'
 ./protochk "$extern_C $try" $hdrs && gethostbyname_r_proto=S_CSBIE ;;
 esac
 case "$gethostbyname_r_proto" in
 "|0) try='int gethostbyname_r(const char*, struct hostent*, struct hostent_data*);'
 ./protochk "$extern_C $try" $hdrs && gethostbyname_r_proto=I_CSD ;;
 esac
 case "$gethostbyname_r_proto" in
 "|0) d_gethostbyname_r=undef
        gethostbyname_r_proto=0
  echo "Disabling gethostbyname_r, cannot determine prototype." >&4 ;;
 * ) case "$gethostbyname_r_proto" in
  REENTRANT_PROTO*) ;;
  *) gethostbyname_r_proto="REENTRANT_PROTO_$gethostbyname_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "gethostbyname_r has no prototype, not using it." >&4 ;;
  esac
  d_gethostbyname_r=undef
  gethostbyname_r_proto=0
```

```
  ;;
 esac
 ;;
*) gethostbyname_r_proto=0
 ;;
esac
```

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_gethostbyname_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getgrgid_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getgrgid_r getgrgid_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_grp extern_C
?MAKE: -pick add $@ %<
?S:d_getgrgid_r:
?S: This variable conditionally defines the HAS_GETGRGID_R symbol,
?S: which indicates to the C program that the getgrgid_r()
?S: routine is available.
?S:.
?S:getgrgid_r_proto:
?S: This variable encodes the prototype of getgrgid_r.
?S: It is zero if d_getgrgid_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getgrgid_r
?S: is defined.
?S:.
?C:HAS_GETGRGID_R:
?C: This symbol, if defined, indicates that the getgrgid_r routine
?C: is available to
 getgrgid re-entrantly.
?C:.
?C:GETGRGID_R_PROTO:
?C: This symbol encodes the prototype of getgrgid_r.
?C: It is zero if d_getgrgid_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getgrgid_r
?C: is defined.
?C:.
?H:#$d_getgrgid_r HAS_GETGRGID_R    /**/
?H:#define GETGRGID_R_PROTO $getgrgid_r_proto    /**/
?H:.
```

```
?T:try hdrs d_getgrgid_r_proto
: see if getgrgid_r exists
set getgrgid_r d_getgrgid_r
eval $inlibc
case "$d_getgrgid_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_grp grp.h"
 case "$d_getgrgid_r_proto:$usethreads" in
 ":define") d_getgrgid_r_proto=define
  set d_getgrgid_r_proto getgrgid_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getgrgid_r_proto" in
 define)
 case "$getgrgid_r_proto" in
 "|0) try='int getgrgid_r(gid_t, struct group*, char*, size_t, struct group**);'
 ./protochk "$extern_C $try" $hdrs && getgrgid_r_proto=I_TSBWR ;;
 esac
 case "$getgrgid_r_proto" in
 "|0) try='int getgrgid_r(gid_t, struct group*, char*, int,
 struct group**);'
 ./protochk "$extern_C $try" $hdrs && getgrgid_r_proto=I_TSBIR ;;
 esac
 case "$getgrgid_r_proto" in
 "|0) try='int getgrgid_r(gid_t, struct group*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getgrgid_r_proto=I_TSBI ;;
 esac
 case "$getgrgid_r_proto" in
 "|0) try='struct group* getgrgid_r(gid_t, struct group*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getgrgid_r_proto=S_TSBI ;;
 esac
 case "$getgrgid_r_proto" in
 "|0) d_getgrgid_r=undef
        getgrgid_r_proto=0
  echo "Disabling getgrgid_r, cannot determine prototype." >&4 ;;
 * ) case "$getgrgid_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getgrgid_r_proto="REENTRANT_PROTO_$getgrgid_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getgrgid_r has no prototype, not using it." >&4 ;;
  esac
  d_getgrgid_r=undef
  getgrgid_r_proto=0
```

```
  ;;
 esac
 ;;
*) getgrgid_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getgrgid_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: nis.U,v 3.0.1.3 1997/02/28 16:17:38 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: nis.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:17:38  ram
?RCS: patch61: ensure suitable defaults for hostcat and friends
?RCS:
?RCS: Revision 3.0.1.2  1995/03/21  08:48:34  ram
?RCS: patch52: continued fix for NeXT NIS/NetInfo handling
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:16:23  ram
?RCS: patch51: now correctly handles NeXT using NIS rather than NetInfo
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:passcat
 groupcat hostcat: Myread Oldconfig test contains
?MAKE: -pick add $@ %<
?S:passcat:
?S: This variable contains a command that produces the text of the
?S: /etc/passwd file.  This is normally "cat /etc/passwd", but can be
?S: "ypcat passwd" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
?S:groupcat:
?S: This variable contains a command that produces the text of the
?S: /etc/group file.  This is normally "cat /etc/group", but can be
?S: "ypcat group" when NIS is used.
```

```
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
?S:hostcat:
?S: This variable contains a command that produces the text of the
?S: /etc/hosts file.  This is normally "cat /etc/hosts", but can be
?S: "ypcat hosts" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
:
 see if we have to deal with yellow pages, now NIS.
?X: NeXT gives us some fun here, as always, by having both NIS (former YP)
?X: and NetInfo. But since it has both, it's ok to put the test inside the if.
?X: Contributed by Thomas Neumann <tom@smart.bo.open.de>.
if $test -d /usr/etc/yp || $test -d /etc/yp || $test -d /usr/lib/yp; then
@if passcat || groupcat
 case "$passcat" in
 nidump*) ;;
 *)
  case "$passcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the passwd file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) passcat='ypcat passwd'
@if groupcat
    echo "(Assuming /etc/group is also distributed.)"
    groupcat='ypcat group'
@end
    ;;
  *) passcat='cat /etc/passwd'
@if groupcat
    echo "(Assuming /etc/group is also local.)"
    groupcat='cat /etc/group'
@end
    ;;
  esac
  ;;
 esac
```

```
@end
@if hostcat
 case "$hostcat" in
 nidump*) ;;
 *)
  case
 "$hostcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the hosts file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) hostcat='ypcat hosts';;
  *) hostcat='cat /etc/hosts';;
  esac
  ;;
 esac
@end
fi
?X: Ensure suitable default -- Manoj Srivastava
case "$hostcat" in
") test -f /etc/hosts && hostcat='cat /etc/hosts';;
esac
case "$groupcat" in
") test -f /etc/group && groupcat='cat /etc/group';;
esac
case "$passcat" in
") test -f /etc/passwd && passcat='cat /etc/passwd';;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/nis.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_statfs3.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_pthreadj.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isless.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strtouq.U

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/ebcdic/ebcdic.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_ptrdiff_t.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isfinite.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fpos64_t.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isnan.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_pthread_y.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strtoll.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_prctl.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/time_size.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_statfs4.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_union_semun.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_longlong.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_signbit.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_off64_t.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_printfed.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isinf.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_cplusplus.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sprintf_len.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isnormal.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strtoull.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_stdbool.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_futimes.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_pthread_atfork.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_dlsymun.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_pthrattrj.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fcntl_can_lock.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_libm_lib_version.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_statblks.U,v 3.0 1993/08/18 12:07:29 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_statblks.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:29  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_statblks: Hasfield i_sysstat
?MAKE: -pick add $@ %<

```
?S:d_statblks:
?S: This variable conditionally defines USE_STAT_BLOCKS
?S: if this system has a stat structure declaring
?S: st_blksize and st_blocks.
?S:.
?C:USE_STAT_BLOCKS (STATBLOCKS):
?C: This symbol is defined if this system has a stat structure declaring
?C: st_blksize and st_blocks.
?C:.
?H:?%<:#ifndef
 USE_STAT_BLOCKS
?H:?%<:#$d_statblks USE_STAT_BLOCKS  /**/
?H:?%<:#endif
?H:.
?LINT:set d_statblks
: see if stat knows about block sizes
echo " "
echo "Checking to see if your struct stat has st_blocks field..." >&4
set d_statblks stat st_blocks $i_sysstat sys/stat.h
eval $hasfield
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_statblks.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getnbyad.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getnbyaddr: Inlibc
?MAKE: -pick add $@ %<
?S:d_getnbyaddr:
?S: This variable conditionally defines the HAS_GETNETBYADDR symbol, which
?S: indicates to the C program that the getnetbyaddr() routine is available
?S: to look up networks by their IP addresses.
?S:.
?C:HAS_GETNETBYADDR:
?C: This symbol, if defined, indicates that the getnetbyaddr() routine is
?C: available to look up networks by their IP addresses.
?C:.
?H:#$d_getnbyaddr HAS_GETNETBYADDR  /**/
?H:.
?LINT:set d_getnbyaddr
: see if getnetbyaddr exists
set getnetbyaddr d_getnbyaddr
```

```
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getnbyad.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_isnanl: Inlibc
?MAKE: -pick add $@ %<
?S:d_isnanl:
?S: This variable conditionally defines the HAS_ISNANL symbol, which
?S: indicates to the C program that the isnanl() routine is available.
?S:.
?C:HAS_ISNANL:
?C: This symbol, if defined, indicates that the isnanl routine is
?C: available to check whether a long double is a NaN.
?C:.
?H:#$d_isnanl HAS_ISNANL  /**/
?H:.
?LINT:set d_isnanl
: see if isnanl exists
set isnanl d_isnanl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isnanl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setregid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setregid.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

?MAKE:d_setregid d_setresgid: Inlibc
?MAKE: -pick add $@ %<
?S:d_setregid:
?S: This variable conditionally defines HAS_SETREGID if setregid() is
?S: available to change the real and effective gid of the current
?S: process.
?S:.
?S:d_setresgid:
?S: This variable conditionally defines HAS_SETRESGID if setresgid() is
?S: available to change
 the real, effective and saved gid of the current
?S: process.
?S:.
?C:HAS_SETREGID (SETREGID):
?C: This symbol, if defined, indicates that the setregid routine is
?C: available to change the real and effective gid of the current
?C: process.
?C:.
?C:HAS_SETRESGID (SETRESGID):
?C: This symbol, if defined, indicates that the setresgid routine is
?C: available to change the real, effective and saved gid of the current
?C: process.
?C:.
?H:#$d_setregid HAS_SETREGID  /**/
?H:#$d_setresgid HAS_SETRESGID  /**/
?H:.
?LINT: set d_setregid d_setresgid
: see if setregid exists
set setregid d_setregid
eval $inlibc
set setresgid d_setresgid
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setregid.U
No license file was found, but licenses were detected in source scan.

Perl5 Metaconfig Units

    Copyright (c) 1996-1998, Andy Dougherty
    Copyright (c) 1999-2011, H.Merijn Brand
  All rights reserved.

These units are the ones used to build Configure and config_h.SH
in the Perl5 distribution.

metaconfig will first look in its standard locations (specified when you
installed dist).  It will then recurse through the 'U' subdirectory

and find any additional "private" units.  Private units override
standard ones supplied with metaconfig.

Files in this directory:

README
  This file.

Glossary.patch
  The standard dist units contain some strings that make pod2man
  complain.  This patch silences those warnings.  As new units are
  added and Configure is regenerated, this patch may need more and more
  'fuzz' to be applied.  It should be freshly regenerated every once
  in a while. See also mkgloss.pl

ln-all.pl
  Re-generate the all/ folder

mkglossary
  A script
 to regenerate Porting/Glossary.  You have to manually
  edit the top of the script to point the location of your metaconfig
  units.  It is called automatically by 'mksample'. See also mkgloss.pl

mkgloss.pl
  A perl script that calls U/mkglossary from the perl source tree, sorts
  the list of symbols, and applies the patch mentioned in Glossary.patch.
  When called on its own, redirect the output to a temporary file,  and
  compare that file to Porting/Glossary before applying.

mksample
  A script to regenerate Porting/config.sh and Porting/config.H.
  It also calls mkglossary, if necessary.

Subdirectories:

The units and other related files have been broken up into the following
directories.

a_dvisory/
  These are units that have to go first in the generated config_h.SH.
  A word of explanation:  Configure and config_h.SH are generated from 'Units'
  (the *.U files).  Files indicate dependencies (using make(1)), and
  Configure is built to follow those dependencies.
 However, config_h.SH
  is simply built by putting all the units in alphabetical order and
  extracting the relevant lines.  (This could be fixed, I suppose, but
  it wasn't trivial the one time I looked.)

The a_dvisory/ directory, then, is a place to put units that need to be early in config_h.SH. (Most units are self-contained and ought to be able to go anywhere. However, some things, like byteorder, need to have the #defines from multiarch available.)

acl/

This is an old patch to begin to detect and use ACL (access control list) file protection schemes.

all/

A folder that conveniently holds symbolic links to all the modules that are used to build the current Configure and config_h.SH.

compline/

These are similar to the standard units, but I have modified them to have a more uniform compile command line, usually using the new Compile.U unit. (The ccflags.U unit is perl-specific since it mentions -DDEBUGGING and -DPOSIX_SOURCE, but that's the only place it is perl-specific.)

dist_patches/

These are patches to dist that must be applied before it is built and installed. I have submitted these for inclusion in the regular dist distribution. They have already been applied to the ../dist-3.0at70b directory.

ebcdic/

These are units that had to be specially modified to work under either EBCDIC or ASCII.

installdirs/

These are units to handle perl's installation directories and related issues.

modified/

These are modified versions of the standard units. Also included in this directory are new units that are clearly derived from existing units. I have submitted these for inclusion in the regular dist distribution.

nullified/

These are null units that replace units in the standard distribution. Typically they are there because some part of the perl source accidentally uses a symbol that metaconfig means we want the corresponding unit.

perl/
  These are specific to perl.  Some are heavily derived from
  original dist units, and are marked as such.  Others are original.

perl_patches/
  These are patches to the perl source.  This directory
  should ordinarily be empty, but there may have been drift between
  the standard version of perl and the one associated with these
  units.

protos/
  These are units modified to use the new Hasproto.U or Protochk.U
  units to check for prototypes.

threads/
  These are specific to threading perl.

typedefs/
  These are standard units modified to use the modified Typedef.U
  unit to check for typedefs.  (The modified Typdef.U includes a
  function to avoid unnecessary prompts if the typdef being searched
  for exists.)

Where appropriate, I submitted these units for inclusion into the
regular dist distribution.  However, since dist is no longer actively
maintained, and the alternative is for *me* to actively maintain it,
the units just sit here.

Copyright
 Information:

Unless otherwise indicated, the files contained in this
distribution are:

  Copyright (c) 1996-1998, Andy Dougherty

The following licensing terms apply to all files contained in
this distribution:

You may distribute the files contained in this distribution
under the terms of either

  a) the "Artistic License" which comes with Perl, or

  b) the "Artistic License" which comes with dist, or

  c) the GNU General Public License as published by the Free

Software Foundation; either version 1, or (at your option) any
later version (see the file "Copying" that comes with the
Perl distribution).

Which one to use is your choice.

The units in the "modified" directory have been derived from units
associated with the metaconfig program of Raphael Manfredi's "dist"
distribution. These units list Raphael Manfredi as the Copyright holder.
dist is distributed under a modified version of the Perl Artistic License.
Clause 7 of this modified license
as contained in dist-3.0-pl60 provides:

7. You may reuse parts of this Package in your own programs, provided
that you explicitly state where you got them from, in the source code
(and, left to your courtesy, in the documentation), duplicating
all the associated copyright notices and disclaimers. Besides
your changes, if any, must be clearly marked as such. Parts reused
that way will no longer fall under this license if, and only if,
the name of your program(s) have no immediate connection with the
name of the Package itself or its associated programs. You may then
apply whatever restrictions you wish on the reused parts or choose
to place them in the Public Domain--this will apply only within the
context of your package.

In accordance with this clause, the versions of these units
contained here are made available under the same terms as the
rest of the units.

If you have any questions about the use of these units or about
the differences
between these units and the standard versions, please
feel free to ask.

Andy Dougherty doughera@lafayette.edu
Dept. of Physics
Lafayette College
Easton, PA 18042-1782

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/README
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Config_sh.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  14:57:53  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.2  1995/01/11  14:53:31  ram
?RCS: patch45: moved path stripping from d_portable.U to end of Configure
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:50:37  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:48  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit ends up producing the config.sh
 script, which contains all the
?X: definitions figured out by Configure.  The add.Config_sh command knows
?X: which variables need to be remembered.  It also adds the EOT (ends the
?X: here document redirection with variable substitution).
?X:
?MAKE:Config_sh: cf_time cf_by test spitshell startsh myuname Myread \
 End Obsol_sh Loc +d_portable package src cat sed
?MAKE: -pick add.Config_sh $@ %<
?MAKE: -pick add $@ ./Obsol_sh
?MAKE: -pick close.Config_sh $@ %<
?F:!config.over !config.arch
?T:file sfile xsed
?LINT:unclosed EOT
: back to where it started
if test -d ../UU; then
 cd ..
fi

: configuration may be unconditionally patched via a 'config.arch' file
if $test -f config.arch; then
 echo "I see a config.arch file, loading it." >&4
 . ./config.arch
fi

: configuration may be patched via a 'config.over' file
if $test -f config.over; then
 echo " "
 dflt=y
```

```
 rp='I see a config.over file.  Do you wish to load it?'
 . UU/myread
 case "$ans" in
 n*) echo "OK, I'll ignore it.";;
 *) . ./config.over
  echo
 "Configuration override changes have been loaded."
  ;;
 esac
fi

@if d_portable
: in case they want portability, strip down executable paths
?X:
?X: Strip down paths in located executables. For each file, e.g. vi, there
?X: is a $vi variable whose value is for instance '/usr/bin/vi'. By resetting
?X: $vi to 'vi', we rely on the PATH variable to locate the executable...
?X: In order to allow vi='/usr/bin/nvi' which will strip down to vi='nvi',
?X: we can't just say 'eval $file="\$file"', we have to recourse to sed.
?X: We don't use basename since it is less portable than sed.
?X:
case "$d_portable" in
"$define")
 echo " "
 echo "Stripping down executable paths..." >&4
 xsed=$sed
 for file in $loclist $trylist; do
  eval sfile="\$$file"
  sfile=`echo $sfile | $xsed -e 's,.*/\(.*\),\1,'`
  eval $file="$sfile"
 done
 ;;
esac

@end
: create config.sh file
echo " "
echo "Creating config.sh..." >&4
$spitshell <<EOT >config.sh
$startsh
#
# This file was produced by running the
 Configure script. It holds all the
# definitions figured out by Configure. Should you modify one of these values,
# do not forget to propagate your changes by running "Configure -der". You may
# instead choose to run each of the .SH files by yourself, or "Configure -S".
#
```

```
# Package name      : $package
# Source directory  : $src
# Configuration time: $cf_time
# Configured by     : $cf_by
# Target system     : $myuname

EOT
?X: Command line options are saved by the Options.U unit in the
?X: temporary file UU/cmdline.opt
$test -f UU/cmdline.opt && $cat UU/cmdline.opt >> config.sh
$spitshell <<EOT >>config.sh
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Config_sh.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman1dir siteman1direxp installsiteman1dir: Getfile \
 Setprefixvar prefix siteprefix man1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman1dir="
?S:siteman1dir:
?S: This variable contains the name of the directory in which site-specific
?S: manual source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl
 has been installed, users may install their own local
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman1direxp="
?S:siteman1direxp:
?S: This variable is the same as the siteman1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
```

```
?D:installsiteman1dir="
?S:installsiteman1dir:
?S: This variable is really the same as siteman1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman1dir
?LINT:set siteman1dir
?LINT:set siteman1direxp
: determine where add-on manual pages go
case "$siteman1dir" in
'') dflt=`echo $man1dir | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman1dir ;;
esac
case "$dflt" in
'|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname
 where the site-specific manual pages should be installed?'
. ./getfile
prefixvar=siteman1dir
. ./setprefixvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/siteman1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sizetype.U,v 3.0.1.1 1994/08/29 16:32:10 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: sizetype.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:32:10  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:sizetype: Myread Typedef
?MAKE: -pick add $@ %<
```

?S:sizetype:
?S: This variable defines sizetype to be something like size_t,
?S: unsigned long, or whatever type is used to declare length
?S: parameters for string functions.
?S:.
?C:Size_t:
?C: This symbol holds the type used
 to declare length parameters
?C: for string functions.  It is usually size_t, but may be
?C: unsigned long, int, etc.  It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?H:#define Size_t $sizetype  /* length parameter for string functions */
?H:.
?LINT: set sizetype
: see what type is used for size_t
rp="What is the type used for the length parameter for string functions?"
set size_t sizetype 'unsigned int' stdio.h sys/types.h
eval $typedef_ask

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/sizetype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_syssock.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_syssock.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:36  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_syssock: Inhdr
?MAKE: -pick add $@ %<
?S:i_syssock:
?S: This variable conditionally defines the I_SYS_SOCKET symbol, and indicates
?S: whether a C program should include <sys/socket.h> before performing socket
?S: operations.
?S:.
?C:I_SYS_SOCKET:
?C: This symbol, if defined, indicates to the C program that it should
?C: include

<sys/socket.h> before performing socket calls.
?C:.
?H:#$i_syssock I_SYS_SOCKET  /**/
?H:.
?LINT:set i_syssock
: see if this is a sys/socket.h system
set sys/socket.h i_syssock
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_syssock.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: startperl.U,v 3.0 1993/08/18 12:09:50 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: startperl.U,v $
?RCS: Perl5 version -- I always have d_portable=define.
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:startperl: cat Myread sharpbang initialinstalllocation test \
 versiononly version
?MAKE: -pick add $@ %<
?Y:TOP
?X: This is different from dist's standard startperl.U unit because
?X: we can't directly test #!/usr/local/bin/perl (or
 whatever) because
?X: we haven't built and installed perl yet.
?S:startperl:
?S: This variable contains the string to put on the front of a perl
?S: script to make sure (hopefully) that it runs with perl and not some
?S: shell. Of course, that leading line must be followed by the classical
?S: perl idiom:
?S:  eval 'exec perl -S $0 ${1+"$@"}'
?S:   if $running_under_some_shell;
?S: to guarantee perl startup should the shell execute the script. Note
?S: that this magic incantation is not understood by csh.
?S:.

```
?C:STARTPERL:
?C: This variable contains the string to put in front of a perl
?C: script to make sure (one hopes) that it runs with perl and not
?C: some shell.
?C:.
?H:#define STARTPERL "$startperl"  /**/
?H:.
: figure out how to guarantee perl startup
: XXX Note that this currently takes advantage of the bug that binexp ignores
:     the Configure -Dinstallprefix setting, which in turn means that under
:     relocatable @INC, initialinstalllocation is what binexp started as.
case
 "$startperl" in
")
 case "$sharpbang" in
 *!)
  $cat <<EOH

I can use the #! construct to start perl on your system. This will
make startup of perl scripts faster, but may cause problems if you
want to share those scripts and perl is not in a standard place
($initialinstalllocation/perl) on all your platforms. The alternative
is to force a shell by starting the script with a single ':' character.

EOH
  case "$versiononly" in
  "$define")      dflt="$initialinstalllocation/perl$version";;
  *)              dflt="$initialinstalllocation/perl";;
  esac
  rp='What shall I put after the #! to start up perl ("none" to not use #!)?'
  . ./myread
  case "$ans" in
  none) startperl=": # use perl";;
  *) startperl="#!$ans"
   if $test 30 -lt `echo "$ans" | wc -c`; then
    $cat >&4 <<EOM

WARNING:  Some systems limit the #! command to 32 characters.
If you experience difficulty running Perl scripts with #!, try
installing Perl in a directory with a shorter pathname.

EOM
   fi ;;
  esac
  ;;
 *)
 startperl=": # use perl"
  ;;
```

```
 esac
 ;;
esac
echo "I'll use $startperl to start perl scripts."
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/startperl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_isfinitel: Inlibc
?MAKE: -pick add $@ %<
?S:d_isfinitel:
?S: This variable conditionally defines the HAS_ISFINITEL symbol, which
?S: indicates to the C program that the isfinitel() routine is available.
?S:.
?C:HAS_ISFINITEL:
?C: This symbol, if defined, indicates that the isfinitel routine is
?C: available to check whether a long double is finite.
?C: (non-infinity non-NaN).
?C:.
?H:#$d_isfinitel HAS_ISFINITEL  /**/
?H:.
?LINT:set d_isfinitel
: see if isfinitel exists
set isfinitel d_isfinitel
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isfinitel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fs_data_s: Hasstruct i_sysparam i_sysmount i_systypes Setvar
?MAKE: -pick add $@ %<
?S:d_fs_data_s:
```

```
?S: This variable conditionally defines the HAS_STRUCT_FS_DATA symbol,
?S: which indicates that the struct fs_data is supported.
?S:.
?C:HAS_STRUCT_FS_DATA:
?C: This symbol, if defined, indicates that the struct fs_data
?C: to do statfs() is supported.
?C:.
?H:#$d_fs_data_s HAS_STRUCT_FS_DATA /**/
?H:.
?LINT:set d_fs_data_s
: Check for fs_data_s
echo " "
echo "Checking to see if your system supports struct fs_data..." >&4
set d_fs_data_s fs_data $i_systypes sys/types.h $i_sysparam sys/param.h $i_sysmount sys/mount.h
eval $hasstruct
case "$d_fs_data_s" in
"$define")      echo "Yes, it does."   ;;
*)
            echo "No, it doesn't." ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fs_data_s.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getitimer: Inlibc
?MAKE: -pick add $@ %<
?S:d_getitimer:
?S: This variable conditionally defines the HAS_GETITIMER symbol, which
?S: indicates to the C program that the getitimer() routine is available.
?S:.
?C:HAS_GETITIMER:
?C: This symbol, if defined, indicates that the getitimer routine is
?C: available to return interval timers.
?C:.
?H:#$d_getitimer HAS_GETITIMER  /**/
?H:.
?LINT:set d_getitimer
: see if getitimer exists
set getitimer d_getitimer
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getitimer.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: archname.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:24:32  ram
?RCS: patch61: changed the way the archname is mangled from uname
?RCS:
?RCS: Revision 3.0.1.2  1995/05/12  12:05:24  ram
?RCS: patch54: protect against spaces in "uname -m" output (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:14:21  ram
?RCS: patch51: created
?RCS:
?MAKE:archname myarchname: sed Loc Myread Oldconfig osname test rm
?MAKE: -pick add $@ %<
?S:archname:
?S: This variable is a short name to characterize the current
?S: architecture.
  It is used mainly to construct the default archlib.
?S:.
?S:myarchname:
?S: This variable holds the architecture name computed by Configure in
?S: a previous run. It is not intended to be perused by any user and
?S: should never be set in a hint file.
?S:.
?C:ARCHNAME:
?C: This symbol holds a string representing the architecture name.
?C: It may be used to construct an architecture-dependant pathname
?C: where library files may be held under a private library, for
?C: instance.
?C:.
?H:#define ARCHNAME "$archname"  /**/
?H:.
?T:xxx tarch
: determine the architecture name
echo " "

```
?X: We always recompute archname in case osname changes. However, we need
?X: to be careful since, as ADO rightfully pointed out, some systems pick
?X: silly architecture names (0001307135000-aix on AIX or 9000/715-ux under
?X: HP-UX). Therefore, we allow hint files to superseed our guess and ask
?X: the user for confirmation.
if xxx=`./loc arch blurfl $pth`; $test -f "$xxx"; then
 tarch=`arch`"-$osname"
elif
 xxx=`./loc uname blurfl $pth`; $test -f "$xxx" ; then
 if uname -m > tmparch 2>&1 ; then
  tarch=`$sed -e 's/ *$//' -e 's/ /_/g' \
   -e 's/$/"'-$osname/" tmparch`
 else
  tarch="$osname"
 fi
 $rm -f tmparch
else
 tarch="$osname"
fi
case "$myarchname" in
"|"$tarch") ;;
*)
 echo "(Your architecture name used to be $myarchname.)"
 archname="
 ;;
esac
case "$archname" in
") dflt="$tarch";;
*) dflt="$archname";;
esac
rp='What is your architecture name'
. ./myread
archname="$ans"
myarchname="$tarch"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/archname.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_crypt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
```

```
?RCS:
?RCS: $Log: d_crypt.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:31:47  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_crypt cryptlib: Loc test xlibpth libpth Csym Setvar _a Inlibc
?MAKE: -pick add $@ %<
?S:d_crypt:
?S: This variable conditionally defines the CRYPT symbol, which
?S: indicates to the C program that the crypt() routine is available
?S: to
 encrypt passwords and the like.
?S:.
?S:cryptlib:
?S: This variable holds -lcrypt or the path to a libcrypt.a archive if
?S: the crypt() function is not defined in the standard C library. It is
?S: up to the Makefile to use this.
?S:.
?C:HAS_CRYPT (CRYPT):
?C: This symbol, if defined, indicates that the crypt routine is available
?C: to encrypt passwords and the like.
?C:.
?H:#$d_crypt HAS_CRYPT  /**/
?H:.
?LINT:set d_crypt
?T:val
: see if crypt exists
echo " "
set crypt d_crypt
eval $inlibc
case "$d_crypt" in
$define) cryptlib=" ;;
*) if set crypt val -f d_crypt; eval $csym; $val; then
  echo 'crypt() found.' >&4
  val="$define"
  cryptlib="
 else
  cryptlib=`./loc Slibcrypt$_a "" $xlibpth`
  if $test -z "$cryptlib"; then
   cryptlib=`./loc Mlibcrypt$_a "" $xlibpth`
  else
   cryptlib=-lcrypt
  fi
  if $test -z "$cryptlib"; then
   cryptlib=`./loc Llibcrypt$_a "" $xlibpth`
```

```
 else
  cryptlib=-lcrypt
 fi
 if $test -z "$cryptlib"; then
  cryptlib=`./loc libcrypt$_a ""
$libpth`
 else
  cryptlib=-lcrypt
 fi
 if $test -z "$cryptlib"; then
  echo 'crypt() NOT found.' >&4
  val="$undef"
 else
  val="$define"
 fi
fi
 set d_crypt
 eval $setvar
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_crypt.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extractall.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extractall.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:00:43  ram
?RCS: patch61: created
?RCS:
?X:
?X: If extraction has been requested, load the configuration file, perform
?X: the extraction and exit.
?X:
?X: This unit was originally a part of Options.U. It had to be removed from
?X: it to prevent a dependency cycle: Extract -> src -> Options -> Extract
?X: The Begin.U unit now requires us before beginning to do anything
?X: interesting, to ensure
```

```
 proper semantics. -- RAM, 15/03/96
?X:
?MAKE:Extractall: Extract Options
?MAKE: -pick wipe $@ %<
: extract files and exit if asked to do so
case "$extractsh" in
true)
?X: Undo the forced silent=true when -S was supplied, by probing realsilent
?X: which was set iff -s was also given. See Options.U for details.
 case "$realsilent" in
 true) ;;
 *) exec 1>&4;;
 esac
 case "$config_sh" in
 '') config_sh='config.sh';;
 esac
 echo " "
 echo "Fetching answers from $config_sh..."
 cd ..
 . $config_sh
?X: extract has to be run from the top directory, not within UU.
 . UU/optdef.sh
 echo " "
?X: extract has to be run from the top directory, not within UU.
 . UU/extract
 rm -rf UU
 echo "Extraction done."
 exit 0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Extractall.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getprior.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_getprior.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:16  ram
?RCS: Baseline for dist 3.0 netwide release.
```

```
?RCS:
?MAKE:d_getprior: Inlibc
?MAKE: -pick add $@ %<
?S:d_getprior:
?S: This variable conditionally defines HAS_GETPRIORITY if getpriority()
?S: is available to get a process's priority.
?S:.
?C:HAS_GETPRIORITY (GETPRIORITY):
?C: This symbol, if defined, indicates that the getpriority routine is
?C: available to get a process's priority.
?C:.
?H:#$d_getprior
 HAS_GETPRIORITY  /**/
?H:.
: see if getpriority exists
?LINT:set d_getprior
set getpriority d_getprior
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getprior.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2014, H.Merijn Brand
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_backtrace.U,v $
?RCS:
?MAKE:d_backtrace: Inlibc
?MAKE: -pick add $@ %<
?S:d_backtrace:
?S: This variable conditionally defines the HAS_BACKTRACE symbol, which
?S: indicates to the C program that the backtrace() routine is available
?S: to get a stack trace.
?S:.
?C:HAS_BACKTRACE:
?C: This symbol, if defined, indicates that the backtrace() routine is
?C: available to get a stack trace.  The <execinfo.h> header must be
?C: included to use this routine.
?C:.
?H:#$d_backtrace HAS_BACKTRACE /**/
```

```
?H:.
?LINT:set d_backtrace
:
 see if backtrace exists
set backtrace d_backtrace
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_backtrace.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getpwuid_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getpwuid_r getpwuid_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_pwd extern_C
?MAKE: -pick add $@ %<
?S:d_getpwuid_r:
?S: This variable conditionally defines the HAS_GETPWUID_R symbol,
?S: which indicates to the C program that the getpwuid_r()
?S: routine is available.
?S:.
?S:getpwuid_r_proto:
?S: This variable encodes the prototype of getpwuid_r.
?S: It is zero if d_getpwuid_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getpwuid_r
?S: is defined.
?S:.
?C:HAS_GETPWUID_R:
?C: This symbol, if defined, indicates that the getpwuid_r routine
?C: is available to
 getpwuid re-entrantly.
?C:.
?C:GETPWUID_R_PROTO:
?C: This symbol encodes the prototype of getpwuid_r.
?C: It is zero if d_getpwuid_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getpwuid_r
?C: is defined.
?C:.
?H:#$d_getpwuid_r HAS_GETPWUID_R    /**/
?H:#define GETPWUID_R_PROTO $getpwuid_r_proto    /**/
?H:.
?T:try hdrs d_getpwuid_r_proto
```

```
: see if getpwuid_r exists
set getpwuid_r d_getpwuid_r
eval $inlibc
case "$d_getpwuid_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_pwd pwd.h"
 case "$d_getpwuid_r_proto:$usethreads" in
 ":define") d_getpwuid_r_proto=define
  set d_getpwuid_r_proto getpwuid_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getpwuid_r_proto" in
 define)
 case "$getpwuid_r_proto" in
 "|0) try='int getpwuid_r(uid_t, struct passwd*, char*, size_t, struct passwd**);'
 ./protochk "$extern_C $try" $hdrs && getpwuid_r_proto=I_TSBWR ;;
 esac
 case "$getpwuid_r_proto" in
 "|0) try='int getpwuid_r(uid_t, struct passwd*, char*,
 int, struct passwd**);'
 ./protochk "$extern_C $try" $hdrs && getpwuid_r_proto=I_TSBIR ;;
 esac
 case "$getpwuid_r_proto" in
 "|0) try='int getpwuid_r(uid_t, struct passwd*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getpwuid_r_proto=I_TSBI ;;
 esac
 case "$getpwuid_r_proto" in
 "|0) try='struct passwd* getpwuid_r(uid_t, struct passwd*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getpwuid_r_proto=S_TSBI ;;
 esac
 case "$getpwuid_r_proto" in
 "|0) d_getpwuid_r=undef
        getpwuid_r_proto=0
  echo "Disabling getpwuid_r, cannot determine prototype." >&4 ;;
 * ) case "$getpwuid_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getpwuid_r_proto="REENTRANT_PROTO_$getpwuid_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getpwuid_r has no prototype, not using it." >&4 ;;
  esac
  d_getpwuid_r=undef
  getpwuid_r_proto=0
  ;;
```

```
 esac
 ;;
*) getpwuid_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getpwuid_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sbrkproto: Hasproto i_unistd
?MAKE: -pick add $@ %<
?S:d_sbrkproto:
?S: This variable conditionally defines the HAS_SBRK_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the sbrk() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_SBRK_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the sbrk() function.  Otherwise, it is up
?C: to the program to supply one.  Good guesses are
?C:  extern void* sbrk(int);
?C:  extern
 void* sbrk(size_t);
?C:.
?H:#$d_sbrkproto HAS_SBRK_PROTO /**/
?H:.
?LINT:set d_sbrkproto
: see if prototype for sbrk is available
echo " "
set d_sbrkproto sbrk $i_unistd unistd.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sbrkproto.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: fpostype.U,v 3.0.1.2 1994/08/29 16:20:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: fpostype.U,v $
?RCS: Revision 3.0.1.2  1994/08/29  16:20:52  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:59:59  ram
?RCS: patch30: created
?RCS:
?MAKE:fpostype: Myread Typedef
?MAKE: -pick add $@ %<
?S:fpostype:
?S: This variable defines Fpos_t to be something like fpos_t, long,
?S: uint, or whatever type is used to declare file positions in libc.
?S:.
?C:Fpos_t:
?C: This symbol holds
 the type used to declare file positions in libc.
?C: It can be fpos_t, long, uint, etc... It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?H:#define Fpos_t $fpostype  /* File position type */
?H:.
?LINT:set fpostype
: see what type file positions are declared as in the library
rp="What is the type for file position used by fsetpos()?"
set fpos_t fpostype long stdio.h sys/types.h
eval $typedef_ask

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/fpostype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Guess.U,v $
?RCS: Revision 3.0.1.5  1995/07/25  13:37:14  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  15:53:55  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: call ./xenix explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0.1.3  1993/12/15  08:14:35  ram
?RCS: patch15: variable d_bsd was not always set properly
?RCS:
?RCS: Revision 3.0.1.2  1993/08/30  08:57:14  ram
?RCS: patch8: fixed comment which wrongly
 attributed the usrinc symbol
?RCS: patch8: no more ugly messages when no /usr/include/ctype.h
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:37:37  ram
?RCS: patch7: added support for OSF/1 machines
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit hazards some guesses as to what the general nature of the system
?X: is.  The information it collects here is used primarily to establish default
?X: answers to other questions.
?X:
?MAKE:Guess d_eunice d_xenix d_bsd d_linux d_dos d_os2: cat test echo n c \
 contains rm tr Loc eunicefix
?MAKE: -pick add $@ %<
?S:d_eunice:
?S: This variable conditionally defines the symbols EUNICE_SYSTEM, which
?S: alerts the C program that it must deal with ideosyncracies of VMS.
?S:.
?S:d_xenix:
?S: This variable conditionally defines the symbol XENIX_SYSTEM, which alerts
?S: the C program that it runs under Xenix.
?S:.
?S:d_dos:
?S: This symbol conditionally defines the symbol DOS_SYSTEM
 when running on
?S: DOS with DJGPP or Cygwin.
?S:.
?S:d_os2:
?S: This symbol conditionally defines the symbol OS2_SYSTEM when running on

?S: an OS/2 system.
?S:.
?S:d_bsd:
?S: This symbol conditionally defines the symbol BSD_SYSTEM when running on a
?S: BSD system.
?S:.
?S:d_linux:
?S: This symbol conditionally defines the symbol LINUX_SYSTEM when running
?S: on a Linux system.
?S:.
?C:EUNICE_SYSTEM (EUNICE):
?C: This symbol, if defined, indicates that the program is being compiled
?C: under the EUNICE package under VMS.  The program will need to handle
?C: things like files that don't go away the first time you unlink them,
?C: due to version numbering.  It will also need to compensate for lack
?C: of a respectable link() command.
?C:.
?C:VMS_SYSTEM (VMS):
?C: This symbol, if defined, indicates that the program is running under
?C: VMS.  It is currently only set in conjunction with the EUNICE symbol.
?C:.
?C:XENIX_SYSTEM (XENIX):
?C: This symbol, if defined, indicates that the program
 is running under
?C: Xenix (at least 3.0 ?).
?C:.
?C:DOS_SYSTEM:
?C: This symbol, if defined, indicates that the program is running under
?C: DOS with DJGPP.
?C:.
?C:OS2_SYSTEM:
?C: This symbol, if defined, indicates that the program is running under
?C: an OS/2 system.
?C:.
?C:BSD_SYSTEM:
?C: This symbol, if defined, indicates that the program is running under
?C: a BSD system.
?C:.
?C:LINUX_SYSTEM:
?C: This symbol, if defined, indicates that the program is running under
?C: a Linux system.
?C:.
?H:#$d_eunice EUNICE_SYSTEM  /**/
?H:#$d_eunice VMS_SYSTEM  /**/
?H:#$d_xenix XENIX_SYSTEM  /**/
?H:#$d_dos DOS_SYSTEM  /**/
?H:#$d_os2 OS2_SYSTEM  /**/
?H:#$d_bsd BSD_SYSTEM  /**/

```
?H:#$d_linux LINUX_SYSTEM  /**/
?H:.
?F:./bsd ./usg ./v7 ./osf1 ./eunice ./xenix ./venix ./dos ./os2 ./gnu ./linux
?T:xxx DJGPP MACHTYPE
: make some quick guesses about what we are up against
echo " "
$echo $n "Hmm...  $c"
echo exit 1 >bsd
echo exit 1 >usg
echo exit 1 >v7
echo exit 1 >osf1
echo exit 1 >eunice
echo
 exit 1 >xenix
echo exit 1 >venix
echo exit 1 >os2
echo exit 1 >gnu
echo exit 1 >linux
echo exit 1 >dos
d_bsd="$undef"
d_linux="$undef"
d_dos="$undef"
d_os2="$undef"
?X:
?X: Do not use 'usrinc', or we get a circular dependency. because
?X: usrinc is defined in usrinc.U, which relies on us...
?X:
$cat /usr/include/signal.h /usr/include/sys/signal.h >foo 2>/dev/null
if test -f /osf_boot || $contains 'OSF/1' /usr/include/ctype.h >/dev/null 2>&1
then
 echo "Looks kind of like an OSF/1 system, but we'll see..."
 echo exit 0 >osf1
elif test `echo abc | $tr a-z A-Z` = Abc ; then
 xxx=`./loc addbib blurfl $pth`
 if $test -f $xxx; then
 echo "Looks kind of like a USG system with BSD features, but we'll see..."
  echo exit 0 >bsd
  echo exit 0 >usg
 else
  if $contains SIGTSTP foo >/dev/null 2>&1 ; then
   echo "Looks kind of like an extended USG system, but we'll see..."
  else
   echo "Looks kind of like a USG system, but we'll see..."
  fi
  echo exit 0 >usg
 fi
elif $contains SIGTSTP foo >/dev/null
```

```
 2>&1 ; then
 echo "Looks kind of like a BSD system, but we'll see..."
 d_bsd="$define"
 echo exit 0 >bsd
elif
 $rm --version 2>/dev/null >foo;
 $contains "Free Software Foundation" foo >/dev/null
then
 xxx=`uname`
 echo exit 0 >gnu
 echo "Looks kind of like a GNU/$xxx system, but we'll see..."
 if $test X$xxx = XLinux; then
  d_linux="$define"
  echo exit 0 >linux
 fi
else
 echo "Looks kind of like a Version 7 system, but we'll see..."
 echo exit 0 >v7
fi
case "$eunicefix" in
*unixtovms*)
 $cat <<'EOI'
There is, however, a strange, musty smell in the air that reminds me of
something...hmm...yes...I've got it...there's a VMS nearby, or I'm a Blit.
EOI
 echo exit 0 >eunice
 d_eunice="$define"
: it so happens the Eunice I know will not run shell scripts in Unix format
 ;;
*)
 echo " "
 echo "Congratulations.  You aren't running Eunice."
 d_eunice="$undef"
 ;;
esac
case "$p_" in
:) ;;
*)
 $cat <<'EOI'
I have the feeling something is not exactly right, however...don't tell me...
EOI
 if
 test -n "$DJGPP"; then
  case "X${MACHTYPE:-nonesuchmach}" in
  cygwin) echo "hah!... you're running under Cygwin!";;
  *) echo "got it... you're running DOS with DJGPP!";;
  esac
  echo exit 0 >dos
```

```
 d_dos="$define"
 else
  $cat <<'EOI'
lemme think...does HAL ring a bell?...no, of course, you're only running OS/2!
EOI
  echo exit 0 >os2
  d_os2="$define"
 fi
 ;;
esac
if test -f /xenix; then
 echo "Actually, this looks more like a XENIX system..."
 echo exit 0 >xenix
 d_xenix="$define"
else
 echo " "
 echo "It's not Xenix..."
 d_xenix="$undef"
fi
chmod +x xenix
$eunicefix xenix
if test -f /venix; then
 echo "Actually, this looks more like a VENIX system..."
 echo exit 0 >venix
else
 echo " "
 if ./xenix; then
  : null
 else
  echo "Nor is it Venix..."
 fi
fi
chmod +x bsd usg v7 osf1 eunice xenix venix dos os2 gnu linux
$eunicefix bsd usg v7 osf1 eunice xenix venix dos os2 gnu linux
$rm -f foo

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Guess.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_flockproto: Hasproto i_sysfile
?MAKE: -pick add $@ %<
?S:d_flockproto:
?S: This variable conditionally defines the HAS_FLOCK_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the flock() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_FLOCK_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the flock() function.  Otherwise, it is up
?C: to the program to supply one.  A good guess is
?C:  extern int flock(int,
 int);
?C:.
?H:#$d_flockproto HAS_FLOCK_PROTO /**/
?H:.
?LINT:set d_flockproto
: see if prototype for flock is available
echo " "
set d_flockproto flock $i_sysfile sys/file.h
eval $hasproto

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_flockproto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_endnent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_endnent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_endnent: Inlibc
?MAKE: -pick add $@ %<
?S:d_endnent:
?S: This variable conditionally defines HAS_ENDNETENT if endnetent() is
?S: available to close whatever was being used for network queries.
```

?S:.
?C:HAS_ENDNETENT:
?C: This symbol, if defined, indicates that the endnetent() routine is
?C: available to close whatever was being used for network
 queries.
?C:.
?H:#$d_endnent HAS_ENDNETENT  /**/
?H:.
?LINT:set d_endnent
: see if endnetent exists
set endnetent d_endnent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_endnent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setprotoent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_setprotoent_r setprotoent_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_setprotoent_r:
?S: This variable conditionally defines the HAS_SETPROTOENT_R symbol,
?S: which indicates to the C program that the setprotoent_r()
?S: routine is available.
?S:.
?S:setprotoent_r_proto:
?S: This variable encodes the prototype of setprotoent_r.
?S: It is zero if d_setprotoent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setprotoent_r
?S: is defined.
?S:.
?C:HAS_SETPROTOENT_R:
?C: This symbol, if defined, indicates that the setprotoent_r
 routine
?C: is available to setprotoent re-entrantly.
?C:.
?C:SETPROTOENT_R_PROTO:
?C: This symbol encodes the prototype of setprotoent_r.
?C: It is zero if d_setprotoent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setprotoent_r

```
?C: is defined.
?C:.
?H:#$d_setprotoent_r HAS_SETPROTOENT_R    /**/
?H:#define SETPROTOENT_R_PROTO $setprotoent_r_proto    /**/
?H:.
?T:try hdrs d_setprotoent_r_proto
: see if setprotoent_r exists
set setprotoent_r d_setprotoent_r
eval $inlibc
case "$d_setprotoent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_setprotoent_r_proto:$usethreads" in
 ":define") d_setprotoent_r_proto=define
  set d_setprotoent_r_proto setprotoent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_setprotoent_r_proto" in
 define)
 case "$setprotoent_r_proto" in
 "|0) try='int setprotoent_r(int, struct protoent_data*);'
 ./protochk "$extern_C $try" $hdrs && setprotoent_r_proto=I_ID ;;
 esac
 case "$setprotoent_r_proto"
 in
 "|0) try='void setprotoent_r(int, struct protoent_data*);'
 ./protochk "$extern_C $try" $hdrs && setprotoent_r_proto=V_ID ;;
 esac
 case "$setprotoent_r_proto" in
 "|0) d_setprotoent_r=undef
        setprotoent_r_proto=0
  echo "Disabling setprotoent_r, cannot determine prototype." >&4 ;;
 * ) case "$setprotoent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) setprotoent_r_proto="REENTRANT_PROTO_$setprotoent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "setprotoent_r has no prototype, not using it." >&4 ;;
  esac
  d_setprotoent_r=undef
  setprotoent_r_proto=0
  ;;
 esac
 ;;
```

*) setprotoent_r_proto=0
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_setprotoent_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:56:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: added support for HPUX-10 nm output
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  14:11:56  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:20:47  ram
?RCS: patch54: made sure only most recent version of shared lib is picked
?RCS: patch54: final "nm -p" check now uses xscan and xrun
 like everybody
?RCS: patch54: can now grok Linux nm output with lead __IO (ADO)
?RCS: patch54: added support for Linux ELF output, using 'W' for alias (ADO)
?RCS:
?RCS: Revision 3.0.1.7  1994/10/29  16:23:40  ram
?RCS: patch36: now looks for shared libraries before anything else (ADO)
?RCS: patch36: added new nm output format (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1994/08/29  16:28:10  ram
?RCS: patch32: added I-type symbols for nm output parsing on Linux
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  07:03:24  ram
?RCS: patch30: checks are now presented by succession of if/elif
?RCS: patch30: uniformized checks for shared objects with new so symbol
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  15:06:33  ram
?RCS: patch23: added shared library knowledge (ADO and WED)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:12:17  ram

```
?RCS: patch16: can now export nm_extract as an internal-use only variable
?RCS:
?RCS: Revision 3.0.1.2  1993/09/13  16:09:03  ram
?RCS: patch10: added special handling for Apollo
 systems (WAD)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:40:03  ram
?RCS: patch7: added entry for /usr/shlib/libc.so (OSF/1 machines)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libc +nm_extract: echo n c rm test grep Getfile Myread Oldconfig Loc \
 sed libs incpath libpth ar runnm nm nm_opt nm_so_opt contains xlibpth \
 so _a _o osname trnl tr sort uniq sysroot
?MAKE: -pick add $@ %<
?S:libc:
?S: This variable contains the location of the C library.
?S:.
?S:nm_extract:
?S: This variable holds the name of the extraction command used to process
?S: the output of nm and yield the list of defined symbols. It is used
?S: internally by Configure.
?S:.
?T:thislib try libnames xxx xscan xrun thisname com tans file
?F:!libnames !libc.tmp !tmp.imp
?LINT:extern PASE
?LINT:extern libnames
?LINT:change nm_opt
?INIT:libnames="
: Figure out where the libc is located
case "$runnm" in
true)
?X: indentation is wrong on purpose--RAM
:
 get list of predefined functions in a handy place
echo " "
case "$libc" in
") libc=unknown
 case "$libs" in
 *-lc_s*) libc=`./loc libc_s$_a $libc $libpth`
 esac
 ;;
esac
case "$libs" in
") ;;
*)  for thislib in $libs; do
 case "$thislib" in
```

```
-lc|-lc_s)
 : Handle C library specially below.
 ;;
-l*)
 thislib=`echo $thislib | $sed -e 's/^-l//'`
 if try=`./loc lib$thislib.$so.'*' X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc lib$thislib.$so X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc lib$thislib$_a X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc $thislib$_a X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc lib$thislib X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc $thislib X $libpth`; $test -f "$try"; then
  :
 elif try=`./loc Slib$thislib$_a X $xlibpth`; $test -f "$try"; then
  :
 else
  try=''
 fi
 libnames="$libnames $try"
 ;;
 *) libnames="$libnames $thislib" ;;
 esac
 done
 ;;
esac
?X:
?X: Some systems (e.g. DG/UX) use
 "environmental" links, which make the test
?X: -f fail. Ditto for symbolic links. So in order to reliably check the
?X: existence of a file, we use test -r. It will still fail with DG/UX links
?X: though, but at least it will detect symbolic links. At some strategic
?X: points, we make use of (test -h), using a sub-shell in case builtin test
?X: does not implement the -h check for symbolic links. This makes it
?X: possible to preset libc in a hint file for instance and have it show up
?X: as-is in the question.
?X:
xxx=normal
case "$libc" in
unknown)
?X:
?X: The sed below transforms .so.9 .so.12 into something like .so.0009 .so.0012,
?X: then sorts on it to allow keeping .so.12 instead of .so.9 as the latest
?X: up-to-date library. The initial filename (before sed munging, saved in hold
?X: space via 'h') is appended via 'G' before sorting, then the leading munged
```

```
?X: part is removed after sorting. Nice efficient work from Tye McQueen.
?X: The initial blurfl is here to prevent the trailing
 pipe from producing an
?X: empty string, causing Configure to output all its set variables!
?X:
 set /lib/libc.$so
 for xxx in $libpth; do
  $test -r $1 || set $xxx/libc.$so
  : The messy sed command sorts on library version numbers.
  $test -r $1 || \
   set `echo blurfl; echo $xxx/libc.$so.[0-9]* | \
   tr ' ' $trnl | egrep -v '\.[A-Za-z]*$' | $sed -e '
    h
    s/[0-9][0-9]*/0000&/g
    s/0*\([0-9][0-9][0-9][0-9][0-9]\)/\1/g
    G
    s/\n/ /' | \
    $sort | $sed -e 's/^.* //'`
  eval set \$$#
 done
 $test -r $1 || set $sysroot/usr/ccs/lib/libc.$so
 $test -r $1 || set $sysroot/lib/libsys_s$_a
 ;;
*)
?X: ensure the test below for the (shared) C library will fail
 set blurfl
 ;;
esac
if $test -r "$1"; then
 echo "Your (shared) C library seems to be in $1."
 libc="$1"
elif $test -r /lib/libc && $test -r /lib/clib; then
?X:
?X: Apollo has its C library in /lib/clib AND /lib/libc
?X: not to mention its math library in /lib/syslib...
?X:
 echo "Your C library seems to be in both /lib/clib
 and /lib/libc."
 xxx=apollo
 libc='/lib/clib /lib/libc'
 if $test -r /lib/syslib; then
  echo "(Your math library is in /lib/syslib.)"
?X: Put syslib in libc -- not quite right, but won't hurt
  libc="$libc /lib/syslib"
 fi
elif $test -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 echo "Your C library seems to be in $libc, as you said before."
?X: For mips, and...
```

```
elif $test -r $incpath/usr/lib/libc$_a; then
 libc=$incpath/usr/lib/libc$_a;
 echo "Your C library seems to be in $libc.  That's fine."
elif $test -r /lib/libc$_a; then
 libc=/lib/libc$_a;
 echo "Your C library seems to be in $libc.  You're normal."
else
 if tans=`./loc libc$_a blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc libc blurfl/dyick $libpth`; $test -r "$tans"; then
  libnames="$libnames "`./loc clib blurfl/dyick $libpth`
 elif tans=`./loc clib blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Slibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 elif tans=`./loc
 Mlibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 else
  tans=`./loc Llibc$_a blurfl/dyick $xlibpth`
 fi
 if $test -r "$tans"; then
  echo "Your C library seems to be in $tans, of all places."
  libc=$tans
 else
  libc='blurfl'
 fi
fi
if $test $xxx = apollo -o -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 dflt="$libc"
 cat <<EOM

If the guess above is wrong (which it might be if you're using a strange
compiler, or your machine supports multiple models), you can override it here.

EOM
else
 dflt="
 echo $libpth | $tr ' ' $trnl | $sort | $uniq > libpath
 cat >&4 <<EOM
I can't seem to find your C library.  I've looked in the following places:

EOM
 $sed 's/^/ /' libpath
 cat <<EOM

None of these seems to contain your C library. I need to get its name...
```

```
EOM
fi
fn=f
rp='Where is your C library?'
. ./getfile
libc="$ans"

echo " "
echo $libc $libnames | $tr ' ' $trnl | $sort | $uniq > libnames
set X `cat libnames`
shift
xxx=files
case $# in 1) xxx=file; esac
echo
 "Extracting names from the following $xxx for later perusal:" >&4
echo " "
$sed 's/^/ /' libnames >&4
echo " "
$echo $n "This may take a while...$c" >&4

?X:
?X: Linux may need the special Dynamic option to nm for shared libraries.
?X: In general, this is stored in the nm_so_opt variable.
?X: Unfortunately, that option may be fatal on non-shared libraries.
?X:
for file in $*; do
 case $file in
 *$so*) $nm $nm_so_opt $nm_opt $file 2>/dev/null;;
 *) $nm $nm_opt $file 2>/dev/null;;
 esac
done >libc.tmp

$echo $n ".$c"
?X:
?X: To accelerate processing, we look at the correct 'sed' command
?X: by using a small subset of libc.tmp, i.e. fprintf function.
?X: When we know which sed command to use, do the name extraction
?X:
$grep fprintf libc.tmp > libc.ptf
?X:
?X: In order to enhance readability and save some space, we define
?X: some variables that will be "eval"ed.
?X:
xscan='eval "<libc.ptf $com >libc.list"; $echo $n ".$c" >&4'
xrun='eval "<libc.tmp $com >libc.list"; echo "done." >&4'
?X:
 BSD-like output, I and W types added for Linux
?X: Some versions of Linux include a leading __IO in the symbol name.
```

```
?X: HP-UX 10 reportedly has trailing spaces, though I'm surprised it has
?X: BSD-like output.  (AD).
?X: GNU extension: i is "indirect function"
xxx='[ADTSIWi]'
if com="$sed -n -e 's/__IO//' -e 's/^.* $xxx  *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: SYSV-like output
elif com="$sed -n -e 's/^__*//' -e 's/^\([a-zA-Z_0-9$]*\).*xtern.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/|UNDEF/d' -e '/FUNC..GL/s/^.*|__*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.* D __*//p' -e 's/^.* D //p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^_//' -e 's/^\([a-zA-Z_0-9]*\).*xtern.*text.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$'
 libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$grep '|' | $sed -n -e '/|COMMON/d' -e '/|DATA/d' \
    -e '/ file/d' -e 's/^\([^  ]*\).*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p' -e 's/^.*|FUNC |WEAK .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: mips nm output (sysV)
elif com="$sed -n -e 's/^__//' -e '/|Undef/d' -e '/|Proc/s/ .*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|Proc .*|Text *| *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
```

```
elif com="$sed -n -e '/Def. Text/s/.* \([^ ]*\)\$/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: OS/2
 nm output
elif com="$sed -n -e 's/^[-0-9a-f ]*_\(.*\)=.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/.*\.text n\ \ \ \.//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: AIX nm output
elif com="sed -n -e 's/^__.*//' -e 's/[       ]*D[    ]*[0-9]*.*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
else
 $nm -p $* 2>/dev/null >libc.tmp
 $grep fprintf libc.tmp > libc.ptf
 if com="$sed -n -e 's/^.* [ADTSIW]  *_[_.]*//p' -e 's/^.* [ADTSIW] //p'";\
  eval $xscan; $contains '^fprintf$' libc.list >/dev/null 2>&1
 then
  nm_opt='-p'
  eval $xrun
 else
  echo " "
  echo "$nm didn't seem to work right. Trying $ar instead..." >&4
  com="
  if $ar t $libc > libc.tmp && \
   $contains '^fprintf$' libc.tmp >/dev/null 2>&1
  then
   for thisname in $libnames $libc; do
    $ar t $thisname >>libc.tmp
   done
   $sed -e "s/\\$_o\$//" < libc.tmp > libc.list
   echo
 "Ok." >&4
  elif test "X$osname" = "Xos2" && $ar tv $libc > libc.tmp; then
?X: Repeat libc to extract forwarders to DLL entries too
   for thisname in $libnames $libc; do
    $ar tv $thisname >>libc.tmp
?X: Revision 50 of EMX has bug in ar: it will not extract forwarders
?X: to DLL entries.  Use emximp which will extract exactly them.
    emximp -o tmp.imp $thisname \
        2>/dev/null && \
```

```
        $sed -e 's/^\([_a-zA-Z0-9]*\) .*$/\1/p' \
        < tmp.imp >>libc.tmp
    $rm -f tmp.imp
   done
   $sed -e "s/\\$_o\$//" -e 's/^ \+//' < libc.tmp > libc.list
   echo "Ok." >&4
  else
   echo "$ar didn't seem to work right." >&4
   echo "Maybe this is a Cray...trying bld instead..." >&4
   if  bld t $libc | \
    $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" > libc.list &&
    $test -s libc.list
   then
    for thisname in $libnames; do
     bld t $libnames | \
     $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" >>libc.list
     $ar t $thisname >>libc.tmp
    done
    echo "Ok." >&4
   else
    echo
 "That didn't work either.  Giving up." >&4
    exit 1
   fi
  fi
 fi
fi
nm_extract="$com"
case "$PASE" in
define)
   echo " "
   echo "Since you are compiling for PASE, extracting more symbols from libc.a ...">&4
   dump -Tv /lib/libc.a | awk '$7 == "/unix" {print $5 " " $8}' | grep "^SV" | awk '{print $2}' >> libc.list
   ;;
*)  if $test -f /lib/syscalls.exp; then
 echo " "
 echo "Also extracting names from /lib/syscalls.exp for good ole AIX..." >&4
 $sed -n 's/^\([^  ]*\)[  ]*syscall[0-9]*[  ]*$/\1/p' \
  /lib/syscalls.exp >>libc.list
   fi
   ;;
esac
;;
esac
$rm -f libnames libpath
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/libc.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_newsadm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_newsadm.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:36:53  ram
?RCS: patch61: added Guess dependency
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:14:33  ram
?RCS: patch36: call ./eunice explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:42  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_newsadm newsadmin: cat contains Guess Setvar Myread Oldconfig
?MAKE: -pick add $@ %<
?S:d_newsadm:
?S: This variable
 conditionally defines the NEWS_ADMIN symbol, which
?S: indicates to the C program that there is a user who is in charge
?S: of news administration.
?S:.
?S:newsadmin:
?S: This variable holds the login name of the news administrator, if any.
?S:.
?C:NEWS_ADMIN (NEWSADMIN):
?C: This symbol, if defined, contains the login name of the news
?C: administrator.
?C:.
?H:#$d_newsadm NEWS_ADMIN "$newsadmin"  /**/
?H:.
?LINT:set d_newsadm
: get news administrator name
case "$newsadmin" in
")
 if $contains "^news:" /etc/passwd >/dev/null 2>&1 ; then
  dflt=news
 elif $contains "^usenet:" /etc/passwd >/dev/null 2>&1 ; then
  dflt=usenet
 elif ./eunice; then
```

```
 dflt=system
else
 dflt=root
fi
;;
*)
 dflt="$newsadmin"
 ;;
esac
$cat <<'EOM'

Many systems keep their news in a private directory, or have a non-superuser
in charge of administering news.  (If you don't have such a user, take the
default answer.)  I need the login name (not directory) which is used for
news administration.

EOM
rp="News
 admin login?"
. ./myread
newsadmin="$ans"
case "$newsadmin" in
root) val="$undef" ;;
*) val="$define" ;;
esac
set d_newsadm
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_newsadm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_malloc.U,v 3.5 2008/03/29 14:06:51 merijn Exp $
?RCS:
?RCS: Copyright (c) 2008, H.Merijn Brand
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.5.
?RCS:
?MAKE:i_mallocmalloc: Inhdr
?MAKE: -pick add $@ %<
?S:i_mallocmalloc:
?S: This variable conditionally defines the I_MALLOCMALLOC symbol,
?S: and indicates whether a C program should include <malloc/malloc.h>.
?S:.
```

```
?C:I_MALLOCMALLOC:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <malloc/malloc.h>.
?C:.
?H:#$i_mallocmalloc I_MALLOCMALLOC  /**/
?H:.
?LINT:set i_mallocmalloc
: see if malloc/malloc.h has to be included
set malloc/malloc.h i_mallocmalloc
eval
 $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_mallocmalloc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_linuxstd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_linuxstd.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:14:05  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_linuxstd: d_stdstdio cppstdin cppflags cppminus \
 contains rm Setvar Findhdr
?MAKE: -pick add $@ %<
?S:d_linuxstd:
?S: This variable conditionally defines USE_LINUX_STDIO if this system
?S: has a FILE structure declaring _IO_read_base, _IO_read_ptr,
?S: and _IO_read_end
 in stdio.h.
?S:.
?C:USE_LINUX_STDIO:
?C: This symbol is defined if this system has a FILE structure declaring
?C: _IO_read_base, _IO_read_ptr, and _IO_read_end in stdio.h.
?C:.
?H:#$d_linuxstd USE_LINUX_STDIO  /**/
?H:.
?T:xxx
```

```
?LINT:set d_linuxstd
: see if stdio is like that in linux
case "$d_stdstdio" in
"$undef")
 echo " "
 xxx=`./findhdr stdio.h`
 $cppstdin $cppflags $cppminus < "$xxx" > stdio.E
 if $contains 'char.*_IO_read_base' stdio.E >/dev/null 2>&1 && \
  $contains '_IO_read_ptr' stdio.E >/dev/null 2>&1 && \
  $contains '_IO_read_end' stdio.E >/dev/null 2>&1 ; then
   echo "Your stdio looks like linux." >&4
   val="$define"
 else
  echo "You don't have linux stdio, either." >&4
  val="$undef"
 fi
 $rm -f stdio.E
 ;;
*) val="$undef" ;;
esac

set d_linuxstd
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_linuxstd.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: defeditor.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: defeditor.U,v $
?RCS: Revision 3.0.1.1  1995/01/11  15:30:16  ram
?RCS: patch45: can now use the 'vi' variable since path stripping is deferred
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:defeditor: Getfile Oldconfig Loc vi
?MAKE: -pick add $@ %<
?S:defeditor:
```

```
?S: This variable contains the eventual value of the DEFEDITOR symbol,
?S: which contains the name of the default editor.
?S:.
?C:DEFEDITOR:
?C: This
 symbol contains the full pathname of the default editor.
?C:.
?H:#define DEFEDITOR "$defeditor"  /**/
?H:.
: determine default editor
echo " "
case "$defeditor" in
")
 case "$vi" in
 */*) dflt="$vi";;
 *) dflt=/usr/ucb/vi;;
 esac
 ;;
*)  dflt="$defeditor"
 ;;
esac
fn=f/
rp="What is the default editor on your system?"
. ./getfile
defeditor="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/defeditor.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getnetent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getnetent_r getnetent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_getnetent_r:
?S: This variable conditionally defines the HAS_GETNETENT_R symbol,
?S: which indicates to the C program that the getnetent_r()
?S: routine is available.
?S:.
?S:getnetent_r_proto:
?S: This variable encodes the prototype of getnetent_r.
```

```
?S: It is zero if d_getnetent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getnetent_r
?S: is defined.
?S:.
?C:HAS_GETNETENT_R:
?C: This symbol, if defined, indicates that the getnetent_r routine
?C: is
 available to getnetent re-entrantly.
?C:.
?C:GETNETENT_R_PROTO:
?C: This symbol encodes the prototype of getnetent_r.
?C: It is zero if d_getnetent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getnetent_r
?C: is defined.
?C:.
?H:#$d_getnetent_r HAS_GETNETENT_R    /**/
?H:#define GETNETENT_R_PROTO $getnetent_r_proto    /**/
?H:.
?T:try hdrs d_getnetent_r_proto
: see if getnetent_r exists
set getnetent_r d_getnetent_r
eval $inlibc
case "$d_getnetent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getnetent_r_proto:$usethreads" in
 ":define") d_getnetent_r_proto=define
  set d_getnetent_r_proto getnetent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getnetent_r_proto" in
 define)
 case "$getnetent_r_proto" in
 "|0) try='int getnetent_r(struct netent*, char*, size_t, struct netent**, int*);'
 ./protochk "$extern_C $try" $hdrs && getnetent_r_proto=I_SBWRE ;;
 esac
 case "$getnetent_r_proto" in
 "|0) try='int
 getnetent_r(struct netent*, char*, int, int*);'
 ./protochk "$extern_C $try" $hdrs && getnetent_r_proto=I_SBIE ;;
 esac
 case "$getnetent_r_proto" in
 "|0) try='struct netent* getnetent_r(struct netent*, char*, int, int*);'
 ./protochk "$extern_C $try" $hdrs && getnetent_r_proto=S_SBIE ;;
 esac
 case "$getnetent_r_proto" in
 "|0) try='struct netent* getnetent_r(struct netent*, char*, int);'
```

```
 ./protochk "$extern_C $try" $hdrs && getnetent_r_proto=S_SBI ;;
 esac
 case "$getnetent_r_proto" in
 "|0) try='int getnetent_r(struct netent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getnetent_r_proto=I_SBI ;;
 esac
 case "$getnetent_r_proto" in
 "|0) try='int getnetent_r(struct netent*, struct netent_data*);'
 ./protochk "$extern_C $try" $hdrs && getnetent_r_proto=I_SD ;;
 esac
 case "$getnetent_r_proto" in
 "|0) d_getnetent_r=undef
        getnetent_r_proto=0
  echo "Disabling getnetent_r, cannot determine prototype." >&4 ;;
 * ) case "$getnetent_r_proto" in
  REENTRANT_PROTO*)
 ;;
  *) getnetent_r_proto="REENTRANT_PROTO_$getnetent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getnetent_r has no prototype, not using it." >&4 ;;
  esac
  d_getnetent_r=undef
  getnetent_r_proto=0
  ;;
 esac
 ;;
*) getnetent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getnetent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysioctl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

?RCS: $Log: i_sysioctl.U,v $
?RCS: Revision 3.0.1.2  1994/05/06  15:04:57  ram
?RCS: patch23: added knowledge for <sys/filio.h> (WED)
?RCS: patch23: optimized amount of findhdr calls
?RCS:
?RCS: Revision 3.0.1.1  1993/11/10  17:36:09  ram
?RCS: patch14: now use a compiler check for TIOCNOTTY because of HP-UX 9.x
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:32  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_sysioctl i_bsdioctl i_sysfilio i_syssockio
 d_voidtty: test contains \
 cat i_termio i_termios i_sgtty Setvar Findhdr +cc rm Inhdr
?MAKE: -pick add $@ %<
?S:i_sysioctl:
?S: This variable conditionally defines the I_SYS_IOCTL symbol, which
?S: indicates to the C program that <sys/ioctl.h> exists and should
?S: be included.
?S:.
?S:i_sysfilio:
?S: This variable conditionally defines the I_SYS_FILIO symbol, which
?S: indicates to the C program that <sys/filio.h> exists and should
?S: be included in preference to <sys/ioctl.h>.
?S:.
?S:i_bsdioctl:
?S: This variable conditionally defines the I_SYS_BSDIOCTL symbol, which
?S: indicates to the C program that <sys/bsdioctl.h> exists and should
?S: be included.
?S:.
?S:i_syssockio:
?S: This variable conditionally defines I_SYS_SOCKIO to indicate to the
?S: C program that socket ioctl codes may be found in <sys/sockio.h>
?S: instead of <sys/ioctl.h>.
?S:.
?S:d_voidtty:
?S: This variable conditionally defines USE_IOCNOTTY to indicate that the
?S: ioctl() call with TIOCNOTTY should be used
 to void tty association.
?S: Otherwise (on USG probably), it is enough to close the standard file
?S: descriptors and do a setpgrp().
?S:.
?C:I_SYS_IOCTL (I_SYSIOCTL):
?C: This symbol, if defined, indicates that <sys/ioctl.h> exists and should
?C: be included. Otherwise, include <sgtty.h> or <termio.h>.
?C:.
?C:I_SYS_FILIO:
?C: This symbol, if defined, indicates that <sys/filio.h> exists and

```
?C: should be included instead of <sys/ioctl.h>.
?C:.
?C:I_SYS_BSDIOCTL (I_BSDIOCTL):
?C: This symbol, if defined, indicates that <sys/bsdioctl.h> exists and should
?C: be included. Otherwise, try <sys/ioctl.h>. This is primarly intended for
?C: definitions of sockets options, like SIOCATMARK.
?C:.
?C:I_SYS_SOCKIO (I_SYSSOCKIO):
?C: This symbol, if defined, indicates the <sys/sockio.h> should be included
?C: to get socket ioctl options, like SIOCATMARK.
?C:.
?C:USE_TIOCNOTTY (VOIDTTY):
?C: This symbol, if defined indicate to the C program that the ioctl()
?C: call with TIOCNOTTY should be used
 to void tty association.
?C: Otherwise (on USG probably), it is enough to close the standard file
?C: descriptors and do a setpgrp().
?C:.
?H:#$i_sysioctl I_SYS_IOCTL  /**/
?H:#$i_sysfilio I_SYS_FILIO  /**/
?H:#$i_bsdioctl I_SYS_BSDIOCTL  /**/
?H:#$i_syssockio I_SYS_SOCKIO /**/
?H:#$d_voidtty USE_TIOCNOTTY /**/
?H:.
?T:xxx
: see if ioctl defs are in sgtty, termio, sys/filio or sys/ioctl
?LINT:set i_sysfilio
set sys/filio.h i_sysfilio
eval $inhdr
echo " "
if $test `./findhdr sys/ioctl.h`; then
 val="$define"
 echo '<sys/ioctl.h> found.' >&4
else
 val="$undef"
 if $test $i_sysfilio = "$define"; then
     echo '<sys/ioctl.h> NOT found.' >&4
 else
  $test $i_sgtty = "$define" && xxx="sgtty.h"
  $test $i_termio = "$define" && xxx="termio.h"
  $test $i_termios = "$define" && xxx="termios.h"
echo "No <sys/ioctl.h> found, assuming ioctl args are defined in <$xxx>." >&4
 fi
fi
?LINT:set i_sysioctl
set i_sysioctl
eval $setvar
```

```
@if I_BSDIOCTL || i_bsdioctl
?X:
?X: The only machine I know where this
 inclusion was necessary is a
?X: BULL DPX 5000 (a French machine).
?X:
: see if socket ioctl defs are in sys/bsdioctl or sys/ioctl
echo " "
xxx=`./findhdr sys/bsdioctl.h`
if $test "$xxx"; then
 if $contains SIOCATMARK $xxx >/dev/null 2>&1; then
  val="$define"
  echo "You have socket ioctls defined in <sys/bsdioctl.h>." >&4
 else
  val="$undef"
  echo "No socket ioctls found in <sys/bsdioctl.h>." >&4
 fi
else
 val="$undef"
 echo "<sys/bsdioctl.h> not found, but that's ok." >&4
fi
?LINT:set i_bsdioctl
set i_bsdioctl
eval $setvar

@end
@if I_SYSSOCKIO || i_syssockio
: see if socket ioctl defs are in sys/sockio.h
echo " "
xxx=`./findhdr sys/sockio.h`
if $test "$xxx"; then
 if $contains SIOCATMARK $xxx >/dev/null 2>&1; then
  val="$define"
  echo "You have socket ioctls defined in <sys/sockio.h>." >&4
 else
  val="$undef"
  echo "No socket ioctls found in <sys/sockio.h>." >&4
 fi
else
 val="$undef"
@if I_BSDIOCTL
 case "$i_bsdioctl" in
 "$define") $cat <<EOM
<sys/sockio.h> not found, using
 ioctls from <sys/bsdioctl.h>.
EOM
 ;;
 *) $cat <<EOM
```

```
<sys/sockio.h> not found, assuming socket ioctls are in <sys/ioctl.h>.
EOM
 ;;
 esac
@else
 $cat <<EOM
<sys/sockio.h> not found, assuming socket ioctls are in <sys/ioctl.h>.
EOM
@end
fi
?LINT:set i_syssockio
set i_syssockio
eval $setvar

@end
@if VOIDTTY || d_voidtty
: check how to void tty association
echo " "
case "$i_sysioctl" in
"$define") xxx='sys/ioctl.h';;
?X: otherwise $xxx was set during the determination of i_sysioctl, above.
esac
?X:
?X: Can't use $contains here since HP-UX 9.x has TIOCNOTTY between a pair
?X: of #ifdef/#endif and is never actually defined. Oh well...
?X:
$cat > tcio.c <<EOM
#include <sys/types.h> /* Just in case */
#include <$xxx>

int main()
{
#ifdef TIOCNOTTY
 exit(0);
#else
 exit(1);
#endif
}
EOM
if ($cc -o tcio tcio.c && ./tcio) >/dev/null 2>&1; then
 val="$define"
 echo "TIOCNOTTY found in <$xxx>." >&4
 echo "Using ioctl() call on /dev/tty to void tty association." >&4
else
 val="$undef"
 echo "Closing
 standard file descriptors should void tty association." >&4
fi
```

?LINT:set d_voidtty
set d_voidtty
eval $setvar
$rm -f tcio tcio.? core

@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysioctl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_arpainet.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_arpainet.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:15  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_arpainet: Inhdr
?MAKE: -pick add $@ %<
?S:i_arpainet:
?S: This variable conditionally defines the I_ARPA_INET symbol,
?S: and indicates whether a C program should include <arpa/inet.h>.
?S:.
?C:I_ARPA_INET:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <arpa/inet.h> to get inet_addr and friends
 declarations.
?C:.
?H:#$i_arpainet I_ARPA_INET  /**/
?H:.
?LINT:set i_arpainet
: see if arpa/inet.h has to be included
set arpa/inet.h i_arpainet
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_arpainet.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorhtml3.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $

```
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml3.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml3 vendorhtml3exp installvendorhtml3: html3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml3:
?S: This variable contains the name of the directory for html
?S: library pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: html pages for modules and extensions in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml3exp:
?S: This variable is the ~name expanded version of vendorhtml3, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorhtml3="
?S:installvendorhtml3:
?S: This variable is really the same as vendorhtml3exp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml3
: Set the vendorhtml3 variables
case "$vendorprefix" in
") vendorhtml3="
 vendorhtml3exp="
 ;;
*) : determine where vendor-supplied module html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default suggestions would be welcome.
```

```
 case "$vendorhtml3"
 in
 '') dflt=`echo "$html3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml3 ;;
 esac
 case "$dflt" in
 ''|' ') dflt=none ;;
 esac
 fn=dn+~
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml3="$ans"
 vendorhtml3exp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml3" = "X" && vendorhtml3=' '
prefixvar=vendorhtml3
. ./installprefix

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorhtml3.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_sigsetjmp.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:44:33  ram
?RCS: patch61: created
?RCS:
?MAKE:d_sigsetjmp: Setvar cat +cc +ccflags +ldflags libs rm
?MAKE: -pick add $@ %<
?S:d_sigsetjmp:
?S: This variable conditionally defines the HAS_SIGSETJMP symbol,
?S: which indicates that the sigsetjmp() routine
```

```
 is available to
?S: call setjmp() and optionally save the process's signal mask.
?S:.
?C:HAS_SIGSETJMP:
?C: This variable indicates to the C program that the sigsetjmp()
?C: routine is available to save the calling process's registers
?C: and stack environment for later use by siglongjmp(), and
?C: to optionally save the process's signal mask.  See
?C: Sigjmp_buf, Sigsetjmp, and Siglongjmp.
?C:.
?C:Sigjmp_buf:
?C: This is the buffer type to be used with Sigsetjmp and Siglongjmp.
?C:.
?C:Sigsetjmp:
?C: This macro is used in the same way as sigsetjmp(), but will invoke
?C: traditional setjmp() if sigsetjmp isn't available.
?C: See HAS_SIGSETJMP.
?C:.
?C:Siglongjmp:
?C: This macro is used in the same way as siglongjmp(), but will invoke
?C: traditional longjmp() if siglongjmp isn't available.
?C: See HAS_SIGSETJMP.
?C:.
?H:?%<:#$d_sigsetjmp HAS_SIGSETJMP /**/
?H:?%<:#ifdef HAS_SIGSETJMP
?H:?%<:#define Sigjmp_buf sigjmp_buf
?H:?%<:#define Sigsetjmp(buf,save_mask) sigsetjmp((buf),(save_mask))
?H:?%<:#define
 Siglongjmp(buf,retval) siglongjmp((buf),(retval))
?H:?%<:#else
?H:?%<:#define Sigjmp_buf jmp_buf
?H:?%<:#define Sigsetjmp(buf,save_mask) setjmp((buf))
?H:?%<:#define Siglongjmp(buf,retval) longjmp((buf),(retval))
?H:?%<:#endif
?H:.
?W:%<:Sigjmp_buf Sigsetjmp Siglongjmp
?F:!set
?LINT:set d_sigsetjmp
: see if sigsetjmp exists
?X: We can't check for these symbols with Inlibc because sigsetjmp
?X: is (sometimes? always?) a macro under GCC
echo " "
case "$d_sigsetjmp" in
")
 $cat >set.c <<'EOP'
#include <setjmp.h>
sigjmp_buf env;
int set = 1;
```

```
int main()
{
 if (sigsetjmp(env,1))
  exit(set);
 set = 0;
 siglongjmp(env, 1);
 exit(1);
}
EOP
 if $cc $ccflags $ldflags -o set set.c $libs > /dev/null 2>&1 ; then
  if ./set >/dev/null 2>&1; then
   echo "POSIX sigsetjmp found." >&4
   val="$define"
  else
   $cat >&4 <<EOM
Uh-Oh! You have POSIX sigsetjmp and siglongjmp, but they do not work properly!!
I'll ignore them.
EOM
   val="$undef"
  fi
 else
  echo "sigsetjmp not found."
 >&4
  val="$undef"
 fi
 ;;
*) val="$d_sigsetjmp"
 case "$d_sigsetjmp" in
 $define) echo "POSIX sigsetjmp found." >&4;;
 $undef) echo "sigsetjmp not found." >&4;;
 esac
 ;;
esac
set d_sigsetjmp
eval $setvar
$rm -f set.c set

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sigsetjmp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
```

?MAKE:d_eaccess: Inlibc
?MAKE: -pick add $@ %<
?S:d_eaccess:
?S: This variable conditionally defines the HAS_EACCESS symbol, which
?S: indicates to the C program that the eaccess() routine is available.
?S:.
?C:HAS_EACCESS :
?C: This symbol, if defined, indicates that the eaccess routine is
?C: available to do extended access checks.
?C:.
?H:#$d_eaccess HAS_EACCESS  /**/
?H:.
?LINT:set d_eaccess
: see if eaccess exists
set eaccess d_eaccess
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/acl/d_eaccess.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Config_h.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  14:57:43  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:10:49  ram
?RCS: patch59: commented the purpose of the #un-def directive
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:25:39  ram
?RCS: patch49: typo fixes in leading config.h comment (WED)
?RCS:
?RCS: Revision 3.0.1.2  1993/08/24  12:13:20  ram
?RCS: patch3: added TOP as a local shell temporary variable
?RCS:
?RCS: Revision 3.0.1.1  1993/08/19  06:42:20
  ram
?RCS: patch1: leading config.sh searching was not aborting properly
?RCS:

```
?RCS: Revision 3.0  1993/08/18  12:04:47  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file ends up producing the config_h.SH script, which is run to produce
?X: the config.h file.  The file ./.Config_h below contains all the ?H: lines
?X: extracted out of all the units.  Metaconfig itself adds the !GROK!THIS!.
?X: Note that this code isn't included into Configure, but must be shipped with.
?X:
?X: For those who wish to know why the file is config_h.SH instead of the more
?X: natural config.h.SH, well... it is to support systems like MS-DOG. Only one
?X: 'dot' is allowed within the file name, as it is part of the "extension" of
?X: the file. MS-DOG will not let you have two 'dots' because that would mean
?X: two "extensions".
?X:
?MAKE:Config_h: Id End Config_sh Obsol_h myuname cf_time cf_by package src
?MAKE: -pick c_h_weed $@ %<
?MAKE: -pick c_h_weed $@ ./Config_h
?MAKE: -pick
 c_h_weed $@ ./Obsol_h
?T:CONFIG TOP
?LINT:unclosed !GROK!THIS!
?LINT:extern CONFIG_H CONFIG_SH
?LINT:change CONFIG_H CONFIG_SH
?LINT:nocomment
case "$CONFIG_SH" in
") CONFIG_SH=config.sh;;
esac
case "$CONFIG_H" in
") CONFIG_H=config.h;;
esac
case $CONFIG in
")
 if test -f $CONFIG_SH; then TOP=.;
 elif test -f ../$CONFIG_SH; then TOP=..;
 elif test -f ../../$CONFIG_SH; then TOP=../..;
 elif test -f ../../../$CONFIG_SH; then TOP=../../..;
 elif test -f ../../../../$CONFIG_SH; then TOP=../../../..;
 else
  echo "Can't find $CONFIG_SH."; exit 1
 fi
 . $TOP/$CONFIG_SH
 ;;
esac
?X: Make sure we are in the directory where the .SH file is located.
case "$0" in
*/*) cd `expr X$0 : 'X\(.*\)/'` ;;
esac
```

```
echo "Extracting $CONFIG_H (with variable substitutions)"
?X:
?X: Since we unconditionally translate leading #undef into /*#define, we're
?X: stuck when we really want to have a #undef in config.h. That's why there
?X: is provision here for #un-def, which is translated back into #undef after
?X:
 all original #undef have been processed.
?X:
?X: Previously, we changed all
?X:  #undef FOO /**/
?X: into
?X:  /*#define FOO /**/
?X: The xlc compiler (available on IBM's AIX) complains that this is
?X: an illegal attempt to write a nested comment, and warns against it.
?X: There's apparently no way to shut the compiler up, either.
?X: This sed command from Hallvard B Furuseth <h.b.furuseth@usit.uio.no>
?X: changes it to
?X:  /*#define FOO / **/
sed <<!GROK!THIS! >$CONFIG_H -e 's!^#undef\(.*/\)\*!/\*#define\1 \*!' -e 's!^#un-def!#undef!'
/*
* This file was produced by running the config_h.SH script, which
* gets its values from $CONFIG_SH, which is generally produced by
* running Configure.
*
* Feel free to modify any of this as the need arises.  Note, however,
* that running config_h.SH again will wipe out any changes you've made.
* For a more permanent change edit $CONFIG_SH and rerun config_h.SH.
*
* \$Id: Config_h.U 1 2006-08-24 12:32:52Z rmanfredi $
*/

/*
* Package name
      : $package
* Source directory  : $src
* Configuration time: $cf_time
* Configured by     : $cf_by
* Target system     : $myuname
*/

#ifndef _config_h_
#define _config_h_

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Config_h.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sitearch.U,v 3.1 1999/07/08 18:32:29 doughera Exp doughera $
```

?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitearch.U,v $
?RCS: Revision 3.1  1999/07/08 18:32:29  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:21:30  ram
?RCS: patch61: created
?RCS:
?MAKE:sitearch sitearchexp installsitearch d_sitearch: cat sed Getfile \
 Oldconfig Setprefixvar Prefixit test archname sitelib
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitearch="
?S:sitearch:
?S: This variable contains the eventual
 value of the SITEARCH symbol,
?S: which is the name of the private library for this package.  It may
?S: have a ~ on the front. It is up to the makefile to eventually create
?S: this directory while performing installation (with ~ substitution).
?S: The standard distribution will put nothing in this directory.
?S: After perl has been installed, users may install their own local
?S: architecture-dependent modules in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitearchexp="
?S:sitearchexp:
?S: This variable is the ~name expanded version of sitearch, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installsitearch="
?S:installsitearch:
?S: This variable is really the same as sitearchexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?D:d_sitearch="
?S:d_sitearch:
?S: This variable conditionally defines SITEARCH to hold the

```
 pathname
?S: of architecture-dependent library files for $package.  If
?S: $sitearch is the same as $archlib, then this is set to undef.
?S:.
?C:SITEARCH:
?C: This symbol contains the name of the private library for this package.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.  The program
?C: should be prepared to do ~ expansion.
?C: The standard distribution will put nothing in this directory.
?C: After perl has been installed, users may install their own local
?C: architecture-dependent modules in this directory with
?C:  MakeMaker Makefile.PL
?C: or equivalent.  See INSTALL for details.
?C:.
?C:SITEARCH_EXP:
?C: This symbol contains the ~name expanded version of SITEARCH, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?H:#$d_sitearch SITEARCH "$sitearch"  /**/
?H:#$d_sitearch SITEARCH_EXP "$sitearchexp"  /**/
?H:.
?LINT:change prefixvar
?LINT:set installsitearch
?LINT:set
 sitearch
?LINT:set sitearchexp
: determine where site specific architecture-dependent libraries go.
: sitelib  default is /usr/local/lib/perl5/site_perl/$version
: sitearch default is /usr/local/lib/perl5/site_perl/$version/$archname
: sitelib may have an optional trailing /share.
case "$sitearch" in
'') dflt=`echo $sitelib | $sed 's,/share$,,'`
 dflt="$dflt/$archname"
 ;;
*) dflt="$sitearch"
 ;;
esac
set sitearch sitearch none
eval $prefixit
$cat <<EOM

The installation process will also create a directory for
architecture-dependent site-specific extensions and modules.

EOM
fn=d~+
rp='Pathname for the site-specific architecture-dependent library files?'
```

```
. ./getfile
prefixvar=sitearch
. ./setprefixvar
if $test X"$sitearch" = X"$sitelib"; then
 d_sitearch="$undef"
else
 d_sitearch="$define"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitearch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_alarm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_alarm.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:06:58  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_alarm: Inlibc
?MAKE: -pick add $@ %<
?S:d_alarm:
?S: This variable conditionally defines the HAS_ALARM symbol, which
?S: indicates to the C program that the alarm() routine is available.
?S:.
?C:HAS_ALARM :
?C: This symbol, if defined, indicates that the alarm routine is
?C: available.
?C:.
?H:#$d_alarm
 HAS_ALARM  /**/
?H:.
?LINT:set d_alarm
: see if alarm exists
set alarm d_alarm
eval $inlibc
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_alarm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2015 Jarkko Hietaniemi, H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:longdblmantbits doublemantbits nvmantbits: Inlibc cat Compile run \
 rm_try Setvar echo i_float i_sunmath usequadmath \
 d_longdbl longdblkind nvsize doublesize longdblsize
?MAKE: -pick add $@ %<
?S:doublemantbits:
?S: This symbol, if defined, tells how many mantissa bits
?S: there are in double precision floating point format.
?S: Note that this is usually DBL_MANT_DIG minus one, since
?S: with the standard IEEE 754 formats DBL_MANT_DIG includes
?S: the implicit bit which doesn't really exist.
?S:.
?S:longdblmantbits:
?S: This symbol, if defined, tells how many mantissa bits
?S: there are in long double precision floating point format.
?S: Note that this can be LDBL_MANT_DIG minus
 one,
?S: since LDBL_MANT_DIG can include the IEEE 754 implicit bit.
?S: The common x86-style 80-bit long double does not have
?S: an implicit bit.
?S:.
?S:nvmantbits:
?S: This variable tells how many bits the mantissa of a Perl NV has,
?S: not including the possible implicit bit.
?S:.
?C:DOUBLEMANTBITS:
?C: This symbol, if defined, tells how many mantissa bits
?C: there are in double precision floating point format.
?C: Note that this is usually DBL_MANT_DIG minus one, since
?C: with the standard IEEE 754 formats DBL_MANT_DIG includes
?C: the implicit bit, which doesn't really exist.
?C:.
?C:LONGDBLMANTBITS:
?C: This symbol, if defined, tells how many mantissa bits
?C: there are in long double precision floating point format.
?C: Note that this can be LDBL_MANT_DIG minus one,
?C: since LDBL_MANT_DIG can include the IEEE 754 implicit bit.
?C: The common x86-style 80-bit long double does not have
?C: an implicit bit.

```
?C:.
?C:NVMANTBITS:
?C: This symbol, if defined, tells how many mantissa
 bits
?C: (not including implicit bit) there are in a Perl NV.
?C: This depends on which floating point type was chosen.
?C:.
?H:#define DOUBLEMANTBITS  $doublemantbits
?H:#define LONGDBLMANTBITS $longdblmantbits
?H:#define NVMANTBITS      $nvmantbits
?H:.
?F:!try
: Check the length of the double mantissa
$echo "Checking how many mantissa bits your doubles have..." >&4
$cat >try.c <<EOP
#$i_float I_FLOAT
#$i_sunmath I_SUNMATH
#ifdef I_FLOAT
# include <float.h>
#endif
#ifdef I_SUNMATH
# include <sunmath.h>
#endif
#ifdef DBL_MANT_DIG
# define BITS (DBL_MANT_DIG - 1) /* the implicit bit does not count */
#endif
#include <stdio.h>
int main(int argc, char *argv[]) {
#ifdef BITS
 printf("%d\n", BITS);
#endif
 return 0;
}
EOP
set try
if eval $compile; then
   doublemantbits=`$run ./try`
else
   doublemantbits="$undef"
fi
$rm_try

: Check the length of the longdouble mantissa
$echo "Checking how many mantissa bits your long doubles have..." >&4
$cat >try.c <<EOP
#$i_float I_FLOAT
#$i_sunmath
```

```
 I_SUNMATH
#ifdef I_FLOAT
# include <float.h>
#endif
#ifdef I_SUNMATH
# include <sunmath.h>
#endif
#$d_longdbl HAS_LONG_DOUBLE
#if defined(HAS_LONG_DOUBLE) && defined(LDBL_MANT_DIG)
# if ($longdblkind == 3) || ($longdblkind == 4) /* 80-bit extended precision */
/* This format has no implicit bit.  Beware, however, that for
* this format the bare LDBL_MANT_DIG is misleading for inf/nan:
* the top three bits are used for inf (100) / qnan (11x) / snan (101),
* and the top bit must have been one since 387, zero is plain invalid.
* For normal fp values, the LDBL_MANT_DIG is fine, though. */
#  define BITS LDBL_MANT_DIG
# elif ($longdblkind == 5 || $longdblkind == 6 || $longdblkind == 7 || $longdblkind == 8) /* double double */
/* LDBL_MANT_DIG of 106 (twice 53) would be logical, but for some
* reason e.g. Irix thinks 107.  But in any case, we want only
* the number of real bits, the implicit bits are of no interest.  */
#  define BITS 2 * (DBL_MANT_DIG - 1)
# else
#  define BITS (LDBL_MANT_DIG
 - 1) /* the implicit bit does not count */
# endif
#endif
#include <stdio.h>
int main(int argc, char *argv[]) {
#ifdef BITS
 printf("%d\n", BITS);
#endif
 return 0;
}
EOP
set try
if eval $compile; then
   longdblmantbits=`$run ./try`
else
   longdblmantbits="$undef"
fi
$rm_try

: Check the length of the NV mantissa
$echo "Checking how many mantissa bits your NVs have..." >&4
if test "X$usequadmath" = "X$define"; then
 nvmantbits=112 # 128-1-15
else
 if test "X$nvsize" = "X$doublesize"; then
```

```
  nvmantbits="$doublemantbits"
 else
   if test "X$nvsize" = "X$longdblsize"; then
     nvmantbits="$longdblmantbits"
   else
     nvmantbits="$undef"
   fi
 fi
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/mantbits.U
No license file was found, but licenses were detected in source scan.

* Feel free to modify any of this as the need arises.  Note, however,

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/metaconfig.html
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Typedef.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  13:42:07  ram
?RCS: patch56: added backslash escapes within evals to prevent space problems
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:01:16  ram
?RCS: patch36: don't clobber visible 'val' variable, use 'varval' instead
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:05:14  ram
?RCS: patch32: created
?RCS:
?X:
?X: This unit checks for the definition of a given typedef.
?X:
?X: To use it, say:
?X: set typedef val_t default [includes]
?X: eval $typedef
?X:
?MAKE:Typedef:
```

```
 cppstdin cppminus cppflags rm contains Oldconfig
?MAKE: -pick add $@ %<
?F:!temp.c
?LINT:define typedef
?V:typedef
?S:typedef:
?S: This shell variable is used internally by Configure to check
?S: wether a given typedef is defined or not. A typical use is:
?S:  set typedef val_t default [includes]
?S:  eval $typedef
?S: That will return val_t set to default if the typedef was not found,
?S: to typedef otherwise. If no includes are specified, look in sys/types.h.
?S:.
?T:type var def inclist varval inc
: define an is-a-typedef? function
typedef='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 if $contains $type temp.E >/dev/null 2>&1; then
  eval "$var=\$type";
 else
  eval "$var=\$def";
 fi;
 $rm -f temp.?;;
*) eval
 "$var=\$varval";;
esac'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Typedef.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: localarch.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS:
?MAKE:localarch localarchexp installlocalarch installlocalarchexp: \
 afs cat Getfile \
 Oldconfig Prefixit test archname uselocallib locallib sitearch
?MAKE: -pick add $@ %<
?Y:TOP
?S:localarch:
?S: This variable contains the eventual value of the LOCALARCH symbol,
?S: which is the name of the private library for this package.  It may
?S: have a ~ on the front. It is up to the makefile to eventually create
?S: this directory while performing installation
 (with ~ substitution).
?S: This differs from $sitearch in that $sitearch is often
?S: a shared network directory while $localarch is
?S: at a local disk, because of policy/administrative issues
?S: like for example caching (performance), licensing, or security.
?S:.
?S:localarchexp:
?S: This variable is the ~name expanded version of localarch, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?S:installlocalarch:
?S: This variable is really the same as localarchexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?S:installlocalarchexp:
?S: This variable is the ~name expanded version of installlocalarch,
?S: so that you may use it directly in Makefiles or shell scripts.
?S:.
?C:LOCALARCH:
?C: This symbol contains the name of the private library for this package.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the
 world.  The program
?C: should be prepared to do ~ expansion.
?C: The standard distribution will put nothing in this directory.
?C: Local administration may place extensions and modules in
?C: this directory.
?C: This differs from SITEARCH in that SITEARCH is often
?C: a shared network directory while LOCALARCH is
?C: at a local disk, because of policy/administrative issues
?C: like for example caching (performance), licensing, or security.
?C:.
?C:LOCALARCH_EXP:

```
?C: This symbol contains the ~name expanded version of LOCALARCH,
?C: to be used in programs that are not prepared to deal with ~
?C: expansion at run-time.
?C:.
?H:#define LOCALARCH "$localarch"  /**/
?H:#define LOCALARCH_EXP "$localarchexp"  /**/
?H:.
?T:tdflt
?LINT:extern sitearch
: Set the localarch variables
case "$uselocallib" in
"$define")
 case "$sitearch" in
 ") tdflt="$tdflt/$archname"
  set sitearch sitearch none
  eval $prefixit
  dflt="$tdflt" ;;
 *) dflt="$sitearch" ;;
 esac
 $cat <<EOM

The installation process
 will also create a directory for
architecture-dependent extensions and modules to be installed
alongside $locallib.

EOM
 fn=nd~+
 rp='Pathname for local architecture-dependent library files?'
 . ./getfile
 if $test "X$localarchexp" != "X$ansexp"; then
  installlocalarch="
 fi
 localarch="$ans"
 localarchexp="$ansexp"
 if $afs; then
  $cat <<EOM

Since you are running AFS, I need to distinguish the directory in
which locally installed architecture-dependent library files reside
from the directory in which they are installed (and from which they
are presumably copied to the former directory by occult means).

EOM
  case "$installlocalarch" in
  ") dflt=`echo $localarchexp | sed 's#^/afs/#/afs/.#'`;;
  *) dflt="$installlocalarch";;
  esac
```

```
 fn=de~
 rp='Where will local architecture-dependent files be installed?'
 . ./getfile
 installlocalarch="$ans"
else
 installlocalarch="$localarchexp"
fi
;;
*)
 localarch=""
 localarchexp=""
 installlocalarch=""
 installlocalarchexp=""
 ;;
esac
```

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/localarch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_dlerror.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_dlerror.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  13:52:49  ram
?RCS: patch56: force compile-link test since symbol might lie in crt0.o (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:11:23  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_dlerror: Inlibc runnm
?MAKE: -pick add $@ %<
?S:d_dlerror:
?S: This variable conditionally defines the HAS_DLERROR symbol, which
?S: indicates
 to the C program that the dlerror() routine is available.
?S:.
?C:HAS_DLERROR :
```

```
?C: This symbol, if defined, indicates that the dlerror routine is
?C: available to return a string describing the last error that
?C: occurred from a call to dlopen(), dlclose() or dlsym().
?C:.
?H:#$d_dlerror HAS_DLERROR /**/
?H:.
?T: xxx_runnm
?LINT:set d_dlerror
?X: We don't permanently change runnm, but we do temporarily.
?LINT: change runnm
: see if dlerror exists
?X: On NetBSD and FreeBSD, dlerror might be available, but it is in
?X: /usr/lib/crt0.o, not in any of the libraries.  Therefore, do not
?X: use the nm extraction, but use a real compile and link test instead.
xxx_runnm="$runnm"
runnm=false
set dlerror d_dlerror
eval $inlibc
runnm="$xxx_runnm"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_dlerror.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: modetype.U,v 3.0.1.1 1994/10/29 16:25:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: modetype.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:25:07  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:modetype: Myread Typedef
?MAKE: -pick add $@ %<
?S:modetype:
?S: This variable defines modetype to be something like mode_t,
?S: int, unsigned short, or whatever type is used to declare file
?S: modes for system calls.
?S:.
?C:Mode_t:
```

?C: This symbol holds the type used to declare
 file modes
?C: for systems calls.  It is usually mode_t, but may be
?C: int or unsigned short.  It may be necessary to include <sys/types.h>
?C: to get any typedef'ed information.
?C:.
?H:#define Mode_t $modetype  /* file mode parameter for system calls */
?H:.
?LINT:set modetype
: see what type is used for mode_t
rp="What is the type used for file modes for system calls (e.g. fchmod())?"
set mode_t modetype int stdio.h sys/types.h
eval $typedef_ask

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/modetype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_drand48_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_drand48_r drand48_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_stdlib extern_C
?MAKE: -pick add $@ %<
?S:d_drand48_r:
?S: This variable conditionally defines the HAS_DRAND48_R symbol,
?S: which indicates to the C program that the drand48_r()
?S: routine is available.
?S:.
?S:drand48_r_proto:
?S: This variable encodes the prototype of drand48_r.
?S: It is zero if d_drand48_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_drand48_r
?S: is defined.
?S:.
?C:HAS_DRAND48_R:
?C: This symbol, if defined, indicates that the drand48_r routine
?C: is available to drand48 re-entrantly.
?C:.
?C:DRAND48_R_PROTO:
?C: This
 symbol encodes the prototype of drand48_r.
?C: It is zero if d_drand48_r is undef, and one of the

```
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_drand48_r
?C: is defined.
?C:.
?H:#$d_drand48_r HAS_DRAND48_R    /**/
?H:#define DRAND48_R_PROTO $drand48_r_proto    /**/
?H:.
?T:try hdrs d_drand48_r_proto
: see if drand48_r exists
set drand48_r d_drand48_r
eval $inlibc
case "$d_drand48_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_stdlib stdlib.h"
 case "$d_drand48_r_proto:$usethreads" in
 ":define") d_drand48_r_proto=define
  set d_drand48_r_proto drand48_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_drand48_r_proto" in
 define)
 case "$drand48_r_proto" in
 "|0) try='int drand48_r(struct drand48_data*, double*);'
 ./protochk "$extern_C $try" $hdrs && drand48_r_proto=I_ST ;;
 esac
 case "$drand48_r_proto" in
 "|0) d_drand48_r=undef
        drand48_r_proto=0
  echo "Disabling drand48_r, cannot determine prototype."
 >&4 ;;
 * ) case "$drand48_r_proto" in
  REENTRANT_PROTO*) ;;
  *) drand48_r_proto="REENTRANT_PROTO_$drand48_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "drand48_r has no prototype, not using it." >&4 ;;
  esac
  d_drand48_r=undef
  drand48_r_proto=0
  ;;
 esac
 ;;
*) drand48_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_drand48_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_mblen.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_mblen.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:09:40  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_mblen: Inlibc
?MAKE: -pick add $@ %<
?S:d_mblen:
?S: This variable conditionally defines the HAS_MBLEN symbol, which
?S: indicates to the C program that the mblen() routine is available
?S: to find the number of bytes in a multibye character.
?S:.
?C:HAS_MBLEN:
?C: This
 symbol, if defined, indicates that the mblen routine is available
?C: to find the number of bytes in a multibye character.
?C:.
?H:#$d_mblen HAS_MBLEN  /**/
?H:.
?LINT:set d_mblen
: see if mblen exists
set mblen d_mblen
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_mblen.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_gethent.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:

?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_gethent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_gethent: Inlibc
?MAKE: -pick add $@ %<
?S:d_gethent:
?S: This variable conditionally defines HAS_GETHOSTENT if gethostent() is
?S: available to look up host names in some data base or another.
?S:.
?C:HAS_GETHOSTENT:
?C: This symbol, if defined, indicates that the gethostent() routine is
?C: available to look up host names in some
 data base or another.
?C:.
?H:#$d_gethent HAS_GETHOSTENT  /**/
?H:.
?LINT:set d_gethent
: see if gethostent exists
set gethostent d_gethent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_gethent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_mq_open: Inlibc
?MAKE: -pick add $@ %<
?S:d_mq_open:
?S: This variable conditionally defines HAS_MQ_OPEN if mq_open() is
?S: available to open a POSIX message queue.
?S:.

?C:HAS_MQ_OPEN:
?C: This symbol, if defined, indicates that the mq_open system call is
?C: available to open a POSIX message queue.
?C:.
?H:#$d_mq_open HAS_MQ_OPEN  /**/
?H:.
?LINT:set d_mq_open
: see if mq_open exists
set mq_open d_mq_open
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mq_open.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sig_name.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sig_name.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  16:21:25  ram
?RCS: patch61: brand new algorithm for sig_name and (new!) sig_num
?RCS:
?RCS: Revision 3.0.1.4  1995/07/25  14:14:54  ram
?RCS: patch56: added <asm/signal.h> lookup for Linux
?RCS:
?RCS: Revision 3.0.1.3  1995/05/12  12:24:11  ram
?RCS: patch54: now looks for <linux/signal.h> too (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/06/20  07:06:57  ram
?RCS: patch30: final echo was missing to close
 awk-printed string
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:17:55  ram
?RCS: patch23: signal list now formatted to avoid scroll-ups (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:47  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:sig_name sig_name_init sig_num sig_num_init sig_count sig_size: \
 awk Signal Oldconfig rm
?MAKE: -pick add $@ %<

?S:sig_name:
?S: This variable holds the signal names, space separated. The leading
?S: SIG in signal name is removed.  A ZERO is prepended to the list.
?S: This is currently not used, sig_name_init is used instead.
?S:.
?S:sig_name_init:
?S: This variable holds the signal names, enclosed in double quotes and
?S: separated by commas, suitable for use in the SIG_NAME definition
?S: below.  A "ZERO" is prepended to the list, and the list is
?S: terminated with a plain 0.  The leading SIG in signal names
?S: is removed. See sig_num.
?S:.
?S:sig_num:
?S: This variable holds the signal numbers, space separated. A ZERO is
?S: prepended
 to the list (corresponding to the fake SIGZERO).
?S: Those numbers correspond to  the value of the signal listed
?S: in the same place within the sig_name list.
?S: This is currently not used, sig_num_init is used instead.
?S:.
?S:sig_num_init:
?S: This variable holds the signal numbers, enclosed in double quotes and
?S: separated by commas, suitable for use in the SIG_NUM definition
?S: below.  A "ZERO" is prepended to the list, and the list is
?S: terminated with a plain 0.
?S:.
?S:sig_count (sig_name.U):
?S:  This variable holds a number larger than the largest valid
?S:  signal number.  This is usually the same as the NSIG macro.
?S:.
?S:sig_size:
?S:  This variable contains the number of elements of the sig_name
?S:  and sig_num arrays.
?S:.
?C:SIG_NAME:
?C: This symbol contains a list of signal names in order of
?C: signal number. This is intended
?C: to be used as a static array initialization, like this:
?C:  char *sig_name[] = { SIG_NAME };
?C: The signals in the list are
 separated with commas, and each signal
?C: is surrounded by double quotes. There is no leading SIG in the signal
?C: name, i.e. SIGQUIT is known as "QUIT".
?C: Gaps in the signal numbers (up to NSIG) are filled in with NUMnn,
?C: etc., where nn is the actual signal number (e.g. NUM37).
?C: The signal number for sig_name[i] is stored in sig_num[i].
?C: The last element is 0 to terminate the list with a NULL.  This
?C: corresponds to the 0 at the end of the sig_name_init list.

```
?C: Note that this variable is initialized from the sig_name_init,
?C: not from sig_name (which is unused).
?C:.
?C:SIG_NUM:
?C: This symbol contains a list of signal numbers, in the same order as the
?C: SIG_NAME list. It is suitable for static array initialization, as in:
?C:  int sig_num[] = { SIG_NUM };
?C: The signals in the list are separated with commas, and the indices
?C: within that list and the SIG_NAME list match, so it's easy to compute
?C: the signal name from a number or vice versa at the price of
 a small
?C: dynamic linear lookup.
?C: Duplicates are allowed, but are moved to the end of the list.
?C: The signal number corresponding to sig_name[i] is sig_number[i].
?C: if (i < NSIG) then sig_number[i] == i.
?C: The last element is 0, corresponding to the 0 at the end of
?C: the sig_name_init list.
?C: Note that this variable is initialized from the sig_num_init,
?C: not from sig_num (which is unused).
?C:.
?C:SIG_COUNT:
?C: This variable contains a number larger than the largest
?C: signal number.  This is usually the same as the NSIG macro.
?C:.
?C:SIG_SIZE:
?C: This variable contains the number of elements of the SIG_NAME
?C: and SIG_NUM arrays, excluding the final NULL entry.
?C:.
?H:#define SIG_NAME $sig_name_init  /**/
?H:#define SIG_NUM  $sig_num_init  /**/
?H:#define SIG_COUNT $sig_count   /**/
?H:#define SIG_SIZE $sig_size   /**/
?H:.
?T:i doinit
?F:!= !signal_cmd
?X: signal.cmd creates a file  signal.lst which has two columns:
?X: NAME  number, e.g.
?X:  HUP 1
?X: The list
 is sorted on signal number, with duplicates moved to
?X: the end..
: generate list of signal names
case "$sig_num_init" in
")
echo " "
case "$sig_name_init" in
") doinit=yes ;;
*)  case "$sig_num_init" in
```

```
  "|*,*) doinit=yes ;;
  esac ;;
esac
case "$doinit" in
yes)
 echo "Generating a list of signal names and numbers..." >&4
 . ./signal_cmd
 sig_count=`$awk '/^NSIG/ { printf "%d", $2 }' signal.lst`
 sig_name=`$awk 'BEGIN { printf "ZERO " }
   !/^NSIG/ { printf "%s ", $1 }' signal.lst`
 sig_num=`$awk  'BEGIN { printf "0 " }
   !/^NSIG/ { printf "%d ", $2 }' signal.lst`
 sig_name_init=`$awk 'BEGIN { printf "\"ZERO\", " }
       !/^NSIG/ { printf "\"%s\", ", $1 }
       END { printf "0\n" }' signal.lst`
 sig_num_init=`$awk  'BEGIN { printf "0, " }
       !/^NSIG/ { printf "%d, ", $2}
       END { printf "0\n"}' signal.lst`
 ;;
esac
echo "The following $sig_count signals are available:"
echo " "
echo $sig_name | $awk \
'BEGIN { linelen = 0 }
{
 for (i = 1; i <= NF;
 i++) {
  name = "SIG" $i " "
  linelen = linelen + length(name)
  if (linelen > 70) {
   printf "\n"
   linelen = length(name)
  }
  printf "%s", name
 }
 printf "\n"
}'
sig_size=`echo $sig_name | awk '{print NF}'`
$rm -f signal signal.c signal.awk signal.lst signal_cmd
;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/sig_name.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_hidnet.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_hidnet.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:20  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_hidnet hiddennet: cat sed myhostname mydomain Myread Oldconfig
?MAKE: -pick add $@ %<
?S:d_hidnet:
?S: This variable conditionally defines the symbol HIDDEN_NET, which
?S: tells the C program that it should pretend it is on a different
?S: host for purposes of advertising a mailing address.
?S:.
?S:hiddennet:
?S: This variable contains
 the value eventually given to the symbol
?S: HIDDEN_NET, if d_hidnet defines it.  If defined, it's the name
?S: of the host which serves as the mail server for a network that
?S: is invisible to the outside world.
?S:.
?C:HIDDEN_NET (HIDDENNET):
?C: This symbol, if defined, contains the host name that you want to
?C: advertise to the outside world.  This name can be different from
?C: your actual host name, as long as the machine you specify knows
?C: how to forward mail to you.
?C:.
?H:#$d_hidnet HIDDEN_NET "$hiddennet" /**/
?H:.
: now get the host name to advertise as our mailing address
case "$hiddennet" in
'') dflt=n;;
*) dflt=y;;
esac
$cat <<EOM

Some sites are on "hidden" networks, in the sense that the network appears
to the outside world as a single machine.  The advertised name of any host
on this hidden network is the name of one machine on the local network which
knows how to forward mail to any other host on the hidden network.

Do you wish to advertise a different hostname
```

```
 to the world than the one your
own host ($myhostname$mydomain) has?

EOM
rp='Use "hidden" network?'
. ./myread
case "$ans" in
n*) d_hidnet="$undef" hiddennet='';;
*)
 d_hidnet="$define"
 echo " "
 case "$hiddennet" in
 '') dflt=`echo $mydomain | $sed -e 's/^\.//'`;;
 *) dflt="$hiddennet";;
 esac
 rp='What hostname do you wish to advertise?'
 . ./myread
 hiddennet="$ans"
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_hidnet.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:uselongdouble: Myread Oldconfig Setvar cat test usemorebits
?MAKE: -pick add $@ %<
?Y:TOP
?S:uselongdouble:
?S: This variable conditionally defines the USE_LONG_DOUBLE symbol,
?S: and indicates that long doubles should be used when available.
?S:.
?C:USE_LONG_DOUBLE:
?C: This symbol, if defined, indicates that long doubles should
?C: be used when available.
?C:.
?H:?%<:#ifndef USE_LONG_DOUBLE
?H:?%<:#$uselongdouble USE_LONG_DOUBLE  /**/
?H:?%<:#endif
?H:.
?LINT:extern ccflags
```

```
?LINT:use usemorebits
?F:!uselongdouble.cbu
: Check for uselongdouble support
case "$ccflags" in
*-DUSE_LONG_DOUBLE*|*-DUSE_MORE_BITS*) uselongdouble="$define" ;;
esac

case "$uselongdouble" in
$define|true|[yY]*) dflt='y';;
*)
 dflt='n';;
esac
cat <<EOM

Perl can be built to take advantage of long doubles which
(if available) may give more accuracy and range for floating point numbers.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Try to use long doubles if available?'
. ./myread
case "$ans" in
y|Y)  val="$define" ;;
*)      val="$undef" ;;
esac
set uselongdouble
eval $setvar

case "$uselongdouble" in
true|[yY]*) uselongdouble="$define" ;;
esac

: Look for a hint-file generated 'call-back-unit'.  If the
: user has specified that long doubles should be used,
: we may need to set or change some other defaults.
if $test -f uselongdouble.cbu; then
   echo "Your platform has some specific hints regarding long doubles, using them..."
   . ./uselongdouble.cbu
else
   case "$uselongdouble" in
 $define)
  $cat <<EOM
(Your platform does not have any specific hints for long doubles.)
EOM
 ;;
   esac
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/uselongdbl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: netdbtype.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: netdbtype.U,v $
?RCS:
?MAKE:netdb_host_type netdb_hlen_type netdb_name_type netdb_net_type: \
 Protochk Oldconfig Myread cat \
 d_gethbyaddr d_gethbyname d_getnbyaddr \
 i_niin i_netdb i_unistd d_socket sizetype extern_C
?MAKE: -pick add $@ %<
?S:netdb_host_type:
?S: This variable holds the type used for the 1st argument to
?S: gethostbyaddr().  Usually, this is char * or void *,  possibly
?S: with or without a const prefix.
?S: This is only useful if you have gethostbyaddr(), naturally.
?S:.
?S:netdb_hlen_type:
?S: This variable holds the type used for the 2nd argument to
?S: gethostbyaddr().  Usually,
 this is int or size_t or unsigned.
?S: This is only useful if you have gethostbyaddr(), naturally.
?S:.
?S:netdb_name_type:
?S: This variable holds the type used for the argument to
?S: gethostbyname().  Usually, this is char * or const char *.
?S: This is only useful if you have gethostbyname(), naturally.
?S:.
?S:netdb_net_type:
?S: This variable holds the type used for the 1st argument to
?S: getnetbyaddr().  Usually, this is int or long.
?S: This is only useful if you have getnetbyaddr(), naturally.
?S:.
?C:Netdb_host_t:
?C: This symbol holds the type used for the 1st argument
?C: to gethostbyaddr().
?C:.
?C:Netdb_hlen_t:
?C: This symbol holds the type used for the 2nd argument
```

```
?C: to gethostbyaddr().
?C:.
?C:Netdb_name_t:
?C: This symbol holds the type used for the argument to
?C: gethostbyname().
?C:.
?C:Netdb_net_t:
?C: This symbol holds the type used for the 1st argument to
?C: getnetbyaddr().
?C:.
?H:#define Netdb_host_t  $netdb_host_type /**/
?H:#define Netdb_hlen_t  $netdb_hlen_type
 /**/
?H:#define Netdb_name_t  $netdb_name_type /**/
?H:#define Netdb_net_t  $netdb_net_type /**/
?H:.
?T:xxx yyy try hdrs
@if netdb_host_type || Netdb_host_t || netdb_hlen_type || Netdb_hlen_t
: check for type of arguments to gethostbyaddr.
if test "X$netdb_host_type" = X -o "X$netdb_hlen_type" = X; then
 case "$d_gethbyaddr" in
 $define)
  $cat <<EOM

Checking to see what type of arguments are accepted by gethostbyaddr().
EOM
  hdrs="$define sys/types.h
   $d_socket sys/socket.h
   $i_niin netinet/in.h
   $i_netdb netdb.h
   $i_unistd unistd.h"
  : The first arg can 'char *' or 'void *'
  : The second arg is some of integral type
  for xxx in in_addr_t 'const void *' 'const char *' 'void *' 'char *'; do
   for yyy in size_t long int; do
    case "$netdb_host_type" in
    ") try="$extern_C struct hostent *gethostbyaddr($xxx, $yyy, int);"
     if ./protochk "$try" $hdrs; then
      echo "Your system accepts $xxx for the first arg."
      echo "...and $yyy for the second arg."
      netdb_host_type="$xxx"
      netdb_hlen_type="$yyy"
     fi
     ;;
    esac
   done
  done
  :
```

```
In case none of those worked, prompt the user.
 case "$netdb_host_type" in
 '') rp='What is the type for the 1st argument to gethostbyaddr?'
  dflt='char *'
  . ./myread
  netdb_host_type=$ans
  rp='What is the type for the 2nd argument to gethostbyaddr?'
  dflt="$sizetype"
  . ./myread
  netdb_hlen_type=$ans
  ;;
 esac
 ;;
*) : no gethostbyaddr, so pick harmless defaults
 netdb_host_type='char *'
 netdb_hlen_type="$sizetype"
 ;;
esac
# Remove the "const" if needed. -- but then we'll have a
# prototype clash!
# netdb_host_type=`echo "$netdb_host_type" | sed 's/^const //'`
fi
@end

@if netdb_name_type || Netdb_name_t
: check for type of argument to gethostbyname.
if test "X$netdb_name_type" = X ; then
 case "$d_gethbyname" in
 $define)
  $cat <<EOM

Checking to see what type of argument is accepted by gethostbyname().
EOM
  hdrs="$define sys/types.h
   $d_socket sys/socket.h
   $i_niin
 netinet/in.h
   $i_netdb netdb.h
   $i_unistd unistd.h"
  for xxx in "const char *" "char *"; do
   case "$netdb_name_type" in
   '') try="$extern_C struct hostent *gethostbyname($xxx);"
    if ./protochk "$try" $hdrs; then
     echo "Your system accepts $xxx."
     netdb_name_type="$xxx"
    fi
    ;;
   esac
```

```
 done
 : In case none of those worked, prompt the user.
 case "$netdb_name_type" in
 '') rp='What is the type for the 1st argument to gethostbyname?'
  dflt='char *'
  . ./myread
  netdb_name_type=$ans
  ;;
 esac
 ;;
*) : no gethostbyname, so pick harmless default
 netdb_name_type='char *'
 ;;
esac
fi
@end

@if netdb_net_type || Netdb_net_t
: check for type of 1st argument to getnetbyaddr.
if test "X$netdb_net_type" = X ; then
 case "$d_getnbyaddr" in
 $define)
  $cat <<EOM

Checking to see what type of 1st argument is accepted by getnetbyaddr().
EOM
  hdrs="$define sys/types.h
   $d_socket sys/socket.h
   $i_niin netinet/in.h
   $i_netdb netdb.h
   $i_unistd
 unistd.h"
  for xxx in in_addr_t "unsigned long" long "unsigned int" int; do
   case "$netdb_net_type" in
   '') try="$extern_C struct netent *getnetbyaddr($xxx, int);"
    if ./protochk "$try" $hdrs; then
     echo "Your system accepts $xxx."
     netdb_net_type="$xxx"
    fi
    ;;
   esac
  done
  : In case none of those worked, prompt the user.
  case "$netdb_net_type" in
  '') rp='What is the type for the 1st argument to getnetbyaddr?'
   dflt='long'
   . ./myread
   netdb_net_type=$ans
```

```
  ;;
 esac
 ;;
*) : no getnetbyaddr, so pick harmless default
 netdb_net_type='long'
 ;;
esac
fi
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/netdbtype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorarch.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorarch.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:d_vendorarch vendorarch vendorarchexp installvendorarch: sed Getfile \
 Setprefixvar Oldconfig Prefixit archname vendorlib vendorprefix test
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorarch:
?S: This variable contains the value of the PERL_VENDORARCH symbol.
?S: It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: architecture-dependent modules and extensions in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorarchexp:
?S: This variable is the ~name expanded version of vendorarch, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorarch="
?S:installvendorarch:
```

```
?S: This variable is really the same as vendorarchexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?S:d_vendorarch:
?S: This variable conditionally defined PERL_VENDORARCH.
?S:.
?C:PERL_VENDORARCH:
?C: If defined, this symbol contains the name of a private library.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.
?C: It may have a ~ on the front.
?C: The standard distribution will put nothing in this
 directory.
?C: Vendors who distribute perl may wish to place their own
?C: architecture-dependent modules and extensions in this directory with
?C:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?C: or equivalent.  See INSTALL for details.
?C:.
?C:PERL_VENDORARCH_EXP:
?C: This symbol contains the ~name expanded version of PERL_VENDORARCH, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?H:#$d_vendorarch PERL_VENDORARCH "$vendorarch"  /**/
?H:#$d_vendorarch PERL_VENDORARCH_EXP "$vendorarchexp"  /**/
?H:.
?LINT:change prefixvar
?LINT:set installvendorarch
: Set the vendorarch variables
case "$vendorprefix" in
'') d_vendorarch="$undef"
 vendorarch=''
 vendorarchexp=''
 ;;
*) d_vendorarch="$define"
 : determine where vendor-supplied architecture-dependent libraries go.
 : vendorlib  default is /usr/local/lib/perl5/vendor_perl/$version
 : vendorarch default is /usr/local/lib/perl5/vendor_perl/$version/$archname
 : vendorlib may have an optional trailing
 /share.
 case "$vendorarch" in
 '') dflt=`echo $vendorlib | $sed 's,/share$,,'`
  dflt="$dflt/$archname"
  ;;
 *) dflt="$vendorarch" ;;
 esac
 fn=d~+
 rp='Pathname for vendor-supplied architecture-dependent files?'
```

```
 . ./getfile
 vendorarch="$ans"
 vendorarchexp="$ansexp"
 ;;
esac
prefixvar=vendorarch
. ./installprefix
if $test X"$vendorarch" = X"$vendorlib"; then
 d_vendorarch="$undef"
else
 d_vendorarch="$define"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorarch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: so.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:30:04  ram
?RCS: patch36: now tells user how he can suppress shared lib lookup (ADO)
?RCS: patch36: removed echo at the top, since it's now in the here-doc (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:07:02  ram
?RCS: patch30: created
?RCS:
?X:
?X: This unit computes the shared-object / shared-lib extension
?X:
?MAKE:so: test libpth Loc Myread Oldconfig cat
?MAKE: -pick add $@ %<
?S:so:
?S: This variable holds the extension used to identify
 shared libraries
?S: (also known as shared objects) on the system. Usually set to 'so'.
?S:.
?T: xxx
: compute shared library extension
case "$so" in
```

```
")
 if xxx=`./loc libc.sl X $libpth`; $test -f "$xxx"; then
  dflt='sl'
 else
  dflt='so'
 fi
 ;;
*) dflt="$so";;
esac
$cat <<EOM

On some systems, shared libraries may be available.  Answer 'none' if
you want to suppress searching of shared libraries for the remainder
of this configuration.

EOM
rp='What is the file extension used for shared libraries?'
. ./myread
so="$ans"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/so.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?MAKE:run to from targetarch usecrosscompile: src awk cat grep test rm \
 echo sed mkdir cp touch chmod
?MAKE: -pick add $@ %<
?Y:TOP
?S:usecrosscompile:
?S: This variable conditionally defines the USE_CROSS_COMPILE symbol,
?S: and indicates that our package has been cross-compiled.
?S:.
?S:run:
?S: This variable contains the command used by Configure
?S: to copy and execute a cross-compiled executable in the
?S: target host.  Useful and available only during
```

the build.
?S: Empty string '' if not cross-compiling.
?S:.
?S:from:
?S: This variable contains the command used by Configure
?S: to copy files from the target host.  Useful and available
?S: only during the build.
?S: The string ':' if not cross-compiling.
?S:.
?S:to:
?S: This variable contains the command used by Configure
?S: to copy to from the target host.  Useful and available
?S: only during the build.
?S: The string ':' if not cross-compiling.
?S:.
?S:targetarch:
?S: If cross-compiling, this variable contains the target architecture.
?S: If not, this will be empty.
?S:.
?C:USE_CROSS_COMPILE:
?C: This symbol, if defined, indicates that the package is being
?C: cross-compiled.
?C:.
?C:CROSS_TARGET_ARCH:
?C: This symbol, if defined, indicates the target architecture
?C: the package has been cross-compiled to.
?C: Undefined if not a cross-compile.
?C:.
?H:?usecrosscompile:#ifndef USE_CROSS_COMPILE
?H:?usecrosscompile:#$usecrosscompile USE_CROSS_COMPILE /**/
?H:?usecrosscompile:#define
 CROSS_TARGET_ARCH "$targetarch" /**/
?H:?usecrosscompile:#endif
?H:.
?T:croak pwd exe f q i j cwd
?LINT:extern usecrosscompile
?LINT:extern cc
?LINT:extern usrinc
?LINT:change usrinc
?LINT:change ar
?LINT:change nm
?LINT:change ranlib
?LINT:extern targethost
?LINT:extern targetdir
?LINT:change targetdir
?LINT:extern targetuser
?LINT:change targetuser
?LINT:extern targetrun

```
?LINT:extern targetfrom
?LINT:extern targetto
?LINT:extern targetmkdir
?LINT:change targetrun
?LINT:change targetfrom
?LINT:change targetto
?LINT:change targetmkdir
?LINT:extern incpth
?LINT:extern libpth
?LINT:change incpth
?LINT:change libpth
?LINT:extern locincpth
?LINT:extern loclibpth
?LINT:change locincpth
?LINT:change loclibpth
?LINT:extern TMPDIR
: setup for possible cross-compilation
run=''
to=:
from=:
usecrosscompile='undef'
targetarch=''
case "$usecrosscompile" in
$define|true|[yY]*)
@if { test -d ../Cross }
?X:
?X: Cross-compilation is enabled when there is a 'Cross' directory found
?X: at the root
 of the package.  This directory must contain the following
?X: entries for defining the cross-compilation process:
?X:
?X: FIXME FIXME
?X: WE MUST DISTINGUISH BETWEEN LOCAL cross-compiling AND REMOTE ONE
?X: ACTUALLY, REMOTE COMPILATION SHOULD BE CONFIGURED INTERACTIVELY
?X: IT WILL COPY ALL THE FILES FROM THE MANIFEST DOWN TO THE REMOTE DIR...
?X: (and copy things like 'mkdep', etc...)
?X:
 $echo "Cross-compiling..."
 croak=''
 case "$cc" in
 *-*-gcc)
?X: A cross-compiling gcc, probably.
    targetarch=`$echo $cc|$sed 's/-gcc$//'`
    ar=$targetarch-ar
?X: leave out ld, choosing it is more complex
    nm=$targetarch-nm
    ranlib=$targetarch-ranlib
    $echo 'extern int foo;' > try.c
```

```
    set X `$cc -v -E try.c 2>&1 | \
  $awk '/^#include <,/^End of search /'|$grep '/include'`
    shift
 if $test $# -gt 0; then
        incpth="$incpth $*"
  incpth="`$echo $incpth|$sed 's/^ //'`"
  echo "Guessing incpth '$incpth'." >&4
  for i in $*; do
   j="`$echo $i|$sed 's,/include$,/lib,'`"
   if
$test -d $j; then
    libpth="$libpth $j"
   fi
  done
  libpth="`$echo $libpth|$sed 's/^ //'`"
  echo "Guessing libpth '$libpth'." >&4
    fi
    $rm -f try.c
    ;;
esac
case "$targetarch" in
'') echo "Targetarch not defined." >&4; croak=y ;;
*)  echo "Using targetarch $targetarch." >&4 ;;
esac
case "$incpth" in
'') echo "Incpth not defined." >&4; croak=y ;;
*)  echo "Using incpth '$incpth'." >&4 ;;
esac
case "$libpth" in
'') echo "Libpth not defined." >&4; croak=y ;;
*)  echo "Using libpth '$libpth'." >&4 ;;
esac
case "$usrinc" in
'')
 for i in $incpth; do
  if $test -f $i/errno.h -a -f $i/stdio.h -a -f $i/time.h; then
   usrinc=$i
   echo "Guessing usrinc $usrinc." >&4
   break
  fi
    done
    case "$usrinc" in
    '') echo "Usrinc not defined." >&4; croak=y ;;
    esac
 ;;
*)  echo "Using usrinc $usrinc." >&4 ;;
esac
case "$targethost" in
```

```
") echo "Targethost not defined." >&4; croak=y ;;
*)  echo "Using targethost $targethost."
>&4
esac
locincpth=' '
loclibpth=' '
case "$croak" in
y) echo "Cannot continue, aborting." >&4; exit 1 ;;
esac
case "$src" in
/*) run=$src/Cross/run
    targetmkdir=$src/Cross/mkdir
    to=$src/Cross/to
    from=$src/Cross/from
    ;;
*)  pwd=`$test -f ../Configure & cd ..; pwd`
    run=$pwd/Cross/run
    targetmkdir=$pwd/Cross/mkdir
    to=$pwd/Cross/to
    from=$pwd/Cross/from
    ;;
esac
case "$targetrun" in
") targetrun=ssh ;;
esac
case "$targetto" in
") targetto=scp ;;
esac
case "$targetfrom" in
") targetfrom=scp ;;
esac
run=$run-$targetrun
to=$to-$targetto
from=$from-$targetfrom
case "$targetdir" in
")
 targetdir="${TMPDIR:-/tmp}"
 echo "Guessing targetdir $targetdir." >&4
 ;;
esac
case "$targetuser" in
")
 targetuser=root
 echo "Guessing targetuser $targetuser." >&4
 ;;
esac
case "$targetfrom" in
scp) q=-q ;;
```

```
 *) q='' ;;
 esac
 case "$targetrun" in
 ssh|rsh)
  $cat >$run <<EOF
#!/bin/sh
case "\$1" in
-cwd)
 shift
 cwd=\$1
  shift
 ;;
esac
case "\$cwd" in
'') cwd=$targetdir ;;
esac
exe=\$1
shift
if $test ! -f \$exe.xok; then
 $to \$exe
 $touch \$exe.xok
fi
$targetrun -l $targetuser $targethost "cd \$cwd && ./\$exe \$@"
EOF
  ;;
 *)  echo "Unknown targetrun '$targetrun'" >&4
     exit 1
     ;;
 esac
 case "$targetmkdir" in
 */Cross/mkdir)
  $cat >$targetmkdir <<EOF
#!/bin/sh
$targetrun -l $targetuser $targethost "mkdir -p \$@"
EOF
     $chmod a+rx $targetmkdir
     ;;
 *)  echo "Unknown targetmkdir '$targetmkdir'" >&4
     exit 1
     ;;
 esac
 case "$targetto" in
 scp|rcp)
     $cat >$to <<EOF
#!/bin/sh
for f in \$@
do
 case "\$f" in
```

```
 /*)
   $targetmkdir \`dirname \$f\`
   $targetto $q \$f $targetuser@$targethost:\$f            || exit 1
   ;;
 *)
   $targetmkdir $targetdir/\`dirname \$f\`
   $targetto $q \$f $targetuser@$targethost:$targetdir/\$f || exit 1
   ;;
 esac
done
exit 0
EOF
    ;;
 cp) $cat >$to <<EOF
#!/bin/sh
for f in \$@
do
 case "\$f" in
 /*)
   $mkdir -p $targetdir/\`dirname
 \$f\`
   $cp \$f $targetdir/\$f || exit 1
   ;;
 *)
   $targetmkdir $targetdir/\`dirname \$f\`
   $cp \$f $targetdir/\$f || exit 1
   ;;
 esac
done
exit 0
EOF
    ;;
 *)  echo "Unknown targetto '$targetto'" >&4
    exit 1
    ;;
 esac
 case "$targetfrom" in
 scp|rcp)
   $cat >$from <<EOF
#!/bin/sh
for f in \$@
do
 $rm -f \$f
 $targetfrom $q $targetuser@$targethost:$targetdir/\$f . || exit 1
done
exit 0
EOF
    ;;
```

```
 cp) $cat >$from <<EOF
#!/bin/sh
for f in \$@
do
 $rm -f \$f
 cp $targetdir/\$f . || exit 1
done
exit 0
EOF
    ;;
 *)  echo "Unknown targetfrom '$targetfrom'" >&4
    exit 1
    ;;
 esac
 if $test ! -f $run; then
    echo "Target 'run' script '$run' not found." >&4
 else
    $chmod a+rx $run
 fi
 if $test ! -f $to; then
    echo "Target 'to' script '$to' not found." >&4
 else
    $chmod a+rx $to
 fi
 if $test ! -f $from; then
    echo "Target 'from' script '$from' not found." >&4
 else
    $chmod a+rx $from
 fi
 if $test ! -f $run -o ! -f $to -o !
 -f $from; then
    exit 1
 fi
 $cat >&4 <<EOF
Using '$run' for remote execution,
and '$from' and '$to'
for remote file transfer.
EOF
@else
 echo "Cross-compilation is not supported for this package." >&4
 exit 1
@end
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Cross.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_fmod.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_fmod.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:12:46  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_fmod: Inlibc
?MAKE: -pick add $@ %<
?S:d_fmod:
?S: This variable conditionally defines the HAS_FMOD symbol, which
?S: indicates to the C program that the fmod() routine is available.
?S: See also d_drem for the drem() routine which does roughly the same.
?S:.
?C:HAS_FMOD
 :
?C: This symbol, if defined, indicates that the fmod routine is
?C: available to compute the remainder r=x-n*y where n=trunc(x/y).
?C:.
?H:#$d_fmod HAS_FMOD  /**/
?H:.
?LINT:set d_fmod
: see if fmod exists
set fmod d_fmod
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_fmod.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_log2: Inlibc
?MAKE: -pick add $@ %<
?S:d_log2:
?S: This variable conditionally defines the HAS_LOG2 symbol, which

?S: indicates to the C program that the log2() routine is available
?S: to compute log base two.
?S:.
?C:HAS_LOG2:
?C: This symbol, if defined, indicates that the log2 routine is
?C: available to do the log2 function.
?C:.
?H:#$d_log2 HAS_LOG2  /**/
?H:.
?LINT:set d_log2
: see if log2 exists
set log2 d_log2
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_log2.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_termio.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_termio.U,v $
?RCS: Revision 3.0.1.4  1994/10/29  16:20:54  ram
?RCS: patch36: call ./usg and ./Cppsym explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0.1.3  1994/08/29  16:26:38  ram
?RCS: patch32: don't include all threee I_* symbols in config.h
?RCS: patch32: (had forgotten to undo this part last time)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:25:03  ram
?RCS: patch27: undone ADO's fix in previous patch since it was useless
?RCS:
?RCS:
 Revision 3.0.1.1  1994/05/06  15:05:23  ram
?RCS: patch23: now include all three defines in config.h (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:44  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_termio i_sgtty i_termios: test Inlibc Cppsym Guess Setvar Findhdr Warn run
?MAKE: -pick add $@ %<

```
?S:i_termio:
?S: This variable conditionally defines the I_TERMIO symbol, which
?S: indicates to the C program that it should include <termio.h> rather
?S: than <sgtty.h>.
?S:.
?S:i_termios:
?S: This variable conditionally defines the I_TERMIOS symbol, which
?S: indicates to the C program that the POSIX <termios.h> file is
?S: to be included.
?S:.
?S:i_sgtty:
?S: This variable conditionally defines the I_SGTTY symbol, which
?S: indicates to the C program that it should include <sgtty.h> rather
?S: than <termio.h>.
?S:.
?C:I_TERMIO:
?C: This symbol, if defined, indicates that the program should include
?C: <termio.h> rather than <sgtty.h>.  There are also differences in
?C: the
 ioctl() calls that depend on the value of this symbol.
?C:.
?C:I_TERMIOS:
?C: This symbol, if defined, indicates that the program should include
?C: the POSIX termios.h rather than sgtty.h or termio.h.
?C: There are also differences in the ioctl() calls that depend on the
?C: value of this symbol.
?C:.
?C:I_SGTTY:
?C: This symbol, if defined, indicates that the program should include
?C: <sgtty.h> rather than <termio.h>.  There are also differences in
?C: the ioctl() calls that depend on the value of this symbol.
?C:.
?H:#$i_termio I_TERMIO  /**/
?H:#$i_termios I_TERMIOS  /**/
?H:#$i_sgtty I_SGTTY  /**/
?H:.
?T:val2 val3
?LINT:set i_termio i_sgtty i_termios
: see if this is a termio system
val="$undef"
val2="$undef"
val3="$undef"
?X: Prefer POSIX-approved termios.h over all else
if $test `./findhdr termios.h`; then
   set tcsetattr i_termios
   eval $inlibc
   val3="$i_termios"
fi
```

```
echo " "
case "$val3" in
  "$define") echo "You have POSIX termios.h... good!" >&4;;
  *)
 if ./Cppsym pyr; then
    case "`$run /bin/universe`" in
 ucb) if $test `./findhdr sgtty.h`; then
  val2="$define"
  echo "<sgtty.h> found." >&4
     else
  echo "System is pyramid with BSD universe."
  ./warn "<sgtty.h> not found--you could have problems."
     fi;;
 *)  if $test `./findhdr termio.h`; then
  val="$define"
  echo "<termio.h> found." >&4
     else
  echo "System is pyramid with USG universe."
  ./warn "<termio.h> not found--you could have problems."
     fi;;
    esac
?X: Start with USG to avoid problems if both usg/bsd was guessed
 elif ./usg; then
    if $test `./findhdr termio.h`; then
 echo "<termio.h> found." >&4
 val="$define"
    elif $test `./findhdr sgtty.h`; then
 echo "<sgtty.h> found." >&4
 val2="$define"
    else
 ./warn "Neither <termio.h> nor <sgtty.h> found--cross fingers!"
    fi
 else
    if $test `./findhdr sgtty.h`; then
 echo "<sgtty.h> found." >&4
 val2="$define"
    elif $test `./findhdr termio.h`; then
 echo "<termio.h>
 found." >&4
 val="$define"
    else
 ./warn "Neither <sgtty.h> nor <termio.h> found--cross fingers!"
    fi
 fi;;
esac
set i_termio; eval $setvar
val=$val2; set i_sgtty; eval $setvar
val=$val3; set i_termios; eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_termio.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_portable.U,v 3.0.1.2 1995/01/11 15:28:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_portable.U,v $
?RCS: Revision 3.0.1.2  1995/01/11  15:28:52  ram
?RCS: patch45: executable path stripping moved to the end in Config_sh.U
?RCS:
?RCS: Revision 3.0.1.1  1993/12/15  08:21:17  ram
?RCS: patch15: did not strip variables properly when needed
?RCS: patch15: now also strips down variables from trylist
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:48  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X:   This is the same as the dist version, except I don't bother
?X:   prompting people since it makes no difference for perl5,
?X:   and only confuses people.
?X:
?X: The Loc unit is wanted to get the definition of all the locating variables.
?X:
?MAKE:d_portable: Loc Oldconfig
?MAKE: -pick add $@ %<
?S:d_portable:
?S: This variable conditionally defines the PORTABLE symbol, which
?S: indicates to the C program that it should not assume that it is
?S: running on the machine it was compiled on.
?S:.
?C:PORTABLE:
?C: This symbol, if defined, indicates to the C program that it should
?C: not assume that it is running on the machine it was compiled on.
?C: The program should be prepared to look up the host name, translate
?C: generic filenames, use PATH, etc.
?C:.
?H:#$d_portable PORTABLE /**/

```
?H:.
?D:d_portable="
: decide how portable to be.  Allow command line overrides.
case "$d_portable" in
"$undef") ;;
*) d_portable="$define" ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_portable.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_varhdr.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:54:42  ram
?RCS: patch61: varargs script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:21:02  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/13  15:26:05  ram
?RCS: patch27: this unit now supersedes old i_stdarg.U and i_varargs.U
?RCS: patch27: modified to avoid spurious Whoa warnings (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:49  ram
?RCS: Baseline for
 dist 3.0 netwide release.
?RCS:
?MAKE:i_stdarg i_varargs i_varhdr: cat +cc +ccflags rm test Setvar \
 Findhdr Warn startsh _o
?MAKE: -pick add $@ %<
?S:i_stdarg:
?S: This variable conditionally defines the I_STDARG symbol, which
?S: indicates to the C program that <stdarg.h> exists and should
?S: be included.
?S:.
?S:i_varargs:
?S: This variable conditionally defines I_VARARGS, which indicates
?S: to the C program that it should include <varargs.h>.
```

```
?S:.
?S:i_varhdr:
?S: Contains the name of the header to be included to get va_dcl definition.
?S: Typically one of varargs.h or stdarg.h.
?S:.
?C:I_STDARG:
?C: This symbol, if defined, indicates that <stdarg.h> exists and should
?C: be included.
?C:.
?C:I_VARARGS:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <varargs.h>.
?C:.
?H:#$i_stdarg I_STDARG  /**/
?H:#$i_varargs I_VARARGS /**/
?H:.
?W:%<:va_dcl
?F:!varargs
?T:valstd
?LINT:set i_stdarg i_varargs
?X:
?X: Don't use setvar because the varags test
 below might override these.
?X: Actually, the messages here are just informative. We don't wish to set
?X: i_varargs or i_stdarg to their final value before knowing which of the
?X: two we'll include.
?X:
: see if stdarg is available
echo " "
if $test `./findhdr stdarg.h`; then
 echo "<stdarg.h> found." >&4
 valstd="$define"
else
 echo "<stdarg.h> NOT found." >&4
 valstd="$undef"
fi

: see if varags is available
echo " "
if $test `./findhdr varargs.h`; then
 echo "<varargs.h> found." >&4
else
 echo "<varargs.h> NOT found, but that's ok (I hope)." >&4
fi

?X:
?X: if you have stdarg.h, you need to support prototypes to actually use it;
?X: but if stdarg.h exists and the compiler doesn't support prototypes (for some
```

```
?X: bizarre reason), we'll fall back to varargs.h anyway so it's not so bad.
?X:
: set up the varargs testing programs
$cat > varargs.c <<EOP
#ifdef I_STDARG
#include <stdarg.h>
#endif
#ifdef I_VARARGS
#include <varargs.h>
#endif

#ifdef I_STDARG
int f(char *p, ...)
#else
int
 f(va_alist)
va_dcl
#endif
{
 va_list ap;
#ifndef I_STDARG
 char *p;
#endif
#ifdef I_STDARG
 va_start(ap,p);
#else
 va_start(ap);
 p = va_arg(ap, char *);
#endif
 va_end(ap);
}
EOP
$cat > varargs <<EOP
$startsh
if $cc -c $ccflags -D\$1 varargs.c >/dev/null 2>&1; then
 echo "true"
else
 echo "false"
fi
$rm -f varargs$_o
EOP
chmod +x varargs

: now check which varargs header should be included
echo " "
i_varhdr="
case "$valstd" in
"$define")
```

```
 if `./varargs I_STDARG`; then
  val='stdarg.h'
 elif `./varargs I_VARARGS`; then
  val='varargs.h'
 fi
 ;;
*)
 if `./varargs I_VARARGS`; then
  val='varargs.h'
 fi
 ;;
esac
case "$val" in
")
 ./warn "I could not find the definition for va_dcl... You have problems..."
 val="$undef"; set i_stdarg; eval $setvar
 val="$undef"; set i_varargs; eval $setvar
 ;;
*)
 set i_varhdr
 eval $setvar
 case "$i_varhdr" in
 stdarg.h)
  val="$define"; set i_stdarg; eval $setvar
  val="$undef"; set i_varargs; eval $setvar
  ;;
 varargs.h)
  val="$undef"; set i_stdarg;
 eval $setvar
  val="$define"; set i_varargs; eval $setvar
  ;;
 esac
 echo "We'll include <$i_varhdr> to get va_dcl definition." >&4;;
esac
$rm -f varargs*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_varhdr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: usenm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:26:40  ram
?RCS: patch61: don't use nm with the GNU C library
?RCS: patch61: added support for Linux shared libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usenm runnm nm_opt nm_so_opt: cat test Myread Oldconfig grep \
 d_gnulibc nm egrep rsrc osname Guess
?MAKE: -pick add $@ %<
?S:usenm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction is wanted
 or not.
?S:.
?S:runnm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction should be performed or not, according to the value
?S: of usenm and the flags on the Configure command line.
?S:.
?S:nm_opt:
?S: This variable holds the options that may be necessary for nm.
?S:.
?S:nm_so_opt:
?S: This variable holds the options that may be necessary for nm
?S: to work on a shared library but that can not be used on an
?S: archive library.  Currently, this is only used by Linux, where
?S: nm --dynamic is *required* to get symbols from an ELF library which
?S: has been stripped, but nm --dynamic is *fatal* on an archive library.
?S: Maybe Linux should just always set usenm=false.
?S:.
: see if nm is to be used to determine whether a symbol is defined or not
?X: If there is enough inquiries, it might be worth to wait for the nm
?X: extraction. Otherwise, the C compilations might be a better deal.
?X:
?X: Don't bother if we're using GNU libc -- skimo
case "$usenm"
 in
")
 dflt="
 case "$d_gnulibc" in
 "$define")
  echo " "
  echo "$nm probably won't work on the GNU C Library." >&4
  dflt=n
```

```
 ;;
esac
case "$dflt" in
")
 if $test "$osname" = aix -a ! -f /lib/syscalls.exp; then
  echo " "
  echo "Whoops!  This is an AIX system without /lib/syscalls.exp!" >&4
  echo "'nm' won't be sufficient on this system." >&4
  dflt=n
 fi
 ;;
esac
case "$dflt" in
")
 if ./gnu; then
  echo " "
  echo "Hmm...  A GNU system without a GNU C Library?  Weird..." >&4
  dflt=n
 else
  dflt=`$egrep 'inlibc|csym' $rsrc/Configure | wc -l 2>/dev/null`
  if $test $dflt -gt 20; then
   dflt=y
  else
   dflt=n
  fi
 fi
 ;;
esac
;;
*)
 case "$usenm" in
 true|$define) dflt=y;;
 *) dflt=n;;
 esac
 ;;
esac
$cat <<EOM

I can use $nm to extract the symbols from your C libraries. This
is a time consuming task which may generate huge output on the disk (up
to 3 megabytes) but that should make the symbols extraction faster. The
alternative is to skip the
 'nm' extraction part and to compile a small
test program instead to determine whether each symbol is present. If
you have a fast C compiler and/or if your 'nm' output cannot be parsed,
this may be the best solution.

EOM
```

```
rp='Shall I use nm to extract C symbols from the libraries?'
. ./myread
case "$ans" in
[Nn]*) usenm=false;;
*) usenm=true;;
esac

?X: Name extraction is to be run if 'nm' usage is wanted and if no -r flag
?X: was provided to configure (in which case we simply re-use the previous
?X: values).
runnm=$usenm
case "$reuseval" in
true) runnm=false;;
esac

: nm options which may be necessary
case "$nm_opt" in
'') if $test -f /mach_boot; then
  nm_opt=''  # Mach
 elif $test -d /usr/ccs/lib; then
  nm_opt='-p'  # Solaris (and SunOS?)
 elif $test -f /dgux; then
  nm_opt='-p'  # DG-UX
 elif $test -f /lib64/rld; then
  nm_opt='-p'  # 64-bit Irix
 else
  nm_opt=''
 fi;;
esac

?X: nm options which may be necessary for shared libraries but illegal
?X: for archive libraries.  Thank you,
 Linux.
case "$nm_so_opt" in
'') case "$osname" in
 *linux*)
  if $nm --help | $grep 'dynamic' > /dev/null 2>&1; then
   nm_so_opt='--dynamic'
  fi
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/usenm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:run to from targetarch targetdir targetmkdir targethost targetport \
 usecrosscompile hostperl hostgenerate hostosname targetenv: \
    src test rm echo sed mkdir cp chmod make touch
?MAKE: -pick add $@ %<
?Y:TOP
?S:usecrosscompile:
?S: This variable conditionally defines the USE_CROSS_COMPILE symbol,
?S: and indicates that Perl has been cross-compiled.
?S:.
?S:run:
?S: This variable contains the command used by Configure
?S: to copy and execute a cross-compiled executable in the
?S: target host.  Useful and available only during Perl build.
?S: Empty string " if not cross-compiling.
?S:.
?S:from:
?S: This variable contains the command used by Configure
?S: to copy files from the target host.  Useful
 and available
?S: only during Perl build.
?S: The string ':' if not cross-compiling.
?S:.
?S:to:
?S: This variable contains the command used by Configure
?S: to copy to from the target host.  Useful and available
?S: only during Perl build.
?S: The string ':' if not cross-compiling.
?S:.
?S:targetarch:
?S: If cross-compiling, this variable contains the target architecture.
?S: If not, this will be empty.
?S:.
?S:targetdir:
?S: This variable contains a path that will be created on the target
?S: host using targetmkdir, and then used to copy the cross-compiled
?S: executables to. Defaults to '/tmp' if not set.
?S:.
?S:targetmkdir:
?S: This variable contains the command used by Configure to create a
?S: new directory on the target host.
?S:.
```

?S:targethost:
?S: This variable contains the name of a separate host machine that
?S: can be used to run compiled test programs and perl tests on.
?S: Set to empty string if not in use.
?S:.
?S:targetport:
?S: This variable contains the number
 of a network port to be used to
?S: connect to the host in targethost, if unset defaults to 22 for ssh.
?S:.
?S:hostperl:
?S: This variable contains the path to a miniperl binary that can be
?S: run on the host OS when cross-compiling.  Useful and available only
?S: during Perl build.
?S: Empty string '' if not cross-compiling.
?S:.
?S:hostgenerate:
?S: This variable contains the path to a generate_uudmap binary that
?S: can be run on the host OS when cross-compiling.  Useful and
?S: available only during Perl build.
?S: Empty string '' if not cross-compiling.
?S:.
?S:hostosname:
?S: This variable contains the original value of '$^O' for hostperl
?S: when cross-compiling.  This is useful to pick the proper tools
?S: when running build code in the host.
?S: Empty string '' if not cross-compiling.
?S:.
?S:targetenv:
?S: If cross-compiling, this variable can be used to modify the
?S: environment on the target system.
?S: However, how and where it's used, and even if it's used at all, is
?S: entirely
 dependent on both the transport mechanism (targetrun) and
?S: what the target system is.  Unless the relevant documentation says
?S: otherwise, it is genereally not useful.
?S:.
?C:USE_CROSS_COMPILE:
?C: This symbol, if defined, indicates that Perl is being cross-compiled.
?C:.
?C:PERL_TARGETARCH:
?C: This symbol, if defined, indicates the target architecture
?C: Perl has been cross-compiled to.  Undefined if not a cross-compile.
?C:.
?H:?%<:#ifndef USE_CROSS_COMPILE
?H:?%<:#$usecrosscompile USE_CROSS_COMPILE /**/
?H:?%<:#define PERL_TARGETARCH "$targetarch" /**/
?H:?%<:#endif

```
?H:.
?D:targetenv="
?D:targethost="
?D:targetmkdir="
?T:croak pwd exe f q cwd file xxx env
?LINT:extern usecrosscompile
?LINT:extern cc
?LINT:extern usrinc
?LINT:change ar
?LINT:change nm
?LINT:change ranlib
?LINT:change src
?LINT:extern targetenv
?LINT:extern targetport
?LINT:extern targetdir
?LINT:extern targetuser
?LINT:change targetuser
?LINT:extern targetrun
?LINT:extern targetfrom
?LINT:extern
 targetto
?LINT:change targetrun
?LINT:change targetfrom
?LINT:change targetto
?LINT:extern incpth
?LINT:extern libpth
?LINT:extern locincpth
?LINT:extern loclibpth
?LINT:change locincpth
?LINT:change loclibpth
?LINT:extern hostperl
?LINT:extern hostgenerate
?LINT:extern before_host
?LINT:change before_host
?LINT:extern hostosname
?LINT:extern multiarch
: Check for Cross-Compilation
?X: targethost and targetenv mainly set to allow ?S: documentation
?X:otherwise it could have been declared extern
if $test "X$targethost" = "X"; then
   targethost=""
fi
if $test "X$targetenv" = "X"; then
   targetenv=""
fi
case "$usecrosscompile" in
$define|true|[yY]*)
 $echo "Cross-compiling..."
```

```
croak="
case "$cc" in
*-gcc*|*-g++*) # A cross-compiling gcc, probably.
    # arm-linux-androideabi-gcc  -> arm-linux-androideabi
    # x86_64-w64-mingw32-gcc.exe -> x86_64-w64-mingw32
    targetarch=`$echo $cc|$sed 's/-g[c\+][c\+].*$//'`
    ar=`$echo $cc|$sed 's/-g[c\+][c\+]/-ar/'`
    # leave out ld,
choosing it is more complex
    nm=`$echo $cc|$sed 's/-g[c\+][c\+]/-nm/'`
    ranlib=`$echo $cc|$sed 's/-g[c\+][c\+]/-ranlib/'`
    # We are in a weird spot. Just before us, some values
    # were 'saved', to be restored after the hints are
    # run.  This means that the changes we made to ar,
    # nm and ranlib will get reverted.
    # To avoid that, we hijack the saving mechanism and
    # have it save our new values.
    for file in ar nm ranlib; do
 eval xxx=\$$file
 eval $file=$xxx$_exe
 eval _$file=$xxx
    done
;;
esac
case "$targetarch" in
'') echo "Targetarch not defined." >&4; croak=y ;;
*)  echo "Using targetarch $targetarch." >&4 ;;
esac
case "$targethost" in
'') echo "Targethost not defined." >&4; croak=n ;;
*)  echo "Using targethost $targethost." >&4
esac
locincpth=' '
loclibpth=' '
case "$croak" in
y) echo "Cannot continue, aborting." >&4; exit 1 ;;
esac
  : compile a host miniperl and generate_uudmap, unless we got passed them
  if
$test "X$hostperl" = X; then
    echo "Building host miniperl and generate_uudmap binaries" >&4
    before_host=`pwd`
    cd ..
    cd $src
    src=`pwd`
    rm -rf $src/host
    mkdir $src/host
    cd $src/host
```

```
    $src/Configure -des -Dusedevel -Dmksymlinks
    $make miniperl
    case "$hostgenerate" in
    '') $make generate_uudmap
        hostgenerate=$src/host/generate_uudmap
        ;;
     "$undef") hostgenerate=''
        ;;
    esac
    hostperl=$src/host/miniperl
    cd $before_host
  fi
  hostosname=`$hostperl -le 'print $^O'`
  ;;
*)
  usecrosscompile="$undef"
  ;;
esac

: Define -Dtargethost=somecomputer to run compiled tests on another machine
case "$targethost" in
  '') echo "Checking for cross-compile" >&4
  case "$usecrosscompile$multiarch" in
     *$define*) echo "Skipping the try tests in the rest of Configure as no targethost was defined when cross-
compiling" >&4
       if [ -f Makefile ]; then
         echo
 " "
         echo "Now you must ensure config.sh, config.h and the generated headers exist and run a $make."
       else
         echo "Configure done."
       fi
     exit 0
     ;;
   *) echo "No targethost for running compiler tests against defined, running locally" >&4
      run=''
      to=:
      from=:
      ;;
  esac
  ;;
  *) echo "Using targethost $targethost." >&4
 case "$src" in
 /*) run=$src/Cross/run
    targetmkdir=$src/Cross/mkdir
    to=$src/Cross/to
    from=$src/Cross/from
    ;;
```

```
 *)  pwd=`$test -f ../Configure & cd ..; pwd`
    run=$pwd/Cross/run
    targetmkdir=$pwd/Cross/mkdir
    to=$pwd/Cross/to
    from=$pwd/Cross/from
    ;;
 esac
 case "$targetrun" in
 '') targetrun=ssh ;;
 esac
 case "$targetto" in
 '') targetto=scp ;;
 esac
 case "$targetfrom" in
 '') targetfrom=scp ;;
 esac
 run=$run-$targetrun
 to=$to-$targetto
 from=$from-$targetfrom
 case "$targetdir" in
 '')  targetdir=/tmp
     echo "Guessing targetdir $targetdir."
 >&4
     ;;
 esac
 case "$targetuser" in
 '')  targetuser=root
     echo "Guessing targetuser $targetuser." >&4
     ;;
 esac
 case "$targetport" in
 '')  targetport=22
     echo "Guessing targetport $targetport." >&4
     ;;
 esac
 case "$targetfrom" in
 scp) q=-q ;;
 *) q='' ;;
 esac
 case "$targetrun" in
 ssh|rsh)
    cat >$run <<EOF
#!/bin/sh
env=''
case "\$1" in
-cwd)
 shift
 cwd=\$1
```

```
 shift
 ;;
esac
case "\$1" in
-env)
 shift
 env=\$1
 shift
 ;;
esac
case "\$cwd" in
") cwd=$targetdir ;;
esac
exe=\$1
shift
$to \$exe
$targetrun -p $targetport -l $targetuser $targethost "cd \$cwd && \$env \$exe \$@"
EOF
    ;;
 adb)
    $touch $run
    ;;
 *)  echo "Unknown targetrun '$targetrun'" >&4
    exit 1
    ;;
 esac
 case "$targetmkdir" in
 */Cross/mkdir)
    cat >$targetmkdir <<EOF
#!/bin/sh
$targetrun -p $targetport -l $targetuser $targethost "mkdir -p \$@"
EOF
    $chmod a+rx $targetmkdir
    ;;
 *)  echo "Unknown targetmkdir '$targetmkdir'" >&4
    exit 1
    ;;
 esac
 case
 "$targetto" in
 scp|rcp)
    cat >$to <<EOF
#!/bin/sh
for f in \$@
do
 case "\$f" in
 /*)
   $targetmkdir \`dirname \$f\`
```

```
  $targetto -P $targetport -r $q \$f $targetuser@$targethost:\$f          2>/dev/null  || exit 1
  ;;
 *)
  $targetmkdir $targetdir/\`dirname \$f\`
  $targetto -P $targetport -r $q \$f $targetuser@$targethost:$targetdir/\$f 2>/dev/null || exit 1
  ;;
 esac
done
exit 0
EOF
    ;;
 cp) cat >$to <<EOF
#!/bin/sh
for f in \$@
do
 case "\$f" in
 /*)
  $mkdir -p $targetdir/\`dirname \$f\`
  $cp \$f $targetdir/\$f || exit 1
  ;;
 *)
  $targetmkdir $targetdir/\`dirname \$f\`
  $cp \$f $targetdir/\$f || exit 1
  ;;
 esac
done
exit 0
EOF
    ;;
 *)  echo "Unknown targetto '$targetto'" >&4
    exit 1
    ;;
 esac
 case "$targetfrom" in
 scp|rcp)
  cat >$from <<EOF
#!/bin/sh
for f in \$@
do
 $rm -f \$f
 $targetfrom -P $targetport $q $targetuser@$targethost:$targetdir/\$f . || exit 1
done
exit 0
EOF
    ;;
 cp) cat >$from <<EOF
#!/bin/sh
for
```

```
 f in \$@
do
 $rm -f \$f
 cp $targetdir/\$f . || exit 1
done
exit 0
EOF
    ;;
 *)  echo "Unknown targetfrom '$targetfrom'" >&4
    exit 1
    ;;
 esac
 if $test ! -f $run; then
    echo "Target 'run' script '$run' not found." >&4
 else
    $chmod a+rx $run
 fi
 if $test ! -f $to; then
    echo "Target 'to' script '$to' not found." >&4
 else
    $chmod a+rx $to
 fi
 if $test ! -f $from; then
    echo "Target 'from' script '$from' not found." >&4
 else
    $chmod a+rx $from
 fi
 if $test ! -f $run -o ! -f $to -o ! -f $from; then
    exit 1
 fi
 cat >&4 <<EOF
Using '$run' for remote execution,
and '$from' and '$to'
for remote file transfer.
EOF
 ;;
*) run="
 to=:
 from=:
 usecrosscompile="$undef"
 targetarch="
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/Cross.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_wifstat.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:47:43  ram
?RCS: patch61: added a ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  14:09:10  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
?RCS: Revision 3.0.1.1  1995/03/21  08:47:46  ram
?RCS: patch52: created
?RCS:
?MAKE:d_wifstat: d_uwait +cc +ccflags +ldflags +libs Oldconfig cat rm
?MAKE: -pick add $@ %<
?S:d_wifstat:
?S: This symbol conditionally defines USE_WIFSTAT if the C program can
?S: safely
 use the WIFxxx macros with the kind of wait() parameter
?S: declared in the program (see UNION_WAIT), or if it can't. Should
?S: only matter on HP-UX, where the macros are incorrectly written and
?S: therefore cause programs using them with an 'union wait' variable
?S: to not compile properly.
?S:.
?C:USE_WIFSTAT:
?C: This symbol, if defined, indicates to the C program that the argument
?C: for the WIFxxx set of macros such as WIFSIGNALED or WIFEXITED can
?C: be of the same kind as the one used to hold the wait() status. Should
?C: only matter on HP-UX, where the macros are incorrectly written and
?C: therefore cause programs using them with an 'union wait' variable
?C: to not compile properly. See also UNION_WAIT.
?C:.
?H:#$d_wifstat USE_WIFSTAT  /**/
?H:.
?T:type
?F:!foo
: see if we can use WIFxxx macros
echo " "
case "$d_wifstat" in
"$define") echo "As before, you can safely use WIFEXITED and friends!" >&4;;
"$undef") echo "You still can't use WIFEXITED and friends!" >&4;;
```

```
*)
 echo
 "Let's see whether you can use the WIFEXITED(status) macro and its"
 case "$d_uwait" in
 "$define") type='union wait';;
 *) type='int';;
 esac
 echo "friends with status declared as '$type status'..."
 $cat >foo.c <<EOCP
#include <sys/types.h>
#include <sys/wait.h>

int main()
{
 $type status;
 int e = 0;

#ifdef WIFEXITED
 if (WIFEXITED(status))
  printf("\n");
 exit(0);
#else
 exit(2);
#endif
}
EOCP
 d_wifstat="$undef"
 if $cc $ccflags $ldflags -o foo foo.c $libs >/dev/null 2>&1; then
  if ./foo >/dev/null; then
   echo "Great! Looks like we can use the WIFxxx macros." >&4
   d_wifstat="$define"
  else
   echo "You don't seem to have WIFxxx macros, but that's ok." >&4
  fi
 else
  echo "Apparently you can't use WIFxxx macros properly." >&4
 fi
 $rm -f foo.* foo core
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_wifstat.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_vprintf.U,v 3.0 1993/08/18 12:07:59 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_vprintf.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:59  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_vprintf d_charvspr: Compile Guess cat Csym Setvar run rm_try \
 i_stdlib i_unistd i_stdarg i_varargs
?MAKE: -pick add $@ %<
?S:d_vprintf:
?S: This variable conditionally defines the HAS_VPRINTF symbol, which
?S: indicates to the C program that the vprintf() routine is available
?S: to printf with a pointer to an argument list.
?S:.
?S:d_charvspr:
?S: This
 variable conditionally defines CHARVSPRINTF if this system
?S: has vsprintf returning type (char*).  The trend seems to be to
?S: declare it as "int vsprintf()".
?S:.
?C:HAS_VPRINTF (VPRINTF):
?C: This symbol, if defined, indicates that the vprintf routine is available
?C: to printf with a pointer to an argument list.  If unavailable, you
?C: may need to write your own, probably in terms of _doprnt().
?C:.
?C:USE_CHAR_VSPRINTF (CHARVSPRINTF):
?C: This symbol is defined if this system has vsprintf() returning type
?C: (char*).  The trend seems to be to declare it as "int vsprintf()".  It
?C: is up to the package author to declare vsprintf correctly based on the
?C: symbol.
?C:.
?H:#$d_vprintf HAS_VPRINTF /**/
?H:#$d_charvspr USE_CHAR_VSPRINTF  /**/
?H:.
?T:val2
?F:!try
?LINT:set d_vprintf d_charvspr
: see if vprintf exists
echo " "
if set vprintf val -f d_vprintf; eval $csym; $val; then
 echo 'vprintf() found.' >&4
 val="$define"
 $cat >try.c <<EOF
```

```
#$i_stdarg I_STDARG
 /* Only one of these can be defined by i_varhrd */
#$i_varargs I_VARARGS

#$i_stdlib I_STDLIB
#$i_unistd I_UNISTD

#ifdef I_STDARG
#  include <stdarg.h>
#else /* I_VARARGS */
#  include <varargs.h>
#endif

#ifdef I_UNISTD
#  include <unistd.h>
#endif

#ifdef I_STDLIB
#  include <stdlib.h>
#endif

#include <stdio.h> /* vsprintf prototype */

#ifdef I_STDARG
void xxx(int n, ...)
{
  va_list args;
  char buf[10];
  va_start(args, n);
  exit((unsigned long)vsprintf(buf,"%s",args) > 10L);
}
int main() { xxx(1, "foo"); }

#else /* I_VARARGS */

xxx(va_alist)
va_dcl
{
  va_list args;
  char buf[10];
  va_start(args);
  exit((unsigned long)vsprintf(buf,"%s",args) > 10L);
}
int main() { xxx("foo"); }

#endif

EOF
```

```
 set try
 if eval $compile_ok; then
  if $run ./try; then
   echo "Your vsprintf() returns (int)." >&4
   val2="$undef"
  else
   echo "Your vsprintf() returns (char*)." >&4
   val2="$define"
  fi
 else
  echo 'I am unable to compile the vsprintf() test program.' >&4
  #
 We shouldn't get here.  If we do, assume the standard signature,
  # not the old BSD one.
  echo 'Guessing that vsprintf() returns (int).' >&4
  val2="$undef"
 fi
else
 echo 'vprintf() NOT found.' >&4
 val="$undef"
 val2="$undef"
fi
$rm_try
set d_vprintf
eval $setvar
val=$val2
set d_charvspr
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_vprintf.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_getspent: Inlibc
?MAKE: -pick add $@ %<
?S:d_getspent:
?S: This variable conditionally defines HAS_GETSPENT if getspent() is
?S: available to retrieve SysV shadow password entries sequentially.
```

?S:.
?C:HAS_GETSPENT:
?C: This symbol, if defined, indicates that the getspent system call is
?C: available to retrieve SysV shadow password entries sequentially.
?C:.
?H:#$d_getspent HAS_GETSPENT  /**/
?H:.
?LINT:set d_getspent
: see if getspent exists
set getspent d_getspent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getspent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: package.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: package.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:27:21  ram
?RCS: patch36: beware of non-ascii character sets when translating case
?RCS:
?RCS: Revision 3.0.1.2  1993/11/10  17:37:02  ram
?RCS: patch14: skip definition of spackage if not otherwise used
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:11:10  ram
?RCS: patch10: added spackage, suitable for starting sentences
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:28  ram
?RCS: Baseline for dist 3.0
 netwide release.
?RCS:
?MAKE:package spackage: Nothing
?MAKE: -pick wipe $@ %<
?S:package:
?S: This variable contains the name of the package being constructed.
?S: It is primarily intended for the use of later Configure units.
?S:.
?S:spackage:
?S: This variable contains the name of the package being constructed,

```
?S: with the first letter uppercased, i.e. suitable for starting
?S: sentences.
?S:.
?X: dist-4 has defined PACKAGE: here, which clashes with perly.h
?X:  as package is a reserved keyword in perl
?T:first last
: set package name
package='<PACKAGENAME>'
@if spackage
first=`echo $package | sed -e 's/^\(.\).*/\1/'`
last=`echo $package | sed -e 's/^.\(.*\)/\1/'`
?X:
?X: So early in the Configure script, we don't have ./tr set up and can't
?X: include Tr in our dependency or that would create a cycle. Therefore,
?X: we have to somehow duplicate the work done in Tr. That's life.
?X:
case "`echo AbyZ | tr '[:lower:]' '[:upper:]' 2>/dev/null`"-"`echo AbyZ | tr '[:upper:]' '[:lower:]'
 2>/dev/null`" in
ABYZ-abyz) spackage=`echo $first | tr '[:lower:]' '[:upper:]'`$last;;
*) spackage=`echo $first | tr '[a-z]' '[A-Z]'`$last;;
esac
@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/package.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_sigsetjmp.U,v 3.0.1.1 1997/02/28 15:44:33 ram Exp $
?RCS:
?RCS: Copyright (c) 1996,1998 Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_sigsetjmp.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:44:33  ram
?RCS: patch61: created
?RCS:
?MAKE:d_sigsetjmp: Compile Setvar cat rm_try run i_stdlib
?MAKE: -pick add $@ %<
?S:d_sigsetjmp:
```

```
?S: This variable conditionally defines the HAS_SIGSETJMP symbol,
?S: which
 indicates that the sigsetjmp() routine is available to
?S: call setjmp() and optionally save the process's signal mask.
?S:.
?C:HAS_SIGSETJMP:
?C: This variable indicates to the C program that the sigsetjmp()
?C: routine is available to save the calling process's registers
?C: and stack environment for later use by siglongjmp(), and
?C: to optionally save the process's signal mask.  See
?C: Sigjmp_buf, Sigsetjmp, and Siglongjmp.
?C:.
?C:Sigjmp_buf:
?C: This is the buffer type to be used with Sigsetjmp and Siglongjmp.
?C:.
?C:Sigsetjmp:
?C: This macro is used in the same way as sigsetjmp(), but will invoke
?C: traditional setjmp() if sigsetjmp isn't available.
?C: See HAS_SIGSETJMP.
?C:.
?C:Siglongjmp:
?C: This macro is used in the same way as siglongjmp(), but will invoke
?C: traditional longjmp() if siglongjmp isn't available.
?C: See HAS_SIGSETJMP.
?C:.
?H:?%<:#$d_sigsetjmp HAS_SIGSETJMP /**/
?H:?%<:#ifdef HAS_SIGSETJMP
?H:?%<:#define Sigjmp_buf sigjmp_buf
?H:?%<:#define Sigsetjmp(buf,save_mask)
 sigsetjmp((buf),(save_mask))
?H:?%<:#define Siglongjmp(buf,retval) siglongjmp((buf),(retval))
?H:?%<:#else
?H:?%<:#define Sigjmp_buf jmp_buf
?H:?%<:#define Sigsetjmp(buf,save_mask) setjmp((buf))
?H:?%<:#define Siglongjmp(buf,retval) longjmp((buf),(retval))
?H:?%<:#endif
?H:.
?W:%<:Sigjmp_buf Sigsetjmp Siglongjmp
?F:!try
?LINT:set d_sigsetjmp
: see if sigsetjmp exists
?X: We can't check for these symbols with Inlibc because sigsetjmp
?X: is (sometimes? always?) a macro under GCC
echo " "
case "$d_sigsetjmp" in
")
 $cat >try.c <<EOP
#include <setjmp.h>
```

```
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
sigjmp_buf env;
int set = 1;
int main()
{
 if (sigsetjmp(env,1))
  exit(set);
 set = 0;
 siglongjmp(env, 1);
 exit(1);
}
EOP
 set try
 if eval $compile; then
  if $run ./try >/dev/null 2>&1; then
   echo "POSIX sigsetjmp found." >&4
   val="$define"
  else
   $cat >&4 <<EOM
Uh-Oh! You have POSIX sigsetjmp and siglongjmp, but they do not work properly!!
I'll
 ignore them.
EOM
   val="$undef"
  fi
 else
  echo "sigsetjmp not found." >&4
  val="$undef"
 fi
 ;;
*) val="$d_sigsetjmp"
 case "$d_sigsetjmp" in
 $define) echo "POSIX sigsetjmp found." >&4;;
 $undef) echo "sigsetjmp not found." >&4;;
 esac
 ;;
esac
set d_sigsetjmp
eval $setvar
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_sigsetjmp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extractall.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:00:43  ram
?RCS: patch61: created
?RCS:
?X:
?X: If extraction has been requested, load the configuration file, perform
?X: the extraction and exit.
?X:
?X: This unit was originally a part of Options.U. It had to be removed from
?X: it to prevent a dependency cycle: Extract -> src -> Options -> Extract
?X: The Begin.U unit now requires us before beginning to do anything
?X: interesting, to ensure proper semantics. -- RAM, 15/03/96
?X:
?MAKE:Extractall:
 Extract Options
?MAKE: -pick wipe $@ %<
: extract files and exit if asked to do so
case "$extractsh" in
true)
?X: Undo the forced silent=true when -S was supplied, by probing realsilent
?X: which was set iff -s was also given. See Options.U for details.
 case "$realsilent" in
 true) ;;
 *) exec 1>&4;;
 esac
 case "$config_sh" in
 '') config_sh='config.sh';;
 esac
 echo " "
 echo "Fetching answers from $config_sh..."
 cd ..
 . $config_sh
 test "$override" && . ./optdef.sh
 echo " "
?X: extract has to be run from the top directory, not within UU.
 . UU/extract
 rm -rf UU
 echo "Extraction done."
```

```
 exit 0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Extractall.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_passwd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_passwd.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:37:21  ram
?RCS: patch61: useless unit dropped.
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:09:51  ram
?RCS: patch32: created by ADO
?RCS:
?X:
?X: Useless unit dropped.
?X:
?LINT:empty
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_passwd.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_dbminitproto: Hasproto i_dbm
?MAKE: -pick add $@ %<
```

```
?S:d_dbminitproto:
?S: This variable conditionally defines the HAS_DBMINIT_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the dbminit() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_DBMINIT_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the dbminit() function.  Otherwise, it is up
?C: to the program to supply one.  A good guess is
?C:  extern
 int dbminit(char *);
?C:.
?H:#$d_dbminitproto HAS_DBMINIT_PROTO /**/
?H:.
?LINT:set d_dbminitproto
: see if prototype for dbminit is available
echo " "
set d_dbminitproto dbminit $i_dbm dbm.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_dbminitproto.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_rename.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_rename.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_rename: Inlibc
?MAKE: -pick add $@ %<
?S:d_rename:
?S: This variable conditionally defines the HAS_RENAME symbol, which
?S: indicates to the C program that the rename() routine is available
?S: to rename files.
?S:.
?C:HAS_RENAME (RENAME):
?C: This symbol, if defined, indicates that the rename routine is available
```

```
?C: to rename files.
  Otherwise you should do the unlink(), link(), unlink()
?C: trick.
?C:.
?H:#$d_rename HAS_RENAME /**/
?H:.
?LINT:set d_rename
: see if rename exists
set rename d_rename
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_rename.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sched_rr_get_interval: Inlibc
?MAKE: -pick add $@ %<
?S:d_sched_rr_get_interval:
?S: This variable conditionally defines HAS_SCHED_RR_GET_INTERVAL if
?S: sched_rr_get_interval() is available to get the time quantum
?S: of the round robin scheduling.
?S:.
?C:HAS_SCHED_RR_GET_INTERVAL:
?C: This symbol, if defined, indicates that the sched_rr_get_interval
?C: system call is available to get the time quantum
?C: of the round robin scheduling.
?C:.
?H:#$d_sched_rr_get_interval HAS_SCHED_RR_GET_INTERVAL  /**/
?H:.
?LINT:set
 d_sched_rr_get_interval
: see if sched_rr_get_interval exists
set sched_rr_get_interval d_sched_rr_get_interval
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sched_rrgi.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_msg.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:37  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_msg: test d_msgctl d_msgget d_msgsnd d_msgrcv Setvar Findhdr osname
?MAKE: -pick add $@ %<
?S:d_msg:
?S: This variable conditionally defines the HAS_MSG symbol, which
?S: indicates that the entire msg*(2) library is present.
?S:.
?C:HAS_MSG:
?C: This symbol, if defined, indicates that the entire msg*(2) library is
?C: supported (IPC mechanism based on message queues).
?C:.
?H:#$d_msg
 HAS_MSG  /**/
?H:.
?T:h_msg
?LINT:set d_msg
: see how much of the 'msg*(2)' library is present.
h_msg=true
echo " "
case "$d_msgctl$d_msgget$d_msgsnd$d_msgrcv" in
*"$undef"*) h_msg=false;;
esac
case "$osname" in
freebsd)
   case "`ipcs 2>&1`" in
   "SVID messages"*"not configured"*)
 echo "Your $osname does not have the msg*(2) configured." >&4
       h_msg=false
 val="$undef"
 set msgctl d_msgctl
 eval $setvar
 set msgget d_msgget
 eval $setvar
```

```
 set msgsnd d_msgsnd
 eval $setvar
 set msgrcv d_msgrcv
 eval $setvar
 ;;
   esac
   ;;
esac
: we could also check for sys/ipc.h ...
if $h_msg && $test `./findhdr sys/msg.h`; then
 echo "You have the full msg*(2) library." >&4
 val="$define"
else
 echo "You don't have the full msg*(2) library." >&4
 val="$undef"
fi
set d_msg
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_msg.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_msg.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sigwait: Inlibc
?MAKE: -pick add $@ %<
?S:d_sigwait:
?S: This variable conditionally defines HAS_SIGWAIT
?S: if sigwait() is available to wait a signal.
?S:.
?C:HAS_SIGWAIT:
?C: This symbol, if defined, indicates that the sigwait
?C: system call is available to wait a signal.
?C:.
?H:#$d_sigwait HAS_SIGWAIT  /**/
?H:.
?LINT:set d_sigwait
: see if sigwait exists
```

```
set sigwait d_sigwait
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sigwait.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_ttyname_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_ttyname_r ttyname_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_unistd extern_C
?MAKE: -pick add $@ %<
?S:d_ttyname_r:
?S: This variable conditionally defines the HAS_TTYNAME_R symbol,
?S: which indicates to the C program that the ttyname_r()
?S: routine is available.
?S:.
?S:ttyname_r_proto:
?S: This variable encodes the prototype of ttyname_r.
?S: It is zero if d_ttyname_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_ttyname_r
?S: is defined.
?S:.
?C:HAS_TTYNAME_R:
?C: This symbol, if defined, indicates that the ttyname_r routine
?C: is available to ttyname re-entrantly.
?C:.
?C:TTYNAME_R_PROTO:
?C: This
 symbol encodes the prototype of ttyname_r.
?C: It is zero if d_ttyname_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_ttyname_r
?C: is defined.
?C:.
?H:#$d_ttyname_r HAS_TTYNAME_R    /**/
?H:#define TTYNAME_R_PROTO $ttyname_r_proto    /**/
?H:.
?T:try hdrs d_ttyname_r_proto
: see if ttyname_r exists
set ttyname_r d_ttyname_r
eval $inlibc
case "$d_ttyname_r" in
```

```
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_unistd unistd.h"
 case "$d_ttyname_r_proto:$usethreads" in
 ":define") d_ttyname_r_proto=define
  set d_ttyname_r_proto ttyname_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_ttyname_r_proto" in
 define)
 case "$ttyname_r_proto" in
 "|0) try='int ttyname_r(int, char*, size_t);'
 ./protochk "$extern_C $try" $hdrs && ttyname_r_proto=I_IBW ;;
 esac
 case "$ttyname_r_proto" in
 "|0) try='int ttyname_r(int, char*, int);'
 ./protochk "$extern_C $try" $hdrs && ttyname_r_proto=I_IBI ;;
 esac
 case
 "$ttyname_r_proto" in
 "|0) try='char* ttyname_r(int, char*, int);'
 ./protochk "$extern_C $try" $hdrs && ttyname_r_proto=B_IBI ;;
 esac
 case "$ttyname_r_proto" in
 "|0) d_ttyname_r=undef
        ttyname_r_proto=0
  echo "Disabling ttyname_r, cannot determine prototype." >&4 ;;
 * ) case "$ttyname_r_proto" in
  REENTRANT_PROTO*) ;;
  *) ttyname_r_proto="REENTRANT_PROTO_$ttyname_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "ttyname_r has no prototype, not using it." >&4 ;;
  esac
  d_ttyname_r=undef
  ttyname_r_proto=0
  ;;
 esac
 ;;
*) ttyname_r_proto=0
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_ttyname_r.U
```

No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_accessx: Inlibc
?MAKE: -pick add $@ %<
?S:d_accessx:
?S: This variable conditionally defines the HAS_ACCESSX symbol, which
?S: indicates to the C program that the accessx() routine is available.
?S:.
?C:HAS_ACCESSX :
?C: This symbol, if defined, indicates that the accessx routine is
?C: available to do extended access checks.
?C:.
?H:#$d_accessx HAS_ACCESSX  /**/
?H:.
?LINT:set d_accessx
: see if accessx exists
set accessx d_accessx
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/acl/d_accessx.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: nblock_io.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:17:14  ram
?RCS: patch61: simplify here document for shells that can't handle them well
?RCS: patch61: force use of "startsh" at the head of the generated script
?RCS: patch61: added new files to the ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.1  1995/07/25  14:13:22  ram
?RCS: patch56: created

```
?RCS:
?X:
?X: Simplify here document for shells that can't handle them well.
?X: (Problem reported on FreeBSD; it's unclear if this helps.)  --AD
?X:
?MAKE:o_nonblock
 eagain rd_nodata d_eofnblk: cat rm_try +cc +ccflags +ldflags \
 d_open3 h_sysfile h_fcntl signal_t hint Oldconfig Setvar startsh Warn
?MAKE: -pick add $@ %<
?S:o_nonblock:
?S: This variable bears the symbol value to be used during open() or fcntl()
?S: to turn on non-blocking I/O for a file descriptor. If you wish to switch
?S: between blocking and non-blocking, you may try ioctl(FIOSNBIO) instead,
?S: but that is only supported by some devices.
?S:.
?S:eagain:
?S: This variable bears the symbolic errno code set by read() when no
?S: data is present on the file and non-blocking I/O was enabled (otherwise,
?S: read() blocks naturally).
?S:.
?S:rd_nodata:
?S: This variable holds the return code from read() when no data is
?S: present. It should be -1, but some systems return 0 when O_NDELAY is
?S: used, which is a shame because you cannot make the difference between
?S: no data and an EOF.. Sigh!
?S:.
?S:d_eofnblk:
?S: This variable conditionally defines EOF_NONBLOCK
 if EOF can be seen
?S: when reading from a non-blocking I/O source.
?S:.
?C:VAL_O_NONBLOCK:
?C: This symbol is to be used during open() or fcntl(F_SETFL) to turn on
?C: non-blocking I/O for the file descriptor. Note that there is no way
?C: back, i.e. you cannot turn it blocking again this way. If you wish to
?C: alternatively switch between blocking and non-blocking, use the
?C: ioctl(FIOSNBIO) call instead, but that is not supported by all devices.
?C:.
?C:VAL_EAGAIN:
?C: This symbol holds the errno error code set by read() when no data was
?C: present on the non-blocking file descriptor.
?C:.
?C:RD_NODATA:
?C: This symbol holds the return code from read() when no data is present
?C: on the non-blocking file descriptor. Be careful! If EOF_NONBLOCK is
?C: not defined, then you can't distinguish between no data and EOF by
?C: issuing a read(). You'll have to find another way to tell for sure!
?C:.
```

```
?C:EOF_NONBLOCK:
?C: This symbol, if defined, indicates to the C program that a read() on
?C: a
 non-blocking file descriptor will return 0 on EOF, and not the value
?C: held in RD_NODATA (-1 usually, in that case!).
?C:.
?H:#define VAL_O_NONBLOCK $o_nonblock
?H:#define VAL_EAGAIN $eagain
?H:#define RD_NODATA $rd_nodata
?H:#$d_eofnblk EOF_NONBLOCK
?H:.
?F:!try !try.out !try.ret !try.err !mtry
?T:status
?LINT:use d_open3
: check for non-blocking I/O stuff
case "$h_sysfile" in
true) echo "#include <sys/file.h>" > head.c;;
*)
 case "$h_fcntl" in
 true) echo "#include <fcntl.h>" > head.c;;
 *) echo "#include <sys/fcntl.h>" > head.c;;
 esac
 ;;
esac
echo " "
echo "Figuring out the flag used by open() for non-blocking I/O..." >&4
case "$o_nonblock" in
")
 $cat head.c > try.c
 $cat >>try.c <<'EOCP'
int main() {
#ifdef O_NONBLOCK
 printf("O_NONBLOCK\n");
 exit(0);
#endif
#ifdef O_NDELAY
 printf("O_NDELAY\n");
 exit(0);
#endif
?X: Stevens "Advanced Programming in the UNIX Environment" page 364 mentions
?X: the FNDELAY symbol, used in 4.33BSD (source: Paul Marquess).
#ifdef FNDELAY
 printf("FNDELAY\n");
 exit(0);
#endif
 exit(0);
}
EOCP
```

```
if
$cc $ccflags $ldflags -o try try.c >/dev/null 2>&1; then
 o_nonblock=`./try`
 case "$o_nonblock" in
 ") echo "I can't figure it out, assuming O_NONBLOCK will do.";;
 *) echo "Seems like we can use $o_nonblock.";;
 esac
else
 echo "(I can't compile the test program; pray O_NONBLOCK is right!)"
fi
;;
*) echo "Using $hint value $o_nonblock.";;
esac
$rm_try

echo " "
echo "Let's see what value errno gets from read() on a $o_nonblock file..." >&4
case "$eagain" in
")
 $cat head.c > try.c
 $cat >>try.c <<EOCP
#include <errno.h>
#include <sys/types.h>
#include <signal.h>
#define MY_O_NONBLOCK $o_nonblock
extern int errno;
$signal_t blech(x) int x; { exit(3); }
EOCP
 $cat >> try.c <<'EOCP'
int main()
{
 int pd[2];
 int pu[2];
 char buf[1];
 char string[100];

 pipe(pd); /* Down: child -> parent */
 pipe(pu); /* Up: parent -> child */
 if (0 != fork()) {
  int ret;
  close(pd[1]); /* Parent reads from pd[0] */
  close(pu[0]); /*
 Parent writes (blocking) to pu[1] */
  if (-1 == fcntl(pd[0], F_SETFL, MY_O_NONBLOCK))
   exit(1);
  signal(SIGALRM, blech);
  alarm(5);
  if ((ret = read(pd[0], buf, 1)) > 0) /* Nothing to read! */
```

```
  exit(2);
 sprintf(string, "%d\n", ret);
 write(2, string, strlen(string));
 alarm(0);
#ifdef EAGAIN
 if (errno == EAGAIN) {
  printf("EAGAIN\n");
  goto ok;
 }
#endif
#ifdef EWOULDBLOCK
 if (errno == EWOULDBLOCK)
  printf("EWOULDBLOCK\n");
#endif
 ok:
 write(pu[1], buf, 1); /* Unblocks child, tell it to close our pipe */
 sleep(2);    /* Give it time to close our pipe */
 alarm(5);
 ret = read(pd[0], buf, 1); /* Should read EOF */
 alarm(0);
 sprintf(string, "%d\n", ret);
 write(3, string, strlen(string));
 exit(0);
 }

 close(pd[0]);   /* We write to pd[1] */
 close(pu[1]);   /* We read from pu[0] */
 read(pu[0], buf, 1); /* Wait for parent to signal us we may continue */
 close(pd[1]);   /* Pipe pd is now fully closed! */
 exit(0);    /* Bye bye, thank you for playing!
 */
}
EOCP
 if $cc $ccflags $ldflags -o try try.c >/dev/null 2>&1; then
?X: Use script to avoid the possible 'alarm call' message
 echo "$startsh" >mtry
 echo "./try >try.out 2>try.ret 3>try.err || exit 4" >>mtry
 chmod +x mtry
 ./mtry >/dev/null 2>&1
 case $? in
 0) eagain=`$cat try.out`;;
 1) echo "Could not perform non-blocking setting!";;
 2) echo "I did a successful read() for something that was not there!";;
 3) echo "Hmm... non-blocking I/O does not seem to be working!";;
 *) echo "Something terribly wrong happened during testing.";;
 esac
 rd_nodata=`$cat try.ret`
 echo "A read() system call with no data present returns $rd_nodata."
```

```
 case "$rd_nodata" in
 0|-1) ;;
 *)
  echo "(That's peculiar, fixing that to be -1.)"
  rd_nodata=-1
  ;;
 esac
 case "$eagain" in
 ")
  echo "Forcing errno EAGAIN on read() with no data available."
  eagain=EAGAIN
  ;;
 *)
  echo "Your read() sets errno to $eagain when no data is available."
  ;;
 esac
 status=`$cat
try.err`
 case "$status" in
 0) echo "And it correctly returns 0 to signal EOF.";;
 -1) echo "But it also returns -1 to signal EOF, so be careful!";;
 *) echo "However, your read() returns '$status' on EOF??";;
 esac
 val="$define"
 if test "$status" = "$rd_nodata"; then
  ./warn "your read() can't distinguish between EOF and no data!"
  val="$undef"
 fi
else
 echo "I can't compile the test program--assuming errno EAGAIN will do."
 eagain=EAGAIN
fi
set d_eofnblk
eval $setvar
;;
*)
 echo "Using $hint value $eagain."
 echo "Your read() returns $rd_nodata when no data is present."
 case "$d_eofnblk" in
 "$define") echo "And you can see EOF because read() returns 0.";;
 "$undef") echo "But you can't see EOF status from read() returned value.";;
 *)
?X: Should not happen, but if it does, assume the worst!
  echo "(Assuming you can't see EOF status from read anyway.)"
  d_eofnblk=$undef
  ;;
 esac
 ;;
```

```
esac
$rm_try head.c mtry

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/nblock_io.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:usequadmath: Setvar cat uselongdouble
?MAKE: -pick add $@ %<
?S:usequadmath:
?S: This variable conditionally defines the USE_QUADMATH symbol,
?S: and indicates that the quadmath library __float128 long doubles
?S: should be used when available.
?S:.
?C:USE_QUADMATH:
?C: This symbol, if defined, indicates that the quadmath library should
?C: be used when available.
?C:.
?H:?%<:#ifndef USE_QUADMATH
?H:?%<:#$usequadmath USE_QUADMATH  /**/
?H:?%<:#endif
?H:.
: Check if quadmath is requested
case "$usequadmath" in
"$define"|true|[yY]*) usequadmath="$define" ;;
*)                    usequadmath="$undef"  ;;
esac

: Fail if both uselongdouble and usequadmath are requested
case "$usequadmath:$uselongdouble" in
define:define)
 $cat <<EOM >&4

*** You requested the use of
 the quadmath library and use
*** of long doubles.
***
*** Please select one or the other.
EOM
 exit 1
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/usequadmath.U
```

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_scandir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_scandir.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:06:35  ram
?RCS: patch16: created
?RCS:
?MAKE:d_scandir: Inlibc
?MAKE: -pick add $@ %<
?S:d_scandir:
?S: This variable conditionally defines HAS_SCANDIR if scandir() is
?S: available to scan a directory.
?S:.
?C:HAS_SCANDIR:
?C: This symbol, if defined, indicates that the scandir routine is
?C: available to scan a directory.
?C:.
?H:#$d_scandir HAS_SCANDIR /**/
?H:.
?LINT:set d_scandir
: see if
 scandir exists
set scandir d_scandir
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_scandir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_fsetpos.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

?RCS: $Log: d_fsetpos.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  06:57:38  ram
?RCS: patch30: created
?RCS:
?MAKE:d_fsetpos: Inlibc
?MAKE: -pick add $@ %<
?S:d_fsetpos:
?S: This variable conditionally defines HAS_FSETPOS if fsetpos() is
?S: available to set the file position indicator.
?S:.
?C:HAS_FSETPOS:
?C: This symbol, if defined, indicates that the fsetpos routine is
?C: available to set the file position indicator, similar to fseek().
?C:.
?H:#$d_fsetpos
 HAS_FSETPOS /**/
?H:.
?LINT:set d_fsetpos
: see if fsetpos exists
set fsetpos d_fsetpos
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_fsetpos.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libpth.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libpth.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:08:49  ram
?RCS: patch61: new loclibpth variable
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:31:30  ram
?RCS: patch45: call ./mips instead of just mips (WED)
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:29:15  ram
?RCS: patch32: added /lib/pa1.1 for HP-UX specially tuned PA-RISC libs (ADO)
?RCS: patch32: fixed information message, making it clearer (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:03:54

```
 ram
?RCS: patch30: added /usr/shlib to glibpth for shared-only libraries
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:26:57  ram
?RCS: patch27: fixed a typo (libpth -> glibpth)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:07:53  ram
?RCS: patch23: now asks for library directories to be searched (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit initializes the path for C library lookup.
?X:
?MAKE:libpth glibpth xlibpth plibpth loclibpth incpth: \
 usrinc incpath test cat Myread Oldconfig sysroot osname \
 ccname echo cppstdin awk grep sed rm usecrosscompile
?MAKE: -pick add $@ %<
?S:libpth:
?S: This variable holds the general path (space-separated) used to find
?S: libraries. It is intended to be used by other units.
?S:.
?S:glibpth:
?S: This variable holds the general path (space-separated) used to
?S: find libraries.  It may contain directories that do not exist on
?S: this platform, libpth is the cleaned-up
 version.
?S:.
?S:xlibpth:
?S: This variable holds extra path (space-separated) used to find
?S: libraries on this platform, for example CPU-specific libraries
?S: (on multi-CPU platforms) may be listed here.
?S:.
?S:loclibpth:
?S: This variable holds the paths (space-separated) used to find local
?S: libraries.  It is prepended to libpth, and is intended to be easily
?S: set from the command line.
?S:.
?S:plibpth:
?S: Holds the private path used by Configure to find out the libraries.
?S: Its value is prepend to libpth. This variable takes care of special
?S: machines, like the mips.  Usually, it should be empty.
?S:.
?S:incpth:
?S: This variable must precede the normal include path to get the
?S: right one, as in "$incpath/usr/include" or "$incpath/usr/lib".
?S: Value can be "" or "/bsd43" on mips.
```

```
?S:.
?T: xxx dlist i j croak
?LINT:extern incpth
?LINT:change usrinc
?INIT:: change the next line if compiling for Xenix/286 on Xenix/386
?INIT:xlibpth='/usr/lib/386 /lib/386'
?INIT::
 Possible local library directories to search.
?INIT:loclibpth="/usr/local/lib /opt/local/lib /usr/gnu/lib"
?INIT:loclibpth="$loclibpth /opt/gnu/lib /usr/GNU/lib /opt/GNU/lib"
?INIT:
?INIT:: general looking path for locating libraries
?INIT:glibpth="/lib /usr/lib $xlibpth"
?INIT:glibpth="$glibpth /usr/ccs/lib /usr/ucblib /usr/local/lib"
?X: /shlib is for Digital Unix 4.0
?X: /usr/shlib is for OSF/1 systems.
?INIT:test -f /usr/shlib/libc.so && glibpth="/usr/shlib $glibpth"
?INIT:test -f /shlib/libc.so     && glibpth="/shlib $glibpth"
?INIT:test -d /usr/lib64         && glibpth="$glibpth /lib64 /usr/lib64 /usr/local/lib64"
?INIT:
?INIT:: Private path used by Configure to find libraries.  Its value
?INIT:: is prepended to libpth. This variable takes care of special
?INIT:: machines, like the mips.  Usually, it should be empty.
?INIT:plibpth="
?INIT:
?X:cppfilter is later used in Findhdr.U, but we not want to expose it to config.h
?T:cppfilter
: Adjust cppfilter for path component separator
case
 "$osname" in
vos) cppfilter="tr '\\\\>' '/' |" ;; # path component separator is >
os2) cppfilter="sed -e 's|\\\\\\\\|/|g' |" ;; # path component separator is \
*)   cppfilter=" ;;
esac

: Use gcc to determine libpth and incpth
# If using gcc or clang, we can get better values for libpth, incpth
# and usrinc directly from the compiler.
# Note that ccname for clang is also gcc.
case "$ccname" in
  gcc)
 $echo 'extern int foo;' > try.c
 set X `$cppstdin -v try.c 2>&1 | $awk '/^#include <,/^End of search /'|$cppfilter $grep '/include'`
 shift
 if $test $# -gt 0; then
    incpth="$incpth $*"
    incpth="`$echo $incpth|$sed 's/^ //'`"
    for i in $*; do
```

```
j="`$echo $i|$sed 's,/include$,/lib,'`"
 if $test -d $j; then
    libpth="$libpth $j"
 fi
   done
   libpth="`$echo $libpth|$sed 's/^ //'`"
   for xxx in $libpth $loclibpth $plibpth $glibpth; do
 if $test -d $xxx; then
    case " $libpth " in
    *" $xxx "*) ;;
    *) libpth="$libpth $xxx";;
    esac
 fi

  done
fi
$rm -f try.c
case "$usrinc" in
") for i in $incpth; do
 if $test -f $i/errno.h -a -f $i/stdio.h -a -f $i/time.h; then
    usrinc="$i"
    break
 fi
   done
   ;;
esac

case "$usecrosscompile" in
$define|true|[yY]*)
   case "$incpth" in
 ") echo "Incpth not defined." >&4; croak=y ;;
 *)  echo "Using incpth '$incpth'." >&4 ;;
   esac
   case "$libpth" in
 ") echo "Libpth not defined." >&4; croak=y ;;
 *)  echo "Using libpth '$libpth'." >&4 ;;
   esac
   case "$usrinc" in
 ") echo "Usrinc not defined." >&4; croak=y ;;
 *)  echo "Using usrinc $usrinc." >&4 ;;
   esac
   case "$croak" in
 y)
 if test "X$sysroot" = X; then
    echo "Cannot continue, aborting." >&4; exit 1
 else
    echo "Cross-compiling using sysroot $sysroot, failing to guess inc/lib paths is not fatal" >&4
 fi
```

```
  ;;
    esac
    ;;
 esac
  ;;
esac

: Default value for incpth is just usrinc
case "$incpth" in
") incpth="$usrinc";;
esac

: Set private lib path
case
 "$plibpth" in
") if ./mips; then
?X: on mips, we DO NOT want /lib, and we want $incpath/usr/lib
 plibpth="$incpath/usr/lib $sysroot/usr/local/lib $sysroot/usr/ccs/lib"
  fi;;
esac
case "$libpth" in
' ') dlist="";;
") dlist="$loclibpth $plibpth $glibpth";;
*) dlist="$libpth";;
esac

: Now check and see which directories actually exist, avoiding duplicates
for xxx in $dlist
do
  if $test -d $xxx; then
  case " $libpth " in
  *" $xxx "*) ;;
  *) libpth="$libpth $xxx";;
  esac
  fi
done
$cat <<'EOM'

Some systems have incompatible or broken versions of libraries.  Among
the directories listed in the question below, please remove any you
know not to be holding relevant libraries, and add any that are needed.
Say "none" for none.

EOM

if test "X$sysroot" != X; then
  $cat <<EOM
You have set sysroot to $sysroot, please supply the directories excluding sysroot
```

```
EOM
fi

case "$libpth" in
'') dflt='none';;
*)
?X: strip leading space
 set X $libpth
 shift
 dflt=${1+"$@"}
 ;;
esac
rp="Directories
 to use for library searches?"
. ./myread
case "$ans" in
none) libpth=' ';;
*) libpth="$ans";;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/libpth.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_getspnam: Inlibc
?MAKE: -pick add $@ %<
?S:d_getspnam:
?S: This variable conditionally defines HAS_GETSPNAM if getspnam() is
?S: available to retrieve SysV shadow password entries by name.
?S:.
?C:HAS_GETSPNAM:
?C: This symbol, if defined, indicates that the getspnam system call is
?C: available to retrieve SysV shadow password entries by name.
?C:.
?H:#$d_getspnam HAS_GETSPNAM  /**/
?H:.
?LINT:set d_getspnam
```

```
: see if getspnam exists
set getspnam d_getspnam
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getspnam.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_srand48_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_srand48_r srand48_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_stdlib extern_C
?MAKE: -pick add $@ %<
?S:d_srand48_r:
?S: This variable conditionally defines the HAS_SRAND48_R symbol,
?S: which indicates to the C program that the srand48_r()
?S: routine is available.
?S:.
?S:srand48_r_proto:
?S: This variable encodes the prototype of srand48_r.
?S: It is zero if d_srand48_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_srand48_r
?S: is defined.
?S:.
?C:HAS_SRAND48_R:
?C: This symbol, if defined, indicates that the srand48_r routine
?C: is available to srand48 re-entrantly.
?C:.
?C:SRAND48_R_PROTO:
?C: This
 symbol encodes the prototype of srand48_r.
?C: It is zero if d_srand48_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_srand48_r
?C: is defined.
?C:.
?H:#$d_srand48_r HAS_SRAND48_R    /**/
?H:#define SRAND48_R_PROTO $srand48_r_proto    /**/
?H:.
?T:try hdrs d_srand48_r_proto
: see if srand48_r exists
set srand48_r d_srand48_r
eval $inlibc
```

```
case "$d_srand48_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_stdlib stdlib.h"
 case "$d_srand48_r_proto:$usethreads" in
 ":define") d_srand48_r_proto=define
  set d_srand48_r_proto srand48_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_srand48_r_proto" in
 define)
 case "$srand48_r_proto" in
 "|0) try='int srand48_r(long, struct drand48_data*);'
 ./protochk "$extern_C $try" $hdrs && srand48_r_proto=I_LS ;;
 esac
 case "$srand48_r_proto" in
 "|0) d_srand48_r=undef
        srand48_r_proto=0
  echo "Disabling srand48_r, cannot determine prototype." >&4
 ;;
 * ) case "$srand48_r_proto" in
  REENTRANT_PROTO*) ;;
  *) srand48_r_proto="REENTRANT_PROTO_$srand48_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "srand48_r has no prototype, not using it." >&4 ;;
  esac
  d_srand48_r=undef
  srand48_r_proto=0
  ;;
 esac
 ;;
*) srand48_r_proto=0
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_srand48_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: h_sysfile.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: h_sysfile.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:h_sysfile: Nothing
?MAKE: -pick add $@ %<
?S:h_sysfile:
?S: This is variable gets set in various places to tell i_sys_file that
?S: <sys/file.h> should be included.
?S:.
: Initialize h_sysfile
h_sysfile=false

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/h_sysfile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_socket.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:46:00  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:08:04  ram
?RCS: patch16: can now safely declare private nm_extract in dependencies
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_socket d_oldsock d_sockpair socketlib sockethdr: contains libc \
 echo n c nm_opt nm_extract Inlibc Csym _a
?MAKE: -pick add $@ %<
?S:d_socket:
?S: This

```
 variable conditionally defines HAS_SOCKET, which indicates
?S: that the BSD socket interface is supported.
?S:.
?S:d_sockpair:
?S: This variable conditionally defines the HAS_SOCKETPAIR symbol, which
?S: indicates that the BSD socketpair() is supported.
?S:.
?S:d_oldsock:
?S: This variable conditionally defines the OLDSOCKET symbol, which
?S: indicates that the BSD socket interface is based on 4.1c and not 4.2.
?S:.
?S:socketlib:
?S: This variable has the names of any libraries needed for socket support.
?S:.
?S:sockethdr:
?S: This variable has any cpp -I flags needed for socket support.
?S:.
?C:HAS_SOCKET (SOCKET):
?C: This symbol, if defined, indicates that the BSD socket interface is
?C: supported.
?C:.
?C:HAS_SOCKETPAIR (SOCKETPAIR):
?C: This symbol, if defined, indicates that the BSD socketpair() call is
?C: supported.
?C:.
?C:USE_OLDSOCKET (OLDSOCKET):
?C: This symbol, if defined, indicates that the 4.1c BSD socket interface
?C: is supported instead of the 4.2/4.3 BSD
 socket interface. For instance,
?C: there is no setsockopt() call.
?C:.
?H:#$d_socket HAS_SOCKET  /**/
?H:#$d_sockpair HAS_SOCKETPAIR /**/
?H:#$d_oldsock USE_OLDSOCKET /**/
?H:.
?T:val
?LINT:use libc
?LINT:set d_sockpair
: see whether socket exists
socketlib="
sockethdr="
echo " "
$echo $n "Hmm... $c" >&4
if set socket val -f d_socket; eval $csym; $val; then
 echo "Looks like you have Berkeley networking support." >&4
 d_socket="$define"
?X: now check for advanced features
 if set setsockopt val -f; eval $csym; $val; then
```

```
 d_oldsock="$undef"
 else
  echo "...but it uses the old 4.1c interface, rather than 4.2" >&4
  d_oldsock="$define"
 fi
else
?X: HP-UX, for one, puts all the socket stuff in socklib.o. Note that if we
?X: come here on HP-UX, then we must have used nm to get symbols, or we really
?X: don't have sockets anyway...
 if $contains socklib libc.list >/dev/null 2>&1; then
  echo "Looks like you have Berkeley networking support." >&4
  d_socket="$define"
  : we will have
 to assume that it supports the 4.2 BSD interface
  d_oldsock="$undef"
 else
  echo "You don't have Berkeley networking in libc$_a..." >&4
?X: look for an optional networking library
  if test -f /usr/lib/libnet$_a; then
?X: space between two  '(' needed for ksh
   ( (nm $nm_opt /usr/lib/libnet$_a | eval $nm_extract) ||  \
   ar t /usr/lib/libnet$_a) 2>/dev/null >> libc.list
   if $contains socket libc.list >/dev/null 2>&1; then
   echo "...but the Wollongong group seems to have hacked it in." >&4
    socketlib="-lnet"
    sockethdr="-I/usr/netinclude"
    d_socket="$define"
?X: now check for advanced features
    if $contains setsockopt libc.list >/dev/null 2>&1; then
     d_oldsock="$undef"
    else
     echo "...using the old 4.1c interface, rather than 4.2" >&4
     d_oldsock="$define"
    fi
   else
    echo "or even in libnet$_a, which is peculiar." >&4
    d_socket="$undef"
    d_oldsock="$undef"
   fi
  else
   echo "or anywhere else I see." >&4
   d_socket="$undef"
   d_oldsock="$undef"
  fi
 fi
fi

@if
```

```
 HAS_SOCKETPAIR || d_sockpair
: see if socketpair exists
set socketpair d_sockpair
eval $inlibc

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_socket.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_niin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_niin.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit looks wether <netinet/in.h> is available or not
?X:
?MAKE:i_niin i_sysin: Inhdr
?MAKE: -pick add $@ %<
?S:i_niin:
?S: This variable conditionally defines I_NETINET_IN, which indicates
?S: to the C program that it should include <netinet/in.h>. Otherwise,
?S: you may try <sys/in.h>.
?S:.
?S:i_sysin:
?S: This variable conditionally
 defines I_SYS_IN, which indicates
?S: to the C program that it should include <sys/in.h> instead of
?S: <netinet/in.h>.
?S:.
?C:I_NETINET_IN:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <netinet/in.h>. Otherwise, you may try <sys/in.h>.
?C:.
?C:I_SYS_IN (I_SYSIN):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/in.h> instead of <netinet/in.h>.
```

?C:.
?H:#$i_niin I_NETINET_IN /**/
?H:#$i_sysin I_SYS_IN  /**/
?H:.
?LINT:set i_niin i_sysin
: see if this is a netinet/in.h or sys/in.h system
set netinet/in.h i_niin sys/in.h i_sysin
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_niin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_systimeb.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_systimeb.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:37  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit looks wether <sys/timeb.h> should be included
?X: or not when using ftime() (for struct timeb definition).
?X:
?X: Force looking for <sys/time.h> for struct timeb.
?X:INC: i_systime
?MAKE:i_systimeb: test contains Loc Setvar Findhdr
?MAKE: -pick add $@ %<
?S:i_systimeb:
?S: This variable conditionally defines I_SYS_TIMEB,
 which indicates
?S: to the C program that it should include <sys/timeb.h>.
?S:.
?C:I_SYS_TIMEB (I_SYSTIMEB):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/timeb.h>, in order to define struct timeb (some systems
?C: define this in <sys/time.h>). This is useful when using ftime().
?C: You should include <sys/time.h> if I_SYS_TIMEB is not defined,
?C: nor is I_SYS_TIME.
?C:.
?H:#$i_systimeb I_SYS_TIMEB  /**/

```
?H:.
?T:xxx
?LINT:set i_systimeb
: see where struct timeb is defined
echo " "
xxx=`./findhdr sys/timeb.h`
if $test "$xxx"; then
 if $contains 'struct timeb' $xxx >/dev/null 2>&1; then
  val="$define"
  echo "You have struct timeb defined in <sys/timeb.h>." >&4
 else
  val="$undef"
  echo "Assuming struct timeb is defined in <sys/time.h>." >&4
 fi
else
 val="$undef"
echo "No <sys/timeb.h> -- Assuming struct timeb is defined in <sys/time.h>." >&4
fi
set i_systimeb
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_systimeb.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: inc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: inc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:inc incexp: Loc Oldconfig Getfile usrinc
?MAKE: -pick add $@ %<
?S:inc:
?S: This variable holds the name of the directory in which the user wants
?S: to put public header files for the package in question.  It is most
?S: often a local directory such as /usr/local/include.
?S:.
?S:incexp:
?S: This is the same as the inc variable, but is filename
```

```
 expaned
?S: at configuration time for convenient use in your makefiles.
?S:.
: determine where public header files go
case "$inc" in
")
 dflt=`./loc . "." /usr/local/include /usr/include/local $usrinc`
 ;;
*)  dflt="$inc"
 ;;
esac
fn=d~
rp='Where do you want to put the public header files?'
. ./getfile
inc="$ans"
incexp="$ansexp"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/inc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_timer_settime: Inlibc
?MAKE: -pick add $@ %<
?S:d_timer_settime:
?S: This variable conditionally defines HAS_TIMER_SETTIME
?S: if timer_settime() is available to set the time of a POSIX timer.
?S:.
?C:HAS_TIMER_SETTIME:
?C: This symbol, if defined, indicates that the timer_settime
?C: system call is available to set the time of a POSIX timer.
?C:.
?H:#$d_timer_settime HAS_TIMER_SETTIME  /**/
?H:.
?LINT:set d_timer_settime
: see if timer_settime exists
set timer_settime d_timer_settime
eval $inlibc
```

Found in path(s):
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_timer_settime.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Cppsym.U,v 3.0.1.5 1995/05/12 11:59:11 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Cppsym.U,v $
?RCS: Revision 3.0.1.5  1995/05/12  11:59:11  ram
?RCS: patch54: split awk command onto two lines for older awk's (ADO)
?RCS:
?RCS: Revision 3.0.1.4  1995/01/11  14:55:57  ram
?RCS: patch45: new cc vs. cpp symbol checking suggested by JHI
?RCS: patch45: added more cpp symbols (JHI)
?RCS:
?RCS: Revision 3.0.1.3  1994/10/29  15:51:32  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: new symbols ardent and titan (ADO)
?RCS:
?RCS:
 Revision 3.0.1.2  1994/06/20  06:53:32  ram
?RCS: patch30: extended cpp symbol lookup list (JHI)
?RCS: patch30: renamed attrlist symbol into al for brevity
?RCS:
?RCS: Revision 3.0.1.1  1993/12/15  08:14:14  ram
?RCS: patch15: added new cpp symbols __bsdi__ and BSD_NET2
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X: This unit produces a shell script called Cppsym, which can be used to
?X: determine whether any in a list of symbols is defined by the C compilation
?X: chain (C preprocessor symbols plus C compiler native ones).
?X: It can determine the status of any symbol, though the symbols in $al
?X: are more easily determined.  If you want to add to $al you can do
?X: it in Myinit.U.
?MAKE:Cppsym ccsymbols cppsymbols cppccsymbols: run \
 eunicefix Guess awk cat tr sed sort rm rm_try startsh osname \
 +cc +gccversion test comm uniq echo Options trnl \
 optimize ccflags ldflags libs cpp_stuff cpp
```

```
?MAKE: -pick add $@ %<
?T:also
 symbols i postprocess_cc_v tHdrH
?X:
?X: The symbol list is in alpha order for ease of maintenance...
?X:
?X: Lots of new symbols (mostly rummaged from gcc), courtesy of
?X: Jarkko Hietaniemi <jhi@snakemail.hut.fi> -- RAM, 06/06/94
?X:
?S:ccsymbols:
?S: The variable contains the symbols defined by the C compiler alone.
?S: The symbols defined by cpp or by cc when it calls cpp are not in
?S: this list, see cppsymbols and cppccsymbols.
?S: The list is a space-separated list of symbol=value tokens.
?S:.
?S:cppsymbols:
?S: The variable contains the symbols defined by the C preprocessor
?S: alone.  The symbols defined by cc or by cc when it calls cpp are
?S: not in this list, see ccsymbols and cppccsymbols.
?S: The list is a space-separated list of symbol=value tokens.
?S:.
?S:cppccsymbols:
?S: The variable contains the symbols defined by the C compiler
?S: when it calls cpp.  The symbols defined by the cc alone or cpp
?S: alone are not in this list, see ccsymbols and cppsymbols.
?S: The
 list is a space-separated list of symbol=value tokens.
?S:.
?F:./Cppsym
?F:./Cppsym.know
?F:!Cppsym.true
?F:!ccsym.com
?F:!ccsym.cpp
?F:!ccsym.own
?X: fake LINT hints
?LINT:change ccflags
?LINT:extern s
?LINT:extern s__
: Preprocessor symbols
echo " "
$echo "Guessing which symbols your C compiler and preprocessor define..." >&4
?X: If your symbol is mixed case, just add it as-is.
?X: All symbols will be transformed to both all-lower and all-upper.
?X: Also drop any leading/trailing underscores, the scan will try all those.
$cat <<'EOSH' > Cppsym.know
a29k aarch64 ABI64 aegis AES_SOURCE AIX AIX32 AIX370 AIX41 AIX42
AIX43 aixpc AIX_SOURCE alliant ALL_SOURCE alpha AM29000 am29000
AMD64 amd64 amiga AMIGAOS AMIX ansi ANSI_C_SOURCE apollo arch_ppc
```

arch_pwr ardent ARM ARM32 atarist att386 att3b
BeOS BIG_ENDIAN BIT_MSF BSD bsd bsd43 bsd4_2 BSD4_3 bsd4_3 bsd4_4
BSDCOMPAT bsdi BSD_4_3 BSD_4_4 BSD_NET2 BSD_TIME BSD_TYPES bull
byteorder byte_order
c cadmus clang clipper CMU COFF COMPILER_VERSION
concurrent
convex cpu CRAY cray CRAYMPP ctix CX_UX CYGWIN
DECC DGUX DGUX_SOURCE DJGPP dmert DOLPHIN DPX2 DSO Dynix DynixPTX
ELF encore EPI EXTENSIONS
FAVOR_BSD FILE_OFFSET_BITS FORTIFY_SOURCE FreeBSD
GCC_NEW_VARARGS gcos gcx gimpel GLIBC GLIBC_MINOR GNUC GNUC_MINOR
GNU_LIBRARY GNU_SOURCE GO32 gould GOULD_PN
H3050R H3050RX hbullx20 hcx host_mips hp200 hp300 HP700 hp700
hp800 hp9000 hp9000s200 hp9000s300 hp9000s400 hp9000s500
hp9000s700 hp9000s800 hp9k8 hppa hpux HPUX_SOURCE hp_osf
i186 i286 i386 i486 i586 i686 i8086 i80960 i860 I960 IA32 IA64
iAPX286 ibm ibm032 ibmesa IBMR2 ibmrt ILP32 ILP64
INLINE_INTRINSICS INT64 INTEL interdata INTRINSICS is68k itanium
ksr1
LANGUAGE_C LARGEFILE64_SOURCE LARGEFILE_SOURCE LARGE_FILE_API
LFS64_LARGEFILE LFS_LARGEFILE LIBCATAMOUNT Linux LITTLE_ENDIAN
LONG64 LONGDOUBLE LONGLONG LONG_DOUBLE LONG_LONG LP64 luna
luna88k Lynx
M68000 m68k m88100 m88k M88KBCS_TARGET MACH machine MachTen
MATH_HAS_NO_SIDE_EFFECTS mc300 mc500 mc68000 mc68010 mc68020
mc68030
mc68040 mc68060 mc68k mc68k32 mc700 mc88000 mc88100
merlin mert MiNT mips MIPSEB MIPSEL MIPS_FPSET MIPS_ISA MIPS_SIM
MIPS_SZINT MIPS_SZLONG MIPS_SZPTR MODERN_C motorola mpeix MSDOS
MTXINU MULTIMAX MVS mvs M_AMD64 M_ARM M_ARMT M_COFF M_I186 M_I286
M_I386 M_I8086 M_I86 M_I86SM M_IA64 M_IX86 M_PPC M_SYS3 M_SYS5
M_SYSIII M_SYSV M_UNIX M_X86 M_XENIX
n16 ncl_el ncl_mr NetBSD news1500 news1700 news1800 news1900
news3700 news700 news800 news900 NeXT NLS nonstopux ns16000
ns32000 ns32016 ns32332 ns32k nsc32000
OCS88 OEMVS OpenBSD os OS2 OS390 osf OSF1 OSF_SOURCE
PARAGON parisc pa_risc PA_RISC1_1 PA_RISC2_0 pc532 pdp11 PGC PIC
plexus PORTAR posix POSIX1B_SOURCE POSIX2_SOURCE POSIX4_SOURCE
POSIX_C_SOURCE POSIX_SOURCE POWER powerpc ppc PROTOTYPES PWB pyr
QK_USER QNX
R3000 REENTRANT RES Rhapsody RISC6000 riscix riscos RT
S390 S390x SA110 SCO scs sequent sgi SGI_SOURCE SH SH3 sinix
SIZE_INT SIZE_LONG SIZE_PTR SOCKETS_SOURCE SOCKET_SOURCE sony
sonyrisc sony_news sparc sparclite sparcv8 sparcv9 spectrum
stardent
stdc STDC_EXT stratos sun sun3 sun386 Sun386i svr3 svr4
SVR4_2 SVR4_SOURCE svr5 SX system SYSTYPE_BSD SYSTYPE_BSD43
SYSTYPE_BSD44 SYSTYPE_SVR4 SYSTYPE_SVR5 SYSTYPE_SYSV SYSV SYSV3

```
SYSV4 SYSV5 sysV68 sysV88
Tek4132 Tek4300 thumb thw_370 thw_intel thw_rs6000 titan TM3200
TM5400 TM5600 tower tower32 tower32_200 tower32_600 tower32_700
tower32_800 tower32_850 tss
u370 u3b u3b2 u3b20 u3b200 u3b20d u3b5 ultrix UMAXV UnicomPBB
UnicomPBD UNICOS UNICOSMK unix UNIX95 UNIX99 unixpc unos USE_BSD
USE_FILE_OFFSET64 USE_GNU USE_ISOC9X USE_LARGEFILE
USE_LARGEFILE64 USE_MISC USE_POSIX USE_POSIX199309
USE_POSIX199506 USE_POSIX2 USE_REENTRANT USE_SVID USE_UNIX98
USE_XOPEN USE_XOPEN_EXTENDED USGr4 USGr4_2 UTek Utek UTS UWIN
uxpm uxps
vax venix VMESA vms
x86_64 xenix Xenix286 XOPEN_SOURCE XOPEN_SOURCE_EXTENDED XPG2
XPG2_EXTENDED XPG3 XPG3_EXTENDED XPG4 XPG4_EXTENDED
z8000 zarch
EOSH
# Maybe put other stuff here too.
?X:Some OS's will have a dash in their $osname
?X:e.g. Android is known as linux-android
?X:The
 preprocessor will interpret the dash as a minus
./tr '-' '_' <<EOSH >>Cppsym.know
$osname
EOSH
./tr '[a-z]' '[A-Z]' < Cppsym.know > Cppsym.a
./tr '[A-Z]' '[a-z]' < Cppsym.know > Cppsym.b
$cat Cppsym.know > Cppsym.c
$cat Cppsym.a Cppsym.b Cppsym.c | $tr ' ' $trnl | $sort | $uniq > Cppsym.know
$rm -f Cppsym.a Cppsym.b Cppsym.c
cat <<EOSH > Cppsym
$startsh
if $test \$# -gt 0; then
   echo \$* | $tr " " "$trnl" | ./Cppsym.try > Cppsym.got
   if $test -s Cppsym.got; then
 $rm -f Cppsym.got
 exit 0
   fi
   $rm -f Cppsym.got
   exit 1
else
   $tr " " "$trnl" | ./Cppsym.try
   exit 0
fi
EOSH
chmod +x Cppsym
$eunicefix Cppsym
?X: The below awk script will die a horrible death if
?X: some of the tested symbols are not long ints.
```

```
?X: Also, we do not make difference between just defined and defined zero.
cat <<EOSH > Cppsym.try
$startsh
cat <<'EOCP' > try.c
#include <stdio.h>
#if cpp_stuff == 1
#define STRINGIFY(a)    "a"
#endif
#if cpp_stuff == 42
#define StGiFy(a)  #a
#define
 STRINGIFY(a)    StGiFy(a)
#endif
#if $cpp_stuff != 1 && $cpp_stuff != 42
#   include "Bletch: How does this C preprocessor stringify macros?"
#endif
int main() {
EOCP
?X: The length($1) command guards against possible empty entries.
?X: The awk snippet is know to give heartburn to UNICOS/mk awk.
$awk \\
EOSH
cat <<'EOSH' >> Cppsym.try
'length($1) > 0 {
   printf "#ifdef %s\nprintf(\"%s=%%s\\n\", STRINGIFY(%s));\n#endif\n", $1, $1, $1
   printf "#ifdef _%s\nprintf(\"_%s=%%s\\n\", STRINGIFY(_%s));\n#endif\n", $1, $1, $1
   printf "#ifdef __%s\nprintf(\"__%s=%%s\\n\", STRINGIFY(__%s));\n#endif\n", $1, $1, $1
   printf "#ifdef __%s__\nprintf(\"__%s__=%%s\\n\", STRINGIFY(__%s__));\n#endif\n", $1, $1, $1
}'  >> try.c
echo 'return 0;}' >> try.c
EOSH
cat <<EOSH >> Cppsym.try
ccflags="$ccflags"
case "$osname-$gccversion" in
irix-) ccflags="\$ccflags -woff 1178" ;;
os2-*) ccflags="\$ccflags -Zlinker /PM:VIO" ;;
esac
$cc -o try -Dcpp_stuff=$cpp_stuff $optimize \$ccflags $ldflags try.c
 $libs 2>/dev/null && $run ./try | $sed 's/ /\\\\ /g'
EOSH
chmod +x Cppsym.try
$eunicefix Cppsym.try
./Cppsym < Cppsym.know | $sort | $uniq > Cppsym.true
: Add in any Linux cpp "predefined macros":
case "$osname::$gccversion" in
 *linux*::*.*|*gnukfreebsd*::*.*|gnu::*.*)
   tHdrH=_tmpHdr
   rm -f $tHdrH'.h' $tHdrH
```

```
  touch $tHdrH'.h'
  # Filter out macro arguments, such as Linux's __INT8_C(c)
  if $cpp -dM $tHdrH'.h' > $tHdrH'_cppsym.h' && [ -s $tHdrH'_cppsym.h' ]; then
    sed -e 's/#define[\ \  ]*//;s/[\ \      ].*$//' -e 's/(.*//' <$tHdrH'_cppsym.h' >$tHdrH'_cppsym.real'
    if [ -s $tHdrH'_cppsym.real' ]; then
  cat $tHdrH'_cppsym.real' Cppsym.know | sort | uniq | ./Cppsym | sort | uniq > Cppsym.true
    fi
  fi
  rm -f $tHdrH'.h' $tHdrH'_cppsym.h' $tHdrH'_cppsym.real'
 ;;
esac
: now check the C compiler for additional symbols
?X: suggested by Jarkko Hietaniemi <jhi@snakemail.hut.fi>, thanks!
postprocess_cc_v="
case "$osname" in
aix) postprocess_cc_v="|$tr , '
 '" ;;
esac
$cat >ccsym <<EOS
$startsh
$cat >tmp.c <<EOF
extern int foo;
EOF
for i in \`$cc -v -c tmp.c 2>&1 $postprocess_cc_v\`
do
 case "\$i" in
 -D*) echo "\$i" | $sed 's/^-D//';;
 -A*) $test "$gccversion" && echo "\$i" | $sed 's/^-A//' | $sed 's/\(.*\)(\(.*\))/\1=\2/';;
 esac
done
$rm_try
EOS
postprocess_cc_v="
chmod +x ccsym
$eunicefix ccsym
./ccsym > ccsym1.raw
?X: AIX complains if $uniq is passed an empty file.  ($sort apparently
?X: doesn't care.)  --AD  14 July 1998
if $test -s ccsym1.raw; then
  $sort ccsym1.raw | $uniq >ccsym.raw
else
  mv ccsym1.raw ccsym.raw
fi

?X: canonicalize symbols for easier sort/uniq/comm usage: append =1 if no = sign
?X: the awk script must be on two lines for older awk programs, sigh! -- ADO
$awk '/\=/ { print $0; next }
 { print $0"=1" }' ccsym.raw >ccsym.list
```

```
$comm -13 Cppsym.true ccsym.list >ccsym.own
$comm -12 Cppsym.true ccsym.list >ccsym.com
$comm -23 Cppsym.true ccsym.list >ccsym.cpp
also="
if $test -z ccsym.raw; then
 echo "Your C compiler
 doesn't seem to define any symbols!" >&4
 echo " "
 echo "However, your C preprocessor defines the following symbols:"
 $cat Cppsym.true
 ccsymbols="
 cppsymbols=`$cat Cppsym.true`
 cppsymbols=`echo $cppsymbols`
 cppccsymbols="$cppsymbols"
else
 if $test -s ccsym.com; then
  echo "Your C compiler and pre-processor define these symbols:"
  $sed -e 's/\(..*\)=.*/\1/' ccsym.com
  also='also '
  symbols='ones'
  cppccsymbols=`$cat ccsym.com`
  cppccsymbols=`echo $cppccsymbols`
  $test "$silent" || sleep 1
 fi
 if $test -s ccsym.cpp; then
  $test "$also" && echo " "
  echo "Your C pre-processor ${also}defines the following symbols:"
  $sed -e 's/\(..*\)=.*/\1/' ccsym.cpp
  also='further '
  cppsymbols=`$cat ccsym.cpp`
  cppsymbols=`echo $cppsymbols`
  $test "$silent" || sleep 1
 fi
 if $test -s ccsym.own; then
  $test "$also" && echo " "
  echo "Your C compiler ${also}defines the following cpp symbols:"
  $sed -e 's/\(..*\)=1/\1/' ccsym.own
  $sed -e 's/\(..*\)=.*/\1/' ccsym.own | $uniq
 >>Cppsym.true
  ccsymbols=`$cat ccsym.own`
  ccsymbols=`echo $ccsymbols`
  $test "$silent" || sleep 1
 fi
fi

: add -D_FORTIFY_SOURCE if feasible and not already there
case "$gccversion" in
[4567].*) case "$optimize$ccflags" in
```

```
 *-O*) case "$ccflags$cppsymbols" in
  *_FORTIFY_SOURCE=*) # Don't add it again.
   echo "You seem to have -D_FORTIFY_SOURCE already, not adding it." >&4
   ;;
  *) echo "Adding -D_FORTIFY_SOURCE=2 to ccflags..." >&4
   ccflags="$ccflags -D_FORTIFY_SOURCE=2"
   ;;
  esac
  ;;
 *) echo "You have gcc 4.* or later but not optimizing, not adding -D_FORTIFY_SOURCE." >&4
  ;;
 esac
 ;;
*) echo "You seem not to have gcc 4.* or later, not adding -D_FORTIFY_SOURCE." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Cppsym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_erf: Inlibc
?MAKE: -pick add $@ %<
?S:d_erf:
?S: This variable conditionally defines the HAS_ERF symbol, which
?S: indicates to the C program that the erf() routine is available.
?S:.
?C:HAS_ERF:
?C: This symbol, if defined, indicates that the erf routine is
?C: available to do the error function.
?C:.
?H:#$d_erf HAS_ERF  /**/
?H:.
?LINT:set d_erf
: see if erf exists
set erf d_erf
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_erf.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mallocsrc.U,v 3.0.1.2 1997/02/28 16:10:26 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: mallocsrc.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:10:26  ram
?RCS: patch61: added support for Free_t, the type of free()
?RCS: patch61: replaced .o with $_o all over the place
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:10:46  ram
?RCS: patch23: added support for MYMALLOC, mainly  for perl5 (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:mallocsrc mallocobj usemallocwrap usemymalloc
 malloctype d_mymalloc \
 freetype: Myread \
 Oldconfig package Guess Setvar rm cat +cc +ccflags Findhdr \
 i_malloc i_stdlib sed libs _o ptrsize useithreads
?MAKE: -pick add $@ %<
?X: Put near top so that other tests don't erroneously include
?X: -lmalloc.  --AD  22 June 1998
?Y:TOP
?S:usemymalloc:
?S: This variable contains y if the malloc that comes with this package
?S: is desired over the system's version of malloc.  People often include
?S: special versions of malloc for efficiency, but such versions are often
?S: less portable.  See also mallocsrc and mallocobj.
?S: If this is 'y', then -lmalloc is removed from $libs.
?S:.
?S:usemallocwrap:
?S: This variable contains y if we are wrapping malloc to prevent
?S: integer overflow during size calculations.
?S:.
?S:mallocsrc:
?S: This variable contains the name of the malloc.c that comes with
?S: the package, if that malloc.c is preferred over the system malloc.
?S: Otherwise the value is null.  This variable is intended for generating
?S: Makefiles.
?S:.
?S:d_mymalloc:
?S: This
 variable conditionally defines MYMALLOC in case other parts
?S: of the source want to take special action if MYMALLOC is used.
```

```
?S: This may include different sorts of profiling or error detection.
?S:.
?S:mallocobj:
?S: This variable contains the name of the malloc.o that this package
?S: generates, if that malloc.o is preferred over the system malloc.
?S: Otherwise the value is null.  This variable is intended for generating
?S: Makefiles.  See mallocsrc.
?S:.
?S:freetype:
?S: This variable contains the return type of free().  It is usually
?S: void, but occasionally int.
?S:.
?S:malloctype:
?S: This variable contains the kind of ptr returned by malloc and realloc.
?S:.
?C:Free_t:
?C: This variable contains the return type of free().  It is usually
?C: void, but occasionally int.
?C:.
?C:Malloc_t (MALLOCPTRTYPE):
?C: This symbol is the type of pointer returned by malloc and realloc.
?C:.
?H:#define Malloc_t $malloctype   /**/
?H:#define Free_t
 $freetype   /**/
?H:.
?C:PERL_MALLOC_WRAP:
?C: This symbol, if defined, indicates that we'd like malloc wrap checks.
?C:.
?H:#$usemallocwrap PERL_MALLOC_WRAP  /**/
?H:.
?C:MYMALLOC:
?C: This symbol, if defined, indicates that we're using our own malloc.
?C:.
?H:#$d_mymalloc MYMALLOC   /**/
?H:.
?LINT:extern usedevel
?LINT:change libs
?X: Cannot test for mallocsrc; it is the unit's name and there is a bug in
?X: the interpreter which defines all the names, even though they are not used.
@if mallocobj
: determine whether to use malloc wrapping
echo " "
case "$usemallocwrap" in
[yY]*|true|$define) dflt='y' ;;
[nN]*|false|$undef) dflt='n' ;;
*) case "$usedevel" in
 [yY]*|true|$define) dflt='y' ;;
```

```
 *) dflt='n' ;;
 esac
 ;;
esac
rp="Do you wish to wrap malloc calls to protect against potential overflows?"
. ./myread
usemallocwrap="$ans"
case "$ans" in
y*|true)
 usemallocwrap="$define" ;;
*)
 usemallocwrap="$undef" ;;
esac

: determine which malloc to compile in
echo " "
case "$usemymalloc"
 in
[yY]*|true|$define) dflt='y' ;;
[nN]*|false|$undef) dflt='n' ;;
*) case "$ptrsize" in
 4) dflt='y' ;;
 *) dflt='n' ;;
 esac
 if test "$useithreads" = "$define"; then dflt='n'; fi
 ;;
esac
rp="Do you wish to attempt to use the malloc that comes with $package?"
. ./myread
usemymalloc="$ans"
case "$ans" in
y*|true)
 usemymalloc='y'
 mallocsrc='malloc.c'
 mallocobj="malloc$_o"
 d_mymalloc="$define"
?X: Maybe libs.U should be dependent on mallocsrc.U, but then
?X: most packages that use dist probably don't supply their own
?X: malloc, so this is probably an o.k. compromise
 case "$libs" in
 *-lmalloc*)
  : Remove malloc from list of libraries to use
  echo "Removing unneeded -lmalloc from library list" >&4
  set `echo X $libs | $sed -e 's/-lmalloc / /' -e 's/-lmalloc$//'`
  shift
  libs="$*"
  echo "libs = $libs" >&4
  ;;
```

```
 esac
 ;;
*)
 usemymalloc='n'
 mallocsrc=''
 mallocobj=''
 d_mymalloc="$undef"
 ;;
esac

@end
@if MALLOCPTRTYPE || Malloc_t || Free_t
: compute the return types of
 malloc and free
echo " "
$cat >malloc.c <<END
#$i_malloc I_MALLOC
#$i_stdlib I_STDLIB
#include <stdio.h>
#include <sys/types.h>
#ifdef I_MALLOC
#include <malloc.h>
#endif
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#ifdef TRY_MALLOC
void *malloc();
#endif
#ifdef TRY_FREE
void free();
#endif
END
@if MALLOCPTRTYPE || Malloc_t
case "$malloctype" in
")
 if $cc $ccflags -c -DTRY_MALLOC malloc.c >/dev/null 2>&1; then
  malloctype='void *'
 else
  malloctype='char *'
 fi
 ;;
esac
echo "Your system wants malloc to return '$malloctype', it would seem." >&4
@end

@if Free_t
case "$freetype" in
```

```
")
 if $cc $ccflags -c -DTRY_FREE malloc.c >/dev/null 2>&1; then
  freetype='void'
 else
  freetype='int'
 fi
 ;;
esac
echo "Your system uses $freetype free(), it would seem." >&4
@end
$rm -f malloc.[co]
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/mallocsrc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_select.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_select.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_select: Inlibc
?MAKE: -pick add $@ %<
?S:d_select:
?S: This variable conditionally defines HAS_SELECT if select() is
?S: available to select active file descriptors. A <sys/time.h>
?S: inclusion may be necessary for the timeout field.
?S:.
?C:HAS_SELECT:
?C: This symbol, if defined, indicates that the select routine is
?C: available
 to select active file descriptors. If the timeout field
?C: is used, <sys/time.h> may need to be included.
?C:.
?H:#$d_select HAS_SELECT /**/
?H:.
?LINT:set d_select
: see if select exists
```

```
set select d_select
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_select.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: archlib.U,v 3.1 1999/07/08 18:32:29 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: archlib.U,v $
?RCS: Revision 3.1  1999/07/08 18:32:29  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:15:18  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/02/15  14:14:14  ram
?RCS: patch51: architecture name is now
 computed by a separate unit
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:32:22  ram
?RCS: patch49: archname is now systematically recomputed
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:36  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_archlib archlib archlibexp installarchlib: \
 cat Getfile Setprefixvar Loc Oldconfig archname spackage  \
 privlib sed test Prefixit Prefixup binexp
?MAKE: -pick add $@ %<
?Y:TOP
?S:d_archlib:
?S: This variable conditionally defines ARCHLIB to hold the pathname
?S: of architecture-dependent library files for $package.  If
?S: $archlib is the same as $privlib, then this is set to undef.
```

```
?S:.
?D:archlib="
?S:archlib:
?S: This variable holds the name of the directory in which the user wants
?S: to put architecture-dependent public library files for $package.
?S: It is most often a local directory such as /usr/local/lib.
?S: Programs using this variable must be prepared to deal
?S: with
 filename expansion.
?S:.
?D:archlibexp="
?S:archlibexp:
?S: This variable is the same as the archlib variable, but is
?S: filename expanded at configuration time, for convenient use.
?S:.
?D:installarchlib="
?S:installarchlib:
?S: This variable is really the same as archlibexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?C:ARCHLIB:
?C: This variable, if defined, holds the name of the directory in
?C: which the user wants to put architecture-dependent public
?C: library files for $package.  It is most often a local directory
?C: such as /usr/local/lib.  Programs using this variable must be
?C: prepared to deal with filename expansion.  If ARCHLIB is the
?C: same as PRIVLIB, it is not defined, since presumably the
?C: program already searches PRIVLIB.
?C:.
?C:ARCHLIB_EXP:
?C: This symbol contains the ~name expanded version of ARCHLIB, to be used
?C: in programs that are not prepared to deal with ~ expansion
 at run-time.
?C:.
?H:#$d_archlib ARCHLIB "$archlib"  /**/
?H:#$d_archlib ARCHLIB_EXP "$archlibexp"  /**/
?H:.
?T: tdflt
?LINT:change prefixvar
?LINT:set archlib
?LINT:set archlibexp
?LINT:set installarchlib
: determine where public architecture dependent libraries go
set archlib archlib
eval $prefixit
: privlib default is /usr/local/lib/$package/$version
: archlib default is /usr/local/lib/$package/$version/$archname
```

```
: privlib may have an optional trailing /share.
tdflt=`echo $privlib | $sed 's,/share$,,'`
tdflt=$tdflt/$archname
case "$archlib" in
'') dflt=$tdflt
 ;;
*) dflt="$archlib"
   ;;
esac
$cat <<EOM

$spackage contains architecture-dependent library files.  If you are
sharing libraries in a heterogeneous environment, you might store
these files in a separate location.  Otherwise, you can just include
them with the rest of the public library files.

EOM
?X: Force dependency on bin.U
fn=$binexp
fn=d+~
rp='Where do you want to put the public architecture-dependent libraries?'
.
 ./getfile
prefixvar=archlib
. ./setprefixvar
if $test X"$archlib" = X"$privlib"; then
 d_archlib="$undef"
else
 d_archlib="$define"
fi

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/archlib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_crypt_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_crypt_r crypt_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_crypt extern_C
?MAKE: -pick add $@ %<
?S:d_crypt_r:
?S: This variable conditionally defines the HAS_CRYPT_R symbol,
```

```
?S: which indicates to the C program that the crypt_r()
?S: routine is available.
?S:.
?S:crypt_r_proto:
?S: This variable encodes the prototype of crypt_r.
?S: It is zero if d_crypt_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_crypt_r
?S: is defined.
?S:.
?C:HAS_CRYPT_R:
?C: This symbol, if defined, indicates that the crypt_r routine
?C: is available to crypt re-entrantly.
?C:.
?C:CRYPT_R_PROTO:
?C: This
 symbol encodes the prototype of crypt_r.
?C: It is zero if d_crypt_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_crypt_r
?C: is defined.
?C:.
?H:#$d_crypt_r HAS_CRYPT_R    /**/
?H:#define CRYPT_R_PROTO $crypt_r_proto    /**/
?H:.
?T:try hdrs d_crypt_r_proto
: see if crypt_r exists
set crypt_r d_crypt_r
eval $inlibc
case "$d_crypt_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_crypt crypt.h"
 case "$d_crypt_r_proto:$usethreads" in
 ":define") d_crypt_r_proto=define
  set d_crypt_r_proto crypt_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_crypt_r_proto" in
 define)
 case "$crypt_r_proto" in
 "|0) try='char* crypt_r(const char*, const char*, struct crypt_data*);'
 ./protochk "$extern_C $try" $hdrs && crypt_r_proto=B_CCS ;;
 esac
 case "$crypt_r_proto" in
 "|0) try='char* crypt_r(const char*, const char*, CRYPTD*);'
 ./protochk "$extern_C $try" $hdrs && crypt_r_proto=B_CCD ;;
 esac
 case "$crypt_r_proto" in
 "|0) d_crypt_r=undef
```

```
        crypt_r_proto=0
 echo "Disabling crypt_r, cannot determine prototype." >&4 ;;
* ) case "$crypt_r_proto" in
 REENTRANT_PROTO*) ;;
 *) crypt_r_proto="REENTRANT_PROTO_$crypt_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "crypt_r has no prototype, not using it." >&4 ;;
 esac
 d_crypt_r=undef
 crypt_r_proto=0
 ;;
esac
;;
*) crypt_r_proto=0
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_crypt_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_sockatmark: Inlibc
?MAKE: -pick add $@ %<
?S:d_sockatmark:
?S: This variable conditionally defines the HAS_SOCKATMARK symbol, which
?S: indicates to the C program that the sockatmark() routine is available.
?S:.
?C:HAS_SOCKATMARK:
?C: This symbol, if defined, indicates that the sockatmark routine is
?C: available to test whether a socket is at the out-of-band mark.
?C:.
?H:#$d_sockatmark HAS_SOCKATMARK  /**/
?H:.
?LINT:set d_sockatmark
: see if sockatmark exists
set sockatmark d_sockatmark
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sockatmark.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cppstdin.U,v $
?RCS: Revision 3.0.1.4  1994/10/29  16:08:34  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:05:38  ram
?RCS: patch16: comment for CPPLAST was missing
?RCS:
?RCS: Revision 3.0.1.2  1993/12/15  08:18:58  ram
?RCS: patch15: new variables cpprun and cpplast, guaranteed wrapper-free
?RCS: patch15: cppstdin now tries to use cc, even at the cost of a wrapper
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:00:53  ram
?RCS: patch6:
 remove wrapper when not actually used
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:38  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:cppstdin cppminus cpprun cpplast: contains test Myread Oldconfig Loc \
 cpp +cc rm hint osname gccversion startsh eunicefix
?MAKE: -pick add $@ %<
?S:cppstdin:
?S: This variable contains the command which will invoke the C
?S: preprocessor on standard input and put the output to stdout.
?S: It is primarily used by other Configure units that ask about
?S: preprocessor symbols.
?S:.
?S:cppminus:
?S: This variable contains the second part of the string which will invoke
?S: the C preprocessor on the standard input and produce to standard
?S: output.  This variable will have the value "-" if cppstdin needs
?S: a minus to specify standard input, otherwise the value is "".
?S:.

```
?S:cpprun:
?S: This variable contains the command which will invoke a C preprocessor
?S: on standard input and put the output to stdout. It is guaranteed not
?S: to be a wrapper
 and may be a null string if no preprocessor can be
?S: made directly available. This preprocessor might be different from the
?S: one used by the C compiler. Don't forget to append cpplast after the
?S: preprocessor options.
?S:.
?S:cpplast:
?S: This variable has the same functionality as cppminus, only it applies to
?S: cpprun and not cppstdin.
?S:.
?C:CPPSTDIN:
?C: This symbol contains the first part of the string which will invoke
?C: the C preprocessor on the standard input and produce to standard
?C: output.  Typical value of "cc -E" or "/lib/cpp", but it can also
?C: call a wrapper. See CPPRUN.
?C:.
?C:CPPMINUS:
?C: This symbol contains the second part of the string which will invoke
?C: the C preprocessor on the standard input and produce to standard
?C: output.  This symbol will have the value "-" if CPPSTDIN needs a minus
?C: to specify standard input, otherwise the value is "".
?C:.
?C:CPPRUN:
?C: This symbol contains the string which will invoke a C preprocessor on
?C: the
 standard input and produce to standard output. It needs to end
?C: with CPPLAST, after all other preprocessor flags have been specified.
?C: The main difference with CPPSTDIN is that this program will never be a
?C: pointer to a shell wrapper, i.e. it will be empty if no preprocessor is
?C: available directly to the user. Note that it may well be different from
?C: the preprocessor used to compile the C program.
?C:.
?C:CPPLAST:
?C: This symbol is intended to be used along with CPPRUN in the same manner
?C: symbol CPPMINUS is used with CPPSTDIN. It contains either "-" or "".
?C:.
?H:#define CPPSTDIN "$cppstdin"
?H:#define CPPMINUS "$cppminus"
?H:#define CPPRUN "$cpprun"
?H:#define CPPLAST "$cpplast"
?H:.
?F:cppstdin !testcpp.out !testcpp.c
?T:wrapper x_cpp x_minus ok
: see how we invoke the C preprocessor
echo " "
```

```
echo "Now, how can we feed standard input to your C preprocessor..." >&4
cat <<'EOT' >testcpp.c
#define ABC abc
#define XYZ xyz
ABC.XYZ
EOT
cd ..
if $test ! -f cppstdin;
 then
 echo "$startsh" >cppstdin
if $test "X$osname" = "Xaix" -a "X$gccversion" = X; then
?X: AIX cc -E doesn't show the absolute headerfile
?X: locations but we'll cheat by using the -M flag.
 echo 'cat >.$$.c; rm -f .$$.u; "'"$cc"' ${1+"$@"} -M -c .$$.c 2>/dev/null; \
 test -s .$$.u && \
 awk '"'"'$2 ~ /\.h$/ { print "# 0 \""$2"\"" }'"'"' .$$.u; \
 rm -f .$$.o .$$.u; "'"$cc"' -E ${1+"$@"} .$$.c; rm .$$.c' >> cppstdin
else
 echo 'cat >.$$.c; "'"$cc"' -E ${1+"$@"} .$$.c; rm .$$.c' >>cppstdin
fi; else
 echo "Keeping your $hint cppstdin wrapper."
fi
chmod 755 cppstdin
$eunicefix cppstdin
wrapper=`pwd`/cppstdin
ok='false'
cd UU

?X:
?X: We'll run the cpp tests again if we don't have any valid C preprocessor
?X: yet or don't know how to proceed without a wrapper (in which case cpprun
?X: is empty and that's really annoying...)
?X:
if $test "X$cppstdin" != "X" && \
 $cppstdin $cppminus <testcpp.c >testcpp.out 2>&1 && \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1
then
 echo "You used to use
 $cppstdin $cppminus so we'll use that again."
 case "$cpprun" in
 '') echo "But let's see if we can live without a wrapper..." ;;
 *)
  if $cpprun $cpplast <testcpp.c >testcpp.out 2>&1 && \
   $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1
  then
   echo "(And we'll use $cpprun $cpplast to preprocess directly.)"
   ok='true'
  else
```

```
   echo "(However, $cpprun $cpplast does not work, let's see...)"
  fi
  ;;
 esac
else
 case "$cppstdin" in
 '') ;;
 *)
  echo "Good old $cppstdin $cppminus does not seem to be of any help..."
  ;;
 esac
fi

if $ok; then
 : nothing
elif echo 'Maybe """$cc"' -E" will work...'; \
 $cc -E <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "Yup, it does."
 x_cpp="$cc -E"
 x_minus='';
elif echo 'Nope...maybe """$cc"' -E -" will work...'; \
 $cc -E - <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "Yup, it does."
 x_cpp="$cc -E"
 x_minus='-';
elif echo 'Nope...maybe """$cc"'
 -P" will work...'; \
 $cc -P <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "Yipee, that works!"
 x_cpp="$cc -P"
 x_minus='';
elif echo 'Nope...maybe """$cc"' -P -" will work...'; \
 $cc -P - <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "At long last!"
 x_cpp="$cc -P"
 x_minus='-';
elif echo 'No such luck, maybe "'$cpp"' will work...'; \
 $cpp <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "It works!"
 x_cpp="$cpp"
 x_minus='';
elif echo 'Nixed again...maybe "'$cpp' -" will work...'; \
 $cpp - <testcpp.c >testcpp.out 2>&1; \
```

```
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "Hooray, it works!  I was beginning to wonder."
 x_cpp="$cpp"
 x_minus='-';
elif echo 'Uh-uh.  Time to get fancy.  Trying a wrapper...'; \
 $wrapper <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 x_cpp="$wrapper"
 x_minus="
 echo
 "Eureka!"
else
 dflt="
 rp="No dice.  I can't find a C preprocessor.  Name one:"
 . ./myread
 x_cpp="$ans"
 x_minus="
 $x_cpp <testcpp.c >testcpp.out 2>&1
 if $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
  echo "OK, that will do." >&4
 else
echo "Sorry, I can't get that to work.  Go find one and rerun Configure." >&4
  exit 1
 fi
fi

case "$ok" in
false)
 cppstdin="$x_cpp"
 cppminus="$x_minus"
 cpprun="$x_cpp"
 cpplast="$x_minus"
?X:
?X: If /lib/cpp is used, try using a wrapper to increase our chances to have
?X: the C compiler and our $cppstdin agree on the same symbols... However,
?X: since cpprun is guaranteed not to be a wrapper, we must clear it if the
?X: only preprocessor we found was a wrapper, with all our luck...
?X:
 set X $x_cpp
 shift
 case "$1" in
 "$cpp")
  echo "Perhaps can we force $cc -E using a wrapper..."
  if $wrapper <testcpp.c >testcpp.out 2>&1; \
   $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1
  then
   echo "Yup, we can."
   cppstdin="$wrapper"
```

```
  cppminus='';
 else
  echo
 "Nope, we'll have to live without it..."
 fi
 ;;
esac
case "$cpprun" in
"$wrapper")
 cpprun=''
 cpplast=''
 ;;
esac
;;
esac

case "$cppstdin" in
"$wrapper"|'cppstdin') ;;
*) $rm -f $wrapper;;
esac
$rm -f testcpp.c testcpp.out

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/cppstdin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_psignal.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_psignal.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_psignal: Inlibc
?MAKE: -pick add $@ %<
?S:d_psignal:
?S: This variable conditionally defines the HAS_PSIGNAL symbol, which
?S: indicates that the psignal() routine exists.  The psignal() routine
?S: prints a description of a signal on the standard error output.
?S:.
?C:HAS_PSIGNAL (PSIGNAL):
```

?C: This symbol, if defined, indicates
 that the psignal() routine exists.
?C:.
?H:#$d_psignal HAS_PSIGNAL  /**/
?H:.
?LINT:set d_psignal
: see if psignal exists
set psignal d_psignal
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_psignal.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_NeWS.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_NeWS.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_news d_news0 d_newshome d_textcan: test rm Myread Getfile
?MAKE: -pick add $@ %<
?S:d_news:
?S: Set if running NeWS 1.1
?S:.
?S:d_news0:
?S: Set if running NeWS 1.0
?S:.
?S:d_newshome:
?S: Path to the top directory of the NeWS structure.
?S:.
?S:d_textcan:
?S: Path to where the textcan.ps stuff is...
?S:.
?C:HAS_NEWS1_1 (NEWS1_1):
?C: This
 symbol defined if running NeWS 1.1.
?C:.
?C:HAS_NEWS1_0 (NEWS1_0):
?C: This symbol defined if running NeWS 1.0.

```
?C:.
?C:TEXTCAN:
?C: Tells path to where the textcan.ps stuff is...
?C:.
?H:#$d_news HAS_NEWS1_1     /**/
?H:#$d_news0 HAS_NEWS1_0     /**/
?H:#define TEXTCAN $d_textcan /**/
?H:.
?INIT:: default path for NeWS
?INIT:d_newshome="/usr/NeWS"
?INIT:
: Check to see what version of NeWS is being run?
cd ..
echo " "
echo "Now for the interesting stuff... Lets see what kind of NeWS"
echo "they grow round here...."
echo " "
dflt='y'
if $test -d $d_newshome; then
 d_newshome=`(cd $d_newshome ; /bin/pwd)`
 echo "Ah...found myself a NeWS in $d_newshome..."
 dflt='y'
 rp="Is this the NeWS you want your children to grow up with?"
 . UU/myread
fi
while $test $ans = "n"; do
dflt=$d_newshome
fn=d
rp="Path to NeWS you want:"
. UU/getfile
d_newshome=$ans

echo " "
if $test ! -d $d_newshome/lib; then
 echo "ARG!  No lib directory in $d_newshome!!!"
 : heavy medicine.  I wonder what the disease
 is...
 $rm -f kit*isdone
 $rm -rf UU
 : bye bye
 set -t; echo "Sorry... no NeWS is bad news..."
fi

if $test -r $d_newshome/lib/NeWS/colors.ps ; then
 echo 'Ahh... your running NeWS 1.1!  Boy... that makes stuff easy....'
 echo " "
 d_news="$define"
 d_news0="$undef"
```

```
 if $test -r $d_newshome/lib/NeWS/textcan.ps; then
  d_textcan=$d_newshome/lib/NeWS
  echo "The textcan.ps stuff seems to be in : $d_textcan"
 else
  d_textcan=$d_newshome/clientsrc/client/nterm
  if $test ! -r $d_textcan/textcan.ps; then
   d_news="$undef"
   d_news0="$define"
   echo 'Hmm... must have been fooled... gotta be NeWS 1.1 beta!'
  else
   echo "The textcan.ps stuff seems to be in : $d_textcan"
  fi
 fi
else
 echo 'snif... snif... I smell the dilapidated smell of NeWS 1.0..'
 echo 'Some things will not work under NeWS 1.0...'
 d_news="$undef"
 d_news0="$define"
fi
cd UU
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_NeWS.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: MailList.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: MailList.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:01:49  ram
?RCS: patch16: created
?RCS:
?RCS:
?X:
?X: This unit offers the user the option of subscribing to the mailing
?X: list. To force inclusion of this unit, you must add it's name to the
?X: dependancies on the MAKE line in your private copy of End.U.
?X: The address of the mailing list server must be set via a "list_request=..."
?X:
```

```
 entry in the .package file. This is usually done by running packinit and
?X: answering the proper questions.
?X:
?MAKE:MailList: cat mailer package Myread cf_name cf_email
?MAKE: -pick wipe $@ %<
?T:list_request list_sub list_unsub list_name
?X:
?X: The cf_name dependency is used through list_sub when the mailing list
?X: manager happens to be listserv, whereas cf_email is used whith majordomo
?X: or when the mailing list request address is scanned by a human. Since
?X: they do not appear within the unit itself, we need a lint hint.
?X:
?LINT:use cf_name cf_email
: offer to join the mailing list
list_request='<$list_request>'
list_sub="<$list_sub>"
list_unsub="<$list_unsub>"
list_name="<$list_name>"
$cat <<EOM

There is a mailing list for discussion about $package and related issues.
This is the preferred place to ask questions about the program and discuss
modifications and additions with the author and other users.  If you are able
to send mail to the Internet, you
 are encouraged to subscribe.  You need only
ever subscribe once, and you can unsubscribe automatically at any time in the
future.  If you have already subscribed and you wish to unsubscribe now, you
may do so by answering "unsubscribe".  Answer "subscribe" to subscribe to the
list.

EOM
rp="Subscribe to or unsubscribe from the $list_name mailing list?"
dflt=neither
. ./myread
case "$ans" in
[sS]*) $cat <<EOM

You will be sent a message from the list server to let you know when your
subscription has been successful and telling you how to submit articles and
how to unsubscribe again when necessary. You may also unsubscribe by running
this script again and asking it to do so for you.

EOM
 echo "Sending mail to subscribe you to the $list_name list..." >&4
 $mailer $list_request <<EOM >/dev/null 2>&1
Precedence: junk
To: $list_request
```

```
$list_sub
EOM
 ;;
[uU]*) echo "Sending mail to unsubscribe you from the $list_name list..." >&4
 $mailer $list_request <<EOM >/dev/null 2>&1
Precedence: junk
To:
 $list_request

$list_unsub
EOM
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/MailList.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_link.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_link.U,v $
?RCS: Revision 3.0.1.1  1993/08/25  14:01:13  ram
?RCS: patch6: created for completeness
?RCS:
?MAKE:d_link: Inlibc
?MAKE: -pick add $@ %<
?S:d_link:
?S: This variable conditionally defines HAS_LINK if link() is
?S: available to create hard links.
?S:.
?C:HAS_LINK:
?C: This symbol, if defined, indicates that the link routine is
?C: available to create hard links.
?C:.
?H:#$d_link HAS_LINK /**/
?H:.
?LINT:set d_link
: see if link exists
set
```

```
 link d_link
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_link.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_posix_clock: Setvar d_clock_getres d_clock_gettime d_clock_settime i_time
?MAKE: -pick add $@ %<
?S:d_posix_clock:
?S: This variable conditionally defines the HAS_POSIX_CLOCK symbol, which
?S: indicates that the entire POSIX clock_*(2) library is present.
?S:.
?C:HAS_POSIX_CLOCK:
?C: This symbol, if defined, indicates that the entire POSIX clock_*(2)
?C: library is supported.
?C:.
?H:#$d_posix_clock HAS_POSIX_CLOCK  /**/
?H:.
?LINT:set d_posix_clock
: see how much of the 'POSIX clock_*(2)' library is present.
echo
 " "
case "$i_time$d_clock_getres$d_clock_gettime$d_clock_settime" in
*"$undef"*) val="$undef" ;;
*) val="$define" ;;
esac
case "$val" in
"$define") echo "You have the full POSIX clock_*(2) library." >&4 ;;
"$undef")  echo "You don't have the full POSIX clock_*(2) library." >&4 ;;
esac
set d_posix_clock
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_posix_clock.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorman1dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman1dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman1dir vendorman1direxp installvendorman1dir: man1dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman1dir:
?S: This variable contains the name of the directory for man1
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman1direxp:
?S: This variable is the ~name expanded version of vendorman1dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorman1dir="
?S:installvendorman1dir:
?S: This variable is really the same as vendorman1direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman1dir
: Set the vendorman1dir variables
case "$vendorprefix" in
") vendorman1dir="
 vendorman1direxp="
 ;;
*) : determine where vendor-supplied manual pages go.
 case "$vendorman1dir" in
 ") dflt=`echo "$man1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
```

```
 *) dflt=$vendorman1dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname for
 the vendor-supplied manual section 1 pages?'
 . ./getfile
 vendorman1dir="$ans"
 vendorman1direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman1dir" = "X" && vendorman1dir=' '
prefixvar=vendorman1dir
. ./installprefix
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorman1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_fcntl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_fcntl.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_fcntl: h_fcntl h_sysfile +i_sysfile Inhdr Setvar
?MAKE: -pick add $@ %<
?S:i_fcntl:
?S: This variable controls the value of I_FCNTL (which tells
?S: the C program to include <fcntl.h>).
?S:.
?C:I_FCNTL (HDR_O_STUFF FCNTL):
?C: This manifest constant tells the C program to include <fcntl.h>.
?C:.
?H:#$i_fcntl I_FCNTL /**/
?H:.
?T:val
```

```
?X:
 Make line lists +i_sysfile to ensure tests for <sys/file.h> will be
?X: conducted prior tests for <fcntl.h>, hece making sure the h_sysfile
?X: variable is correctly set when we reach that unit.
?LINT:set i_fcntl
?LINT:use i_sysfile
?LINT:change h_fcntl
: see if fcntl.h is there
val="
set fcntl.h val
eval $inhdr

: see if we can include fcntl.h
case "$val" in
"$define")
 echo " "
 if $h_fcntl; then
  val="$define"
  echo "We'll be including <fcntl.h>." >&4
 else
  val="$undef"
  if $h_sysfile; then
 echo "We don't need to include <fcntl.h> if we include <sys/file.h>." >&4
  else
   echo "We won't be including <fcntl.h>." >&4
  fi
 fi
 ;;
*)
 h_fcntl=false
 val="$undef"
 ;;
esac
set i_fcntl
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_fcntl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
```

?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:i_sysaccess: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysaccess:
?S:	This variable conditionally defines the I_SYS_ACCESS symbol,
?S:	and indicates whether a C program should include <sys/access.h>.
?S:.
?C:I_SYS_ACCESS:
?C:	This symbol, if defined, indicates to the C program that it should
?C:	include <sys/access.h>.
?C:.
?H:#$i_sysaccess	I_SYS_ACCESS		/**/
?H:.
?LINT:set i_sysaccess
: see if sys/access.h is available
set sys/access.h i_sysaccess
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/acl/i_sysaccess.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_dlopen.U,v 3.0.1.2 1995/07/25 13:52:56 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_dlopen.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  13:52:56  ram
?RCS: patch56: force compile-link test since symbol might lie in crt0.o (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:07:34  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_dlopen: Inlibc runnm d_cplusplus ccflags gccversion
?MAKE: -pick add $@ %<
?S:d_dlopen:
?S: This variable conditionally defines the HAS_DLOPEN
 symbol, which
?S: indicates to the C program that the dlopen() routine is available.

```
?S:.
?C:HAS_DLOPEN :
?C: This symbol, if defined, indicates that the dlopen routine is
?C: available.
?C:.
?H:#$d_dlopen HAS_DLOPEN  /**/
?H:.
?T: xxx_runnm
?T: xxx_ccflags
?LINT:set d_dlopen
?X: We don't permanently change runnm and ccflags, but we do temporarily.
?LINT: change runnm
?LINT: change ccflags
: see if dlopen exists
?X: On NetBSD and FreeBSD, dlopen is available, but it is in
?X: /usr/lib/crt0.o, not in any of the libraries.  Therefore, do not
?X: use the nm extraction, but use a real compile and link test instead.
xxx_runnm="$runnm"
xxx_ccflags="$ccflags"
runnm=false
: with g++ one needs -shared to get is-in-libc to work for dlopen
case "$gccversion" in
") ;;
*Clang*) ;;
*) case "$d_cplusplus" in
 "$define") ccflags="$ccflags -shared" ;;
 esac
 ;;
esac
set dlopen d_dlopen
eval $inlibc
runnm="$xxx_runnm"
ccflags="$xxx_ccflags"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_dlopen.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getgrent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getgrent_r getgrent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_grp extern_C
```

```
?MAKE: -pick add $@ %<
?S:d_getgrent_r:
?S: This variable conditionally defines the HAS_GETGRENT_R symbol,
?S: which indicates to the C program that the getgrent_r()
?S: routine is available.
?S:.
?S:getgrent_r_proto:
?S: This variable encodes the prototype of getgrent_r.
?S: It is zero if d_getgrent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getgrent_r
?S: is defined.
?S:.
?C:HAS_GETGRENT_R:
?C: This symbol, if defined, indicates that the getgrent_r routine
?C: is available to
 getgrent re-entrantly.
?C:.
?C:GETGRENT_R_PROTO:
?C: This symbol encodes the prototype of getgrent_r.
?C: It is zero if d_getgrent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getgrent_r
?C: is defined.
?C:.
?H:#$d_getgrent_r HAS_GETGRENT_R    /**/
?H:#define GETGRENT_R_PROTO $getgrent_r_proto    /**/
?H:.
?T:try hdrs d_getgrent_r_proto
: see if getgrent_r exists
set getgrent_r d_getgrent_r
eval $inlibc
case "$d_getgrent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_grp grp.h"
 case "$d_getgrent_r_proto:$usethreads" in
 ":define") d_getgrent_r_proto=define
  set d_getgrent_r_proto getgrent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getgrent_r_proto" in
 define)
 case "$getgrent_r_proto" in
 "|0) try='int getgrent_r(struct group*, char*, size_t, struct group**);'
 ./protochk "$extern_C $try" $hdrs && getgrent_r_proto=I_SBWR ;;
 esac
 case "$getgrent_r_proto" in
 "|0) try='int getgrent_r(struct group*, char*, int, struct group**);'
 ./protochk
```

```
 "$extern_C $try" $hdrs && getgrent_r_proto=I_SBIR ;;
 esac
 case "$getgrent_r_proto" in
 "|0) try='struct group* getgrent_r(struct group*, char*, size_t);'
 ./protochk "$extern_C $try" $hdrs && getgrent_r_proto=S_SBW ;;
 esac
 case "$getgrent_r_proto" in
 "|0) try='struct group* getgrent_r(struct group*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getgrent_r_proto=S_SBI ;;
 esac
 case "$getgrent_r_proto" in
 "|0) try='int getgrent_r(struct group*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getgrent_r_proto=I_SBI ;;
 esac
 case "$getgrent_r_proto" in
 "|0) try='int getgrent_r(struct group*, char*, int, FILE**);'
 ./protochk "$extern_C $try" $hdrs && getgrent_r_proto=I_SBIH ;;
 esac
 case "$getgrent_r_proto" in
 "|0) d_getgrent_r=undef
        getgrent_r_proto=0
  echo "Disabling getgrent_r, cannot determine prototype." >&4 ;;
* ) case "$getgrent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getgrent_r_proto="REENTRANT_PROTO_$getgrent_r_proto" ;;
  esac
  echo
 "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getgrent_r has no prototype, not using it." >&4 ;;
  esac
  d_getgrent_r=undef
  getgrent_r_proto=0
  ;;
 esac
 ;;
*) getgrent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getgrent_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: cppfilecom.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: cppfilecom.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:37  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:cppfilecom cppstdinflags d_cppignhdrs d_cppcanstdin: \
 contains package test Myread Oldconfig Loc Setvar cpp cc cat rm
?MAKE: -pick add $@ %<
?S:cppfilecom:
?S: This variable contains the first part of the string which will invoke
?S: the C preprocessor a file
 and produce to standard output, preserving
?S: comments. Typical value of "cc -E -C" or "/lib/cpp -C".
?S:.
?S:cppstdinflags:
?S: This variable contains any flags necessary to get cppfilecom to read
?S: from the standard input.
?S:.
?S:d_cppignhdrs:
?S: This symbol conditionally defines CPP_IGN_HDRS if CPP_FILE_COM ignores
?S: *.h files.
?S:.
?S:d_cppcanstdin:
?S: This symbol conditionally defines CPP_CAN_STDIN if CPP_FILE_COM can
?S: read standard input directly.
?S:.
?C:CPP_FILE_COM (CPPFILECOM):
?C: This symbol contains the first part of the string which will invoke
?C: the C preprocessor a file and produce to standard output, preserving
?C: comments. Typical value of "cc -E -C" or "/lib/cpp -C".
?C:.
?C:CPP_STDIN_FLAGS (CPPSTDINFLAGS):
?C: This variable contains any flags necessary to get CPP_FILE_COM to
?C: read from the standard input.
?C:.
?C:CPP_IGN_HDRS (CPPIGNHDRS):
?C: This symbol is defined if CPP_FILE_COM ignores *.h files.
?C:.
?C:CPP_CAN_STDIN (CPPCANSTDIN):
```

```
?C: This
 symbol is defined if CPP_FILE_COM can read standard input
?C: directly.
?C:.
?H:#define CPP_FILE_COM "$cppfilecom"
?H:#define CPP_STDIN_FLAGS "$cppstdinflags"
?H:#$d_cppignhdrs CPP_IGN_HDRS  /* does CPP ignore .h files? */
?H:#$d_cppcanstdin CPP_CAN_STDIN  /* can CPP read stdin directly? */
?H:.
?T:cont
?F:!testcpp.c !testcpp.h !testcpp.out
?LINT:set d_cppcanstdin d_cppignhdrs
?LINT:usefile testcpp.c testcpp.out
: see how we invoke the C preprocessor
$cat <<EOM

$package needs to be able to preprocess its input files in a mode which
preserves comments, which is often not the default behaviour.  It should run
the C preprocessor you will use when compiling your own source code, which
should be ISO/ANSI C compliant if you want $package to handle the latest
standard C.  I will try to guess, but I might guess wrongly because it is not
necessarily the same preprocessor used to build $package.

EOM
$cat <<'EOT' >testcpp.c
#define ABC abc
#define XYZ xyz
ABC.XYZ
/* comment */
EOT
:
if $test "X$cppfilecom"
 != "X" && \
 $cppfilecom testcpp.c </dev/null >testcpp.out 2>/dev/null && \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
 $contains comment testcpp.out >/dev/null 2>&1
then
 echo "You used to use $cppfilecom so we'll use that again."
elif echo 'Maybe "'$cc' -E -C" will work...' && \
 $cc -E -C testcpp.c </dev/null >testcpp.out 2>/dev/null && \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
 $contains comment testcpp.out >/dev/null 2>&1
then
 echo "It works!"
 cppfilecom="$cc -E -C"
elif echo 'Nope...maybe "'"$cc"' -P -C" will work...' && \
 $cc -P -C testcpp.c </dev/null >testcpp.out 2>/dev/null && \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
```

```
 $contains comment testcpp.out >/dev/null 2>&1
then
 echo "Yup, that does."
 cppfilecom="$cc -P -C"
elif echo 'No such luck, maybe """$cpp"' -C" will work...' && \
 $cpp -C testcpp.c </dev/null >testcpp.out 2>/dev/null && \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
 $contains comment testcpp.out
 >/dev/null 2>&1
then
 echo "Yup, it does."
 cppfilecom="$cpp -C"
else
 cppfilecom="
 $cat <<'EOM'
I can't find a C preprocessor that will preserve comments. Please name one.
EOM
fi
:
dflt="$cppfilecom"
cont=true
while $test "$cont" ; do
 echo " "
 rp="How should $package run your preprocessor preserving comments?"
 . ./myread
 cppfilecom="$ans"
 $cppfilecom testcpp.c >testcpp.out 2>&1
 if $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
  $contains comment testcpp.out >/dev/null 2>&1
 then
  echo "OK, that will do."
  cont="
 else
  echo "Sorry, I can't get that to work."
 fi
done

@if CPP_IGN_HDRS || d_cppignhdrs
: Now see if it ignores header files.
cp testcpp.c testcpp.h
$cppfilecom testcpp.h >testcpp.out 2>&1
if $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
 $contains comment testcpp.out >/dev/null 2>&1
then
 echo "Terrific; it processes .h files passed on the command line too."
 val="$undef"
else
 echo "It ignores .h files on the command line; pity."
```

```
 val="$define"
fi
set
 d_cppignhdrs
eval $setvar

@end
@if CPP_STDIN_FLAGS || CPP_CAN_STDIN || cppstdinflags || d_cppcanstdin
: Now see how to send stdin to it.
echo " "
cp testcpp.c testcpp.h
$cppfilecom <testcpp.h >testcpp.out 2>&1
if $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
 $contains comment testcpp.out >/dev/null 2>&1
then
 echo "Great; and it will read stdin if passed no arguments."
 val="$define"
 cppstdinflags="
else
 $cppfilecom - <testcpp.h >testcpp.out 2>&1
 if $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
  $contains comment testcpp.out >/dev/null 2>&1
 then
  echo "Great; and it can read stdin by passing it '-'."
  val="$define"
  cppstdinflags='-'
 else
  $cat <<FOO
Unfortunately, I can't find an easy way to get that preprocessor to read from
standard input. Do you know any flags I can pass it to get it to do so?
If that preprocessor can't read directly form standard input, answer 'none'.

FOO
 val='dunno'
 while $test "$val" = "dunno"; do
  rp='Flags to get preprocessor
 to read stdin?'
  dflt='none'
  . ./myread
  if $test $ans = 'none'; then
   echo "Oh well, if $package wants it done, it will do it for itself."
   val="$undef"
  else
   $cppfilecom $ans <testcpp.h >testcpp.out 2>&1
   if $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 && \
    $contains comment testcpp.out >/dev/null 2>&1
   then
    echo "Good; that works fine."
```

```
    val="$define"
    cppstdinflags="$ans"
   else
    echo "Sorry, I couldn't get that to work."
   fi
  fi
 done
 fi
fi
set d_cppcanstdin
eval $setvar

@end
: cleanup cpp test files anyway
$rm -f testcpp.*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/cppfilecom.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: byteorder.U,v 3.0.1.2 1997/02/28 15:24:55 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: byteorder.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:24:55  ram
?RCS: patch61: no longer ask the user if the test runs ok
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:58  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:28  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:byteorder: cat Myread Oldconfig Loc Compile rm_try run \
 multiarch uvtype uvsize i_stdlib
?MAKE: -pick add $@ %<
?S:byteorder:
?S: This
 variable holds the byte order in a UV. In the following,
?S: larger digits indicate more significance.  The variable byteorder
?S: is either 4321 on a big-endian machine, or 1234 on a little-endian,
```

```
?S: or 87654321 on a Cray ... or 3412 with weird order !
?S:.
?C:BYTEORDER:
?C: This symbol holds the hexadecimal constant defined in byteorder,
?C: in a UV, i.e. 0x1234 or 0x4321 or 0x12345678, etc...
?C: If the compiler supports cross-compiling or multiple-architecture
?C: binaries, use compiler-defined macros to
?C: determine the byte order.
?C:.
?H:?%<:#if defined(MULTIARCH)
?H:?%<:#  ifdef __LITTLE_ENDIAN__
?H:?%<:#    if LONGSIZE == 4
?H:?%<:#      define BYTEORDER 0x1234
?H:?%<:#    else
?H:?%<:#      if LONGSIZE == 8
?H:?%<:#        define BYTEORDER 0x12345678
?H:?%<:#      endif
?H:?%<:#    endif
?H:?%<:#  else
?H:?%<:#    ifdef __BIG_ENDIAN__
?H:?%<:#      if LONGSIZE == 4
?H:?%<:#        define BYTEORDER 0x4321
?H:?%<:#      else
?H:?%<:#        if LONGSIZE
 == 8
?H:?%<:#          define BYTEORDER 0x87654321
?H:?%<:#        endif
?H:?%<:#      endif
?H:?%<:#    endif
?H:?%<:#  endif
?H:?%<:#else
?H:?%<:#define BYTEORDER 0x$byteorder /* large digits for MSB */
?H:?%<:#endif
?H:.
?T:xxx_prompt
?F:!try
: check for ordering of bytes in a UV
echo " "
case "$multiarch" in
*$define*)
 $cat <<EOM
You seem to be doing a multiarchitecture build,
skipping the byteorder check.

EOM
 byteorder='ffff'
 ;;
*)
```

```
 case "$byteorder" in
 '')
  $cat <<'EOM'
In the following, larger digits indicate more significance.  A big-endian
machine like a Pyramid or a Motorola 680?0 chip will come out to 4321. A
little-endian machine like a Vax or an Intel 80?86 chip would be 1234. Other
machines may have weird orders like 3412.  A Cray will report 87654321,
an Alpha will report 12345678. If the test program works the default is
probably right.
I'm now running the test program...
EOM
  $cat >try.c <<EOCP
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#include
 <sys/types.h>
typedef $uvtype UV;
int main()
{
 int i;
 union {
  UV l;
  char c[$uvsize];
 } u;

 if ($uvsize > 4)
  u.l = (((UV)0x08070605) << 32) | (UV)0x04030201;
 else
  u.l = (UV)0x04030201;
 for (i = 0; i < $uvsize; i++)
  printf("%c", u.c[i]+'0');
 printf("\n");
 exit(0);
}
EOCP
  xxx_prompt=y
  set try
  if eval $compile && $run ./try > /dev/null; then
   dflt=`$run ./try`
   case "$dflt" in
   [1-4][1-4][1-4][1-4]|12345678|87654321)
    echo "(The test program ran ok.)"
    echo "byteorder=$dflt"
    xxx_prompt=n
   ;;
```

```
   ????|????????) echo "(The test program ran ok.)" ;;
   *) echo "(The test program didn't run right for some reason.)" ;;
   esac
  else
   dflt='4321'
   cat <<'EOM'
(I can't seem to compile the test program.  Guessing big-endian...)
EOM
  fi
  case "$xxx_prompt" in
  y)
   rp="What is the order of bytes in $uvtype?"
   . ./myread
   byteorder="$ans"
   ;;
  *) byteorder=$dflt
   ;;
  esac
  ;;
 esac
 $rm_try
 ;;
esac

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/byteorder.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getmntent_r: Inlibc
?MAKE: -pick add $@ %<
?S:d_getmntent_r:
?S: This variable conditionally defines the HAS_GETMNTENT_R symbol,
?S: which indicates to the C program that the getmntent_r()
?S: routine is available.
?S:.
?C:HAS_GETMNTENT_R:
?C: This symbol, if defined, indicates that the getmntent_r routine
?C: is available to getmntent re-entrantly.
?C:.
?H:#$d_getmntent_r HAS_GETMNTENT_R  /**/
```

?H:.
?LINT:set d_getmntent_r
: see if getmntent_r exists
set getmntent_r d_getmntent_r
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getmntent_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_readlink.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_readlink.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:11:52  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_readlink: Inlibc
?MAKE: -pick add $@ %<
?S:d_readlink:
?S: This variable conditionally defines the HAS_READLINK symbol, which
?S: indicates to the C program that the readlink() routine is available
?S: to read the value of a symbolic link.
?S:.
?C:HAS_READLINK :
?C: This
 symbol, if defined, indicates that the readlink routine is
?C: available to read the value of a symbolic link.
?C:.
?H:#$d_readlink HAS_READLINK  /**/
?H:.
?LINT:set d_readlink
: see if readlink exists
set readlink d_readlink
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_readlink.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_safemcpy.U,v 3.0.1.5 1997/02/28 15:41:12 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_safemcpy.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  15:41:12  ram
?RCS: patch61: improved overlapping copy check
?RCS: patch61: comfort them if they have memmove
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.4  1995/07/25  13:58:46  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
?RCS: Revision 3.0.1.3  1995/03/21  08:47:26  ram
?RCS: patch52: swapped two first arguments of memcpy() calls
?RCS:
?RCS:
 Revision 3.0.1.2  1994/10/29  16:15:10  ram
?RCS: patch36: added 'ldflags' to the test compile line (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:53:12  ram
?RCS: patch23: ensure string is not optimized in read-only memory (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_safemcpy: Compile cat d_memcpy rm_try run \
 d_memmove i_memory i_stdlib i_string i_unistd Oldconfig Setvar
?MAKE: -pick add $@ %<
?S:d_safemcpy:
?S: This variable conditionally defines the HAS_SAFE_MEMCPY symbol if
?S: the memcpy() routine can do overlapping copies.
?S: For overlapping copies, memmove() should be used, if available.
?S:.
?C:HAS_SAFE_MEMCPY (SAFE_MEMCPY):
?C: This symbol, if defined, indicates that the memcpy routine is available
?C: to copy potentially overlapping memory blocks.  If you need to
?C: copy overlapping memory blocks, you should check HAS_MEMMOVE and
?C: use memmove() instead, if available.
?C:.

```
?H:#$d_safemcpy HAS_SAFE_MEMCPY /**/
?H:.
?F:!try
?LINT:
 set d_safemcpy
: can memcpy handle overlapping blocks?
echo " "
?X: assume the worst
val="$undef"
case "$d_memmove" in
"$define") echo "I'll use memmove() instead of memcpy() for overlapping copies." ;;
*) case "$d_memcpy" in
 "$define")
  echo "Checking to see if memcpy() can do overlapping copies..." >&4
  $cat >try.c <<EOCP
#$i_memory I_MEMORY
#$i_stdlib I_STDLIB
#$i_string I_STRING
#$i_unistd I_UNISTD
EOCP
 $cat >>try.c <<'EOCP'
#include <stdio.h>
#ifdef I_MEMORY
#  include <memory.h>
#endif
#ifdef I_STDLIB
#  include <stdlib.h>
#endif
#ifdef I_STRING
#  include <string.h>
#else
#  include <strings.h>
#endif
#ifdef I_UNISTD
#  include <unistd.h>  /* Needed for NetBSD */
#endif
int main()
{
char buf[128], abc[128];
char *b;
int len;
int off;
int align;

/* Copy "abcde..." string to char abc[] so that gcc doesn't
  try to store the string in read-only memory. */
memcpy(abc, "abcdefghijklmnopqrstuvwxyz0123456789", 36);
```

```
for (align = 7; align >=
 0; align--) {
 for (len = 36; len; len--) {
  b = buf+align;
  memcpy(b, abc, len);
  for (off = 1; off <= len; off++) {
   memcpy(b+off, b, len);
   memcpy(b, b+off, len);
   if (memcmp(b, abc, len))
    exit(1);
  }
 }
}
exit(0);
}
EOCP
  set try
  if eval $compile_ok; then
   if $run ./try 2>/dev/null; then
    echo "Yes, it can."
    val="$define"
   else
    echo "It can't, sorry."
   fi
  else
   echo "(I can't compile the test program, so we'll assume not...)"
  fi
  ;;
 esac
 $rm_try
 ;;
esac
set d_safemcpy
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_safemcpy.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: randfunc.U,v 3.0 1993/08/18 12:09:39 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
```

```
?RCS:
?RCS: $Log: randfunc.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This is the new unit that should be used when random
?X: functions are to be used. It thus makes randbits.U obsolete.
?X:
?X: This unit gives a simple #define for Drand01, which produces
?X: doubles in the range [0,1) using the "best" random number
?X: generator available.  The source should just call Drand01
?X: and not worry about the underlying
 implementation.
?X:     Andy Dougherty  July 1998
?X:
?MAKE:randfunc drand01 seedfunc randbits randseedtype: \
 Compile Myread Csym ccflags
?MAKE: -pick add $@ %<
?S:randfunc:
?S: Indicates the name of the random number function to use.
?S: Values include drand48, random, and rand. In C programs,
?S: the 'Drand01' macro is defined to generate uniformly distributed
?S: random numbers over the range [0., 1.[ (see drand01 and nrand).
?S:.
?S:drand01:
?S: Indicates the macro to be used to generate normalized
?S: random numbers.  Uses randfunc, often divided by
?S: (double) (((unsigned long) 1 << randbits)) in order to
?S: normalize the result.
?S: In C programs, the macro 'Drand01' is mapped to drand01.
?S:.
?S:randseedtype:
?S: Indicates the type of the argument of the seedfunc.
?S:.
?S:seedfunc:
?S: Indicates the random number generating seed function.
?S: Values include srand48, srandom, and srand.
?S:.
?S:randbits:
?S: Indicates how many bits are produced by the function used to
?S: generate
 normalized random numbers.
?S:.
?C:RANDFUNC:
?C: This symbol defines the random function used to define Drand01().
?C:.
?C:Drand01:
```

```
?C: This macro is to be used to generate uniformly distributed
?C: random numbers over the range [0., 1.[.  You may have to supply
?C: an 'extern double drand48();' in your program since SunOS 4.1.3
?C: doesn't provide you with anything relevant in its headers.
?C: See HAS_DRAND48_PROTO.
?C:.
?C:Rand_seed_t:
?C: This symbol defines the type of the argument of the
?C: random seed function.
?C:.
?C:seedDrand01:
?C: This symbol defines the macro to be used in seeding the
?C: random number generator (see Drand01).
?C:.
?C:RANDBITS:
?C: This symbol indicates how many bits are produced by the
?C: function used to generate normalized random numbers.
?C: Values include 15, 16, 31, and 48.
?C:.
?H:#define RANDFUNC  $randfunc  /**/
?H:#define Drand01()  $drand01  /**/
?H:#define Rand_seed_t  $randseedtype  /**/
?H:#define seedDrand01(x) $seedfunc((Rand_seed_t)x) /**/
?H:#define
 RANDBITS  $randbits  /**/
?H:.
?LINT:change ccflags
?LINT:unclosed $randbits))"
: How can we generate normalized random numbers ?
echo " "
echo "Using our internal random number implementation..." >&4

case "$ccflags" in
*-Dmy_rand=*|*-Dmy_srand=*)
 echo "Removing obsolete -Dmy_rand, -Dmy_srand, and -Drandbits from ccflags." >&4
 ccflags="`echo $ccflags | sed -e 's/-Dmy_rand=random/ /'`"
 ccflags="`echo $ccflags | sed -e 's/-Dmy_srand=srandom/ /'`"
 ccflags="`echo $ccflags | sed -e 's/-Drandbits=[0-9][0-9]*/ /'`"
 ;;
esac

randfunc=Perl_drand48
drand01="Perl_drand48()"
seedfunc="Perl_drand48_init"
randbits=48
randseedtype=U32
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/randfunc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_malloc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:21  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_malloc: Inhdr
?MAKE: -pick add $@ %<
?S:i_malloc:
?S: This variable conditionally defines the I_MALLOC symbol, and indicates
?S: whether a C program should include <malloc.h>.
?S:.
?C:I_MALLOC:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <malloc.h>.
?C:.
?H:#$i_malloc I_MALLOC  /**/
?H:.
?LINT:set i_malloc
: see if this is a malloc.h system
set
 malloc.h i_malloc
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_malloc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: cpp_trad.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
```

```
?RCS:
?RCS: $Log: cpp_stuff.U,v $
?MAKE:cpp_trad: cpp cat contains rm
?MAKE: -pick add $@ %<
?S:cpp_trad:
?S: This variable contains the program to run to get traditional C
?S: preprocessor semantics and not ISO C semantics: we want something
?S: that knows as little about C as possible to use as a more general
?S: purpose preprocessor.
?S:.
?F:!foo.c !foo.cpp
: how do we get traditional cpp semantics?
echo " "
echo "Checking to see how to get traditional cpp semantics..."
 >&4
$cat >foo.c <<'EOF'
#define A(x) x
#define B(y) y
A(a)B(b)
EOF
if $cpp foo.c >foo.cpp; $contains ab foo.cpp >/dev/null 2>&1; then
 echo "Plain '$cpp' works just fine."
 cpp_trad="$cpp"
elif $cpp -traditional foo.c >foo.cpp; \
 $contains ab foo.cpp >/dev/null 2>&1; then
 echo "We'll use '$cpp -traditional' to get proper semantics."
 cpp_trad="$cpp -traditional"
else
 echo "I don't know how to get traditional semantics with '$cpp'." >&4
 cpp_trad="$cpp"
fi
$rm -f foo.c foo.cpp

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/cpp_trad.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: fpostype.U,v $
```

```
?RCS: Revision 3.0.1.2  1994/08/29  16:20:52  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:59:59  ram
?RCS: patch30: created
?RCS:
?MAKE:fpostype: Myread Typedef
?MAKE: -pick add $@ %<
?S:fpostype:
?S: This variable defines Fpos_t to be something like fpost_t, long,
?S: uint, or whatever type is used to declare file positions in libc.
?S:.
?C:Fpos_t:
?C: This symbol holds the type used to declare file positions
 in libc.
?C: It can be fpos_t, long, uint, etc... It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?H:#define Fpos_t $fpostype  /* File position type */
?H:.
: see what type file positions are declared as in the library
set fpos_t fpostype long stdio.h sys/types.h
eval $typedef
echo " "
dflt="$fpostype"
rp="What is the type for file position used by fsetpos()?"
. ./myread
fpostype="$ans"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/fpostype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_wait4.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_wait4.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_wait4: Inlibc
```

?MAKE: -pick add $@ %<
?S:d_wait4:
?S: This variable conditionally defines the HAS_WAIT4 symbol, which
?S: indicates the wait4() routine is available.
?S:.
?C:HAS_WAIT4 (WAIT4):
?C: This symbol, if defined, indicates that wait4() exists.
?C:.
?H:#$d_wait4 HAS_WAIT4 /**/
?H:.
?LINT:set d_wait4
: see if there is a wait4
set
 wait4 d_wait4
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_wait4.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: prefix.U,v 3.1 1999/07/08 18:27:51 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: prefix.U,v $
?RCS: Revision 3.1  1999/07/08 18:27:51  doughera
?RCS: 5.005_5x version -- Andy Dougherty
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:44:05  ram
?RCS: patch49: new prefixexp variable holding a fully expanded prefix
?RCS: patch49: save off previous prefix value in oldprefix if changed (WED)
?RCS: patch49: added the INSTALLPREFIX define for C programs to use (WED)
?RCS:
?RCS:
 Revision 3.0.1.1  1994/08/29  16:31:34  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:prefix prefixexp +oldprefix: Getfile Loc Oldconfig cat package
?MAKE: -pick add $@ %<
?S:prefix:

```
?S: This variable holds the name of the directory below which the
?S: user will install the package.  Usually, this is /usr/local, and
?S: executables go in /usr/local/bin, library stuff in /usr/local/lib,
?S: man pages in /usr/local/man, etc.  It is only used to set defaults
?S: for things in bin.U, mansrc.U, privlib.U, or scriptdir.U.
?S:.
?S:prefixexp:
?S: This variable holds the full absolute path of the directory below
?S: which the user will install the package.  Derived from prefix.
?S:.
?S:oldprefix:
?S: This variable is set non-null if the prefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
?C:INSTALLPREFIX:
?C: This symbol contains the name of the install prefix for this package.
?C:.
?H:#define INSTALLPREFIX "$prefix"  /**/
?H:.
:
 determine root of directory hierarchy where package will be installed.
case "$prefix" in
")
 dflt=`./loc . /usr/local /usr/local /local /opt /usr`
 ;;
*?/)
 dflt=`echo "$prefix" | sed 's/.$//'`
 ;;
*)
 dflt="$prefix"
 ;;
esac
$cat <<EOM

By default, $package will be installed in $dflt/bin, manual pages
under $dflt/man, etc..., i.e. with $dflt as prefix for all
installation directories. Typically this is something like /usr/local.
If you wish to have binaries under /usr/bin but other parts of the
installation under /usr/local, that's ok: you will be prompted
separately for each of the installation directories, the prefix being
only used to set the defaults.

EOM
fn=d~
rp='Installation prefix to use?'
. ./getfile
oldprefix="
case "$prefix" in
```

") ;;
*)
 case "$ans" in
 "$prefix") ;;
 *) oldprefix="$prefix";;
 esac
 ;;
esac
prefix="$ans"
prefixexp="$ansexp"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/prefix.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_seteuid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_seteuid.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_seteuid: Inlibc
?MAKE: -pick add $@ %<
?S:d_seteuid:
?S: This variable conditionally defines the HAS_SETEUID symbol, which
?S: indicates to the C program that the seteuid() routine is available
?S: to change the effective uid of the current program.
?S:.
?C:HAS_SETEUID (SETEUID):
?C: This symbol, if defined, indicates that the seteuid
 routine is available
?C: to change the effective uid of the current program.
?C:.
?H:#$d_seteuid HAS_SETEUID  /**/
?H:.
?LINT:set d_seteuid
: see if seteuid exists
set seteuid d_seteuid
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_seteuid.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_shm.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_shm: test d_shmctl d_shmget d_shmat d_shmdt Setvar Findhdr
?MAKE: -pick add $@ %<
?S:d_shm:
?S: This variable conditionally defines the HAS_SHM symbol, which
?S: indicates that the entire shm*(2) library is present.
?S:.
?C:HAS_SHM:
?C: This symbol, if defined, indicates that the entire shm*(2) library is
?C: supported.
?C:.
?H:#$d_shm HAS_SHM  /**/
?H:.
?T:h_shm
?LINT:set d_shm
:
 see how much of the 'shm*(2)' library is present.
h_shm=true
echo " "
case "$d_shmctl$d_shmget$d_shmat$d_shmdt" in
*"$undef"*) h_shm=false;;
esac
: we could also check for sys/ipc.h ...
if $h_shm && $test `./findhdr sys/shm.h`; then
 echo "You have the full shm*(2) library." >&4
 val="$define"
else
 echo "You don't have the full shm*(2) library." >&4
 val="$undef"
fi
set d_shm
```

```
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_shm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_dlopen.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  13:52:56  ram
?RCS: patch56: force compile-link test since symbol might lie in crt0.o (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:07:34  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_dlopen: Inlibc runnm
?MAKE: -pick add $@ %<
?S:d_dlopen:
?S: This variable conditionally defines the HAS_DLOPEN symbol, which
?S: indicates to the C program that the dlopen() routine
 is available.
?S:.
?C:HAS_DLOPEN :
?C: This symbol, if defined, indicates that the dlopen routine is
?C: available.
?C:.
?H:#$d_dlopen HAS_DLOPEN  /**/
?H:.
?T: xxx_runnm
?LINT:set d_dlopen
?X: We don't permanently change runnm, but we do temporarily.
?LINT: change runnm
: see if dlopen exists
?X: On NetBSD and FreeBSD, dlopen is available, but it is in
?X: /usr/lib/crt0.o, not in any of the libraries.  Therefore, do not
?X: use the nm extraction, but use a real compile and link test instead.
xxx_runnm="$runnm"
runnm=false
```

```
set dlopen d_dlopen
eval $inlibc
runnm="$xxx_runnm"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_dlopen.U
No license file was found, but licenses were detected in source scan.

```
?RCS:
?RCS: Copyright (c) 2012 Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:ilp d_ilp32 d_ilp64 d_lp64 d_can64: Assert Myread Setvar \
 cat rm +cc +ccflags echo n c intsize longsize ptrsize
?MAKE: -pick add $@ %<
?S:ilp:
?S: This variable contains the largest amount of bits that the CPU supports,
?S: from the compiler's point of view.  Typically 32 or 64.
?S:.
?S:d_ilp32:
?S: This variable conditionally defines the CPU_IS_ILP32.
?S:.
?S:d_ilp64:
?S: This variable conditionally defines the CPU_IS_ILP64.
?S:.
?S:d_lp64:
?S: This variable conditionally defines the CPU_IS_LP64.
?S:.
?S:d_can64:
?S: This variable
 conditionally defines CAN_HANDLE_64BITS.
?S:.
?C:CPU_ILP_MAXBITS:
?C: This symbol contains the largest amount of bits that the CPU natively
?C: supports from the compiler's point of view.  Typically 32 or 64.
?C:.
?C:CPU_IS_ILP32:
?C: When defined, this indicates that the integer, long and pointer variables
?C: hold 32-bit values.
?C:.
?C:CPU_IS_ILP64:
?C: When defined, this indicates that the integer, long and pointer variables
?C: hold 64-bit values.
```

```
?C:.
?C:CPU_IS_LP64:
?C: When defined, this indicates that the long and pointer variables hold
?C: 64-bit values but integers are smaller (probably only 32-bit wide).
?C:.
?C:CAN_HANDLE_64BITS:
?C: When defined, this indicates that the compiler can handle 64-bit values
?C: despite the CPU having only 32-bit registers.  These are available using
?C: the "long long" C type.  It is only defined for ILP32 machines, since
?C: 64-bit support is naturally available on ILP64 and LP64 machines.
?C:.
?H:#define CPU_ILP_MAXBITS $ilp
?H:#$d_ilp32
 CPU_IS_ILP32 /**/
?H:#$d_ilp64 CPU_IS_ILP64 /**/
?H:#$d_lp64 CPU_IS_LP64  /**/
?H:#$d_can64 CAN_HANDLE_64BITS /**/
?H:.
?LINT: set d_ilp32 d_ilp64 d_lp64 d_can64
: check for architecture type
echo " "
$echo $n "Computing CPU architecture type...$c" >&4
ilp=`expr $longsize \* 8`
case "$ptrsize" in
8)
 val=$undef; set d_ilp32; eval $setvar
 case "$intsize" in
 8)
  echo " ILP64." >&4
  val=$define; set d_ilp64; eval $setvar
  val=$undef; set d_lp64; eval $setvar
  ;;
 *)
  echo " LP64." >&4
  val=$define; set d_lp64; eval $setvar
  val=$undef; set d_ilp64; eval $setvar
  ;;
 esac
 ;;
*)
 echo " ILP${ilp}." >&4
 case "$ilp" in
 32) val=$define;;
 *) val=$undef;;
 esac
 set d_ilp32; eval $setvar
 val=$undef; set d_ilp64; eval $setvar
 val=$undef; set d_lp64; eval $setvar
```

```
 ;;
esac

@if CAN_HANDLE_64BITS || d_can64
: see whether compiler supports 64-bit emulation
val=$undef
case "$ilp" in
64) val=$define;;
*)
 $cat >try.c <<EOCP
#include "static_assert.h"
long long foo;
int main()
{
 STATIC_ASSERT(8
 == sizeof(foo));
 return 0;
}
EOCP
 if $cc -c $ccflags try.c >/dev/null 2>&1; then
  echo " "
  echo "Your compiler also supports 64-bit emulation." >&4
  val=$define
 fi
 $rm -f try.*
 ;;
esac
set d_can64
eval $setvar

@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/ilp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2009 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_inetntop: Inlibc
?MAKE: -pick add $@ %<
?S:d_inetntop:
?S: This variable conditionally defines the HAS_INETNTOP symbol,
?S: which indicates to the C program that the inet_ntop() function
```

?S: is available.
?S:.
?C:HAS_INETNTOP:
?C: This symbol, if defined, indicates that the inet_ntop() function
?C: is available to parse IPv4 and IPv6 strings.
?C:.
?H:#$d_inetntop HAS_INETNTOP  /**/
?H:.
?LINT:set d_inetntop
: see if inet_ntop exists
set inet_ntop d_inetntop
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_inetntop.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Cygnus Support
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Tom Tromey <tromey@cygnus.com>
?RCS:
?RCS: $Log: src.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:23:54  ram
?RCS: patch61: created
?RCS:
?MAKE:src +rsrc: Options package contains
?MAKE: -pick add $@ %<
?Y:TOP
?S:src (srcdir):
?S: This variable holds the (possibly relative) path of the package source.
?S: It is up to the Makefile to use this variable and set VPATH accordingly
?S: to find the sources remotely.  Use $pkgsrc to have an absolute path.
?S:.
?S:rsrc
 (relsrcdir):
?S: This variable holds a potentially relative path to the package
?S: source.  The contents are correct for the configuration environment,
?S: i.e. there might be an extra .. prepended to get out of the UU dir.
?S: Configure units should use this, not the src variable.

```
?S:.
: Find the path to the source tree
case "$src" in
") case "$0" in
   */*) src=`echo $0 | sed -e 's%/[^/][^/]*$%%'`
        case "$src" in
  /*) ;;
  .) ;;
        *) src=`cd ../$src && pwd` ;;
  esac
        ;;
   *)   src='.';;
   esac;;
esac
case "$src" in
") src=/
 rsrc=/
 ;;
/*) rsrc="$src";;
*) rsrc="../$src";;
esac
?X:
?X: Now check whether we have found the right source tree (i.e. the one for the
?X: package we're about to configure). The original unit from Tom Tromey forced
?X: the user to pick a unique file from his distribution, and we were merely
?X: checking the existence of that file. I prefer to rely on Configure (which
?X: we know *is* present since this unit is
 part of it!) and look for the
?X: definition of the package variable, making sure it's the same as ours.
?X: If it matches, we know we found the right source tree. -- RAM, 15/03/96
?X:
if test -f $rsrc/Configure && \
 $contains "^package='$package'\$" $rsrc/Configure >/dev/null 2>&1
then
  : found it, so we are ok.
else
?X: Otherwise try "." and up to 4 parent directories...
?X: Note that we prepend a ".." to get out of the configuration environment.
 rsrc="
 for src in . .. ../.. ../../.. ../../../..; do
  if test -f ../$src/Configure && \
   $contains "^package=$package$" ../$src/Configure >/dev/null 2>&1
  then
   rsrc=../$src
   break
  fi
 done
fi
```

```
case "$rsrc" in
")
 cat <<EOM >&4

Sorry, I can't seem to locate the source dir for $package.  Please start
Configure with an explicit path -- i.e. /some/path/Configure.

EOM
 exit 1
 ;;
?X: Don't echo anything if the sources are in . -- they should know already ;-)
?X: In that case, rsrc is ../. since we lookup from within UU
../.) rsrc='..';;
*)
 echo
 " "
 echo "Sources for $package found in \"$src\"." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/src.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: siteprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: siteprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:siteprefix siteprefixexp +oldsiteprefix: Getfile Loc Oldconfig cat package prefix
?MAKE: -pick add $@ %<
?S:siteprefix:
?S: This variable holds the full absolute path of the directory below
?S: which the user will install add-on packages.
?S: See INSTALL for usage and examples.
?S:.
?S:siteprefixexp:
?S: This variable holds the full absolute path of the
```

```
 directory below
?S: which the user will install add-on packages.  Derived from siteprefix.
?S:.
?S:oldsiteprefix:
?S: This variable is set non-null if the siteprefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
: Set the siteprefix variables
$cat <<EOM

After $package is installed, you may wish to install various
add-on modules and utilities.  Typically, these add-ons will
be installed under $prefix with the rest
of this package.  However, you may wish to install such add-ons
elsewhere under a different prefix.

If you do not wish to put everything under a single prefix, that's
ok.  You will be prompted for the individual locations; this siteprefix
is only used to suggest the defaults.

The default should be fine for most people.

EOM
fn=d~+
rp='Installation prefix to use for add-on modules and utilities?'
: XXX Here might be another good place for an installstyle setting.
case "$siteprefix" in
'') dflt=$prefix ;;
*)  dflt=$siteprefix
 ;;
esac
. ./getfile
: XXX Prefixit unit does not yet support siteprefix and vendorprefix
oldsiteprefix=''
case "$siteprefix" in
'') ;;
*) case "$ans" in
 "$prefix") ;;
 *) oldsiteprefix="$prefix";;
 esac
 ;;
esac
siteprefix="$ans"
siteprefixexp="$ansexp"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/siteprefix.U
```

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getlogin_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getlogin_r getlogin_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_unistd extern_C
?MAKE: -pick add $@ %<
?S:d_getlogin_r:
?S: This variable conditionally defines the HAS_GETLOGIN_R symbol,
?S: which indicates to the C program that the getlogin_r()
?S: routine is available.
?S:.
?S:getlogin_r_proto:
?S: This variable encodes the prototype of getlogin_r.
?S: It is zero if d_getlogin_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getlogin_r
?S: is defined.
?S:.
?C:HAS_GETLOGIN_R:
?C: This symbol, if defined, indicates that the getlogin_r routine
?C: is available
 to getlogin re-entrantly.
?C:.
?C:GETLOGIN_R_PROTO:
?C: This symbol encodes the prototype of getlogin_r.
?C: It is zero if d_getlogin_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getlogin_r
?C: is defined.
?C:.
?H:#$d_getlogin_r HAS_GETLOGIN_R    /**/
?H:#define GETLOGIN_R_PROTO $getlogin_r_proto    /**/
?H:.
?T:try hdrs d_getlogin_r_proto
: see if getlogin_r exists
set getlogin_r d_getlogin_r
eval $inlibc
case "$d_getlogin_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_unistd unistd.h"
 case "$d_getlogin_r_proto:$usethreads" in
 ":define") d_getlogin_r_proto=define
  set d_getlogin_r_proto getlogin_r $hdrs
```

```
 eval $hasproto ;;
*) ;;
esac
case "$d_getlogin_r_proto" in
define)
case "$getlogin_r_proto" in
"|0) try='int getlogin_r(char*, size_t);'
./protochk "$extern_C $try" $hdrs && getlogin_r_proto=I_BW ;;
esac
case "$getlogin_r_proto" in
"|0) try='int getlogin_r(char*, int);'
./protochk "$extern_C $try" $hdrs && getlogin_r_proto=I_BI
;;
esac
case "$getlogin_r_proto" in
"|0) try='char* getlogin_r(char*, size_t);'
./protochk "$extern_C $try" $hdrs && getlogin_r_proto=B_BW ;;
esac
case "$getlogin_r_proto" in
"|0) try='char* getlogin_r(char*, int);'
./protochk "$extern_C $try" $hdrs && getlogin_r_proto=B_BI ;;
esac
case "$getlogin_r_proto" in
"|0) d_getlogin_r=undef
        getlogin_r_proto=0
 echo "Disabling getlogin_r, cannot determine prototype." >&4 ;;
* ) case "$getlogin_r_proto" in
 REENTRANT_PROTO*) ;;
 *) getlogin_r_proto="REENTRANT_PROTO_$getlogin_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "getlogin_r has no prototype, not using it." >&4 ;;
 esac
 d_getlogin_r=undef
 getlogin_r_proto=0
 ;;
esac
;;
*) getlogin_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getlogin_r.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_fp_class.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_fp_class: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_fp_class:
?S: This variable conditionally defines the I_FP_CLASS symbol, and indicates
?S: whether a C program should include <fp_class.h>.
?S:.
?C:I_FP_CLASS:
?C: This symbol, if defined, indicates that <fp_class.h> exists and
?C: should be included.
?C:.
?H:#$i_fp_class I_FP_CLASS  /**/
?H:.
?LINT:set i_fp_class
: see if this is a fp_class.h system
set fp_class.h i_fp_class
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_fp_class.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_uwait.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_uwait.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:10:49  ram
?RCS: patch16: added knowledge about wait3()
?RCS: patch16: revised 'union wait' look-up algorithm
?RCS: patch16: fixed make dependency line accordingly
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:54  ram
?RCS: Baseline for dist 3.0 netwide release.

```
?RCS:
?MAKE:d_uwait d_uwait3: cat contains cppstdin cppminus +cppflags rm \
 Setvar Findhdr
?MAKE: -pick add $@ %<
?S:d_uwait:
?S: This symbol
 conditionally defines UNION_WAIT which indicates to the C
?S: program that argument for the wait() system call should be declared as
?S: 'union wait status' instead of 'int status'.
?S:.
?S:d_uwait3:
?S: This symbol conditionally defines UNION_WAIT3 which indicates to the C
?S: program that the first argument for the wait3() system call should be
?S: declared as 'union wait status' instead of 'int status'.
?S:.
?C:UNION_WAIT:
?C: This symbol if defined indicates to the C program that the argument
?C: for the wait() system call should be declared as 'union wait status'
?C: instead of 'int status'. You probably need to include <sys/wait.h>
?C: in the former case (see I_SYSWAIT).
?C:.
?C:UNION_WAIT3:
?C: This symbol if defined indicates to the C program that the first argument
?C: for the wait3() system call should be declared as 'union wait status'
?C: instead of 'int status'. You probably need to include <sys/wait.h>
?C: in the former case (see I_SYSWAIT). It seems safe to assume that
 the
?C: same rule applies to the second parameter of wait4().
?C:.
?H:#$d_uwait UNION_WAIT  /**/
?H:#$d_uwait3 UNION_WAIT3 /**/
?H:.
?T:val2 flags f also
?LINT:set d_uwait d_uwait3
: see if union wait is available
echo " "
?X:
?X: Unfortunately, we can't just grep <sys/wait.h> for "union wait" because
?X: some weird systems (did I hear HP-UX?) define union wait only when _BSD
?X: is defined. The same thing happens on OSF/1, who is pushing weirdness to
?X: its limits by requiring wait() to use (int *) but wait3() to use
?X: (union wait *), unless _BSD is defined and -lbsd is used, in which case
?X: wait() also expects (union wait *). Aaargh!!--RAM
?X:
set X $cppflags
shift
flags="
also="
```

```
for f in $*; do
 case "$f" in
 *NO_PROTO*) ;;
 *) flags="$flags $f";;
 esac
done
$cat `./findhdr sys/wait.h` /dev/null | \
 $cppstdin $flags $cppminus >wait.out 2>/dev/null
if $contains 'union.*wait.*{' wait.out >/dev/null 2>&1 ; then
 echo "Looks like your <sys/wait.h> knows about 'union wait'..."
 >&4
 val="$define"
@if UNION_WAIT
 also='also '
 if $contains 'extern.*wait[  ]*([  ]*int' wait.out >/dev/null 2>&1
 then
  echo "But wait() seems to expect an 'int' pointer (POSIX way)." >&4
  val="$undef"
  also=''
 elif $contains 'extern.*wait[  ]*([  ]*union' wait.out >/dev/null 2>&1
 then
  echo "And indeed wait() expects an 'union wait' pointer (BSD way)." >&4
 else
  echo "So we'll use that for wait()." >&4
 fi
@end
@if UNION_WAIT3 || d_uwait3
 val2="$define"
@end
@if UNION_WAIT3
 if $contains 'extern.*wait3[  ]*([  ]*int' wait.out >/dev/null 2>&1
 then
  echo "However wait3() seems to expect an 'int' pointer, weird." >&4
  val2="$undef"
 elif $contains 'extern.*wait3[  ]*([  ]*union' wait.out >/dev/null 2>&1
 then
  echo "And wait3() ${also}expects an 'union wait' pointer, fine." >&4
 else
  echo "As expected, wait3() ${also}uses an 'union wait' pointer." >&4
 fi
@end
else
 echo "No trace of 'union wait' in <sys/wait.h>..." >&4
 val="$undef"
@if UNION_WAIT && UNION_WAIT3
 echo
 "Both wait() and wait3() will use a plain 'int' pointer then." >&4
@elsif UNION_WAIT
```

```
 echo "Your wait() should be happy with a plain 'int' pointer." >&4
@elsif UNION_WAIT3
 echo "Your wait3() should be happy with a plain 'int' pointer." >&4
@end
fi
set d_uwait
eval $setvar
@if UNION_WAIT3 || d_uwait3
val="$val2"; set d_uwait3
eval $setvar
@end
$rm -f wait.out
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_uwait.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Prefixup.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Prefixup.U,v $
?RCS: Revision 3.0.1.1  1995/01/30  14:30:40  ram
?RCS: patch49: created
?RCS:
?X:
?X: Used as: "set dflt; eval $prefixup" to set $dflt to be $prefix/dir
?X: instead of $prefixexp/dir, in case portability was involved somehow
?X: and $prefix uses ~name expansion.
?X:
?MAKE:Prefixup: prefix prefixexp
?MAKE: -pick add $@ %<
?LINT:define prefixup
?S:prefixup:
?S: This shell variable is used internally by Configure to reset
?S: the leading
 installation prefix correctly when $prefix uses
?S: ~name expansion.
?S:  set dflt
?S:  eval $prefixup
?S: That will set $dflt to $prefix/dir if it was $prefixexp/dir and
?S: $prefix differs from $prefixexp.
```

```
?S:.
?V:prefixup
: set the prefixup variable, to restore leading tilda escape
prefixup='case "$prefixexp" in
"$prefix") ;;
*) eval "$1=\`echo \$$1 | sed \"s,^$prefixexp,$prefix,\"\`";;
esac'
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Prefixup.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sitescriptdir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitescriptdir.U,v $
?RCS:
?MAKE:sitescriptdir sitescriptdirexp installsitescriptdir : Getfile \
 Setprefixvar Oldconfig scriptdir prefix siteprefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitescriptdir="
?S:sitescriptdir:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question.  It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name
 substitution.
?S: The standard distribution will put nothing in this directory.
?S: After perl has been installed, users may install their own local
?S: scripts in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitescriptdirexp="
?S:sitescriptdirexp:
?S: This is the same as the sitescriptdir variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?S:installsitescriptdir:
?D:installsitescriptdir="
```

```
?S: This variable is usually the same as sitescriptdirexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
?LINT:set installsitescriptdir
?LINT:set sitescriptdir
?LINT:set sitescriptdirexp
: determine where add-on public executables go
case "$sitescriptdir" in
") dflt=`echo $scriptdir | $sed "s#^$prefix#$siteprefix#"` ;;
*)  dflt=$sitescriptdir ;;
esac
fn=d~
rp='Pathname
 where add-on public executable scripts should be installed?'
. ./getfile
prefixvar=sitescriptdir
. ./setprefixvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitescriptdir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_shmget.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_shmget.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:20  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_shmget: Inlibc
?MAKE: -pick add $@ %<
?S:d_shmget:
?S: This variable conditionally defines the HAS_SHMGET symbol, which
?S: indicates to the C program that the shmget() routine is available.
?S:.
?C:HAS_SHMGET:
?C: This symbol, if defined, indicates that the shmget() routine is
?C: available to request a shared memory segment from
```

```
 the kernel.
?C:.
?H:#$d_shmget HAS_SHMGET  /**/
?H:.
?LINT:set d_shmget
: see if shmget exists
set shmget d_shmget
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_shmget.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_endnetent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_endnetent_r endnetent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_endnetent_r:
?S: This variable conditionally defines the HAS_ENDNETENT_R symbol,
?S: which indicates to the C program that the endnetent_r()
?S: routine is available.
?S:.
?S:endnetent_r_proto:
?S: This variable encodes the prototype of endnetent_r.
?S: It is zero if d_endnetent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endnetent_r
?S: is defined.
?S:.
?C:HAS_ENDNETENT_R:
?C: This symbol, if defined, indicates that the endnetent_r routine
?C: is
 available to endnetent re-entrantly.
?C:.
?C:ENDNETENT_R_PROTO:
?C: This symbol encodes the prototype of endnetent_r.
?C: It is zero if d_endnetent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endnetent_r
?C: is defined.
?C:.
?H:#$d_endnetent_r HAS_ENDNETENT_R    /**/
?H:#define ENDNETENT_R_PROTO $endnetent_r_proto    /**/
```

```
?H:.
?T:try hdrs d_endnetent_r_proto
: see if endnetent_r exists
set endnetent_r d_endnetent_r
eval $inlibc
case "$d_endnetent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_endnetent_r_proto:$usethreads" in
 ":define") d_endnetent_r_proto=define
  set d_endnetent_r_proto endnetent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_endnetent_r_proto" in
 define)
 case "$endnetent_r_proto" in
 "|0) try='int endnetent_r(struct netent_data*);'
 ./protochk "$extern_C $try" $hdrs && endnetent_r_proto=I_D ;;
 esac
 case "$endnetent_r_proto" in
 "|0) try='void endnetent_r(struct netent_data*);'
 ./protochk
 "$extern_C $try" $hdrs && endnetent_r_proto=V_D ;;
 esac
 case "$endnetent_r_proto" in
 "|0) d_endnetent_r=undef
        endnetent_r_proto=0
  echo "Disabling endnetent_r, cannot determine prototype." >&4 ;;
 * ) case "$endnetent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) endnetent_r_proto="REENTRANT_PROTO_$endnetent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "endnetent_r has no prototype, not using it." >&4 ;;
  esac
  d_endnetent_r=undef
  endnetent_r_proto=0
  ;;
 esac
 ;;
*) endnetent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_endnetent_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: baserev.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: baserev.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:baserev: Null
?MAKE: -pick wipe $@ %<
?S:baserev:
?S: The base revision level of this package, from the .package file.
?S:.
: set the base revision
baserev=<BASEREV>

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/baserev.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_castneg.U,v $
?RCS: Revision 3.0.1.2  1995/05/12  12:11:21  ram
?RCS: patch54: made sure cc and ccflags are conditional dependencies
?RCS: patch54: added improved test case for Interactive Unix
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:10:50  ram
?RCS: patch36: don't forget to tell user about compilation failures (ADO)
?RCS: patch36: declare signal handler correctly using 'signal_t' (ADO)

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:47  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Can
 the compiler cast negative / odd floats to unsigned values.
?X:
?MAKE:d_castneg castflags: cat +cc +ccflags rm_try Setvar signal_t
?MAKE: -pick add $@ %<
?S:d_castneg:
?S: This variable conditionally defines CASTNEG, which indicates
?S: wether the C compiler can cast negative float to unsigned.
?S:.
?S:castflags:
?S: This variable contains a flag that precise difficulties the
?S: compiler has casting odd floating values to unsigned long:
?S:  0 = ok
?S:  1 = couldn't cast < 0
?S:  2 = couldn't cast >= 0x80000000
?S:  4 = couldn't cast in argument expression list
?S:.
?C:CASTNEGFLOAT:
?C: This symbol is defined if the C compiler can cast negative
?C: numbers to unsigned longs, ints and shorts.
?C:.
?C:CASTFLAGS:
?C: This symbol contains flags that say what difficulties the compiler
?C: has casting odd floating values to unsigned long:
?C:  0 = ok
?C:  1 = couldn't cast < 0
?C:  2 = couldn't cast >= 0x80000000
?C:  4 = couldn't cast in argument expression list
?C:.
?H:#$d_castneg CASTNEGFLOAT  /**/
?H:#define
 CASTFLAGS $castflags  /**/
?H:.
?F:!try
?LINT:set d_castneg
: check for ability to cast negative floats to unsigned
echo " "
echo 'Checking whether your C compiler can cast negative float to unsigned.' >&4
$cat >try.c <<EOCP
#include <sys/types.h>
#include <signal.h>
$signal_t blech() { exit(7); }
$signal_t blech_in_list() { exit(4); }
```

```
unsigned long dummy_long(p) unsigned long p; { return p; }
unsigned int dummy_int(p) unsigned int p; { return p; }
unsigned short dummy_short(p) unsigned short p; { return p; }
int main()
{
 double f = -123.;
 unsigned long along;
 unsigned int aint;
 unsigned short ashort;
 int result = 0;

 signal(SIGFPE, blech);
 along = (unsigned long)f;
 aint = (unsigned int)f;
 ashort = (unsigned short)f;
 if (along != (unsigned long)-123)
  result |= 1;
 if (aint != (unsigned int)-123)
  result |= 1;
 if (ashort != (unsigned short)-123)
  result |= 1;
 f = (double)0x40000000;
 f = f + f;
 along = 0;
 along = (unsigned long)f;
 if
 (along != 0x80000000)
  result |= 2;
 f -= 1.;
 along = 0;
 along = (unsigned long)f;
 if (along != 0x7fffffff)
  result |= 1;
 f += 2.;
 along = 0;
 along = (unsigned long)f;
 if (along != 0x80000001)
  result |= 2;
 if (result)
  exit(result);
?X:
?X: The following is a test for Interactive Unix Version 4.1, which
?X: has an 'improved' compiler which can correctly cast negative
?X: floats in expression lists, but apparently not in argument lists.
?X: Contributed by Winfried Koenig <win@incom.rhein-main.de>
?X:
 signal(SIGFPE, blech_in_list);
 f = 123.;
```

```
 along = dummy_long((unsigned long)f);
 aint = dummy_int((unsigned int)f);
 ashort = dummy_short((unsigned short)f);
 if (along != (unsigned long)123)
  result |= 4;
 if (aint != (unsigned int)123)
  result |= 4;
 if (ashort != (unsigned short)123)
  result |= 4;
 exit(result);

}
EOCP
if $cc $ccflags -o try try.c >/dev/null 2>&1; then
 ./try
 castflags=$?
else
 echo "(I can't seem to compile the test program--assuming it can't)"
 castflags=7
fi
case
 "$castflags" in
0) val="$define"
 echo "Yup, it can."
 ;;
*) val="$undef"
 echo "Nope, it can't."
 ;;
esac
set d_castneg
eval $setvar
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_castneg.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: spitshell.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: spitshell.U,v $
```

```
?RCS: Revision 3.0.1.4  1997/02/28  16:22:12  ram
?RCS: patch61: removed useless chatter as this is now done very early
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:37:01  ram
?RCS: patch45: use 'test -f' instead of 'test -r' for exec-only cat progs (WED)
?RCS: patch45: protected "sh -c" within backquotes for Linux and SGI
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:33:00  ram
?RCS: patch32: don't create spitshell under the UU directory
?RCS:
 patch32: allow for cat in /bin or /usr/bin
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:12:58  ram
?RCS: patch10: made #!-failure message more friendly (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:spitshell shsharp sharpbang: eunicefix sh Head
?MAKE: -pick add $@ %<
?S:spitshell:
?S: This variable contains the command necessary to spit out a runnable
?S: shell on this system.  It is either cat or a grep -v for # comments.
?S:.
?S:shsharp:
?S: This variable tells further Configure units whether your sh can
?S: handle # comments.
?S:.
?S:sharpbang:
?S: This variable contains the string #! if this system supports that
?S: construct.
?S:.
?F:!sharp
?T:xcat p
?X: "paths" comes from Head
?LINT:extern paths _exe
: see if sh knows # comments
?X: This is loaded up early, so avoid being chatty.
?X: echo " "
?X: echo "Checking your $sh to see if it knows about # comments..." >&2
if `$sh -c '#' >/dev/null 2>&1`; then
?X: echo
 "Your $sh handles # comments correctly."
 shsharp=true
 spitshell=cat
?X: echo " "
?X: echo "Okay, let's see if #! works on this system..."
 xcat=/bin/cat
```

```
 test -f $xcat$_exe || xcat=/usr/bin/cat
 if test ! -f $xcat$_exe; then
  for p in `echo $PATH | sed -e "s/$p_/ /g"` $paths; do
   if test -f $p/cat$_exe; then
    xcat=$p/cat
    break
   fi
  done
  if test ! -f $xcat$_exe; then
   echo "Can't find cat anywhere!"
   exit 1
  fi
 fi
 echo "#!$xcat" >sharp
 $eunicefix sharp
 chmod +x sharp
 ./sharp > today 2>/dev/null
 if test -s today; then
?X:  echo "It does."
  sharpbang='#!'
 else
  echo "#! $xcat" > sharp
  $eunicefix sharp
  chmod +x sharp
  ./sharp > today 2>/dev/null
  if test -s today; then
?X:   echo "It does."
   sharpbang='#! '
  else
?X:   echo "Okay, let's see if #! works on this system..."
?X:   echo "It's just a comment."
   sharpbang=': use '
  fi
 fi
else
 echo " "
 echo "Your $sh doesn't grok # comments--I will strip them later on."
 shsharp=false
?X: The
 spitshell script will be perused, so leave it out the UU directory
 cd ..
 echo "exec grep -v '^[  ]*#'" >spitshell
 chmod +x spitshell
 $eunicefix spitshell
 spitshell=`pwd`/spitshell
 cd UU
 echo "I presume that if # doesn't work, #! won't work either!"
 sharpbang=': use '
```

```
fi
rm -f sharp today
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/spitshell.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: man3dir.U,v 3.1 1999/07/08 20:52:19 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996-1999, Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: man3dir.U,v $
?RCS: Revision 3.1  1999/07/08 20:52:19  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:10:34  ram
?RCS: patch61: created
?RCS:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man3 used instead
 of man everywhere.
?X: I then added various tests because perl5 has *lots* of man3
?X: pages with long file names. -- ADO
?X:
?MAKE:man3dir man3direxp man3ext installman3dir: cat nroff Loc Oldconfig \
 sed man1dir spackage package Getfile Setprefixvar Prefixit Prefixup \
 d_flexfnam privlib Myread test
?MAKE: -pick add $@ %<
?Y:TOP
?D:man3dir="
?S:man3dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?D:man3direxp="
?S:man3direxp:
?S: This variable is the same as the man3dir variable, but is filename
```

```
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installman3dir="
?S:installman3dir:
?S: This variable is really the same as man3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only
 points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man3ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '3'.  The Makefile must supply the '.'.
?S: See man3dir.
?S:.
?T:prog tdflt
?LINT:change prefixvar
?LINT:set man3direxp
: determine where library module manual pages go
set man3dir man3dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages for many of the library modules.
EOM

case "$nroff" in
nroff)
 $cat <<'EOM'
However, you don't have nroff, so they're probably useless to you.
EOM
 case "$man3dir" in
 '') man3dir="none";;
 esac;;
esac

case "$d_flexfnam" in
undef)
 $cat <<'EOM'
However, your system can't handle the long file names like File::Basename.3.
EOM
 case "$man3dir" in
 '') man3dir="none";;
 esac;;
esac

echo "If you don't want the manual sources installed, answer 'none'."
?X: In 5.005_57 and earlier, I had the following notes:
```

```
?X:
 We do not use /usr/local/man/man3 because some man programs will
?X: only show the /usr/local/man/man3 contents, and not the system ones,
?X: thus man less will show the perl module less.pm, but not the system
?X: less command.  We might also conflict with Tcl man pages.
?X: However, something like /opt/perl/man/man3 is fine.
?X:
?X: However, opinion seems to be shifting such that 'man POSIX' ought
?X: to just work.  -- Andy Dougherty  July 8, 1999
?X:
?X: remove any trailing -3.0 or other version indication from $package
prog=`echo $package | $sed 's/-*[0-9.]*$//'`
case "$man3dir" in
'') dflt=`echo "$man1dir" | $sed -e 's/man1/man3/g' -e 's/man\.1/man\.3/g'`
 if $test -d "$privlib/man/man3"; then
  cat <<EOM >&4

WARNING:  Previous versions of perl installed man3 pages into
$privlib/man/man3.  This version will suggest a
new default of $dflt.
EOM
  tdflt=$dflt
  dflt='n'
  rp='Do you wish to preserve the old behavior?(y/n)'
  . ./myread
  case "$ans" in
  y*) dflt="$privlib/man/man3"
 ;;
  *)  dflt=$tdflt ;;
  esac
   fi
 ;;
*) dflt="$man3dir" ;;
esac
case "$dflt" in
' ') dflt=none ;;
esac
echo " "
fn=dn+~
rp="Where do the $package library man pages (source) go?"
. ./getfile
prefixvar=man3dir
. ./setprefixvar

case "$man3dir" in
'') man3dir=' '
 installman3dir='';;
esac
```

```
: What suffix to use on installed man pages
case "$man3dir" in
' ')
 man3ext='0'
 ;;
*)
 rp="What suffix should be used for the $package library man pages?"
 case "$man3ext" in
 '') case "$man3dir" in
  *3)  dflt=3 ;;
  *3p) dflt=3p ;;
  *3pm) dflt=3pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L3) dflt=L3;;
  *) dflt=3;;
  esac
  ;;
 *) dflt="$man3ext";;
 esac
 . ./myread
 man3ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/man3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Getfile.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Getfile.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:01:06  ram
?RCS: patch61: getfile script now begins with "startsh"
?RCS:
```

?RCS: Revision 3.0.1.6  1995/02/15  14:11:00  ram
?RCS: patch51: was not working if ~'s allowed with d_portable on (WED)
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:11:25  ram
?RCS: patch45: added support for escaping answers to skip various checks
?RCS: patch45: modified message issued after file expansion
?RCS:
?RCS: Revision
 3.0.1.4  1994/10/29  15:53:19  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  14:23:36  ram
?RCS: patch23: getfile could be confused by file name in "locate" requests
?RCS: patch23: new 'p' directive to assume file is in people's path (WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/01/24  14:01:31  ram
?RCS: patch16: added metalint hint on changed 'ans' variable
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  15:46:27  ram
?RCS: patch10: minor format problems and misspellings fixed
?RCS: patch10: now performs from package dir and not from UU subdir
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to get a file name and make some sanity checks. Optionally, a ~name
?X: expansion is performed.
?X:
?X: To use this unit, $rp and $dflt must hold the question and the
?X: default answer, which will be passed as-is
 to the myread script.
?X: The $fn variable must hold the file type (f or d, for file/directory).
?X: If $gfpth is set to a list of space-separated list of directories,
?X: those are prefixes for the filename.  Unless $gfpthkeep is set to 'y',
?X: gfpth is cleared on return from Getfile.
?X:
?X: If is is followed by a ~, then ~name substitution will occur. Upon return,
?X: $ans is set with the filename value. If a / is specified, then only a full
?X: path name is accepted (but ~ substitution occurs before, if needed). The
?X: expanded path name is returned in that case.
?X:
?X: If a + is specified, the existence checks are skipped. This usually means
?X: the file/directory is under the full control of the program.
?X:
?X: If the 'n' (none) type is used, then the user may answer none.
?X: The 'e' (expand) switch may be used to bypass d_portable, expanding ~name.

```
?X:
?X: If the 'l' (locate) type is used, then it must end with a ':' and then a
?X: file name. If the answer is a directory,
 the file name will be appended
?X: before testing for file existence. This is useful in locate-style
?X: questions like "where is the active file?". In that case, one should
?X: use:
?X:
?X:   dflt='~news/lib'
?X:   fn='l~:active'
?X:   rp='Where is the active file?'
?X:   . ./getfile
?X:   active="$ans"
?X:
?X: If the 'p' (path) letter is specified along with 'l', then an answer
?X: without a leading / will be expected to be found in everyone's path.
?X:
?X: It is also possible to include a comma-separated list of items within
?X: parentheses to specify which items should be accepted as-is with no
?X: further checks. This is useful when for instance a full path is expected
?X: but the user may escape out via "magical" answers.
?X:
?X: If the answer to the question is 'none', then the existence checks are
?X: skipped and the empty string is returned.
?X:
?MAKE:Getfile: d_portable contains startsh Myread Filexp tr trnl
?MAKE: -pick add $@ %<
?V:ansexp:fn gfpth gfpthkeep
?F:./getfile
?T:tilde
 type what orig_rp orig_dflt fullpath already redo skip none_ok \
 value exp_file nopath_ok loc_file fp pf dir direxp
?LINT:change ans
?LINT:change gfpth
: now set up to get a file name
cat <<EOS >getfile
$startsh
EOS
cat <<'EOSC' >>getfile
tilde="
fullpath="
already="
skip="
none_ok="
exp_file="
nopath_ok="
orig_rp="$rp"
orig_dflt="$dflt"
```

```
case "$gfpth" in
") gfpth='.' ;;
esac

?X: Begin by stripping out any (...) grouping.
case "$fn" in
*\(*)
 : getfile will accept an answer from the comma-separated list
 : enclosed in parentheses even if it does not meet other criteria.
 expr "$fn" : '.*(\(.*\)).*' | $tr ',' $trnl >getfile.ok
 fn=`echo $fn | sed 's/(.*)//'`
 ;;
esac

?X: Catch up 'locate' requests early, so that we may strip the file name
?X: before looking at the one-letter commands, in case the file name contains
?X: one of them. Reported by Wayne Davison <davison@borland.com>.
case "$fn" in
*:*)
 loc_file=`expr $fn : '.*:\(.*\)'`
 fn=`expr $fn : '\(.*\):.*'`
 ;;
esac

case
 "$fn" in
*~*) tilde=true;;
esac
case "$fn" in
*/*) fullpath=true;;
esac
case "$fn" in
*+*) skip=true;;
esac
case "$fn" in
*n*) none_ok=true;;
esac
case "$fn" in
*e*) exp_file=true;;
esac
case "$fn" in
*p*) nopath_ok=true;;
esac

case "$fn" in
*f*) type='File';;
*d*) type='Directory';;
*l*) type='Locate';;
```

```
esac

what="$type"
case "$what" in
Locate) what='File';;
esac

case "$exp_file" in
")
 case "$d_portable" in
 "$define") ;;
 *) exp_file=true;;
 esac
 ;;
esac

cd ..
while test "$type"; do
 redo="
 rp="$orig_rp"
 dflt="$orig_dflt"
 case "$tilde" in
 true) rp="$rp (~name ok)";;
 esac
 . UU/myread
?X: check for allowed escape sequence which may be accepted verbatim.
 if test -f UU/getfile.ok && \
  $contains "^$ans\$" UU/getfile.ok >/dev/null 2>&1
 then
  value="$ans"
  ansexp="$ans"
  break
 fi
 case "$ans" in
 none)
  value="
  ansexp="
  case "$none_ok" in
  true) type=";;
  esac
  ;;
 *)
  case "$tilde" in
  ") value="$ans"
   ansexp="$ans";;
  *)
   value=`UU/filexp $ans`
   case
```

```
$? in
  0)
   if test "$ans" != "$value"; then
    echo "(That expands to $value on this system.)"
   fi
   ;;
  *) value="$ans";;
  esac
  ansexp="$value"
  case "$exp_file" in
  '') value="$ans";;
  esac
  ;;
 esac
 case "$fullpath" in
 true)
?X: Perform all the checks on ansexp and not value since when d_portable
?X: is defined, the original un-expanded answer which is stored in value
?X: would lead to "non-existent" error messages whilst ansexp has been
?X: properly expanded. -- Fixed by Jan.Djarv@sa.erisoft.se (Jan Djarv)
?X: Always expand ~user if '/' was requested
  case "$ansexp" in
  /*) value="$ansexp" ;;
?X: Allow for c:/some/path
  [a-zA-Z]:/*) value="$ansexp" ;;
  *)
   redo=true
   case "$already" in
   true)
   echo "I shall only accept a full path name, as in /bin/ls." >&4
   echo "Use a ! shell escape if you wish to check pathnames." >&4
    ;;
   *)
   echo "Please give a full path name, starting with slash." >&4
    case "$tilde"
in
    true)
   echo "Note that using ~name is ok provided it expands well." >&4
     already=true
     ;;
    esac
   esac
   ;;
  esac
  ;;
 esac
 case "$redo" in
 '')
```

```
  case "$type" in
  File)
   for fp in $gfpth; do
    if test "X$fp" = X.; then
       pf="$ansexp"
    else
       pf="$fp/$ansexp"
    fi
    if test -f "$pf"; then
     type="
    elif test -r "$pf" || (test -h "$pf") >/dev/null 2>&1
    then
     echo "($value is not a plain file, but that's ok.)"
     type="
    fi
    if test X"$type" = X; then
       value="$pf"
       break
    fi
   done
   ;;
  Directory)
   for fp in $gfpth; do
    if test "X$fp" = X.; then
       dir="$ans"
       direxp="$ansexp"
    else
       dir="$fp/$ansexp"
       direxp="$fp/$ansexp"
    fi
    if test -d "$direxp"; then
     type="
     value="$dir"
     break
    fi
   done
   ;;
  Locate)
   if test -d "$ansexp"; then
    echo "(Looking for $loc_file in directory
$value.)"
    value="$value/$loc_file"
    ansexp="$ansexp/$loc_file"
   fi
   if test -f "$ansexp"; then
    type="
   fi
   case "$nopath_ok" in
```

```
   true) case "$value" in
    */*) ;;
    *) echo "Assuming $value will be in people's path."
     type="
     ;;
    esac
    ;;
   esac
   ;;
  esac

  case "$skip" in
  true) type='';
  esac

  case "$type" in
  '') ;;
  *)
   if test "$fastread" = yes; then
    dflt=y
   else
    dflt=n
   fi
   rp="$what $value doesn't exist.  Use that name anyway?"
   . UU/myread
   dflt=''
   case "$ans" in
   y*) type='';;
   *) echo " ";;
   esac
   ;;
  esac
  ;;
 esac
done
cd UU
ans="$value"
rp="$orig_rp"
dflt="$orig_dflt"
rm -f getfile.ok
test "X$gfpthkeep" != Xy && gfpth=""
EOSC
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Getfile.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setpgid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setpgid.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:41:49  ram
?RCS: patch61: reworded symbol comments
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:06:40  ram
?RCS: patch16: created
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setpgid: Inlibc
?MAKE: -pick add $@ %<
?S:d_setpgid:
?S: This variable conditionally defines the HAS_SETPGID symbol if the
?S: setpgid(pid, gpid) function is
 available to set process group ID.
?S:.
?C:HAS_SETPGID:
?C: This symbol, if defined, indicates that the setpgid(pid, gpid)
?C: routine is available to set process group ID.
?C:.
?H:#$d_setpgid HAS_SETPGID /**/
?H:.
?LINT:set d_setpgid
: see if setpgid exists
set setpgid d_setpgid
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setpgid.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_strcoll.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:

```
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_strcoll.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:12:01  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_strcoll: Inlibc
?MAKE: -pick add $@ %<
?S:d_strcoll:
?S: This variable conditionally defines HAS_STRCOLL if strcoll() is
?S: available to compare strings using collating information.
?S:.
?C:HAS_STRCOLL:
?C: This symbol, if defined, indicates that the strcoll routine
 is
?C: available to compare strings using collating information.
?C:.
?H:#$d_strcoll HAS_STRCOLL /**/
?H:.
?LINT:set d_strcoll
: see if strcoll exists
set strcoll d_strcoll
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strcoll.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_frexpl: Inlibc
?MAKE: -pick add $@ %<
?S:d_frexpl:
?S: This variable conditionally defines the HAS_FREXPL symbol, which
?S: indicates to the C program that the frexpl() routine is available.
?S:.
?C:HAS_FREXPL:
```

?C: This symbol, if defined, indicates that the frexpl routine is
?C: available to break a long double floating-point number into
?C: a normalized fraction and an integral power of 2.
?C:.
?H:#$d_frexpl HAS_FREXPL  /**/
?H:.
?LINT:set d_frexpl
: see if frexpl exists
set frexpl d_frexpl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_frexpl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_voidsig.U,v $
?RCS: Revision 3.0.1.3  1995/05/12  12:12:46  ram
?RCS: patch54: made cppflags dependency optional
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:20:35  ram
?RCS: patch32: now sets signal_t only once d_voidsig is known (WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:59:54  ram
?RCS: patch30: now properly sets signal_t when re-using previous value
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_voidsig signal_t: rm contains
 cppstdin cppminus +cppflags test Myread \
 Oldconfig Setvar Findhdr
?MAKE: -pick add $@ %<
?S:d_voidsig:
?S: This variable conditionally defines VOIDSIG if this system
?S: declares "void (*signal(...))()" in signal.h.  The old way was to
?S: declare it as "int (*signal(...))()".
?S:.
?S:signal_t:

```
?S: This variable holds the type of the signal handler (void or int).
?S:.
?C:VOIDSIG:
?C: This symbol is defined if this system declares "void (*signal(...))()" in
?C: signal.h.  The old way was to declare it as "int (*signal(...))()".  It
?C: is up to the package author to declare things correctly based on the
?C: symbol.
?C:.
?C:Signal_t (SIGNAL_T):
?C: This symbol's value is either "void" or "int", corresponding to the
?C: appropriate return type of a signal handler.  Thus, you can declare
?C: a signal handler using "Signal_t (*handler)()", and define the
?C: handler using "Signal_t handler(sig)".
?C:.
?H:#$d_voidsig VOIDSIG  /**/
?H:#define Signal_t $signal_t /* Signal handler's return
 type */
?H:.
?T:xxx
?LINT:set d_voidsig
: see if signal is declared as pointer to function returning int or void
echo " "
xxx=`./findhdr signal.h`
$test "$xxx" && $cppstdin $cppminus $cppflags < $xxx >$$.tmp 2>/dev/null
if $contains 'int.*\*[  ]*signal' $$.tmp >/dev/null 2>&1 ; then
 echo "You have int (*signal())() instead of void." >&4
 val="$undef"
elif $contains 'void.*\*[  ]*signal' $$.tmp >/dev/null 2>&1 ; then
 echo "You have void (*signal())() instead of int." >&4
 val="$define"
elif $contains 'extern[  ]*[(\*]*signal' $$.tmp >/dev/null 2>&1 ; then
 echo "You have int (*signal())() instead of void." >&4
 val="$undef"
else
 case "$d_voidsig" in
 '')
 echo "I can't determine whether signal handler returns void or int..." >&4
  dflt=void
  rp="What type does your signal handler return?"
  . ./myread
  case "$ans" in
  v*) val="$define";;
  *) val="$undef";;
  esac;;
 "$define")
  echo "As you already told me, signal handler returns void." >&4;;
 *)
  echo "As you already told
```

```
 me, signal handler returns int." >&4;;
 esac
fi
set d_voidsig
eval $setvar
case "$d_voidsig" in
"$define") signal_t="void";;
*) signal_t="int";;
esac
$rm -f $$.tmp
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_voidsig.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getcwd: Inlibc
?MAKE: -pick add $@ %<
?S:d_getcwd:
?S: This variable conditionally defines the HAS_GETCWD symbol, which
?S: indicates to the C program that the getcwd() routine is available
?S: to get the current working directory.
?S:.
?C:HAS_GETCWD :
?C: This symbol, if defined, indicates that the getcwd routine is
?C: available to get the current working directory.
?C:.
?H:#$d_getcwd HAS_GETCWD  /**/
?H:.
?LINT:set d_getcwd
: see if getcwd exists
set getcwd d_getcwd
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getcwd.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
```

?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sigtimedwait: Inlibc
?MAKE: -pick add $@ %<
?S:d_sigtimedwait:
?S: This variable conditionally defines HAS_SIGTIMEDWAIT
?S: if sigtimedwait() is available to wait a signal and additional
?S: information, with a timeout.
?S:.
?C:HAS_SIGTIMEDWAIT:
?C: This symbol, if defined, indicates that the sigtimedwait
?C: system call is available to wait a signal and additional information,
?C: with a timeout.
?C:.
?H:#$d_sigtimedwait HAS_SIGTIMEDWAIT  /**/
?H:.
?LINT:set d_sigtimedwait
: see if sigtimedwait exists
set sigtimedwait
 d_sigtimedwait
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sigtimedwait.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getprotby.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getpbyname d_getpbynumber: Inlibc
?MAKE: -pick add $@ %<
?S:d_getpbyname:
?S: This variable conditionally defines the HAS_GETPROTOBYNAME
?S: symbol, which indicates to the C program that the
?S: getprotobyname() routine is available to look up protocols
?S: by their name.
?S:.
?S:d_getpbynumber:
?S: This variable conditionally defines the HAS_GETPROTOBYNUMBER
?S: symbol, which indicates to the C program that the

```
?S: getprotobynumber() routine is available to look up protocols
?S: by their number.
?S:.
?C:HAS_GETPROTOBYNAME:
?C: This symbol, if defined, indicates that the getprotobyname()
?C: routine is available to look up protocols by their name.
?C:.
?C:HAS_GETPROTOBYNUMBER:
?C: This
 symbol, if defined, indicates that the getprotobynumber()
?C: routine is available to look up protocols by their number.
?C:.
?H:#$d_getpbyname HAS_GETPROTOBYNAME  /**/
?H:#$d_getpbynumber HAS_GETPROTOBYNUMBER  /**/
?H:.
?LINT:set d_getpbyname d_getpbynumber
: Optional checks for getprotobyname and getprotobynumber

@if d_getpbyname || HAS_GETPROTOBYNAME
: see if getprotobyname exists
set getprotobyname d_getpbyname
eval $inlibc
@end

@if d_getpbynumber || HAS_GETPROTOBYNUMBER
: see if getprotobynumber exists
set getprotobynumber d_getpbynumber
eval $inlibc
@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getprotby.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_utime.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_utime.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:47  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?MAKE:i_utime: Inhdr
?MAKE: -pick add $@ %<
?S:i_utime:
?S: This variable conditionally defines the I_UTIME symbol, and indicates
?S: whether a C program should include <utime.h>.
?S:.
?C:I_UTIME:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <utime.h>.
?C:.
?H:#$i_utime I_UTIME  /**/
?H:.
?LINT:set i_utime
:
 see if this is an utime system
set utime.h i_utime
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_utime.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sh.U,v 3.0.1.1 1997/02/28 16:20:13 ram Exp $
?RCS:
?RCS: Copyright (c) 1997, Chip Salzenberg
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sh.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:20:13  ram
?RCS: patch61: created
?RCS:
?MAKE:sh targetsh: Head
?MAKE: -pick wipe $@ %<
?S:sh:
?S: This variable contains the full pathname of the shell used
?S: on this system to execute Bourne shell scripts.  Usually, this will be
?S: /bin/sh, though it's possible that some systems will have /bin/ksh,
?S: /bin/pdksh, /bin/ash, /bin/bash, or even something such as
?S: D:/bin/sh.exe.
?S: This
 unit comes before Options.U, so you can't set sh with a -D
?S: option, though you can override this (and startsh)
```

```
?S: with -O -Dsh=/bin/whatever -Dstartsh=whatever
?S:.
?S:targetsh:
?S: If cross-compiling, this variable contains the location of sh on the
?S: target system.
?S: If not, this will be the same as $sh.
?S:.
?C:SH_PATH:
?C: This symbol contains the full pathname to the shell used on this
?C: on this system to execute Bourne shell scripts.  Usually, this will be
?C: /bin/sh, though it's possible that some systems will have /bin/ksh,
?C: /bin/pdksh, /bin/ash, /bin/bash, or even something such as
?C: D:/bin/sh.exe.
?C:.
?H:#define SH_PATH "$targetsh"  /**/
?H:.
?T:xxx try pth p SYSTYPE
?LINT:extern maintloc maintname _exe
?X:
?X: Be quiet unless something unusual happens because this gets
?X: loaded up even before options are processed.
?X: Can't use ./loc because that depends on startsh, which, in turn
?X: depends on this unit.
?X:
: Find the basic shell for
 Bourne shell scripts
case "$sh" in
")
?X: SYSTYPE is for some older MIPS systems.
?X: I do not know if it is still needed.
 case "$SYSTYPE" in
 *bsd*|sys5*) xxx="/$SYSTYPE/bin/sh";;
 *) xxx='/bin/sh';;
 esac
 if test -f "$xxx"; then
  sh="$xxx"
 else
  : Build up a list and do a single loop so we can 'break' out.
  pth=`echo $PATH | sed -e "s/$p_/ /g"`
  for xxx in sh bash ksh pdksh ash; do
   for p in $pth; do
    try="$try ${p}/${xxx}"
   done
  done
  for xxx in $try; do
   if test -f "$xxx"; then
    sh="$xxx";
    break
```

```
   elif test "X$_exe" != X -a -f "$xxx$_exe"; then
    sh="$xxx";
    break
   elif test -f "$xxx.exe"; then
    sh="$xxx";
    break
   fi
  done
 fi
 ;;
esac

?X: fd 4 isn't open yet...
case "$sh" in
") cat >&2 <<EOM
$me:  Fatal Error:  I can't find a Bourne Shell anywhere.

Usually it's in /bin/sh.  How did you even get this far?
Please contact me (<$maintname>) at <$maintloc> and
we'll try to straighten this all out.
EOM
 exit 1
 ;;
esac

: When cross-compiling
 we need to separate the sh-to-run-Configure-with from the sh-to-use-in-Perl
: default both to the same thing, cross-compilers can then set targetsh differently if they like
targetsh=$sh

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/sh.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:i_syssecrt: Inhdr
?MAKE: -pick add $@ %<
?S:i_syssecrt:
?S:     This variable conditionally defines the I_SYS_SECURITY symbol,
```

```
?S:     and indicates whether a C program should include <sys/security.h>.
?S:.
?C:I_SYS_SECURITY:
?C:     This symbol, if defined, indicates to the C program that it should
?C:     include <sys/security.h>.
?C:.
?H:#$i_syssecrt   I_SYS_SECURITY /**/
?H:.
?LINT:set i_syssecrt
: see if sys/security.h is available
set sys/security.h i_syssecrt
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/acl/i_syssecrt.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: instubperl.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:installusrbinperl: installbin cat bin Myread Setvar test Devel
?MAKE: -pick add $@ %<
?LINT:set installusrbinperl
?Y:TOP
?S:installusrbinperl:
?S: This variable tells whether Perl should be installed also as
?S: /usr/bin/perl in addition to
?S: $installbin/perl
?S:.
?C:INSTALL_USR_BIN_PERL:
?C: This symbol, if defined, indicates that Perl is to be installed
?C:  also as /usr/bin/perl.
?C:.
?H:#$installusrbinperl INSTALL_USR_BIN_PERL /**/
?H:.
: determine
 whether to install perl also as /usr/bin/perl

echo " "
if $test -d /usr/bin -a "X$installbin" != X/usr/bin; then
 $cat <<EOM
```

```
Many scripts expect perl to be installed as /usr/bin/perl.

If you want to, I can install the perl you are about to compile
as /usr/bin/perl (in addition to $bin/perl).
EOM
 if test -f /usr/bin/perl; then
    $cat <<EOM

However, please note that because you already have a /usr/bin/perl,
overwriting that with a new Perl would very probably cause problems.
Therefore I'm assuming you don't want to do that (unless you insist).

EOM
    case "$installusrbinperl" in
    "$define"|[yY]*) dflt='y';;
    *)   dflt='n';;
    esac
 else
    $cat <<EOM

Since you don't have a /usr/bin/perl I'm assuming creating one is okay.

EOM
    case "$installusrbinperl" in
    "$undef"|[nN]*) dflt='n';;
    *)   dflt='y';;
    esac
 fi
 rp="Do you want to install perl as /usr/bin/perl?"
 . ./myread
 case "$ans" in
 [yY]*) val="$define";;
 *) val="$undef" ;;
 esac
else
 val="$undef"
fi
set
 installusrbinperl
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/instubperl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_shmat.U,v 3.0.1.3 1995/07/25 14:04:23 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_shmat.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  14:04:23  ram
?RCS: patch56: use findhdr to find <sys/shm.h>, to get the right one (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:18:56  ram
?RCS: patch27: added new symbol HAS_SHMAT_PROTOTYPE (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:54:18  ram
?RCS: patch23: new Shmat_t symbol to declare return type of shmat()
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:18  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:d_shmat shmattype d_shmatprototype: Inlibc cat +cc +ccflags \
 rm cppstdin cppflags cppminus Findhdr Setvar contains
?MAKE: -pick add $@ %<
?S:d_shmat:
?S: This variable conditionally defines the HAS_SHMAT symbol, which
?S: indicates to the C program that the shmat() routine is available.
?S:.
?S:shmattype:
?S: This symbol contains the type of pointer returned by shmat().
?S: It can be 'void *' or 'char *'.
?S:.
?S:d_shmatprototype:
?S: This variable conditionally defines the HAS_SHMAT_PROTOTYPE
?S: symbol, which indicates that sys/shm.h has a prototype for
?S: shmat.
?S:.
?C:HAS_SHMAT:
?C: This symbol, if defined, indicates that the shmat() routine is
?C: available to attach a shared memory segment to the process space.
?C:.
?C:Shmat_t:
?C: This symbol holds the return type of the shmat() system call.
?C: Usually set to 'void *' or 'char *'.
?C:.
?C:HAS_SHMAT_PROTOTYPE:
?C: This symbol, if defined, indicates that the sys/shm.h includes
?C: a prototype for shmat().
```

```
  Otherwise, it is up to the program to
?C: guess one.  Shmat_t shmat(int, Shmat_t, int) is a good guess,
?C: but not always right so it should be emitted by the program only
?C: when HAS_SHMAT_PROTOTYPE is not defined to avoid conflicting defs.
?C:.
?H:#$d_shmat HAS_SHMAT  /**/
?H:#define Shmat_t $shmattype /**/
?H:#$d_shmatprototype HAS_SHMAT_PROTOTYPE /**/
?H:.
?LINT:set d_shmat d_shmatprototype
?T:xxx
: see if shmat exists
set shmat d_shmat
eval $inlibc
: see what shmat returns
case "$d_shmat" in
"$define")
 $cat >shmat.c <<'END'
#include <sys/shm.h>
void *shmat();
END
 if $cc $ccflags -c shmat.c >/dev/null 2>&1; then
  shmattype='void *'
 else
  shmattype='char *'
 fi
 echo "and it returns ($shmattype)." >&4
 : see if a prototype for shmat is available
 xxx=`./findhdr sys/shm.h`
 $cppstdin $cppflags $cppminus < $xxx > shmat.c 2>/dev/null
 if $contains 'shmat.*(' shmat.c >/dev/null 2>&1; then
  val="$define"
 else
  val="$undef"
 fi
 $rm -f shmat.[co]
 ;;
*)
 val="$undef"
 ;;
esac
set
 d_shmatprototype
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_shmat.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: perlpath.U,v 3.0.1.2 1995/09/25 09:17:04 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: perlpath.U,v $
?RCS:
?RCS: Special perl5 unit -- we haven't installed perl yet.
?RCS:
?RCS: Revision 3.0.1.2  1995/09/25  09:17:04  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:33:53  ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:32  ram
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this unit is to locate perl good enough to construct a #!
?X:
?MAKE:perlpath: cat Getfile Loc Myread Oldconfig initialinstalllocation \
 startperl version versiononly
?MAKE: -pick add $@ %<
?Y:TOP
?S:perlpath:
?S: This variable contains the eventual value of the PERLPATH symbol,
?S: which contains the name of the perl interpreter to be used in
?S: shell scripts and in the "eval 'exec'" idiom.  This variable is
?S: not necessarily the pathname of the file containing the perl
?S: interpreter; you must append the executable extension (_exe) if
?S: it is not already present.  Note that Perl code that runs during
?S: the Perl build process cannot reference this variable, as Perl
?S: may not have been installed, or even if installed, may be a
?S: different version of Perl.
?S:.
?C:PERLPATH:
?C: This symbol contains the name of the perl interpreter to be
?C: used in shell scripts and in the "eval 'exec'" idiom.

```
?C:.
?H:#define PERLPATH "$perlpath"  /**/
?H:.
:
 figure best path for perl in scripts
case "$perlpath" in
")
 case "$versiononly" in
 "$define") perlpath="$initialinstalllocation/perl$version";;
 *)  perlpath="$initialinstalllocation/perl";;
 esac
 case "$startperl" in
 *!*) ;;
 *)
  $cat <<EOH

I will use the "eval 'exec'" idiom to start Perl on your system.
I can use the full path of your Perl binary for this purpose, but
doing so may cause problems if you want to share those scripts and
Perl is not always in a standard place ($initialinstalllocation/perl).

EOH
  dflt="$initialinstalllocation/perl"
  rp="What path shall I use in \"eval 'exec'\"?"
  . ./myread
  perlpath="$ans"
  ;;
 esac
 ;;
esac
case "$startperl" in
*!*) ;;
*) echo "I'll use $perlpath in \"eval 'exec'\"" ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/perlpath.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fp_classl: Inlibc
?MAKE: -pick add $@ %<
```

?S:d_fp_classl:
?S: This variable conditionally defines the HAS_FP_CLASSL symbol, which
?S: indicates to the C program that the fp_classl() routine is available.
?S:.
?C:HAS_FP_CLASSL:
?C: This symbol, if defined, indicates that the fp_classl routine is
?C: available to classify long doubles.  Available for example in
?C: Digital UNIX.  See for possible values HAS_FP_CLASS.
?C:.
?H:#$d_fp_classl HAS_FP_CLASSL  /**/
?H:.
?LINT:set d_fp_classl
: see if fp_classl exists
set fp_classl d_fp_classl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fp_classl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_systwgcf.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_systwgcf.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_systwgcf: Inhdr
?MAKE: -pick add $@ %<
?S:i_systwgcf:
?S: This variable conditionally defines the I_SYS_TWG_CF symbol, and
?S: indicates whether a C program should include sys/twg_config.h.
?S:.
?C:I_SYS_TWG_CF:
?C: This symbol, if defined, indicates to the C program that it should
?C: include sys/twg_config.h.
?C:.
?H:#$i_systwgcf
 I_SYS_TWG_CF /**/
?H:.
?LINT:set i_systwgcf

: see if this is a sys/twg_config.h system
set sys/twg_config.h i_systwgcf
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_systwgcf.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fmax: Inlibc
?MAKE: -pick add $@ %<
?S:d_fmax:
?S: This variable conditionally defines the HAS_FMAX symbol, which
?S: indicates to the C program that the fmax() routine is available.
?S:.
?C:HAS_FMAX:
?C: This symbol, if defined, indicates that the fmax routine is
?C: available to do the maximum function.
?C:.
?H:#$d_fmax HAS_FMAX  /**/
?H:.
?LINT:set d_fmax
: see if fmax exists
set fmax d_fmax
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fmax.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sysuio.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysuio: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysuio:
?S: This variable conditionally defines the I_SYSUIO symbol, and indicates
?S: whether a C program should include <sys/uio.h>.
?S:.
?C:I_SYSUIO:
?C: This symbol, if defined, indicates that <sys/uio.h> exists and
?C: should be included.

?C:.
?H:#$i_sysuio I_SYSUIO  /**/
?H:.
?LINT:set i_sysuio
: see if this is a sys/uio.h system
set sys/uio.h i_sysuio
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_sysuio.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_truncl: Inlibc
?MAKE: -pick add $@ %<
?S:d_truncl:
?S: This variable conditionally defines the HAS_TRUNCL symbol, which
?S: indicates to the C program that the truncl() routine is available
?S: to round long doubles towards zero. If copysignl is also present,
?S: we can emulate modfl.
?S:.
?C:HAS_TRUNCL :
?C: This symbol, if defined, indicates that the truncl routine is
?C: available. If copysignl is also present we can emulate modfl.
?C:.
?H:#$d_truncl HAS_TRUNCL  /**/
?H:.
?LINT:set d_truncl
: see if truncl exists
set truncl d_truncl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_truncl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_ctermid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:

?RCS: $Log: d_ctermid.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_ctermid: Inlibc
?MAKE: -pick add $@ %<
?S:d_ctermid:
?S: This variable conditionally defines CTERMID if ctermid() is
?S: available to generate filename for terminal.
?S:.
?C:HAS_CTERMID (CTERMID):
?C: This symbol, if defined, indicates that the ctermid routine is
?C: available to generate filename for terminal.
?C:.
?H:#$d_ctermid
 HAS_CTERMID  /**/
?H:.
?LINT:set d_ctermid
: see if ctermid exists
set ctermid d_ctermid
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_ctermid.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_fd_set.U,v 3.0.1.3 1997/02/28 15:33:16 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_fd_set.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:33:16  ram
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.2  1994/06/20  06:57:23  ram
?RCS: patch30: extended scope for fd_set checks (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:06:27  ram
?RCS: patch16: comments for HAS_FD_* symbols were not consistent
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:02  ram
?RCS: Baseline for dist 3.0 netwide release.

```
?RCS:
?MAKE:d_fd_set d_fd_macros
 d_fds_bits: Compile cat rm_try Oldconfig \
 d_socket i_systime i_sysselct i_stdlib run
?MAKE: -pick add $@ %<
?S:d_fd_set:
?S: This variable contains the eventual value of the HAS_FD_SET symbol,
?S: which indicates if your C compiler knows about the fd_set typedef.
?S:.
?S:d_fd_macros:
?S: This variable contains the eventual value of the HAS_FD_MACROS symbol,
?S: which indicates if your C compiler knows about the macros which
?S: manipulate an fd_set.
?S:.
?S:d_fds_bits:
?S: This variable contains the eventual value of the HAS_FDS_BITS symbol,
?S: which indicates if your fd_set typedef contains the fds_bits member.
?S: If you have an fd_set typedef, but the dweebs who installed it did
?S: a half-fast job and neglected to provide the macros to manipulate
?S: an fd_set, HAS_FDS_BITS will let us know how to fix the gaffe.
?S:.
?C:HAS_FD_SET:
?C: This symbol, when defined, indicates presence of the fd_set typedef
?C: in <sys/types.h>
?C:.
?C:HAS_FD_MACROS:
?C: This symbol, when defined,
  indicates presence of the macros used to
?C: manipulate an fd_set.
?C:.
?C:HAS_FDS_BITS:
?C: This symbol, when defined, indicates presence of the fds_bits member in
?C: fd_set.  This knowledge is useful if fd_set is available but the macros
?C: aren't.
?C:.
?H:#$d_fd_set HAS_FD_SET /**/
?H:#$d_fd_macros HAS_FD_MACROS /**/
?H:#$d_fds_bits HAS_FDS_BITS /**/
?H:.
?F:!try
: check for fd_set items
$cat <<EOM

Checking to see how well your C compiler handles fd_set and friends ...
EOM
?X: The FD_SET macros can be in strange places.  On some SysV-based
?X: systems, they are in <sys/bsdtypes.h>, which is included (perhaps)
?X: by <sys/socket.h>.  We won't force people to include
```

```
?X: <sys/bsdtypes.h> because it might introduce other
?X: incompatibilities.
$cat >try.c <<EOCP
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#$i_systime I_SYS_TIME
#$i_sysselct I_SYS_SELECT
#$d_socket HAS_SOCKET
#include <sys/types.h>
#ifdef HAS_SOCKET
#include <sys/socket.h> /* Might include <sys/bsdtypes.h>
 */
#endif
#ifdef I_SYS_TIME
#include <sys/time.h>
#endif
#ifdef I_SYS_SELECT
#include <sys/select.h>
#endif
int main() {
 fd_set fds;

#ifdef TRYBITS
 if(fds.fds_bits);
#endif

#if defined(FD_SET) && defined(FD_CLR) && defined(FD_ISSET) && defined(FD_ZERO)
 exit(0);
#else
 exit(1);
#endif
}
EOCP
set try -DTRYBITS
if eval $compile; then
 d_fds_bits="$define"
 d_fd_set="$define"
 echo "Well, your system knows about the normal fd_set typedef..." >&4
 if $run ./try; then
  echo "and you have the normal fd_set macros (just as I'd expect)." >&4
  d_fd_macros="$define"
 else
  $cat >&4 <<'EOM'
but not the normal fd_set macros!  Gaaack!  I'll have to cover for you.
EOM
  d_fd_macros="$undef"
```

```
 fi
else
 $cat <<'EOM'
Hmm, your compiler has some difficulty with fd_set.  Checking further...
EOM
 set try
 if eval $compile; then
  d_fds_bits="$undef"
  d_fd_set="$define"
  echo "Well, your system has some sort of fd_set available..." >&4
  if $run ./try; then
   echo "and you have the normal
 fd_set macros." >&4
   d_fd_macros="$define"
  else
   $cat <<'EOM'
but not the normal fd_set macros!  Gross!  More work for me...
EOM
   d_fd_macros="$undef"
  fi
 else
 echo "Well, you got zip.  That's OK, I can roll my own fd_set stuff." >&4
  d_fd_set="$undef"
  d_fds_bits="$undef"
  d_fd_macros="$undef"
 fi
fi
$rm_try

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_fd_set.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Tr.U,v 3.0.1.2 1994/10/29 18:00:54 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Tr.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  18:00:54  ram
?RCS: patch43: forgot to quote $@ to protect against "evil" characters
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:58:35  ram
```

```
?RCS: patch36: created
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to do a character translation. It catches translations to uppercase or
?X: to lowercase, and then invokes the real tr to perform the job.
?X:
?X: This unit is necessary
 on HP machines (HP strikes again!) with non-ascii
?X: ROMAN8-charset, where normal letters are not arranged in a row, so a-z
?X: covers not the whole alphabet but lots of special chars. This was reported
?X: by Andreas Sahlbach <a.sahlbach@tu-bs.de>.
?X:
?X: Units performing a tr '[A-Z]' '[a-z]' or the other way round should include
?X: us in their dependency and use ./tr instead.
?X:
?MAKE:Tr: startsh tr eunicefix
?MAKE: -pick add $@ %<
?F:./tr
?T:up low
: see whether [:lower:] and [:upper:] are supported character classes
echo " "
case "`echo AbyZ | $tr '[:lower:]' '[:upper:]' 2>/dev/null`"-"`echo AbyZ | $tr '[:upper:]' '[:lower:]' 2>/dev/null`" in
ABYZ-abyz)
 echo "Good, your tr supports [:lower:] and [:upper:] to convert case." >&4
 up='[:upper:]'
 low='[:lower:]'
 ;;
*) # There is a discontinuity in EBCDIC between 'R' and 'S'
 # (0xd9 and 0xe2), therefore that is a nice testing point.
 if test "X$up" = X -o "X$low" = X; then
    case "`echo RS | $tr '[R-S]' '[r-s]' 2>/dev/null`"
 in
    rs) up='[A-Z]'
  low='[a-z]'
  ;;
    esac
 fi
 if test "X$up" = X -o "X$low" = X; then
    case "`echo RS | $tr R-S r-s 2>/dev/null`" in
    rs) up='A-Z'
  low='a-z'
  ;;
    esac
 fi
 if test "X$up" = X -o "X$low" = X; then
    case "`echo RS | od -x 2>/dev/null`" in
    *D9E2*|*d9e2*)
```

```
 echo "Hey, this might be EBCDIC." >&4
 if test "X$up" = X -o "X$low" = X; then
    case "`echo RS | $tr '[A-IJ-RS-Z]' '[a-ij-rs-z]' 2>/dev/null`" in
    rs) up='[A-IJ-RS-Z]'
  low='[a-ij-rs-z]'
  ;;
    esac
 fi
 if test "X$up" = X -o "X$low" = X; then
    case "`echo RS | $tr A-IJ-RS-Z a-ij-rs-z 2>/dev/null`" in
    rs) up='A-IJ-RS-Z'
  low='a-ij-rs-z'
  ;;
    esac
 fi
 ;;
   esac
fi
esac
case "`echo RS | $tr \"$up\" \"$low\" 2>/dev/null`" in
rs)
  echo "Using $up and $low to convert case." >&4
  ;;
*)
  echo "I don't know how to translate letters from upper to lower case." >&4
  echo "Your tr is not acting any way I know of." >&4
  exit 1
  ;;
esac
:
 set up the translation script tr, must be called with ./tr of course
cat >tr <<EOSC
$startsh
case "\$1\$2" in
'[A-Z][a-z]') exec $tr '$up' '$low';;
'[a-z][A-Z]') exec $tr '$low' '$up';;
esac
exec $tr "\$@"
EOSC
chmod +x tr
$eunicefix tr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Tr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_readdir_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi

```
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_readdir_r readdir_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_dirent extern_C
?MAKE: -pick add $@ %<
?S:d_readdir_r:
?S: This variable conditionally defines the HAS_READDIR_R symbol,
?S: which indicates to the C program that the readdir_r()
?S: routine is available.
?S:.
?S:readdir_r_proto:
?S: This variable encodes the prototype of readdir_r.
?S: It is zero if d_readdir_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_readdir_r
?S: is defined.
?S:.
?C:HAS_READDIR_R:
?C: This symbol, if defined, indicates that the readdir_r routine
?C: is available to readdir re-entrantly.
?C:.
?C:READDIR_R_PROTO:
?C: This
 symbol encodes the prototype of readdir_r.
?C: It is zero if d_readdir_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_readdir_r
?C: is defined.
?C:.
?H:#$d_readdir_r HAS_READDIR_R    /**/
?H:#define READDIR_R_PROTO $readdir_r_proto    /**/
?H:.
?T:try hdrs d_readdir_r_proto
: see if readdir_r exists
set readdir_r d_readdir_r
eval $inlibc
case "$d_readdir_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_dirent dirent.h"
 case "$d_readdir_r_proto:$usethreads" in
 ":define") d_readdir_r_proto=define
  set d_readdir_r_proto readdir_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_readdir_r_proto" in
```

```
define)
case "$readdir_r_proto" in
"|0) try='int readdir_r(DIR*, struct dirent*, struct dirent**);'
./protochk "$extern_C $try" $hdrs && readdir_r_proto=I_TSR ;;
esac
case "$readdir_r_proto" in
"|0) try='int readdir_r(DIR*, struct dirent*);'
./protochk "$extern_C $try" $hdrs && readdir_r_proto=I_TS
;;
esac
case "$readdir_r_proto" in
"|0) d_readdir_r=undef
        readdir_r_proto=0
 echo "Disabling readdir_r, cannot determine prototype." >&4 ;;
* ) case "$readdir_r_proto" in
 REENTRANT_PROTO*) ;;
 *) readdir_r_proto="REENTRANT_PROTO_$readdir_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "readdir_r has no prototype, not using it." >&4 ;;
 esac
 d_readdir_r=undef
 readdir_r_proto=0
 ;;
esac
;;
*) readdir_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_readdir_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996,1998 Andy Dougherty
?RCS: Copyright (c) 1996, Sven Verdoolaege
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
```

```
?RCS:
?MAKE:d_gnulibc gnulibc_version: Myread Oldconfig Setvar rm_try \
 cat Compile run
?MAKE: -pick add $@ %<
?S:d_gnulibc:
?S: Defined if we're dealing with the GNU C Library.
?S:.
?S:gnulibc_version:
?S: This variable contains the version number of the GNU C library.
?S: It is usually something like '2.2.5'.  It is a plain " if this
?S: is not the GNU C library, or if the version is unknown.
?S:.
?C:HAS_GNULIBC ~ %<:
?C: This
 symbol, if defined, indicates to the C program that
?C: the GNU C library is being used.  A better check is to use
?C: the __GLIBC__ and __GLIBC_MINOR__ symbols supplied with glibc.
?C:.
?H:?%<:#$d_gnulibc HAS_GNULIBC   /**/
?H:?%<:#if defined(HAS_GNULIBC) && !defined(_GNU_SOURCE)
?H:?%<:#define _GNU_SOURCE
?H:?%<:#endif
?H:.
?F:!glibc.ver !try.c !try
?LINT: set d_gnulibc
?LINT: usefile try.c
?LINT: known _GNU_SOURCE
?X: gnulibc can be executed by calling __libc_main().
?X: Ulrich Drepper doesn't think any other libc does that,
?X: but we check if it says 'GNU C Library' to be sure.
?X:
?X: Alas, as of 3/1998 glibc 2.0.7 reportedly isn't going to
?X: have __libc_main() anymore. :-(.  Fortunately, all released
?X: versions of glibc 2.x.x _do_ have CPP variables.  For 2.0.6,
?X: they are:
?X: #define __GLIBC__  2
?X: #define__GLIBC_MINOR__ 0.
?X: (The '6' isn't available :-(.
?X: glibc2.1 will also have
?X:  extern const char * __gnu_get_libc_release(void);
?X:  extern const char *
 __gnu_get_libc_version(void);
?X: functions.   --thanks to Andreas Jaeger.   --AD  6/1998.
?X: Although the exact format isn't documented, __gnu_get_libc_version()
?X: returns a simple string '2.1.3' in glibc 2.1.3.
?X:
: determine whether we are using a GNU C library
echo " "
```

```
echo "Checking for GNU C Library..." >&4
cat >try.c <<'EOCP'
/* Find out version of GNU C library.  __GLIBC__ and __GLIBC_MINOR__
  alone are insufficient to distinguish different versions, such as
  2.0.6 and 2.0.7.  The function gnu_get_libc_version() appeared in
  libc version 2.1.0.      A. Dougherty,  June 3, 2002.
*/
#include <stdio.h>
int main(void)
{
#ifdef __GLIBC__
#   ifdef __GLIBC_MINOR__
#       if __GLIBC__ >= 2 && __GLIBC_MINOR__ >= 1
#           include <gnu/libc-version.h>
    printf("%s\n",  gnu_get_libc_version());
#       else
    printf("%d.%d\n",  __GLIBC__, __GLIBC_MINOR__);
#       endif
#   else
 printf("%d\n",  __GLIBC__);
#   endif
   return 0;
#else
   return 1;
#endif
}
EOCP
set
 try
if eval $compile_ok && $run ./try > glibc.ver; then
 val="$define"
 gnulibc_version=`$cat glibc.ver`
 echo "You are using the GNU C Library version $gnulibc_version"
else
 val="$undef"
 gnulibc_version=''
 echo "You are not using the GNU C Library"
fi
$rm_try glibc.ver
set d_gnulibc
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_gnulibc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Options.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Options.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:08:15  ram
?RCS: patch61: optdef.sh now starts with a "startsh"
?RCS: patch61: moved some code from Head.U
?RCS:
?RCS: Revision 3.0.1.6  1995/09/25  09:14:46  ram
?RCS: patch59: protected option parsing code against 'echo -*' option failure
?RCS:
?RCS: Revision 3.0.1.5  1995/05/12  12:04:52  ram
?RCS: patch54: added -K option for experts
?RCS:
?RCS: Revision 3.0.1.4  1995/01/30  14:27:52  ram
?RCS:
 patch49: this unit now exports file optdef.sh, not a variable
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:19:00  ram
?RCS: patch45: new -O option allowing -D and -U to override config.sh settings
?RCS: patch45: file optdef.sh is no longer removed after sourcing
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  15:58:06  ram
?RCS: patch36: ensure option definition file is removed before appending
?RCS: patch36: protect variable definitions with spaces in them
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:55:44  ram
?RCS: patch30: now uses new me symbol to tag error messages
?RCS: patch30: new -D and -U options to define/undef symbols (JHI)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Command line parsing. It is really important that the variables used here
?X: be not listed in the MAKE line, or they will be saved in config.sh and
?X: loading this file to fetch default answers would clobber the values set
?X: herein.
?X:
?MAKE:Options:
 startsh
?MAKE: -pick wipe $@ %<
?V:reuseval alldone error realsilent silent extractsh fastread \
```

```
 knowitall: config_sh
?T:arg argn symbol config_arg0 config_args config_argc xxx yyy zzz uuu
?T:args_exp args_sep arg_exp ccflags
?F:!Configure
?F:./optdef.sh ./cmdline.opt ./posthint.sh ./cmdl.opt
: Save command line options in file UU/cmdline.opt for later use in
: generating config.sh.
?X: This temporary file will be read by Oldsym.U.  I used a temporary
?X: file to preserve all sorts of potential command line quotes and
?X: also because we don't know in advance how many variables we'll
?X: need, so I can't actually declare them on the MAKE line.
?X: The config_args variable won't be quite correct if Configure is
?X: fed something like    ./Configure -Dcc="gcc -B/usr/ccs/bin/"
?X: since the quotes are gone by the time we see them.  You'd have to
?X: reconstruct the command line from the config_arg? lines, but since
?X: I don't imagine anyone actually having to do that, I'm not going
?X:
 to worry too much.
cat > cmdline.opt <<EOSH
: Configure command line arguments.
config_arg0='$0'
config_args='$*'
config_argc=$#
EOSH
argn=1
args_exp=''
args_sep=''
for arg in "$@"; do
 cat >>cmdline.opt <<EOSH
config_arg$argn='$arg'
EOSH
?X: Extreme backslashitis: replace each ' by '"'"'
 cat <<EOC | sed -e "s/'/'"'"'"'"'"'"'"'/g" > cmdl.opt
$arg
EOC
 arg_exp=`cat cmdl.opt`
 args_exp="$args_exp$args_sep'$arg_exp'"
 argn=`expr $argn + 1`
 args_sep=' '
done
?X: args_exp is good for restarting self: eval "set X $args_exp"; shift; $0 "$@"
?X: used by hints/os2.sh in Perl, for instance
rm -f cmdl.opt

: produce awk script to parse command line options
cat >options.awk <<'EOF'
BEGIN {
 optstr = "A:dD:eEf:hKOrsSU:V"; # getopt-style specification
```

```
 len = length(optstr);
 for (i = 1; i <= len; i++) {
  c = substr(optstr, i, 1);
?X: some older awk's do not have the C ?: construct
  if (i < len) a = substr(optstr, i + 1, 1); else a = "";
  if (a == ":") {
   arg[c] = 1;
   i++;
  }
  opt[c]
 = 1;
 }
}
{
 expect = 0;
 str = $0;
 if (substr(str, 1, 1) != "-") {
  printf("'%s'\n", str);
  next;
 }
 len = length($0);
 for (i = 2; i <= len; i++) {
  c = substr(str, i, 1);
  if (!opt[c]) {
   printf("-%s\n", substr(str, i));
   next;
  }
  printf("-%s\n", c);
  if (arg[c]) {
   if (i < len)
    printf("'%s'\n", substr(str, i + 1));
   else
    expect = 1;
   next;
  }
 }
}
END {
 if (expect)
  print "?";
}
EOF

: process the command line options
?X: Use "$@" to keep arguments with spaces in them from being split apart.
?X: For the same reason, awk will output quoted arguments and the final eval
?X: removes them and sets a proper $* array. An 'X' is prepended to each
```

```
?X: argument before being fed to echo to guard against 'echo -x', where -x
?X: would be understood as an echo option! It is removed before feeding awk.
set X `for arg in "$@"; do echo "X$arg"; done |
 sed -e s/X// | awk -f options.awk`
eval "set $*"
shift
rm -f options.awk

: set up default values
fastread="
reuseval=false
config_sh="
alldone="
error="
silent="
extractsh="
knowitall="
rm
 -f optdef.sh posthint.sh
cat >optdef.sh <<EOS
$startsh
EOS

?X:
?X: Given that we now have the possibility to execute Configure remotely
?X: thanks to the new src.U support, we have to face the possibility
?X: of having to ask where the source lie, which means we need the Myread.U
?X: stuff and possibly other things that might echo something on the
?X: screen...
?X:
?X: That's not pretty, and might be confusing in 99% of the time. So...
?X: We introduce a new realsilent variable which is set when -s is given,
?X: and we force silent=true if -S is supplied. The Extractall.U unit
?X: will then undo the >&4 redirection based on the value of the
?X: realsilent variable... -- RAM, 18/93/96
?X:

: option parsing
while test $# -gt 0; do
 case "$1" in
 -d) shift; fastread=yes;;
 -e) shift; alldone=cont;;
 -f)
  shift
  cd ..
  if test -r "$1"; then
   config_sh="$1"
  else
```

```
 echo "$me: cannot read config file $1."
>&2
 error=true
 fi
 cd UU
 shift;;
--help|\
-h) shift; error=true;;
-r) shift; reuseval=true;;
-s) shift; silent=true; realsilent=true;;
-E) shift; alldone=exit;;
-K) shift; knowitall=true;;
-O) shift;;
-S) shift; silent=true; extractsh=true;;
-D)
 shift
 case "$1" in
 *=)
  echo "$me: use '-U symbol=', not '-D symbol='." >&2
  echo "$me: ignoring -D $1" >&2
  ;;
 *=*) echo "$1" | \
  sed -e "s/'/'\"'\"'/g" -e "s/=\(.*\)/='\1'/" >> optdef.sh;;
 *) echo "$1='define'" >> optdef.sh;;
 esac
 shift
 ;;
-U)
 shift
 case "$1" in
 *=) echo "$1" >> optdef.sh;;
 *=*)
  echo "$me: use '-D symbol=val', not '-U symbol=val'." >&2
  echo "$me: ignoring -U $1" >&2
  ;;
 *) echo "$1='undef'" >> optdef.sh;;
 esac
 shift
 ;;
-A)
    shift
    xxx='
    yyy="$1"
    zzz='
    uuu=undef
    case "$yyy" in
         *=*) zzz=`echo "$yyy"|sed 's!=.*!!'`
              case "$zzz" in
```

```
            *:*) zzz='' ;;
            *)   xxx=append

            zzz=" "`echo "$yyy"|sed 's!^[^=]*=!!'`
                yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
            esac
            ;;
        esac
        case "$xxx" in
        '')  case "$yyy" in
            *:*) xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'`
                zzz=`echo "$yyy"|sed 's!^[^=]*=!!'`
                yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
            *)   xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'` ;;
            esac
            ;;
        esac
   case "$xxx" in
   append)
echo "$yyy=\"\${$yyy}$zzz\"" >> posthint.sh ;;
   clear)
echo "$yyy=''   >> posthint.sh ;;
   define)
      case "$zzz" in
'') zzz=define ;;
esac
echo "$yyy='$zzz'"  >> posthint.sh ;;
   eval)
echo "eval \"$yyy=$zzz\"" >> posthint.sh ;;
   prepend)
echo "$yyy=\"$zzz\${$yyy}\"" >> posthint.sh ;;
   undef)

     case "$zzz" in
'') zzz="$uuu" ;;
esac
echo "$yyy=$zzz"  >> posthint.sh ;;
        *)  echo "$me: unknown -A command '$xxx', ignoring -A $1" >&2 ;;
   esac
   shift
   ;;
-V) echo "$me generated by metaconfig <VERSION> PL<PATCHLEVEL>." >&2
   exit 0;;
--) break;;
-*) echo "$me: unknown option $1" >&2; shift; error=true;;
*) break;;
```

```
 esac
done

case "$error" in
true)
 cat >&2 <<EOM
Usage: $me [-dehrsEKOSV] [-f config.sh] [-D symbol] [-D symbol=value]
            [-U symbol] [-U symbol=] [-A command:symbol...]
 -d : use defaults for all answers.
 -e : go on without questioning past the production of config.sh.
 -f : specify an alternate default configuration file.
 -h : print this help message and exit (with an error status).
 -r : reuse C symbols value if possible (skips costly nm extraction).
 -s : silent mode, only echoes questions and essential information.
 -D : define symbol to have some value:
      -D symbol         symbol gets the value
 'define'
      -D symbol=value   symbol gets the value 'value'
    common used examples (see INSTALL for more info):
      -Duse64bitint           use 64bit integers
      -Duse64bitall           use 64bit integers and pointers
      -Dusethreads            use thread support
      -Dinc_version_list=none  do not include older perl trees in @INC
      -DEBUGGING=none         DEBUGGING options
      -Dcc=gcc                choose your compiler
      -Dprefix=/opt/perl5      choose your destination
 -E : stop at the end of questions, after having produced config.sh.
 -K : do not use unless you know what you are doing.
 -O : ignored for backward compatibility
 -S : perform variable substitutions on all .SH files (can mix with -f)
 -U : undefine symbol:
      -U symbol    symbol gets the value 'undef'
      -U symbol=   symbol gets completely empty
    e.g.:  -Uversiononly
 -A : manipulate symbol after the platform specific hints have been applied:
       -A append:symbol=value   append value to symbol
      -A symbol=value          like append:, but with a separating space
      -A define:symbol=value   define symbol to have value
      -A clear:symbol          define symbol to be ''
      -A define:symbol         define symbol to be 'define'
      -A eval:symbol=value     define symbol to be eval of value
      -A prepend:symbol=value  prepend value to symbol
      -A undef:symbol          define symbol to be 'undef'
      -A undef:symbol=         define symbol to be ''
    e.g.:  -A prepend:libswanted='cl pthread '
           -A ccflags=-DSOME_MACRO
 -V : print version number and exit (with a zero status).
EOM
```

```
 exit 1
 ;;
esac

?X:
?X: Unless they specified either -S or both -d and -e/E, make sure we're
?X: running interactively, i.e. attached to a terminal. Moved from Head.U to
?X: be able to handle batch configurations...
?X:
?X: We have to hardwire the Configure name and cannot use $me,
 since if they
?X: said 'sh <Configure', then $me is 'sh'...
?X:
: Sanity checks
case "$fastread$alldone" in
yescont|yesexit) ;;
*)
 case "$extractsh" in
 true) ;;
 *)
  if test ! -t 0; then
   echo "Say 'sh Configure', not 'sh <Configure'"
   exit 1
  fi
  ;;
 esac
 ;;
esac

?X: In silent mode, the standard output is closed. Questions are asked by
?X: outputing on file descriptor #4, which is the original stdout descriptor.
?X: This filters out all the "junk", since all the needed information is written
?X: on #4. Note that ksh will not let us redirect output if the file descriptor
?X: has not be defined yet, unlike sh, hence the following line...--RAM.
exec 4>&1
case "$silent" in
true) exec 1>/dev/null;;
esac

: run the defines and the undefines, if any, but leave the file out there...
touch optdef.sh
?X: -q is POSIX
?X: It does not work in SysV (solaris) or old BSD greps.
grep '\\' optdef.sh >/dev/null 2>&1
if test $? = 0; then
   echo "Configure does not support \\ in -D arguments"
    exit 1
fi
```

```
. ./optdef.sh
: create the posthint manipulation script and leave the file out there...
?X: this file will be perused by Oldconfig.U
touch posthint.sh
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Options.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Hasproto.U $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasproto string that is used internally
?X: by Configure to check if this system has a prototype for a
?X: particular function
?X:
?X: To use it, say something like:
?X:  set d_getnetent_proto getnetent $i_netdb netdb.h
?X:  eval $hasproto
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/types.h
?X:  $i_systime sys/time.h
?X:  $i_sysselct sys/select.h
?X:  $i_netdb netdb.h"
?X: set d_getnetent_proto getnetent $hdrs
?X: eval $hasproto
?X:
?MAKE:Hasproto: Setvar cppstdin cppflags cppminus contains rm_try test
?MAKE: -pick add $@ %<
?T:func varname
?F:!try.c
?V:hasproto
: Define hasproto macro for Configure internal use
hasproto='varname=$1;
 func=$2; shift; shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
done > try.c;
$cppstdin $cppflags $cppminus < try.c > tryout.c 2>/dev/null;
if $contains "$func.*(" tryout.c >/dev/null 2>&1; then
 echo "$func() prototype found.";
```

```
 val="$define";
else
 echo "$func() prototype NOT found.";
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try tryout.c'
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/Hasproto.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sresuproto: Hasproto i_unistd
?MAKE: -pick add $@ %<
?S:d_sresuproto:
?S: This variable conditionally defines the HAS_SETRESUID_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the setresuid() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_SETRESUID_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the setresuid() function.  Otherwise, it is up
?C: to the program to supply one.  Good guesses are
?C:  extern
 int setresuid(uid_t ruid, uid_t euid, uid_t suid);
?C:.
?H:#$d_sresuproto HAS_SETRESUID_PROTO /**/
?H:.
?LINT:set d_sresuproto
: see if prototype for setresuid is available
echo " "
set d_sresuproto setresuid $i_unistd unistd.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sresuproto.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: perlpath.U,v $
?RCS: Revision 3.0.1.2  1995/09/25  09:17:04  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:33:53  ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:32  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this unit is to locate perl good enough to construct a #!
?X:
?MAKE:perlpath: Getfile Oldconfig Loc perl
?MAKE: -pick
 add $@ %<
?Y:TOP
?S:perlpath:
?S: This variable contains the eventual value of the PERLPATH symbol,
?S: which contains the absolute location of the perl interpreter.
?S:.
?C:PERLPATH:
?C: This symbol contains the absolute location of the perl interpreter.
?C:.
?H:#define PERLPATH "$perlpath"  /**/
?H:.
: determine perl absolute location
case "$perlpath" in
")
 if test -f /usr/bin/perl; then
  dflt=/usr/bin/perl
 else
  case "$perl" in
  */*) dflt="$perl";;
  *) dflt=/usr/bin/perl;;
  esac
```

```
 fi
 ;;
*)  dflt="$perlpath"
 ;;
esac
echo " "
fn=f~/
rp="Where is perl located on your system?"
. ./getfile
perlpath="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/perlpath.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_dbminit64 d_dbmclose64 d_fetch64 d_store64 d_delete64 \
 d_firstkey64 d_nextkey64: Inlibc use64bitint Setvar test
?MAKE: -pick add $@ %<
?S:d_dbminit64:
?S: This variable conditionally defines the HAS_DBMINIT64 symbol, which
?S: indicates to the C program that the dbminit64() routine is available.
?S:.
?S:d_dbmclose64:
?S: This variable conditionally defines the HAS_DBMCLOSE64 symbol, which
?S: indicates to the C program that the dbmclose64() routine is available.
?S:.
?S:d_fetch64:
?S: This variable conditionally defines the HAS_FETCH64 symbol, which
?S: indicates to the C program that the fetch64() routine is available.
?S:.
?S:d_delete64:
?S: This variable conditionally defines the HAS_DELETE64
 symbol, which
?S: indicates to the C program that the delete64() routine is available.
?S:.
?S:d_store64:
?S: This variable conditionally defines the HAS_STORE64 symbol, which
?S: indicates to the C program that the store64() routine is available.
?S:.
?S:d_firstkey64:
?S: This variable conditionally defines the HAS_FIRSTKEY64 symbol, which
```

?S: indicates to the C program that the firstkey64() routine is available.
?S:.
?S:d_nextkey64:
?S: This variable conditionally defines the HAS_NEXTKEY64 symbol, which
?S: indicates to the C program that the nextkey64() routine is available.
?S:.
?C:HAS_DBMINIT64:
?C: This symbol, if defined, indicates that the dbminit64 routine is
?C: available to open dbm files larger than 2 gigabytes.
?C:.
?C:HAS_DBMCLOSE64:
?C: This symbol, if defined, indicates that the dbmclose64 routine is
?C: available to close dbm files larger than 2 gigabytes.
?C:.
?C:HAS_FETCH64:
?C: This symbol, if defined, indicates that the fetch64 routine is
?C: available to fetch
 from dbm files larger than 2 gigabytes.
?C:.
?C:HAS_STORE64:
?C: This symbol, if defined, indicates that the store64 routine is
?C: available to store to dbm files larger than 2 gigabytes.
?C:.
?C:HAS_DELETE64:
?C: This symbol, if defined, indicates that the delete64 routine is
?C: available to delete from dbm files larger than 2 gigabytes.
?C:.
?C:HAS_FIRSTKEY64:
?C: This symbol, if defined, indicates that the firstkey64 routine is
?C: available to firstkey in dbm files larger than 2 gigabytes.
?C:.
?C:HAS_NEXTKEY64:
?C: This symbol, if defined, indicates that the nextkey64 routine is
?C: available to nextkey in dbm files larger than 2 gigabytes.
?C:.
?H:#$d_dbminit64   HAS_DBMINIT64 /**/
?H:#$d_dbmclose64  HAS_DBMCLOSE64 /**/
?H:#$d_fetch64     HAS_FETCH64  /**/
?H:#$d_store64     HAS_STORE64  /**/
?H:#$d_delete64    HAS_DELETE64  /**/
?H:#$d_firstkey64  HAS_FIRSTKEY64 /**/
?H:#$d_nextkey64   HAS_NEXTKEY64 /**/
?H:.
?T:xxx
?LINT:set d_dbminit64
?LINT:set d_dbmclose64
?LINT:set d_fetch64
?LINT:set

```
 d_store64
?LINT:set d_delete64
?LINT:set d_firstkey64
?LINT:set d_nextkey64
: Check if DBM has 64bit functions
if $test X"$use64bitint" = X"$define"; then
 : see if dbminit64 exists
 set dbminit64 d_dbminit64
 eval $inlibc

 : see if dbmclose64 exists
 set dbmclose64 d_dbmclose64
 eval $inlibc

 : see if fetch64 exists
 set fetch64 d_fetch64
 eval $inlibc

 : see if store64 exists
 set store64 d_store64
 eval $inlibc

 : see if delete64 exists
 set delete64 d_delete64
 eval $inlibc

 : see if firstkey64 exists
 set firstkey64 d_firstkey64
 eval $inlibc

 : see if nextkey64 exists
 set nextkey64 d_nextkey64
 eval $inlibc
else
 val="$undef"
 for xxx in d_dbminit64 d_dbmclose64 d_fetch64 d_store64 d_delete64 d_firstkey64 d_nextkey64
 do
  set $xxx
  eval $setvar
 done
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/dbm64.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_statvfs d_fstatvfs: Inlibc
?MAKE: -pick add $@ %<
?S:d_statvfs:
?S: This variable conditionally defines the HAS_STATVFS symbol, which
?S: indicates to the C program that the statvfs() routine is available.
?S:.
?S:d_fstatvfs:
?S: This variable conditionally defines the HAS_FSTATVFS symbol, which
?S: indicates to the C program that the fstatvfs() routine is available.
?S:.
?C:HAS_STATVFS:
?C: This symbol, if defined, indicates that the statvfs routine is
?C: available to stat filesystems by filenames.
?C:.
?C:HAS_FSTATVFS:
?C: This symbol, if defined, indicates that the fstatvfs routine is
?C: available to stat filesystems by file descriptors.
?C:.
?H:#$d_statvfs HAS_STATVFS  /**/
?H:#$d_fstatvfs
 HAS_FSTATVFS  /**/
?H:.
?LINT:set d_statvfs
?LINT:set d_fstatvfs
: see if statvfs exists
set statvfs d_statvfs
eval $inlibc

: see if fstatvfs exists
set fstatvfs d_fstatvfs
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_statvfs.U
No license file was found, but licenses were detected in source scan.

?RCS:
?RCS: Copyright (c) 2012 Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:Assert: cat
?MAKE: -pick add $@ %<
?F:./static_assert.h
: static assertion checking include file
?X:
?X: C programs can include this file to perform STATIC_ASSERT() checks
?X: which are done at compile-time and cause the compilation to fail when
?X: the expression is false.
?X:
?X: It is sufficient to compile with: $cc -c $ccflags try.c
?X: There is no need to link the file to spot the assertion failure.
?X:
$cat >static_assert.h <<'EOC'
#define STATIC_ASSERT(expr) \
 do { switch (0) { case ((expr) ? 1 : 0): case 0: break; } }
 while(0)
EOC

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Assert.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorbin.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorbin.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:d_vendorbin vendorbin vendorbinexp installvendorbin: Getfile \
 Setprefixvar Oldconfig Prefixit vendorprefix
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorbin:
?S: This variable contains the eventual value of the VENDORBIN symbol.
?S: It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors who distribute perl
```

```
 may wish to place additional
?S: binaries in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorbinexp:
?S: This variable is the ~name expanded version of vendorbin, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorbin="
?S:installvendorbin:
?S: This variable is really the same as vendorbinexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?S:d_vendorbin:
?S: This variable conditionally defines PERL_VENDORBIN.
?S:.
?C:PERL_VENDORBIN:
?C: If defined, this symbol contains the name of a directory
?C: for holding vendor-supplied executables.
?C: It may have a ~ on the front.
?C: The standard distribution will put nothing in this directory.
?C: Vendors who distribute perl may wish to place additional
?C: binaries in this directory with
?C:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?C: or equivalent.
  See INSTALL for details.
?C:.
?C:PERL_VENDORBIN_EXP:
?C: This symbol contains the ~name expanded version of VENDORBIN, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?H:#$d_vendorbin PERL_VENDORBIN "$vendorbin"  /**/
?H:#$d_vendorbin PERL_VENDORBIN_EXP "$vendorbinexp"  /**/
?H:.
?LINT:change prefixvar
?LINT:set installvendorbin
: Set the vendorbin variables
case "$vendorprefix" in
'') d_vendorbin="$undef"
 vendorbin="
 vendorbinexp="
 ;;
*) d_vendorbin="$define"
 : determine where vendor-supplied executables go.
 case "$vendorbin" in
 '') dflt=$vendorprefix/bin ;;
```

```
 *) dflt="$vendorbin" ;;
 esac
 fn=d~+
 rp='Pathname for the vendor-supplied executables directory?'
 . ./getfile
 vendorbin="$ans"
 vendorbinexp="$ansexp"
 ;;
esac
prefixvar=vendorbin
. ./installprefix
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorbin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_su_chown.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_su_chown.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:40  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_su_chown: Csym Setvar
?MAKE: -pick add $@ %<
?S:d_su_chown (d_rootchown):
?S: This variable conditionally defines the SU_CHOWN symbol, which
?S: indicates to the C program that only root can chown() the owner
?S: of a file.
?S:.
?C:SU_CHOWN (ROOT_CHOWN):
?C: This symbol, if defined, indicates that the system allows only root
?C: can
 change the owner of a file with chown().
?C:.
?H:#$d_su_chown SU_CHOWN /**/
?H:.
?LINT:set d_su_chown
: see if 'chown()' is restricted.
: but not too hard, as it is late and I am tired. -- HMS
echo " "
```

```
if set setreuid val -f d_su_chown; eval $csym; $val; then
 echo 'It looks like only root can chown() the owner of a file.' >&4
 val="$define"
else
 echo 'It looks like root or the owner can chown() a file away.' >&4
 val="$undef"
fi
set d_su_chown
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_su_chown.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_syscallproto: Hasproto i_unistd
?MAKE: -pick add $@ %<
?S:d_syscallproto:
?S: This variable conditionally defines the HAS_SYSCALL_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the syscall() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_SYSCALL_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the syscall() function.  Otherwise, it is up
?C: to the program to supply one.  Good guesses are
?C:  extern
 int syscall(int,  ...);
?C:  extern int syscall(long, ...);
?C:.
?H:#$d_syscallproto HAS_SYSCALL_PROTO /**/
?H:.
?LINT:set d_syscallproto
: see if prototype for syscall is available
echo " "
set d_syscallproto syscall $i_unistd unistd.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_syscallproto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_pathconf.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_pathconf.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:14:54  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_pathconf d_fpathconf: Inlibc
?MAKE: -pick add $@ %<
?S:d_pathconf:
?S: This variable conditionally defines the HAS_PATHCONF symbol, which
?S: indicates to the C program that the pathconf() routine is available
?S: to determine file-system related limits and options
 associated
?S: with a given filename.
?S:.
?S:d_fpathconf:
?S: This variable conditionally defines the HAS_FPATHCONF symbol, which
?S: indicates to the C program that the pathconf() routine is available
?S: to determine file-system related limits and options associated
?S: with a given open file descriptor.
?S:.
?C:HAS_PATHCONF:
?C: This symbol, if defined, indicates that pathconf() is available
?C: to determine file-system related limits and options associated
?C: with a given filename.
?C:.
?C:HAS_FPATHCONF:
?C: This symbol, if defined, indicates that pathconf() is available
?C: to determine file-system related limits and options associated
?C: with a given open file descriptor.
?C:.
?H:#$d_pathconf HAS_PATHCONF  /**/
?H:#$d_fpathconf HAS_FPATHCONF  /**/
?H:.

?LINT:set d_pathconf
?LINT:set d_fpathconf
: see if pathconf exists
set pathconf d_pathconf
eval $inlibc

@if d_fpathconf || HAS_FPATHCONF
: see if fpathconf exists
set fpathconf d_fpathconf
eval $inlibc

@end

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_pathconf.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: bin.U,v $
?RCS: Revision 3.0.1.4  1995/09/25  09:15:32  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:32:40  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:05:28  ram
?RCS: patch32: now uses installation prefix
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  15:56:51  ram
?RCS: patch10: made prompting more explicit (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18
  12:05:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:bin binexp installbin: Prefixit Getfile Oldconfig afs cat test
?MAKE: -pick add $@ %<
?Y:TOP

```
?S:bin:
?S: This variable holds the name of the directory in which the user wants
?S: to put publicly executable images for the package in question.  It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S:.
?S:binexp:
?S: This is the same as the bin variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?S:installbin:
?S: This variable is the same as binexp unless AFS is running in which case
?S: the user is explicitly prompted for it. This variable should always
?S: be used in your makefiles for maximum portability.
?S:.
?C:BIN:
?C: This symbol holds the path of the bin directory where the package will
?C: be installed. Program must be prepared to deal with ~name substitution.
?C:.
?C:BIN_EXP:
?C: This
 symbol is the filename expanded version of the BIN symbol, for
?C: programs that do not want to deal with that at run-time.
?C:.
?H:#define BIN "$bin" /**/
?H:#define BIN_EXP "$binexp" /**/
?H:.
?D:bin='/usr/local/bin'
: determine where public executables go
echo " "
set dflt bin bin
eval $prefixit
fn=d~
rp='Pathname where the public executables will reside?'
. ./getfile
if $test "X$ansexp" != "X$binexp"; then
 installbin="
fi
bin="$ans"
binexp="$ansexp"
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
executables reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
```

```
 case "$installbin" in
 '') dflt=`echo $binexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installbin";;
 esac
 fn=de~
 rp='Where will public executables be installed?'
 . ./getfile
 installbin="$ans"
else
 installbin="$binexp"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/bin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setgrent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_setgrent_r setgrent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_grp extern_C
?MAKE: -pick add $@ %<
?S:d_setgrent_r:
?S: This variable conditionally defines the HAS_SETGRENT_R symbol,
?S: which indicates to the C program that the setgrent_r()
?S: routine is available.
?S:.
?S:setgrent_r_proto:
?S: This variable encodes the prototype of setgrent_r.
?S: It is zero if d_setgrent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setgrent_r
?S: is defined.
?S:.
?C:HAS_SETGRENT_R:
?C: This symbol, if defined, indicates that the setgrent_r routine
?C: is available to
 setgrent re-entrantly.
?C:.
?C:SETGRENT_R_PROTO:
?C: This symbol encodes the prototype of setgrent_r.
?C: It is zero if d_setgrent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setgrent_r
?C: is defined.
```

```
?C:.
?H:#$d_setgrent_r HAS_SETGRENT_R    /**/
?H:#define SETGRENT_R_PROTO $setgrent_r_proto    /**/
?H:.
?T:try hdrs d_setgrent_r_proto
: see if setgrent_r exists
set setgrent_r d_setgrent_r
eval $inlibc
case "$d_setgrent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_grp grp.h"
 case "$d_setgrent_r_proto:$usethreads" in
 ":define") d_setgrent_r_proto=define
  set d_setgrent_r_proto setgrent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_setgrent_r_proto" in
 define)
 case "$setgrent_r_proto" in
 "|0) try='int setgrent_r(FILE**);'
 ./protochk "$extern_C $try" $hdrs && setgrent_r_proto=I_H ;;
 esac
 case "$setgrent_r_proto" in
 "|0) try='void setgrent_r(FILE**);'
 ./protochk "$extern_C $try" $hdrs && setgrent_r_proto=V_H ;;
 esac
 case
 "$setgrent_r_proto" in
 "|0) d_setgrent_r=undef
        setgrent_r_proto=0
  echo "Disabling setgrent_r, cannot determine prototype." >&4 ;;
 * ) case "$setgrent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) setgrent_r_proto="REENTRANT_PROTO_$setgrent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "setgrent_r has no prototype, not using it." >&4 ;;
  esac
  d_setgrent_r=undef
  setgrent_r_proto=0
  ;;
 esac
 ;;
*) setgrent_r_proto=0
```

```
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_setgrent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_memmem: Inlibc
?MAKE: -pick add $@ %<
?S:d_memmem:
?S: This variable conditionally defines the HAS_MEMMEM symbol, which
?S: indicates to the C program that the memmem() routine is available
?S: to return a pointer to the start of the first occurance of a
?S: substring in a memory area (or NULL if not found).
?S:.
?C:HAS_MEMMEM:
?C: This symbol, if defined, indicates that the memmem routine is
?C: available to return a pointer to the start of the first occurance
?C: of a substring in a memory area (or NULL if not found).
?C:.
?H:#$d_memmem HAS_MEMMEM  /**/
?H:.
?LINT:set d_memmem
: see if memmem exists
set memmem d_memmem
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_memmem.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_trunc: Inlibc
?MAKE: -pick add $@ %<
?S:d_trunc:
?S: This variable conditionally defines the HAS_TRUNC symbol, which
?S: indicates to the C program that the trunc() routine is available
?S: to round doubles towards zero.
?S:.
?C:HAS_TRUNC:
?C: This symbol, if defined, indicates that the trunc routine is
?C: available to round doubles towards zero.
?C:.
```

```
?H:#$d_trunc HAS_TRUNC  /**/
?H:.
?LINT:set d_trunc
: see if trunc exists
set trunc d_trunc
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_trunc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fseeko: Inlibc longsize
?MAKE: -pick add $@ %<
?S:d_fseeko:
?S: This variable conditionally defines the HAS_FSEEKO symbol, which
?S: indicates to the C program that the fseeko() routine is available.
?S:.
?C:HAS_FSEEKO:
?C: This symbol, if defined, indicates that the fseeko routine is
?C: available to fseek beyond 32 bits (useful for ILP32 hosts).
?C:.
?H:#$d_fseeko HAS_FSEEKO  /**/
?H:.
?LINT:set d_fseeko
: see if fseeko exists
set fseeko d_fseeko
eval $inlibc
case "$longsize" in
8) echo "(Your long is 64 bits, so you could use fseek.)" ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fseeko.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_strtok.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
```

?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strtok.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:38  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The strtok routine now appears to be a standard one, but it was
?X: missing in early BSD systems.
?X:
?MAKE:d_strtok: Inlibc
?MAKE: -pick add $@ %<
?S:d_strtok:
?S: This variable conditionally defines HAS_STRTOK if strtok() is
?S: available to scan strings for tokens.
?S:.
?C:HAS_STRTOK (STRTOK):
?C: This symbol, if defined, indicates
 that the strtok routine is
?C: available to scan strings for tokens.
?C:.
?H:#$d_strtok HAS_STRTOK /**/
?H:.
?LINT:set d_strtok
: see if strtok exists
set strtok d_strtok
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strtok.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Warn_v7ND.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Warn_v7ND.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:01:46  ram
?RCS: patch36: call ./v7 explicitly instead of relying on PATH
?RCS:

```
?RCS: Revision 3.0  1993/08/18  12:05:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit warns V7 sites that they may not have a non-blocking read.
?X: This unit needs to be mentioned in End.U to get included.
?X:
?MAKE:Warn_v7ND: package Guess
?MAKE: -pick add $@ %<
: Warnings
if ./v7; then
 cat
 <<EOM

NOTE: many V7 systems do not have a way to do a non-blocking read.  If you
don't have any of FIONREAD, O_NDELAY, or rdchk(), the $package package
may not work as well as it might.  It might not work at all.
EOM
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Warn_v7ND.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_nlist.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_nlist: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_nlist:
?S: This variable conditionally defines the I_NLIST symbol, and indicates
?S: whether a C program should include <nlist.h>.
?S:.
?C:I_NLIST:
?C: This symbol, if defined, indicates that <nlist.h> exists and
?C: should be included.
?C:.
?H:#$i_nlist I_NLIST  /**/
?H:.
?LINT:set i_nlist
: see if this is a nlist.h system
set nlist.h i_nlist
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_nlist.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_strccmp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strccmp.U,v $
?RCS: Revision 3.0.1.2  1994/05/06  14:54:34  ram
?RCS: patch23: fixed a typo (WED)
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:04:39  ram
?RCS: patch10: created (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_strccmp: Inlibc
?MAKE: -pick add $@ %<
?S:d_strccmp:
?S: This variable conditionally defines the HAS_STRCASECMP symbol, which
?S: indicates to the C program
 that the strcasecmp() routine is available
?S: for case-insensitive string compares.
?S:.
?C:HAS_STRCASECMP:
?C: This symbol, if defined, indicates that the strcasecmp() routine is
?C: available for case-insensitive string compares.
?C:.
?H:#$d_strccmp HAS_STRCASECMP /**/
?H:.
?LINT:set d_strccmp
: see if strcasecmp exists
set strcasecmp d_strccmp
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strccmp.U
No license file was found, but licenses were detected in source scan.

?RCS: Copyright (c) 2016 Tony Cook

```
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:dtraceobject dtracexnolibs: usedtrace dtrace cc ccflags optimize \
  Compile cat rm_try
?MAKE: -pick add $@ %<
?S:dtraceobject:
?S: Whether we need to build an object file with the dtrace tool.
?S:.
?S:dtracexnolibs:
?S: Whether dtrace accepts -xnolibs.  If available we call dtrace -h
?S: and dtrace -G with -xnolibs to allow dtrace to run in a jail on
?S: FreeBSD.
?S:.
?T:xnolibs
: Probe whether dtrace builds an object, as newer Illumos requires an input
: object file that uses at least one of the probes defined in the .d file
case "$usedtrace" in
$define)
   case "$dtracexnolibs" in
   $define|true|[yY]*)
       dtracexnolibs=$define
 $dtrace -h -xnolibs -s ../perldtrace.d -o perldtrace.h
 ;;
   ' '|'')
       if $dtrace
 -h -xnolibs -s ../perldtrace.d -o perldtrace.h 2>&1 ; then
      dtracexnolibs=$define
      echo "Your dtrace accepts -xnolibs"
 elif $dtrace -h -s ../perldtrace.d -o perldtrace.h 2>&1 ; then
      dtracexnolibs=$undef
      echo "Your dtrace doesn't accept -xnolibs"
 else
           echo "Your dtrace doesn't work at all, try building without dtrace support" >&4
      exit 1
 fi
 ;;
   *)
       dtracexnolibs=$undef
 $dtrace -h -s ../perldtrace.d -o perldtrace.h
 ;;
   esac
   case $dtracexnolibs in
   $define) xnolibs=-xnolibs ;;
   *) xnolibs= ;;
   esac
```

```
  case "$dtraceobject" in
  $define|true|[yY]*)
      dtraceobject=$define
      ;;
  ' '|'')
      $cat >try.c <<EOM
#include "perldtrace.h"
int main(void) {
  PERL_LOADED_FILE("dummy");
  return 0;
}
EOM
      dtraceobject=$undef
      if $cc -c -o try.o $optimize $ccflags try.c \
              && $dtrace -G $xnolibs -s ../perldtrace.d try.o >/dev/null 2>&1; then
          dtraceobject=$define
          echo "Your dtrace builds an object file"
      fi
      ;;
  *) dtraceobject=$undef ;;
  esac
  $rm_try perldtrace.o perldtrace.h
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/dtraceobject.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_timer_gettime: Inlibc
?MAKE: -pick add $@ %<
?S:d_timer_gettime:
?S: This variable conditionally defines HAS_TIMER_GETTIME
?S: if timer_gettime() is available to get the time of a POSIX timer.
?S:.
?C:HAS_TIMER_GETTIME:
?C: This symbol, if defined, indicates that the timer_gettime
?C: system call is available to get the time of a POSIX timer.
?C:.
```

?H:#$d_timer_gettime HAS_TIMER_GETTIME  /**/
?H:.
?LINT:set d_timer_gettime
: see if timer_gettime exists
set timer_gettime d_timer_gettime
eval $inlibc

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_timer_gettime.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Tr.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  18:00:54  ram
?RCS: patch43: forgot to quote $@ to protect against "evil" characters
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:58:35  ram
?RCS: patch36: created
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to do a character translation. It catches translations to uppercase or
?X: to lowercase, and then invokes the real tr to perform the job.
?X:
?X: This unit is necessary on HP machines (HP strikes again!)
 with non-ascii
?X: ROMAN8-charset, where normal letters are not arranged in a row, so a-z
?X: covers not the whole alphabet but lots of special chars. This was reported
?X: by Andreas Sahlbach <a.sahlbach@tu-bs.de>.
?X:
?X: Units performing a tr '[A-Z]' '[a-z]' or the other way round should include
?X: us in their dependency and use ./tr instead.
?X:
?MAKE:Tr: startsh tr eunicefix
?MAKE: -pick add $@ %<
?F:./tr
?T:up low LC_ALL
: see whether [:lower:] and [:upper:] are supported character classes

```
echo " "
case "`echo AbyZ | LC_ALL=C $tr '[:lower:]' '[:upper:]' 2>/dev/null`" in
ABYZ)
 echo "Good, your tr supports [:lower:] and [:upper:] to convert case." >&4
 up='[:upper:]'
 low='[:lower:]'
 ;;
*) # There is a discontinuity in EBCDIC between 'I' and 'J'
       # (0xc9 and 0xd1), therefore that is a nice testing point.
       if test "X$up" = X -o "X$low" = X; then
    case "`echo IJ | LC_ALL=C $tr '[I-J]' '[i-j]' 2>/dev/null`" in
    ij) up='[A-Z]'
        low='[a-z]'
 ;;

 esac
       fi
 if test "X$up" = X -o "X$low" = X; then
    case "`echo IJ | LC_ALL=C $tr I-J i-j 2>/dev/null`" in
    ij) up='A-Z'
 low='a-z'
 ;;
    esac
       fi
 if test "X$up" = X -o "X$low" = X; then
    case "`echo IJ | od -x 2>/dev/null`" in
    *C9D1*|*c9d1*)
 echo "Hey, this might be EBCDIC." >&4
 if test "X$up" = X -o "X$low" = X; then
     case "`echo IJ | \
   LC_ALL=C $tr '[A-IJ-RS-Z]' '[a-ij-rs-z]' 2>/dev/null`" in
     ij) up='[A-IJ-RS-Z]'
         low='[a-ij-rs-z]'
  ;;
     esac
 fi
 if test "X$up" = X -o "X$low" = X; then
     case "`echo IJ | LC_ALL=C $tr A-IJ-RS-Z a-ij-rs-z 2>/dev/null`" in
     ij) up='A-IJ-RS-Z'
         low='a-ij-rs-z'
  ;;
     esac
 fi
 ;;
    esac
 fi
esac
case "`echo IJ | LC_ALL=C $tr \"$up\" \"$low\" 2>/dev/null`" in
```

```
ij)
  echo "Using $up and $low to convert case." >&4
  ;;
*)
  echo "I don't know how to translate letters from upper to lower case." >&4
  echo "Your tr is not acting any way I know of." >&4
   exit 1
  ;;
esac
: set up the translation script tr, must be called with ./tr of course
cat >tr <<EOSC
$startsh
case "\$1\$2" in
'[A-Z][a-z]') LC_ALL=C exec $tr '$up' '$low';;
'[a-z][A-Z]') LC_ALL=C exec $tr '$low' '$up';;
esac
LC_ALL=C exec $tr "\$@"
EOSC
chmod +x tr
$eunicefix tr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Tr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Setprefixvar.U,v 3.0 2006/04/01 17:25:29 hmbrand $
?RCS:
?RCS: Copyright (c) 2006-2006, H.Merijn Brand & Nicholas Clark
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:   You may distribute under the terms of either the GNU General Public
?RCS:   License or the Artistic License, as specified in the README file.
?RCS:
?X:
?X: This unit sets up the scripts installprefix and setprefixvar, so code
?X: in other parts can be more simple and maintainable
?X:
?MAKE:Setprefixvar: Myread Getfile startsh eunicefix test \
 prefix prefixexp installprefix installprefixexp
?MAKE: -pick add $@ %<
?LINT:extern prefixvar
?X: metalint still sees "`\$${prefixvar}exp`" as variable :(
?T:prefixvarexp
?F:./setprefixvar
?F:./installprefix
```

```
: Perform
 the prefixexp/installprefixexp correction if necessary
cat <<EOS >installprefix
$startsh
EOS
cat <<'EOSC' >>installprefix
: Change installation prefix, if necessary.
if $test X"$prefix" != X"$installprefix"; then
   eval "install${prefixvar}=\`echo \$${prefixvar}exp | sed \"s#^\$prefixexp#\$installprefixexp#\"\`"
else
   eval "install${prefixvar}=\"\$${prefixvar}exp\""
fi
EOSC
chmod +x installprefix
$eunicefix installprefix

: Set variables such as privlib and privlibexp from the output of ./getfile
: performing the prefixexp/installprefixexp correction if necessary.
cat <<EOS >setprefixvar
$startsh
EOS
cat <<'EOSC' >>setprefixvar
eval "${prefixvar}=\"\$ans\""
eval "${prefixvar}exp=\"\$ansexp\""
. ./installprefix
EOSC
chmod +x setprefixvar
$eunicefix setprefixvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/Setprefixvar.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_truncate.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_truncate.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:48  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_truncate: Inlibc
```

?MAKE: -pick add $@ %<
?S:d_truncate:
?S: This variable conditionally defines HAS_TRUNCATE if truncate() is
?S: available to truncate files.
?S:.
?C:HAS_TRUNCATE (TRUNCATE):
?C: This symbol, if defined, indicates that the truncate routine is
?C: available to truncate files.
?C:.
?H:#$d_truncate HAS_TRUNCATE /**/
?H:.
?LINT:set
 d_truncate
: see if truncate exists
set truncate d_truncate
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_truncate.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setlocale_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_setlocale_r setlocale_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_locale extern_C
?MAKE: -pick add $@ %<
?S:d_setlocale_r:
?S: This variable conditionally defines the HAS_SETLOCALE_R symbol,
?S: which indicates to the C program that the setlocale_r()
?S: routine is available.
?S:.
?S:setlocale_r_proto:
?S: This variable encodes the prototype of setlocale_r.
?S: It is zero if d_setlocale_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setlocale_r
?S: is defined.
?S:.
?C:HAS_SETLOCALE_R:
?C: This symbol, if defined, indicates that the setlocale_r routine
?C: is
 available to setlocale re-entrantly.
?C:.

```
?C:SETLOCALE_R_PROTO:
?C: This symbol encodes the prototype of setlocale_r.
?C: It is zero if d_setlocale_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_setlocale_r
?C: is defined.
?C:.
?H:#$d_setlocale_r HAS_SETLOCALE_R    /**/
?H:#define SETLOCALE_R_PROTO $setlocale_r_proto    /**/
?H:.
?T:try hdrs d_setlocale_r_proto
: see if setlocale_r exists
set setlocale_r d_setlocale_r
eval $inlibc
case "$d_setlocale_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_locale locale.h"
 case "$d_setlocale_r_proto:$usethreads" in
 ":define") d_setlocale_r_proto=define
  set d_setlocale_r_proto setlocale_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_setlocale_r_proto" in
 define)
 case "$setlocale_r_proto" in
 "|0) try='int setlocale_r(int, const char*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && setlocale_r_proto=I_ICBI ;;
 esac
 case "$setlocale_r_proto" in
 "|0) d_setlocale_r=undef
        setlocale_r_proto=0
  echo
 "Disabling setlocale_r, cannot determine prototype." >&4 ;;
 * ) case "$setlocale_r_proto" in
  REENTRANT_PROTO*) ;;
  *) setlocale_r_proto="REENTRANT_PROTO_$setlocale_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "setlocale_r has no prototype, not using it." >&4 ;;
  esac
  d_setlocale_r=undef
  setlocale_r_proto=0
  ;;
 esac
 ;;
```

*) setlocale_r_proto=0
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_setlocale_r.U
No license file was found, but licenses were detected in source scan.

?RCS: You may redistribute only under the terms of the Artistic License,

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_ldbl_dig.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/floatsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_isblank.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_const.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/gidsign.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_gai_strerror.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/ssizetype.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_builtin.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_volatile.U
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/intsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_neterrno.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sigaction.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/uidsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_wcscmp.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_sanemcmp.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_u32align.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_eofpipe.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/fpossize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/sizesize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/abortsig.U
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/sunscanf.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/pidsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_inttypes.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_casti32.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strctcpy.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_sgndchr.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lc_monetary_2008.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_open3.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getpagsz.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_attribut.U
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sanemcmp.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/sbrksmart.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/startperl.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/gccvers.U

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/charsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/bitpbyte.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_eofpipe.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_access.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_vprintf.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/bitpbyte.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getpgrp.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/floatsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_access.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/ebcdic.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/ssizesize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_wcsxfrm.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getpgrp.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/byteorder.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_scannl.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_isascii.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sunscanf.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/doublesize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sbrksmart.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/alignbytes.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/abortsig.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/doublesize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/ptrsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_keepsig.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_dir_dd_fd.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/ptrsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_sigaction.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sgndchr.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Checkcc.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/sockopt.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_casti32.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_snprintf.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/nullified/fpu.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sockopt.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_c99_variadic.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/randbits.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_strtoul.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_keepsig.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_open3.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_const.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/ssizetype.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/st_ino_def.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_malloc.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/gccvers.U

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_mmap.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_volatile.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/need_va_copy.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/fpu.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_isascii.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_scannl.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_dirfd.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/selectminbits.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/stdio_streams.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/charsize.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/pidsign.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_socklen_t.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/uidsign.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/alignbytes.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/gidsize.U
*
/perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/i_neterrno.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_int64_t.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: otherlibdirs.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999-2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: otherlibdirs.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?RCS: Revision 1.1  1999/07/08 18:20:26  doughera
?RCS: Initial revision
?RCS:
?RCS:
?MAKE:otherlibdirs d_perl_otherlibdirs: Myread cat sitelib sitearch \
vendorarch vendorlib Setvar
?MAKE: -pick add $@ %<
?Y:TOP
?S:otherlibdirs:
?S: This variable contains a colon-separated set of paths for the perl
?S: binary to search for additional library files
or modules.
?S: These directories will be tacked to the end of @INC.

```
?S: Perl will automatically search below each path for version-
?S: and architecture-specific directories.  See inc_version_list
?S: for more details.
?S: A value of ' ' means 'none' and is used to preserve this value
?S: for the next run through Configure.
?S:.
?S:d_perl_otherlibdirs:
?S: This variable conditionally defines PERL_OTHERLIBDIRS, which
?S: contains a colon-separated set of paths for the perl binary to
?S: include in @INC.  See also otherlibdirs.
?S:.
?C:PERL_OTHERLIBDIRS:
?C: This variable contains a colon-separated set of paths for the perl
?C: binary to search for additional library files or modules.
?C: These directories will be tacked to the end of @INC.
?C: Perl will automatically search below each path for version-
?C: and architecture-specific directories.  See PERL_INC_VERSION_LIST
?C: for more details.
?C:.
?H:#$d_perl_otherlibdirs PERL_OTHERLIBDIRS "$otherlibdirs"  /**/
?H:.
?LINT: set d_perl_otherlibdirs
:
 Final catch-all directories to search
$cat <<EOM

Lastly, you can have perl look in other directories for extensions and
modules in addition to those already specified.
These directories will be searched after
 $sitearch
 $sitelib
EOM
test X"$vendorlib" != "X" && echo ' ' $vendorlib
test X"$vendorarch" != "X" && echo ' ' $vendorarch
echo ' '
case "$otherlibdirs" in
"|' ') dflt='none' ;;
*) dflt="$otherlibdirs" ;;
esac
$cat <<EOM
Enter a colon-separated set of extra paths to include in perl's @INC
search path, or enter 'none' for no extra paths.

EOM

rp='Colon-separated list of additional directories for perl to search?'
. ./myread
case "$ans" in
```

```
' '|''|none) otherlibdirs=' ' ;;
*) otherlibdirs="$ans" ;;
esac
case "$otherlibdirs" in
' ') val=$undef ;;
*) val=$define ;;
esac
set d_perl_otherlibdirs
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/otherlibdirs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_statfs_s: \
 Hasstruct i_sysparam i_sysmount i_systypes \
 i_sysvfs i_sysstatfs Setvar
?MAKE: -pick add $@ %<
?S:d_statfs_s:
?S: This variable conditionally defines the HAS_STRUCT_STATFS symbol,
?S: which indicates that the struct statfs is supported.
?S:.
?C:HAS_STRUCT_STATFS:
?C: This symbol, if defined, indicates that the struct statfs
?C: to do statfs() is supported.
?C:.
?H:#$d_statfs_s HAS_STRUCT_STATFS /**/
?H:.
?LINT:set d_statfs_s
: Check for statfs_s
echo " "
echo "Checking to see if your system supports struct statfs..." >&4
set d_statfs_s statfs $i_systypes sys/types.h $i_sysparam sys/param.h $i_sysmount sys/mount.h $i_sysvfs sys/vfs.h
$i_sysstatfs sys/statfs.h
eval $hasstruct
case "$d_statfs_s"
 in
"$define")      echo "Yes, it does."   ;;
*)              echo "No, it doesn't." ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_statfs_s.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_fgetpos.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_fgetpos.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  06:57:33  ram
?RCS: patch30: created
?RCS:
?MAKE:d_fgetpos: Inlibc
?MAKE: -pick add $@ %<
?S:d_fgetpos:
?S: This variable conditionally defines HAS_FGETPOS if fgetpos() is
?S: available to get the file position indicator.
?S:.
?C:HAS_FGETPOS:
?C: This symbol, if defined, indicates that the fgetpos routine is
?C: available to get the file position indicator, similar to ftell().
?C:.
?H:#$d_fgetpos
 HAS_FGETPOS /**/
?H:.
?LINT:set d_fgetpos
: see if fgetpos exists
set fgetpos d_fgetpos
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_fgetpos.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_mkdtemp: Inlibc
```

?MAKE: -pick add $@ %<
?S:d_mkdtemp:
?S: This variable conditionally defines the HAS_MKDTEMP symbol, which
?S: indicates to the C program that the mkdtemp() routine is available
?S: to exclusively create a uniquely named temporary directory.
?S:.
?C:HAS_MKDTEMP :
?C: This symbol, if defined, indicates that the mkdtemp routine is
?C: available to exclusively create a uniquely named temporary directory.
?C:.
?H:#$d_mkdtemp HAS_MKDTEMP  /**/
?H:.
?LINT:set d_mkdtemp
: see if mkdtemp exists
set mkdtemp d_mkdtemp
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mkdtemp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: html3dir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: html3dir.U,v $
?RCS:
?MAKE:html3dir html3direxp installhtml3dir: cat sed Loc Myread \
 spackage test Getfile Setprefixvar Prefixit Prefixup html1dir
?MAKE: -pick add $@ %<
?Y:TOP
?D:html3dir="
?S:html3dir:
?S: This variable contains the name of the directory in which html
?S: source pages are to be put.  This directory is for pages
?S: that describe libraries or modules.  It is intended to
?S: correspond roughly to section 3 of the Unix manuals.
?S:.
?D:html3direxp="
?S:html3direxp:
?S: This variable

```
 is the same as the html3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installhtml3dir="
?S:installhtml3dir:
?S: This variable is really the same as html3direxp, unless you are
?S: using a different installprefix.  For extra portability, you
?S: should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set html3direxp
?LINT:set installhtml3dir
: determine where html pages for libraries and modules go
set html3dir html3dir none
eval $prefixit
$cat <<EOM

If you wish to install html files for modules associated with $spackage,
indicate the appropriate directory here.  To skip installing html files,
answer "none".
EOM
: There is no obvious default.  If they have specified html1dir, then
: try to key off that, possibly changing .../html1 into .../html3.
case "$html3dir" in
'') html3dir=`echo "$html1dir" | $sed 's/1$/3$/'` ;;
*) dflt=$html3dir ;;
esac
fn=dn+~
rp="Directory for the $spackage module
 html pages?"
. ./getfile
prefixvar=html3dir
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$html3dir" = "X" && html3dir=' '

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/html3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_wctomb.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
```

?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_wctomb.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:20:43  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_wctomb: Inlibc
?MAKE: -pick add $@ %<
?S:d_wctomb:
?S: This variable conditionally defines the HAS_WCTOMB symbol, which
?S: indicates to the C program that the wctomb() routine is available
?S: to convert a wide character to a multibyte.
?S:.
?C:HAS_WCTOMB (WCTOMB):
?C: This
 symbol, if defined, indicates that the wctomb routine is available
?C: to convert a wide character to a multibyte.
?C:.
?H:#$d_wctomb HAS_WCTOMB  /**/
?H:.
?LINT:set d_wctomb
: see if wctomb exists
set wctomb d_wctomb
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_wctomb.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_dld.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: i_dld.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:20:07  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:i_dld: Inhdr

?MAKE: -pick add $@ %<
?S:i_dld:
?S: This variable conditionally defines the I_DLD symbol, which
?S: indicates to the C program that <dld.h> (GNU dynamic loading)
?S: exists and should be included.
?S:.
?C:I_DLD:
?C: This symbol, if defined, indicates that <dld.h>
 exists and should
?C: be included before using GNU dynamic loading features.
?C:.
?H:#$i_dld I_DLD /**/
?H:.
?LINT:set i_dld
: see if dld is available
set dld.h i_dld
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_dld.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_SHM_MAC.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_SHM_MAC.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:41  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_SHM_MAC d_SHM_PRM d_SHM_SEG d_SHM_IMMU: cat d_shm test rm +cc +ccflags
?MAKE: -pick add $@ %<
?S:d_SHM_MAC:
?S: Sometimes, the SHMLBA manifest needs sys/sysmacros.h, usually for
?S: the ctob() macro.
?S:.
?S:d_SHM_PRM:
?S: Sometimes, the SHMLBA manifest needs sys/param.h, usually for the
?S: NBPC constant.
?S:.
?S:d_SHM_SEG:
?S: Sometimes,

```
 the SHMLBA manifest needs sys/seg.h, usually for the
?S: SNUMSHFT constant.
?S:.
?S:d_SHM_IMMU:
?S: Sometimes, the SHMLBA manifest needs sys/immu.h, usually for the
?S: stob() macro.
?S:.
?C:SHMLBA_WANTS_SYSMACROS:
?C: This value tells us to include <sys/sysmacros.h> because SHMLBA
?C: needs something from there, probably the ctob() macro.
?C:.
?C:SHMLBA_WANTS_PARAM:
?C: This value tells us to include <sys/param.h> because SHMLBA needs
?C: something from there, probably the NBPC constant.
?C:.
?C:SHMLBA_WANTS_SEG:
?C: This value tells us to include <sys/seg.h> because SHMLBA needs
?C: something from there, probably the SNUMSHFT constant.
?C:.
?C:SHMLBA_WANTS_IMMU:
?C: This value tells us to include <sys/immu.h> because SHMLBA needs
?C: something from there, probably the stob() macro.  (tower_600 only?)
?C:.
?H:#$d_SHM_MAC SHMLBA_WANTS_SYSMACROS /* SHMLBA wants ctob()? */
?H:#$d_SHM_PRM SHMLBA_WANTS_PARAM /* SHMLBA wants NBPC? */
?H:#$d_SHM_SEG SHMLBA_WANTS_SEG /* SHMLBA wants
 SNUMSHFT? */
?H:#$d_SHM_IMMU SHMLBA_WANTS_IMMU /* SHMLBA wants stob()? */
?H:.
?T:flags D_sys_immu D_sys_seg D_sys_sysmacros D_sys_param
: check for SHMLBA braindamage
d_SHM_MAC="$undef"
d_SHM_PRM="$undef"
d_SHM_SEG="$undef"
d_SHM_IMMU="$undef"
if $test "$d_shm" = "$define" ; then
 echo " "
 $cat >&4 <<EOM
Checking to see if SHMLBA needs additional headers.
The headers I'll be checking are:

   sys/macros.h (for the ctob() macro)
   sys/param.h  (for NBPC)
   sys/seg.h    (for SNUMSHFT)
   sys/immu.h  (for the stob() macro)

EOM
 $cat >shm_mac.c <<'EOCP'
```

```
#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#ifdef I_SYS_IMMU
#include <sys/immu.h>
#endif
#ifdef I_SYS_SYSMACROS
#include <sys/sysmacros.h>
#endif
#ifdef I_SYS_PARAM
#include <sys/param.h>
#endif
#ifdef I_SYS_SEG
#include <sys/seg.h>
#endif

int main() {
 int foo = SHMLBA ;
 }
EOCP
 flags='xxx'
 for D_sys_immu in " '-DI_SYS_IMMU'; do
 for D_sys_seg in " '-DI_SYS_SEG'; do
 for D_sys_sysmacros in " '-DI_SYS_SYSMACROS';
 do
 for D_sys_param in " '-DI_SYS_PARAM'; do
  case "$flags" in
 'xxx')
  case "$D_sys_immu$D_sys_param$D_sys_sysmacros$D_sys_seg" in
  ")
   echo "Trying it normally..."
   ;;
  *)
  echo "Trying $D_sys_immu $D_sys_param $D_sys_sysmacros $D_sys_seg"
  ;;
  esac
  if $cc $ccflags \
  $D_sys_immu $D_sys_param $D_sys_sysmacros $D_sys_seg \
  -o shm_mac shm_mac.c >/dev/null 2>&1 ; then
   set X $D_sys_immu $D_sys_param $D_sys_sysmacros $D_sys_seg
   shift
   flags="$*"
   echo "Succeeded with $flags"
  fi
  ;;
 esac
done
done
```

```
done
done
case "$flags" in
xxx)
 echo "I don't know how to keep SHMLBA happy.  Good luck!"
 ;;
esac
case "$flags" in
*I_SYS_PARAM*) d_SHM_PRM="$define";;
esac
case "$flags" in
*I_SYS_SYSMACROS*) d_SHM_MAC="$define";;
esac
case "$flags" in
*I_SYS_SEG*) d_SHM_SEG="$define";;
esac
case "$flags" in
*I_SYS_IMMU*) d_SHM_IMMU="$define";;
esac
fi
$rm -f shm_mac*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_SHM_MAC.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_aintl: Inlibc
?MAKE: -pick add $@ %<
?S:d_aintl:
?S: This variable conditionally defines the HAS_AINTL symbol, which
?S: indicates to the C program that the aintl() routine is available.
?S: If copysignl is also present we can emulate modfl.
?S:.
?C:HAS_AINTL:
?C: This symbol, if defined, indicates that the aintl routine is
?C: available.  If copysignl is also present we can emulate modfl.
?C:.
?H:#$d_aintl HAS_AINTL  /**/
?H:.
?LINT:set d_aintl
: see if aintl exists
```

```
set aintl d_aintl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_aintl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setlocale.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_setlocale.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  06:57:51  ram
?RCS: patch30: created
?RCS:
?MAKE:d_setlocale: Inlibc
?MAKE: -pick add $@ %<
?S:d_setlocale:
?S: This variable conditionally defines HAS_SETLOCALE if setlocale() is
?S: available to handle locale-specific ctype implementations.
?S:.
?C:HAS_SETLOCALE:
?C: This symbol, if defined, indicates that the setlocale
 routine is
?C: available to handle locale-specific ctype implementations.
?C:.
?H:#$d_setlocale HAS_SETLOCALE /**/
?H:.
?LINT:set d_setlocale
: see if setlocale exists
set setlocale d_setlocale
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setlocale.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: contains.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: contains.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:contains: Nothing
?MAKE: -pick add $@ %<
?S:contains:
?S: This variable holds the command to do a grep with a proper return
?S: status.  On most sane systems it is simply "grep".  On insane systems
?S: it is a grep followed by a cat followed by a test.  This variable
?S: is primarily for the use of other Configure units.
?S:.
: Some
 greps do not return status, grrr.
echo "grimblepritz" >grimble
if grep blurfldyick grimble >/dev/null 2>&1 ; then
 contains=contains
elif grep grimblepritz grimble >/dev/null 2>&1 ; then
 contains=grep
else
 contains=contains
fi
rm -f grimble
: the following should work in any shell
case "$contains" in
contains*)
 echo " "
 echo "AGH!  Grep doesn't return a status.  Attempting remedial action."
 cat >contains <<'EOSS'
grep "$1" "$2" >.greptmp && cat .greptmp && test -s .greptmp
EOSS
chmod +x contains
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/contains.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libs.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:09:11  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.5  1995/07/25  14:12:05  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  16:24:22  ram
?RCS: patch36: removed old broken thislib/thatlib processing (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:05:44  ram
?RCS: patch30: code cleanup with if/elif by ADO and RAM
?RCS: patch30: undone patch23 for libswanted default
 setting
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:08:45  ram
?RCS: patch23: now includes ordered default libswanted variable (ADO)
?RCS: patch23: major cleanup for library lookups (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:02:31  ram
?RCS: patch6: added default for libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libs libsfound libsfiles libsdirs libspath libscheck: \
 test cat Myread Oldconfig Loc libpth package xlibpth so _a \
 +usesocks sed +cc +ccflags +ldflags rm
?MAKE: -pick add $@ %<
?S:libs:
?S: This variable holds the additional libraries we want to use.
?S: It is up to the Makefile to deal with it.  The list can be empty.
?S:.
?S:libsfound:
?S: This variable holds the full pathnames of the libraries
?S: we found and accepted.
?S:.
?S:libsfiles:
?S: This variable holds the filenames aka basenames of the libraries
?S: we found and accepted.
?S:.
```

```
?S:libsdirs:
?S: This variable holds the directory
 names aka dirnames of the libraries
?S: we found and accepted, duplicates are removed.
?S:.
?S:libspath:
?S: This variable holds the directory names probed for libraries.
?S:.
?S:libscheck:
?S: This variable is intended to be set by hint files, if needed.
?S: It should contain shell code that will be eval'ed with $xxx holding
?S: some library file.  It may change $xxx if needed.
?S: For instance, on an Irix platform, you may make sure the right
?S: library file is used depending on the cc command line, so that the
?S: correct library is used depending on the selected ABI (for 32 and
?S: 64-bit compilations).
?S:
?S: Here is an example of code that could be found in a hint file on Irix
?S: when the selected compiler was for 32-bit -- that code is put in the
?S: cc.cbu call-back unit to be invoked AFTER the C compiler and its
?S: flags have been chosen:
?S:
?S:  libscheck='case "$xxx" in
?S:  *.a) /bin/ar p $xxx `/bin/ar t $xxx | sed q` >$$.o;
?S:   case "`/usr/bin/file $$.o`" in
?S:   *N32*)
 rm -f $$.o ;;
?S:   *) rm -f $$.o; xxx=/no/n32$xxx ;;
?S:   esac ;;
?S:  *) case "`/usr/bin/file $xxx`" in
?S:   *N32*) ;;
?S:   *) xxx=/no/n32$xxx ;;
?S:   esac ;;
?S:  esac'
?S:.
?D:libs="
?LINT:extern libswanted
?LINT:change libswanted
?INIT:: default library list
?INIT:libswanted="
?X: This order is chosen so that libraries  -lndir, -ldir, -lucb, -lbsd,
?X: -lBSD, -lPW, and -lx only get used if there are unresolved
?X: routines at link time.  Usually, these are backwards compatability
?X: libraries, and may not be as reliable as the standard c library.
?X:
?X: The -lsocket -linet -lnsl order has been reported to be necessary
?X: for at least one SVR4 implementation.
?X: -lc must proceed -lucb or -lbsd for most Solaris applications.
```

```
?X: -lc_s proceeds -lc so we pick up the shared library version, if
?X: it is available.
?X:
?X: The ordering of c, posix, and cposix is a guess and almost
?X: certainly wrong on about half of all systems.
?X:
?X: Set proper libswanted in your private
 Myinit.U if needed.
?X:
?X:: default ordered library list
?X:libswanted='net socket inet bind nsl nm sdbm gdbm ndbm dbm malloc dl'
?X:libswanted="$libswanted dld sun m c_s c posix cposix ndir dir ucb"
?X:libswanted="$libswanted bsd BSD PW x"
?X:
?INIT:: should be set by hint files if needed
?INIT:libscheck="
?T:xxx yyy thislib thisdir libstyle linkmsg
?F:lt.c lt
: Looking for optional libraries
echo " "
echo "Checking for optional libraries..." >&4
case "$libs" in
' '|'') dflt='';;
*) dflt="$libs";;
esac
case "$libswanted" in
'') libswanted='c_s';;
esac
?X: libsocks has nasty naming scheme.
?X: This does not work if somebody wants SOCKS 4.
case "$usesocks" in
"$define") libswanted="$libswanted socks5 socks5_sh" ;;
esac
?X: Used later for link checks
echo "extern char printf(); int main() { printf(); return 0; }" > lt.c
libsfound="
libsfiles="
libsdirs="
libspath="
for thisdir in $libpth $xlibpth; do
 test -d $thisdir && libspath="$libspath $thisdir"
done
for thislib in $libswanted;
 do
 for thisdir in $libspath; do
    xxx="
    if $test ! -f "$xxx" ; then
  xxx=`ls $thisdir/lib$thislib.$so.[0-9]* 2>/dev/null | $sed -n '1p'`
```

```
  $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib.$so
  $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib${thislib}_s$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
  $test -f "$xxx" && thislib=${thislib}_s
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/Slib$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test
 -f "$xxx" && libstyle=static
    fi
    if $test -f "$xxx"; then
?X:
?X: It is not sufficient to find a .so on the disk.  We must make sure
?X: that we can indeed supply the -lfoo line on the cc line to link against
?X: that library.  On Linux for instance, a versionned .so will not be
?X: implicitly linked against, whereas it will work fine on Solaris 2.6.
?X:  --RAM, 10/10/2003
?X:
  if $cc -o lt $ccflags $ldflags lt.c -l$thislib >/dev/null 2>&1;
  then
   linkmsg=""
  else
   linkmsg=" but I can't link against it"
  fi
  case "$libstyle" in
  shared) echo "Found -l$thislib (shared)$linkmsg." ;;
  static) echo "Found -l$thislib$linkmsg." ;;
  *)      echo "Found -l$thislib ($libstyle)$linkmsg." ;;
```

```
  esac
  case " $dflt " in
  *"-l$thislib "*) ;;
  *)
   case "$linkmsg" in
   ")
    dflt="$dflt -l$thislib"
    libsfound="$libsfound $xxx"
    yyy=`basename $xxx`
    libsfiles="$libsfiles $yyy"
    yyy=`echo $xxx|$sed -e "s%/$yyy\\$%%"`
    case " $libsdirs
 " in
    *" $yyy "*) ;;
    *) libsdirs="$libsdirs $yyy" ;;
    esac
      ;;
   esac
   ;;
  esac
  break
    fi
 done
 if $test ! -f "$xxx"; then
    echo "No -l$thislib."
 fi
done
set X $dflt
shift
dflt="$*"
case "$libs" in
") dflt="$dflt";;
*) dflt="$libs";;
esac
case "$dflt" in
' '|") dflt='none';;
esac
$rm -f lt.c lt

$cat <<EOM

In order to compile $package on your machine, a number of libraries
are usually needed.  Include any other special libraries here as well.
Say "none" for none.  The default list is almost always right.
EOM

echo " "
rp="Which libraries to use?"
```

```
. ./myread
case "$ans" in
none) libs=' ';;
*) libs="$ans";;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/libs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_time.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit finds which "time" include to use. If 'timezone' is used by the
?X: program, we also try to find which header should be included. Eventually,
?X: we look for <sys/select.h> if I_SYSSELECT is used, to get struct timeval.
?X:
?MAKE:i_time i_systime i_systimek timeincl: cat cc ccflags contains rm_try \
 echo n c +i_sysselct Findhdr
?MAKE: -pick add $@ %<
?S:i_time:
?S: This
 variable conditionally defines I_TIME, which indicates
?S: to the C program that it should include <time.h>.
?S:.
?S:i_systime:
?S: This variable conditionally defines I_SYS_TIME, which indicates
?S: to the C program that it should include <sys/time.h>.
?S:.
?S:i_systimek:
?S: This variable conditionally defines I_SYS_TIME_KERNEL, which
?S: indicates to the C program that it should include <sys/time.h>
?S: with KERNEL defined.
?S:.
?S:timeincl:
?S: This variable holds the full path of the included time header(s).
```

```
?S:.
?C:I_TIME (USE_TIME_H):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <time.h>.
?C:.
?C:I_SYS_TIME (I_SYSTIME USE_SYS_TIME_H NO_TIME_WITH_SYS_TIME):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/time.h>.
?C:.
?C:I_SYS_TIME_KERNEL (I_SYSTIMEKERNEL):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/time.h> with KERNEL defined.
?C:.
?H:#$i_time I_TIME  /**/
?H:#$i_systime
 I_SYS_TIME  /**/
?H:#$i_systimek I_SYS_TIME_KERNEL  /**/
?H:.
?W::timezone
?T:xselect flags sysselect s_timeval s_timezone
?LINT:change i_sysselct
: see if we should include time.h, sys/time.h, or both
echo " "
echo "Testing to see if we should include <time.h>, <sys/time.h> or both." >&4
$echo $n "I'm now running the test program...$c"
$cat >try.c <<'EOCP'
#include <sys/types.h>
#ifdef I_TIME
#include <time.h>
#endif
#ifdef I_SYSTIME
#ifdef SYSTIMEKERNEL
#define KERNEL
#endif
#include <sys/time.h>
#endif
#ifdef I_SYSSELECT
#include <sys/select.h>
#endif
int main()
{
 struct tm foo;
#ifdef S_TIMEVAL
 struct timeval bar;
#endif
#ifdef S_TIMEZONE
 struct timezone tzp;
#endif
```

```
 if (foo.tm_sec == foo.tm_sec)
  exit(0);
#ifdef S_TIMEVAL
 if (bar.tv_sec == bar.tv_sec)
  exit(0);
#endif
 exit(1);
}
EOCP
flags=''
@if I_SYSSELECT
if $contains 'timeval.*{' `./findhdr sys/select.h` >/dev/null 2>&1; then
 xselect='-DI_SYSSELECT'
else
 xselect=''
fi
@end
@if timezone
for s_timezone
 in '-DS_TIMEZONE' ''; do
@else
s_timezone=''
@end
?X: Every package is given a try with 'struct timeval'
@if I_SYSSELECT
for sysselect in $xselect ''; do
@else
sysselect=''
@end
for s_timeval in '-DS_TIMEVAL' ''; do
for i_systimek in ' '-DSYSTIMEKERNEL'; do
for i_time in ' '-DI_TIME'; do
for i_systime in '-DI_SYSTIME' ''; do
 case "$flags" in
 '') $echo $n ".$c"
  if $cc $ccflags \
  $i_time $i_systime $i_systimek $sysselect $s_timeval $s_timezone \
  -o try try.c >/dev/null 2>&1 ; then
   set X $i_time $i_systime $i_systimek $sysselect $s_timeval
   shift
   flags="$*"
   echo " "
   $echo $n "Succeeded with $flags$c"
  fi
  ;;
 esac
done
done
```

```
done
done
@if I_SYSSELECT
done
@end
@if timezone
done
@end
timeincl="
echo " "
case "$flags" in
*SYSTIMEKERNEL*) i_systimek="$define"
 timeincl=`./findhdr sys/time.h`
 echo "We'll include <sys/time.h> with KERNEL defined." >&4;;
*) i_systimek="$undef";;
esac
case "$flags" in
*I_TIME*) i_time="$define"
 timeincl=`./findhdr time.h`" $timeincl"
 echo
 "We'll include <time.h>." >&4;;
*) i_time="$undef";;
esac
case "$flags" in
*I_SYSTIME*) i_systime="$define"
 timeincl=`./findhdr sys/time.h`" $timeincl"
 echo "We'll include <sys/time.h>." >&4;;
*) i_systime="$undef";;
esac
@if I_SYSSELECT
case "$flags" in
*I_SYSSELECT*) i_sysselct="$define"
 timeincl=`./findhdr sys/select.h`" $timeincl"
 echo "We'll also include <sys/select.h> to get struct timeval." >&4;;
*) case "$i_sysselct" in
 ") i_sysselct="$undef";;
 esac
esac
@end
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_time.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_vfork.U,v $
?RCS: Revision 3.0.1.6  1994/08/29  16:18:21  ram
?RCS: patch32: set default to 'y' the first time
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  06:59:14  ram
?RCS: patch30: usevfork was not always properly set
?RCS:
?RCS: Revision 3.0.1.4  1994/05/13  15:20:56  ram
?RCS: patch27: modified to avoid spurious Whoa warnings (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  14:59:09  ram
?RCS: patch23: now explicitly ask whether vfork() should be used (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1993/10/16
 13:49:39  ram
?RCS: patch12: added magic for vfork()
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:06:57  ram
?RCS: patch10: removed automatic remapping of vfork on fork (WAD)
?RCS: patch10: added compatibility code for older config.sh (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_vfork usevfork: Inlibc Myread Oldconfig Setvar
?MAKE: -pick add $@ %<
?S:d_vfork:
?S: This variable conditionally defines the HAS_VFORK symbol, which
?S: indicates the vfork() routine is available.
?S:.
?S:usevfork:
?S: This variable is set to true when the user accepts to use vfork.
?S: It is set to false when no vfork is available or when the user
?S: explicitly requests not to use vfork.
?S:.
?C:HAS_VFORK (VFORK):
?C: This symbol, if defined, indicates that vfork() exists.
?C:.
?H:#$d_vfork HAS_VFORK /**/
?H:.
?M:vfork: HAS_VFORK

```
?M:#ifndef HAS_VFORK
?M:#define vfork fork
?M:#endif
?M:.
?LINT:set d_vfork
: see if there is a vfork
val="
set
 vfork val
eval $inlibc

: Ok, but do we want to use it. vfork is reportedly unreliable in
: perl on Solaris 2.x, and probably elsewhere.
case "$val" in
$define)
 echo " "
 case "$usevfork" in
 false) dflt='n';;
 *) dflt='y';;
 esac
 rp="Some systems have problems with vfork().  Do you want to use it?"
 . ./myread
 case "$ans" in
 y|Y) ;;
 *)
  echo "Ok, we won't use vfork()."
  val="$undef"
  ;;
 esac
 ;;
esac
?X:
?X: Only set it when final value is known to avoid spurious Whoas
?X: Then set usevfork accordingly to the current value, for next run
?X:
set d_vfork
eval $setvar
case "$d_vfork" in
$define) usevfork='true';;
*) usevfork='false';;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_vfork.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_gconvert.U,v 3.0.1.3 1997/02/28 15:33:38 ram Exp $
?RCS:
```

```
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_gconvert.U,v $
?RCS: Revision 3.0.1.3 1997/02/28  15:33:38  ram
?RCS: patch61: integrated new unit from perl5
?RCS:
?RCS: Revision 3.0.1.2 1995/07/25  13:55:59  ram
?RCS: patch56: improved comments about the Gconvert macro (ADO)
?RCS: patch56: force compile-link test since it may exist but be unusable (ADO)
?RCS:
?RCS: Revision 3.0.1.1 1994/10/29  16:12:51  ram
?RCS: patch36:
 created by ADO
?RCS:
?MAKE:d_Gconvert: \
 Compile cat Inlibc rm _o rm_try i_stdlib i_string d_qgcvt run \
 uselongdouble d_longdbl d_PRIgldbl sPRIgldbl
?MAKE: -pick add $@ %<
?S:d_Gconvert:
?S: This variable holds what Gconvert is defined as to convert
?S: floating point numbers into strings.  By default, Configure
?S: sets this macro to use the first of gconvert, gcvt, or sprintf
?S: that pass sprintf-%g-like behavior tests.  If perl is using
?S: long doubles, the macro uses the first of the following
?S: functions that pass Configure's tests: qgcvt, sprintf (if
?S: Configure knows how to make sprintf format long doubles--see
?S: sPRIgldbl), gconvert, gcvt, and sprintf (casting to double).
?S: The gconvert_preference and gconvert_ld_preference variables
?S: can be used to alter Configure's preferences, for doubles and
?S: long doubles, respectively.  If present, they contain a
?S: space-separated list of one or more of the above function
?S: names in the order they should be tried.
?S:
?S: d_Gconvert
 may be set to override Configure with a platform-
?S: specific function.  If this function expects a double, a
?S: different value may need to be set by the uselongdouble.cbu
?S: call-back unit so that long doubles can be formatted without
?S: loss of precision.
?S:.
```

```
?C:Gconvert:
?C: This preprocessor macro is defined to convert a floating point
?C: number to a string without a trailing decimal point.  This
?C: emulates the behavior of sprintf("%g"), but is sometimes much more
?C: efficient.  If gconvert() is not available, but gcvt() drops the
?C: trailing decimal point, then gcvt() is used.  If all else fails,
?C: a macro using sprintf("%g") is used. Arguments for the Gconvert
?C: macro are: value, number of digits, whether trailing zeros should
?C: be retained, and the output buffer.
?C: The usual values are:
?C:  d_Gconvert='gconvert((x),(n),(t),(b))'
?C:  d_Gconvert='gcvt((x),(n),(b))'
?C:  d_Gconvert='sprintf((b),"%.*g",(n),(x))'
?C: The last two assume trailing
 zeros should not be kept.
?C:.
?H:#define Gconvert(x,n,t,b) $d_Gconvert
?H:.
?T: xxx_list xxx_convert xxx_ld_list
?F:!try
?LINT:extern gconvert_preference
?LINT:extern gconvert_ld_preference
: Check how to convert floats to strings.

if test "X$d_Gconvert" = X; then

echo " "
echo "Checking for an efficient way to convert floats to strings."
echo " " > try.c
case "$uselongdouble" in
"$define") echo "#define USE_LONG_DOUBLE" >>try.c ;;
esac
case "$d_longdbl" in
"$define") echo "#define HAS_LONG_DOUBLE" >>try.c ;;
esac
case "$d_PRIgldbl" in
"$define") echo "#define HAS_PRIgldbl"    >>try.c ;;
esac
$cat >>try.c <<EOP
#ifdef TRY_gconvert
#define Gconvert(x,n,t,b) gconvert((x),(n),(t),(b))
char *myname = "gconvert";
#endif
#ifdef TRY_gcvt
#define Gconvert(x,n,t,b) gcvt((x),(n),(b))
char *myname = "gcvt";
#endif
#ifdef TRY_qgcvt
```

```
#define Gconvert(x,n,t,b) qgcvt((x),(n),(b))
char *myname = "qgcvt";
#define DOUBLETYPE long double
#endif
#ifdef TRY_sprintf
#if defined(USE_LONG_DOUBLE) && defined(HAS_LONG_DOUBLE)
#ifdef
 HAS_PRIgldbl
#define Gconvert(x,n,t,b) sprintf((b),"%.*"$sPRIgldbl,(n),(x))
#else
#define Gconvert(x,n,t,b) sprintf((b),"%.*g",(n),(double)(x))
#endif
#else
#define Gconvert(x,n,t,b) sprintf((b),"%.*g",(n),(x))
#endif
char *myname = "sprintf";
#endif

#ifndef DOUBLETYPE
#if defined(USE_LONG_DOUBLE) && defined(HAS_LONG_DOUBLE)
#define DOUBLETYPE long double
#else
#define DOUBLETYPE double
#endif
#endif

#include <stdio.h>

#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#$i_string I_STRING
#ifdef I_STRING
#  include <string.h>
#else
#  include <strings.h>
#endif

int checkit(char *expect, char *got)
{
  if (strcmp(expect, got)) {
 printf("%s oddity:  Expected %s, got %s\n",
  myname, expect, got);
 exit(1);
 }
}
```

```
int main()
{
 char buf[64];
 buf[63] = '\0';

 /* This must be 1st test on (which?) platform */
 /* Alan Burlison <AlanBurlsin@unn.unisys.com> */
 Gconvert((DOUBLETYPE)0.1, 8, 0, buf);
 checkit("0.1", buf);

 Gconvert((DOUBLETYPE)0.01,
 8, 0, buf);
 checkit("0.01", buf);

 Gconvert((DOUBLETYPE)0.001, 8, 0, buf);
 checkit("0.001", buf);

 Gconvert((DOUBLETYPE)0.0001, 8, 0, buf);
 checkit("0.0001", buf);

 Gconvert((DOUBLETYPE)0.00009, 8, 0, buf);
 if (strlen(buf) > 5)
    checkit("9e-005", buf); /* for Microsoft ?? */
 else
    checkit("9e-05", buf);

 Gconvert((DOUBLETYPE)1.0, 8, 0, buf);
 checkit("1", buf);

 Gconvert((DOUBLETYPE)1.1, 8, 0, buf);
 checkit("1.1", buf);

 Gconvert((DOUBLETYPE)1.01, 8, 0, buf);
 checkit("1.01", buf);

 Gconvert((DOUBLETYPE)1.001, 8, 0, buf);
 checkit("1.001", buf);

 Gconvert((DOUBLETYPE)1.0001, 8, 0, buf);
 checkit("1.0001", buf);

 Gconvert((DOUBLETYPE)1.00001, 8, 0, buf);
 checkit("1.00001", buf);

 Gconvert((DOUBLETYPE)1.000001, 8, 0, buf);
 checkit("1.000001", buf);

 Gconvert((DOUBLETYPE)0.0, 8, 0, buf);
```

```
checkit("0", buf);

Gconvert((DOUBLETYPE)-1.0, 8, 0, buf);
checkit("-1", buf);

/* Some Linux gcvt's give 1.e+5 here. */
Gconvert((DOUBLETYPE)100000.0, 8, 0, buf);
checkit("100000",
buf);

/* Some Linux gcvt's give -1.e+5 here. */
Gconvert((DOUBLETYPE)-100000.0, 8, 0, buf);
checkit("-100000", buf);

Gconvert((DOUBLETYPE)123.456, 8, 0, buf);
checkit("123.456", buf);

/* Testing of 1e+129 in bigintpm.t must not get extra '.' here. */
Gconvert((DOUBLETYPE)1e34, 8, 0, buf);
/* 34 should be enough to scare even long double
 * places into using the e notation. */
if (strlen(buf) > 5)
    checkit("1e+034", buf); /* for Microsoft */
else
    checkit("1e+34", buf);

/* For Perl, if you add additional tests here, also add them to
 * t/base/num.t for benefit of platforms not using Configure or
 * overriding d_Gconvert */

exit(0);
}
EOP
?X: List of order in which to search for functions.
?X: Usual order of efficiency is gconvert gcvt sprintf
?X: If a hint file sets a d_Gconvert="gconvert" or "gcvt" or "sprintf",
?X: then that is taken as a hint for which function to try first.
?X: (e.g. that function may be in a problematic /usr/ucblib library,
 and
?X: the user may or may not choose to use -lucb stuff.)
?X: Any other hint file (or previous config.sh) setting is left intact.
: first add preferred functions to our list
xxx_list=""
for xxx_convert in $gconvert_preference; do
  case $xxx_convert in
  gcvt|gconvert|sprintf) xxx_list="$xxx_list $xxx_convert" ;;
  *) echo "Discarding unrecognized gconvert_preference $xxx_convert" >&4 ;;
  esac
```

```
done
: then add any others
for xxx_convert in gconvert gcvt sprintf; do
  case "$xxx_list" in
  *$xxx_convert*) ;;
  *) xxx_list="$xxx_list $xxx_convert" ;;
  esac
done

case "$d_longdbl$uselongdouble" in
"$define$define")
  : again, add preferred functions to our list first
  xxx_ld_list=""
  for xxx_convert in $gconvert_ld_preference; do
     case $xxx_convert in
     qgcvt|gcvt|gconvert|sprintf) xxx_ld_list="$xxx_ld_list $xxx_convert" ;;
     *) echo "Discarding unrecognized gconvert_ld_preference $xxx_convert" ;;
     esac
  done
  : then add qgcvt, sprintf--then,
 in xxx_list order, gconvert and gcvt
  for xxx_convert in qgcvt sprintf $xxx_list; do
     case "$xxx_ld_list" in
     $xxx_convert*|*" $xxx_convert"*) ;;
     *) xxx_ld_list="$xxx_ld_list $xxx_convert" ;;
     esac
  done
  : if sprintf cannot do long doubles, move it to the end
  if test "$d_PRIgldbl" != "$define"; then
     xxx_ld_list="`echo $xxx_ld_list|sed s/sprintf//` sprintf"
  fi
  : if no qgcvt, remove it
  if test "$d_qgcvt" != "$define"; then
     xxx_ld_list="`echo $xxx_ld_list|sed s/qgcvt//`"
  fi
  : use the ld_list
  xxx_list="$xxx_ld_list"
  ;;
esac

for xxx_convert in $xxx_list; do
 echo "Trying $xxx_convert..."
?X: Do NOT use $rm_try here, as we need to keep try.c
 $rm -f try try$_o core
 set try -DTRY_$xxx_convert
 if eval $compile; then
  echo "$xxx_convert() found." >&4
  if $run ./try; then
```

```
  echo "I'll use $xxx_convert to convert floats into a string." >&4
  break;
 else
  echo "...But $xxx_convert didn't
 work as I expected."
  xxx_convert="
 fi
else
 echo "$xxx_convert NOT found." >&4
 fi
done

if test X$xxx_convert = X; then
  echo "*** WHOA THERE!!! ***" >&4
  echo "None of ($xxx_list)  seemed to work properly.  I'll use sprintf." >&4
  xxx_convert=sprintf
fi

case "$xxx_convert" in
gconvert) d_Gconvert='gconvert((x),(n),(t),(b))' ;;
gcvt) d_Gconvert='gcvt((x),(n),(b))' ;;
qgcvt) d_Gconvert='qgcvt((x),(n),(b))' ;;
*) case "$uselongdouble$d_longdbl$d_PRIgldbl" in
  "$define$define$define")
    d_Gconvert="sprintf((b),\"%.*\"$sPRIgldbl,(n),(x))" ;;
  "$define$define$undef")
    d_Gconvert='sprintf((b),"%.*g",(n),(double)(x))' ;;
  *) d_Gconvert='sprintf((b),"%.*g",(n),(x))' ;;
  esac
  ;;
esac

fi
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_gconvert.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_db.U,v 3.0.1.3 1995/07/25 14:10:22 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
```

```
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: i_db.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  14:10:22  ram
?RCS: patch56: conditionally use const in test programs (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1995/05/12  12:14:42  ram
?RCS: patch54: extended for more intimate DB probing (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:21:50  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:i_db db_hashtype db_prefixtype \
 db_version_major
 db_version_minor db_version_patch : \
 Inhdr +cc +ccflags rm_try contains cat \
 Compile d_const libs sed run i_stdlib
?MAKE: -pick add $@ %<
?S:i_db:
?S: This variable conditionally defines the I_DB symbol, and indicates
?S: whether a C program may include Berkeley's DB include file <db.h>.
?S:.
?S:db_hashtype:
?S: This variable contains the type of the hash structure element
?S: in the <db.h> header file.  In older versions of DB, it was
?S: int, while in newer ones it is u_int32_t.
?S:.
?S:db_prefixtype:
?S: This variable contains the type of the prefix structure element
?S: in the <db.h> header file.  In older versions of DB, it was
?S: int, while in newer ones it is size_t.
?S:.
?S:db_version_major:
?S: This variable contains the major version number of
?S: Berkeley DB found in the <db.h> header file.
?S:.
?S:db_version_minor:
?S: This variable contains the minor version number of
?S: Berkeley DB found in the <db.h> header file.
?S: For DB version 1 this is always 0.
?S:.
?S:db_version_patch:
?S: This
 variable contains the patch version number of
?S: Berkeley DB found in the <db.h> header file.
?S: For DB version 1 this is always 0.
?S:.
```

```
?C:I_DB:
?C: This symbol, if defined, indicates to the C program that it should
?C: include Berkeley's DB include file <db.h>.
?C:.
?C:DB_Prefix_t:
?C: This symbol contains the type of the prefix structure element
?C: in the <db.h> header file.  In older versions of DB, it was
?C: int, while in newer ones it is u_int32_t.
?C:.
?C:DB_Hash_t:
?C: This symbol contains the type of the prefix structure element
?C: in the <db.h> header file.  In older versions of DB, it was
?C: int, while in newer ones it is size_t.
?C:.
?C:DB_VERSION_MAJOR_CFG:
?C: This symbol, if defined, defines the major version number of
?C: Berkeley DB found in the <db.h> header when Perl was configured.
?C:.
?C:DB_VERSION_MINOR_CFG:
?C: This symbol, if defined, defines the minor version number of
?C: Berkeley DB found in the <db.h> header when Perl was configured.
?C: For
 DB version 1 this is always 0.
?C:.
?C:DB_VERSION_PATCH_CFG:
?C: This symbol, if defined, defines the patch version number of
?C: Berkeley DB found in the <db.h> header when Perl was configured.
?C: For DB version 1 this is always 0.
?C:.
?H:#$i_db I_DB  /**/
?H:#define DB_Hash_t $db_hashtype  /**/
?H:#define DB_Prefix_t $db_prefixtype   /**/
?H:#define DB_VERSION_MAJOR_CFG $db_version_major   /**/
?H:#define DB_VERSION_MINOR_CFG $db_version_minor   /**/
?H:#define DB_VERSION_PATCH_CFG $db_version_patch   /**/
?H:.
?F:!try
?LINT:change libs
: see if this is a db.h system
set db.h i_db
eval $inhdr

case "$i_db" in
$define)
 : Check db version.
 echo " "
 echo "Checking Berkeley DB version ..." >&4
 $cat >try.c <<EOCP
```

```
#$d_const HASCONST
#ifndef HASCONST
#define const
#endif
#include <sys/types.h>
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#include <db.h>
int main(int argc, char *argv[])
{
#ifdef DB_VERSION_MAJOR /* DB version >= 2 */

  int Major, Minor, Patch ;
  unsigned long Version ;
  (void)db_version(&Major, &Minor, &Patch) ;
  if (argc == 2) {
     printf("%d %d %d %d %d %d\n",
          DB_VERSION_MAJOR, DB_VERSION_MINOR, DB_VERSION_PATCH,
          Major, Minor, Patch);
     exit(0);
  }
  printf("You have Berkeley DB Version 2 or greater.\n");

  printf("db.h is from Berkeley DB Version %d.%d.%d\n",
 DB_VERSION_MAJOR, DB_VERSION_MINOR, DB_VERSION_PATCH);
  printf("libdb is from Berkeley DB Version %d.%d.%d\n",
 Major, Minor, Patch) ;

  /* check that db.h & libdb are compatible */
  if (DB_VERSION_MAJOR != Major || DB_VERSION_MINOR != Minor || DB_VERSION_PATCH != Patch) {
 printf("db.h and libdb are incompatible.\n") ;
     exit(3);
  }

  printf("db.h and libdb are compatible.\n") ;

  Version = DB_VERSION_MAJOR * 1000000 + DB_VERSION_MINOR * 1000
 + DB_VERSION_PATCH ;

  /* needs to be >= 2.3.4 */
  if (Version < 2003004) {
  /* if (DB_VERSION_MAJOR ==
 2 && DB_VERSION_MINOR == 0 && DB_VERSION_PATCH < 5) { */
 printf("Perl needs Berkeley DB 2.3.4 or greater.\n") ;
     exit(2);
```

```
    }

    exit(0);
#else
#if defined(_DB_H_) && defined(BTREEMAGIC) && defined(HASHMAGIC)
    if (argc == 2) {
        printf("1 0 0\n");
        exit(0);
    }
    printf("You have Berkeley DB Version 1.\n");
    exit(0); /* DB version < 2: the coast is clear. */
#else
    exit(1); /* <db.h> not Berkeley DB? */
#endif
#endif
}
EOCP
 set try
 if eval $compile_ok && $run ./try; then
  echo 'Looks OK.' >&4
  set `$run ./try 1`
  db_version_major=$1
  db_version_minor=$2
  db_version_patch=$3
 else
  echo "I can't use Berkeley DB with your <db.h>.  I'll disable Berkeley DB." >&4
  i_db=$undef
  case " $libs " in
  *"-ldb "*)
   : Remove db from list of libraries to use
   echo "Removing unusable -ldb from library list" >&4
   set `echo X $libs | $sed -e 's/-ldb / /' -e 's/-ldb$//'`
   shift
   libs="$*"
   echo "libs = $libs" >&4
   ;;
  esac
 fi
 $rm_try
 ;;
esac

@if
 DB_Hash_t
case "$i_db" in
define)
 : Check the return type needed for hash
 echo " "
```

```
 echo "Checking return type needed for hash for Berkeley DB ..." >&4
 $cat >try.c <<EOCP
#$d_const HASCONST
#ifndef HASCONST
#define const
#endif
#include <sys/types.h>
#include <db.h>

#ifndef DB_VERSION_MAJOR
u_int32_t hash_cb (const void* ptr, size_t size)
{
}
HASHINFO info;
int main()
{
 info.hash = hash_cb;
}
#endif
EOCP
 if $cc $ccflags -c try.c >try.out 2>&1 ; then
  if $contains warning try.out >>/dev/null 2>&1 ; then
   db_hashtype='int'
  else
   db_hashtype='u_int32_t'
  fi
 else
  : XXX Maybe we should just give up here.
  db_hashtype=u_int32_t
  $cat try.out >&4
  echo "Help:  I can't seem to compile the db test program." >&4
  echo "Something's wrong, but I'll assume you use $db_hashtype." >&4
 fi
 $rm_try
 echo "Your version of Berkeley DB uses $db_hashtype for hash."
 ;;
*) db_hashtype=u_int32_t
 ;;
esac
@end
@if DB_Prefix_t
case "$i_db" in
define)
 : Check the return type needed
 for prefix
 echo " "
 echo "Checking return type needed for prefix for Berkeley DB ..." >&4
 cat >try.c <<EOCP
```

```
#$d_const HASCONST
#ifndef HASCONST
#define const
#endif
#include <sys/types.h>
#include <db.h>

#ifndef DB_VERSION_MAJOR
size_t prefix_cb (const DBT *key1, const DBT *key2)
{
}
BTREEINFO info;
int main()
{
 info.prefix = prefix_cb;
}
#endif
EOCP
 if $cc $ccflags -c try.c  >try.out 2>&1 ; then
  if $contains warning try.out >>/dev/null 2>&1 ; then
   db_prefixtype='int'
  else
   db_prefixtype='size_t'
  fi
 else
  db_prefixtype='size_t'
  : XXX Maybe we should just give up here.
  $cat try.out >&4
  echo "Help:  I can't seem to compile the db test program." >&4
  echo "Something's wrong, but I'll assume you use $db_prefixtype." >&4
 fi
 $rm_try
 echo "Your version of Berkeley DB uses $db_prefixtype for prefix."
 ;;
*) db_prefixtype='size_t'
 ;;
esac
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_db.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_whoami.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_whoami.U,v $
?RCS: Revision 3.0.1.1  1993/08/25  14:02:21  ram
?RCS: patch6: added default for i_whoami
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_whoami: Inhdr
?MAKE: -pick add $@ %<
?S:i_whoami (d_whoami):
?S: This variable conditionally defines the I_WHOAMI symbol, which
?S: indicates to the C program that it should include <whoami.h>.
?S:.
?C:I_WHOAMI (WHOAMI):
?C: This symbol,
 if defined, indicates that the program may include
?C: <whoami.h>.
?C:.
?H:#$i_whoami I_WHOAMI /**/
?H:.
?D:i_whoami="
?LINT:set i_whoami
: see if there is a whoami.h file
set whoami.h i_whoami
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_whoami.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getpwent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getpwent_r getpwent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_pwd extern_C
?MAKE: -pick add $@ %<
?S:d_getpwent_r:
?S: This variable conditionally defines the HAS_GETPWENT_R symbol,

```
?S: which indicates to the C program that the getpwent_r()
?S: routine is available.
?S:.
?S:getpwent_r_proto:
?S: This variable encodes the prototype of getpwent_r.
?S: It is zero if d_getpwent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getpwent_r
?S: is defined.
?S:.
?C:HAS_GETPWENT_R:
?C: This symbol, if defined, indicates that the getpwent_r routine
?C: is available to
 getpwent re-entrantly.
?C:.
?C:GETPWENT_R_PROTO:
?C: This symbol encodes the prototype of getpwent_r.
?C: It is zero if d_getpwent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getpwent_r
?C: is defined.
?C:.
?H:#$d_getpwent_r HAS_GETPWENT_R    /**/
?H:#define GETPWENT_R_PROTO $getpwent_r_proto    /**/
?H:.
?T:try hdrs d_getpwent_r_proto
: see if getpwent_r exists
set getpwent_r d_getpwent_r
eval $inlibc
case "$d_getpwent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_pwd pwd.h"
 case "$d_getpwent_r_proto:$usethreads" in
 ":define") d_getpwent_r_proto=define
  set d_getpwent_r_proto getpwent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getpwent_r_proto" in
 define)
 case "$getpwent_r_proto" in
 "|0) try='int getpwent_r(struct passwd*, char*, size_t, struct passwd**);'
 ./protochk "$extern_C $try" $hdrs && getpwent_r_proto=I_SBWR ;;
 esac
 case "$getpwent_r_proto" in
 "|0) try='int getpwent_r(struct passwd*, char*, int, struct passwd**);'
 ./protochk
 "$extern_C $try" $hdrs && getpwent_r_proto=I_SBIR ;;
 esac
 case "$getpwent_r_proto" in
```

```
"|0) try='struct passwd* getpwent_r(struct passwd*, char*, size_t);'
./protochk "$extern_C $try" $hdrs && getpwent_r_proto=S_SBW ;;
esac
case "$getpwent_r_proto" in
"|0) try='struct passwd* getpwent_r(struct passwd*, char*, int);'
./protochk "$extern_C $try" $hdrs && getpwent_r_proto=S_SBI ;;
esac
case "$getpwent_r_proto" in
"|0) try='int getpwent_r(struct passwd*, char*, int);'
./protochk "$extern_C $try" $hdrs && getpwent_r_proto=I_SBI ;;
esac
case "$getpwent_r_proto" in
"|0) try='int getpwent_r(struct passwd*, char*, int, FILE**);'
./protochk "$extern_C $try" $hdrs && getpwent_r_proto=I_SBIH ;;
esac
case "$getpwent_r_proto" in
"|0) d_getpwent_r=undef
        getpwent_r_proto=0
 echo "Disabling getpwent_r, cannot determine prototype." >&4 ;;
* ) case "$getpwent_r_proto" in
 REENTRANT_PROTO*) ;;
 *) getpwent_r_proto="REENTRANT_PROTO_$getpwent_r_proto"
;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "getpwent_r has no prototype, not using it." >&4 ;;
 esac
 d_getpwent_r=undef
 getpwent_r_proto=0
 ;;
esac
;;
*) getpwent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getpwent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
```

```
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:usesocks: Myread Oldconfig Setvar
?MAKE: -pick add $@ %<
?Y:TOP
?S:usesocks:
?S: This variable conditionally defines the USE_SOCKS symbol,
?S: and indicates that Perl should be built to use SOCKS.
?S:.
?C:USE_SOCKS:
?C: This symbol, if defined, indicates that Perl should
?C: be built to use socks.
?C:.
?H:?%<:#ifndef USE_SOCKS
?H:?%<:#$usesocks USE_SOCKS  /**/
?H:?%<:#endif
?H:.
?LINT:set usesocks
?INIT:: set usesocks on the Configure command line to enable socks.
: Check is we will use socks
?X: We should really have some explanatory text here, and some
?X: automatic setting of sensible defaults.
case "$usesocks" in
$define|true|[yY]*) dflt='y';;
*) dflt='n';;
esac
cat <<EOM

Perl can be built to
 use the SOCKS proxy protocol library.  To do so,
Configure must be run with -Dusesocks.  If you use SOCKS you also need
to use the PerlIO abstraction layer, this will be implicitly selected.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Build Perl for SOCKS?'
. ./myread
case "$ans" in
y|Y) val="$define" ;;
*)      val="$undef" ;;
esac
set usesocks
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/usesocks.U
No license file was found, but licenses were detected in source scan.
```

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: myhostname.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:15:55  ram
?RCS: patch61: improved hostname lookup by using ypmatch when NIS is used
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:25:43  ram
?RCS: patch36: call ./xenix explicitly instead of relying on PATH
?RCS: patch36: now uses new Tr unit to convert to/from lowercase
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:06:20  ram
?RCS: patch30: now a little more clever for domain name guessing
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:18  ram
?RCS:
 Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:myhostname phostname mydomain: contains sed test Myread Oldconfig \
 Guess Loc awk echo sort uniq +usrinc rm hostcat Tr osname
?MAKE: -pick add $@ %<
?S:myhostname (hostname):
?S: This variable contains the eventual value of the MYHOSTNAME symbol,
?S: which is the name of the host the program is going to run on.
?S: The domain is not kept with hostname, but must be gotten from mydomain.
?S: The dot comes with mydomain, and need not be supplied by the program.
?S:.
?S:mydomain:
?S: This variable contains the eventual value of the MYDOMAIN symbol,
?S: which is the domain of the host the program is going to run on.
?S: The domain must be appended to myhostname to form a complete host name.
?S: The dot comes with mydomain, and need not be supplied by the program.
?S:.
?S:phostname:
?S: This variable contains the eventual value of the PHOSTNAME symbol,
?S: which is a command that can be fed to popen() to get the host name.
?S: The program
 should probably not presume that the domain is or isn't
?S: there already.
?S:.
?C:MYHOSTNAME (HOSTNAME):

```
?C: This symbol contains name of the host the program is going to run on.
?C: The domain is not kept with hostname, but must be gotten from MYDOMAIN.
?C: The dot comes with MYDOMAIN, and need not be supplied by the program.
?C: If gethostname() or uname() exist, MYHOSTNAME may be ignored. If MYDOMAIN
?C: is not used, MYHOSTNAME will hold the name derived from PHOSTNAME.
?C:.
?C:MYDOMAIN:
?C: This symbol contains the domain of the host the program is going to
?C: run on.  The domain must be appended to HOSTNAME to form a complete
?C: host name.  The dot comes with MYDOMAIN, and need not be supplied by
?C: the program.  If the host name is derived from PHOSTNAME, the domain
?C: may or may not already be there, and the program should check.
?C:.
?H:#define MYHOSTNAME "$myhostname"  /**/
?H:#define MYDOMAIN "$mydomain"  /**/
?H:.
?T:cont i tans tmp_re file
: now get the host name
echo
 " "
echo "Figuring out host name..." >&4
case "$myhostname" in
") cont=true
 echo 'Maybe "hostname" will work...'
 if tans=`sh -c hostname 2>&1` ; then
  myhostname=$tans
  phostname=hostname
  cont="
 fi
 ;;
*) cont=";;
esac
if $test "$cont"; then
 if ./xenix; then
  echo 'Oh, dear.  Maybe "/etc/systemid" is the key...'
  if tans=`cat /etc/systemid 2>&1` ; then
   myhostname=$tans
   phostname='cat /etc/systemid'
   echo "Whadyaknow.  Xenix always was a bit strange..."
   cont="
  fi
 elif $test -r /etc/systemid; then
  echo "(What is a non-Xenix system doing with /etc/systemid?)"
 fi
fi
if $test "$cont"; then
 echo 'No, maybe "uuname -l" will work...'
 if tans=`sh -c 'uuname -l' 2>&1` ; then
```

```
 myhostname=$tans
 phostname='uuname -l'
else
 echo 'Strange.  Maybe "uname -n" will work...'
 if tans=`sh -c 'uname -n' 2>&1` ; then
  myhostname=$tans
  phostname='uname -n'
 else
  echo 'Oh well, maybe I can mine it out of whoami.h...'
  if tans=`sh -c $contains' sysname $usrinc/whoami.h'
2>&1` ; then
   myhostname=`echo "$tans" | $sed 's/^.*"\(.*\)"/\1/'`
   phostname="sed -n -e ""/sysname/s/^.*\"\\(.*\\)\"/\1/{"" -e p -e q -e '}' <$usrinc/whoami.h"
  else
   case "$myhostname" in
   ") echo "Does this machine have an identity crisis or something?"
    phostname=";;
   *)
    echo "Well, you said $myhostname before..."
    phostname='echo $myhostname';;
   esac
  fi
 fi
fi
fi
case "$myhostname" in
") myhostname=noname ;;
esac
: you do not want to know about this
set $myhostname
myhostname=$1

: verify guess
if $test "$myhostname" ; then
 dflt=y
 rp='Your host name appears to be "'$myhostname'".' Right?"
 . ./myread
 case "$ans" in
 y*) ;;
 *) myhostname=";;
 esac
fi

: bad guess or no guess
while $test "X$myhostname" = X ; do
 dflt="
 rp="Please type the (one word) name of your host:"
 . ./myread
```

```
 myhostname="$ans"
done

: translate upper to lower if necessary
case "$myhostname" in
*[A-Z]*)
 echo "(Normalizing case in your host name)"
 myhostname=`echo
 $myhostname | ./tr '[A-Z]' '[a-z]'`
 ;;
esac

?X: Do not ask for domain name if this is not used later on. In that
?X: case, the hostname may keep its domain name, but it doesn't matter.
@if MYDOMAIN || mydomain
case "$myhostname" in
*.*)
 dflt=`expr "X$myhostname" : "X[^.]*\(\..*\)"`
 myhostname=`expr "X$myhostname" : "X\([^.]*\)\."`
 echo "(Trimming domain name from host name--host name is now $myhostname)"
 ;;
*) case "$mydomain" in
 '')
?X:
?X: There is currently no way to say we do not want hostcat if mydomain is not
?X: used. One way to achieve that would be to put that code in a mydomain.U
?X: unit. However, we want to stick the sanity checks right after the domain
?X: name computation, or if none is done, right after the hostname computation.
?X:
  {
?X: If we use NIS, try ypmatch.
   test "X$hostcat" = "Xypcat hosts" &&
   ypmatch "$myhostname" hosts 2>/dev/null |\
    $sed -e 's/[  ]*#.*//; s/$/ /' > hosts && \
   $test -s hosts
  } || {
?X: Extract only
 the relevant hosts, reducing file size,
?X: remove comments, insert trailing space for later use.
       $hostcat | $sed -n -e "s/[  ]*#.*//; s/\$/ /
    /[  ]$myhostname[ . ]/p" > hosts
  }
  tmp_re="[ . ]"
  $test x`$awk "/[0-9].*[  ]$myhostname$tmp_re/ { sum++ }
       END { print sum }" hosts` = x1 || tmp_re="[  ]"
  dflt=.`$awk \
  "/[0-9].*[  ]$myhostname$tmp_re/ {for(i=2; i<=NF;i++) print \\\$i}" \
   hosts | $sort | $uniq | \
```

```
 $sed -n -e "s/$myhostname\.\([-a-zA-Z0-9_.]\)/\1/p"`
case `$echo X$dflt` in
X*\ *) echo "(Several hosts in /etc/hosts matched hostname)"
 dflt=.
 ;;
?X: There is no /etc/hosts on os390
X.)
 if $test -f /etc/hosts; then
  echo "(You do not have fully-qualified names in /etc/hosts)"
 else
  echo "(I cannot locate a hosts database anywhere)"
 fi
 ;;
esac
case "$dflt" in
.)
 tans=`./loc resolv.conf X /etc /usr/etc`
 if $test -f "$tans"; then
  echo "(Attempting domain name extraction from $tans)"
?X: Look for either a search
or a domain directive.
  dflt=.`$sed -n -e 's/ / /g' \
    -e 's/^search  *\([^ ]*\).*/\1/p' $tans \
    | ./tr '[A-Z]' '[a-z]' 2>/dev/null`
  case "$dflt" in
  .) dflt=.`$sed -n -e 's/ / /g' \
       -e 's/^domain  *\([^ ]*\).*/\1/p' $tans \
       | ./tr '[A-Z]' '[a-z]' 2>/dev/null`
    ;;
  esac
 fi
 ;;
esac
case "$dflt" in
.) echo "(No help from resolv.conf either -- attempting clever guess)"
 dflt=.`sh -c domainname 2>/dev/null`
 case "$dflt" in
 ") dflt='.';;
 .nis.*|.yp.*|.main.*) dflt=`echo $dflt | $sed -e 's/^\.[^.]*//'`;;
 esac
 ;;
esac
case "$dflt$osname" in
.os390)
 file="//'SYS1.TCPPARMS(TCPDATA)'"
 echo "(Attempting domain name extraction from $file)"
 dflt=.`awk '/^DOMAINORIGIN/ {print $2}' "$file" 2>/dev/null`
 ;;
```

```
  esac
 case "$dflt" in
 .) echo "(Lost all hope -- silly guess then)"
  dflt='.nonet'
  ;;
 esac
 $rm -f hosts
 ;;
*) dflt="$mydomain";;
esac;;
esac
echo " "
rp="What is your domain name?"
.
 ./myread
tans="$ans"
case "$ans" in
") ;;
.*) ;;
*) tans=".$tans";;
esac
mydomain="$tans"

: translate upper to lower if necessary
case "$mydomain" in
*[A-Z]*)
 echo "(Normalizing case in your domain name)"
 mydomain=`echo $mydomain | ./tr '[A-Z]' '[a-z]'`
 ;;
esac

@end
: a little sanity check here
case "$phostname" in
") ;;
*)
 case `$phostname | ./tr '[A-Z]' '[a-z]'` in
 $myhostname$mydomain|$myhostname) ;;
 *)
  case "$phostname" in
  sed*)
   echo "(That doesn't agree with your whoami.h file, by the way.)"
   ;;
  *)
   echo "(That doesn't agree with your $phostname command, by the way.)"
   ;;
  esac
 ;;
```

```
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/myhostname.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setsid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setsid.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:06:49  ram
?RCS: patch16: created
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setsid: Inlibc
?MAKE: -pick add $@ %<
?S:d_setsid:
?S: This variable conditionally defines HAS_SETSID if setsid() is
?S: available to set the process group ID.
?S:.
?C:HAS_SETSID:
?C: This symbol, if defined, indicates that the setsid routine is
?C: available
 to set the process group ID.
?C:.
?H:#$d_setsid HAS_SETSID /**/
?H:.
?LINT:set d_setsid
: see if setsid exists
set setsid d_setsid
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setsid.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
```

?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_gethent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_gethent: Inlibc
?MAKE: -pick add $@ %<
?S:d_gethent:
?S: This variable conditionally defines HAS_GETHOSTENT if gethostent() is
?S: available to dup file descriptors.
?S:.
?C:HAS_GETHOSTENT (GETHOSTENT):
?C: This symbol, if defined, indicates that the gethostent routine is
?C: available to lookup host names in some data base or other.
?C:.
?H:#$d_gethent HAS_GETHOSTENT  /**/
?H:.
?LINT:set
 d_gethent
: see if gethostent exists
set gethostent d_gethent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_gethent.U
No license file was found, but licenses were detected in source scan.

Perl5 Metaconfig Units

    Copyright (c) 1996-1998, Andy Dougherty
    Copyright (c) 1999-2011, H.Merijn Brand
  All rights reserved.

These units are the ones I used to build Configure and config_h.SH
in the Perl5 distribution.

The Configure script and config_h.SH file in the Perl distribution are
generated by a program called metaconfig.  To run metaconfig, you will
need the full dist 3.0 distribution, maintained by Raphael Manfredi.
As of this writing, the current version is dist3.0, patchlevel 70.

Dist version dist-3.0@70.tar.gz is available on CPAN (the Comprehensive Perl Archive Network) as <http://www.perl.com/perl/CPAN/authors/id/RAM/dist-3.0@70.tar.gz>.

Instructions:

1. Unpack the full perl5 sources. Execute the following command

chmod +w Configure config_h.SH Porting/Glossary Porting/config*

2. Unpack the archive containing this file in the perl5 source directory. This will create a directory 'U' under the perl5 sources. That directory will contain the metaconfig units for perl5. This will also create two files in the perl5 source tree: MANIFEST.new and .package.

3. Apply any patches to perl in the perl_patches/ directory. (This may well be empty.)

4. Obtain and install dist-3.0pl70.

4. Apply any patches to dist under the dist_patches subdirectory.

5. From your main perl5 source directory, run packinit to regenerate the .package file. IMPORTANT: Change the name and address of the maintainer to your own name and address. I don't want bug reports intended for you coming to me.

6. From your main perl5 source directory, run

metalint (or mlint)

and repair every failure it reports.

7. From your main perl5 source directory, run

metaconfig -m (or mconfig -m)

8. Edit U/mkglossary and/or U/mkgloss.pl to point to your dist-3.0pl70 location. (See comments at the top.)

9. Run the U/mksample script to update the contents of the Porting/ subdirectory, or run all parts by hand. (see README)

10. Let me know about any changes, corrections, or enhancements.

Things to watch out for:

1. The Configure in 5.005 is a hand-patched version of that supplied
with perl5.004_74 or so. Most of the patches had to do with
supporting MPE/iX and EBCDIC systems. I have re-integrated most
of the changes back into metaconfig, but I don't really undertand
why MPE/iX needed some of the patches, so I may have missed
something important. I did try to flag questionable changes in
the individual units.
The Configure as generated in the 5.9.x branch leading towards
5.10, is also used exactly as is without changes in the 5.8.x
and 5.6.x branches, so do not remove support for features that
are availabvle in those branches, but are removed from devel (e.g.
perl5005threads).

2. Future support of better random number generators should probably
start with the randfunc.U unit included
here. It's currently
broken, but well commented and probably a good place to start.

Descriptions:

The units and other related files have been broken up into the following
directories:

acl/
This is an old patch to begin to detect and use ACL (access
control list) file protection schemes.

compline/
These are similar to the standard units, but I have modified them
to have a more uniform compile command line, usually using the new
Compile.U unit. I have submitted these for inclusion into the
regular dist distribution. (The ccflags.U unit is actually
perl-specific since it mentions -DDEBUGGING and -DPOSIX_SOURCE,
but that's the only place it is perl-specific.)

dist_patches/
These are patches to dist that must be applied before it is built
and installed. I have submitted these for inclusion in the
regular dist distribution.

modified/
These are modified versions of the standard units. Also included in
this directory are
new units that are clearly derived from existing
units. I have submitted these for inclusion in the regular dist
distribution.

perl/
  These are specific to perl.  Some are heavily derived from
  original dist units, and are marked as such.  Others are original.

perl_patches/
  These are patches to the perl source.  This directory
  should ordinarily be empty, but there may have been drift between
  the standard version of perl and the one associated with these
  units.

protos/
  These are units modified to use the new Hasproto.U or Protochk.U
  units to check for prototypes.  I have submitted these for inclusion
  into the regular dist distribution.

target/
  This is the very, very beginning of cross-compiler support.
  It doesn't work yet, and many standard units will need
  modification.

typedefs/
  These are standard units modified to use the modified Typedef.U
  unit to check for typedefs.  (The modified Typdef.U includes a
  function to
 avoid unnecessary prompts if the typdef being searched
  for exists.)  I have submitted these for inclusion into the
  regular dist distribution.

threads/
  These are specific to threading perl.

Copyright Information:

Unless otherwise indicated, the files contained in this
distribution are:

  Copyright (c) 1996-1998, Andy Dougherty

The following licensing terms apply to all files contained in
this distribution:

You may distribute the files contained in this distribution
under the terms of either

  a) the "Artistic License" which comes with Perl, or

  b) the "Artistic License" which comes with dist, or

c) the GNU General Public License as published by the Free
Software Foundation; either version 1, or (at your option) any
later version (see the file "Copying" that comes with the
Perl distribution).

Which one to use is your choice.

The units in the "modified" directory have been derived from units
associated with the metaconfig program of Raphael
Manfredi's "dist"
distribution. These units list Raphael Manfredi as the Copyright holder.
dist is distributed under a modified version of the Perl Artistic License.
Clause 7 of this modified license as contained in dist-3.0-pl60 provides:

7. You may reuse parts of this Package in your own programs, provided
that you explicitly state where you got them from, in the source code
(and, left to your courtesy, in the documentation), duplicating
all the associated copyright notices and disclaimers. Besides
your changes, if any, must be clearly marked as such. Parts reused
that way will no longer fall under this license if, and only if,
the name of your program(s) have no immediate connection with the
name of the Package itself or its associated programs. You may then
apply whatever restrictions you wish on the reused parts or choose
to place them in the Public Domain--this will apply only within the
context of your package.

In accordance with this
clause, the versions of these units
contained here are made available under the same terms as the
rest of the units.

If you have any questions about the use of these units or about
the differences between these units and the standard versions, please
feel free to ask.

Andy Dougherty doughera@lafayette.edu
Dept. of Physics
Lafayette College
Easton, PA 18042-1782

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/README.dist
No license file was found, but licenses were detected in source scan.

?RCS: $Id: orderlib.U,v 3.0.1.4 1997/02/28 16:18:18 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: orderlib.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:18:18  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS: patch61: now uses the ar located by Loc.U
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:33:04  ram
?RCS: patch45: allows hint files to specify their own value for 'ranlib'
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:26:48  ram
?RCS: patch36: now performs a real small compile for accurate
 checks (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:31:17  ram
?RCS: patch32: use cc variable instead of hardwired 'cc' in 1st compile
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:orderlib ranlib: Loc ar cat test rm +cc +ccflags +ldflags +libs i_stdlib _a _o run
?MAKE: -pick add $@ %<
?S:orderlib:
?S: This variable is "true" if the components of libraries must be ordered
?S: (with `lorder $* | tsort`) before placing them in an archive.  Set to
?S: "false" if ranlib or ar can generate random libraries.
?S:.
?S:ranlib:
?S: This variable is set to the pathname of the ranlib program, if it is
?S: needed to generate random libraries.  Set to ":" if ar can generate
?S: random libraries or if random libraries are not supported
?S:.
?F:!foobar
: see if ar generates random libraries by itself
echo " "
echo "Checking how to generate random libraries on your machine..." >&4
?X: Some systems (like MIPS) complain when running
 ar... Others like Ultrix
?X: need an explicit 'ar ts' to add the table of contents.
?X: Still others like Linux run ar ts successfully, but still need ranlib.
?X: This set of tests seems the minimum necessary to check out Linux.
?X: We need to explicitly put the entries in out-of-order so that Sun's ld
```

```
?X: will fail.  (Otherwise it complains, but gives an exit status of 0.)
echo 'int bar1() { return bar2(); }' > bar1.c
echo 'int bar2() { return 2; }' > bar2.c
$cat > foo.c <<EOP
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
int main() { printf("%d\n", bar1()); exit(0); }
EOP
$cc $ccflags -c bar1.c >/dev/null 2>&1
$cc $ccflags -c bar2.c >/dev/null 2>&1
$cc $ccflags -c foo.c >/dev/null 2>&1
$ar rc bar$_a bar2$_o bar1$_o >/dev/null 2>&1
if $cc -o foobar $ccflags $ldflags foo$_o bar$_a $libs > /dev/null 2>&1 &&
 $run ./foobar >/dev/null 2>&1; then
 echo "$ar appears to generate random libraries itself."
 orderlib=false
 if [ "X$ranlib" = "X" ]; then
    ranlib=":"
 fi
elif
 $ar s bar$_a >/dev/null 2>&1 &&
 $cc -o foobar $ccflags $ldflags foo$_o bar$_a $libs > /dev/null 2>&1 &&
 $run ./foobar >/dev/null 2>&1; then
  echo "a table of contents needs to be added with '$ar s'."
  orderlib=false
  ranlib="$ar s"
elif $ar ts bar$_a >/dev/null 2>&1 &&
 $cc -o foobar $ccflags $ldflags foo$_o bar$_a $libs > /dev/null 2>&1 &&
 $run ./foobar >/dev/null 2>&1; then
  echo "a table of contents needs to be added with '$ar ts'."
  orderlib=false
  ranlib="$ar ts"
else
?X: Allow hints to specify their own ranlib "script". For instance, on
?X: some NeXT machines, the timestamp put by ranlib is not correct, and this
?X: may raise tedious recompiles for nothing. Therefore, NeXT may add the
?X: ranlib='sleep 5; /bin/ranlib' line in their hints to "fix" that.
?X: (reported by Andreas Koenig <k@franz.ww.tu-berlin.de>)
 case "$ranlib" in
 :) ranlib=";;
 ")
  ranlib=`./loc ranlib X /usr/bin /bin /usr/local/bin`
  $test -f $ranlib || ranlib="
  ;;
 esac
 if $test -n "$ranlib";
```

```
 then
  echo "your system has '$ranlib'; we'll use that."
  orderlib=false
 else
  echo "your system doesn't seem to support random libraries"
  echo "so we'll use lorder and tsort to order the libraries."
  orderlib=true
  ranlib=":"
 fi
fi
$rm -f foo* bar*

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/orderlib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_euc2jis.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_euc2jis.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_euc2jis: Inlibc
?MAKE: -pick add $@ %<
?S:d_euc2jis:
?S: This variable conditionally defines the HAS_EUC2JIS symbol, which
?S: indicates to the C program that the euc2jis() routine is available
?S: to convert EUC to JIS.
?S:.
?C:HAS_EUC2JIS:
?C: This symbol, if defined, indicates that the euc2jis routine is
?C: available to convert
 EUC to JIS.
?C:.
?H:#$d_euc2jis HAS_EUC2JIS  /**/
?H:.
?LINT:set d_euc2jis
: see if euc2jis exists
set euc2jis d_euc2jis
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_euc2jis.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_ieeefp.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_ieeefp: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_ieeefp:
?S: This variable conditionally defines the I_IEEEFP symbol, and indicates
?S: whether a C program should include <ieeefp.h>.
?S:.
?C:I_IEEEFP:
?C: This symbol, if defined, indicates that <ieeefp.h> exists and
?C: should be included.
?C:.
?H:#$i_ieeefp I_IEEEFP  /**/
?H:.
?LINT:set i_ieeefp
: see if this is a ieeefp.h system
case "$i_ieeefp" in
" ) set ieeefp.h i_ieeefp
   eval $inhdr
   ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_ieeefp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: ccflags.U,v 3.0.1.9 1997/02/28 15:27:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: ccflags.U,v $
?RCS: Revision 3.0.1.9  1997/02/28  15:27:07  ram
```

?RCS: patch61: removed support for NO_PROTOTYPE detection on SCO
?RCS: patch61: new locincpth variable
?RCS: patch61: added info on the "additional ld flags" question
?RCS:
?RCS: Revision 3.0.1.8  1995/07/25  13:48:54  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
?RCS: Revision 3.0.1.7  1995/05/12  12:08:33  ram
?RCS: patch54: now checks for cc/ccflags/ldflags
 coherency
?RCS:
?RCS: Revision 3.0.1.6  1994/10/29  16:07:02  ram
?RCS: patch36: gcc versioning no longer relies on the C compiler's name
?RCS: patch36: simplified check for gcc version checking (ADO)
?RCS:
?RCS: Revision 3.0.1.5  1994/08/29  16:06:35  ram
?RCS: patch32: propagate -posix flag from ccflags to ldflags
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  14:28:45  ram
?RCS: patch23: -fpcc-struct-return only needed in gcc 1.x (ADO)
?RCS: patch23: cppflags now computed on an option-by-option basis
?RCS: patch23: magically added cc flags now only done the first time
?RCS:
?RCS: Revision 3.0.1.3  1993/09/13  15:58:29  ram
?RCS: patch10: explicitly mention -DDEBUG just in case they need it (WAD)
?RCS: patch10: removed all the "tans" variable usage (WAD)
?RCS:
?RCS: Revision 3.0.1.2  1993/08/27  14:39:38  ram
?RCS: patch7: added support for OSF/1 machines
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:00:24  ram
?RCS: patch6: added defaults for cppflags, ccflags and ldflags
?RCS:
?RCS:
 Revision 3.0  1993/08/18  12:05:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:ccflags ldflags lkflags cppflags optimize locincpth: test cat osname \
 Myread Guess Options Oldconfig +gccversion mips_type +usrinc \
 package contains rm +cc cppstdin cppminus cpprun cpplast libpth \
 libs loclibpth hint usesocks sh run rm_try sysroot
?MAKE: -pick add $@ %<
?S:ccflags:
?S: This variable contains any additional C compiler flags desired by
?S: the user.  It is up to the Makefile to use this.
?S:.
?S:cppflags:
?S: This variable holds the flags that will be passed to the C pre-

```
?S: processor. It is up to the Makefile to use it.
?S:.
?S:optimize:
?S: This variable contains any optimizer/debugger flag that should be used.
?S: It is up to the Makefile to use it.
?S:.
?S:ldflags:
?S: This variable contains any additional C loader flags desired by
?S: the user.  It is up to the Makefile to use this.
?S:.
?S:lkflags:
?S: This variable contains any additional C partial linker flags
 desired by
?S: the user.  It is up to the Makefile to use this.
?S:.
?S:locincpth:
?S: This variable contains a list of additional directories to be
?S: searched by the compiler.  The appropriate '-I' directives will
?S: be added to ccflags.  This is intended to simplify setting
?S: local directories from the Configure command line.
?S: It's not much, but it parallels the loclibpth stuff in libpth.U.
?S:.
?T:inctest thisincl xxx inclwanted ftry previous thislibdir
?T:EBUGGING DEBUGGING
?T:check flag callback checkccflag
?F:!cpp.c !gcctest !try
?D:cppflags="
?D:ccflags="
?D:ldflags="
?D:optimize="
?LINT:extern _sysroot
?INIT:: Possible local include directories to search.
?INIT:: Set locincpth to "" in a hint file to defeat local include searches.
?INIT:locincpth="/usr/local/include /opt/local/include /usr/gnu/include"
?INIT:locincpth="$locincpth /opt/gnu/include /usr/GNU/include /opt/GNU/include"
?INIT::
?INIT:: no include file wanted by default
?INIT:inclwanted="
?INIT:
?INIT::
 Enable -DEBUGGING and -DDEBUGGING from the command line
?INIT:EBUGGING="
?INIT:DEBUGGING="
?INIT:
: determine optimization, if desired, or use for debug flag also
?X: Allow for Configure -Uoptimize -- it's not strictly sensible, but
?X: it has happened and we know what they mean.   AD  2/16/98
case "$optimize" in
```

```
' '|$undef) dflt='none';;
'') dflt='-O';;
*) dflt="$optimize";;
esac
$cat <<EOH

By default, $package compiles with the -O flag to use the optimizer.
Alternately, you might want to use the symbolic debugger, which uses
the -g flag (on traditional Unix systems).  Either flag can be
specified here.  To use neither flag, specify the word "none".

EOH
rp="What optimizer/debugger flag should be used?"
. ./myread
optimize="$ans"
case "$optimize" in
'none') optimize=" ";;
esac

: Check what DEBUGGING is required from the command line
: -DEBUGGING      or -DDEBUGGING or
: -DEBUGGING=both   = -g + -DDEBUGGING
: -DEBUGGING=-g   or -Doptimize=-g = -g
: -DEBUGGING=none or -UDEBUGGING =
:
 -DEBUGGING=old  or -DEBUGGING=default = ? $optimize
case "$EBUGGING" in
'') ;;
*) DEBUGGING=$EBUGGING ;;
esac

case "$DEBUGGING" in
-g|both|$define)
  case "$optimize" in
 *-g*) ;;
 *)    optimize="$optimize -g" ;;
  esac ;;
none|$undef)
  case "$optimize" in
 *-g*) set `echo "X $optimize " | sed 's/ -g / /'`
  shift
  optimize="$*"
  ;;
  esac ;;
esac

dflt=''
case "$DEBUGGING" in
```

```
both|$define) dflt='-DDEBUGGING'
esac

: argument order is deliberate, as the flag will start with - which set could
: think is an option
checkccflag='check=$1; flag=$2; callback=$3;
echo " ";
echo "Checking if your compiler accepts $flag" 2>&1;
[ "X$sysroot" != "X" ] && echo "For sysroot = $sysroot";
echo "int main(void) { return 0; }" > gcctest.c;
if $cc $_sysroot -O2 $flag -o gcctest gcctest.c 2>gcctest.out && $run ./gcctest; then
   echo "Yes, it does." 2>&1;
   if $test -s gcctest.out ; then
      echo "But your platform does not like it:";
      cat gcctest.out;
   else
 case "$ccflags"
 in
 *$check*)
     echo "Leaving current flags $ccflags alone." 2>&1
     ;;
 *) dflt="$dflt $flag";
     eval $callback
     ;;
 esac
   fi
else
   echo "Nope, it does not, but that is ok." 2>&1;
fi
'

: We will not override a previous value, but we might want to
: augment a hint file
case "$hint" in
default|recommended)
 case "$gccversion" in
 1*) dflt="$dflt -fpcc-struct-return" ;;
 esac
 case "$optimize:$DEBUGGING" in
 *-g*:old) dflt="$dflt -DDEBUGGING";;
 esac
?X: check for POSIXized ISC
 case "$gccversion" in
 2*) if $test -d /etc/conf/kconfig.d &&
   $contains _POSIX_VERSION $usrinc/sys/unistd.h >/dev/null 2>&1
  then
   # Interactive Systems (ISC) POSIX mode.
   dflt="$dflt -posix"
```

```
 fi
 ;;
esac
?X: If the user has gcc-2.95 or greater, try adding -fno-strict-alias.
?X: Since the gcc "version" can be non-numeric, e.g.
?X: "2.95.1 19990809 (prerelease)" , we'll do the test on any version
?X: greater than 2.8.
?X: --Andy Dougherty  27 Aug 1999
case "$gccversion" in
1*) ;;
2.[0-8]*)
;;
?*) set strict-aliasing -fno-strict-aliasing
 eval $checkccflag
 ;;
esac
?X: HMB 200405
?X: -pipe has shown a compile time speedup of about 40% on Linux and HP-UX
?X: and also worked on cygwin-1.5.9
?X: If a system fails, disable it in the hints. 99% of gcc uses binutils
# For gcc, adding -pipe speeds up compilations for some, but apparently
# some assemblers can't read from stdin.  (It also slows down compilations
# in other cases, but those are apparently rarer these days.)  AD 5/2004.
case "$gccversion" in
?*) set pipe -pipe
 eval $checkccflag
 ;;
esac

?X: NWC 200712
# on x86_64 (at least) we require an extra library (libssp) in the
# link command line. This library is not named, so I infer that it is
# an implementation detail that may change. Hence the safest approach
# is to add the flag to the flags passed to the compiler at link time,
# as that way the compiler can do the right implementation dependant
# thing. (NWC)
case "$osname" in
amigaos)
;; # -fstack-protector builds but doesn't work
*) case "$gccversion" in
 ?*) set stack-protector-strong -fstack-protector-strong
  eval $checkccflag
  case "$dflt" in
  *-fstack-protector-strong*) ;; # It got added.
  *) # Try the plain/older -fstack-protector.
     set stack-protector -fstack-protector
     eval $checkccflag
     ;;
```

```
  esac
  ;;
 esac
 ;;
esac
;;
esac

?X: In USG mode, a MIPS system may need some BSD includes
case "$mips_type" in
*BSD*|'') inclwanted="$locincpth $usrinc";;
*) inclwanted="$locincpth $inclwanted $usrinc/bsd";;
esac
for thisincl in $inclwanted; do
 if $test -d $thisincl; then
  if $test x$thisincl != x$usrinc; then
   case "$dflt" in
   *" -I$thisincl "*);;
   *) dflt="$dflt -I$thisincl ";;
   esac
  fi
 fi
done

?X: Include test function (header, symbol)
inctest='if $contains $2 $usrinc/$1 >/dev/null 2>&1; then
 xxx=true;
elif $contains $2 $usrinc/sys/$1 >/dev/null 2>&1; then
 xxx=true;
else
 xxx=false;
fi;
if $xxx; then
 case "$dflt" in
 *$2*);;
 *)
 dflt="$dflt -D$2";;
 esac;
fi'

set signal.h LANGUAGE_C; eval $inctest

case "$usesocks" in
$define)
 ccflags="$ccflags -DSOCKS"
 ;;
esac
```

```
case "$hint" in
default|recommended) dflt="$ccflags $dflt" ;;
*) dflt="$ccflags";;
esac

case "$dflt" in
"|' ') dflt=none;;
esac

$cat <<EOH

Your C compiler may want other flags.  For this question you should include
-I/whatever and -DWHATEVER flags and any other flags used by the C compiler,
but you should NOT include libraries or ld flags like -lwhatever.  If you
want $package to honor its debug switch, you should include -DDEBUGGING here.
Your C compiler might also need additional flags, such as -D_POSIX_SOURCE.

To use no flags, specify the word "none".

EOH
?X: strip leading space
set X $dflt
shift
dflt=${1+"$@"}
rp="Any additional cc flags?"
. ./myread
case "$ans" in
none) ccflags="";;
*) ccflags="$ans";;
esac

: the following weeds options from ccflags that are of no interest to cpp
case "$cppflags" in
'') cppflags="$ccflags"
 ;;
*)  set X $ccflags; shift
   case " $cppflags " in
   *" $1 "*) ;;  # Try to avoid doubling the cppflags.
   *) cppflags="$cppflags $ccflags" ;;
   esac
   ;;
esac
case "$gccversion" in
1*) cppflags="$cppflags -D__GNUC__"
esac
case "$mips_type" in
'');;
*BSD*) cppflags="$cppflags -DSYSTYPE_BSD43";;
```

```
esac
case "$cppflags" in
");;
*)
 echo " "
 echo "Let me guess what the preprocessor flags are..." >&4
 set X $cppflags
 shift
 cppflags="
 $cat >cpp.c <<'EOM'
#define BLURFL foo

BLURFL xx LFRULB
EOM
?X:
?X: For each cc flag, try it out with both cppstdin and cpprun, since the
?X: first is almost surely a cc wrapper. We have to try both in case
?X: of cc flags like '-Olimit 2900' that are actually two words...
?X:
 previous="
 for flag in $*
 do
  case "$flag" in
  -*) ftry="$flag";;
  *) ftry="$previous $flag";;
  esac
  if $cppstdin -DLFRULB=bar $cppflags $ftry $cppminus <cpp.c \
   >cpp1.out 2>/dev/null && \
   $cpprun -DLFRULB=bar $cppflags $ftry $cpplast <cpp.c \
   >cpp2.out
 2>/dev/null && \
   $contains 'foo.*xx.*bar' cpp1.out >/dev/null 2>&1 && \
   $contains 'foo.*xx.*bar' cpp2.out >/dev/null 2>&1
  then
   cppflags="$cppflags $ftry"
   previous="
  else
   previous="$flag"
  fi
 done
 set X $cppflags
 shift
 cppflags=${1+"$@"}
 case "$cppflags" in
 *-*)  echo "They appear to be: $cppflags";;
 esac
 $rm -f cpp.c cpp?.out
 ;;
```

```
esac

: flags used in final linking phase
case "$ldflags" in
'') if ./venix; then
  dflt='-i -z'
 else
  dflt=''
 fi
 case "$ccflags" in
 *-posix*) dflt="$dflt -posix" ;;
 esac
 ;;
*) dflt="$ldflags";;
esac
# See note above about -fstack-protector
case "$ccflags" in
*-fstack-protector-strong*)
 case "$dflt" in
 *-fstack-protector-strong*) ;; # Don't add it again
 *) dflt="$dflt -fstack-protector-strong" ;;
 esac
 ;;
*-fstack-protector*)
 case "$dflt" in
 *-fstack-protector*) ;; # Don't add it again
 *) dflt="$dflt -fstack-protector" ;;
 esac
 ;;
esac

: Try to guess additional flags to pick up local libraries.
for thislibdir in $libpth;
 do
 case " $loclibpth " in
 *" $thislibdir "*)
  case "$dflt " in
  *"-L$thislibdir "*) ;;
  *)  dflt="$dflt -L$thislibdir" ;;
  esac
  ;;
 esac
done

case "$dflt" in
'') dflt='none' ;;
esac
```

```
$cat <<EOH

Your C linker may need flags.  For this question you should
include -L/whatever and any other flags used by the C linker, but you
should NOT include libraries like -lwhatever.

Make sure you include the appropriate -L/path flags if your C linker
does not normally search all of the directories you specified above,
namely
 $libpth
To use no flags, specify the word "none".

EOH

rp="Any additional ld flags (NOT including libraries)?"
. ./myread
case "$ans" in
none) ldflags=";;
*) ldflags="$ans";;
esac
rmlist="$rmlist pdp11"

@if lkflags
: partial linking may need other flags
case "$lkflags" in
") case "$ldflags" in
 ") dflt='none';;
 *) dflt="$ldflags";;
 esac;;
*) dflt="$lkflags";;
esac
echo " "
rp="Partial linking flags to be used (NOT including -r)?"
. ./myread
case "$ans" in
none)
 lkflags=";;
*) lkflags="$ans";;
esac

@end
?X:
?X: If the user changes compilers after selecting a hint file, it's
?X: possible that the suggested ccflags/ldflags will be wrong.  Try to
?X: compile and run a simple test program.  Let the user see all the
?X: error messages. -- ADO and RAM
?X: Sometimes, particularly on Linux systems, there is a bad library
?X: (e.g. a dangling symlink or incompatible library or a "run-time"
```

```
?X: version but not a "development" version of a library).  This test
?X: will catch those sorts of problems too, though how to fix them
?X: may not be obvious.
?X:
: coherency check
echo " "
echo "Checking your choice of C compiler and flags for coherency..." >&4
$cat > try.c <<'EOF'
#include <stdio.h>
int main() { printf("Ok\n"); return(0); }
EOF
?X: Strip extra blanks in case some of the following variables are empty
set X $cc -o try $optimize $ccflags $ldflags try.c $libs
shift
$cat >try.msg <<'EOM'
I've tried to compile and run the following simple program:

EOM
$cat
 try.c >> try.msg

$cat >> try.msg <<EOM

I used the command:

 $*
 $run ./try

and I got the following output:

EOM
dflt=y
?X: Use "sh -c" to avoid error messages tagged with leading "Configure:".
?X: We need to try the resulting executable, because cc might yield a 0 status
?X: even when ld failed, in which case the executable will not run properly,
?X: if its x bit is set at all...
if $sh -c "$cc -o try $optimize $ccflags $ldflags try.c $libs" >>try.msg 2>&1; then
 if $sh -c "$run ./try " >>try.msg 2>&1; then
  xxx=`$run ./try`
  case "$xxx" in
  "Ok") dflt=n ;;
  *)    echo 'The program compiled OK, but produced no output.' >> try.msg ;;
  esac
 else
  echo "The program compiled OK, but exited with status $?." >>try.msg
  rp="You have a problem.  Shall I abort Configure"
  dflt=y
 fi
```

```
else
 echo "I can't compile the test program." >>try.msg
 rp="You have a BIG problem.  Shall I abort Configure"
 dflt=y
fi
case "$dflt" in
y)
 $cat try.msg >&4
?X: using -K will prevent
 default aborting--maybe they're cross compiling?
 case "$knowitall" in
 '')
  echo "(The supplied flags or libraries might be incorrect.)"
  ;;
 *) dflt=n;;
 esac
 echo " "
 . ./myread
 case "$ans" in
 n*|N*) ;;
 *) echo "Ok.  Stopping Configure." >&4
  exit 1
  ;;
 esac
 ;;
n) echo "OK, that should do.";;
esac
$rm_try gcctest gcctest.out
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/ccflags.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_static_inline.U,v $
?RCS:
?RCS: Copyright (c) 2010 Andrew Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafayette.edu>
?RCS:
?MAKE:d_static_inline perl_static_inline: Compile Setvar gccversion \
 cat echo run hint rm rm_try
?MAKE: -pick add $@ %<
```

```
?S:d_static_inline:
?S: This variable conditionally defines the HAS_STATIC_INLINE symbol,
?S: which indicates that the C compiler supports C99-style static
?S: inline.  That is, the function can't be called from another
?S: translation unit.
?S:.
?S:perl_static_inline:
?S: This variable defines the PERL_STATIC_INLINE
 symbol to
?S: the best-guess incantation to use for static inline functions.
?S: Possibilities include
?S:  static inline       (c99)
?S:  static __inline__   (gcc -ansi)
?S:  static __inline     (MSVC)
?S:  static _inline      (older MSVC)
?S:  static              (c89 compilers)
?S:.
?C:HAS_STATIC_INLINE :
?C: This symbol, if defined, indicates that the C compiler supports
?C: C99-style static inline.  That is, the function can't be called
?C: from another translation unit.
?C:.
?C:PERL_STATIC_INLINE:
?C: This symbol gives the best-guess incantation to use for static
?C: inline functions.  If HAS_STATIC_INLINE is defined, this will
?C: give C99-style inline.  If HAS_STATIC_INLINE is not defined,
?C: this will give a plain 'static'.  It will always be defined
?C: to something that gives static linkage.
?C: Possibilities include
?C:  static inline       (c99)
?C:  static __inline__   (gcc -ansi)
?C:  static __inline     (MSVC)
?C:  static _inline      (older MSVC)
?C:  static
        (c89 compilers)
?C:.
?H:#$d_static_inline HAS_STATIC_INLINE    /**/
?H:#define PERL_STATIC_INLINE $perl_static_inline /**/
?H:.
?LINT:set d_static_inline
?T:inline xxx
?F:!try
: see what flavor, if any, of static inline is supported
echo " "
echo "Checking to see if your system supports static inline..."
?X: Build two programs.  The first uses static inline in file a.c and
?X: should work.  The second also includes b.c which tries to link against
?X: the static function in a.c.  This should fail.
```

```
?X:.
$cat > try.c <<'EOCP'
#include <stdlib.h>
extern int f_via_a(int x);
extern int f_via_b(int x);
int main(int argc, char **argv)
{
  int y;

  y = f_via_a(0);
#ifdef USE_B
  y = f_via_b(0);
#endif
  if (y == 42) {
     return EXIT_SUCCESS;
  }
  else {
     return EXIT_FAILURE;
  }
}
EOCP
$cat > a.c <<'EOCP'
static INLINE int f(int x) {
  int y;
  y = x + 42;
  return y;
}

int f_via_a(int x)
{
  return f(x);
}
EOCP
$cat > b.c <<'EOCP'
extern int f(int x);

int
 f_via_b(int x)
{
  return f(x);
}
EOCP

# Respect a hint (or previous) value for perl_static_inline, if there is one.
case "$perl_static_inline" in
'') # Check the various possibilities, and break out on success.
 # For gcc, prefer __inline__, which will still permit
 # cflags.SH to add in -ansi.
```

```
case "$gccversion" in
 ") xxx="inline __inline__ __inline _inline";;
 *)  xxx="__inline__ inline __inline _inline";;
esac
for inline in $xxx; do
 set try -DINLINE=$inline a.c
 if eval $compile && $run ./try; then
  # Now make sure there is no external linkage of static
  # functions
  set try -DINLINE=$inline -DUSE_B a.c b.c
  if eval $compile && $run ./try; then
   $echo "Your compiler supports static $inline, " >&4
   $echo "but it also creates an external definition," >&4
   $echo "so I won't use it." >&4
   val=$undef
  else
   $echo "Your compiler supports static $inline." >&4
   val=$define
   perl_static_inline="static $inline";
   break;
  fi
 else
  $echo
"Your compiler does NOT support static $inline." >&4
  val="$undef"
 fi
done
;;
*inline*) # Some variant of inline exists.
 echo "Keeping your $hint value of $perl_static_inline."
 val=$define
 ;;
static)  # No inline capabilities
 echo "Keeping your $hint value of $perl_static_inline."
 val=$undef
 ;;
*)  # Unrecognized previous value -- blindly trust the supplied
 # value and hope it makes sense.  Use old value for
 # d_static_inline, if there is one.
 echo "Keeping your $hint value of $perl_static_inline."
 case "$d_static_inline" in
  ") val=$define ;;
  *)  val=$d_static_inline ;;
 esac
 ;;
esac
# Fallback to plain 'static' if nothing worked.
case "$perl_static_inline" in
```

")
 perl_static_inline="static"
 val=$undef
 ;;
esac
set d_static_inline
eval $setvar
$rm -f a.[co] b.[co]
$rm_try

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_static_inline.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getprotoprotos.U,v $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_getprotoprotos : Hasproto i_netdb
?MAKE: -pick add $@ %<
?S:d_getprotoprotos:
?S: This variable conditionally defines the HAS_GETPROTO_PROTOS symbol,
?S: which indicates to the C program that <netdb.h> supplies
?S: prototypes for the various getproto*() functions.
?S: See also netdbtype.U for probing for various netdb types.
?S:.
?C:HAS_GETPROTO_PROTOS:
?C: This symbol, if defined, indicates that <netdb.h> includes
?C: prototypes for getprotoent(), getprotobyname(), and
?C: getprotobyaddr().
  Otherwise, it is up to the program to guess
?C: them.  See netdbtype.U for probing for various Netdb_xxx_t types.
?C:.
?H:#$d_getprotoprotos HAS_GETPROTO_PROTOS /**/
?H:.
?LINT:set d_getprotoprotos
: see if prototypes for various getprotoxxx netdb.h functions are available
echo " "
set d_getprotoprotos getprotoent $i_netdb netdb.h
eval $hasproto

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/d_getprotoprotos.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Finish.U,v $
?RCS: Revision 3.0.1.6  1995/02/15  14:09:30  ram
?RCS: patch51: now clearer about how to edit config.sh at the prompt (WED)
?RCS:
?RCS: Revision 3.0.1.5  1994/10/29  15:53:14  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  14:19:37  ram
?RCS: patch23: added blank lines around 'End of Configure'
?RCS:
?RCS: Revision 3.0.1.3  1993/10/16  13:46:09  ram
?RCS: patch12: replaced Config_h by Magic_h in the dependency line
?RCS:
?RCS:
 Revision 3.0.1.2  1993/09/13  15:45:26  ram
?RCS: patch10: fixed shell evaluation w/o shell escape while in silent mode
?RCS:
?RCS: Revision 3.0.1.1  1993/08/30  08:55:59  ram
?RCS: patch8: prevents myread from blocking on empty answers, exceptionally
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit is the very last one in the Configure script.  It runs all the
?X: SH files, which among other things produce config.h and (usually) Makefile.
?X: It offers to do a make depend if the Makefile contains that target.
?X:
?MAKE:Finish: Chk_MANI Extract Myread Oldsym Magic_h cat rm contains \
 test package make
?MAKE: -pick add $@ %<
?F:!config.sh
?T:pwd
: Finish up by extracting the .SH files
case "$alldone" in
```

```
exit)
?X: They supplied the -E switch
 echo "Stopping at your request, leaving temporary files around."
 exit 0
 ;;
cont)
 ;;
")
 dflt="
 nostick=true
 $cat <<EOM

If you'd like to make any changes to the config.sh
 file before I begin
to configure things, do it as a shell escape now (e.g. !vi config.sh).

EOM
 rp="Press return or use a shell escape to edit config.sh:"
 . UU/myread
 nostick="
 case "$ans" in
 ") ;;
 *) : in case they cannot read
  sh 1>&4 -c "$ans";;
 esac
 ;;
esac

: if this fails, just run all the .SH files by hand
. ./config.sh

?X:
?X: Turn silent mode off from now on (we want a verbose file extraction).
?X: This means we have to explicitly test for '$silent' from now on to
?X: strip off any verbose messages.
?X:
echo " "
exec 1>&4
pwd=`pwd`
. ./UU/extract
cd "$pwd"

if $contains '^depend:' [Mm]akefile >/dev/null 2>&1; then
 dflt=y
 case "$silent" in
 true) ;;
 *)
  $cat <<EOM
```

```
Now you need to generate make dependencies by running "$make depend".
You might prefer to run it in background: "$make depend > makedepend.out &"
It can take a while, so you might not want to run it right now.

EOM
  ;;
 esac
 rp="Run $make depend now?"
 . UU/myread
 case "$ans" in
 y*)
  $make depend
 && echo "Now you must run '$make'."
  ;;
 *)
  echo "You must run '$make depend' then '$make'."
  ;;
 esac
elif test -f [Mm]akefile; then
 echo " "
 echo "Now you must run a $make."
else
 echo "Configure done."
fi

if $test -f Policy.sh; then
   $cat <<EOM

If you compile $package on a different machine or from a different object
directory, copy the Policy.sh file from this object directory to the
new one before you run Configure -- this will help you with most of
the policy defaults.

EOM
fi
if $test -f UU/config.msg; then
   echo "Hmm.  I also noted the following information while running:"
   echo " "
   $cat UU/config.msg >&4
fi
?X:
?X: kit*isdone files are left over by shell archives built using the makedist
?X: script which comes from dist, while ark*isdone files are left over by
?X: the cshar archive maker.
?X:
$rm -f kit*isdone ark*isdone
$rm -rf UU
```

: End of Configure

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Finish.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_strchr.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strchr.U,v $
?RCS: Revision 3.0.1.2  1993/10/16  13:49:20  ram
?RCS: patch12: added support for HAS_INDEX
?RCS: patch12: added magic for index() and rindex()
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:05:26  ram
?RCS: patch10: now only defines HAS_STRCHR, no macro remap of index (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:32  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_strchr d_index: contains strings Setvar Myread Oldconfig
 Csym
?MAKE: -pick add $@ %<
?S:d_strchr:
?S: This variable conditionally defines HAS_STRCHR if strchr() and
?S: strrchr() are available for string searching.
?S:.
?S:d_index:
?S: This variable conditionally defines HAS_INDEX if index() and
?S: rindex() are available for string searching.
?S:.
?C:HAS_STRCHR:
?C: This symbol is defined to indicate that the strchr()/strrchr()
?C: functions are available for string searching. If not, try the
?C: index()/rindex() pair.
?C:.
?C:HAS_INDEX:
?C: This symbol is defined to indicate that the index()/rindex()
?C: functions are available for string searching.
?C:.

```
?H:#$d_strchr HAS_STRCHR /**/
?H:#$d_index HAS_INDEX /**/
?H:.
?M:index: HAS_INDEX
?M:#ifndef HAS_INDEX
?M:#ifndef index
?M:#define index strchr
?M:#endif
?M:#endif
?M:.
?M:rindex: HAS_INDEX
?M:#ifndef HAS_INDEX
?M:#ifndef rindex
?M:#define rindex strrchr
?M:#endif
?M:#endif
?M:.
?T:vali
?LINT:set d_strchr d_index
: index or strchr
echo " "
if set index val -f; eval $csym; $val; then
 if
 set strchr val -f d_strchr; eval $csym; $val; then
  if $contains strchr "$strings" >/dev/null 2>&1 ; then
?X: has index, strchr, and strchr in string header
   val="$define"
   vali="$undef"
   echo "strchr() found." >&4
  else
?X: has index, strchr, and no strchr in string header
   val="$undef"
   vali="$define"
   echo "index() found." >&4
  fi
 else
?X: has only index, no strchr, string header is a moot point
  val="$undef"
  vali="$define"
  echo "index() found." >&4
 fi
else
 if set strchr val -f d_strchr; eval $csym; $val; then
  val="$define"
  vali="$undef"
  echo "strchr() found." >&4
 else
  echo "No index() or strchr() found!" >&4
```

```
  val="$undef"
  vali="$undef"
 fi
fi
set d_strchr; eval $setvar
val="$vali"
set d_index; eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strchr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_umask.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_umask.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:14:50  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_umask: Inlibc
?MAKE: -pick add $@ %<
?S:d_umask:
?S: This variable conditionally defines the HAS_UMASK symbol, which
?S: indicates to the C program that the umask() routine is available.
?S: to set and get the value of the file creation mask.
?S:.
?C:HAS_UMASK :
?C: This
 symbol, if defined, indicates that the umask routine is
?C: available to set and get the value of the file creation mask.
?C:.
?H:#$d_umask HAS_UMASK  /**/
?H:.
?LINT:set d_umask
: see if umask exists
set umask d_umask
eval $inlibc
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_umask.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can be doted in order to extract
?X: .SH files with variable substitutions.
?X:
?X: When running Configure from a remote directory ($src
 is not '.'),
?X: then the files will be created in that directory, so beware!
?X:
?MAKE:Extract: Mkdirp src
?MAKE: -pick add $@ %<
?F:./extract
?T:CONFIG SRC dir file
: script used to extract .SH files with variable substitutions
cat >extract <<EOS
CONFIG=true
SRC="$src"
EOS
cat >>extract <<'EOS'
echo "Doing variable substitutions on .SH files..."
if test -f "$SRC/MANIFEST"; then
 set x `awk '{print $1}' <$SRC/MANIFEST | grep '\.SH'`
else
 echo "(Looking for .SH files under the source directory.)"
 set x `(cd "$SRC"; find . -name "*.SH" -print)`
fi
```

```
shift
case $# in
0) set x `(cd "$SRC"; echo *.SH)`; shift;;
esac
if test ! -f "$SRC/$1"; then
 shift
fi
for file in $*; do
 case "$SRC" in
 ".")
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (cd $dir && . ./$file)
   ;;
  *)
   . ./$file
   ;;
  esac
  ;;
 *)
?X:
?X: When running Configure remotely ($src is not '.'), we cannot source
?X: the files directly, since that would wrongly cause
 the extraction
?X: where the source lie instead of withing the current directory. Therefore,
?X: we need to 'sh <file' then, which is okay since they will source the
?X: existing config.sh file. It's not possible to use:
?X:  ../src/Configure -S -O -Dsomething
?X: unfortunately since no new config.sh with the -Dsomething override
?X: will be created before running the .SH files. A minor buglet.
?X:
?X: Note that we must create the directory hierarchy ourselves if it does
?X: not exist already, and that is done through a shell emulation of the
?X: 'mkdir -p' command. We don't want to use the $installdir metaconfig
?X: symbol here since that would require too much to be configured for
?X: this simple extraction task that may happen quickly with 'Configure -S'.
?X:  -- RAM, 18/03/96
?X:
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   ./mkdirp $dir
   sh <"$SRC/$dir/$file"
   ;;
  *)
```

```
  sh <"$SRC/$file"
  ;;
 esac
 ;;
esac
done
if
 test -f "$SRC/config_h.SH"; then
 if test ! -f config.h; then
?X: oops, they left it out of MANIFEST, probably, so do it anyway.
  sh <"$SRC/config_h.SH"
 fi
fi
EOS
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Extract.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_msgsnd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_msgsnd.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:41  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_msgsnd: Inlibc
?MAKE: -pick add $@ %<
?S:d_msgsnd:
?S: This variable conditionally defines the HAS_MSGSND symbol, which
?S: indicates to the C program that the msgsnd() routine is available.
?S:.
?C:HAS_MSGSND:
?C: This symbol, if defined, indicates that the msgsnd() routine is
?C: available to send a message into the message queue.
?C:.
?H:#$d_msgsnd
 HAS_MSGSND  /**/
?H:.
?LINT:set d_msgsnd
: see if msgsnd exists
```

```
set msgsnd d_msgsnd
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_msgsnd.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_sethent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_sethent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_sethent: Inlibc
?MAKE: -pick add $@ %<
?S:d_sethent:
?S: This variable conditionally defines HAS_SETHOSTENT if sethostent() is
?S: available.
?S:.
?C:HAS_SETHOSTENT:
?C: This symbol, if defined, indicates that the sethostent() routine is
?C: available.
?C:.
?H:#$d_sethent HAS_SETHOSTENT  /**/
?H:.
?LINT:set d_sethent
: see if sethostent exists
set
 sethostent d_sethent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_sethent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: ipc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: ipc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:53  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:ipc serve_shm serve_msg serve_inet_udp serve_inet_tcp serve_unix_udp \
 serve_unix_tcp: test Myread Oldconfig d_socket d_msg d_shm d_sem
?MAKE: -pick add $@ %<
?LINT:use d_msg d_sem
?S:ipc:
?S: This variable holds the type of IPC service we'll be using.  Values
?S: include "ip", "shm", "msg", "cms" and "os9".  We don't worry about
?S: cms or os9
 here, because Configure doesn't run in those places--HMS.
?S:.
?S:serve_shm:
?S: This variable controls the definition of SERVE_SHM, which tells the
?S: C program to use USG shared memory for IPC.
?S:.
?S:serve_msg:
?S: This variable controls the definition of SERVE_MSG, which tells the
?S: C program to use USG message queues for IPC.
?S:.
?S:serve_inet_udp:
?S: This variable controls the definition of SERVE_INET_UDP, which tells
?S: the C program to enable InterNet-domain UDP support for IPC.
?S:.
?S:serve_inet_tcp:
?S: This variable controls the definition of SERVE_INET_TCP, which tells
?S: the C program to enable InterNet-domain TCP support for IPC.
?S:.
?S:serve_unix_udp:
?S: This variable controls the definition of SERVE_UNIX_UDP, which tells
?S: the C program to enable Unix-domain UDP support for IPC.
?S:.
?S:serve_unix_tcp:
?S: This variable controls the definition of SERVE_UNIX_TCP, which tells
?S: the C program to enable Unix-domain TCP support for IPC.
?S:.
?C:SERVE_SHM:
?C: If
 defined, tells the C program to use USG shared memory for IPC.
?C:.
?C:SERVE_MSG:

```
?C: If defined, tells the C program to use USG message queues for IPC.
?C:.
?C:SERVE_INET_UDP:
?C: If defined, tells the C program to enable InterNet-domain UDP
?C: support for IPC.
?C:.
?C:SERVE_INET_TCP:
?C: If defined, tells the C program to enable InterNet-domain TCP
?C: support for IPC.
?C:.
?C:SERVE_UNIX_UDP:
?C: If defined, tells the C program to enable Unix-domain UDP
?C: support for IPC.
?C:.
?C:SERVE_UNIX_TCP:
?C: If defined, tells the C program to enable Unix-domain TCP
?C: support for IPC.
?C:.
?H:#$serve_shm SERVE_SHM /**/
?H:#$serve_msg SERVE_MSG /**/
?H:#$serve_inet_udp SERVE_INET_UDP /**/
?H:#$serve_inet_tcp SERVE_INET_TCP /**/
?H:#$serve_unix_udp SERVE_UNIX_UDP /**/
?H:#$serve_unix_tcp SERVE_UNIX_TCP /**/
?H:.
?X: FIXME -- RAM
?INIT:serve_shm="
?INIT:serve_msg="$undef"
?INIT:serve_inet_udp="
?INIT:serve_inet_tcp="
?INIT:serve_unix_udp="
?INIT:serve_unix_tcp="
: get IPC mechanism
echo
 " "
ipc="
while $test -z "$ipc"
do
 if $test "$ipc" != "shm" -a "$d_socket" = "$define"; then
  ipc="
  if $test "$serve_inet_udp" = "$undef"; then
   dflt=n
  else
   dflt=y
  fi
  rp='Provide InterNet-domain UDP service?'
  . ./myread
  dflt="
```

```
case "$ans" in
n*) serve_inet_udp="$undef";;
*)
 serve_inet_udp="$define"
 ipc='ip'
 ;;
esac

if $test "$serve_inet_tcp" = "$define"; then
 dflt=y
else
 dflt=n
fi
rp='Provide InterNet-domain TCP service?'
. ./myread
dflt="
case "$ans" in
n*) serve_inet_tcp="$undef";;
*)
 serve_inet_tcp="$define"
 ipc='ip'
 ;;
esac

if $test "$serve_unix_udp" = "$define"; then
 dflt=y
else
 dflt=n
fi
rp='Provide Unix-domain UDP service?'
. ./myread
dflt="
case "$ans" in
n*) serve_unix_udp="$undef";;
*)
 serve_unix_udp="$define"
 ipc='ip'
 ;;
esac

if $test "$serve_unix_tcp" = "$define"; then
 dflt=y
else
 dflt=n
fi
rp='Provide Unix-domain TCP service?'
. ./myread
dflt="
```

```
 case
"$ans" in
 n*) serve_unix_tcp="$undef";;
 *)
  serve_unix_tcp="$define"
  ipc='ip'
  ;;
 esac
else
 serve_inet_udp="$undef"
 serve_inet_tcp="$undef"
 serve_unix_udp="$undef"
 serve_unix_tcp="$undef"
fi
if $test "$ipc" != "ip" -a "$d_shm" = "$define"; then
 echo "Providing USG shared memory IPC support." >&4
 serve_shm="$define"
 ipc='shm'
else
 serve_shm="$undef"
fi
if $test -z "$ipc"; then
 echo "You must select an IPC mechanism." >&4
fi
done
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/ipc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_endspent: Inlibc
?MAKE: -pick add $@ %<
?S:d_endspent:
?S: This variable conditionally defines HAS_ENDSPENT if endspent() is
?S: available to finalize the scan of SysV shadow password entries.
?S:.
?C:HAS_ENDSPENT:
?C: This symbol, if defined, indicates that the endspent system call is
```

?C: available to finalize the scan of SysV shadow password entries.
?C:.
?H:#$d_endspent HAS_ENDSPENT  /**/
?H:.
?LINT:set d_endspent
: see if endspent exists
set endspent d_endspent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_endspent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_dosuid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Tye McQueen <tye@metronet.com> added safe setuid script checks.
?RCS:
?RCS: $Log: d_dosuid.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:33:03  ram
?RCS: patch61: moved unit to TOP via a ?Y: layout directive
?RCS: patch61: tell them /dev/fd is not about floppy disks
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:12:08  ram
?RCS: patch36: added checks for secure setuid scripts (Tye McQueen)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:55  ram
?RCS: Baseline for
 dist 3.0 netwide release.
?RCS:
?MAKE:d_dosuid d_suidsafe: cat contains ls rm test Myread Setvar \
 Oldconfig Guess package hint patchlevel
?MAKE: -pick add $@ %<
?S:d_suidsafe:
?S: This variable conditionally defines SETUID_SCRIPTS_ARE_SECURE_NOW
?S: if setuid scripts can be secure.  This test looks in /dev/fd/.
?S:.
?S:d_dosuid:
?S: This variable conditionally defines the symbol DOSUID, which
?S: tells the C program that it should insert setuid emulation code
?S: on hosts which have setuid #! scripts disabled.

```
?S:.
?C:SETUID_SCRIPTS_ARE_SECURE_NOW:
?C: This symbol, if defined, indicates that the bug that prevents
?C: setuid scripts from being secure is not present in this kernel.
?C:.
?C:DOSUID:
?C: This symbol, if defined, indicates that the C program should
?C: check the script that it is executing for setuid/setgid bits, and
?C: attempt to emulate setuid/setgid on systems that have disabled
?C: setuid #! scripts because the kernel can't do it securely.
?C: It is up to the package
 designer to make sure that this emulation
?C: is done securely.  Among other things, it should do an fstat on
?C: the script it just opened to make sure it really is a setuid/setgid
?C: script, it should make sure the arguments passed correspond exactly
?C: to the argument on the #! line, and it should not trust any
?C: subprocesses to which it must pass the filename rather than the
?C: file descriptor of the script to be executed.
?C:.
?H:#$d_suidsafe SETUID_SCRIPTS_ARE_SECURE_NOW /**/
?H:#$d_dosuid DOSUID  /**/
?H:.
?Y:TOP
?F:!reflect
?LINT: set d_suidsafe
: see if setuid scripts can be secure
$cat <<EOM

Some kernels have a bug that prevents setuid #! scripts from being
secure.  Some sites have disabled setuid #! scripts because of this.

First let's decide if your kernel supports secure setuid #! scripts.
(If setuid #! scripts would be secure but have been disabled anyway,
don't say that they are secure if asked.)

EOM

val="$undef"
if $test -d /dev/fd; then
 echo "#!$ls" >reflect
 chmod
 +x,u+s reflect
 ./reflect >flect 2>&1
 if $contains "/dev/fd" flect >/dev/null; then
  echo "Congratulations, your kernel has secure setuid scripts!" >&4
  val="$define"
 else
  $cat <<EOM
```

```
If you are not sure if they are secure, I can check but I'll need a
username and password different from the one you are using right now.
If you don't have such a username or don't want me to test, simply
enter 'none'.

EOM
  rp='Other username to test security of setuid scripts with?'
  dflt='none'
  . ./myread
  case "$ans" in
  n|none)
   case "$d_suidsafe" in
   '') echo "I'll assume setuid scripts are *not* secure." >&4
    dflt=n;;
   "$undef")
    echo "Well, the $hint value is *not* secure." >&4
    dflt=n;;
   *) echo "Well, the $hint value *is* secure." >&4
    dflt=y;;
   esac
   ;;
  *)
   $rm -f reflect flect
   echo "#!$ls" >reflect
   chmod +x,u+s reflect
   echo >flect
   chmod a+w flect
   echo '"su" will (probably) prompt you for "'$ans's password.'
   su $ans -c './reflect
>flect'
   if $contains "/dev/fd" flect >/dev/null; then
    echo "Okay, it looks like setuid scripts are secure." >&4
    dflt=y
   else
    echo "I don't think setuid scripts are secure." >&4
    dflt=n
   fi
   ;;
  esac
  rp='Does your kernel have *secure* setuid scripts?'
  . ./myread
  case "$ans" in
  [yY]*) val="$define";;
  *) val="$undef";;
  esac
 fi
else
 echo "I don't think setuid scripts are secure (no /dev/fd directory)." >&4
```

```
 echo "(That's for file descriptors, not floppy disks.)"
 val="$undef"
fi
set d_suidsafe
eval $setvar

$rm -f reflect flect

: now see if they want to do setuid emulation
if $test $patchlevel -lt 11; then
echo " "
val="$undef"
case "$d_suidsafe" in
"$define")
 val="$undef"
 echo "No need to emulate SUID scripts since they are secure here." >&4
 ;;
*)
 $cat <<EOM
Some systems have disabled setuid scripts, especially systems where
setuid scripts cannot be secure.  On systems where setuid scripts have
been disabled, the setuid/setgid bits on scripts are
 currently
useless.  It is possible for $package to detect those bits and emulate
setuid/setgid in a secure fashion.  This emulation will only work if
setuid scripts have been disabled in your kernel.

EOM
 case "$d_dosuid" in
 "$define") dflt=y ;;
 *) dflt=n ;;
 esac
 rp="Do you want to do setuid/setgid emulation?"
 . ./myread
 case "$ans" in
 [yY]*) val="$define";;
 *) val="$undef";;
 esac
 ;;
esac
set d_dosuid
eval $setvar
else
   case "$d_dosuid" in
 "$define")
 cat >&4 <<EOH

SUID emulation has been removed for 5.12
```

```
Please re-run Configure without -Dd_dosuid

EOH
 exit 1;
 ;;
  esac
  d_dosuid=undef
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_dosuid.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_gethostprotos.U,v $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_gethostprotos : Hasproto i_netdb
?MAKE: -pick add $@ %<
?S:d_gethostprotos:
?S: This variable conditionally defines the HAS_GETHOST_PROTOS symbol,
?S: which indicates to the C program that <netdb.h> supplies
?S: prototypes for the various gethost*() functions.
?S: See also netdbtype.U for probing for various netdb types.
?S:.
?C:HAS_GETHOST_PROTOS:
?C: This symbol, if defined, indicates that <netdb.h> includes
?C: prototypes for gethostent(), gethostbyname(), and
?C: gethostbyaddr().  Otherwise,
 it is up to the program to guess
?C: them.  See netdbtype.U for probing for various Netdb_xxx_t types.
?C:.
?H:#$d_gethostprotos HAS_GETHOST_PROTOS /**/
?H:.
?LINT:set d_gethostprotos
?X: This test actually only checks for gethostent() and assumes the
?X: others follow suit.  This test fails for ChorusOS, which has
?X: gethostbyname and gethostbyaddr, but not gethostent.
: see if prototypes for various gethostxxx netdb.h functions are available
echo " "
set d_gethostprotos gethostent $i_netdb netdb.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/d_gethostprotos.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: groupstype.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: groupstype.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:18:08  ram
?RCS: patch36: no longer uses Setvar to set 'groupstype' (ADO)
?RCS: patch36: typo fix in the word 'argument' (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:00:18  ram
?RCS: patch30: created by ADO
?RCS:
?MAKE:groupstype: gidtype d_getgrps Myread Oldconfig Findhdr cat d_setgrps
?MAKE: -pick add $@ %<
?INIT:groupstype=''
?S:groupstype:
?S: This
 variable defines Groups_t to be something like gid_t, int,
?S: ushort, or whatever type is used for the second argument to
?S: getgroups() and setgroups().  Usually, this is the same as
?S: gidtype (gid_t), but sometimes it isn't.
?S:.
?C:Groups_t (GROUPSTYPE):
?C: This symbol holds the type used for the second argument to
?C: getgroups() and setgroups().  Usually, this is the same as
?C: gidtype (gid_t) , but sometimes it isn't.
?C: It can be int, ushort, gid_t, etc...
?C: It may be necessary to include <sys/types.h> to get any
?C: typedef'ed information.  This is only required if you have
?C: getgroups() or setgroups()..
?C:.
?H:?%<:#if defined(HAS_GETGROUPS) || defined(HAS_SETGROUPS)
?H:?%<:#define Groups_t $groupstype /* Type for 2nd arg to [sg]etgroups() */
?H:?%<:#endif
?H:.
```

```
?W:%<:getgroups HAS_GETGROUPS setgroups HAS_SETGROUPS
: Find type of 2nd arg to 'getgroups()' and 'setgroups()'
echo " "
case "$d_getgrps$d_setgrps" in
*define*)
 case
 "$groupstype" in
 ") dflt="$gidtype" ;;
 *)  dflt="$groupstype" ;;
 esac
 $cat <<EOM
What type of pointer is the second argument to getgroups() and setgroups()?
Usually this is the same as group ids, $gidtype, but not always.

EOM
 rp='What type pointer is the second argument to getgroups() and setgroups()?'
 . ./myread
 groupstype="$ans"
 ;;
*)  groupstype="$gidtype";;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/groupstype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_havetlib.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_havetlib.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:36:31  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:44:06  ram
?RCS: patch23: added AIX support to accept shared lib stub as termlib (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_havetlib termlib: cat contains Myread Loc
```

```
 Filexp Oldconfig libpth \
 test uname _a _o
?MAKE: -pick add $@ %<
?S:d_havetlib:
?S: This variable conditionally defines the HAS_TERMLIB symbol, which
?S: indicates to the C program that termlib-style routines are available.
?S:.
?S:termlib:
?S: This variable contains the argument to pass to the loader to get
?S: termlib-style routines.  It is up to the Makefile.SH to make sure
?S: the value gets to the right command.  Note that on many systems the
?S: termlib routines are emulated by the curses or terminfo library.
?S:.
?C:HAS_TERMLIB (HAVETERMLIB):
?C: This symbol, when defined, indicates that termlib-style routines
?C: are available.  There is nothing to include.
?C:.
?H:#$d_havetlib HAS_TERMLIB /**/
?H:.
?T:xxx
: where do we get termlib routines from
echo " "
xxx=`./loc libcurses$_a x $libpth`
case "$xxx" in
/*)
 ar t $xxx >grimble
 if $contains tputs$_o grimble >/dev/null 2>&1; then
  termlib='-lcurses'
  d_havetlib="$define"
  echo "Terminfo library found." >&4
 elif $test "x`$uname
 2>/dev/null`" = xAIX; then
  # Ok, do the AIX shr.o fun thing
  /usr/ccs/bin/nm -en $xxx 2>/dev/null >grimble
  if $contains '^tputs .*|extern|' grimble >/dev/null 2>&1; then
   termlib='-lcurses'
   d_havetlib="$define"
   echo "AIX Terminfo library found." >&4
  else
   xxx=x
  fi
 else
  xxx=x
 fi
 rm -f grimble
 ;;
esac
case "$xxx" in
```

```
x)
 xxx=`./loc libtermlib$_a x $libpth`
 case "$xxx" in
 /usr/lib*|/lib*)
  termlib='-ltermlib'
  d_havetlib="$define"
  echo "Termlib library found." >&4
  ;;
 /*)
  termlib="$xxx"
  d_havetlib="$define"
  echo "Termlib library found." >&4
  ;;
 *)
  xxx=`./loc libtermcap$_a x $libpth`
  case "$xxx" in
  /usr/lib*|/lib*)
   termlib='-ltermcap'
   d_havetlib="$define"
   echo "Termcap library found." >&4
   ;;
  /*)
   termlib="$xxx"
   d_havetlib="$define"
   echo "Termcap library found." >&4
   ;;
  *)
   case "$termlib" in
   '')
    dflt=y
rp="Your system appears to NOT have termlib-style routines. Is this true?"
    . ./myread
    case "$ans"
 in
    n*|f*) d_havetlib="$define"
     $cat <<'EOM'
Then where are the termlib-style routines kept? Specify either -llibname
or a full pathname (~name ok).

EOM
     dflt=''
     rp='Specify termlib path:'
     . ./myread
     termlib=`./filexp $ans`
     ;;
    *)
     d_havetlib="$undef"
     termlib=''
```

```
    echo "You will have to play around with term.c then." >&4
    ;;
   esac
  echo " ";;
  *)  echo "You said termlib was $termlib before." >&4;;
  esac;;
 esac;;
esac;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_havetlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_dirname_r: Inlibc
?MAKE: -pick add $@ %<
?S:d_dirname_r:
?S: This variable conditionally defines the HAS_DIRNAME_R symbol,
?S: which indicates to the C program that the dirname_r()
?S: routine is available.
?S:.
?C:HAS_DIRNAME_R:
?C: This symbol, if defined, indicates that the dirname_r routine
?C: is available to dirname re-entrantly.
?C:.
?H:#$d_dirname_r HAS_DIRNAME_R  /**/
?H:.
?LINT:set d_dirname_r
: see if dirname_r exists
set dirname_r d_dirname_r
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_dirname_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fma: Inlibc
?MAKE: -pick add $@ %<
```

```
?S:d_fma:
?S: This variable conditionally defines the HAS_FMA symbol, which
?S: indicates to the C program that the fma() routine is available.
?S:.
?C:HAS_FMA:
?C: This symbol, if defined, indicates that the fma routine is
?C: available to do the multiply-add function.
?C:.
?H:#$d_fma HAS_FMA  /**/
?H:.
?LINT:set d_fma
: see if fma exists
set fma d_fma
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fma.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_ilogbl: Inlibc
?MAKE: -pick add $@ %<
?S:d_ilogbl:
?S: This variable conditionally defines the HAS_ILOGBL symbol, which
?S: indicates to the C program that the ilogbl() routine is available
?S: for extracting the exponent of long double x as a signed integer.
?S: If scalbnl is also present we can emulate frexpl.
?S:.
?C:HAS_ILOGBL:
?C: This symbol, if defined, indicates that the ilogbl routine is
?C: available.  If scalbnl is also present we can emulate frexpl.
?C:.
?H:#$d_ilogbl HAS_ILOGBL  /**/
?H:.
?LINT:set d_ilogbl
: see if ilogbl exists
set ilogbl d_ilogbl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_ilogbl.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml3dir sitehtml3direxp installsitehtml3dir: Getfile \
 Setprefixvar prefix siteprefix html3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml3dir="
?S:sitehtml3dir:
?S: This variable contains the name of the directory in which site-specific
?S: library html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After
 perl has been installed, users may install their own local
?S: library html pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml3direxp="
?S:sitehtml3direxp:
?S: This variable is the same as the sitehtml3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml3dir="
?S:installsitehtml3dir:
?S: This variable is really the same as sitehtml3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml3dir
?LINT:set sitehtml3dir
?LINT:set sitehtml3direxp
: determine where add-on library html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
```

```
case
 "$sitehtml3dir" in
")    dflt=`echo "$html3dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*)     dflt=$sitehtml3dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific library html pages should be installed?'
. ./getfile
prefixvar=sitehtml3dir
. ./setprefixvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitehtml3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasstruct string that is used internally
?X: by Configure to check if this system has a field for a
?X: particular struct (of if this system has a particular struct!)
?X:
?X: To use it, say something like:
?X:  set d_statblocks stat i_sysstat sys/stat.h
?X:  eval $hasstruct
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/foo.h
?X:  $i_sysbar sys/bar.h
?X:  $i_syszot sys/zot.h
?X:  $i_zappa zappa.h"
?X: set d_statblocks stat $hdrs
?X: eval $hasstruct
?X:
?MAKE:Hasstruct: Setvar rm_try test Compile
?MAKE: -pick add $@ %<
?T:varname struct
?V:hasstruct
: Define hasstruct macro for Configure internal use
hasstruct='varname=$1; struct=$2; shift;
 shift;
while $test $# -ge 2; do
```

```
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
done > try.c;
echo "int main () { struct $struct foo; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/Hasstruct.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strerror.U,v $
?RCS: Revision 3.0.1.3  1994/05/13  15:20:27  ram
?RCS: patch27: now uses new macro support for cleaner Strerror def
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  14:58:26  ram
?RCS: patch23: renamed strerror into Strerror to protect name space (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:08:56  ram
?RCS: patch16: protected code looking for sys_errnolist[] with @if
?RCS: patch16: added default value for d_sysernlst
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:35  ram
?RCS: Baseline
 for dist 3.0 netwide release.
?RCS:
?MAKE:d_strerror d_syserrlst d_sysernlst d_strerrm: contains Csym Findhdr
?MAKE: -pick add $@ %<
?S:d_strerror:
```

```
?S: This variable conditionally defines HAS_STRERROR if strerror() is
?S: available to translate error numbers to strings.
?S:.
?S:d_syserrlst:
?S: This variable conditionally defines HAS_SYS_ERRLIST if sys_errlist[] is
?S: available to translate error numbers to strings.
?S:.
?S:d_sysernlst:
?S: This variable conditionally defines HAS_SYS_ERRNOLIST if sys_errnolist[]
?S: is available to translate error numbers to the symbolic name.
?S:.
?S:d_strerrm:
?S: This variable holds what Strerr is defined as to translate an error
?S: code condition into an error message string. It could be 'strerror'
?S: or a more complex macro emulating strrror with sys_errlist[], or the
?S: "unknown" string when both strerror and sys_errlist are missing.
?S:.
?C:HAS_STRERROR (STRERROR):
?C: This symbol, if defined, indicates that the strerror routine is
?C: available
 to translate error numbers to strings. See the writeup
?C: of Strerror() in this file before you try to define your own.
?C:.
?C:HAS_SYS_ERRLIST (SYSERRLIST):
?C: This symbol, if defined, indicates that the sys_errlist array is
?C: available to translate error numbers to strings. The extern int
?C: sys_nerr gives the size of that table.
?C:.
?C:HAS_SYS_ERRNOLIST (SYSERRNOLIST):
?C: This symbol, if defined, indicates that the sys_errnolist array is
?C: available to translate an errno code into its symbolic name (e.g.
?C: ENOENT). The extern int sys_nerrno gives the size of that table.
?C:.
?C:Strerror:
?C: This preprocessor symbol is defined as a macro if strerror() is
?C: not available to translate error numbers to strings but sys_errlist[]
?C: array is there.
?C:.
?H:#$d_strerror HAS_STRERROR  /**/
?H:#$d_syserrlst HAS_SYS_ERRLIST /**/
?H:#$d_sysernlst HAS_SYS_ERRNOLIST /**/
?H:#define Strerror(e) $d_strerrm
?H:.
?D:d_sysernlst="
?T:xxx val
: see if strerror and/or sys_errlist[]
 exist
echo " "
```

```
if set strerror val -f d_strerror; eval $csym; $val; then
 echo 'strerror() found.' >&4
 d_strerror="$define"
 d_strerrm='strerror(e)'
 if set sys_errlist val -a d_syserrlst; eval $csym; $val; then
  echo "(You also have sys_errlist[], so we could roll our own strerror.)"
  d_syserrlst="$define"
 else
 echo "(Since you don't have sys_errlist[], sterror() is welcome.)"
  d_syserrlst="$undef"
 fi
elif xxx=`./findhdr string.h`; test "$xxx" || xxx=`./findhdr strings.h`; \
 $contains '#[  ]*define.*strerror' "$xxx" >/dev/null 2>&1; then
 echo 'strerror() found in string header.' >&4
 d_strerror="$define"
 d_strerrm='strerror(e)'
 if set sys_errlist val -a d_syserrlst; eval $csym; $val; then
  echo "(Most probably, strerror() uses sys_errlist[] for descriptions.)"
  d_syserrlst="$define"
 else
  echo "(You don't appear to have any sys_errlist[], how can this be?)"
  d_syserrlst="$undef"
 fi
elif set sys_errlist val -a d_syserrlst; eval $csym; $val; then
echo "strerror()
 not found, but you have sys_errlist[] so we'll use that." >&4
 d_strerror="$undef"
 d_syserrlst="$define"
 d_strerrm='((e)<0||(e)>=sys_nerr?"unknown":sys_errlist[e])'
else
 echo 'strerror() and sys_errlist[] NOT found.' >&4
 d_strerror="$undef"
 d_syserrlst="$undef"
 d_strerrm="'unknown'"
fi
@if d_sysernlst || HAS_SYS_ERRNOLIST
if set sys_errnolist val -a d_sysernlst; eval $csym; $val; then
 echo "(Symbolic error codes can be fetched via the sys_errnolist[] array.)"
 d_sysernlst="$define"
else
 echo "(However, I can't extract the symbolic error code out of errno.)"
 d_sysernlst="$undef"
fi
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strerror.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2002 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:usecjk: Myread Oldconfig Setvar
?MAKE: -pick add $@ %<
?Y:TOP
?S:usecjk:
?S: This variable conditionally defines the USE_CJK symbol,
?S: and indicates that Perl should be built to use CJK.
?S:.
?C:USE_CJK:
?C: This symbol, if defined, indicates that Perl should
?C: be built to use the CJK support of Encode.
?C:.
?H:?%<:#ifndef USE_CJK
?H:?%<:#$usecjk USE_CJK  /**/
?H:?%<:#endif
?H:.
?LINT:set usecjk
?INIT:: set usecjk on the Configure command line to enable cjk.
?X: We should really have some explanatory text here, and some
?X: automatic setting of sensible defaults.
: Check for CJK support
case "$usecjk" in
"|$define|true|[yY]*) dflt='y';;
*) dflt='n';;
esac
cat <<EOM

Starting from 5.8.0 Perl comes
 with encoding support for the CJK languags
(Chinese-Japanese-Korean, CN/JP/KR/TW).  Normally shared libraries are used,
which means that the (relatively large, a few megabytes total) CJK encodings
are loaded on demand (not consuming any memory if the are unused).  However,
if you are building Perl statically, and/or are space-constrained, and
if you are certain you won't be needing CJK support, you may consider
leaving it out.  Note that the CJK support will always be built, but
if you choose not to have it, it will be skipped in the installation phase.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Build Perl for CJK?'
```

```
. ./myread
case "$ans" in
y*|Y*) val="$define" ;;
*)     val="$undef"  ;;
esac
set usecjk
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/usecjk.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_endprotoent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_endprotoent_r endprotoent_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_endprotoent_r:
?S: This variable conditionally defines the HAS_ENDPROTOENT_R symbol,
?S: which indicates to the C program that the endprotoent_r()
?S: routine is available.
?S:.
?S:endprotoent_r_proto:
?S: This variable encodes the prototype of endprotoent_r.
?S: It is zero if d_endprotoent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endprotoent_r
?S: is defined.
?S:.
?C:HAS_ENDPROTOENT_R:
?C: This symbol, if defined, indicates that the endprotoent_r
 routine
?C: is available to endprotoent re-entrantly.
?C:.
?C:ENDPROTOENT_R_PROTO:
?C: This symbol encodes the prototype of endprotoent_r.
?C: It is zero if d_endprotoent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endprotoent_r
?C: is defined.
?C:.
?H:#$d_endprotoent_r HAS_ENDPROTOENT_R    /**/
?H:#define ENDPROTOENT_R_PROTO $endprotoent_r_proto    /**/
?H:.
```

```
?T:try hdrs d_endprotoent_r_proto
: see if endprotoent_r exists
set endprotoent_r d_endprotoent_r
eval $inlibc
case "$d_endprotoent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_endprotoent_r_proto:$usethreads" in
 ":define") d_endprotoent_r_proto=define
  set d_endprotoent_r_proto endprotoent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_endprotoent_r_proto" in
 define)
 case "$endprotoent_r_proto" in
 "|0) try='int endprotoent_r(struct protoent_data*);'
 ./protochk "$extern_C $try" $hdrs && endprotoent_r_proto=I_D ;;
 esac
 case "$endprotoent_r_proto"
 in
 "|0) try='void endprotoent_r(struct protoent_data*);'
 ./protochk "$extern_C $try" $hdrs && endprotoent_r_proto=V_D ;;
 esac
 case "$endprotoent_r_proto" in
 "|0) d_endprotoent_r=undef
        endprotoent_r_proto=0
  echo "Disabling endprotoent_r, cannot determine prototype." >&4 ;;
 * ) case "$endprotoent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) endprotoent_r_proto="REENTRANT_PROTO_$endprotoent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "endprotoent_r has no prototype, not using it." >&4 ;;
  esac
  d_endprotoent_r=undef
  endprotoent_r_proto=0
  ;;
 esac
 ;;
*) endprotoent_r_proto=0
 ;;
esac
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_endprotoent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:full_ar: ar
?MAKE: -pick add $@ %<
?S:full_ar:
?S: This variable contains the full pathname to 'ar', whether or
?S: not the user has specified 'portability'.  This is only used
?S: in the Makefile.SH.
?S:.
: Store the full pathname to the ar program for use in the C program
: Respect a hint or command line value for full_ar.
case "$full_ar" in
") full_ar=$ar ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/Loc_ar.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasfield string that is used internally
?X: by Configure to check if this system has a field for a
?X: particular struct (of if this system has a particular struct!)
?X:
?X: To use it, say something like:
?X:  set d_statblocks stat st_blocks i_sysstat sys/stat.h
?X:  eval $hasfield
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/foo.h
?X:  $i_sysbar sys/bar.h
?X:  $i_syszot sys/zot.h
```

```
?X:  $i_zappa zappa.h"
?X: set d_statblocks stat st_blocks $hdrs
?X: eval $hasfield
?X:
?MAKE:Hasfield: Setvar rm_try test Compile
?MAKE: -pick add $@ %<
?T:varname struct field
?V:hasfield
: Define hasfield macro for Configure internal use
hasfield='varname=$1;
 struct=$2; field=$3; shift; shift; shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
done > try.c;
echo "int main () { struct $struct foo; char* bar; bar = (char*)foo.$field; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/Hasfield.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fpclassl: Inlibc
?MAKE: -pick add $@ %<
?S:d_fpclassl:
?S: This variable conditionally defines the HAS_FPCLASSL symbol, which
?S: indicates to the C program that the fpclassl() routine is available.
?S:.
?C:HAS_FPCLASSL:
?C: This symbol, if defined, indicates that the fpclassl routine is
?C: available to classify long doubles.  Available for example in IRIX.
```

?C: The returned values are defined in <ieeefp.h> and are:
?C:
?C: FP_SNAN  signaling NaN
?C: FP_QNAN  quiet NaN
?C: FP_NINF  negative infinity
?C: FP_PINF  positive infinity
?C: FP_NDENORM negative denormalized non-zero
?C: FP_PDENORM positive denormalized non-zero
?C: FP_NZERO negative zero
?C: FP_PZERO positive zero
?C: FP_NNORM negative
 normalized non-zero
?C: FP_PNORM positive normalized non-zero
?C:.
?H:#$d_fpclassl HAS_FPCLASSL  /**/
?H:.
?LINT:set d_fpclassl
: see if fpclassl exists
set fpclassl d_fpclassl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fpclassl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_fchmod.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_fchmod.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:59  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_fchmod: Inlibc
?MAKE: -pick add $@ %<
?S:d_fchmod:
?S: This variable conditionally defines the HAS_FCHMOD symbol, which
?S: indicates to the C program that the fchmod() routine is available
?S: to change mode of opened files.
?S:.
?C:HAS_FCHMOD (FCHMOD):
?C: This symbol, if defined, indicates that the fchmod routine is available

```
?C: to
 change mode of opened files.  If unavailable, use chmod().
?C:.
?H:#$d_fchmod HAS_FCHMOD  /**/
?H:.
?LINT:set d_fchmod
: see if fchmod exists
set fchmod d_fchmod
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_fchmod.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_faststdio: Setvar \
 d_stdstdio d_stdio_ptr_lval d_stdio_cnt_lval d_stdio_ptr_lval_sets_cnt
?MAKE: -pick add $@ %<
?S:d_faststdio:
?S: This variable conditionally defines the HAS_FAST_STDIO symbol,
?S: which indicates to the C program that the "fast stdio" is available
?S: to manipulate the stdio buffers directly.
?S:.
?C:HAS_FAST_STDIO:
?C: This symbol, if defined, indicates that the "fast stdio"
?C: is available to manipulate the stdio buffers directly.
?C:.
?H:#$d_faststdio HAS_FAST_STDIO  /**/
?H:.
?LINT:set d_faststdio
: see if fast_stdio exists
val="$undef"
case "$d_stdstdio:$d_stdio_ptr_lval" in
"$define:$define")
 case "$d_stdio_cnt_lval$d_stdio_ptr_lval_sets_cnt" in
 *$define*)
  echo "You
 seem to have 'fast stdio' to directly manipulate the stdio buffers." >& 4
  val="$define"
  ;;
 esac
 ;;
```

```
esac
set d_faststdio
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_faststdio.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_scalbn: Inlibc
?MAKE: -pick add $@ %<
?S:d_scalbn:
?S: This variable conditionally defines the HAS_SCALBN symbol, which
?S: indicates to the C program that the scalbn() routine is available.
?S:.
?C:HAS_SCALBN:
?C: This symbol, if defined, indicates that the scalbn routine is
?C: available to multiply floating-point number by integral power
?C: of radix.
?C:.
?H:#$d_scalbn HAS_SCALBN  /**/
?H:.
?LINT:set d_scalbn
: see if scalbn exists
set scalbn d_scalbn
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_scalbn.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:uselonglong: Myread Oldconfig Setvar cat test ccflags
?MAKE: -pick add $@ %<
?Y:TOP
?S:uselonglong:
?S: This variable conditionally defines the USE_LONG_LONG symbol,
?S: and indicates that long longs should be used when available.
?S:.
?C:USE_LONG_LONG:
```

```
?C: This symbol, if defined, indicates that long longs should
?C: be used when available.
?C:.
?H:?%<:#ifndef USE_LONG_LONG
?H:?%<:#$uselonglong USE_LONG_LONG  /**/
?H:?%<:#endif
?H:.
?LINT:extern ccflags
?F:!uselonglong.cbu
: Check for longlong support
case "$uselonglong" in
"|true|[yY]*) uselonglong="$define" ;;
*) case "$ccflags" in
  *-DUSE_LONG_LONG*) uselonglong="$define" ;;
  *) uselonglong="$undef" ;;
  esac
  ;;
esac
case "$uselonglong"
 in
$define) dflt='y';;
*)  dflt='n';;
esac
cat <<EOM

Perl can be built to take advantage of long longs which
(if available) may give more range for integer numbers.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Try to use long longs if available?'
. ./myread
case "$ans" in
y|Y)  val="$define" ;;
*)      val="$undef" ;;
esac
set uselonglong
eval $setvar
case "$uselonglong" in
$define)
: Look for a hint-file generated 'call-back-unit'.  If the
: user has specified that long longs should be used,
: we may need to set or change some other defaults.
 if $test -f uselonglong.cbu; then
  echo "Your platform has some specific hints for long longs, using them..."
  . ./uselonglong.cbu
 else
  $cat <<EOM
```

(Your platform doesn't have any specific hints for long longs.)
EOM
 fi
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/uselonglong.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Config_sh.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Config_sh.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  14:57:53  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.2  1995/01/11  14:53:31  ram
?RCS: patch45: moved path stripping from d_portable.U to end of Configure
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:50:37  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:48  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X:
 This unit ends up producing the config.sh script, which contains all the
?X: definitions figured out by Configure.  The add.Config_sh command knows
?X: which variables need to be remembered.  It also adds the EOT (ends the
?X: here document redirection with variable substitution).
?X:
?MAKE:Config_sh: cf_time cf_by test spitshell startsh myuname Myread \
 End Obsol_sh Loc +d_portable package src cat
?MAKE: -pick add.Config_sh $@ %<
?MAKE: -pick add $@ ./Obsol_sh
?MAKE: -pick close.Config_sh $@ %<
?F:!config.over !config.arch
?T:file temp
?LINT:unclosed EOT

```
: back to where it started
if test -d ../UU; then
 cd ..
fi

: configuration may be unconditionally patched via a 'config.arch' file
if $test -f config.arch; then
 echo "I see a config.arch file, loading it." >&4
 . ./config.arch
fi

: configuration may be patched via a 'config.over' file
if $test -f config.over; then
 echo " "
 dflt=y
 rp='I see a config.over file.  Do you wish to load it?'
 . UU/myread
 case "$ans" in
 n*) echo
 "OK, I'll ignore it.";;
 *) . ./config.over
  echo "Configuration override changes have been loaded."
  ;;
 esac
fi

@if d_portable
: in case they want portability, strip down executable paths
?X:
?X: Strip down paths in located executables. For each file, e.g. vi, there
?X: is a $vi variable whose value is for instance '/usr/bin/vi'. By resetting
?X: $vi to 'vi', we rely on the PATH variable to locate the executable...
?X:
case "$d_portable" in
"$define")
 echo " "
 echo "Stripping down executable paths..." >&4
?X:
?X: Previously, we used to do    eval $file="\$file"  but in order
?X: to handle things like  sh Configure -Dmake=gmake, we can't do
?X: that.  What we *really* want is to strip away the absolute path
?X: and rely on the end user's $PATH to correctly find the executable.
?X: This method assumes there is a "basename" command available.  If
?X: not, replace it with the following expr-based command:
?X:   expr  $temp : '.*/\(.*\)' \| $temp
?X: Since this preserves the actual
 command name, we can now drop the
?X: OS/2 specific code.
```

```
?X:  --Andy Dougherty  August 1999
?X:
?X: On OS/2, a special $ar command not even named 'ar' is required,
?X: so we don't strip that name.
?X: Also, on DOS-ish systems, there might not be a ln command, but we
?X: might have ln='cp'.
?X: However, we can't set d_portable=undef on such systems since
?X: Unix-ish tools don't have standard locations there.  Thus we
?X: MUST rely on the user's $PATH.
?X: --Andy Dougherty  4/1998
?X:
 for file in $loclist $trylist; do
  eval temp=\$$file
  eval $file=`basename $temp`
 done
 ;;
esac

@end
: create config.sh file
echo " "
echo "Creating config.sh..." >&4
$spitshell <<EOT >config.sh
$startsh
#
# This file was produced by running the Configure script. It holds all the
# definitions figured out by Configure. Should you modify one of these values,
# do not forget to propagate your changes by running "Configure -der". You may
# instead choose to run each of the .SH files by yourself, or "Configure
 -S".
#

# Package name      : $package
# Source directory  : $src
# Configuration time: $cf_time
# Configured by     : $cf_by
# Target system     : $myuname

EOT
?X: Command line options are saved by the Options.U unit in the
?X: temporary file UU/cmdline.opt
: Add in command line options if available
$test -f UU/cmdline.opt && $cat UU/cmdline.opt >> config.sh

$spitshell <<EOT >>config.sh

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Config_sh.U
```

No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_clock_getres: Inlibc
?MAKE: -pick add $@ %<
?S:d_clock_getres:
?S: This variable conditionally defines HAS_CLOCK_GETRES
?S: if clock_getres() is available to get the resolution of a POSIX clock.
?S:.
?C:HAS_CLOCK_GETRES:
?C: This symbol, if defined, indicates that the clock_getres
?C: system call is available to get the resolution of a POSIX clock.
?C:.
?H:#$d_clock_getres HAS_CLOCK_GETRES  /**/
?H:.
?LINT:set d_clock_getres
: see if clock_getres exists
set clock_getres d_clock_getres
eval $inlibc

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_clock_getres.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_llroundl: Inlibc
?MAKE: -pick add $@ %<
?S:d_llroundl:
?S: This variable conditionally defines the HAS_LLROUNDL symbol, which
?S: indicates to the C program that the llroundl() routine is available
?S: to return the long long value nearest to x away from zero.
?S:.
?C:HAS_LLROUNDL:
?C: This symbol, if defined, indicates that the llroundl routine is
?C: available to return the nearest long long value away from zero of
?C: the long double argument value.

```
?C:.
?H:#$d_llroundl HAS_LLROUNDL  /**/
?H:.
?LINT:set d_llroundl
: see if llroundl exists
set llroundl d_llroundl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_llroundl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getpgid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_getpgid.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:33:44  ram
?RCS: patch61: created
?RCS:
?MAKE:d_getpgid: Inlibc
?MAKE: -pick add $@ %<
?S:d_getpgid:
?S: This variable conditionally defines the HAS_GETPGID symbol, which
?S: indicates to the C program that the getpgid(pid) function
?S: is available to get the process group id.
?S:.
?C:HAS_GETPGID:
?C: This symbol, if defined, indicates to the C program
 that
?C: the getpgid(pid) function is available to get the
?C: process group id.
?C:.
?H:#$d_getpgid HAS_GETPGID  /**/
?H:.
?LINT:set d_getpgid
: see if getpgid exists
set getpgid d_getpgid
eval $inlibc
```

Found in path(s):

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getpgid.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_safebcpy.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  15:40:58  ram
?RCS: patch61: improved overlapping copy check
?RCS: patch61: comfort them if they have memmove
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.3  1995/07/25  13:58:40  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS:
?RCS: Revision 3.0.1.2  1995/01/11  15:29:23  ram
?RCS: patch45: added 'ldflags' to the test compile line (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:49:03
  ram
?RCS: patch23: ensure string is not optimized in read-only memory (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_safebcpy: cat d_bcopy +cc +optimize +ccflags +ldflags +libs rm \
  d_memmove i_memory i_stdlib i_string i_unistd Oldconfig Setvar
?MAKE: -pick add $@ %<
?S:d_safebcpy:
?S: This variable conditionally defines the HAS_SAFE_BCOPY symbol if
?S: the bcopy() routine can do overlapping copies.
?S:.
?C:HAS_SAFE_BCOPY (SAFE_BCOPY):
?C: This symbol, if defined, indicates that the bcopy routine is available
?C: to copy potentially overlapping memory blocks. Otherwise you should
?C: probably use memmove() or memcpy(). If neither is defined, roll your
?C: own version.
?C:.
?H:#$d_safebcpy HAS_SAFE_BCOPY /**/
?H:.
?F:!safebcpy
```

```
?LINT: set d_safebcpy
: can bcopy handle overlapping blocks?
?X: assume the worst
val="$undef"
case "$d_bcopy" in
"$define")
 echo " "
 echo "Checking to see if your bcopy() can do overlapping
 copies..." >&4
 $cat >foo.c <<EOCP
#$i_memory I_MEMORY
#$i_stdlib I_STDLIB
#$i_string I_STRING
#$i_unistd I_UNISTD
EOCP
 $cat >>foo.c <<'EOCP'
#include <stdio.h>
#ifdef I_MEMORY
#  include <memory.h>
#endif
#ifdef I_STDLIB
#  include <stdlib.h>
#endif
#ifdef I_STRING
#  include <string.h>
#else
#  include <strings.h>
#endif
#ifdef I_UNISTD
#  include <unistd.h>  /* Needed for NetBSD */
#endif
int main()
{
char buf[128], abc[128];
char *b;
int len;
int off;
int align;

?X: Copy "abcde..." string to char abc[] so that gcc doesn't
?X: try to store the string in read-only memory.
bcopy("abcdefghijklmnopqrstuvwxyz0123456789", abc, 36);

for (align = 7; align >= 0; align--) {
 for (len = 36; len; len--) {
  b = buf+align;
  bcopy(abc, b, len);
  for (off = 1; off <= len; off++) {
```

```
  bcopy(b, b+off, len);
  bcopy(b+off, b, len);
  if (bcmp(b, abc, len))
   exit(1);
  }
 }
}
exit(0);
}
EOCP
 if $cc $optimize $ccflags $ldflags \
     -o safebcpy foo.c $libs >/dev/null 2>&1; then
  if ./safebcpy
 2>/dev/null; then
  echo "Yes, it can."
  val="$define"
 else
  echo "It can't, sorry."
  case "$d_memmove" in
  "$define") echo "But that's Ok since you have memmove()." ;;
  esac
 fi
else
 echo "(I can't compile the test program, so we'll assume not...)"
 case "$d_memmove" in
 "$define") echo "But that's Ok since you have memmove()." ;;
 esac
fi
;;
esac
$rm -f foo.* safebcpy core
set d_safebcpy
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_safebcpy.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setruid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: d_setruid.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:15  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setruid: Inlibc
?MAKE: -pick add $@ %<
?S:d_setruid:
?S: This variable conditionally defines the HAS_SETRUID symbol, which
?S: indicates to the C program that the setruid() routine is available
?S: to change the real uid of the current program.
?S:.
?C:HAS_SETRUID (SETRUID):
?C: This symbol, if defined, indicates that the setruid
 routine is available
?C: to change the real uid of the current program.
?C:.
?H:#$d_setruid HAS_SETRUID  /**/
?H:.
?LINT:set d_setruid
: see if setruid exists
set setruid d_setruid
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setruid.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_memccpy.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_memccpy.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_memccpy: Inlibc
?MAKE: -pick add $@ %<
?S:d_memccpy:
?S: This variable conditionally defines the HAS_MEMCCPY symbol, which
?S: indicates to the C program that the memccpy() routine is available
?S: to copy a character into a block of memory.
?S:.
```

?C:HAS_MEMCCPY (MEMCCPY):
?C: This symbol, if defined, indicates that the memccpy routine
 is available
?C: to copy a character into a block of memory.  Otherwise you should
?C: roll your own.
?C:.
?H:#$d_memccpy HAS_MEMCCPY  /**/
?H:.
?LINT:set d_memccpy
: see if memccpy exists
set memccpy d_memccpy
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_memccpy.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: yacc.U,v 3.0.1.1 1994/05/13 15:28:48 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: yacc.U,v $
?RCS: Revision 3.0.1.1  1994/05/13  15:28:48  ram
?RCS: patch27: added byacc as another alternative (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:10:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:yacc yaccflags: Guess Myread Oldconfig byacc bison cat test _exe
?MAKE: -pick add $@ %<
?S:yacc:
?S: This variable holds the name of the compiler compiler we
?S: want to use in the Makefile. It can be yacc, byacc, or bison -y.
?S:.
?S:yaccflags:
?S: This
 variable contains any additional yacc flags desired by the
?S: user.  It is up to the Makefile to use this.
?S:.
?T:comp
: determine compiler compiler
case "$yacc" in

```
")
 dflt=yacc;;
*)
 dflt="$yacc";;
esac
echo " "
comp='yacc'
if $test -f "$byacc$_exe"; then
 dflt="$byacc"
 comp="byacc or $comp"
fi
if $test -f "$bison$_exe"; then
 comp="$comp or bison -y"
fi
rp="Which compiler compiler ($comp) shall I use?"
. ./myread
yacc="$ans"
case "$yacc" in
*bis*)
 case "$yacc" in
 *-y*) ;;
 *)
  yacc="$yacc -y"
  echo "(Adding -y option to bison to get yacc-compatible behavior.)"
  ;;
 esac
 ;;
esac

@if yaccflags
: see if we need extra yacc flags
dflt="$yaccflags"
case "$dflt" in
") dflt=none;;
esac
$cat <<EOH

Your yacc program may need extra flags to normally process the parser sources.
Do NOT specify any -d or -v flags here, since those are explicitly known
by the various Makefiles. However, if your machine has strange/undocumented
options (like -Sr# on SCO to specify the
 maximum number of grammar rules), then
please add them here.  To use no flags, specify the word "none".

EOH
rp="Any additional yacc flags?"
. ./myread
case "$ans" in
```

```
none) yaccflags="";;
*) yaccflags="$ans";;
esac

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/yacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Loc_sed.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?X: This is used in perl.c.
?MAKE:full_sed: sed
?MAKE: -pick add $@ %<
?S:full_sed:
?S: This variable contains the full pathname to 'sed', whether or
?S: not the user has specified 'portability'.  This is only used
?S: in the compiled C program, and we assume that all systems which
?S: can share this executable will have the same full pathname to
?S: 'sed.'
?S:.
?X: Yes, I know about the C symbol PORTABLE, but I think sed
?X: is
 unlikely to move, and I'm too lazy to add all the
?X: #ifdef PORTABLE sections to the perl source.
?X:
?C:LOC_SED:
?C: This symbol holds the complete pathname to the sed program.
?C:.
?H:#define LOC_SED  "$full_sed" /**/
?H:.
: Store the full pathname to the sed program for use in the C program
full_sed=$sed
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Loc_sed.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_usendir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_usendir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:47:34  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_usendir i_ndir ndirlib: test Setvar Findhdr d_readdir _a
?MAKE: -pick add $@ %<
?S:d_usendir:
?S: This variable conditionally defines the EMULATE_NDIR symbol, which
?S: indicates
 to the C program that it should compile the ndir.c code
?S: provided with the package.
?S:.
?S:i_ndir (d_libndir):
?S: This variable conditionally defines the I_NDIR symbol, which
?S: indicates to the C program that it should include the system's
?S: version of ndir.h, rather than the one with this package.
?S:.
?S:ndirlib:
?S: The name of the library to include at linking stage to resolve ndir
?S: symbols. It is up to the makefile to use this value.
?S:.
?C:EMULATE_NDIR (USENDIR):
?C: This symbol, if defined, indicates that the program should compile
?C: the ndir.c code provided with the package.
?C:.
?C:I_NDIR (LIBNDIR):
?C: This symbol, if defined, indicates that the program should include the
?C: system's version of ndir.h, rather than the one with this package.
?C:.
?H:#$d_usendir EMULATE_NDIR  /**/
?H:#$i_ndir I_NDIR  /**/
?H:.
?T:val2
?LINT: set d_usendir i_ndir

```
: see if there are directory access routines out there
echo " "
if $test `./findhdr ndir.h` && \
 ( $test -r /usr/lib/libndir$_a
 || $test -r /usr/local/lib/libndir$_a ); then
 echo "Ndir library found." >&4
 if $test -r /usr/lib/libndir$_a; then
  ndirlib='-lndir'
 else
  ndirlib="/usr/local/lib/libndir$_a"
 fi
 val2="$define"
 val="$undef"
else
 ndirlib=''
 val2="$undef"
 case "$d_readdir" in
 "$define")
 echo "No ndir library found, but you have readdir() so we'll use that." >&4
  val="$undef";
  ;;
 *)
  echo "No ndir library found." >&4
  val="$define"
  ;;
 esac
fi
set d_usendir
eval $setvar
val="$val2"
set i_ndir
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_usendir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: privlib.U,v $
```

?RCS: Revision 3.0.1.4  1995/09/25  09:17:09  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:44:23  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:31:52  ram
?RCS: patch32: now uses installation prefix
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:12:34  ram
?RCS: patch10: added support for /local/lib (WED)
?RCS: patch10: prompt phrasing made
 more explicit (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:privlib privlibexp installprivlib: afs package cat Getfile \
 Oldconfig Prefixit test
?MAKE: -pick add $@ %<
?Y:TOP
?S:privlib:
?S: This variable contains the eventual value of the PRIVLIB symbol,
?S: which is the name of the private library for this package.  It may
?S: have a ~ on the front. It is up to the makefile to eventually create
?S: this directory while performing installation (with ~ substitution).
?S:.
?S:privlibexp:
?S: This variable is the ~name expanded version of privlib, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?S:installprivlib:
?S: This variable is really the same as privlibexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?C:PRIVLIB:
?C: This symbol contains the name of the private library for this package.
?C: The library is
 private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.  The program
?C: should be prepared to do ~ expansion.
?C:.
?C:PRIVLIB_EXP:
?C: This symbol contains the ~name expanded version of PRIVLIB, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?H:#define PRIVLIB "$privlib"  /**/

```
?H:#define PRIVLIB_EXP "$privlibexp"  /**/
?H:.
: determine where private executables go
set dflt privlib lib/$package
eval $prefixit
$cat <<EOM

There are some auxiliary files for $package that need to be put into a
private library directory that is accessible by everyone.

EOM
fn=d~+
rp='Pathname where the private library files will reside?'
. ./getfile
if $test "X$privlibexp" != "X$ansexp"; then
 installprivlib="
fi
privlib="$ans"
privlibexp="$ansexp"
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
private files reside from the directory in which they are installed
 (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installprivlib" in
 '') dflt=`echo $privlibexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installprivlib";;
 esac
 fn=de~
 rp='Where will private files be installed?'
 . ./getfile
 installprivlib="$ans"
else
 installprivlib="$privlibexp"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/privlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: usedtrace.U,v $
?RCS:
?RCS: Copyright (c) 2008 H.Merijn Brand
?RCS:
```

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: usedtrace.U,v $
?RCS:
?MAKE:usedtrace dtrace: Myread Oldconfig Setvar Getfile test
?MAKE: -pick add $@ %<
?Y:TOP
?S:usedtrace:
?S: This variable indicates whether we are compiling with dtrace
?S: support. See also dtrace.
?S:.
?S:dtrace:
?S: This variable holds the location of the dtrace executable.
?S:.
?C:USE_DTRACE:
?C: This symbol, if defined, indicates that Perl should
?C: be built with support for DTrace.
?C:.
?H:#$usedtrace USE_DTRACE  /**/
?H:.
?T:dflt_dtrace
?LINT:set usedtrace
?LINT:set dtrace
: DTrace support
dflt_dtrace='/usr/sbin/dtrace'
$test -x /usr/bin/dtrace && dflt_dtrace='/usr/bin/dtrace'

cat <<EOM

Perl can be built to support DTrace on platforms that support
 it.
DTrace is a diagnosis and performance analysis tool from Sun.

If this doesn't make any sense to you, just accept the default.
EOM

while $test 1 ; do
 case "$usedtrace" in
 $define|true|[yY]*)
  dflt='y'
  ;;
 ?*)
  dflt='y'
  dflt_dtrace=$usedtrace
  ;;
 *)
  dflt='n'
```

```
 ;;
esac

rp='Support DTrace if available?'
. ./myread
case "$ans" in
y|Y) val="$define" ;;
*)      val="$undef" ;;
esac
set usedtrace
eval $setvar

test "X$usedtrace" != "X$define" && break

echo " "
rp='Where is the dtrace executable?'
dflt=$dflt_dtrace
. ./getfile
val="$ans"
set dtrace
eval $setvar

if $test -f $dtrace
then
 if $dtrace -h -s ../perldtrace.d \
  -o perldtrace.tmp >/dev/null 2>&1 \
  && rm -f perldtrace.tmp
 then
  echo " "
  echo "Good: your $dtrace knows about the -h flag."
 else
  cat >&2 <<EOM

*** $me:  Fatal Error:  $dtrace doesn't support -h flag
***
*** Your installed dtrace doesn't support the -h switch to compile a D
*** program into a C header. Can't continue.

EOM
   exit
 1
 fi
 break;
fi

case "$fastread" in
yes)
 cat >&2 <<EOM
```

```
*** $me:  Fatal Error:  $dtrace not found.
*** Can't continue.

EOM
  exit 1
  ;;
 *)
  echo "*** $dtrace was not found."
  echo " "
  ;;
 esac
done
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/usedtrace.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libnlist.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libnlist.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:08:02  ram
?RCS: patch61: added usrinc and mips on the dependency line
?RCS: patch61: make sure we call ./mips
?RCS: patch61: added a ?LINT: hint
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:00  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libnlist: Loc libpth Guess usrinc _a
?MAKE: -pick add $@ %<
?S:libnlist (libmld):
?S: This variable contains the name of the library required to
 get the
?S: definition of the nlist() function.  On a MIPS RISC/OS box, it is -lmld.
?S: Under Sys Vr4, it is -lelf.  Otherwise, its value is empty.
?S:.
?T:xxx
?LINT:use usrinc
: see if we need a special library for 'nlist()'
```

```
echo " "
: How about doing this if nlist is not in libc...
if ./mips ; then
 libnlist='-lmld'
else
 xxx=`./loc libelf$_a x $libpth`
 case "$xxx" in
 x)  ;;
 *)
  libnlist="$xxx"
  ;;
 esac
fi
case "$libnlist" in
") echo "No special library for nlist() seems necessary." >&4
 ;;
*)  echo "nlist() can be found in $libnlist." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/libnlist.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: html1dir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: html1dir.U,v $
?RCS:
?MAKE:html1dir html1direxp installhtml1dir: cat Loc Myread \
 spackage test Getfile Setprefixvar Prefixit Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?D:html1dir="
?S:html1dir:
?S: This variable contains the name of the directory in which html
?S: source pages are to be put.  This directory is for pages
?S: that describe whole programs, not libraries or modules.  It
?S: is intended to correspond roughly to section 1 of the Unix
?S: manuals.
?S:.
```

```
?D:html1direxp="
?S:html1direxp:
?S: This
 variable is the same as the html1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installhtml1dir="
?S:installhtml1dir:
?S: This variable is really the same as html1direxp, unless you are
?S: using a different installprefix.  For extra portability, you
?S: should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set html1direxp
?LINT:set installhtml1dir
: determine where html pages for programs go
set html1dir html1dir none
eval $prefixit
$cat <<EOM

If you wish to install html files for programs in $spackage, indicate
the appropriate directory here.  To skip installing html files,
answer "none".
EOM
case "$html1dir" in
"|none|$undef|' ') dflt=none ;;
*) dflt=$html1dir ;;
esac
fn=dn+~
rp="Directory for the main $spackage html pages?"
. ./getfile
prefixvar=html1dir
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$html1dir" = "X" && html1dir=' '

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/html1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

```
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: i_db.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  14:10:22  ram
?RCS: patch56: conditionally use const in test programs (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1995/05/12  12:14:42  ram
?RCS: patch54: extended for more intimate DB probing (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:21:50  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:i_db db_hashtype db_prefixtype: Inhdr +cc +ccflags rm_try contains cat \
  d_const
?MAKE: -pick
 add $@ %<
?S:i_db:
?S: This variable conditionally defines the I_DB symbol, and indicates
?S: whether a C program may include Berkeley's DB include file <db.h>.
?S:.
?S:db_hashtype:
?S: This variable contains the type of the hash structure element
?S: in the <db.h> header file.  In older versions of DB, it was
?S: int, while in newer ones it is u_int32_t.
?S:.
?S:db_prefixtype:
?S: This variable contains the type of the prefix structure element
?S: in the <db.h> header file.  In older versions of DB, it was
?S: int, while in newer ones it is size_t.
?S:.
?C:I_DB:
?C: This symbol, if defined, indicates to the C program that it should
?C: include Berkeley's DB include file <db.h>.
?C:.
?C:DB_Prefix_t:
?C: This symbol contains the type of the prefix structure element
?C: in the <db.h> header file.  In older versions of DB, it was
?C: int, while in newer ones it is u_int32_t.
?C:.
?C:DB_Hash_t:
?C: This symbol contains the type of the prefix structure element
?C: in the <db.h> header
 file.  In older versions of DB, it was
?C: int, while in newer ones it is size_t.
?C:.
```

```
?H:#$i_db I_DB  /**/
?H:#define DB_Hash_t $db_hashtype  /**/
?H:#define DB_Prefix_t $db_prefixtype   /**/
?H:.
?LINT:set i_db
: see if this is a db.h system
set db.h i_db
eval $inhdr

@if DB_Hash_t
case "$i_db" in
define)
 : Check the return type needed for hash
 echo " "
 echo "Checking return type needed for hash for Berkeley DB ..." >&4
 $cat >try.c <<EOCP
#$d_const HASCONST
#ifndef HASCONST
#define const
#endif
#include <sys/types.h>
#include <db.h>
u_int32_t hash_cb (ptr, size)
const void *ptr;
size_t size;
{
}
HASHINFO info;
int main()
{
 info.hash = hash_cb;
}
EOCP
 if $cc $ccflags -c try.c >try.out 2>&1 ; then
  if $contains warning try.out >>/dev/null 2>&1 ; then
   db_hashtype='int'
  else
   db_hashtype='u_int32_t'
  fi
 else
  echo "I can't seem to compile the test program." >&4
  db_hashtype=int
 fi
 $rm_try
 echo "Your version of Berkeley DB uses $db_hashtype for hash."
 ;;
*) db_hashtype=int
 ;;
```

```
esac

@end
@if
 DB_Prefix_t
case "$i_db" in
define)
 : Check the return type needed for prefix
 echo " "
 echo "Checking return type needed for prefix for Berkeley DB ..." >&4
 cat >try.c <<EOCP
#$d_const HASCONST
#ifndef HASCONST
#define const
#endif
#include <sys/types.h>
#include <db.h>
size_t prefix_cb (key1, key2)
const DBT *key1;
const DBT *key2;
{
}
BTREEINFO info;
int main()
{
 info.prefix = prefix_cb;
}
EOCP
 if $cc $ccflags -c try.c  >try.out 2>&1 ; then
  if $contains warning try.out >>/dev/null 2>&1 ; then
   db_prefixtype='int'
  else
   db_prefixtype='size_t'
  fi
 else
  echo "I can't seem to compile the test program." >&4
  db_prefixtype='int'
 fi
 $rm_try
 echo "Your version of Berkeley DB uses $db_prefixtype for prefix."
 ;;
*) db_prefixtype='int'
 ;;
esac

@end

Found in path(s):
```

* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_db.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_group.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_group.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:34:52  ram
?RCS: patch61: useless unit dropped.
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:07:48  ram
?RCS: patch32: created by ADO
?RCS:
?X:
?X: Useless unit dropped.
?X:
?LINT:empty

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_group.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_fd_set.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:33:16  ram
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.2  1994/06/20  06:57:23  ram
?RCS: patch30: extended scope for fd_set checks (ADO)
?RCS:

```
?RCS: Revision 3.0.1.1  1994/01/24  14:06:27  ram
?RCS: patch16: comments for HAS_FD_* symbols were not consistent
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_fd_set d_fd_macros d_fds_bits: cat +cc +ccflags rm Oldconfig
 \
 d_socket i_systime i_sysselct i_syssock
?MAKE: -pick add $@ %<
?S:d_fd_set:
?S: This variable contains the eventual value of the HAS_FD_SET symbol,
?S: which indicates if your C compiler knows about the fd_set typedef.
?S:.
?S:d_fd_macros:
?S: This variable contains the eventual value of the HAS_FD_MACROS symbol,
?S: which indicates if your C compiler knows about the macros which
?S: manipulate an fd_set.
?S:.
?S:d_fds_bits:
?S: This variable contains the eventual value of the HAS_FDS_BITS symbol,
?S: which indicates if your fd_set typedef contains the fds_bits member.
?S: If you have an fd_set typedef, but the dweebs who installed it did
?S: a half-fast job and neglected to provide the macros to manipulate
?S: an fd_set, HAS_FDS_BITS will let us know how to fix the gaffe.
?S:.
?C:HAS_FD_SET:
?C: This symbol, when defined, indicates presence of the fd_set typedef
?C: in <sys/types.h>
?C:.
?C:HAS_FD_MACROS:
?C: This symbol, when defined,  indicates presence of the macros used
 to
?C: manipulate an fd_set.
?C:.
?C:HAS_FDS_BITS:
?C: This symbol, when defined, indicates presence of the fds_bits member in
?C: fd_set.  This knowledge is useful if fd_set is available but the macros
?C: aren't.
?C:.
?H:#$d_fd_set HAS_FD_SET /**/
?H:#$d_fd_macros HAS_FD_MACROS /**/
?H:#$d_fds_bits HAS_FDS_BITS /**/
?H:.
?F:!fd_set
: check for fd_set items
$cat <<EOM
```

```
Checking to see how well your C compiler handles fd_set and friends ...
EOM
?X: The FD_SET macros can be in strange places.  On some SysV-based
?X: systems, they are in <sys/bsdtypes.h>, which is included (perhaps)
?X: by <sys/socket.h>.  We won't force people to include
?X: <sys/bsdtypes.h> because it might introduce other
?X: incompatibilities.
$cat >fd_set.c <<EOCP
#$i_systime I_SYS_TIME
#$i_sysselct I_SYS_SELECT
#$d_socket HAS_SOCKET
#$i_syssock I_SYS_SOCKET
#include <sys/types.h>
#ifdef HAS_SOCKET
#ifdef I_SYS_SOCKET
#include <sys/socket.h> /* Might include <sys/bsdtypes.h> */
#endif
#endif
#ifdef I_SYS_TIME
#include
 <sys/time.h>
#endif
#ifdef I_SYS_SELECT
#include <sys/select.h>
#endif
int main() {
 fd_set fds;

#ifdef TRYBITS
 if(fds.fds_bits);
#endif

#if defined(FD_SET) && defined(FD_CLR) && defined(FD_ISSET) && defined(FD_ZERO)
 exit(0);
#else
 exit(1);
#endif
}
EOCP
if $cc $ccflags -DTRYBITS -o fd_set fd_set.c >fd_set.out 2>&1 ; then
 d_fds_bits="$define"
 d_fd_set="$define"
 echo "Well, your system knows about the normal fd_set typedef..." >&4
 if ./fd_set; then
  echo "and you have the normal fd_set macros (just as I'd expect)." >&4
  d_fd_macros="$define"
 else
  $cat >&4 <<'EOM'
```

```
but not the normal fd_set macros!  Gaaack!  I'll have to cover for you.
EOM
  d_fd_macros="$undef"
 fi
else
 $cat <<'EOM'
Hmm, your compiler has some difficulty with fd_set.  Checking further...
EOM
 if $cc $ccflags -o fd_set fd_set.c >fd_set.out 2>&1 ; then
  d_fds_bits="$undef"
  d_fd_set="$define"
  echo "Well, your system has some sort of fd_set available..." >&4
  if ./fd_set; then
   echo "and you have the
 normal fd_set macros." >&4
   d_fd_macros="$define"
  else
   $cat <<'EOM'
but not the normal fd_set macros!  Gross!  More work for me...
EOM
   d_fd_macros="$undef"
  fi
 else
 echo "Well, you got zip.  That's OK, I can roll my own fd_set stuff." >&4
  d_fd_set="$undef"
  d_fds_bits="$undef"
  d_fd_macros="$undef"
 fi
fi
$rm -f fd_set*

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_fd_set.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2008 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_ctime64 d_localtime64 d_gmtime64 d_mktime64 d_difftime64 d_asctime64: Inlibc
?MAKE: -pick add $@ %<
?S:d_ctime64:
?S: This variable conditionally defines the HAS_CTIME64 symbol, which
?S: indicates to the C program that the ctime64 () routine is available.
?S:.
```

?S:d_localtime64:
?S: This variable conditionally defines the HAS_LOCALTIME64 symbol, which
?S: indicates to the C program that the localtime64 () routine is available.
?S:.
?S:d_gmtime64:
?S: This variable conditionally defines the HAS_GMTIME64 symbol, which
?S: indicates to the C program that the gmtime64 () routine is available.
?S:.
?S:d_mktime64:
?S: This variable conditionally defines the HAS_MKTIME64 symbol, which
?S: indicates to the
C program that the mktime64 () routine is available.
?S:.
?S:d_difftime64:
?S: This variable conditionally defines the HAS_DIFFTIME64 symbol, which
?S: indicates to the C program that the difftime64 () routine is available.
?S:.
?S:d_asctime64:
?S: This variable conditionally defines the HAS_ASCTIME64 symbol, which
?S: indicates to the C program that the asctime64 () routine is available.
?S:.
?C:HAS_CTIME64:
?C: This symbol, if defined, indicates that the ctime64 () routine is
?C: available to do the 64bit variant of ctime ()
?C:.
?C:HAS_LOCALTIME64:
?C: This symbol, if defined, indicates that the localtime64 () routine is
?C: available to do the 64bit variant of localtime ()
?C:.
?C:HAS_GMTIME64:
?C: This symbol, if defined, indicates that the gmtime64 () routine is
?C: available to do the 64bit variant of gmtime ()
?C:.
?C:HAS_MKTIME64:
?C: This symbol, if defined, indicates that the mktime64 () routine is
?C: available to do the 64bit variant of mktime ()
?C:.
?C:HAS_DIFFTIME64:
?C: This
symbol, if defined, indicates that the difftime64 () routine is
?C: available to do the 64bit variant of difftime ()
?C:.
?C:HAS_ASCTIME64:
?C: This symbol, if defined, indicates that the asctime64 () routine is
?C: available to do the 64bit variant of asctime ()
?C:.
?H:#$d_ctime64 HAS_CTIME64 /**/
?H:#$d_localtime64 HAS_LOCALTIME64 /**/

```
?H:#$d_gmtime64 HAS_GMTIME64  /**/
?H:#$d_mktime64 HAS_MKTIME64  /**/
?H:#$d_difftime64 HAS_DIFFTIME64  /**/
?H:#$d_asctime64 HAS_ASCTIME64  /**/
?H:.
?LINT:set d_ctime64 d_localtime64 d_gmtime64 d_mktime64 d_difftime64 d_asctime64
: see if 64bit time functions exists

set ctime64 d_ctime64
eval $inlibc

set localtime64 d_localtime64
eval $inlibc

set gmtime64 d_gmtime64
eval $inlibc

set mktime64 d_mktime64
eval $inlibc

set difftime64 d_difftime64
eval $inlibc

set asctime64 d_asctime64
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_timefuncs64.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getpwent.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_getpwent.U,v $
?RCS:
?MAKE:d_getpwent: Inlibc
?MAKE: -pick add $@ %<
?S:d_getpwent:
?S: This variable conditionally defines the HAS_GETPWENT symbol, which
?S: indicates to the C program that the getpwent() routine is available
?S: for sequential access of the passwd database.
?S:.
?C:HAS_GETPWENT:
?C: This symbol, if defined, indicates that the getpwent routine is
```

?C: available for sequential access of the passwd database.
?C: If this is not available, the older getpw() function may be available.
?C:.
?H:#$d_getpwent HAS_GETPWENT  /**/
?H:.
?LINT:set d_getpwent
: see if getpwent exists
set getpwent d_getpwent
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getpwent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_strtod.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strtod.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:46:36  ram
?RCS: patch61: created
?RCS:
?RCS:
?MAKE:d_strtod: Inlibc
?MAKE: -pick add $@ %<
?S:d_strtod:
?S: This variable conditionally defines the HAS_STRTOD symbol, which
?S: indicates to the C program that the strtod() routine is available
?S: to provide better numeric string conversion than atof().
?S:.
?C:HAS_STRTOD (STRTOD):
?C: This symbol, if defined,
 indicates that the strtod routine is
?C: available to provide better numeric string conversion than atof().
?C:.
?H:#$d_strtod HAS_STRTOD /**/
?H:.
?LINT:set d_strtod
: see if strtod exists
set strtod d_strtod
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strtod.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_getespwnam: Inlibc
?MAKE: -pick add $@ %<
?S:d_getespwnam:
?S: This variable conditionally defines HAS_GETESPWNAM if getespwnam() is
?S: available to retrieve enhanced (shadow) password entries by name.
?S:.
?C:HAS_GETESPWNAM:
?C: This symbol, if defined, indicates that the getespwnam system call is
?C: available to retrieve enhanced (shadow) password entries by name.
?C:.
?H:#$d_getespwnam HAS_GETESPWNAM  /**/
?H:.
?LINT:set d_getespwnam
: see if getespwnam exists
set getespwnam d_getespwnam
eval $inlibc

Found in
 path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getespwnam.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sbrktype.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sbrktype.U,v $

```
?RCS: Revision 3.0  1993/08/18  12:09:43  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:sbrktype: Myread Oldconfig Loc contains Findhdr
?MAKE: -pick add $@ %<
?S:sbrktype:
?S: This variable defines sbrktype to be something like caddr_t, char *,
?S: or whatever type is used to declare sbrk() in the kernel.
?S:.
?C:Caddr_t (SBRKTYPE):
?C: This symbol holds the type of a core address. It is inteded to be used
?C: to safely
 declare the return type of system calls like sbrk(). It might
?C: be necessary to include <sys/types.h> as well.
?C:.
?H:#define Caddr_t $sbrktype /* <core address> type */
?H:.
: see what type sbrk is declared as in the kernel
case "$sbrktype" in
")
 if $contains 'caddr_t;' `./findhdr sys/types.h` >/dev/null 2>&1 ; then
  dflt='caddr_t';
 else
  dflt='char *';
 fi
 ;;
*)  dflt="$sbrktype"
 ;;
esac
echo " "
rp="What is the return type of sbrk() on this system?"
. ./myread
sbrktype="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sbrktype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: lib.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:16:47  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:38:08  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:27:40  ram
?RCS: patch32: now uses installation prefix to set the default
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lib libexp: Getfile
 Loc Oldconfig Prefixit Prefixup prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?S:lib:
?S: This variable holds the name of the directory in which the user wants
?S: to put public library files for the package in question.  It is most
?S: often a local directory such as /usr/local/lib. Programs using this
?S: variable must be prepared to deal with filename expansion.
?S:.
?S:libexp:
?S: This variable is the same as the lib variable, but is filename expanded
?S: at configuration time, for convenient use in your makefiles.
?S:.
: determine where public libraries go
set lib lib
eval $prefixit
case "$lib" in
")
 dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
 set dflt
 eval $prefixup
 ;;
*)  dflt="$lib";;
esac
echo " "
fn=d~
rp='Where do you want to put the public libraries?'
. ./getfile
lib="$ans"
libexp="$ansexp"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/lib.U
```

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: charorder.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:07:08  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:33  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:chorder_int chorder_short chorder_long: Myread cat +cc +ccflags rm
?MAKE: -pick add $@ %<
?S:chorder_short (d_cos d_bos):
?S: Holds the value describing the byte ordering of characters in a short.
?S: On a Big-Endian machine, that would be "c0c1".
?S:.
?S:chorder_int
 (charoder):
?S: Holds the value describing the byte ordering of characters in an int.
?S: For instance, on a Big-Endian machine, this would be: "c0c1c2c3".
?S:.
?S:chorder_long (d_col d_bol):
?S: Holds the value describing the byte ordering of characters in a long.
?S: On a 64 bits Big-Endian machine, that would yield: "c0c1c2c3c4c5c6c7".
?S:.
?C:CHAR_ORDER_SHORT:
?C: Holds the byte ordering of characters in a short. It's a string
?C: value like "c0c1" on a Big-Endian machine.
?C:.
?C:CHAR_ORDER_INT:
?C: Holds the byte ordering of characters in an int. It's a string
?C: value like "c0c1c2c3" on a Big-Endian machine.
?C:.
?C:CHAR_ORDER_LONG:
?C: Holds the byte ordering of characters in a long. It's a string
?C: value like "c0c1c2c3c4c5c6c7" on a 64 bits Big-Endian machine.
?C:.
?H:#define CHAR_ORDER_SHORT "$chorder_short" /* byte order in a short */
?H:#define CHAR_ORDER_INT "$chorder_int" /* byte order in an int */
```

```
?H:#define CHAR_ORDER_LONG "$chorder_long" /* byte order in a long */
?H:.
?F:!byteorder
:
 check for character ordering
echo " "
echo "Checking out byte order..." >&4
$cat >byteorder.c <<'EOCP'
#include <stdio.h>

main(argc, argv)
 int argc;
 char *argv[]; {
 int i;
 int max;
 union {
  short u_s;
  int u_i;
  long u_l;
  char u_c[sizeof(long)];
 } u;
 switch (argv[1][0]) {
 case 'l':
  u.u_l = 0L;
  /* HMS: ASSERT: sizeof(long) < 10. */
  for(i = 0; i < sizeof(long); ++i) {
   u.u_l *= 0x100L;
   u.u_l += (0xc0 + i);
  }
  max = sizeof(long);
  break;
 case 's':
  u.u_s = 0;
  /* HMS: ASSERT: sizeof(short) < 10. */
  for(i = 0; i < sizeof(short); ++i) {
   u.u_s *= 0x100L;
   u.u_s += (0xc0 + i);
  }
  max = sizeof(short);
  break;
 case 'i':
  u.u_i = 0;
  /* RAM: ASSERT: sizeof(int) < 10. */
  for(i = 0; i < sizeof(int); ++i) {
   u.u_l *= 0x100L;
   u.u_l += (0xc0 + i);
  }
  max = sizeof(int);
```

```
 break;
default:
 max = 0;
 break;
}
for(i = 0; i < max; i++) {
 printf("%x", u.u_c[i] & 0x00FF);
}
printf("\n");
exit(0);
}
EOCP
if $cc $ccflags -o
 byteorder byteorder.c >/dev/null 2>&1 ; then
 : null statement
@if chorder_short
  chorder_short=`./byteorder s`
@end
@if chorder_int
  chorder_int=`./byteorder i`
@end
@if chorder_long
  chorder_long=`./byteorder l`
@end
else
 $cat <<EOM
(I can't seem to get my test program to work.  Guessing 32 bits big-endian.)
EOM
  chorder_short="c0c1"
  chorder_int="c0c1c2c3"
  chorder_long="c0c1c2c3"
fi
@if chorder_short
dflt=$chorder_short
rp='What is the order of characters in a short?'
. ./myread
chorder_short="$ans"
@end
@if chorder_int
dflt=$chorder_int
rp='What is the order of characters in an int?'
. ./myread
chorder_int="$ans"
@end
@if chorder_long
dflt=$chorder_long
rp='What is the order of characters in a long?'
. ./myread
```

```
chorder_long="$ans"
@end
$rm -f byteorder* core
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/charorder.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_byacc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_byacc.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:31:14  ram
?RCS: patch61: created
?RCS:
?MAKE:d_byacc: byacc Setvar
?MAKE: -pick add $@ %<
?S:d_byacc:
?S: This variable indicates whether byacc is available.
?S: If the user has specified 'portability', then Makefile.SH
?S: sees $byacc='byacc' whether or not the user actually has
?S: byacc.  This variable allows us to determine in a makefile
?S: if we really
 have byacc.
?S:.
?LINT:set d_byacc
: Check if we really have byacc
case "$byacc" in
"|'byacc') val="$undef" ;;
*) val="$define" ;;
esac
set d_byacc
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_byacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_symlink.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_symlink.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:41  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_symlink: Inlibc
?MAKE: -pick add $@ %<
?S:d_symlink:
?S: This variable conditionally defines the HAS_SYMLINK symbol, which
?S: indicates to the C program that the symlink() routine is available
?S: to create symbolic links.
?S:.
?C:HAS_SYMLINK (SYMLINK):
?C: This symbol, if defined, indicates that the symlink routine is available
?C: to
 create symbolic links.
?C:.
?H:#$d_symlink HAS_SYMLINK /**/
?H:.
?LINT:set d_symlink
: see if symlink exists
set symlink d_symlink
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_symlink.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_tminsys.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_tminsys.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:47  ram
?RCS: Baseline for dist 3.0 netwide release.

```
?RCS:
?MAKE:d_tminsys: contains Setvar Findhdr
?MAKE: -pick add $@ %<
?S:d_tminsys:
?S: This variable conditionally defines TM_IN_SYS if this system
?S: declares "struct tm" in <sys/time.h> rather than <time.h>.
?S:.
?C:TM_IN_SYS (TMINSYS):
?C: This symbol is defined if this system declares "struct tm" in
?C: in <sys/time.h> rather than <time.h>.
  We can't just say
?C: -I/usr/include/sys because some systems have both time files, and
?C: the -I trick gets the wrong one.
?C:.
?H:#$d_tminsys TM_IN_SYS  /**/
?H:.
?LINT:set d_tminsys
: see if struct tm is defined in sys/time.h
echo " "
if $contains 'struct tm' `./findhdr time.h` >/dev/null 2>&1 ; then
 echo "You have struct tm defined in <time.h> rather than <sys/time.h>." >&4
 val="$undef"
else
 echo "You have struct tm defined in <sys/time.h> rather than <time.h>." >&4
 val="$define"
fi
set d_tminsys
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_tminsys.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_grp.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:20  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_grp: Inhdr
```

?MAKE: -pick add $@ %<
?S:i_grp:
?S: This variable conditionally defines the I_GRP symbol, and indicates
?S: whether a C program should include <grp.h>.
?S:.
?C:I_GRP:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <grp.h>.
?C:.
?H:#$i_grp I_GRP  /**/
?H:.
?LINT:set i_grp
: see if this is an grp system
set grp.h i_grp
eval $inhdr

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_grp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sem_destroy: Inlibc
?MAKE: -pick add $@ %<
?S:d_sem_destroy:
?S: This variable conditionally defines HAS_SEM_DESTROY if sem_destroy() is
?S: available to destroy a POSIX semaphore.
?S:.
?C:HAS_SEM_DESTROY:
?C: This symbol, if defined, indicates that the sem_destroy system call is
?C: available to destroy a POSIX semaphore.
?C:.
?H:#$d_sem_destroy HAS_SEM_DESTROY  /**/
?H:.
?LINT:set d_sem_destroy
: see if sem_destroy exists
set sem_destroy d_sem_destroy
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sem_destroy.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_stdstdio.U,v 3.0.1.3 1997/02/28 15:46:32 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Tye McQueen <tye@metronet.com>
?RCS:
?RCS: $Log: d_stdstdio.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:46:32  ram
?RCS: patch61: merged with perl5's unit
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  14:06:54  ram
?RCS: patch56: typo fix on ?C: line for FILE_bufsiz
?RCS: patch56: fixed unbalanced parenthesis (ADO)
?RCS: patch56: check whether FILE_cnt and FILE_ptr can be assigned to (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1995/05/12  12:12:11  ram
?RCS:
 patch54: complete rewrite by Tye McQueen to fit modern systems
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_stdstdio d_stdiobase stdio_ptr stdio_cnt \
 d_stdio_ptr_lval_sets_cnt d_stdio_ptr_lval_nochange_cnt stdio_base \
 stdio_bufsiz d_stdio_cnt_lval d_stdio_ptr_lval stdio_filbuf: cat \
 Compile contains rm_try d_gnulibc gnulibc_version i_stdlib \
 Setvar Findhdr Oldconfig run to
?MAKE: -pick weed $@ %<
?S:d_stdstdio:
?S: This variable conditionally defines USE_STDIO_PTR if this system
?S: has a FILE structure declaring usable _ptr and _cnt fields (or
?S: equivalent) in stdio.h.
?S:.
?S:stdio_ptr:
?S: This variable defines how, given a FILE pointer, fp, to access the
?S: _ptr field (or equivalent) of stdio.h's FILE structure.  This will
?S: be used to define the macro FILE_ptr(fp).
?S:.

?S:d_stdio_ptr_lval:
?S: This variable conditionally defines STDIO_PTR_LVALUE if the
?S: FILE_ptr macro can be used as an lvalue.
?S:.
?S:stdio_cnt:
?S: This
 variable defines how, given a FILE pointer, fp, to access the
?S: _cnt field (or equivalent) of stdio.h's FILE structure.  This will
?S: be used to define the macro FILE_cnt(fp).
?S:.
?S:d_stdio_cnt_lval:
?S: This variable conditionally defines STDIO_CNT_LVALUE if the
?S: FILE_cnt macro can be used as an lvalue.
?S:.
?S:d_stdio_ptr_lval_sets_cnt:
?S: This symbol is defined if using the FILE_ptr macro as an lvalue
?S: to increase the pointer by n has the side effect of decreasing the
?S: value of File_cnt(fp) by n.
?S:.
?S:d_stdio_ptr_lval_nochange_cnt:
?S: This symbol is defined if using the FILE_ptr macro as an lvalue
?S: to increase the pointer by n leaves File_cnt(fp) unchanged.
?S:.
?S:stdio_filbuf:
?S: This variable defines how, given a FILE pointer, fp, to tell
?S: stdio to refill its internal buffers (?).  This will
?S: be used to define the macro FILE_filbuf(fp).
?S:.
?S:d_stdiobase:
?S: This variable conditionally defines USE_STDIO_BASE if this system
?S: has
 a FILE structure declaring a usable _base field (or equivalent)
?S: in stdio.h.
?S:.
?S:stdio_base:
?S: This variable defines how, given a FILE pointer, fp, to access the
?S: _base field (or equivalent) of stdio.h's FILE structure.  This will
?S: be used to define the macro FILE_base(fp).
?S:.
?S:stdio_bufsiz:
?S: This variable defines how, given a FILE pointer, fp, to determine
?S: the number of bytes store in the I/O buffer pointer to by the
?S: _base field (or equivalent) of stdio.h's FILE structure.  This will
?S: be used to define the macro FILE_bufsiz(fp).
?S:.
?C:USE_STDIO_PTR ~ d_stdstdio (USE_STD_STDIO STDSTDIO):
?C: This symbol is defined if the _ptr and _cnt fields (or similar)
?C: of the stdio FILE structure can be used to access the stdio buffer

?C: for a file handle.  If this is defined, then the FILE_ptr(fp)
?C: and FILE_cnt(fp) macros will also be defined and should be used
?C: to access these fields.
?C:.
?C:FILE_ptr:
?C: This macro is used to access the _ptr
 field (or equivalent) of the
?C: FILE structure pointed to by its argument. This macro will always be
?C: defined if USE_STDIO_PTR is defined.
?C:.
?C:STDIO_PTR_LVALUE:
?C: This symbol is defined if the FILE_ptr macro can be used as an
?C: lvalue.
?C:.
?C:FILE_cnt:
?C: This macro is used to access the _cnt field (or equivalent) of the
?C: FILE structure pointed to by its argument. This macro will always be
?C: defined if USE_STDIO_PTR is defined.
?C:.
?C:STDIO_CNT_LVALUE:
?C: This symbol is defined if the FILE_cnt macro can be used as an
?C: lvalue.
?C:.
?C:STDIO_PTR_LVAL_SETS_CNT:
?C: This symbol is defined if using the FILE_ptr macro as an lvalue
?C: to increase the pointer by n has the side effect of decreasing the
?C: value of File_cnt(fp) by n.
?C:.
?C:STDIO_PTR_LVAL_NOCHANGE_CNT:
?C: This symbol is defined if using the FILE_ptr macro as an lvalue
?C: to increase the pointer by n leaves File_cnt(fp) unchanged.
?C:.
?C:FILE_filbuf:
?C: This macro is used to access the internal stdio
 _filbuf function
?C: (or equivalent), if STDIO_CNT_LVALUE and STDIO_PTR_LVALUE
?C: are defined.  It is typically either _filbuf or __filbuf.
?C: This macro will only be defined if both STDIO_CNT_LVALUE and
?C: STDIO_PTR_LVALUE are defined.
?C:.
?H:?d_stdstdio:#$d_stdstdio USE_STDIO_PTR  /**/
?H:?d_stdstdio:#ifdef USE_STDIO_PTR
?H:#define FILE_ptr(fp) $stdio_ptr
?H:#$d_stdio_ptr_lval STDIO_PTR_LVALUE   /**/
?H:#define FILE_cnt(fp) $stdio_cnt
?H:#$d_stdio_cnt_lval STDIO_CNT_LVALUE   /**/
?H:#$d_stdio_ptr_lval_sets_cnt STDIO_PTR_LVAL_SETS_CNT /**/
?H:#$d_stdio_ptr_lval_nochange_cnt STDIO_PTR_LVAL_NOCHANGE_CNT /**/

```
?H:?FILE_filbuf:#if defined(STDIO_PTR_LVALUE) && defined(STDIO_CNT_LVALUE)
?H:?FILE_filbuf:#define FILE_filbuf(fp) $stdio_filbuf   /**/
?H:?FILE_filbuf:#endif
?H:?d_stdstdio:#endif
?H:.
?W:d_stdstdio:FILE_ptr FILE_cnt FILE_filbuf
?C:USE_STDIO_BASE ~ d_stdiobase:
?C: This symbol is defined if the _base field (or similar) of the
?C: stdio FILE structure can be used to access
 the stdio buffer for
?C: a file handle.  If this is defined, then the FILE_base(fp) macro
?C: will also be defined and should be used to access this field.
?C: Also, the FILE_bufsiz(fp) macro will be defined and should be used
?C: to determine the number of bytes in the buffer.  USE_STDIO_BASE
?C: will never be defined unless USE_STDIO_PTR is.
?C:.
?C:FILE_base:
?C: This macro is used to access the _base field (or equivalent) of the
?C: FILE structure pointed to by its argument. This macro will always be
?C: defined if USE_STDIO_BASE is defined.
?C:.
?C:FILE_bufsiz:
?C: This macro is used to determine the number of bytes in the I/O
?C: buffer pointed to by _base field (or equivalent) of the FILE
?C: structure pointed to its argument. This macro will always be defined
?C: if USE_STDIO_BASE is defined.
?C:.
?H:?d_stdiobase:#$d_stdiobase USE_STDIO_BASE  /**/
?H:?d_stdiobase:#ifdef USE_STDIO_BASE
?H:#define FILE_base(fp) $stdio_base
?H:#define FILE_bufsiz(fp) $stdio_bufsiz
?H:?d_stdiobase:#endif
?H:.
?W:d_stdiobase:FILE_base
 FILE_bufsiz
?T:ptr_lval cnt_lval filbuf xxx
?F:!try
?LINT:set d_stdstdio d_stdiobase
: see if _ptr and _cnt from stdio act std
echo " "

if $contains '_lbfsize' `./findhdr stdio.h` >/dev/null 2>&1 ; then
 echo "(Looks like you have stdio.h from BSD.)"
 case "$stdio_ptr" in
 '') stdio_ptr='((fp)->_p)'
  ptr_lval=$define
  ;;
 *) ptr_lval=$d_stdio_ptr_lval;;
```

```
 esac
 case "$stdio_cnt" in
 '') stdio_cnt='((fp)->_r)'
  cnt_lval=$define
  ;;
 *) cnt_lval=$d_stdio_cnt_lval;;
 esac
 case "$stdio_base" in
 '') stdio_base='((fp)->_ub._base ? (fp)->_ub._base : (fp)->_bf._base)';;
 esac
 case "$stdio_bufsiz" in
 '') stdio_bufsiz='((fp)->_ub._base ? (fp)->_ub._size : (fp)->_bf._size)';;
 esac
elif $contains '_IO_fpos_t' `./findhdr stdio.h` `./findhdr libio.h` >/dev/null 2>&1 ; then
 echo "(Looks like you have stdio.h from Linux.)"
 case "$stdio_ptr" in
 '') stdio_ptr='((fp)->_IO_read_ptr)'
  ptr_lval=$define
  ;;
 *) ptr_lval=$d_stdio_ptr_lval;;
 esac
 case "$stdio_cnt"
 in
 '') stdio_cnt='((fp)->_IO_read_end - (fp)->_IO_read_ptr)'
  cnt_lval=$undef
  ;;
 *) cnt_lval=$d_stdio_cnt_lval;;
 esac
 case "$stdio_base" in
 '') stdio_base='((fp)->_IO_read_base)';;
 esac
 case "$stdio_bufsiz" in
 '') stdio_bufsiz='((fp)->_IO_read_end - (fp)->_IO_read_base)';;
 esac
else
 case "$stdio_ptr" in
 '') stdio_ptr='((fp)->_ptr)'
  ptr_lval=$define
  ;;
 *) ptr_lval=$d_stdio_ptr_lval;;
 esac
 case "$stdio_cnt" in
 '') stdio_cnt='((fp)->_cnt)'
  cnt_lval=$define
  ;;
 *) cnt_lval=$d_stdio_cnt_lval;;
 esac
 case "$stdio_base" in
```

```
 ") stdio_base='((fp)->_base)';;
 esac
 case "$stdio_bufsiz" in
 ") stdio_bufsiz='((fp)->_cnt + (fp)->_ptr - (fp)->_base)';;
 esac
fi

: test whether _ptr and _cnt really work
echo "Checking how std your stdio is..." >&4
$cat >try.c <<EOP
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#define FILE_ptr(fp) $stdio_ptr
#define FILE_cnt(fp) $stdio_cnt
int main() {
 FILE *fp = fopen("try.c", "r");
 char c =
 getc(fp);
 if (
  18 <= FILE_cnt(fp) &&
  strncmp(FILE_ptr(fp), "include <stdio.h>\n", 18) == 0
 )
  exit(0);
 exit(1);
}
EOP
val="$undef"
set try
if eval $compile && $to try.c; then
 if $run ./try; then
  echo "Your stdio acts pretty std."
  val="$define"
 else
  echo "Your stdio isn't very std."
 fi
else
 echo "Your stdio doesn't appear very std."
fi
$rm_try

# glibc 2.2.90 and above apparently change stdio streams so Perl's
# direct buffer manipulation no longer works.  The Configure tests
# should be changed to correctly detect this, but until then,
# the following check should at least let perl compile and run.
# (This quick fix should be updated before 5.8.1.)
```

```
# To be defensive, reject all unknown versions, and all versions  > 2.2.9.
# A. Dougherty, June 3, 2002.
case "$d_gnulibc" in
$define)
 case "$gnulibc_version" in
 2.[01]*)  ;;
 2.2) ;;
 2.2.[0-9]) ;;
 *)  echo "But I will not snoop inside glibc $gnulibc_version stdio buffers."
  val="$undef"
  ;;
 esac
 ;;
esac
set d_stdstdio
eval
 $setvar

@if STDIO_PTR_LVALUE || d_stdio_ptr_lval
: Can _ptr be used as an lvalue?
?X: Only makes sense if we have a known stdio implementation.
case "$d_stdstdio$ptr_lval" in
$define$define) val=$define ;;
*) val=$undef ;;
esac
set d_stdio_ptr_lval
eval $setvar
@end

@if STDIO_CNT_LVALUE || d_stdio_cnt_lval
: Can _cnt be used as an lvalue?
?X: Only makes sense if we have a known stdio implementation.
case "$d_stdstdio$cnt_lval" in
$define$define) val=$define ;;
*) val=$undef ;;
esac
set d_stdio_cnt_lval
eval $setvar
@end

@if FILE_filbuf
: How to access the stdio _filbuf or __filbuf function.
: If this fails, check how the getc macro in stdio.h works.
case "${d_stdio_ptr_lval}${d_stdio_cnt_lval}" in
${define}${define})
 : Try $hint value, if any, then _filbuf, __filbuf, _fill, then punt.
 : _fill is for os/2.
 xxx='notok'
```

```
 for filbuf in $stdio_filbuf '_filbuf(fp)' '__filbuf(fp) ' '_fill(fp)' ; do
  $cat >try.c <<EOP
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include
 <stdlib.h>
#endif
#define FILE_ptr(fp) $stdio_ptr
#define FILE_cnt(fp) $stdio_cnt
#define FILE_filbuf(fp) $filbuf
int main() {
 FILE *fp = fopen("try.c", "r");
 int c;
 c = getc(fp);
 c = FILE_filbuf(fp);  /* Just looking for linker errors.*/
 exit(0);
}
EOP
  set try
  if eval $compile && $to try.c && $run ./try; then
   echo "Your stdio appears to use $filbuf"
   stdio_filbuf="$filbuf"
   xxx='ok'
   break
  else
   echo "Hmm.  $filbuf doesn't seem to work."
  fi
  $rm_try
 done
 case "$xxx" in
 notok) echo "I can't figure out how to access _filbuf"
   echo "I'll just have to work around it."
   d_stdio_ptr_lval="$undef"
   d_stdio_cnt_lval="$undef"
   ;;
 esac
 ;;
esac
@end

@if STDIO_PTR_LVALUE
: test whether setting _ptr sets _cnt as a side effect
d_stdio_ptr_lval_sets_cnt="$undef"
d_stdio_ptr_lval_nochange_cnt="$undef"
case "$d_stdio_ptr_lval$d_stdstdio" in
$define$define)
 echo "Checking to see what happens if we set the stdio ptr..." >&4
```

```
$cat >try.c <<EOP
#include <stdio.h>
/*
 Can we scream? */
/* Eat dust sed :-) */
/* In the buffer space, no one can hear you scream. */
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#define FILE_ptr(fp) $stdio_ptr
#define FILE_cnt(fp) $stdio_cnt
#include <sys/types.h>
int main() {
 FILE *fp = fopen("try.c", "r");
 int c;
 char *ptr;
 size_t cnt;
 if (!fp) {
    puts("Fail even to read");
    exit(1);
 }
 c = getc(fp); /* Read away the first # */
 if (c == EOF) {
    puts("Fail even to read");
    exit(1);
 }
 if (!(
  18 <= FILE_cnt(fp) &&
  strncmp(FILE_ptr(fp), "include <stdio.h>\n", 18) == 0
 )) {
  puts("Fail even to read");
  exit (1);
 }
 ptr = (char*) FILE_ptr(fp);
 cnt = (size_t)FILE_cnt(fp);

 FILE_ptr(fp) += 42;

 if ((char*)FILE_ptr(fp) != (ptr + 42)) {
  printf("Fail ptr check %p != %p", FILE_ptr(fp), (ptr + 42));
  exit (1);
 }
 if (FILE_cnt(fp) <= 20) {
  printf ("Fail (<20 chars to test)");
  exit (1);
 }
 if (strncmp(FILE_ptr(fp), "Eat dust sed :-) */\n", 20) != 0) {
```

```
 puts("Fail compare");
 exit
(1);
 }
 if (cnt == FILE_cnt(fp)) {
 puts("Pass_unchanged");
 exit (0);
 }
 if (FILE_cnt(fp) == (cnt - 42)) {
 puts("Pass_changed");
 exit (0);
 }
 printf("Fail count was %d now %d\n", cnt, FILE_cnt(fp));
 return 1;

}
EOP
 set try
 if eval $compile && $to try.c; then
  case `$run ./try` in
  Pass_changed)
   echo "Increasing ptr in your stdio decreases cnt by the same amount.  Good." >&4
   d_stdio_ptr_lval_sets_cnt="$define" ;;
  Pass_unchanged)
   echo "Increasing ptr in your stdio leaves cnt unchanged.  Good." >&4
   d_stdio_ptr_lval_nochange_cnt="$define" ;;
  Fail*)
   echo "Increasing ptr in your stdio didn't do exactly what I expected.  We'll not be doing that then." >&4 ;;
  *)
   echo "It appears attempting to set ptr in your stdio is a bad plan." >&4 ;;
 esac
 else
  echo "It seems we can't set ptr in your stdio.  Nevermind." >&4
 fi
 $rm_try
 ;;
esac
@end

@if d_stdiobase || USE_STDIO_BASE || FILE_base || FILE_bufsiz
: see if _base is also standard
val="$undef"
case
 "$d_stdstdio" in
$define)
 $cat >try.c <<EOP
#include <stdio.h>
#$i_stdlib I_STDLIB
```

```
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#define FILE_base(fp) $stdio_base
#define FILE_bufsiz(fp) $stdio_bufsiz
int main() {
 FILE *fp = fopen("try.c", "r");
 char c = getc(fp);
 if (
  19 <= FILE_bufsiz(fp) &&
  strncmp(FILE_base(fp), "#include <stdio.h>\n", 19) == 0
 )
  exit(0);
 exit(1);
}
EOP
 set try
 if eval $compile && $to try.c; then
  if $run ./try; then
   echo "And its _base field acts std."
   val="$define"
  else
   echo "But its _base field isn't std."
  fi
 else
  echo "However, it seems to be lacking the _base field."
 fi
 $rm_try
 ;;
esac
set d_stdiobase
eval $setvar

@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_stdstdio.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_crypt.U,v $
?RCS:
?RCS: Copyright (c) 2002 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_crypt: Inhdr Hasfield
?MAKE: -pick add $@ %<
```

?S:i_crypt:
?S: This variable conditionally defines the I_CRYPT symbol, and indicates
?S: whether a C program should include <crypt.h>.
?S:.
?C:I_CRYPT:
?C: This symbol, if defined, indicates that <crypt.h> exists and
?C: should be included.
?C:.
?H:#$i_crypt I_CRYPT  /**/
?H:.
?LINT:set i_crypt
: see if this is a crypt.h system
set crypt.h i_crypt
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_crypt.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_setsent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_setsent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setsent: Inlibc
?MAKE: -pick add $@ %<
?S:d_setsent:
?S: This variable conditionally defines HAS_SETSERVENT if setservent() is
?S: available.
?S:.
?C:HAS_SETSERVENT:
?C: This symbol, if defined, indicates that the setservent() routine is
?C: available.
?C:.
?H:#$d_setsent HAS_SETSERVENT  /**/
?H:.
?LINT:set d_setsent
: see if setservent exists
set

```
 setservent d_setsent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_setsent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libperl.U,v $
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:libperl useshrplib shrpenv ldlibpthname: \
 Myread Oldconfig archlibexp awk cat libc \
 _a osname osvers so patchlevel subversion usedl ld \
 ccdlflags installarchlib userelocatableinc
?MAKE: -pick wipe $@ %<
?S:libperl:
?S: The perl executable is obtained by linking perlmain.c with
?S: libperl, any static extensions (usually just DynaLoader),
?S: and any other libraries needed on this system.  libperl
?S: is usually libperl.a, but can also be libperl.so.xxx if
?S: the user wishes to build a perl executable with a shared
?S: library.
?S:.
?S:useshrplib:
?S: This variable is set to 'true' if the user wishes
?S: to build a shared libperl, and 'false' otherwise.
?S:.
?S:shrpenv:
?S: If
 the user builds a shared libperl.so, then we need to tell the
?S: 'perl' executable where it will be able to find the installed libperl.so.
?S: One way to do this on some systems is to set the environment variable
?S: LD_RUN_PATH to the directory that will be the final location of the
?S: shared libperl.so.  The makefile can use this with something like
?S:  $shrpenv $(CC) -o perl perlmain.o $libperl $libs
?S: Typical values are
?S:  shrpenv="env LD_RUN_PATH=$archlibexp/CORE"
?S: or
?S:  shrpenv="
?S: See the main perl Makefile.SH for actual working usage.
?S: Alternatively, we might be able to use a command line option such
?S: as -R $archlibexp/CORE (Solaris) or -Wl,-rpath
?S: $archlibexp/CORE (Linux).
?S:.
```

```
?S:ldlibpthname:
?S: This variable holds the name of the shared library
?S: search path, often LD_LIBRARY_PATH.  To get an empty
?S: string, the hints file must set this to 'none'.
?S:.
?T:shrpdir majonly majmin also xxx tmp_shrpenv
?X: metalint gets confused and thinks we're
 actually setting LDOPTS
?X: and LD_RUN_PATH.
?LINT:extern LDOPTS
?LINT:change LDOPTS
?LINT:extern LD_RUN_PATH
?LINT:change LD_RUN_PATH
?LINT:change ccdlflags
?LINT:extern maintloc maintname
?Y:top
: Do we want a shared libperl?
also="
case "$usedl" in
$undef)
 # No dynamic loading being used, so don't bother even to prompt.
 useshrplib='false'
 ;;
*) case "$useshrplib" in
 '') case "$osname" in
  svr4*|nonstopux|dgux|dynixptx|esix|powerux|haiku|cygwin*)
   dflt=y
   also='Building a shared libperl is required for dynamic loading to work on your system.'
   ;;
  *) dflt=n
   ;;
  esac
  ;;
 $define|true|[Yy]*)
  dflt=y
  ;;
 *) dflt=n
  ;;
 esac
 $cat << EOM

The perl executable is normally obtained by linking perlmain.c with
libperl${_a}, any static extensions (usually just DynaLoader), and
any other libraries needed on this system (such as -lm, etc.).  Since
your system supports dynamic loading, it is probably possible to build
a shared libperl.$so.  If you will have more than one executable
 linked
to libperl.$so, this will significantly reduce the size of each
```

```
executable, but it may have a noticeable effect on performance.  The
default is probably sensible for your system.
$also

EOM
 rp="Build a shared libperl.$so (y/n)"
 . ./myread
 case "$ans" in
 true|$define|[Yy]*)
  useshrplib='true'  ;;
 *) useshrplib='false' ;;
 esac
 ;;
esac

case "$useshrplib" in
true)
 case "$userelocatableinc" in
 true|define)
  echo "Cannot build with both -Duserelocatableinc and -Duseshrplib" >&4
  echo "See INSTALL for an explanation why that won't work." >&4
  exit 4
  ;;
 esac
 case "$libperl" in
 '')
  # Figure out a good name for libperl.so.  Since it gets stored in
  # a version-specific architecture-dependent library, the version
  # number isn't really that important, except for making cc/ld happy.
  #
  # A name such as libperl.so.10.1
  majmin="libperl.$so.$patchlevel.$subversion"
  # A name such as libperl.so.100
  majonly=`echo $patchlevel $subversion |
   $awk '{printf
"%d%02d", $1, $2}'`
  majonly=libperl.$so.$majonly
  # I'd prefer to keep the os-specific stuff here to a minimum, and
  # rely on figuring it out from the naming of libc.
  case "${osname}${osvers}" in
  *linux*|gnu*)  # ld won't link with a bare -lperl otherwise.
   dflt=libperl.$so
   ;;
  cygwin*) # ld links now against the dll directly
   majmin="cygperl5_${patchlevel}_${subversion}.${so}"
   majonly=`echo $patchlevel $subversion |
    $awk '{printf "%03d%03d", $1, $2}'`
   majonly=cygperl5.$majonly.$so
```

```
  dflt=$majmin
  ;;
 *) # Try to guess based on whether libc has major.minor.
  case "$libc" in
  *libc.$so.[0-9]*.[0-9]*) dflt=$majmin ;;
  *libc.$so.[0-9]*) dflt=$majonly ;;
  *) dflt=libperl.$so ;;
  esac
  ;;
 esac
 ;;
*) dflt=$libperl
 ;;
esac
cat << EOM

I need to select a good name for the shared libperl.  If your system uses
library names with major and minor numbers, then you might want something
like $majmin.  Alternatively, if your system uses a single version
number
 for shared libraries, then you might want to use $majonly.
Or, your system might be quite happy with a simple libperl.$so.

Since the shared libperl will get installed into a version-specific
architecture-dependent directory, the version number of the shared perl
library probably isn't important, so the default should be o.k.

EOM
 rp='What name do you want to give to the shared libperl?'
 . ./myread
 libperl=$ans
 echo "Ok, I'll use $libperl"
 ;;
*)
 libperl="libperl${_a}"
 ;;
esac

# Detect old use of shrpdir via undocumented Configure -Dshrpdir
case "$shrpdir" in
'') ;;
*) $cat >&4 <<EOM
WARNING:  Use of the shrpdir variable for the installation location of
the shared $libperl is not supported.  It was never documented and
will not work in this version.  Let me (<$maintloc>)
know of any problems this may cause.

EOM
```

```
 case "$shrpdir" in
 "$archlibexp/CORE")
  $cat >&4 <<EOM
But your current setting of $shrpdir is
the default anyway, so it's harmless.
EOM
  ;;
 *)
  $cat >&4
 <<EOM
Further, your current attempted setting of $shrpdir
conflicts with the value of $archlibexp/CORE
that installperl will use.
EOM
  ;;
 esac
 ;;
esac

# How will the perl executable find the installed shared $libperl?
# Add $xxx to ccdlflags.
# If we can't figure out a command-line option, use $shrpenv to
# set env LD_RUN_PATH.  The main perl makefile uses this.
shrpdir=$archlibexp/CORE
xxx="
tmp_shrpenv="
if "$useshrplib"; then
   case "$osname" in
 aix)
  # We'll set it in Makefile.SH...
  ;;
 solaris)
  xxx="-R $shrpdir"
  ;;
 freebsd|mirbsd|netbsd|openbsd|interix|dragonfly|bitrig)
  xxx="-Wl,-R$shrpdir"
  ;;
 bsdos|linux|irix*|dec_osf|gnu*|haiku)
  xxx="-Wl,-rpath,$shrpdir"
  ;;
 hpux*)
  # hpux doesn't like the default, either.
  tmp_shrpenv="env LDOPTS=\"+s +b${shrpdir}\""
  ;;
 cygwin)
  # cygwin needs only ldlibpth
  ;;
 *)
```

```
 tmp_shrpenv="env LD_RUN_PATH=$shrpdir"
 ;;
esac
case "$xxx" in
") ;;
*)
 # Only add $xxx if it isn't already in ccdlflags.
 case " $ccdlflags
" in
 *" $xxx "*) ;;
 *) ccdlflags="$ccdlflags $xxx"
  cat <<EOM >&4

Adding $xxx to the flags
passed to $ld so that the perl executable will find the
installed shared $libperl.

EOM
  ;;
 esac
 ;;
esac
fi
# Fix ccdlflags in AIX for building external extensions.
# (For building Perl itself bare -bE:perl.exp is needed,
#  Makefile.SH takes care of this.)
case "$osname" in
aix) ccdlflags="$ccdlflags -bE:$installarchlib/CORE/perl.exp" ;;
esac
# Respect a hint or command-line value.
case "$shrpenv" in
") shrpenv="$tmp_shrpenv" ;;
esac
case "$ldlibpthname" in
") ldlibpthname=LD_LIBRARY_PATH ;;
none) ldlibpthname='' ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/libperl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_fp.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?MAKE:i_fp: Inhdr
?MAKE: -pick add $@ %<
?S:i_fp:
?S: This variable conditionally defines the I_FP symbol, and indicates
?S: whether a C program should include <fp.h>.
?S:.
?C:I_FP:
?C: This symbol, if defined, indicates that <fp.h> exists and
?C: should be included.
?C:.
?H:#$i_fp I_FP  /**/
?H:.
?LINT:set i_fp
: see if this is a fp.h system
set fp.h i_fp
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_fp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_ndbm.U,v $
?RCS: Revision 3.0.1.1  1995/05/12  12:16:53  ram
?RCS: patch54: made more robust by checking both header and lib (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:23  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_ndbm: Inhdr Inlibc Setvar
?MAKE: -pick add $@ %<
?S:i_ndbm (d_ndbm):
?S: This variable conditionally defines the I_NDBM symbol, which
?S: indicates to the C program that <ndbm.h> exists and should
?S: be included.
?S:.
?C:I_NDBM (HAS_NDBM NDBM):
?C: This
```

```
 symbol, if defined, indicates that <ndbm.h> exists and should
?C: be included.
?C:.
?H:#$i_ndbm I_NDBM /**/
?H:.
?T:t_ndbm d_dbm_open
?LINT:set i_ndbm
: see if ndbm.h is available
?X: t_ndbm is a tentative check.  We might just have the .h, not the lib -- ADO
set ndbm.h t_ndbm
eval $inhdr
case "$t_ndbm" in
$define)
 : see if dbm_open exists
 set dbm_open d_dbm_open
 eval $inlibc
 case "$d_dbm_open" in
 $undef)
  t_ndbm="$undef"
  echo "We won't be including <ndbm.h>"
  ;;
 esac
 ;;
esac
val="$t_ndbm"
set i_ndbm
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_ndbm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysvfs.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sysvfs: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sysvfs:
?S: This variable conditionally defines the I_SYSVFS symbol,
?S: and indicates whether a C program should include <sys/vfs.h>.
?S:.
?C:I_SYS_VFS:
?C: This symbol, if defined, indicates that <sys/vfs.h> exists and
?C: should be included.
```

?C:.
?H:#$i_sysvfs I_SYS_VFS  /**/
?H:.
?LINT:set i_sysvfs
: see if this is a sys/vfs.h system
set sys/vfs.h i_sysvfs
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sysvfs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:versiononly: cat Myread Setvar Devel
?MAKE: -pick add $@ %<
?LINT:set versiononly
?Y:TOP
?S:versiononly:
?S: If set, this symbol indicates that only the version-specific
?S: components of a perl installation should be installed.
?S: This may be useful for making a test installation of a new
?S: version without disturbing the existing installation.
?S: Setting versiononly is equivalent to setting installperl's -v option.
?S: In particular, the non-versioned scripts and programs such as
?S: a2p, c2ph, h2xs, pod2*, and perldoc
 are not installed
?S: (see INSTALL for a more complete list).  Nor are the man
?S: pages installed.
?S: Usually, this is undef.
?S:.
?LINT:extern inc_version_list
?LINT:change inc_version_list
?LINT:extern inc_version_list_init
?LINT:change inc_version_list_init
?LINT:extern version
: determine whether to use a version number suffix for installed binaries
echo " "
$cat <<EOM
Do you want to use a version number suffix for installed binaries? This

```
will install 'perl$version' instead of 'perl', and likewise for other
binaries like 'perldoc' and 'cpan'. This allows many versions of perl
to be installed side-by-side. Unless you are a developer, you probably
do *not* want to do this.
EOM
case "$versiononly" in
"$define"|[Yy]*|true) dflt='y' ;;
*) dflt='n';
esac
rp="Do you want to use a version number suffix for installed binaries?"
. ./myread
case "$ans" in
[yY]*) val="$define";;
*) val="$undef" ;;
esac
set versiononly
eval $setvar

case "$versiononly" in
"$define") inc_version_list="
        inc_version_list_init=0
       ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/versiononly.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_realpath: Inlibc
?MAKE: -pick add $@ %<
?S:d_realpath:
?S: This variable conditionally defines the HAS_REALPATH symbol, which
?S: indicates to the C program that the realpath() routine is available.
?S:.
?C:HAS_REALPATH:
?C: This symbol, if defined, indicates that the realpath routine is
?C: available to do resolve paths.
?C:.
?H:#$d_realpath HAS_REALPATH  /**/
?H:.
?LINT:set d_realpath
```

```
: see if realpath exists
set realpath d_realpath
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_realpath.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:perladmin: cf_email Oldconfig Myread cat
?MAKE: -pick add $@ %<
?Y:TOP
?S:perladmin:
?S: Electronic mail address of the perl5 administrator.
?S:.
: Ask e-mail of administrator
$cat <<EOM

If you or somebody else will be maintaining perl at your site, please
fill in the correct e-mail address here so that they may be contacted
if necessary. Currently, the "perlbug" program included with perl
will send mail to this address in addition to perlbug@perl.org. You may
enter "none" for no administrator.

EOM
case "$perladmin" in
'') dflt="$cf_email";;
*) dflt="$perladmin";;
esac
rp='Perl administrator e-mail address'
. ./myread
perladmin="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/perladmin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Guess.U,v 3.0.1.5 1995/07/25 13:37:14 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Guess.U,v $
?RCS: Revision 3.0.1.5  1995/07/25  13:37:14  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  15:53:55  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: call ./xenix explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0.1.3  1993/12/15  08:14:35  ram
?RCS: patch15: variable d_bsd was not always set properly
?RCS:
?RCS: Revision 3.0.1.2  1993/08/30  08:57:14  ram
?RCS:
 patch8: fixed comment which wrongly attributed the usrinc symbol
?RCS: patch8: no more ugly messages when no /usr/include/ctype.h
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:37:37  ram
?RCS: patch7: added support for OSF/1 machines
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit hazards some guesses as to what the general nature of the system
?X: is.  The information it collects here is used primarily to establish default
?X: answers to other questions.
?X:
?MAKE:Guess d_eunice d_xenix d_bsd: cat test echo n c contains \
 rm Loc eunicefix tr sysroot
?MAKE: -pick add $@ %<
?S:d_eunice:
?S: This variable conditionally defines the symbols EUNICE and VAX, which
?S: alerts the C program that it must deal with idiosyncrasies of VMS.
?S:.
?S:d_xenix:
?S: This variable conditionally defines the symbol XENIX, which alerts
?S: the C program that it runs under Xenix.
?S:.
?S:d_bsd:
?S: This symbol conditionally defines the
 symbol BSD when running on a
?S: BSD system.
?S:.
?C:EUNICE:
?C: This symbol, if defined, indicates that the program is being compiled

```
?C: under the EUNICE package under VMS.  The program will need to handle
?C: things like files that don't go away the first time you unlink them,
?C: due to version numbering.  It will also need to compensate for lack
?C: of a respectable link() command.
?C:.
?X: Should we define VMS here?  Is Eunice actually used anymore?
?X:?C:VMS:
?X:?C: This symbol, if defined, indicates that the program is running under
?X:?C: VMS.  It is currently only set in conjunction with the EUNICE symbol.
?X:?C:.
?C:XENIX:
?C: This symbol, if defined, indicates that the program is running under
?C: Xenix (at least 3.0 ?).
?C:.
?X:  We don't use BSD in the perl source.  It's too vague, and already
?X:  defined in some header files anyway (e.g. NetBSD).  This just gives
?X:  us a spurious redefinition error upon compilation.
?X: --Andy Dougherty  Feb 11, 1998
?X: ?C:BSD:
?X:
 ?C: This symbol, if defined, indicates that the program is running under
?X: ?C: a BSD system.
?X: ?C:.
?H:#$d_eunice EUNICE  /**/
?X:?H:#$d_eunice VMS  /**/
?H:#$d_xenix XENIX  /**/
?X: ?H:#$d_bsd BSD  /**/
?H:.
?F:./bsd ./usg ./v7 ./osf1 ./eunice ./xenix ./venix ./os2
?T:xxx
: make some quick guesses about what we are up against
echo " "
$echo $n "Hmm...  $c"
echo exit 1 >bsd
echo exit 1 >usg
echo exit 1 >v7
echo exit 1 >osf1
echo exit 1 >eunice
echo exit 1 >xenix
echo exit 1 >venix
echo exit 1 >os2
d_bsd="$undef"
?X:
?X: Do not use 'usrinc', or we get a circular dependency. because
?X: usrinc is defined in usrinc.U, which relies on us...
?X:
$cat $sysroot/usr/include/signal.h $sysroot/usr/include/sys/signal.h >foo 2>/dev/null
if test -f /osf_boot || $contains 'OSF/1' $sysroot/usr/include/ctype.h >/dev/null 2>&1
```

```
then
 echo "Looks kind of like an OSF/1 system, but we'll see..."
 echo exit 0 >osf1
elif test `echo abc | $tr a-z A-Z` = Abc ; then
 xxx=`./loc addbib blurfl $pth`
 if $test
 -f $xxx; then
 echo "Looks kind of like a USG system with BSD features, but we'll see..."
  echo exit 0 >bsd
  echo exit 0 >usg
 else
  if $contains SIGTSTP foo >/dev/null 2>&1 ; then
   echo "Looks kind of like an extended USG system, but we'll see..."
  else
   echo "Looks kind of like a USG system, but we'll see..."
  fi
  echo exit 0 >usg
 fi
elif $contains SIGTSTP foo >/dev/null 2>&1 ; then
 echo "Looks kind of like a BSD system, but we'll see..."
 d_bsd="$define"
 echo exit 0 >bsd
else
 echo "Looks kind of like a Version 7 system, but we'll see..."
 echo exit 0 >v7
fi
case "$eunicefix" in
*unixtovms*)
 $cat <<'EOI'
There is, however, a strange, musty smell in the air that reminds me of
something...hmm...yes...I've got it...there's a VMS nearby, or I'm a Blit.
EOI
 echo exit 0 >eunice
 d_eunice="$define"
: it so happens the Eunice I know will not run shell scripts in Unix format
 ;;
*)
 echo " "
 echo "Congratulations.  You aren't running Eunice."
 d_eunice="$undef"
 ;;
esac
: Detect
 OS2.  The p_ variable is set above in the Head.U unit.
: Note that this also -- wrongly -- detects e.g. dos-djgpp, which also uses
: semicolon as a patch separator
case "$p_" in
:) ;;
```

```
*)
 $cat <<'EOI'
I have the feeling something is not exactly right, however...don't tell me...
lemme think...does HAL ring a bell?...no, of course, you're only running OS/2!
(Or you may be running DOS with DJGPP.)
EOI
 echo exit 0 >os2
 ;;
esac
if test -f /xenix; then
 echo "Actually, this looks more like a XENIX system..."
 echo exit 0 >xenix
 d_xenix="$define"
else
 echo " "
 echo "It's not Xenix..."
 d_xenix="$undef"
fi
chmod +x xenix
$eunicefix xenix
if test -f /venix; then
 echo "Actually, this looks more like a VENIX system..."
 echo exit 0 >venix
else
 echo " "
 if ./xenix; then
  : null
 else
  echo "Nor is it Venix..."
 fi
fi
chmod +x bsd usg v7 osf1 eunice xenix venix os2
$eunicefix bsd usg v7 osf1 eunice xenix venix os2
$rm -f foo
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Guess.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
```

```
?RCS:
?MAKE:d_mq_close: Inlibc
?MAKE: -pick add $@ %<
?S:d_mq_close:
?S: This variable conditionally defines HAS_MQ_CLOSE if mq_close() is
?S: available to close a POSIX message queue.
?S:.
?C:HAS_MQ_CLOSE:
?C: This symbol, if defined, indicates that the mq_close system call is
?C: available to close a POSIX message queue.
?C:.
?H:#$d_mq_close HAS_MQ_CLOSE  /**/
?H:.
?LINT:set d_mq_close
: see if mq_close exists
set mq_close d_mq_close
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mq_close.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Head.U,v $
?RCS: Revision 3.0.1.9  1997/02/28  15:02:09  ram
?RCS: patch61: make sure we unset CDPATH for shells that support this
?RCS: patch61: improved Korn shell detection and handling
?RCS:
?RCS: Revision 3.0.1.8  1995/07/25  13:40:02  ram
?RCS: patch56: added SVR4-ish /opt directories to path list (ADO)
?RCS: patch56: OS/2 platforms are using another path separator
?RCS:
?RCS: Revision 3.0.1.7  1995/03/21  08:46:15  ram
?RCS: patch52: definition of paths wrongly added spurious ':' chars
?RCS:
?RCS:
 Revision 3.0.1.6  1994/10/29  15:54:19  ram
?RCS: patch36: make sure ENV is unset before calling /bin/ksh
?RCS:
```

?RCS: Revision 3.0.1.5  1994/08/29  16:03:44  ram
?RCS: patch32: now sets PATH only using existing directories
?RCS:
?RCS: Revision 3.0.1.4  1994/06/20  06:54:28  ram
?RCS: patch30: now computes its invocation name into 'me'
?RCS: patch30: symbol me is made visible to all units read-only
?RCS:
?RCS: Revision 3.0.1.3  1993/12/15  08:15:07  ram
?RCS: patch15: added /sbin:/usr/sbin:/usr/libexec in PATH for BSD/386
?RCS:
?RCS: Revision 3.0.1.2  1993/11/10  17:32:35  ram
?RCS: patch14: ensure PATH is reset to '.' before testing for alias
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:38:07  ram
?RCS: patch7: not all 'test' programs support the -x option
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This is the very first unit in the Configure script.  It is mostly just
?X: things to keep people from getting
 into a tizzy right off the bat.
?X:
?MAKE:Head:
?MAKE: -pick wipe $@ %<
?V:PATH p_ _exe me newsh
?T:argv Id p paths OS2_SHELL DJGPP
?T:inksh needksh avoidksh newsh changesh reason
?F:!*
?LINT:extern ENV CDPATH SHELL MACHTYPE
?LINT:change ENV CDPATH
?LINT:nocomment
#! /bin/sh
#
# If these # comments don't work, trim them. Don't worry about any other
# shell scripts, Configure will trim # comments from them for you.
#
# (If you are trying to port this package to a machine without sh,
# I would suggest you have a look at the prototypical config_h.SH file
# and edit it to reflect your system. Some packages may include samples
# of config.h for certain machines, so you might look for one of those.)
#
?X:
?X: NOTE THAT A CONFIGURE SCRIPT IS IN THE PUBLIC DOMAIN (whether or not
?X: the software which uses it is in the public domain).
?X:
# Yes, you may rip this off to use in other distribution packages. This

```
# script belongs to the public domain and cannot be copyrighted.
#
?X:
?X: WE ASK YOU
 NOT TO REMOVE OR ALTER THE FOLLOWING PARAGRAPH, PLEASE:
?X:
# Note: this Configure script was generated automatically. Rather than
# working with this copy of Configure, you may wish to get metaconfig.
# The dist package (which contains metaconfig) is available via SVN:
#     svn co https://svn.code.sf.net/p/dist/code/trunk/dist
?X:
?X: NOTA BENE:
?X: If you develop you own version of metaconfig based on this work,
?X: you have to add some comments telling that the script was generated
?X: by your version, not mine: It credits your work.
?X:

# $Id: Head.U 6 2006-08-25 22:21:46Z rmanfredi $
#
# Generated on <DATE> [metaconfig <VERSION> PL<PATCHLEVEL>]

cat >c1$$ <<EOF
ARGGGHHHH!!!!!

SCO csh still thinks true is false.  Write to SCO today and tell them that next
year Configure ought to "rm /bin/csh" unless they fix their blasted shell. :-)

(Actually, Configure ought to just patch csh in place.  Hmm.  Hmmmmm.  All
we'd have to do is go in and swap the && and || tokens, wherever they are.)

[End
 of diatribe. We now return you to your regularly scheduled programming...]
EOF
cat >c2$$ <<EOF

OOPS!  You naughty creature!  You didn't run Configure with sh!
I will attempt to remedy the situation by running sh for you...
EOF

true || cat c1$$ c2$$
true || exec sh $0 $argv:q

(exit $?0) || cat c2$$
(exit $?0) || exec sh $0 $argv:q
rm -f c1$$ c2$$

: compute my invocation name
me=$0
```

```
case "$0" in
*/*)
 me=`echo $0 | sed -e 's!.*/\(.*\)!\1!' 2>/dev/null`
 test "$me" || me=$0
 ;;
esac

?X:
?X: To be able to run under OS/2, we must detect that early enough to use
?X: the proper path separator, stored in $p_. It is : on UNIX and ; on
?X: DOSish systems such as OS/2.
?X:
: Proper separator for the PATH environment variable
p_=:
: On OS/2 this directory should exist if this is not floppy only system ":-]"
if test -d c:/. ; then
 if test -n "$OS2_SHELL"; then
  p_=\;
  PATH=`cmd /c "echo %PATH%" | tr '\\\\' / `
?X: That's a bug in ksh5.22
  OS2_SHELL=`cmd /c "echo %OS2_SHELL%" | tr
 '\\\\' / | tr '[A-Z]' '[a-z]'`
 elif test -n "$DJGPP"; then
  case "X${MACHTYPE:-nonesuchmach}" in
  *cygwin) ;;
  *) p_=\; ;;
  esac
 fi
fi

?X:
?X: There are two schools of thoughts here. Some people correctly argue that
?X: the user has a better chance than we do of setting a reasonable PATH and
?X: others argue that Configure is the best place there is to set up a suitable
?X: PATH. Well, here we try to compromize by keeping the user's PATH and
?X: appending some directories which are known to work on some machine or the
?X: other. The rationale behind this being that a novice user might not have a
?X: proper environment variable set, and some directories like /etc (where
?X: chown is located on some BSD systems) may be missing--RAM.
?X:
?X: SVR4 adds an /opt directory for optional packages.  Some sites use
?X: various permutations on /opt as opposed to /usr or /usr/local.-- ADO
?X:
?X: We only add directories that are not already in the PATH of the
?X: user and the directories must
 exist also.
?X:
: Proper PATH setting
```

```
paths='/bin /usr/bin /usr/local/bin /usr/ucb /usr/local /usr/lbin'
paths="$paths /opt/bin /opt/local/bin /opt/local /opt/lbin"
paths="$paths /usr/5bin /etc /usr/gnu/bin /usr/new /usr/new/bin /usr/nbin"
paths="$paths /opt/gnu/bin /opt/new /opt/new/bin /opt/nbin"
paths="$paths /sys5.3/bin /sys5.3/usr/bin /bsd4.3/bin /bsd4.3/usr/ucb"
paths="$paths /bsd4.3/usr/bin /usr/bsd /bsd43/bin /usr/ccs/bin"
paths="$paths /etc /usr/lib /usr/ucblib /lib /usr/ccs/lib"
paths="$paths /sbin /usr/sbin /usr/libexec"
paths="$paths /system/gnu_library/bin"

for p in $paths
do
 case "$p_$PATH$p_" in
 *$p_$p$p_*) ;;
 *) test -d $p && PATH=$PATH$p_$p ;;
 esac
done

PATH=.$p_$PATH
export PATH

: shall we be using ksh?
inksh="
needksh="
avoidksh="
newsh=/bin/ksh
changesh="
?X: Use (alias -x) and not (alias) since zsh and bash recognize the alias
?X: builtin but not the -x option which is typically ksh...
?X: We need to set up PATH before calling the "alias" built-in since
 some
?X: systems like HP-UX have a binary called /bin/alias.
if (PATH=.; alias -x) >/dev/null 2>&1; then
  inksh=true
fi
?X: On HP-UX, large Configure scripts may exercise a bug in /bin/sh, use ksh
if test -f /hp-ux -a -f /bin/ksh; then
 needksh='to avoid sh bug in "here document" expansion'
fi
?X: On AIX4, /bin/sh is really ksh and it causes problems, use sh
if test -d /usr/lpp -a -f /usr/bin/bsh -a -f /usr/bin/uname; then
 if test X`/usr/bin/uname -v` = X4; then
  avoidksh="to avoid AIX 4's /bin/sh"
  newsh=/usr/bin/bsh
 fi
fi
?X: On Digital UNIX, /bin/sh may start up buggy /bin/ksh, use sh
if test -f /osf_boot -a -f /usr/sbin/setld; then
```

```
 if test X`/usr/bin/uname -s` = XOSF1; then
  avoidksh="to avoid Digital UNIX' ksh"
  newsh=/bin/sh
?X: if BIN_SH is set to 'xpg4', sh will start up ksh
  unset BIN_SH
 fi
fi
?X: If we are not in ksh and need it, then feed us back to it
case "$inksh/$needksh" in
/[a-z]*)
?X: Clear ENV to avoid any ~/.kshrc that could alias cd or whatever...
?X: Don't
 use "unset ENV", that is not portable enough
  ENV=''
  changesh=true
  reason="$needksh"
 ;;
esac
?X: If we are in ksh and must avoid it, then feed us back to a new shell
case "$inksh/$avoidksh" in
true/[a-z]*)
 changesh=true
 reason="$avoidksh"
 ;;
esac
?X: Warn them if they use ksh on other systems, which are those where
?X: we don't need ksh nor want to avoid it explicitly, yet are using it.
case "$inksh/$needksh-$avoidksh-" in
true/--)
  cat <<EOM
(I see you are using the Korn shell.  Some ksh's blow up on $me,
mainly on older exotic systems.  If yours does, try the Bourne shell instead.)
EOM
 ;;
esac
case "$changesh" in
true)
 export newsh
 echo "(Feeding myself to $newsh $reason.)"
?X: Make sure they didn't say sh <Configure by checking whether $0 ends
?X: with Configure or not. If they did say sh <../../Configure, then too
?X: bad for them anyway, since we lost that path indication...
?X: Otherwise, execing $0 ensures we keep the full remote source dir
?X: indication for src.U.
 case
 "$0" in
 Configure|*/Configure) exec $newsh $0 "$@";;
 *) exec $newsh Configure "$@";;
```

```
 esac
 ;;
esac

?X: Unset CDPATH to avoid surprises when using cd under some shells
?X: Can't unset it because that's not portable to very old shells.
?X: Can't set it to " because then bash 2.02 won't do "cd UU"  --AD  6/98.
?X: Don't want to set it to '.' because then ksh prints out the
?X: name of the directory every time you cd to it. --AD 6/98
?X: In order to inflict the least harm, change it only if it's set.
: if needed, set CDPATH to a harmless value that is not chatty
case "$CDPATH" in
") ;;
*) case "$SHELL" in
 *bash*) CDPATH='.' ;;
 *) CDPATH=" ;;
 esac
 ;;
esac

: Configure runs within the UU subdirectory
test -d UU || mkdir UU
?X: Use ./* to avoid any confirmation prompts from enhanced shells -- WED
cd UU && rm -f ./*

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Head.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_mntent.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_mntent: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_mntent:
?S: This variable conditionally defines the I_MNTENT symbol, and indicates
?S: whether a C program should include <mntent.h>.
?S:.
?C:I_MNTENT:
?C: This symbol, if defined, indicates that <mntent.h> exists and
?C: should be included.
?C:.
?H:#$i_mntent I_MNTENT  /**/
?H:.
```

?LINT:set i_mntent
: see if this is a mntent.h system
set mntent.h i_mntent
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_mntent.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_socket.U,v 3.0.1.2 1997/02/28 15:46:00 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_socket.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:46:00  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:08:04  ram
?RCS: patch16: can now safely declare private nm_extract in dependencies
?RCS:
?RCS: Revision 3.0  1993/08/18  12:07:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_socket d_oldsock d_sockpair socketlib sockethdr \
 d_msg_ctrunc d_msg_dontroute d_msg_oob d_msg_peek
 d_msg_proxy \
 d_scm_rights d_sockaddr_sa_len d_sockaddr_in6 d_sin6_scope_id \
 d_ip_mreq d_ip_mreq_source d_ipv6_mreq d_ipv6_mreq_source: \
 contains echo n c ar nm nm_opt nm_extract Inlibc Csym _a \
 Compile cat rm_try Setvar Hasfield sysroot
?MAKE: -pick add $@ %<
?S:d_socket:
?S: This variable conditionally defines HAS_SOCKET, which indicates
?S: that the BSD socket interface is supported.
?S:.
?S:d_sockpair:
?S: This variable conditionally defines the HAS_SOCKETPAIR symbol, which
?S: indicates that the BSD socketpair() is supported.
?S:.
?S:d_oldsock:
?S: This variable conditionally defines the OLDSOCKET symbol, which
?S: indicates that the BSD socket interface is based on 4.1c and not 4.2.

?S:.
?S:d_msg_ctrunc:
?S: This variable conditionally defines the HAS_MSG_CTRUNC symbol,
?S: which indicates that the MSG_CTRUNC is available.  #ifdef is
?S: not enough because it may be an enum, glibc has been known to do this.
?S:.
?S:d_msg_dontroute:
?S: This variable conditionally defines
 the HAS_MSG_DONTROUTE symbol,
?S: which indicates that the MSG_DONTROUTE is available.  #ifdef is
?S: not enough because it may be an enum, glibc has been known to do this.
?S:.
?S:d_msg_oob:
?S: This variable conditionally defines the HAS_MSG_OOB symbol,
?S: which indicates that the MSG_OOB is available.  #ifdef is
?S: not enough because it may be an enum, glibc has been known to do this.
?S:.
?S:d_msg_peek:
?S: This variable conditionally defines the HAS_MSG_PEEK symbol,
?S: which indicates that the MSG_PEEK is available.  #ifdef is
?S: not enough because it may be an enum, glibc has been known to do this.
?S:.
?S:d_msg_proxy:
?S: This variable conditionally defines the HAS_MSG_PROXY symbol,
?S: which indicates that the MSG_PROXY is available.  #ifdef is
?S: not enough because it may be an enum, glibc has been known to do this.
?S:.
?S:d_scm_rights:
?S: This variable conditionally defines the HAS_SCM_RIGHTS symbol,
?S: which indicates that the SCM_RIGHTS is available.  #ifdef is
?S: not
 enough because it may be an enum, glibc has been known to do this.
?S:.
?S:d_sockaddr_sa_len:
?S: This variable conditionally defines the HAS_SOCKADDR_SA_LEN symbol,
?S: which indicates that a struct sockaddr structure has the sa_len
?S: member.
?S:.
?S:d_sockaddr_in6:
?S: This variable conditionally defines the HAS_SOCKADDR_IN6 symbol, which
?S: indicates the availability of a struct sockaddr_in6.
?S:.
?S:d_sin6_scope_id:
?S: This variable conditionally defines the HAS_SIN6_SCOPE_ID symbol, which
?S: indicates that a struct sockaddr_in6 structure has the sin6_scope_id
?S: member.
?S:.
?S:d_ip_mreq:

?S: This variable conditionally defines the HAS_IP_MREQ symbol, which
?S: indicates the availability of a struct ip_mreq.
?S:.
?S:d_ip_mreq_source:
?S: This variable conditionally defines the HAS_IP_MREQ_SOURCE symbol,
?S: which indicates the availability of a struct ip_mreq_source.
?S:.
?S:d_ipv6_mreq:
?S: This variable conditionally defines the HAS_IPV6_MREQ symbol, which
?S: indicates
 the availability of a struct ipv6_mreq.
?S:.
?S:d_ipv6_mreq_source:
?S: This variable conditionally defines the HAS_IPV6_MREQ_SOURCE symbol,
?S: which indicates the availability of a struct ipv6_mreq_source.
?S:.
?S:socketlib:
?S: This variable has the names of any libraries needed for socket support.
?S:.
?S:sockethdr:
?S: This variable has any cpp '-I' flags needed for socket support.
?S:.
?C:HAS_SOCKET (SOCKET):
?C: This symbol, if defined, indicates that the BSD socket interface is
?C: supported.
?C:.
?C:HAS_SOCKETPAIR (SOCKETPAIR):
?C: This symbol, if defined, indicates that the BSD socketpair() call is
?C: supported.
?C:.
?C:USE_OLDSOCKET (OLDSOCKET):
?C: This symbol, if defined, indicates that the 4.1c BSD socket interface
?C: is supported instead of the 4.2/4.3 BSD socket interface. For instance,
?C: there is no setsockopt() call.
?C:.
?C:HAS_MSG_CTRUNC:
?C: This symbol, if defined, indicates that the MSG_CTRUNC is supported.
?C: Checking just with #ifdef might not be enough
 because this symbol
?C: has been known to be an enum.
?C:.
?C:HAS_MSG_DONTROUTE:
?C: This symbol, if defined, indicates that the MSG_DONTROUTE is supported.
?C: Checking just with #ifdef might not be enough because this symbol
?C: has been known to be an enum.
?C:.
?C:HAS_MSG_OOB:
?C: This symbol, if defined, indicates that the MSG_OOB is supported.

?C: Checking just with #ifdef might not be enough because this symbol
?C: has been known to be an enum.
?C:.
?C:HAS_MSG_PEEK:
?C: This symbol, if defined, indicates that the MSG_PEEK is supported.
?C: Checking just with #ifdef might not be enough because this symbol
?C: has been known to be an enum.
?C:.
?C:HAS_MSG_PROXY:
?C: This symbol, if defined, indicates that the MSG_PROXY is supported.
?C: Checking just with #ifdef might not be enough because this symbol
?C: has been known to be an enum.
?C:.
?C:HAS_SCM_RIGHTS:
?C: This symbol, if defined, indicates that the SCM_RIGHTS is supported.
?C: Checking just with #ifdef might not be enough
 because this symbol
?C: has been known to be an enum.
?C:.
?C:HAS_SOCKADDR_SA_LEN:
?C: This symbol, if defined, indicates that the struct sockaddr
?C: structure has a member called sa_len, indicating the length of
?C: the structure.
?C:.
?C:HAS_SOCKADDR_IN6:
?C: This symbol, if defined, indicates the availability of
?C: struct sockaddr_in6;
?C:.
?C:HAS_SIN6_SCOPE_ID:
?C: This symbol, if defined, indicates that the struct sockaddr_in6
?C: structure has a member called sin6_scope_id.
?C:.
?C:HAS_IP_MREQ:
?C: This symbol, if defined, indicates the availability of
?C: struct ip_mreq;
?C:.
?C:HAS_IP_MREQ_SOURCE:
?C: This symbol, if defined, indicates the availability of
?C: struct ip_mreq_source;
?C:.
?C:HAS_IPV6_MREQ:
?C: This symbol, if defined, indicates the availability of
?C: struct ipv6_mreq;
?C:.
?C:HAS_IPV6_MREQ_SOURCE:
?C: This symbol, if defined, indicates the availability of
?C: struct ipv6_mreq_source;
?C:.

```
?H:#$d_socket HAS_SOCKET  /**/
?H:#$d_sockpair HAS_SOCKETPAIR /**/
?H:#$d_sockaddr_sa_len HAS_SOCKADDR_SA_LEN /**/
?H:#$d_oldsock USE_OLDSOCKET /**/
?H:#$d_msg_ctrunc HAS_MSG_CTRUNC /**/
?H:#$d_msg_dontroute HAS_MSG_DONTROUTE /**/
?H:#$d_msg_oob HAS_MSG_OOB /**/
?H:#$d_msg_peek HAS_MSG_PEEK /**/
?H:#$d_msg_proxy HAS_MSG_PROXY /**/
?H:#$d_scm_rights HAS_SCM_RIGHTS /**/
?H:#$d_sockaddr_in6 HAS_SOCKADDR_IN6 /**/
?H:#$d_sin6_scope_id HAS_SIN6_SCOPE_ID /**/
?H:#$d_ip_mreq HAS_IP_MREQ /**/
?H:#$d_ip_mreq_source HAS_IP_MREQ_SOURCE /**/
?H:#$d_ipv6_mreq HAS_IPV6_MREQ /**/
?H:#$d_ipv6_mreq_source HAS_IPV6_MREQ_SOURCE /**/
?H:.
?T:val
 net ENUM enum
?LINT:set d_sockpair d_sockaddr_sa_len
?LINT:set d_msg_ctrunc d_msg_dontroute d_msg_oob d_msg_peek d_msg_proxy
?LINT:set d_scm_rights d_sockaddr_in6 d_sin6_scope_id d_ip_mreq
?LINT:set d_ip_mreq_source d_ipv6_mreq d_ipv6_mreq_source
: see whether socket exists
socketlib="
sockethdr="
echo " "
$echo $n "Hmm... $c" >&4
if set socket val -f d_socket; eval $csym; $val; then
   echo "Looks like you have Berkeley networking
 support." >&4
   d_socket="$define"
?X: now check for advanced features
   if set setsockopt val -f; eval $csym; $val; then
 d_oldsock="$undef"
   else
 echo "...but it uses the old BSD 4.1c interface, rather than 4.2." >&4
 d_oldsock="$define"
   fi
else
?X: HP-UX, for one, puts all the socket stuff in socklib.o. Note that if we
?X: come here on HP-UX, then we must have used nm to get symbols, or we really
?X: don't have sockets anyway...
   if $contains socklib libc.list >/dev/null 2>&1; then
 echo "Looks like you have Berkeley networking support." >&4
 d_socket="$define"
 : we will have to assume that it supports the 4.2 BSD interface
 d_oldsock="$undef"
```

```
  else
 echo "You don't have Berkeley networking in libc$_a..." >&4
?X: look for optional networking libraries
 if test "X$d_socket" = "X$define"; then
    echo "...but you seem to believe that you have sockets." >&4
 else
    for net in net socket
    do
 if test -f $sysroot/usr/lib/lib$net$_a; then
?X: space between two
 '(' needed for ksh
     ( ($nm $nm_opt $sysroot/usr/lib/lib$net$_a | eval $nm_extract) ||  \
     $ar t $sysroot/usr/lib/lib$net$_a) 2>/dev/null >> libc.list
     if $contains socket libc.list >/dev/null 2>&1; then
  d_socket="$define"
  socketlib="-l$net"
  case "$net" in
  net)
     echo "...but the Wollongong group seems to have hacked it in." >&4
     sockethdr="-I$sysroot/usr/netinclude"
     ;;
  esac
  echo "Found Berkeley sockets interface in lib$net." >&4
?X: now check for advanced features
  if $contains setsockopt libc.list >/dev/null 2>&1; then
     d_oldsock="$undef"
  else
     echo "...using the old BSD 4.1c interface, rather than 4.2." >&4
     d_oldsock="$define"
  fi
  break
    fi
 fi
    done
    if test "X$d_socket" != "X$define"; then
       echo "or anywhere else I see." >&4
       d_socket="$undef"
       d_oldsock="$undef"
    fi
 fi
  fi
fi

@if HAS_SOCKETPAIR || d_sockpair
: see if socketpair exists
set socketpair d_sockpair
eval
```

```
 $inlibc

@end

echo " "
?X: ...
echo "Checking the availability sa_len in the sock struct ..." >&4
$cat >try.c <<EOF
#include <sys/types.h>
#include <sys/socket.h>
int main() {
struct sockaddr sa;
return (sa.sa_len);
}
EOF
val="$undef"
set try; if eval $compile; then
  val="$define"
fi
set d_sockaddr_sa_len; eval $setvar
$rm_try

echo " "
?X: ...
echo "Checking the availability struct sockaddr_in6 ..." >&4
$cat >try.c <<EOF
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
int main() {
struct sockaddr_in6 sin6;
return (sin6.sin6_family);
}
EOF
val="$undef"
set try; if eval $compile; then
  val="$define"
fi
set d_sockaddr_in6; eval $setvar
$rm_try

echo " "
?X: ...
echo "Checking the availability sin6_scope_id in struct sockaddr_in6 ..." >&4
$cat >try.c <<EOF
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
```

```
int main() {
struct sockaddr_in6 sin6;
return (sin6.sin6_scope_id);
}
EOF
val="$undef"
set try; if eval $compile; then
  val="$define"
fi
set
 d_sin6_scope_id; eval $setvar
$rm_try

echo " "
?X: ...
echo "Checking the availability struct ip_mreq ..." >&4
$cat >try.c <<EOF
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
int main() {
struct ip_mreq mreq;
return (mreq.imr_multiaddr.s_addr);
}
EOF
val="$undef"
set try; if eval $compile; then
    val="$define"
fi
set d_ip_mreq; eval $setvar
$rm_try

echo " "
?X: ...
echo "Checking the availability struct ip_mreq_source ..." >&4
$cat >try.c <<EOF
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
int main() {
struct ip_mreq_source mreq;
return (mreq.imr_multiaddr.s_addr);
}
EOF
val="$undef"
set try; if eval $compile; then
    val="$define"
fi
```

```
set d_ip_mreq_source; eval $setvar
$rm_try

echo " "
?X: ...
echo "Checking the availability struct ipv6_mreq ..." >&4
$cat >try.c <<EOF
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
int main() {
struct ipv6_mreq mreq;
return (mreq.ipv6mr_interface);
}
EOF
val="$undef"
set
 try; if eval $compile; then
   val="$define"
fi
set d_ipv6_mreq; eval $setvar
$rm_try

echo " "
?X: ...
echo "Checking the availability struct ipv6_mreq_source ..." >&4
$cat >try.c <<EOF
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
int main() {
struct ipv6_mreq_source mreq;
return (mreq.imr_multiaddr.s_addr);
}
EOF
val="$undef"
set try; if eval $compile; then
     val="$define"
fi
set d_ipv6_mreq_source; eval $setvar
$rm_try

echo " "
?X: these constants are known to be troublesomely defined as enums
?X: so that ifdef will not work for detecting their presence.
echo "Checking the availability of certain socket constants..." >&4
for ENUM in MSG_CTRUNC MSG_DONTROUTE MSG_OOB MSG_PEEK MSG_PROXY SCM_RIGHTS; do
  enum=`$echo $ENUM|./tr '[A-Z]' '[a-z]'`
```

```
  $cat >try.c <<EOF
#include <sys/types.h>
#include <sys/socket.h>
int main() {
  int i = $ENUM;
}
EOF
  val="$undef"
  set try; if eval $compile; then
 val="$define"
  fi
  set d_${enum};
 eval $setvar
  $rm_try
done
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_socket.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_strstr.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strstr.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:37  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_strstr: Inlibc
?MAKE: -pick add $@ %<
?S:d_strstr:
?S: This variable conditionally defines HAS_STRSTR if strstr() is
?S: available to find substrings.
?S:.
?C:HAS_STRSTR (STRSTR):
?C: This symbol, if defined, indicates that the strstr routine is
?C: available to find substrings.
?C:.
?H:#$d_strstr HAS_STRSTR /**/
?H:.
?LINT:set d_strstr
:
```

```
 see if strstr exists
set strstr d_strstr
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strstr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_htonl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_htonl.U,v $
?RCS: Revision 3.0.1.2  1994/08/29  16:09:25  ram
?RCS: patch32: now properly handles htonl() and friends when macros (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:45:00  ram
?RCS: patch23: now also check for htonl() macro (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:22  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_htonl: Inlibc Setvar i_niin i_sysin i_arpainet cat rm contains \
 cppstdin cppflags cppminus
?MAKE: -pick
 add $@ %<
?S:d_htonl:
?S: This variable conditionally defines HAS_HTONL if htonl() and its
?S: friends are available to do network order byte swapping.
?S:.
?C:HAS_HTONL (HTONL):
?C: This symbol, if defined, indicates that the htonl() routine (and
?C: friends htons() ntohl() ntohs()) are available to do network
?C: order byte swapping.
?C:.
?C:HAS_HTONS (HTONS):
?C: This symbol, if defined, indicates that the htons() routine (and
?C: friends htonl() ntohl() ntohs()) are available to do network
?C: order byte swapping.
?C:.
?C:HAS_NTOHL (NTOHL):
?C: This symbol, if defined, indicates that the ntohl() routine (and
```

```
?C: friends htonl() htons() ntohs()) are available to do network
?C: order byte swapping.
?C:.
?C:HAS_NTOHS (NTOHS):
?C: This symbol, if defined, indicates that the ntohs() routine (and
?C: friends htonl() htons() ntohl()) are available to do network
?C: order byte swapping.
?C:.
?H:#$d_htonl HAS_HTONL  /**/
?H:#$d_htonl HAS_HTONS  /**/
?H:#$d_htonl HAS_NTOHL  /**/
?H:#$d_htonl
 HAS_NTOHS  /**/
?H:.
?F:!htonl.c
?LINT:set d_htonl
: see if htonl --and friends-- exists
val="
set htonl val
eval $inlibc

: Maybe they are macros.
case "$val" in
$undef)
 $cat >htonl.c <<EOM
#include <stdio.h>
#include <sys/types.h>
#$i_niin I_NETINET_IN
#$i_sysin I_SYS_IN
#$i_arpainet I_ARPA_INET
#ifdef I_NETINET_IN
#include <netinet/in.h>
#endif
#ifdef I_SYS_IN
#include <sys/in.h>
#endif
#ifdef I_ARPA_INET
#include <arpa/inet.h>
#endif
#ifdef htonl
printf("Defined as a macro.");
#endif
EOM
 $cppstdin $cppflags $cppminus < htonl.c >htonl.E 2>/dev/null
 if $contains 'Defined as a macro' htonl.E >/dev/null 2>&1; then
  val="$define"
  echo "But it seems to be defined as a macro." >&4
 fi
```

```
 $rm -f htonl.?
 ;;
esac
set d_htonl
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_htonl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_lockf.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_lockf.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:09:36  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_lockf: Inlibc
?MAKE: -pick add $@ %<
?S:d_lockf:
?S: This variable conditionally defines HAS_LOCKF if lockf() is
?S: available to do file locking.
?S:.
?C:HAS_LOCKF (LOCKF):
?C: This symbol, if defined, indicates that the lockf routine is
?C: available to do file locking.
?C:.
?H:#$d_lockf
 HAS_LOCKF  /**/
?H:.
?LINT:set d_lockf
: see if lockf exists
set lockf d_lockf
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_lockf.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: scandir.C,v 3.0.1.1 1994/01/24 13:58:45 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: scandir.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:45  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/C/fake/scandir.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Unix.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:20:06  ram
?RCS: patch61: created
?RCS:
?X:
?X: The purpose of this unit is to define things that are common across all
?X: known UNIX platforms. If Configure is ported/used on a non-UNIX
?X: environment, then some of the following variables can be redefined in hint
?X: files.
?X:
?MAKE:Unix _a _o firstmakefile archobjs: Oldconfig
?MAKE: -pick add $@ %<
?S:_a (lib_ext):
?S: This variable defines the extension
 used for ordinary libraries.
?S: For unix, it is '.a'.  The '.' is included.  Other possible
```

```
?S: values include '.lib'.
?S:.
?S:_o (obj_ext):
?S: This variable defines the extension used for object files.
?S: For unix, it is '.o'.  The '.' is included.  Other possible
?S: values include '.obj'.
?S:.
?S:firstmakefile:
?S: This variable defines the first file searched by make.  On unix,
?S: it is makefile (then Makefile).  On case-insensitive systems,
?S: it might be something else.  This is only used to deal with
?S: convoluted make depend tricks.
?S:.
?S:archobjs:
?S: This variable defines any additional objects that must be linked
?S: in with the program on this architecture.  On unix, it is usually
?S: empty.  It is typically used to include emulations of unix calls
?S: or other facilities.  For perl on OS/2, for example, this would
?S: include os2/os2.obj.
?S:.
?INIT:: Extra object files, if any, needed on this platform.
?INIT:archobjs="
: Define several unixisms.
: Hints files
 or command line option can be used to override them.
case "$_a" in
") _a='.a';;
esac
case "$_o" in
") _o='.o';;
esac

@if firstmakefile
: Which makefile gets called first.  This is used by make depend.
case "$firstmakefile" in
") firstmakefile='makefile';;
esac

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Unix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
```

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_lchmod: Inlibc
?MAKE: -pick add $@ %<
?S:d_lchmod:
?S: This variable conditionally defines the HAS_LCHMOD symbol, which
?S: indicates to the C program that the lchmod() routine is available.
?S:.
?C:HAS_LCHMOD:
?C: This symbol, if defined, indicates that the lchmod routine is
?C: available to change symbolic link modes.
?C:.
?H:#$d_lchmod HAS_LCHMOD  /**/
?H:.
?LINT:set d_lchmod
: see if lchmod exists
set lchmod d_lchmod
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lchmod.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Init.U,v 3.0.1.1 1994/10/31 09:45:59 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Init.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:45:59  ram
?RCS: patch44: removed Options from MAKE to prevent Init overrides
?RCS: patch44: option processing now done after Myinit thanks to new Begin.U
?RCS: patch44: moved "Beginning of configuration questions" to Begin.U
?RCS: patch44: moved signal trapping instruction to Begin.U as well
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file
 initializes certain default variables used by Configure.  They
?X: may be overridden or added to by definitions in Myinit.U.
```

```
?X:
?MAKE:Init eunicefix: Null
?MAKE: -pick add $@ %<
?MAKE: -pick weed $@ ./Init
?S:eunicefix:
?S: When running under Eunice this variable contains a command which will
?S: convert a shell script to the proper form of text file for it to be
?S: executable by the shell.  On other systems it is a no-op.
?S:.
?V:define undef smallmach:rmlist
?X:
?X: Throughout the units, one may make use of $define and $undef to reference
?X: a defined symbol or an undefined one. There is no need to add them in
?X: the dependency line since this unit makes them visible via ?V:, and
?X: everyone inherits from those symbols since by convention Init.U is the
?X: root dependency.
?X:
?LINT:extern DJGPP
?LINT:extern _exe
?LINT:change _exe
?LINT:extern is_os2
: Detect odd OSs
define='define'
undef='undef'
smallmach='pdp11 i8086 z8000 i80286 iAPX286'
rmlist="

: We must find out about
 Eunice early
eunicefix=':'
if test -f /etc/unixtovms; then
 eunicefix=/etc/unixtovms
fi
if test -f /etc/unixtovms.exe; then
 eunicefix=/etc/unixtovms.exe
fi

: Set executable suffix now -- needed before hints available
if test -f "/libs/version.library"; then
: Amiga OS
   _exe=""
elif test -f "/system/gnu_library/bin/ar.pm"; then
: Stratus VOS
   _exe=".pm"
elif test -n "$DJGPP"; then
: DOS DJGPP
   _exe=".exe"
elif test -f /kern/cookiejar; then
```

```
: MiNT
  _exe=""
elif test -d c:/. -o -n "$is_os2" ; then
: OS/2 or cygwin
  _exe=".exe"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_stdlib.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_stdlib.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:27  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_stdlib: Inhdr
?MAKE: -pick add $@ %<
?S:i_stdlib:
?S: This variable conditionally defines the I_STDLIB symbol, which
?S: indicates to the C program that <stdlib.h> exists and should
?S: be included.
?S:.
?C:I_STDLIB:
?C: This symbol, if defined, indicates that <stdlib.h> exists and should
?C: be included.
?C:.
?H:#$i_stdlib I_STDLIB  /**/
?H:.
?LINT:set
 i_stdlib
: see if stdlib is available
set stdlib.h i_stdlib
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_stdlib.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sysun.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sysun.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:42  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit looks wether <sys/un.h> is available or not
?X:
?MAKE:i_sysun: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysun:
?S: This variable conditionally defines I_SYS_UN, which indicates
?S: to the C program that it should include <sys/un.h> to get UNIX
?S: domain socket definitions.
?S:.
?C:I_SYS_UN:
?C: This symbol, if defined, indicates
 to the C program that it should
?C: include <sys/un.h> to get UNIX domain socket definitions.
?C:.
?H:#$i_sysun I_SYS_UN  /**/
?H:.
?LINT:set i_sysun
: see if this is a sys/un.h system
set sys/un.h i_sysun
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysun.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2014 Jarkko Hietaniemi & H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_copysign: Inlibc

```
?MAKE: -pick add $@ %<
?S:d_copysign:
?S: This variable conditionally defines the HAS_COPYSIGN symbol, which
?S: indicates to the C program that the copysign() routine is available.
?S:.
?C:HAS_COPYSIGN:
?C: This symbol, if defined, indicates that the copysign routine is
?C: available to do the copysign function.
?C:.
?H:#$d_copysign HAS_COPYSIGN  /**/
?H:.
?LINT:set d_copysign
: see if copysign exists
set copysign d_copysign
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_copysign.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_modfl d_modflproto: Inlibc Compile Hasproto cat \
 test ccflags uselongdouble i_math \
 d_sqrtl d_aintl d_copysignl d_ilogbl d_scalbnl d_frexpl d_ldexpl \
 d_truncl
?MAKE: -pick add $@ %<
?S:d_modfl:
?S: This variable conditionally defines the HAS_MODFL symbol, which
?S: indicates to the C program that the modfl() routine is available.
?S:.
?S:d_modflproto:
?S: This symbol, if defined, indicates that the system provides
?S: a prototype for the modfl() function.  Otherwise, it is up
?S: to the program to supply one.  C99 says it should be
?S:  long double modfl(long double, long double *);
?S:.
?C:HAS_MODFL:
?C: This symbol, if defined, indicates that the modfl routine is
?C: available to split a
 long double x into a fractional part f and
?C: an integer part i such that |f| < 1.0 and (f + i) = x.
?C:.
```

```
?C:HAS_MODFL_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the modfl() function.  Otherwise, it is up
?C: to the program to supply one.
?C:.
?H:#$d_modfl HAS_MODFL  /**/
?H:#$d_modflproto HAS_MODFL_PROTO  /**/
?H:.
?T:message
?LINT:set d_modfl
?LINT:set d_modflproto
?LINT:change ccflags
: see if modfl exists
set modfl d_modfl
eval $inlibc

: see if prototype for modfl is available
echo " "
set d_modflproto modfl $i_math math.h
eval $hasproto

if $test "$uselongdouble" = "$define"; then
  message=""
  if $test "$d_sqrtl" != "$define"; then
 message="$message sqrtl"
  fi
  if $test "$d_modfl" != "$define"; then
 if $test "$d_truncl:$d_copysignl" = "$define:$define"; then
    echo "You have both truncl and copysignl, so I can emulate modfl."
 else
    if $test "$d_aintl:$d_copysignl" = "$define:$define"; then
 echo "You have both
 aintl and copysignl, so I can emulate modfl."
    else
 message="$message modfl"
    fi
 fi
  fi
  if $test "$d_frexpl" != "$define"; then
 if $test "$d_ilogbl:$d_scalbnl" = "$define:$define"; then
    echo "You have both ilogbl and scalbnl, so I can emulate frexpl."
 else
    message="$message frexpl"
 fi
  fi
  if $test "$d_ldexpl" != "$define"; then
 message="$message ldexpl"
  fi
```

```
  if $test "$message" != ""; then
 $cat <<EOM >&4

*** You requested the use of long doubles but you do not seem to have
*** the following mathematical functions needed for long double support:
***     $message
*** Please rerun Configure without -Duselongdouble and/or -Dusemorebits.
*** Cannot continue, aborting.

EOM

 exit 1
  fi
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_modfl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2009 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_inetpton: Inlibc
?MAKE: -pick add $@ %<
?S:d_inetpton:
?S: This variable conditionally defines the HAS_INETPTON symbol,
?S: which indicates to the C program that the inet_pton() function
?S: is available.
?S:.
?C:HAS_INETPTON:
?C: This symbol, if defined, indicates that the inet_pton() function
?C: is available to parse IPv4 and IPv6 strings.
?C:.
?H:#$d_inetpton HAS_INETPTON  /**/
?H:.
?LINT:set d_inetpton
: see if inet_pton exists
set inet_pton d_inetpton
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_inetpton.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2003, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_pthread_attr_setscope: Inlibc
?MAKE: -pick add $@ %<
?S:d_pthread_attr_setscope:
?S: This variable conditionally defines HAS_PTHREAD_ATTR_SETSCOPE if
?S: pthread_attr_setscope() is available to set the contention scope
?S: attribute of a thread attribute object.
?S:.
?C:HAS_PTHREAD_ATTR_SETSCOPE:
?C: This symbol, if defined, indicates that the pthread_attr_setscope
?C: system call is available to set the contention scope attribute of
?C: a thread attribute object.
?C:.
?H:#$d_pthread_attr_setscope HAS_PTHREAD_ATTR_SETSCOPE  /**/
?H:.
?LINT:set
 d_pthread_attr_setscope
: see if pthread_attr_setscope exists
set pthread_attr_setscope d_pthread_attr_setscope
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_pthread_attr_ss.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_tzname.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_tzname.U,v $
?RCS: Revision 3.0.1.2  1994/08/29  16:14:43  ram

```
?RCS: patch32: forgot to set proper value in the val variable
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:57:55  ram
?RCS: patch30: created
?RCS:
?MAKE:d_tzname: Csym Setvar
?MAKE: -pick add $@ %<
?S:d_tzname:
?S: This variable conditionally defines HAS_TZNAME if tzname[] is
?S: available to access timezone names.
?S:.
?C:HAS_TZNAME:
?C: This symbol, if defined, indicates that the tzname[]
 array is
?C: available to access timezone names.
?C:.
?H:#$d_tzname HAS_TZNAME  /**/
?H:.
?LINT:set d_tzname
: see if tzname[] exists
echo " "
if set tzname val -a d_tzname; eval $csym; $val; then
 val="$define"
 echo 'tzname[] found.' >&4
else
 val="$undef"
 echo 'tzname[] NOT found.' >&4
fi
set d_tzname
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_tzname.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Oldconfig.U,v 3.0.1.10 1997/02/28 15:06:39 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Oldconfig.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:06:39  ram
?RCS: patch61: added support for src.U
```

?RCS: patch61: new OSNAME define
?RCS: patch61: can now sense new OSes
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  13:40:51  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:04:18  ram
?RCS: patch54: config.sh reload logic now knows about new -K switch
?RCS: patch54: cleaned up and extended osvers for DEC
 OSF/1 (ADO)
?RCS: patch54: added MachTen detection (ADO)
?RCS:
?RCS: Revision 3.0.1.7  1995/02/15  14:13:41  ram
?RCS: patch51: adapted osvers computation for AIX (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1995/01/30  14:27:15  ram
?RCS: patch49: unit Options.U now exports file optdef.sh, not a variable
?RCS: patch49: update code for myuname changed (WED)
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:15:36  ram
?RCS: patch45: added quotes around the INITPROG variable (ADO)
?RCS: patch45: allows variable overriding after config file loading
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  15:57:05  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: merged with the version used for perl5's Configure (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  14:24:17  ram
?RCS: patch23: added support for osf1 hints
?RCS: patch23: new support for solaris and i386 systems (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/01/24  14:05:02  ram
?RCS: patch16: added post-processing on myuname for Xenix targets
?RCS:
 patch16: message proposing config.sh defaults made consistent
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  15:56:32  ram
?RCS: patch10: force use of config.sh when -d option is used (WAD)
?RCS: patch10: complain about non-existent hint files (WAD)
?RCS: patch10: added Options dependency for fastread variable
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit tries to remember what we did last time we ran Configure, mostly
?X: for the sake of setting defaults.
?X:

?MAKE:Oldconfig hint myuname osname osvers: Instruct Myread uname \
 Checkcc Mksymlinks run \
 sh awk sed test cat rm lns tr n c contains Loc Options Tr src trnl ln
?MAKE: -pick wipe $@ %<
?S:myuname:
?S: The output of 'uname -a' if available, otherwise the hostname.
?S: The whole thing is then lower-cased and slashes and single quotes are
?S: removed.
?S:.
?S:hint:
?S: Gives the type of hints used for previous answers. May be one of
?S: "default",
 "recommended" or "previous".
?S:.
?S:osname:
?S: This variable contains the operating system name (e.g. sunos,
?S: solaris, hpux, etc.).  It can be useful later on for setting
?S: defaults.  Any spaces are replaced with underscores.  It is set
?S: to a null string if we can't figure it out.
?S:.
?S:osvers:
?S: This variable contains the operating system version (e.g.
?S: 4.1.3, 5.2, etc.).  It is primarily used for helping select
?S: an appropriate hints file, but might be useful elsewhere for
?S: setting defaults.  It is set to '' if we can't figure it out.
?S: We try to be flexible about how much of the version number
?S: to keep, e.g. if 4.1.1, 4.1.2, and 4.1.3 are essentially the
?S: same for this package, hints files might just be os_4.0 or
?S: os_4.1, etc., not keeping separate files for each little release.
?S:.
?C:OSNAME:
?C: This symbol contains the name of the operating system, as determined
?C: by Configure.  You shouldn't rely on it too much; the specific
?C: feature tests
 from Configure are generally more reliable.
?C:.
?C:OSVERS:
?C: This symbol contains the version of the operating system, as determined
?C: by Configure.  You shouldn't rely on it too much; the specific
?C: feature tests from Configure are generally more reliable.
?C:.
?H:#define OSNAME "$osname"  /**/
?H:#define OSVERS "$osvers"  /**/
?H:.
?F:!config.sh
?T:tmp tmp_n tmp_c tmp_sh file
?T:xxxxfile xxxfile xxfile xfile hintfile newmyuname
?T:tans _ isesix INITPROG DJGPP

```
?D:osname="
?LINT:change n c sh
?LINT:extern targetarch
?LINT:extern hostarch
?LINT:change hostarch
?LINT:extern is_os2
: Try to determine whether config.sh was made on this system
case "$config_sh" in
")
?X: indentation wrong on purpose--RAM
?X: Leave a white space between first two '(' for ksh. The sub-shell is needed
?X: on some machines to avoid the error message when uname is not found; e.g.
?X: old SUN-OS 3.2 would not execute hostname in (uname -a || hostname). Sigh!
?X: Now not using a subshell but instead $test.
myuname=`$uname
 -a 2>/dev/null`
$test -z "$myuname" && myuname=`hostname 2>/dev/null`
# Downcase everything to avoid ambiguity.
# Remove slashes and single quotes so we can use parts of this in
# directory and file names.
# Remove newlines so myuname is sane to use elsewhere.
# tr '[A-Z]' '[a-z]' would not work in EBCDIC
# because the A-Z/a-z are not consecutive.
myuname=`echo $myuname | $sed -e "s,['/],,g" | \
 ./tr '[A-Z]' '[a-z]' | $tr $trnl ' '`
?X: Save the value we just computed to reset myuname after we get done here.
newmyuname="$myuname"
dflt=n
case "$knowitall" in
")
 if test -f ../config.sh; then
  if $contains myuname= ../config.sh >/dev/null 2>&1; then
   eval "`grep myuname= ../config.sh`"
  fi
  if test "X$myuname" = "X$newmyuname"; then
   dflt=y
  fi
 fi
 ;;
*) dflt=y;;
esac

@if {test -d ../hints}
: Get old answers from old config file if Configure was run on the
: same system, otherwise use the hints.
hint=default
cd ..
?X: Since we are now at the root of the source
```

```
 tree, we must use $src
?X: to access the sources and not $rsrc. See src.U for details...
if test -f config.sh; then
 echo " "
 rp="I see a config.sh file.  Shall I use it to set the defaults?"
 . UU/myread
 case "$ans" in
 n*|N*) echo "OK, I'll ignore it."
  mv config.sh config.sh.old
  myuname="$newmyuname"
  ;;
 *)  echo "Fetching default answers from your old config.sh file..." >&4
  tmp_n="$n"
  tmp_c="$c"
  tmp_sh="$sh"
  . ./config.sh
  cp config.sh UU
  n="$tmp_n"
  c="$tmp_c"
  : Older versions did not always set $sh.  Catch re-use of such
  : an old config.sh.
  case "$sh" in
  ") sh="$tmp_sh" ;;
  esac
  hint=previous
  ;;
 esac
fi
. ./UU/checkcc
if test ! -f config.sh; then
 $cat <<EOM

First time through, eh?  I have some defaults handy for some systems
that need some extra help getting the Configure answers right:

EOM
 (cd $src/hints; ls -C *.sh) | $sed 's/\.sh/    /g' >&4
 dflt="
 : Half the following guesses are probably wrong... If you have better
 : tests or hints,
 please send them to <MAINTLOC>
 : The metaconfig authors would also appreciate a copy...
 $test -f /irix && osname=irix
 $test -f /xenix && osname=sco_xenix
 $test -f /dynix && osname=dynix
 $test -f /dnix && osname=dnix
 $test -f /lynx.os && osname=lynxos
 $test -f /unicos && osname=unicos && osvers=`$uname -r`
```

```
 $test -f /unicosmk && osname=unicosmk && osvers=`$uname -r`
 $test -f /unicosmk.ar && osname=unicosmk && osvers=`$uname -r`
 $test -f /bin/mips && /bin/mips && osname=mips
 $test -d /usr/apollo/bin && osname=apollo
 $test -f /etc/saf/_sactab && osname=svr4
 $test -d /usr/include/minix && osname=minix && osvers=`$uname -r`
 $test -f /system/gnu_library/bin/ar.pm && osname=vos
 $test -f /sys/utilities/MultiView && osname=amigaos
 if $test -d /MachTen -o -d /MachTen_Folder; then
?X:  MachTen uname -a output looks like
?X:  xxx 4 0.0 Macintosh
?X:  MachTen /sbin/version output looks like
?X:  MachTen 4.0 Mon Aug 28 10:18:00 1995
?X:  MachTen 3.x had the 'version' command in /usr/etc/version.
  osname=machten
  if
 $test -x /sbin/version; then
   osvers=`/sbin/version | $awk '{print $2}' |
   $sed -e 's/[A-Za-z]$//'`
  elif $test -x /usr/etc/version; then
   osvers=`/usr/etc/version | $awk '{print $2}' |
   $sed -e 's/[A-Za-z]$//'`
  else
   osvers="$2.$3"
  fi
 fi

 $test -f /sys/posix.dll &&
  $test -f /usr/bin/what &&
  set X `/usr/bin/what /sys/posix.dll` &&
  $test "$3" = UWIN &&
  osname=uwin &&
  osvers="$5"

?X: If we have uname, we already computed a suitable uname -a output,
?X: and it lies in $myuname.
 if $test -f $uname; then
  set X $myuname
  shift

  case "$5" in
  fps*) osname=fps ;;
  mips*)
   case "$4" in
   umips) osname=umips ;;
   *) osname=mips ;;
   esac;;
  [23]100) osname=mips ;;
```

```
?X: Interactive Unix.
 i386*)
  tmp=`/bin/uname -X 2>/dev/null|awk '/3\.2v[45]/{ print $(NF) }'`
  if $test "$tmp" != "" -a "$3" = "3.2" -a -f '/etc/systemid'; then
   osname='sco'
   osvers=$tmp
  elif $test -f /etc/kconfig; then
   osname=isc
   if
 test "$lns" = "$ln -s"; then
    osvers=4
   elif $contains _SYSV3 /usr/include/stdio.h > /dev/null 2>&1 ; then
    osvers=3
   elif $contains _POSIX_SOURCE /usr/include/stdio.h > /dev/null 2>&1 ; then
    osvers=2
   fi
  fi
  tmp="
  ;;
?X: MS-DOS djgpp uname -a output looks like:
?X: ms-dos xxx 6 22 pc
?X:  $1 is the "dos flavor" (need not be "ms-dos").
?X:  $2 is the node name
?X:  $3 and $4 are version/subversion
?X:  $5 is always "pc", but that might not be unique to DJGPP.
?X: (e.g. Solaris_x86 has $5 = i86pc, which doesn't actually conflict,
?X: but it's close enough that I can easily imagine other vendors also
?X: using variants of pc* in $5.)
?X:  The "DJGPP" environment variable is always set when djgpp is active.
 pc*)
  if test -n "$DJGPP"; then
   osname=dos
   osvers=djgpp
  fi
  ;;
 esac

 case "$1" in
 aix) osname=aix
?X: aix 4.1 uname -a output looks like
?X:  AIX  foo  1 4 000123456789
?X: where $4 is the major release number and $3 is the (minor)
 version.
?X: More detail on the version is available with the oslevel command.
?X: in 3.2.x, it output a string (see case statements below).  In 4.1,
?X: it puts out something like  4.1.1.0
  tmp=`( (oslevel) 2>/dev/null || echo "not found") 2>&1`
  case "$tmp" in
```

```
  # oslevel can fail with:
  # oslevel: Unable to acquire lock.
  *not\ found) osvers="$4"."$3" ;;
  '<3240'|'<>3240') osvers=3.2.0 ;;
  '=3240'|'>3240'|'<3250'|'<>3250') osvers=3.2.4 ;;
  '=3250'|'>3250') osvers=3.2.5 ;;
  *) osvers=$tmp;;
  esac
  ;;
 bitrig) osname=bitrig
  osvers="$3"
  ;;
 bsd386) osname=bsd386
  osvers=`$uname -r`
  ;;
 cygwin*) osname=cygwin
  osvers="$3"
  ;;
 *dc.osx) osname=dcosx
  osvers="$3"
  ;;
 dnix) osname=dnix
  osvers="$3"
  ;;
 domainos) osname=apollo
  osvers="$3"
  ;;
 dgux) osname=dgux
  osvers="$3"
  ;;
 dragonfly) osname=dragonfly
  osvers="$3"
  ;;
?X:  uname -a returns
?X:  DYNIX/ptx xxx 4.0 V4.1.2 i386
  dynixptx*) osname=dynixptx
  osvers=`echo
 "$4"|sed 's/^v//'`
  ;;
 freebsd) osname=freebsd
  osvers="$3" ;;
 genix) osname=genix ;;
?X: GNU/Hurd uname -a gives something like:
?X: GNU foo 0.3 GNU-Mach 1.4/Hurd-0.3 i386-AT386 GNU
?X: GNU gnu 0.3 GNUmach-1.2/Hurd-0.3 i386-AT386 GNU
?X: Note the hostname on the second one, which will fool Configure
?X: into using the SysV case!
 gnu) osname=gnu
```

```
  osvers="$3" ;;
?X: HP-UX uname -a gives something like
?X: HP-UX foobar B.10.20 A 9000/735 2016483812 two-user license
?X: Preserve the full 10.20 string instead of the previous plain '10'.
?X:  Thanks to Graham Barr.    --AD 6/30/1998
  hp*) osname=hpux
   osvers=`echo "$3" | $sed 's,.*\.\([0-9]*\.[0-9]*\),\1,'`
   ;;
  irix*) osname=irix
   case "$3" in
   4*) osvers=4 ;;
   5*) osvers=5 ;;
   *) osvers="$3" ;;
   esac
   ;;
  linux) osname=linux
   case "$3" in
   *) osvers="$3" ;;
   esac
   $test -f /system/lib/libandroid.so && osname=linux-android
   ;;
  MiNT) osname=mint
   ;;
  netbsd*) osname=netbsd
   osvers="$3"
   ;;
  news-os)
 osvers="$3"
   case "$3" in
   4*) osname=newsos4 ;;
   *) osname=newsos ;;
   esac
   ;;
  nonstop-ux) osname=nonstopux ;;
  openbsd) osname=openbsd
               osvers="$3"
               ;;
  os2) osname=os2
   osvers="$4"
   ;;
  POSIX-BC | posix-bc ) osname=posix-bc
   osvers="$3"
   ;;
  powerux | power_ux | powermax_os | powermaxos | \
  powerunix | power_unix) osname=powerux
   osvers="$3"
   ;;
  qnx) osname=qnx
```

```
 osvers="$4"
 ;;
solaris) osname=solaris
 case "$3" in
 5*) osvers=`echo $3 | $sed 's/^5/2/g'` ;;
 *) osvers="$3" ;;
 esac
 ;;
sunos) osname=sunos
 case "$3" in
 5*) osname=solaris
  osvers=`echo $3 | $sed 's/^5/2/g'` ;;
 *) osvers="$3" ;;
 esac
 ;;
titanos) osname=titanos
 case "$3" in
 1*) osvers=1 ;;
 2*) osvers=2 ;;
 3*) osvers=3 ;;
 4*) osvers=4 ;;
 *) osvers="$3" ;;
 esac
 ;;
ultrix) osname=ultrix
 osvers="$3"
 ;;
osf1|mls+) case "$5" in
  alpha)
?X: DEC OSF/1 myuname -a output looks like:
 osf1 xxxx t3.2 123.4 alpha
?X: where the version number can be something like [xvt]n.n
    osname=dec_osf
?X: sizer knows the minor minor version: the letter
    osvers=`sizer -v | awk -FUNIX '{print $2}' | awk '{print $1}' |  tr '[A-Z]' '[a-z]' | sed 's/^[xvt]//'`
    case "$osvers" in
    [1-9].[0-9]*) ;;
    *) osvers=`echo "$3" | sed 's/^[xvt]//'` ;;
    esac
    ;;
 hp*) osname=hp_osf1 ;;
 mips) osname=mips_osf1 ;;
?X: hp and mips were unsupported Technology Releases -- ADO, 24/10/94
 esac
 ;;
 # UnixWare 7.1.2 is known as Open UNIX 8
 openunix|unixware) osname=svr5
 osvers="$4"
```

```
 ;;
uts) osname=uts
 osvers="$3"
 ;;
vos) osvers="$3"
 ;;
$2) case "$osname" in
 *isc*) ;;
 *freebsd*) ;;
 svr*)
  : svr4.x or possibly later
  case "svr$3" in
  ${osname}*)
   osname=svr$3
   osvers=$4
   ;;
  esac
  case "$osname" in
  svr4.0)
   : Check for ESIX
   if test -f /stand/boot ; then
    eval `grep '^INITPROG=[a-z/0-9]*$' /stand/boot`
    if
test -n "$INITPROG" -a -f "$INITPROG"; then
  isesix=`strings -a $INITPROG|grep 'ESIX SYSTEM V/386 Release 4.0'`
     if test -n "$isesix"; then
      osname=esix4
     fi
    fi
   fi
   ;;
  esac
  ;;
 *) if test -f /etc/systemid; then
   osname=sco
   set `echo $3 | $sed 's/\./ /g'` $4
   if $test -f $src/hints/sco_$1_$2_$3.sh; then
    osvers=$1.$2.$3
   elif $test -f $src/hints/sco_$1_$2.sh; then
    osvers=$1.$2
   elif $test -f $src/hints/sco_$1.sh; then
    osvers=$1
   fi
  else
   case "$osname" in
   '') : Still unknown.  Probably a generic Sys V.
    osname="sysv"
    osvers="$3"
```

```
    ;;
   esac
  fi
  ;;
 esac
 ;;
*) case "$osname" in
 '') : Still unknown.  Probably a generic BSD.
  osname="$1"
  osvers="$3"
  ;;
 esac
 ;;
esac
else
?X: Try to identify sony's NEWS-OS (BSD unix)
 if test -f /vmunix -a -f $src/hints/news_os.sh; then
  (what /vmunix | UU/tr '[A-Z]' '[a-z]') > UU/kernel.what
2>&1
  if $contains news-os UU/kernel.what >/dev/null 2>&1; then
   osname=news_os
  fi
  $rm -f UU/kernel.what
?X: Maybe it's OS/2 or DOS or something similar
 elif test -d c:/. -o -n "$is_os2" ; then
  set X $myuname
  osname=os2
  osvers="$5"
 fi
fi

    case "$targetarch" in
    '') ;;
    *)  hostarch=$osname
        case "$targetarch" in
            nto*|*-nto-*)
                # Will load qnx.sh, which should change osname to nto
                osname=qnx
                osvers=''
                ;;
            *linux-android*)
                # Catch arm-linux-androideabi, mipsel-linux-android,
                # and i686-linux-android
                osname=linux-android
                osvers=''
                ;;
            *linux*)
                # Something like arm-linux-gnueabihf is really just
```

```
            # plain linux.
            osname=linux
            osvers=''
            ;;
        *solaris*|*sunos*)
            osname=solaris
            # XXX perhaps we should just assume
            # osvers to be 2, or maybe take the value
            # from targetarch. Using $run before the
            # hints are run is somewhat icky.
            set X `$run $uname -a 2>/dev/null`
            shift
            case "$3" in
            5*) osvers=`echo $3 | $sed 's/^5/2/g'` ;;
            *)  osvers="$3" ;;
            esac
            ;;
        *)
    osname=`echo $targetarch|sed 's,^[^-]*-,,'`
    osvers=''
            ;;
        esac
        ;;
    esac

: Now look for a hint file osname_osvers, unless one has been
: specified already.
case "$hintfile" in
''|' ')
 file=`echo "${osname}_${osvers}" | $sed -e 's%\.%_%g' -e 's%_$%%'`
 : Also try without trailing minor version numbers.
 xfile=`echo
$file | $sed -e 's%_[^_]*$%%'`
 xxfile=`echo $xfile | $sed -e 's%_[^_]*$%%'`
 xxxfile=`echo $xxfile | $sed -e 's%_[^_]*$%%'`
 xxxxfile=`echo $xxxfile | $sed -e 's%_[^_]*$%%'`
 case "$file" in
 '') dflt=none ;;
 *)  case "$osvers" in
  '') dflt=$file
   ;;
  *)  if $test -f $src/hints/$file.sh ; then
    dflt=$file
   elif $test -f $src/hints/$xfile.sh ; then
    dflt=$xfile
   elif $test -f $src/hints/$xxfile.sh ; then
    dflt=$xxfile
   elif $test -f $src/hints/$xxxfile.sh ; then
```

```
    dflt=$xxxfile
   elif $test -f $src/hints/$xxxxfile.sh ; then
    dflt=$xxxxfile
   elif $test -f "$src/hints/${osname}.sh" ; then
    dflt="${osname}"
   else
    dflt=none
   fi
   ;;
  esac
  ;;
 esac
 if $test -f Policy.sh ; then
  case "$dflt" in
  *Policy*) ;;
  none) dflt="Policy" ;;
  *) dflt="Policy $dflt" ;;
  esac
 fi
 ;;
*)
 dflt=`echo $hintfile | $sed 's/\.sh$//'`
 ;;
esac

 if $test -f Policy.sh ; then
  $cat <<EOM

There's also a Policy hint file
 available, which should make the
site-specific (policy) questions easier to answer.
EOM

 fi

 $cat <<EOM

You may give one or more space-separated answers, or "none" if appropriate.
If you have a handcrafted Policy.sh file or a Policy.sh file generated by a
previous run of Configure, you may specify it as well as or instead of
OS-specific hints.  If hints are provided for your OS, you should use them:
although Perl can probably be built without hints on many platforms, using
hints often improve performance and may enable features that Configure can't
set up on its own. If there are no hints that match your OS, specify "none";
DO NOT give a wrong version or a wrong OS.

EOM
```

```
rp="Which of these apply, if any?"
. UU/myread
tans=$ans
for file in $tans; do
 if $test X$file = XPolicy -a -f Policy.sh; then
  . Policy.sh
  $cat Policy.sh >> UU/config.sh
 elif $test -f $src/hints/$file.sh; then
  . $src/hints/$file.sh
  $cat $src/hints/$file.sh >> UU/config.sh
 elif $test X"$tans" =
X -o X"$tans" = Xnone ; then
  : nothing
 else
  : Give one chance to correct a possible typo.
  echo "$file.sh does not exist"
  dflt=$file
  rp="hint to use instead?"
  . UU/myread
  for file in $ans; do
   if $test -f "$src/hints/$file.sh"; then
    . $src/hints/$file.sh
    $cat $src/hints/$file.sh >> UU/config.sh
   elif $test X$ans = X -o X$ans = Xnone ; then
    : nothing
   else
    echo "$file.sh does not exist -- ignored."
   fi
  done
 fi
done

hint=recommended
: Remember our hint file for later.
if $test -f "$src/hints/$file.sh" ; then
 hintfile="$file"
else
 hintfile="
 fi
fi
cd UU
?X: From here on, we must use $rsrc instead of $src
@else
: Get old answers, if there is a config file out there
hint=default
hintfile="
if test -f ../config.sh; then
 echo " "
```

```
 rp="I see a config.sh file.  Shall I use it to set the defaults?"
 . ./myread
 case "$ans" in
 n*|N*) echo "OK, I'll ignore it.";;
 *)  echo "Fetching default answers from your old config.sh file..."
 >&4
  tmp_n="$n"
  tmp_c="$c"
  . ../config.sh
  cp ../config.sh .
  n="$tmp_n"
  c="$tmp_c"
  hint=previous
  ;;
 esac
fi
@end
?X: remember, indentation is wrong--RAM
;;
*)
 echo " "
 echo "Fetching default answers from $config_sh..." >&4
 tmp_n="$n"
 tmp_c="$c"
 cd ..
?X: preserve symbolic links, if any
 cp $config_sh config.sh 2>/dev/null
 chmod +w config.sh
 . ./config.sh
 cd UU
 cp ../config.sh .
 n="$tmp_n"
 c="$tmp_c"
 hint=previous
 ;;
esac
. ./optdef.sh

: Restore computed paths
for file in $loclist $trylist; do
 eval $file="\$_$file"
done

@if osname || osvers
cat << EOM

Configure uses the operating system name and version to set some defaults.
The default value is probably right if the name rings a bell. Otherwise,
```

```
since spelling matters for me, either accept the default or answer "none"
to leave it blank.

EOM
@end
@if osname
case "$osname" in
 "|' ')
  case "$hintfile" in
  "|' '|none) dflt=none ;;
  *)  dflt=`echo $hintfile | $sed -e 's/\.sh$//' -e 's/_.*$//'`
 ;;
  esac
  ;;
 *) dflt="$osname" ;;
esac
rp="Operating system name?"
. ./myread
case "$ans" in
none)  osname=" ;;
*) osname=`echo "$ans" | $sed -e 's/[  ][ ]*/_/g' | ./tr '[A-Z]' '[a-z]'`;;
esac
@end
@if osvers
@if osname
echo " "
@end
case "$osvers" in
 "|' ')
  case "$hintfile" in
  "|' '|none) dflt=none ;;
  *) dflt=`echo $hintfile | $sed -e 's/\.sh$//' -e 's/^[^_]*//'`
   dflt=`echo $dflt | $sed -e 's/^_//' -e 's/_/./g'`
   case "$dflt" in
   "|' ') dflt=none ;;
   esac
   ;;
  esac
  ;;
 *) dflt="$osvers" ;;
esac
rp="Operating system version?"
. ./myread
case "$ans" in
none)  osvers=" ;;
*) osvers="$ans" ;;
esac
```

@end

. ./posthint.sh

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Oldconfig.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_scalbnl: Inlibc
?MAKE: -pick add $@ %<
?S:d_scalbnl:
?S: This variable conditionally defines the HAS_SCALBNL symbol, which
?S: indicates to the C program that the scalbnl() routine is available.
?S: If ilogbl is also present we can emulate frexpl.
?S:.
?C:HAS_SCALBNL:
?C: This symbol, if defined, indicates that the scalbnl routine is
?C: available.  If ilogbl is also present we can emulate frexpl.
?C:.
?H:#$d_scalbnl HAS_SCALBNL  /**/
?H:.
?LINT:set d_scalbnl
: see if scalbnl exists
set scalbnl d_scalbnl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_scalbnl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sysstat.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:

```
?RCS: $Log: i_sysstat.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:48:30  ram
?RCS: patch61: created
?RCS:
?MAKE:i_sysstat: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysstat:
?S: This variable conditionally defines the I_SYS_STAT symbol,
?S: and indicates whether a C program should include <sys/stat.h>.
?S:.
?C:I_SYS_STAT (I_SYSSTAT):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/stat.h>.
?C:.
?H:#$i_sysstat I_SYS_STAT  /**/
?H:.
?LINT:set
 i_sysstat
: see if sys/stat.h is available
set sys/stat.h i_sysstat
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysstat.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fpclass: Inlibc
?MAKE: -pick add $@ %<
?S:d_fpclass:
?S: This variable conditionally defines the HAS_FPCLASS symbol, which
?S: indicates to the C program that the fpclass() routine is available.
?S:.
?C:HAS_FPCLASS:
?C: This symbol, if defined, indicates that the fpclass routine is
?C: available to classify doubles.  Available for example in Solaris/SVR4.
?C: The returned values are defined in <ieeefp.h> and are:
?C:
?C: FP_SNAN  signaling NaN
?C: FP_QNAN  quiet NaN
?C: FP_NINF  negative infinity
?C: FP_PINF  positive infinity
```

?C: FP_NDENORM negative denormalized non-zero
?C: FP_PDENORM positive denormalized non-zero
?C: FP_NZERO negative zero
?C: FP_PZERO positive zero
?C: FP_NNORM negative normalized
 non-zero
?C: FP_PNORM positive normalized non-zero
?C:.
?H:#$d_fpclass HAS_FPCLASS  /**/
?H:.
?LINT:set d_fpclass
: see if fpclass exists
set fpclass d_fpclass
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fpclass.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Chk_MANI.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Chk_MANI.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:57:25  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/31  09:33:14  ram
?RCS: patch44: now lists Begin instead of Myinit in its dependencies
?RCS: patch44: leading comment now explains how this unit is included
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks the package by making sure
 every file listed in MANIFEST
?X: is present. It is systematically "included" via the Finish unit (which
?X: is always present in every Configure script), although it may result in
?X: an empty inclusion when no MANIFEST is present.
?X:
?MAKE:Chk_MANI: Begin c n rsrc

```
?MAKE: -pick wipe $@ %<
?T:filelist ans tmppwd
?X: This check happens at metaconfig-time, so it's ok to hard-code the path.
@if {test -f ../MANIFEST}
: Now test for existence of everything in MANIFEST
echo " "
if test -f "$rsrc/MANIFEST"; then
 echo "First let's make sure your kit is complete.  Checking..." >&4
?X:
?X: Files spelled uppercased and beginning with PACK are produced by the
?X: shell archive builder and may be removed by the user. Usually, they are
?X: not listed in the MANIFEST file, but you never know...
?X:
?X: "split -l" is the new way of running a split, but we also try the older way
?X:
 awk '$1 !~ /PACK[A-Z]+/ {print $1}' "$rsrc/MANIFEST" | \
  (split -l 50 2>/dev/null || split -50)
 rm -f missing
 tmppwd=`pwd`
 for
 filelist in x??; do
  (cd "$rsrc"; ls `cat "$tmppwd/$filelist"` \
   >/dev/null 2>>"$tmppwd/missing")
 done
 if test -s missing; then
  cat missing >&4
  cat >&4 <<'EOM'

THIS PACKAGE SEEMS TO BE INCOMPLETE.

You have the option of continuing the configuration process, despite the
distinct possibility that your kit is damaged, by typing 'y'es.  If you
do, don't blame me if something goes wrong.  I advise you to type 'n'o
and contact the author (<MAINTLOC>).

EOM
?X: Can't use $echo at this early stage
  echo $n "Continue? [n] $c" >&4
  read ans
  case "$ans" in
  y*)
   echo "Continuing..." >&4
   rm -f missing
   ;;
  *)
?X:
?X: Use kill and not exit, so that the trap gets executed to clean up
?X:
```

```
  echo "ABORTING..." >&4
  kill $$
  ;;
 esac
else
 echo "Looks good..."
fi
else
 echo "There is no MANIFEST file.  I hope your kit is complete !"
fi
rm -f missing x??

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Chk_MANI.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_longdbl.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_longdbl.U,v $
?RCS:
?MAKE:d_longdbl longdblsize d_ldexpl longdblkind \
 d_long_double_style_ieee d_long_double_style_ieee_doubledouble \
 d_long_double_style_ieee_extended d_long_double_style_ieee_std \
 d_long_double_style_vax: Compile Setvar Myread \
 Inlibc run echo cat rm_try test doublesize i_stdlib i_float
?MAKE: -pick add $@ %<
?S:d_longdbl:
?S: This variable conditionally defines HAS_LONG_DOUBLE if
?S: the long double type is supported.
?S:.
?S:d_ldexpl:
?S: This variable conditionally defines the HAS_LDEXPL symbol, which
?S: indicates to the C program that the ldexpl() routine is available.
?S:.
?S:longdblsize:
?S: This variable contains the value of the LONG_DOUBLESIZE
 symbol, which
?S: indicates to the C program how many bytes there are in a long double,
?S: if this system supports long doubles.  Note that this is
?S: sizeof(long double), which may include unused bytes.
?S:.
```

?S:longdblkind:
?S: This variable, if defined, encodes the type of a long double:
?S:  0 = double,
?S:  1 = IEEE 754 128-bit little endian,
?S:  2 = IEEE 754 128-bit big endian,
?S:  3 = x86 80-bit little endian,
?S:  4 = x86 80-bit big endian,
?S:  5 = double-double 128-bit little endian,
?S:  6 = double-double 128-bit big endian,
?S:  7 = 128-bit mixed-endian double-double (64-bit LEs in BE),
?S:  8 = 128-bit mixed-endian double-double (64-bit BEs in LE),
?S:  9 = 128-bit PDP-style mixed-endian long doubles,
?S: -1 = unknown format.
?S:.
?S:d_long_double_style_ieee:
?S: This variable conditionally defines LONG_DOUBLE_STYLE_IEEE
?S: if the long double is any of the IEEE 754 style long doubles:
?S: LONG_DOUBLE_STYLE_IEEE_STD, LONG_DOUBLE_STYLE_IEEE_EXTENDED,
?S: LONG_DOUBLE_STYLE_IEEE_DOUBLEDOUBLE.
?S:.
?S:d_long_double_style_ieee_doubledouble:
?S: This
 variable conditionally defines LONG_DOUBLE_STYLE_IEEE_DOUBLEDOUBLE
?S: if the long double is the 128-bit IEEE 754 double-double.
?S:.
?S:d_long_double_style_ieee_extended:
?S: This variable conditionally defines LONG_DOUBLE_STYLE_IEEE_EXTENDED
?S: if the long double is the 80-bit IEEE 754 extended precision.
?S: Note that despite the 'extended' this is less than the 'std',
?S: since thisis an extension of the double precision.
?S:.
?S:d_long_double_style_ieee_std:
?S: This variable conditionally defines LONG_DOUBLE_STYLE_IEEE_STD
?S: if the long double is the 128-bit IEEE 754.
?S:.
?S:d_long_double_style_vax:
?S: This variable conditionally defines LONG_DOUBLE_STYLE_VAX
?S: if the long double is the 128-bit VAX format H.
?S:.
?C:HAS_LONG_DOUBLE:
?C: This symbol will be defined if the C compiler supports long
?C: doubles.
?C:.
?C:LONG_DOUBLESIZE:
?C: This symbol contains the size of a long double, so that the
?C: C
 preprocessor can make decisions based on it.  It is only
?C: defined if the system supports long doubles.  Note that this

?C: is sizeof(long double), which may include unused bytes.
?C:.
?C:HAS_LDEXPL:
?C: This symbol, if defined, indicates that the ldexpl routine is
?C: available to shift a long double floating-point number
?C: by an integral power of 2.
?C:.
?C:LONG_DOUBLEKIND:
?C: LONG_DOUBLEKIND will be one of
?C: LONG_DOUBLE_IS_DOUBLE
?C: LONG_DOUBLE_IS_IEEE_754_128_BIT_LITTLE_ENDIAN
?C: LONG_DOUBLE_IS_IEEE_754_128_BIT_BIG_ENDIAN
?C: LONG_DOUBLE_IS_X86_80_BIT_LITTLE_ENDIAN
?C: LONG_DOUBLE_IS_X86_80_BIT_BIG_ENDIAN
?C: LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LE_LE
?C: LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BE_BE
?C: LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LE_BE
?C: LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BE_LE
?C: LONG_DOUBLE_IS_VAX_H_FLOAT
?C: LONG_DOUBLE_IS_UNKNOWN_FORMAT
?C: It is only defined if the system supports long doubles.
?C:.
?C:LONG_DOUBLE_STYLE_IEEE:
?C: This symbol, if defined,
 indicates that the long double
?C: is any of the IEEE 754 style long doubles:
?C: LONG_DOUBLE_STYLE_IEEE_STD, LONG_DOUBLE_STYLE_IEEE_EXTENDED,
?C: LONG_DOUBLE_STYLE_IEEE_DOUBLEDOUBLE.
?C:.
?C:LONG_DOUBLE_STYLE_IEEE_DOUBLEDOUBLE:
?C: This symbol, if defined, indicates that the long double is
?C: the 128-bit double-double.
?C:.
?C:LONG_DOUBLE_STYLE_IEEE_EXTENDED:
?C: This symbol, if defined, indicates that the long double is
?C: the 80-bit IEEE 754. Note that despite the 'extended' this
?C: is less than the 'std', since this is an extension of
?C: the double precision.
?C:.
?C:LONG_DOUBLE_STYLE_IEEE_STD:
?C: This symbol, if defined, indicates that the long double is
?C: the 128-bit IEEE 754.
?C:.
?C:LONG_DOUBLE_STYLE_VAX:
?C: This symbol, if defined, indicates that the long double is
?C: the 128-bit VAX format H.
?C:.
?H:#$d_ldexpl  HAS_LDEXPL  /**/

```
?H:#$d_longdbl HAS_LONG_DOUBLE  /**/
?H:?LONG_DOUBLESIZE:#ifdef HAS_LONG_DOUBLE
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLESIZE $longdblsize  /**/
?H:?LONG_DOUBLESIZE:#define
 LONG_DOUBLEKIND $longdblkind  /**/
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_DOUBLE    0
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_IEEE_754_128_BIT_LITTLE_ENDIAN 1
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_IEEE_754_128_BIT_BIG_ENDIAN 2
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_X86_80_BIT_LITTLE_ENDIAN  3
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_X86_80_BIT_BIG_ENDIAN  4
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LE_LE 5
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BE_BE 6
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LE_BE 7
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BE_LE 8
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_VAX_H_FLOAT   9
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_UNKNOWN_FORMAT   -1
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LITTLE_ENDIAN
LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LE_LE /* back-compat */
?H:?LONG_DOUBLESIZE:#define LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BIG_ENDIAN
LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BE_BE
 /* back-compat */
?H:?LONG_DOUBLESIZE:#$d_long_double_style_ieee LONG_DOUBLE_STYLE_IEEE
?H:?LONG_DOUBLESIZE:#$d_long_double_style_ieee_doubledouble
LONG_DOUBLE_STYLE_IEEE_DOUBLEDOUBLE
?H:?LONG_DOUBLESIZE:#$d_long_double_style_ieee_extended
LONG_DOUBLE_STYLE_IEEE_EXTENDED
?H:?LONG_DOUBLESIZE:#$d_long_double_style_ieee_std LONG_DOUBLE_STYLE_IEEE_STD
?H:?LONG_DOUBLESIZE:#$d_long_double_style_vax LONG_DOUBLE_STYLE_VAX
?H:?LONG_DOUBLESIZE:#endif
?H:.
?F:!try
?LINT:known LONG_DOUBLE_IS_DOUBLE LONG_DOUBLE_IS_IEEE_754_128_BIT_LITTLE_ENDIAN
?LINT:known LONG_DOUBLE_IS_IEEE_754_128_BIT_BIG_ENDIAN
LONG_DOUBLE_IS_X86_80_BIT_LITTLE_ENDIAN
?LINT:known LONG_DOUBLE_IS_X86_80_BIT_BIG_ENDIAN
LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LITTLE_ENDIAN
?LINT:known LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BIG_ENDIAN
LONG_DOUBLE_IS_UNKNOWN_FORMAT
?LINT:known LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LE_LE
?LINT:known LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BE_BE
?LINT:known
 LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_LE_BE
?LINT:known LONG_DOUBLE_IS_DOUBLEDOUBLE_128_BIT_BE_LE
?LINT:known LONG_DOUBLE_IS_VAX_H_FLOAT
?LINT:set d_longdbl
?LINT:set d_ldexpl
: check for long doubles
echo " "
```

```
echo "Checking to see if you have long double..." >&4
echo 'int main() { long double x = 7.0; }' > try.c
set try
if eval $compile; then
 val="$define"
 echo "You have long double."
else
 val="$undef"
 echo "You do not have long double."
fi
$rm_try
set d_longdbl
eval $setvar

: see if ldexpl exists
set ldexpl d_ldexpl
eval $inlibc

@if LONG_DOUBLESIZE || longdblsize
: check for length of long double
?X:  Check only if d_longdbl and if longdblsize is not already set.
case "${d_longdbl}${longdblsize}" in
$define)
 echo " "
 echo "Checking to see how big your long doubles are..." >&4
 $cat >try.c <<'EOCP'
#include <stdio.h>
int main()
{
 printf("%d\n", sizeof(long double));
}
EOCP
 set try
?X: Don't use compile_ok because some compilers warn you that they have
?X: 'long
 double' as just 'double'.
 set try
 if eval $compile; then
  longdblsize=`$run ./try`
  echo "Your long doubles are $longdblsize bytes long."
 else
  dflt='8'
  echo " "
  echo "(I can't seem to compile the test program.  Guessing...)" >&4
  rp="What is the size of a long double (in bytes)?"
  . ./myread
  longdblsize="$ans"
 fi
```

```
 if $test "X$doublesize" = "X$longdblsize"; then
  echo "That isn't any different from an ordinary double."
  echo "I'll keep your setting anyway, but you may see some"
  echo "harmless compilation warnings."
 fi
 ;;
esac
$rm_try
@end

$echo "Checking the kind of long doubles you have..." >&4
case "$d_longdbl" in
define)
$cat <<EOP >try.c
#$i_float I_FLOAT
#$i_stdlib I_STDLIB
#define LONGDBLSIZE $longdblsize
#define DOUBLESIZE $doublesize
#ifdef I_FLOAT
#include <float.h>
#endif
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#include <stdio.h>
static const long double d = -0.1L;
int main() {
 unsigned const char* b = (unsigned const char*)(&d);
#if DOUBLESIZE
 == LONGDBLSIZE
 printf("0\n"); /* if it floats like double */
 exit(0);
#endif
#if (LDBL_MANT_DIG == 113 || FLT128_MANT_DIG == 113) && LONGDBLSIZE == 16
 if (b[0] == 0x9A && b[1] == 0x99 && b[15] == 0xBF) {
   /* IEEE 754 128-bit little-endian */
   printf("1\n");
   exit(0);
 }
 if (b[0] == 0xBF && b[14] == 0x99 && b[15] == 0x9A) {
   /* IEEE 128-bit big-endian, e.g. solaris sparc */
   printf("2\n");
   exit(0);
 }
#endif
/* For alignment 32-bit platforms have the 80 bits in 12 bytes,
* while 64-bits platforms have it in 16 bytes.  The trailing bytes
* cannot be trusted. */
```

```
#if LDBL_MANT_DIG == 64 && (LONGDBLSIZE == 16 || LONGDBLSIZE == 12)
 if (b[0] == 0xCD && b[9] == 0xBF) {
   /* x86 80-bit little-endian, sizeof 12 (ILP32, Solaris x86)
    * or 16 (LP64, Linux and OS X), 4 or 6 bytes of padding.
    * Also known as "extended precision". */
   printf("3\n");
   exit(0);
 }
 if (b[0] == 0xBF && b[9] == 0xCD) {
   /* Is there ever big-endian 80-bit, really?

    *
    * The Motorola 68881 had another "extended precision" format:
    * sign:1 exp:15 zero:16 integer:1 mantissa:63
    * for total of 96 bits of bytes.  The zero bits were unused.
    * See "M68000 FAMILY PROGRAMMER'S REFERENCE MANUAL" for more details.
    * If it ever becomes relevant, this format should be allocated
    * a new doublekind code since it's quite different from the Intel x87.
    */
   printf("4\n");
   exit(0);
 }
#endif
#if (LDBL_MANT_DIG == 106 || LDBL_MANT_DIG == 107) && LONGDBLSIZE == 16
 /* software "double double", the 106 is 53+53.
  * but irix thinks it is 107. */
 if (b[0] == 0x9A && b[7] == 0x3C && b[8] == 0x9A && b[15] == 0xBF) {
   /* double double 128-bit fully little-endian,
    * little-endian doubles in little-endian order,
    * 9a 99 99 99 99 99 59 3c 9a 99 99 99 99 99 b9 bf */
   printf("5\n");
   exit(0);
 }
 if (b[0] == 0xBF && b[7] == 0x9A && b[8] == 0x3C && b[15] == 0x9A) {
   /* double double 128-bit fully big-endian,
     * big-endian doubles in big-endian order,
    * e.g. PPC/Power and MIPS:
    * bf b9 99 99 99 99 99 9a 3c 59 99 99 99 99 99 9a */
   printf("6\n");
   exit(0);
 }
 if (b[0] == 0x9A && b[7] == 0xBF && b[8] == 0x9A && b[15] == 0x3C) {
   /* double double 128-bit mixed endian.
    * little-endian doubles in big-endian order,
    * e.g. ppc64el,
    * 9a 99 99 99 99 99 b9 bf 9a 99 99 99 99 99 59 3c */
   printf("7\n");
   exit(0);
```

```
 }
 if (b[0] == 0x3C && b[7] == 0x9A && b[8] == 0xBF && b[15] == 0x9A) {
   /* double double 128-bit mixed endian,
    * big-endian doubles in little-endian order,
    * 3c 59 99 99 99 99 99 9a bf b9 99 99 99 99 99 9a */
   printf("8\n");
   exit(0);
 }
#endif
/* We are largely making this up because it may well be
* that the VAX format H was never made available to C,
* only to Fortran. */
#if LONGDBLSIZE == 16 && defined(__vax__)
 if (b[0] == 0xFD && b[15] == 0x99) {
   /* VAX format H, PDP-11 mixed endian. */
   printf("9\n");

  exit(0);
 }
#endif
 printf("-1\n"); /* unknown */
 exit(0);
}
EOP
set try
if eval $compile; then
   longdblkind=`$run ./try`
else
   longdblkind=-1
fi
;;
*) longdblkind=0 ;;
esac
case "$longdblkind" in
0) echo "Your long doubles are doubles." >&4 ;;
1) echo "You have IEEE 754 128-bit little endian long doubles." >&4 ;;
2) echo "You have IEEE 754 128-bit big endian long doubles." >&4 ;;
3) echo "You have x86 80-bit little endian long doubles." >& 4 ;;
4) echo "You have x86 80-bit big endian long doubles." >& 4 ;;
5) echo "You have 128-bit fully little-endian double-double long doubles (64-bit LEs in LE)." >& 4 ;;
6) echo "You have 128-bit fully big-endian double-double long doubles (64-bit BEs in BE)." >& 4 ;;
7) echo "You have 128-bit mixed-endian double-double long doubles (64-bit LEs in BE)." >& 4 ;;
8) echo "You have 128-bit mixed-endian double-double long doubles (64-bit BEs in LE)." >& 4 ;;
9) echo "You have 128-bit PDP-style mixed-endian long doubles (VAX format H)." >& 4 ;;
*)
 echo "Cannot figure out your long double." >&4 ;;
esac
d_long_double_style_ieee=$undef
```

```
d_long_double_style_ieee_std=$undef
d_long_double_style_ieee_extended=$undef
d_long_double_style_ieee_doubledouble=$undef
d_long_double_style_vax=$undef
case "$longdblkind" in
1|2|3|4|5|6|7|8) d_long_double_style_ieee=$define ;;
esac
case "$longdblkind" in
1|2) d_long_double_style_ieee_std=$define ;;
esac
case "$longdblkind" in
3|4) d_long_double_style_ieee_extended=$define ;;
esac
case "$longdblkind" in
5|6|7|8) d_long_double_style_ieee_doubledouble=$define ;;
esac
case "$longdblkind" in
9) d_long_double_style_vax=$define ;;
esac
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_longdbl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getlogin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_getlogin.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:07:41  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_getlogin: Inlibc
?MAKE: -pick add $@ %<
?S:d_getlogin:
?S: This variable conditionally defines the HAS_GETLOGIN symbol, which
?S: indicates to the C program that the getlogin() routine is available
?S: to get the login name.
?S:.
```

?C:HAS_GETLOGIN :
?C: This symbol,
 if defined, indicates that the getlogin routine is
?C: available to get the login name.
?C:.
?H:#$d_getlogin HAS_GETLOGIN  /**/
?H:.
?LINT:set d_getlogin
: see if getlogin exists
set getlogin d_getlogin
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getlogin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: AAAAA.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: AAAAA.U,v $
?RCS: Revision 3.0.1.4  1994/06/20  06:50:26  ram
?RCS: patch30: changes from Jarkko Hietaniemi are tagged with JHI
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  14:01:39  ram
?RCS: patch23: initials for Wayne Davison are now WED
?RCS: patch23: added initials for new unit contributor Andy Dougherty
?RCS:
?RCS: Revision 3.0.1.2  1994/01/24  14:01:09  ram
?RCS: patch16: make metalint shut up on special unit definition for All target
?RCS:
?RCS: Revision
 3.0.1.1  1993/09/13  15:43:57  ram
?RCS: patch10: documents initials used for Wayne Davison's contributions
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:44  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this file is to supply the head of the Makefile created
?X: by metaconfig.  For this reason it must be first in alphabetical order.
?X: The leading '+' in front of the unit name is a hint for metalint, since

?X: the use of that special unit name as a "made" unit is legitimate here.
?X:
?MAKE:+All: Finish
?X:
?X: Throughout the units, the following initials are used to identify comments:
?X:
?X:  HMS: Harlan Stenn
?X:  RAM: Raphael Manfredi
?X:  WED: Wayne Davison (was WAD by mistake--RAM)
?X:  ADO: Andy Dougherty
?X:  JHI: Jarkko Hietaniemi
?X:
?X: Agreed, this is a weird place to document it, but I couldn't find a better
?X: place to do so. I've bet on the curiosity of users, who would probably
?X: want to know what's in this strangely-named file--RAM.

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/AAAAA.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_finite: Inlibc
?MAKE: -pick add $@ %<
?S:d_finite:
?S: This variable conditionally defines the HAS_FINITE symbol, which
?S: indicates to the C program that the finite() routine is available.
?S:.
?C:HAS_FINITE:
?C: This symbol, if defined, indicates that the finite routine is
?C: available to check whether a double is finite (non-infinity non-NaN).
?C:.
?H:#$d_finite HAS_FINITE  /**/
?H:.
?LINT:set d_finite
: see if finite exists
set finite d_finite
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_finite.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_chroot.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_chroot.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:07:17  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_chroot: Inlibc
?MAKE: -pick add $@ %<
?S:d_chroot:
?S: This variable conditionally defines the HAS_CHROOT symbol, which
?S: indicates to the C program that the chroot() routine is available.
?S:.
?C:HAS_CHROOT :
?C: This symbol, if defined, indicates that the chroot routine
 is
?C: available.
?C:.
?H:#$d_chroot HAS_CHROOT  /**/
?H:.
?LINT:set d_chroot
: see if chroot exists
set chroot d_chroot
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_chroot.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_round: Inlibc
?MAKE: -pick add $@ %<
?S:d_round:
?S: This variable conditionally defines the HAS_ROUND symbol, which
?S: indicates to the C program that the round() routine is available.

?S:.
?C:HAS_ROUND:
?C: This symbol, if defined, indicates that the round routine is
?C: available to round to nearest integer, away from zero.
?C:.
?H:#$d_round HAS_ROUND  /**/
?H:.
?LINT:set d_round
: see if round exists
set round d_round
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_round.U
No license file was found, but licenses were detected in source scan.

?RCS: You may redistribute only under the terms of the Artistic Licence,

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/mkdep.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_PORTAR.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_pidcheck.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_dbl_dig.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/nlist_pfx.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_brokstat.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_bsdjmp.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_nolnbuf.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_charsprf.U
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_ckeypad.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Magic_h.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: usrinc.U,v 1.1 2000/06/27 00:20:28 jhi Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: usrinc.U,v $
?RCS: Revision 1.1  2000/06/27 00:20:28  jhi
?RCS: Initial revision
?RCS:
?RCS: Revision 3.0.1.3  1997/02/28  16:27:12  ram

```
?RCS: patch61: don't ask for the include path unless they are on a MIPS
?RCS:
?RCS: Revision 3.0.1.2  1995/05/12  12:24:36  ram
?RCS: patch54: ensure that ./mips always exists (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:18:31  ram
?RCS: patch23: ensure usrinc value is preserved across sessions (WED)
?RCS:
?RCS: Revision
 3.0  1993/08/18  12:09:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usrinc incpath mips_type: test cat echo n c Getfile Guess \
 Oldconfig eunicefix contains rm sysroot cc
?MAKE: -pick add $@ %<
?S:usrinc:
?S: This variable holds the path of the include files, which is
?S: usually /usr/include. It is mainly used by other Configure units.
?S:.
?S:incpath:
?S: This variable must precede the normal include path to get the
?S: right one, as in "$incpath/usr/include" or "$incpath/usr/lib".
?S: Value can be "" or "/bsd43" on mips.
?S:.
?S:mips_type:
?S: This variable holds the environment type for the mips system.
?S: Possible values are "BSD 4.3" and "System V".
?S:.
?D:usrinc='/usr/include'
?LINT:extern cppflags
?LINT:create mips
?T:xxx_prompt
?F:./mips
: What should the include directory be ?
: Use sysroot if set, so findhdr looks in the right place.
echo " "
$echo $n "Hmm...  $c"
dflt="$sysroot/usr/include"
incpath="
?X: mips_type is used later, to add -DSYSTYPE_BSD43
 to cppflags if needed.
mips_type="
?X:
?X: Cannot put the following in Guess, or we get a circular dependency.
?X:
if $test -f /bin/mips && /bin/mips; then
 echo "Looks like a MIPS system..."
 $cat >usr.c <<'EOCP'
```

```
#ifdef SYSTYPE_BSD43
/bsd43
#endif
EOCP
 if $cc $cppflags -E usr.c > usr.out && $contains / usr.out >/dev/null 2>&1; then
  dflt='/bsd43/usr/include'
  incpath='/bsd43'
  mips_type='BSD 4.3'
 else
  mips_type='System V'
 fi
 $rm -f usr.c usr.out
 echo "and you're compiling with the $mips_type compiler and libraries."
 xxx_prompt=y
 echo "exit 0" >mips
else
 echo "Doesn't look like a MIPS system."
 xxx_prompt=n
 echo "exit 1" >mips
fi
chmod +x mips
$eunicefix mips
case "$usrinc" in
") ;;
*) dflt="$usrinc";;
esac
case "$xxx_prompt" in
y) fn=d/
 echo " "
 rp='Where are the include files you want to use?'
 . ./getfile
 usrinc="$ans"
 ;;
*) usrinc="$dflt"
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/usrinc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mandirs.U,v $
?RCS:
?RCS: Copyright (c) 2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

```
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: mandirs.U,v $
?RCS:
?MAKE: man1 man2 man3 man4 man5 man6 man7 man8 \
 man2ext man4ext man5ext man6ext man7ext man8ext: \
 mandirstyle man1dir man1ext man3dir prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?X: This unit just provides convenient definitions so that
?X: MakeMaker can sensibly assume that man5 pages go in
?X: $prefix/man/$man5 (or $siteprefix/man/$man5 as appropriate)
?X: and the BSD vs. SVR4 directory naming conventions will be
?X: handled automatically, as will older System V
?X: $prefix/man/u_man
 style directories.
?X:
?S:man1:
?S: Man 1 pages will normally be installed in $prefix/man/$man1.
?S: This variable handles SysV/SVR4/BSD conventions appropriately.
?S: See mandirstyle.
?S:.
?S:man2:
?S: Man 2 pages will normally be installed in $prefix/man/$man2.
?S: This variable handles SysV/SVR4/BSD conventions appropriately.
?S: See mandirstyle.
?S:.
?S:man2ext:
?S: Extension for man2 pages, typically just '2'.  See mandirstyle.
?S:.
?S:man3:
?S: Man 3 pages will normally be installed in $prefix/man/$man3.
?S: This variable handles SysV/SVR4/BSD conventions appropriately.
?S: See mandirstyle.
?S:.
?S:man4:
?S: Man 4 pages will normally be installed in $prefix/man/$man4.
?S: This variable handles SysV/SVR4/BSD conventions appropriately.
?S: See mandirstyle.
?S:.
?S:man4ext:
?S: Extension for man4 pages, typically just '4'.  See mandirstyle.
?S:.
?S:man5:
?S: Man 5 pages will normally be installed in $prefix/man/$man5.
?S: This variable handles SysV/SVR4/BSD conventions appropriately.
?S: See
```

```
 mandirstyle.
?S:.
?S:man5ext:
?S: Extension for man5 pages, typically just '5'.  See mandirstyle.
?S:.
?S:man6:
?S: Man 6 pages will normally be installed in $prefix/man/$man6.
?S: This variable handles SysV/SVR4/BSD conventions appropriately.
?S: See mandirstyle.
?S:.
?S:man6ext:
?S: Extension for man6 pages, typically just '6'.  See mandirstyle.
?S:.
?S:man7:
?S: Man 7 pages will normally be installed in $prefix/man/$man7.
?S: This variable handles SysV/SVR4/BSD conventions appropriately.
?S: See mandirstyle.
?S:.
?S:man7ext:
?S: Extension for man7 pages, typically just '7'.  See mandirstyle.
?S:.
?S:man8:
?S: Man 8 pages will normally be installed in $prefix/man/$man8.
?S: This variable handles SysV/SVR4/BSD conventions appropriately.
?S: See mandirstyle.
?S:.
?S:man8ext:
?S: Extension for man8 pages, typically just '8'.  See mandirstyle.
?S:.
?LINT: set man2 man4 man5 man6 man7 man8
?LINT: set man2ext man4ext
?LINT: set man5ext man6ext man7ext man8ext
?T: num s ts
 text
?X: eval fools metalint
?T: man
: Determine locations for other man pages.  For example, programs
: should place man4 pages in $prefix/man/$man4 with an extension
: of $man4ext.  Use bsd naming conventions.  See mandirstyle.
: man1 and man3 are handled separately above.
echo "Deducing locations for other man pages for future use."
: Deduce man1 and man3 from existing variables.  Keep them for completeness.
: This approach preserves an existing SystemV-style
: /usr/local/man/l_man/man1 hierarchy.
man1=`echo $man1dir | $sed -e "s!$prefix/man/!!"`
man3=`echo $man3dir | $sed -e "s!$prefix/man/!!"`
for num in 2 4 5 6 7 8; do
 s=$num
```

```
 case "$mandirstyle" in
 sysv|svr4)
  case "$num" in
  4) s='7' ;;
  5) s='4' ;;
  7) s='5' ;;
  8) s='1M' ;;
  esac
  ;;
 esac
 eval "ts=\"\$man${num}\""
 eval "text=\"\$man${num}ext\""
 case "$ts" in
 '') ts=`echo $man1 | $sed -e "s/1/$s/g"` ;;
 none|$undef) ts=' ' ;;
 esac
 case "$text" in
 '') text=`echo $man1ext | $sed -e "s/1/$s/g"` ;;
 none|$undef)
 text=' ' ;;
 esac
 : Use extra quotes to preserve an empty ' ' value.
 eval "man${num}=\"$ts\""
 eval "man${num}ext=\"$text\""
done
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/mandirs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Myread.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Myread.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  15:05:39  ram
?RCS: patch61: myread script now starts with a "startsh"
?RCS: patch61: miscellaneous fixes
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:14:22  ram
?RCS: patch45: added & escape allowing user to turn on -d from the prompt
?RCS:
```

```
?RCS: Revision 3.0.1.4  1994/10/31  09:48:04  ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision 3.0.1.3  1994/10/29
  15:56:20  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.2  1993/08/30  08:57:59  ram
?RCS: patch8: added new visible 'nostick' symbol, mainly for Finish.U
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:39:20  ram
?RCS: patch7: now sticks to the question when no default and empty answer
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to do a read.  It allows for shell escapes, default assignment and
?X: parameter evaluation.
?X:
?X: To use this unit, $rp and $dflt must hold the question and the
?X: default answer. The question will be printed by the script itself.
?X: Neither $rp nor $dflt is altered by the script.
?X:
?X: The myread script will stick to the question if no default is proposed
?X: and the user answer is empty, which prevents mistakes. However, at the
?X: end of Configure, there is an exception
 to this rule (Finish.U) where we
?X: set nostick to a non-empty value to allow the Return key to play its role!
?X:
?MAKE:Myread: Options startsh n c trnl
?MAKE: -pick add $@ %<
?V:ans:dflt rp nostick
?F:./myread
?T:COLUMNS xxxm rp dflt answ aok myecho
?LINT:change fastread
?X: Some shells (Ultrix) do not understand ${COLUMNS:-80}, sigh!
: compute the number of columns on the terminal for proper question formatting
case "$COLUMNS" in
") COLUMNS='80';;
esac

: set up the echo used in my read
?X:
?X: This variable is intended to be eval'ed. It will echo the two
?X: variables $rp and $dflt (provided this latter has a non null value).
?X: It is mainly used by the myread script to echo the questions.
```

```
?X:
?X: The $n and $c below are substituted before Loc does its silly echo check
?X: so don't put a $ on the echo below so we get builtin, even if $echo is
?X: pointing to /bin/echo.
?X:
myecho="case \"\$xxxm\" in
") echo $n \"\$rp $c\" >&4;;
*) case \"\$rp\" in
 ") echo $n \"[\$xxxm] $c\";;
 *)
  if
 test \`echo \"\$rp [\$xxxm]  \" | wc -c\` -ge $COLUMNS; then
   echo \"\$rp\" >&4
   echo $n \"[\$xxxm] $c\" >&4
  else
   echo $n \"\$rp [\$xxxm] $c\" >&4
  fi
  ;;
 esac;;
esac"

: now set up to do reads with possible shell escape and default assignment
cat <<EOSC >myread
$startsh
?X:
?X: Save value of default -- do not alter original in case of eval
?X:
xxxm=\$dflt
$myecho
?X:
?X: If there is no default, then stop, regardless of the value in fastread.
?X: In silent mode, no new-line is to be echoed if the question is empty,
?X: since this is used to wait for the "return" key.
?X:
ans='!'
case "\$fastread" in
yes) case "\$dflt" in
 ") ;;
 *) ans='';
  case "\$silent-\$rp" in
  true-) ;;
  *) echo " " >&4;;
  esac;;
 esac;;
*) case "\$silent" in
 true) case "\$rp" in
  ") ans='';;
  esac;;
```

```
 esac;;
esac
while expr "X\$ans" : "X!" >/dev/null; do
 read answ
?X:
?X: Run 'eval' on the answer, in order to do variable substitution, in case
?X: the user types $HOME or $WHATEVER.
 Variables must be evaluated now.
?X: Typing '\$HOME' won't currently prevent from substitution -- use '\\$HOME'
?X: The $1 .. $9 and $*, as well as $@, are available to refer to the
?X: default value.
?X:
 set x \$xxxm
 shift
 aok=''; eval "ans=\\"\$answ\\"" && aok=y
 case  "\$answ" in
?X:
?X: Use "!" and not a plain ! because of a bug in BSD 4.4 shell
?X: (reported by Wayne Davison)
?X: We must handle the shell escapes before dealing with possible variable
?X: substitution, since the shell we're launching in that case will be able
?X: to do it as well as we can -- RAM, 15/03/96
?X
 "!")
  sh 1>&4
  echo " "
  $myecho
  ;;
 !*)
  set x \`expr "X\$ans" : "X!\(.*\)\$"\`
  shift
  sh 1>&4 -c "\$*"
  echo " "
  $myecho
  ;;
 "\$ans")
  case "\$ans" in
?X:
?X: Answers starting with & are hooks allowing to dynamically turn on/off
?X: some Configure options. That's for the future. -- RAM, 09/01/95
?X: Today, we only recognize '& -d' to mean 'go on as if Configure -d, which
?X: is a hardwired
 behaviour compatible with our general scheme.
?X:
  \\&*)
   set x \`expr "X\$ans" : "X&\(.*\)\$"\`
   shift
   case "\$1" in
```

```
  -d)
   fastread=yes
   echo "(OK, I'll run with -d after this question.)" >&4
   ;;
  -*)
   echo "*** Sorry, \$1 not supported yet." >&4
   ;;
  esac
  $myecho
  ans=!
  ;;
 esac;;
*)
 case "\$aok" in
 y)
  echo "*** Substitution done -- please confirm."
  xxxm="\$ans"
  ans=\`echo $n "\$ans$c" | tr '$trnl' ' '\`
  xxxm="\$ans"
  ans=!
  ;;
 *)
  echo "*** Error -- try again."
  ans=!
  ;;
 esac
 $myecho
 ;;
esac
?X: Stick in myread if no default answer and nothing was answered
case "\$ans\$xxxm\$nostick" in
")
 ans=!
 $myecho
 ;;
esac
done
case "\$ans" in
") ans="\$xxxm";;
esac
EOSC
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Myread.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_iovec_s: i_sysuio Hasfield
?MAKE: -pick add $@ %<
?S:d_iovec_s:
?S: This variable conditionally defines the HAS_STRUCT_IOVEC symbol,
?S: which indicates that the struct iovec is supported.
?S:.
?C:HAS_STRUCT_IOVEC:
?C: This symbol, if defined, indicates that the struct iovec
?C: to do scatter writes/gather reads is supported.
?C:.
?H:#$d_iovec_s HAS_STRUCT_IOVEC  /**/
?H:.
?LINT:set d_iovec_s
: Check for iovec_s
echo "Checking to see if your system supports struct iovec..." >&4
set d_iovec_s iovec iov_base $i_sysuio sys/uio.h
eval $hasfield
case "$d_iovec_s" in
"$define")      echo "Yup, it does."     ;;
*)              echo "Nope, it doesn't." ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_iovec_s.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: dlsrc.U,v$
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: dlsrc.U,v $
?RCS:
?X:  hpux support thanks to Jeff Okamoto <okamoto@hpcc101.corp.hp.com>
?X:
?X:  To create a shared library, you must compile ALL source files in the
?X:  library with +z (or possibly +Z if the library is whopping huge),
?X:  then link the library with -b.  Example:
?X:   cc -c +z module_a.c
?X:   cc -c +z module_b.c
?X:   ld -b module_a.o module_b.o -o module.sl
```

?X:
?MAKE:usedl ld dlsrc cccdlflags lddlflags ccdlflags bin_ELF ld_can_script: \
 rm_try Getfile Myread test osname sed d_dlopen Findhdr Setvar \
 src run cc ccflags ldflags optimize ls gccversion cat rsrc i_stdlib \
 i_unistd osvers sysroot
?MAKE: -pick add $@ %<
?Y:BOTTOM
?S:usedl:
?S: This variable
 indicates if the system supports dynamic
?S: loading of some sort.  See also dlsrc and dlobj.
?S:.
?S:ld:
?S: This variable indicates the program to be used to link
?S: libraries for dynamic loading.  On some systems, it is 'ld'.
?S: On ELF systems, it should be $cc.  Mostly, we'll try to respect
?S: the hint file setting.
?S:.
?S:dlsrc:
?S: This variable contains the name of the dynamic loading file that
?S: will be used with the package.
?S:.
?S:cccdlflags:
?S: This variable contains any special flags that might need to be
?S: passed with 'cc -c' to compile modules to be used to create a shared
?S: library that will be used for dynamic loading.  For hpux, this
?S: should be +z.  It is up to the makefile to use it.
?S:.
?S:lddlflags:
?S: This variable contains any special flags that might need to be
?S: passed to $ld to create a shared library suitable for dynamic
?S: loading.  It is up to the makefile to use it.  For hpux, it
?S: should be '-b'.  For sunos 4.1, it is empty.
?S:.
?S:ccdlflags:
?S: This
 variable contains any special flags that might need to be
?S: passed to cc to link with a shared library for dynamic loading.
?S: It is up to the makefile to use it.  For sunos 4.1, it should
?S: be empty.
?S:.
?S:bin_ELF:
?S: This variable saves the result from configure if generated binaries
?S: are in ELF format. Only set to defined when the test has actually
?S: been performed, and the result was positive.
?S:.
?S:ld_can_script:
?S: This variable shows if the loader accepts scripts in the form of

```
?S: -Wl,--version-script=ld.script. This is currently only supported
?S: for GNU ld on ELF in dynamic loading builds.
?S:.
?C:USE_DYNAMIC_LOADING ~ %<:
?C: This symbol, if defined, indicates that dynamic loading of
?C: some sort is available.
?C:.
?H:?%<:#$usedl USE_DYNAMIC_LOADING  /**/
?H:.
?W:%<:dlopen
?T:dldir thisflag tdir
?F:!a.out
: determine which dynamic loading, if any, to compile in
echo " "
dldir="ext/DynaLoader"
case "$usedl" in
  $define|y|true)
 dflt='y'
 usedl="$define"
 ;;
   $undef|n|false)
 dflt='n'
 usedl="$undef"
 ;;
  *)
 dflt='n'
 case "$d_dlopen" in
    $define) dflt='y' ;;
 esac
 : Does a dl_xxx.xs file exist for this operating system
 $test -f $rsrc/$dldir/dl_${osname}.xs && dflt='y'
 ;;
esac
rp="Do you wish to use dynamic loading?"
. ./myread
usedl="$ans"
bin_ELF="$undef"
case "$ans" in
  y*) usedl="$define"
 case "$dlsrc" in
    ") if $test -f $rsrc/$dldir/dl_${osname}.xs ; then
     dflt="$dldir/dl_${osname}.xs"
  elif $test "$d_dlopen" = "$define" ; then
     dflt="$dldir/dl_dlopen.xs"
  else
     dflt="
  fi
  ;;
```

```
    *)  dflt="$dldir/$dlsrc"
 ;;
esac
echo "The following dynamic loading files are available:"
: Can not go over to $dldir because getfile has path hard-coded in.
tdir=`pwd`; cd "$rsrc"; $ls -C $dldir/dl*.xs; cd "$tdir"
rp="Source file to use for dynamic loading"
fn="fne"
gfpth="$src"
. ./getfile
usedl="$define"
: emulate basename
dlsrc=`echo $ans | $sed -e 's%.*/\([^/]*\)$%\1%'`

$cat
<< EOM

Some systems may require passing special flags to $cc -c to
compile modules that will be used to create a shared library.
To use no flags, say "none".

EOM
 case "$cccdlflags" in
    '') case "$gccversion" in
  '') case "$osname" in
   hpux) dflt='+z' ;;
   irix*) dflt='-KPIC' ;;
   svr4*|esix*|solaris|nonstopux) dflt='-KPIC' ;;
   sunos) dflt='-pic' ;;
   *) dflt='none' ;;
     esac
     ;;
 *)  case "$osname" in
   darwin) dflt='none' ;;
   *linux*|svr4*|esix*|solaris|nonstopux) dflt='-fPIC' ;;
   *) dflt='-fpic' ;;
     esac ;;
 esac ;;
    ' ') dflt='none' ;;
    *)   dflt="$cccdlflags" ;;
esac

case "$dflt" in
    none) dflt='' ;;
esac

# If -Dsysroot was specified, now's the time to add it
# to cccdlflags
```

```
if test "X$sysroot" != X; then
    case "$gccversion" in
 ") ;;
 *)  case "$dflt" in
  *sysroot*) ;;
  'undef'|*)
      dflt="$dflt --sysroot=$sysroot" ;;
     esac
     ;;
    esac
fi

case "$dflt" in
    ") dflt='none';;
esac

rp="Any
special flags to pass to $cc -c to compile shared library modules?"
. ./myread
case "$ans" in
?X: Use ' ' so that a subsequent Configure run preserves the old state.
    none) cccdlflags=' ' ;;
    *)    cccdlflags="$ans" ;;
esac

cat << EOM

Some systems use ld to create libraries that can be dynamically loaded,
while other systems (such as those using ELF) use $cc.

EOM

: Determine if this is ELF
 $cat >try.c <<EOM
/* Test for whether ELF binaries are produced */
#include <fcntl.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#$i_unistd I_UNISTD
#ifdef I_UNISTD
#include <unistd.h>
#endif
int main() {
   char b[4];
   int i = open("a.out",O_RDONLY);
   if(i == -1)
```

```
exit(1); /* fail */
  if(read(i,b,4)==4 && b[0]==127 && b[1]=='E' && b[2]=='L' && b[3]=='F')
exit(0); /* succeed (yes, it is ELF) */
  exit(1); /* fail */
}
EOM
 if $cc $ccflags $ldflags -o a.out try.c >/dev/null 2>&1 && $run ./a.out; then
    bin_ELF="$define"
 fi
 $rm_try

 case "$ld" in

   ") if $test $bin_ELF = "$define"; then
     cat <<EOM
You appear to have ELF support.  I'll use $cc to build dynamic libraries.
EOM
     dflt="$cc"
  else
     echo "I'll use ld to build dynamic libraries."
     dflt='ld'
  fi
  ;;
    *)  dflt="$ld"
  ;;
 esac

 rp="What command should be used to create dynamic libraries?"
 . ./myread
 ld="$ans"

 cat << EOM

Some systems may require passing special flags to $ld to create a
library that can be dynamically loaded.  If your ld flags include
-L/other/path options to locate libraries outside your loader's normal
search path, you may need to specify those -L options here as well.  To
use no flags, say "none".

EOM
 case "$lddlflags" in
    ") case "$osname" in
     haiku) dflt='-shared' ;;
     hpux) dflt='-b';
    case "$gccversion" in
       ") dflt="$dflt +vnocompatwarnings" ;;
    esac
    ;;
```

```
    *linux*|irix*|gnu*)  dflt="-shared $optimize" ;;
    solaris) # See [perl #66604].
     # On Solaris 11, gcc -m64
on amd64
     # appears not to understand -G.  gcc versions at
     # least as old as 3.4.3 support -shared, so just
     # use that with Solaris 11 and later, but keep
     # the old behavior for older Solaris versions.
     case "$gccversion" in
  ") dflt='-G' ;;
  *)  case "$osvers" in
   2.?|2.10) dflt='-G' ;;
   *) dflt='-shared' ;;
      esac
      ;;
     esac
     ;;
    sunos) dflt='-assert nodefinitions' ;;
    svr4*|esix*|nonstopux) dflt="-G $ldflags" ;;
    *)     dflt='none' ;;
 esac
 ;;
   *) dflt="$lddlflags" ;;
esac

: Only do this for gcc, since, for example, qcc has no concept
: of --sysroot.
if $test "X$sysroot" != X; then
   case "$gccversion" in
 ") ;;
 *)  dflt="$dflt --sysroot $sysroot" ;;
   esac
fi

: Try to guess additional flags to pick up local libraries.
: Be careful not to append to a plain 'none'
case "$dflt" in
   none) dflt=" ;;
esac
for thisflag in $ldflags; do
   case "$thisflag" in
 -L*|-R*|-Wl,-R*)

  case " $dflt " in
 *" $thisflag "*) ;;
 *) dflt="$dflt $thisflag" ;;
    esac
    ;;
```

```
    esac
done

case "$dflt" in
    "|' ') dflt='none' ;;
esac

case "$ldflags" in
    *-fstack-protector-strong*)
 case "$dflt" in
     *-fstack-protector-strong*) ;; # Don't add it again
     *) dflt="$dflt -fstack-protector-strong" ;;
 esac
 ;;
    *-fstack-protector*)
 case "$dflt" in
     *-fstack-protector*) ;; # Don't add it again
     *) dflt="$dflt -fstack-protector" ;;
 esac
 ;;
esac

 rp="Any special flags to pass to $ld to create a dynamically loaded library?"
 . ./myread
 case "$ans" in
?X: Use ' ' so that a subsequent Configure run preserves the old state.
    none) lddlflags=' ' ;;
    *) lddlflags="$ans" ;;
 esac

 cat <<EOM

Some systems may require passing special flags to $cc to indicate that
the resulting executable will use dynamic linking.  To use no flags,
say "none".

EOM
 case "$ccdlflags" in
    ") case "$osname" in
     *linux*|hpux|gnu*)
 dflt='-Wl,-E' ;;
     sunos)             dflt='none'   ;;
     *)                 dflt='none'   ;;
 esac ;;
    ' ') dflt='none' ;;
    *)   dflt="$ccdlflags" ;;
 esac
 rp="Any special flags to pass to $cc to use dynamic linking?"
```

```
. ./myread
 case "$ans" in
?X: Use ' ' so that a subsequent Configure run preserves the old state.
    none) ccdlflags=' ' ;;
    *)    ccdlflags="$ans" ;;
 esac
 ;;
?X: End of usedl=y section

  *)  usedl="$undef"
 ld='ld'
 dlsrc='dl_none.xs'
 lddlflags="
 ccdlflags="
 ;;
esac

ld_can_script="$undef"
case "$bin_ELF$usedl" in
  $define$define)
 # Abuse try.h and a.out names for neat cleanup
 $cat >try.c <<EOM
void foo() {}
void bar() {}
EOM
 $cat >try.h <<EOM
LIBTEST_42 {
global:
 foo;
local: *;
};
EOM
 if $cc $cccdlflags $ccdlflags $ccflags \
       $ldflags $lddlflags -o a.out try.c \
       -Wl,--version-script=try.h >/dev/null 2>&1 \
   &&  $test -s a.out ; then
    echo "ld supports scripting" >&4
    ld_can_script="$define"
 else

   echo "ld does not support scripting" >&4
 fi
 $rm_try
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/dlsrc.U
```

No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fpgetround: Inlibc
?MAKE: -pick add $@ %<
?S:d_fpgetround:
?S: This variable conditionally defines HAS_FPGETROUND if fpgetround()
?S: is available to get the floating point rounding mode.
?S:.
?C:HAS_FPGETROUND:
?C: This symbol, if defined, indicates that the fpgetround routine is
?C: available to get the floating point rounding mode.
?C:.
?H:#$d_fpgetround HAS_FPGETROUND  /**/
?H:.
?LINT:set d_fpgetround
: see if fpgetround exists
set fpgetround d_fpgetround
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fpgetround.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_semctl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_semctl.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_semctl: Inlibc
?MAKE: -pick add $@ %<
?S:d_semctl:
?S: This variable conditionally defines the HAS_SEMCTL symbol, which
?S: indicates to the C program that the semctl() routine is available.
?S:.
?C:HAS_SEMCTL:
?C: This symbol, if defined, indicates that the semctl() routine is

?C: available to perform semaphore control operations.
?C:.
?H:#$d_semctl
 HAS_SEMCTL /**/
?H:.
?LINT:set d_semctl
: see if semctl exists
set semctl d_semctl
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_semctl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vaproto.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: vaproto.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:17:16  ram
?RCS: patch16: definition of _V now appears only when needed
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:59  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:vaproto: prototype i_stdarg Setvar
?MAKE: -pick add $@ %<
?S:vaproto:
?S: This variable conditionally defines CAN_VAPROTO on systems supporting
?S: prototype
 declaration of functions with a variable number of
?S: arguments. See also prototype.
?S:.
?C:CAN_VAPROTO ~ %<:
?C: This variable is defined on systems supporting prototype declaration
?C: of functions with a variable number of arguments.
?C:.
?C:_V:
?C: This macro is used to declare function parameters in prototypes for
?C: functions with a variable number of parameters. Use double parentheses.

```
?C: For example:
?C:
?C:  int printf _V((char *fmt, ...));
?C:
?C: Remember to use the plain simple _() macro when declaring a function
?C: with no variable number of arguments, since it might be possible to
?C: have a non-effect _V() macro and still get prototypes via _().
?C:.
?H:?%<:#$vaproto CAN_VAPROTO /**/
?H:?_V:#ifdef CAN_VAPROTO
?H:?_V:#define _V(args) args
?H:?_V:#else
?H:?_V:#define _V(args) ()
?H:?_V:#endif
?H:.
?W:%<:_V
?LINT:set vaproto
: see if prototypes support variable argument declarations
echo " "
case "$prototype$i_stdarg" in
$define$define)
 echo "It appears we'll
 be able to prototype varargs functions." >&4
 val="$define"
 ;;
*)
 echo "Too bad... We won't be using prototyped varargs functions..." >&4
 val="$undef"
 ;;
esac
set vaproto
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/vaproto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getwd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_getwd.U,v $
```

```
?RCS: Revision 3.0  1993/08/18  12:06:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getwd: Csym Setvar
?MAKE: -pick add $@ %<
?S:d_getwd:
?S: This variable conditionally defines HAS_GETWD if getwd() is
?S: available to get working directory. If not, you should
?S: probably use getcwd().
?S:.
?C:HAS_GETWD (GETWD):
?C: This symbol, if defined, indicates that the getwd routine is
?C: available to get working directory.
 If not, you should
?C: probably use getcwd().
?C:.
?H:#$d_getwd HAS_GETWD  /**/
?H:.
?LINT:set d_getwd
: see if getwd exists
echo " "
if set getwd val -f d_getwd; eval $csym; $val; then
 echo 'getwd() found.' >&4
 val="$define"
else
 echo 'getwd() not found. Assuming getcwd() exists.' >&4
 val="$undef"
fi
set d_getwd
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getwd.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2014, H.Merijn Brand
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_dladdr.U,v $
?RCS:
?MAKE:d_dladdr: Inlibc
```

```
?MAKE: -pick add $@ %<
?S:d_dladdr:
?S: This variable conditionally defines the HAS_DLADDR symbol, which
?S: indicates to the C program that the dladdr() routine is available
?S: to get a stack trace.
?S:.
?C:HAS_DLADDR:
?C: This symbol, if defined, indicates that the dladdr() routine is
?C: available to query dynamic linker information for an address.
?C: The <dlfcn.h> header must be included to use this routine.
?C:.
?H:#$d_dladdr HAS_DLADDR /**/
?H:.
?LINT:set d_dladdr
:
 see if dladdr exists
set dladdr d_dladdr
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_dladdr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: orderlib.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:18:18  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS: patch61: now uses the ar located by Loc.U
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:33:04  ram
?RCS: patch45: allows hint files to specify their own value for 'ranlib'
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:26:48  ram
?RCS: patch36: now performs a real small compile for accurate checks (ADO)
?RCS:
?RCS: Revision 3.0.1.1
  1994/08/29  16:31:17  ram
?RCS: patch32: use cc variable instead of hardwired 'cc' in 1st compile
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:orderlib ranlib: Loc ar cat test rm +cc +ccflags +ldflags +libs _a _o
?MAKE: -pick add $@ %<
?S:orderlib:
?S: This variable is "true" if the components of libraries must be ordered
?S: (with `lorder $* | tsort`) before placing them in an archive.  Set to
?S: "false" if ranlib or ar can generate random libraries.
?S:.
?S:ranlib:
?S: This variable is set to the pathname of the ranlib program, if it is
?S: needed to generate random libraries.  Set to ":" if ar can generate
?S: random libraries or if random libraries are not supported
?S:.
?F:!foobar
: see if ar generates random libraries by itself
echo " "
echo "Checking how to generate random libraries on your machine..." >&4
?X: Some systems (like MIPS) complain when running ar... Others like Ultrix
?X: need an explicit 'ar ts'
 to add the table of contents.
?X: Still others like Linux run ar ts successfully, but still need ranlib.
?X: This set of tests seems the minimum necessary to check out Linux.
?X: We need to explicitly put the entries in out-of-order so that Sun's ld
?X: will fail.  (Otherwise it complains, but gives an exit status of 0.)
echo 'int bar1() { return bar2(); }' > bar1.c
echo 'int bar2() { return 2; }' > bar2.c
$cat > foo.c <<'EOP'
int main() { printf("%d\n", bar1()); exit(0); }
EOP
$cc $ccflags -c bar1.c >/dev/null 2>&1
$cc $ccflags -c bar2.c >/dev/null 2>&1
$cc $ccflags -c foo.c >/dev/null 2>&1
$ar rc bar$_a bar2$_o bar1$_o >/dev/null 2>&1
if $cc $ccflags $ldflags -o foobar foo$_o bar$_a $libs > /dev/null 2>&1 &&
 ./foobar >/dev/null 2>&1; then
 echo "ar appears to generate random libraries itself."
 orderlib=false
 ranlib=":"
elif $ar ts bar$_a >/dev/null 2>&1 &&
 $cc $ccflags $ldflags -o foobar foo$_o bar$_a $libs > /dev/null 2>&1 &&
 ./foobar >/dev/null 2>&1; then
  echo "a table of contents
 needs to be added with 'ar ts'."
  orderlib=false
  ranlib="$ar ts"
```

```
else
?X: Allow hints to specify their own ranlib "script". For instance, on
?X: some NeXT machines, the timestamp put by ranlib is not correct, and this
?X: may raise tedious recompiles for nothing. Therefore, NeXT may add the
?X: ranlib='sleep 5; /bin/ranlib' line in their hints to "fix" that.
?X: (reported by Andreas Koenig <k@franz.ww.tu-berlin.de>)
 case "$ranlib" in
 :) ranlib='';;
 '')
  ranlib=`./loc ranlib X /usr/bin /bin /usr/local/bin`
  $test -f $ranlib || ranlib=''
  ;;
 esac
 if $test -n "$ranlib"; then
  echo "your system has '$ranlib'; we'll use that."
  orderlib=false
 else
  echo "your system doesn't seem to support random libraries"
  echo "so we'll use lorder and tsort to order the libraries."
  orderlib=true
  ranlib=':'
 fi
fi
$rm -f foo* bar*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/orderlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Null.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Null.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:10  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit ends up producing shell code to set all variables to ''.  This
?X: probably isn't necessary, but I'm paranoid.  About certain things.
?X:
?MAKE:Null: Head
```

?MAKE: -pick add.Null $@ %<

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Null.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_ftrncate.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_ftrncate.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_ftrncate: Inlibc
?MAKE: -pick add $@ %<
?S:d_ftrncate (d_ftruncate):
?S: This variable conditionally defines the HAS_FTRUNCATE symbol, which
?S: indicates to the C program that the ftruncate() subroutine exists.
?S:.
?C:HAS_FTRUNCATE:
?C: This symbol, if defined, indicates that the ftruncate() subroutine
?C: exists.
?C:.
?H:#$d_ftrncate
 HAS_FTRUNCATE /**/
?H:.
?LINT:set d_ftrncate
: see if ftruncate exists
set ftruncate d_ftrncate
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_ftrncate.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Options.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:08:15  ram
?RCS: patch61: optdef.sh now starts with a "startsh"
?RCS: patch61: moved some code from Head.U
?RCS:
?RCS: Revision 3.0.1.6  1995/09/25  09:14:46  ram
?RCS: patch59: protected option parsing code against 'echo -*' option failure
?RCS:
?RCS: Revision 3.0.1.5  1995/05/12  12:04:52  ram
?RCS: patch54: added -K option for experts
?RCS:
?RCS: Revision 3.0.1.4  1995/01/30  14:27:52  ram
?RCS: patch49: this unit now exports file optdef.sh,
 not a variable
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:19:00  ram
?RCS: patch45: new -O option allowing -D and -U to override config.sh settings
?RCS: patch45: file optdef.sh is no longer removed after sourcing
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  15:58:06  ram
?RCS: patch36: ensure option definition file is removed before appending
?RCS: patch36: protect variable definitions with spaces in them
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:55:44  ram
?RCS: patch30: now uses new me symbol to tag error messages
?RCS: patch30: new -D and -U options to define/undef symbols (JHI)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Command line parsing. It is really important that the variables used here
?X: be not listed in the MAKE line, or they will be saved in config.sh and
?X: loading this file to fetch default answers would clobber the values set
?X: herein.
?X:
?MAKE:Options: startsh
?MAKE: -pick wipe $@ %<
?V:reuseval
 alldone error realsilent silent extractsh fastread \
 override knowitall: config_sh
?T:arg argn symbol config_arg0 config_args config_argc xxx yyy zzz uuu
?T:args_exp args_sep arg_exp
?F:!Configure
```

```
?F:./optdef.sh ./cmdline.opt ./posthint.sh ./cmdl.opt
: Save command line options in file UU/cmdline.opt for later use in
: generating config.sh.
?X: This temporary file will be read by Oldsym.U.  I used a temporary
?X: file to preserve all sorts of potential command line quotes and
?X: also because we don't know in advance how many variables we'll
?X: need, so I can't actually declare them on the MAKE line.
?X: The config_args variable won't be quite correct if Configure is
?X: fed something like    ./Configure -Dcc="gcc -B/usr/ccs/bin/"
?X: since the quotes are gone by the time we see them.  You'd have to
?X: reconstruct the command line from the config_arg? lines, but since
?X: I don't imagine anyone actually having to do that, I'm not going
?X: to worry too much.
cat > cmdline.opt
 <<EOSH
: Configure command line arguments.
config_arg0='$0'
config_args='$*'
config_argc=$#
EOSH
argn=1
args_exp="
args_sep="
for arg in "$@"; do
 cat >>cmdline.opt <<EOSH
config_arg$argn='$arg'
EOSH
?X: Extreme backslashitis: replace each ' by """"
 cat <<EOC | sed -e "s/'/""""""""""""""/g" > cmdl.opt
$arg
EOC
 arg_exp=`cat cmdl.opt`
 args_exp="$args_exp$args_sep'$arg_exp'"
 argn=`expr $argn + 1`
 args_sep=' '
done
?X: args_exp is good for restarting self: eval "set X $args_exp"; shift; $0 "$@"
?X: used by hints/os2.sh in Perl, for instance
rm -f cmdl.opt

: produce awk script to parse command line options
cat >options.awk <<'EOF'
BEGIN {
 optstr = "A:dD:eEf:hKOrsSU:V"; # getopt-style specification

 len = length(optstr);
 for (i = 1; i <= len; i++) {
  c = substr(optstr, i, 1);
```

```
?X: some older awk's do not have the C ?: construct
  if (i < len) a = substr(optstr, i + 1, 1); else a = "";
  if (a == ":") {
   arg[c] = 1;
   i++;
  }
  opt[c] = 1;
 }
}
{
 expect = 0;
 str = $0;
 if (substr(str,
 1, 1) != "-") {
  printf("'%s'\n", str);
  next;
 }
 len = length($0);
 for (i = 2; i <= len; i++) {
  c = substr(str, i, 1);
  if (!opt[c]) {
   printf("-%s\n", substr(str, i));
   next;
  }
  printf("-%s\n", c);
  if (arg[c]) {
   if (i < len)
    printf("'%s'\n", substr(str, i + 1));
   else
    expect = 1;
   next;
  }
 }
}
END {
 if (expect)
  print "?";
}
EOF

: process the command line options
?X: Use "$@" to keep arguments with spaces in them from being split apart.
?X: For the same reason, awk will output quoted arguments and the final eval
?X: removes them and sets a proper $* array. An 'X' is prependend to each
?X: argument before being fed to echo to guard against 'echo -x', where -x
?X: would be understood as an echo option! It is removed before feeding awk.
set X `for arg in "$@"; do echo "X$arg"; done |
 sed -e s/X// | awk -f options.awk`
```

```
eval "set $*"
shift
rm -f options.awk

: set up default values
fastread=''
reuseval=false
config_sh=''
alldone=''
error=''
silent=''
extractsh=''
override=''
knowitall=''
rm
 -f optdef.sh posthint.sh
cat >optdef.sh <<EOS
$startsh
EOS

?X:
?X: Given that we now have the possibility to execute Configure remotely
?X: thanks to the new src.U support, we have to face the possibility
?X: of having to ask where the source lie, which means we need the Myread.U
?X: stuff and possibly other things that might echo something on the
?X: screen...
?X:
?X: That's not pretty, and might be confusing in 99% of the time. So...
?X: We introduce a new realsilent variable which is set when -s is given,
?X: and we force silent=true if -S is supplied. The Extractall.U unit
?X: will then undo the >&4 redirection based on the value of the
?X: realsilent variable... -- RAM, 18/93/96
?X:

: option parsing
while test $# -gt 0; do
 case "$1" in
 -d) shift; fastread=yes;;
 -e) shift; alldone=cont;;
 -f)
  shift
  cd ..
  if test -r "$1"; then
   config_sh="$1"
  else
   echo "$me: cannot read config file $1." >&2
   error=true
  fi
```

```
 cd UU
 shift;;
-h)
shift; error=true;;
-r) shift; reuseval=true;;
-s) shift; silent=true; realsilent=true;;
-E) shift; alldone=exit;;
-K) shift; knowitall=true;;
-O) shift; override=true;;
-S) shift; silent=true; extractsh=true;;
-D)
 shift
 case "$1" in
 *=)
  echo "$me: use '-U symbol=', not '-D symbol='." >&2
  echo "$me: ignoring -D $1" >&2
  ;;
 *=*) echo "$1" | \
   sed -e "s/'/'\"'\"'/g" -e "s/=\(.*\)/='\1'/" >> optdef.sh;;
 *) echo "$1='define'" >> optdef.sh;;
 esac
 shift
 ;;
-U)
 shift
 case "$1" in
 *=) echo "$1" >> optdef.sh;;
 *=*)
  echo "$me: use '-D symbol=val', not '-U symbol=val'." >&2
  echo "$me: ignoring -U $1" >&2
  ;;
 *) echo "$1='undef'" >> optdef.sh;;
 esac
 shift
 ;;
-A)
    shift
    xxx='
    yyy="$1"
    zzz='
    uuu=undef
    case "$yyy" in
         *=*) zzz=`echo "$yyy"|sed 's!=.*!!'`
              case "$zzz" in
              *:*) zzz='' ;;
              *)   xxx=append
                   zzz=" "`echo
```

```
"$yyy"|sed 's!^[^=]*=!!'`
                yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
            esac
            ;;
        esac
        case "$xxx" in
        ')  case "$yyy" in
            *:*) xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'`
                zzz=`echo "$yyy"|sed 's!^[^=]*=!!'`
                yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
            *)   xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'` ;;
            esac
            ;;
        esac
    case "$xxx" in
    append)
 echo "$yyy=\"\${$yyy}$zzz\"" >> posthint.sh ;;
    clear)
 echo "$yyy=""   >> posthint.sh ;;
    define)
        case "$zzz" in
 ') zzz=define ;;
 esac
 echo "$yyy='$zzz'"  >> posthint.sh ;;
    eval)
 echo "eval \"$yyy=$zzz\"" >> posthint.sh ;;
    prepend)
 echo "$yyy=\"$zzz\${$yyy}\"" >> posthint.sh ;;
    undef)
        case "$zzz" in
 ')
zzz="$uuu" ;;
 esac
 echo "$yyy=$zzz"  >> posthint.sh ;;
        *)  echo "$me: unknown -A command '$xxx', ignoring -A $1" >&2 ;;
    esac
    shift
    ;;
-V) echo "$me generated by metaconfig <VERSION> PL<PATCHLEVEL>." >&2
    exit 0;;
--) break;;
-*) echo "$me: unknown option $1" >&2; shift; error=true;;
*) break;;
esac
done
```

```
case "$error" in
true)
 cat >&2 <<EOM
Usage: $me [-dehrsEKOSV] [-f config.sh] [-D symbol] [-D symbol=value]
            [-U symbol] [-U symbol=] [-A command:symbol...]
 -d : use defaults for all answers.
 -e : go on without questioning past the production of config.sh.
 -f : specify an alternate default configuration file.
 -h : print this help message and exit (with an error status).
 -r : reuse C symbols value if possible (skips costly nm extraction).
 -s : silent mode, only echoes questions and essential information.
 -D : define symbol to have some value:
      -D symbol         symbol gets the value 'define'
      -D symbol=value
  symbol gets the value 'value'
 -E : stop at the end of questions, after having produced config.sh.
 -K : do not use unless you know what you are doing.
 -O : let -D and -U override definitions from loaded configuration file.
 -S : perform variable substitutions on all .SH files (can mix with -f)
 -U : undefine symbol:
      -U symbol    symbol gets the value 'undef'
      -U symbol=   symbol gets completely empty
 -A : manipulate symbol after the platform specific hints have been applied:
  -A symbol=value  append " "value to symbol
  -A append:symbol=value  append value to symbol
  -A define:symbol=value  define symbol to have value
      -A clear:symbol  define symbol to be "
  -A define:symbol  define symbol to be 'define'
  -A eval:symbol=value  define symbol to be eval of value
  -A prepend:symbol=value prepend value to symbol
  -A undef:symbol  define symbol to be 'undef'
  -A undef:symbol=  define symbol to be "
 -V : print version number and exit (with
 a zero status).
EOM
 exit 1
 ;;
esac

?X:
?X: Unless they specified either -S or both -d and -e/E, make sure we're
?X: running interactively, i.e. attached to a terminal. Moved from Head.U to
?X: be able to handle batch configurations...
?X:
?X: We have to hardwire the Configure name and cannot use $me, since if they
?X: said 'sh <Configure', then $me is 'sh'...
?X:
: Sanity checks
```

```
case "$fastread$alldone" in
yescont|yesexit) ;;
*)
 case "$extractsh" in
 true) ;;
 *)
  if test ! -t 0; then
   echo "Say 'sh Configure', not 'sh <Configure'"
   exit 1
  fi
  ;;
 esac
 ;;
esac

?X: In silent mode, the standard output is closed. Questions are asked by
?X: outputing on file descriptor #4, which is the original stdout descriptor.
?X: This filters out all the "junk", since all the needed information is written
?X: on #4. Note that ksh will not let us redirect output if the file descriptor
?X: has not be defined yet, unlike sh, hence the following line...--RAM.
exec 4>&1
case "$silent" in
true)
 exec 1>/dev/null;;
esac

: run the defines and the undefines, if any, but leave the file out there...
touch optdef.sh
. ./optdef.sh
: create the posthint manipulation script and leave the file out there...
?X: this file will be perused by Oldconfig.U
touch posthint.sh

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Options.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Signal.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Signal.U,v $
```

```
?RCS: Revision 3.0.1.1  1997/02/28  15:20:01  ram
?RCS: patch61: created
?RCS:
?X:
?X: This unit produces three files:
?X: 1- A signal.c file, which, when compiled and run, produces an output like:
?X:
?X:   HUP 1
?X:   INT 2
?X:   QUIT 3
?X:   etc...
?X:
?X: 2- A signal.awk script to parse the output of signal.c, fill
?X: in gaps (up to NSIG) and move duplicates to the end.
?X: 3- A signal_cmd script to compile signal.c and run it
?X: through
 sort -n -k 2 | uniq | awk -f signal.awk.
?X: (we try also sort -n +1 since some old hosts don't grok sort -k)
?X: (This is called signal_cmd to avoid OS/2 confusion with
?X: signal.cmd vs. signal.
?X: The signal_cmd script also falls back on checking signals one at a
?X: time in case the signal.c program fails.  On at least one version of
?X: Linux 2.1.x, the header file #define'd SIGRTMAX to a symbol that
?X: is not defined by the compiler/linker. :-(.  Further, on that same
?X: version of Linux, the user had a defective C-shell that gave an
?X: incorrect list for kill -l, so the fall-back didn't work.
?X:
?X: This unit is then used by sig_name.U.
?X:
?MAKE:Signal: test tr rm awk cat grep startsh eunicefix sed sort uniq \
 Findhdr cppstdin +cppflags cppminus Compile _o _exe trnl run i_stdlib \
 sysroot
?MAKE: -pick add $@ %<
?X:all files declared as "public" since they're used from other units
?F:signal.c signal_cmd signal.lst signal signal.awk
?T: xx xxx xxxfiles
?LINT:use rm run
 _o _exe
?LINT:extern sig_num_init
: Trace out the files included by signal.h, then look for SIGxxx names.
?X: Remove SIGARRAYSIZE used by HPUX.
?X: Remove SIGSTKSIZE used by Linux.
?X: Remove SIGSTKSZ used by POSIX.
?X: Remove SIGTYP void lines used by OS2.
?X: Some cpps, like os390, do not give the file name anywhere
case "$sig_num_init" in
")
if [ "X$fieldn" = X ]; then
```

```
 : Just make some guesses.  We check them later.
 xxx="$sysroot/usr/include/signal.h $sysroot/usr/include/sys/signal.h"
else
 xxx=`echo '#include <signal.h>' |
 $cppstdin $cppminus $cppflags 2>/dev/null |
 $grep '^[  ]*#.*include' |
 $awk "{print \\$$fieldn}" | $sed 's!"!!g' |\
  $sed 's!\\\\\\\\\!/!g' | $sort | $uniq`
fi
?X: Check this list of files to be sure we have parsed the cpp output ok.
?X: This will also avoid potentially non-existent files, such
?X: as ../foo/bar.h
xxxfiles="
?X: Add /dev/null in case the $xxx list is empty.
for xx in $xxx /dev/null ; do
 $test -f "$xx" && xxxfiles="$xxxfiles $xx"
done
?X:
 If we have found no files, at least try signal.h
case "$xxxfiles" in
") xxxfiles=`./findhdr signal.h` ;;
esac
xxx=`awk '
$1 ~ /^#define$/ && $2 ~ /^SIG[A-Z0-9]*$/ && $2 !~ /SIGARRAYSIZE/ && $2 !~ /SIGSTKSIZE/ && $2 !~
/SIGSTKSZ/ && $3 !~ /void/ {
 print substr($2, 4, 20)
}
$1 == "#" && $2 ~ /^define$/ && $3 ~ /^SIG[A-Z0-9]*$/ && $3 !~ /SIGARRAYSIZE/ && $4 !~ /void/ {
 print substr($3, 4, 20)
}' $xxxfiles`
: Append some common names just in case the awk scan failed.
xxx="$xxx ABRT ALRM BUS CANCEL CHLD CLD CONT DIL EMT FPE"
xxx="$xxx FREEZE HUP ILL INT IO IOT KILL LOST LWP PHONE"
xxx="$xxx PIPE POLL PROF PWR QUIT RTMAX RTMIN SEGV STKFLT STOP"
xxx="$xxx SYS TERM THAW TRAP TSTP TTIN TTOU URG USR1 USR2"
xxx="$xxx USR3 USR4 VTALRM WAITING WINCH WIND WINDOW XCPU XFSZ"

: generate a few handy files for later
$cat > signal.c <<EOCP
#include <sys/types.h>
#include <signal.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#include <stdio.h>
int main() {
```

```
/* Strange style to avoid
 deeply-nested #if/#else/#endif */
#ifndef NSIG
#  ifdef _NSIG
#    define NSIG (_NSIG)
#  endif
#endif

#ifndef NSIG
#  ifdef SIGMAX
#    define NSIG (SIGMAX+1)
#  endif
#endif

#ifndef NSIG
#  ifdef SIG_MAX
#    define NSIG (SIG_MAX+1)
#  endif
#endif

#ifndef NSIG
#  ifdef _SIG_MAX
#    define NSIG (_SIG_MAX+1)
#  endif
#endif

#ifndef NSIG
#  ifdef MAXSIG
#    define NSIG (MAXSIG+1)
#  endif
#endif

#ifndef NSIG
#  ifdef MAX_SIG
#    define NSIG (MAX_SIG+1)
#  endif
#endif

#ifndef NSIG
#  ifdef SIGARRAYSIZE
#    define NSIG SIGARRAYSIZE /* Assume ary[SIGARRAYSIZE] */
#  endif
#endif

#ifndef NSIG
#  ifdef _sys_nsig
#    define NSIG (_sys_nsig) /* Solaris 2.5 */
#  endif
```

```
#endif

/* Default to some arbitrary number that's big enough to get most
  of the common signals.
*/
#ifndef NSIG
#    define NSIG 50
#endif

printf("NSIG %d\n", NSIG);

#ifndef JUST_NSIG

EOCP

echo $xxx | $tr ' ' $trnl | $sort | $uniq | $awk '
{
 printf "#ifdef SIG"; printf $1; printf "\n"
 printf "printf(\"";
 printf $1; printf " %%d\\n\",SIG";
 printf $1; printf ");\n"
 printf "#endif\n"
}
END {
 printf "#endif /* JUST_NSIG */\n";
 printf "exit(0);\n}\n";
}
' >>signal.c
$cat >signal.awk <<'EOP'
BEGIN { ndups = 0 }
$1 ~ /^NSIG$/ { nsig = $2 }
($1 !~ /^NSIG$/) && (NF == 2) && ($2 ~ /^[0-9][0-9]*$/) {
   if ($2 > maxsig) { maxsig = $2 }
   if (sig_name[$2]) {
 dup_name[ndups] = $1
 dup_num[ndups] = $2
 ndups++
   }
   else {
 sig_name[$2] = $1
 sig_num[$2] = $2
   }
}
END {
   if (nsig == 0) {
    nsig = maxsig + 1
   }
   printf("NSIG %d\n", nsig);
```

```
  for (n = 1; n < nsig; n++) {
 if (sig_name[n]) {
    printf("%s %d\n", sig_name[n], sig_num[n])
 }
 else {
    printf("NUM%d %d\n", n, n)
 }
  }
  for (n = 0; n < ndups; n++) {
 printf("%s %d\n", dup_name[n], dup_num[n])
  }
}
EOP
$cat >signal_cmd <<EOS
$startsh
if $test -s signal.lst; then
   echo "Using your existing signal.lst file"
 exit 0
fi
xxx="$xxx"
EOS
?X: Avoid variable interpolation problems, especially with
?X:
 xxx, which contains newlines.
$cat >>signal_cmd <<'EOS'

set signal
if eval $compile_ok; then
 $run ./signal$_exe | ($sort -n -k 2 2>/dev/null || $sort -n +1) |\
  $uniq | $awk -f signal.awk >signal.lst
else
 echo "(I can't seem be able to compile the whole test program)" >&4
 echo "(I'll try it in little pieces.)" >&4
 set signal -DJUST_NSIG
 if eval $compile_ok; then
  $run ./signal$_exe > signal.nsg
  $cat signal.nsg
 else
  echo "I can't seem to figure out how many signals you have." >&4
  echo "Guessing 50." >&4
  echo 'NSIG 50' > signal.nsg
 fi
 : Now look at all the signal names, one at a time.
 for xx in `echo $xxx | $tr ' ' $trnl | $sort | $uniq`; do
  $cat > signal.c <<EOCP
#include <sys/types.h>
#include <signal.h>
#include <stdio.h>
```

```
int main() {
printf("$xx %d\n", SIG${xx});
return 0;
}
EOCP
  set signal
  if eval $compile; then
   echo "SIG${xx} found."
   $run ./signal$_exe  >> signal.ls1
  else
   echo "SIG${xx} NOT found."
  fi
 done
 if $test -s signal.ls1; then
  $cat
 signal.nsg signal.ls1 |
   $sort -n | $uniq | $awk -f signal.awk >signal.lst
 fi

fi
if $test -s signal.lst; then
 :
else
 echo "(AAK! I can't compile the test programs -- Guessing)" >&4
 echo 'kill -l' >signal
 set X `csh -f <signal`
 $rm -f signal
 shift
 case $# in
 0) set HUP INT QUIT ILL TRAP ABRT EMT FPE KILL BUS SEGV SYS PIPE ALRM TERM;;
 esac
 echo $@ | $tr ' ' $trnl | \
     $awk '{ printf "%s %d\n", $1, ++s; }
    END { printf "NSIG %d\n", ++s }' >signal.lst
fi
$rm -f signal.c signal$_exe signal$_o signal.nsg signal.ls1
EOS
chmod a+x signal_cmd
$eunicefix signal_cmd
;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Signal.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml3 sitehtml3exp installsitehtml3: Getfile Setprefixvar \
 prefix siteprefix html3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml3="
?S:sitehtml3:
?S: This variable contains the name of the directory in which site-specific
?S: library html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl has
 been installed, users may install their own local
?S: library html pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml3exp="
?S:sitehtml3exp:
?S: This variable is the same as the sitehtml3 variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml3="
?S:installsitehtml3:
?S: This variable is really the same as sitehtml3exp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml3
?LINT:set sitehtml3
?LINT:set sitehtml3exp
: determine where add-on library html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case "$sitehtml3" in
") dflt=`echo "$html3dir"
 | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$sitehtml3 ;;
```

```
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific library html pages should be installed?'
. ./getfile
prefixvar=sitehtml3
. ./setprefixvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/sitehtml3.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fstatfs : Inlibc
?MAKE: -pick add $@ %<
?S:d_fstatfs:
?S: This variable conditionally defines the HAS_FSTATFS symbol, which
?S: indicates to the C program that the fstatfs() routine is available.
?S:.
?C:HAS_FSTATFS:
?C: This symbol, if defined, indicates that the fstatfs routine is
?C: available to stat filesystems by file descriptors.
?C:.
?H:#$d_fstatfs HAS_FSTATFS  /**/
?H:.
?LINT:set d_fstatfs
: see if fstatfs exists
set fstatfs d_fstatfs
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fstatfs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_unistd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_unistd.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_unistd: Inhdr
?MAKE: -pick add $@ %<
?S:i_unistd:
?S: This variable conditionally defines the I_UNISTD symbol, and indicates
?S: whether a C program should include <unistd.h>.
?S:.
?C:I_UNISTD:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <unistd.h>.
?C:.
?H:#$i_unistd I_UNISTD  /**/
?H:.
?LINT:set
 i_unistd
: see if this is a unistd.h system
set unistd.h i_unistd
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_unistd.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_asinh: Inlibc
?MAKE: -pick add $@ %<
?S:d_asinh:
?S: This variable conditionally defines the HAS_ASINH symbol, which
?S: indicates to the C program that the asinh() routine is available.
?S:.
?C:HAS_ASINH:
?C: This symbol, if defined, indicates that the asinh routine is
?C: available to do the inverse hyperbolic sine function.
?C:.
?H:#$d_asinh HAS_ASINH  /**/
?H:.
?LINT:set d_asinh
: see if asinh exists
set asinh d_asinh
```

```
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_asinh.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_gmtime_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_gmtime_r gmtime_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_time i_systime extern_C
?MAKE: -pick add $@ %<
?S:d_gmtime_r:
?S: This variable conditionally defines the HAS_GMTIME_R symbol,
?S: which indicates to the C program that the gmtime_r()
?S: routine is available.
?S:.
?S:gmtime_r_proto:
?S: This variable encodes the prototype of gmtime_r.
?S: It is zero if d_gmtime_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_gmtime_r
?S: is defined.
?S:.
?C:HAS_GMTIME_R:
?C: This symbol, if defined, indicates that the gmtime_r routine
?C: is available to gmtime re-entrantly.
?C:.
?C:GMTIME_R_PROTO:
?C: This
 symbol encodes the prototype of gmtime_r.
?C: It is zero if d_gmtime_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_gmtime_r
?C: is defined.
?C:.
?H:#$d_gmtime_r HAS_GMTIME_R    /**/
?H:#define GMTIME_R_PROTO $gmtime_r_proto    /**/
?H:.
?T:try hdrs d_gmtime_r_proto
: see if gmtime_r exists
set gmtime_r d_gmtime_r
eval $inlibc
case "$d_gmtime_r" in
"$define")
```

```
hdrs="$i_systypes sys/types.h define stdio.h $i_time time.h $i_systime sys/time.h"
case "$d_gmtime_r_proto:$usethreads" in
":define") d_gmtime_r_proto=define
 set d_gmtime_r_proto gmtime_r $hdrs
 eval $hasproto ;;
*) ;;
esac
case "$d_gmtime_r_proto" in
define)
case "$gmtime_r_proto" in
"|0) try='struct tm* gmtime_r(const time_t*, struct tm*);'
./protochk "$extern_C $try" $hdrs && gmtime_r_proto=S_TS ;;
esac
case "$gmtime_r_proto" in
"|0) try='int gmtime_r(const time_t*, struct tm*);'
./protochk "$extern_C $try" $hdrs && gmtime_r_proto=I_TS ;;
esac
case
"$gmtime_r_proto" in
"|0) d_gmtime_r=undef
        gmtime_r_proto=0
 echo "Disabling gmtime_r, cannot determine prototype." >&4 ;;
* ) case "$gmtime_r_proto" in
 REENTRANT_PROTO*) ;;
 *) gmtime_r_proto="REENTRANT_PROTO_$gmtime_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "gmtime_r has no prototype, not using it." >&4 ;;
 esac
 d_gmtime_r=undef
 gmtime_r_proto=0
 ;;
esac
;;
*) gmtime_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_gmtime_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: selecttype.U,v 3.0.1.3 1997/02/28 16:20:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: selecttype.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:20:09  ram
?RCS: patch61: always include <sys/select.h> when available for test
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  14:14:06  ram
?RCS: patch56: removed harmful spaces in assignment
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:06:31  ram
?RCS: patch30: created by ADO
?RCS:
?MAKE:selecttype: Protochk Oldconfig Myread cat
 \
 d_fd_set d_select d_socket i_systime i_sysselct extern_C
?MAKE: -pick add $@ %<
?S:selecttype:
?S: This variable holds the type used for the 2nd, 3rd, and 4th
?S: arguments to select.  Usually, this is 'fd_set *', if HAS_FD_SET
?S: is defined, and 'int *' otherwise.  This is only useful if you
?S: have select(), naturally.
?S:.
?C:Select_fd_set_t:
?C: This symbol holds the type used for the 2nd, 3rd, and 4th
?C: arguments to select.  Usually, this is 'fd_set *', if HAS_FD_SET
?C: is defined, and 'int *' otherwise.  This is only useful if you
?C: have select(), of course.
?C:.
?H:#define Select_fd_set_t  $selecttype /**/
?H:.
?T:xxx nfd tmo try hdrs val
: check for type of arguments to select.
case "$selecttype" in
") case "$d_select" in
 $define)
  echo " "
  $cat <<EOM
Checking to see what type of arguments are accepted by select().
EOM
  hdrs="$define sys/types.h
   $i_systime sys/time.h
```

```
  $i_sysselct sys/select.h
  $d_socket sys/socket.h"
  : The first arg can be int, unsigned,
 or size_t
  : The last arg may or may not be 'const'
  val="
  : void pointer has been seen but using that
  : breaks the selectminbits test
  for xxx in 'fd_set *' 'int *'; do
   for nfd in 'int' 'size_t' 'unsigned long' 'unsigned' ; do
    for tmo in 'struct timeval *' 'const struct timeval *'; do
     case "$val" in
     ") try="$extern_C select _(($nfd, $xxx, $xxx, $xxx, $tmo));"
      if ./protochk "$try" $hdrs; then
       echo "Your system accepts $xxx."
       val="$xxx"
      fi
      ;;
     esac
    done
   done
  done
?X: In the unlikely event that none of those worked, prompt the user.
  case "$val" in
  ") rp='What is the type for the 2nd, 3rd, and 4th arguments to select?'
   case "$d_fd_set" in
    $define) dflt="fd_set *" ;;
    *)  dflt="int *" ;;
   esac
   . ./myread
   val=$ans
   ;;
  esac
  selecttype="$val"
  ;;
 *) : no select, so pick a harmless default
  selecttype='int *'
  ;;
 esac
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/protos/selecttype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: yacc.U,v $
?RCS: Revision 3.0.1.1  1994/05/13  15:28:48  ram
?RCS: patch27: added byacc as another alternative (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:10:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:yacc yaccflags: Guess Myread Loc Oldconfig byacc bison cat test
?MAKE: -pick add $@ %<
?S:yacc:
?S: This variable holds the name of the compiler compiler we
?S: want to use in the Makefile. It can be yacc, byacc, or bison -y.
?S:.
?S:yaccflags:
?S: This variable contains any
 additional yacc flags desired by the
?S: user.  It is up to the Makefile to use this.
?S:.
?T:comp
: determine compiler compiler
echo " "
comp='yacc'
if $test -f "$byacc$_exe"; then
 comp="byacc or $comp"
fi
if $test -f "$bison$_exe"; then
 comp="$comp or bison -y"
fi
case "$yacc" in
")
 yacc=`./loc yacc yacc $pth`
 if $test -f "$yacc$_exe"; then
  dflt='yacc'
 elif $test -f "$byacc$_exe"; then
  dflt='byacc'
 elif $test -f "$bison$_exe"; then
  dflt='bison'
 else
  dflt=''
 fi
```

```
 ;;
*) dflt="$yacc";;
esac
rp="Which compiler compiler ($comp) shall I use?"
. ./myread
yacc="$ans"
case "$yacc" in
*bis*)
 case "$yacc" in
 *-y*) ;;
 *)
  yacc="$yacc -y"
  echo "(Adding -y option to bison to get yacc-compatible behaviour.)"
  ;;
 esac
 ;;
esac

@if yaccflags
: see if we need extra yacc flags
dflt="$yaccflags"
case "$dflt" in
") dflt=none;;
esac
$cat <<EOH

Your yacc program may need extra flags to normally process the parser sources.
Do NOT specify any -d or -v flags here, since those are
 explicitly known
by the various Makefiles. However, if your machine has strange/undocumented
options (like -Sr# on SCO to specify the maximum number of grammar rules), then
please add them here.  To use no flags, specify the word "none".

EOH
rp="Any additional yacc flags?"
. ./myread
case "$ans" in
none) yaccflags=";;
*) yaccflags="$ans";;
esac

@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/yacc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
```

```
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sched_get_priority_max: Inlibc
?MAKE: -pick add $@ %<
?S:d_sched_get_priority_max:
?S: This variable conditionally defines HAS_SCHED_GET_PRIORITY_MAX if
?S: sched_get_priority_max() is available to get the maximum scheduling
?S: priority.
?S:.
?C:HAS_SCHED_GET_PRIORITY_MAX:
?C: This symbol, if defined, indicates that the sched_get_priority_max
?C: system call is available to get the maximum scheduling priority.
?C:.
?H:#$d_sched_get_priority_max HAS_SCHED_GET_PRIORITY_MAX  /**/
?H:.
?LINT:set d_sched_get_priority_max
:
 see if sched_get_priority_max exists
set sched_get_priority_max d_sched_get_priority_max
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sched_gpmax.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: h_fcntl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: h_fcntl.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:h_fcntl: Nothing
?MAKE: -pick add $@ %<
```

?S:h_fcntl:
?S: This is variable gets set in various places to tell i_fcntl that
?S: <fcntl.h> should be included.
?S:.
: Initialize h_fcntl
h_fcntl=false

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/h_fcntl.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_gethostent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_gethostent_r gethostent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_gethostent_r:
?S: This variable conditionally defines the HAS_GETHOSTENT_R symbol,
?S: which indicates to the C program that the gethostent_r()
?S: routine is available.
?S:.
?S:gethostent_r_proto:
?S: This variable encodes the prototype of gethostent_r.
?S: It is zero if d_gethostent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_gethostent_r
?S: is defined.
?S:.
?C:HAS_GETHOSTENT_R:
?C: This symbol, if defined, indicates that the gethostent_r routine
?C: is
 available to gethostent re-entrantly.
?C:.
?C:GETHOSTENT_R_PROTO:
?C: This symbol encodes the prototype of gethostent_r.
?C: It is zero if d_gethostent_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_gethostent_r
?C: is defined.
?C:.
?H:#$d_gethostent_r HAS_GETHOSTENT_R    /**/
?H:#define GETHOSTENT_R_PROTO $gethostent_r_proto    /**/
?H:.
?T:try hdrs d_gethostent_r_proto

```
: see if gethostent_r exists
set gethostent_r d_gethostent_r
eval $inlibc
case "$d_gethostent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_gethostent_r_proto:$usethreads" in
 ":define") d_gethostent_r_proto=define
  set d_gethostent_r_proto gethostent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_gethostent_r_proto" in
 define)
 case "$gethostent_r_proto" in
 "|0) try='int gethostent_r(struct hostent*, char*, size_t, struct hostent**, int*);'
 ./protochk "$extern_C $try" $hdrs && gethostent_r_proto=I_SBWRE ;;
 esac
 case "$gethostent_r_proto"
 in
 "|0) try='int gethostent_r(struct hostent*, char*, int, int*);'
 ./protochk "$extern_C $try" $hdrs && gethostent_r_proto=I_SBIE ;;
 esac
 case "$gethostent_r_proto" in
 "|0) try='struct hostent* gethostent_r(struct hostent*, char*, int, int*);'
 ./protochk "$extern_C $try" $hdrs && gethostent_r_proto=S_SBIE ;;
 esac
 case "$gethostent_r_proto" in
 "|0) try='struct hostent* gethostent_r(struct hostent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && gethostent_r_proto=S_SBI ;;
 esac
 case "$gethostent_r_proto" in
 "|0) try='int gethostent_r(struct hostent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && gethostent_r_proto=I_SBI ;;
 esac
 case "$gethostent_r_proto" in
 "|0) try='int gethostent_r(struct hostent*, struct hostent_data*);'
 ./protochk "$extern_C $try" $hdrs && gethostent_r_proto=I_SD ;;
 esac
 case "$gethostent_r_proto" in
 "|0) d_gethostent_r=undef
        gethostent_r_proto=0
  echo "Disabling gethostent_r, cannot determine prototype."
 >&4 ;;
 * ) case "$gethostent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) gethostent_r_proto="REENTRANT_PROTO_$gethostent_r_proto" ;;
  esac
```

```
 echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "gethostent_r has no prototype, not using it." >&4 ;;
  esac
  d_gethostent_r=undef
  gethostent_r_proto=0
  ;;
 esac
 ;;
*) gethostent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_gethostent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_random_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_random_r random_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_stdlib extern_C
?MAKE: -pick add $@ %<
?S:d_random_r:
?S: This variable conditionally defines the HAS_RANDOM_R symbol,
?S: which indicates to the C program that the random_r()
?S: routine is available.
?S:.
?S:random_r_proto:
?S: This variable encodes the prototype of random_r.
?S: It is zero if d_random_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_random_r
?S: is defined.
?S:.
?C:HAS_RANDOM_R:
?C: This symbol, if defined, indicates that the random_r routine
?C: is available to random re-entrantly.
?C:.
?C:RANDOM_R_PROTO:
?C: This
```

```
 symbol encodes the prototype of random_r.
?C: It is zero if d_random_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_random_r
?C: is defined.
?C:.
?H:#$d_random_r HAS_RANDOM_R    /**/
?H:#define RANDOM_R_PROTO $random_r_proto    /**/
?H:.
?T:try hdrs d_random_r_proto
: see if random_r exists
set random_r d_random_r
eval $inlibc
case "$d_random_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_stdlib stdlib.h"
 case "$d_random_r_proto:$usethreads" in
 ":define") d_random_r_proto=define
  set d_random_r_proto random_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_random_r_proto" in
 define)
 case "$random_r_proto" in
 "|0) try='int random_r(int*, struct random_data*);'
 ./protochk "$extern_C $try" $hdrs && random_r_proto=I_iS ;;
 esac
 case "$random_r_proto" in
 "|0) try='int random_r(long*, struct random_data*);'
 ./protochk "$extern_C $try" $hdrs && random_r_proto=I_lS ;;
 esac
 case "$random_r_proto" in
 "|0)
 try='int random_r(struct random_data*, int32_t*);'
 ./protochk "$extern_C $try" $hdrs && random_r_proto=I_St ;;
 esac
 case "$random_r_proto" in
 "|0) d_random_r=undef
        random_r_proto=0
  echo "Disabling random_r, cannot determine prototype." >&4 ;;
 * ) case "$random_r_proto" in
  REENTRANT_PROTO*) ;;
  *) random_r_proto="REENTRANT_PROTO_$random_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
```

```
 define) echo "random_r has no prototype, not using it." >&4 ;;
 esac
 d_random_r=undef
 random_r_proto=0
 ;;
esac
;;
*) random_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_random_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getgrent.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_getgrent.U,v $
?RCS:
?MAKE:d_getgrent: Inlibc
?MAKE: -pick add $@ %<
?S:d_getgrent:
?S: This variable conditionally defines the HAS_GETGRENT symbol, which
?S: indicates to the C program that the getgrent() routine is available
?S: for sequential access of the group database.
?S:.
?C:HAS_GETGRENT:
?C: This symbol, if defined, indicates that the getgrent routine is
?C: available for sequential access of the group database.
?C:.
?H:#$d_getgrent HAS_GETGRENT  /**/
?H:.
?LINT:set d_getgrent
: see if getgrent exists
set getgrent d_getgrent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getgrent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
```

```
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: man3dir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:10:34  ram
?RCS: patch61: created
?RCS:
?X:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man3 used instead of man everywhere.
?X: I then added various tests because perl5 has *lots* of man3
?X: pages with long file names. -- ADO
?X:
?MAKE:man3dir
 man3direxp man3ext installman3dir: afs cat nroff Loc Oldconfig \
 sed man1dir spackage package Getfile prefix Prefixit Prefixup \
 d_flexfnam privlib Myread
?MAKE: -pick add $@ %<
?Y:TOP
?S:man3dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:man3direxp:
?S: This variable is the same as the man3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installman3dir:
?S: This variable is really the same as man3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man3ext:
?S: This variable contains the extension that the manual
 page should
?S: have: one of 'n', 'l', or '3'.  The Makefile must supply the '.'.
?S: See man3dir.
```

```
?S:.
: determine where library module manual pages go
set man3dir man3dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages for many of the library modules.
EOM

case "$nroff" in
nroff)
 $cat <<'EOM'
However, you don't have nroff, so they're probably useless to you.
EOM
 case "$man3dir" in
 '') man3dir="none";;
 esac;;
esac

case "$d_flexfnam" in
undef)
 $cat <<'EOM'
However, your system can't handle the long file names like File::Basename.3.
EOM
 case "$man3dir" in
 '') man3dir="none";;
 esac;;
esac

echo "If you don't want the manual sources installed, answer 'none'."
?X: We dont use /usr/local/man/man3 because some man programs will
?X: only show the /usr/local/man/man3 contents, and not the system ones,
?X: thus man less will show the perl module less.pm, but not the system
?X: less command.  We might also conflict with TCL man pages.
?X: However, something like /opt/perl/man/man3
 is fine.
case "$man3dir" in
'') case "$prefix" in
 *$package*) dflt=`echo $man1dir |
   $sed -e 's/man1/man3/g' -e 's/man\.1/man\.3/g'` ;;
 *) dflt="$privlib/man/man3" ;;
 esac
 ;;
' ') dflt=none;;
*) dflt="$man3dir" ;;
esac
echo " "
```

```
fn=dn+~
rp="Where do the $package library man pages (source) go?"
. ./getfile
if test "X$man3direxp" != "X$ansexp"; then
 installman3dir="
fi

man3dir="$ans"
man3direxp="$ansexp"
case "$man3dir" in
") man3dir=' '
 installman3dir=";;
esac
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installman3dir" in
 ") dflt=`echo $man3direxp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installman3dir";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installman3dir="$ans"
else
 installman3dir="$man3direxp"
fi

: What suffix
 to use on installed man pages

case "$man3dir" in
' ')
 man3ext='0'
 ;;
*)
 rp="What suffix should be used for the $package library man pages?"
 case "$man3ext" in
 ") case "$man3dir" in
  *3)  dflt=3 ;;
  *3p) dflt=3p ;;
  *3pm) dflt=3pm ;;
  *l) dflt=l;;
```

```
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L3) dflt=L3;;
  *) dflt=3;;
  esac
  ;;
 *) dflt="$man3ext";;
 esac
 . ./myread
 man3ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/man3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:usevendorprefix vendorprefix vendorprefixexp +oldvendorprefix: \
 Getfile Loc Oldconfig cat prefix Myread
?MAKE: -pick add $@ %<
?S:usevendorprefix:
?S: This variable tells whether the vendorprefix
?S: and consequently other vendor* paths are in use.
?S:.
?S:vendorprefix:
?S: This variable holds the full absolute path of the directory below
?S: which
 the vendor will install add-on packages.
?S: See INSTALL for usage and examples.
?S:.
?S:vendorprefixexp:
```

```
?S: This variable holds the full absolute path of the directory below
?S: which the vendor will install add-on packages.  Derived from vendorprefix.
?S:.
?S:oldvendorprefix:
?S: This variable is set non-null if the vendorprefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
: Set the vendorprefix variables
$cat <<EOM

The installation process will also create a directory for
vendor-supplied add-ons.  Vendors who supply perl with their system
may find it convenient to place all vendor-supplied files in this
directory rather than in the main distribution directory.  This will
ease upgrades between binary-compatible maintenance versions of perl.

Of course you may also use these directories in whatever way you see
fit.  For example, you might use them to access modules shared over a
company-wide network.

The default answer should be
 fine for most people.
This causes further questions about vendor add-ons to be skipped
and no vendor-specific directories will be configured for perl.

EOM
rp='Do you want to configure vendor-specific add-on directories?'
case "$usevendorprefix" in
define|true|[yY]*) dflt=y ;;
*) : User may have set vendorprefix directly on Configure command line.
 case "$vendorprefix" in
 ''|' ') dflt=n ;;
 *) dflt=y ;;
 esac
 ;;
esac
. ./myread
case "$ans" in
[yY]*) fn=d~+
 rp='Installation prefix to use for vendor-supplied add-ons?'
 case "$vendorprefix" in
 '') dflt="$prefix" ;;
 *)  dflt=$vendorprefix ;;
 esac
 . ./getfile
 : XXX Prefixit unit does not yet support siteprefix and vendorprefix
 oldvendorprefix=''
 case "$vendorprefix" in
```

```
") ;;
*) case "$ans" in
 "$prefix") ;;
 *) oldvendorprefix="$prefix";;
 esac
 ;;
esac
usevendorprefix="$define"
vendorprefix="$ans"
vendorprefixexp="$ansexp"
;;
*) usevendorprefix="$undef"
 vendorprefix="
 vendorprefixexp="
 ;;
esac

Found in path(s):
*
 /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorprefix.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: install.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: install.U,v $
?RCS: Revision 3.0.1.2  1995/09/25  09:16:37  ram
?RCS: patch59: all possible install programs are now looked for
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:30:41  ram
?RCS: patch45: created
?RCS:
?MAKE:install installdir: Loc Oldconfig Getfile cat test startsh rm +cc \
 eunicefix package contains mkdir echo n c
?MAKE: -pick add $@ %<
?S:install:
?S: This variable contains the name of an install program that can accept
?S: BSD-style arguments.
 It must correctly support -c, -s, and -m at least.
?S: It is a fully qualified pathname when found. If you have a local
?S: install.SH file at the root directory of your package, it is assumed to
```

```
?S: be the default script emulating a BSD install and the variable will be
?S: set to ./install. Otherwise, it is set to plain 'install', relying on
?S: the user's PATH to perform miracles.
?S:.
?S:installdir:
?S: This variable contains the name of a program that can install nested
?S: directories. Often set to 'mkdir -p', it can also be 'install -d' if
?S: you have such a beast and lack the former. If you have an install.SH
?S: file at the root directory of your package, it will be used in last
?S: resort, setting the variable to './install -d'. Otherwise, it is set to
?S: plain 'mkdir', and cross your fingers!
?S:.
?T:dir file tryit prog creatdir either
?F:!tryinst
: locate a BSD compatible install program
echo " "
echo "Looking for a BSD-compatible install program..." >&4
@if installdir
creatdir="
@end
case
 "$install" in
")
 tryit="
 for dir in $pth; do
  for file in ginstall installbsd scoinst install; do
   if $test -f $dir/$file; then
    tryit="$tryit $dir/$file"
   fi
  done
 done
 $cat >try.c <<EOC
int main()
{
 printf("OK\n");
 exit(0);
}
EOC
 if $cc -o try try.c >/dev/null 2>&1; then
  cp try try.ns
  strip try >/dev/null 2>&1
 else
  echo "(I can't seem to compile a trivial C program -- bypassing.)"
  echo "try" >try
  cp try try.ns
 fi
 $cat >tryinst <<EOS
$startsh
```

```
$rm -rf foo d
@if installdir
\$1 -d foo/bar
@end
$mkdir d
\$1 -c -m 764 try.ns d
\$1 -c -s -m 642 try.ns d/try
EOS
 chmod +x tryinst
 $eunicefix tryinst
 dflt="
 either="
 for prog in $tryit; do
  $echo $n "Checking $prog... $c"
  ./tryinst $prog >/dev/null 2>&1
@if installdir
  if $test -d foo/bar; then
   creatdir="$prog -d"
  fi
@end
  (ls -l d/try >try.ls; ls -l d/try.ns >tryno.ls) 2>/dev/null
  if (cmp -s d/try try && cmp -s d/try.ns try.ns && \
   $contains 'rwxrw-r--' tryno.ls &&
 \
   $contains 'rw-r---w-' try.ls) >/dev/null 2>&1
  then
   dflt="$prog"
   echo "ok, that will do."
   break
  fi
  echo "not good$either."
  either=' either'
  $rm -f try*.ls
 done
 $rm -rf foo d tryinst try try*.ls try.*
 case "$dflt" in
 ")
@if {test -f ../install.SH}
  echo "Hopefully, $package comes with its own install script!"
  dflt='./install'
@else
  dflt='install'
@end
  ;;
 esac
 ;;
*) dflt="$install";;
esac
```

```
$cat <<EOM

I will be requiring a BSD-compatible install program (one that allows
options like -s to strip executables or -m to specify a file mode) to
install $package.

If the question below contains a fully qualified default path, then it
is probably ok. If it is an unqualified name such as 'install', then it
means I was unable to find out a good install program I could use. If
@if {test -f ../install.SH}
you know of one, please tell me about it. If the default is './install',
then I shall be using the install script supplied with $package.
@else
you know of one,
 please tell me about it.
@end

EOM
@if {test -f ../install.SH}
fn='/fe~(install,./install)'
@else
fn='/fe~(install)'
@end
rp='Which install program shall I use?'
. ./getfile
install="$ans"

@if installdir
: how can we create nested directories?
echo " "
echo "Ok, let's see how we can create nested directories..." >&4
case "$installdir" in
")
?X: First time, maybe we already found out a working one in $creatdir above...
?X: Prefer "mkdir -p" because of bugs in GNU install when not running as root
 $mkdir -p foo/bar >/dev/null 2>&1
 if $test -d foo/bar; then
  echo "Great, we can build them using 'mkdir -p'."
  creatdir='mkdir -p'
 else
  case "$creatdir" in
  ")
   if eval "$install -d foo/bar"; $test -d foo/bar; then
    creatdir="install -d"
    echo "It looks like '$creatdir' will do it for us."
   fi
   ;;
  *)
```

```
  eval "$creatdir foo/bar" >/dev/null 2>&1
  if $test -d foo/bar; then
   echo "Ah! We can use '$creatdir' to do just that."
  else
   creatdir="
  fi
  ;;
 esac
fi
$rm
-rf foo
case "$creatdir" in
")
 echo "Heck! Another ancient system lacking the comfort of modern ones!"
@if {test -f ../install.SH}
 echo "You can thank $package for bringing you its own install script!"
 installdir='./install -d'
@else
 echo "We have no choice but to use plain old 'mkdir' -- wish me luck!"
 installdir=mkdir
@end
 ;;
*) installdir="$creatdir";;
esac
;;
*) echo "As you already told me, '$installdir' should work.";;
esac

@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/install.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_lrint: Inlibc
?MAKE: -pick add $@ %<
?S:d_lrint:
?S: This variable conditionally defines the HAS_LRINT symbol, which
?S: indicates to the C program that the lrint() routine is available
?S: to return the integral value closest to a double (according
?S: to the current rounding mode).
?S:.
?C:HAS_LRINT:
?C: This symbol, if defined, indicates that the lrint routine is
?C: available to return the integral value closest to a double
```

?C: (according to the current rounding mode).
?C:.
?H:#$d_lrint HAS_LRINT  /**/
?H:.
?LINT:set d_lrint
: see if lrint exists
set lrint d_lrint
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lrint.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: devtype.U,v 3.0.1.1 1994/08/29 16:31:27 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: devtype.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:31:27  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:33  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:devtype: Myread Typedef
?MAKE: -pick add $@ %<
?S:devtype:
?S: This variable defines Dev_t to be something like dev_t, long,
?S: int, or whatever type is used to declare device numbers.
?S: This is usually the same as
 the type of the third argument
?S: to mknod(2).
?S:.
?C:Dev_t:
?C: This symbol holds the type used to declare device numbers.
?C: It can be int, long, dev_t, etc... This is usually the same
?C: as the type of the third argument to mknod(2).
?C: It may be necessary to include <sys/types.h> to get any
?C: typedef'ed information.
?C:.
?H:#define Dev_t $devtype /* <device> type */
?H:.

```
?LINT: set devtype
: see what type is used for devices
rp="What is the type used for device numbers on this system?"
set dev_t devtype long stdio.h sys/types.h
eval $typedef_ask
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/devtype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_socks.U,v $
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_socks: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_socks:
?S: This variable conditionally defines the I_SOCKS symbol, and indicates
?S: whether a C program should include <socks.h>.
?S:.
?C:I_SOCKS:
?C: This symbol, if defined, indicates that <socks.h> exists and
?C: should be included.
?C:.
?H:#$i_socks I_SOCKS  /**/
?H:.
?LINT:set i_socks
: see if this is a socks.h system
set socks.h i_socks
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_socks.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_poll.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_poll: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_poll:
```

?S: This variable conditionally defines the I_POLL symbol, and indicates
?S: whether a C program should include <poll.h>.
?S:.
?C:I_POLL:
?C: This symbol, if defined, indicates that <poll.h> exists and
?C: should be included. (see also HAS_POLL)
?C:.
?H:#$i_poll I_POLL  /**/
?H:.
?LINT:set i_poll
: see if this is a poll.h system
set poll.h i_poll
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_poll.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:Devel usedevel: Myread rsrc package
?MAKE: -pick wipe $@ %<
?T:xversion
?X: waiver of rights
?S:usedevel:
?S: This variable indicates that Perl was configured with development
?S: features enabled.  This should not be done for production builds.
?S:.
?C:PERL_USE_DEVEL:
?C: This symbol, if defined, indicates that Perl was configured with
?C: -Dusedevel, to enable development features.  This should not be
?C: done for production builds.
?C:.
?H:#$usedevel PERL_USE_DEVEL  /**/
?H:.
?LINT:extern versiononly
?LINT:extern
 installusrbinperl
?LINT:change versiononly
?LINT:change installusrbinperl

```
: See if we are using a devel version and want that
xversion=`awk '/define[  ]+PERL_VERSION/ {print $3}' $rsrc/patchlevel.h`
case "$usedevel" in
$define|true|[yY]*)
   usedevel="$define" ;;
*) case "$xversion" in
  *[13579])
 cat >&4 <<EOH
*** WHOA THERE!!! ***

   This is an UNSTABLE DEVELOPMENT release.
   The version of this $package distribution is $xversion, that is, odd,
   (as opposed to even) and that signifies a development release.
   If you want a maintenance release, you want an even-numbered version.

   Do ***NOT*** install this into production use.
   Data corruption and crashes are possible.

   It is most seriously suggested that you do not continue any further
   unless you want to help in developing and debugging Perl.

   If you *still* want to build perl, you can answer 'y' now,
   or pass -Dusedevel to Configure.

EOH
 rp='Do you really want to continue?'
 dflt='n'
 . ./myread
 case
 "$ans" in
 [yY]) echo >&4 "Okay, continuing."
       usedevel="$define" ;;
 *) echo >&4 "Okay, bye."
    exit 1
    ;;
 esac
 ;;
   esac
   usedevel="$undef"
   ;;
esac
case "$usedevel" in
$define|true|[yY]*)
 case "$versiononly" in
 '') versiononly="$define" ;;
 esac
 case "$installusrbinperl" in
 '') installusrbinperl="$undef" ;;
```

```
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/Devel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: rootid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: rootid.U,v $
?RCS: Revision 3.0.1.1  1995/01/30  14:45:36  ram
?RCS: patch49: now only prints a single empty line when outputting something
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:42  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:rootid: sed
?MAKE: -pick add $@ %<
?S:rootid:
?S: This variable contains the eventual value of the ROOTID symbol,
?S: which is the uid of root.
?S:.
?C:ROOTID:
?C: This symbol contains the uid of root, normally
 0.
?C:.
?H:#define ROOTID $rootid  /**/
?H:.
: determine root id
rootid=`$sed -e "/^root:/{s/^[^:]*:[^:]*:\([^:]*\).*"'$'"/\1/" -e "q" -e "}" -e "d" </etc/passwd`
case "$rootid" in
") rootid=0 ;;
*) echo " "; echo "Root uid = $rootid" >&4 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/rootid.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getnent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_getnent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getnent: Inlibc
?MAKE: -pick add $@ %<
?S:d_getnent:
?S: This variable conditionally defines HAS_GETNETENT if getnetent() is
?S: available to look up network names in some data base or another.
?S:.
?C:HAS_GETNETENT:
?C: This symbol, if defined, indicates that the getnetent() routine is
?C: available to look up network names in some data base
 or another.
?C:.
?H:#$d_getnent HAS_GETNETENT  /**/
?H:.
?LINT:set d_getnent
: see if getnetent exists
set getnetent d_getnent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getnent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_pipe.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
```

?RCS: $Log: d_pipe.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:11:44  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_pipe: Inlibc
?MAKE: -pick add $@ %<
?S:d_pipe:
?S: This variable conditionally defines the HAS_PIPE symbol, which
?S: indicates to the C program that the pipe() routine is available
?S: to create an inter-process channel.
?S:.
?C:HAS_PIPE :
?C: This symbol, if defined, indicates
 that the pipe routine is
?C: available to create an inter-process channel.
?C:.
?H:#$d_pipe HAS_PIPE  /**/
?H:.
?LINT:set d_pipe
: see if pipe exists
set pipe d_pipe
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_pipe.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: pidtype.U,v 3.0.1.1 1994/08/29 16:31:27 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: pidtype.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:31:27  ram
?RCS: patch32: now uses new Typedef unit to compute type information
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:33  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:pidtype: Myread Typedef
?MAKE: -pick add $@ %<
?S:pidtype:
?S: This variable defines PIDTYPE to be something like pid_t, int,

?S: ushort, or whatever type is used to declare process ids in the kernel.
?S:.
?C:Pid_t (PIDTYPE):
?C: This
 symbol holds the type used to declare process ids in the kernel.
?C: It can be int, uint, pid_t, etc... It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
?H:#define Pid_t $pidtype  /* PID type */
?H:.
?LINT: set pidtype
: see what type pids are declared as in the kernel
rp="What is the type of process ids on this system?"
set pid_t pidtype int stdio.h sys/types.h
eval $typedef_ask

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/pidtype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_fork.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_fork.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:07:38  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_fork: Inlibc
?MAKE: -pick add $@ %<
?S:d_fork:
?S: This variable conditionally defines the HAS_FORK symbol, which
?S: indicates to the C program that the fork() routine is available.
?S:.
?C:HAS_FORK :
?C: This symbol, if defined, indicates that the fork routine is
?C: available.
?C:.
?H:#$d_fork

```
 HAS_FORK  /**/
?H:.
?LINT:set d_fork
: see if fork exists
set fork d_fork
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_fork.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_mkstemp.U,v 3.0.1.1 1994/08/29 16:11:57 ram Exp $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_mkstemp.U,v $
?RCS:
?MAKE:d_mkstemp: Inlibc
?MAKE: -pick add $@ %<
?S:d_mkstemp:
?S: This variable conditionally defines the HAS_MKSTEMP symbol, which
?S: indicates to the C program that the mkstemp() routine is available
?S: to exclusively create and open a uniquely named temporary file.
?S:.
?C:HAS_MKSTEMP :
?C: This symbol, if defined, indicates that the mkstemp routine is
?C: available to exclusively create and open a uniquely named
?C: temporary file.
?C:.
?H:#$d_mkstemp HAS_MKSTEMP  /**/
?H:.
?LINT:set d_mkstemp
: see if mkstemp exists
set mkstemp d_mkstemp
eval
 $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_mkstemp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_endpwent.U,v $
?RCS:
```

```
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: d_endpwent.U,v $
?RCS:
?MAKE:d_endpwent: Inlibc
?MAKE: -pick add $@ %<
?S:d_endpwent:
?S: This variable conditionally defines the HAS_ENDPWENT symbol, which
?S: indicates to the C program that the endpwent() routine is available
?S: for sequential access of the passwd database.
?S:.
?C:HAS_ENDPWENT:
?C: This symbol, if defined, indicates that the getgrent routine is
?C: available for finalizing sequential access of the passwd database.
?C:.
?H:#$d_endpwent HAS_ENDPWENT  /**/
?H:.
?LINT:set d_endpwent
: see if endpwent exists
set endpwent d_endpwent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_endpwent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sunmath.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_sunmath: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_sunmath:
?S: This variable conditionally defines the I_SUNMATH symbol, and indicates
?S: whether a C program should include <sunmath.h>.
?S:.
?C:I_SUNMATH:
?C: This symbol, if defined, indicates that <sunmath.h> exists and
?C: should be included.
?C:.
?H:#$i_sunmath I_SUNMATH  /**/
?H:.
```

```
?LINT:set i_sunmath
: see if this is a sunmath.h system
set sunmath.h i_sunmath
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_sunmath.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_readdir64_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_readdir64_r readdir64_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_dirent extern_C
?MAKE: -pick add $@ %<
?S:d_readdir64_r:
?S: This variable conditionally defines the HAS_READDIR64_R symbol,
?S: which indicates to the C program that the readdir64_r()
?S: routine is available.
?S:.
?S:readdir64_r_proto:
?S: This variable encodes the prototype of readdir64_r.
?S: It is zero if d_readdir64_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_readdir64_r
?S: is defined.
?S:.
?C:HAS_READDIR64_R:
?C: This symbol, if defined, indicates that the readdir64_r routine
?C: is
 available to readdir64 re-entrantly.
?C:.
?C:READDIR64_R_PROTO:
?C: This symbol encodes the prototype of readdir64_r.
?C: It is zero if d_readdir64_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_readdir64_r
?C: is defined.
?C:.
?H:#$d_readdir64_r HAS_READDIR64_R    /**/
?H:#define READDIR64_R_PROTO $readdir64_r_proto    /**/
?H:.
?T:try hdrs d_readdir64_r_proto
: see if readdir64_r exists
set readdir64_r d_readdir64_r
```

```
eval $inlibc
case "$d_readdir64_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_dirent dirent.h"
 case "$d_readdir64_r_proto:$usethreads" in
 ":define") d_readdir64_r_proto=define
  set d_readdir64_r_proto readdir64_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_readdir64_r_proto" in
 define)
 case "$readdir64_r_proto" in
 "|0) try='int readdir64_r(DIR*, struct dirent64*, struct dirent64**);'
 ./protochk "$extern_C $try" $hdrs && readdir64_r_proto=I_TSR ;;
 esac
 case "$readdir64_r_proto" in
 "|0) try='int readdir64_r(DIR*,
 struct dirent64*);'
 ./protochk "$extern_C $try" $hdrs && readdir64_r_proto=I_TS ;;
 esac
 case "$readdir64_r_proto" in
 "|0) d_readdir64_r=undef
        readdir64_r_proto=0
  echo "Disabling readdir64_r, cannot determine prototype." >&4 ;;
 * ) case "$readdir64_r_proto" in
  REENTRANT_PROTO*) ;;
  *) readdir64_r_proto="REENTRANT_PROTO_$readdir64_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "readdir64_r has no prototype, not using it." >&4 ;;
  esac
  d_readdir64_r=undef
  readdir64_r_proto=0
  ;;
 esac
 ;;
*) readdir64_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_readdir64_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setlnbuf.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_setlnbuf.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:11:57  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_setlinebuf: Inlibc
?MAKE: -pick add $@ %<
?S:d_setlinebuf:
?S: This variable conditionally defines the HAS_SETLINEBUF symbol, which
?S: indicates to the C program that the setlinebuf() routine is available
?S: to change stderr or stdout from block-buffered or unbuffered
 to a
?S: line-buffered mode.
?S:.
?C:HAS_SETLINEBUF :
?C: This symbol, if defined, indicates that the setlinebuf routine is
?C: available to change stderr or stdout from block-buffered or unbuffered
?C: to a line-buffered mode.
?C:.
?H:#$d_setlinebuf HAS_SETLINEBUF  /**/
?H:.
?LINT:set d_setlinebuf
: see if setlinebuf exists
set setlinebuf d_setlinebuf
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setlnbuf.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_pwd.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  14:10:57  ram
?RCS: patch56: use setvar so hint file values can override our guesses (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:03:27  ram
?RCS: patch23: had forgotten cppminus in cppstdin test (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:25  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks whether there is a pwd system or not
?X:
?MAKE:i_pwd d_pwquota d_pwage d_pwchange d_pwclass d_pwexpire d_pwcomment:
 \
 contains rm cppstdin cppflags cppminus Inhdr Findhdr Setvar
?MAKE: -pick add $@ %<
?S:i_pwd:
?S: This variable conditionally defines I_PWD, which indicates
?S: to the C program that it should include <pwd.h>.
?S:.
?S:d_pwquota:
?S: This varaible conditionally defines PWQUOTA, which indicates
?S: that struct passwd contains pw_quota.
?S:.
?S:d_pwage:
?S: This varaible conditionally defines PWAGE, which indicates
?S: that struct passwd contains pw_age.
?S:.
?S:d_pwchange:
?S: This varaible conditionally defines PWCHANGE, which indicates
?S: that struct passwd contains pw_change.
?S:.
?S:d_pwclass:
?S: This varaible conditionally defines PWCLASS, which indicates
?S: that struct passwd contains pw_class.
?S:.
?S:d_pwexpire:
?S: This varaible conditionally defines PWEXPIRE, which indicates
?S: that struct passwd contains pw_expire.
?S:.
?S:d_pwcomment:
?S: This varaible conditionally defines PWCOMMENT, which indicates
?S: that struct passwd contains pw_comment.
?S:.

```
?C:I_PWD:
?C: This symbol,
 if defined, indicates to the C program that it should
?C: include <pwd.h>.
?C:.
?C:PWQUOTA:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_quota.
?C:.
?C:PWAGE:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_age.
?C:.
?C:PWCHANGE:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_change.
?C:.
?C:PWCLASS:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_class.
?C:.
?C:PWEXPIRE:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_expire.
?C:.
?C:PWCOMMENT:
?C: This symbol, if defined, indicates to the C program that struct passwd
?C: contains pw_comment.
?C:.
?H:#$i_pwd I_PWD  /**/
?H:#$d_pwquota PWQUOTA /**/
?H:#$d_pwage PWAGE /**/
?H:#$d_pwchange PWCHANGE /**/
?H:#$d_pwclass PWCLASS /**/
?H:#$d_pwexpire PWEXPIRE /**/
?H:#$d_pwcomment PWCOMMENT /**/
?H:.
?LINT: set i_pwd d_pwquota
 d_pwage d_pwchange d_pwclass d_pwexpire d_pwcomment
?T:xxx
: see if this is a pwd.h system
set pwd.h i_pwd
eval $inhdr

case "$i_pwd" in
$define)
 xxx=`./findhdr pwd.h`
 $cppstdin $cppflags $cppminus < $xxx >$$.h
```

```
if $contains 'pw_quota' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwquota
eval $setvar

if $contains 'pw_age' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwage
eval $setvar

if $contains 'pw_change' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwchange
eval $setvar

if $contains 'pw_class' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwclass
eval $setvar

if $contains 'pw_expire' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwexpire
eval $setvar

if $contains 'pw_comment' $$.h >/dev/null 2>&1; then
 val="$define"
else
 val="$undef"
fi
set d_pwcomment
eval $setvar
```

```
 $rm -f $$.h
 ;;
*)
 val="$undef";
 set
 d_pwquota; eval $setvar
 set d_pwage; eval $setvar
 set d_pwchange; eval $setvar
 set d_pwclass; eval $setvar
 set d_pwexpire; eval $setvar
 set d_pwcomment; eval $setvar
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_pwd.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2009 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getaddrinfo: Inlibc
?MAKE: -pick add $@ %<
?S:d_getaddrinfo:
?S: This variable conditionally defines the HAS_GETADDRINFO symbol,
?S: which indicates to the C program that the getaddrinfo() function
?S: is available.
?S:.
?C:HAS_GETADDRINFO:
?C: This symbol, if defined, indicates that the getaddrinfo() function
?C: is available for use.
?C:.
?H:#$d_getaddrinfo HAS_GETADDRINFO  /**/
?H:.
?LINT:set d_getaddrinfo
: see if getaddrinfo exists
set getaddrinfo d_getaddrinfo
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getaddrinfo.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Typedef.U,v 3.0.1.3 1995/07/25 13:42:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Typedef.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  13:42:07  ram
?RCS: patch56: added backslash escapes within evals to prevent space problems
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:01:16  ram
?RCS: patch36: don't clobber visible 'val' variable, use 'varval' instead
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:05:14  ram
?RCS: patch32: created
?RCS:
?X:
?X: This unit checks for the definition of a given typedef.
?X:
?X: To use it, say:
?X: set typedef
 val_t default [includes]
?X: eval $typedef
?X:
?MAKE:Typedef: cppstdin cppminus cppflags rm sed contains Oldconfig Myread
?MAKE: -pick add $@ %<
?LINT:define typedef
?LINT:define typedef_ask
?V:typedef typedef_ask
?S:typedef:
?S: This shell variable is used internally by Configure to check
?S: whether a given typedef is defined or not. A typical use is:
?S:  set typedef val_t default [includes]
?S:  eval $typedef
?S: That will return val_t set to default if the typedef was not found,
?S: to typedef otherwise. If no includes are specified, look in sys/types.h.
?S:.
?S:typedef_ask:
?S: This shell variable is used internally by Configure to check
?S: whether a given typedef is defined or not.  If it is not defined,
?S: this will call the ./myread script to prompt for an answer.
?S: It is intended to be used to avoid unnecessary prompts.
?S: A typical use is
?S:  rp="What is the type for file position used by fsetpos()?"
```

```
?S:  set fpos_t fpostype long stdio.h sys/types.h
?S:  eval $typedef_ask
?S: This
 will set fpostype=fpos_t, if fpos_t is available.  Otherwise
?S: it will call myread with a default of 'long', and a prompt of $rp.
?S:.
?T:type var def inclist varval inc
?F:!temp.c
: define an is-a-typedef? function
typedef='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
?X: Maybe it's a #define instead of a typedef.
 echo "#ifdef $type" >> temp.c;
 echo "printf(\"We have $type\");" >> temp.c;
 echo "#endif" >> temp.c;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 if $contains $type temp.E >/dev/null 2>&1; then
  eval "$var=\$type";
 else
  eval "$var=\$def";
 fi;
 $rm -f temp.?;;
*) eval "$var=\$varval";;
esac'

?X: Originally, I eval'd $typedef and then checked the results against
?X: $type.  Unfortunately, it then became complicated to check
?X: whether you are re-using
 an old config.sh value, and the logic got
?X: so convoluted it became easier to just copy the function above
?X: and alter it slightly.  A.D.  3/1998
: define an is-a-typedef? function that prompts if the type is not available.
typedef_ask='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
```

```
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
?X: Maybe it's a #define instead of a typedef.
 echo "#ifdef $type" >> temp.c;
 echo "printf(\"We have $type\");" >> temp.c;
 echo "#endif" >> temp.c;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 echo " " ;
 echo "$rp" | $sed -e "s/What is/Looking for/" -e "s/?/./";
 if $contains $type temp.E >/dev/null 2>&1; then
  echo "$type found." >&4;
  eval "$var=\$type";
 else
  echo "$type NOT found." >&4;
  dflt="$def";
  . ./myread ;
  eval "$var=\$ans";
 fi;
 $rm -f temp.?;;
*) eval "$var=\$varval";;
esac'

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/Typedef.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_posix_sem: Setvar d_sem_open d_sem_unlink d_sem_close d_sem_destroy d_sem_getvalue d_sem_post
d_sem_wait d_sem_init d_sem_trywait i_semaphore
?MAKE: -pick add $@ %<
?S:d_posix_sem:
?S: This variable conditionally defines the HAS_POSIX_SEM symbol, which
?S: indicates that the entire sem*(2) library is present.
?S:.
?C:HAS_POSIX_SEM:
?C: This symbol, if defined, indicates that the entire POSIX sem_*(2)
```

```
?C: library is supported.
?C:.
?H:#$d_posix_sem HAS_POSIX_SEM  /**/
?H:.
?LINT:set d_posix_sem
: see how much of the
 'POSIX sem_*(2)' library is present.
echo " "
case
"$i_semaphore$d_sem_open$d_sem_close$d_sem_destroy$d_sem_getvalue$d_sem_post$d_sem_wait$d_sem_try
wait$d_sem_init$d_sem_unlink" in
*"$undef"*) val="$undef" ;;
*) val="$define" ;;
esac
case "$val" in
"$define") echo "You have the full POSIX sem_*(2) library." >&4 ;;
"$undef")  echo "You don't have the full POSIX sem_*(2) library." >&4 ;;
esac
set d_posix_sem
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_posix_sem.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_limits.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_limits.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:20  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_limits: Inhdr
?MAKE: -pick add $@ %<
?S:i_limits:
?S: This variable conditionally defines the I_LIMITS symbol, and indicates
?S: whether a C program may include <limits.h> to get symbols like WORD_BIT
?S: and friends.
?S:.
?C:I_LIMITS:
?C: This symbol, if defined, indicates to the C program that it should
```

?C: include <limits.h> to
 get definition of symbols like WORD_BIT or
?C: LONG_MAX, i.e. machine dependant limitations.
?C:.
?H:#$i_limits I_LIMITS  /**/
?H:.
?LINT:set i_limits
: see if this is a limits.h system
set limits.h i_limits
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_limits.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: package.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:27:21  ram
?RCS: patch36: beware of non-ascii character sets when translating case
?RCS:
?RCS: Revision 3.0.1.2  1993/11/10  17:37:02  ram
?RCS: patch14: skip definition of spackage if not otherwise used
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:11:10  ram
?RCS: patch10: added spackage, suitable for starting sentences
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:28  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:package spackage:
 Nothing
?MAKE: -pick wipe $@ %<
?S:package:
?S: This variable contains the name of the package being constructed.
?S: It is primarily intended for the use of later Configure units.
?S:.
?S:spackage:
?S: This variable contains the name of the package being constructed,
?S: with the first letter uppercased, i.e. suitable for starting

```
?S: sentences.
?S:.
?C:PACKAGE:
?C: This variable contains the name of the package being built.
?C:.
?H:#define PACKAGE "$package"
?H:.
?T:first last
: set package name
package='<PACKAGENAME>'
@if spackage
first=`echo $package | sed -e 's/^\(.\).*/\1/'`
last=`echo $package | sed -e 's/^.\(.*\)/\1/'`
?X:
?X: So early in the Configure script, we don't have ./tr set up and can't
?X: include Tr in our dependency or that would create a cycle. Therefore,
?X: we have to somehow duplicate the work done in Tr. That's life.
?X:
case "`echo AbyZ | tr '[:lower:]' '[:upper:]' 2>/dev/null`" in
ABYZ) spackage=`echo $first | tr '[:lower:]' '[:upper:]'`$last;;
*) spackage=`echo
 $first | tr '[a-z]' '[A-Z]'`$last;;
esac
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/package.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_portable.U,v $
?RCS: Revision 3.0.1.2  1995/01/11  15:28:52  ram
?RCS: patch45: executable path stripping moved to the end in Config_sh.U
?RCS:
?RCS: Revision 3.0.1.1  1993/12/15  08:21:17  ram
?RCS: patch15: did not strip variables properly when needed
?RCS: patch15: now also strips down variables from trylist
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:48  ram
```

```
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The Loc unit is wanted to get the definition of all the locating variables.
?X:
?MAKE:d_portable:
 cat Loc Myread Oldconfig
?MAKE: -pick add $@ %<
?S:d_portable:
?S: This variable conditionally defines the PORTABLE symbol, which
?S: indicates to the C program that it should not assume that it is
?S: running on the machine it was compiled on.
?S:.
?C:PORTABLE:
?C: This symbol, if defined, indicates to the C program that it should
?C: not assume that it is running on the machine it was compiled on.
?C: The program should be prepared to look up the host name, translate
?C: generic filenames, use PATH, etc.
?C:.
?H:#$d_portable PORTABLE /**/
?H:.
?D:d_portable="
: decide how portable to be
case "$d_portable" in
"$define") dflt=y;;
*) dflt=n;;
esac
$cat <<'EOH'

I can set things up so that your shell scripts and binaries are more portable,
at what may be a noticable cost in performance.  In particular, if you
ask to be portable, the following happens:

   1) Shell scripts will rely on the PATH variable rather than using
 the paths derived above.
   2) ~username
 interpretations will be done at run time rather than
 by Configure.
@if PHOSTNAME
   3) The system name will be determined at run time, if at all possible.
@end

EOH
rp="Do you expect to run these scripts and binaries on multiple machines?"
. ./myread
case "$ans" in
 y*) d_portable="$define"
?X:
```

```
?X: Paths will be stripped down (/usr/bin/vi -> vi) in Config_sh.U if needed.
?X:
 ;;
 *)  d_portable="$undef" ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_portable.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_bfd.U,v $
?RCS:
?RCS: Copyright (c) 2014 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_bfd: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_bfd:
?S: This variable conditionally defines the I_BFD symbol, and
?S: indicates whether a C program can include <bfd.h>.
?S:.
?C:I_BFD:
?C: This symbol, if defined, indicates that <bfd.h> exists and
?C: can be included.
?C:.
?H:#$i_bfd I_BFD  /**/
?H:.
?LINT:set i_bfd
: see if this is a bfd.h system
set bfd.h i_bfd
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_bfd.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: voidflags.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:27:58  ram
?RCS: patch61: don't prompt them if the void support is high enough for us
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:37:44  ram
?RCS: patch45: cosmetic change to avoid spurious blank lines when using -s
?RCS:
?RCS: Revision 3.0  1993/08/18  12:10:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:voidflags defvoidused: cat sed rm rm_try contains +cc +ccflags package \
 Oldconfig Myread
?MAKE: -pick add $@ %<
?S:voidflags:
?S: This
 variable contains the eventual value of the VOIDFLAGS symbol,
?S: which indicates how much support of the void type is given by this
?S: compiler.  See VOIDFLAGS for more info.
?S:.
?S:defvoidused:
?S: This variable contains the default value of the VOIDUSED symbol (15).
?S:.
?X: Exceptionally, we have to explicitly alias the symbol name for
?X: config_h.SH, otherwise the comment would not appear.
?C:VOIDFLAGS ~ %<:
?C: This symbol indicates how much support of the void type is given by this
?C: compiler.  What various bits mean:
?C:
?C:     1 = supports declaration of void
?C:     2 = supports arrays of pointers to functions returning void
?C:     4 = supports comparisons between pointers to void functions and
?C:      addresses of void functions
?C:     8 = suports declaration of generic void pointers
?C:
?C: The package designer should define VOIDUSED to indicate the requirements
?C: of the package.  This can be done either by #defining VOIDUSED before
?C: including
 config.h, or by defining defvoidused in Myinit.U.  If the
?C: latter approach is taken, only those flags will be tested.  If the
?C: level of void support necessary is not present, defines void to int.
?C:.
?H:?%<:#ifndef VOIDUSED
?H:?%<:#define VOIDUSED $defvoidused
?H:?%<:#endif
?H:?%<:#define VOIDFLAGS $voidflags
?H:?%<:#if (VOIDFLAGS & VOIDUSED) != VOIDUSED
?H:?%<:#define void int  /* is void to be avoided? */
?H:?%<:#define M_VOID   /* Xenix strikes again */
```

```
?H:?%<:#endif
?H:.
?W:%<:void
?F:!.out !try.c !flags
?LINT:usefile .out flags try.c
?INIT:: full support for void wanted by default
?INIT:defvoidused=15
?INIT:
?LINT:known void M_VOID VOIDUSED
: check for void type
echo " "
echo "Checking to see how well your C compiler groks the void type..." >&4
$cat >flags <<EOM

 Support flag bits are:
   1: basic void declarations.
   2: arrays of pointers to functions returning void.
   4: operations between pointers to and addresses of void functions.
   8: generic void pointers.

EOM
case
 "$voidflags" in
")
 $cat >try.c <<'EOCP'
#if TRY & 1
void sub() {
#else
sub() {
#endif
 extern void moo(); /* function returning void */
 void (*goo)();  /* ptr to func returning void */
#if TRY & 8
 void *hue;  /* generic ptr */
#endif
#if TRY & 2
 void (*foo[10])();
#endif

#if TRY & 4
 if(goo == moo) {
  exit(0);
 }
#endif
 exit(0);
}
int main() { sub(); }
EOCP
```

```
?X: This unit used to use cc -S in those tests to try to speed up things, but
?X: unfortunately, AIX 3.2 does not support this option.
 if $cc $ccflags -c -DTRY=$defvoidused try.c >.out 2>&1 ; then
  voidflags=$defvoidused
  echo "Good.  It appears to support void to the level $package wants."
  if $contains warning .out >/dev/null 2>&1; then
   echo "However, you might get some warnings that look like this:"
   $sed -e 's/^/ /' .out
  fi
 else
echo "Hmm, your compiler has some difficulty with void. Checking further..." >&4
  $cat >&4 flags
  $rm -f flags
  if $cc $ccflags -c -DTRY=1 try.c >/dev/null 2>&1; then
   echo
 "It supports 1..."
   if $cc $ccflags -c -DTRY=3 try.c >/dev/null 2>&1; then
    echo "It also supports 2..."
    if $cc $ccflags -c -DTRY=7 try.c >/dev/null 2>&1; then
     voidflags=7
     echo "And it supports 4 but not 8 definitely."
    else
     echo "It doesn't support 4..."
     if $cc $ccflags -c -DTRY=11 try.c >/dev/null 2>&1; then
      voidflags=11
      echo "But it supports 8."
     else
      voidflags=3
      echo "Neither does it support 8."
     fi
    fi
   else
    echo "It does not support 2..."
    if $cc $ccflags -c -DTRY=13 try.c >/dev/null 2>&1; then
     voidflags=13
     echo "But it supports 4 and 8."
    else
     if $cc $ccflags -c -DTRY=5 try.c >/dev/null 2>&1; then
      voidflags=5
      echo "And it supports 4 but has not heard about 8."
     else
      echo "However it supports 8 but not 4."
     fi
    fi
   fi
  else
   echo "There is no support at all for void."
   voidflags=0
```

```
  fi
 fi
esac
?X: Only prompt user if support does not match the
 level we want
case "$voidflags" in
"$defvoidused")
 echo "Good.  I already know it supports void to the level $package wants."
 ;;
*)
 dflt="$voidflags";
 test -f flags && $cat flags
 rp="Your void support flags add up to what?"
 . ./myread
 voidflags="$ans"
 ;;
esac
$rm_try flags
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/voidflags.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 1996, Chip Salzenberg
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:bincompat5005 d_bincompat5005: Oldconfig Myread Setvar cat \
 usethreads usemultiplicity
?MAKE: -pick add $@ %<
?Y:TOP
?S:bincompat5005:
?S: This variable contains y if this version of Perl should be
?S: binary-compatible with Perl 5.005.
?S:.
?S:d_bincompat5005:
?S: This variable conditionally defines BINCOMPAT5005 so that embed.h
?S: can take special action if this version of Perl should be
?S: binary-compatible with Perl 5.005.  This is impossible for builds
?S: that use features like threads and multiplicity it is always $undef
?S: for those versions.
?S:.
?C:PERL_BINCOMPAT_5005:
?C: This symbol, if defined, indicates that this version of Perl should be
?C: binary-compatible with Perl 5.005.  This is impossible
 for builds
?C: that use features like threads and multiplicity it is always $undef
```

```
?C: for those versions.
?C:.
?H:#$d_bincompat5005 PERL_BINCOMPAT_5005   /**/
?H:.
: Binary compatibility with 5.005 is not possible for builds
: with advanced features
case "$usethreads$usemultiplicity" in
*define*)
 bincompat5005="$undef"
 d_bincompat5005="$undef"
 ;;
*) $cat <<EOM

This version of Perl can be compiled for binary compatibility with 5.005.
If you decide to do so, you will be able to continue using most of the
extensions that were compiled for Perl 5.005.

EOM
 case "$bincompat5005$d_bincompat5005" in
 *"$undef"*) dflt=n ;;
 *) dflt=y ;;
 esac
 rp='Binary compatibility with Perl 5.005?'
 . ./myread
 case "$ans" in
 y*) val="$define" ;;
 *)  val="$undef" ;;
 esac
 set d_bincompat5005
 eval $setvar
 case "$d_bincompat5005" in
 "$define")
  bincompat5005="$define"
  ;;
 *) bincompat5005="$undef"
  d_bincompat5005="$undef"
  ;;
 esac
 ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/bincompat5005.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_munmap.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_munmap.U,v $
?RCS: Revision 3.0.1.1  1993/12/15  08:19:22  ram
?RCS: patch15: created
?RCS:
?MAKE:d_munmap: Inlibc
?MAKE: -pick add $@ %<
?S:d_munmap:
?S: This variable conditionally defines HAS_MUNMAP if munmap() is
?S: available to unmap a region mapped by mmap().
?S:.
?C:HAS_MUNMAP:
?C: This symbol, if defined, indicates that the munmap system call is
?C: available to unmap a region, usually mapped by mmap().
?C:.
?H:#$d_munmap HAS_MUNMAP  /**/
?H:.
?LINT:set
 d_munmap
: see if munmap exists
set munmap d_munmap
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_munmap.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_setspent: Inlibc
?MAKE: -pick add $@ %<
?S:d_setspent:
?S: This variable conditionally defines HAS_SETSPENT if setspent() is
?S: available to initialize the scan of SysV shadow password entries.
```

```
?S:.
?C:HAS_SETSPENT:
?C: This symbol, if defined, indicates that the setspent system call is
?C: available to initialize the scan of SysV shadow password entries.
?C:.
?H:#$d_setspent HAS_SETSPENT  /**/
?H:.
?LINT:set d_setspent
: see if setspent exists
set setspent d_setspent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_setspent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setprior.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setprior.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:11  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setprior: Inlibc
?MAKE: -pick add $@ %<
?S:d_setprior:
?S: This variable conditionally defines HAS_SETPRIORITY if setpriority()
?S: is available to set a process's priority.
?S:.
?C:HAS_SETPRIORITY (SETPRIORITY):
?C: This symbol, if defined, indicates that the setpriority routine is
?C: available to set a process's priority.
?C:.
?H:#$d_setprior
 HAS_SETPRIORITY  /**/
?H:.
?LINT:set d_setprior
: see if setpriority exists
set setpriority d_setprior
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setprior.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_pread.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_pread.U,v $
?RCS:
?MAKE:d_pread: Inlibc
?MAKE: -pick add $@ %<
?S:d_pread:
?S: This variable conditionally defines the HAS_PREAD symbol, which
?S: indicates to the C program that the pread() routine is available.
?S:.
?C:HAS_PREAD :
?C: This symbol, if defined, indicates that the pread routine is
?C: available to perform reads on a file descriptor at a given offset.
?C:.
?H:#$d_pread HAS_PREAD  /**/
?H:.
?LINT:set d_pread
: see if pread exists
set
 pread d_pread
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_pread.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Myinit.U,v 3.0 1993/08/18 12:05:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
```

```
?RCS:
?RCS: $Log: Myinit.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: If you want to initialize any default values, copy this unit to your
?X: personal U directory and add the assignments to the end.  This file
?X: is included after variables are initialized but before any old
?X: config.sh file is read in and before any Configure switch processing.
?X:
?MAKE:Myinit
 libswanted: Init
?MAKE: -pick add $@ %<
?S:libswanted:
?S: This variable holds a list of all the libraries we want to
?S: search.  The order is chosen to pick up the c library
?S: ahead of ucb or bsd libraries for SVR4.
?S:.
?LINT:extern usevfork glibpth
?LINT:change usevfork glibpth
: List of libraries we want.
?X: Put crypt here, even though I should really fix d_crypt.U to look
?X: for it correctly, including possible shared library versions.
: If anyone needs extra -lxxx, put those in a hint file.
libswanted="cl pthread socket bind inet nsl ndbm gdbm dbm db malloc dl ld"
libswanted="$libswanted sun m crypt sec util c cposix posix ucb bsd BSD"
: We probably want to search /usr/shlib before most other libraries.
: This is only used by the lib/ExtUtils/MakeMaker.pm routine extliblist.
glibpth=`echo " $glibpth " | sed -e 's! /usr/shlib ! !'`
glibpth="/usr/shlib $glibpth"
: Do not use vfork unless overridden by a hint file.
usevfork=false

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Myinit.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: basicshell.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: basicshell.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:25  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:basicshell: Getfile Oldconfig bash csh ksh sh
?MAKE: -pick add $@ %<
?S:basicshell:
?S: This variable contains the eventual value of the BASICSHELL symbol,
?S: which contains the full name of the basic script shell on this
?S: system.  Usual values are /bin/sh, /bin/ksh, /bin/csh.
?S:.
?C:BASICSHELL:
?C: This symbol contains the
 full name of the basic script shell on this
?C: system.  Usual values are /bin/sh, /bin/ksh, /bin/csh.
?C:.
?H:#define BASICSHELL "$basicshell"  /**/
?H:.
: find the most basic shell for scripts
echo " "
case "$basicshell" in
")
 case "$sh $bash $csh $ksh" in
 */sh*) dflt="$sh" ;;
 */ksh*) dflt="$ksh" ;;
 */csh*) dflt="$csh" ;;
 */bash*) dflt="$bash" ;;
 *) dflt='/bin/sh' ;;
 esac
 ;;
*)
 dflt="$basicshell";;
esac
fn=f
rp="Give the full path name of the most basic shell used on your system"
. ./getfile
basicshell=$ans

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/basicshell.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libflex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libflex.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:57:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:07:02  ram
?RCS: patch23: now uses full library path instead of -l notation
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:13:25  ram
?RCS: patch16: un-obsoleted this unit to allow smooth lex/flex compilations
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:59  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:libflex: Loc lex libpth _a
?MAKE: -pick add $@ %<
?S:libflex:
?S: This variable contains the argument to pass to the loader in order
?S: to get the flex/lex library routines.  If there is no flex or flex
?S: library, it is null.
?S:.
?T:xxx
: see if we should include -lfl
echo " "
case "$lex" in
*flex)
 xxx=`./loc libfl$_a x $libpth`
 case "$xxx" in
 x)
  echo "No flex library found." >&4
  libflex="
  ;;
 *)
  echo "flex library found in $xxx." >&4
  libflex="$xxx"
  ;;
 esac
 ;;
*lex)
 xxx=`./loc libl$_a x $libpth`
 case "$xxx" in
 x)
  echo "No lex library found." >&4
  libflex="
```

```
  ;;
 *)
  echo "lex library found in $xxx." >&4
  libflex="$xxx"
  ;;
 esac
 ;;
*)
echo "You don't seem to have lex or flex, so I won't look for libraries." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/libflex.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setpent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_setpent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setpent: Inlibc
?MAKE: -pick add $@ %<
?S:d_setpent:
?S: This variable conditionally defines HAS_SETPROTOENT if setprotoent() is
?S: available.
?S:.
?C:HAS_SETPROTOENT:
?C: This symbol, if defined, indicates that the setprotoent() routine is
?C: available.
?C:.
?H:#$d_setpent HAS_SETPROTOENT  /**/
?H:.
?LINT:set d_setpent
: see if setprotoent
 exists
set setprotoent d_setpent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_setpent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getsrvby.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getsbyname d_getsbyport: Inlibc
?MAKE: -pick add $@ %<
?S:d_getsbyname:
?S: This variable conditionally defines the HAS_GETSERVBYNAME
?S: symbol, which indicates to the C program that the
?S: getservbyname() routine is available to look up services
?S: by their name.
?S:.
?S:d_getsbyport:
?S: This variable conditionally defines the HAS_GETSERVBYPORT
?S: symbol, which indicates to the C program that the
?S: getservbyport() routine is available to look up services
?S: by their port.
?S:.
?C:HAS_GETSERVBYNAME:
?C: This symbol, if defined, indicates that the getservbyname()
?C: routine is available to look up services by their name.
?C:.
?C:HAS_GETSERVBYPORT:
?C: This symbol, if defined,
 indicates that the getservbyport()
?C: routine is available to look up services by their port.
?C:.
?H:#$d_getsbyname HAS_GETSERVBYNAME  /**/
?H:#$d_getsbyport HAS_GETSERVBYPORT  /**/
?H:.
?LINT:set d_getsbyname d_getsbyport
: Optional checks for getsbyname and getsbyport

@if d_getsbyname || HAS_GETSERVBYNAME
: see if getservbyname exists
set getservbyname d_getsbyname
eval $inlibc
@end

@if d_getsbyport || HAS_GETSERVBYPORT
: see if getservbyport exists
```

```
set getservbyport d_getsbyport
eval $inlibc
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getsrvby.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Findhdr.U,v 3.0.1.2 1994/10/29 15:53:08 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Thomas Neumann <tom@smart.bo.open.de>
?RCS:
?RCS: $Log: Findhdr.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  15:53:08  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:03:56  ram
?RCS: patch23: cppminus must be after other cppflags, not before
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a findhdr script which
 is used to locate the header
?X: files in $usrinc or other stranger places using cpp capabilities. The
?X: script is given an include file base name, like 'stdio.h' or 'sys/file.h'
?X: and it returns the full path of the include file and a zero status or an
?X: empty string with an error status if the file could not be located.
?X:
?MAKE:Findhdr: grep test tr rm incpth awk cat startsh \
 cppstdin cppminus +cppflags osname
?MAKE: -pick add $@ %<
?LINT:extern cppfilter
?LINT:define fieldn
?S:fieldn:
?S: This variable is used internally by Configure. It contains the position
?S: of the included file name in cpp output. That is to say, when cpp
?S: pre-processes a #include <file> line, it replaces it by a # line which
?S: contains the original position in the input file and the full name of
```

```
?S: included file, between "quotes".
?S:.
?V:fieldn
?F:./findhdr !fieldn
?T:cline pos wanted name awkprg usrincdir status testaccess
: determine filename position in cpp output
echo " "
echo "Computing
 filename position in cpp output for #include directives..." >&4
case "$osname" in
amigaos) fieldn=3 ;;  # Workaround for a bug in abc (pdksh).
esac
case "$fieldn" in
")
case "$osname" in
vos) testaccess=-e ;;
*)   testaccess=-r ;;
esac
echo '#include <stdio.h>' > foo.c
$cat >fieldn <<EOF
$startsh
$cppstdin $cppflags $cppminus <foo.c 2>/dev/null | \
$grep '^[  ]*#.*stdio\.h' | \
while read cline; do
 pos=1
 set \$cline
 while $test \$# -gt 0; do
  if $test $testaccess \`echo \$1 | $tr -d ""\`; then
   echo "\$pos"
   exit 0
  fi
  shift
  pos=\`expr \$pos + 1\`
 done
done
EOF
chmod +x fieldn
fieldn=`./fieldn`
$rm -f foo.c fieldn
;;
esac
case $fieldn in
") pos='???';;
1) pos=first;;
2) pos=second;;
3) pos=third;;
*) pos="${fieldn}th";;
esac
```

```
echo "Your cpp writes the filename in the $pos field of the line."

?X: To locate a header file, we cannot simply check for $usrinc/file.h, since
?X: some machine have the headers in weird places and our only hope is that
?X: the C pre-processor
 will know how to find those headers. Thank you NexT!
: locate header file
$cat >findhdr <<EOF
$startsh
wanted=\$1
name="
for usrincdir in $incpth
do
 if test -f \$usrincdir/\$wanted; then
  echo "\$usrincdir/\$wanted"
  exit 0
 fi
done
awkprg='{ print \$$fieldn }'
echo "#include <\$wanted>" > foo\$\$.c
$cppstdin $cppminus $cppflags < foo\$\$.c 2>/dev/null | \
$cppfilter $grep "^[  ]*#.*\$wanted" | \
while read cline; do
 name=\`echo \$cline | $awk "\$awkprg" | $tr -d '"'\`
 case "\$name" in
 *[/\\\]\$wanted) echo "\$name"; exit 1;;
 *[\\\/]\$wanted) echo "\$name"; exit 1;;
 *) exit 2;;
 esac;
done;
#
# status = 0: grep returned 0 lines, case statement not executed
# status = 1: headerfile found
# status = 2: while loop executed, no headerfile found
#
status=\$?
$rm -f foo\$\$.c;
if test \$status -eq 1; then
 exit 0;
fi
exit 1
EOF
chmod +x findhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Findhdr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_raster.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_raster.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_raster rasterlib: cat test Setvar Myread Oldconfig
?MAKE: -pick add $@ %<
?S:d_raster:
?S: Conditionally defines RASTER_TEK if this is a raster tech machine.
?S:.
?S:rasterlib (d_rasterlib):
?S: Set to the needed compile flag if this is a raster tech machine.
?S: It is up to the Makefile to use this variable.
?S:.
?C:RASTER_TEK:
?C: Defined
 if this is a rastertech machine.
?C:.
?H:#$d_raster RASTER_TEK /**/
?H:.
?LINT:set d_raster
: See if this is a raster tech machine.
val="$undef"
rasterlib="
if $test -r /dev/mirage; then
 $cat <<'EOM'

You seem to have a mirage device... this is normally associated with a raster
technologies graphics workstation. If this is right, you may want to use raster
tech in this program.

EOM
 dflt=y
 case "$d_raster" in
 "$undef") dflt=n;;
 esac
 rp='Use raster tech?'
 . ./myread
 case "$ans" in
```

```
 y*) val="$define";;
 esac
fi
set d_raster
eval $setvar

case "$d_raster" in
"$define") rasterlib='-lphigs';;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_raster.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_gethname.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_gethname.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:13:00  ram
?RCS: patch36: call ./xenix explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:11  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_gethname d_uname d_phostname aphostname: phostname cat \
 myhostname package d_portable Loc echo n c +i_whoami +usrinc \
 Myread Guess Oldconfig Csym
?MAKE: -pick add $@ %<
?S:d_gethname:
?S: This variable conditionally
 defines the HAS_GETHOSTNAME symbol, which
?S: indicates to the C program that the gethostname() routine may be
?S: used to derive the host name.
?S:.
?S:d_uname:
?S: This variable conditionally defines the HAS_UNAME symbol, which
?S: indicates to the C program that the uname() routine may be
?S: used to derive the host name.
?S:.
?S:d_phostname:
?S: This variable conditionally defines the HAS_PHOSTNAME symbol, which
```

```
?S: contains the shell command which, when fed to popen(), may be
?S: used to derive the host name.
?S:.
?S:aphostname:
?S: This variable contains the command which can be used to compute the
?S: host name. The command is fully qualified by its absolute path, to make
?S: it safe when used by a process with super-user privileges.
?S:.
?C:HAS_GETHOSTNAME (GETHOSTNAME):
?C: This symbol, if defined, indicates that the C program may use the
?C: gethostname() routine to derive the host name.  See also HAS_UNAME
?C: and PHOSTNAME.
?C:.
?C:HAS_UNAME (UNAME):
?C: This symbol,
 if defined, indicates that the C program may use the
?C: uname() routine to derive the host name.  See also HAS_GETHOSTNAME
?C: and PHOSTNAME.
?C:.
?C:PHOSTNAME:
?C: This symbol, if defined, indicates the command to feed to the
?C: popen() routine to derive the host name.  See also HAS_GETHOSTNAME
?C: and HAS_UNAME. Note that the command uses a fully qualified path,
?C: so that it is safe even if used by a process with super-user
?C: privileges.
?C:.
?C:HAS_PHOSTNAME:
?C: This symbol, if defined, indicates that the C program may use the
?C: contents of PHOSTNAME as a command to feed to the popen() routine
?C: to derive the host name.
?C:.
?H:?%<:#$d_gethname HAS_GETHOSTNAME /**/
?H:?%<:#$d_uname HAS_UNAME  /**/
?H:?%<:#$d_phostname HAS_PHOSTNAME /**/
?H:?%<:#ifdef HAS_PHOSTNAME
?H:?%<:#define PHOSTNAME "$aphostname" /* How to get the host name */
?H:?%<:#endif
?H:.
?T:file val call
?LINT:change i_whoami
: see how we will look up host name
echo " "
call="
@if HAS_GETHOSTNAME
if
 set gethostname val -f d_gethname; eval $csym; $val; then
 echo 'gethostname() found.' >&4
 d_gethname="$define"
```

```
 call=gethostname
fi
@end
@if HAS_UNAME
if set uname val -f d_uname; eval $csym; $val; then
 if ./xenix; then
  $cat <<'EOM'
uname() was found, but you're running xenix, and older versions of xenix
have a broken uname(). If you don't really know whether your xenix is old
enough to have a broken system call, use the default answer.

EOM
  dflt=y
  case "$d_uname" in
  "$define") dflt=n;;
  esac
  rp='Is your uname() broken?'
  . ./myread
  case "$ans" in
  n*) d_uname="$define"; call=uname;;
  esac
 else
  echo 'uname() found.' >&4
  d_uname="$define"
  case "$call" in
  ") call=uname ;;
  esac
 fi
fi
@end
case "$d_gethname" in
") d_gethname="$undef";;
esac
case "$d_uname" in
") d_uname="$undef";;
esac
@if PHOSTNAME || MYHOSTNAME
case "$d_uname$d_gethname" in
*define*)
 dflt=n
 cat <<EOM

Every now and then someone has a $call() that lies about the hostname
but can't be fixed
 for political or economic reasons.  If you wish, I can
@if MYHOSTNAME && PHOSTNAME
pretend $call() isn't there and maybe compile in the hostname or
compute it from the '$phostname' command at run-time.
```

```
@elsif MYHOSTNAME
pretend $call() isn't there and maybe compile in the hostname.
@elsif PHOSTNAME
pretend $call() isn't there and maybe compute hostname at run-time
thanks to the '$phostname' command.
@elsif WHOAMI
get the hostname from whomai.h (provided you have one).
@else
simply ignore your host name and use someting like "noname" instead.
@end

EOM
 rp="Shall I ignore $call() from now on?"
 . ./myread
 case "$ans" in
 y*) d_uname="$undef" d_gethname="$undef"; $echo $n "Okay...$c";;
 esac;;
esac
@end
@if PHOSTNAME || aphostname
?X: Compute the full path name for the command
case "$phostname" in
") aphostname=";;
*) case "$aphostname" in
 /*) ;;
 *) set X $phostname
  shift
  file=$1
  shift
  file=`./loc $file $file $pth`
  aphostname=`echo $file $*`
  ;;
 esac
 ;;
esac
@end
@if
 PHOSTNAME && MYHOSTNAME
case "$d_uname$d_gethname" in
*define*) ;;
*)
 case "$phostname" in
 ") ;;
 *)
  $cat <<EOT

There is no gethostname() or uname() on this system.  You have two
possibilities at this point:
```

1)  You can have your host name ($myhostname) compiled into $package, which
   lets $package start up faster, but makes your binaries non-portable, or
2)  you can have $package use a

 popen("$aphostname","r")

   which will start slower but be more portable.

@ if WHOAMI
Option 1 will give you the option of using whoami.h if you have one.
@ end
If you want option 2 but with a different command, you can edit config.sh at
the end of this shell script.

EOT
  case "$d_phostname" in
  "$define") dflt=n;;
  "$undef")  dflt=y;;
  ")
   case "$d_portable" in
   "$define") dflt=n ;;
   *) dflt=y ;;
   esac;;
  esac
  rp="Do you want your host name compiled in?"
  . ./myread
  case "$ans" in
  n*) d_phostname="$define" ;;
  *) aphostname=''; d_phostname="$undef";;
  esac;;
 esac
 case
 "$aphostname" in
 ")
@ if WHOAMI
  case "$i_whoami" in
  "$define")
   dflt=y
   $cat <<EOM

No hostname function--you can either use the whoami.h file, which has this line:

 `grep sysname $usrinc/whoami.h`

or you can have the name we came up with earlier ($myhostname) hardwired in.
EOM
   rp="Use whoami.h to get hostname?"

```
  . ./myread
  case "$ans" in
  n*) i_whoami="$undef";;
  esac
  ;;
 "$undef")
  $cat <<EOM
No hostname function and no whoami.h -- hardwiring "$myhostname".
EOM
  ;;
 esac;;
@ else
 echo 'No hostname function -- hardwiring "'$myhostname'".' >&4;;
@ end
 esac;;
esac
@elsif PHOSTNAME
case "$d_uname$d_gethname" in
*define*) ;;
*)
 case "$phostname" in
 '')
@ if WHOAMI
  case "$i_whoami" in
  "$define")
   $cat <<EOM

No hostname function--we'll use the whoami.h file, which has this line:

 `grep sysname $usrinc/whoami.h`

EOM
  ;;
 *) echo "There will be no way for $package to get your hostname." >&4;;
 esac;;
@ else
 echo "There will be no way
 for $package to get your hostname." >&4;;
@ end
 *)
 echo "I'll use 'popen("""$aphostname"', "r")"" to get your hostname." >&4
  ;;
 esac;;
esac
@elsif MYHOSTNAME
case "$d_uname$d_gethname" in
*define*) ;;
*)
```

```
@ if WHOAMI
 case "$i_whoami" in
 "$define")
  dflt=y
  $cat <<EOM

No hostname function--you can either use the whoami.h file, which has this line:

 `grep sysname $usrinc/whoami.h`

or you can have the name we came up with earlier ($myhostname) hardwired in.
EOM
  rp="Use whoami.h to get hostname?"
  . ./myread
  case "$ans" in
  n*) i_whoami="$undef";;
  esac
  ;;
 "$undef")
  echo 'No whoami.h--hardwiring "'$myhostname'".' >&4;;
 esac;;
@ else
 echo 'Hardwiring "'$myhostname'".' >&4;;
@ end
esac
@end
case "$d_phostname" in
") d_phostname="$undef";;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_gethname.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_castneg.U,v 3.0.1.2 1995/05/12 12:11:21 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_castneg.U,v $
?RCS: Revision 3.0.1.2  1995/05/12  12:11:21  ram
?RCS: patch54: made sure cc and ccflags are conditional dependencies
?RCS: patch54: added improved test case for Interactive Unix
```

```
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:10:50  ram
?RCS: patch36: don't forget to tell user about compilation failures (ADO)
?RCS: patch36: declare signal handler correctly using 'signal_t' (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:47  ram
?RCS: Baseline
 for dist 3.0 netwide release.
?RCS:
?X:
?X: Can the compiler cast negative / odd floats to unsigned values.
?X:
?MAKE:d_castneg castflags: cat Compile rm_try Setvar signal_t run i_stdlib
?MAKE: -pick add $@ %<
?S:d_castneg:
?S: This variable conditionally defines CASTNEG, which indicates
?S: whether the C compiler can cast negative float to unsigned.
?S:.
?S:castflags:
?S: This variable contains a flag that precise difficulties the
?S: compiler has casting odd floating values to unsigned long:
?S:  0 = ok
?S:  1 = couldn't cast < 0
?S:  2 = couldn't cast >= 0x80000000
?S:  4 = couldn't cast in argument expression list
?S:.
?C:CASTNEGFLOAT:
?C: This symbol is defined if the C compiler can cast negative
?C: numbers to unsigned longs, ints and shorts.
?C:.
?C:CASTFLAGS:
?C: This symbol contains flags that say what difficulties the compiler
?C: has casting odd floating values to unsigned long:
?C:  0 = ok
?C:  1 = couldn't cast < 0
?C:  2 = couldn't cast >= 0x80000000
?C:  4 = couldn't
 cast in argument expression list
?C:.
?H:#$d_castneg CASTNEGFLOAT  /**/
?H:#define CASTFLAGS $castflags  /**/
?H:.
?F:!try
?LINT:set d_castneg
: check for ability to cast negative floats to unsigned
echo " "
echo 'Checking whether your C compiler can cast negative float to unsigned.' >&4
$cat >try.c <<EOCP
```

```
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#include <sys/types.h>
#include <signal.h>
$signal_t blech(int s) { exit(7); }
$signal_t blech_in_list(int s) { exit(4); }
unsigned long dummy_long(unsigned long p) { return p; }
unsigned int dummy_int(unsigned int p) { return p; }
unsigned short dummy_short(unsigned short p) { return p; }
int main()
{
 double f;
 unsigned long along;
 unsigned int aint;
 unsigned short ashort;
 int result = 0;
 char str[16];

 /* Frustrate gcc-2.7.2's optimizer which failed this test with
    a direct f = -123. assignment.  gcc-2.8.0 reportedly
    optimized the whole file away
 */
 /* Store the number in a writable
 string for gcc to pass to
    sscanf under HP-UX.
 */
 sprintf(str, "-123");
 sscanf(str, "%lf", &f);  /* f = -123.; */

 signal(SIGFPE, blech);
 along = (unsigned long)f;
 aint = (unsigned int)f;
 ashort = (unsigned short)f;
 if (along != (unsigned long)-123)
  result |= 1;
 if (aint != (unsigned int)-123)
  result |= 1;
 if (ashort != (unsigned short)-123)
  result |= 1;
 sprintf(str, "1073741824.");
 sscanf(str, "%lf", &f); /* f = (double)0x40000000; */
 f = f + f;
 along = 0;
 along = (unsigned long)f;
 if (along != 0x80000000)
```

```
 result |= 2;
f -= 1.;
along = 0;
along = (unsigned long)f;
if (along != 0x7fffffff)
 result |= 1;
f += 2.;
along = 0;
along = (unsigned long)f;
if (along != 0x80000001)
 result |= 2;
if (result)
 exit(result);
?X:
?X: The following is a test for Interactive Unix Version 4.1, which
?X: has an 'improved' compiler which can correctly cast negative
?X: floats in expression lists, but apparently not in argument lists.
?X: Contributed by Winfried Koenig
 <win@incom.rhein-main.de>
?X:
signal(SIGFPE, blech_in_list);
sprintf(str, "123.");
sscanf(str, "%lf", &f);  /* f = 123.; */
along = dummy_long((unsigned long)f);
aint = dummy_int((unsigned int)f);
ashort = dummy_short((unsigned short)f);
if (along != (unsigned long)123)
 result |= 4;
if (aint != (unsigned int)123)
 result |= 4;
if (ashort != (unsigned short)123)
 result |= 4;
exit(result);

}
EOCP
set try
if eval $compile_ok; then
 $run ./try 2>/dev/null
 castflags=$?
else
 echo "(I can't seem to compile the test program--assuming it can't)"
 castflags=7
fi
case "$castflags" in
0) val="$define"
 echo "Yup, it can."
 ;;
```

```
*) val="$undef"
 echo "Nope, it can't."
 ;;
esac
set d_castneg
eval $setvar
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/d_castneg.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_shadow.U,v $
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_prot: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_prot:
?S: This variable conditionally defines the I_PROT symbol, and indicates
?S: whether a C program should include <prot.h>.
?S:.
?C:I_PROT:
?C: This symbol, if defined, indicates that <prot.h> exists and
?C: should be included.
?C:.
?H:#$i_prot I_PROT  /**/
?H:.
?LINT:set i_prot
: see if this is a prot.h system
set prot.h i_prot
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_prot.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getnetbyaddr_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
```

```
?MAKE:d_getnetbyaddr_r getnetbyaddr_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_getnetbyaddr_r:
?S: This variable conditionally defines the HAS_GETNETBYADDR_R symbol,
?S: which indicates to the C program that the getnetbyaddr_r()
?S: routine is available.
?S:.
?S:getnetbyaddr_r_proto:
?S: This variable encodes the prototype of getnetbyaddr_r.
?S: It is zero if d_getnetbyaddr_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getnetbyaddr_r
?S: is defined.
?S:.
?C:HAS_GETNETBYADDR_R:
?C: This symbol, if defined, indicates that
 the getnetbyaddr_r routine
?C: is available to getnetbyaddr re-entrantly.
?C:.
?C:GETNETBYADDR_R_PROTO:
?C: This symbol encodes the prototype of getnetbyaddr_r.
?C: It is zero if d_getnetbyaddr_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getnetbyaddr_r
?C: is defined.
?C:.
?H:#$d_getnetbyaddr_r HAS_GETNETBYADDR_R    /**/
?H:#define GETNETBYADDR_R_PROTO $getnetbyaddr_r_proto    /**/
?H:.
?T:try hdrs d_getnetbyaddr_r_proto
: see if getnetbyaddr_r exists
set getnetbyaddr_r d_getnetbyaddr_r
eval $inlibc
case "$d_getnetbyaddr_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getnetbyaddr_r_proto:$usethreads" in
 ":define") d_getnetbyaddr_r_proto=define
  set d_getnetbyaddr_r_proto getnetbyaddr_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getnetbyaddr_r_proto" in
 define)
 case "$getnetbyaddr_r_proto" in
 "|0) try='int getnetbyaddr_r(unsigned long, int, struct netent*, char*, size_t, struct netent**, int*);'
 ./protochk
 "$extern_C $try" $hdrs && getnetbyaddr_r_proto=I_UISBWRE ;;
 esac
```

```
case "$getnetbyaddr_r_proto" in
"|0) try='int getnetbyaddr_r(long, int, struct netent*, char*, int);'
./protochk "$extern_C $try" $hdrs && getnetbyaddr_r_proto=I_LISBI ;;
esac
case "$getnetbyaddr_r_proto" in
"|0) try='struct netent* getnetbyaddr_r(in_addr_t, int, struct netent*, char*, int);'
./protochk "$extern_C $try" $hdrs && getnetbyaddr_r_proto=S_TISBI ;;
esac
case "$getnetbyaddr_r_proto" in
"|0) try='struct netent* getnetbyaddr_r(long, int, struct netent*, char*, int);'
./protochk "$extern_C $try" $hdrs && getnetbyaddr_r_proto=S_LISBI ;;
esac
case "$getnetbyaddr_r_proto" in
"|0) try='int getnetbyaddr_r(in_addr_t, int, struct netent*, struct netent_data*);'
./protochk "$extern_C $try" $hdrs && getnetbyaddr_r_proto=I_TISD ;;
esac
case "$getnetbyaddr_r_proto" in
"|0) try='int getnetbyaddr_r(long, int, struct netent*, struct netent_data*);'
./protochk "$extern_C $try" $hdrs && getnetbyaddr_r_proto=I_LISD
;;
esac
case "$getnetbyaddr_r_proto" in
"|0) try='int getnetbyaddr_r(int, int, struct netent*, struct netent_data*);'
./protochk "$extern_C $try" $hdrs && getnetbyaddr_r_proto=I_IISD ;;
esac
case "$getnetbyaddr_r_proto" in
"|0) try='int getnetbyaddr_r(uint32_t, int, struct netent*, char*, size_t, struct netent**, int*);'
./protochk "$extern_C $try" $hdrs && getnetbyaddr_r_proto=I_uISBWRE ;;
esac
case "$getnetbyaddr_r_proto" in
"|0) d_getnetbyaddr_r=undef
        getnetbyaddr_r_proto=0
 echo "Disabling getnetbyaddr_r, cannot determine prototype." >&4 ;;
* ) case "$getnetbyaddr_r_proto" in
 REENTRANT_PROTO*) ;;
 *) getnetbyaddr_r_proto="REENTRANT_PROTO_$getnetbyaddr_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
esac
;;
*) case "$usethreads" in
 define) echo "getnetbyaddr_r has no prototype, not using it." >&4 ;;
 esac
 d_getnetbyaddr_r=undef
 getnetbyaddr_r_proto=0
 ;;
esac
;;
```

```
*) getnetbyaddr_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getnetbyaddr_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_lrintl: Inlibc
?MAKE: -pick add $@ %<
?S:d_lrintl:
?S: This variable conditionally defines the HAS_LRINTL symbol, which
?S: indicates to the C program that the lrintl() routine is available
?S: to return the integral value closest to a long double (according
?S: to the current rounding mode).
?S:.
?C:HAS_LRINTL:
?C: This symbol, if defined, indicates that the lrintl routine is
?C: available to return the integral value closest to a long double
?C: (according to the current rounding mode).
?C:.
?H:#$d_lrintl HAS_LRINTL  /**/
?H:.
?LINT:set d_lrintl
: see if lrintl exists
set lrintl d_lrintl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_lrintl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_regcmp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_regcmp.U,v $
?RCS: Revision 3.0.1.1  1995/01/30  14:34:45  ram
?RCS: patch49: now looks for POSIX regcomp() routine
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:53  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_regcmp d_re_comp d_regcomp: Csym cat
?MAKE: -pick add $@ %<
?S:d_regcomp:
?S: This variable conditionally defines the HAS_REGCOMP symbol, which
?S: indicates to the C program that the regcomp() routine is available
?S: for regular
 patern matching (usally on POSIX.2 conforming systems).
?S:.
?S:d_regcmp:
?S: This variable conditionally defines the HAS_REGCMP symbol, which
?S: indicates to the C program that the regcmp() routine is available
?S: for regular patern matching (usally on System V).
?S:.
?S:d_re_comp:
?S: This variable conditionally defines the HAS_RECOMP symbol, which
?S: indicates to the C program that the re_comp() routine is available
?S: for regular patern matching (usally on BSD). If so, it is likely that
?S: re_exec() exists.
?S:.
?C:HAS_REGCOMP (REGCOMP):
?C: This symbol, if defined, indicates that the regcomp() routine is
?C: available to do some regular patern matching (usually on POSIX.2
?C: conforming systems).
?C:.
?C:HAS_REGCMP (REGCMP):
?C: This symbol, if defined, indicates that the regcmp() routine is
?C: available to do some regular patern matching (usually on System V).
?C:.
?C:HAS_RECOMP (RECOMP):
?C: This symbol, if defined, indicates that the re_comp() routine is
?C: available
 to do some regular patern matching (usually on BSD). If so,
?C: it is likely that re_exec() be available.
?C:.
?H:#$d_regcomp HAS_REGCOMP  /* POSIX.2 */
?H:#$d_regcmp HAS_REGCMP  /* sysV */
?H:#$d_re_comp HAS_RECOMP  /* BSD */
?H:.
?T:val
: see if regcomp, regcmp, or re_comp exist, for regular pattern matching
echo " "
if set regcomp val -f d_regcomp; eval $csym; $val; then
 echo 'regcomp() found.' >&4
 d_regcomp="$define"
```

```
 d_regcmp="$undef"
 d_re_comp="$undef"
elif set regcmp val -f d_regcmp; eval $csym; $val; then
 echo 'regcmp() found.' >&4
 d_regcmp="$define"
 d_regcomp="$undef"
 d_re_comp="$undef"
elif set re_comp val -f d_re_comp; eval $csym; $val; then
 echo 're_comp() found, assuming re_exec() also exists.' >&4
 d_re_comp="$define"
 d_regcomp="$undef"
 d_regcmp="$undef"
else
 $cat >&4 <<EOM
No regcomp(), regcmp() nor re_comp() found !! No regular pattern matching.
EOM
 d_regcmp="$undef"
 d_re_comp="$undef"
 d_regcomp="$undef"
fi

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_regcmp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getnbyad.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getnbyname: Inlibc
?MAKE: -pick add $@ %<
?S:d_getnbyname:
?S: This variable conditionally defines the HAS_GETNETBYNAME symbol, which
?S: indicates to the C program that the getnetbyname() routine is available
?S: to look up networks by their names.
?S:.
?C:HAS_GETNETBYNAME:
?C: This symbol, if defined, indicates that the getnetbyname() routine is
?C: available to look up networks by their names.
?C:.
?H:#$d_getnbyname HAS_GETNETBYNAME  /**/
?H:.
?LINT:set d_getnbyname
: see if getnetbyname exists
set getnetbyname d_getnbyname
```

```
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_getnbynm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_msgctl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_msgctl.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:38  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_msgctl: Inlibc
?MAKE: -pick add $@ %<
?S:d_msgctl:
?S: This variable conditionally defines the HAS_MSGCTL symbol, which
?S: indicates to the C program that the msgctl() routine is available.
?S:.
?C:HAS_MSGCTL:
?C: This symbol, if defined, indicates that the msgctl() routine is
?C: available to perform message control operations.
?C:.
?H:#$d_msgctl
 HAS_MSGCTL  /**/
?H:.
?LINT:set d_msgctl
: see if msgctl exists
set msgctl d_msgctl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_msgctl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_msgrcv.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
```

?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_msgrcv.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:40  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_msgrcv: Inlibc
?MAKE: -pick add $@ %<
?S:d_msgrcv:
?S: This variable conditionally defines the HAS_MSGRCV symbol, which
?S: indicates to the C program that the msgrcv() routine is available.
?S:.
?C:HAS_MSGRCV:
?C: This symbol, if defined, indicates that the msgrcv() routine is
?C: available to extract a message from the message queue.
?C:.
?H:#$d_msgrcv
 HAS_MSGRCV  /**/
?H:.
?LINT:set d_msgrcv
: see if msgrcv exists
set msgrcv d_msgrcv
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_msgrcv.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: nblock_io.U,v 3.0.1.2 1997/02/28 16:17:14 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: nblock_io.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:17:14  ram
?RCS: patch61: simplify here document for shells that can't handle them well
?RCS: patch61: force use of "startsh" at the head of the generated script
?RCS: patch61: added new files to the ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.1  1995/07/25  14:13:22  ram
?RCS: patch56: created

```
?RCS:
?X:
?X: Simplify here document for shells that can't handle them well.
?X: (Problem reported on FreeBSD;
 it's unclear if this helps.)  --AD
?X:
?MAKE:o_nonblock eagain rd_nodata d_eofnblk: cat rm_try Compile run \
 d_open3 h_sysfile h_fcntl signal_t hint Oldconfig Setvar \
 startsh i_unistd i_string i_fcntl i_stdlib d_fork d_pipe d_alarm
?MAKE: -pick add $@ %<
?S:o_nonblock:
?S: This variable bears the symbol value to be used during open() or fcntl()
?S: to turn on non-blocking I/O for a file descriptor. If you wish to switch
?S: between blocking and non-blocking, you may try ioctl(FIOSNBIO) instead,
?S: but that is only supported by some devices.
?S:.
?S:eagain:
?S: This variable bears the symbolic errno code set by read() when no
?S: data is present on the file and non-blocking I/O was enabled (otherwise,
?S: read() blocks naturally).
?S:.
?S:rd_nodata:
?S: This variable holds the return code from read() when no data is
?S: present. It should be -1, but some systems return 0 when O_NDELAY is
?S: used, which is a shame because you cannot make the difference between
?S: no data and an
 EOF.. Sigh!
?S:.
?S:d_eofnblk:
?S: This variable conditionally defines EOF_NONBLOCK if EOF can be seen
?S: when reading from a non-blocking I/O source.
?S:.
?C:VAL_O_NONBLOCK:
?C: This symbol is to be used during open() or fcntl(F_SETFL) to turn on
?C: non-blocking I/O for the file descriptor. Note that there is no way
?C: back, i.e. you cannot turn it blocking again this way. If you wish to
?C: alternatively switch between blocking and non-blocking, use the
?C: ioctl(FIOSNBIO) call instead, but that is not supported by all devices.
?C:.
?C:VAL_EAGAIN:
?C: This symbol holds the errno error code set by read() when no data was
?C: present on the non-blocking file descriptor.
?C:.
?C:RD_NODATA:
?C: This symbol holds the return code from read() when no data is present
?C: on the non-blocking file descriptor. Be careful! If EOF_NONBLOCK is
?C: not defined, then you can't distinguish between no data and EOF by
?C: issuing a read(). You'll have to find another way to tell for sure!
```

```
?C:.
?C:EOF_NONBLOCK:
?C: This
 symbol, if defined, indicates to the C program that a read() on
?C: a non-blocking file descriptor will return 0 on EOF, and not the value
?C: held in RD_NODATA (-1 usually, in that case!).
?C:.
?H:#define VAL_O_NONBLOCK $o_nonblock
?H:#define VAL_EAGAIN $eagain
?H:#define RD_NODATA $rd_nodata
?H:#$d_eofnblk EOF_NONBLOCK
?H:.
?T:status
?F:!try.out !try.ret !try.err !try !mtry
?LINT:use d_open3
: check for non-blocking I/O stuff
case "$h_sysfile" in
true) echo "#include <sys/file.h>" > head.c;;
*)
     case "$h_fcntl" in
     true) echo "#include <fcntl.h>" > head.c;;
     *) echo "#include <sys/fcntl.h>" > head.c;;
     esac
     ;;
esac
echo " "
echo "Figuring out the flag used by open() for non-blocking I/O..." >&4
case "$o_nonblock" in
")
 $cat head.c > try.c
 $cat >>try.c <<EOCP
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#$i_fcntl I_FCNTL
#ifdef I_FCNTL
#include <fcntl.h>
#endif
int main() {
#ifdef O_NONBLOCK
 printf("O_NONBLOCK\n");
 exit(0);
#endif
#ifdef
 O_NDELAY
 printf("O_NDELAY\n");
```

```
 exit(0);
#endif
?X: Stevens "Advanced Programming in the UNIX Environment" page 364 mentions
?X: the FNDELAY symbol, used in 4.3BSD (source: Paul Marquess).
#ifdef FNDELAY
 printf("FNDELAY\n");
 exit(0);
#endif
 exit(0);
}
EOCP
 set try
 if eval $compile_ok; then
  o_nonblock=`$run ./try`
  case "$o_nonblock" in
  ") echo "I can't figure it out, assuming O_NONBLOCK will do.";;
  *) echo "Seems like we can use $o_nonblock.";;
  esac
 else
  echo "(I can't compile the test program; pray O_NONBLOCK is right!)"
 fi
 ;;
*) echo "Using $hint value $o_nonblock.";;
esac
$rm_try

echo " "
echo "Let's see what value errno gets from read() on a $o_nonblock file..." >&4
case "$eagain" in
")
 case "$d_fork:$d_pipe:$d_alarm" in
 define:define:define)
 $cat head.c > try.c
 $cat >>try.c <<EOCP
#include <errno.h>
#include <sys/types.h>
#include <signal.h>
#include <stdio.h>
#$i_stdlib I_STDLIB
#ifdef I_STDLIB
#include <stdlib.h>
#endif
#$i_fcntl
 I_FCNTL
#ifdef I_FCNTL
#include <fcntl.h>
#endif
#define MY_O_NONBLOCK $o_nonblock
```

```
#ifndef errno  /* XXX need better Configure test */
extern int errno;
#endif
#$i_unistd I_UNISTD
#ifdef I_UNISTD
#include <unistd.h>
#endif
#$i_string I_STRING
#ifdef I_STRING
#include <string.h>
#else
#include <strings.h>
#endif
$signal_t blech(int x) { exit(3); }
EOCP
 $cat >> try.c <<'EOCP'
int main()
{
 int pd[2];
 int pu[2];
 char buf[1];
 char string[100];
 int ret;

 ret = pipe(pd); /* Down: child -> parent */
 if (ret != 0)
  exit(3);
 ret = pipe(pu); /* Up: parent -> child */
 if (ret != 0)
  exit(3);
 if (0 != fork()) {
  close(pd[1]); /* Parent reads from pd[0] */
  close(pu[0]); /* Parent writes (blocking) to pu[1] */
#ifdef F_SETFL
  if (-1 == fcntl(pd[0], F_SETFL, MY_O_NONBLOCK))
   exit(1);
#else
  exit(4);
#endif
  signal(SIGALRM, blech);
  alarm(5);
  if ((ret = read(pd[0], buf, 1)) > 0) /* Nothing to read! */
   exit(2);
  sprintf(string, "%d\n", ret);
  ret =
 write(2, string, strlen(string));
  if (ret != strlen(string))
   exit(3);
```

```
  alarm(0);
#ifdef EAGAIN
  if (errno == EAGAIN) {
   printf("EAGAIN\n");
   goto ok;
  }
#endif
#ifdef EWOULDBLOCK
  if (errno == EWOULDBLOCK)
   printf("EWOULDBLOCK\n");
#endif
 ok:
  ret = write(pu[1], buf, 1); /* Unblocks child, tell it to close our pipe */
  if (ret != 1)
   exit(3);
  sleep(2);    /* Give it time to close our pipe */
  alarm(5);
  ret = read(pd[0], buf, 1); /* Should read EOF */
  alarm(0);
  sprintf(string, "%d\n", ret);
  ret = write(4, string, strlen(string));
  if (ret != strlen(string))
   exit(3);
  exit(0);
 }

 close(pd[0]);   /* We write to pd[1] */
 close(pu[1]);   /* We read from pu[0] */
 ret = read(pu[0], buf, 1); /* Wait for parent to signal us we may continue */
 if (ret != 1)
  exit(3);
 close(pd[1]);   /* Pipe pd is now fully closed! */
 exit(0);    /* Bye bye, thank you for playing! */
}
EOCP
 set try
 if eval $compile_ok; then
?X: Use script to avoid the possible 'alarm
 call' message
  echo "$startsh" >mtry
  echo "$run ./try >try.out 2>try.ret 4>try.err || exit 4" >>mtry
  chmod +x mtry
  $run ./mtry >/dev/null 2>&1
  case $? in
  0) eagain=`$cat try.out`;;
  1) echo "Could not perform non-blocking setting!";;
  2) echo "I did a successful read() for something that was not there!";;
  3) echo "Hmm... non-blocking I/O does not seem to be working!";;
```

```
 4) echo "Could not find F_SETFL!";;
 *) echo "Something terribly wrong happened during testing.";;
 esac
 rd_nodata=`$cat try.ret`
 echo "A read() system call with no data present returns $rd_nodata."
 case "$rd_nodata" in
 0|-1) ;;
 *)
  echo "(That's peculiar, fixing that to be -1.)"
  rd_nodata=-1
  ;;
 esac
 case "$eagain" in
 ")
  echo "Forcing errno EAGAIN on read() with no data available."
  eagain=EAGAIN
  ;;
 *)
  echo "Your read() sets errno to $eagain when no data is available."
  ;;
 esac
 status=`$cat try.err`
 case "$status" in
 0) echo "And it correctly returns 0 to
signal EOF.";;
 -1) echo "But it also returns -1 to signal EOF, so be careful!";;
 *) echo "However, your read() returns '$status' on EOF??";;
 esac
 val="$define"
 if test "$status" = "$rd_nodata"; then
  echo "WARNING: you can't distinguish between EOF and no data!"
  val="$undef"
 fi
else
 echo "I can't compile the test program--assuming errno EAGAIN will do."
 eagain=EAGAIN
fi
;;
*) echo "Can't figure out how to test this--assuming errno EAGAIN will do."
 eagain=EAGAIN
 val="$define"
 ;;
esac
set d_eofnblk
eval $setvar
;;
*)
echo "Using $hint value $eagain."
```

```
 echo "Your read() returns $rd_nodata when no data is present."
 case "$d_eofnblk" in
 "$define") echo "And you can see EOF because read() returns 0.";;
 "$undef") echo "But you can't see EOF status from read() returned value.";;
 *)
?X: Should not happen, but if it does, assume the worst!
  echo "(Assuming you can't see EOF status from read anyway.)"
  d_eofnblk=$undef
  ;;
 esac
 ;;
esac
$rm_try head.c
 mtry
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/compline/nblock_io.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_nice.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_nice.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:09:48  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_nice: Inlibc
?MAKE: -pick add $@ %<
?S:d_nice:
?S: This variable conditionally defines the HAS_NICE symbol, which
?S: indicates to the C program that the nice() routine is available.
?S:.
?C:HAS_NICE :
?C: This symbol, if defined, indicates that the nice routine is
?C: available.
?C:.
?H:#$d_nice
 HAS_NICE  /**/
?H:.
```

```
?LINT:set d_nice
: see if nice exists
set nice d_nice
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_nice.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_getpwent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getpwent: Csym Setvar
?MAKE: -pick add $@ %<
?S:d_getpwent:
?S: This variable conditionally defines the HAS_GETPWENT symbol, which
?S: indicates to the C program that it should use the getpwent()
?S: routine instead of the getpw() routine.
?S:.
?C:HAS_GETPWENT (GETPWENT):
?C: This symbol, if defined, indicates that the getpwent() routine
?C: should be used instead of the getpw()
 routine.
?C:.
?H:#$d_getpwent HAS_GETPWENT /**/
?H:.
?LINT:set d_getpwent
: see if there is a getpwent
echo " "
if set getpwent val -f d_getpwent; eval $csym; $val; then
 echo "getpwent() found." >&4
 val="$define"
else
 echo "No getpwent() found -- will use getpw() instead." >&4
 val="$undef"
fi
set d_getpwent
```

```
eval $setvar
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getpwent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getmntinfo_r: Inlibc
?MAKE: -pick add $@ %<
?S:d_getmntinfo_r:
?S: This variable conditionally defines the HAS_GETMNTINFO_R symbol,
?S: which indicates to the C program that the getmntinfo_r()
?S: routine is available.
?S:.
?C:HAS_GETMNTINFO_R:
?C: This symbol, if defined, indicates that the getmntinfo_r routine
?C: is available to getmntinfo re-entrantly.
?C:.
?H:#$d_getmntinfo_r HAS_GETMNTINFO_R  /**/
?H:.
?LINT:set d_getmntinfo_r
: see if getmntinfo_r exists
set getmntinfo_r d_getmntinfo_r
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getmntinfo_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_strdup.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_strdup.U,v $
?RCS: Revision 3.0.1.1  1993/12/15  08:21:41  ram
?RCS: patch15: created
```

```
?RCS:
?MAKE:d_strdup: Inlibc
?MAKE: -pick add $@ %<
?S:d_strdup:
?S: This variable conditionally defines HAS_STRDUP if strdup() is
?S: available to duplicate strings in memory.
?S:.
?C:HAS_STRDUP:
?C: This symbol, if defined, indicates that the strdup routine is
?C: available to duplicate strings in memory. Otherwise, roll up
?C: your own...
?C:.
?H:#$d_strdup HAS_STRDUP  /**/
?H:.
?LINT:set
 d_strdup
: see if strdup exists
set strdup d_strdup
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_strdup.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:ivdformat uvuformat uvoformat uvxformat uvXUformat \
 nvEUformat nvFUformat nvGUformat \
 nveformat nvfformat nvgformat: \
 ivsize longsize intsize shortsize \
 sPRId64 sPRIu64 sPRIo64 sPRIx64 sPRIXU64 \
 uselongdouble d_longdbl usequadmath d_PRIgldbl \
 sPRIEUldbl sPRIFUldbl sPRIGUldbl sPRIeldbl sPRIfldbl sPRIgldbl \
 test echo
?MAKE: -pick add $@ %<
?S:ivdformat:
?S: This variable contains the format string used for printing
?S: a Perl IV as a signed decimal integer.
?S:.
?S:uvuformat:
?S: This variable contains the format string used for printing
?S: a Perl UV as an unsigned decimal integer.
?S:.
```

?S:uvoformat:
?S: This variable contains the format string used for printing
?S: a Perl UV as an unsigned
 octal integer.
?S:.
?S:uvxformat:
?S: This variable contains the format string used for printing
?S: a Perl UV as an unsigned hexadecimal integer in lowercase abcdef.
?S:.
?S:uvXUformat:
?S: This variable contains the format string used for printing
?S: a Perl UV as an unsigned hexadecimal integer in uppercase ABCDEF.
?S:.
?S:nveformat:
?S: This variable contains the format string used for printing
?S: a Perl NV using %e-ish floating point format.
?S:.
?S:nvfformat:
?S: This variable contains the format string used for printing
?S: a Perl NV using %f-ish floating point format.
?S:.
?S:nvgformat:
?S: This variable contains the format string used for printing
?S: a Perl NV using %g-ish floating point format.
?S:.
?S:nvEUformat:
?S: This variable contains the format string used for printing
?S: a Perl NV using %E-ish floating point format.
?S:.
?S:nvFUformat:
?S: This variable contains the format string used for printing
?S: a Perl NV using %F-ish floating point format.
?S:.
?S:nvGUformat:
?S: This
 variable contains the format string used for printing
?S: a Perl NV using %G-ish floating point format.
?S:.
?C:IVdf:
?C: This symbol defines the format string used for printing a Perl IV
?C: as a signed decimal integer.
?C:.
?C:UVuf:
?C: This symbol defines the format string used for printing a Perl UV
?C: as an unsigned decimal integer.
?C:.
?C:UVof:
?C: This symbol defines the format string used for printing a Perl UV

?C: as an unsigned octal integer.
?C:.
?C:UVxf:
?C: This symbol defines the format string used for printing a Perl UV
?C: as an unsigned hexadecimal integer in lowercase abcdef.
?C:.
?C:UVXf:
?C: This symbol defines the format string used for printing a Perl UV
?C: as an unsigned hexadecimal integer in uppercase ABCDEF.
?C:.
?C:NVef:
?C: This symbol defines the format string used for printing a Perl NV
?C: using %e-ish floating point format.
?C:.
?C:NVff:
?C: This symbol defines the format string used for printing a Perl NV
?C: using %f-ish floating point
 format.
?C:.
?C:NVgf:
?C: This symbol defines the format string used for printing a Perl NV
?C: using %g-ish floating point format.
?C:.
?C:NVEf:
?C: This symbol defines the format string used for printing a Perl NV
?C: using %E-ish floating point format.
?C:.
?C:NVFf:
?C: This symbol defines the format string used for printing a Perl NV
?C: using %F-ish floating point format.
?C:.
?C:NVGf:
?C: This symbol defines the format string used for printing a Perl NV
?C: using %G-ish floating point format.
?C:.
?H:#define IVdf  $ivdformat  /**/
?H:#define UVuf  $uvuformat  /**/
?H:#define UVof  $uvoformat  /**/
?H:#define UVxf  $uvxformat  /**/
?H:#define UVXf  $uvXUformat  /**/
?H:#define NVef  $nveformat  /**/
?H:#define NVff  $nvfformat  /**/
?H:#define NVgf  $nvgformat  /**/
?H:#define NVEf  $nvEUformat  /**/
?H:#define NVFf  $nvFUformat  /**/
?H:#define NVGf  $nvGUformat  /**/
?H:.
: Check format strings for internal types

```
echo " "
$echo "Checking the format strings to be used for Perl's
 internal types..." >&4

if $test X"$ivsize" = X8; then
 ivdformat="$sPRId64"
 uvuformat="$sPRIu64"
 uvoformat="$sPRIo64"
 uvxformat="$sPRIx64"
 uvXUformat="$sPRIXU64"
else
 if $test X"$ivsize" = X"$longsize"; then
  ivdformat="'ld'"
  uvuformat="'lu'"
  uvoformat="'lo'"
  uvxformat="'lx'"
  uvXUformat="'lX'"
 else
  if $test X"$ivsize" = X"$intsize"; then
   ivdformat="'d'"
   uvuformat="'u'"
   uvoformat="'o'"
   uvxformat="'x'"
   uvXUformat="'X'"
  else
   : far out
   if $test X"$ivsize" = X"$shortsize"; then
    ivdformat="'hd'"
    uvuformat="'hu'"
    uvoformat="'ho'"
    uvxformat="'hx'"
    uvXUformat="'hX'"
   fi
  fi
 fi
fi

if $test X"$usequadmath" = X"$define"; then
   nveformat="'Qe'"
   nvfformat="'Qf'"
   nvgformat="'Qg'"
   nvEUformat="'QE'"
   nvFUformat="'QF'"
   nvGUformat="'QG'"
else
   if $test X"$uselongdouble" = X"$define" -a X"$d_longdbl" = X"$define" -a X"$d_PRIgldbl" = X"$define"; then
 nveformat="$sPRIeldbl"
 nvfformat="$sPRIfldbl"
```

```
 nvgformat="$sPRIgldbl"
 nvEUformat="$sPRIEUldbl"
 nvFUformat="$sPRIFUldbl"
 nvGUformat="$sPRIGUldbl"
   else
 nveformat="'e'"
 nvfformat="'f'"
 nvgformat="'g'"
 nvEUformat="'E'"
 nvFUformat="'F'"
 nvGUformat="'G'"
  fi
fi

case "$ivdformat" in
") echo "$0: Fatal: failed to find format strings, cannot continue." >&4
  exit 1
  ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/perlxvf.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:inotype: Myread Typedef
?MAKE: -pick add $@ %<
?S:inotype:
?S: This variable defines Ino_t to be something like ino_t, long,
?S: int, or whatever type is used to declare inode numbers.
?S:.
?C:Ino_t:
?C: This symbol holds the type used to declare inode numbers.
?C: It can be int, long, ino_t, etc...
?C: It may be necessary to include <sys/types.h> to get any
?C: typedef'ed information.
?C:.
?H:#define Ino_t $inotype /* <inode> type */
?H:.
```

```
?LINT: set inotype
: see what type is used for inodes
rp="What is the type used
 for inode numbers on this system?"
set ino_t inotype long stdio.h sys/types.h
eval $typedef_ask
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/typedefs/inotype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lns.U,v 3.0.1.1 1994/06/20 07:05:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?X:
?X: This unit checks whether symbolic links are really supported.
?X: We can't rely on d_symlink because that may be listed in the
?X: C library but unimplemented.
?X:
?MAKE:lns: ln rm touch
?MAKE: -pick add $@ %<
?S:lns:
?S: This variable holds the name of the command to make
?S: symbolic
 links (if they are supported).  It can be used
?S: in the Makefile. It is either 'ln -s' or 'ln'
?S:.
: determine whether symbolic links are supported
echo " "
$touch blurfl
if $ln -s blurfl sym > /dev/null 2>&1 ; then
 echo "Symbolic links are supported." >&4
 lns="$ln -s"
else
 echo "Symbolic links are NOT supported." >&4
```

```
 lns="$ln"
fi
$rm -f blurfl sym
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/lns.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Tye McQueen <tye@metronet.com> added safe setuid script checks.
?RCS:
?RCS: $Log: d_dosuid.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:33:03  ram
?RCS: patch61: moved unit to TOP via a ?Y: layout directive
?RCS: patch61: tell them /dev/fd is not about floppy disks
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:12:08  ram
?RCS: patch36: added checks for secure setuid scripts (Tye McQueen)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_dosuid
 d_suidsafe: cat contains ls rm test Myread Setvar \
 Oldconfig Guess package hint
?MAKE: -pick add $@ %<
?S:d_suidsafe:
?S: This variable conditionally defines SETUID_SCRIPTS_ARE_SECURE_NOW
?S: if setuid scripts can be secure.  This test looks in /dev/fd/.
?S:.
?S:d_dosuid:
?S: This variable conditionally defines the symbol DOSUID, which
?S: tells the C program that it should insert setuid emulation code
?S: on hosts which have setuid #! scripts disabled.
?S:.
?C:SETUID_SCRIPTS_ARE_SECURE_NOW:
?C: This symbol, if defined, indicates that the bug that prevents
?C: setuid scripts from being secure is not present in this kernel.
?C:.
```

```
?C:DOSUID:
?C: This symbol, if defined, indicates that the C program should
?C: check the script that it is executing for setuid/setgid bits, and
?C: attempt to emulate setuid/setgid on systems that have disabled
?C: setuid #! scripts because the kernel can't do it securely.
?C: It is up to the package designer to make sure that this emulation
?C: is done securely.
  Among other things, it should do an fstat on
?C: the script it just opened to make sure it really is a setuid/setgid
?C: script, it should make sure the arguments passed correspond exactly
?C: to the argument on the #! line, and it should not trust any
?C: subprocesses to which it must pass the filename rather than the
?C: file descriptor of the script to be executed.
?C:.
?H:#$d_suidsafe SETUID_SCRIPTS_ARE_SECURE_NOW /**/
?H:#$d_dosuid DOSUID  /**/
?H:.
?Y:TOP
?F:!reflect
?LINT: set d_suidsafe
?LINT: set d_dosuid
: see if setuid scripts can be secure
$cat <<EOM

Some kernels have a bug that prevents setuid #! scripts from being
secure.  Some sites have disabled setuid #! scripts because of this.

First let's decide if your kernel supports secure setuid #! scripts.
(If setuid #! scripts would be secure but have been disabled anyway,
don't say that they are secure if asked.)

EOM

val="$undef"
if $test -d /dev/fd; then
 echo "#!$ls" >reflect
 chmod +x,u+s reflect
 ./reflect >flect
 2>&1
 if $contains "/dev/fd" flect >/dev/null; then
  echo "Congratulations, your kernel has secure setuid scripts!" >&4
  val="$define"
 else
  $cat <<EOM
If you are not sure if they are secure, I can check but I'll need a
username and password different from the one you are using right now.
If you don't have such a username or don't want me to test, simply
enter 'none'.
```

```
EOM
  rp='Other username to test security of setuid scripts with?'
  dflt='none'
  . ./myread
  case "$ans" in
  n|none)
   case "$d_suidsafe" in
   '') echo "I'll assume setuid scripts are *not* secure." >&4
    dflt=n;;
   "$undef")
    echo "Well, the $hint value is *not* secure." >&4
    dflt=n;;
   *) echo "Well, the $hint value *is* secure." >&4
    dflt=y;;
   esac
   ;;
  *)
   $rm -f reflect flect
   echo "#!$ls" >reflect
   chmod +x,u+s reflect
   echo >flect
   chmod a+w flect
   echo '"su" will (probably) prompt you for "'$ans's password."
   su $ans -c './reflect >flect'
   if $contains "/dev/fd" flect
>/dev/null; then
    echo "Okay, it looks like setuid scripts are secure." >&4
    dflt=y
   else
    echo "I don't think setuid scripts are secure." >&4
    dflt=n
   fi
   ;;
  esac
  rp='Does your kernel have *secure* setuid scripts?'
  . ./myread
  case "$ans" in
  [yY]*) val="$define";;
  *) val="$undef";;
  esac
 fi
else
 echo "I don't think setuid scripts are secure (no /dev/fd directory)." >&4
 echo "(That's for file descriptors, not floppy disks.)"
 val="$undef"
fi
set d_suidsafe
```

```
eval $setvar

$rm -f reflect flect

: now see if they want to do setuid emulation
echo " "
val="$undef"
case "$d_suidsafe" in
"$define")
 val="$undef"
 echo "No need to emulate SUID scripts since they are secure here." >& 4
 ;;
*)
 $cat <<EOM
Some systems have disabled setuid scripts, especially systems where
setuid scripts cannot be secure.  On systems where setuid scripts have
been disabled, the setuid/setgid bits on scripts are currently
useless.  It is possible for $package to detect those bits
 and emulate
setuid/setgid in a secure fashion.  This emulation will only work if
setuid scripts have been disabled in your kernel.

EOM
 case "$d_dosuid" in
 "$define") dflt=y ;;
 *) dflt=n ;;
 esac
 rp="Do you want to do setuid/setgid emulation?"
 . ./myread
 case "$ans" in
 [yY]*) val="$define";;
 *) val="$undef";;
 esac
 ;;
esac
set d_dosuid
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_dosuid.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_NOFILE.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:08:38  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:nofile d_gettblsz tablesize: Myread Guess cat +cc +ccflags +libs \
 test rm Csym
?MAKE: -pick add $@ %<
?S:nofile:
?S: This variable contains the number of file descriptors available to the
?S: process.
?S:.
?S:d_gettblsz:
?S: This variable conditionally handles remapping
 of the getdtablesize()
?S: subroutine to ulimit(4,0), or the NOFILE manifest constant.
?S:.
?S:tablesize:
?S: This variable contains either the 'NOFILE' constant or 'ulimit(4, 0L)'
?S: and is used as the remapped value for the getdtablesize() macro.
?S:.
?C:getdtablesize:
?C: This catches use of the getdtablesize() subroutine, and remaps it
?C: to either ulimit(4,0) or NOFILE, if getdtablesize() isn't available.
?C:.
?C:VAL_NOFILE:
?C: This symbol contains the number of file descriptors available to the
?C: process, as determined at configuration time. Unless a static constant
?C: is needed, you should rely on getdtablesize() to obtain that number.
?C:.
?H:#$d_gettblsz getdtablesize() $tablesize /**/
?H:#define VAL_NOFILE $nofile /* Number of file descriptors */
?H:.
?F:!nofile
?T:d_ulimit4 val
: see if getdtablesize exists
echo " "
?X: Revert logical value (d_gettblsz is undef iff getdtablesize is present)
case "$d_gettblsz" in
$define) d_gettblsz="$undef";;
$undef) d_gettblsz="$define";;
esac
```

```
if
 set getdtablesize val -f d_gettblsz; eval $csym; $val; then
 echo 'getdtablesize() found.' >&4
 d_gettblsz="$undef"
 tablesize="
@if VAL_NOFILE || nofile
 $cat >nofile.c <<'EOCP'
#include <stdio.h>
int main()
{
 printf("%d\n", getdtablesize());
}
EOCP
 nofile="
 if $cc $ccflags -o nofile nofile.c $libs >/dev/null 2>&1; then
  nofile=`./nofile 2>/dev/null`
 fi
 if $test "$nofile"; then
  echo "(You have $nofile file descriptors available per process.)"
 else
  nofile='20'
  if ./bsd; then
   nofile='64'
  fi
 echo "(Hmm... Let's say you have $nofile file descriptors available.)"
 fi
@end
else
 echo 'getdtablesize() NOT found...' >&4
 if set ulimit val -f; eval $csym; $val; then
  echo 'Maybe ulimit(4,0) will work...'
  $cat >nofile.c <<'EOCP'
#include <stdio.h>
#ifdef GETPARAM_H
#include <sys/param.h>
#endif
int main()
{
 printf("%d %d\n",
#ifdef NOFILE
  NOFILE,
#else
  0,
#endif
  ulimit(4,0));
  exit(0);
}
EOCP
```

```
 if $cc $ccflags -DGETPARAM_H -o nofile nofile.c $libs
>/dev/null 2>&1 \
  || $cc $ccflags -o nofile nofile.c $libs >/dev/null 2>&1 ; then
  set `./nofile`
  d_gettblsz=$1
  d_ulimit4=$2
  if $test "$d_ulimit4" -lt 0; then
   echo "Your ulimit() call doesn't tell me what I want to know."
   echo "We'll just use NOFILE in this case."
   nofile=$d_gettblsz
   d_gettblsz="$define"
   tablesize='NOFILE'
  else
   if $test "$d_gettblsz" -gt 0; then
   echo "Your system defines NOFILE to be $d_gettblsz, and" >&4
   else
   echo "I had trouble getting NOFILE from your system, but" >&4
   fi
echo "ulimit returns $d_ulimit4 as the number of available file descriptors." >&4
   dflt='y';
   echo " "
 rp='Should I use ulimit to get the number of available file descriptors?'
   . ./myread
   case "$ans" in
   y*)
    nofile=$d_ulimit4
    d_gettblsz="$define"
    tablesize='ulimit(4, 0L)'
    echo "Using ulimit(4,0)."
    ;;
   *)
    nofile=$d_gettblsz
    d_gettblsz="$define"
    tablesize='NOFILE'
    echo "Using NOFILE."
    ;;
   esac
  fi
 else
  echo
 "Strange, I couldn't get my test program to compile."
  echo "We'll just use NOFILE in this case."
  d_gettblsz="$define"
  tablesize='NOFILE'
  nofile="
 fi
else
 echo 'Using NOFILE instead.'
```

```
 d_gettblsz="$define"
 tablesize='NOFILE'
 nofile="
fi
fi
@if VAL_NOFILE || nofile
case "$nofile" in
")
 $cat >nofile.c <<'EOCP'
#include <stdio.h>
#ifdef GETPARAM_H
#include <sys/param.h>
#endif
int main()
{
 printf("%d\n",
#ifdef NOFILE
  NOFILE,
#else
  0,
#endif
  );
  exit(0);
}
EOCP
 if $cc $ccflags -DGETPARAM_H -o nofile nofile.c $libs >/dev/null 2>&1 \
  || $cc $ccflags -o nofile nofile.c $libs >/dev/null 2>&1 ; then
  nofile=`./nofile 2>/dev/null`
 fi
 if $test "$nofile"; then
  echo "(You have $nofile file descriptors available per process.)"
 else
  nofile='20'
  if ./bsd; then
   nofile='64'
  fi
 echo "(Hmm... Let's say you have $nofile file descriptors available.)"
 fi
 ;;
esac
@end
$rm -f nofile*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_NOFILE.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_getgrps.U 1 2006-08-24 12:32:52Z rmanfredi $

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_getgrps.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_getgrps: Inlibc
?MAKE: -pick add $@ %<
?S:d_getgrps:
?S: This variable conditionally defines the HAS_GETGROUPS symbol, which
?S: indicates to the C program that the getgroups() routine is available
?S: to get the list of process groups.
?S:.
?C:HAS_GETGROUPS (GETGROUPS):
?C: This symbol, if defined, indicates that the getgroups()
 routine is
?C: available to get the list of process groups.  If unavailable, multiple
?C: groups are probably not supported.
?C:.
?H:#$d_getgrps HAS_GETGROUPS  /**/
?H:.
?LINT:set d_getgrps
: see if getgroups exists
set getgroups d_getgrps
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_getgrps.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_tcgtpgrp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
```

```
?RCS:
?RCS: $Log: d_tcgtpgrp.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:12:08  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_tcgetpgrp: Inlibc
?MAKE: -pick add $@ %<
?S:d_tcgetpgrp:
?S: This variable conditionally defines the HAS_TCGETPGRP symbol, which
?S: indicates to the C program that the tcgetpgrp() routine is available.
?S: to get foreground process group ID.
?S:.
?C:HAS_TCGETPGRP
 :
?C: This symbol, if defined, indicates that the tcgetpgrp routine is
?C: available to get foreground process group ID.
?C:.
?H:#$d_tcgetpgrp HAS_TCGETPGRP  /**/
?H:.
?LINT:set d_tcgetpgrp
: see if tcgetpgrp exists
set tcgetpgrp d_tcgetpgrp
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_tcgtpgrp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Oldsym.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:06:58  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit follows the creation of the config.sh file. It adds some
?X: special symbols: defines from patchlevel.h file if any and CONFIG,
```

```
?X: which is set to true. Then, we try to keep all the new symbols that
?X: may come from a hint file or a previous config.sh file.
?X:
?MAKE:Oldsym:
 Config_sh Options test hint src sed sort uniq
?MAKE: -pick add $@ %<
?T:CONFIG sym tmp
?F:!UU
: add special variables
$test -f $src/patchlevel.h && \
awk '/^#define/ {printf "%s=%s\n",$2,$3}' $src/patchlevel.h >>config.sh
echo "CONFIG=true" >>config.sh

: propagate old symbols
if $test -f UU/config.sh; then
?X: Make sure each symbol is unique in oldconfig.sh
 <UU/config.sh $sort | $uniq >UU/oldconfig.sh
?X:
?X: All the symbols that appear twice come only from config.sh (hence the
?X: two config.sh in the command line). These symbols will be removed by
?X: the uniq -u command. The oldsyms file thus contains all the symbols
?X: that did not appear in the produced config.sh (Larry Wall).
?X:
?X: Do not touch the -u flag of uniq.  This means you too, Jarkko.
?X:
 $sed -n 's/^\([a-zA-Z_0-9]*\)=.*/\1/p' \
  config.sh config.sh UU/oldconfig.sh |\
  $sort | $uniq -u >UU/oldsyms
 set X `cat UU/oldsyms`
 shift
 case $# in
 0) ;;
 *)
  cat <<EOM
Hmm...You had some extra variables I don't know about...I'll
 try to keep 'em...
EOM
  echo ": Variables propagated from previous config.sh file." >>config.sh
  for sym in `cat UU/oldsyms`; do
   echo "    Propagating $hint variable "'$'"$sym..."
   eval 'tmp="$'"${sym}"'"'
   echo "$tmp" | \
    sed -e "s/'/'\"'\"'/g" -e "s/^/$sym='/" -e "s/$/'/" >>config.sh
  done
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/Oldsym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_gethostbyaddr_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_gethostbyaddr_r gethostbyaddr_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_gethostbyaddr_r:
?S: This variable conditionally defines the HAS_GETHOSTBYADDR_R symbol,
?S: which indicates to the C program that the gethostbyaddr_r()
?S: routine is available.
?S:.
?S:gethostbyaddr_r_proto:
?S: This variable encodes the prototype of gethostbyaddr_r.
?S: It is zero if d_gethostbyaddr_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_gethostbyaddr_r
?S: is defined.
?S:.
?C:HAS_GETHOSTBYADDR_R:
?C: This symbol, if defined, indicates
 that the gethostbyaddr_r routine
?C: is available to gethostbyaddr re-entrantly.
?C:.
?C:GETHOSTBYADDR_R_PROTO:
?C: This symbol encodes the prototype of gethostbyaddr_r.
?C: It is zero if d_gethostbyaddr_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_gethostbyaddr_r
?C: is defined.
?C:.
?H:#$d_gethostbyaddr_r HAS_GETHOSTBYADDR_R    /**/
?H:#define GETHOSTBYADDR_R_PROTO $gethostbyaddr_r_proto    /**/
?H:.
?T:try hdrs d_gethostbyaddr_r_proto
: see if gethostbyaddr_r exists
set gethostbyaddr_r d_gethostbyaddr_r
eval $inlibc
case "$d_gethostbyaddr_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_gethostbyaddr_r_proto:$usethreads" in
```

```
":define") d_gethostbyaddr_r_proto=define
 set d_gethostbyaddr_r_proto gethostbyaddr_r $hdrs
 eval $hasproto ;;
*) ;;
esac
case "$d_gethostbyaddr_r_proto" in
define)
case "$gethostbyaddr_r_proto" in
"|0) try='int gethostbyaddr_r(const char*, size_t, int, struct hostent*,
char*, size_t, struct hostent**, int*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=I_CWISBWRE ;;
esac
case "$gethostbyaddr_r_proto" in
"|0) try='struct hostent* gethostbyaddr_r(const char*, size_t, int, struct hostent*, char*, size_t, int, int*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=S_CWISBWIE ;;
esac
case "$gethostbyaddr_r_proto" in
"|0) try='struct hostent* gethostbyaddr_r(const char*, size_t, int, struct hostent*, char*, int, int*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=S_CWISBIE ;;
esac
case "$gethostbyaddr_r_proto" in
"|0) try='struct hostent* gethostbyaddr_r(const void*, size_t, int, struct hostent*, char*, int, int*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=S_TWISBIE ;;
esac
case "$gethostbyaddr_r_proto" in
"|0) try='struct hostent* gethostbyaddr_r(const char*, int, int, struct hostent*, char*, int, int*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=S_CIISBIE ;;
esac
case
"$gethostbyaddr_r_proto" in
"|0) try='struct hostent* gethostbyaddr_r(const char*, struct hostent*, char*, int, int*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=S_CSBIE ;;
esac
case "$gethostbyaddr_r_proto" in
"|0) try='struct hostent* gethostbyaddr_r(const void*, struct hostent*, char*, int, int*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=S_TSBIE ;;
esac
case "$gethostbyaddr_r_proto" in
"|0) try='int gethostbyaddr_r(const char*, size_t, int, struct hostent*, struct hostent_data*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=I_CWISD ;;
esac
case "$gethostbyaddr_r_proto" in
"|0) try='int gethostbyaddr_r(const char*, int, int, struct hostent*, struct hostent_data*);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=I_CIISD ;;
esac
case "$gethostbyaddr_r_proto" in
"|0) try='int gethostbyaddr_r(const char*, int, int);'
./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=I_CII ;;
```

```
 esac
 case
 "$gethostbyaddr_r_proto" in
 "|0) try='int gethostbyaddr_r(const void*, socklen_t, int, struct hostent*, char*, size_t, struct hostent**, int*);'
 ./protochk "$extern_C $try" $hdrs && gethostbyaddr_r_proto=I_TsISBWRE ;;
 esac
 case "$gethostbyaddr_r_proto" in
 "|0) d_gethostbyaddr_r=undef
        gethostbyaddr_r_proto=0
  echo "Disabling gethostbyaddr_r, cannot determine prototype." >&4 ;;
 * ) case "$gethostbyaddr_r_proto" in
  REENTRANT_PROTO*) ;;
  *) gethostbyaddr_r_proto="REENTRANT_PROTO_$gethostbyaddr_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "gethostbyaddr_r has no prototype, not using it." >&4 ;;
  esac
  d_gethostbyaddr_r=undef
  gethostbyaddr_r_proto=0
  ;;
 esac
 ;;
*) gethostbyaddr_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_gethostbyaddr_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_statfs_f_flags: \
 Hasfield i_sysparam i_sysmount i_systypes \
 i_sysvfs i_sysstatfs Setvar d_statfs_s
?MAKE: -pick add $@ %<
?S:d_statfs_f_flags:
?S: This variable conditionally defines the HAS_STRUCT_STATFS_F_FLAGS
?S: symbol, which indicates to struct statfs from has f_flags member.
?S: This kind of struct statfs is coming from sys/mount.h (BSD),
```

```
?S: not from sys/statfs.h (SYSV).
?S:.
?C:HAS_STRUCT_STATFS_F_FLAGS:
?C: This symbol, if defined, indicates that the struct statfs
?C: does have the f_flags member containing the mount flags of
?C: the filesystem containing the file.
?C: This kind of struct statfs is coming from <sys/mount.h> (BSD 4.3),
?C: not from <sys/statfs.h> (SYSV).  Older BSDs
 (like Ultrix) do not
?C: have statfs() and struct statfs, they have ustat() and getmnt()
?C: with struct ustat and struct fs_data.
?C:.
?H:#$d_statfs_f_flags HAS_STRUCT_STATFS_F_FLAGS  /**/
?H:.
?LINT:set d_statfs_f_flags
: see if struct statfs knows about f_flags
case "$d_statfs_s" in
define)
 echo " "
 echo "Checking to see if your struct statfs has f_flags field..." >&4
 set d_statfs_f_flags statfs f_flags $i_systypes sys/types.h $i_sysparam sys/param.h $i_sysmount sys/mount.h
$i_sysvfs sys/vfs.h $i_sysstatfs sys/statfs.h
 eval $hasfield
 ;;
*) val="$undef"
 set d_statfs_f_flags
 eval $setvar
 ;;
esac
case "$d_statfs_f_flags" in
"$define")      echo "Yes, it does."   ;;
*)              echo "No, it doesn't." ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_statfs_f_flags.U
No license file was found, but licenses were detected in source scan.


```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: cf_who.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:28:50  ram
?RCS: patch61: new computation method avoiding use of temporary file
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:42:34  ram
?RCS: patch23: login name now computed the hard way
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:32  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Oldconfig dependency is there to ensure computation occurs after old values
?X: from config.sh have been loaded, so that we can supersede them.
?X:
?MAKE:cf_time
 cf_by: date Oldconfig
?MAKE: -pick add $@ %<
?S:cf_time:
?S: Holds the output of the "date" command when the configuration file was
?S: produced. This is used to tag both config.sh and config_h.SH.
?S:.
?S:cf_by:
?S: Login name of the person who ran the Configure script and answered the
?S: questions. This is used to tag both config.sh and config_h.SH.
?S:.
?LINT:change LC_ALL LANGUAGE
: who configured the system
?X: Ensure English date -- Jarkko Hietaniemi
cf_time=`LC_ALL=C; LANGUAGE=C; export LC_ALL; export LANGUAGE; $date 2>&1`
?X:
?X: Leave a white space between first two '(' for ksh. The sub-shell is needed
?X: on some machines to avoid the error message when logname is not found; e.g.
?X: on SUN-OS 3.2, (logname || whoami) would not execute whoami if logname was
?X: not found. Sigh!
?X:
?X: Convex had a broken logname executable which returned a non-zero status,
?X: and that broke the previous:
?X:   cf_by=`( (logname) 2>/dev/null || whoami) 2>&1`
?X: Switch to emergency
 mode... -- RAM, 19/04/94
?X:
?X: Parentheses needed to avoid error message if the program does not exist.
?X: Uses case instead of $test so it can be put before $test is defined.
?X: Don't redirect to a file because on Ultrix (under script?) logname
?X: outputs a blank line first.  This method will apparently work.
case "$cf_by" in
"")
 cf_by=`(logname) 2>/dev/null`
```

```
 case "$cf_by" in
 "")
  cf_by=`(whoami) 2>/dev/null`
  case "$cf_by" in
  "") cf_by=unknown ;;
  esac ;;
 esac ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/cf_who.U
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/cf_who.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2015 Jarkko Hietaniemi, H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:longdblinfbytes longdblnanbytes doubleinfbytes doublenanbytes: Inlibc \
 cat i_math i_string Compile run rm_try Setvar echo d_longdbl \
 doublekind doublesize longdblkind longdblsize
?MAKE: -pick add $@ %<
?S:longdblinfbytes:
?S: This variable contains comma-separated list of hexadecimal bytes
?S: for the long double precision infinity.
?S:.
?S:longdblnanbytes:
?S: This variable contains comma-separated list of hexadecimal bytes
?S: for the long double precision not-a-number.
?S:.
?S:doubleinfbytes:
?S: This variable contains comma-separated list of hexadecimal bytes
?S: for the double precision infinity.
?S:.
?S:doublenanbytes:
?S: This variable contains comma-separated list of hexadecimal
 bytes
?S: for the double precision not-a-number.
?S:.
?C:DOUBLEINFBYTES:
?C: This symbol, if defined, is a comma-separated list of
?C: hexadecimal bytes for the double precision infinity.
?C:.
?C:DOUBLENANBYTES:
?C: This symbol, if defined, is a comma-separated list of
```

```
?C: hexadecimal bytes (0xHH) for the double precision not-a-number.
?C:.
?C:LONGDBLINFBYTES:
?C: This symbol, if defined, is a comma-separated list of
?C: hexadecimal bytes for the long double precision infinity.
?C:.
?C:LONGDBLNANBYTES:
?C: This symbol, if defined, is a comma-separated list of
?C: hexadecimal bytes (0xHH) for the long double precision not-a-number.
?C:.
?H:#define DOUBLEINFBYTES  $doubleinfbytes  /**/
?H:#define DOUBLENANBYTES  $doublenanbytes  /**/
?H:#define LONGDBLINFBYTES $longdblinfbytes  /**/
?H:#define LONGDBLNANBYTES $longdblnanbytes  /**/
?H:.
?F:!try
: Check what kind of inf/nan your system has
$echo "Checking the kind of infinities and nans you have..." >&4
$echo "(The following tests
 may crash.  That's okay.)" >&4
$cat >try.c <<EOP
#define DOUBLESIZE $doublesize
#$d_longdbl HAS_LONG_DOUBLE
#ifdef HAS_LONG_DOUBLE
#define LONG_DOUBLESIZE $longdblsize
#define LONG_DOUBLEKIND $longdblkind
#endif
#$i_math I_MATH
#$i_string I_STRING
#ifdef I_MATH
#include <math.h>
#endif
#ifdef I_STRING
#  include <string.h>
#endif
#include <stdio.h>
/* Note that whether the sign bit is on or off
* for NaN depends on the CPU/FPU, and possibly
* can be affected by the build toolchain.
*
* For example for older MIPS and HP-PA 2.0 the quiet NaN is:
* 0x7f, 0xf7, 0xff, 0xff, 0xff, 0xff, 0xff, 0xff
* 0x7f, 0xf4, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00
* (respectively) as opposed to the more usual
* 0x7f, 0xf8, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00
*
* Pre-IEEE-754 floating point format do not even have inf/nan support
* at all.  They might have a "max" value (DBL_MAX), which may be deadly
```

```
* to even mention, causing immediate SIGFPE or equivalent: this is
* the case with VAX floating point,
 for example.
*/
static void bytes(void *v, unsigned int n) {
 unsigned char *p = (unsigned char *)v;
 int i;
 for (i = 0; i < n; i++) {
   printf("0x%02x%s", p[i], i < n - 1 ? ", " : "\n");
 }
}
int main(int argc, char *argv[]) {
  /* We cannot use 1.0/0.0 and 0.0/0.0 (with L suffixes for long double)
   * because some compilers are 'smart' and not only warn but refuse to
   * compile such 'illegal' values. */
  double dinf = exp(1e9);
  double dnan = sqrt(-1.0);
#ifdef HAS_LONG_DOUBLE
  long double ldinf = (long double)exp(1e9);
  long double ldnan = (long double)sqrt(-1.0);
# if LONG_DOUBLEKIND == 3 || LONG_DOUBLEKIND == 4
/* the 80-bit long doubles might have garbage in their excess bytes */
   memset((char *)&ldinf + 10, '\0', LONG_DOUBLESIZE - 10);
   memset((char *)&ldnan + 10, '\0', LONG_DOUBLESIZE - 10);
# endif
 if (argc == 2) {
   switch (argv[1][0]) {
   case '1': bytes(&dinf, sizeof(dinf)); break;
   case '2': bytes(&dnan, sizeof(dnan)); break;

 case '3': bytes(&ldinf, sizeof(ldinf)); break;
   case '4': bytes(&ldnan, sizeof(ldnan)); break;
#endif
   }
 }
 return 0;
}
EOP
set try
if eval $compile; then
   doubleinfbytes=`$run ./try 1`
   doublenanbytes=`$run ./try 2`
   case "$d_longdbl" in
   $define)
     longdblinfbytes=`$run ./try 3`
     longdblnanbytes=`$run ./try 4`
     ;;
   esac
```

```
else
  # Defaults in case the above test program failed.
  case "$doublekind" in
  1) # IEEE 754 32-bit LE
    doubleinfbytes='0x00, 0x00, 0xf0, 0x7f'
    doublenanbytes='0x00, 0x00, 0xf8, 0x7f'
    ;;
  2) # IEEE 754 32-bit BE
    doubleinfbytes='0x7f, 0xf0, 0x00, 0x00'
    doublenanbytes='0x7f, 0xf8, 0x00, 0x00'
    ;;
  3) # IEEE 754 64-bit LE
    doubleinfbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xf0, 0x7f'
    doublenanbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xf8, 0x7f'
    ;;
  4) # IEEE 754 64-bit BE
    doubleinfbytes='0x7f, 0xf0, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00'
    doublenanbytes='0x7f,
 0xf8, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00'
    ;;
  5) # IEEE 754 128-bit LE
    doubleinfbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xf0,
0x7f'
    doublenanbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xf8,
0x7f'
    ;;
  6) # IEEE 754 128-bit BE
    doubleinfbytes='0x7f, 0xf0, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    doublenanbytes='0x7f, 0xf8, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    ;;
  7) # IEEE 754 64-bit mixed: 32-bit LEs in BE
    doubleinfbytes='0x00, 0x00, 0xf0, 0x7f, 0x00, 0x00, 0x00, 0x00'
    doublenanbytes='0x00, 0x00, 0xf8, 0x7f, 0x00, 0x00, 0x00, 0x00'
    ;;
  8) # IEEE 754 64-bit mixed: 32-bit BEs in LE
    doubleinfbytes='0x00, 0x00, 0x00, 0x00, 0x7f, 0xf0, 0x00, 0x00'
    doublenanbytes='0x00, 0x00, 0x00, 0x00, 0x7f, 0xf8,
 0x00, 0x00'
    ;;
  9|10|11|12|13|14) # VAX/Cray/IBM floating point formats, no inf/nan.
    doubleinfbytes=$undef
    doublenanbytes=$undef
    ;;
  *) # No idea.
    doubleinfbytes=$undef
    doublenanbytes=$undef
```

```
    ;;
  esac
  case "$longdblkind" in
  1) # IEEE 754 128-bit LE
    longdblinfbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xff,
0x7f'
    longdblnanbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x80, 0xff,
0x7f'
    ;;
  2) # IEEE 754 128-bit BE
    longdblinfbytes='0x7f, 0xff, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    longdblnanbytes='0x7f, 0xff, 0x80, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    ;;
  3) # IEEE 754 80-bit LE, 12 or 16 bytes (x86)
    case "$longdblsize" in
    12) # x86 32-bit (96 bits, or 4 x 32, or 12 x 8)
      longdblinfbytes='0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x80, 0xff, 0x7f, 0x00, 0x00'
      longdblnanbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xc0, 0xff, 0x7f, 0x00, 0x00'
      ;;
    16) # x86_64
      longdblinfbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x80, 0xff, 0x7f, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
      longdblnanbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xc0, 0xff, 0x7f, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
      ;;
    *)  # No idea.
      longdblinfbytes=$undef
      longdblnanbytes=$undef
    ;;
    esac
    ;;
  4) # IEEE 754 80-bit BE, 12 or 16 bytes
    case "$longdblsize" in
    12) # 32-bit system
      longdblinfbytes='0x7f, 0xff, 0x80, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00'
      longdblnanbytes='0x7f, 0xff, 0xc0, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00'
      ;;
    16) # 64-bit system
      longdblinfbytes='0x7f, 0xff, 0x80, 0x00, 0x00,
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00'
      longdblnanbytes='0x7f, 0xff, 0xc0, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
      ;;
    *)  # No idea.
      longdblinfbytes=$undef
```

```
        longdblnanbytes=$undef
    ;;
    esac
    ;;
  5) # 128-bit LE-LE "double double"
    longdblinfbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xf0,
0x7f'
    longdblnanbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xf8,
0x7f'
    ;;
  6) # 128-bit BE-BE "double double"
    longdblinfbytes='0x7f, 0xf0, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    longdblnanbytes='0x7f, 0xf8, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    ;;
  7) # 128-bit LE-BE "double double"
    longdblinfbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
 0xf0, 0x7f, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00'
    longdblnanbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xf8, 0x7f, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    ;;
  8) # 128-bit BE-LE "double double"
    longdblinfbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x7f, 0xf0, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    longdblnanbytes='0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x7f, 0xf8, 0x00, 0x00, 0x00, 0x00, 0x00,
0x00'
    ;;
  9|10|11|12|13|14) # VAX/Cray/IBM floating point formats, no inf/nan.
    longdblinfbytes=$undef
    longdblnanbytes=$undef
    ;;
  *) # No idea.
    longdblinfbytes=$undef
    longdblnanbytes=$undef
    ;;
  esac
fi
# In case the program crashed the values are empty, turn them undef.
case "$doubleinfbytes" in
") doubleinfbytes=$undef ;;
esac
case "$doublenanbytes" in
") doublenanbytes=$undef ;;
esac
case "$longdblinfbytes" in
") longdblinfbytes=$undef ;;
esac
```

```
case "$longdblnanbytes"
 in
") longdblnanbytes=$undef ;;
esac
$rm_try
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/infnan.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sysman.U,v $
?RCS: Revision 3.0.1.2  1994/06/20  07:08:43  ram
?RCS: patch30: now explicitly states that /usr/man/man1 is the default
?RCS: patch30: added /usr/local/man/man1 to the search list
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:13:50  ram
?RCS: patch10: added support for /local/man/man1 (WAD)
?RCS: patch10: added temporary syspath variable to cut down on line length
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:sysman: test
 Loc Oldconfig
?MAKE: -pick add $@ %<
?S:sysman:
?S: This variable holds the place where the manual is located on this
?S: system. It is not the place where the user wants to put his manual
?S: pages. Rather it is the place where Configure may look to find manual
?S: for unix commands (section 1 of the manual usually). See mansrc.
?S:.
?T:syspath
: determine where manual pages are on this system
echo " "
case "$sysman" in
")
 syspath='/usr/share/man/man1 /usr/man/man1'
 syspath="$syspath /usr/man/mann /usr/man/manl /usr/man/local/man1"
```

```
 syspath="$syspath /usr/man/u_man/man1 /usr/share/man/man1"
 syspath="$syspath /usr/catman/u_man/man1 /usr/man/l_man/man1"
 syspath="$syspath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 syspath="$syspath /usr/man/man.L /local/man/man1 /usr/local/man/man1"
 sysman=`./loc . /usr/man/man1 $syspath`
 ;;
esac
if $test -d "$sysman"; then
 echo "System manual is in $sysman." >&4
else
 echo "Could not find manual pages in source form." >&4
fi
```

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sysman.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: sizetype.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:32:10  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:sizetype: Myread Typedef
?MAKE: -pick add $@ %<
?S:sizetype:
?S: This variable defines sizetype to be something like size_t,
?S: unsigned long, or whatever type is used to declare length
?S: parameters for string functions.
?S:.
?C:Size_t:
?C: This symbol holds the type used to declare length parameters
?C: for string
 functions.  It is usually size_t, but may be
?C: unsigned long, int, etc.  It may be necessary to include
?C: <sys/types.h> to get any typedef'ed information.
?C:.
```

```
?H:#define Size_t $sizetype  /* length paramater for string functions */
?H:.
: see what type is used for size_t
set size_t sizetype 'unsigned int' stdio.h sys/types.h
eval $typedef
dflt="$sizetype"
echo " "
rp="What type is used for the length parameter for string functions?"
. ./myread
sizetype="$ans"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sizetype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getmntent: Inlibc
?MAKE: -pick add $@ %<
?S:d_getmntent:
?S: This variable conditionally defines the HAS_GETMNTENT symbol, which
?S: indicates to the C program that the getmntent() routine is available
?S: to iterate through mounted files to get their mount info.
?S:.
?C:HAS_GETMNTENT:
?C: This symbol, if defined, indicates that the getmntent routine is
?C: available to iterate through mounted file systems to get their info.
?C:.
?H:#$d_getmntent HAS_GETMNTENT  /**/
?H:.
?LINT:set d_getmntent
: see if getmntent exists
set getmntent d_getmntent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getmntent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
```

```
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: selecttype.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:20:09  ram
?RCS: patch61: always include <sys/select.h> when available for test
?RCS:
?RCS: Revision 3.0.1.2  1995/07/25  14:14:06  ram
?RCS: patch56: removed harmful spaces in assignment
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:06:31  ram
?RCS: patch30: created by ADO
?RCS:
?MAKE:selecttype: cat +cc +ccflags rm Oldconfig Myread \
 d_fd_set d_select d_socket i_systime
 i_sysselct
?MAKE: -pick add $@ %<
?S:selecttype:
?S: This variable holds the type used for the 2nd, 3rd, and 4th
?S: arguments to select.  Usually, this is 'fd_set *', if HAS_FD_SET
?S: is defined, and 'int *' otherwise.  This is only useful if you
?S: have select(), naturally.
?S:.
?C:Select_fd_set_t:
?C: This symbol holds the type used for the 2nd, 3rd, and 4th
?C: arguments to select.  Usually, this is 'fd_set *', if HAS_FD_SET
?C: is defined, and 'int *' otherwise.  This is only useful if you
?C: have select(), of course.
?C:.
?H:#define Select_fd_set_t  $selecttype /**/
?H:.
?T:xxx yyy
: check for type of arguments to select.  This will only really
: work if the system supports prototypes and provides one for
: select.
case "$d_select" in
$define)
 : Make initial guess
 case "$selecttype" in
 "|' ')
  case "$d_fd_set" in
  $define) xxx='fd_set *' ;;
  *) xxx='int *' ;;
```

```
 esac
 ;;
*)  xxx="$selecttype"
 ;;
esac
: backup guess
case "$xxx" in
'fd_set *') yyy='int *'
;;
'int *') yyy='fd_set *' ;;
esac

$cat <<EOM

Checking to see what type of arguments are expected by select().
EOM
 $cat >try.c <<EOCP
#$i_systime I_SYS_TIME
#$i_sysselct I_SYS_SELECT
#$d_socket HAS_SOCKET
#include <sys/types.h>
#ifdef HAS_SOCKET
#include <sys/socket.h> /* Might include <sys/bsdtypes.h> */
#endif
#ifdef I_SYS_TIME
#include <sys/time.h>
#endif
#ifdef I_SYS_SELECT
#include <sys/select.h>
#endif
int main()
{
 int width;
 Select_fd_set_t readfds;
 Select_fd_set_t writefds;
 Select_fd_set_t exceptfds;
 struct timeval timeout;
 select(width, readfds, writefds, exceptfds, &timeout);
 exit(0);
}
EOCP
 if $cc $ccflags -c -DSelect_fd_set_t="$xxx" try.c >/dev/null 2>&1 ; then
  selecttype="$xxx"
  echo "Your system uses $xxx for the arguments to select." >&4
 elif $cc $ccflags -c -DSelect_fd_set_t="$yyy" try.c >/dev/null 2>&1 ; then
  selecttype="$yyy"
  echo "Your system uses $yyy for the arguments to select." >&4
 else
```

```
 rp='What is the type for the 2nd, 3rd, and 4th arguments
to select?'
 dflt="$xxx"
 . ./myread
 selecttype="$ans"
fi
$rm -f try.[co]
;;
*) selecttype='int *'
;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/selecttype.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_getfsstat : Inlibc
?MAKE: -pick add $@ %<
?S:d_getfsstat:
?S: This variable conditionally defines the HAS_GETFSSTAT symbol, which
?S: indicates to the C program that the getfsstat() routine is available.
?S:.
?C:HAS_GETFSSTAT:
?C: This symbol, if defined, indicates that the getfsstat routine is
?C: available to stat filesystems in bulk.
?C:.
?H:#$d_getfsstat HAS_GETFSSTAT  /**/
?H:.
?LINT:set d_getfsstat
: see if getfsstat exists
set getfsstat d_getfsstat
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_getfsstat.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2004 H.Merijn Brand
?RCS:
```

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_strlcat: Inlibc
?MAKE: -pick add $@ %<
?S:d_strlcat:
?S: This variable conditionally defines the HAS_STRLCAT symbol, which
?S: indicates to the C program that the strlcat () routine is available.
?S:.
?C:HAS_STRLCAT:
?C: This symbol, if defined, indicates that the strlcat () routine is
?C: available to do string concatenation.
?C:.
?H:#$d_strlcat HAS_STRLCAT  /**/
?H:.
?LINT:set d_strlcat
: see if strlcat exists
set strlcat d_strlcat
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_strlcat.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_sbrk.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_sbrk.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:06:31  ram
?RCS: patch16: created
?RCS:
?MAKE:d_sbrk: Inlibc
?MAKE: -pick add $@ %<
?S:d_sbrk:
?S: This variable conditionally defines HAS_SBRK if sbrk() is
?S: available to add more core to the process.
?S:.
?C:HAS_SBRK:
?C: This symbol, if defined, indicates that the sbrk system call is
?C: available to add/relase core. Always true on Unix.
?C:.
```

```
?H:#$d_sbrk HAS_SBRK /**/
?H:.
?LINT:set d_sbrk
: see
 if sbrk exists
set sbrk d_sbrk
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sbrk.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: MailAuthor.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: MailAuthor.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  15:04:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:05:09  ram
?RCS: patch32: avoid message sending if they said no previously
?RCS:
?RCS: Revision 3.0.1.3  1993/10/16  13:47:30  ram
?RCS: patch12: now makes sure user-specified address is in Internet format
?RCS:
?RCS: Revision
 3.0.1.2  1993/09/13  15:48:49  ram
?RCS: patch10: reverted to original intent by the Author himself
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:38:38  ram
?RCS: patch7: now prompts user for its e-mail address
?RCS: patch7: no longer silent when mail has been sent
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:06  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?RCS:
?X:
?X: This unit asks the user to please send a message to the author.
```

```
?X: To force inclusion of this unit, you must add it's name to the
?X: dependancies on the MAKE line in your private copy of End.U.
?X: This allows a smart mailagent program to automatically let users know
?X: when their package is out of date, and to allow users to be notified of
?X: any future patches.
?X:
?MAKE:MailAuthor mailpatches notifypatches usermail: test cat mailer \
 package Myread patchlevel baserev rm rsrc Oldconfig Configdir
?MAKE: -pick wipe $@ %<
?S:mailpatches:
?S: Indicates whether the user would like future patches to be mailed
?S: directly
 to them.
?S:.
?S:notifypatches:
?S: Indicates whether the user would like notification of future patches
?S: mailed to them.
?S:.
?S:usermail:
?S: This variable is used internally by Configure to keep track of the
?S: user e-mail address, where notifications or patches should be sent.
?S: A '-' value means the return address will be extracted by parsing
?S: the mail headers.
?S:.
?T:opt mailpatches notifypatches atsh status
: notify author that his package is used
if $test -f ../.config/mailauthor &&
 cmp $rsrc/patchlevel.h ../.config/mailauthor >/dev/null 2>&1
then
 status="say that you're using $package";
 case "$mailpatches" in
 true) status='have patches mailed to you as they are issued';;
 esac
 case "$notifypatches" in
 true) status='be notified when new patches are issued';;
 esac
 $cat <<EOM

You have already sent the author of $package (<MAINTLOC>) mail to
$status. If you wish, you may modify
your previous request by sending a new mail with different options.

EOM
 rp='Should
 I send a status update to <MAINTLOC>?'
 dflt=n
else
 $cat <<EOM
```

```
If you are able to send mail to the Internet, the author of $package would
really appreciate you letting me send off a quick note, just to say that you've
tried it. The author is more likely to spend time maintaining $package if it's
known that many people are using it, and you can even ask to get sent new
patches automagically this way if you wish. To protect your privacy, all I'll
say in the mail is the version of $package that you're using.

EOM
 rp='Should I send mail to <MAINTLOC>?'
 dflt=y
?X: Ensure default is 'n' if question has been asked already, in case they
?X: run Configure -d next time and answered 'n' the first time. Therefore,
?X: an empty nomail will be created later on even if no mail is sent.
 $test -f ../.config/nomail && dflt=n
fi
. ./myread
case "$ans" in
[yY]*)
 echo " "
 echo "Great! Your cooperation is really appreciated."
 $cat <<EOM

Some braindead sites do not set a proper return
 address in the From: header of
their outgoing mail, making it impossible to reply to mail they generate.
If your site is broken in this way, write to your system administrator and get
it fixed!!! In the mean time, you can manually specify the Internet e-mail
address by which the author can get back to you, should there be a need to do
so. If manually specified, it should be something like "user@domain.top".
If your mail system generates addresses correctly, specify "none".

EOM
 case "$usermail" in
 '-'|'') dflt=none;;
 *) dflt="$usermail";;
 esac
 rp='Manually specify a return address to use:'
 . ./myread
 case "$ans" in
 none|*@*.*)
  case "$ans" in
  none) usermail='-';;
  *) usermail="$ans";;
  esac
  ;;
 *)
  echo "(Address does not look like an Internet one -- ignoring it.)"
```

```
?X:
?X: If we can't trust their mailer or their return address, it's highly
?X: suggested that they only register and don't ask to get anything from
?X: the author, since it's likely to bounce in null-land --
 RAM.
?X:
  usermail='-'
  mailpatches=false
  notifypatches=false
  ;;
 esac
 echo " "
 opt=''
 rp='Would you like to have new patches automatically mailed to you?'
 case "$mailpatches" in
 true) dflt=y;;
 *) dflt=n;;
 esac
 . ./myread
 case "$ans" in
 [yY]*) opt=' mailpatches'; mailpatches=true;;
 *)
  mailpatches=false
  echo " "
  rp='Ok, would you like to simply be notified of new patches?'
  case "$notifypatches" in
  false) dflt=n;;
  *) dflt=y;;
  esac
  . ./myread
  echo " "
  case "$ans" in
  [yY]*) opt=' notifypatches'; notifypatches=true;;
  *)
   echo "Fine, I'll simply say that you've tried it then."
   notifypatches=false
   ;;
  esac
  ;;
 esac
 echo "Sending mail to <MAINTLOC>..." >&4
?X: Bizarre hack here. We can't just put @SH in the hereis lines below, because
?X: metaconfig will interpret it as a command, and there's no quoting mechanism.
?X: Do it via a variable instead.
 atsh='@SH'
 $mailer <MAINTLOC> <<EOM >/dev/null 2>&1
Subject: Command
Precedence: junk
```

```
To: <MAINTLOC>

$atsh
 package $usermail $package $baserev $patchlevel$opt
EOM
 $rm -f ../.config/mailauthor ../.config/nomail
 cp $rsrc/patchlevel.h ../.config/mailauthor
 ;;
*)
 case "$dflt" in
 "y")
  echo "Oh well, maybe next time."
  cp /dev/null ../.config/nomail
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/MailAuthor.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sysmman.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:11:20  ram
?RCS: patch16: created
?RCS:
?X:
?X: Look wether <sys/mman.h> needs to be included.
?X:
?MAKE:i_sysmman: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysmman:
?S: This variable conditionally defines the I_SYS_MMAN symbol,
?S: and indicates whether a C program should include <sys/mman.h>.
?S:.
?C:I_SYS_MMAN:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/mman.h>.
```

```
?C:.
?H:#$i_sysmman I_SYS_MMAN  /**/
?H:.
?LINT:set
 i_sysmman
: see if sys/mman.h has to be included
set sys/mman.h i_sysmman
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysmman.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_syscall.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_syscall.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:42  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_syscall: Inlibc
?MAKE: -pick add $@ %<
?S:d_syscall:
?S: This variable conditionally defines HAS_SYSCALL if syscall() is
?S: available call arbitrary system calls.
?S:.
?C:HAS_SYSCALL (SYSCALL):
?C: This symbol, if defined, indicates that the syscall routine is
?C: available to call arbitrary system calls. If undefined, that's tough.
?C:.
?H:#$d_syscall
 HAS_SYSCALL /**/
?H:.
?LINT:set d_syscall
: see if syscall exists
set syscall d_syscall
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_syscall.U

No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_sysfile.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sysfile.U,v $
?RCS: Revision 3.0.1.2  1995/07/25  14:11:36  ram
?RCS: patch56: removed <> characters from comment, per metalint suggestion
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:01:23  ram
?RCS: patch6: added default for i_sysfile
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_sysfile: h_sysfile Inhdr Setvar
?MAKE: -pick add $@ %<
?S:i_sysfile:
?S: This variable conditionally defines
 the I_SYS_FILE symbol, and indicates
?S: whether a C program should include <sys/file.h> to get R_OK and friends.
?S:.
?C:I_SYS_FILE (I_SYSFILE):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/file.h> to get definition of R_OK and friends.
?C:.
?H:#$i_sysfile I_SYS_FILE  /**/
?H:.
?T:val
?D:i_sysfile="
?LINT:change h_sysfile
?LINT:set i_sysfile
: see if this is a sys/file.h system
val="
set sys/file.h val
eval $inhdr

: do we need to include sys/file.h ?
case "$val" in
"$define")
 echo " "
```

```
 if $h_sysfile; then
  val="$define"
  echo "We'll be including <sys/file.h>." >&4
 else
  val="$undef"
  echo "We won't be including <sys/file.h>." >&4
 fi
 ;;
*)
 h_sysfile=false
 ;;
esac
set i_sysfile
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysfile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_inetd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_inetd.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:23  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_inetd: cat test package Myread Setvar
?MAKE: -pick add $@ %<
?S:d_inetd:
?S: This symbol conditionally defines USE_INETD which indicates to the C
?S: program that the initial socket connection will be done via inetd.
?S:.
?C:USE_INETD (INETD):
?C: This symbol if defined indicates to the C program that inetd will be
?C: in charge of the
 initial socket connection. The file descriptors 0 and
?C: 1 have been dup()ed from the original connected socket descriptor and
?C: are ready for send() and recv().
?C:.
?H:#$d_inetd USE_INETD  /**/
?H:.
```

```
?LINT:set d_inetd
: ask whether initial socket connection is to be done via inetd
echo " "
dflt=n
case "$d_inetd" in
") if $test -f /etc/inetd.conf; then
  $cat <<EOM
Your system provides a so called "Internet super-server", the inetd daemon.
Network services like ftp or rlogin are usually handled via ftpd and rlogind
daemons. Without inetd, these daemons must always be running for the service
to be on. On the contrary, inetd listens to specific ports defined in file
/etc/inetd.conf and will run the appropriate daemon upon request. This scheme
avoids eating up the process table and memory with useless daemons.

I can set up things so that internet connections for $package will be done
using inetd, in which case you will have to edit /etc/inetd.conf to add some
specific informations.

EOM
  dflt=y
 else
  $cat
 <<EOM
I do not see any trace of a configuration file for inetd, hence I assume your
system does not support the so called "Internet super-server". This means
$package will need to have a daemon process running on this machine to allow
network connections.

EOM
 fi;;
*) case "$d_inetd" in
 "$define") dflt=y;;
 esac;;
esac
rp='Do you wish to use inetd for network connections?'
. ./myread
val="$undef"
case "$ans" in
y*|Y*) val="$define";;
esac
set d_inetd
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_inetd.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: afs.U 1 2006-08-24 12:32:52Z rmanfredi $
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: afs.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:23:06  ram
?RCS: patch61: can now explicitly tell Configure whether AFS is running
?RCS:
?RCS: Revision 3.0.1.1  1993/08/24  12:24:43  ram
?RCS: patch3: created
?RCS:
?MAKE:afs afsroot: test
?MAKE: -pick add $@ %<
?S:afs:
?S: This variable is set to 'true' if AFS (Andrew File System) is used
?S: on the system, 'false' otherwise.  It is possible to override this
?S: with a hint value or command line option,
 but you'd better know
?S: what you are doing.
?S:.
?S:afsroot:
?S: This variable is by default set to '/afs'. In the unlikely case
?S: this is not the correct root, it is possible to override this with
?S: a hint value or command line option.  This will be used in subsequent
?S: tests for AFSness in the configure and test process.
?S:.
: allow them to override the AFS root
case "$afsroot" in
") afsroot=/afs ;;
*) afsroot=$afsroot ;;
esac

: is AFS running?
echo " "
case "$afs" in
$define|true) afs=true ;;
$undef|false) afs=false ;;
*) if $test -d $afsroot; then
  afs=true
 else
  afs=false
 fi
 ;;
```

```
esac
if $afs; then
 echo "AFS may be running... I'll be extra cautious then..." >&4
else
 echo "AFS does not seem to be running..." >&4
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/afs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_newlocale d_freelocale d_uselocale d_duplocale d_querylocale i_xlocale: Inlibc Inhdr
?MAKE: -pick add $@ %<
?S:d_newlocale:
?S: This variable conditionally defines the HAS_NEWLOCALE symbol, which
?S: indicates to the C program that the newlocale() routine is available
?S: to return a new locale object or modify an existing locale object.
?S:.
?S:d_freelocale:
?S: This variable conditionally defines the HAS_FREELOCALE symbol, which
?S: indicates to the C program that the freelocale() routine is available
?S: to deallocates the resources associated with a locale object.
?S:.
?S:d_uselocale:
?S: This variable conditionally defines the HAS_USELOCALE symbol, which
?S: indicates to the C program that the uselocale() routine is available
?S: to set the current locale
 for the calling thread.
?S:.
?S:d_duplocale:
?S: This variable conditionally defines the HAS_DUPLOCALE symbol, which
?S: indicates to the C program that the duplocale() routine is available
?S: to duplicate a locale object.
?S:.
?S:d_querylocale:
?S: This variable conditionally defines the HAS_QUERYLOCALE symbol, which
?S: indicates to the C program that the querylocale() routine is available
?S: to return the name of the locale for a category mask.
?S:.
?S:i_xlocale:
?S: This symbol, if defined, indicates to the C program that it should
?S: include <xlocale.h> to get uselocale() and its friends
?S:.
?C:HAS_NEWLOCALE:
?C: This symbol, if defined, indicates that the newlocale routine is
```

```
?C: available to return a new locale object or modify an existing
?C: locale object.
?C:.
?C:HAS_FREELOCALE:
?C: This symbol, if defined, indicates that the freelocale routine is
?C: available to deallocates the resources associated with a locale object.
?C:.
?C:HAS_USELOCALE:
?C: This symbol, if defined,
 indicates that the uselocale routine is
?C: available to set the current locale for the calling thread.
?C:.
?C:HAS_DUPLOCALE:
?C: This symbol, if defined, indicates that the duplocale routine is
?C: available to duplicate a locale object.
?C:.
?C:HAS_QUERYLOCALE:
?C: This symbol, if defined, indicates that the querylocale routine is
?C: available to return the name of the locale for a category mask.
?C:.
?C:I_XLOCALE:
?C: This symbol, if defined, indicates to the C program that it should
?C: include <xlocale.h> to get uselocale() and its friends.
?C:.
?H:#$d_newlocale HAS_NEWLOCALE /**/
?H:#$d_freelocale HAS_FREELOCALE /**/
?H:#$d_uselocale HAS_USELOCALE /**/
?H:#$d_duplocale HAS_DUPLOCALE /**/
?H:#$d_querylocale HAS_QUERYLOCALE /**/
?H:#$i_xlocale I_XLOCALE              /**/
?H:.
?LINT:set i_xlocale
?LINT:set d_newlocale
?LINT:set d_freelocale
?LINT:set d_uselocale
?LINT:set d_duplocale
?LINT:set d_querylocale
: see if this is an xlocale.h system
set xlocale.h i_xlocale
eval $inhdr

:
 see if newlocale exists
set newlocale d_newlocale
eval $inlibc

: see if freelocale exists
set freelocale d_freelocale
```

```
eval $inlibc

: see if uselocale exists
set uselocale d_uselocale
eval $inlibc

: see if duplocale exists
set duplocale d_duplocale
eval $inlibc

: see if querylocale exists
set querylocale d_querylocale
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_newlocale.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: rcs_branch.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: rcs_branch.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:40  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:rcs_branch: Myread contains Loc
?MAKE: -pick add $@ %<
?S:rcs_branch:
?S: This variable will hold "true" if rcs can take the -b<revision>
?S: option, which can make Life Easier on those folks who like to run
?S: rcsdiff manually.
?S:.
?T:xxx
: Tra la la la la
echo " "
echo "Checking to see if RCS understands the -b switch..." >&4
xxx=`./loc
 rcs " $pth`
case "$xxx" in
")
 rcs_branch=false
```

```
 echo "Oh.  You don't seem to have RCS here."
 ;;
*)
 rcs > rcsbranch.out 2>&1
 if $contains 'b\[rev\]' rcsbranch.out  >/dev/null 2>&1 ; then
  rcs_branch=true
  echo "Nice!  Your RCS is spiffy!"
 else
  rcs_branch=false
 echo "Well, at least you have RCS.  You know, a newer version is available."
 fi
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/rcs_branch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_endservent_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_endservent_r endservent_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_endservent_r:
?S: This variable conditionally defines the HAS_ENDSERVENT_R symbol,
?S: which indicates to the C program that the endservent_r()
?S: routine is available.
?S:.
?S:endservent_r_proto:
?S: This variable encodes the prototype of endservent_r.
?S: It is zero if d_endservent_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endservent_r
?S: is defined.
?S:.
?C:HAS_ENDSERVENT_R:
?C: This symbol, if defined, indicates that the endservent_r routine
?C: is
 available to endservent re-entrantly.
?C:.
?C:ENDSERVENT_R_PROTO:
?C: This symbol encodes the prototype of endservent_r.
?C: It is zero if d_endservent_r is undef, and one of the
```

```
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_endservent_r
?C: is defined.
?C:.
?H:#$d_endservent_r HAS_ENDSERVENT_R    /**/
?H:#define ENDSERVENT_R_PROTO $endservent_r_proto    /**/
?H:.
?T:try hdrs d_endservent_r_proto
: see if endservent_r exists
set endservent_r d_endservent_r
eval $inlibc
case "$d_endservent_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_endservent_r_proto:$usethreads" in
 ":define") d_endservent_r_proto=define
  set d_endservent_r_proto endservent_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_endservent_r_proto" in
 define)
 case "$endservent_r_proto" in
 "|0) try='int endservent_r(struct servent_data*);'
 ./protochk "$extern_C $try" $hdrs && endservent_r_proto=I_D ;;
 esac
 case "$endservent_r_proto" in
 "|0) try='void
 endservent_r(struct servent_data*);'
 ./protochk "$extern_C $try" $hdrs && endservent_r_proto=V_D ;;
 esac
 case "$endservent_r_proto" in
 "|0) d_endservent_r=undef
        endservent_r_proto=0
  echo "Disabling endservent_r, cannot determine prototype." >&4 ;;
 * ) case "$endservent_r_proto" in
  REENTRANT_PROTO*) ;;
  *) endservent_r_proto="REENTRANT_PROTO_$endservent_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "endservent_r has no prototype, not using it." >&4 ;;
  esac
  d_endservent_r=undef
  endservent_r_proto=0
  ;;
 esac
```

```
 ;;
*) endservent_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_endservent_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_setegid.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_setegid.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_setegid: Inlibc
?MAKE: -pick add $@ %<
?S:d_setegid:
?S: This variable conditionally defines the HAS_SETEGID symbol, which
?S: indicates to the C program that the setegid() routine is available
?S: to change the effective gid of the current program.
?S:.
?C:HAS_SETEGID (SETEGID):
?C: This symbol, if defined, indicates that the setegid
 routine is available
?C: to change the effective gid of the current program.
?C:.
?H:#$d_setegid HAS_SETEGID  /**/
?H:.
?LINT:set d_setegid
: see if setegid exists
set setegid d_setegid
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_setegid.U
No license file was found, but licenses were detected in source scan.

```
case $CONFIG in
")
```

```
 if test -f config.sh; then TOP=.;
 elif test -f ../config.sh; then TOP=..;
 elif test -f ../../config.sh; then TOP=../..;
 elif test -f ../../../config.sh; then TOP=../../..;
 elif test -f ../../../../config.sh; then TOP=../../../..;
 else
  echo "Can't find config.sh."; exit 1
 fi
 . $TOP/config.sh
 ;;
esac
case "$0" in
*/*) cd `expr X$0 : 'X\(.*\)/'` ;;
esac
echo "Extracting makedepend (with variable substitutions)"
$spitshell >makedepend <<!GROK!THIS!
$startsh
# $Id: makedepend.sh,v 3.0.1.1 1994/01/24 14:00:05 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
#  You may redistribute only under the terms of the Artistic Licence,
#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
#
 Original Author: Larry Wall <lwall@netlabs.com>
#
# $Log: makedepend.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:05  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:37  ram
# Baseline for dist 3.0 netwide release.
#

export PATH || (echo "OOPS, this isn't sh.  Desperation time.  I will feed myself to sh."; sh \$0; kill \$\$)

cat='$cat'
cppflags='$cppflags'
cp='$cp'
cpp='$cppstdin'
echo='$echo'
egrep='$egrep'
expr='$expr'
mv='$mv'
```

```
rm='$rm'
sed='$sed'
sort='$sort'
test='$test'
tr='$tr'
uniq='$uniq'
!GROK!THIS!

$spitshell >>makedepend <<'!NO!SUBS!'

$cat /dev/null >.deptmp
$rm -f *.c.c c/*.c.c
if test -f Makefile; then
  mf=Makefile
else
  mf=makefile
fi
if test -f $mf; then
  defrule=`<$mf sed -n  \
 -e '/^\.c\.o:.*;/{'  \
 -e    's/\$\*\.c//'  \
 -e    's/^[^;]*;[  ]*//p' \
 -e    q    \
 -e '}'    \
 -e '/^\.c\.o: *$/{'  \
 -e    N    \
 -e    's/\$\*\.c//'  \
 -e    's/^.*\n[  ]*//p'  \
 -e    q    \
 -e '}'`
fi
case
 "$defrule" in
") defrule='$(CC) -c $(CFLAGS)' ;;
esac

make clist || ($echo "Searching for .c files..."; \
 $echo *.c | $tr ' ' '\012' | $egrep -v '\*' >.clist)
gotnone=true
for file in `$cat .clist`; do
# for file in `cat /dev/null`; do
  case "$file" in
  *.c) filebase=`basename $file .c` ;;
  *.y) filebase=`basename $file .c` ;;
  ")  continue ;;
  esac
  gotnone=false
  $echo "Finding dependencies for $filebase.o."
```

```
  $sed -n <$file >$file.c \
 -e "/^${filebase}_init(/q" \
 -e '/^#/{' \
 -e 's|/\*.*$||' \
 -e 's|\\$||' \
 -e p \
 -e '}'
  $cpp -I/usr/local/include -I. $cppflags $file.c | \
  $sed \
 -e '/^# *[0-9]/!d' \
 -e 's/^.*"\(.*\)".*$/'$filebase'.o: \1/' \
 -e 's|: \./|: |' \
 -e 's|\.c\.c|.c|' | \
  $uniq | $sort | $uniq >> .deptmp
done

$sed <Makefile >Makefile.new -e '1,/^# AUTOMATICALLY/!d'

make shlist || ($echo "Searching for .SH files..."; \
 $echo *.SH | $tr ' ' '\012' | $egrep -v '\*' >.shlist)
if $gotnone || $test -s .deptmp; then

  for file in `cat .shlist`; do
 $echo `$expr X$file : 'X\(.*\).SH`: $file config.sh \; \
    /bin/sh $file >> .deptmp
  done
  $echo "Updating Makefile..."
  $echo "# If this runs make out of memory, delete /usr/include lines." \
 >> Makefile.new
  $sed 's|^\(.*\.o:\) *\(.*/.*\.c\) *$|\1 \2; "'$defrule \2|" .deptmp \
     >>Makefile.new
else
  make hlist || ($echo "Searching for .h files..."; \
 $echo *.h | $tr ' ' '\012' | $egrep -v '\*' >.hlist)
  $echo "You don't seem to have a proper C preprocessor.  Using grep instead."
  $egrep '^#include ' `cat .clist` `cat .hlist`  >.deptmp
  $echo "Updating Makefile..."
  <.clist $sed -n       \
 -e '/\//{'       \
 -e   's|^\(.*\)/\(.*\)\.c|\2.o: \1/\2.c; "'$defrule \1/\2.c|p" \
 -e   d        \
 -e '}'        \
 -e 's|^\(.*\)\.c|\1.o: \1.c|p' >> Makefile.new
  <.hlist $sed -n 's|\(.*/\)\(.*\)|s= \2= \1\2=|p' >.hsed
  <.deptmp $sed -n 's|c:#include "\(.*\)".*$|o: \1|p' | \
     $sed 's|^[^;]*/||' | \
     $sed -f
```

```
 .hsed >> Makefile.new
  <.deptmp $sed -n 's|c:#include <\(.*\)>.*$|o: /usr/include/\1|p' \
    >> Makefile.new
  <.deptmp $sed -n 's|h:#include "\(.*\)".*$|h: \1|p' | \
    $sed -f .hsed >> Makefile.new
  <.deptmp $sed -n 's|h:#include <\(.*\)>.*$|h: /usr/include/\1|p' \
    >> Makefile.new
  for file in `$cat .shlist`; do
 $echo `$expr X$file : 'X\(.*\).SH`: $file config.sh \; \
    /bin/sh $file >> Makefile.new
  done
fi
$rm -f Makefile.old
$cp Makefile Makefile.old
$cp Makefile.new Makefile
$rm Makefile.new
$echo "# WARNING: Put nothing here or make depend will gobble it up!" >> Makefile
$rm -f .deptmp `sed 's/\.c/.c.c/' .clist` .shlist .clist .hlist .hsed

!NO!SUBS!
$eunicefix makedepend
chmod +x makedepend
case `pwd` in
*SH)
  $rm -f ../makedepend
  ln makedepend ../makedepend
  ;;
esac

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/makedepend.SH
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_shadow.U,v $
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:i_shadow: Inhdr Hasfield
?MAKE: -pick add $@ %<
?S:i_shadow:
?S: This variable conditionally defines the I_SHADOW symbol, and indicates
?S: whether a C program should include <shadow.h>.
?S:.
?C:I_SHADOW:
?C: This symbol, if defined, indicates that <shadow.h> exists and
```

?C: should be included.
?C:.
?H:#$i_shadow I_SHADOW  /**/
?H:.
?LINT:set i_shadow
: see if this is a shadow.h system
set shadow.h i_shadow
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/i_shadow.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_log1p: Inlibc
?MAKE: -pick add $@ %<
?S:d_log1p:
?S: This variable conditionally defines the HAS_LOG1P symbol, which
?S: indicates to the C program that the logp1() routine is available
?S: to compute log(1 + x) for values of x close to zero.
?S:.
?C:HAS_LOG1P:
?C: This symbol, if defined, indicates that the log1p routine is
?C: available to do the logarithm of 1 plus argument function.
?C:.
?H:#$d_log1p HAS_LOG1P  /**/
?H:.
?LINT:set d_log1p
: see if log1p exists
set log1p d_log1p
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_log1p.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:

?RCS: $Log: d_memchr.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:32  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_memchr: Inlibc
?MAKE: -pick add $@ %<
?S:d_memchr:
?S: This variable conditionally defines the HAS_MEMCHR symbol, which
?S: indicates to the C program that the memchr() routine is available
?S: to scan a block of memory for a character.
?S:.
?C:HAS_MEMCHR:
?C: This symbol, if defined, indicates that the memchr routine is available
?C: to scan a block of memory for a character.
  If undefined, roll your own.
?C:.
?H:#$d_memchr HAS_MEMCHR  /**/
?H:.
?LINT:set d_memchr
: see if memchr exists
set memchr d_memchr
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_memchr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: newslib.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: newslib.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:23  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:newslib newslibexp: test inews Oldconfig Getfile
?MAKE: -pick add $@ %<
?S:newslib:
?S: This variable contains the eventual value of the NEWSLIB symbol,
?S: which holds the name of the directory serving as the news library.
?S: It may have a ~ on the front.  See newslibexp for expanded version.
?S:.

```
?S:newslibexp:
?S: This variable contains
 the ~ expanded name of the news library
?S: directory.  See newslib.
?S:.
?C:NEWSLIB:
?C: This symbol contains the name of the directory serving as the news
?C: library.  The program must be prepared to do ~ expansion on it.
?C:.
?C:NEWSLIB_EXP:
?C: This symbol is the ~ expanded version of NEWSLIB, for programs that
?C: do not wish to deal with it at run-time.
?C:.
?H:#define NEWSLIB "$newslib"  /**/
?H:#define NEWSLIB_EXP "$newslibexp" /**/
?H:.
?LINT:change inews
: figure out news library
case "$newslib" in
")
 dflt=/usr/lib/news
 ;;
*)  dflt=$newslib ;;
esac
echo " "
fn=d~
rp='Where is your news library?'
. ./getfile
newslib="$ans"
newslibexp="$ansexp"
if $test -f $newslibexp/inews; then
 echo "Aha!  Inews is really in $newslibexp!  Maybe this is 2.10.2..." >&4
 case "$inews" in
 inews)
  : null
  ;;
 *) echo "(Make sure $inews isn't an old version.)";;
 esac
 inews=$newslibexp/inews
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/newslib.U
No license file was found, but licenses were detected in source scan.

```
# $Id: errnolist.a,v 3.0 1993/08/18 12:04:35 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
#
#  You may redistribute only under the terms of the Artistic Licence,
#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Harlan Stenn <harlan@mumps.pfcs.com>
#
# $Log: errnolist.a,v $
# Revision 3.0  1993/08/18 12:04:35  ram
# Baseline for dist 3.0 netwide release.
#
#
# This is a simple-minded awk script to generate an initialization for
# sys_errnolist on systems that don't have it.
# This file now depends only on sys/errno.h error numbers under maxerr being
# in order.  It will complain and die if not.  NOTE: It will still produce
# a compilable output file, even with errors, so you
 must check the output.


BEGIN  {
   format = "\t\"%s\",\n"
   printf("/*\n** This is a generated file.  Do NOT edit it unless you really have to...\n*/\n\n")
   printf("char *sys_errnolist[] = {\n")
   maxerr = 89
  }

$1=="#define" {
   if(count > maxerr || substr($2,1,1) != "E")
    next   # we're not interested
   if($3 < count) { # this is bad
    printf("Fatal error: %s out of order at %s\n",\
    FILENAME, $2)>"/dev/tty"
    exit 1
   }
   # fill in the blanks
   while($3 > count) {
    dummy=sprintf("EDUMMY%d",count)
    printf(format,dummy)
    count++
   }
   printf(format,$2)
   count++
  }

END  {
```

```
  printf("\t0\n};\n")
 }
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/lib/errnolist.a
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_sighold.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_sighold.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:21  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_sighold: Inlibc
?MAKE: -pick add $@ %<
?S:d_sighold:
?S: This variable conditionally defines HAS_SIGHOLD if sighold() is
?S: available to hold signals.
?S:.
?C:HAS_SIGHOLD:
?C: This symbol, if defined, indicates that the sighold routine is
?C: available to hold signals.
?C:.
?H:#$d_sighold HAS_SIGHOLD /**/
?H:.
?LINT:set d_sighold
:
 see if sighold exists
set sighold d_sighold
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sighold.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
```

?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_unordered: Inlibc
?MAKE: -pick add $@ %<
?S:d_unordered:
?S: This variable conditionally defines the HAS_UNORDERED symbol, which
?S: indicates to the C program that the unordered() routine is available.
?S:.
?C:HAS_UNORDERED:
?C: This symbol, if defined, indicates that the unordered routine is
?C: available to check whether two doubles are unordered
?C: (effectively: whether either of them is NaN)
?C:.
?H:#$d_unordered HAS_UNORDERED  /**/
?H:.
?LINT:set d_unordered
: see if unordered exists
set unordered d_unordered
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_unordered.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sitearch.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:21:30  ram
?RCS: patch61: created
?RCS:
?MAKE:sitearch sitearchexp installsitearch: afs cat Getfile \
 Oldconfig Prefixit prefix test archname sitelib
?MAKE: -pick add $@ %<
?Y:TOP
?S:sitearch:
?S: This variable contains the eventual value of the SITEARCH symbol,
?S: which is the name of the private library for this package.  It may
?S: have a ~ on the front. It is up to the makefile to eventually create
?S: this

```
 directory while performing installation (with ~ substitution).
?S:.
?S:sitearchexp:
?S: This variable is the ~name expanded version of sitearch, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?S:installsitearch:
?S: This variable is really the same as sitearchexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?C:SITEARCH:
?C: This symbol contains the name of the private library for this package.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.  The program
?C: should be prepared to do ~ expansion.
?C: The standard distribution will put nothing in this directory.
?C: Individual sites may place their own extensions and modules in
?C: this directory.
?C:.
?C:SITEARCH_EXP:
?C: This symbol contains the ~name expanded version of SITEARCH, to be used
?C: in programs that are not prepared to deal
 with ~ expansion at run-time.
?C:.
?H:#define SITEARCH "$sitearch"  /**/
?H:#define SITEARCH_EXP "$sitearchexp"  /**/
?H:.
?T:xxx
: determine where site specific architecture-dependent libraries go.
xxx=`echo $sitelib/$archname | sed 's!^$prefix!!'`
: xxx is usually lib/site_perl/archname.
set sitearch sitearch none
eval $prefixit
case "$sitearch" in
") dflt="$sitelib/$archname" ;;
*) dflt="$sitearch" ;;
esac
$cat <<EOM

The installation process will also create a directory for
architecture-dependent site-specific extensions and modules.

EOM
fn=nd~+
rp='Pathname for the site-specific architecture-dependent library files?'
. ./getfile
if $test "X$sitearchexp" != "X$ansexp"; then
```

```
 installsitearch="
fi
sitearch="$ans"
sitearchexp="$ansexp"
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
private files reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case
 "$installsitearch" in
 '') dflt=`echo $sitearchexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installsitearch";;
 esac
 fn=de~
 rp='Where will private files be installed?'
 . ./getfile
 installsitearch="$ans"
else
 installsitearch="$sitearchexp"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sitearch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: etc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: etc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:etc etcexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:etc:
?S: This variable holds the name of the directory in which the user wants
?S: to put "administrative" executable images for the package in question.
```

```
?S: It is most often a local directory such as /usr/local/etc. Programs
?S: relying on this variable must be prepared to deal with
 ~name
?S: substitutions.
?S:.
?S:etcexp:
?S: This is the same as the etc variable, but is filename expanded at
?S: configuration time, for convenient use in makefiles.
?S:.
: determine where administrative executables go
case "$etc" in
")
 dflt=`./loc . /local/etc /usr/local/etc /local/etc /usr/etc /etc`
 ;;
*)
 dflt="$etc"
 ;;
esac
fn=d~
rp='Where should the administrative executables go?'
. ./getfile
etc="$ans"
etcexp="$ansexp"
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/etc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: cppstdin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cppstdin.U,v $
?RCS: Revision 3.0.1.4  1994/10/29  16:08:34  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:05:38  ram
?RCS: patch16: comment for CPPLAST was missing
?RCS:
?RCS: Revision 3.0.1.2  1993/12/15  08:18:58  ram
?RCS: patch15: new variables cpprun and cpplast, guaranteed wrapper-free
?RCS: patch15: cppstdin now tries to use cc, even at the cost of a wrapper
```

?RCS:
?RCS: Revision 3.0.1.1
 1993/08/25  14:00:53  ram
?RCS: patch6: remove wrapper when not actually used
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:38  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:cppstdin cppminus cpprun cpplast: contains test \
 Myread Oldconfig Loc cpp +cc rm hint osname gccversion
?MAKE: -pick add $@ %<
?S:cppstdin:
?S: This variable contains the command which will invoke the C
?S: preprocessor on standard input and put the output to stdout.
?S: It is primarily used by other Configure units that ask about
?S: preprocessor symbols.
?S:.
?S:cppminus:
?S: This variable contains the second part of the string which will invoke
?S: the C preprocessor on the standard input and produce to standard
?S: output.  This variable will have the value "-" if cppstdin needs
?S: a minus to specify standard input, otherwise the value is "".
?S:.
?S:cpprun:
?S: This variable contains the command which will invoke a C preprocessor
?S: on standard input and put the output to stdout. It is guaranteed
 not
?S: to be a wrapper and may be a null string if no preprocessor can be
?S: made directly available. This preprocessor might be different from the
?S: one used by the C compiler. Don't forget to append cpplast after the
?S: preprocessor options.
?S:.
?S:cpplast:
?S: This variable has the same functionality as cppminus, only it applies
?S: to cpprun and not cppstdin.
?S:.
?C:CPPSTDIN:
?C: This symbol contains the first part of the string which will invoke
?C: the C preprocessor on the standard input and produce to standard
?C: output.  Typical value of "cc -E" or "/lib/cpp", but it can also
?C: call a wrapper. See CPPRUN.
?C:.
?C:CPPMINUS:
?C: This symbol contains the second part of the string which will invoke
?C: the C preprocessor on the standard input and produce to standard
?C: output.  This symbol will have the value "-" if CPPSTDIN needs a minus
?C: to specify standard input, otherwise the value is "".
?C:.

```
?C:CPPRUN:
?C: This symbol contains the string which will invoke
 a C preprocessor on
?C: the standard input and produce to standard output. It needs to end
?C: with CPPLAST, after all other preprocessor flags have been specified.
?C: The main difference with CPPSTDIN is that this program will never be a
?C: pointer to a shell wrapper, i.e. it will be empty if no preprocessor is
?C: available directly to the user. Note that it may well be different from
?C: the preprocessor used to compile the C program.
?C:.
?C:CPPLAST:
?C: This symbol is intended to be used along with CPPRUN in the same manner
?C: symbol CPPMINUS is used with CPPSTDIN. It contains either "-" or "".
?C:.
?H:#define CPPSTDIN "$cppstdin"
?H:#define CPPMINUS "$cppminus"
?H:#define CPPRUN "$cpprun"
?H:#define CPPLAST "$cpplast"
?H:.
?F:cppstdin !testcpp.out !testcpp.c
?T:wrapper x_cpp x_minus ok
?LINT:extern cppflags
: see how we invoke the C preprocessor
echo " "
echo "Now, how can we feed standard input to your C preprocessor..." >&4
cat <<'EOT' >testcpp.c
#define ABC abc
#define
 XYZ xyz
ABC.XYZ
EOT
cd ..
if test ! -f cppstdin; then
 if test "X$osname" = "Xaix" -a "X$gccversion" = X; then
  # AIX cc -E doesn't show the absolute headerfile
  # locations but we'll cheat by using the -M flag.
  echo 'cat >.$$.c; rm -f .$$.u; "'"$cc"' ${1+"$@"} -M -c .$$.c 2>/dev/null; test -s .$$.u && awk '"'"'$2 ~ /\.h$/ { print
"# 0 \""$2"\" }'"'" .$$.u; rm -f .$$.o .$$.u; "'"$cc"' -E ${1+"$@"} .$$.c; rm .$$.c' > cppstdin
 else
  echo 'cat >.$$.c; "'"$cc $cppflags"' -E ${1+"$@"} .$$.c; rm .$$.c' >cppstdin
 fi
else
 echo "Keeping your $hint cppstdin wrapper."
fi
chmod 755 cppstdin
wrapper=`pwd`/cppstdin
ok='false'
cd UU
```

```
?X:
?X: We'll run the cpp tests again if we don't have any valid C preprocessor
?X: yet or don't know how to proceed without a wrapper (in which case cpprun
?X: is empty and that's really annoying...)
?X:
if $test "X$cppstdin" != "X" && \
 $cppstdin $cppminus <testcpp.c >testcpp.out 2>&1 && \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1
then
 echo "You used
 to use $cppstdin $cppminus so we'll use that again."
 case "$cpprun" in
 '') echo "But let's see if we can live without a wrapper..." ;;
 *)
  if $cpprun $cpplast <testcpp.c >testcpp.out 2>&1 && \
   $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1
  then
   echo "(And we'll use $cpprun $cpplast to preprocess directly.)"
   ok='true'
  else
   echo "(However, $cpprun $cpplast does not work, let's see...)"
  fi
  ;;
 esac
else
 case "$cppstdin" in
 '') ;;
 *)
  echo "Good old $cppstdin $cppminus does not seem to be of any help..."
  ;;
 esac
fi

if $ok; then
 : nothing
elif echo 'Maybe '"'"'$cc'"'"' -E" will work...'; \
 $cc -E <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "Yup, it does."
 x_cpp="$cc $cppflags -E"
 x_minus='';
elif echo 'Nope...maybe '"'"'$cc'"'"' -E -" will work...'; \
 $cc -E - <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "Yup, it does."
 x_cpp="$cc $cppflags -E"
 x_minus='-';
```

```
elif
 echo 'Nope...maybe """$cc"' -P" will work...'; \
 $cc -P <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "Yipee, that works!"
 x_cpp="$cc $cppflags -P"
 x_minus='';
elif echo 'Nope...maybe """$cc"' -P -" will work...'; \
 $cc -P - <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "At long last!"
 x_cpp="$cc $cppflags -P"
 x_minus='-';
elif echo 'No such luck, maybe "'$cpp"' will work...'; \
 $cpp <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "It works!"
 x_cpp="$cpp $cppflags"
 x_minus='';
elif echo 'Nixed again...maybe "'$cpp' -" will work...'; \
 $cpp - <testcpp.c >testcpp.out 2>&1; \
 $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 echo "Hooray, it works!  I was beginning to wonder."
 x_cpp="$cpp $cppflags"
 x_minus='-';
elif echo 'Uh-uh.  Time to get fancy.  Trying a wrapper...'; \
 $wrapper <testcpp.c >testcpp.out 2>&1; \
 $contains
 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
 x_cpp="$wrapper"
 x_minus=''
 echo "Eureka!"
else
 dflt=''
 rp="No dice.  I can't find a C preprocessor.  Name one:"
 . ./myread
 x_cpp="$ans"
 x_minus=''
 $x_cpp <testcpp.c >testcpp.out 2>&1
 if $contains 'abc.*xyz' testcpp.out >/dev/null 2>&1 ; then
  echo "OK, that will do." >&4
 else
echo "Sorry, I can't get that to work.  Go find one and rerun Configure." >&4
  exit 1
 fi
fi

case "$ok" in
```

```
false)
 cppstdin="$x_cpp"
 cppminus="$x_minus"
 cpprun="$x_cpp"
 cpplast="$x_minus"
?X:
?X: If /lib/cpp is used, try using a wrapper to increase our chances to have
?X: the C compiler and our $cppstdin agree on the same symbols... However,
?X: since cpprun is guaranteed not to be a wrapper, we must clear it if the
?X: only preprocessor we found was a wrapper, with all our luck...
?X:
 set X $x_cpp
 shift
 case "$1" in
 "$cpp")
  echo "Perhaps can we force $cc -E using a wrapper..."
  if $wrapper <testcpp.c >testcpp.out 2>&1; \
   $contains 'abc.*xyz'
 testcpp.out >/dev/null 2>&1
  then
   echo "Yup, we can."
   cppstdin="$wrapper"
   cppminus='';
  else
   echo "Nope, we'll have to live without it..."
  fi
  ;;
 esac
 case "$cpprun" in
 "$wrapper")
  cpprun=''
  cpplast=''
  ;;
 esac
 ;;
esac

case "$cppstdin" in
"$wrapper"|'cppstdin') ;;
*) $rm -f $wrapper;;
esac
$rm -f testcpp.c testcpp.out
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/cppstdin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: archlib.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  15:23:38  ram
?RCS: patch61: skip existence checks for archlib
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:15:18  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/02/15  14:14:14  ram
?RCS: patch51: architecture name is now computed by a separate unit
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:32:22  ram
?RCS:
 patch49: archname is now systematically recomputed
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:36  ram
?RCS: patch36: created by ADO
?RCS:
?MAKE:d_archlib archlib archlibexp installarchlib: archname afs spackage \
 cat Getfile Loc Oldconfig prefixexp privlib test Prefixit Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?S:d_archlib:
?S: This variable conditionally defines ARCHLIB to hold the pathname
?S: of architecture-dependent library files for $package.  If
?S: $archlib is the same as $privlib, then this is set to undef.
?S:.
?S:archlib:
?S: This variable holds the name of the directory in which the user wants
?S: to put architecture-dependent public library files for $package.
?S: It is most often a local directory such as /usr/local/lib.
?S: Programs using this variable must be prepared to deal
?S: with filename expansion.
?S:.
?S:archlibexp:
?S: This variable is the same as the archlib variable, but is
?S: filename
```

```
 expanded at configuration time, for convenient use.
?S:.
?S:installarchlib:
?S: This variable is really the same as archlibexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?C:ARCHLIB:
?C: This variable, if defined, holds the name of the directory in
?C: which the user wants to put architecture-dependent public
?C: library files for $package.  It is most often a local directory
?C: such as /usr/local/lib.  Programs using this variable must be
?C: prepared to deal with filename expansion.  If ARCHLIB is the
?C: same as PRIVLIB, it is not defined, since presumably the
?C: program already searches PRIVLIB.
?C:.
?C:ARCHLIB_EXP:
?C: This symbol contains the ~name expanded version of ARCHLIB, to be used
?C: in programs that are not prepared to deal with ~ expansion at run-time.
?C:.
?H:#$d_archlib ARCHLIB "$archlib"  /**/
?H:#$d_archlib ARCHLIB_EXP "$archlibexp"  /**/
?H:.
: determine where public architecture
 dependent libraries go
set archlib archlib
eval $prefixit
case "$archlib" in
")
 case "$privlib" in
 ")
  dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
  set dflt
  eval $prefixup
  ;;
 *)  dflt="$privlib/$archname";;
 esac
 ;;
*) dflt="$archlib";;
esac
cat <<EOM

$spackage contains architecture-dependent library files.  If you are
sharing libraries in a heterogeneous environment, you might store
these files in a separate location.  Otherwise, you can just include
them with the rest of the public library files.

EOM
```

```
fn=d+~
rp='Where do you want to put the public architecture-dependent libraries?'
. ./getfile
archlib="$ans"
archlibexp="$ansexp"

if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
private files reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installarchlib" in
 '') dflt=`echo $archlibexp | sed 's#^/afs/#/afs/.#'`;;
 *)
 dflt="$installarchlib";;
 esac
 fn=de~
 rp='Where will architecture-dependent library files be installed?'
 . ./getfile
 installarchlib="$ans"
else
 installarchlib="$archlibexp"
fi
if $test X"$archlib" = X"$privlib"; then
 d_archlib="$undef"
else
 d_archlib="$define"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/archlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_sigblock.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_sigblock.U,v $
?RCS: Revision 3.0  1993/08/18  12:07:21  ram
```

?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_sigblock: Inlibc
?MAKE: -pick add $@ %<
?S:d_sigblock:
?S: This variable conditionally defines HAS_SIGBLOCK if sigblock() is
?S: available to block signal reception.
?S:.
?C:HAS_SIGBLOCK:
?C: This symbol, if defined, indicates that the sigblock routine is
?C: available to block signal reception.
?C:.
?H:#$d_sigblock HAS_SIGBLOCK /**/
?H:.
?LINT:set
 d_sigblock
: see if sigblock exists
set sigblock d_sigblock
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_sigblock.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_internet.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_internet.U,v $
?RCS: Revision 3.0.1.1  1993/09/13  16:02:04  ram
?RCS: patch10: most mailers support Internet addresses nowadays (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:06:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_internet: Myread Oldconfig Setvar
?MAKE: -pick add $@ %<
?S:d_internet:
?S: This variable conditionally defines the INTERNET symbol, which
?S: indicates to the C program that there is a mailer available
 which
?S: supports internet-style addresses (user@site.domain).

```
?S:.
?C:INTERNET:
?C: This symbol, if defined, indicates that there is a mailer available
?C: which supports internet-style addresses (user@site.domain).
?C:.
?H:#$d_internet INTERNET /**/
?H:.
?LINT:set d_internet
: check for internet mailer
dflt=y
case "$d_internet" in
"$undef") dflt=n;;
esac
cat <<EOM

Most mailers can deliver mail to addresses of the INTERNET persuasion,
such as user@host.edu.  Some older mailers, however, require the complete
path to the destination to be specified in the address.

EOM
rp="Does your mailer understand INTERNET addresses?"
. ./myread
case "$ans" in
y*) val="$define";;
*)  val="$undef";;
esac
set d_internet
eval $setvar

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_internet.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_drem.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_drem.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:12:14  ram
?RCS: patch36: created by ADO
```

```
?RCS:
?MAKE:d_drem: Inlibc
?MAKE: -pick add $@ %<
?S:d_drem:
?S: This variable conditionally defines the HAS_DREM symbol, which
?S: indicates to the C program that the drem() routine is available.
?S:.
?C:HAS_DREM :
?C: This symbol, if defined, indicates that the drem routine is
?C: available.
  This routine is roughly the same as fmod, i.e. it
?C: computes the remainder r=x-n*y, where n=rint(x/y), whereas fmod
?C: uses n=trunc(x/y).
?C:.
?H:#$d_drem HAS_DREM  /**/
?H:.
?LINT:set d_drem
: see if drem exists
set drem d_drem
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_drem.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_closedir.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:31:26  ram
?RCS: patch61: added ?F: metalint hint
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:11:18  ram
?RCS: patch36: added 'ldflags' to the test compile line (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:07:21  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_closedir d_void_closedir: Inlibc i_dirent i_sysdir i_sysndir \
```

```
 cc ccflags ldflags libs Setvar rm
?MAKE: -pick
 add $@ %<
?S:d_closedir:
?S: This variable conditionally defines HAS_CLOSEDIR if closedir() is
?S: available.
?S:.
?C:HAS_CLOSEDIR:
?C: This symbol, if defined, indicates that the closedir() routine is
?C: available.
?C:.
?H:#$d_closedir HAS_CLOSEDIR  /**/
?H:.
?S:d_void_closedir:
?S: This variable conditionally defines VOID_CLOSEDIR if closedir()
?S: does not return a value.
?S:.
?C:VOID_CLOSEDIR:
?C: This symbol, if defined, indicates that the closedir() routine
?C: does not return a value.
?C:.
?H:#$d_void_closedir VOID_CLOSEDIR  /**/
?H:.
?F:!closedir
?LINT:set d_closedir d_void_closedir
: see if closedir exists
set closedir d_closedir
eval $inlibc

@if VOID_CLOSEDIR || d_void_closedir
?X: The following contortions are designed so we can call closedir()
?X: and check whether it returns a value.  The contortions are designed
?X: to portably pick up the correct directory header, for those
?X: systems that support various mutually incompatible directory functions.
?X: This
 is from perl5's perl.h
case "$d_closedir" in
"$define")
 echo " "
 echo "Checking whether closedir() returns a status..." >&4
 cat > closedir.c <<EOM
#$i_dirent I_DIRENT  /**/
#$i_sysdir I_SYS_DIR  /**/
#$i_sysndir I_SYS_NDIR  /**/

#if defined(I_DIRENT)
#include <dirent.h>
#if defined(NeXT) && defined(I_SYS_DIR) /* NeXT needs dirent + sys/dir.h */
```

```
#include <sys/dir.h>
#endif
#else
#ifdef I_SYS_NDIR
#include <sys/ndir.h>
#else
#ifdef I_SYS_DIR
#ifdef hp9000s500
#include <ndir.h> /* may be wrong in the future */
#else
#include <sys/dir.h>
#endif
#endif
#endif
#endif
int main() { return closedir(opendir(".")); }
EOM
 if $cc $ccflags $ldflags -o closedir closedir.c $libs > /dev/null 2>&1; then
  if ./closedir > /dev/null 2>&1 ; then
   echo "Yes, it does."
   val="$undef"
  else
   echo "No, it doesn't."
   val="$define"
  fi
 else
  echo "(I can't seem to compile the test program--assuming it doesn't)"
  val="$define"
 fi
 ;;
*)
 val="$undef";
 ;;
esac
set d_void_closedir
eval $setvar
$rm
 -f closedir*
@end
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_closedir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fdclose: Inlibc
```

```
?MAKE: -pick add $@ %<
?S:d_fdclose:
?S: This variable conditionally defines the HAS_FDCLOSE symbol, which
?S: indicates to the C program that the fdclose() routine is available.
?S:.
?C:HAS_FDCLOSE:
?C: This symbol, if defined, indicates that the fdclose routine is
?C: available to free a FILE structure without closing the underlying
?C: file descriptor.  This function appeared in FreeBSD 10.2.
?C:.
?H:#$d_fdclose HAS_FDCLOSE  /**/
?H:.
?LINT:set d_fdclose
: see if fdclose exists
set fdclose d_fdclose
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fdclose.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_msghdr_s: Hasstruct i_systypes d_socket i_sysuio Setvar
?MAKE: -pick add $@ %<
?S:d_msghdr_s:
?S: This variable conditionally defines the HAS_STRUCT_MSGHDR symbol,
?S: which indicates that the struct msghdr is supported.
?S:.
?C:HAS_STRUCT_MSGHDR:
?C: This symbol, if defined, indicates that the struct msghdr
?C: is supported.
?C:.
?H:#$d_msghdr_s HAS_STRUCT_MSGHDR /**/
?H:.
?LINT:set d_msghdr_s
: Check for msghdr_s
echo " "
echo "Checking to see if your system supports struct msghdr..." >&4
set d_msghdr_s msghdr $i_systypes sys/types.h $d_socket sys/socket.h $i_sysuio sys/uio.h
eval $hasstruct
case "$d_msghdr_s" in
"$define")      echo "Yes, it does."   ;;
```

```
*)            echo "No, it doesn't."
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_msghdr_s.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_systimes.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_systimes.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:39  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_systimes: Inhdr
?MAKE: -pick add $@ %<
?S:i_systimes:
?S: This variable conditionally defines the I_SYS_TIMES symbol, and indicates
?S: whether a C program should include <sys/times.h>.
?S:.
?C:I_SYS_TIMES (I_SYSTIMES):
?C: This symbol, if defined, indicates to the C program that it should
?C: include <sys/times.h>.
?C:.
?H:#$i_systimes I_SYS_TIMES  /**/
?H:.
?LINT:set
 i_systimes
: see if this is a sys/times.h system
set sys/times.h i_systimes
eval $inhdr
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_systimes.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
```

```
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_mq_send: Inlibc
?MAKE: -pick add $@ %<
?S:d_mq_send:
?S: This variable conditionally defines HAS_MQ_SEND if mq_send() is
?S: available to send a message to a POSIX message queue.
?S:.
?C:HAS_MQ_SEND:
?C: This symbol, if defined, indicates that the mq_send system call is
?C: available to send a message to a POSIX message queue.
?C:.
?H:#$d_mq_send HAS_MQ_SEND  /**/
?H:.
?LINT:set d_mq_send
: see if mq_send exists
set mq_send d_mq_send
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_mq_send.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cpp_stuff.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:30:48  ram
?RCS: patch61: added cute quoting trick for wild stringify support
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:08:24  ram
?RCS: patch36: now uses cppstdin instead of plain cpp for consistency (ADO)
?RCS: patch36: remove temporary files when done
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:36  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?MAKE:cpp_stuff cpp_quote: cat contains cppstdin cppflags cppminus rm Warn \
 package
?MAKE: -pick
 add $@ %<
?S:cpp_stuff:
?S: This variable contains an identification of the catenation mechanism
?S: used by the C preprocessor.
?S:.
?S:cpp_quote:
?S: This variable is set to either "" or " depending on whether the
?S: pre-processor pre-dates ANSI or not.  It is used in the production of
?S: the SQuoTe() and EQuoTe() macros, and was introduced to overcome a bug
?S: in gcc 3.x whereby the pre-processor complained loudly about the
?S: unterminated strings.
?S:.
?C:CAT2:
?C: This macro catenates 2 tokens together.
?C:.
?C:CAT3:
?C: This macro catenates 3 tokens together.
?C:.
?C:CAT4:
?C: This macro catenates 4 tokens together.
?C:.
?C:CAT5:
?C: This macro catenates 5 tokens together.
?C:.
?C:STRINGIFY:
?C: This macro surrounds its token with double quotes.
?C:.
?C:SCAT2:
?C: This macro catenates 2 tokens together and stringifies the result.
?C:.
?C:SCAT3:
?C: This macro catenates 3 tokens together and stringifies the result.
?C:.
?C:SCAT4:
?C: This macro catenates 4 tokens
 together and stringifies the result.
?C:.
?C:SCAT5:
?C: This macro catenates 5 tokens together and stringifies the result.
?C:.
?H:?%<:#if $cpp_stuff == 1
?H:?CAT2:#define CAT2(a,b)a/**/b
?H:?CAT3:#define CAT3(a,b,c)a/**/b/**/c
?H:?CAT4:#define CAT4(a,b,c,d)a/**/b/**/c/**/d
?H:?CAT5:#define CAT5(a,b,c,d,e)a/**/b/**/c/**/d/**/e
```

```
?H:?STRINGIFY:#define STRINGIFY(a)"a"
?H:?%<:#define SQuoTe(a)${cpp_quote}a
?H:?%<:#define EQuoTe(a)a${cpp_quote}
?H:?SCAT2:#define SCAT2(a,b)EQuoTe(SQuoTe(a)b)
?H:?SCAT3:#define SCAT3(a,b,c)EQuoTe(SQuoTe(a)b/**/c)
?H:?SCAT4:#define SCAT4(a,b,c,d)EQuoTe(SQuoTe(a)b/**/c/**/d)
?H:?SCAT5:#define SCAT5(a,b,c,d,e)EQuoTe(SQuoTe(a)b/**/c/**/d/**/e)
?H:?%<:#endif
?H:?%<:#if $cpp_stuff == 42
?X: The additional level of indirection enables these macros to be
?X: used as arguments to other macros.  See K&R 2nd ed., page 231.
?H:?%<:#define CaTiFy(a,b) a ## b
?H:?%<:#define CAT2(a,b) CaTiFy(a,b)
?H:?CAT3:#define CAT3(a,b,c) CAT2(CaTiFy(a,b),c)
?H:?CAT4:#define CAT4(a,b,c,d)
 CAT2(CaTiFy(a,b), CaTiFy(c,d))
?H:?CAT5:#define CAT5(a,b,c,d,e) CAT2(CAT2(CaTiFy(a,b), CaTiFy(c,d)), e)
?H:?%<:#define StGiFy(a)# a
?H:?STRINGIFY:#define STRINGIFY(a)StGiFy(a)
?H:?SCAT2:#define SCAT2(a,b)StGiFy(a) StGiFy(b)
?H:?SCAT3:#define SCAT3(a,b,c)StGiFy(a) StGiFy(b) StGiFy(c)
?H:?SCAT4:#define SCAT4(a,b,c,d)StGiFy(a) StGiFy(b) StGiFy(c) StGiFy(d)
?H:?SCAT5:#define SCAT5(a,b,c,d,e)StGiFy(a) StGiFy(b) StGiFy(c) StGiFy(d) StGiFy(e)
?H:?%<:#endif
?H:?%<:#if $cpp_stuff != 1 && $cpp_stuff != 42
?H:?%<:#include "Bletch: How does this C preprocessor catenate tokens?"
?H:?%<:#endif
?H:.
?W:%<:CAT2 CAT3 CAT4 CAT5 STRINGIFY SCAT2 SCAT3 SCAT4 SCAT5
?F:!cpp_stuff.c
?LINT:known StGiFy EQuoTe SQuoTe CaTiFy
: how do we catenate cpp tokens here?
echo " "
echo "Checking to see how your cpp does stuff like catenate tokens..." >&4
cpp_quote="
$cat >cpp_stuff.c <<'EOCP'
#define RCAT(a,b)a/**/b
#define ACAT(a,b)a ## b
RCAT(Rei,ser)
ACAT(Cir,cus)
EOCP
$cppstdin $cppflags $cppminus <cpp_stuff.c >cpp_stuff.out
 2>&1
if $contains 'Circus' cpp_stuff.out >/dev/null 2>&1; then
 echo "Oh!  Smells like ANSI's been here."
 echo "We can catify or stringify, separately or together!"
 cpp_stuff=42
elif $contains 'Reiser' cpp_stuff.out >/dev/null 2>&1; then
```

```
 echo "Ah, yes!  The good old days!"
 cpp_stuff=1
 $cat >cpp_stuff.c <<'EOCP'
#define SQuoTe(a)"a
#define EQuoTe(a)a"
#define CAT2(a,b)EQuoTe(SQuoTe(a)b)
CAT2(Vic,tory)
EOCP
 $cppstdin $cppflags $cppminus <cpp_stuff.c >cpp_stuff.out 2>&1
 if $contains '"Victory"' cpp_stuff.out >/dev/null 2>&1; then
  echo "I'll resort to a cute trick to also be able to stringify."
  cpp_quote=""
 else
  $cat <<EOM
However, in the good old days we don't know how to stringify and
catify at the same time...
@if SCAT2 || SCAT3 || SCAT4 || SCAT5
You might have to edit the values of the SCAT[2-5] macros in config.h...
@else
Hopefully, $package does not need this feature.
@end
EOM
 fi
else
 ./warn <<EOM
I can't seem to be able to catenate tokens with your cpp.
@if
 CAT2 || CAT3 || CAT4 || CAT5 || SCAT2 || SCAT3 || SCAT4 || SCAT5
You're going to have to edit the values of the following
macros in config.h:

@if CAT2 || CAT3 || CAT4 || CAT5
 CAT[2-5]
@end
@if SCAT2 || SCAT3 || SCAT4 || SCAT5
 SCAT[2-5]
@end

in order to let me compile.
@end
EOM
 cpp_stuff="/* Help! How do we handle cpp_stuff? */*/"
fi
$rm -f cpp_stuff.*
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/cpp_stuff.U

No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_strerror.U,v 3.0.1.3 1994/05/13 15:20:27 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_strerror.U,v $
?RCS: Revision 3.0.1.3  1994/05/13  15:20:27  ram
?RCS: patch27: now uses new macro support for cleaner Strerror def
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  14:58:26  ram
?RCS: patch23: renamed strerror into Strerror to protect name space (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:08:56  ram
?RCS: patch16: protected code looking for sys_errnolist[] with @if
?RCS: patch16: added default value for d_sysernlst
?RCS:
?RCS: Revision
 3.0  1993/08/18  12:07:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_strerror d_syserrlst d_sysernlst d_strerrm: contains Csym Findhdr
?MAKE: -pick add $@ %<
?S:d_strerror:
?S: This variable conditionally defines HAS_STRERROR if strerror() is
?S: available to translate error numbers to strings.
?S:.
?S:d_syserrlst:
?S: This variable conditionally defines HAS_SYS_ERRLIST if sys_errlist[] is
?S: available to translate error numbers to strings.
?S:.
?S:d_sysernlst:
?S: This variable conditionally defines HAS_SYS_ERRNOLIST if sys_errnolist[]
?S: is available to translate error numbers to the symbolic name.
?S:.
?S:d_strerrm:
?S: This variable holds what Strerror is defined as to translate an error
?S: code condition into an error message string. It could be 'strerror'
?S: or a more complex macro emulating strerror with sys_errlist[], or the
?S: "unknown" string when both strerror and sys_errlist are missing.
?S:.
?C:HAS_STRERROR (STRERROR):

```
?C: This symbol, if defined,
 indicates that the strerror routine is
?C: available to translate error numbers to strings. See the writeup
?C: of Strerror() in this file before you try to define your own.
?C:.
?C:HAS_SYS_ERRLIST (SYSERRLIST):
?C: This symbol, if defined, indicates that the sys_errlist array is
?C: available to translate error numbers to strings. The extern int
?C: sys_nerr gives the size of that table.
?C:.
?C:HAS_SYS_ERRNOLIST (SYSERRNOLIST):
?C: This symbol, if defined, indicates that the sys_errnolist array is
?C: available to translate an errno code into its symbolic name (e.g.
?C: ENOENT). The extern int sys_nerrno gives the size of that table.
?C:.
?C:Strerror:
?C: This preprocessor symbol is defined as a macro if strerror() is
?C: not available to translate error numbers to strings but sys_errlist[]
?C: array is there.
?C:.
?H:#$d_strerror HAS_STRERROR  /**/
?H:#$d_syserrlst HAS_SYS_ERRLIST /**/
?H:#$d_sysernlst HAS_SYS_ERRNOLIST /**/
?H:#define Strerror(e) $d_strerrm
?H:.
?D:d_sysernlst="
?T:xxx
 val
: see if strerror and/or sys_errlist[] exist
echo " "
?X: MPE/iX needs this protection of hint values.
?X: Background: strerror exists in kernel but not in libc.
?X: Scanning the kernel for symbols would be a bad idea, however,
?X: because many symbols that look unix-ish exist in the kernel.
?X: The stress is on the 'look'.
?X: --jhi 9/1998
if test "X$d_strerror" = X -o "X$d_syserrlst" = X; then
   if set strerror val -f d_strerror; eval $csym; $val; then
  echo 'strerror() found.' >&4
  d_strerror="$define"
  d_strerrm='strerror(e)'
  if set sys_errlist val -a d_syserrlst; eval $csym; $val; then
   echo "(You also have sys_errlist[], so we could roll our own strerror.)"
   d_syserrlst="$define"
  else
   echo "(Since you don't have sys_errlist[], strerror() is welcome.)"
   d_syserrlst="$undef"
  fi
```

```
  elif xxx=`./findhdr string.h`; test "$xxx" || xxx=`./findhdr strings.h`; \
  $contains '#[  ]*define.*strerror' "$xxx" >/dev/null 2>&1; then
 echo 'strerror() found in
string header.' >&4
 d_strerror="$define"
 d_strerrm='strerror(e)'
 if set sys_errlist val -a d_syserrlst; eval $csym; $val; then
  echo "(Most probably, strerror() uses sys_errlist[] for descriptions.)"
   d_syserrlst="$define"
 else
  echo "(You don't appear to have any sys_errlist[], how can this be?)"
  d_syserrlst="$undef"
 fi
  elif set sys_errlist val -a d_syserrlst; eval $csym; $val; then
 echo "strerror() not found, but you have sys_errlist[] so we'll use that." >&4
 d_strerror="$undef"
 d_syserrlst="$define"
 d_strerrm='((e)<0||(e)>=sys_nerr?"unknown":sys_errlist[e])'
  else
 echo 'strerror() and sys_errlist[] NOT found.' >&4
 d_strerror="$undef"
 d_syserrlst="$undef"
 d_strerrm='"unknown"'
  fi
fi
@if d_sysernlst || HAS_SYS_ERRNOLIST
if set sys_errnolist val -a d_sysernlst; eval $csym; $val; then
 echo "(Symbolic error codes can be fetched via the sys_errnolist[] array.)"
 d_sysernlst="$define"
else
 echo "(However, I can't extract the symbolic error code
 out of errno.)"
 d_sysernlst="$undef"
fi
@end

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_strerror.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: i_sysdir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_sysdir.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:22:30  ram
?RCS: patch32: fixed typo in I_SYS_DIR symbol name
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:30  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:i_sysdir: Inhdr
?MAKE: -pick add $@ %<
?S:i_sysdir:
?S: This variable conditionally defines the I_SYS_DIR symbol, and indicates
?S: whether a C program should include <sys/dir.h>.
?S:.
?C:I_SYS_DIR (I_SYSDIR):
?C: This symbol, if
 defined, indicates to the C program that it should
?C: include <sys/dir.h>.
?C:.
?H:#$i_sysdir I_SYS_DIR  /**/
?H:.
?LINT:set i_sysdir
: see if this is an sysdir system
set sys/dir.h i_sysdir
eval $inhdr

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_sysdir.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_fmin: Inlibc
?MAKE: -pick add $@ %<
?S:d_fmin:
?S: This variable conditionally defines the HAS_FMIN symbol, which
?S: indicates to the C program that the fmin() routine is available.
?S:.
?C:HAS_FMIN:
?C: This symbol, if defined, indicates that the fmin routine is
?C: available to do the minimum function.
?C:.
?H:#$d_fmin HAS_FMIN  /**/
?H:.
?LINT:set d_fmin
: see if fmin exists
```

```
set fmin d_fmin
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_fmin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_tcstpgrp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_tcstpgrp.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:12:11  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_tcsetpgrp: Inlibc
?MAKE: -pick add $@ %<
?S:d_tcsetpgrp:
?S: This variable conditionally defines the HAS_TCSETPGRP symbol, which
?S: indicates to the C program that the tcsetpgrp() routine is available
?S: to set foreground process group ID.
?S:.
?C:HAS_TCSETPGRP
 :
?C: This symbol, if defined, indicates that the tcsetpgrp routine is
?C: available to set foreground process group ID.
?C:.
?H:#$d_tcsetpgrp HAS_TCSETPGRP  /**/
?H:.
?LINT:set d_tcsetpgrp
: see if tcsetpgrp exists
set tcsetpgrp d_tcsetpgrp
eval $inlibc

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_tcstpgrp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorhtml1.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
```

```
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml1.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml1 vendorhtml1exp installvendorhtml1: html1dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml1:
?S: This variable contains the name of the directory for html
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml1exp:
?S: This variable is the ~name expanded version of vendorhtml1, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorhtml1="
?S:installvendorhtml1:
?S: This variable is really the same as vendorhtml1exp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml1
: Set the vendorhtml1 variables
case "$vendorprefix" in
") vendorhtml1="
 vendorhtml1exp="
 ;;
*) : determine where vendor-supplied html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default suggestions would be welcome.
 case "$vendorhtml1" in
```

```
") dflt=`echo "$html1dir"
| $sed "s#^$prefix#$vendorprefix#"` ;;
*) dflt=$vendorhtml1 ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname for the vendor-supplied html pages?'
. ./getfile
vendorhtml1="$ans"
vendorhtml1exp="$ansexp"
;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml1" = "X" && vendorhtml1=' '
prefixvar=vendorhtml1
. ./installprefix
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/installdirs/vendorhtml1.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: myhostname.U,v 3.0.1.3 1997/02/28 16:15:55 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: myhostname.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:15:55  ram
?RCS: patch61: improved hostname lookup by using ypmatch when NIS is used
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:25:43  ram
?RCS: patch36: call ./xenix explicitly instead of relying on PATH
?RCS: patch36: now uses new Tr unit to convert to/from lowercase
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:06:20  ram
?RCS: patch30: now a little more clever for domain name guessing
?RCS:
?RCS:
 Revision 3.0  1993/08/18  12:09:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?MAKE:myhostname phostname mydomain: contains sed test Myread Oldconfig \
 Guess Loc awk echo sort uniq +usrinc rm hostcat Tr
?MAKE: -pick add $@ %<
?S:myhostname (hostname):
?S: This variable contains the eventual value of the MYHOSTNAME symbol,
?S: which is the name of the host the program is going to run on.
?S: The domain is not kept with hostname, but must be gotten from mydomain.
?S: The dot comes with mydomain, and need not be supplied by the program.
?S:.
?S:mydomain:
?S: This variable contains the eventual value of the MYDOMAIN symbol,
?S: which is the domain of the host the program is going to run on.
?S: The domain must be appended to myhostname to form a complete host name.
?S: The dot comes with mydomain, and need not be supplied by the program.
?S:.
?S:phostname:
?S: This variable contains the eventual value of the PHOSTNAME symbol,
?S: which is a command that can be fed to popen()
 to get the host name.
?S: The program should probably not presume that the domain is or isn't
?S: there already.
?S:.
?C:MYHOSTNAME (HOSTNAME):
?C: This symbol contains name of the host the program is going to run on.
?C: The domain is not kept with hostname, but must be gotten from MYDOMAIN.
?C: The dot comes with MYDOMAIN, and need not be supplied by the program.
?C: If gethostname() or uname() exist, MYHOSTNAME may be ignored. If MYDOMAIN
?C: is not used, MYHOSTNAME will hold the name derived from PHOSTNAME.
?C:.
?C:MYDOMAIN:
?C: This symbol contains the domain of the host the program is going to
?C: run on.  The domain must be appended to HOSTNAME to form a complete
?C: host name.  The dot comes with MYDOMAIN, and need not be supplied by
?C: the program.  If the host name is derived from PHOSTNAME, the domain
?C: may or may not already be there, and the program should check.
?C:.
?H:#define MYHOSTNAME "$myhostname"  /**/
?H:#define MYDOMAIN "$mydomain"  /**/
?H:.
?LINT:extern osname
?T:cont
 i tans tmp_re
: now get the host name
echo " "
echo "Figuring out host name..." >&4
case "$myhostname" in
") cont=true
 echo 'Maybe "hostname" will work...'
```

```
 if tans=`sh -c hostname 2>&1` ; then
  myhostname=$tans
  phostname=hostname
  cont=''
 fi
 ;;
*) cont='';;
esac
if $test "$cont"; then
 if ./xenix; then
  echo 'Oh, dear.  Maybe "/etc/systemid" is the key...'
  if tans=`cat /etc/systemid 2>&1` ; then
   myhostname=$tans
   phostname='cat /etc/systemid'
   echo "Whadyaknow.  Xenix always was a bit strange..."
   cont=''
  fi
 elif $test -r /etc/systemid; then
  echo "(What is a non-Xenix system doing with /etc/systemid?)"
 fi
fi
if $test "$cont"; then
 echo 'No, maybe "uuname -l" will work...'
 if tans=`sh -c 'uuname -l' 2>&1` ; then
  myhostname=$tans
  phostname='uuname -l'
 else
  echo 'Strange.  Maybe "uname -n" will work...'
  if tans=`sh -c 'uname -n' 2>&1` ; then
   myhostname=$tans
   phostname='uname -n'
  else
   echo 'Oh well, maybe I can mine it out of whoami.h...'
   if
  tans=`sh -c $contains' sysname $usrinc/whoami.h' 2>&1` ; then
    myhostname=`echo "$tans" | $sed 's/^.*"\(.*\)"/\1/'`
    phostname="sed -n -e ""/sysname/s/^.*\"\\(.*\\)\"/\1/{"" -e p -e q -e '}' <$usrinc/whoami.h"
   else
    case "$myhostname" in
    '') echo "Does this machine have an identity crisis or something?"
     phostname='';;
    *)
     echo "Well, you said $myhostname before..."
     phostname='echo $myhostname';;
    esac
   fi
  fi
 fi
```

```
fi
case "$myhostname" in
") myhostname=noname ;;
esac
: you do not want to know about this
set $myhostname
myhostname=$1

: verify guess
if $test "$myhostname" ; then
 dflt=y
 rp='Your host name appears to be "'$myhostname'".'" Right?"
 . ./myread
 case "$ans" in
 y*) ;;
 *) myhostname=";;
 esac
fi

: bad guess or no guess
while $test "X$myhostname" = X ; do
 dflt="
 rp="Please type the (one word) name of your host:"
 . ./myread
 myhostname="$ans"
done

: translate upper to lower if necessary
case "$myhostname" in
*[A-Z]*)
 echo
 "(Normalizing case in your host name)"
 myhostname=`echo $myhostname | ./tr '[A-Z]' '[a-z]'`
 ;;
esac

?X: Do not ask for domain name if this is not used later on. In that
?X: case, the hostname may keep its domain name, but it doesn't matter.
@if MYDOMAIN || mydomain
case "$myhostname" in
*.*)
 dflt=`expr "X$myhostname" : "X[^.]*\(\..*\)"`
 myhostname=`expr "X$myhostname" : "X\([^.]*\)\."`
 echo "(Trimming domain name from host name--host name is now $myhostname)"
 ;;
*) case "$mydomain" in
 ")
?X:
```

```
?X: There is currently no way to say we do not want hostcat if mydomain is not
?X: used. One way to achieve that would be to put that code in a mydomain.U
?X: unit. However, we want to stick the sanity checks right after the domain
?X: name computation, or if none is done, right after the hostname computation.
?X:
  {
?X: If we use NIS, try ypmatch.
   test "X$hostcat" = "Xypcat hosts" &&
   ypmatch "$myhostname" hosts 2>/dev/null |\
    $sed -e 's/[  ]*#.*//; s/$/ /' > hosts
 && \
   $test -s hosts
  } || {
?X: Extract only the relevant hosts, reducing file size,
?X: remove comments, insert trailing space for later use.
?X: Test to be sure we *have* a hostcat command.  os390 doesn't.
   test "X$hostcat" != "X" &&
       $hostcat | $sed -n -e "s/[  ]*#.*//; s/\$/ /
     /[  ]$myhostname[ . ]/p" > hosts
  }
  tmp_re="[ . ]"
  if $test -f hosts; then
   $test x`$awk "/[0-9].*[  ]$myhostname$tmp_re/ { sum++ }
       END { print sum }" hosts` = x1 || tmp_re="[  ]"
   dflt=.`$awk "/[0-9].*[  ]$myhostname$tmp_re/ {for(i=2; i<=NF;i++) print \\\$i}" \
    hosts | $sort | $uniq | \
    $sed -n -e "s/$myhostname\.\([-a-zA-Z0-9_.]\)/\1/p"`
   case `$echo X$dflt` in
   X*\ *) echo "(Several hosts in the database matched hostname)"
    dflt=.
    ;;
   X.) echo "(You do not have fully-qualified names in the hosts database)"
    ;;
   esac
  else
   echo "(I cannot locate a hosts database anywhere)"
   dflt=.
  fi
  case "$dflt" in
  .)
   tans=`./loc resolv.conf X /etc
 /usr/etc`
   if $test -f "$tans"; then
    echo "(Attempting domain name extraction from $tans)"
?X: Look for either a search or a domain directive.
    dflt=.`$sed -n -e 's/ / /g' \
      -e 's/^search  *\([^ ]*\).*/\1/p' $tans \
      -e 1q 2>/dev/null`
```

```
   case "$dflt" in
   .) dflt=.`$sed -n -e 's/ / /g' \
        -e 's/^domain  *\([^ ]*\).*/\1/p' $tans \
        -e 1q 2>/dev/null`
     ;;
   esac
  fi
  ;;
 esac
 case "$dflt" in
 .) echo "(No help from resolv.conf either -- attempting clever guess)"
  dflt=.`sh -c domainname 2>/dev/null`
  case "$dflt" in
  '') dflt='.';;
  .nis.*|.yp.*|.main.*) dflt=`echo $dflt | $sed -e 's/^\.[^.]*//'`;;
  esac
  ;;
 esac
 case "$dflt$osname" in
 .os390) echo "(Attempting domain name extraction from //'SYS1.TCPPARMS(TCPDATA)')"
  dflt=.`awk '/^DOMAINORIGIN/ {print $2}' "//'SYS1.TCPPARMS(TCPDATA)'" 2>/dev/null`
  ;;
 esac
 case "$dflt" in
 .) echo "(Lost all hope -- silly guess then)"
  dflt='.nonet'
  ;;
 esac
 $rm
-f hosts
 ;;
*) dflt="$mydomain";;
esac;;
esac
echo " "
rp="What is your domain name?"
. ./myread
tans="$ans"
case "$ans" in
'') ;;
.*) ;;
*) tans=".$tans";;
esac
mydomain="$tans"

: translate upper to lower if necessary
case "$mydomain" in
*[A-Z]*)
```

```
 echo "(Normalizing case in your domain name)"
 mydomain=`echo $mydomain | ./tr '[A-Z]' '[a-z]'`
 ;;
esac

@end
: a little sanity check here
case "$phostname" in
") ;;
*)
 case `$phostname | ./tr '[A-Z]' '[a-z]'` in
 $myhostname$mydomain|$myhostname) ;;
 *)
  case "$phostname" in
  sed*)
   echo "(That doesn't agree with your whoami.h file, by the way.)"
   ;;
  *)
   echo "(That doesn't agree with your $phostname command, by the way.)"
   ;;
  esac
 ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/myhostname.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_difftime.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_difftime.U,v $
?RCS: Revision 3.0.1.1  1994/08/29  16:07:31  ram
?RCS: patch32: created by ADO
?RCS:
?MAKE:d_difftime: Inlibc
?MAKE: -pick add $@ %<
```

```
?S:d_difftime:
?S: This variable conditionally defines the HAS_DIFFTIME symbol, which
?S: indicates to the C program that the difftime() routine is available.
?S:.
?C:HAS_DIFFTIME :
?C: This symbol, if defined, indicates that
 the difftime routine is
?C: available.
?C:.
?H:#$d_difftime HAS_DIFFTIME  /**/
?H:.
?LINT:set d_difftime
: see if difftime exists
set difftime d_difftime
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/d_difftime.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2005 H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_clearenv: Inlibc
?MAKE: -pick add $@ %<
?S:d_clearenv:
?S: This variable conditionally defines the HAS_CLEARENV symbol, which
?S: indicates to the C program that the clearenv () routine is available.
?S:.
?C:HAS_CLEARENV:
?C: This symbol, if defined, indicates that the clearenv () routine is
?C: available for use.
?C:.
?H:#$d_clearenv HAS_CLEARENV  /**/
?H:.
?LINT:set d_clearenv
: see if clearenv exists
set clearenv d_clearenv
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_clearenv.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_endpent.U,v 3.0 1993/08/18 12:06:09 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: d_endpent.U,v $
?RCS: Revision 3.0  1993/08/18  12:06:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:d_endpent: Inlibc
?MAKE: -pick add $@ %<
?S:d_endpent:
?S: This variable conditionally defines HAS_ENDPROTOENT if endprotoent() is
?S: available to close whatever was being used for protocol queries.
?S:.
?C:HAS_ENDPROTOENT:
?C: This symbol, if defined, indicates that the endprotoent() routine is
?C: available to close whatever was being used
 for protocol queries.
?C:.
?H:#$d_endpent HAS_ENDPROTOENT  /**/
?H:.
?LINT:set d_endpent
: see if endprotoent exists
set endprotoent d_endpent
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/d_endpent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_getprotobyname_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_getprotobyname_r getprotobyname_r_proto: Inlibc Protochk Hasproto \
 i_systypes usethreads i_netdb extern_C
?MAKE: -pick add $@ %<
?S:d_getprotobyname_r:
```

```
?S: This variable conditionally defines the HAS_GETPROTOBYNAME_R symbol,
?S: which indicates to the C program that the getprotobyname_r()
?S: routine is available.
?S:.
?S:getprotobyname_r_proto:
?S: This variable encodes the prototype of getprotobyname_r.
?S: It is zero if d_getprotobyname_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getprotobyname_r
?S: is defined.
?S:.
?C:HAS_GETPROTOBYNAME_R:
?C: This symbol, if
 defined, indicates that the getprotobyname_r routine
?C: is available to getprotobyname re-entrantly.
?C:.
?C:GETPROTOBYNAME_R_PROTO:
?C: This symbol encodes the prototype of getprotobyname_r.
?C: It is zero if d_getprotobyname_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_getprotobyname_r
?C: is defined.
?C:.
?H:#$d_getprotobyname_r HAS_GETPROTOBYNAME_R    /**/
?H:#define GETPROTOBYNAME_R_PROTO $getprotobyname_r_proto    /**/
?H:.
?T:try hdrs d_getprotobyname_r_proto
: see if getprotobyname_r exists
set getprotobyname_r d_getprotobyname_r
eval $inlibc
case "$d_getprotobyname_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_netdb netdb.h"
 case "$d_getprotobyname_r_proto:$usethreads" in
 ":define") d_getprotobyname_r_proto=define
  set d_getprotobyname_r_proto getprotobyname_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_getprotobyname_r_proto" in
 define)
 case "$getprotobyname_r_proto" in
 "|0) try='int getprotobyname_r(const char*,
 struct protoent*, char*, size_t, struct protoent**);'
 ./protochk "$extern_C $try" $hdrs && getprotobyname_r_proto=I_CSBWR ;;
 esac
 case "$getprotobyname_r_proto" in
 "|0) try='struct protoent* getprotobyname_r(const char*, struct protoent*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && getprotobyname_r_proto=S_CSBI ;;
 esac
```

```
 case "$getprotobyname_r_proto" in
 "|0) try='int getprotobyname_r(const char*, struct protoent*, struct protoent_data*);'
 ./protochk "$extern_C $try" $hdrs && getprotobyname_r_proto=I_CSD ;;
 esac
 case "$getprotobyname_r_proto" in
 "|0) d_getprotobyname_r=undef
        getprotobyname_r_proto=0
  echo "Disabling getprotobyname_r, cannot determine prototype." >&4 ;;
 * ) case "$getprotobyname_r_proto" in
  REENTRANT_PROTO*) ;;
  *) getprotobyname_r_proto="REENTRANT_PROTO_$getprotobyname_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
  define) echo "getprotobyname_r has no prototype, not using it." >&4 ;;
  esac
  d_getprotobyname_r=undef
  getprotobyname_r_proto=0
  ;;
 esac
 ;;
*) getprotobyname_r_proto=0
 ;;
esac

Found
 in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_getprotobyname_r.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_cmsghdr_s: Hasstruct i_systypes d_socket i_sysuio Setvar
?MAKE: -pick add $@ %<
?S:d_cmsghdr_s:
?S: This variable conditionally defines the HAS_STRUCT_CMSGHDR symbol,
?S: which indicates that the struct cmsghdr is supported.
?S:.
?C:HAS_STRUCT_CMSGHDR:
?C: This symbol, if defined, indicates that the struct cmsghdr
?C: is supported.
```

```
?C:.
?H:#$d_cmsghdr_s HAS_STRUCT_CMSGHDR /**/
?H:.
?LINT:set d_cmsghdr_s
: Check for cmsghdr support
echo " "
echo "Checking to see if your system supports struct cmsghdr..." >&4
set d_cmsghdr_s cmsghdr $i_systypes sys/types.h $d_socket sys/socket.h $i_sysuio sys/uio.h
eval $hasstruct
case "$d_cmsghdr_s" in
"$define")      echo "Yes, it does."   ;;
*)              echo
 "No, it doesn't." ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_cmsghdr_s.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_statfs: Inlibc
?MAKE: -pick add $@ %<
?S:d_statfs:
?S: This variable conditionally defines the HAS_STATFS symbol, which
?S: indicates to the C program that the statfs() routine is available.
?S:.
?C:HAS_STATFS:
?C: This symbol, if defined, indicates that the statfs routine is
?C: available to stat filesystems by filenames.
?C:.
?H:#$d_statfs HAS_STATFS  /**/
?H:.
?LINT:set d_statfs
: see if statfs exists
set statfs d_statfs
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_statfs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: maildir.U 1 2006-08-24 12:32:52Z rmanfredi $
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: maildir.U,v $
?RCS: Revision 3.0.1.1  1993/12/15  08:21:56  ram
?RCS: patch15: now also looks under /var/mail for BSD/386
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:maildir maildirexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:maildir:
?S: This variable contains the name of the directory in which mail is
?S: spooled. Programs using this variable must be prepared to deal with
?S: ~name
 substitutions.
?S:.
?S:maildirexp:
?S: This is the same as the maildir variable, but is filename expanded
?S: at configuration time, for programs not willing to deal with it at
?S: run-time.
?S:.
: determine where mail is spooled
case "$maildir" in
") dflt=`./loc . /usr/spool/mail /usr/spool/mail /usr/mail /var/mail`;;
*) dflt="$maildir";;
esac
echo " "
fn=d~
rp='Where is yet-to-be-read mail spooled?'
. ./getfile
maildir="$ans"
maildirexp="$ansexp"

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/maildir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sitelib.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:21:35  ram
?RCS: patch61: created
?RCS:
?MAKE:sitelib sitelibexp installsitelib: afs cat Getfile \
 Oldconfig Prefixit test privlib package sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:sitelib:
?S: This variable contains the eventual value of the SITELIB symbol,
?S: which is the name of the private library for this package.  It may
?S: have a ~ on the front. It is up to the makefile to eventually create
?S: this
 directory while performing installation (with ~ substitution).
?S:.
?S:sitelibexp:
?S: This variable is the ~name expanded version of sitelib, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?S:installsitelib:
?S: This variable is really the same as sitelibexp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?C:SITELIB:
?C: This symbol contains the name of the private library for this package.
?C: The library is private in the sense that it needn't be in anyone's
?C: execution path, but it should be accessible by the world.  The program
?C: should be prepared to do ~ expansion.
?C: The standard distribution will put nothing in this directory.
?C: Individual sites may place their own extensions and modules in
?C: this directory.
?C:.
?C:SITELIB_EXP:
?C: This symbol contains the ~name expanded version of SITELIB, to be used
?C: in programs that are not prepared to deal with ~ expansion
 at run-time.
?C:.
?H:#define SITELIB "$sitelib"  /**/
?H:#define SITELIB_EXP "$sitelibexp"  /**/
```

```
?H:.
?T:prog
: determine where site specific libraries go.
set sitelib sitelib
eval $prefixit
case "$sitelib" in
")
?X: remove any trailing -3.0 or other version indentification
 prog=`echo $package | $sed 's/-*[0-9.]*$//'`
 dflt="$privlib/site_$prog" ;;
*) dflt="$sitelib" ;;
esac
$cat <<EOM

The installation process will also create a directory for
site-specific extensions and modules.  Some users find it convenient
to place all local files in this directory rather than in the main
distribution directory.

EOM
fn=d~+
rp='Pathname for the site-specific library files?'
. ./getfile
if $test "X$sitelibexp" != "X$ansexp"; then
 installsitelib="
fi
sitelib="$ans"
sitelibexp="$ansexp"
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
private files reside from the directory in which they are installed (and from
which they are presumably copied to
 the former directory by occult means).

EOM
 case "$installsitelib" in
 ") dflt=`echo $sitelibexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installsitelib";;
 esac
 fn=de~
 rp='Where will private files be installed?'
 . ./getfile
 installsitelib="$ans"
else
 installsitelib="$sitelibexp"
fi
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/sitelib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:d_llrintl: Inlibc
?MAKE: -pick add $@ %<
?S:d_llrintl:
?S: This variable conditionally defines the HAS_LLRINTL symbol, which
?S: indicates to the C program that the llrintl() routine is available
?S: to return the long long value closest to a long double (according
?S: to the current rounding mode).
?S:.
?C:HAS_LLRINTL:
?C: This symbol, if defined, indicates that the llrintl routine is
?C: available to return the long long value closest to a long double
?C: (according to the current rounding mode).
?C:.
?H:#$d_llrintl HAS_LLRINTL  /**/
?H:.
?LINT:set d_llrintl
: see if llrintl exists
set llrintl d_llrintl
eval $inlibc
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_llrintl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: i_vfork.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: i_vfork.U,v $
?RCS: Revision 3.0.1.1  1994/05/06  15:05:44  ram
?RCS: patch23: avoid inclusion of <vfork.h> if no vfork() used (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:50  ram
?RCS: Baseline for dist 3.0 netwide release.
```

```
?RCS:
?MAKE:i_vfork: Inhdr d_vfork
?MAKE: -pick add $@ %<
?S:i_vfork:
?S: This variable conditionally defines the I_VFORK symbol, and indicates
?S: whether a C program should include vfork.h.
?S:.
?C:I_VFORK:
?C: This symbol,
 if defined, indicates to the C program that it should
?C: include vfork.h.
?C:.
?H:#$i_vfork I_VFORK /**/
?H:.
: see if this is a vfork system
case "$d_vfork" in
"$define")
 set vfork.h i_vfork
 eval $inhdr
 ;;
*)
 i_vfork="$undef"
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/dist/U/i_vfork.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_asctime_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_asctime_r asctime_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads i_time i_systime extern_C
?MAKE: -pick add $@ %<
?S:d_asctime_r:
?S: This variable conditionally defines the HAS_ASCTIME_R symbol,
?S: which indicates to the C program that the asctime_r()
?S: routine is available.
?S:.
?S:asctime_r_proto:
?S: This variable encodes the prototype of asctime_r.
?S: It is zero if d_asctime_r is undef, and one of the
```

```
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_asctime_r
?S: is defined.
?S:.
?C:HAS_ASCTIME_R:
?C: This symbol, if defined, indicates that the asctime_r routine
?C: is available to asctime
 re-entrantly.
?C:.
?C:ASCTIME_R_PROTO:
?C: This symbol encodes the prototype of asctime_r.
?C: It is zero if d_asctime_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_asctime_r
?C: is defined.
?C:.
?H:#$d_asctime_r HAS_ASCTIME_R    /**/
?H:#define ASCTIME_R_PROTO $asctime_r_proto    /**/
?H:.
?T:try hdrs d_asctime_r_proto
: see if asctime_r exists
set asctime_r d_asctime_r
eval $inlibc
case "$d_asctime_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h $i_time time.h $i_systime sys/time.h"
 case "$d_asctime_r_proto:$usethreads" in
 ":define") d_asctime_r_proto=define
  set d_asctime_r_proto asctime_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_asctime_r_proto" in
 define)
 case "$asctime_r_proto" in
 "|0) try='char* asctime_r(const struct tm*, char*);'
 ./protochk "$extern_C $try" $hdrs && asctime_r_proto=B_SB ;;
 esac
 case "$asctime_r_proto" in
 "|0) try='char* asctime_r(const struct tm*, char*, int);'
 ./protochk "$extern_C $try"
 $hdrs && asctime_r_proto=B_SBI ;;
 esac
 case "$asctime_r_proto" in
 "|0) try='int asctime_r(const struct tm*, char*);'
 ./protochk "$extern_C $try" $hdrs && asctime_r_proto=I_SB ;;
 esac
 case "$asctime_r_proto" in
 "|0) try='int asctime_r(const struct tm*, char*, int);'
 ./protochk "$extern_C $try" $hdrs && asctime_r_proto=I_SBI ;;
```

```
 esac
 case "$asctime_r_proto" in
 "|0) d_asctime_r=undef
        asctime_r_proto=0
 echo "Disabling asctime_r, cannot determine prototype." >&4 ;;
 * ) case "$asctime_r_proto" in
 REENTRANT_PROTO*) ;;
 *) asctime_r_proto="REENTRANT_PROTO_$asctime_r_proto" ;;
 esac
 echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
 define) echo "asctime_r has no prototype, not using it." >&4 ;;
 esac
 d_asctime_r=undef
 asctime_r_proto=0
 ;;
 esac
 ;;
*) asctime_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_asctime_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_ctermid_r.U,v 0RCS:
?RCS: Copyright (c) 2002,2003 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: Generated by the reentr.pl from the Perl 5.8 distribution.
?RCS:
?MAKE:d_ctermid_r ctermid_r_proto: Inlibc Protochk Hasproto i_systypes \
 usethreads extern_C
?MAKE: -pick add $@ %<
?S:d_ctermid_r:
?S: This variable conditionally defines the HAS_CTERMID_R symbol,
?S: which indicates to the C program that the ctermid_r()
?S: routine is available.
?S:.
?S:ctermid_r_proto:
?S: This variable encodes the prototype of ctermid_r.
?S: It is zero if d_ctermid_r is undef, and one of the
?S: REENTRANT_PROTO_T_ABC macros of reentr.h if d_ctermid_r
```

```
?S: is defined.
?S:.
?C:HAS_CTERMID_R:
?C: This symbol, if defined, indicates that the ctermid_r routine
?C: is available to ctermid re-entrantly.
?C:.
?C:CTERMID_R_PROTO:
?C: This
 symbol encodes the prototype of ctermid_r.
?C: It is zero if d_ctermid_r is undef, and one of the
?C: REENTRANT_PROTO_T_ABC macros of reentr.h if d_ctermid_r
?C: is defined.
?C:.
?H:#$d_ctermid_r HAS_CTERMID_R    /**/
?H:#define CTERMID_R_PROTO $ctermid_r_proto    /**/
?H:.
?T:try hdrs d_ctermid_r_proto
: see if ctermid_r exists
set ctermid_r d_ctermid_r
eval $inlibc
case "$d_ctermid_r" in
"$define")
 hdrs="$i_systypes sys/types.h define stdio.h "
 case "$d_ctermid_r_proto:$usethreads" in
 ":define") d_ctermid_r_proto=define
  set d_ctermid_r_proto ctermid_r $hdrs
  eval $hasproto ;;
 *) ;;
 esac
 case "$d_ctermid_r_proto" in
 define)
 case "$ctermid_r_proto" in
 "|0) try='char* ctermid_r(char*);'
 ./protochk "$extern_C $try" $hdrs && ctermid_r_proto=B_B ;;
 esac
 case "$ctermid_r_proto" in
 "|0) d_ctermid_r=undef
        ctermid_r_proto=0
  echo "Disabling ctermid_r, cannot determine prototype." >&4 ;;
 * ) case "$ctermid_r_proto" in
  REENTRANT_PROTO*)
 ;;
  *) ctermid_r_proto="REENTRANT_PROTO_$ctermid_r_proto" ;;
  esac
  echo "Prototype: $try" ;;
 esac
 ;;
 *) case "$usethreads" in
```

```
 define) echo "ctermid_r has no prototype, not using it." >&4 ;;
 esac
 d_ctermid_r=undef
 ctermid_r_proto=0
 ;;
esac
;;
*) ctermid_r_proto=0
 ;;
esac
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/threads/d_ctermid_r.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2001 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:d_sockatmarkproto: Hasproto d_socket
?MAKE: -pick add $@ %<
?S:d_sockatmarkproto:
?S: This variable conditionally defines the HAS_SOCKATMARK_PROTO symbol,
?S: which indicates to the C program that the system provides
?S: a prototype for the sockatmark() function.  Otherwise, it is
?S: up to the program to supply one.
?S:.
?C:HAS_SOCKATMARK_PROTO:
?C: This symbol, if defined, indicates that the system provides
?C: a prototype for the sockatmark() function.  Otherwise, it is up
?C: to the program to supply one.  A good
 guess is
?C:  extern int sockatmark(int);
?C:.
?H:#$d_sockatmarkproto HAS_SOCKATMARK_PROTO /**/
?H:.
?LINT:set d_sockatmarkproto
: see if prototype for sockatmark is available
echo " "
set d_sockatmarkproto sockatmark $d_socket sys/socket.h
eval $hasproto
```

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/perl/d_sockatmarkproto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Config_h.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Config_h.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  14:57:43  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:10:49  ram
?RCS: patch59: commented the purpose of the #un-def directive
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:25:39  ram
?RCS: patch49: typo fixes in leading config.h comment (WED)
?RCS:
?RCS: Revision 3.0.1.2  1993/08/24  12:13:20  ram
?RCS: patch3: added TOP as a local shell temporary variable
?RCS:
?RCS:
 Revision 3.0.1.1  1993/08/19  06:42:20  ram
?RCS: patch1: leading config.sh searching was not aborting properly
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:47  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file ends up producing the config_h.SH script, which is run to produce
?X: the config.h file.  The file ./.Config_h below contains all the ?H: lines
?X: extracted out of all the units.  Metaconfig itself adds the !GROK!THIS!.
?X: Note that this code isn't included into Configure, but must be shipped with.
?X:
?X: For those who wish to know why the file is config_h.SH instead of the more
?X: natural config.h.SH, well... it is to support systems like MS-DOG. Only one
?X: 'dot' is allowed within the file name, as it is part of the "extension" of
?X: the file. MS-DOG will not let you have two 'dots' because that would mean
?X: two "extensions".
?X:
?MAKE:Config_h: Id End Config_sh Obsol_h myuname cf_time cf_by package src
?MAKE: -pick c_h_weed $@ %<

```
?MAKE: -pick
 c_h_weed $@ ./Config_h
?MAKE: -pick c_h_weed $@ ./Obsol_h
?T:PERL_CONFIG_SH TOP
?LINT:unclosed !GROK!THIS!
?LINT:extern CONFIG_H CONFIG_SH
?LINT:change CONFIG_H CONFIG_SH
?X:?LINT:nocomment
: Set up for generating config_h.SH
case "$CONFIG_SH" in
'') CONFIG_SH=config.sh;;
esac
case "$CONFIG_H" in
'') CONFIG_H=config.h;;
esac
case $PERL_CONFIG_SH in
'')
 if test -f $CONFIG_SH; then TOP=.;
 elif test -f ../$CONFIG_SH; then TOP=..;
 elif test -f ../../$CONFIG_SH; then TOP=../..;
 elif test -f ../../../$CONFIG_SH; then TOP=../../..;
 elif test -f ../../../../$CONFIG_SH; then TOP=../../../..;
 else
  echo "Can't find $CONFIG_SH."; exit 1
 fi
 . $TOP/$CONFIG_SH
 ;;
esac
?X: Make sure we are in the directory where the .SH file is located.
case "$0" in
*/*) cd `expr X$0 : 'X\(.*\)/'` ;;
esac
echo "Extracting $CONFIG_H (with variable substitutions)"
?X:
?X: Since we unconditionally translate leading #undef into /*#define, we're
?X: stuck when we really want to have a #undef in $CONFIG_H.
 That's why there
?X: is provision here for #un-def, which is translated back into #undef after
?X: all original #undef have been processed.
?X:
?X: Previously, we changed all
?X:  #undef FOO /**/
?X: into
?X:  /*#define FOO /**/
?X: The xlc compiler (available on IBM's AIX) complains that this is
?X: an illegal attempt to write a nested comment, and warns against it.
?X: There's apparently no way to shut the compiler up, either.
?X: This sed command from Hallvard B Furuseth <h.b.furuseth@usit.uio.no>
```

?X: changes it to
?X:  /*#define FOO / **/
sed <<!GROK!THIS! >$CONFIG_H -e 's!^#undef\(.*/\)*!/*#define\1 *!' -e 's!^#un-def!#undef!'
/* This file was produced by running the config_h.SH script, which
* gets its values from $CONFIG_SH, which is generally produced by
* running Configure.
*
* Feel free to modify any of this as the need arises.  Note, however,
* that running config_h.SH again will wipe out any changes you've made.
* For a more permanent change edit $CONFIG_SH and
 rerun config_h.SH.
*/

/* Package name      : $package
* Source directory  : $src
* Configuration time: $cf_time
* Configured by     : $cf_by
* Target system     : $myuname
*/

#ifndef _config_h_
#define _config_h_

Found in path(s):
* /perl-5-26-1-orig-regen-configure-1-tar-gz/metaconfig-debian-perl-5.26.1/U/modified/Config_h.U

# 1.366 d-bus 1.12.2-1ubuntu1.4

## 1.366.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the
preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name)
to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual
or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination
of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any

medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer

failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless
for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable
law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the

software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom
to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for
each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under
the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously
and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no
charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate
works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more

than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work,
complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense
or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms
and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the
Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use
of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the
Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING

RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible
use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the program's name and an idea of what it does. Copyright (C) yyyy name of author

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA. Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer)
or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989 Ty Coon, President of Vice

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
  derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT
 OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
MIT License

Copyright (c) <year> <copyright holders>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
 CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
dbus is licensed to you under your choice of the Academic Free
License version 2.1, or the GNU General Public License version 2
(or, at your option any later version).
The full text of these licenses can be found in LICENSES/AFL-2.1.txt
and LICENSES/GPL-2-or-later.txt.

Some source files are under more permissive BSD-/MIT-style licenses

that are compatible with the AFL and GPL.

When contributing new code, our preferred license for new code is the
version of the MIT/X11 license used by the Expat library, referred to
as "MIT" by SPDX, which can be found in LICENSES/MIT.txt.

Some of the standalone binaries are under the GPL only; in particular,
but not limited to, tools/dbus-cleanup-sockets.c and test/decode-gcov.c.

Each source code file is marked with the proper copyright information -
if you find a file that isn't marked please bring it to our attention.

Some files contain a SPDX-License-Identifier marker. These markers
indicate the license of that file, consistent with the SPDX and
REUSE
specifications: see <https://reuse.software/>. dbus is not yet fully
REUSE-compliant, and not all files carry these markers.
The Academic Free License
v.2.1

This Academic Free License (the "License") applies to any original work of authorship (the "Original Work") whose owner (the "Licensor") has placed the following notice immediately following the copyright notice for the Original Work:

Licensed under the Academic Free License version 2.1

1) Grant of Copyright License. Licensor hereby grants You a world-wide, royalty-free, non-exclusive, perpetual, sublicenseable license to do the following:

a) to reproduce the Original Work in copies;
b) to prepare derivative works ("Derivative Works") based upon the Original Work;
c) to distribute copies of the Original Work and Derivative Works to the public;
d) to perform the Original Work publicly; and
e) to display the Original Work publicly.

2) Grant of Patent License. Licensor hereby grants You a world-wide, royalty-free, non-exclusive, perpetual, sublicenseable license, under patent claims owned or controlled by the Licensor that
are embodied in the Original Work as furnished by the Licensor, to make, use, sell and offer for sale the Original Work and Derivative Works.

3) Grant of Source Code License. The term "Source Code" means the preferred form of the Original Work for making modifications to it and all available documentation describing how to modify the Original Work. Licensor hereby agrees to provide a machine-readable copy of the Source Code of the Original Work along with each copy of the Original Work that Licensor distributes. Licensor reserves the right to satisfy this obligation by placing a machine-readable copy of the Source Code in an information repository reasonably calculated to permit inexpensive and convenient access by You for as long as Licensor continues to distribute the Original Work, and by publishing the address of that information repository in a notice immediately following the copyright notice that applies to the Original Work.

4) Exclusions From License Grant. Neither the names
of Licensor, nor the names of any contributors to the Original Work, nor any of their trademarks or service marks, may be used to endorse or promote products derived from this Original Work without express prior written permission of the Licensor. Nothing in this License shall be deemed to grant any rights to trademarks, copyrights, patents, trade secrets or any other intellectual property of Licensor except as expressly stated herein. No patent license is granted to make, use, sell or offer to sell embodiments of any patent claims other than the licensed claims defined in Section 2. No right is granted to the trademarks of Licensor even if such marks are included in the Original Work. Nothing in this License shall be interpreted to prohibit Licensor from licensing under different terms from this License any Original Work that Licensor otherwise would have a right to license.

5) This section intentionally omitted.

6) Attribution Rights. You must retain, in the Source Code of any Derivative
Works that You create, all copyright, patent or trademark notices from the Source Code of the Original Work, as well as any notices of licensing and any descriptive text identified therein as an "Attribution Notice." You must cause the Source Code for any Derivative Works that You create to carry a prominent Attribution Notice reasonably calculated to inform recipients that You have modified the Original Work.

7) Warranty of Provenance and Disclaimer of Warranty. Licensor warrants that the copyright in and to the Original Work and the patent rights granted herein by Licensor are owned by the Licensor or are sublicensed to You under the terms of this License with the permission of the contributor(s) of those copyrights and patent rights. Except as expressly stated in the immediately proceeding sentence, the Original Work is provided under this License on an "AS IS" BASIS and WITHOUT WARRANTY, either express or implied, including, without limitation, the warranties of NON-INFRINGEMENT,
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY OF THE ORIGINAL WORK IS WITH YOU. This DISCLAIMER OF WARRANTY constitutes an essential part of this License. No license to Original Work is granted hereunder except under this disclaimer.

8) Limitation of Liability. Under no circumstances and under no legal theory, whether in tort (including negligence), contract, or otherwise, shall the Licensor be liable to any person for any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or the use of the Original Work including, without limitation, damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses. This limitation of liability shall not apply to liability for death or personal injury resulting from Licensor's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the
exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to You.

9) Acceptance and Termination. If You distribute copies of the Original Work or a Derivative Work, You must make a reasonable effort under the circumstances to obtain the express assent of recipients to the terms of this License. Nothing else but this License (or another written agreement between Licensor and You) grants You permission to create Derivative Works based upon the Original Work or to exercise any of the rights granted in Section 1 herein, and any attempt to do so except under the terms of this License (or another written agreement between Licensor and You) is expressly prohibited by U.S. copyright law, the equivalent laws of other countries, and by international treaty. Therefore, by exercising any of the rights granted to You in Section 1 herein, You indicate Your acceptance of this License and all of its terms and conditions.

10) Termination for Patent
Action. This License shall terminate automatically and You may no longer exercise any of the rights granted to You by this License as of the date You commence an action, including a cross-claim or counterclaim, against Licensor or any licensee alleging that the Original Work infringes a patent. This termination provision shall not apply for an action alleging patent infringement by combinations of the Original Work with other software or hardware.

11) Jurisdiction, Venue and Governing Law. Any action or suit relating to this License may be brought only in the courts of a jurisdiction wherein the Licensor resides or in which Licensor conducts its primary business, and under the laws of that jurisdiction excluding its conflict-of-law provisions. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any use of the Original Work outside the scope of this License or after its termination shall be subject to the requirements
and penalties of the U.S. Copyright Act, 17 U.S.C.  101 et seq., the equivalent laws of other countries, and international treaty. This section shall survive the termination of this License.

12) Attorneys Fees. In any action to enforce the terms of this License or seeking damages relating thereto, the prevailing party shall be entitled to recover its costs and expenses, including, without limitation, reasonable attorneys' fees and costs incurred in connection with such action, including any appeal of such action. This section shall survive the termination of this License.

13) Miscellaneous. This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable.

14) Definition of "You" in This License. "You" throughout this License, whether in upper or lower case, means an individual or a legal entity exercising rights under,
and complying with all of the terms of, this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with you. For purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

15) Right to Use. You may use the Original Work in all ways not otherwise restricted or conditioned by this License or by law, and Licensor promises not to interfere with or be responsible for such uses by You.

This license is Copyright (C) 2003-2004 Lawrence E. Rosen. All rights reserved.
Permission is hereby granted to copy and distribute this license without modification. This license may not be modified without the express written permission of its copyright owner.

# 1.367 commons-compress 1.22

## 1.367.1 Available under license :

Apache Commons Compress
Copyright 2002-2022 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (https://www.apache.org/).

---

The files in the package org.apache.commons.compress.archivers.sevenz
were derived from the LZMA SDK, version 9.20 (C/ and CPP/7zip/),
which has been placed in the public domain:

"LZMA SDK is placed in the public domain." (http://www.7-zip.org/sdk.html)

---

The test file lbzip2_32767.bz2 has been copied from libbzip2's source
repository:

This program, "bzip2", the associated library "libbzip2", and all
documentation, are copyright (C) 1996-2019 Julian R Seward.  All
rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented;
 you must
  not claim that you wrote the original software.  If you use this
  software in a product, an acknowledgment in the product
  documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must
  not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote
  products derived from this software without specific prior written
  permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER
 IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, jseward@acm.org

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain

separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without

modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include

the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.368 sqlite 3.22.0-1ubuntu0.7

## 1.368.1 Available under license :

The author disclaims copyright to this source code. In place of
a legal notice, here is a blessing:

May you do good and not evil.
May you find forgiveness for yourself and forgive others.
May you share freely, never taking more than you give.

The author disclaims copyright to this source code. In place of
a legal notice, here is a blessing:

* May you do good and not evil.
* May you find forgiveness for yourself and forgive others.
* May you share freely, never taking more than you give.

# 1.369 chartjs 2.9.4

## 1.369.1 Available under license :

MIT License

Copyright (c) Microsoft Corporation. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights

to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE
MIT

# 1.370 mysql-defaults 1.0.4

## 1.370.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/

Files: debian/*
Copyright:
1997-1998, Scott Hanson <shanson@debian.org>
1997, Christian Schwarz <schwarz@debian.org>
1999-2007, 2009, Christian Hammers <ch@debian.org>
2000-2001, Christopher C. Chimelis <chris@debian.org>
2001, Matthew Wilcox <willy@debian.org>
2005-2007, sean finney <seanius@debian.org>
2006, Adam Conrad <adconrad@0c3.net>
2007-2011, Norbert Tretkowski <norbert@tretkowski.de>
2007-2008, Monty Taylor <mordred@inaugust.com>
2008, Devin Carraway <devin@debian.org>
2008, Steffen Joeris <white@debian.org>
2009, Canonical Ltd
2010, Xavier Oswald <xoswald@debian.org>
2011, Clint Byrum <clint@ubuntu.com>
2011, Ondej Sur <ondrej@debian.org>
2012, Nicholas Bamber <nicholas@periapt.co.uk>
2013-2014, Otto Keklinen <otto@seravo.fi>
2016, Andreas Beckmann <anbe@debian.org>
License: GPL-2+

Files: doc/*
Copyright:
2018, Canonical Ltd

License: GPL-2+

License: GPL-2+
This file is part of GNU
 Readline, a library for reading lines
of text with interactive input and history editing.
.
Readline is free software; you can redistribute it and/or modify it
under the terms of the GNU General Public License as published by the
Free Software Foundation; either version 2, or (at your option) any
later version.
.
Readline is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with Readline; see the file COPYING.  If not, write to the Free
Software Foundation, 59 Temple Place, Suite 330, Boston, MA 02111 USA. */
.
On Debian and systems the full text of the GNU General Public
License version 2 can be found in the file
`/usr/share/common-licenses/GPL-2`

# 1.371 expat 2.2.5-3ubuntu0.9

## 1.371.1 Available under license :

Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper
Copyright (c) 2001-2017 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN

ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.372 shadow 4.5-1ubuntu2.5

## 1.372.1 Available under license :

NOTE:
This license has been obsoleted by the change to the BSD-style copyright.
You may continue to use this license if you wish, but you are under no
obligation to do so.

(*
This document is freely plagiarised from the 'Artistic Licence',
distributed as part of the Perl v4.0 kit by Larry Wall, which is
available from most major archive sites.  I stole it from CrackLib.

$Id$
*)

This documents purpose is to state the conditions under which this
Package (See definition below) viz: "Shadow", the Shadow Password Suite
which is held by Julianne Frances Haugh, may be copied, such that the
copyright holder maintains some semblance of artistic control over the
development of the package, while giving the users of the package the
right to use and distribute the Package in a more-or-less customary
fashion, plus the right to make reasonable modifications.

So there.

**********

Definitions:

A "Package" refers to the collection
of files distributed by the
Copyright Holder, and derivatives of that collection of files created
through textual modification, or segments thereof.

"Standard Version" refers to such a Package if it has not been modified,
or has been modified in accordance with the wishes of the Copyright
Holder.

"Copyright Holder" is whoever is named in the copyright or copyrights
for the package.

"You" is you, if you're thinking about copying or distributing this Package.

"Reasonable copying fee" is whatever you can justify on the basis of media cost, duplication charges, time of people involved, and so on. (You will not be required to justify it to the Copyright Holder, but only to the computing community at large as a market that must bear the fee.)

"Freely Available" means that no fee is charged for the item itself, though there may be fees involved in handling the item. It also means that recipients of the item may redistribute it under the same conditions they received it.

1. You may make and give away verbatim copies of the source form of the Standard Version of this Package without restriction, provided that you duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications derived from the Public Domain or from the Copyright Holder. A Package modified in such a way shall still be considered the Standard Version.

3. You may otherwise modify your copy of this Package in any way, provided that you insert a prominent notice in each changed file stating how and when AND WHY you changed that file, and provided that you do at least ONE of the following:

a) place your modifications in the Public Domain or otherwise make them Freely Available, such as by posting said modifications to Usenet or an equivalent medium, or placing the modifications on a major archive site such as uunet.uu.net, or by allowing the Copyright Holder to include your modifications in the Standard Version of the Package.

b) use the modified Package only within your corporation or organization.

c) rename any non-standard executables so the names do not conflict with standard executables, which must also be provided, and provide separate documentation for each non-standard executable that clearly documents how it differs from the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or executable form, provided that you do at least ONE of the following:

a) distribute a Standard Version of the executables and library files,
together with instructions (in the manual page or equivalent) on where
to get the Standard Version.

b) accompany the distribution with the machine-readable source of the
Package with your modifications.

c) accompany any non-standard executables with their corresponding
Standard Version executables, giving the non-standard executables
non-standard names, and clearly
documenting the differences in manual
pages (or equivalent), together with instructions on where to get the
Standard Version.

d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this
Package. You may charge any fee you choose for support of this Package.
YOU MAY NOT CHARGE A FEE FOR THIS PACKAGE ITSELF. However, you may
distribute this Package in aggregate with other (possibly commercial)
programs as part of a larger (possibly commercial) software distribution
provided that YOU DO NOT ADVERTISE this package as a product of your
own.

6. The name of the Copyright Holder may not be used to endorse or
promote products derived from this software without specific prior
written permission.

7. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF
MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
675 Mass Ave, Cambridge, MA 02139, USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This

General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work
which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim
copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole
or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an

announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably
considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work
based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you

received the program in object code
or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy
the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6.
Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program

specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE
LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS),
EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

# 1.373 spring-security-core 5.6.2

### 1.373.1 Available under license :

Apache-2.0

# 1.374 libxml2 2.9.4+dfsg1-6.1ubuntu1.8

### 1.374.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0
Upstream-Name: libxml2
Source: ftp://xmlsoft.org/libxml2/
Files-Excluded:
result
test
Comment:
Bug about the removal of the above directories: https://bugs.debian.org/331534

Files: *
Copyright: 1998-2012 Daniel Veillard <daniel@veillard.com>
License: MIT-1

Files: debian/*
Copyright: 1998-1999 Vincent Renardias <vincent@waw.com>
1999-2000 Fredrik Hallenberg <hallon@debian.org>
2003-2011 Mike Hommey <glandium@debian.org>
2012-2016 Aron Xu <aron@debian.org>
2017-2018 Mattia Rizzolo <mattia@debian.org>
License: MIT-1

Files: trio.c trio.h triop.h triostr.c triostr.h triodef.h trionan.c trionan.h
Copyright: 1998-2001 Bjorn Reese <breese@users.sourceforge.net>
1998-2001 Daniel Stenberg
License: ISC

Files: hash.c
Copyright: 2000 Bjorn Reese <breese@users.sourceforge.net>
2000 Daniel Veillard <daniel@veillard.com>
License: ISC

Files: list.c
Copyright:
2000 Gary Pennington <Gary.Pennington@uk.sun.com>
2000 Daniel Veillard <daniel@veillard.com>
License: ISC

License: MIT-1
Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights

to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:
.
The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.
.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE DANIEL VEILLARD BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
 LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
.
Except as contained in this notice, the name of Daniel Veillard shall not
be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from him.
Comment:
No, this is not Expat.

License: ISC
Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.
.
THIS SOFTWARE IS PROVIDED ``AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE AUTHORS AND CONTRIBUTORS ACCEPT NO RESPONSIBILITY IN ANY CONCEIVABLE MANNER.

# 1.375 ca-certificates 20211016ubuntu0.18.04.1

## 1.375.1 Available under license :

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/

Files: *
Copyright: 2013 System Administrator <root@localhost.localdomain>
License: ...
Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Source: http://ftp.debian.org/debian/pool/main/c/ca-certificates/

Files: debian/*
 examples/*
 Makefile
 mozilla/*
 sbin/*

Copyright: 2003 Fumitoshi UKAI <ukai@debian.or.jp>
2009 Philipp Kern <pkern@debian.org>
2011 Michael Shuler <michael@pbandjelly.org>
Various Debian Contributors
License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this
program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301,
USA.
.
On Debian GNU/Linux systems, the complete text of the GNU General Public
License can be found in '/usr/share/common-licenses/GPL-2'.

Files: mozilla/certdata.txt
mozilla/nssckbi.h
Copyright: Mozilla Contributors
Comment: Original Copyright: 1994-2000 Netscape Communications Corporation
(certdata.txt <= CVS Revision: 1.82)
NSS no longer contains explicit copyright. Upstream indicates
that "Mozilla Contributors" is an appropriate attibution for the
required Copyright: field in Debian's machine-readable format.
https://bugzilla.mozilla.org/show_bug.cgi?id=850003
License: MPL-2.0
Mozilla Public License Version 2.0
==================================
.
1. Definitions
---
.
1.1. "Contributor"
means each individual or legal entity that creates, contributes to
the creation
of, or owns Covered Software.
.
1.2. "Contributor Version"
means the combination of the Contributions of others (if any) used
by a Contributor and that particular Contributor's Contribution.

.

1.3. "Contribution"
means Covered Software of a particular Contributor.

.

1.4. "Covered Software"
means Source Code Form to which the initial Contributor has attached the notice in Exhibit A, the Executable Form of such Source Code Form, and Modifications of such Source Code Form, in each case including portions thereof.

.

1.5. "Incompatible With Secondary Licenses"
means

.

(a) that the initial Contributor has attached the notice described in Exhibit B to the Covered Software; or

.

(b) that the Covered Software was made available under the terms of version 1.1 or earlier of the License, but not also under the terms of a Secondary License.

.

1.6. "Executable Form"
means any form of the work other than Source Code Form.

.

1.7. "Larger Work"
means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.

.

1.8. "License"
means this document.

.

1.9. "Licensable"
means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.

.

1.10. "Modifications"
means any of the following:

.

(a) any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or

.

(b) any new file in Source Code Form that contains any Covered Software.

.

1.11. "Patent Claims" of a Contributor
means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such

Contributor that would be infringed, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.

.

1.12. "Secondary License"
means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

.

1.13. "Source Code Form"
means the form of the work preferred for making modifications.

.

1.14. "You" (or "Your")
means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

.

2. License Grants and Conditions
---

.

2.1. Grants

.

Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

.

(a) under intellectual property rights (other than patent or trademark)
Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and

.

(b) under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

.

2.2. Effective Date

.

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first

distributes such Contribution.

.

2.3. Limitations on Grant Scope

.

The licenses granted in this Section 2 are the only
rights granted under
this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License. Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

.

(a) for any code that a Contributor has removed from Covered Software; or

.

(b) for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or

.

(c) under Patent Claims infringed by Covered Software in the absence of its Contributions.

.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

.

2.4. Subsequent Licenses

.

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under
a subsequent version of this
License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

.

2.5. Representation

.

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

.

2.6. Fair Use

.

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

.

2.7. Conditions

.

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted
in Section 2.1.

.

3. Responsibilities

---

.

3.1. Distribution of Source Form

.

All distribution of Covered Software in Source Code Form, including any
Modifications that You create or to which You contribute, must be under
the terms of this License. You must inform recipients that the Source
Code Form of the Covered Software is governed
by the terms of this
License, and how they can obtain a copy of this License. You may not
attempt to alter or restrict the recipients' rights in the Source Code
Form.

.

3.2. Distribution of Executable Form

.

If You distribute Covered Software in Executable Form then:

.

(a) such Covered Software must also be made available in Source Code
Form, as described in Section 3.1, and You must inform recipients of
the Executable Form how they can obtain a copy of such Source Code
Form by reasonable means in a timely manner, at a charge no more
than the cost of distribution to the recipient; and

.

(b) You may distribute such Executable Form under the terms of this
License, or sublicense it under different terms, provided that the
license for the Executable Form does not attempt to limit or alter
the recipients' rights in the Source Code Form under this License.

.

3.3. Distribution of a Larger Work

.

You may create and distribute a Larger Work
under terms of Your choice,
provided that You also comply with the requirements of this License for
the Covered Software. If the Larger Work is a combination of Covered
Software with a work governed by one or more Secondary Licenses, and the
Covered Software is not Incompatible With Secondary Licenses, this
License permits You to additionally distribute such Covered Software
under the terms of such Secondary License(s), so that the recipient of
the Larger Work may, at their option, further distribute the Covered
Software under the terms of either this License or such Secondary
License(s).

.

3.4. Notices

.

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

.

3.5. Application of Additional Terms

.

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

.

4. Inability to Comply Due to Statute or Regulation

---

.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

.

5. Termination

---

.

5.1. The rights granted under this License will terminate automatically if You fail to comply with any of its terms. However, if You become compliant, then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing basis if such Contributor notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License

from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License shall terminate.

.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

.

```
************************************************************************
 *                                                                      *
*  6. Disclaimer of Warranty                                           *
*  -------------------------                                           *
*                                                                      *
*  Covered Software is provided under this License on an "as is"       *
*  basis, without warranty of any kind, either expressed, implied, or  *
*  statutory, including, without limitation, warranties that the       *
*  Covered Software is free of defects, merchantable, fit for a        *
*  particular purpose or non-infringing. The entire risk as to the     *
*  quality and performance of the Covered Software is with You.        *
*  Should any Covered Software prove defective in any respect, You     *
*  (not any Contributor) assume the cost of any necessary servicing,   *
*  repair, or correction. This disclaimer of warranty
 constitutes an   *
*  essential part of this License. No use of any Covered Software is   *
*  authorized under this License except under this disclaimer.         *
*                                                                      *
************************************************************************
```

.

```
************************************************************************
*                                                                      *
*  7. Limitation of Liability                                          *
*  --------------------------                                          *
*                                                                      *
*  Under no circumstances and under no legal theory, whether tort      *
*  (including negligence), contract, or otherwise, shall any           *
*  Contributor, or anyone who distributes Covered Software as          *
*  permitted above, be liable to You for any direct, indirect,         *
*  special, incidental,
 or consequential damages of any character      *
*  including, without limitation, damages for lost profits, loss of    *
*  goodwill, work stoppage, computer failure or malfunction, or any    *
```

* and all other commercial damages or losses, even if such party *
* shall have been informed of the possibility of such damages. This *
* limitation of liability shall not apply to liability for death or *
* personal injury resulting from such party's negligence to the *
* extent applicable law prohibits such limitation. Some *
* jurisdictions do not allow the exclusion or limitation of *
* incidental or consequential damages, so this exclusion and *
* limitation may not apply to You. *
* *
**********

.

8. Litigation

---

.

Any litigation
relating to this License may be brought only in the
courts of a jurisdiction where the defendant maintains its principal
place of business and such litigation shall be governed by laws of that
jurisdiction, without reference to its conflict-of-law provisions.
Nothing in this Section shall prevent a party's ability to bring
cross-claims or counter-claims.

.

9. Miscellaneous

---

.

This License represents the complete agreement concerning the subject
matter hereof. If any provision of this License is held to be
unenforceable, such provision shall be reformed only to the extent
necessary to make it enforceable. Any law or regulation which provides
that the language of a contract shall be construed against the drafter
shall not be used to construe this License against a Contributor.

.

10. Versions of the License

---

.

10.1. New Versions

.

Mozilla Foundation is the license steward. Except as provided in Section
10.3, no one other than
the license steward has the right to modify or
publish new versions of this License. Each version will be given a
distinguishing version number.

.

10.2. Effect of New Versions

.

You may distribute the Covered Software under the terms of the version
of the License under which You originally received the Covered Software,
or under the terms of any subsequent version published by the license

steward.

.

10.3. Modified Versions

.

If you create software not governed by this License, and you want to
create a new license for such software, you may create and use a
modified version of this License if you rename the license and remove
any references to the name of the license steward (except to note that
such modified license differs from this License).

.

10.4. Distributing Source Code Form that is Incompatible With Secondary
Licenses

.

If You choose to distribute Source Code Form that is Incompatible With
Secondary Licenses under the terms of this version of the License,
 the
notice described in Exhibit B of this License must be attached.

.

Exhibit A - Source Code Form License Notice

---

.

 This Source Code Form is subject to the terms of the Mozilla Public
 License, v. 2.0. If a copy of the MPL was not distributed with this
 file, You can obtain one at http://mozilla.org/MPL/2.0/.

.

If it is not possible or desirable to put the notice in a particular
file, then You may include the notice in a location (such as a LICENSE
file in a relevant directory) where a recipient would be likely to look
for such a notice.

.

You may add additional accurate notices of copyright ownership.

.

Exhibit B - "Incompatible With Secondary Licenses" Notice

---

.

 This Source Code Form is "Incompatible With Secondary Licenses", as
 defined by the Mozilla Public License, v. 2.0.

# 1.376 python 3.6.9-1~18.04ubuntu1.9

## 1.376.1 Available under license :

Copyright (c) 2002 Jorge Acereda  <jacereda@users.sourceforge.net> &
		Peter O'Gorman <ogorman@users.sourceforge.net>

Portions may be copyright others, see the AUTHORS file included with this
distribution.

Maintained by Peter O'Gorman <ogorman@users.sourceforge.net>

Bug Reports and other queries should go to <ogorman@users.sourceforge.net>

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY
KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
A. HISTORY OF THE SOFTWARE
==========

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called ABC.  Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team.  In October of the same
year, the PythonLabs team moved to Digital Creations, which became
Zope Corporation.  In 2001, the Python Software Foundation (PSF, see
https://www.python.org/psf/) was formed, a non-profit organization
created specifically to own Python-related Intellectual Property.
Zope Corporation was a sponsoring member of the PSF.

All
Python releases are Open Source (see http://www.opensource.org for
the Open Source Definition).  Historically, most, but not all, Python

releases have also been GPL-compatible; the table below summarizes
the various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under
the GPL. All Python licenses, unlike the GPL, let you distribute
a modified version without making your changes open source. The
GPL-compatible licenses make it possible to combine Python with
other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible,
because its license has a choice of law clause. According to
CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1
is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's
direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the
Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby
grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce,
analyze, test, perform and/or display publicly, prepare derivative works,
distribute, and otherwise use Python alone or in any derivative version,
provided, however, that PSF's License Agreement and PSF's notice of copyright,
i.e., "Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010,
2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019 Python Software Foundation;
All Rights Reserved" are retained in Python alone or in any derivative version
prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work available
to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between
PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software, alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS" basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1

---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material

breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs
4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies
and that
both that copyright notice and this permission notice appear in supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN

ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
libffi - Copyright (c) 1996-2003  Red Hat, Inc.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL CYGNUS SOLUTIONS BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH
 THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.
X Window System License - X11R6.4

Copyright (c) 1998 The Open Group

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION
 WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall

not be used in advertising or otherwise to promote the sale, use or
other dealings in this Software without prior written authorization
from The Open Group.

X Window System is a trademark of The Open Group


Additional Conditions for this Windows binary build
---

This program is linked with and uses Microsoft Distributable Code,
copyrighted by Microsoft Corporation. The Microsoft Distributable Code
is embedded in each .exe, .dll and .pyd file as a result of running
the code through a linker.

If you further distribute programs that include the Microsoft
Distributable Code, you must comply with the restrictions on
distribution specified by Microsoft. In particular, you must require
distributors and external end users to agree to terms that protect the
Microsoft Distributable Code at least as much as Microsoft's own
requirements for the Distributable Code. See Microsoft's documentation
(included in its developer tools and on its website at microsoft.com)
for specific details.

Redistribution of the Windows binary build of the Python interpreter
complies with this agreement, provided that you do not:

- alter any copyright, trademark or patent
 notice in Microsoft's
Distributable Code;

- use Microsoft's trademarks in your programs' names or in a way that
suggests your programs come from or are endorsed by Microsoft;

- distribute Microsoft's Distributable Code to run on a platform other
than Microsoft operating systems, run-time technologies or application
platforms; or

- include Microsoft Distributable Code in malicious, deceptive or
unlawful programs.

These restrictions apply only to the Microsoft Distributable Code as
defined above, not to Python itself or any programs running on the
Python interpreter. The redistribution of the Python interpreter and
libraries is governed by the Python Software License included with this
file, or by other licenses as marked.
Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper
Copyright (c) 2001-2017 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN
ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
pybench License
---

This copyright notice and license applies to all files in the pybench
directory of the pybench distribution.

Copyright (c), 1997-2006, Marc-Andre Lemburg (mal@lemburg.com)
Copyright (c), 2000-2006, eGenix.com Software GmbH (info@egenix.com)

All Rights Reserved.

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee or royalty is hereby
granted, provided that the above copyright notice appear in all copies
and that both that copyright notice and this permission notice appear
in supporting documentation or portions thereof, including
modifications, that you make.

THE AUTHOR MARC-ANDRE LEMBURG DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE !
libffi - Copyright (c) 1996-2014  Anthony Green, Red Hat, Inc and others.
See source files for details.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF
CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
This license applies to the bootstrapper application that is embedded within the installer. It has no impact on the licensing for the rest of the installer or Python itself, as no code covered by this license exists in any other part of the product.

---

Microsoft Reciprocal License (MS-RL)

This license governs use of the accompanying software. If you use the software, you accept this license. If you do not accept the license, do not use the software.

1. Definitions
The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.
A "contribution" is the original software, or any additions or changes to the software.
A "contributor" is any person that distributes its contribution under this license.
"Licensed patents" are a contributor's patent claims that read directly on its contribution.

2. Grant of Rights
(A) Copyright Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.
(B) Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.

3. Conditions and Limitations
(A) Reciprocal Grants- For any file you distribute that contains code from the software (in source code or binary format), you must provide recipients the source code to that file along with a copy of this license, which license will govern that file. You may license other files that are entirely your own work and
do not contain code from the software under any terms you choose.
(B) No Trademark License- This license does not grant you rights to use any contributors' name, logo, or trademarks.
(C) If you bring a patent claim against any contributor over patents that you claim are infringed by the software, your patent license from such contributor to the software ends automatically.
(D) If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.
(E) If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion of the software in compiled or object code form, you may only do so under a license that complies with this license.
(F) The software is licensed "as-is." You bear the risk of using it. The contributors give no express warranties, guarantees or conditions.
You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

# 1.377 libpython3-6-stdlib 3.6.9-1~18.04ubuntu1.9

## 1.377.1 Available under license :

This package was put together by Klee Dienes <klee@debian.org> from
sources from ftp.python.org:/pub/python, based on the Debianization by
the previous maintainers Bernd S. Brentrup <bsb@uni-muenster.de> and
Bruce Perens. Current maintainer is Matthias Klose <doko@debian.org>.

It was downloaded from http://python.org/

Copyright:

Upstream Author: Guido van Rossum <guido@cwi.nl> and others.

License:

The following text includes the Python license and licenses and
acknowledgements for incorporated software. The licenses can be read
in the HTML and texinfo versions of the documentation as well, after
installing the pythonx.y-doc package. Licenses for files not licensed
under the Python Licenses are found at the end of this file.

Python License
==============

A. HISTORY OF THE SOFTWARE
==========

Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see http://www.cnri.reston.va.us) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see http://www.zope.com). In 2001, the Python Software Foundation (PSF, see http://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under
the GPL. All Python licenses, unlike
the GPL, let you distribute
a modified version without making your changes open source. The
GPL-compatible licenses make it possible to combine Python with
other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible,
because its license has a choice of law clause. According to
CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1
is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's
direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source
or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python alone
or in any derivative version, provided, however, that PSF's License
Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001,
2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012,
2013, 2014 Python Software Foundation; All Rights Reserved" are
retained in Python alone or in any derivative version prepared by
Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to
Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR

IMPLIED.  BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between PSF and Licensee.  This License Agreement does not grant permission to use PSF trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee,
or any third party.

8. By copying, installing or otherwise using Python, Licensee agrees to be bound by the terms and conditions of this License Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software,
alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS" basis.  BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED.  BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND

DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1

---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License

Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising
or publicity pertaining to
distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Licenses and Acknowledgements for Incorporated Software
==========

Mersenne Twister
---

The `_random' module includes code based on a download from `http://www.math.keio.ac.jp/~matumoto/MT2002/emt19937ar.html'. The following are the verbatim comments from the original code:

A C-program for MT19937, with initialization improved 2002/1/26.
Coded by Takuji Nishimura and Makoto Matsumoto.

Before using, initialize the state by using init_genrand(seed)
or init_by_array(init_key, key_length).

Copyright (C) 1997 - 2002, Makoto Matsumoto and Takuji Nishimura,
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. The names of its contributors may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED
BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Any feedback is very welcome.
http://www.math.keio.ac.jp/matumoto/emt.html
email: matumoto@math.keio.ac.jp

Sockets
---

The `socket' module uses the functions, `getaddrinfo', and
`getnameinfo',
which are coded in separate source files from the WIDE
Project, `http://www.wide.ad.jp/about/index.html'.

Copyright (C) 1995, 1996, 1997, and 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND
GAI_ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE
FOR GAI_ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON GAI_ANY THEORY OF LIABILITY, WHETHER
IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN GAI_ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

Floating point exception control
---

The source for the `fpectl' module includes the following notice:

```
   ---------------------------------------------------------------------
  /                    Copyright (c) 1996.                              \
 |         The Regents of the University of California.                  |
 |                    All rights reserved.                               |
 |                                                                       |
 |  Permission to use, copy, modify, and distribute this software for    |
 |  any purpose without fee is hereby granted, provided that this en-    |
 |  tire notice is included in all copies of any software which is or    |
 |  includes  a  copy  or  modification  of  this software and in all    |
 |  copies of the supporting documentation for such software.            |
 |                                                                       |
 |  This  work was produced at the University of California, Lawrence    |
 |  Livermore National Laboratory under  contract  no.  W-7405-ENG-48    |
 |  between  the  U.S.  Department  of  Energy and The Regents of the    |
 |  University of California for the operation
of UC LLNL.              |
 |                                                                       |
```

```
|                        DISCLAIMER                        |
|                                                          |
|  This  software was prepared as an account of work sponsored by an  |
|  agency of the United States Government. Neither the United States  |
|  Government  nor the University of California nor any of their em-  |
|  ployees, makes any warranty, express or implied, or  assumes  any  |
|  liability  or  responsibility  for the accuracy, completeness, or  |
|  usefulness of any information,  apparatus,  product,  or  process  |
|  disclosed,   or  represents  that  its  use  would  not  infringe  |
|  privately-owned rights. Reference herein to any specific  commer-  |
|  cial  products,  process,  or  service  by trade name, trademark,  |
|  manufacturer, or otherwise, does not  necessarily
 constitute  or  |
|  imply  its endorsement, recommendation, or favoring by the United  |
|  States Government or the University of California. The views  and  |
|  opinions  of authors expressed herein do not necessarily state or  |
|  reflect those of the United States Government or  the  University  |
|  of  California,  and shall not be used for advertising or product  |
 \  endorsement purposes.                                  /
  ------------------------------------------------------------------
```

Cookie management
---

The `Cookie' module contains the following notice:


Copyright 2000 by Timothy O'Malley <timo@alum.mit.edu>

All Rights Reserved

Permission to use, copy, modify, and distribute this software
and its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in all
copies and that both that
copyright notice and this permission
notice appear in supporting documentation, and that the name of
Timothy O'Malley  not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

Timothy O'Malley DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS, IN NO EVENT SHALL Timothy O'Malley BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR

PERFORMANCE OF THIS SOFTWARE.

Execution tracing
---

The `trace' module contains the following notice:

portions copyright 2001, Autonomous Zones Industries, Inc., all rights...
err... reserved and offered to the public under the
terms of the
Python 2.2 license.
Author: Zooko O'Whielacronx
http://zooko.com/
mailto:zooko@zooko.com

Copyright 2000, Mojam Media, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1999, Bioreason, Inc., all rights reserved.
Author: Andrew Dalke

Copyright 1995-1997, Automatrix, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1991-1995, Stichting Mathematisch Centrum, all rights reserved.

Permission to use, copy, modify, and distribute this Python software and
its associated documentation for any purpose without fee is hereby
granted, provided that the above copyright notice appears in all copies,
and that both that copyright notice and this permission notice appear in
supporting documentation, and that the name of neither Automatrix,
Bioreason or Mojam Media be used in advertising or publicity pertaining
to distribution of the software without specific,
written prior
permission.

UUencode and UUdecode functions
---

The `uu' module contains the following notice:

Copyright 1994 by Lance Ellinghouse
Cathedral City, California Republic, United States of America.
All Rights Reserved
Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,

provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE
CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Modified by Jack Jansen, CWI, July 1995:
- Use binascii module to do the actual line-by-line conversion
between ascii and binary. This results in a 1000-fold speedup. The C
version is still 5 times faster, though.
- Arguments more compliant with python standard

XML Remote Procedure Calls
---

The `xmlrpclib' module contains the following notice:

The XML-RPC client interface is

Copyright (c) 1999-2002 by Secret Labs AB
Copyright (c) 1999-2002 by Fredrik Lundh

By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and
its associated documentation for any purpose and without fee is
hereby granted, provided that the above copyright notice appears in
all copies, and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of
Secret Labs AB or the author not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD
TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANT-
ABILITY AND FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR
BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY

DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE
OF THIS SOFTWARE.

Licenses for Software linked to
==========

Note that the choice of GPL compatibility outlined above doesn't extend
to modules linked to particular libraries, since they change the
effective License of the module binary.

GNU Readline
---

The 'readline' module makes use of GNU Readline.

The GNU Readline Library is free software; you can redistribute it
and/or modify it under the terms of the GNU General Public License as
published by the Free Software Foundation; either version 2, or (at
your option) any later version.

On Debian systems, you can find the complete statement in
/usr/share/doc/readline-common/copyright'. A copy of the GNU General
Public License is available in /usr/share/common-licenses/GPL-2'.

OpenSSL
---

The '_ssl' module makes use of OpenSSL.

The
OpenSSL toolkit stays under a dual license, i.e. both the
conditions of the OpenSSL License and the original SSLeay license
apply to the toolkit. Actually both licenses are BSD-style Open
Source licenses. Note that both licenses are incompatible with
the GPL.

On Debian systems, you can find the complete license text in
/usr/share/doc/openssl/copyright'.

Files with other licenses than the Python License
---

Files: Include/dynamic_annotations.h
Files: Python/dynamic_annotations.c
Copyright: (c) 2008-2009, Google Inc.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or
promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files: Include/unicodeobject.h
Copyright: (c) Corporation for National Research Initiatives.
Copyright: (c) 1999 by Secret Labs AB.
Copyright:
(c) 1999 by Fredrik Lundh.
License: By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and its
associated documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appears in all
copies, and that both that copyright notice and this permission notice
appear in supporting documentation, and that the name of Secret Labs
AB or the author not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL

DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/logging/*
Copyright: 2001-2010 by Vinay Sajip. All Rights Reserved.
License: Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Vinay Sajip
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
VINAY SAJIP DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
VINAY SAJIP BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/multiprocessing/*
Files: Modules/_multiprocessing/*
Copyright: (c) 2006-2008, R Oudkerk. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of author nor the names of any contributors may be
   used to endorse or promote products derived from this software
   without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF

SUCH DAMAGE.

Files: Lib/sqlite3/*
Files: Modules/_sqlite/*
Copyright: (C) 2004-2005 Gerhard Hring <gh@ghaering.de>
License: This software is provided 'as-is', without any express or implied
warranty. In no event
will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Files: Lib/async*
Copyright: Copyright 1996 by Sam Rushing
License: Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in
all
copies and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of Sam
Rushing not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SAM RUSHING DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN
NO EVENT SHALL SAM RUSHING BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/tarfile.py
Copyright: (C) 2002 Lars Gustaebel <lars@gustaebel.de>
License: Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software

without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following
conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Files: Lib/turtle.py
Copyright: (C) 2006 - 2010 Gregor Lingl
License:
This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

is copyright Gregor Lingl and licensed under a BSD-like license

Files: Modules/_ctypes/libffi/*
Copyright: Copyright (C) 1996-2011 Red Hat, Inc and others.
Copyright
(C) 1996-2011 Anthony Green
Copyright (C) 1996-2010 Free Software Foundation, Inc
Copyright (c) 2003, 2004, 2006, 2007, 2008 Kaz Kojima
Copyright (c) 2010, 2011, Plausible Labs Cooperative , Inc.
Copyright (c) 2010 CodeSourcery

Copyright (c) 1998 Andreas Schwab
Copyright (c) 2000 Hewlett Packard Company
Copyright (c) 2009 Bradley Smith
Copyright (c) 2008 David Daney
Copyright (c) 2004 Simon Posnjak
Copyright (c) 2005 Axis Communications AB
Copyright (c) 1998 Cygnus Solutions
Copyright (c) 2004 Renesas Technology
Copyright (c) 2002, 2007 Bo Thorsen <bo@suse.de>
Copyright (c) 2002 Ranjit Mathew
Copyright (c) 2002 Roger Sayle
Copyright (c) 2000, 2007 Software AG
Copyright (c) 2003 Jakub Jelinek
Copyright (c) 2000, 2001 John Hornkvist
Copyright (c) 1998 Geoffrey Keating
Copyright (c) 2008 Bjrn Knig

License: Permission is hereby granted, free of charge, to any person obtaining
a copy of this software
and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

Documentation:
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU General Public License as published by the
Free Software Foundation; either version 2, or (at your option) any
later version. A copy of the license is included in the
section entitled ``GNU General Public License''.

Files: Modules/_gestalt.c
Copyright: 1991-1997 by Stichting Mathematisch Centrum, Amsterdam.
License: Permission to use, copy, modify, and distribute this software and its

documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the names of Stichting Mathematisch
Centrum or CWI not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/syslogmodule.c
Copyright: 1994 by Lance Ellinghouse
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.

LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES
WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE BE LIABLE FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/zlib/*
Copyright: (C) 1995-2010 Jean-loup Gailly and Mark Adler
License: This software is provided 'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software.

If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving
lengthy legal documents to sign. The sources are provided for free but without
warranty of any kind. The library has been entirely written by Jean-loup
Gailly and Mark Adler; it does not include third-party code.

Files: Modules/expat/*
Copyright: Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd
and Clark Cooper
Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006 Expat maintainers
License: Permission is hereby granted, free of charge, to any person
obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Files:
Modules/_decimal/libmpdec/*
Copyright: Copyright (c) 2008-2012 Stefan Krah. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
,
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Misc/python-mode.el
Copyright: Copyright (C) 1992,1993,1994 Tim Peters
License: This software is provided as-is, without express or implied
warranty. Permission to use, copy, modify, distribute or sell this
software, without fee, for any purpose and by any individual or
organization, is hereby granted, provided that the above copyright
notice and this paragraph appear in all copies.

Files: Python/dtoa.c
Copyright: (c) 1991, 2000, 2001 by Lucent Technologies.
License: Permission to use, copy, modify, and distribute this software for any
purpose without fee is hereby granted, provided that this entire notice
is included
in all copies of any software which is or includes a copy
or modification of this software and in all copies of the supporting
documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED
WARRANTY. IN PARTICULAR, NEITHER THE AUTHOR NOR LUCENT MAKES ANY
REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY
OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

Files: Python/getopt.c
Copyright: 1992-1994, David Gottner
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice, this permission notice and
the following disclaimer notice appear unmodified in all copies.

I DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.  IN NO EVENT SHALL I
BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY
DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA, OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/_subprocess.c
Copyright: Copyright (c) 2004 by Fredrik Lundh <fredrik@pythonware.com>
Copyright (c) 2004 by Secret Labs AB, http://www.pythonware.com
Copyright (c) 2004 by Peter Astrand <astrand@lysator.liu.se>
License:
* Permission to use, copy, modify, and distribute this software and
* its associated documentation for any purpose and without fee is
* hereby granted, provided that the above copyright notice appears in
* all copies, and that both that copyright notice and this permission
* notice appear in supporting documentation, and that the name of the
* authors not be used in advertising or publicity pertaining to
* distribution of the software without specific, written prior
* permission.
*
* THE AUTHORS DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE,
* INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.
* IN NO EVENT SHALL THE AUTHORS BE LIABLE FOR ANY SPECIAL, INDIRECT OR
* CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
* OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
* NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
* WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/winsound.c
Copyright: Copyright (c) 1999 Toby Dickenson
License:  * Permission to use this software in any way is granted without
* fee, provided that the copyright notice above appears in all
* copies. This software is provided "as is" without any warranty.
*/

/* Modified by Guido van Rossum */
/* Beep added by Mark Hammond */
/* Win9X Beep and platform identification added by Uncle Timmy */

Files: Tools/pybench/*
Copyright: (c), 1997-2006, Marc-Andre Lemburg (mal@lemburg.com)
(c), 2000-2006, eGenix.com Software GmbH (info@egenix.com)
License: Permission
to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee or royalty is hereby
granted, provided that the above copyright notice appear in all copies

and that both that copyright notice and this permission notice appear
in supporting documentation or portions thereof, including
modifications, that you make.

THE AUTHOR MARC-ANDRE LEMBURG DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE !

# 1.378 python3-6-minimal 3.6.9-1~18.04ubuntu1.9

## 1.378.1 Available under license :

This package was put together by Klee Dienes <klee@debian.org> from
sources from ftp.python.org:/pub/python, based on the Debianization by
the previous maintainers Bernd S. Brentrup <bsb@uni-muenster.de> and
Bruce Perens. Current maintainer is Matthias Klose <doko@debian.org>.

It was downloaded from http://python.org/

Copyright:

Upstream Author: Guido van Rossum <guido@cwi.nl> and others.

License:

The following text includes the Python license and licenses and
acknowledgements for incorporated software. The licenses can be read
in the HTML and texinfo versions of the documentation as well, after
installing the pythonx.y-doc package. Licenses for files not licensed
under the Python Licenses are found at the end of this file.

Python License
==============

A. HISTORY OF THE SOFTWARE
==========================

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called

ABC. Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team. In October of the same
year, the PythonLabs team moved to Digital Creations (now Zope
Corporation, see http://www.zope.com). In 2001, the Python Software
Foundation (PSF, see http://www.python.org/psf/) was formed, a
non-profit organization created specifically to own Python-related
Intellectual Property. Zope Corporation is a sponsoring member of
the PSF.

All Python releases are Open Source (see http://www.opensource.org for
the Open Source Definition). Historically, most, but not all, Python
releases have also been GPL-compatible; the table below summarizes
the
various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under
the GPL. All Python licenses, unlike
the GPL, let you distribute
a modified version without making your changes open source. The
GPL-compatible licenses make it possible to combine Python with
other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible,
because its license has a choice of law clause. According to
CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1
is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's
direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source
or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python alone
or in any derivative version, provided, however, that PSF's License
Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001,
2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012,
2013, 2014 Python Software Foundation; All Rights Reserved" are
retained in Python alone or in any derivative version prepared by
Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to
Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS

A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee,
or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an
office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the
Individual or Organization ("Licensee") accessing and otherwise using
this software in source or binary form and its associated
documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License
Agreement, BeOpen hereby grants Licensee a non-exclusive,
royalty-free, world-wide license to reproduce, analyze, test, perform
and/or display publicly, prepare derivative works, distribute, and
otherwise use the Software alone or in any derivative version,
provided, however, that the BeOpen Python License is retained in the
Software,
alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS"
basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE
SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS
AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY

DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1

---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be

obtained from a proxy server on the Internet
using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python 1.6.1 or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS"
basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1,
OR
ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. This License Agreement shall be governed by the federal
intellectual property law of the United States, including without
limitation the federal copyright law, and, to the extent such
U.S. federal law does not apply, by the law of the Commonwealth of
Virginia, excluding Virginia's conflict of law provisions.
Notwithstanding the foregoing, with regard to derivative works based
on Python 1.6.1 that incorporate non-separable material that was
previously distributed under the GNU General Public License (GPL), the
law of the Commonwealth of Virginia shall govern this License
Agreement only as to issues arising under or with respect to
Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this
License Agreement shall be deemed to create any relationship of
agency, partnership, or joint venture between CNRI
and Licensee. This
License Agreement does not grant permission to use CNRI trademarks or
trade name in a trademark sense to endorse or promote products or
services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying,
installing or otherwise using Python 1.6.1, Licensee agrees to be
bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
--------------------------------------------------

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam,
The Netherlands.  All rights reserved.

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Stichting Mathematisch
Centrum or CWI not be used in advertising
 or publicity pertaining to
distribution of the software without specific, written prior
permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Licenses and Acknowledgements for Incorporated Software
=======================================================

Mersenne Twister
----------------

The `_random' module includes code based on a download from
`http://www.math.keio.ac.jp/~matumoto/MT2002/emt19937ar.html'.  The
following are the verbatim comments from the original code:

A C-program for MT19937, with initialization improved 2002/1/26.
 Coded by Takuji Nishimura and Makoto Matsumoto.

Before using, initialize the state by using init_genrand(seed)
or init_by_array(init_key, key_length).

Copyright (C) 1997 - 2002, Makoto Matsumoto and Takuji Nishimura,
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions

are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. The names of its contributors may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED
BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Any feedback is very welcome.
http://www.math.keio.ac.jp/matumoto/emt.html
email: matumoto@math.keio.ac.jp

Sockets
---

The `socket' module uses the functions, `getaddrinfo', and
`getnameinfo',
which are coded in separate source files from the WIDE
Project, `http://www.wide.ad.jp/about/index.html'.

Copyright (C) 1995, 1996, 1997, and 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright

notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND
GAI_ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE
FOR GAI_ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON GAI_ANY THEORY OF LIABILITY, WHETHER
IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN GAI_ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

Floating point exception control
---

The source for the `fpectl' module includes the following notice:

```
  ---------------------------------------------------------------------
 /                    Copyright (c) 1996.
                     \
|         The Regents of the University of California.               |
|                    All rights reserved.                           |
|                                                                   |
|  Permission to use, copy, modify, and distribute this software for  |
|  any purpose without fee is hereby granted, provided that this en-  |
|  tire notice is included in all copies of any software which is or  |
|  includes  a  copy  or  modification  of  this software and in all  |
|  copies of the supporting documentation for such software.          |
|                                                                   |
|  This  work was produced at the University of California, Lawrence  |
|  Livermore National Laboratory under  contract  no.  W-7405-ENG-48  |
|  between  the  U.S.  Department  of  Energy and The Regents of the  |
|  University of California for the operation
 of UC LLNL.             |
|                                                                   |
|                         DISCLAIMER                                |
|                                                                   |
|  This  software was prepared as an account of work sponsored by an  |
|  agency of the United States Government. Neither the United States  |
|  Government  nor the University of California nor any of their em-  |
|  ployees, makes any warranty, express or implied, or  assumes  any  |
```

| liability or responsibility for the accuracy, completeness, or |
| usefulness of any information, apparatus, product, or process |
| disclosed, or represents that its use would not infringe |
| privately-owned rights. Reference herein to any specific commer- |
| cial products, process, or service by trade name, trademark, |
| manufacturer, or otherwise, does not necessarily
constitute or |
| imply its endorsement, recommendation, or favoring by the United |
| States Government or the University of California. The views and |
| opinions of authors expressed herein do not necessarily state or |
| reflect those of the United States Government or the University |
| of California, and shall not be used for advertising or product |
\ endorsement purposes. /
---

Cookie management
---

The `Cookie' module contains the following notice:


Copyright 2000 by Timothy O'Malley <timo@alum.mit.edu>

All Rights Reserved

Permission to use, copy, modify, and distribute this software
and its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in all
copies and that both that
copyright notice and this permission
notice appear in supporting documentation, and that the name of
Timothy O'Malley not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

Timothy O'Malley DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS, IN NO EVENT SHALL Timothy O'Malley BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.


Execution tracing
---

The `trace' module contains the following notice:

portions copyright 2001, Autonomous Zones Industries, Inc., all rights...
err... reserved and offered to the public under the
terms of the
Python 2.2 license.
Author: Zooko O'Whielacronx
http://zooko.com/
mailto:zooko@zooko.com

Copyright 2000, Mojam Media, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1999, Bioreason, Inc., all rights reserved.
Author: Andrew Dalke

Copyright 1995-1997, Automatrix, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1991-1995, Stichting Mathematisch Centrum, all rights reserved.

Permission to use, copy, modify, and distribute this Python software and
its associated documentation for any purpose without fee is hereby
granted, provided that the above copyright notice appears in all copies,
and that both that copyright notice and this permission notice appear in
supporting documentation, and that the name of neither Automatrix,
Bioreason or Mojam Media be used in advertising or publicity pertaining
to distribution of the software without specific,
written prior
permission.

UUencode and UUdecode functions

---

The `uu' module contains the following notice:

Copyright 1994 by Lance Ellinghouse
Cathedral City, California Republic, United States of America.
All Rights Reserved
Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES WITH REGARD TO

THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE
CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Modified by Jack Jansen, CWI, July 1995:
- Use binascii module to do the actual line-by-line conversion
between ascii and binary. This results in a 1000-fold speedup. The C
version is still 5 times faster, though.
- Arguments more compliant with python standard

XML Remote Procedure Calls
---

The `xmlrpclib' module contains the following notice:

The XML-RPC client interface is

Copyright (c) 1999-2002 by Secret Labs AB
Copyright (c) 1999-2002 by Fredrik Lundh

By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and
its associated documentation for any purpose and without fee is
hereby granted, provided that the above copyright notice appears in
all copies, and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of
Secret Labs AB or the author not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD
TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANT-
ABILITY AND FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR
BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY
DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE
OF THIS SOFTWARE.

Licenses for Software linked to
==============================

Note that the choice of GPL compatibility outlined above doesn't extend
to modules linked to particular libraries, since they change the
effective License of the module binary.

GNU Readline
------------

The 'readline' module makes use of GNU Readline.

    The GNU Readline Library is free software; you can redistribute it
    and/or modify it under the terms of the GNU General Public License as
    published by the Free Software Foundation; either version 2, or (at
    your option) any later version.

    On Debian systems, you can find the complete statement in
    /usr/share/doc/readline-common/copyright'. A copy of the GNU General
    Public License is available in /usr/share/common-licenses/GPL-2'.

OpenSSL
-------

The '_ssl' module makes use of OpenSSL.

    The
 OpenSSL toolkit stays under a dual license, i.e. both the
    conditions of the OpenSSL License and the original SSLeay license
    apply to the toolkit. Actually both licenses are BSD-style Open
    Source licenses. Note that both licenses are incompatible with
    the GPL.

    On Debian systems, you can find the complete license text in
    /usr/share/doc/openssl/copyright'.

Files with other licenses than the Python License
-------------------------------------------------

Files: Include/dynamic_annotations.h
Files: Python/dynamic_annotations.c
Copyright: (c) 2008-2009, Google Inc.
License: Redistribution and use in source and binary forms, with or without
 modification, are permitted provided that the following conditions are
 met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or
promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files: Include/unicodeobject.h
Copyright: (c) Corporation for National Research Initiatives.
Copyright: (c) 1999 by Secret Labs AB.
Copyright:
(c) 1999 by Fredrik Lundh.
License: By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and its
associated documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appears in all
copies, and that both that copyright notice and this permission notice
appear in supporting documentation, and that the name of Secret Labs
AB or the author not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/logging/*

Copyright: 2001-2010 by Vinay Sajip. All Rights Reserved.
License: Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Vinay Sajip
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
VINAY SAJIP DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
VINAY SAJIP BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/multiprocessing/*
Files: Modules/_multiprocessing/*
Copyright: (c) 2006-2008, R Oudkerk. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of author nor the names of any contributors may be
   used to endorse or promote products derived from this software
   without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Lib/sqlite3/*
Files: Modules/_sqlite/*
Copyright: (C) 2004-2005 Gerhard Hring <gh@ghaering.de>
License: This software is provided 'as-is', without any express or implied

warranty. In no event
will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Files: Lib/async*
Copyright: Copyright 1996 by Sam Rushing
License: Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in
all
copies and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of Sam
Rushing not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SAM RUSHING DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN
NO EVENT SHALL SAM RUSHING BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/tarfile.py
Copyright: (C) 2002 Lars Gustaebel <lars@gustaebel.de>
License: Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software
without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following
conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Files: Lib/turtle.py
Copyright: (C) 2006 - 2010 Gregor Lingl
License:
This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

is copyright Gregor Lingl and licensed under a BSD-like license

Files: Modules/_ctypes/libffi/*
Copyright: Copyright (C) 1996-2011 Red Hat, Inc and others.
Copyright
(C) 1996-2011 Anthony Green
Copyright (C) 1996-2010 Free Software Foundation, Inc
Copyright (c) 2003, 2004, 2006, 2007, 2008 Kaz Kojima
Copyright (c) 2010, 2011, Plausible Labs Cooperative , Inc.
Copyright (c) 2010 CodeSourcery
Copyright (c) 1998 Andreas Schwab
Copyright (c) 2000 Hewlett Packard Company
Copyright (c) 2009 Bradley Smith
Copyright (c) 2008 David Daney
Copyright (c) 2004 Simon Posnjak
Copyright (c) 2005 Axis Communications AB
Copyright (c) 1998 Cygnus Solutions

Copyright (c) 2004 Renesas Technology
Copyright (c) 2002, 2007 Bo Thorsen <bo@suse.de>
Copyright (c) 2002 Ranjit Mathew
Copyright (c) 2002 Roger Sayle
Copyright (c) 2000, 2007 Software AG
Copyright (c) 2003 Jakub Jelinek
Copyright (c) 2000, 2001 John Hornkvist
Copyright (c) 1998 Geoffrey Keating
Copyright (c) 2008 Bjrn Knig

License: Permission is hereby granted, free of charge, to any person obtaining
a copy of this software
and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

Documentation:
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU General Public License as published by the
Free Software Foundation; either version 2, or (at your option) any
later version. A copy of the license is included in the
section entitled ``GNU General Public License''.

Files: Modules/_gestalt.c
Copyright: 1991-1997 by Stichting Mathematisch Centrum, Amsterdam.
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the names of Stichting Mathematisch
Centrum or CWI not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/syslogmodule.c
Copyright: 1994 by Lance Ellinghouse
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.

LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES
WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/zlib/*
Copyright: (C) 1995-2010 Jean-loup Gailly and Mark Adler
License: This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software.
If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler

jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving
lengthy legal documents to sign. The sources are provided for free but without
warranty of any kind. The library has been entirely written by Jean-loup
Gailly and Mark Adler; it does not include third-party code.

Files: Modules/expat/*
Copyright: Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd
and Clark Cooper
Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006 Expat maintainers
License: Permission is hereby granted, free of charge, to any person
obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Files:
Modules/_decimal/libmpdec/*
Copyright: Copyright (c) 2008-2012 Stefan Krah. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
,
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE

ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Misc/python-mode.el
Copyright: Copyright (C) 1992,1993,1994 Tim Peters
License: This software is provided as-is, without express or implied
warranty. Permission to use, copy, modify, distribute or sell this
software, without fee, for any purpose and by any individual or
organization, is hereby granted, provided that the above copyright
notice and this paragraph appear in all copies.

Files: Python/dtoa.c
Copyright: (c) 1991, 2000, 2001 by Lucent Technologies.
License: Permission to use, copy, modify, and distribute this software for any
purpose without fee is hereby granted, provided that this entire notice
is included
in all copies of any software which is or includes a copy
or modification of this software and in all copies of the supporting
documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED WARRANTY. IN PARTICULAR, NEITHER THE AUTHOR NOR LUCENT MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

Files: Python/getopt.c
Copyright: 1992-1994, David Gottner
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice, this permission notice and
the following disclaimer notice appear unmodified in all copies.

I DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL I BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY
DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA, OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/_subprocess.c

Copyright: Copyright (c) 2004 by Fredrik Lundh <fredrik@pythonware.com>
Copyright (c) 2004 by Secret Labs AB, http://www.pythonware.com
Copyright (c) 2004 by Peter Astrand <astrand@lysator.liu.se>
License:
* Permission to use, copy, modify, and distribute this software and
* its associated documentation for any purpose and without fee is
* hereby granted, provided that the above copyright notice appears in
* all copies, and that both that copyright notice and this permission
* notice appear in supporting documentation, and that the name of the
* authors not be used in advertising or publicity pertaining to
* distribution of the software without specific, written prior
* permission.
*
* THE AUTHORS DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE,
* INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.
* IN NO EVENT SHALL THE AUTHORS BE LIABLE FOR ANY SPECIAL, INDIRECT OR
* CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
* OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
* NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
* WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/winsound.c
Copyright: Copyright (c) 1999 Toby Dickenson
License: * Permission to use this software in any way is granted without
* fee, provided that the copyright notice above appears in all
* copies. This software is provided "as is" without any warranty.
*/

/* Modified by Guido van Rossum */
/* Beep added by Mark Hammond */
/* Win9X Beep and platform identification added by Uncle Timmy */

Files: Tools/pybench/*
Copyright: (c), 1997-2006, Marc-Andre Lemburg (mal@lemburg.com)
(c), 2000-2006, eGenix.com Software GmbH (info@egenix.com)
License: Permission
to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee or royalty is hereby
granted, provided that the above copyright notice appear in all copies
and that both that copyright notice and this permission notice appear
in supporting documentation or portions thereof, including
modifications, that you make.

THE AUTHOR MARC-ANDRE LEMBURG DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING

FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE !

# 1.379 libpython3-6-minimal 3.6.9-1~18.04ubuntu1.9

## 1.379.1 Available under license :

This package was put together by Klee Dienes <klee@debian.org> from
sources from ftp.python.org:/pub/python, based on the Debianization by
the previous maintainers Bernd S. Brentrup <bsb@uni-muenster.de> and
Bruce Perens. Current maintainer is Matthias Klose <doko@debian.org>.

It was downloaded from http://python.org/

Copyright:

Upstream Author: Guido van Rossum <guido@cwi.nl> and others.

License:

The following text includes the Python license and licenses and
acknowledgements for incorporated software. The licenses can be read
in the HTML and texinfo versions of the documentation as well, after
installing the pythonx.y-doc package. Licenses for files not licensed
under the Python Licenses are found at the end of this file.

Python License
==============

A. HISTORY OF THE SOFTWARE
==========================

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called
ABC. Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to

BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see http://www.zope.com). In 2001, the Python Software Foundation (PSF, see http://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the
various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike
the GPL, let you distribute
a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON
==========

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2
---

1. This LICENSE AGREEMENT is between the Python Software Foundation
("PSF"), and the Individual or Organization ("Licensee") accessing and
otherwise using this software ("Python") in source
or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python alone
or in any derivative version, provided, however, that PSF's License
Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001,
2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012,
2013, 2014 Python Software Foundation; All Rights Reserved" are
retained in Python alone or in any derivative version prepared by
Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to
Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee. This License Agreement does not grant permission to use PSF

trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee,
or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an
office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the
Individual or Organization ("Licensee") accessing and otherwise using
this software in source or binary form and its associated
documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License
Agreement, BeOpen hereby grants Licensee a non-exclusive,
royalty-free, world-wide license to reproduce, analyze, test, perform
and/or display publicly, prepare derivative works, distribute, and
otherwise use the Software alone or in any derivative version,
provided, however, that the BeOpen Python License is retained in the
Software,
alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS"
basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE
SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS
AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY
DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all
respects by the law of the State of California, excluding conflict of
law provisions. Nothing in this License

Agreement shall be deemed to
create any relationship of agency, partnership, or joint venture
between BeOpen and Licensee. This License Agreement does not grant
permission to use BeOpen trademarks or trade names in a trademark
sense to endorse or promote products or services of Licensee, or any
third party. As an exception, the "BeOpen Python" logos available at
http://www.pythonlabs.com/logos.html may be used according to the
permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1
---

1. This LICENSE AGREEMENT is between the Corporation for National
Research Initiatives, having an office at 1895 Preston White Drive,
Reston, VA 20191 ("CNRI"), and the Individual or Organization
("Licensee") accessing and otherwise using Python 1.6.1 software in
source or binary form and its associated
documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python 1.6.1
alone or in any derivative version, provided, however, that CNRI's
License Agreement and CNRI's notice of copyright, i.e., "Copyright (c)
1995-2001 Corporation for National Research Initiatives; All Rights
Reserved" are retained in Python 1.6.1 alone or in any derivative
version prepared by Licensee. Alternately, in lieu of CNRI's License
Agreement, Licensee may substitute the following text (omitting the
quotes): "Python 1.6.1 is made available subject to the terms and
conditions in CNRI's License Agreement. This Agreement together with
Python 1.6.1 may be located on the Internet using the following
unique, persistent identifier (known as a handle): 1895.22/1013. This
Agreement may also be
obtained from a proxy server on the Internet
using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python 1.6.1 or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS"
basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1,
OR
ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. This License Agreement shall be governed by the federal
intellectual property law of the United States, including without
limitation the federal copyright law, and, to the extent such
U.S. federal law does not apply, by the law of the Commonwealth of
Virginia, excluding Virginia's conflict of law provisions.
Notwithstanding the foregoing, with regard to derivative works based
on Python 1.6.1 that incorporate non-separable material that was
previously distributed under the GNU General Public License (GPL), the
law of the Commonwealth of Virginia shall govern this License
Agreement only as to issues arising under or with respect to
Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this
License Agreement shall be deemed to create any relationship of
agency, partnership, or joint venture between CNRI
and Licensee. This
License Agreement does not grant permission to use CNRI trademarks or
trade name in a trademark sense to endorse or promote products or
services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying,
installing or otherwise using Python 1.6.1, Licensee agrees to be
bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam,
The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its

documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Stichting Mathematisch
Centrum or CWI not be used in advertising
 or publicity pertaining to
distribution of the software without specific, written prior
permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Licenses and Acknowledgements for Incorporated Software
==========

Mersenne Twister
---

The `_random' module includes code based on a download from
`http://www.math.keio.ac.jp/~matumoto/MT2002/emt19937ar.html'.  The
following are the verbatim comments from the original code:

A C-program for MT19937, with initialization improved 2002/1/26.
 Coded by Takuji Nishimura and Makoto Matsumoto.

Before using, initialize the state by using init_genrand(seed)
or init_by_array(init_key, key_length).

Copyright (C) 1997 - 2002, Makoto Matsumoto and Takuji Nishimura,
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.

3. The names of its contributors may not be used to endorse or promote
products derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED
BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Any feedback is very welcome.
http://www.math.keio.ac.jp/matumoto/emt.html
email: matumoto@math.keio.ac.jp

Sockets
---

The `socket' module uses the functions, `getaddrinfo', and
`getnameinfo',
which are coded in separate source files from the WIDE
Project, `http://www.wide.ad.jp/about/index.html'.

Copyright (C) 1995, 1996, 1997, and 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND
GAI_ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE

ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE FOR GAI_ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON GAI_ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN GAI_ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Floating point exception control
---

The source for the `fpectl' module includes the following notice:

```
  ---------------------------------------------------------------------
 /                  Copyright (c) 1996.
                   \
|        The Regents of the University of California.              |
|                   All rights reserved.                          |
|                                                                 |
| Permission to use, copy, modify, and distribute this software for  |
| any purpose without fee is hereby granted, provided that this en-  |
| tire notice is included in all copies of any software which is or  |
| includes a copy or modification of this software and in all  |
| copies of the supporting documentation for such software.          |
|                                                                 |
| This work was produced at the University of California, Lawrence  |
| Livermore National Laboratory under contract no. W-7405-ENG-48  |
| between the U.S. Department of Energy and The Regents of the  |
| University of California for the operation
of UC LLNL.            |
|                                                                 |
|                       DISCLAIMER                                |
|                                                                 |
| This software was prepared as an account of work sponsored by an  |
| agency of the United States Government. Neither the United States  |
| Government nor the University of California nor any of their em-  |
| ployees, makes any warranty, express or implied, or assumes any  |
| liability or responsibility for the accuracy, completeness, or  |
| usefulness of any information, apparatus, product, or process  |
| disclosed, or represents that its use would not infringe  |
| privately-owned rights. Reference herein to any specific commer-  |
| cial products, process, or service by trade name, trademark,  |
| manufacturer, or otherwise, does not necessarily
constitute or  |
| imply its endorsement, recommendation, or favoring by the United  |
| States Government or the University of California. The views and  |
```

| opinions of authors expressed herein do not necessarily state or |
| reflect those of the United States Government or the University |
| of California, and shall not be used for advertising or product |
\ endorsement purposes. /
---

Cookie management
---

The `Cookie' module contains the following notice:

Copyright 2000 by Timothy O'Malley <timo@alum.mit.edu>

All Rights Reserved

Permission to use, copy, modify, and distribute this software
and its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in all
copies and that both that
copyright notice and this permission
notice appear in supporting documentation, and that the name of
Timothy O'Malley not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

Timothy O'Malley DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS, IN NO EVENT SHALL Timothy O'Malley BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

Execution tracing
---

The `trace' module contains the following notice:

portions copyright 2001, Autonomous Zones Industries, Inc., all rights...
err... reserved and offered to the public under the
terms of the
Python 2.2 license.
Author: Zooko O'Whielacronx
http://zooko.com/
mailto:zooko@zooko.com

Copyright 2000, Mojam Media, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1999, Bioreason, Inc., all rights reserved.
Author: Andrew Dalke

Copyright 1995-1997, Automatrix, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1991-1995, Stichting Mathematisch Centrum, all rights reserved.

Permission to use, copy, modify, and distribute this Python software and
its associated documentation for any purpose without fee is hereby
granted, provided that the above copyright notice appears in all copies,
and that both that copyright notice and this permission notice appear in
supporting documentation, and that the name of neither Automatrix,
Bioreason or Mojam Media be used in advertising or publicity pertaining
to distribution of the software without specific,
written prior
permission.

UUencode and UUdecode functions
---

The `uu' module contains the following notice:

Copyright 1994 by Lance Ellinghouse
Cathedral City, California Republic, United States of America.
All Rights Reserved
Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE
CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Modified by Jack Jansen, CWI, July 1995:

- Use binascii module to do the actual line-by-line conversion
  between ascii and binary. This results in a 1000-fold speedup. The C
  version is still 5 times faster, though.
- Arguments more compliant with python standard

XML Remote Procedure Calls
---

The `xmlrpclib' module contains the following notice:

The XML-RPC client interface is

Copyright (c) 1999-2002 by Secret Labs AB
Copyright (c) 1999-2002 by Fredrik Lundh

By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and
its associated documentation for any purpose and without fee is
hereby granted, provided that the above copyright notice appears in
all copies, and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of
Secret Labs AB or the author not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD
TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANT-
ABILITY AND FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR
BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY
DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE
OF THIS SOFTWARE.

Licenses for Software linked to
==========

Note that the choice of GPL compatibility outlined above doesn't extend
to modules linked to particular libraries, since they change the
effective License of the module binary.

GNU Readline

---

The 'readline' module makes use of GNU Readline.

    The GNU Readline Library is free software; you can redistribute it
    and/or modify it under the terms of the GNU General Public License as
    published by the Free Software Foundation; either version 2, or (at
    your option) any later version.

    On Debian systems, you can find the complete statement in
    /usr/share/doc/readline-common/copyright'. A copy of the GNU General
    Public License is available in /usr/share/common-licenses/GPL-2'.

OpenSSL
---

The '_ssl' module makes use of OpenSSL.

    The
 OpenSSL toolkit stays under a dual license, i.e. both the
    conditions of the OpenSSL License and the original SSLeay license
    apply to the toolkit. Actually both licenses are BSD-style Open
    Source licenses. Note that both licenses are incompatible with
    the GPL.

    On Debian systems, you can find the complete license text in
    /usr/share/doc/openssl/copyright'.

Files with other licenses than the Python License
---

Files: Include/dynamic_annotations.h
Files: Python/dynamic_annotations.c
Copyright: (c) 2008-2009, Google Inc.
License: Redistribution and use in source and binary forms, with or without
 modification, are permitted provided that the following conditions are
 met:

    * Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.
    * Neither the name of Google Inc. nor the names of its
 contributors may be used to endorse or
 promote products derived from
 this software without specific prior written permission.

 THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS

"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files: Include/unicodeobject.h
Copyright: (c) Corporation for National Research Initiatives.
Copyright: (c) 1999 by Secret Labs AB.
Copyright:
(c) 1999 by Fredrik Lundh.
License: By obtaining, using, and/or copying this software and/or its associated documentation, you agree that you have read, understood, and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and its associated documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appears in all copies, and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Secret Labs AB or the author not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/logging/*
Copyright: 2001-2010 by Vinay Sajip. All Rights Reserved.
License: Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Vinay Sajip not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.
VINAY SAJIP DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING

ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
VINAY SAJIP BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/multiprocessing/*
Files: Modules/_multiprocessing/*
Copyright: (c) 2006-2008, R Oudkerk. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of author nor the names of any contributors may be
   used to endorse or promote products derived from this software
   without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Lib/sqlite3/*
Files: Modules/_sqlite/*
Copyright: (C) 2004-2005 Gerhard Hring <gh@ghaering.de>
License: This software is provided 'as-is', without any express or implied
warranty.  In no event
will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not

claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Files: Lib/async*
Copyright: Copyright 1996 by Sam Rushing
License: Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in
all
copies and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of Sam
Rushing not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SAM RUSHING DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN
NO EVENT SHALL SAM RUSHING BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/tarfile.py
Copyright: (C) 2002 Lars Gustaebel <lars@gustaebel.de>
License: Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software
without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following
conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING

FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Files: Lib/turtle.py
Copyright: (C) 2006 - 2010  Gregor Lingl
License:
 This software is provided 'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

is copyright Gregor Lingl and licensed under a BSD-like license

Files: Modules/_ctypes/libffi/*
Copyright: Copyright (C) 1996-2011 Red Hat, Inc and others.
   Copyright
 (C) 1996-2011 Anthony Green
   Copyright (C) 1996-2010 Free Software Foundation, Inc
   Copyright (c) 2003, 2004, 2006, 2007, 2008 Kaz Kojima
   Copyright (c) 2010, 2011, Plausible Labs Cooperative , Inc.
   Copyright (c) 2010 CodeSourcery
   Copyright (c) 1998 Andreas Schwab
   Copyright (c) 2000 Hewlett Packard Company
   Copyright (c) 2009 Bradley Smith
   Copyright (c) 2008 David Daney
   Copyright (c) 2004 Simon Posnjak
   Copyright (c) 2005 Axis Communications AB
   Copyright (c) 1998 Cygnus Solutions
   Copyright (c) 2004 Renesas Technology
   Copyright (c) 2002, 2007  Bo Thorsen <bo@suse.de>
   Copyright (c) 2002 Ranjit Mathew
   Copyright (c) 2002 Roger Sayle
   Copyright (c) 2000, 2007 Software AG
   Copyright (c) 2003 Jakub Jelinek
   Copyright (c) 2000, 2001 John Hornkvist
   Copyright (c) 1998 Geoffrey Keating
   Copyright (c) 2008 Bjrn Knig

License: Permission is hereby granted, free of charge, to any person obtaining
a copy of this software
and associated documentation files (the
``Software''), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

Documentation:
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU General Public License as published by the
Free Software Foundation; either version 2, or (at your option) any
later version. A copy of the license is included in the
section entitled ``GNU General Public License''.

Files: Modules/_gestalt.c
Copyright: 1991-1997 by Stichting Mathematisch Centrum, Amsterdam.
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the names of Stichting Mathematisch
Centrum or CWI not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/syslogmodule.c
Copyright: 1994 by Lance Ellinghouse
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.

LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES
WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE BE LIABLE FOR ANY SPECIAL,
INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/zlib/*
Copyright: (C) 1995-2010 Jean-loup Gailly and Mark Adler
License: This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software.
If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving
lengthy legal documents to sign. The sources are provided for free but without
warranty of any kind. The library has been entirely written by Jean-loup
Gailly and Mark Adler; it does not include third-party code.

Files: Modules/expat/*
Copyright: Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd

and Clark Cooper
Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006 Expat maintainers
License: Permission is hereby granted, free of charge, to any person
obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Files:
Modules/_decimal/libmpdec/*
Copyright: Copyright (c) 2008-2012 Stefan Krah. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
,
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Misc/python-mode.el
Copyright: Copyright (C) 1992,1993,1994  Tim Peters
License: This software is provided as-is, without express or implied
 warranty.  Permission to use, copy, modify, distribute or sell this
 software, without fee, for any purpose and by any individual or
 organization, is hereby granted, provided that the above copyright
 notice and this paragraph appear in all copies.

Files: Python/dtoa.c
Copyright: (c) 1991, 2000, 2001 by Lucent Technologies.
License: Permission to use, copy, modify, and distribute this software for any
 purpose without fee is hereby granted, provided that this entire notice
 is included
 in all copies of any software which is or includes a copy
 or modification of this software and in all copies of the supporting
 documentation for such software.

 THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED
 WARRANTY.  IN PARTICULAR, NEITHER THE AUTHOR NOR LUCENT MAKES ANY
 REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY
 OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

Files: Python/getopt.c
Copyright: 1992-1994, David Gottner
License: Permission to use, copy, modify, and distribute this software and its
 documentation for any purpose and without fee is hereby granted,
 provided that the above copyright notice, this permission notice and
 the following disclaimer notice appear unmodified in all copies.

 I DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL
 IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.  IN NO EVENT SHALL I
 BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES
 OR ANY
 DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA, OR PROFITS, WHETHER
 IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
 OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/_subprocess.c
Copyright: Copyright (c) 2004 by Fredrik Lundh <fredrik@pythonware.com>
 Copyright (c) 2004 by Secret Labs AB, http://www.pythonware.com
 Copyright (c) 2004 by Peter Astrand <astrand@lysator.liu.se>
License:
* Permission to use, copy, modify, and distribute this software and
* its associated documentation for any purpose and without fee is
* hereby granted, provided that the above copyright notice appears in
* all copies, and that both that copyright notice and this permission
* notice appear in supporting documentation, and that the name of the

* authors not be used in advertising or publicity pertaining to
* distribution of the software without specific, written prior
* permission.
*
* THE AUTHORS DISCLAIMS ALL WARRANTIES
 WITH REGARD TO THIS SOFTWARE,
* INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.
* IN NO EVENT SHALL THE AUTHORS BE LIABLE FOR ANY SPECIAL, INDIRECT OR
* CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
* OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
* NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
* WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/winsound.c
Copyright: Copyright (c) 1999 Toby Dickenson
License:  * Permission to use this software in any way is granted without
* fee, provided that the copyright notice above appears in all
* copies. This software is provided "as is" without any warranty.
*/

/* Modified by Guido van Rossum */
/* Beep added by Mark Hammond */
/* Win9X Beep and platform identification added by Uncle Timmy */

Files: Tools/pybench/*
Copyright: (c), 1997-2006, Marc-Andre Lemburg (mal@lemburg.com)
 (c), 2000-2006, eGenix.com Software GmbH (info@egenix.com)
License: Permission
 to use, copy, modify, and distribute this software and its
 documentation for any purpose and without fee or royalty is hereby
 granted, provided that the above copyright notice appear in all copies
 and that both that copyright notice and this permission notice appear
 in supporting documentation or portions thereof, including
 modifications, that you make.

 THE AUTHOR MARC-ANDRE LEMBURG DISCLAIMS ALL WARRANTIES WITH REGARD TO
 THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
 FITNESS, IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL,
 INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
 FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
 NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
 WITH THE USE OR PERFORMANCE OF THIS SOFTWARE !

# 1.380 libpython 3.6.9-1~18.04ubuntu1.9

## 1.380.1 Available under license :

This package was put together by Klee Dienes <klee@debian.org> from
sources from ftp.python.org:/pub/python, based on the Debianization by
the previous maintainers Bernd S. Brentrup <bsb@uni-muenster.de> and
Bruce Perens. Current maintainer is Matthias Klose <doko@debian.org>.

It was downloaded from http://python.org/

Copyright:

Upstream Author: Guido van Rossum <guido@cwi.nl> and others.

License:

The following text includes the Python license and licenses and
acknowledgements for incorporated software. The licenses can be read
in the HTML and texinfo versions of the documentation as well, after
installing the pythonx.y-doc package. Licenses for files not licensed
under the Python Licenses are found at the end of this file.

Python License
==============

A. HISTORY OF THE SOFTWARE
==========================

Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called
 ABC.  Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team.  In October of the same
year, the PythonLabs team moved to Digital Creations (now Zope
Corporation, see http://www.zope.com).  In 2001, the Python Software
Foundation (PSF, see http://www.python.org/psf/) was formed, a
non-profit organization created specifically to own Python-related
Intellectual Property.  Zope Corporation is a sponsoring member of
the PSF.

All Python releases are Open Source (see http://www.opensource.org for

the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the
various releases.

| Release | Derived from | Year | Owner | GPL-compatible? (1) |
|---|---|---|---|---|
| 0.9.0 thru 1.2 | | 1991-1995 | CWI | yes |
| 1.3 thru 1.5.2 | 1.2 | 1995-1999 | CNRI | yes |
| 1.6 | 1.5.2 | 2000 | CNRI | no |
| 2.0 | 1.6 | 2000 | BeOpen.com | no |
| 1.6.1 | 1.6 | 2001 | CNRI | yes (2) |
| 2.1 | 2.0+1.6.1 | 2001 | PSF | no |
| 2.0.1 | 2.0+1.6.1 | 2001 | PSF | yes |
| 2.1.1 | 2.1+2.0.1 | 2001 | PSF | yes |
| 2.2 | 2.1.1 | 2001 | PSF | yes |
| 2.1.2 | 2.1.1 | 2002 | PSF | yes |
| 2.1.3 | 2.1.2 | 2002 | PSF | yes |
| 2.2 and above | 2.1.1 | 2001-now | PSF | yes |

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike
the GPL, let you distribute
a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

## B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON

### PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2

1. This LICENSE AGREEMENT is between the Python Software Foundation ("PSF"), and the Individual or Organization ("Licensee") accessing and otherwise using this software ("Python") in source

or binary form and
its associated documentation.

2. Subject to the terms and conditions of this License Agreement, PSF
hereby grants Licensee a nonexclusive, royalty-free, world-wide
license to reproduce, analyze, test, perform and/or display publicly,
prepare derivative works, distribute, and otherwise use Python alone
or in any derivative version, provided, however, that PSF's License
Agreement and PSF's notice of copyright, i.e., "Copyright (c) 2001,
2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012,
2013, 2014 Python Software Foundation; All Rights Reserved" are
retained in Python alone or in any derivative version prepared by
Licensee.

3. In the event Licensee prepares a derivative work that is based on
or incorporates Python or any part thereof, and wants to make
the derivative work available to others as provided herein, then
Licensee hereby agrees to include in any such work a brief summary of
the changes made to Python.

4. PSF is making Python available to
Licensee on an "AS IS"
basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR
IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND
DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS
FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT
INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS
A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON,
OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material
breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any
relationship of agency, partnership, or joint venture between PSF and
Licensee. This License Agreement does not grant permission to use PSF
trademarks or trade name in a trademark sense to endorse or promote
products or services of Licensee,
or any third party.

8. By copying, installing or otherwise using Python, Licensee
agrees to be bound by the terms and conditions of this License
Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0

---

BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software,
alone or in any derivative version prepared by Licensee.

3. BeOpen is making the Software available to Licensee on an "AS IS" basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License
Agreement shall be deemed to
create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee

agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1
---

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1,

OR
ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2
---

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO

THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Licenses and Acknowledgements for Incorporated Software
==========

Mersenne Twister
---

The `_random' module includes code based on a download from `http://www.math.keio.ac.jp/~matumoto/MT2002/emt19937ar.html'. The following are the verbatim comments from the original code:

A C-program for MT19937, with initialization improved 2002/1/26.
Coded by Takuji Nishimura and Makoto Matsumoto.

Before using, initialize the state by using init_genrand(seed)
or init_by_array(init_key, key_length).

Copyright (C) 1997 - 2002, Makoto Matsumoto and Takuji Nishimura,
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. The names of its contributors may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED
BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,

SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Any feedback is very welcome.
http://www.math.keio.ac.jp/matumoto/emt.html
email: matumoto@math.keio.ac.jp

Sockets
---

The `socket' module uses the functions, `getaddrinfo', and `getnameinfo',
which are coded in separate source files from the WIDE Project, `http://www.wide.ad.jp/about/index.html'.

Copyright (C) 1995, 1996, 1997, and 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND GAI_ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE FOR GAI_ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON GAI_ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN GAI_ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Floating point exception control
---

The source for the `fpectl' module includes the following notice:

```
  ----------------------------------------------------------------------
 /                    Copyright (c) 1996.
                     \
|         The Regents of the University of California.               |
|                    All rights reserved.                            |
|                                                                    |
|  Permission to use, copy, modify, and distribute this software for  |
|  any purpose without fee is hereby granted, provided that this en-  |
|  tire notice is included in all copies of any software which is or  |
|  includes  a  copy  or  modification  of  this software and in all  |
|  copies of the supporting documentation for such software.          |
|                                                                    |
|  This  work was produced at the University of California, Lawrence  |
|  Livermore National Laboratory under  contract  no.  W-7405-ENG-48  |
|  between  the  U.S.  Department  of  Energy and The Regents of the  |
|  University of California for the operation
 of UC LLNL.             |
|                                                                    |
|                         DISCLAIMER                                 |
|                                                                    |
|  This  software was prepared as an account of work sponsored by an  |
|  agency of the United States Government. Neither the United States  |
|  Government  nor the University of California nor any of their em-  |
|  ployees, makes any warranty, express or implied, or  assumes  any  |
|  liability  or  responsibility  for the accuracy, completeness, or  |
|  usefulness of any information,  apparatus,  product,  or  process  |
|  disclosed,   or  represents  that  its  use  would  not  infringe  |
|  privately-owned rights. Reference herein to any specific  commer-  |
|  cial  products,  process,  or  service  by trade name, trademark,  |
|  manufacturer, or otherwise, does not  necessarily
 constitute  or  |
|  imply  its endorsement, recommendation, or favoring by the United  |
|  States Government or the University of California. The views  and  |
|  opinions  of authors expressed herein do not necessarily state or  |
|  reflect those of the United States Government or  the  University  |
|  of  California,  and shall not be used for advertising or product  |
 \  endorsement purposes.                                           /
  ----------------------------------------------------------------------
```

Cookie management
---

The `Cookie' module contains the following notice:

Copyright 2000 by Timothy O'Malley <timo@alum.mit.edu>

All Rights Reserved

Permission to use, copy, modify, and distribute this software
and its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in all
copies and that both that
copyright notice and this permission
notice appear in supporting documentation, and that the name of
Timothy O'Malley not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

Timothy O'Malley DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS, IN NO EVENT SHALL Timothy O'Malley BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

Execution tracing
---

The `trace' module contains the following notice:

portions copyright 2001, Autonomous Zones Industries, Inc., all rights...
err... reserved and offered to the public under the
terms of the
Python 2.2 license.
Author: Zooko O'Whielacronx
http://zooko.com/
mailto:zooko@zooko.com

Copyright 2000, Mojam Media, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1999, Bioreason, Inc., all rights reserved.
Author: Andrew Dalke

Copyright 1995-1997, Automatrix, Inc., all rights reserved.
Author: Skip Montanaro

Copyright 1991-1995, Stichting Mathematisch Centrum, all rights reserved.

Permission to use, copy, modify, and distribute this Python software and
its associated documentation for any purpose without fee is hereby
granted, provided that the above copyright notice appears in all copies,
and that both that copyright notice and this permission notice appear in
supporting documentation, and that the name of neither Automatrix,
Bioreason or Mojam Media be used in advertising or publicity pertaining
to distribution of the software without specific,
written prior
permission.

UUencode and UUdecode functions

---

The `uu' module contains the following notice:

Copyright 1994 by Lance Ellinghouse
Cathedral City, California Republic, United States of America.
All Rights Reserved
Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE
CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Modified by Jack Jansen, CWI, July 1995:
- Use binascii module to do the actual line-by-line conversion
between ascii and binary. This results in a 1000-fold speedup. The C
version is still 5 times faster, though.
- Arguments more compliant with python standard

XML Remote Procedure Calls

---

The `xmlrpclib' module contains the following notice:

The XML-RPC client interface is

Copyright (c) 1999-2002 by Secret Labs AB
Copyright (c) 1999-2002 by Fredrik Lundh

By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and
its associated documentation for any purpose and without fee is
hereby granted, provided that the above copyright notice appears in
all copies, and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of
Secret Labs AB or the author not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD
TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANT-
ABILITY AND FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR
BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY
DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE
OF THIS SOFTWARE.

Licenses for Software linked to
==========

Note that the choice of GPL compatibility outlined above doesn't extend
to modules linked to particular libraries, since they change the
effective License of the module binary.

GNU Readline
---

The 'readline' module makes use of GNU Readline.

The GNU Readline Library is free software; you can redistribute it
and/or modify it under the terms of the GNU General Public License as
published by the Free Software Foundation; either version 2, or (at
your option) any later version.

On Debian systems, you can find the complete statement in

/usr/share/doc/readline-common/copyright'. A copy of the GNU General
Public License is available in /usr/share/common-licenses/GPL-2'.

OpenSSL
---

The '_ssl' module makes use of OpenSSL.

The
OpenSSL toolkit stays under a dual license, i.e. both the
conditions of the OpenSSL License and the original SSLeay license
apply to the toolkit. Actually both licenses are BSD-style Open
Source licenses. Note that both licenses are incompatible with
the GPL.

On Debian systems, you can find the complete license text in
/usr/share/doc/openssl/copyright'.

Files with other licenses than the Python License
---

Files: Include/dynamic_annotations.h
Files: Python/dynamic_annotations.c
Copyright: (c) 2008-2009, Google Inc.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or
promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files: Include/unicodeobject.h
Copyright: (c) Corporation for National Research Initiatives.
Copyright: (c) 1999 by Secret Labs AB.
Copyright:
(c) 1999 by Fredrik Lundh.
License: By obtaining, using, and/or copying this software and/or its
associated documentation, you agree that you have read, understood,
and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and its
associated documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appears in all
copies, and that both that copyright notice and this permission notice
appear in supporting documentation, and that the name of Secret Labs
AB or the author not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR BE LIABLE FOR
ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/logging/*
Copyright: 2001-2010 by Vinay Sajip. All Rights Reserved.
License: Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Vinay Sajip
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.
VINAY SAJIP DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING
ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
VINAY SAJIP BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL
DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/multiprocessing/*
Files: Modules/_multiprocessing/*
Copyright: (c) 2006-2008, R Oudkerk. All rights reserved.

License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of author nor the names of any contributors may be
   used to endorse or promote products derived from this software
    without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Lib/sqlite3/*
Files: Modules/_sqlite/*
Copyright: (C) 2004-2005 Gerhard Hring <gh@ghaering.de>
License: This software is provided 'as-is', without any express or implied
warranty.  In no event
 will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Files: Lib/async*
Copyright: Copyright 1996 by Sam Rushing
License: Permission to use, copy, modify, and distribute this software and

its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in
all
copies and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of Sam
Rushing not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior
permission.

SAM RUSHING DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN
NO EVENT SHALL SAM RUSHING BE LIABLE FOR ANY SPECIAL, INDIRECT OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Lib/tarfile.py
Copyright: (C) 2002 Lars Gustaebel <lars@gustaebel.de>
License: Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software
without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following
conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Files: Lib/turtle.py
Copyright: (C) 2006 - 2010 Gregor Lingl
License:
This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

is copyright Gregor Lingl and licensed under a BSD-like license

Files: Modules/_ctypes/libffi/*
Copyright: Copyright (C) 1996-2011 Red Hat, Inc and others.
  Copyright
 (C) 1996-2011 Anthony Green
  Copyright (C) 1996-2010 Free Software Foundation, Inc
  Copyright (c) 2003, 2004, 2006, 2007, 2008 Kaz Kojima
  Copyright (c) 2010, 2011, Plausible Labs Cooperative , Inc.
  Copyright (c) 2010 CodeSourcery
  Copyright (c) 1998 Andreas Schwab
  Copyright (c) 2000 Hewlett Packard Company
  Copyright (c) 2009 Bradley Smith
  Copyright (c) 2008 David Daney
  Copyright (c) 2004 Simon Posnjak
  Copyright (c) 2005 Axis Communications AB
  Copyright (c) 1998 Cygnus Solutions
  Copyright (c) 2004 Renesas Technology
  Copyright (c) 2002, 2007  Bo Thorsen <bo@suse.de>
  Copyright (c) 2002 Ranjit Mathew
  Copyright (c) 2002 Roger Sayle
  Copyright (c) 2000, 2007 Software AG
  Copyright (c) 2003 Jakub Jelinek
  Copyright (c) 2000, 2001 John Hornkvist
  Copyright (c) 1998 Geoffrey Keating
  Copyright (c) 2008 Bjrn Knig

License: Permission is hereby granted, free of charge, to any person obtaining
  a copy of this software
 and associated documentation files (the
  ``Software''), to deal in the Software without restriction, including
  without limitation the rights to use, copy, modify, merge, publish,
  distribute, sublicense, and/or sell copies of the Software, and to
  permit persons to whom the Software is furnished to do so, subject to
  the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

Documentation:
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU General Public License as published by the
Free Software Foundation; either version 2, or (at your option) any
later version. A copy of the license is included in the
section entitled ``GNU General Public License''.

Files: Modules/_gestalt.c
Copyright: 1991-1997 by Stichting Mathematisch Centrum, Amsterdam.
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the names of Stichting Mathematisch
Centrum or CWI not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS
SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/syslogmodule.c
Copyright: 1994 by Lance Ellinghouse
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation, and that the name of Lance Ellinghouse
not be used in advertising or publicity pertaining to distribution
of the software without specific, written prior permission.

LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES
WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: Modules/zlib/*
Copyright: (C) 1995-2010 Jean-loup Gailly and Mark Adler
License: This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software.
If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving
lengthy legal documents to sign. The sources are provided for free but without
warranty of any kind. The library has been entirely written by Jean-loup
Gailly and Mark Adler; it does not include third-party code.

Files: Modules/expat/*
Copyright: Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd
and Clark Cooper
Copyright (c) 2001, 2002, 2003, 2004, 2005, 2006 Expat maintainers
License: Permission is hereby granted, free of charge, to any person
obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Files:
Modules/_decimal/libmpdec/*
Copyright: Copyright (c) 2008-2012 Stefan Krah. All rights reserved.
License: Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
,
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: Misc/python-mode.el
Copyright: Copyright (C) 1992,1993,1994 Tim Peters
License: This software is provided as-is, without express or implied
warranty. Permission to use, copy, modify, distribute or sell this
software, without fee, for any purpose and by any individual or
organization, is hereby granted, provided that the above copyright
notice and this paragraph appear in all copies.

Files: Python/dtoa.c

Copyright: (c) 1991, 2000, 2001 by Lucent Technologies.
License: Permission to use, copy, modify, and distribute this software for any
purpose without fee is hereby granted, provided that this entire notice
is included
in all copies of any software which is or includes a copy
or modification of this software and in all copies of the supporting
documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED
WARRANTY. IN PARTICULAR, NEITHER THE AUTHOR NOR LUCENT MAKES ANY
REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY
OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

Files: Python/getopt.c
Copyright: 1992-1994, David Gottner
License: Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice, this permission notice and
the following disclaimer notice appear unmodified in all copies.

I DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL I
BE LIABLE FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY
DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA, OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT
OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/_subprocess.c
Copyright: Copyright (c) 2004 by Fredrik Lundh <fredrik@pythonware.com>
Copyright (c) 2004 by Secret Labs AB, http://www.pythonware.com
Copyright (c) 2004 by Peter Astrand <astrand@lysator.liu.se>
License:
* Permission to use, copy, modify, and distribute this software and
* its associated documentation for any purpose and without fee is
* hereby granted, provided that the above copyright notice appears in
* all copies, and that both that copyright notice and this permission
* notice appear in supporting documentation, and that the name of the
* authors not be used in advertising or publicity pertaining to
* distribution of the software without specific, written prior
* permission.
*
* THE AUTHORS DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE,
* INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.
* IN NO EVENT SHALL THE AUTHORS BE LIABLE FOR ANY SPECIAL, INDIRECT OR
* CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
* OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,

* NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
* WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files: PC/winsound.c
Copyright: Copyright (c) 1999 Toby Dickenson
License:  * Permission to use this software in any way is granted without
* fee, provided that the copyright notice above appears in all
* copies. This software is provided "as is" without any warranty.
*/

/* Modified by Guido van Rossum */
/* Beep added by Mark Hammond */
/* Win9X Beep and platform identification added by Uncle Timmy */

Files: Tools/pybench/*
Copyright: (c), 1997-2006, Marc-Andre Lemburg (mal@lemburg.com)
 (c), 2000-2006, eGenix.com Software GmbH (info@egenix.com)
License: Permission
 to use, copy, modify, and distribute this software and its
 documentation for any purpose and without fee or royalty is hereby
 granted, provided that the above copyright notice appear in all copies
 and that both that copyright notice and this permission notice appear
 in supporting documentation or portions thereof, including
 modifications, that you make.

 THE AUTHOR MARC-ANDRE LEMBURG DISCLAIMS ALL WARRANTIES WITH REGARD TO
 THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND
 FITNESS, IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL,
 INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING
 FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
 NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION
 WITH THE USE OR PERFORMANCE OF THIS SOFTWARE !

# 1.381 swagger-annotations 1.6.1

## 1.381.1 Available under license :

No license file was found, but licenses were detected in source scan.

/**
* Copyright 2016 SmartBear Software
* <p>
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
* <p>
* http://www.apache.org/licenses/LICENSE-2.0
* <p>

* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ExtensionProperty.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ResponseHeader.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ApiResponses.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/Example.java
*
/swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ExampleProperty.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/Extension.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/Info.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ApiModel.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/AuthorizationScope.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/Api.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ApiImplicitParams.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/Contact.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/License.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ApiImplicitParam.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ApiParam.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ApiResponse.java
*
/swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/Authorization.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ApiOperation.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/SwaggerDefinition.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/Tag.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ExternalDocs.java
* /swagger-annotations-1-6-1-sources-1-jar/io/swagger/annotations/ApiModelProperty.java

# 1.382 influxdb-client-java 2.0.0

## 1.382.1 Available under license :

The MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE
USE OR OTHER DEALINGS IN
THE SOFTWARE.
MIT License

Copyright (c) 2018 Influxdata, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.383 influxdb-client-core 2.0.0

## 1.383.1 Available under license :

No license file was found, but licenses were detected in source scan.

<!--

The MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

-->

Found in path(s):
* /influxdb-client-core-2-0-0-sources-jar/META-INF/maven/com.influxdb/influxdb-client-core/pom.xml
No license file was found, but licenses were detected in source scan.

/*
* The MIT License
*
* Permission is hereby granted, free of charge, to any person obtaining a copy
* of this software and associated documentation files (the "Software"), to deal
* in the Software without restriction, including without limitation the rights
* to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
* copies of the Software, and to permit persons to whom the Software is
* furnished to do so, subject to the following conditions:
*
* The above copyright notice and this permission notice shall be included in
* all copies or substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
* IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
* FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
* AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
* LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
* OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
* THE SOFTWARE.
*/

Found in path(s):
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/UnprocessableEntityException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/query/internal/FluxCsvParser.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/NotImplementedException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/ServiceUnavailableException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/internal/UserAgentInterceptor.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/LogLevel.java

* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/BadGatewayException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/NotFoundException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/Arguments.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/Cancellable.java
*
/influxdb-client-core-2-0-0-sources-jar/com/influxdb/annotations/Measurement.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/ForbiddenException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/query/FluxRecord.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/MethodNotAllowedException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/internal/AbstractQueryApi.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/RequestEntityTooLargeException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/query/FluxTable.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/InternalServerErrorException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/RequestTimeoutException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/query/exceptions/FluxCsvParserException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/NotAcceptableException.java
*
/influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/PaymentRequiredException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/ProxyAuthenticationRequiredException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/annotations/Column.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/InfluxException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/UnauthorizedException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/query/FluxColumn.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/query/exceptions/FluxQueryException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/query/internal/FluxResultMapper.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/exceptions/BadRequestException.java
* /influxdb-client-core-2-0-0-sources-jar/com/influxdb/internal/AbstractRestClient.java

# 1.384 curl 7.58.0-2ubuntu3.22

## 1.384.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: curl
Source: http://curl.haxx.se

Files: *
Copyright: 1996-2015, Daniel Stenberg <daniel@haxx.se>
License: curl

Files: lib/vtls/axtls.*
Copyright: 2010, DirecTV
2010-2015, Daniel Stenberg <daniel@haxx.se>
License: curl

Files: lib/vtls/darwinssl.*
Copyright: 2012-2014, Nick Zitzmann <nickzman@gmail.com>
2012-2015, Daniel Stenberg <daniel@haxx.se>

License: curl

Files: lib/curl_rtmp.*
Copyright: 2010, Howard Chu <hyc@highlandsun.com>
License: curl

Files: lib/vtls/schannel.*
Copyright: 2012-2014, Marc Hoersken <info@marc-hoersken.de>
2012, Mark Salisbury <mark.salisbury@hp.com>
2012-2015, Daniel Stenberg <daniel@haxx.se>
License: curl

Files: lib/inet_pton.c
lib/inet_ntop.c
Copyright: 1996-2001 Internet Software Consortium
License: ISC

Files: lib/krb5.c
lib/security.c
Copyright: 2004-2015 Daniel Stenberg
1995-1999 Kungliga Tekniska Hgskolan
License: BSD-3-Clause

Files: lib/md4.c
Copyright:
2001, Solar Designer <solar@openwall.com>
License: public-domain

Files: lib/openldap.*
Copyright: 2011-2015, Daniel Stenberg <daniel@haxx.se>
2010, Howard Chu <hyc@openldap.org>
License: curl

Files: lib/vtls/polarssl.*
Copyright: 2010-2011, Hoi-Ho Chan <hoiho.chan@gmail.com>
2012-2015, Daniel Stenberg <daniel@haxx.se>
License: curl

Files: lib/socks_gssapi.c
lib/socks_sspi.*
Copyright: 2009, 2011, Markus Moeller, <markus_moeller@compuserve.com>
2012-2015, Daniel Stenberg, <daniel@haxx.se>
License: curl

Files: tests/certs/scripts/genroot.sh
tests/certs/scripts/genserv.sh
Copyright: 2000-2009, EdelWeb for EdelKey and OpenEvidence
License: curl

Files: tests/server/tftpd.c
Copyright: 1983 Regents of the University of California
License: BSD-4-Clause

Files: tests/server/fake_ntlm.c
Copyright: 2010, Mandy Wu <mandy.wu@intel.com>
2011-2013, Daniel Stenberg <daniel@haxx.se>
License: curl

Files: docs/examples/fopen.c
Copyright: 2003, Simtec Electronics
License: BSD-3-Clause

Files:
docs/examples/rtsp.c
Copyright: 2011, Jim Hollinger
License: BSD-3-Clause

Files: docs/examples/curlgtk.c
Copyright: 2003, The OpenEvidence Project
License: curl

Files: docs/examples/curlx.c
Copyright: 2003, The OpenEvidence Project
License: other
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
notice, this list of conditions, the following disclaimer,
and the original OpenSSL and SSLeay Licences below.
.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions, the following disclaimer
and the original OpenSSL and SSLeay Licences below in
the documentation and/or other materials provided with the
distribution.
.
3. All advertising materials mentioning features or use of this
software must display the following acknowledgments:
"This product
includes software developed by the Openevidence Project
for use in the OpenEvidence Toolkit. (http://www.openevidence.org/)"
This product includes software developed by the OpenSSL Project
for use in the OpenSSL Toolkit (http://www.openssl.org/)"
This product includes cryptographic software written by Eric Young

(eay@cryptsoft.com). This product includes software written by Tim
Hudson (tjh@cryptsoft.com)."

.

4. The names "OpenEvidence Toolkit" and "OpenEvidence Project" must not be
used to endorse or promote products derived from this software without
prior written permission. For written permission, please contact
openevidence-core@openevidence.org.

.

5. Products derived from this software may not be called "OpenEvidence"
nor may "OpenEvidence" appear in their names without prior written
permission of the OpenEvidence Project.

.

6. Redistributions of any form whatsoever must retain the following
acknowledgments:
"This product
includes software developed by the OpenEvidence Project
for use in the OpenEvidence Toolkit (http://www.openevidence.org/)
This product includes software developed by the OpenSSL Project
for use in the OpenSSL Toolkit (http://www.openssl.org/)"
This product includes cryptographic software written by Eric Young
(eay@cryptsoft.com). This product includes software written by Tim
Hudson (tjh@cryptsoft.com)."

.

THIS SOFTWARE IS PROVIDED BY THE OpenEvidence PROJECT ``AS IS'' AND ANY
EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenEvidence PROJECT OR
ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY
OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

Files: src/macos/src/macos_main.cpp
Copyright: 2001, Eric Lavigne
License: other
Permission is granted to anyone to use this software for any purpose on any computer system, and to redistribute it freely, subject to the following restrictions: - The author is not responsible for the consequences of use of this software, no matter how awful, even if they arise from defects in it. - The origin of this software must not be misrepresented, either by explicit claim or by omission. - You are allowed to distributed modified copies of the software, in source and binary form, provided they are marked plainly as altered versions, and are not misrepresented as being the original software.

Files: debian/*

Copyright: 2000-2010, Domenico Andreoli <cavok@debian.org>
2010-2011, Ramakrishnan Muthukrishnan
<rkrishnan@debian.org>
2011, Alessandro Ghedini <ghedo@debian.org>
License: curl

License: curl
All rights reserved.
.
Permission to use, copy, modify, and distribute this software for any purpose
with or without fee is hereby granted, provided that the above copyright
notice and this permission notice appear in all copies.
.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN
NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE
OR OTHER DEALINGS IN THE SOFTWARE.
.
Except as contained in this notice, the name of a copyright holder shall not
be used in advertising or otherwise to promote the sale, use or other dealings
in this
Software without prior written authorization of the copyright holder.

License: BSD-3-Clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
.
3. Neither the name of the Institute nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL

DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

License: BSD-4-Clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
    documentation and/or other materials provided with the distribution.
.
3. Neither the name of the Institute nor the names of its contributors
   may be used to endorse or promote products derived from this software
   without specific prior written permission.
.
4. Neither the name of the <organization> nor the
   names of its contributors may be used to endorse or promote products
   derived from this software without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER
 CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

License: ISC
Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.
.
THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR

ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

# 1.385 vim 8.0.1453-1ubuntu1.10

# 1.386 hibernate 5.6.7.Final

## 1.386.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later
* See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>
*/
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/spi/MetamodelImplementor.java
No license file was found, but licenses were detected in source scan.

```
/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later.
* See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
*/
/**
  * Used to pass along the CDI BeanManager, if any, to be used.
  *
  * According to JPA, strictly, the BeanManager should be passed in
  * at boot-time and be ready for use at that time.  However not all
  * environments can do this (WildFly e.g.).  To accommodate such
  * environments, Hibernate provides 2 options:
  *
  *     * a proprietary CDI extension SPI (that we have proposed to
  *      the CDI spec group as a standard option) that can be used
  *      to provide delayed BeanManager access.  To use this solution,
  *      the reference passed as the BeanManager during bootstrap
  *      should be typed as {@link ExtendedBeanManager}
  *     * delayed access to the BeanManager
 reference.  Here, Hibernate
  *      will not access the reference passed as the BeanManager during
```

```
 *      bootstrap until it is first needed.  Note however that this has
 *      the effect of delaying any deployment problems until after
 *      bootstrapping.
 *
 * This setting is used to configure Hibernate ORM's access to
 * the BeanManager (either directly or via {@link ExtendedBeanManager}).
 */
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/AvailableSettings.java
No license file was found, but licenses were detected in source scan.

```
* indicated by the @author tags or express copyright attribution
* distributed under license by Red Hat Middleware LLC.
* This copyrighted material is made available to anyone wishing to use, modify,
* copy, or redistribute it subject to the terms and conditions of the GNU
* Lesser General Public License, as published by the Free Software Foundation.
* This program is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY
* or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU Lesser General Public License
* for more details.
* You should have received a copy of the GNU Lesser General Public License
* Boston, MA  02110-1301  USA
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/order-by-render.g
* /hibernate-core-5-6-7-final-sources-jar/order-by.g
No license file was found, but licenses were detected in source scan.

```
<!--
  Copyright (c) 2008, 2020 Oracle and/or its affiliates. All rights reserved.

  This program and the accompanying materials are made available under the
  terms of the Eclipse Public License v. 2.0 which is available at
  http://www.eclipse.org/legal/epl-2.0,
  or the Eclipse Distribution License v. 1.0 which is available at
  http://www.eclipse.org/org/documents/edl-v10.php.

  SPDX-License-Identifier: EPL-2.0 OR BSD-3-Clause

-->
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/orm_3_0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/persistence_3_0.xsd
No license file was found, but licenses were detected in source scan.

```
/*
```

```
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later.
* See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
*/
/*
* Written by Doug Lea with assistance from members of JCP JSR-166
* Expert Group and released to the public domain, as explained at
* http://creativecommons.org/licenses/publicdomain
*
* Modified for https://jira.jboss.org/jira/browse/ISPN-299
* Includes ideas described in http://portal.acm.org/citation.cfm?id=1547428
*
*/
/**
* A hash table supporting full concurrency of retrievals and
* adjustable expected concurrency for updates. This class obeys the
* same functional specification as {@link java.util.Hashtable}, and
* includes versions of methods corresponding to each method of
* <tt>Hashtable</tt>. However, even though all operations are
* thread-safe, retrieval
 operations do <em>not</em> entail locking,
* and there is <em>not</em> any support for locking the entire table
* in a way that prevents all access.  This class is fully
* interoperable with <tt>Hashtable</tt> in programs that rely on its
* thread safety but not on its synchronization details.
* <p/>
* <p> Retrieval operations (including <tt>get</tt>) generally do not
* block, so may overlap with update operations (including
* <tt>put</tt> and <tt>remove</tt>). Retrievals reflect the results
* of the most recently <em>completed</em> update operations holding
* upon their onset.  For aggregate operations such as <tt>putAll</tt>
* and <tt>clear</tt>, concurrent retrievals may reflect insertion or
* removal of only some entries.  Similarly, Iterators and
* Enumerations return elements reflecting the state of the hash table
* at some point at or since the creation of the iterator/enumeration.
* They do <em>not</em> throw {@link java.util.ConcurrentModificationException}.
*
 However, iterators are designed to be used by only one thread at a time.
* <p/>
* <p> The allowed concurrency among update operations is guided by
* the optional <tt>concurrencyLevel</tt> constructor argument
* (default <tt>16</tt>), which is used as a hint for internal sizing.  The
* table is internally partitioned to try to permit the indicated
* number of concurrent updates without contention. Because placement
* in hash tables is essentially random, the actual concurrency will
* vary.  Ideally, you should choose a value to accommodate as many
* threads as will ever concurrently modify the table. Using a
```

```
* significantly higher value than you need can waste space and time,
* and a significantly lower value can lead to thread contention. But
* overestimates and underestimates within an order of magnitude do
* not usually have much noticeable impact. A value of one is
* appropriate when it is known that only one thread will modify and
* all others will only read. Also, resizing
 this or any other kind of
* hash table is a relatively slow operation, so, when possible, it is
* a good idea to provide estimates of expected table sizes in
* constructors.
* <p/>
* <p>This class and its views and iterators implement all of the
* <em>optional</em> methods of the {@link Map} and {@link Iterator}
* interfaces.
* <p/>
* <p>This class is copied from Infinispan, and was originally written
* by Doug Lea with assistance from members of JCP JSR-166 Expert Group and
* released to the public domain, as explained at
* http://creativecommons.org/licenses/publicdomain</p>
* <p/>
* <p/>
* <p> Like {@link java.util.Hashtable} but unlike {@link HashMap}, this class
* does <em>not</em> allow <tt>null</tt> to be used as a key or value.
*
* @param <K> the type of keys maintained by this map
* @param <V> the type of mapped values
*
* @author Doug Lea
*/
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/BoundedConcurrentHashMap.java
No license file was found, but licenses were detected in source scan.

```
/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* Copyright (c) 2008, Red Hat Middleware LLC or third-party contributors as
* indicated by the @author tags or express copyright attribution
* statements applied by the authors.  All third-party contributions are
* distributed under license by Red Hat Middleware LLC.
*
* This copyrighted material is made available to anyone wishing to use, modify,
* copy, or redistribute it subject to the terms and conditions of the GNU
* Lesser General Public License, as published by the Free Software Foundation.
*
* This program is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY
```

* or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU Lesser General Public License
* for more details.
*
* You should have received a copy of the GNU Lesser General Public License
* along with this distribution;
 if not, write to:
* Free Software Foundation, Inc.
* 51 Franklin Street, Fifth Floor
* Boston, MA  02110-1301  USA
*
*/

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/GeneratedOrderByLexer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/GeneratedOrderByFragmentParser.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/sql/ordering/antlr/GeneratedOrderByFragmentRendererTokenTypes.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/OrderByTemplateTokenTypes.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/GeneratedOrderByFragmentRenderer.java
No license file was found, but licenses were detected in source scan.

/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later.
* See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
*/
/*
* Written by Doug Lea with assistance from members of JCP JSR-166
* Expert Group and released to the public domain, as explained at
* http://creativecommons.org/licenses/publicdomain
*/

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/ConcurrentReferenceHashMap.java
No license file was found, but licenses were detected in source scan.

header {
/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later.
* See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
*/
package org.hibernate.graph.internal.parse;
}

/**

```
* Antlr grammar describing the Hibernate EntityGraph Language.
*/
class GeneratedGraphParser extends Parser;

options {
   // call the vocabulary (H)ibernate (E)ntity(G)raph (L)anguage
 exportVocab=HEGL;

   k = 2;

// buildAST = true;
 buildAST = false;
}


{
 // ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
 // semantic actions/callouts

 protected void startAttribute(Token attributeName) {
 }

 protected void startQualifiedAttribute(Token attributeName, Token qualifier) {
 }

 protected void finishAttribute() {
 }

 protected void startSubGraph(Token subType) {
 }

 protected void finishSubGraph()
 {
 }
}


graph
 : attributeNode (COMMA attributeNode)*
 ;

attributeNode
 : attributePath (subGraph)? { finishAttribute(); }
 ;

attributePath
 : path:NAME (DOT qualifier:NAME)? {
  if ( qualifier == null ) {
```

```
  startAttribute( path );
 }
 else {
  startQualifiedAttribute( path, qualifier );
 }
}
;

subGraph
 : LPAREN (subtype:NAME COLON)? { startSubGraph( subtype ); } attributeNode (COMMA attributeNode )*
RPAREN {
 finishSubGraph();
}
;



// **** LEXER ************************************************************************

/**
* Lexer for the Hibernate EntityGraph Language grammar
*/
class GraphLexer extends Lexer;

options {
  // call the vocabulary (H)ibernate (E)ntity(G)raph (L)anguage
 exportVocab=HEGL;

  k = 2;

  // Allow any char but \uffff (16 bit -1, ANTLR's EOF character)
  charVocabulary = '\u0000'..'\ufffe';

 caseSensitive = false;
 testLiterals = false;
}

COLON: ':';

COMMA: ',';

DOT: '.';

LPAREN: '(';

RPAREN: ')';

WHITESPACE
```

```
:  (  ' '
 |
  '\t'
 |  '\r' '\n' { newline(); }
 |  '\n'     { newline(); }
 |  '\r'     { newline(); }
 )
 {$setType(Token.SKIP);} //ignore this token
;


/**
* In this grammar, basically any string since we (atm) have no keywords
*/
NAME
 : NAME_START ( NAME_CONTINUATION )*
 ;

protected
NAME_START
  :  '_'
  |  '$'
  |  'a'..'z'
  // HHH-558 : Allow unicode chars in identifiers
  //|  '\u0080'..'\ufffe'
  ;

protected
NAME_CONTINUATION
  :  NAME_START
  |  '0'..'9'
  ;
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/graph.g
No license file was found, but licenses were detected in source scan.

```
<!--
 ~ Hibernate, Relational Persistence for Idiomatic Java
 ~
 ~ License: GNU Lesser General Public License (LGPL), version 2.1 or later.
 ~ See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
 -->
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/classic/package.html

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/access/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hibernate-mapping-4.0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/package.html
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/persistence_1_0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/orm_2_0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/pretty/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/xsd/mapping/legacy-mapping-4.0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/hql/package.html
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/persistence_2_1.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/antlr/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/xsd/cfg/legacy-configuration-4.0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/orm_1_0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/package.html
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metadata/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hibernate-configuration-4.0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/package.html
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/persistence_2_0.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/orm_2_1.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/package.html
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/criteria/package.html
No license file was found, but licenses were detected in source scan.

/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later.
* See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
*/
//  "proprietary" methods is better (this class is "proprietary" too).

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/EntityGraphs.java
No license file was found, but licenses were detected in source scan.

#
# Hibernate, Relational Persistence for Idiomatic Java
#
# License: GNU Lesser General Public License (LGPL), version 2.1 or later.
# See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
#
org.hibernate.jpa.HibernatePersistenceProvider

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/META-INF/services/javax.persistence.spi.PersistenceProvider
No license file was found, but licenses were detected in source scan.

/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later.
* See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
*/
/**
* JTA platform implementation intended for use with WebSphere Application Server (WAS).
* <p/>
* WAS, unlike every other app server on the planet, does not allow direct access to the JTS TransactionManager.
* Instead, for common transaction-related tasks users must utilize a proprietary API known as
ExtendedJTATransaction.
* <p/>
* Even more unfortunate, the exact TransactionManagerLookup to use inside of WAS is highly dependent upon<ul>

```
*     <li>WAS version</li>
*     <li>the WAS container in which Hibernate will be utilized</li>
* </ul>
* <p/>
* This class is reported to work on WAS version 6 in any of the standard J2EE/Java EE component containers.
*
* @author Gavin
 King
* @author <a href="mailto:jesper@udby.com>Jesper Udby</a>
* @author Steve Ebersole
*/
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/WebSphereExtendedJtaPlatform.java
No license file was found, but licenses were detected in source scan.

```
/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later.
* See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl-2.1.html>.
*/
```

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/PaddedBatchingEntityLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/JdbcTimestampTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/DynamicUpdate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/Mapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/DB2390IdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Index.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/NullServiceException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/SessionFactoryServiceRegistry.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/IdentifierProperty.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/ProxyFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/UnknownSqlResultSetMappingException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/PropertyHolderBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/MetamodelDrivenLoadPlanBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/ArrayHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/DatabaseInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/UniqueConstraintHolder.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/JtaPlatformInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/LockModeEnumMap.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/InputStreamAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/ToolingHintContext.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/CollectionIndexDefinition.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/hql/spi/id/inline/InlineIdsSubSelectValuesListDeleteHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/SimpleSelect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/WrapperOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/exec/StatementExecutor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/spi/ResultSetProcessorResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeMapKeySource.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/GUIDGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/AbstractSerializableProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AttributeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/cfgxml/spi/MappingReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ManagedEntity.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/internal/MetadataContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/NotFoundAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/AbstractEntityTuplizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/ClobTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/event/service/internal/PostCommitEventListenerGroupImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DerbyTenSevenDialect.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/SelectParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/MapKeyEntityFromElement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/OrderByFragmentTranslator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/PropertyPath.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/PositionalParameterInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/persistent/Helper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/HqlSqlWalkerNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostInsertEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/QueryHints.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/HibernateEntityManager.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/CriteriaQuery.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/BytecodeEnhancementMetadataNonPojoImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/LoadEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/global/IdTableInfoImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/classic/Lifecycle.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/SourceType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/NotExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/WalkingException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataBuilderInitializer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/Ejb3Column.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/config/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ActionQueue.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/TypedParameterValue.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/EntityReturn.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jdbc/internal/DdlTransactionIsolatorNonJtaImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DB2390Dialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/internal/DriverManagerConnectionCreator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CascadeStyles.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/TypeContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostLoadEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/DefaultCustomEntityDirtinessStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/ForeignKeyMetadata.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/JoinedIterator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyEmbeddedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/IntoClause.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/FilterDefs.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/TimesTenDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ListType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/TypedValue.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/UUIDGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/AbstractSelectLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/internal/StandardDialectResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/spi/package-info.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/AbstractAnyReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DB2400V7R3Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/QueryParameters.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/AssociationKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ANSICaseFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ZonedDateTimeType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/OrderByTranslation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/NotFound.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/TwoPhaseLoad.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/IdentifierLoadAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/GenericGenerators.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/AbstractEntityJoinWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/AbstractParameterDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/ScriptTargetOutputToFile.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/JOnASJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/SingularAttributeSourceOneToOneImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/Versioning.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreCollectionUpdateEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/Transformers.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/AssociationAttributeDefinition.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/env/internal/ExtractedDatabaseMetaDataImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/Identifier.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/XmlDocument.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/ColumnHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Tuplizers.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/CurrentDateFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ColumnTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ObjectNameNormalizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/SqlTypeDescriptor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/InjectService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/FlushModeType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/NaturalIdLoadAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ForeignKey.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/IdentifierSourceSimpleImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/cfgxml/internal/JaxbCfgProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/spi/BasicSQLExceptionConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/AnsiSqlKeywords.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/EnumType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/TypeDefinitionBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/Nullability.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/Ingres9IdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/NullNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/CoreMessageLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ForeignKeyDirection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/SequenceHiLoGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/AbstractScriptTargetOutput.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeSourceArrayImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/JdbcServicesInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/LegacyLimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CachedNaturalIdValueSource.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/bytebuddy/BasicProxyFactoryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/SessionFactoryBuilderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/internal/ColumnInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/EntityFetchReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/NamedEntityGraphDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/IngresDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/QueryParameterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/MetadataBuilder.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/DynamicParameterizedType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ImageType.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/TypeNullability.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/PositionalParameterSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/TypeNames.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/SQLStateType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/Outputs.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/WrappedMaterializedBlobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/InLogicOperatorNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/BatchSize.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/StatelessSessionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/CollectionElementLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/HCANNHelper.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/MutabilityPlan.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/spi/AbstractDelegatingSessionBuilderImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CollectionReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/beans/BeanIntrospectionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/NonContextualLobCreator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/IndividuallySchemaMigratorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/internal/ServiceDependencyException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/PositionSubstringFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/JdbcTypeJavaClassMappings.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/EmbeddableSourceImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/CustomSql.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/EntityIncrementVersionProcess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/CascadeEntityLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/EntityNaming.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/MapValueNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/PropertyAccessBasicImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/spi/StrategySelector.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Junction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MimerSQLDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/CUBRIDDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/cursor/spi/package-info.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/FormatStyle.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Table.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/LogicalExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/ScanResult.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EntityCopyObserver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/process/internal/AbstractRowReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/AbstractTransactSQLDialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/internal/UserSuppliedConnectionProviderImpl.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/factory/IdentifierGeneratorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/AnyAttributeFetchImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/GenerationTargetToScript.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/internal/AbstractLogicalConnectionImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/LockEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/SelectFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/CollectionPropertyReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/BasicAttributePropertySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/FetchProfileBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/ParameterMetadataImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/TableInformationContainer.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/SpecialOneToOneType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/spi/StrategySelectionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/CompositeQuerySpaceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/ForeignKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/IdentifierGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SybaseASE15Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/Wrapped.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SecondaryTableSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/SetAttributeJoin.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/CharacterStreamImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/QueryParameterBindings.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/MetaType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/MetadataBuilderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/LikeExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/BinaryStreamImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/ManyToOnePropertySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/Oracle12cIdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/SessionFactoryRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/CollectionPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/spi/BatchKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jndi/spi/package-info.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/PropertyAccessStrategyMixedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/EntityNamingSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/ExistsSubqueryExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/CollectionAliases.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/AbstractPostInsertGenerator.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/XmlMappingBinderAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/ImmutableEntityUpdateQueryHandlingMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/spi/HydratedCompoundValueHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/package-info.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/CoordinatingEntityNameResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/IdTableHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/internal/StandardSessionFactoryServiceInitiators.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/spi/AliasResolutionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jmx/spi/JmxService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/procedure/ProcedureParameterBinding.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/BootstrapContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/LazyInitializationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/WrongClassException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/IdentifierSourceAggregatedComposite.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/AdaptedImmutableType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/ToolingHint.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/CountNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/InFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/FlushEntityEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/UserType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/LoadPlanTreePrinter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/QueryParameter.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/tracker/NoopCollectionTracker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Polymorphism.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/PropertyContainer.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorIngresDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/NamedQueries.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/TypeDefs.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCollectionRecreateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/ParameterTranslationsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/AbstractInlineIdsUpdateHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/QueryExecutionRequestException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/Factory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/AliasToBeanResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/AnyMappingDefinition.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyResolverInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/SimpleExpression.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeMapKeySourceBasicImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/ForeignKeyInformation.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/LongTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/AbstractSharedSessionContract.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/IdsClauseBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/AliasGenerator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/SingularAttributeSourceEmbeddedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/TypeSearchability.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/PooledOptimizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Example.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/JdbcSessionContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/EntityMetamodel.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/CascadeType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/PrimitiveCharacterArrayClobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/jta/platform/internal/NoJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/CreationTimestamp.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Proxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/LocalSchemaLocator.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/local/LocalTemporaryTableBulkIdStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/SetJoinImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/ReplicateEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/H2Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/VarcharTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/TableStructure.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/LogHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/Caching.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQL8Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/StatsNamedContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/LocalXmlResourceResolver.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/reflection/ClassLoaderAccessLazyImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Any.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyBasicImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/IncomparableComparator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/AbstractBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/SecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/CollectionReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SelectExpressionList.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/TimeType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/internal/PersistenceUnitInfoDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Table.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/ManagedFlushCheckerLegacyJpaImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DerbyDialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/service/internal/SessionFactoryServiceRegistryBuilderImpl.java

* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/ForeignKeyInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/unique/InformixUniqueDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/parse/HEGLTokenTypes.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SingleLineSqlCommandExtractor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/AbstractTupleElement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitNamingStrategy.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitJoinColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ArrayType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeElementSourceOneToManyImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/spi/AbstractMultiTenantConnectionProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/EntityMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/FileInputStreamAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/Startable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/StringRepresentableType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/AbstractCollectionReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/XmlInfrastructureException.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/CriteriaImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/internal/ResultSetOutputImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/Exporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/PropertyValueException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/ConstraintViolationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/EntityBasedCompositionAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/AbstractInlineIdsBulkIdHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/SelectLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/PropertyHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/InputStreamXmlSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/AbstractFromImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/NativeQueryReturnBuilderRootImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Restrictions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/internal/jta/JtaStatusHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreCollectionRemoveEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/SequenceStructure.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/SingularAttributeSourceEmbedded.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/AbstractLimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/SessionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/PrimitiveArray.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/AnnotationBinder.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/OnLockVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/SaveOrUpdateEvent.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/function/CurrentTimeFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SingularAttributeSourceBasic.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/NonScalarResultColumnProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/IdentifierHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/QueryStructure.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/UpdateStatement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCommitInsertEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/EmbeddedComponentType.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/TemporalTypeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/Collections.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/spi/MultiTenantConnectionProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/GenerationTypeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/FilterKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/SourceType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/spi/ProcedureCallImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/CollectionQuerySpaceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CacheInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/JoinImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitIndexNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/EntityCopyAllowedObserver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/internal/NullableDiscriminatorColumnSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/NamedProcedureCallDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/CollectionFetchableIndexAnyGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/MetamodelGraphWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeElementSourceBasic.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/FetchCharacteristicsSingularAssociation.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Selectable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/cfgxml/internal/CfgXmlAccessServiceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/ComponentMetamodel.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/EntityDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/BatchBuilderMXBean.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/ConstraintModeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/CacheKeyImplementation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/WorkExecutorVisitable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/NoMoreReturnsException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/NotNullExpression.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/internal/DefaultSchemaNameResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/internal/UpdateCountOutputImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/ClassTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/StreamUtils.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/InlineIdsOrClauseBulkIdStrategy.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/registry/classloading/internal/ClassLoaderServiceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/ClassLoaderAccessImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/IndexOrUniqueKeySecondPass.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/LowerFunction.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/InlineIdsInClauseBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/NonBatchingBatch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/internal/tracker/SimpleFieldTracker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ejb/HibernateQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EvictEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/BeanValidationIntegrator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/MergeEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/internal/Util.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/CannotForceNonNullableException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/TypeDef.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/PropertyAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/MetaValue.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/EntityVerifyVersionProcess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/AbstractCollectionEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/IndividuallySchemaValidatorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/EnhancementException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/StandardProperty.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/MapKeyHelpers.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/CUBRIDLimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/HibernateProxyHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/DiscriminatorType.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/FormulaReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SchemaUpdate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaFilterProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/ExceptionMapperStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/ExceptionHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/OverriddenMappingDefaults.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/IdentifiableTypeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/AnnotationValueGeneration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SchemaValidatorTask.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/AbstractDelegatingMetadata.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL92Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/ArrayMutabilityPlan.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/sql/NamedParamBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/spi/RootGraphImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/SelectPathExpressionParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/ParameterContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/internal/JTASessionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/DelayedPostInsertIdentifier.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ColumnDefault.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/internal/ParsedPersistenceXmlDescriptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CollectionFetchableIndex.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/PolymorphismType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/Origin.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/entity/plan/DynamicBatchingEntityLoaderBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/HibernateException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/PropertyAccessEmbeddedImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/internal/ConnectionCreatorBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/SyntheticAndFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/BytecodeProviderInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/TableSourceImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/uuid/StandardRandomStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/MapKeyType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/spi/PermissionCheckEntityInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/NamedParameterInformationImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/EmbeddableSourceVirtualImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/PersistentClass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/BatchFetchQueue.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/ResultRowProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/CollectionLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/RowVersionType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQL5InnoDBDialect.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/MapKeyNode.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/bytebuddy/UnloadedTypeDescription.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/MappedSuperclass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/ConstructorNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/OperatorNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/SessionStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AnyMappingSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/CriteriaQueryTupleTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/internal/LazyServiceResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/ByteTypeDescriptor.java

*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/AggregatedSelectExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/PessimisticLockException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/JdbcEnvironment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CompositeOwner.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/process/spi/RowReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/DefaultSchemaFilter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/VersionAttributeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/ErrorLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/SerializationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/internal/FetchStrategyHelper.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/FlushEvent.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/LocateFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/AbstractAuxiliaryDatabaseObject.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/SessionCreationOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SessionBuilderImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/CompositeIdentifierSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/PropertyMapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/LobHelper.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/persister/walking/internal/EntityIdentifierDefinitionHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/QueryImplementor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/Statistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/Lockable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/LobMergeStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/AdditionalJaxbMappingProducer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/AttributesHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/query/internal/SelectStatementBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/SecondaryTableContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/AttributesContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/RefreshEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/DoubleType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/CollectionFilterKeyParameterSpecification.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/AbstractSchemaMigrator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/DynamicMapEntityTuplizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Tables.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorMariaDBDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/GroupedSchemaMigratorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/loading/internal/EntityLoadContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/XmlElementMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/ColumnAliasExtractor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/ExplodedArchiveDescriptor.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/LocalTimeJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/PessimisticForceIncrementLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/IdGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/IndexColumn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/NTextType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/JtaPlatformInaccessibleException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/query/internal/QueryBuildingParametersImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/criteria/EntityCriteriaInfoProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/FilterDefinitionBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/CriteriaUpdateImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/RootHelper.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/SynchronizationCallbackCoordinator.jav
a
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/internal/JaccSecurityListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/ExpandingQuerySpaces.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/QueryableCollection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/local/IdTableInfoImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/internal/ThreadLocalSessionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/CascadeStyleSource.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/predicate/ImplicitNumericExpressionTypeDeterminer.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/AttributeMapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/MetadataImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EvictEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/HibernateEntityManagerFactoryAware.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/EmptyInterceptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/Informix10LimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/InformixIdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/StandardOptimizerDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/HEMLogging.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/ResinJtaPlatform.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/ConfigurationHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/ExceptionConverterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/InformationExtractor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AttributePath.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/log/DeprecationLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/EntityHierarchyBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/FrontBaseDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/Action.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/integrator/spi/IntegratorService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/IndexInformation.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/PojoComponentTuplizer.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/ComponentPropertyHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CollectionFetchableElement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/InDatabaseValueGenerationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/AssociationKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/spi/TransactionCoordinatorOwner.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/NaturalIdXrefDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/Status.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/RelationalModel.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/config/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/TimeZoneType.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/EntityCopyAllowedLoggedObserver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/HibernateProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/Work.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/TargetType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Filters.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/PersistentArrayHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/OptimisticLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/AbstractMultiTableBulkIdStrategyImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SourceDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/RowCountProjection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/VersionTypeSeedParameterSpecification.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/internal/bytebuddy/HibernateMethodLookupDispatcher.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/StandardServiceRegistryBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/cfgxml/spi/CfgXmlAccessService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/bytebuddy/BulkAccessorException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ExceptionConverter.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/type/descriptor/converter/AttributeConverterSqlTypeDescriptorAdapter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/MutableJpaCompliance.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/LobTypeMappings.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/env/internal/NormalizingIdentifierHelperImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/jta/platform/spi/JtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/LockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/BidirectionalEntityReference.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/internal/exec/ScriptSourceInputNonExistentImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/AbstractReturningWork.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/NonDurableConnectionObserver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/NamedAuxiliaryDatabaseObject.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/pojo/bytebuddy/ByteBuddyProxyFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/SimpleSubqueryExpression.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/UserVersionType.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/SqlGenerator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeElementSourceEmbeddedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SharedSessionContract.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/ValidationMode.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/type/descriptor/java/PrimitiveCharacterArrayTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultPostLoadEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/BasicQueryContract.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/log/UrlMessageBundle.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CollectionKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/QualifiedNameImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/BasicTypeRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/pojo/bytebuddy/ByteBuddyInterceptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/IdentifierGeneratorDefinitionBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/WrapperOptionsContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/EntityHierarchySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CascadingAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/TimestampTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/StringNVarcharType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/AbstractNode.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/OracleTypesHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/JpaTargetAndSourceDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyIndexBackRefImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/LockOptionsHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/BufferedXMLEventReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/BinaryTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/JtaTransactionAdapterUserTransactionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/StrategyCreatorRegionFactoryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/PessimisticWriteSelectLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/JoinColumnOrFormula.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jndi/internal/JndiServiceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/SQLLoadable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/AbstractEntityInsertAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/ImprovedNamingStrategy.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/SingularAttributeSourceBasicImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/Exporter.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/dialect/identity/CockroachDB1920IdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/Loggable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/ExtractionTool.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/AnyType.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MariaDB106Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/SetterFieldImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultSaveEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/AnyMetaDefs.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/JdbcMetadaAccessStrategy.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorDB2DatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/Getter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/ByteArrayTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ScrollableResults.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/PrimitiveByteArrayTypeDescriptor.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorHANADatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/EnhancedProjection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultFlushEventListener.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/AbstractEntityGraphVisitationStrategy.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeSourceSetImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/SingularAttributeSourceManyToOneImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/CascadeEntityJoinWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/BigIntegerType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/JtaTransactionAdapter.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/TupleBuilderTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/GenerationTarget.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Filter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/OrphanRemovalAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/InlineIdsIdsInClauseDeleteHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/QuerySpace.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/GraphParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/spi/AttributeNodeImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/PersistentIdentifierGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/NaturalIdMutability.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SQLInsert.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/BinaryLogicOperatorNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/spi/PersistentCollection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/AggregateProjection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/MappingException.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/integrator/spi/ServiceContributingIntegrator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultPersistEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/DecimalTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyMapImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/config/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/IdentifierCollection.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/LiteralProcessor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/internal/BatchingLoadQueryDetailsFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/EnhancementContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ClassType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/PackageInfoArchiveEntryHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/spi/BatchBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/GroupByParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/ClassFileArchiveEntryHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/ProxyFactoryFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/DependantValue.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/CollectionFetchReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/ExceptionHandlerCollectingImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCommitDeleteEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/NamedQueryBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/spi/ConnectionProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/OnUpdateVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/TooManyRowsAffectedException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/RootEntitySourceImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/hql/spi/id/inline/InlineIdsSubSelectValuesListUpdateHandlerImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/service/internal/EventListenerRegistryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/HibernatePersistenceProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/spi/Batch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/OneToManyLoadQueryDetails.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CascadingActions.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/PhysicalNamingStrategyStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/BasicCollectionLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/ParameterSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/FromImplementor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL10Dialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/internal/CollectionReferenceInitializerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/PackageDescriptorImpl.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/boot/model/source/internal/hbm/ResultSetMappingBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/NaturalIdType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/ObjectNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Join.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/IdentityColumnSupportImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/Formatter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/global/PreparationContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/StoredProcedureQueryParameterRegistration.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/InstrumentedClassLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/NativeQueryImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/internal/CollectionReferenceAliasesImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/QueryPlanCache.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SchemaExport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ExecutableList.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/NullTypeBindableParameterRegistration.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/AbstractCompositeFetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/UnsavedValueFactory.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/EntityEntryExtraStateHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/UnaryArithmeticNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/ListIndexExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/BytesHelper.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/SecondaryTableSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/IdTableSupportStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/HibernateCriteriaBuilder.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/spi/interceptor/LazyAttributeLoadingInterceptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/IntegrationException.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/CollectionAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/ArchiveException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/ClauseParser.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorCUBRIDDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/DefaultEnhancementContext.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/SynchronizationCallbackCoordinatorNo
nTrackingImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/TableOwner.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/CollectionReturnImpl.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/NameQualifierSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/LoadPlanImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeElementSourceManyToAny.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/EntityTypeExpression.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/predicate/NegatedPredicateWrapper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/Sequence.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/TransientPropertyValueException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL82Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/SyntheticProperty.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/TableInformation.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/JarFileEntryUrlAdjuster.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/exception/spi/TemplatedViolatedConstraintNameExtracter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SelectExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/internal/bytebuddy/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CalendarType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/ReturningWork.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/BinaryType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/ResultColumnReferenceStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/BatchingCollectionInitializer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metadata/CollectionMetadata.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/process/spi/ReaderCollector.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/collection/plan/LegacyBatchingCollectionInitializerBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/TypeDef.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/GenericGenerator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/BinaryOperatorExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/internal/PostgresCallableStatementSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/JpaOrmXmlEventReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/SchemaCreatorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/AliasToEntityMapResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/MutableMutabilityPlan.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/AttributeFetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitEntityNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/ParameterBind.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/collection/LegacyBatchingCollectionInitializerBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/PrimitiveCharacterArrayNClobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Nationalized.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/AbstractScrollableResults.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/NamedQueryRepository.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/BlobTypeDescriptor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/BatchingCollectionInitializerBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/CustomQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metadata/ClassMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/ExtractedDatabaseMetaData.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AbstractAttributeKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CharacterType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/DiscriminatorSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/LoadEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/spi/StatementInspector.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/SQLGrammarException.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/IdentifierGeneratorHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/Ejb3JoinColumn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/ASTReferencedTablesPrinter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/spi/JaccService.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/jaxb/internal/ContextProvidingValidationEventHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/spi/JaccIntegrator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/ParameterRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/internal/bytebuddy/EnhancerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/JoinFormula.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SelectBeforeUpdate.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/RefreshEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCollectionRecreateEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/NClobTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/Output.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/AbstractLoadPlanBuildingAssociationVisitationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/jta/platform/spi/JtaPlatformProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/IdentifierGeneratorDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Columns.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/OptimisticLockStyleConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/PropertyProjection.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/PreprocessingParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/JdbcTypeNameMapper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/InMemoryValueGenerationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/GenerationTime.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/ParameterInfoCollector.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/reflection/PersistentAttributeFilter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/GetGeneratedKeysDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/PersistentAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/ParameterBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/SerializableBlobProxy.java

*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/QuerySpaceHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitIndexColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/cursor/spi/RefCursorSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/FetchableAttributeSource.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/bytebuddy/BiDirectionalAssociationHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/HibernateEntityManagerImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/UniqueConstraintSchemaUpdateStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/JdbcDataType.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ExtendedSelfDirtinessTracker.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyResolverStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/NullPrecedence.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/RootImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/AnsiTrimFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/internal/DialectResolverInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/HqlSqlWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/AnyAttributeFetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/VmValueGeneration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/spi/UnknownPersisterException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/StringType.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/UUIDBinaryType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/NamedParameterDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/SetBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/spi/SQLExceptionConversionDelegate.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/internal/CollectionReturnReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/TableReferenceNode.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/service/internal/SessionFactoryServiceRegistryFactoryInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/HolderInstantiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/MethodNode.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/SelectionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Formula.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/EntityReturnImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/AbstractManipulationCriteriaQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/StandardScanOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/exec/IdSubselectUpdateExecutor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/SQLServerIdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/EntityState.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/ScriptSourceInputFromFile.java

*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/MapEntryNode.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/CollectionFetchableIndexCompositeGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/QueryStatisticsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/process/spi/ReturnReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SizeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/QueryParameterBindingTypeResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/InstantType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeElementSourceAssociation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL9Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreUpdateEvent.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/Helper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/ValueExtractor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/UpdateLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/ColumnMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/Orderable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/BaselineSessionEventsListenerBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/NamedParameterSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/OffsetTimeJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/SessionFactoryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/InFlightMetadataCollectorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/NaturalIdCache.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/CopyIdentifierComponentSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/jndi/JndiHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/spi/SQLExceptionConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CurrencyType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/SubclassEntitySourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/CollectionSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/QuerySplitter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/CacheRegionStatisticsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/Helper.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/archive/scan/spi/NonClassFileArchiveEntryHandler.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/BasicLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/OriginImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/QuerySpaces.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/CompositeElementPropertyMapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/OneToOne.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/spi/EntityReferenceAliases.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/spi/DdlTransactionIsolator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/ConcatExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Disjunction.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/AbstractFieldSerialForm.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/FetchCharacteristics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/spi/BasicDialectResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/ForeignKeys.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/CompoundSelectionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/function/TrimFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/HibernateIterator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/tracker/CompositeOwnerTracker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/ByteArrayInputStreamAccess.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/spi/AbstractDataSourceBasedMultiTenantConnectionProviderImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/BatchFetchStyle.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/function/SqrtFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/HavingParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/TypeInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/AbstractAnsiTrimEmulationFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/sql/SQLQueryReturnProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CustomType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaManagementTool.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/AbstractPredicateImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SybaseASE157Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CollectionQuerySpace.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/NoCacheRegionFactoryAvailableException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/TupleSubsetResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/PrimaryKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/internal/SQLStateConversionDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/LimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/AbstractOptimizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/SingleColumnType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/type/descriptor/converter/AttributeConverterMutabilityPlanImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/persistent/IdTableInfoImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/WhereParser.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/BetweenPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/ReferenceCacheEntryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/EntitySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/PersistentSortedMap.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/insert/InsertSelectIdentityInsert.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/QueryKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/AbstractPersistentCollection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/AutoFlushEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/EntityEntryFactory.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/MultiTenancyStrategy.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/spi/CollectionReferenceInitializer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/CollationSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/JdbcCoordinatorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/spi/JdbcSessionOwner.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/FlushMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/AbstractSchemaValidator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/PostgresUUIDType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Database.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/SortSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/StatelessSession.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/IdentifierSourceNonAggregatedComposite.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Check.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/reflection/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/SQLFunctionRegistry.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/spi/PropertyAccessSerializationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/DurationJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/AbstractCollectionPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/XMLStreamConstantsUtils.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/JdbcObserverImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/SerializableTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/LockOptions.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/EmbeddableMapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/internal/JaccPreLoadEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/LongType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/EntityNamingSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/IndexBackref.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/SqlExceptionHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/DefaultNamingStrategy.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/predicate/AbstractSimplePredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SessionFactoryObserver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/spi/Executable.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/ScriptSourceInputAggregate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/ProxyFactoryFactoryInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/EventUtil.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/internal/ProvidedService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/NullnessPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/TargetDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/DurationType.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/EntityBasedBasicAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/SortedMapType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EventEngineContributions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/FunctionNode.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/PersistentSortedSet.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/RelationalObjectBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/MathHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/PessimisticNumberParser.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/SynchronizationRegistryAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/LoadQueryInfluencers.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/CreationTimestampGeneration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/Settings.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Hibernate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/StringHelper.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/AbstractPathImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/EmbeddableSourceContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/ResourceRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/BaselineAttributeInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Subqueries.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/VersionType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/ManagedProviderConnectionHelper.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/persister/walking/spi/EncapsulatedEntityIdentifierDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SQLQuery.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/DelegatedExpressionImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/insert/InsertGeneratedIdentifierDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/FilterQueryPlan.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/ScalarResultColumnProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/FetchReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/Property.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/PkDrivenByDefaultMapsIdSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/FetchTypeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/Ingres10IdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/spi/JaccPermissionDeclarations.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/uuid/CustomVersionOneStrategy.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/AbstractRestrictableStatement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/AbstractLazyInitializer.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/UnaryOperatorExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/TextType.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/QueryException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/Node.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/CompositeNestedGeneratedValueGenerator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/AbstractInformationExtractorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/BootstrapServiceRegistryBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Projections.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Property.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/spi/SynchronizationRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/JoinImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/PathSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/UUIDCharType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/pojo/BasicLazyInitializer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SynchronizeableQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/JavaTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/MappingNotFoundException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PersistEvent.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/JavaTypeDescriptorRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/JoinHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/IncrementGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ComponentType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/DuplicateMappingException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/internal/StandardCallableStatementSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Map.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/ErrorReporter.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorDerbyDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Conjunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SQLServer2008Dialect.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/MergeEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/ResultSetWrapperImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/exception/internal/CacheSQLExceptionConversionDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/DotNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/BasicCollectionPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/EntityModeConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/ast/SqlScriptParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/internal/SQLStateConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/PackageDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/ExpandingCompositeQuerySpace.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/MetadataBuildingContextRootImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/PropertyBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/package-info.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/internal/QualifiedObjectNameFormatterStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CollectionEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCollectionRemoveEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/BasicEntityPropertyMapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/ContextualJdbcConnectionAccess.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/ImplicitResultSetMappingDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/type/PrimitiveWrapperHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/LikePredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/ScrollableResultsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/IdentifierProjection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/MetadataSourceType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/AbstractSessionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/FastSessionServices.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/AliasResolutionContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/spi/GrantedPermission.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/Setter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SAPDBDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/ResultSetReturnImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SqlFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/BooleanExpressionPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeElementSourceEmbedded.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/internal/StandardJpaScanEnvironmentImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/PropertyAccessStrategyChainedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SourceType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/PredicateImplementor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/WrapperBinaryType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ManyToAny.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/bytebuddy/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/BooleanTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/PhysicalNamingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Oracle8iDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/internal/DefaultDialectSelector.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SharedSessionBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/DelayedDropRegistryNotAvailableImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/ClobTypeDescriptor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/CollectionJoinImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/PooledLoOptimizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/internal/ConnectionCreator.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/sql/NativeSQLQueryNonScalarReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ProcedureParameterNamedBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/ElementPropertyMapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/IdGeneratorStrategyInterpreter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/UniqueEntityLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/ASTQueryTranslatorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/ScriptSourceInput.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/internal/StandardServiceRegistryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/FilterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataBuilderContributor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/SortKey.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jdbc/internal/JdbcResourceLocalTransactionCoordinatorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/ServiceContributor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL91Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jmx/internal/DisabledJmxServiceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/ColumnInformation.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreCollectionRemoveEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/CollectionStatisticsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/exec/InsertExecutor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/Environment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/AbstractEmptinessExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/EvictVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/ReturnGraphTreePrinter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/JDBCException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/internal/AbstractJaccSecurableEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/ProjectionList.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/BooleanTypeDescriptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/FetchableAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/Sortable.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/spi/interceptor/LazyFetchGroupMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/bytebuddy/ReflectionOptimizerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/PropertyInferredData.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/NamingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ProcedureParameterExtractionAware.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/DateTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/config/spi/StandardConverters.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/bytebuddy/ProxyFactoryFactoryImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/PojoEntityInstantiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DB297Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/NodeTraverser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/PojoEntityTuplizer.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/SubEntityInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/TrimFunctionTemplate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/spi/TransactionObserver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/CriteriaSubqueryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/IdGeneratorResolverSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/FilterDefinition.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/CustomizableColumns.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/OptimisticLockType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/ResultSetWrapperProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/JoinedIterable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/DoubleStreamDecorator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/AbstractProducedQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/JoinType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/QueryProducer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/TinyIntTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/persister/walking/spi/NonEncapsulatedEntityIdentifierDefinition.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/ResultSetIdentifierConsumer.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/internal/exec/JdbcConnectionAccessConnectionProviderImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/spi/AbstractDelegatingMetadataBuilderImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/Node.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/EmbeddableSourceContributor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/PessimisticReadSelectLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/SerializationHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/TransientObjectException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/jta/platform/spi/JtaPlatformResolver.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/StandardScanParameters.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/LobCreatorBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/OrderByFragmentParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/JoinedSubclass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Expression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/AbstractCompositionAttribute.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/collection/PaddedBatchingCollectionInitializerBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/EntityType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/FloatType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Oracle10gDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/config/internal/ConfigurationServiceImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/ScalarReturnImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/CommandAcceptanceException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultResolveNaturalIdEventListener.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/InheritanceType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/InvalidWithClauseException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/TruthValue.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/Enhancer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/insert/AbstractSelectingDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/DiscriminatorOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/SequenceMismatchStrategy.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeElementSourceManyToMany.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/Expectation.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/ParameterizedFunctionExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/CockroachDB192Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/LocalTimeType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/type/descriptor/converter/AttributeConverterTypeAdapter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/BagType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/ExplicitParameterSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/EntityStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/ByteCodeHelper.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/EntityQuerySpace.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CollectionType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/DelayedDropAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/AbstractType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/LocalMetadataBuildingContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/SaveOrUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/UnaryLogicOperatorNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/GenerationTimingConverter.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/SunOneJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/internal/PersisterClassResolverInitiator.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/MapsIdSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/OrderByFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/TypeHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/InvalidPathException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/NonEncapsulatedEntityIdentifierDescription.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/spi/SqlTypeDescriptorRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/ParameterStrategyException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/Cascade.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/OC4JJtaPlatform.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/AbstractMapComponentNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/FetchProfile.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/SelectionImplementor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/IdentifierSourceNonAggregatedCompositeImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeMapKeyManyToAnySourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/OffsetTimeType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SessionImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/JavaTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostInsertEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/IsNullLogicOperatorNode.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CharacterArrayClobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/AbstractExplicitParameterSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/EntityEntryExtraState.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/NvlFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/compile/CompilableCriteria.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SessionBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Sort.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/internal/DialectResolverSet.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/RowSelection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/BinaryOperatorNode.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/spi/GraphNodeImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/AbstractIdsBulkIdHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jndi/internal/JndiServiceInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/internal/ServiceProxyGenerationException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/SynchronizationRegistryBasedSynchronizationStrategy.jav
a
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataContributor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/MutableEntityEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/AggregateNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/CacheEntityLoaderHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/FetchStats.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitAnyDiscriminatorColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/JDataStoreDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/AbstractEntityEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/SqlTypeDescriptorRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/BasicPathUsageException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/AfterCompletionAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/PluralAttributeInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/PostInsertIdentityPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/DatabaseStructure.java

*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SingularAttributeNature.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/IdentityMap.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SQLServer2005Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/EntityNameResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/spi/StrategyRegistrationProviderList.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/InsertStatement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/TopLimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/AbstractArchiveDescriptorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/ColumnCollectionAliases.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/QueryTranslatorFactoryInitiator.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SQLDelete.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeSequentialIndexSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/CacheRegionStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/ClassTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/bytebuddy/ByteBuddyEnhancementContext.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/ExceptionMapper.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeElementSourceOneToMany.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostActionEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/AbstractBatchingEntityLoaderBuilder.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/persistent/PreparationContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/log/ConnectionAccessLogger.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/SynchronizationCallbackCoordinatorTra
ckingImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/MatchMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/PropertiesSubqueryExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SQLServerDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/ASTUtil.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/exec/SimpleUpdateExecutor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/PluralAttributePath.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/OptimisticLocking.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/WebSphereJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/LobCreatorBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/HQLQueryPlan.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/EntityManagerMessageLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/ParameterMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Comment.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/InitialValueAwareOptimizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/EntityInsertAction.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/SQL2008StandardLimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultSaveOrUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/spaces/AbstractExpandingSourceQuerySpace.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/query/spi/QueryBuildingParameters.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CollectionAttributeFetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/cte/AbstractCteValuesListBulkIdHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/UrlInputStreamAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/LazyIndexedMap.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/QueryNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/TimeTypeDescriptor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/OptimisticLockStyle.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/PessimisticWriteUpdateLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/MappingFileDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/SchemaAware.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/SequenceInformationExtractor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/EntityNamingSourceContributor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/internal/StandardAuxiliaryDatabaseObjectExporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/process/internal/EntityReturnReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CompositeFetch.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MckoiDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/internal/bytebuddy/CodeTemplates.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/AfterCompletionActionLegacyJpaImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/ReturnMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQLStorageEngine.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/SingularAttributePath.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/SQLLoadableCollection.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorNoOpImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/spi/TypeConfigurationAware.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/CollectionElementDefinition.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/QueryParameterBindingImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/ColumnSourceImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/TransactionManagerAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/PropertyGeneration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeIndexNature.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/UnsavedValueStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/unique/UniqueDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/compile/CriteriaCompiler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/BufferedXMLEventReader.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/package-info.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/ColumnNameCache.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/BigDecimalType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/BatchingEntityLoaderBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/LazyCollectionOption.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/InitCommand.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/batch/internal/UnmodifiableBatchBuilderInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/compile/CriteriaInterpretation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/ExtractionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Fetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/exec/MultiTableUpdateExecutor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SharedSessionContractImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/CockroachDB201Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/FromPathExpressionParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/AccessCallback.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/spi/Configurable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/process/internal/ManagedResourcesImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/SecondaryTableSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/UpdateCountOutput.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/NativeSQLQueryPlan.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/CollectionType.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/WeblogicJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitCollectionTableNameSource.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/HbmMetadataSourceProcessorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/spi/StrategyCreator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaMigrator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreDeleteEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/map/MapLazyInitializer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/AvailableSettings.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/SerializableToBlobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DB2Dialect.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataBuildingOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Order.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/AbstractJoinImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/TypeResolver.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/CamelCaseToUnderscoresNamingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreInsertEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/LockMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/HbmEventReader.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQLMyISAMDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AssociationSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/pojo/ProxyFactoryHelper.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/spi/ParameterRegistrationImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DirtyCollectionSearchVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/query/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostLoadEventListener.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/internal/TransactionCoordinatorBuilderInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jndi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/DynamicBatchingEntityLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/service/spi/DuplicationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ManagedComposite.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/CreateKeySecondPass.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/internal/DriverConnectionCreator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/NoopLimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/FloatTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/Origin.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/StrategyRegistrationProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/CollectionPropertyHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Tuplizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/LockModeTypeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/DefaultComponentSafeNamingStrategy.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/IdentifierHelperBuilder.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/JtaTransactionCoordinatorBuilderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/QuerySelect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/SQLCriterion.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/CacheRegionDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SubselectFetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/OneToMany.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SingularAttributeSourceToOne.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/service/spi/EventListenerRegistrationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/AbstractDelegatingMetadataBuildingOptions.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/MultipleBagFetchException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/SimpleEntityIdentifierDescriptionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ObjectType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/IntegerTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/ImportSqlCommandExtractor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/unique/MySQLUniqueDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/NoopOptimizer.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/PositionalParameterInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/CacheConcurrencyStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/AbstractBatchImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/CompositionDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EventType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/FilterSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/jpa/ExtendedBeanManager.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/CastFunctionNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/spi/DialectResolver.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/id/factory/internal/MutableIdentifierGeneratorFactoryInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/EnhancementContextWrapper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/BatchBuilderInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Collection.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/Insert.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/GroupedSchemaValidatorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/StandardSequenceExporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/TypeDefinition.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/internal/exec/ImprovedExtractionContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Value.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/FetchingScrollableResultsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/CurrencyTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/BulkOperationCleanupAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/NamedNativeQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/DB2IdentityColumnSupport.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/RDMSOS2200Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/ServiceRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataBuildingContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/InformixDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SessionDelegatorBaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/PersistentMap.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/StandardUniqueKeyExporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MariaDB53Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/ValueHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/HqlParser.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/RegisteredSynchronization.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/TableBasedUpdateHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Filter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/persistent/UpdateHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/internal/ExtractionContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/CollectionAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/GenericJDBCException.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/ManagedFlushChecker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ScrollMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/internal/ConnectionProviderInitiator.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultDirtyCheckEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/CollectionFilterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/procedure/internal/ProcedureParameterMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/backend/jta/internal/JtaTransactionCoordinatorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL95Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultPersistOnFlushEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/DataHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/AbstractExpandingFetchSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/package-info.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/EntityUniqueKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SuppliedConnectionProviderConnectionHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/internal/LogicalConnectionManagedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/hint/QueryHintHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/factory/internal/DefaultIdentifierGeneratorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/CacheKeysFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/spi/StatisticsFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/FilterTranslator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/JoinHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/EntityLoader.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/IntegralDataTypeHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/IdentifierSourceAggregatedCompositeImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/ClearEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/EntityReferenceAliasesImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/AbstractCompositeReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/ManagedType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SingularAttributeSourceManyToOne.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/JarProtocolArchiveDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/ToolingHintContextContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/JPAIndexHolder.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Index.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ClobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/PropertyNotFoundException.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/IsEmptyPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/BinaryArithmeticOperatorNode.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/ImplicitColumnNamingSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/AliasToBeanConstructorResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/internal/SequenceInformationImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/internal/BasicConnectionCreator.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/TimestampAttributeSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/AuxiliaryDatabaseObject.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/Sized.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/AbstractEntityPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/NamedQueryLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/profile/Association.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/ScrollableResultsImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Target.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/SybaseAnywhereIdentityColumnSupport.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreLoadEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/ResultSetOutput.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultInitializeCollectionEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/map/MapProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/OptimisticLock.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/BetweenOperatorNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/cfgxml/internal/CfgXmlAccessServiceInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/PersistentSet.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/LockModeConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/HANARowStoreDialect.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/DerivedValueSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SchemaUpdateTask.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/UnknownProfileException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/PrimitiveArrayBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/internal/PersisterFactoryInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/Service.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/JdbcExceptionHelper.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/internal/DatasourceConnectionProviderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/InPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/internal/package-info.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/predicate/BooleanStaticAssertionPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/Delete.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/boot/model/source/internal/hbm/BasicAttributeColumnsAndFormulasSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/JarFileEntryXmlSource.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/SubqueryComparisonModifierExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/JdbcContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/Attribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/IdentifierGenerationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SessionFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/FilteringXMLEventReader.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/hint/IndexQueryHintHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/EntityIdentifierNature.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/CacheMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/IdentityGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/ImpliedFromElement.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jdbc/internal/JdbcResourceLocalTransactionCoordinatorBuilderImpl.
java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/TypeSafeActivator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/InstantJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/HibernateError.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/SingularAttributeSourceOneToOne.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/NaturalIdUniqueKeyBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/cte/CteValuesListUpdateHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/PaddedBatchingEntityLoaderBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/MarkerObject.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/PessimisticEntityLockException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitNamingStrategyComponentPathImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/SessionStatisticsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/HibernateTraversableResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/ConfigParameterHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/StructuredCollectionCacheEntry.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/CalendarDateTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/OnDeleteAction.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/internal/MultiTenantConnectionProviderInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeElementNature.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/spi/ViolatedConstraintNameExtracter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/NamedNativeQueries.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/DDLFormatterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SQLServer2012Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/LazyToOne.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/service/spi/JpaBootstrapSensitive.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/ResultColumnProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/ImmutableMutabilityPlan.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ResultCheckStyle.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/ParseErrorHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/AccessType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/UnionSubclass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/RecoverableException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/CountProjection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/MultiLoadOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultAutoFlushEventListener.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/FromElementType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/TimeZoneTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/BulkInsertionCapableIdentifierGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/FetchProfiles.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/ColumnsBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/unique/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/IntegerTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/SimpleValueTypeInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/BinderHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/bytebuddy/PassThroughInterceptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/PassThroughResultTransformer.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/CompositeUserType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/AnnotatedClassType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/spi/ConversionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/spi/AbstractCurrentSessionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/ResolveNaturalIdEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/DefaultSessionFactoryBuilderInitiator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeMapKeyManyToManySourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/service/spi/EventActionWithParameter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/CacheException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/NestedCompositeAttributeFetchImpl.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeKeySourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/ScanResultImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/ClobProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/QueryStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Source.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/integrator/internal/IntegratorServiceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/SingularAttributeInfo.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitAnyKeyColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitUniqueKeyNameSource.java

*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/DynamicInsert.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/CollectionIdSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/AuxiliaryDatabaseObject.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/ClassPropertyHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/MetadataSourceProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaManagementToolCoordinator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/spi/AfterTransactionCompletionProcess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/CriteriaDeleteImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/AnnotationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/spi/IsolationDelegate.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/PostgreSQL10IdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/IdentifierType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Metamodel.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorMimerSQLDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/InlineIdsOrClauseBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/procedure/internal/ProcedureParamBindings.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/internal/ResultSetProcessingContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/RegionFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Cascade.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/spi/IntegratorProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SortType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/MapKeyColumnDelegator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/IndexMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/CharIndexFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/loading/internal/LoadContexts.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Subselect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/internal/ProcedureCallImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/process/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/CollectionInitializer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/QueryParameterException.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/ExportableProducer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/AbstractPropertyMapping.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorInformixDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/CommaSeparatedStringHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/WrappedBlob.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/PropertyExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/StrategyRegistration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/IdTableInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/LiteralNode.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/LegacyBatchingEntityLoaderBuilder.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/LegacyFirstLimitHandler.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/BidirectionalEntityReferenceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/unique/DB2UniqueDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/HSQLCaseFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/LocalDateType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/LocaleTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/JdbcServices.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/SessionFactoryBuilderFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/QuerySecondPass.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/cfg/annotations/reflection/internal/JPAXMLOverriddenAnnotationReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/spi/Bootstrap.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/CacheJoinFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/reflection/internal/XMLContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/ReplicateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/NonUniqueResultException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/QueryTranslator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/SubselectOneToManyLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/spi/LoadQueryDetails.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/EntityTuplizerFactory.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/PostDeleteEventListenerStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/TypeFactory.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/bytebuddy/FieldWriterAppender.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/OrderByClause.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/criteria/CriteriaQueryTranslator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/List.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/spi/ScrollableResultSetProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/QueryBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/AttributeAccessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ejb/HibernateEntityManager.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EventSource.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/PathTypeExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/bytebuddy/ByteBuddyState.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/ToOne.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/CallbackException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/CollectionCacheEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/XmlHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Component.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/query/criteria/internal/expression/UnaryArithmeticOperation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/TableMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/WrappedClob.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/AbstractSingleColumnStandardBasicType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/CharacterArrayTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/BasicBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/ValueVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/FileXmlSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/ScriptTargetOutputToUrl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/ArchiveHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/Metadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ExecuteUpdateResultCheckStyle.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/AutoFlushEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/InlineIdsSubSelectValuesListBuilder.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/CollectionDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Filterable.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/spi/AbstractDelegatingSessionFactoryBuilderImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/RootReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/ZonedDateTimeComparator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreInsertEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/DynamicFilterAliasGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MappingDefaults.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/NonContextualJdbcConnectionAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/spi/JavaTypeDescriptorRegistry.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/BatchFailedException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/NaturalId.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeElementSourceManyToAnyImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SingularAttributeSourceAny.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/DerbyConcatFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/HANAIdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/persistent/PersistentTableBulkIdStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultLockEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/internal/JdbcEnvironmentInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/ConnectionHelper.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DerbyTenFiveDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/internal/JpaMetaModelPopulationSetting.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/process/spi/ResultSetProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/criteria/CriteriaInfoProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/InlineIdsOrClauseUpdateHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/ResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Bag.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/bytecode/enhance/internal/bytebuddy/FieldAccessEnhancer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/AbstractReassociateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/PathNode.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/spi/interceptor/BytecodeInterceptorLogging.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/jaxb/hbm/internal/ExecuteUpdateResultCheckStyleConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/converter/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/MetaAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/PropertyAccessStrategyResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/OracleJoinFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SQLServer2016Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/PropertySetterAccessException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/MckoiCaseFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/SimpleStrategyRegistrationImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/QueryTranslatorImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/CascadeStyleLoadPlanBuildingAssociationVisitationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/spi/JdbcObserver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/EnhancerConstants.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/ClassLoadingStrategyHelper.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/predicate/ExplicitTruthValueCheck.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/PropertyPreloadedData.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/LimitHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/OuterJoinLoader.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/LongVarcharTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/JarFileBasedArchiveDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/ASTPrinter.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorH2DatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/CharTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/FlushVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/CustomLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/ParameterRegistration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/HSQLIdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/JdbcResultMetadata.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/Return.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jndi/JndiException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Informix10Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/package-info.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/compile/CriteriaQueryTypeQueryAdapter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/ExpandingCollectionQuerySpace.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/CollectionFetchableIndexEntityGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/IndexNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/PluralAttributeInfoIdBagAdapter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/ClobImplementer.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/EntityKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/DetailedSemanticException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SQLUpdate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/SessionFactoryOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/jta/platform/internal/JRun4JtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/SchemaToolingLogging.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultReplicateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/PersistentBag.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/hql/QueryLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/BinaryStream.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/JdbcWrapper.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/compare/ComparableComparator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/JoinWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/NClobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/FlushModeConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/PostInsertIdentifierGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/BasicCollectionLoadQueryDetails.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitNamingStrategyLegacyJpaImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/WrapVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/NonNullableTransientDependencies.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/SubselectCollectionLoader.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/FormulaImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/UrlTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/backend/jdbc/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/NativeQueryImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorSAPDBDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/BytecodeProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/LiteralExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/JoinColumnsOrFormulas.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/sql/NativeSQLQueryScalarReturn.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/FilterAliasGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitNamingStrategyJpaCompliantImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/package-info.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/profile/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/IdentNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/AvgWithArgumentCastFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQLDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/SessionFactoryBuilderImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/VersionProperty.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/PessimisticReadUpdateLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/log/UnsupportedLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/MappingException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/InitializeCollectionEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/internal/PersistenceXmlParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/classloading/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/CharacterTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/service/internal/EventListenerGroupImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/SimpleCaseExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/ColumnReference.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/JpaCompliance.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/RealTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/EntityCopyNotAllowedObserver.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/CollectionFetchableElementAnyGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/TransactionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/SetSimpleValueTypeSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/SimpleProjection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/profile/FetchProfile.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/AbstractToOneAttributeSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/NonIdentifierAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultFlushEntityEventListener.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/SizeOfPluralAttributeExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/CriteriaSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/HSQLDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CascadeStyle.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/internal/JpaStaticMetaModelPopulationSetting.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/MemberOfPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/service/spi/EventListenerGroup.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/ClassicQueryTranslatorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MyISAMStorageEngine.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/ConfigHelper.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/JoinedSubclassEntityPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaCreator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Cache71Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/ParameterBind.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/io/StreamCopier.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/InvalidGraphException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/QuerySyntaxException.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/EntityAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/ArchiveEntryHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/CacheModeType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/SubstringFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/JoinDefinedByMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/Tuplizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/IdentifierBag.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/Instantiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/OneToManyLoader.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/DdlTransactionIsolatorJtaImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/package-info.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/BasicTransformerAdapter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/query/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/PersistentList.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/sql/SQLCustomQuery.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/exception/spi/AbstractSQLExceptionConversionDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/exec/MultiTableDeleteExecutor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaDropper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/PropertyAccessException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/ProcedureOutputs.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/RootClass.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQLInnoDBDialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/jaxb/mapping/internal/DiscriminatorTypeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/NamedParametersNotSupportedException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeMapKeyManyToAnySource.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/query/internal/NativeQueryInterpreterStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/DistinctRootEntityResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/DistinctResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/OrderedMapType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DB2390V8Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/spi/TypeConfiguration.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/AbstractCompositeEntityIdentifierDescription.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/QueryParameterBinding.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/jta/platform/internal/JBossAppServerJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/AbstractScriptSourceInput.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeElementSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/internal/tracker/SortedFieldTracker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/CalendarTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/GetterFieldImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeSourceBagImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/InvalidatableWrapper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/UpdateTimestampGeneration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/EntityAttributeFetchImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/BeanValidationEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/FromElementFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/StructuredCacheEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/pretty/MessageHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/criteria/CriteriaJoinWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/OrderByFragmentRenderer.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/AvgProjection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/JoinProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/EmbeddedAttributeMapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Teradata14Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/LockAcquisitionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/TableSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/BasicBatchKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/FetchMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeSourceArray.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/CastFunction.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/JpaOrmXmlPersistenceUnitDefaultAware.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/interceptor/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/internal/tracker/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/Size.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/SubqueryExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/HqlASTFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AnyKeySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/ExpectedTypeAwareNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/NamingStrategyHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ForUpdateFragment.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/SimpleValueBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/CallbackRegistryImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/OneToManyPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/internal/MetamodelImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/AbstractWork.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/SizeExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/cfgxml/internal/ConfigLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/cursor/internal/RefCursorSupportInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/BytecodeEnhancementMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreLoadEvent.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/CompositeBasedBasicAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/FilteringXMLEventReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/TableBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/BootstrapContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/spi/CurrentSessionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/SessionFactoryBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/DeleteStatement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/function/CastFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ConnectionReleaseMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/ClearEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SybaseAnywhereDialect.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/ServiceInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/QueryJoinFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/sql/NativeSQLQueryCollectionReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQLDialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/JBossStandAloneJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/ShortTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/ConstructorResultColumnProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/AbstractLoadQueryDetails.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/SmallIntTypeDescriptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/SqlStatementLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/spi/TransactionImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/SessionFactoryServiceContributor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/spi/StatisticsImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/IdGeneratorInterpreterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/spi/BatchObserver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/DataException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Ingres9Dialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/connections/internal/DriverManagerConnectionProviderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/KeyValue.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Type.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitConstraintNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/StandardAnsiSqlAggregationFunctions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/MultiTableBulkIdStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/spi/LockModeResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/SelectValues.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/Return.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/NativeQueryTupleTransformer.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/criteria/ComponentCollectionCriteriaInfoProvider.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/IndexedCollection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/Renderable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/ExpressionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/DerbyCaseFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/NotInstrumentedException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/ColumnSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/OptimisticEntityLockException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/ArchiveEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/PostInsertEventListenerStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/AttributeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/PersistentAttributeInterceptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/SerializableClobProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/AbstractStatement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/ForeignGenerator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeSourceIdBagImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/AbstractPluralAssociationElementSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/FromReferenceNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/ReflectHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/MapEntryExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/ClassDescriptorImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/ConditionalParenthesisFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/StandardSQLFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCollectionUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Formula.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/SequenceIdentityGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/NVarcharTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/InnoDBStorageEngine.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/LocaleType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/EntityStatisticsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CompositeAttributeFetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/Sybase11JoinFragment.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/SimpleAuxiliaryDatabaseObject.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/DirtyCheckEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/EntityUpdateAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/insert/Binder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/EnhancedUserType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/SQLServer2012LimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/spi/Binder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/ClassLoaderAccessDelegateImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/classloading/spi/ClassLoadingException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/IdentifierCaseStrategy.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/SetType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/BitronixJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/AbstractAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/StaleStateException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/AbstractUUIDGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/FilterJoinTables.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/internal/ResultSetProcessorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/PluralAttributeJoinSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/NumericBooleanType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/NamedQueryCollectionInitializer.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/spi/ManagedBean.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/ManyToOneAttributeColumnsAndFormulasSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/SQLFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/ColumnMapper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/ContextualLobCreator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/spi/Binding.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/ast/SqlScriptLogging.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/ast/SqlScriptParserException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/LocalDateTimeType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/collection/plan/AbstractLoadPlanBasedCollectionInitializer.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/JoinSequence.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/AbstractNonIdentifierAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/Fetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/none/DisallowedProxyFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/UnknownEntityTypeException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/classloading/spi/ClassLoaderService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/loading/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/FromClause.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitNamingStrategyLegacyHbmImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/AbstractPreDatabaseOperationEvent.java

*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DerbyTenSixDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/Manageable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/NamedParameterInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/EntityNotFoundDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/IteratorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/LockModeConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MariaDB103Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/MultiTenancySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/NullLiteralExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/EntityQuerySpaceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/SessionFactoryHelper.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CompositeQuerySpace.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/EntityIdentifierDescription.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/HiLoOptimizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/CoalesceExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/IdentifierGeneratorAggregator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/LongNVarcharTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/plan/CollectionLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/OffsetDateTimeType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/param/DynamicFilterParameterSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgresPlusDialect.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/service/spi/EventListenerRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/EnumTypeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/TableBasedDeleteHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/NaturalIdCacheKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Where.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Oracle12cDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/SerializableNClobProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SessionEventListenerManager.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/TypeContributions.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQL55Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/LockingStrategyException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/PropertyAccessBuildingException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ejb/AvailableSettings.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/LobCreator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/internal/JdbcEnvironmentImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SessionOwner.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/ScalarReturn.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/ScriptTargetOutputToWriter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/DatabaseExporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/DecodeCaseFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/enhance/EnhancementTask.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/jaxb/hbm/spi/PluralAttributeInfoPrimitiveArrayAdapter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SchemaUpdateCommand.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/UnsupportedOrmXsdVersionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/AbstractHANADialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/RelationalValueSourceContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/internal/SQLExceptionTypeDelegate.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/ParamLocationRecognizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/JdbcTimeTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/exec/BasicExecutor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/BasicProxyFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/DisplayableNode.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeSourceListImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/SingletonIterator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/BetweenExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/ParameterNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jmx/internal/JmxServiceImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/cte/CteValuesListBulkIdStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/CompoundPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/ToOneBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/CacheEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/ScriptExporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DB2400Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/JdbcCoordinator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorLegacyImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/PropertySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/config/spi/ConfigurationService.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeMapKeyManyToManySource.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/collection/DynamicBatchingCollectionInitializerBuilder.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/procedure/spi/ProcedureParameterBindingImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/QueryHintDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ejb/HibernateEntityManagerFactory.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/JtaPlatformResolverInitiator.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/service/internal/SessionFactoryServiceRegistryFactoryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/TemplateRenderer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/config/ConfigurationException.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/ClassmateContext.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitMapKeyColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/LifecycleCallback.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/EntityPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/process/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/cursor/internal/StandardRefCursorSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/sql/NativeSQLQueryJoinReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeIndexSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/DiscriminatorType.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/IdBagBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/ErrorTracker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/DTDEntityResolver.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/persister/walking/internal/CompositionSingularSubAttributesHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/DirtyCheckEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/access/AccessType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/CascadePoint.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CompositeCustomType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/OrderBy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/procedure/spi/ProcedureParameterImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/LiteralType.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/MaterializedNClobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQL5Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/internal/DialectFactoryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/StandardEntityNotFoundDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/PathImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/HqlToken.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/SessionFactoryServiceRegistryBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/insert/AbstractReturningDelegate.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/ArchiveDescriptorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/ValueGeneration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/DelayedDropRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EventEngine.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/LengthFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/Nullability.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/NativeQueryNonScalarRootReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/CollectionReference.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeMapKeySourceEmbeddedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/UnionSubclassEntityPersister.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/NClobTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/EncapsulatedEntityIdentifierDescription.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/ValueBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/FetchCharacteristicsPluralAttributeImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL93Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/NamedSQLQueryDefinitionBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataSourcesContributor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/FetchMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/AbstractLoadPlanBasedLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/DuplicationStrategyImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/compile/InterpretedParameterMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/JdbcTypeFamilyInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/JavaConstantNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/UniqueKey.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/EmptyExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/process/spi/ManagedResources.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/HANAColumnStoreDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/EntityLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Constraint.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/spi/PersisterClassResolver.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostUpdateEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/internal/DatabaseInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/global/GlobalTemporaryTableBulkIdStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/ExpandingFetchSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/spi/PersisterFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/CollectionSubqueryFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/interceptor/LazyAttributesMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/NullExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/LogicalConnection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/UnresolvableObjectException.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/ResultsetMappingSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/StreamDecorator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/spi/DatabaseMetaDataDialectResolutionInfoAdapter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/InvalidMappingException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Transaction.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/boot/model/source/internal/hbm/SingularIdentifierAttributeSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/NoArgSQLFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/Ejb3DiscriminatorColumn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/internal/JaccPreDeleteEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/DefaultSchemaFilterProvider.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/InheritanceTypeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/procedure/ProcedureParameter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/NoopEntryHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/TruthValue.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaManagementException.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/StatusTranslator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/ParameterExpressionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/spi/PermissibleAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/QueryHints.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SessionException.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/spi/JoinStatus.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/ArchiveDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/FetchCharacteristicsSingularAssociationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/MergeContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/cursor/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/PersistenceUnitUtilImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeKeySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/Queryable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/SingularAttributeJoin.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/predicate/BooleanAssertionPredicate.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/MappingDocument.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/internal/IndexInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/FlushEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/spi/DialectResolutionInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/SelectGenerator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/FetchCharacteristicsPluralAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/InFlightMetadataCollector.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/NamedQueryDefinitionBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/sql/SQLQueryParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/ResultSetMappingBindingDefinition.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/HibernateTypeSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/ToListResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/ManyToOne.java

* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeSourceMapImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultLoadEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/AbstractDelegatingSessionBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/AttributeDefinition.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/OrionJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tuple/component/CompositionBasedCompositionAttribute.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/XsdException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/MapKeyJoinColumnDelegator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/UnknownUnwrapTypeException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/LazyGroup.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SortComparator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/DefaultSessionFactoryBuilderService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/ActivationContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/returns/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/PropertyAccessException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/LockTimeoutException.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/TableGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CompositeTracker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/UrlXmlSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/ParameterizedType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/Configurable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/EntityIdentifierDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/CacheEntryStructure.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/internal/OutputsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/spi/ParameterStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/SingleTableEntityPersister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MariaDB10Dialect.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/CustomEntityDirtinessStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jndi/JndiNameException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/MultiEntityLoadingSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/compile/RenderingContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/ResultSetMappingDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/ImmutableEntityEntryFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/ParameterInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/NoCachingRegionFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/local/Helper.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MariaDB102Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/FetchNotFoundException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/jta/platform/spi/JtaPlatformException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/Join.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/NamedSQLQueryDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/spi/PhysicalConnectionHandlingMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/GenerationTiming.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SortNatural.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/spi/DataSourceBasedMultiTenantConnectionProviderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/FromElement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/Loadable.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/JDBCConnectionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/TargetTypeHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Criteria.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/internal/AliasConstantsHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/ScanResultCollector.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/ASTIterator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/InsertSelect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/MetadataSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/AbstractPluralAttributeSourceImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/ServiceException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/NumericTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/AbstractDelegatingSharedSessionBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/AnyMetaDef.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Subclass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/DiscriminatorMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/Template.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/IntegerType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Parent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/NaturalIdStatisticsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/GeneratedValueGeneration.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/LoadPlanBuildingAssociationVisitationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/LobCreationContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Criterion.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/AbstractPropertyHolder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/backend/jdbc/internal/JdbcIsolationDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SessionFactoryImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/LocalSchema.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/PropertyAccessMixedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/QualifiedSequenceName.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/RowId.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/MapType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/SybaseASE157LimitHandler.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/Optimizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/JoinedSubclassEntitySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/UnaryOperatorNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/EnhancedSetterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/Query.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/LiteralHandlingMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/spi/TransactionCoordinator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/CollectionStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/CollectionPropertyNames.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/map/SerializableMapProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/SequenceInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/MetadataSources.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/RelationalValueSourceHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/ProxyVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/FetchGraphLoadPlanBuildingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/ExecutionOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCollectionUpdateEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SimpleCaseNode.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SelectExpressionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/internal/BootstrapServiceRegistryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/YesNoType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/classloading/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/UnloadedField.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultPreLoadEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/CollectionFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/InitializeCollectionEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/SequenceGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/Expectations.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/CompositeIdentifierSingularAttributeSourceManyToOneImpl.jav
a
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/PersistenceUnitTransactionTypeHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQL57Dialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/WebSphereLibertyJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/SelectExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/VarArgsSQLFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/query/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/BasicFormatterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/parse/GraphLexer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/compile/ExplicitParameterInfo.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/bytebuddy/BytecodeProviderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/ColumnEntityAliases.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Array.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/EmbeddableSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PersistEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/none/NoProxyFactoryFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/InterbaseDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/ComponentTuplizerFactory.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/WildFlyStandAloneJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/NativeQueryInterpreterInitiator.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/spi/PersisterCreationContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/BlobImplementer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/BasicType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/EJB3NamingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/PostgreSQL81IdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/cfgxml/spi/LoadedConfig.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostDeleteEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/GeneratedCollectionAliases.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/spi/ExpandingEntityIdentifierDescription.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/AbstractArchiveDescriptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ByteType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/QueryTranslatorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/ReaderInputStream.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/ForeignKeyContributingSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/CacheAccessTypeConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/internal/ConnectionValidator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/bytebuddy/FieldReaderAppender.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/AbstractSaveEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/FilterHelper.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/BuiltInPropertyAccessStrategies.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/TransactionRequiredForJoinException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/FilterConfiguration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/StaticFilterAliasGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/MaterializedBlobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/JtaIsolationDelegate.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeSequentialIndexSource.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/query/criteria/internal/expression/function/FunctionExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/spi/DialectResolutionInfoSource.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/IllegalIdentifierException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/NoSuchParameterException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/AbstractComponentTuplizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/EntityEntryContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/SessionFactoryServiceInitiatorContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/PooledLoThreadLocalOptimizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/PrimitiveType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/AbstractDelegatingSessionFactoryOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/LazyToOneOption.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/SerializableType.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/jta/platform/internal/JOTMJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/PersistenceContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/unique/DefaultUniqueDelegate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/NonUniqueDiscoveredSqlAliasException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ConditionFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/ExternalSessionFactoryConfig.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/internal/StandardJaccServiceImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/SynchronizationCallbackTarget.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/AbstractLoadPlanBasedEntityLoader.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/ServiceRegistryImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL94Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/JpaComplianceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/DiscriminatorFormula.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/Chache71IdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/cfg/annotations/reflection/AttributeConverterDefinitionCollector.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/AbstractFlushingEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/TypeMismatchException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/IdentifierAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/StatisticalLoggingSessionEventListener.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/QualifiedName.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/OptimizerFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/LazyPropertyInitializer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/criteria/CriteriaLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/QuerySpaceUidNotRegisteredException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/StructuredMapCacheEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/DateType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/SharedBatchBuildingCode.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/internal/exec/ScriptSourceInputFromReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/ResolvableNode.java

*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/PathExpressionParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/ParameterRecognitionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/ExceptionMapperLegacyJpaImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/UnstructuredCacheEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/Scanner.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/compare/CalendarComparator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/ExceptionHandlerLoggedImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/internal/NullSynchronizationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/OrdinalParameterDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/ListAttributeJoin.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/ArrayBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/config/ConfigurationHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/profile/Fetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCollectionRemoveEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/spi/EntityManagerFactoryBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/ExistsPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/InLineViewSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SelfDirtinessTracker.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeSourcePrimitiveArrayImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/DisjunctionFragment.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/BindingTypeHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/SessionFactoryObserverChain.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/SetterMethodImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/internal/StandardArchiveDescriptorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/QualifiedNameParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/factory/spi/MutableIdentifierGeneratorFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SessionEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/internal/SessionFactoryServiceRegistryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/PropertyAccessEnhancedImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ValueGenerationType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/ComponentTuplizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/spi/CurrentTenantIdentifierResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/EntityGraphQueryHint.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/Joinable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreCollectionRecreateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/collection/CollectionPropertyMapping.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CharArrayType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/OptimisticLockException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/ImmutableEntityEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/AbstractSelectExpression.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/LockModeTypeHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/OffsetDateTimeJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ManagedMappedSuperclass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Interceptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Version.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/none/NoneBasicProxyFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/CacheHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/SQLFunctionTemplate.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeElementSourceManyToManyImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/ExpandingEntityQuerySpace.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/internal/ResultSetProcessorHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ResourceClosedException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/FromParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/IdentifierValue.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/spi/LogicalConnectionImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/AttributeConverterDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/EntityInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/PropertyData.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/IdClassSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/SequenceStyleGenerator.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/registry/classloading/internal/TcclLookupPrecedence.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/internal/JaccPreUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/BlobProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/StandardScanner.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/EntityJoinFromElement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/entry/StandardCacheEntryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/FetchStyle.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/jdbc/batch/internal/UnmodifiableBatchBuilderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ShortType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/ValueGenerator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/AbstractSingularAttributeSourceEmbeddedImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/internal/TableInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/connections/spi/JdbcConnectionAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/CoreLogging.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitBasicColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/QueryParameterNamedImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/BinaryArithmeticOperation.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/VersionAttributeSourceImpl.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PointbaseDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/spi/IntegrationException.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/QueryTimeoutException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/Select.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/BooleanType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/AbstractJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/NameSpaceTablesInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/HqlLexer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/internal/ProcedureCallMementoImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/BatchLoadSizingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/HANACloudColumnStoreDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/PersistentAttributeInterceptable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/spi/TransactionCoordinatorBuilder.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/StatisticsInitiator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/hql/spi/id/inline/InlineIdsSubSelectValueListBulkIdStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/exec/DeleteExecutor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/DateTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/OneToOneSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/StaticPrecisionFspTimestampFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/UpdateTimestamp.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/QueryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Parameter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/DataDirectOracle9Dialect.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/BatchBuilderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/JDataStoreIdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/SchemaDropperImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/internal/ResourceRegistryStandardImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/AggregationFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/BooleanLiteralNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/ScriptSourceInputFromUrl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/spi/ResultSetProcessingContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/EntityActionVetoException.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/VersionValue.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/JtaSynchronizationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/DoubleTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/JoinedSubclassFkSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/SQLProjection.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/JoinedSubclassEntitySourceImpl.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/internal/StrategySelectorBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Distinct.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Entity.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/process/spi/MetadataBuildingProcess.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/beanvalidation/GroupsPerOperation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/ScriptTargetOutput.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/QueuedOperationCollectionAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/BitTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/PersistentClassVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/Target.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/TypeDiscriminatorMetadata.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/OnReplicateVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/config/internal/ConfigurationServiceInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/package-info.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/BasicFunctionExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/UUIDTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/NativeQueryReturnBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/PersistentIdentifierBag.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/NativeQueryReturnBuilderFetchImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Oracle9Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SearchedCaseNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/ConnectionObserverAdapter.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/internal/LoadQueryJoinAndFetchProcessor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/spi/DialectFactory.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyNoopImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/ConfigParameterContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/ToOneFkSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/CollectionAttributeJoin.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/OrderingSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Oracle9iDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/query/spi/NamedParameterContext.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/bytebuddy/PersistentAttributeTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/AbstractVisitor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/EntityReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/ProxyConfiguration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/InitializeableNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/SimpleValue.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/dialect/identity/AbstractTransactSQLIdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/MySQLIdentityColumnSupport.java

* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/StandardJtaPlatformResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jndi/spi/JndiService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/EntityAliases.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/SearchedCaseExpression.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/PositionalParameterInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/InstantiationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Ingres10Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AttributeRole.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/PrimaryKeyInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/spi/AfterLoadAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/SessionEventListenerManagerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/spi/BeforeTransactionCompletionProcess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EntityCopyObserverFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/StandardTableExporter.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/FetchStyleLoadPlanBuildingAssociationVisitationStrategy.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/CompositeAttributeFetchImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/insert/IdentifierGeneratingInsert.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/internal/StandardSQLExceptionConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/OuterJoinLoadable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/EntityPrinter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/ZonedDateTimeJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/internal/DisabledJaccServiceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/LocalSynchronizationException.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/InvalidMappingException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/CollectionHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CalendarDateType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/AbstractEntitySourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaFilter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/ImportScriptException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/sql/NativeSQLQueryRootReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/PropertyFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/internal/StandardPersisterClassResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SessionFactoryAwareNode.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/QualifiedTableName.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/HbmLocalMetadataBuildingContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/TempTableDdlTransactionHandling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/interceptor/EnhancementHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/StatelessSessionBuilder.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/AccessTypeMarshalling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/ServiceBinding.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/DefaultEntityAliases.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/internal/StandardAnyTypeDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/parse/GeneratedGraphParser.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/UnknownServiceException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultMergeEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/ExceptionHandlerHaltImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/QueryTranslatorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/spi/ToolingHintContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/FetchTiming.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/CollectionId.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/cte/CteValuesListDeleteHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/internal/SynchronizationRegistryImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/ResolveNaturalIdEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/Loader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/CompositeBasedAssociationAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/RootEntityResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MySQL57InnoDBDialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyBackRefImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/ParameterRegistration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/DisabledScanner.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/persistent/DeleteHandlerImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/DefaultCacheKeysFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/EntityBasedAssociationAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/MultipleLinesSqlCommandExtractor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/ExportableColumn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/TypeContributor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/Managed.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/IntStreamDecorator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeMapKeySourceEmbedded.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/CacheableFileXmlSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/spi/IdentifierGeneratorStrategyProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/BagBinder.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/function/AbsFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/JaxpSourceXmlSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/TreePrinterHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/FloatTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/AbstractLockUpgradeEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/AssociationType.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/SessionFactoryDelegatingImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/SizeSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/ASTParentsFirstIterator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/LoadPlanBuildingContext.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/walking/spi/AssociationVisitationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/ScriptTargetOutputToStdout.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/NClobProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/internal/MappingFileDescriptorImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/cfg/annotations/reflection/internal/JPAXMLOverriddenMetadataProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/TimestampType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/EntityHierarchySourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/CollectionUpdateAction.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/sql/NativeSQLQuerySpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/VerifyFetchProfileReferenceSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/IdentifierBagType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ObjectNotFoundException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/OnDelete.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Cache.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/BlobTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/IdentifierSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/exception/spi/SQLExceptionConverterFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/BasicCollectionJoinWalker.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyEnhancedImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/PojoInstantiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/NClobImplementer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/LoggableUserType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/NonScalarReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/process/internal/ScanningCoordinator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/ProcedureCallMemento.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ConnectionAcquisitionMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/AbstractQuerySpace.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/CompositeIdentifierSingularAttributeSourceBasicImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SubclassEntitySource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/dialect/internal/DialectFactoryInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/RestrictableStatement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ListIndexBase.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/FkRefNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Immutable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/internal/LogicalConnectionProvidedImpl.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/ValueInclusion.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/IllegalDereferenceException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/PersistentObjectException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/QueryParameterBindingsImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/EntityIdentityInsertAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/criteria/ScalarCollectionCriteriaInfoProvider.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/CloseableIterator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/NationalizedTypeMappings.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/VarbinaryTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/AbstractNullnessCheckNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/ScanParameters.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/ResultVariableRefNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/AssertionFailure.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/spi/ArchiveContext.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/bytebuddy/InlineDirtyCheckingHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SchemaValidator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/internal/DdlTransactionIsolatorProvidedConnectionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/BytecodeEnhancementMetadataPojoImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/JavaTypeDescriptorResolvable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/AbstractTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/pojo/bytebuddy/SerializableProxy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/CollectionProperties.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/GeneratorType.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/GetterMethodImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/NCharTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/MapJoinImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/StandardForeignKeyExporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ObjectDeletedException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/EntityFetch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/spi/CollectionReferenceAliases.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorTimesTenDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/annotations/AnnotationMetadataSourceProcessorImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/FileExporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/ResultSetReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/SessionOwnerBehavior.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/loading/internal/CollectionLoadContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/ReattachVisitor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/path/MapAttributeJoin.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/XMLStreamConstantsUtils.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ANSIJoinFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/DenormalizedTable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/CUBRIDIdentityColumnSupport.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/NamedParameterInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/EntityTuplizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/Assigned.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/SimpleCacheKeysFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CustomCollectionType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SqlNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/ModelBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/MimerSQLIdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/SelectClause.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/DoubleTypeDescriptor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/EntityBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/DeleteEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/Parser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/ResultSetWrapper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/IdentitySet.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/StandardServiceInitiators.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/PropertyAccessStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/beans/BeanInfoHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/IdentifierSourceSimple.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/BigDecimalTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/package-info.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/InExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/local/PreparationContextImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/internal/EntityReferenceInitializerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/SchemaNameResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreDeleteEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitJoinTableNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/TokenPrinters.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/spi/JdbcSessionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/log/ConnectionPoolingLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/component/DynamicMapComponentTuplizer.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/ScanEnvironment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/AliasGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/IndexColumn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/GenerationTargetToDatabase.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/internal/spaces/QuerySpacesImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/map/MapProxyFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/AttributeConversionInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/plan/BatchingEntityLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/H2IdentityColumnSupport.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/JdbcServicesImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/DatabaseIdentifier.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/BigIntTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/CollectionAttributeFetchImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/MultiIdentifierLoadAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/EntityOrMappedSuperclass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/NullSynchronizationException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/CollectionTracker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/QualifiedObjectNameFormatter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/DbTimestampType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/PropertyAccessFieldImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/ProcedureCall.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/BootstrapServiceRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/procedure/internal/ProcedureParameterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/Oracle12cGetGeneratedKeysDelegate.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/process/spi/NoOpMetadataSourceProcessorImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/DeleteEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Property.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/HibernateEntityManagerFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SuppliedConnectionHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataBuilderFactory.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/FkSecondPass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Incubating.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultRefreshEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreCollectionUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/InlineIdsInClauseUpdateHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Generated.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/pojo/bytebuddy/ByteBuddyProxyHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/FirebirdDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/ConvertFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/ComponentJoin.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/uuid/Helper.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/UnsupportedLockAttemptException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AttributeSourceContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/internal/none/BytecodeProviderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/NotYetImplementedException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/NameGenerator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jdbc/spi/JdbcResourceTransactionAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/MultipleHiLoPerTableGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/OrderByParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultDeleteEventListener.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/internal/StrategySelectorImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/selector/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Cache.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/persistent/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/spi/PersistenceUnitDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/JoinFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/HibernateQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/QueryParameterListBinding.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/AbstractDelegatingSessionFactoryBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/ReplicationMode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/ExpandingQuerySpace.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/ExpressionImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/Alias.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/ClassLoaderAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/Stoppable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/AliasedProjection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/spi/SchemaValidator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/InheritanceState.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/JaccPermissionDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/MappingNotFoundException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/ListBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jmx/internal/JmxServiceInitiator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/spaces/CompositePropertyMapping.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/EntityDeleteAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/StandardServiceRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/EntityJoinWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/jdbc/spi/PhysicalJdbcTransaction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/CriteriaQueryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/AssignmentSpecification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/NotEmptyExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/Configurable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/SybaseDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/ImportSqlCommandExtractorInitiator.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/cte/CteValuesListBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/NonUniqueObjectException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/NativeQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/spi/TransactionStatus.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/transaction/internal/TransactionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/result/spi/ResultContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/AnyDiscriminatorSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/TrueFalseType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/FilterSourceImpl.java

*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/Projection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CharacterArrayType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/FetchSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/TimestampGenerators.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/AbstractScannerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/StatementPreparerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/ListJoinImplementor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/CollectionFetchableElementEntityGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/OracleDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/ParameterContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/OrderedSetType.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/ASTAppender.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/Teradata14IdentityColumnSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/ParameterBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/NodeSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/ScanOptions.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/collection/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/internal/Helper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/SingularAttributeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/LocalDateJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/ColumnAttributeSourceImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/BasicTypeRegistration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/loading/internal/LoadingCollectionEntry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/ColumnBindingDefaults.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/StringTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/SessionFactoryServiceInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/WorkExecutor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/OuterJoinableAssociation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/internal/LobCreatorBuilderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/SqlASTFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/JdbcDateTypeDescriptor.java
*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitIdentifierColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/CriteriaBuilderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/DefaultEvictEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/OrderByAliasResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/SharedSessionCreationOptions.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/CurrentTimestampFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/Exportable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/FlushModeTypeHelper.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/boot/archive/internal/JarInputStreamBasedArchiveDescriptor.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/FetchStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/OneToOneType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/SqlValueReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/JpaCallbackSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/ParameterMisuseException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/Database.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/CacheModeHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/FlushEntityEvent.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/synchronization/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/EJB3DTDEntityResolver.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitTenantIdColumnNameSource.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/Namespace.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/QueryProducerImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/AbstractParameterInformation.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostCommitUpdateEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/TenantIdentifierMismatchException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/internal/PropertyAccessMapImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Fetchable.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorHSQLDBDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SQLDeleteAll.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/hbm/internal/CacheModeConverter.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/spi/ReflectionOptimizer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/build/spi/QuerySpaceTreePrinter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/WhereJoinTable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/CacheableResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/LongStreamDecorator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/ScrollableResultsIterator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/AtomikosJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/NativeQueryInterpreter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/spi/SynchronizationRegistry.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/UnresolvedEntityInsertActions.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/SapNetWeaverJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/BigIntegerTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/PrimaryKeyInformationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/ValueHandlerFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/RelationalValueSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/TypeHelper.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/SchemaAutoTooling.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/MappingBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/BatchFetchQueueHelper.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/EventEngineContributor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/UniqueKeyLoadable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/lob/ReaderInputStream.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/CategorizedStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/EnhancedGetterMethodImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/ParameterTranslations.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/AbstractInlineIdsDeleteHandlerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/MutableJpaComplianceImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/compile/ImplicitParameterBinding.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/identity/IdentityColumnSupport.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/Statement.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/internal/ParameterModeMarshalling.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/LoadGraphLoadPlanBuildingStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/enhance/EnhancingClassTransformerImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CompositeType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/predicate/ComparisonPredicate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/CollectionCacheInvalidator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/internal/QueryParameterListBindingImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/UUIDGenerationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/internal/AttributeFactory.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/HibernateTypeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/Oracle12LimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/IsNotNullLogicOperatorNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/AbstractStandardBasicType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/property/access/internal/PropertyAccessStrategyFieldImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/ImplicitForeignKeyNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/CollectionBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/DetachedCriteria.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/EntityCopyObserverFactoryInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/FilterJoinTable.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/naming/NamingHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/FetchProfile.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/collection/plan/AbstractBatchingCollectionInitializerBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/NamedQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/XmlInfrastructureException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/LocalDateTimeJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/BlobType.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/SQLServer2005LimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/SessionFactoryBuilderService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/local/AfterUseAction.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/WrappedInferredData.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/spi/interceptor/LazyAttributeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/SessionFactoryServiceRegistryFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/inline/InlineIdsInClauseBulkIdStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/TupleElementImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Query.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/LongVarbinaryTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceNameExtractorImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/internal/AbstractCollectionLoadQueryDetails.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/RowVersionTypeDescriptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ColumnTransformers.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/LazyCollection.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/AbstractHbmSourceNode.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/ColumnsAndFormulasSourceContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/WrappedNClob.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Loader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/StandardIndexExporter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/exec/GenerationTargetToStdout.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/internal/tracker/SimpleCollectionTracker.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/AuxiliaryDatabaseObjectBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/annotations/MapBinder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/FilterDef.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/AbstractLobCreator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/CharacterStream.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/util/PersistenceUtilHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/TableSpecificationSource.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/AbstractEntityReference.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/IdTableSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/TypeLocatorImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/hbm2ddl/SchemaExportTask.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/Sybase11Dialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/PostgreSQL81Dialect.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/AbstractEntityLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/CollectionJoinWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/CaseFragment.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/internal/ParameterBindImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/MariaDBDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/CalendarTimeTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/PluralAttributeElementSourceBasicImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/StandardJDBCEscapeFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/spi/id/AbstractTableBasedBulkIdHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/Cloneable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/transaction/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/Session.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/lock/OptimisticForceIncrementLockingStrategy.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/spi/SynchronizationRegistryImplementor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jdbc/spi/JdbcResourceTransaction.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/IndexedPluralAttributeSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/enhanced/LegacyHiLoAlgorithmOptimizer.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/compare/RowVersionComparator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/spi/ProviderChecker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/SingleTableSubclass.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/spi/PluralAttributeMapKeySourceBasic.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/internal/SynchronizationRegistryStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/context/internal/ManagedSessionContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/ServiceRegistryAwareService.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/proxy/LazyInitializer.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/persister/walking/spi/CompositeCollectionElementDefinition.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/internal/EntityManagerFactoryBuilderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CalendarTimeType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/ParamDef.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/usertype/UserCollectionType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CharacterNCharType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/entity/NaturalIdEntityJoinWalker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/StaleObjectStateException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/internal/stax/BaseXMLEventReader.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/TransactionManagerBasedSynchronizationStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/sql/PositionalParamBinder.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/spi/PluralAttributeNature.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/internal/AbstractServiceRegistryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/spi/CallableStatementSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/HibernateSchemaManagementTool.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jdbc/BatchedTooManyRowsAffectedException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/StandardBasicTypes.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Set.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/BaseSessionEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Column.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/Backref.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/spi/MetadataBuilderImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/ConnectionObserverStatsBridge.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/AnsiTrimEmulationFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Persister.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/internal/HighlightingFormatter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/entity/AbstractEntityBasedAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/integrator/spi/Integrator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/env/spi/SchemaNameResolver.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/InformationExtractorJdbcDatabaseMetaDataImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/CollectionRecreateAction.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/internal/SessionFactoryObserverForBytecodeEnhancer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/xml/BaseXMLEventReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/OrderImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/ParameterParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cfg/Configuration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/MutableEntityEntryFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PreCollectionRecreateEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/NaturalIdStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/StatisticsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/UUIDHexGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/sql/BasicExtractor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Any.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/SimpleNaturalIdLoadAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/extract/spi/SchemaExtractionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/AttributeContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/NaturalIdentifier.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/spi/QueryParameterBindingValidator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/internal/PostUpdateEventListenerStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/EnumJavaTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/plan/BatchingCollectionInitializer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/function/DB2SubstringFunction.java
*

/hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/internal/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/AbstractEvent.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/ProgressDialect.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/Type.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/IdentifierEqExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/UnsupportedOrmXsdVersionException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/LoadPlan.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/spi/ScalarReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/ConnectionObserver.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/exec/process/internal/HydratedEntityRegistration.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/ManyToOneType.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/secure/internal/JaccPreInsertEventListener.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/classic/ParserHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/MaterializedClobType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/boot/spi/TypeContributorList.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/registry/StandardServiceInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/spi/XmlSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/SqlFragmentAlias.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/RegionFactoryInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/AccessType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/pagination/FirstLimitHandler.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/process/spi/EntityReferenceInitializer.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/criteria/internal/expression/NullifExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/CharacterArrayNClobType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitPrimaryKeyJoinColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/internal/tracker/DirtyTracker.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/SortedSetType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/EntityEntry.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/query/spi/sql/NativeSQLQueryConstructorReturn.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/PropertySubqueryExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/query/spi/sql/NativeSQLQueryReturn.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/EmptyScrollableResults.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/archive/scan/spi/ClassDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ordering/antlr/TranslationContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/dialect/TeradataDialect.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/naming/ImplicitDiscriminatorColumnNameSource.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/source/internal/hbm/InLineViewSourceImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/internal/StatefulPersistenceContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/property/access/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/criterion/IlikeExpression.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jndi/internal/package-info.java

*
 /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/transaction/backend/jta/internal/JtaTransactionAdapterTransactionManagerImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/loader/plan/build/internal/returns/CollectionFetchableElementCompositeGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/transform/AliasedTupleSubsetResultTransformer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/action/internal/CollectionRemoveAction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/plan/exec/internal/EntityLoadQueryDetails.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/spi/TypeBootstrapContext.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/registry/selector/internal/DefaultJtaPlatformSelector.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/batch/internal/BatchingBatch.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/jdbc/spi/StatementPreparer.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/query/CommonQueryContract.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/LockEventListener.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/source/internal/hbm/SingularAttributeSourceAnyImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tuple/DynamicMapInstantiator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/query/criteria/internal/expression/function/UpperFunction.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/Update.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/NamedQueryDefinition.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/engine/transaction/jta/platform/internal/BorlandEnterpriseServerJtaPlatform.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/event/spi/PostDeleteEventListener.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/hql/spi/id/inline/InlineIdsIdsOrClauseDeleteHandlerImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/tool/schema/internal/SchemaManagementToolInitiator.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/extract/internal/SequenceInformationExtractorOracleDatabaseImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/internal/PersisterFactoryImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/tool/schema/internal/exec/JdbcConnectionAccessProvidedConnectionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/procedure/internal/ProcedureOutputsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/persister/entity/EntityLoaderLazyCollection.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/mapping/MetaAttributable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/util/PathHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/custom/ConstructorReturn.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/UnloadedClass.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/UrlType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/annotations/Synchronize.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/loader/collection/OneToManyJoinWalker.java
No license file was found, but licenses were detected in source scan.

<!--
~ Hibernate, Relational Persistence for Idiomatic Java
~
~ License: GNU Lesser General Public License (LGPL), version 2.1 or later
~ See the lgpl.txt file in the root directory or http://www.gnu.org/licenses/lgpl-2.1.html
-->

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/orm_2_2.xsd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/persistence_2_2.xsd
No license file was found, but licenses were detected in source scan.

/*
* Hibernate, Relational Persistence for Idiomatic Java
*
* License: GNU Lesser General Public License (LGPL), version 2.1 or later
* See the lgpl.txt file in the root directory or http://www.gnu.org/licenses/lgpl-2.1.html
*/

Found in path(s):
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/cache/internal/NoCachingTransactionSynchronizationImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/build/AllowSysOut.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/spi/DomainDataRegionBuildingContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/ListenerCallback.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/beans/container/internal/ContainerManagedLifecycleStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/IdentifiableDomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/CacheTransactionSynchronization.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/internal/Helper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/xsd/MappingXsdSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/SetAttributeImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/spi/ContainedBean.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/AbstractCallback.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/sql/ast/Clause.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/domain/spi/PersistentAttributeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/xsd/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/internal/NamedBeanQualifier.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/access/EntityDataAccess.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/LifecycleCallbackContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/spi/GraphImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/AbstractAttribute.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/convert/internal/InstanceBasedConverterDescriptor.java
* /hibernate-core-5-6-7-final-sources-

jar/org/hibernate/boot/model/convert/internal/AbstractConverterDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/parse/PathQualifierType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/EntityCallback.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/QueryResultsRegionTemplate.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/convert/spi/JpaAttributeConverterCreationContext.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/DisabledCaching.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/TimestampsRegionTemplate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/CacheImplementor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/domain/spi/MappedSuperclassTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/AttributeNodeImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/type/descriptor/spi/JdbcRecommendedSqlTypeMappingContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/internal/CollectionDataCachingConfigImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/convert/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/convert/spi/JpaAttributeConverter.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/QueryResultsCacheImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/convert/spi/ConverterDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/AbstractCollectionDataAccess.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/beans/container/internal/CdiBeanContainerDelayedAccessImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/EntityTypeImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/SimpleDomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/EntityDomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/CacheImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/spi/DomainDataRegionConfig.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/beans/container/internal/CdiBeanContainerExtendedAccessImpl.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/registry/classloading/internal/AggregatedServiceLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/SecondLevelCacheStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/RegionFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/AbstractGraphNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/QueryResultsRegion.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/SetPersistentAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/CollectionReadWriteAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/CollectionTransactionAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/ExtendedStatisticsSupport.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/engine/spi/EffectiveEntityGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/spi/ProvidedInstanceManagedBeanImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/beans/container/internal/CdiBeanContainerBuilder.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/DeprecatedNaturalIdCacheStatisticsImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/spi/AppliedGraph.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/domain/internal/AbstractIdentifiableType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/internal/SessionFactoryOptionsBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/spi/NaturalIdDataCachingConfig.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/AbstractCacheTransactionSynchronization.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/internal/ManagedBeanRegistryImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/StandardStack.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/AccessedDataClassification.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/CallbackType.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/spi/interceptor/SessionAssociableInterceptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/CannotBecomeEntityGraphException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/spi/RegistryHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/BasicDomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/internal/BeansMessageLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/TimestampsCacheFactory.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/spi/interceptor/BytecodeLazyAttributeInterceptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/CollectionNonStrictReadWriteAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/spi/DomainDataCachingConfig.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/convert/spi/BasicValueConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/spi/AbstractCdiBeanContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/internal/DomainDataRegionConfigImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/CallbackDefinition.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/spi/ExtendedBeanManager.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/spi/BeanInstanceProducer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/ListAttributeImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/convert/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/EmbeddedDomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/CallbackRegistryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/DirectAccessRegion.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/spi/FallbackContainedBean.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/AbstractDomainDataRegion.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/CollectionSizeNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/EmbeddableCallback.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/ManagedDomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/build/AllowPrintStacktrace.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/EmbeddableTypeImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/convert/internal/AttributeConverterManager.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/StandardTimestampsCacheFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/SubGraphImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/DomainModelHelper.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/TimestampsCache.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/BytecodeLogging.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/domain/internal/MappedSuperclassTypeImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/BagPersistentAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/AbstractEntityDataAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/NavigableRole.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/SecondLevelCacheLogger.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/SimpleTimestamper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/MapMember.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/domain/internal/PluralAttributeBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/CacheUtils.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/AttributeNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/SubGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/internal/EntityDataCachingConfigImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/AbstractManagedType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/spi/CollectionDataCachingConfig.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/EmptyCallbackRegistryImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/QueryCache.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/TimestampsCacheDisabledImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/Callback.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/spi/ManagedBeanRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/internal/FallbackBeanInstanceProducer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/spi/SubGraphImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/internal/NaturalIdDataCachingConfigImpl.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/EnabledCaching.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/NamedQuery.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/Region.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/convert/internal/ClassBasedConverterDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/convert/spi/ConverterAutoApplyHandler.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/beans/container/internal/NotYetReadyException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/EntityTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/convert/internal/NamedEnumValueConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/DomainTypeDescriptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/StatsHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/NullnessHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/service/spi/OptionallyManageable.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/DirectAccessRegionTemplate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/id/uuid/LocalObjectUuidHelper.java

* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/convert/internal/AutoApplicableConverterDescriptorBypassedImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/AbstractRegionFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/DomainDataRegionImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/EntityNonStrictReadWriteAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/RootGraphImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/descriptor/java/BasicJavaDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/SqlStringGenerationContext.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/DomainDataStorageAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/BasicTypeImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/NaturalIdReadWriteAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/GraphNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/RegionFactoryTemplate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/RegionNameQualifier.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/AbstractType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/spi/BeanContainer.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/PluralPersistentAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/AttributeConverterInfo.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/EntityReadOnlyAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/RootGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/ListPersistentAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/collections/Stack.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/spi/ContainedBeanImplementor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/model/relational/internal/SqlStringGenerationContextImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/BagAttributeImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/internal/CdiBeanContainerImmediateAccessImpl.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/xsd/LocalXsdResolver.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/parse/GraphParser.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/EmbeddedTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/SingularPersistentAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/DomainDataRegion.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/EntityReadWriteAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/MappedSuperclassDomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/MapAttributeImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/EntityTransactionalAccess.java
*
 /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/NaturalIdReadOnlyAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/parse/SubGraphGenerator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/convert/internal/OrdinalEnumValueConverter.java

* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/registry/classloading/internal/AggregatedClassLoader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/access/NaturalIdDataAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/CallbackRegistrar.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/CollectionDomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/NaturalIdNonStrictReadWriteAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/NaturalIdCacheStatistics.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/CallbackBuilder.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/access/SoftLock.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/Graph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hql/internal/ast/tree/CollectionPathNode.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/CallbackRegistry.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/AbstractNaturalIdDataAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/BasicTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/access/CachedDomainDataAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/CannotContainSubGraphException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/internal/AbstractCacheableDataStatistics.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/convert/internal/StandardBasicValueConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/DomainType.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/bytecode/enhance/spi/interceptor/AbstractInterceptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/domain/spi/IdentifiableTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/beans/container/internal/CdiBasedBeanContainer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/type/StandardBasicTypeTemplate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/internal/TimestampsCacheEnabledImpl.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/convert/internal/AutoApplicableConverterDescriptorStandardImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/xsd/XsdDescriptor.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/NaturalIdTransactionalAccess.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/cfg/annotations/reflection/internal/PropertyMappingElementCollector.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/domain/internal/AbstractPluralAttribute.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/metamodel/model/convert/internal/JpaAttributeConverterImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/spi/EntityDataCachingConfig.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/access/UnknownAccessTypeException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/ManagedTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/jaxb/mapping/spi/AssociationAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/CollectionReadOnlyAccess.java
*

/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/jpa/event/internal/CallbackDefinitionResolverLegacyImpl.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/AbstractCachedDomainDataAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/package-info.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/AbstractReadWriteAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/access/CollectionDataAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/TimestampsRegion.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/boot/xsd/ConfigXsdSupport.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/internal/AbstractGraph.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/spi/CallbackRegistryConsumer.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/UpdateTimestampsCache.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/MapPersistentAttribute.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/internal/util/io/CharSequenceReader.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/QuerySpacesHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/DomainDataRegionTemplate.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/convert/spi/EnumValueConverter.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/jpa/event/internal/CallbacksFactory.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/StandardCacheTransactionSynchronization.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/container/spi/BeanLifecycleStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/resource/beans/spi/ManagedBeanRegistryInitiator.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/AbstractRegion.java
*
/hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/spi/interceptor/AbstractLazyLoadInterceptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/support/StorageAccess.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/spi/GraphHelper.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/spi/SimpleTypeDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/beans/container/internal/JpaCompliantLifecycleStrategy.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/stat/CacheableDataStatistics.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/PersistentAttribute.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/resource/beans/container/internal/NoSuchBeanException.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/package-info.java
*
/hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/cfg/internal/AbstractDomainDataCachingConfig.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/boot/model/convert/spi/AutoApplicableConverterDescriptor.java
* /hibernate-core-5-6-7-final-sources-
jar/org/hibernate/bytecode/enhance/spi/interceptor/EnhancementAsProxyLazinessInterceptor.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/graph/GraphSemantic.java
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/cache/spi/QueryResultsCache.java
No license file was found, but licenses were detected in source scan.

/*
* Hibernate, Relational Persistence for Idiomatic Java
*

* License: GNU Lesser General Public License (LGPL), version 2.1 or later
* See the lgpl.txt file in the root directory or http://www.gnu.org/licenses/lgpl-2.1.html
*/
/**
 * Subclass used to simply instantiation of singular attributes representing an entity's
 * version.
 */

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/metamodel/model/domain/internal/SingularAttributeImpl.java
No license file was found, but licenses were detected in source scan.

~ Hibernate, Relational Persistence for Idiomatic Java
~
~ License: GNU Lesser General Public License (LGPL), version 2.1 or later.
~ See the lgpl.txt file in the root directory or <http://www.gnu.org/licenses/lgpl

Found in path(s):
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hibernate-configuration-3.0.dtd
* /hibernate-core-5-6-7-final-sources-jar/org/hibernate/hibernate-mapping-3.0.dtd

# 1.387 reload4j 2.17.2

## 1.387.1 Available under license :

Apache log4j
Copyright 2010 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common

control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity

on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained

within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,

whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright 1999-2005 The Apache Software Foundation

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.

See the License for the specific language governing permissions and
limitations under the License.
Apache log4j
Copyright 2007 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

# 1.388 sudo 1.8.21p2-3ubuntu1.5

## 1.388.1 Available under license :

Sudo is distributed under the following license:

Copyright (c) 1994-1996, 1998-2017
Todd C. Miller <Todd.Miller@courtesan.com>

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Sponsored in part by the Defense Advanced Research Projects
Agency (DARPA) and Air Force Research Laboratory, Air Force
Materiel
Command, USAF, under agreement number F39502-99-1-0512.

The file redblack.c bears the following license:

Copyright (c) 2001 Emin Martinian

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that neither the name of Emin
Martinian nor the names of any contributors are be used to endorse or
promote products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT

OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The file reallocarray.c bears the following license:

Copyright (c) 2008 Otto Moerbeek <otto@drijf.net>

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION,
ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The files getcwd.c, glob.c, glob.h, snprintf.c and sudo_queue.h bear the
following license:

Copyright (c) 1989, 1990, 1991, 1993
The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE

FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The file fnmatch.c bears the following license:

Copyright (c) 2011, VMware, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided
that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of the VMware, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL VMWARE, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The file getopt_long.c bears the following license:

```
/*-
* Copyright (c) 2000 The NetBSD Foundation, Inc.
* All rights reserved.
*
* This code is derived from software contributed to The NetBSD Foundation
* by Dieter Baron and Thomas Klausner.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
```

* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce
the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
*
* THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
* ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
* TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS
* BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
* INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
* CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
* POSSIBILITY OF SUCH DAMAGE.
*/

The file inet_pton.c bears the
following license:

/* Copyright (c) 1996 by Internet Software Consortium.
*
* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
* ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
* CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
* DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
* PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
* ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
* SOFTWARE.
*/

The embedded copy of zlib bears the following license:

Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is',
without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The following list of people, sorted by last name, have contributed
code or patches to this implementation of sudo since I began
maintaining it in 1993. This list is known to be incomplete--if
you believe you should be listed, please send a note to sudo@sudo.ws.

Ackeret, Matt
Adler, Mark
Allbery, Russ
Anderson, Jamie
Andrew, Nick
Andric, Dimitry
Barron, Danny
Bates, Tom
Behan, Zdenk
Bellis, Ray
Benali, Elias
Beverly, Jamie
Boardman, Spider
Bostley, P.J.
Bowes, Keith
Boyce, Keith Garry
Brantley, Michael
Braun, Rob
Bezina, Pavel
Brooks, Piete
Brown, Jerry
Burr, Michael E
Burton, Ross
Bussjaeger, Andreas
Calvin, Gary
Campbell, Aaron
Chazelas, Stephane
ek, Vtzslav

Coleman, Chris
Corzine, Deven T.
Cusack, Frank
Dai, Wei
Dill, David
Earickson, Jeff
Eckhardt, Drew
Edgington, Ben
Esipovich, Marc
Espie, Marc
Faigon, Ariel
Farrell, Brian
Fobes, Steve
Frysinger, Mike
G., Daniel Richard
Gailly, Jean-loup
Gelman, Stephen
Gerraty, Simon J.
Graber, Stephane
Guillory, B.
Hayman, Randy M.
Henke, Joachim
Hideaki, YOSHIFUJI
Hieb, Dave
Holloway, Nick
Hoover, Adam
Hunter, Michael T.
Hutchings, Ben
Irrgang, Eric
Jackson, Brian
Jackson, John R.
Jackson, Richard L., Jr.
Janssen, Mark
Jepeway, Chris
Jorge, Joel Pele
Pele Jorge, Joel
Juhani, Timo
KIKUCHI, Ayamura
Kadow, Kevin
Kasal, Stepan
Kienenberger, Mike
King, Dale
King, Michael
Klyachkin, Andrey
Knoble, Jim
Knox, Tim
Komarnitsky, Alek O.
Kondrashov, Nikolai

Kopeek, Daniel
Kranenburg, Paul
Krause, David
Lakin, Eric
Larsen, Case
Levin, Dmitry V.
Libby, Kendall
Lobbes, Phillip E.
McIntyre, Jason
MacKenzie, David J.
McLaughlin, Tom
Makey, Jeff
Marchionna, Michael D.
Markham, Paul
Martinian,
Emin
Meskes, Michael
Michael, David
Miller, Todd C.
Minier, Loc
Moffat, Darren
Moldung, Jan Thomas
Morris, Charles
Mueller, Andreas
Mller, Dworkin
Nieusma, Jeff
Nikitser, Peter A.
Nussel, Ludwig
Ouellet, Jean-Philippe
Paquet, Eric
Paradis, Chantal
Percival, Ted
Perera, Andres
Peron, Christian S.J.
Peschel, Aaron
Peslyak, Alexander
Peterson, Toby
Petten, Diego Elio
Pickett, Joel
Plotnick, Alex
de Raadt, Theo
Rasch, Gudleik
Reid, Steve
Richards, Matt
Rossum, Guido van
Rouillard, John P.
Rowe, William A., Jr.
Roy, Alain

Ruusame, Elan
Ryabinkin, Eygene
SATO, Yuichi
Snchez, Wilfredo
Saucier, Jean-Francois
Schoenfeld, Patrick
Schuring, Arno
Schwarze, Ingo
Scott, Dougal
Sieger, Nick
Simon, Thor Lancelot
Slemko, Marc
Smith, Andy
Sobrado, Igor
Soulen, Steven
Spangler, Aaron
Spradling, Cloyce D.
Stier, Matthew
Stoeckmann, Tobias
Street, Russell
Stritzky, Tilo
Stroucken, Michael
Tarrall, Robert
Thomas, Matthew
Todd, Giles
Toft, Martin
Torek, Chris
Tucker, Darren
Uhl, Robert
Uzel, Petr
Valery, Reznic
Van Dinter, Theo
Venckus, Martynas
de Vries, Maarten
Wagner, Klaus
Walsh, Dan
Warburton, John
Webb, Kirk
Wetzel, Timm
Wieringen, Marco van
Wilk, Jakub
Winiger, Gary
Wood, David
Zacarias, Gustavo
Zolnowsky, John

The following people have worked to translate sudo into other languages:

Blttermann, Mario
Bogusz, Jakub
Casagrande, Milo
Castro, Felipe
Cho, Seong-ho
Chornoivan, Yuri
Diguez, Francisco
Ferreira, Rafael
Garca-Fontes, Walter
Gezer, Volkan
Hamasaki, Takeshi
Hamming, Peter
Hansen, Joe
Hantrais, Frdric
Hein, Jochen
Hufthammer, Karl Ove
Jerovek, Damir
Karvonen, Jorma
Kazik, Duan
Kelemen,
Gbor
Koir, Klemen
Kozlov, Yuri
Kramer, Jakob
Krznar, Tomislav
Marchal, Frdric
Margeviius, Algimantas
Maryanov, Pavel
Nikoli, Miroslav
Nylander, Daniel
Psa, Petr
Qun, Trn Ngc
Regueiro, Leandro
Sarer, zgr
Sendn, Abel
Sikrom, ka
Spingos, Dimitris
Taniguchi, Yasuaki
Tomat, Fbio
Uranga, Mikel Olasagasti
Vorotnikov, Artem
Wang, Wylmer

# 1.389 python-setuptools 39.0.1-2ubuntu0.1

## 1.389.1 Available under license :

Copyright (C) 2016 Jason R Coombs <jaraco@jaraco.com>

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is furnished to do
so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.390 python-pkg-resources 39.0.1-2ubuntu0.1

## 1.390.1 Available under license :

MIT
Copyright (C) 2016 Jason R Coombs <jaraco@jaraco.com>

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is furnished to do
so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN

CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.391 kerberos 1.16-2ubuntu0.3

## 1.391.1 Available under license :

Copyright (C) 1985-2017 by the Massachusetts Institute of Technology.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Downloading of this software may constitute an export of cryptographic software from the United States of America that is subject to the United States Export Administration Regulations (EAR), 15 CFR 730-774. Additional laws or regulations may apply. It is the responsibility of the person or entity contemplating export to comply with all applicable export laws and regulations, including obtaining any required license from the U.S. government.

The U.S. government prohibits export of encryption source code to certain countries and individuals, including, but not limited to, the countries of Cuba, Iran, North Korea, Sudan, Syria, and residents and nationals of

those countries.

Documentation components of this software distribution are licensed
under a Creative Commons Attribution-ShareAlike 3.0 Unported License.
(http://creativecommons.org/licenses/by-sa/3.0/)

Individual source code files are copyright MIT, Cygnus Support,
Novell, OpenVision Technologies, Oracle, Red Hat, Sun Microsystems,
FundsXpress, and others.

Project Athena, Athena, Athena MUSE, Discuss, Hesiod, Kerberos, Moira,
and Zephyr are trademarks of the Massachusetts Institute of Technology
(MIT). No commercial use of these trademarks may be made without
prior written permission of MIT.

"Commercial use" means use of a name in a product or other for-profit
manner. It does NOT prevent a commercial firm from referring to the
MIT trademarks in order to convey information (although in doing so,
recognition of their trademark status should be given).

==========

The following copyright and permission notice applies to
the
OpenVision Kerberos Administration system located in "kadmin/create",
"kadmin/dbutil", "kadmin/passwd", "kadmin/server", "lib/kadm5", and
portions of "lib/rpc":

Copyright, OpenVision Technologies, Inc., 1993-1996, All Rights
Reserved

WARNING: Retrieving the OpenVision Kerberos Administration system
source code, as described below, indicates your acceptance of the
following terms. If you do not agree to the following terms, do
not retrieve the OpenVision Kerberos administration system.

You may freely use and distribute the Source Code and Object Code
compiled from it, with or without modification, but this Source
Code is provided to you "AS IS" EXCLUSIVE OF ANY WARRANTY,
INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY OR
FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, WHETHER
EXPRESS OR IMPLIED. IN NO EVENT WILL OPENVISION HAVE ANY LIABILITY
FOR ANY LOST PROFITS, LOSS OF DATA OR COSTS OF PROCUREMENT OF
SUBSTITUTE
GOODS OR SERVICES, OR FOR ANY SPECIAL, INDIRECT, OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THIS AGREEMENT, INCLUDING,
WITHOUT LIMITATION, THOSE RESULTING FROM THE USE OF THE SOURCE
CODE, OR THE FAILURE OF THE SOURCE CODE TO PERFORM, OR FOR ANY

OTHER REASON.

OpenVision retains all copyrights in the donated Source Code.
OpenVision also retains copyright to derivative works of the Source
Code, whether created by OpenVision or by a third party. The
OpenVision copyright notice must be preserved if derivative works
are made based on the donated Source Code.

OpenVision Technologies, Inc. has donated this Kerberos
Administration system to MIT for inclusion in the standard Kerberos
5 distribution. This donation underscores our commitment to
continuing Kerberos technology development and our gratitude for
the valuable work which has been performed by MIT and the Kerberos
community.

==========

Portions contributed by Matt Crawford "crawdad@fnal.gov" were work
performed at Fermi National Accelerator Laboratory, which is
operated by Universities Research Association, Inc., under contract
DE-AC02-76CHO3000 with the U.S. Department of Energy.

==========

Portions of "src/lib/crypto" have the following copyright:

Copyright (C) 1998 by the FundsXpress, INC.

All rights reserved.

Export of this software from the United States of America may
require a specific license from the United States Government.
It is the responsibility of any person or organization
contemplating export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright
notice and
this permission notice appear in supporting documentation, and that
the name of FundsXpress. not be used in advertising or publicity
pertaining to distribution of the software without specific,
written prior permission. FundsXpress makes no representations
about the suitability of this software for any purpose. It is
provided "as is" without express or implied warranty.

THIS SOFTWARE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR

IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

==========

The implementation of the AES encryption algorithm in
"src/lib/crypto/builtin/aes" has the following copyright:

Copyright (C) 2001, Dr Brian Gladman "brg@gladman.uk.net", Worcester, UK.
All rights reserved.

LICENSE TERMS

The free distribution and use of this software in both source and
binary form
is allowed (with or without changes) provided that:

1. distributions of this source code include the above copyright
notice, this list of conditions and the following disclaimer;

2. distributions in binary form include the above copyright notice,
this list of conditions and the following disclaimer in the
documentation and/or other associated materials;

3. the copyright holder's name is not used to endorse products
built using this software without specific written permission.

DISCLAIMER

This software is provided 'as is' with no explcit or implied
warranties in respect of any properties, including, but not limited
to, correctness and fitness for purpose.

==========

Portions contributed by Red Hat, including the pre-authentication
plug-in framework and the NSS crypto implementation, contain the
following copyright:

Copyright (C) 2006 Red Hat, Inc.
Portions copyright (C)
2006 Massachusetts Institute of Technology
All Rights Reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the documentation and/or other materials provided with the
distribution.

* Neither the name of Red Hat, Inc., nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

==========

The bundled verto source code is subject to the following license:

Copyright 2011 Red Hat, Inc.

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software without
restriction, including without limitation the rights to use, copy,
modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,

WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

==========

The MS-KKDCP client implementation has the following copyright:

Copyright 2013,2014 Red Hat, Inc.

Redistribution
and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above
   copyright notice, this list of conditions and the following
   disclaimer.

2. Redistributions in binary form must reproduce the above
   copyright notice, this list of conditions and the following
   disclaimer in the documentation and/or other materials
   provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

==========

The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in
"src/lib/gssapi", including the following files:

lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c

lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the
following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
slave/kpropd_rpc.c
slave/kproplog.c

are subject to the following license:

Copyright (C) 2004 Sun Microsystems, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========

Kerberos V5 includes documentation and software developed at the University of California at Berkeley, which includes this copyright notice:

Copyright (C) 1983 Regents of the University of California.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS
OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY
OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT
OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

==========

Portions contributed by Novell, Inc., including the LDAP database
backend, are subject to the following license:

Copyright (C) 2004-2005, Novell, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the documentation and/or other materials provided with the
distribution.

* The copyright holder's
name is not used to endorse or promote
products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)

HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========

Portions
funded by Sandia National Laboratory and developed by the
University of Michigan's Center for Information Technology
Integration, including the PKINIT implementation, are subject to the
following license:

COPYRIGHT (C) 2006-2007
THE REGENTS OF THE UNIVERSITY OF MICHIGAN
ALL RIGHTS RESERVED

Permission is granted to use, copy, create derivative works and redistribute this software and such derivative works for any purpose, so long as the name of The University of Michigan is not used in any advertising or publicity pertaining to the use of distribution of this software without specific, written prior authorization. If the above copyright notice or any other identification of the University of Michigan is included in any copy of any portion of this software, then the disclaimer below must also be included.

THIS SOFTWARE IS PROVIDED AS IS, WITHOUT REPRESENTATION FROM THE UNIVERSITY OF MICHIGAN AS TO ITS FITNESS FOR ANY PURPOSE, AND WITHOUT
WARRANTY BY THE UNIVERSITY OF MICHIGAN OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE REGENTS OF THE UNIVERSITY OF MICHIGAN SHALL NOT BE LIABLE FOR ANY DAMAGES, INCLUDING SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WITH RESPECT TO ANY CLAIM ARISING OUT OF OR IN CONNECTION WITH THE USE OF THE SOFTWARE, EVEN IF IT HAS BEEN OR IS HEREAFTER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

==========

The pkcs11.h file included in the PKINIT code has the following
license:

Copyright 2006 g10 Code GmbH
Copyright 2006 Andreas Jellinghaus

This file is free software; as a special exception the author gives

unlimited permission to copy and/or distribute it, with or without
modifications, as long as this notice is preserved.

This file is distributed in the hope that it will be useful,
but
WITHOUT ANY WARRANTY, to the extent permitted by law; without even
the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR
PURPOSE.

==========

Portions contributed by Apple Inc. are subject to the following
license:

Copyright 2004-2008 Apple Inc. All Rights Reserved.

Export of this software from the United States of America may
require a specific license from the United States Government.
It is the responsibility of any person or organization
contemplating export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of Apple
Inc. not be used in advertising or publicity
pertaining to distribution of the software without specific,
written prior permission. Apple Inc. makes no representations
about the suitability of this software for any purpose. It is
provided "as is" without express or implied warranty.

THIS SOFTWARE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

==========

The implementations of UTF-8 string handling in src/util/support and
src/lib/krb5/unicode are subject to the following copyright and
permission notice:

The OpenLDAP Public License
Version 2.8, 17 August 2003

Redistribution and use of this software and associated
documentation ("Software"), with or without modification, are

permitted provided that the following conditions are met:

1. Redistributions in
source form must retain copyright statements
and notices,

2. Redistributions in binary form must reproduce applicable
copyright statements and notices, this list of conditions, and
the following disclaimer in the documentation and/or other
materials provided with the distribution, and

3. Redistributions must contain a verbatim copy of this document.

The OpenLDAP Foundation may revise this license from time to time.
Each revision is distinguished by a version number. You may use
this Software under terms of this license revision or under the
terms of any subsequent revision of the license.

THIS SOFTWARE IS PROVIDED BY THE OPENLDAP FOUNDATION AND ITS
CONTRIBUTORS "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE OPENLDAP FOUNDATION, ITS
CONTRIBUTORS, OR THE AUTHOR(S) OR OWNER(S)
OF THE SOFTWARE BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

The names of the authors and copyright holders must not be used in
advertising or otherwise to promote the sale, use or other dealing
in this Software without specific, written prior permission. Title
to copyright in this Software shall at all times remain with
copyright holders.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

Copyright 1999-2003 The OpenLDAP Foundation, Redwood City,
California, USA. All Rights Reserved. Permission to copy and
distribute
verbatim copies of this document is granted.

==========

Marked test programs in src/lib/krb5/krb have the following copyright:

Copyright (C) 2006 Kungliga Tekniska Hgskola
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. Neither the name of KTH nor the names of its contributors may be
used to endorse or promote products derived from this software
without
specific prior written permission.

THIS SOFTWARE IS PROVIDED BY KTH AND ITS CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL KTH OR ITS
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT
OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

==========

The KCM Mach RPC definition file used on macOS has the following
copyright:

Copyright (C) 2009 Kungliga Tekniska Hgskola
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Portions Copyright (C) 2009 Apple Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above
   copyright notice, this list of conditions and the following
   disclaimer.

2. Redistributions in binary form must reproduce the above
   copyright notice, this list of conditions and the following
   disclaimer in the documentation and/or other materials provided
   with the distribution.

3. Neither the name of the Institute nor the names of its
   contributors may be used to endorse or promote products derived
   from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE
OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT
OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

==========

Portions of the RPC implementation in src/lib/rpc and
src/include/gssrpc have the following copyright and permission notice:

Copyright (C) 2010, Oracle America, Inc.

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification,
are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. Neither the name of the "Oracle America, Inc." nor the names of
its contributors may be used to endorse or promote products
derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

==========

Copyright (C) 2006,2007,2009 NTT (Nippon Telegraph and Telephone
Corporation). All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer as
the first lines of this file unmodified.

2. Redistributions in
binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

THIS SOFTWARE IS PROVIDED BY NTT "AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL NTT BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR

SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

==========

Copyright 2000 by Carnegie Mellon University

All Rights Reserved

Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby
granted, provided that the above copyright notice appear in all
copies and that both that copyright notice and this permission
notice appear in supporting documentation, and that the name of
Carnegie Mellon University not be used in advertising or publicity
pertaining to distribution of the software without specific,
written prior permission.

CARNEGIE MELLON UNIVERSITY DISCLAIMS ALL WARRANTIES WITH REGARD TO
THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS, IN NO EVENT SHALL CARNEGIE MELLON UNIVERSITY BE LIABLE
FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN
AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING
OUT OF OR
IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.

==========

Copyright (C) 2002 Naval Research Laboratory (NRL/CCS)

Permission to use, copy, modify and distribute this software and
its documentation is hereby granted, provided that both the
copyright notice and this permission notice appear in all copies of
the software, derivative works or modified versions, and any
portions thereof.

NRL ALLOWS FREE USE OF THIS SOFTWARE IN ITS "AS IS" CONDITION AND
DISCLAIMS ANY LIABILITY OF ANY KIND FOR ANY DAMAGES WHATSOEVER
RESULTING FROM THE USE OF THIS SOFTWARE.

==========

Portions extracted from Internet RFCs have the following copyright notice:

Copyright (C) The Internet Society (2006).

This document is subject to the rights, licenses and restrictions contained in BCP 78, and except as set forth therein, the authors retain
all their rights.

This document and the information contained herein are provided on an "AS IS" basis and THE CONTRIBUTOR, THE ORGANIZATION HE/SHE REPRESENTS OR IS SPONSORED BY (IF ANY), THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

==========

Copyright (C) 1991, 1992, 1994 by Cygnus Support.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation. Cygnus Support makes no representations about
the suitability of this software for any
purpose. It is provided "as is" without express or implied warranty.

==========

Copyright (C) 2006 Secure Endpoints Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR
PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========

Portions of the implementation of the Fortuna-like PRNG are subject to the following notice:

Copyright (C) 2005 Marko Kreen
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided
with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (C) 1994 by the University of Southern California

EXPORT OF THIS SOFTWARE from the United States of America may require a specific license from

the United States Government. It
is the responsibility of any person or organization
contemplating export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to copy, modify, and distribute
this software and its documentation in source and binary forms is
hereby granted, provided that any documentation or other materials
related to such distribution or use acknowledge that the software
was developed by the University of Southern California.

DISCLAIMER OF WARRANTY. THIS SOFTWARE IS PROVIDED "AS IS". The
University of Southern California MAKES NO REPRESENTATIONS OR
WARRANTIES, EXPRESS OR IMPLIED. By way of example, but not
limitation, the University of Southern California MAKES NO
REPRESENTATIONS OR WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY
PARTICULAR PURPOSE. The University of Southern California shall not
be held liable for any liability nor for any direct, indirect, or
consequential damages with respect
to any claim by the user or
distributor of the ksu software.

==========

Copyright (C) 1995
The President and Fellows of Harvard University

This code is derived from software contributed to Harvard by Jeremy
Rassen.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. All advertising materials mentioning features or use of this
software must display the following acknowledgement:

This product includes software developed by
the University of
California, Berkeley and its contributors.

4. Neither the name of the University nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS
OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT
OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

==========

Copyright (C) 2008 by the Massachusetts Institute of Technology.
Copyright 1995 by Richard P. Basch. All Rights Reserved.
Copyright 1995 by Lehman Brothers, Inc. All Rights Reserved.

Export of this software from the United States of America may
require a specific license from the United States Government. It
is the responsibility of any person or organization
contemplating export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of Richard P. Basch, Lehman Brothers and M.I.T. not be
used
in advertising or publicity pertaining to distribution of the
software without specific, written prior permission. Richard P.
Basch, Lehman Brothers and M.I.T. make no representations about the
suitability of this software for any purpose. It is provided "as
is" without express or implied warranty.

==========

The following notice applies to "src/lib/krb5/krb/strptime.c" and
"src/include/k5-queue.h".

Copyright (C) 1997, 1998 The NetBSD Foundation, Inc.

All rights reserved.

This code was contributed to The NetBSD Foundation by Klaus Klein.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
   copyright
notice, this list of conditions and the following
   disclaimer in the documentation and/or other materials provided
   with the distribution.

3. All advertising materials mentioning features or use of this
   software must display the following acknowledgement:

      This product includes software developed by the NetBSD
      Foundation, Inc. and its contributors.

4. Neither the name of The NetBSD Foundation nor the names of its
   contributors may be used to endorse or promote products derived
   from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND
CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED.  IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

==========

The following notice applies to Unicode library files in
"src/lib/krb5/unicode":

Copyright 1997, 1998, 1999 Computing Research Labs,

New Mexico State University

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software without
restriction, including without limitation the rights to use, copy,
modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit
persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE COMPUTING RESEARCH LAB OR
NEW MEXICO STATE UNIVERSITY BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE
OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========

The following notice applies to "src/util/support/strlcpy.c":

Copyright (C) 1998 Todd C. Miller "Todd.Miller@courtesan.com"

Permission to use, copy, modify, and distribute this software
for
any purpose with or without fee is hereby granted, provided that
the above copyright notice and this permission notice appear in all
copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL
WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE
AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

==========

The following notice applies to "src/util/profile/argv_parse.c" and
"src/util/profile/argv_parse.h":

Copyright 1999 by Theodore Ts'o.

Permission to use, copy, modify, and distribute this software for
any purpose with or without fee is hereby granted,
provided that
the above copyright notice and this permission notice appear in all
copies. THE SOFTWARE IS PROVIDED "AS IS" AND THEODORE TS'O (THE
AUTHOR) DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE,
INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN
NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER
RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION
OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR
IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE. (Isn't
it sick that the U.S. culture of lawsuit-happy lawyers requires
this kind of disclaimer?)

==========

The following notice applies to SWIG-generated code in
"src/util/profile/profile_tcl.c":

Copyright (C) 1999-2000, The University of Chicago

This file may be freely redistributed without license
or fee
provided this copyright message remains intact.

==========

The following notice applies to portiions of "src/lib/rpc" and
"src/include/gssrpc":

Copyright (C) 2000 The Regents of the University of Michigan. All
rights reserved.

Copyright (C) 2000 Dug Song "dugsong@UMICH.EDU". All rights
reserved, all wrongs reversed.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above

copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. Neither the name of the University nor the names of its
contributors
may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

==========

Implementations of the MD4 algorithm are subject to the
following
notice:

Copyright (C) 1990, RSA Data Security, Inc. All rights reserved.

License to copy and use this software is granted provided that it
is identified as the "RSA Data Security, Inc. MD4 Message Digest
Algorithm" in all material mentioning or referencing this software
or this function.

License is also granted to make and use derivative works provided
that such works are identified as "derived from the RSA Data
Security, Inc. MD4 Message Digest Algorithm" in all material
mentioning or referencing the derived work.

RSA Data Security, Inc. makes no representations concerning either
the merchantability of this software or the suitability of this
software for any particular purpose. It is provided "as is"
without express or implied warranty of any kind.

These notices must be retained in any copies of any part of this
documentation and/or software.

==========

Implementations
 of the MD5 algorithm are subject to the following
notice:

 Copyright (C) 1990, RSA Data Security, Inc. All rights reserved.

 License to copy and use this software is granted provided that it
 is identified as the "RSA Data Security, Inc. MD5 Message- Digest
 Algorithm" in all material mentioning or referencing this software
 or this function.

 License is also granted to make and use derivative works provided
 that such works are identified as "derived from the RSA Data
 Security, Inc. MD5 Message-Digest Algorithm" in all material
 mentioning or referencing the derived work.

 RSA Data Security, Inc. makes no representations concerning either
 the merchantability of this software or the suitability of this
 software for any particular purpose.  It is provided "as is"
 without express or implied warranty of any kind.

 These notices must be retained in any copies of any part of this
 documentation and/or software.

==========

The
 following notice applies to
"src/lib/crypto/crypto_tests/t_mddriver.c":

 Copyright (C) 1990-2, RSA Data Security, Inc. Created 1990. All
 rights reserved.

 RSA Data Security, Inc. makes no representations concerning either
 the merchantability of this software or the suitability of this
 software for any particular purpose. It is provided "as is" without
 express or implied warranty of any kind.

 These notices must be retained in any copies of any part of this
 documentation and/or software.

==========

Portions of "src/lib/krb5" are subject to the following notice:

 Copyright (C) 1994 CyberSAFE Corporation.

Copyright 1990,1991,2007,2008 by the Massachusetts Institute of Technology.
All Rights Reserved.

Export of this software from the United States of America may
require a specific license from the United States Government. It
is the responsibility
of any person or organization
contemplating export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of M.I.T. not be used in advertising or publicity
pertaining to distribution of the software without specific,
written prior permission. Furthermore if you modify this software
you must label your software as modified software and not
distribute it in such a fashion that it might be confused with the
original M.I.T. software. Neither M.I.T., the Open Computing
Security Group, nor CyberSAFE Corporation make any representations
about the suitability of this software for any purpose. It is
provided "as
is" without express or implied warranty.

==========

Portions contributed by PADL Software are subject to the following
license:

Copyright (c) 2011, PADL Software Pty Ltd. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. Neither the name of PADL Software nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED
BY PADL SOFTWARE AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL PADL SOFTWARE
OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT
OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

==========

The bundled libev source code is subject to the following license:

All files in libev are Copyright (C)2007,2008,2009 Marc Alexander
Lehmann.

Redistribution and
use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in
  the documentation and/or other materials provided with the
  distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA,
OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

Alternatively, the contents of this package may be used under the
terms of the GNU General Public License ("GPL") version 2 or any
later version, in which case the provisions of the GPL are
applicable instead of the above. If you wish to allow the use of
your version of this package only under the terms of the GPL and
not to allow others to use your version of this file under the BSD
license, indicate your decision by deleting the provisions above
and replace them with the notice and other provisions required by
the GPL in this and the other files of this package. If you do not
delete the provisions above, a recipient may use your version of
this file under either the BSD or
the GPL.

==========

Files copied from the Intel AESNI Sample Library are subject to the
following license:

Copyright (C) 2010, Intel Corporation
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials
provided with the distribution.

* Neither the name of Intel Corporation nor the names of its
contributors may be used to endorse or promote products
derived from this software without specific prior written
permission.

THIS SOFTWARE
IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,

STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

==========

The following notice applies to
"src/ccapi/common/win/OldCC/autolock.hxx":

Copyright (C) 1998 by Danilo Almeida. All rights reserved.

Redistribution
and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS
OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.
[ NOTE: MIT has only incorporated the mechglue and spnego change, and
not the incremental propagation changes. The filenames are different
between the Sun and MIT sources. The actual MIT filenames appear in
the top-level README file. Original text of Sun's LICENSE file
follows. ]

Subject to the license set forth below, Sun Microsystems, Inc. donates
the attached files to MIT for the purpose of including these
modifications and additions in future versions of the Kerberos system.

Many of the files attached are subject to licenses issued by other

entities, including OpenVision, MIT, and FundsXpress. See the individual files, and/or related Readme files, for these licenses.

In addition Sun requires that the license set forth below be incorporated into any future version of the Kerberos system which contains portions of the files attached. The following files must be listed, in the top level Readme file, as being provided subject to such license:

cmd/krb5/iprop/iprop.x
cmd/krb5/iprop/iprop_hdr.h
cmd/krb5/kadmin/server/ipropd_svc.c
cmd/krb5/kproplog/kproplog.c
cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h
lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
lib/libgss/g_accept_sec_context.c
lib/libgss/g_acquire_cred.c
lib/libgss/g_canon_name.c
lib/libgss/g_compare_name.c
lib/libgss/g_context_time.c
lib/libgss/g_delete_sec_context.c
lib/libgss/g_dsp_name.c
lib/libgss/g_dsp_status.c
lib/libgss/g_dup_name.c
lib/libgss/g_exp_sec_context.c
lib/libgss/g_export_name.c
lib/libgss/g_glue.c
lib/libgss/g_imp_name.c
lib/libgss/g_imp_sec_context.c
lib/libgss/g_init_sec_context.c
lib/libgss/g_initialize.c
lib/libgss/g_inquire_context.c
lib/libgss/g_inquire_cred.c
lib/libgss/g_inquire_names.c
lib/libgss/g_process_context.c
lib/libgss/g_rel_buffer.c
lib/libgss/g_rel_cred.c
lib/libgss/g_rel_name.c
lib/libgss/g_rel_oid_set.c
lib/libgss/g_seal.c
lib/libgss/g_sign.c

lib/libgss/g_store_cred.c
lib/libgss/g_unseal.c
lib/libgss/g_userok.c
lib/libgss/g_utils.c
lib/libgss/g_verify.c
lib/libgss/gssd_pname_to_uid.c
uts/common/gssapi/include/gssapi_err_generic.h
uts/common/gssapi/include/mechglueP.h

Sun's
License is as follows:

Copyright (c) 2004 Sun Microsystems, Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright
=========

Copyright |copy| 1985-2017 by the Massachusetts Institute of
Technology and its contributors.  All rights reserved.

See :ref:`mitK5license` for additional copyright and license
information.
.. _mitK5license:

MIT Kerberos License information
================================

.. toctree::
   :hidden:

copyright.rst

.. include:: notice.rst

# 1.392 pam 1.1.8-3.6ubuntu2.18.04.4

## 1.392.1 Available under license :

Unless otherwise *explicitly* stated the following text describes the
licensed conditions under which the contents of this Linux-PAM release
may be distributed:

---

Redistribution and use in source and binary forms of Linux-PAM, with
or without modification, are permitted provided that the following
conditions are met:

1. Redistributions of source code must retain any existing copyright
notice, and this entire permission notice in its entirety,
including the disclaimer of warranties.

2. Redistributions in binary form must reproduce all prior and current
copyright notices, this list of conditions, and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. The name of any author may not be used to endorse or promote
products derived from this software without their specific prior
written permission.

ALTERNATIVELY, this product may be distributed
under the terms of the
GNU General Public License, in which case the provisions of the GNU
GPL are required INSTEAD OF the above restrictions. (This clause is
necessary due to a potential conflict between the GNU GPL and the
restrictions contained in a BSD-style copyright.)

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS
OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR
TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH

DAMAGE.

---

Unless otherwise *explicitly* stated the following text describes the
licensed conditions under which the contents of this libpamc release
may be distributed:

---

Redistribution and use in source and binary forms of libpamc,
with or without modification, are permitted provided that the
following conditions are met:

1. Redistributions of source code must retain any existing copyright
  notice, and this entire permission notice in its entirety,
  including the disclaimer of warranties.

2. Redistributions in binary form must reproduce all prior and current
  copyright notices, this list of conditions, and the following
  disclaimer in the documentation and/or other materials provided
  with the distribution.

3. The name of any author may not be used to endorse or promote
  products derived from this software without their specific prior
  written permission.

ALTERNATIVELY, this product may be distributed under
 the terms of the
GNU Library General Public License (LGPL), in which case the
provisions of the GNU LGPL are required INSTEAD OF the above
restrictions.  (This clause is necessary due to a potential conflict
between the GNU LGPL and the restrictions contained in a BSD-style
copyright.)

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS
OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR
TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

---

Patch for Ubuntu bug #399071

Display the contents of /etc/legal as part of the MOTD, the first time the
user logs in, and set a flag in the user's homedir if possible to prevent

repeat displays.

Authors: Dustin Kirkland <kirkland@canonical.com>

Upstream status: Ubuntu-specific, maybe submit to Debian

Index: pam.ubuntu/modules/pam_motd/pam_motd.c
```
===================================================================
--- pam.ubuntu.orig/modules/pam_motd/pam_motd.c
+++ pam.ubuntu/modules/pam_motd/pam_motd.c
@@ -73,6 +73,61 @@
 close(fd);
}

+int display_legal(pam_handle_t *pamh)
+{
+    int retval = PAM_IGNORE, rc;
+    char *user = NULL;
+    char *dir = NULL;
+    char *flag = NULL;
+    struct passwd *pwd = NULL;
+    struct stat s;
+    int f;
+    /* Get the user name to determine if we need to print the disclaimer */
+    rc = pam_get_item(pamh, PAM_USER, &user);
+    if (rc == PAM_SUCCESS && user != NULL && *(const char *)user != '\0')
+    {
+        PAM_MODUTIL_DEF_PRIVS(privs);
+
+
      /* Get the password entry */
+        pwd = pam_modutil_getpwnam (pamh, user);
+        if (pwd != NULL)
+        {
+            if (pam_modutil_drop_priv(pamh, &privs, pwd)) {
+                pam_syslog(pamh, LOG_ERR,
+                           "Unable to change UID to %d temporarily\n",
+                           pwd->pw_uid);
+                retval = PAM_SESSION_ERR;
+                goto finished;
+            }
+
+            if (asprintf(&dir, "%s/.cache", pwd->pw_dir) == -1 || !dir)
+                goto finished;
+            if (asprintf(&flag, "%s/motd.legal-displayed", dir) == -1 || !flag)
+                goto finished;
+
+            if (stat(flag, &s) != 0)
```

```
+           {
+              display_file(pamh, "/etc/legal");
+              mkdir(dir, 0700);
+              f = open(flag, O_WRONLY|O_CREAT|O_EXCL,
+                    S_IRUSR|S_IWUSR|S_IRGRP|S_IROTH);
+              if (f>=0) close(f);
+           }
+
+finished:
+           if (pam_modutil_regain_priv(pamh,
 &privs)) {
+              pam_syslog(pamh, LOG_ERR,
+                     "Unable to change UID back to %d\n", privs.old_uid);
+              retval = PAM_SESSION_ERR;
+           }
+
+           _pam_drop(flag);
+           _pam_drop(dir);
+       }
+    }
+    return retval;
+}
+
PAM_EXTERN
int pam_sm_open_session(pam_handle_t *pamh, int flags,
  int argc, const char **argv)
@@ -116,6 +171,9 @@
    /* Display the updated motd */
    display_file(pamh, motd_path);

+    /* Display the legal disclaimer only if necessary */
+    retval = display_legal(pamh);
+
    return retval;
}
```

This package was debianized by J.H.M. Dassen (Ray) jdassen@debian.org on
Wed, 23 Sep 1998 20:29:32 +0200.

It was downloaded from ftp://ftp.kernel.org/pub/linux/libs/pam/pre/

Copyright (C) 1994, 1995, 1996 Olaf Kirch, <okir@monad.swb.de>
Copyright (C) 1995 Wietse Venema
Copyright (C) 1995, 2001-2008 Red Hat, Inc.
Copyright (C) 1996-1999, 2000-2003, 2005 Andrew G. Morgan <morgan@kernel.org>
Copyright (C) 1996, 1997, 1999 Cristian Gafton <gafton@redhat.com>
Copyright (C) 1996, 1999 Theodore Ts'o
Copyright (C) 1996 Alexander O. Yuriev
Copyright (C) 1996 Elliot Lee

Copyright (C) 1997 Philip W. Dalrymple <pwd@mdtsoft.com>
Copyright (C) 1999 Jan Rkorajski
Copyright (C) 1999 Ben Collins <bcollins@debian.org>
Copyright (C) 2000-2001, 2003, 2005, 2007 Steve Langasek
Copyright (C) 2003, 2005 IBM Corporation
Copyright (C) 2003, 2006 SuSE Linux AG.
Copyright (C) 2003 Nalin Dahyabhai <nalin@redhat.com>
Copyright (C) 2005-2008 Thorsten Kukuk <kukuk@thkukuk.de>
Copyright (C) 2005 Darren Tucker

Unless
otherwise *explicitly* stated the following text describes the
licensed conditions under which the contents of this Linux-PAM release
may be distributed:

---
Redistribution and use in source and binary forms of Linux-PAM, with
or without modification, are permitted provided that the following
conditions are met:

1. Redistributions of source code must retain any existing copyright
notice, and this entire permission notice in its entirety,
including the disclaimer of warranties.

2. Redistributions in binary form must reproduce all prior and current
copyright notices, this list of conditions, and the following
disclaimer in the documentation and/or other materials provided
with the distribution.

3. The name of any author may not be used to endorse or promote
products derived from this software without their specific prior
written permission.

ALTERNATIVELY, this product may be distributed under
the terms of the
GNU General Public License, in which case the provisions of the GNU
GPL are required INSTEAD OF the above restrictions. (This clause is
necessary due to a potential conflict between the GNU GPL and the
restrictions contained in a BSD-style copyright.)

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS
OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND

ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

On
Debian GNU/Linux systems, the complete text of the GNU General Public License can be found in `/usr/share/common-licenses/GPL'.

# 1.393 xxd 8.0.1453-1ubuntu1.10

# 1.394 postgre-sql 10.23-0ubuntu0.18.04.1

## 1.394.1 Available under license :

This regular expression package was originally developed by Henry Spencer.
It bears the following copyright notice:

**********

Copyright (c) 1998, 1999 Henry Spencer.  All rights reserved.

Development of this software was funded, in part, by Cray Research Inc., UUNET Communications Services Inc., Sun Microsystems Inc., and Scriptics Corporation, none of whom are responsible for the results.  The author thanks all of them.

Redistribution and use in source and binary forms -- with or without modification -- are permitted for any purpose, provided that redistributions in source form retain this entire copyright notice and indicate the origin and nature of any modifications.

I'd appreciate being given credit for this package in the documentation of software which uses it, but that is not a requirement.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL HENRY SPENCER BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF

ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

**********

PostgreSQL adopted the code out of Tcl 8.4.1. Portions of regc_locale.c
and re_syntax.n were developed by Tcl developers other than Henry; these
files bear the Tcl copyright and license notice:

**********

This software is copyrighted by the Regents of the University of
California, Sun Microsystems,
Inc., Scriptics Corporation, ActiveState
Corporation and other parties. The following terms apply to all files
associated with the software unless explicitly disclaimed in
individual files.

The authors hereby grant permission to use, copy, modify, distribute,
and license this software and its documentation for any purpose, provided
that existing copyright notices are retained in all copies and that this
notice is included verbatim in any distributions. No written agreement,
license, or royalty fee is required for any of the authorized uses.
Modifications to this software may be copyrighted by their authors
and need not follow the licensing terms described here, provided that
the new terms are clearly indicated on the first page of each file where
they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY
FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES
ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY
DERIVATIVES THEREOF,
EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE
IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE
NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR
MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the
U.S. government, the Government shall have only "Restricted Rights"
in the software and related documentation as defined in the Federal
Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you
are acquiring the software on behalf of the Department of Defense, the
software shall be classified as "Commercial Computer Software" and the
Government shall have only "Restricted Rights" as defined in Clause

252.227-7013 (c) (1) of DFARs.  Notwithstanding the foregoing, the
authors
 grant the U.S. Government and others acting in its behalf
permission to use and distribute the software in accordance with the
terms specified in this license.

**********

Subsequent modifications to the code by the PostgreSQL project follow
the same license terms as the rest of PostgreSQL.
PostgreSQL Database Management System
(formerly known as Postgres, then as Postgres95)

Portions Copyright (c) 1996-2022, PostgreSQL Global Development Group

Portions Copyright (c) 1994, The Regents of the University of California

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose, without fee, and without a written agreement
is hereby granted, provided that the above copyright notice and this
paragraph and the following two paragraphs appear in all copies.

IN NO EVENT SHALL THE UNIVERSITY OF CALIFORNIA BE LIABLE TO ANY PARTY FOR
DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING
LOST PROFITS, ARISING OUT OF THE USE OF THIS SOFTWARE AND ITS
DOCUMENTATION, EVEN IF THE UNIVERSITY OF CALIFORNIA HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

THE UNIVERSITY OF CALIFORNIA SPECIFICALLY DISCLAIMS ANY WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE.
  THE SOFTWARE PROVIDED HEREUNDER IS
ON AN "AS IS" BASIS, AND THE UNIVERSITY OF CALIFORNIA HAS NO OBLIGATIONS TO
PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

# 1.395 gson 2.8.9

## 1.395.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2011 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*

```
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/JsonReaderInternalAccess.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/JsonTreeReader.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/CollectionTypeAdapterFactory.java
* /gson-2-8-9-sources-4-jar/com/google/gson/TypeAdapter.java
*
 /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/ReflectiveTypeAdapterFactory.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/TypeAdapters.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/ObjectTypeAdapter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/ArrayTypeAdapter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/MapTypeAdapterFactory.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/JsonTreeWriter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/TypeAdapterFactory.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/TypeAdapterRuntimeTypeWrapper.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2017 The Gson authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/JavaVersion.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/reflect/UnsafeReflectionAccessor.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/reflect/ReflectionAccessor.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/reflect/PreJava9ReflectionAccessor.java
*

/gson-2-8-9-sources-4-jar/com/google/gson/internal/PreJava9DateFormatProvider.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2010 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/stream/JsonToken.java
* /gson-2-8-9-sources-4-jar/com/google/gson/stream/JsonScope.java
* /gson-2-8-9-sources-4-jar/com/google/gson/stream/JsonWriter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/stream/JsonReader.java
* /gson-2-8-9-sources-4-jar/com/google/gson/stream/MalformedJsonException.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2009 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/LongSerializationPolicy.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonParser.java
* /gson-2-8-9-sources-4-jar/com/google/gson/FieldAttributes.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonStreamParser.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2018 The Gson authors
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/GsonBuildConfig.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2011 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/sql/SqlTimeTypeAdapter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/UnsafeAllocator.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/DateTypeAdapter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/TreeTypeAdapter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/ConstructorConstructor.java
*
 /gson-2-8-9-sources-4-jar/com/google/gson/internal/sql/SqlDateTypeAdapter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/LazilyParsedNumber.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2010 The Android Open Source Project
* Copyright (C) 2012 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/LinkedTreeMap.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/LinkedHashTreeMap.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2010 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonSyntaxException.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/Streams.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 2014 Google Inc.
*
```

* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/annotations/JsonAdapter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/JsonAdapterAnnotationTypeAdapterFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2021 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/ToNumberPolicy.java
* /gson-2-8-9-sources-4-jar/com/google/gson/ToNumberStrategy.java
No license file was found, but licenses were detected in source scan.

/**
* Copyright (C) 2008 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*

* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/$Gson$Types.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2008 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonPrimitive.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonDeserializationContext.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/Primitives.java
* /gson-2-8-9-sources-4-jar/com/google/gson/annotations/Expose.java
* /gson-2-8-9-sources-4-jar/com/google/gson/GsonBuilder.java
*
 /gson-2-8-9-sources-4-jar/com/google/gson/JsonNull.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonSerializationContext.java
* /gson-2-8-9-sources-4-jar/com/google/gson/InstanceCreator.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonParseException.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonObject.java
* /gson-2-8-9-sources-4-jar/com/google/gson/FieldNamingStrategy.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonArray.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/$Gson$Preconditions.java
* /gson-2-8-9-sources-4-jar/com/google/gson/annotations/Since.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/ObjectConstructor.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonElement.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/Excluder.java
* /gson-2-8-9-sources-4-jar/com/google/gson/ExclusionStrategy.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonSerializer.java

* /gson-2-8-9-sources-4-jar/com/google/gson/annotations/Until.java
*
 /gson-2-8-9-sources-4-jar/com/google/gson/FieldNamingPolicy.java
* /gson-2-8-9-sources-4-jar/com/google/gson/reflect/TypeToken.java
* /gson-2-8-9-sources-4-jar/com/google/gson/Gson.java
* /gson-2-8-9-sources-4-jar/com/google/gson/annotations/SerializedName.java
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/DefaultDateTypeAdapter.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonIOException.java
* /gson-2-8-9-sources-4-jar/com/google/gson/JsonDeserializer.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 2020 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
* http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /gson-2-8-9-sources-4-jar/com/google/gson/internal/bind/NumberTypeAdapter.java

# 1.396 openssl 1.0.2n-1ubuntu5.11

## 1.396.1 Available under license :

Copyright (C) 1995-1997 Eric Young (eay@cryptsoft.com)
All rights reserved.

This package is an DES implementation written by Eric Young (eay@cryptsoft.com).
The implementation was written so as to conform with MIT's libdes.

This library is free for commercial and non-commercial use as long as
the following conditions are aheared to.  The following conditions
apply to all code found in this distribution.

Copyright remains Eric Young's, and as such any Copyright notices in
the code are not to be removed.
If this package is used in a product, Eric Young should be given attribution
as the author of that the SSL library.  This can be in the form of a textual

message at program startup or in documentation (online or textual) provided
with the package.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the copyright
  notice, this list of conditions and
 the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software
  must display the following acknowledgement:
  This product includes software developed by Eric Young (eay@cryptsoft.com)

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY,
 OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

The license and distribution terms for any publically available version or
derivative of this code cannot be changed.  i.e. this code cannot simply be
copied and put under another distrubution license
[including the GNU Public License.]

The reason behind this being stated in this direct manner is past
experience in code simply being copied and the attribution removed
from it and then being distributed as part of other packages. This
implementation was a non-trivial and unpaid effort.
Copyright (C) 1995-1997 Eric Young (eay@cryptsoft.com)
All rights reserved.

This package is an Blowfish implementation written
by Eric Young (eay@cryptsoft.com).

This library is free for commercial and non-commercial use as long as
the following conditions are aheared to.  The following conditions
apply to all code found in this distribution.

Copyright remains Eric Young's, and as such any Copyright notices in
the code are not to be removed.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software
   must display the following acknowledgement:
  This product includes software developed by Eric Young (eay@cryptsoft.com)

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

The license and distribution terms for any publically available version or
derivative of this code cannot be changed.  i.e. this code cannot simply be
copied
 and put under another distrubution license
[including the GNU Public License.]

The reason behind this being stated in this direct manner is past
experience in code simply being copied and the attribution removed
from it and then being distributed as part of other packages. This
implementation was a non-trivial and unpaid effort.

 LICENSE ISSUES
 ==============

 The OpenSSL toolkit stays under a double license, i.e. both the conditions of
 the OpenSSL License and the original SSLeay license apply to the toolkit.
 See below for the actual license texts. Actually both licenses are BSD-style
 Open Source licenses. In case of any license issues related to OpenSSL
 please contact openssl-core@openssl.org.

 OpenSSL License

---

```
/* ====================================================================
* Copyright (c) 1998-2017 The OpenSSL Project.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer
 in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. All advertising materials mentioning features or use of this
*    software must display the following acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
*    endorse or promote products derived from this software without
*    prior written permission. For written permission, please contact
*    openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"
*    nor may "OpenSSL" appear in their names without prior written
*    permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the following
*    acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit (http://www.openssl.org/)"
 *
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
```

* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com).  This product includes software
 written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/

Original SSLeay License
-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of
 the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
*     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can be left out if the rouines from the library

```
*    being used are not cryptographic
 related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must include an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
 OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed.  i.e. this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/
```

# 1.397 openssl 1.1.1-1ubuntu2.1~18.04.21

## 1.397.1 Available under license :

```
LICENSE ISSUES
==============

The OpenSSL toolkit stays under a double license, i.e. both the conditions of
the OpenSSL License and the original SSLeay license apply to the toolkit.
See below for the actual license texts.

OpenSSL License
---------------

/* ====================================================================
* Copyright (c) 1998-2018 The OpenSSL Project.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
```

```
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. All advertising materials mentioning features or use
 of this
*    software must display the following acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
*    endorse or promote products derived from this software without
*    prior written permission. For written permission, please contact
*    openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"
*    nor may "OpenSSL" appear in their names without prior written
*    permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the following
*    acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit (http://www.openssl.org/)"
*
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS" AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
 TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com).  This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/
```

Original SSLeay License

---

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
 * All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
 *
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
*     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can be left out if the rouines from the library
*    being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must
 include an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS" AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL

* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed. i.e.
this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA
02111-1307, USA.
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.
Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether

gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This
License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that
you distribute or publish, that in
whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived
from the Program,
and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest

your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even

though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying
the
Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if
a patent
license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY

FOR THE PROGRAM,
TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE
PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free
Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c'
for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public
License instead of this License.

The "Artistic License"

Preamble

The intent of this document is to state the conditions under which a
Package may be copied, such that the Copyright Holder maintains some
semblance of artistic control over the development of the package,
while giving the users of the package the right to use and distribute

the Package in a more-or-less customary fashion, plus the right to make reasonable modifications.

Definitions:

"Package" refers to the collection of files distributed by the Copyright Holder, and derivatives of that collection of files created through textual modification.

"Standard Version" refers to such a Package if it has not been modified, or has been modified in accordance with the wishes of the Copyright Holder as specified below.

"Copyright Holder" is whoever is named in the copyright or copyrights for the package.

"You" is you, if you're thinking about copying or distributing this Package.

"Reasonable copying fee" is whatever you can justify on the basis
of media cost, duplication charges, time of people involved, and so on. (You will not be required to justify it to the Copyright Holder, but only to the computing community at large as a market that must bear the fee.)

"Freely Available" means that no fee is charged for the item itself, though there may be fees involved in handling the item. It also means that recipients of the item may redistribute it under the same conditions they received it.

1. You may make and give away verbatim copies of the source form of the Standard Version of this Package without restriction, provided that you duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications derived from the Public Domain or from the Copyright Holder. A Package modified in such a way shall still be considered the Standard Version.

3. You may otherwise modify your copy of this Package in any way, provided that you insert a prominent
notice in each changed file stating how and
when you changed that file, and provided that you do at least ONE of the following:

a) place your modifications in the Public Domain or otherwise make them Freely Available, such as by posting said modifications to Usenet or an equivalent medium, or placing the modifications on a major archive

site such as uunet.uu.net, or by allowing the Copyright Holder to include your modifications in the Standard Version of the Package.

b) use the modified Package only within your corporation or organization.

c) rename any non-standard executables so the names do not conflict with standard executables, which must also be provided, and provide a separate manual page for each non-standard executable that clearly documents how it differs from the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or executable
form, provided that you do at least ONE of the following:

a) distribute a Standard Version of the executables and library files, together with instructions (in the manual page or equivalent) on where to get the Standard Version.

b) accompany the distribution with the machine-readable source of the Package with your modifications.

c) give non-standard executables non-standard names, and clearly document the differences in manual pages (or equivalent), together with instructions on where to get the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this Package. You may charge any fee you choose for support of this Package. You may not charge a fee for this Package itself. However, you may distribute this Package in aggregate with other (possibly commercial) programs as part of a larger (possibly commercial) software distribution provided
that you do not advertise this Package as a
product of your own. You may embed this Package's interpreter within an executable of yours (by linking); this shall be construed as a mere form of aggregation, provided that the complete Standard Version of the interpreter is so embedded.

6. The scripts and library files supplied as input to or produced as output from the programs of this Package do not automatically fall under the copyright of this Package, but belong to whoever generated them, and may be sold commercially, and may be aggregated with this Package. If such scripts or library files are aggregated with this Package via the so-called "undump" or "unexec" methods of producing a binary executable image, then distribution of such an image shall

neither be construed as a distribution of this Package nor shall it
fall under the restrictions of Paragraphs 3 and 4, provided that you do
not represent such an executable image as a Standard Version of this
Package.

7. C subroutines
(or comparably compiled subroutines in other
languages) supplied by you and linked into this Package in order to
emulate subroutines and variables of the language defined by this
Package shall not be considered part of this Package, but are the
equivalent of input as in Paragraph 6, provided these subroutines do
not change the language in any way that would cause it to fail the
regression tests for the language.

8. Aggregation of this Package with a commercial distribution is always
permitted provided that the use of this Package is embedded; that is,
when no overt attempt is made to make this Package's interfaces visible
to the end user of the commercial distribution.  Such use shall not be
construed as a distribution of this Package.

9. The name of the Copyright Holder may not be used to endorse or promote
products derived from this software without specific prior written permission.

10. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT
LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End

# 1.398 heimdal 7.5.0+dfsg-1ubuntu0.4

## 1.398.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: heimdal
Upstream-Contact: heimdal@h5l.org
Source: https://github.com/heimdal/heimdal
Files-Excluded: doc/doxyout
lib/wind/rfc3490.txt
lib/wind/rfc3491.txt
lib/wind/rfc4013.txt
lib/wind/rfc4518.txt

Files: *
Copyright: 1996-2017 Kungliga Tekniska Hgskolan
2009, 2010 Apple, Inc.
1991, 2013 Massachusetts Institute of Technology

1995-1997 Eric Young <eay@@mincom.oz.au>
1988, 1990, 1993 The Regents of the University of California
License: BSD-3-clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or
 other materials provided with the distribution.
.
3. Neither the name of the Institute nor the names of its contributors
   may be used to endorse or promote products derived from this software
   without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files:
 lib/wind/rfc3454.txt
Copyright: None
License: none
Not copyrightable; stripped to contain only tables.

Files: lib/wind/rfc3492.txt
Copyright: 2003 The Internet Society
License: custom
Regarding this entire document or any portion of it (including the
pseudocode and C code), the author makes no guarantees and is not
responsible for any damage resulting from its use.  The author grants
irrevocable permission to anyone to use, modify, and distribute it in
any way that does not diminish the rights of anyone else to use,
modify, and distribute it, provided that redistributed derivative
works do not contain misleading author or version information.
Derivative works need not be licensed under similar terms.

Files: debian/*
Copyright: 1999-2017 Brian May <bam@debian.org>
2017 Dominik George <nik@naturalnet.de>
License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free
Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
.
On Debian systems, the full text can be found in
/usr/share/common-licenses/GPL-2.

#Files: ?
#Copyright: 1992 Simmule Turner and Rich Salz
#License: Spencer-94
# This software is not subject to any license of the American Telephone
# and Telegraph Company or of the Regents of the University of California.
# .
# Permission is granted to anyone to use this software for any purpose on
# any computer system, and to alter it and redistribute it freely,
subject
# to the following restrictions:
# .
# 1. The authors are not responsible for the consequences of use of this
# software, no matter how awful, even if they arise from flaws in it.
# .
# 2. The origin of this software must not be misrepresented, either by
# explicit claim or by omission. Since few users ever read sources,
# credits must appear in the documentation.
# .
# 3. Altered versions must be plainly marked as such, and must not be
# misrepresented as being the original software. Since few users
# ever read sources, credits must appear in the documentation.
# .
# 4. This notice may not be removed or altered.

# 1.399 libheimbaseheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.399.1 Available under license :

Copyright (c) 1995 - 2014 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of the Institute nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
 AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Please see info documentation for the complete list of licenses.
Copyright (c) 1992, 1993
The Regents of the University of California.  All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions

are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
 TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@macro copynext{}
@vskip 20pt plus 1fil
@end macro

@macro copyrightstart{}
@end macro

@macro copyrightend{}
@end macro

@node  Copyrights and Licenses, , Acknowledgments, Top
@comment  node-name,  next,  previous,  up
@appendix Copyrights and Licenses

@heading Kungliga Tekniska Hgskolan

@copyrightstart
@verbatim

Copyright (c) 1997-2011 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Portions Copyright (c) 2009 Apple Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3.
 Neither the name of the Institute nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading Massachusetts Institute of Technology

The
 parts of the libtelnet that handle Kerberos.

@verbatim

Copyright (C) 1990 by the Massachusetts Institute of Technology

Export of this software from the United States of America may
require a specific license from the United States Government.
It is the responsibility of any person or organization contemplating
export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and

without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of M.I.T. not be used in advertising or publicity pertaining
to distribution of the software without specific, written prior
permission.  M.I.T. makes no representations about the suitability of
this software for any purpose.  It is provided "as is" without express
or implied warranty.

@end
 verbatim
@copynext

@heading The Regents of the University of California

The parts of the libroken, most of libtelnet, telnet, ftp,
and popper.

@verbatim

Copyright (c) 1988, 1990, 1993
    The Regents of the University of California.  All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS
 ``AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY

OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading The Regents of the University of California.

libedit

@verbatim

Copyright (c) 1992, 1993
The Regents of the University of California.  All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution
 and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
 EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading TomsFastMath / LibTomMath

Tom's fast math (bignum support) and LibTomMath

@verbatim

LibTomMath is hereby released into the Public Domain.

@end verbatim

@copynext

@heading Doug Rabson

GSS-API mechglue layer.

@verbatim

Copyright (c) 2005 Doug Rabson
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions
 in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading PADL Software Pty Ltd

@table

@asis
@item GSS-API CFX, SPNEGO, naming extensions, API extensions.
@item KCM credential cache.
@item HDB LDAP backend.
@end table

@verbatim

Copyright (c) 2003-2011, PADL Software Pty Ltd.
Copyright (c) 2004, Andrew Bartlett.
Copyright (c) 2003 - 2008, Kungliga Tekniska Hgskolan
Copyright (c) 2015, Timothy Pearson.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of PADL Software nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific
prior written permission.

THIS SOFTWARE IS PROVIDED BY PADL SOFTWARE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL PADL SOFTWARE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading Marko Kreen

Fortuna in libhcrypto

@verbatim

Copyright (c) 2005 Marko Kreen
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted
provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading NTT (Nippon Telegraph and Telephone Corporation)

Camellia in libhcrypto

@verbatim

Copyright (c) 2006,2007
NTT (Nippon Telegraph and Telephone Corporation) . All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer as
the first lines of this file unmodified.
2. Redistributions in binary form must reproduce the above copyright

notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY NTT ``AS IS" AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL NTT BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim
@copynext

@heading The NetBSD Foundation, Inc.

vis.c in libroken

@verbatim

Copyright (c) 1999, 2005 The NetBSD Foundation, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and
the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

@end
verbatim
@copynext

@heading Vincent Rijmen, Antoon Bosselaers, Paulo Barreto

AES in libhcrypto

@verbatim

rijndael-alg-fst.c

@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
@author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
@author Paulo Barreto <paulo.barreto@terra.com.br>

This code is hereby placed in the public domain.

THIS SOFTWARE IS PROVIDED BY THE AUTHORS "AS IS" AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim
@copynext

@heading Apple, Inc

kdc/announce.c

@verbatim

Copyright (c) 2008 Apple Inc. All Rights Reserved.

Export of this software from the United States of America may require

a specific license from the United States Government.  It is the
responsibility of any person or organization contemplating export to
obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of Apple Inc. not be used in advertising or publicity pertaining
to distribution of the software without specific, written
 prior
permission.  Apple Inc. makes no representations about the suitability of
this software for any purpose.  It is provided "as is" without express
or implied warranty.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

@end verbatim

@copynext

@heading Richard Outerbridge

DES core in libhcrypto

@verbatim

D3DES (V5.09) -

A portable, public domain, version of the Data Encryption Standard.

Written with Symantec's THINK (Lightspeed) C by Richard Outerbridge.
Thanks to: Dan Hoey for his excellent Initial and Inverse permutation
code;  Jim Gillogly & Phil Karn for the DES key schedule code; Dennis
Ferguson, Eric Young and Dana How for comparing notes; and Ray Lau,
for humouring me on.

Copyright (c) 1988,1989,1990,1991,1992 by Richard Outerbridge.
(GEnie : OUTER; CIS : [71755,204]) Graven Imagery, 1992.

@end verbatim

@copynext

@heading
Secure Endpoints Inc

Windows support

@verbatim

Copyright (c) 2009-2015, Secure Endpoints Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

- Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
 notice, this list of conditions and the following disclaimer in
 the documentation and/or other materials provided with the
 distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING,
 BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim

@copynext

@heading Novell, Inc

lib/hcrypto/test_dh.c

@verbatim

Copyright (c) 2007, Novell, Inc.
Author: Matthias Koenig <mkoenig@suse.de>

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
 list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
 this list of conditions and the following disclaimer in the documentation
 and/or other materials
 provided with the distribution.

* Neither the name of the Novell nor the names of its contributors may be used
 to endorse or promote products derived from this software without specific
 prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim

@copyrightend

# 1.400 libhxheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.400.1 Available under license :

Copyright (c) 1995 - 2014 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright

notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the Institute nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Please see info documentation for the complete list of licenses.
Copyright (c) 1992, 1993
The Regents of the University of California. All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE

FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@macro copynext{}
@vskip 20pt plus 1fil
@end macro

@macro copyrightstart{}
@end macro

@macro copyrightend{}
@end macro

@node  Copyrights and Licenses, , Acknowledgments, Top
@comment  node-name,  next,  previous,  up
@appendix Copyrights and Licenses

@heading Kungliga Tekniska Hgskolan

@copyrightstart
@verbatim

Copyright (c) 1997-2011 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Portions Copyright (c) 2009 Apple Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3.
 Neither the name of the Institute nor the names of its contributors
  may be used to endorse or promote products derived from this software

without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading Massachusetts Institute of Technology

The
parts of the libtelnet that handle Kerberos.

@verbatim

Copyright (C) 1990 by the Massachusetts Institute of Technology

Export of this software from the United States of America may
require a specific license from the United States Government.
It is the responsibility of any person or organization contemplating
export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of M.I.T. not be used in advertising or publicity pertaining
to distribution of the software without specific, written prior
permission. M.I.T. makes no representations about the suitability of
this software for any purpose. It is provided "as is" without express
or implied warranty.

@end
verbatim
@copynext

@heading The Regents of the University of California

The parts of the libroken, most of libtelnet, telnet, ftp,
and popper.

@verbatim

Copyright (c) 1988, 1990, 1993
The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS
``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading The Regents of the University of California.

libedit

@verbatim

Copyright (c) 1992, 1993
The Regents of the University of California. All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution
and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading TomsFastMath / LibTomMath

Tom's fast math (bignum support) and LibTomMath

@verbatim

LibTomMath is hereby released into the Public Domain.

@end verbatim

@copynext

@heading Doug Rabson

GSS-API mechglue layer.

@verbatim

Copyright (c) 2005 Doug Rabson
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions
 in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading PADL Software Pty Ltd

@table
 @asis
@item GSS-API CFX, SPNEGO, naming extensions, API extensions.
@item KCM credential cache.
@item HDB LDAP backend.
@end table

@verbatim

Copyright (c) 2003-2011, PADL Software Pty Ltd.
Copyright (c) 2004, Andrew Bartlett.
Copyright (c) 2003 - 2008, Kungliga Tekniska Hgskolan
Copyright (c) 2015, Timothy Pearson.
All rights reserved.

Redistribution and use in source and binary forms, with or without

modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of PADL Software nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific
prior written permission.

THIS SOFTWARE IS PROVIDED BY PADL SOFTWARE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL PADL SOFTWARE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading Marko Kreen

Fortuna in libhcrypto

@verbatim

Copyright (c) 2005 Marko Kreen
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted
provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading NTT (Nippon Telegraph and Telephone Corporation)

Camellia in libhcrypto

@verbatim

Copyright (c) 2006,2007
NTT (Nippon Telegraph and Telephone Corporation) . All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer as
the first lines of this file unmodified.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY NTT ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL NTT BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim
@copynext

@heading The NetBSD Foundation, Inc.

vis.c in libroken

@verbatim

Copyright (c) 1999, 2005 The NetBSD Foundation, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and
 the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

@end
 verbatim
@copynext

@heading Vincent Rijmen, Antoon Bosselaers, Paulo Barreto

AES in libhcrypto

@verbatim

rijndael-alg-fst.c

@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
@author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
@author Paulo Barreto <paulo.barreto@terra.com.br>

This code is hereby placed in the public domain.

THIS SOFTWARE IS PROVIDED BY THE AUTHORS "AS IS" AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim
@copynext

@heading Apple, Inc

kdc/announce.c

@verbatim

Copyright (c) 2008 Apple Inc. All Rights Reserved.

Export of this software from the United States of America may require
a specific license from the United States Government. It is the
responsibility of any person or organization contemplating export to
obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of Apple Inc. not be used in advertising or publicity pertaining
to distribution of the software without specific, written
prior
permission. Apple Inc. makes no representations about the suitability of
this software for any purpose. It is provided "as is" without express
or implied warranty.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

@end verbatim

@copynext

@heading Richard Outerbridge

DES core in libhcrypto

@verbatim

D3DES (V5.09) -

A portable, public domain, version of the Data Encryption Standard.

Written with Symantec's THINK (Lightspeed) C by Richard Outerbridge.
Thanks to: Dan Hoey for his excellent Initial and Inverse permutation
code;  Jim Gillogly & Phil Karn for the DES key schedule code; Dennis
Ferguson, Eric Young and Dana How for comparing notes; and Ray Lau,
for humouring me on.

Copyright (c) 1988,1989,1990,1991,1992 by Richard Outerbridge.
(GEnie : OUTER; CIS : [71755,204]) Graven Imagery, 1992.

@end verbatim

@copynext

@heading
Secure Endpoints Inc

Windows support

@verbatim

Copyright (c) 2009-2015, Secure Endpoints Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

- Redistributions of source code must retain the above copyright

notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the documentation and/or other materials provided with the
distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim

@copynext

@heading Novell, Inc

lib/hcrypto/test_dh.c

@verbatim

Copyright (c) 2007, Novell, Inc.
Author: Matthias Koenig <mkoenig@suse.de>

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials
provided with the distribution.

* Neither the name of the Novell nor the names of its contributors may be used

to endorse or promote products derived from this software without specific
prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim

@copyrightend

# 1.401 librokenheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.401.1 Available under license :

Copyright (c) 1995 - 2014 Kungliga Tekniska Högskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the Institute nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE

FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Please see info documentation for the complete list of licenses.

# 1.402 libheimntlmheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.402.1 Available under license :

Copyright (c) 1995 - 2014 Kungliga Tekniska Högskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of the Institute nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
 AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Please see info documentation for the complete list of licenses.

# 1.403 libasnheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.403.1 Available under license :

Copyright (c) 1995 - 2014 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of the Institute nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
 AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Please see info documentation for the complete list of licenses.

Copyright (c) 1992, 1993
The Regents of the University of California.  All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
 TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@macro copynext{}
@vskip 20pt plus 1fil
@end macro

@macro copyrightstart{}
@end macro

@macro copyrightend{}
@end macro

@node  Copyrights and Licenses, , Acknowledgments, Top
@comment  node-name,  next,  previous,  up
@appendix Copyrights and Licenses

@heading Kungliga Tekniska Hgskolan

@copyrightstart
@verbatim

Copyright (c) 1997-2011 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Portions Copyright (c) 2009 Apple Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3.
 Neither the name of the Institute nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading Massachusetts Institute of Technology

The
 parts of the libtelnet that handle Kerberos.

@verbatim

Copyright (C) 1990 by the Massachusetts Institute of Technology

Export of this software from the United States of America may
require a specific license from the United States Government.
It is the responsibility of any person or organization contemplating
export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of M.I.T. not be used in advertising or publicity pertaining
to distribution of the software without specific, written prior
permission.  M.I.T. makes no representations about the suitability of
this software for any purpose.  It is provided "as is" without express
or implied warranty.

@end
 verbatim
@copynext

@heading The Regents of the University of California

The parts of the libroken, most of libtelnet, telnet, ftp,
and popper.

@verbatim

Copyright (c) 1988, 1990, 1993
    The Regents of the University of California.  All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS
 ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)

HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading The Regents of the University of California.

libedit

@verbatim

Copyright (c) 1992, 1993
The Regents of the University of California.  All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution
 and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
 EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading TomsFastMath / LibTomMath

Tom's fast math (bignum support) and LibTomMath

@verbatim

LibTomMath is hereby released into the Public Domain.

@end verbatim

@copynext

@heading Doug Rabson

GSS-API mechglue layer.

@verbatim

Copyright (c) 2005 Doug Rabson
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions
 in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading PADL Software Pty Ltd

@table
 @asis
@item GSS-API CFX, SPNEGO, naming extensions, API extensions.
@item KCM credential cache.
@item HDB LDAP backend.
@end table

@verbatim

Copyright (c) 2003-2011, PADL Software Pty Ltd.
Copyright (c) 2004, Andrew Bartlett.
Copyright (c) 2003 - 2008, Kungliga Tekniska Hgskolan
Copyright (c) 2015, Timothy Pearson.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of PADL Software nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific
 prior written permission.

THIS SOFTWARE IS PROVIDED BY PADL SOFTWARE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL PADL SOFTWARE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading Marko Kreen

Fortuna in libhcrypto

@verbatim

Copyright (c) 2005 Marko Kreen
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted
provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY,
OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading NTT (Nippon Telegraph and Telephone Corporation)

Camellia in libhcrypto

@verbatim

Copyright (c) 2006,2007
NTT (Nippon Telegraph and Telephone Corporation) . All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer as

the first lines of this file unmodified.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY NTT ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL NTT BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim
@copynext

@heading The NetBSD Foundation, Inc.

vis.c in libroken

@verbatim

Copyright (c) 1999, 2005 The NetBSD Foundation, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and
the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)

ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end
verbatim
@copynext

@heading Vincent Rijmen, Antoon Bosselaers, Paulo Barreto

AES in libhcrypto

@verbatim

rijndael-alg-fst.c

@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
@author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
@author Paulo Barreto <paulo.barreto@terra.com.br>

This code is hereby placed in the public domain.

THIS SOFTWARE IS PROVIDED BY THE AUTHORS "AS IS" AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim
@copynext

@heading Apple, Inc

kdc/announce.c

@verbatim

Copyright (c) 2008 Apple Inc. All Rights Reserved.

Export of this software from the United States of America may require
a specific license from the United States Government.  It is the
responsibility of any person or organization contemplating export to
obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of Apple Inc. not be used in advertising or publicity pertaining
to distribution of the software without specific, written
 prior
permission.  Apple Inc. makes no representations about the suitability of
this software for any purpose.  It is provided "as is" without express
or implied warranty.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

@end verbatim

@copynext

@heading Richard Outerbridge

DES core in libhcrypto

@verbatim

D3DES (V5.09) -

A portable, public domain, version of the Data Encryption Standard.

Written with Symantec's THINK (Lightspeed) C by Richard Outerbridge.
Thanks to: Dan Hoey for his excellent Initial and Inverse permutation
code;  Jim Gillogly & Phil Karn for the DES key schedule code; Dennis
Ferguson, Eric Young and Dana How for comparing notes; and Ray Lau,
for humouring me on.

Copyright (c) 1988,1989,1990,1991,1992 by Richard Outerbridge.
(GEnie : OUTER; CIS : [71755,204]) Graven Imagery, 1992.

@end verbatim

@copynext

@heading
Secure Endpoints Inc

Windows support

@verbatim

Copyright (c) 2009-2015, Secure Endpoints Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

- Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
 notice, this list of conditions and the following disclaimer in
 the documentation and/or other materials provided with the
 distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING,
 BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim

@copynext

@heading Novell, Inc

lib/hcrypto/test_dh.c

@verbatim

Copyright (c) 2007, Novell, Inc.
Author: Matthias Koenig <mkoenig@suse.de>

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
 list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
 this list of conditions and the following disclaimer in the documentation
 and/or other materials
 provided with the distribution.

* Neither the name of the Novell nor the names of its contributors may be used
 to endorse or promote products derived from this software without specific
 prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim

@copyrightend

# 1.404 libhcryptoheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.404.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: heimdal
Upstream-Contact: heimdal@h5l.org
Source: https://github.com/heimdal/heimdal
Files-Excluded: doc/doxyout

lib/wind/rfc3490.txt
lib/wind/rfc3491.txt
lib/wind/rfc4013.txt
lib/wind/rfc4518.txt

Files: *
Copyright: 1996-2017 Kungliga Tekniska Hgskolan
2009, 2010 Apple, Inc.
1991, 2013 Massachusetts Institute of Technology
1995-1997 Eric Young <eay@@mincom.oz.au>
1988, 1990, 1993 The Regents of the University of California
License: BSD-3-clause
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
.
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or
 other materials provided with the distribution.
.
3. Neither the name of the Institute nor the names of its contributors
   may be used to endorse or promote products derived from this software
   without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files:
 lib/wind/rfc3454.txt
Copyright: None
License: none
Not copyrightable; stripped to contain only tables.

Files: lib/wind/rfc3492.txt
Copyright: 2003 The Internet Society

License: custom
Regarding this entire document or any portion of it (including the
pseudocode and C code), the author makes no guarantees and is not
responsible for any damage resulting from its use.  The author grants
irrevocable permission to anyone to use, modify, and distribute it in
any way that does not diminish the rights of anyone else to use,
modify, and distribute it, provided that redistributed derivative
works do not contain misleading author or version information.
Derivative works need not be licensed under similar terms.

Files: debian/*
Copyright: 1999-2017 Brian May <bam@debian.org>
2017 Dominik George <nik@naturalnet.de>
License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free
 Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
.
On Debian systems, the full text can be found in
/usr/share/common-licenses/GPL-2.

#Files: ?
#Copyright: 1992 Simmule Turner and Rich Salz
#License: Spencer-94
# This software is not subject to any license of the American Telephone
# and Telegraph Company or of the Regents of the University of California.
# .
# Permission is granted to anyone to use this software for any purpose on
# any computer system, and to alter it and redistribute it freely,
 subject
# to the following restrictions:
# .
# 1. The authors are not responsible for the consequences of use of this
#    software, no matter how awful, even if they arise from flaws in it.
# .
# 2. The origin of this software must not be misrepresented, either by
#    explicit claim or by omission.  Since few users ever read sources,

# credits must appear in the documentation.
# .
# 3. Altered versions must be plainly marked as such, and must not be
# misrepresented as being the original software. Since few users
# ever read sources, credits must appear in the documentation.
# .
# 4. This notice may not be removed or altered.

# 1.405 libwindheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.405.1 Available under license :

Copyright (c) 1995 - 2014 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the Institute nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Please see info documentation for the complete list of licenses.
Copyright (c) 1992, 1993
The Regents of the University of California. All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
 TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@macro copynext{}
@vskip 20pt plus 1fil
@end macro

@macro copyrightstart{}
@end macro

@macro copyrightend{}
@end macro

@node  Copyrights and Licenses, , Acknowledgments, Top
@comment  node-name,  next,  previous,  up
@appendix Copyrights and Licenses

@heading Kungliga Tekniska Hgskolan

@copyrightstart
@verbatim

Copyright (c) 1997-2011 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Portions Copyright (c) 2009 Apple Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3.
Neither the name of the Institute nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading Massachusetts Institute of Technology

The
parts of the libtelnet that handle Kerberos.

@verbatim

Copyright (C) 1990 by the Massachusetts Institute of Technology

Export of this software from the United States of America may

require a specific license from the United States Government.
It is the responsibility of any person or organization contemplating
export to obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of M.I.T. not be used in advertising or publicity pertaining
to distribution of the software without specific, written prior
permission.  M.I.T. makes no representations about the suitability of
this software for any purpose.  It is provided "as is" without express
or implied warranty.

@end
 verbatim
@copynext

@heading The Regents of the University of California

The parts of the libroken, most of libtelnet, telnet, ftp,
and popper.

@verbatim

Copyright (c) 1988, 1990, 1993
   The Regents of the University of California.  All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS
 ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE

ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading The Regents of the University of California.

libedit

@verbatim

Copyright (c) 1992, 1993
The Regents of the University of California.  All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution
 and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
 EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF

SUCH DAMAGE.

@end verbatim
@copynext

@heading TomsFastMath / LibTomMath

Tom's fast math (bignum support) and LibTomMath

@verbatim

LibTomMath is hereby released into the Public Domain.

@end verbatim

@copynext

@heading Doug Rabson

GSS-API mechglue layer.

@verbatim

Copyright (c) 2005 Doug Rabson
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions
 in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading PADL Software Pty Ltd

@table
 @asis
@item GSS-API CFX, SPNEGO, naming extensions, API extensions.
@item KCM credential cache.
@item HDB LDAP backend.
@end table

@verbatim

Copyright (c) 2003-2011, PADL Software Pty Ltd.
Copyright (c) 2004, Andrew Bartlett.
Copyright (c) 2003 - 2008, Kungliga Tekniska Hgskolan
Copyright (c) 2015, Timothy Pearson.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of PADL Software nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific
 prior written permission.

THIS SOFTWARE IS PROVIDED BY PADL SOFTWARE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL PADL SOFTWARE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading Marko Kreen

Fortuna in libhcrypto

@verbatim

Copyright (c) 2005 Marko Kreen
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted
provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY,
 OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

@end verbatim
@copynext

@heading NTT (Nippon Telegraph and Telephone Corporation)

Camellia in libhcrypto

@verbatim

Copyright (c) 2006,2007
NTT (Nippon Telegraph and Telephone Corporation) . All rights reserved.

Redistribution and use in source and binary forms, with or without

modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer as
 the first lines of this file unmodified.
2. Redistributions in binary form must reproduce the above copyright
 notice, this list of conditions and the following disclaimer in the
 documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY NTT ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
 TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL NTT BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim
@copynext

@heading The NetBSD Foundation, Inc.

vis.c in libroken

@verbatim

Copyright (c) 1999, 2005 The NetBSD Foundation, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and
 the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR

CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end
verbatim
@copynext

@heading Vincent Rijmen, Antoon Bosselaers, Paulo Barreto

AES in libhcrypto

@verbatim

rijndael-alg-fst.c

@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
@author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
@author Paulo Barreto <paulo.barreto@terra.com.br>

This code is hereby placed in the public domain.

THIS SOFTWARE IS PROVIDED BY THE AUTHORS "AS IS" AND ANY EXPRESS
OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim
@copynext

@heading Apple, Inc

kdc/announce.c

@verbatim

Copyright (c) 2008 Apple Inc.  All Rights Reserved.

Export of this software from the United States of America may require
a specific license from the United States Government.  It is the
responsibility of any person or organization contemplating export to
obtain such a license before exporting.

WITHIN THAT CONSTRAINT, permission to use, copy, modify, and
distribute this software and its documentation for any purpose and
without fee is hereby granted, provided that the above copyright
notice appear in all copies and that both that copyright notice and
this permission notice appear in supporting documentation, and that
the name of Apple Inc. not be used in advertising or publicity pertaining
to distribution of the software without specific, written
 prior
permission.  Apple Inc. makes no representations about the suitability of
this software for any purpose.  It is provided "as is" without express
or implied warranty.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

@end verbatim

@copynext

@heading Richard Outerbridge

DES core in libhcrypto

@verbatim

D3DES (V5.09) -

A portable, public domain, version of the Data Encryption Standard.

Written with Symantec's THINK (Lightspeed) C by Richard Outerbridge.
Thanks to: Dan Hoey for his excellent Initial and Inverse permutation
code;  Jim Gillogly & Phil Karn for the DES key schedule code; Dennis
Ferguson, Eric Young and Dana How for comparing notes; and Ray Lau,
for humouring me on.

Copyright (c) 1988,1989,1990,1991,1992 by Richard Outerbridge.
(GEnie : OUTER; CIS : [71755,204]) Graven Imagery, 1992.

@end verbatim

@copynext

@heading
Secure Endpoints Inc

Windows support

@verbatim

Copyright (c) 2009-2015, Secure Endpoints Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

- Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
 notice, this list of conditions and the following disclaimer in
 the documentation and/or other materials provided with the
 distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING,
 BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

@end verbatim

@copynext

@heading Novell, Inc

lib/hcrypto/test_dh.c

@verbatim

Copyright (c) 2007, Novell, Inc.
Author: Matthias Koenig <mkoenig@suse.de>

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
 list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
 this list of conditions and the following disclaimer in the documentation
 and/or other materials
 provided with the distribution.

* Neither the name of the Novell nor the names of its contributors may be used
 to endorse or promote products derived from this software without specific
 prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

@end verbatim

@copyrightend

# 1.406 libgssapiheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.406.1 Available under license :

Copyright (c) 1995 - 2014 Kungliga Tekniska Högskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

3. Neither the name of the Institute nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
 AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Please see info documentation for the complete list of licenses.

# 1.407 libkrbheimdal 7.5.0+dfsg-1ubuntu0.4

## 1.407.1 Available under license :

Copyright (c) 1995 - 2014 Kungliga Tekniska Högskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright

notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the Institute nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Please see info documentation for the complete list of licenses.

# 1.408 kryo-serializers 0.45

## 1.408.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*  http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*
*/

Found in path(s):
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/jodatime/JodaIntervalSerializer.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015 Rennie Petersen
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*
*/

Found in path(s):
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/jodatime/JodaLocalDateTimeSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/jodatime/JodaLocalDateSerializer.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010 Martin Grotzke
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*
*/

Found in path(s):
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/GregorianCalendarSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/CopyForIterateCollectionSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/CollectionsEmptyMapSerializer.java
*
 /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/UnmodifiableCollectionsSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/KryoReflectionFactorySupport.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/CopyForIterateMapSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/CollectionsEmptyListSerializer.java

* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/DateSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/CollectionsSingletonListSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/ArraysAsListSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/wicket/MiniMapSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/SubListSerializers.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/jodatime/JodaDateTimeSerializer.java
*
/kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/CollectionsEmptySetSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/JdkProxySerializer.java
* /kryo-serializers-0-45-sources-1-
jar/de/javakaffee/kryoserializers/CompatibleFieldSerializerReflectionFactorySupport.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/cglib/CGLibProxySerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/CollectionsSingletonSetSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/SynchronizedCollectionsSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/EnumMapSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/EnumSetSerializer.java
* /kryo-serializers-0-45-sources-1-jar/de/javakaffee/kryoserializers/CollectionsSingletonMapSerializer.java

# 1.409 jdk-zulu 11.56+19

## 1.409.1 Available under license :

## c-libutl 20160225

### c-libutl License
```

This software is distributed under the terms of the BSD license.

== BSD LICENSE ==========

(C) 2009 by Remo Dentato (rdentato@gmail.com)

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
```

SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR
ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

http://opensource.org/licenses/bsd-license.php

```
## The Unicode Standard, Unicode Character Database, Version 10.0.0

### Unicode Character Database

```

UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE
Unicode Data Files include all data files under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

Unicode Data Files do not include PDF online code charts under the
directory http://www.unicode.org/Public/.

Software includes any source code published in the Unicode Standard
or under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S
DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU
UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE
TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE
THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2018 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b)
this copyright and permission notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS
NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL
DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright holder.

```
## JLine v3.20.0

### JLine License
<pre>

Copyright (c) 2002-2018, the original author or authors.
All rights reserved.

https://opensource.org/licenses/BSD-3-Clause

Redistribution and use in source and binary forms, with or
without modification, are permitted provided that the following
conditions are met:

Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
```

Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer
in the documentation and/or other materials provided with
the distribution.

Neither the name of JLine nor the names of its contributors
may be used to endorse or promote products derived from this
software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND
FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO
EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED
AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING
IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>
## Pako v1.0

### Pako License
<pre>
Copyright (C) 2014-2017 by Vitaly Puzrin and Andrei Tuputcyn

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN

THE SOFTWARE.
(C) 1995-2013 Jean-loup Gailly and Mark Adler
(C) 2014-2017 Vitaly Puzrin and Andrey Tupitsin

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any
source distribution.

</pre>
## Mozilla Elliptic Curve Cryptography (ECC)

### Mozilla ECC Notice

This notice is provided with respect to Elliptic Curve Cryptography,
which is included with JRE, JDK, and OpenJDK.

You are receiving a
[copy](http://hg.openjdk.java.net/jdk9/jdk9/jdk/file/tip/src/jdk.crypto.ec/share/native/libsunec/impl)
of the Elliptic Curve Cryptography library in source
form with the JDK and OpenJDK source distributions, and as object code in
the JRE & JDK runtimes.
<pre>
In the case of the JRE & JDK runtimes, the terms of the Oracle license do
NOT apply to the Elliptic Curve Cryptography library; it is licensed under the
following license, separately from Oracle's JDK & JRE.  If you do not wish to
install the Elliptic Curve Cryptography library, you may delete the
Elliptic Curve Cryptography library:
  - On Solaris and Linux systems: delete $(JAVA_HOME)/lib/libsunec.so
  - On Mac OSX systems: delete $(JAVA_HOME)/lib/libsunec.dylib
  - On Windows systems: delete $(JAVA_HOME)\bin\sunec.dll

</pre>

###

Written Offer for Source Code
<pre>

For third party technology that you receive from Oracle in binary form
which is licensed under an open source license that gives you the right
to receive the source code for that binary, you can obtain a copy of
the applicable source code from this page:
  http://hg.openjdk.java.net/jdk9/jdk9/jdk/file/tip/src/jdk.crypto.ec/share/native/libsunec/impl

If the source code for the technology was not provided to you with the
binary, you can also receive a copy of the source code on physical
media by submitting a written request to:

  Oracle America, Inc.
  Attn: Associate General Counsel,
  Development and Engineering Legal
  500 Oracle Parkway, 10th Floor
  Redwood Shores, CA 94065

Or, you may send an email to Oracle using the form at:

http://www.oracle.com/goto/opensourcecode/request

Your request should include:

 - The name of the component or binary file(s) for which you are requesting the source code

 - The name and version
 number of the Oracle product containing the binary

 - The date you received the Oracle product

 - Your name

 - Your company name (if applicable)

 - Your return mailing address and email and

 - A telephone number in the event we need to reach you.

We may charge you a fee to cover the cost of physical media and processing.
Your request must be sent (i) within three (3) years of the date you
received the Oracle product that included the component or binary
file(s) that are the subject of your request, or (ii) in the case of
code licensed under the GPL v3, for as long as Oracle offers spare
parts or customer support for that product model.

</pre>

### LGPL 2.1
<pre>

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document,
but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not
price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source

code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library
after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public
License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs
enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed
under the terms of
this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is

included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface
definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a
fee for the physical act of transferring a copy,
and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in

the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole
must be on the terms of
this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary
GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of

the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source
code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even
though the source code is not.
Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these

materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the

Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the

original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING

RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE
WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can
redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims
all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

</pre>
## xwd v1.0.7

### xwd utility
<pre>

This is the copyright for the files in src/java.desktop/unix/native/libawt_xawt:
list.h, multiVis.h, wsutils.h, list.c, multiVis.c

Copyright 1994 Hewlett-Packard Co.
Copyright 1996, 1998  The Open Group

Permission to use, copy, modify, distribute, and sell this software and its
documentation for any purpose is hereby granted without fee, provided that
the above copyright notice appear in all copies and that both that
copyright notice and this permission notice appear in supporting
documentation.

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING
 FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall
not be used in advertising or otherwise to promote the sale, use or
other dealings in this Software without prior written authorization
from The Open Group.

</pre>
## IAIK (Institute for Applied Information Processing and Communication) PKCS#11 wrapper files v1

### IAIK License
<pre>

Copyright (c) 2002 Graz University of Technology. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

3. The end-user documentation included with the redistribution, if any, must
include the following acknowledgment:

"This product includes software developed by IAIK of Graz University of
Technology."

Alternately, this acknowledgment may appear in the software itself, if and
wherever such third-party
acknowledgments normally appear.

4. The names "Graz University of Technology" and "IAIK of Graz University of
Technology" must not be used to endorse or promote products derived from this
software without prior written permission.

5. Products derived from this software may not be called "IAIK PKCS Wrapper",
nor may "IAIK" appear in their name, without prior written permission of
Graz University of Technology.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
LICENSOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

</pre>
## CUP Parser Generator for Java v 0.11b

### CUP Parser Generator License
<pre>

Copyright 1996-2015 by Scott Hudson, Frank Flannery, C. Scott Ananian, Michael Petter

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted, provided
that the above copyright notice appear in all copies and that both
the copyright notice and this permission notice and warranty disclaimer
appear in supporting documentation, and that the names of the authors or
their employers not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.

The authors and their employers disclaim all warranties with regard to
this software, including all implied warranties of merchantability and
fitness. In no event shall the authors or their employers be liable for
any special, indirect or consequential damages or any damages whatsoever
resulting from loss of use, data or profits,
whether in an action of
contract, negligence or other tortious action, arising out of or in
connection with the use or performance of this software.

</pre>
## JSZip v3.7.1

JSZip is dual licensed. You may use it under the MIT license *or* the GPLv3
license.

### The MIT License
```
Copyright (c) 2009-2016 Stuart Knightley, David Duponchel, Franz Buchinger, Antnio Afonso

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS
OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
```

### GPL version 3
```

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its
users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must
pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.
```

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such
abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the
GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based

on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means

all
the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted
under this License are granted for the term of
copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under
your direction
and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users,
your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent
notices stating that you modified
it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts,

regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not
make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source
fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially,

and
only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided

you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer
product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source
conveyed under this section must be accompanied
by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special
password or key for
unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate
copyright permission.

Notwithstanding any other provision of this License, for material you

add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover,
your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other
than this License grants you permission to propagate or
modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an

organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under
the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether
already acquired or
hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make
such an agreement or commitment not to enforce a
patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with
a single transaction or
arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent
license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a

covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING
BUT NOT LIMITED TO LOSS OF
DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

```

## Double-conversion v1.1.5

### Double-conversion License

https://raw.githubusercontent.com/google/double-conversion/master/LICENSE

<pre>

Copyright 2006-2011, the V8 project authors. All rights reserved.
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright
```

notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided
with the distribution.
* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>
## jQuery UI v1.12.1

### jQuery UI License
```
Copyright jQuery Foundation and other contributors, https://jquery.org/

This software consists of voluntary contributions made by many
individuals. For exact contribution history, see the revision history
available at https://github.com/jquery/jquery-ui

The following license applies to all parts of this software except as
documented below:

====

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.
```

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT
 WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

====

Copyright and related rights for sample code are waived via CC0. Sample
code is defined as all source code contained within the demos directory.

CC0: http://creativecommons.org/publicdomain/zero/1.0/

====

All files located in the node_modules and external directories are
externally maintained libraries used by this software which have their
own licenses; we recommend you read them, as their terms may differ from
the terms above.

```
## Harfbuzz v2.3.1

### Harfbuzz License

http://cgit.freedesktop.org/harfbuzz/tree/COPYING

<pre>

HarfBuzz is licensed under the so-called "Old MIT" license. Details follow.
For parts of HarfBuzz that are licensed under different licenses see individual
files names COPYING in subdirectories where applicable.

Copyright  2010,2011,2012  Google, Inc.
Copyright  2012  Mozilla Foundation
Copyright  2011  Codethink Limited
Copyright  2008,2010  Nokia Corporation and/or its subsidiary(-ies)
Copyright  2009  Keith Stribley
Copyright  2009  Martin Hosken and SIL International
Copyright  2007  Chris Wilson
Copyright  2006  Behdad Esfahbod
Copyright  2005  David Turner
Copyright  2004,2007,2008,2009,2010  Red Hat, Inc.
Copyright  1998-2004  David Turner and Werner Lemberg
```

For full copyright notices consult the individual files in the package.

Permission is hereby granted, without written agreement and without
license or royalty fees, to use, copy, modify, and distribute this
software and its
documentation for any purpose, provided that the
above copyright notice and the following two paragraphs appear in
all copies of this software.

IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE TO ANY PARTY FOR
DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES
ARISING OUT OF THE USE OF THIS SOFTWARE AND ITS DOCUMENTATION, EVEN
IF THE COPYRIGHT HOLDER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

THE COPYRIGHT HOLDER SPECIFICALLY DISCLAIMS ANY WARRANTIES, INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND
FITNESS FOR A PARTICULAR PURPOSE.  THE SOFTWARE PROVIDED HEREUNDER IS
ON AN "AS IS" BASIS, AND THE COPYRIGHT HOLDER HAS NO OBLIGATION TO
PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

All source code, except for one section, is licensed as above. The one
exception is licensed with a slightly different MIT variant:
The contents of this directory are licensed under the following terms:

Copyright (C) 2012 Grigori Goronzy
<greg@kinoho.net>

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

</pre>
## Eastman Kodak Company: Portions of color management and imaging software

### Eastman Kodak Notice
<pre>
Portions Copyright Eastman Kodak Company 1991-2003

</pre>
## Thai Dictionary

### Thai Dictionary License
<pre>

Copyright (C) 1982 The Royal Institute, Thai Royal Government.

Copyright (C) 1998 National Electronics and Computer Technology Center,
National Science and Technology Development Agency,
Ministry of Science Technology and Environment,
Thai Royal Government.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES
 OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

</pre>
## Apache Xerces v2.12.1

### Apache Xerces Notice
<pre>
  ========================================================================
  == NOTICE file corresponding to section 4(d) of the Apache License,    ==
  == Version 2.0, in this case for the Apache Xerces Java distribution.  ==
  ========================================================================

  Apache Xerces Java
  Copyright 1999-2020 The Apache Software Foundation

  This product includes software developed at
  The Apache Software Foundation (http://www.apache.org/).

Portions of this software were originally based on the following:
- software copyright (c) 1999, IBM Corporation., http://www.ibm.com.
- software copyright (c) 1999, Sun Microsystems., http://www.sun.com.
- voluntary contributions made by Paul Eng on behalf of the
Apache Software Foundation that were originally developed at iClick, Inc.,
software copyright (c) 1999.
</pre>

### Apache 2.0 License
<pre>

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean
an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or

Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s)

with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use,

reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify,

defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should
be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

</pre>
## Apache Santuario v2.3.0

### Apache Santuario Notice
<pre>

Apache Santuario - XML Security for Java
Copyright 1999-2021 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

It was originally based on software copyright (c) 2001, Institute for
Data Communications Systems, <http://www.nue.et-inf.uni-siegen.de/>.

The development of this software was partly funded by the European

Commission in the <WebSig> project in the ISIS Programme.

</pre>

### Apache 2.0 License
<pre>

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity
authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object
code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a

cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses

granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that
do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from
the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work

by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except
in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

</pre>

ADDITIONAL INFORMATION ABOUT LICENSING

Certain files distributed by Oracle America, Inc. and/or its affiliates are
subject to the following clarification and special exception to the GPLv2,
based on the GNU Project exception for its Classpath libraries, known as the
GNU Classpath Exception.

Note that Oracle includes multiple, independent programs in this software
package. Some of those programs are provided under licenses deemed
incompatible with the GPLv2 by the Free Software Foundation and others.
For example, the package includes programs licensed under the Apache
License, Version 2.0 and may include FreeType. Such programs are licensed
to you under their original licenses.

Oracle facilitates your further distribution of this package by adding the
Classpath Exception to the necessary parts of its GPLv2 code, which permits
you to use that code in combination with other independent modules not
licensed under the GPLv2. However, note that this would
not permit you to
commingle code under an incompatible license with Oracle's GPLv2 licensed

code by, for example, cutting and pasting such code into a file also containing Oracle's GPLv2 licensed code and then distributing the result.

Additionally, if you were to remove the Classpath Exception from any of the files to which it applies and distribute the result, you would likely be required to license some or all of the other code in that distribution under the GPLv2 as well, and since the GPLv2 is incompatible with the license terms of some items included in the distribution by Oracle, removing the Classpath Exception could therefore effectively compromise your ability to further distribute the package.

Failing to distribute notices associated with some files may also create unexpected legal consequences.

Proceed with caution and we recommend that you obtain the advice of a lawyer skilled in open source matters before removing the Classpath Exception or making modifications
to this package which may subsequently be redistributed
and/or involve the use of third party software.
## OASIS PKCS #11 Cryptographic Token Interface v3.0

### OASIS PKCS #11 Cryptographic Token Interface License
<pre>

Copyright  OASIS Open 2020. All Rights Reserved.

All capitalized terms in the following text have the meanings assigned to them in the OASIS Intellectual Property Rights Policy (the "OASIS IPR Policy"). The full Policy may be found at the OASIS website: [http://www.oasis-open.org/policies-guidelines/ipr]

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published, and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this section are included on all such copies and derivative works. However, this document itself may not be modified in any way, including by removing the copyright notice or references to OASIS, except as needed for the purpose of developing any
document or deliverable produced by an OASIS Technical Committee (in which case the rules applicable to copyrights, as set forth in the OASIS IPR Policy, must be followed) or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by OASIS or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and OASIS DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. OASIS AND ITS MEMBERS WILL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY USE OF THIS DOCUMENT OR ANY PART THEREOF.

[OASIS requests that any OASIS Party or any other party that believes it has patent claims that would necessarily be infringed by implementations of this OASIS Standards Final Deliverable, to notify OASIS TC Administrator and provide an indication of its willingness to grant patent licenses to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this deliverable.]

[OASIS invites any party to contact the OASIS TC Administrator if it is aware of a claim of ownership of any patent claims that would necessarily be infringed by implementations of this OASIS Standards Final Deliverable by a patent holder that is not willing to provide a license to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this OASIS Standards Final Deliverable. OASIS may include such claims on its website, but disclaims any obligation to do so.]

[OASIS takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology described in this OASIS Standards Final Deliverable or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on OASIS' procedures with respect to rights in any document or deliverable produced by an OASIS Technical Committee can be found on the OASIS website. Copies of claims of rights made available for publication and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this OASIS Standards Final Deliverable, can be obtained from the OASIS TC Administrator. OASIS makes no representation that any information or list of intellectual property rights will at any time be complete, or that any claims in such list are, in fact, Essential Claims.]

</pre>
## Cryptix AES v3.2.0

### Cryptix General License
<pre>

Cryptix General License

Copyright (c) 1995-2005 The Cryptix Foundation Limited.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

1. Redistributions of source code must retain the copyright notice,
   this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
   the documentation and/or other materials provided with the
   distribution.

THIS SOFTWARE IS PROVIDED BY THE CRYPTIX FOUNDATION LIMITED AND
CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE CRYPTIX FOUNDATION LIMITED OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT,
 INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN
IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>
## PC/SC Lite v1.8.26

### PC/SC Lite License
<pre>

Copyright (c) 1999-2003 David Corcoran <corcoran@linuxnet.com>
Copyright (c) 2001-2011 Ludovic Rousseau <ludovic.rousseau@free.fr>
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
derived from this software without specific prior written permission.

Changes to this license can be made only by the copyright author with
explicit written consent.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS
OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>

OPENJDK ASSEMBLY EXCEPTION

The OpenJDK source code made available by Oracle America, Inc. (Oracle) at
openjdk.java.net ("OpenJDK Code") is distributed under the terms of the GNU
General Public License <http://www.gnu.org/copyleft/gpl.html> version 2
only ("GPL2"), with the following clarification and special exception.

Linking this OpenJDK Code statically or dynamically with other code
is making a combined work based on this library. Thus, the terms
and conditions of GPL2 cover the whole combination.

As a special exception, Oracle gives you permission to link this
OpenJDK Code with certain code licensed by Oracle as indicated at
http://openjdk.java.net/legal/exception-modules-2007-05-08.html
("Designated Exception Modules") to produce an executable,
regardless of the license terms of the Designated Exception Modules,
and to copy and distribute the resulting executable under GPL2,
provided that the Designated Exception Modules continue to be
governed by the licenses under which they were offered by Oracle.

As such, it allows licensees and sublicensees of Oracle's GPL2 OpenJDK Code
to build an executable that includes those portions of necessary code that
Oracle could not provide under GPL2 (or that Oracle has provided under GPL2

with the Classpath exception).  If you modify or add to the OpenJDK code,
that new GPL2 code may still be combined with Designated Exception Modules
if the new code is made subject to this exception by its copyright holder.
## International Components for Unicode (ICU4J) v60.2

### ICU4J License

```

UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE
Unicode Data Files include all data files under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

Unicode Data Files do not include PDF online code charts under the
directory http://www.unicode.org/Public/.

Software includes any source code published in the Unicode Standard
or under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S
DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU UNEQUIVOCALLY ACCEPT,
 AND AGREE TO BE BOUND BY, ALL OF THE
TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE
THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright  1991-2018 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
```

(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b) this copyright and permission
notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS
NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL
DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright holder.

```
## jopt-simple v5.0.4

### MIT License
<pre>

Copyright (c) 2004-2015 Paul R. Holser, Jr.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
```

OTHER DEALINGS IN THE SOFTWARE.

</pre>
## Independent JPEG Group: JPEG release 6b

### JPEG License
<pre>

Must reproduce following license in documentation and/or other materials
provided with distribution:

The authors make NO WARRANTY or representation, either express or implied,
with respect to this software, its quality, accuracy, merchantability, or
fitness for a particular purpose.  This software is provided "AS IS",
and you, its user, assume the entire risk as to its quality and accuracy.

This software is copyright (C) 1991-1998, Thomas G. Lane.
All Rights Reserved except as specified below.

Permission is hereby granted to use, copy, modify, and distribute
this software (or portions thereof) for any purpose, without fee,
subject to these conditions:

(1) If any part of the source code for this software is distributed,
then this README file must be included, with this copyright and no-warranty
notice unaltered; and any additions, deletions, or changes to the original
files must be clearly indicated in accompanying documentation.

(2)
 If only executable code is distributed, then the accompanying documentation
must state that "this software is based in part on the work of the
Independent JPEG Group".

(3) Permission for use of this software is granted only if the user accepts
full responsibility for any undesirable consequences; the authors accept
NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code,
not just to the unmodified library.  If you use our work, you ought to
acknowledge us.

Permission is NOT granted for the use of any IJG author's name or company name
in advertising or publicity relating to this software or products derived
from it.  This software may be referred to only as "the Independent JPEG
Group's software".

We specifically permit and encourage the use of this software as the basis
of commercial products, provided that all warranty or liability claims are

assumed by the product vendor.

ansi2knr.c is included in this
distribution by permission of L. Peter Deutsch,
sole proprietor of its copyright holder, Aladdin Enterprises of Menlo Park, CA.
ansi2knr.c is NOT covered by the above copyright and conditions, but instead
by the usual distribution terms of the Free Software Foundation; principally,
that you must include source code if you redistribute it.
(See the file ansi2knr.c for full details.) However, since ansi2knr.c is
not needed as part of any program generated from the IJG code, this does not
limit you more than the foregoing paragraphs do.

The Unix configuration script "configure" was produced with GNU Autoconf.
It is copyright by the Free Software Foundation but is freely distributable.
The same holds for its supporting scripts (config.guess, config.sub,
ltconfig, ltmain.sh). Another support script, install-sh, is copyright
by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered
by patents owned by IBM, AT&T, and Mitsubishi.
Hence arithmetic coding
cannot legally be used without obtaining one or more licenses. For this
reason, support for arithmetic coding has been removed from the free
JPEG software. (Since arithmetic coding provides only a marginal gain
over the unpatented Huffman mode, it is unlikely that very many
implementations will support it.) So far as we are aware, there are
no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files.
To avoid entanglement with the Unisys LZW patent, GIF reading support
has been removed altogether, and the GIF writer has been simplified to
produce "uncompressed GIFs". This technique does not use the LZW algorithm;
the resulting GIF files are larger than usual, but are readable by all
standard GIF decoders.

We are required to state that "The Graphics Interchange Format(c) is
the Copyright property of CompuServe Incorporated. GIF(sm) is a
Service Mark property of CompuServe Incorporated."

</pre>
## Apache Xalan v2.7.2

### Apache Xalan Notice
<pre>

==========
====

== NOTICE file corresponding to the section 4d of the Apache License, Version 2.0, ==
== in this case for the Apache Xalan distribution. ==
================================================================================
====

This product includes software developed by
The Apache Software Foundation (http://www.apache.org/).

Specifically, we only include the XSLTC portion of the source from the Xalan distribution.
The Xalan project has two processors: an interpretive one (Xalan Interpretive) and a
compiled one (The XSLT Compiler (XSLTC)). We *only* use the XSLTC part of Xalan; We use
the source from the packages that are part of the XSLTC sources.

Portions of this software was originally based on the following:

- software copyright (c) 1999-2002, Lotus Development Corporation.,
http://www.lotus.com.
- software copyright (c) 2001-2002, Sun Microsystems., http://www.sun.com.
- software copyright (c) 2003, IBM Corporation., http://www.ibm.com.
- voluntary contributions made by Ovidiu Predescu (ovidiu@cup.hp.com) on behalf of the
Apache Software Foundation and was originally developed at Hewlett Packard Company.

</pre>

### Apache 2.0 License
<pre>

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control,
are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the

outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made
available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright
owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of

this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed

as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including

any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted
against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to
in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

JLEX COPYRIGHT NOTICE, LICENSE AND DISCLAIMER.
Copyright 1996-2003 by Elliot Joel Berk and C. Scott Ananian
Permission to use, copy, modify, and distribute this software and
its documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both the copyright notice and this permission notice and warranty
disclaimer appear in supporting documentation, and that the name of
the authors or their employers not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.
The authors and their employers disclaim all warranties with regard to
this software, including all implied warranties of merchantability
and
fitness. In no event shall the authors or their employers be liable for
any special, indirect or consequential damages or any damages whatsoever
resulting from loss of use, data or profits, whether in an action of
contract, negligence or other tortious action, arising out of or in
connection with the use or performance of this software.The portions of
JLex output which are hard-coded into the JLex source code are (naturally)
covered by this same license.

</pre>
## DOM Level 3 Core Specification v1.0

### W3C License
<pre>

W3C SOFTWARE NOTICE AND LICENSE

http://www.w3.org/Consortium/Legal/2002/copyright-software-20021231

This work (and included software, documentation such as READMEs, or other
related items) is being provided by the copyright holders under the following
license. By obtaining, using and/or copying this work, you (the licensee)
agree that you have read, understood, and will comply with the following terms
and conditions.

Permission to copy, modify, and distribute this software and its
documentation, with or without modification, for any purpose and without fee
or royalty is hereby granted, provided that you include the following on ALL
copies of the software and documentation or portions thereof, including
modifications:

1.The full text of this NOTICE in a location viewable to users of the
redistributed or derivative work.

2.Any pre-existing intellectual property disclaimers, notices, or terms and

conditions. If
none exist, the W3C Software Short Notice should be included
(hypertext is preferred, text is permitted) within the body of any
redistributed or derivative code.

3.Notice of any changes or modifications to the files, including the date
changes were made. (We recommend you provide URIs to the location from
which the code is derived.)

THIS SOFTWARE AND DOCUMENTATION IS PROVIDED "AS IS," AND COPYRIGHT HOLDERS
MAKE NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT
LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR
PURPOSE OR THAT THE USE OF THE SOFTWARE OR DOCUMENTATION WILL NOT INFRINGE ANY
THIRD PARTY PATENTS,COPYRIGHTS, TRADEMARKS OR OTHER RIGHTS.

COPYRIGHT HOLDERS WILL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL
OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY USE OF THE SOFTWARE OR
DOCUMENTATION. The name and trademarks of copyright holders may NOT be used
in advertising or publicity pertaining to the software without specific,
written
prior permission. Title to copyright in this software and any
associated documentation will at all times remain with copyright holders.

---

This formulation of W3C's notice and license became active on December 31
2002. This version removes the copyright ownership notice such that this
license can be used with materials other than those owned by the W3C, reflects
that ERCIM is now a host of the W3C, includes references to this specific
dated version of the license, and removes the ambiguous grant of "use".
Otherwise, this version is the same as the previous version and is written so
as to preserve the Free Software Foundation's assessment of GPL compatibility
and OSI's certification under the Open Source Definition. Please see our
Copyright FAQ for common questions about using materials from our site,
including specific terms and conditions for packages like libwww, Amaya, and
Jigsaw. Other questions about this notice can be directed to
site-policy@w3.org.

</pre>
## JRuby Joni v2.1.16

### MIT License
<pre>

Copyright (c) 2017 JRuby Team

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),

to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

</pre>
## GIFLIB v5.2.1

### GIFLIB License
```

The GIFLIB distribution is Copyright (c) 1997  Eric S. Raymond

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

https://sourceforge.net/p/giflib/code/ci/master/tree/openbsd-reallocarray.c

Copyright (c) 2008 Otto Moerbeek <otto@drijf.net>
```

SPDX-License-Identifier: MIT

All images in this directory are copyright 1995 by Jeff Dinkins.
Unauthorized reproduction is prohibited.

For more information about Jeff's photographs, please see:
    http://www.theFixx.org/Jeff
## libpng v1.6.37

### libpng License
<pre>

COPYRIGHT NOTICE, DISCLAIMER, and LICENSE
=========================================

PNG Reference Library License version 2
---------------------------------------

* Copyright (c) 1995-2019 The PNG Reference Library Authors.
* Copyright (c) 2018-2019 Cosmin Truta.
* Copyright (c) 2000-2002, 2004, 2006-2018 Glenn Randers-Pehrson.
* Copyright (c) 1996-1997 Andreas Dilger.
* Copyright (c) 1995-1996 Guy Eric Schalnat, Group 42, Inc.

The software is supplied "as is", without warranty of any kind,
express or implied, including, without limitation, the warranties
of merchantability, fitness for a particular purpose, title, and
non-infringement.  In no event shall the Copyright owners, or
anyone distributing the software, be liable for any damages or
other liability, whether in contract, tort or otherwise, arising
from, out of, or in connection with the software, or the use or
other dealings in the software, even if advised of the possibility
of
 such damage.

Permission is hereby granted to use, copy, modify, and distribute
this software, or portions hereof, for any purpose, without fee,
subject to the following restrictions:

1. The origin of this software must not be misrepresented; you
   must not claim that you wrote the original software.  If you
   use this software in a product, an acknowledgment in the product
   documentation would be appreciated, but is not required.

2. Altered source versions must be plainly marked as such, and must
   not be misrepresented as being the original software.

3. This Copyright notice may not be removed or altered from any

source or altered source distribution.

PNG Reference Library License version 1 (for libpng 0.5 through 1.6.35)
---

libpng versions 1.0.7, July 1, 2000, through 1.6.35, July 15, 2018 are
Copyright (c) 2000-2002, 2004, 2006-2018 Glenn Randers-Pehrson, are
derived from libpng-1.0.6, and
are distributed according to the same
disclaimer and license as libpng-1.0.6 with the following individuals
added to the list of Contributing Authors:

Simon-Pierre Cadieux
Eric S. Raymond
Mans Rullgard
Cosmin Truta
Gilles Vollant
James Yu
Mandar Sahastrabuddhe
Google Inc.
Vadim Barkov

and with the following additions to the disclaimer:

There is no warranty against interference with your enjoyment of
the library or against infringement. There is no warranty that our
efforts or the library will fulfill any of your particular purposes
or needs. This library is provided with all faults, and the entire
risk of satisfactory quality, performance, accuracy, and effort is
with the user.

Some files in the "contrib" directory and some configure-generated
files that are distributed with libpng have other copyright owners, and
are released under other open source licenses.

libpng versions 0.97, January 1998, through 1.0.6, March 20,
2000, are
Copyright (c) 1998-2000 Glenn Randers-Pehrson, are derived from
libpng-0.96, and are distributed according to the same disclaimer and
license as libpng-0.96, with the following individuals added to the
list of Contributing Authors:

Tom Lane
Glenn Randers-Pehrson
Willem van Schaik

libpng versions 0.89, June 1996, through 0.96, May 1997, are

Copyright (c) 1996-1997 Andreas Dilger, are derived from libpng-0.88, and are distributed according to the same disclaimer and license as libpng-0.88, with the following individuals added to the list of Contributing Authors:

John Bowler
Kevin Bracey
Sam Bushell
Magnus Holmgren
Greg Roelofs
Tom Tanner

Some files in the "scripts" directory have other copyright owners, but are released under this license.

libpng versions 0.5, May 1995, through 0.88, January 1996, are Copyright (c) 1995-1996 Guy Eric Schalnat, Group 42, Inc.

For the purposes of this copyright and license, "Contributing Authors" is defined
as the following set of individuals:

Andreas Dilger
Dave Martindale
Guy Eric Schalnat
Paul Schmidt
Tim Wegner

The PNG Reference Library is supplied "AS IS". The Contributing Authors and Group 42, Inc. disclaim all warranties, expressed or implied, including, without limitation, the warranties of merchantability and of fitness for any purpose. The Contributing Authors and Group 42, Inc. assume no liability for direct, indirect, incidental, special, exemplary, or consequential damages, which may result from the use of the PNG Reference Library, even if advised of the possibility of such damage.

Permission is hereby granted to use, copy, modify, and distribute this source code, or portions hereof, for any purpose, without fee, subject to the following restrictions:

1. The origin of this source code must not be misrepresented.

2. Altered versions must be plainly marked as such and must not be misrepresented as being the original source.

3. This Copyright

notice may not be removed or altered from any
source or altered source distribution.

The Contributing Authors and Group 42, Inc. specifically permit,
without fee, and encourage the use of this source code as a component
to supporting the PNG file format in commercial products. If you use
this source code in a product, acknowledgment is not required but would
be appreciated.

</pre>
The GNU General Public License (GPL)

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license
document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share
and change it. By contrast, the GNU General Public License is intended to
guarantee your freedom to share and change free software--to make sure the
software is free for all its users. This General Public License applies to
most of the Free Software Foundation's software and to any other program whose
authors commit to using it. (Some other Free Software Foundation software is
covered by the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not price. Our
General Public Licenses are designed to make sure that
you have the freedom to
distribute copies of free software (and charge for this service if you wish),
that you receive source code or can get it if you want it, that you can change
the software or use pieces of it in new free programs; and that you know you
can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny
you these rights or to ask you to surrender the rights. These restrictions
translate to certain responsibilities for you if you distribute copies of the
software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for
a fee, you must give the recipients all the rights that you have. You must
make sure that they, too, receive or can get the source code. And you must
show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also,
for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be
distributed under the terms of
this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided
that you conspicuously and
appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under

Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or

any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically
receives a license from the original licensor to
copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you,
then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make
thoroughly clear what is believed to be a
consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In

such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How
to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

> One line to give the program's name and a brief idea of what it does.
>
> Copyright (C) <year> <name of author>
>
> This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.
>
> This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.
>
> You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

> Gnomovision version 69, Copyright (C) year name of author Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'. This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something
other than 'show w' and 'show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here

is a sample; alter the names:

  Yoyodyne, Inc., hereby disclaims all copyright interest in the program
  'Gnomovision' (which makes passes at compilers) written by James Hacker.

  signature of Ty Coon, 1 April 1989

  Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General Public
License instead of this License.

"CLASSPATH" EXCEPTION TO THE GPL

Certain source files distributed by Oracle America and/or its affiliates are
subject to the following
 clarification and special exception to the GPL, but
only where Oracle has expressly included in the particular source file's header
the words "Oracle designates this particular file as subject to the "Classpath"
exception as provided by Oracle in the LICENSE file that accompanied this code."

  Linking this library statically or dynamically with other modules is making
  a combined work based on this library.  Thus, the terms and conditions of
  the GNU General Public License cover the whole combination.

  As a special exception, the copyright holders of this library give you
  permission to link this library with independent modules to produce an
  executable, regardless of the license terms of these independent modules,
  and to copy and distribute the resulting executable under terms of your
  choice, provided that you also meet, for each linked independent module,
  the terms and conditions of the license of that module.  An independent
  module is a module
 which is not derived from or based on this library.  If
  you modify this library, you may extend this exception to your version of
  the library, but you are not obligated to do so.  If you do not wish to do
  so, delete this exception statement from your version.
## Unicode Common Local Data Repository (CLDR) v33

### CLDR License

```

UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE
Unicode Data Files include all data files under the directories
```

http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

Unicode Data Files do not include PDF online code charts under the
directory http://www.unicode.org/Public/.

Software includes any source code published in the Unicode Standard
or under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/,
http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S
DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU UNEQUIVOCALLY ACCEPT,
AND AGREE TO BE BOUND BY, ALL OF THE
TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE
THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright  1991-2018 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b) this copyright and permission
notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS

NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

```
## Dynalink v.5

### Dynalink License
<pre>

Copyright (c) 2009-2013, Attila Szegedi

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of the copyright holder nor the names of contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL COPYRIGHT HOLDER BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

</pre>
## jQuery v3.5.1

### jQuery License
```

```

jQuery v 3.5.1
Copyright 2005, 2018 jQuery Foundation, Inc. and other contributors
http://jquery.com/

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
 LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

**********

The jQuery JavaScript Library v3.5.1 also includes Sizzle.js

Sizzle.js includes the following license:

Copyright JS Foundation and other contributors, https://js.foundation/

This software consists of voluntary contributions made by many
individuals. For exact contribution history, see the revision history
available at https://github.com/jquery/sizzle

The following license applies to all parts of this software except as
documented below:

====

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit
```

persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

====

All files located in the node_modules and external directories are
externally maintained libraries used by this software which have their
own licenses; we recommend you read them, as their terms may differ from
the terms above.

**********

```
The copyrights in this software and any visual or audio work distributed with
the software belong to Azul Systems, Inc. and those included in all other notice
files either listed in the readme file or contained in any other included notice
files with this distribution. All rights are reserved. Installation of this
software and any Azul software bundled with or derived from this software is
licensed only in accordance with these terms.

Provided you have not received the software directly from Azul and have already
agreed to the terms of a separate license agreement, by installing, using or
distributing this software you, on your own behalf and on behalf of your
employer or principal, agree to be bound by these terms. If you do not agree to
any of these terms, you may not use, copy, transmit, distribute nor install this
software.

The software is developed and owned by Azul and/or any of its affiliates,
subsidiaries or respective suppliers and licensors. The software also includes
certain
 software components and materials ("Open Source Materials") of third
parties ("Third Party Licensors") licensed under certain licenses ("Open Source
Licenses").

Nothing in this Agreement limits your rights under, or grants you rights that
supersede the terms and conditions of any applicable Open Source Licenses.
You must review the Open Source Licenses located at
```

http://www.azulsystems.com/license/zulu_third_party_licenses.html
to understand your rights under them. In the event that no such third party
license agreements exist, the restrictions contained in this Agreement shall
apply.

With respect to the Open Source Licenses the following shall apply:

1) You hereby acknowledge and agree that you will be licensing any Open Source
Materials directly from the applicable Third Party Licensors including the
right to use such Third Party Materials in connection with the software

2) In the event of any inconsistencies or conflicting provisions of the Open
Source Licenses and the
provisions of this Agreement, the provisions of the
Open Source Licenses shall prevail.

THIS SOFTWARE IS PROVIDED BY AZUL "AS-IS" AND WITHOUT EXPRESS OR IMPLIED
WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL AZUL
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR
CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICE, LOSS OF USE, DATA OR PROFITS; OR BUSINESS INTERRUPTION,
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY WHETHER IN CONTRACT, STRICT
LIABILITY OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF
THE USE OF THIS SOFTWARE EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
## Mozilla Public Suffix List

### Public Suffix Notice
```
You are receiving a copy of the Mozilla Public Suffix List in the following
file: <java-home>/lib/security/public_suffix_list.dat. The terms of the
Oracle license do NOT apply to this file; it is licensed under the
Mozilla Public License 2.0, separately from the Oracle programs you receive.
If you do not wish to use the Public Suffix List, you may remove the
<java-home>/lib/security/public_suffix_list.dat file.

The Source Code of this file is available under the
Mozilla Public License, v. 2.0 and is located at
https://raw.githubusercontent.com/publicsuffix/list/cbbba1d234670453df9c930dfbf510c0474d4301/public_suffix_list.dat.
If a copy of the MPL was not distributed with this file, you can obtain one
at https://mozilla.org/MPL/2.0/.

Software distributed under the License is distributed on an "AS IS" basis,
WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License
for the specific language governing rights and limitations
 under the License.
```

### MPL v2.0
```
Mozilla Public License Version 2.0
==================================

1. Definitions
--------------

1.1. "Contributor"
  means each individual or legal entity that creates, contributes to
  the creation of, or owns Covered Software.

1.2. "Contributor Version"
  means the combination of the Contributions of others (if any) used
  by a Contributor and that particular Contributor's Contribution.

1.3. "Contribution"
  means Covered Software of a particular Contributor.

1.4. "Covered Software"
  means Source Code Form to which the initial Contributor has attached
  the notice in Exhibit A, the Executable Form of such Source Code
  Form, and Modifications of such Source Code Form, in each case
  including portions thereof.

1.5. "Incompatible With Secondary Licenses"
  means

  (a) that the initial Contributor has attached the notice described
      in Exhibit B to the Covered Software; or

  (b) that the Covered
 Software was made available under the terms of
      version 1.1 or earlier of the License, but not also under the
      terms of a Secondary License.

1.6. "Executable Form"
  means any form of the work other than Source Code Form.

1.7. "Larger Work"
  means a work that combines Covered Software with other material, in
  a separate file or files, that is not Covered Software.

1.8. "License"
  means this document.

1.9. "Licensable"
```

means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.

1.10. "Modifications"
means any of the following:

(a) any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or

(b) any new file in Source Code Form that contains any Covered Software.

1.11. "Patent Claims" of a Contributor
means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such Contributor that would be infringed, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.

1.12. "Secondary License"
means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

1.13. "Source Code Form"
means the form of the work preferred for making modifications.

1.14. "You" (or "Your")
means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants and Conditions
---

2.1. Grants

Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and

(b) under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first distributes such Contribution.

2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License. Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

(a) for any code that a Contributor has removed from Covered Software; or

(b) for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or

(c) under Patent Claims infringed by Covered Software in the absence of its Contributions.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this

License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).

2.5. Representation

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

3. Responsibilities
---

3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications that You create or to which You contribute, must be under the terms
of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then:

(a) such Covered Software must also be made available in Source Code Form, as described in Section 3.1, and You must inform recipients of the Executable Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and

(b) You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

3.3.
Distribution of a Larger Work

You may create and distribute a Larger Work under terms of Your choice, provided that You also comply with the requirements of this License for the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known
factual inaccuracies.

3.5. Application of Additional Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

4. Inability to Comply Due to Statute or Regulation
---

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must:
(a) comply with
the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute

or regulation, such description must be sufficiently detailed for a
recipient of ordinary skill to be able to understand it.

5. Termination
---

5.1. The rights granted under this License will terminate automatically
if You fail to comply with any of its terms. However, if You become
compliant, then the rights granted under this License from a particular
Contributor are reinstated (a) provisionally, unless and until such
Contributor explicitly and finally terminates Your grants, and (b) on an
ongoing basis, if such Contributor fails to notify You of the
non-compliance by some reasonable means prior to 60 days after You have
come back into compliance. Moreover, Your grants from
a particular
Contributor are reinstated on an ongoing basis if such Contributor
notifies You of the non-compliance by some reasonable means, this is the
first time You have received notice of non-compliance with this License
from such Contributor, and You become compliant prior to 30 days after
Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent
infringement claim (excluding declaratory judgment actions,
counter-claims, and cross-claims) alleging that a Contributor Version
directly or indirectly infringes any patent, then the rights granted to
You by any and all Contributors for the Covered Software under Section
2.1 of this License shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all
end user license agreements (excluding distributors and resellers) which
have been validly granted by You or Your distributors under this License
prior to termination shall survive termination.

**********
*
*
* 6. Disclaimer of Warranty *
* ---------- *
*
* Covered Software is provided under this License on an "as is" *
* basis, without warranty of any kind, either expressed, implied, or *
* statutory, including, without limitation, warranties that the *
* Covered Software is free of defects, merchantable, fit for a *
* particular purpose or non-infringing. The entire risk as to the *
* quality and performance of the Covered Software is with You. *
* Should any Covered Software prove defective in any respect, You *
* (not any Contributor) assume the cost of any necessary servicing, *
* repair, or correction. This disclaimer of warranty constitutes an *

*
 essential part of this License. No use of any Covered Software is *
* authorized under this License except under this disclaimer. *
* *
**********

**********
* *
* 7. Limitation of Liability *
* ---------- *
* *
* Under no circumstances and under no legal theory, whether tort *
* (including negligence), contract, or otherwise, shall any *
* Contributor, or anyone who distributes Covered Software as *
* permitted above, be liable to You for any direct, indirect, *
* special, incidental, or consequential damages of any
 character *
* including, without limitation, damages for lost profits, loss of *
* goodwill, work stoppage, computer failure or malfunction, or any *
* and all other commercial damages or losses, even if such party *
* shall have been informed of the possibility of such damages. This *
* limitation of liability shall not apply to liability for death or *
* personal injury resulting from such party's negligence to the *
* extent applicable law prohibits such limitation. Some *
* jurisdictions do not allow the exclusion or limitation of *
* incidental or consequential damages, so this exclusion and *
* limitation may not apply to You. *
* *
**********

8. Litigation
---

Any litigation relating to this License may be brought only in the
courts
 of a jurisdiction where the defendant maintains its principal
place of business and such litigation shall be governed by laws of that
jurisdiction, without reference to its conflict-of-law provisions.
Nothing in this Section shall prevent a party's ability to bring
cross-claims or counter-claims.

9. Miscellaneous
---

This License represents the complete agreement concerning the subject
matter hereof. If any provision of this License is held to be
unenforceable, such provision shall be reformed only to the extent
necessary to make it enforceable. Any law or regulation which provides

that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

10. Versions of the License
---

10.1. New Versions

Mozilla Foundation is the license steward. Except as provided in Section 10.3, no one other than the license steward has the right to modify or publish new versions of this License.
Each version will be given a distinguishing version number.

10.2. Effect of New Versions

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

10.3. Modified Versions

If you create software not governed by this License, and you want to create a new license for such software, you may create and use a modified version of this License if you rename the license and remove any references to the name of the license steward (except to note that such modified license differs from this License).

10.4. Distributing Source Code Form that is Incompatible With Secondary Licenses

If You choose to distribute Source Code Form that is Incompatible With Secondary Licenses under the terms of this version of the License, the notice described in Exhibit B of this License must be attached.

Exhibit A - Source Code Form License Notice
---

This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at https://mozilla.org/MPL/2.0/.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice.

You may add additional accurate notices of copyright ownership.

Exhibit B - "Incompatible With Secondary Licenses" Notice
---

This Source Code Form is "Incompatible With Secondary Licenses", as
defined by the Mozilla Public License, v. 2.0.

```
## The FreeType Project: Freetype v2.10.4


### FreeType Notice

```
FreeType comes with two licenses from which you can choose the one
which fits your needs best.

  The FreeType License (FTL) is the most commonly used one. It is
  a BSD-style license with a credit clause and thus compatible with
  the GNU Public License (GPL) version 3, but not with the
  GPL version 2.

  The GNU General Public License (GPL), version 2. Use it for all
  projects which use the GPLv2 also, or which need a license
  compatible to the GPLv2.

```

### FreeType License
```
                The FreeType Project LICENSE
                ----------------------------

                      2006-Jan-27

                Copyright 1996-2002, 2006 by
          David Turner, Robert Wilhelm, and Werner Lemberg



Introduction
============

The FreeType  Project is distributed in  several archive packages;
some of them may contain, in addition to the FreeType font engine,
various tools
```
```

and contributions which rely on, or relate to, the
FreeType Project.

This license applies to all files found in such packages, and which do not fall under their own explicit license. The license affects thus the FreeType font engine, the test programs, documentation and makefiles, at the very least.

This license was inspired by the BSD, Artistic, and IJG (Independent JPEG Group) licenses, which all encourage inclusion and use of free software in commercial and freeware products alike. As a consequence, its main points are that:

- We don't promise that this software works. However, we will be interested in any kind of bug reports. (`as is' distribution)

- You can use this software for whatever you want, in parts or full form, without having to pay us. (`royalty-free' usage)

- You may not pretend that you wrote this software. If you use it, or only parts of it, in a program, you must acknowledge somewhere in your documentation that you have used the FreeType code. (`credits')

We specifically permit and encourage the inclusion of this software, with or without modifications, in commercial products. We disclaim all warranties covering The FreeType Project and assume no liability related to The FreeType Project.

Finally, many people asked us for a preferred form for a credit/disclaimer to use in compliance with this license. We thus encourage you to use the following text:

```
"""
  Portions of this software are copyright <year> The FreeType
  Project (www.freetype.org).  All rights reserved.
"""
```

Please replace <year> with the value from the FreeType version you actually use.

Legal Terms
==========

0. Definitions
---

Throughout this license, the terms `package', `FreeType Project', and `FreeType archive' refer to the set of files originally distributed by the authors (David Turner, Robert Wilhelm, and Werner Lemberg) as the `FreeType Project', be they named as alpha, beta or final release.

`You' refers to the licensee, or person using the project, where `using' is a generic term including compiling the project's source code as well as linking it to form a `program' or `executable'. This program is referred to as `a program using the FreeType engine'.

This license applies to all files distributed in the original FreeType Project, including all source code, binaries and documentation, unless otherwise stated in the file in its original, unmodified form as distributed in the original archive. If you are unsure whether or not a particular file is covered by this license, you must contact us to verify this.

The FreeType Project is copyright (C) 1996-2000 by David Turner, Robert Wilhelm, and Werner Lemberg. All rights reserved except as specified below.

1. No Warranty
---

THE FREETYPE PROJECT IS PROVIDED `AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL ANY OF THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY DAMAGES CAUSED BY THE USE OR THE INABILITY TO USE, OF THE FREETYPE PROJECT.

2. Redistribution
---

This license grants a worldwide, royalty-free, perpetual and irrevocable right and license to use, execute, perform, compile, display, copy, create derivative works of, distribute and sublicense the FreeType Project (in both source and object code forms) and derivative works thereof for any purpose; and to authorize others to exercise some or all of the rights granted herein, subject to the following conditions:

o Redistribution of source code must retain this license file (`FTL.TXT') unaltered; any additions,

deletions or changes to
the original files must be clearly indicated in accompanying documentation. The copyright notices of the unaltered, original files must be preserved in all copies of source files.

o Redistribution in binary form must provide a disclaimer that states that the software is based in part of the work of the FreeType Team, in the distribution documentation. We also encourage you to put an URL to the FreeType web page in your documentation, though this isn't mandatory.

These conditions apply to any software derived from or based on the FreeType Project, not just the unmodified files. If you use our work, you must acknowledge us. However, no fee need be paid to us.

3. Advertising
---

Neither the FreeType authors and contributors nor you shall use the name of the other for commercial, advertising, or promotional purposes without specific prior written
permission.

We suggest, but do not require, that you use one or more of the following phrases to refer to this software in your documentation or advertising materials: `FreeType Project', `FreeType Engine', `FreeType library', or `FreeType Distribution'.

As you have not signed this license, you are not required to accept it. However, as the FreeType Project is copyrighted material, only this license, or another one contracted with the authors, grants you the right to use, distribute, and modify it. Therefore, by using, distributing, or modifying the FreeType Project, you indicate that you understand and accept all the terms of this license.

4. Contacts
---

There are two mailing lists related to FreeType:

o freetype@nongnu.org

Discusses general use and applications of FreeType, as well as future and wanted additions to the library and distribution. If you are looking for support, start in

this list if you
haven't found anything to help you in the documentation.

o freetype-devel@nongnu.org

Discusses bugs, as well as engine internals, design issues,
specific licenses, porting, etc.

Our home page can be found at

http://www.freetype.org

```

### GPL v2

```
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other
program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
```
```

distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the

Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or
work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program
itself is interactive but
does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the

entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on
the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above
on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself
accompanies the executable.

If distribution of executable or object code is made by offering

access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited
by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse
you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other

circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING
ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to
give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the

GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA  02110-1301  USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive
mode:

Gnomovision version 69, Copyright (C) year  name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not
permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.

##############################################################################

--- fthash.c and fthash.h are covered by the following notices ---

/*
* Copyright 2000 Computing Research Labs, New Mexico State University
* Copyright 2001-2015
*   Francesco Zappa Nardelli

*
* Permission is hereby granted, free of charge, to any person obtaining a
* copy of this software and associated documentation files (the "Software"),
* to deal in the Software without restriction, including without limitation
* the rights to use, copy, modify, merge, publish, distribute, sublicense,
* and/or sell copies of the Software, and to permit persons to whom the
* Software is furnished to do so, subject to the
 following conditions:
*
* The above copyright notice and this permission notice shall be included in
* all copies or substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
* IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
* FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL
* THE COMPUTING RESEARCH LAB OR NEW MEXICO STATE UNIVERSITY BE LIABLE FOR ANY
* CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT
* OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
* THE USE OR OTHER DEALINGS IN THE SOFTWARE.
*/

 /*****************************************************************************
  *
  * This file is based on code from bdf.c,v 1.22 2000/03/16 20:08:50
  *
  * taken from Mark Leisher's xmbdfed package
  *
  */

###############################################################################

--- FreeType 2 PSaux module
 is covered by the following notices ---

Copyright 2006-2014 Adobe Systems Incorporated.

This software, and all works of authorship, whether in source or
object code form as indicated by the copyright notice(s) included
herein (collectively, the "Work") is made available, and may only be
used, modified, and distributed under the FreeType Project License,
LICENSE.TXT.  Additionally, subject to the terms and conditions of the
FreeType Project License, each contributor to the Work hereby grants
to any individual or legal entity exercising permissions granted by
the FreeType Project License and this section (hereafter, "You" or
"Your") a perpetual, worldwide, non-exclusive, no-charge,
royalty-free, irrevocable (except as stated in this section) patent
license to make, have made, use, offer to sell, sell, import, and

otherwise transfer the Work, where such license applies only to those
patent claims licensable by such contributor that are necessarily
infringed by their contribution(s) alone
 or by combination of their
contribution(s) with the Work to which such contribution(s) was
submitted.  If You institute patent litigation against any entity
(including a cross-claim or counterclaim in a lawsuit) alleging that
the Work or a contribution incorporated within the Work constitutes
direct or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate as of
the date such litigation is filed.

By using, modifying, or distributing the Work you indicate that you
have read and understood the terms and conditions of the
FreeType Project License as well as those provided in this section,
and you accept them fully.

###############################################################################

```
## Mesa 3-D Graphics Library v21.0.3

### Mesa License

```
Copyright (C) 1999-2007  Brian Paul   All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.  IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN
 ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

Attention, Contributors

When contributing to the Mesa project you must agree to the licensing terms
of the component to which you're contributing.
The following section lists the primary components of the Mesa distribution
and their respective licenses.
Mesa Component Licenses

| Component | Location | License |
|---|---|---|
| Main Mesa code | src/mesa/ | MIT |
| Device drivers | src/mesa/drivers/* | MIT, generally |
| Gallium code | src/gallium/ | MIT |
| Ext headers | GL/glext.h | Khronos |
| | GL/glxext.h | Khronos |
| | GL/wglext.h | Khronos |
| | KHR/khrplatform.h | Khronos |

**********

---
include/GL/gl.h :

Mesa 3-D
graphics library

Copyright (C) 1999-2006 Brian Paul All Rights Reserved.
Copyright (C) 2009 VMware, Inc. All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR

OTHER DEALINGS IN THE SOFTWARE.

**********

---
include/GL/glext.h
include/GL/glxext.h
include/GL/wglxext.h :

Copyright (c) 2013 - 2018 The Khronos Group Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and/or associated documentation files (the
"Materials"), to deal in the Materials without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Materials, and to
permit persons to whom the Materials are furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Materials.

THE MATERIALS ARE PROVIDED "AS IS", WITHOUT
WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
MATERIALS OR THE USE OR OTHER DEALINGS IN THE MATERIALS.

**********

---
include/KHR/khrplatform.h :

Copyright (c) 2008 - 2018 The Khronos Group Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and/or associated documentation files (the
"Materials"), to deal in the Materials without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Materials, and to
permit persons to whom the Materials are furnished to do
so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Materials.

THE MATERIALS ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
MATERIALS OR THE USE OR OTHER DEALINGS IN THE MATERIALS.

**********

```
## Apache Commons Byte Code Engineering Library (BCEL) Version 6.5.0

### Apache Commons BCEL Notice
<pre>

 ========================================================================
 ==  NOTICE file corresponding to the section 4 d of                   ==
 ==  the Apache License, Version 2.0,                                  ==
 ==  in this case for the Apache Commons BCEL distribution.            ==
 ========================================================================

 This product includes software developed by
 The Apache Software Foundation (http://www.apache.org/).

</pre>

### Apache 2.0 License
<pre>

                    Apache License
                Version 2.0, January 2004
             http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

  "License" shall mean the terms and conditions for use, reproduction,
  and distribution as defined by Sections 1 through 9 of
 this document.

  "Licensor" shall mean the copyright owner or entity authorized by
  the copyright owner that is granting the License.
```

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation
of a Source form, including but
not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or
additions
to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of
Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from
the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its

distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute,
alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor
regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether
in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act
only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License,
Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software

distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

</pre>
## Little Color Management System (LCMS) v2.12

### LCMS License
<pre>

Little Color Management System
Copyright (c) 1998-2020 Marti Maria Saguer

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the Software
is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO
THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
 LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

</pre>
## ASM Bytecode Manipulation Framework v6.0

### ASM License
<pre>

Copyright (c) 2000-2011 France Tlcom
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holders nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
THE POSSIBILITY OF SUCH DAMAGE.

</pre>

# 1.410 libpcap 1.5.3-2

## 1.410.1 Available under license :

License: BSD

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in
the documentation and/or other materials provided with the
distribution.
3. The names of the authors may not be used to endorse or promote
products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

# 1.411 shared-mime-info 1.9-2

## 1.411.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING

WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU
General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.

This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.
This package was debianized by Filip Van Raemdonck (mechanix@debian.org) on Thu, 4 Jul 2002 20:59:23 +0200.

It was downloaded from https://freedesktop.org/wiki/Software/shared-mime-info.

Copyright:
Copyright (C) 2002, 2003 Thomas Leonard.

License:

This package is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this package; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

On Debian systems, the complete text
of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL'.

# 1.412 apr-util 1.6.1-2

## 1.412.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct

or contributory patent infringement, then any patent licenses
granted to You under this License for that Work shall terminate
as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without
modifications, and in Source or Object form, provided that You
meet the following conditions:

(a) You must give any other recipients of the Work or
Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices
stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works
that You distribute, all copyright, patent, trademark, and
attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of
the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its
distribution, then any Derivative Works that You distribute must
include a readable copy of the attribution notices contained
within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one
of the following places: within a NOTICE text file distributed
as part of the Derivative Works; within the Source form or
documentation, if provided along with the Derivative Works; or,
within a display generated by the Derivative Works, if and
wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

APACHE PORTABLE RUNTIME SUBCOMPONENTS:

The Apache Portable Runtime includes a number of subcomponents with
separate copyright notices and license terms. Your use of the source
code for the these subcomponents is subject to the terms and
conditions of the following licenses.

For the include\apr_md5.h component:

```
/*
* This is work is derived from material Copyright RSA Data Security, Inc.
*
* The RSA copyright statement and Licence for that original material is
* included below. This is followed by the Apache copyright statement and
* licence for the modifications made to that material.
*/

/* Copyright (C) 1991-2, RSA Data Security,
 Inc. Created 1991. All
 rights reserved.
```

License to copy and use this software is granted provided that it
is identified as the "RSA Data Security, Inc. MD5 Message-Digest
Algorithm" in all material mentioning or referencing this software
or this function.

License is also granted to make and use derivative works provided
that such works are identified as "derived from the RSA Data
Security, Inc. MD5 Message-Digest Algorithm" in all material
mentioning or referencing the derived work.

RSA Data Security, Inc. makes no representations concerning either
the merchantability of this software or the suitability of this
software for any particular purpose. It is provided "as is"
without express or implied warranty of any kind.

These notices must be retained in any copies of any part of this
documentation and/or software.
*/

For the passwd\apr_md5.c component:

```
/*
* This is work is derived from material Copyright RSA Data Security, Inc.
 *
* The RSA copyright statement and Licence for that original material is
* included below. This is followed by the Apache copyright statement and
* licence for the modifications made to that material.
*/

/* MD5C.C - RSA Data Security, Inc., MD5 message-digest algorithm
*/

/* Copyright (C) 1991-2, RSA Data Security, Inc. Created 1991. All
 rights reserved.

 License to copy and use this software is granted provided that it
 is identified as the "RSA Data Security, Inc. MD5 Message-Digest
 Algorithm" in all material mentioning or referencing this software
 or this function.

 License is also granted to make and use derivative works provided
 that such works are identified as "derived from the RSA Data
 Security, Inc. MD5 Message-Digest Algorithm" in all material
 mentioning or referencing the derived work.

 RSA Data Security, Inc. makes no representations concerning either
 the merchantability of this software or the suitability of this
```

software for any
particular purpose. It is provided "as is"
without express or implied warranty of any kind.

These notices must be retained in any copies of any part of this
documentation and/or software.
*/
/*
* The apr_md5_encode() routine uses much code obtained from the FreeBSD 3.0
* MD5 crypt() function, which is licenced as follows:
* ----------------------------------------------------------------------------
* "THE BEER-WARE LICENSE" (Revision 42):
* <phk@login.dknet.dk> wrote this file. As long as you retain this notice you
* can do whatever you want with this stuff. If we meet some day, and you think
* this stuff is worth it, you can buy me a beer in return. Poul-Henning Kamp
* ----------------------------------------------------------------------------
*/

For the crypto\apr_md4.c component:

* This is derived from material copyright RSA Data Security, Inc.
* Their notice is reproduced below in its entirety.
*
* Copyright (C) 1991-2, RSA Data Security, Inc. Created
1991. All
* rights reserved.
*
* License to copy and use this software is granted provided that it
* is identified as the "RSA Data Security, Inc. MD4 Message-Digest
* Algorithm" in all material mentioning or referencing this software
* or this function.
*
* License is also granted to make and use derivative works provided
* that such works are identified as "derived from the RSA Data
* Security, Inc. MD4 Message-Digest Algorithm" in all material
* mentioning or referencing the derived work.
*
* RSA Data Security, Inc. makes no representations concerning either
* the merchantability of this software or the suitability of this
* software for any particular purpose. It is provided "as is"
* without express or implied warranty of any kind.
*
* These notices must be retained in any copies of any part of this
* documentation and/or software.
*/

For the crypto\crypt_blowfish.c(.h) component:

* Written by Solar Designer <solar at openwall.com> in 1998-2011.
* No copyright
 is claimed, and the software is hereby placed in the public
* domain.  In case this attempt to disclaim copyright and place the software
* in the public domain is deemed null and void, then the software is
* Copyright (c) 1998-2011 Solar Designer and it is hereby released to the
* general public under the following terms:
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted.
*
* There's ABSOLUTELY NO WARRANTY, express or implied.

See crypto/crypt_blowfish.c for more information.

For the include\apr_md4.h component:

*
* This is derived from material copyright RSA Data Security, Inc.
* Their notice is reproduced below in its entirety.
*
* Copyright (C) 1991-2, RSA Data Security, Inc. Created 1991. All
* rights reserved.
*
* License to copy and use this software is granted provided that it
* is identified as the "RSA Data Security, Inc. MD4 Message-Digest
* Algorithm" in all material mentioning or referencing this
 software
* or this function.
*
* License is also granted to make and use derivative works provided
* that such works are identified as "derived from the RSA Data
* Security, Inc. MD4 Message-Digest Algorithm" in all material
* mentioning or referencing the derived work.
*
* RSA Data Security, Inc. makes no representations concerning either
* the merchantability of this software or the suitability of this
* software for any particular purpose. It is provided "as is"
* without express or implied warranty of any kind.
*
* These notices must be retained in any copies of any part of this
* documentation and/or software.
*/

For the test\testmd4.c component:

*
* This is derived from material copyright RSA Data Security, Inc.

* Their notice is reproduced below in its entirety.
*
* Copyright (C) 1990-2, RSA Data Security, Inc. Created 1990. All
* rights reserved.
*
* RSA Data Security, Inc. makes no representations concerning either
* the merchantability of this software
 or the suitability of this
* software for any particular purpose. It is provided "as is"
* without express or implied warranty of any kind.
*
* These notices must be retained in any copies of any part of this
* documentation and/or software.
*/

For the xml\expat\conftools\install-sh component:

#
# install - install a program, script, or datafile
# This comes from X11R5 (mit/util/scripts/install.sh).
#
# Copyright 1991 by the Massachusetts Institute of Technology
#
# Permission to use, copy, modify, distribute, and sell this software and its
# documentation for any purpose is hereby granted without fee, provided that
# the above copyright notice appear in all copies and that both that
# copyright notice and this permission notice appear in supporting
# documentation, and that the name of M.I.T. not be used in advertising or
# publicity pertaining to distribution of the software without specific,
# written prior permission.  M.I.T. makes no representations about the
# suitability
 of this software for any purpose.  It is provided "as is"
# without express or implied warranty.
#

For the expat xml parser component:

Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd
and Clark Cooper

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE
AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========

For the ldap/apr_ldap_url.c component:

```
/* Portions Copyright 1998-2002 The OpenLDAP Foundation
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted only as authorized by the OpenLDAP
* Public License.  A copy of this license is available at
* http://www.OpenLDAP.org/license.html or in file LICENSE in the
* top-level directory of the distribution.
*
* OpenLDAP is a registered trademark of the OpenLDAP Foundation.
*
* Individual files and/or contributed packages may be copyright by
* other parties and subject to additional restrictions.
*
* This work is
 derived from the University of Michigan LDAP v3.3
* distribution.  Information concerning this software is available
* at: http://www.umich.edu/~dirsvcs/ldap/
*
* This work also contains materials derived from public sources.
*
* Additional information about OpenLDAP can be obtained at:
*     http://www.openldap.org/
*/

/*
* Portions Copyright (c) 1992-1996 Regents of the University of Michigan.
* All rights reserved.
*
* Redistribution and use in source and binary forms are permitted
* provided that this notice is preserved and that due credit is given
* to the University of Michigan at Ann Arbor. The name of the University
```

* may not be used to endorse or promote products derived from this
* software without specific prior written permission. This software
* is provided ``as is" without express or implied warranty.
*/
This package was debianized by Thom May <thom@debian.org> on
Wed, 17 Nov 2004 11:27:14 -0800

It was downloaded from http://httpd.apache.org/download.cgi

Upstream Authors: The Apache Software Foundation - http://apr.apache.org/

Copyright:

Licensed to the Apache Software Foundation (ASF) under one or more contributor
license agreements. The ASF licenses this work to You under the Apache License,
Version 2.0 (the "License"); you may not use this work except in compliance
with the License.  You may obtain a copy of the License at

  http://www.apache.org/licenses/LICENSE-2.0

On a Debian system, the license can be found at
/usr/share/common-licenses/Apache-2.0 .

APACHE PORTABLE RUNTIME SUBCOMPONENTS:

The Apache Portable Runtime includes a number of subcomponents with
separate copyright notices and license terms. Your use of the source
code for the these subcomponents is subject to the terms and
conditions of the following licenses.

From strings/apr_fnmatch.c, include/apr_fnmatch.h,
 misc/unix/getopt.c,
file_io/unix/mktemp.c, strings/apr_strings.c:

/*
* Copyright (c) 1987, 1993, 1994
*      The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software

* must display the following acknowledgement:
* This product includes software developed by the University of
* California, Berkeley and its contributors.
* 4. Neither the name of the University nor the names of
its contributors
* may be used to endorse or promote products derived from this software
* without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

From network_io/unix/inet_ntop.c, network_io/unix/inet_pton.c:

/* Copyright (c)
1996 by Internet Software Consortium.
*
* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
* ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
* CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
* DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
* PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
* ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
* SOFTWARE.

From dso/aix/dso.c:

* Based on libdl (dlfcn.c/dlfcn.h) which is
* Copyright (c) 1992,1993,1995,1996,1997,1988
* Jens-Uwe Mager, Helios Software GmbH, Hannover, Germany.
*
* Not derived
from licensed software.
*
* Permission is granted to freely use, copy, modify, and redistribute

*  this software, provided that the author is not construed to be liable
*  for any results of using the software, alterations are clearly marked
*  as such, and this notice is not modified.

From strings/apr_strnatcmp.c, include/apr_strings.h:

strnatcmp.c -- Perform 'natural order' comparisons of strings in C.
Copyright (C) 2000 by Martin Pool <mbp@humbug.org.au>

This software is provided 'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

From test/CuTest.c, test/CuTest.h:

* Copyright (c) 2002-2006 Asim Jalis
*
* This library is released under the zlib/libpng license as described at
*
* http://www.opensource.org/licenses/zlib-license.html
*
* Here is the statement of the license:
*
* This software is provided 'as-is', without any express or implied warranty.
* In no event will the authors be held liable for any damages arising from
* the use of this software.
*
* Permission is granted to anyone to use this software for any purpose,
* including commercial applications, and to alter it and redistribute it
* freely, subject to the following restrictions:
*
* 1. The origin of
 this software must not be misrepresented; you must not
* claim that you wrote the original software. If you use this software in a
* product, an acknowledgment in the product documentation would be

* appreciated but is not required.
*
* 2. Altered source versions must be plainly marked as such, and must not be
* misrepresented as being the original software.
*
* 3. This notice may not be removed or altered from any source distribution.

The source files crypto/apr_md4.c and crypto/apr_md5.c contain code which is derived from reference code from RFC-1320, and RFC-1321. This code is copyright RSA Data Security, Inc. ("RSA"). RSA made the following statement about the conditions of use of this code. Debian chooses to use and distribute this code according to the conditions outlined in this statement and NOT according to the license contained in the source files.

The following was recevied Fenbruary 23,2000 From: "Linn, John" February 19, 2000

The purpose of this memo
is to clarify the status of intellectual
property rights asserted by RSA Security Inc. ("RSA") in the MD2, MD4 and MD5 message-digest algorithms, which are documented in RFC-1319, RFC-1320, and RFC-1321 respectively. Implementations of these message-digest algorithms, including implementations derived from the reference C code in RFC-1319, RFC-1320, and RFC-1321, may be made, used, and sold without license from RSA for any purpose. No rights other than the ones explicitly set forth above are granted. Further, although RSA grants rights to implement certain algorithms as defined by identified RFCs, including implementations derived from the reference C code in those RFCs, no right to use, copy, sell, or distribute any other implementations of the MD2, MD4, or MD5 message-digest algorithms created, implemented, or distributed by RSA is hereby granted by implication, estoppel, or otherwise. Parties interested in licensing security components and toolkits written
by RSA should contact the
company to discuss receiving a license. All other questions should be directed to Margaret K. Seif, General Counsel, RSA Security Inc., 36 Crosby Drive, Bedford, Massachusetts 01730. Implementations of the MD2, MD4, or MD5 algorithms may be subject to United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities (including the Arms Export Control Act, as amended, and the Export Administration Act of 1970). The transfer of certain technical data and commodities may require a license from the cognizant agency of the United States Government. RSA neither represents that a license shall not be required for a particular implementation nor that, if required, one shall be issued.

DISCLAIMER: RSA MAKES NO REPRESENTATIONS AND EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF

MERCHANTABILITY, FITNESS FOR
A PARTICULAR PURPOSE, VALIDITY OF INTELLECTUAL
PROPERTY RIGHTS, ISSUED OR PENDING, OR THE ABSENCE OF LATENT OR OTHER
DEFECTS, WHETHER OR NOT DISCOVERABLE, IN CONNECTION WITH THE MD2, MD4, OR
MD5 ALGORITHMS. NOTHING IN THIS GRANT OF RIGHTS SHALL BE CONSTRUED AS A
REPRESENTATION OR WARRANTY GIVEN BY RSA THAT THE IMPLEMENTATION OF THE
ALGORITHM WILL NOT INFRINGE THE INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD
PARTY. IN NO EVENT SHALL RSA, ITS TRUSTEES, DIRECTORS, OFFICERS, EMPLOYEES,
PARENTS AND AFFILIATES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF
ANY KIND RESULTING FROM IMPLEMENTATION OF THIS ALGORITHM, INCLUDING ECONOMIC
DAMAGE OR INJURY TO PROPERTY AND LOST PROFITS, REGARDLESS OF WHETHER RSA
SHALL BE ADVISED, SHALL HAVE OTHER REASON TO KNOW, OR IN FACT SHALL KNOW OF
THE POSSIBILITY OF SUCH INJURY OR DAMAGE.

The statement was downloaded from http://www.ietf.org/ietf-ftp/IPR/RSA-MD-all
on January 8th, 2012.
Apache Portable Runtime Utility Library
Copyright (c) 2000-2016 The Apache Software Foundation.

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Portions of this software were developed at the National Center
for Supercomputing Applications (NCSA) at the University of
Illinois at Urbana-Champaign.

This software contains code derived from the RSA Data Security
Inc. MD5 Message-Digest Algorithm, including various
modifications by Spyglass Inc., Carnegie Mellon University, and
Bell Communications Research, Inc (Bellcore).

# 1.413 apr 1.6.3-2

## 1.413.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise

designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License,
each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute
copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any

risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

APACHE PORTABLE RUNTIME SUBCOMPONENTS:

The Apache Portable Runtime includes a number of subcomponents with
separate copyright notices and license terms. Your use of the source
code for these subcomponents is subject to the terms and conditions
of the following licenses.

From strings/apr_fnmatch.c, include/apr_fnmatch.h, misc/unix/getopt.c,
file_io/unix/mktemp.c, strings/apr_strings.c:

/*
* Copyright (c) 1987, 1993, 1994
*      The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
 * are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*      This product includes software developed by the University of
*      California, Berkeley and its contributors.
* 4. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF
 MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY

* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

From network_io/unix/inet_ntop.c, network_io/unix/inet_pton.c:

/* Copyright (c) 1996 by Internet Software Consortium.
*
* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE
CONSORTIUM DISCLAIMS
* ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
* CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
* DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
* PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
* ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
* SOFTWARE.

From dso/aix/dso.c:

*  Based on libdl (dlfcn.c/dlfcn.h) which is
*  Copyright (c) 1992,1993,1995,1996,1997,1988
*  Jens-Uwe Mager, Helios Software GmbH, Hannover, Germany.
*
*  Not derived from licensed software.
*
*  Permission is granted to freely use, copy, modify, and redistribute
*  this software, provided that the author is not construed to be liable
*  for any results of using the software, alterations are clearly marked
*  as such, and this notice is not modified.

From strings/apr_strnatcmp.c,
include/apr_strings.h:

strnatcmp.c -- Perform 'natural order' comparisons of strings in C.
Copyright (C) 2000 by Martin Pool <mbp@humbug.org.au>

This software is provided 'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

From
strings/apr_snprintf.c:

*
* cvt - IEEE floating point formatting routines.
*       Derived from UNIX V7, Copyright(C) Caldera International Inc.
*

Copyright(C) Caldera International Inc.  2001-2002.  All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

Redistributions of source code and documentation must retain the above
copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

All advertising materials mentioning features or use of this software
must display the following acknowledgement:

  This product includes software developed or owned by  Caldera
  International, Inc.

Neither the name of Caldera International,
Inc. nor the names of other
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

USE OF THE SOFTWARE PROVIDED FOR UNDER THIS LICENSE BY CALDERA
INTERNATIONAL, INC. AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.  IN
NO EVENT SHALL CALDERA INTERNATIONAL, INC. BE LIABLE FOR ANY DIRECT,
INDIRECT INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)

HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This package was debianized by Thom May <thom@debian.org> on
Wed, 17 Nov 2004 11:27:14 -0800

It was downloaded from http://httpd.apache.org/download.cgi

Upstream Authors: The Apache Software Foundation - http://apr.apache.org/

Copyright:

Licensed to the Apache Software Foundation (ASF) under one or more contributor
license agreements. The ASF licenses this work to You under the Apache License,
Version 2.0 (the "License"); you may not use this work except in compliance
with the License.  You may obtain a copy of the License at

  http://www.apache.org/licenses/LICENSE-2.0

On a Debian system, the license can be found at
/usr/share/common-licenses/Apache-2.0 .

APACHE PORTABLE RUNTIME SUBCOMPONENTS:

The Apache Portable Runtime includes a number of subcomponents with
separate copyright notices and license terms. Your use of the source
code for the these subcomponents is subject to the terms and
conditions of the following licenses.

From strings/apr_fnmatch.c, include/apr_fnmatch.h,
 misc/unix/getopt.c,
file_io/unix/mktemp.c, strings/apr_strings.c:

/*
* Copyright (c) 1987, 1993, 1994
*      The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software

* must display the following acknowledgement:
* This product includes software developed by the University of
* California, Berkeley and its contributors.
* 4. Neither the name of the University nor the names of
its contributors
* may be used to endorse or promote products derived from this software
* without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

From network_io/unix/inet_ntop.c, network_io/unix/inet_pton.c:

/* Copyright (c)
1996 by Internet Software Consortium.
*
* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
* ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
* CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
* DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
* PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
* ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
* SOFTWARE.

From dso/aix/dso.c:

* Based on libdl (dlfcn.c/dlfcn.h) which is
* Copyright (c) 1992,1993,1995,1996,1997,1988
* Jens-Uwe Mager, Helios Software GmbH, Hannover, Germany.
*
* Not derived
from licensed software.
*
* Permission is granted to freely use, copy, modify, and redistribute

*  this software, provided that the author is not construed to be liable
*  for any results of using the software, alterations are clearly marked
*  as such, and this notice is not modified.

From strings/apr_strnatcmp.c, include/apr_strings.h:

strnatcmp.c -- Perform 'natural order' comparisons of strings in C.
Copyright (C) 2000 by Martin Pool <mbp@humbug.org.au>

This software is provided 'as-is', without any express or implied
warranty.  In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
   claim that you wrote the original software. If you use this software
   in a product, an acknowledgment in the product documentation would be
   appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
   misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

From test/CuTest.c, test/CuTest.h:

* Copyright (c) 2002-2006 Asim Jalis
*
* This library is released under the zlib/libpng license as described at
*
* http://www.opensource.org/licenses/zlib-license.html
*
* Here is the statement of the license:
*
* This software is provided 'as-is', without any express or implied warranty.
* In no event will the authors be held liable for any damages arising from
* the use of this software.
*
* Permission is granted to anyone to use this software for any purpose,
* including commercial applications, and to alter it and redistribute it
* freely, subject to the following restrictions:
*
* 1. The origin of
 this software must not be misrepresented; you must not
* claim that you wrote the original software. If you use this software in a
* product, an acknowledgment in the product documentation would be

* appreciated but is not required.
*
* 2. Altered source versions must be plainly marked as such, and must not be
* misrepresented as being the original software.
*
* 3. This notice may not be removed or altered from any source distribution.
Apache Portable Runtime
Copyright (c) 2000-2017 The Apache Software Foundation.

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

Portions of this software were developed at the National Center
for Supercomputing Applications (NCSA) at the University of
Illinois at Urbana-Champaign.

This software contains code derived from the RSA Data Security
Inc. MD5 Message-Digest Algorithm.

This software contains code derived from UNIX V7, Copyright(C)
Caldera International Inc.

# 1.414 firebird 3.0.2.32703.ds4-11ubuntu2

## 1.414.1 Available under license :

/*
*  The contents of this file are subject to the Initial
*  Developer's Public License Version 1.0 (the "License");
*  you may not use this file except in compliance with the
*  License. You may obtain a copy of the License at
*  http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/.
*
*  Software distributed under the License is distributed AS IS,
*  WITHOUT WARRANTY OF ANY KIND, either express or implied.
*  See the License for the specific language governing rights
*  and limitations under the License.
*
*  The Original Code was created by [Initial Developer's Name]
*  for the Firebird Open Source RDBMS project.
*
*  Copyright (c) [Year] [Initial Developer's Name] [Email]
*  and all contributors signed below.
*
*  All Rights Reserved.
*  Contributor(s): _____.
*/

Maintained by Debian Firebird Maintainers
<pkg-firebird-general@lists.alioth.debian.org>

X-Source-Downloaded-From:
http://www.firebirdsql.org/download/prerelease/source/

X-Repackaged: Yes

Table of contents
==========

This file is long, but complete. Here's what's inside:

* How to get re-packaged upstream source
* What is removed from upstream source and why
* The easy part: files under debian/
* Upstream licensing summary
* Upstream copyright summary
* Complete list of the files in the repackaged upstream tarball, groupped by
license and copyright holders.
* Verbatim copies of all licenses used upstream

How to get re-packaged upstream source
==========
Run 'uscan --force' or debian/rules get-orig-source

That will download from upstream, remove what is to be removed and create
an .orig.tar.xz

What is removed from upstream source and why
==========

* Bundled libraries

The following libraries are supplied
by upstream in their source
tarball. These are present in Debian and using the Debian packages is
better because:
- improved security: no need to watch the bundled libraries for
security problems -- Debian Security already handles that for the
Debian packages
- get fixes and improvements automatically when the Debian library
package is upgraded
- the source tarball decreases in size from 13MB to 7.5MB (42% decrease)
Removed library sources:
- extern/editline

- src/include/firebird/impl/boost
- extern/libtommath

* Removed sources with non-free/missing licensing

The following files are removed as they contain only copyright
information without any license allowing their distribution. Luckily,
they are not needed when building on Debiian.

- builds/install/arch-specific/solaris/
- src/msgs/templates.sql
- extern/SfIO/

* Generated files without source

These two files are generated from SGML sources, but the sources are not in the
upstream tarball.

- doc/ReleaseNotes.pdf

Other
 generated files are removed from the source, as listed in
debian/prune-upstream-dfsg.lst

* Generated files and other cruft.

Since we are repackaging, we take the opportunity to also remove the following
files, which are generated during the build:

- configure
- builds/make.new/config/config.guess
- builds/make.new/config/config.h.in
- builds/make.new/config/config.sub
- builds/make.new/config/install-sh
- builds/make.new/config/ltmain.sh

Also, the following files are just cruft and are present in the upstream
tarball by mistake:

- .cvsignore (in several directories)

The easy part: files under debian/
==========

Files: debian/*
Copyright:  2006, 2007, 2008, 2009, 2010, 2014, 2017

Damyan Ivanov <dmn@debian.org>
License: other
Permission is granted to use this work, with or without modifications,
provided that this notice is retained. If we meet some day, and you think this
stuff is worth it, you can buy me a beer
in return.

Upstream licensing summary
==========

* Interbase Public License Version 1.0

The contents of this file are subject to the Interbase Public
License Version 1.0 (the "License"); you may not use this file
except in compliance with the License. You may obtain a copy
of the License at http://www.Inprise.com/IPL.html

Software distributed under the License is distributed on an
"AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express
or implied. See the License for the specific language governing
rights and limitations under the License.

The Original Code was created by Inprise Corporation
and its predecessors. Portions created by Inprise Corporation are
Copyright (C) Inprise Corporation.
All Rights Reserved.

The full text of the Interbase Public License Version 1.0 is included in the
section 'L I C E N S E T E X T S' below.

---

* Mozilla Public License
Version 1.1

The contents of this file are subject to the Mozilla Public
License Version 1.1 (the "License"); you may not use this file
except in compliance with the License. You may obtain a copy of
the License at http://www.mozilla.org/MPL/
Alternatively, the contents of this file may be used under the
terms of the GNU General Public License Version 2 or later (the
"GPL"), in which case the provisions of the GPL are applicable
instead of those above. You may obtain a copy of the Licence at
http://www.gnu.org/copyleft/gpl.html

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of

MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
Relevant for more details.

This file was created by members of the firebird development team.
All individual contributions remain the Copyright (C) of those
individuals. Contributors to this file are either listed here or
can be obtained from a CVS history command.

All rights reserved.

The full text of the Mozilla Public License Version 1.1 is included in the
section 'L I C E N S E T E X T S' below.

---

* Initial Developer's Public License Version 1.0

The contents of this file are subject to the Initial
Developer's Public License Version 1.0 (the "License");
you may not use this file except in compliance with the
License. You may obtain a copy of the License at
http://www.ibphoenix.com/idpl.html.

Software distributed under the License is distributed on
an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either
express or implied. See the License for the specific
language governing rights and limitations under the License.

The contents of this file or any work derived from this file
may not be distributed under any other license whatsoever
without the express prior written permission of the
original
author.

The full text of the Initial Developer's Public License Version 1.0 is included
in the section 'L I C E N S E T E X T S' below

---

* GNU Lesser General Public License 2.1 or later with an exception clause

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.
You may obtain a copy of the Licence at
http://www.gnu.org/licences/lgpl.html

As a special exception this file can also be included in modules
with other source code as long as that source code has been
released under an Open Source Initiative certificed licence.
More information about OSI certification can be found at:
http://www.opensource.org

This module is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU Lesser General Public Licence for more details.

This module was created by members of the firebird development
team. All individual contributions remain the Copyright (C) of
those individuals and all rights are reserved. Contributors to
this file are either listed below or can be obtained from a CVS
history command.

Copy of the GNU Lesser General Public License version 2.1 may be found at
/usr/share/common-licenses/LGPL-2.1 on every Debian system.

---

* Assumed Public Domain

Some files lack copyright/licensing information. According to
doc/license/README.license.usage.txt, they should be considered Public Domain:

Every non-binary file that exists in the SVN tree, should have a header
section which describes the license this code is released under.
If a file
contains no header, it means that this code is freeware and nobody owns the
appropriate copyrights.

---

* BSD-like

One file is under a BSD-like license with the advertising clause. See
'BSD-like licensing' below.

---

* Declared public domain

Some of the files are declared to be put in Public Domain.

---

* Other

Finally, some files use other licensing terms, they are quoted verbatin on
the "Other licensing" section below.

---

Upstream copyright summary
==========

1981-2000 Inprise Corporation and its predecessors
Copyright 1991 by the Massachusetts Institute of Technology
Copyright (c) 1989 The Regents of the University of California.
Copyright 2007 Steven G. Johnson <stevenj@alum.mit.edu>
Copyright (C) 1992-2006 Free Software Foundation, Inc.
2000-2016 various Firebird Project members and contributors
Adriano dos Santos Fernandes <adrianosf@uol.com.br>, 2004, 2005, 2006,
2007, 2008, 2009, 2010, 2011
Alan Barclay
Aleksey Karyakin <aleksey.karyakin@mail.ru>, 2005
Alex Peshkov <AlexPeshkov@users.sourceforge.net>
Alexander Peshkoff <peshkoff@mail.ru>, 2002, 2003, 2004, 2005, 2007,
2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015
Alexey Karyakin <aleksey.karyakin@mail.ru>
Ann Harrison
Ann W. Harrison
Arno Brinkman <firebird@abvisie.nl>, 2003, 2004
Bill Oliver <Bill.Oliver@sas.com>
Blas Rodriguez Somoza, 2004
Chris Knight <chris@e-easy.com.au>
Claudio Valderrama C., 2003, 2004, 2007
Damyan Ivanov
Dimitry Sibiryakov <aafemt@users.sourceforge.net>
Dmitry Yemanov <dimitr@users.sf.net>,
2002, 2004, 2005, 2006, 2008,
2009, 2011
Erik Kunze <Erik.Kunze@philosys.de>
Erik Kunze, Philosys GmbH, <kunze@philosys.de>
Fikret Hasovic
Frank Schlottmann-Gdde
Fred Polizo, Jr.
Gabor Boros
IBPhoenix, 2001
Ivan Prenosil
James A. Starkey, 1997 - 2000, 2001, 2003, 2004
James K. Lowden <jklowden@schemamania.org>
Jaroslaw Glowacki <glowacki@plocman.pl>
Jerry Adair

John Bellardo <bellardo at cs.ucsd.edu>, 2002
Jonas Jasas
Karel Brichnac <brichna@atlas.cz>
Khorsun Vladyslav <hvlad@users.sourceforge.net>, 2008, 2009
Konstantin Kuznetsov
Mark O'Donohue <mark.odonohue@ludwig.edu.au>
Mark O'Donohue <skywalker@users.sourceforge.net>, 2002
Michael Rimov
Michal Bukovjan
Mike Nordell <tamlin@algonet.se>, 2001
Neil McCalden
Netfrastructure, Inc., 1997
- 2000, 2001, 2003
Nickolay Samofatov <nickolay@broadviewsoftware.com>, 2004, 2006
Nikolay Samofatov
Oleg Loa <loa@mail.ru>
Olivier Mascia, 2003
Patrick J. P. Griffin
Paul Beach
Paul Reeves, 2001-2007
Philippe Makowski
Roman Simakov <roman-simakov@users.sourceforge.net>, 2008
Sandor Szollosi <ssani@freemail.hu>
Sean Leyne
Sergey Nikitin
Simon Carter
Slavomir Skopalik
Stephen W. Boyd
Steve Boyd <sboydlns at gmail.com>, 2006
Theo ?
Tilo Muetze
Toni Martir
Victor Seryodkin
Vlad Horsun
Vlad Khorsun <hvlad at users.sourceforge.net>, 2005, 2006, 2007, 2008, 2011
Vlad Khorsun <hvlad@users.sf.net>, 2004
Vladyslav Khorsun <hvlad@users.sourceforge.net>, 2007, 2009, 2010

Years of copyright after 2000 are uncertain. Sources point to CVS for the exact dates.
Upstream CVS repository is at http://sourceforge.net/cvs/?group_id=9028
The dates are quoted verbatim where present in the source.

==========

Detailed list of upstream source files, groupped by license and copyright holders

==========

Note that IPL and IDPL require listing the contributors. These are copied below
when present.

No explicit licensing/copyright information (assumed Public Domain)
---

.travis.yml
autogen.sh
binreloc.m4
builds/cmake/*
builds/install/arch-specific/aix/classic/rpmfiles.txt.in
builds/install/arch-specific/aix/classic/rpmheader.txt.in
builds/install/arch-specific/aix/misc/aixLibrary.sh.in
builds/install/arch-specific/aix/misc/firebird.init.d.aix.in
builds/install/arch-specific/aix/misc/rc.config.firebird.aix.in
builds/install/arch-specific/darwin/*
builds/install/arch-specific/hpux/classic/firebirdCS.psf.in
builds/install/arch-specific/hpux/misc/changedbaPassword.sh.in
builds/install/arch-specific/hpux/misc/rc.config.firebird.hpux.in
builds/install/arch-specific/hpux/super/postInstall.sh.in
builds/install/arch-specific/hpux/super/postUninstall.sh.in
builds/install/arch-specific/hpux/super/preInstall.sh.in
builds/install/arch-specific/hpux/super/preUninstall.sh.in
builds/install/arch-specific/linux/firebird-classic.service.in
builds/install/arch-specific/linux/firebird-classic.socket.in
builds/install/arch-specific/linux/firebird-superserver.service.in
builds/install/arch-specific/linux/firebird.init.d.debian.in
builds/install/arch-specific/linux/firebird.init.d.generic.in
builds/install/arch-specific/linux/firebird.init.d.gentoo.in
builds/install/arch-specific/linux/firebird.init.d.mandrake.in
builds/install/arch-specific/linux/firebird.init.d.slackware.in
builds/install/arch-specific/linux/firebird.xinetd.in
builds/install/arch-specific/linux/rc.config.firebird.in
builds/install/arch-specific/linux/README
builds/install/arch-specific/mingw/*
builds/install/arch-specific/solx86/Makefile.in
builds/install/arch-specific/solx86gcc/CS/pkginfo.in
builds/install/arch-specific/solx86gcc/CS/prototype.in
builds/install/arch-specific/solx86gcc/LIBGCC/pkginfolg.in
builds/install/arch-specific/solx86gcc/LIBGCC/prototypelg.in
builds/install/arch-specific/win32/After_Installation.url
builds/install/arch-specific/win32/ba/*
builds/install/arch-specific/win32/custom_messages.inc
builds/install/arch-specific/win32/cz/*
builds/install/arch-specific/win32/de/*
builds/install/arch-specific/win32/es/*

builds/install/arch-specific/win32/firebird_install_logo1.bmp
builds/install/arch-specific/win32/firebirdsql.org.url
builds/install/arch-specific/win32/fr/*
builds/install/arch-specific/win32/hu/*
builds/install/arch-specific/win32/i18n_readme.txt
builds/install/arch-specific/win32/install_service.bat
builds/install/arch-specific/win32/installation_readme.txt
builds/install/arch-specific/win32/installation_scripted.txt
builds/install/arch-specific/win32/it/*
builds/install/arch-specific/win32/pl/*
builds/install/arch-specific/win32/pt/*
builds/install/arch-specific/win32/Readme.txt
builds/install/arch-specific/win32/readme_snapshot.txt
builds/install/arch-specific/win32/ru/*
builds/install/arch-specific/win32/si/*
builds/install/arch-specific/win32/strip_comments.sed
builds/install/arch-specific/win32/uninstall_service.bat
builds/install/misc/databases.conf.in
builds/install/misc/fbintl.conf
builds/install/misc/firebird.conf.in
builds/install/misc/firebird.init.d.Solaris.in
builds/install/misc/plugins.conf
builds/mac_os_x/CS/*
builds/posix/make.android.arme
builds/posix/make.android.arm64
builds/posix/make.android.x86
builds/posix/make.android.x86_64
builds/posix/make.shared.variables
builds/posix/prefix.example
builds/posix/prefix.solaris
builds/posix/prefix.solaris-64gcc
builds/win32/adjust_vc7_files.cmd
builds/win32/clean_all.bat
builds/win32/compile.bat
builds/win32/create_msgs.bat
builds/win32/defs/fbrmclib.def
builds/win32/make_all.bat
builds/win32/make_boot.bat
builds/win32/make_examples.bat
builds/win32/make_icu.bat
builds/win32/msvc10/*
builds/win32/msvc12/*
builds/win32/msvc14/*
builds/win32/msvc7/*
builds/win32/msvc8/*
builds/win32/msvc9/*
builds/win32/parse.bat
builds/win32/preprocess.bat

builds/win32/run_all.bat
builds/win32/set_build_target.bat
builds/win32/setenvvar.bat
ChangeLog
CMakeLists.txt
configure.ac
doc/*.html
doc/*.txt
doc/Firebird_conf.txt
doc/license/README.license.usage.txt
doc/README.*
doc/sql.extensions/*
doc/WhatsNew
examples/build_win32/*.bat
examples/CMakeLists.txt
examples/dbcrypt/ReadMe.txt
examples/empbuild/*.inp
extern/cloop/cloop.sln
extern/cloop/Makefile
extern/cloop/src/cloop/cloop.vcxproj
extern/cloop/src/cloop/cloop.vcxproj.filters
extern/cloop/src/tests/test1/CalcCApi.c
extern/cloop/src/tests/test1/CalcCApi.h
extern/cloop/src/tests/test1/CalcCppApi.h
extern/cloop/src/tests/test1/CalcPascalApi.implementation.pas
extern/cloop/src/tests/test1/CalcPascalApi.interface.pas
extern/cloop/src/tests/test1/CalcPascalApi.pas
extern/cloop/src/tests/test1/test1-c-dll.vcxproj
extern/cloop/src/tests/test1/test1-c-dll.vcxproj.filters
extern/cloop/src/tests/test1/test1-c-exe.vcxproj
extern/cloop/src/tests/test1/test1-c-exe.vcxproj.filters
extern/cloop/src/tests/test1/test1-cpp-dll.vcxproj
extern/cloop/src/tests/test1/test1-cpp-dll.vcxproj.filters
extern/cloop/src/tests/test1/test1-cpp-exe.vcxproj
extern/cloop/src/tests/test1/test1-cpp-exe.vcxproj.filters
lang_helpers/gds.h
lang_helpers/README.txt
Makefile.in
README.md
src/auth/SecureRemotePassword/Message.h
src/auth/SecureRemotePassword/misc/prime.cpp
src/auth/SecureRemotePassword/misc/test.sh
src/auth/SecureRemotePassword/misc/test_srp.cpp
src/auth/SecureRemotePassword/srp.cpp
src/auth/SecureRemotePassword/srp.h
src/CMakeLists.txt
src/common/classes/misc/test.sh
src/common/fb_exception.cpp

src/common/os/win32/mod_loader.cpp
src/common/os/win32/path_utils.cpp
src/dsql/btyacc_fb.ske
src/gpre/CMakeLists.txt
src/include/cross/android.arme
src/include/cross/android.arm64
src/include/cross/android.x86
src/include/cross/android.x86_64
src/include/fb_blk.h
src/include/fb_macros.h
src/include/gen/Firebird.pas
src/include/gen/README.txt
src/include/gen/autoconfig_msvc.h
src/include/gen/files.txt
src/include/ibase.h
src/include/iberror.h
src/include/old_fb_blk.h
src/intl/charsets/cs_koi8r.h
src/intl/charsets/cs_koi8u.h
src/intl/charsets/cs_w1258.h
src/intl/moved_files.txt
src/jrd/build_no.h
src/jrd/intl_builtin.cpp
src/misc/copy-boost.sh
src/misc/gds_header.txt
src/misc/headers.sed
src/misc/ibase_header.txt
src/misc/intl.sql
src/misc/makeHeader.cpp
src/misc/pascal/Pascal.Constants.awk
src/misc/pascal/Pascal.implementation.pas
src/misc/pascal/Pascal.interface.pas
src/misc/pascal/fb_get_master_interface.pas
src/misc/upgrade/recovering_build.txt
src/misc/upgrade/v2.1/metadata_charset_create.sql
src/misc/upgrade/v2.1/metadata_charset_drop.sql
src/misc/upgrade/v2/ib_udf2_params.txt
src/misc/upgrade/v2/ib_udf_params.txt
src/misc/upgrade/v2/security_database.txt
src/misc/upgrade/v3.0/security_database.txt
src/misc/writeBuildNum.sh
src/msgs/facilities2.sql
src/msgs/history2.sql
src/msgs/locales.sql
src/msgs/messages2.sql
src/msgs/msg.sql
src/msgs/sqlstates.sql
src/msgs/symbols2.sql

src/msgs/system_errors2.sql
src/msgs/transmsgs.de_DE2.sql
src/msgs/transmsgs.fr_FR2.sql
src/plugins/udr_engine/udr_engine.conf
src/remote/CMakeLists.txt
src/remote/server/os/win32/caution.ico
src/remote/server/os/win32/server.ico
src/remote/server/os/win32/window_proto.h
src/utilities/CMakeLists.txt
src/utilities/create_db.cpp
src/utilities/fbcpl/ctrlpan.cpp
src/utilities/fbcpl/ctrlpan.h
src/utilities/fbcpl/fbcontrol.clw
src/utilities/fbcpl/fbcontrol.cpp
src/utilities/fbcpl/fbcontrol.def
src/utilities/fbcpl/fbcontrol.h
src/utilities/fbcpl/FBControl.rc
src/utilities/fbcpl/res/fbcontrol.rc2
src/utilities/fbcpl/res/server.ico
src/utilities/fbcpl/res/server_stop.ico
src/utilities/fbcpl/resource.h
src/utilities/fbcpl/stdafx.cpp
src/utilities/fbcpl/stdafx.h
src/utilities/gsec/gsec_proto.h
src/utilities/ntrace/fbtrace.conf
travis.sh

Declared
Public Domain
---

src/common/sha.cpp
NIST Secure Hash Algorithm
heavily modified by Uwe Hollerbach <uh@alumni.caltech edu>
from Peter C. Gutmann's implementation as found in
Applied Cryptography by Bruce Schneier
This code is in the public domain

src/yvalve/config/os/posix/binreloc.c
src/yvalve/config/os/posix/binreloc.h
BinReloc - a library for creating relocatable executables
Written by: Hongli Lai <h.lai@chello.nl>
http://autopackage.org/
.
This source code is public domain. You can relicense this code
under whatever license you want.
.

See http://autopackage.org/docs/binreloc/ for
more information and how to use this.

Interbase Public License Version 1.0 (IPL)
---

Following is the list
of files, then a list of contributors, as stated in them.

builds/posix/prefix.hpux_ia64
builds/win32/defs/build.def
builds/win32/defs/burp.def
builds/win32/defs/burp32.def
builds/win32/defs/dsql.def
builds/win32/defs/fbclient_s.def
builds/win32/defs/firebird.def
builds/win32/defs/gds32.def
builds/win32/defs/ib_udf.def
builds/win32/defs/ib_util.def
builds/win32/defs/intl.def
builds/win32/defs/isql.def
builds/win32/defs/iutls.def
builds/win32/defs/jrd.def
builds/win32/defs/utls.def
examples/api/*
examples/dyn/dyn1.e
examples/dyn/dyn2.e
examples/dyn/dyn3.e
examples/dyn/dyn4.e
examples/dyn/dyn5.e
examples/dyn/dynfull.e
examples/empbuild/empbld.sql
examples/empbuild/empbuild.e
examples/empbuild/empddl.sql
examples/empbuild/empdml.sql
examples/empbuild/employe2.sql
examples/empbuild/indexoff.sql
examples/empbuild/indexon.sql
examples/empbuild/intlbld.e
examples/empbuild/intlbld.sql
examples/empbuild/intlddl.sql
examples/empbuild/intldml.sql
examples/functions.c
examples/include/example.h
examples/readme
examples/stat/*
examples/udf/*

lang_helpers/gds.pas
lang_helpers/gds_aix.f
lang_helpers/gds_codes.ftn
lang_helpers/gds_codes.pas
lang_helpers/gds_hp.f
lang_helpers/gds_sun.f
lang_helpers/ib_util.pas
lang_helpers/perf.pas
src/alice/alice.h
src/alice/alice_meta.epp
src/alice/alice_meta.h
src/alice/alice_proto.h
src/alice/exe_proto.h
src/alice/tdr_proto.h
src/burp/backu_proto.h
src/burp/burp_proto.h
src/burp/canon_proto.h
src/burp/misc_proto.h
src/burp/mvol_proto.h
src/burp/resto_proto.h
src/burp/split/spit.cpp
src/burp/split/spit.h
src/burp/std_desc.h
src/common/cdbtable.h
src/common/classes/NoThrowTimeStamp.cpp
src/common/dsc.cpp
src/common/dsc_proto.h
src/common/dyntable.h
src/common/enc_proto.h
src/common/isc_proto.h
src/common/msg_encode.h
src/common/os/divorce.h
src/common/os/isc_i_proto.h
src/common/os/posix/divorce.cpp
src/common/prett_proto.h
src/common/sdl.cpp
src/common/sdl.h
src/common/sdl_proto.h
src/common/sdltable.h
src/common/security.h
src/common/xdr_proto.h
src/dbs/metadata.sql
src/dsql/chars.h
src/dsql/DSqlDataTypeUtil.cpp
src/dsql/DSqlDataTypeUtil.h
src/dsql/errd_proto.h
src/dsql/gen_proto.h
src/dsql/metd_proto.h

src/dsql/movd.cpp
src/dsql/movd_proto.h
src/dsql/pass1_proto.h
src/dsql/sqlda.h
src/dsql/sqlda_pub.h
src/dsql/sym.h
src/extlib/ib_udf.h
src/extlib/ib_util.h
src/gpre/boot/gpre_meta_boot.cpp
src/gpre/cmd_proto.h
src/gpre/cme_proto.h
src/gpre/cmp_proto.h
src/gpre/exp_proto.h
src/gpre/gpre_meta.h
src/gpre/gpre_proto.h
src/gpre/hsh_proto.h
src/gpre/jrdme_proto.h
src/gpre/languages/ada.cpp
src/gpre/languages/pas.cpp
src/gpre/movg_proto.h
src/gpre/msc_proto.h
src/gpre/par_proto.h
src/gpre/parse.h
src/gpre/pat.cpp
src/gpre/pat.h
src/gpre/pat_proto.h
src/gpre/sqe_proto.h
src/gpre/sql_proto.h
src/gpre/std/gpre_meta.epp
src/include/gen/sql_state.h
src/intl/charsets/cs_big5.h
src/intl/charsets/cs_cyrl.h
src/intl/charsets/cs_gb2312.h
src/intl/charsets/cs_jis_0208_1990.h
src/intl/charsets/cs_ksc5601.h
src/intl/charsets/cs_next.h
src/intl/charsets/cs_sjis.h
src/intl/collations/bl88591ca0.h
src/intl/collations/bl88591da0.h
src/intl/collations/bl88591de0.h
src/intl/collations/bl88591es0.h
src/intl/collations/bl88591fi0.h
src/intl/collations/bl88591is0.h
src/intl/collations/bl88591it0.h
src/intl/collations/bl88591nl0.h
src/intl/collations/bl88591no0.h
src/intl/collations/bl88591pt0.h
src/intl/collations/bl88591ptbr0.h

src/intl/collations/bl88591sv0.h
src/intl/collations/bl88591uk0.h
src/intl/collations/bl88591us0.h
src/intl/collations/blNEXTde0.h
src/intl/collations/blNEXTes0.h
src/intl/collations/blNEXTfr0.h
src/intl/collations/blNEXTit0.h
src/intl/collations/blNEXTus0.h
src/intl/collations/db437de0.h
src/intl/collations/db437es1.h
src/intl/collations/db437fi0.h
src/intl/collations/db437fr0.h
src/intl/collations/db437it0.h
src/intl/collations/db437nl0.h
src/intl/collations/db437sv0.h
src/intl/collations/db437uk0.h
src/intl/collations/db437us0.h
src/intl/collations/db850cf0.h
src/intl/collations/db850de0.h
src/intl/collations/db850es0.h
src/intl/collations/db850fr0.h
src/intl/collations/db850it1.h
src/intl/collations/db850nl0.h
src/intl/collations/db850pt0.h
src/intl/collations/db850sv1.h
src/intl/collations/db850uk0.h
src/intl/collations/db850us0.h
src/intl/collations/db852cz0.h
src/intl/collations/db852po0.h
src/intl/collations/db852sl0.h
src/intl/collations/db857tr0.h
src/intl/collations/db860pt0.h
src/intl/collations/db863cf1.h
src/intl/collations/db865da0.h
src/intl/collations/db865no0.h
src/intl/collations/db866ru0.h
src/intl/collations/pd437intl.h
src/intl/collations/pd437swedfin.h
src/intl/collations/pd852czech.h
src/intl/collations/pd852hundc.h
src/intl/collations/pd852polish.h
src/intl/collations/pd852slovene.h
src/intl/collations/pd861iceland.h
src/intl/collations/pd865nordan40.h
src/intl/collations/pd866cyrr.h
src/intl/collations/pw1250hundc.h
src/intl/collations/pw1250polish.h
src/intl/collations/pw1250slov.h

src/intl/collations/pw1251cyrr.h
src/intl/collations/pw1252i850.h
src/intl/collations/pw1252intl.h
src/intl/collations/pw1252nor4.h
src/intl/collations/pw1252ptbr.h
src/intl/collations/pw1252span.h
src/intl/collations/pw1252swfn.h
src/intl/collations/pw1253greek1.h
src/intl/collations/pw1254turk.h
src/intl/collations/xx1251_ua.h
src/intl/conversions/tx437_865.h
src/intl/conversions/tx437_lat1.h
src/intl/conversions/tx865_lat1.h
src/intl/country_codes.h
src/intl/cs_big5.cpp
src/intl/cs_gb2312.cpp
src/intl/cs_jis.cpp
src/intl/cs_ksc.cpp
src/intl/cs_narrow.cpp
src/intl/cs_unicode_fss.cpp
src/intl/cs_unicode_ucs2.cpp
src/intl/cv_big5.cpp
src/intl/cv_big5.h
src/intl/cv_gb2312.cpp
src/intl/cv_gb2312.h
src/intl/cv_jis.cpp
src/intl/cv_jis.h
src/intl/cv_ksc.cpp
src/intl/cv_ksc.h
src/intl/cv_narrow.cpp
src/intl/cv_narrow.h
src/intl/cv_unicode_fss.cpp
src/intl/cv_unicode_fss.h
src/intl/kanji.cpp
src/intl/kanji.h
src/intl/kanji_proto.h
src/intl/lc_ascii.cpp
src/intl/lc_ascii.h
src/intl/lc_big5.cpp
src/intl/lc_big5.h
src/intl/lc_dos.cpp
src/intl/lc_dos.h
src/intl/lc_gb2312.cpp
src/intl/lc_iso8859_1.cpp
src/intl/lc_jis.cpp
src/intl/lc_ksc.cpp
src/intl/lc_narrow.cpp
src/intl/lc_narrow.h

src/intl/lc_unicode_ucs2.cpp
src/intl/ldcommon.h
src/intl/utils/dtest2.c
src/intl/utils/make.maps
src/intl/utils/mapdump.c
src/intl/utils/mapgen4.c
src/intl/utils/maptest.cpp
src/intl/utils/maptest2.c
src/iscguard/cntl_guard.cpp
src/iscguard/cntlg_proto.h
src/iscguard/iscguard.cpp
src/iscguard/iscguard.h
src/iscguard/iscguard.rc
src/iscguard/iscguard.rh
src/iscguard/salrt23i.ico
src/iscguard/sgard23i.ico
src/isql/extra_proto.h
src/isql/isql.rc
src/isql/isql.rh
src/isql/isql_proto.h
src/isql/iutils.cpp
src/isql/iutils_proto.h
src/isql/show_proto.h
src/jrd/acl.h
src/jrd/Attachment.cpp
src/jrd/Attachment.h
src/jrd/blb_proto.h
src/jrd/blf_proto.h
src/jrd/blob_filter.h
src/jrd/btr_proto.h
src/jrd/builtin.cpp
src/jrd/cch.h
src/jrd/cch_proto.h
src/jrd/cmp_proto.h
src/jrd/cvt2_proto.h
src/jrd/cvt_proto.h
src/jrd/dflt.h
src/jrd/dfw_proto.h
src/jrd/dpm_proto.h
src/jrd/drq.h
src/jrd/dyn.h
src/jrd/dyn_ut_proto.h
src/jrd/err_proto.h
src/jrd/event_proto.h
src/jrd/evl_proto.h
src/jrd/exe_proto.h
src/jrd/ext.h
src/jrd/ext_proto.h

src/jrd/fields.h
src/jrd/filte_proto.h
src/jrd/filters.cpp
src/jrd/flags.h
src/jrd/flu_proto.h
src/jrd/fun_proto.h
src/jrd/Function.epp
src/jrd/Function.h
src/jrd/grant_proto.h
src/jrd/ibsetjmp.h
src/jrd/idx_proto.h
src/jrd/inf_proto.h
src/jrd/ini.epp
src/jrd/ini.h
src/jrd/ini_proto.h
src/jrd/intl.h
src/jrd/intl_proto.h
src/jrd/isc_version.h
src/jrd/isc_version.rc
src/jrd/jrd_proto.h
src/jrd/lck.h
src/jrd/lck_proto.h
src/jrd/met.h
src/jrd/met_proto.h
src/jrd/mov_proto.h
src/jrd/names.h
src/jrd/nodebug.cpp
src/jrd/obj.h
src/jrd/opt_proto.h
src/jrd/os/pio_proto.h
src/jrd/pag_proto.h
src/jrd/par_proto.h
src/jrd/que.h
src/jrd/recsrc/AggregatedStream.cpp
src/jrd/recsrc/BitmapTableScan.cpp
src/jrd/recsrc/FilteredStream.cpp
src/jrd/recsrc/FullTableScan.cpp
src/jrd/recsrc/IndexTableScan.cpp
src/jrd/recsrc/MergeJoin.cpp
src/jrd/recsrc/NestedLoopJoin.cpp
src/jrd/recsrc/ProcedureScan.cpp
src/jrd/recsrc/SingularStream.cpp
src/jrd/recsrc/SortedStream.cpp
src/jrd/recsrc/Union.cpp
src/jrd/Relation.h
src/jrd/relations.h
src/jrd/rlck_proto.h
src/jrd/rse.h

src/jrd/scl.h
src/jrd/scl_proto.h
src/jrd/sdw.cpp
src/jrd/sdw.h
src/jrd/sdw_proto.h
src/jrd/shut.cpp
src/jrd/shut_proto.h
src/jrd/sort.h
src/jrd/sqz.cpp
src/jrd/sqz.h
src/jrd/svc.h
src/jrd/svc_undoc.h
src/jrd/tpc.cpp
src/jrd/tpc_proto.h
src/jrd/tra_proto.h
src/jrd/trig.h
src/jrd/val_proto.h
src/jrd/validation.cpp
src/jrd/validation.h
src/jrd/version.rc
src/jrd/vio_debug.h
src/lock/lock_proto.h
src/misc/ids.m
src/misc/memtest.cpp
src/msgs/change_msgs.epp
src/msgs/check_msgs.epp
src/msgs/enter_msgs.epp
src/msgs/include.epp
src/msgs/load.epp
src/msgs/modify_msgs.epp
src/msgs/msg.gdl
src/qli/all.cpp
src/qli/all_proto.h
src/qli/blk.h
src/qli/comma_proto.h
src/qli/command.cpp
src/qli/compi_proto.h
src/qli/compile.cpp
src/qli/compile.h
src/qli/dtr.h
src/qli/err.cpp
src/qli/err_proto.h
src/qli/eval.cpp
src/qli/eval_proto.h
src/qli/exe.cpp
src/qli/exe.h
src/qli/exe_proto.h
src/qli/expan_proto.h

src/qli/expand.cpp
src/qli/forma_proto.h
src/qli/format.cpp
src/qli/format.h
src/qli/gener.cpp
src/qli/gener_proto.h
src/qli/help_proto.h
src/qli/hsh.cpp
src/qli/hsh_proto.h
src/qli/lex_proto.h
src/qli/meta.epp
src/qli/meta_proto.h
src/qli/mov.cpp
src/qli/mov_proto.h
src/qli/nounix.cpp
src/qli/parse.cpp
src/qli/parse.h
src/qli/parse_proto.h
src/qli/picst_proto.h
src/qli/picstr.cpp
src/qli/proc_ddl.h
src/qli/proc_proto.h
src/qli/procddl1.h
src/qli/procddl2.h
src/qli/procddl3.h
src/qli/procddl4.h
src/qli/repor_proto.h
src/qli/report.cpp
src/qli/report.h
src/qli/reqs.h
src/qli/show.epp
src/qli/show_proto.h
src/qli/symbols.h
src/qli/words.h
src/remote/inet_proto.h
src/remote/merge.cpp
src/remote/merge_proto.h
src/remote/os/win32/wnet.cpp
src/remote/os/win32/wnet_proto.h
src/remote/parse_proto.h
src/remote/parser.cpp
src/remote/proto_proto.h
src/remote/remot_proto.h
src/remote/remote.cpp
src/remote/server/os/win32/chop.cpp
src/remote/server/os/win32/chop_proto.h
src/remote/server/os/win32/cntl.cpp
src/remote/server/os/win32/cntl_proto.h

src/remote/server/os/win32/property.rc
src/remote/server/os/win32/property.rh
src/remote/server/os/win32/propty_proto.h
src/remote/server/os/win32/window.cpp
src/remote/server/os/win32/window.h
src/remote/server/os/win32/window.rc
src/remote/server/os/win32/window.rh
src/remote/server/serve_proto.h
src/utilities/analyse.cpp
src/utilities/cache.cpp
src/utilities/gsec/gsec.cpp
src/utilities/gsec/gsec.h
src/utilities/gsec/gsecswi.h
src/utilities/gstat/dbaswi.h
src/utilities/gstat/ppg_proto.h
src/utilities/guard/guard.cpp
src/utilities/guard/util.cpp
src/utilities/guard/util_proto.h
src/utilities/ibmgr/ibmgr.h
src/utilities/ibmgr/ibmgrswi.h
src/utilities/ibmgr/srvrmgr.cpp
src/utilities/ibmgr/srvrmgr_proto.h
src/utilities/install/install_nt.h
src/utilities/install/install_reg.cpp
src/utilities/install/install_svc.cpp
src/utilities/install/regis_proto.h
src/utilities/install/servi_proto.h
src/utilities/print_event.cpp
src/utilities/print_pool.cpp
src/utilities/rebuild/rebui_proto.h
src/utilities/rebuild/rebuild.cpp
src/utilities/rebuild/rebuild.gdl
src/utilities/rebuild/rebuild.h
src/utilities/rebuild/rmet.epp
src/utilities/rebuild/rmet_proto.h
src/utilities/rebuild/rstor_proto.h
src/utilities/rebuild/rstore.epp
src/utilities/relay.cpp
src/utilities/run_service.cpp
src/utilities/stats.epp
src/yvalve/array_proto.h
src/yvalve/blob_proto.h
src/yvalve/msg.h
src/yvalve/perf_proto.h
src/yvalve/prepa_proto.h
src/yvalve/preparse.cpp
src/yvalve/user__proto.h
src/yvalve/utl_proto.h

src/yvalve/why_proto.h
No contributors.

src/common/classes/BlrWriter.cpp
src/common/classes/BlrWriter.h
src/dsql/AggNodes.cpp
src/dsql/BoolNodes.cpp
src/dsql/DdlNodes.epp
src/dsql/DsqlCompilerScratch.cpp
src/dsql/DsqlCompilerScratch.h
src/dsql/ExprNodes.cpp
src/dsql/StmtNodes.cpp
src/dsql/Visitors.h
src/dsql/dsql_proto.h
src/extlib/ib_util.cpp
src/intl/ld.cpp
src/intl/ld_proto.h
src/jrd/JrdStatement.cpp
src/jrd/JrdStatement.h
src/jrd/RecordSourceNodes.cpp
src/jrd/RecordSourceNodes.h
src/jrd/Routine.cpp
src/jrd/Routine.h
src/jrd/blob_filter.cpp
src/jrd/os/win32/ibinitdll.cpp
Contributors: Adriano dos Santos Fernandes
src/dsql/BlrDebugWriter.cpp
src/dsql/BlrDebugWriter.h
Contributors: Adriano dos Santos Fernandes, Alex Peshkov
src/dsql/pass1.cpp
Contributors: Adriano dos Santos Fernandes, Ann Harrison,
Arno Brinkman, Claudio Valderrama, Dmitry Yemanov,
Dmitry Yemanov, John Bellardo, Neil McCalden,
Nickolay Samofatov, Vlad Horsun
src/yvalve/YObjects.h
Contributors: Adriano dos Santos Fernandes, Alex Peshkoff, Dmitry Yemanov,
Sean Leyne
src/jrd/dfw.epp
Contributors: Adriano dos Santos Fernandes, Alex Peshkoff,
Ann Harrison, Claudio Valderrama, Dmitry Yemanov,
Sean Leyne
src/dsql/make.cpp
Contributors: Adriano dos Santos
Fernandes, Arno Brinkman,
Claudio Valderrama, Dmitry Yemanov
src/dsql/gen.cpp
Contributors: Adriano dos Santos Fernandes, Arno Brinkman,
Claudio Valderrama, Dmitry Yemanov, John Bellardo,

Nickolay Samofatov, Vlad Horsun
src/dsql/parse.y
Contributors: Adriano dos Santos Fernandes, Arno Brinkman,
Blas Rodriguez Somoza, Claudio Valderrama, Dmitry Yemanov,
John Bellardo, Mark O'Donohue, Mike Nordell,
Neil McCalden, Nickolay Samofatov, Sean Leyne,
Vlad Horsun
src/jrd/types.h
Contributors: Adriano dos Santos Fernandes, Claudio Valderrama
src/jrd/blr.h
Contributors: Adriano dos Santos Fernandes, Claudio Valderrama,
Dmitry Yemanov, Nickolay Samofatov
src/jrd/exe.cpp
Contributors: Adriano dos Santos Fernandes, Claudio Valderrama,
Dmitry Yemanov, Nickolay Samofatov, Sean Leyne
src/jrd/cmp.cpp
Contributors: Adriano
dos Santos Fernandes, Claudio Valderrama,
Dmitry Yemanov, John Bellardo, Nickolay Samofatov,
Sean Leyne
src/jrd/par.cpp
Contributors: Adriano dos Santos Fernandes, Claudio Valderrama,
Dmitry Yemanov, Mike Nordell, Nickolay Samofatov,
Sean Leyne, Vlad Horsun
src/jrd/evl.cpp
Contributors: Adriano dos Santos Fernandes, Claudio Valderrama,
Dmitry Yemanov, Neil McCalden, Patrick J. P. Griffin,
Paul Beach
src/jrd/blb.cpp
Contributors: Adriano dos Santos Fernandes, Claudio Valderrama,
Sean Leyne
src/jrd/mov.cpp
Contributors: Adriano dos Santos Fernandes, Dmitry Yemanov
src/jrd/exe.h
Contributors: Adriano dos Santos Fernandes, Dmitry Yemanov,
Nikolay Samofatov
src/jrd/blp.h
Contributors: Adriano dos Santos Fernandes, John Bellardo
src/common/dsc.h
Contributors: Adriano dos Santos Fernandes, Paul Beach
src/common/CharSet.cpp
src/jrd/Collation.cpp
src/common/TextType.cpp
Contributors: Adriano dos Santos Fernandes, Sean Leyne
examples/interfaces/02.update.cpp
src/common/classes/InternalMessageBuffer.cpp
src/common/os/SyncSignals.h
src/common/os/fbsyslog.h

src/common/os/posix/SyncSignals.cpp
src/common/security.cpp
src/jrd/lls.h
  Contributors: Alex Peshkov
src/common/cvt.cpp
  Contributors: Alex Peshkoff, Claudio Valderrama, Sean Leyne
src/jrd/vio.cpp
  Contributors: Alex Peshkov, Dmitry Yemanov, Nickolay Samofatov,
        Sean Leyne
src/yvalve/why.cpp
  Contributors: Alex Peshkov, Dmitry Yemanov, Sean Leyne
src/dbs/security.sql
  Contributors: Alex Peshkov, Ivan Prenosil
src/yvalve/user_dsql.cpp
src/jrd/flu.cpp
  Contributors: Alex Peshkov, Sean Leyne
src/jrd/ibase.h
  Contributors: Ann Harrison, John Bellardo, Mike Nordell,
        Nickolay Samofatov, Paul Beach, Sean Leyne,
        Steve Boyd
src/jrd/os/win32/winnt.cpp
  Contributors: Ann Harrison,
 Mike Nordell, Sean Leyne
src/common/common.h
  Contributors: Ann Harrison, Paul Beach, Sean Leyne
src/dsql/errd.cpp
src/dsql/utld.cpp
  Contributors: Ann W. Harrison, Sean Leyne
src/dsql/make_proto.h
  Contributors: Arno Brinkman
src/jrd/opt.cpp
  Contributors: Arno Brinkman, Claudio Valderrama, John Bellardo,
        Nickolay Samofatov, Sean Leyne
src/jrd/jrd.cpp
src/jrd/jrd.h
  Contributors: Adriano dos Santos Fernandes, Claudio Valderrama C.,
  Sean Leyne
src/dsql/dsql.h
  Contributors: Adriano dos Santos Fernandes, Claudio Valderrama,
        Nickolay Samofatov, Vlad Horsun
src/dsql/ddl.cpp
  Contributors: Adriano dos Santos Fernandes, Claudio Valderrama,
        Dmitry Yemanov, Mike Nordell, Nikolay Samofatov,
        Sean Leyne, Vlad Horsun
builds/posix/prefix.linux_arm
builds/posix/prefix.linux_arm64
builds/posix/prefix.linux_powerpc64
builds/posix/prefix.linux_powerpc64el

Contributors: Alan Barclay
builds/posix/darwin.defaults
Contributors: Alex Peshkov, Nickolay Samofatov
src/common/ThreadData.cpp
src/common/ThreadData.h
src/common/ThreadStart.cpp
src/common/ThreadStart.h
src/jrd/svc.cpp
Contributors: Alex Peshkov, Sean Leyne
src/jrd/inf.cpp
Contributors: Ann Harrison, Claudio Valderrama, Paul Reeves,
Sean Leyne
src/intl/charsets/cs_437.h
src/intl/charsets/cs_737.h
src/intl/charsets/cs_775.h
src/intl/charsets/cs_850.h
src/intl/charsets/cs_852.h
src/intl/charsets/cs_857.h
src/intl/charsets/cs_858.h
src/intl/charsets/cs_860.h
src/intl/charsets/cs_861.h
src/intl/charsets/cs_862.h
src/intl/charsets/cs_863.h
src/intl/charsets/cs_864.h
src/intl/charsets/cs_865.h
src/intl/charsets/cs_866.h
src/intl/charsets/cs_869.h
src/intl/charsets/cs_iso8859_13.h
src/intl/charsets/cs_iso8859_1.h
src/intl/charsets/cs_iso8859_2.h
src/intl/charsets/cs_iso8859_3.h
src/intl/charsets/cs_iso8859_4.h
src/intl/charsets/cs_iso8859_5.h
src/intl/charsets/cs_iso8859_6.h
src/intl/charsets/cs_iso8859_7.h
src/intl/charsets/cs_iso8859_8.h
src/intl/charsets/cs_iso8859_9.h
src/intl/charsets/cs_w1250.h
src/intl/charsets/cs_w1251.h
src/intl/charsets/cs_w1252.h
src/intl/charsets/cs_w1253.h
src/intl/charsets/cs_w1254.h
src/intl/charsets/cs_w1255.h
src/intl/charsets/cs_w1256.h
src/intl/charsets/cs_w1257.h
src/intl/charsets.h
src/yvalve/alt_proto.h

Contributors: Blas Rodriguez Somoza.
builds/posix/prefix.aix_powerpc
builds/posix/prefix.aix_powerpc_xlc
Contributor(s): Bill Oliver
src/yvalve/blob.epp
src/extlib/ib_udf2.sql
src/extlib/ib_udf.sql
src/jrd/constants.h
src/jrd/cvt2.cpp
src/common/gdsassert.h
src/jrd/irq.h
src/jrd/scl.epp
src/remote/server/os/win32/srvr_w32.cpp
Contributors: Claudio Valderrama
src/isql/isql.epp
Contributors: Claudio Valderrama, Damyan Ivanov, Fred Polizo, Jr.,
FSG (Frank Schlottmann-Gdde), Neil McCalden,
Sean Leyne
src/isql/show.epp
Contributors: Claudio Valderrama, Dmitry Yemanov,
FSG (Frank Schlottmann-Gdde)
src/isql/extract.epp
Contributors: Claudio Valderrama, Dmitry Yemanov,
FSG (Frank Schlottmann-Gdde), patrickgriffin
src/yvalve/utl.cpp
Contributors: Claudio Valderrama, Dmitry Yemanov, Sean Leyne
src/jrd/fun.epp
Contributors: Claudio Valderrama, Fred Polizo, Jr., Sean Leyne
src/jrd/tra.h
Contributors: Claudio Valderrama, Nickolay Samofatov
src/jrd/met.epp
Contributors: Claudio Valderrama, Nickolay Samofatov, Sean Leyne,
Vlad Horsun
src/yvalve/array.epp
src/jrd/Database.cpp
src/jrd/Database.h
src/yvalve/alt.cpp
src/jrd/cvt.cpp
src/common/isc_file.cpp
src/remote/server/server.cpp
Contributors: Claudio Valderrama, Sean Leyne
src/extlib/ib_udf.cpp
Contributors: Claudio Valderrama, Slavomir Skopalik
src/dsql/dsql.cpp
Contributors: Claudio Valderrama, Mike Nordell, Nickolay Samofatov,
Sean Leyne, Vlad Horsun
src/dsql/metd.epp
Contributors: Claudio Valderrama, Vlad Horsun

src/include/consts_pub.h
src/include/dyn_consts.h
Contributors: Dimitry Sibiryakov
src/include/memory_routines.h
Created by: Dimitry Sibiryakov <aafemt@users.sourceforge.net>
src/auth/SecurityDatabase/LegacyServer.cpp
src/jrd/idx.cpp
src/jrd/req.h
src/yvalve/config/os/config_root.h
Contributors: Dmitry Yemanov
src/jrd/idx.h
Contributors: Dmitry Yemanov, Nickolay Samofatov
src/jrd/ods.h
Contributors: Dmitry Yemanov, Patrick J. P. Griffin, Sean Leyne
src/auth/SecurityDatabase/LegacyHash.h
src/auth/SecurityDatabase/LegacyServer.h
Contributors: Dmitry Yemanov, Sean Leyne
src/remote/os/win32/xnet.cpp
src/remote/os/win32/xnet.h
src/remote/os/win32/xnet_proto.h
Contributors: Dmitry Yemanov, Victor Seryodkin
src/intl/collations/win1250bsba.h
Contributors: Fikret Hasovic
src/gpre/languages/cob.cpp
Contributors: Frank Schlottmann-Gdde, Konstantin Kuznetsov,
Neil McCalden
src/gpre/sqe.cpp
Contributors: Frank Schlottmann-Gdde, TMN (Mike Nordell)
Stephen W. Boyd
src/isql/isql.h
src/jrd/license.h
Contributors: FSG (Frank Schlottmann-Gdde), Sean Leyne
src/gpre/gpre.h
Contributors: FSG (Frank Schlottmann-Gdde), Sean Leyne,
Stephen W. Boyd
src/gpre/gpre.cpp
src/gpre/par.cpp
Contributors: FSG (Frank Schlottmann-Gdde), Sean Leyne,
Stephen W. Boyd, TMN (Mike Nordell)
src/gpre/gpreswi.h
Contributors: FSG (Frank Schlottmann-Gdde), Stephen W. Boyd
src/intl/collations/pw1250hun.h
src/intl/collations/xx88592hun.h
Contributors: Gabor Boros, Sandor Szollosi <ssani@freemail.hu>
src/intl/collations/win_cz_ci_ai.h
Contributors: Ivan Prenosil
src/intl/collations/win_cz.h
Contributors: Ivan Prenosil, Karel Brichnac <brichna@atlas.cz>

src/intl/collations/xx88592plk.h
  Contributors: Jaroslaw Glowacki <glowacki@plocman.pl>
src/yvalve/keywords.h
src/jrd/inf_pub.h
  Contributors: John Bellardo
src/intl/collations/xx885913lt.h
src/intl/lc_iso8859_13.cpp
  Contributors: Jonas Jasas
src/intl/collations/pw1250czech.h
   Contributors: Karel Brichnac <brichna@atlas.cz>
builds/posix/make.platform.solaris.examples
  Contributors: Konstantin Kuznetsov, Neil McCalden, Nickolay Samofatov
src/common/isc.cpp
  Contributors: Konstantin Kuznetsov, Mike Nordell, Neil McCalden,
            Paul Beach, Paul Reeves, Sean Leyne
builds/posix/prefix.solx86gcc_64
  Contributors: Konstantin Kuznetsov, Neil McCalden, Paul Beach
src/remote/inet.cpp
  Contributors: Konstantin Kuznetsov, Sean Leyne
src/misc/codes.epp
   Contributor(s): Mark O'Donohue skywalker@users.sourceforge.net
src/intl/collations/xx88592czech.h
src/intl/lc_iso8859_2.cpp
  Contributors: Michal Bukovjan
src/gpre/cmd.cpp
src/gpre/cmp.cpp
src/gpre/exp.cpp
src/gpre/hsh.cpp
src/gpre/int_cxx.cpp
src/gpre/jrdmet.cpp
src/gpre/movg.cpp
src/gpre/msc.cpp
src/common/pretty.cpp
src/gpre/sql.cpp
  Contributors: Mike Nordell
src/gpre/obj_cxx.cpp
  Contributors: Mike Nordell, Sean Leyne
src/gpre/cme.cpp
  Contributors: Mike Nordell,
 Stephen W. Boyd
builds/posix/prefix.linux
builds/posix/prefix.linux_amd64
builds/posix/prefix.linux_generic
builds/posix/prefix.linux_ia64
builds/posix/prefix.linux_mips
builds/posix/prefix.linux_mipsel
builds/posix/prefix.linux_powerpc
builds/posix/prefix.linux_sparc32

src/common/classes/timestamp.cpp
src/jrd/vio_proto.h
builds/posix/prefix.darwin_ppc64
builds/posix/prefix.freebsd_amd64
builds/posix/prefix.linux_s390x
  Contributor(s): Nickolay Samofatov
src/yvalve/gds.cpp
src/jrd/tra.cpp
src/lock/lock.cpp
  Contributor(s): Nickolay Samofatov, Sean Leyne
builds/posix/firebird.vers
  Created from fbclient.def by Nickolay Samofatov
builds/posix/postfix.darwin
builds/posix/prefix.darwin_i386
builds/posix/prefix.darwin_powerpc
builds/posix/prefix.darwin_x86_64
builds/posix/prefix.freebsd
builds/posix/prefix.netbsd
  Contributors: Nickolay Samofatov
builds/posix/prefix.mingw
  All Rights Reserved.
  Contributor(s): Blas Rodriguez Somoza
builds/posix/prefix.solx86
builds/posix/prefix.solx86gcc
   Contributor(s): Konstantin Kuznetsov
                   Neil McCalden
                   Nickolay Samofatov
src/common/os/posix/isc_ipc.cpp
src/common/os/win32/isc_ipc.cpp
  Contributor(s): Konstantin Kuznetsov, Neil McCalden,
                  Nickolay Samofatov, Sean Leyne
src/jrd/pag.h
  Contributor(s): Patrick J. P. Griffin
src/jrd/dpm.epp
src/jrd/pag.cpp
  Contributor(s): Patrick J. P. Griffin, Sean Leyne
src/common/dsc_pub.h
builds/posix/prefix.hpux
  Contributor(s): Paul Beach
builds/posix/prefix.hpux_aCC
  Contributor(s): Paul Beach, Jerry Adair, Bill Oliver
src/jrd/ext.cpp
  Contributor(s): Paul Beach, Sean Leyne
src/utilities/install/registry.cpp
src/utilities/install/registry.h
src/utilities/install/services.cpp
  Contributors: Paul Reeves
src/lock/print.cpp

Contributors: Roman Simakov, Sean Leyne
src/alice/alice.cpp
src/alice/aliceswi.h
src/alice/exe.cpp
src/alice/tdr.cpp
src/burp/burp.cpp
src/burp/burp.h
src/burp/burpswi.h
src/burp/canonical.cpp
src/burp/misc.cpp
src/burp/mvol.cpp
src/dsql/utld_proto.h
src/gpre/c_cxx.cpp
src/gpre/languages/ftn.cpp
src/intl/ld.h
src/intl/utils/dtest.c
src/jrd/align.h
src/jrd/blb.h
src/jrd/btr.cpp
src/jrd/btr.h
src/jrd/cch.cpp
src/jrd/dyn_util.epp
src/jrd/err.cpp
src/jrd/event.cpp
src/jrd/event.h
src/common/file_params.h
src/jrd/flu.h
src/yvalve/gds_proto.h
src/jrd/grant.epp
src/jrd/intl.cpp
src/common/isc_f_proto.h
src/common/isc_s_proto.h
src/common/isc_sync.cpp
src/jrd/lck.cpp
src/jrd/os/pio.h
src/jrd/os/posix/unix.cpp
src/yvalve/perf.cpp
src/yvalve/perf.h
src/jrd/rlck.cpp
src/jrd/sbm.h
src/jrd/sort.cpp
src/jrd/val.h
src/msgs/build_file.epp
src/qli/dtr.cpp
src/qli/help.epp
src/qli/lex.cpp
src/qli/proc.epp
src/remote/client/interface.cpp

src/remote/server/os/posix/inet_server.cpp
src/remote/server/os/win32/property.cpp
src/remote/protocol.cpp
src/remote/protocol.h
src/remote/remote_def.h
src/remote/remote.h
src/common/xdr.cpp
src/common/xdr.h
src/utilities/drop.cpp
src/utilities/gstat/dba.epp
src/utilities/gstat/ppg.cpp
src/utilities/ibmgr/ibmgr.cpp
builds/win32/defs/remote.def
examples/include/align.h
lang_helpers/gds.hxx
lang_helpers/gdsold.h
Contributor(s): Sean Leyne
src/gpre/hsh.h
src/gpre/lang_proto.h
src/gpre/languages/rmc.cpp
src/gpre/words.h
Contributor(s): Stephen W. Boyd
src/burp/backup.epp
Contributors: Toni Martir ,Sean Leyne, Claudio Valderrama, Mike Nordell
src/burp/restore.epp
Contributors: Toni Martir, Claudio Valderrama,
Adriano dos Santos Fernandes
Contributors: Vlad Horsun
src/common/os/posix/fbsyslog.cpp
src/common/os/win32/fbsyslog.cpp
src/jrd/rpb_chain.cpp
src/jrd/rpb_chain.h
Created by: Alex Peshkov <peshkoff@mail.ru>
src/common/classes/array.h
The Original Code was created by Inprise Corporation and its
predecessors. Portions created by Inprise Corporation are Copyright (C)
Inprise Corporation.
Created by: Alex Peshkov <peshkoff@mail.ru>
All Rights Reserved.
Contributor(s): Adriano
dos Santos Fernandes
src/include/gen/codetext.h
src/include/gen/iberror.h
src/include/gen/msg_facs.h
src/include/gen/msgs.h
src/include/gen/sql_code.h
The contents of this file are subject to the Interbase Public
License Version 1.0 (the "License"); you may not use this file

except in compliance with the License. You may obtain a copy
of the License at http://www.Inprise.com/IPL.html
.
Software distributed under the License is distributed on an
"AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express
or implied. See the License for the specific language governing
rights and limitations under the License.
.
The content of this file was generated by the Firebird project
using the program jrd/codes.epp
src/dsql/ddl_proto.h
Contributors: Vlad Horsun
src/auth/SecurityDatabase/LegacyManagement.epp
src/burp/OdsDetection.epp
src/burp/OdsDetection.h
The Original Code was created by Inprise Corporation and its
predecessors. Portions
created by Inprise Corporation are Copyright (C)
Inprise Corporation

Initial Developer's Public License Version 1.0 (IDPL)
---

src/include/fb_api_proto.h
No original author or contributors noted.
src/common/unicode_util.cpp
src/common/unicode_util.h
src/intl/cs_icu.cpp
src/intl/cs_icu.h
src/intl/cv_icu.cpp
src/intl/cv_icu.h
src/intl/lc_icu.cpp
src/intl/lc_icu.h
src/jrd/IntlManager.cpp
src/jrd/IntlManager.h
src/jrd/RandomGenerator.cpp
src/jrd/RandomGenerator.h
The Original Code was created by Adriano dos Santos Fernandes
for the Firebird Open Source RDBMS project.
Copyright (c) 2004 Adriano dos Santos Fernandes <adrianosf@uol.com.br>
src/common/IntlUtil.cpp
src/common/IntlUtil.h
src/jrd/DataTypeUtil.cpp
src/jrd/DataTypeUtil.h
The Original Code was created by Adriano dos Santos Fernandes
for the Firebird Open Source RDBMS project.
Copyright (c) 2006 Adriano dos Santos Fernandes <adrianosf@uol.com.br>
src/jrd/SimilarToMatcher.h

The Original Code was created by Adriano dos Santos Fernandes for the
Firebird Open Source RDBMS project.
Copyright (c) 2007 Adriano dos Santos Fernandes <adrianosf@uol.com.br>
src/jrd/SysFunction.cpp
src/jrd/SysFunction.h
The Original Code was created by Adriano dos Santos Fernandes for the
Firebird Open Source RDBMS project, based on work done
in Yaffil by Oleg Loa <loa@mail.ru> and Alexey Karyakin
<aleksey.karyakin@mail.ru>
Copyright (c) 2007 Adriano dos Santos Fernandes <adrianosf@uol.com.br>
Contributors: Oleg Loa <loa@mail.ru>
Alexey Karyakin <aleksey.karyakin@mail.ru>
examples/udr/Functions.cpp
examples/udr/Procedures.cpp
examples/udr/Triggers.cpp
src/dsql/DdlNodes.h
src/dsql/Nodes.h
src/dsql/Parser.cpp
src/dsql/Parser.h
src/dsql/StmtNodes.h
src/include/firebird/UdrCppEngine.h
src/jrd/ExtEngineManager.cpp
src/jrd/ExtEngineManager.h
src/jrd/PreparedStatement.cpp
src/jrd/PreparedStatement.h
src/jrd/ResultSet.cpp
src/jrd/ResultSet.h
src/plugins/udr_engine/UdrEngine.cpp
src/yvalve/PluginManager.cpp
src/yvalve/PluginManager.h
The Original Code was created by Adriano dos Santos Fernandes
for the Firebird Open Source RDBMS project.
Copyright (c) 2008 Adriano dos Santos Fernandes <adrianosf@uol.com.br>
builds/posix/empty.vers
examples/package/fbout-body.sql
examples/package/fbout-header.sql
examples/package/fbout-test.sql
src/common/classes/BlrReader.h
src/common/classes/QualifiedName.h
src/dsql/PackageNodes.epp
src/dsql/PackageNodes.h
src/jrd/recsrc/WindowedStream.cpp
The Original Code was created by Adriano dos Santos Fernandes
for the Firebird Open Source RDBMS project.
Copyright (c) 2009 Adriano dos Santos Fernandes <adrianosf@uol.com.br>
src/common/classes/ByteChunk.h
src/common/classes/NestConst.h
src/common/classes/Nullable.h

src/dsql/AggNodes.h
src/dsql/BoolNodes.h
src/dsql/ExprNodes.h
src/dsql/WinNodes.cpp
src/dsql/WinNodes.h
  The Original Code
 was created by Adriano dos Santos Fernandes
  for the Firebird Open Source RDBMS project.
  Copyright (c) 2010 Adriano dos Santos Fernandes <adrianosf@uol.com.br>
src/include/firebird/Message.h
  The Original Code was created by Adriano dos Santos Fernandes
  for the Firebird Open Source RDBMS project.
  Copyright (c) 2011 Adriano dos Santos Fernandes <adrianosf@uol.com.br>
src/common/MsgMetadata.cpp
src/common/MsgMetadata.h
src/common/StatementMetadata.cpp
src/common/StatementMetadata.h
  The Original Code was created by Adriano dos Santos Fernandes
  for the Firebird Open Source RDBMS project.
  Copyright (c) 2011 Adriano dos Santos Fernandes <adrianosf at gmail.com>
  and all contributors signed below.
  Contributor(s): Alex Peshkoff
extern/cloop/src/cloop/Expr.cpp
extern/cloop/src/cloop/Expr.h
extern/cloop/src/cloop/Generator.cpp
extern/cloop/src/cloop/Generator.h
extern/cloop/src/cloop/Lexer.cpp
extern/cloop/src/cloop/Lexer.h
extern/cloop/src/cloop/Main.cpp
extern/cloop/src/cloop/Parser.cpp
extern/cloop/src/cloop/Parser.h
extern/cloop/src/tests/test1/CppTest.cpp
extern/cloop/src/tests/test1/CTest.c
extern/cloop/src/tests/test1/Interface.idl
extern/cloop/src/tests/test1/PascalClasses.pas
extern/cloop/src/tests/test1/PascalLibrary.dpr
extern/cloop/src/tests/test1/PascalTest.dpr
src/dsql/NodePrinter.h
   The Original Code was created by Adriano dos Santos Fernandes
  for the Firebird Open Source RDBMS project.
  Copyright (c) 2015 Adriano dos Santos Fernandes <adrianosf@gmail.com>
builds/posix/udr_plugin.vers
builds/win32/defs/udr_plugin.def
examples/udr/UdrCppExample.h
  The Original Code was created by Adriano dos Santos Fernandes
  for the Firebird Open Source RDBMS project.
  Copyright (c) 2015 Adriano dos Santos Fernandes <adrianosf@gmail.com>
src/intl/collations/koi8r_ru.h

src/intl/collations/koi8u_ua.h
src/intl/collations/win1257_ee.h
src/intl/collations/win1257_lt.h
src/intl/collations/win1257_lv.h
The Original Code was
created by Aleksey Karyakin for the Yaffil
project.
Copyright (c) 2005 Aleksey Karyakin <aleksey.karyakin@mail.ru>
src/common/config/dir_list.cpp
src/common/config/dir_list.h
src/common/sha.h
Created by: Alex Peshkov <AlexPeshkov@users.sourceforge.net>
All Rights Reserved.
src/common/call_service.cpp
src/common/call_service.h
The Original Code was created by Alexander Peshkoff for the Firebird
Open Source RDBMS project.
src/common/classes/locks.cpp
The Original Code was created by Alexander Peshkoff for the Firebird
Open Source RDBMS project.
Copyright (c) 2003 Alexander Peshkoff <peshkoff@mail.ru>
src/common/classes/auto.h
src/common/classes/fb_pair.h
src/common/classes/fb_string.cpp
src/common/classes/fb_string.h
src/common/classes/init.h
src/common/classes/misc/string_test.cmd
src/common/classes/misc/string_test.cpp
src/common/classes/objects_array.h
src/common/classes/stack.h
src/misc/upgrade/v2/security_database.sql
The Original Code was
created by Alexander Peshkoff
for the Firebird Open Source RDBMS project.
Copyright (c) 2004 Alexander Peshkoff <peshkoff@mail.ru>
src/common/classes/MetaName.cpp
src/common/classes/MetaName.h
The Original Code was created by Alexander Peshkoff for the Firebird
Open Source RDBMS project.
Copyright (c) 2005 Alexander Peshkoff <peshkoff@mail.ru
src/auth/trusted/AuthSspi.cpp
src/auth/trusted/AuthSspi.h
The Original Code was created by Alex Peshkov for the Firebird Open
Source RDBMS project.
Copyright (c) 2006 Alex Peshkov <peshkoff at mail.ru>
src/alice/main/aliceMain.cpp
src/burp/main/burpMain.cpp
src/utilities/gsec/main/gsecMain.cpp

src/utilities/gstat/dba_proto.h
src/utilities/gstat/main/gstatMain.cpp
The Original Code was created by Alex Peshkov for the Firebird Open Source RDBMS project.
Copyright (c) 2007 Alex Peshkov <peshkoff at mail dot ru>
src/common/classes/Aligner.h
src/common/classes/semaphore.cpp
src/common/UtilSvc.cpp
src/common/UtilSvc.h
src/misc/src_bundle.sh
src/utilities/fbsvcmgr/fbsvcmgr.cpp
The Original Code was created by Alexander Peshkoff for the Firebird Open Source RDBMS project.
Copyright (c) 2007 Alexander Peshkoff <peshkoff@mail.ru>
builds/install/posix-common/changeServerMode.sh.in
src/common/cvt.h
src/common/StatusArg.cpp
src/common/StatusArg.h
src/jrd/UserManagement.cpp
src/jrd/UserManagement.h
src/utilities/nbackup/main/nbkMain.cpp
src/utilities/nbackup/nbk_proto.h
src/utilities/nbackup/nbkswi.h
The Original Code was created by Alex Peshkov for the Firebird Open Source RDBMS project.
Copyright (c) 2008 Alex Peshkov <peshkoff at mail.ru>
src/common/classes/DbImplementation.cpp
src/common/classes/DbImplementation.h
src/common/classes/Hash.h
src/common/classes/VaryStr.h
The Original Code was created by Alex Peshkov for the Firebird Open Source RDBMS project.
Copyright (c) 2009 Alex Peshkov <peshkoff@mail.ru>
builds/posix/vers.sh.in
src/auth/AuthDbg.cpp
src/auth/AuthDbg.h
src/auth/SecurityDatabase/LegacyClient.cpp
src/auth/SecurityDatabase/LegacyClient.h
src/auth/SecurityDatabase/LegacyManagement.h
src/common/Auth.cpp
src/common/Auth.h
src/common/classes/GetPlugins.h
src/common/classes/ImplementHelper.cpp
src/common/classes/ImplementHelper.h
src/common/config/ConfigCache.cpp
src/common/config/ConfigCache.h
src/include/firebird/FirebirdInterface.idl
src/include/firebird/Interface.h

src/jrd/svc_tab.cpp
src/jrd/svc_tab.h
src/misc/smallog.cpp
src/remote/client/interface.h
src/yvalve/MasterImplementation.cpp
The Original Code was created by Alex Peshkov
for the Firebird Open Source RDBMS project.
Copyright (c) 2010 Alex Peshkov <peshkoff@mail.ru>
src/auth/SecureRemotePassword/client/SrpClient.cpp
src/auth/SecureRemotePassword/client/SrpClient.h
src/auth/SecureRemotePassword/manage/SrpManagement.cpp
src/auth/SecureRemotePassword/server/SrpServer.cpp
src/auth/SecureRemotePassword/server/SrpServer.h
src/common/BigInteger.cpp
src/common/BigInteger.h
src/jrd/EngineInterface.h
src/yvalve/DistributedTransaction.cpp
src/yvalve/DistributedTransaction.h
src/yvalve/MasterImplementation.h
The Original Code was created by Alex Peshkov
for the Firebird Open Source RDBMS project.
Copyright (c) 2011 Alex Peshkov <peshkoff@mail.ru>
examples/dbcrypt/CryptApplication.cpp
examples/dbcrypt/CryptKeyHolder.cpp
examples/dbcrypt/DbCrypt.cpp
src/common/classes/Reasons.h
src/common/IntlParametersBlock.cpp
src/common/IntlParametersBlock.h
src/include/fb_pthread.h
src/jrd/CryptoManager.cpp
src/jrd/CryptoManager.h
src/plugins/crypt/arc4/Arc4.cpp
src/plugins/crypt/arc4/Arc4.h
The Original Code was created by Alex Peshkov
for the Firebird Open Source RDBMS project.
Copyright (c) 2012 Alex Peshkov <peshkoff at mail.ru>
examples/interfaces/01.create.cpp
examples/interfaces/03.select.cpp
examples/interfaces/04.print_table.cpp
src/common/classes/InternalMessageBuffer.h
src/misc/checkIface
src/remote/client/BlrFromMessage.cpp
src/remote/client/BlrFromMessage.h
The Original Code was created by Alexander Peshkoff
for the Firebird Open Source RDBMS project.
Copyright (c) 2013 Alexander Peshkoff <peshkoff@mail.ru>
examples/interfaces/ifaceExamples.h
src/common/classes/AlignedBuffer.h

src/jrd/DbCreators.cpp
src/jrd/DbCreators.h
src/jrd/Mapping.cpp
src/jrd/Mapping.h
The Original Code was created by Alexander Peshkoff
for the Firebird Open Source RDBMS project.
Copyright (c) 2014 Alexander Peshkoff <peshkoff@mail.ru>
examples/interfaces/01.create.pas
src/common/DynamicStrings.cpp
src/common/DynamicStrings.h
src/common/Tokens.cpp
src/common/Tokens.h
src/common/classes/misc/lowtab.c
src/common/classes/misc/miditab.c
The Original Code was created by Alex Peshkov
for the Firebird Open Source RDBMS project.
Copyright (c) 2015 Alex Peshkov <peshkoff at mail dot ru>
examples/dbcrypt/cryptDb.pas
examples/interfaces/05.user_metadata.cpp
examples/interfaces/07.blob.cpp
examples/interfaces/09.service.cpp
src/jrd/extds/ValidatePassword.cpp
src/jrd/extds/ValidatePassword.h
src/misc/upgrade/v3.0/security_database.sql
The Original Code was created by Alexander Peshkoff for the Firebird Open
Source RDBMS project.
Copyright (c) 2016 Alexander Peshkoff <peshkoff@mail.ru>
src/common/os/os_utils.h
src/common/os/posix/os_utils.cpp
src/common/os/win32/os_utils.cpp
The Original Code was created by Alexander Peshkoff for the Firebird
Open Source RDBMS project.
Copyright (c) 2009 Alexander Peshkoff <peshkoff@mail.ru>
src/common/classes/init.cpp
The Original Code was created by Alexander Peshkoff for the Firebird
Open Source RDBMS project.
Copyright (c) 2008 Alexander Peshkoff <peshkoff@mail.ru>
src/common/classes/FpeControl.h
The Original Code was created by Alexander Peshkoff for the Firebird
Open Source RDBMS project.
Copyright
(c) 2008 Alexander Peshkoff <peshkoff@mail.ru>,
Bill Oliver <Bill.Oliver@sas.com>
src/jrd/os/win32/win9x_nt.h
The Original Code was created by Alexander Peshkoff for the Firebird
Open Source RDBMS project.
Copyright (c) 2009 Nikolay Samofatov <skidder at users.sourceforge.net>
src/jrd/btn.cpp

src/jrd/btn.h
The Original Code was created by Arno Brinkman
for the Firebird Open Source RDBMS project.
Copyright (c) 2003 Arno Brinkman
src/jrd/Optimizer.h
The Original Code was created by Arno Brinkman
for the Firebird Open Source RDBMS project.
Copyright (c) 2004 Arno Brinkman
src/jrd/Optimizer.cpp
The Original Code was created by Arno Brinkman
for the Firebird Open Source RDBMS project.
Copyright (c) 2004 Arno Brinkman <firebird@abvisie.nl>
and all contributors signed below.
Contributor(s): Adriano dos Santos Fernandes
src/common/classes/fb_atomic.il
The Original Code was created by Bill Oliver for the Firebird Open Source RDBMS project.
Copyright (c) 2009 Bill Oliver <Bill.Oliver@sas.com>
src/common/stuff.h
The Original Code was created by Blas Rodriguez Somoza on 24-May-2004
for the Firebird Open Source RDBMS project.
Copyright (c) 2004 Blas Rodriguez Somoza
src/extlib/fbudf/*
The Original Code was created by Claudio Valderrama C. for IBPhoenix.
The development of the Original Code was sponsored by Craig Leonardi.
Copyright (c) 2001 IBPhoenix
src/common/utils.cpp
src/common/utils_proto.h
The Original Code was created by Claudio Valderrama on 25-Dec-2003 for
the Firebird Open Source RDBMS project.
Copyright (c) 2003 Claudio Valderrama and all contributors signed below.
Contributors: Nickolay Samofatov <nickolay@broadviewsoftware.com>
src/misc/upgrade/v2.1/metadata_charset.txt
src/misc/upgrade/v2/ib_udf_upgrade.sql
The Original Code was created by Claudio Valderrama on 20-Sept-2004
for the Firebird Open Source RDBMS project.
Copyright (c) 2004 Claudio
Valderrama
src/common/classes/BaseStream.cpp
src/common/classes/BaseStream.h
src/common/classes/MsgPrint.cpp
src/common/classes/MsgPrint.h
src/common/classes/SafeArg.cpp
src/common/classes/SafeArg.h
src/common/classes/TriState.h
src/common/classes/UserBlob.cpp
src/common/classes/UserBlob.h

src/isql/ColList.cpp
src/isql/ColList.h
src/isql/Extender.cpp
src/isql/Extender.h
src/isql/InputDevices.cpp
src/isql/InputDevices.h
src/isql/OptionsBase.cpp
src/isql/OptionsBase.h
src/isql/PtrSentry.h
The Original Code was created by Claudio Valderrama for
the Firebird Open Source RDBMS project.
Copyright (c) 2007 Claudio Valderrama
src/common/classes/Switches.cpp
src/common/classes/Switches.h
src/isql/isqlswi.h
src/qli/qliswi.h
The Original Code was created by Claudio Valderrama for
the Firebird Open Source RDBMS project.
Copyright (c) 2009 Claudio Valderrama
src/common/CRC32C.cpp
src/common/classes/Hash.cpp
The Original Code was created by Dmitry Sibiryakov for the Firebird
Open Source
RDBMS project.
Copyright (c) 2015 Dmitry Sibiryakov

src/common/config/config.cpp
src/common/config/config.h
src/common/config/config_file.cpp
src/common/config/config_file.h
src/common/db_alias.cpp
src/common/db_alias.h
The Original Code was created by Dmitry Yemanov for the Firebird Open
Source RDBMS project.
Copyright (c) 2002 Dmitry Yemanov <dimitr@users.sf.net>
src/yvalve/config/os/win32/config_root.cpp
The Original Code was created by Dmitry Yemanov
for the Firebird Open Source RDBMS project.
Copyright (c) 2002 Dmitry Yemanov <dimitr@users.sf.net>
and all contributors signed below.
Contributors: Adriano dos Santos Fernandes
src/common/classes/NoThrowTimeStamp.h
src/common/classes/timestamp.h
src/include/types_pub.h
The Original Code was created by Dmitry Yemanov for the Firebird Open
Source RDBMS project.
Copyright (c) 2004 Dmitry Yemanov <dimitr@users.sf.net>
src/jrd/ods.cpp

src/jrd/ods_proto.h
 The Original Code was created by Dmitry
 Yemanov for the Firebird Open
 Source RDBMS project.
 Copyright (c) 2005 Dmitry Yemanov <dimitr@users.sf.net>
src/common/classes/File.h
src/common/classes/TempFile.cpp
src/common/classes/TempFile.h
src/jrd/RecordBuffer.cpp
src/jrd/RecordBuffer.h
src/jrd/RuntimeStatistics.cpp
src/jrd/RuntimeStatistics.h
src/jrd/TempSpace.cpp
src/jrd/TempSpace.h
src/jrd/VirtualTable.cpp
 The Original Code was created by Dmitry Yemanov for the Firebird Open
 Source RDBMS project.
 Copyright (c) 2006 Dmitry Yemanov <dimitr@users.sf.net>
src/jrd/VirtualTable.h
 The Original Code was created by Dmitry Yemanov for the Firebird Open
 Source RDBMS project.
 Copyright (c) 2006 Dmitry Yemanov <dimitr@users.sf.net>
 Contributors: Adriano dos Santos Fernandes
src/jrd/Monitoring.cpp
 The Original Code was created by Dmitry Yemanov
 for the Firebird Open Source RDBMS project.
 Copyright (c) 2006 Dmitry Yemanov <dimitr@users.sf.net>
src/jrd/Monitoring.h
 The Original Code was created
 by Dmitry Yemanov
 for the Firebird Open Source RDBMS project.
 Copyright (c) 2006 Dmitry Yemanov <dimitr@users.sf.net>
 Contributors: Alex Peshkoff
src/jrd/recsrc/BufferedStream.cpp
src/jrd/recsrc/Cursor.cpp
src/jrd/recsrc/Cursor.h
src/jrd/recsrc/ExternalTableScan.cpp
src/jrd/recsrc/FullOuterJoin.cpp
src/jrd/recsrc/HashJoin.cpp
src/jrd/recsrc/LockedStream.cpp
src/jrd/recsrc/RecordSource.cpp
src/jrd/recsrc/RecordSource.h
src/jrd/recsrc/VirtualTableScan.cpp
 The Original Code was created by Dmitry Yemanov for the Firebird Open
 Source RDBMS project.
 Copyright (c) 2009 Dmitry Yemanov <dimitr@users.sf.net>
src/jrd/recsrc/ConditionalStream.cpp
 The Original Code was created by Dmitry Yemanov for the Firebird Open

Source RDBMS project.
Copyright (c) 2011 Dmitry Yemanov <dimitr@users.sf.net>
src/dsql/DsqlCursor.cpp
src/dsql/DsqlCursor.h
src/jrd/Record.h
The Original Code was created by Dmitry Yemanov for the Firebird Open

Source RDBMS project.
Copyright (c) 2015 Dmitry Yemanov <dimitr@users.sf.net>
src/jrd/recsrc/FirstRowsStream.cpp
src/jrd/recsrc/SkipRowsStream.cpp
The Original Code was created by John Bellardo
for the Firebird Open Source RDBMS project.
Copyright (c) 2000 John Bellardo <bellardo at cs.ucsd.edu>
src/common/os/mod_loader.h
src/common/os/path_utils.h
src/common/os/posix/mod_loader.cpp
src/common/os/posix/path_utils.cpp
src/yvalve/config/os/darwin/config_root.cpp
The Original Code was created by John Bellardo
for the Firebird Open Source RDBMS project.
Copyright (c) 2002 John Bellardo <bellardo at cs.ucsd.edu>
src/common/os/darwin/mod_loader.cpp
The Original Code was created by John Bellardo
for the Firebird Open Source RDBMS project.
Copyright (c) 2002 John Bellardo <bellardo at cs.ucsd.edu>
Contributors: Paul Beach
src/common/dllinst.cpp
src/common/dllinst.h
src/jrd/trace/TraceCmdLine.cpp
src/jrd/trace/TraceConfigStorage.cpp
src/jrd/trace/TraceConfigStorage.h
src/jrd/trace/TraceLog.cpp
src/jrd/trace/TraceLog.h
src/jrd/trace/TraceService.cpp
src/jrd/trace/TraceService.h
src/jrd/trace/TraceSession.h
src/jrd/trace/traceswi.h
The Original Code was created by Khorsun Vladyslav for the Firebird
Open Source RDBMS project.
Copyright (c) 2008 Khorsun Vladyslav <hvlad@users.sourceforge.net>
builds/win32/defs/plugin.def
The Original Code was created by Khorsun Vladyslav for the Firebird
Open Source RDBMS project.
Copyright (c) 2011 Khorsun Vladyslav <hvlad@users.sf.net>
src/jrd/trace/TraceDSQLHelpers.h
src/jrd/trace/TraceJrdHelpers.h
src/jrd/trace/TraceObjects.cpp

src/jrd/trace/TraceObjects.h
src/utilities/ntrace/PluginLogWriter.cpp
src/utilities/ntrace/PluginLogWriter.h
src/utilities/ntrace/TraceConfiguration.cpp
src/utilities/ntrace/TraceConfiguration.h

The Original Code was created by Khorsun Vladyslav for the Firebird Open Source RDBMS project.

Copyright (c) 2009 Khorsun Vladyslav <hvlad@users.sourceforge.net>

src/utilities/ntrace/TraceUnicodeUtils.h

The Original Code was created by Khorsun Vladyslav for the Firebird Open Source RDBMS project.

Copyright (c) 2010 Khorsun Vladyslav <hvlad@users.sourceforge.net>

src/utilities/ntrace/TraceUnicodeUtils.cpp

The Original Code was created by Khorsun Vladyslav for the Firebird Open Source RDBMS project.

Copyright (c) 2010 Khorsun Vladyslav <hvlad@users.sourceforge.net>

Contributors: Adriano dos Santos Fernandes

builds/install/arch-specific/linux/Makefile.in
builds/posix/make.rules

Created by: Mark O'Donohue <mark.odonohue@ludwig.edu.au>

builds/install/arch-specific/aix/misc/postinstall.sh.in
builds/install/arch-specific/freebsd/freebsdLibrary.sh.in
builds/install/arch-specific/linux/linuxLibrary.sh.in
builds/install/arch-specific/linux/makeInstallImage.sh.in
builds/install/posix-common/FirebirdUninstall.sh.in
builds/install/posix-common/install.sh.in
builds/install/posix-common/posixLibrary.sh.in
builds/install/posix-common/registerDatabase.sh.in

Copyright (c) Mark O'Donohue <mark.odonohue@ludwig.edu.au>

and all contributors signed below.

All Rights Reserved.

Contributor: Alex Peshkoff

builds/install/posix-common/fb_config.in

Copyright (c) Mark O'Donohue <mark.odonohue@ludwig.edu.au>

src/include/editline.h

The Original Code was created by Mark O'Donohue for the Firebird Open Source RDBMS project.

Copyright (c) 2002 Mark O'Donohue <skywalker@users.sourceforge.net>

src/yvalve/keywords.cpp

The Original Code was created by Mark O'Donohue for the Firebird Open Source RDBMS project.

Copyright (c) 2002 Mark O'Donohue <skywalker@users.sourceforge.net> and all contributors signed below.

All Rights Reserved.

Contributor: Adriano dos Santos Fernandes, Claudio Valderrama

src/yvalve/config/os/posix/config_root.cpp

The Original Code was created by Mark O'Donohue

for the Firebird Open Source
RDBMS project.
Copyright (c) 2002 Mark O'Donohue <skywalker@users.sourceforge.net>
and all contributors signed below.
Contributors: Nickolay Samofatov
builds/install/arch-specific/freebsd/install.sh.in
The Original Code was created by Mark O'Donohue
for the Firebird Open Source RDBMS project.
Copyright (c) Mark O'Donohue <mark.odonohue@ludwig.edu.au> and Chris
Knight <chris@e-easy.com.au> and all contributors signed below.
All Rights Reserved.
Contributor: Alex Peshkoff
src/jrd/status.h
The Original Code was created by Mike Nordell
for the Firebird Open Source RDBMS project.
Copyright (c) 2001 Mike Nordell <tamlin at algonet.se>
src/include/fb_types.h
The Original Code was created by Mike Nordell and Mark O'Donohue
for the Firebird Open Source RDBMS project.
Copyright (c) 2001 Mike Nordel <tamlin@algonet.se>,
Mark O'Donohue <mark.odonohue@ludwig.edu.au>
and all contributors signed below.
Contributors:
Sean Leyne
src/include/firebird.h
The Original Code was created by Mark O'Donohue, Mike Nordell and John
Bellardo
for the Firebird Open Source RDBMS project.
Copyright (c) 2001
Mark O'Donohue <mark.odonohue@ludwig.edu.au>
Mike Nordell <tamlin@algonet.se>
John Bellardo <bellardo@cs.ucsd.edu>
and all contributors signed below.
Contributors: Alex Peshkov
src/remote/SockAddr.h
The Original Code was created by Michal Kubecek
for the Firebird Open Source RDBMS project.
Copyright (c) 2014 Michal Kubecek <mike@mk-sys.cz>
src/include/fb_exception.h
The Original Code was created by Mike Nordell
for the Firebird Open Source RDBMS project.
Copyright (c) 2001 Mike Nordell <tamlin at algonet.se>
src/common/classes/fb_cas.il
src/common/classes/fb_cas_sax.il
The Original Code was created by James A. Starkey for IBPhoenix.
Copyright (c) 2004 James A. Starkey
src/common/ScanDir.cpp
src/common/ScanDir.h

The Original Code was created by James A.
Starkey for IBPhoenix.
Copyright (c) 1997 - 2000, 2001, 2003 James A. Starkey
Copyright (c) 1997 - 2000, 2001, 2003 Netfrastructure, Inc.
All Rights Reserved.
src/common/classes/SyncObject.cpp
src/common/classes/SyncObject.h
src/common/classes/Synchronize.cpp
src/common/classes/Synchronize.h
The Original Code was created by James A. Starkey for IBPhoenix.
Copyright (c) 1997 - 2000, 2001, 2003 James A. Starkey
Copyright (c) 1997 - 2000, 2001, 2003 Netfrastructure, Inc.
All Rights Reserved.
The Code was ported into Firebird Open Source RDBMS project by
Vladyslav Khorsun at 2010
builds/posix/fbintl.vers
src/common/classes/ClumpletReader.cpp
src/common/classes/ClumpletReader.h
src/common/classes/ClumpletWriter.cpp
src/common/classes/ClumpletWriter.h
src/common/classes/fb_atomic.h
src/common/classes/fb_tls.h
src/common/classes/GenericMap.h
src/common/classes/locks.h
src/common/classes/misc/class_perf.cpp
src/common/classes/misc/class_test.cpp
src/common/classes/semaphore.h
src/common/classes/sparse_bitmap.h
src/common/classes/tree.h
src/common/classes/vector.h
src/common/os/posix/guid.cpp
src/common/os/win32/guid.cpp
src/jrd/evl_string.h
src/jrd/intl_classes.h
src/jrd/misc/evl_string_test.cpp
src/jrd/RecordNumber.h
src/utilities/ntrace/os/FileObject.h
src/utilities/ntrace/os/platform.h
src/utilities/ntrace/os/posix/misc/FileObject.cpp
src/utilities/ntrace/os/posix/platform.cpp
src/utilities/ntrace/os/win32/FileObject.cpp
src/utilities/ntrace/os/win32/platform.cpp
src/utilities/ntrace/TracePluginConfig.h
The Original Code was created by Nickolay Samofatov for the Firebird
Open Source RDBMS project.
Copyright (c) 2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>
src/common/os/guid.h
The Original Code was created by Nickolay Samofatov for the Firebird

Open Source RDBMS project.

Copyright (c) 2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>

Contributors: Adriano dos Santos Fernandes

src/common/classes/alloc.cpp

src/common/classes/alloc.h

The Original Code was created by Nickolay Samofatov

for the Firebird Open Source RDBMS project.

Copyright (c) 2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>

All rights reserved.

The Original Code was created by James A. Starkey for IBPhoenix.

Copyright (c) 2004 James A. Starkey

All rights reserved.

Contributors: Alex Peshkoff <peshkoff@mail.ru>

builds/posix/ib_util.vers

src/common/CharSet.h

src/common/CsConvert.h

src/common/intlobj_new.h

src/common/TextType.h

src/jrd/Collation.h

src/utilities/nbackup/nbackup.cpp

The Original Code was created by Nickolay Samofatov

for the Firebird Open Source RDBMS project.

Copyright (c) 2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>

and all contributors signed below.

All Rights Reserved.

Contributor(s): Adriano dos Santos Fernandes

builds/posix/fbplugin.vers

The Original Code was created by Nickolay Samofatov

for the Firebird

Open Source RDBMS project.

Copyright (c) 2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>

and all contributors signed below.

All Rights Reserved.

Contributors: Adriano dos Santos Fernandes, Alex Peshkov

src/jrd/nbak.h

The Original Code was created by Nickolay Samofatov for the Firebird

Open Source RDBMS project.

Copyright (c) 2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>

and all contributors signed below.

All Rights Reserved.

Contributor(s): Roman Simakov <roman-simakov@users.sourceforge.net>

src/jrd/nbak.cpp

The Original Code was created by Nickolay Samofatov for the Firebird

Open Source RDBMS project.

Copyright (c) 2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>

and all contributors signed below.

All Rights Reserved.

Contributor(s): Roman Simakov <roman-simakov@users.sourceforge.net>

Khorsun
Vladyslav <hvlad@users.sourceforge.net>
src/jrd/GlobalRWLock.cpp
src/jrd/GlobalRWLock.h
The Original Code was created by Nickolay Samofatov for the Firebird
Open Source RDBMS project.
Copyright (c) 2006 Nickolay Samofatov <nickolay@broadviewsoftware.com>
and all contributors signed below.
All Rights Reserved.
Contributor(s): Roman Simakov <roman-simakov@users.sourceforge.net>
src/common/classes/rwlock.h
The Original Code was created by Nickolay Samofatov for the Firebird
Open Source RDBMS project.
Copyright (c) 2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>
Contributors: Adriano dos Santos Fernandes
src/jrd/ntrace.h
src/jrd/trace/TraceManager.cpp
src/jrd/trace/TraceManager.h
src/utilities/ntrace/paramtable.h
src/utilities/ntrace/traceplugin.cpp
src/utilities/ntrace/TracePluginImpl.cpp
src/utilities/ntrace/TracePluginImpl.h
The Original Code was created by Nickolay Samofatov for the Firebird
Open Source RDBMS project.
Copyright (c)
2004 Nickolay Samofatov <nickolay@broadviewsoftware.com>
Contributors: 2008 Khorsun Vladyslav
src/utilities/install/install.cpp
src/utilities/install/install_client.cpp
src/utilities/install/install_proto.h
The Original Code is (C) 2003 Olivier Mascia.
The Initial Developer of the Original Code is Olivier Mascia.
builds/install/arch-specific/darwin/changeMultiConnectMode
The Original Code was created by Paul Beach based on the original Posix
script created by Alex Peshkov for the Firebird Open Source RDBMS
project.
Copyright (c) 2009 Paul Beach <pbeach@ibphoenix.com>
Alex Peshkov <peshkov@mail.ru>
builds/install/arch-specific/win32/FirebirdInstallEnvironmentChecks.inc
builds/install/arch-specific/win32/FirebirdInstallSupportFunctions.inc
The Original Code is copyright 2001-2003 Paul Reeves for IBPhoenix.
The Initial Developer of the Original Code is Paul Reeves for IBPhoenix.
All Rights Reserved.
builds/install/arch-specific/win32/FirebirdInstallGUIFunctions.inc
The
Original Code is copyright 2007 Paul Reeves.
The Initial Developer of the Original Code is Paul Reeves.
builds/install/arch-specific/win32/BuildExecutableInstall.bat

The Original Code is copyright 2003-2004 Paul Reeves.
The Initial Developer of the Original Code is Paul Reeves
builds/install/arch-specific/win32/FirebirdInstall_30.iss
The Original Code is copyright 2001-2003 Paul Reeves for IBPhoenix.
The Initial Developer of the Original Code is Paul Reeves for IBPhoenix.
All Rights Reserved.
Contributor(s):
Tilo Muetze, Theo ? and Michael Rimov for improved detection of an
existing install directory.
Simon Carter for the WinSock2 detection.
Philippe Makowski for internationalization and french translation
Sergey Nikitin for migrating to ISS v5.
src/utilities/fbcpl/fbdialog.cpp
src/utilities/fbcpl/fbdialog.h
src/utilities/fbcpl/fbpanel.cpp
src/utilities/fbcpl/fbpanel.h
The Initial Developer of the
Original Code is Paul Reeves.
The Original Code is (C) 2003 Paul Reeves
src/common/classes/condition.h
The Original Code was created by Roman Simakov for the Red Soft Corp
and Firebird Open Source RDBMS project.
Copyright (c) 2008 Roman Simakov
src/gpre/languages/fbrmclib.cpp
The Original Code was created by Stephen W. Boyd
for the Firebird Open Source RDBMS project.
Copyright (c) 2006 Steve Boyd <sboydlns at gmail.com>
src/common/classes/RefMutex.h
The Original Code was created by Vlad Khorsun for the Firebird Open
Source RDBMS project.
Copyright (c) 2004 Vlad Khorsun <hvlad@users.sf.net> and all
contributors signed below.
All Rights Reserved.
Contributor(s):
Alex Peshkov <peshkoff@mail.ru>
Dmitry Yemanov <dimitr@users.sf.net>
src/jrd/Relation.cpp
The Original Code was created by Vlad Khorsun for the Firebird Open
Source RDBMS project.
Copyright (c) 2005 Vlad Khorsun <hvlad at users.sourceforge.net>
src/jrd/DebugInterface.cpp
src/jrd/DebugInterface.h
The
Original Code was created by Vlad Khorsun for the Firebird Open
Source RDBMS project.
Copyright (c) 2006 Vlad Khorsun <hvlad at users.sourceforge.net>
src/common/SimpleStatusVector.h
src/common/StatusHolder.cpp

src/common/StatusHolder.h
src/jrd/extds/ExtDS.h
src/jrd/extds/IscDS.cpp
src/jrd/extds/IscDS.h
The Original Code was created by Vlad Khorsun for the Firebird Open
Source RDBMS project.
Copyright (c) 2007 Vlad Khorsun <hvlad at users.sourceforge.net>
src/jrd/extds/ExtDS.cpp
The Original Code was created by Vladyslav Khorsun for the Firebird
Open Source RDBMS project and based on execute_statement module by
Alexander Peshkoff.
Copyright (c) 2007 Vladyslav Khorsun <hvlad@users.sourceforge.net>
src/common/classes/RefCounted.h
src/jrd/extds/InternalDS.cpp
src/jrd/extds/InternalDS.h
src/jrd/recsrc/RecursiveStream.cpp
The Original Code was created by Vlad Khorsun
for the Firebird Open
Source RDBMS project.
Copyright (c) 2008 Vlad Khorsun <hvlad at users.sourceforge.net>
src/utilities/fbtracemgr/traceMgrMain.cpp
The Original Code was created by Vladyslav Khorsun for the Firebird
Open Source RDBMS project.
Copyright (c) 2009 Vladyslav Khorsun <hvlad@users.sourceforge.net>
src/jrd/GarbageCollector.cpp
src/jrd/GarbageCollector.h
The Original Code was created by Vlad Khorsun for the Firebird Open
Source RDBMS project.
Copyright (c) 2011 Vlad Khorsun <hvlad@users.sourceforge.net>

LGPL-2.1 with exception
---
builds/install/arch-specific/hpux/classic/makeinstallImage.sh.in
builds/install/arch-specific/hpux/classic/postInstall.sh.in
builds/install/arch-specific/hpux/classic/postUninstall.sh.in
builds/install/arch-specific/hpux/classic/preInstall.sh.in
builds/install/arch-specific/hpux/classic/preUninstall.sh.in
builds/install/arch-specific/hpux/classic/tarInstall.sh.in
builds/install/arch-specific/hpux/classic/tarmainInstall.sh.in
builds/install/arch-specific/hpux/classic/tarmainUninstall.sh.in
builds/install/arch-specific/hpux/classic/tarUninstall.sh.in
builds/install/arch-specific/hpux/Makefile.in
builds/install/arch-specific/hpux/misc/changegdslibrarycompatibleLink.sh.in
builds/install/arch-specific/hpux/misc/createaliasDB.sh.in
builds/install/arch-specific/hpux/misc/firebird.init.d.hpux.in
builds/install/arch-specific/hpux/misc/hpuxLibrary.sh.in

builds/install/arch-specific/hpux/super/makeinstallImage.sh.in
builds/install/arch-specific/hpux/super/tarInstall.sh.in
builds/install/arch-specific/hpux/super/tarmainInstall.sh.in
builds/install/arch-specific/hpux/super/tarmainUninstall.sh.in
builds/install/arch-specific/hpux/super/tarUninstall.sh.in
builds/posix/make.shared.targets
builds/posix/Makefile.in.examples
examples/build_unix/Makefile.in.v5_examples
Created by: Mark O'Donohue <mark.odonohue@ludwig.edu.au>
builds/posix/Makefile.in.plugins_examples
Created by: Mark O'Donohue <mark.odonohue@ludwig.edu.au>
Contributor(s): Adriano dos Santos Fernandes
builds/posix/Makefile.in
Created by: Mark O'Donohue <mark.odonohue@ludwig.edu.au>
Contributor(s): Alex Peshkoff
builds/install/arch-specific/aix/classic/makeInstallImage.sh.in
builds/install/arch-specific/aix/Makefile.in
builds/install/arch-specific/aix/misc/postuninstall.sh.in
builds/install/arch-specific/aix/misc/preinstall.sh.in
builds/install/arch-specific/aix/misc/preuninstall.sh.in
builds/install/arch-specific/aix/misc/tarinstall.sh.in
builds/install/arch-specific/aix/misc/tarmaininstall.sh.in
builds/install/arch-specific/aix/misc/tarmainuninstall.sh.in
builds/install/arch-specific/aix/misc/taruninstall.sh.in
builds/install/arch-specific/freebsd/Makefile.in
builds/install/arch-specific/netbsd/Makefile.in
Created by: Mark O'Donohue <mark.odonohue@ludwig.edu.au>
Contributor(s): Chris Knight <chris@e-easy.com.au>
builds/install/arch-specific/netbsd/install.sh.in
Created
by: Chris Knight <chris@e-easy.com.au>
Contributor(s): James K. Lowden <jklowden@schemamania.org>
builds/install/arch-specific/solx86gcc/Makefile.in
Created by: Erik Kunze <Erik.Kunze@philosys.de>
builds/posix/Makefile.in.extern.editline
Created by: Erik Kunze <Erik.Kunze@philosys.de>
Contributors: Alex Peshkov

MPL-1.1
---
examples/interfaces/06.fb_message.cpp
examples/interfaces/08.events.cpp
2011 Adriano dos Santos Fernandes
Contributors: Alexander Peshkov

MPL-1.1 | GPL-2+
---
builds/posix/make.defaults

examples/build_unix/Makefile.in.example5
Created by: Mark O'Donohue <mark.odonohue@ludwig.edu.au>

BSD-like licensing
---
src/common/enc.cpp
Copyright (c) 1989 The Regents of the University of California.
All rights reserved.
.
This code is derived from software contributed to Berkeley by
Tom Truscott.
.
Redistribution and use in source and binary forms, with or without
modification, are permitted
provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software
must display the following acknowledgement:
This product includes software developed by the University of
California, Berkeley and its contributors.
4. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.
.
THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Other licensing
---
acx_pthread.m4
Available from the GNU Autoconf Macro Archive
Current version is at http://autoconf-archive.cryp.to/acx_pthread.html

That page says:
Copyright 2007 Steven G. Johnson <stevenj@alum.mit.edu>
.
This program is free software: you can redistribute it and/or modify it
under the terms of the GNU General Public License as published by the Free
Software Foundation, either version 3 of the License, or (at your option)
any later version.
.
This program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY
or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License
for more details.
.
You should have received a copy of the GNU General Public License along
with this program. If not, see <http://www.gnu.org/licenses/>.
.
As a special exception, the respective Autoconf Macro's copyright owner
gives unlimited permission to copy, distribute and modify the configure
scripts that are the output of Autoconf when processing the Macro. You
need not follow the terms of the GNU General Public License when using or
distributing such scripts, even though portions of the text of the Macro
appear in them. The GNU General Public License (GPL) does govern all other
use of
the material that constitutes the Autoconf Macro.
.
This special exception to the GPL applies to versions of the Autoconf
Macro released by the Autoconf Macro Archive. When you make and distribute
a modified version of the Autoconf Macro, you may extend this special
exception to the GPL to apply to your modified version as well.
.
The full text of GNU General Public License version 3 can be found at
/usr/share/common-licenses/GPL-3 on every Debian system.

builds/install/misc/IDPLicense.txt
builds/install/misc/IPLicense.txt
doc/license/IDPL.txt
# license texts

extern/btyacc/*
BTYACC was created by Chris Dodd using ideas from many places and lots of code
from the Berkeley Yacc distribution, which is a public domain yacc clone put
together by the good folks at Berkeley. This code is distributed with NO
WARRANTEE and is public domain. It is certain to contain bugs, which you
should report to: chrisd@collins.com.
.
Vadim Maslov of Siber Systems <vadik@siber.com>
considerably modified BTYACC
to make it suitable for production environment.

```
**********************************
*                *
* L I C E N S E  T E X T S  *
*                *
**********************************
```

==========

INTERBASE PUBLIC LICENSE

Version 1.0

1. Definitions.

1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism"
means a mechanism generally
accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

A. Any addition to or deletion from the contents of a file containing Original
Code or previous Modifications.

B. Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code
can be in a compressed or
archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant.

The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).

(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant.

Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted:

1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.

The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code.

Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications.

You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

(a) Third Party Claims.

If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs.

If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations.

Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than

any
such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions.

You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of
Your choice, which may contain
terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.

You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered
Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill

to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions.

Inprise Corporation ("Inprise") may publish revised and/or new versions of the License from time
to time. Each version will be given a distinguishing
version number.

6.2. Effect of New Versions.

Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Inprise. No one other than Inprise has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", "InterBase", "Inprise", "Borland" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that
Your version of the license
contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the InterBase Public License.

The InterBase public license is based on the Mozilla Public License V 1.1 with the following changes:

1. The license is published by Inprise Corporation. Only Inprise Corporation can modify the terms applicable to Covered Code.
2. The license can be modified and used for code which is not already

governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape?s or Inprise?s license and must include a description of changes from the InterBase Public License.
3. The name of the license in Exhibit A is the "InterBase Public License".
4. The reference to an alternative license in Exhibit A has been removed.
5.
Amendments I, II, III, V, and VI have been deleted.
6. Exhibit A, Netscape Public License has been deleted
7. A new amendment (II) has been added, describing the required and restricted rights to use the trademarks of Inprise Corporation.

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License
and the rights granted hereunder will terminate
automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either:
(i) agree in writing to pay Participant a mutually
agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of

notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging
that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL,
OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48

C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by Georgia law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, Any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of Georgia and/or the state courts of Gwinnett County, Georgia, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the InterBase Public License or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A - InterBase Public License.

``The contents of this file are subject to the InterBase Public License Version 1.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

http://www.interbase.com/IPL.html

Software distributed under the License is distributed on an "AS IS" basis,
WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License
for the specific language governing rights and limitations under the License.

The Original Code was created by InterBase Software Corp and its successors.

Portions created by Borland/Inprise are Copyright (C) Borland/Inprise.
All Rights Reserved.

Contributor(s): _____.

AMENDMENTS

I. InterBase and logo. This License does not grant any rights to use the
trademarks "InterBase", "Java" or "JavaScript" even if such marks are
included in the Original Code or Modifications.

II. Trademark
Usage.

II.1. Advertising Materials. All advertising materials mentioning features
or use of the covered Code must display the following acknowledgement: "This
product includes software developed by Inprise Corporation. "

II.2. Endorsements. The names "InterBase," "Inprise," and "Borland" must not
be used to endorse or promote Contributor Versions or Larger Works without
the prior written permission of InterBase.

II.3. Product Names. Contributor Versions and Larger Works may not be called
"InterBase" or "InterBase" nor may the word "InterBase" appear in their
names without the prior written permission of Inprise.

==========

Initial Developer's PUBLIC LICENSE
Version 1.0

1. Definitions

1.0 "Commercial Use" means distribution or otherwise making the Covered
Code available to a third party.

1.1 "Contributor" means each entity that creates or contributes to the

creation of Modifications.

1.2 "Contributor
Version" means the combination of the Original Code, prior
Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of
the initial grant or subsequently
acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means
the preferred form of the Covered Code for
making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity w hich controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity,
whether by
contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant. The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).

(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original
Code under the terms of this License.

d) Notwithstanding Section 2.1(b) above, no patent license is granted:

1) for code that You delete from the Original Code;

2) separate from the Original Code; or

3) for infringements caused by:

i) the modification of the Original Code or

ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant. Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted:

1) for any code that Contributor has deleted from the Contributor Version;

2) separate from the Contributor Version;

3) for infringements caused by:

i) third party modifications of Contributor Version or

ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or

4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License. The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code. Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media
as an Executable version or via
an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications. You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer
in

(a) the Source Code, and

(b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

a) Third Party Claims. If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2,

Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code
that new knowledge has been obtained.

(b) Contributor APIs. If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations. Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices. You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name
as
a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions. You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that
Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of

Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and hat the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by
You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works. You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must:

(a) comply with the terms of this License to the maximum extent possible; and

(b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described
in Section 3.4 and must be included with
all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions. The Initial Developer of this code may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions. Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by the Initial Developer. No one other than the Initial Developer has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works. If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must

(a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", or any confusingly similar phrases do not appear in your license (except to note that your license differs from this License) and

(b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the Initial Developer's Public License. The Initial Developer's Public License is based on the Mozilla Public License V 1.1 with the following changes:

1) The license is published by the Initial Developer of this code. Only the Initial Developer can modify the terms applicable to Covered Code.

2) The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's license Initial Developer's's license and must include a description of changes from the Initial Developer's Public License.

3) The name of the license in Exhibit A is the "Initial Developer's Public License".

4) The reference to an alternative license in Exhibit A has been removed.

5) Amendments I, II, III, V, and VI have been deleted.

6) Exhibit A, Netscape Public License has been deleted

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT
THE COVERED CODE IS FREE OF DEFECTS,
MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation
by asserting a patent infringement claim (excluding
declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after

receipt of notice You either:

(i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or

(ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant.

If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim
is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment
or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY

SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING
FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT
APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall
be
governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party
is responsible for claims
and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be

deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Devpoeloper permits you to utilize portions of the Covered Code under Your choice of the IDPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Initial Developer's Public License.

The contents of this file are subject to the Initial Developer's Public License Version 1.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.ibphoenix.com/idpl.html
Software
distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____.

Portions created by _____ are Copyright (C) _____
_____.

All Rights Reserved.

Contributor(s): _____.

==========

MOZILLA PUBLIC LICENSE
Version 1.1

---

1. Definitions.

1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

B. Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s),

now owned or
hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You"
includes any entity which controls, is
controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant.
The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims
infringed by the making, using or
selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).

(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant.
Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property
rights (other than patent or
trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.
The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may

be
distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code.
Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications.
You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property
Matters

(a) Third Party Claims.
If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered

Code that new knowledge has been obtained.

(b) Contributor APIs.

If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations.

Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice.

If You created one or more Modification(s)

You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions.

You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered

Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.
You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions.
Netscape Communications Corporation ("Netscape") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions.
Once Covered Code

has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Netscape. No one other than Netscape has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom

You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days
notice from Participant terminate prospectively,
unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked
effective as of the date You first made, used,
sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY,
WHETHER TORT
(INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY

CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code
is a "commercial item," as that term is defined in
48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or
registered to do business in the United
States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to

work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the NPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Mozilla Public License.

``The contents of this file are subject to the Mozilla Public License Version 1.1 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.mozilla.org/MPL/

Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____. Portions created by _____ are Copyright (C) _____ _____. All Rights Reserved.

Contributor(s): _____.

Alternatively, the contents of this file may be used under the terms of the _____ license (the "[___] License"), in which case the provisions of [_____] License are applicable instead of those above. If you wish to allow use of your version of this file only under the terms of the [____] License and not to allow others to use your version of this file under the MPL, indicate your decision by deleting the provisions above and replace them with the notice and other provisions required by the [___] License. If you do not delete the provisions above, a recipient may use your version of this file under either the MPL or the [___] License."

[NOTE: The text of this Exhibit A may differ slightly from the text of the notices in the Source Code files of the Original Code. You should

```
   use the text of this Exhibit A rather than the text found in the
   Original Code Source Code for Your Modifications.]
depot
layout_version 1.0
vendor
tag Firebird
title Firebird Project
description "Firebird Database"
end

product
tag Firebird
title "Firebird Database for HP-UX"
description "Firebird Relational Database Classic"
revision 2.1.0
category database
category_title Database
preinstall install/scripts/preInstall.sh
postinstall install/scripts/postInstall.sh
preremove install/scripts/preUninstall.sh
postremove install/scripts/postUninstall.sh
#
architecture HP-UX_B.11_64
os_name HP-UX
os_release ?.11.*
os_version ?
#
fileset
tag main
file -u 0660 -g firebird -o firebird buildroot@prefix@/security2.fdb @prefix@/security2.fdb
file -u 0644 -g firebird -o firebird buildroot@prefix@/firebird.conf @prefix@/firebird.conf
file -u 0644 -g firebird -o firebird buildroot@prefix@/databases.conf @prefix@/databases.conf
file -u 0644 -g firebird -o firebird buildroot@prefix@/WhatsNew @prefix@/WhatsNew
end
#
fileset
tag include
directory buildroot@prefix@/include=@prefix@/include
file_permissions -u 0644 -g
 firebird -o firebird
file *
end
#
fileset
tag intl
file -u 0755 -g firebird -o firebird buildroot@prefix@/intl/fbintl @prefix@/intl/fbintl
file -u 0644 -g firebird -o firebird buildroot@prefix@/intl/fbintl.conf @prefix@/intl/fbintl.conf
end
```

```
#
fileset
tag UDF
file -u 0755 -g firebird -o firebird buildroot@prefix@/UDF/ib_udf.sl @prefix@/UDF/ib_udf.sl
file -u 0755 -g firebird -o firebird buildroot@prefix@/UDF/fbudf.sl @prefix@/UDF/fbudf.sl
file -u 0644 -g firebird -o firebird buildroot@prefix@/UDF/ib_udf.sql @prefix@/UDF/ib_udf.sql
file -u 0644 -g firebird -o firebird buildroot@prefix@/UDF/ib_udf2.sql @prefix@/UDF/ib_udf2.sql
file -u 0644 -g firebird -o firebird buildroot@prefix@/UDF/fbudf.sql @prefix@/UDF/fbudf.sql
end
#
fileset
tag bin
directory buildroot@prefix@/bin=@prefix@/bin
file_permissions -u 0755 -g firebird -o firebird
file *
end
#
fileset
tag misc
directory buildroot@prefix@/misc=@prefix@/misc
file_permissions -u 0644 -g firebird -o firebird
file *
directory buildroot@prefix@/misc/upgrade/security=@prefix@/misc/upgrade/security
file_permissions
 -u 0644 -g firebird -o firebird
file *
end
#
fileset
tag examples
file -u 0644 -g firebird -o firebird firebird/examples/README @prefix@/examples/README
file -u 0644 -g firebird -o firebird firebird/examples/functions.c @prefix@/examples/functions/functions.c
directory firebird/examples/api=@prefix@/examples/api
file_permissions -u 0644 -g firebird -o firebird
file *
directory firebird/examples/dyn=@prefix@/examples/dyn
file_permissions -u 0644 -g firebird -o firebird
file *
directory firebird/examples/empbuild=@prefix@/examples/empbuild
file_permissions -u 0644 -g firebird -o firebird
file *
directory firebird/examples/include=@prefix@/examples/include
file_permissions -u 0644 -g firebird -o firebird
file *
directory firebird/examples/stat=@prefix@/examples/stat
file_permissions -u 0644 -g firebird -o firebird
file *
directory firebird/examples/udf=@prefix@/examples/udf
```

file_permissions -u 0644 -g firebird -o firebird
file
 *
end
#
fileset
tag lib
directory buildroot@prefix@/lib=@prefix@/lib
file_permissions -u 0755 -g firebird -o firebird
file *
end
#
fileset
tag help
file -u 0444 -g firebird -o firebird firebird/help/help.fdb @prefix@/help/help.fdb
end
#
fileset
tag messages
file -u 0444 -g firebird -o firebird firebird/firebird.msg @prefix@/firebird.msg
file -u 0444 -g firebird -o firebird firebird/fr_FR.msg @prefix@/fr_FR.msg
file -u 0444 -g firebird -o firebird firebird/de_DE.msg @prefix@/de_DE.msg
end
#
fileset
tag docs
directory ../doc=@prefix@/doc
file_permissions -u 0644 -g firebird -o firebird
file *
end
end
INTERBASE PUBLIC LICENSE
Version 1.0
1. Definitions.
1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.
1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.
1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.
1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.
1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.
1.5. "Executable" means Covered Code in any form other than Source Code.
1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.
1.7. "Larger Work"
 means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.
1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.
1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:
A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.
B. Any new file that contains any part of the Original Code or previous Modifications.
1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered
Code governed by this License.
1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.
1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.
1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with, all of the terms of, this License or a future version of this License issued under Section 6.1. For legal
entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.
2. Source Code License.
2.1. The Initial Developer Grant.
The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:
(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and
(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice,
sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.
(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.
2.2. Contributor Grant.
Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license
(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified
basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and
(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer

for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination

of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.

The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source

Code.

Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications.

You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement

that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

(a) Third Party Claims.

If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take

other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs.

If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations.
Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.
3.5. Required Notices.
You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory)
where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.
3.6. Distribution of Executable Versions.
You
may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different
license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.
3.7. Larger Works.
You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.
4. Inability to Comply Due to Statute or Regulation.
If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the
code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.
5. Application of this License.
This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.
6. Versions of the License.
6.1. New Versions.

Inprise Corporation ("Inprise") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions.

Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Inprise.

No one other than Inprise has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works.

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", "Inprise", "ISC", "InterBase", "IB" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the InterBase Public License.

The InterBase Public

License V 1.0 is based on the Mozilla Public License V 1.1 with the following changes:

1. The license is published by Inprise Corporation. Only Inprise Corporation can modify the terms applicable to Covered Code.

2. The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's or Inprise Corporation's public license and must include a description of changes from the InterBase Public License.

3. The name of the license in Exhibit A is the "InterBase Public License".

4. The reference to an alternative license in Exhibit A has been removed.

5. Amendments I, II, III, V, and VI have been deleted.

6. Exhibit A, Netscape Public License has been deleted

7. A new amendment (II) has been added, describing the required and restricted rights to use the trademarks of Inprise Corporation.

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS,

WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect

beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not
mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into
account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY
FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on

Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party
is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the IPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A - InterBase Public License.

``The contents of this file are subject to the InterBase Public License Version 1.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at
http://www.Inprise.com/IPL.html
Software distributed under the License
is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.
The Original Code was created by Inprise Corporation and its predecessors.
Portions created by Inprise Corporation are Copyright (C) Inprise Corporation. All Rights Reserved.
Contributor(s): _____.

AMENDMENTS

I. Inprise and logo. This License does not grant any rights to use the trademarks "Inprise", "InterBase," "Java" or "JavaScript" even if such marks are included in the Original Code or Modifications.

II. Trademark Usage.

II.1. Advertising Materials. All advertising materials mentioning features or use of the covered Code must display the following acknowledgement: "This product includes software developed by Inprise Corporation. "

II.2. Endorsements. The names "Inprise," "InterBase," "ISC," and "IB" must not be used to endorse or promote Contributor Versions
or Larger Works without the prior written permission of Inprise.

II.3. Product Names. Contributor Versions and Larger Works may not be called "Inprise" or "InterBase" nor may the words "Inprise" or "InterBase" appear in their names without the prior written permission of Inprise Corporation.

Initial Developer's PUBLIC LICENSE
Version 1.0

1. Definitions

1.0 "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1 "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2 "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the

combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means
the individual or entity identified as the Initial
Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

Any new file that contains any part of the Original Code or previous

Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a

compressed or archival
form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity w hich controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant. The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual

property claims:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

d) Notwithstanding Section 2.1(b) above, no patent license is granted:

1) for code that You delete from the Original Code;

2) separate from the Original Code; or

3) for infringements caused by:

i) the modification of the Original Code or

ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant. Subject to third party intellectual property claims, each

Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise
dispose of: 1) Modifications made
by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted:

1) for any code that Contributor has deleted from the Contributor Version;

2) separate from the Contributor Version;

3) for infringements caused by:

i) third party modifications of Contributor Version or

ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or

4) under Patent Claims infringed by Covered Code in the absence of

Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License. The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this

License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code. Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications. You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in

(a) the Source Code, and

(b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

a) Third Party Claims. If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or

newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs. If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations. Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices. You must
duplicate the notice in Exhibit A in each file
of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity
or liability obligation is offered by You alone, and You
hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions. You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code
or ownership rights under a license of
Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and hat the license for the Executable version does not attempt to limit or alter the recipient's rights

in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works. You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute

the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must:

(a) comply with the terms of this License to the maximum extent possible; and

(b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer
has attached the notice in
Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions. The Initial Developer of this code may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions. Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by the Initial Developer. No one other than the Initial Developer has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works. If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed
by this License), You must

(a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL", or any confusingly similar phrases do not appear in your license (except to note that your license differs from this License) and

(b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

6.4 Origin of the Initial Developer's Public License. The Initial Developer's Public License is based on the Mozilla Public License V 1.1 with the following changes:

1) The license is published by the Initial Developer of this code. Only the Initial Developer
can modify the terms applicable to Covered Code.

2) The license can be modified and used for code which is not already governed by this license. Modified versions of the license must be renamed to avoid confusion with Netscape's license Initial Developer's's license and must include a description of changes from the Initial Developer's Public License.

3) The name of the license in Exhibit A is the "Initial Developer's Public License".

4) The reference to an alternative license in Exhibit A has been removed

.

5) Amendments I, II, III, V, and VI have been deleted.

6) Exhibit A, Netscape Public License has been deleted

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS,

MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declatory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either:

(i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or

(ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant.

If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL

DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S.
Government End Users acquire Covered Code with only those rights
set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable
attorneys' fees and
expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Devpoeloper permits you to utilize portions of the Covered Code
under Your choice of the IDPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Initial Developer's Public License.

The contents of this file are subject to the Initial Developer's Public License Version 1.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at http://www.ibphoenix.com/idpl.html Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____.

Portions created by _____ are Copyright (C) _____ _____.

All Rights Reserved.

Contributor(s): _____.

LICENSES
---

The applicable and approved licenses for the source files
of the Firebird RDBMS project are:

1) InterBase Public License (IPL), version 1.0
http://www.firebirdsql.org/en/interbase-public-license

2) Initial Developer's Public License (IDPL), version 1.0
http://www.firebirdsql.org/en/initial-developer-s-public-license-version-1-0/

The IPL is copyright of Borland Corp., the other licenses are copyright
by the source code authors and contributors.

USAGE RULES
---

1) The source code which was released under the IPL must keep this license.
All modifications / adaptations of this code are still subjects of the IPL.

2) The files that are derived from the IPL covered code, must also keep
this license. It means that if any new file contains some code covered by
the IPL, then this file should be released under the IPL too.

3) The new files developed by the members of the Firebird project should
be released under the IDPL.

4) The new files
contributed by people who are not members of the Firebird
project should follow the rule #3. If an author (initial developer) doesn't
specify the license to be used, the person who applies the contributed code
to the SVN tree (a committer) becomes responsible for the license assigned
to the contributed code.

5) Every non-binary file that exists in the SVN tree, should have a header
section which describes the license this code is released under. If a file
contains no header, it means that this code is freeware and nobody owns the
appropriate copyrights.

You may find the exhibits for the approved licenses in /doc/license directory
of the SVN tree.

# 1.415 rtmpdump 2.4+20151223.gitfa8646d.1-1

## 1.415.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the

Free Software Foundation and other authors who decide
to use it. You
can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether
gratis
or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software
patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the

ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits
such linking only if the
entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the
free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must

be combined with the library in order
to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another
language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium,
provided that
you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or

collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses

the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object
code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany
the work with the complete corresponding
machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood

that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly
with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally
distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to

refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system
which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish
revised and/or new
versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our

decision
will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE
LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey
the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301
USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program"

means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on

the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source

code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this

License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software

Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>

Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w'
and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

This work was packaged for Debian by:

Reinhard Tartler <siretart@tauware.de> on Sun, 30 May 2010 17:07:16 +0200

It was downloaded from http://rtmpdump.mplayerhq.hu/

Upstream Authors and Copyright:

RTMP Dump
(C) 2009 Andrej Stepanchuk
(C) 2009-2011 Howard Chu
(C) 2010 2a665470ced7adb7156fcef47f8199a6371c117b8a79e399a2771e0b36384090

License of the programs in the rtmpdump package:

rtmpdump - small dumper for media content streamed over the RTMP protocol
Copyright (C) 2009 Andrej Stepanchuk
Copyright (C) 2009-2010 Howard Chu

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

License of the librtmp library (included in the librtmp-dev package and in the
librmtp/ subdirectory in the source tree):

Copyright (C) 2005-2008 Team XBMC
http://www.xbmc.org
Copyright (C) 2008-2009 Andrej Stepanchuk
Copyright (C) 2009-2010 Howard Chu

librtmp is free software; you can redistribute it and/or modify
it under the terms of the GNU Lesser General Public License as
published by the Free Software Foundation; either version 2.1,

or (at your option) any later version.

librtmp is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU Lesser General Public License
along with librtmp see the file COPYING. If not, write to
the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston,
MA 02110-1301, USA.
http://www.gnu.org/copyleft/lgpl.html

The Debian packaging is:

Copyright (C) 2010 Reinhard Tartler <siretart@tauware.de>

and is licensed under the GNU Lesser General Public License.

On Debian GNU/Linux systems, the complete text of the GNU General Public License can be found in `/usr/share/common-licenses/GPL-2' and the text of the GNU Lesser General Public License is in `/usr/share/common-licenses/LGPL-2.1'.

# 1.416 dbus-python 1.2.6-1

## 1.416.1 Available under license :

As of version 0.82.4, dbus-python itself is released under the following permissive non-copyleft license (the same one that was proposed for D-Bus core but wasn't achieved):

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software without
restriction, including without limitation the rights to use, copy,
modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND

NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
HOLDERS
BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

Copyright holders and licensing are indicated in the source files.

The dbus-gmain/ subdirectory is under a different license: see
dbus-gmain/COPYING for details.
The D-Bus GLib main loop bindings are licensed to you under your choice
of the Academic Free License version 2.1, or the GNU General Public
License version 2. Both licenses are included here. Each source code
file is marked with the proper copyright information.

---

The Academic Free License
v. 2.1

This Academic Free License (the "License") applies to any original work of authorship (the "Original Work") whose owner (the "Licensor") has placed the following notice immediately following the copyright notice for the Original Work:

Licensed under the Academic Free License version 2.1

1) Grant of Copyright License. Licensor hereby grants You a
world-wide, royalty-free, non-exclusive, perpetual, sublicenseable
license to do the following:

a) to reproduce the Original Work in copies;

b) to prepare derivative works ("Derivative Works") based upon the Original Work;

c) to distribute copies of the Original Work and Derivative
Works to the public;

d) to perform the Original Work publicly; and

e) to display the Original Work publicly.

2) Grant of Patent License. Licensor hereby grants You a world-wide,
royalty-free, non-exclusive, perpetual, sublicenseable license, under
patent claims owned or controlled by the Licensor that are embodied in
the Original Work as furnished by the Licensor, to make, use, sell and
offer for sale the Original Work and Derivative Works.

3) Grant of Source Code License. The term "Source Code" means the preferred form of the Original Work for making modifications to it and all available documentation describing how to modify the Original Work. Licensor hereby agrees to provide a machine-readable copy of the Source Code of the Original Work along with each copy of the Original Work that Licensor distributes. Licensor reserves the right to satisfy this obligation by placing a machine-readable copy of the Source Code in an information repository reasonably calculated to permit inexpensive
and convenient access by You for as long as Licensor continues to distribute the Original Work, and by publishing the address of that information repository in a notice immediately following the copyright notice that applies to the Original Work.

4) Exclusions From License Grant. Neither the names of Licensor, nor the names of any contributors to the Original Work, nor any of their trademarks or service marks, may be used to endorse or promote products derived from this Original Work without express prior written permission of the Licensor. Nothing in this License shall be deemed to grant any rights to trademarks, copyrights, patents, trade secrets or any other intellectual property of Licensor except as expressly stated herein. No patent license is granted to make, use, sell or offer to sell embodiments of any patent claims other than the licensed claims defined in Section 2. No right is granted to the trademarks of Licensor even if such marks are included in the Original
Work. Nothing
in this License shall be interpreted to prohibit Licensor from licensing under different terms from this License any Original Work that Licensor otherwise would have a right to license.

5) This section intentionally omitted.

6) Attribution Rights. You must retain, in the Source Code of any Derivative Works that You create, all copyright, patent or trademark notices from the Source Code of the Original Work, as well as any notices of licensing and any descriptive text identified therein as an "Attribution Notice." You must cause the Source Code for any Derivative Works that You create to carry a prominent Attribution Notice reasonably calculated to inform recipients that You have modified the Original Work.

7) Warranty of Provenance and Disclaimer of Warranty. Licensor warrants that the copyright in and to the Original Work and the patent rights granted herein by Licensor are owned by the Licensor or are sublicensed to You under the terms of this License with the permission of
the contributor(s) of those copyrights and patent rights. Except as expressly stated in the immediately proceeding sentence, the Original

Work is provided under this License on an "AS IS" BASIS and WITHOUT WARRANTY, either express or implied, including, without limitation, the warranties of NON-INFRINGEMENT, MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY OF THE ORIGINAL WORK IS WITH YOU. This DISCLAIMER OF WARRANTY constitutes an essential part of this License. No license to Original Work is granted hereunder except under this disclaimer.

8) Limitation of Liability. Under no circumstances and under no legal theory, whether in tort (including negligence), contract, or otherwise, shall the Licensor be liable to any person for any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or the use of the Original Work including, without limitation, damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all other commercial damages or losses. This limitation of liability shall not apply to liability for death or personal injury resulting from Licensor's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to You.

9) Acceptance and Termination. If You distribute copies of the Original Work or a Derivative Work, You must make a reasonable effort under the circumstances to obtain the express assent of recipients to the terms of this License. Nothing else but this License (or another written agreement between Licensor and You) grants You permission to create Derivative Works based upon the Original Work or to exercise any of the rights granted in Section 1 herein, and any attempt to do so except under the terms of this License (or another written agreement between Licensor
and You) is expressly prohibited by
U.S. copyright law, the equivalent laws of other countries, and by international treaty. Therefore, by exercising any of the rights granted to You in Section 1 herein, You indicate Your acceptance of this License and all of its terms and conditions.

10) Termination for Patent Action. This License shall terminate automatically and You may no longer exercise any of the rights granted to You by this License as of the date You commence an action, including a cross-claim or counterclaim, against Licensor or any licensee alleging that the Original Work infringes a patent. This termination provision shall not apply for an action alleging patent infringement by combinations of the Original Work with other software or hardware.

11) Jurisdiction, Venue and Governing Law. Any action or suit relating

to this License may be brought only in the courts of a jurisdiction wherein the Licensor resides or in which Licensor conducts its primary business, and under the
laws of that jurisdiction excluding its
conflict-of-law provisions. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any use of the Original Work outside the scope of this License or after its termination shall be subject to the requirements and penalties of the U.S. Copyright Act, 17 U.S.C.  101 et seq., the equivalent laws of other countries, and international treaty. This section shall survive the termination of this License.

12) Attorneys Fees. In any action to enforce the terms of this License or seeking damages relating thereto, the prevailing party shall be entitled to recover its costs and expenses, including, without limitation, reasonable attorneys' fees and costs incurred in connection with such action, including any appeal of such action. This section shall survive the termination of this License.

13) Miscellaneous. This License represents the complete agreement concerning the subject matter hereof.
If any provision of this License
is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable.

14) Definition of "You" in This License. "You" throughout this License, whether in upper or lower case, means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with you. For purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

15) Right to Use. You may use the Original Work in all ways not otherwise restricted or conditioned by this License or by law, and Licensor promises not to interfere with or be responsible for such uses by You.

This license
is Copyright (C) 2003-2004 Lawrence E. Rosen. All rights reserved. Permission is hereby granted to copy and distribute this license without modification. This license may not be modified without the express written permission of its copyright owner.

--
END OF ACADEMIC FREE LICENSE. The following is intended to describe the essential differences between the Academic Free License (AFL) version 1.0 and other open source licenses:

The Academic Free License is similar to the BSD, MIT, UoI/NCSA and Apache licenses in many respects but it is intended to solve a few problems with those licenses.

* The AFL is written so as to make it clear what software is being licensed (by the inclusion of a statement following the copyright notice in the software). This way, the license functions better than a template license. The BSD, MIT and UoI/NCSA licenses apply to unidentified software.

* The AFL contains a complete copyright grant to the software. The BSD and Apache licenses
are vague and incomplete in that respect.

* The AFL contains a complete patent grant to the software. The BSD, MIT, UoI/NCSA and Apache licenses rely on an implied patent license and contain no explicit patent grant.

* The AFL makes it clear that no trademark rights are granted to the licensor's trademarks. The Apache license contains such a provision, but the BSD, MIT and UoI/NCSA licenses do not.

* The AFL includes the warranty by the licensor that it either owns the copyright or that it is distributing the software under a license. None of the other licenses contain that warranty. All other warranties are disclaimed, as is the case for the other licenses.

* The AFL is itself copyrighted (with the right granted to copy and distribute without modification). This ensures that the owner of the copyright to the license will control changes. The Apache license contains a copyright notice, but the BSD, MIT and UoI/NCSA licenses do not.

---

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third

parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are
not derived from the Program,
and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3.
You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium

customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to

these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example,
if a patent
license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide
if he or she is willing
to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions

of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the
Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type
`show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public
License instead of this License.
Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: dbus-python
Source: https://dbus.freedesktop.org/releases/dbus-python/

Files: *
Copyright:  2003-2006 Red Hat Inc. <http://www.redhat.com/>
        2003 David Zeuthen
        2004 Rob Taylor
        2004 Anders Carlsson
        2005 Colin Walters
        2005-2016 Collabora Ltd. <http://www.collabora.co.uk/>
        2016 Simon McVittie
License: Expat
  Permission is hereby granted, free of charge, to any person
  obtaining a copy of this software and associated documentation
  files (the "Software"), to deal in the Software without
  restriction, including without limitation the rights to use, copy,
  modify, merge, publish, distribute, sublicense, and/or sell copies
  of the Software, and to permit persons to whom the Software is
  furnished to do so, subject to the following conditions:
  .
  The above copyright notice and this permission notice shall be
   included in all copies or substantial portions of the Software.
  .
  THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
  EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
  MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
  NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT
  HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
  WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
  OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
  DEALINGS IN THE SOFTWARE.

Files: dbus-gmain/*
Copyright:

2002-2010 Red Hat, Inc
2002-2003 CodeFactory AB
2003 James Willcox
2009-2011 Nokia Corporation
2006 Steve Frcinaux
2009-2018 Collabora Ltd
2010-2012 Mike Gorse
License: GPL-2+ or AFL-2.1

License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version
2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Comment:
On Debian systems, see /usr/share/common-licenses/GPL-2 for the full
text of the GPL version 2.

License: AFL-2.1
The Academic Free License
v. 2.1
.
This Academic Free License (the "License") applies to any original
work of authorship (the "Original Work") whose owner (the "Licensor")
has placed the following notice immediately following the copyright
notice for the Original Work:
.
Licensed under the Academic Free License version 2.1
.
1) Grant of Copyright License.
Licensor hereby grants You a
world-wide, royalty-free, non-exclusive, perpetual, sublicenseable
license to do the following:
.
a) to reproduce the Original Work in copies;
.
b) to prepare derivative works ("Derivative Works") based upon the
Original Work;

.
c) to distribute copies of the Original Work and Derivative Works to the public;
.
d) to perform the Original Work publicly; and
.
e) to display the Original Work publicly.
.
2) Grant of Patent License. Licensor hereby grants You a world-wide, royalty-free, non-exclusive, perpetual, sublicenseable license, under patent claims owned or controlled by the Licensor that are embodied in the Original Work as furnished by the Licensor, to make, use, sell and offer for sale the Original Work and Derivative Works.
.
3) Grant of Source Code License. The term "Source Code" means the preferred form of the Original Work for making modifications to it and all available documentation describing how to modify the Original Work. Licensor hereby agrees to provide a machine-readable copy of the Source Code of the Original Work along with each copy of the Original Work that Licensor distributes. Licensor reserves the right to satisfy this obligation by placing a machine-readable copy of the Source Code in an information repository reasonably calculated to permit inexpensive and convenient access by You for as long as Licensor continues to distribute the Original Work, and by publishing the address of that information repository in a notice immediately following the copyright notice that applies to the Original Work.
.
4) Exclusions From License Grant. Neither the names of Licensor, nor the names of any contributors to the Original Work, nor any of their trademarks or service marks, may be used to endorse or promote products derived from this Original Work without express prior written permission of the Licensor. Nothing in this License shall be deemed to grant any rights to trademarks, copyrights, patents, trade secrets or any other intellectual property of Licensor except as expressly stated herein. No patent license is granted to make, use, sell or offer to sell embodiments of any patent claims other than the licensed claims defined in Section 2. No right is granted to the trademarks of Licensor even if such marks are included in the Original Work. Nothing in this License shall be interpreted to prohibit Licensor from licensing under different terms from this License any Original Work that Licensor otherwise would have a right to license.
.
5) This section intentionally omitted.
.
6) Attribution Rights. You must retain, in the Source Code of any Derivative Works that You create, all copyright, patent or trademark notices from the Source Code of the Original Work, as well as any

notices of licensing and any descriptive text identified therein as an "Attribution Notice." You must cause the Source Code for any Derivative Works that You create to carry
a prominent Attribution
Notice reasonably calculated to inform recipients that You have modified the Original Work.

.

7) Warranty of Provenance and Disclaimer of Warranty. Licensor warrants that the copyright in and to the Original Work and the patent rights granted herein by Licensor are owned by the Licensor or are sublicensed to You under the terms of this License with the permission of the contributor(s) of those copyrights and patent rights. Except as expressly stated in the immediately proceeding sentence, the Original Work is provided under this License on an "AS IS" BASIS and WITHOUT WARRANTY, either express or implied, including, without limitation, the warranties of NON-INFRINGEMENT, MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY OF THE ORIGINAL WORK IS WITH YOU. This DISCLAIMER OF WARRANTY constitutes an essential part of this License. No license to Original Work is granted hereunder except under this disclaimer.

.

8) Limitation of Liability. Under no circumstances and under no legal theory, whether in tort (including negligence), contract, or otherwise, shall the Licensor be liable to any person for any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or the use of the Original Work including, without limitation, damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses. This limitation of liability shall not apply to liability for death or personal injury resulting from Licensor's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to You.

.

9) Acceptance and Termination. If You distribute copies of the Original Work or a Derivative Work, You must make a reasonable effort under the circumstances
to obtain the express assent of recipients to
the terms of this License. Nothing else but this License (or another written agreement between Licensor and You) grants You permission to create Derivative Works based upon the Original Work or to exercise any of the rights granted in Section 1 herein, and any attempt to do so except under the terms of this License (or another written agreement between Licensor and You) is expressly prohibited by U.S. copyright law, the equivalent laws of other countries, and by international treaty. Therefore, by exercising any of the rights granted to You in Section 1 herein, You indicate Your acceptance of

this License and all of its terms and conditions.

.

10) Termination for Patent Action. This License shall terminate automatically and You may no longer exercise any of the rights granted to You by this License as of the date You commence an action, including a cross-claim or counterclaim, against Licensor or any licensee alleging
that the Original Work infringes a patent. This
termination provision shall not apply for an action alleging patent infringement by combinations of the Original Work with other software or hardware.

.

11) Jurisdiction, Venue and Governing Law. Any action or suit relating to this License may be brought only in the courts of a jurisdiction wherein the Licensor resides or in which Licensor conducts its primary business, and under the laws of that jurisdiction excluding its conflict-of-law provisions. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any use of the Original Work outside the scope of this License or after its termination shall be subject to the requirements and penalties of the U.S. Copyright Act, 17 U.S.C.  101 et seq., the equivalent laws of other countries, and international treaty. This section shall survive the termination of this License.

.

12) Attorneys Fees. In any action to
enforce the terms of this License
or seeking damages relating thereto, the prevailing party shall be entitled to recover its costs and expenses, including, without limitation, reasonable attorneys' fees and costs incurred in connection with such action, including any appeal of such action. This section shall survive the termination of this License.

.

13) Miscellaneous. This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable.

.

14) Definition of "You" in This License. "You" throughout this License, whether in upper or lower case, means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with you. For purposes of this definition, "control"
means (i) the power,
direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

.
15) Right to Use. You may use the Original Work in all ways not
otherwise restricted or conditioned by this License or by law, and
Licensor promises not to interfere with or be responsible for such
uses by You.
.
This license is Copyright (C) 2003-2004 Lawrence E. Rosen. All rights
reserved. Permission is hereby granted to copy and distribute this
license without modification. This license may not be modified without
the express written permission of its copyright owner.

# 1.417 readline 7.0-3

## 1.417.1 Available under license :

This is Debian GNU/Linux's prepackaged version of the FSF's GNU
Readline library.

This package was put together by Matthias Klose <doko@debian.org>, derived
from the bash package by Guy Maor <maor@debian.org>, from the GNU sources at

ftp.gnu.org:/pub/gnu/readline/readline-6.0.tar.gz.

Upstream Authors:

Chet Ramey <chet.ramey@case.edu>
Jeff Solomon <jsolomon@stanford.edu> (examples/excallback.c)
Harold Levy <Harold.Levy@synopsys.com> (examples/rl-fgets.c)
Juergen Weigert <jnweiger@immd4.informatik.uni-erlangen.de> (examples/rlfe)
Michael Schroeder <mlschroe@immd4.informatik.uni-erlangen.de> (examples/rlfe)
Oliver Laumann (examples/rlfe)

Copyright:

Copyright (C) 1987-2009 Free Software Foundation, Inc.
Copyright (C) 1999 Jeff Solomon (examples/excallback.c)
Copyright (C) 2003-2004 Harold Levy (examples/rl-fgets.c)
Copyright (C) 1993-2002 Juergen Weigert (examples/rlfe)
Copyright (C) 1993-2002 Michael Schroeder (examples/rlfe)
Copyright
(C) 1987 Oliver Laumann (examples/rlfe)

License:

Readline is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This package is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with Readline. If not, see <http://www.gnu.org/licenses/>.

examples/rl-fgets.c: GPL v2 or later.
examples/rlfe: GPL v2 or later.

On Debian systems, the complete text of the GNU General Public License
can be found in `/usr/share/common-licenses/GPL-3'.

The documentation files doc/*.texi and derived .info, .html, .ps and .pdf
files are:

Copyright
(C) 1988-2015 Free Software Foundation, Inc.

Permission is granted to copy, distribute and/or modify this
document under the terms of the GNU Free Documentation License,
Version 1.3 or any later version published by the Free Software
Foundation; with no Invariant Sections, no Front-Cover Texts, and
no Back-Cover Texts. A copy of the license is included in the
section entitled "GNU Free Documentation License".

On Debian systems, the complete text of the GNU Free Documentation License
can be found in `/usr/share/common-licenses/GFDL'.

The Debian packaging is:

Copyright (C) 1999-2009 Matthias Klose <doko@debian.org>

and is licensed under the GPL version 3,
see `/usr/share/common-licenses/GPL-3'.
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies

of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
must themselves be free in the same sense. It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does. But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book. We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License. Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein. The ``Document'', below,
refers
to any such manual or work. Any member of the public is a
licensee, and is addressed as ``you''. You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the
Document or a portion of it, either copied verbatim, or with
modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section

of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain @sc{ascii} without markup, Texinfo input format, La@TeX{} input format, @acronym{SGML} or @acronym{XML} using a publicly available @acronym{DTD}, and standard-conforming simple @acronym{HTML}, PostScript or @acronym{PDF} designed for human modification. Examples of transparent image formats include @acronym{PNG}, @acronym{XCF} and @acronym{JPG}. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, @acronym{SGML} or @acronym{XML} for which the @acronym{DTD} and/or processing tools are

not generally available, and the machine-generated @acronym{HTML}, PostScript or @acronym{PDF} produced by some word processors for output purposes only.

The ``Title Page'' means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, ``Title Page'' means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in
another language. (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'', ``Dedications'', ``Endorsements'', or ``History''.) To ``Preserve the Title'' of such a section when you modify the Document means that it remains a section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever
to those of this License. You may not use
technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

@item

COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible.
You may add other material on the covers in addition.
Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that
this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from
those of previous versions
(which should, if there were any, be listed in the History section
of the Document). You may use the same title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in
the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page. If
there is no section Entitled ``History'' in the Document, create one
stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified

Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on.  These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least
 four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles.  Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''.  Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document,
 you may at your option designate some or all
of these sections as invariant.  To do this, add their titles to the
list of Invariant Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has
been approved by an organization as the authoritative definition of a
standard.

You may add a passage of up to five words as a Front-Cover Text, and a
passage of up to 25 words as a Back-Cover Text, to the end of the list
of Cover Texts in the Modified Version.  Only one passage of
Front-Cover Text and one of Back-Cover Text may be added by (or
through arrangements made by) any one entity.  If the Document already
includes a cover text for the same cover, previously added by you or
by arrangement made by the same entity you are acting on behalf
 of,
you may not add another; but you may replace the old one, on explicit
permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License
give permission to use their names for publicity for or to assert or
imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this
License, under the terms defined in section 4 above for modified
versions, provided that you include in the combination all of the
Invariant Sections of all of the original documents, unmodified, and
list them all as Invariant Sections of your combined work in its
license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single
copy.  If there are multiple Invariant Sections with the same name but
different contents, make the title of
 each such section unique by
adding at the end of it, in parentheses, the name of the original
author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of
Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History''
in the various original documents, forming one section Entitled
``History''; likewise combine any sections Entitled ``Acknowledgements'',
and any sections Entitled ``Dedications''.  You must delete all
sections Entitled ``Endorsements.''

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents
released under this License, and replace the individual copies of this
License in the various documents with a single copy that is included in

the collection, provided that you follow the rules of this License for
verbatim copying of each of the documents in all other respects.

You may extract
a single document from such a collection, and distribute
it individually under this License, provided you insert a copy of this
License into the extracted document, and follow this License in all
other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate
and independent documents or works, in or on a volume of a storage or
distribution medium, is called an ``aggregate'' if the copyright
resulting from the compilation is not used to limit the legal rights
of the compilation's users beyond what the individual works permit.
When the Document is included in an aggregate, this License does not
apply to the other works in the aggregate which are not themselves
derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these
copies of the Document, then if the Document is less than one half of
the entire aggregate, the Document's Cover Texts may
be placed on
covers that bracket the Document within the aggregate, or the
electronic equivalent of covers if the Document is in electronic form.
Otherwise they must appear on printed covers that bracket the whole
aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may
distribute translations of the Document under the terms of section 4.
Replacing Invariant Sections with translations requires special
permission from their copyright holders, but you may include
translations of some or all Invariant Sections in addition to the
original versions of these Invariant Sections.  You may include a
translation of this License, and all the license notices in the
Document, and any Warranty Disclaimers, provided that you also include
the original English version of this License and the original versions
of those notices and disclaimers.  In case of a disagreement between
the translation and the original version of this License or a notice
or disclaimer, the original
version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',

``Dedications'', or ``History'', the requirement (section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License.  Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies
 you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License.  If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time.  Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.  See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that
 a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and conditions either of that specified version or
of any later version that has been published (not as a draft) by the

Free Software Foundation.  If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation.  If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works.  A public wiki that anybody can edit is an example of such a server.  A ``Massive Multiauthor Collaboration'' (or ``MMC'') contained in the site means any set of copyrightable works thus published on the MMC site.

``CC-BY-SA'' means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

```
@smallexample
@group
 Copyright (C)  @var{year}  @var{your name}.
 Permission is granted to copy, distribute and/or modify this document
 under the terms of the GNU Free Documentation License, Version 1.3
 or any later version published by the Free Software Foundation;
 with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
 Texts.  A copy of the license is included in the section entitled ``GNU
 Free Documentation License".
@end group
@end smallexample
```

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts." line with this:

```
@smallexample
@group
   with the Invariant Sections being @var{list their titles}, with
   the Front-Cover
 Texts being @var{list}, and with the Back-Cover Texts
   being @var{list}.
@end group
@end smallexample
```

If you have Invariant Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

```
@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:
```

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we

stand
ready to extend this provision to those domains in future versions
of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents.
States should not allow patents to restrict development and use of
software on general-purpose computers, but in those that do, we wish to
avoid the special danger that patents applied to a free program could
make it effectively proprietary. To prevent this, the GPL assures that
patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and
modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of
works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this
License. Each licensee is addressed as "you". "Licensees"
and
"recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work
in a fashion requiring copyright permission, other than the making of an
exact copy. The resulting work is called a "modified version" of the
earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based
on the Program.

To "propagate" a work means to do anything with it that, without
permission, would make you directly or secondarily liable for
infringement under applicable copyright law, except executing it on a
computer or modifying a private copy. Propagation includes copying,
distribution (with or without modification), making available to the
public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other
parties to make or receive copies. Mere interaction with a user through
a computer network, with no transfer of a copy, is
not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The
"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding

Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not

used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is

available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates

for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or

authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is

reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright
holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that

any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or

arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License,

section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE

USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed

to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,

either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to

control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the
source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each
time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent

license would not permit royalty-free redistribution
of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,
or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

This is Debian GNU/Linux's prepackaged version of the rlfe program.
This package was put together by Matthias Klose <doko@debian.org>.

Upstream source:
ftp.gnu.org:/pub/gnu/readline/readline-4.3.tar.gz.

Author: Per Bothner

Copyright:

/* A front-end using readline to "cook" input lines for Kawa.
*
* Copyright (C) 1999  Per Bothner
*
* This front-end program is free software; you can redistribute it and/or
* modify it under the terms of the GNU General Public License as published
* by the Free Software Foundation; either version 2, or (at your option)
* any later version.
*
* Some code from Johnson & Troan: "Linux Application Development"
* (Addison-Wesley, 1998) was used directly or for inspiration.
*/

You should have received a copy of the GNU General Public License with
your Debian GNU/Linux system, in /usr/share/common-licenses/GPL, or with
the Debian GNU/Linux bash source package as the file COPYING.  If not,
write to the Free Software Foundation, Inc., 51 Franklin St,
Fifth Floor,
Boston, MA 02110-1301, USA.

# 1.418 readline 7.0-10.el8

## 1.418.1 Available under license :

@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
Copyright @copyright{} 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other
functional and useful document @dfn{free} in the sense of freedom: to
assure everyone the effective freedom to copy and redistribute it,
with or without modifying it, either commercially or noncommercially.
Secondarily, this License preserves for the author and publisher a way
to get credit for their work, while not being considered responsible
for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative
works of the document
must themselves be free in the same sense. It
complements the GNU General Public License, which is a copyleft
license designed for free software.

We have designed this License in order to use it for manuals for free
software, because free software needs free documentation: a free
program should come with manuals providing the same freedoms that the
software does. But this License is not limited to software manuals;
it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book. We recommend this License
principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that
contains a notice placed by the copyright holder saying it can be
distributed under the terms of this License. Such a notice grants a
world-wide, royalty-free license, unlimited in duration, to use that
work under the conditions stated herein. The ``Document'', below,
refers
to any such manual or work. Any member of the public is a
licensee, and is addressed as ``you''. You accept the license if you
copy, modify or distribute the work in a way requiring permission
under copyright law.

A ``Modified Version'' of the Document means any work containing the
Document or a portion of it, either copied verbatim, or with
modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section
of the Document that deals exclusively with the relationship of the
publishers or authors of the Document to the Document's overall
subject (or to related matters) and contains nothing that could fall

directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain @sc{ascii} without markup, Texinfo input format, La@TeX{} input format, @acronym{SGML} or @acronym{XML} using a publicly available @acronym{DTD}, and standard-conforming simple @acronym{HTML}, PostScript or @acronym{PDF} designed for human modification. Examples of transparent image formats include @acronym{PNG}, @acronym{XCF} and @acronym{JPG}. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, @acronym{SGML} or @acronym{XML} for which the @acronym{DTD} and/or processing tools are not generally available, and the machine-generated @acronym{HTML}, PostScript or @acronym{PDF} produced by some word processors for output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page.  For works in
formats which do not have any title page as such, ``Title Page'' means
the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in
 another language.  (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'', or ``History''.)  To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document.  These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either
commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies
to the Document are reproduced in all copies, and that you add no other
conditions whatsoever
 to those of this License.  You may not use
technical measures to obstruct or control the reading or further
copying of the copies you make or distribute.  However, you may accept
compensation in exchange for copies.  If you distribute a large enough
number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and
you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have

printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible.

You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that

this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

@enumerate A
@item

Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from
 those of previous versions
(which should, if there were any, be listed in the History section
of the Document).  You may use the same title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in
 the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page.  If
there is no section Entitled ``History'' in the Document, create one
stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item

Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on.  These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least
 four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles.  Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''.  Such a section
may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document,
 you may at your option designate some or all
of these sections as invariant.  To do this, add their titles to the
list of Invariant Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains
nothing but endorsements of your Modified Version by various
parties---for example, statements of peer review or that the text has
been approved by an organization as the authoritative definition of a
standard.

You may add a passage of up to five words as a Front-Cover Text, and a
passage of up to 25 words as a Back-Cover Text, to the end of the list

of Cover Texts in the Modified Version.  Only one passage of
Front-Cover Text and one of Back-Cover Text may be added by (or
through arrangements made by) any one entity.  If the Document already
includes a cover text for the same cover, previously added by you or
by arrangement made by the same entity you are acting on behalf
 of,
you may not add another; but you may replace the old one, on explicit
permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License
give permission to use their names for publicity for or to assert or
imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this
License, under the terms defined in section 4 above for modified
versions, provided that you include in the combination all of the
Invariant Sections of all of the original documents, unmodified, and
list them all as Invariant Sections of your combined work in its
license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single
copy.  If there are multiple Invariant Sections with the same name but
different contents, make the title of
 each such section unique by
adding at the end of it, in parentheses, the name of the original
author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of
Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History''
in the various original documents, forming one section Entitled
``History''; likewise combine any sections Entitled ``Acknowledgements'',
and any sections Entitled ``Dedications''.  You must delete all
sections Entitled ``Endorsements.''

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents
released under this License, and replace the individual copies of this
License in the various documents with a single copy that is included in
the collection, provided that you follow the rules of this License for
verbatim copying of each of the documents in all other respects.

You may extract
a single document from such a collection, and distribute
it individually under this License, provided you insert a copy of this
License into the extracted document, and follow this License in all
other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate
and independent documents or works, in or on a volume of a storage or
distribution medium, is called an ``aggregate'' if the copyright
resulting from the compilation is not used to limit the legal rights
of the compilation's users beyond what the individual works permit.
When the Document is included in an aggregate, this License does not
apply to the other works in the aggregate which are not themselves
derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these
copies of the Document, then if the Document is less than one half of
the entire aggregate, the Document's Cover Texts may
be placed on
covers that bracket the Document within the aggregate, or the
electronic equivalent of covers if the Document is in electronic form.
Otherwise they must appear on printed covers that bracket the whole
aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may
distribute translations of the Document under the terms of section 4.
Replacing Invariant Sections with translations requires special
permission from their copyright holders, but you may include
translations of some or all Invariant Sections in addition to the
original versions of these Invariant Sections.  You may include a
translation of this License, and all the license notices in the
Document, and any Warranty Disclaimers, provided that you also include
the original English version of this License and the original versions
of those notices and disclaimers.  In case of a disagreement between
the translation and the original version of this License or a notice
or disclaimer, the original
version will prevail.

If a section in the Document is Entitled ``Acknowledgements'',
``Dedications'', or ``History'', the requirement (section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License.  Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies
 you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License.  If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time.  Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.  See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that
 a particular numbered version of this
License ``or any later version'' applies to it, you have the option of
following the terms and conditions either of that specified version or
of any later version that has been published (not as a draft) by the
Free Software Foundation.  If the Document does not specify a version
number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation.  If the Document

specifies that a proxy can decide which future versions of this
License can be used, that proxy's public statement of acceptance of a
version permanently authorizes you to choose that version for the
Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any
World Wide Web server that publishes copyrightable works and also
provides prominent facilities for anybody to edit those works.  A
public wiki that anybody can edit is an example of such a server.  A
``Massive Multiauthor Collaboration'' (or ``MMC'')
 contained in the
site means any set of copyrightable works thus published on the MMC
site.

``CC-BY-SA'' means the Creative Commons Attribution-Share Alike 3.0
license published by Creative Commons Corporation, a not-for-profit
corporation with a principal place of business in San Francisco,
California, as well as future copyleft versions of that license
published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or
in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this
License, and if all works that were first published under this License
somewhere other than this MMC, and subsequently incorporated in whole
or in part into the MMC, (1) had no cover texts or invariant sections,
and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009,
provided the
 MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of
the License in the document and put the following copyright and
license notices just after the title page:

@smallexample
@group

Copyright (C)  @var{year}  @var{your name}.
Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.3
or any later version published by the Free Software Foundation;
with no Invariant Sections, no Front-Cover Texts, and no Back-Cover
Texts.  A copy of the license is included in the section entitled ``GNU
Free Documentation License".
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts,
replace the ``with@dots{}Texts." line with this:

@smallexample
@group
  with the Invariant Sections being @var{list their titles}, with
  the Front-Cover
Texts being @var{list}, and with the Back-Cover Texts
  being @var{list}.
@end group
@end smallexample

If you have Invariant Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the
situation.

If your document contains nontrivial examples of program code, we
recommend releasing these examples in parallel under your choice of
free software license, such as the GNU General Public License,
to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works.  By contrast,

the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users.  We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors.  You can apply it to your programs, too.

When we speak of free software, we are referring to
freedom, not
price.  Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights.  Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received.  You must make sure that they, too, receive or can get the source code.  And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1)
assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software.  For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so.  This is fundamentally incompatible with the aim of protecting users' freedom to change the software.  The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable.  Therefore, we have designed this version of the GPL to prohibit the practice for those products.  If such problems arise substantially in other domains, we stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2)

tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that

same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you

receive it, in any medium, provided that you conspicuously and
appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all
recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey,
and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to
produce it from the Program, in the form of source code under the
terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified
it, and giving a relevant date.

b) The work must carry prominent notices stating that it is
released under this License and any conditions added under section
7. This requirement modifies the requirement in section
4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this
License to anyone who comes into possession of a copy. This
License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts,
regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution
medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other

parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided

you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and

adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some

trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above
requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that

copyright
holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify

or convey a specific copy of the covered
work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),

EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to
do, use the GNU Lesser General
Public License instead of this License. But first, please read
<http://www.gnu.org/philosophy/why-not-lgpl.html>.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed
to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it

in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute
and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which
contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered

independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based
on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or
executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary

form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then

the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through
any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number
of this License which applies to it and "any
later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free

Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License,

or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and
`show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

# 1.419 libnettle6 3.4.1-0ubuntu0.18.04.1

## 1.419.1 Available under license :

Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: Nettle
Upstream-Contact: Niels Mller <nisse@lysator.liu.se>
Source: http://www.lysator.liu.se/~nisse/nettle/
Copyright:  2001-2011 Niels Mller
Some parts are Copyright  the Free Software Foundation and various
people. See below and source code comments for details.
License: LGPL-2.1+
Comment:
Nettle is distributed under the GNU Lesser General Public License
(LGPL). A few of the individual files are in the public domain. To
find the current status of particular files, you have to read the
copyright notices at the top of the files.
.
A list of the supported algorithms, their origins and licenses (from
the manual):
.
AES
   The implementation of the AES cipher (also known as rijndael) is
   written by Rafael Sevilla. Assembler for x86 by Rafael Sevilla and
   Niels Mller, Sparc assembler by Niels Mller. Released under the
   LGPL.
.
ARCFOUR
   The implementation of the ARCFOUR (also
 known as RC4) cipher is
   written by Niels Mller. Released under the LGPL.
.
ARCTWO
   The implementation of the ARCTWO (also known as RC2) cipher is
   written by Nikos Mavroyanopoulos and modified by Werner Koch and
   Simon Josefsson. Released under the LGPL.
.
BLOWFISH
   The implementation of the BLOWFISH cipher is written by Werner
   Koch, copyright owned by the Free Software Foundation. Also hacked
   by Simon Josefsson and Niels Mller. Released under the LGPL.
.
CAMELLIA
   The C implementation is by Nippon Telegraph and Telephone
   Corporation (NTT), heavily modified by Niels Mller. Assembler for
   x86 and x86_64 by Niels Mller. Released under the LGPL.
.
CAST128

The implementation of the CAST128 cipher is written by Steve Reid.
Released into the public domain.

.

DES

The implementation of the DES cipher is written by Dana L. How, and
released under the LGPL.

.

MD2

The implementation of MD2 is written by Andrew Kuchling,
and hacked
some by Andreas Sigfridsson and Niels Mller. Python Cryptography
Toolkit license (essentially public domain).

.

MD4

This is almost the same code as for MD5 below, with modifications
by Marcus Comstedt. Released into the public domain.

.

MD5

The implementation of the MD5 message digest is written by Colin
Plumb. It has been hacked some more by Andrew Kuchling and Niels
Mller. Released into the public domain.

.

SERPENT

The implementation of the SERPENT is based on the code in
libgcrypt, copyright owned by the Free Software Foundation.
Adapted to Nettle by Simon Josefsson and heavily modified by
Niels Mller. Assembly for x86_64 by Niels Mller. Released under
the LGPL.

.

SHA1

The C implementation of the SHA1 message digest is written by Peter
Gutmann, and hacked some more by Andrew Kuchling and Niels Mller.
Released into the public domain. Assembler for x86 by Niels Mller,
released
under the LGPL.

.

SHA224, SHA256, SHA384, and SHA512

Written by Niels Mller, using Peter Gutmann's SHA1 code as a
model. Released under the LGPL.

.

TWOFISH

The implementation of the TWOFISH cipher is written by Ruud de
Rooij. Released under the LGPL.

.

RSA

Written by Niels Mller, released under the LGPL. Uses the GMP
library for bignum operations.

.

DSA
Written by Niels Mller, released under the LGPL. Uses the GMP
library for bignum operations.

Files: *
Copyright: 2001-2011 Niels Mller
License: LGPL-2.1+

Files: aes-set-*
Copyright: 2000, 2001, 2002 Rafael R. Sevilla, Niels Mller
License: LGPL-2.1+

Files: arctwo*
Copyright: 2003 Nikos Mavroyanopoulos
2004 Simon Josefsson
2004 Free Software Foundation, Inc.
2002, 2004 Niels Mller
License: LGPL-2.1+

Files: base64.h base64-meta.c
Copyright: 2002 Dan Egnor
2002 Niels Mller
License: LGPL-2.1+

Files: blowfish.c
Copyright: 1998, 2001, 2002,
2003 Free Software Foundation, Inc.
2010 Simon Josefsson
License: LGPL-2.1+

Files: blowfish.h
Copyright: 1998, 2001 Free Software Foundation, Inc.
1998, 2001 Ray Dassen
1998, 2001 Niels Mller
License: LGPL-2.1+

Files: camellia-table.c camellia-crypt-internal.c
Copyright: 2006, 2007 NTT (Nippon Telegraph and Telephone Corporation)
2010 Niels Mller
License: LGPL-2.1+

Files: der2dsa.c
Copyright: 2005, 2009 Niels Mller
2009 Magnus Holmgren
License: LGPL-2.1+

Files: desCode.h descode.README desdata.c desinfo.c
Copyright: 2002 Dana L. How

License: LGPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU Library General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty
of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU Library General Public License for more details.
.
You should have received a copy of the GNU Library General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA.
.
On Debian GNU/Linux systems, the complete text of the GNU Library
General Public License, version 2, can be found in
/usr/share/common-licenses/LGPL-2.

Files: des.c des.h
Copyright: 1992 Dana L. How
1997, 2001 Niels Mller
License: LGPL-2.1+

Files: gcm.c gcm.h
Copyright: 2011 Katholieke Universiteit Leuven
2011 Niels Mller
License: LGPL-2.1+

Files: md2.c
Copyright: ? Andrew Kuchling
2003 Andreas Sigfridsson
2003 Niels Mller
License: LGPL-2.1+

Files: md4.c
Copyright: 2003 Marcus Comstedt
2003 Niels Mller
License: LGPL-2.1+

Files: md5.c md5-compress.c
Copyright: Colin Plumb, Andrew
Kuchling
2001 Niels Mller
License: LGPL-2.1+

Files: memxor.c

Copyright:  1991,1993, 1995 Free Software Foundation, Inc.
        2010 Niels Mller
License: LGPL-2.1+

Files: ripemd160.c ripemd160-compress.c
Copyright:  1998, 2001, 2002, 2003 Free Software Foundation, Inc.
License: LGPL-2.1+

Files: ripemd160-meta.c ripemd160.h
Copyright:  2011 Andres Mejia
License: LGPL-2.1+

Files: serpent-encrypt.c serpent-decrypt.c serpent-set-key.c
Copyright:  1998 Ross Anderson, Eli Biham, Lars Knudsen
        2003, 2004, 2005 Free Software Foundation, Inc.
        2010, 2011 Simon Josefsson
        2011 Niels Mller
License: LGPL-2.1+

Files: sha*
Copyright:  2001, 2004 Peter Gutmann, Andrew Kuchling, Niels Mller
License: LGPL-2.1+

Files: twofish*
Copyright:  1999 Ruud de Rooij <ruud@debian.org>
        1999 J.H.M. Dassen (Ray) <jdassen@wi.LeidenUniv.nl>
        2001 Niels Mller
License: LGPL-2.1+

Files: dsa2sexp.c
Copyright:  2002, 2009 Niels Mller

    2009 Magnus Holmgren
License: LGPL-2.1+

Files: testsuite/des-compat-test.c
Copyright:  1995-1997 Eric Young (eay@cryptsoft.com)
License: other
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software
  must display the following acknowledgement:

"This product includes cryptographic software written by
Eric Young (eay@cryptsoft.com)"
The word 'cryptographic' can be left out if the rouines from the library
being used are not cryptographic related :-).
4. If you include
any Windows specific code (or a derivative thereof) from
the apps directory (application code) you must include an acknowledgement:
"This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
.
THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Files: tools/pkcs1-conv.c
Copyright: 2005, 2009
Niels Mller
2009 Magnus Holmgren
License: LGPL-2.1+

Files: x86*/aes-*-internal.asm
Copyright: 2001, 2002, 2005, 2008 Rafael R. Sevilla
2001, 2002, 2005, 2008 Niels Mller
License: LGPL-2.1+

Files: tools/getopt*
Copyright: 1987-2001 Free Software Foundation, Inc.
License: GPL-2+

Files: config.guess config.sub
Copyright: 1992-2003 Free Software Foundation, Inc.
License: GPL-2+ with Autoconf exception
As a special exception to the GNU General Public License, if you
distribute this file as part of a program that contains a
configuration script generated by Autoconf, you may include it under
the same distribution terms that you use for the rest of that program.

Files: debian/*
Copyright: none
License: public-domain
I believe that most files in debian/ hardly contains any creative

expression eligible for copyright.

Files: debian/sexp-conv.1
Copyright:  2002 Timshel Knoll <timshel@debian.org>
        2007 Magnus Holmgren
License: GPL-2
This program
 is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; version 2 dated June. 1991.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA
02110-1301 USA.
.
On Debian GNU/Linux systems, the complete text of the GNU General
Public License, version 2, can be found in
/usr/share/common-licenses/GPL-2.
Comment:
This manpage was copied from the lsh-utils package. Timshel didn't
explicitly select a license for his packaging work, but I think that
it can be considered released under the same license as LSH itself.

Files:
 debian/pkcs1-conv.1 debian/nettle-lfib-stream.1
Copyright:  2007 Magnus Holmgren
License: GAP
Copying and distribution of this file, with or without modification,
are permitted in any medium without royalty provided the copyright
notice and this notice are preserved.

License: LGPL-2.1+
The nettle library is free software; you can redistribute it and/or modify
it under the terms of the GNU Lesser General Public License as published by
the Free Software Foundation; either version 2.1 of the License, or (at your
option) any later version.
.
The nettle library is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY
or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU Lesser General Public
License for more details.
.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor,
Boston, MA 02110-1301 USA
.
On Debian GNU/Linux systems, the complete text of the newest version
of the GNU Lesser General Public License can be found in
/usr/share/common-licenses/LGPL.

License: GPL-2+
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
.
You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA
02110-1301 USA.
.
On Debian GNU/Linux systems, the complete text of the newest version
of the GNU General
Public License can be found in
/usr/share/common-licenses/GPL.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which
gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program"

means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on

the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any

associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source
code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing
or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you

may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE,
THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR
THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU
General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this
is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided
by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by the Library is
deemed a mode
of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an
Application with the Library. The particular version of the Library
with which the Combined Work was made is also called the "Linked
Version".

The "Minimal Corresponding Source" for a Combined Work means the
Corresponding Source for the Combined Work, excluding any source code
for portions of the Combined Work that, considered in isolation, are
based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the
object code and/or source code for the Application, including any data
and utility programs needed for reproducing the Combined Work from the
Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License
without being bound by section 3 of the GNU GPL.

2. Conveying

Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.

4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright
notices during
execution, include the copyright notice for the Library among
these notices, as well as a reference directing the user to the
copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this
License, and the Corresponding Application Code in a form
suitable for, and under terms that permit, the user to
recombine or relink the Application with a modified version of
the Linked Version to produce a modified Combined Work, in the
manner specified by section 6 of the GNU GPL for conveying
Corresponding Source.

1) Use a suitable shared library mechanism for linking with the
Library. A suitable mechanism is one that (a) uses at run time
a copy of the Library already present on the user's computer
system, and (b) will operate properly with a modified version
of the Library that is interface-compatible
with the Linked
Version.

e) Provide Installation Information, but only if you would otherwise
be required to provide such information under section 6 of the
GNU GPL, and only to the extent that such information is
necessary to install and execute a modified version of the
Combined Work produced by recombining or relinking the
Application with a modified version of the Linked Version. (If
you use option 4d0, the Installation Information must accompany
the Minimal Corresponding Source and Corresponding Application
Code. If you use option 4d1, you must provide the Installation
Information in the manner specified by section 6 of the GNU GPL
for conveying Corresponding Source.)

5. Combined Libraries.

You may place library facilities that are a work based on the
Library side by side in a single library together with other library
facilities that are not Applications and are not covered by this
License, and convey such a combined library under
terms of your
choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based
on the Library, uncombined with any other library facilities,
conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to
freedom, not
price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1)
assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we
stand
ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that

patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The
"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally
available free
programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated

conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered
by this License only if the output, given its
content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed;
section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all

recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the

machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source

as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.

"Installation Information" for a User Product means any methods,
procedures, authorization
keys, or other information required to install
and execute modified versions of a covered work in that User Product from
a modified version of its Corresponding Source. The information must
suffice to ensure that the continued functioning of the modified object
code is in no case prevented or interfered with solely because
modification has been made.

If you convey an object code work under this section in, or with, or
specifically for use in, a User Product, and the conveying occurs as
part of a transaction in which the right of possession and use of the
User Product is transferred to the recipient in perpetuity or for a
fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied
by the Installation Information. But this requirement does not apply
if neither you nor any third party retains the ability to install
modified object code on the User Product (for example, the work has
been installed in
ROM).

The requirement to provide Installation Information does not include a
requirement to continue to provide support service, warranty, or updates
for a work that has been modified or installed by the recipient, or for
the User Product in which it has been modified or installed. Access to a
network may be denied when the modification itself materially and
adversely affects the operation of the network or violates the rules and
protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided,
in accord with this section must be in a format that is publicly
documented (and with an implementation available to the public in

source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on

those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under

this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights
granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within

the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or
that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of
the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where
the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate

parts of the General Public License.  Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

 You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<https://www.gnu.org/licenses/>.

 The GNU General Public License does not permit incorporating your program
into proprietary programs.  If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library.  If this is what you want to
 do, use the GNU Lesser General
Public License instead of this License.  But first, please read
<https://www.gnu.org/philosophy/why-not-lgpl.html>.

# 1.420 argon2 0~20161029-1.1

## 1.420.1 Available under license :

Argon2 reference source code package - reference C implementations

Copyright 2015
Daniel Dinu, Dmitry Khovratovich, Jean-Philippe Aumasson, and Samuel Neves

You may use this work under the terms of a Creative Commons CC0 1.0
License/Waiver or the Apache Public License 2.0, at your option. The terms of
these licenses can be found at:

- CC0 1.0 Universal : http://creativecommons.org/publicdomain/zero/1.0
- Apache 2.0        : http://www.apache.org/licenses/LICENSE-2.0

The terms of the licenses are reproduced below.

---

Creative Commons Legal Code

CC0 1.0 Universal

 CREATIVE COMMONS CORPORATION IS NOT A LAW FIRM AND DOES NOT PROVIDE
 LEGAL SERVICES. DISTRIBUTION OF THIS DOCUMENT DOES NOT CREATE AN
 ATTORNEY-CLIENT RELATIONSHIP. CREATIVE COMMONS PROVIDES THIS
 INFORMATION ON AN "AS-IS" BASIS. CREATIVE COMMONS MAKES NO WARRANTIES
 REGARDING THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS
  PROVIDED HEREUNDER, AND DISCLAIMS LIABILITY FOR DAMAGES RESULTING FROM
 THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED
 HEREUNDER.

Statement of Purpose

The laws of most jurisdictions throughout the world automatically confer exclusive Copyright and Related Rights (defined below) upon the creator and subsequent owner(s) (each and all, an "owner") of an original work of authorship and/or a database (each, a "Work").

Certain owners wish to permanently relinquish those rights to a Work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative,
cultural and scientific
works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.

For these and/or other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and Related Rights in the Work, voluntarily elects to apply CC0 to the Work and publicly distribute the Work under its terms, with knowledge of his or her Copyright and Related Rights in the Work and the meaning and intended legal effect of CC0 on those rights.

1. Copyright and Related Rights. A Work made available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:

i. the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;
ii. moral rights
retained by the original author(s) and/or performer(s);
iii. publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;
iv. rights protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;
v. rights protecting the extraction, dissemination, use and reuse of data in a Work;
vi. database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and

vii. other similar, equivalent or corresponding rights throughout the world based on applicable law or treaty, and any national implementations thereof.

2. Waiver. To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably
and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending that such Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of Purpose.

3. Public
License Fallback. Should any part of the Waiver for any reason be judged legally invalid or ineffective under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into account Affirmer's express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason
be judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will not (i) exercise any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any associated claims and causes of action with respect to the Work, in either case contrary to Affirmer's express Statement of Purpose.

4. Limitations and Disclaimers.

a. No trademark or patent rights held by Affirmer are waived, abandoned,
surrendered, licensed or otherwise affected by this document.
b. Affirmer offers the Work as-is and makes no representations or
warranties of any kind concerning the Work, express, implied,
statutory or otherwise, including without limitation warranties of
title, merchantability, fitness for a particular purpose, non
infringement, or the absence of latent or other defects, accuracy, or
the present or absence
of errors, whether or not discoverable, all to
the greatest extent permissible under applicable law.
c. Affirmer disclaims responsibility for clearing rights of other persons
that may apply to the Work or any use thereof, including without
limitation any person's Copyright and Related Rights in the Work.
Further, Affirmer disclaims responsibility for obtaining any necessary
consents, permissions or other rights required for any use of the
Work.
d. Affirmer understands and acknowledges that Creative Commons is not a
party to this document and has no duty or obligation with respect to
this CC0 or use of the Work.

---

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall
mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the

Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents

of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission
of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS
OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer

failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

# 1.421 gson-fire 1.8.4

## 1.421.1 Available under license :

Apache-2.0

# 1.422 snake-yaml 1.29

## 1.422.1 Available under license :

No license file was found, but licenses were detected in source scan.

<name>Apache License, Version 2.0</name>
<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>

Found in path(s):
* /snakeyaml-1-29-sources-3-jar/META-INF/maven/org.yaml/snakeyaml/pom.xml
No license file was found, but licenses were detected in source scan.

/* Copyright (c) 2008 Google Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/Escaper.java
* /snakeyaml-1-29-sources-3-
jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/UnicodeEscaper.java
* /snakeyaml-1-29-sources-3-
jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/PercentEscaper.java
No license file was found, but licenses were detected in source scan.

/**
* Copyright (c) 2008, http://www.snakeyaml.org
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at
*
*     http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/FlowMappingEndToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/introspector/GenericProperty.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/extensions/compactnotation/CompactConstructor.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/BlockEntryToken.java
*
 /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/BlockEndToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/emitter/EmitterState.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/env/EnvScalarConstructor.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/comments/CommentLine.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/AnchorNode.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/TagTuple.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/StreamStartEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/composer/Composer.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/error/Mark.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/parser/ParserImpl.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/SequenceNode.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/resolver/Resolver.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/extensions/compactnotation/PackageCompactConstructor.java
*
 /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/introspector/PropertyUtils.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/SequenceStartEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/StreamEndToken.java

* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/comments/CommentEventsCollector.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/BlockMappingStartToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/ValueToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/MappingStartEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/scanner/ScannerImpl.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/util/UriEncoder.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/Yaml.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/error/YAMLException.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/parser/ParserException.java
*
/snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/TypeDescription.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/constructor/Constructor.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/CollectionEndEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/parser/VersionTagsTuple.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/parser/Production.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/AnchorToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/MappingNode.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/NodeEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/KeyToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/reader/StreamReader.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/util/PlatformFeatureDetector.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/WhitespaceToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/util/ArrayUtils.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/serializer/AnchorGenerator.java
*
/snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/constructor/Construct.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/BlockSequenceStartToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/introspector/BeanAccess.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/composer/ComposerException.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/introspector/FieldProperty.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/util/ArrayStack.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/LoaderOptions.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/DocumentEndToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/scanner/Constant.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/emitter/EmitterException.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/MappingEndEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/serializer/SerializerException.java
*
/snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/representer/SafeRepresenter.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/comments/CommentType.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/introspector/MethodProperty.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/ScalarNode.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/Node.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/introspector/MissingProperty.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/emitter/ScalarAnalysis.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/CommentEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/reader/ReaderException.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/NodeTuple.java

* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/ScalarEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/serializer/NumberAnchorGenerator.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/AliasEvent.java
*
 /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/ScalarToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/Tag.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/representer/Represent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/constructor/DuplicateKeyException.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/constructor/BaseConstructor.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/serializer/Serializer.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/emitter/Emitable.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/NodeId.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/constructor/AbstractConstruct.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/scanner/Scanner.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/DirectiveToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/DocumentStartToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/Event.java
*
 /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/AliasToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/TagToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/CommentToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/introspector/PropertySubstitute.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/representer/Representer.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/constructor/ConstructorException.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/Token.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/StreamStartToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/constructor/SafeConstructor.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/emitter/Emitter.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/ImplicitTuple.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/DocumentEndEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/error/MarkedYAMLException.java
*
 /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/parser/Parser.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/FlowMappingStartToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/nodes/CollectionNode.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/util/EnumUtils.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/scanner/SimpleKey.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/reader/UnicodeReader.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/FlowSequenceEndToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/DocumentStartEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/introspector/Property.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/resolver/ResolverTuple.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/FlowEntryToken.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/extensions/compactnotation/CompactData.java
*
 /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/SequenceEndEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/DumperOptions.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/tokens/FlowSequenceStartToken.java

* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/error/MissingEnvironmentVariableException.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/representer/BaseRepresenter.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/StreamEndEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/constructor/CustomClassLoaderConstructor.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/events/CollectionStartEvent.java
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/scanner/ScannerException.java
No license file was found, but licenses were detected in source scan.

```
// This module is multi-licensed and may be used under the terms
//  EPL, Eclipse Public License, V1.0 or later, http://www.eclipse.org/legal
//  LGPL, GNU Lesser General Public License, V2.1 or later, http://www.gnu.org/licenses/lgpl.html
//  GPL, GNU General Public License, V2 or later, http://www.gnu.org/licenses/gpl.html
//  AL, Apache License, V2.0 or later, http://www.apache.org/licenses
//  BSD, BSD License, http://www.opensource.org/licenses/bsd-license.php
/**
* A Base64 encoder/decoder.
*
* <p>
* This class is used to encode and decode data in Base64 format as described in
* RFC 1521.
*
* <p>
* Project home page: <a
* href="http://www.source-code.biz/base64coder/java/">www.
* source-code.biz/base64coder/java</a><br>
* Author: Christian d'Heureuse, Inventec Informatik AG, Zurich, Switzerland<br>
* Multi-licensed: EPL / LGPL / GPL / AL / BSD.
*/
```

Found in path(s):
* /snakeyaml-1-29-sources-3-jar/org/yaml/snakeyaml/external/biz/base64Coder/Base64Coder.java

# 1.423 jmespath-java 1.12.86

## 1.423.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
```

* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathSubExpression.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathFunction.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/NumericComparator.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathEvaluationVisitor.java
*
 /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathLengthFunction.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/OpNotEquals.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/OpGreaterThan.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathField.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathProjection.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/OpGreaterThanOrEqualTo.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathFilter.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathExpression.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathIdentity.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/Comparator.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathValueProjection.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathMultiSelectList.java
*
 /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/OpLessThan.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathFlatten.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathNotExpression.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathContainsFunction.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/OpLessThanOrEqualTo.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/CamelCaseUtils.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/InvalidTypeException.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathVisitor.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/ObjectMapperSingleton.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/OpEquals.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathLiteral.java
* /jmespath-java-1-12-86-sources-1-jar/com/amazonaws/jmespath/JmesPathAndExpression.java
No license file was found, but licenses were detected in source scan.

<name>Apache License, Version 2.0</name>

Found in path(s):
* /jmespath-java-1-12-86-sources-1-jar/META-INF/maven/com.amazonaws/jmespath-java/pom.xml

# 1.424 aws-java-sdk-s3 1.12.86

## 1.424.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2013-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http//aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/PauseResult.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2015-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketLoggingConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketAccelerateConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketLifecycleConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketCrossOriginConfigurationRequest.java
*

/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/FileLocks.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/DownloadCallable.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketReplicationConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/DownloadTaskImpl.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListNextBatchOfObjectsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ListNextBatchOfVersionsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketVersioningConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketTaggingConfigurationRequest.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not
* use this file except in compliance with the License. A copy of the License is
* located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on
* an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/waiters/HeadBucketFunction.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/waiters/HeadObjectFunction.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.

*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SourceSelectionCriteria.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetBucketEncryptionResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ExistingObjectReplicationStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ServerSideEncryptionByDefault.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketEncryptionResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/EncryptionConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/inventory/ServerSideEncryptionKMS.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteMarkerReplicationStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteBucketEncryptionRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteBucketEncryptionResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/inventory/ServerSideEncryptionS3.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ReplicaModifications.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SseKmsEncryptedObjects.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetBucketEncryptionRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ReplicaModificationsStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteMarkerReplication.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ServerSideEncryptionConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/inventory/InventoryEncryption.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ServerSideEncryptionRule.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SseKmsEncryptedObjectsStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketEncryptionRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ExistingObjectReplication.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.

*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/RepeatableFileInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketPolicy.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketNotificationConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Grantee.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/ServiceUtils.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Owner.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Grant.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/RepeatableInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/RestUtils.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketLoggingConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/XmlResponsesSaxParser.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CanonicalGrantee.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Bucket.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/EmailAddressGrantee.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3StringResponseHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/Mimetypes.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketTaggingConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/TagSet.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/AccessControlList.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/RequestPaymentConfiguration.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/EndpointParams.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3OutpostAccessPointBuilder.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/BucketConfigurationXmlFactory.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/IntermediateOutpostResource.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/XmlIntelligentTieringPredicateVisitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringAccessTier.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/OutpostResourceType.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3ArnUtils.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ExpectedSourceBucketOwnerRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ExpectedBucketOwnerRequest.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

```
/**
   * Gets the optional <code>versionIdMarker</code> parameter indicating where in the
   * sorted list of all versions in the specified bucket to begin returning
   * results. Results are always ordered first lexicographically (i.e.
   * alphabetically) and then from most recent version to least recent
   * version.
   * <p>

   * A key marker must be specified when specifying a <code>versionIdMarker</code>.
   * Results begin immediately after the version with the specified key and
   * version ID.
   * </p>
   *
   * @return The optional <code>versionIdMarker</code> parameter indicating where in the
   *         sorted list of all versions in the specified bucket to begin
   *         returning results.
   *
   * @see ListVersionsRequest#setVersionIdMarker(String)
   * @see ListVersionsRequest#withVersionIdMarker(String)
   */
```

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListVersionsRequest.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
// The Amazon S3 DevPay token header is a special exception and can be safely moved
```

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3Client.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights
* Reserved.
```

*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/auth/S3SignerProvider.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3Object.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*

* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/MultipleFileUpload.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/MultipleFileTransfer.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/MultipleFileDownloadImpl.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3ObjectInputStream.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/MultipleFileTransferMonitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/TransferStateChangeListener.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/AbstractTransfer.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/DownloadMonitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/MultipleFileDownload.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/MultipleFileUploadImpl.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/event/S3EventNotification.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.

* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/VersionListing.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/UploadContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3MetadataResponseHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ownership/OwnershipControls.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/S3RestoreOutputPathHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/UploadPartRequestFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/AbortMultipartUploadRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/Upload.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/TransferManagerUtils.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3ResponseMetadata.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/CopyPartCallable.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteBucketRequest.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3Resource.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3XmlResponseHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/ObjectMetadataProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListPartsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/AbstractS3ResponseHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/TransferProgressUpdatingListener.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PartETag.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectMetadataRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/auth/policy/actions/S3Actions.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/QuoteFields.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/AbstractHandler.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/TransferManagerConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3ArnConverter.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/UseArnRegionResolver.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/InitiateMultipartUploadResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/SSEResultBase.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PutObjectResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetPublicAccessBlockRequest.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3ClientOptions.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/JceEncryptionConstants.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Region.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/metrics/S3ServiceMetric.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3RestoreOutputPathResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/Copy.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ReplicationTime.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/ObjectTaggingProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/RequestXmlFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3VersionHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetPublicAccessBlockResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/StorageClass.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/UploadImpl.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CopyObjectResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/S3ConditionFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/Headers.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/ObjectRestoreHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetRequestPaymentConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ReplicationTimeValue.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListMultipartUploadsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/model/UploadResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/InputSubstream.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/RestoreObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/ReplicationPredicateVisitorImpl.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/CompleteMultipartUpload.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/Transfer.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3OutpostResource.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Metrics.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/UploadCallable.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/UploadPartResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/FileHeaderInfo.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/Constants.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/auth/policy/resources/S3BucketResource.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3AccessPointResource.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CompleteMultipartUploadResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ownership/ObjectOwnership.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/Unmarshallers.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/MetricsStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/RequestPaymentConfigurationXmlFactory.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetPublicAccessBlockRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PartSummary.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3ObjectResource.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ProgressListener.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ownership/OwnershipControlsRule.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectMetadata.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/MetadataDirective.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetPublicAccessBlockResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteObjectsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/TransferManager.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/MetricsPredicateVisitorImpl.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/BucketNameUtils.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/EncryptionMaterials.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PartListing.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/auth/policy/resources/S3ObjectResource.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Encryption.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PublicAccessBlockConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3ResourceType.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/CopyCallable.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/auth/AwsChunkedEncodingInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3Signer.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CryptoConfigurationV2.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ExpressionType.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/AnalyticsPredicateVisitorImpl.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/AdjustedRangeInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/UploadPartRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/EncryptionMaterialsAccessor.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/MultiObjectDeleteXmlFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/package-info.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CSVInput.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CryptoConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CSVOutput.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3BucketResource.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketPolicyStatusRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CryptoStorageMode.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/CopyPartRequestFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3RequestEndpointResolver.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/LegacyS3ProgressListener.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeletePublicAccessBlockRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/AbstractSSEHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/InitiateMultipartUploadRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/LifecyclePredicateVisitorImpl.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetRequestPaymentConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/HeadBucketRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/model/CopyResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListObjectsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/IsSigV4RetryablePredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/UploadPartCallable.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3V4AuthErrorRetryStrategy.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ReplicationTimeStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/DualstackEndpointBuilder.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/RestoreObjectResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/TransferProgress.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CreateBucketRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3Location.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/CompleteMultipartUploadRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/RestoreRequestType.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/MultipartUpload.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketPolicyStatusResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SelectParameters.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/AmazonS3Exception.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/CopyImpl.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListBucketsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3QueryStringSigner.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/IllegalBucketNameException.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/InputSerialization.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/BucketConfigurationXmlFactoryFunctions.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/MetadataEntry.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/AclXmlFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CopyObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/ObjectExpirationHeaderHandler.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GeneratePresignedUrlRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/RegionalEndpointsOptionResolver.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3ObjectResponseHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeletePublicAccessBlockResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/MultipartUploadListing.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CannedAccessControlList.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/XmlWriter.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ProgressEvent.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3ErrorResponseHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/CompleteMultipartCopy.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PolicyStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/OutputSerialization.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/OutputLocation.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-20214 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/KMSEncryptionMaterials.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/AbortIncompleteMultipartUpload.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3RequesterChargedResult.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*  http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketIntelligentTieringConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringNAryOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketIntelligentTieringConfigurationResult.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringPrefixPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringFilterPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ListBucketIntelligentTieringConfigurationsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketIntelligentTieringConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketIntelligentTieringConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringPredicateVisitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringTagPredicate.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketIntelligentTieringConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CryptoRangeGetMode.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListBucketIntelligentTieringConfigurationsResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/intelligenttiering/Tiering.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteBucketIntelligentTieringConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/intelligenttiering/IntelligentTieringAndOperator.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (c) 2016. Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/WebsiteConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/SkipMd5CheckStrategy.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2013-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/AbstractRepeatableCipherInputStream.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/Download.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/iterable/S3Versions.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/iterable/S3Objects.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/DownloadImpl.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/StaticEncryptionMaterialsProvider.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/KMSSecuredCEK.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/SecuredCEK.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v2/SecuredCEK.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/exception/FileLockException.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3KeyFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketAccelerateConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketReplicationConfiguration.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/FilterStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AbstractAmazonS3.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AbstractAmazonS3EncryptionV2.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ReplicationRuleStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/ServerSideEncryptionByDefaultStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/CompleteMultipartUploadRetryCondition.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/HeadBucketResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/LambdaConfigurationStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetObjectAclRequest.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/GetPublicAccessBlockStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/S3KeyFilterStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/LambdaConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketAccelerateConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/ServerSideEncryptionRuleStaxUnmarshaller.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Filter.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/request/S3HandlerContextKeys.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketNotificationConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SSEAlgorithm.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/FilterRuleStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/TransferCompletionFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/GetBucketPolicyStatusStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/BucketNotificationConfigurationStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ReplicationDestinationConfig.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/TopicConfigurationStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/HeadBucketResultHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/ProgressStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketReplicationConfigurationRequest.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/QueueConfigurationStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/CompleteMultipartUploadRetryablePredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/transform/StatsStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/NotificationConfigurationStaxUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketReplicationConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetS3AccountOwnerRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/FilterRule.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/GetBucketEncryptionStaxUnmarshaller.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ReplicationRule.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2020-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0

*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/CryptoUtils.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/RsaOaepKeyWrapper.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/future/CompletedFuture.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/KeyWrapperContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/AesGcmKeyWrapper.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/KMSKeyWrapperProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/future/FailedFuture.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/keywrap/KeyWrapper.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/keywrap/CipherProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/AesGcmKeyWrapperProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/keywrap/Mgf1Scheme.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/KeyWrapperProvider.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/KeyWrapAlgorithmResolver.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/KMSKeyWrapperContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/future/CompositeFuture.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/RsaOaepKeyWrapperProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/KeyWrapperFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v1/KMSMaterialsHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/future/DelegatingFuture.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v2/KMSMaterialsHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/future/FutureImpl.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/KMSKeyWrapper.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2013-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v2/S3CryptoModuleAE.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v2/S3ObjectWrapper.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v1/ContentCryptoMaterial.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v2/S3CryptoModuleBase.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/DigestValidationInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/ContentCryptoScheme.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CryptoKeyWrapAlgorithm.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/S3CryptoModuleBase.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/S3KeyWrapScheme.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3EncryptionClientV2.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/S3CryptoScheme.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v1/MultipartUploadCbcContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/CipherLite.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/CipherLiteInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v1/CryptoModuleDispatcher.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v1/MultipartUploadCryptoContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/CryptoRuntime.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/GCMCipherLite.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/S3ObjectWrapper.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v2/S3CryptoModule.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/PersistableDownload.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3EncryptionV2.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/exception/PauseException.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/RenewableCipherLiteInputStream.java

* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v2/MultipartUploadCryptoContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/AesCtr.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/S3ProgressListener.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v2/S3CryptoModuleAEStrict.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/AesCbc.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/S3ProgressListenerChain.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/PersistableTransfer.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/AWSS3V4Signer.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CryptoMode.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/S3CryptoModuleAE.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/keywrap/InternalKeyWrapAlgorithm.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3Encryption.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/S3CryptoModule.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/S3ProgressPublisher.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/PauseStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v1/S3CryptoModuleAEStrict.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3EncryptionClient.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/v1/S3CryptoModuleEO.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v2/ContentCryptoMaterial.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/crypto/AesGcm.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/PersistableUpload.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-

jar/com/amazonaws/services/s3/internal/crypto/v2/MultipartUploadContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/RoutingRule.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/TransferManagerParams.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketWebsiteConfigurationRequest.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketTaggingConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketLocationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketWebsiteConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetBucketAclRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/TransferManagerBuilder.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketCrossOriginConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketAclRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketLifecycleConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Tier.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3ClientParams.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/InitiateMultipartUploadHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/v1/MultipartUploadContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListObjectsV2Result.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketWebsiteConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3AbortableInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/crypto/ByteRangeCapturingInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetBucketPolicyRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketWebsiteConfigurationRequest.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3ClientBuilder.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetBucketPolicyRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3ClientParamsWrapper.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/RoutingRuleCondition.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GlacierJobParameters.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/ListPartsHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3ClientConfigurationFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteBucketPolicyRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ListObjectsV2Request.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3Builder.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/RedirectRule.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
/**
* Synchronous client for accessing Amazon S3.
*
* <h1>Appendix: Amazon S3 client-side encryption meta information</h1>
*
* <h2>Introduction</h2>
* <p>
* This appendix summarizes the current crypto related meta information
* associated with an S3 object encrypted using SDK client-side encryption. In
* SDK's terminology, these meta
 information are classified as "user metatdata".
* In general, the meta information is just a map of key/value pairs. Physically
* they are persisted either as metadata of the encrypted S3 object, or as a
* separate S3 object called an "instruction file" (which is just a JSON file in
* plaintext.)  For all references to the Cipher Algorithm Names, Modes, and Padding,
* such as <code>"AES/GCM/NoPadding"</code>, please refer to Oracle's <a
* href="http://docs.oracle.com/javase/7/docs/technotes/guides/security/StandardNames.html"
* >Java&amp;trade; Cryptography Architecture Standard Algorithm Name Documentation</a>
* for more details.
*
* <h2>S3 metadata vs instruction file</h2>
* <p>
* Note when a key/value pair is stored as "user metadata" as part of the S3
* metadata, the SDK always adds an additional prefix of <b>x-amz-meta-</b> to
* the key name. In contrast, the SDK doesn't add any prefix when the key names
* are stored in an instruction file. (The reason has to do with
 how the http
* headers are handled.)
* <p>
* For example, <b>x-amz-key</b> would get stored as <b>x-amz-meta-x-amz-key</b>
* in S3 metadata. In contrast, <b>x-amz-key</b> would simply be stored as is
* (ie without the prefix) in an instruction file. All the keys described below
* are considered "user metadata" by the SDK.
*
```

* <h2>S3 1st gen crypto meta information</h2>
* <p>
* For non-KMS client side encryption, this crypto meta information is used
* to support the "Encryption Only" crypto mode (which involves the use of
* <code>AES/CBC/PKCS5Padding</code> for content encryption, and
* <code>AES/ECB</code> for encrypting the one-time randomly generated data
* key). For KMS client-side encryption, the 2nd gen crypto meta information is used.
* <h3>Scope</h3>
* This metadata can only be generated when encrypting using the V1 encryption client,
* {@link com.amazonaws.services.s3.AmazonS3EncryptionClient}, but can be interpreted (decrypted) by
* {@link com.amazonaws.services.s3.AmazonS3EncryptionClientV2}.
 * The format is also known as v1 metadata, but because there are now v1 and v2 clients,
* the term v1 metadata is confusing.
* <p>
* Encryption: {@link com.amazonaws.services.s3.AmazonS3EncryptionClient}, crypto mode
EncryptionOnly<br>
* Decryption: {@link com.amazonaws.services.s3.AmazonS3EncryptionClient}, crypto mode
EncryptionOnly or
* {@link com.amazonaws.services.s3.AmazonS3EncryptionClientV2}, crypto mode AuthenticationOnly
* <p>
* <h3>Metadata</h3>
* <table border=1>
* <tr aligned="left">
* <th>key</th>
* <th>description</th>
* </tr>
* <tr>
* <td width="200">x-amz-key</td>
* <td>Content encrypting key (cek) in encrypted form, base64 encoded. The cek
* is randomly generated per S3 object, and is always an AES 256-bit key. The
* corresponding cipher is always "AES/CBC/PKCS5Padding".</td>
* </tr>
* <tr>
* <td>x-amz-iv</td>
* <td>Randomly generated IV (per S3 object), base64 encoded</td>
* </tr>
 * <tr>
* <td>x-amz-matdesc </td>
* <td>Customer provided material description in JSON (UTF8) format. Used to
* identify the client-side master key (ie used to encrypt/wrap the generated
* content encrypting key).</td>
* </tr>
* <tr>
* <td>x-amz-unencrypted-content-length</td>
* <td>Unencrypted content length (optional but should be specified whenever
* possible).</td>
* </tr>
* </table>

```
* <p>
* <h2>S3 2nd gen crypto meta information</h2>
* <p>
* This crypto meta information is used to support both authenticated
* encryption (which involves the use of <code>AES/GCM/NoPadding</code> for
* content encryption, and key wrapping for the one-time randomly generated data
* key), and KMS client-side encryption (which can either be encryption-only or
* authenticated encryption).
* <h3>Scope</h3>
* 2nd gen metadata can be generated/encrypted by both the V1 and V2 encryption clients.
* The format is also known as v2 metadata, but this is confusing since the
 V1 client also generates
* 2nd gen metadata in the AuthenticatedEncryption and StrictAuthenticatedEncryption modes.
* <p>
* <b>Encryption:</b> {@link com.amazonaws.services.s3.AmazonS3EncryptionClient}/
* {@link com.amazonaws.services.s3.AmazonS3EncryptionClient}, crypto modes AuthenticatedEncryption and
* StrictAuthenticatedEncryption<br>
* <b>Decryption:</b> {@link com.amazonaws.services.s3.AmazonS3EncryptionClient}, all crypto modes, or
* {@link com.amazonaws.services.s3.AmazonS3EncryptionClientV2}, crypto modes AuthenticatedEncryption and
* StrictAuthenticatedEncryption.
* <p>
* <b>Note:</b>
* While the V1 client can both generate and interpret 2nd gen metadata, it cannot decrypt any object encrypted
* using the V2 client, because the values of <b>x-amz-wrap-alg</b> differ.
* <p>
* <h3>Metadata used the same way by V1 and V2 clients</h3>
* <table border=1>
* <tr aligned="left">
* <th>key</th>
* <th>description</th>
* </tr>
* <tr>
* <td width="200"><b>x-amz-key-v2</b></td>
 * <td>CEK in key wrapped form. This is necessary so that the S3 encryption
* client that doesn't recognize the v2 format will not mistakenly decrypt S3
* object encrypted in v2 format.</td>
* </tr>
* <tr>
* <td><b>x-amz-iv</b></td>
* <td>Randomly generated IV (per S3 object), base64 encoded. (Same as v1.)</td>
* </tr>
* <td><b>x-amz-unencrypted-content-length</b></td>
* <td>Unencrypted content length. (optional but should be specified whenever
* possible. Same as v1.)</td>
* </tr>
* <tr>
* <td><b>x-amz-tag-len</b></td>
* <td>Tag length (in bits) when AEAD is in use.
```

* <ul>
* <li>Only applicable if AEAD is in use. This meta information is absent
* otherwise, or if KMS is in use.</li>
* <li>Supported value: <code>"128"</code></li>
* </ul>
* </td>
* </tr>
* </table>
* <h3>Metadata using V1 client</h3>
* <table border=1>
* <tr aligned="left">
* <th>key</th>
* <th>description</th>
* </tr>
* <td>x-amz-matdesc</td>
* <td>Customer provided material
 description in JSON format. (Same as v1). Used
* to identify the client-side master key.
* <ul>
* <li>For KMS client side encryption, the KMS Customer Master Key ID is stored
* as part of the material description, x-amz-matdesc, under the key-name
* <code>"kms_cmk_id"</code>.</li>
* </ul>
* </td>
* </tr>
* <tr>
* <td>x-amz-wrap-alg</td>
* <td>Key wrapping algorithm used.
* <ul>
* <li>Supported values:
* <code>"AESWrap", "RSA/ECB/OAEPWithSHA-256AndMGF1Padding", "kms"</code></li>
* <li>No standard key wrapping is used if this meta information is absent</li>
* <li>Always set to "kms" if KMS is used for client-side encryption</li>
* </ul>
* </td>
* </tr>
* <tr>
* <td>x-amz-cek-alg</td>
* <td>Content encryption algorithm used.
* <ul>
* <li>Supported values:
* <code>"AES/GCM/NoPadding", "AES/CBC/PKCS5Padding"</code></li>
* <li>Default to <code>"AES/CBC/PKCS5Padding"</code> if this key is absent.</li>
* </ul>
* </td>
* </tr>
* </table>

```
 * <h3>Metadata using V2 client</h3>
* <table border=1>
* <tr aligned="left">
* <th>key</th>
* <th>description</th>
* </tr>
* <tr>
* <td><b>x-amz-matdesc</b></td>
* <td>Customer provided material description in JSON format. (Same as v1). For KMS client side encryption,
* the cek algorithm is stored as part of the material description under the key-name <code>aws:x-amz-cek-
alg</code>.
* </td>
* </tr>
* <tr>
* <td><b>x-amz-wrap-alg</b></td>
* <td>Key wrapping algorithm used.
* <ul>
* <li>Supported values:
* <code>"AES/GCM/NoPadding" (symmetric default), "RSA-OAEP-SHA1", "RSA-OAEP-SHA1" (asymmetric
default), "kms"</code>
* </li>
* <li>No standard key wrapping is used if this meta information is absent</li>
* <li>Always set to <b>"kms"</b> if KMS is used for client-side encryption</li>
* </ul>
* </td>
* </tr>
* <tr>
* <td><b>x-amz-cek-alg</b></td>
* <td>Content encryption algorithm used. Supported values: <code>"AES/GCM/NoPadding"</code>
* </td>
* </tr>
*
 </table>
* <p>
* <h3>KMS Integration for client-side encryption</h3>
* <ol>
* <li>All client-side KMS protected S3 objects are stored in v2 crypto meta information
* format. However, the key wrapping algorithm, <b>x-amz-wrap-alg</b> is always
* set to <b>"kms"</b>.</li>
* <li>For V1 clients, the KMS Customer Master Key ID is currently stored as part of the
* material description, <b>x-amz-matdesc</b>, under the key-name
* <b>"kms_cmk_id"</b>.</li>
* <li>For V2 clients, the KMS Customer Master Key ID is <b>not</b> stored as part of the
* material description and must be supplied by the decrypting client.</li>
* </ol>
* <p>
* <h4>Sample S3 crypto meta information for KMS client-side encryption</h4>
* <p>
```

```
* <h5>V1 client, CryptoMode: EncryptionOnly</h5>
*
* <pre>
* x-amz-meta-x-amz-key-v2:
*
CiAJ2GqwpJRnt4izujwoalC2YdNRNSMEslG5rw3pEI+J8hKnAQEBAwB4CdhqsKSUZ7eIs7o8KGpQtmHTUTUj
BLJRua8N6RCPifIAAAB+MHwGCSqGSIb3DQEHBqBvMG0CAQAwaAYJKoZIhvcNAQcBMB4GCWCGSAFl
AwQBLjARBAyD0rzN3KHViWixDVcCARCAOwhZ6xA8rob3Z0mNx3uKFieHKVyIC/PKlchALvG1oVLnf86m
cZJNpTXtwMkKkDocVj3Z1zGjZTufFsOH
 * x-amz-iv: xqOHh+M6y0UogwG5SHJM3Q==
* x-amz-unencrypted-content-length: 32768
* x-amz-cek-alg: AES/CBC/PKCS5Padding
* x-amz-wrap-alg: kms
* x-amz-matdesc: {"kms_cmk_id":"d3fd2273-4ca0-4da5-b1c2-c89742ec6a26"}
* </pre>
*
* <h5>V1 client, CryptoMode: AuthenticatedEncryption/StrictAuthenticatedEncryption</h5>
*
* <pre>
* x-amz-key-v2:
CiAJ2GqwpJRnt4izujwoalC2YdNRNSMEslG5rw3pEI+J8hKnAQEBAwB4CdhqsKSUZ7eIs7o8KGpQtmHTUTUj
BLJRua8N6RCPifIAAAB+MHwGCSqGSIb3DQEHBqBvMG0CAQAwaAYJKoZIhvcNAQcBMB4GCWCGSAFl
AwQBLjARBAytFVyW4I6QmwcPK1ECARCAO1VzoM6KxA9DHyNMm/BEbbjle2vLA7IY7f9OkUoSqrdxgKxp
NID9QaL/7928m1Djtld0bJpHefjm89C
* x-amz-iv: VZBksyij6DhrUMye
* x-amz-unencrypted-content-length: 32768
* x-amz-cek-alg: AES/GCM/NoPadding
* x-amz-wrap-alg: kms
* x-amz-matdesc: {"kms_cmk_id":"d3fd2273-4ca0-4da5-b1c2-c89742ec6a26"}
* x-amz-tag-len: 128
* </pre>
*
* <h5>V2 client, CryptoMode: AuthenticatedEncryption/StrictAuthenticatedEncryption</h5>
 *
* <pre>
* x-amz-key-v2:
CiAJ2GqwpJRnt4izujwoalC2YdNRNSMEslG5rw3pEI+J8hKnAQEBAwB4CdhqsKSUZ7eIs7o8KGpQtmHTUTUj
BLJRua8N6RCPifIAAAB+MHwGCSqGSIb3DQEHBqBvMG0CAQAwaAYJKoZIhvcNAQcBMB4GCWCGSAFl
AwQBLjARBAytFVyW4I6QmwcPK1ECARCAO1VzoM6KxA9DHyNMm/BEbbjle2vLA7IY7f9OkUoSqrdxgKxp
NID9QaL/7928m1Djtld0bJpHefjm89C
* x-amz-iv: VZBksyij6DhrUMye
* x-amz-unencrypted-content-length: 32768
* x-amz-cek-alg: AES/GCM/NoPadding
* x-amz-wrap-alg: kms
* x-amz-matdesc: {"aws:x-amz-cek-alg":"AES/GCM/NoPadding"}
* x-amz-tag-len: 128
* </pre>
*
```

* <h2>S3 metadata of an instruction file</h2>
* <p>
* The following key is always included as part of the S3 metadata of the
* instruction file (which is just an S3 object). Since the SDK treats this key
* as "user metadata", the key name is always prefixed with x-amz-meta-
* when physically stored.
* <p>
* <table border=1>
* <tr aligned="left">
* <th>key</th>
* <th>description</th>
* </tr>
* <tr>
* <td
 width="200">x-amz-crypto-instr-file</td>
* <td>the presence of this key is used to indicate this S3 object is an
* instruction file (of an associated client-side encrypted S3 object).</td>
* </tr>
* </table>
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/package-info.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3ObjectSummary.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectListing.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteVersionRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketLifecycleConfigurationRequest.java
*

/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketTaggingConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GroupGrantee.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketLoggingConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3VersionSummary.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketVersioningConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketVersioningConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/MultiFactorAuthentication.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketCrossOriginConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/package-info.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Permission.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/MD5DigestCalculatingInputStream.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2019-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/PresignedUrlRetryableDownloadTaskImpl.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*

* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3VersionResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectTagging.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetObjectTaggingResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Tag.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/DeleteObjectTaggingHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectTaggingResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteObjectTaggingRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteObjectTaggingResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectTaggingRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetObjectTaggingRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectAclRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/S3RequesterChargedHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3AccelerateUnsupported.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketAccelerateStatus.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/ObjectTaggingXmlFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2018-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetObjectRetentionRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Progress.java
* /aws-java-sdk-s3-1-12-86-sources-1-

jar/com/amazonaws/services/s3/model/SelectObjectContentEventException.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/AbstractDownloadCallable.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/PresignUrlDownloadCallable.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectLockLegalHoldStatus.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/JSONType.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/AbortableTransfer.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PresignedUrlUploadRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SelectObjectContentEventStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectLockMode.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CompressionType.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/ObjectLockConfigurationXmlFactory.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectLockLegalHold.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/PresignedUrlDownload.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PresignedUrlDownloadResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ParquetInput.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetObjectLegalHoldResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/XmlWriterUtils.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetObjectLegalHoldRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SelectRecordsInputStream.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/ObjectLockRetentionXmlFactory.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectLockRetention.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectLockEnabled.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetObjectLockConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectLockRule.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/Stats.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectRetentionRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectLockConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DefaultRetention.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/UploadObjectStrategy.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PresignedUrlDownloadRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectLegalHoldResult.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectRetentionResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/PresignedUrlDownloadImpl.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetObjectLockConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SetObjectRetentionResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/eventstreaming/MessageDecoder.java

* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/RequestProgress.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GetObjectLegalHoldRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PresignedUrlDownloadConfig.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SelectObjectContentRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/ObjectLockLegalHoldXmlFactory.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetObjectLockConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/transform/SelectObjectContentEventUnmarshaller.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/JSONOutput.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SelectObjectContentEventVisitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetObjectLockConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/AbstractDownloadCallableConfig.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ObjectLockRetentionMode.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PresignedUrlUploadResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/JSONInput.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SelectObjectContentEvent.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SelectObjectContentResult.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not
* use this file except in compliance with the License. A copy of the License is
* located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on
* an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/waiters/AmazonS3Waiters.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance

with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsAccessPointArnPredicate.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2021-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/WriteGetObjectResponseResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3ObjectLambdaOperationEndpointBuilder.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3ObjectLambdaEndpointBuilder.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/WriteGetObjectResponseRequest.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2017-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at

*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/eventstreaming/Utils.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/eventstreaming/Message.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/eventstreaming/Header.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/eventstreaming/Checksums.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/eventstreaming/HeaderType.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/eventstreaming/HeaderValue.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/eventstreaming/Prelude.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (c) 2017. Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/KeyFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3EncryptionClientParams.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/AmazonS3EncryptionClientParamsWrapper.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/AmazonS3EncryptionClientV2ParamsWrapper.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3EncryptionClientV2Params.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3EncryptionClientBuilder.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3EncryptionClientV2Builder.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/S3SyncProgressListener.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/MaterialsDescriptionProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3Event.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3DataSource.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/EncryptedInitiateMultipartUploadRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SSEAwsKeyManagementParams.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/FileDeletionEvent.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/AmazonS3URI.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SSECustomerKeyProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/UploadObjectObserver.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3ObjectIdBuilder.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/UploadObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/AmazonS3ExceptionBuilder.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/KeyWrapException.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ExtraMaterialsDescription.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/AbstractPutObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/OnFileDelete.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/auth/ChunkContentIterator.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SimpleMaterialProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PutObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/TopicConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/KMSEncryptionMaterialsProvider.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/auth/DecodedStreamBuffer.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/MultiFileOutputStream.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/EncryptedGetObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/EncryptionMaterialsFactory.java

* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/MultipleFileTransferStateChangeListener.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/SSECustomerKey.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/S3ObjectId.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/EncryptedPutObjectRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/NotificationConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/InstructionFileId.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CloudFunctionConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/PutInstructionFileRequest.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3DirectSpi.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/MultipleFileTransferProgressUpdatingListener.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/QueueConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3Direct.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/PartCreationEvent.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SSEAwsKeyManagementParamsProvider.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/AccessControlTranslation.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/lifecycle/LifecycleNAryOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/inventory/InventoryFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/lifecycle/LifecyclePrefixPredicate.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/replication/ReplicationFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketAnalyticsConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketOwnershipControlsResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-

jar/com/amazonaws/services/s3/model/lifecycle/LifecyclePredicateVisitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/inventory/InventoryDestination.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/analytics/StorageClassAnalysisSchemaVersion.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/transfer/internal/CompleteMultipartDownload.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketAnalyticsConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketAnalyticsConfigurationRequest.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/lifecycle/LifecycleTagPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ListBucketInventoryConfigurationsResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/replication/ReplicationNAryOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/replication/ReplicationFilterPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ListBucketAnalyticsConfigurationsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketAnalyticsConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/analytics/StorageClassAnalysisDataExport.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsPredicateVisitor.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/replication/ReplicationTagPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/inventory/InventoryConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketMetricsConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/analytics/AnalyticsNAryOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/inventory/InventoryFrequency.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketOwnershipControlsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsPrefixPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/analytics/StorageClassAnalysis.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsTagPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/analytics/AnalyticsFilterPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/replication/ReplicationPrefixPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/S3CredentialsProviderChain.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/OwnerOverride.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketMetricsConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-

jar/com/amazonaws/services/s3/model/inventory/InventoryFilterPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketOwnershipControlsResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketInventoryConfigurationRequest.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/analytics/AnalyticsAndOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/analytics/AnalyticsS3BucketDestination.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketInventoryConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketMetricsConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketInventoryConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/analytics/AnalyticsFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/inventory/InventoryOptionalField.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/inventory/InventoryS3BucketDestination.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ListBucketInventoryConfigurationsRequest.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketInventoryConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/analytics/AnalyticsPrefixPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/inventory/InventoryIncludedObjectVersions.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/inventory/InventoryPrefixPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/inventory/InventorySchedule.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/analytics/AnalyticsConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/lifecycle/LifecycleFilterPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketInventoryConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/analytics/AnalyticsPredicateVisitor.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/lifecycle/LifecycleAndOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/RequestCopyUtils.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketMetricsConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/replication/ReplicationAndOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketOwnershipControlsResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-

jar/com/amazonaws/services/s3/model/ListBucketMetricsConfigurationsRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/inventory/InventoryFormat.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketOwnershipControlsRequest.java
*
/aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketInventoryConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/GetBucketMetricsConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/DeleteBucketMetricsConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/lifecycle/LifecycleFilter.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsNAryOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/inventory/InventoryPredicateVisitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/analytics/AnalyticsS3ExportFileFormat.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ListBucketAnalyticsConfigurationsResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsFilterPredicate.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/metrics/MetricsAndOperator.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketAnalyticsConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketAnalyticsConfigurationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/analytics/AnalyticsExportDestination.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/ListBucketMetricsConfigurationsResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/replication/ReplicationPredicateVisitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/analytics/AnalyticsTagPredicate.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketOwnershipControlsRequest.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0

*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/SetObjectTaggingResponseHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/GetObjectTaggingResponseHeaderHandler.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/DeleteObjectsResponse.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/HeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/MultiObjectDeleteException.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/ResponseHeaderHandlerChain.java
*
 /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketLifecycleConfiguration.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/internal/ServerSideEncryptionHeaderHandler.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CopyPartRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/UploadMonitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/ObjectRestoreResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ResponseHeaderOverrides.java
* /aws-java-sdk-s3-1-12-86-sources-1-
jar/com/amazonaws/services/s3/model/SetBucketNotificationConfigurationRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/GenericBucketRequest.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/TransferMonitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CORSRule.java
*

/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/DeleteObjectsResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/ObjectExpirationResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/CopyMonitor.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/CopyPartResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/ServerSideEncryptionResult.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/BucketCrossOriginConfiguration.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2012-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
/**
* Interface for providing encryption materials.
* Implementations are free to use any strategy for providing encryption
* materials, such as simply providing static material that doesn't change,
* or more complicated implementations, such as integrating with existing
* key management systems.
*/
```

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/EncryptionMaterialsProvider.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2019-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3ObjectLambdasResource.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/PreparedDownloadContext.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/ObjectCannedAclProvider.java
*
/aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/transfer/internal/DownloadS3ObjectCallable.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/model/ScanRange.java
* /aws-java-sdk-s3-1-12-86-sources-1-jar/com/amazonaws/services/s3/internal/S3AccessPointBuilder.java

# 1.425 aws-java-sdk-kms 1.12.86

## 1.425.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/GrantListEntryJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/DeleteCustomKeyStoreRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/NotFoundException.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/CloudHsmClusterInvalidConfigurationExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/AWSKMS.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/DecryptRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-

jar/com/amazonaws/services/kms/model/transform/KeyListEntryJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/InvalidGrantIdExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/IncorrectKeyException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/EncryptionAlgorithmSpec.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/KeyMetadataJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/GenerateDataKeyPairWithoutPlaintextResult.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateAliasRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisableKeyRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/NotFoundExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/AWSKMSException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CreateAliasRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ConnectCustomKeyStoreResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/EncryptRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisableKeyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdateAliasResultJsonUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/SignRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/AWSKMSClient.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/InvalidKeyUsageExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/LimitExceededException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/UpdateKeyDescriptionResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/TagMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/InvalidArnExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/InvalidAliasNameExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/GetKeyRotationStatusRequest.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GetKeyPolicyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ScheduleKeyDeletionResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetParametersForImportResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisableKeyRotationRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ReEncryptResult.java

* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/MultiRegionConfigurationJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GetPublicKeyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/ListKeyPoliciesRequestProtocolMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CloudHsmClusterNotRelatedException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/AWSKMSClientBuilder.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/ListAliasesRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/ReplicateKeyResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/CreateKeyResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/UpdateKeyDescriptionRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/UpdateAliasRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/AWSKMSAsyncClientBuilder.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GrantOperation.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ExpiredImportTokenException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/CancelKeyDeletionRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/InvalidCiphertextException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/CreateAliasRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/GetPublicKeyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/ScheduleKeyDeletionRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KMSInvalidSignatureException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/EncryptRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/EnableKeyRotationRequestProtocolMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/DisconnectCustomKeyStoreRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/UpdateAliasRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KMSInvalidStateException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GenerateDataKeyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/AlreadyExistsExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/transform/RetireGrantRequestMarshaller.java

* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListKeyPoliciesResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ConnectionErrorCodeType.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/CloudHsmClusterNotActiveException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/EncryptRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/PutKeyPolicyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/KMSInvalidStateExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateRandomRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/WrappingKeySpec.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DataKeySpec.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DeleteAliasResult.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyPairWithoutPlaintextRequestProtocolMarshall
er.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/IncorrectTrustAnchorExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListAliasesRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ImportKeyMaterialRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/InvalidMarkerExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/RetireGrantResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ScheduleKeyDeletionResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/PutKeyPolicyRequestMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdatePrimaryRegionRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/InvalidImportTokenException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KeyListEntry.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/TagResourceResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetParametersForImportRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdateKeyDescriptionResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-

jar/com/amazonaws/services/kms/model/CloudHsmClusterInvalidConfigurationException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListKeyPoliciesRequestMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DeleteAliasRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/RetireGrantRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateGrantRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ScheduleKeyDeletionRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/RevokeGrantResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CreateCustomKeyStoreResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CreateGrantResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/EnableKeyRotationRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/InvalidArnException.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DecryptRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/UnsupportedOperationException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DependencyTimeoutExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/UntagResourceResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DeleteCustomKeyStoreRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/Tag.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ConnectionStateType.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyWithoutPlaintextResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListRetirableGrantsRequestProtocolMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/AliasListEntryMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/CloudHsmClusterInUseException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/package-info.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GenerateDataKeyPairRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/KeyListEntryMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/MalformedPolicyDocumentExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DeleteCustomKeyStoreResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/SigningAlgorithmSpec.java
* /aws-java-sdk-kms-1-12-86-sources-1-

jar/com/amazonaws/services/kms/model/transform/DescribeCustomKeyStoresResultJsonUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/AliasListEntry.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListGrantsResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetPublicKeyResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GrantConstraints.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/RetireGrantResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/AbstractAWSKMS.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListKeysRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/LimitExceededExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CloudHsmClusterNotFoundExceptionUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CloudHsmClusterNotActiveExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UntagResourceResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DecryptResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KeyMetadata.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/VerifyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/IncorrectTrustAnchorException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ConnectCustomKeyStoreRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetKeyRotationStatusResultJsonUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/MalformedPolicyDocumentException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListKeysResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GenerateDataKeyPairResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/IncorrectKeyMaterialException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/MultiRegionKeyMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ImportKeyMaterialResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdatePrimaryRegionRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/DependencyTimeoutException.java
* /aws-java-sdk-kms-1-12-86-sources-1-

jar/com/amazonaws/services/kms/model/DisconnectCustomKeyStoreRequest.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListKeysRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/GetParametersForImportRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/IncorrectKeyMaterialExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/CustomKeyStoreHasCMKsException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListKeyPoliciesRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CancelKeyDeletionResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListRetirableGrantsRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/AliasListEntryJsonUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GrantConstraintsJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdateKeyDescriptionRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CreateKeyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KeySpec.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/OriginType.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListRetirableGrantsRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UntagResourceRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/ConnectCustomKeyStoreResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KeyUsageType.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetParametersForImportRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/InvalidGrantTokenException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/KeyUnavailableExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KMSInternalException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/SignResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ConnectCustomKeyStoreRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DeleteCustomKeyStoreResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListResourceTagsResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/AWSKMSAsync.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateGrantResultJsonUnmarshaller.java

* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/MultiRegionConfiguration.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/EncryptResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisconnectCustomKeyStoreRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UntagResourceRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListAliasesRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DisableKeyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/CustomKeyStoreNameInUseException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListGrantsRequest.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GenerateRandomRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CloudHsmClusterNotRelatedExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListResourceTagsRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateRandomResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/DescribeCustomKeyStoresRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdateCustomKeyStoreRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ExpiredImportTokenExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DecryptResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyWithoutPlaintextRequestProtocolMarshaller.ja
va
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CancelKeyDeletionResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateRandomRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CloudHsmClusterInUseExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CancelKeyDeletionRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/MultiRegionKey.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetKeyPolicyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DeleteImportedKeyMaterialRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KeyManagerType.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/KMSInternalExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/RevokeGrantRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CustomKeyStoresListEntry.java

* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ReplicateKeyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DescribeKeyRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetKeyRotationStatusRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/MultiRegionConfigurationMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/EnableKeyRotationResultJsonUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/InvalidMarkerException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetKeyPolicyRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ReEncryptRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CustomKeyStoreInvalidStateExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListResourceTagsResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CustomerMasterKeySpec.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DeleteImportedKeyMaterialRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/RevokeGrantRequestProtocolMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/CustomKeyStoreNotFoundException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListGrantsRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListAliasesResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/EncryptResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/PutKeyPolicyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/SignRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/KeyMetadataMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/MultiRegionKeyJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ReplicateKeyRequestMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CancelKeyDeletionRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/UpdateAliasResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/RetireGrantRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdateCustomKeyStoreRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-

jar/com/amazonaws/services/kms/model/transform/IncorrectKeyExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/ConnectCustomKeyStoreRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/UpdateCustomKeyStoreResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListRetirableGrantsResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DescribeKeyRequest.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DeleteAliasResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateCustomKeyStoreRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateGrantRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetKeyRotationStatusRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/MessageType.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GrantConstraintsMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListResourceTagsRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyWithoutPlaintextRequestMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListRetirableGrantsResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DescribeCustomKeyStoresRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/VerifyResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/DeleteImportedKeyMaterialRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisableKeyRotationResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GetKeyPolicyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyPairResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/InvalidGrantTokenExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/DisconnectCustomKeyStoreResult.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisconnectCustomKeyStoreResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/MultiRegionKeyType.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KeyState.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DeleteAliasRequestProtocolMarshaller.java

* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/InvalidAliasNameException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DisableKeyRotationResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/EnableKeyRotationRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyPairRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CreateAliasResult.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/DescribeCustomKeyStoresResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetPublicKeyRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GenerateDataKeyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/CreateCustomKeyStoreRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CustomKeyStoresListEntryJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisabledExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/GenerateDataKeyWithoutPlaintextResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GrantListEntry.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/TagResourceRequestMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/CloudHsmClusterNotFoundException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UnsupportedOperationExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/TagExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/TagException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateKeyRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/TagResourceRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/VerifyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/KMSInvalidSignatureExceptionUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/EnableKeyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/GenerateDataKeyWithoutPlaintextRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListAliasesResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/DeleteCustomKeyStoreRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/EnableKeyRequestProtocolMarshaller.java

* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListResourceTagsRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/GetParametersForImportResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/VerifyRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisableKeyResultJsonUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListKeysResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdateKeyDescriptionRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/UpdatePrimaryRegionResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/TagResourceRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/TagResourceResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/EnableKeyRotationResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ReplicateKeyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateCustomKeyStoreResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ScheduleKeyDeletionRequest.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListKeyPoliciesResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/TagJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ImportKeyMaterialResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/VerifyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/AlreadyExistsException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CreateKeyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DecryptRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyPairRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/AbstractAWSKMSAsync.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GetKeyRotationStatusResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GrantListEntryMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/AlgorithmSpec.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ReEncryptResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CustomKeyStoreNotFoundExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DisabledException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DisableKeyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdateCustomKeyStoreResultJsonUnmarshaller.java

* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/CustomKeyStoreInvalidStateException.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdatePrimaryRegionResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/RevokeGrantResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DescribeKeyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/InvalidCiphertextExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CustomKeyStoreHasCMKsExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DescribeCustomKeyStoresRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/UntagResourceRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ReEncryptRequest.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateCustomKeyStoreRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DeleteAliasRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateAliasResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DescribeKeyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CreateKeyRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/InvalidImportTokenExceptionUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyPairWithoutPlaintextResultJsonUnmarshaller.j
ava
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/RevokeGrantRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/UpdateCustomKeyStoreRequest.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GetKeyPolicyResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListGrantsRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GenerateRandomResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/AWSKMSAsyncClient.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/GenerateDataKeyPairWithoutPlaintextRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/GetPublicKeyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ImportKeyMaterialRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/UpdatePrimaryRegionRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DescribeKeyResultJsonUnmarshaller.java

*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyPairWithoutPlaintextRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ListKeysRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DisableKeyRotationRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/EnableKeyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/PutKeyPolicyResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CustomKeyStoresListEntryMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DeleteImportedKeyMaterialResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ImportKeyMaterialRequestMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/PutKeyPolicyResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ReplicateKeyRequest.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/EnableKeyRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/DataKeyPairSpec.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ExpirationModelType.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/ReEncryptRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/SignRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/EnableKeyResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/SignResultJsonUnmarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/DeleteImportedKeyMaterialResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/InvalidKeyUsageException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/UpdateAliasRequestMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/DisableKeyRotationRequestProtocolMarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyResultJsonUnmarshaller.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/KeyUnavailableException.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/ListGrantsResult.java
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/InvalidGrantIdException.java
* /aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/GenerateDataKeyRequestMarshaller.java
*
/aws-java-sdk-kms-1-12-86-sources-1-
jar/com/amazonaws/services/kms/model/transform/CustomKeyStoreNameInUseExceptionUnmarshaller.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2016-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/
/**
   * <p>
   * Identifies the KMS key for the grant. The grant gives principals permission to use this KMS key.
   * </p>
   * <p>
   * Specify the key ID or key ARN of the KMS key. To specify a KMS key in a different Amazon Web Services account,
   * you must use the key ARN.
   * </p>
   * <p>
   * For example:
   * </p>
    * <ul>
   * <li>
   * <p>
   * Key ID: <code>1234abcd-12ab-34cd-56ef-1234567890ab</code>
   * </p>
   * </li>
   * <li>
   * <p>
   * Key ARN: <code>arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab</code>
   * </p>
   * </li>
   * </ul>
   * <p>
   * To get the key ID and key ARN for a KMS key, use <a>ListKeys</a> or <a>DescribeKey</a>.
   * </p>
   */
/**
   * <p>
   * The principal that has permission to use the <a>RetireGrant</a> operation to retire the grant.
```

```
    * </p>
    * <p>
    * To specify the principal, use the <a
    * href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html">Amazon Resource Name
(ARN)</a>
    * of an Amazon Web Services principal. Valid Amazon Web Services principals include Amazon Web Services
accounts
    * (root), IAM users, federated users, and assumed role users. For examples of the ARN syntax to use for
specifying
    * a principal, see <a
    * href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html#arn-syntax-iam">Amazon
 Web
    * Services Identity and Access Management (IAM)</a> in the Example ARNs section of the <i>Amazon Web
Services
    * General Reference</i>.
    * </p>
    * <p>
    * The grant determines the retiring principal. Other principals might have permission to retire the grant or revoke
    * the grant. For details, see <a>RevokeGrant</a> and <a
    * href="https://docs.aws.amazon.com/kms/latest/developerguide/grant-manage.html#grant-delete">Retiring and
revoking
    * grants</a> in the <i>Key Management Service Developer Guide</i>.
    * </p>
    */
/**
    * <p>
    * Identifies the KMS key for the grant. The grant gives principals permission to use this KMS key.
    * </p>
    * <p>
    * Specify the key ID or key ARN of the KMS key. To specify a KMS key in a different Amazon Web Services
account,
    * you must use the key ARN.
    * </p>
    * <p>
    * For example:
     * </p>
    * <ul>
    * <li>
    * <p>
    * Key ID: <code>1234abcd-12ab-34cd-56ef-1234567890ab</code>
    * </p>
    * </li>
    * <li>
    * <p>
    * Key ARN: <code>arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab</code>
    * </p>
    * </li>
    * </ul>
```

```
   * <p>
   * To get the key ID and key ARN for a KMS key, use <a>ListKeys</a> or <a>DescribeKey</a>.
   * </p>
   *
   * @param keyId
   *        Identifies the KMS key for the grant. The grant gives principals permission to use this KMS key.</p>
   *        <p>
   *        Specify the key ID or key ARN of the KMS key. To specify a KMS key in a different Amazon Web
Services
   *        account, you must use the key ARN.
   *        </p>
   *        <p>
   *        For example:
   *        </p>
   *        <ul>
   *        <li>
   *        <p>
   *        Key ID: <code>1234abcd-12ab-34cd-56ef-1234567890ab</code>
   *        </p>
   *        </li>

    *       <li>
   *        <p>
   *        Key ARN: <code>arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-
1234567890ab</code>
   *        </p>
   *        </li>
   *        </ul>
   *        <p>
   *        To get the key ID and key ARN for a KMS key, use <a>ListKeys</a> or <a>DescribeKey</a>.
   */
/**
   * <p>
   * Identifies the KMS key for the grant. The grant gives principals permission to use this KMS key.
   * </p>
   * <p>
   * Specify the key ID or key ARN of the KMS key. To specify a KMS key in a different Amazon Web Services
account,
   * you must use the key ARN.
   * </p>
   * <p>
   * For example:
   * </p>
   * <ul>
   * <li>
   * <p>
   * Key ID: <code>1234abcd-12ab-34cd-56ef-1234567890ab</code>
   * </p>
```

```
   * </li>
   * <li>
   * <p>
   * Key ARN: <code>arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab</code>
   * </p>
   * </li>
   * </ul>
   * <p>
   * To get the
 key ID and key ARN for a KMS key, use <a>ListKeys</a> or <a>DescribeKey</a>.
   * </p>
   *
   * @return Identifies the KMS key for the grant. The grant gives principals permission to use this KMS key.</p>
   *         <p>
   *         Specify the key ID or key ARN of the KMS key. To specify a KMS key in a different Amazon Web
Services
   *         account, you must use the key ARN.
   *         </p>
   *         <p>
   *         For example:
   *         </p>
   *         <ul>
   *         <li>
   *         <p>
   *         Key ID: <code>1234abcd-12ab-34cd-56ef-1234567890ab</code>
   *         </p>
   *         </li>
   *         <li>
   *         <p>
   *         Key ARN: <code>arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-
1234567890ab</code>
   *         </p>
   *         </li>
   *         </ul>
   *         <p>
   *         To get the key ID and key ARN for a KMS key, use <a>ListKeys</a> or <a>DescribeKey</a>.

 */
/**
   * <p>
   * The principal that has permission to use the <a>RetireGrant</a> operation to retire the grant.
   * </p>
   * <p>
   * To specify the principal, use the <a
   * href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html">Amazon Resource Name
(ARN)</a>
   * of an Amazon Web Services principal. Valid Amazon Web Services principals include Amazon Web Services
accounts
```

```
    * (root), IAM users, federated users, and assumed role users. For examples of the ARN syntax to use for specifying
    * a principal, see <a
    * href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html#arn-syntax-iam">Amazon Web
    * Services Identity and Access Management (IAM)</a> in the Example ARNs section of the <i>Amazon Web Services
    * General Reference</i>.
    * </p>
    * <p>
    * The grant determines the retiring principal. Other principals might have permission to retire the grant or revoke
    * the grant. For details,
   see <a>RevokeGrant</a> and <a
    * href="https://docs.aws.amazon.com/kms/latest/developerguide/grant-manage.html#grant-delete">Retiring and revoking
    * grants</a> in the <i>Key Management Service Developer Guide</i>.
    * </p>
    *
    * @param retiringPrincipal
    *        The principal that has permission to use the <a>RetireGrant</a> operation to retire the grant. </p>
    *        <p>
    *        To specify the principal, use the <a
    *        href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html">Amazon Resource Name
    *        (ARN)</a> of an Amazon Web Services principal. Valid Amazon Web Services principals include Amazon Web
    *        Services accounts (root), IAM users, federated users, and assumed role users. For examples of the ARN
    *        syntax to use for specifying a principal, see <a
    *        href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html#arn-syntax-iam">Amazon

     *       Web Services Identity and Access Management (IAM)</a> in the Example ARNs section of the <i>Amazon Web
    *        Services General Reference</i>.
    *        </p>
    *        <p>
    *        The grant determines the retiring principal. Other principals might have permission to retire the grant or
    *        revoke the grant. For details, see <a>RevokeGrant</a> and <a
    *        href="https://docs.aws.amazon.com/kms/latest/developerguide/grant-manage.html#grant-delete">Retiring and
    *        revoking grants</a> in the <i>Key Management Service Developer Guide</i>.
    */
   /**
    * <p>
    * The principal that has permission to use the <a>RetireGrant</a> operation to retire the grant.
    * </p>
    * <p>
    * To specify the principal, use the <a
```

```
    * href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html">Amazon Resource Name
(ARN)</a>
    * of an Amazon Web Services principal. Valid Amazon Web Services principals include
 Amazon Web Services accounts
    * (root), IAM users, federated users, and assumed role users. For examples of the ARN syntax to use for
specifying
    * a principal, see <a
    * href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html#arn-syntax-iam">Amazon
Web
    * Services Identity and Access Management (IAM)</a> in the Example ARNs section of the <i>Amazon Web
Services
    * General Reference</i>.
    * </p>
    * <p>
    * The grant determines the retiring principal. Other principals might have permission to retire the grant or revoke
    * the grant. For details, see <a>RevokeGrant</a> and <a
    * href="https://docs.aws.amazon.com/kms/latest/developerguide/grant-manage.html#grant-delete">Retiring and
revoking
    * grants</a> in the <i>Key Management Service Developer Guide</i>.
    * </p>
    *
    * @return The principal that has permission to use the <a>RetireGrant</a> operation to retire the grant. </p>
    *         <p>
    *
    To specify the principal, use the <a
    *         href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html">Amazon Resource
Name
    *         (ARN)</a> of an Amazon Web Services principal. Valid Amazon Web Services principals include
Amazon Web
    *         Services accounts (root), IAM users, federated users, and assumed role users. For examples of the ARN
    *         syntax to use for specifying a principal, see <a
    *         href="https://docs.aws.amazon.com/general/latest/gr/aws-arns-and-namespaces.html#arn-syntax-
iam">Amazon
    *         Web Services Identity and Access Management (IAM)</a> in the Example ARNs section of the
<i>Amazon Web
    *         Services General Reference</i>.
    *         </p>
    *         <p>
    *         The grant determines the retiring principal. Other principals might have permission to retire the grant
    *         or revoke the grant. For details, see <a>RevokeGrant</a> and <a
    *         href="https://docs.aws.amazon.com/kms/latest/developerguide/grant-manage.html#grant-delete">Retiring
 and
    *         revoking grants</a> in the <i>Key Management Service Developer Guide</i>.
    */

Found in path(s):
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/services/kms/model/CreateGrantRequest.java
```

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-kms-1-12-86-sources-1-jar/com/amazonaws/auth/policy/actions/KMSActions.java

# 1.426 aws-java-sdk-core 1.12.86

## 1.426.1 Available under license :

No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights
* Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/auth/NoOpSignerProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/auth/SignerProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/adapters/types/TypeAdapter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/MetadataCache.java

*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/adapters/types/StringToByteBufferAdapter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/adapters/types/StringToInputStreamAdapter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/auth/SignerProviderContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/auth/DefaultSignerProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/NullResponseMetadataCache.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/client/ClientExecutionAbortTask.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/client/ClientExecutionAbortTaskImpl.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/timers/request/NoOpHttpRequestAbortTaskTracker.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkInternalList.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/log/CommonsLogFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/JsonErrorUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/DelegateSocket.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/DnsResolver.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/HandlerContextKey.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/log/InternalLog.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/SdkConnectionKeepAliveStrategy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/request/HttpRequestTimer.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/JavaVersionParser.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/http/JsonErrorCodeParser.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/timers/request/HttpRequestAbortTaskTrackerImpl.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/exception/HttpRequestTimeoutException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/client/ConnectionManagerFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/JsonErrorResponseHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/DelegatingDnsResolver.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ReadLimitInfo.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/SignableRequest.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/ComparableUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/log/CommonsLog.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkInternalMap.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/client/ClientExecutionTimer.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/timers/client/ClientExecutionAbortTrackerTask.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/request/HttpRequestAbortTask.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/request/HttpRequestAbortTaskImpl.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/request/HttpRequestAbortTaskTracker.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/timers/client/ClientExecutionTimeoutException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/TimeoutThreadPoolBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Base16Lower.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/NumberUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/SdkHttpUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/StackedRequestHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/PredefinedClientConfigurations.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/SdkThreadLocals.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/timers/client/ClientExecutionAbortTrackerTaskImpl.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/log/JulLogFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/settings/HttpClientSettings.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/ssl/MasterSecretValidators.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/DelegateInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/client/HttpClientFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/http/JsonErrorMessageParser.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/UriResourcePathUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/SystemDefaultDnsResolver.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/SDKGlobalTime.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/log/JulLog.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkSSLMetricsSocket.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkThreadLocalsRegistry.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkMetricsSocket.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/conn/ssl/privileged/PrivilegedMasterSecretValidator.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/timers/client/NoOpClientExecutionAbortTrackerTask.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkIOUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/ValidationUtils.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*

* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions
* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/GuardedBy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/SdkInternalApi.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/Immutable.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/NotThreadSafe.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/ThreadSafe.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/SdkTestInternalApi.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/Beta.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/SdkProtectedApi.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (c) 2016. Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/CapacityManager.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/IdempotentUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/apache/client/impl/ApacheConnectionManagerFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/DateTimeJsonSerializer.java
*

/aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/apache/client/impl/ConnectionManagerAwareHttpClient.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/package-info.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/ssl/ShouldClearSslSessionPredicate.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/log/InternalLogFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/IRequestHandler2.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/apache/client/impl/SdkHttpClient.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/apache/client/impl/ApacheHttpClientFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkStructuredJsonFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/FakeIOException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/CanHandleNullCredentials.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
/**
* Interface for providing AWS region information. Implementations are free to use any strategy for
* providing region information.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/AwsRegionProvider.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not
* use this file except in compliance with the License. A copy of the License is
* located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on
* an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
```

* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/SimpleTypeIonUnmarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/IonParser.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/IonFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/annotation/package-info.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkSSLContext.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2019-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/ClockSkewAdjuster.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkRequestRetryHeaderProvider.java

No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2013-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/CodecUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/EncodingScheme.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkDigestInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkBufferedInputStream.java

*

/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Base64Codec.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/RegionUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Base32.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Base16.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Base16Codec.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/EC2MetadataUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/EncodingSchemeEnum.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/ListWithAutoConstructFlag.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/Region.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/jmx/MBeans.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/IOUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/RegionMetadata.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkFilterOutputStream.java

*

/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/AbstractBase32Codec.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkFilterInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Codec.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/RegionAwareSigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/RegionMetadataParser.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWS4Signer.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Base64.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/HttpClientWrappingInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/AbortedException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/MetricsInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/jmx/SdkMBeanRegistrySupport.java

*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ResetException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/SdkRuntime.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/MetricAware.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Throwables.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Base32Codec.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/ServiceAwareSigner.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2016-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/PartitionMetadataProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/model/Endpoint.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/RegionMetadataProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/apache/client/impl/CRC32ChecksumResponseInterceptor.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/model/Service.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkStructuredIonFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/InMemoryRegionImpl.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkIonGenerator.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/model/Region.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/RegionMetadataFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/LegacyRegionXmlMetadataBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/model/Partition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/PartitionsLoader.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/LegacyRegionXmlLoadUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/PartitionRegionImpl.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/SimpleTypeCborUnmarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/model/CredentialScope.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/AbstractRegionMetadataProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/InMemoryRegionsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/RegionImpl.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/apache/SdkProxyRoutePlanner.java
No license file was found, but licenses were detected in source scan.

/*
* ================================================================
* Licensed to the Apache Software Foundation (ASF) under one
* or more contributor license agreements.  See the NOTICE file
* distributed with this work for additional information
* regarding copyright ownership.  The ASF licenses this file
* to you under the Apache License, Version 2.0 (the
* "License"); you may not use this file except in compliance
* with the License.  You may obtain a copy of the License at
*
*   http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing,
* software distributed under the License is distributed on an
* "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
* KIND, either express or implied.  See the License for the
* specific language governing permissions and limitations
* under the License.
* ================================================================
 *
* This software consists of voluntary contributions made by many
* individuals on behalf of the Apache Software Foundation.  For more
* information on the Apache Software Foundation, please see
* <http://www.apache.org/>.
*
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/NameValuePair.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/BasicNameValuePair.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/URLEncodedUtils.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2019-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing

* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/NamedDefaultThreadFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterExecutorServiceFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/SignerAsRequestSigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ImmutableRequest.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/RequestSigner.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/InstanceProfileCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/CustomBackoffStrategy.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/HandlerContextAware.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/EC2MetadataClient.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/ClasspathPropertiesFileCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/IdleConnectionReaper.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/DefaultAWSCredentialsProviderChain.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/SystemPropertiesCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/AwsHostNameUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWSCredentialsProviderChain.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/CRC32MismatchException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/DynamoDBBackoffStrategy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/EnvironmentVariableCredentialsProvider.java
No license file was found, but licenses were detected in source scan.

/*
* Licensed to the Apache Software Foundation (ASF) under one or more
* contributor license agreements.  See the NOTICE file distributed with
* this work for additional information regarding copyright ownership.
* The ASF licenses this file to You under the Apache License, Version 2.0
* (the "License"); you may not use this file except in compliance with
* the License.  You may obtain a copy of the License at
*
*      http://www.apache.org/licenses/LICENSE-2.0
*
* Unless required by applicable law or agreed to in writing, software
* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/log/InternalLogApi.java
No license file was found, but licenses were detected in source scan.

/**
* Copyright 2016-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
* <p/>
* Licensed under the Apache License, Version 2.0 (the "License"). You may not use this file except in compliance with
* the License. A copy of the License is located at
* <p/>
* http://aws.amazon.com/apache2.0
* <p/>
* or in the "license" file accompanying this file. This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
* CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions

* and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/partitions/model/Partitions.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/SignerParams.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/internal/MaxAttemptsResolver.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/SignerTypeAware.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/endpointdiscovery/EndpointDiscoveryProviderChain.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/SystemPropertyTlsKeyManagersProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/arn/AwsResource.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/XpathUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/ProgressListener.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkPredicate.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/HttpClientConfig.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/monitoring/internal/ClientSideMonitoringRequestHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/ArnCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/RepeatableInputStreamRequestEntity.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/Principal.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/JsonUnmarshallerContextImpl.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/SimpleMetricType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/apache/utils/HttpContextUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/HttpResponse.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/Presigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/PropertiesFileCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-

jar/com/amazonaws/endpointdiscovery/EndpointDiscoveryIdentifiersRefreshCache.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/SimpleTypeStaxUnmarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/DateCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ServiceNameFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/internal/config/HostRegexToRegionMappingJsonHelper.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/internal/AsynchronousAgentDispatcher.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/Resource.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/RequestHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/cache/KeyConverter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/StructuredJsonMarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/RuntimeHttpUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/StaticCsmConfigurationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/PollingStrategyContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ProxyAuthenticationMethod.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/DefaultServiceEndpointBuilder.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/RequestHandler2Adaptor.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/SdkPlainSocketFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/ClientConnectionRequestFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/TlsKeyManagersProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/AWSServiceMetrics.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/MetricType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/EndpointDiscoveryConfig.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterExecutionBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/CsmConfigurationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/ProgressEventType.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/actions/package-info.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/endpointdiscovery/DaemonThreadFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/HandlerAfterAttemptContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/AmazonHttpClient.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/ServiceLatencyProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/protocol/SdkHttpRequestExecutor.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/SdkFunction.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/internal/JsonPolicyWriter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/arn/ArnResource.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/ProgressEvent.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/HandlerChainFactory.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/MaxAttemptsRetryStrategy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/package-info.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/ResponseMetadataCache.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/Statement.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/HttpResponseHandler.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/ByteThroughputHelper.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/Waiter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/FileStoreTlsKeyManagersProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/CompositeAcceptor.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/Wrapped.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ApacheHttpClientConfig.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/Response.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/endpointdiscovery/EndpointDiscoveryRefreshCache.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/ApiCallAttemptMonitoringEvent.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/IpAddressCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/RetryUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/StaxUnmarshallerContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/AwsSdkMetrics.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/internal/RetryModeResolver.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/InternalConfigJsonHelper.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/HttpFailureStatusAcceptor.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/Action.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/StandardErrorUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/WebIdentityTokenCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/endpointdiscovery/EnvironmentVariableEndpointDiscoveryProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/ConditionFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/AmazonWebServiceClient.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/RequestMetricCollector.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/internal/AuthRetryParameters.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/Policy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterUnrecoverableException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ResponseMetadata.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/Condition.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/StringUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/internal/JsonPolicyReader.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/AmazonWebServiceResponse.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/endpointdiscovery/AwsProfileEndpointDiscoveryProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/internal/JsonDocumentFields.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/RequestHandler2.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/CountingInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/PolicyReaderOptions.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/SignerFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/monitoring/SystemPropertyCsmConfigurationProvider.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/AbstractFileTlsKeyManagersProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/builder/AdvancedConfig.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/SimpleServiceMetricType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/Marshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/Request.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/SDKGlobalConfiguration.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/QueryStringSigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/RequestMetricType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/ClientConnectionManagerFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/internal/AgentMonitoringListener.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/VoidStaxUnmarshaller.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/NoneTlsKeyManagersProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/HttpSuccessStatusAcceptor.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/cache/EndpointDiscoveryCacheLoader.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/RetryPolicy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/arn/Arn.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/JsonUnmarshallerContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWS4UnsignedPayloadSigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/NumericCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/MonitoringListener.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/MapEntry.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/NamespaceRemovingInputStream.java
*
/aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/endpointdiscovery/DefaultEndpointDiscoveryProviderChain.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/endpointdiscovery/SystemPropertyEndpointDiscoveryProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/ThroughputMetricType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/AwsClientSideMonitoringMetrics.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/AcceptorPathMatcher.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/arn/ArnConverter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/DefaultRequest.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/BasicAWSCredentials.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/endpointdiscovery/Constants.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/SimpleTypeJsonUnmarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/impl/client/SdkHttpRequestRetryHandler.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/InternalConfig.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/MonitoringEvent.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/VersionInfoUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/ServiceMetricCollector.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/CsmConfiguration.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/ProfileCsmConfigurationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/PollingStrategy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/internal/AuthErrorRetryStrategy.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/auth/profile/internal/BasicProfileConfigFileLoader.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/StaxResponseHandler.java
*

/aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/monitoring/EnvironmentVariableCsmConfigurationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/PredefinedRetryPolicies.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/CredentialsRequestHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/ProgressListenerChain.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/package-info.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/HttpMethod.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/HostRegexToRegionMapping.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWS3Signer.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/BooleanCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/HttpClientConfigJsonHelper.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/CollectionUtils.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/NoOpWaiterHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ClientConfiguration.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterParameters.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/impl/client/HttpRequestNoRetryHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/AmazonWebServiceRequest.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/AWSRequestMetrics.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/ByteThroughputProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/Signer.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/cache/Cache.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/NoOpSigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/ServiceMetricType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/CsmConfigurationProviderChain.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/HandlerBeforeAttemptContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/DefaultErrorResponseHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/MetricCollector.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/monitoring/DefaultCsmConfigurationProviderChain.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/resources/package-info.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterAcceptor.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/AmazonServiceException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/MetricFilterInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/ApiCallMonitoringEvent.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/monitoring/ApiMonitoringEvent.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/VoidJsonUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/CRC32ChecksumCalculatingInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/AbstractRequestHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterExecution.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterTimedOutException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/AWSRequestMetricsFullSupport.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/apache/request/impl/HttpGetWithBody.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/internal/ServiceMetricTypeGuesser.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/PropertiesCredentials.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/cache/CacheLoader.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterImpl.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/package-info.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/policy/conditions/StringCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/SimpleThroughputMetricType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/endpointdiscovery/EndpointDiscoveryProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/WaiterState.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/IdentityEndpointBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/ServiceEndpointBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AbstractAWSSigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/TimestampFormat.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AnonymousAWSCredentials.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/MetricInputStreamEntity.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/waiters/FixedDelayStrategy.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (c) 2016-2019. Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/apache/utils/ApacheUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/http/apache/request/impl/ApacheHttpRequestFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2015-2021 Amazon.com, Inc. or its affiliates. All Rights
* Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*

```
* or in the "license" file accompanying this file. This file is
* distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
* KIND, either
* express or implied. See the License for the specific language
* governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/CredentialUtils.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/HostnameValidator.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/ConnectionUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/RetryMode.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/CredentialsEndpointProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/ContainerCredentialsFetcher.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/EC2ResourceFetcher.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/InstanceMetadataServiceResourceFetcher.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/InstanceMetadataServiceCredentialsFetcher.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/retry/internal/CredentialsEndpointRetryParameters.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/ContainerCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/EC2ContainerCredentialsProviderWrapper.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/EndpointPrefixAwareSigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/TokenBucket.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/BaseCredentialsFetcher.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/ContainerCredentialsRetryPolicy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/internal/CredentialsEndpointRetryPolicy.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/ssl/TLSProtocol.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/conn/ssl/SdkTLSSocketFactory.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*

* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
/**
* Interface for providing AWS credentials. Implementations are free to use any
* strategy for providing AWS credentials, such as simply providing static
* credentials that don't change, or more complicated implementations, such as
* integrating with existing key management systems.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWSCredentialsProvider.java
No license file was found, but licenses were detected in source scan.

/*
*
* Copyright (c) 2016 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkCborGenerator.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkStructuredCborFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/JsonResponseHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkStructuredPlainJsonFactory.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkJsonProtocolFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/StructuredJsonGenerator.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.

*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/ReleasableInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/ResettableInputStream.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/RetryOnExceptionsCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/profile/path/config/SharedConfigDefaultLocationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/OperationInfo.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/builder/AwsClientBuilder.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/profile/path/AwsDirectoryBasePathProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/AwsSystemPropertyRegionProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/MapUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/auth/profile/internal/ProfileAssumeRoleCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/OrRetryCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/PathMarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/AndRetryCondition.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/MaxNumberOfRetriesCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/protocol/json/internal/NullAsEmptyBodyProtocolRequestMarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/RetryPolicyAdapter.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/internal/AllProfiles.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/ClientHandlerParams.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/SimpleRetryPolicy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/SdkClientException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/StringInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/builder/ExecutorFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/SdkClock.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/protocol/json/internal/SimpleTypeJsonMarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/AmazonWebServiceResult.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/profile/path/AwsProfileFileLocationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/JsonErrorResponseMetadata.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/RetryPolicy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/InstanceMetadataRegionProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkJsonMarshallerFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/AwsErrorResponseHandler.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/TimingInfoFullSupport.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/JsonOperationMetadata.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/response/AwsResponseHandlerAdapter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/ClientConfigurationFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/JsonErrorShapeMetadata.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/AwsSyncClientParams.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/SdkBaseException.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/profile/path/cred/CredentialsEnvVarOverrideLocationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/RequestConfig.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/internal/JsonMarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/auth/profile/internal/ProfileStaticCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/AwsProfileRegionProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/internal/HeaderMarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/StaticSignerProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/profile/path/config/ConfigEnvVarOverrideLocationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/profile/path/AwsProfileFileLocationProviderChain.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/MarshallingType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/StructuredPojo.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/AwsRegionProviderChain.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/JsonClientMetadata.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/RetryCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/DefaultMarshallingType.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/MarshallLocation.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/internal/BasicProfile.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/TimingInfoUnmodifiable.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/ProtocolRequestMarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/SdkHttpMetadata.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/JsonContent.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/XMLWriter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/StaticCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/RetryPolicyContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/ClientExecutionParams.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/ListUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/ExecutionContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/JsonProtocolMarshallerBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkFunction.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/TimingInfo.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/AmazonWebServiceRequestAdapter.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/Protocol.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/ProtocolMarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/internal/ValueToStringConverters.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/RetryOnStatusCodeCondition.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/presign/PresignerParams.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/AwsEnvVarOverrideRegionProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/protocol/json/internal/SimpleTypePathMarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/MarshallingInfo.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/request/HttpRequestFactory.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/BackoffStrategy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/presign/PresignerFacade.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/DefaultAwsRegionProviderChain.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/internal/QueryParamMarshallers.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/JsonContentTypeResolverImpl.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/AwsAsyncClientParams.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/ClientHandlerImpl.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/internal/JsonMarshallerContext.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWSStaticCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/profile/path/cred/CredentialsLegacyConfigLocationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/V2CompatibleBackoffStrategy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/JsonContentTypeResolver.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/V2CompatibleBackoffStrategyAdapter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/internal/MarshallerRegistry.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/ClientHandler.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkJsonGenerator.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/internal/ProfileKeyConstants.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/timers/client/SdkInterruptedException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/v2/FixedDelayBackoffStrategy.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/builder/AwsAsyncClientBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/SdkStructuredJsonFactoryImpl.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/retry/PredefinedBackoffStrategies.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/DefaultValueSupplier.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/AbstractErrorUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWSRefreshableSessionCredentials.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/profile/path/cred/CredentialsDefaultLocationProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/internal/AwsProfileNameLoader.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/EndpointToRegion.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/client/builder/AwsSyncClientBuilder.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2021 Amazon Technologies, Inc.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Md5Utils.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2018-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0

*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/PolicyUtils.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/SigningAlgorithm.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/LegacyErrorUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/Unmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/SignatureVersion.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/AmazonClientException.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWSCredentials.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/VoidUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/HttpMethodName.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/XmlUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/SimpleTypeUnmarshallers.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2014-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0

*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/internal/AWS4SignerUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/internal/Profile.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/auth/profile/internal/securitytoken/STSProfileCredentialsServiceLoader.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/internal/SignerKey.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/internal/BasicProfileConfigLoader.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/request/ProgressSupport.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/auth/profile/internal/securitytoken/ProfileCredentialsService.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/ProgressEventFilter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/ProfilesConfigFile.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/Releasable.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/auth/profile/internal/ProfileProcessCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Platform.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/internal/securitytoken/RoleInfo.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/BoundedLinkedHashMap.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/internal/AWS4SignerRequestParams.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/ProcessCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/package-info.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/http/UnreliableTestConfig.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/FIFOCache.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/request/Progress.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/ProfilesConfigFileWriter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/ProgressTracker.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/DeliveryMode.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/auth/profile/internal/securitytoken/STSProfileCredentialsServiceProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/ResponseProgressInputStream.java
*
 /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkSSLSocket.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkSocket.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/UnreliableFilterInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/internal/SignerConstants.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/RequestProgressInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-
jar/com/amazonaws/auth/profile/internal/AbstractProfilesConfigFileScanner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/SdkInputStream.java

* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/SDKProgressPublisher.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/DelegateSSLSocket.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/ProgressInputStream.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/event/SyncProgressListener.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/profile/ProfileCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/LengthCheckInputStream.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright (c) 2019. Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/transform/EnhancedJsonErrorUnmarshaller.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/ReflectionMethodInvoker.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is divalibuted
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/protocol/json/internal/JsonProtocolMarshaller.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2014-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/StringMapBuilder.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/JodaTime.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Portions copyright 2006-2009 James Murty. Please see LICENSE.txt
* for applicable license terms and NOTICE.txt for applicable notices.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/
```

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/Classes.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/DateUtils.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/BinaryUtils.java
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright 2016-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License"). You may not
```

* use this file except in compliance with the License. A copy of the License is
* located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed on
* an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/http/IonErrorCodeParser.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/http/CompositeErrorCodeParser.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/http/ErrorCodeParser.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2013-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/Regions.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/ServiceAbbreviations.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2010-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either

* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/ImmutableMapParameter.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/SignerConfig.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/JsonIndex.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/Builder.java
*
/aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/Protocol.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/internal/config/SignerConfigJsonHelper.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2012-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
* http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/handlers/AsyncHandler.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2020-2021 Amazon.com, Inc. or its affiliates. All Rights Reserved.
*
* Licensed under the Apache License, Version 2.0 (the "License").
* You may not use this file except in compliance with the License.
* A copy of the License is located at
*
*  http://aws.amazon.com/apache2.0
*
* or in the "license" file accompanying this file. This file is distributed
* on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
* express or implied. See the License for the specific language governing
* permissions and limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/regions/MetadataSupportedRegionFromEndpointProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/RegionFromEndpointResolverAwareSigner.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/endpoint/DefaultRegionFromEndpointResolver.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/endpoint/RegionFromEndpointResolver.java
No license file was found, but licenses were detected in source scan.

/*
* Copyright 2011-2021 Amazon Technologies, Inc.
*
* Licensed under the Apache License, Version 2.0 (the "License");
* you may not use this file except in compliance with the License.
* You may obtain a copy of the License at:
*
*    http://aws.amazon.com/apache2.0
*
* This file is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES
* OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and
* limitations under the License.
*/

Found in path(s):
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/json/Jackson.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/ClassLoaderHelper.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/util/ServiceClientHolderInputStream.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/MetricAdmin.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/RequestClientOptions.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWSSessionCredentialsProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/BasicSessionCredentials.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/jmx/spi/JmxInfoProvider.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/jmx/spi/SdkMBeanRegistry.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/auth/AWSSessionCredentials.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/jmx/JmxInfoProviderSupport.java
* /aws-java-sdk-core-1-12-86-sources-1-jar/com/amazonaws/metrics/MetricAdminMBean.java

# 1.427 vim 8.0.1453-1ubuntu1.12

# 1.428 libmysqlclient20 5.7.41-0ubuntu0.18.04.1

## 1.428.1 Available under license :

This file contains a list of people who have made large contributions
to the public version of Protocol Buffers.

Original Protocol Buffers design and implementation:
 Sanjay Ghemawat <sanjay@google.com>
 Jeff Dean <jeff@google.com>
 Daniel Dulitz <daniel@google.com>
 Craig Silverstein
 Paul Haahr <haahr@google.com>
 Corey Anderson <corin@google.com>
 (and many others)

Proto2 C++ and Java primary author:
 Kenton Varda <kenton@google.com>

Proto2 Python primary authors:
 Will Robinson <robinson@google.com>
 Petar Petrov <petar@google.com>

Large code contributions:
 Jason Hsueh <jasonh@google.com>
 Joseph Schorr <jschorr@google.com>
 Wenbo Zhu <wenboz@google.com>

Large quantity of code reviews:
 Scott Bruce <sbruce@google.com>
 Frank Yellin
 Neal Norwitz <nnorwitz@google.com>
 Jeffrey Yasskin <jyasskin@google.com>
 Ambrose Feinstein <ambrose@google.com>

Documentation:
 Lisa Carey <lcarey@google.com>

Maven packaging:
 Gregory Kick <gak@google.com>

Patch contributors:
  Kevin Ko <kevin.s.ko@gmail.com>
   * Small patch to handle trailing slashes in --proto_path flag.
 Johan Euphrosine <proppy@aminche.com>
   * Small patch to fix Python CallMethod().

Ulrich Kunitz <kune@deine-taler.de>
  * Small optimizations to Python serialization.
Leandro Lucarella <llucax@gmail.com>
  * VI syntax highlighting tweaks.
  * Fix compiler to not make output executable.
Dilip Joseph <dilip.antony.joseph@gmail.com>
  * Heuristic detection of sub-messages when printing unknown fields in
    text format.
Brian Atkinson <nairb774@gmail.com>
  * Added @Override annotation to generated Java code where appropriate.
Vincent Choinire <Choiniere.Vincent@hydro.qc.ca>
  * Tru64 support.
Monty Taylor <monty.taylor@gmail.com>
  * Solaris 10 + Sun Studio fixes.
Alek Storm <alek.storm@gmail.com>
  * Slicing support for repeated scalar fields for the Python API.
Oleg Smolsky <oleg.smolsky@gmail.com>
  * MS Visual Studio error format option.

 * Detect unordered_map in stl_hash.m4.
Brian Olson <brianolson@google.com>
  * gzip/zlib I/O support.
Michael Poole <mdpoole@troilus.org>
  * Fixed warnings about generated constructors not explicitly initializing
    all fields (only present with certain compiler settings).
  * Added generation of field number constants.
Wink Saville <wink@google.com>
  * Fixed initialization ordering problem in logging code.
Will Pierce <willp@nuclei.com>
  * Small patch improving performance of in Python serialization.
Alexandre Vassalotti <alexandre@peadrop.com>
  * Emacs mode for Protocol Buffers (editors/protobuf-mode.el).
Scott Stafford <scott.stafford@gmail.com>
  * Added Swap(), SwapElements(), and RemoveLast() to Reflection interface.
Alexander Melnikov <alm@sibmail.ru>
  * HPUX support.
Oliver Jowett <oliver.jowett@gmail.com>
  * Detect whether zlib is new enough in configure script.
  * Fixes for Solaris 10 32/64-bit confusion.
Evan Jones <evanj@mit.edu>
   * Optimize Java serialization code when writing a small message to a stream.
  * Optimize Java serialization of strings so that UTF-8 encoding happens only
    once per string per serialization call.
  * Clean up some Java warnings.
  * Fix bug with permanent callbacks that delete themselves when run.
Michael Kucharski <m.kucharski@gmail.com>
  * Added CodedInputStream.getTotalBytesRead().
Kacper Kowalik <xarthisius.kk@gmail.com>

* Fixed m4/acx_pthread.m4 problem for some Linux distributions.
William Orr <will@worrbase.com>
* Fixed detection of sched_yield on Solaris.
* Added atomicops for Solaris
Copyright (c) 1992, 1993
The Regents of the University of California. All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.
Libevent is available for use under the following license, commonly known
as the 3-clause (or "modified") BSD license:

==========
Copyright (c) 2000-2007 Niels Provos <provos@citi.umich.edu>
Copyright (c) 2007-2012 Niels Provos and Nick Mathewson

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the

documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
==========

Portions of Libevent are based on works by others, also made available by them under the three-clause BSD license above. The copyright notices are available in the corresponding source files; the license is as above. Here's a list:

log.c:
Copyright (c) 2000 Dug Song <dugsong@monkey.org>
Copyright (c) 1993 The Regents of the University of California.

strlcpy.c:
Copyright (c) 1998 Todd C. Miller <Todd.Miller@courtesan.com>

win32select.c:
Copyright (c) 2003 Michael A. Davis <mike@datanerds.net>

evport.c:
Copyright (c) 2007 Sun Microsystems

ht-internal.h:
Copyright (c) 2002 Christopher Clark

minheap-internal.h:
Copyright (c) 2006 Maxim Yegorushkin <maxim.yegorushkin@gmail.com>

==========

The arc4module is available under the following, sometimes called the "OpenBSD" license:

Copyright (c) 1996, David Mazieres <dm@uun.org>
Copyright (c) 2008, Damien Miller <djm@openbsd.org>

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR
BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

==========

The Windows timer code is based on code from libutp, which is
distributed under this license, sometimes called the "MIT" license.

Copyright (c) 2010 BitTorrent, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be
included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
/*
Copyright (c) 2020, 2022, Oracle and/or its affiliates.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License, version 2.0,
as published by the Free Software Foundation.

This program is also distributed with certain software (including

but not limited to OpenSSL) that is licensed under separate terms,
as designated in a particular file or component or in included license
documentation.  The authors of MySQL hereby grant you an additional
permission to link the program and your derivative works with the
separately licensed software that they have included with MySQL.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License, version 2.0, for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301  USA
*/

LICENSE ISSUES
==============

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of
the OpenSSL License and the original SSLeay license apply to the toolkit.
See below for the actual license texts. Actually both licenses are BSD-style
Open Source licenses. In case of any license issues related to OpenSSL
please contact openssl-core@openssl.org.

OpenSSL License
---------------

/* ====================================================================
* Copyright (c) 1998-1999 The OpenSSL Project.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.

*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. All advertising materials mentioning features or use of this
*    software must display the following acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit. (http://www.openssl.org/)"

*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
*    endorse or promote products derived from this software without
*    prior written permission. For written permission, please contact
*    openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"
*    nor may "OpenSSL" appear in their names without prior written
*    permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the
 following
*    acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit (http://www.openssl.org/)"
*
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
 *
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com).  This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/

Original SSLeay License
-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions

```
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
 * the code are not to be removed.
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
 *     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can be left out if the rouines from the library
*    being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must include an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
 * LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed.  i.e. this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/
```

MEMCACHED CONTRIBUTORS

This file contains a list of people who have contributed code and
effort to the memcached project.  If you don't see your name mentioned
send email to the memcached mailing list so you can be immortalized.

Also see the ChangeLog for even more people who have helped over the
years by submitting fixes, patches and reporting bugs.

Major authors:
---

Brad Fitzpatrick <brad@danga.com>  -- maintainer, original implementations

Anatoly Vorobey <mellon@pobox.com> -- lots of the modern server code

Steven Grimm <sgrimm@facebook.com> -- iov writing (less CPU), UDP mode,
non-2.0 slab mantissas, multithread, ...

Other Contributors
---

Evan Martin <evan@danga.com>
Nathan Neulinger <nneul@umr.edu>
Eric Hodel <drbrain@segment7.net>
Michael Johnson <ahze@ahze.net>
Paul Querna <chip@corelands.com>
Jamie McCarthy <jamie@mccarthy.vg>
Philip Neustrom <philipn@gmail.com>
Andrew O'Brien <andrewo@oriel.com.au>
Josh
Rotenberg <joshrotenberg@gmail.com>
Robin H. Johnson <robbat2@gentoo.org>
Tim Yardley <liquid@haveheart.com>
Paolo Borelli <paolo.borelli@gmail.com>
Eli Bingham <eli@pandora.com>
Jean-Francois Bustarret <jfbustarret@wat.tv>
Paul G <paul-lists@perforge.com>
Paul Lindner <lindner@inuus.com>
Dormando <dormando@rydia.net>
Dustin Sallings <dustin@spy.net>
Chris Goffinet <goffinet@yahoo-inc.com>
Tomash Brechko <tomash.brechko@gmail.com>
Brian Aker <brian@tangent.org>
Trond Norbye <trond.norbye@sun.com>
Portions of this software contain modifications contributed by Percona, Inc.
These contributions are used with the following license:

Copyright (c) 2008, 2009, Percona Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the following
  disclaimer in the documentation and/or other materials
  provided with the distribution.
* Neither the name of the Percona Inc. nor the names of its
  contributors may be used to endorse or promote products
  derived from this software without specific prior written
  permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS
 IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Portions of this software contain modifications contributed by Google, Inc.
These contributions are used with the following license:

Copyright (c) 2008, Google Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the following
  disclaimer in the documentation and/or other materials
  provided with the distribution.
* Neither the name of the Google Inc. nor the names of its
  contributors may be used to endorse or promote products
  derived from this software without specific prior written
  permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Licensing Information User Manual

MySQL 5.7.28 (and later)

---

Introduction

This License Information User Manual contains Oracle's product license and other licensing information, including licensing information for third-party software which may be included in this distribution of MySQL 5.7.28 (and later).

Last updated: November 2022

Licensing Information

This is a release of MySQL 5.7.28 (and later), brought to you by the MySQL team at Oracle. This software is released under version 2 of the GNU General Public License (GPLv2), as set forth below, with the following additional permissions:

This distribution of MySQL 5.7.28 (and later) is distributed with certain software (including but not limited to OpenSSL) that is licensed under separate terms, as designated in a particular file or component or in the license documentation. Without limiting your rights under the GPLv2,
the authors of MySQL hereby grant you an additional permission to link the program and your derivative works with the separately licensed software that they have included with the program.

This distribution includes the MySQL C API client library (libmysqlclient) otherwise known as MySQL Connector/C. Without limiting the foregoing grant of rights under the GPLv2 and additional permission as to separately licensed software, this Connector is also subject to the Universal FOSS Exception, version 1.0, a copy of which is reproduced below and can also be found along with its FAQ at

http://oss.oracle.com/licenses/universal-foss-exception.

Copyright (c) 1997, 2022, Oracle and/or its affiliates.

Election of GPLv2

For the avoidance of doubt, except that if any license choice other
than GPL or LGPL is available it will apply instead, Oracle elects to
use only the General Public License version 2 (GPLv2) at this time for
any software where a choice
of GPL license versions is made available
with the language indicating that GPLv2 or any later version may be
used, or where a choice of which version of the GPL is applied is
otherwise unspecified.

GNU General Public License Version 2.0, June 1991

The following applies to all products licensed under the GNU General
Public License, Version 2.0: You may not use the identified files
except in compliance with the GNU General Public License, Version
2.0 (the "License.") You may obtain a copy of the License at
http://www.gnu.org/licenses/gpl-2.0.txt. A copy of the license is
also reproduced below. Unless required by applicable law or agreed
to in writing, software distributed under the License is distributed
on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND,
either express or implied. See the License for the specific language
governing permissions and limitations under the License.

==========
==========

GNU
GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim
copies of this license document, but changing it is not
allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free

software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such

interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections
of that work are not derived from the Program,
and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of
this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer

to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to

this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is
given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Program does not specify a
version number of this License, you may choose any version ever
published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the
author to ask for permission. For software which is copyrighted by the
Free Software Foundation, write to the Free Software Foundation; we
sometimes make exceptions for this. Our decision will be guided by the
two goals of preserving the free status of all derivatives of our free
software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED
FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND,
EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS
WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF
ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED
BY YOU OR THIRD PARTIES OR A
FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest

possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or
modify it under the
terms of the GNU General Public License as
published by the Free Software Foundation; either version 2 of

the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA
02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details
type 'show w'. This is free software, and you
are welcome
to redistribute it under certain conditions; type 'show c'
for details.

The hypothetical commands 'show w' and 'show c' should show the
appropriate parts of the General Public License. Of course, the
commands you use may be called something other than 'show w' and
'show c'; they could even be mouse-clicks or menu items--whatever
suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if

necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
program 'Gnomovision' (which makes passes at compilers) written
by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library,
you may consider it more useful to permit linking proprietary
applications
with the library. If this is what you want to do, use
the GNU Lesser General Public License instead of this License.

==========
==========

The Universal FOSS Exception, Version 1.0

In addition to the rights set forth in the other license(s) included in
the distribution for this software, data, and/or documentation
(collectively the "Software", and such licenses collectively with this
additional permission the "Software License"), the copyright holders
wish to facilitate interoperability with other software, data, and/or
documentation distributed with complete corresponding source under a
license that is OSI-approved and/or categorized by the FSF as free
(collectively "Other FOSS"). We therefore hereby grant the following
additional permission with respect to the use and distribution of the
Software with Other FOSS, and the constants,
function signatures, data
structures and other invocation methods used to run or interact with
each of them (as to each, such software's "Interfaces"):

i. The Software's Interfaces may, to the extent permitted by the
license of the Other FOSS, be copied into, used and distributed in
the Other FOSS in order to enable interoperability, without
requiring a change to the license of the Other FOSS other than as
to any Interfaces of the Software embedded therein. The Software's
Interfaces remain at all times under the Software License,
including without limitation as used in the Other FOSS (which upon
any such use also then contains a portion of the Software under the
Software License).

ii. The Other FOSS's Interfaces may, to the extent permitted by the
license of the Other FOSS, be copied into, used and distributed in
the Software in order to enable interoperability, without requiring

that such
Interfaces be licensed under the terms of the Software
License or otherwise altering their original terms, if this does
not require any portion of the Software other than such Interfaces
to be licensed under the terms other than the Software License.

iii. If only Interfaces and no other code is copied between the
Software and the Other FOSS in either direction, the use and/or
distribution of the Software with the Other FOSS shall not be
deemed to require that the Other FOSS be licensed under the license
of the Software, other than as to any Interfaces of the Software
copied into the Other FOSS. This includes, by way of example and
without limitation, statically or dynamically linking the Software
together with Other FOSS after enabling interoperability using the
Interfaces of one or both, and distributing the resulting
combination under different licenses for the respective portions
thereof.
For avoidance of doubt, a license which is OSI-approved or
categorized by the FSF as free, includes, for the purpose of this
permission, such licenses with additional permissions, and any
license that has previously been so approved or categorized as
free, even if now deprecated or otherwise no longer recognized as
approved or free. Nothing in this additional permission grants any
right to distribute any portion of the Software on terms other than
those of the Software License or grants any additional permission
of any kind for use or distribution of the Software in conjunction
with software other than Other FOSS.

==========
==========

Licenses for Third-Party Components

The following sections contain licensing information for libraries that
may be included with this product. We are thankful
to all individuals
that have created these. Standard licenses referenced herein are
detailed in the Standard Licenses section.

argparse

argparse is (c) 2006-2009 Steven J. Bethard <steven.bethard@gmail.com>.

The argparse module was contributed to Python as of Python 2.7 and thus was
licensed under the Python license. Same license applies to all files in the
argparse package project.

For details about the Python License, please see doc/Python-License.txt.

History
---

Before (and including) argparse 1.1, the argparse package was licensed under
Apache License v2.0.

After argparse 1.1, all project files from the argparse project were deleted
due to license compatibility issues between Apache License 2.0 and GNU GPL
v2.

The project repository then had a clean start with some files taken from
Python 2.7.1, so definitely all files are under Python License now.

################################################################################
####################################
PSF
LICENSE AGREEMENT FOR PYTHON 2.7.11

1. This LICENSE AGREEMENT is between the Python Software Foundation ("PSF"),
and the Individual or Organization ("Licensee") accessing and otherwise
using Python 2.7.11 software in source or binary form and its associated
documentation.

2. Subject to the terms and conditions of this License Agreement, PSF hereby
grants Licensee a nonexclusive, royalty-free, world-wide license to
reproduce, analyze, test, perform and/or display publicly, prepare
derivative works,distribute, and otherwise use Python 2.7.11 alone or in any
derivative version, provided, however, that PSF's License Agreement and
PSF's notice of copyright, i.e., "Copyright (c) 2001-2016 Python Software
Foundation; All Rights Reserved" are retained in Python 2.7.11 alone or in
any derivative version prepared by Licensee.

3. In the event Licensee prepares a derivative work that is based on or
incorporates Python 2.7.11 or any part thereof, and wants
to make the
derivative work available to others as provided herein, then Licensee hereby
agrees to include in any such work a brief summary of the changes made to
Python 2.7.11.

4. PSF is making Python 2.7.11 available to Licensee on an "AS IS" basis.
PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF
EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND DISCLAIMS ANY REPRESENTATION OR
WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE
USE OF PYTHON 2.7.11 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 2.7.11
FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF

MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 2.7.11, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between PSF and Licensee. This License Agreement does not grant permission to use PSF trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python 2.7.11, Licensee agrees to be bound by the terms and conditions of this License Agreement.

==========

==========

Boost C++ Libraries

Use of any of this software is governed by the terms of the license below:

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER

LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT
OF OR IN CONNECTION WITH THE SOFTWARE
OR THE USE OR OTHER DEALINGS
IN THE SOFTWARE.

==========
==========

Corosync

Copyright (c) 2002-2004 MontaVista Software, Inc.
Copyright (c) 2005-2010 RedHat, Inc.

All rights reserved.

This software licensed under BSD license, the text of which follows:

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this
list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.
- Neither the name of the MontaVista Software, Inc. nor the names of its
contributors may be used to endorse or promote products derived
from this
software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

Cyrus SASL

* Copyright (c)

1998-2003 Carnegie Mellon University.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. The name "Carnegie Mellon University" must not be used to
*    endorse or promote products derived from this software without
*    prior written permission. For permission or any other legal
*    details, please contact
*      Office of Technology Transfer
*      Carnegie Mellon University
*      5000 Forbes Avenue
*      Pittsburgh, PA  15213-3890
*      (412) 268-4387, fax: (412) 268-7395
*
     tech-transfer@andrew.cmu.edu
*
* 4. Redistributions of any form whatsoever must retain the following
*    acknowledgment:
*    "This product includes software developed by Computing Services
*     at Carnegie Mellon University (http://www.cmu.edu/computing/)."
*
* CARNEGIE MELLON UNIVERSITY DISCLAIMS ALL WARRANTIES WITH REGARD TO
* THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
* AND FITNESS, IN NO EVENT SHALL CARNEGIE MELLON UNIVERSITY BE LIABLE
* FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
* WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN
* AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING
* OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
*/

The following files

./lib
   saslint.h auxprop.c canonusr.c checkpw.c client.c common.c config.c
   external.c saslutil.c server.c seterror.c dlopen.c
./plugins
  scram.c gssapi.c
./common

plugin_common.c

have a license
header similar to the above with the following copyright:
/*
* Copyright (c) 1998-2016 Carnegie Mellon University. All rights reserved.
*

./lib/md5.c includes the following license header:
/* MD5C.C - RSA Data Security, Inc., MD5 message-digest algorithm
*/

/* Function names changed to avoid namespace collisions: Rob Siemborski */

/* Copyright (C) 1991-2, RSA Data Security, Inc. Created 1991. All
rights reserved.

License to copy and use this software is granted provided that it
is identified as the "RSA Data Security, Inc. MD5 Message-Digest
Algorithm" in all material mentioning or referencing this software
or this function.

License is also granted to make and use derivative works provided
that such works are identified as "derived from the RSA Data
Security, Inc. MD5 Message-Digest Algorithm" in all material
mentioning or referencing the derived work.

RSA Data Security, Inc. makes no representations concerning either
the merchantability of this software or the suitability
of this
software for any particular purpose. It is provided "as is"
without express or implied warranty of any kind.

These notices must be retained in any copies of any part of this
documentation and/or software.
*/

==========
==========

dtoa.c

The author of this software is David M. Gay.

Copyright (c) 1991, 2000, 2001 by Lucent Technologies.

Permission to use, copy, modify, and distribute this software for
any purpose without fee is hereby granted, provided that this entire

notice is included in all copies of any software which is or includes
a copy or modification of this software and in all copies of the
supporting documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR
IMPLIED WARRANTY. IN PARTICULAR, NEITHER THE AUTHOR NOR LUCENT
MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE
MERCHANTABILITY
OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR
PURPOSE.

==========
==========

Editline Library (libedit)

Some files are:
---

Copyright (c) 1992, 1993
The Regents of the University of California. All rights reserved.

This code is derived from software contributed to
Berkeley by Christos Zoulas of Cornell University.

Redistribution and use in source and binary forms,
with or without modification, are permitted provided
that the following conditions are met:

1. Redistributions of source code must retain the
 above copyright notice, this list of conditions
 and the following disclaimer.
2. Redistributions in binary form must reproduce the
 above copyright notice, this list of conditions and
 the following disclaimer in the documentation and/or
 other materials provided with the distribution.
3.
 Neither the name of the University nor the names of
 its contributors may be used to endorse or promote
 products derived from this software without specific
 prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO
EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR

CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED
AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING
IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

Some files are:

---

Copyright
(c) 2001 The NetBSD Foundation, Inc.
All rights reserved.

This code is derived from software contributed to The NetBSD Foundation

by Anthony Mallet.

Redistribution and use in source and binary forms,
with or without modification, are permitted provided
that the following conditions are met:

1. Redistributions of source code must retain the
  above copyright notice, this list of conditions
  and the following disclaimer.
2. Redistributions in binary form must reproduce the
  above copyright notice, this list of conditions and the
  following disclaimer in the documentation and/or
  other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC.
AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL
THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY
DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

Some files are:

---

Copyright (c) 1997 The NetBSD Foundation, Inc.
All rights reserved.

This code is derived from software contributed to The NetBSD Foundation

by Jaromir Dolecek.

Redistribution and use in source and binary forms,
with or without modification, are permitted provided
that the following conditions are met:

1. Redistributions of source code must retain the
  above copyright notice, this list of conditions
  and the following disclaimer.
2. Redistributions in binary form must reproduce
   the above copyright notice, this list of conditions
  and the following disclaimer in the documentation
  and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC.
AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL
THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

Some files are:

---

Copyright
(c) 1998 Todd C. Miller <Todd.Miller@courtesan.com>

Permission to use, copy, modify, and distribute this
software for any purpose with or without fee is hereby
granted, provided that the above copyright notice and
this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND TODD C. MILLER
DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE

INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL TODD C. MILLER BE LIABLE
FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION
OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION,
ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

==========
==========

Facebook Fast Checksum Patch

Facebook Fast Checksum Patch

Copyright (C)
2009-2010 Facebook, Inc. All Rights Reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY FACEBOOK, INC. "AS IS" AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO
EVENT SHALL FACEBOOK, INC. BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Also included:

crc32.c -- compute the CRC-32 of a buf stream
Copyright (C) 1995-2005 Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
  claim that you wrote the original software. If you use this software
  in a product, an acknowledgment in the product documentation would be
  appreciated but is not required.
2. Altered source versions must be
 plainly marked as such, and must not be
  misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly jloup@gzip.org
Mark Adler madler@alumni.caltech.edu

 ========================================================================
 ========================================================================

Facebook Patches

Copyright (c) 2012, Facebook, Inc.
All rights reserved.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
* Redistributions of source code must retain the above copyright notice,
this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

 ========================================================================
 ========================================================================

FindGTest.cmake

FindGTest.cmake helper script (part of CMake)

Copyright 2009 Kitware, Inc.
Copyright 2009 Philip Lowman
Copyright 2009 Daniel Blezek

Distributed
 under the OSI-approved BSD License (the "License");
see accompanying file Copyright.txt for details.

This software is distributed WITHOUT ANY WARRANTY; without even the
implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
See the License for more information.
==========
(To distributed this file outside of CMake, substitute the full
License text for the above reference.)

Thanks to Daniel Blezek  for the GTEST_ADD_TESTS code

Text of Copyright.txt mentioned above:

CMake - Cross Platform Makefile Generator
Copyright 2000-2009 Kitware, Inc., Insight Software Consortium
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must
 reproduce the above copyright
 notice, this list of conditions and the following disclaimer in the
 documentation and/or other materials provided with the distribution.

* Neither the names of Kitware, Inc., the Insight Software Consortium,
 nor the names of their contributors may be used to endorse or promote
 products derived from this software without specific prior written
 permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,

SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

Fred Fish's Dbug Library

N O T I C E

Copyright Abandoned, 1987, Fred Fish

This previously copyrighted work has been placed into the public domain by the author and may be freely used for any purpose, private or commercial.

Because of the number of inquiries I was receiving about the use of this product in commercially developed works I have decided to simply make it public domain to further its unrestricted use. I specifically would be most happy to see this material become a part of the standard Unix distributions by AT&T and the Berkeley Computer Science Research Group, and a standard part of the GNU system from the Free Software Foundation.

I would appreciate it, as a courtesy, if this notice is left in all copies and derivative works. Thank you.

The author makes no warranty of any kind with respect to this product and explicitly disclaims any implied warranties of merchantability or fitness for any particular purpose.

The dbug_analyze.c file is subject to the following notice:

Copyright June 1987, Binayak Banerjee
All rights reserved.

This program may be freely distributed under the same terms and conditions as Fred Fish's Dbug package.

==========
==========

getarg

getarg Function (getarg.h), getarg.c files)

Copyright (c) 1997 - 2000 Kungliga Tekniska Hgskolan
(Royal Institute of Technology, Stockholm, Sweden).
All rights reserved.

Redistribution and use in
source and binary forms, with
or without modification, are permitted provided that the
following conditions are met:

1. Redistributions of source code must retain the above
copyright notice, this list of conditions and the
following disclaimer.
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials
provided with the distribution.
3. Neither the name of the Institute nor the names of its
contributors may be used to endorse or promote products
derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE INSTITUTE AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING,
BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO
EVENT SHALL THE INSTITUTE OR CONTRIBUTORS BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

==========
==========

Google Controlling Master Thread I/O Rate Patch

Copyright (c) 2009, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
* Neither the name of the Google Inc. nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN
ANY
 WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

 ================================================================
 ================================================================

Google Perftools (TCMalloc utility)

Google Perftools (TCMalloc utility)

Copyright (c) 1998-2006, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or
without modification, are permitted provided that the following
conditions are met:

  * Redistributions of source code must retain the above
    copyright notice, this list of conditions and the following
    disclaimer.
  * Redistributions in binary form must reproduce the above
    copyright notice, this list of conditions and the following
    disclaimer in the documentation and/or other materials provided
    with the distribution.

* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or promote
products
derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

Google
Protocol Buffers

Protocol Buffers (aka Google protobuf)

Google Protocol Buffers - protobuf
Copyright 2008, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms,
with or without modification, are permitted provided
that the following conditions are met:

* Redistributions of source code must retain the above
copyright notice, this list of conditions and the
following disclaimer.
* Redistributions in binary form must reproduce the
above copyright notice, this list of conditions and
the following disclaimer in the documentation and/or
other materials provided with the distribution.
* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or promote products
derived from this software without specific prior written
permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,

INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS
BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY,
OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Code generated by the Protocol Buffer compiler is owned by
the owner of the input file used when generating it. This
code is not standalone and requires a support library to be
linked with it. This support library is itself covered by
the above license.

==========
==========

Google SMP Patch

Google
SMP patch

Copyright (c) 2008, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
* Neither the name of the Google Inc. nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,

INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

Google Test (including GMock)

Google Mock (GMock) is an extension to Google Test for writing and using C++ mock classes. Google Test (including the Google Mock extension) is licensed under the following terms:

Copyright 2008, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are
permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

ICU4C Unicode Libraries

This Oracle Product includes or references ICU4C, which is licensed
to Oracle under the following terms:

Copyright (c) 1995-2013 International Business Machines Corporation and
others

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, and/or
sell copies of the
Software, and to permit persons to whom the Software is furnished to do so,
provided that the above copyright notice(s) and this permission notice appear
in all copies of the Software and that both the above copyright notice(s) and
this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE
LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not
be used in advertising
or otherwise to promote the sale, use or other
dealings in this Software without prior written authorization of the
copyright holder.

All trademarks and registered trademarks mentioned herein are the property of
their respective owners.

The following Third-Party Software Licenses are also included as part of
UCU4C:

1. Unicode Data Files and Software
EXHIBIT 1
UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE

Unicode Data Files include all data files under the directories
http://www.unicode.org/Public/, http://www.unicode.org/reports/, and

http://www.unicode.org/cldr/data/. Unicode Data Files do not include PDF online code charts under the directory http://www.unicode.org/Public/. Software includes any source code published in the Unicode Standard or under the directories http://www.unicode.org/Public/, http://www.unicode.org/reports/, and http://www.unicode.org/cldr/data/.

NOTICE TO USER: Carefully read the following legal agreement. BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"), YOU UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright ?? 1991-2013 Unicode, Inc. All rights reserved. Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software that the data or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization

of the copyright holder.

Unicode and the Unicode logo are trademarks of Unicode, Inc. in the United States and other countries. All third party trademarks referenced herein are the property of their respective owners.

2. Chinese/Japanese Word Break Dictionary Data (cjdict.txt)

# The Google Chrome software developed by Google is licensed under the BSD license. Other software included in this distribution is provided under other licenses, as set forth below.
#
# The BSD License
# http://opensource.org/licenses/bsd-license.php
# Copyright (C) 2006-2008, Google Inc.
#
# All rights reserved.
#
# Redistribution and use in source and binary forms, with or without modification, are permitted provided that
the following conditions are met:
#
# Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
# Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
# Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
#
#
# THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
#
#
# The word list in cjdict.txt are generated by combining three word lists listed

```
#  below with further processing for compound word breaking. The frequency is
generated
#  with an iterative training against Google web corpora.
#
#  * Libtabe (Chinese)
#    - https://sourceforge.net/project/?group_id=1519
#   - Its license terms and conditions are shown below.
#
#  * IPADIC (Japanese)
#    - http://chasen.aist-nara.ac.jp/chasen/distribution.html
#    - Its license terms and conditions are shown below.
#
#  ---------COPYING.libtabe ---- BEGIN--------------------
#
#  /*
#   * Copyrighy (c) 1999 TaBE Project.
#   * Copyright (c) 1999 Pai-Hsiang Hsiao.
 #   * All rights reserved.
#   *
#   * Redistribution and use in source and binary forms, with or without
#   * modification, are permitted provided that the following conditions
#   * are met:
#   *
#   * . Redistributions of source code must retain the above copyright
#   *   notice, this list of conditions and the following disclaimer.
#   * . Redistributions in binary form must reproduce the above copyright
#   *   notice, this list of conditions and the following disclaimer in
#   *   the documentation and/or other materials provided with the
#   *   distribution.
#   * . Neither the name of the TaBE Project nor the names of its
#   *   contributors may be used to endorse or promote products derived
#   *   from this software without specific prior written permission.
#   *
#   * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
#   * "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
#   * LIMITED TO, THE IMPLIED WARRANTIES OF
 MERCHANTABILITY AND FITNESS
#   * FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
#   * REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
#   * INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
#   * (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
#   * SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
#   * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
#   * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
#   * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
#   * OF THE POSSIBILITY OF SUCH DAMAGE.
#   */
#
```

```
# /*
#  * Copyright (c) 1999 Computer Systems and Communication Lab,
#  *                    Institute of Information Science, Academia Sinica.
#  * All rights reserved.
#  *
#  * Redistribution and use in source and binary forms, with or without
#  * modification, are permitted provided that the following conditions
#  * are met:
 #  *
#  * . Redistributions of source code must retain the above copyright
#  *   notice, this list of conditions and the following disclaimer.
#  * . Redistributions in binary form must reproduce the above copyright
#  *   notice, this list of conditions and the following disclaimer in
#  *   the documentation and/or other materials provided with the
#  *   distribution.
#  * . Neither the name of the Computer Systems and Communication Lab
#  *   nor the names of its contributors may be used to endorse or
#  *   promote products derived from this software without specific
#  *   prior written permission.
#  *
#  * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
#  * "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
#  * LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
#  * FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
#  * REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
 #  * INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
#  * (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
#  * SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
#  * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
#  * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
#  * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
#  * OF THE POSSIBILITY OF SUCH DAMAGE.
#  */
#
#  Copyright 1996 Chih-Hao Tsai @ Beckman Institute, University of Illinois
#  c-tsai4@uiuc.edu  http://casper.beckman.uiuc.edu/~c-tsai4
#
#  ----------COPYING.libtabe-----END----------------------------------
#
#


# ----------COPYING.ipadic-----BEGIN----------------------------------
#
#  Copyright 2000, 2001, 2002, 2003 Nara Institute of Science
#  and Technology.  All Rights Reserved.
#
#  Use, reproduction, and distribution of this software is permitted.
#  Any copy of this software,
```

whether in its original form or modified,
# must include both the above copyright notice and the following
# paragraphs.
#
# Nara Institute of Science and Technology (NAIST),
# the copyright holders, disclaims all warranties with regard to this
# software, including all implied warranties of merchantability and
# fitness, in no event shall NAIST be liable for
# any special, indirect or consequential damages or any damages
# whatsoever resulting from loss of use, data or profits, whether in an
# action of contract, negligence or other tortuous action, arising out
# of or in connection with the use or performance of this software.
#
# A large portion of the dictionary entries
# originate from ICOT Free Software. The following conditions for ICOT
# Free Software applies to the current dictionary as well.
#
# Each User may also freely distribute the Program, whether in its
# original form or modified, to any third party or parties, PROVIDED
# that the
provisions of Section 3 ("NO WARRANTY") will ALWAYS appear
# on, or be attached to, the Program, which is distributed substantially
# in the same form as set out herein and that such intended
# distribution, if actually made, will neither violate or otherwise
# contravene any of the laws and regulations of the countries having
# jurisdiction over the User or the intended distribution itself.
#
# NO WARRANTY
#
# The program was produced on an experimental basis in the course of the
# research and development conducted during the project and is provided
# to users as so produced on an experimental basis. Accordingly, the
# program is provided without any warranty whatsoever, whether express,
# implied, statutory or otherwise. The term "warranty" used herein
# includes, but is not limited to, any warranty of the quality,
# performance, merchantability and fitness for a particular purpose of
# the program and the nonexistence of any infringement or violation
of
# any right of any third party.
#
# Each user of the program will agree and understand, and be deemed to
# have agreed and understood, that there is no warranty whatsoever for
# the program and, accordingly, the entire risk arising from or
# otherwise connected with the program is assumed by the user.
#
# Therefore, neither ICOT, the copyright holder, or any other
# organization that participated in or was otherwise related to the
# development of the program and their respective officials, directors,

# officers and other employees shall be held liable for any and all
# damages, including, without limitation, general, special, incidental
# and consequential damages, arising out of or otherwise in connection
# with the use or inability to use the program or any product, material
# or result produced or otherwise obtained by using the program,
# regardless of whether they have been advised of, or otherwise had
# knowledge of, the possibility of such damages
at any time during the
# project or thereafter. Each user will be deemed to have agreed to the
# foregoing by his or her commencement of use of the program. The term
# "use" as used herein includes, but is not limited to, the use,
# modification, copying and distribution of the program and the
# production of secondary products from the program.
#
# In the case where the program, whether in its original form or
# modified, was distributed or delivered to or received by a user from
# any person, organization or entity other than ICOT, unless it makes or
# grants independently of ICOT any specific warranty to the user in
# writing, such person, organization or entity, will also be exempted
# from and not be held liable to the user for any such damages as noted
# above as far as the program is concerned.
#
# ----------COPYING.ipadic-----END----------

3. Lao Word Break Dictionary Data (laodict.txt)

# Copyright (c) 2013
International Business Machines Corporation
# and others. All Rights Reserved.
#
# Project: http://code.google.com/p/lao-dictionary/
# Dictionary: http://lao-dictionary.googlecode.com/git/Lao-Dictionary.txt
# License:
http://lao-dictionary.googlecode.com/git/Lao-Dictionary-LICENSE.txt
# (copied below)
#
# This file is derived from the above dictionary, with slight modifications.

# ----------
---
# Copyright (C) 2013 Brian Eugene Wilson, Robert Martin Campbell.
# All rights reserved.
#
# Redistribution and use in source and binary forms, with or without
modification,
# are permitted provided that the following conditions are met:
#
# Redistributions of source code must retain the above copyright notice,

this
# list of conditions and the following disclaimer. Redistributions in
binary
# form must reproduce the above copyright notice, this list of conditions
and
# the
following disclaimer in the documentation and/or other materials
# provided with the distribution.
#
# THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS
IS" AND
# ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED
# WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
# DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE
LIABLE FOR
# ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES
# (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES;
# LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED
AND ON
# ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
# (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS
# SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# ------------------------------------------------------------------------
---

4. Time Zone
Database

ICU uses the public domain data and code derived from Time Zone Database for
its time zone support. The ownership of the TZ database is explained in BCP
175: Procedure for Maintaining the Time Zone Database section 7.

7. Database Ownership

The TZ database itself is not an IETF Contribution or an IETF
document. Rather it is a pre-existing and regularly updated work
that is in the public domain, and is intended to remain in the public
domain. Therefore, BCPs 78 [RFC5378] and 79 [RFC3979] do not apply
to the TZ Database or contributions that individuals make to it.
Should any claims be made and substantiated against the TZ Database,
the organization that is providing the IANA Considerations defined in
this RFC, under the memorandum of understanding with the IETF,
currently ICANN, may act in accordance with all competent court

orders. No ownership claims will be made by ICANN or the IETF Trust
on the database or the code. Any person making
a contribution to the
database or code waives all rights to future claims in that
contribution or in the TZ Database.

==========
==========

Janson

Include the following verbatim in the documentation:

Licence Text:

Copyright (c) (c) 2009-2013 Petri Lehtinen <petri@digip.org>

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED
"AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

==========
==========

jemalloc

Copyright (C) 2002-present Jason Evans <jasone@canonware.com>.
All rights reserved.
Copyright (C) 2007-2012 Mozilla Foundation. All rights reserved.
Copyright (C) 2009-present Facebook, Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain
the above copyright notice(s),
this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice(s),
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER(S) ``AS IS'' AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER(S) BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF
SUCH DAMAGE.

==========
==========

lib_sql.cc

Copyright (c) 2000
SWsoft company

This material is provided "as is", with absolutely no warranty
expressed or implied. Any use is at your own risk.

Permission to use or copy this software for any purpose is hereby
granted without fee, provided the above notices are retained on
all copies. Permission to modify the code and to distribute modified
code is granted, provided the above notices are retained, and a
notice that the code was modified is included with the above copyright
notice.

This code was modified by the MySQL team.

==========
==========

Libaio

You may be receiving a copy of the Libaio library with this MySQL
product. The terms of the Oracle license

do NOT apply to the Libaio
library; it is licensed under the following license, separately from
the Oracle programs you receive. If you do not wish to install this
program, you may delete its files.

This component is licensed under
GNU Lesser General Public License v2.1, February 1999.
See the 'Standard Licenses' section for license text.

==========
==========

libeditline-color

Copyright (c) 1992, 1993
The Regents of the University of California.  All rights reserved.

This code is derived from software contributed to Berkeley by
Christos Zoulas of Cornell University.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions
 in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE
 OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

==========
==========

libevent

Copyright (c) 2000-2007 Niels Provos <provos@citi.umich.edu>
Copyright (c) 2007-2012 Niels Provos and Nick Mathewson

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
  derived from this software without
 specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
==========

Portions of Libevent are based on works by others, also made available by
them under the three-clause BSD license above.  The copyright notices are
available in the corresponding source files; the license is as above.  Here's
a
 list:

log.c:
  Copyright (c) 2000 Dug Song <dugsong@monkey.org>
  Copyright (c) 1993 The Regents of the University of California.

strlcpy.c:
  Copyright (c) 1998 Todd C. Miller <Todd.Miller@courtesan.com>

win32select.c:
  Copyright (c) 2003 Michael A. Davis <mike@datanerds.net>

evport.c:
  Copyright (c) 2007 Sun Microsystems

ht-internal.h:
  Copyright (c) 2002 Christopher Clark

minheap-internal.h:
  Copyright (c) 2006 Maxim Yegorushkin <maxim.yegorushkin@gmail.com>

==============================

The arc4module is available under the following, sometimes called the
"OpenBSD" license:

  Copyright (c) 1996, David Mazieres <dm@uun.org>
  Copyright (c) 2008, Damien Miller <djm@openbsd.org>

  Permission to use, copy, modify, and distribute this software for any
  purpose with or without fee is hereby granted, provided that the above
  copyright notice and this permission notice appear in all copies.

  THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
  WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
  MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
  ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
  WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
  ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
  OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

==============================

The Windows timer code is based on code from libutp, which is
distributed under this license, sometimes called the "MIT" license.

Copyright (c) 2010 BitTorrent, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
 Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE

AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========
==========

libgcc & libstdc++ Libraries

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone
is permitted to copy and distribute verbatim copies of
this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if
you wish), that you receive source code or can
get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether

gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds

of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in

force.  You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright.  Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below.  Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure
under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications

to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible

personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source.
The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for
a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions
apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not

permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors,
to run, modify and
propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License,
and you may not initiate
litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this
License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available,
or (2) arrange to deprive yourself of the benefit
of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory"

if it does not include within
the scope of its coverage, prohibits the exercise of, or is conditioned
on the non-exercise of one or more of the rights that are specifically
granted under this License. You may not convey a covered work if
you are a party to an arrangement with a third party that is in the
business of distributing software, under which you make payment to
the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license
or other defenses to infringement that may
otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement
or otherwise) that contradict the conditions of this License, they
do not excuse you from the conditions of this License. If you
cannot convey a covered work so as to satisfy simultaneously your
obligations under this License and any other pertinent obligations,
then as a consequence you may not convey it at all. For example,
if you agree to terms that obligate you to collect a royalty for
further conveying from those to whom you convey the Program, the
only way you could satisfy both those terms and this License would
be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the
GNU Affero General Public License into a
single combined work, and to convey the resulting work. The terms
of this License will continue to apply to the part which is the
covered work, but the special requirements of the GNU Affero General
Public License, section 13, concerning interaction through a network
will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions

of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the
Program does not specify a version number of
the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND
PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short

notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.
This is free software,
and you are welcome to redistribute it
under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the
appropriate parts of the General Public License. Of course, your
program's commands might be different; for a GUI interface, you
would use an "about box".

You should also get your employer (if you work as a programmer) or
school, if any, to sign a "copyright disclaimer" for the program,
if necessary. For more information on this, and how to apply and
follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your
program into proprietary programs. If your program is a subroutine
library, you may consider it more useful to permit linking proprietary
applications with the library. If this is what you want to do, use
the GNU Lesser General Public License instead of this License. But
first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.
==

==
GCC
RUNTIME LIBRARY EXCEPTION

Version 3.1, 31 March 2009

Copyright (c) 2009 Free Software Foundation, Inc. <http://fsf.org/>

Everyone is permitted to copy and distribute verbatim copies of
this license document, but changing it is not allowed.

This GCC Runtime Library Exception ("Exception") is an additional
permission under section 7 of the GNU General Public License, version
3 ("GPLv3"). It applies to a given file (the "Runtime Library")
that bears a notice placed by the copyright holder of the file
stating that the file is governed by GPLv3 along with this Exception.

When you use GCC to compile a program, GCC may combine portions of
certain GCC header files and runtime libraries with the compiled
program. The purpose of this Exception is to allow compilation of
non-GPL (including proprietary) programs to use, in this way, the
header files and runtime libraries covered by this Exception.

0. Definitions.

A file is an "Independent Module" if it either requires the Runtime Library for
execution after a Compilation Process, or makes use of
an interface provided by the Runtime Library, but is not otherwise
based on the Runtime Library.

"GCC" means a version of the GNU Compiler Collection, with or without
modifications, governed by version 3 (or a specified later version)
of the GNU General Public License (GPL) with the option of using
any subsequent versions published by the FSF.

"GPL-compatible Software" is software whose conditions of propagation,
modification and use would permit combination with GCC in accord
with the license of GCC.

"Target Code" refers to output from any compiler for a real or
virtual target processor architecture, in executable form or suitable
for input to an assembler, loader, linker and/or execution phase.
Notwithstanding that, Target Code does not include data in any
format that is used as a compiler intermediate representation, or
used for producing a compiler intermediate representation.

The "Compilation Process" transforms code entirely
represented in
non-intermediate languages designed for human-written code, and/or
in Java Virtual Machine byte code, into Target Code. Thus, for
example, use of source code generators and preprocessors need not
be considered part of the Compilation Process, since the Compilation
Process can be understood as starting with the output of the
generators or preprocessors.

A Compilation Process is "Eligible" if it is done using GCC, alone
or with other GPL-compatible software, or if it is done without
using any work based on GCC. For example, using non-GPL-compatible
Software to optimize any GCC intermediate representations would not
qualify as an Eligible Compilation Process.

1. Grant of Additional Permission.

You have permission to propagate a work of Target Code formed by
combining the Runtime Library with Independent Modules, even if
such propagation would otherwise violate the terms of GPLv3, provided
that all Target Code was generated by Eligible Compilation Processes.
You may

then convey such a combination under terms of your choice,
consistent with the licensing of the Independent Modules.

2. No Weakening of GCC Copyleft.

The availability of this Exception does not imply any general
presumption that third-party software is unaffected by the copyleft
requirements of the license of GCC.
==

==
Copyright (c) 1994
Hewlett-Packard Company

Permission to use, copy, modify, distribute and sell this software
and its documentation for any purpose is hereby granted without fee,
provided that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear
in supporting documentation.  Hewlett-Packard Company makes no
representations about the suitability of this software for any
purpose.  It is provided "as is" without express or implied
warranty.
==

==
Copyright (c) 1996,1997
Silicon Graphics Computer Systems, Inc.

Permission to use, copy, modify, distribute and sell this software
and its documentation
for any purpose is hereby granted without fee,
provided that the above copyright notice appear in all copies and
that both that copyright notice and this permission notice appear
in supporting documentation.  Silicon Graphics makes no
representations about the suitability of this software for any
purpose.  It is provided "as is" without express or implied
warranty.
==

==
shared_count.hpp
@  Copyright (c) 2001, 2002, 2003 Peter Dimov and Multi Media Ltd.

shared_ptr.hpp
Copyright (C) 1998, 1999 Greg Colvin and Beman Dawes.
Copyright (C) 2001, 2002, 2003 Peter Dimov

weak_ptr.hpp

Copyright (C) 2001, 2002, 2003 Peter Dimov

enable_shared_from_this.hpp
Copyright (C) 2002 Peter Dimov

Distributed under the Boost Software License, Version 1.0.

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or
organization obtaining a copy of the software and accompanying
documentation covered by this license (the
"Software") to use,
reproduce, display, distribute, execute, and transmit the Software,
and to prepare derivative works of the Software, and to permit
third-parties to whom the Software is furnished to do so, all subject
to the following:

The copyright notices in the Software and this entire statement,
including the above license grant, this restriction and the following
disclaimer, must be included in all copies of the Software, in whole
or in part, and all derivative works of the Software, unless such
copies or derivative works are solely in the form of machine-executable
object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND
NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE
DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER
LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE,
ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.
==

==
Copyright (C) 2004 Ami Tavory and Vladimir Dreizin, IBM-HRL.

Permission to use, copy, modify, sell, and distribute this software
is hereby granted without fee, provided that the above copyright
notice appears in all copies, and that both that copyright notice
and this permission notice appear in supporting documentation. None
of the above authors, nor IBM Haifa Research Laboratories, make any
representation about the suitability of this software for any
purpose. It is provided "as is" without express or implied warranty.
==

==========
==========

libssh

You are receiving a copy of libssh as part of MySQL Shell (a component of the
MySQL server) in object code form. The terms of the Oracle license do NOT apply
to libssh; libssh is licensed under
the LGPLv2.1 license, separate from MySQL.
If you do not wish to install this library, you may remove it, but the Oracle
program might not operate properly or at all without it. Depending on the
operating system the library can be found in the following locations:

- Linux: <librarydir-prefix>/mysql-shell/libssh.so
- OSX: <librarydir-prefix>/mysql-shell/libssh.dylib
- Windows: <installation-path>\bin\libssh.dll

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

This component is licensed under
GNU Lesser General Public License v2.1, February 1999.
See the 'Standard
Licenses' section for license text.

Additional Libraries Used by libssh
libssh has dependencies on the following libraries:

libgcrypt v1.7.3
---

The library is distributed under the terms of the GNU Lesser
General Public License (LGPL); see the file COPYING.LIB for the
actual terms.  The helper programs (e.g. gcryptrnd and getrandom)
as well as the documentation are distributed under the terms of
the GNU General Public License (GPL); see the file COPYING for the
actual terms.  The file LICENSES has notices about contributions
that require these additional notices are distributed.

Oracle's libssh implementation does not use any of the GPL licensed files
that are included with the libgcrypt distribution

libgpg-error v1.24
---
Oracle uses a subset of the files in libgpg-error to build libssh,
All of the files used by Oracle are licensed under the LGPLv2.1

Libgpg-error is free software; you can redistribute it and/or modify
it under
 the terms of the GNU Lesser General Public License as
published by the Free Software Foundation; either version 2.1 of the
License, or (at your option) any later version.  See the file
COPYING.LIB for copyright and warranty information.  See the file
AUTHORS for a list of authors and important mail addresses.

However, some files (for example src/mkerrnos.awk) used in the build
process of the library and the manual are covered by a different
license.  Please see the header of these files and the file COPYING
for copyright and warranty information on these files.  A special
exception in the copyright license of these files makes sure that the
output in the build process, which is used in libgpg-error, is not
affected by the GPL.

COPYING:
---

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth
Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish),
that you receive source code or can get it
if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands
that there is no warranty for this free
software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this
General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"

means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately
publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no
charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on

the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections
when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided
that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means
the preferred form of the work for
making modifications to it. For an executable work, complete source

code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except
as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives
a license from the
original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this

License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software

Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE
THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program
is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston,
MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General
Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General

Public License instead of this License.

COPYING.LIB:

---

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and
other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies

of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License
therefore permits such linking only if the
entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain

special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little
to gain by limiting the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with
the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated

straightforwardly
into another language. (Hereinafter, translation is
included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive
it, in any medium, provided that
you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third
parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility

is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply
the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it
with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather
than a "work that uses the
library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you
may
distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6,

whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the

Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the

original copyright holder who places the Library under this License
may add an explicit geographical distribution limitation excluding those
countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

13. The Free Software
Foundation may publish revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for
this. Our
decision will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS
PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE

LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James
Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

==========
==========

LZ4

LZ4 Library
Copyright (c) 2011-2016, Yann Collet
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
this list of conditions
and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

md5 (Message-Digest Algorithm 5)

md5 (Message-Digest Algorithm 5)

This code implements the MD5 message-digest algorithm.

The algorithm is due to Ron Rivest.  This code was
written by Colin Plumb in 1993, no copyright is claimed.
This code is in the public domain; do with it what you wish.

Equivalent code is available from RSA Data Security, Inc.
This code has been tested against that, and is equivalent,
except that you don't need to include two pages of legalese
with every copy.

The code has been modified by Mikael Ronstroem to handle
calculating a hash value of a key that is always a multiple
of 4 bytes long. Word 0 of the calculated 4-word hash value
is returned as the hash value.

==========
==========

MeCab

Copyright
(c) 2001-2008, Taku Kudo
Copyright (c) 2004-2008, Nippon Telegraph and Telephone Corporation
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above
  copyright notice, this list of conditions and the
  following disclaimer.

* Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the
  following disclaimer in the documentation and/or other
  materials provided with the distribution.

* Neither the name of the Nippon Telegraph and Telegraph Corporation
  nor the names of its contributors may be used to endorse or
  promote products derived from this software without specific
  prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,

INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

MeCab Dictionary

Copyright 2000, 2001, 2002, 2003 Nara Institute of Science and Technology.
All Rights Reserved.

Use, reproduction, and distribution of this software is permitted. Any copy of this software, whether in its original
 form or modified, must include both
the above copyright notice and the following paragraphs.

Nara Institute of Science and Technology (NAIST), the copyright holders, disclaims all warranties with regard to this software, including all implied warranties of merchantability and fitness, in no event shall NAIST be liable for any special, indirect or consequential damages or any damages whatsoever resulting from loss of use, data or profits, whether in an action of contract, negligence or other tortuous action, arising out of or in connection with the use or performance of this software.

A large portion of the dictionary entries originate from ICOT Free Software. The following conditions for ICOT Free Software applies to the current dictionary as well.

Each User may also freely distribute the Program, whether in its original form or modified, to any third party or parties, PROVIDED that the provisions of Section 3 ("NO WARRANTY") will ALWAYS appear on, or be attached to, the Program,
 which is distributed substantially in the same form as set out
herein and that such intended distribution, if actually made, will neither violate or otherwise contravene any of the laws and regulations of the countries having jurisdiction over the User or the intended distribution itself.

NO WARRANTY

The program was produced on an experimental basis in the course of the research and development conducted during the project and is provided to users as so produced on an experimental basis.  Accordingly, the program is

provided without any warranty whatsoever, whether express, implied, statutory or otherwise. The term "warranty" used herein includes, but is not limited to, any warranty of the quality, performance, merchantability and fitness for a particular purpose of the program and the nonexistence of any infringement or violation of any right of any third party.

Each user of the program will agree and understand, and be deemed to have agreed and understood, that there is no warranty whatsoever for the program and, accordingly, the entire risk arising from or otherwise connected with the program is assumed by the user.

Therefore, neither ICOT, the copyright holder, or any other organization that participated in or was otherwise related to the development of the program and their respective officials, directors, officers and other employees shall be held liable for any and all damages, including, without limitation, general, special, incidental and consequential damages, arising out of or otherwise in connection with the use or inability to use the program or any product, material or result produced or otherwise obtained by using the program, regardless of whether they have been advised of, or otherwise had knowledge of, the possibility of such damages at any time during the project or thereafter. Each user will be deemed to have agreed to the foregoing by his or her commencement of use of the program. The term "use" as used herein includes, but is not limited to, the use, modification, copying and distribution of the program and the production of secondary products from the program.

In the case where the program, whether in its original form or modified, was distributed or delivered to or received by a user from any person, organization or entity other than ICOT, unless it makes or grants independently of ICOT any specific warranty to the user in writing, such person, organization or entity, will also be exempted from and not be held liable to the user for any such damages as noted above as far as the program is concerned.

==========
==========

memcached

Copyright (c) 2003, Danga Interactive, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the
above copyright
notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer
in the documentation and/or other materials provided with the
distribution.

* Neither the name of the Danga Interactive nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========
==========

nt_servc (Windows NT Service class library)

Windows NT Service class library
Copyright Abandoned 1998 Irena Pancirov - Irnet Snc
This file is public domain and comes with NO WARRANTY of any kind

==========
==========

OpenSSL 1.x

You are receiving a copy of OpenSSL as part of this product in
object code form. The terms of the Oracle license do NOT apply to
OpenSSL. OpenSSL is licensed under a double license, of the OpenSSL
License and the original SSLeay license, separate from
the Oracle
product. If you do not wish to install this library, you may remove
it, but the Oracle program might not operate properly or at all

without it.

---

LICENSE ISSUES
==========

The OpenSSL toolkit stays under a double license, i.e. both the conditions of
the OpenSSL License and the original SSLeay license apply to the toolkit.
See below for the actual license texts.

OpenSSL License
---

/* ====================================================================
* Copyright (c) 1998-2019 The OpenSSL Project.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
*
* 2. Redistributions in binary form must reproduce the above
copyright
*    notice, this list of conditions and the following disclaimer in
*    the documentation and/or other materials provided with the
*    distribution.
*
* 3. All advertising materials mentioning features or use of this
*    software must display the following acknowledgment:
*    "This product includes software developed by the OpenSSL Project
*    for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
*
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
*    endorse or promote products derived from this software without
*    prior written permission. For written permission, please contact
*    openssl-core@openssl.org.
*
* 5. Products derived from this software may not be called "OpenSSL"
*    nor may "OpenSSL" appear in their names without prior written
*    permission of the OpenSSL Project.
*
* 6. Redistributions of any form whatsoever must retain the following
*    acknowledgment:
*    "This product includes software developed

by the OpenSSL Project
*    for use in the OpenSSL Toolkit (http://www.openssl.org/)"
*
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS" AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic software
written by Eric Young
* (eay@cryptsoft.com).  This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/

Original SSLeay License
-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to.  The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code.  The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is used in a product,
Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.

*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
*     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can
 be left out if the rouines from the library
*    being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must include an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
 * OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed.  i.e. this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/

 ==========================================================================
 ==========================================================================

Percona Multiple I/O Threads Patch

Copyright (c) 2008, 2009 Percona Inc
All rights reserved.

Redistribution and use of this software in source and binary forms,
with or without modification, are permitted provided that the

following conditions are met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following
 disclaimer in the
  documentation and/or other materials provided with the distribution.
* Neither the name of Percona Inc. nor the names of its contributors
  may be used to endorse or promote products derived from this software
  without specific prior written permission of Percona Inc.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN
ANY WAY OUT OF THE USE OF THIS SOFTWARE,
 EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

 ==========
 ==========

Pion

This Oracle Product includes or references Pion which is licensed to
Oracle under the following terms:

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization
obtaining a copy of the software and accompanying documentation covered by
this license (the "Software") to use, reproduce, display, distribute,
execute, and transmit the Software, and to prepare derivative works of the
Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part,
 and
all derivative works of the Software, unless such copies or derivative

works are solely in the form of machine-executable object code generated by
a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========
==========

RapidJSON v1.1.0

Copyright (C) 2015 THL A29 Limited, a Tencent company, and Milo Yip. All
rights reserved.

If you have downloaded a copy of the RapidJSON binary from Tencent, please
note that
the RapidJSON binary is licensed under the MIT License.
If you have downloaded a copy of the RapidJSON source code from Tencent,
please note that RapidJSON source code is licensed under the MIT License,
except for the third-party components listed below which are subject to
different license terms. Your integration of RapidJSON into your own
projects may require compliance with the MIT License, as well as the other
licenses applicable to the third-party components included within RapidJSON.
To avoid the problematic JSON license in your own projects, it's sufficient
to exclude the bin/jsonchecker/ directory, as it's the only code under the
JSON license.
A copy of the MIT License is included in this file.

Other dependencies and licenses:

Open Source Software Licensed Under the BSD License:
---

The msinttypes r29
Copyright (c) 2006-2013 Alexander Chemeris
All rights reserved.

Redistribution and use in source and binary
forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.
* Neither the name of  copyright holder nor the names of its contributors may
be used to endorse or promote products derived from this software without
specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE REGENTS AND CONTRIBUTORS BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING,
 BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Open Source Software Licensed Under the JSON License:
----------

json.org
Copyright (c) 2002 JSON.org
All Rights Reserved.

JSON_checker
Copyright (c) 2002 JSON.org
All Rights Reserved.

Terms of the JSON License:
---

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies
 of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

The Software shall be used for Good, not Evil.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR

IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Terms of the MIT License:
---

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"),
to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========
==========

RegEX-Spencer
Library

The following software may be included in this product: Henry
Spencer's Regular-Expression Library (RegEX-Spencer)

Copyright 1992, 1993, 1994 Henry Spencer. All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this

software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
explicit claim or by omission. Since few users ever read sources,
credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
misrepresented as being the original software. Since few
users
ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

==========
==========

Richard A. O'Keefe String Library

The Richard O'Keefe String Library is subject to the following notice:

These files are in the public domain. This includes getopt.c, which
is the work of Henry Spencer, University of Toronto Zoology, who
says of it "None of this software is derived from Bell software. I
had no access to the source for Bell's versions at the time I wrote
it. This software is hereby explicitly placed in the public domain.
It may be used for any purpose on any machine by anyone." I would
greatly prefer it if *my* material received no military use.

The t_ctype.h file is subject to the following notice:

Copyright (C) 1998, 1999 by Pruet Boonma, all rights reserved.
Copyright (C) 1998 by Theppitak Karoonboonyanan,
all rights reserved.

Permission to use, copy, modify, distribute and sell this software and its
documentation for any purpose is hereby granted without fee, provided that the
above copyright notice appear in all copies.

Smaphan Raruenrom and Pruet Boonma makes no representations about
the suitability of this software for any purpose. It is provided
"as is" without express or implied warranty.

==========
==========

sajson

Copyright (c) 2012 Chad Austin

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so,
subject
to the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR
ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF
CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

==========
==========

SHA-1 in C

SHA-1 in C
By Steve Reid <steve@edmweb.com>
100% Public Domain

==========
==========

Time
Zone Information

Unless specified below, all files in the tz code and data (including this
LICENSE file) are in the public domain. If the files date.c,
newstrftime.3, and strftime.c are present, they contain material derived
from BSD and use the BSD 3-clause license. tzdata:
# This file is in the public domain, so clarified as of
# 2009-05-17 by Arthur David Olson.
/* Copyright 1985, 1987, 1988 The Regents of the University of California.
All rights reserved.
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright

notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3.
Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE. */

==========
==========

Unicode Data Files

# unidata-5.2.0.txt
# Date: 2009-09-22, 16:23:42 PDT [KW]
#
# This file defines the Default Unicode Collation Element Table
# (DUCET) for the Unicode Collation Algorithm
#
# Copyright (c) 2001-2009 Unicode, Inc.
# For terms of use, see http://www.unicode.org/terms_of_use.html
#
# See UTS #10, Unicode Collation Algorithm, for more information.
#
# Diagnostic weight ranges
# Primary weight range: 0200..3ACA (14539)
# Secondary weight range: 0020..0192 (371)
# Variant secondaries: 0159..015E (6)
# Digit secondaries: 015F..0192 (52)
# Tertiary weight range: 0002..001F (30)
#
@version 5.2.0

=== http://www.unicode.org/terms_of_use.html
For the general privacy policy governing access to this site, see the
Unicode Privacy Policy.

Unicode Copyright
Copyright (c) 1991-2020 Unicode, Inc. All rights reserved.
Definitions
Unicode Data Files
("DATA FILES") include all data files under the
directories:
https://www.unicode.org/Public/
https://www.unicode.org/reports/
https://www.unicode.org/ivd/data/
Unicode Data Files do not include PDF online code charts under the directory:
https://www.unicode.org/Public/
Unicode Software ("SOFTWARE") includes any source code published in the
Unicode Standard
or any source code or compiled code under the directories:
https://www.unicode.org/Public/PROGRAMS/
https://www.unicode.org/Public/cldr/
http://site.icu-project.org/download/

Terms of Use
Certain documents and files on this website contain a legend indicating that
"Modification is permitted." Any person is hereby authorized, without fee, to
modify such documents and files to create derivative works conforming to the
Unicode(R) Standard, subject to Terms and Conditions herein.
Any person is hereby authorized, without fee, to view, use, reproduce, and
distribute all documents and files, subject to the Terms and Conditions
herein.
Further
specifications of rights and restrictions pertaining to the use of
the Unicode DATA FILES and SOFTWARE can be found in the Unicode Data Files
and Software License.
Each version of the Unicode Standard has further specifications of rights and
restrictions of use. For the book editions (Unicode 5.0 and earlier), these
are found on the back of the title page.
The Unicode PDF online code charts carry specific restrictions. Those
restrictions are incorporated as the first page of each PDF code chart.
All other files, including online documentation of the core specification for
Unicode 6.0 and later, are covered under these general Terms of Use.
No license is granted to "mirror" the Unicode website where a fee is charged
for access to the "mirror" site.
Modification is not permitted with respect to this document. All copies of
this document must be verbatim.

Restricted Rights Legend
Any technical data or software which is licensed to the United States of
America, its agencies and/or instrumentalities
under this Agreement is
commercial technical data or commercial computer software developed

exclusively at private expense as defined in FAR 2.101, or DFARS 252.227-7014 (June 1995), as applicable. For technical data, use, duplication, or disclosure by the Government is subject to restrictions as set forth in DFARS 202.227-7015 Technical Data, Commercial and Items (Nov 1995) and this Agreement. For Software, in accordance with FAR 12-212 or DFARS 227-7202, as applicable, use, duplication or disclosure by the Government is subject to the restrictions set forth in this Agreement.

Warranties and Disclaimers

This publication and/or website may include technical or typographical errors or other inaccuracies. Changes are periodically added to the information herein; these changes will be incorporated in new editions of the publication and/or website. Unicode, Inc. may make improvements and/or changes in the product(s) and/or program(s) described in this publication and/or website at any time.

If this file has been purchased on magnetic or optical media from Unicode, Inc. the sole and exclusive remedy for any claim will be exchange of the defective media within ninety (90) days of original purchase.

EXCEPT AS PROVIDED IN SECTION E.2, THIS PUBLICATION AND/OR SOFTWARE IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND EITHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. UNICODE, INC. AND ITS LICENSORS ASSUME NO RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THIS PUBLICATION AND/OR SOFTWARE OR OTHER DOCUMENTS WHICH ARE REFERENCED BY OR LINKED TO THIS PUBLICATION OR THE UNICODE WEBSITE.

Waiver of Damages

In no event shall Unicode, Inc. or its licensors be liable for any special, incidental, indirect or consequential damages of any kind, or any damages whatsoever, whether or not Unicode, Inc. was advised of the possibility of the damage, including, without limitation, those resulting from the following: loss of use, data or profits, in connection with the use, modification or distribution of this information or its derivatives.

Trademarks & Logos

The Unicode Word Mark and the Unicode Logo are trademarks of Unicode, Inc.

The Unicode Consortium and Unicode, Inc. are trade names of Unicode, Inc.

Use of the information and materials found on this website indicates your acknowledgement of Unicode, Inc.s exclusive worldwide rights in the Unicode Word Mark, the Unicode Logo, and the Unicode trade names.

The Unicode Consortium Name and Trademark Usage Policy (Trademark Policy) are incorporated herein by reference and you agree to abide by the provisions of the Trademark Policy, which may be changed from time to time in the sole discretion of Unicode, Inc.

All third party trademarks referenced herein are the property of their

respective owners.

Miscellaneous
Jurisdiction and Venue. This website is operated from a location in the State of California,
United States of America. Unicode, Inc. makes no representation that the materials are appropriate for use in other locations. If you access this website from other locations, you are responsible for compliance with local laws. This Agreement, all use of this website and any claims and damages resulting from use of this website are governed solely by the laws of the State of California without regard to any principles which would apply the laws of a different jurisdiction. The user agrees that any disputes regarding this website shall be resolved solely in the courts located in Santa Clara County, California. The user agrees said courts have personal jurisdiction and agree to waive any right to transfer the dispute to any other forum.

Modification by Unicode, Inc. Unicode, Inc. shall have the right to modify this Agreement at any time by posting it to this website. The user may not assign any part of this Agreement without Unicode, Inc.s prior written consent.

Taxes. The user agrees
to pay any taxes arising from access to this website or use of the information herein, except for those based on Unicodes net income.

Severability. If any provision of this Agreement is declared invalid or unenforceable, the remaining provisions of this Agreement shall remain in effect.

Entire Agreement. This Agreement constitutes the entire agreement between the parties.

==========

==========

Unicode Data Files

UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE

Unicode Data Files include all data files under the directories http://www.unicode.org/Public/, http://www.unicode.org/reports/, http://www.unicode.org/cldr/data/, http://source.icu-project.org/repos/icu/, and http://www.unicode.org/utility/trac/browser/.

Unicode Data Files do not include PDF online code charts under the directory http://www.unicode.org/Public/.

Software includes any source
code published in the Unicode Standard
or under the directories http://www.unicode.org/Public/,
http://www.unicode.org/reports/, http://www.unicode.org/cldr/data/,
http://source.icu-project.org/repos/icu/, and
http://www.unicode.org/utility/trac/browser/.

NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S
DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE
TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE
THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1991-2016 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy
of the Unicode data files and any associated documentation (the "Data Files")
or Unicode software and
any associated documentation (the "Software") to deal
in the Data Files or Software without restriction, including without
limitation the rights to use, copy, modify, merge, publish, distribute,
and/or sell copies of the Data Files or Software, and to permit persons to
whom the Data Files or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies of the Data
Files or Software, or (b) this copyright and permission notice appear in
associated Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY
KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF
THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS
INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR
CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE
OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not
be used in advertising or otherwise to promote the sale, use or other
dealings in these Data Files or Software without prior written authorization
of the copyright holder.

==========

ICU-LICENSE
---
ICU License - ICU 1.8.1 and later

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1995-2016 International Business Machines Corporation and
others

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, and/or sell copies of the
Software, and to permit
persons to whom the Software is furnished to do so,
provided that the above copyright notice(s) and this permission notice appear
in all copies of the Software and that both the above copyright notice(s) and
this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE
LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR
ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not
be used in advertising or otherwise to promote the sale, use
or other
dealings in this Software without prior written authorization of the
copyright holder.

All trademarks and registered trademarks mentioned herein are the property of
their respective owners.

==========
==========

xxHash

Copyright (c) 2012-2014, Yann Collet

All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
 this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice,
 this list of conditions and the following disclaimer in the documentation
 and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED
 WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

 ==========
 ==========

zlib

Oracle gratefully acknowledges the contributions of Jean-loup Gailly
and Mark Adler in creating the zlib general purpose compression
library which is used in this product.

Copyright (C)
 1995-2022 Jean-loup Gailly and Mark Adler

 This software is provided 'as-is', without any express or implied
 warranty.  In no event will the authors be held liable for any damages
 arising from the use of this software.

 Permission is granted to anyone to use this software for any purpose,
 including commercial applications, and to alter it and redistribute it
 freely, subject to the following restrictions:

 1. The origin of this software must not be misrepresented; you must not
    claim that you wrote the original software. If you use this software
    in a product, an acknowledgment in the product documentation would be

appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library
in a product, we would appreciate *not* receiving
lengthy legal documents to sign. The sources are provided for free but without warranty of any kind. The library has been entirely written by Jean-loup Gailly and Mark Adler; it does not include third-party code.

If you redistribute modified sources, we would appreciate that you include in the file ChangeLog history information documenting your changes. Please read the FAQ for more information on the distribution of modified source versions.

==========
==========

Standard Licenses

GNU Lesser General Public License v2.1, February 1999

The following applies to all products licensed under the GNU Lesser General Public License, Version 2.1: You may not use the identified files except in compliance with the GNU Lesser General Public License, Version 2.1 (the "License"). You may obtain a copy of the License
at
http://www.gnu.org/licenses/lgpl-2.1.html. A copy of the license is also reproduced below. Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts

as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know

that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite
different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special
circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU

operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based

on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications
or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent
of the
application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library,

and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not

compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference

directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same
place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot

use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent

infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any
particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by
copyrighted interfaces, the
original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and

"any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose
any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the
greatest
possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting

redistribution under these terms (or, alternatively, under the terms
of the ordinary General Public License).

To apply these terms, attach the following notices to the library.
It is safest to attach them to the start of each source file to most
effectively convey the exclusion of warranty; and each file should
have at least the "copyright" line and a pointer to where the full
notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA
02110-1301  USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James
Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

==========
==========

Written Offer for Source Code

For any software that you receive from Oracle in binary form which is

licensed under an open source license that gives you the right to receive the source code for that binary, you can obtain a copy of the applicable source code by visiting http://www.oracle.com/goto/opensourcecode. If the source code for the binary was not provided to you with the binary, you can also receive a copy of the source code on physical media by submitting a written request to the address listed below or by sending an email to Oracle using the following link: http://www.oracle.com/goto/opensourcecode/request.

Oracle America, Inc.
Attn: Senior Vice President
Development and Engineering Legal
500 Oracle Parkway, 10th Floor
Redwood Shores, CA 94065

Your request should include:

* The name of the binary for which you are requesting the source code

* The name and version number of the Oracle product containing the binary

* The date you received the Oracle product

* Your name

* Your company name (if applicable)

* Your return mailing address and email, and

* A telephone number in the event we need to reach you.

We may charge you a fee to cover the cost of physical media and processing.

Your request must be sent

a. within three (3) years of the date you received the Oracle product that included the binary that is the subject of your request, or

b. in the case of code licensed under the GPL v3 for as long as Oracle offers spare parts or customer support for that product model.

This repository uses 2 different licenses :
- all files in the `lib` directory use a BSD 2-Clause license
- all other files use a GPLv2 license, unless explicitly stated otherwise

Relevant license is reminded at the top of each source file,
and with presence of COPYING or LICENSE file in associated directories.

This model is selected to emphasize that
files in the `lib` directory are designed to be included into 3rd party applications,
while all other files, in `programs`, `tests` or `examples`,
are intended to be used "as is", as part of their intended scenarios,
with no intention to support 3rd party integration use cases.
CMake - Cross Platform Makefile Generator
Copyright 2000-2013 Kitware, Inc.
Copyright 2000-2011 Insight Software Consortium
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

* Redistributions of source code must retain the above copyright
 notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
 notice, this list of conditions and the following disclaimer in the
 documentation and/or other materials provided with the distribution.

* Neither the names of Kitware, Inc., the Insight Software Consortium,
 nor the names of their contributors may be used to endorse or promote
 products derived from this software without specific prior written
 permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO,
 THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

The above copyright and license notice applies to distributions of
CMake in source and binary form.  Some source files contain additional
notices of original copyright by their contributors; see each source

for details.  Third-party software packages supplied with CMake under
compatible licenses provide their
 own copyright notices documented in
corresponding subdirectories.

---

CMake was initially developed by Kitware with the following sponsorship:

* National Library of Medicine at the National Institutes of Health
  as part of the Insight Segmentation and Registration Toolkit (ITK).

* US National Labs (Los Alamos, Livermore, Sandia) ASC Parallel
  Visualization Initiative.

* National Alliance for Medical Image Computing (NAMIC) is funded by the
  National Institutes of Health through the NIH Roadmap for Medical Research,
  Grant U54 EB005149.

* Kitware, Inc.
Copyright 1992, 1993, 1994 Henry Spencer.  All rights reserved.
This software is not subject to any license of the American Telephone
and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on
any computer system, and to alter it and redistribute it, subject
to the following restrictions:

1. The author is not responsible for the consequences of use of this
  software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by
  explicit claim or by omission.  Since few users ever read sources,
  credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be
  misrepresented as being the original software.  Since few users
  ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.
Copyright 2008, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

   * Redistributions of source code must retain the above copyright

notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer
in the documentation and/or other materials provided with the
distribution.
* Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Code generated by the Protocol Buffer compiler is owned by the owner
of the input file used when generating it. This code is not
standalone and requires a support library to be linked with it. This
support library is itself covered by the above license.
Copyright (c) 2014, 2019, Oracle and/or its affiliates. All rights reserved.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License, version 2.0,
as published by the Free Software Foundation.

This program is also distributed with certain software (including
but not limited to OpenSSL) that is licensed under separate terms,
as designated in a particular file or component or in included license
documentation. The authors of MySQL hereby grant you an additional
permission to link the program and your derivative works with the
separately licensed software that they have included with MySQL.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License, version 2.0, for more details.

You should have received a copy of the GNU General Public License
along with this program;
if not, write to the Free Software
Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
   derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT
 OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# 1.429 angular-animations 11.0.5

## 1.429.1 Available under license :

No license file was found, but licenses were detected in source scan.

{"version":3,"file":"animations-browser.umd.js","sources":["../../../../../packages/animations/browser/src/render/shared.ts","../../../../../packages/animations/browser/src/render/animation_driver.ts","../../../../../packages/animations/browser/src/util.ts","../../../../../external/npm/node_modules/tslib/tslib.es6.js","../../../../../packages/animations/browser/src/dsl/animation_transition_expr.ts","../../../../../packages/animations/browser/src/dsl/animation_ast_builder.ts","../../../../../packages/animations/browser/src/dsl/animation_timeline_instruction.ts","../../../../../packages/animations/browser/src/dsl/element_instruction_map.ts","../../../../../packages/animations/browser/src/dsl/animation_timeline_builder.ts","../../../../../packages/animations/browser/src/dsl/animation.ts","../../../../../packages/animations/browser/src/dsl/style_normalization/animation_style_normalizer.ts","../../../../../packages/animations/browser/src/dsl/style_normalization/web_animations_style_normalizer.ts","../../../../../packages/animations/browser/src/dsl/animation_transition_instruction.ts","../../../../../packages/animations/browser/src/dsl/animation_transition_factory.ts","../../../../../packages/animations/browser/src/dsl/animation_trigger.ts","../../../../../packages/animations/browser/src/render/timeline_animation_engine.ts","../../../../../packages/animations/browser/src/render/transition_animation_engine.ts","../../../../../packages/animations/browser/src/render/animation_engine_next.ts","../../../../../packages/animations/browser/src/render/special_cased_styles.ts","../../../../../packages/animations/browser/src/render/css_keyframes/element_animation_style_handler.ts","../../../../../packages/animations/browser/src/render/css_keyframes/css_keyframes_player.ts","../../../../../packages/animations/browser/src/render/css_keyframes/direct_style_player.ts","../../../../../packages/animations/browser/src/render/css_keyframes/css_keyframes_driver.ts","../../../../../packages/animations/browser/src/render/web_animations/web_animations_player.ts","../.

./../../../packages/animations/browser/src/render/web_animations/web_animations_driver.ts","../../../../../packages/animations/browser/src/private_export.ts","../../../../../packages/animations/browser/src/browser.ts","../../../../../packages/animations/browser/public_api.ts","../../../../../packages/animations/browser/index.ts","../../../../../packages/animations/browser/browser.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationEvent, AnimationPlayer, AUTO_STYLE, NoopAnimationPlayer, AnimationGroupPlayer, PRE_STYLE as PRE_STYLE, StyleData} from '@angular/animations';\n\nimport {AnimationStyleNormalizer} from '../../src/dsl/style_normalization/animation_style_normalizer';\nimport {AnimationDriver} from '../../src/render/animation_driver';\n\n// We don't include ambient node types here since @angular/animations/browser\n// is meant to target the browser so technically it should not depend on node\n// types. `process` is just declared locally here as a result.\ndeclare const process: any;\n\nexport function isBrowser(): boolean {\n  return (typeof window !== 'undefined' && typeof window.document !== 'undefined');\n}\n\nexport function isNode(): boolean {\n  // Checking only for `process` isn't enough to identify whether or not we're in a\n  // environment, because Webpack by default will polyfill the `process`. While we can discern\n  // that Webpack polyfilled it by looking at `process.browser`, it's very Webpack-specific and\n  // might not be future-proof. Instead we look at the stringified version of `process` which\n  // is `[object process]` in Node and `[object Object]` when polyfilled.\n  return typeof process !== 'undefined' && {}.toString.call(process) === '[object process]';\n}\n\nexport function optimizeGroupPlayer(players: AnimationPlayer[]): AnimationPlayer {\n  switch (players.length) {\n    case 0:\n      return new NoopAnimationPlayer();\n    case 1:\n      return players[0];\n    default:\n      return new AnimationGroupPlayer(players);\n  }\n}\n\nexport function normalizeKeyframes(\n    driver: AnimationDriver, normalizer: AnimationStyleNormalizer, element: any,\n    keyframes: StyleData[], preStyles: StyleData = {},\n    postStyles: StyleData = {}): StyleData[] {\n  const errors: string[] = [];\n  const normalizedKeyframes: StyleData[] = [];\n  let previousOffset = -1;\n  let previousKeyframe: StyleData|null = null;\n  keyframes.forEach(kf => {\n    const offset = kf['offset'] as number;\n    const isSameOffset = offset == previousOffset;\n    const normalizedKeyframe: StyleData = (isSameOffset && previousKeyframe) || {};\n    Object.keys(kf).forEach(prop => {\n      let normalizedProp\n = prop;\n      let normalizedValue = kf[prop];\n      if (prop !== 'offset') {\n        normalizedProp = normalizer.normalizePropertyName(normalizedProp, errors);\n        switch (normalizedValue) {\n          case PRE_STYLE:\n            normalizedValue = preStyles[prop];\n            break;\n\n          case AUTO_STYLE:\n            normalizedValue = postStyles[prop];\n            break;\n\n          default:\n            normalizedValue =\n                normalizer.normalizeStyleValue(prop, normalizedProp, normalizedValue, errors);\n            break;\n        }\n      }\n      normalizedKeyframe[normalizedProp] = normalizedValue;\n    });\n    if (!isSameOffset) {\n      normalizedKeyframes.push(normalizedKeyframe);\n    }\n    previousKeyframe = normalizedKeyframe;\n    previousOffset = offset;\n  });\n  if (errors.length) {\n    const LINE_START = '\\n - ';\n    throw new Error(\n        `Unable to animate due to the following errors:${LINE_START}${errors.join(LINE_START)}`);\n  }\n\n  return normalizedKeyframes;\n}\n\nexport function listenOnPlayer(\n    player: AnimationPlayer, eventName: string, event: AnimationEvent|undefined,\n    callback: (event: any) => any) {\n  switch (eventName) {\n    case 'start':\n      player.onStart(() => callback(event && copyAnimationEvent(event, 'start', player)));\n      break;\n    case 'done':\n      player.onDone(() => callback(event && copyAnimationEvent(event, 'done', player)));\n      break;\n    case 'destroy':\n      player.onDestroy(() => callback(event && copyAnimationEvent(event, 'destroy', player)));\n      break;\n  }\n}\n\nexport function copyAnimationEvent(\n    e: AnimationEvent, phaseName: string, player: AnimationPlayer): AnimationEvent {\n  const totalTime = player.totalTime;\n  const disabled = (player as any).disabled ? true : false;\n  const event = makeAnimationEvent(\n      e.element, e.triggerName, e.fromState, e.toState, phaseName || e.phaseName,\n      totalTime == undefined ? e.totalTime\n : totalTime, disabled);\n  const data = (e as any)['_data'];\n  if (data != null) {\n    (event as any)['_data'] = data;\n  }\n  return event;\n}\n\nexport function makeAnimationEvent(\n    element: any, triggerName: string, fromState:

string, toState: string, phaseName: string = '',\n totalTime: number = 0, disabled?: boolean): AnimationEvent {\n return {element, triggerName, fromState, toState, phaseName, totalTime, disabled: !!disabled};\n}\n\nexport function getOrSetAsInMap(\n map: Map<any, any>|{[key: string]: any}, key: any, defaultValue: any) {\n let value: any;\n if (map instanceof Map) {\n value = map.get(key);\n if (!value) {\n map.set(key, value = defaultValue);\n }\n } else {\n value = map[key];\n if (!value) {\n value = map[key] = defaultValue;\n }\n }\n return value;\n}\n\nexport function parseTimelineCommand(command: string): [string, string] {\n const separatorPos = command.indexOf(':');\n const id = command.substring(1, separatorPos);\n const action = command.substr(separatorPos + 1);\n return [id, action];\n}\n\nlet _contains: (elm1: any, elm2: any) => boolean = (elm1: any, elm2: any) => false;\nlet _matches: (element: any, selector: string) => boolean = (element: any, selector: string) =>\n false;\nlet _query: (element: any, selector: string, multi: boolean) => any[] =\n (element: any, selector: string, multi: boolean) => {\n return [];\n};\n\n// Define utility methods for browsers and platform-server(domino) where Element\n// and utility methods exist.\nconst _isNode = isNode();\nif (_isNode || typeof Element !== 'undefined') {\n // this is well supported in all browsers\n _contains = (elm1: any, elm2: any) => {\n return elm1.contains(elm2) as boolean;\n };\n\n _matches = (() => {\n if (_isNode || Element.prototype.matches) {\n return (element: any, selector: string) => element.matches(selector);\n } else {\n const proto = Element.prototype as any;\n const fn = proto.matchesSelector || proto.mozMatchesSelector || proto.msMatchesSelector ||\n proto.oMatchesSelector || proto.webkitMatchesSelector;\n if (fn) {\n return (element: any, selector: string) => fn.apply(element, [selector]);\n } else {\n return _matches;\n }\n }\n })();\n\n _query = (element: any, selector: string, multi: boolean): any[] => {\n let results: any[] = [];\n if (multi) {\n // DO NOT REFACTOR TO USE SPREAD SYNTAX.\n // For element queries that return sufficiently large NodeList objects,\n // using spread syntax to populate the results array causes a RangeError\n // due to the call stack limit being reached. `Array.from` can not be used\n // as well, since NodeList is not iterable in IE 11, see\n // https://developer.mozilla.org/en-US/docs/Web/API/NodeList\n // More info is available in #38551.\n const elems = element.querySelectorAll(selector);\n for (let i = 0; i < elems.length; i++) {\n results.push(elems[i]);\n }\n } else {\n const elm = element.querySelector(selector);\n if (elm) {\n results.push(elm);\n }\n }\n return results;\n };\n}\n\nfunction containsVendorPrefix(prop: string): boolean {\n // Webkit is the only real popular vendor prefix nowadays\n // cc: http://shouldiprefix.com/\n return prop.substring(1, 6) == 'ebkit'; // webkit or Webkit\n}\n\nlet _CACHED_BODY: {style: any}|null = null;\nlet _IS_WEBKIT = false;\nexport function validateStyleProperty(prop: string): boolean {\n if (!_CACHED_BODY) {\n _CACHED_BODY = getBodyNode() || {};\n _IS_WEBKIT = _CACHED_BODY!.style ? ('WebkitAppearance' in _CACHED_BODY!.style) : false;\n }\n\n let result = true;\n if (_CACHED_BODY!.style && !containsVendorPrefix(prop)) {\n result = prop in _CACHED_BODY!.style;\n if (!result && _IS_WEBKIT) {\n const camelProp = 'Webkit' + prop.charAt(0).toUpperCase() + prop.substr(1);\n result = camelProp in _CACHED_BODY!.style;\n }\n }\n\n return result;\n}\n\nexport function getBodyNode(): any|null {\n if (typeof document != 'undefined') {\n return document.body;\n }\n return null;\n}\n\nexport const matchesElement = _matches;\nexport const containsElement = _contains;\nexport const invokeQuery = _query;\n\nexport function hypenatePropsObject(object: {[key: string]: any}): {[key: string]: any} {\n const newObj: {[key: string]: any} = {};\n Object.keys(object).forEach(prop => {\n const newProp = prop.replace(/([a-z])([A-Z])/g, '$1-$2');\n newObj[newProp] = object[prop];\n });\n return newObj;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationPlayer, NoopAnimationPlayer} from '@angular/animations';\nimport {Injectable} from '@angular/core';\n\nimport {containsElement, invokeQuery, matchesElement, validateStyleProperty} from './shared';\n\n/**\n * @publicApi\n */\n@Injectable()\nexport class NoopAnimationDriver implements AnimationDriver {\n validateStyleProperty(prop: string): boolean {\n return validateStyleProperty(prop);\n }\n\n matchesElement(element: any, selector: string): boolean {\n return

matchesElement(element, selector);\n  }\n\n  containsElement(elm1: any, elm2: any): boolean {\n    return containsElement(elm1, elm2);\n  }\n\n  query(element: any, selector: string, multi: boolean): any[] {\n    return invokeQuery(element, selector, multi);\n  }\n\n  computeStyle(element: any, prop: string, defaultValue?: string): string {\n    return defaultValue || '';\n  }\n\n  animate(\n      element: any, keyframes: {[key: string]: string|number}[], duration: number, delay: number,\n      easing: string, previousPlayers: any[] = [],\n scrubberAccessRequested?: boolean): AnimationPlayer {\n    return new NoopAnimationPlayer(duration, delay);\n  }\n}\n\n/**\n
 * @publicApi\n */\nexport abstract class AnimationDriver {\n  static NOOP: AnimationDriver = new NoopAnimationDriver();\n\n  abstract validateStyleProperty(prop: string): boolean;\n\n  abstract matchesElement(element: any, selector: string): boolean;\n\n  abstract containsElement(elm1: any, elm2: any): boolean;\n\n  abstract query(element: any, selector: string, multi: boolean): any[];\n\n  abstract computeStyle(element: any, prop: string, defaultValue?: string): string;\n\n  abstract animate(\n      element: any, keyframes: {[key: string]: string|number}[], duration: number, delay: number,\n      easing?: string|null, previousPlayers?: any[], scrubberAccessRequested?: boolean): any;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimateTimings, AnimationMetadata, AnimationMetadataType, AnimationOptions,
 sequence, StyleData} from '@angular/animations';\nimport {Ast as AnimationAst, AstVisitor as AnimationAstVisitor} from './dsl/animation_ast';\nimport {AnimationDslVisitor} from './dsl/animation_dsl_visitor';\nimport {isNode} from './render/shared';\n\nexport const ONE_SECOND = 1000;\n\nexport const SUBSTITUTION_EXPR_START = '{{';\nexport const SUBSTITUTION_EXPR_END = '}}';\nexport const ENTER_CLASSNAME = 'ng-enter';\nexport const LEAVE_CLASSNAME = 'ng-leave';\nexport const ENTER_SELECTOR = '.ng-enter';\nexport const LEAVE_SELECTOR = '.ng-leave';\nexport const NG_TRIGGER_CLASSNAME = 'ng-trigger';\nexport const NG_TRIGGER_SELECTOR = '.ng-trigger';\nexport const NG_ANIMATING_CLASSNAME = 'ng-animating';\nexport const NG_ANIMATING_SELECTOR = '.ng-animating';\n\nexport function resolveTimingValue(value: string|number) {\n  if (typeof value == 'number') return value;\n\n  const matches = value.match(/^(-?[\\.\\d]+)(m?s)/);\n  if (!matches || matches.length < 2) return 0;\n\n  return _convertTimeValueToMS(parseFloat(matches[1]),
 matches[2]);\n}\n\nfunction _convertTimeValueToMS(value: number, unit: string): number {\n  switch (unit) {\n    case 's':\n      return value * ONE_SECOND;\n    default:  // ms or something else\n      return value;\n  }\n}\n\nexport function resolveTiming(\n    timings: string|number|AnimateTimings, errors: any[], allowNegativeValues?: boolean) {\n  return timings.hasOwnProperty('duration') ?\n      <AnimateTimings>timings :\n      parseTimeExpression(<string|number>timings, errors, allowNegativeValues);\n}\n\nfunction parseTimeExpression(\n    exp: string|number, errors: string[], allowNegativeValues?: boolean): AnimateTimings {\n  const regex = /^(-?[\\.\\d]+)(m?s)(?:\\s+(-?[\\.\\d]+)(m?s))?(?:\\s+([-a-z]+(?:\\(.+?\\))?))?$/i;\n  let duration: number;\n  let delay: number = 0;\n  let easing: string = '';\n  if (typeof exp === 'string') {\n    const matches = exp.match(regex);\n    if (matches === null) {\n      errors.push(`The provided timing value \"${exp}\" is invalid.`);\n      return {duration: 0, delay: 0, easing: ''};\n    }\n\n    duration = _convertTimeValueToMS(parseFloat(matches[1]), matches[2]);\n\n    const delayMatch = matches[3];\n    if (delayMatch != null) {\n      delay = _convertTimeValueToMS(parseFloat(delayMatch), matches[4]);\n    }\n\n    const easingVal = matches[5];\n    if (easingVal) {\n      easing = easingVal;\n    }\n  } else {\n    duration = exp;\n  }\n\n  if (!allowNegativeValues) {\n    let containsErrors = false;\n    let startIndex = errors.length;\n    if (duration < 0) {\n      errors.push(`Duration values below 0 are not allowed for this animation step.`);\n      containsErrors = true;\n    }\n    if (delay < 0) {\n      errors.push(`Delay values below 0 are not allowed for this animation step.`);\n      containsErrors = true;\n    }\n    if (containsErrors) {\n      errors.splice(startIndex, 0, `The provided timing value \"${exp}\" is invalid.`);\n    }\n  }\n\n  return {duration, delay,
 easing};\n}\n\nexport function copyObj(\n    obj: {[key: string]: any}, destination: {[key: string]: any} = {}): {[key: string]: any} {\n  Object.keys(obj).forEach(prop => {\n    destination[prop] = obj[prop];\n  });\n  return

destination;\n}\n\nexport function normalizeStyles(styles: StyleData|StyleData[]): StyleData {\n  const normalizedStyles: StyleData = {};\n  if (Array.isArray(styles)) {\n    styles.forEach(data => copyStyles(data, false, normalizedStyles));\n  } else {\n    copyStyles(styles, false, normalizedStyles);\n  }\n  return normalizedStyles;\n}\n\nexport function copyStyles(\n    styles: StyleData, readPrototype: boolean, destination: StyleData = {}): StyleData {\n  if (readPrototype) {\n    // we make use of a for-in loop so that the\n    // prototypically inherited properties are\n    // revealed from the backFill map\n    for (let prop in styles) {\n      destination[prop] = styles[prop];\n    }\n  } else {\n    copyObj(styles, destination);\n  }\n  return
 destination;\n}\n\nfunction getStyleAttributeString(element: any, key: string, value: string) {\n  // Return the key-value pair string to be added to the style attribute for the\n  // given CSS style key.\n  if (value) {\n    return key + ':' + value + ';';\n  } else {\n    return '';\n  }\n}\n\nfunction writeStyleAttribute(element: any) {\n  // Read the style property of the element and manually reflect it to the\n  // style attribute. This is needed because Domino on platform-server doesn't\n  // understand the full set of allowed CSS properties and doesn't reflect some\n  // of them automatically.\n  let styleAttrValue = '';\n  for (let i = 0; i < element.style.length; i++) {\n    const key = element.style.item(i);\n    styleAttrValue += getStyleAttributeString(element, key, element.style.getPropertyValue(key));\n  }\n  for (const key in element.style) {\n    // Skip internal Domino properties that don't need to be reflected.\n    if (!element.style.hasOwnProperty(key) || key.startsWith('_'))
 {\n      continue;\n    }\n    const dashKey = camelCaseToDashCase(key);\n    styleAttrValue += getStyleAttributeString(element, dashKey, element.style[key]);\n  }\n  element.setAttribute('style', styleAttrValue);\n}\n\nexport function setStyles(element: any, styles: StyleData, formerStyles?: {[key: string]: any}) {\n  if (element['style']) {\n    Object.keys(styles).forEach(prop => {\n      const camelProp = dashCaseToCamelCase(prop);\n      if (formerStyles && !formerStyles.hasOwnProperty(prop)) {\n        formerStyles[prop] = element.style[camelProp];\n      }\n      element.style[camelProp] = styles[prop];\n    });\n    // On the server set the 'style' attribute since it's not automatically reflected.\n    if (isNode()) {\n      writeStyleAttribute(element);\n    }\n  }\n}\n\nexport function eraseStyles(element: any, styles: StyleData) {\n  if (element['style']) {\n    Object.keys(styles).forEach(prop => {\n      const camelProp = dashCaseToCamelCase(prop);\n      element.style[camelProp]
 = '';\n    });\n    // On the server set the 'style' attribute since it's not automatically reflected.\n    if (isNode()) {\n      writeStyleAttribute(element);\n    }\n  }\n}\n\nexport function normalizeAnimationEntry(steps:
 AnimationMetadata|\n                                 AnimationMetadata[]): AnimationMetadata {\n  if (Array.isArray(steps)) {\n    if (steps.length == 1) return steps[0];\n    return sequence(steps);\n  }\n  return steps as AnimationMetadata;\n}\n\nexport function validateStyleParams(\n    value: string|number, options: AnimationOptions, errors: any[]) {\n  const params = options.params || {};\n  const matches = extractStyleParams(value);\n  if (matches.length) {\n    matches.forEach(varName => {\n      if (!params.hasOwnProperty(varName)) {\n        errors.push(\n            `Unable to resolve the local animation param ${varName} in the given list of values`);\n      }\n    });\n  }\n}\n\nconst PARAM_REGEX =\n    new RegExp(`${SUBSTITUTION_EXPR_START}\\\\s*(.+?)\\\\s*${SUBSTITUTION_EXPR_END}`,
 'g');\nexport function extractStyleParams(value: string|number): string[] {\n  let params: string[] = [];\n  if (typeof value === 'string') {\n    let match: any;\n    while (match = PARAM_REGEX.exec(value)) {\n      params.push(match[1] as string);\n    }\n    PARAM_REGEX.lastIndex = 0;\n  }\n  return params;\n}\n\nexport function interpolateParams(\n    value: string|number, params: {[name: string]: any}, errors: any[]): string|number {\n  const original = value.toString();\n  const str = original.replace(PARAM_REGEX, (_, varName) => {\n    let localVal = params[varName];\n    // this means that the value was never overridden by the data passed in by the user\n    if (!params.hasOwnProperty(varName)) {\n      errors.push(`Please provide a value for the animation param ${varName}`);\n      localVal = '';\n    }\n    return localVal.toString();\n  });\n\n  // we do this to assert that numeric values stay as they are\n  return
 str == original ? value : str;\n}\n\nexport function iteratorToArray(iterator: any): any[] {\n  const arr: any[] = [];\n  let item = iterator.next();\n  while (!item.done) {\n    arr.push(item.value);\n    item = iterator.next();\n  }\n  return arr;\n}\n\nexport function mergeAnimationOptions(\n    source: AnimationOptions, destination: AnimationOptions):

AnimationOptions {\n  if (source.params) {\n    const p0 = source.params;\n    if (!destination.params) {\n destination.params = {};\n    }\n    const p1 = destination.params;\n    Object.keys(p0).forEach(param => {\n      if (!p1.hasOwnProperty(param)) {\n        p1[param] = p0[param];\n      }\n    });\n  }\n  return destination;\n}\n\nconst DASH_CASE_REGEXP = /-+([a-z0-9])/g;\nexport function dashCaseToCamelCase(input: string): string {\n  return input.replace(DASH_CASE_REGEXP, (...m: any[]) => m[1].toUpperCase());\n}\n\nfunction camelCaseToDashCase(input: string): string {\n  return input.replace(/([a-z])([A-Z])/g, '$1-$2').toLowerCase();\n}\n\nexport function allowPreviousPlayerStylesMerge(duration: number, delay: number) {\n  return duration === 0 || delay === 0;\n}\n\nexport function balancePreviousStylesIntoKeyframes(\n    element: any, keyframes: {[key: string]: any}[], previousStyles: {[key: string]: any}) {\n  const previousStyleProps = Object.keys(previousStyles);\n  if (previousStyleProps.length && keyframes.length) {\n    let startingKeyframe = keyframes[0];\n    let missingStyleProps: string[] = [];\n    previousStyleProps.forEach(prop => {\n      if (!startingKeyframe.hasOwnProperty(prop)) {\n        missingStyleProps.push(prop);\n      }\n      startingKeyframe[prop] = previousStyles[prop];\n    });\n\n    if (missingStyleProps.length) {\n      // tslint:disable-next-line\n      for (var i = 1; i < keyframes.length; i++) {\n        let kf = keyframes[i];\n        missingStyleProps.forEach(function(prop) {\n          kf[prop] = computeStyle(element, prop);\n        });\n      }\n    }\n  }\n  return keyframes;\n}\n\nexport function visitDslNode(\n    visitor: AnimationDslVisitor, node: AnimationMetadata, context: any): any;\nexport function visitDslNode(\n    visitor: AnimationAstVisitor, node: AnimationAst<AnimationMetadataType>, context: any): any;\nexport function visitDslNode(visitor: any, node: any, context: any): any {\n  switch (node.type) {\n    case AnimationMetadataType.Trigger:\n      return visitor.visitTrigger(node, context);\n    case AnimationMetadataType.State:\n      return visitor.visitState(node, context);\n    case AnimationMetadataType.Transition:\n      return visitor.visitTransition(node, context);\n    case AnimationMetadataType.Sequence:\n      return visitor.visitSequence(node, context);\n    case AnimationMetadataType.Group:\n      return visitor.visitGroup(node, context);\n    case AnimationMetadataType.Animate:\n      return visitor.visitAnimate(node, context);\n    case AnimationMetadataType.Keyframes:\n      return visitor.visitKeyframes(node, context);\n    case AnimationMetadataType.Style:\n      return visitor.visitStyle(node, context);\n    case AnimationMetadataType.Reference:\n      return visitor.visitReference(node, context);\n    case AnimationMetadataType.AnimateChild:\n      return visitor.visitAnimateChild(node, context);\n    case AnimationMetadataType.AnimateRef:\n      return visitor.visitAnimateRef(node, context);\n    case AnimationMetadataType.Query:\n      return visitor.visitQuery(node, context);\n    case AnimationMetadataType.Stagger:\n      return visitor.visitStagger(node, context);\n    default:\n      throw new Error(`Unable to resolve animation metadata node #${node.type}`);\n  }\n}\n\nexport function computeStyle(element: any, prop: string): string {\n  return (<any>window.getComputedStyle(element))[prop];\n}\n","/*!\r\n**********\r\nCopyright (c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS SOFTWARE.\r\n**********\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics = Object.setPrototypeOf ||\r\n        ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n

function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d; }\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n        for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n            for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n                t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n    var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n            if (y = 0, t) op = [op[0] & 2, t.value];\r\n            switch (op[0]) {\r\n                case 0: case 1: t = op; break;\r\n                case 4: _.label++; return { value: op[1], done: false };\r\n                case 5: _.label++; y = op[1]; op = [0]; continue;\r\n                case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n                default:\r\n                    if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n                    if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n                    if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n                    if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n                    if (t[2]) _.ops.pop();\r\n                    _.trys.pop(); continue;\r\n            }\r\n            op = body.call(thisArg, _);\r\n        } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n        if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n    }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n    for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n    if (m) return m.call(o);\r\n    if (o && typeof o.length === \"number\") return {\r\n        next: function () {\r\n            if (o && i >= o.length) o = void 0;\r\n            return {

value: o && o[i++], done: !o };\r\n        }\r\n    };\r\n    throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n    var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n    if (!m) return o;\r\n    var i = m.call(o), r, ar = [], e;\r\n    try {\r\n        while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n    }\r\n    catch (error) { e = { error: error }; }\r\n    finally {\r\n        try {\r\n            if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n        }\r\n        finally { if (e) throw e.error;
    }\r\n    }\r\n    return ar;\r\n}\r\n\r\nexport function __spread() {\r\n    for (var ar = [], i = 0; i < arguments.length; i++)\r\n        ar = ar.concat(__read(arguments[i]));\r\n    return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n    for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n    for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n        for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n            r[k] = a[j];\r\n    return r;\r\n};\r\n\r\nexport function __await(v) {\r\n    return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n    return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return
    this; }, i;\r\n    function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n    function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n    function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n    function fulfill(value) { resume(\"next\", value); }\r\n    function reject(value) { resume(\"throw\", value); }\r\n    function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n    var i, p;\r\n    return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n    function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o)
    {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var m = o[Symbol.asyncIterator], i;\r\n    return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n    function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n    function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n    if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n    return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n    Object.defineProperty(o, \"default\",
    { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n    o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n    if (mod && mod.__esModule) return mod;\r\n    var result = {};\r\n    if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n    __setModuleDefault(result, mod);\r\n    return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n    return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to get private field on non-instance\");\r\n    }\r\n    return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to set private field on non-instance\");\r\n    }\r\n    privateMap.set(receiver, value);\r\n
    return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nexport const ANY_STATE = '*';\nexport declare type TransitionMatcherFn =\n(fromState: any, toState: any, element: any, params: {[key: string]: any}) => boolean;\n\nexport function parseTransitionExpr(\n    transitionValue: string|TransitionMatcherFn, errors: string[]): TransitionMatcherFn[] {\n

const expressions: TransitionMatcherFn[] = [];\n  if (typeof transitionValue == 'string') {\n transitionValue.split(/\\s*,\\s*/).forEach(\n        str => parseInnerTransitionStr(str, expressions, errors));\n  } else {\n  expressions.push(<TransitionMatcherFn>transitionValue);\n  }\n  return expressions;\n}\n\nfunction parseInnerTransitionStr(\n    eventStr: string, expressions: TransitionMatcherFn[], errors: string[]) {\n  if (eventStr[0] == ':') {\n
    const result = parseAnimationAlias(eventStr, errors);\n    if (typeof result == 'function') {\n expressions.push(result);\n      return;\n    }\n    eventStr = result;\n  }\n\n  const match = eventStr.match(/^(*|[-\\w]+)\\s*(<?[=-]>)\\s*(*|[-\\w]+)$/);\n  if (match == null || match.length < 4) {\n    errors.push(`The provided transition expression \"${eventStr}\" is not supported`);\n    return expressions;\n  }\n\n  const fromState = match[1];\n  const separator = match[2];\n  const toState = match[3];\n expressions.push(makeLambdaFromStates(fromState, toState));\n\n  const isFullAnyStateExpr = fromState == ANY_STATE && toState == ANY_STATE;\n  if (separator[0] == '<' && !isFullAnyStateExpr) {\n expressions.push(makeLambdaFromStates(toState, fromState));\n  }\n}\n\nfunction parseAnimationAlias(alias: string, errors: string[]): string|TransitionMatcherFn {\n  switch (alias) {\n    case ':enter':\n      return 'void => *';\n case ':leave':\n      return '* => void';\n
    case ':increment':\n      return (fromState: any, toState: any): boolean => parseFloat(toState) > parseFloat(fromState);\n    case ':decrement':\n      return (fromState: any, toState: any): boolean => parseFloat(toState) < parseFloat(fromState);\n    default:\n      errors.push(`The transition alias value \"${alias}\" is not supported`);\n      return '* => *';\n  }\n}\n\n// DO NOT REFACTOR ... keep the follow set instantiations\n// with the values intact (closure compiler for some reason\n// removes follow-up lines that add the values outside of\n// the constructor...\nconst TRUE_BOOLEAN_VALUES = new Set<string>(['true', '1']);\nconst FALSE_BOOLEAN_VALUES = new Set<string>(['false', '0']);\n\nfunction makeLambdaFromStates(lhs: string, rhs: string): TransitionMatcherFn {\n  const LHS_MATCH_BOOLEAN = TRUE_BOOLEAN_VALUES.has(lhs) || FALSE_BOOLEAN_VALUES.has(lhs);\n  const RHS_MATCH_BOOLEAN = TRUE_BOOLEAN_VALUES.has(rhs) || FALSE_BOOLEAN_VALUES.has(rhs);\n\n  return (fromState: any, toState: any): boolean => {\n    let lhsMatch = lhs == ANY_STATE || lhs == fromState;\n    let rhsMatch = rhs == ANY_STATE || rhs == toState;\n\n    if (!lhsMatch && LHS_MATCH_BOOLEAN && typeof fromState === 'boolean') {\n      lhsMatch = fromState ? TRUE_BOOLEAN_VALUES.has(lhs) : FALSE_BOOLEAN_VALUES.has(lhs);\n    }\n    if (!rhsMatch && RHS_MATCH_BOOLEAN && typeof toState === 'boolean') {\n      rhsMatch = toState ? TRUE_BOOLEAN_VALUES.has(rhs) : FALSE_BOOLEAN_VALUES.has(rhs);\n    }\n\n    return lhsMatch && rhsMatch;\n  };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimateTimings, AnimationAnimateChildMetadata, AnimationAnimateMetadata, AnimationAnimateRefMetadata, AnimationGroupMetadata, AnimationKeyframesSequenceMetadata, AnimationMetadata, AnimationMetadataType, AnimationOptions, AnimationQueryMetadata,
 AnimationQueryOptions, AnimationReferenceMetadata, AnimationSequenceMetadata, AnimationStaggerMetadata, AnimationStateMetadata, AnimationStyleMetadata, AnimationTransitionMetadata, AnimationTriggerMetadata, AUTO_STYLE, style, StyleData} from '@angular/animations';\n\nimport {AnimationDriver} from '../render/animation_driver';\nimport {getOrSetAsInMap} from '../render/shared';\nimport {copyObj, ENTER_SELECTOR, extractStyleParams, iteratorToArray, LEAVE_SELECTOR, NG_ANIMATING_SELECTOR, NG_TRIGGER_SELECTOR, normalizeAnimationEntry, resolveTiming, SUBSTITUTION_EXPR_START, validateStyleParams, visitDslNode} from '../util';\n\nimport {AnimateAst, AnimateChildAst, AnimateRefAst, Ast, DynamicTimingAst, GroupAst, KeyframesAst, QueryAst, ReferenceAst, SequenceAst, StaggerAst, StateAst, StyleAst, TimingAst, TransitionAst, TriggerAst} from './animation_ast';\nimport {AnimationDslVisitor} from './animation_dsl_visitor';\nimport {parseTransitionExpr} from './animation_transition_expr';\n\nconst

```
SELF_TOKEN = ':self';\nconst SELF_TOKEN_REGEX = new RegExp(`\\s*${SELF_TOKEN}\\s*,?`, 'g');\n\n/*\n * [Validation]\n * The visitor code below will traverse the animation AST generated by the animation verb functions\n * (the output is a tree of objects) and attempt to perform a series of validations on the data. The\n * following corner-cases will be validated:\n *\n * 1. Overlap of animations\n * Given that a CSS property cannot be animated in more than one place at the same time, it's\n * important that this behavior is detected and validated. The way in which this occurs is that\n * each time a style property is examined, a string-map containing the property will be updated with\n * the start and end times for when the property is used within an animation step.\n *\n * If there are two or more parallel animations that are currently running (these are invoked by the\n * group()) on the same element then the validator will throw an error. Since the start/end timing\n * values are collected
 for each property then if the current animation step is animating the same\n * property and its timing values fall anywhere into the window of time that the property is\n * currently being animated within then this is what causes an error.\n *\n * 2. Timing values\n * The validator will validate to see if a timing value of `duration delay easing` or\n * `durationNumber` is valid or not.\n *\n * (note that upon validation the code below will replace the timing data with an object containing\n * {duration,delay,easing}.\n *\n * 3. Offset Validation\n * Each of the style() calls are allowed to have an offset value when placed inside of keyframes().\n * Offsets within keyframes() are considered valid when:\n *\n *   - No offsets are used at all\n *   - Each style() entry contains an offset value\n *   - Each offset is between 0 and 1\n *   - Each offset is greater to or equal than the previous one\n *\n * Otherwise an error will be thrown.\n */\nexport function buildAnimationAst(\n
    driver: AnimationDriver, metadata: AnimationMetadata|AnimationMetadata[],\n    errors: any[]): Ast<AnimationMetadataType> {\n  return new AnimationAstBuilderVisitor(driver).build(metadata, errors);\n}\n\nconst ROOT_SELECTOR = '';\n\nexport class AnimationAstBuilderVisitor implements AnimationDslVisitor {\n  constructor(private _driver: AnimationDriver) {}\n\n  build(metadata: AnimationMetadata|AnimationMetadata[], errors: any[]):\n      Ast<AnimationMetadataType> {\n    const context = new AnimationAstBuilderContext(errors);\n    this._resetContextStyleTimingState(context);\n    return <Ast<AnimationMetadataType>>visitDslNode(\n        this, normalizeAnimationEntry(metadata), context);\n  }\n\n  private _resetContextStyleTimingState(context: AnimationAstBuilderContext) {\n    context.currentQuerySelector = ROOT_SELECTOR;\n    context.collectedStyles = {};\n    context.collectedStyles[ROOT_SELECTOR] = {};\n    context.currentTime = 0;\n  }\n\n  visitTrigger(metadata: AnimationTriggerMetadata,
 context: AnimationAstBuilderContext):\n      TriggerAst {\n    let queryCount = context.queryCount = 0;\n    let depCount = context.depCount = 0;\n    const states: StateAst[] = [];\n    const transitions: TransitionAst[] = [];\n    if (metadata.name.charAt(0) == '@') {\n      context.errors.push(\n          'animation triggers cannot be prefixed with an `@` sign (e.g. trigger(\\'@foo\\', [...]))');\n    }\n\n    metadata.definitions.forEach(def => {\n      this._resetContextStyleTimingState(context);\n      if (def.type == AnimationMetadataType.State) {\n        const stateDef = def as AnimationStateMetadata;\n        const name = stateDef.name;\n        name.toString().split(/\\s*,\\s*/).forEach(n => {\n          stateDef.name = n;\n          states.push(this.visitState(stateDef, context));\n        });\n        stateDef.name = name;\n      } else if (def.type == AnimationMetadataType.Transition) {\n        const transition = this.visitTransition(def as AnimationTransitionMetadata,
 context);\n        queryCount += transition.queryCount;\n        depCount += transition.depCount;\n        transitions.push(transition);\n      } else {\n        context.errors.push(\n            'only state() and transition() definitions can sit inside of a trigger()');\n      }\n    });\n\n    return {\n      type: AnimationMetadataType.Trigger,\n      name: metadata.name,\n      states,\n      transitions,\n      queryCount,\n      depCount,\n      options: null\n    };\n  }\n\n  visitState(metadata: AnimationStateMetadata, context: AnimationAstBuilderContext): StateAst {\n    const styleAst = this.visitStyle(metadata.styles, context);\n    const astParams = (metadata.options && metadata.options.params) || null;\n    if (styleAst.containsDynamicStyles) {\n      const missingSubs = new Set<string>();\n      const params = astParams || {};\n      styleAst.styles.forEach(value => {\n        if (isObject(value)) {\n          const stylesObj = value as any;\n          Object.keys(stylesObj).forEach(prop
```

```
=> {\n extractStyleParams(stylesObj[prop]).forEach(sub => {\n if (!params.hasOwnProperty(sub))
{\n missingSubs.add(sub);\n }\n });\n });\n }\n });\n if (missingSubs.size)
{\n const missingSubsArr = iteratorToArray(missingSubs.values());\n context.errors.push(`state(\"${\n
metadata\n .name}\", ...) must define default values for all the following style substitutions: ${\n
missingSubsArr.join(', ')}`);\n }\n }\n\n return {\n type: AnimationMetadataType.State,\n name:
metadata.name,\n style: styleAst,\n options: astParams ? {params: astParams} : null\n };\n }\n\n
visitTransition(metadata: AnimationTransitionMetadata, context: AnimationAstBuilderContext):\n TransitionAst
{\n context.queryCount = 0;\n context.depCount = 0;\n const animation = visitDslNode(this,
normalizeAnimationEntry(metadata.animation),
context);\n const matchers = parseTransitionExpr(metadata.expr, context.errors);\n\n return {\n type:
AnimationMetadataType.Transition,\n matchers,\n animation,\n queryCount: context.queryCount,\n
depCount: context.depCount,\n options: normalizeAnimationOptions(metadata.options)\n };\n }\n\n
visitSequence(metadata: AnimationSequenceMetadata, context: AnimationAstBuilderContext):\n SequenceAst
{\n return {\n type: AnimationMetadataType.Sequence,\n steps: metadata.steps.map(s => visitDslNode(this,
s, context)),\n options: normalizeAnimationOptions(metadata.options)\n };\n }\n\n visitGroup(metadata:
AnimationGroupMetadata, context: AnimationAstBuilderContext): GroupAst {\n const currentTime =
context.currentTime;\n let furthestTime = 0;\n const steps = metadata.steps.map(step => {\n
context.currentTime = currentTime;\n const innerAst = visitDslNode(this, step, context);\n
furthestTime = Math.max(furthestTime, context.currentTime);\n return innerAst;\n });\n\n
context.currentTime = furthestTime;\n return {\n type: AnimationMetadataType.Group,\n steps,\n
options: normalizeAnimationOptions(metadata.options)\n };\n }\n\n visitAnimate(metadata:
AnimationAnimateMetadata, context: AnimationAstBuilderContext):\n AnimateAst {\n const timingAst =
constructTimingAst(metadata.timings, context.errors);\n context.currentAnimateTimings = timingAst;\n\n let
styleAst: StyleAst|KeyframesAst;\n let styleMetadata: AnimationMetadata = metadata.styles ? metadata.styles :
style({});\n if (styleMetadata.type == AnimationMetadataType.Keyframes) {\n styleAst =
this.visitKeyframes(styleMetadata as AnimationKeyframesSequenceMetadata, context);\n } else {\n let
styleMetadata = metadata.styles as AnimationStyleMetadata;\n let isEmpty = false;\n if (!styleMetadata) {\n
isEmpty = true;\n const
newStyleData: {[prop: string]: string|number} = {};\n if (timingAst.easing) {\n newStyleData['easing'] =
timingAst.easing;\n }\n styleMetadata = style(newStyleData);\n }\n context.currentTime +=
timingAst.duration + timingAst.delay;\n const _styleAst = this.visitStyle(styleMetadata, context);\n
_styleAst.isEmptyStep = isEmpty;\n styleAst = _styleAst;\n }\n\n context.currentAnimateTimings = null;\n
return {\n type: AnimationMetadataType.Animate,\n timings: timingAst,\n style: styleAst,\n options:
null\n };\n }\n\n visitStyle(metadata: AnimationStyleMetadata, context: AnimationAstBuilderContext): StyleAst
{\n const ast = this._makeStyleAst(metadata, context);\n this._validateStyleAst(ast, context);\n return ast;\n
}\n\n private _makeStyleAst(metadata: AnimationStyleMetadata, context: AnimationAstBuilderContext):\n
StyleAst {\n const styles: (StyleData|string)[] = [];\n if (Array.isArray(metadata.styles))
{\n (metadata.styles as (StyleData | string)[]).forEach(styleTuple => {\n if (typeof styleTuple == 'string') {\n
if (styleTuple == AUTO_STYLE) {\n styles.push(styleTuple);\n } else {\n
context.errors.push(`The provided style string value ${styleTuple} is not allowed.`);\n }\n } else {\n
styles.push(styleTuple);\n }\n });\n } else {\n styles.push(metadata.styles);\n }\n\n let
containsDynamicStyles = false;\n let collectedEasing: string|null = null;\n styles.forEach(styleData => {\n if
(isObject(styleData)) {\n const styleMap = styleData as StyleData;\n const easing = styleMap['easing'];\n
if (easing) {\n collectedEasing = easing as string;\n delete styleMap['easing'];\n }\n if
(!containsDynamicStyles) {\n for (let prop in styleMap) {\n const value = styleMap[prop];\n
if (value.toString().indexOf(SUBSTITUTION_EXPR_START) >= 0) {\n containsDynamicStyles =
true;\n break;\n }\n }\n }\n });\n\n return {\n type:
AnimationMetadataType.Style,\n styles,\n easing: collectedEasing,\n offset: metadata.offset,\n
```

containsDynamicStyles,\n options: null\n };\n }\n\n private _validateStyleAst(ast: StyleAst, context: AnimationAstBuilderContext): void {\n const timings = context.currentAnimateTimings;\n let endTime = context.currentTime;\n let startTime = context.currentTime;\n if (timings && startTime > 0) {\n startTime -= timings.duration + timings.delay;\n }\n\n ast.styles.forEach(tuple => {\n if (typeof tuple == 'string') return;\n\n Object.keys(tuple).forEach(prop => {\n if (!this._driver.validateStyleProperty(prop)) {\n context.errors.push(`The provided animation property \"${\n prop}\" is
not a supported CSS property for animations`);\n return;\n }\n\n const collectedStyles = context.collectedStyles[context.currentQuerySelector!];\n const collectedEntry = collectedStyles[prop];\n let updateCollectedStyle = true;\n if (collectedEntry) {\n if (startTime != endTime && startTime >= collectedEntry.startTime &&\n endTime <= collectedEntry.endTime) {\n context.errors.push(`The CSS property \"${prop}\" that exists between the times of \"${\n collectedEntry.startTime}ms\" and \"${\n collectedEntry\n .endTime}ms\" is also being animated in a parallel animation between the times of \"${\n startTime}ms\" and \"${endTime}ms\"`);\n updateCollectedStyle = false;\n }\n\n // we always choose the smaller start time value since we\n // want to have a record of the entire animation window where\n // the style
property is being animated in between\n startTime = collectedEntry.startTime;\n }\n\n if (updateCollectedStyle) {\n collectedStyles[prop] = {startTime, endTime};\n }\n\n if (context.options) {\n validateStyleParams(tuple[prop], context.options, context.errors);\n }\n });\n });\n }\n\n visitKeyframes(metadata: AnimationKeyframesSequenceMetadata, context: AnimationAstBuilderContext):\n KeyframesAst {\n const ast: KeyframesAst = {type: AnimationMetadataType.Keyframes, styles: [], options: null};\n if (!context.currentAnimateTimings) {\n context.errors.push(`keyframes() must be placed inside of a call to animate()`);\n return ast;\n }\n\n const MAX_KEYFRAME_OFFSET = 1;\n\n let totalKeyframesWithOffsets = 0;\n const offsets: number[] = [];\n let offsetsOutOfOrder = false;\n let keyframesOutOfRange = false;\n let previousOffset: number = 0;\n\n const keyframes: StyleAst[]
= metadata.steps.map(styles => {\n const style = this._makeStyleAst(styles, context);\n let offsetVal: number|null =\n style.offset != null ? style.offset : consumeOffset(style.styles);\n let offset: number = 0;\n if (offsetVal != null) {\n totalKeyframesWithOffsets++;\n offset = style.offset = offsetVal;\n }\n keyframesOutOfRange = keyframesOutOfRange || offset < 0 || offset > 1;\n offsetsOutOfOrder = offsetsOutOfOrder || offset < previousOffset;\n previousOffset = offset;\n offsets.push(offset);\n return style;\n });\n\n if (keyframesOutOfRange) {\n context.errors.push(`Please ensure that all keyframe offsets are between 0 and 1`);\n }\n\n if (offsetsOutOfOrder) {\n context.errors.push(`Please ensure that all keyframe offsets are in order`);\n }\n\n const length = metadata.steps.length;\n let generatedOffset = 0;\n if (totalKeyframesWithOffsets > 0 && totalKeyframesWithOffsets
< length) {\n context.errors.push(`Not all style() steps within the declared keyframes() contain offsets`);\n } else if (totalKeyframesWithOffsets == 0) {\n generatedOffset = MAX_KEYFRAME_OFFSET / (length - 1);\n }\n\n const limit = length - 1;\n const currentTime = context.currentTime;\n const currentAnimateTimings = context.currentAnimateTimings!;\n const animateDuration = currentAnimateTimings.duration;\n keyframes.forEach((kf, i) => {\n const offset = generatedOffset > 0 ? (i == limit ? 1 : (generatedOffset * i)) : offsets[i];\n const durationUpToThisFrame = offset * animateDuration;\n context.currentTime = currentTime + currentAnimateTimings.delay + durationUpToThisFrame;\n currentAnimateTimings.duration = durationUpToThisFrame;\n this._validateStyleAst(kf, context);\n kf.offset = offset;\n\n ast.styles.push(kf);\n });\n\n return ast;\n }\n\n visitReference(metadata: AnimationReferenceMetadata, context: AnimationAstBuilderContext):\n
ReferenceAst {\n return {\n type: AnimationMetadataType.Reference,\n animation: visitDslNode(this, normalizeAnimationEntry(metadata.animation), context),\n options: normalizeAnimationOptions(metadata.options)\n };\n }\n\n visitAnimateChild(metadata: AnimationAnimateChildMetadata, context: AnimationAstBuilderContext):\n AnimateChildAst {\n context.depCount++;\n return {\n type: AnimationMetadataType.AnimateChild,\n options:

normalizeAnimationOptions(metadata.options)\n    };\n  }\n\n  visitAnimateRef(metadata:
AnimationAnimateRefMetadata, context: AnimationAstBuilderContext):\n      AnimateRefAst {\n    return {\n
type: AnimationMetadataType.AnimateRef,\n      animation: this.visitReference(metadata.animation, context),\n
options: normalizeAnimationOptions(metadata.options)\n    };\n  }\n\n  visitQuery(metadata:
AnimationQueryMetadata, context: AnimationAstBuilderContext): QueryAst {\n    const parentSelector
 = context.currentQuerySelector!;\n    const options = (metadata.options || {}) as AnimationQueryOptions;\n\n
context.queryCount++;\n    context.currentQuery = metadata;\n    const [selector, includeSelf] =
normalizeSelector(metadata.selector);\n    context.currentQuerySelector =\n        parentSelector.length ?
(parentSelector + ' ' + selector) : selector;\n    getOrSetAsInMap(context.collectedStyles,
context.currentQuerySelector, {});\n\n    const animation = visitDslNode(this,
normalizeAnimationEntry(metadata.animation), context);\n    context.currentQuery = null;\n
context.currentQuerySelector = parentSelector;\n\n    return {\n      type: AnimationMetadataType.Query,\n
selector,\n      limit: options.limit || 0,\n      optional: !!options.optional,\n      includeSelf,\n      animation,\n
originalSelector: metadata.selector,\n      options: normalizeAnimationOptions(metadata.options)\n    };\n  }\n\n
visitStagger(metadata: AnimationStaggerMetadata, context:
 AnimationAstBuilderContext):\n      StaggerAst {\n    if (!context.currentQuery) {\n
context.errors.push(`stagger() can only be used inside of query()`);\n    }\n    const timings = metadata.timings ===
'full' ?\n        {duration: 0, delay: 0, easing: 'full'} :\n        resolveTiming(metadata.timings, context.errors, true);\n\n
return {\n      type: AnimationMetadataType.Stagger,\n      animation: visitDslNode(this,
normalizeAnimationEntry(metadata.animation), context),\n      timings,\n      options: null\n    };\n  }\n}\n\nfunction
normalizeSelector(selector: string): [string, boolean] {\n  const hasAmpersand = selector.split(/\\s*,\\s*/).find(token
=> token == SELF_TOKEN) ? true : false;\n  if (hasAmpersand) {\n    selector =
selector.replace(SELF_TOKEN_REGEX, '');\n  }\n\n  // the :enter and :leave selectors are filled in at runtime during
timeline building\n  selector = selector.replace(/@*/g, NG_TRIGGER_SELECTOR)\n
.replace(/@\\w+/g, match => NG_TRIGGER_SELECTOR
 + '-' + match.substr(1))\n                .replace(/:animating/g, NG_ANIMATING_SELECTOR);\n\n  return [selector,
hasAmpersand];\n}\n\n\nfunction normalizeParams(obj: {[key: string]: any}|any): {[key: string]: any}|null {\n
return obj ? copyObj(obj) : null;\n}\n\nexport type StyleTimeTuple = {\n  startTime: number; endTime:
number;\n};\n\nexport class AnimationAstBuilderContext {\n  public queryCount: number = 0;\n  public depCount:
number = 0;\n  public currentTransition: AnimationTransitionMetadata|null = null;\n  public currentQuery:
AnimationQueryMetadata|null = null;\n  public currentQuerySelector: string|null = null;\n  public
currentAnimateTimings: TimingAst|null = null;\n  public currentTime: number = 0;\n  public collectedStyles:
{[selectorName: string]: {[propName: string]: StyleTimeTuple}} = {};\n  public options: AnimationOptions|null =
null;\n  constructor(public errors: any[]) {}\n}\n\nfunction consumeOffset(styles: StyleData|string|(StyleData |
string)[]): number|null
 {\n  if (typeof styles == 'string') return null;\n\n  let offset: number|null = null;\n\n  if (Array.isArray(styles)) {\n
styles.forEach(styleTuple => {\n      if (isObject(styleTuple) && styleTuple.hasOwnProperty('offset')) {\n        const
obj = styleTuple as StyleData;\n        offset = parseFloat(obj['offset'] as string);\n        delete obj['offset'];\n      }\n
});\n  } else if (isObject(styles) && styles.hasOwnProperty('offset')) {\n    const obj = styles;\n    offset =
parseFloat(obj['offset'] as string);\n    delete obj['offset'];\n  }\n  return offset;\n}\n\nfunction isObject(value: any):
boolean {\n  return !Array.isArray(value) && typeof value == 'object';\n}\n\nfunction constructTimingAst(value:
string|number|AnimateTimings, errors: any[]) {\n  let timings: AnimateTimings|null = null;\n  if
(value.hasOwnProperty('duration')) {\n    timings = value as AnimateTimings;\n  } else if (typeof value == 'number')
{\n    const duration = resolveTiming(value, errors).duration;\n
    return makeTimingAst(duration, 0, '');\n  }\n\n  const strValue = value as string;\n  const isDynamic =
strValue.split(/\\s+/).some(v => v.charAt(0) == '{' && v.charAt(1) == '{');\n  if (isDynamic) {\n    const ast =
makeTimingAst(0, 0, '') as any;\n    ast.dynamic = true;\n    ast.strValue = strValue;\n    return ast as
DynamicTimingAst;\n  }\n\n  timings = timings || resolveTiming(strValue, errors);\n  return

makeTimingAst(timings.duration, timings.delay, timings.easing);\n}\n\nfunction normalizeAnimationOptions(options: AnimationOptions|null): AnimationOptions {\n  if (options) {\n    options = copyObj(options);\n    if (options['params']) {\n      options['params'] = normalizeParams(options['params'])!;\n    }\n  } else {\n    options = {};\n  }\n  return options;\n}\n\nfunction makeTimingAst(duration: number, delay: number, easing: string|null): TimingAst {\n  return {duration, delay, easing};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {StyleData} from '@angular/animations';\nimport {AnimationEngineInstruction, AnimationTransitionInstructionType} from '../render/animation_engine_instruction';\n\nexport interface AnimationTimelineInstruction extends AnimationEngineInstruction {\n  element: any;\n  keyframes: StyleData[];\n  preStyleProps: string[];\n  postStyleProps: string[];\n  duration: number;\n  delay: number;\n  totalTime: number;\n  easing: string|null;\n  stretchStartingKeyframe?: boolean;\n  subTimeline: boolean;\n}\n\nexport function createTimelineInstruction(\n  element: any, keyframes: StyleData[], preStyleProps: string[], postStyleProps: string[],\n    duration: number, delay: number, easing: string|null = null,\n    subTimeline: boolean = false): AnimationTimelineInstruction {\n  return {\n    type: AnimationTransitionInstructionType.TimelineAnimation,\n    element,\n    keyframes,\n    preStyleProps,\n    postStyleProps,\n    duration,\n    delay,\n    totalTime: duration + delay,\n    easing,\n    subTimeline\n  };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationTimelineInstruction} from './animation_timeline_instruction';\n\nexport class ElementInstructionMap {\n  private _map = new Map<any, AnimationTimelineInstruction[]>();\n\n  consume(element: any): AnimationTimelineInstruction[] {\n    let instructions = this._map.get(element);\n    if (instructions) {\n      this._map.delete(element);\n    } else {\n      instructions = [];\n    }\n    return instructions;\n  }\n\n  append(element: any, instructions: AnimationTimelineInstruction[]) {\n    let existingInstructions = this._map.get(element);\n    if (!existingInstructions) {\n      this._map.set(element,\n      existingInstructions = []);\n    }\n    existingInstructions.push(...instructions);\n  }\n\n  has(element: any): boolean {\n    return this._map.has(element);\n  }\n\n  clear() {\n    this._map.clear();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimateChildOptions, AnimateTimings, AnimationMetadataType, AnimationOptions, AnimationQueryOptions, AUTO_STYLE, PRE_STYLE as PRE_STYLE, StyleData} from '@angular/animations';\n\nimport {AnimationDriver} from '../render/animation_driver';\nimport {copyObj, copyStyles, interpolateParams, iteratorToArray, resolveTiming, resolveTimingValue, visitDslNode} from '../util';\n\nimport {AnimateAst, AnimateChildAst, AnimateRefAst, Ast, AstVisitor, DynamicTimingAst, GroupAst, KeyframesAst, QueryAst, ReferenceAst, SequenceAst, StaggerAst, StateAst, StyleAst,\n  TimingAst, TransitionAst, TriggerAst} from './animation_ast';\nimport {AnimationTimelineInstruction, createTimelineInstruction} from './animation_timeline_instruction';\nimport {ElementInstructionMap} from './element_instruction_map';\n\nconst ONE_FRAME_IN_MILLISECONDS = 1;\nconst ENTER_TOKEN = ':enter';\nconst ENTER_TOKEN_REGEX = new RegExp(ENTER_TOKEN, 'g');\nconst LEAVE_TOKEN = ':leave';\nconst LEAVE_TOKEN_REGEX = new RegExp(LEAVE_TOKEN, 'g');\n\n/*\n * The code within this file aims to generate web-animations-compatible keyframes from Angular's\n * animation DSL code.\n *\n * The code below will be converted from:\n *\n * ```\n * sequence([\n *   style({ opacity: 0 }),\n *   animate(1000, style({ opacity: 0 }))\n * ])\n * ```\n *\n * To:\n * ```\n * keyframes = [{ opacity: 0, offset: 0 }, { opacity: 1, offset: 1 }]\n * duration = 1000\n * delay = 0\n * easing = ''\n * ```\n *\n * For this operation to cover the combination of animation verbs (style, animate, group, etc...) a\n * combination\n  of prototypical inheritance, AST traversal and merge-sort-like algorithms are used.\n *\n * [AST Traversal]\n * Each of the animation verbs, when executed, will return an string-map object representing what\n * type of action it

is (style, animate, group, etc...) and the data associated with it. This means\n * that when functional composition mix of these functions is evaluated (like in the example above)\n * then it will end up producing a tree of objects representing the animation itself.\n *\n * When this animation object tree is processed by the visitor code below it will visit each of the\n * verb statements within the visitor. And during each visit it will build the context of the\n * animation keyframes by interacting with the `TimelineBuilder`.\n *\n * [TimelineBuilder]\n * This class is responsible for tracking the styles and building a series of keyframe objects for a\n * timeline between a start and end time. The builder starts off with an initial timeline and each\n
* time the AST comes across a `group()`, `keyframes()` or a combination of the two wihtin a\n * `sequence()` then it will generate a sub timeline for each step as well as a new one after\n * they are complete.\n *\n * As the AST is traversed, the timing state on each of the timelines will be incremented. If a sub\n * timeline was created (based on one of the cases above) then the parent timeline will attempt to\n * merge the styles used within the sub timelines into itself (only with group() this will happen).\n * This happens with a merge operation (much like how the merge works in mergesort) and it will only\n * copy the most recently used styles from the sub timelines into the parent timeline. This ensures\n * that if the styles are used later on in another phase of the animation then they will be the most\n * up-to-date values.\n *\n * [How Missing Styles Are Updated]\n * Each timeline has a `backFill` property which is responsible for filling in new styles into\n * already processed
keyframes if a new style shows up later within the animation sequence.\n *\n * ```\n * sequence([\n *  style({ width: 0 }),\n *  animate(1000, style({ width: 100 })),\n *  animate(1000, style({ width: 200 })),\n * animate(1000, style({ width: 300 }))\n *  animate(1000, style({ width: 400, height: 400 })) // notice how `height` doesn't exist anywhere\n * else\n * ])\n * ```\n *\n * What is happening here is that the `height` value is added later in the sequence, but is missing\n * from all previous animation steps. Therefore when a keyframe is created it would also be missing\n * from all previous keyframes up until where it is first used. For the timeline keyframe generation\n * to properly fill in the style it will place the previous value (the value from the parent\n * timeline) or a default value of `*` into the backFill object. Given that each of the keyframe\n * styles are objects that prototypically inhert from the backFill object, this means that if a\n * value is added
into the backFill then it will automatically propagate any missing values to all\n * keyframes. Therefore the missing `height` value will be properly filled into the already\n * processed keyframes.\n *\n * When a sub-timeline is created it will have its own backFill property. This is done so that\n * styles present within the sub-timeline do not accidentally seep into the previous/future timeline\n * keyframes\n *\n * (For prototypically-inherited contents to be detected a `for(i in obj)` loop must be used.)\n *\n * [Validation]\n * The code in this file is not responsible for validation. That functionality happens with within\n * the `AnimationValidatorVisitor` code.\n */\nexport function buildAnimationTimelines(\n  driver: AnimationDriver, rootElement: any, ast: Ast<AnimationMetadataType>,\n enterClassName: string, leaveClassName: string, startingStyles: StyleData = {},\n  finalStyles: StyleData = {}, options: AnimationOptions,\n  subInstructions?: ElementInstructionMap,
errors: any[] = []): AnimationTimelineInstruction[] {\n  return new AnimationTimelineBuilderVisitor().buildKeyframes(\n    driver, rootElement, ast, enterClassName, leaveClassName, startingStyles, finalStyles,\n    options, subInstructions, errors);\n}\n\nexport class AnimationTimelineBuilderVisitor implements AstVisitor {\n  buildKeyframes(\n    driver: AnimationDriver, rootElement: any, ast: Ast<AnimationMetadataType>,\n    enterClassName: string, leaveClassName: string, startingStyles: StyleData,\n    finalStyles: StyleData, options: AnimationOptions, subInstructions?: ElementInstructionMap,\n    errors: any[] = []): AnimationTimelineInstruction[] {\n  subInstructions = subInstructions || new ElementInstructionMap();\n  const context = new AnimationTimelineContext(\n    driver, rootElement, subInstructions, enterClassName, leaveClassName, errors, []);\n  context.options = options;\n context.currentTimeline.setStyles([startingStyles], null, context.errors,
options);\n\n  visitDslNode(this, ast, context);\n\n  // this checks to see if an actual animation happened\n  const timelines = context.timelines.filter(timeline => timeline.containsAnimation());\n  if (timelines.length && Object.keys(finalStyles).length) {\n    const tl = timelines[timelines.length - 1];\n    if (!tl.allowOnlyTimelineStyles()) {\n      tl.setStyles([finalStyles], null, context.errors, options);\n    }\n  }\n\n

```
return timelines.length ? timelines.map(timeline => timeline.buildKeyframes()) :\n [createTimelineInstruction(rootElement, [], [], [], 0, 0, '', false)];\n  }\n\n  visitTrigger(ast: TriggerAst, context: AnimationTimelineContext): any {\n    // these values are not visited in this AST\n  }\n\n  visitState(ast: StateAst, context: AnimationTimelineContext): any {\n    // these values are not visited in this AST\n  }\n\n  visitTransition(ast: TransitionAst, context: AnimationTimelineContext): any {\n    // these values are not visited in this AST\n  }\n\n  visitAnimateChild(ast: AnimateChildAst, context: AnimationTimelineContext): any {\n    const elementInstructions = context.subInstructions.consume(context.element);\n    if (elementInstructions) {\n      const innerContext = context.createSubContext(ast.options);\n      const startTime = context.currentTimeline.currentTime;\n      const endTime = this._visitSubInstructions(\n          elementInstructions, innerContext, innerContext.options as AnimateChildOptions);\n      if (startTime != endTime) {\n        // we do this on the upper context because we created a sub context for\n        // the sub child animations\n        context.transformIntoNewTimeline(endTime);\n      }\n    }\n    context.previousNode = ast;\n  }\n\n  visitAnimateRef(ast: AnimateRefAst, context: AnimationTimelineContext): any {\n    const innerContext = context.createSubContext(ast.options);\n    innerContext.transformIntoNewTimeline();\n    this.visitReference(ast.animation, innerContext);\n    context.transformIntoNewTimeline(innerContext.currentTimeline.currentTime);\n    context.previousNode = ast;\n  }\n\n  private _visitSubInstructions(\n      instructions: AnimationTimelineInstruction[], context: AnimationTimelineContext,\n      options: AnimateChildOptions): number {\n    const startTime = context.currentTimeline.currentTime;\n    let furthestTime = startTime;\n\n    // this is a special-case for when a user wants to skip a sub\n    // animation from being fired entirely.\n    const duration = options.duration != null ? resolveTimingValue(options.duration) : null;\n    const delay = options.delay != null ? resolveTimingValue(options.delay) : null;\n    if (duration !== 0) {\n      instructions.forEach(instruction => {\n        const instructionTimings =\n            context.appendInstructionToTimeline(instruction, duration, delay);\n        furthestTime =\n            Math.max(furthestTime, instructionTimings.duration + instructionTimings.delay);\n      });\n    }\n\n    return furthestTime;\n  }\n\n  visitReference(ast: ReferenceAst, context: AnimationTimelineContext) {\n    context.updateOptions(ast.options, true);\n    visitDslNode(this, ast.animation, context);\n    context.previousNode = ast;\n  }\n\n  visitSequence(ast: SequenceAst, context: AnimationTimelineContext) {\n    const subContextCount = context.subContextCount;\n    let ctx = context;\n    const options = ast.options;\n\n    if (options && (options.params || options.delay)) {\n      ctx = context.createSubContext(options);\n      ctx.transformIntoNewTimeline();\n\n      if (options.delay != null) {\n        if (ctx.previousNode.type == AnimationMetadataType.Style) {\n          ctx.currentTimeline.snapshotCurrentStyles();\n          ctx.previousNode = DEFAULT_NOOP_PREVIOUS_NODE;\n        }\n\n        const delay = resolveTimingValue(options.delay);\n        ctx.delayNextStep(delay);\n      }\n    }\n\n    if (ast.steps.length) {\n      ast.steps.forEach(s => visitDslNode(this, s, ctx));\n\n      // this is here just incase the inner steps only contain or end with a style() call\n      ctx.currentTimeline.applyStylesToKeyframe();\n\n      // this means that some animation function within the sequence\n      // ended up creating a sub timeline (which means the current\n      // timeline cannot overlap with the contents of the sequence)\n      if (ctx.subContextCount > subContextCount) {\n        ctx.transformIntoNewTimeline();\n      }\n    }\n\n    context.previousNode = ast;\n  }\n\n  visitGroup(ast: GroupAst, context: AnimationTimelineContext) {\n    const innerTimelines: TimelineBuilder[] = [];\n    let furthestTime = context.currentTimeline.currentTime;\n    const delay = ast.options && ast.options.delay ? resolveTimingValue(ast.options.delay) : 0;\n\n    ast.steps.forEach(s => {\n      const innerContext = context.createSubContext(ast.options);\n      if (delay) {\n        innerContext.delayNextStep(delay);\n      }\n\n      visitDslNode(this, s, innerContext);\n      furthestTime = Math.max(furthestTime, innerContext.currentTimeline.currentTime);\n      innerTimelines.push(innerContext.currentTimeline);\n    });\n\n    // this operation is run after the AST loop because otherwise\n    // if the parent timeline's collected styles were updated then\n    // it would pass in invalid data into the new-to-be forked items\n    innerTimelines.forEach(\n        timeline =>
```

```
context.currentTimeline.mergeTimelineCollectedStyles(timeline));\n
context.transformIntoNewTimeline(furthestTime);\n    context.previousNode = ast;\n  }\n\n  private
_visitTiming(ast: TimingAst, context: AnimationTimelineContext): AnimateTimings {\n    if ((ast as
DynamicTimingAst).dynamic) {\n      const strValue = (ast as DynamicTimingAst).strValue;\n      const
timingValue =\n          context.params ? interpolateParams(strValue, context.params, context.errors) : strValue;\n
return resolveTiming(timingValue, context.errors);\n    } else {\n
      return {duration: ast.duration, delay: ast.delay, easing: ast.easing};\n    }\n  }\n\n  visitAnimate(ast: AnimateAst,
context: AnimationTimelineContext) {\n    const timings = context.currentAnimateTimings =
this._visitTiming(ast.timings, context);\n    const timeline = context.currentTimeline;\n    if (timings.delay) {\n
context.incrementTime(timings.delay);\n      timeline.snapshotCurrentStyles();\n    }\n\n    const style = ast.style;\n
if (style.type == AnimationMetadataType.Keyframes) {\n      this.visitKeyframes(style, context);\n    } else {\n
context.incrementTime(timings.duration);\n      this.visitStyle(style as StyleAst, context);\n
timeline.applyStylesToKeyframe();\n    }\n\n    context.currentAnimateTimings = null;\n    context.previousNode =
ast;\n  }\n\n  visitStyle(ast: StyleAst, context: AnimationTimelineContext) {\n    const timeline =
context.currentTimeline;\n    const timings = context.currentAnimateTimings!;\n\n    // this is a special case
 for when a style() call\n    // directly follows  an animate() call (but not inside of an animate() call)\n    if (!timings
&& timeline.getCurrentStyleProperties().length) {\n      timeline.forwardFrame();\n    }\n\n    const easing = (timings
&& timings.easing) || ast.easing;\n    if (ast.isEmptyStep) {\n      timeline.applyEmptyStep(easing);\n    } else {\n
timeline.setStyles(ast.styles, easing, context.errors, context.options);\n    }\n\n    context.previousNode = ast;\n  }\n\n
visitKeyframes(ast: KeyframesAst, context: AnimationTimelineContext) {\n    const currentAnimateTimings =
context.currentAnimateTimings!;\n    const startTime = (context.currentTimeline!).duration;\n    const duration =
currentAnimateTimings.duration;\n    const innerContext = context.createSubContext();\n    const innerTimeline =
innerContext.currentTimeline;\n    innerTimeline.easing = currentAnimateTimings.easing;\n\n
ast.styles.forEach(step => {\n      const offset: number = step.offset || 0;\n
    innerTimeline.forwardTime(offset * duration);\n      innerTimeline.setStyles(step.styles, step.easing,
context.errors, context.options);\n      innerTimeline.applyStylesToKeyframe();\n    });\n\n    // this will ensure that
the parent timeline gets all the styles from\n    // the child even if the new timeline below is not used\n
context.currentTimeline.mergeTimelineCollectedStyles(innerTimeline);\n\n    // we do this because the window
between this timeline and the sub timeline\n    // should ensure that the styles within are exactly the same as they
were before\n    context.transformIntoNewTimeline(startTime + duration);\n    context.previousNode = ast;\n  }\n\n
visitQuery(ast: QueryAst, context: AnimationTimelineContext) {\n    // in the event that the first step before this is a
style step we need\n    // to ensure the styles are applied before the children are animated\n    const startTime =
context.currentTimeline.currentTime;\n    const options = (ast.options || {}) as AnimationQueryOptions;\n
   const delay = options.delay ? resolveTimingValue(options.delay) : 0;\n\n    if (delay &&\n
(context.previousNode.type === AnimationMetadataType.Style ||\n         (startTime == 0 &&
context.currentTimeline.getCurrentStyleProperties().length))) {\n
context.currentTimeline.snapshotCurrentStyles();\n      context.previousNode =
DEFAULT_NOOP_PREVIOUS_NODE;\n    }\n\n    let furthestTime = startTime;\n    const elms =
context.invokeQuery(\n        ast.selector, ast.originalSelector, ast.limit, ast.includeSelf,\n        options.optional ? true
: false, context.errors);\n\n    context.currentQueryTotal = elms.length;\n    let sameElementTimeline:
TimelineBuilder|null = null;\n    elms.forEach((element, i) => {\n      context.currentQueryIndex = i;\n      const
innerContext = context.createSubContext(ast.options, element);\n      if (delay) {\n
innerContext.delayNextStep(delay);\n      }\n\n      if (element === context.element) {\n        sameElementTimeline
 = innerContext.currentTimeline;\n      }\n\n      visitDslNode(this, ast.animation, innerContext);\n\n      // this is here
just incase the inner steps only contain or end\n      // with a style() call (which is here to signal that this is a
preparatory\n      // call to style an element before it is animated again)\n
innerContext.currentTimeline.applyStylesToKeyframe();\n\n      const endTime =
innerContext.currentTimeline.currentTime;\n      furthestTime = Math.max(furthestTime, endTime);\n    });\n\n
```

```
context.currentQueryIndex = 0;\n    context.currentQueryTotal = 0;\n
context.transformIntoNewTimeline(furthestTime);\n\n    if (sameElementTimeline) {\n
context.currentTimeline.mergeTimelineCollectedStyles(sameElementTimeline);\n
context.currentTimeline.snapshotCurrentStyles();\n    }\n\n    context.previousNode = ast;\n  }\n\n  visitStagger(ast:
StaggerAst, context: AnimationTimelineContext) {\n    const parentContext = context.parentContext!;\n    const
 tl = context.currentTimeline;\n    const timings = ast.timings;\n    const duration = Math.abs(timings.duration);\n
const maxTime = duration * (context.currentQueryTotal - 1);\n    let delay = duration *
context.currentQueryIndex;\n\n    let staggerTransformer = timings.duration < 0 ? 'reverse' : timings.easing;\n
switch (staggerTransformer) {\n      case 'reverse':\n        delay = maxTime - delay;\n        break;\n      case 'full':\n
 delay = parentContext.currentStaggerTime;\n        break;\n    }\n\n    const timeline = context.currentTimeline;\n    if
(delay) {\n      timeline.delayNextStep(delay);\n    }\n\n    const startingTime = timeline.currentTime;\n
visitDslNode(this, ast.animation, context);\n    context.previousNode = ast;\n\n    // time = duration + delay\n    // the
reason why this computation is so complex is because\n    // the inner timeline may either have a delay value or a
stretched\n    // keyframe depending on if a subtimeline is not used or is
 used.\n    parentContext.currentStaggerTime =\n        (tl.currentTime - startingTime) + (tl.startTime -
parentContext.currentTimeline.startTime);\n  }\n}\n\nexport declare type StyleAtTime = {\n  time: number; value:
string | number;\n};\n\nconst DEFAULT_NOOP_PREVIOUS_NODE =
<Ast<AnimationMetadataType>>{};\nexport class AnimationTimelineContext {\n  public parentContext:
AnimationTimelineContext|null = null;\n  public currentTimeline: TimelineBuilder;\n  public
currentAnimateTimings: AnimateTimings|null = null;\n  public previousNode: Ast<AnimationMetadataType> =
DEFAULT_NOOP_PREVIOUS_NODE;\n  public subContextCount = 0;\n  public options: AnimationOptions =
{};\n  public currentQueryIndex: number = 0;\n  public currentQueryTotal: number = 0;\n  public
currentStaggerTime: number = 0;\n\n  constructor(\n      private _driver: AnimationDriver, public element: any,\n
public subInstructions: ElementInstructionMap, private _enterClassName: string,\n      private _leaveClassName:
string,
 public errors: any[], public timelines: TimelineBuilder[],\n      initialTimeline?: TimelineBuilder) {\n
this.currentTimeline = initialTimeline || new TimelineBuilder(this._driver, element, 0);\n
timelines.push(this.currentTimeline);\n  }\n\n  get params() {\n    return this.options.params;\n  }\n\n
updateOptions(options: AnimationOptions|null, skipIfExists?: boolean) {\n    if (!options) return;\n\n    const
newOptions = options as any;\n    let optionsToUpdate = this.options;\n\n    // NOTE: this will get patched up when
other animation methods support duration overrides\n    if (newOptions.duration != null) {\n      (optionsToUpdate as
any).duration = resolveTimingValue(newOptions.duration);\n    }\n\n    if (newOptions.delay != null) {\n
optionsToUpdate.delay = resolveTimingValue(newOptions.delay);\n    }\n\n    const newParams =
newOptions.params;\n    if (newParams) {\n      let paramsToUpdate: {[name: string]: any} =
optionsToUpdate.params!;\n      if (!paramsToUpdate)
 {\n        paramsToUpdate = this.options.params = {};\n      }\n\n      Object.keys(newParams).forEach(name => {\n
   if (!skipIfExists || !paramsToUpdate.hasOwnProperty(name)) {\n          paramsToUpdate[name] =
interpolateParams(newParams[name], paramsToUpdate, this.errors);\n        }\n      });\n    }\n  }\n\n  private
_copyOptions() {\n    const options: AnimationOptions = {};\n    if (this.options) {\n      const oldParams =
this.options.params;\n      if (oldParams) {\n        const params: {[name: string]: any} = options['params'] = {};\n
Object.keys(oldParams).forEach(name => {\n          params[name] = oldParams[name];\n        });\n      }\n    }\n
return options;\n  }\n\n  createSubContext(options: AnimationOptions|null = null, element?: any, newTime?:
number):\n      AnimationTimelineContext {\n    const target = element || this.element;\n    const context = new
AnimationTimelineContext(\n        this._driver, target, this.subInstructions, this._enterClassName,
 this._leaveClassName,\n        this.errors, this.timelines, this.currentTimeline.fork(target, newTime || 0));\n
context.previousNode = this.previousNode;\n    context.currentAnimateTimings = this.currentAnimateTimings;\n\n
context.options = this._copyOptions();\n    context.updateOptions(options);\n\n    context.currentQueryIndex =
this.currentQueryIndex;\n    context.currentQueryTotal = this.currentQueryTotal;\n    context.parentContext = this;\n
```

```
  this.subContextCount++;\n    return context;\n  }\n\n  transformIntoNewTimeline(newTime?: number) {\n
this.previousNode = DEFAULT_NOOP_PREVIOUS_NODE;\n    this.currentTimeline =
this.currentTimeline.fork(this.element, newTime);\n    this.timelines.push(this.currentTimeline);\n    return
this.currentTimeline;\n  }\n\n  appendInstructionToTimeline(\n      instruction: AnimationTimelineInstruction,
duration: number|null,\n      delay: number|null): AnimateTimings {\n    const updatedTimings: AnimateTimings =
{\n      duration:
 duration != null ? duration : instruction.duration,\n      delay: this.currentTimeline.currentTime + (delay != null ?
delay : 0) + instruction.delay,\n      easing: "\n    };\n    const builder = new SubTimelineBuilder(\n        this._driver,
instruction.element, instruction.keyframes, instruction.preStyleProps,\n        instruction.postStyleProps,
updatedTimings, instruction.stretchStartingKeyframe);\n    this.timelines.push(builder);\n    return
updatedTimings;\n  }\n\n  incrementTime(time: number) {\n
this.currentTimeline.forwardTime(this.currentTimeline.duration + time);\n  }\n\n  delayNextStep(delay: number) {\n
  // negative delays are not yet supported\n    if (delay > 0) {\n      this.currentTimeline.delayNextStep(delay);\n    }\n
}\n\n  invokeQuery(\n      selector: string, originalSelector: string, limit: number, includeSelf: boolean,\n      optional:
boolean, errors: any[]): any[] {\n    let results: any[] = [];\n    if (includeSelf) {\n      results.push(this.element);\n
    }\n    if (selector.length > 0) {  // if :self is only used then the selector is empty\n      selector =
selector.replace(ENTER_TOKEN_REGEX, '.' + this._enterClassName);\n      selector =
selector.replace(LEAVE_TOKEN_REGEX, '.' + this._leaveClassName);\n      const multi = limit != 1;\n      let
elements = this._driver.query(this.element, selector, multi);\n      if (limit !== 0) {\n        elements = limit < 0 ?
elements.slice(elements.length + limit, elements.length) :\n                                elements.slice(0, limit);\n      }\n
results.push(...elements);\n    }\n\n    if (!optional && results.length == 0) {\n
errors.push(`\\`query("${originalSelector}")\\` returned zero elements. (Use \\`query("${originalSelector}", { optional: true })\\` if you wish to allow this.)`);\n    }\n    return results;\n  }\n}\n\n\nexport
class TimelineBuilder {\n  public duration: number = 0;\n  // TODO(issue/24571): remove '!'.\n  public easing!:
string|null;\n
  private _previousKeyframe: StyleData = {};\n  private _currentKeyframe: StyleData = {};\n  private _keyframes =
new Map<number, StyleData>();\n  private _styleSummary: {[prop: string]: StyleAtTime} = {};\n  private
_localTimelineStyles: StyleData;\n  private _globalTimelineStyles: StyleData;\n  private _pendingStyles: StyleData
= {};\n  private _backFill: StyleData = {};\n  private _currentEmptyStepKeyframe: StyleData|null = null;\n\n
constructor(\n      private _driver: AnimationDriver, public element: any, public startTime: number,\n      private
_elementTimelineStylesLookup?: Map<any, StyleData>) {\n    if (!this._elementTimelineStylesLookup) {\n
this._elementTimelineStylesLookup = new Map<any, StyleData>();\n    }\n\n    this._localTimelineStyles =
Object.create(this._backFill, {});\n    this._globalTimelineStyles =
this._elementTimelineStylesLookup.get(element)!;\n    if (!this._globalTimelineStyles) {\n
this._globalTimelineStyles = this._localTimelineStyles;\n
      this._elementTimelineStylesLookup.set(element, this._localTimelineStyles);\n    }\n    this._loadKeyframe();\n
}\n\n  containsAnimation(): boolean {\n    switch (this._keyframes.size) {\n      case 0:\n        return false;\n      case
1:\n        return this.getCurrentStyleProperties().length > 0;\n      default:\n        return true;\n    }\n  }\n\n
getCurrentStyleProperties(): string[] {\n    return Object.keys(this._currentKeyframe);\n  }\n\n  get currentTime() {\n
  return this.startTime + this.duration;\n  }\n\n  delayNextStep(delay: number) {\n    // in the event that a style() step
is placed right before a stagger()\n    // and that style() step is the very first style() value in the animation\n    // then
we need to make a copy of the keyframe [0, copy, 1] so that the delay\n    // properly applies the style() values to
work with the stagger...\n    const hasPreStyleStep = this._keyframes.size == 1 &&
Object.keys(this._pendingStyles).length;\n\n    if (this.duration
 || hasPreStyleStep) {\n      this.forwardTime(this.currentTime + delay);\n      if (hasPreStyleStep) {\n
this.snapshotCurrentStyles();\n      }\n    } else {\n      this.startTime += delay;\n    }\n  }\n\n  fork(element: any,
currentTime?: number): TimelineBuilder {\n    this.applyStylesToKeyframe();\n    return new TimelineBuilder(\n
 this._driver, element, currentTime || this.currentTime, this._elementTimelineStylesLookup);\n  }\n\n  private
```

```
_loadKeyframe() {\n    if (this._currentKeyframe) {\n      this._previousKeyframe = this._currentKeyframe;\n    }\n
this._currentKeyframe = this._keyframes.get(this.duration)!;\n    if (!this._currentKeyframe) {\n
this._currentKeyframe = Object.create(this._backFill, {});\n      this._keyframes.set(this.duration,
this._currentKeyframe);\n    }\n  }\n\n  forwardFrame() {\n    this.duration +=
ONE_FRAME_IN_MILLISECONDS;\n    this._loadKeyframe();\n  }\n\n  forwardTime(time: number) {\n
this.applyStylesToKeyframe();\n
 this.duration = time;\n    this._loadKeyframe();\n  }\n\n  private _updateStyle(prop: string, value: string|number) {\n
  this._localTimelineStyles[prop] = value;\n    this._globalTimelineStyles[prop] = value;\n
this._styleSummary[prop] = {time: this.currentTime, value};\n  }\n\n  allowOnlyTimelineStyles() {\n    return
this._currentEmptyStepKeyframe !== this._currentKeyframe;\n  }\n\n  applyEmptyStep(easing: string|null) {\n    if
(easing) {\n      this._previousKeyframe['easing'] = easing;\n    }\n\n    // special case for animate(duration):\n    // all
missing styles are filled with a `*` value then\n    // if any destination styles are filled in later on the same\n    //
keyframe then they will override the overridden styles\n    // We use `_globalTimelineStyles` here because there
may be\n    // styles in previous keyframes that are not present in this timeline\n
Object.keys(this._globalTimelineStyles).forEach(prop => {\n      this._backFill[prop] =
this._globalTimelineStyles[prop]
 || AUTO_STYLE;\n      this._currentKeyframe[prop] = AUTO_STYLE;\n    });\n
this._currentEmptyStepKeyframe = this._currentKeyframe;\n  }\n\n  setStyles(\n      input: (StyleData|string)[],
easing: string|null, errors: any[],\n      options?: AnimationOptions) {\n    if (easing) {\n
this._previousKeyframe['easing'] = easing;\n    }\n\n    const params = (options && options.params) || {};\n    const
styles = flattenStyles(input, this._globalTimelineStyles);\n    Object.keys(styles).forEach(prop => {\n      const val =
interpolateParams(styles[prop], params, errors);\n      this._pendingStyles[prop] = val;\n      if
(!this._localTimelineStyles.hasOwnProperty(prop)) {\n        this._backFill[prop] =
this._globalTimelineStyles.hasOwnProperty(prop) ?\n            this._globalTimelineStyles[prop] :\n
AUTO_STYLE;\n      }\n      this._updateStyle(prop, val);\n    });\n  }\n\n  applyStylesToKeyframe() {\n    const
styles = this._pendingStyles;\n    const props = Object.keys(styles);\n
   if (props.length == 0) return;\n\n    this._pendingStyles = {};\n\n    props.forEach(prop => {\n      const val =
styles[prop];\n      this._currentKeyframe[prop] = val;\n    });\n\n
Object.keys(this._localTimelineStyles).forEach(prop => {\n      if (!this._currentKeyframe.hasOwnProperty(prop))
{\n        this._currentKeyframe[prop] = this._localTimelineStyles[prop];\n      }\n    });\n  }\n\n
snapshotCurrentStyles() {\n    Object.keys(this._localTimelineStyles).forEach(prop => {\n      const val =
this._localTimelineStyles[prop];\n      this._pendingStyles[prop] = val;\n      this._updateStyle(prop, val);\n    });\n
}\n\n  getFinalKeyframe() {\n    return this._keyframes.get(this.duration);\n  }\n\n  get properties() {\n    const
properties: string[] = [];\n    for (let prop in this._currentKeyframe) {\n      properties.push(prop);\n    }\n    return
properties;\n  }\n\n  mergeTimelineCollectedStyles(timeline: TimelineBuilder) {\n
Object.keys(timeline._styleSummary).forEach(prop
 => {\n      const details0 = this._styleSummary[prop];\n      const details1 = timeline._styleSummary[prop];\n      if
(!details0 || details1.time > details0.time) {\n        this._updateStyle(prop, details1.value);\n      }\n    });\n  }\n\n
buildKeyframes(): AnimationTimelineInstruction {\n    this.applyStylesToKeyframe();\n    const preStyleProps =
new Set<string>();\n    const postStyleProps = new Set<string>();\n    const isEmpty = this._keyframes.size === 1
&& this.duration === 0;\n\n    let finalKeyframes: StyleData[] = [];\n    this._keyframes.forEach((keyframe, time)
=> {\n      const finalKeyframe = copyStyles(keyframe, true);\n      Object.keys(finalKeyframe).forEach(prop => {\n
    const value = finalKeyframe[prop];\n        if (value == PRE_STYLE) {\n          preStyleProps.add(prop);\n        }
else if (value == AUTO_STYLE) {\n          postStyleProps.add(prop);\n        }\n      });\n      if (!isEmpty) {\n
finalKeyframe['offset'] = time
 / this.duration;\n      }\n      finalKeyframes.push(finalKeyframe);\n    });\n\n    const preProps: string[] =
preStyleProps.size ? iteratorToArray(preStyleProps.values()) : [];\n    const postProps: string[] = postStyleProps.size
? iteratorToArray(postStyleProps.values()) : [];\n\n    // special case for a 0-second animation (which is designed just
```

to place styles onscreen)\n    if (isEmpty) {\n      const kf0 = finalKeyframes[0];\n      const kf1 = copyObj(kf0);\n      kf0['offset'] = 0;\n      kf1['offset'] = 1;\n      finalKeyframes = [kf0, kf1];\n    }\n\n    return createTimelineInstruction(\n        this.element, finalKeyframes, preProps, postProps, this.duration, this.startTime,\n        this.easing, false);\n  }\n}\n\nclass SubTimelineBuilder extends TimelineBuilder {\n  public timings: AnimateTimings;\n\n  constructor(\n      driver: AnimationDriver, public element: any, public keyframes: StyleData[],\n      public preStyleProps: string[], public postStyleProps: string[],\n      timings: AnimateTimings,\n      private _stretchStartingKeyframe: boolean = false) {\n    super(driver, element, timings.delay);\n    this.timings = {duration: timings.duration, delay: timings.delay, easing: timings.easing};\n  }\n\n  containsAnimation(): boolean {\n    return this.keyframes.length > 1;\n  }\n\n  buildKeyframes(): AnimationTimelineInstruction {\n    let keyframes = this.keyframes;\n    let {delay, duration, easing} = this.timings;\n    if (this._stretchStartingKeyframe && delay) {\n      const newKeyframes: StyleData[] = [];\n      const totalTime = duration + delay;\n      const startingGap = delay / totalTime;\n\n      // the original starting keyframe now starts once the delay is done\n      const newFirstKeyframe = copyStyles(keyframes[0], false);\n      newFirstKeyframe['offset'] = 0;\n      newKeyframes.push(newFirstKeyframe);\n\n      const oldFirstKeyframe = copyStyles(keyframes[0], false);\n      oldFirstKeyframe['offset'] = roundOffset(startingGap);\n      newKeyframes.push(oldFirstKeyframe);\n\n      /*\n      When the keyframe is stretched then it means that the delay before the animation\n      starts is gone. Instead the first keyframe is placed at the start of the animation\n      and it is then copied to where it starts when the original delay is over. This basically\n      means nothing animates during that delay, but the styles are still renderered. For this\n      to work the original offset values that exist in the original keyframes must be \"warped\"\n      so that they can take the new keyframe + delay into account.\n\n      delay=1000, duration=1000, keyframes = 0 .5 1\n\n      turns into\n\n      delay=0, duration=2000, keyframes = 0 .33 .66 1\n      */\n\n      // offsets between 1 ... n -1 are all warped by the keyframe stretch\n      const limit = keyframes.length - 1;\n      for (let i = 1; i <= limit; i++) {\n        let kf = copyStyles(keyframes[i], false);\n        const oldOffset = kf['offset']\n        as number;\n        const timeAtKeyframe = delay + oldOffset * duration;\n        kf['offset'] = roundOffset(timeAtKeyframe / totalTime);\n        newKeyframes.push(kf);\n      }\n\n      // the new starting keyframe should be added at the start\n      duration = totalTime;\n      delay = 0;\n      easing = '';\n\n      keyframes = newKeyframes;\n    }\n\n    return createTimelineInstruction(\n        this.element, keyframes, this.preStyleProps, this.postStyleProps, duration, delay, easing,\n        true);\n  }\n}\n\nfunction roundOffset(offset: number, decimalPoints = 3): number {\n  const mult = Math.pow(10, decimalPoints - 1);\n  return Math.round(offset * mult) / mult;\n}\n\nfunction flattenStyles(input: (StyleData|string)[], allStyles: StyleData) {\n  const styles: StyleData = {};\n  let allProperties: string[];\n  input.forEach(token => {\n    if (token === '*') {\n      allProperties = allProperties || Object.keys(allStyles);\n      allProperties.forEach(prop => {\n        styles[prop]\n        = AUTO_STYLE;\n      });\n    } else {\n      copyStyles(token as StyleData, false, styles);\n    }\n  });\n  return styles;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationMetadata, AnimationMetadataType, AnimationOptions, StyleData} from '@angular/animations';\n\nimport {AnimationDriver} from '../render/animation_driver';\nimport {ENTER_CLASSNAME, LEAVE_CLASSNAME, normalizeStyles} from '../util';\n\nimport {Ast} from './animation_ast';\nimport {buildAnimationAst} from './animation_ast_builder';\nimport {buildAnimationTimelines} from './animation_timeline_builder';\nimport {AnimationTimelineInstruction} from './animation_timeline_instruction';\nimport {ElementInstructionMap} from './element_instruction_map';\n\nexport class Animation {\n  private _animationAst: Ast<AnimationMetadataType>;\n\n  constructor(private _driver: AnimationDriver, input: AnimationMetadata|AnimationMetadata[]) {\n    const errors: any[] = [];\n    const ast = buildAnimationAst(_driver, input, errors);\n    if (errors.length) {\n      const errorMessage = `animation validation failed:\\n${errors.join('\\n')}`;\n      throw new Error(errorMessage);\n    }\n    this._animationAst = ast;\n  }\n\n  buildTimelines(\n      element: any, startingStyles: StyleData|StyleData[],\n      destinationStyles: StyleData|StyleData[], options: AnimationOptions,\n      subInstructions?:

ElementInstructionMap): AnimationTimelineInstruction[] {\n const start = Array.isArray(startingStyles) ? normalizeStyles(startingStyles) :\n <StyleData>startingStyles;\n const dest = Array.isArray(destinationStyles) ? normalizeStyles(destinationStyles) :\n <StyleData>destinationStyles;\n const errors: any = [];\n subInstructions = subInstructions || new ElementInstructionMap();\n const result = buildAnimationTimelines(\n this._driver, element, this._animationAst, ENTER_CLASSNAME, LEAVE_CLASSNAME, start, dest,\n options, subInstructions, errors);\n if (errors.length) {\n const errorMessage = `animation building failed:\\n${errors.join('\\n')}`;\n throw new Error(errorMessage);\n }\n return result;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @publicApi\n */\nexport abstract class AnimationStyleNormalizer {\n abstract normalizePropertyName(propertyName: string, errors: string[]): string;\n abstract normalizeStyleValue(\n userProvidedProperty: string, normalizedProperty: string, value: string|number,\n errors: string[]): string;\n}\n\n/**\n * @publicApi\n */\nexport class NoopAnimationStyleNormalizer {\n normalizePropertyName(propertyName: string, errors: string[]): string {\n return propertyName;\n }\n\n normalizeStyleValue(\n userProvidedProperty: string, normalizedProperty: string, value: string|number,\n errors: string[]): string {\n return <any>value;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {dashCaseToCamelCase} from '../../util';\n\nimport {AnimationStyleNormalizer} from './animation_style_normalizer';\n\nexport class WebAnimationsStyleNormalizer extends AnimationStyleNormalizer {\n normalizePropertyName(propertyName: string, errors: string[]): string {\n return dashCaseToCamelCase(propertyName);\n }\n\n normalizeStyleValue(\n userProvidedProperty: string, normalizedProperty: string, value: string|number,\n errors: string[]): string {\n let unit: string = '';\n const strVal = value.toString().trim();\n\n if (DIMENSIONAL_PROP_MAP[normalizedProperty] && value !== 0 && value !== '0') {\n if (typeof value === 'number') {\n unit = 'px';\n } else {\n const valAndSuffixMatch = value.match(/^[+-]?[\\d\\.]+([a-z]*)$/);\n if (valAndSuffixMatch && valAndSuffixMatch[1].length == 0) {\n errors.push(`Please provide a CSS unit value for ${userProvidedProperty}:${value}`);\n }\n }\n }\n return strVal + unit;\n }\n}\n\nconst DIMENSIONAL_PROP_MAP =\n (() => makeBooleanMap(\n 'width,height,minWidth,minHeight,maxWidth,maxHeight,left,top,bottom,right,fontSize,outlineWidth,outlineOffset,paddingTop,paddingLeft,paddingBottom,paddingRight,marginTop,marginLeft,marginBottom,marginRight,borderRadius,borderWidth,borderTopWidth,borderLeftWidth,borderRightWidth,borderBottomWidth,textIndent,perspective'\n .split(',')))();\n\nfunction makeBooleanMap(keys: string[]): {[key: string]: boolean} {\n const map: {[key: string]: boolean} = {};\n keys.forEach(key => map[key] = true);\n return map;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {StyleData} from '@angular/animations';\nimport {AnimationEngineInstruction, AnimationTransitionInstructionType} from '../render/animation_engine_instruction';\nimport {AnimationTimelineInstruction} from './animation_timeline_instruction';\n\nexport interface AnimationTransitionInstruction extends AnimationEngineInstruction {\n element: any;\n triggerName: string;\n isRemovalTransition: boolean;\n fromState: string;\n fromStyles: StyleData;\n toState: string;\n toStyles: StyleData;\n timelines: AnimationTimelineInstruction[];\n queriedElements: any[];\n preStyleProps: Map<any, {[prop: string]: boolean}>;\n postStyleProps: Map<any, {[prop: string]: boolean}>;\n totalTime: number;\n errors?: any[];\n}\n\nexport function createTransitionInstruction(\n element: any, triggerName: string, fromState: string, toState: string,\n isRemovalTransition: boolean, fromStyles: StyleData, toStyles: StyleData,\n timelines: AnimationTimelineInstruction[], queriedElements: any[],\n preStyleProps: Map<any, {[prop: string]:

boolean}>,\n postStyleProps: Map<any, {[prop: string]: boolean}>, totalTime: number,\n errors?: any[]): AnimationTransitionInstruction {\n return {\n type: AnimationTransitionInstructionType.TransitionAnimation,\n element,\n triggerName,\n isRemovalTransition,\n fromState,\n fromStyles,\n toState,\n toStyles,\n timelines,\n queriedElements,\n preStyleProps,\n postStyleProps,\n totalTime,\n errors\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationOptions, StyleData} from '@angular/animations';\n\nimport {AnimationDriver} from '../render/animation_driver';\nimport {getOrSetAsInMap} from '../render/shared';\nimport {copyObj, interpolateParams, iteratorToArray, mergeAnimationOptions} from '../util';\n\nimport {StyleAst, TransitionAst} from './animation_ast';\nimport {buildAnimationTimelines} from './animation_timeline_builder';\nimport {TransitionMatcherFn} from './animation_transition_expr';\nimport {AnimationTransitionInstruction, createTransitionInstruction} from './animation_transition_instruction';\nimport {ElementInstructionMap} from './element_instruction_map';\n\nconst EMPTY_OBJECT = {};\n\nexport class AnimationTransitionFactory {\n constructor(\n private _triggerName: string, public ast: TransitionAst,\n private _stateStyles: {[stateName: string]: AnimationStateStyles}) {}\n\n match(currentState: any, nextState:
any, element: any, params: {[key: string]: any}): boolean {\n return oneOrMoreTransitionsMatch(this.ast.matchers, currentState, nextState, element, params);\n }\n\n buildStyles(stateName: string, params: {[key: string]: any}, errors: any[]) {\n const backupStateStyler = this._stateStyles['*'];\n const stateStyler = this._stateStyles[stateName];\n const backupStyles = backupStateStyler ? backupStateStyler.buildStyles(params, errors) : {};\n return stateStyler ? stateStyler.buildStyles(params, errors) : backupStyles;\n }\n\n build(\n driver: AnimationDriver, element: any, currentState: any, nextState: any,\n enterClassName: string, leaveClassName: string, currentOptions?: AnimationOptions,\n nextOptions?: AnimationOptions, subInstructions?: ElementInstructionMap,\n skipAstBuild?: boolean): AnimationTransitionInstruction {\n const errors: any[] = [];\n\n const transitionAnimationParams = this.ast.options && this.ast.options.params || EMPTY_OBJECT;\n const currentAnimationParams = currentOptions && currentOptions.params || EMPTY_OBJECT;\n const currentStateStyles = this.buildStyles(currentState, currentAnimationParams, errors);\n const nextAnimationParams = nextOptions && nextOptions.params || EMPTY_OBJECT;\n const nextStateStyles = this.buildStyles(nextState, nextAnimationParams, errors);\n\n const queriedElements = new Set<any>();\n const preStyleMap = new Map<any, {[prop: string]: boolean}>();\n const postStyleMap = new Map<any, {[prop: string]: boolean}>();\n const isRemoval = nextState === 'void';\n\n const animationOptions = {params: {...transitionAnimationParams, ...nextAnimationParams}};\n\n const timelines = skipAstBuild ?\n [] :\n buildAnimationTimelines(\n driver, element, this.ast.animation, enterClassName, leaveClassName, currentStateStyles,\n nextStateStyles, animationOptions, subInstructions, errors);\n\n let totalTime = 0;\n timelines.forEach(tl => {\n totalTime = Math.max(tl.duration + tl.delay, totalTime);\n });\n\n if (errors.length) {\n return createTransitionInstruction(\n element, this._triggerName, currentState, nextState, isRemoval, currentStateStyles,\n nextStateStyles, [], [], preStyleMap, postStyleMap, totalTime, errors);\n }\n\n timelines.forEach(tl => {\n const elm = tl.element;\n const preProps = getOrSetAsInMap(preStyleMap, elm, {});\n tl.preStyleProps.forEach(prop => preProps[prop] = true);\n\n const postProps = getOrSetAsInMap(postStyleMap, elm, {});\n tl.postStyleProps.forEach(prop => postProps[prop] = true);\n\n if (elm !== element) {\n queriedElements.add(elm);\n }\n });\n\n const queriedElementsList = iteratorToArray(queriedElements.values());\n return createTransitionInstruction(\n element, this._triggerName, currentState, nextState, isRemoval, currentStateStyles,\n nextStateStyles, timelines, queriedElementsList, preStyleMap, postStyleMap, totalTime);\n }\n}\n\nfunction oneOrMoreTransitionsMatch(\n matchFns: TransitionMatcherFn[], currentState: any, nextState: any, element: any,\n params: {[key: string]: any}): boolean {\n return matchFns.some(fn => fn(currentState, nextState, element, params));\n}\n\nexport class AnimationStateStyles {\n constructor(private styles: StyleAst, private defaultParams: {[key: string]: any}) {}\n\n

buildStyles(params: {[key: string]: any}, errors: string[]): StyleData {\n const finalStyles: StyleData = {};\n const combinedParams = copyObj(this.defaultParams);\n Object.keys(params).forEach(key => {\n const value = params[key];\n if (value != null) {\n combinedParams[key] = value;\n }\n });\n this.styles.styles.forEach(value => {\n if (typeof value !== 'string') {\n const styleObj = value as any;\n Object.keys(styleObj).forEach(prop => {\n let val = styleObj[prop];\n if (val.length > 1) {\n val = interpolateParams(val, combinedParams, errors);\n }\n finalStyles[prop] = val;\n });\n }\n });\n return finalStyles;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationMetadataType, StyleData} from '@angular/animations';\n\nimport {copyStyles, interpolateParams} from '../util';\n\nimport {SequenceAst, StyleAst, TransitionAst, TriggerAst} from './animation_ast';\nimport {AnimationStateStyles, AnimationTransitionFactory} from './animation_transition_factory';\n\n\n\n/**\n * @publicApi\n */\nexport function buildTrigger(name: string, ast: TriggerAst): AnimationTrigger {\n return new AnimationTrigger(name, ast);\n}\n\n/**\n * @publicApi\n */\nexport class AnimationTrigger {\n public transitionFactories: AnimationTransitionFactory[] = [];\n public fallbackTransition: AnimationTransitionFactory;\n public states: {[stateName: string]: AnimationStateStyles} = {};\n\n constructor(public name: string, public ast: TriggerAst) {\n ast.states.forEach(ast => {\n const defaultParams = (ast.options && ast.options.params) || {};\n this.states[ast.name] = new AnimationStateStyles(ast.style, defaultParams);\n });\n\n balanceProperties(this.states, 'true', '1');\n balanceProperties(this.states, 'false', '0');\n\n ast.transitions.forEach(ast => {\n this.transitionFactories.push(new AnimationTransitionFactory(name, ast, this.states));\n });\n\n this.fallbackTransition = createFallbackTransition(name, this.states);\n }\n\n get containsQueries() {\n return this.ast.queryCount > 0;\n }\n\n matchTransition(currentState: any, nextState: any, element: any, params: {[key: string]: any}):\n AnimationTransitionFactory|null {\n const entry =\n this.transitionFactories.find(f => f.match(currentState, nextState, element, params));\n return entry || null;\n }\n\n matchStyles(currentState: any, params: {[key: string]: any}, errors: any[]): StyleData {\n return this.fallbackTransition.buildStyles(currentState, params, errors);\n }\n}\n\nfunction createFallbackTransition(\n triggerName: string,\n states: {[stateName: string]: AnimationStateStyles}): AnimationTransitionFactory {\n const matchers = [(fromState: any, toState: any) => true];\n const animation: SequenceAst = {type: AnimationMetadataType.Sequence, steps: [], options: null};\n const transition: TransitionAst = {\n type: AnimationMetadataType.Transition,\n animation,\n matchers,\n options: null,\n queryCount: 0,\n depCount: 0\n };\n return new AnimationTransitionFactory(triggerName, transition, states);\n}\n\nfunction balanceProperties(obj: {[key: string]: any}, key1: string, key2: string) {\n if (obj.hasOwnProperty(key1)) {\n if (!obj.hasOwnProperty(key2)) {\n obj[key2] = obj[key1];\n }\n } else if (obj.hasOwnProperty(key2)) {\n obj[key1] = obj[key2];\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationMetadata, AnimationMetadataType, AnimationOptions, AnimationPlayer, AUTO_STYLE, StyleData} from '@angular/animations';\n\nimport {Ast} from '../dsl/animation_ast';\nimport {buildAnimationAst} from '../dsl/animation_ast_builder';\nimport {buildAnimationTimelines} from '../dsl/animation_timeline_builder';\nimport {AnimationTimelineInstruction} from '../dsl/animation_timeline_instruction';\nimport {ElementInstructionMap} from '../dsl/element_instruction_map';\nimport {AnimationStyleNormalizer} from '../dsl/style_normalization/animation_style_normalizer';\nimport {ENTER_CLASSNAME, LEAVE_CLASSNAME} from '../util';\n\nimport {AnimationDriver} from './animation_driver';\nimport {getOrSetAsInMap, listenOnPlayer, makeAnimationEvent, normalizeKeyframes, optimizeGroupPlayer} from './shared';\n\nconst EMPTY_INSTRUCTION_MAP = new ElementInstructionMap();\n\nexport class TimelineAnimationEngine {\n private _animations: {[id: string]: Ast<AnimationMetadataType>} = {};\n private _playersById: {[id: string]: AnimationPlayer} = {};\n public

players: AnimationPlayer[] = [];\n\n  constructor(\n      public bodyNode: any, private _driver: AnimationDriver,\n  private _normalizer: AnimationStyleNormalizer) {}\n\n  register(id: string, metadata: AnimationMetadata|AnimationMetadata[]) {\n    const errors: any[] = [];\n    const ast = buildAnimationAst(this._driver, metadata, errors);\n    if (errors.length) {\n      throw new Error(\n          `Unable to build the animation due to the following errors: ${errors.join('\\n')}`);\n    } else {\n      this._animations[id] = ast;\n    }\n  }\n\n  private _buildPlayer(\n      i: AnimationTimelineInstruction,
  preStyles: StyleData,\n      postStyles?: StyleData): AnimationPlayer {\n    const element = i.element;\n    const keyframes = normalizeKeyframes(\n        this._driver, this._normalizer, element, i.keyframes, preStyles, postStyles);\n    return this._driver.animate(element, keyframes, i.duration, i.delay, i.easing, [], true);\n  }\n\n  create(id: string, element: any, options: AnimationOptions = {}): AnimationPlayer {\n    const errors: any[] = [];\n    const ast = this._animations[id];\n    let instructions: AnimationTimelineInstruction[];\n\n    const autoStylesMap = new Map<any, StyleData>();\n\n    if (ast) {\n      instructions = buildAnimationTimelines(\n          this._driver, element, ast, ENTER_CLASSNAME, LEAVE_CLASSNAME, {}, {}, options,\n          EMPTY_INSTRUCTION_MAP, errors);\n      instructions.forEach(inst => {\n        const styles = getOrSetAsInMap(autoStylesMap, inst.element, {});\n        inst.postStyleProps.forEach(prop => styles[prop] = null);\n
      });\n    } else {\n      errors.push('The requested animation doesn\\'t exist or has already been destroyed');\n      instructions = [];\n    }\n\n    if (errors.length) {\n      throw new Error(\n          `Unable to create the animation due to the following errors: ${errors.join('\\n')}`);\n    }\n\n    autoStylesMap.forEach((styles, element) => {\n      Object.keys(styles).forEach(prop => {\n        styles[prop] = this._driver.computeStyle(element, prop, AUTO_STYLE);\n      });\n    });\n\n    const players = instructions.map(i => {\n      const styles = autoStylesMap.get(i.element);\n      return this._buildPlayer(i, {}, styles);\n    });\n    const player = optimizeGroupPlayer(players);\n    this._playersById[id] = player;\n    player.onDestroy(() => this.destroy(id));\n\n    this.players.push(player);\n    return player;\n  }\n\n  destroy(id: string) {\n    const player = this._getPlayer(id);\n    player.destroy();\n    delete this._playersById[id];\n    const index = this.players.indexOf(player);\n    if (index >= 0) {\n      this.players.splice(index, 1);\n    }\n  }\n\n  private _getPlayer(id: string): AnimationPlayer {\n    const player = this._playersById[id];\n    if (!player) {\n      throw new Error(`Unable to find the timeline player referenced by ${id}`);\n    }\n    return player;\n  }\n\n  listen(id: string, element: string, eventName: string, callback: (event: any) => any):\n      () => void {\n    // triggerName, fromState, toState are all ignored for timeline animations\n    const baseEvent = makeAnimationEvent(element, '', '', '');\n    listenOnPlayer(this._getPlayer(id), eventName, baseEvent, callback);\n    return () => {};\n  }\n\n  command(id: string, element: any, command: string, args: any[]): void {\n    if (command == 'register') {\n      this.register(id, args[0] as AnimationMetadata | AnimationMetadata[]);\n      return;\n    }\n\n    if (command == 'create') {\n      const options = (args[0] || {}) as AnimationOptions;\n
      this.create(id, element, options);\n      return;\n    }\n\n    const player = this._getPlayer(id);\n    switch (command) {\n      case 'play':\n        player.play();\n        break;\n      case 'pause':\n        player.pause();\n        break;\n      case 'reset':\n        player.reset();\n        break;\n      case 'restart':\n        player.restart();\n        break;\n      case 'finish':\n        player.finish();\n        break;\n      case 'init':\n        player.init();\n        break;\n      case 'setPosition':\n        player.setPosition(parseFloat(args[0] as string));\n        break;\n      case 'destroy':\n        this.destroy(id);\n        break;\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationOptions, AnimationPlayer, AUTO_STYLE, NoopAnimationPlayer, AnimationGroupPlayer as AnimationGroupPlayer,
  PRE_STYLE as PRE_STYLE, StyleData} from '@angular/animations';\n\nimport {AnimationTimelineInstruction} from '../dsl/animation_timeline_instruction';\nimport {AnimationTransitionFactory} from '../dsl/animation_transition_factory';\nimport {AnimationTransitionInstruction} from '../dsl/animation_transition_instruction';\nimport {AnimationTrigger} from '../dsl/animation_trigger';\nimport {ElementInstructionMap} from '../dsl/element_instruction_map';\nimport {AnimationStyleNormalizer} from

'../dsl/style_normalization/animation_style_normalizer';\nimport {copyObj, ENTER_CLASSNAME, eraseStyles, iteratorToArray, LEAVE_CLASSNAME, NG_ANIMATING_CLASSNAME, NG_ANIMATING_SELECTOR, NG_TRIGGER_CLASSNAME, NG_TRIGGER_SELECTOR, setStyles} from '../util';\n\nimport {AnimationDriver} from './animation_driver';\nimport {getOrSetAsInMap, listenOnPlayer, makeAnimationEvent, normalizeKeyframes, optimizeGroupPlayer} from './shared';\n\nconst QUEUED_CLASSNAME = 'ng-animate-queued';\nconst QUEUED_SELECTOR
= '.ng-animate-queued';\nconst DISABLED_CLASSNAME = 'ng-animate-disabled';\nconst DISABLED_SELECTOR = '.ng-animate-disabled';\nconst STAR_CLASSNAME = 'ng-star-inserted';\nconst STAR_SELECTOR = '.ng-star-inserted';\n\nconst EMPTY_PLAYER_ARRAY: TransitionAnimationPlayer[] = [];\nconst NULL_REMOVAL_STATE: ElementAnimationState = {\n namespaceId: '',\n setForRemoval: false,\n setForMove: false,\n hasAnimation: false,\n removedBeforeQueried: false\n};\nconst NULL_REMOVED_QUERIED_STATE: ElementAnimationState = {\n namespaceId: '',\n setForMove: false,\n setForRemoval: false,\n hasAnimation: false,\n removedBeforeQueried: true\n};\n\ninterface TriggerListener {\n name: string;\n phase: string;\n callback: (event: any) => any;\n}\n\nexport interface QueueInstruction {\n element: any;\n triggerName: string;\n fromState: StateValue;\n toState: StateValue;\n transition: AnimationTransitionFactory;\n player: TransitionAnimationPlayer;\n isFallbackTransition: boolean;\n}\n\nexport const REMOVAL_FLAG = '__ng_removed';\n\nexport interface ElementAnimationState {\n setForRemoval: boolean;\n setForMove: boolean;\n hasAnimation: boolean;\n namespaceId: string;\n removedBeforeQueried: boolean;\n}\n\nexport class StateValue {\n public value: string;\n public options: AnimationOptions;\n\n get params(): {[key: string]: any} {\n return this.options.params as {[key: string]: any};\n }\n\n constructor(input: any, public namespaceId: string = '') {\n const isObj = input && input.hasOwnProperty('value');\n const value = isObj ? input['value'] : input;\n this.value = normalizeTriggerValue(value);\n if (isObj) {\n const options = copyObj(input as any);\n delete options['value'];\n this.options = options as AnimationOptions;\n } else {\n this.options = {};\n }\n if (!this.options.params) {\n this.options.params = {};\n }\n }\n\n absorbOptions(options: AnimationOptions) {\n const newParams = options.params;\n\n if (newParams) {\n const oldParams = this.options.params!;\n Object.keys(newParams).forEach(prop => {\n if (oldParams[prop] == null) {\n oldParams[prop] = newParams[prop];\n }\n });\n }\n }\n}\n\nexport const VOID_VALUE = 'void';\nexport const DEFAULT_STATE_VALUE = new StateValue(VOID_VALUE);\n\nexport class AnimationTransitionNamespace {\n public players: TransitionAnimationPlayer[] = [];\n\n private _triggers: {[triggerName: string]: AnimationTrigger} = {};\n private _queue: QueueInstruction[] = [];\n\n private _elementListeners = new Map<any, TriggerListener[]>();\n\n private _hostClassName: string;\n\n constructor(\n public id: string, public hostElement: any, private _engine: TransitionAnimationEngine) {\n this._hostClassName = 'ng-tns-' + id;\n addClass(hostElement, this._hostClassName);\n }\n\n listen(element: any, name: string, phase: string, callback: (event: any) => boolean): () => any {\n if (!this._triggers.hasOwnProperty(name))
{\n throw new Error(`Unable to listen on the animation trigger event \"${\n phase}\" because the animation trigger \"${name}\" doesn\\'t exist!`);\n }\n\n if (phase == null || phase.length == 0) {\n throw new Error(`Unable to listen on the animation trigger \"${\n name}\" because the provided event is undefined!`);\n }\n\n if (!isTriggerEventValid(phase)) {\n throw new Error(`The provided animation trigger event \"${phase}\" for the animation trigger \"${\n name}\" is not supported!`);\n }\n\n const listeners = getOrSetAsInMap(this._elementListeners, element, []);\n const data = {name, phase, callback};\n listeners.push(data);\n\n const triggersWithStates = getOrSetAsInMap(this._engine.statesByElement, element, {});\n if (!triggersWithStates.hasOwnProperty(name)) {\n addClass(element, NG_TRIGGER_CLASSNAME);\n addClass(element, NG_TRIGGER_CLASSNAME + '-' + name);\n triggersWithStates[name] = DEFAULT_STATE_VALUE;\n }\n\n return () => {\n // the event listener is removed AFTER the flush has occurred such\n // that leave animations callbacks can fire (otherwise if the node\n // is removed in between then the listeners would be deregistered)\n this._engine.afterFlush(() => {\n const index = listeners.indexOf(data);\n if (index >= 0) {\n listeners.splice(index, 1);\n }\n\n if

(!this._triggers[name]) {\n delete triggersWithStates[name];\n }\n });\n };\n }\n\n register(name: string, ast: AnimationTrigger): boolean {\n if (this._triggers[name]) {\n // throw\n return false;\n } else {\n this._triggers[name] = ast;\n return true;\n }\n }\n\n private _getTrigger(name: string) {\n const trigger = this._triggers[name];\n if (!trigger) {\n throw new Error(`The provided animation trigger \"${name}\" has not been registered!`);\n }\n return trigger;\n }\n\n trigger(element: any, triggerName: string, value: any, defaultToFallback: boolean = true):\n TransitionAnimationPlayer|undefined {\n const trigger = this._getTrigger(triggerName);\n const player = new TransitionAnimationPlayer(this.id, triggerName, element);\n\n let triggersWithStates = this._engine.statesByElement.get(element);\n if (!triggersWithStates) {\n addClass(element, NG_TRIGGER_CLASSNAME);\n addClass(element, NG_TRIGGER_CLASSNAME + '-' + triggerName);\n this._engine.statesByElement.set(element, triggersWithStates = {});\n }\n\n let fromState = triggersWithStates[triggerName];\n const toState = new StateValue(value, this.id);\n\n const isObj = value && value.hasOwnProperty('value');\n if (!isObj && fromState) {\n toState.absorbOptions(fromState.options);\n }\n\n triggersWithStates[triggerName] = toState;\n\n if (!fromState) {\n fromState = DEFAULT_STATE_VALUE;\n }\n\n const isRemoval = toState.value === VOID_VALUE;\n\n // normally this isn't reached by here, however, if an object expression\n // is passed in then it may be a new object each time. Comparing the value\n // is important since that will stay the same despite there being a new object.\n // The removal arc here is special cased because the same element is triggered\n // twice in the event that it contains animations on the outer/inner portions\n // of the host container\n if (!isRemoval && fromState.value === toState.value) {\n // this means that despite the value not changing, some inner params\n // have changed which means that the animation final styles need to be applied\n if (!objEquals(fromState.params, toState.params)) {\n const errors: any[] = [];\n const fromStyles = trigger.matchStyles(fromState.value, fromState.params, errors);\n const toStyles = trigger.matchStyles(toState.value, toState.params, errors);\n if (errors.length) {\n this._engine.reportError(errors);\n } else {\n this._engine.afterFlush(() => {\n eraseStyles(element, fromStyles);\n setStyles(element, toStyles);\n });\n }\n }\n return;\n }\n\n const playersOnElement: TransitionAnimationPlayer[] =\n getOrSetAsInMap(this._engine.playersByElement, element, []);\n playersOnElement.forEach(player => {\n // only remove the player if it is queued on the EXACT same trigger/namespace\n // we only also deal with queued players here because if the animation has\n // started then we want to keep the player alive until the flush happens\n // (which is where the previousPlayers are passed into the new palyer)\n if (player.namespaceId == this.id && player.triggerName == triggerName && player.queued) {\n player.destroy();\n }\n });\n\n let transition =\n trigger.matchTransition(fromState.value, toState.value, element, toState.params);\n let isFallbackTransition = false;\n if (!transition) {\n if (!defaultToFallback) return;\n transition = trigger.fallbackTransition;\n isFallbackTransition = true;\n }\n\n this._engine.totalQueuedPlayers++;\n this._queue.push(\n {element, triggerName, transition, fromState, toState, player, isFallbackTransition});\n\n if (!isFallbackTransition) {\n addClass(element, QUEUED_CLASSNAME);\n player.onStart(() => {\n removeClass(element, QUEUED_CLASSNAME);\n });\n }\n\n player.onDone(() => {\n let index = this.players.indexOf(player);\n if (index >= 0) {\n this.players.splice(index, 1);\n }\n\n const players = this._engine.playersByElement.get(element);\n if (players) {\n let index = players.indexOf(player);\n if (index >= 0) {\n players.splice(index, 1);\n }\n }\n });\n\n this.players.push(player);\n playersOnElement.push(player);\n\n return player;\n }\n\n deregister(name: string) {\n delete this._triggers[name];\n\n this._engine.statesByElement.forEach((stateMap, element) => {\n delete stateMap[name];\n });\n\n this._elementListeners.forEach((listeners, element) => {\n this._elementListeners.set(element, listeners.filter(entry => {\n return entry.name != name;\n }));\n });\n }\n\n clearElementCache(element: any) {\n this._engine.statesByElement.delete(element);\n this._elementListeners.delete(element);\n const elementPlayers = this._engine.playersByElement.get(element);\n if (elementPlayers) {\n

```
elementPlayers.forEach(player => player.destroy());\n      this._engine.playersByElement.delete(element);\n    }\n  }\n\n  private _signalRemovalForInnerTriggers(rootElement: any, context: any) {\n    const elements =
this._engine.driver.query(rootElement, NG_TRIGGER_SELECTOR, true);\n\n    // emulate a leave animation for all inner nodes within this node.\n
    // If there are no animations found for any of the nodes then clear the cache\n    // for the element.\n
elements.forEach(elm => {\n      // this means that an inner remove() operation has already kicked off\n      // the animation on this element...\n      if (elm[REMOVAL_FLAG]) return;\n\n      const namespaces =
this._engine.fetchNamespacesByElement(elm);\n      if (namespaces.size) {\n        namespaces.forEach(ns =>
ns.triggerLeaveAnimation(elm, context, false, true));\n      } else {\n        this.clearElementCache(elm);\n      }\n
});\n\n    // If the child elements were removed along with the parent, their animations might not\n    // have completed. Clear all the elements from the cache so we don't end up with a memory leak.\n
this._engine.afterFlushAnimationsDone(\n        () => elements.forEach(elm => this.clearElementCache(elm)));\n
  }\n\n  triggerLeaveAnimation(\n      element: any, context: any, destroyAfterComplete?: boolean,\n
defaultToFallback?: boolean):
 boolean {\n    const triggerStates = this._engine.statesByElement.get(element);\n    if (triggerStates) {\n      const players: TransitionAnimationPlayer[] = [];\n      Object.keys(triggerStates).forEach(triggerName => {\n        // this check is here in the event that an element is removed\n        // twice (both on the host level and the component level)\n        if (this._triggers[triggerName]) {\n          const player = this.trigger(element, triggerName,
VOID_VALUE, defaultToFallback);\n          if (player) {\n            players.push(player);\n          }\n        }\n
});\n\n      if (players.length) {\n        this._engine.markElementAsRemoved(this.id, element, true, context);\n        if (destroyAfterComplete) {\n          optimizeGroupPlayer(players).onDone(() =>
this._engine.processLeaveNode(element));\n        }\n        return true;\n      }\n    }\n    return false;\n  }\n\n
prepareLeaveAnimationListeners(element: any) {\n    const listeners = this._elementListeners.get(element);\n
    if (listeners) {\n      const visitedTriggers = new Set<string>();\n      listeners.forEach(listener => {\n        const triggerName = listener.name;\n        if (visitedTriggers.has(triggerName)) return;\n
visitedTriggers.add(triggerName);\n\n        const trigger = this._triggers[triggerName];\n        const transition =
trigger.fallbackTransition;\n        const elementStates = this._engine.statesByElement.get(element)!;\n        const fromState = elementStates[triggerName] || DEFAULT_STATE_VALUE;\n        const toState = new
StateValue(VOID_VALUE);\n        const player = new TransitionAnimationPlayer(this.id, triggerName,
element);\n\n        this._engine.totalQueuedPlayers++;\n        this._queue.push({\n          element,\n
triggerName,\n          transition,\n          fromState,\n          toState,\n          player,\n          isFallbackTransition: true\n
      });\n      });\n    }\n  }\n\n  removeNode(element: any, context: any): void
 {\n    const engine = this._engine;\n\n    if (element.childElementCount) {\n
this._signalRemovalForInnerTriggers(element, context);\n    }\n\n    // this means that a * => VOID animation was detected and kicked off\n    if (this.triggerLeaveAnimation(element, context, true)) return;\n\n    // find the player that is animating and make sure that the\n    // removal is delayed until that player has completed\n    let containsPotentialParentTransition = false;\n    if (engine.totalAnimations) {\n      const currentPlayers =\n
engine.players.length ? engine.playersByQueriedElement.get(element) : [];\n\n      // when this `if statement` does not continue forward it means that\n      // a previous animation query has selected the current element and\n      // is animating it. In this situation want to continue forwards and\n      // allow the element to be queued up for animation later.\n      if (currentPlayers && currentPlayers.length) {\n        containsPotentialParentTransition
 = true;\n      } else {\n        let parent = element;\n        while (parent = parent.parentNode) {\n          const triggers =
engine.statesByElement.get(parent);\n          if (triggers) {\n            containsPotentialParentTransition = true;\n
break;\n          }\n        }\n      }\n    }\n\n    // at this stage we know that the element will either get removed\n    // during flush or will be picked up by a parent query. Either way\n    // we need to fire the listeners for this element when it DOES get\n    // removed (once the query parent animation is done or after flush)\n
this.prepareLeaveAnimationListeners(element);\n\n    // whether or not a parent has an animation we need to delay the deferral of the leave\n    // operation until we have more information (which we do after flush() has been
```

called)\n if (containsPotentialParentTransition) {\n engine.markElementAsRemoved(this.id, element, false, context);\n } else {\n const removalFlag = element[REMOVAL_FLAG];\n if (!removalFlag || removalFlag === NULL_REMOVAL_STATE) {\n // we do this after the flush has occurred such\n // that the callbacks can be fired\n engine.afterFlush(() => this.clearElementCache(element));\n engine.destroyInnerAnimations(element);\n engine._onRemovalComplete(element, context);\n }\n }\n }\n\n insertNode(element: any, parent: any): void {\n addClass(element, this._hostClassName);\n }\n\n drainQueuedTransitions(microtaskId: number): QueueInstruction[] {\n const instructions: QueueInstruction[] = [];\n this._queue.forEach(entry => {\n const player = entry.player;\n if (player.destroyed) return;\n\n const element = entry.element;\n const listeners = this._elementListeners.get(element);\n if (listeners) {\n listeners.forEach((listener: TriggerListener) => {\n if (listener.name == entry.triggerName) {\n const baseEvent = makeAnimationEvent(\n element, entry.triggerName, entry.fromState.value, entry.toState.value);\n (baseEvent as any)['_data'] = microtaskId;\n listenOnPlayer(entry.player, listener.phase, baseEvent, listener.callback);\n }\n });\n }\n\n if (player.markedForDestroy) {\n this._engine.afterFlush(() => {\n // now we can destroy the element properly since the event listeners have\n // been bound to the player\n player.destroy();\n });\n } else {\n instructions.push(entry);\n }\n });\n\n this._queue = [];\n\n return instructions.sort((a, b) => {\n // if depCount == 0 them move to front\n // otherwise if a contains b then move back\n const d0 = a.transition.ast.depCount;\n const d1 = b.transition.ast.depCount;\n if (d0 == 0 || d1 == 0) {\n return d0 - d1;\n }\n return this._engine.driver.containsElement(a.element, b.element) ? 1 : -1;\n });\n }\n\n destroy(context: any) {\n this.players.forEach(p => p.destroy());\n this._signalRemovalForInnerTriggers(this.hostElement, context);\n }\n\n elementContainsData(element: any): boolean {\n let containsData = false;\n if (this._elementListeners.has(element)) containsData = true;\n containsData =\n (this._queue.find(entry => entry.element === element) ? true : false) || containsData;\n return containsData;\n }\n}\n\nexport interface QueuedTransition {\n element: any;\n instruction: AnimationTransitionInstruction;\n player: TransitionAnimationPlayer;\n}\n\nexport class TransitionAnimationEngine {\n public players: TransitionAnimationPlayer[] = [];\n public newHostElements = new Map<any, AnimationTransitionNamespace>();\n public playersByElement = new Map<any, TransitionAnimationPlayer[]>();\n public playersByQueriedElement = new Map<any, TransitionAnimationPlayer[]>();\n public statesByElement = new Map<any, {[triggerName: string]: StateValue}>();\n\n public disabledNodes = new Set<any>();\n\n public totalAnimations = 0;\n public totalQueuedPlayers = 0;\n\n private _namespaceLookup: {[id: string]: AnimationTransitionNamespace} = {};\n private _namespaceList: AnimationTransitionNamespace[] = [];\n private _flushFns: (() => any)[] = [];\n private _whenQuietFns: (() => any)[] = [];\n\n public namespacesByHostElement = new Map<any, AnimationTransitionNamespace>();\n public collectedEnterElements: any[] = [];\n public collectedLeaveElements: any[] = [];\n\n // this method is designed to be overridden by the code that uses this engine\n public onRemovalComplete = (element: any, context: any) => {};\n\n /** @internal */\n _onRemovalComplete(element: any, context: any) {\n this.onRemovalComplete(element, context);\n }\n\n constructor(\n public bodyNode: any, public driver: AnimationDriver,\n private _normalizer: AnimationStyleNormalizer) {}\n\n get queuedPlayers(): TransitionAnimationPlayer[] {\n const players: TransitionAnimationPlayer[] = [];\n this._namespaceList.forEach(ns => {\n ns.players.forEach(player => {\n if (player.queued) {\n players.push(player);\n }\n });\n });\n return players;\n }\n\n createNamespace(namespaceId: string, hostElement: any) {\n const ns = new AnimationTransitionNamespace(namespaceId, hostElement, this);\n if (hostElement.parentNode) {\n this._balanceNamespaceList(ns, hostElement);\n } else {\n // defer this later until flush during when the host element has\n // been inserted so that we know exactly where to place it in\n // the namespace list\n this.newHostElements.set(hostElement, ns);\n\n // given that this host element is apart of the animation code, it\n

```
  // may or may not be inserted by a parent node that is an of an\n      // animation renderer type. If this happens then we can still have\n      // access to this item when we query for :enter nodes. If the parent\n      // is a renderer then the set data-structure will normalize the entry\n      this.collectEnterElement(hostElement);\n    }\n    return this._namespaceLookup[namespaceId] = ns;\n  }\n\n  private _balanceNamespaceList(ns: AnimationTransitionNamespace, hostElement: any) {\n    const limit = this._namespaceList.length - 1;\n    if (limit >= 0) {\n      let found = false;\n      for (let i = limit; i >= 0; i--) {\n        const nextNamespace = this._namespaceList[i];\n        if (this.driver.containsElement(nextNamespace.hostElement, hostElement)) {\n          this._namespaceList.splice(i + 1, 0, ns);\n          found = true;\n          break;\n        }\n      }\n      if (!found) {\n        this._namespaceList.splice(0, 0, ns);\n      }\n    } else {\n      this._namespaceList.push(ns);\n    }\n\n    this.namespacesByHostElement.set(hostElement, ns);\n    return ns;\n  }\n\n  register(namespaceId: string, hostElement: any) {\n    let ns = this._namespaceLookup[namespaceId];\n    if (!ns) {\n      ns = this.createNamespace(namespaceId, hostElement);\n    }\n    return ns;\n  }\n\n  registerTrigger(namespaceId: string, name: string, trigger: AnimationTrigger) {\n    let ns = this._namespaceLookup[namespaceId];\n    if (ns && ns.register(name, trigger)) {\n      this.totalAnimations++;\n    }\n  }\n\n  destroy(namespaceId: string, context: any) {\n    if (!namespaceId) return;\n\n    const ns = this._fetchNamespace(namespaceId);\n\n    this.afterFlush(() => {\n      this.namespacesByHostElement.delete(ns.hostElement);\n      delete this._namespaceLookup[namespaceId];\n      const index = this._namespaceList.indexOf(ns);\n      if (index >= 0) {\n        this._namespaceList.splice(index, 1);\n      }\n    });\n\n    this.afterFlushAnimationsDone(() => ns.destroy(context));\n  }\n\n  private _fetchNamespace(id: string) {\n    return this._namespaceLookup[id];\n  }\n\n  fetchNamespacesByElement(element: any): Set<AnimationTransitionNamespace> {\n    // normally
 there should only be one namespace per element, however\n    // if @triggers are placed on both the component element and then\n    // its host element (within the component code) then there will be\n    // two namespaces returned. We use a set here to simply the dedupe\n    // of namespaces incase there are multiple triggers both the elm and host\n    const namespaces = new Set<AnimationTransitionNamespace>();\n    const elementStates = this.statesByElement.get(element);\n    if (elementStates) {\n      const keys = Object.keys(elementStates);\n      for (let i = 0; i < keys.length; i++) {\n        const nsId = elementStates[keys[i]].namespaceId;\n        if (nsId) {\n          const ns = this._fetchNamespace(nsId);\n          if (ns) {\n            namespaces.add(ns);\n          }\n        }\n      }\n    }\n    return namespaces;\n  }\n\n  trigger(namespaceId: string, element: any, name: string, value: any): boolean {\n    if (isElementNode(element)) {\n      const ns = this._fetchNamespace(namespaceId);\n      if (ns) {\n        ns.trigger(element, name, value);\n        return true;\n      }\n    }\n    return false;\n  }\n\n  insertNode(namespaceId: string, element: any, parent: any, insertBefore: boolean): void {\n    if (!isElementNode(element)) return;\n\n    // special case for when an element is removed and reinserted (move operation)\n    // when this occurs we do not want to use the element for deletion later\n    const details = element[REMOVAL_FLAG] as ElementAnimationState;\n    if (details && details.setForRemoval) {\n      details.setForRemoval = false;\n      details.setForMove = true;\n      const index = this.collectedLeaveElements.indexOf(element);\n      if (index >= 0) {\n        this.collectedLeaveElements.splice(index, 1);\n      }\n    }\n\n    // in the event that the namespaceId is blank then the caller\n    // code does not contain any animation code in it, but it is\n    // just being called so that the node is marked as being inserted\n    if (namespaceId) {\n      const ns = this._fetchNamespace(namespaceId);\n      // This if-statement is a workaround for router issue #21947.\n      // The router sometimes hits a race condition where while a route\n      // is being instantiated a new navigation arrives, triggering leave\n      // animation of DOM that has not been fully initialized, until this\n      // is resolved, we need to handle the scenario when DOM is not in a\n      // consistent state during the animation.\n      if (ns) {\n        ns.insertNode(element, parent);\n      }\n    }\n\n    // only *directives and host elements are inserted before\n    if (insertBefore) {\n      this.collectEnterElement(element);\n    }\n  }\n\n  collectEnterElement(element: any) {\n    this.collectedEnterElements.push(element);\n  }\n\n  markElementAsDisabled(element: any, value: boolean) {\n    if (value) {\n      if (!this.disabledNodes.has(element))
```

{\n this.disabledNodes.add(element);\n addClass(element, DISABLED_CLASSNAME);\n }\n } else if (this.disabledNodes.has(element)) {\n this.disabledNodes.delete(element);\n removeClass(element, DISABLED_CLASSNAME);\n }\n }\n\n removeNode(namespaceId: string, element: any, isHostElement: boolean, context: any): void {\n if (isElementNode(element)) {\n const ns = namespaceId ? this._fetchNamespace(namespaceId) : null;\n if (ns) {\n ns.removeNode(element, context);\n } else {\n this.markElementAsRemoved(namespaceId, element, false, context);\n }\n\n if (isHostElement) {\n const hostNS = this.namespacesByHostElement.get(element);\n if (hostNS && hostNS.id !== namespaceId) {\n hostNS.removeNode(element, context);\n }\n }\n } else {\n this._onRemovalComplete(element, context);\n }\n }\n\n markElementAsRemoved(namespaceId: string, element: any, hasAnimation?: boolean, context?: any) {\n this.collectedLeaveElements.push(element);\n element[REMOVAL_FLAG] =\n {namespaceId, setForRemoval: context, hasAnimation, removedBeforeQueried: false};\n }\n\n listen(\n namespaceId: string, element: any, name: string, phase: string,\n callback: (event: any) => boolean): () => any {\n if (isElementNode(element)) {\n return this._fetchNamespace(namespaceId).listen(element, name, phase, callback);\n }\n return () => {};\n }\n\n private _buildInstruction(\n entry: QueueInstruction, subTimelines: ElementInstructionMap, enterClassName: string,\n leaveClassName: string, skipBuildAst?: boolean) {\n return entry.transition.build(\n this.driver, entry.element, entry.fromState.value, entry.toState.value, enterClassName,\n leaveClassName, entry.fromState.options, entry.toState.options, subTimelines, skipBuildAst);\n }\n\n destroyInnerAnimations(containerElement: any) {\n let elements = this.driver.query(containerElement, NG_TRIGGER_SELECTOR, true);\n elements.forEach(element => this.destroyActiveAnimationsForElement(element));\n\n if (this.playersByQueriedElement.size == 0) return;\n\n elements = this.driver.query(containerElement, NG_ANIMATING_SELECTOR, true);\n elements.forEach(element => this.finishActiveQueriedAnimationOnElement(element));\n }\n\n destroyActiveAnimationsForElement(element: any) {\n const players = this.playersByElement.get(element);\n if (players) {\n players.forEach(player => {\n // special case for when an element is set for destruction, but hasn't started.\n // in this situation we want to delay the destruction until the flush occurs\n // so that any event listeners attached to the player are triggered.\n if (player.queued) {\n player.markedForDestroy = true;\n } else {\n player.destroy();\n }\n });\n }\n }\n\n finishActiveQueriedAnimationOnElement(element: any) {\n const players = this.playersByQueriedElement.get(element);\n if (players) {\n players.forEach(player => player.finish());\n }\n }\n\n whenRenderingDone(): Promise<any> {\n return new Promise(resolve => {\n if (this.players.length) {\n return optimizeGroupPlayer(this.players).onDone(() => resolve());\n } else {\n resolve();\n }\n });\n }\n\n processLeaveNode(element: any) {\n const details = element[REMOVAL_FLAG] as ElementAnimationState;\n if (details && details.setForRemoval) {\n // this will prevent it from removing it twice\n element[REMOVAL_FLAG] = NULL_REMOVAL_STATE;\n if (details.namespaceId) {\n this.destroyInnerAnimations(element);\n const ns = this._fetchNamespace(details.namespaceId);\n if (ns) {\n ns.clearElementCache(element);\n }\n }\n this._onRemovalComplete(element, details.setForRemoval);\n }\n\n if (this.driver.matchesElement(element, DISABLED_SELECTOR)) {\n this.markElementAsDisabled(element, false);\n }\n\n this.driver.query(element, DISABLED_SELECTOR, true).forEach(node => {\n this.markElementAsDisabled(node, false);\n });\n }\n\n flush(microtaskId: number = -1) {\n let players: AnimationPlayer[] = [];\n if (this.newHostElements.size) {\n this.newHostElements.forEach((ns, element) => this._balanceNamespaceList(ns, element));\n this.newHostElements.clear();\n }\n\n if (this.totalAnimations && this.collectedEnterElements.length) {\n for (let i = 0; i < this.collectedEnterElements.length; i++) {\n const elm = this.collectedEnterElements[i];\n addClass(elm, STAR_CLASSNAME);\n }\n }\n\n if (this._namespaceList.length &&\n (this.totalQueuedPlayers || this.collectedLeaveElements.length)) {\n const cleanupFns: Function[] = [];\n try {\n players = this._flushAnimations(cleanupFns, microtaskId);\n } finally {\n for (let i = 0; i < cleanupFns.length; i++) {\n cleanupFns[i]();\n }\n

```
}\n    } else {\n      for (let i = 0; i < this.collectedLeaveElements.length; i++) {\n        const element = this.collectedLeaveElements[i];\n        this.processLeaveNode(element);\n      }\n    }\n\n    this.totalQueuedPlayers = 0;\n    this.collectedEnterElements.length = 0;\n    this.collectedLeaveElements.length = 0;\n    this._flushFns.forEach(fn => fn());\n    this._flushFns = [];\n\n    if (this._whenQuietFns.length) {\n      // we move these over to a variable so that\n      // if any new callbacks are registered in another\n      // flush they do not populate the existing set\n      const quietFns = this._whenQuietFns;\n      this._whenQuietFns = [];\n\n      if (players.length) {\n        optimizeGroupPlayer(players).onDone(() => {\n          quietFns.forEach(fn => fn());\n        });\n      } else {\n        quietFns.forEach(fn => fn());\n      }\n    }\n  }\n\n  reportError(errors: string[]) {\n    throw new Error(\n        `Unable to process animations due to the following
 failed trigger transitions\\n ${\n            errors.join('\\n')}`);\n  }\n\n  private _flushAnimations(cleanupFns:
Function[], microtaskId: number):\n      TransitionAnimationPlayer[] {\n    const subTimelines = new
ElementInstructionMap();\n    const skippedPlayers: TransitionAnimationPlayer[] = [];\n    const
skippedPlayersMap = new Map<any, AnimationPlayer[]>();\n    const queuedInstructions: QueuedTransition[] =
[];\n    const queriedElements = new Map<any, TransitionAnimationPlayer[]>();\n    const allPreStyleElements =
new Map<any, Set<string>>();\n    const allPostStyleElements = new Map<any, Set<string>>();\n\n    const
disabledElementsSet = new Set<any>();\n    this.disabledNodes.forEach(node => {\n
disabledElementsSet.add(node);\n      const nodesThatAreDisabled = this.driver.query(node,
QUEUED_SELECTOR, true);\n      for (let i = 0; i < nodesThatAreDisabled.length; i++) {\n
disabledElementsSet.add(nodesThatAreDisabled[i]);\n      }\n    });\n\n    const bodyNode
 = this.bodyNode;\n    const allTriggerElements = Array.from(this.statesByElement.keys());\n    const
enterNodeMap = buildRootMap(allTriggerElements, this.collectedEnterElements);\n\n    // this must occur before
the instructions are built below such that\n    // the :enter queries match the elements (since the timeline queries\n    //
are fired during instruction building).\n    const enterNodeMapIds = new Map<any, string>();\n    let i = 0;\n
enterNodeMap.forEach((nodes, root) => {\n      const className = ENTER_CLASSNAME + i++;\n
enterNodeMapIds.set(root, className);\n      nodes.forEach(node => addClass(node, className));\n    });\n\n
const allLeaveNodes: any[] = [];\n    const mergedLeaveNodes = new Set<any>();\n    const
leaveNodesWithoutAnimations = new Set<any>();\n    for (let i = 0; i < this.collectedLeaveElements.length; i++)
{\n      const element = this.collectedLeaveElements[i];\n      const details = element[REMOVAL_FLAG] as
ElementAnimationState;\n
  if (details && details.setForRemoval) {\n        allLeaveNodes.push(element);\n
mergedLeaveNodes.add(element);\n        if (details.hasAnimation) {\n          this.driver.query(element,
STAR_SELECTOR, true).forEach(elm => mergedLeaveNodes.add(elm));\n        } else {\n
leaveNodesWithoutAnimations.add(element);\n        }\n      }\n    }\n\n    const leaveNodeMapIds = new Map<any,
string>();\n    const leaveNodeMap = buildRootMap(allTriggerElements, Array.from(mergedLeaveNodes));\n
leaveNodeMap.forEach((nodes, root) => {\n      const className = LEAVE_CLASSNAME + i++;\n
leaveNodeMapIds.set(root, className);\n      nodes.forEach(node => addClass(node, className));\n    });\n\n
cleanupFns.push(() => {\n      enterNodeMap.forEach((nodes, root) => {\n        const className =
enterNodeMapIds.get(root)!;\n        nodes.forEach(node => removeClass(node, className));\n      });\n\n
leaveNodeMap.forEach((nodes, root) => {\n        const className = leaveNodeMapIds.get(root)!;\n
      nodes.forEach(node => removeClass(node, className));\n      });\n\n      allLeaveNodes.forEach(element =>
{\n        this.processLeaveNode(element);\n      });\n    });\n\n    const allPlayers: TransitionAnimationPlayer[] = [];\n
  const erroneousTransitions: AnimationTransitionInstruction[] = [];\n    for (let i = this._namespaceList.length - 1; i
>= 0; i--) {\n      const ns = this._namespaceList[i];\n      ns.drainQueuedTransitions(microtaskId).forEach(entry =>
{\n        const player = entry.player;\n        const element = entry.element;\n        allPlayers.push(player);\n\n        if
(this.collectedEnterElements.length) {\n          const details = element[REMOVAL_FLAG] as
ElementAnimationState;\n          // move animations are currently not supported...\n          if (details &&
details.setForMove) {\n            player.destroy();\n            return;\n          }\n        }\n\n        const nodeIsOrphaned =
!bodyNode || !this.driver.containsElement(bodyNode,
```

```
element);\n        const leaveClassName = leaveNodeMapIds.get(element)!;\n        const enterClassName =
enterNodeMapIds.get(element)!;\n        const instruction = this._buildInstruction(\n            entry, subTimelines,
enterClassName, leaveClassName, nodeIsOrphaned)!;\n        if (instruction.errors && instruction.errors.length) {\n
    erroneousTransitions.push(instruction);\n            return;\n        }\n\n        // even though the element may not be
apart of the DOM, it may\n        // still be added at a later point (due to the mechanics of content\n        // projection
and/or dynamic component insertion) therefore it's\n        // important we still style the element.\n        if
(nodeIsOrphaned) {\n            player.onStart(() => eraseStyles(element, instruction.fromStyles));\n
player.onDestroy(() => setStyles(element, instruction.toStyles));\n            skippedPlayers.push(player);\n
return;\n        }\n\n        // if a unmatched transition is
 queued to go then it SHOULD NOT render\n        // an animation and cancel the previously running animations.\n
  if (entry.isFallbackTransition) {\n            player.onStart(() => eraseStyles(element, instruction.fromStyles));\n
player.onDestroy(() => setStyles(element, instruction.toStyles));\n            skippedPlayers.push(player);\n
return;\n        }\n\n        // this means that if a parent animation uses this animation as a sub trigger\n        // then it
will instruct the timeline builder to not add a player delay, but\n        // instead stretch the first keyframe gap up until
the animation starts. The\n        // reason this is important is to prevent extra initialization styles from being\n        //
required by the user in the animation.\n        instruction.timelines.forEach(tl => tl.stretchStartingKeyframe =
true);\n\n        subTimelines.append(element, instruction.timelines);\n\n        const tuple = {instruction, player,
element};\n\n        queuedInstructions.push(tuple);\n\n
        instruction.queriedElements.forEach(\n            element => getOrSetAsInMap(queriedElements, element,
[]).push(player));\n\n        instruction.preStyleProps.forEach((stringMap, element) => {\n            const props =
Object.keys(stringMap);\n            if (props.length) {\n                let setVal: Set<string> =
allPreStyleElements.get(element)!;\n                if (!setVal) {\n                    allPreStyleElements.set(element, setVal = new
Set<string>());\n                }\n                props.forEach(prop => setVal.add(prop));\n            }\n        });\n\n
instruction.postStyleProps.forEach((stringMap, element) => {\n            const props = Object.keys(stringMap);\n
let setVal: Set<string> = allPostStyleElements.get(element)!;\n            if (!setVal) {\n
allPostStyleElements.set(element, setVal = new Set<string>());\n            }\n            props.forEach(prop =>
setVal.add(prop));\n        });\n    });\n    }\n\n    if (erroneousTransitions.length)
 {\n      const errors: string[] = [];\n      erroneousTransitions.forEach(instruction => {\n
errors.push(`@${instruction.triggerName} has failed due to:\\n`);\n          instruction.errors!.forEach(error =>
errors.push(`- ${error}\\n`));\n      });\n\n      allPlayers.forEach(player => player.destroy());\n
this.reportError(errors);\n    }\n\n    const allPreviousPlayersMap = new Map<any,
TransitionAnimationPlayer[]>();\n    // this map works to tell which element in the DOM tree is contained by\n    //
which animation. Further down below this map will get populated once\n    // the players are built and in doing so it
can efficiently figure out\n    // if a sub player is skipped due to a parent player having priority.\n    const
animationElementMap = new Map<any, any>();\n    queuedInstructions.forEach(entry => {\n      const element =
entry.element;\n      if (subTimelines.has(element)) {\n        animationElementMap.set(element, element);\n
this._beforeAnimationBuild(\n
            entry.player.namespaceId, entry.instruction, allPreviousPlayersMap);\n      }\n    });\n\n
skippedPlayers.forEach(player => {\n      const element = player.element;\n      const previousPlayers =\n
this._getPreviousPlayers(element, false, player.namespaceId, player.triggerName, null);\n
previousPlayers.forEach(prevPlayer => {\n        getOrSetAsInMap(allPreviousPlayersMap, element,
[]).push(prevPlayer);\n        prevPlayer.destroy();\n      });\n    });\n\n    // this is a special case for nodes that will be
removed (either by)\n    // having their own leave animations or by being queried in a container\n    // that will be
removed once a parent animation is complete. The idea\n    // here is that * styles must be identical to ! styles
because of\n    // backwards compatibility (* is also filled in by default in many places).\n    // Otherwise * styles
will return an empty value or auto since the element\n    // that is being getComputedStyle'd
 will not be visible (since * = destination)\n    const replaceNodes = allLeaveNodes.filter(node => {\n      return
replacePostStylesAsPre(node, allPreStyleElements, allPostStyleElements);\n    });\n\n    // POST STAGE: fill the *
```

```
styles\n    const postStylesMap = new Map<any, StyleData>();\n    const allLeaveQueriedNodes =
cloakAndComputeStyles(\n        postStylesMap, this.driver, leaveNodesWithoutAnimations, allPostStyleElements,
AUTO_STYLE);\n\n    allLeaveQueriedNodes.forEach(node => {\n      if (replacePostStylesAsPre(node,
allPreStyleElements, allPostStyleElements)) {\n        replaceNodes.push(node);\n      }\n    });\n\n    // PRE STAGE:
fill the ! styles\n    const preStylesMap = new Map<any, StyleData>();\n    enterNodeMap.forEach((nodes, root) =>
{\n      cloakAndComputeStyles(\n          preStylesMap, this.driver, new Set(nodes), allPreStyleElements,
PRE_STYLE);\n    });\n\n    replaceNodes.forEach(node => {\n      const post = postStylesMap.get(node);\n      const
 pre = preStylesMap.get(node);\n      postStylesMap.set(node, {...post, ...pre} as any);\n    });\n\n    const rootPlayers:
TransitionAnimationPlayer[] = [];\n    const subPlayers: TransitionAnimationPlayer[] = [];\n    const
NO_PARENT_ANIMATION_ELEMENT_DETECTED = {};\n    queuedInstructions.forEach(entry => {\n
const {element, player, instruction} = entry;\n      // this means that it was never consumed by a parent animation
which\n      // means that it is independent and therefore should be set for animation\n      if
(subTimelines.has(element)) {\n        if (disabledElementsSet.has(element)) {\n          player.onDestroy(() =>
setStyles(element, instruction.toStyles));\n          player.disabled = true;\n
player.overrideTotalTime(instruction.totalTime);\n          skippedPlayers.push(player);\n          return;\n        }\n\n
 // this will flow up the DOM and query the map to figure out\n        // if a parent animation has priority over it. In
the situation\n
        // that a parent is detected then it will cancel the loop. If\n        // nothing is detected, or it takes a few hops to
find a parent,\n        // then it will fill in the missing nodes and signal them as having\n        // a detected parent (or a
NO_PARENT value via a special constant).\n        let parentWithAnimation: any =
NO_PARENT_ANIMATION_ELEMENT_DETECTED;\n        if (animationElementMap.size > 1) {\n          let
elm = element;\n          const parentsToAdd: any[] = [];\n          while (elm = elm.parentNode) {\n            const
detectedParent = animationElementMap.get(elm);\n            if (detectedParent) {\n              parentWithAnimation =
detectedParent;\n              break;\n            }\n            parentsToAdd.push(elm);\n          }\n
parentsToAdd.forEach(parent => animationElementMap.set(parent, parentWithAnimation));\n        }\n\n        const
innerPlayer = this._buildAnimation(\n            player.namespaceId, instruction, allPreviousPlayersMap,
 skippedPlayersMap, preStylesMap,\n            postStylesMap);\n\n        player.setRealPlayer(innerPlayer);\n\n        if
(parentWithAnimation === NO_PARENT_ANIMATION_ELEMENT_DETECTED) {\n
rootPlayers.push(player);\n        } else {\n          const parentPlayers =
this.playersByElement.get(parentWithAnimation);\n          if (parentPlayers && parentPlayers.length) {\n
player.parentPlayer = optimizeGroupPlayer(parentPlayers);\n          }\n          skippedPlayers.push(player);\n        }\n
    } else {\n        eraseStyles(element, instruction.fromStyles);\n        player.onDestroy(() => setStyles(element,
instruction.toStyles));\n        // there still might be a ancestor player animating this\n        // element therefore we will
still add it as a sub player\n        // even if its animation may be disabled\n        subPlayers.push(player);\n        if
(disabledElementsSet.has(element)) {\n          skippedPlayers.push(player);\n        }\n      }\n    });\n\n
    // find all of the sub players' corresponding inner animation player\n    subPlayers.forEach(player => {\n      //
even if any players are not found for a sub animation then it\n      // will still complete itself after the next tick since
it's Noop\n      const playersForElement = skippedPlayersMap.get(player.element);\n      if (playersForElement &&
playersForElement.length) {\n        const innerPlayer = optimizeGroupPlayer(playersForElement);\n
player.setRealPlayer(innerPlayer);\n      }\n    });\n\n    // the reason why we don't actually play the animation is\n
// because all that a skipped player is designed to do is to\n    // fire the start/done transition callback events\n
skippedPlayers.forEach(player => {\n      if (player.parentPlayer) {\n
player.syncPlayerEvents(player.parentPlayer);\n      } else {\n        player.destroy();\n      }\n    });\n\n    // run
through all of the queued removals and see if they\n    // were picked up by a query. If
 not then perform the removal\n    // operation right away unless a parent animation is ongoing.\n    for (let i = 0; i <
allLeaveNodes.length; i++) {\n      const element = allLeaveNodes[i];\n      const details =
element[REMOVAL_FLAG] as ElementAnimationState;\n      removeClass(element, LEAVE_CLASSNAME);\n\n
    // this means the element has a removal animation that is being\n      // taken care of and therefore the inner
```

```
elements will hang around\n      // until that animation is over (or the parent queried animation)\n      if (details &&
details.hasAnimation) continue;\n\n      let players: TransitionAnimationPlayer[] = [];\n\n      // if this element is
queried or if it contains queried children\n      // then we want for the element not to be removed from the page\n
// until the queried animations have finished\n      if (queriedElements.size) {\n        let queriedPlayerResults =
queriedElements.get(element);\n        if (queriedPlayerResults && queriedPlayerResults.length)
 {\n          players.push(...queriedPlayerResults);\n        }\n\n        let queriedInnerElements =
this.driver.query(element, NG_ANIMATING_SELECTOR, true);\n        for (let j = 0; j <
queriedInnerElements.length; j++) {\n          let queriedPlayers = queriedElements.get(queriedInnerElements[j]);\n
    if (queriedPlayers && queriedPlayers.length) {\n            players.push(...queriedPlayers);\n          }\n        }\n
}\n\n      const activePlayers = players.filter(p => !p.destroyed);\n      if (activePlayers.length) {\n
removeNodesAfterAnimationDone(this, element, activePlayers);\n      } else {\n
this.processLeaveNode(element);\n      }\n    }\n\n    // this is required so the cleanup method doesn't remove them\n
allLeaveNodes.length = 0;\n\n    rootPlayers.forEach(player => {\n      this.players.push(player);\n
player.onDone(() => {\n        player.destroy();\n\n        const index = this.players.indexOf(player);\n
this.players.splice(index,
 1);\n      });\n      player.play();\n    });\n\n    return rootPlayers;\n  }\n\n  elementContainsData(namespaceId: string,
element: any) {\n    let containsData = false;\n    const details = element[REMOVAL_FLAG] as
ElementAnimationState;\n    if (details && details.setForRemoval) containsData = true;\n    if
(this.playersByElement.has(element)) containsData = true;\n    if (this.playersByQueriedElement.has(element))
containsData = true;\n    if (this.statesByElement.has(element)) containsData = true;\n    return
this._fetchNamespace(namespaceId).elementContainsData(element) || containsData;\n  }\n\n  afterFlush(callback: ()
=> any) {\n    this._flushFns.push(callback);\n  }\n\n  afterFlushAnimationsDone(callback: () => any) {\n
this._whenQuietFns.push(callback);\n  }\n\n  private _getPreviousPlayers(\n      element: string, isQueriedElement:
boolean, namespaceId?: string, triggerName?: string,\n      toStateValue?: any): TransitionAnimationPlayer[] {\n
let players: TransitionAnimationPlayer[]
 = [];\n    if (isQueriedElement) {\n      const queriedElementPlayers =
this.playersByQueriedElement.get(element);\n      if (queriedElementPlayers) {\n        players =
queriedElementPlayers;\n      }\n    } else {\n      const elementPlayers = this.playersByElement.get(element);\n      if
(elementPlayers) {\n        const isRemovalAnimation = !toStateValue || toStateValue == VOID_VALUE;\n
elementPlayers.forEach(player => {\n          if (player.queued) return;\n          if (!isRemovalAnimation &&
player.triggerName != triggerName) return;\n          players.push(player);\n        });\n      }\n    }\n    if (namespaceId
|| triggerName) {\n      players = players.filter(player => {\n        if (namespaceId && namespaceId !=
player.namespaceId) return false;\n        if (triggerName && triggerName != player.triggerName) return false;\n
return true;\n      });\n    }\n    return players;\n  }\n\n  private _beforeAnimationBuild(\n      namespaceId: string,
 instruction: AnimationTransitionInstruction,\n      allPreviousPlayersMap: Map<any,
TransitionAnimationPlayer[]>) {\n    const triggerName = instruction.triggerName;\n    const rootElement =
instruction.element;\n\n    // when a removal animation occurs, ALL previous players are collected\n    // and
destroyed (even if they are outside of the current namespace)\n    const targetNameSpaceId: string|undefined =\n
instruction.isRemovalTransition ? undefined : namespaceId;\n    const targetTriggerName: string|undefined =\n
instruction.isRemovalTransition ? undefined : triggerName;\n\n    for (const timelineInstruction of
instruction.timelines) {\n      const element = timelineInstruction.element;\n      const isQueriedElement = element
!== rootElement;\n      const players = getOrSetAsInMap(allPreviousPlayersMap, element, []);\n      const
previousPlayers = this._getPreviousPlayers(\n          element, isQueriedElement, targetNameSpaceId,
targetTriggerName, instruction.toState);\n
      previousPlayers.forEach(player => {\n        const realPlayer = (player as
TransitionAnimationPlayer).getRealPlayer() as any;\n        if (realPlayer.beforeDestroy) {\n
realPlayer.beforeDestroy();\n        }\n        player.destroy();\n        players.push(player);\n      });\n    }\n\n    // this
needs to be done so that the PRE/POST styles can be\n    // computed properly without interfering with the previous
```

```
animation\n    eraseStyles(rootElement, instruction.fromStyles);\n  }\n\n  private _buildAnimation(\n namespaceId: string, instruction: AnimationTransitionInstruction,\n      allPreviousPlayersMap: Map<any, TransitionAnimationPlayer[]>,\n      skippedPlayersMap: Map<any, AnimationPlayer[]>, preStylesMap: Map<any, StyleData>,\n      postStylesMap: Map<any, StyleData>): AnimationPlayer {\n    const triggerName = instruction.triggerName;\n    const rootElement = instruction.element;\n\n    // we first run this so that the previous animation player\n
    // data can be passed into the successive animation players\n    const allQueriedPlayers: TransitionAnimationPlayer[] = [];\n    const allConsumedElements = new Set<any>();\n    const allSubElements = new Set<any>();\n    const allNewPlayers = instruction.timelines.map(timelineInstruction => {\n      const element = timelineInstruction.element;\n      allConsumedElements.add(element);\n\n      // FIXME (matsko): make sure to-be-removed animations are removed properly\n      const details = element[REMOVAL_FLAG];\n      if (details && details.removedBeforeQueried)\n        return new NoopAnimationPlayer(timelineInstruction.duration, timelineInstruction.delay);\n\n      const isQueriedElement = element !== rootElement;\n      const previousPlayers =\n          flattenGroupPlayers((allPreviousPlayersMap.get(element) || EMPTY_PLAYER_ARRAY)\n              .map(p => p.getRealPlayer()))\n              .filter(p => {\n                // the `element` is not apart of the AnimationPlayer definition, but\n                // Mock/WebAnimations\n                // use the element within their implementation. This will be added in Angular5 to\n                // AnimationPlayer\n                const pp = p as any;\n                return pp.element ? pp.element === element : false;\n              });\n\n      const preStyles = preStylesMap.get(element);\n      const postStyles = postStylesMap.get(element);\n      const keyframes = normalizeKeyframes(\n          this.driver, this._normalizer, element, timelineInstruction.keyframes, preStyles,\n postStyles);\n      const player = this._buildPlayer(timelineInstruction, keyframes, previousPlayers);\n\n      // this means that this particular player belongs to a sub trigger. It is\n      // important that we match this player up with the corresponding (@trigger.listener)\n      if (timelineInstruction.subTimeline && skippedPlayersMap) {\n allSubElements.add(element);\n      }\n\n      if (isQueriedElement)
      {\n        const wrappedPlayer = new TransitionAnimationPlayer(namespaceId, triggerName, element);\n wrappedPlayer.setRealPlayer(player);\n        allQueriedPlayers.push(wrappedPlayer);\n      }\n\n      return player;\n    });\n\n    allQueriedPlayers.forEach(player => {\n      getOrSetAsInMap(this.playersByQueriedElement, player.element, []).push(player);\n      player.onDone(() => deleteOrUnsetInMap(this.playersByQueriedElement, player.element, player));\n    });\n\n    allConsumedElements.forEach(element => addClass(element, NG_ANIMATING_CLASSNAME));\n    const player = optimizeGroupPlayer(allNewPlayers);\n player.onDestroy(() => {\n      allConsumedElements.forEach(element => removeClass(element, NG_ANIMATING_CLASSNAME));\n      setStyles(rootElement, instruction.toStyles);\n    });\n\n    // this basically makes all of the callbacks for sub element animations\n    // be dependent on the upper players for when they finish\n    allSubElements.forEach(element
    => {\n      getOrSetAsInMap(skippedPlayersMap, element, []).push(player);\n    });\n\n    return player;\n  }\n\n  private _buildPlayer(\n      instruction: AnimationTimelineInstruction, keyframes: StyleData[],\n      previousPlayers: AnimationPlayer[]): AnimationPlayer {\n    if (keyframes.length > 0) {\n      return this.driver.animate(\n          instruction.element, keyframes, instruction.duration, instruction.delay,\n          instruction.easing, previousPlayers);\n    }\n\n    // special case for when an empty transition|definition is provided\n    // ... there is no point in rendering an empty animation\n    return new NoopAnimationPlayer(instruction.duration, instruction.delay);\n  }\n}\n\nexport class TransitionAnimationPlayer implements AnimationPlayer {\n  private _player: AnimationPlayer = new NoopAnimationPlayer();\n  private _containsRealPlayer = false;\n\n  private _queuedCallbacks: {[name: string]: (() => any)[]} = {};\n  public readonly destroyed = false;\n  // TODO(issue/24571):
   remove '!'.\n  public parentPlayer!: AnimationPlayer;\n\n  public markedForDestroy: boolean = false;\n  public disabled = false;\n\n  readonly queued: boolean = true;\n  public readonly totalTime: number = 0;\n\n constructor(public namespaceId: string, public triggerName: string, public element: any) {}\n\n setRealPlayer(player: AnimationPlayer) {\n    if (this._containsRealPlayer) return;\n\n    this._player = player;\n
```

Object.keys(this._queuedCallbacks).forEach(phase => {\n this._queuedCallbacks[phase].forEach(\n callback => listenOnPlayer(player, phase, undefined, callback));\n });\n this._queuedCallbacks = {};\n this._containsRealPlayer = true;\n this.overrideTotalTime(player.totalTime);\n (this as {queued: boolean}).queued = false;\n }\n\n getRealPlayer() {\n return this._player;\n }\n\n overrideTotalTime(totalTime: number) {\n (this as any).totalTime = totalTime;\n }\n\n syncPlayerEvents(player: AnimationPlayer) {\n const p = this._player as any;\n if (p.triggerCallback) {\n player.onStart(() => p.triggerCallback!('start'));\n }\n player.onDone(() => this.finish());\n player.onDestroy(() => this.destroy());\n }\n\n private _queueEvent(name: string, callback: (event: any) => any): void {\n getOrSetAsInMap(this._queuedCallbacks, name, []).push(callback);\n }\n\n onDone(fn: () => void): void {\n if (this.queued) {\n this._queueEvent('done', fn);\n }\n this._player.onDone(fn);\n }\n\n onStart(fn: () => void): void {\n if (this.queued) {\n this._queueEvent('start', fn);\n }\n this._player.onStart(fn);\n }\n\n onDestroy(fn: () => void): void {\n if (this.queued) {\n this._queueEvent('destroy', fn);\n }\n this._player.onDestroy(fn);\n }\n\n init(): void {\n this._player.init();\n }\n\n hasStarted(): boolean {\n return this.queued ? false : this._player.hasStarted();\n }\n\n play(): void {\n !this.queued && this._player.play();\n }\n\n pause(): void {\n !this.queued && this._player.pause();\n }\n\n restart(): void {\n !this.queued && this._player.restart();\n }\n\n finish(): void {\n this._player.finish();\n }\n\n destroy(): void {\n (this as {destroyed: boolean}).destroyed = true;\n this._player.destroy();\n }\n\n reset(): void {\n !this.queued && this._player.reset();\n }\n\n setPosition(p: any): void {\n if (!this.queued) {\n this._player.setPosition(p);\n }\n }\n\n getPosition(): number {\n return this.queued ? 0 : this._player.getPosition();\n }\n\n /** @internal */\n triggerCallback(phaseName: string): void {\n const p = this._player as any;\n if (p.triggerCallback) {\n p.triggerCallback(phaseName);\n }\n }\n}\n\nfunction deleteOrUnsetInMap(map: Map<any, any[]>|{[key: string]: any}, key: any, value: any) {\n let currentValues: any[]|null|undefined;\n if (map instanceof Map) {\n currentValues = map.get(key);\n if (currentValues) {\n if (currentValues.length) {\n const index = currentValues.indexOf(value);\n currentValues.splice(index, 1);\n }\n if (currentValues.length == 0) {\n map.delete(key);\n }\n }\n } else {\n currentValues = map[key];\n if (currentValues) {\n if (currentValues.length) {\n const index = currentValues.indexOf(value);\n currentValues.splice(index, 1);\n }\n if (currentValues.length == 0) {\n delete map[key];\n }\n }\n }\n return currentValues;\n}\n\nfunction normalizeTriggerValue(value: any): any {\n // we use `!= null` here because it's the most simple\n // way to test against a \"falsy\" value without mixing\n // in empty strings or a zero value. DO NOT OPTIMIZE.\n return value != null ? value : null;\n}\n\nfunction isElementNode(node: any) {\n return node && node['nodeType'] === 1;\n}\n\nfunction isTriggerEventValid(eventName: string): boolean {\n return eventName == 'start' || eventName == 'done';\n}\n\nfunction cloakElement(element: any, value?: string) {\n const oldValue = element.style.display;\n element.style.display = value != null ? value : 'none';\n return oldValue;\n}\n\nfunction cloakAndComputeStyles(\n valuesMap: Map<any, StyleData>, driver: AnimationDriver, elements: Set<any>,\n elementPropsMap: Map<any, Set<string>>, defaultStyle: string): any[] {\n const cloakVals: string[] = [];\n elements.forEach(element => cloakVals.push(cloakElement(element)));\n\n const failedElements: any[] = [];\n\n elementPropsMap.forEach((props: Set<string>, element: any) => {\n const styles: StyleData = {};\n props.forEach(prop => {\n const value = styles[prop] = driver.computeStyle(element, prop, defaultStyle);\n\n // there is no easy way to detect this because a sub element could be removed\n // by a parent animation element being detached.\n if (!value || value.length == 0) {\n element[REMOVAL_FLAG] = NULL_REMOVED_QUERIED_STATE;\n failedElements.push(element);\n }\n });\n valuesMap.set(element, styles);\n });\n\n // we use a index variable here since Set.forEach(a, i) does not return\n // an index value for the closure (but instead just the value)\n let i = 0;\n elements.forEach(element => cloakElement(element, cloakVals[i++]));\n\n return failedElements;\n}\n\n/*\nSince the Angular renderer code will return a collection of inserted\nnodes in all areas of a DOM tree, it's up to this algorithm to figure\nout which nodes are roots for each animation @trigger.\n\nBy placing each inserted node into a Set and traversing upwards, it\nis possible to find the @trigger elements and well

any direct *star\ninsertion nodes, if a @trigger root is found then the enter element\nis placed into the Map[@trigger] spot.\n */\nfunction buildRootMap(roots: any[], nodes: any[]): Map<any, any[]> {\n  const rootMap = new Map<any, any[]>();\n  roots.forEach(root => rootMap.set(root, []));\n\n  if (nodes.length == 0) return rootMap;\n\n  const NULL_NODE = 1;\n  const nodeSet = new Set(nodes);\n  const localRootMap = new Map<any, any>();\n\n  function getRoot(node: any): any {\n    if (!node) return NULL_NODE;\n\n    let root = localRootMap.get(node);\n    if (root) return root;\n\n    const parent = node.parentNode;\n    if (rootMap.has(parent)) {  // ngIf inside @trigger\n      root = parent;\n    } else if (nodeSet.has(parent)) {  // ngIf inside ngIf\n      root = NULL_NODE;\n    } else {  // recurse upwards\n      root = getRoot(parent);\n    }\n\n    localRootMap.set(node, root);\n    return root;\n  }\n\n  nodes.forEach(node => {\n    const root = getRoot(node);\n    if (root !== NULL_NODE) {\n      rootMap.get(root)!.push(node);\n    }\n  });\n\n  return rootMap;\n}\n\nconst CLASSES_CACHE_KEY = '$$classes';\nfunction containsClass(element: any, className: string): boolean {\n  if (element.classList) {\n    return element.classList.contains(className);\n  } else {\n    const classes = element[CLASSES_CACHE_KEY];\n    return classes && classes[className];\n  }\n}\n\nfunction addClass(element: any, className: string) {\n  if (element.classList) {\n    element.classList.add(className);\n  } else {\n    let classes: {[className: string]: boolean} = element[CLASSES_CACHE_KEY];\n    if (!classes) {\n      classes = element[CLASSES_CACHE_KEY] = {};\n    }\n    classes[className] = true;\n  }\n}\n\nfunction removeClass(element: any, className: string) {\n  if (element.classList) {\n    element.classList.remove(className);\n  } else {\n    let classes: {[className: string]: boolean} = element[CLASSES_CACHE_KEY];\n    if (classes) {\n      delete classes[className];\n    }\n  }\n}\n\nfunction removeNodesAfterAnimationDone(\n    engine: TransitionAnimationEngine, element: any, players: AnimationPlayer[]) {\n  optimizeGroupPlayer(players).onDone(() => engine.processLeaveNode(element));\n}\n\nfunction flattenGroupPlayers(players: AnimationPlayer[]): AnimationPlayer[] {\n  const finalPlayers: AnimationPlayer[] = [];\n  _flattenGroupPlayersRecur(players, finalPlayers);\n  return finalPlayers;\n}\n\nfunction _flattenGroupPlayersRecur(players: AnimationPlayer[], finalPlayers: AnimationPlayer[]) {\n  for (let i = 0; i < players.length; i++) {\n    const player = players[i];\n    if (player instanceof AnimationGroupPlayer) {\n      _flattenGroupPlayersRecur(player.players, finalPlayers);\n    } else {\n      finalPlayers.push(player);\n    }\n  }\n}\n\nfunction objEquals(a: {[key: string]: any}, b: {[key: string]: any}): boolean {\n  const k1 = Object.keys(a);\n  const k2 = Object.keys(b);\n  if (k1.length != k2.length) return false;\n  for (let i = 0; i < k1.length; i++) {\n    const prop = k1[i];\n    if (!b.hasOwnProperty(prop) || a[prop] !== b[prop]) return false;\n  }\n  return true;\n}\n\nfunction replacePostStylesAsPre(\n    element: any, allPreStyleElements: Map<any, Set<string>>,\n    allPostStyleElements: Map<any, Set<string>>): boolean {\n  const postEntry = allPostStyleElements.get(element);\n  if (!postEntry) return false;\n\n  let preEntry = allPreStyleElements.get(element);\n  if (preEntry) {\n    postEntry.forEach(data => preEntry!.add(data));\n  } else {\n    allPreStyleElements.set(element, postEntry);\n  }\n\n  allPostStyleElements.delete(element);\n  return true;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationMetadata, AnimationPlayer, AnimationTriggerMetadata} from '@angular/animations';\nimport {TriggerAst} from '../dsl/animation_ast';\nimport {buildAnimationAst} from '../dsl/animation_ast_builder';\nimport {AnimationTrigger, buildTrigger} from '../dsl/animation_trigger';\nimport {AnimationStyleNormalizer} from '../dsl/style_normalization/animation_style_normalizer';\n\nimport {AnimationDriver} from './animation_driver';\nimport {parseTimelineCommand} from './shared';\nimport {TimelineAnimationEngine} from './timeline_animation_engine';\nimport {TransitionAnimationEngine} from './transition_animation_engine';\n\nexport class AnimationEngine {\n  private _transitionEngine: TransitionAnimationEngine;\n  private _timelineEngine: TimelineAnimationEngine;\n\n  private _triggerCache: {[key: string]: AnimationTrigger} = {};\n\n  // this method is designed to be overridden by the code that uses this engine\n  public onRemovalComplete = (element: any, context: any) => {};\n\n  constructor(\n      private bodyNode: any, private _driver: AnimationDriver,\n      normalizer: AnimationStyleNormalizer) {\n

this._transitionEngine = new TransitionAnimationEngine(bodyNode, _driver, normalizer);\n this._timelineEngine = new TimelineAnimationEngine(bodyNode, _driver, normalizer);\n\n this._transitionEngine.onRemovalComplete = (element: any, context: any) =>\n this.onRemovalComplete(element, context);\n }\n\n registerTrigger(\n componentId: string, namespaceId: string, hostElement: any, name: string,\n metadata: AnimationTriggerMetadata): void {\n const cacheKey = componentId + '-' + name;\n let trigger = this._triggerCache[cacheKey];\n if (!trigger) {\n const errors: any[] = [];\n const ast =\n buildAnimationAst(this._driver, metadata as AnimationMetadata, errors) as TriggerAst;\n if (errors.length) {\n throw new Error(`The animation trigger \"${\n name}\" has failed to build due to the following errors:\\n - ${errors.join('\\n - ')}`);\n }\n trigger = buildTrigger(name, ast);\n this._triggerCache[cacheKey] = trigger;\n }\n this._transitionEngine.registerTrigger(namespaceId, name, trigger);\n }\n\n register(namespaceId: string, hostElement: any) {\n this._transitionEngine.register(namespaceId, hostElement);\n }\n\n destroy(namespaceId: string, context: any) {\n this._transitionEngine.destroy(namespaceId, context);\n }\n\n onInsert(namespaceId: string, element: any, parent: any, insertBefore: boolean): void {\n this._transitionEngine.insertNode(namespaceId, element, parent, insertBefore);\n }\n\n onRemove(namespaceId: string, element: any, context: any, isHostElement?: boolean): void {\n this._transitionEngine.removeNode(namespaceId, element, isHostElement || false, context);\n }\n\n disableAnimations(element: any, disable: boolean) {\n this._transitionEngine.markElementAsDisabled(element, disable);\n }\n\n process(namespaceId: string, element: any, property: string, value: any) {\n if (property.charAt(0) == '@') {\n const [id, action] = parseTimelineCommand(property);\n const args = value as any[];\n this._timelineEngine.command(id, element, action, args);\n } else {\n this._transitionEngine.trigger(namespaceId, element, property, value);\n }\n }\n\n listen(\n namespaceId: string, element: any, eventName: string, eventPhase: string,\n callback: (event: any) => any): () => any {\n // @@listen\n if (eventName.charAt(0) == '@') {\n const [id, action] = parseTimelineCommand(eventName);\n return this._timelineEngine.listen(id, element, action, callback);\n }\n return this._transitionEngine.listen(namespaceId, element, eventName, eventPhase, callback);\n }\n\n flush(microtaskId: number = -1): void {\n this._transitionEngine.flush(microtaskId);\n }\n\n get players(): AnimationPlayer[] {\n return (this._transitionEngine.players as AnimationPlayer[])\n .concat(this._timelineEngine.players as AnimationPlayer[]);\n }\n\n whenRenderingDone(): Promise<any> {\n return this._transitionEngine.whenRenderingDone();\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {eraseStyles, setStyles} from '../util';\n\n/**\n * Returns an instance of `SpecialCasedStyles` if and when any special (non animateable) styles are\n * detected.\n *\n * In CSS there exist properties that cannot be animated within a keyframe animation\n * (whether it be via CSS keyframes or web-animations) and the animation implementation\n * will ignore them. This function is designed to detect those special cased styles and\n * return a container that will be executed at the start and end of the animation.\n *\n * @returns an instance of `SpecialCasedStyles` if any special styles are detected otherwise `null`\n */\nexport function packageNonAnimatableStyles(\n element: any, styles: {[key: string]: any}|{[key: string]: any}[]): SpecialCasedStyles|null {\n let startStyles: {[key: string]: any}|null = null;\n let endStyles: {[key: string]: any}|null = null;\n if (Array.isArray(styles) && styles.length) {\n startStyles = filterNonAnimatableStyles(styles[0]);\n if (styles.length > 1) {\n endStyles = filterNonAnimatableStyles(styles[styles.length - 1]);\n }\n } else if (styles) {\n startStyles = filterNonAnimatableStyles(styles);\n }\n\n return (startStyles || endStyles) ? new SpecialCasedStyles(element, startStyles, endStyles) :\n null;\n}\n\n/**\n * Designed to be executed during a keyframe-based animation to apply any special-cased styles.\n *\n * When started (when the `start()` method is run) then the provided `startStyles`\n * will be applied. When finished (when the `finish()` method is called) the\n * `endStyles` will be applied as well any any starting styles. Finally when\n * `destroy()` is called then all styles will be removed.\n */\nexport class SpecialCasedStyles {\n static

initialStylesByElement = new WeakMap<any, {[key: string]: any}>();\n\n  private _state = SpecialCasedStylesState.Pending;\n  private _initialStyles!: {[key: string]: any};\n\n  constructor(\n      private _element: any, private _startStyles: {[key: string]: any}|null,\n      private _endStyles: {[key: string]: any}|null) {\n    let initialStyles = SpecialCasedStyles.initialStylesByElement.get(_element);\n    if (!initialStyles) {\n      SpecialCasedStyles.initialStylesByElement.set(_element, initialStyles = {});\n    }\n    this._initialStyles = initialStyles;\n  }\n\n  start() {\n    if (this._state < SpecialCasedStylesState.Started) {\n      if (this._startStyles) {\n        setStyles(this._element, this._startStyles, this._initialStyles);\n      }\n      this._state = SpecialCasedStylesState.Started;\n    }\n  }\n\n  finish() {\n    this.start();\n    if (this._state < SpecialCasedStylesState.Finished) {\n      setStyles(this._element, this._initialStyles);\n      if (this._endStyles) {\n        setStyles(this._element, this._endStyles);\n        this._endStyles = null;\n      }\n      this._state = SpecialCasedStylesState.Started;\n    }\n  }\n\n  destroy() {\n    this.finish();\n    if (this._state < SpecialCasedStylesState.Destroyed) {\n      SpecialCasedStyles.initialStylesByElement.delete(this._element);\n      if (this._startStyles) {\n        eraseStyles(this._element, this._startStyles);\n        this._endStyles = null;\n      }\n      if (this._endStyles) {\n        eraseStyles(this._element, this._endStyles);\n        this._endStyles = null;\n      }\n      setStyles(this._element, this._initialStyles);\n      this._state = SpecialCasedStylesState.Destroyed;\n    }\n  }\n}\n\n/**\n * An enum of states reflective of what the status of `SpecialCasedStyles` is.\n *\n * Depending on how `SpecialCasedStyles` is interacted with, the start and end\n * styles may not be applied in the same way. This enum ensures that if and when\n * the ending styles are applied then the starting styles are applied. It is\n * also used to reflect what the current status of the special cased styles are\n * which helps prevent the starting/ending styles not be applied twice. It is\n * also used to cleanup the styles once `SpecialCasedStyles` is destroyed.\n */\nconst enum SpecialCasedStylesState {\n  Pending = 0,\n  Started = 1,\n  Finished = 2,\n  Destroyed = 3,\n}\n\nfunction filterNonAnimatableStyles(styles: {[key: string]: any}) {\n  let result: {[key: string]: any}|null = null;\n  const props = Object.keys(styles);\n  for (let i = 0; i < props.length; i++) {\n    const prop = props[i];\n    if (isNonAnimatableStyle(prop)) {\n      result = result || {};\n      result[prop] = styles[prop];\n    }\n  }\n  return result;\n}\n\nfunction isNonAnimatableStyle(prop: string) {\n  return prop === 'display' || prop === 'position';\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nconst ELAPSED_TIME_MAX_DECIMAL_PLACES = 3;\nconst ANIMATION_PROP = 'animation';\nconst ANIMATIONEND_EVENT = 'animationend';\nconst ONE_SECOND = 1000;\n\nexport class ElementAnimationStyleHandler {\n  private readonly _eventFn: (e: any) => any;\n  private _finished = false;\n  private _destroyed = false;\n  private _startTime = 0;\n  private _position = 0;\n\n  constructor(\n      private readonly _element: any, private readonly _name: string,\n      private readonly _duration: number, private readonly _delay: number,\n      private readonly _easing: string, private readonly _fillMode: ''|'both'|'forwards',\n      private readonly _onDoneFn: () => any) {\n    this._eventFn = (e) => this._handleCallback(e);\n  }\n\n  apply() {\n    applyKeyframeAnimation(\n        this._element,\n        `${this._duration}ms ${this._easing} ${this._delay}ms 1 normal ${this._fillMode} ${\n            this._name}`);\n    addRemoveAnimationEvent(this._element, this._eventFn, false);\n    this._startTime = Date.now();\n  }\n\n  pause() {\n    playPauseAnimation(this._element, this._name, 'paused');\n  }\n\n  resume() {\n    playPauseAnimation(this._element, this._name, 'running');\n  }\n\n  setPosition(position: number) {\n    const index = findIndexForAnimation(this._element, this._name);\n    this._position = position * this._duration;\n    setAnimationStyle(this._element, 'Delay', `-${this._position}ms`, index);\n  }\n\n  getPosition() {\n    return this._position;\n  }\n\n  private _handleCallback(event: any) {\n    const timestamp = event._ngTestManualTimestamp || Date.now();\n    const elapsedTime =\n        parseFloat(event.elapsedTime.toFixed(ELAPSED_TIME_MAX_DECIMAL_PLACES)) * ONE_SECOND;\n    if (event.animationName == this._name &&\n        Math.max(timestamp - this._startTime, 0) >= this._delay &&\n        elapsedTime >= this._duration) {\n      this.finish();\n    }\n  }\n\n  finish() {\n    if (this._finished) return;\n    this._finished = true;\n    this._onDoneFn();\n    addRemoveAnimationEvent(this._element, this._eventFn, true);\n

}\n\n  destroy() {\n    if (this._destroyed) return;\n    this._destroyed = true;\n    this.finish();\n removeKeyframeAnimation(this._element,
 this._name);\n  }\n}\n\nfunction playPauseAnimation(element: any, name: string, status: 'running'|'paused') {\n const index = findIndexForAnimation(element, name);\n  setAnimationStyle(element, 'PlayState', status, index);\n}\n\nfunction applyKeyframeAnimation(element: any, value: string): number {\n  const anim = getAnimationStyle(element, '').trim();\n  let index = 0;\n  if (anim.length) {\n    index = countChars(anim, ',') + 1;\n value = `${anim}, ${value}`;\n  }\n  setAnimationStyle(element, '', value);\n  return index;\n}\n\nfunction removeKeyframeAnimation(element: any, name: string) {\n  const anim = getAnimationStyle(element, '');\n  const tokens = anim.split(',');\n  const index = findMatchingTokenIndex(tokens, name);\n  if (index >= 0) {\n tokens.splice(index, 1);\n    const newValue = tokens.join(',');\n    setAnimationStyle(element, '', newValue);\n }\n}\n\nfunction findIndexForAnimation(element: any, value: string) {\n  const anim = getAnimationStyle(element, '');\n  if (anim.indexOf(',') > 0) {\n    const tokens = anim.split(',');\n    return findMatchingTokenIndex(tokens, value);\n  }\n  return findMatchingTokenIndex([anim], value);\n}\n\nfunction findMatchingTokenIndex(tokens: string[], searchToken: string): number {\n  for (let i = 0; i < tokens.length; i++) {\n    if (tokens[i].indexOf(searchToken) >= 0) {\n      return i;\n    }\n  }\n  return -1;\n}\n\nfunction addRemoveAnimationEvent(element: any, fn: (e: any) => any, doRemove: boolean) {\n  doRemove ? element.removeEventListener(ANIMATIONEND_EVENT, fn) :\n element.addEventListener(ANIMATIONEND_EVENT, fn);\n}\n\nfunction setAnimationStyle(element: any, name: string, value: string, index?: number) {\n  const prop = ANIMATION_PROP + name;\n  if (index != null) {\n const oldValue = element.style[prop];\n    if (oldValue.length) {\n      const tokens = oldValue.split(',');\n tokens[index] = value;\n      value = tokens.join(',');\n    }\n  }\n  element.style[prop]
 = value;\n}\n\nexport function getAnimationStyle(element: any, name: string) {\n  return element.style[ANIMATION_PROP + name] || '';\n}\n\nfunction countChars(value: string, char: string): number {\n let count = 0;\n  for (let i = 0; i < value.length; i++) {\n    const c = value.charAt(i);\n    if (c === char) count++;\n }\n  return count;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationPlayer} from '@angular/animations';\n\nimport {computeStyle} from '../../util';\nimport {SpecialCasedStyles} from '../special_cased_styles';\nimport {ElementAnimationStyleHandler} from './element_animation_style_handler';\n\nconst DEFAULT_FILL_MODE = 'forwards';\nconst DEFAULT_EASING = 'linear';\n\nexport const enum AnimatorControlState {\n  INITIALIZED = 1,\n  STARTED = 2,\n  FINISHED = 3,\n  DESTROYED = 4\n}\n\nexport
 class CssKeyframesPlayer implements AnimationPlayer {\n  private _onDoneFns: Function[] = [];\n  private _onStartFns: Function[] = [];\n  private _onDestroyFns: Function[] = [];\n\n  private _started = false;\n  // TODO(issue/24571): remove '!'.\n  private _styler!: ElementAnimationStyleHandler;\n\n  // TODO(issue/24571): remove '!'.\n  public parentPlayer!: AnimationPlayer;\n  public readonly totalTime: number;\n  public readonly easing: string;\n  public currentSnapshot: {[key: string]: string} = {};\n\n  private _state: AnimatorControlState = 0;\n\n  constructor(\n      public readonly element: any, public readonly keyframes: {[key: string]: string|number}[],\n      public readonly animationName: string, private readonly _duration: number,\n      private readonly _delay: number, easing: string,\n      private readonly _finalStyles: {[key: string]: any},\n      private readonly _specialStyles?: SpecialCasedStyles|null) {\n    this.easing = easing || DEFAULT_EASING;\n this.totalTime
 = _duration + _delay;\n    this._buildStyler();\n  }\n\n  onStart(fn: () => void): void {\n this._onStartFns.push(fn);\n  }\n\n  onDone(fn: () => void): void {\n    this._onDoneFns.push(fn);\n  }\n\n onDestroy(fn: () => void): void {\n    this._onDestroyFns.push(fn);\n  }\n\n  destroy() {\n    this.init();\n    if (this._state >= AnimatorControlState.DESTROYED) return;\n    this._state = AnimatorControlState.DESTROYED;\n    this._styler.destroy();\n    this._flushStartFns();\n this._flushDoneFns();\n    if (this._specialStyles) {\n      this._specialStyles.destroy();\n    }\n this._onDestroyFns.forEach(fn => fn());\n    this._onDestroyFns = [];\n  }\n\n  private _flushDoneFns() {\n

this._onDoneFns.forEach(fn => fn());\n this._onDoneFns = [];\n }\n\n private _flushStartFns() {\n this._onStartFns.forEach(fn => fn());\n this._onStartFns = [];\n }\n\n finish() {\n this.init();\n if (this._state >= AnimatorControlState.FINISHED) return;\n this._state = AnimatorControlState.FINISHED;\n this._styler.finish();\n this._flushStartFns();\n if (this._specialStyles) {\n this._specialStyles.finish();\n }\n this._flushDoneFns();\n }\n\n setPosition(value: number) {\n this._styler.setPosition(value);\n }\n\n getPosition(): number {\n return this._styler.getPosition();\n }\n\n hasStarted(): boolean {\n return this._state >= AnimatorControlState.STARTED;\n }\n init(): void {\n if (this._state >= AnimatorControlState.INITIALIZED) return;\n this._state = AnimatorControlState.INITIALIZED;\n const elm = this.element;\n this._styler.apply();\n if (this._delay) {\n this._styler.pause();\n }\n }\n\n play(): void {\n this.init();\n if (!this.hasStarted()) {\n this._flushStartFns();\n this._state = AnimatorControlState.STARTED;\n if (this._specialStyles) {\n this._specialStyles.start();\n }\n }\n this._styler.resume();\n }\n\n pause(): void {\n this.init();\n this._styler.pause();\n }\n restart(): void {\n this.reset();\n this.play();\n }\n reset(): void {\n this._styler.destroy();\n this._buildStyler();\n this._styler.apply();\n }\n\n private _buildStyler() {\n this._styler = new ElementAnimationStyleHandler(\n this.element, this.animationName, this._duration, this._delay, this.easing,\n DEFAULT_FILL_MODE, () => this.finish());\n }\n\n /** @internal */\n triggerCallback(phaseName: string): void {\n const methods = phaseName == 'start' ? this._onStartFns : this._onDoneFns;\n methods.forEach(fn => fn());\n methods.length = 0;\n }\n\n beforeDestroy() {\n this.init();\n const styles: {[key: string]: string} = {};\n if (this.hasStarted()) {\n const finished = this._state >= AnimatorControlState.FINISHED;\n Object.keys(this._finalStyles).forEach(prop => {\n if (prop != 'offset') {\n styles[prop] = finished ? this._finalStyles[prop] : computeStyle(this.element, prop);\n }\n });\n }\n this.currentSnapshot = styles;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {NoopAnimationPlayer} from '@angular/animations';\nimport {hypenatePropsObject} from '../shared';\n\nexport class DirectStylePlayer extends NoopAnimationPlayer {\n private _startingStyles: {[key: string]: any}|null = {};\n private __initialized = false;\n private _styles: {[key: string]: any};\n\n constructor(public element: any, styles: {[key: string]: any}) {\n super();\n this._styles = hypenatePropsObject(styles);\n }\n\n init() {\n if (this.__initialized || !this._startingStyles) return;\n this.__initialized = true;\n Object.keys(this._styles).forEach(prop => {\n this._startingStyles![prop] = this.element.style[prop];\n });\n super.init();\n }\n\n play() {\n if (!this._startingStyles) return;\n this.init();\n Object.keys(this._styles)\n .forEach(prop => this.element.style.setProperty(prop, this._styles[prop]));\n super.play();\n }\n\n destroy() {\n if (!this._startingStyles) return;\n Object.keys(this._startingStyles).forEach(prop => {\n const value = this._startingStyles![prop];\n if (value) {\n this.element.style.setProperty(prop, value);\n } else {\n this.element.style.removeProperty(prop);\n }\n });\n this._startingStyles = null;\n super.destroy();\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationPlayer, StyleData} from '@angular/animations';\n\nimport {allowPreviousPlayerStylesMerge, balancePreviousStylesIntoKeyframes, computeStyle} from '../../util';\nimport {AnimationDriver}\n from '../animation_driver';\nimport {containsElement, hypenatePropsObject, invokeQuery, matchesElement, validateStyleProperty} from '../shared';\nimport {packageNonAnimatableStyles} from '../special_cased_styles';\n\nimport {CssKeyframesPlayer} from './css_keyframes_player';\nimport {DirectStylePlayer} from './direct_style_player';\n\nconst KEYFRAMES_NAME_PREFIX = 'gen_css_kf_';\nconst TAB_SPACE = ' ';\n\nexport class CssKeyframesDriver implements AnimationDriver {\n private _count = 0;\n private readonly _head: any = document.querySelector('head');\n\n validateStyleProperty(prop: string): boolean {\n return validateStyleProperty(prop);\n }\n\n matchesElement(element: any, selector: string): boolean {\n return matchesElement(element, selector);\n }\n\n containsElement(elm1: any, elm2: any): boolean {\n return

containsElement(elm1, elm2);\n  }\n\n  query(element: any, selector: string, multi: boolean): any[] {\n    return invokeQuery(element, selector, multi);\n
  }\n\n  computeStyle(element: any, prop: string, defaultValue?: string): string {\n    return (window.getComputedStyle(element) as any)[prop] as string;\n  }\n\n  buildKeyframeElement(element: any, name: string, keyframes: {[key: string]: any}[]): any {\n    keyframes = keyframes.map(kf => hypenatePropsObject(kf));\n  let keyframeStr = `@keyframes ${name} {\\n`;\n    let tab = '';\n    keyframes.forEach(kf => {\n      tab = TAB_SPACE;\n      const offset = parseFloat(kf['offset']);\n      keyframeStr += `${tab}${offset * 100}% {\\n`;\n tab += TAB_SPACE;\n      Object.keys(kf).forEach(prop => {\n        const value = kf[prop];\n        switch (prop) {\n          case 'offset':\n            return;\n          case 'easing':\n            if (value) {\n              keyframeStr += `${tab}animation-timing-function: ${value};\\n`;\n            }\n            return;\n          default:\n            keyframeStr += `${tab}${prop}: ${value};\\n`;\n            return;\n        }\n      });\n      keyframeStr += `${tab}}\\n`;\n    });\n    keyframeStr += `}\\n`;\n\n    const kfElm = document.createElement('style');\n    kfElm.textContent = keyframeStr;\n    return kfElm;\n  }\n\n  animate(\n      element: any, keyframes: StyleData[], duration: number, delay: number, easing: string,\n      previousPlayers: AnimationPlayer[] = [], scrubberAccessRequested?: boolean): AnimationPlayer {\n    if ((typeof ngDevMode === 'undefined' || ngDevMode) && scrubberAccessRequested) {\n      notifyFaultyScrubber();\n    }\n\n    const previousCssKeyframePlayers = <CssKeyframesPlayer[]>previousPlayers.filter(\n        player => player instanceof CssKeyframesPlayer);\n\n    const previousStyles: {[key: string]: any} = {};\n\n    if (allowPreviousPlayerStylesMerge(duration, delay)) {\n      previousCssKeyframePlayers.forEach(player => {\n        let styles = player.currentSnapshot;\n        Object.keys(styles).forEach(prop => previousStyles[prop] = styles[prop]);\n      });\n    }\n\n
    keyframes = balancePreviousStylesIntoKeyframes(element, keyframes, previousStyles);\n    const finalStyles = flattenKeyframesIntoStyles(keyframes);\n\n    // if there is no animation then there is no point in applying\n    // styles and waiting for an event to get fired. This causes lag.\n    // It's better to just directly apply the styles to the element\n    // via the direct styling animation player.\n    if (duration == 0) {\n      return new DirectStylePlayer(element, finalStyles);\n    }\n\n    const animationName = `${KEYFRAMES_NAME_PREFIX}${this._count++}`;\n    const kfElm = this.buildKeyframeElement(element, animationName, keyframes);\n    document.querySelector('head')!.appendChild(kfElm);\n\n    const specialStyles = packageNonAnimatableStyles(element, keyframes);\n    const player = new CssKeyframesPlayer(\n        element, keyframes, animationName, duration, delay, easing, finalStyles, specialStyles);\n\n    player.onDestroy(() => removeElement(kfElm));\n    return player;\n  }\n}\n\nfunction flattenKeyframesIntoStyles(keyframes: null|{[key: string]: any}|\n    {[key: string]: any}[]): {[key: string]: any} {\n  let flatKeyframes: {[key: string]: any} = {};\n  if (keyframes) {\n    const kfs = Array.isArray(keyframes) ? keyframes : [keyframes];\n    kfs.forEach(kf => {\n      Object.keys(kf).forEach(prop => {\n        if (prop == 'offset' || prop == 'easing') return;\n        flatKeyframes[prop] = kf[prop];\n      });\n    });\n  }\n  return flatKeyframes;\n}\n\nfunction removeElement(node: any) {\n  node.parentNode.removeChild(node);\n}\n\nlet warningIssued = false;\nfunction notifyFaultyScrubber(): void {\n  if (warningIssued) return;\n  console.warn(\n      '@angular/animations: please load the web-animations.js polyfill to allow programmatic access...\\n',\n      '  visit https://bit.ly/IWukam to learn more about using the web-animation-js polyfill.');\n  warningIssued = true;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationPlayer} from '@angular/animations';\n\nimport {computeStyle} from '../../util';\nimport {SpecialCasedStyles} from '../special_cased_styles';\n\nimport {DOMAnimation} from './dom_animation';\n\nexport class WebAnimationsPlayer implements AnimationPlayer {\n  private _onDoneFns: Function[] = [];\n  private _onStartFns: Function[] = [];\n  private _onDestroyFns: Function[] = [];\n  private _duration: number;\n  private _delay: number;\n  private _initialized = false;\n  private _finished = false;\n  private _started = false;\n  private _destroyed = false;\n  // TODO(issue/24571): remove '!'.\n  private _finalKeyframe!: {[key: string]:

```
string|number};\n\n  // TODO(issue/24571): remove '!'.\n  public readonly domPlayer!: DOMAnimation;\n  public time = 0;\n\n  public parentPlayer: AnimationPlayer|null
 = null;\n  public currentSnapshot: {[styleName: string]: string|number} = {};\n\n  constructor(\n      public element: any, public keyframes: {[key: string]: string|number}[],\n      public options: {[key: string]: string|number},\n private _specialStyles?: SpecialCasedStyles|null) {\n    this._duration = <number>options['duration'];\n    this._delay = <number>options['delay'] || 0;\n    this.time = this._duration + this._delay;\n  }\n\n  private _onFinish() {\n    if (!this._finished) {\n      this._finished = true;\n      this._onDoneFns.forEach(fn => fn());\n      this._onDoneFns = [];\n    }\n  }\n\n  init(): void {\n    this._buildPlayer();\n    this._preparePlayerBeforeStart();\n  }\n\n  private _buildPlayer(): void {\n    if (this._initialized) return;\n    this._initialized = true;\n\n    const keyframes = this.keyframes;\n    (this as {domPlayer: DOMAnimation}).domPlayer =\n this._triggerWebAnimation(this.element, keyframes, this.options);\n    this._finalKeyframe
 = keyframes.length ? keyframes[keyframes.length - 1] : {};\n    this.domPlayer.addEventListener('finish', () => this._onFinish());\n  }\n\n  private _preparePlayerBeforeStart() {\n    // this is required so that the player doesn't start to animate right away\n    if (this._delay) {\n      this._resetDomPlayerState();\n    } else {\n this.domPlayer.pause();\n    }\n  }\n\n  /** @internal */\n  _triggerWebAnimation(element: any, keyframes: any[], options: any): DOMAnimation {\n    // jscompiler doesn't seem to know animate is a native property because it's not fully\n    // supported yet across common browsers (we polyfill it for Edge/Safari) [CL #143630929]\n    return element['animate'](keyframes, options) as DOMAnimation;\n  }\n\n  onStart(fn: () => void): void {\n this._onStartFns.push(fn);\n  }\n\n  onDone(fn: () => void): void {\n    this._onDoneFns.push(fn);\n  }\n\n onDestroy(fn: () => void): void {\n    this._onDestroyFns.push(fn);\n  }\n\n  play(): void {\n    this._buildPlayer();\n
    if (!this.hasStarted()) {\n      this._onStartFns.forEach(fn => fn());\n      this._onStartFns = [];\n      this._started = true;\n      if (this._specialStyles) {\n        this._specialStyles.start();\n      }\n    }\n    this.domPlayer.play();\n  }\n\n pause(): void {\n    this.init();\n    this.domPlayer.pause();\n  }\n\n  finish(): void {\n    this.init();\n    if (this._specialStyles) {\n      this._specialStyles.finish();\n    }\n    this._onFinish();\n    this.domPlayer.finish();\n  }\n\n  reset(): void {\n    this._resetDomPlayerState();\n    this._destroyed = false;\n    this._finished = false;\n this._started = false;\n  }\n\n  private _resetDomPlayerState() {\n    if (this.domPlayer) {\n this.domPlayer.cancel();\n    }\n  }\n\n  restart(): void {\n    this.reset();\n    this.play();\n  }\n\n  hasStarted(): boolean {\n    return this._started;\n  }\n\n  destroy(): void {\n    if (!this._destroyed) {\n      this._destroyed = true;\n
    this._resetDomPlayerState();\n
      this._onFinish();\n      if (this._specialStyles) {\n        this._specialStyles.destroy();\n      }\n this._onDestroyFns.forEach(fn => fn());\n      this._onDestroyFns = [];\n    }\n  }\n\n  setPosition(p: number): void {\n    this.domPlayer.currentTime = p * this.time;\n  }\n\n  getPosition(): number {\n    return this.domPlayer.currentTime / this.time;\n  }\n\n  get totalTime(): number {\n    return this._delay + this._duration;\n  }\n\n  beforeDestroy() {\n    const styles: {[key: string]: string|number} = {};\n    if (this.hasStarted()) {\n Object.keys(this._finalKeyframe).forEach(prop => {\n        if (prop != 'offset') {\n          styles[prop] =\n this._finished ? this._finalKeyframe[prop] : computeStyle(this.element, prop);\n        }\n      });\n    }\n this.currentSnapshot = styles;\n  }\n\n  /** @internal */\n  triggerCallback(phaseName: string): void {\n    const methods = phaseName == 'start' ? this._onStartFns : this._onDoneFns;\n
    methods.forEach(fn => fn());\n    methods.length = 0;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationPlayer, StyleData} from '@angular/animations';\n\nimport {allowPreviousPlayerStylesMerge, balancePreviousStylesIntoKeyframes, copyStyles} from '../../util';\nimport {AnimationDriver} from '../animation_driver';\nimport {CssKeyframesDriver} from '../css_keyframes/css_keyframes_driver';\nimport {containsElement, invokeQuery, isBrowser, matchesElement, validateStyleProperty} from '../shared';\nimport {packageNonAnimatableStyles} from '../special_cased_styles';\n\nimport {WebAnimationsPlayer} from './web_animations_player';\n\nexport class WebAnimationsDriver implements AnimationDriver {\n  private _isNativeImpl = /\\{\\s*\\[native\\s+code\\]\\s*\\}/.test(getElementAnimateFn().toString());\n
```

private _cssKeyframesDriver = new CssKeyframesDriver();\n\n validateStyleProperty(prop: string): boolean {\n return validateStyleProperty(prop);\n }\n\n matchesElement(element: any, selector: string): boolean {\n return matchesElement(element, selector);\n }\n\n containsElement(elm1: any, elm2: any): boolean {\n return containsElement(elm1, elm2);\n }\n\n query(element: any, selector: string, multi: boolean): any[] {\n return invokeQuery(element, selector, multi);\n }\n\n computeStyle(element: any, prop: string, defaultValue?: string): string {\n return (window.getComputedStyle(element) as any)[prop] as string;\n }\n\n overrideWebAnimationsSupport(supported: boolean) {\n this._isNativeImpl = supported;\n }\n\n animate(\n element: any, keyframes: StyleData[], duration: number, delay: number, easing: string,\n previousPlayers: AnimationPlayer[] = [], scrubberAccessRequested?: boolean): AnimationPlayer {\n const useKeyframes = !scrubberAccessRequested
&& !this._isNativeImpl;\n if (useKeyframes) {\n return this._cssKeyframesDriver.animate(\n element, keyframes, duration, delay, easing, previousPlayers);\n }\n\n const fill = delay == 0 ? 'both' : 'forwards';\n const playerOptions: {[key: string]: string|number} = {duration, delay, fill};\n // we check for this to avoid having a null|undefined value be present\n // for the easing (which results in an error for certain browsers #9752)\n if (easing) {\n playerOptions['easing'] = easing;\n }\n\n const previousStyles: {[key: string]: any} = {};\n const previousWebAnimationPlayers = <WebAnimationsPlayer[]>previousPlayers.filter(\n player => player instanceof WebAnimationsPlayer);\n\n if (allowPreviousPlayerStylesMerge(duration, delay)) {\n previousWebAnimationPlayers.forEach(player => {\n let styles = player.currentSnapshot;\n Object.keys(styles).forEach(prop => previousStyles[prop] = styles[prop]);\n });\n }\n\n keyframes = keyframes.map(styles => copyStyles(styles, false));\n keyframes = balancePreviousStylesIntoKeyframes(element, keyframes, previousStyles);\n const specialStyles = packageNonAnimatableStyles(element, keyframes);\n return new WebAnimationsPlayer(element, keyframes, playerOptions, specialStyles);\n }\n}\n\nexport function supportsWebAnimations() {\n return typeof getElementAnimateFn() === 'function';\n}\n\nfunction getElementAnimateFn(): any {\n return (isBrowser() && (<any>Element).prototype['animate']) || {};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nexport {Animation as Animation} from './dsl/animation';\nexport {AnimationStyleNormalizer as AnimationStyleNormalizer, NoopAnimationStyleNormalizer as NoopAnimationStyleNormalizer} from './dsl/style_normalization/animation_style_normalizer';\nexport {WebAnimationsStyleNormalizer as WebAnimationsStyleNormalizer} from './dsl/style_normalization/web_animations_style_normalizer';\nexport {NoopAnimationDriver as NoopAnimationDriver} from './render/animation_driver';\nexport {AnimationEngine as AnimationEngine} from './render/animation_engine_next';\nexport {CssKeyframesDriver as CssKeyframesDriver} from './render/css_keyframes/css_keyframes_driver';\nexport {CssKeyframesPlayer as CssKeyframesPlayer} from './render/css_keyframes/css_keyframes_player';\nexport {containsElement as containsElement, invokeQuery as invokeQuery, matchesElement as matchesElement, validateStyleProperty as validateStyleProperty} from './render/shared';\nexport {supportsWebAnimations as supportsWebAnimations, WebAnimationsDriver as WebAnimationsDriver} from './render/web_animations/web_animations_driver';\nexport {WebAnimationsPlayer as WebAnimationsPlayer} from './render/web_animations/web_animations_player';\nexport {allowPreviousPlayerStylesMerge as allowPreviousPlayerStylesMerge} from './util';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all animation APIs of the animation browser package.\n */\nexport {AnimationDriver} from './render/animation_driver';\nexport * from './private_export';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/browser';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found

in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verifcation. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {SpecialCasedStyles as angular_packages_animations_browser_browser_a} from './src/render/special_cased_styles';"],"names":["NoopAnimationPlayer","AnimationGroupPlayer","PRE_STYLE","AUTO_STYLE","Injectable","sequence","style","AnimationGroupPlayer","ONE_SECOND"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;aAiBgB,SAAS;QACvB,QAAQ,OAAO,MAAM,KAAK,WAAW,IAAI,OAAO,MAAM,CAAC,QAAQ,KAAK,WAAW,EAAE;IACnF,CAAC;aAEe,MAAM;;;;;QAMpB,OAAO,OAAO,OAAO,KAAK,WAAW,IAAI,EAAE,CAAC,QAAQ,CAAC,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,kBAAkB,CAAC,IAAI,CAAC,IAAC5F,CAAC,aAAC,CAAC,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,mBAAmB,CAAC,IAAI,CAAC,OAA0B,CAAC,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,OAAO,CAAC,KAAK

AAC,GAAG,CAAC,CAAC;YACrB,IAAI,CAAC,KAAK,EAAE;gBACV,GAAG,CAAC,GAAG,CAAC,GAAG,EA
AE,KAAK,GAAG,YAAY,CAAC,CAAC;aACpC;SACF;aAAM;YACL,KAAK,GAAG,GAAG,CAAC,GAAG,CA
AC,CAAC;YACjB,IAAI,CAAC,KAAK,EAAE;gBACV,KAAK,GAAG,GAAG,CAAC,GAAG,CAAC,GAAG,YA
AY,CAAC;aACjC;SACF;QACD,OAAO,KAAK,CAAC;IACf,CAAC;aAEe,oBAAoB,CAAC,OAAe;QAClD,IAA
M,YAAY,GAAG,OAAO,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC;QAC1C,IAAM,EAAE,GAAG,OAAO,CA
C,SAAS,CAAC,CAAC,EAAE,YAAY,CAAC,CAAC;QAC9C,IAAM,MAAM,GAAG,OAAO,CAAC,MAAM,CAA
C,YAAY,GAAG,CAAC,CAAC,CAAC;QAChD,IAAM,OAAO,CAAC,EAAE,EAAE,MAAM,CAAC,CAAC;IACtB,CAA
C;IAED,IAAI,SAAS,GAAsC,UAAC,IAAS,EAAE,KAAK,GAAG,CAAC;;IACnF,IAAI,QA
Q,GAAgD,UAAC,OAAY,EAAE,QAAgB,IACvF,OAAA,KAAK,GAAG,CAAC;;IACV,IAAI,MAAM,GACN,UA
AC,OAAY,EAAE,QAAgB,EAAE,KAAc;QAC7C,OAAO,EAAE,CAAC,CAAC;;IACZ,IAEN;IACA;IACA,
IAAM,OAAO,GAAG,MAAM,EAAE,CAAC;IACzB,IAAI,OAAO,IAAI,OAAO,OAAO,KAAK,WAAW,EAAE;;Q
AE7C,SAAS,GAAG,UAAC,IAAS,EAAE,IAAS;YAC/B,OAAO,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,CAAY,CAAC;
SACvC,CAAC;QAEF,QAAQ,GAAG,CAAC;YACV,IAAI,OAAO,IAAI,OAAO,CAAC,SAAS,CAAC,OAAO,EAAA
E;gBACxC,OAAO,UAAC,OAAY,EAAE,QAAgB,IAAK,OAAA,OAAO,CAAC,OAAO,CAAC,QAAQ,CAAC,GA
AA,CAAC;aACtE;iBAAM;gBACL,IAAM,KAAK,GAAG,OAAO,CAAC,SAAgB,CAAC;gBACvC,IAAI,KAAK,CAAC,eAAe,IAAI,KAAK,CAAC,iBAAiB;oBACnF,KAAK,CAAC,
gBAAgB,IAAI,KAAK,CAAC,qBAAqB,CAAC;gBAC1D,IAAI,IAAI,EAAE;;oBACN,UAAC,OAAY,EAAE,QAAgB,IAAK,OAAA,OAAO,CAAC,OAAO,EAAA
E,QAAgB,IAAK,OAAA,OAAO,CAAC,OAAO,CAAC,QAAQ,CAAC,GAAA,CAAC;;iBAC1E;;;;;;;;;gBAQT,IAAM,KAAK,GAAG,OAAO,CAAC,gBAAgB,CAAC,QAAQ,CAAC,CAAC;gBACjD,IAAI,KAAK,CAAC,MAAM,KAAK,CAAC,EAAE;oBACtB,OAAO,KAAK,CAAC,CAAC,CAAC,CAAC;iBACjB;qBAAM;oBACL,OAAO,KAAK,CAAC;iBACd;;;;;;;;;

3BFI,eAAU;;IA8BX;;;;QAGA;;;;IACS,oBAAI,GAAoB,IAAI,mBAAmB,EAAE;;ICjD1D;;;;;;;IAYO,IAAM,UAAU,GAAG,IAAI,CAAC;IAExB,IAAM,uBAAuB,GAAG,IAAI,CAAC;IACrC,IAAM,qBAAqB,GAAG,IAAI,CAAC;IACnC,IAAM,eAAe,GAAG,UAAU,CAAC;IACnC,IAAM,eAAe,GAAG,UAAU,CAAC;IACnC,IAAM,cAAc,GAAG,WAAW,CAAC;IACnC,IAAM,cAAc,GAAG,WAAW,CAAC;IACnC,IAAM,oBAAoB,GAAG,YAAY,CAAC;IAC1C,IAAM,mBAAmB,GAAG,aAAa,CAAC;IAC1C,IAAM,sBAAsB,GAAG,cAAc,CAAC;IAC9C,IAAM,qBAAqB,GAAG,eAAe,CAAC;aAErC,kBAAkB,CAAC,KAAoB;QACrD,IAAI,OAAO,KAAK,IAAI,QAAQ;YAAE,OAAO,KAAK,CAAC;QAE3C,IAAM,OAAO,GAAG,IAAI,mBAAmB,EAAE,CAAC;QAC1

CAAC,GAAG,CAAC,EAAE;gBAC7D,SAAS;aACV;YACD,IAAM,OAAO,GAAG,mBAAmB,CAAC,GAAG,CA
AC,CAAC;YACzC,cAAc,IAAI,uBAAuB,CAAC,OAAO,EAAE,OAAO,EAAE,OAAO,CAAC,KAAK,CAAC,GAA
G,CAAC,CAAC,CAAC;SACjF;QACD,OAAO,CAAC,YAAY,CAAC,OAAO,EAAE,cAAc,CAAC,CAAC;IAChD,
CAAC;aAEe,SAAS,CAAC,OAAY,CAAC,EAAE,MAAkB,EAAE,YAAmC;QAC7F,IAAI,OAAO,CAAC,OAAO,CAAC,E
AAE;YACpB,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,OAAO,CAAC,UAAA,IAAI;gBAC9B,IAAM,S
AAS,GAAG,mBAAmB,CAAC,IAAI,CAAC,CAAC;gBAC5C,IAAI,YAAY,IAAI,CAAC,YAAY,CAAC,cAAc,CA
AC,IAAI,CAAC,EAAE;oBACtD,YAAY,CAAC,IAAI,CAAC,GAAG,OAAO,CAAC,KAAK,CAAC,SAAS,CAAC,
CAAC;iBAC/C;gBACD,OAAO,CAAC,KAAK,CAAC,SAAS,CAAC,GAAG,MAAM,CAAC,IAAI,CAAC,CAAC;
aACzC,CAAC,CAAC;;YAEH,IAAI,MAAM,EAAE,EAAE;gBACZ,mBAAmB,CAAC,OAAO,CAAC,CAAC;aAC9B;SACF;IACH,CAAC;aAEe,WAAW,CAAC,OAAY,CAAC,EAAE,MAAkB,EAAE,YAAmC;QAC7F,IAAI,OAAO,CAAC,OAAO,CAAC,E
AAE;YACpB,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,OAAO,CAAC,UAAA,IAAI;gBAC9B,IAAM,SAAS,GAAG,mBAAmB,CAAC,IAAI,CAAC,CAAC;gBAC5C,IAAI,YAAY,IAAI,CAAC,YAAY,CAAC,cAAc,CAAC,IAAI,CAAC,EAAE;oBACtD,YAAY,CAAC,IAAI,CAAC,GAAG,OAAO,CAAC,KAAK,CAAC,SAAS,CAAC,CAAC;iBAC/C;gBACD,OAAO,CAAC,KAAK,CAAC,SAAS,CAAC,GAAG,MAAM,CAAC,IAAI,CAAC,CAAC;aACzC,CAAC,CAAC;SACJ;IACH,CAAC;aAEe,YAAY,CAAC,OAAY,CAAC,EAAE,MAAkB,EAAE,YAAmC;QAC9

CjD,IAAI,kBAAgB,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;YACpC,IAAI,mBAAiB,GAAa,EAAE,CAAC;YACrC,kBAAkB,CAAC,OAAO,CAAC,UAAA,IAAI;gBAC7B,IAAI,CAAC,kBAAgB,CAAC,cAAc,CAAC,IAAI,CAAC,EAAE;oBAC1C,mBAAiB,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;iBAC9B;gBACD,kBAAgB,CAAC,IAAI,CAAC,GAAG,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC;aAC/C,CAAC;YAEH,IAAI,mBAAiB,CAAC,MAAM,EAAE,EAAE;;oBAG1B,IAAI,EAAE,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;oBACtC,mBAAiB,CAAC,OAAO,CAAC,UAAA,IAAI;wBAC5B,IAAI,CAAC,IAAI,CAAC,GAAG,YAAY,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC;qBAC3C,CAAC,CAAC;;;gBAGL,IAAI,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oBAC7C,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;;iBAE9C;gBACD,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oBACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wBACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4BACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gCACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oCACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wCACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4CACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gDACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oDACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wDACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4DACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gEACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oEACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wEACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4EACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gFACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oFACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wFACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4FACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gGACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oGACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wGACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4GACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gHACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oHACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wHACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4HACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gIACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oIACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wIACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4IACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gJACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oJACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wJACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4JACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gKACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oKACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wKACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4KACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gLACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oLACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wLACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4LACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gMACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oMACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wMACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4MACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gNACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oNACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wNACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4NACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gOACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oOACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wOACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4OACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gPACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oPACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wPACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4PACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gQACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oQACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wQACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4QACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gRACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oRACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wRACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4RACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gSACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oSACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wSACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4SACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gTACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oTACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wTACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4TACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gUACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oUACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wUACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4UACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gVACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oVACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wVACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4VACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gWACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oWACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wWACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4WACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gXACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oXACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wXACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4XACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gYACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oYACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wYACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4YACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gZACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oZACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wZACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4ZACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gaACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oaACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;waACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4aACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gbACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;obACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wbACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4bACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gcACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;ocACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wcACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4cACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gdACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;odACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wdACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4dACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gedACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oedACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wedACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4edACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gfdACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;ofdACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wfdACzC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;4fd

AAE,GAAG,CAAC,GAAG,IAAI,EAAE,CAAC,CAAC;QAC7H,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO
,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,CAAC,GAAG,OAAO,CAAC,QAAQ,CAAC,UAAU,EAAE,MAAM
,EAAE,GAAG,EAAE,IAAI,CAAC,CAAC;;YAC1H,KAAK,IAAI,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,C
AAC,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE;gBAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC
;oBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,
CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,
GAAG,CAAC,KAAK,CAAC,CAAC;QAClJ,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,MAAM,CAAC,cA
Ac,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC;IAClE,CAAC;aAEe,OAAO,CAAC,
UAAU,EAAE,SAAS;QACzC,OAAO,UAAU,MAAM,EAAE,GAAG,IAAI,SAAS,CAAC,MAAM,EAAE,GAAG,E
AAE,UAAU,CAAC,CAAC,EAAE,CAAA;IACzE,CAAC;aAEe,UAAU,CAAC,aAEe,UAAU,CAAC,WAAW,EAAE,aAAa;QACjD,IAAI
,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,OAAO,OAAO,CAAC,
QAAQ,CAAC,WAAW,EAAE,aAAa,CAAC,CAAC;IACnI,CAAC;aAEe,SAAS,CAAC,OAAO,EAAE,UAAU,EAAE,SAAS;QACvD,IAAI,KAAK,CAAC,YAAY,EAAE,KAAK,CAAC,YAAY,EAAE,MAAM,CAAC,KAAK,CAAC,YAAY,EAAE,
YAAY,CAAC,GAAG,KAAK,CAAC,GAAG,KAAK,
GAAG,IAAI,CAAC,CAAC,UAAU,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,EAAA
E;QAC5G,OAAO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,EAAE,UAAU,OAAO,EAAE,MAAM;YA
CrD,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CA
AC,CAAC;aAAE;YAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAAE;YAC
3F,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,CAAC,CAAC,KAAK,CA
AC,CAAC,CAAC;aAAE;YAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAA
E;YAC9F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,
CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CA
AC,EAAE;YAC9G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,E
AAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,CAAC;aAEe,QAAQ,CAAC,OAAO,EAAE,SAAS,EAAE,SAAS;QACpD,IAAI,CAAC,SAAS,EAAE;YACZ,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU,EAAE;gBACvE,OAAO,OAAO,CAAC,SAAS,CAAC,OAAO,EAAE,SAAS,CAAC,CAAC;aAChD;YACD,IAAI,CAAC,SAAS,EAAE;gBACZ,MAAM,IAAI,KAAK,CAAC,SAAS,CAAC,CAAC;aAC9B;SACJ;QACD,IAAI,CAAC,OAAO,EAAE;YACV,MAAM,IAAI,KAAK,CAAC,SAAS,CAAC,CAAC;SAC9B;QACD,IAAI,CAAC,SAAS,EAAE;YACZ

,CAAC,CAAC;gCAAC,SAAS;6BAAE;4BAC5G,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,KAAK,CAAC
,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,CA
AC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,EAAE,CAA
C,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACtF,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAA
I,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC
,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,GAAG,EAAE,CAAC;gCAAC,MAAM;6BAAE;4BACrE,IAAI,CA
AC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAA
G,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;g
CAAC,MAAM;6BAAE;4BACnE,IAAI,CAAC,CAAC,CAAC,CAAC;gCAAE,CAAC,CAAC,GAAG,CAAC,CAAC,GA
G,EAAE,CAAC;4BACtB,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;4BAAC,SAAS;qBAC9B;oBACD,EA
AE,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,CAAC,CAAC,CAAC;iBAC9B;gBAAC,OAAO,CAAC,EAA
E;oBAAE,EAAE,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;oBAAC,CAAC,GAAG,CAAC,CAAC;iBAA
E;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAAE;YAC1D,IAAI,EAAE,CAAC,CAAC,CAA
C,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC;YAAC,OAAO,EAAE,KAAK,EAAE,EAA
E,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAAK,CAAC,EAAE,IAAI,EAAE,IAAI,EA
AE,CAAC;SACpF;IACL,CAAC;IAEM,IAAI,eAAe,GAAG,MAAM,CAAC,MAAM,IAAI,UAAU,CAAC,EAAE,C
AAC,EAAE,CAAC,EAAE,EAAE;QAC9D,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,EAAE,GAAG,CAAC,CAAC;QAC7
B,MAAM,CAAC,cAAc,CAAC,CAAC,EAAE,EAAE,EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,GAAG,EAAE,cA
Aa,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC;IACzF,CAAC,KAAK,UAAU,CAAC,
EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,EAAE,GAAG,CAAC,CAA
C;QAC7B,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;IACjB,CAAC,CAAC,CAAC
;aAEa,YAAY,CAAC,CAAC,EAAE,OAAO;QACnC,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,CAAC,KAAK,SAAS,IAAI,CAAC,KAAK,KAAK,
,SAAS,IAAI,CAAC,OAAO,CAAC,cAAc,CAAC,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE,eAAe,CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE

C,EAAE,EAAE,CAAC,EAAE;gBAC7D,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;QACpB,OAAO,CAAC,CAAC;IACb,CAAC;IAAA,CAAC;aAEc,OAAO,CAAC,CAAC;QACrB,OAAO,IAAI,YAAY,OAAO,IAAI,IAAI,CAAC,CAAC,GAAG,CAAC,EAAE,IAAI,IAAI,IAAI,OAAO,CAAC,CAAC,CAAC,CAAC;IACzE,CAAC;aAEe,gBAAgB,CAAC,OAAO,EAAE,UAAU,EAAE,SAAS;QAC3D,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,IAAI,SAAS,CAAC,sCAAsC,CAAC,CAAC;QACvF,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,KAAK,GAAG

xE,CAAC,IAAI,UAAS,CAAC,EAAE,CAAC;QACd,CAAC,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC;IACrB,CAAC,CAAC;aAEc,YAAY,CAAC,GAAG;QAC5B,IAAI,GAAG,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QACtC,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,GAAG,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG,CAAC,GAAG,CAAC,IAAI,GAAG,CAAC,GAAG;gBAAE,MAAM,IAAI,CAAC,CAAC,CAAC,CAAC;QAC1E,OAAO,MAAM,CAAC;IAChB,CAAC;IAED,IAAI,MAAM,GAAG,CAAC,CAAC,CAAC,CAAC

xE,MAAa;QACf,OAAO,IAAI,0BAA0B,CAAC,MAAM,CAAC,CAAC,KAAK,CAAC,QAAQ,EAAE,MAAM,CA
AC,CAAC;IACxE,CAAC;IAED,IAAM,aAAa,GAAG,EAAE,CAAC;IAEzB;QACE,oCAAoB,OAAwB;YAAxB,Y
AAO,GAAP,OAAO,CAAiB;SAAI;QAEhD,0CAAK,GAAL,UAAM,QA+C,EAAE,MAAa;YAElE,IAAM,OAAO,
GAAG,IAAI,0BAA0B,CAAC,MAAM,CAAC,CAAC;YACvD,IAAI,CAAC,6BAA6B,CAAC,OAAO,CAAC,CAAC,CA
C;YAC5C,OAAmC,YAAY,CAC3C,IAAI,EAAE,uBAAuB,CAAC,QAAQ,CAAC,EAAE,OAAO,CAAC,CAAC;S
ACvD;QAEO,kEAA6B,GAA7B,UAA8B,OAAmC;YACvE,OAAO,CAAC,oBAAoB,GAAG,aAAa,CAAC;YAC7C
,OAAO,CAAC,eAAe,GAAG,EAAE,CAAC;YAC7B,OAAO,CAAC,eAAe,CAAC,aAAa,CAAC,GAAG,EAAE,CA
AC;YAC5C,OAAO,CAAC,WAAW,GAAG,CAAC,CAAC;SACzB;QAED,iDAAY,GAAZ,UAAa,QAAkB,EAAE,
OAAmC;YAApD,iBAyCC;YAvCC,IAAI,UAAU,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YACxC,IA
AI,QAAQ,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YACpC,IAAM,MAAM,GAAe,EAAE,CAAC;YA
C9B,IAAM,WAAW,GAAoB,EAAE,CAAC;YACxC,IAAI,QAAQ,CAAC,CAAC,IAAI,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC,CA
AC,IAAI,GAAG,EAAE;gBAClC,OAAO,CAAC,MAAM,CAAC,IAAI,CACf,wFAAwF,CAAC,CAAC;aAC/F;YAED,QAAQ,CAAC,WAAW,CAAC,OAAO,CAAC,UAAA,GAAG;gBAC9B,IAAI,CAAC,6BAA6B,CAAC,KAAK,EAAE,GAAG,CAAC;gBAC9C,IAAM,OAAO,
GAAG,KAAI,CAAC,eAAe,CAAC,GAAG,CAAC,CAAC;gBAC1C,IAAI,OAAO,CAAC,MAAM,GAAG,CAAC,EAAE;oBACtB,UAAU,GAAG,IAAI,CAAC,GAAG,CAAC,UAAU,EAAE,OAAO,CAAC,MAAM,CAAC,CAAC;oBAClD,QAAQ,GAAG,IAAI,CAAC,GAAG,CAAC,QAAQ,EAAE,OAAO,CAAC,MAAM,CAAC,CAAC;oBAC9C,MAAM,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;oBACrB,WAAW,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;iBACvB;YACH,CAAC,CAAC,CAAC;YAEH,IAAI,CAAC,oBAAoB,CAAC,UAAU,EAAE,QAAQ,EAAE,MAAM,EAAE,WAAW,EAAE,OAAO,CAAC,CAAC;SAC/E;QAED,iDAAY,GAAZ,UAAa,QAAkB,EAAE,
OAAmC;YAClE,IAAI,CAAC,6BAA6B,CAAC,OAAO,CAAC,CAAC;YAC5C,IAAM,OAAO,
GAAG,IAAI,0BAA0B,CAAC,MAAM,CAAC,CAAC;YACvD,IAAI,CAAC,6BAA6B,CAAC,OAAO,CAAC,CAAC,CA
C;YAC5C,OAAmC,YAAY,CAC3C,IAAI,EAAE,uBAAuB,CAAC,QAAQ,CAAC,EAAE,OAAO,CAAC,CAAC;SACz

M,KAAK,GAAG,QAAQ,CAAC,KAAK,CAAC,GAAG,CAAC,UAAA,IAAI;gBACnC,OAAO,CAAC,WAAW,GAAG,WAAW,CAAC;gBAClC,IAAM,QAAQ,GAAG,YAAY,CAAC,KAAI,EAAE,IAAI,EAAE,OAAO,CAAC,CAAC;gBACnD,YAAY,GAAG,IAAI,CAAC,GAAG,CAAC,YAAY,EAAE,OAAO,CAAC,WAAW,CAAC,CAAC;gBAC3D,OAAO,QAAQ,CAAC;aACjB,CAAC;YACH,OAAO,CAAC,WAAW,GAAG,IAAI,CAAC,GAAG,CAAC,WAAW,GAAG,CAAC,EAAE,OAAO,CAAC;YACxD,OAAO;gBACL,IAAI;gBACJ,KAAK,OAAA;gBACL,OAAO,EAAE,yBAAyB,CAAC,QAAQ,CAAC,OAAO,CAAC;aACrD,CAAC;SACH;QAED,iDAAY,GAAZ,UAAa,KAAK,EAAE,OAAO;YACzB,IAAM,IAAI,GAAG,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC;YACjC,IAAM,MAAM,GAAG,IAAI,CAAC,OAAO,CAAC,OAAO,CAAC,CAAC;YACrC,IAAM,MAAM,GAAG,IAAI,CAAC,OAAO,CAAC,OAAO,CAAC,CAAC;YACrC,IAAM,IAAI,GAAG,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC;YACj

OAAO,SAAK,CAAC,CAAC;4BACvC,oBAAoB,GAAG,KAAK,CAAC;yBAC9B;;;;wBAKD,SAAS,GAAG,cAAc,CAAC,SAAS,CAAC;qBACtC;oBAED,IAAI,oBAAoB,EAAE;wBACxB,eAAe,CAAC,IAAI,CAAC,GAAG,EAAC,SAAS,WAAA,EAAE,OAAO,SAAA,EAAE,EAAC,CAAC;qBAC9C;oBAED,IAAI,OAAO,CAAC,OAAO,EAAE;wBACnB,mBAAmB,CAAC,KAAK,CAAC,IAAI,CAAC,EAAE,OAAO,CAAC,OAAO,EAAE,OAAO,CAAC,MAAM,CAAC,CAAC,CAAC;qBACnE;iBACF,CAAC,CAAC;aACJ,CAAC,CAAC;SACJ;QAED,mDAAc,GAAd,UAAe,OAAO;YACpB,IAAM,GAAG,GAAG,IAAI,CAAC;YACjB,IAAM,IAAI,GAAG,OAAO,CAAC,IAAI,CAAC;YAC1B,IAAM,IAAI,GAAG,OAAO,CAAC,IAAI,CAAC;YAC1B,IAAM,KAAK,GAAG,OAAO,CAAC,KAAK,CAAC;YAC5

A;gBACR,KAAK,EAAE,OAAO,CAAC,KAAK,IAAI,CAAC;gBACzB,QAAQ,EAAE,CAAC,CAAC,OAAO,CAAC,QAAQ;gBAC5B,WAAW,aAAA;gBACX,SAAS,WAAA;gBACT,gBAAgB,EAAE,QAAQ,CAAC,QAAQ;gBACnC,OAAO,EAAE,yBAAyB,CAAC,QAAQ,CAAC,OAAO,CAAC;aCrD,CAAC;SACH;QAED,iDAAY,GAAZ,UAAa,UAAA,EAAY,UAAA,EAAY,UAAA,EAAY

EAC3D,WAA4B;QADK,uBAAA,EAAA,aAA0B;QAC3D,4BAAA,EAAA,mBAA4B;QAC9B,OAAO;YACL,IAAI
;YACJ,OAAO,SAAA;YACP,SAAS,WAAA;YACT,aAAa,eAAA;YACb,cAAc,gBAAA;YACd,QAAQ,UAAA;YA
CR,KAAK,OAAA;YACL,SAAS,EAAE,QAAQ,GAAG,KAAK;YAC3B,MAAM,QAAA;YACN,WAAW,aAAA;S
ACZ,CAAC;IACJ;;IC9BA;QAAA;YACU,SAAI,GAAG,IAAI,GAAG,EAAuC,CAAC;SA2B/D;QAzBC,uCAAO,G
AAP,UAAQ,OAAY;YACl,IAAI,YAAY,GAAG,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;
YAC1C,IAAI,YAAY,EAAE;gBAChB,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,OAAO,CAAC,CAAC;aAC3B;iB
AAM;gBACL,YAAY,GAAG,EAAE,CAAC;aACnB;YACD,OAAO,YAAY,CAAC;SACrB;QAED,sCAAM,GAAN
,UAAO,OAAY,EAAE,YA4C;YAC/D,oBAAoB,GAAG,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,OAAO,C
AAC,CAAC;YAClD,IAAI,CAAC,oBAAoB,EAAE;gBACzB,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,OAAO,EA
AE,oBAAoB,GAAG,EAAE,CAAC,CAAC;aACnD;YACD,oBAAoB,CAAC,IAAI,OAAzB,oBAAoB,WAAS,YAA
Y,GAAE;SAC5C;QAED,mCAAG,GAAH,UAAI,OAAY;YACd,OAAO,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC,
OAAO,CAAC,CAAC;SAC/B;QAED,qCAAK,GAAL;YACE,IAAI,CAAC,IAAI,CAAC,KAAK,EAAE,CAAC;SA
CnB;oCACF;KAAA;;ICrBD,IAAM,yBAAyB,GAAG,CAAC,CAAC;IACpC,IAAM,WAAW,GAAG,CAAC,CAAC;IAC
7B,IAAM,iBAAiB,GAAG,IAAI,MAAM,CAAC,WAAW,EAAE,GAAG,CAAC,CAAC;IACvD,IAAM,WA
AW,GAAG,CAAC;IAC7B,IAAM,iBAAiB,GAAG,IAAI,MAAM,CAAC,WAAW,EAAE,GAAG,CAAC,CA
AC;IAEvD;;;

SAAS,CAAC;;;YAI7B,IAAM,QAAQ,GAAG,OAAO,CAAC,QAAQ,IAAI,IAAI,GAAG,kBAAkB,CAAC,OAAO,
CAAC,QAAQ,CAAC,GAAG,IAAI,CAAC;YACxF,IAAM,KAAK,GAAG,OAAO,CAAC,KAAK,IAAI,IAAI,GAA
G,kBAAkB,CAAC,OAAO,CAAC,KAAK,CAAC,GAAG,IAAI,CAAC;YAC/E,IAAI,QAAQ,KAAK,CAAC,EAAE;
gBAClB,YAAY,CAAC,OAAO,CAAC,UAAA,WAAW;oBAC9B,IAAM,kBAAkB,GACpB,OAAO,CAAC,2BAA2
B,CAAC,WAAW,EAAE,QAAQ,EAAE,KAAK,CAAC,CAAC;oBACtE,wBACR,IAAI,CAAC,GAAG,CA
AC,YAAY,EAAE,kBAAkB,CAAC,QAAQ,GAAG,kBAAkB,CAAC,KAAK,CAAC,CAAC;iBACpF,CAAC,CAAC
;aACJ;YAED,OAAO,YAAY,CAAC;SACrB;QAED,wDAAc,GAAd,UAAe,GAAiB,EAAE,OAAiC;YACjE,
CAAC,aAAa,CAAC,GAAG,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC;YACzC,YAAY,CAAC,IAAI,,EAAE,GAA
G,CAAC,SAAS,EAAE,OAAO,CAAC,CAAC;YAC3C,OAAO,CAAC,YAAY,,GAAG,GAAG,CAAC;SAC5B;QAED
,uDAAa,GAAb,UAAc,GAAgB,EAAE,OAAiC;YAAE,OAAiC;YAAE,iBAAmCC;YAAlCC,IAAM,eAAe,GAAG,CAAC,OAAO,CAAC,eA
Ae,CAAC;YAChD,IAAI,GAAG,GAAG,OAAO,CAAC;YAClB,IAAM,OAAO,GAAG,GAAG,CAAC,OAAO,CAAC,CAA
C;YAE5B,IAAI,OAAO,KAAK,OAAO,CAAC,MAAM,IAAI,OAAO,CAAC,KAAK,CAAC,EAAE;gBAChD,GAA
G,GAAG,OAAO,CAAC,gBAAgB,CAAC,OAAO,CAAC,CAAC;gBACxC,wBAAwB,EAAE,CAA
C;gBAE/B,IAAI,OAAO,CAAC,KAAK,IAAI,IAAI,EAAE;oBACzB,IAAI,GAAG,CAAC,YAAY,,CAAC,IAAI,,mB
AAiC;wBACxD,GAAG,CAAC,eAAe,CAAC,qBAAqB,EAAE,CAAC;wBAC5C,GAAG,CAAC,YAAY,,GAAG,0B
AA0B,CAAC;qBAC/C;oBAED,IAAM,KAAK,GAAG,kBAAkB,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC;oBA
ChD,GAAG,CAAC,aAAa,CAAC,KAAK,CAAC,CAAC;iBAC1B;aACF;YAED,IAAI,GAAG,CAAC,KAAK,,CAA
C,MAAM,EAAE;gBACpB,GAAG,CAAC,KAAK,CAAC,OAAO,CAAC,UAAA,IAAI,OAAA,YAAY,,CAA
C,KAAI,EAAE,CAAC,EAAE,GAAG,CAAC,GAAA,CAAC,CAAC;;gBAGnD,GAAG,CAAC,eAAe,CAAC,qB
AAqB,EAAE,CAAC;;;;gBAK5C,IAAI,GAAG,CAAC,eAAe,GAAG,eAAe,EAAE;oBACzC,wBAAwB,
EAAE,CAAC;iBAChC;aACF;YAED,OAAO,CAAC,YAAY,,GAAG,GAAG,CAAC;SAC5B;QAED,oDAAU,GAAV,
UAAW,GAAaA,GAAG,CAAC,KAAK,IAAI,IAAI,EAAE,OAAiC;YAC7D,cAAc,GAAG,CAAC,OAAO,CAAC,
cAAc,CAAC,WAAW,CAAC,CAAC;YAC7C,IAAI,YAAY,,GAAG,GAAG,CAAC,KAAK,IAAI,IAAI,EAAE;gBAC
lC,YAAY,,GAAG,GAAG,CAAC,KAAK,CAAC,OAAO,CAAC,cAAc,CAAC,WAAW,CAAC,CAAC;aAC/D;YAED,
IAAI,YAAY,,KAAK,GAAG,CAAC,KAAK,IAAI,IAAI,EAAE;gBACtC,GAAG,CAAC,KAAK,,GAAG,YAAY,,
CAAC;aAC1B;YAED,IAAI,GAAG,CAAC,KAAK,IAAI,IAAI,EAAE;gBACrB,IAAM,KAAK,GAAG,GAAG,CAAC,KAAK,
CAAC,OAAO,CAAC,CAAC;gBACxB,IAAI,KAAK,KAAK,CAAC,CAAC,EAAE;oBAChB,GAAG,CAAC,KAAK,,GAAG,KAAK,
CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;iBAC3B;aACF

YAAY,EAAE,CAAC;aACzB;YAED,IAAM,MAAM,GAAG,CAAC,OAAO,IAAI,OAAO,CAAC,MAAM,KAAK,GAAG,CAAC,MAAM,CAAC;YACzD,IAAI,GAAG,CAAC,WAAW,EAAE;gBACnB,QAAQ,CAAC,cAAc,CAAC,MAAM,CAAC,CAAC;aACjC;iBAAM;gBACL,QAAQ,CAAC,SAAS,CAAC,GAAG,CAAC,MAAM,EAAE,MAAM,EAAE,OAAO,CAAC,MAAM,EAAE,OAAO,CAAC,OAAO,CAAC,CAAC;aACzE;YAED,OAAO,CAAC,YAAY,GAAG,GAAG,CAAC;SAC5B;QAED,wDAAc,GAAd,UAAe,GAAiB;YAC9B,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,CAAC;YACnB

AWE,kCACY,OAAwB,EAAS,OAAY,EAC9C,eAAsC,EAAU,eAAuB,EACtE,eAAuB,EAAS,MAAa,EAAS,SAA4
B,EAC1F,eAAiC;YAHzB,YAAO,GAAP,OAAO,CAAiB;YAAS,YAAO,GAAP,OAAO,CAAK;YAC9C,oBAAe,G
AAf,eAAe,CAAuB;YAAU,oBAAe,GAAf,eAAe,CAAQ;YACtE,oBAAe,GAAf,eAAe,CAAQ;YAAS,WAAM,GAA
N,MAAM,CAAO;YAAS,cAAS,GAAT,SAAS,CAAmB;YAbvF,kBAAa,GAAkC,IAAI,CAAC;YAEpD,0BAAqB,G
AAwB,IAAI,CAAC;YAClD,iBAAY,GAA+B,0BAA0B,CAAC;YACtE,oBAAe,GAAG,CAAC,CAAC;YACpB,YA
AO,GAAqB,EAAE,CAAC;YAC/B,sBAAiB,GAAW,CAAC,CAAC;YAC9B,sBAAiB,GAAW,CAAC,CAAC;YAC
9B,uBAAkB,GAAW,CAAC,CAAC;YAOpC,IAAI,CAAC,eAAe,GAAG,eAAe,IAAI,IAAI,eAAe,CAAC,IAAI,CA
AC,OAAO,EAAE,OAAO,EAAE,CAAC,CAAC,CAAC;YACxF,SAAS,CAAC,IAAI,CAAC,IAAI,CAAC,eAAe,C
AAC,CAAC;SACtC;QAED,sBAAI,4CAAM;iBAAV;gBACE,OAAO,IAAI,CAAC,OAAO,CAAC,MAAM,CAAC;
aAC5B;;;WAAA;QAED,gDAAa,GAAb,UAAc,OAA8B,EAAE,YAAsB;YAApE,iBA4BC;YA3BC,O
AAO;gBAAE,OAAO;YAErB,IAAM,UAAU,GAAG,OAAc,CAAC;YAClC,IAAI,eAAG,GAAG,CAAC,OAAO,CAAC,
O,CAAC;;YAGnC,IAAI,UAAU,CAAC,QAAQ,IAAI,IAAI,EAAE;gBAC9B,eAAuB,CAAC,QAAQ,,GAAG,kBAA
kB,CAAC,UAAU,CAAC,QAAQ,CAAC,CAAC;aAC7E;YAED,IAAI,UAAU,CAAC,KAAK,IAAI,IAAI,EAAE;gB
AC5B,eAAe,CAAC,KAAK,GAAG,kBAAkB,CAAC,UAAU,CAAC,KAAK,CAAC,CAAC;aAC9D;YAED,IAAM,
SAAS,GAAG,UAAU,CAAC,MAAM,CAAC;YACpC,IAAI,SAAS,EAAE,eAAgB,CAAC,gBAAgB,GAAG,eAAe,C
AAC,MAAO,CAAC;gBACpE,IAAI,CAAC,gBAAgB,EAAE;oBACnB,gBAAgB,GAAG,GAAG,IAAI,CAAC,
MAAM,,GAAG,EAAE,CAAC;iBAC3C;gBAED,MAAM,CAAC,IAAI,CAAC,SAAS,,CAAC,CAAC,OAAO,,CAAC,
UAAA,IAAI;oBACjC,IAAI,CAAC,YAAY,,IAAI,CAAC,gBAAgB,,CAAC,cAAc,,CAAC,IAAI,CAAC,EAAE;wBACzD,gBAAgB,,CAAC,IAAI,CAAC,GAAG,,iBAAiB,,CAAC,SAAS,,CAAC,IAAI,CAAC,EAAE,gBAAgB,,EAAE,KAAI,,C
AAC,MAAM,CAAC,CAAC;qBACxF;iBACF,CAAC,CAAC;aACJ;SACF;QAEO,+CAAY,GAAZ;YACN,IAAM,OA
AO,GAAqB,EAAE,CAAC;YACrC,IAAI,IAAI,CAAC,OAAO,EAAE;gBAChB,ChB,IAAI,CAAC,OAAO,,CAAC,MAAM,,WAAS,,GAAG

YACxB,IAAI,WAAW,EAAE;gBACf,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;aAC5B;YA
CD,IAAI,QAAQ,CAAC,MAAM,GAAG,CAAC,EAAE;gBACvB,QAAQ,GAAG,QAAQ,CAAC,OAAO,CAAC,iB
AAiB,EAAE,GAAG,GAAG,IAAI,CAAC,eAAe,CAAC,CAAC;gBAC3E,QAAQ,GAAG,QAAQ,CAAC,OAAO,CA
AC,iBAAiB,EAAE,GAAG,GAAG,IAAI,CAAC,eAAe,CAAC,CAAC;gBAC3E,IAAM,KAAK,GAAG,KAAK,IAA
I,CAAC,CAAC;gBACzB,IAAI,QAAQ,GAAG,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO,EA
AE,QAAQ,EAAE,KAAK,CAAC,CAAC;gBACjE,IAAI,KAAK,KAAK,CAAC,EAAE;oBACf,QAAQ,GAAG,KAA
K,GAAG,CAAC,GAAG,QAAQ,CAAC,KAAK,CAAC,QAAQ,CAAC,MAAM,GAAG,KAAK,EAAE,QAAQ,CAA
C,MAAM,CAAC;wBACxD,QAAQ,CAAC,KAAK,CAAC,CAAC,EAAE,KAAK,CAAC,CAAC;iBACjD;gBACD,
OAAO,CAAC,IAAI,OAAZ,OAAO,WAAS,QAAQ,GAAE;aAC3B;YAED,IAAI,CAAC,QAAQ,IAAI,OAAO,CAA
C,MAAM,IAAI,CAAC,EAAE;gBACpC,MAAM,CAAC,IAAI,CAAC,cAAY,gBAAgB,mDACpC,gBAAgB,yDAA
sD,CAAC,CAAC;aAC7E;YACD,OAAO,OAAO,CAAC;SAChB;uCACF;KAAA,IAAA;IAGD;QAcE,yBACY,OA
AwB,EAAS,OAAY,EAAS,SAAiB,EAAvE,4BAAmD;YADnD,YAAO,GAAP,OAAO,CAAiB;YAAS,YAAO,GAAP,OAAO,CAAK;YAAS,cAAS,GAAT,SAAS,CAAQ;YAAS,cAAS,GAAT,SAAS,CAAQ;YAAS,cAAS,GAAT,SAAS,CAAQ;YAAS,cAAS,GAAT,SAAS,CAAQ;YAAS,cAAS,GAT,SAAS,CAAQ;YAAS,cAAS,GAAT,SAAS,CAAQ;YAAS,cAAS,GAAT,SAAS,CAAQ;YAAS,cAAS,GA

AAIA,qBAAU,CAAC;gBACtE,KAAI,CAAC,gBAAgB,CAAC,IAAI,CAAC,GAAGA,qBAAU,CAAC;aAC1C,CA
AC,CAAC;YACH,IAAI,CAAC,yBAAyB,GAAG,IAAI,CAAC,gBAAgB,CAAC;SACxD;QAED,mCAAS,GAAT,U
ACI,KAA4B,EAAE,MAAmB,EAAE,MAAa,EAChE,OAA0B;YAF9B,iBAmBC;YAhBC,IAAI,MAAM,EAAE;gB
ACV,IAAI,CAAC,iBAAiB,CAAC,QAAQ,CAAC,GAAG,MAAM,CAAC;aAC3C;YAED,IAAM,MAAM,GAAG,C
AAC,OAAO,IAAI,OAAO,CAAC,MAAM,KAAK,EAAE,CAAC;YACjD,IAAM,MAAM,GAAG,aAAa,CAAC,KA
AK,EAAE,IAAI,CAAC,qBAAqB,CAAC,CAAC;YAChE,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,OA
AO,CAAC,UAAA,IAAI;gBAC9B,IAAM,GAAG,GAAG,iBAAiB,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE,MA
AM,EAAE,MAAM,CAAC,CAAC;gBAC5D,IAAI,CAAC,cAAc,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,GAAG,CAAC;gBA
ChC,IAAI,CAAC,KAAI,CAAC,oBAAoB,CAAC,cAAc,CAAC,IAAI,CAAC,EAAE;oBACnD,KAAI,CAAC,SAAS
,CAAC,IAAI,CAAC,GAAG,KAAI,CAAC,qBAAqB,CAAC,cAAc,CAAC,IAAI,CAAC;wBAClE,KAAI,CAAC,qB
AAqB,CAAC,IAAI,CAAC;wBAChCA,qBAAU,CAAC;iBAChB;gBACD,KAAI,CAAC,YAAY,CAAC,IAAI,EAAE
E,GAAG,CAAC,CAAC;aAC9B,CAAC,CAAC;SACJ;QAED,+CAAqB,GAArB;YAAA,iBAiBC;YAhBC,IAAM,MAAM,GAAG,IAAI,MAAM,EAAE;gB
ACnC,IAAM,KAAK,GAAG,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,OAAO,CAAC,UAAA,IAAI;oBAC5C,IAAM,GAAG,GAAG,KAAI,CAAC,qBAAqB,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE,MAAM,CAAC,CAAC;oBAC7D,MAAM,CAAC,cAAc,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,GAAG,CAAC;oBACjD,MAAM,CAAC,oBAAoB,CAAC,cAAc,CAAC,IAAI,CAAC,EAAE;wBAClD,MAAM,CAAC,SAAS,CAAC,IAAI,CAAC,GAAG,KAAI,CAAC,qBAAqB,CAAC,cAAc,CAAC,IAAI,CAAC;qBACzE;oBACD,MAAM,CAAC,YAAY,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;iBAChC,CAAC,CAAC;gBACH,OAAO,MAAM,CAAC;aACf;YAED

AAM,EAAE,KAAK,CAAC,CAAC;SACzB;8BACF;KAAA,IAAA;IAED;QAAiC,sCAAe;QAG9C,4BACI,MAAuB,EAAS,OAAY,EAAS,SAAuB,EACrE,aAAuB,EAAS,cAAwB,EAAE,OAAuB,EAChF,wBAAyC;YAAzC,yCAAA,EAAA,gCAAyC;YAHrD,YAIE,kBAAM,MAAM,EAAE,OAAO,EAAE,OAAO,CAAC,KAAK,CAAC,SAAEtC;YALmC,aAAO,GAAP,OAAO,CAAK,KAAK;YAAS,eAAS,GAAT,SAAS,EAAS,cAAQ,GAAR,QAAQ,CAAC;YACrE,mBAAa,GAAb,aAAa,EAAS,cAAQ,GAAR,QAAQ,CAAC;YAAS,eAAS,GAAT,SAAS

AK,CAAC;SACnB;2CACF;KAAA;;;QCpBiD,gDAAwB;QAA1E;;SAuBC;QAtBC,4DAAqB,GAArB,UAAsB,YA
AoB,EAAE,MAAgB;YAC1D,OAAO,mBAAmB,CAAC,YAAY,CAAC,CAAC;SAC1C;QAED,0DAAmB,GAAnB,
UACI,oBAA4B,EAAE,kBAA0B,EAAE,KAAoB,EAC9E,MAAgB;YAClB,IAAI,IAAI,GAAW,EAAE,CAAC;YAC
tB,IAAM,MAAM,GAAG,KAAK,CAAC,QAAQ,EAAE,CAAC,IAAI,EAAE,CAAC;YAEvC,IAAI,oBAAoB,,CAA
C,kBAAkB,CAAC,IAAI,KAAK,,KAAK,CAAC,IAAI,KAAK,,KAAK,GAAG,EAAE;gBAC5E,IAAI,OAAO,,KAAK
,KAAK,QAAQ,EAAE;oBAC7B,IAAI,GAAG,IAAI,CAAC;iBACb;qBAAM;oBACL,IAAM,iBAAiB,GAAG,,KAA
K,CAAC,KAAK,,CAAC,wBAAwB,,CAAC,CAAC;oBAChE,IAAI,iBAAiB,,IAAI,iBAAiB,,CAAC,CAAC,CAAC,C
AAC,MAAM,IAAI,,CAAC,EAAE;wBACzD,MAAM,,CAAC,IAAI,,CAAC,yCAAuC,,oBAAoB,,SAAI,,KAAO,,CAA
C,CAAC;qBACrF;iBACF;aACF;YACD,OAAO,MAAM,,GAAG,IAAI,,CAAC;SACtB;2CACF;KAvBD,CAAkD,,w
BAAwB,,GAAuBzE;eAGI,cAAM,,OAAA,cAAc,,cAAc,,cAAc,,GA
AA;IAHzB,IAAM,oBAAoB,,GACtB,QAAEwB,,CAAC;IAE7B,SAAS,cAAc,,cAAc,,IAAc;QACpC,IAAM,GAAG,,G
AA6B,EAAE,CAAC;QACzC,IAAI,CAAC,OAAO,,CAAC,UAAA,GAAG,IAAI,OAAA,GAAG,CAAC,GAAG,,CA
AC,GAAG,IAAI,,GAAA,,CAAC,CAAC;QACrC,OAAO,,GAAG,,CAAC;IACb;;aAClBgB,2BAA2B,,CACvC,OAAY,E
AAE,WAAmB,,EAAE,SAAiB,,EAAE,OAAe,,EACrE,mBAA4B,,EAAE,UAAsB,,EAAE,QAAoB,,EAC1E,SAAyC,,EA
AE,eAAsB,,EACjE,aAAkD,,EAClD,cAAmD,,EAAE,SAAiB,,EACtE,MAAc;QAChB,OAAO;YACL,IAAI;YACJ,OAO,SAAA;YACP,WAAW,,aAAA;YACX,mBAAmB,,qBAAA;YACnB,SAAS,,WAAA;YACT,UAAU,,YAAA;YACV,OAAO,,SAAA;YACP,QAAQ,,UAAA;YACR,SAAS,,WAAA;YACT,eAAe,,iBAAA;YACf,aAAa,,eAAA;YACb,cA
Ac,gBAAA;YACd,SAAS,,WAAA;YACT,MAAM,QAAA;SACP,CAAC;IACJ;;IC/BA,IAAM,YAAY,,GAAG,,EAAE,CAAC;IAExB,IAAM,oBAAoB,,GAAG,,EAAE,CAAC;IAEhC

AAA,SAAS,CAAC,IAAI,CAAC,GAAG,IAAI,GAAA,CAAC,CAAC;gBAE1D,IAAI,GAAG,KAAK,OAAO,EAAE
;oBACnB,eAAe,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAC1B;aACF,CAAC,CAAC;YAEH,IAAM,mBAA
mB,GAAG,eAAe,CAAC,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;YACtE,OAAO,2BAA2B,CAC9B,OAAO,E
AAE,IAAI,CAAC,YAAY,EAAE,YAAY,EAAE,SAAS,EAAE,SAAS,EAAE,kBAAkB,EAClF,eAAe,EAAE,SAAS,
EAAE,mBAAmB,EAAE,WAAW,EAAE,YAAY,EAAE,SAAS,CAAC,CAAC;SAC5F;yCACF;KAAA,IAAA;IAE
D,SAAS,yBAAyB,CAC9B,QAA+B,EAAE,YAAiB,EAAE,SAAc,EAAE,OAAY,EAChF,MAA4B;QAC9B,OAAO,
QAAQ,CAAC,IAAI,CAAC,UAAA,EAAE,IAAI,OAAA,EAAE,CAAC,YAAY,EAAE,SAAS,EAAE,OAAO,EAAE
,MAAM,CAAC,GAAA,CAAC,CAAC;IAC3E,QAAC,8BAAoB,MAAgB,EAAU,aAAmC;YAA7D,W
AAM,GAAN,MAAM,CAAU;YAAU,kBAAa,GAAb,aAAa,CAAsB;SAAI;QAErF,0CAAW,GAAX,UAAY,MA4B
B,EAAE,MAAgB;YACxD,IAAM,WAAW,GAAe,IAAI,CAAC,CAAC,cAAc,IAAM,cAAc,CAAC,cAAc,IAAI,
CAAC,aAAa,CAAC,CAAC;YACnD,IAAM,MAAM,GAAG,IAAI,CAAC,CAAC,cAAc,IAAM,cAAc,CAAC,cAAc,IAAI,
CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,UAAA,CAAC,IAAI,OAAA,CAAC,CAAC,IAAI,EAAN,CAAM,CAAC,CAAC,MAAM,
GAAG;gBAC7B,IAAM,KAAK,GAAG,MAAM,CAAC,GAAG,CAAC,UAAA,CAAC,IAAI,OAAA,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC;
gBAC/B,IAAM,KAAK,GAAG,IAAI,CAAC,CAAC,cAAc,IAAM,cAAc,CAAC,cAAc,IAAI,
CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,UAAA,CAAC,IAAI,OAAA,CAAC,CAAC,IAAI,EAAN,CAAM,CAAC,CAAC,MAAM,
GAAG;gBAC7

C;YAC7D,iBAAY,GAAoC,EAAE,CAAC;YACpD,YAAO,GAAsB,EAAE,CAAC;SAIc;QAErD,0CAAQ,GAAR,UAAS,EAAU,EAAE,QAA+C;YAClE,IAAM,MAAM,GAAU,EAAE,CAAC;YACzB,IAAM,GAAG,GAAG,iBAAiB,CAAC,IAAI,CAAC,OAAO,EAAE,QAAQ,EAAE,MAAM,CAAC,CAAC;YAC9D,IAAI,MAAM,CAAC,CAAC,CAAC,KAAK,GAAG,EAAE;gBACnB,MAAM,CAAC,KAAK,EAAE,CAAC;aAClB;YACD,OAAO,MAAM,CAAC;QAClB,CAAC;QAED,gCAAM,GAAN,UAAO,KAAK;YACR,IAAI,IAAI,CAAC,KAAK,KAAK,KAAK,EAAE;gBACtB,OAAO;aACV;YACD,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC;YACnB,IAAI,IAAI,CAAC,KAAK,EAAE;gBACZ,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;aACzB;QACL

;gBACR,KAAK,MAAM;oBACT,MAAM,CAAC,IAAI,EAAE,CAAC;oBACd,MAAM;gBACR,KAAK,aAAa;oBA
ChB,MAAM,CAAC,WAAW,CAAC,UAAU,CAAC,IAAI,CAAC,CAAC,CAAW,CAAC,CAAC,CAAC;oBAClD,
MAAM;gBACR,KAAK,SAAS;oBACZ,IAAI,CAAC,OAAO,CAAC,EAAE,CAAC,CAAC;oBACjB,MAAM;aACT
;SACF;sCACF;KAAA;;IC5ID,IAAM,gBAAgB,GAAG,mBAAmB,CAAC;IAC7C,IAAM,eAAe,GAAG,oBAAoB,C
AAC;IAC7C,IAAM,kBAAkB,GAAG,qBAAqB,CAAC;IACjD,IAAM,iBAAiB,GAAG,sBAAsB,CAAC;IACjD,IA
AM,cAAc,GAAG,kBAAkB,CAAC;IAC1C,IAAM,aAAa,GAAG,mBAAmB,CAAC;IAE1C,IAAM,kBAAkB,GAAg
C,EAAE,CAAC;IAC3D,IAAM,kBAAkB,GAA0B;QAChD,WAAW,EAAE,EAAE;QACf,aAAa,EAAE,KAAK;QA
CpB,UAAU,EAAE,KAAK;QACjB,YAAY,EAAE,KAAK;QACnB,oBAAoB,EAAE,KAAK;KAC5B,CAAC;IACF,
IAAM,0BAA0B,GAA0B;QACxD,WAAW,EAAE,EAAE;QACf,UAAU,EAAE,KAAK;QACjB,aAAa,EAAE,EAAE,
K;QACpB,YAAY,EAAE,KAAK;QACnB,oBAAoB,EAAE,IAAI;KAC3B,CAAC;IAkBK,IAAM,YAAY,GAAG,cA
Ac,CAAC;IAU3C;QAQE,oBAAY,KAAU,EAAS,WAAwB;YAAxB,4BAAA,EAAA,gBAAwB;YAAxB,gBAAW,
GAAX,WAAW,CAAa;YACrD,IAAM,KAAK,GAAG,KAAK,IAAI,KAAK,CAAC,cAAc,CAAC,OAAO,CAAC,C
AAC;YACrD,IAAM,KAAK,GAAG,KAAK,GAAG,KAAK,CAAC,OAAO,CAAC,GAAG,KAAK,CAAC;YAC7C,I
AAI,CAAC,KAAK,GAAG,qBAAqB,CAAC,KAAK,CAAC,CAAC;YAC1C,IAAI,KAAK,EAAE;gBACT,IAAM,O
AAO,GAAG,OAAO,CAAC,KAAY,CAAC,CAAC;gBACtC,OAAO,OAAO,CAAC,OAAO,CAAC,CAAC;gBACxB
B,IAAI,CAAC,OAAO,GAAG,OA2B,CAAC;aAC5C;iBAAM;gBACL,IAAI,CAAC,OAAO,GAAG,EAAE,CAA
C;aACnB;YACD,IAAI,CAAC,IAAI,CAAC,OAAO,CAAC,MAAM,EAAE;gBACxB,IAAI,CAAC,OAAO,CAAC,
MAAM,GAAG,EAAE,CAAC;aAC1B;SACF;QAlBD,sBAAI,8BAAM;iBAAV;gBACE,OAAO,IAAI,CAAC,OA
O,CAAC,MA8B,CAAC;aACpD;;;WAAA;QAkBD,kCAAa,GAAb,UAAc,OAAyB;YACrC,IAAI,SAAS,
EAAE;gBACb,IAAI,CAAC,OAAO,CAAC,MAAM,CAAC;YACtB,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,OAAO;
SACF;QAED,sBAAI,kCAAU;iBAAd;gBACE,OAAO,IAAI,CAAC,OAAO,CAAC,MAAM,KAAK,CAAC;YAClC
AC,MAAO,CAAC;gBACvC,QAAQ,CAAC,CAAC,IAAI,KAAK,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,
IAAI,EAAE;gBACvC,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC;YACzB,IAAI,CAAC,IAAI,GAAG,
IAAI,CAAC;SACb

AAI,KAAK,CAAC,sCAAmC,IAAI,gCAA4B,CAAC,CAAC;aACtF;YACD,OAAO,OAAO,CAAC;SAChB;QAED,8CAAO,GAAP,UAAQ,EAAE,WAAmB,EAAE,KAAU,EAAE,iBAAiC;YAAxF,iBAAwG;YAAxGsD,kCAAAA,EAAAA,EAAAA,wBAAAiC;YAAEF,IAAM,OAAO,GAAG,IAAI,CAAC,WAAW,CAAC,WAAW,CAAC,CAAC;YAC9C,IAAM,MAAM,GAAG,IAAI,yBAAAyB,CAAC,IAAI,CAAC,EAAE,EAAE,WAAW,EAAE,OAAO,CAAC,CAAC;YAE5E,IAAI,kBAAAkB,GAAG,IAAI,CAAC,OAAO,CAAC,eAAAe,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;YACnE,IAAI,CAAC,kBAAAkB,EAAE;gBAAC,QAAQ,CAAC,OAAO,EAAE,oBAAAoB,CAAC,CAAC;gBAAC,QAAQ,CAAC,OAAO,EAAE,oBAAAoB,GAAG,GAAG,GAAG,WAAW,CAAC,CAAC;gBAAC,QAAQ,CAAC,OAAO,EAAE,oBAAAoB,GAAG,GAAG,GAAG,WAAW,CAAC,CAAC;YAAC,IAAI,CAAC,OAAO,CAAC,eAAAe,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;YAAC,IAAI,CAAC,kBAAAkB,EAAE;gBAAC,QAAQ,CAAC,OAAO,EAAE,oBAAAoB

Ac,GAAG,IAAI,CAAC,OAAO,CAAC,gBAAgB,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;YAClE,IAAI,cAAc,EAAE;gBAClB,cAAc,CAAC,OAAO,CAAC,UAAA,MAAM,IAAI,OAAA,MAAM,CAAC,OAAO,EAAE,GAAA,CAAC,CAAC;gBACnD,IAAI,CAAC,OAAO,CAAC,gBAAgB,CAAC,MAAM,CAAC,OAAO,CAAC,CAAC;aAC/C;SACF;QAEO,qEAA8B,GAA9B,UAA+B,WAAgB,EAAE,OAAY;YAA7D,iBAuP;YAtBC,IAAM,QAAQ,GAAG,IAAI,CAAC,OAAO,CAAC,UAAA,MAAM,IAAI,OAAA,MAAM,CAAC,OAAO,EAAE,GAAA,CAAC,CAAC,MAAM,CAAC,UAAA,MAAM,IAAI,OAAA,MAAM,CAAC,OAAO,EAAE,mBAAA,mB,EAAE,EAAE,IAAI,CAAC,CAAC,CAAC;;;;YAKnF,QAAQ

AO,CAAC,GAAA,CAAC,CAAC;oBACzD,MAAM,CAAC,sBAAsB,CAAC,OAAO,CAAC,CAAC;oBACvC,MAAM,CAAC,kBAAkB,CAAC,OAAO,EAAE,OAAO,CAAC,CAAC;iBAC7C;aACF;SACF;QAED,iDAAU,GAAV,UAAW,OAAY,EAAE,MAAW;YAClC,QAAQ,CAAC,OAAO,EAAE,IAAI,CAAC,cAAc,CAAC,CAAC,CAAC;SACxC;QAED,6DAAsB,GAAtB,UAAuB,WAAmB;YAA1C,iBA0CC;YAzCC,gBAAgB;YAChB,IAAI,CAAC,MAAM,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC

AAE,EAAE;oBAC/B,IAAM,aAAa,GAAG,IAAI,CAAC,cAAc,CAAC,CAAC,CAAC,CAAC;oBAC7C,IAAI,IAAI,CAAC,MAAM,CAAC,eAAe,CAAC,aAAa,CAAC,WAAW,EAAE,WAAW,CAAC,EAAE;wBACvE,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE,CAAC,CAAC;wBACzC,KAAK,GAAG,IAAI,CAAC;wBACb,IAAM,CAAC;wBACP,iBACF;gBACD,IAAI,CAAC,KAAK,EAAE;oBACV,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE,CAAC,CAAC;iBACtC;aACF;iBAAM;gBACL,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;aAC9B;YAED,IAAI,CAAC,uBAAuB,CAAC,GAAG,CAAC,WAAW,EAAE,EAAE,CAAC,CAAC;YAClD,OAAO,EAAE,CAAC;SACX;QAED,4CAAQ,GAAR,UAAS,CAAC,EAAE,CAAC;YACX,IAAI,CAAC,KAAK,CAAC,EAAE;gBACX,IAAI,CAAC,KAAK,CAAC,EAAE;oBACX,OAAO,CAAC,CAAC,CAAC,CAAC

oBACN,EAAE,CAAC,UAAU,CAAC,OAAO,EAAE,OAAO,CAAC,CAAC;iBACjC;qBAAM;oBACL,IAAI,CAAC,oBAAoB,CAAC,WAAW,EAAE,OAAO,EAAE,KAAK,EAAE,OAAO,CAAC,CAAC;iBACjE;gBAED,IAAI,aAAa,EAAE;oBACjB,IAAM,MAAM,GAAG,IAAI,CAAC,uBAAuB,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;oBACzD,IAAI,MAAM,IAAI,MAAM,CAAC,EAAE,KAAK,WAAW,EAAE;wBAAvC,iBAAyC;qBAAA;oBACzC

BAC/B;aACF;YAED,IAAI,IAAI,CAAC,cAAc,CAAC,MAAM;iBACzB,IAAI,CAAC,kBAAkB,IAAI,IAAI,CAAC,sBAAsB,CAAC,MAAM,CAAC,EAAE;gBACnE,IAAM,UAAU,GAAe,EAAE,CAAC;gBAClC,IAAI;oBACF,OAAO,GAAG,IAAI,CAAC,gBAAgB,CAAC,UAAU,EAAE,WAAW,CAAC,CAAC;iBAC1D;wBAAS;oBACR,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;wBAC1C,UAAU,CAAC,CAAC,CAAC,EAAE,CAAC;qBACjB;iBACF;aACF;iBAAM;gBACL,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;oBAC3D,IAAM,OAAO,GAAG,IAAI,CAAC,sBAAsB,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC/C,IAAI,CAAC,gBAAgB,CAAC,OAAO,CAAC,CAAC,CAAC;iBACjC;aACF;iBAChC,IAAI,CAAC,kBAAkB,GAAG,KAAK,CAAC;YAC5B,IAAI,CAAC,sBAAsB,GAAG,KAAK,CAAC;YACpC,IAAI,CAAC,gBAAgB,GAAG,KAAK,CAAC;YAC9B

AAI,OAAA,WAAW,CAAC,IAAI,EAAE,SAAS,CAAC,GAAA,CAAC,CAAC;iBACrD,CAAC,CAAC;gBAEH,YA
AY,CAAC,OAAO,CAAC,UAAC,KAAK,EAAE,IAAI;oBAC/B,IAAM,SAAS,GAAG,eAAe,CAAC,GAAG,CAAC
,IAAI,CAAE,CAAC;oBAC7C,KAAK,CAAC,OAAO,CAAC,UAAA,IAAI,IAAI,OAAA,WAAW,CAAC,IAAI,EA
AE,SAAS,CAAC,GAAA,CAAC,CAAC;iBACrD,CAAC,CAAC;gBAEH,aAAa,CAAC,OAAO,CAAC,UAAA,OA
AO;oBAC3B,KAAI,CAAC,gBAAgB,CAAC,OAAO,CAAC,CAAC;iBAChC,CAAC,CAAC;aACJ,CAAC,CAAC;
YAEH,IAAM,UAAU,GAAgC,EAAE,CAAC;YACnD,IAAM,oBAAoB,GAAqC,EAAE,CAAC;YAClE,KAAK,IA
AI,GAAC,GAAG,IAAI,CAAC,cAAc,CAAC,MAAM,GAAG,CAAC,EAAE,GAAC,IAAI,CAAC,EAAE,GAAC,E
AAE,EAAE;gBACxD,IAAM,EAAE,GAAG,IAAI,CAAC,cAAc,CAAC,GAAC,GAAC,CAAC;gBAClC,EAAE,CA
AC,sBAAsB,CAAC,WAAW,CAAC,CAAC,OAAO,CAAC,UAAA,KAAK;oBAClD,IAAM,MAAM,GAAG,CAAC
K,CAAC,MAAM,CAAC;oBAC5B,IAAM,OAAO,GAAG,KAAK,CAAC,OAAO,CAAC;oBAC9B,UAAU,CAAC,IAAI,CAAC,I
AAI,CAAC,MAAM,CAAC,CAAC;oBAExB,IAAI,KAAI,CAAC,sBAAsB,CAAC,MAAM,EAAE;wBACtC,IAAM
,OAAO,GAAG,OAAO,CAAC,YAAY,CAA0B,CAAC;;wBAE/D,IAAI,OAAO,CAAC,IAAI,OAAO,CAAC,UAAU,EAAE;
4BACjC,MAAM,CAAC,OAAO,EAAE,CAAC;4BACjB,OAAO;yBACR;qBACF;oBAED,IAAM,cAAc,GAAG,CA
AC,QAAQ,IAAI,CAAC,KAAI,CAAC,MAAM,CAAC,eAAe,CAAC,QAAQ,EAAE,OAAO,CAAC,CAAC;oBACpE
F,IAAM,cAAc,GAAG,eAAe,CAAC,GAAG,CAAC,OAAO,CAAE,CAAC;oBACrD,IAAM,cAAc,GAAG,eAAe,C
AAC,GAAG,CAAC,OAAO,CAAE,CAAC;oBACrD,IAAM,WAAW,GAAG,KAAI,CAAC,iBAAiB,CACtC,KAAK
,EAAE,YAAY,EAAE,cAAc,EAAE,cAAc,EAAE,cAAc,CAAE,CAAC;oBAC1E,IAAI,WAAW,CAAC,MAAM,IA
AI,WAAW,CAAC,MAAM,CAAC,MAAM,EAAE;wBACnD,oBAAoB,CAAC,IAAI,CAAC,WAAW,CAAC,CAA
C;wBACvC,OAAO;qBACR;;;;;oBAMD,IAAI,cAAc,EAAE;wBAClB,MAAM,CAAC,OAAO,CAAC,cAAM,OAA
A,WAAW,CAAC,OAAO,EAAE,WAAW,CAAC,UAAU,CAAC,GAAA,CAAC,CAAC;wBACnE,MAAM,CAAC,
SAAS,CAAC,cAAM,OAAA,WAAW,CAAC,OAAO,EAAE,WAAW,CAAC,QAAQ,CAAC,GAAA,CAAC,CAAC;w
BACjE,cAAc,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC;wBAC5B,OAAO;qBACR;;;oBAID,IAAI,KAAK,CAAC,CAAC
,oBAAoB,EAAE;wBAC9B,MAAM,CAAC,OAAO,CAAC,cAAM,OAAA,WAAW,CAAC,OAAO,EAAE,WAAW,
CAAC,UAAU,CAAC,GAAA,CAAC,CAAC;wBACnE,MAAM,CAAC,SAAS,CAAC,cAAM,OAAA,WAAW,CAAC,QAAQ,CAAC
,OAAO,EAAE,WAAW,CAAC,QAAQ,CAAC,GAAA,CAAC,CAAC;wBACjE,cAAc,CAAC,IAAI,CAAC,MAAM,CAAC,
CAAC;wBAC5B,OAAO;qBACR;;;;;;oBAOD,WAAW,CAAC,SAAS,CAAC,OAAO,CAAC,UAAA,EAAE,
IAAI,OAAA,EAAE,CAAC,uBAAuB,GAAG,IAAI,GAAA,CAAC,CAAC;oBAEvE,IAAI,KAAK,CAAC,MAAM,CAAC,
OAAO,EAAE,WAAW,CAAC,SAAS,CAAC,OAAO,CAAC,UAAA,OAAO;wBACpD,IAAM,MAAM,GAAG,CAAC
,MAAM,CAAC,QAAQ,IAAI,CAAC,KAAI,CAAC,MAAM,CAAC,eAAe,CAAC,QAAQ,EAAE,OAAO,CAAC,CAAC;
4BACpE,IAAM,cAAc,GAAG,eAAe,CAAC,GAAG,CAAC,OAAO,CAAE,CAAC;4BACrD,IAAM,cAAc,GAAG,eAAe,C
AAC,GAAG,CAAC,OAAO,CAAE,CAAC;4BACrD,IAAM,WAAW,GAAG,KAAI,CAAC,iBAAiB,CACtC,KAAK
,EAAE,YAAY,EAAE,cAAc,EAAE,cAAc,EAAE,cAAc,CAAE,CAAC;4BAC1E,IAAI,WAAW,CAAC,MAAM,IA
AI,WAAW,CAAC,MAAM,CAAC,MAAM,EAAE;gCACnD,oBAAoB,CAAC,IAAI,CAAC,WAAW,CAAC,CAA
C;gCACvC,OAAO;6BACR;;;;;;4BAOD,IAAI,cAAc,EAAE;gCAClB,MAAM,CAAC,OAAO,CAAC,cAAM,OAAA,WAAW,CAAC,OAAO,EAAE,WAAW,CAAC,UAAU,CAAC,GAAA,CAAC,CAAC;gCACnE,MAAM,CAAC,
SAAS,CAAC,cAAM,OAAA,WAAW,CAAC,OAAO,EAAE,WAAW,CAAC,QAAQ,CAAC,GAAA,CAAC,CAAC;gC
BACjE,cAAc,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC;gCAC5B,OAAO;6BACR;;;4BAID,IAAI,KAAK,CAAC,CAAC
,oBAAoB,EAAE;gCAC9B,MAAM,CAAC,OAAO,CAAC,cAAM,OAAA,WAAW,CAAC,OAAO,EAAE,WAAW,
CAAC,UAAU,CAAC,GAAA,CAAC,CAAC;gCACnE,MAAM,CAAC,SAAS,CAAC,cAAM,OAAA,WAAW,CAAC,QAAQ,CAAC
,OAAO,EAAE,WAAW,CAAC,QAAQ,CAAC,GAAA,CAAC,CAAC;gCACjE,cAAc,CAAC,IAAI,CAAC,MAAM,CAAC,
CAAC;gCAC5B,OAAO;6BACR;;;;;;4BAOD,WAAW,CAAC,SAAS,CAAC,OAAO,CAAC,UAAA,EAAE,
IAAI,OAAA,EAAE,CAAC,uBAAuB,GAAG,IAAI,GAAA,CAAC,CAAC;yBACxE;qBACF;oBAED,IAAI,KAAK,CAAC,MAAM,CAAC,
OAAO,EAAE,WAAW,CAAC,SAAS,CAAC,OAAO,CAAC,UAAA,OAAO;wBACpD,IAAM,MAAM,GAAG,CAAC
,MAAM,CAAC,QAAQ,IAAI,CAAC,KAAI,CAAC,MAAM,CAAC,eAAe,CAAC,QAAQ,EAAE,OAAO,CAAC,CAAC;
4BACpE,IAAM,cAAc,GAAG,eAAe,CAAC,GAAG,CAAC,OAAO,CAAE,CAAC;4BACrD,IAAM,cAAc,GAAG,eAAe,C
AAC,GAAG,CAAC,OAAO,CAAE,CAAC;4BACrD,IAAM,WAAW,GAAG,KAAI,CAAC,iBAAiB,CACtC,KAAK
,EAAE,YAAY,EAAE,cAAc,EAAE,cAAc,EAAE,cAAc,CAAE,CAAC;4BAC1E,IAAI,WAAW,CAAC,MAAM,IA
AI,WAAW,CAAC,MAAM,CAAC,MAAM,EAAE;gCACnD,oBAAoB,CAAC,IAAI,CAAC,WAAW,CAAC,CAA
C;gCACvC,OAAO;6BACR;;;4BAID,IAAI,KAAK,CAAC,CAAC
,oBAAoB,EAAE;gCAC9B,MAAM,CAAC,OAAO,CAAC,cAAM,OAAA,WAAW,CAAC,OAAO,EAAE,WAAW,
CAAC,UAAU,CAAC,GAAA,CAAC,CAAC;gCACnE,MAAM,CAAC,SAAS,CAAC,cAAM,OAAA,WAAW,CAAC,QAAQ,CAAC
,OAAO,EAAE,WAAW,CAAC,QAAQ,CAAC,GAAA,CAAC,CAAC;gCACjE,cAAc,CAAC,IAAI,CAAC,MAAM,CAAC,
CAAC;gCAC5B,OAAO;6BACR;;;4BAID

G,EAAY,CAAC;YAChD,kBAAkB,CAAC,OAAO,CAAC,UAAA,KAAK;gBAC9B,IAAM,OAAO,GAAG,KAAK,CAAC,OAAO,CAAC;gBAC9B,IAAI,YAAY,CAAC,GAAG,CAAC,OAAO,CAAC,EAAE;oBAC7B,mBAAmB,CAAC,GAAG,CAAC,OAAO,EAAE,OAAO,CAAC,CAAC;oBAC1C,KAAI,CAAC,qBAAqB,CAAtB,KAAK,CAAC,MAAM,CAAC,WAAW,EAAE,KAAK,CAAC,WAAW,EAAE,qBAAqB,CAAC,CAAC;iBACzE;aACF,CAAC,CAAC;YAEH,cAAc,CAAC,OAAO,CAAC,UAAA,MAAM;gBAC3B,IAAM,OAAO,GAAG,MAAM,CAAC,OAAO,CAAC;gBAC/B,IAAM,eAAe,GAAG,CAAC,CAAC,OAAO,CAAC,UAAA,KAAK;oBACrC,OAAO,KAAK,CAAC,OAAO,CAAC,EAAE,CAAC,MAAM,KAAK,CAAC,CAAC;gBACvC,CAAC,CAAC,CAAC;gBAEH,IAAI,CAAC,eAAe,EAAE;oBACpB,IAAM,SAAS,GAAG,CAAC,CAAC,OAAO,CAAC,UAAA,KAAK;wBAC/B,OAAO,KAAK,CAAC,OAAO,CAAC,EAAE,CAAC,MAAM,KAAK,CAAC,CAAC;oBACvC,CAAC,CAAC,CAAC;oBAEH,IAAI,SAAS,EAAE;wBACb,IAAM,OAAO,GAAG,MAAM,CAAC,OAAO,CAAC;wBAC/B,IAAM,OAAO,GAAG,OAAO,CAAC,GAAG,CAAC,UAAA,KAAK;4BAC/B,IAAM,OAAO,GAAG,KAAK,CAAC,OAAO,CAAC;4BAC9B,IAAM,OAAO,GAAG,OAAO,CAAC,MAAM,CAAC,UAAA,MAAM;gCACnC,OAAO,MAAM,CAAC,MAAM,KAAK,CAAC,CAAC;4BAC7B,CAAC,CAAC;4BACF,OAAO,KAAK,CAAC,MAAM,CAAC,EAAE,OAAO,CAAC,CAAC;wBACjC,CAAC,CAAC;wBACF,MAAM,CAAC,OAAO,CAAC,GAAG,OAAO;qBAC1B;iBACF;aACF,CAAC,CAAC;YAEH,IAAM,YAAY,GAAG,CAAC,CAAC,MAAM,CAAC,UAAA,KAAK;gBACjC,OAAO,KAAK,CAAC,OAAO,CAAC,EAAE,CAAC,MAAM,KAAK,CAAC,CAAC;YACvC,CAAC,CAAC,CAAC;YAEH,IAAI,YAAY,EAAE;gBAChB,IAAM,OAAO,GAAG,MAAM,CAAC,OAAO,CAAC;gBAC/B,IAAM,OAAO,GAAG,OAAO,CAAC,GAAG,CAAC,UAAA,KAAK;oBAC/B,IAAM,OAAO,GAAG,KAAK,CAAC,OAAO,CAAC;oBAC9B,IAAM,OAAO,GAAG,OAAO,CAAC,MAAM,CAAC,UAAA,MAAM;wBACnC,OAAO,MAAM,CAAC,MAAM,KAAK,CAAC,CAAC;oBAC7B,CAAC,CAAC;oBACF,OAAO,KAAK,CAAC,MAAM,CAAC,EAAE,OAAO,CAAC,CAAC;gBACjC,CAAC,CAAC;gBACF,MAAM,CAAC,OAAO,CAAC,GAAG,OAAO;aAC1B;SACF,CAAC,CAAC;QAEH,IAAM,YAAY,GAAG,CAAC,CAAC,MAAM,CAAC,UAAA,KAAK;YACjC,OAAO,KAAK,CAAC,OAAO,CAAC,EAAE,CAAC,MAAM,KAAK,CAAC,CAAC;QACvC,CAAC,CAAC,CAAC;QAEH,IAAI,YAAY,EAAE;YAChB,IAAM,OAAO,GAAG,MAAM,CAAC,OAAO,CAAC;YAC/B,IAAM,OAAO,GAAG,OAAO,CAAC,GAAG,CAAC,UAAA,KAAK;gBAC/B,IAAM,OAAO,GAAG,KAAK,CAAC,OAAO,CAAC;gBAC9B,IAAM,OAAO,GAAG,OAAO,CAAC,MAAM,CAAC,UAAA,MAAM;oBACnC,OAAO,MAAM,CAAC,MAAM,KAAK,CAAC,CAAC;gBAC7B,CAAC,CAAC;gBACF,OAAO,KAAK,CAAC,MAAM,CAAC,EAAE,OAAO,CAAC,CAAC;YACjC,CAAC,CAAC;YACF,MAAM,CAAC,OAAO,CAAC,GAAG,OAAO;SAC1B;KACF,CAAC,CAAC;IAEH,OAAO,MAAM,CAAC;AAChB,CAAC,CAAC,CAAC;AAEH,IAAM,eAAe,GAAG,UAAC,MAAM,EAAE,MAAM;IACrC,IAAM,MAAM,GAAG,EAAE,CAAC;IAClB,IAAM,IAAI,GAAG,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC;IACjC,IAAM,IAAI,GAAG,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC;IAEjC,IAAI,CAAC,OAAO,CAAC,UAAA,GAAG;QACd,IAAI,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,EAAE;YACtB,MAAM,CAAC,GAAG,CAAC,GAAG,MAAM,CAAC,GAAG,CAAC,CAAC;SAC3B;aAAM;YACL,MAAM,CAAC,GAAG,CAAC,GAAG,MAAM,CAAC,GAAG,CAAC,CAAC;SAC3B;IACH,CAAC,CAAC,CAAC;IAEH,IAAI,CAAC,OAAO,CAAC,UAAA,GAAG;QACd,IAAI,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,EAAE;YACtB,MAAM,CAAC,GAAG,CAAC,GAAG,MAAM,CAAC,GAAG,CAAC,CAAC;SAC3B;aAAM;YACL,MAAM,CAAC,GAAG,CAAC,GAAG,MAAM,CAAC,GAAG,CAAC,CAAC;SAC3B;IACH,CAAC,CAAC,CAAC;IAEH,OAAO,MAAM,CAAC;AAChB,CAAC,CAAC;

EAAE;oBACvB,MAAM,CAAC,gBAAgB,CAAC,MAAM,CAAC,YAAY,CAAC,CAAC;iBAC9C;qBAAM;oBAC
L,MAAM,CAAC,OAAO,EAAE,CAAC;iBAClB;aACF,CAAC,CAAC;;;;YAKH,KAAK,IAAI,GAAC,GAAG,CAA
C,EAAE,GAAC,GAAG,aAAa,CAAC,MAAM,EAAE,GAAC,EAAE,EAAE;gBAC7C,IAAM,OAAO,GAAG,aAAa,
CAAC,GAAC,CAAC,CAAC;gBACjC,IAAM,OAAO,GAAG,OAAO,CAAC,YAAY,,CAA0B,CAAC;gBAC/D,WA
AW,CAAC,OAAO,EAAE,eAAe,CAAC,CAAC;;;;gBAKtC,IAAI,OAAO,IAAI,OAAO,CAAC,YAAY;oBAAE,SA
AS;gBAE9C,IAAI,OAAO,GAAgC,EAAE,CAAC;;;;gBAK9C,IAAI,eAAe,CAAC,IAAI,EAAE;oBACxB,IAAI,oB
AAoB,GAAG,eAAe,CAAC,GAAG,,CAAC,OAAO,CAAC,CAAC;oBACxD,IAAI,oBAAoB,IAAI,oBAAoB,CAAC
,MAAM,EAAE;wBACvD,OAAO,CAAC,IAAI,OAAZ,OAAO,WAAS,oBAAoB,GAAE;qBACvC;oBAED,IAAI,o
BAAoB,GAAG,IAAI,CAAC,MAAM,,CAAC,KAAK,CAAC,OAAO,EAAE,qBAAqB,EAAE,IAAI,CAAC,CAAC;o
BACnF,KAAK,IAAI,CAAC,GAAG,,CAAC,EAAE,CAAC,GAAG,oBAAoB,,CAAC,MAAM,EAAE,CAAC,EAAE,
EAAE;wBACpD,IAAI,cAAc,GAAG,eAAe,CAAC,GAAG,,CAAC,oBAAoB,,CAAC,CAAC,CAAC,CAAC,CAAC;
wBAClE,IAAI,cAAc,IAAI,cAAc,CAAC,MAAM,EAAE;4BAC3C,OAAO,CAAC,IAAI,OAAZ,OAAO,WAAS,cA
Ac,GAAE;yBACjC;qBACF;iBACF;gBAED,IAAM,aAAa,GAAG,OAAO,CAAC,MAAM,,CAAC,UAAA,,CAAC,I
AAI,OAAA,,CAAC,CAAC,CAAC,SAAS,GAAA,,CAAC,CAAC;gBACxD,IAAI,aAAa,CAAC,MAAM,,EAAE;oBA
CxB,6BAA6B,CAAC,IAAI,EAAE,OAAO,EAAE,aAAa,,CAAC,CAAC;iBAC7D;qBAAM;oBACL,IAAI,CAAC,gB
AAgB,CAAC,OAAO,,CAAC,CAAC;iBAChC;aACF;;YAGD,aAAa,CAAC,MAAM,,GAAG,,CAAC,CAAC;YAEzB,
WAAW,CAAC,OAAO,,CAAC,UAAA,,MAAM;gBACxB,KAAI,CAAC,OAAO,,CAAC,IAAI,,CAAC,MAAM,,CAA
C,CAAC;gBAC1B,MAAM,,CAAC;oBACZ,MAAM,,CAAC,KAAK,EAAE,CAAC,CAAC;oBAEjB,IAAM,
KAAK,GAAG,KAAI,CAAC,OAAO,,CAAC,OAAO,,CAAC,MAAM,,CAAC,CAAC;oBAC3C,IAAI,CAAC,OAAO
,,CAAC,MAAM,,CAAC,KAAK,EAAE,CAAC,CAAC;iBAC/B,CAAC,CAAC;gBACH,IAAM,MAAM,,GAAG,IAAI
,EAAE,CAAC;aACf,CAAC,CAAC;SACpB;QAED,uDAAmB,GAAnB,UAAoB,WAAA,,UAAA,,WAAA,,WAAA,,EAAE,OAAY;YACnD,YAAY,;SACb

C1F,eAAe,CAAC,OAAO,CAAC,UAAA,MAAM;oBAC5B,IAAM,UAAU,GAAI,MAAoC,CAAC,aAAa,EAAS,CA
AC;oBAChF,IAAI,UAAU,CAAC,aAAa,EAAE;wBAC5B,UAAU,CAAC,aAAa,EAAE,CAAC;qBAC5B;oBACD,
MAAM,CAAC,OAAO,EAAE,CAAC;oBACjB,OAAO,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC;iBACtB,CAAC
,CAAC;;;;gBAbL,KAAkC,IAAA,KAAA,SAAA,WAAW,CAAC,SAAS,CAAA,gBAAA;oBAAlD,IAAM,mBAAm
B,WAAA;4BAAnB,mBAAmB;iBAc7B;;;;;;;;;;YAID,WAAW,CAAC,WAAW,EAAE,WAAW,CAAC,UAAU,CA
AC,CAAC;SAClD;QAEO,mDAAe,GAAf,UACJ,WAAmB,EAAE,WA2C,EAChE,qBAA4D,EAC5D,iBA8C,E
AAE,YAAkC,EAClF,aAAmC;YAJ/B,iBA4EP;YAvEC,IAAM,WAAW,GAAG,WAAW,CAAC,WAAW,CAAC;Y
AC5C,IAAM,WAAW,GAAG,WAAW,CAAC,OAAO,CAAC;;;YAIxC,IAAM,iBAAiB,GAAgC,EAAE,CAAC;YA
C1D,IAAM,mBAAmB,GAAG,IAAI,GAAG,EAAO,CAAC;YAC3C,IAAM,cAAc,GAAG,IAAI,GAAG,EAAO,CA
AC;YACtC,IAAM,aAAa,GAAG,WAAW,CAAC,SAAS,CAAC,GAAG,CAAC,UAAA,mBAAmB;gBACjE,IAAM,
OAAO,GAAG,mBAAmB,CAAC,OAAO,CAAC;gBAC5C,mBAAmB,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC
;;gBAGjC,IAAM,OAAO,GAAG,OAAO,CAAC,YAAY,CAAC,CAAC;gBACtC,IAAI,OAAO,IAAI,OAAO,CAAC,
oBAAoB;oBACzC,OAAO,IAAIF,8BAAmB,CAAC,mBAAmB,CAAC,QAAQ,EAAE,mBAAmB,CAAC,KAAK,C
AAC,CAAC;gBAE1F,IAAM,gBAAgB,GAAG,OAAO,KAAK,WAAW,CAAC;gBACjD,eAAe,CAAC,mB
AAmB,CAAC,CAAC,qBAAqB,CAAC,GAAG,CAAC,OAAO,CAAC,IAAI,kBAAkB;qBACpD,GAAG,CAAC,UA
AA,CAAC,IAAI,OAAA,CAAC,CAAC,aAAa,EAAE,GAAA,CAAC,CAAC;qBAChD,MAAM,CAAC,UAAA,CAC
C;;;;;oBAKP,IAAM,EAAE,GAAG,CAAQ,CAAC;oBACpB,OAAO,EAAE,CAAC,OAAO,GAAG,EAAE,CAAC,
OAAO,KAAK,OAAO,GAAG,KAAK,CAAC;iBACpD,CAAC,CAAC;gBAEX,IAAM,SAAS,GAAG,YAAY,CAAC,
GAAG,CAAC,OAAO,CAAC,CAAC;gBAC5C,IAAM,UAAU,GAAG,IAAI,GAAG,EAAO,CAAC;gBAClC,IAAM,
CAAC;gBAC9C,IAAM,SAAS,GAAG,kBAAkB,CAChC,KAAI,CAAC,MAAM,EAAE,KAAI,CAAC,WAAW,EA
AE,OAAO,EAAE,mBAAmB,CAAC,SAAS,EAAE,SAAS,EAChF,UAAU,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;;;gBAIlC,IAAM,mBAAmB,GAAG,IAAI,GAAG,EAAO,CAAC;gBAC3C,IAAM,
YAAY,GAAG,CAAC,CAAC;gBACvB,IAAM,eAAe,GAAG,IAAI,GAAG,EAAO,CAAC;gBACvC,IAAM,cAAc,GAAG,IAAI,GAAG,EAAO,CAAC;gBACtC,IAAM,aAAa,GAAG,IAAI,GAAG,EAAO,CAAC;gBACr

CAAC,MAAM,EAAE,KAAK,EAAE,SAAS,EAAE,QAAQ,CAAC,GAAA,CAAC,CAAC;aACrE,CAAC,CAAC;YACH,IAAI,CAAC,gBAAgB,GAAG,EAAE,CAAC;YAC3B,IAAI,CAAC,mBAAmB,GAAG,IAAI,CAAC;YAChC,IAAI,CAAC,iBAAiB,CAAC,MAAM,CAAC,SAAS,CAAC,CAAC;YACxC,IAA0B,CAAC,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC;SAC5C;QAED,iDAAa,GAAb;YACE,OAAO,IAAI,CAAC,OAAO,CAAC,CAAC;SACrB;QAED,qDAAiB,GAAjB,UAAkB,IAAI;YACpB,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC;SACpB;QAED,oDAAgB,GAAhB,UAAiB,IAAI;YACnB,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;SACnB;QAED,iDAAa,GAAb,UAAc,IAAI;YAChB,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;SACn

AS,CAAC,IAAI,CAAC,YAAY,CAAC,OAAO,CAAC,CAAC,GAAA,CAAC,CAAC;QAEnE,IAAM,cAAc,GAAU,
EAAE,CAAC;QAEjC,eAAe,CAAC,OAAO,CAAC,UAAC,KAAkB,EAAE,OAAY;YACvD,IAAM,MAAM,GAAe,
EAAE,CAAC;YAC9B,KAAK,CAAC,OAAO,CAAC,UAAA,IAAI;gBAChB,IAAM,KAAK,GAAU,IAAI,CAAC,GAAG,CAAC,MAAM,,CAAC
,IAAI,CAAC,GAAG,CAAC,MAAM,CAAC,YAAY,CAAC,OAAO,EAAE,IAAI,EAAE,YAAY,CAAC,CAAC;;;gBAI9E,I
AAI,CAAC,KAAK,IAAI,KAAK,CAAC,MAAM,IAAI,CAAC,EAAE;oBAC/B,OAAO,CAAC,YAAY,CAAC,GAA
G,0BAA0B,CAAC;oBACnD,cAAc,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;iBAC9B;aACF,CAAC,CAAC;YA
CH,SAAS,CAAC,GAAG,CAAC,OAAO,EAAE,MAAM,CAAC,CAAC;SAChC,CAAC,CAAC;;;QAIH,IAAI,CAA
C,GAAG,CAAC,CAAC;QACV,QAAQ,CAAC,OAAO,CAAC,UAAA,OAAO,IAAI,OAAA,EAAE,SAAS,CAAC,CAAC,OAAO,,
EAAE,SAAS,CAAC,CAAC,EAAE,CAAC,CAAC,GAAA,CAAC,CAAC;QAEnE,OAAO,cAAc;IACxB,CA
AC;IAED;;;;;;;;;;IAUA,SAAS,YAAY,CAAC,KAAY,EAAE,KAAY;QAC9C,IAAM,OAAO,GAAG,IAAI,GAAG,EAAE,IAAI,GAAG,E
AAc,CAAC;QACtC,KAAK,CAAC,OAAO,CAAC,UAAA,IAAI,IAAI,OAAA,IAAI,CAAC,GAAG,CAAC,IAAI,
EAAE,EAAE,CAAC,GAAA,CAAC,CAAC;QAE7C,KAAK,CAAC,OAAO,CAAC,UAAA,IAAI,IAAI,OAAA,IAAI,CAAC,MAAM,IAAI,CAAC;YAAE,OAAO,OA
AO,CAAC;QAEtC,IAAM,SAAS,GAAG,CAAC,CAAC;QACpB,IAAM,OAAO,GAAG,IAAI,GAAG,EAAE,IAAI,GAAG,EAAY,CAAC;QAC7C,KAK
K,CAAC,CAAC;QAC/B,IAAM,YAAY,GAAG,EAAY,CAAC;QAClC,KAAK,CAAC,OAAO,CAAC,UAAA,IAAI,IAAI,OAAA,IAAI,CAAC,MAAM,IAAI,CAAC;YAAE,YAAY,CAAC,IAAI,
CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC

BAA0C,EACxD,oBAA2C;QAC7C,IAAM,SAAS,GAAG,oBAAoB,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;QACpD,IAAI,CAAC,SAAS;YAAE,OAAO,KAAK,CAAC;QAE7B,IAAI,QAAQ,GAAG,mBAAmB,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;QAChD,IAAI,QAAQ,EAAE;YACZ,SAAS,CAAC,OAAO,CAAC,UAAA,IAAI,OAAA,IAAI,OAAO,EAAE,EAAb,CAAa;QAC7B,IAAA,KAAA,OAAoB,CAAC,IAAI,EAAE,IAAI,CAAC,IAAA,EAAhC,IAAI,QAAA,EAAE,IAAI,QAAsB,CAAC;QACxC,IAAM,GAAG,GAAG,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;QAC9B,IAAI,GAAG,KAAK,CAAC,EAAE;YACb,IAAI,CAAC,MAAM,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;SACxB;aAAM;YACL,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;SACjB;QACD,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;QAChB,OAAO,IAAI,CAAC;KACb;IAED,IAAM,SAAS,GAAG,UAAC,IAAI,EAAE,IAAI,IAAK,OAAA,IAAI,GAAG,IAAI,EAAX,CAAW,CAAC;IAC9C,IAAM,UAAU,GAAG,UAAC,IAAI,EAAE,IAAI,IAAK,OAAA,IAAI,GAAG,IAAI,EAAX,CAAW,CAAC;IAE/C,IAAM,SAAS,GAAG,UAAC,IAAI,EAAE,IAAI,IAAK,OAAA,IAAI,GAAG,IAAI,EAAX,CAAW,CAAC;IAE

AS,IAAI,IAAI,kBAAkB,CAAC,OAAO,EAAE,WAAW,EAAE,SAAS,CAAC;YACvD,IAAI,CAAC;IAC3C,CAAC
;IAED;;;;;;;;;QAcE,4BACY,QAAa,EAAU,YAAuC,EAC9D,UAAqC;YADrC,aAAQ,GAAR,QAAQ,CAAK;YAU,
iBAAY,GAAZ,YAAY,CAA2B;YAC9D,eAAU,GAAV,UAAU,CAA2B;YALzC,WAAM,mBAAmC;YAM/C,IAAI
,aAAa,GAAG,kBAAkB,CAAC,sBAAsB,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;YAC5E,IAAI,CAAC,aAAa,
EAAE;gBAClB,kBAAkB,CAAC,sBAAsB,CAAC,GAAG,CAAC,QAAQ,EAAE,aAAa,GAAG,EAAE,CAAC,CAA
C;aAC7E;YACD,IAAI,CAAC,cAAc,GAAG,aAAa,CAAC;SACrC;QAED,kCAAK,GAAL;YACE,IAAI,IAAI,CAA
C,MAAM,oBAAoC;gBACjD,IAAI,IAAI,CAAC,YAAY,EAAE;oBACrB,SAAS,CAAC,IAAI,CAAC,QAAQ,EAAE
,IAAI,CAAC,YAAY,EAAE,IAAI,CAAC,cAAc,CAAC,CAAC;iBAClE;gBACD,IAAI,CAAC,MAAM,mBAAmC
;aAC/C;SACF;QAED,mCAAM,GAAN;YACE,IAAI,CAAC,KAAK,EAAE,CAAC;YACb,IAAI,CAAC,MAAM,qBAAqC;gBAClD,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,cAAc,CAAC,CAAC;gBAClC

aACf;SACF;QAED,6CAAM,GAAN;YACE,IAAI,IAAI,CAAC,SAAS;gBAAE,OAAO;YAC3B,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC;YACtB,IAAI,CAAC,SAAS,EAAE,CAAC;YACjB,uBAAuB,CAAC,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC;SAC7D;QAED,8CAAO,GAAP;YACE,IAAI,IAAI,CAAC,UAAU,GAAG;gBAAE,OAAO;YAC5B,IAAI,CAAC,UAAU,GAAG,uBAAuB,CAAC,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC;YAC5F,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC;SACxB;QACH,gBAAC;IAAD,CAAC,AAlBD,IAkBC;IAlBY,8BAAS;;;

aAAa,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;SAC7B;QAED,oCAAO,GAAP;YACE,IAAI,CAAC,IAAI,EAAE,
CAAC;YACZ,IAAI,IAAI,CAAC,MAAM;gBAAoC,OAAO;YAC1D,IAAI,CAAC,MAAM,qBAAkC;YAC7C,IAAI
,CAAC,OAAO,CAAC,OAAO,EAAE,CAAC;YACvB,IAAI,CAAC,cAAc,EAAE,CAAC;YACtB,IAAI,CAAC,aAA
a,EAAE,CAAC;YACrB,IAAI,IAAI,CAAC,cAAc,EAAE;gBACvB,IAAI,CAAC,cAAc,CAAC,OAAO,EAAE,CAA
C;aAC/B;YACD,IAAI,CAAC,aAAa,CAAC,OAAO,CAAC,UAAA,EAAE,IAAI,OAAA,EAAE,EAAE,GAAA,,CA
AC,CAAC;YACvC,IAAI,CAAC,aAAa,GAAG,EAAE,CAAC;SACzB;QAEO,0CAAa;gBAAb;YACN,IAAI,CAAC,
UAAU,CAAC,OAAO,CAAC,UAAA,EAAE,IAAI,OAAA,EAAE,EAAE,GAAA,,CAAC,CAAC;YACpC,IAAI,CA
AC,UAAU,GAAG,EAAE,CAAC;SACtB;QAEO,2CAAa;gBAAb;YACN,IAAI,CAAC,WAAW,CAAC,OAAO,,CA
C,UAAA,EAAE,IAAI,OAAA,EAAE,EAAE,GAAA,,CAAC,CAAC;YACrC,IAAI,CAAC,WAAW,,GAAG,,EAAE,C
AAC;SACvB;QAED,mCAAM,GAAN;YACE,IAAI,CAAC,IAAI,EAAE,CAAC;YACZ,IAAI,IAAI,,CAAC,MAAM
;gBAAmC,OAAO;YACzD,IAAI,CAAC,MAAM,oBAAiC;YAC5C,IAAI,CAAC,OAAO,,CAAC,MAAM,EAAE,C
AAC;YACtB,IAAI,CAAC,cAAc,EAAE,CAAC;YACtB,IAAI,IAAI,,CAAC,cAAc,EAAE;gBACvB,IAAI,CAAC,cA
Ac,CAAC,MAAM,EAAE,CAAC;aAC9B;YACD,IAAI,CAAC,aAAa,EAAE,CAAC;SACtB;QAED,wCAAW,,GAA
X,UAAY,KAAa;YACvB,IAAI,CAAC,OAAO,,CAAC,WAAW,,CAAC,KAAK,,CAAC,CAAC;SACjC;QAED,wCA
AW,,GAAX;YACE,OAAO,IAAI,,CAAC,OAAO,,CAAC,WAAW,,EAAE,CAAC;SACnC;QAED,uCAAU,,GAAV;Y
ACE,OAAO,IAAI,,CAAC,MAAM,oBAAiC;SACpD;QACD,iCAAI,,GAAJ;YACE,IAAI,,CAAC,MAAM;gBAA
sC,OAAO;YAC5D,IAAI,,CAAC,MAAM,uBAAoC;YAC/C,IAAI,,CAAC,IAAM,,GAAG,,GAAG,,IAAI,,CAAC,OAAO,,CAAC;Y
ACzB,IAAI,,CAAC,OAAO,,CAAC,KAAK,,EAAE,,CAAC;YACrB,IAAI,,IAAI,,CAAC,MAAM,,EAAE;gBACf,IAAI,,CAAC,OAAO,,CAAC,KAAK,,EAAE,,CAAC;aACtB;SACF;QAED,iCAAI,,GAAJ;YACE,IAAI,,CAAC,IAAI,,EAAE,,
CAAC;YACZ,IAAI,,CAAC,IAAI,,CAAC,UAAU,,EAAE,,EAAE;gBACtB,IAAI,,CAAC,cAAc,,EAAE,,CAAC;gBACtB,I
AAI,,CAAC,MAAM,mBAAgC;gBAC3C,IAAI,,IAAI,,CAAC,cAAc,,EAAE;oBACvB,IAAI,,CAAC,cAAc,,CAAC,
KAAK,,EAAE,,CAAC;iBAC7B;aACF;YACD,IAAI,,CAAC,MAAM,,EAAE,,CAAC;SACf;QAED,kCAAK,,GAAL;YACE,IAAI,,CAAC,IAAI,,EAAE,,CAAC;YACZ,IAAI,,CAAC,OAAO,,CAAC,KAAK,,EAAE,,CAAC;SACtB

,CAAC;SACd;QAED,mCAAO,GAAP;YAAA,iBAYC;YAXC,IAAI,CAAC,IAAI,CAAC,eAAe;gBAAE,OAAO;YAClC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,eAAe,CAAC,CAAC,OAAO,CAAC,UAAA,IAAI;gBAC5C,IAAM,KAAK,GAAG,KAAI,CAAC,eAAgB,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;gBAC1C,IAAI,KAAK,GAAG,EAAE;oBACT,KAAI,CAAC,OAAO,CAAC,KAAK,CAAC,WAAW,CAAC,IAAI,EAAE,KAAK,CAAC,CAAC;iBAC/C;qBAAM;oBACL,KAAI,CAAC,OAAO,CAAC,KAAK,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC;iBACzC;aACF,CAAC,CAAC;YACH,IAAI,CAAC,eAAe,GAAG,IAAI,CAAC,eAAe,CAAC;SACjB;gBACzB,IAAI,CAAC,eAAe,CAAC,OAAO,CAAC,WAAA,IAAI,IAAI,OAAA,IAAI,EAAJ,CAAI,CAAC,CAAC;aAC/C;;;

CAAC;iBAChC,CAAC,CAAC;aACJ,CAAC,CAAC;SACJ;QACD,OAAO,aAAa,CAAC;IACvB,CAAC;IAED,SAAS,aAAa,CAAC,IAAS;QAC9B,IAAI,CAAC,UAAU,CAAC,WAAW,CAAC,IAAI,CAAC,CAAC;IACpC,CAAC;IAED,IAAI,aAAa,GAAG,KAAK,CAAC;IAC1B,SAAS,oBAAoB;QAC3B,IAAI,aAAa;YAAE,OAAO;QAC1B,IAAI,CAAC,IAAI,CAAC,CACR,mGAAmG,EACnG,wFAAwF,CAAC,CAAC;QAC9F,aAAa,GAAG,IAAI,CAAC,CAAC;IACxB,CAAC;;;QAChHE,6BACW,OAAY,EAAS,SAAc,EAAS,UAAe,EAAS,UAAe,EAAS,UAAe

AAM,GAAG,IAAI,CAAC,SAAS,CAAC;aACrC;;;WAAA;QAED,2CAAa,GAAb;YAAA,iBAWC;YAVC,IAAM,MAAM,GAAmC,EAAE,CAAC;YAClD,IAAI,IAAI,CAAC,UAAU,EAAE,EAAE;gBACrB,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,cAAc,CAAC,CAAC,CAAC,IAAI,CAAC,IAAI,CAAC,cAAc,CAAC,CAAC,CAAC,OAAO,CAAC,UAAA,IAAI;oBAC3C,IAAI,IAAI,IAAI,QAAQ,EAAE;wBACpB,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC;4BACR,KAAI,CAAC,SAAS,GAAG,KAAI,CAAC,cAAc,CAAC,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,YAAY,CAAC,KAAI,CAAC,OAAO,EAAE,IAAI,CAAC,cAAc,CAAC,CAAC;qBACnH;iBACF,CAAC,CAAC;gBACH,OAAO,MAAM,CAAC;aACf;YACD,IAAI,CAAC,eAAe,CAAC,SAAS,CAAC,CAAC;YAChC,IAAM,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,UAAA,IAAI,IAAI,OAAA,IAAI,CAAC,IAAI,EAAT,CAAS,CAAC,CAAC;YAC3D,IAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,UAAA,IAAI,IAAI,OAAA,IAAI,CAAC,IAAI,EAAT,CAAS,CAAC,CAAC;YAC1

Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationMetadata, AnimationOptions} from './animation_metadata';\nimport {AnimationPlayer} from './players/animation_player';\n\n/**\n * An injectable service that produces an animation sequence programmatically within an\n * Angular component or directive.\n * Provided by the `BrowserAnimationsModule` or `NoopAnimationsModule`.\n *\n * @usageNotes\n *\n * To use this service, add it to your component or directive as a dependency.\n * The service is instantiated along with your component.\n *\n * Apps do not typically need to create their own animation players, but if you\n * do need to, follow these steps:\n *\n * 1. Use the `build()` method to create a programmatic animation using the\n * `animate()` function. The method returns an `AnimationFactory` instance.\n *\n * 2. Use the factory object to create an `AnimationPlayer` and attach it to a DOM element.\n *\n * 3. Use the player object to control the animation programmatically.\n *\n * For example:\n *\n * ```ts\n * // import the service from BrowserAnimationsModule\n * import {AnimationBuilder} from '@angular/animations';\n * // require the service as a dependency\n * class MyCmp {\n *   constructor(private _builder: AnimationBuilder) {}\n *\n *   makeAnimation(element: any) {\n *     // first define a reusable animation\n *     const myAnimation = this._builder.build([\n *       style({ width: 0 }),\n *       animate(1000, style({ width: '100px' }))\n *     ]);\n *\n *     // use the returned factory object to create a player\n *     const player = myAnimation.create(element);\n *\n *     player.play();\n *   }\n * }\n * ```\n *\n * @publicApi\n */\nexport abstract class AnimationBuilder {\n  /**\n   * Builds a factory for producing a defined animation.\n   * @param animation A reusable animation definition.\n   * @returns A factory object that can create a player for the defined animation.\n   * @see `animate()`\n   */\n  abstract build(animation: AnimationMetadata|AnimationMetadata[]): AnimationFactory;\n}\n\n/**\n * A factory object returned from the `AnimationBuilder`.`build()` method.\n *\n * @publicApi\n */\nexport abstract class AnimationFactory {\n  /**\n   * Creates an `AnimationPlayer` instance for the reusable animation defined by\n   * the `AnimationBuilder`.`build()` method that created this factory.\n   * Attaches the new player a DOM element.\n   * @param element The DOM element to which to attach the animation.\n   * @param options A set of options that can include a time delay and\n   * additional developer-defined parameters.\n   */\n  abstract create(element: any, options?: AnimationOptions): AnimationPlayer;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Represents a set of CSS styles for use in an animation style.\n */\nexport interface StyleData {\n  [key: string]: string|number;\n}\n\n/**\n * Represents animation-step timing parameters for an animation step.\n * @see `animate()`\n *\n * @publicApi\n */\nexport declare type AnimateTimings = {\n  /**\n   * The full duration of an animation step. A number and optional time unit,\n   * such as \"1s\" or \"10ms\" for one second and 10 milliseconds, respectively.\n   * The default unit is milliseconds.\n   */\n  duration: number,\n  /**\n   * The delay in applying an animation step. A number and optional time unit.\n   * The default unit is milliseconds.\n   */\n  delay: number,\n  /**\n   * An easing style that controls how an animations step accelerates\n   * and decelerates during its run time. An easing function such as `cubic-bezier()`,\n   * or one of the following constants:\n   * - `ease-in`\n   * - `ease-out`\n   * - `ease-in-and-out`\n   */\n  easing: string | null\n};\n\n/**\n * @description Options that control animation styling and timing.\n *\n * The following animation functions accept `AnimationOptions` data:\n *\n * - `transition()`\n * - `sequence()`\n * - `{@link animations/group group()}`\n * - `query()`\n * - `animation()`\n * - `useAnimation()`\n * - `animateChild()`\n *\n * Programmatic animations built using the `AnimationBuilder` service also\n * make use of `AnimationOptions`.\n *\n * @publicApi\n */\nexport declare interface AnimationOptions {\n  /**\n   * Sets a time-delay for initiating an animation action.\n   * A number and optional time unit, such as \"1s\" or \"10ms\" for one second\n   * and 10 milliseconds, respectively.The default unit is milliseconds.\n   * Default value is 0, meaning no delay.\n   */\n  delay?: number|string;\n  /**\n   * A set of developer-defined parameters that modify styling and timing\n   * when an animation action starts. An array of key-value pairs, where the provided value\n   * is used as a default.\n   */\n  params?: {[name: string]: any};\n}\n\n/**\n * Adds duration options to control animation styling and timing for a child animation.\n *\n * @see `animateChild()`\n *\n * @publicApi\n

```
*/\nexport declare interface AnimateChildOptions extends AnimationOptions {\n  duration?:
number|string;\n}\n\n/**\n * @description Constants for the categories of parameters that can be defined for
animations.\n *\n * A corresponding function defines a set of parameters for each category, and\n * collects them
into a corresponding `AnimationMetadata` object.\n *\n * @publicApi\n */\nexport const enum
AnimationMetadataType {\n  /**\n   * Associates a named animation state with a set of CSS styles.\n   * See
`state()`\n   */\n  State = 0,\n  /**\n   * Data for a transition from one animation state to another.\n   * See
`transition()`\n   */\n  Transition = 1,\n  /**\n   * Contains a set of animation steps.\n   * See `sequence()`\n   */\n
Sequence = 2,\n  /**\n   * Contains a set of animation steps.\n   * See `{@link animations/group group()}`\n   */\n
Group = 3,\n  /**\n   * Contains an animation step.\n   * See `animate()`\n   */\n  Animate = 4,\n  /**\n   * Contains a
set of
 animation steps.\n   * See `keyframes()`\n   */\n  Keyframes = 5,\n  /**\n   * Contains a set of CSS property-value
pairs into a named style.\n   * See `style()`\n   */\n  Style = 6,\n  /**\n   * Associates an animation with an entry
trigger that can be attached to an element.\n   * See `trigger()`\n   */\n  Trigger = 7,\n  /**\n   * Contains a re-usable
animation.\n   * See `animation()`\n   */\n  Reference = 8,\n  /**\n   * Contains data to use in executing child
animations returned by a query.\n   * See `animateChild()`\n   */\n  AnimateChild = 9,\n  /**\n   * Contains
animation parameters for a re-usable animation.\n   * See `useAnimation()`\n   */\n  AnimateRef = 10,\n  /**\n   *
Contains child-animation query data.\n   * See `query()`\n   */\n  Query = 11,\n  /**\n   * Contains data for
staggering an animation sequence.\n   * See `stagger()`\n   */\n  Stagger = 12\n}\n\n/**\n * Specifies automatic
styling.\n *\n * @publicApi\n */\nexport const AUTO_STYLE = '*';\n\n/**\n * Base
 for animation data structures.\n *\n * @publicApi\n */\nexport interface AnimationMetadata {\n  type:
AnimationMetadataType;\n}\n\n/**\n * Contains an animation trigger. Instantiated and returned by the\n *
`trigger()` function.\n *\n * @publicApi\n */\nexport interface AnimationTriggerMetadata extends
AnimationMetadata {\n  /**\n   * The trigger name, used to associate it with an element. Unique within the
component.\n   */\n  name: string;\n  /**\n   * An animation definition object, containing an array of state and
transition declarations.\n   */\n  definitions: AnimationMetadata[];\n  /**\n   * An options object containing a delay
and\n   * developer-defined parameters that provide styling defaults and\n   * can be overridden on invocation.
Default delay is 0.\n   */\n  options: {params?: {[name: string]: any}}|null;\n}\n\n/**\n * Encapsulates an animation
state by associating a state name with a set of CSS styles.\n * Instantiated and returned by the `state()` function.\n
*\n * @publicApi\n
 */\nexport interface AnimationStateMetadata extends AnimationMetadata {\n  /**\n   * The state name, unique
within the component.\n   */\n  name: string;\n  /**\n   *  The CSS styles associated with this state.\n   */\n  styles:
AnimationStyleMetadata;\n  /**\n   * An options object containing\n   * developer-defined parameters that provide
styling defaults and\n   * can be overridden on invocation.\n   */\n  options?: {params: {[name: string]:
any}};\n}\n\n/**\n * Encapsulates an animation transition. Instantiated and returned by the\n * `transition()`
function.\n *\n * @publicApi\n */\nexport interface AnimationTransitionMetadata extends AnimationMetadata {\n
/**\n   * An expression that describes a state change.\n   */\n  expr: string|\n      ((fromState: string, toState: string,
element?: any,\n        params?: {[key: string]: any}) => boolean);\n  /**\n   * One or more animation objects to
which this transition applies.\n   */\n  animation: AnimationMetadata|AnimationMetadata[];\n
 /**\n   * An options object containing a delay and\n   * developer-defined parameters that provide styling defaults
and\n   * can be overridden on invocation. Default delay is 0.\n   */\n  options: AnimationOptions|null;\n}\n\n/**\n *
Encapsulates a reusable animation, which is a collection of individual animation steps.\n * Instantiated and returned
by the `animation()` function, and\n * passed to the `useAnimation()` function.\n *\n * @publicApi\n */\nexport
interface AnimationReferenceMetadata extends AnimationMetadata {\n  /**\n   *  One or more animation step
objects.\n   */\n  animation: AnimationMetadata|AnimationMetadata[];\n  /**\n   * An options object containing a
delay and\n   * developer-defined parameters that provide styling defaults and\n   * can be overridden on invocation.
Default delay is 0.\n   */\n  options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates an animation query.
Instantiated and returned by\n * the `query()` function.\n *\n * @publicApi\n
```

*/\nexport interface AnimationQueryMetadata extends AnimationMetadata {\n /**\n * The CSS selector for this query.\n */\n selector: string;\n /**\n * One or more animation step objects.\n */\n animation: AnimationMetadata|AnimationMetadata[];\n /**\n * A query options object.\n */\n options: AnimationQueryOptions|null;\n}\n\n/**\n * Encapsulates a keyframes sequence. Instantiated and returned by\n * the `keyframes()` function.\n *\n * @publicApi\n */\nexport interface AnimationKeyframesSequenceMetadata extends AnimationMetadata {\n /**\n * An array of animation styles.\n */\n steps: AnimationStyleMetadata[];\n}\n\n/**\n * Encapsulates an animation style. Instantiated and returned by\n * the `style()` function.\n *\n * @publicApi\n */\nexport interface AnimationStyleMetadata extends AnimationMetadata {\n /**\n * A set of CSS style properties.\n */\n styles: '*'|{[key: string]: string | number}|Array<{[key: string]: string | number}|'*'>;\n /**\n * A
percentage of the total animate time at which the style is to be applied.\n */\n offset: number|null;\n}\n\n/**\n * Encapsulates an animation step. Instantiated and returned by\n * the `animate()` function.\n *\n * @publicApi\n */\nexport interface AnimationAnimateMetadata extends AnimationMetadata {\n /**\n * The timing data for the step.\n */\n timings: string|number|AnimateTimings;\n /**\n * A set of styles used in the step.\n */\n styles: AnimationStyleMetadata|AnimationKeyframesSequenceMetadata|null;\n}\n\n/**\n * Encapsulates a child animation, that can be run explicitly when the parent is run.\n * Instantiated and returned by the `animateChild` function.\n *\n * @publicApi\n */\nexport interface AnimationAnimateChildMetadata extends AnimationMetadata {\n /**\n * An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n
* Encapsulates a reusable animation.\n * Instantiated and returned by the `useAnimation()` function.\n *\n * @publicApi\n */\nexport interface AnimationAnimateRefMetadata extends AnimationMetadata {\n /**\n * An animation reference object.\n */\n animation: AnimationReferenceMetadata;\n /**\n * An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates an animation sequence.\n * Instantiated and returned by the `sequence()` function.\n *\n * @publicApi\n */\nexport interface AnimationSequenceMetadata extends AnimationMetadata {\n /**\n * An array of animation step objects.\n */\n steps: AnimationMetadata[];\n /**\n * An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default
delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates an animation group.\n * Instantiated and returned by the `{@link animations/group group()}` function.\n *\n * @publicApi\n */\nexport interface AnimationGroupMetadata extends AnimationMetadata {\n /**\n * One or more animation or style steps that form this group.\n */\n steps: AnimationMetadata[];\n /**\n * An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates animation query options.\n * Passed to the `query()` function.\n *\n * @publicApi\n */\nexport declare interface AnimationQueryOptions extends AnimationOptions {\n /**\n * True if this query is optional, false if it is required. Default is false.\n * A required query throws an error if no elements are retrieved when\n * the query is executed. An optional
query does not.\n *\n */\n optional?: boolean;\n /**\n * A maximum total number of results to return from the query.\n * If negative, results are limited from the end of the query list towards the beginning.\n * By default, results are not limited.\n */\n limit?: number;\n}\n\n/**\n * Encapsulates parameters for staggering the start times of a set of animation steps.\n * Instantiated and returned by the `stagger()` function.\n *\n * @publicApi\n **/\nexport interface AnimationStaggerMetadata extends AnimationMetadata {\n /**\n * The timing data for the steps.\n */\n timings: string|number;\n /**\n * One or more animation steps.\n */\n animation: AnimationMetadata|AnimationMetadata[];\n}\n\n/**\n * Creates a named animation trigger, containing a list of `state()`\n * and `transition()` entries to be evaluated when the expression\n * bound to the trigger changes.\n *\n * @param name An identifying string.\n * @param definitions An animation definition object,

containing an array of `state()`\n * and `transition()` declarations.\n *\n * @return An object that encapsulates the trigger data.\n *\n * @usageNotes\n * Define an animation trigger in the `animations` section of `@Component` metadata.\n * In the template, reference the trigger by name and bind it to a trigger expression that\n * evaluates to a defined animation state, using the following format:\n *\n * `[@triggerName]=\"expression\"`\n *\n * Animation trigger bindings convert all values to strings, and then match the\n * previous and current values against any linked transitions.\n * Booleans can be specified as `1` or `true` and `0` or `false`.\n *\n * ### Usage Example\n *\n * The following example creates an animation trigger reference based on the provided\n * name value.\n * The provided animation value is expected to be an array consisting of state and\n * transition declarations.\n *\n * ```typescript\n * @Component({\n *  selector: \"my-component\",\n *  templateUrl: \"my-component-tpl.html\",\n *  animations: [\n *  trigger(\"myAnimationTrigger\", [\n *  state(...),\n *  state(...),\n *  transition(...),\n *  transition(...)\n *  ])\n *  ]\n * })\n * class MyComponent {\n *  myStatusExp = \"something\";\n * }\n * ```\n *\n * The template associated with this component makes use of the defined trigger\n * by binding to an element within its template code.\n *\n * ```html\n * <!-- somewhere inside of my-component-tpl.html -->\n * <div [@myAnimationTrigger]=\"myStatusExp\">...</div>\n * ```\n *\n * ### Using an inline function\n * The `transition` animation method also supports reading an inline function which can decide\n * if its associated animation should be run.\n *\n * ```typescript\n * // this method is run each time the `myAnimationTrigger` trigger value changes.\n * function myInlineMatcherFn(fromState: string, toState: string, element: any, params: {[key:\n string]: any}): boolean {\n *  // notice that `element`
 and `params` are also available here\n *  return toState == 'yes-please-animate';\n * }\n *\n * @Component({\n * selector: 'my-component',\n *  templateUrl: 'my-component-tpl.html',\n *  animations: [\n * trigger('myAnimationTrigger', [\n *  transition(myInlineMatcherFn, [\n *  // the animation sequence code\n *  ]),\n *  ])\n *  ]\n * })\n * class MyComponent {\n *  myStatusExp = \"yes-please-animate\";\n * }\n * ```\n *\n * ### Disabling Animations\n * When true, the special animation control binding `@.disabled` binding prevents\n * all animations from rendering.\n * Place the  `@.disabled` binding on an element to disable\n * animations on the element itself, as well as any inner animation triggers\n * within the element.\n *\n * The following example shows how to use this feature:\n *\n * ```typescript\n * @Component({\n *  selector: 'my-component',\n *  template: `\n *  <div [@.disabled]=\"isDisabled\">\n *  <div [@childAnimation]=\"exp\"> \n
 *  \n *  `,\n *  animations: [\n *  trigger(\"childAnimation\", [\n *  // ...\n *  ])\n *  ]\n * })\n * class MyComponent {\n *  isDisabled = true;\n *  exp = '...';\n * }\n * ```\n *\n * When `@.disabled` is true, it prevents the `@childAnimation` trigger from animating,\n * along with any inner animations.\n *\n * ### Disable animations application-wide\n * When an area of the template is set to have animations disabled,\n * **all** inner components have their animations disabled as well.\n * This means that you can disable all animations for an app\n * by placing a host binding set on `@.disabled` on the topmost Angular component.\n *\n * ```typescript\n * import {Component, HostBinding} from '@angular/core';\n *\n * @Component({\n *  selector: 'app-component',\n *  templateUrl: 'app.component.html',\n * })\n * class AppComponent {\n *  @HostBinding('@.disabled')\n *  public animationsDisabled = true;\n * }\n * ```\n *\n * ### Overriding disablement
 of inner animations\n * Despite inner animations being disabled, a parent animation can `query()`\n * for inner elements located in disabled areas of the template and still animate\n * them if needed. This is also the case for when a sub animation is\n * queried by a parent and then later animated using `animateChild()`.\n *\n * ### Detecting when an animation is disabled\n * If a region of the DOM (or the entire application) has its animations disabled, the animation\n * trigger callbacks still fire, but for zero seconds. When the callback fires, it provides\n * an instance of an `AnimationEvent`. If animations are disabled,\n * the `.disabled` flag on the event is true.\n *\n * @publicApi\n */\nexport function trigger(name: string, definitions: AnimationMetadata[]): AnimationTriggerMetadata {\n  return {type: AnimationMetadataType.Trigger, name, definitions, options: {}};\n}\n\n/**\n * Defines an animation step that combines styling information with timing information.\n *\n *
 @param timings Sets `AnimateTimings` for the parent animation.\n * A string in the format \"duration [delay] [easing]\".\n *  - Duration and delay are expressed as a number and optional time unit,\n * such as \"1s\" or \"10ms\"

for one second and 10 milliseconds, respectively.\n * The default unit is milliseconds.\n *  - The easing value controls how the animation accelerates and decelerates\n * during its runtime. Value is one of  `ease`, `ease-in`, `ease-out`,\n * `ease-in-out`, or a `cubic-bezier()` function call.\n * If not supplied, no easing is applied.\n *\n * For example, the string \"1s 100ms ease-out\" specifies a duration of\n * 1000 milliseconds, and delay of 100 ms, and the \"ease-out\" easing style,\n * which decelerates near the end of the duration.\n * @param styles Sets AnimationStyles for the parent animation.\n * A function call to either `style()` or `keyframes()`\n * that returns a collection of CSS style entries to be applied to the parent animation.\n * When null, uses the styles from the destination state.\n * This is useful when describing an animation step that will complete an animation;\n * see \"Animating to the final state\" in `transitions()`.\n * @returns An object that encapsulates the animation step.\n *\n * @usageNotes\n * Call within an animation `sequence()`, `{@link animations/group group()}`, or\n * `transition()` call to specify an animation step\n * that applies given style data to the parent animation for a given amount of time.\n *\n * ### Syntax Examples\n * **Timing examples**\n *\n * The following examples show various `timings` specifications.\n * - `animate(500)` : Duration is 500 milliseconds.\n * - `animate(\"1s\")` : Duration is 1000 milliseconds.\n * - `animate(\"100ms 0.5s\")` : Duration is 100 milliseconds, delay is 500 milliseconds.\n * - `animate(\"5s ease-in\")` : Duration is 5000 milliseconds, easing in.\n * - `animate(\"5s 10ms cubic-bezier(.17,.67,.88,.1)\")` : Duration is 5000 milliseconds, delay is 10\n * milliseconds, easing according to a bezier curve.\n *\n * **Style examples**\n *\n * The following example calls `style()` to set a single CSS style.\n * ```typescript\n * animate(500, style({ background: \"red\" }))\n * ```\n * The following example calls `keyframes()` to set a CSS style\n * to different values for successive keyframes.\n * ```typescript\n * animate(500, keyframes(\n *  [\n *   style({ background: \"blue\" }),\n *   style({ background: \"red\" })\n *  ])\n * ```\n *\n * @publicApi\n */\nexport function animate(\n    timings: string|number,\n    styles: AnimationStyleMetadata|AnimationKeyframesSequenceMetadata|null =\n        null): AnimationAnimateMetadata {\n  return {type: AnimationMetadataType.Animate, styles, timings};\n}\n\n/**\n * @description Defines a list of animation steps to be run in parallel.\n *\n * @param steps An array of animation step objects.\n * - When steps are defined by `style()` or `animate()`\n * function calls, each call within the group is executed instantly.\n * - To specify offset styles to be applied at a later time, define steps with\n * `keyframes()`, or use `animate()` calls with a delay value.\n * For example:\n *\n * ```typescript\n * group([\n *   animate(\"1s\", style({ background: \"black\" })),\n *   animate(\"2s\", style({ color: \"white\" }))\n * ])\n * ```\n *\n * @param options An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation.\n *\n * @return An object that encapsulates the group data.\n *\n * @usageNotes\n * Grouped animations are useful when a series of styles must be\n * animated at different starting times and closed off at different ending times.\n *\n * When called within a `sequence()` or a\n * `transition()` call, does not continue to the next\n * instruction until all of the inner animation steps have completed.\n *\n * @publicApi\n */\nexport function group(\n    steps: AnimationMetadata[], options: AnimationOptions|null = null): AnimationGroupMetadata {\n  return {type: AnimationMetadataType.Group, steps, options};\n}\n\n/**\n * Defines a list of animation steps to be run sequentially, one by one.\n *\n * @param steps An array of animation step objects.\n * - Steps defined by `style()` calls apply the styling data immediately.\n * - Steps defined by `animate()` calls apply the styling data over time\n *   as specified by the timing data.\n *\n * ```typescript\n * sequence([\n *   style({ opacity: 0 }),\n *   animate(\"1s\", style({ opacity: 1 }))\n * ])\n * ```\n *\n * @param options An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation.\n *\n * @return An object that encapsulates the sequence data.\n *\n * @usageNotes\n * When you pass an array of steps to a\n * `transition()` call, the steps run sequentially by default.\n * Compare this to the `{@link animations/group group()}` call, which runs animation steps in\n *parallel.\n *\n * When a sequence is used within a `{@link animations/group group()}` or a `transition()` call,\n * execution continues to the next instruction only after each of the inner animation\n * steps have completed.\n *\n * @publicApi\n **/\nexport function sequence(\n    steps: AnimationMetadata[], options: AnimationOptions|null = null): AnimationSequenceMetadata {\n  return {type: AnimationMetadataType.Sequence, steps, options};\n}\n\n/**\n * Declares a key/value object containing CSS properties/styles that\n * can then be used

for an animation `state`, within an animation `sequence`,\n * or as styling data for calls to `animate()` and `keyframes()`.\n *\n * @param tokens A set of CSS styles or HTML styles associated with an animation state.\n * The value can be any of the following:\n * - A key-value style pair associating a CSS property with a value.\n * - An array of key-value style pairs.\n * - An asterisk (*), to use auto-styling, where styles
 are derived from the element\n * being animated and applied to the animation when it starts.\n *\n * Auto-styling can be used to define a state that depends on layout or other\n * environmental factors.\n *\n * @return An object that encapsulates the style data.\n *\n * @usageNotes\n * The following examples create animation styles that collect a set of\n * CSS property values:\n *\n * ```typescript\n * // string values for CSS properties\n * style({ background: \"red\", color: \"blue\" })\n *\n * // numerical pixel values\n * style({ width: 100, height: 0 })\n * ```\n *\n * The following example uses auto-styling to allow a component to animate from\n * a height of 0 up to the height of the parent element:\n *\n * ```\n * style({ height: 0 }),\n * animate(\"1s\", style({ height: \"*\" }))\n * ```\n *\n * @publicApi\n **/\nexport function style(tokens: '*'|{[key: string]: string | number}|\n Array<'*'|{[key: string]: string | number}>): AnimationStyleMetadata {\n
 return {type: AnimationMetadataType.Style, styles: tokens, offset: null};\n}\n\n/**\n * Declares an animation state within a trigger attached to an element.\n *\n * @param name One or more names for the defined state in a comma-separated string.\n * The following reserved state names can be supplied to define a style for specific use\n * cases:\n *\n * - `void` You can associate styles with this name to be used when\n * the element is detached from the application. For example, when an `ngIf` evaluates\n * to false, the state of the associated element is void.\n *  - `*` (asterisk) Indicates the default state. You can associate styles with this name\n * to be used as the fallback when the state that is being animated is not declared\n * within the trigger.\n *\n * @param styles A set of CSS styles associated with this state, created using the\n * `style()` function.\n * This set of styles persists on the element once the state has been reached.\n * @param options Parameters that can be
 passed to the state when it is invoked.\n * 0 or more key-value pairs.\n * @return An object that encapsulates the new state data.\n *\n * @usageNotes\n * Use the `trigger()` function to register states to an animation trigger.\n * Use the `transition()` function to animate between states.\n * When a state is active within a component, its associated styles persist on the element,\n * even when the animation ends.\n *\n * @publicApi\n **/\nexport function state(\n    name: string, styles: AnimationStyleMetadata,\n    options?: {params: {[name: string]: any}}): AnimationStateMetadata {\n  return {type: AnimationMetadataType.State, name, styles, options};\n}\n\n/**\n * Defines a set of animation styles, associating each style with an optional `offset` value.\n *\n * @param steps A set of animation styles with optional offset data.\n * The optional `offset` value for a style specifies a percentage of the total animation\n * time at which that style is applied.\n * @returns An object that
 encapsulates the keyframes data.\n *\n * @usageNotes\n * Use with the `animate()` call. Instead of applying animations\n * from the current state\n * to the destination state, keyframes describe how each style entry is applied and at what point\n * within the animation arc.\n * Compare [CSS Keyframe Animations](https://www.w3schools.com/css/css3_animations.asp).\n *\n * ### Usage\n *\n * In the following example, the offset values describe\n * when each `backgroundColor` value is applied. The color is red at the start, and changes to\n * blue when 20% of the total time has elapsed.\n *\n * ```typescript\n * // the provided offset values\n * animate(\"5s\", keyframes([\n *    style({ backgroundColor: \"red\", offset: 0 }),\n *    style({ backgroundColor: \"blue\", offset: 0.2 }),\n *    style({ backgroundColor: \"orange\", offset: 0.3 }),\n *    style({ backgroundColor: \"black\", offset: 1 })\n * ]))\n * ```\n *\n * If there are no `offset` values specified in the style entries, the offsets\n
 * are calculated automatically.\n *\n * ```typescript\n * animate(\"5s\", keyframes([\n *    style({ backgroundColor: \"red\" }) // offset = 0\n *    style({ backgroundColor: \"blue\" }) // offset = 0.33\n *    style({ backgroundColor: \"orange\" }) // offset = 0.66\n *    style({ backgroundColor: \"black\" }) // offset = 1\n * ]))\n *```\n\n * @publicApi\n */\nexport function keyframes(steps: AnimationStyleMetadata[]): AnimationKeyframesSequenceMetadata {\n  return {type: AnimationMetadataType.Keyframes, steps};\n}\n\n/**\n * Declares an animation transition as a sequence of animation steps to run when a given\n * condition is satisfied. The condition is a Boolean expression or function that compares\n * the previous and current animation states, and

returns true if this transition should occur.\n * When the state criteria of a defined transition are met, the associated animation is\n * triggered.\n *\n * @param stateChangeExpr A Boolean expression or function that compares the previous
and current\n * animation states, and returns true if this transition should occur. Note that \"true\" and \"false\"\n * match 1 and 0, respectively. An expression is evaluated each time a state change occurs in the\n * animation trigger element.\n * The animation steps run when the expression evaluates to true.\n *\n * - A state-change string takes the form \"state1 => state2\", where each side is a defined animation\n * state, or an asterix (*) to refer to a dynamic start or end state.\n *  - The expression string can contain multiple comma-separated statements;\n * for example \"state1 => state2, state3 => state4\".\n *  - Special values `:enter` and `:leave` initiate a transition on the entry and exit states,\n * equivalent to \"void => *\" and \"* => void\".\n *  - Special values `:increment` and `:decrement` initiate a transition when a numeric value has\n * increased or decreased in value.\n * - A function is executed each time a state change occurs in the animation trigger
element.\n * The animation steps run when the function returns true.\n *\n * @param steps One or more animation objects, as returned by the `animate()` or\n * `sequence()` function, that form a transformation from one state to another.\n * A sequence is used by default when you pass an array.\n * @param options An options object that can contain a delay value for the start of the animation,\n * and additional developer-defined parameters. Provided values for additional parameters are used\n * as defaults, and override values can be passed to the caller on invocation.\n * @returns An object that encapsulates the transition data.\n *\n * @usageNotes\n * The template associated with a component binds an animation trigger to an element.\n *\n * ```HTML\n * <!-- somewhere inside of my-component-tpl.html -->\n * <div [@myAnimationTrigger]=\"myStatusExp\">...</div>\n * ```\n *\n * All transitions are defined within an animation trigger,\n * along with named states that the transitions change to and from.\n *\n * ```typescript\n * trigger(\"myAnimationTrigger\", [\n *  // define states\n *  state(\"on\", style({ background: \"green\" })),\n *  state(\"off\", style({ background: \"grey\" })),\n *  ...]\n * ```\n *\n * Note that when you call the `sequence()` function within a `{@link animations/group group()}`\n * or a `transition()` call, execution does not continue to the next instruction\n * until each of the inner animation steps have completed.\n *\n * ### Syntax examples\n *\n * The following examples define transitions between the two defined states (and default states),\n * using various options:\n *\n * ```typescript\n * // Transition occurs when the state value\n * // bound to \"myAnimationTrigger\" changes from \"on\" to \"off\"\n * transition(\"on => off\", animate(500))\n * // Run the same animation for both directions\n * transition(\"on <=> off\", animate(500))\n * // Define multiple state-change pairs separated by commas\n * transition(\"on => off, off
=> void\", animate(500))\n * ```\n *\n * ### Special values for state-change expressions\n *\n * - Catch-all state change for when an element is inserted into the page and the\n * destination state is unknown:\n *\n * ```typescript\n * transition(\"void => *\", [\n *  style({ opacity: 0 }),\n *  animate(500)\n *  ])\n * ```\n *\n * - Capture a state change between any states:\n *\n *  `transition(\"* => *\", animate(\"1s 0s\"))`\n *\n * - Entry and exit transitions:\n *\n * ```typescript\n * transition(\":enter\", [\n *  style({ opacity: 0 }),\n *  animate(500, style({ opacity: 1 }))\n * ]),\n * transition(\":leave\", [\n *  animate(500, style({ opacity: 0 }))\n *  ])\n * ```\n *\n * - Use `:increment` and `:decrement` to initiate transitions:\n *\n * ```typescript\n * transition(\":increment\", group([\n *  query(':enter', [\n *  style({ left: '100%' }),\n *  animate('0.5s ease-out', style('*'))\n *  ]),\n *  query(':leave', [\n *  animate('0.5s ease-out', style({ left:
'-100%' }))\n *  ])\n * ]))\n *\n * transition(\":decrement\", group([\n *  query(':enter', [\n *  style({ left: '100%' }),\n *  animate('0.5s ease-out', style('*'))\n *  ]),\n *  query(':leave', [\n *  animate('0.5s ease-out', style({ left: '-100%' }))\n *  ])\n * ]))\n * ```\n *\n * ### State-change functions\n *\n * Here is an example of a `fromState` specified as a state-change function that invokes an\n * animation when true:\n *\n * ```typescript\n * transition((fromState, toState) =>\n *  {\n *  return fromState == \"off\" && toState == \"on\";\n *  },\n * animate(\"1s 0s\"))\n * ```\n *\n * ### Animating to the final state\n *\n * If the final step in a transition is a call to `animate()` that uses a timing value\n * with no style data, that step is automatically considered the final animation arc,\n * for the element to reach the final state. Angular automatically adds or removes\n * CSS styles to ensure that the element is in the correct final state.\n *\n * The

following example defines a transition that starts by hiding the element,\n * then makes sure that it animates properly to whatever state is currently active for trigger:\n *\n * ```typescript\n * transition(\"void => *\", [\n * style({ opacity: 0 }),\n *  animate(500)\n *  ])\n * ```\n * ### Boolean value matching\n * If a trigger binding value is a Boolean, it can be matched using a transition expression\n * that compares true and false or 1 and 0. For example:\n *\n * ```\n * // in the template\n * <div [@openClose]=\"open ? true : false\">...</div>\n * // in the component metadata\n * trigger('openClose', [\n *  state('true', style({ height: '*' })),\n *  state('false', style({ height: '0px' })),\n *  transition('false <=> true', animate(500))\n * ])\n * ```\n *\n * @publicApi\n **/\nexport function transition(\n  stateChangeExpr: string|\n  ((fromState: string, toState: string, element?: any, params?: {[key: string]: any}) => boolean),\n  steps: AnimationMetadata|AnimationMetadata[],\n  options: AnimationOptions|null = null): AnimationTransitionMetadata {\n  return {type: AnimationMetadataType.Transition, expr: stateChangeExpr, animation: steps, options};\n}\n\n/**\n * Produces a reusable animation that can be invoked in another animation or sequence,\n * by calling the `useAnimation()` function.\n *\n * @param steps One or more animation objects, as returned by the `animate()`\n * or `sequence()` function, that form a transformation from one state to another.\n * A sequence is used by default when you pass an array.\n * @param options An options object that can contain a delay value for the start of the\n * animation, and additional developer-defined parameters.\n * Provided values for additional parameters are used as defaults,\n * and override values can be passed to the caller on invocation.\n * @returns An object that encapsulates the animation data.\n *\n * @usageNotes\n * The following example defines a reusable animation, providing some default parameter\n * values.\n *\n * ```typescript\n * var fadeAnimation = animation([\n *  style({ opacity: '{{ start }}' }),\n *  animate('{{ time }}',\n *  style({ opacity: '{{ end }}'}))\n *  ],\n *  { params: { time: '1000ms', start: 0, end: 1 }});\n * ```\n *\n * The following invokes the defined animation with a call to `useAnimation()`,\n * passing in override parameter values.\n *\n * ```js\n * useAnimation(fadeAnimation, {\n *  params: {\n *  time: '2s',\n *  start: 1,\n *  end: 0\n *  }\n * })\n * ```\n *\n * If any of the passed-in parameter values are missing from this call,\n * the default values are used. If one or more parameter values are missing before a step is\n * animated, `useAnimation()` throws an error.\n *\n * @publicApi\n */\nexport function animation(\n  steps: AnimationMetadata|AnimationMetadata[],\n  options: AnimationOptions|null = null): AnimationReferenceMetadata {\n  return {type: AnimationMetadataType.Reference, animation: steps, options};\n}\n\n/**\n * Executes a queried inner animation element within an animation sequence.\n *\n * @param options An options object that can contain a delay value for the start of the\n * animation, and additional override values for developer-defined parameters.\n * @return An object that encapsulates the child animation data.\n *\n * @usageNotes\n * Each time an animation is triggered in Angular, the parent animation\n * has priority and any child animations are blocked. In order\n * for a child animation to run, the parent animation must query each of the elements\n * containing child animations, and run them using this function.\n *\n * Note that this feature is designed to be used with `query()` and it will only work\n * with animations that are assigned using the Angular animation library. CSS keyframes\n * and transitions are not handled by this API.\n *\n * @publicApi\n */\nexport function animateChild(options: AnimateChildOptions|null = null):\n  AnimationAnimateChildMetadata {\n  return {type: AnimationMetadataType.AnimateChild, options};\n}\n\n/**\n * Starts a reusable animation that is created using the `animation()` function.\n *\n * @param animation The reusable animation to start.\n * @param options An options object that can contain a delay value for the start of\n * the animation, and additional override values for developer-defined parameters.\n * @return An object that contains the animation parameters.\n *\n * @publicApi\n */\nexport function useAnimation(\n  animation: AnimationReferenceMetadata,\n  options: AnimationOptions|null = null): AnimationAnimateRefMetadata {\n  return {type: AnimationMetadataType.AnimateRef, animation, options};\n}\n\n/**\n * Finds one or more inner elements within the current element that is\n * being animated within a sequence. Use with `animate()`.\n *\n * @param selector The element to query, or a set of elements that contain Angular-specific\n * characteristics, specified with one or more of the following

tokens.\n *  - `query(\":enter\")` or `query(\":leave\")` : Query for newly inserted/removed elements.\n *  - `query(\":animating\")` : Query all currently animating elements.\n *  - `query(\"@triggerName\")` : Query elements that contain an animation trigger.\n *  - `query(\"@*\")` : Query all elements that contain an animation triggers.\n *  - `query(\":self\")` : Include the current element into the animation sequence.\n *\n * @param animation One or more animation steps to apply to the queried element or elements.\n * An array is treated as an animation sequence.\n * @param options An options object. Use the 'limit' field to limit the total number of\n * items to collect.\n * @return An object that encapsulates the query data.\n *\n * @usageNotes\n * Tokens can be merged into a combined query selector string. For example:\n *\n * ```typescript\n *  query(':self, .record:enter, .record:leave, @subTrigger', [...])\n * ```\n *\n * The `query()` function collects multiple elements and works internally by using\n * `element.querySelectorAll`. Use the `limit` field of an options object to limit\n * the total number of items to be collected. For example:\n *\n * ```js\n * query('div', [\n *  animate(...),\n * animate(...)\n * ], { limit: 1 })\n * ```\n *\n * By default, throws an error when zero items are found. Set the\n * `optional` flag to ignore this error. For example:\n *\n * ```js\n * query('.some-element-that-may-not-be-there', [\n * animate(...),\n *  animate(...)\n * ], { optional: true })\n * ```\n *\n * ### Usage Example\n *\n * The following example queries for inner elements and animates them\n * individually using `animate()`.\n *\n * ```typescript\n * @Component({\n *  selector: 'inner',\n *  template: `\n *    <div [@queryAnimation]=\"exp\">\n *    <h1>Title</h1>\n *    <div class=\"content\">\n *      Blah blah blah\n *    </div>\n *  </div>\n *  `,\n * animations: [\n *  trigger('queryAnimation', [\n *    transition('* => goAnimate', [\n *      // hide the inner elements\n *      query('h1', style({ opacity: 0 })),\n * query('.content', style({ opacity: 0 })),\n *\n *      // animate the inner elements in, one by one\n *      query('h1', animate(1000, style({ opacity: 1 }))),\n *      query('.content', animate(1000, style({ opacity: 1 }))),\n *    ])\n * ])\n *  ]\n * })\n * class Cmp {\n *  exp = '';\n *\n *  goAnimate() {\n *    this.exp = 'goAnimate';\n *  }\n * }\n * ```\n *\n * @publicApi\n */\nexport function query(\n  selector: string, animation: AnimationMetadata|AnimationMetadata[],\n  options: AnimationQueryOptions|null = null): AnimationQueryMetadata {\n  return {type: AnimationMetadataType.Query, selector, animation, options};\n}\n\n/**\n * Use within an animation `query()` call to issue a timing gap after\n * each queried item is animated.\n *\n * @param timings A delay value.\n * @param animation One ore more animation steps.\n * @returns An object that encapsulates the stagger data.\n *\n * @usageNotes\n * In the following example, a container element wraps a list of items stamped out\n * by an `ngFor`. The container element contains an animation trigger that will later be set\n * to query for each of the inner items.\n *\n * Each time items are added, the opacity fade-in animation runs,\n * and each removed item is faded out.\n * When either of these animations occur, the stagger effect is\n * applied after each item's animation is started.\n *\n * ```html\n * <!-- list.component.html -->\n * <button (click)=\"toggle()\">Show / Hide Items</button>\n * <hr />\n * <div [@listAnimation]=\"items.length\">\n *  <div *ngFor=\"let item of items\">\n *    {{ item }}\n *  </div>\n * </div>\n * ```\n *\n * Here is the component code:\n *\n * ```typescript\n * import {trigger, transition, style, animate, query, stagger} from '@angular/animations';\n * @Component({\n * templateUrl: 'list.component.html',\n *  animations: [\n *    trigger('listAnimation', [\n *    ...\n *    ])\n *  ]\n * })\n * class ListComponent {\n *  items = [];\n *\n *  showItems() {\n *    this.items = [0,1,2,3,4];\n *  }\n *\n *  hideItems() {\n *    this.items = [];\n *  }\n *\n *  toggle() {\n *    this.items.length ? this.hideItems() : this.showItems();\n *  }\n * }\n * ```\n *\n * Here is the animation trigger code:\n *\n * ```typescript\n * trigger('listAnimation', [\n *  transition('* => *', [ // each time the binding value changes\n * query(':leave', [\n *    stagger(100, [\n *      animate('0.5s', style({ opacity: 0 }))\n *    ])\n *  ]),\n * query(':enter', [\n *    style({ opacity: 0 }),\n *    stagger(100, [\n *      animate('0.5s', style({ opacity: 1 }))\n *    ])\n *  ])\n *  ])\n * ])\n * ```\n *\n * @publicApi\n */\nexport function stagger(timings: string|number, animation: AnimationMetadata|AnimationMetadata[]):\n  AnimationStaggerMetadata {\n  return {type: AnimationMetadataType.Stagger,
timings, animation};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at

https://angular.io/license\n */\nexport function scheduleMicroTask(cb: () => any) {\n Promise.resolve(null).then(cb);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {scheduleMicroTask} from '../util';\n\n/**\n * Provides programmatic control of a reusable animation sequence,\n * built using the `build()` method of `AnimationBuilder`. The `build()` method\n * returns a factory, whose `create()` method instantiates and initializes this interface.\n *\n * @see `AnimationBuilder`\n * @see `AnimationFactory`\n * @see `animate()`\n *\n * @publicApi\n */\nexport interface AnimationPlayer {\n /**\n * Provides a callback to invoke when the animation finishes.\n * @param fn The callback function.\n * @see `finish()`\n */\n onDone(fn: () => void): void;\n /**\n * Provides a callback to invoke when the animation starts.\n * @param fn The callback function.\n * @see `run()`\n */\n onStart(fn: () => void): void;\n /**\n * Provides a callback to invoke after the animation is destroyed.\n * @param fn The callback function.\n * @see `destroy()`\n * @see `beforeDestroy()`\n */\n onDestroy(fn: () => void): void;\n /**\n * Initializes the animation.\n */\n init(): void;\n /**\n * Reports whether the animation has started.\n * @returns True if the animation has started, false otherwise.\n */\n hasStarted(): boolean;\n /**\n * Runs the animation, invoking the `onStart()` callback.\n */\n play(): void;\n /**\n * Pauses the animation.\n */\n pause(): void;\n /**\n * Restarts the paused animation.\n */\n restart(): void;\n /**\n * Ends the animation, invoking the `onDone()` callback.\n */\n finish(): void;\n /**\n * Destroys the animation, after invoking the `beforeDestroy()` callback.\n * Calls the `onDestroy()` callback when destruction is completed.\n */\n destroy(): void;\n /**\n * Resets the animation to its initial state.\n */\n reset(): void;\n /**\n * Sets the position of the animation.\n * @param position A 0-based offset into the duration, in milliseconds.\n */\n setPosition(position: any /** TODO #9100 */): void;\n /**\n * Reports the current position of the animation.\n * @returns A 0-based offset into the duration, in milliseconds.\n */\n getPosition(): number;\n /**\n * The parent of this player, if any.\n */\n parentPlayer: AnimationPlayer|null;\n /**\n * The total run time of the animation, in milliseconds.\n */\n readonly totalTime: number;\n /**\n * Provides a callback to invoke before the animation is destroyed.\n */\n beforeDestroy?: () => any;\n /**\n * @internal\n * Internal\n */\n triggerCallback?: (phaseName: string) => void;\n /**\n * @internal\n * Internal\n */\n disabled?: boolean;\n}\n\n/**\n * An empty programmatic controller for reusable animations.\n * Used internally when animations are disabled, to avoid\n * checking for the null case when an animation player is expected.\n *\n * @see `animate()`\n * @see `AnimationPlayer`\n * @see `GroupPlayer`\n *\n * @publicApi\n */\nexport class NoopAnimationPlayer implements AnimationPlayer {\n private _onDoneFns: Function[] = [];\n private _onStartFns: Function[] = [];\n private _onDestroyFns: Function[] = [];\n private _started = false;\n private _destroyed = false;\n private _finished = false;\n private _position = 0;\n public parentPlayer: AnimationPlayer|null = null;\n public readonly totalTime: number;\n constructor(duration: number = 0, delay: number = 0) {\n this.totalTime = duration + delay;\n }\n private _onFinish() {\n if (!this._finished) {\n this._finished = true;\n this._onDoneFns.forEach(fn => fn());\n this._onDoneFns = [];\n }\n }\n onStart(fn: () => void): void {\n this._onStartFns.push(fn);\n }\n onDone(fn: () => void): void {\n this._onDoneFns.push(fn);\n }\n onDestroy(fn: () => void): void {\n this._onDestroyFns.push(fn);\n }\n hasStarted(): boolean {\n return this._started;\n }\n init(): void {}\n play(): void {\n if (!this.hasStarted()) {\n this._onStart();\n this.triggerMicrotask();\n }\n this._started = true;\n }\n\n /** @internal */\n triggerMicrotask() {\n scheduleMicroTask(() => this._onFinish());\n }\n\n private _onStart() {\n this._onStartFns.forEach(fn => fn());\n this._onStartFns = [];\n }\n\n pause(): void {}\n restart(): void {}\n finish(): void {\n this._onFinish();\n }\n destroy(): void {\n if (!this._destroyed) {\n this._destroyed = true;\n if (!this.hasStarted()) {\n this._onStart();\n }\n this.finish();\n this._onDestroyFns.forEach(fn => fn());\n this._onDestroyFns = [];\n }\n }\n reset(): void {}\n setPosition(position: number): void {\n this._position = this.totalTime ? position * this.totalTime : 1;\n }\n getPosition(): number {\n return this.totalTime ? this._position / this.totalTime : 1;\n }\n\n /** @internal */\n triggerCallback(phaseName: string): void {\n const methods = phaseName == 'start' ?

this._onStartFns : this._onDoneFns;\n    methods.forEach(fn => fn());\n    methods.length = 0;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {scheduleMicroTask} from '../util';\nimport {AnimationPlayer} from './animation_player';\n\n/**\n * A programmatic controller for a group of reusable animations.\n * Used internally to control animations.\n *\n * @see `AnimationPlayer`\n * @see `{@link animations/group group()}`\n *\n */\nexport class AnimationGroupPlayer implements AnimationPlayer {\n  private _onDoneFns: Function[] = [];\n  private _onStartFns: Function[] = [];\n  private _finished = false;\n  private _started = false;\n  private _destroyed = false;\n  private _onDestroyFns: Function[] = [];\n\n  public parentPlayer: AnimationPlayer|null = null;\n  public totalTime: number = 0;\n  public readonly players: AnimationPlayer[];\n\n  constructor(_players: AnimationPlayer[]) {\n    this.players = _players;\n    let doneCount = 0;\n    let destroyCount = 0;\n    let startCount = 0;\n    const total = this.players.length;\n\n    if (total == 0) {\n      scheduleMicroTask(() => this._onFinish());\n    } else {\n      this.players.forEach(player => {\n        player.onDone(() => {\n          if (++doneCount == total) {\n            this._onFinish();\n          }\n        });\n        player.onDestroy(() => {\n          if (++destroyCount == total) {\n            this._onDestroy();\n          }\n        });\n        player.onStart(() => {\n          if (++startCount == total) {\n            this._onStart();\n          }\n        });\n      });\n    }\n\n    this.totalTime = this.players.reduce((time, player) => Math.max(time, player.totalTime), 0);\n  }\n\n  private _onFinish() {\n    if (!this._finished) {\n      this._finished = true;\n      this._onDoneFns.forEach(fn => fn());\n      this._onDoneFns = [];\n    }\n  }\n\n  init(): void {\n    this.players.forEach(player => player.init());\n  }\n\n  onStart(fn: () => void): void {\n    this._onStartFns.push(fn);\n  }\n\n  private _onStart() {\n    if (!this.hasStarted()) {\n      this._started = true;\n      this._onStartFns.forEach(fn => fn());\n      this._onStartFns = [];\n    }\n  }\n\n  onDone(fn: () => void): void {\n    this._onDoneFns.push(fn);\n  }\n\n  onDestroy(fn: () => void): void {\n    this._onDestroyFns.push(fn);\n  }\n\n  hasStarted() {\n    return this._started;\n  }\n\n  play() {\n    if (!this.parentPlayer) {\n      this.init();\n    }\n    this._onStart();\n    this.players.forEach(player => player.play());\n  }\n\n  pause(): void {\n    this.players.forEach(player => player.pause());\n  }\n\n  restart(): void {\n    this.players.forEach(player => player.restart());\n  }\n\n  finish(): void {\n    this._onFinish();\n    this.players.forEach(player => player.finish());\n  }\n\n  destroy(): void {\n    this._onDestroy();\n  }\n\n  private _onDestroy() {\n    if (!this._destroyed) {\n      this._destroyed = true;\n      this._onFinish();\n      this.players.forEach(player => player.destroy());\n      this._onDestroyFns.forEach(fn => fn());\n      this._onDestroyFns = [];\n    }\n  }\n\n  reset(): void {\n    this.players.forEach(player => player.reset());\n    this._destroyed = false;\n    this._finished = false;\n    this._started = false;\n  }\n\n  setPosition(p: number): void {\n    const timeAtPosition = p * this.totalTime;\n\n    this.players.forEach(player => {\n      const position = player.totalTime ? Math.min(1, timeAtPosition / player.totalTime) : 1;\n      player.setPosition(position);\n    });\n  }\n\n  getPosition(): number {\n    const longestPlayer =\n        this.players.reduce((longestSoFar: AnimationPlayer|null, player: AnimationPlayer) => {\n          const newPlayerIsLongest =\n              longestSoFar === null || player.totalTime > longestSoFar.totalTime;\n          return newPlayerIsLongest ? player : longestSoFar;\n        }, null);\n    return longestPlayer != null ? longestPlayer.getPosition() : 0;\n  }\n\n  beforeDestroy(): void {\n    this.players.forEach(player => {\n      if (player.beforeDestroy) {\n        player.beforeDestroy();\n      }\n    });\n  }\n\n  /** @internal */\n  triggerCallback(phaseName: string): void {\n    const methods = phaseName == 'start' ? this._onStartFns : this._onDoneFns;\n    methods.forEach(fn => fn());\n    methods.length = 0;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {AnimationGroupPlayer as AnimationGroupPlayer} from './players/animation_group_player';\nexport const PRE_STYLE = '!';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all animation APIs of the animation package.\n */\nexport {AnimationBuilder, AnimationFactory} from './animation_builder';\nexport {AnimationEvent} from './animation_event';\nexport

{animate, animateChild, AnimateChildOptions, AnimateTimings, animation, AnimationAnimateChildMetadata, AnimationAnimateMetadata, AnimationAnimateRefMetadata, AnimationGroupMetadata, AnimationKeyframesSequenceMetadata, AnimationMetadata, AnimationMetadataType, AnimationOptions, AnimationQueryMetadata, AnimationQueryOptions, AnimationReferenceMetadata, AnimationSequenceMetadata, AnimationStaggerMetadata, AnimationStateMetadata, AnimationStyleMetadata, AnimationTransitionMetadata, AnimationTriggerMetadata, AUTO_STYLE, group, keyframes, query, sequence, stagger, state, style, transition, trigger, useAnimation, StyleData} from './animation_metadata';\nexport {AnimationPlayer, NoopAnimationPlayer} from './players/animation_player';\n\nexport * from './private_export';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/animations';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n"],"names":[],"mappings":";;;;;;AAUA;;;;;

AAI,CAAC;YACtB,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,EAAE,IAAI,EAAE,EAAE,CAAC,CAAC;YACpC
,IAAI,CAAC,UAAU,GAAG,EAAE,CAAC;SACtB;KACF;IACD,OAAO,CAAC,EAAc;QACpB,IAAI,CAAC,WA
AW,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KAC3B;IACD,MAAM,CAAC,EAAc;QACnB,IAAI,CAAC,UAAU
,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KAC1B;IACD,SAAS,CAAC,EAAc;QACtB,IAAI,CAAC,aAAa,CAAC
,IAAI,CAAC,EAAE,CAAC,CAAC;KAC7B;IACD,UAAU;QACR,OAAO,IAAI,CAAC,QAAQ,CAAC;KACtB;IACD,OAAO,CAAC,
IAAI,MAAW;IACf,IAAI;QACF,IAAI,CAAC,IAAI,CAAC,UAAU,EAAE,EAAE;YACtB,IAAI,CAAC,QAAQ,,CAAC;KACtB;IACD,

AAE,CAAC;QACjB,IAAI,CAAC,OAAO,CAAC,OAAO,CAAC,MAAM,IAAI,MAAM,CAAC,MAAM,EAAE,CA
AC,CAAC;KACjD;IAED,OAAO;QACL,IAAI,CAAC,UAAU,EAAE,CAAC;KACnB;IAEO,UAAU;QAChB,IAAI,
CAAC,IAAI,CAAC,UAAU,EAAE;YACpB,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC;YACvB,IAAI,CAAC,SAAS
,EAAE,CAAC;YACjB,IAAI,CAAC,OAAO,CAAC,OAAO,CAAC,MAAM,IAAI,MAAM,CAAC,OAAO,EAAE,C
AAC,CAAC;YACjD,IAAI,CAAC,aAAa,CAAC,OAAO,CAAC,EAAE,IAAI,EAAE,EAAE,CAAC,CAAC;YACvC,
IAAI,CAAC,aAAa,GAAG,EAAE,CAAC;SACzB;KACF;IAED,KAAK;QACH,IAAI,CAAC,OAAO,CAAC,OAAO
,CAAC,MAAM,IAAI,MAAM,CAAC,KAAK,EAAE,CAAC,CAAC;QAC/C,IAAI,CAAC,UAAU,GAAG,KAAK,C
AAC;QACxB,IAAI,CAAC,SAAS,GAAG,KAAK,CAAC;QACvB,IAAI,CAAC,QAAQ,GAAG,KAAK,CAAC;KA
CvB;IAED,WAAW,CAAC,CAAS;QACnB,MAAM,cAAc,GAAG,CAAC,CAAC,GAAG,IAAI,CAAC,SAAS,CAAC;QAC1C,
IAAI,CAAC,OAAO,CAAC,OAAO,CAAC,MAAM;YACzB,MAAM,QAAQ,GAAG,MAAM,CAAC,SAAS,GA
AG,IAAI,CAAC,GAAG,CAAC,CAAC,EAAE,cAAc,GAAG,MAAM,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC;
YACvF,MAAM,CAAC,WAAW,CAAC,QAAQ,CAAC,CAAC;SAC9B,CAAC,CAAC;KACJ;IAED,WAAW;QACT
,MAAM,aAAa,GACf,IAAI,CAAC,OAAO,CAAC,MAAM,CAAC,CAAC,YAAkC,EAAE,MAAuB;YAC9E,MAA
M,kBAAkB,GACpB,YAAY,KAAK,IAAI,IAAI,MAAM,CAAC,SAAS,GAAG,YAAY,CAAC,SAAS,CAAC;YACv
E,OAAO,kBAAkB,GAAG,MAAM,GAAG,YAAY,CAAC;SACnD,EAAE,IAAI,CAAC,CAAC;QACb,aAAa,
IAAI,IAAI,GAAG,aAAa,CAAC,WAAW,EAAE,GAAG,CAAC,CAAC;KAChE;IAED,aAAa;QACX,IAAI,CAA
C,OAAO,CAAC,OAAO,CAAC,MAAM;YACzB,IAAI,MAAM,CAAC,aAAa,EAAE;gBACxB,QAAC,CAAC,SAAS,B;IAGD,eAAe;QAC5B,IAAI,CAAC,OAAO,CAAC,OAAO,GAAG,IAAI,CAAC,SAAS,CAAC;QACtC,IAAI,CAAC,SAAS,GAAG,IAAI,;IAGT,gBAAgB;QAC7B,IAAI,CAAC,OAAO,CAAC,OAAO,GAAG,IAAI,CAAC,UAAU,CAAC;QACvC,IAAI,CAAC,UAAU,GAAG,IAAI,;IAGV

*/\nexport class MockAnimationPlayer extends NoopAnimationPlayer {\n  private __finished = false;\n  private __started = false;\n  public previousStyles: {[key: string]: string|number} = {};\n  private _onInitFns: (() => any)[] = [];\n  public currentSnapshot: StyleData = {};\n\n  constructor(\n      public element: any, public keyframes: {[key: string]: string|number}[],\n      public duration: number, public delay: number, public easing: string,\n      public previousPlayers: any[]) {\n    super(duration, delay);\n\n    if (allowPreviousPlayerStylesMerge(duration, delay)) {\n      previousPlayers.forEach(player => {\n        if (player instanceof MockAnimationPlayer) {\n          const styles = player.currentSnapshot;\n          Object.keys(styles).forEach(prop => this.previousStyles[prop] = styles[prop]);\n        }\n      });\n    }\n  }\n\n  /* @internal */\n  onInit(fn: () => any) {\n    this._onInitFns.push(fn);\n  }\n\n  /* @internal */\n  init() {\n    super.init();\n    this._onInitFns.forEach(fn => fn());\n    this._onInitFns = [];\n  }\n\n  finish(): void {\n    super.finish();\n    this.__finished = true;\n  }\n\n  destroy(): void {\n    super.destroy();\n    this.__finished = true;\n  }\n\n  /* @internal */\n  triggerMicrotask() {}\n\n  play(): void {\n    super.play();\n    this.__started = true;\n  }\n\n  hasStarted() {\n    return this.__started;\n  }\n\n  beforeDestroy() {\n    const captures: StyleData = {};\n\n    Object.keys(this.previousStyles).forEach(prop => {\n      captures[prop] = this.previousStyles[prop];\n    });\n\n    if (this.hasStarted()) {\n      // when assembling the captured styles, it's important that\n      // we build the keyframe styles in the following order:\n      // {other styles within keyframes, ... previousStyles }\n      this.keyframes.forEach(kf => {\n        Object.keys(kf).forEach(prop => {\n          if (prop != 'offset') {\n            captures[prop] = this.__finished ? kf[prop] : AUTO_STYLE;\n          }\n        });\n      });\n    }\n\n    this.currentSnapshot = captures;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nexport {MockAnimationDriver, MockAnimationPlayer} from './mock_animation_driver';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/testing';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verifcation. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n"],"names":["validateStyleProperty","matchesElement","containsElement","invokeQuery","allowPreviousPlayerStylesMerge"],"mappings":";;;;;;;;;AAAA;;;;;;;AAWA;;;MAGa,mBAAmB;IAG9B,qBAAqB,CAAC,IAAY;QAChC,OAAO,sBAAqB,CAAC,IAAI,CAAC,CAAC,CAAC

IAAI,IAAI,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,MAAM,CAAC,IAAI,CAAC,CAAC,CAAC;iBAC/E;aACF,CAAC,CAAC;SACJ;KACF;;IAGD,MAAM,CAAC,EAAa;QAClB,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KAC1B;;IAGD,IAAI;QACF,KAAK,CAAC,IAAI,EAAE,CAAC;QACb,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,EAAE,EAAE,CAAC,CAAC;QACpC,IAAI,CAAC,UAAU,GAAG,EAAE,CAAC;KACtB;;IAED,MAAM;QACJ,KAAK,CAAC,MAAM,EAAE,EAAE,CAAC;QACf,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC,OAAO,EAAE,CAAC;KAClC;;IAED,OAAO;QACL,KAAK,CAAC,OAAO,EAAE,CAAC;QAChB,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC,OAAO,EAAE,CAAC;KAClC;;IAGD,gBAAgB,MAAK;IAErB,QACE,KAAK,CAAC,IAAI,EAAE,KAAK,CAAC,IAAI,EAAE,KAAK,CAAC,IAAI,EAA

Found in path(s):
* /animations-11-0-5-tgz/package/bundles/animations-browser.umd.js
* /animations-11-0-5-tgz/package/bundles/animations-browser.umd.min.js
No license file was found, but licenses were detected in source scan.

```
/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/
```

Found in path(s):
* /animations-11-0-5-tgz/package/fesm2015/animations.js
* /animations-11-0-5-tgz/package/fesm2015/browser.js
* /animations-11-0-5-tgz/package/fesm2015/browser/testing.js
No license file was found, but licenses were detected in source scan.

```
/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/*! *****************************************************************************
  Copyright (c) Microsoft Corporation.

  Permission to use, copy, modify, and/or distribute this software for any
  purpose with or without fee is hereby granted.

  THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
  REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
  AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
  INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
  LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
  OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
  PERFORMANCE OF THIS SOFTWARE.
  ***************************************************************************** */
/**
   * @license
   * Copyright Google LLC All Rights Reserved.
```

*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/

Found in path(s):
* /animations-11-0-5-tgz/package/bundles/animations-browser-testing.umd.min.js
* /animations-11-0-5-tgz/package/bundles/animations-browser-testing.umd.js
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"animations.umd.js","sources":["../../../../../packages/animations/src/animation_builder.ts","../../../../../packages/animations/src/animation_metadata.ts","../../../../../packages/animations/src/util.ts","../../../../../packages/animations/src/players/animation_player.ts","../../../../../packages/animations/src/players/animation_group_player.ts","../../../../../packages/animations/src/private_export.ts","../../../../../packages/animations/src/animations.ts","../../../../../packages/animations/public_api.ts","../../../../../packages/animations/index.ts","../../../../../packages/animations/animations.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationMetadata, AnimationOptions} from './animation_metadata';\nimport {AnimationPlayer} from './players/animation_player';\n\n/**\n * An injectable service that produces an animation sequence programmatically within an\n * Angular component or directive.\n * Provided by the `BrowserAnimationsModule` or `NoopAnimationsModule`.\n *\n * @usageNotes\n *\n * To use this service, add it to your component or directive as a dependency.\n * The service is instantiated along with your component.\n *\n * Apps do not typically need to create their own animation players, but if you\n * do need to, follow these steps:\n *\n * 1. Use the `build()` method to create a programmatic animation using the\n * `animate()` function. The method returns an `AnimationFactory` instance.\n *\n * 2. Use the factory object to create an `AnimationPlayer` and attach it to a DOM element.\n *\n * 3. Use the player object to control the animation programmatically.\n *\n * For example:\n *\n * ```ts\n * // import the service from BrowserAnimationsModule\n * import {AnimationBuilder} from '@angular/animations';\n * // require the service as a dependency\n * class MyCmp {\n *   constructor(private _builder: AnimationBuilder) {}\n *\n *   makeAnimation(element: any) {\n *     // first define a reusable animation\n *     const myAnimation = this._builder.build([\n *       style({ width: 0 }),\n *       animate(1000, style({ width: '100px' }))\n *     ]);\n *\n *     // use the returned factory object to create a player\n *     const player = myAnimation.create(element);\n *\n *     player.play();\n *   }\n * }\n * ```\n *\n * @publicApi\n */\nexport abstract class AnimationBuilder {\n  /**\n   * Builds a factory for producing a defined animation.\n   * @param animation A reusable animation definition.\n   * @returns A factory object that can create a player for the defined animation.\n   * @see `animate()`\n   */\n  abstract build(animation: AnimationMetadata|AnimationMetadata[]): AnimationFactory;\n}\n\n/**\n * A factory object returned from the `AnimationBuilder`.`build()` method.\n *\n * @publicApi\n */\nexport abstract class AnimationFactory {\n  /**\n   * Creates an `AnimationPlayer` instance for the reusable animation defined by\n   * the `AnimationBuilder`.`build()` method that created this factory.\n   * Attaches the new player a DOM element.\n   * @param element The DOM element to which to attach the animation.\n   * @param options A set of options that can include a time delay and\n   * additional developer-defined parameters.\n   */\n  abstract create(element: any, options?: AnimationOptions): AnimationPlayer;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Represents a set of CSS styles for use in an animation style.\n */\nexport interface StyleData {\n  [key: string]: string|number;\n}\n\n/**\n * Represents animation-step timing parameters for an animation

```
step.\n * @see `animate()`\n *\n * @publicApi\n */\nexport declare type AnimateTimings = {\n  /**\n   * The full duration of an animation step. A number and optional time unit,\n   * such as \"1s\" or \"10ms\" for one second and 10 milliseconds, respectively.\n   * The default unit is milliseconds.\n   */\n  duration: number,\n  /**\n   * The delay in applying an animation step. A number and optional time unit.\n   * The default unit is milliseconds.\n   */\n  delay: number,\n  /**\n   * An easing style that controls how an animations step accelerates\n   * and decelerates during its run time. An easing function such as `cubic-bezier()`,\n   * or one of the following constants:\n   * - `ease-in`\n   * - `ease-out`\n   * - `ease-in-and-out`\n   */\n  easing: string | null\n};\n\n/**\n * @description Options that control animation styling and timing.\n *\n * The following animation functions accept `AnimationOptions` data:\n *\n * - `transition()`\n * - `sequence()`\n * - `{@link animations/group group()}`\n * - `query()`\n * - `animation()`\n * - `useAnimation()`\n * - `animateChild()`\n *\n * Programmatic animations built using the `AnimationBuilder` service also\n * make use of `AnimationOptions`.\n *\n * @publicApi\n */\nexport declare interface AnimationOptions {\n  /**\n   * Sets a time-delay for initiating an animation action.\n   * A number and optional time unit, such as \"1s\" or \"10ms\" for one second\n   * and 10 milliseconds, respectively.The default unit is milliseconds.\n   * Default value is 0, meaning no delay.\n   */\n  delay?: number|string;\n  /**\n   * A set of developer-defined parameters that modify styling and timing\n   * when an animation action starts. An array of key-value pairs, where the provided value\n   * is used as a default.\n   */\n  params?: {[name: string]: any};\n}\n\n/**\n * Adds duration options to control animation styling and timing for a child animation.\n *\n * @see `animateChild()`\n *\n * @publicApi\n */\nexport declare interface AnimateChildOptions extends AnimationOptions {\n  duration?: number|string;\n}\n\n/**\n * @description Constants for the categories of parameters that can be defined for animations.\n *\n * A corresponding function defines a set of parameters for each category, and\n * collects them into a corresponding `AnimationMetadata` object.\n *\n * @publicApi\n */\nexport const enum AnimationMetadataType {\n  /**\n   * Associates a named animation state with a set of CSS styles.\n   * See `state()`\n   */\n  State = 0,\n  /**\n   * Data for a transition from one animation state to another.\n   * See `transition()`\n   */\n  Transition = 1,\n  /**\n   * Contains a set of animation steps.\n   * See `sequence()`\n   */\n  Sequence = 2,\n  /**\n   * Contains a set of animation steps.\n   * See `{@link animations/group group()}`\n   */\n  Group = 3,\n  /**\n   * Contains an animation step.\n   * See `animate()`\n   */\n  Animate = 4,\n  /**\n   * Contains a set of animation steps.\n   * See `keyframes()`\n   */\n  Keyframes = 5,\n  /**\n   * Contains a set of CSS property-value pairs into a named style.\n   * See `style()`\n   */\n  Style = 6,\n  /**\n   * Associates an animation with an entry trigger that can be attached to an element.\n   * See `trigger()`\n   */\n  Trigger = 7,\n  /**\n   * Contains a re-usable animation.\n   * See `animation()`\n   */\n  Reference = 8,\n  /**\n   * Contains data to use in executing child animations returned by a query.\n   * See `animateChild()`\n   */\n  AnimateChild = 9,\n  /**\n   * Contains animation parameters for a re-usable animation.\n   * See `useAnimation()`\n   */\n  AnimateRef = 10,\n  /**\n   * Contains child-animation query data.\n   * See `query()`\n   */\n  Query = 11,\n  /**\n   * Contains data for staggering an animation sequence.\n   * See `stagger()`\n   */\n  Stagger = 12\n}\n\n/**\n * Specifies automatic styling.\n *\n * @publicApi\n */\nexport const AUTO_STYLE = '*';\n\n/**\n * Base for animation data structures.\n *\n * @publicApi\n */\nexport interface AnimationMetadata {\n  type: AnimationMetadataType;\n}\n\n/**\n * Contains an animation trigger. Instantiated and returned by the\n * `trigger()` function.\n *\n * @publicApi\n */\nexport interface AnimationTriggerMetadata extends AnimationMetadata {\n  /**\n   * The trigger name, used to associate it with an element. Unique within the component.\n   */\n  name: string;\n  /**\n   * An animation definition object, containing an array of state and transition declarations.\n   */\n  definitions: AnimationMetadata[];\n  /**\n   * An options object containing a delay and\n   * developer-defined parameters that provide styling defaults and\n   * can be overridden on invocation. Default delay is 0.\n   */\n  options: {params?: {[name: string]: any}}|null;\n}\n\n/**\n * Encapsulates an animation state by associating a state name with a set of CSS styles.\n * Instantiated and returned by the `state()` function.\n *\n * @publicApi\n */\nexport interface AnimationStateMetadata extends AnimationMetadata {\n  /**\n   * The state name, unique within the component.\n   */\n  name: string;\n  /**\n   * The CSS styles associated with this state.\n   */\n  styles: AnimationStyleMetadata;\n  /**\n   * An options object containing\n   * developer-defined parameters that provide styling defaults and\n   * can
```

be overridden on invocation.\n */\n options?: {params: {[name: string]: any}};\n}\n\n/**\n * Encapsulates an animation transition. Instantiated and returned by the\n * `transition()` function.\n *\n * @publicApi\n */\nexport interface AnimationTransitionMetadata extends AnimationMetadata {\n /**\n * An expression that describes a state change.\n */\n expr: string|\n ((fromState: string, toState: string, element?: any,\n params?: {[key: string]: any}) => boolean);\n /**\n * One or more animation objects to which this transition applies.\n */\n animation: AnimationMetadata|AnimationMetadata[];\n /**\n * An
options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates a reusable animation, which is a collection of individual animation steps.\n * Instantiated and returned by the `animation()` function, and\n * passed to the `useAnimation()` function.\n *\n * @publicApi\n */\nexport interface AnimationReferenceMetadata extends AnimationMetadata {\n /**\n * One or more animation step objects.\n */\n animation: AnimationMetadata|AnimationMetadata[];\n /**\n * An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates an animation query. Instantiated and returned by\n * the `query()` function.\n *\n * @publicApi\n */\nexport interface AnimationQueryMetadata
extends AnimationMetadata {\n /**\n * The CSS selector for this query.\n */\n selector: string;\n /**\n * One or more animation step objects.\n */\n animation: AnimationMetadata|AnimationMetadata[];\n /**\n * A query options object.\n */\n options: AnimationQueryOptions|null;\n}\n\n/**\n * Encapsulates a keyframes sequence. Instantiated and returned by\n * the `keyframes()` function.\n *\n * @publicApi\n */\nexport interface AnimationKeyframesSequenceMetadata extends AnimationMetadata {\n /**\n * An array of animation styles.\n */\n steps: AnimationStyleMetadata[];\n}\n\n/**\n * Encapsulates an animation style. Instantiated and returned by\n * the `style()` function.\n *\n * @publicApi\n */\nexport interface AnimationStyleMetadata extends AnimationMetadata {\n /**\n * A set of CSS style properties.\n */\n styles: '*'|{[key: string]: string | number}|Array<{[key: string]: string | number}|'*'>;\n /**\n * A percentage of the total animate
time at which the style is to be applied.\n */\n offset: number|null;\n}\n\n/**\n * Encapsulates an animation step. Instantiated and returned by\n * the `animate()` function.\n *\n * @publicApi\n */\nexport interface AnimationAnimateMetadata extends AnimationMetadata {\n /**\n * The timing data for the step.\n */\n timings: string|number|AnimateTimings;\n /**\n * A set of styles used in the step.\n */\n styles: AnimationStyleMetadata|AnimationKeyframesSequenceMetadata|null;\n}\n\n/**\n * Encapsulates a child animation, that can be run explicitly when the parent is run.\n * Instantiated and returned by the `animateChild` function.\n *\n * @publicApi\n */\nexport interface AnimationAnimateChildMetadata extends AnimationMetadata {\n /**\n * An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates
a reusable animation.\n * Instantiated and returned by the `useAnimation()` function.\n *\n * @publicApi\n */\nexport interface AnimationAnimateRefMetadata extends AnimationMetadata {\n /**\n * An animation reference object.\n */\n animation: AnimationReferenceMetadata;\n /**\n * An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates an animation sequence.\n * Instantiated and returned by the `sequence()` function.\n *\n * @publicApi\n */\nexport interface AnimationSequenceMetadata extends AnimationMetadata {\n /**\n * An array of animation step objects.\n */\n steps: AnimationMetadata[];\n /**\n * An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options:
AnimationOptions|null;\n}\n\n/**\n * Encapsulates an animation group.\n * Instantiated and returned by the `{@link animations/group group()}` function.\n *\n * @publicApi\n */\nexport interface AnimationGroupMetadata extends AnimationMetadata {\n /**\n * One or more animation or style steps that form this group.\n */\n steps: AnimationMetadata[];\n /**\n * An options object containing a delay and\n * developer-defined parameters that

provide styling defaults and\n * can be overridden on invocation. Default delay is 0.\n */\n options: AnimationOptions|null;\n}\n\n/**\n * Encapsulates animation query options.\n * Passed to the `query()` function.\n *\n * @publicApi\n */\nexport declare interface AnimationQueryOptions extends AnimationOptions {\n /**\n * True if this query is optional, false if it is required. Default is false.\n * A required query throws an error if no elements are retrieved when\n * the query is executed. An optional query does not.\n *\n */\n optional?: boolean;\n /**\n * A maximum total number of results to return from the query.\n * If negative, results are limited from the end of the query list towards the beginning.\n * By default, results are not limited.\n */\n limit?: number;\n}\n\n/**\n * Encapsulates parameters for staggering the start times of a set of animation steps.\n * Instantiated and returned by the `stagger()` function.\n *\n * @publicApi\n **/\nexport interface AnimationStaggerMetadata extends AnimationMetadata {\n /**\n * The timing data for the steps.\n */\n timings: string|number;\n /**\n * One or more animation steps.\n */\n animation: AnimationMetadata|AnimationMetadata[];\n}\n\n/**\n * Creates a named animation trigger, containing a list of `state()`\n * and `transition()` entries to be evaluated when the expression\n * bound to the trigger changes.\n *\n * @param name An identifying string.\n * @param definitions An animation definition object, containing an array of `state()`\n * and `transition()` declarations.\n *\n * @return An object that encapsulates the trigger data.\n *\n * @usageNotes\n * Define an animation trigger in the `animations` section of `@Component` metadata.\n * In the template, reference the trigger by name and bind it to a trigger expression that\n * evaluates to a defined animation state, using the following format:\n *\n * `[@triggerName]=\"expression\"`\n *\n * Animation trigger bindings convert all values to strings, and then match the\n * previous and current values against any linked transitions.\n * Booleans can be specified as `1` or `true` and `0` or `false`.\n *\n * ### Usage Example\n *\n * The following example creates an animation trigger reference based on the provided\n * name value.\n * The provided animation value is expected to be an array consisting of state and\n * transition declarations.\n *\n * ```typescript\n * @Component({\n * selector: \"my-component\",\n * templateUrl: \"my-component-tpl.html\",\n * animations: [\n * trigger(\"myAnimationTrigger\", [\n * state(...),\n * state(...),\n * transition(...),\n * transition(...)\n * ])\n * ]\n * })\n * class MyComponent {\n * myStatusExp = \"something\";\n * }\n * ```\n *\n * The template associated with this component makes use of the defined trigger\n * by binding to an element within its template code.\n *\n * ```html\n * <!-- somewhere inside of my-component-tpl.html -->\n * <div [@myAnimationTrigger]=\"myStatusExp\">...</div>\n * ```\n *\n * ### Using an inline function\n * The `transition` animation method also supports reading an inline function which can decide\n * if its associated animation should be run.\n *\n * ```typescript\n * // this method is run each time the `myAnimationTrigger` trigger value changes.\n * function myInlineMatcherFn(fromState: string, toState: string, element: any, params: {[key:\n string]: any}): boolean {\n * // notice that `element` and `params` are also available here\n * return toState == 'yes-please-animate';\n * }\n *\n * @Component({\n * selector: 'my-component',\n * templateUrl: 'my-component-tpl.html',\n * animations: [\n * trigger('myAnimationTrigger', [\n * transition(myInlineMatcherFn, [\n * // the animation sequence code\n * ]),\n * ])\n * ]\n * })\n * class MyComponent {\n * myStatusExp = \"yes-please-animate\";\n * }\n * ```\n *\n * ### Disabling Animations\n * When true, the special animation control binding `@.disabled` binding prevents\n * all animations from rendering.\n * Place the `@.disabled` binding on an element to disable\n * animations on the element itself, as well as any inner animation triggers\n * within the element.\n *\n * The following example shows how to use this feature:\n *\n * ```typescript\n * @Component({\n * selector: 'my-component',\n * template: `\n * <div [@.disabled]=\"isDisabled\">\n * <div [@childAnimation]=\"exp\"></div>\n * </div>\n * `,\n * animations: [\n * trigger(\"childAnimation\", [\n * // ...\n * ])\n * ]\n * })\n * class MyComponent {\n * isDisabled = true;\n * exp = '...';\n * }\n * ```\n *\n * When `@.disabled` is true, it prevents the `@childAnimation` trigger from animating,\n * along with any inner animations.\n *\n * ### Disable animations application-wide\n * When an area of the template is set to have animations disabled,\n * **all** inner components have their animations disabled as well.\n * This means that you can disable all animations for an app\n * by placing a host binding set on `@.disabled` on the topmost Angular component.\n *\n * ```typescript\n * import {Component, HostBinding} from '@angular/core';\n *\n * @Component({\n * selector: 'app-component',\n * templateUrl:

'app.component.html',\n * })\n * class AppComponent {\n *   @HostBinding('@.disabled')\n *   public animationsDisabled = true;\n * }\n * ```\n *\n * ### Overriding disablement of inner animations\n * Despite inner animations being disabled, a parent animation can `query()`\n * for inner elements located in disabled areas of the template and still animate\n * them if needed. This is also the case for when a sub animation is\n * queried by a parent and then later animated using `animateChild()`.\n *\n * ### Detecting when an animation is disabled\n * If a region of the DOM (or the entire application) has its animations disabled, the animation\n * trigger callbacks still fire, but for zero seconds. When the callback fires, it provides\n * an instance of an `AnimationEvent`. If animations are disabled,\n * the `.disabled` flag on the event is true.\n *\n * @publicApi\n */\nexport function trigger(name: string, definitions: AnimationMetadata[]): AnimationTriggerMetadata {\n  return {type: AnimationMetadataType.Trigger, name, definitions, options: {}};\n}\n\n/**\n * Defines an animation step that combines styling information with timing information.\n *\n * @param timings Sets `AnimateTimings` for the parent animation.\n * A string in the format \"duration [delay] [easing]\".\n *  - Duration and delay are expressed as a number and optional time unit,\n * such as \"1s\" or \"10ms\" for one second and 10 milliseconds, respectively.\n * The default unit is milliseconds.\n *  - The easing value controls how the animation accelerates and decelerates\n * during its runtime. Value is one of  `ease`, `ease-in`, `ease-out`,\n * `ease-in-out`, or a `cubic-bezier()` function call.\n * If not supplied, no easing is applied.\n *\n * For example, the string \"1s 100ms ease-out\" specifies a duration of\n * 1000 milliseconds, and delay of 100 ms, and the \"ease-out\" easing style,\n * which decelerates near the end of the duration.\n * @param styles Sets AnimationStyles for the parent animation.\n * A function call to either `style()` or `keyframes()`\n * that returns a collection of CSS style entries to be applied to the parent animation.\n * When null, uses the styles from the destination state.\n * This is useful when describing an animation step that will complete an animation;\n * see \"Animating to the final state\" in `transitions()`.\n * @returns An object that encapsulates the animation step.\n *\n * @usageNotes\n * Call within an animation `sequence()`, `{@link animations/group group()}`, or\n * `transition()` call to specify an animation step\n * that applies given style data to the parent animation for a given amount of time.\n *\n * ### Syntax Examples\n * **Timing examples**\n *\n * The following examples show various `timings` specifications.\n * - `animate(500)` : Duration is 500 milliseconds.\n * - `animate(\"1s\")` : Duration is 1000 milliseconds.\n * - `animate(\"100ms 0.5s\")` : Duration is 100 milliseconds, delay is 500 milliseconds.\n * - `animate(\"5s ease-in\")` : Duration is 5000 milliseconds, easing in.\n * - `animate(\"5s 10ms cubic-bezier(.17,.67,.88,.1)\")` : Duration is 5000 milliseconds, delay is 10\n * milliseconds, easing according to a bezier curve.\n *\n * **Style examples**\n *\n * The following example calls `style()` to set a single CSS style.\n * ```typescript\n * animate(500, style({ background: \"red\" }))\n * ```\n * The following example calls `keyframes()` to set a CSS style\n * to different values for successive keyframes.\n * ```typescript\n * animate(500, keyframes(\n *  [\n *   style({ background: \"blue\" }),\n *   style({ background: \"red\" })\n *  ])\n * ```\n *\n * @publicApi\n */\nexport function animate(\n    timings: string|number,\n    styles: AnimationStyleMetadata|AnimationKeyframesSequenceMetadata|null =\n        null): AnimationAnimateMetadata {\n  return {type: AnimationMetadataType.Animate, styles, timings};\n}\n\n/**\n * @description Defines a list of animation steps to be run in parallel.\n *\n * @param steps An array of animation step objects.\n * - When steps are defined by `style()` or `animate()`\n * function calls, each call within the group is executed instantly.\n * - To specify offset styles to be applied at a later time, define steps with\n * `keyframes()`, or use `animate()` calls with a delay value.\n * For example:\n *\n * ```typescript\n * group([\n *   animate(\"1s\", style({ background: \"black\" })),\n *   animate(\"2s\", style({ color: \"white\" }))\n * ])\n * ```\n *\n * @param options An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation.\n *\n * @return An object that encapsulates the group data.\n *\n * @usageNotes\n * Grouped animations are useful when a series of styles must be\n * animated at different starting times and closed off at different ending times.\n *\n * When called within a `sequence()` or a\n * `transition()` call, does not continue to the next\n * instruction until all of the inner animation steps have completed.\n *\n * @publicApi\n */\nexport function group(\n    steps: AnimationMetadata[], options: AnimationOptions|null = null):

AnimationGroupMetadata {\n  return {type: AnimationMetadataType.Group, steps, options};\n}\n\n/**\n * Defines a list of animation steps to be run sequentially, one by one.\n *\n * @param steps An array of animation step objects.\n * - Steps defined by `style()` calls apply the styling data immediately.\n * - Steps defined by `animate()` calls apply the styling data over time\n *    as specified by the timing data.\n *\n * ```typescript\n * sequence([\n *   style({ opacity: 0 }),\n *   animate(\"1s\", style({ opacity: 1 }))\n * ])\n * ```\n *\n * @param options An options object containing a delay and\n * developer-defined parameters that provide styling defaults and\n * can be overridden on invocation.\n *\n * @return An object that encapsulates the sequence data.\n *\n * @usageNotes\n * When you pass an array of steps to a\n * `transition()` call, the steps run sequentially by default.\n * Compare this to the `{@link animations/group group()}` call, which runs animation steps in\n *parallel.\n *\n * When a sequence is used within a `{@link animations/group group()}` or a `transition()` call,\n * execution continues to the next instruction only after each of the inner animation\n * steps have completed.\n *\n * @publicApi\n **/\nexport function sequence(\n    steps: AnimationMetadata[], options: AnimationOptions|null = null): AnimationSequenceMetadata {\n  return {type: AnimationMetadataType.Sequence, steps, options};\n}\n\n/**\n * Declares a key/value object containing CSS properties/styles that\n * can then be used for an animation `state`, within an animation `sequence`,\n * or as styling data for calls to `animate()` and `keyframes()`.\n *\n * @param tokens A set of CSS styles or HTML styles associated with an animation state.\n * The value can be any of the following:\n * - A key-value style pair associating a CSS property with a value.\n * - An array of key-value style pairs.\n * - An asterisk (*), to use auto-styling, where styles are derived from the element\n * being animated and applied to the animation when it starts.\n *\n * Auto-styling can be used to define a state that depends on layout or other\n * environmental factors.\n *\n * @return An object that encapsulates the style data.\n *\n * @usageNotes\n * The following examples create animation styles that collect a set of\n * CSS property values:\n *\n * ```typescript\n * // string values for CSS properties\n * style({ background: \"red\", color: \"blue\" })\n *\n * // numerical pixel values\n * style({ width: 100, height: 0 })\n * ```\n *\n * The following example uses auto-styling to allow a component to animate from\n * a height of 0 up to the height of the parent element:\n *\n * ```\n * style({ height: 0 }),\n * animate(\"1s\", style({ height: \"*\" }))\n * ```\n *\n * @publicApi\n **/\nexport function style(tokens: '*'|{[key: string]: string | number}|\n                      Array<'*'|{[key: string]: string | number}>): AnimationStyleMetadata {\n  return {type: AnimationMetadataType.Style,
 styles: tokens, offset: null};\n}\n\n/**\n * Declares an animation state within a trigger attached to an element.\n *\n * @param name One or more names for the defined state in a comma-separated string.\n * The following reserved state names can be supplied to define a style for specific use\n * cases:\n *\n * - `void` You can associate styles with this name to be used when\n * the element is detached from the application. For example, when an `ngIf` evaluates\n * to false, the state of the associated element is void.\n *  - `*` (asterisk) Indicates the default state. You can associate styles with this name\n * to be used as the fallback when the state that is being animated is not declared\n * within the trigger.\n *\n * @param styles A set of CSS styles associated with this state, created using the\n * `style()` function.\n * This set of styles persists on the element once the state has been reached.\n * @param options Parameters that can be passed to the state when
 it is invoked.\n * 0 or more key-value pairs.\n * @return An object that encapsulates the new state data.\n *\n * @usageNotes\n * Use the `trigger()` function to register states to an animation trigger.\n * Use the `transition()` function to animate between states.\n * When a state is active within a component, its associated styles persist on the element,\n * even when the animation ends.\n *\n * @publicApi\n **/\nexport function state(\n    name: string, styles: AnimationStyleMetadata,\n    options?: {params: {[name: string]: any}}): AnimationStateMetadata {\n  return {type: AnimationMetadataType.State, name, styles, options};\n}\n\n/**\n * Defines a set of animation styles, associating each style with an optional `offset` value.\n *\n * @param steps A set of animation styles with optional offset data.\n * The optional `offset` value for a style specifies a percentage of the total animation\n * time at which that style is applied.\n * @returns An object that encapsulates the keyframes
 data.\n *\n * @usageNotes\n * Use with the `animate()` call. Instead of applying animations\n * from the current state\n * to the destination state, keyframes describe how each style entry is applied and at what point\n * within the animation arc.\n * Compare [CSS Keyframe Animations](https://www.w3schools.com/css/css3_animations.asp).\n

*\n * ### Usage\n *\n * In the following example, the offset values describe\n * when each `backgroundColor` value is applied. The color is red at the start, and changes to\n * blue when 20% of the total time has elapsed.\n *\n * ```typescript\n * // the provided offset values\n * animate(\"5s\", keyframes([\n *  style({ backgroundColor: \"red\", offset: 0 }),\n *  style({ backgroundColor: \"blue\", offset: 0.2 }),\n *  style({ backgroundColor: \"orange\", offset: 0.3 }),\n *  style({ backgroundColor: \"black\", offset: 1 })\n * ]))\n * ```\n *\n * If there are no `offset` values specified in the style entries, the offsets\n * are calculated automatically.\n *\n * ```typescript\n * animate(\"5s\", keyframes([\n *  style({ backgroundColor: \"red\" }) // offset = 0\n *  style({ backgroundColor: \"blue\" }) // offset = 0.33\n *  style({ backgroundColor: \"orange\" }) // offset = 0.66\n * style({ backgroundColor: \"black\" }) // offset = 1\n * ]))\n *```\n\n * @publicApi\n */\nexport function keyframes(steps: AnimationStyleMetadata[]): AnimationKeyframesSequenceMetadata {\n return {type: AnimationMetadataType.Keyframes, steps};\n}\n\n/**\n * Declares an animation transition as a sequence of animation steps to run when a given\n * condition is satisfied. The condition is a Boolean expression or function that compares\n * the previous and current animation states, and returns true if this transition should occur.\n * When the state criteria of a defined transition are met, the associated animation is\n * triggered.\n *\n * @param stateChangeExpr A Boolean expression or function that compares the previous and current\n * animation states, and returns true if this transition should occur. Note that \"true\" and \"false\"\n * match 1 and 0, respectively. An expression is evaluated each time a state change occurs in the\n * animation trigger element.\n * The animation steps run when the expression evaluates to true.\n *\n * - A state-change string takes the form \"state1 => state2\", where each side is a defined animation\n * state, or an asterix (*) to refer to a dynamic start or end state.\n *  - The expression string can contain multiple comma-separated statements;\n * for example \"state1 => state2, state3 => state4\".\n *  - Special values `:enter` and `:leave` initiate a transition on the entry and exit states,\n * equivalent to \"void => *\" and \"* => void\".\n *  - Special values `:increment` and `:decrement` initiate a transition when a numeric value has\n * increased or decreased in value.\n * - A function is executed each time a state change occurs in the animation trigger element.\n * The animation steps run when the function returns true.\n *\n * @param steps One or more animation objects, as returned by the `animate()` or\n * `sequence()` function, that form a transformation from one state to another.\n * A sequence is used by default when you pass an array.\n * @param options An options object that can contain a delay value for the start of the animation,\n * and additional developer-defined parameters. Provided values for additional parameters are used\n * as defaults, and override values can be passed to the caller on invocation.\n * @returns An object that encapsulates the transition data.\n *\n * @usageNotes\n * The template associated with a component binds an animation trigger to an element.\n *\n * ```HTML\n * <!-- somewhere inside of my-component-tpl.html -->\n * <div [@myAnimationTrigger]=\"myStatusExp\">...</div>\n * ```\n *\n * All transitions are defined within an animation trigger,\n * along with named states that the transitions change to and from.\n *\n * ```typescript\n * trigger(\"myAnimationTrigger\", [\n *  // define states\n *  state(\"on\", style({ background: \"green\" })),\n *  state(\"off\", style({ background: \"grey\" })),\n *  ...]\n * ```\n *\n * Note that when you call the `sequence()` function within a `{@link animations/group group()}`\n * or a `transition()` call, execution does not continue to the next instruction\n * until each of the inner animation steps have completed.\n *\n * ### Syntax examples\n *\n * The following examples define transitions between the two defined states (and default states),\n * using various options:\n *\n * ```typescript\n * // Transition occurs when the state value\n * // bound to \"myAnimationTrigger\" changes from \"on\" to \"off\"\n * transition(\"on => off\", animate(500))\n * // Run the same animation for both directions\n * transition(\"on <=> off\", animate(500))\n * // Define multiple state-change pairs separated by commas\n * transition(\"on => off, off => void\", animate(500))\n * ```\n *\n * ### Special values for state-change expressions\n *\n * - Catch-all state change for when an element is inserted into the page and the\n * destination state is unknown:\n *\n * ```typescript\n * transition(\"void => *\", [\n *  style({ opacity: 0 }),\n *  animate(500)\n *  ])\n * ```\n *\n * - Capture a state change between any states:\n *\n * `transition(\"* => *\", animate(\"1s 0s\"))`\n *\n * - Entry and exit transitions:\n *\n * ```typescript\n * transition(\":enter\", [\n *  style({ opacity: 0 }),\n *  animate(500, style({ opacity: 1 }))\n *  ]),\n * transition(\":leave\", [\n *  animate(500, style({ opacity: 0 }))\n *  ])\n * ```\n *\n * - Use `:increment` and

`:decrement` to initiate transitions:\n *\n * ```typescript\n * transition(\":increment\", group([\n *  query(':enter', [\n *  style({ left: '100%' }),\n *  animate('0.5s ease-out', style('*'))\n *  ]),\n *  query(':leave', [\n *  animate('0.5s ease-out', style({ left: '-100%' }))\n *  ])\n *
])\n *\n * transition(\":decrement\", group([\n *  query(':enter', [\n *  style({ left: '100%' }),\n *  animate('0.5s ease-out', style('*'))\n *  ]),\n *  query(':leave', [\n *  animate('0.5s ease-out', style({ left: '-100%' }))\n *  ])\n *
]))\n * ```\n *\n * ### State-change functions\n *\n * Here is an example of a `fromState` specified as a state-change function that invokes an\n * animation when true:\n *\n * ```typescript\n * transition((fromState, toState) =>\n *  {\n *  return fromState == \"off\" && toState == \"on\";\n *  },\n *  animate(\"1s 0s\"))\n * ```\n *\n * ### Animating to the final state\n *\n * If the final step in a transition is a call to `animate()` that uses a timing value\n * with no style data, that step is automatically considered the final animation arc,\n * for the element to reach the final state. Angular automatically adds or removes\n * CSS styles to ensure that the element is in the correct final state.\n *\n * The following example defines
a transition that starts by hiding the element,\n * then makes sure that it animates properly to whatever state is currently active for trigger:\n *\n * ```typescript\n * transition(\"void => *\", [\n *  style({ opacity: 0 }),\n *
animate(500)\n *  ])\n * ```\n * ### Boolean value matching\n * If a trigger binding value is a Boolean, it can be matched using a transition expression\n * that compares true and false or 1 and 0. For example:\n *\n * ```\n * // in the template\n * <div [@openClose]=\"open ? true : false\">... \n * // in the component metadata\n *
trigger('openClose', [\n *  state('true', style({ height: '*' })),\n *  state('false', style({ height: '0px' })),\n *
transition('false <=> true', animate(500))\n * ])\n * ```\n *\n * @publicApi\n **/\nexport function transition(\n
stateChangeExpr: string|\n  ((fromState: string, toState: string, element?: any, params?: {[key: string]: any}) =>
boolean),\n  steps: AnimationMetadata|AnimationMetadata[],\n  options:
AnimationOptions|null = null): AnimationTransitionMetadata {\n  return {type:
AnimationMetadataType.Transition, expr: stateChangeExpr, animation: steps, options};\n}\n\n/**\n * Produces a reusable animation that can be invoked in another animation or sequence,\n * by calling the `useAnimation()`
function.\n *\n * @param steps One or more animation objects, as returned by the `animate()`\n * or `sequence()`
function, that form a transformation from one state to another.\n * A sequence is used by default when you pass an array.\n * @param options An options object that can contain a delay value for the start of the\n * animation, and additional developer-defined parameters.\n * Provided values for additional parameters are used as defaults,\n * and override values can be passed to the caller on invocation.\n * @returns An object that encapsulates the animation data.\n *\n * @usageNotes\n * The following example defines a reusable animation, providing some default parameter\n * values.\n
*\n * ```typescript\n * var fadeAnimation = animation([\n *  style({ opacity: '{{ start }}' }),\n *  animate('{{ time }}',\n *  style({ opacity: '{{ end }}'}))\n *  ],\n *  { params: { time: '1000ms', start: 0, end: 1 }});\n * ```\n *\n * The following invokes the defined animation with a call to `useAnimation()`,\n * passing in override parameter values.\n *\n * ```js\n * useAnimation(fadeAnimation, {\n *  params: {\n *  time: '2s',\n *  start: 1,\n *  end: 0\n *  }\n * })\n * ```\n *\n * If any of the passed-in parameter values are missing from this call,\n * the default values are used. If one or more parameter values are missing before a step is\n * animated, `useAnimation()` throws an error.\n *\n * @publicApi\n */\nexport function animation(\n  steps:
AnimationMetadata|AnimationMetadata[],\n  options: AnimationOptions|null = null):
AnimationReferenceMetadata {\n  return {type: AnimationMetadataType.Reference, animation: steps,
options};\n}\n\n/**\n * Executes
a queried inner animation element within an animation sequence.\n *\n * @param options An options object that can contain a delay value for the start of the\n * animation, and additional override values for developer-defined parameters.\n * @return An object that encapsulates the child animation data.\n *\n * @usageNotes\n * Each time an animation is triggered in Angular, the parent animation\n * has priority and any child animations are blocked. In order\n * for a child animation to run, the parent animation must query each of the elements\n * containing child animations, and run them using this function.\n *\n * Note that this feature is designed to be used with `query()` and it will only work\n * with animations that are assigned using the Angular animation library. CSS keyframes\n * and

transitions are not handled by this API.\n *\n * @publicApi\n */\nexport function animateChild(options: AnimateChildOptions|null = null):\n AnimationAnimateChildMetadata {\n return {type: AnimationMetadataType.AnimateChild,
options};\n}\n\n/**\n * Starts a reusable animation that is created using the `animation()` function.\n *\n * @param animation The reusable animation to start.\n * @param options An options object that can contain a delay value for the start of\n * the animation, and additional override values for developer-defined parameters.\n * @return An object that contains the animation parameters.\n *\n * @publicApi\n */\nexport function useAnimation(\n animation: AnimationReferenceMetadata,\n options: AnimationOptions|null = null): AnimationAnimateRefMetadata {\n return {type: AnimationMetadataType.AnimateRef, animation, options};\n}\n\n/**\n * Finds one or more inner elements within the current element that is\n * being animated within a sequence. Use with `animate()`.\n *\n * @param selector The element to query, or a set of elements that contain Angular-specific\n * characteristics, specified with one or more of the following tokens.\n * - `query(\":enter\")`
or `query(\":leave\")` : Query for newly inserted/removed elements.\n * - `query(\":animating\")` : Query all currently animating elements.\n * - `query(\"@triggerName\")` : Query elements that contain an animation trigger.\n * - `query(\"@*\")` : Query all elements that contain an animation triggers.\n * - `query(\":self\")` : Include the current element into the animation sequence.\n *\n * @param animation One or more animation steps to apply to the queried element or elements.\n * An array is treated as an animation sequence.\n * @param options An options object. Use the 'limit' field to limit the total number of\n * items to collect.\n * @return An object that encapsulates the query data.\n *\n * @usageNotes\n * Tokens can be merged into a combined query selector string. For example:\n *\n * ```typescript\n * query(':self, .record:enter, .record:leave, @subTrigger', [...])\n * ```\n *\n * The `query()` function collects multiple elements and works internally by using\n
* `element.querySelectorAll`. Use the `limit` field of an options object to limit\n * the total number of items to be collected. For example:\n *\n * ```js\n * query('div', [\n * animate(...),\n * animate(...)\n * ], { limit: 1 })\n * ```\n *\n * By default, throws an error when zero items are found. Set the\n * `optional` flag to ignore this error. For example:\n *\n * ```js\n * query('.some-element-that-may-not-be-there', [\n * animate(...),\n * animate(...)\n * ], { optional: true })\n * ```\n *\n * ### Usage Example\n *\n * The following example queries for inner elements and animates them\n * individually using `animate()`.\n *\n * ```typescript\n * @Component({\n * selector: 'inner',\n * template: `\n * <div [@queryAnimation]=\"exp\">\n * <h1>Title</h1>\n * <div class=\"content\">\n * Blah blah blah\n * </div>\n * </div>\n * `,\n * animations: [\n * trigger('queryAnimation', [\n * transition('* => goAnimate', [\n *
// hide the inner elements\n * query('h1', style({ opacity: 0 })),\n * query('.content', style({ opacity: 0 })),\n *\n * // animate the inner elements in, one by one\n * query('h1', animate(1000, style({ opacity: 1 }))),\n * query('.content', animate(1000, style({ opacity: 1 }))),\n * ])\n * ])\n * ]\n * })\n * class Cmp {\n * exp = '';\n *\n * goAnimate() {\n * this.exp = 'goAnimate';\n * }\n * }\n * ```\n *\n * @publicApi\n */\nexport function query(\n selector: string, animation: AnimationMetadata|AnimationMetadata[],\n options: AnimationQueryOptions|null = null): AnimationQueryMetadata {\n return {type: AnimationMetadataType.Query, selector, animation, options};\n}\n\n/**\n * Use within an animation `query()` call to issue a timing gap after\n * each queried item is animated.\n *\n * @param timings A delay value.\n * @param animation One ore more animation steps.\n * @returns An object that encapsulates the stagger data.\n
*\n * @usageNotes\n * In the following example, a container element wraps a list of items stamped out\n * by an `ngFor`. The container element contains an animation trigger that will later be set\n * to query for each of the inner items.\n *\n * Each time items are added, the opacity fade-in animation runs,\n * and each removed item is faded out.\n * When either of these animations occur, the stagger effect is\n * applied after each item's animation is started.\n *\n * ```html\n * <!-- list.component.html -->\n * <button (click)=\"toggle()\">Show / Hide Items</button>\n * <hr />\n * <div [@listAnimation]=\"items.length\">\n * <div *ngFor=\"let item of items\">\n * {{ item }}\n * </div>\n * </div>\n * ```\n *\n * Here is the component code:\n *\n * ```typescript\n * import {trigger, transition, style, animate, query, stagger} from '@angular/animations';\n * @Component({\n *

templateUrl: 'list.component.html',\n *  animations: [\n *  trigger('listAnimation', [\n *  ...\n *  ])\n *  ]\n * })\n * class ListComponent {\n *  items = [];\n *\n *  showItems() {\n *  this.items = [0,1,2,3,4];\n *  }\n *\n *  hideItems() {\n *  this.items = [];\n *  }\n *\n *  toggle() {\n *  this.items.length ? this.hideItems() : this.showItems();\n *  }\n *  }\n * ```\n *\n * Here is the animation trigger code:\n *\n * ```typescript\n * trigger('listAnimation', [\n *  transition('* => *', [ // each time the binding value changes\n * query(':leave', [\n *  stagger(100, [\n *  animate('0.5s', style({ opacity: 0 }))\n *  ])\n *  ]),\n * query(':enter', [\n *  style({ opacity: 0 }),\n *  stagger(100, [\n *  animate('0.5s', style({ opacity: 1 }))\n *  ])\n *  ])\n *  ])\n * ])\n * ```\n *\n * @publicApi\n */\nexport function stagger(timings: string|number, animation: AnimationMetadata|AnimationMetadata[]):\n  AnimationStaggerMetadata {\n  return {type: AnimationMetadataType.Stagger, timings, animation};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nexport function scheduleMicroTask(cb: () => any) {\n  Promise.resolve(null).then(cb);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {scheduleMicroTask} from '../util';\n\n/**\n * Provides programmatic control of a reusable animation sequence,\n * built using the `build()` method of `AnimationBuilder`. The `build()` method\n * returns a factory, whose `create()` method instantiates and initializes this interface.\n *\n * @see `AnimationBuilder`\n * @see `AnimationFactory`\n * @see `animate()`\n *\n * @publicApi\n */\nexport interface AnimationPlayer {\n  /**\n  * Provides a callback to invoke when the animation finishes.\n  * @param fn The callback function.\n  * @see `finish()`\n  */\n  onDone(fn: () => void): void;\n  /**\n  * Provides a callback to invoke when the animation starts.\n  * @param fn The callback function.\n  * @see `run()`\n  */\n  onStart(fn: () => void): void;\n  /**\n  * Provides a callback to invoke after the animation is destroyed.\n  * @param fn The callback function.\n  * @see `destroy()`\n  * @see `beforeDestroy()`\n  */\n  onDestroy(fn: () => void): void;\n  /**\n  * Initializes the animation.\n  */\n  init(): void;\n  /**\n  * Reports whether the animation has started.\n  * @returns True if the animation has started, false otherwise.\n  */\n  hasStarted(): boolean;\n  /**\n  * Runs the animation, invoking the `onStart()` callback.\n  */\n  play(): void;\n  /**\n  * Pauses the animation.\n  */\n  pause(): void;\n  /**\n  * Restarts the paused animation.\n  */\n  restart(): void;\n  /**\n  * Ends the animation, invoking the `onDone()` callback.\n  */\n  finish(): void;\n  /**\n  * Destroys the animation, after invoking the `beforeDestroy()` callback.\n  * Calls the `onDestroy()` callback when destruction is completed.\n  */\n  destroy(): void;\n  /**\n  * Resets the animation to its initial state.\n  */\n  reset(): void;\n  /**\n  * Sets the position of the animation.\n  * @param position A 0-based offset into the duration, in milliseconds.\n  */\n  setPosition(position: any /** TODO #9100 */): void;\n  /**\n  * Reports the current position of the animation.\n  * @returns A 0-based offset into the duration, in milliseconds.\n  */\n  getPosition(): number;\n  /**\n  * The parent of this player, if any.\n  */\n  parentPlayer: AnimationPlayer|null;\n  /**\n  * The total run time of the animation, in milliseconds.\n  */\n  readonly totalTime: number;\n  /**\n  * Provides a callback to invoke before the animation is destroyed.\n  */\n  beforeDestroy?: () => any;\n  /**\n  * @internal\n  * Internal\n  */\n  triggerCallback?: (phaseName: string) => void;\n  /**\n  * @internal\n  * Internal\n  */\n  disabled?: boolean;\n}\n\n/**\n * An empty programmatic controller for reusable animations.\n * Used internally when animations are disabled, to avoid\n * checking for the null case when an animation player is expected.\n *\n * @see `animate()`\n * @see `AnimationPlayer`\n * @see `GroupPlayer`\n *\n * @publicApi\n */\nexport class NoopAnimationPlayer implements AnimationPlayer {\n  private _onDoneFns: Function[] = [];\n  private _onStartFns: Function[] = [];\n  private _onDestroyFns: Function[] = [];\n  private _started = false;\n  private _destroyed = false;\n  private _finished = false;\n  private _position = 0;\n  public parentPlayer: AnimationPlayer|null = null;\n  public readonly totalTime: number;\n  constructor(duration: number = 0, delay: number = 0) {\n  this.totalTime = duration + delay;\n  }\n  private _onFinish() {\n  if (!this._finished) {\n  this._finished

```
= true;\n      this._onDoneFns.forEach(fn => fn());\n      this._onDoneFns = [];\n    }\n  }\n  onStart(fn: () => void): void {\n    this._onStartFns.push(fn);\n  }\n  onDone(fn: () => void): void {\n    this._onDoneFns.push(fn);\n  }\n  onDestroy(fn: () => void): void {\n    this._onDestroyFns.push(fn);\n  }\n  hasStarted(): boolean {\n    return this._started;\n  }\n  init(): void {}\n  play(): void {\n    if (!this.hasStarted()) {\n      this._onStart();\n      this.triggerMicrotask();\n    }\n    this._started = true;\n  }\n\n  /** @internal */\n  triggerMicrotask() {\n    scheduleMicroTask(() => this._onFinish());\n  }\n\n  private _onStart() {\n    this._onStartFns.forEach(fn => fn());\n    this._onStartFns = [];\n  }\n\n  pause(): void {}\n  restart(): void {}\n  finish(): void {\n    this._onFinish();\n  }\n  destroy(): void {\n    if (!this._destroyed) {\n      this._destroyed = true;\n      if (!this.hasStarted()) {\n        this._onStart();\n      }\n      this.finish();\n
      this._onDestroyFns.forEach(fn => fn());\n      this._onDestroyFns = [];\n    }\n  }\n  reset(): void {}\n  setPosition(position: number): void {\n    this._position = this.totalTime ? position * this.totalTime : 1;\n  }\n  getPosition(): number {\n    return this.totalTime ? this._position / this.totalTime : 1;\n  }\n\n  /** @internal */\n  triggerCallback(phaseName: string): void {\n    const methods = phaseName == 'start' ? this._onStartFns : this._onDoneFns;\n    methods.forEach(fn => fn());\n    methods.length = 0;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {scheduleMicroTask} from '../util';\nimport {AnimationPlayer} from './animation_player';\n\n/**\n * A programmatic controller for a group of reusable animations.\n * Used internally to control animations.\n *\n * @see `AnimationPlayer`\n * @see `{@link animations/group group()}`\n *\n */\nexport class AnimationGroupPlayer implements AnimationPlayer {\n  private _onDoneFns: Function[] = [];\n  private _onStartFns: Function[] = [];\n  private _finished = false;\n  private _started = false;\n  private _destroyed = false;\n  private _onDestroyFns: Function[] = [];\n\n  public parentPlayer: AnimationPlayer|null = null;\n  public totalTime: number = 0;\n  public readonly players: AnimationPlayer[];\n\n  constructor(_players: AnimationPlayer[]) {\n    this.players = _players;\n    let doneCount = 0;\n    let destroyCount = 0;\n    let startCount = 0;\n    const total = this.players.length;\n\n    if (total == 0) {\n      scheduleMicroTask(() => this._onFinish());\n    } else {\n      this.players.forEach(player => {\n        player.onDone(() => {\n          if (++doneCount == total) {\n            this._onFinish();\n          }\n        });\n        player.onDestroy(() => {\n          if (++destroyCount == total) {\n
      this._onDestroy();\n          }\n        });\n        player.onStart(() => {\n          if (++startCount == total) {\n            this._onStart();\n          }\n        });\n      });\n    }\n\n    this.totalTime = this.players.reduce((time, player) => Math.max(time, player.totalTime), 0);\n  }\n\n  private _onFinish() {\n    if (!this._finished) {\n      this._finished = true;\n      this._onDoneFns.forEach(fn => fn());\n      this._onDoneFns = [];\n    }\n  }\n\n  init(): void {\n    this.players.forEach(player => player.init());\n  }\n\n  onStart(fn: () => void): void {\n    this._onStartFns.push(fn);\n  }\n\n  private _onStart() {\n    if (!this.hasStarted()) {\n      this._started = true;\n      this._onStartFns.forEach(fn => fn());\n      this._onStartFns = [];\n    }\n  }\n\n  onDone(fn: () => void): void {\n    this._onDoneFns.push(fn);\n  }\n\n  onDestroy(fn: () => void): void {\n    this._onDestroyFns.push(fn);\n  }\n\n  hasStarted() {\n    return this._started;\n  }\n\n
  play() {\n    if (!this.parentPlayer) {\n      this.init();\n    }\n    this._onStart();\n    this.players.forEach(player => player.play());\n  }\n\n  pause(): void {\n    this.players.forEach(player => player.pause());\n  }\n\n  restart(): void {\n    this.players.forEach(player => player.restart());\n  }\n\n  finish(): void {\n    this._onFinish();\n    this.players.forEach(player => player.finish());\n  }\n\n  destroy(): void {\n    this._onDestroy();\n  }\n\n  private _onDestroy() {\n    if (!this._destroyed) {\n      this._destroyed = true;\n      this._onFinish();\n      this.players.forEach(player => player.destroy());\n      this._onDestroyFns.forEach(fn => fn());\n      this._onDestroyFns = [];\n    }\n  }\n\n  reset(): void {\n    this.players.forEach(player => player.reset());\n    this._destroyed = false;\n    this._finished = false;\n    this._started = false;\n  }\n\n  setPosition(p: number): void {\n    const timeAtPosition = p * this.totalTime;\n    this.players.forEach(player
    => {\n      const position = player.totalTime ? Math.min(1, timeAtPosition / player.totalTime) : 1;\n      player.setPosition(position);\n    });\n  }\n\n  getPosition(): number {\n    const longestPlayer =\n        this.players.reduce((longestSoFar: AnimationPlayer|null, player: AnimationPlayer) => {\n          const
```

newPlayerIsLongest =\n longestSoFar === null || player.totalTime > longestSoFar.totalTime;\n return newPlayerIsLongest ? player : longestSoFar;\n }, null);\n return longestPlayer != null ? longestPlayer.getPosition() : 0;\n }\n\n beforeDestroy(): void {\n this.players.forEach(player => {\n if (player.beforeDestroy) {\n player.beforeDestroy();\n }\n });\n }\n\n /** @internal */\n triggerCallback(phaseName: string): void {\n const methods = phaseName == 'start' ? this._onStartFns : this._onDoneFns;\n methods.forEach(fn => fn());\n methods.length = 0;\n }\n}\n","/**\n * @license\n * Copyright Google
LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nexport {AnimationGroupPlayer as AnimationGroupPlayer} from './players/animation_group_player';\nexport const PRE_STYLE = '!';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all animation APIs of the animation package.\n */\nexport {AnimationBuilder, AnimationFactory} from './animation_builder';\nexport {AnimationEvent} from './animation_event';\nexport {animate, animateChild, AnimateChildOptions, AnimateTimings, animation, AnimationAnimateChildMetadata, AnimationAnimateMetadata, AnimationAnimateRefMetadata, AnimationGroupMetadata, AnimationKeyframesSequenceMetadata, AnimationMetadata, AnimationMetadataType,
AnimationOptions, AnimationQueryMetadata, AnimationQueryOptions, AnimationReferenceMetadata, AnimationSequenceMetadata, AnimationStaggerMetadata, AnimationStateMetadata, AnimationStyleMetadata, AnimationTransitionMetadata, AnimationTriggerMetadata, AUTO_STYLE, group, keyframes, query, sequence, stagger, state, style, transition, trigger, useAnimation, StyleData} from './animation_metadata';\nexport {AnimationPlayer, NoopAnimationPlayer} from './players/animation_player';\n\nexport * from './private_export';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/animations';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n"],"names":[],"mappings":";;;;;;;;;;;;IAUA;;;;;;;;;;;

EAAA,cAAqC;QACvC,OAAO,EAAC,IAAI,sBAAoC,IAAI,EAAE,eAAe,EAAE,SAAS,EAAE,KAAK,EAAE,OA
AO,SAAA,EAAC,CAAC;IACpG,CAAC;IAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;aA6CgB,SAAS,CACrB,KAA4C,EA
C5C,OAAqC;QAArC,wBAAA,EAAA,cAAqC;QACvC,OAAO,EAAC,IAAI,qBAAmC,SAAS,EAAE,KAAK,EAA
E,OAAO,SAAA,EAAC,CAAC;IAC5E,CAAC;IAED;;;;;;;;;;;;;;;;;;;aAmBgB,YAAY,CAAC,OAAwC;QAAxC,wBA
AA,EAAA,cAAwC;QAEnE,OAAO,EAAC,IAAI,wBAAsC,OAAO,SAAA,EAAC,CAAC;IAC7D,CAAC;IAED;;;;;;
;;;;aAUgB,YAAY,CACxB,SAAqC,EACrC,OAAqC;QAArC,wBAAA,EAAA,cAAqC;QACvC,OAAO,EAAC,IAAI
,uBAAoC,SAAS,WAAA,EAAE,OAAO,SAAA,EAAC,CAAC;IACtE,CAAC;IAED;;;;;;;;;;;;;;;;;;;

EAAE,SAAS,IAAI,KAAK,EAAE;4BACxB,KAAI,CAAC,SAAS,EAAE,CAAC;yBAClB;qBACF,CAAC,CAAC;oBACH,MAAM,CAAC,SAAS,CAAC;wBACf,IAAI,EAAE,YAAY,IAAI,KAAK,EAAE;4BAC3B,KAAI,CAAC,UAAU,EAAE,CAAC;yBACnB;qBACF,CAAC,CAAC;oBACH,MAAM,CAAC,OAAO,CAAC;wBACb,IAAI,EAAE,UAAU,IAAI,KAAK,EAAE;4BACzB,KAAI,CAAC,QAAQ,EAAE,CAAC;yBACjB;qBACF,CAAC,CAAC;iBACJ,CAAC,CAAC;aACJ;YAED,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,OAAO,CAAC,MAAM,CAAC,UAAC,IAAI,EAAE,MAAM,IAAK,OAAA,IAAI,EAAE,MAAM,CAAC,SAAS,CAAC,MAAM,CAAC,EAA9B,CAA8B,EAAE,EAAE,CAAC,CAAC;YAC1F,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,UAAA,IAAI,IAAI,OAAA,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,EAAtB,CAAsB,CAAC,CAAC;YAEvD,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;YAE1B

in path(s):
* /animations-11-0-5-tgz/package/bundles/animations.umd.js.map
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/

Found in path(s):
* /animations-11-0-5-tgz/package/browser/browser.d.ts
* /animations-11-0-5-tgz/package/browser.d.ts
* /animations-11-0-5-tgz/package/animations.d.ts
* /animations-11-0-5-tgz/package/browser/testing.d.ts
* /animations-11-0-5-tgz/package/browser/testing/testing.d.ts
MIT
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
 * @license
 * Copyright Google LLC All Rights Reserved.
 *
 * Use of this source code is governed by an MIT-style license that can be
 * found in the LICENSE file at https://angular.io/license
 */

Found in path(s):
* /animations-11-0-5-tgz/package/bundles/animations.umd.min.js
* /animations-11-0-5-tgz/package/bundles/animations.umd.js
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/animations/animations-browser-testing.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","animations","browser","testing","this","extendStatics","d","b","Object","setPrototypeOf","__proto__","Array","p","hasOwnProperty","MockAnimationDriver","prototype","validateStyleProperty","prop","validateStyleProperty","matchesElement","element","selector","matchesElement","containsElement","elm1","elm2","containsElement","query","multi","invokeQuery","computeStyle","defaultValue","animate","keyframes","duration","delay","easing","previousPlayers","player","MockAnimationPlayer","log","push","_super","_this","call","__finished","__started","previousStyles","_onInitFns","currentSnapshot","allowPreviousPlayerStylesMerge","forEach","styles_1","keys","__extends","__","constructor","create","onInit","fn","init","finish","destroy","triggerMicrotask","play","hasStarted","beforeDestroy","captures","kf","AUTO_STYLE","NoopAnimationPlayer","defineProperty","value"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GAAaA,EAAUC,EAAQ,EAAQ,EAAQ

C,QAAyBA,OAAOC,IAAMD,OAAO,sCAAuC,CAAC,UAAW,sBAAuB,+BAAgCJ,GACpIA,IAAzBD,EAASA,GAAUO,MAAsBC,GAAKR,EAAOQ,IAAMM,GAAIR,EAAOQ,GAAGC,WAAaT,EAAOQ,GAAGC,YAAc,GAAIT,EAAOQ,GAAIT,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWE,IAAKX,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWG,IAAKZ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWI,IAAKb,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWK,IAAKd,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWM,IAAKf,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWO,IAAKhB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWQ,IAAKjB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWS,IAAKlB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWU,IAAKnB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWW,IAAKpB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWY,IAAKrB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWa,IAAKtB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWc,IAAKvB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWe,IAAKxB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgB,IAAKzB,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiB,IAAK1B,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkB,IAAK3B,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmB,IAAK5B,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoB,IAAK7B,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqB,IAAK9B,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsB,IAAK/B,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuB,IAAKhC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwB,IAAKjC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyB,IAAKlC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0B,IAAKnC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2B,IAAKpC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4B,IAAKrC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6B,IAAKtC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8B,IAAKvC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+B,IAAKxC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgC,IAAKzC,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiC,IAAK1C,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkC,IAAK3C,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmC,IAAK5C,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoC,IAAK7C,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqC,IAAK9C,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsC,IAAK/C,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuC,IAAKhD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwC,IAAKjD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyC,IAAKlD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0C,IAAKnD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2C,IAAKpD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4C,IAAKrD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6C,IAAKtD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8C,IAAKvD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+C,IAAKxD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgD,IAAKzD,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiD,IAAK1D,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkD,IAAK3D,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmD,IAAK5D,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoD,IAAK7D,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqD,IAAK9D,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsD,IAAK/D,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuD,IAAKhE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwD,IAAKjE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyD,IAAKlE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0D,IAAKnE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2D,IAAKpE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4D,IAAKrE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6D,IAAKtE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8D,IAAKvE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+D,IAAKxE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgE,IAAKzE,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiE,IAAK1E,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkE,IAAK3E,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmE,IAAK5E,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoE,IAAK7E,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqE,IAAK9E,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsE,IAAK/E,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuE,IAAKhF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwE,IAAKjF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyE,IAAKlF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0E,IAAKnF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2E,IAAKpF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4E,IAAKrF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6E,IAAKtF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8E,IAAKvF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+E,IAAKxF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgF,IAAKzF,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiF,IAAK1F,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkF,IAAK3F,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmF,IAAK5F,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoF,IAAK7F,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqF,IAAK9F,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsF,IAAK/F,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuF,IAAKhG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwF,IAAKjG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyF,IAAKlG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0F,IAAKnG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2F,IAAKpG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4F,IAAKrG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6F,IAAKtG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8F,IAAKvG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+F,IAAKxG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgG,IAAKzG,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiG,IAAK1G,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkG,IAAK3G,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmG,IAAK5G,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoG,IAAK7G,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqG,IAAK9G,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsG,IAAK/G,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuG,IAAKhH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwG,IAAKjH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyG,IAAKlH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0G,IAAKnH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2G,IAAKpH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4G,IAAKrH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6G,IAAKtH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8G,IAAKvH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+G,IAAKxH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgH,IAAKzH,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiH,IAAK1H,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkH,IAAK3H,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmH,IAAK5H,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoH,IAAK7H,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqH,IAAK9H,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsH,IAAK/H,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuH,IAAKhI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwH,IAAKjI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyH,IAAKlI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0H,IAAKnI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2H,IAAKpI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4H,IAAKrI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6H,IAAKtI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8H,IAAKvI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+H,IAAKxI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgI,IAAKzI,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiI,IAAK1I,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkI,IAAK3I,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmI,IAAK5I,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoI,IAAK7I,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqI,IAAK9I,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsI,IAAK/I,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuI,IAAKhJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwI,IAAKjJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyI,IAAKlJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0I,IAAKnJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2I,IAAKpJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4I,IAAKrJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6I,IAAKtJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8I,IAAKvJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+I,IAAKxJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgJ,IAAKzJ,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiJ,IAAK1J,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkJ,IAAK3J,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmJ,IAAK5J,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoJ,IAAK7J,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqJ,IAAK9J,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsJ,IAAK/J,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuJ,IAAKhK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwJ,IAAKjK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyJ,IAAKlK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0J,IAAKnK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2J,IAAKpK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4J,IAAKrK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6J,IAAKtK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8J,IAAKvK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+J,IAAKxK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgK,IAAKzK,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiK,IAAK1K,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkK,IAAK3K,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmK,IAAK5K,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoK,IAAK7K,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqK,IAAK9K,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsK,IAAK/K,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuK,IAAKhL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwK,IAAKjL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyK,IAAKlL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0K,IAAKnL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2K,IAAKpL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4K,IAAKrL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6K,IAAKtL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8K,IAAKvL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+K,IAAKxL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgL,IAAKzL,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiL,IAAK1L,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkL,IAAK3L,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmL,IAAK5L,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoL,IAAK7L,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqL,IAAK9L,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsL,IAAK/L,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuL,IAAKhM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwL,IAAKjM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyL,IAAKlM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0L,IAAKnM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2L,IAAKpM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4L,IAAKrM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6L,IAAKtM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8L,IAAKvM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW+L,IAAKxM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWgM,IAAKzM,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWiM,IAAK1M,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWkM,IAAK3M,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWmM,IAAK5M,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWoM,IAAK7M,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWqM,IAAK9M,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWsM,IAAK/M,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWuM,IAAKhN,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWwM,IAAKjN,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAWyM,IAAKlN,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW0M,IAAKnN,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW2M,IAAKpN,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW4M,IAAKrN,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW6M,IAAKtN,EAAOQ,GAAGC,WAAWC,QAAUV,EAAOQ,GAAGC,WAAWC,SAAWV,EAAOQ,GAAGC,WAAW8M,IAAKvN,EAAOQ,GAAGC,WA

```
AUTHOR DISCLAIMS ALL WARRANTIES WITH\n    REGARD TO THIS SOFTWARE INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY\n    AND FITNESS. IN NO EVENT SHALL THE
AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\n    INDIRECT, OR CONSEQUENTIAL DAMAGES OR
ANY DAMAGES WHATSOEVER RESULTING FROM\n    LOSS OF USE, DATA OR PROFITS, WHETHER
IN AN ACTION OF CONTRACT, NEGLIGENCE OR\n    OTHER TORTIOUS ACTION, ARISING OUT OF OR
IN CONNECTION WITH THE USE OR\n    PERFORMANCE OF THIS SOFTWARE.\n
***************************************************************************** */\n    /* global
Reflect, Promise */\n    var extendStatics = function (d, b) {\n        extendStatics = Object.setPrototypeOf ||\n
({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\n
        function (d, b) { for (var p in b)\n                if (b.hasOwnProperty(p))\n                    d[p] = b[p]; };\n        return
extendStatics(d, b);\n    };\n    function __extends(d, b) {\n        extendStatics(d, b);\n        function __() {
this.constructor = d; }\n        d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\n
}\n    var __assign = function () {\n        __assign = Object.assign || function __assign(t) {\n            for (var s, i = 1, n
= arguments.length; i < n; i++) {\n                s = arguments[i];\n                for (var p in s)\n                    if
(Object.prototype.hasOwnProperty.call(s, p))\n                        t[p] = s[p];\n            }\n            return t;\n        };\n
return __assign.apply(this, arguments);\n    };\n    function __rest(s, e) {\n        var t = {};\n        for (var p in s)\n
  if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\n
 t[p] = s[p];\n        if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\n            for (var i = 0,
p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\n                if (e.indexOf(p[i]) < 0 &&
Object.prototype.propertyIsEnumerable.call(s, p[i]))\n                    t[p[i]] = s[p[i]];\n            }\n        return t;\n    }\n
function __decorate(decorators, target, key, desc) {\n        var c = arguments.length, r = c < 3 ? target : desc === null
? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\n        if (typeof Reflect === \"object\" && typeof
Reflect.decorate === \"function\")\n            r = Reflect.decorate(decorators, target, key, desc);\n        else\n
for (var i = decorators.length - 1; i >= 0; i--)\n                if (d = decorators[i])\n                    r = (c < 3 ? d(r) : c > 3 ?
d(target, key, r) : d(target, key)) || r;\n        return c > 3 && r && Object.defineProperty(target, key, r), r;\n    }\n
function
 __param(paramIndex, decorator) {\n        return function (target, key) { decorator(target, key, paramIndex); };\n
}\n    function __metadata(metadataKey, metadataValue) {\n        if (typeof Reflect === \"object\" && typeof
Reflect.metadata === \"function\")\n            return Reflect.metadata(metadataKey, metadataValue);\n    }\n
function __awaiter(thisArg, _arguments, P, generator) {\n        function adopt(value) { return value instanceof P ?
value : new P(function (resolve) { resolve(value); }); }\n        return new (P || (P = Promise))(function (resolve,
reject) {\n            function fulfilled(value) { try {\n                step(generator.next(value));\n            }\n            catch
(e) {\n                reject(e);\n            } }\n            function rejected(value) { try {\n
step(generator[\"throw\"](value));\n            }\n            catch (e) {\n                reject(e);\n            } }\n            function
step(result) { result.done
 ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\n            step((generator =
generator.apply(thisArg, _arguments || [])).next());\n        });\n    }\n    function __generator(thisArg, body) {\n
var _ = { label: 0, sent: function () { if (t[0] & 1)\n                throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n
 return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" &&
(g[Symbol.iterator] = function () { return this; }), g;\n        function verb(n) { return function (v) { return step([n, v]);
}; }\n        function step(op) {\n            if (f)\n                throw new TypeError(\"Generator is already executing.\");\n
        while (_)\n                try {\n                    if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t
= y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n                        return t;\n
         if (y = 0, t)\n                        op = [op[0] & 2, t.value];\n                    switch (op[0]) {\n                        case 0:\n
                case 1:\n                            t = op;\n                            break;\n                        case 4:\n
_.label++;\n                            return { value: op[1], done: false };\n                        case 5:\n
_.label++;\n                            y = op[1];\n                            op = [0];\n                            continue;\n
case 7:\n                            op = _.ops.pop();\n                            _.trys.pop();\n                            continue;\n
```

```
    default:\n                    if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) {\n                    _ = 0;\n                    continue;\n                }\n                if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n                    _.label = op[1];\n                    break;\n                }\n                if (op[0] === 6 && _.label < t[1]) {\n                    _.label = t[1];\n                    t = op;\n                    break;\n                }\n                if (t && _.label < t[2]) {\n                    _.label = t[2];\n                    _.ops.push(op);\n                    break;\n                }\n                if (t[2])\n                    _.ops.pop();\n                _.trys.pop();\n                continue;\n            }\n            op = body.call(thisArg, _);\n        }\n        catch (e) {\n            op = [6, e];\n            y = 0;\n        }\n        finally {\n            f = t = 0;\n        }\n        if (op[0] & 5)\n            throw op[1];\n        return { value: op[0] ? op[1] : void 0, done: true };\n    }\n}\n\nvar __createBinding = Object.create ? (function (o, m, k, k2) {\n    if (k2 === undefined)\n        k2 = k;\n    Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n}) : (function (o, m, k, k2) {\n    if (k2 === undefined)\n        k2 = k;\n    o[k2] = m[k];\n});\nfunction __exportStar(m, exports) {\n    for (var p in m)\n        if (p !== \"default\" && !exports.hasOwnProperty(p))\n            __createBinding(exports, m, p);\n}\n\nfunction __values(o) {\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n    if (m)\n        return m.call(o);\n    if (o && typeof o.length === \"number\")\n        return {\n            next: function () {\n                if (o && i >= o.length)\n                    o = void 0;\n                return { value: o && o[i++], done: !o };\n            }\n        };\n    throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n}\n\nfunction __read(o, n) {\n    var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n    if (!m)\n        return o;\n    var i = m.call(o), r, ar = [], e;\n    try {\n        while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n            ar.push(r.value);\n    }\n    catch (error) {\n        e = { error: error };\n    }\n    finally {\n        try {\n            if (r && !r.done && (m = i[\"return\"]))\n                m.call(i);\n        }\n        finally {\n            if (e)\n                throw e.error;\n        }\n    }\n    return ar;\n}\n\nfunction __spread() {\n    for (var ar = [], i = 0; i < arguments.length; i++)\n        ar = ar.concat(__read(arguments[i]));\n    return ar;\n}\n\nfunction __spreadArrays() {\n    for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n        s += arguments[i].length;\n    for (var r = Array(s), k = 0, i = 0; i < il; i++)\n        for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n            r[k] = a[j];\n    return r;\n};\n\nfunction __await(v) {\n    return this instanceof __await ? (this.v = v, this) : new __await(v);\n}\n\nfunction __asyncGenerator(thisArg, _arguments, generator) {\n    if (!Symbol.asyncIterator)\n        throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n    var g = generator.apply(thisArg, _arguments || []), i, q = [];\n    return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\n    function verb(n) { if (g[n])\n        i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n    function resume(n, v) { try {\n        step(g[n](v));\n    }\n    catch (e) {\n        settle(q[0][3], e);\n    } }\n    function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n    function fulfill(value) { resume(\"next\", value); }\n    function reject(value) { resume(\"throw\", value); }\n    function settle(f, v) { if (f(v), q.shift(), q.length)\n        resume(q[0][0], q[0][1]); }\n}\n\nfunction __asyncDelegator(o) {\n    var i, p;\n    return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n    function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n}\n\nfunction __asyncValues(o) {\n    if (!Symbol.asyncIterator)\n        throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n    var m = o[Symbol.asyncIterator], i;\n    return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n    function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n    function settle(resolve, reject, d, v) {
```

```
Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n    }\n    function __makeTemplateObject(cooked, raw) {\n        if (Object.defineProperty) {\n            Object.defineProperty(cooked, \"raw\", { value: raw });\n        }\n        else {\n            cooked.raw = raw;\n        }\n        return cooked;\n    }\n    ;\n    var __setModuleDefault = Object.create ? (function (o, v) {\n        Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n    }) : function (o, v) {\n        o[\"default\"] = v;\n    };\n    function __importStar(mod) {\n        if (mod && mod.__esModule)\n            return mod;\n        var result = {};\n        if (mod != null)\n            for (var k in mod)\n                if (Object.hasOwnProperty.call(mod, k))\n                    __createBinding(result, mod, k);\n        __setModuleDefault(result, mod);\n        return result;\n    }\n    function __importDefault(mod) {\n        return (mod && mod.__esModule) ? mod : { default: mod };\n    }\n    function __classPrivateFieldGet(receiver, privateMap) {\n        if (!privateMap.has(receiver)) {\n            throw new TypeError(\"attempted to get private field on non-instance\");\n        }\n        return privateMap.get(receiver);\n    }\n    function __classPrivateFieldSet(receiver, privateMap, value) {\n        if (!privateMap.has(receiver)) {\n            throw new TypeError(\"attempted to set private field on non-instance\");\n        }\n        privateMap.set(receiver, value);\n        return value;\n    }\n\n    /**\n     * @publicApi\n     */\n    var MockAnimationDriver = /** @class */ (function () {\n        function MockAnimationDriver() {\n        }\n        MockAnimationDriver.prototype.validateStyleProperty = function (prop) {\n            return browser.validateStyleProperty(prop);\n        };\n        MockAnimationDriver.prototype.matchesElement = function (element, selector) {\n            return browser.matchesElement(element, selector);\n        };\n        MockAnimationDriver.prototype.containsElement = function (elm1, elm2) {\n            return browser.containsElement(elm1, elm2);\n        };\n        MockAnimationDriver.prototype.query = function (element, selector, multi) {\n            return browser.invokeQuery(element, selector, multi);\n        };\n        MockAnimationDriver.prototype.computeStyle = function (element, prop, defaultValue) {\n            return defaultValue || '';\n        };\n        MockAnimationDriver.prototype.animate = function (element, keyframes, duration, delay, easing, previousPlayers) {\n            if (previousPlayers === void 0) { previousPlayers = []; }\n            var player = new MockAnimationPlayer(element, keyframes, duration, delay, easing, previousPlayers);\n            MockAnimationDriver.log.push(player);\n            return player;\n        };\n        return MockAnimationDriver;\n    }());\n    MockAnimationDriver.log = [];\n    /**\n     * @publicApi\n     */\n    var MockAnimationPlayer = /** @class */ (function (_super) {\n        __extends(MockAnimationPlayer, _super);\n        function MockAnimationPlayer(element, keyframes, duration, delay, easing, previousPlayers) {\n            var _this = _super.call(this, duration, delay) || this;\n            _this.element = element;\n            _this.keyframes = keyframes;\n            _this.duration = duration;\n            _this.delay = delay;\n            _this.easing = easing;\n            _this.previousPlayers = previousPlayers;\n            _this.__finished = false;\n            _this.__started = false;\n            _this.previousStyles = {};\n            _this._onInitFns = [];\n            _this.currentSnapshot = {};\n            if (browser.allowPreviousPlayerStylesMerge(duration, delay)) {\n                previousPlayers.forEach(function (player) {\n                    if (player instanceof MockAnimationPlayer) {\n                        var styles_1 = player.currentSnapshot;\n                        Object.keys(styles_1).forEach(function (prop) { return _this.previousStyles[prop] = styles_1[prop]; });\n                    }\n                });\n            }\n            return _this;\n        }\n        /* @internal */\n        MockAnimationPlayer.prototype.onInit = function (fn) {\n            this._onInitFns.push(fn);\n        };\n        /* @internal */\n        MockAnimationPlayer.prototype.init = function () {\n            _super.prototype.init.call(this);\n            this._onInitFns.forEach(function (fn) { return fn(); });\n            this._onInitFns = [];\n        };\n        MockAnimationPlayer.prototype.finish = function () {\n            _super.prototype.finish.call(this);\n            this.__finished = true;\n        };\n        MockAnimationPlayer.prototype.destroy = function () {\n            _super.prototype.destroy.call(this);\n            this.__finished = true;\n        };\n        /* @internal */\n        MockAnimationPlayer.prototype.triggerMicrotask = function () { };\n        MockAnimationPlayer.prototype.play = function () {\n            _super.prototype.play.call(this);\n            this.__started = true;\n        };\n
```

MockAnimationPlayer.prototype.hasStarted = function () {\n return this.__started;\n };\n MockAnimationPlayer.prototype.beforeDestroy = function () {\n var _this = this;\n var captures = {};\n Object.keys(this.previousStyles).forEach(function (prop) {\n captures[prop] = _this.previousStyles[prop];\n });\n if (this.hasStarted()) {\n // when assembling the captured styles, it's important that\n // we build the keyframe styles in the following order:\n // {other styles within keyframes, ... previousStyles }\n this.keyframes.forEach(function (kf) {\n Object.keys(kf).forEach(function (prop) {\n if (prop != 'offset') {\n captures[prop] = _this.__finished ? kf[prop] : animations.AUTO_STYLE;\n }\n });\n });\n }\n this.currentSnapshot = captures;\n };\n return MockAnimationPlayer;\n }(animations.NoopAnimationPlayer));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.MockAnimationDriver = MockAnimationDriver;\n exports.MockAnimationPlayer = MockAnimationPlayer;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}))));\n//# sourceMappingURL=animations-browser-testing.umd.js.map\n"]}

Found in path(s):
* /animations-11-0-5-tgz/package/bundles/animations-browser-testing.umd.min.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/animations/animations.umd.js"],"names":["global","factory","exports","module","define","amd","self","ng","animations","this","AnimationBuilder","AnimationFactory","scheduleMicroTask","cb","Promise","resolve","then","NoopAnimationPlayer","duration","delay","_onDoneFns","_onStartFns","_onDestroyFns","_started","_destroyed","_finished","_position","parentPlayer","totalTime","prototype","_onFinish","forEach","fn","onStart","push","onDone","onDestroy","hasStarted","init","play","_onStart","triggerMicrotask","_this","pause","restart","finish","destroy","reset","setPosition","position","getPosition","triggerCallback","phaseName","methods","length","AnimationGroupPlayer","_players","players","doneCount","destroyCount","startCount","total","player","_onDestroy","reduce","time","Math","max","p","timeAtPosition","min","longestPlayer","longestSoFar","beforeDestroy","AUTO_STYLE","animate","timings","styles","type","animateChild","options","animation","steps","group","keyframes","query","selector","sequence","stagger","state","name","style","tokens","offset","transition","stateChangeExpr","expr","trigger","definitions","useAnimation","AnimationGroupPlayer","PRE_STYLE","Object","defineProperty","value"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GAAkEA,EAAQD,EAAOE,QAAUF,EAAOG,QAAUH,EAAOI,OAAOC,IAAMD,OAAO,CAACJ,EAAOM,KAAMN,EAAOO,GAAGC,WAAYR,EAAOO,GAAGC,WAAWC,KAAMD,KAAM,SAAUA,EAAYE,GAAoB,aAAa,IAAIC,EAAmBC,EAAmBC,EAAoBC,EAAK,mBAAoBC,QAAQC,QAAQC,KAAKF,GAAMG,EAAsB,CAACC,SAAS,EAAGC,MAAM,EAAGC,WAAW,GAAIC,YAAY,GAAIC,cAAc,GAAIC,UAAU,EAAGC,YAAY,EAAGC,WAAW,EAAGC,UAAU,EAAGC,aAAa,KAAMC,UAAU,EAAGC,UAAUC,UAAUC,UAAUC,QAAQ,SAAUC,GAAIA,KAAKC,QAAQ,SAAUD,GAAIA,KAAKE,KAAK,SAAUF,GAAIA,KAAKG,OAAO,SAAUH,GAAIA,KAAKI,UAAU,SAAUJ,GAAIA,KAAKK,WAAW,WAAYC,KAAK,WAAYC,KAAK,SAAUP,GAAIA,KAAKQ,SAAS,SAAUR,GAAIA,KAAKS,iBAAiB,SAAUT,GAAIA,KAAKU,MAAM,SAAUV,GAAIA,KAAKW,QAAQ,SAAUX,GAAIA,KAAKY,OAAO,SAAUZ,GAAIA,KAAKa,MAAM,SAAUb,GAAIA,KAAKc,YAAY,SAAUd,GAAIA,KAAKe,SAAS,SAAUf,GAAIA,KAAKgB,YAAY,SAAUhB,GAAIA,KAAKiB,gBAAgB,SAAUjB,GAAIA,KAAKkB,UAAU,SAAUlB,GAAIA,KAAKmB,QAAQ,SAAUnB,GAAIA,KAAKoB,OAAO,SAAUpB,GAAIA,KAAKqB,aAAa,SAAUrB,GAAIA,KAAKsB,WAAW,SAAUtB,GAAIA,KAAKuB,UAAU,SAAUvB,GAAIA,KAAKwB,aAAa,SAAUxB,GAAIA,KAAKyB,WAAW,SAAUzB,GAAIA,KAAK0B,MAAM,SAAU1B,GAAIA,KAAK2B,QAAQ,SAAU3B,GAAIA,KAAK4B,SAAS,SAAU5B,GAAIA,KAAK6B,YAAY,SAAU7B,GAAIA,KAAK8B,UAAU,SAAU9B,GAAIA,KAAK+B,SAAS,SAAU/B,GAAIA,KAAKgC,YAAY,SAAUhC,GAAIA,KAAKiC,gBAAgB,SAAUjC,GAAIA,KAAKkC,UAAU,SAAUlC,GAAIA,KAAKmC,QAAQ,SAAUnC,GAAIA,KAAKoC,OAAO,SAAUpC,GAAIA,KAAKqC,aAAa,SAAUrC,GAAIA,KAAKsC,WAAW,SAAUtC,GAAIA,KAAKuC,UAAU,SAAUvC,GAAIA,KAAKwC,aAAa,SAAUxC,GAAIA,KAAKyC,WAAW,SAAUzC,GAAIA,KAAK0C,MAAM,SAAU1C,GAAIA,KAAK2C,QAAQ,SAAU3C,GAAIA,KAAK4C,SAAS,SAAU5C,GAAIA,KAAK6C,YAAY,SAAU7C,GAAIA,KAAK8C,UAAU,SAAU9C,GAAIA,KAAK+C,SAAS,SAAU/C,GAAIA,KAAKgD,YAAY,SAAUhD,GAAIA,KAAKiD,gBAAgB,SAAUjD,GAAIA,KAAKkD,UAAU,SAAUlD,GAAIA,KAAKmD,QAAQ,SAAUnD,GAAIA,KAAKoD,OAAO,SAAUpD,GAAIA,KAAKqD,aAAa,SAAUrD,GAAIA,KAAKsD,WAAW,SAAUtD,GAAIA,KAAKuD,UAAU,SAAUvD,GAAIA,KAAKwD,aAAa,SAAUxD,GAAIA,KAAKyD,WAAW,SAAUzD,GAAIA,KAAK0D,MAAM,SAAU1D,GAAIA,KAAK2D,QAAQ,SAAU3D,GAAIA,KAAK4D,SAAS,SAAU5D,GAAIA,KAAK6D,YAAY,SAAU7D,GAAIA,KAAK8D,UAAU,SAAU9D,GAAIA,KAAK+D,SAAS,SAAU/D,GAAIA,KAAKgE,YAAY,SAAUhE,GAAIA,KAAKiE,gBAAgB,SAAUjE,GAAIA,KAAKkE,UAAU,SAAUlE,GAAIA,KAAKmE,QAAQ,SAAUnE,GAAIA,KAAKoE,OAAO,SAAUpE,GAAIA,KAAKqE,aAAa,SAAUrE,GAAIA,KAAKsE,WAAW,SAAUtE,GAAIA,KAAKuE,UAAU,SAAUvE,GAAIA,KAAKwE,aAAa,SAAUxE,GAAIA,KAAKyE,WAAW,SAAUzE,GAAIA,KAAK0E,MAAM,SAAU1E,GAAIA,KAAK2E,QAAQ,SAAU3E,GAAIA,KAAK4E,SAAS,SAAU5E,GAAIA,KAAK6E,YAAY,SAAU7E,GAAIA,KAAK8E,UAAU,SAAU9E,GAAIA,KAAK+E,SAAS,SAAU/E,GAAIA,KAAKgF,YAAY,SAAUhF,GAAIA,KAAKiF,gBAAgB,SAAUjF,GAAIA,KAAKkF,UAAU,SAAUlF,GAAIA,KAAKmF,QAAQ,SAAUnF,GAAIA,KAAKoF,OAAO,SAAUpF,GAAIA,KAAKqF,aAAa,SAAUrF,GAAIA,KAAKsF,WAAW,SAAUtF,GAAIA,KAAKuF,UAAU,SAAUvF,GAAIA,KAAKwF,aAAa,SAAUxF,GAAIA,KAAKyF,WAAW,SAAUzF,GAAIA,KAAK0F,MAAM,SAAU1F,GAAIA,KAAK2F,QAAQ,SAAU3F,GAAIA,KAAK4F,SAAS,SAAU5F,GAAIA,KAAK6F,YAAY,SAAU7F,GAAIA,KAAK8F,UAAU,SAAU9F,GAAIA,KAAK+F,SAAS,SAAU/F,GAAIA,KAAKgG,YAAY,SAAUhG,GAAIA,KAAKiG,gBAAgB,SAAUjG,GAAIA,KAAKkG,UAAU,SAAUlG,GAAIA,KAAKmG,QAAQ,SAAUnG,GAAIA,KAAKoG,OAAO,SAAUpG,GAAIA,KAAKqG,aAAa,SAAUrG,GAAIA,KAAKsG,WAAW,SAAUtG,GAAIA,KAAKuG,UAAU,SAAUvG,GAAIA,KAAKwG,aAAa,SAAUxG,GAAIA,KAAKyG,WAAW,SAAUzG,GAAIA,KAAK0G,MAAM,SAAU1G,GAAIA,KAAK2G,QAAQ,SAAU3G,GAAIA,KAAK4G,SAAS,SAAU5G,GAAIA,KAAK6G,YAAY,SAAU7G,GAAIA,KAAK8G,UAAU,SAAU9G,GAAIA,KAAK+G,SAAS,SAAU/G,GAAIA,KAAKgH,YAAY,SAAUhH,GAAIA,KAAKiH,gBAAgB,SAAUjH,GAAIA,KAAKkH,UAAU,SAAUlH,GAAIA,KAAKmH,QAAQ,SAAUnH,GAAIA,KAAKoH,OAAO,SAAUpH,GAAIA,KAAKqH,aAAa,SAAUrH,GAAIA,KAAKsH,WAAW,SAAUtH,GAAIA,KAAKuH,UAAU,SAAUvH,GAAIA,KAAKwH,aAAa,SAAUxH,GAAIA,KAAKyH,WAAW,SAAUzH,GAAIA,KAAK0H,MAAM,SAAU1H,GAAIA,KAAK2H,QAAQ,SAAU3H,GAAIA,KAAK4H,SAAS,SAAU5H,GAAIA,KAAK6H,YAAY,SAAU7H,GAAIA,KAAK8H,UAAU,SAAU9H,GAAIA,KAAK+H,SAAS,SAAU/H,GAAIA,KAAKgI,YAAY,SAAUhI,GAAIA,KAAKiI,gBAAgB,SAAUjI,GAAIA,KAAKkI,UAAU,SAAUlI,GAAIA,KAAKmI,QAAQ,SAAUnI,GAAIA,KAAKoI,OAAO,SAAUpI,GAAIA,KAAKqI,aAAa,SAAUrI,GAAIA,KAAKsI,WAAW,SAAUtI,GAAIA,KAAKuI,UAAU,SAAUvI,GAAIA,KAAKwI,aAAa,SAAUxI,GAAIA,KAAKyI,WAAW,SAAUzI,GAAIA,KAAK0I,MAAM,SAAU1I,GAAIA,KAAK2I,QAAQ,SAAU3I,GAAIA,KAAK4I,SAAS,SAAU5I,GAAIA,KAAK6I,YAAY,SAAU7I,GAAIA,KAAK8I,UAAU,SAAU9I,GAAIA,KAAK+I,SAAS,SAAU/I,GAAIA,KAAKgJ,YAAY,SAAUhJ,GAAIA,KAAKiJ,gBAAgB,SAAUjJ,GAAIA,KAAKkJ,UAAU,SAAUlJ,GAAIA,KAAKmJ,QAAQ,SAAUnJ,GAAIA,KAAKoJ,OAAO,SAAUpJ,GAAIA,KAAKqJ,aAAa,SAAUrJ,GAAIA,KAAKsJ,WAAW,SAAUtJ,GAAIA,KAAKuJ,UAAU,SAAUvJ,GAAIA,KAAKwJ,aAAa,SAAUxJ,GAAIA,KAAKyJ,WAAW,SAAUzJ,GAAIA,KAAK0J,MAAM,SAAU1J,GAAIA,KAAK2J,QAAQ,SAAU3J,GAAIA,KAAK4J,SAAS,SAAU5J,GAAIA,KAAK6J,YAAY,SAAU7J,GAAIA,KAAK8J,UAAU,SAAU9J,GAAIA,KAAK+J,SAAS,SAAU/J,GAAIA,KAAKgK,YAAY,SAAUhK,GAAIA,KAAKiK,gBAAgB,SAAUjK,GAAIA,KAAKkK,UAAU,SAAUlK,GAAIA,KAAKmK,QAAQ,SAAUnK,GAAIA,KAAKoK,OAAO,SAAUpK,GAAIA,KAAKqK,aAAa,SAAUrK,GAAIA,KAAKsK,WAAW,SAAUtK,GAAIA,KAAKuK,UAAU,SAAUvK,GAAIA,KAAKwK,aAAa,SAAUxK,GAAIA,KAAKyK,WAAW,SAAUzK,GAAIA,KAAK0K,MAAM,SAAU1K,GAAIA,KAAK2K,QAAQ,SAAU3K,GAAIA,KAAK4K,SAAS,SAAU5K,GAAIA,KAAK6K,YAAY,SAAU7K,GAAIA,KAAK8K,UAAU,SAAU9K,GAAIA,KAAK+K,SAAS,SAAU/K,GAAIA,KAAKgL,YAAY,SAAUhL,GAAIA,KAAKiL,gBAAgB,SAAUjL,GAAIA,KAAKkL,UAAU,SAAUlL,GAAIA,KAAKmL,QAAQ,SAAUnL,GAAIA,KAAKoL,OAAO,SAAUpL,GAAIA,KAAKqL,aAAa,SAAUrL,GAAIA,KAAKsL,WAAW,SAAUtL,GAAIA,KAAKuL,UAAU,SAAUvL,GAAIA,KAAKwL,aAAa,SAAUxL,GAAIA,KAAKyL,WAAW,SAAUzL,GAAIA,KAAK0L,MAAM,SAAU1L,GAAIA,KAAK2L,QAAQ,SAAU3L,GAAIA,KAAK4L,SAAS,SAAU5L,GAAIA,KAAK6L,YAAY,SAAU7L,GAAIA,KAAK8L,UAAU,SAAU9L,GAAIA,KAAK+L,SAAS,SAAU/L,GAAIA,KAAKgM,YAAY,SAAUhM,GAAIA,KAAKiM,gBAAgB,SAAUjM,GAAIA,KAAKkM,UAAU,SAAUlM,GAAIA,KAAKmM,QAAQ,SAAUnM,GAAIA,KAAKoM,OAAO,SAAUpM,GAAIA,KAAKqM,aAAa,SAAUrM,GAAIA,KAAKsM,WAAW,SAAUtM,GAAIA,KAAKuM,UAAU,SAAUvM,GAAIA,KAAKwM,aAAa,SAAUxM,GAAIA,KAAKyM,WAAW,SAAUzM,GAAIA,KAAK0M,MAAM,SAAU1M,GAAIA,KAAK2M,QAAQ,SAAU3M,GAAIA,KAAK4M,SAAS,SAAU5M,GAAIA,KAAK6M,YAAY,SAAU7M,GAAIA,KAAK8M,UAAU,SAAU9M,GAAIA,KAAK+M,SAAS,SAAU/M,GAAIA,KAAKgN,YAAY,SAAUhN,GAAIA,KAAKiN,gBAAgB,SAAUjN,GAAIA,KAAKkN,UAAU,SAAUlN,GAAIA,KAAKmN,QAAQ,SAAUnN,GAAIA,KAAKoN,OAAO,SAAUpN,GAAIA,KAAKqN,aAAa,SAAUrN,GAAIA,KAAKsN,WAAW,SAAUtN,GAAIA,KAAKuN,UAAU,SAAUvN,GAAIA,KAAKwN,aAAa,SAAUxN,GAAIA,KAAKyN,WAAW,SAAUzN,GAAIA,KAAK0N,MAAM,SAAU1N,GAAIA,KAAK2N,QAAQ,SAAU3N,GAAIA,KAAK4N,SAAS,SAAU5N,GAAIA,KAAK6N,YAAY,SAAU7N,GAAIA,KAAK8N,UAAU,SAAU9N,GAAIA,KAAK+N,SAAS,SAAU/N,GAAIA,KAAKgO,YAAY,SAAUhO,GAAIA,KAAKiO,gBAAgB,SAAUjO,GAAIA,KAAKkO,UAAU,SAAUlO,GAAIA,KAAKmO,QAAQ,SAAUnO,GAAIA,KAAKoO,OAAO,SAAUpO,GAAIA,KAAKqO,aAAa,SAAUrO,GAAIA,KAAKsO,WAAW,SAAUtO,GAAIA,KAAKuO,UAAU,SAAUvO,GAAIA,KAAKwO,aAAa,SAAUxO,GAAIA,KAAKyO,WAAW,SAAUzO,GAAIA,KAAK0O,MAAM,SAAU1O,GAAIA,KAAK2O,QAAQ,SAAU3O,GAAIA,KAAK4O,SAAS,SAAU5O,GAAIA,KAAK6O,YAAY,SAAU7O,GAAIA,KAAK8O,UAAU,SAAU9O,GAAIA,KAAK+O,SAAS,SAAU/O,GAAIA,KAAKgP,YAAY,SAAUhP,GAAIA,KAAKiP,gBAAgB,SAAUjP,GAAIA,KAAKkP,UAAU,SAAUlP,GAAIA,KAAKmP,QAAQ,SAAUnP,GAAIA,KAAKoP,OAAO,SAAUpP,GAAIA,KAAKqP,aAAa,SAAUrP,GAAIA,KAAKsP,WAAW,SAAUtP,GAAIA,KAAKuP,UAAU,SAAUvP,GAAIA,KAAKwP,aAAa,SAAUxP,GAAIA,KAAKyP,WAAW,SAAUzP,GAAIA,KAAK0P,MAAM,SAAU1P,GAAIA,KAAK2P,QAAQ,SAAU3P,GAAIA,KAAK4P,SAAS,SAAU5P,GAAIA,KAAK6P,YAAY,SAAU7P,GAAIA,KAAK8P,UAAU,SAAU9P,GAAIA,KAAK+P,SAAS,SAAU/P,GAAIA,KAAKgQ,YAAY,SAAUhQ,GAAIA,KAAKiQ,gBAAgB,SAAUjQ,GAAIA,KAAKkQ,UAAU,SAAUlQ,GAAIA,KAAKmQ,QAAQ,SAAUnQ,GAAIA,KAAKoQ,OAAO,SAAUpQ,GAAIA,KAAKqQ,aAAa,SAAUrQ,GAAIA,KAAKsQ,WAAW,SAAUtQ,GAAIA,KAAKuQ,UAAU,SAAUvQ,GAAIA,KAAKwQ,aAAa,SAAUxQ,GAAIA,KAAKyQ,WAAW,SAAUzQ,GAAIA,KAAK0Q,MAAM,SAAU1Q,GAAIA,KAAK2Q,QAAQ,SAAU3Q,GAAIA,KAAK4Q,SAAS,SAAU5Q,GAAIA,KAAK6Q,YAAY,SAAU7Q,GAAIA,KAAK8Q,UAAU,SAAU9Q,GAAIA,KAAK+Q,SAAS,SAAU/Q,GAAIA,KAAKgR,YAAY,SAAUhR,GAAIA,KAAKiR,gBAAgB,SAAUjR,GAAIA,KAAKkR,UAAU,SAAUlR,GAAIA,KAAKmR,QAAQ,SAAUnR,GAAIA,KAAKoR,OAAO,SAAUpR,GAAIA,KAAKqR,aAAa,SAAUrR,GAAIA,KAAKsR,WAAW,SAAUtR,GAAIA,KAAKuR,UAAU,SAAUvR,GAAIA,KAAKwR,aAAa,SAAUxR,GAAIA,KAAKyR,WAAW,SAAUzR,GAAIA,KAAK0R,MAAM,SAAU1R,GAAIA,KAAK2R,QAAQ,SAAU3R,GAAIA,KAAK4R,SAAS,SAAU5R,GAAIA,KAAK6R,YAAY,SAAU7R,GAAIA,KAAK8R,UAAU,SAAU9R,GAAIA,KAAK+R,SAAS,SAAU/R,GAAIA,KAAKgS,YAAY,SAAUhS,GAAIA,KAAKiS,gBAAgB,SAAUjS,GAAIA,KAAKkS,UAAU,SAAUlS,GAAIA,KAAKmS,QAAQ,SAAUnS,GAAIA,KAAKoS,OAAO,SAAUpS,GAAIA,KAAKqS,aAAa,SAAUrS,GAAIA,KAAKsS,WAAW,SAAUtS,GAAIA,KAAKuS,UAAU,SAAUvS,GAAIA,KAAKwS,aAAa,SAAUxS,GAAIA,KAAKyS,WAAW,SAAUzS,GAAIA,KAAK0S,MAAM,SAAU1S,GAAIA,KAAK2S,QAAQ,SAAU3S,GAAIA,KAAK4S,SAAS,SAAU5S,GAAIA,KAAK6S,YAAY,SAAU7S,GAAIA,KAAK8S,UAAU,SAAU9S,GAAIA,KAAK+S,SAAS,SAAU/S,GAAIA,KAAKgT,YAAY,SAAUhT,GAAIA,KAAKiT,gBAAgB,SAAUjT,GAAIA,KAAKkT,UAAU,SAAUlT,GAAIA,KAAKmT,QAAQ,SAAUnT,GAAIA,KAAKoT,OAAO,SAAUpT,GAAIA,KAAKqT,aAAa,SAAUrT,GAAIA,KAAKsT,WAAW,SAAUtT,GAAIA,KAAKuT,UAAU,SAAUvT,GAAIA,KAAKwT,aAAa,SAAUxT,GAAIA,KAAKyT,WAAW,SAAUzT,GAAIA,KAAK0T,MAAM,SAAU1T,GAAIA,KAAK2T,QAAQ,SAAU3T,GAAIA,KAAK4T,SAAS,SAAU5T,GAAIA,KAAK6T,YAAY,SAAU7T,GAAIA,KAAK8T,UAAU,SAAU9T,GAAIA,KAAK+T,SAAS,SAAU/T,GAAIA,KAAKgU,YAAY,SAAUhU,GAAIA,KAAKiU,gBAAgB,SAAUjU,GAAIA,KAAKkU,UAAU,SAAUlU,GAAIA,KAAKmU,QAAQ,SAAUnU,GAAIA,KAAKoU,OAAO,SAAUpU,GAAIA,KAAKqU,aAAa,SAAUrU,GAAIA,KAAKsU,WAAW,SAAUtU,GAAIA,KAAKuU,UAAU,SAAUvU,GAAIA,KAAKwU,aAAa,SAAUxU,GAAIA,KAAKyU,WAAW,SAAUzU,GAAIA,KAAK0U,MAAM,SAAU1U,GAAIA,KAAK2U,QAAQ,SAAU3U,GAAIA,KAAK4U,SAAS,SAAU5U,GAAIA,KAAK6U,YAAY,SAAU7U,GAAIA,KAAK8U,UAAU,SAAU9U,GAAIA,KAAK+U,SAAS,SAAU/U,GAAIA,KAAKgV,YAAY,SAAUhV,GAAIA,KAAKiV,gBAAgB,SAAUjV,GAAIA,KAAKkV,UAAU,SAAUlV,GAAIA,KAAKmV,QAAQ,SAAUnV,GAAIA,KAAKoV,OAAO,SAAUpV,GAAIA,KAAKqV,aAAa,SAAUrV,GAAIA,KAAKsV,WAAW,SAAUtV,GAAIA,KAAKuV,UAAU,SAAUvV,GAAIA,KAAKwV,aAAa,SAAUxV,GAAIA,KAAKyV,WAAW,SAAUzV,GAAIA,KAAK0V,MAAM,SAAU1V,GAAIA,KAAK2V,QAAQ,SAAU3V,GAAIA,KAAK4V,SAAS,SAAU5V,GAAIA,KAAK6V,YAAY,SAAU7V,GAAIA,KAAK8V,UAAU,SAAU9V,GAAIA,KAAK+V,SAAS,SAAU/V,GAAIA,KAAKgW,YAAY,SAAUhW,GAAIA,KAAKiW,gBAAgB,SAAUjW,GAAIA,KAAKkW,UAAU,SAAUlW,GAAIA,KAAKmW,QAAQ,SAAUnW,GAAIA,KAAKoW,OAAO,SAAUpW,GAAIA,KAAKqW,aAAa,SAAUrW,GAAIA,KAAKsW,WAAW,SAAUtW,GAAIA,KAAKuW,UAAU,SAAUvW,GAAIA,KAAKwW,aAAa,SAAUxW,GAAIA,KAAKyW,WAAW,SAAUzW,GAAIA,KAAK0W,MAAM,SAAU1W,GAAIA,KAAK2W,QAAQ,SAAU3W,GAAIA,KAAK4W,SAAS,SAAU5W,GAAIA,KAAK6W,YAAY,SAAU7W,GAAIA,KAAK8W,UAAU,SAAU9W,GAAIA,KAAK+W,SAAS,SAAU/W,GAAIA,KAAKgX,YAAY,SAAUhX,GAAIA,KAAKiX,gBAAgB,SAAUjX,GAAIA,KAAKkX,UAAU,SAAUlX,GAAIA,KAAKmX,QAAQ,SAAUnX,GAAIA,KAAKoX,OAAO,SAAUpX,GAAIA,KAAKqX,aAAa,SAAUrX,GAAIA,KAAKsX,WAAW,SAAUtX,GAAIA,KAAKuX,UAAU,SAAUvX,GAAIA,KAAKwX,aAAa,SAAUxX,GAAIA,KAAKyX,WAAW,SAAUzX,GAAIA,KAAK0X,MAAM,SAAU1X,GAAIA,KAAK2X,QAAQ,SAAU3X,GAAIA,KAAK4X,SAAS,SAAU5X,GAAIA,KAAK6X,YAAY,SAAU7X,GAAIA,KAAK8X,UAAU,SAAU9X,GAAIA,KAAK+X,SAAS,SAAU/X,GAAIA,KAAKgY,YAAY,SAAUhY,GAAIA,KAAKiY,gBAAgB,SAAUjY,GAAIA,KAAKkY,UAAU,SAAUlY,GAAIA,KAAKmY,QAAQ,SAAUnY,GAAIA,KAAKoY,OAAO,SAAUpY,GAAIA,KAAKqY,aAAa,SAAUrY,GAAIA,KAAKsY,WAAW,SAAUtY,GAAIA,KAAKuY,UAAU,SAAUvY,GAAIA,KAAKwY,aAAa,SAAUxY,GAAIA,KAAKyY,WAAW,SAAUzY,GAAIA,KAAK0Y,MAAM,SAAU1Y,GAAIA,KAAK2Y,QAAQ,SAAU3Y,GAAIA,KAAK4Y,SAAS,SAAU5Y,GAAIA,KAAK6Y,YAAY,SAAU7Y,GAAIA,KAAK8Y,UAAU,SAAU9Y,GAAIA,KAAK+Y,SAAS,SAAU/Y,GAAIA,KAAKgZ,YAAY,SAAUhZ,GAAIA,KAAKiZ,gBAAgB,SAAUjZ,GAAIA,KAAKkZ,UAAU,SAAUlZ,GAAIA,KAAKmZ,QAAQ,SAAUnZ,GAAIA,KAAKoZ,OAAO,SAAUpZ,GAAIA,KAAKqZ,aAAa,SAAUrZ,GAAIA,KAAKsZ,WAAW,SAAUtZ,GAAIA,KAAKuZ,UAAU,SAAUvZ,GAAIA,KAAKwZ,aAAa,SAAUxZ,GAAIA,KAAKyZ,WAAW,SAAUzZ,GAAIA,KAAK0Z,MAAM,SAAU1Z,GAAIA,KAAK2Z,QAAQ,SAAU3Z,GAAIA,KAAK4Z,SAAS,SAAU5Z,GAAIA,KAAK6Z,YAAY,SAAU7Z,GAAIA,KAAK8Z,UAAU,SAAU9Z,GAAIA,KAAK+Z,SAAS,SAAU/Z,GAAIA,KAAKga,YAAY,SAAUha,GAAIA,KAAKia,gBAAgB,SAAUja,GAAIA,KAAKka,UAAU,SAAUla,GAAIA,KAAKma,QAAQ,SAAUna,GAAIA,KAAKoa,OAAO,SAAUpa,GAAIA,KAAKqa,aAAa,SAAUra,GAAIA,KAAKsa,WAAW,SAAUta,GAAIA,KAAKua,UAAU,SAAUva,GAAIA,KAAKwa,aAAa,SAAUxa,GAAIA,KAAKya,WAAW,SAAUza,GAAIA,KAAK0a,MAAM,SAAU1a,GAAIA,KAAK2a,QAAQ,SAAU3a,GAAIA,KAAK4a,SAAS,SAAU5a,GAAIA,KAAK6a,YAAY,SAAU7a,GAAIA,KAAK8a,UAAU,SAAU9a,GAAIA,KAAK+a,SAAS,SAAU/a,GAAIA,KAAKgb,YAAY,SAAUhb,GAAIA,KAAKib,gBAAgB,SAAUjb,GAAIA,KAAKkb,UAAU,SAAUlb,GAAIA,KAAKmb,QAAQ,SAAUnb,GAAIA,KAAKob,OAAO,SAAUpb,GAAIA,KAAKqb,aAAa,SAAUrb,GAAIA,KAAKsb,WAAW,SAAUtb,GAAIA,KAAKub,UAAU,SAAUvb,GAAIA,KAAKwb,aAAa,SAAUxb,GAAIA,KAAKyb,WAAW,SAAUzb,GAAIA,KAAK0b,MAAM,SAAU1b,GAAIA,KAAK2b,QAAQ,SAAU3b,GAAIA,KAAK4b,SAAS,SAAU5b,GAAIA,KAAK6b,YAAY,SAAU7b,GAAIA,KAAK8b,UAAU,SAAU9b,GAAIA,KAAK+b,SAAS,SAAU/b,GAAIA,KAAKgc,YAAY,SAAUhc,GAAIA,KAAKic,gBAAgB,SAAUjc,GAAIA,KAAKkc,UAAU,SAAUlc,GAAIA,KAAKmc,QAAQ,SAAUnc,GAAIA,KAAKoc,OAAO,SAAUpc,GAAIA,KAAKqc,aAAa,SAAUrc,GAAIA,KAAKsc,WAAW,SAAUtc,GAAIA,KAAKuc,UAAU,SAAUvc,GAAIA,KAAKwc,aAAa,SAAUxc,GAAIA,KAAKyc,WAAW,SAAUzc,GAAIA,KAAK0c,MAAM,SAAU1c,GAAIA,KAAK2c,QAAQ,SAAU3c,GAAIA,KAAK4c,SAAS,SAAU5c,GAAIA,KAAK6c,YAAY,SAAU7c,GAAIA,KAAK8c,UAAU,SAAU9c,GAAIA,KAAK+c,SAAS,SAAU/c,GAAIA,KAAKgd,YAAY,SAAUhd,GAAIA,KAAKid,gBAAgB,SAAUjd,GAAIA,KAAKkd,UAAU,SAAUld,GAAIA,KAAKmd,QAAQ,SAAUnd,GAAIA,KAAKod,OAAO,SAAUpd,GAAIA,KAAKqd,aAAa,SAAUrd,GAAIA,KAAKsd,WAAW,SAAUtd,GAAIA,KAAKud,UAAU,SAAUvd,GAAIA,KAAKwd,aAAa,SAAUxd,GAAIA,KAAKyd,WAAW,SAAUzd,GAAIA,KAAK0d,MAAM,SAAU1d,GAAIA,KAAK2d,QAAQ,SAAU3d,GAAIA,KAAK4d,SAAS,SAAU5d,GAAIA,KAAK6d,YAAY,SAAU7d,GAAIA,KAAK8d,UAAU,SAAU9d,GAAIA,KAAK+d,SAAS,SAAU/d,GAAIA,KAAKge,YAAY,SAAUhe,GAAIA,KAAKie,gBAAgB,SAAUje,GAAIA,KAAKke,UAAU,SAAUle,GAAIA,KAAKme,QAAQ,SAAUne,GAAIA,KAAKoe,OAAO,SAAUpe,GAAIA,KAAKqe,aAAa,SAAUre,GAAIA,KAAKse,WAAW,SAAUte,GAAIA,KAAKue,UAAU,SAAUve,GAAIA,KAAKwe,aAAa,SAAUxe,GAAIA,KAAKye,WAAW,SAAUze,GAAIA,KAAK0e,MAAM,SAAU1e,GAAIA,KAAK2e,QAAQ,SAAU3e,GAAIA,KAAK4e,SAAS,SAAU5e,GAAIA,KAAK6e,YAAY,SAAU7e,GAAIA,KAAK8e,UAAU,SAAU9e,GAAIA,KAAK+e,SAAS,SAAU/e,GAAIA,KAAKgf,YAAY,SAAUhf,GAAIA,KAAKif,gBAAgB,SAAUjf,GAAIA,KAAKkf,UAAU,SAAUlf,GAAIA,KAAKmf,QAAQ,SAAUnf,GAAIA,KAAKof,OAAO,SAAUpf,GAAIA,KAAKqf,aAAa,SAAUrf,GAAIA,KAAKsf,WAAW,SAAUtf,GAAIA,KAAKuf,UAAU,SAAUvf,GAAIA,KAAKwf,aAAa,SAAUxf,GAAIA,KAAKyf,WAAW,SAAUzf,GAAIA,KAAK0f,MAAM,SAAU1f,GAAIA,KAAK2f,QAAQ,SAAU3f,GAAIA,KAAK4f,SAAS,SAAU5f,GAAIA,KAAK6f,YAAY,SAAU7f,GAAIA,KAAK8f,UAAU,SAAU9f,GAAIA,KAAK+f,SAAS,SAAU/f,GAAIA,KAAKggB,YAAY,SAAUhgB,GAAIA,KAAKigB,gBAAgB,SAAUjgB,GAAIA,KAAKkgB,UAAU,SAAUlgB,GAAIA,KAAKmgB,QAAQ,SAAUngB,GAAIA,KAAKogB,OAAO,SAAUpgB,GAAIA,KAAKqgB,aAAa,SAAUrgB,GAAIA,KAAKsgB,WAAW,SAAUtgB,GAAIA,KAAKugB,UAAU,SAAUvgB,GAAIA,KAAKwgB,aAAa,SAAUxgB,GAAIA,KAAKygB,WAAW,SAAUzgB,GAAIA,KAAK0gB,MAAM,SAAU1gB,GAAIA,KAAK2gB,QAAQ,SAAU3gB,GAAIA,KAAK4gB,SAAS,SAAU5gB,GAAIA,KAAK6gB,YAAY,SAAU7gB,GAAIA,KAAK8gB,UAAU,SAAU9gB,GAAIA,KAAK+gB,SAAS,SAAU/gB,GAAIA,KAAKghB,YAAY,SAAUhhB,GAAIA,KAAKihB,gBAAgB,SAAUjhB,GAAIA,KAAKkhB,UAAU,SAAUlhB,GAAIA,KAAKmhB,QAAQ,SAAUnhB,GAAIA,KAAKohB,OAAO,SAAUphB,GAAIA,KAAKqhB,aAAa,SAAUrhB,GAAIA,KAAKshB,WAAW,SAAUthB,GAAIA,KAAKuhB,UAAU,SAAUvhB,GAAIA,KAAKwhB,aAAa,SAAUxhB,GAAIA,KAAKyhB,WAAW,SAAUzhB,GAAIA,KAAK0hB,MAAM,SAAU1hB,GAAIA,KAAK2hB,QAAQ,SAAU3hB,GAAIA,KAAK4hB,SAAS,SAAU5hB,GAAIA,KAAK6hB,YAAY,SAAU7hB,GAAIA,KAAK8hB,UAAU,SAAU9hB,GAAIA,KAAK+hB,SAAS,SAAU/hB,GAAIA,KAAKgiB,YAAY,SAAUhiB,GAAIA,KAAKiiB,gBAAgB,SAAUjiB,GAAIA,KAAKkiB,UAAU,SAAUliB,GAAIA,KAAKmiB,QAAQ,SAAUniB,GAAIA,KAAKoiB,OAAO,SAAUpiB,GAAIA,KAAKqiB,aAAa,SAAUriB,GAAIA,KAAKsiB,WAAW,SAAUtiB,GAAIA,KAAKuiB,UAAU,SAAUviB,GAAIA,KAAKwiB,aAAa,SAAUxiB,GAAIA,KAAKyiB,WAAW,SAAUziB,GAAIA,KAAK0iB,MAAM,SAAU1iB,GAAIA,KAAK2iB,QAAQ,SAAU3iB,GAAIA,KAAK4iB,SAAS,SAAU5iB,GAAIA,KAAK6iB,YAAY,SAAU7iB,GAAIA,KAAK8iB,UAAU,SAAU9iB,GAAIA,KAAK+iB,SAAS,SAAU/iB,GAAIA,KAAKgjB,YAAY,SAAUhjB,GAAIA,KAAKijB,gBAAgB,SAAUjjB,GAAIA,KAAKkjB,UAAU,

,eACN5B,KAAK+B,WACL/B,KAAKgC,oBAEThC,KAAKc,UAAW,GAGpBN,EAAoBY,UAAUY,iBAAmB,WAC7C,IAAIC,EAAQjC,KACZG,GAAkB,WAAc,OAAO8B,EAAMZ,gBAEjDb,EAAoBY,UAAUW,SAAW,WACrC/B,/B,KAAKY,YAAYU,SAAQ,SAAUC,GAAMA,EAAGC,MAAMC,KAAKC,YAAc,IAAIC,SAAQ,SAAUC,GAAWA,EAAQ,IAAIC,MAAM,kBAAoB,IAAIC,OAAM,SAAUC,GAAOA,EAAIC,QAAQ,IAAIF

A,EAAMD,EAAOF,GAElB,YADgB,IAAZA,IAAsBA,EAAU,MAC7B,CAAEF,KAAM,EAAeI,MAAOA,EAAOF,QAASA,IAm4BzD9E,EAAQkF,UAruBR,SASA,EAAUF,GACf,MAAO,CAAEJ,KAAM,EAAmBI,MAAOA,IAquB7ChF,EAAQmF,MA1YR,SASA,EAAMC,EAAUL,EAAWD,GAEhC,YADgB,IAAZA,IAAsBA,EAAU,MAC7B,CAAEF,KAAM,GAAgBQ,SAAUA,EAAUL,UAAWA,EAAWD,QAASA,IA0YxFhF,EAAQuF,UAAYA,EAEpBvF,EAAQwF,QAAUA,EAElBxF,EAAQyF,QAAUA,EAElBzF,EAAQ0F,QAAUA,EAElB1F,EAAQ2F,QAAUA,EAElB3F,EAAQ4F,QAAUA,EAElB5F,EAAQ6F,QAAUA,EAElB7F,EAAQ8F,QAAUA,EAElB9F,EAAQ+F,QAAUA,EAElB/F,EAAQgG,QAAUA,EAElBhG,EAAQiG,QAAUA,EAElBjG,EAAQkG,QAAUA,EAElBlG,EAAQmG,QAAUA,EAElBnG,EAAQoG,QAAUA,EAElBpG,EAAQqG,QAAUA,EAElBrG,EAAQsG,QAAUA,EAElBtG,EAAQuG,QAAUA,EAElBvG,EAAQwG,QAAUA,EAElBxG,EAAQyG,QAAUA,EAElBzG,EAAQ0G,QAAUA,EAElB1G,EAAQ2G,QAAUA,EAElB3G,EAAQ4G,QAAUA,EAElB5G,EAAQ6G,QAAUA,EAElB7G,EAAQ8G,QAAUA,EAElB9G,EAAQ+G,QAAUA,EAElB/G,EAAQgH,QAAUA,EAElBhH,EAAQiH,QAAUA,EAElBjH,EAAQkH,QAAUA,EAElBlH,EAAQmH,QAAUA,EAElBnH,EAAQoH,QAAUA,EAElBpH,EAAQqH,QAAUA,EAElBrH,EAAQsH,QAAUA,EAElBtH,EAAQuH,QAAUA,EAElBvH,EAAQwH,QAAUA,EAElBxH,EAAQyH,QAAUA,EAElBzH,EAAQ0H,QAAUA,EAElB1H,EAAQ2H,QAAUA,EAElB3H,EAAQ4H,QAAUA,EAElB5H,EAAQ6H,QAAUA,EAElB7H,EAAQ8H,QAAUA,EAElB9H,EAAQ+H,QAAUA,EAElB/H,EAAQgI,QAAUA,EAElBhI,EAAQiI,QAAUA,EAElBjI,EAAQkI,QAAUA,EAElBlI,EAAQmI,QAAUA,EAElBnI,EAAQoI,QAAUA,EAElBpI,EAAQqI,QAAUA,EAElBrI,EAAQsI,QAAUA,EAElBtI,EAAQuI,QAAUA,EAElBvI,EAAQwI,QAAUA,EAElBxI,EAAQyI,QAAUA,EAElBzI,EAAQ0I,QAAUA,EAElB1I,EAAQ2I,QAAUA,EAElB3I,EAAQ4I,QAAUA,EAElB5I,EAAQ6I,QAAUA,EAElB7I,EAAQ8I,QAAUA,EAElB9I,EAAQ+I,QAAUA,EAElB/I,EAAQgJ,QAAUA,EAElBhJ,EAAQiJ,QAAUA,EAElBjJ,EAAQkJ,QAAUA,EAElBlJ,EAAQmJ,QAAUA,EAElBnJ,EAAQoJ,QAAUA,EAElBpJ,EAAQqJ,QAAUA,EAElBrJ,EAAQsJ,QAAUA,EAElBtJ,EAAQuJ,QAAUA,EAElBvJ,EAAQwJ,QAAUA,EAElBxJ,EAAQyJ,QAAUA,EAElBzJ,EAAQ0J,QAAUA,EAElB1J,EAAQ2J,QAAUA,EAElB3J,EAAQ4J,QAAUA,EAElB5J,EAAQ6J,QAAUA,EAElB7J,EAAQ8J,QAAUA,EAElB9J,EAAQ+J,QAAUA,EAElB/J,EAAQgK,QAAUA,EAElBhK,EAAQiK,QAAUA,EAElBjK,EAAQkK,QAAUA,EAElBlK,EAAQmK,QAAUA,EAElBnK,EAAQoK,QAAUA,EAElBpK,EAAQqK,QAAUA,EAElBrK,EAAQsK,QAAUA,EAElBtK,EAAQuK,QAAUA,EAElBvK,EAAQwK,QAAUA,EAElBxK,EAAQyK,QAAUA,EAElBzK,EAAQ0K,QAAUA,EAElB1K,EAAQ2K,QAAUA,EAElB3K,EAAQ4K,QAAUA,EAElB5K,EAAQ6K,QAAUA,EAElB7K,EAAQ8K,QAAUA,EAElB9K,EAAQ+K,QAAUA,EAElB/K,EAAQgL,QAAUA,EAElBhL,EAAQiL,QAAUA,EAElBjL,EAAQkL,QAAUA,EAElBlL,EAAQmL,QAAUA,EAElBnL,EAAQoL,QAAUA,EAElBpL,EAAQqL,QAAUA,EAElBrL,EAAQsL,QAAUA,EAElBtL,EAAQuL,QAAUA,EAElBvL,EAAQwL,QAAUA,EAElBxL,EAAQyL,QAAUA,EAElBzL,EAAQ0L,QAAUA,EAElB1L,EAAQ2L,QAAUA,EAElB3L,EAAQ4L,QAAUA,EAElB5L,EAAQ6L,QAAUA,EAElB7L,EAAQ8L,QAAUA,EAElB9L,EAAQ+L,QAAUA,EAElB/L,EAAQgM,QAAUA,EAElBhM,EAAQiM,QAAUA,EAElBjM,EAAQkM,QAAUA,EAElBlM,EAAQmM,QAAUA,EAElBnM,EAAQoM,QAAUA,EAElBpM,EAAQqM,QAAUA,EAElBrM,EAAQsM,QAAUA,EAElBtM,EAAQuM,QAAUA,EAElBvM,EAAQwM,QAAUA,EAElBxM,EAAQyM,QAAUA,EAElBzM,EAAQ0M,QAAUA,EAElB1M,EAAQ2M,QAAUA,EAElB3M,EAAQ4M,QAAUA,EAElB5M,EAAQ6M,QAAUA,EAElB7M,EAAQ8M,QAAUA,EAElB9M,EAAQ+M,QAAUA,EAElB/M,EAAQgN,QAAUA,EAElBhN,EAAQiN,QAAUA,EAElBjN,EAAQkN,QAAUA,EAElBlN,EAAQmN,QAAUA,EAElBnN,EAAQoN,QAAUA,EAElBpN,EAAQqN,QAAUA,EAElBrN,EAAQsN,QAAUA,EAElBtN,EAAQuN,QAAUA,EAElBvN,EAAQwN,QAAUA,EAElBxN,EAAQyN,QAAUA,EAElBzN,EAAQ0N,QAAUA,EAElB1N,EAAQ2N,QAAUA,EAElB3N,EAAQ4N,QAAUA,EAElB5N,EAAQ6N,QAAUA,EAElB7N,EAAQ8N,QAAUA,EAElB9N,EAAQ+N,QAAUA,EAElB/N,EAAQgO,QAAUA,EAElBhO,EAAQiO,QAAUA,EAElBjO,EAAQkO,QAAUA,EAElBlO,EAAQmO,QAAUA,EAElBnO,EAAQoO,QAAUA,EAElBpO,EAAQqO,QAAUA,EAElBrO,EAAQsO,QAAUA,EAElBtO,EAAQuO,QAAUA,EAElBvO,EAAQwO,QAAUA,EAElBxO,EAAQyO,QAAUA,EAElBzO,EAAQ0O,QAAUA,EAElB1O,EAAQ2O,QAAUA,EAElB3O,EAAQ4O,QAAUA,EAElB5O,EAAQ6O,QAAUA,EAElB7O,EAAQ8O,QAAUA,EAElB9O,EAAQ+O,QAAUA,EAElB/O,EAAQgP,QAAUA,EAElBhP,EAAQiP,QAAUA,EAElBjP,EAAQkP,QAAUA,EAElBlP,EAAQmP,QAAUA,EAElBnP,EAAQoP,QAAUA,EAElBpP,EAAQqP,QAAUA,EAElBrP,EAAQsP,QAAUA,EAElBtP,EAAQuP,QAAUA,EAElBvP,EAAQwP,QAAUA,EAElBxP,EAAQyP,QAAUA,EAElBzP,EAAQ0P,QAAUA,EAElB1P,EAAQ2P,QAAUA,EAElB3P,EAAQ4P,QAAUA,EAElB5P,EAAQ6P,QAAUA,EAElB7P,EAAQ8P,QAAUA,EAElB9P,EAAQ+P,QAAUA,EAElB/P,EAAQgQ,QAAUA,EAElBhQ,EAAQiQ,QAAUA,EAElBjQ,EAAQkQ,QAAUA,EAElBlQ,EAAQmQ,QAAUA,EAElBnQ,EAAQoQ,QAAUA,EAElBpQ,EAAQqQ,QAAUA,EAElBrQ,EAAQsQ,QAAUA,EAElBtQ,EAAQuQ,QAAUA,EAElBvQ,EAAQwQ,QAAUA,EAElBxQ,EAAQyQ,QAAUA,EAElBzQ,EAAQ0Q,QAAUA,EAElB1Q,EAAQ2Q,QAAUA,EAElB3Q,EAAQ4Q,QAAUA,EAElB5Q,EAAQ6Q,QAAUA,EAElB7Q,EAAQ8Q,QAAUA,EAElB9Q,EAAQ+Q,QAAUA,EAElB/Q,EAAQgR,QAAUA,EAElBhR,EAAQiR,QAAUA,EAElBjR,EAAQkR,QAAUA,EAElBlR,EAAQmR,QAAUA,EAElBnR,EAAQoR,QAAUA,EAElBpR,EAAQqR,QAAUA,EAElBrR,EAAQsR,QAAUA,EAElBtR,EAAQuR,QAAUA,EAElBvR,EAAQwR,QAAUA,EAElBxR,EAAQyR,QAAUA,EAElBzR,EAAQ0R,QAAUA,EAElB1R,EAAQ2R,QAAUA,EAElB3R,EAAQ4R,QAAUA,EAElB5R,EAAQ6R,QAAUA,EAElB7R,EAAQ8R,QAAUA,EAElB9R,EAAQ+R,QAAUA,EAElB/R,EAAQgS,QAAUA,EAElBhS,EAAQiS,QAAUA,EAElBjS,EAAQkS,QAAUA,EAElBlS,EAAQmS,QAAUA,EAElBnS,EAAQoS,QAAUA,EAElBpS,EAAQqS,QAAUA,EAElBrS,EAAQsS,QAAUA,EAElBtS,EAAQuS,QAAUA,EAElBvS,EAAQwS,QAAUA,EAElBxS,EAAQyS,QAAUA,EAElBzS,EAAQ0S,QAAUA,EAElB1S,EAAQ2S,QAAUA,EAElB3S,EAAQ4S,QAAUA,EAElB5S,EAAQ6S,QAAUA,EAElB7S,EAAQ8S,QAAUA,EAElB9S,EAAQ+S,QAAUA,EAElB/S,EAAQgT,QAAUA,EAElBhT,EAAQiT,QAAUA,EAElBjT,EAAQkT,QAAUA,EAElBlT,EAAQmT,QAAUA,EAElBnT,EAAQoT,QAAUA,EAElBpT,EAAQqT,QAAUA,EAElBrT,EAAQsT,QAAUA,EAElBtT,EAAQuT,QAAUA,EAElBvT,EAAQwT,QAAUA,EAElBxT,EAAQyT,QAAUA,EAElBzT,EAAQ0T,QAAUA,EAElB1T,EAAQ2T,QAAUA,EAElB3T,EAAQ4T,QAAUA,EAElB5T,EAAQ6T,QAAUA,EAElB7T,EAAQ8T,QAAUA,EAElB9T,EAAQ+T,QAAUA,EAElB/T,EAAQgU,QAAUA,EAElBhU,EAAQiU,QAAUA,EAElBjU,EAAQkU,QAAUA,EAElBlU,EAAQmU,QAAUA,EAElBnU,EAAQoU,QAAUA,EAElBpU,EAAQqU,QAAUA,EAElBrU,EAAQsU,QAAUA,EAElBtU,EAAQuU,QAAUA,EAElBvU,EAAQwU,QAAUA,EAElBxU,EAAQyU,QAAUA,EAElBzU,EAAQ0U,QAAUA,EAElB1U,EAAQ2U,QAAUA,EAElB3U,EAAQ4U,QAAUA,EAElB5U,EAAQ6U,QAAUA,EAElB7U,EAAQ8U,QAAUA,EAElB9U,EAAQ+U,QAAUA,EAElB/U,EAAQgV,QAAUA,EAElBhV,EAAQiV,QAAUA,EAElBjV,EAAQkV,QAAUA,EAElBlV,EAAQmV,QAAUA,EAElBnV,EAAQoV,QAAUA,EAElBpV,EAAQqV,QAAUA,EAElBrV,EAAQsV,QAAUA,EAElBtV,EAAQuV,QAAUA,EAElBvV,EAAQwV,QAAUA,EAElBxV,EAAQyV,QAAUA,EAElBzV,EAAQ0V,QAAUA,EAElB1V,EAAQ2V,QAAUA,EAElB3V,EAAQ4V,QAAUA,EAElB5V,EAAQ6V,QAAUA,EAElB7V,EAAQ8V,QAAUA,EAElB9V,EAAQ+V,QAAUA,EAElB/V,EAAQgW,QAAUA,EAElBhW,EAAQiW,QAAUA,EAElBjW,EAAQkW,QAAUA,EAElBlW,EAAQmW,QAAUA,EAElBnW,EAAQoW,QAAUA,EAElBpW,EAAQqW,QAAUA,EAElBrW,EAAQsW,QAAUA,EAElBtW,EAAQuW,QAAUA,EAElBvW,EAAQwW,QAAUA,EAElBxW,EAAQyW,QAAUA,EAElBzW,EAAQ0W,QAAUA,EAElB1W,EAAQ2W,QAAUA,EAElB3W,EAAQ4W,QAAUA,EAElB5W,EAAQ6W,QAAUA,EAElB7W,EAAQ8W,QAAUA,EAElB9W,EAAQ+W,QAAUA,EAElB/W,EAAQgX,QAAUA,EAElBhX,EAAQiX,QAAUA,EAElBjX,EAAQkX,QAAUA,EAElBlX,EAAQmX,QAAUA,EAElBnX,EAAQoX,QAAUA,EAElBpX,EAAQqX,QAAUA,EAElBrX,EAAQsX,QAAUA,EAElBtX,EAAQuX,QAAUA,EAElBvX,EAAQwX,QAAUA,EAElBxX,EAAQyX,QAAUA,EAElBzX,EAAQ0X,QAAUA,EAElB1X,EAAQ2X,QAAUA,EAElB3X,EAAQ4X,QAAUA,EAElB5X,EAAQ6X,QAAUA,EAElB7X,EAAQ8X,QAAUA,EAElB9X,EAAQ+X,QAAUA,EAElB/X,EAAQgY,QAAUA,EAElBhY,EAAQiY,QAAUA,EAElBjY,EAAQkY,QAAUA,EAElBlY,EAAQmY,QAAUA,EAElBnY,EAAQoY,QAAUA,EAElBpY,EAAQqY,QAAUA,EAElBrY,EAAQsY,QAAUA,EAElBtY,EAAQuY,QAAUA,EAElBvY,EAAQwY,QAAUA,EAElBxY,EAAQyY,QAAUA,EAElBzY,EAAQ0Y,QAAUA,EAElB1Y,EAAQ2Y,QAAUA,EAElB3Y,EAAQ4Y,QAAUA,EAElB5Y,EAAQ6Y,QAAUA,EAElB7Y,EAAQ8Y,QAAUA,EAElB9Y,EAAQ+Y,QAAUA,EAElB/Y,EAAQgZ,QAAUA,EAElBhZ,EAAQiZ,QAAUA,EAElBjZ,EAAQkZ,QAAUA,EAElBlZ,EAAQmZ,QAAUA,EAElBnZ,EAAQoZ,QAAUA,EAElBpZ,EAAQqZ,QAAUA,EAElBrZ,EAAQsZ,QAAUA,EAElBtZ,EAAQuZ,QAAUA,EAElBvZ,EAAQwZ,QAAUA,EAElBxZ,EAAQyZ,QAAUA,EAElBzZ,EAAQ0Z,QAAUA,EAElB1Z,EAAQ2Z,QAAUA,EAElB3Z,EAAQ4Z,QAAUA,EAElB5Z,EAAQ6Z,QAAUA,EAElB7Z,EAAQ8Z,QAAUA,EAElB9Z,EAAQ+Z,QAAUA,EAElB/Z,EAAQga,QAAUA,EAElBha,EAAQia,QAAUA,EAElBja,EAAQka,QAAUA,EAElBla,EAAQma,QAAUA,EAElBna,EAAQoa,QAAUA,EAElBpa,EAAQqa,QAAUA,EAElBra,EAAQsa,QAAUA,EAElBta,EAAQua,QAAUA,EAElBva,EAAQwa,QAAUA,EAElBxa,EAAQya,QAAUA,EAElBza,EAAQ0a,QAAUA,EAElB1a,EAAQ2a,QAAUA,EAElB3a,EAAQ4a,QAAUA,EAElB5a,EAAQ6a,QAAUA,EAElB7a,EAAQ8a,QAAUA,EAElB9a,EAAQ+a,QAAUA,EAElB/a,EAAQgb,QAAUA,EAElBhb,EAAQib,QAAUA,EAElBjb,EAAQkb,QAAUA,EAElBlb,EAAQmb,QAAUA,EAElBnb,EAAQob,QAAUA,EAElBpb,EAAQqb,QAAUA,EAElBrb,EAAQsb,QAAUA,EAElBtb,EAAQub,QAAUA,EAElBvb,EAAQwb,QAAUA,EAElBxb,EAAQyb,QAAUA,EAElBzb,EAAQ0b,QAAUA,EAElB1b,EAAQ2b,QAAUA,EAElB3b,EAAQ4b,QAAUA,EAElB5b,EAAQ6b,QAAUA,EAElB7b,EAAQ8b,QAAUA,EAElB9b,EAAQ+b,QAAUA,EAElB/b,EAAQgc,QAAUA,EAElBhc,EAAQic,QAAUA,EAElBjc,EAAQkc,QAAUA,EAElBlc,EAAQmc,QAAUA,EAElBnc,EAAQoc,QAAUA,EAElBpc,EAAQqc,QAAUA,EAElBrc,EAAQsc,QAAUA,EAElBtc,EAAQuc,QAAUA,EAElBvc,EAAQwc,QAAUA,EAElBxc,EAAQyc,QAAUA,EAElBzc,EAAQ0c,QAAUA,EAElB1c,EAAQ2c,QAAUA,EAElB3c,EAAQ4c,QAAUA,EAElB5c,EAAQ6c,QAAUA,EAElB7c,EAAQ8c,QAAUA,EAElB9c,EAAQ+c,QAAUA,EAElB/c,EAAQgd,QAAUA,EAElBhd,EAAQid,QAAUA,EAElBjd,EAAQkd,QAAUA,EAElBld,EAAQmd,QAAUA,EAElBnd,EAAQod,QAAUA,EAElBpd,EAAQqd,QAAUA,EAElBrd,EAAQsd,QAAUA,EAElBtd,EAAQud,QAAUA,EAElBvd,EAAQwd,QAAUA,EAElBxd,EAAQyd,QAAUA,EAElBzd,EAAQ0d,QAAUA,EAElB1d,EAAQ2d,QAAUA,EAElB3d,EAAQ4d,QAAUA,EAElB5d,EAAQ6d,QAAUA,EAElB7d,EAAQ8d,QAAUA,EAElB9d,EAAQ+d,QAAUA,EAElB/d,EAAQge,QAAUA,EAElBhe,EAAQie,QAAUA,EAElBje,EAAQke,QAAUA,EAElBle,EAAQme,QAAUA,EAElBne,EAAQoe,QAAUA,EAElBpe,EAAQqe,QAAUA,EAElBre,EAAQse,QAAUA,EAElBte,EAAQue,QAAUA,EAElBve,EAAQwe,QAAUA,EAElBxe,EAAQye,QAAUA,EAElBze,EAAQ0e,QAAUA,EAElB1e,EAAQ2e,QAAUA,EAElB3e,EAAQ4e,QAAUA,EAElB5e,EAAQ6e,QAAUA,EAElB7e,EAAQ8e,QAAUA,EAElB9e,EAAQ+e,QAAUA,EAElB/e,EAAQgf,QAAUA,EAElBhf,EAAQif,QAAUA,EAElBjf,EAAQkf,QAAUA,EAElBlf,EAAQmf,QAAUA,EAElBnf,EAAQof,QAAUA,EAElBpf,EAAQqf,QAAUA,EAElBrf,EAAQsf,QAAUA,EAElBtf,EAAQuf,QAAUA,EAElBvf,EAAQwf,QAAUA,EAElBxf,EAAQyf,QAAUA,EAElBzf,EAAQ0f,QAAUA,EAElB1f,EAAQ2f,QAAUA,EAElB3f,EAAQ4f,QAAUA,EAElB5f,EAAQ6f,QAAUA,EAElB7f,EAAQ8f,QAAUA,EAElB9f,EAAQ+f,QAAUA,EAElB/f,EAAQggB,QAAUA,EAElBhgB,EAAQigB,QAAUA,EAElBjgB,EAAQkgB,QAAUA,EAElBlgB,EAAQmgB,QAAUA,EAElBngB,EAAQogB,QAAUA,EAElBpgB,EAAQqgB,QAAUA,EAElBrgB,EAAQsgB,QAAUA,EAElBtgB,EAAQugB,QAAUA,EAElBvgB,EAAQwgB,QAAUA,EAElBxgB,EAAQygB,QAAUA,EAElBzgB,EAAQ0gB,QAAUA,EAElB1gB,EAAQ2gB,QAAUA,EAElB3gB,EAAQ4gB,QAAUA,EAElB5gB,EAAQ6gB,QAAUA,EAElB7gB,EAAQ8gB,QAAUA,EAElB9gB,EAAQ+gB,QAAUA,EAElB/gB,EAAQghB,QAAUA,EAElBhhB,EAAQihB,QAAUA,EAElBjhB,EAAQkhB,QAAUA,EAElBlhB,EAAQmhB,QAAUA,EAElBnhB,EAAQohB,QAAUA,EAElBphB,EAAQqhB,QAAUA,EAElBrhB,EAAQshB,QAAUA,EAElBthB,EAAQuhB,QAAUA,EAElBvhB,EAAQwhB,QAAUA,EAElBxhB,EAAQyhB,QAAUA,EAElBzhB,EAAQ0hB,QAAUA,EAElB1hB,EAAQ2hB,QAAUA,EAElB3hB,EAAQ4hB,QAAUA,EAElB5hB,EAAQ6hB,QAAUA,EAElB7hB,EAAQ8hB,QAAUA,EAElB9hB,EAAQ+hB,QAAUA,EAElB/hB,EAAQgiB,QAAUA,EAElBhiB,EAAQiiB,QAAUA,EAElBjiB,EAAQkiB,QAAUA,EAElBliB,EAAQmiB,QAAUA,EAElBniB,EAAQoiB,QAAUA,EAElBpiB,EAAQqiB,QAAUA,EAElBriB,EAAQsiB,QAAUA,EAElBtiB,EAAQuiB,QAAUA,EAElBviB,EAAQwiB,QAAUA,EAElBxiB,EAAQyiB,QAAUA,EAElBziB,EAAQ0iB,QAAUA,EAElB1iB,EAAQ2iB,QAAUA,EAElB3iB,EAAQ4iB,QAAUA,EAElB5iB,EAAQ6iB,QAAUA,EAElB7iB,EAAQ8iB,QAAUA,EAElB9iB,EAAQ+iB,QAAUA,EAElB/iB,EAAQgjB,QAAUA,EAElBhjB,EAAQijB,QAAUA,EAElBjjB,EAAQkjB,QAAUA,EAElBljB,EAAQmjB,QAAUA,EAElBnjB,EAAQojB,QAAUA,EAElBpjB,EAAQqjB,QAAUA,EAElBrjB,EAAQsjB,QAAUA,EAElBtjB,EAAQujB,QAAUA,EAElBvjB,EAAQwjB,QAAUA,EAElBxjB,EAAQyjB,QAAUA,EAElBzjB,EAAQ0jB,QAAUA,EAElB1jB,EAAQ2jB,QAAUA,EAElB3jB,EAAQ4jB,QAAUA,EAElB5jB,EAAQ6jB,QAAUA,EAElB7jB,EAAQ8jB,QAAUA,EAElB9jB,EAAQ+jB,QAAUA,EAElB/jB,EAAQgkB,QAAUA,EAElBhkB,EAAQikB,QAAUA,EAElBjkB,EAAQkkB,QAAUA,EAElBlkB,EAAQmkB,QAAUA,EAElBnkB,EAAQokB,QAAUA,EAElBpkB,EAAQqkB,QAAUA,EAElBrkB,EAAQskB,QAAUA,EAElBtkB,EAAQukB,QAAUA,EAElBvkB,EAAQwkB,QAAUA,EAElBxkB,EAAQykB,QAAUA,EAElBzkB,EAAQ0kB,QAAUA,EAElB1kB,EAAQ2kB,QAAUA,EAElB3kB,EAAQ4kB,QAAUA,EAElB5kB,EAAQ6kB,QAAUA,EAElB7kB,EAAQ8kB,QAAUA,EAElB9kB,EAAQ+kB,QAAUA,EAElB/kB,EAAQglB,QAAUA,EAElBhlB,EAAQilB,QAAUA,EAElBjlB,EAAQklB,QAAUA,EAElBllB,EAAQmlB,QAAUA,EAElBnlB,EAAQolB,QAAUA,EAElBplB,EAAQqlB,QAAUA,EAElBrlB,EAAQslB,QAAUA,EAElBtlB,EAAQulB,QAAUA,EAElBvlB,EAAQwlB,QAAUA,EAElBxlB,EAAQylB,QAAUA,EAElBzlB,EAAQ0lB,QAAUA,EAElB1lB,EAAQ2lB,QAAUA,EAElB3lB,EAAQ4lB,QAAUA,EAElB5lB,EAAQ6lB,QAAUA,EAElB7lB,EAAQ8lB,QAAUA,EAElB9lB,EAAQ+lB,QAAUA,EAElB/lB,EAAQgmB,QAAUA,EAElBhmB,EAAQimB,QAAUA,EAElBjmB,EAAQkmB,QAAUA,EAElBlmB,EAAQmmB,QAAUA,EAElBnmB,EAAQomB,QAAUA,EAElBpmB,EAAQqmB,QAAUA,EAElBrmB,EAAQsmB,QAAUA,EAElBtmB,EAAQumB,QAAUA,EAElBvmB,EAAQwmB,QAAUA,EAElBxmB,EAAQymB,QAAUA,EAElBzmB,EAAQ0mB,QAAUA,EAElB1mB,EAAQ2mB,QAAUA,EAElB3mB,EAAQ4mB,QAAUA,EAElB5mB,EAAQ6mB,QAAUA,EAElB7mB,EAAQ8mB,QAAUA,EAElB9mB,EAAQ+mB,QAAUA,EAElB/mB,EAAQgnB,QAAUA,EAElBhnB,EAAQinB,QAAUA,EAElBjnB,EAAQknB,QAAUA,EAElBlnB,EAAQmnB,QAAUA,EAElBnnB,EAAQonB,QAAUA,EAElBpnB,EAAQqnB,QAAUA,EAElBrnB,EAAQsnB,QAAUA,EAElBtnB,EAAQunB,QAAUA,EAElBvnB,EAAQwnB,QAAUA,EAElBxnB,EAAQynB,QAAUA,EAElBznB,EAAQ0nB,QAAUA,EAElB1nB,EAAQ2nB,QAAUA,EAElB3nB,EAAQ4nB,QAAUA,EAElB5nB,EAAQ6nB,QAAUA,EAElB7nB,EAAQ8nB,QAAUA,EAElB9nB,EAAQ+nB,QAAUA,EAElB/nB,EAAQgoB,QAAUA,EAElBhoB,EAAQioB,QAAUA,EAElBjoB,EAAQkoB,QAAUA,EAElBloB,EAAQmoB,QAAUA,EAElBnoB,EAAQooB,QAAUA,EAElBpoB,EAAQqoB,QAAUA,EAElBroB,EAAQsoB,QAAUA,EAElBtoB,EAAQuoB,QAAUA,EAElBvoB,EAAQwoB,QAAUA,EAElBxoB,EAAQyoB,QAAUA,EAElBzoB,EAAQ0oB,QAAUA,EAElB1oB,EAAQ2oB,QAAUA,EAElB3oB,EAAQ4oB,QAAUA,EAElB5oB,EAAQ6oB,QAAUA,EAElB7oB,EAAQ8oB,QAAUA,EAElB9oB,EAAQ+oB,QAAUA,EAElB/oB,EAAQgpB,QAAUA,EAElBhpB,EAAQipB,QAAUA,EAElBjpB,EAAQkpB,QAAUA,EAElBlpB,EAAQmpB,QAAUA,EAElBnpB,EAAQopB,QAAUA,EAElBppB,EAAQqpB,QAAUA,EAElBrpB,EAAQspB,QAAUA,EAElBtpB,EAAQupB,QAAUA,EAElBvpB,EAAQwpB,QAAUA,EAElBxpB,EAAQypB,QAAUA,EAElBzpB,EAAQ0pB,QAAUA,EAElB1pB,EAAQ2pB,QAAUA,EAElB3pB,EAAQ4pB,QAAUA,EAElB5pB,EAAQ6pB,QAAUA,EAElB7pB,EAAQ8pB,QAAUA,EAElB9pB,EAAQ+pB,QAAUA,EAElB/pB,EAAQgqB,QAAUA,EAElBhqB,EAAQiqB,QAAUA,EAElBjqB,EAAQkqB,QAAUA,EAElBlqB,EAAQmqB,QAAUA,EAElBnqB,EAAQoqB,QAAUA,EAElBpqB,EAAQqqB,QAAUA,EAElBrqB,EAAQsqB,QAAUA,EAElBtqB,EAAQuqB,QAAUA,EAElBvqB,EAAQwqB,QAAUA,EAElBxqB,EAAQyqB,QAAUA,EAElBzqB,EAAQ0qB,QAAUA,EAElB1qB,EAAQ2qB,QAAUA,EAElB3qB,EAAQ4qB,QAAUA,EAElB5qB,EAAQ6qB,QAAUA,EAElB7qB,EAAQ8qB,QAAUA,EAElB9qB,EAAQ+qB,QAAUA,EAElB/qB,EAAQgrB,QAAUA,EAElBhrB,EAAQirB,QAAUA,EAElBjrB,EAAQkrB,QAAUA,EAElBlrB,EAAQmrB,QAAUA,EAElBnrB,EAAQorB,QAAUA,EAElBprB,EAAQqrB,QAAUA,EAElBrrB,EAAQsrB,QAAUA,EAElBtrB,EAAQurB,QAAUA,EAElBvrB,EAAQwrB,QAAUA,EAElBxrB,EAAQyrB,QAAUA,EAElBzrB,EAAQ0rB,QAAUA,EAElB1rB,EAAQ2rB,QAAUA,EAElB3rB,EAAQ4rB,QAAUA,EAElB5rB,EAAQ6rB,QAAUA,EAElB7rB,EAAQ8rB,QAAUA,EAElB9rB,EAAQ+rB,QAAUA,EAElB/rB,EAAQgsB,QAAUA,EAElBhsB,EAAQisB,QAAUA,EAElBjsB,EAAQksB,QAAUA,EAElBlsB,EAAQmsB,QAAUA,EAElBnsB,EAAQosB,QAAUA,EAElBpsB,EAAQqsB,QAAUA,EAElBrsB,EAAQssB,QAAUA,EAElBtsB,EAAQusB,QAAUA,EAElBvsB,EAAQwsB,QAAUA,EAElBxsB,EAAQysB,QAAUA,EAElBzsB,EAAQ0sB,QAAUA,EAElB1sB,EAAQ2sB,QAAUA,EAElB3sB,EAAQ4sB,QAAUA,EAElB5sB,EAAQ6sB,QAAUA,EAElB7sB,EAAQ8sB,QAAUA,EAElB9sB,EAAQ+sB,QAAUA,EAElB/sB,EAAQgtB,QAAUA,EAElBhtB,EAAQitB,QAAUA,EAElBjtB,EAAQktB,QAAUA,EAElBltB,EAAQmtB,QAAUA,EAElBntB,EAAQotB,QAAUA,EAElBptB,EAAQqtB,QAAUA,EAElBrtB,EAAQstB,QAAUA,EAElBttB,EAAQutB,QAAUA,EAElBvtB,EAAQwtB,QAAUA,EAElBxtB,EAAQytB,QAAUA,EAElBztB,EAAQ0tB,QAAUA,EAElB1tB,EAAQ2tB,QAAUA,EAElB3tB,EAAQ4tB,QAAUA,EAElB5tB,EAAQ6tB,QAAUA,EAElB7tB,EAAQ8tB,QAAUA,EAElB9tB,EAAQ+tB,QAAUA,EAElB/tB,EAAQguB,QAAUA,EAElBhuB,EAAQiuB,QAAUA,EAElBjuB,EAAQkuB,QAAUA,EAElBluB,EAAQmuB,QAAUA,EAElBnuB,EAAQouB,QAAUA,EAElBpuB,EAAQquB,QAAUA,EAElBruB,EAAQsuB,QAAUA,EAElBtuB,EAAQuuB,QAAUA,EAElBvuB,EAAQwuB,QAAUA,EAElBxuB,EAAQyuB,QAAUA,EAElBzuB,EAAQ0uB,QAAUA,EAElB1uB,EAAQ2uB,QAAUA,EAElB3uB,EAAQ4uB,QAAUA,EAElB5uB,EAAQ6uB,QAAUA,EAElB7uB,EAAQ8uB,QAAUA,EAElB9uB,EAAQ+uB,QAAUA,EAElB/uB,EAAQgvB,QAAUA,EAElBhvB,EAAQivB,QAAUA,EAElBjvB,EAAQkvB,QAAUA,EAElBlvB,EAAQmvB,QAAUA,EAElBnvB,EAAQovB,QAAUA,EAElBpvB,EAAQqvB,QAAUA,EAElBrvB,EAAQsvB,QAAUA,EAElBtvB,EAAQuvB,QAAUA,EAElBvvB,EAAQwvB,QAAUA,EAElBxvB,EAAQyvB,QAAUA,EAElBzvB,EAAQ0vB,QAAUA,EAElB1vB,EAAQ2vB,QAAUA,EAElB3vB,EAAQ4vB,QAAUA,EAElB5vB,EAAQ6vB,QAAUA,EAElB7vB,EAAQ8vB,QAAUA,EAElB9vB,EAAQ+vB,QAAUA,EAElB/vB,EAAQgwB,QAAUA,EAElBhwB,EAAQiwB,QAAUA,EAElBjwB,EAAQkwB,QAAUA,EAElBlwB,EAAQmwB,QAAUA,EAElBnwB,EAAQowB,QAAUA,EAElBpwB,EAAQqwB,QAAUA,EAElBrwB,EAAQswB,QAAUA,EAElBtwB,EAAQuwB,QAAUA,EAElBvwB,EAAQwwB,QAAUA,EAElBxwB,EAAQywB,QAAUA,EAElBzwB,EAAQ0wB,QAAUA,EAElB1wB,EAAQ2wB,QAAUA,EAElB3wB,EAAQ4wB,QAAUA,EAElB5wB,EAAQ6wB,QAAUA,EAElB7wB,EAAQ8wB,QAAUA,EAElB9wB,EAAQ+wB,QAAUA,EAElB/wB,EAAQgxB,QAAUA,EAElBhxB,EAAQixB,QAAUA,EAElBjxB,EAAQkxB,QAAUA,EAElBlxB,EAAQmxB,QAAUA,EAElBnxB,EAAQoxB,QAAUA,EAElBpxB,EAAQqxB,QAAUA,EAElBrxB,EAAQsxB,QAAUA,EAElBtxB,EAAQuxB,QAAUA,EAElBvxB,EAAQwxB,QAAUA,EAElBxxB,EAAQyxB,QAAUA,EAElBzxB,EAAQ0xB,QAAUA,EAElB1xB,EAAQ2xB,QAAUA,EAElB3xB,EAAQ4xB,QAAUA,EAElB5xB,EAAQ6xB,QAAUA,EAElB7xB,EAAQ8xB,QAAUA,EAElB9xB,EAAQ+xB,QAAUA,EAElB/xB,EAAQgyB,QAAUA,EAElBhyB,EAAQiyB,QAAUA,EAElBjyB,EAAQkyB,QAAUA,EAElBlyB,EAAQmyB,QAAUA,EAElBnyB,EAAQoyB,QAAUA,EAElBpyB,EAAQqyB,QAAUA,EAElBryB,EAAQsyB,QAAUA,EAElBtyB,EAAQuyB,QAAUA,EAElBvyB,EAAQwyB,QAAUA,EAElBxyB,EAAQyyB,QAAUA,EAElBzyB,EAAQ0yB,QAAUA,EAElB1yB,EAAQ2yB,QAAUA,EAElB3yB,EAAQ4yB,QAAUA,EAElB5yB,EAAQ6yB,QAAUA,EAElB7yB,EAAQ8yB,QAAUA,EAElB9yB,EAAQ+yB,QAAUA,EAElB/yB,EAAQgzB,QAAUA,EAElBhzB,EAAQizB,QAAUA,EAElBjzB,EAAQkzB,QAAUA,EAElBlzB,EAAQmzB,QAAUA,EAElBnzB,EAAQozB,QAAUA,EAElBpzB,EAAQqzB,QAAUA,EAElBrzB,EAAQszB,QAAUA,EAElBtzB,EAAQuzB,QAAUA,EAElBvzB,EAAQwzB,QAAUA,EAElBxzB,EAAQyzB,QAAUA,EAElBzzB,EAAQ0zB,QAAUA,EAElB1zB,EAAQ2zB,QAAUA

`[@triggerName]=\"expression\"`\n *\n * Animation trigger bindings convert all values to strings, and then match the\n * previous and current values against any linked transitions.\n * Booleans can be specified as `1` or `true` and `0` or `false`.\n *\n * ### Usage Example\n *\n * The following example creates an animation trigger reference based on the provided\n * name value.\n * The provided animation value is expected to be an array consisting of state and\n * transition declarations.\n *\n * ```typescript\n * @Component({\n * selector: \"my-component\",\n * templateUrl: \"my-component-tpl.html\",\n * animations: [\n * trigger(\"myAnimationTrigger\", [\n * state(...),\n * state(...),\n * transition(...),\n * transition(...)\n * ])\n * ]\n * })\n * class MyComponent {\n * myStatusExp = \"something\";\n * }\n * ```\n *\n * The template associated with this component makes use of the defined trigger\n * by binding to an element within its template code.\n *\n * ```html\n * <!-- somewhere inside of my-component-tpl.html -->\n * <div [@myAnimationTrigger]=\"myStatusExp\">...</div>\n * ```\n *\n * ### Using an inline function\n * The `transition` animation method also supports reading an inline function which can decide\n * if its associated animation should be run.\n *\n * ```typescript\n * // this method is run each time the `myAnimationTrigger` trigger value changes.\n * function myInlineMatcherFn(fromState: string, toState: string, element: any, params: {[key:\n string]: any}): boolean {\n * // notice that `element` and `params` are also available here\n * return toState == 'yes-please-animate';\n * }\n *\n * @Component({\n * selector: 'my-component',\n * templateUrl: 'my-component-tpl.html',\n * animations: [\n * trigger('myAnimationTrigger', [\n * transition(myInlineMatcherFn, [\n * // the animation sequence code\n * ]),\n * ])\n * ]\n * })\n * class MyComponent {\n * myStatusExp = \"yes-please-animate\";\n * }\n * ```\n *\n * ### Disabling Animations\n * When true, the special animation control binding `@.disabled` binding prevents\n * all animations from rendering.\n * Place the `@.disabled` binding on an element to disable\n * animations on the element itself, as well as any inner animation triggers\n * within the element.\n *\n * The following example shows how to use this feature:\n *\n * ```typescript\n * @Component({\n * selector: 'my-component',\n * template: `\n * <div [@.disabled]=\"isDisabled\">\n * <div [@childAnimation]=\"exp\"></div>\n * </div>\n * `,\n * animations: [\n * trigger(\"childAnimation\", [\n * // ...\n * ])\n * ]\n * })\n * class MyComponent {\n * isDisabled = true;\n * exp = '...';\n * }\n * ```\n *\n * When `@.disabled` is true, it prevents the `@childAnimation` trigger from animating,\n * along with any inner animations.\n *\n * ### Disable animations application-wide\n * When an area of the template is set to have animations disabled,\n * **all** inner components have their animations disabled as well.\n * This means that you can disable all animations for an app\n * by placing a host binding set on `@.disabled` on the topmost Angular component.\n *\n * ```typescript\n * import {Component, HostBinding} from '@angular/core';\n *\n * @Component({\n * selector: 'app-component',\n * templateUrl: 'app.component.html',\n * })\n * class AppComponent {\n * @HostBinding('@.disabled')\n * public animationsDisabled = true;\n * }\n * ```\n *\n * ### Overriding disablement of inner animations\n * Despite inner animations being disabled, a parent animation can `query()`\n * for inner elements located in disabled areas of the template and still animate\n * them if needed. This is also the case for when a sub animation is\n * queried by a parent and then later animated using `animateChild()`.\n *\n * ### Detecting when an animation is disabled\n * If a region of the DOM (or the entire application) has its animations disabled, the animation\n * trigger callbacks still fire, but for zero seconds. When the callback fires, it provides\n * an instance of an `AnimationEvent`. If animations are disabled,\n * the `.disabled` flag on the event is true.\n *\n * @publicApi\n */\n function trigger(name, definitions) {\n return { type: 7 /* Trigger */, name: name, definitions: definitions, options: {} };\n }\n /**\n * Defines an animation step that combines styling information with timing information.\n *\n *
@param timings Sets `AnimateTimings` for the parent animation.\n * A string in the format \"duration [delay] [easing]\".\n * - Duration and delay are expressed as a number and optional time unit,\n * such as \"1s\" or \"10ms\" for one second and 10 milliseconds, respectively.\n * The default unit is milliseconds.\n * - The

```
easing value controls how the animation accelerates and decelerates\n     * during its runtime. Value is one of `ease`, `ease-in`, `ease-out`,\n     * `ease-in-out`, or a `cubic-bezier()` function call.\n     * If not supplied, no easing is applied.\n     *\n     * For example, the string \"1s 100ms ease-out\" specifies a duration of\n     * 1000 milliseconds, and delay of 100 ms, and the \"ease-out\" easing style,\n     * which decelerates near the end of the duration.\n     * @param styles Sets AnimationStyles for the parent animation.\n     * A function call to either `style()` or `keyframes()`\n     * that returns a collection of CSS style
 entries to be applied to the parent animation.\n     * When null, uses the styles from the destination state.\n     * This is useful when describing an animation step that will complete an animation;\n     * see \"Animating to the final state\" in `transitions()`.\n     * @returns An object that encapsulates the animation step.\n     *\n     * @usageNotes\n
   * Call within an animation `sequence()`, `{@link animations/group group()}`, or\n     * `transition()` call to specify an animation step\n     * that applies given style data to the parent animation for a given amount of time.\n     *\n     * ### Syntax Examples\n     * **Timing examples**\n     *\n     * The following examples show various `timings` specifications.\n     * - `animate(500)` : Duration is 500 milliseconds.\n     * - `animate(\"1s\")` : Duration is 1000 milliseconds.\n     * - `animate(\"100ms 0.5s\")` : Duration is 100 milliseconds, delay is 500 milliseconds.\n     * - `animate(\"5s ease-in\")` : Duration is 5000
 milliseconds, easing in.\n     * - `animate(\"5s 10ms cubic-bezier(.17,.67,.88,.1)\")` : Duration is 5000 milliseconds, delay is 10\n     * milliseconds, easing according to a bezier curve.\n     *\n     * **Style examples**\n     *\n     * The following example calls `style()` to set a single CSS style.\n     * ```typescript\n     * animate(500, style({ background: \"red\" }))\n     * ```\n     * The following example calls `keyframes()` to set a CSS style\n     * to different values for successive keyframes.\n     * ```typescript\n     * animate(500, keyframes(\n     *  [\n     *   style({ background: \"blue\" }),\n     *   style({ background: \"red\" })\n     *  ])\n     * ```\n     *\n     * @publicApi\n     */\n function animate(timings, styles) {\n     if (styles === void 0) { styles = null; }\n     return { type: 4 /* Animate */, styles: styles, timings: timings };\n }\n /**\n * @description Defines a list of animation steps to be run in parallel.\n     *\n
    * @param steps An array of animation step objects.\n     * - When steps are defined by `style()` or `animate()`\n     * function calls, each call within the group is executed instantly.\n     * - To specify offset styles to be applied at a later time, define steps with\n     * `keyframes()`, or use `animate()` calls with a delay value.\n     * For example:\n     *\n     * ```typescript\n     * group([\n     *   animate(\"1s\", style({ background: \"black\" })),\n     *   animate(\"2s\", style({ color: \"white\" }))\n     * ])\n     * ```\n     *\n     * @param options An options object containing a delay and\n     * developer-defined parameters that provide styling defaults and\n     * can be overridden on invocation.\n     *\n     * @return An object that encapsulates the group data.\n     *\n     * @usageNotes\n     * Grouped animations are useful when a series of styles must be\n     * animated at different starting times and closed off at different ending times.\n     *\n     *
 When called within a `sequence()` or a\n     * `transition()` call, does not continue to the next\n     * instruction until all of the inner animation steps have completed.\n     *\n     * @publicApi\n     */\n function group(steps, options) {\n     if (options === void 0) { options = null; }\n     return { type: 3 /* Group */, steps: steps, options: options };\n }\n /**\n * Defines a list of animation steps to be run sequentially, one by one.\n     *\n     * @param steps An array of animation step objects.\n     * - Steps defined by `style()` calls apply the styling data immediately.\n     * - Steps defined by `animate()` calls apply the styling data over time\n     *  as specified by the timing data.\n     *\n     * ```typescript\n     * sequence([\n     *   style({ opacity: 0 }),\n     *   animate(\"1s\", style({ opacity: 1 }))\n     * ])\n
   * ```\n     *\n     * @param options An options object containing a delay and\n     * developer-defined parameters that
 provide styling defaults and\n     * can be overridden on invocation.\n     *\n     * @return An object that encapsulates the sequence data.\n     *\n     * @usageNotes\n     * When you pass an array of steps to a\n     * `transition()` call, the steps run sequentially by default.\n     * Compare this to the `{@link animations/group group()}` call, which runs animation steps in\n     *parallel.\n     *\n     * When a sequence is used within a `{@link animations/group group()}` or a `transition()` call,\n     * execution continues to the next instruction only after each of the inner animation\n     * steps have completed.\n     *\n     * @publicApi\n     **/\n function sequence(steps,
```

options) {\n if (options === void 0) { options = null; }\n return { type: 2 /* Sequence */, steps: steps, options: options };\n }\n /**\n * Declares a key/value object containing CSS properties/styles that\n * can then be used for an animation `state`, within an animation `sequence`,\n * or as styling data for calls to `animate()` and `keyframes()`.\n *\n * @param tokens A set of CSS styles or HTML styles associated with an animation state.\n * The value can be any of the following:\n * - A key-value style pair associating a CSS property with a value.\n * - An array of key-value style pairs.\n * - An asterisk (*), to use auto-styling, where styles are derived from the element\n * being animated and applied to the animation when it starts.\n *\n * Auto-styling can be used to define a state that depends on layout or other\n * environmental factors.\n *\n * @return An object that encapsulates the style data.\n *\n * @usageNotes\n * The following examples create animation styles that collect a set of\n * CSS property values:\n *\n * ```typescript\n * // string values for CSS properties\n * style({ background: \"red\", color: \"blue\" })\n *\n * // numerical pixel values\n * style({ width: 100, height: 0 })\n * ```\n *\n * The following example uses auto-styling to allow a component to animate from\n * a height of 0 up to the height of the parent element:\n *\n * ```\n * style({ height: 0 }),\n * animate(\"1s\", style({ height: \"*\" }))\n * ```\n *\n * @publicApi\n **/\n function style(tokens) {\n return { type: 6 /* Style */, styles: tokens, offset: null };\n }\n /**\n * Declares an animation state within a trigger attached to an element.\n *\n * @param name One or more names for the defined state in a comma-separated string.\n * The following reserved state names can be supplied to define a style for specific use\n * cases:\n *\n * - `void` You can associate styles with this name to be used when\n * the element is detached from the application. For example, when an `ngIf` evaluates\n * to false, the state of the associated element is void.\n * - `*` (asterisk) Indicates the default state. You can associate styles with this name\n * to be used as the fallback when the state that is being animated is not declared\n * within the trigger.\n *\n * @param styles A set of CSS styles associated with this state, created using the\n * `style()` function.\n * This set of styles persists on the element once the state has been reached.\n * @param options Parameters that can be passed to the state when it is invoked.\n * 0 or more key-value pairs.\n * @return An object that encapsulates the new state data.\n *\n * @usageNotes\n * Use the `trigger()` function to register states to an animation trigger.\n * Use the `transition()` function to animate between states.\n * When a state is active within a component, its associated styles persist on the element,\n * even when the animation ends.\n *\n * @publicApi\n **/\n function state(name, styles, options) {\n return { type: 0 /* State */, name: name, styles: styles, options: options };\n }\n /**\n * Defines a set of animation styles, associating each style with an optional `offset` value.\n *\n * @param steps A set of animation styles with optional offset data.\n * The optional `offset` value for a style specifies a percentage of the total animation\n * time at which that style is applied.\n * @returns An object that encapsulates the keyframes data.\n *\n * @usageNotes\n * Use with the `animate()` call. Instead of applying animations\n * from the current state\n * to the destination state, keyframes describe how each style entry is applied and at what point\n * within the animation arc.\n * Compare [CSS Keyframe Animations](https://www.w3schools.com/css/css3_animations.asp).\n *\n * ### Usage\n *\n * In the following example, the offset values describe\n * when each `backgroundColor` value is applied. The color is red at the start, and changes to\n * blue when 20% of the total time has elapsed.\n *\n * ```typescript\n * // the provided offset values\n * animate(\"5s\", keyframes([\n * style({ backgroundColor: \"red\", offset: 0 }),\n * style({ backgroundColor: \"blue\", offset: 0.2 }),\n * style({ backgroundColor: \"orange\", offset: 0.3 }),\n * style({ backgroundColor: \"black\", offset: 1 })\n * ]))\n * ```\n *\n * If there are no `offset` values specified in the style entries, the offsets\n * are calculated automatically.\n *\n * ```typescript\n * animate(\"5s\", keyframes([\n * style({ backgroundColor: \"red\" }) // offset = 0\n * style({ backgroundColor: \"blue\" }) // offset = 0.33\n * style({ backgroundColor: \"orange\" }) // offset = 0.66\n * style({ backgroundColor: \"black\" }) // offset = 1\n * ]))\n *```\n\n * @publicApi\n */\n function keyframes(steps) {\n

```
return { type: 5 /* Keyframes */, steps: steps };\n    }\n    /**\n     * Declares an animation transition as a sequence of animation steps to run when a given\n     * condition is satisfied. The condition is a Boolean expression or function that compares\n     * the previous and current animation states, and returns true if this transition should occur.\n     * When the state criteria of a defined transition are met, the associated animation is\n     * triggered.\n     *\n     * @param stateChangeExpr A Boolean expression or function that compares the previous and current\n     * animation states, and returns true if this transition should occur. Note that \"true\" and \"false\"\n     * match 1 and 0, respectively. An expression is evaluated each time a state change occurs in the\n     * animation trigger element.\n     * The animation steps run when the expression evaluates to true.\n     *\n     * - A state-change string takes the form \"state1 => state2\", where each side is a defined
 animation\n     * state, or an asterix (*) to refer to a dynamic start or end state.\n     *   - The expression string can contain multiple comma-separated statements;\n     * for example \"state1 => state2, state3 => state4\".\n     *   - Special values `:enter` and `:leave` initiate a transition on the entry and exit states,\n     * equivalent to  \"void => *\" and \"* => void\".\n     *   - Special values `:increment` and `:decrement` initiate a transition when a numeric value has\n     * increased or decreased in value.\n     * - A function is executed each time a state change occurs in the animation trigger element.\n     * The animation steps run when the function returns true.\n     *\n     * @param steps One or more animation objects, as returned by the `animate()` or\n     * `sequence()` function, that form a transformation from one state to another.\n     * A sequence is used by default when you pass an array.\n     * @param options An options object that can contain a
 delay value for the start of the animation,\n     * and additional developer-defined parameters. Provided values for additional parameters are used\n     * as defaults, and override values can be passed to the caller on invocation.\n     * @returns An object that encapsulates the transition data.\n     *\n     * @usageNotes\n     * The template associated with a component binds an animation trigger to an element.\n     *\n     * ```HTML\n     * <!-- somewhere inside of my-component-tpl.html -->\n     * <div [@myAnimationTrigger]=\"myStatusExp\">...</div>\n     * ```\n     *\n     * All transitions are defined within an animation trigger,\n     * along with named states that the transitions change to and from.\n     *\n     * ```typescript\n     * trigger(\"myAnimationTrigger\", [\n     *  // define states\n     *  state(\"on\", style({ background: \"green\" })),\n     *  state(\"off\", style({ background: \"grey\" })),\n     *  ...]\n     * ```\n     *\n     * Note that when you call the
 `sequence()` function within a `{@link animations/group group()}`\n     * or a `transition()` call, execution does not continue to the next instruction\n     * until each of the inner animation steps have completed.\n     *\n     * ### Syntax examples\n     *\n     * The following examples define transitions between the two defined states (and default states),\n     * using various options:\n     *\n     * ```typescript\n     * // Transition occurs when the state value\n     * // bound to \"myAnimationTrigger\" changes from \"on\" to \"off\"\n     * transition(\"on => off\", animate(500))\n     * // Run the same animation for both directions\n     * transition(\"on <=> off\", animate(500))\n     * // Define multiple state-change pairs separated by commas\n     * transition(\"on => off, off => void\", animate(500))\n     * ```\n     *\n     * ### Special values for state-change expressions\n     *\n     * - Catch-all state change for when an element is inserted into the page and the\n
     * destination state is unknown:\n     *\n     * ```typescript\n     * transition(\"void => *\", [\n     *  style({ opacity: 0 }),\n     *  animate(500)\n     *  ])\n     * ```\n     *\n     * - Capture a state change between any states:\n     *\n     * `transition(\"* => *\", animate(\"1s 0s\"))`\n     *\n     * - Entry and exit transitions:\n     *\n     * ```typescript\n     * transition(\":enter\", [\n     *   style({ opacity: 0 }),\n     *   animate(500, style({ opacity: 1 }))\n     *   ]),\n     * transition(\":leave\", [\n     *   animate(500, style({ opacity: 0 }))\n     *   ])\n     * ```\n     *\n     * - Use `:increment` and `:decrement` to initiate transitions:\n     *\n     * ```typescript\n     * transition(\":increment\", group([\n     * query(':enter', [\n     *    style({ left: '100%' }),\n     *    animate('0.5s ease-out', style('*'))\n     *   ]),\n     * query(':leave', [\n     *    animate('0.5s ease-out', style({ left: '-100%' }))\n     *  ])\n     * ]))\n
     *\n     * transition(\":decrement\", group([\n     *  query(':enter', [\n     *    style({ left: '100%' }),\n     *    animate('0.5s ease-out', style('*'))\n     *   ]),\n     *  query(':leave', [\n     *    animate('0.5s ease-out', style({ left: '-100%' }))\n     *  ])\n     * ]))\n     * ```\n     *\n     * ### State-change functions\n     *\n     * Here is an example of a `fromState` specified as a state-change function that invokes an\n     * animation when true:\n     *\n     *
```

```typescript\n * transition((fromState, toState) =>\n * {\n * return fromState == \"off\" && toState == \"on\";\n * },\n * animate(\"1s 0s\"))\n * ```\n *\n * ### Animating to the final state\n *\n * If the final step in a transition is a call to `animate()` that uses a timing value\n * with no style data, that step is automatically considered the final animation arc,\n * for the element to reach the final state. Angular automatically adds or
removes\n * CSS styles to ensure that the element is in the correct final state.\n *\n * The following example defines a transition that starts by hiding the element,\n * then makes sure that it animates properly to whatever state is currently active for trigger:\n *\n * ```typescript\n * transition(\"void => *\", [\n * style({ opacity: 0 }),\n * animate(500)\n * ])\n * ```\n * ### Boolean value matching\n * If a trigger binding value is a Boolean, it can be matched using a transition expression\n * that compares true and false or 1 and 0. For example:\n *\n * ```\n * // in the template\n * <div [@openClose]=\"open ? true : false\">...</div>\n * // in the component metadata\n * trigger('openClose', [\n * state('true', style({ height: '*' })),\n * state('false', style({ height: '0px' })),\n * transition('false <=> true', animate(500))\n * ])\n * ```\n *\n * @publicApi\n
**/\n function transition(stateChangeExpr, steps, options) {\n if (options === void 0) { options = null; }\n return { type: 1 /* Transition */, expr: stateChangeExpr, animation: steps, options: options };\n }\n /**\n * Produces a reusable animation that can be invoked in another animation or sequence,\n * by calling the `useAnimation()` function.\n *\n * @param steps One or more animation objects, as returned by the `animate()`\n * or `sequence()` function, that form a transformation from one state to another.\n * A sequence is used by default when you pass an array.\n * @param options An options object that can contain a delay value for the start of the\n * animation, and additional developer-defined parameters.\n * Provided values for additional parameters are used as defaults,\n * and override values can be passed to the caller on invocation.\n * @returns An object that encapsulates the animation data.\n *\n
* @usageNotes\n * The following example defines a reusable animation, providing some default parameter\n * values.\n *\n * ```typescript\n * var fadeAnimation = animation([\n * style({ opacity: '{{ start }}' }),\n * animate('{{ time }}',\n * style({ opacity: '{{ end }}'}))\n * ],\n * { params: { time: '1000ms', start: 0, end: 1 }});\n * ```\n *\n * The following invokes the defined animation with a call to `useAnimation()`,\n * passing in override parameter values.\n *\n * ```js\n * useAnimation(fadeAnimation, {\n * params: {\n * time: '2s',\n * start: 1,\n * end: 0\n * }\n * })\n * ```\n *\n * If any of the passed-in parameter values are missing from this call,\n * the default values are used. If one or more parameter values are missing before a step is\n * animated, `useAnimation()` throws an error.\n *\n * @publicApi\n */\n function
animation(steps, options) {\n if (options === void 0) { options = null; }\n return { type: 8 /* Reference */, animation: steps, options: options };\n }\n /**\n * Executes a queried inner animation element within an animation sequence.\n *\n * @param options An options object that can contain a delay value for the start of the\n * animation, and additional override values for developer-defined parameters.\n * @return An object that encapsulates the child animation data.\n *\n * @usageNotes\n * Each time an animation is triggered in Angular, the parent animation\n * has priority and any child animations are blocked. In order\n * for a child animation to run, the parent animation must query each of the elements\n * containing child animations, and run them using this function.\n *\n * Note that this feature is designed to be used with `query()` and it will only work\n * with animations that are assigned using
the Angular animation library. CSS keyframes\n * and transitions are not handled by this API.\n *\n * @publicApi\n */\n function animateChild(options) {\n if (options === void 0) { options = null; }\n return { type: 9 /* AnimateChild */, options: options };\n }\n /**\n * Starts a reusable animation that is created using the `animation()` function.\n *\n * @param animation The reusable animation to start.\n * @param options An options object that can contain a delay value for the start of\n * the animation, and additional override values for developer-defined parameters.\n * @return An object that contains the animation parameters.\n *\n * @publicApi\n */\n function useAnimation(animation, options) {\n if (options === void 0) { options =
```

null; }\n return { type: 10 /* AnimateRef */, animation: animation, options: options };\n }\n /**\n * Finds one or more inner elements within the current
element that is\n * being animated within a sequence. Use with `animate()`.\n *\n * @param selector The element to query, or a set of elements that contain Angular-specific\n * characteristics, specified with one or more of the following tokens.\n * - `query(\":enter\")` or `query(\":leave\")` : Query for newly inserted/removed elements.\n * - `query(\":animating\")` : Query all currently animating elements.\n * - `query(\"@triggerName\")` : Query elements that contain an animation trigger.\n * - `query(\"@*\")` : Query all elements that contain an animation triggers.\n * - `query(\":self\")` : Include the current element into the animation sequence.\n *\n * @param animation One or more animation steps to apply to the queried element or elements.\n * An array is treated as an animation sequence.\n * @param options An options object. Use the 'limit' field to limit the total number of\n * items to collect.\n * @return
An object that encapsulates the query data.\n *\n * @usageNotes\n * Tokens can be merged into a combined query selector string. For example:\n *\n * ```typescript\n * query(':self, .record:enter, .record:leave, @subTrigger', [...])\n * ```\n *\n * The `query()` function collects multiple elements and works internally by using\n * `element.querySelectorAll`. Use the `limit` field of an options object to limit\n * the total number of items to be collected. For example:\n *\n * ```js\n * query('div', [\n * animate(...),\n * animate(...)\n * ], { limit: 1 })\n * ```\n *\n * By default, throws an error when zero items are found. Set the\n * `optional` flag to ignore this error. For example:\n *\n * ```js\n * query('.some-element-that-may-not-be-there', [\n * animate(...),\n * animate(...)\n * ], { optional: true })\n * ```\n *\n * ### Usage Example\n *\n *
The following example queries for inner elements and animates them\n * individually using `animate()`.\n *\n * ```typescript\n * @Component({\n * selector: 'inner',\n * template: `\n * <div [@queryAnimation]=\"exp\">\n * <h1>Title</h1>\n * <div class=\"content\">\n * Blah blah blah\n * </div>\n * </div>\n * `,\n * animations: [\n * trigger('queryAnimation', [\n * transition('* => goAnimate', [\n * // hide the inner elements\n * query('h1', style({ opacity: 0 })),\n * query('.content', style({ opacity: 0 })),\n *\n * // animate the inner elements in, one by one\n * query('h1', animate(1000, style({ opacity: 1 }))),\n * query('.content', animate(1000, style({ opacity: 1 }))),\n * ])\n * ])\n * ]\n * })\n * class Cmp {\n * exp = '';\n *\n * goAnimate() {\n * this.exp = 'goAnimate';\n * }\n * }\n * ```\n *\n * @publicApi\n */\n function query(selector, animation, options) {\n if (options === void 0) { options = null; }\n return { type: 11 /* Query */, selector: selector, animation: animation, options: options };\n }\n /**\n * Use within an animation `query()` call to issue a timing gap after\n * each queried item is animated.\n *\n * @param timings A delay value.\n * @param animation One ore more animation steps.\n * @returns An object that encapsulates the stagger data.\n *\n * @usageNotes\n * In the following example, a container element wraps a list of items stamped out\n * by an `ngFor`. The container element contains an animation trigger that will later be set\n * to query for each of the inner items.\n *\n * Each time items are added, the opacity fade-in animation runs,\n * and each removed item is faded out.\n * When either
of these animations occur, the stagger effect is\n * applied after each item's animation is started.\n *\n * ```html\n * <!-- list.component.html -->\n * <button (click)=\"toggle()\">Show / Hide Items</button>\n * <hr />\n * <div [@listAnimation]=\"items.length\">\n * <div *ngFor=\"let item of items\">\n * {{ item }}\n * </div>\n * </div>\n * ```\n *\n * Here is the component code:\n *\n * ```typescript\n * import {trigger, transition, style, animate, query, stagger} from '@angular/animations';\n * @Component({\n * templateUrl: 'list.component.html',\n * animations: [\n * trigger('listAnimation', [\n * ...\n * ])\n * ]\n * })\n * class ListComponent {\n * items = [];\n *\n * showItems() {\n * this.items = [0,1,2,3,4];\n * }\n *\n * hideItems() {\n * this.items = [];\n * }\n *\n * toggle() {\n * this.items.length ? this.hideItems() : this.showItems();\n * }\n * }\n * ```\n *\n * Here is the animation trigger code:\n *\n * ```typescript\n * trigger('listAnimation', [\n * transition('* => *', [ // each time the binding value changes\n * query(':leave', [\n * stagger(100, [\n * animate('0.5s', style({

opacity: 0 }))\n * ])\n * ]),\n * query(':enter', [\n * style({ opacity: 0 }),\n * stagger(100, [\n * animate('0.5s', style({ opacity: 1 }))\n * ])\n * ])\n * ])\n * ])\n * ```\n *\n * @publicApi\n */\n function stagger(timings, animation) {\n return { type: 12 /* Stagger */, timings: timings, animation: animation };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function scheduleMicroTask(cb) {\n Promise.resolve(null).then(cb);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * An empty programmatic controller for reusable animations.\n * Used internally when animations are disabled, to avoid\n * checking for the null case when an animation player is expected.\n *\n * @see `animate()`\n * @see `AnimationPlayer`\n * @see `GroupPlayer`\n *\n * @publicApi\n */\n var NoopAnimationPlayer = /** @class */ (function () {\n function NoopAnimationPlayer(duration, delay) {\n if (duration === void 0) { duration = 0; }\n if (delay === void 0) { delay = 0; }\n this._onDoneFns = [];\n this._onStartFns = [];\n this._onDestroyFns = [];\n this._started = false;\n this._destroyed = false;\n this._finished = false;\n this._position = 0;\n this.parentPlayer = null;\n this.totalTime = duration + delay;\n }\n NoopAnimationPlayer.prototype._onFinish = function () {\n if (!this._finished) {\n this._finished = true;\n this._onDoneFns.forEach(function (fn) { return fn(); });\n this._onDoneFns = [];\n }\n };\n NoopAnimationPlayer.prototype.onStart = function (fn) {\n this._onStartFns.push(fn);\n };\n NoopAnimationPlayer.prototype.onDone = function (fn) {\n this._onDoneFns.push(fn);\n };\n NoopAnimationPlayer.prototype.onDestroy = function (fn) {\n this._onDestroyFns.push(fn);\n };\n NoopAnimationPlayer.prototype.hasStarted = function\n () {\n return this._started;\n };\n NoopAnimationPlayer.prototype.init = function () { };\n NoopAnimationPlayer.prototype.play = function () {\n if (!this.hasStarted()) {\n this._onStart();\n this.triggerMicrotask();\n }\n this._started = true;\n };\n /** @internal */\n NoopAnimationPlayer.prototype.triggerMicrotask = function () {\n var _this = this;\n scheduleMicroTask(function () { return _this._onFinish(); });\n };\n NoopAnimationPlayer.prototype._onStart = function () {\n this._onStartFns.forEach(function (fn) { return fn(); });\n this._onStartFns = [];\n };\n NoopAnimationPlayer.prototype.pause = function () { };\n NoopAnimationPlayer.prototype.restart = function () { };\n NoopAnimationPlayer.prototype.finish = function () {\n this._onFinish();\n };\n NoopAnimationPlayer.prototype.destroy\n = function () {\n if (!this._destroyed) {\n this._destroyed = true;\n if (!this.hasStarted()) {\n this._onStart();\n }\n this.finish();\n this._onDestroyFns.forEach(function (fn) { return fn(); });\n this._onDestroyFns = [];\n }\n };\n NoopAnimationPlayer.prototype.reset = function () { };\n NoopAnimationPlayer.prototype.setPosition = function (position) {\n this._position = this.totalTime ? position * this.totalTime : 1;\n };\n NoopAnimationPlayer.prototype.getPosition = function () {\n return this.totalTime ? this._position / this.totalTime : 1;\n };\n /** @internal */\n NoopAnimationPlayer.prototype.triggerCallback = function (phaseName) {\n var methods = phaseName == 'start' ? this._onStartFns : this._onDoneFns;\n methods.forEach(function\n (fn) { return fn(); });\n methods.length = 0;\n };\n return NoopAnimationPlayer;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A programmatic controller for a group of reusable animations.\n * Used internally to control animations.\n *\n * @see `AnimationPlayer`\n * @see `{@link animations/group group()}`\n *\n */\n var AnimationGroupPlayer = /** @class */ (function () {\n function AnimationGroupPlayer(_players) {\n var _this = this;\n this._onDoneFns = [];\n this._onStartFns = [];\n this._finished = false;\n

```
this._started = false;\n this._destroyed = false;\n this._onDestroyFns = [];\n this.parentPlayer = null;\n
this.totalTime = 0;\n this.players = _players;\n var doneCount = 0;\n var destroyCount = 0;\n var startCount = 0;\n var total = this.players.length;\n if (total == 0) {\n scheduleMicroTask(function () { return _this._onFinish(); });\n }\n else {\n this.players.forEach(function (player) {\n player.onDone(function () {\n if (++doneCount == total) {\n _this._onFinish();\n }\n });\n player.onDestroy(function () {\n if (++destroyCount == total) {\n _this._onDestroy();\n }\n });\n player.onStart(function () {\n if (++startCount == total) {\n _this._onStart();\n }\n });\n });\n }\n this.totalTime = this.players.reduce(function (time, player) { return Math.max(time, player.totalTime); }, 0);\n }\n AnimationGroupPlayer.prototype._onFinish = function () {\n if (!this._finished) {\n this._finished = true;\n this._onDoneFns.forEach(function (fn) { return fn(); });\n this._onDoneFns = [];\n }\n };\n AnimationGroupPlayer.prototype.init = function () {\n this.players.forEach(function (player) { return player.init(); });\n };\n AnimationGroupPlayer.prototype.onStart = function (fn) {\n this._onStartFns.push(fn);\n };\n AnimationGroupPlayer.prototype._onStart = function () {\n if (!this.hasStarted()) {\n this._started = true;\n this._onStartFns.forEach(function (fn) { return fn(); });\n this._onStartFns\n = [];\n }\n };\n AnimationGroupPlayer.prototype.onDone = function (fn) {\n this._onDoneFns.push(fn);\n };\n AnimationGroupPlayer.prototype.onDestroy = function (fn) {\n this._onDestroyFns.push(fn);\n };\n AnimationGroupPlayer.prototype.hasStarted = function () {\n return this._started;\n };\n AnimationGroupPlayer.prototype.play = function () {\n if (!this.parentPlayer) {\n this.init();\n }\n this._onStart();\n this.players.forEach(function (player) { return player.play(); });\n };\n AnimationGroupPlayer.prototype.pause = function () {\n this.players.forEach(function (player) { return player.pause(); });\n };\n AnimationGroupPlayer.prototype.restart = function () {\n this.players.forEach(function (player) { return player.restart(); });\n };\n AnimationGroupPlayer.prototype.finish\n = function () {\n this._onFinish();\n this.players.forEach(function (player) { return player.finish(); });\n };\n AnimationGroupPlayer.prototype.destroy = function () {\n this._onDestroy();\n };\n AnimationGroupPlayer.prototype._onDestroy = function () {\n if (!this._destroyed) {\n this._destroyed = true;\n this._onFinish();\n this.players.forEach(function (player) { return player.destroy(); });\n this._onDestroyFns.forEach(function (fn) { return fn(); });\n this._onDestroyFns = [];\n }\n };\n AnimationGroupPlayer.prototype.reset = function () {\n this.players.forEach(function (player) { return player.reset(); });\n this._destroyed = false;\n this._finished = false;\n this._started = false;\n };\n AnimationGroupPlayer.prototype.setPosition\n = function (p) {\n var timeAtPosition = p * this.totalTime;\n this.players.forEach(function (player) {\n var position = player.totalTime ? Math.min(1, timeAtPosition / player.totalTime) : 1;\n player.setPosition(position);\n });\n };\n AnimationGroupPlayer.prototype.getPosition = function () {\n var longestPlayer = this.players.reduce(function (longestSoFar, player) {\n var newPlayerIsLongest = longestSoFar === null || player.totalTime > longestSoFar.totalTime;\n return newPlayerIsLongest ? player : longestSoFar;\n }, null);\n return longestPlayer != null ? longestPlayer.getPosition() : 0;\n };\n AnimationGroupPlayer.prototype.beforeDestroy = function () {\n this.players.forEach(function (player) {\n if (player.beforeDestroy) {\n player.beforeDestroy();\n }\n });\n };\n /** @internal */\n AnimationGroupPlayer.prototype.triggerCallback = function (phaseName) {\n var methods = phaseName == 'start' ? this._onStartFns : this._onDoneFns;\n methods.forEach(function (fn) { return fn(); });\n methods.length = 0;\n };\n return
```

AnimationGroupPlayer;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var PRE_STYLE = '!';\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed
by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.AUTO_STYLE = AUTO_STYLE;\n exports.AnimationBuilder = AnimationBuilder;\n exports.AnimationFactory = AnimationFactory;\n exports.NoopAnimationPlayer = NoopAnimationPlayer;\n exports.animate = animate;\n exports.animateChild = animateChild;\n exports.animation = animation;\n exports.group = group;\n exports.keyframes = keyframes;\n exports.query = query;\n exports.sequence = sequence;\n exports.stagger = stagger;\n exports.state = state;\n exports.style = style;\n exports.transition = transition;\n exports.trigger = trigger;\n exports.useAnimation = useAnimation;\n exports.AnimationGroupPlayer = AnimationGroupPlayer;\n exports.PRE_STYLE = PRE_STYLE;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}));\n//# sourceMappingURL=animations.umd.js.map\n"]}

Found in path(s):
* /animations-11-0-5-tgz/package/bundles/animations.umd.min.js.map

# 1.430 @angular/platform-browser-dynamic 11.0.5

## 1.430.1 Available under license :

No license file was found, but licenses were detected in source scan.

{"version":3,"file":"platform-browser-dynamic-testing.umd.js","sources":["../../../../../external/npm/node_modules/tslib/tslib.es6.js","../../../../../packages/platform-browser-dynamic/testing/src/dom_test_component_renderer.ts","../../../../../packages/platform-browser-dynamic/testing/src/metadata_overrider.ts","../../../../../packages/platform-browser-dynamic/testing/src/compiler_factory.ts","../../../../../packages/platform-browser-dynamic/testing/src/platform_core_dynamic_testing.ts","../../../../../packages/platform-browser-dynamic/testing/src/private_export_testing.ts","../../../../../packages/platform-browser-dynamic/testing/src/testing.ts","../../../../../packages/platform-browser-dynamic/testing/public_api.ts","../../../../../packages/platform-browser-dynamic/testing/index.ts","../../../../../packages/platform-browser-dynamic/testing/testing.ts"],"sourcesContent":["/*!\r\n**********\r\nCopyright (c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN

CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS SOFTWARE.\r\n*****/\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n extendStatics = Object.setPrototypeOf ||\r\n ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n extendStatics(d, b);\r\n function __() { this.constructor = d; }\r\n d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n __assign = Object.assign || function __assign(t) {\r\n for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n s = arguments[i];\r\n for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n }\r\n return t;\r\n }\r\n return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n var t = {};\r\n for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n t[p] = s[p];\r\n if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n t[p[i]] = s[p[i]];\r\n }\r\n return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n return new (P || (P = Promise))(function (resolve, reject) {\r\n function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n function verb(n) { return function (v) { return step([n, v]); }; }\r\n function step(op) {\r\n if (f) throw new TypeError(\"Generator is already executing.\");\r\n while (_) try {\r\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n if (y = 0, t) op = [op[0] & 2, t.value];\r\n switch (op[0]) {\r\n case 0: case 1: t = op; break;\r\n case 4: _.label++; return { value: op[1], done: false };\r\n case 5: _.label++; y = op[1]; op = [0]; continue;\r\n case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n default:\r\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n if (t[2]) _.ops.pop();\r\n _.trys.pop(); continue;\r\n }\r\n op = body.call(thisArg, _);\r\n } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n o[k2]

= m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n if (m) return m.call(o);\r\n if (o && typeof o.length === \"number\") return {\r\n next: function () {\r\n if (o && i >= o.length) o = void 0;\r\n return { value: o && o[i++], done: !o };\r\n }\r\n };\r\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n if (!m) return o;\r\n var i = m.call(o), r, ar = [], e;\r\n try {\r\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n }\r\n catch (error) { e = { error: error }; }\r\n finally {\r\n try {\r\n if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n }\r\n finally { if (e) throw e.error; }\r\n }\r\n return ar;\r\n}\r\n\r\nexport function __spread() {\r\n for (var ar = [], i = 0; i < arguments.length; i++)\r\n ar = ar.concat(__read(arguments[i]));\r\n return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n r[k] = a[j];\r\n return r;\r\n};\r\n\r\nexport function __await(v) {\r\n return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var g = generator.apply(thisArg, _arguments
|| []), i, q = [];\r\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n function fulfill(value) { resume(\"next\", value); }\r\n function reject(value) { resume(\"throw\", value); }\r\n function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n var i, p;\r\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n function verb(n, f) { i[n] = o[n] ? function
(v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var m = o[Symbol.asyncIterator], i;\r\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw;
}\r\n return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n if (mod && mod.__esModule) return mod;\r\n var result = {};\r\n if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n __setModuleDefault(result, mod);\r\n return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to get private field on non-instance\");\r\n }\r\n return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n if (!privateMap.has(receiver))
{\r\n throw new TypeError(\"attempted to set private field on non-instance\");\r\n }\r\n privateMap.set(receiver, value);\r\n return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All

Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT, getDOM as getDOM} from '@angular/common';\nimport {Inject, Injectable} from '@angular/core';\nimport {TestComponentRenderer} from '@angular/core/testing';\n\n/**\n * A DOM based implementation of the TestComponentRenderer.\n */\n@Injectable()\nexport class DOMTestComponentRenderer extends TestComponentRenderer {\n constructor(@Inject(DOCUMENT) private _doc: any) {\n super();\n }\n\n insertRootElement(rootElId: string) {\n const template = getDOM().getDefaultDocument().createElement('template');\n template.innerHTML = `<div id=\"${rootElId}\"></div>`;\n const rootEl = <HTMLElement>getContent(template).firstChild;\n\n // TODO(juliemr): can/should this be optional?\n const oldRoots = this._doc.querySelectorAll('[id^=root]');\n for (let i = 0; i < oldRoots.length; i++) {\n getDOM().remove(oldRoots[i]);\n }\n this._doc.body.appendChild(rootEl);\n }\n}\n\nfunction getContent(node: Node): Node {\n if ('content' in node) {\n return (<any>node).content;\n } else {\n return node;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// `MetadataOverrider` has been moved to core/testing to allow using it from the render3 TestBed\nexport {MetadataOverrider as MetadataOverrider} from '@angular/core/testing';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileReflector, DirectiveResolver, ERROR_COMPONENT_TYPE, NgModuleResolver, PipeResolver} from '@angular/compiler';\nimport {MockDirectiveResolver, MockNgModuleResolver, MockPipeResolver} from '@angular/compiler/testing';\nimport {CompilerFactory, CompilerOptions, Component, ComponentFactory, Directive, Injector, ModuleWithComponentFactories, NgModule, NgModuleFactory, Pipe, StaticProvider, Type, stringify as stringify} from '@angular/core';\nimport {MetadataOverride, TestingCompiler as TestingCompiler, TestingCompilerFactory as TestingCompilerFactory} from '@angular/core/testing';\nimport {CompilerImpl as CompilerImpl} from '@angular/platform-browser-dynamic';\n\nimport {MetadataOverrider} from './metadata_overrider';\n\nexport const COMPILER_PROVIDERS: StaticProvider[] = [\n {provide: MockPipeResolver, deps: [CompileReflector]},\n {provide: PipeResolver, useExisting: MockPipeResolver},\n {provide: MockDirectiveResolver, deps: [CompileReflector]},\n {provide: DirectiveResolver, useExisting: MockDirectiveResolver},\n {provide: MockNgModuleResolver, deps: [CompileReflector]},\n {provide: NgModuleResolver, useExisting: MockNgModuleResolver},\n];\n\nexport class TestingCompilerFactoryImpl implements TestingCompilerFactory {\n constructor(private _injector: Injector, private _compilerFactory: CompilerFactory) {}\n\n createTestingCompiler(options: CompilerOptions[]): TestingCompiler {\n const compiler = <CompilerImpl>this._compilerFactory.createCompiler(options);\n return new TestingCompilerImpl(\n compiler, compiler.injector.get(MockDirectiveResolver),\n compiler.injector.get(MockPipeResolver), compiler.injector.get(MockNgModuleResolver));\n }\n}\n\nexport class TestingCompilerImpl implements TestingCompiler {\n private _overrider = new MetadataOverrider();\n constructor(\n private _compiler: CompilerImpl, private _directiveResolver: MockDirectiveResolver,\n private _pipeResolver: MockPipeResolver, private _moduleResolver: MockNgModuleResolver) {}\n get injector(): Injector {\n return this._compiler.injector;\n }\n\n compileModuleSync<T>(moduleType: Type<T>): NgModuleFactory<T> {\n return this._compiler.compileModuleSync(moduleType);\n }\n\n compileModuleAsync<T>(moduleType: Type<T>): Promise<NgModuleFactory<T>> {\n return this._compiler.compileModuleAsync(moduleType);\n }\n compileModuleAndAllComponentsSync<T>(moduleType: Type<T>): ModuleWithComponentFactories<T> {\n return this._compiler.compileModuleAndAllComponentsSync(moduleType);\n }\n\n compileModuleAndAllComponentsAsync<T>(moduleType: Type<T>):\n Promise<ModuleWithComponentFactories<T>> {\n return this._compiler.compileModuleAndAllComponentsAsync(moduleType);\n }\n\n getComponentFactory<T>(component: Type<T>): ComponentFactory<T> {\n return this._compiler.getComponentFactory(component);\n }\n\n checkOverrideAllowed(type: Type<any>) {\n if

(this._compiler.hasAotSummary(type))
{\n throw new Error(`${stringify(type)} was AOT compiled, so its metadata cannot be changed.`);\n }\n }\n\n overrideModule(ngModule: Type<any>, override: MetadataOverride<NgModule>): void {\n this.checkOverrideAllowed(ngModule);\n const oldMetadata = this._moduleResolver.resolve(ngModule, false);\n this._moduleResolver.setNgModule(\n ngModule, this._overrider.overrideMetadata(NgModule, oldMetadata, override));\n this.clearCacheFor(ngModule);\n }\n overrideDirective(directive: Type<any>, override: MetadataOverride<Directive>): void {\n this.checkOverrideAllowed(directive);\n const oldMetadata = this._directiveResolver.resolve(directive, false);\n this._directiveResolver.setDirective(\n directive, this._overrider.overrideMetadata(Directive, oldMetadata!, override));\n this.clearCacheFor(directive);\n }\n overrideComponent(component: Type<any>, override: MetadataOverride<Component>): void {\n this.checkOverrideAllowed(component);\n
const oldMetadata = this._directiveResolver.resolve(component, false);\n this._directiveResolver.setDirective(\n component, this._overrider.overrideMetadata(Component, oldMetadata!, override));\n this.clearCacheFor(component);\n }\n overridePipe(pipe: Type<any>, override: MetadataOverride<Pipe>): void {\n this.checkOverrideAllowed(pipe);\n const oldMetadata = this._pipeResolver.resolve(pipe, false);\n this._pipeResolver.setPipe(pipe, this._overrider.overrideMetadata(Pipe, oldMetadata, override));\n this.clearCacheFor(pipe);\n }\n loadAotSummaries(summaries: () => any[]) {\n this._compiler.loadAotSummaries(summaries);\n }\n clearCache(): void {\n this._compiler.clearCache();\n }\n clearCacheFor(type: Type<any>) {\n this._compiler.clearCacheFor(type);\n }\n\n getComponentFromError(error: Error) {\n return (error as any)[ERROR_COMPONENT_TYPE] || null;\n }\n\n getModuleId(moduleType: Type<any>): string|undefined {\n
return this._moduleResolver.resolve(moduleType, true).id;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {COMPILER_OPTIONS, CompilerFactory, createPlatformFactory, Injector, PlatformRef} from '@angular/core';\nimport {TestingCompilerFactory as TestingCompilerFactory} from '@angular/core/testing';\nimport {platformCoreDynamic as platformCoreDynamic} from '@angular/platform-browser-dynamic';\n\nimport {COMPILER_PROVIDERS, TestingCompilerFactoryImpl} from './compiler_factory';\n\n/**\n * Platform for dynamic tests\n *\n * @publicApi\n */\nexport const platformCoreDynamicTesting: (extraProviders?: any[]) => PlatformRef =\n createPlatformFactory(platformCoreDynamic, 'coreDynamicTesting', [\n {provide: COMPILER_OPTIONS, useValue: {providers: COMPILER_PROVIDERS}, multi: true}, {\n provide: TestingCompilerFactory,\n useClass: TestingCompilerFactoryImpl,\n deps: [Injector, CompilerFactory]\n }\n ]);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {DOMTestComponentRenderer as DOMTestComponentRenderer} from './dom_test_component_renderer';\nexport {platformCoreDynamicTesting as platformCoreDynamicTesting} from './platform_core_dynamic_testing';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {createPlatformFactory, NgModule, PlatformRef, StaticProvider} from '@angular/core';\nimport {TestComponentRenderer} from '@angular/core/testing';\nimport {INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS as INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS}
from '@angular/platform-browser-dynamic';\nimport {BrowserTestingModule} from '@angular/platform-browser/testing';\n\nimport {DOMTestComponentRenderer} from './dom_test_component_renderer';\nimport {platformCoreDynamicTesting} from './platform_core_dynamic_testing';\n\nexport * from './private_export_testing';\n\n/**\n * @publicApi\n */\nexport const platformBrowserDynamicTesting = createPlatformFactory(\n platformCoreDynamicTesting, 'browserDynamicTesting',\n INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS);\n\n/**\n * NgModule for testing.\n *\n *

@publicApi\n */\n@NgModule({\n  exports: [BrowserTestingModule],\n  providers: [\n    {provide: TestComponentRenderer, useClass: DOMTestComponentRenderer},\n  ]\n})\nexport class BrowserDynamicTestingModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
 */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/testing';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {COMPILER_PROVIDERS as angular_packages_platform_browser_dynamic_testing_testing_a,TestingCompilerFactoryImpl as angular_packages_platform_browser_dynamic_testing_testing_b} from './src/compiler_factory';"],"names":["getDOM","TestComponentRenderer","Injectable","Inject","DOCUMENT","MockPipeResolver","CompileReflector","PipeResolver","MockDirectiveResolver","DirectiveResolver","MockNgModuleResolver","NgModuleResolver","MetadataOverrider","stringify","NgModule","Directive","Component","Pipe","ERROR_COMPONENT_TYPE","createPlatformFactory","platformCoreDynamic","COMPILER_OPTIONS","TestingCompilerFactory","Injector","CompilerFactory","INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS","BrowserTestingModule"],"mappings":";;;;;;;;;;;;;IAAA;;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC;QAC7B,aAAa,GAAG,MAAM,CAAC,cAAc;aAChC,EAAE,SAAS,EAAE,EAAE,YAAY,KAAK,IAAI,UAAU,CAAC,EAAE,CAAC,CAAC,SAAS,GAAG,CAAC,CAAC;YAClE,UAAU,CAAC,EAAE,CAAC,CAAC,SAAS,KAAK,IAAI,CAAC,CAAC,cAAc,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,CAAC;QAC5F,OAAO,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAC/B,CAAC,CAAC;IAEF,uBAAuB,CAAC,EAAE,CAAC;QACvB,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;QACpB,gBAAgB,IAAI,GAAG,IAAI,CAAC,WAAW,GAAG,CAAC,CAAC;QAC5C,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,GAAG,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,EAAE,IAAI,EAAE,EAAE,CAAC;IAC3F,CAAC;IAED,IAAI,QAAQ,GAAG;QACX,QAAQ,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC;YAClC,KAAK,IAAI,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE,CAAC;gBAC3C,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;gBACjB,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;YAC/E,CAAC;YACD,OAAO,CAAC,CAAC;QACb,CAAC,CAAC;QACF,OAAO,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;IAC3C,CAAC,CAAC;IAEF,IAAI,SAAS,GAAG,UAAS,CAAC,EAAE,CAAC;QACzB,IAAI,CAAC,GAAG,EAAE,CAAC;QACX,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;QAC5G,IAAI,CAAC,IAAI,IAAI,IAAI,OAAO,MAAM,CAAC,qBAAqB,KAAK,UAAU;YAC/D,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC,qBAAqB,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,CAAC,EAAE;gBAC/D,IAAI,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,SAAS,CAAC,oBAAoB,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;oBAAE,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YAC1F,CAAC;QACL,OAAO,CAAC,CAAC;IACb,CAAC,CAAC;IAEF,IAAI,UAAU,GAAG,UAAS,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI;QACnD,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,MAAM,GAAG,IAAI,KAAK,IAAI,GAAG,IAAI,GAAG,MAAM,CAAC,wBAAwB,CAAC,MAAM,EAAE,GAAG,CAAC,GAAG,IAAI,EAAE,CAAC,EAAE,CAAC,CAAC;QAC3H,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,CAAC,GAAG,OAAO,CAAC,QAAQ,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI,CAAC,CAAC;;YAC5G,KAAK,IAAI,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE;gBAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC;oBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,GAAG,CAAC,MAAM,EAAE,GAAG,CAAC,GAAG,CAAC,CAAC;aAAE;QAC1I,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,EAAE,CAAC;IACjE,CAAC,CAAC;IAEF,IAAI,UAAU,GAAG,UAAS,SAAS,EAAE,WAAW;QAC5C,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,OAAO,OAAO,CAAC,QAAQ,CAAC,UAAU,EAAE,SAAS,EAAE,WAAW,CAAC,CAAC;IAC/I,CAAC,CAAC;IAEF,IAAI,SAAS,GAAG,UAAS,OAAO,EAAE,UAAU,EAAE,CAAC,EAAE,SAAS;QACtD,SAAS,KAAK,CAAC,KAAK,IAAI,IAAI,KAAK,YAAY,CAAC,GAAG,KAAK,GAAG,IAAI,CAAC,CAAC,UAAU,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;QAC9F,OAAO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,EAAE,IAAI,EAAE,UAAU,OAAO,EAAE,MAAM;YAC3D,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE,CAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE;YAC1F,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE,CAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE;YAC7F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;YAC5G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,IAAI,EAAE,CAAC;QACvE,CAAC,CAAC,CAAC;IACP,CAAC,CAAC;IAEF,IAAI,WAAW,GAAG,UAAS,IAAI,EAAE,IAAI;QACjC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,WAAW,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE,CAAC,EAAE

O,CAAC,QAAQ,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI,CAAC,CAAC;;YAC1H,KAAK,IAAI,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE;gBAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC;oBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,MAAM,,EAAE,GAAG,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,,EAAE,GAAG,CAAC,KAAK,CAAC,CAAC;QAClJ,OAAO,CAAC,GAAG,CAAC,IAAI,,MAAM,,CAAC,cAAc,EAAE,GAAG,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC;IAClE,CAAC;aAAE,OAAO,,UAAU,,EAAE,SAAS;QACzC,OAAO,,UAAU,,MAAM,,EAAE,GAAG,EAAE,UAAU,,CAAC,CAAC,EAAE,CAAA;IACzE,CAAC;aAAE,OAAO,,UAAU,,WAAW,,EAAE,aAAa;QACjD,OAAO,,IAAI,,OAAO,,OAAO,,KAAK,,QAAQ,,IAAI,,OAAO,,OAAO,,CAAC,,QAAQ,,KAAK,,UAAU;YAAE,OAAO,,OAAO,,OAAO,,CAAC,,QAAQ,,CAAC,,WAAW,,EAAE,aAAa,,CAAC,,CAAC;IAClJ,CAAC;aAAE,OAAO,,OAAO,,EAAE,UAAU,,EAAE,,CAAC,,EAAE,,SAAS;QAAE,OAAO,,CAAC,,KAAK,,CAAC,,KAAK,,IAAI,,OAAO,,KAAK,,YAAY,,CAAC,,GAAG,,KAAK,,GAAG,,IAAI,,CAAC,,CAAC,,UAAU,,OAAO,,IAAI,,OAAO,,CAAC,,KAAK,,CAAC,,CAAC,,EAAE,,CAAC,,CAAC,,EAAE;gBAAE,5G,OAAO,,KAAK,,CAAC,,KAAK,,CAAC,,GAAG,,OAAO,,CAAC,,EAAE,,UAAU,,OAAO,,EAAE,,MAAM;YAAE,CrD,SAAS,,SAAS,,CAAC,,KAAK,,IAAI,,IAAI;gBAAE,,IAAI,,CAAC,,SAAS,,CAAC,,IAAI,,CAAC,,KAAK,,CAAC,,CAAC,,CAAC;aAAE;YAAE,AC,OAAO,,CAAC,,EAAE;gBAAE,,MAAM,,CAAC,,CAAC,,CAAC,,CAAC;aAAE,,EAAE;YAAE,AC3F,SAAS,,QAAQ,,CAAC,,KAAK,,IAAI,,IAAI;gBAAE,,IAAI,,CAAA,C,SAAS,,CAAC,,OAAO,,CAAC,,CAAC,,KAAK,,CAAC,,CAAC,,CAAC;aAAE;YAAE,AC,OAAO,,CAAC,,EAAE;gBAAE,,MAAM,,CAAC,,CAAC,,CAAC,,CAAC;aAAE,,EAAE;YAAE,AC9F,SAAS,,IAAI,,CAAC,,CAAC,,CAAC,,EAAE;YAAE,AC9G,SAAS,,IAAI,,CAAC,,SAAS,,GAAG,,SAAS,,C,AAAC,,KAAK,,CAAC,,KAAK,,CAAC,,GAAG,,KAAK,,CAAC,,MAAM,,CAAC,,KAAK,,CAAC,,CA,AC,IAAI,,CAAC,,SAAS,,EAAE,,QAAQ,,CAAC,,CAAC,,EAAE;YAAE,AC9G,SAAS,,IAAI,,CAAC,,CAAC,,SAAS,,GAAG,,SAAS,,C,AAAC,,KAAK,,CAAC,,KAAK,,CAAC,,CA,AC,IAAI,,CAAC,,OAAO,,EAAE,,UAAU,,IAAI,,EAAE,,CAAC,,EAAE,,IAAI,,EAAE,,CAAC,,CAAC;SAAE,C,AAAC,,EAAE,,CAAC,,CAAC,,CAAC,,CAAC

AAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE
;gCAAE,CAAC,CAAC,KAAK,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACtF,IA
AI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,
EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,GAAG,EAAE,
CAAC;gCAAC,MAAM;6BAAE;4BACrE,IAAI,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,
CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,CAAC,
GAAG,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACnE,IAAI,CAAC,CAAC,CAAC,
CAAC;gCAAE,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC;4BACtB,CAAC,CAAC,IAAI,CAAC,GAAG,
EAAE,CAAC;4BAAC,SAAS;qBAC9B,oBACD,EAAE,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,CAAC,C
AAC,CAAC;iBAC9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,EAAE,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,
CAAC;oBAAC,CAAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAA
C;iBAAE;YAC1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAA
C,CAAC;YAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,
GAAG,KAAK,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;SACpF;IACL,CAAC;IAEM,IAAI,eAAe,GAAG,M
AAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QAC9D,IAAI,EAAE,KAA
K,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,MAAM,CAAC,cAAc,CAAC,EAAE,EAAE,EAAE,
EAAE,UAAU,EAAE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE
,CAAC,CAAC;IACzF,CAAC,KAAK,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,EA
AE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAA
C,CAAC,CAAC,CAAC;IACjB,CAAC,CAAC,aAEa,YAAY,CAAC,CAAC,EAAE,OAAO;QACnC,KAAK,
IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,CAAC,IAAI,CAAC,KAAK,SAAS,IAAI,CAAC,OAAO,CAAC,cAAc,CAAC,
AC;gBAAE,eAAe,CAAC,OAAO,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC;IACvG,CAAC;aAAE,aAAa,QAAQ,CAAC,
CAAC;QACtB,IAAI,CAAC,GAAG,OAAO,MAAM,KAAK,UAAU,IAAI,MAAM,CAAC,QAAQ,EAAE,CAAC,
AAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC;QAC9E,IAAI,CAAC,CAAC,
,OAAO,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QACxB,IAAI,CAAC,CAAC,MAAM,KAAK,QAAQ,EAAE
M,KAAK,QAAQ;YAAE,OAAO;gBAAE,IAAI,EAAE;oBAAE,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,M
AAM;wBAAE,CAAC,GAAG,KAAK,CAAC,CAAC;oBAAE,OAAO,EAAE,KAAK,EAAE,CAAC,IAAI,CAAC,IAAI,CAAC,
CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC,EAAE,CAAC;iBAAE;YAAC,OAAO,CAAC;SAAE;IAC
M,IAAI,SAAS,CAAC,CAAC,GAAG,yBAAyB,GAAG,iCAAiC,CAAC,CAAC,IAAI,3F,CAAC;aAAe,MAAM,CAA
C,CAAC,EAAE,CAAC;QAAE,CAAC,CAAC,GAAG,OAAO,MAAM,KAAK,UAAU,IAAI,CAAC,CAAC,MAAM,CAAC,
CAAC,QAAQ,CAAC,CAAC;QAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

c,OAAO,CAAC,CAAC;QACrB,OAAO,IAAI,YAAY,OAAO,IAAI,IAAI,CAAC,CAAC,GAAG,CAAC,EAAE,IAA
I,IAAI,IAAI,OAAO,CAAC,CAAC,CAAC,CAAC;IACzE,CAAC;aAEe,gBAAgB,CAAC,OAAO,EAAE,UAAU,EA
AE,SAAS;QAC3D,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,CAAC,sCAAsC,CAAC,CAA
C;QACvF,IAAI,CAAC,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,EAAE,CA
AC,EAAE,CAAC,GAAG,EAAE,CAAC;QAC9D,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QACtH,SAAS,IAAI,CAAC,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC;YAAE,OAAO,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC;QAAC,CAAC;QAC1E,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;QAC1E,OAAO,CAAC,GAAG,CAAC

G,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QACtC,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,eAAe,CAAC,GAAG;QAC/B,OAAO,CAAC,GAAG,IAAI,IAAI,GAAG,CAAC,MAAM,IAAI,CAAC,GAAG,GAAG,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,GAAG,CAAC,MAAM,EAAE,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC

AAO,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;YACtE,IAAI,CAAC,kBAAkB,CAAC,YAAY,CAChC,SAAS,EAAE,IAAI,CAAC,UAAU,CAAC,gBAAgB,CAACC,cAAS,EAAE,WAAY,EAAE,QAAQ,CAAC,CAAC,CAAC;YACpF,IAAI,CAAC,aAAa,CAAC,SAAS,CAAC,CAAC;SAC/B;QACD,+CAAiB,GAAjB,UAAkB,SAAqB;QACnC,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;IACjC,CAAC;IACD,+CAAiB,GAAjB,UAAkB,SAAqB;QACnC,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,SAAS,CAAC,EAAE,CAAC,CAAC;IAC7D,CAAC;I

*
/platform-browser-dynamic-11-0-5-tgz/package/esm2015/src/private_export.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/src/version.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/src/platform_providers.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/testing/public_api.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/public_api.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/testing/src/metadata_overrider.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/testing/src/private_export_testing.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/index.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/src/compiler_reflector.js
* /platform-browser-dynamic-11-0-5-tgz/package/esm2015/src/platform_core_dynamic.js
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"platform-browser-dynamic.js","sources":["../../../../../../packages/platform-browser-dynamic/src/compiler_reflector.ts","../../../../../../packages/platform-browser-dynamic/src/compiler_factory.ts","../../../../../../packages/platform-browser-dynamic/src/platform_core_dynamic.ts","../../../../../../packages/platform-browser-dynamic/src/resource_loader/resource_loader_impl.ts","../../../../../../packages/platform-browser-dynamic/src/platform_providers.ts","../../../../../../packages/platform-browser-dynamic/src/resource_loader/resource_loader_cache.ts","../../../../../../packages/platform-browser-dynamic/src/private_export.ts","../../../../../../packages/platform-browser-dynamic/src/version.ts","../../../../../../packages/platform-browser-dynamic/src/platform-browser-dynamic.ts","../../../../../../packages/platform-browser-dynamic/public_api.ts","../../../../../../packages/platform-browser-dynamic/index.ts","../../../../../../packages/platform-browser-dynamic/platform-browser-dynamic.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileReflector, ExternalReference, getUrlScheme, Identifiers, syntaxError} from '@angular/compiler';\nimport {ANALYZE_FOR_ENTRY_COMPONENTS, ChangeDetectionStrategy, ChangeDetectorRef, Component, ComponentFactory, ComponentFactoryResolver, ComponentRef, ElementRef, Injector, LOCALE_ID, NgModuleFactory, NgModuleRef, QueryList, Renderer2, SecurityContext, TemplateRef, TRANSLATIONS_FORMAT, ViewContainerRef, ViewEncapsulation, and, ccf, cmf, CodegenComponentFactoryResolver, crt, did, eld, EMPTY_ARRAY, EMPTY_MAP, inlineInterpolate, interpolate, mod, mpd, ncd, nov, pad, pid, pod, ppd, prd, qud, ReflectionCapabilities as ReflectionCapabilities, registerModuleFactory, stringify as stringify, ted, unv, vid} from '@angular/core';\n\nexport const MODULE_SUFFIX = '';\nconst builtinExternalReferences = createBuiltinExternalReferencesMap();\n\nexport class JitReflector implements CompileReflector {\n  private reflectionCapabilities = new ReflectionCapabilities();\n\n componentModuleUrl(type: any, cmpMetadata: Component): string {\n    const moduleId = cmpMetadata.moduleId;\n\n    if (typeof moduleId === 'string') {\n      const scheme = getUrlScheme(moduleId);\n      return scheme ? moduleId : `package:${moduleId}${MODULE_SUFFIX}`;\n    } else if (moduleId !== null && moduleId !== void 0) {\n      throw syntaxError(\n          `moduleId should be a string in \"${\n stringify(type)}\". See https://goo.gl/wIDDiL for more information.\\n` +\n          `If you're using Webpack you should inline the template and the styles, see https://goo.gl/X2J8zc.`);\n    }\n\n    return `./${stringify(type)}`;\n  }\n parameters(typeOrFunc:\n /*Type*/ any): any[][] {\n    return this.reflectionCapabilities.parameters(typeOrFunc);\n  }\n tryAnnotations(typeOrFunc: /*Type*/ any): any[] {\n    return this.annotations(typeOrFunc);\n  }\n annotations(typeOrFunc: /*Type*/ any): any[] {\n    return this.reflectionCapabilities.annotations(typeOrFunc);\n }\n  shallowAnnotations(typeOrFunc: /*Type*/ any): any[] {\n    throw new Error('Not supported in JIT mode');\n

}\n  propMetadata(typeOrFunc: /*Type*/ any): {[key: string]: any[]} {\n    return this.reflectionCapabilities.propMetadata(typeOrFunc);\n  }\n  hasLifecycleHook(type: any, lcProperty: string): boolean {\n    return this.reflectionCapabilities.hasLifecycleHook(type, lcProperty);\n  }\n  guards(type: any): {[key: string]: any} {\n    return this.reflectionCapabilities.guards(type);\n  }\n  resolveExternalReference(ref: ExternalReference): any {\n    return builtinExternalReferences.get(ref) || ref.runtime;\n  }\n}\n\n\nfunction createBuiltinExternalReferencesMap()
 {\n  const map = new Map<ExternalReference, any>();\n map.set(Identifiers.ANALYZE_FOR_ENTRY_COMPONENTS, ANALYZE_FOR_ENTRY_COMPONENTS);\n map.set(Identifiers.ElementRef, ElementRef);\n  map.set(Identifiers.NgModuleRef, NgModuleRef);\n map.set(Identifiers.ViewContainerRef, ViewContainerRef);\n  map.set(Identifiers.ChangeDetectorRef, ChangeDetectorRef);\n  map.set(Identifiers.Renderer2, Renderer2);\n  map.set(Identifiers.QueryList, QueryList);\n map.set(Identifiers.TemplateRef, TemplateRef);\n  map.set(Identifiers.CodegenComponentFactoryResolver, CodegenComponentFactoryResolver);\n  map.set(Identifiers.ComponentFactoryResolver, ComponentFactoryResolver);\n  map.set(Identifiers.ComponentFactory, ComponentFactory);\n map.set(Identifiers.ComponentRef, ComponentRef);\n  map.set(Identifiers.NgModuleFactory, NgModuleFactory);\n  map.set(Identifiers.createModuleFactory, cmf);\n  map.set(Identifiers.moduleDef, mod);\n map.set(Identifiers.moduleProviderDef, mpd);\n  map.set(Identifiers.RegisterModuleFactoryFn,
 registerModuleFactory);\n  map.set(Identifiers.Injector, Injector);\n  map.set(Identifiers.ViewEncapsulation, ViewEncapsulation);\n  map.set(Identifiers.ChangeDetectionStrategy, ChangeDetectionStrategy);\n map.set(Identifiers.SecurityContext, SecurityContext);\n  map.set(Identifiers.LOCALE_ID, LOCALE_ID);\n map.set(Identifiers.TRANSLATIONS_FORMAT, TRANSLATIONS_FORMAT);\n map.set(Identifiers.inlineInterpolate, inlineInterpolate);\n  map.set(Identifiers.interpolate, interpolate);\n map.set(Identifiers.EMPTY_ARRAY, EMPTY_ARRAY);\n  map.set(Identifiers.EMPTY_MAP, EMPTY_MAP);\n map.set(Identifiers.viewDef, vid);\n  map.set(Identifiers.elementDef, eld);\n  map.set(Identifiers.anchorDef, and);\n map.set(Identifiers.textDef, ted);\n  map.set(Identifiers.directiveDef, did);\n  map.set(Identifiers.providerDef, prd);\n map.set(Identifiers.queryDef, qud);\n  map.set(Identifiers.pureArrayDef, pad);\n  map.set(Identifiers.pureObjectDef, pod);\n  map.set(Identifiers.purePipeDef,
 ppd);\n  map.set(Identifiers.pipeDef, pid);\n  map.set(Identifiers.nodeValue, nov);\n map.set(Identifiers.ngContentDef, ncd);\n  map.set(Identifiers.unwrapValue, unv);\n map.set(Identifiers.createRendererType2, crt);\n  map.set(Identifiers.createComponentFactory, ccf);\n  return map;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileMetadataResolver, CompilerConfig, CompileReflector, DirectiveNormalizer, DirectiveResolver, DomElementSchemaRegistry, ElementSchemaRegistry, HtmlParser, I18NHtmlParser, JitCompiler, JitEvaluator, JitSummaryResolver, Lexer, NgModuleCompiler, NgModuleResolver, Parser, PipeResolver, ProviderMeta, ResourceLoader, StaticSymbolCache, StyleCompiler, SummaryResolver, TemplateParser, UrlResolver, ViewCompiler} from '@angular/compiler';\nimport {Compiler,
 CompilerFactory, CompilerOptions, ComponentFactory, Inject, InjectionToken, Injector, isDevMode, MissingTranslationStrategy, ModuleWithComponentFactories, NgModuleFactory, Optional, PACKAGE_ROOT_URL, StaticProvider, TRANSLATIONS, TRANSLATIONS_FORMAT, Type, ViewEncapsulation, Console as Console} from '@angular/core';\n\nimport {JitReflector} from './compiler_reflector';\n\nexport const ERROR_COLLECTOR_TOKEN = new InjectionToken('ErrorCollector');\n\n/**\n * A default provider for {@link PACKAGE_ROOT_URL} that maps to '/'.\n */\nexport const DEFAULT_PACKAGE_URL_PROVIDER = {\n  provide: PACKAGE_ROOT_URL,\n useValue: '/'\n};\n\nconst _NO_RESOURCE_LOADER: ResourceLoader = {\n  get(url: string): Promise<string> {\n    throw new Error(\n        `No ResourceLoader implementation has been provided. Can't read the url \"${url}\"`);\n  }\n};\n\nconst baseHtmlParser = new InjectionToken('HtmlParser');\n\nexport class CompilerImpl implements Compiler {\n  private _delegate: JitCompiler;\n

```
 public readonly injector: Injector;\n  constructor(\n      injector: Injector, private _metadataResolver:
CompileMetadataResolver,\n      templateParser: TemplateParser, styleCompiler: StyleCompiler, viewCompiler:
ViewCompiler,\n      ngModuleCompiler: NgModuleCompiler, summaryResolver:
SummaryResolver<Type<any>>,\n      compileReflector: CompileReflector, jitEvaluator: JitEvaluator,\n
compilerConfig: CompilerConfig, console: Console) {\n    this._delegate = new JitCompiler(\n
_metadataResolver, templateParser, styleCompiler, viewCompiler, ngModuleCompiler,\n        summaryResolver,
compileReflector, jitEvaluator, compilerConfig, console,\n        this.getExtraNgModuleProviders.bind(this));\n
this.injector = injector;\n  }\n\n  private getExtraNgModuleProviders() {\n    return
[this._metadataResolver.getProviderMetadata(\n        new ProviderMeta(Compiler, {useValue: this}))];\n  }\n\n
compileModuleSync<T>(moduleType: Type<T>): NgModuleFactory<T> {\n    return
this._delegate.compileModuleSync(moduleType)
 as NgModuleFactory<T>;\n  }\n  compileModuleAsync<T>(moduleType: Type<T>):
Promise<NgModuleFactory<T>> {\n    return this._delegate.compileModuleAsync(moduleType) as
Promise<NgModuleFactory<T>>;\n  }\n  compileModuleAndAllComponentsSync<T>(moduleType: Type<T>):
ModuleWithComponentFactories<T> {\n    const result =
this._delegate.compileModuleAndAllComponentsSync(moduleType);\n    return {\n      ngModuleFactory:
result.ngModuleFactory as NgModuleFactory<T>,\n      componentFactories: result.componentFactories as
ComponentFactory<any>[],\n    };\n  }\n  compileModuleAndAllComponentsAsync<T>(moduleType: Type<T>):\n
  Promise<ModuleWithComponentFactories<T>> {\n    return
this._delegate.compileModuleAndAllComponentsAsync(moduleType)\n        .then((result) => ({\n
ngModuleFactory: result.ngModuleFactory as NgModuleFactory<T>,\n              componentFactories:
result.componentFactories as ComponentFactory<any>[],\n            }));\n
  }\n  loadAotSummaries(summaries: () => any[]) {\n    this._delegate.loadAotSummaries(summaries);\n  }\n
hasAotSummary(ref: Type<any>): boolean {\n    return this._delegate.hasAotSummary(ref);\n  }\n
getComponentFactory<T>(component: Type<T>): ComponentFactory<T> {\n    return
this._delegate.getComponentFactory(component) as ComponentFactory<T>;\n  }\n  clearCache(): void {\n
this._delegate.clearCache();\n  }\n  clearCacheFor(type: Type<any>) {\n    this._delegate.clearCacheFor(type);\n
}\n  getModuleId(moduleType: Type<any>): string|undefined {\n    const meta =
this._metadataResolver.getNgModuleMetadata(moduleType);\n    return meta && meta.id || undefined;\n
}\n}\n/**\n * A set of providers that provide `JitCompiler` and its dependencies to use for\n * template
compilation.\n */\nconst COMPILER_PROVIDERS__PRE_R3__ = <StaticProvider[]>[\n  {provide:
CompileReflector, useValue: new JitReflector()},\n  {provide: ResourceLoader, useValue:
_NO_RESOURCE_LOADER},\n  {provide: JitSummaryResolver,
 deps: []},\n  {provide: SummaryResolver, useExisting: JitSummaryResolver},\n  {provide: Console, deps: []},\n
{provide: Lexer, deps: []},\n  {provide: Parser, deps: [Lexer]},\n  {\n    provide: baseHtmlParser,\n    useClass:
HtmlParser,\n    deps: [],\n  },\n  {\n    provide: I18NHtmlParser,\n    useFactory:\n        (parser: HtmlParser,
translations: string|null, format: string, config: CompilerConfig,\n          console: Console) => {\n          translations =
translations || '';\n          const missingTranslation =\n              translations ? config.missingTranslation! :
MissingTranslationStrategy.Ignore;\n          return new I18NHtmlParser(parser, translations, format,
missingTranslation, console);\n        },\n    deps: [\n      baseHtmlParser,\n      [new Optional(), new
Inject(TRANSLATIONS)],\n      [new Optional(), new Inject(TRANSLATIONS_FORMAT)],\n
[CompilerConfig],\n      [Console],\n    ]\n  },\n  {\n    provide: HtmlParser,\n    useExisting: I18NHtmlParser,\n
  },\n  {\n    provide: TemplateParser,\n    deps: [CompilerConfig, CompileReflector, Parser,
ElementSchemaRegistry, I18NHtmlParser, Console]\n  },\n  {provide: JitEvaluator, useClass: JitEvaluator, deps:
[]},\n  {provide: DirectiveNormalizer, deps: [ResourceLoader, UrlResolver, HtmlParser, CompilerConfig]},\n  {\n
provide: CompileMetadataResolver,\n    deps: [\n      CompilerConfig, HtmlParser, NgModuleResolver,
DirectiveResolver, PipeResolver,\n      SummaryResolver, ElementSchemaRegistry, DirectiveNormalizer,
Console,\n      [Optional, StaticSymbolCache], CompileReflector, [Optional, ERROR_COLLECTOR_TOKEN]\n
```

]\n },\n DEFAULT_PACKAGE_URL_PROVIDER,\n {provide: StyleCompiler, deps: [UrlResolver]},\n {provide: ViewCompiler, deps: [CompileReflector]},\n {provide: NgModuleCompiler, deps: [CompileReflector]},\n {provide: CompilerConfig, useValue: new CompilerConfig()},\n {\n provide: Compiler,\n useClass: CompilerImpl,\n deps: [\n Injector, CompileMetadataResolver,
TemplateParser, StyleCompiler, ViewCompiler,\n NgModuleCompiler, SummaryResolver, CompileReflector, JitEvaluator, CompilerConfig, Console\n ]\n },\n {provide: DomElementSchemaRegistry, deps: []},\n {provide: ElementSchemaRegistry, useExisting: DomElementSchemaRegistry},\n {provide: UrlResolver, deps: [PACKAGE_ROOT_URL]},\n {provide: DirectiveResolver, deps: [CompileReflector]},\n {provide: PipeResolver, deps: [CompileReflector]},\n {provide: NgModuleResolver, deps: [CompileReflector]},\n];\n\nexport const COMPILER_PROVIDERS__POST_R3__ =\n <StaticProvider[]>[{provide: Compiler, useFactory: () => new Compiler()}];\nexport const COMPILER_PROVIDERS = COMPILER_PROVIDERS__PRE_R3__;\n/**\n * @publicApi\n */\nexport class JitCompilerFactory implements CompilerFactory {\n private _defaultOptions: CompilerOptions[];\n\n /* @internal */\n constructor(defaultOptions: CompilerOptions[]) {\n const compilerOptions: CompilerOptions = {\n useJit: true,\n
defaultEncapsulation: ViewEncapsulation.Emulated,\n missingTranslation: MissingTranslationStrategy.Warning,\n };\n\n this._defaultOptions = [compilerOptions, ...defaultOptions];\n }\n createCompiler(options: CompilerOptions[] = []): Compiler {\n const opts = _mergeOptions(this._defaultOptions.concat(options));\n const injector = Injector.create([\n COMPILER_PROVIDERS, {\n provide: CompilerConfig,\n useFactory: () => {\n return new CompilerConfig({\n // let explicit values from the compiler options overwrite options\n // from the app providers\n useJit: opts.useJit,\n jitDevMode: isDevMode(),\n // let explicit values from the compiler options overwrite options\n // from the app providers\n defaultEncapsulation: opts.defaultEncapsulation,\n missingTranslation: opts.missingTranslation,\n preserveWhitespaces: opts.preserveWhitespaces,\n
});\n },\n deps: []\n },\n opts.providers!\n ]);\n return injector.get(Compiler);\n }\n}\n\nfunction _mergeOptions(optionsArr: CompilerOptions[]): CompilerOptions {\n return {\n useJit: _lastDefined(optionsArr.map(options => options.useJit)),\n defaultEncapsulation: _lastDefined(optionsArr.map(options => options.defaultEncapsulation)),\n providers: _mergeArrays(optionsArr.map(options => options.providers!)),\n missingTranslation: _lastDefined(optionsArr.map(options => options.missingTranslation)),\n preserveWhitespaces: _lastDefined(optionsArr.map(options => options.preserveWhitespaces)),\n };\n}\n\nfunction _lastDefined<T>(args: T[]): T|undefined {\n for (let i = args.length - 1; i >= 0; i--) {\n if (args[i] !== undefined) {\n return args[i];\n }\n }\n return undefined;\n}\n\nfunction _mergeArrays(parts: any[][]): any[] {\n const result: any[] = [];\n parts.forEach((part) => part && result.push(...part));\n return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {COMPILER_OPTIONS, CompilerFactory, createPlatformFactory, platformCore, PlatformRef, StaticProvider} from '@angular/core';\n\nimport {JitCompilerFactory} from './compiler_factory';\n\n/**\n * A platform that included corePlatform and the compiler.\n *\n * @publicApi\n */\nexport const platformCoreDynamic = createPlatformFactory(platformCore, 'coreDynamic', [\n {provide: COMPILER_OPTIONS, useValue: {}, multi: true},\n {provide: CompilerFactory, useClass: JitCompilerFactory, deps: [COMPILER_OPTIONS]},\n]);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {ResourceLoader} from '@angular/compiler';\nimport
{Injectable} from '@angular/core';\n\n\n@Injectable()\nexport class ResourceLoaderImpl extends ResourceLoader {\n get(url: string): Promise<string> {\n let resolve: (result: any) => void;\n let reject: (error: any) => void;\n const promise = new Promise<string>((res, rej) => {\n resolve = res;\n reject = rej;\n });\n const xhr = new

XMLHttpRequest();\n xhr.open('GET', url, true);\n xhr.responseType = 'text';\n\n xhr.onload = function() {\n // responseText is the old-school way of retrieving response (supported by IE8 & 9)\n // response/responseType properties were introduced in ResourceLoader Level2 spec (supported\n // by IE10)\n const response = xhr.response || xhr.responseText;\n\n // normalize IE9 bug (https://bugs.jquery.com/ticket/1450)\n let status = xhr.status === 1223 ? 204 : xhr.status;\n\n // fix status code when it is 0 (0 status is undocumented).\n // Occurs when accessing file resources
or on Android 4.1 stock browser\n // while retrieving files from application cache.\n if (status === 0) {\n status = response ? 200 : 0;\n }\n\n if (200 <= status && status <= 300) {\n resolve(response);\n } else {\n reject(`Failed to load ${url}`);\n }\n };\n\n xhr.onerror = function() {\n reject(`Failed to load ${url}`);\n };\n\n xhr.send();\n return promise;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {PLATFORM_BROWSER_ID as PLATFORM_BROWSER_ID} from '@angular/common';\nimport {ResourceLoader} from '@angular/compiler';\nimport {COMPILER_OPTIONS, PLATFORM_ID, StaticProvider} from '@angular/core';\n\nimport {INTERNAL_BROWSER_PLATFORM_PROVIDERS as INTERNAL_BROWSER_PLATFORM_PROVIDERS} from '@angular/platform-browser';\n\nimport {ResourceLoaderImpl}
from './resource_loader/resource_loader_impl';\n\n/**\n * @publicApi\n */\nexport const INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS: StaticProvider[] = [\n INTERNAL_BROWSER_PLATFORM_PROVIDERS,\n {\n provide: COMPILER_OPTIONS,\n useValue: {providers: [{provide: ResourceLoader, useClass: ResourceLoaderImpl, deps: []}]},\n multi: true\n },\n {provide: PLATFORM_ID, useValue: PLATFORM_BROWSER_ID},\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ResourceLoader} from '@angular/compiler';\nimport {global as global} from '@angular/core';\n\n/**\n * An implementation of ResourceLoader that uses a template cache to avoid doing an actual\n * ResourceLoader.\n *\n * The template cache needs to be built and loaded into window.$templateCache\n * via a separate mechanism.\n *\n * @publicApi\n */\nexport
class CachedResourceLoader extends ResourceLoader {\n private _cache: {[url: string]: string};\n\n constructor() {\n super();\n this._cache = (<any>global).$templateCache;\n if (this._cache == null) {\n throw new Error('CachedResourceLoader: Template cache was not found in $templateCache.');\n }\n }\n\n get(url: string): Promise<string> {\n if (this._cache.hasOwnProperty(url)) {\n return Promise.resolve(this._cache[url]);\n } else {\n return <Promise<any>>Promise.reject(\n 'CachedResourceLoader: Did not find cached template for ' + url);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {COMPILER_PROVIDERS__POST_R3__ as COMPILER_PROVIDERS__POST_R3__, CompilerImpl as CompilerImpl} from './compiler_factory';\nexport {platformCoreDynamic as platformCoreDynamic}
from './platform_core_dynamic';\nexport {INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS as INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS} from './platform_providers';\nexport {ResourceLoaderImpl as ResourceLoaderImpl} from './resource_loader/resource_loader_impl';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ResourceLoader} from '@angular/compiler';\nimport {CompilerFactory, createPlatformFactory,

platformCore, PlatformRef, Provider, StaticProvider} from '@angular/core';\n\nimport {platformCoreDynamic} from './platform_core_dynamic';\nimport {INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS} from './platform_providers';\nimport {CachedResourceLoader} from './resource_loader/resource_loader_cache';\n\nexport * from './private_export';\nexport {VERSION} from './version';\nexport {JitCompilerFactory} from './compiler_factory';\n\n/**\n * @publicApi\n */\nexport const RESOURCE_CACHE_PROVIDER: Provider[] =\n    [{provide: ResourceLoader, useClass: CachedResourceLoader, deps: []}];\n\n/**\n * @publicApi\n */\nexport const platformBrowserDynamic = createPlatformFactory(\n    platformCoreDynamic, 'browserDynamic', INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n
 * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/platform-browser-dynamic';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {CachedResourceLoader as angular_packages_platform_browser_dynamic_platform_browser_dynamic_a} from './src/resource_loader/resource_loader_cache';"],"names":["ReflectionCapabilities","stringify","Console","PLATFORM_BROWSER_ID","INTERNAL_BROWSER_PLATFORM_PROVIDERS","global"],"mappings":";;;;;;;;;;AAAA;;;;;;;AAWO,MAAM,aAAa,GAAG,EAAE,CAAC;AAChC,MAAM,yBAAyB,GAAG,kCAAkC,EAAE,CAAC;MAE1D,YAAY;IAAzB;QAAC,QAAC,2BAAsB,MAAM,uBAAkB,MAAM,uBAAkB,MAAM,uBAAk

AAC,GAAG,CAAC,WAAW,CAAC,YAAY,EAAE,YAAY,CAAC,CAAC;IAChD,GAAG,CAAC,GAAG,CAAC,
WAAW,CAAC,eAAe,EAAE,eAAe,CAAC,CAAC;IACtD,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,mBAAm
B,EAAE,IAAI,CAAC,CAAC;IAC/C,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,SAAS,EAAE,IAAI,CAAC,CA
AC;IACrC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,iBAAiB,EAAE,IAAI,CAAC,CAAC;IAC7C,GAAG,CA
AC,GAAG,CAAC,WAAW,CAAC,uBAAuB,EAAE,sBAAsB,CAAC,CAAC;IACrE,GAAG,CAAC,GAAG,CAAC,
WAAW,CAAC,QAAQ,EAAE,QAAQ,CAAC,CAAC;IACxC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,iBAAi
B,EAAE,iBAAiB,CAAC,CAAC;IAC1D,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,uBAAuB,EAAE,uBAAuB,
CAAC,CAAC;IACtE,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,eAAe,EAAE,eAAe,CAAC,CAAC;IACtD,GA
AG,CAAC,GAAG,CAAC,WAAW,CAAC,SAAS,EAAE,SAAS,CAAC,CAAC;IAC1C,GAAG,CAAC,GAAG,CAA
C,WAAW,CAAC,mBAAmB,EAAE,mBAAmB,CAAC,CAAC;IAC9D,GAAG,CAAC,GAAG,CAAC,WAAW,CA
AC,iBAAiB,EAAE,kBAAkB,CAAC,CAAC;IAC3D,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,WAAW,EAAE
,YAAY,CAAC,CAAC;IAC/C,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,WAAW,EAAE,YAAY,CAAC,CAAC
;IAC/C,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,SAAS,EAAE,UAAU,CAAC,CAAC;IAC3C,GAAG,CAAC,
GAAG,CAAC,WAAW,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC;IACnC,GAAG,CAAC,GAAG,CAAC,WAAW,
CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;IACtC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,SAAS,EAAE,IA
AI,CAAC,CAAC;IACrC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC;IACnC
,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,YAAY,EAAE,IAAI,CAAC,CAAC;IACxC,GAAG,CAAC,GAAG,
CAAC,WAAW,CAAC,WAAW,EAAE,IAAI,CAAC,CAAC;IACvC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,
QAAQ,EAAE,IAAI,CAAC,CAAC;IACpC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,YAAY,EAAE,IAAI,CA
AC,CAAC;IACxC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,aAAa,EAAE,IAAI,CAAC,CAAC;IACzC,GAAG
,CAAC,GAAG,CAAC,WAAW,CAAC,WAAW,EAAE,IAAI,CAAC,CAAC;IACvC,GAAG,CAAC,GAAG,CAAC,
WAAW,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC;IACnC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,SAAS,E
AAE,IAAI,CAAC,CAAC;IACrC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,YAAY,EAAE,IAAI,CAAC,CAA
C;IACxC,GAAG,CAAC,GAAG,CAAC,WAAW,CAAC,WAAW,EAAE,IAAI,CAAC,CAAC;IACvC,GAAG,CAA
C,GAAG,CAAC,WAAW,CAAC,mBAAmB,EAAE,IAAI,CAAC,CAAC;IAC/C,GAAG,CAAC,GAAG,CAAC,WAAW,CA
AW,CAAC,sBAAsB,EAAE,IAAI,CAAC,CAAC;IAClD,OAAO,GAAG,CAAC;AACb;;;ACzGA;;;;;;;AAAO,MAA
M,qBAAqB,GAAG,IAAI,cAAc,CAAC,gBAAgB,CAAC,CAAC;AAE1E;;;AAGO,MAAM,4BAA4B,GAAG;IAC1
C,OAAO,EAAE,gBAAgB;IACzB,QAAQ,EAAE,GAAG;CACd,CAAC;AAEF,MAAM,mBAAmB,GAAG;IAC1
C,GAAG,CAAC,GAAW;QACb,MAAM,IAAI,KAAK,CACX,2EAA2E,GAAG,GAAG,CAAC,CAAC;KACxF;CA
CF,CAAC;AAEF,MAAM,cAAc,GAAG,IAAI,cAAc,CAAC,YAAY,CAAC,CAAC;AAE1E,MAAM,iBAAiB,GAAG,
QAAkB,EAAU,iBAA0C,EAAE,gBAAyC,EAAE,
EAAE,CAAC,IAAI,gBAAgB,CAAC,QAAQ,EAAE,iBAAiB,EAAE,gBAAgB,CAAC,CAAC;AAEzI,MAAM,gBAAgB,GAAG,
IAAI,cAAc,CAAC,kBAAkB,CAAC,CAAC;AAEhE,MAAM,gBAAgB,GAAG,IAAI,cAAc,CAAC,kBAAkB,CAAC,CAAC;AAEhE,MAAM,
CAAC,MAAM,gBAAgB,GAAG,IAAI,cAAc,CAAC,kBAAkB,CAAC,CAAC;AAEvE,MAAM,CAAC,MAAM,gBAAgB,GAAG,
IAAI,cAAc,CAAC,kBAAkB,CAAC,CAAC;AAEvE,MAAM,

S,CAAC,aAAa,CAAC,IAAI,CAAC,CAAC;KACpC;IACD,WAAW,CAAC,UAAqB;QAC/B,MAAM,IAAI,GAAG,IAAI,CAAC,iBAAiB,CAAC,mBAAmB,CAAC,UAAU,CAAC,CAAC;QACpE,OAAO,IAAI,IAAI,IAAI,CAAC,EAAE,IAAI,SAAS,CAAC;KACrC;CACF;WAMuC,IAAI,YAAY,EAAE,OACpB,mBAAmB,OAAjD,CAAC,MAAkB,EAAE,YAAyB,EAAE,MAAc,EAAE,MAAsB,EACrF,OAAgB;IACf,YAAY,GAAG,YAAY,IAAI,EAAE,CAAC;IAClC,MAAM,kBAAkB,GACpB,MAAM,CAAC,kBAAmB,GAAG,CAAC,CAAC,MAAM,CAAC,MAAM,CAAC;IACjF,OAAO,IAAI,cAAc,CAAC,MAAM,EAAE,YAAY,EAAE,MAAM,EAAE,kBAAkB,EAAE,OAAO,CAAC,CAAC,CAAC;AAACvF,CAAC,OAAA,EAAE,OAAA,EAAE,gBAAgB,EAAE,QAAQ,IAAI,OAAO,EAAE,QAAQ,IAAI,OAAO,EAAE,cAAc,EAAE,QAAQ,IAAI,OAAO,EAAE,kBAAkB,EAAE,OAAO,EAAE,eAAe,EAAE,WAAW,EAAE,kBAAkB,EAAE,QAAQ,IAAI,OAAO,EAAE,QAAQ,EAAE,IAAI,EAAE,EAAE,EAAE,QAAQ,IAAI,OAAO,EAAE,kBAAkB,EAAE,OAAO,EAAE,KAAK,EAAE,IAAI,EAAE,EAAE,EAAE,QAAQ,IAAI,OAAO,EAAE,MAAM,EAAE,IAAI,EAAE,CAAC,EAAE,KAAK,EAAE,EAAE,QAAQ,IAAI,OAAO,EAAE,cAAc,EAAE,QAAQ,EAAE,UAAU,QAAQ,IAAI,EAAE,EAAE,EAAE,QAAQ,IAAI,OAAO,EAAE,cAAc,EAAE,QAAQ,EAAE,UAAU,EAAE

GAAG,CAAC,OAAO,IAAI,OAAO,CAAC,kBAAkB,CAAC,CAAC;QACvF,mBAAmB,EAAE,YAAY,CAAC,UA
AU,CAAC,GAAG,CAAC,OAAO,IAAI,OAAO,CAAC,mBAAmB,CAAC,CAAC;KAC1F,CAAC;AACJ,CAAC;A
AED,SAAS,YAAY,CAAI,IAAS;IAChC,KAAK,IAAI,CAAC,GAAG,IAAI,CAAC,MAAM,GAAG,CAAC,EAAE,
CAAC,IAAI,CAAC,EAAE,CAAC,EAAE,EAAE;QACzC,IAAI,IAAI,CAAC,CAAC,CAAC,KAAK,SAAS,EAAE;
YACzB,OAAO,IAAI,CAAC,CAAC,CAAC,CAAC;SAChB;KACF;IACD,OAAO,SAAS,CAAC;AACnB,CAAC;A
AED,SAAS,YAAY,CAAC,KAAc;IAClC,MAAM,MAAM,GAAU,EAAE,CAAC;IACzB,KAAK,IAAI,CAAC,GAAG,
CAAC,IAAI,KAAK,IAAI,IAAI,MAAM,CAAC,IAAI,CAAC,GAAG,IAAI,CAAC,CAAC,CAAC;IACtD,OA
AO,MAAM,CAAC;AAChB;;AC5OA;;;;;;;aAkBwC,EAAE;AAN1C;;;;;MAKa,mBAAmB,GAAG,qBAAqB,CAAC,
YAAY,EAAE,aAAa,EAAE;IACpF,EAAC,OAAO,EAAE,gBAAgB,EAAE,QAAQ,MAAI,EAAE,KAAK,EAAE,IA
AI,EAAC;IACtD,EAAC,OAAO,EAAE,eAAe,EAAE,QAAQ,EAAE,kBAAkB,EAAE,IAAI,EAAE,CAAC,gBAAg
B,CAAC,EAAC;CACnF;;ACpBD;;;;;;;MAYa,kBAAkB,GAAG,qBAAqB,CAAC,QAAQ,EAAE,IAAI,EAAE,
OAA8B,CAAC;QACnC,IAAI,MA4B,CAAC;QACjC,MAAM,OAAO,GAAG,IAAI,CAAC,GAAG,IAAI,OAAO,CAAS,CAAC,GAAG
,EAAE,GAAG;YAC3C,OAAO,GAAG,GAAG,CAAC;YACd,MAAM,GAAG,GAAG,CAAC;SACd,CAAC,CAAC;
QACH,MAAM,GAAG,GAAG,IAAI,cAAc,EAAE,CAAC;QACjC,GAAG,CAAC,IAAI,CAAC,KAAK,EAAE,GA
AG,EAAE,IAAI,CAAC,CAAC;QAC3B,GAAG,CAAC,YAAY,GAAG,MAAM,CAAC;QAE1B,GAAG,CAAC,M
AAM,GAAG;;;;YAIX,MAAM,QAAQ,GAAG,CAAC,QAAQ,IAAI,GAAG,CAAC,YAAY,CAAC;;YAGlD,
IAAI,MAAM,GAAG,GAAG,CAAC,MAAM,KAAK,IAAI,GAAG,GAAG,GAAG,GAAG,CAAC,MAAM,CAAC;;;
;YAKpD,IAAI,MAAM,KAAK,CAAC,EAAE;gBAChB,MAAM,GAAG,QAAQ,GAAG,GAAG,CAAC,CA
AC;aAC7B;YAED,IAAI,GAAG,IAAI,MAAM,IAAI,MAAM,IAAI,GAAG,EAAE;gBAClC,OAAO,CAAC,QAAQ,
CAAC,CAAC;aACnB;iBAAM;gBACL,MAAM,CAAC,kBAAkB,GAAG,EAAE,CAAC,CAAC;aACjC;SACF,CA
AC;QAEF,GAAG,CAAC,OAAO,GAAG;YACZ,MAAM,CAAC,kBAAkB,GAAG,EAAE,CAAC,CAAC;SACjC,C
AAC;QAEF,GAAG,CAAC,IAAI,EAAE,CAAC;QACX,OAAO,MAAM,CAAC;KACf;;;YA1CF,UAAU;;;ACXX;
;;;;;;aAuBc,EAAC,SAAS,EAAE,CAAC,EAAC,OAAO,EAAE,cAAc,EAAE,QAAQ,EAAE,kBAAkB,EAAE,IAAI,
EAAE,EAAE,EAAC,CAAC,EAAC,SAG3DC,oBAAoB;AAVtD;;;MAGa,2CAA2C,GAAG,IAAI,cAAc,CAAS,
2CAA2C;;AC7BtF;;;;;;;AAeA;;ACfA;;;;;;;;ACAA;;;;;;"}

Found
 in path(s):
* /platform-browser-dynamic-11-0-5-tgz/package/fesm2015/platform-browser-dynamic.js.map
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/*! *****************************************************************************
  Copyright (c) Microsoft Corporation.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.
***************************************************************************** */
/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/

Found in path(s):
* /platform-browser-dynamic-11-0-5-tgz/package/bundles/platform-browser-dynamic.umd.js
* /platform-browser-dynamic-11-0-5-tgz/package/bundles/platform-browser-dynamic.umd.min.js
* /platform-browser-dynamic-11-0-5-tgz/package/bundles/platform-browser-dynamic-testing.umd.js
* /platform-browser-dynamic-11-0-5-tgz/package/bundles/platform-browser-dynamic-testing.umd.min.js
MIT
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/

Found in path(s):
* /platform-browser-dynamic-11-0-5-tgz/package/testing/testing.d.ts
* /platform-browser-dynamic-11-0-5-tgz/package/platform-browser-dynamic.d.ts
* /platform-browser-dynamic-11-0-5-tgz/package/testing.d.ts
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"platform-browser-dynamic.umd.js","sources":["../../../../../external/npm/node_modules/tslib/tslib.es6.js","../../../../../packages/platform-browser-dynamic/src/compiler_reflector.ts","../../../../../packages/platform-browser-dynamic/src/compiler_factory.ts","../../../../../packages/platform-browser-dynamic/src/platform_core_dynamic.ts","../../../../../packages/platform-browser-dynamic/src/resource_loader/resource_loader_impl.ts","../../../../../packages/platform-browser-dynamic/src/platform_providers.ts","../../../../../packages/platform-browser-

dynamic/src/resource_loader/resource_loader_cache.ts","../../../../../packages/platform-browser-dynamic/src/private_export.ts","../../../../../packages/platform-browser-dynamic/src/version.ts","../../../../../packages/platform-browser-dynamic/src/platform-browser-dynamic.ts","../../../../../packages/platform-browser-dynamic/public_api.ts","../../../../../packages/platform-browser-dynamic/index.ts","../../../../../packages/platform-browser-dynamic/platform-browser-dynamic.ts"],"sourcesContent":["/*!
 **********\r\nCopyright (c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS SOFTWARE.\r\n***********
 */\r\n/* global
 Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics = Object.setPrototypeOf ||\r\n ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n        function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d; }\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n        for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n            for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n
 for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n                t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n    var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r),
 r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments
 || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n

if (f) throw new TypeError(\"Generator is already executing.\");\r\n while (_) try {\r\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n if (y = 0, t) op = [op[0] & 2, t.value];\r\n switch (op[0]) {\r\n case 0: case 1: t = op; break;\r\n case 4: _.label++; return { value: op[1], done: false };\r\n case 5: _.label++; y = op[1]; op = [0]; continue;\r\n case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n default:\r\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n if (t[2]) _.ops.pop();\r\n _.trys.pop(); continue;\r\n }\r\n op = body.call(thisArg, _);\r\n } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n if (m) return m.call(o);\r\n if (o && typeof o.length === \"number\") return {\r\n next: function () {\r\n if (o && i >= o.length) o = void 0;\r\n return { value: o && o[i++], done: !o };\r\n }\r\n };\r\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n if (!m) return o;\r\n var i = m.call(o),
r, ar = [], e;\r\n try {\r\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n }\r\n catch (error) { e = { error: error }; }\r\n finally {\r\n try {\r\n if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n }\r\n finally { if (e) throw e.error; }\r\n }\r\n return ar;\r\n}\r\n\r\nexport function __spread() {\r\n for (var ar = [], i = 0; i < arguments.length; i++)\r\n ar = ar.concat(__read(arguments[i]));\r\n return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n r[k] = a[j];\r\n return r;\r\n};\r\n\r\nexport function __await(v) {\r\n return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n function fulfill(value) { resume(\"next\", value); }\r\n function reject(value) { resume(\"throw\", value); }\r\n function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n var i, p;\r\n return
i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var m = o[Symbol.asyncIterator], i;\r\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject);

}\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n    if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n    return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n    Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n    o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n    if (mod && mod.__esModule) return mod;\r\n    var result = {};\r\n    if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n    __setModuleDefault(result, mod);\r\n    return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n    return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to get private field on non-instance\");\r\n    }\r\n    return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to set private field on non-instance\");\r\n    }\r\n    privateMap.set(receiver, value);\r\n    return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileReflector, ExternalReference, getUrlScheme, Identifiers, syntaxError} from '@angular/compiler';\nimport {ANALYZE_FOR_ENTRY_COMPONENTS, ChangeDetectionStrategy, ChangeDetectorRef, Component, ComponentFactory, ComponentFactoryResolver, ComponentRef, ElementRef, Injector, LOCALE_ID, NgModuleFactory, NgModuleRef, QueryList, Renderer2, SecurityContext, TemplateRef, TRANSLATIONS_FORMAT, ViewContainerRef, ViewEncapsulation, and, ccf, cmf, CodegenComponentFactoryResolver, crt, did, eld, EMPTY_ARRAY, EMPTY_MAP, inlineInterpolate, interpolate, mod, mpd, ncd, nov, pad, pid, pod, ppd, prd, qud, ReflectionCapabilities as ReflectionCapabilities, registerModuleFactory, stringify as stringify, ted, unv, vid} from '@angular/core';\n\nexport const MODULE_SUFFIX = '';\nconst builtinExternalReferences = createBuiltinExternalReferencesMap();\n\nexport class JitReflector implements CompileReflector {\n  private reflectionCapabilities = new ReflectionCapabilities();\n\n  componentModuleUrl(type: any, cmpMetadata: Component): string {\n    const moduleId = cmpMetadata.moduleId;\n\n    if (typeof moduleId === 'string') {\n      const scheme = getUrlScheme(moduleId);\n      return scheme ? moduleId : `package:${moduleId}${MODULE_SUFFIX}`;\n    } else if (moduleId !== null && moduleId !== void 0) {\n      throw syntaxError(\n          `moduleId should be a string in \"${\n              stringify(type)}\". See https://goo.gl/wIDDiL for more information.\\n` +\n          `If you're using Webpack you should inline the template and the styles, see https://goo.gl/X2J8zc.`);\n    }\n\n    return `./${stringify(type)}`;\n  }\n  parameters(typeOrFunc: /*Type*/ any): any[][] {\n    return this.reflectionCapabilities.parameters(typeOrFunc);\n  }\n  tryAnnotations(typeOrFunc: /*Type*/ any): any[] {\n    return this.annotations(typeOrFunc);\n  }\n  annotations(typeOrFunc: /*Type*/ any): any[] {\n    return this.reflectionCapabilities.annotations(typeOrFunc);\n  }\n  shallowAnnotations(typeOrFunc: /*Type*/ any): any[] {\n    throw new Error('Not supported in JIT mode');\n  }\n  propMetadata(typeOrFunc: /*Type*/ any): {[key: string]: any[]} {\n    return this.reflectionCapabilities.propMetadata(typeOrFunc);\n  }\n  hasLifecycleHook(type: any, lcProperty: string): boolean {\n    return this.reflectionCapabilities.hasLifecycleHook(type, lcProperty);\n  }\n  guards(type: any): {[key: string]: any} {\n    return this.reflectionCapabilities.guards(type);\n  }\n  resolveExternalReference(ref: ExternalReference): any {\n    return builtinExternalReferences.get(ref) || ref.runtime;\n  }\n}\n\n\nfunction createBuiltinExternalReferencesMap() {\n  const map = new Map<ExternalReference, any>();\n  map.set(Identifiers.ANALYZE_FOR_ENTRY_COMPONENTS, ANALYZE_FOR_ENTRY_COMPONENTS);\n  map.set(Identifiers.ElementRef, ElementRef);\n  map.set(Identifiers.NgModuleRef, NgModuleRef);\n  map.set(Identifiers.ViewContainerRef, ViewContainerRef);\n  map.set(Identifiers.ChangeDetectorRef, ChangeDetectorRef);\n  map.set(Identifiers.Renderer2, Renderer2);\n  map.set(Identifiers.QueryList, QueryList);\n  map.set(Identifiers.TemplateRef, TemplateRef);\n  map.set(Identifiers.CodegenComponentFactoryResolver,

CodegenComponentFactoryResolver);\n  map.set(Identifiers.ComponentFactoryResolver,
ComponentFactoryResolver);\n  map.set(Identifiers.ComponentFactory, ComponentFactory);\n
map.set(Identifiers.ComponentRef,
 ComponentRef);\n  map.set(Identifiers.NgModuleFactory, NgModuleFactory);\n
map.set(Identifiers.createModuleFactory, cmf);\n  map.set(Identifiers.moduleDef, mod);\n
map.set(Identifiers.moduleProviderDef, mpd);\n  map.set(Identifiers.RegisterModuleFactoryFn,
registerModuleFactory);\n  map.set(Identifiers.Injector, Injector);\n  map.set(Identifiers.ViewEncapsulation,
ViewEncapsulation);\n  map.set(Identifiers.ChangeDetectionStrategy, ChangeDetectionStrategy);\n
map.set(Identifiers.SecurityContext, SecurityContext);\n  map.set(Identifiers.LOCALE_ID, LOCALE_ID);\n
map.set(Identifiers.TRANSLATIONS_FORMAT, TRANSLATIONS_FORMAT);\n
map.set(Identifiers.inlineInterpolate, inlineInterpolate);\n  map.set(Identifiers.interpolate, interpolate);\n
map.set(Identifiers.EMPTY_ARRAY, EMPTY_ARRAY);\n  map.set(Identifiers.EMPTY_MAP, EMPTY_MAP);\n
map.set(Identifiers.viewDef, vid);\n  map.set(Identifiers.elementDef, eld);\n  map.set(Identifiers.anchorDef, and);\n
map.set(Identifiers.textDef,
 ted);\n  map.set(Identifiers.directiveDef, did);\n  map.set(Identifiers.providerDef, prd);\n
map.set(Identifiers.queryDef, qud);\n  map.set(Identifiers.pureArrayDef, pad);\n  map.set(Identifiers.pureObjectDef,
pod);\n  map.set(Identifiers.purePipeDef, ppd);\n  map.set(Identifiers.pipeDef, pid);\n
map.set(Identifiers.nodeValue, nov);\n  map.set(Identifiers.ngContentDef, ncd);\n  map.set(Identifiers.unwrapValue,
unv);\n  map.set(Identifiers.createRendererType2, crt);\n  map.set(Identifiers.createComponentFactory, ccf);\n
return map;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
*/\n\nimport {CompileMetadataResolver, CompilerConfig, CompileReflector, DirectiveNormalizer,
DirectiveResolver, DomElementSchemaRegistry, ElementSchemaRegistry, HtmlParser, I18NHtmlParser,
JitCompiler, JitEvaluator,
 JitSummaryResolver, Lexer, NgModuleCompiler, NgModuleResolver, Parser, PipeResolver, ProviderMeta,
ResourceLoader, StaticSymbolCache, StyleCompiler, SummaryResolver, TemplateParser, UrlResolver,
ViewCompiler} from '@angular/compiler';\nimport {Compiler, CompilerFactory, CompilerOptions,
ComponentFactory, Inject, InjectionToken, Injector, isDevMode, MissingTranslationStrategy,
ModuleWithComponentFactories, NgModuleFactory, Optional, PACKAGE_ROOT_URL, StaticProvider,
TRANSLATIONS, TRANSLATIONS_FORMAT, Type, ViewEncapsulation, Console as Console} from
'@angular/core';\n\nimport {JitReflector} from './compiler_reflector';\n\nexport const
ERROR_COLLECTOR_TOKEN = new InjectionToken('ErrorCollector');\n\n/**\n * A default provider for {@link
PACKAGE_ROOT_URL} that maps to '/'.\n */\nexport const DEFAULT_PACKAGE_URL_PROVIDER = {\n
provide: PACKAGE_ROOT_URL,\n  useValue: '/'\n};\n\nconst _NO_RESOURCE_LOADER: ResourceLoader =
{\n  get(url: string): Promise<string> {\n    throw new Error(\n
    `No ResourceLoader implementation has been provided. Can't read the url \"${url}\"`);\n  }\n};\n\nconst
baseHtmlParser = new InjectionToken('HtmlParser');\n\nexport class CompilerImpl implements Compiler {\n
private _delegate: JitCompiler;\n  public readonly injector: Injector;\n  constructor(\n      injector: Injector, private
_metadataResolver: CompileMetadataResolver,\n      templateParser: TemplateParser, styleCompiler:
StyleCompiler, viewCompiler: ViewCompiler,\n      ngModuleCompiler: NgModuleCompiler, summaryResolver:
SummaryResolver<Type<any>>,\n      compileReflector: CompileReflector, jitEvaluator: JitEvaluator,\n
compilerConfig: CompilerConfig, console: Console) {\n    this._delegate = new JitCompiler(\n
_metadataResolver, templateParser, styleCompiler, viewCompiler, ngModuleCompiler,\n        summaryResolver,
compileReflector, jitEvaluator, compilerConfig, console,\n        this.getExtraNgModuleProviders.bind(this));\n
this.injector = injector;\n  }\n\n
  private getExtraNgModuleProviders() {\n    return [this._metadataResolver.getProviderMetadata(\n        new
ProviderMeta(Compiler, {useValue: this}))];\n  }\n\n  compileModuleSync<T>(moduleType: Type<T>):
NgModuleFactory<T> {\n    return this._delegate.compileModuleSync(moduleType) as NgModuleFactory<T>;\n

}\n  compileModuleAsync<T>(moduleType: Type<T>): Promise<NgModuleFactory<T>> {\n    return this._delegate.compileModuleAsync(moduleType) as Promise<NgModuleFactory<T>>;\n  }\n compileModuleAndAllComponentsSync<T>(moduleType: Type<T>): ModuleWithComponentFactories<T> {\n const result = this._delegate.compileModuleAndAllComponentsSync(moduleType);\n    return {\n ngModuleFactory: result.ngModuleFactory as NgModuleFactory<T>,\n      componentFactories: result.componentFactories as ComponentFactory<any>[],\n    };\n  }\n compileModuleAndAllComponentsAsync<T>(moduleType: Type<T>):\n Promise<ModuleWithComponentFactories<T>> {\n    return this._delegate.compileModuleAndAllComponentsAsync(moduleType)\n        .then((result) => ({\n                ngModuleFactory: result.ngModuleFactory as NgModuleFactory<T>,\n componentFactories: result.componentFactories as ComponentFactory<any>[],\n            }));\n  }\n loadAotSummaries(summaries: () => any[]) {\n    this._delegate.loadAotSummaries(summaries);\n  }\n hasAotSummary(ref: Type<any>): boolean {\n    return this._delegate.hasAotSummary(ref);\n  }\n getComponentFactory<T>(component: Type<T>): ComponentFactory<T> {\n    return this._delegate.getComponentFactory(component) as ComponentFactory<T>;\n  }\n  clearCache(): void {\n this._delegate.clearCache();\n  }\n  clearCacheFor(type: Type<any>) {\n    this._delegate.clearCacheFor(type);\n  }\n  getModuleId(moduleType: Type<any>): string|undefined {\n    const meta = this._metadataResolver.getNgModuleMetadata(moduleType);\n    return meta && meta.id || undefined;\n  }\n}\n/**\n * A set of providers that provide `JitCompiler` and its dependencies\n to use for\n * template compilation.\n */\nconst COMPILER_PROVIDERS__PRE_R3__ = <StaticProvider[]>[\n {provide: CompileReflector, useValue: new JitReflector()},\n  {provide: ResourceLoader, useValue: _NO_RESOURCE_LOADER},\n  {provide: JitSummaryResolver, deps: []},\n  {provide: SummaryResolver, useExisting: JitSummaryResolver},\n  {provide: Console, deps: []},\n  {provide: Lexer, deps: []},\n  {provide: Parser, deps: [Lexer]},\n  {\n    provide: baseHtmlParser,\n    useClass: HtmlParser,\n    deps: [],\n  },\n  {\n provide: I18NHtmlParser,\n    useFactory:\n        (parser: HtmlParser, translations: string|null, format: string, config: CompilerConfig,\n         console: Console) => {\n          translations = translations || '';\n          const missingTranslation =\n              translations ? config.missingTranslation! : MissingTranslationStrategy.Ignore;\n return new I18NHtmlParser(parser, translations, format, missingTranslation, console);\n        },\n    deps: [\n      baseHtmlParser,\n      [new Optional(), new Inject(TRANSLATIONS)],\n      [new Optional(), new Inject(TRANSLATIONS_FORMAT)],\n      [CompilerConfig],\n      [Console],\n    ]\n  },\n  {\n    provide: HtmlParser,\n    useExisting: I18NHtmlParser,\n  },\n  {\n    provide: TemplateParser,\n    deps: [CompilerConfig, CompileReflector, Parser, ElementSchemaRegistry, I18NHtmlParser, Console]\n  },\n  {provide: JitEvaluator, useClass: JitEvaluator, deps: []},\n  {provide: DirectiveNormalizer, deps: [ResourceLoader, UrlResolver, HtmlParser, CompilerConfig]},\n  {\n    provide: CompileMetadataResolver,\n    deps: [\n      CompilerConfig, HtmlParser, NgModuleResolver, DirectiveResolver, PipeResolver,\n      SummaryResolver, ElementSchemaRegistry, DirectiveNormalizer, Console,\n      [Optional, StaticSymbolCache], CompileReflector, [Optional, ERROR_COLLECTOR_TOKEN]\n    ]\n  },\n  DEFAULT_PACKAGE_URL_PROVIDER,\n  {provide: StyleCompiler, deps: [UrlResolver]},\n  {provide: ViewCompiler, deps: [CompileReflector]},\n  {provide: NgModuleCompiler, deps: [CompileReflector]},\n  {provide: CompilerConfig, useValue: new CompilerConfig()},\n  {\n    provide: Compiler,\n    useClass: CompilerImpl,\n    deps: [\n      Injector, CompileMetadataResolver, TemplateParser, StyleCompiler, ViewCompiler,\n      NgModuleCompiler, SummaryResolver, CompileReflector, JitEvaluator, CompilerConfig, Console\n    ]\n  },\n  {provide: DomElementSchemaRegistry, deps: []},\n  {provide: ElementSchemaRegistry, useExisting: DomElementSchemaRegistry},\n  {provide: UrlResolver, deps: [PACKAGE_ROOT_URL]},\n  {provide: DirectiveResolver, deps: [CompileReflector]},\n  {provide: PipeResolver, deps: [CompileReflector]},\n  {provide: NgModuleResolver, deps: [CompileReflector]},\n];\n\nexport const COMPILER_PROVIDERS__POST_R3__ =\n <StaticProvider[]>[{provide: Compiler, useFactory: () => new Compiler()}];\nexport const COMPILER_PROVIDERS = COMPILER_PROVIDERS__PRE_R3__;\n/**\n * @publicApi\n */\nexport class

JitCompilerFactory implements CompilerFactory {\n  private _defaultOptions: CompilerOptions[];\n\n  /* @internal */\n  constructor(defaultOptions: CompilerOptions[]) {\n    const compilerOptions: CompilerOptions = {\n      useJit: true,\n      defaultEncapsulation: ViewEncapsulation.Emulated,\n      missingTranslation: MissingTranslationStrategy.Warning,\n    };\n\n    this._defaultOptions = [compilerOptions, ...defaultOptions];\n  }\n  createCompiler(options: CompilerOptions[] = []): Compiler {\n    const opts = _mergeOptions(this._defaultOptions.concat(options));\n    const injector = Injector.create([\n      COMPILER_PROVIDERS, {\n        provide: CompilerConfig,\n        useFactory: () => {\n          return new CompilerConfig({\n            // let explicit values from the compiler options overwrite options\n            // from the app providers\n            useJit: opts.useJit,\n            jitDevMode: isDevMode(),\n            // let explicit values from the compiler options\n            overwrite options\n            // from the app providers\n            defaultEncapsulation: opts.defaultEncapsulation,\n            missingTranslation: opts.missingTranslation,\n            preserveWhitespaces: opts.preserveWhitespaces,\n          });\n        },\n        deps: []\n      },\n      opts.providers!\n    ]);\n    return injector.get(Compiler);\n  }\n}\n\nfunction _mergeOptions(optionsArr: CompilerOptions[]): CompilerOptions {\n  return {\n    useJit: _lastDefined(optionsArr.map(options => options.useJit)),\n    defaultEncapsulation: _lastDefined(optionsArr.map(options => options.defaultEncapsulation)),\n    providers: _mergeArrays(optionsArr.map(options => options.providers!)),\n    missingTranslation: _lastDefined(optionsArr.map(options => options.missingTranslation)),\n    preserveWhitespaces: _lastDefined(optionsArr.map(options => options.preserveWhitespaces)),\n  };\n}\n\nfunction _lastDefined<T>(args: T[]): T|undefined {\n  for (let i = args.length - 1; i >= 0; i--) {\n    if (args[i] !== undefined) {\n      return args[i];\n    }\n  }\n  return undefined;\n}\n\nfunction _mergeArrays(parts: any[][]): any[] {\n  const result: any[] = [];\n  parts.forEach((part) => part && result.push(...part));\n  return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {COMPILER_OPTIONS, CompilerFactory, createPlatformFactory, platformCore, PlatformRef, StaticProvider} from '@angular/core';\n\nimport {JitCompilerFactory} from './compiler_factory';\n\n/**\n * A platform that included corePlatform and the compiler.\n *\n * @publicApi\n */\nexport const platformCoreDynamic = createPlatformFactory(platformCore, 'coreDynamic', [\n  {provide: COMPILER_OPTIONS, useValue: {}, multi: true},\n  {provide: CompilerFactory, useClass: JitCompilerFactory, deps: [COMPILER_OPTIONS]},\n]);\n","/**\n *
 @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {ResourceLoader} from '@angular/compiler';\nimport {Injectable} from '@angular/core';\n\n\n@Injectable()\nexport class ResourceLoaderImpl extends ResourceLoader {\n  get(url: string): Promise<string> {\n    let resolve: (result: any) => void;\n    let reject: (error: any) => void;\n    const promise = new Promise<string>((res, rej) => {\n      resolve = res;\n      reject = rej;\n    });\n    const xhr = new XMLHttpRequest();\n    xhr.open('GET', url, true);\n    xhr.responseType = 'text';\n\n    xhr.onload = function() {\n      // responseText is the old-school way of retrieving response (supported by IE8 & 9)\n      // response/responseType properties were introduced in ResourceLoader Level2 spec (supported\n      // by IE10)\n      const response = xhr.response || xhr.responseText;\n\n      // normalize IE9 bug (https://bugs.jquery.com/ticket/1450)\n      let status = xhr.status === 1223 ? 204 : xhr.status;\n\n      // fix status code when it is 0 (0 status is undocumented).\n      // Occurs when accessing file resources or on Android 4.1 stock browser\n      // while retrieving files from application cache.\n      if (status === 0) {\n        status = response ? 200 : 0;\n      }\n\n      if (200 <= status && status <= 300) {\n        resolve(response);\n      } else {\n        reject(`Failed to load ${url}`);\n      }\n    };\n\n    xhr.onerror = function() {\n      reject(`Failed to load ${url}`);\n    };\n\n    xhr.send();\n    return promise;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {PLATFORM_BROWSER_ID as PLATFORM_BROWSER_ID} from '@angular/common';\nimport

{ResourceLoader}
from '@angular/compiler';\nimport {COMPILER_OPTIONS, PLATFORM_ID, StaticProvider} from '@angular/core';\n\nimport {INTERNAL_BROWSER_PLATFORM_PROVIDERS as INTERNAL_BROWSER_PLATFORM_PROVIDERS} from '@angular/platform-browser';\n\nimport {ResourceLoaderImpl} from './resource_loader/resource_loader_impl';\n\n/**\n * @publicApi\n */\nexport const INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS: StaticProvider[] = [\n INTERNAL_BROWSER_PLATFORM_PROVIDERS,\n {\n provide: COMPILER_OPTIONS,\n useValue: {providers: [{provide: ResourceLoader, useClass: ResourceLoaderImpl, deps: []}]},\n multi: true\n },\n {provide: PLATFORM_ID, useValue: PLATFORM_BROWSER_ID},\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ResourceLoader} from '@angular/compiler';\nimport {global as global} from '@angular/core';\n\n/**\n
* An implementation of ResourceLoader that uses a template cache to avoid doing an actual\n * ResourceLoader.\n *\n * The template cache needs to be built and loaded into window.$templateCache\n * via a separate mechanism.\n *\n * @publicApi\n */\nexport class CachedResourceLoader extends ResourceLoader {\n private _cache: {[url: string]: string};\n\n constructor() {\n super();\n this._cache = (<any>global).$templateCache;\n if (this._cache == null) {\n throw new Error('CachedResourceLoader: Template cache was not found in $templateCache.');\n }\n }\n\n get(url: string): Promise<string> {\n if (this._cache.hasOwnProperty(url)) {\n return Promise.resolve(this._cache[url]);\n } else {\n return <Promise<any>>Promise.reject(\n 'CachedResourceLoader: Did not find cached template for ' + url);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that
can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {COMPILER_PROVIDERS__POST_R3__ as COMPILER_PROVIDERS__POST_R3__, CompilerImpl as CompilerImpl} from './compiler_factory';\nexport {platformCoreDynamic as platformCoreDynamic} from './platform_core_dynamic';\nexport {INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS as INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS} from './platform_providers';\nexport {ResourceLoaderImpl as ResourceLoaderImpl} from './resource_loader/resource_loader_impl';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All
Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ResourceLoader} from '@angular/compiler';\nimport {CompilerFactory, createPlatformFactory, platformCore, PlatformRef, Provider, StaticProvider} from '@angular/core';\n\nimport {platformCoreDynamic} from './platform_core_dynamic';\nimport {INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS} from './platform_providers';\nimport {CachedResourceLoader} from './resource_loader/resource_loader_cache';\n\nexport * from './private_export';\nexport {VERSION} from './version';\nexport {JitCompilerFactory} from './compiler_factory';\n\n/**\n * @publicApi\n */\nexport const RESOURCE_CACHE_PROVIDER: Provider[] =\n [{provide: ResourceLoader, useClass: CachedResourceLoader, deps: []}];\n\n/**\n * @publicApi\n */\nexport const platformBrowserDynamic = createPlatformFactory(\n platformCoreDynamic, 'browserDynamic', INTERNAL_BROWSER_DYNAMIC_PLATFORM_PROVIDERS);\n","/**\n
* @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/platform-browser-dynamic';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license

that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {CachedResourceLoader as angular_packages_platform_browser_dynamic_platform_browser_dynamic_a} from './src/resource_loader/resource_loader_cache';"],"names":["ReflectionCapabilities","getUrlScheme","syntaxError","stringify","Identifiers","ANALYZE_FOR_ENTRY_COMPONENTS","ElementRef","NgModuleRef","ViewContainerRef","ChangeDetectorRef","Renderer2","QueryList","TemplateRef","CodegenComponentFactoryResolver","ComponentFactoryResolver","ComponentFactory","ComponentRef","NgModuleFactory","cmf","mod","mpd","registerModuleFactory","Injector","ViewEncapsulation","ChangeDetectionStrategy","SecurityContext","LOCALE_ID","TRANSLATIONS_FORMAT","inlineInterpolate","interpolate","EMPTY_ARRAY","EMPTY_MAP","vid","eld","and","ted","did","prd","qud","pad","pod","ppd","pid","nov","ncd","unv","crt","ccf","InjectionToken","PACKAGE_ROOT_URL","JitCompiler","ProviderMeta","Compiler","MissingTranslationStrategy","I18NHtmlParser","CompilerConfig","CompileReflector","ResourceLoader","JitSummaryResolver","SummaryResolver","Console","Lexer","Parser","HtmlParser","Optional","Inject","TRANSLATIONS","TemplateParser","ElementSchemaRegistry","JitEvaluator","DirectiveNormalizer","UrlResolver","CompileMetadataResolver","NgModuleResolver","DirectiveResolver","PipeResolver","StaticSymbolCache","StyleCompiler","ViewCompiler","NgModuleCompiler","DomElementSchemaRegistry","isDevMode","createPlatformFactory","platformCore","COMPILER_OPTIONS","CompilerFactory","Injectable","PLATFORM_BROWSER_ID","INTERNAL_BROWSER_PLATFORM_PROVIDERS","PLATFORM_ID","global","Version"],"mappings":";;;;;;;;;;;;;IAAA;;;;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC;QAC7B,aAAa,GAAG,MAAM,CAAC,cAAc;aAChC,EAAE,SAAS,EAAE,EAAE,YAAY,KAAK,IAAI,UAAU,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,cAAc,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;QAC7H,OAAO,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAC/B,CAAC,CAAC;IAEF,SAAS,SAAS,CAAC,CAAC,EAAE,CAAC;QACnB,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;QACpB,SAAS,EAAE,KAAK,IAAI,CAAC,WAAW,GAAG,CAAC,CAAC;QACrC,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,GAAG,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,EAAE,IAAI,EAAE,EAAE,CAAC;IAC3F,CAAC;IAEF,IAAI,QAAQ,GAAG,UAAS,CAAC,EAAE,CAAC;QACxB,QAAQ,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC;YACrC,KAAK,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;gBAAE,KAAK,IAAI,CAAC,IAAI,CAAC;oBAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC;wBAAE,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;YAC5I,OAAO,CAAC,CAAC;QACb,CAAC,CAAC;QACF,OAAO,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;IAC3C,CAAC;IAEF,IAAI,UAAU,GAAG,UAAS,CAAC,EAAE,CAAC;QAC1B,IAAI,CAAC,GAAG,OAAO,MAAM,KAAK,UAAU,IAAI,MAAM,CAAC,QAAQ,EAAE,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,EAAE,CAAC;QAC1F,IAAI,CAAC,CAAC;YAAE,OAAO,CAAC,CAAC;QACjB,IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,EAAE,EAAE,CAAC;QAC5B,IAAI;YACA,OAAO,CAAC,CAAC,KAAK,KAAK,CAAC,IAAI,CAAC,EAAE,IAAI,EAAE,CAAC,IAAI,EAAE,CAAC,IAAI,CAAC;gBAAE,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,KAAK,CAAC;SAC/D;QACD,OAAO,KAAK,EAAE;YAAE,CAAC,GAAG,EAAE,KAAK,EAAE,KAAK,EAAE,CAAC;SAAE;gBAAS;YAC5C,IAAI;gBACA,IAAI,CAAC,IAAI,CAAC,CAAC,IAAI,IAAI,CAAC,QAAQ,CAAC;oBAAE,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,QAAQ,CAAC,CAAC;aACrD;oBAAS;gBAAE,IAAI,CAAC;oBAAE,MAAM,CAAC,CAAC,KAAK,CAAC;aAAE;SACrC;QACD,OAAO,EAAE,CAAC;IACd,CAAC;IAEF,IAAI,QAAQ,GAAG,UAAS,EAAE,EAAE,IAAI,EAAE,IAAI;QAClC,IAAI,IAAI,IAAI,SAAS,CAAC,MAAM,KAAK,CAAC;YAAE,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,MAAM,EAAE,EAAE,GAAG,KAAK,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;gBAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE;oBAAE,IAAI,CAAC,EAAE;wBAAE,EAAE,GAAG,KAAK,CAAC,SAAS,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,EAAE,CAAC,EAAE,CAAC,CAAC;oBAAC,EAAE,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC,CAAC,CAAC;iBAAE;aAAE;QAC1K,OAAO,EAAE,CAAC,MAAM,CAAC,EAAE,IAAI,KAAK,CAAC,SAAS,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;IAC5D,CAAC;IAEF,IAAI,SAAS,GAAG,UAAS,OAAO,EAAE,IAAI,EAAE,CAAC,EAAE,SAAS;QAChD,SAAS,KAAK,CAAC,KAAK,IAAI,OAAO,KAAK,YAAY,CAAC,GAAG,KAAK,GAAG,IAAI,CAAC,UAAS,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;QAC1G,OAAO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,UAAS,OAAO,EAAE,MAAM;YAClD,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE,CAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE;YAAC,CAAC;YAC1F,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE,CAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE;YAAC,CAAC;YAC7F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;YAC5G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,IAAI,IAAI,EAAE,CAAC,IAAI,EAAE,CAAC;QAClE,CAAC,CAAC,CAAC;IACP,CAAC;IAEF,IAAI,WAAW,GAAG,UAAS,OAAO,EAAE,IAAI;QACpC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,cAAa,IAAI,CAAC,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC,EAAE,GAAG,EAAE,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,CAAC,GAAG,EAAE,MAAM,EAAE,MAAM,CAAC,QAAQ,IAAI,UAAU,CAAC,EAAE,OAAO,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC;QAC/J,OAAO,CAAC,GAAG,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,EAAE,OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAa,OAAO,IAAI,CAAC,CAAC,EAAE,CAAC;QAC1I,SAAS,IAAI,CAAC,CAAC,IAAI,OAAO,UAAU,CAAC,EAAE,OAAO,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;QAC3D,SAAS,IAAI,CAAC,EAAE;YACZ,IAAI,CAAC;gBAAE,MAAM,IAAI,SAAS,CAAC,iCAAiC,CAAC,CAAC;YAC9D,OAAO,CAAC,IAAI,IAAI;gBAAE,IAAI;oBACpB,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,KAAK,CAAC,GAAG,EAAE,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC,MAAM,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC,QAAQ,CAAC,KAAK,CAAC,CAAC,GAAG,EAAE,CAAC,OAAO,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,CAAC;wBAAE,OAAO,CAAC,CAAC;oBAC3I,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC;wBAAE,EAAE,GAAG,CAAC,EAAE,GAAG,CAAC,CAAC,KAAK,CAAC,CAAC;oBAClC,QAAQ,EAAE,CAAC,CAAC,CAAC;wBACT,KAAK,CAAC,CAAC;wBAAC,KAAK,CAAC;4BAAE,CAAC,GAAG,EAAE,CAAC;4BAAC,MAAM;wBAC9B,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC;wBACxD,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC;4BAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC;4BAAC,SAAS;wBACzC,KAAK,CAAC;4BAAE,EAAE,GAAG,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,IAAI,EAAE,CAAC;4BAAC,CAAC,CAAC,IAAI,EAAE,CAAC;4BAAC,SAAS;wBACpD;4BACI,IAAI,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,EAAE

AAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,CAAC,GAAG,OAAO,CAAC,QA
AQ,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI,CAAC,CAAC;;YAC1H,KAAK,IAAI,CAAC,GAA
G,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE;gBAAE,IAAI,CAAC,G
AAG,UAAU,CAAC,CAAC,CAAC;oBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,C
AAC,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,G
AAG,CAAC,CAAC,MAAM,EAAE,GAAG,CAAC,KAAK,CAAC,CAAC;QAClJ,OAAO,CAAC,GAAG,CAAC,IA
AI,CAAC,IAAI,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC;I
AClE,CAAC;aAEe,OAAO,CAAC,UAAU,EAAE,SAAS;QACzC,OAAO,UAAU,MAAM,EAAE,GAAG,IAAI,SAA
S,CAAC,MAAM,EAAE,GAAG,EAAE,UAAU,CAAC,CAAC,EAAE,CAAA;IACzE,CAAC;aAEe,UAAU,CAAC,
WAAW,EAAE,aAAa;QACjD,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UA
AU;YAAE,OAAO,OAAO,CAAC,QAAQ,CAAC,WAAW,EAAE,aAAa,CAAC,CAAC;IACnI,CAAC;aAEe,SAAS,
CAAC,OAAO,EAAE,UAAU,EAAE,CAAC,EAAE,SAAS;QACvD,KAAK,IAAI,CAAC,GAAG,OAAO,CAAC,KAAK,IAAI,CAAC,GAAG,UAAU,EAAE,CAAC,GAAG,CAAC,KAAK,CAAC,
YAAY,CAAC,GAAG,KAAK,GAAG,IAAI,CAAC,CAAC,UAAU,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,
CAAC,EAAE,CAAC,CAAC,EAAE;QAC5G,OAAO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,EAAE,
UAAU,OAAO,EAAE,MAAM;YACrD,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAA
C,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,
CAAC,CAAC;aAAE,EAAE;YAC3F,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,
OAAO,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,
CAAC,CAAC;aAAE,EAAE;YAC9F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,
O,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAA
C,SAAS,EAAE,QAAQ,CAAC,CAAC,EAAE;YAC9G,IAAI,CAAC,CAAC,CAAC,SAAS,,GAAG,SAAS,,CAAC,KAAK,C
AAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,C
AAC;aAEe,WAAW,CAAC,OAAO,EAAE,IAAI;QACrC,IAAI,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,
IAAI,EAAE,cAAa,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAA
C,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EA
AE,EAAE,EAAE,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,
,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,
EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,EAAE,OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,C
AAC,QAAQ,CAAC,GAAG,cAAa,OAAO,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzH,IAAI,CAAC,CAAC,
CAAC,IAAI,OAAO,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,C
AAC,EAAE,CAAC,EAAE;QACvG,IAAI,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC

CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,C
AAC,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAA
C,CAAC,KAAK,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACtF,IAAI,EAAE,CA
AC,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAA
E,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,GAAG,EAAE,CAAC;gCAA
C,MAAM;6BAAE;4BACrE,IAAI,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE
;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,CAAC,GAAG,CAAC
,IAAI,CAAC,EAAE,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACnE,IAAI,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAA
E,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC;4BACtB,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;
4BAAC,SAAS;qBAC9B;oBACD,EAAE,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,CAAC,CAAC,CAAC;i
BAC9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,EAAE,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;oBAA
C,CAAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAAE;YA
C1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC,CAAC;YA
AC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAA
K,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;SACpF;IACL,CAAC;IAEM,eAAe,GAAG,MAAM,CAAC
,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QAC9D,IAAI,EAAE,KAAK,EAAE,KAAK,SAAS;YA
AE,EAAE,GAAG,CAAC,CAAC;QAC7B,MAAM,CAAC,cAAc,CAAC,EAAE,EAAE,EAAE,EAAE,EAAE,UAA
U,EAAE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CA
AC;IACzF,CAAC,KAAK,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,C
AAC,CAAC;IACjB,CAAC,CAAC,CAAC;aAEa,YAAY,CAAC,CAAC,EAAE,OAAO;QACnC,KAAK,IAAI,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;YAAE,IAAI,CAAC,KAAK,SAAS,IAAI,CAAC,IAAI,OAAO;gBAAE,MAAM,IAAI,KAAK,CAAC,eAAe,GAAG,CAAC,GAAG,GAAG,CAAC,CAAC;SAC/H;IACL,CAAC;IAED,IAAI,CAAC,GAAG,CAAC,CAAC;IACV,IAAI,CAAC,GAAG,CAAC,CAAC;IACV,IAAI,CAAC,GAAG,CAAC,CAAC;IACV

AAG,CAAC,CAAC,CAAC,CAAC,CAAC;QACpB,OAAO,CAAC,CAAC;IACb,CAAC;IAAA,CAAC;aAEc,OAA
O,CAAC,CAAC;QACrB,OAAO,IAAI,YAAY,OAAO,IAAI,IAAI,CAAC,CAAC,GAAG,CAAC,EAAE,IAAI,IAAI,
IAAI,OAAO,CAAC,CAAC,CAAC,CAAC;IACzE,CAAC;aAEe,gBAAgB,CAAC,OAAO,EAAE,UAAU,EAAE,SA
AS;QAC3D,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,CAAC,sCAAsC,CAAC,CAAC;QAC
vF,IAAI,CAAC,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,EAAE,CAAC,EA
AE,CAAC,GAAG,EAAE,CAAC;QAC9D,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAA
E,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,aAAa,CA
AC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QACtH,SAAS,IAAI,CAAC,CAAC,IAAI,IAA
I,CAAC,CAAC,CAAC,CAAC;YAAE,CAAC,CAAC,CAAC,GAAG,UAAU,CAAC,IAAI,OAAO,IAAI,OA
AO,CAAC,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE,C
AAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAA
E,CAAC,CAAC,EAAE,CAAC,EAAE;QAC1I,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI;YAAE,IA
AI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;SAAE;QAAC,OAAO,CAAC,EAAE;
YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;SAAE,E
AAE;QAClF,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,YAAY,OAAO,GAAG,OAAO,CAAC,OAAO
,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,IAAI,CAAC,OAAO,EAAE,MAAM,CAAC,GAAG,M
AAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE;QAC3H,SA
AS,OAAO,CAAC,KAAK,IAAI,MAAM,CAAC,MAAM,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAA
M,CAAC,KAAK,IAAI,MAAM,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC
,CAAC,EAAE,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC
,CAAC,MAAM;YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;IACtF,CAAC;aAEe,gBAAgB,CAAC,CAAC;QAAE,IAAI,CAAC;
IAAI,CAAC,EAAE,CAAC,CAAC;QACjD,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

AAS,CAAC,GAAG,CAAC,CAAC;IACrB,CAAC,CAAC;aAEc,YAAY,CAAC,GAAG;QAC5B,IAAI,GAAG,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QACtC,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;oBAAE,QAAQ,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,eAAe,CAAC,GAAG;QAC/B,IAAI,GAAG,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QACtC,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;oBAAE,QAAQ,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,kBAAkB,CAAC,GAAG,EAAE,CAAC;QACrC,IAAI,GAAG,IAAI,IAAI,IAAI,CAAC,GAAG,GAAG,GAAG,CAAC,MAAM;YAAE,GAAG,GAAG,GAAG,CAAC,MAAM,CAAC;QACpD,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,IAAI,GAAG,IAAI,KAAK,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,GAAG,EAAE,CAAC,EAAE;YAAE,IAAI,CAAC,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;QAC/E,OAAO,IAAI,CAAC;IAChB,CAAC;aAEe,sBAAsB,CAAC,GAAG,EAAE,CAAC;QACzC,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QAC/B,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;oBAAE,QAAQ,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,eAAe,CAAC,GAAG,EAAE,CAAC;QAClC,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QAC/B,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;oBAAE,QAAQ,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,kBAAkB,CAAC,GAAG,EAAE,CAAC;QACrC,IAAI,GAAG,IAAI,IAAI,IAAI,CAAC,GAAG,GAAG,GAAG,CAAC,MAAM;YAAE,GAAG,GAAG,GAAG,CAAC,MAAM,CAAC;QACpD,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,IAAI,GAAG,IAAI,KAAK,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,GAAG,EAAE,CAAC,EAAE;YAAE,IAAI,CAAC,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;QAC/E,OAAO,IAAI,CAAC;IAChB,CAAC;aAEe,qBAAqB,CAAC,GAAG,EAAE,CAAC;QACxC,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QAC/B,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;oBAAE,QAAQ,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,eAAe,CAAC,GAAG,EAAE,CAAC;QAClC,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QAC/B,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;oBAAE,QAAQ,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,kBAAkB,CAAC,GAAG,EAAE,CAAC;QACrC,IAAI,GAAG,IAAI,IAAI,IAAI,CAAC,GAAG,GAAG,GAAG,CAAC,MAAM;YAAE,GAAG,GAAG,GAAG,CAAC,MAAM,CAAC;QACpD,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,IAAI,GAAG,IAAI,KAAK,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,GAAG,EAAE,CAAC,EAAE;YAAE,IAAI,CAAC,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;QAC/E,OAAO,IAAI,CAAC;IAChB,CAAC;aAEe,qBAAqB,CAAC,GAAG,EAAE,CAAC;QACxC,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QAC/B,IAAI,MAAM,GAAG,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;oBAAE,QAAQ,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,eAAe,CAAC,GAAG;QAC/B,IAAI,GAAG,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QACtC

AC;QAC1C,GAAG,CAAC,GAAG,CAACtB,oBAAW,CAAC,mBAAmB,EAAEuB,wBAAmB,CAAC,CAAC;QAC
9D,GAAG,CAAC,GAAG,CAACvB,oBAAW,CAAC,iBAAiB,EAAEwB,uBAAkB,CAAC,CAAC;QAC3D,GAAG,
CAAC,GAAG,CAACxB,oBAAW,CAAC,WAAW,EAAEyB,iBAAY,CAAC,CAAC;QAC/C,GAAG,CAAC,GAAG
,CAACzB,oBAAW,CAAC,WAAW,EAAE0B,iBAAY,CAAC,CAAC;QAC/C,GAAG,CAAC,GAAG,CAAC1B,oB
AAW,CAAC,SAAS,EAAE2B,eAAU,CAAC,CAAC;QAC3C,GAAG,CAAC,GAAG,CAAC3B,oBAAW,CAAC,O
AAO,EAAE4B,SAAI,CAAC,CAAC;QACnC,GAAG,CAAC,GAAG,CAAC5B,oBAAW,CAAC,UAAU,EAAE6B,
SAAI,CAAC,CAAC;QACtC,GAAG,CAAC,GAAG,CAAC7B,oBAAW,CAAC,SAAS,EAAE8B,SAAI,CAAC,CA
AC;QACrC,GAAG,CAAC,GAAG,CAAC9B,oBAAW,CAAC,OAAO,EAAE+B,SAAI,CAAC,CAAC;QACnC,GA
AG,CAAC,GAAG,CAAC/B,oBAAW,CAAC,YAAY,EAAEgC,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAA
G,CAAChC,oBAAW,CAAC,WAAW,EAAEiC,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oB
AAW,CAAC,QAAQ,EAAEkC,SAAI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAClC,oBAAW,CAAC,YA
AY,EAAEmC,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,aAAa,EAAEoC,SA
AI,CAAC,CAAC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEqC,SAAI,CAAC,CAA
C;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAEsC,SAAI,CAAC,CAAC;QACnC,GAA
G,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEuC,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEwC,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEyC,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAE0C,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE2C,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAE4C,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE6C,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAE8C,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE+C,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEgD,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAEiD,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEkD,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEmD,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEoD,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEqD,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEsD,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEuD,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAEvD,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEwD,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEyD,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE0D,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE2D,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAE4D,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAE5D,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE6D,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAE8D,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAE+D,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEgE,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEiE,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAEjE,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEkE,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEmE,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEnE,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEoE,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAEpE,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEqE,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEsE,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEtE,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEuE,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEvE,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEwE,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAExE,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEyE,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAE0E,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE1E,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE2E,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAE3E,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAE4E,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE5E,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAE6E,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAE8E,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAE9E,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE+E,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAE/E,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEgF,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEiF,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEjF,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEkF,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAElF,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEmF,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEnF,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEoF,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEqF,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAErF,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEsF,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAEtF,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEuF,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEvF,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEwF,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAExF,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAEyF,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEzF,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE0F,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAE1F,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAE2F,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAE3F,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE4F,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAE5F,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE6F,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAE7F,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE8F,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE9F,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAE+F,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAE/F,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEgG,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEhG,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEiG,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEjG,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEkG,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAElG,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEmG,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEnG,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEoG,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEpG,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAEqG,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAErG,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEsG,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEtG,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEuG,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEvG,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEwG,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAExG,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEyG,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAE0G,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE1G,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE2G,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAE3G,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAE4G,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE5G,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAE6G,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAE8G,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAE9G,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE+G,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAE/G,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEgH,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEiH,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEjH,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEkH,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAElH,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEmH,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEnH,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEoH,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEqH,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAErH,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEsH,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAEtH,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEuH,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEvH,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEwH,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAExH,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAEyH,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEzH,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE0H,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAE1H,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAE2H,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAE3H,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE4H,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAE5H,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE6H,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAE7H,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE8H,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE9H,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAE+H,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAE/H,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEgI,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEhI,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEiI,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEjI,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEkI,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAElI,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEmI,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEnI,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEoI,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEpI,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAEqI,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAErI,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEsI,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEtI,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEuI,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEvI,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEwI,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAExI,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEyI,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAE0I,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE1I,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE2I,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAE3I,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAE4I,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE5I,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAE6I,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAE8I,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAE9I,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE+I,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAE/I,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEgJ,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEiJ,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEjJ,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEkJ,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAElJ,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEmJ,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEnJ,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEoJ,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEqJ,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAErJ,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEsJ,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAEtJ,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEuJ,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEvJ,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEwJ,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAExJ,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAEyJ,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAEzJ,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE0J,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAE1J,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAE2J,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAE3J,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE4J,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAE5J,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE6J,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAE7J,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE8J,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE9J,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAE+J,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAE/J,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEgK,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEhK,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEiK,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEjK,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEkK,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAElK,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEmK,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAEnK,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAEoK,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEpK,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAEqK,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAErK,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEsK,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAEtK,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAEuK,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAEvK,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEwK,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAExK,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEyK,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAA
C,oBAAW,CAAC,YAAY,EAAE0K,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,
WAAW,EAAE1K,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE2K,
SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,YAAY,EAAE3K,SAAI,CAAC,CA
AC;QACzC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,WAAW,EAAE4K,SAAI,CAAC,CAAC;QACvC,GA
AG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE5K,SAAI,CAAC,CAAC;QACrC,GAAG,CAAC,GAAG,
CAAC,oBAAW,CAAC,YAAY,EAAE6K,SAAI,CAAC,CAAC;QACxC,GAAG,CAAC,GAAG,CAAC,oBAAW,CA
AW,EAAE8K,SAAI,CAAC,CAAC;QACvC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,QAAQ,EAAE9K,SA
AI,CAAC,CAAC;QACpC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAE+K,SAAI,CAAC,CAAC
;QACrC,GAAG,CAAC,GAAG,CAAC,oBAAW,CAAC,OAAO,EAAE/K,SAAI,CAAC,CAAC;QACnC,GAAG,
CAAC,GAAG,CAAC,oBAAW,CAAC,SAAS,EAAEgL,SAAI,CAAC,CAAC;QACrC,GAAG

OA+B6B,IAAIC,uBAAc,EAAE;IAzD1D;;;;IAIA,IAAM,4BAA4B,GAAqB;QACrD,EAAC,OAAO,EAAEC,yBAAgB,EAAE,QAAQ,IAAoB,EAAC;QACzD,EAAC,OAAO,EAAEC,uBAAc,EAAE,QAAQ,IAAqB,EAAC;QACxD,EAAC,OAAO,EAAEC,2BAAkB,EAAE,IAAI,EAAE,EAAE,EAAC;QACvC,EAAC,OAAO,EAAEC,wBAAe,EAAE,WAAW,EAAED,2BAAkB,EAAC;QAC3D,EAAC,OAAO,EAAEE,aAAO,EAAE,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5B,EAAC,OAAO,EAAEC,cAAQ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7B,EAAC,OAAO,EAAEC,eAAS,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9B,EAAC,OAAO,EAAEC,gBAAU,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/B,EAAC,OAAO,EAAEC,iBAAW,EAAE,IAAI,EAAE,EAAE,EAAC;QAChC,EAAC,OAAO,EAAEC,kBAAY,EAAE,IAAI,EAAE,EAAE,EAAC;QACjC,EAAC,OAAO,EAAEC,mBAAa,EAAE,IAAI,EAAE,EAAE,EAAC;QAClC,EAAC,OAAO,EAAEC,oBAAc,EAAE,IAAI,EAAE,EAAE,EAAC;QACnC,EAAC,OAAO,EAAEC,qBAAe,EAAE,IAAI,EAAE,EAAE,EAAC;QACpC,EAAC,OAAO,EAAEC,sBAAgB,EAAE,IAAI,EAAE,EAAE,EAAC;QACrC,EAAC,OAAO,EAAEC,uBAAiB,EAAE,IAAI,EAAE,EAAE,EAAC;QACtC,EAAC,OAAO,EAAEC,wBAAkB,EAAE,IAAI,EAAE,EAAE,EAAC;QACvC,EAAC,OAAO,EAAEC,yBAAmB,EAAE,IAAI,EAAE,EAAE,EAAC;QACxC,EAAC,OAAO,EAAEC,0BAAoB,EAAE,IAAI,EAAE,EAAE,EAAC;QACzC,EAAC,OAAO,EAAEC,2BAAqB,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1C,EAAC,OAAO,EAAEC,4BAAsB,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3C,EAAC,OAAO,EAAEC,6BAAuB,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5C,EAAC,OAAO,EAAEC,8BAAwB,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7C,EAAC,OAAO,EAAEC,+BAAyB,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9C,EAAC,OAAO,EAAEC,gCAA0B,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/C,EAAC,OAAO,EAAEC,iCAA2B,EAAE,IAAI,EAAE,EAAE,EAAC;QAChD,EAAC,OAAO,EAAEC,kCAA4B,EAAE,IAAI,EAAE,EAAE,EAAC;QACjD,EAAC,OAAO,EAAEC,mCAA6B,EAAE,IAAI,EAAE,EAAE,EAAC;QAClD,EAAC,OAAO,EAAEC,oCAA8B,EAAE,IAAI,EAAE,EAAE,EAAC;QACnD,EAAC,OAAO,EAAEC,qCAA+B,EAAE,IAAI,EAAE,EAAE,EAAC;QACpD,EAAC,OAAO,EAAEC,sCAAgC,EAAE,IAAI,EAAE,EAAE,EAAC;QACrD,EAAC,OAAO,EAAEC,uCAAiC,EAAE,IAAI,EAAE,EAAE,EAAC;QACtD,EAAC,OAAO,EAAEC,wCAAkC,EAAE,IAAI,EAAE,EAAE,EAAC;QACvD,EAAC,OAAO,EAAEC,yCAAmC,EAAE,IAAI,EAAE,EAAE,EAAC;QACxD,EAAC,OAAO,EAAEC,0CAAoC,EAAE,IAAI,EAAE,EAAE,EAAC;QACzD,EAAC,OAAO,EAAEC,2CAAqC,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1D,EAAC,OAAO,EAAEC,4CAAsC,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3D,EAAC,OAAO,EAAEC,6CAAuC,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5D,EAAC,OAAO,EAAEC,8CAAwC,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7D,EAAC,OAAO,EAAEC,+CAAyC,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9D,EAAC,OAAO,EAAEC,gDAA0C,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/D,EAAC,OAAO,EAAEC,iDAA2C,EAAE,IAAI,EAAE,EAAE,EAAC;QAChE,EAAC,OAAO,EAAEC,kDAA4C,EAAE,IAAI,EAAE,EAAE,EAAC;QACjE,EAAC,OAAO,EAAEC,mDAA6C,EAAE,IAAI,EAAE,EAAE,EAAC;QAClE,EAAC,OAAO,EAAEC,oDAA8C,EAAE,IAAI,EAAE,EAAE,EAAC;QACnE,EAAC,OAAO,EAAEC,qDAA+C,EAAE,IAAI,EAAE,EAAE,EAAC;QACpE,EAAC,OAAO,EAAEC,sDAAgD,EAAE,IAAI,EAAE,EAAE,EAAC;QACrE,EAAC,OAAO,EAAEC,uDAAiD,EAAE,IAAI,EAAE,EAAE,EAAC;QACtE,EAAC,OAAO,EAAEC,wDAAkD,EAAE,IAAI,EAAE,EAAE,EAAC;QACvE,EAAC,OAAO,EAAEC,yDAAmD,EAAE,IAAI,EAAE,EAAE,EAAC;QACxE,EAAC,OAAO,EAAEC,0DAAoD,EAAE,IAAI,EAAE,EAAE,EAAC;QACzE,EAAC,OAAO,EAAEC,2DAAqD,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1E,EAAC,OAAO,EAAEC,4DAAsD,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3E,EAAC,OAAO,EAAEC,6DAAuD,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5E,EAAC,OAAO,EAAEC,8DAAwD,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7E,EAAC,OAAO,EAAEC,+DAAyD,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9E,EAAC,OAAO,EAAEC,gEAA0D,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/E,EAAC,OAAO,EAAEC,iEAA2D,EAAE,IAAI,EAAE,EAAE,EAAC;QAChF,EAAC,OAAO,EAAEC,kEAA4D,EAAE,IAAI,EAAE,EAAE,EAAC;QACjF,EAAC,OAAO,EAAEC,mEAA6D,EAAE,IAAI,EAAE,EAAE,EAAC;QAClF,EAAC,OAAO,EAAEC,oEAA8D,EAAE,IAAI,EAAE,EAAE,EAAC;QACnF,EAAC,OAAO,EAAEC,qEAA+D,EAAE,IAAI,EAAE,EAAE,EAAC;QACpF,EAAC,OAAO,EAAEC,sEAAgE,EAAE,IAAI,EAAE,EAAE,EAAC;QACrF,EAAC,OAAO,EAAEC,uEAAiE,EAAE,IAAI,EAAE,EAAE,EAAC;QACtF,EAAC,OAAO,EAAEC,wEAAkE,EAAE,IAAI,EAAE,EAAE,EAAC;QACvF,EAAC,OAAO,EAAEC,yEAAmE,EAAE,IAAI,EAAE,EAAE,EAAC;QACxF,EAAC,OAAO,EAAEC,0EAAoE,EAAE,IAAI,EAAE,EAAE,EAAC;QACzF,EAAC,OAAO,EAAEC,2EAAqE,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1F,EAAC,OAAO,EAAEC,4EAAsE,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3F,EAAC,OAAO,EAAEC,6EAAuE,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5F,EAAC,OAAO,EAAEC,8EAAwE,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7F,EAAC,OAAO,EAAEC,+EAAyE,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9F,EAAC,OAAO,EAAEC,gFAA0E,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/F,EAAC,OAAO,EAAEC,iFAA2E,EAAE,IAAI,EAAE,EAAE,EAAC;QAChG,EAAC,OAAO,EAAEC,kFAA4E,EAAE,IAAI,EAAE,EAAE,EAAC;QACjG,EAAC,OAAO,EAAEC,mFAA6E,EAAE,IAAI,EAAE,EAAE,EAAC;QAClG,EAAC,OAAO,EAAEC,oFAA8E,EAAE,IAAI,EAAE,EAAE,EAAC;QACnG,EAAC,OAAO,EAAEC,qFAA+E,EAAE,IAAI,EAAE,EAAE,EAAC;QACpG,EAAC,OAAO,EAAEC,sFAAgF,EAAE,IAAI,EAAE,EAAE,EAAC;QACrG,EAAC,OAAO,EAAEC,uFAAiF,EAAE,IAAI,EAAE,EAAE,EAAC;QACtG,EAAC,OAAO,EAAEC,wFAAkF,EAAE,IAAI,EAAE,EAAE,EAAC;QACvG,EAAC,OAAO,EAAEC,yFAAmF,EAAE,IAAI,EAAE,EAAE,EAAC;QACxG,EAAC,OAAO,EAAEC,0FAAoF,EAAE,IAAI,EAAE,EAAE,EAAC;QACzG,EAAC,OAAO,EAAEC,2FAAqF,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1G,EAAC,OAAO,EAAEC,4FAAsF,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3G,EAAC,OAAO,EAAEC,6FAAuF,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5G,EAAC,OAAO,EAAEC,8FAAwF,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7G,EAAC,OAAO,EAAEC,+FAAyF,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9G,EAAC,OAAO,EAAEC,gGAA0F,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/G,EAAC,OAAO,EAAEC,iGAA2F,EAAE,IAAI,EAAE,EAAE,EAAC;QAChH,EAAC,OAAO,EAAEC,kGAA4F,EAAE,IAAI,EAAE,EAAE,EAAC;QACjH,EAAC,OAAO,EAAEC,mGAA6F,EAAE,IAAI,EAAE,EAAE,EAAC;QAClH,EAAC,OAAO,EAAEC,oGAA8F,EAAE,IAAI,EAAE,EAAE,EAAC;QACnH,EAAC,OAAO,EAAEC,qGAA+F,EAAE,IAAI,EAAE,EAAE,EAAC;QACpH,EAAC,OAAO,EAAEC,sGAAgG,EAAE,IAAI,EAAE,EAAE,EAAC;QACrH,EAAC,OAAO,EAAEC,uGAAiG,EAAE,IAAI,EAAE,EAAE,EAAC;QACtH,EAAC,OAAO,EAAEC,wGAAkG,EAAE,IAAI,EAAE,EAAE,EAAC;QACvH,EAAC,OAAO,EAAEC,yGAAmG,EAAE,IAAI,EAAE,EAAE,EAAC;QACxH,EAAC,OAAO,EAAEC,0GAAoG,EAAE,IAAI,EAAE,EAAE,EAAC;QACzH,EAAC,OAAO,EAAEC,2GAAqG,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1H,EAAC,OAAO,EAAEC,4GAAsG,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3H,EAAC,OAAO,EAAEC,6GAAuG,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5H,EAAC,OAAO,EAAEC,8GAAwG,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7H,EAAC,OAAO,EAAEC,+GAAyG,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9H,EAAC,OAAO,EAAEC,gHAA0G,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/H,EAAC,OAAO,EAAEC,iHAA2G,EAAE,IAAI,EAAE,EAAE,EAAC;QAChI,EAAC,OAAO,EAAEC,kHAA4G,EAAE,IAAI,EAAE,EAAE,EAAC;QACjI,EAAC,OAAO,EAAEC,mHAA6G,EAAE,IAAI,EAAE,EAAE,EAAC;QAClI,EAAC,OAAO,EAAEC,oHAA8G,EAAE,IAAI,EAAE,EAAE,EAAC;QACnI,EAAC,OAAO,EAAEC,qHAA+G,EAAE,IAAI,EAAE,EAAE,EAAC;QACpI,EAAC,OAAO,EAAEC,sHAAgH,EAAE,IAAI,EAAE,EAAE,EAAC;QACrI,EAAC,OAAO,EAAEC,uHAAiH,EAAE,IAAI,EAAE,EAAE,EAAC;QACtI,EAAC,OAAO,EAAEC,wHAAkH,EAAE,IAAI,EAAE,EAAE,EAAC;QACvI,EAAC,OAAO,EAAEC,yHAAmH,EAAE,IAAI,EAAE,EAAE,EAAC;QACxI,EAAC,OAAO,EAAEC,0HAAoH,EAAE,IAAI,EAAE,EAAE,EAAC;QACzI,EAAC,OAAO,EAAEC,2HAAqH,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1I,EAAC,OAAO,EAAEC,4HAAsH,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3I,EAAC,OAAO,EAAEC,6HAAuH,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5I,EAAC,OAAO,EAAEC,8HAAwH,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7I,EAAC,OAAO,EAAEC,+HAAyH,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9I,EAAC,OAAO,EAAEC,gIAA0H,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/I,EAAC,OAAO,EAAEC,iIAA2H,EAAE,IAAI,EAAE,EAAE,EAAC;QAChJ,EAAC,OAAO,EAAEC,kIAA4H,EAAE,IAAI,EAAE,EAAE,EAAC;QACjJ,EAAC,OAAO,EAAEC,mIAA6H,EAAE,IAAI,EAAE,EAAE,EAAC;QAClJ,EAAC,OAAO,EAAEC,oIAA8H,EAAE,IAAI,EAAE,EAAE,EAAC;QACnJ,EAAC,OAAO,EAAEC,qIAA+H,EAAE,IAAI,EAAE,EAAE,EAAC;QACpJ,EAAC,OAAO,EAAEC,sIAAgI,EAAE,IAAI,EAAE,EAAE,EAAC;QACrJ,EAAC,OAAO,EAAEC,uIAAiI,EAAE,IAAI,EAAE,EAAE,EAAC;QACtJ,EAAC,OAAO,EAAEC,wIAAkI,EAAE,IAAI,EAAE,EAAE,EAAC;QACvJ,EAAC,OAAO,EAAEC,yIAAmI,EAAE,IAAI,EAAE,EAAE,EAAC;QACxJ,EAAC,OAAO,EAAEC,0IAAoI,EAAE,IAAI,EAAE,EAAE,EAAC;QACzJ,EAAC,OAAO,EAAEC,2IAAqI,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1J,EAAC,OAAO,EAAEC,4IAAsI,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3J,EAAC,OAAO,EAAEC,6IAAuI,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5J,EAAC,OAAO,EAAEC,8IAAwI,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7J,EAAC,OAAO,EAAEC,+IAAyI,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9J,EAAC,OAAO,EAAEC,gJAA0I,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/J,EAAC,OAAO,EAAEC,iJAA2I,EAAE,IAAI,EAAE,EAAE,EAAC;QAChK,EAAC,OAAO,EAAEC,kJAA4I,EAAE,IAAI,EAAE,EAAE,EAAC;QACjK,EAAC,OAAO,EAAEC,mJAA6I,EAAE,IAAI,EAAE,EAAE,EAAC;QAClK,EAAC,OAAO,EAAEC,oJAA8I,EAAE,IAAI,EAAE,EAAE,EAAC;QACnK,EAAC,OAAO,EAAEC,qJAA+I,EAAE,IAAI,EAAE,EAAE,EAAC;QACpK,EAAC,OAAO,EAAEC,sJAAgJ,EAAE,IAAI,EAAE,EAAE,EAAC;QACrK,EAAC,OAAO,EAAEC,uJAAiJ,EAAE,IAAI,EAAE,EAAE,EAAC;QACtK,EAAC,OAAO,EAAEC,wJAAkJ,EAAE,IAAI,EAAE,EAAE,EAAC;QACvK,EAAC,OAAO,EAAEC,yJAAmJ,EAAE,IAAI,EAAE,EAAE,EAAC;QACxK,EAAC,OAAO,EAAEC,0JAAoJ,EAAE,IAAI,EAAE,EAAE,EAAC;QACzK,EAAC,OAAO,EAAEC,2JAAqJ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1K,EAAC,OAAO,EAAEC,4JAAsJ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3K,EAAC,OAAO,EAAEC,6JAAuJ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5K,EAAC,OAAO,EAAEC,8JAAwJ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7K,EAAC,OAAO,EAAEC,+JAAyJ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9K,EAAC,OAAO,EAAEC,gKAA0J,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/K,EAAC,OAAO,EAAEC,iKAA2J,EAAE,IAAI,EAAE,EAAE,EAAC;QAChL,EAAC,OAAO,EAAEC,kKAA4J,EAAE,IAAI,EAAE,EAAE,EAAC;QACjL,EAAC,OAAO,EAAEC,mKAA6J,EAAE,IAAI,EAAE,EAAE,EAAC;QAClL,EAAC,OAAO,EAAEC,oKAA8J,EAAE,IAAI,EAAE,EAAE,EAAC;QACnL,EAAC,OAAO,EAAEC,qKAA+J,EAAE,IAAI,EAAE,EAAE,EAAC;QACpL,EAAC,OAAO,EAAEC,sKAAgK,EAAE,IAAI,EAAE,EAAE,EAAC;QACrL,EAAC,OAAO,EAAEC,uKAAiK,EAAE,IAAI,EAAE,EAAE,EAAC;QACtL,EAAC,OAAO,EAAEC,wKAAkK,EAAE,IAAI,EAAE,EAAE,EAAC;QACvL,EAAC,OAAO,EAAEC,yKAAmK,EAAE,IAAI,EAAE,EAAE,EAAC;QACxL,EAAC,OAAO,EAAEC,0KAAoK,EAAE,IAAI,EAAE,EAAE,EAAC;QACzL,EAAC,OAAO,EAAEC,2KAAqK,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1L,EAAC,OAAO,EAAEC,4KAAsK,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3L,EAAC,OAAO,EAAEC,6KAAuK,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5L,EAAC,OAAO,EAAEC,8KAAwK,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7L,EAAC,OAAO,EAAEC,+KAAyK,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9L,EAAC,OAAO,EAAEC,gLAA0K,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/L,EAAC,OAAO,EAAEC,iLAA2K,EAAE,IAAI,EAAE,EAAE,EAAC;QAChM,EAAC,OAAO,EAAEC,kLAA4K,EAAE,IAAI,EAAE,EAAE,EAAC;QACjM,EAAC,OAAO,EAAEC,mLAA6K,EAAE,IAAI,EAAE,EAAE,EAAC;QAClM,EAAC,OAAO,EAAEC,oLAA8K,EAAE,IAAI,EAAE,EAAE,EAAC;QACnM,EAAC,OAAO,EAAEC,qLAA+K,EAAE,IAAI,EAAE,EAAE,EAAC;QACpM,EAAC,OAAO,EAAEC,sLAAgL,EAAE,IAAI,EAAE,EAAE,EAAC;QACrM,EAAC,OAAO,EAAEC,uLAAiL,EAAE,IAAI,EAAE,EAAE,EAAC;QACtM,EAAC,OAAO,EAAEC,wLAAkL,EAAE,IAAI,EAAE,EAAE,EAAC;QACvM,EAAC,OAAO,EAAEC,yLAAmL,EAAE,IAAI,EAAE,EAAE,EAAC;QACxM,EAAC,OAAO,EAAEC,0LAAoL,EAAE,IAAI,EAAE,EAAE,EAAC;QACzM,EAAC,OAAO,EAAEC,2LAAqL,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1N,EAAC,OAAO,EAAEC,4LAAsL,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3N,EAAC,OAAO,EAAEC,6LAAuL,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5N,EAAC,OAAO,EAAEC,8LAAwL,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7N,EAAC,OAAO,EAAEC,+LAAyL,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9N,EAAC,OAAO,EAAEC,gMAA0L,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/N,EAAC,OAAO,EAAEC,iMAA2L,EAAE,IAAI,EAAE,EAAE,EAAC;QAChO,EAAC,OAAO,EAAEC,kMAA4L,EAAE,IAAI,EAAE,EAAE,EAAC;QACjO,EAAC,OAAO,EAAEC,mMAA6L,EAAE,IAAI,EAAE,EAAE,EAAC;QAClO,EAAC,OAAO,EAAEC,oMAA8L,EAAE,IAAI,EAAE,EAAE,EAAC;QACnO,EAAC,OAAO,EAAEC,qMAA+L,EAAE,IAAI,EAAE,EAAE,EAAC;QACpO,EAAC,OAAO,EAAEC,sMAAgM,EAAE,IAAI,EAAE,EAAE,EAAC;QACrO,EAAC,OAAO,EAAEC,uMAAiM,EAAE,IAAI,EAAE,EAAE,EAAC;QACtO,EAAC,OAAO,EAAEC,wMAAkM,EAAE,IAAI,EAAE,EAAE,EAAC;QACvO,EAAC,OAAO,EAAEC,yMAAmM,EAAE,IAAI,EAAE,EAAE,EAAC;QACxO,EAAC,OAAO,EAAEC,0MAAoM,EAAE,IAAI,EAAE,EAAE,EAAC;QACzO,EAAC,OAAO,EAAEC,2MAAqM,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1O,EAAC,OAAO,EAAEC,4MAAsM,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3O,EAAC,OAAO,EAAEC,6MAAuM,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5O,EAAC,OAAO,EAAEC,8MAAwM,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7O,EAAC,OAAO,EAAEC,+MAAyM,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9O,EAAC,OAAO,EAAEC,gNAA0M,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/O,EAAC,OAAO,EAAEC,iNAA2M,EAAE,IAAI,EAAE,EAAE,EAAC;QAChP,EAAC,OAAO,EAAEC,kNAA4M,EAAE,IAAI,EAAE,EAAE,EAAC;QACjP,EAAC,OAAO,EAAEC,mNAA6M,EAAE,IAAI,EAAE,EAAE,EAAC;QAClP,EAAC,OAAO,EAAEC,oNAA8M,EAAE,IAAI,EAAE,EAAE,EAAC;QACnP,EAAC,OAAO,EAAEC,qNAA+M,EAAE,IAAI,EAAE,EAAE,EAAC;QACpP,EAAC,OAAO,EAAEC,sNAAgN,EAAE,IAAI,EAAE,EAAE,EAAC;QACrP,EAAC,OAAO,EAAEC,uNAAiN,EAAE,IAAI,EAAE,EAAE,EAAC;QACtP,EAAC,OAAO,EAAEC,wNAAkN,EAAE,IAAI,EAAE,EAAE,EAAC;QACvP,EAAC,OAAO,EAAEC,yNAAmN,EAAE,IAAI,EAAE,EAAE,EAAC;QACxP,EAAC,OAAO,EAAEC,0NAAoN,EAAE,IAAI,EAAE,EAAE,EAAC;QACzP,EAAC,OAAO,EAAEC,2NAAqN,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1P,EAAC,OAAO,EAAEC,4NAAsN,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3P,EAAC,OAAO,EAAEC,6NAAuN,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5P,EAAC,OAAO,EAAEC,8NAAwN,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7P,EAAC,OAAO,EAAEC,+NAAyN,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9P,EAAC,OAAO,EAAEC,gOAA0N,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/P,EAAC,OAAO,EAAEC,iOAA2N,EAAE,IAAI,EAAE,EAAE,EAAC;QAChQ,EAAC,OAAO,EAAEC,kOAA4N,EAAE,IAAI,EAAE,EAAE,EAAC;QACjQ,EAAC,OAAO,EAAEC,mOAA6N,EAAE,IAAI,EAAE,EAAE,EAAC;QAClQ,EAAC,OAAO,EAAEC,oOAA8N,EAAE,IAAI,EAAE,EAAE,EAAC;QACnQ,EAAC,OAAO,EAAEC,qOAA+N,EAAE,IAAI,EAAE,EAAE,EAAC;QACpQ,EAAC,OAAO,EAAEC,sOAAgO,EAAE,IAAI,EAAE,EAAE,EAAC;QACrQ,EAAC,OAAO,EAAEC,uOAAiO,EAAE,IAAI,EAAE,EAAE,EAAC;QACtQ,EAAC,OAAO,EAAEC,wOAAkO,EAAE,IAAI,EAAE,EAAE,EAAC;QACvQ,EAAC,OAAO,EAAEC,yOAAmO,EAAE,IAAI,EAAE,EAAE,EAAC;QACxQ,EAAC,OAAO,EAAEC,0OAAoO,EAAE,IAAI,EAAE,EAAE,EAAC;QACzQ,EAAC,OAAO,EAAEC,2OAAqO,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1R,EAAC,OAAO,EAAEC,4OAAsO,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3R,EAAC,OAAO,EAAEC,6OAAuO,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5R,EAAC,OAAO,EAAEC,8OAAwO,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7R,EAAC,OAAO,EAAEC,+OAAyO,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9R,EAAC,OAAO,EAAEC,gPAA0O,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/R,EAAC,OAAO,EAAEC,iPAA2O,EAAE,IAAI,EAAE,EAAE,EAAC;QAChS,EAAC,OAAO,EAAEC,kPAA4O,EAAE,IAAI,EAAE,EAAE,EAAC;QACjS,EAAC,OAAO,EAAEC,mPAA6O,EAAE,IAAI,EAAE,EAAE,EAAC;QAClS,EAAC,OAAO,EAAEC,oPAA8O,EAAE,IAAI,EAAE,EAAE,EAAC;QACnS,EAAC,OAAO,EAAEC,qPAA+O,EAAE,IAAI,EAAE,EAAE,EAAC;QACpS,EAAC,OAAO,EAAEC,sPAAgP,EAAE,IAAI,EAAE,EAAE,EAAC;QACrS,EAAC,OAAO,EAAEC,uPAAiP,EAAE,IAAI,EAAE,EAAE,EAAC;QACtS,EAAC,OAAO,EAAEC,wPAAkP,EAAE,IAAI,EAAE,EAAE,EAAC;QACvS,EAAC,OAAO,EAAEC,yPAAmP,EAAE,IAAI,EAAE,EAAE,EAAC;QACxS,EAAC,OAAO,EAAEC,0PAAoP,EAAE,IAAI,EAAE,EAAE,EAAC;QACzS,EAAC,OAAO,EAAEC,2PAAqP,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1T,EAAC,OAAO,EAAEC,4PAAsP,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3T,EAAC,OAAO,EAAEC,6PAAuP,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5T,EAAC,OAAO,EAAEC,8PAAwP,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7T,EAAC,OAAO,EAAEC,+PAAyP,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9T,EAAC,OAAO,EAAEC,gQAA0P,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/T,EAAC,OAAO,EAAEC,iQAA2P,EAAE,IAAI,EAAE,EAAE,EAAC;QAChU,EAAC,OAAO,EAAEC,kQAA4P,EAAE,IAAI,EAAE,EAAE,EAAC;QACjU,EAAC,OAAO,EAAEC,mQAA6P,EAAE,IAAI,EAAE,EAAE,EAAC;QAClU,EAAC,OAAO,EAAEC,oQAA8P,EAAE,IAAI,EAAE,EAAE,EAAC;QACnU,EAAC,OAAO,EAAEC,qQAA+P,EAAE,IAAI,EAAE,EAAE,EAAC;QACpU,EAAC,OAAO,EAAEC,sQAAgQ,EAAE,IAAI,EAAE,EAAE,EAAC;QACrU,EAAC,OAAO,EAAEC,uQAAiQ,EAAE,IAAI,EAAE,EAAE,EAAC;QACtU,EAAC,OAAO,EAAEC,wQAAkQ,EAAE,IAAI,EAAE,EAAE,EAAC;QACvU,EAAC,OAAO,EAAEC,yQAAmQ,EAAE,IAAI,EAAE,EAAE,EAAC;QACxU,EAAC,OAAO,EAAEC,0QAAoQ,EAAE,IAAI,EAAE,EAAE,EAAC;QACzU,EAAC,OAAO,EAAEC,2QAAqQ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1V,EAAC,OAAO,EAAEC,4QAAsQ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3V,EAAC,OAAO,EAAEC,6QAAuQ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5V,EAAC,OAAO,EAAEC,8QAAwQ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7V,EAAC,OAAO,EAAEC,+QAAyQ,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9V,EAAC,OAAO,EAAEC,gRAA0Q,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/V,EAAC,OAAO,EAAEC,iRAA2Q,EAAE,IAAI,EAAE,EAAE,EAAC;QAChW,EAAC,OAAO,EAAEC,kRAA4Q,EAAE,IAAI,EAAE,EAAE,EAAC;QACjW,EAAC,OAAO,EAAEC,mRAA6Q,EAAE,IAAI,EAAE,EAAE,EAAC;QAClW,EAAC,OAAO,EAAEC,oRAA8Q,EAAE,IAAI,EAAE,EAAE,EAAC;QACnW,EAAC,OAAO,EAAEC,qRAA+Q,EAAE,IAAI,EAAE,EAAE,EAAC;QACpW,EAAC,OAAO,EAAEC,sRAAgR,EAAE,IAAI,EAAE,EAAE,EAAC;QACrW,EAAC,OAAO,EAAEC,uRAAiR,EAAE,IAAI,EAAE,EAAE,EAAC;QACtW,EAAC,OAAO,EAAEC,wRAAkR,EAAE,IAAI,EAAE,EAAE,EAAC;QACvW,EAAC,OAAO,EAAEC,yRAAmR,EAAE,IAAI,EAAE,EAAE,EAAC;QACxW,EAAC,OAAO,EAAEC,0RAAoR,EAAE,IAAI,EAAE,EAAE,EAAC;QACzW,EAAC,OAAO,EAAEC,2RAAqR,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1X,EAAC,OAAO,EAAEC,4RAAsR,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3X,EAAC,OAAO,EAAEC,6RAAuR,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5X,EAAC,OAAO,EAAEC,8RAAwR,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7X,EAAC,OAAO,EAAEC,+RAAyR,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9X,EAAC,OAAO,EAAEC,gSAA0R,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/X,EAAC,OAAO,EAAEC,iSAA2R,EAAE,IAAI,EAAE,EAAE,EAAC;QAChY,EAAC,OAAO,EAAEC,kSAA4R,EAAE,IAAI,EAAE,EAAE,EAAC;QACjY,EAAC,OAAO,EAAEC,mSAA6R,EAAE,IAAI,EAAE,EAAE,EAAC;QAClY,EAAC,OAAO,EAAEC,oSAA8R,EAAE,IAAI,EAAE,EAAE,EAAC;QACnY,EAAC,OAAO,EAAEC,qSAA+R,EAAE,IAAI,EAAE,EAAE,EAAC;QACpY,EAAC,OAAO,EAAEC,sSAAgS,EAAE,IAAI,EAAE,EAAE,EAAC;QACrY,EAAC,OAAO,EAAEC,uSAAiS,EAAE,IAAI,EAAE,EAAE,EAAC;QACtY,EAAC,OAAO,EAAEC,wSAAkS,EAAE,IAAI,EAAE,EAAE,EAAC;QACvY,EAAC,OAAO,EAAEC,ySAAmS,EAAE,IAAI,EAAE,EAAE,EAAC;QACxY,EAAC,OAAO,EAAEC,0SAAoS,EAAE,IAAI,EAAE,EAAE,EAAC;QACzY,EAAC,OAAO,EAAEC,2SAAqS,EAAE,IAAI,EAAE,EAAE,EAAC;QAC1Z,EAAC,OAAO,EAAEC,4SAAsS,EAAE,IAAI,EAAE,EAAE,EAAC;QAC3Z,EAAC,OAAO,EAAEC,6SAAuS,EAAE,IAAI,EAAE,EAAE,EAAC;QAC5Z,EAAC,OAAO,EAAEC,8SAAwS,EAAE,IAAI,EAAE,EAAE,EAAC;QAC7Z,EAAC,OAAO,EAAEC,+SAAyS,EAAE,IAAI,EAAE,EAAE,EAAC;QAC9Z,EAAC,OAAO,EAAEC,gTAA0S,EAAE,IAAI,EAAE,EAAE,EAAC;QAC/Z,EAAC,OAAO,EAAEC,iTAA2S,EAAE,IAAI,EAAE,EAAE,EAAC;QAChb,EAAC,OAAO,EAAEC,kTAA4S,EAAE,IAAI

CAAC,IAAI,CAAC,EAAE,CAAC,EAAE,EAAE;YACzC,IAAI,IAAI,CAAC,CAAC,CAAC,KAAK,SAAS,EAAE;gBACzB,OAAO,IAAI,CAAC,CAAC,CAAC,CAAC;aAChB;SACF;QACD,OAAO,SAAS,CAAC;IACnB,CAAC;IAED,SAAS,YAAY,CAAC,KAAc;QAClC,IAAM,MAAM,GAAU,EAAE,CAAC;QACzB,KAAK,IAAM,KAAK,IAAI,KAAK,EAAE;YACzB,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;SACpB;QACD,OAAO,MAAM,CAAC;IAChB

```
*/
/*! *****************************************************************************
  Copyright (c) Microsoft Corporation.

  Permission to use, copy, modify, and/or distribute this software for any
  purpose with or without fee is hereby granted.

  THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
  REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
  AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
  INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
  LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
  OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
  PERFORMANCE OF THIS SOFTWARE.
  ***************************************************************************** */
/**
   * @license
   * Copyright Google LLC All Rights Reserved.
   *
   * Use of this source code is governed by an MIT-style license that can be
   * found in the LICENSE file at https://angular.io/license
   */

Found in path(s):
* /router-11-0-5-tgz/package/bundles/router.umd.js
* /router-11-0-5-tgz/package/bundles/router-testing.umd.min.js
* /router-11-0-5-tgz/package/bundles/router.umd.min.js
* /router-11-0-5-tgz/package/bundles/router-testing.umd.js
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/

Found in path(s):
* /router-11-0-5-tgz/package/fesm2015/testing.js
* /router-11-0-5-tgz/package/fesm2015/upgrade.js
* /router-11-0-5-tgz/package/fesm2015/router.js
```

No license file was found, but licenses were detected in source scan.

{"version":3,"file":"router-upgrade.umd.js","sources":["../../../../../packages/router/upgrade/src/upgrade.ts","../../../../../packages/router/upgrade/public_api.ts","../../../../../packages/router/upgrade/index.ts","../../../../../packages/router/upgrade/upgrade.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Location} from '@angular/common';\nimport {APP_BOOTSTRAP_LISTENER, ComponentRef, InjectionToken} from '@angular/core';\nimport {Router} from '@angular/router';\nimport {UpgradeModule} from '@angular/upgrade/static';\n\n/**\n * Creates an initializer that sets up `ngRoute` integration\n * along with setting up the Angular router.\n *\n * @usageNotes\n *\n * <code-example language=\"typescript\">\n * @NgModule({\n *  imports:
 [\n *    RouterModule.forRoot(SOME_ROUTES),\n *    UpgradeModule\n * ],\n * providers: [\n * RouterUpgradeInitializer\n * ]\n * })\n * export class AppModule {\n *    ngDoBootstrap() {}\n * }\n * </code-example>\n *\n * @publicApi\n */\nexport const RouterUpgradeInitializer = {\n  provide: APP_BOOTSTRAP_LISTENER,\n  multi: true,\n  useFactory: locationSyncBootstrapListener as (ngUpgrade: UpgradeModule) => () => void,\n  deps: [UpgradeModule]\n};\n\n/**\n * @internal\n */\nexport function locationSyncBootstrapListener(ngUpgrade: UpgradeModule) {\n  return () => {\n  setUpLocationSync(ngUpgrade);\n  };\n}\n\n/**\n * Sets up a location change listener to trigger `history.pushState`.\n * Works around the problem that `onPopState` does not trigger `history.pushState`.\n * Must be called *after* calling `UpgradeModule.bootstrap`.\n *\n * @param ngUpgrade The upgrade NgModule.\n * @param urlType The location strategy.\n * @see `HashLocationStrategy`\n * @see `PathLocationStrategy`\n *\n * @publicApi\n */\nexport function setUpLocationSync(ngUpgrade: UpgradeModule, urlType: 'path'|'hash' = 'path') {\n  if (!ngUpgrade.$injector) {\n    throw new Error(`\n        RouterUpgradeInitializer can be used only after UpgradeModule.bootstrap has been called.\n        Remove RouterUpgradeInitializer and call setUpLocationSync after UpgradeModule.bootstrap.\n      `);\n  }\n\n  const router: Router = ngUpgrade.injector.get(Router);\n  const location: Location = ngUpgrade.injector.get(Location);\n\n  ngUpgrade.$injector.get('$rootScope')\n.$on('$locationChangeStart', (_: any, next: string, __: string) => {\n        let url;\n        if (urlType === 'path') {\n  url = resolveUrl(next);\n        } else if (urlType === 'hash') {\n          // Remove the first hash from the URL\n const hashIdx = next.indexOf('#');\n          url = resolveUrl(next.substring(0, hashIdx) + next.substring(hashIdx + 1));\n        } else {\n          throw 'Invalid URLType passed to setUpLocationSync:
 ' + urlType;\n        }\n        const path = location.normalize(url.pathname);\n        router.navigateByUrl(path + url.search + url.hash);\n      });\n}\n\n/**\n * Normalizes and parses a URL.\n *\n * - Normalizing means that a relative URL will be resolved into an absolute URL in the context of\n *    the application document.\n * - Parsing means that the anchor's `protocol`, `hostname`, `port`, `pathname` and related\n *    properties are all populated to reflect the normalized URL.\n *\n * While this approach has wide compatibility, it doesn't work as expected on IE. On IE, normalizing\n * happens similar to other browsers, but the parsed components will not be set. (E.g. if you assign\n * `a.href = 'foo'`, then `a.protocol`, `a.host`, etc. will not be correctly updated.)\n * We work around that by performing the parsing in a 2nd step by taking a previously normalized URL\n * and assigning it again. This correctly populates all properties.\n *\n * See\n * https://github.com/angular/angular.js/blob/2c7400e7d07b0f6cec1817dab40b9250ce8ebce6/src/ng/urlUtils.js#L26-L33\n
 * for more info.\n */\nlet anchor: HTMLAnchorElement|undefined;\nfunction resolveUrl(url: string): {pathname: string, search: string, hash: string} {\n  if (!anchor) {\n    anchor = document.createElement('a');\n  }\n\n anchor.setAttribute('href', url);\n  anchor.setAttribute('href', anchor.href);\n\n  return {\n    // IE does not start `pathname` with `/` like other browsers.\n    pathname: `/${anchor.pathname.replace(/^\\//, '')}`,\n    search: anchor.search,\n    hash: anchor.hash\n  };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the

LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/upgrade';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from
'./index';\n"],"names":["APP_BOOTSTRAP_LISTENER","UpgradeModule","router","Router","Location"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;aAuCc;IA1Bd;;;;;;;;;;;;;;;;;;;;;;;;QAuBa,wBAAwB,GAAG;QACtC,OAAO,EAAEA,2BAAsB;QAC/B,KAAK,EAAE,IAAI;QACX,UAAU,IAA2E;QACrF,IAAI,EAAE,CAAC,CAAC,qBAAa,CAAC;MACrB;IAEF;;;aAGgB,6BAA6B,CAAC,SAAwB;QACpE,OAAO;YACL,iBAAiB,CAAC,SAAS,CAAC,CAAC;SAC9B;IACH;;;;;;;;;;;;aAYgB,iBAAiB,CAAC,SAAwB,EAAE,OAA+B;QACzF,MAAM,wBAAwB,GAAG,OAAO,IAAI,OAAO,CAAC,wBAAwB,CAAC;QAC7E,MAAM,cAAc,GAAG,OAAO,IAAI,OAAO,CAAC,cAAc,CAAC;QACzD,MAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,wBAAwB,CAAC,CAAC;QACrD,MAAM,CAAC,cAAc,CAAC,GAAG,cAAc,CAAC;QACxC,OAAO,MAAM,CAAC;IAChB;;;;;;;;;;;;;;;;;;;

./../packages/router/src/url_handling_strategy.ts","../../../../../../packages/router/src/router.ts","../../../../../../packages/router/src/directives/router_link.ts","../../../../../../packages/router/src/directives/router_link_active.ts","../../../../../../packages/router/src/directives/router_outlet.ts","../../../../../../packages/router/src/router_preloader.ts","../../../../../../packages/router/src/router_scroller.ts","../../../../../../packages/router/src/router_module.ts","../../../../../../packages/router/src/version.ts","../../../../../../packages/router/src/private_export.ts","../../../../../../packages/router/src/index.ts","../../../../../../packages/router/public_api.ts","../../../../../../packages/router/index.ts","../../../../../../packages/router/router.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Route} from './config';\nimport {ActivatedRouteSnapshot, RouterStateSnapshot} from './router_state';\n\n/**\n * Identifies the call or event that triggered a navigation.\n *\n * * 'imperative': Triggered by `router.navigateByUrl()` or `router.navigate()`.\n * * 'popstate' : Triggered by a `popstate` event.\n * * 'hashchange'-: Triggered by a `hashchange` event.\n *\n * @publicApi\n */\nexport type NavigationTrigger = 'imperative'|'popstate'|'hashchange';\n\n/**\n * Base for events the router goes through, as opposed to events tied to a specific\n * route. Fired one time for any given navigation.\n *\n * The following code shows how a class subscribes to router events.\n *\n * ```ts\n * class MyService {\n *   constructor(public router: Router, logger: Logger) {\n *     router.events.pipe(\n *       filter((e: Event): e is RouterEvent => e instanceof RouterEvent)\n *     ).subscribe((e: RouterEvent) => {\n *       logger.log(e.id, e.url);\n *     });\n *   }\n * }\n * ```\n *\n * @see `Event`\n * @see [Router events summary](guide/router#router-events)\n * @publicApi\n */\nexport class RouterEvent {\n  constructor(\n      /** A unique ID that the router assigns to every router navigation. */\n      public id: number,\n      /** The URL that is the destination for this navigation. */\n      public url: string)\n  {}\n}\n\n/**\n * An event triggered when a navigation starts.\n *\n * @publicApi\n */\nexport class NavigationStart extends RouterEvent {\n  /**\n   * Identifies the call or event that triggered the navigation.\n   * An `imperative` trigger is a call to `router.navigateByUrl()` or `router.navigate()`.\n   *\n   * @see `NavigationEnd`\n   * @see `NavigationCancel`\n   * @see `NavigationError`\n   */\n  navigationTrigger?: 'imperative'|'popstate'|'hashchange';\n\n  /**\n   * The navigation state that was previously supplied to the `pushState` call,\n   * when the navigation is triggered by a `popstate` event. Otherwise null.\n   *\n   * The state object is defined by `NavigationExtras`, and contains any\n   * developer-defined state value, as well as a unique ID that\n   * the router assigns to every router transition/navigation.\n   *\n   * From the perspective of the router, the router never \"goes back\".\n   * When the user clicks on the back button in the browser,\n   * a new navigation ID is created.\n   *\n   * Use the ID in this previous-state object to differentiate between a newly created\n   * state and one returned to by a `popstate` event, so that you can restore some\n   * remembered state, such as scroll position.\n   *\n   */\n  restoredState?: {[k: string]: any, navigationId: number}|null;\n\n  constructor(\n      /** @docsNotRequired */\n      id: number,\n      /** @docsNotRequired */\n      url: string,\n      /** @docsNotRequired */\n      navigationTrigger: 'imperative'|'popstate'|'hashchange' = 'imperative',\n      /** @docsNotRequired */\n      restoredState: {[k: string]: any, navigationId: number}|null = null) {\n    super(id, url);\n    this.navigationTrigger = navigationTrigger;\n    this.restoredState = restoredState;\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return `NavigationStart(id: ${this.id}, url: '${this.url}')`;\n  }\n}\n\n/**\n * An event triggered when a navigation ends successfully.\n *\n * @see `NavigationStart`\n * @see `NavigationCancel`\n * @see `NavigationError`\n *\n * @publicApi\n */\nexport class NavigationEnd extends RouterEvent {\n  constructor(\n      /** @docsNotRequired */\n      id: number,\n      /** @docsNotRequired */\n      url: string,\n      /** @docsNotRequired */\n      public urlAfterRedirects: string) {\n    super(id, url);\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return `NavigationEnd(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n        this.urlAfterRedirects}')`;\n  }\n}\n\n/**\n * An event triggered when a navigation is canceled, directly or indirectly.\n * This can happen when a route guard\n * returns `false` or initiates a redirect by returning a `UrlTree`.\n *\n * @see `NavigationStart`\n * @see `NavigationEnd`\n * @see `NavigationError`\n *\n * @publicApi\n */\nexport class NavigationCancel extends RouterEvent {\n  constructor(\n      /** @docsNotRequired */\n      id: number,\n      /** @docsNotRequired */\n      url: string,\n

/** @docsNotRequired */\n public reason: string) {\n super(id, url);\n }\n\n /** @docsNotRequired */\n toString(): string {\n return `NavigationCancel(id: ${this.id}, url: '${this.url}')`;\n }\n}\n\n/**\n * An event triggered when a navigation fails due to an unexpected error.\n *\n * @see `NavigationStart`\n * @see `NavigationEnd`\n * @see `NavigationCancel`\n *\n * @publicApi\n */\nexport class NavigationError extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public error: any) {\n super(id, url);\n }\n\n /** @docsNotRequired */\n toString(): string {\n return `NavigationError(id: ${this.id}, url: '${this.url}', error: ${this.error})`;\n }\n}\n\n/**\n * An event triggered when routes are recognized.\n *\n * @publicApi\n */\nexport class RoutesRecognized extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot) {\n super(id, url);\n }\n\n /** @docsNotRequired */\n toString(): string {\n return `RoutesRecognized(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state})`;\n }\n}\n\n/**\n * An event triggered at the start of the Guard phase of routing.\n *\n * @see `GuardsCheckEnd`\n *\n * @publicApi\n */\nexport class GuardsCheckStart extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot) {\n super(id, url);\n }\n\n toString(): string {\n return `GuardsCheckStart(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state})`;\n }\n}\n\n/**\n * An event triggered at the end of the Guard phase of routing.\n *\n * @see `GuardsCheckStart`\n *\n * @publicApi\n */\nexport class GuardsCheckEnd extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot,\n /** @docsNotRequired */\n public shouldActivate: boolean) {\n super(id, url);\n }\n\n toString(): string {\n return `GuardsCheckEnd(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state}, shouldActivate: ${this.shouldActivate})`;\n }\n}\n\n/**\n * An event triggered at the the start of the Resolve phase of routing.\n *\n * Runs in the \"resolve\" phase whether or not there is anything to resolve.\n * In future, may change to only run when there are things to be resolved.\n *\n * @see `ResolveEnd`\n *\n * @publicApi\n */\nexport class ResolveStart extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot) {\n super(id, url);\n }\n\n toString(): string {\n return `ResolveStart(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state})`;\n }\n}\n\n/**\n * An event triggered at the end of the Resolve phase of routing.\n * @see `ResolveStart`.\n *\n * @publicApi\n */\nexport class ResolveEnd extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot) {\n super(id, url);\n }\n\n toString(): string {\n return `ResolveEnd(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state})`;\n }\n}\n\n/**\n * An event triggered before lazy loading a route configuration.\n *\n * @see `RouteConfigLoadEnd`\n *\n * @publicApi\n */\nexport class RouteConfigLoadStart {\n constructor(\n /** @docsNotRequired */\n public route: Route) {}\n toString(): string {\n return `RouteConfigLoadStart(path: ${this.route.path})`;\n }\n}\n\n/**\n * An event triggered when a route has been lazy loaded.\n *\n * @see `RouteConfigLoadStart`\n *\n * @publicApi\n */\nexport class RouteConfigLoadEnd {\n constructor(\n /** @docsNotRequired */\n public route: Route) {}\n toString(): string {\n return `RouteConfigLoadEnd(path: ${this.route.path})`;\n }\n}\n\n/**\n * An event triggered at the start of the child-activation\n * part of the Resolve phase of routing.\n * @see `ChildActivationEnd`\n * @see `ResolveStart`\n *\n * @publicApi\n */\nexport class ChildActivationStart {\n constructor(\n /** @docsNotRequired */\n public snapshot: ActivatedRouteSnapshot) {}\n toString(): string {\n const path =

this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n    return `ChildActivationStart(path: '${path}')`;\n  }\n}\n\n/**\n * An event triggered at the end of the child-activation part\n * of the Resolve phase of routing.\n * @see `ChildActivationStart`\n * @see `ResolveStart`\n * @publicApi\n */\nexport class ChildActivationEnd {\n  constructor(\n      /** @docsNotRequired */\n      public snapshot: ActivatedRouteSnapshot) {}\n  toString(): string {\n    const path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n    return `ChildActivationEnd(path: '${path}')`;\n  }\n}\n\n/**\n * An event triggered at the start of
the activation part\n * of the Resolve phase of routing.\n * @see `ActivationEnd`\n * @see `ResolveStart`\n *\n * @publicApi\n */\nexport class ActivationStart {\n  constructor(\n      /** @docsNotRequired */\n      public snapshot: ActivatedRouteSnapshot) {}\n  toString(): string {\n    const path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n    return `ActivationStart(path: '${path}')`;\n  }\n}\n\n/**\n * An event triggered at the end of the activation part\n * of the Resolve phase of routing.\n * @see `ActivationStart`\n * @see `ResolveStart`\n *\n * @publicApi\n */\nexport class ActivationEnd {\n  constructor(\n      /** @docsNotRequired */\n      public snapshot: ActivatedRouteSnapshot) {}\n  toString(): string {\n    const path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n    return `ActivationEnd(path: '${path}')`;\n  }\n}\n\n/**\n * An event triggered by scrolling.\n *\n * @publicApi\n */\nexport class Scroll {\n  constructor(\n      /** @docsNotRequired */\n      readonly routerEvent: NavigationEnd,\n\n      /** @docsNotRequired */\n      readonly position: [number, number]|null,\n\n      /** @docsNotRequired */\n      readonly anchor: string|null) {}\n\n  toString(): string {\n    const pos = this.position ? `${this.position[0]}, ${this.position[1]}` : null;\n    return `Scroll(anchor: '${this.anchor}', position: '${pos}')`;\n  }\n}\n\n/**\n * Router events that allow you to track the lifecycle of the router.\n *\n * The events occur in the following sequence:\n *\n * * [NavigationStart](api/router/NavigationStart): Navigation starts.\n * * [RouteConfigLoadStart](api/router/RouteConfigLoadStart): Before\n * the router [lazy loads](/guide/router#lazy-loading) a route configuration.\n * * [RouteConfigLoadEnd](api/router/RouteConfigLoadEnd): After a route has been lazy loaded.\n * * [RoutesRecognized](api/router/RoutesRecognized): When the router parses the URL\n * and the routes are recognized.\n * * [GuardsCheckStart](api/router/GuardsCheckStart):
When the router begins the *guards*\n * phase of routing.\n * * [ChildActivationStart](api/router/ChildActivationStart): When the router\n * begins activating a route's children.\n * * [ActivationStart](api/router/ActivationStart): When the router begins activating a route.\n * * [GuardsCheckEnd](api/router/GuardsCheckEnd): When the router finishes the *guards*\n * phase of routing successfully.\n * * [ResolveStart](api/router/ResolveStart): When the router begins the *resolve*\n * phase of routing.\n * * [ResolveEnd](api/router/ResolveEnd): When the router finishes the *resolve*\n * phase of routing successfuly.\n * * [ChildActivationEnd](api/router/ChildActivationEnd): When the router finishes\n * activating a route's children.\n * * [ActivationEnd](api/router/ActivationEnd): When the router finishes activating a route.\n * * [NavigationEnd](api/router/NavigationEnd): When navigation ends successfully.\n * * [NavigationCancel](api/router/NavigationCancel):
When navigation is canceled.\n * * [NavigationError](api/router/NavigationError): When navigation fails\n * due to an unexpected error.\n * * [Scroll](api/router/Scroll): When the user scrolls.\n *\n * @publicApi\n */\nexport type Event = RouterEvent|RouteConfigLoadStart|RouteConfigLoadEnd|ChildActivationStart|\n ChildActivationEnd|ActivationStart|ActivationEnd|Scroll;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Route, UrlMatchResult} from './config';\nimport {UrlSegment, UrlSegmentGroup} from './url_tree';\n\n\n/**\n * The primary routing outlet.\n *\n * @publicApi\n */\nexport const PRIMARY_OUTLET = 'primary';\n\n/**\n * A collection of matrix and query URL parameters.\n * @see `convertToParamMap()`\n * @see `ParamMap`\n *\n * @publicApi\n */\nexport type Params = {\n  [key: string]: any;\n};\n\n/**\n
 * A map that provides access to the required and optional parameters\n * specific to a route.\n * The map supports retrieving a single value with `get()`\n * or multiple values with `getAll()`.\n *\n * @see

[URLSearchParams](https://developer.mozilla.org/en-US/docs/Web/API/URLSearchParams)\n *\n * @publicApi\n */\nexport interface ParamMap {\n /**\n * Reports whether the map contains a given parameter.\n * @param name The parameter name.\n * @returns True if the map contains the given parameter, false otherwise.\n */\n has(name: string): boolean;\n /**\n * Retrieves a single value for a parameter.\n * @param name The parameter name.\n * @return The parameter's single value,\n * or the first value if the parameter has multiple values,\n * or `null` when there is no such parameter.\n */\n get(name: string): string|null;\n /**\n * Retrieves multiple values for a parameter.\n * @param name The parameter name.\n * @return An array containing one or more values,\n * or an empty array if there is no such parameter.\n *\n */\n getAll(name: string): string[];\n\n /** Names of the parameters in the map. */\n readonly keys: string[];\n}\n\nclass ParamsAsMap implements ParamMap {\n private params: Params;\n\n constructor(params: Params) {\n this.params = params || {};\n }\n\n has(name: string): boolean {\n return Object.prototype.hasOwnProperty.call(this.params, name);\n }\n\n get(name: string): string|null {\n if (this.has(name)) {\n const v = this.params[name];\n return Array.isArray(v) ? v[0] : v;\n }\n\n return null;\n }\n\n getAll(name: string): string[] {\n if (this.has(name)) {\n const v = this.params[name];\n return Array.isArray(v) ? v : [v];\n }\n\n return [];\n }\n\n get keys(): string[] {\n return Object.keys(this.params);\n }\n}\n\n/**\n * Converts a `Params` instance to a `ParamMap`.\n * @param params The instance to convert.\n * @returns The new map instance.\n *\n * @publicApi\n */\nexport function convertToParamMap(params: Params): ParamMap {\n return new ParamsAsMap(params);\n}\n\nconst NAVIGATION_CANCELING_ERROR = 'ngNavigationCancelingError';\n\nexport function navigationCancelingError(message: string) {\n const error = Error('NavigationCancelingError: ' + message);\n (error as any)[NAVIGATION_CANCELING_ERROR] = true;\n return error;\n}\n\nexport function isNavigationCancelingError(error: Error) {\n return error && (error as any)[NAVIGATION_CANCELING_ERROR];\n}\n\n// Matches the route configuration (`route`) against the actual URL (`segments`).\nexport function defaultUrlMatcher(\n segments: UrlSegment[], segmentGroup: UrlSegmentGroup, route: Route): UrlMatchResult|null {\n const parts = route.path!.split('/');\n\n if (parts.length > segments.length) {\n // The actual URL is shorter than the config, no match\n return null;\n }\n\n if (route.pathMatch === 'full' &&\n (segmentGroup.hasChildren() || parts.length < segments.length)) {\n // The config is longer than the actual URL but we are looking for a full match, return null\n return null;\n }\n\n const posParams: {[key: string]: UrlSegment} = {};\n\n // Check each config part against the actual URL\n for (let index = 0; index < parts.length; index++) {\n const part = parts[index];\n const segment = segments[index];\n const isParameter = part.startsWith(':');\n if (isParameter) {\n posParams[part.substring(1)] = segment;\n } else if (part !== segment.path) {\n // The actual URL part does not match the config, no match\n return null;\n }\n }\n\n return {consumed: segments.slice(0, parts.length), posParams};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {isObservable as isObservable, isPromise as isPromise} from '@angular/core';\nimport {from, Observable, of} from 'rxjs';\nimport {concatAll, last as lastValue, map} from 'rxjs/operators';\n\nimport {Params, PRIMARY_OUTLET} from '../shared';\n\nexport function shallowEqualArrays(a: any[], b: any[]): boolean {\n if (a.length !== b.length) return false;\n for (let i = 0; i < a.length; ++i) {\n if (!shallowEqual(a[i], b[i])) return false;\n }\n return true;\n}\n\nexport function shallowEqual(a: Params, b: Params): boolean {\n // Casting Object.keys return values to include `undefined` as there are some cases\n // in IE 11 where this can happen. Cannot provide a test because the behavior only\n // exists in certain circumstances in IE 11, therefore doing this cast ensures the\n // logic is correct for when this edge case is hit.\n const k1 = Object.keys(a) as string[] | undefined;\n const k2 = Object.keys(b) as string[] | undefined;\n if (!k1 || !k2 || k1.length != k2.length) {\n return false;\n }\n let key: string;\n for (let i = 0; i < k1.length; i++) {\n key = k1[i];\n if (!equalArraysOrString(a[key], b[key])) {\n return false;\n }\n }\n return true;\n}\n\n/**\n * Test equality for arrays of strings or a string.\n */\nexport function equalArraysOrString(a: string|string[], b: string|string[]) {\n if (Array.isArray(a) && Array.isArray(b)) {\n if (a.length !== b.length) return false;\n const aSorted = [...a].sort();\n const bSorted = [...b].sort();\n return aSorted.every((val, index)

=> bSorted[index] === val);\n  } else {\n    return a === b;\n  }\n}\n\n/**\n * Flattens single-level nested arrays.\n */\nexport function flatten<T>(arr: T[][]): T[] {\n  return Array.prototype.concat.apply([], arr);\n}\n\n/**\n * Return the last element of an array.\n */\nexport function last<T>(a: T[]): T|null {\n  return a.length > 0 ? a[a.length - 1] : null;\n}\n\n/**\n * Verifys all booleans in an array are `true`.\n */\nexport function and(bools: boolean[]): boolean {\n  return !bools.some(v => !v);\n}\n\nexport
 function forEach<K, V>(map: {[key: string]: V}, callback: (v: V, k: string) => void): void {\n  for (const prop in map) {\n    if (map.hasOwnProperty(prop)) {\n      callback(map[prop], prop);\n    }\n  }\n}\n\nexport function waitForMap<A, B>(\n    obj: {[k: string]: A}, fn: (k: string, a: A) => Observable<B>): Observable<{[k: string]: B}> {\n  if (Object.keys(obj).length === 0) {\n    return of({});\n  }\n\n  const waitHead: Observable<B>[] = [];\n  const waitTail: Observable<B>[] = [];\n  const res: {[k: string]: B} = {};\n\n  forEach(obj, (a: A, k: string) => {\n    const mapped = fn(k, a).pipe(map((r: B) => res[k] = r));\n    if (k === PRIMARY_OUTLET) {\n      waitHead.push(mapped);\n    } else {\n      waitTail.push(mapped);\n    }\n  });\n\n  // Closure compiler has problem with using spread operator here. So we use \"Array.concat\".\n  // Note that we also need to cast the new promise because TypeScript cannot infer the type\n  // when calling the \"of\" function through
 \"Function.apply\"\n  return (of.apply(null, waitHead.concat(waitTail)) as Observable<Observable<B>>)\n      .pipe(concatAll(), lastValue(), map(() => res));\n}\n\nexport function wrapIntoObservable<T>(value: T|Promise<T>|Observable<T>): Observable<T> {\n  if (isObservable(value)) {\n    return value;\n  }\n\n  if (isPromise(value)) {\n    // Use `Promise.resolve()` to wrap promise-like instances.\n    // Required ie when a Resolver returns a AngularJS `$q` promise to correctly trigger the\n    // change detection.\n    return from(Promise.resolve(value));\n  }\n\n  return of(value);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {convertToParamMap, ParamMap, Params, PRIMARY_OUTLET} from './shared';\nimport {equalArraysOrString, forEach, shallowEqual} from './utils/collection';\n\nexport function createEmptyUrlTree()
 {\n  return new UrlTree(new UrlSegmentGroup([], {}), {}, null);\n}\n\nexport function containsTree(container: UrlTree, containee: UrlTree, exact: boolean): boolean {\n  if (exact) {\n    return equalQueryParams(container.queryParams, containee.queryParams) &&\n        equalSegmentGroups(container.root, containee.root);\n  }\n\n  return containsQueryParams(container.queryParams, containee.queryParams) &&\n      containsSegmentGroup(container.root, containee.root);\n}\n\nfunction equalQueryParams(container: Params, containee: Params): boolean {\n  // TODO: This does not handle array params correctly.\n  return shallowEqual(container, containee);\n}\n\nfunction equalSegmentGroups(container: UrlSegmentGroup, containee: UrlSegmentGroup): boolean {\n  if (!equalPath(container.segments, containee.segments)) return false;\n  if (container.numberOfChildren !== containee.numberOfChildren) return false;\n  for (const c in containee.children) {\n    if (!container.children[c]) return false;\n
    if (!equalSegmentGroups(container.children[c], containee.children[c])) return false;\n  }\n  return true;\n}\n\nfunction containsQueryParams(container: Params, containee: Params): boolean {\n  return Object.keys(containee).length <= Object.keys(container).length &&\n      Object.keys(containee).every(key => equalArraysOrString(container[key], containee[key]));\n}\n\nfunction containsSegmentGroup(container: UrlSegmentGroup, containee: UrlSegmentGroup): boolean {\n  return containsSegmentGroupHelper(container, containee, containee.segments);\n}\n\nfunction containsSegmentGroupHelper(\n    container: UrlSegmentGroup, containee: UrlSegmentGroup, containeePaths: UrlSegment[]): boolean {\n  if (container.segments.length > containeePaths.length) {\n    const current = container.segments.slice(0, containeePaths.length);\n    if (!equalPath(current, containeePaths)) return false;\n    if (containee.hasChildren()) return false;\n    return true;\n\n  }
 else if (container.segments.length
 === containeePaths.length) {\n    if (!equalPath(container.segments, containeePaths)) return false;\n    for (const c in containee.children) {\n      if (!container.children[c]) return false;\n      if (!containsSegmentGroup(container.children[c], containee.children[c])) return false;\n    }\n    return true;\n\n  } else {\n    const current = containeePaths.slice(0, container.segments.length);\n    const next =

```
containeePaths.slice(container.segments.length);\n    if (!equalPath(container.segments, current)) return false;\n    if (!container.children[PRIMARY_OUTLET]) return false;\n    return containsSegmentGroupHelper(container.children[PRIMARY_OUTLET], containee, next);\n  }\n}\n\n/**\n * @description\n *\n * Represents the parsed URL.\n *\n * Since a router state is a tree, and the URL is nothing but a serialized state, the URL is a\n * serialized tree.\n * UrlTree is a data structure that provides a lot of affordances in dealing with URLs\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n *   constructor(router: Router) {\n *     const tree: UrlTree =\n *       router.parseUrl('/team/33/(user/victor//support:help)?debug=true#fragment');\n *     const f = tree.fragment; // return 'fragment'\n *     const q = tree.queryParams; // returns {debug: 'true'}\n *     const g: UrlSegmentGroup = tree.root.children[PRIMARY_OUTLET];\n *     const s: UrlSegment[] = g.segments; // returns 2 segments 'team' and '33'\n *     g.children[PRIMARY_OUTLET].segments; // returns 2 segments 'user' and 'victor'\n *     g.children['support'].segments; // return 1 segment 'help'\n *   }\n * }\n * ```\n *\n * @publicApi\n */\nexport class UrlTree {\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _queryParamMap!: ParamMap;\n\n  /** @internal */\n  constructor(\n      /** The root segment group of the URL tree */\n      public root: UrlSegmentGroup,\n      /** The query params of the URL */\n      public queryParams: Params,\n      /** The fragment of the URL */\n      public fragment: string|null) {}\n\n  get queryParamMap(): ParamMap {\n    if (!this._queryParamMap) {\n      this._queryParamMap = convertToParamMap(this.queryParams);\n    }\n    return this._queryParamMap;\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return DEFAULT_SERIALIZER.serialize(this);\n  }\n}\n\n/**\n * @description\n *\n * Represents the parsed URL segment group.\n *\n * See `UrlTree` for more information.\n *\n * @publicApi\n */\nexport class UrlSegmentGroup {\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _sourceSegment!: UrlSegmentGroup;\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _segmentIndexShift!: number;\n  /** The parent node in the url tree */\n  parent: UrlSegmentGroup|null = null;\n\n  constructor(\n      /** The URL segments of this group. See `UrlSegment` for more information */\n      public segments: UrlSegment[],\n      /** The list of children of this group */\n      public children: {[key: string]: UrlSegmentGroup}) {\n    forEach(children, (v: any, k: any) => v.parent = this);\n  }\n\n  /** Whether the segment has child segments */\n  hasChildren(): boolean {\n    return this.numberOfChildren > 0;\n  }\n\n  /** Number of child segments */\n  get numberOfChildren(): number {\n    return Object.keys(this.children).length;\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return serializePaths(this);\n  }\n}\n\n\n/**\n * @description\n *\n * Represents a single URL segment.\n *\n * A UrlSegment is a part of a URL between the two slashes. It contains a path and the matrix\n * parameters associated with the segment.\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n *   constructor(router: Router) {\n *     const tree: UrlTree = router.parseUrl('/team;id=33');\n *     const g: UrlSegmentGroup = tree.root.children[PRIMARY_OUTLET];\n *     const s: UrlSegment[] = g.segments;\n *     s[0].path; // returns 'team'\n *     s[0].parameters; // returns {id: 33}\n *   }\n * }\n * ```\n *\n * @publicApi\n */\nexport class UrlSegment {\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _parameterMap!: ParamMap;\n\n  constructor(\n      /** The path part of a URL segment */\n      public path: string,\n\n      /** The matrix parameters associated with a segment */\n      public parameters: {[name: string]: string}) {}\n\n  get parameterMap() {\n    if (!this._parameterMap) {\n      this._parameterMap = convertToParamMap(this.parameters);\n    }\n    return this._parameterMap;\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return serializePath(this);\n  }\n}\n\nexport function equalSegments(as: UrlSegment[], bs: UrlSegment[]): boolean {\n  return equalPath(as, bs) && as.every((a, i) => shallowEqual(a.parameters, bs[i].parameters));\n}\n\nexport function equalPath(as: UrlSegment[], bs: UrlSegment[]): boolean {\n  if (as.length !== bs.length) return false;\n  return as.every((a, i) => a.path === bs[i].path);\n}\n\nexport function mapChildrenIntoArray<T>(\n    segment: UrlSegmentGroup, fn: (v: UrlSegmentGroup, k: string) => T[]): T[] {\n  let res: T[] = [];\n  forEach(segment.children, (child: UrlSegmentGroup, childOutlet: string) => {\n    if (childOutlet === PRIMARY_OUTLET) {\n      res = res.concat(fn(child, childOutlet));\n    }\n  });\n  forEach(segment.children,
```

(child: UrlSegmentGroup, childOutlet: string) => {\n if (childOutlet !== PRIMARY_OUTLET) {\n res = res.concat(fn(child, childOutlet));\n }\n });\n return res;\n}\n\n\n/**\n * @description\n *\n * Serializes and deserializes a URL string into a URL tree.\n *\n * The url serialization strategy is customizable. You can\n * make all URLs case insensitive by providing a custom UrlSerializer.\n *\n * See `DefaultUrlSerializer` for an example of a URL serializer.\n *\n * @publicApi\n */\nexport abstract class UrlSerializer {\n /** Parse a url into a `UrlTree` */\n abstract parse(url: string): UrlTree;\n\n /** Converts a `UrlTree` into a url */\n abstract serialize(tree: UrlTree): string;\n}\n\n/**\n * @description\n *\n * A default implementation of the `UrlSerializer`.\n *\n * Example URLs:\n *\n * ```\n * /inbox/33(popup:compose)\n * /inbox/33;open=true/messages/44\n * ```\n *\n * DefaultUrlSerializer uses parentheses to serialize secondary segments (e.g., popup:compose), the\n * colon syntax to specify the outlet, and the ';parameter=value' syntax (e.g., open=true) to\n * specify route specific parameters.\n *\n * @publicApi\n */\nexport class DefaultUrlSerializer implements UrlSerializer {\n /** Parses a url into a `UrlTree` */\n parse(url: string): UrlTree {\n const p = new UrlParser(url);\n return new UrlTree(p.parseRootSegment(), p.parseQueryParams(), p.parseFragment());\n }\n\n /** Converts a `UrlTree` into a url */\n serialize(tree: UrlTree): string {\n const segment = `/${serializeSegment(tree.root, true)}`;\n const query = serializeQueryParams(tree.queryParams);\n const fragment =\n typeof tree.fragment === `string` ? `#${encodeUriFragment(tree.fragment!)}` : '';\n\n return `${segment}${query}${fragment}`;\n }\n}\n\nconst DEFAULT_SERIALIZER = new DefaultUrlSerializer();\n\nexport function serializePaths(segment: UrlSegmentGroup): string {\n return segment.segments.map(p => serializePath(p)).join('/');\n}\n\nfunction serializeSegment(segment: UrlSegmentGroup, root: boolean): string {\n if (!segment.hasChildren()) {\n return serializePaths(segment);\n }\n\n if (root) {\n const primary = segment.children[PRIMARY_OUTLET] ?\n serializeSegment(segment.children[PRIMARY_OUTLET], false) :\n '';\n const children: string[] = [];\n\n forEach(segment.children, (v: UrlSegmentGroup, k: string) => {\n if (k !== PRIMARY_OUTLET) {\n children.push(`${k}:${serializeSegment(v, false)}`);\n }\n });\n\n return children.length > 0 ? `${primary}(${children.join('//')})` : primary;\n\n } else {\n const children = mapChildrenIntoArray(segment, (v: UrlSegmentGroup, k: string) => {\n if (k === PRIMARY_OUTLET) {\n return [serializeSegment(segment.children[PRIMARY_OUTLET], false)];\n }\n\n return [`${k}:${serializeSegment(v, false)}`];\n });\n\n // use no parenthesis if the only child is a primary outlet route\n if (Object.keys(segment.children).length === 1 && segment.children[PRIMARY_OUTLET] != null) {\n return `${serializePaths(segment)}/${children[0]}`;\n }\n\n return `${serializePaths(segment)}/(${children.join('//')})`;\n }\n}\n\n/**\n * Encodes a URI string with the default encoding. This function will only ever be called from\n * `encodeUriQuery` or `encodeUriSegment` as it's the base set of encodings to be used. We need\n * a custom encoding because encodeURIComponent is too aggressive and encodes stuff that doesn't\n * have to be encoded per https://url.spec.whatwg.org.\n */\nfunction encodeUriString(s: string): string {\n return encodeURIComponent(s)\n .replace(/%40/g, '@')\n .replace(/%3A/gi, ':')\n .replace(/%24/g, '$')\n .replace(/%2C/gi, ',');\n}\n\n/**\n * This function should be used to encode both keys and values in a query string key/value. In\n * the following URL, you need to call encodeUriQuery on \"k\" and \"v\":\n *\n * http://www.site.org/html;mk=mv?k=v#f\n */\nexport function encodeUriQuery(s: string): string {\n return encodeUriString(s).replace(/%3B/gi, ';');\n}\n\n/**\n * This function should be used to encode a URL fragment. In the following URL, you need to call\n * encodeUriFragment on \"f\":\n *\n * http://www.site.org/html;mk=mv?k=v#f\n */\nexport function encodeUriFragment(s: string): string {\n return encodeURI(s);\n}\n\n/**\n * This function should be run on any URI segment as well as the key and value in a key/value\n * pair for matrix params. In the following URL, you need to call encodeUriSegment on \"html\",\n * \"mk\", and \"mv\":\n *\n * http://www.site.org/html;mk=mv?k=v#f\n */\nexport function encodeUriSegment(s: string): string {\n return encodeUriString(s).replace(/\\(/g, '%28').replace(/\\)/g, '%29').replace(/%26/gi, '&');\n}\n\nexport function decode(s: string): string {\n return decodeURIComponent(s);\n}\n\n// Query keys/values should have the \"+\" replaced first, as \"+\" in a query string is \" \".\n// decodeURIComponent function will not decode \"+\" as a space.\nexport function decodeQuery(s:

```
string): string {\n  return decode(s.replace(/\\+/g, '%20'));\n}\n\nexport function serializePath(path: UrlSegment): string {\n  return `${encodeUriSegment(path.path)}${serializeMatrixParams(path.parameters)}`;\n}\n\nfunction serializeMatrixParams(params: {[key: string]: string}): string {\n  return Object.keys(params)\n      .map(key => `;${encodeUriSegment(key)}=${encodeUriSegment(params[key])}`)\n      .join('');\n}\n\nfunction serializeQueryParams(params:
 {[key: string]: any}): string {\n  const strParams: string[] = Object.keys(params).map((name) => {\n    const value = params[name];\n    return Array.isArray(value) ?\n        value.map(v =>
`${encodeUriQuery(name)}=${encodeUriQuery(v)}`).join('&') :\n
`${encodeUriQuery(name)}=${encodeUriQuery(value)}`;\n  });\n\n  return strParams.length ?
`?${strParams.join('&')}` : '';\n}\n\nconst SEGMENT_RE = /^[^\\/()?;=#]+/;\nfunction matchSegments(str: string): string {\n  const match = str.match(SEGMENT_RE);\n  return match ? match[0] : '';\n}\n\nconst
QUERY_PARAM_RE = /^[^=?&#]+/;\n// Return the name of the query param at the start of the string or an empty string\nfunction matchQueryParams(str: string): string {\n  const match = str.match(QUERY_PARAM_RE);\n
return match ? match[0] : '';\n}\n\nconst QUERY_PARAM_VALUE_RE = /^[^?&#]+/;\n// Return the value of the query param at the start of the string or an empty string\nfunction matchUrlQueryParamValue(str: string): string {\n
const
 match = str.match(QUERY_PARAM_VALUE_RE);\n  return match ? match[0] : '';\n}\n\nclass UrlParser {\n
private remaining: string;\n\n  constructor(private url: string) {\n    this.remaining = url;\n  }\n\n
parseRootSegment(): UrlSegmentGroup {\n    this.consumeOptional('/');\n\n    if (this.remaining === '' ||
this.peekStartsWith('?') || this.peekStartsWith('#')) {\n      return new UrlSegmentGroup([], {});\n    }\n\n    // The
root segment group never has segments\n    return new UrlSegmentGroup([], this.parseChildren());\n  }\n\n
parseQueryParams(): Params {\n    const params: Params = {};\n    if (this.consumeOptional('?')) {\n      do {\n
this.parseQueryParam(params);\n      } while (this.consumeOptional('&'));\n    }\n    return params;\n  }\n\n
parseFragment(): string|null {\n    return this.consumeOptional('#') ? decodeURIComponent(this.remaining) : null;\n
}\n\n  private parseChildren(): {[outlet: string]: UrlSegmentGroup} {\n    if (this.remaining === '') {\n      return
 {};\n    }\n\n    this.consumeOptional('/');\n\n    const segments: UrlSegment[] = [];\n    if (!this.peekStartsWith('(')) {\n      segments.push(this.parseSegment());\n    }\n\n    while (this.peekStartsWith('/') && !this.peekStartsWith('//')
&& !this.peekStartsWith('/(')) {\n      this.capture('/');\n      segments.push(this.parseSegment());\n    }\n\n    let
children: {[outlet: string]: UrlSegmentGroup} = {};\n    if (this.peekStartsWith('/(')) {\n      this.capture('/');\n
children = this.parseParens(true);\n    }\n\n    let res: {[outlet: string]: UrlSegmentGroup} = {};\n    if
(this.peekStartsWith('(')) {\n      res = this.parseParens(false);\n    }\n\n    if (segments.length > 0 ||
Object.keys(children).length > 0) {\n      res[PRIMARY_OUTLET] = new UrlSegmentGroup(segments, children);\n
  }\n\n    return res;\n  }\n\n  // parse a segment with its matrix parameters\n  // ie `name;k1=v1;k2`\n  private
parseSegment(): UrlSegment {\n    const path = matchSegments(this.remaining);\n
    if (path === '' && this.peekStartsWith(';')) {\n      throw new Error(`Empty path url segment cannot have
parameters: '${this.remaining}'.`);\n    }\n\n    this.capture(path);\n    return new UrlSegment(decode(path),
this.parseMatrixParams());\n  }\n\n  private parseMatrixParams(): {[key: string]: any} {\n    const params: {[key:
string]: any} = {};\n    while (this.consumeOptional(';')) {\n      this.parseParam(params);\n    }\n    return params;\n
}\n\n  private parseParam(params: {[key: string]: any}): void {\n    const key = matchSegments(this.remaining);\n
if (!key) {\n      return;\n    }\n    this.capture(key);\n    let value: any = '';\n    if (this.consumeOptional('=')) {\n
const valueMatch = matchSegments(this.remaining);\n      if (valueMatch) {\n        value = valueMatch;\n
this.capture(value);\n      }\n    }\n\n    params[decode(key)] = decode(value);\n  }\n\n  // Parse a single query
parameter `name[=value]`\n  private parseQueryParam(params:
 Params): void {\n    const key = matchQueryParams(this.remaining);\n    if (!key) {\n      return;\n    }\n
this.capture(key);\n    let value: any = '';\n    if (this.consumeOptional('=')) {\n      const valueMatch =
matchUrlQueryParamValue(this.remaining);\n      if (valueMatch) {\n        value = valueMatch;\n
this.capture(value);\n      }\n    }\n\n    const decodedKey = decodeQuery(key);\n    const decodedVal =
decodeQuery(value);\n\n    if (params.hasOwnProperty(decodedKey)) {\n      // Append to existing values\n      let
```

currentVal = params[decodedKey];\n if (!Array.isArray(currentVal)) {\n currentVal = [currentVal];\n params[decodedKey] = currentVal;\n }\n currentVal.push(decodedVal);\n } else {\n // Create a new value\n params[decodedKey] = decodedVal;\n }\n }\n\n // parse `(a/b//outlet_name:c/d)`\n private parseParens(allowPrimary: boolean): {[outlet: string]: UrlSegmentGroup} {\n const segments: {[key: string]: UrlSegmentGroup} = {};\n this.capture('(');\n\n while (!this.consumeOptional(')') && this.remaining.length > 0) {\n const path = matchSegments(this.remaining);\n\n const next = this.remaining[path.length];\n\n // if is is not one of these characters, then the segment was unescaped\n // or the group was not closed\n if (next !== '/' && next !== ')' && next !== ';') {\n throw new Error(`Cannot parse url '${this.url}'`);\n }\n\n let outletName: string = undefined!;\n if (path.indexOf(':') > -1) {\n outletName = path.substr(0, path.indexOf(':'));\n this.capture(outletName);\n this.capture(':');\n } else if (allowPrimary) {\n outletName = PRIMARY_OUTLET;\n }\n\n const children = this.parseChildren();\n segments[outletName] = Object.keys(children).length === 1 ? children[PRIMARY_OUTLET] :\n new UrlSegmentGroup([], children);\n this.consumeOptional('//');\n }\n\n return segments;\n }\n\n private peekStartsWith(str: string): boolean {\n return this.remaining.startsWith(str);\n }\n\n // Consumes the prefix when it is present and returns whether it has been consumed\n private consumeOptional(str: string): boolean {\n if (this.peekStartsWith(str)) {\n this.remaining = this.remaining.substring(str.length);\n return true;\n }\n return false;\n }\n\n private capture(str: string): void {\n if (!this.consumeOptional(str)) {\n throw new Error(`Expected \"${str}\".`);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport class Tree<T> {\n /** @internal */\n _root: TreeNode<T>;\n\n constructor(root: TreeNode<T>) {\n this._root = root;\n }\n\n get root(): T {\n return this._root.value;\n }\n\n /**\n * @internal\n */\n parent(t: T): T|null {\n const p = this.pathFromRoot(t);\n return p.length > 1 ? p[p.length - 2] : null;\n }\n\n /**\n * @internal\n */\n children(t: T): T[] {\n const n = findNode(t, this._root);\n return n ? n.children.map(t => t.value) : [];\n }\n\n /**\n * @internal\n */\n firstChild(t: T): T|null {\n const n = findNode(t, this._root);\n return n && n.children.length > 0 ? n.children[0].value : null;\n }\n\n /**\n * @internal\n */\n siblings(t: T): T[] {\n const p = findPath(t, this._root);\n if (p.length < 2) return [];\n\n const c = p[p.length - 2].children.map(c => c.value);\n return c.filter(cc => cc !== t);\n }\n\n /**\n * @internal\n */\n pathFromRoot(t: T): T[] {\n return findPath(t, this._root).map(s => s.value);\n }\n}\n\n\n// DFS for the node matching the value\nfunction findNode<T>(value: T, node: TreeNode<T>): TreeNode<T>|null {\n if (value === node.value) return node;\n\n for (const child of node.children) {\n const node = findNode(value, child);\n if (node) return node;\n }\n\n return null;\n}\n\n// Return the path to the node with the given value using DFS\nfunction findPath<T>(value: T, node: TreeNode<T>): TreeNode<T>[] {\n if (value === node.value) return [node];\n\n for (const child of node.children) {\n const path = findPath(value, child);\n if (path.length) {\n path.unshift(node);\n return path;\n }\n }\n\n return [];\n}\n\nexport class TreeNode<T> {\n constructor(public value: T, public children: TreeNode<T>[]) {}\n\n toString(): string {\n return `TreeNode(${this.value})`;\n }\n}\n\n// Return the list of T indexed by outlet name\nexport function nodeChildrenAsMap<T extends {outlet: string}>(node: TreeNode<T>|null) {\n const map: {[outlet: string]: TreeNode<T>} = {};\n\n if (node) {\n node.children.forEach(child => map[child.value.outlet] = child);\n }\n\n return map;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '@angular/core';\nimport {BehaviorSubject, Observable} from 'rxjs';\nimport {map} from 'rxjs/operators';\n\nimport {Data, ResolveData, Route} from './config';\nimport {convertToParamMap, ParamMap, Params, PRIMARY_OUTLET} from './shared';\nimport {equalSegments, UrlSegment, UrlSegmentGroup, UrlTree} from './url_tree';\nimport {shallowEqual, shallowEqualArrays} from './utils/collection';\nimport {Tree, TreeNode} from './utils/tree';\n\n\n\n/**\n * Represents the state of the router as a tree of activated routes.\n *\n * @usageNotes\n *\n * Every node in the route tree is an `ActivatedRoute` instance\n * that knows about the \"consumed\" URL

segments, the extracted parameters,\n * and the resolved data.\n * Use the `ActivatedRoute` properties to traverse the tree from any node.\n
*\n * The following fragment shows how a component gets the root node\n * of the current state to establish its own route tree:\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n * constructor(router: Router) {\n * const state: RouterState = router.routerState;\n * const root: ActivatedRoute = state.root;\n * const child = root.firstChild;\n * const id: Observable<string> = child.params.map(p => p.id);\n * //...\n * }\n * }\n * ```\n *\n * @see `ActivatedRoute`\n * @see [Getting route information](guide/router#getting-route-information)\n *\n * @publicApi\n */\nexport class RouterState extends Tree<ActivatedRoute> {\n /** @internal */\n constructor(\n root: TreeNode<ActivatedRoute>,\n /** The current snapshot of the router state */\n public snapshot: RouterStateSnapshot) {\n super(root);\n setRouterState(<RouterState>this, root);\n }\n\n toString(): string {\n return this.snapshot.toString();\n }\n}\n\nexport
function createEmptyState(urlTree: UrlTree, rootComponent: Type<any>|null): RouterState {\n const snapshot = createEmptyStateSnapshot(urlTree, rootComponent);\n const emptyUrl = new BehaviorSubject([new UrlSegment('', {})]);\n const emptyParams = new BehaviorSubject({});\n const emptyData = new BehaviorSubject({});\n const emptyQueryParams = new BehaviorSubject({});\n const fragment = new BehaviorSubject('');\n const activated = new ActivatedRoute(\n emptyUrl, emptyParams, emptyQueryParams, fragment, emptyData, PRIMARY_OUTLET, rootComponent,\n snapshot.root);\n activated.snapshot = snapshot.root;\n return new RouterState(new TreeNode<ActivatedRoute>(activated, []), snapshot);\n}\n\nexport function createEmptyStateSnapshot(\n urlTree: UrlTree, rootComponent: Type<any>|null): RouterStateSnapshot {\n const emptyParams = {};\n const emptyData = {};\n const emptyQueryParams = {};\n const fragment = '';\n const activated = new ActivatedRouteSnapshot(\n [], emptyParams, emptyQueryParams, fragment, emptyData, PRIMARY_OUTLET, rootComponent, null,\n urlTree.root, -1, {});\n return new RouterStateSnapshot('', new TreeNode<ActivatedRouteSnapshot>(activated, []));\n}\n\n/**\n * Provides access to information about a route associated with a component\n * that is loaded in an outlet.\n * Use to traverse the `RouterState` tree and extract information from nodes.\n *\n * The following example shows how to construct a component using information from a\n * currently activated route.\n *\n * {@example router/activated-route/module.ts region=\"activated-route\"\n * header=\"activated-route.component.ts\"}\n *\n * @see [Getting route information](guide/router#getting-route-information)\n *\n * @publicApi\n */\nexport class ActivatedRoute {\n /** The current snapshot of this route */\n snapshot!: ActivatedRouteSnapshot;\n /** @internal */\n _futureSnapshot: ActivatedRouteSnapshot;\n /** @internal */\n _routerState!: RouterState;\n /** @internal */\n _paramMap!: Observable<ParamMap>;\n /** @internal */\n _queryParamMap!: Observable<ParamMap>;\n\n /** @internal */\n constructor(\n /** An observable of the URL segments matched by this route. */\n public url: Observable<UrlSegment[]>,\n /** An observable of the matrix parameters scoped to this route. */\n public params: Observable<Params>,\n /** An observable of the query parameters shared by all the routes. */\n public queryParams: Observable<Params>,\n /** An observable of the URL fragment shared by all the routes. */\n public fragment: Observable<string>,\n /** An observable of the static and resolved data of this route. */\n public data: Observable<Data>,\n /** The outlet name of the route, a constant. */\n public outlet: string,\n /** The component of the route, a constant. */\n // TODO(vsavkin): remove |string\n public component: Type<any>|string|null, futureSnapshot: ActivatedRouteSnapshot)
{\n this._futureSnapshot = futureSnapshot;\n }\n\n /** The configuration used to match this route. */\n get routeConfig(): Route|null {\n return this._futureSnapshot.routeConfig;\n }\n\n /** The root of the router state. */\n get root(): ActivatedRoute {\n return this._routerState.root;\n }\n\n /** The parent of this route in the router state tree. */\n get parent(): ActivatedRoute|null {\n return this._routerState.parent(this);\n }\n\n /** The first child of this route in the router state tree. */\n get firstChild(): ActivatedRoute|null {\n return this._routerState.firstChild(this);\n }\n\n /** The children of this route in the router state tree. */\n get children(): ActivatedRoute[] {\n return this._routerState.children(this);\n }\n\n /** The path from the root of the router state

tree to this route. */\n  get pathFromRoot(): ActivatedRoute[] {\n    return this._routerState.pathFromRoot(this);\n  }\n\n  /**\n   * An Observable that contains
 a map of the required and optional parameters\n   * specific to the route.\n   * The map supports retrieving single and multiple values from the same parameter.\n   */\n  get paramMap(): Observable<ParamMap> {\n    if (!this._paramMap) {\n      this._paramMap = this.params.pipe(map((p: Params): ParamMap => convertToParamMap(p)));\n    }\n    return this._paramMap;\n  }\n\n  /**\n   * An Observable that contains a map of the query parameters available to all routes.\n   * The map supports retrieving single and multiple values from the query parameter.\n   */\n  get queryParamMap(): Observable<ParamMap> {\n    if (!this._queryParamMap) {\n      this._queryParamMap =\n          this.queryParams.pipe(map((p: Params): ParamMap => convertToParamMap(p)));\n    }\n    return this._queryParamMap;\n  }\n\n  toString(): string {\n    return this.snapshot ? this.snapshot.toString() : `Future(${this._futureSnapshot})`;\n  }\n}\n\nexport type ParamsInheritanceStrategy = 'emptyOnly'|'always';\n\n/**
 @internal */\nexport type Inherited = {\n  params: Params,\n  data: Data,\n  resolve: Data,\n};\n\n/**\n * Returns the inherited params, data, and resolve for a given route.\n * By default, this only inherits values up to the nearest path-less or component-less route.\n * @internal\n */\nexport function inheritedParamsDataResolve(\n    route: ActivatedRouteSnapshot,\n    paramsInheritanceStrategy: ParamsInheritanceStrategy = 'emptyOnly'): Inherited {\n  const pathFromRoot = route.pathFromRoot;\n\n  let inheritingStartingFrom = 0;\n  if (paramsInheritanceStrategy !== 'always') {\n    inheritingStartingFrom = pathFromRoot.length - 1;\n\n    while (inheritingStartingFrom >= 1) {\n      const current = pathFromRoot[inheritingStartingFrom];\n      const parent = pathFromRoot[inheritingStartingFrom - 1];\n      // current route is an empty path => inherits its parent's params and data\n      if (current.routeConfig && current.routeConfig.path === '') {\n        inheritingStartingFrom--;\n\n        // parent is componentless => current route should inherit its params and data\n      } else if (!parent.component) {\n        inheritingStartingFrom--;\n\n      } else {\n        break;\n      }\n    }\n  }\n\n  return flattenInherited(pathFromRoot.slice(inheritingStartingFrom));\n}\n\n/** @internal */\nfunction flattenInherited(pathFromRoot: ActivatedRouteSnapshot[]): Inherited {\n  return pathFromRoot.reduce((res, curr) => {\n    const params = {...res.params, ...curr.params};\n    const data = {...res.data, ...curr.data};\n    const resolve = {...res.resolve, ...curr._resolvedData};\n    return {params, data, resolve};\n  }, <any>{params: {}, data: {}, resolve: {}});\n}\n\n/**\n * @description\n *\n * Contains the information about a route associated with a component loaded in an\n * outlet at a particular moment in time. ActivatedRouteSnapshot can also be used to\n * traverse the router state tree.\n *\n * The following example initializes a component with route information
 extracted\n * from the snapshot of the root node at the time of creation.\n *\n * ```\n * @Component({templateUrl:'./my-component.html'})\n * class MyComponent {\n *   constructor(route: ActivatedRoute) {\n *     const id: string = route.snapshot.params.id;\n *     const url: string = route.snapshot.url.join('');\n *     const user = route.snapshot.data.user;\n *   }\n * }\n * ```\n *\n * @publicApi\n */\nexport class ActivatedRouteSnapshot {\n  /** The configuration used to match this route **/\n  public readonly routeConfig: Route|null;\n  /** @internal **/\n  _urlSegment: UrlSegmentGroup;\n  /** @internal */\n  _lastPathIndex: number;\n  /** @internal */\n  _resolve: ResolveData;\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _resolvedData!: Data;\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _routerState!: RouterStateSnapshot;\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _paramMap!: ParamMap;\n  /** @internal */\n  // TODO(issue/24571):
 remove '!'.\n  _queryParamMap!: ParamMap;\n\n  /** @internal */\n  constructor(\n      /** The URL segments matched by this route */\n      public url: UrlSegment[],\n      /** The matrix parameters scoped to this route */\n      public params: Params,\n      /** The query parameters shared by all the routes */\n      public queryParams: Params,\n      /** The URL fragment shared by all the routes */\n      public fragment: string,\n      /** The static and resolved data of this route */\n      public data: Data,\n      /** The outlet name of the route */\n      public outlet: string,\n      /** The component of the route */\n      public component: Type<any>|string|null, routeConfig: Route|null, urlSegment: UrlSegmentGroup,\n      lastPathIndex: number, resolve: ResolveData) {\n    this.routeConfig = routeConfig;\n    this._urlSegment = urlSegment;\n    this._lastPathIndex = lastPathIndex;\n    this._resolve = resolve;\n  }\n\n  /** The root of the router state */\n  get root(): ActivatedRouteSnapshot

{\n return this._routerState.root;\n }\n\n /** The parent of this route in the router state tree */\n get parent(): ActivatedRouteSnapshot|null {\n return this._routerState.parent(this);\n }\n\n /** The first child of this route in the router state tree */\n get firstChild(): ActivatedRouteSnapshot|null {\n return this._routerState.firstChild(this);\n }\n\n /** The children of this route in the router state tree */\n get children(): ActivatedRouteSnapshot[] {\n return this._routerState.children(this);\n }\n\n /** The path from the root of the router state tree to this route */\n get pathFromRoot(): ActivatedRouteSnapshot[] {\n return this._routerState.pathFromRoot(this);\n }\n\n get paramMap(): ParamMap {\n if (!this._paramMap) {\n this._paramMap = convertToParamMap(this.params);\n }\n return this._paramMap;\n }\n\n get queryParamMap(): ParamMap {\n if (!this._queryParamMap) {\n this._queryParamMap = convertToParamMap(this.queryParams);\n\n }\n return this._queryParamMap;\n }\n\n toString(): string {\n const url = this.url.map(segment => segment.toString()).join('/');\n const matched = this.routeConfig ? this.routeConfig.path : '';\n return `Route(url:'${url}', path:'${matched}')`;\n }\n}\n\n/**\n * @description\n *\n * Represents the state of the router at a moment in time.\n *\n * This is a tree of activated route snapshots. Every node in this tree knows about\n * the \"consumed\" URL segments, the extracted parameters, and the resolved data.\n *\n * The following example shows how a component is initialized with information\n * from the snapshot of the root node's state at the time of creation.\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n * constructor(router: Router) {\n * const state: RouterState = router.routerState;\n * const snapshot: RouterStateSnapshot = state.snapshot;\n * const root: ActivatedRouteSnapshot = snapshot.root;\n * const child = root.firstChild;\n * const id: Observable<string> = child.params.map(p => p.id);\n * //...\n * }\n * }\n * ```\n *\n * @publicApi\n */\nexport class RouterStateSnapshot extends Tree<ActivatedRouteSnapshot> {\n /** @internal */\n constructor(\n /** The url from which this snapshot was created */\n public url: string, root: TreeNode<ActivatedRouteSnapshot>) {\n super(root);\n setRouterState(<RouterStateSnapshot>this, root);\n }\n\n toString(): string {\n return serializeNode(this._root);\n }\n}\n\nfunction setRouterState<U, T extends {_routerState: U}>(state: U, node: TreeNode<T>): void {\n node.value._routerState = state;\n node.children.forEach(c => setRouterState(state, c));\n}\n\nfunction serializeNode(node: TreeNode<ActivatedRouteSnapshot>): string {\n const c = node.children.length > 0 ? ` { ${node.children.map(serializeNode).join(', ')} } ` : '';\n return `${node.value}${c}`;\n}\n\n/**\n * The expectation is that
the activate route is created with the right set of parameters.\n * So we push new values into the observables only when they are not the initial values.\n * And we detect that by checking if the snapshot field is set.\n */\nexport function advanceActivatedRoute(route: ActivatedRoute): void {\n if (route.snapshot) {\n const currentSnapshot = route.snapshot;\n const nextSnapshot = route._futureSnapshot;\n route.snapshot = nextSnapshot;\n if (!shallowEqual(currentSnapshot.queryParams, nextSnapshot.queryParams)) {\n (<any>route.queryParams).next(nextSnapshot.queryParams);\n }\n if (currentSnapshot.fragment !== nextSnapshot.fragment) {\n (<any>route.fragment).next(nextSnapshot.fragment);\n }\n if (!shallowEqual(currentSnapshot.params, nextSnapshot.params)) {\n (<any>route.params).next(nextSnapshot.params);\n }\n if (!shallowEqualArrays(currentSnapshot.url, nextSnapshot.url)) {\n (<any>route.url).next(nextSnapshot.url);\n }\n if (!shallowEqual(currentSnapshot.data, nextSnapshot.data)) {\n (<any>route.data).next(nextSnapshot.data);\n }\n } else {\n route.snapshot = route._futureSnapshot;\n\n // this is for resolved data\n (<any>route.data).next(route._futureSnapshot.data);\n }\n}\n\nexport function equalParamsAndUrlSegments(\n a: ActivatedRouteSnapshot, b: ActivatedRouteSnapshot): boolean {\n const equalUrlParams = shallowEqual(a.params, b.params) && equalSegments(a.url, b.url);\n const parentsMismatch = !a.parent !== !b.parent;\n\n return equalUrlParams && !parentsMismatch &&\n (!a.parent || equalParamsAndUrlSegments(a.parent, b.parent!));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {BehaviorSubject} from 'rxjs';\n\nimport {DetachedRouteHandleInternal, RouteReuseStrategy} from

'./route_reuse_strategy';\nimport
{ActivatedRoute, ActivatedRouteSnapshot, RouterState, RouterStateSnapshot} from './router_state';\nimport
{TreeNode} from './utils/tree';\n\nexport function createRouterState(\n routeReuseStrategy: RouteReuseStrategy,
curr: RouterStateSnapshot,\n prevState: RouterState): RouterState {\n const root =
createNode(routeReuseStrategy, curr._root, prevState ? prevState._root : undefined);\n return new RouterState(root,
curr);\n}\n\nfunction createNode(\n routeReuseStrategy: RouteReuseStrategy, curr:
TreeNode<ActivatedRouteSnapshot>,\n prevState?: TreeNode<ActivatedRoute>): TreeNode<ActivatedRoute>
{\n // reuse an activated route that is currently displayed on the screen\n if (prevState &&
routeReuseStrategy.shouldReuseRoute(curr.value, prevState.value.snapshot)) {\n const value = prevState.value;\n
value._futureSnapshot = curr.value;\n const children = createOrReuseChildren(routeReuseStrategy, curr,
prevState);\n return new TreeNode<ActivatedRoute>(value, children);\n\n
// retrieve an activated route that is used to be displayed, but is not currently displayed\n } else {\n const
detachedRouteHandle =\n <DetachedRouteHandleInternal>routeReuseStrategy.retrieve(curr.value);\n if
(detachedRouteHandle) {\n const tree: TreeNode<ActivatedRoute> = detachedRouteHandle.route;\n
setFutureSnapshotsOfActivatedRoutes(curr, tree);\n return tree;\n\n } else {\n const value =
createActivatedRoute(curr.value);\n const children = curr.children.map(c => createNode(routeReuseStrategy,
c));\n return new TreeNode<ActivatedRoute>(value, children);\n }\n }\n}\n\nfunction
setFutureSnapshotsOfActivatedRoutes(\n curr: TreeNode<ActivatedRouteSnapshot>, result:
TreeNode<ActivatedRoute>): void {\n if (curr.value.routeConfig !== result.value.routeConfig) {\n throw new
Error('Cannot reattach ActivatedRouteSnapshot created from a different route');\n }\n if (curr.children.length !==
result.children.length) {\n
throw new Error('Cannot reattach ActivatedRouteSnapshot with a different number of children');\n }\n
result.value._futureSnapshot = curr.value;\n for (let i = 0; i < curr.children.length; ++i) {\n
setFutureSnapshotsOfActivatedRoutes(curr.children[i], result.children[i]);\n }\n}\n\nfunction
createOrReuseChildren(\n routeReuseStrategy: RouteReuseStrategy, curr: TreeNode<ActivatedRouteSnapshot>,\n
prevState: TreeNode<ActivatedRoute>) {\n return curr.children.map(child => {\n for (const p of
prevState.children) {\n if (routeReuseStrategy.shouldReuseRoute(child.value, p.value.snapshot)) {\n return
createNode(routeReuseStrategy, child, p);\n }\n }\n return createNode(routeReuseStrategy, child);\n
});\n}\n\nfunction createActivatedRoute(c: ActivatedRouteSnapshot) {\n return new ActivatedRoute(\n new
BehaviorSubject(c.url), new BehaviorSubject(c.params), new BehaviorSubject(c.queryParams),\n new
BehaviorSubject(c.fragment), new BehaviorSubject(c.data),
c.outlet, c.component, c);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of
this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nimport {ActivatedRoute} from './router_state';\nimport {Params,
PRIMARY_OUTLET} from './shared';\nimport {UrlSegment, UrlSegmentGroup, UrlTree} from
'./url_tree';\nimport {forEach, last, shallowEqual} from './utils/collection';\n\nexport function createUrlTree(\n
route: ActivatedRoute, urlTree: UrlTree, commands: any[], queryParams: Params,\n fragment: string): UrlTree {\n
if (commands.length === 0) {\n return tree(urlTree.root, urlTree.root, urlTree, queryParams, fragment);\n }\n\n
const nav = computeNavigation(commands);\n\n if (nav.toRoot()) {\n return tree(urlTree.root, new
UrlSegmentGroup([], {}), urlTree, queryParams, fragment);\n }\n\n const startingPosition =
findStartingPosition(nav, urlTree, route);\n\n
const segmentGroup = startingPosition.processChildren ?\n updateSegmentGroupChildren(\n
startingPosition.segmentGroup, startingPosition.index, nav.commands) :\n
updateSegmentGroup(startingPosition.segmentGroup, startingPosition.index, nav.commands);\n return
tree(startingPosition.segmentGroup, segmentGroup, urlTree, queryParams, fragment);\n}\n\nfunction
isMatrixParams(command: any): boolean {\n return typeof command === 'object' && command != null &&
!command.outlets && !command.segmentPath;\n}\n\n/**\n * Determines if a given command has an `outlets` map.
When we encounter a command\n * with an outlets k/v map, we need to apply each outlet individually to the

existing segment.\n */\nfunction isCommandWithOutlets(command: any): command is {outlets: {[key: string]: any}} {\n  return typeof command === 'object' && command != null && command.outlets;\n}\n\nfunction tree(\n oldSegmentGroup: UrlSegmentGroup, newSegmentGroup: UrlSegmentGroup, urlTree: UrlTree,\n  queryParams: Params, fragment: string): UrlTree {\n  let qp: any = {};\n  if (queryParams) {\n forEach(queryParams, (value: any, name: any) => {\n      qp[name] = Array.isArray(value) ? value.map((v: any) => `${v}`) : `${value}`;\n    });\n  }\n\n  if (urlTree.root === oldSegmentGroup) {\n    return new UrlTree(newSegmentGroup, qp, fragment);\n  }\n\n  return new UrlTree(replaceSegment(urlTree.root, oldSegmentGroup, newSegmentGroup), qp, fragment);\n}\n\nfunction replaceSegment(\n    current: UrlSegmentGroup, oldSegment: UrlSegmentGroup,\n    newSegment: UrlSegmentGroup): UrlSegmentGroup {\n const children: {[key: string]: UrlSegmentGroup} = {};\n  forEach(current.children, (c: UrlSegmentGroup, outletName: string) => {\n    if (c === oldSegment) {\n      children[outletName] = newSegment;\n    } else {\n children[outletName] = replaceSegment(c, oldSegment, newSegment);\n    }\n  });\n  return new UrlSegmentGroup(current.segments, children);\n}\n\nclass Navigation {\n  constructor(\n      public isAbsolute: boolean, public numberOfDoubleDots: number, public commands: any[]) {\n    if (isAbsolute && commands.length > 0 && isMatrixParams(commands[0])) {\n      throw new Error('Root segment cannot have matrix parameters');\n    }\n\n    const cmdWithOutlet = commands.find(isCommandWithOutlets);\n    if (cmdWithOutlet && cmdWithOutlet !== last(commands)) {\n      throw new Error('{outlets:{}} has to be the last command');\n    }\n  }\n\n  public toRoot(): boolean {\n    return this.isAbsolute && this.commands.length === 1 && this.commands[0] == '/';\n  }\n}\n\n/** Transforms commands to a normalized `Navigation` */\nfunction computeNavigation(commands: any[]): Navigation {\n  if ((typeof commands[0] === 'string') && commands.length === 1 && commands[0] === '/') {\n    return new Navigation(true, 0, commands);\n  }\n\n  let numberOfDoubleDots = 0;\n  let isAbsolute = false;\n\n  const res: any[] = commands.reduce((res, cmd, cmdIdx) => {\n    if (typeof cmd === 'object'\n &&  cmd != null) {\n      if (cmd.outlets) {\n        const outlets: {[k: string]: any} = {};\n        forEach(cmd.outlets, (commands: any, name: string) => {\n          outlets[name] = typeof commands === 'string' ? commands.split('/') : commands;\n        });\n        return [...res, {outlets}];\n      }\n\n      if (cmd.segmentPath) {\n        return [...res, cmd.segmentPath];\n      }\n    }\n\n    if (!(typeof cmd === 'string')) {\n      return [...res, cmd];\n    }\n\n    if (cmdIdx === 0) {\n      cmd.split('/').forEach((urlPart, partIndex) => {\n        if (partIndex == 0 && urlPart === '.') {\n          // skip './a'\n        } else if (partIndex == 0 && urlPart === '') {  //  '/a'\n          isAbsolute = true;\n        } else if (urlPart === '..') {  //  '../a'\n          numberOfDoubleDots++;\n        } else if (urlPart != '') {\n          res.push(urlPart);\n        }\n      });\n\n      return res;\n    }\n\n    return [...res, cmd];\n  }, []);\n\n  return new Navigation(isAbsolute,\n  numberOfDoubleDots, res);\n}\n\nclass Position {\n  constructor(\n      public segmentGroup: UrlSegmentGroup, public processChildren: boolean, public index: number) {\n  }\n}\n\nfunction findStartingPosition(nav: Navigation, tree: UrlTree, route: ActivatedRoute): Position {\n  if (nav.isAbsolute) {\n    return new Position(tree.root, true, 0);\n  }\n\n  if (route.snapshot._lastPathIndex === -1) {\n    const segmentGroup = route.snapshot._urlSegment;\n    // Pathless ActivatedRoute has _lastPathIndex === -1 but should not process children\n    // see issue #26224, #13011, #35687\n    // However, if the ActivatedRoute is the root we should process children like above.\n    const processChildren = segmentGroup === tree.root;\n    return new Position(segmentGroup, processChildren, 0);\n  }\n\n  const modifier = isMatrixParams(nav.commands[0]) ? 0 : 1;\n  const index = route.snapshot._lastPathIndex + modifier;\n  return createPositionApplyingDoubleDots(\n      route.snapshot._urlSegment,\n  index, nav.numberOfDoubleDots);\n}\n\nfunction createPositionApplyingDoubleDots(\n    group: UrlSegmentGroup, index: number, numberOfDoubleDots: number): Position {\n  let g = group;\n  let ci = index;\n  let dd = numberOfDoubleDots;\n  while (dd > ci) {\n    dd -= ci;\n    g = g.parent!;\n    if (!g) {\n      throw new Error('Invalid number of \\'../\\'');\n    }\n    ci = g.segments.length;\n  }\n  return new Position(g, false, ci - dd);\n}\n\nfunction getOutlets(commands: unknown[]): {[k: string]: unknown[]|string} {\n  if (isCommandWithOutlets(commands[0])) {\n    return commands[0].outlets;\n  }\n\n  return {[PRIMARY_OUTLET]: commands};\n}\n\nfunction updateSegmentGroup(\n    segmentGroup:

```
UrlSegmentGroup, startIndex: number, commands: any[]): UrlSegmentGroup {\n  if (!segmentGroup) {\n segmentGroup = new UrlSegmentGroup([], {});\n  }\n  if (segmentGroup.segments.length === 0 && segmentGroup.hasChildren()) {\n    return updateSegmentGroupChildren(segmentGroup, startIndex, commands);\n  }\n\n  const m = prefixedWith(segmentGroup, startIndex, commands);\n  const slicedCommands = commands.slice(m.commandIndex);\n  if (m.match && m.pathIndex < segmentGroup.segments.length) {\n    const g = new UrlSegmentGroup(segmentGroup.segments.slice(0, m.pathIndex), {});\n g.children[PRIMARY_OUTLET] =\n        new UrlSegmentGroup(segmentGroup.segments.slice(m.pathIndex), segmentGroup.children);\n    return updateSegmentGroupChildren(g, 0, slicedCommands);\n  } else if (m.match && slicedCommands.length === 0) {\n    return new UrlSegmentGroup(segmentGroup.segments, {});\n  } else if (m.match && !segmentGroup.hasChildren()) {\n    return createNewSegmentGroup(segmentGroup, startIndex, commands);\n  } else if (m.match) {\n    return updateSegmentGroupChildren(segmentGroup, 0, slicedCommands);\n  } else {\n    return createNewSegmentGroup(segmentGroup, startIndex, commands);\n }\n}\n\nfunction updateSegmentGroupChildren(\n    segmentGroup: UrlSegmentGroup, startIndex: number, commands: any[]): UrlSegmentGroup {\n  if (commands.length === 0) {\n    return new UrlSegmentGroup(segmentGroup.segments, {});\n  } else {\n    const outlets = getOutlets(commands);\n    const children: {[key: string]: UrlSegmentGroup} = {};\n\n    forEach(outlets, (commands, outlet) => {\n      if (typeof commands === 'string') {\n        commands = [commands];\n      }\n      if (commands !== null) {\n children[outlet] = updateSegmentGroup(segmentGroup.children[outlet], startIndex, commands);\n      }\n    });\n\n forEach(segmentGroup.children, (child: UrlSegmentGroup, childOutlet: string) => {\n      if (outlets[childOutlet] === undefined) {\n        children[childOutlet] = child;\n      }\n    });\n    return new UrlSegmentGroup(segmentGroup.segments, children);\n  }\n}\n\nfunction prefixedWith(segmentGroup: UrlSegmentGroup, startIndex: number, commands: any[]) {\n  let currentCommandIndex = 0;\n  let currentPathIndex = startIndex;\n\n  const noMatch = {match: false, pathIndex: 0, commandIndex: 0};\n  while (currentPathIndex < segmentGroup.segments.length) {\n if (currentCommandIndex >= commands.length) return noMatch;\n    const path = segmentGroup.segments[currentPathIndex];\n    const command = commands[currentCommandIndex];\n    // Do not try to consume command as part of the prefixing if it has outlets because it can\n    // contain outlets other than the one being processed. Consuming the outlets command would\n    // result in other outlets being ignored.\n    if (isCommandWithOutlets(command)) {\n      break;\n    }\n    const curr = `${command}`;\n    const next =\n currentCommandIndex < commands.length - 1 ? commands[currentCommandIndex + 1] : null;\n\n    if (currentPathIndex > 0 && curr === undefined) break;\n\n    if (curr && next && (typeof next === 'object') && next.outlets === undefined) {\n      if (!compare(curr, next, path)) return noMatch;\n      currentCommandIndex += 2;\n    } else {\n      if (!compare(curr, {}, path)) return noMatch;\n      currentCommandIndex++;\n    }\n    currentPathIndex++;\n  }\n\n  return {match: true, pathIndex: currentPathIndex, commandIndex: currentCommandIndex};\n}\n\nfunction createNewSegmentGroup(\n    segmentGroup: UrlSegmentGroup, startIndex: number, commands: any[]): UrlSegmentGroup {\n  const paths = segmentGroup.segments.slice(0, startIndex);\n\n  let i = 0;\n  while (i < commands.length) {\n    const command = commands[i];\n    if (isCommandWithOutlets(command)) {\n      const children = createNewSegmentChildren(command.outlets);\n      return new UrlSegmentGroup(paths, children);\n    }\n\n    // if we start with an object literal, we need to reuse the path part from the segment\n    if (i === 0 && isMatrixParams(commands[0])) {\n      const p = segmentGroup.segments[startIndex];\n      paths.push(new UrlSegment(p.path, commands[0]));\n      i++;\n      continue;\n    }\n\n    const curr = isCommandWithOutlets(command) ? command.outlets[PRIMARY_OUTLET] : `${command}`;\n    const next = (i < commands.length - 1) ? commands[i + 1] : null;\n    if (curr && next && isMatrixParams(next)) {\n      paths.push(new UrlSegment(curr, stringify(next)));\n      i += 2;\n    } else {\n      paths.push(new UrlSegment(curr, {}));\n      i++;\n    }\n  }\n  return new UrlSegmentGroup(paths, {});\n}\n\nfunction createNewSegmentChildren(outlets: {[name: string]: unknown[]|string}):\n    {[outlet: string]: UrlSegmentGroup} {\n  const children: {[outlet: string]: UrlSegmentGroup} = {};\n  forEach(outlets, (commands,
```

outlet) => {\n if (typeof commands === 'string') {\n commands = [commands];\n }\n if (commands !== null) {\n children[outlet] = createNewSegmentGroup(new UrlSegmentGroup([], {}), 0, commands);\n }\n });\n return children;\n}\n\nfunction stringify(params: {[key: string]: any}): {[key: string]: string} {\n const res: {[key: string]: string} = {};\n forEach(params, (v: any, k: string) => res[k] = `${v}`);\n return res;\n}\n\nfunction compare(path: string, params: {[key: string]: any}, segment: UrlSegment): boolean {\n return path == segment.path && shallowEqual(params, segment.parameters);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {MonoTypeOperatorFunction} from 'rxjs';\nimport {map} from 'rxjs/operators';\n\nimport {LoadedRouterConfig} from '../config';\nimport {ActivationEnd, ChildActivationEnd, Event} from '../events';\nimport {DetachedRouteHandleInternal, RouteReuseStrategy} from '../route_reuse_strategy';\nimport {NavigationTransition} from '../router';\nimport {ChildrenOutletContexts} from '../router_outlet_context';\nimport {ActivatedRoute, ActivatedRouteSnapshot, advanceActivatedRoute, RouterState} from '../router_state';\nimport {forEach} from '../utils/collection';\nimport {nodeChildrenAsMap, TreeNode}\n from '../utils/tree';\n\nexport const activateRoutes =\n (rootContexts: ChildrenOutletContexts, routeReuseStrategy: RouteReuseStrategy,\n forwardEvent: (evt: Event) => void): MonoTypeOperatorFunction<NavigationTransition> =>\n map(t => {\n new ActivateRoutes(\n routeReuseStrategy, t.targetRouterState!, t.currentRouterState, forwardEvent)\n .activate(rootContexts);\n return t;\n });\n\nexport class ActivateRoutes {\n constructor(\n private routeReuseStrategy: RouteReuseStrategy, private futureState: RouterState,\n private currState: RouterState, private forwardEvent: (evt: Event) => void) {}\n\n activate(parentContexts: ChildrenOutletContexts): void {\n const futureRoot = this.futureState._root;\n const currRoot = this.currState ? this.currState._root : null;\n\n this.deactivateChildRoutes(futureRoot, currRoot, parentContexts);\n advanceActivatedRoute(this.futureState.root);\n this.activateChildRoutes(futureRoot, currRoot, parentContexts);\n }\n\n // De-activate the child route that are not re-used for the future state\n private deactivateChildRoutes(\n futureNode: TreeNode<ActivatedRoute>, currNode: TreeNode<ActivatedRoute>|null,\n contexts: ChildrenOutletContexts): void {\n const children: {[outletName: string]: TreeNode<ActivatedRoute>} = nodeChildrenAsMap(currNode);\n\n // Recurse on the routes active in the future state to de-activate deeper children\n futureNode.children.forEach(futureChild => {\n const childOutletName = futureChild.value.outlet;\n this.deactivateRoutes(futureChild, children[childOutletName], contexts);\n delete children[childOutletName];\n });\n\n // De-activate the routes that will not be re-used\n forEach(children, (v: TreeNode<ActivatedRoute>, childName: string) => {\n this.deactivateRouteAndItsChildren(v, contexts);\n });\n }\n\n private deactivateRoutes(\n futureNode: TreeNode<ActivatedRoute>,\n currNode: TreeNode<ActivatedRoute>,\n parentContext: ChildrenOutletContexts): void {\n const future = futureNode.value;\n const curr = currNode ? currNode.value : null;\n\n if (future === curr) {\n // Reusing the node, check to see if the children need to be de-activated\n if (future.component) {\n // If we have a normal route, we need to go through an outlet.\n const context = parentContext.getContext(future.outlet);\n if (context) {\n this.deactivateChildRoutes(futureNode, currNode, context.children);\n }\n } else {\n // if we have a componentless route, we recurse but keep the same outlet map.\n this.deactivateChildRoutes(futureNode, currNode, parentContext);\n }\n } else {\n if (curr) {\n // Deactivate the current route which will not be re-used\n this.deactivateRouteAndItsChildren(currNode, parentContext);\n }\n }\n }\n\n private deactivateRouteAndItsChildren(\n route: TreeNode<ActivatedRoute>, parentContexts: ChildrenOutletContexts): void {\n if (this.routeReuseStrategy.shouldDetach(route.value.snapshot)) {\n this.detachAndStoreRouteSubtree(route, parentContexts);\n } else {\n this.deactivateRouteAndOutlet(route, parentContexts);\n }\n }\n\n private detachAndStoreRouteSubtree(\n route: TreeNode<ActivatedRoute>, parentContexts: ChildrenOutletContexts): void {\n const context = parentContexts.getContext(route.value.outlet);\n if (context && context.outlet) {\n const componentRef = context.outlet.detach();\n const contexts = context.children.onOutletDeactivated();\n

this.routeReuseStrategy.store(route.value.snapshot, {componentRef, route, contexts});\n  }\n }\n\n  private deactivateRouteAndOutlet(\n      route: TreeNode<ActivatedRoute>, parentContexts: ChildrenOutletContexts): void {\n    const context = parentContexts.getContext(route.value.outlet);\n\n    if (context) {\n      const children: {[outletName: string]: any} = nodeChildrenAsMap(route);\n      const contexts = route.value.component ? context.children : parentContexts;\n\n      forEach(children, (v: any, k: string) => this.deactivateRouteAndItsChildren(v, contexts));\n\n      if (context.outlet) {\n        // Destroy the component\n context.outlet.deactivate();\n        // Destroy the contexts for all the outlets that were in the component\n context.children.onOutletDeactivated();\n      }\n    }\n  }\n\n  private activateChildRoutes(\n      futureNode: TreeNode<ActivatedRoute>, currNode: TreeNode<ActivatedRoute>|null,\n      contexts: ChildrenOutletContexts): void {\n    const children: {[outlet: string]: any} = nodeChildrenAsMap(currNode);\n futureNode.children.forEach(c => {\n      this.activateRoutes(c, children[c.value.outlet], contexts);\n this.forwardEvent(new ActivationEnd(c.value.snapshot));\n    });\n    if (futureNode.children.length) {\n this.forwardEvent(new ChildActivationEnd(futureNode.value.snapshot));\n    }\n  }\n\n  private activateRoutes(\n      futureNode: TreeNode<ActivatedRoute>, currNode: TreeNode<ActivatedRoute>,\n      parentContexts: ChildrenOutletContexts): void {\n    const future = futureNode.value;\n    const curr = currNode ? currNode.value : null;\n\n    advanceActivatedRoute(future);\n\n    // reusing the node\n    if (future === curr) {\n      if (future.component) {\n        // If we have a normal route, we need to go through an outlet.\n        const context = parentContexts.getOrCreateContext(future.outlet);\n this.activateChildRoutes(futureNode, currNode, context.children);\n      } else {\n        // if we have a componentless route, we recurse but keep the same outlet map.\n        this.activateChildRoutes(futureNode, currNode, parentContexts);\n      }\n    } else {\n      if (future.component) {\n        // if we have a normal route, we need to place the component into the outlet and recurse.\n        const context = parentContexts.getOrCreateContext(future.outlet);\n\n        if (this.routeReuseStrategy.shouldAttach(future.snapshot)) {\n          const stored =\n (<DetachedRouteHandleInternal>this.routeReuseStrategy.retrieve(future.snapshot));\n this.routeReuseStrategy.store(future.snapshot, null);\n context.children.onOutletReAttached(stored.contexts);\n          context.attachRef = stored.componentRef;\n context.route = stored.route.value;\n          if (context.outlet) {\n            // Attach right away when the outlet has already been instantiated\n            // Otherwise attach from `RouterOutlet.ngOnInit` when it is instantiated\n context.outlet.attach(stored.componentRef, stored.route.value);\n          }\n advanceActivatedRouteNodeAndItsChildren(stored.route);\n        } else {\n          const config = parentLoadedConfig(future.snapshot);\n          const cmpFactoryResolver = config ? config.module.componentFactoryResolver : null;\n\n          context.attachRef = null;\n          context.route = future;\n          context.resolver = cmpFactoryResolver;\n          if (context.outlet) {\n            // Activate the outlet when it has already been instantiated\n            // Otherwise it will get activated from its `ngOnInit` when instantiated\n context.outlet.activateWith(future, cmpFactoryResolver);\n          }\n\n          this.activateChildRoutes(futureNode, null, context.children);\n        }\n      } else {\n        // if we have a componentless route, we recurse but keep the same outlet map.\n        this.activateChildRoutes(futureNode, null, parentContexts);\n      }\n    }\n  }\n}\n\nfunction advanceActivatedRouteNodeAndItsChildren(node: TreeNode<ActivatedRoute>): void {\n advanceActivatedRoute(node.value);\n node.children.forEach(advanceActivatedRouteNodeAndItsChildren);\n}\n\nfunction parentLoadedConfig(snapshot: ActivatedRouteSnapshot): LoadedRouterConfig|null {\n  for (let s = snapshot.parent; s; s = s.parent) {\n    const route = s.routeConfig;\n    if (route && route._loadedConfig) return route._loadedConfig;\n    if (route && route.component) return null;\n  }\n\n  return null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {NgModuleFactory, NgModuleRef, Type} from '@angular/core';\nimport {Observable} from 'rxjs';\n\nimport

{ActivatedRouteSnapshot} from './router_state';\nimport {UrlSegment, UrlSegmentGroup} from './url_tree';\n\n\n/**\n * Represents a route configuration for the Router service.\n * An array of `Route` objects, used in `Router.config` and for nested route configurations\n * in `Route.children`.\n *\n * @see `Route`\n * @see `Router`\n * @see [Router configuration guide](guide/router#configuration)\n * @publicApi\n */\nexport type Routes = Route[];\n\n/**\n * Represents
the result of matching URLs with a custom matching function.\n *\n * * `consumed` is an array of the consumed URL segments.\n * * `posParams` is a map of positional parameters.\n *\n * @see `UrlMatcher()`\n * @publicApi\n */\nexport type UrlMatchResult = {\n  consumed: UrlSegment[];\n  posParams?: {[name: string]: UrlSegment};\n};\n\n/**\n * A function for matching a route against URLs. Implement a custom URL matcher\n * for `Route.matcher` when a combination of `path` and `pathMatch`\n * is not expressive enough. Cannot be used together with `path` and `pathMatch`.\n *\n * The function takes the following arguments and returns a `UrlMatchResult` object.\n * * *segments* : An array of URL segments.\n * * *group* : A segment group.\n * * *route* : The route to match against.\n *\n * The following example implementation matches HTML files.\n *\n * ```\n * export function htmlFiles(url: UrlSegment[]) {\n *   return url.length === 1 && url[0].path.endsWith('.html') ? ({consumed: url})
: null;\n * }\n *\n * export const routes = [{ matcher: htmlFiles, component: AnyComponent }];\n * ```\n *\n * @publicApi\n */\nexport type UrlMatcher = (segments: UrlSegment[], group: UrlSegmentGroup, route: Route) =>\n    UrlMatchResult|null;\n\n/**\n *\n * Represents static data associated with a particular route.\n *\n * @see `Route#data`\n *\n * @publicApi\n */\nexport type Data = {\n  [name: string]: any\n};\n\n/**\n *\n * Represents the resolved data associated with a particular route.\n *\n * @see `Route#resolve`.\n *\n * @publicApi\n */\nexport type ResolveData = {\n  [name: string]: any\n};\n\n/**\n *\n * A function that is called to resolve a collection of lazy-loaded routes.\n * Must be an arrow function of the following form:\n * `() => import('...').then(mod => mod.MODULE)`\n *\n * For example:\n *\n * ```\n * [{\n *   path: 'lazy',\n *   loadChildren: () => import('./lazy-route/lazy.module').then(mod => mod.LazyModule),\n * }];\n * ```\n *\n * @see [Route.loadChildren](api/router/Route#loadChildren)\n
* @publicApi\n */\nexport type LoadChildrenCallback = () => Type<any>|NgModuleFactory<any>|Observable<Type<any>>|\n Promise<NgModuleFactory<any>|Type<any>|any>;\n\n/**\n *\n * A function that returns a set of routes to load.\n *\n * The string form of `LoadChildren` is deprecated (see `DeprecatedLoadChildren`). The function\n * form (`LoadChildrenCallback`) should be used instead.\n *\n * @see `loadChildrenCallback`\n * @publicApi\n */\nexport type LoadChildren = LoadChildrenCallback|DeprecatedLoadChildren;\n\n/**\n * A string of the form `path/to/file#exportName` that acts as a URL for a set of routes to load.\n *\n * @see `loadChildrenCallback`\n * @publicApi\n * @deprecated The `string` form of `loadChildren` is deprecated in favor of the\n * `LoadChildrenCallback` function which uses the ES dynamic `import()` expression.\n * This offers a more natural and standards-based mechanism to dynamically\n * load an ES module at runtime.\n */\nexport
type DeprecatedLoadChildren = string;\n\n/**\n *\n * How to handle query parameters in a router link.\n * One of:\n * - `merge` : Merge new with current parameters.\n * - `preserve` : Preserve current parameters.\n *\n * @see `UrlCreationOptions#queryParamsHandling`\n * @see `RouterLink`\n * @publicApi\n */\nexport type QueryParamsHandling = 'merge'|'preserve'|'';\n\n/**\n *\n * A policy for when to run guards and resolvers on a route.\n *\n * @see [Route.runGuardsAndResolvers](api/router/Route#runGuardsAndResolvers)\n * @publicApi\n */\nexport type RunGuardsAndResolvers =\n 'pathParamsChange'|'pathParamsOrQueryParamsChange'|'paramsChange'|'paramsOrQueryParamsChange'|\n 'always'|((from: ActivatedRouteSnapshot, to: ActivatedRouteSnapshot) => boolean);\n\n/**\n * A configuration object that defines a single route.\n * A set of routes are collected in a `Routes` array to define a `Router` configuration.\n * The router attempts to match segments of a given URL against each route,\n *
using the configuration options defined in this object.\n *\n * Supports static, parameterized, redirect, and wildcard routes, as well as\n * custom route data and resolve methods.\n *\n * For detailed usage information, see the [Routing Guide](guide/router).\n *\n * @usageNotes\n *\n * ### Simple Configuration\n *\n * The following route

specifies that when navigating to, for example,\n * `/team/11/user/bob`, the router creates the 'Team' component\n * with the 'User' child component in it.\n *\n * ```\n * [{\n *  path: 'team/:id',\n  *  component: Team,\n *  children: [{\n *  path: 'user/:name',\n *  component: User\n *  }]\n * }]\n * ```\n *\n * ### Multiple Outlets\n *\n * The following route creates sibling components with multiple outlets.\n * When navigating to `/team/11(aux:chat/jim)`, the router creates the 'Team' component next to\n * the 'Chat' component. The 'Chat' component is placed into the 'aux' outlet.\n *\n * ```\n * [{\n *  path: 'team/:id',\n *  component:
Team\n * }, {\n *  path: 'chat/:user',\n *  component: Chat\n *  outlet: 'aux'\n * }]\n * ```\n *\n * ### Wild Cards\n *\n * The following route uses wild-card notation to specify a component\n * that is always instantiated regardless of where you navigate to.\n *\n * ```\n * [{\n *  path: '**',\n *  component: WildcardComponent\n * }]\n * ```\n *\n * ### Redirects\n *\n * The following route uses the `redirectTo` property to ignore a segment of\n * a given URL when looking for a child path.\n *\n * When navigating to '/team/11/legacy/user/jim', the router changes the URL segment\n * '/team/11/legacy/user/jim' to '/team/11/user/jim', and then instantiates\n * the Team component with the User child component in it.\n *\n * ```\n * [{\n *  path: 'team/:id',\n *  component: Team,\n *  children: [{\n *  path: 'legacy/user/:name',\n *  redirectTo: 'user/:name'\n *  }, {\n *  path: 'user/:name',\n *  component: User\n *  }]\n * }]\n * ```\n *\n * The redirect path can
be relative, as shown in this example, or absolute.\n * If we change the `redirectTo` value in the example to the absolute URL segment '/user/:name',\n * the result URL is also absolute, '/user/jim'.\n\n * ### Empty Path\n *\n * Empty-path route configurations can be used to instantiate components that do not 'consume'\n * any URL segments.\n *\n * In the following configuration, when navigating to\n * `/team/11`, the router instantiates the 'AllUsers' component.\n *\n * ```\n * [{\n *  path: 'team/:id',\n *  component: Team,\n *  children: [{\n *  path: '',\n *  component: AllUsers\n *  }, {\n *  path: 'user/:name',\n *  component: User\n *  }]\n * }]\n * ```\n *\n * Empty-path routes can have children. In the following example, when navigating\n * to `/team/11/user/jim`, the router instantiates the wrapper component with\n * the user component in it.\n *\n * Note that an empty path route inherits its parent's parameters and data.\n *\n * ```\n * [{\n *  path: 'team/:id',\n
*  component: Team,\n *  children: [{\n *  path: '',\n *  component: WrapperCmp,\n *  children: [{\n *  path: 'user/:name',\n *  component: User\n *  }]\n *  }]\n * }]\n * ```\n *\n * ### Matching Strategy\n *\n * The default path-match strategy is 'prefix', which means that the router\n * checks URL elements from the left to see if the URL matches a specified path.\n * For example, '/team/11/user' matches 'team/:id'.\n *\n * ```\n * [{\n *  path: '',\n *  pathMatch: 'prefix', //default\n *  redirectTo: 'main'\n * }, {\n *  path: 'main',\n *  component: Main\n * }]\n * ```\n *\n * You can specify the path-match strategy 'full' to make sure that the path\n * covers the whole unconsumed URL. It is important to do this when redirecting\n * empty-path routes. Otherwise, because an empty path is a prefix of any URL,\n * the router would apply the redirect even when navigating to the redirect destination,\n * creating an endless loop.\n *\n * In the following
example, supplying the 'full' `pathMatch` strategy ensures\n * that the router applies the redirect if and only if navigating to '/'.\n *\n * ```\n * [{\n *  path: '',\n *  pathMatch: 'full',\n *  redirectTo: 'main'\n * }, {\n *  path: 'main',\n *  component: Main\n * }]\n * ```\n *\n * ### Componentless Routes\n *\n * You can share parameters between sibling components.\n * For example, suppose that two sibling components should go next to each other,\n * and both of them require an ID parameter. You can accomplish this using a route\n * that does not specify a component at the top level.\n *\n * In the following example, 'MainChild' and 'AuxChild' are siblings.\n * When navigating to 'parent/10/(a//aux:b)', the route instantiates\n * the main child and aux child components next to each other.\n * For this to work, the application component must have the primary and aux outlets defined.\n *\n * ```\n * [{\n *  path: 'parent/:id',\n *  children: [\n *  { path: 'a',
component: MainChild },\n *  { path: 'b', component: AuxChild, outlet: 'aux' }\n *  ]\n * }]\n * ```\n *\n * The router merges the parameters, data, and resolve of the componentless\n * parent into the parameters, data, and resolve of the children.\n *\n * This is especially useful when child components are defined\n * with an empty path string, as in the following example.\n * With this configuration, navigating to '/parent/10' creates\n * the main child and aux components.\n *\n * ```\n * [{\n *  path: 'parent/:id',\n *  children: [\n *  { path: '', component: MainChild },\n *  { path: '', component: AuxChild, outlet: 'aux' }\n *  ]\n * }]\n * ```\n *\n * ### Lazy Loading\n

*\n * Lazy loading speeds up application load time by splitting the application\n * into multiple bundles and loading them on demand.\n * To use lazy loading, provide the `loadChildren` property in the `Route` object,\n * instead of the `children` property.\n *\n * Given the following example
route, the router will lazy load\n * the associated module on demand using the browser native import system.\n *\n * ```\n * [{\n *   path: 'lazy',\n *   loadChildren: () => import('./lazy-route/lazy.module').then(mod => mod.LazyModule),\n * }];\n * ```\n *\n * @publicApi\n */\nexport interface Route {\n  /**\n   * The path to match against. Cannot be used together with a custom `matcher` function.\n   * A URL string that uses router matching notation.\n   * Can be a wild card (`**`) that matches any URL (see Usage Notes below).\n   * Default is \"/\" (the root path).\n   *\n   */\n  path?: string;\n  /**\n   * The path-matching strategy, one of 'prefix' or 'full'.\n   * Default is 'prefix'.\n   *\n   * By default, the router checks URL elements from the left to see if the URL\n   * matches a given path, and stops when there is a match. For example,\n   * '/team/11/user' matches 'team/:id'.\n   *\n   * The path-match strategy 'full' matches against the entire URL.\n   * It is important
to do this when redirecting empty-path routes.\n   * Otherwise, because an empty path is a prefix of any URL,\n   * the router would apply the redirect even when navigating\n   * to the redirect destination, creating an endless loop.\n *\n   */\n  pathMatch?: string;\n  /**\n   * A custom URL-matching function. Cannot be used together with `path`.\n */\n  matcher?: UrlMatcher;\n  /**\n   * The component to instantiate when the path matches.\n   * Can be empty if child routes specify components.\n   */\n  component?: Type<any>;\n  /**\n   * A URL to redirect to when the path matches.\n   * Absolute if the URL begins with a slash (/), otherwise relative to the path URL.\n   * When not present, router does not redirect.\n   */\n  redirectTo?: string;\n  /**\n   * Name of a `RouterOutlet` object where the component can be placed\n   * when the path matches.\n   */\n  outlet?: string;\n  /**\n   * An array of dependency-injection tokens used to look up `CanActivate()`\n   * handlers,
in order to determine if the current user is allowed to\n   * activate the component. By default, any user can activate.\n   */\n  canActivate?: any[];\n  /**\n   * An array of DI tokens used to look up `CanActivateChild()` handlers,\n   * in order to determine if the current user is allowed to activate\n   * a child of the component. By default, any user can activate a child.\n   */\n  canActivateChild?: any[];\n  /**\n   * An array of DI tokens used to look up `CanDeactivate()`\n   * handlers, in order to determine if the current user is allowed to\n   * deactivate the component. By default, any user can deactivate.\n   *\n   */\n  canDeactivate?: any[];\n  /**\n   * An array of DI tokens used to look up `CanLoad()`\n   * handlers, in order to determine if the current user is allowed to\n   * load the component. By default, any user can load.\n   */\n  canLoad?: any[];\n  /**\n   * Additional developer-defined data provided to the component via\n   * `ActivatedRoute`. By default, no
additional data is passed.\n   */\n  data?: Data;\n  /**\n   * A map of DI tokens used to look up data resolvers. See `Resolve`.\n   */\n  resolve?: ResolveData;\n  /**\n   * An array of child `Route` objects that specifies a nested route\n   * configuration.\n   */\n  children?: Routes;\n  /**\n   * An object specifying lazy-loaded child routes.\n */\n  loadChildren?: LoadChildren;\n  /**\n   * Defines when guards and resolvers will be run. One of\n   * - `paramsOrQueryParamsChange` : Run when query parameters change.\n   * - `always` : Run on every execution.\n * By default, guards and resolvers run only when the matrix\n   * parameters of the route change.\n   */\n  runGuardsAndResolvers?: RunGuardsAndResolvers;\n  /**\n   * Filled for routes with `loadChildren` once the module has been loaded\n   * @internal\n   */\n  _loadedConfig?: LoadedRouterConfig;\n}\n\nexport class LoadedRouterConfig {\n  constructor(public routes: Route[], public module: NgModuleRef<any>) {}\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CanActivate, CanActivateChild, CanDeactivate, CanLoad} from '../interfaces';\nimport {UrlTree} from '../url_tree';\n\n/**\n * Simple function check, but generic so type inference will flow. Example:\n *\n * function product(a: number, b: number) {\n *   return a * b;\n * }\n *\n * if (isFunction<product>(fn)) {\n *   return fn(1, 2);\n * } else {\n *   throw \"Must provide the `product` function\";\n * }\n */\nexport function isFunction<T>(v: any): v is T {\n  return typeof v === 'function';\n}\n\nexport function isBoolean(v: any): v is boolean {\n  return typeof v === 'boolean';\n}\n\nexport function isUrlTree(v: any): v is UrlTree {\n  return v instanceof UrlTree;\n}\n\nexport function isCanLoad(guard: any): guard is CanLoad {\n  return guard &&

isFunction<CanLoad>(guard.canLoad);\n}\n\nexport
function isCanActivate(guard: any): guard is CanActivate {\n return guard &&
isFunction<CanActivate>(guard.canActivate);\n}\n\nexport function isCanActivateChild(guard: any): guard is
CanActivateChild {\n return guard && isFunction<CanActivateChild>(guard.canActivateChild);\n}\n\nexport
function isCanDeactivate<T>(guard: any): guard is CanDeactivate<T> {\n return guard &&
isFunction<CanDeactivate<T>>(guard.canDeactivate);\n}\n","/**\n * @license\n * Copyright Google LLC All
Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the
LICENSE file at https://angular.io/license\n */\n\nimport {combineLatest, Observable, OperatorFunction} from
'rxjs';\nimport {filter, map, scan, startWith, switchMap, take} from 'rxjs/operators';\n\nimport {UrlTree} from
'../url_tree';\nimport {isUrlTree} from '../utils/type_guards';\n\nconst INITIAL_VALUE =
Symbol('INITIAL_VALUE');\ndeclare type INTERIM_VALUES = typeof INITIAL_VALUE
| boolean | UrlTree;\n\nexport function prioritizedGuardValue():\n
OperatorFunction<Observable<boolean|UrlTree>[], boolean|UrlTree> {\n return switchMap(obs => {\n return
combineLatest(\n ...obs.map(o => o.pipe(take(1), startWith(INITIAL_VALUE as
INTERIM_VALUES))))\n .pipe(\n scan(\n (acc: INTERIM_VALUES, list:
INTERIM_VALUES[]) => {\n let isPending = false;\n return list.reduce((innerAcc,
val, i: number) => {\n if (innerAcc !== INITIAL_VALUE) return innerAcc;\n\n //
Toggle pending flag if any values haven't been set yet\n if (val === INITIAL_VALUE) isPending =
true;\n\n // Any other return values are only valid if we haven't yet hit a pending\n //
call. This guarantees that in the case of a guard at the bottom of the\n
// tree that returns a redirect, we will wait for the higher priority\n // guard at the top to
finish before performing the redirect.\n if (!isPending) {\n // Early return when we
hit a `false` value as that should always\n // cancel navigation\n if (val === false)
return val;\n\n if (i === list.length - 1 || isUrlTree(val)) {\n return val;\n
}\n }\n\n return innerAcc;\n }, acc);\n },\n
INITIAL_VALUE),\n filter(item => item !== INITIAL_VALUE),\n map(item =>
isUrlTree(item) ? item : item === true), //\n take(1)) as Observable<boolean|UrlTree>;\n
});\n}\n","/**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n\nimport {Component} from
'@angular/core';\n\n/**\n * This component is used internally within the router to be a placeholder when an empty\n
* router-outlet is needed. For example, with a config such as:\n *\n * `{path: 'parent', outlet: 'nav', children: [...]}`\n
*\n * In order to render, there needs to be a component on this config, which will default\n * to this
`EmptyOutletComponent`.\n */\n@Component({template: `<router-outlet></router-outlet>`})\nexport class
EmptyOutletComponent {\n}\n\nexport {EmptyOutletComponent as EmptyOutletComponent};\n","/**\n *
@license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-
style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport
{EmptyOutletComponent} from '../components/empty_outlet';\nimport
{Route, Routes} from '../config';\nimport {PRIMARY_OUTLET} from '../shared';\n\nexport function
validateConfig(config: Routes, parentPath: string = ''): void {\n // forEach doesn't iterate undefined values\n for (let
i = 0; i < config.length; i++) {\n const route: Route = config[i];\n const fullPath: string = getFullPath(parentPath,
route);\n validateNode(route, fullPath);\n }\n}\n\nfunction validateNode(route: Route, fullPath: string): void {\n
if (typeof ngDevMode === 'undefined' || ngDevMode) {\n if (!route) {\n throw new Error(`\n Invalid
configuration of route '${fullPath}': Encountered undefined route.\n The reason might be an extra comma.\n\n
Example:\n const routes: Routes = [\n { path: '', redirectTo: '/dashboard', pathMatch: 'full' },\n { path:
'dashboard', component: DashboardComponent },, << two commas\n { path: 'detail/:id', component:
HeroDetailComponent }\n ];\n `);\n }\n

if (Array.isArray(route)) {\n throw new Error(`Invalid configuration of route '${fullPath}': Array cannot be specified`);\n }\n if (!route.component && !route.children && !route.loadChildren &&\n (route.outlet && route.outlet !== PRIMARY_OUTLET)) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': a componentless route without children or loadChildren cannot have a named outlet set`);\n }\n if (route.redirectTo && route.children) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': redirectTo and children cannot be used together`);\n }\n if (route.redirectTo && route.loadChildren) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': redirectTo and loadChildren cannot be used together`);\n }\n if (route.children && route.loadChildren) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': children and loadChildren cannot be used together`);\n }\n if (route.redirectTo && route.component) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': redirectTo and component cannot be used together`);\n }\n if (route.path && route.matcher) {\n throw new Error(\n `Invalid configuration of route '${fullPath}': path and matcher cannot be used together`);\n }\n if (route.redirectTo === void 0 && !route.component && !route.children && !route.loadChildren) {\n throw new Error(`Invalid configuration of route '${\n fullPath}'. One of the following must be provided: component, redirectTo, children or loadChildren`);\n }\n if (route.path === void 0 && route.matcher === void 0) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': routes must have either a path or a matcher specified`);\n }\n if (typeof route.path === 'string' && route.path.charAt(0) === '/') {\n throw new Error(\n `Invalid configuration of route '${fullPath}': path cannot start with a slash`);\n }\n if (route.path === '' && route.redirectTo !== void 0 && route.pathMatch === void 0) {\n const exp =\n `The default value of 'pathMatch' is 'prefix', but often the intent is to use 'full'.`;\n throw new Error(`Invalid configuration of route '{path: \"${fullPath}\", redirectTo: \"${\n route.redirectTo}\"}': please provide 'pathMatch'. ${exp}`);\n }\n if (route.pathMatch !== void 0 && route.pathMatch !== 'full' && route.pathMatch !== 'prefix') {\n throw new Error(`Invalid configuration of route '${\n fullPath}': pathMatch can only be set to 'prefix' or 'full'`);\n }\n }\n if (route.children) {\n validateConfig(route.children, fullPath);\n }\n}\n\nfunction getFullPath(parentPath: string, currentRoute: Route): string {\n if (!currentRoute) {\n return parentPath;\n }\n if (!parentPath && !currentRoute.path) {\n return '';\n } else if (parentPath && !currentRoute.path) {\n return `${parentPath}/`;\n } else if (!parentPath && currentRoute.path) {\n return currentRoute.path;\n } else {\n return `${parentPath}/${currentRoute.path}`;\n }\n}\n\n/**\n * Makes a copy of the config and adds any default required properties.\n */\nexport function standardizeConfig(r: Route): Route {\n const children = r.children && r.children.map(standardizeConfig);\n const c = children ? {...r, children} : {...r};\n if (!c.component && (children || c.loadChildren) && (c.outlet && c.outlet !== PRIMARY_OUTLET)) {\n c.component = EmptyOutletComponent;\n }\n return c;\n}\n\n/** Returns of `Map` of outlet names to the `Route`s for that outlet. */\nexport function groupRoutesByOutlet(routes: Route[]): Map<string, Route[]> {\n return routes.reduce((map, route) => {\n const routeOutlet = getOutlet(route);\n if (map.has(routeOutlet)) {\n map.get(routeOutlet)!.push(route);\n } else {\n map.set(routeOutlet, [route]);\n }\n return map;\n }, new Map<string, Route[]>());\n}\n\n/** Returns the `route.outlet` or PRIMARY_OUTLET if none exists. */\nexport function getOutlet(route: Route): string {\n return route.outlet || PRIMARY_OUTLET;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector, NgModuleRef} from '@angular/core';\nimport {EmptyError, from, Observable, Observer, of} from 'rxjs';\nimport {catchError, combineAll, concatMap, first, map, mergeMap, tap} from 'rxjs/operators';\n\nimport {LoadedRouterConfig, Route, Routes} from './config';\nimport {CanLoadFn} from './interfaces';\nimport {prioritizedGuardValue} from './operators/prioritized_guard_value';\nimport {RouterConfigLoader} from './router_config_loader';\nimport {defaultUrlMatcher, navigationCancelingError, Params, PRIMARY_OUTLET} from './shared';\nimport {UrlSegment, UrlSegmentGroup, UrlSerializer, UrlTree} from './url_tree';\nimport {forEach, waitForMap, wrapIntoObservable} from './utils/collection';\nimport {getOutlet, groupRoutesByOutlet} from './utils/config';\nimport {isCanLoad,

isFunction, isUrlTree} from './utils/type_guards';\n\nclass NoMatch {\n  public segmentGroup: UrlSegmentGroup|null;\n\n  constructor(segmentGroup?: UrlSegmentGroup) {\n    this.segmentGroup = segmentGroup || null;\n  }\n}\n\nclass AbsoluteRedirect {\n  constructor(public urlTree: UrlTree) {}\n}\n\nfunction noMatch(segmentGroup: UrlSegmentGroup): Observable<UrlSegmentGroup> {\n  return new Observable<UrlSegmentGroup>(\n      (obs: Observer<UrlSegmentGroup>) => obs.error(new NoMatch(segmentGroup)));\n}\n\nfunction absoluteRedirect(newTree: UrlTree): Observable<any> {\n  return new Observable<UrlSegmentGroup>(\n      (obs: Observer<UrlSegmentGroup>) => obs.error(new AbsoluteRedirect(newTree)));\n}\n\nfunction namedOutletsRedirect(redirectTo: string): Observable<any> {\n  return new Observable<UrlSegmentGroup>(\n      (obs: Observer<UrlSegmentGroup>) => obs.error(new Error(\n        `Only absolute redirects can have named outlets. redirectTo: '${redirectTo}'`)));\n}\n\nfunction canLoadFails(route: Route): Observable<LoadedRouterConfig> {\n  return new Observable<LoadedRouterConfig>(\n      (obs: Observer<LoadedRouterConfig>) => obs.error(\n navigationCancelingError(`Cannot load children because the guard of the route \"path: '${\n route.path}'\" returned false`)));\n}\n\n/**\n * Returns the `UrlTree` with the redirection applied.\n *\n * Lazy modules are loaded along the way.\n */\nexport function applyRedirects(\n    moduleInjector: Injector, configLoader: RouterConfigLoader, urlSerializer: UrlSerializer,\n    urlTree: UrlTree, config: Routes): Observable<UrlTree> {\n return new ApplyRedirects(moduleInjector, configLoader, urlSerializer, urlTree, config).apply();\n}\n\nclass ApplyRedirects {\n  private allowRedirects: boolean = true;\n  private ngModule: NgModuleRef<any>;\n\n  constructor(\n      moduleInjector: Injector, private configLoader: RouterConfigLoader,\n      private urlSerializer: UrlSerializer, private urlTree: UrlTree, private config: Routes) {\n    this.ngModule = moduleInjector.get(NgModuleRef);\n  }\n\n  apply(): Observable<UrlTree> {\n    const expanded$ =\n        this.expandSegmentGroup(this.ngModule, this.config, this.urlTree.root, PRIMARY_OUTLET);\n    const urlTrees$ = expanded$.pipe(\n        map((rootSegmentGroup: UrlSegmentGroup) => this.createUrlTree(\n                rootSegmentGroup, this.urlTree.queryParams, this.urlTree.fragment!)));\n    return urlTrees$.pipe(catchError((e: any) => {\n      if (e instanceof AbsoluteRedirect) {\n        // after an absolute redirect we do not apply any more redirects!\n        this.allowRedirects = false;\n        // we need to run matching, so we can fetch all lazy-loaded modules\n        return this.match(e.urlTree);\n      }\n\n      if (e instanceof NoMatch) {\n        throw this.noMatchError(e);\n      }\n\n      throw e;\n    }));\n  }\n\n  private match(tree: UrlTree): Observable<UrlTree> {\n    const expanded$ =\n this.expandSegmentGroup(this.ngModule, this.config, tree.root, PRIMARY_OUTLET);\n    const mapped$ = expanded$.pipe(\n        map((rootSegmentGroup: UrlSegmentGroup) =>\n this.createUrlTree(rootSegmentGroup, tree.queryParams, tree.fragment!)));\n    return mapped$.pipe(catchError((e: any): Observable<UrlTree> => {\n      if (e instanceof NoMatch) {\n        throw this.noMatchError(e);\n      }\n\n      throw e;\n    }));\n  }\n\n  private noMatchError(e: NoMatch): any {\n    return new Error(`Cannot match any routes. URL Segment: '${e.segmentGroup}'`);\n  }\n\n  private createUrlTree(rootCandidate: UrlSegmentGroup, queryParams: Params, fragment: string):\n      UrlTree {\n    const root = rootCandidate.segments.length > 0 ?\n        new UrlSegmentGroup([], {[PRIMARY_OUTLET]: rootCandidate})\n        :\n        rootCandidate;\n    return new UrlTree(root, queryParams, fragment);\n  }\n\n  private expandSegmentGroup(\n      ngModule: NgModuleRef<any>, routes: Route[], segmentGroup: UrlSegmentGroup,\n      outlet: string): Observable<UrlSegmentGroup> {\n    if (segmentGroup.segments.length === 0 && segmentGroup.hasChildren()) {\n      return this.expandChildren(ngModule, routes, segmentGroup)\n          .pipe(map((children: any) => new UrlSegmentGroup([], children)));\n    }\n\n    return this.expandSegment(ngModule, segmentGroup, routes, segmentGroup.segments, outlet, true);\n  }\n\n  // Recursively expand segment groups for all the child outlets\n  private expandChildren(\n      ngModule: NgModuleRef<any>, routes: Route[],\n      segmentGroup: UrlSegmentGroup): Observable<{[name: string]: UrlSegmentGroup}> {\n    return waitForMap(\n        segmentGroup.children,\n        (childOutlet, child) => this.expandSegmentGroup(ngModule, routes, child, childOutlet));\n  }\n\n  private

```
 expandSegment(\n      ngModule: NgModuleRef<any>, segmentGroup: UrlSegmentGroup, routes: Route[],\n
segments: UrlSegment[], outlet: string,\n      allowRedirects: boolean): Observable<UrlSegmentGroup> {\n    // We
need to expand each outlet group independently to ensure that we not only load modules\n    // for routes matching
the given `outlet`, but also those which will be activated because\n    // their path is empty string. This can result in
multiple outlets being activated at once.\n    const routesByOutlet: Map<string, Route[]> =
groupRoutesByOutlet(routes);\n    if (!routesByOutlet.has(outlet)) {\n      routesByOutlet.set(outlet, []);\n    }\n\n
const expandRoutes = (routes: Route[]) => {\n      return from(routes).pipe(\n          concatMap((r: Route) => {\n
  const expanded$ = this.expandSegmentAgainstRoute(\n              ngModule, segmentGroup, routes, r, segments,
outlet, allowRedirects);\n          return expanded$.pipe(catchError(e => {\n
     if (e instanceof NoMatch) {\n              return of(null);\n          }\n          throw e;\n          })),\n
    first((s: UrlSegmentGroup|null): s is UrlSegmentGroup => s !== null),\n          catchError(e => {\n          if (e
instanceof EmptyError || e.name === 'EmptyError') {\n            if (this.noLeftoversInUrl(segmentGroup, segments,
outlet)) {\n              return of(new UrlSegmentGroup([], {}));\n            }\n            throw new
NoMatch(segmentGroup);\n          }\n          throw e;\n        }),\n      );\n    };\n\n    const expansions =
Array.from(routesByOutlet.entries()).map(([routeOutlet, routes]) => {\n      const expanded =
expandRoutes(routes);\n      // Map all results from outlets we aren't activating to `null` so they can be ignored later\n
   return routeOutlet === outlet ? expanded :\n                                  expanded.pipe(map(() => null), catchError(()
=> of(null)));\n    });\n    return
 from(expansions)\n        .pipe(\n          combineAll(),\n          first(),\n          // Return only the expansion for the
route outlet we are trying to activate.\n          map(results => results.find(result => result !== null)!),\n        );\n
}\n\n  private noLeftoversInUrl(segmentGroup: UrlSegmentGroup, segments: UrlSegment[], outlet: string):\n
boolean {\n    return segments.length === 0 && !segmentGroup.children[outlet];\n  }\n\n  private
expandSegmentAgainstRoute(\n      ngModule: NgModuleRef<any>, segmentGroup: UrlSegmentGroup, routes:
Route[], route: Route,\n      paths: UrlSegment[], outlet: string, allowRedirects: boolean):
Observable<UrlSegmentGroup> {\n    // Empty string segments are special because multiple outlets can match a
single path, i.e.\n    // `[{path: '', component: B}, {path: '', loadChildren: () => {}, outlet: \"about\"}]`\n    if
(getOutlet(route) !== outlet && route.path !== '') {\n      return noMatch(segmentGroup);\n    }\n\n    if
(route.redirectTo
 === undefined) {\n      return this.matchSegmentAgainstRoute(ngModule, segmentGroup, route, paths);\n    }\n\n
if (allowRedirects && this.allowRedirects) {\n      return this.expandSegmentAgainstRouteUsingRedirect(\n
ngModule, segmentGroup, routes, route, paths, outlet);\n    }\n\n    return noMatch(segmentGroup);\n  }\n\n  private
expandSegmentAgainstRouteUsingRedirect(\n      ngModule: NgModuleRef<any>, segmentGroup:
UrlSegmentGroup, routes: Route[], route: Route,\n      segments: UrlSegment[], outlet: string):
Observable<UrlSegmentGroup> {\n    if (route.path === '**') {\n      return
this.expandWildCardWithParamsAgainstRouteUsingRedirect(\n          ngModule, routes, route, outlet);\n    }\n\n
return this.expandRegularSegmentAgainstRouteUsingRedirect(\n        ngModule, segmentGroup, routes, route,
segments, outlet);\n  }\n\n  private expandWildCardWithParamsAgainstRouteUsingRedirect(\n      ngModule:
NgModuleRef<any>, routes: Route[], route: Route,\n
   outlet: string): Observable<UrlSegmentGroup> {\n    const newTree = this.applyRedirectCommands([],
route.redirectTo!, {});\n    if (route.redirectTo!.startsWith('/')) {\n      return absoluteRedirect(newTree);\n    }\n\n
return this.lineralizeSegments(route, newTree).pipe(mergeMap((newSegments: UrlSegment[]) => {\n      const
group = new UrlSegmentGroup(newSegments, {});\n      return this.expandSegment(ngModule, group, routes,
newSegments, outlet, false);\n    }));\n  }\n\n  private expandRegularSegmentAgainstRouteUsingRedirect(\n
ngModule: NgModuleRef<any>, segmentGroup: UrlSegmentGroup, routes: Route[], route: Route,\n      segments:
UrlSegment[], outlet: string): Observable<UrlSegmentGroup> {\n    const {matched, consumedSegments, lastChild,
positionalParamSegments} =\n        match(segmentGroup, route, segments);\n    if (!matched) return
noMatch(segmentGroup);\n\n    const newTree = this.applyRedirectCommands(\n        consumedSegments,
route.redirectTo!, <any>positionalParamSegments);\n
```

```
    if (route.redirectTo!.startsWith('/')) {\n      return absoluteRedirect(newTree);\n    }\n\n    return
this.lineralizeSegments(route, newTree).pipe(mergeMap((newSegments: UrlSegment[]) => {\n      return
this.expandSegment(\n          ngModule, segmentGroup, routes, newSegments.concat(segments.slice(lastChild)),
outlet,\n          false);\n    }));\n  }\n\n  private matchSegmentAgainstRoute(\n      ngModule: NgModuleRef<any>,
rawSegmentGroup: UrlSegmentGroup, route: Route,\n      segments: UrlSegment[]):
Observable<UrlSegmentGroup> {\n    if (route.path === '**') {\n      if (route.loadChildren) {\n        return
this.configLoader.load(ngModule.injector, route)\n            .pipe(map((cfg: LoadedRouterConfig) => {\n
route._loadedConfig = cfg;\n              return new UrlSegmentGroup(segments, {});\n            }));\n      }\n\n      return
of(new UrlSegmentGroup(segments, {}));\n    }\n\n    const {matched, consumedSegments, lastChild} =
match(rawSegmentGroup,
 route, segments);\n    if (!matched) return noMatch(rawSegmentGroup);\n\n    const rawSlicedSegments =
segments.slice(lastChild);\n    const childConfig$ = this.getChildConfig(ngModule, route, segments);\n\n    return
childConfig$.pipe(mergeMap((routerConfig: LoadedRouterConfig) => {\n      const childModule =
routerConfig.module;\n      const childConfig = routerConfig.routes;\n\n      const {segmentGroup, slicedSegments}
=\n          split(rawSegmentGroup, consumedSegments, rawSlicedSegments, childConfig);\n\n      if
(slicedSegments.length === 0 && segmentGroup.hasChildren()) {\n        const expanded$ =
this.expandChildren(childModule, childConfig, segmentGroup);\n        return expanded$.pipe(\n
map((children: any) => new UrlSegmentGroup(consumedSegments, children)));\n      }\n\n      if (childConfig.length
=== 0 && slicedSegments.length === 0) {\n        return of(new UrlSegmentGroup(consumedSegments, {}));\n
}\n\n      const expanded$ = this.expandSegment(\n
        childModule, segmentGroup, childConfig, slicedSegments, PRIMARY_OUTLET, true);\n      return
expanded$.pipe(\n          map((cs: UrlSegmentGroup) =>\n                new
UrlSegmentGroup(consumedSegments.concat(cs.segments), cs.children)));\n    }));\n  }\n\n  private
getChildConfig(ngModule: NgModuleRef<any>, route: Route, segments: UrlSegment[]):\n
Observable<LoadedRouterConfig> {\n    if (route.children) {\n      // The children belong to the same module\n
return of(new LoadedRouterConfig(route.children, ngModule));\n    }\n\n    if (route.loadChildren) {\n      // lazy
children belong to the loaded module\n      if (route._loadedConfig !== undefined) {\n        return
of(route._loadedConfig);\n      }\n\n      return this.runCanLoadGuards(ngModule.injector, route, segments)\n
.pipe(mergeMap((shouldLoadResult: boolean) => {\n            if (shouldLoadResult) {\n              return
this.configLoader.load(ngModule.injector, route)\n
    .pipe(map((cfg: LoadedRouterConfig) => {\n                  route._loadedConfig = cfg;\n                  return cfg;\n
          }));\n            }\n            return canLoadFails(route);\n          }));\n    }\n\n    return of(new
LoadedRouterConfig([], ngModule));\n  }\n\n  private runCanLoadGuards(moduleInjector: Injector, route: Route,
segments: UrlSegment[]):\n      Observable<boolean> {\n    const canLoad = route.canLoad;\n    if (!canLoad ||
canLoad.length === 0) return of(true);\n\n    const canLoadObservables = canLoad.map((injectionToken: any) =>
{\n      const guard = moduleInjector.get(injectionToken);\n      let guardVal;\n      if (isCanLoad(guard)) {\n
guardVal = guard.canLoad(route, segments);\n      } else if (isFunction<CanLoadFn>(guard)) {\n        guardVal =
guard(route, segments);\n      } else {\n        throw new Error('Invalid CanLoad guard');\n      }\n      return
wrapIntoObservable(guardVal);\n    });\n\n    return of(canLoadObservables)\n
      .pipe(\n          prioritizedGuardValue(),\n          tap((result: UrlTree|boolean) => {\n            if
(!isUrlTree(result)) return;\n\n            const error: Error&{url?: UrlTree} = navigationCancelingError(\n
`Redirecting to \"${this.urlSerializer.serialize(result)}\"`);\n            error.url = result;\n            throw error;\n
}),\n          map(result => result === true),\n        );\n  }\n\n  private lineralizeSegments(route: Route, urlTree:
UrlTree): Observable<UrlSegment[]> {\n    let res: UrlSegment[] = [];\n    let c = urlTree.root;\n    while (true) {\n
res = res.concat(c.segments);\n      if (c.numberOfChildren === 0) {\n        return of(res);\n      }\n\n      if
(c.numberOfChildren > 1 || !c.children[PRIMARY_OUTLET]) {\n        return
namedOutletsRedirect(route.redirectTo!);\n      }\n\n      c = c.children[PRIMARY_OUTLET];\n    }\n  }\n\n  private
applyRedirectCommands(\n      segments: UrlSegment[], redirectTo:
```

```
 string, posParams: {[k: string]: UrlSegment}): UrlTree {\n    return this.applyRedirectCreatreUrlTree(\n redirectTo, this.urlSerializer.parse(redirectTo), segments, posParams);\n  }\n\n  private applyRedirectCreatreUrlTree(\n      redirectTo: string, urlTree: UrlTree, segments: UrlSegment[],\n      posParams: {[k: string]: UrlSegment}): UrlTree {\n    const newRoot = this.createSegmentGroup(redirectTo, urlTree.root, segments, posParams);\n    return new UrlTree(\n        newRoot, this.createQueryParams(urlTree.queryParams, this.urlTree.queryParams),\n        urlTree.fragment);\n  }\n\n  private createQueryParams(redirectToParams: Params, actualParams: Params): Params {\n    const res: Params = {};\n    forEach(redirectToParams, (v: any, k: string) => {\n      const copySourceValue = typeof v === 'string' && v.startsWith(':');\n      if (copySourceValue) {\n        const sourceName = v.substring(1);\n        res[k] = actualParams[sourceName];\n      } else {\n        res[k]
 = v;\n      }\n    });\n    return res;\n  }\n\n  private createSegmentGroup(\n      redirectTo: string, group: UrlSegmentGroup, segments: UrlSegment[],\n      posParams: {[k: string]: UrlSegment}): UrlSegmentGroup {\n    const updatedSegments = this.createSegments(redirectTo, group.segments, segments, posParams);\n\n    let children: {[n: string]: UrlSegmentGroup} = {};\n    forEach(group.children, (child: UrlSegmentGroup, name: string) => {\n      children[name] = this.createSegmentGroup(redirectTo, child, segments, posParams);\n    });\n\n    return new UrlSegmentGroup(updatedSegments, children);\n  }\n\n  private createSegments(\n      redirectTo: string, redirectToSegments: UrlSegment[], actualSegments: UrlSegment[],\n      posParams: {[k: string]: UrlSegment}): UrlSegment[] {\n    return redirectToSegments.map(\n        s => s.path.startsWith(':') ? this.findPosParam(redirectTo, s, posParams) :\n                                      this.findOrReturn(s, actualSegments));\n  }\n\n
  private findPosParam(\n      redirectTo: string, redirectToUrlSegment: UrlSegment,\n      posParams: {[k: string]: UrlSegment}): UrlSegment {\n    const pos = posParams[redirectToUrlSegment.path.substring(1)];\n    if (!pos)\n      throw new Error(\n          `Cannot redirect to '${redirectTo}'. Cannot find '${redirectToUrlSegment.path}'.`);\n    return pos;\n  }\n\n  private findOrReturn(redirectToUrlSegment: UrlSegment, actualSegments: UrlSegment[]): UrlSegment {\n    let idx = 0;\n    for (const s of actualSegments) {\n      if (s.path === redirectToUrlSegment.path) {\n        actualSegments.splice(idx);\n        return s;\n      }\n      idx++;\n    }\n    return redirectToUrlSegment;\n  }\n}\n\nfunction match(segmentGroup: UrlSegmentGroup, route: Route, segments: UrlSegment[]): {\n  matched: boolean,\n  consumedSegments: UrlSegment[],\n  lastChild: number,\n  positionalParamSegments: {[k: string]: UrlSegment}\n} {\n  if (route.path === '') {\n    if ((route.pathMatch === 'full')
 && (segmentGroup.hasChildren() || segments.length > 0)) {\n      return {matched: false, consumedSegments: [], lastChild: 0, positionalParamSegments: {}};\n    }\n\n    return {matched: true, consumedSegments: [], lastChild: 0, positionalParamSegments: {}};\n  }\n\n  const matcher = route.matcher || defaultUrlMatcher;\n  const res = matcher(segments, segmentGroup, route);\n\n  if (!res) {\n    return {\n      matched: false,\n      consumedSegments: <any[]>[],\n      lastChild: 0,\n      positionalParamSegments: {},\n    };\n  }\n\n  return {\n    matched: true,\n    consumedSegments: res.consumed!,\n    lastChild: res.consumed.length!,\n    positionalParamSegments: res.posParams!,\n  };\n}\n\nfunction split(\n    segmentGroup: UrlSegmentGroup, consumedSegments: UrlSegment[], slicedSegments: UrlSegment[],\n    config: Route[]) {\n  if (slicedSegments.length > 0 &&\n      containsEmptyPathRedirectsWithNamedOutlets(segmentGroup, slicedSegments, config)) {\n    const s = new UrlSegmentGroup(\n
        consumedSegments,\n        createChildrenForEmptySegments(\n            config, new UrlSegmentGroup(slicedSegments, segmentGroup.children)));\n    return {segmentGroup: mergeTrivialChildren(s), slicedSegments: []};\n  }\n\n  if (slicedSegments.length === 0 &&\n      containsEmptyPathRedirects(segmentGroup, slicedSegments, config)) {\n    const s = new UrlSegmentGroup(\n        segmentGroup.segments,\n        addEmptySegmentsToChildrenIfNeeded(\n            segmentGroup, slicedSegments, config, segmentGroup.children));\n    return {segmentGroup: mergeTrivialChildren(s), slicedSegments};\n  }\n\n  return {segmentGroup, slicedSegments};\n}\n\nfunction mergeTrivialChildren(s: UrlSegmentGroup): UrlSegmentGroup {\n  if (s.numberOfChildren === 1 && s.children[PRIMARY_OUTLET]) {\n    const c = s.children[PRIMARY_OUTLET];\n    return new UrlSegmentGroup(s.segments.concat(c.segments), c.children);\n  }\n\n  return s;\n}\n\nfunction addEmptySegmentsToChildrenIfNeeded(\n    segmentGroup:
```

UrlSegmentGroup, slicedSegments: UrlSegment[], routes: Route[],\n children: {[name: string]: UrlSegmentGroup}): {[name: string]: UrlSegmentGroup} {\n const res: {[name: string]: UrlSegmentGroup} = {};\n for (const r of routes) {\n if (isEmptyPathRedirect(segmentGroup, slicedSegments, r) && !children[getOutlet(r)]) {\n res[getOutlet(r)] = new UrlSegmentGroup([], {});\n }\n }\n return {...children, ...res};\n}\n\nfunction createChildrenForEmptySegments(\n routes: Route[], primarySegmentGroup: UrlSegmentGroup): {[name: string]: UrlSegmentGroup} {\n const res: {[name: string]: UrlSegmentGroup} = {};\n res[PRIMARY_OUTLET] = primarySegmentGroup;\n for (const r of routes) {\n if (r.path === '' && getOutlet(r) !== PRIMARY_OUTLET) {\n res[getOutlet(r)] = new UrlSegmentGroup([], {});\n }\n }\n return res;\n}\n\nfunction containsEmptyPathRedirectsWithNamedOutlets(\n segmentGroup: UrlSegmentGroup, segments: UrlSegment[], routes: Route[]): boolean {\n return routes.some(\n r => isEmptyPathRedirect(segmentGroup, segments, r) && getOutlet(r) !== PRIMARY_OUTLET);\n}\n\nfunction containsEmptyPathRedirects(\n segmentGroup: UrlSegmentGroup, segments: UrlSegment[], routes: Route[]): boolean {\n return routes.some(r => isEmptyPathRedirect(segmentGroup, segments, r));\n}\n\nfunction isEmptyPathRedirect(\n segmentGroup: UrlSegmentGroup, segments: UrlSegment[], r: Route): boolean {\n if ((segmentGroup.hasChildren() || segments.length > 0) && r.pathMatch === 'full') {\n return false;\n }\n\n return r.path === '' && r.redirectTo !== undefined;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\nimport {MonoTypeOperatorFunction, Observable} from 'rxjs';\nimport {map, switchMap} from 'rxjs/operators';\n\nimport {applyRedirects as applyRedirectsFn} from '../apply_redirects';\nimport {Routes} from '../config';\nimport {NavigationTransition} from '../router';\nimport {RouterConfigLoader} from '../router_config_loader';\nimport {UrlSerializer} from '../url_tree';\n\nexport function applyRedirects(\n moduleInjector: Injector, configLoader: RouterConfigLoader, urlSerializer: UrlSerializer,\n config: Routes): MonoTypeOperatorFunction<NavigationTransition> {\n return function(source: Observable<NavigationTransition>) {\n return source.pipe(switchMap(\n t => applyRedirectsFn(moduleInjector, configLoader, urlSerializer, t.extractedUrl, config)\n .pipe(map(urlAfterRedirects => ({...t, urlAfterRedirects})))));\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\n\nimport {LoadedRouterConfig, RunGuardsAndResolvers} from '../config';\nimport {ChildrenOutletContexts, OutletContext} from '../router_outlet_context';\nimport {ActivatedRouteSnapshot, equalParamsAndUrlSegments, RouterStateSnapshot} from '../router_state';\nimport {equalPath} from '../url_tree';\nimport {forEach, shallowEqual} from '../utils/collection';\nimport {nodeChildrenAsMap, TreeNode} from '../utils/tree';\n\nexport class CanActivate {\n readonly route: ActivatedRouteSnapshot;\n constructor(public path: ActivatedRouteSnapshot[]) {\n this.route = this.path[this.path.length - 1];\n }\n}\n\nexport class CanDeactivate {\n constructor(public component: Object|null, public route: ActivatedRouteSnapshot) {}\n}\n\nexport declare type Checks = {\n canDeactivateChecks: CanDeactivate[],\n canActivateChecks: CanActivate[],\n};\n\nexport function getAllRouteGuards(\n future: RouterStateSnapshot, curr: RouterStateSnapshot,\n parentContexts: ChildrenOutletContexts) {\n const futureRoot = future._root;\n const currRoot = curr ? curr._root : null;\n\n return getChildRouteGuards(futureRoot, currRoot, parentContexts, [futureRoot.value]);\n}\n\nexport function getCanActivateChild(p: ActivatedRouteSnapshot):\n {node: ActivatedRouteSnapshot, guards: any[]}|null {\n const canActivateChild = p.routeConfig ? p.routeConfig.canActivateChild : null;\n if (!canActivateChild || canActivateChild.length === 0) return null;\n return {node: p, guards: canActivateChild};\n}\n\nexport function getToken(\n token: any, snapshot: ActivatedRouteSnapshot, moduleInjector: Injector): any {\n const config = getClosestLoadedConfig(snapshot);\n const injector = config ? config.module.injector : moduleInjector;\n return injector.get(token);\n}\n\nfunction getClosestLoadedConfig(snapshot: ActivatedRouteSnapshot): LoadedRouterConfig|null {\n if (!snapshot) return

null;\n\n  for (let s = snapshot.parent; s; s = s.parent) {\n    const route = s.routeConfig;\n    if (route && route._loadedConfig)
  return route._loadedConfig;\n  }\n\n  return null;\n}\n\nfunction getChildRouteGuards(\n    futureNode: TreeNode<ActivatedRouteSnapshot>, currNode: TreeNode<ActivatedRouteSnapshot>|null,\n    contexts: ChildrenOutletContexts|null, futurePath: ActivatedRouteSnapshot[], checks: Checks = {\n      canDeactivateChecks: [],\n      canActivateChecks: []\n    }): Checks {\n  const prevChildren = nodeChildrenAsMap(currNode);\n\n  // Process the children of the future route\n  futureNode.children.forEach(c => {\n    getRouteGuards(c, prevChildren[c.value.outlet], contexts, futurePath.concat([c.value]), checks);\n    delete prevChildren[c.value.outlet];\n  });\n\n  // Process any children left from the current route (not active for the future route)\n  forEach(\n      prevChildren,\n      (v: TreeNode<ActivatedRouteSnapshot>, k: string) =>\n          deactivateRouteAndItsChildren(v, contexts!.getContext(k), checks));\n\n  return checks;\n}\n\nfunction getRouteGuards(\n    futureNode: TreeNode<ActivatedRouteSnapshot>,
  currNode: TreeNode<ActivatedRouteSnapshot>,\n    parentContexts: ChildrenOutletContexts|null, futurePath: ActivatedRouteSnapshot[],\n    checks: Checks = {\n      canDeactivateChecks: [],\n      canActivateChecks: []\n    }): Checks {\n  const future = futureNode.value;\n  const curr = currNode ? currNode.value : null;\n  const context = parentContexts ? parentContexts.getContext(futureNode.value.outlet) : null;\n\n  // reusing the node\n  if (curr && future.routeConfig === curr.routeConfig) {\n    const shouldRun =\n        shouldRunGuardsAndResolvers(curr, future, future.routeConfig!.runGuardsAndResolvers);\n    if (shouldRun) {\n      checks.canActivateChecks.push(new CanActivate(futurePath));\n    } else {\n      // we need to set the data\n      future.data = curr.data;\n      future._resolvedData = curr._resolvedData;\n    }\n\n    // If we have a component, we need to go through an outlet.\n    if (future.component) {\n      getChildRouteGuards(\n          futureNode, currNode, context ? context.children : null, futurePath, checks);\n\n      // if we have a componentless route, we recurse but keep the same outlet map.\n    } else {\n      getChildRouteGuards(futureNode, currNode, parentContexts, futurePath, checks);\n    }\n\n    if (shouldRun && context && context.outlet && context.outlet.isActivated) {\n      checks.canDeactivateChecks.push(new CanDeactivate(context.outlet.component, curr));\n    }\n  } else {\n    if (curr) {\n      deactivateRouteAndItsChildren(currNode, context, checks);\n    }\n\n    checks.canActivateChecks.push(new CanActivate(futurePath));\n    // If we have a component, we need to go through an outlet.\n    if (future.component) {\n      getChildRouteGuards(futureNode, null, context ? context.children : null, futurePath, checks);\n\n      // if we have a componentless route, we recurse but keep the same outlet map.\n    } else {\n      getChildRouteGuards(futureNode, null, parentContexts, futurePath, checks);\n    }\n  }\n\n  return checks;\n}\n\nfunction shouldRunGuardsAndResolvers(\n    curr: ActivatedRouteSnapshot, future: ActivatedRouteSnapshot,\n    mode: RunGuardsAndResolvers|undefined): boolean {\n  if (typeof mode === 'function') {\n    return mode(curr, future);\n  }\n  switch (mode) {\n    case 'pathParamsChange':\n      return !equalPath(curr.url, future.url);\n\n    case 'pathParamsOrQueryParamsChange':\n      return !equalPath(curr.url, future.url) ||\n          !shallowEqual(curr.queryParams, future.queryParams);\n\n    case 'always':\n      return true;\n\n    case 'paramsOrQueryParamsChange':\n      return !equalParamsAndUrlSegments(curr, future) ||\n          !shallowEqual(curr.queryParams, future.queryParams);\n\n    case 'paramsChange':\n    default:\n      return !equalParamsAndUrlSegments(curr, future);\n  }\n}\n\nfunction deactivateRouteAndItsChildren(\n    route: TreeNode<ActivatedRouteSnapshot>, context: OutletContext|null, checks: Checks): void {\n  const children = nodeChildrenAsMap(route);\n  const r = route.value;\n\n  forEach(children, (node: TreeNode<ActivatedRouteSnapshot>, childName: string) => {\n    if (!r.component) {\n      deactivateRouteAndItsChildren(node, context, checks);\n    } else if (context) {\n      deactivateRouteAndItsChildren(node, context.children.getContext(childName), checks);\n    } else {\n      deactivateRouteAndItsChildren(node, null, checks);\n    }\n  });\n\n  if (!r.component) {\n    checks.canDeactivateChecks.push(new CanDeactivate(null, r));\n  } else if (context && context.outlet && context.outlet.isActivated) {\n    checks.canDeactivateChecks.push(new CanDeactivate(context.outlet.component, r));\n  } else {\n    checks.canDeactivateChecks.push(new CanDeactivate(null, r));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license

that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector}
from '@angular/core';\nimport {defer, from, MonoTypeOperatorFunction, Observable, of} from 'rxjs';\nimport
{concatAll, concatMap, first, map, mergeMap} from 'rxjs/operators';\n\nimport {ActivationStart,
ChildActivationStart, Event} from '../events';\nimport {CanActivateChildFn, CanActivateFn, CanDeactivateFn}
from '../interfaces';\nimport {NavigationTransition} from '../router';\nimport {ActivatedRouteSnapshot,
RouterStateSnapshot} from '../router_state';\nimport {UrlTree} from '../url_tree';\nimport {wrapIntoObservable}
from '../utils/collection';\nimport {CanActivate, CanDeactivate, getCanActivateChild, getToken} from
'../utils/preactivation';\nimport {isBoolean, isCanActivate, isCanActivateChild, isCanDeactivate, isFunction} from
'../utils/type_guards';\n\nimport {prioritizedGuardValue} from './prioritized_guard_value';\n\nexport function
checkGuards(moduleInjector: Injector, forwardEvent?: (evt: Event) => void):\n
MonoTypeOperatorFunction<NavigationTransition> {\n  return function(source:
Observable<NavigationTransition>) {\n    return source.pipe(mergeMap(t => {\n      const {targetSnapshot,
currentSnapshot, guards: {canActivateChecks, canDeactivateChecks}} = t;\n      if (canDeactivateChecks.length
=== 0 && canActivateChecks.length === 0) {\n        return of({...t, guardsResult: true});\n      }\n\n      return
runCanDeactivateChecks(\n                canDeactivateChecks, targetSnapshot!, currentSnapshot, moduleInjector)\n
.pipe(\n            mergeMap(canDeactivate => {\n              return canDeactivate && isBoolean(canDeactivate)
?\n                  runCanActivateChecks(\n                      targetSnapshot!, canActivateChecks, moduleInjector,
forwardEvent) :\n                  of(canDeactivate);\n            }),\n            map(guardsResult => ({...t,
guardsResult})));\n    }));\n  };\n}\n\nfunction runCanDeactivateChecks(\n    checks: CanDeactivate[], futureRSS:
RouterStateSnapshot, currRSS: RouterStateSnapshot,\n    moduleInjector:
Injector) {\n  return from(checks).pipe(\n      mergeMap(\n          check =>\n
runCanDeactivate(check.component, check.route, currRSS, futureRSS, moduleInjector)),\n      first(result => {\n
return result !== true;\n      }, true as boolean | UrlTree));\n}\n\nfunction runCanActivateChecks(\n
futureSnapshot: RouterStateSnapshot, checks: CanActivate[], moduleInjector: Injector,\n    forwardEvent?: (evt:
Event) => void) {\n  return from(checks).pipe(\n      concatMap((check: CanActivate) => {\n        return from([\n
fireChildActivationStart(check.route.parent, forwardEvent),\n                fireActivationStart(check.route,
forwardEvent),\n                runCanActivateChild(futureSnapshot, check.path, moduleInjector),\n
runCanActivate(futureSnapshot, check.route, moduleInjector)\n            ])\n            .pipe(concatAll(), first(result =>
{\n                return result !== true;\n              }, true
as boolean | UrlTree));\n      }),\n      first(result => {\n        return result !== true;\n      }, true as boolean |
UrlTree));\n}\n\n/**\n * This should fire off `ActivationStart` events for each route being activated at this\n *
level.\n * In other words, if you're activating `a` and `b` below, `path` will contain the\n *
`ActivatedRouteSnapshot`s for both and we will fire `ActivationStart` for both. Always\n * return\n * `true` so
checks continue to run.\n */\nfunction fireActivationStart(\n    snapshot: ActivatedRouteSnapshot|null,\n
forwardEvent?: (evt: Event) => void): Observable<boolean> {\n  if (snapshot !== null && forwardEvent) {\n
forwardEvent(new ActivationStart(snapshot));\n  }\n  return of(true);\n}\n\n/**\n * This should fire off
`ChildActivationStart` events for each route being activated at this\n * level.\n * In other words, if you're activating
`a` and `b` below, `path` will contain the\n * `ActivatedRouteSnapshot`s for both and we will fire
`ChildActivationStart`
for both. Always\n * return\n * `true` so checks continue to run.\n */\nfunction fireChildActivationStart(\n
snapshot: ActivatedRouteSnapshot|null,\n    forwardEvent?: (evt: Event) => void): Observable<boolean> {\n  if
(snapshot !== null && forwardEvent) {\n    forwardEvent(new ChildActivationStart(snapshot));\n  }\n  return
of(true);\n}\n\nfunction runCanActivate(\n    futureRSS: RouterStateSnapshot, futureARS:
ActivatedRouteSnapshot,\n    moduleInjector: Injector): Observable<boolean|UrlTree> {\n  const canActivate =
futureARS.routeConfig ? futureARS.routeConfig.canActivate : null;\n  if (!canActivate || canActivate.length === 0)
return of(true);\n\n  const canActivateObservables = canActivate.map((c: any) => {\n    return defer(() => {\n
const guard = getToken(c, futureARS, moduleInjector);\n      let observable;\n      if (isCanActivate(guard)) {\n
observable = wrapIntoObservable(guard.canActivate(futureARS, futureRSS));\n      } else if

(isFunction<CanActivateFn>(guard))
{\n observable = wrapIntoObservable(guard(futureARS, futureRSS));\n } else {\n throw new Error('Invalid CanActivate guard');\n }\n return observable.pipe(first());\n });\n });\n return of(canActivateObservables).pipe(prioritizedGuardValue());\n}\n\nfunction runCanActivateChild(\n futureRSS: RouterStateSnapshot, path: ActivatedRouteSnapshot[],\n moduleInjector: Injector): Observable<boolean|UrlTree> {\n const futureARS = path[path.length - 1];\n\n const canActivateChildGuards = path.slice(0, path.length - 1)\n .reverse()\n .map(p => getCanActivateChild(p))\n .filter(_ => _ !== null);\n\n const canActivateChildGuardsMapped = canActivateChildGuards.map((d: any) => {\n return defer(() => {\n const guardsMapped = d.guards.map((c: any) => {\n const guard = getToken(c, d.node, moduleInjector);\n let observable;\n if (isCanActivateChild(guard)) {\n observable = wrapIntoObservable(guard.canActivateChild(futureARS, futureRSS));\n } else if (isFunction<CanActivateChildFn>(guard)) {\n observable = wrapIntoObservable(guard(futureARS, futureRSS));\n } else {\n throw new Error('Invalid CanActivateChild guard');\n }\n return observable.pipe(first());\n });\n return of(guardsMapped).pipe(prioritizedGuardValue());\n });\n });\n return of(canActivateChildGuardsMapped).pipe(prioritizedGuardValue());\n}\n\nfunction runCanDeactivate(\n component: Object|null, currARS: ActivatedRouteSnapshot, currRSS: RouterStateSnapshot,\n futureRSS: RouterStateSnapshot, moduleInjector: Injector): Observable<boolean|UrlTree> {\n const canDeactivate = currARS && currARS.routeConfig ? currARS.routeConfig.canDeactivate : null;\n if (!canDeactivate || canDeactivate.length === 0) return of(true);\n const canDeactivateObservables = canDeactivate.map((c: any) => {\n const guard = getToken(c, currARS, moduleInjector);\n let observable;\n if (isCanDeactivate(guard)) {\n observable = wrapIntoObservable(guard.canDeactivate(component!, currARS, currRSS, futureRSS));\n } else if (isFunction<CanDeactivateFn<any>>(guard)) {\n observable = wrapIntoObservable(guard(component, currARS, currRSS, futureRSS));\n } else {\n throw new Error('Invalid CanDeactivate guard');\n }\n return observable.pipe(first());\n });\n return of(canDeactivateObservables).pipe(prioritizedGuardValue());\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '@angular/core';\nimport {Observable, Observer, of} from 'rxjs';\n\nimport {Data, ResolveData, Route, Routes} from './config';\nimport {ActivatedRouteSnapshot, inheritedParamsDataResolve, ParamsInheritanceStrategy, RouterStateSnapshot} from './router_state';\nimport {defaultUrlMatcher, PRIMARY_OUTLET} from './shared';\nimport {mapChildrenIntoArray, UrlSegment, UrlSegmentGroup, UrlTree} from './url_tree';\nimport {forEach, last} from './utils/collection';\nimport {getOutlet} from './utils/config';\nimport {TreeNode} from './utils/tree';\n\nclass NoMatch {}\n\nexport function recognize(\n rootComponentType: Type<any>|null, config: Routes, urlTree: UrlTree, url: string,\n paramsInheritanceStrategy: ParamsInheritanceStrategy = 'emptyOnly',\n relativeLinkResolution: 'legacy'|'corrected' = 'legacy'): Observable<RouterStateSnapshot> {\n return new Recognizer(\n rootComponentType, config, urlTree, url, paramsInheritanceStrategy,\n relativeLinkResolution)\n .recognize();\n}\n\nclass Recognizer {\n constructor(\n private rootComponentType: Type<any>|null, private config: Routes, private urlTree: UrlTree,\n private url: string, private paramsInheritanceStrategy: ParamsInheritanceStrategy,\n private relativeLinkResolution: 'legacy'|'corrected') {}\n\n recognize(): Observable<RouterStateSnapshot> {\n try {\n const rootSegmentGroup =\n split(this.urlTree.root, [], [], this.config, this.relativeLinkResolution).segmentGroup;\n\n const children = this.processSegmentGroup(this.config, rootSegmentGroup, PRIMARY_OUTLET);\n\n const root = new ActivatedRouteSnapshot(\n [], Object.freeze({}), Object.freeze({...this.urlTree.queryParams}),\n this.urlTree.fragment!, {}, PRIMARY_OUTLET, this.rootComponentType, null,\n this.urlTree.root, -1, {});\n\n const rootNode = new TreeNode<ActivatedRouteSnapshot>(root, children);\n const routeState = new RouterStateSnapshot(this.url, rootNode);\n this.inheritParamsAndData(routeState._root);\n return

```
of(routeState);\n\n    } catch (e) {\n      return new Observable<RouterStateSnapshot>(\n          (obs:
Observer<RouterStateSnapshot>)
 => obs.error(e));\n    }\n  }\n\n  inheritParamsAndData(routeNode: TreeNode<ActivatedRouteSnapshot>): void {\n
 const route = routeNode.value;\n\n    const i = inheritedParamsDataResolve(route,
this.paramsInheritanceStrategy);\n    route.params = Object.freeze(i.params);\n    route.data =
Object.freeze(i.data);\n\n    routeNode.children.forEach(n => this.inheritParamsAndData(n));\n  }\n\n
processSegmentGroup(config: Route[], segmentGroup: UrlSegmentGroup, outlet: string):\n
TreeNode<ActivatedRouteSnapshot>[] {\n    if (segmentGroup.segments.length === 0 &&
segmentGroup.hasChildren()) {\n      return this.processChildren(config, segmentGroup);\n    }\n\n    return
this.processSegment(config, segmentGroup, segmentGroup.segments, outlet);\n  }\n\n  processChildren(config:
Route[], segmentGroup: UrlSegmentGroup):\n      TreeNode<ActivatedRouteSnapshot>[] {\n    const children =
mapChildrenIntoArray(\n        segmentGroup, (child, childOutlet) => this.processSegmentGroup(config,
 child, childOutlet));\n    checkOutletNameUniqueness(children);\n    sortActivatedRouteSnapshots(children);\n
return children;\n  }\n\n  processSegment(\n      config: Route[], segmentGroup: UrlSegmentGroup, segments:
UrlSegment[],\n      outlet: string): TreeNode<ActivatedRouteSnapshot>[] {\n    for (const r of config) {\n      try {\n
    return this.processSegmentAgainstRoute(r, segmentGroup, segments, outlet);\n      } catch (e) {\n        if (!(e
instanceof NoMatch)) throw e;\n      }\n    }\n    if (this.noLeftoversInUrl(segmentGroup, segments, outlet)) {\n
return [];\n    }\n\n    throw new NoMatch();\n  }\n\n  private noLeftoversInUrl(segmentGroup: UrlSegmentGroup,
segments: UrlSegment[], outlet: string):\n      boolean {\n    return segments.length === 0 &&
!segmentGroup.children[outlet];\n  }\n\n  processSegmentAgainstRoute(\n      route: Route, rawSegment:
UrlSegmentGroup, segments: UrlSegment[],\n      outlet: string): TreeNode<ActivatedRouteSnapshot>[]
 {\n    if (route.redirectTo) throw new NoMatch();\n\n    if ((route.outlet || PRIMARY_OUTLET) !== outlet) throw
new NoMatch();\n\n    let snapshot: ActivatedRouteSnapshot;\n    let consumedSegments: UrlSegment[] = [];\n    let
rawSlicedSegments: UrlSegment[] = [];\n\n    if (route.path === '**') {\n      const params = segments.length > 0 ?
last(segments)!.parameters : {};\n      snapshot = new ActivatedRouteSnapshot(\n          segments, params,
Object.freeze({...this.urlTree.queryParams}), this.urlTree.fragment!,\n          getData(route), outlet,
route.component!, route, getSourceSegmentGroup(rawSegment),\n          getPathIndexShift(rawSegment) +
segments.length, getResolve(route));\n    } else {\n      const result: MatchResult = match(rawSegment, route,
segments);\n      consumedSegments = result.consumedSegments;\n      rawSlicedSegments =
segments.slice(result.lastChild);\n\n      snapshot = new ActivatedRouteSnapshot(\n          consumedSegments,
result.parameters,
 Object.freeze({...this.urlTree.queryParams}),\n          this.urlTree.fragment!, getData(route), outlet,
route.component!, route,\n          getSourceSegmentGroup(rawSegment),\n          getPathIndexShift(rawSegment) +
consumedSegments.length, getResolve(route));\n    }\n\n    const childConfig: Route[] = getChildConfig(route);\n\n
 const {segmentGroup, slicedSegments} = split(\n        rawSegment, consumedSegments, rawSlicedSegments,
childConfig, this.relativeLinkResolution);\n\n    if (slicedSegments.length === 0 && segmentGroup.hasChildren())
{\n      const children = this.processChildren(childConfig, segmentGroup);\n      return [new
TreeNode<ActivatedRouteSnapshot>(snapshot, children)];\n    }\n\n    if (childConfig.length === 0 &&
slicedSegments.length === 0) {\n      return [new TreeNode<ActivatedRouteSnapshot>(snapshot, [])];\n    }\n\n
const children = this.processSegment(childConfig, segmentGroup, slicedSegments, PRIMARY_OUTLET);\n
return [new TreeNode<ActivatedRouteSnapshot>(snapshot,
 children)];\n  }\n}\n\nfunction sortActivatedRouteSnapshots(nodes: TreeNode<ActivatedRouteSnapshot>[]): void
{\n  nodes.sort((a, b) => {\n    if (a.value.outlet === PRIMARY_OUTLET) return -1;\n    if (b.value.outlet ===
PRIMARY_OUTLET) return 1;\n    return a.value.outlet.localeCompare(b.value.outlet);\n  });\n}\n\nfunction
getChildConfig(route: Route): Route[] {\n  if (route.children) {\n    return route.children;\n  }\n\n  if
(route.loadChildren) {\n    return route._loadedConfig!.routes;\n  }\n\n  return [];\n}\n\ninterface MatchResult {\n
consumedSegments: UrlSegment[];\n  lastChild: number;\n  parameters: any;\n}\n\nfunction match(segmentGroup:
UrlSegmentGroup, route: Route, segments: UrlSegment[]): MatchResult {\n  if (route.path === '') {\n    if
```

```
(route.pathMatch === 'full' && (segmentGroup.hasChildren() || segments.length > 0)) {\n      throw new NoMatch();\n    }\n\n    return {consumedSegments: [], lastChild: 0, parameters: {}};\n  }\n\n  const matcher = route.matcher
 || defaultUrlMatcher;\n  const res = matcher(segments, segmentGroup, route);\n  if (!res) throw new NoMatch();\n\n const posParams: {[n: string]: string} = {};\n  forEach(res.posParams!, (v: UrlSegment, k: string) => {\n posParams[k] = v.path;\n  });\n  const parameters = res.consumed.length > 0 ?\n      {...posParams, ...res.consumed[res.consumed.length - 1].parameters} :\n      posParams;\n\n  return {consumedSegments: res.consumed, lastChild: res.consumed.length, parameters};\n}\n\nfunction checkOutletNameUniqueness(nodes: TreeNode<ActivatedRouteSnapshot>[]): void {\n  const names: {[k: string]: ActivatedRouteSnapshot} = {};\n nodes.forEach(n => {\n    const routeWithSameOutletName = names[n.value.outlet];\n    if (routeWithSameOutletName) {\n      const p = routeWithSameOutletName.url.map(s => s.toString()).join('/');\n const c = n.value.url.map(s => s.toString()).join('/');\n      throw new Error(`Two segments cannot have the same outlet name: '${p}' and '${c}'.`);\n
    }\n    names[n.value.outlet] = n.value;\n  });\n}\n\nfunction getSourceSegmentGroup(segmentGroup: UrlSegmentGroup): UrlSegmentGroup {\n  let s = segmentGroup;\n  while (s._sourceSegment) {\n    s = s._sourceSegment;\n  }\n  return s;\n}\n\nfunction getPathIndexShift(segmentGroup: UrlSegmentGroup): number {\n  let s = segmentGroup;\n  let res = (s._segmentIndexShift ? s._segmentIndexShift : 0);\n  while (s._sourceSegment) {\n    s = s._sourceSegment;\n    res += (s._segmentIndexShift ? s._segmentIndexShift : 0);\n }\n  return res - 1;\n}\n\nfunction split(\n    segmentGroup: UrlSegmentGroup, consumedSegments: UrlSegment[], slicedSegments: UrlSegment[],\n    config: Route[], relativeLinkResolution: 'legacy'|'corrected') {\n  if (slicedSegments.length > 0 &&\n      containsEmptyPathMatchesWithNamedOutlets(segmentGroup, slicedSegments, config)) {\n    const s = new UrlSegmentGroup(\n        consumedSegments,\n createChildrenForEmptyPaths(\n            segmentGroup, consumedSegments,
 config,\n            new UrlSegmentGroup(slicedSegments, segmentGroup.children)));\n    s._sourceSegment = segmentGroup;\n    s._segmentIndexShift = consumedSegments.length;\n    return {segmentGroup: s, slicedSegments: []};\n  }\n\n  if (slicedSegments.length === 0 &&\n      containsEmptyPathMatches(segmentGroup, slicedSegments, config)) {\n    const s = new UrlSegmentGroup(\n        segmentGroup.segments,\n addEmptyPathsToChildrenIfNeeded(\n            segmentGroup, consumedSegments, slicedSegments, config, segmentGroup.children,\n            relativeLinkResolution));\n    s._sourceSegment = segmentGroup;\n s._segmentIndexShift = consumedSegments.length;\n    return {segmentGroup: s, slicedSegments};\n  }\n\n  const s = new UrlSegmentGroup(segmentGroup.segments, segmentGroup.children);\n  s._sourceSegment = segmentGroup;\n  s._segmentIndexShift = consumedSegments.length;\n  return {segmentGroup: s, slicedSegments};\n}\n\nfunction addEmptyPathsToChildrenIfNeeded(\n
    segmentGroup: UrlSegmentGroup, consumedSegments: UrlSegment[], slicedSegments: UrlSegment[],\n    routes: Route[], children: {[name: string]: UrlSegmentGroup},\n    relativeLinkResolution: 'legacy'|'corrected'): {[name: string]: UrlSegmentGroup} {\n  const res: {[name: string]: UrlSegmentGroup} = {};\n  for (const r of routes) {\n if (emptyPathMatch(segmentGroup, slicedSegments, r) && !children[getOutlet(r)]) {\n      const s = new UrlSegmentGroup([], {});\n      s._sourceSegment = segmentGroup;\n      if (relativeLinkResolution === 'legacy') {\n        s._segmentIndexShift = segmentGroup.segments.length;\n      } else {\n        s._segmentIndexShift = consumedSegments.length;\n      }\n      res[getOutlet(r)] = s;\n    }\n  }\n  return {...children, ...res};\n}\n\nfunction createChildrenForEmptyPaths(\n    segmentGroup: UrlSegmentGroup, consumedSegments: UrlSegment[], routes: Route[],\n    primarySegment: UrlSegmentGroup): {[name: string]: UrlSegmentGroup} {\n  const res: {[name: string]: UrlSegmentGroup} = {};\n  res[PRIMARY_OUTLET] = primarySegment;\n primarySegment._sourceSegment = segmentGroup;\n  primarySegment._segmentIndexShift = consumedSegments.length;\n\n  for (const r of routes) {\n    if (r.path === '' && getOutlet(r) !== PRIMARY_OUTLET) {\n      const s = new UrlSegmentGroup([], {});\n      s._sourceSegment = segmentGroup;\n s._segmentIndexShift = consumedSegments.length;\n      res[getOutlet(r)] = s;\n    }\n  }\n  return res;\n}\n\nfunction containsEmptyPathMatchesWithNamedOutlets(\n    segmentGroup: UrlSegmentGroup,
```

slicedSegments: UrlSegment[], routes: Route[]): boolean {\n  return routes.some(\n      r =>
emptyPathMatch(segmentGroup, slicedSegments, r) && getOutlet(r) !== PRIMARY_OUTLET);\n}\n\nfunction
containsEmptyPathMatches(\n    segmentGroup: UrlSegmentGroup, slicedSegments: UrlSegment[], routes:
Route[]): boolean {\n  return routes.some(r => emptyPathMatch(segmentGroup, slicedSegments, r));\n}\n\nfunction
emptyPathMatch(\n
    segmentGroup: UrlSegmentGroup, slicedSegments: UrlSegment[], r: Route): boolean {\n  if
((segmentGroup.hasChildren() || slicedSegments.length > 0) && r.pathMatch === 'full') {\n    return false;\n  }\n\n
return r.path === '' && r.redirectTo === undefined;\n}\n\nfunction getData(route: Route): Data {\n  return
route.data || {};\n}\n\nfunction getResolve(route: Route): ResolveData {\n  return route.resolve || {};\n}\n","/**\n *
@license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-
style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from
'@angular/core';\nimport {MonoTypeOperatorFunction, Observable} from 'rxjs';\nimport {map, mergeMap} from
'rxjs/operators';\n\nimport {Route} from '../config';\nimport {recognize as recognizeFn} from '../recognize';\nimport
{NavigationTransition} from '../router';\nimport {UrlTree} from '../url_tree';\n\nexport function recognize(\n
rootComponentType:
 Type<any>|null, config: Route[], serializer: (url: UrlTree) => string,\n    paramsInheritanceStrategy:
'emptyOnly'|'always',\n    relativeLinkResolution: 'legacy'|'corrected'):
MonoTypeOperatorFunction<NavigationTransition> {\n  return function(source:
Observable<NavigationTransition>) {\n    return source.pipe(mergeMap(\n        t => recognizeFn(\n
rootComponentType, config, t.urlAfterRedirects, serializer(t.urlAfterRedirects),\n
paramsInheritanceStrategy, relativeLinkResolution)\n                .pipe(map(targetSnapshot => ({...t,
targetSnapshot})))));\n  };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of
this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\nimport {EMPTY, from,
MonoTypeOperatorFunction, Observable, of} from 'rxjs';\nimport {concatMap, map, mergeMap, takeLast, tap}
from
 'rxjs/operators';\n\nimport {ResolveData} from '../config';\nimport {NavigationTransition} from '../router';\nimport
{ActivatedRouteSnapshot, inheritedParamsDataResolve, RouterStateSnapshot} from '../router_state';\nimport
{wrapIntoObservable} from '../utils/collection';\nimport {getToken} from '../utils/preactivation';\n\nexport function
resolveData(\n    paramsInheritanceStrategy: 'emptyOnly'|'always',\n    moduleInjector: Injector):
MonoTypeOperatorFunction<NavigationTransition> {\n  return function(source:
Observable<NavigationTransition>) {\n    return source.pipe(mergeMap(t => {\n      const {targetSnapshot, guards:
{canActivateChecks}} = t;\n\n      if (!canActivateChecks.length) {\n        return of(t);\n      }\n      let
canActivateChecksResolved = 0;\n      return from(canActivateChecks)\n          .pipe(\n              concatMap(\n
    check => runResolve(\n                    check.route, targetSnapshot!, paramsInheritanceStrategy,
moduleInjector)),\n
          tap(() => canActivateChecksResolved++),\n              takeLast(1),\n              mergeMap(_ =>
canActivateChecksResolved === canActivateChecks.length ? of(t) : EMPTY),\n          );\n    }));\n
};\n}\n\nfunction runResolve(\n    futureARS: ActivatedRouteSnapshot, futureRSS: RouterStateSnapshot,\n
paramsInheritanceStrategy: 'emptyOnly'|'always', moduleInjector: Injector) {\n  const resolve =
futureARS._resolve;\n  return resolveNode(resolve, futureARS, futureRSS, moduleInjector)\n
.pipe(map((resolvedData: any) => {\n        futureARS._resolvedData = resolvedData;\n        futureARS.data = {\n
  ...futureARS.data,\n          ...inheritedParamsDataResolve(futureARS, paramsInheritanceStrategy).resolve\n
};\n        return null;\n      }));\n}\n\nfunction resolveNode(\n    resolve: ResolveData, futureARS:
ActivatedRouteSnapshot, futureRSS: RouterStateSnapshot,\n    moduleInjector: Injector): Observable<any> {\n
const keys = Object.keys(resolve);\n  if (keys.length
 === 0) {\n    return of({});\n  }\n  const data: {[k: string]: any} = {};\n  return from(keys).pipe(\n      mergeMap(\n
     (key: string) => getResolver(resolve[key], futureARS, futureRSS, moduleInjector)\n

.pipe(tap((value: any) => {\n data[key] = value;\n }))),\n takeLast(1),\n mergeMap(() => {\n // Ensure all resolvers returned values, otherwise don't emit any \"next\" and just complete\n // the chain which will cancel navigation\n if (Object.keys(data).length === keys.length) {\n return of(data);\n }\n return EMPTY;\n }),\n );\n}\n\nfunction getResolver(\n injectionToken: any, futureARS: ActivatedRouteSnapshot, futureRSS: RouterStateSnapshot,\n moduleInjector: Injector): Observable<any> {\n const resolver = getToken(injectionToken, futureARS, moduleInjector);\n return resolver.resolve ? wrapIntoObservable(resolver.resolve(futureARS, futureRSS)) :\n wrapIntoObservable(resolver(futureARS, futureRSS));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {from, MonoTypeOperatorFunction, ObservableInput} from 'rxjs';\nimport {map, switchMap} from 'rxjs/operators';\n\n/**\n * Perform a side effect through a switchMap for every emission on the source Observable,\n * but return an Observable that is identical to the source. It's essentially the same as\n * the `tap` operator, but if the side effectful `next` function returns an ObservableInput,\n * it will wait before continuing with the original value.\n */\nexport function switchTap<T>(next: (x: T) => void|ObservableInput<any>):\n MonoTypeOperatorFunction<T> {\n return function(source) {\n return source.pipe(switchMap(v => {\n const nextResult\n = next(v);\n if (nextResult) {\n return from(nextResult).pipe(map(() => v));\n }\n return from([v]);\n }));\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentRef} from '@angular/core';\n\nimport {OutletContext} from './router_outlet_context';\nimport {ActivatedRoute, ActivatedRouteSnapshot} from './router_state';\nimport {TreeNode} from './utils/tree';\n\n/**\n * @description\n *\n * Represents the detached route tree.\n *\n * This is an opaque value the router will give to a custom route reuse strategy\n * to store and retrieve later on.\n *\n * @publicApi\n */\nexport type DetachedRouteHandle = {};\n\n/** @internal */\nexport type DetachedRouteHandleInternal = {\n contexts: Map<string, OutletContext>,\n componentRef: ComponentRef<any>,\n route: TreeNode<ActivatedRoute>,\n};\n\n/**\n * @description\n *\n * Provides a way to customize when activated routes get reused.\n *\n * @publicApi\n */\nexport abstract class RouteReuseStrategy {\n /** Determines if this route (and its subtree) should be detached to be reused later */\n abstract shouldDetach(route: ActivatedRouteSnapshot): boolean;\n\n /**\n * Stores the detached route.\n *\n * Storing a `null` value should erase the previously stored value.\n */\n abstract store(route: ActivatedRouteSnapshot, handle: DetachedRouteHandle|null): void;\n\n /** Determines if this route (and its subtree) should be reattached */\n abstract shouldAttach(route: ActivatedRouteSnapshot): boolean;\n\n /** Retrieves the previously stored route */\n abstract retrieve(route: ActivatedRouteSnapshot): DetachedRouteHandle|null;\n\n /** Determines if a route should be reused */\n abstract shouldReuseRoute(future: ActivatedRouteSnapshot, curr: ActivatedRouteSnapshot): boolean;\n}\n\n/**\n * @description\n *\n * This base route reuse strategy only reuses routes when the matched router configs are\n * identical. This prevents components from being destroyed and recreated\n * when just the fragment or query parameters change\n * (that is, the existing component is _reused_).\n *\n * This strategy does not store any routes for later reuse.\n *\n * Angular uses this strategy by default.\n *\n *\n * It can be used as a base class for custom route reuse strategies, i.e. you can create your own\n * class that extends the `BaseRouteReuseStrategy` one.\n * @publicApi\n */\nexport abstract class BaseRouteReuseStrategy implements RouteReuseStrategy {\n /**\n * Whether the given route should detach for later reuse.\n * Always returns false for `BaseRouteReuseStrategy`.\n * */\n shouldDetach(route: ActivatedRouteSnapshot): boolean {\n return false;\n }\n\n /**\n * A no-op; the route is never stored since this strategy never detaches routes for later re-use.\n */\n store(route: ActivatedRouteSnapshot, detachedTree: DetachedRouteHandle): void {}\n\n /** Returns `false`, meaning the route (and its subtree) is never reattached */\n shouldAttach(route: ActivatedRouteSnapshot): boolean {\n return false;\n }\n\n /** Returns `null` because this strategy does not store routes for later re-use. */\n retrieve(route: ActivatedRouteSnapshot):

DetachedRouteHandle|null {\n return null;\n }\n\n /**\n * Determines if a route should be reused.\n * This strategy returns `true` when the future route config and current route config are\n * identical.\n */\n shouldReuseRoute(future: ActivatedRouteSnapshot, curr: ActivatedRouteSnapshot): boolean {\n return future.routeConfig === curr.routeConfig;\n }\n}\n\nexport class DefaultRouteReuseStrategy extends BaseRouteReuseStrategy {}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Compiler, InjectionToken, Injector, NgModuleFactory, NgModuleFactoryLoader} from '@angular/core';\nimport {from, Observable, of} from 'rxjs';\nimport {map, mergeMap} from 'rxjs/operators';\n\nimport {LoadChildren, LoadedRouterConfig, Route} from './config';\nimport {flatten, wrapIntoObservable} from './utils/collection';\nimport {standardizeConfig} from './utils/config';\n\n/**\n * The [DI token](guide/glossary/#di-token) for a router configuration.\n * @see `ROUTES`\n * @publicApi\n */\nexport const ROUTES = new InjectionToken<Route[][]>('ROUTES');\n\nexport class RouterConfigLoader {\n constructor(\n private loader: NgModuleFactoryLoader, private compiler: Compiler,\n private onLoadStartListener?: (r: Route) => void,\n private onLoadEndListener?: (r: Route) => void) {}\n\n load(parentInjector: Injector, route: Route): Observable<LoadedRouterConfig> {\n if (this.onLoadStartListener) {\n this.onLoadStartListener(route);\n }\n\n const moduleFactory$ = this.loadModuleFactory(route.loadChildren!);\n\n return moduleFactory$.pipe(map((factory: NgModuleFactory<any>) => {\n if (this.onLoadEndListener) {\n this.onLoadEndListener(route);\n }\n\n const module = factory.create(parentInjector);\n\n return new LoadedRouterConfig(\n flatten(module.injector.get(ROUTES)).map(standardizeConfig), module);\n }));\n }\n\n private loadModuleFactory(loadChildren: LoadChildren): Observable<NgModuleFactory<any>> {\n if (typeof loadChildren === 'string') {\n return from(this.loader.load(loadChildren));\n } else {\n return wrapIntoObservable(loadChildren()).pipe(mergeMap((t: any) => {\n if (t instanceof NgModuleFactory) {\n return of(t);\n } else {\n return from(this.compiler.compileModuleAsync(t));\n }\n }));\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentFactoryResolver, ComponentRef} from '@angular/core';\n\nimport {RouterOutlet} from './directives/router_outlet';\nimport {ActivatedRoute} from './router_state';\n\n\n/**\n * Store contextual information about a `RouterOutlet`\n *\n * @publicApi\n */\nexport class OutletContext {\n outlet: RouterOutlet|null = null;\n route: ActivatedRoute|null = null;\n resolver: ComponentFactoryResolver|null = null;\n children = new ChildrenOutletContexts();\n attachRef: ComponentRef<any>|null = null;\n}\n\n/**\n * Store contextual information about the children (= nested) `RouterOutlet`\n *\n * @publicApi\n */\nexport class ChildrenOutletContexts {\n // contexts for child outlets, by name.\n private contexts = new Map<string, OutletContext>();\n\n /** Called when a `RouterOutlet` directive is instantiated */\n onChildOutletCreated(childName: string, outlet: RouterOutlet):\n void {\n const context = this.getOrCreateContext(childName);\n context.outlet = outlet;\n this.contexts.set(childName, context);\n }\n\n /**\n * Called when a `RouterOutlet` directive is destroyed.\n * We need to keep the context as the outlet could be destroyed inside a NgIf and might be\n * re-created later.\n */\n onChildOutletDestroyed(childName: string): void {\n const context = this.getContext(childName);\n if (context) {\n context.outlet = null;\n }\n }\n\n /**\n * Called when the corresponding route is deactivated during navigation.\n * Because the component get destroyed, all children outlet are destroyed.\n */\n onOutletDeactivated(): Map<string, OutletContext> {\n const contexts = this.contexts;\n this.contexts = new Map();\n return contexts;\n }\n\n onOutletReAttached(contexts: Map<string, OutletContext>) {\n this.contexts = contexts;\n }\n\n getOrCreateContext(childName: string): OutletContext {\n let context = this.getContext(childName);\n\n if (!context) {\n context = new OutletContext();\n this.contexts.set(childName, context);\n }\n\n return context;\n }\n\n getContext(childName: string): OutletContext|null {\n return this.contexts.get(childName) || null;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n

* found in the LICENSE file at https://angular.io/license\n */\n\nimport {UrlTree} from './url_tree';\n\n/**\n * @description\n *\n * Provides a way to migrate AngularJS applications to Angular.\n *\n * @publicApi\n */\nexport abstract class UrlHandlingStrategy {\n /**\n * Tells the router if this URL should be processed.\n *\n * When it returns true, the router will execute the regular navigation.\n * When it returns false, the router will set the router state to an empty state.\n * As a result, all the active components will be destroyed.\n *\n */\n abstract shouldProcessUrl(url: UrlTree): boolean;\n\n /**\n * Extracts the part of the URL that should be handled by the router.\n * The rest of the URL will remain untouched.\n */\n abstract extract(url: UrlTree): UrlTree;\n\n /**\n * Merges the URL fragment with the rest of the URL.\n */\n abstract merge(newUrlPart: UrlTree, rawUrl: UrlTree): UrlTree;\n}\n\n/**\n * @publicApi\n */\nexport class DefaultUrlHandlingStrategy implements UrlHandlingStrategy {\n shouldProcessUrl(url: UrlTree): boolean {\n return true;\n }\n extract(url: UrlTree): UrlTree {\n return url;\n }\n merge(newUrlPart: UrlTree, wholeUrl: UrlTree): UrlTree {\n return newUrlPart;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Location, PopStateEvent} from '@angular/common';\nimport {Compiler, Injectable, Injector, NgModuleFactoryLoader, NgModuleRef, NgZone, Type, Console as Console} from '@angular/core';\nimport {BehaviorSubject, EMPTY, Observable, of, Subject, SubscriptionLike} from 'rxjs';\nimport {catchError, filter, finalize, map, switchMap, tap} from 'rxjs/operators';\n\nimport {QueryParamsHandling, Route, Routes} from './config';\nimport {createRouterState} from './create_router_state';\nimport {createUrlTree} from './create_url_tree';\nimport {Event, GuardsCheckEnd, GuardsCheckStart, NavigationCancel, NavigationEnd, NavigationError, NavigationStart, NavigationTrigger, ResolveEnd, ResolveStart, RouteConfigLoadEnd, RouteConfigLoadStart, RoutesRecognized} from './events';\nimport {activateRoutes} from './operators/activate_routes';\nimport {applyRedirects} from './operators/apply_redirects';\nimport {checkGuards} from './operators/check_guards';\nimport {recognize} from './operators/recognize';\nimport {resolveData} from './operators/resolve_data';\nimport {switchTap} from './operators/switch_tap';\nimport {DefaultRouteReuseStrategy, RouteReuseStrategy} from './route_reuse_strategy';\nimport {RouterConfigLoader} from './router_config_loader';\nimport {ChildrenOutletContexts} from './router_outlet_context';\nimport {ActivatedRoute, createEmptyState, RouterState, RouterStateSnapshot} from './router_state';\nimport {isNavigationCancelingError, navigationCancelingError, Params} from './shared';\nimport {DefaultUrlHandlingStrategy, UrlHandlingStrategy} from './url_handling_strategy';\nimport {containsTree, createEmptyUrlTree, UrlSerializer, UrlTree} from './url_tree';\nimport {standardizeConfig, validateConfig} from './utils/config';\nimport {Checks, getAllRouteGuards} from './utils/preactivation';\nimport {isUrlTree} from './utils/type_guards';\n\n\n\n/**\n * @description\n *\n * Options that modify the `Router` URL.\n * Supply an object containing any of these properties to a `Router` navigation function to\n * control how the target URL should be constructed.\n *\n * @see [Router.navigate() method](api/router/Router#navigate)\n * @see [Router.createUrlTree() method](api/router/Router#createurltree)\n * @see [Routing and Navigation guide](guide/router)\n *\n * @publicApi\n */\nexport interface UrlCreationOptions {\n /**\n * Specifies a root URI to use for relative navigation.\n *\n * For example, consider the following route configuration where the parent route\n * has two children.\n *\n * ```\n * [{\n * path: 'parent',\n * component: ParentComponent,\n * children: [{\n * path: 'list',\n * component: ListComponent\n * },{\n * path: 'child',\n * component: ChildComponent\n * }]\n * }]\n * ```\n *\n * The following `go()` function navigates to the `list` route by\n * interpreting the destination URI as relative to the activated `child` route\n *\n * ```\n * @Component({...})\n * class ChildComponent {\n * constructor(private router: Router, private route: ActivatedRoute) {}\n *\n * go() {\n * this.router.navigate(['../list'], { relativeTo: this.route });\n * }\n * }\n * ```\n */\n relativeTo?: ActivatedRoute|null;\n\n /**\n * Sets query parameters to the URL.\n *\n * ```\n * // Navigate to /results?page=1\n * this.router.navigate(['/results'], { queryParams: { page: 1 } });\n * ```\n */\n queryParams?: Params|null;\n\n /**\n * Sets the hash fragment for the URL.\n *\n * ```\n * // Navigate to /results#top\n * this.router.navigate(['/results'], { fragment: 'top' });\n * ```\n */\n fragment?:

string;\n\n  /**\n   * How to handle query parameters in the router link for the next navigation.\n   * One of:\n   * * `preserve` : Preserve current parameters.\n   * * `merge` : Merge new with current parameters.\n   *\n   * The \"preserve\" option discards any new query params:\n   * ```\n   * // from /view1?page=1 to/view2?page=1\n   * this.router.navigate(['/view2'], { queryParams:
 { page: 2 },  queryParamsHandling: \"preserve\"\n   * });\n   * ```\n   * The \"merge\" option appends new query params to the params from the current URL:\n   * ```\n   * // from /view1?page=1 to/view2?page=1&otherKey=2\n * this.router.navigate(['/view2'], { queryParams: { otherKey: 2 },  queryParamsHandling: \"merge\"\n   * });\n   * ```\n   * In case of a key collision between current parameters and those in the `queryParams` object,\n   * the new value is used.\n   *\n   */\n  queryParamsHandling?: QueryParamsHandling|null;\n\n  /**\n   * When true, preserves the URL fragment for the next navigation\n   *\n   * ```\n   * // Preserve fragment from /results#top to /view#top\n   * this.router.navigate(['/view'], { preserveFragment: true });\n   * ```\n   */\n  preserveFragment?: boolean;\n}\n\n/**\n * @description\n *\n * Options that modify the `Router` navigation strategy.\n * Supply an object containing any of these properties to a `Router` navigation function to\n * control how
 the navigation should be handled.\n *\n * @see [Router.navigate() method](api/router/Router#navigate)\n * @see [Router.navigateByUrl() method](api/router/Router#navigatebyurl)\n * @see [Routing and Navigation guide](guide/router)\n *\n * @publicApi\n */\nexport interface NavigationBehaviorOptions {\n  /**\n   * When true, navigates without pushing a new state into history.\n   *\n   * ```\n   * // Navigate silently to /view\n   * this.router.navigate(['/view'], { skipLocationChange: true });\n   * ```\n   */\n  skipLocationChange?: boolean;\n\n  /**\n   * When true, navigates while replacing the current state in history.\n   *\n   * ```\n   * // Navigate to /view\n * this.router.navigate(['/view'], { replaceUrl: true });\n   * ```\n   */\n  replaceUrl?: boolean;\n\n  /**\n   * Developer-defined state that can be passed to any navigation.\n   * Access this value through the `Navigation.extras` object\n   * returned from the [Router.getCurrentNavigation()\n   * method](api/router/Router#getcurrentnavigation)
 while a navigation is executing.\n   *\n   * After a navigation completes, the router writes an object containing this\n
 * value together with a `navigationId` to `history.state`.\n   * The value is written when `location.go()` or `location.replaceState()`\n   * is called before activating this route.\n   *\n   * Note that `history.state` does not pass an object equality test because\n   * the router adds the `navigationId` on each navigation.\n   *\n   */\n  state?: {[k: string]: any};\n}\n\n/**\n * @description\n *\n * Options that modify the `Router` navigation strategy.\n * Supply an object containing any of these properties to a `Router` navigation function to\n * control how the target URL should be constructed or interpreted.\n *\n * @see [Router.navigate() method](api/router/Router#navigate)\n * @see [Router.navigateByUrl() method](api/router/Router#navigatebyurl)\n * @see [Router.createUrlTree() method](api/router/Router#createurltree)\n * @see [Routing
 and Navigation guide](guide/router)\n * @see UrlCreationOptions\n * @see NavigationBehaviorOptions\n *\n * @publicApi\n */\nexport interface NavigationExtras extends UrlCreationOptions, NavigationBehaviorOptions {}\n\n/**\n * Error handler that is invoked when a navigation error occurs.\n *\n * If the handler returns a value, the navigation Promise is resolved with this value.\n * If the handler throws an exception, the navigation Promise is rejected with\n * the exception.\n *\n * @publicApi\n */\nexport type ErrorHandler = (error: any) => any;\n\nfunction defaultErrorHandler(error: any): any {\n  throw error;\n}\n\nfunction defaultMalformedUriErrorHandler(\n    error: URIError, urlSerializer: UrlSerializer, url: string): UrlTree {\n  return urlSerializer.parse('/');\n}\n\nexport type RestoredState = {\n  [k: string]: any; navigationId: number;\n};\n\n/**\n * Information about a navigation operation.\n * Retrieve the most recent navigation object with the\n * [Router.getCurrentNavigation()
 method](api/router/Router#getcurrentnavigation) .\n *\n * * *id* : The unique identifier of the current navigation.\n * * *initialUrl* : The target URL passed into the `Router#navigateByUrl()` call before navigation.\n * This is the value before the router has parsed or applied redirects to it.\n * * *extractedUrl* : The initial target URL after being parsed with `UrlSerializer.extract()`.\n * * *finalUrl* : The extracted URL after redirects have been applied.\n * This URL may not be available immediately, therefore this property can be `undefined`.\n * It is guaranteed to be set after the `RoutesRecognized` event fires.\n * * *trigger* : Identifies how this navigation was triggered.\n * -- 'imperative'--Triggered by `router.navigateByUrl` or `router.navigate`.\n * -- 'popstate'--Triggered by a popstate

event.\n * -- 'hashchange'--Triggered by a hashchange event.\n * * *extras* : A `NavigationExtras` options object that controlled the strategy used for this\n * navigation.\n
 * * *previousNavigation* : The previously successful `Navigation` object. Only one previous\n * navigation is available, therefore this previous `Navigation` object has a `null` value for its\n * own `previousNavigation`.\n *\n * @publicApi\n */\nexport type Navigation = {\n  /**\n   * The unique identifier of the current navigation.\n   */\n  id: number;\n  /**\n   * The target URL passed into the `Router#navigateByUrl()` call before navigation. This is\n   * the value before the router has parsed or applied redirects to it.\n   */\n  initialUrl: string | UrlTree;\n  /**\n   * The initial target URL after being parsed with `UrlSerializer.extract()`.\n   */\n  extractedUrl: UrlTree;\n  /**\n   * The extracted URL after redirects have been applied.\n   * This URL may not be available immediately, therefore this property can be `undefined`.\n   * It is guaranteed to be set after the `RoutesRecognized` event fires.\n   */\n  finalUrl?: UrlTree;\n  /**\n   * Identifies how this navigation
 was triggered.\n   *\n   * * 'imperative'--Triggered by `router.navigateByUrl` or `router.navigate`.\n   * * 'popstate'--Triggered by a popstate event.\n   * * 'hashchange'--Triggered by a hashchange event.\n   */\n  trigger: 'imperative' | 'popstate' | 'hashchange';\n  /**\n   * Options that controlled the strategy used for this navigation.\n   * See `NavigationExtras`.\n   */\n  extras: NavigationExtras;\n  /**\n   * The previously successful `Navigation` object. Only one previous navigation\n   * is available, therefore this previous `Navigation` object has a `null` value\n   * for its own `previousNavigation`.\n   */\n  previousNavigation: Navigation | null;\n};\n\nexport type NavigationTransition = {\n  id: number,\n  currentUrlTree: UrlTree,\n  currentRawUrl: UrlTree,\n  extractedUrl: UrlTree,\n  urlAfterRedirects: UrlTree,\n  rawUrl: UrlTree,\n  extras: NavigationExtras,\n  resolve: any,\n  reject: any,\n  promise: Promise<boolean>,\n  source: NavigationTrigger,\n  restoredState:
 RestoredState|null,\n  currentSnapshot: RouterStateSnapshot,\n  targetSnapshot: RouterStateSnapshot|null,\n currentRouterState: RouterState,\n  targetRouterState: RouterState|null,\n  guards: Checks,\n  guardsResult: boolean|UrlTree|null,\n};\n\n/**\n * @internal\n */\nexport type RouterHook = (snapshot: RouterStateSnapshot, runExtras: {\n  appliedUrlTree: UrlTree,\n  rawUrlTree: UrlTree,\n  skipLocationChange: boolean,\n  replaceUrl: boolean,\n  navigationId: number\n}) => Observable<void>;\n\n/**\n * @internal\n */\nfunction defaultRouterHook(snapshot: RouterStateSnapshot, runExtras: {\n  appliedUrlTree: UrlTree,\n  rawUrlTree: UrlTree,\n  skipLocationChange: boolean,\n  replaceUrl: boolean,\n  navigationId: number\n}): Observable<void> {\n  return of(null) as any;\n}\n\n/**\n * Information related to a location change, necessary for scheduling follow-up Router navigations.\n */\ntype LocationChangeInfo = {\n  source: 'popstate'|'hashchange',\n  urlTree: UrlTree,\n state: RestoredState|null,\n
  transitionId: number\n};\n\n/**\n * @description\n *\n * A service that provides navigation among views and URL manipulation capabilities.\n *\n * @see `Route`.\n * @see [Routing and Navigation Guide](guide/router).\n *\n * @ngModule RouterModule\n *\n * @publicApi\n */\n@Injectable()\nexport class Router {\n  private currentUrlTree: UrlTree;\n  private rawUrlTree: UrlTree;\n  private browserUrlTree: UrlTree;\n  private readonly transitions: BehaviorSubject<NavigationTransition>;\n  private navigations: Observable<NavigationTransition>;\n private lastSuccessfulNavigation: Navigation|null = null;\n  private currentNavigation: Navigation|null = null;\n\n private locationSubscription?: SubscriptionLike;\n  /**\n   * Tracks the previously seen location change from the location subscription so we can compare\n   * the two latest to see if they are duplicates. See setUpLocationChangeListener.\n   */\n  private lastLocationChangeInfo: LocationChangeInfo|null = null;\n  private navigationId: number = 0;\n  private configLoader: RouterConfigLoader;\n  private ngModule: NgModuleRef<any>;\n  private console: Console;\n  private isNgZoneEnabled: boolean = false;\n\n  /**\n   * An event stream for routing events in this NgModule.\n   */\n  public readonly events: Observable<Event> = new Subject<Event>();\n  /**\n   * The current state of routing in this NgModule.\n   */\n  public readonly routerState: RouterState;\n\n  /**\n   * A handler for navigation errors in this NgModule.\n   */\n  errorHandler: ErrorHandler = defaultErrorHandler;\n\n  /**\n   * A handler for errors thrown by `Router.parseUrl(url)`\n   * when `url` contains an invalid character.\n   * The most common case is a `%` sign\n   * that's not encoded and is not part of a percent encoded sequence.\n   */\n  malformedUriErrorHandler:\n      (error: URIError, urlSerializer: UrlSerializer,\n       url: string) => UrlTree = defaultMalformedUriErrorHandler;\n\n  /**\n   * True if at least one navigation

```
 event has occurred,\n   * false otherwise.\n   */\n  navigated: boolean = false;\n  private lastSuccessfulId: number = -1;\n\n  /**\n   * Hooks that enable you to pause navigation,\n   * either before or after the preactivation phase.\n   * Used by `RouterModule`.\n   *\n   * @internal\n   */\n  hooks: {\n    beforePreactivation: RouterHook,\n    afterPreactivation: RouterHook\n  } = {beforePreactivation: defaultRouterHook, afterPreactivation: defaultRouterHook};\n\n  /**\n   * A strategy for extracting and merging URLs.\n   * Used for AngularJS to Angular migrations.\n   */\n  urlHandlingStrategy: UrlHandlingStrategy = new DefaultUrlHandlingStrategy();\n\n  /**\n   * A strategy for re-using routes.\n   */\n  routeReuseStrategy: RouteReuseStrategy = new DefaultRouteReuseStrategy();\n\n  /**\n   * How to handle a navigation request to the current URL. One of:\n   * - `'ignore'` :  The router ignores the request.\n   * - `'reload'` : The router reloads the URL. Use to implement a \"refresh\"
  feature.\n   */\n  onSameUrlNavigation: 'reload'|'ignore' = 'ignore';\n\n  /**\n   * How to merge parameters, data, and resolved data from parent to child\n   * routes. One of:\n   *\n   * - `'emptyOnly'` : Inherit parent parameters, data, and resolved data\n   * for path-less or component-less routes.\n   * - `'always'` : Inherit parent parameters, data, and resolved data\n   * for all child routes.\n   */\n  paramsInheritanceStrategy: 'emptyOnly'|'always' = 'emptyOnly';\n\n  /**\n   * Determines when the router updates the browser URL.\n   * By default (`\"deferred\"`), updates the browser URL after navigation has finished.\n   * Set to `'eager'` to update the browser URL at the beginning of navigation.\n   * You can choose to update early so that, if navigation fails,\n   * you can show an error message with the URL that failed.\n   */\n  urlUpdateStrategy: 'deferred'|'eager' = 'deferred';\n\n  /**\n   * Enables a bug fix that corrects relative link resolution in components
  with empty paths.\n   * @see `RouterModule`\n   */\n  relativeLinkResolution: 'legacy'|'corrected' = 'corrected';\n\n  /**\n   * Creates the router service.\n   */\n  // TODO: vsavkin make internal after the final is out.\n  constructor(\n      private rootComponentType: Type<any>|null, private urlSerializer: UrlSerializer,\n      private rootContexts: ChildrenOutletContexts, private location: Location, injector: Injector,\n      loader: NgModuleFactoryLoader, compiler: Compiler, public config: Routes) {\n    const onLoadStart = (r: Route) => this.triggerEvent(new RouteConfigLoadStart(r));\n    const onLoadEnd = (r: Route) => this.triggerEvent(new RouteConfigLoadEnd(r));\n\n    this.ngModule = injector.get(NgModuleRef);\n    this.console = injector.get(Console);\n    const ngZone = injector.get(NgZone);\n    this.isNgZoneEnabled = ngZone instanceof NgZone;\n\n    this.resetConfig(config);\n    this.currentUrlTree = createEmptyUrlTree();\n    this.rawUrlTree = this.currentUrlTree;\n
    this.browserUrlTree = this.currentUrlTree;\n\n    this.configLoader = new RouterConfigLoader(loader, compiler, onLoadStart, onLoadEnd);\n    this.routerState = createEmptyState(this.currentUrlTree, this.rootComponentType);\n\n    this.transitions = new BehaviorSubject<NavigationTransition>({\n      id: 0,\n      currentUrlTree: this.currentUrlTree,\n      currentRawUrl: this.currentUrlTree,\n      extractedUrl: this.urlHandlingStrategy.extract(this.currentUrlTree),\n      urlAfterRedirects: this.urlHandlingStrategy.extract(this.currentUrlTree),\n      rawUrl: this.currentUrlTree,\n      extras: {},\n      resolve: null,\n      reject: null,\n      promise: Promise.resolve(true),\n      source: 'imperative',\n      restoredState: null,\n      currentSnapshot: this.routerState.snapshot,\n      targetSnapshot: null,\n      currentRouterState: this.routerState,\n      targetRouterState: null,\n      guards: {canActivateChecks: [], canDeactivateChecks: []},\n      guardsResult: null,\n
    });\n    this.navigations = this.setupNavigations(this.transitions);\n\n    this.processNavigations();\n  }\n\n  private setupNavigations(transitions: Observable<NavigationTransition>):\n      Observable<NavigationTransition> {\n    const eventsSubject = (this.events as Subject<Event>);\n    return transitions.pipe(\n               filter(t => t.id !== 0),\n\n               // Extract URL\n               map(t =>\n                       ({...t, extractedUrl: this.urlHandlingStrategy.extract(t.rawUrl)} as\n                        NavigationTransition)),\n\n               // Using switchMap so we cancel executing navigations when a new one comes in\n               switchMap(t => {\n                 let completed = false;\n                 let errored = false;\n                 return of(t).pipe(\n                            // Store the Navigation object\n                            tap(t => {\n                              this.currentNavigation = {\n                                id: t.id,\n
```

```
    initialUrl: t.currentRawUrl,\n                    extractedUrl: t.extractedUrl,\n                    trigger: t.source,\n
            extras: t.extras,\n                    previousNavigation: this.lastSuccessfulNavigation ?\n
{...this.lastSuccessfulNavigation, previousNavigation: null} :\n                    null\n                };\n
 }),\n                switchMap(t => {\n                    const urlTransition = !this.navigated ||\n
t.extractedUrl.toString() !== this.browserUrlTree.toString();\n                    const processCurrentUrl =\n
    (this.onSameUrlNavigation === 'reload' ? true : urlTransition) &&\n
this.urlHandlingStrategy.shouldProcessUrl(t.rawUrl);\n\n                    if (processCurrentUrl) {\n
return of(t).pipe(\n                        // Fire NavigationStart
 event\n                        switchMap(t => {\n                            const transition = this.transitions.getValue();\n
                eventsSubject.next(new NavigationStart(\n                                t.id, this.serializeUrl(t.extractedUrl),
t.source,\n                                t.restoredState));\n                            if (transition !== this.transitions.getValue())
{\n                                return EMPTY;\n                            }\n                            return [t];\n
}),\n\n                        // This delay is required to match old behavior that forced navigation\n                        //
to always be async\n                        switchMap(t => Promise.resolve(t)),\n\n                        //
ApplyRedirects\n                        applyRedirects(\n                            this.ngModule.injector, this.configLoader,
this.urlSerializer,\n
                            this.config),\n\n                        // Update the currentNavigation\n                        tap(t =>
{\n                            this.currentNavigation = {\n                                ...this.currentNavigation!,\n
  finalUrl: t.urlAfterRedirects\n                            };\n                        }),\n\n                        // Recognize\n
                recognize(\n                            this.rootComponentType, this.config,\n                            (url) =>
this.serializeUrl(url), this.paramsInheritanceStrategy,\n                            this.relativeLinkResolution),\n\n
            // Update URL if in `eager` update mode\n                        tap(t => {\n                            if
(this.urlUpdateStrategy === 'eager') {\n                                if (!t.extras.skipLocationChange) {\n
                            this.setBrowserUrl(\n                                    t.urlAfterRedirects, !!t.extras.replaceUrl, t.id,\n
                            t.extras.state);\n                                }\n                                this.browserUrlTree =
t.urlAfterRedirects;\n                            }\n                        }),\n\n                        // Fire RoutesRecognized\n
                tap(t => {\n                            const routesRecognized = new RoutesRecognized(\n
   t.id, this.serializeUrl(t.extractedUrl),\n                                this.serializeUrl(t.urlAfterRedirects),
t.targetSnapshot!);\n                            eventsSubject.next(routesRecognized);\n                        }));\n
 } else {\n                    const processPreviousUrl = urlTransition && this.rawUrlTree &&\n
this.urlHandlingStrategy.shouldProcessUrl(this.rawUrlTree);\n
                    /* When the current URL shouldn't be processed, but the previous one was,\n                     * we
handle this \"error condition\" by navigating to the previously\n                     * successful URL, but leaving the
URL intact.*/\n                    if (processPreviousUrl) {\n                        const {id, extractedUrl, source,
restoredState, extras} = t;\n                        const navStart = new NavigationStart(\n                            id,
this.serializeUrl(extractedUrl), source, restoredState);\n                        eventsSubject.next(navStart);\n
    const targetSnapshot =\n                            createEmptyState(extractedUrl,
this.rootComponentType).snapshot;\n\n                        return of({\n                            ...t,\n
targetSnapshot,\n                            urlAfterRedirects: extractedUrl,\n
                        extras: {...extras, skipLocationChange: false, replaceUrl: false},\n                        });\n
    } else {\n                        /* When neither the current or previous URL can be processed, do nothing\n
       * other than update router's internal reference to the current \"settled\"\n                         * URL. This way the
next navigation will be coming from the current URL\n                         * in the browser.\n                         */\n
                this.rawUrlTree = t.rawUrl;\n                        this.browserUrlTree = t.urlAfterRedirects;\n
  t.resolve(null);\n                        return EMPTY;\n                    }\n                }),\n\n
     // Before Preactivation\n                switchTap(t => {\n                    const {\n
targetSnapshot,\n
```

```
id: navigationId,\n extractedUrl: appliedUrlTree,\n rawUrl:
rawUrlTree,\n extras: {skipLocationChange, replaceUrl}\n } = t;\n return
this.hooks.beforePreactivation(targetSnapshot!, {\n navigationId,\n appliedUrlTree,\n
rawUrlTree,\n skipLocationChange: !!skipLocationChange,\n replaceUrl:
!!replaceUrl,\n });\n }),\n\n // --- GUARDS ---\n tap(t => {\n
const guardsStart = new GuardsCheckStart(\n t.id, this.serializeUrl(t.extractedUrl),\n
this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot!);\n this.triggerEvent(guardsStart);\n

}),\n\n map(t => ({\n ...t,\n guards: getAllRouteGuards(\n
t.targetSnapshot!, t.currentSnapshot, this.rootContexts)\n })),\n\n
checkGuards(this.ngModule.injector, (evt: Event) => this.triggerEvent(evt)),\n tap(t => {\n
if (isUrlTree(t.guardsResult)) {\n const error: Error&{url?: UrlTree} = navigationCancelingError(\n
`Redirecting to \"${this.serializeUrl(t.guardsResult)}\"`);\n error.url =
t.guardsResult;\n throw error;\n }\n }),\n\n tap(t => {\n
const guardsEnd = new GuardsCheckEnd(\n t.id, this.serializeUrl(t.extractedUrl),\n
this.serializeUrl(t.urlAfterRedirects),
t.targetSnapshot!,\n !!t.guardsResult);\n this.triggerEvent(guardsEnd);\n
}),\n\n filter(t => {\n if (!t.guardsResult) {\n
this.resetUrlToCurrentUrlTree();\n const navCancel =\n new NavigationCancel(t.id,
this.serializeUrl(t.extractedUrl), '');\n eventsSubject.next(navCancel);\n
t.resolve(false);\n return false;\n }\n return true;\n }),\n\n
// --- RESOLVE ---\n switchTap(t => {\n if (t.guards.canActivateChecks.length)
{\n return of(t).pipe(\n tap(t => {\n const resolveStart = new
ResolveStart(\n
t.id, this.serializeUrl(t.extractedUrl),\n this.serializeUrl(t.urlAfterRedirects),
t.targetSnapshot!);\n this.triggerEvent(resolveStart);\n }),\n
switchMap(t => {\n let dataResolved = false;\n return of(t).pipe(\n
resolveData(\n this.paramsInheritanceStrategy, this.ngModule.injector),\n
tap({\n next: () => dataResolved = true,\n complete: () => {\n
if (!dataResolved) {\n const navCancel = new NavigationCancel(\n
t.id, this.serializeUrl(t.extractedUrl),\n `At least
one route resolver didn't emit any value.`);\n eventsSubject.next(navCancel);\n
t.resolve(false);\n }\n }\n }),\n
);\n }),\n tap(t => {\n const resolveEnd = new
ResolveEnd(\n t.id, this.serializeUrl(t.extractedUrl),\n
this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot!);\n this.triggerEvent(resolveEnd);\n
}));\n }\n return undefined;\n }),\n\n // --- AFTER
PREACTIVATION ---\n switchTap((t: NavigationTransition) => {\n const {\n
targetSnapshot,\n id: navigationId,\n extractedUrl: appliedUrlTree,\n
rawUrl: rawUrlTree,\n extras: {skipLocationChange, replaceUrl}\n } = t;\n
return this.hooks.afterPreactivation(targetSnapshot!, {\n navigationId,\n
appliedUrlTree,\n rawUrlTree,\n skipLocationChange: !!skipLocationChange,\n
replaceUrl: !!replaceUrl,\n });\n }),\n\n map((t: NavigationTransition)
=> {\n const targetRouterState = createRouterState(\n this.routeReuseStrategy,
t.targetSnapshot!, t.currentRouterState);\n return ({...t, targetRouterState});\n }),\n\n
/* Once here, we
are about to activate syncronously. The assumption is this\n will succeed, and user code may read
from the Router service. Therefore\n before activation, we need to update router properties storing the
```

```
current\n                 URL and the RouterState, as well as updated the browser URL. All this should\n
  happen *before* activating. */\n                 tap((t: NavigationTransition) => {\n
this.currentUrlTree = t.urlAfterRedirects;\n                 this.rawUrlTree =\n
this.urlHandlingStrategy.merge(this.currentUrlTree, t.rawUrl);\n\n                 (this as {routerState:
RouterState}).routerState = t.targetRouterState!;\n\n                 if (this.urlUpdateStrategy === 'deferred') {\n
          if (!t.extras.skipLocationChange) {\n                 this.setBrowserUrl(\n
this.rawUrlTree,
 !!t.extras.replaceUrl, t.id, t.extras.state);\n                 }\n                 this.browserUrlTree =
t.urlAfterRedirects;\n                 }\n                 }),\n\n                 activateRoutes(\n
this.rootContexts, this.routeReuseStrategy,\n                 (evt: Event) => this.triggerEvent(evt)),\n\n
tap({\n                 next() {\n                 completed = true;\n                 },\n                 complete() {\n
          completed = true;\n                 }\n                 }),\n                 finalize(() => {\n                 /*
When the navigation stream finishes either through error or success, we\n                 * set the `completed` or
`errored` flag. However, there are some situations\n                 * where we could get here without either of those
being set. For instance, a\n
      * redirect during NavigationStart. Therefore, this is a catch-all to make\n                 * sure the
NavigationCancel\n                 * event is fired when a navigation gets cancelled but not caught by other\n
       * means. */\n                 if (!completed && !errored) {\n                 // Must reset to current URL tree
here to ensure history.state is set. On a\n                 // fresh page load, if a new navigation comes in before a
successful\n                 // navigation completes, there will be nothing in\n                 //
history.state.navigationId. This can cause sync problems with AngularJS\n                 // sync code which looks
for a value here in order to determine whether or\n                 // not to handle a given popstate event or to leave
it to the Angualr\n                 // router.\n                 this.resetUrlToCurrentUrlTree();\n
          const navCancel = new NavigationCancel(\n                 t.id, this.serializeUrl(t.extractedUrl),\n
           `Navigation ID ${t.id} is not equal to the current navigation id ${\n
this.navigationId}`);\n                 eventsSubject.next(navCancel);\n                 t.resolve(false);\n
  }\n                 // currentNavigation should always be reset to null here. If navigation was\n                 //
successful, lastSuccessfulTransition will have already been set. Therefore\n                 // we can safely set
currentNavigation to null here.\n                 this.currentNavigation = null;\n                 }),\n
catchError((e) => {\n                 errored = true;\n                 /* This error type is issued during Redirect, and is
handled as a\n                 * cancellation rather than an error.
 */\n                 if (isNavigationCancelingError(e)) {\n                 const redirecting = isUrlTree(e.url);\n
          if (!redirecting) {\n                 // Set property only if we're not redirecting. If we landed on a page
and\n                 // redirect to `/` route, the new navigation is going to see the `/`\n                 // isn't a
change from the default currentUrlTree and won't navigate.\n                 // This is only applicable with initial
navigation, so setting\n                 // `navigated` only when not redirecting resolves this scenario.\n
     this.navigated = true;\n                 this.resetStateAndUrl(t.currentRouterState, t.currentUrlTree,
t.rawUrl);\n                 }\n                 const navCancel = new NavigationCancel(\n                 t.id,
this.serializeUrl(t.extractedUrl), e.message);\n
          eventsSubject.next(navCancel);\n\n                 // When redirecting, we need to delay resolving the
navigation\n                 // promise and push it to the redirect navigation\n                 if (!redirecting) {\n
          t.resolve(false);\n                 } else {\n                 // setTimeout is required so this navigation
finishes with\n                 // the return EMPTY below. If it isn't allowed to finish\n                 //
processing, there can be multiple navigations to the same\n                 // URL.\n                 setTimeout(()
=> {\n                 const mergedTree =\n                 this.urlHandlingStrategy.merge(e.url,
this.rawUrlTree);\n                 const extras = {\n                 skipLocationChange:
t.extras.skipLocationChange,\n                 replaceUrl: this.urlUpdateStrategy
```

```
 === 'eager'\n                 };\n\n                 return this.scheduleNavigation(\n
mergedTree, 'imperative', null, extras,\n                     {resolve: t.resolve, reject: t.reject, promise:
t.promise});\n                 }, 0);\n               }\n\n               /* All other errors should reset to the
router's internal URL reference to\n                * the pre-error state. */\n               } else {\n
this.resetStateAndUrl(t.currentRouterState, t.currentUrlTree, t.rawUrl);\n                 const navError =\n
          new NavigationError(t.id, this.serializeUrl(t.extractedUrl), e);\n
eventsSubject.next(navError);\n                 try {\n                   t.resolve(this.errorHandler(e));\n
  } catch (ee) {\n
  t.reject(ee);\n                 }\n               }\n               return EMPTY;\n             }));\n             //
TODO(jasonaden): remove cast once g3 is on updated TypeScript\n           })) as any as
Observable<NavigationTransition>;\n  }\n\n  /**\n   * @internal\n   * TODO: this should be removed once the
constructor of the router made internal\n   */\n  resetRootComponentType(rootComponentType: Type<any>): void
{\n    this.rootComponentType = rootComponentType;\n    // TODO: vsavkin router 4.0 should make the root
component set to null\n    // this will simplify the lifecycle of the router.\n    this.routerState.root.component =
this.rootComponentType;\n  }\n\n  private getTransition(): NavigationTransition {\n    const transition =
this.transitions.value;\n    // This value needs to be set. Other values such as extractedUrl are set on initial
navigation\n    // but the urlAfterRedirects may not get set if we aren't processing the new URL
 *and* not\n    // processing the previous URL.\n    transition.urlAfterRedirects = this.browserUrlTree;\n    return
transition;\n  }\n\n  private setTransition(t: Partial<NavigationTransition>): void {\n
this.transitions.next({...this.getTransition(), ...t});\n  }\n\n  /**\n   * Sets up the location change listener and performs
the initial navigation.\n   */\n  initialNavigation(): void {\n    this.setUpLocationChangeListener();\n    if
(this.navigationId === 0) {\n      this.navigateByUrl(this.location.path(true), {replaceUrl: true});\n    }\n  }\n\n  /**\n
 * Sets up the location change listener. This listener detects navigations triggered from outside\n   * the Router (the
browser back/forward buttons, for example) and schedules a corresponding Router\n   * navigation so that the
correct events, guards, etc. are triggered.\n   */\n  setUpLocationChangeListener(): void {\n    // Don't need to use
Zone.wrap any more, because zone.js\n    // already patch onPopState, so location
 change callback will\n    // run into ngZone\n    if (!this.locationSubscription) {\n      this.locationSubscription =
this.location.subscribe(event => {\n        const currentChange = this.extractLocationChangeInfoFromEvent(event);\n
    if (this.shouldScheduleNavigation(this.lastLocationChangeInfo, currentChange)) {\n          // The `setTimeout`
was added in #12160 and is likely to support Angular/AngularJS\n          // hybrid apps.\n          setTimeout(() => {\n
          const {source, state, urlTree} = currentChange;\n            const extras: NavigationExtras = {replaceUrl:
true};\n            if (state) {\n              const stateCopy = {...state} as Partial<RestoredState>;\n              delete
stateCopy.navigationId;\n              if (Object.keys(stateCopy).length !== 0) {\n                extras.state = stateCopy;\n
          }\n            }\n            this.scheduleNavigation(urlTree, source, state, extras);\n          }, 0);\n        }\n
this.lastLocationChangeInfo
 = currentChange;\n      });\n    }\n  }\n\n  /** Extracts router-related information from a `PopStateEvent`. */\n
private extractLocationChangeInfoFromEvent(change: PopStateEvent): LocationChangeInfo {\n    return {\n
source: change['type'] === 'popstate' ? 'popstate' : 'hashchange',\n      urlTree: this.parseUrl(change['url']!),\n      //
Navigations coming from Angular router have a navigationId state\n      // property. When this exists, restore the
state.\n      state: change.state?.navigationId ? change.state : null,\n      transitionId: this.getTransition().id\n    } as
const;\n  }\n\n  /**\n   * Determines whether two events triggered by the Location subscription are due to the same\n
 * navigation. The location subscription can fire two events (popstate and hashchange) for a\n   * single navigation.
The second one should be ignored, that is, we should not schedule another\n   * navigation in the Router.\n   */\n
private shouldScheduleNavigation(previous: LocationChangeInfo|null,
 current: LocationChangeInfo):\n      boolean {\n    if (!previous) return true;\n\n    const sameDestination =
current.urlTree.toString() === previous.urlTree.toString();\n    const eventsOccurredAtSameTime =
current.transitionId === previous.transitionId;\n    if (!eventsOccurredAtSameTime || !sameDestination) {\n
return true;\n    }\n\n    if ((current.source === 'hashchange' && previous.source === 'popstate') ||\n
```

```
(current.source === 'popstate' && previous.source === 'hashchange')) {\n      return false;\n    }\n\n    return true;\n  }\n\n  /** The current URL. */\n  get url(): string {\n    return this.serializeUrl(this.currentUrlTree);\n  }\n\n  /** The current Navigation object if one exists */\n  getCurrentNavigation(): Navigation|null {\n    return this.currentNavigation;\n  }\n\n  /** @internal */\n  triggerEvent(event: Event): void {\n    (this.events as Subject<Event>).next(event);\n  }\n\n  /**\n   * Resets the route configuration used for navigation and generating links.\n   *\n   * @param config The route array for the new configuration.\n   *\n   * @usageNotes\n   *\n   * ```\n   * router.resetConfig([\n   *  { path: 'team/:id', component: TeamCmp, children: [\n   *    { path: 'simple', component: SimpleCmp },\n   *    { path: 'user/:name', component: UserCmp }\n   *  ]}\n   * ]);\n   * ```\n   */\n  resetConfig(config: Routes): void {\n    validateConfig(config);\n    this.config = config.map(standardizeConfig);\n    this.navigated = false;\n    this.lastSuccessfulId = -1;\n  }\n\n  /** @nodoc */\n  ngOnDestroy(): void {\n    this.dispose();\n  }\n\n  /** Disposes of the router. */\n  dispose(): void {\n    if (this.locationSubscription) {\n      this.locationSubscription.unsubscribe();\n      this.locationSubscription = undefined;\n    }\n  }\n\n  /**\n   * Appends URL segments to the current URL tree to create a new URL tree.\n   *\n   * @param commands An array of URL fragments with which to construct the new URL tree.\n   * If the path is static, can be the literal URL string. For a dynamic path, pass an array of path\n   * segments, followed by the parameters for each segment.\n   * The fragments are applied to the current URL tree or the one provided  in the `relativeTo`\n   * property of the options object, if supplied.\n   * @param navigationExtras Options that control the navigation strategy.\n   * @returns The new URL tree.\n   *\n   * @usageNotes\n   *\n   * ```\n   * // create /team/33/user/11\n   * router.createUrlTree(['/team', 33, 'user', 11]);\n   *\n   * // create /team/33;expand=true/user/11\n   * router.createUrlTree(['/team', 33, {expand: true}, 'user', 11]);\n   *\n   * // you can collapse static segments like this (this works only with the first passed-in value):\n   * router.createUrlTree(['/team/33/user', userId]);\n   *\n   * // If the first segment can contain slashes, and you do not want the router to split it,\n   * // you can do the following:\n   * router.createUrlTree([{segmentPath: '/one/two'}]);\n   *\n   * // create /team/33/(user/11//right:chat)\n   * router.createUrlTree(['/team', 33, {outlets: {primary: 'user/11', right: 'chat'}}]);\n   *\n   * // remove the right secondary node\n   * router.createUrlTree(['/team', 33, {outlets: {primary: 'user/11', right: null}}]);\n   *\n   * // assuming the current url is `/team/33/user/11` and the route points to `user/11`\n   *\n   * // navigate to /team/33/user/11/details\n   * router.createUrlTree(['details'], {relativeTo: route});\n   *\n   * // navigate to /team/33/user/22\n   * router.createUrlTree(['../22'], {relativeTo: route});\n   *\n   * // navigate to /team/44/user/22\n   * router.createUrlTree(['../../team/44/user/22'], {relativeTo: route});\n   * ```\n   */\n  createUrlTree(commands: any[], navigationExtras: UrlCreationOptions = {}): UrlTree {\n    const {relativeTo, queryParams, fragment, queryParamsHandling, preserveFragment} =\n        navigationExtras;\n    const a = relativeTo || this.routerState.root;\n\n    const f = preserveFragment ? this.currentUrlTree.fragment : fragment;\n    let q: Params|null = null;\n    switch (queryParamsHandling) {\n      case 'merge':\n        q = {...this.currentUrlTree.queryParams, ...queryParams};\n        break;\n      case 'preserve':\n        q = this.currentUrlTree.queryParams;\n        break;\n      default:\n        q = queryParams || null;\n    }\n    if (q !== null) {\n      q = this.removeEmptyProps(q);\n    }\n    return createUrlTree(a, this.currentUrlTree, commands, q!, f!);\n  }\n\n  /**\n   * Navigates to a view using an absolute route path.\n   *\n   * @param url An absolute path for a defined route. The function does not apply any delta to the\n   *     current URL.\n   * @param extras An object containing properties that modify the navigation strategy.\n   *\n   * @returns A Promise that resolves to 'true' when navigation succeeds,\n   * to 'false' when navigation fails, or is rejected on error.\n   *\n   * @usageNotes\n\n   *\n   * The following calls request navigation to an absolute path.\n   *\n   * ```\n   * router.navigateByUrl(\"/team/33/user/11\");\n   *\n   * // Navigate without updating the URL\n   * router.navigateByUrl(\"/team/33/user/11\", { skipLocationChange: true });\n   * ```\n   *\n   * @see [Routing and Navigation guide](guide/router)\n   *\n   */\n  navigateByUrl(url: string|UrlTree, extras: NavigationBehaviorOptions = {\n    skipLocationChange: false\n  }): Promise<boolean> {\n    if (typeof ngDevMode === 'undefined' ||\n ngDevMode && this.isNgZoneEnabled && !NgZone.isInAngularZone()) {\n      this.console.warn(\n `Navigation triggered outside Angular zone, did you forget to call 'ngZone.run()'?`);\n    }\n\n    const urlTree =
```

```
isUrlTree(url) ? url : this.parseUrl(url);\n    const mergedTree = this.urlHandlingStrategy.merge(urlTree,
this.rawUrlTree);\n\n    return this.scheduleNavigation(mergedTree, 'imperative', null, extras);\n  }\n\n  /**\n   *
Navigate based
 on the provided array of commands and a starting point.\n   * If no starting route is provided, the navigation is
absolute.\n   *\n   * @param commands An array of URL fragments with which to construct the target URL.\n   * If
the path is static, can be the literal URL string. For a dynamic path, pass an array of path\n   * segments, followed by
the parameters for each segment.\n   * The fragments are applied to the current URL or the one provided  in the
`relativeTo` property\n   * of the options object, if supplied.\n   * @param extras An options object that determines
how the URL should be constructed or\n   *      interpreted.\n   *\n   * @returns A Promise that resolves to `true`
when navigation succeeds, to `false` when navigation\n   *      fails,\n   * or is rejected on error.\n   *\n   *
@usageNotes\n   *\n   * The following calls request navigation to a dynamic route path relative to the current
URL.\n   *\n   * ```\n   * router.navigate(['team', 33, 'user', 11], {relativeTo: route});\n
   *\n   * // Navigate without updating the URL, overriding the default behavior\n   * router.navigate(['team', 33,
'user', 11], {relativeTo: route, skipLocationChange: true});\n   * ```\n   *\n   * @see [Routing and Navigation
guide](guide/router)\n   *\n   */\n  navigate(commands: any[], extras: NavigationExtras = {skipLocationChange:
false}):\n      Promise<boolean> {\n    validateCommands(commands);\n    return
this.navigateByUrl(this.createUrlTree(commands, extras), extras);\n  }\n\n  /** Serializes a `UrlTree` into a string
*/\n  serializeUrl(url: UrlTree): string {\n    return this.urlSerializer.serialize(url);\n  }\n\n  /** Parses a string into a
`UrlTree` */\n  parseUrl(url: string): UrlTree {\n    let urlTree: UrlTree;\n    try {\n      urlTree =
this.urlSerializer.parse(url);\n    } catch (e) {\n      urlTree = this.malformedUriErrorHandler(e, this.urlSerializer,
url);\n    }\n    return urlTree;\n  }\n\n  /** Returns whether the url is activated */\n  isActive(url:
 string|UrlTree, exact: boolean): boolean {\n    if (isUrlTree(url)) {\n      return containsTree(this.currentUrlTree, url,
exact);\n    }\n\n    const urlTree = this.parseUrl(url);\n    return containsTree(this.currentUrlTree, urlTree, exact);\n
}\n\n  private removeEmptyProps(params: Params): Params {\n    return Object.keys(params).reduce((result:
Params, key: string) => {\n      const value: any = params[key];\n      if (value !== null && value !== undefined) {\n
    result[key] = value;\n      }\n      return result;\n    }, {});\n  }\n\n  private processNavigations(): void {\n
this.navigations.subscribe(\n        t => {\n          this.navigated = true;\n          this.lastSuccessfulId = t.id;\n
(this.events as Subject<Event>)\n              .next(new NavigationEnd(\n                  t.id,
this.serializeUrl(t.extractedUrl), this.serializeUrl(this.currentUrlTree)));\n          this.lastSuccessfulNavigation =
this.currentNavigation;\n          this.currentNavigation
 = null;\n          t.resolve(true);\n        },\n        e => {\n          this.console.warn(`Unhandled Navigation Error: `);\n
  });\n  }\n\n  private scheduleNavigation(\n      rawUrl: UrlTree, source: NavigationTrigger, restoredState:
RestoredState|null,\n      extras: NavigationExtras,\n      priorPromise?: {resolve: any, reject: any, promise:
Promise<boolean>}): Promise<boolean> {\n    // * Imperative navigations (router.navigate) might trigger additional
navigations to the same\n    //   URL via a popstate event and the locationChangeListener. We should skip these
duplicate\n    //   navs. Duplicates may also be triggered by attempts to sync AngularJS and Angular router\n    //
states.\n    // * Imperative navigations can be cancelled by router guards, meaning the URL won't change. If\n    //
the user follows that with a navigation using the back/forward button or manual URL change,\n    //   the destination
may be the same as the previous imperative attempt. We should
 not skip\n    //   these navigations because it's a separate case from the one above -- it's not a duplicate\n    //
navigation.\n    const lastNavigation = this.getTransition();\n    // We don't want to skip duplicate successful navs if
they're imperative because\n    // onSameUrlNavigation could be 'reload' (so the duplicate is intended).\n    const
browserNavPrecededByRouterNav =\n        source !== 'imperative' && lastNavigation?.source === 'imperative';\n
const lastNavigationSucceeded = this.lastSuccessfulId === lastNavigation.id;\n    // If the last navigation succeeded
or is in flight, we can use the rawUrl as the comparison.\n    // However, if it failed, we should compare to the final
result (urlAfterRedirects).\n    const lastNavigationUrl = (lastNavigationSucceeded || this.currentNavigation) ?\n
lastNavigation.rawUrl :\n        lastNavigation.urlAfterRedirects;\n    const duplicateNav =
lastNavigationUrl.toString() === rawUrl.toString();\n    if (browserNavPrecededByRouterNav
```

&& duplicateNav) {\n return Promise.resolve(true); // return value is not used\n }\n\n let resolve: any;\n let reject: any;\n let promise: Promise<boolean>;\n if (priorPromise) {\n resolve = priorPromise.resolve;\n reject = priorPromise.reject;\n promise = priorPromise.promise;\n\n } else {\n promise = new Promise<boolean>((res, rej) => {\n resolve = res;\n reject = rej;\n });\n }\n\n const id = ++this.navigationId;\n this.setTransition({\n id,\n source,\n restoredState,\n currentUrlTree: this.currentUrlTree,\n currentRawUrl: this.rawUrlTree,\n rawUrl,\n extras,\n resolve,\n reject,\n promise,\n currentSnapshot: this.routerState.snapshot,\n currentRouterState: this.routerState\n });\n\n // Make sure that the error is propagated even though `processNavigations` catch\n // handler does not rethrow\n return promise.catch((e: any) =>
{\n return Promise.reject(e);\n });\n }\n\n private setBrowserUrl(\n url: UrlTree, replaceUrl: boolean, id: number, state?: {[key: string]: any}) {\n const path = this.urlSerializer.serialize(url);\n state = state || {};\n if (this.location.isCurrentPathEqualTo(path) || replaceUrl) {\n // TODO(jasonaden): Remove first `navigationId` and rely on `ng` namespace.\n this.location.replaceState(path, '', {...state, navigationId: id});\n } else {\n this.location.go(path, '', {...state, navigationId: id});\n }\n }\n\n private resetStateAndUrl(storedState: RouterState, storedUrl: UrlTree, rawUrl: UrlTree): void {\n (this as {routerState: RouterState}).routerState = storedState;\n this.currentUrlTree = storedUrl;\n this.rawUrlTree = this.urlHandlingStrategy.merge(this.currentUrlTree, rawUrl);\n this.resetUrlToCurrentUrlTree();\n }\n\n private resetUrlToCurrentUrlTree(): void {\n this.location.replaceState(\n this.urlSerializer.serialize(this.rawUrlTree), '', {navigationId: this.lastSuccessfulId});\n }\n}\n\nfunction validateCommands(commands: string[]): void {\n for (let i = 0; i < commands.length; i++) {\n const cmd = commands[i];\n if (cmd == null) {\n throw new Error(`The requested path contains ${cmd} segment at index ${i}`);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {LocationStrategy} from '@angular/common';\nimport {Attribute, Directive, ElementRef, HostBinding, HostListener, Input, OnChanges, OnDestroy, Renderer2, SimpleChanges} from '@angular/core';\nimport {Subject, Subscription} from 'rxjs';\n\nimport {QueryParamsHandling} from '../config';\nimport {Event, NavigationEnd} from '../events';\nimport {Router} from '../router';\nimport {ActivatedRoute} from '../router_state';\nimport {Params} from '../shared';\nimport {UrlTree} from '../url_tree';\n\n\n/**\n * @description\n *\n * When applied to an element in a template, makes that element a link\n * that initiates navigation to a route. Navigation opens one or more routed components\n * in one or more `<router-outlet>` locations on the page.\n *\n * Given a route configuration `[{ path: 'user/:name', component: UserCmp }]`,\n * the following creates a static link to the route:\n * `<a routerLink=\"/user/bob\">link to user component</a>`\n *\n * You can use dynamic values to generate the link.\n * For a dynamic link, pass an array of path segments,\n * followed by the params for each segment.\n * For example, `['/team', teamId, 'user', userName, {details: true}]`\n * generates a link to `/team/11/user/bob;details=true`.\n *\n * Multiple static segments can be merged into one term and combined with dynamic segements.\n * For example, `['/team/11/user', userName, {details: true}]`\n *\n * The input that you provide to the link is treated as a delta to the current URL.\n * For instance, suppose the current URL is `/user/(box//aux:team)`.\n * The link `<a [routerLink]=\"['/user/jim']\">Jim</a>` creates the URL\n * `/user/(jim//aux:team)`.\n * See {@link Router#createUrlTree createUrlTree} for more information.\n *\n * @usageNotes\n *\n * You can use absolute or relative paths in a link, set query parameters,\n * control how parameters are handled, and keep a history of navigation states.\n *\n * ### Relative link paths\n *\n * The first segment name can be prepended with `/`, `./`, or `../`.\n * * If the first segment begins with `/`, the router looks up the route from the root of the\n * app.\n * * If the first segment begins with `./`, or doesn't begin with a slash, the router\n * looks in the children of the current activated route.\n * * If the first segment begins with `../`, the router goes up one level in the route tree.\n *\n * ### Setting and handling query params and fragments\n *\n * The following link adds a query parameter and a fragment to the generated URL:\n *\n * ```\n * <a [routerLink]=\"['/user/bob']\" [queryParams]=\"{debug: true}\" fragment=\"education\">\n * link to user component\n * </a>\n * ```\n * By default, the directive constructs the new URL using the given query parameters.\n * The example generates the link:

```
`/user/bob?debug=true#education`.\n *\n * You can instruct the directive to handle query parameters differently\n * by specifying the `queryParamsHandling` option in the link.\n * Allowed values are:\n *\n *  - `'merge'`: Merge the given `queryParams` into the current query params.\n *  - `'preserve'`: Preserve the current query params.\n *\n * For example:\n *\n * ```\n * <a [routerLink]=\"['/user/bob']\" [queryParams]=\"{debug: true}\" queryParamsHandling=\"merge\">\n *    link to user component\n * </a>\n * ```\n *\n * See {@link UrlCreationOptions.queryParamsHandling UrlCreationOptions#queryParamsHandling}.\n *\n * ### Preserving navigation history\n
 *\n * You can provide a `state` value to be persisted to the browser's\n * [`History.state` property](https://developer.mozilla.org/en-US/docs/Web/API/History#Properties).\n * For example:\n *\n * ```\n * <a [routerLink]=\"['/user/bob']\" [state]=\"{tracingId: 123}\">\n *    link to user component\n * </a>\n * ```\n *\n * Use {@link Router.getCurrentNavigation() Router#getCurrentNavigation} to retrieve a saved\n * navigation-state value. For example, to capture the `tracingId` during the `NavigationStart`\n * event:\n *\n * ```\n * // Get NavigationStart events\n * router.events.pipe(filter(e => e instanceof NavigationStart)).subscribe(e => {\n *    const navigation = router.getCurrentNavigation();\n *    tracingService.trace({id: navigation.extras.state.tracingId});\n * });\n * ```\n *\n * @ngModule RouterModule\n *\n * @publicApi\n */\n@Directive({selector: ':not(a):not(area)[routerLink]'})\nexport class RouterLink implements OnChanges {\n  /**\n   * Passed to {@link Router#createUrlTree
 Router#createUrlTree} as part of the\n   * `UrlCreationOptions`.\n   * @see {@link UrlCreationOptions#queryParams UrlCreationOptions#queryParams}\n   * @see {@link Router#createUrlTree Router#createUrlTree}\n   */\n  @Input() queryParams?: Params|null;\n  /**\n   * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n   * `UrlCreationOptions`.\n   * @see {@link UrlCreationOptions#fragment UrlCreationOptions#fragment}\n   * @see {@link Router#createUrlTree Router#createUrlTree}\n   */\n  @Input() fragment?: string;\n  /**\n   * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n   * `UrlCreationOptions`.\n   * @see {@link UrlCreationOptions#queryParamsHandling UrlCreationOptions#queryParamsHandling}\n   * @see {@link Router#createUrlTree Router#createUrlTree}\n   */\n  @Input() queryParamsHandling?: QueryParamsHandling|null;\n  /**\n   * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n   * `UrlCreationOptions`.\n
   * @see {@link UrlCreationOptions#preserveFragment UrlCreationOptions#preserveFragment}\n   * @see {@link Router#createUrlTree Router#createUrlTree}\n   */\n  // TODO(issue/24571): remove '!'.\n  @Input() preserveFragment!: boolean;\n  /**\n   * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n   * `NavigationBehaviorOptions`.\n   * @see {@link NavigationBehaviorOptions#skipLocationChange NavigationBehaviorOptions#skipLocationChange}\n   * @see {@link Router#navigateByUrl Router#navigateByUrl}\n   */\n  // TODO(issue/24571): remove '!'.\n  @Input() skipLocationChange!: boolean;\n  /**\n   * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n   * `NavigationBehaviorOptions`.\n   * @see {@link NavigationBehaviorOptions#replaceUrl NavigationBehaviorOptions#replaceUrl}\n   * @see {@link Router#navigateByUrl Router#navigateByUrl}\n   */\n  // TODO(issue/24571): remove '!'.\n  @Input() replaceUrl!: boolean;\n  /**\n   * Passed to
 {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n   * `NavigationBehaviorOptions`.\n   * @see {@link NavigationBehaviorOptions#state NavigationBehaviorOptions#state}\n   * @see {@link Router#navigateByUrl Router#navigateByUrl}\n   */\n  @Input() state?: {[k: string]: any};\n  private commands: any[] = [];\n  private preserve!: boolean;\n\n  /** @internal */\n  onChanges = new Subject<RouterLink>();\n\n  constructor(\n      private router: Router, private route: ActivatedRoute,\n      @Attribute('tabindex') tabIndex: string, renderer: Renderer2, el: ElementRef) {\n    if (tabIndex == null) {\n      renderer.setAttribute(el.nativeElement, 'tabindex', '0');\n    }\n  }\n\n  /** @nodoc */\n  ngOnChanges(changes: SimpleChanges) {\n    // This is subscribed to by `RouterLinkActive` so that it knows to update when there are changes\n    // to the RouterLinks it's tracking.\n
 this.onChanges.next(this);\n  }\n\n  /**\n   * Commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n
```

* - **array**: commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n * - **string**: shorthand for array of commands with just the string, i.e. `['/route']`\n * - **null|undefined**: shorthand for an empty array of commands, i.e. `[]`\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n @Input()\n set routerLink(commands: any[]|string|null|undefined) {\n if (commands != null) {\n this.commands = Array.isArray(commands) ? commands : [commands];\n } else {\n this.commands = [];\n }\n }\n\n /** @nodoc */\n @HostListener('click')\n onClick(): boolean {\n const extras = {\n skipLocationChange: attrBoolValue(this.skipLocationChange),\n replaceUrl: attrBoolValue(this.replaceUrl),\n state: this.state,\n };\n this.router.navigateByUrl(this.urlTree, extras);\n return true;\n }\n\n get urlTree(): UrlTree {\n return this.router.createUrlTree(this.commands, {\n relativeTo: this.route,\n queryParams: this.queryParams,\n fragment: this.fragment,\n queryParamsHandling: this.queryParamsHandling,\n preserveFragment: attrBoolValue(this.preserveFragment),\n });\n }\n}\n\n/**\n * @description\n *\n * Lets you link to specific routes in your app.\n *\n * See `RouterLink` for more information.\n *\n * @ngModule RouterModule\n *\n * @publicApi\n */\n@Directive({selector: 'a[routerLink],area[routerLink]'})\nexport class RouterLinkWithHref implements OnChanges, OnDestroy {\n // TODO(issue/24571): remove '!'.\n @HostBinding('attr.target') @Input() target!: string;\n /**\n * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n * `UrlCreationOptions`.\n * @see {@link UrlCreationOptions#queryParams UrlCreationOptions#queryParams}\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n @Input() queryParams?: Params|null;\n /**\n * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n * `UrlCreationOptions`.\n * @see {@link UrlCreationOptions#fragment UrlCreationOptions#fragment}\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n @Input() fragment?: string;\n /**\n * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n * `UrlCreationOptions`.\n * @see {@link UrlCreationOptions#queryParamsHandling UrlCreationOptions#queryParamsHandling}\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n @Input() queryParamsHandling?: QueryParamsHandling|null;\n /**\n * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n * `UrlCreationOptions`.\n * @see {@link UrlCreationOptions#preserveFragment UrlCreationOptions#preserveFragment}\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n // TODO(issue/24571): remove '!'.\n @Input() preserveFragment!: boolean;\n /**\n * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n * `NavigationBehaviorOptions`.\n * @see {@link NavigationBehaviorOptions#skipLocationChange NavigationBehaviorOptions#skipLocationChange}\n * @see {@link Router#navigateByUrl Router#navigateByUrl}\n */\n // TODO(issue/24571): remove '!'.\n @Input() skipLocationChange!: boolean;\n /**\n * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n * `NavigationBehaviorOptions`.\n * @see {@link NavigationBehaviorOptions#replaceUrl NavigationBehaviorOptions#replaceUrl}\n * @see {@link Router#navigateByUrl Router#navigateByUrl}\n */\n // TODO(issue/24571): remove '!'.\n @Input() replaceUrl!: boolean;\n /**\n * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n * `NavigationBehaviorOptions`.\n * @see {@link NavigationBehaviorOptions#state NavigationBehaviorOptions#state}\n * @see {@link Router#navigateByUrl Router#navigateByUrl}\n */\n @Input() state?: {[k: string]: any};\n private commands: any[] = [];\n private subscription: Subscription;\n // TODO(issue/24571): remove '!'.\n private preserve!: boolean;\n\n // the url displayed on the anchor element.\n // TODO(issue/24571): remove '!'.\n @HostBinding() href!: string;\n\n /** @internal */\n onChanges = new Subject<RouterLinkWithHref>();\n\n constructor(\n private router: Router, private route: ActivatedRoute,\n private locationStrategy: LocationStrategy) {\n this.subscription = router.events.subscribe((s: Event) => {\n if (s instanceof NavigationEnd) {\n this.updateTargetUrlAndHref();\n }\n });\n }\n\n /**\n * Commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n * - **array**: commands to pass to {@link Router#createUrlTree

Router#createUrlTree}.\n * - **string**: shorthand for array of commands with just the string, i.e. `['/route']`\n * - **null|undefined**: shorthand for an empty array of commands, i.e. `[]`\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n @Input()\n set routerLink(commands: any[]|string|null|undefined) {\n if (commands != null) {\n this.commands = Array.isArray(commands) ? commands : [commands];\n } else {\n this.commands = [];\n }\n }\n\n /** @nodoc */\n ngOnChanges(changes: SimpleChanges): any {\n this.updateTargetUrlAndHref();\n this.onChanges.next(this);\n }\n /** @nodoc */\n ngOnDestroy(): any {\n this.subscription.unsubscribe();\n }\n\n /** @nodoc */\n @HostListener(\n 'click',\n ['$event.button', '$event.ctrlKey', '$event.shiftKey', '$event.altKey', '$event.metaKey'])\n onClick(button: number, ctrlKey: boolean, shiftKey: boolean, altKey: boolean, metaKey: boolean):\n boolean {\n if (button !== 0 || ctrlKey || shiftKey || altKey || metaKey) {\n return true;\n }\n\n if (typeof this.target === 'string' && this.target != '_self') {\n return true;\n }\n\n const extras = {\n skipLocationChange: attrBoolValue(this.skipLocationChange),\n replaceUrl: attrBoolValue(this.replaceUrl),\n state: this.state\n };\n this.router.navigateByUrl(this.urlTree, extras);\n return false;\n }\n\n private updateTargetUrlAndHref(): void {\n this.href = this.locationStrategy.prepareExternalUrl(this.router.serializeUrl(this.urlTree));\n }\n\n get urlTree(): UrlTree {\n return this.router.createUrlTree(this.commands, {\n relativeTo: this.route,\n queryParams: this.queryParams,\n fragment: this.fragment,\n queryParamsHandling: this.queryParamsHandling,\n preserveFragment: attrBoolValue(this.preserveFragment),\n });\n }\n}\n\nfunction attrBoolValue(s: any): boolean {\n return s === '' || !!s;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AfterContentInit, ChangeDetectorRef, ContentChildren, Directive, ElementRef, Input, OnChanges, OnDestroy, Optional, QueryList, Renderer2, SimpleChanges} from '@angular/core';\nimport {from, of, Subscription} from 'rxjs';\nimport {mergeAll} from 'rxjs/operators';\n\nimport {Event, NavigationEnd} from '../events';\nimport {Router} from '../router';\n\nimport {RouterLink, RouterLinkWithHref} from './router_link';\n\n\n/**\n *\n * @description\n *\n * Tracks whether the linked route of an element is currently active, and allows you\n * to specify one or more CSS classes to add to the element when the linked route\n * is active.\n *\n * Use this directive to create a visual distinction for elements associated with an active route.\n * For example, the following code highlights the word \"Bob\" when the the router\n * activates the associated route:\n *\n * ```\n * <a routerLink=\"/user/bob\" routerLinkActive=\"active-link\">Bob</a>\n * ```\n *\n * Whenever the URL is either '/user' or '/user/bob', the \"active-link\" class is\n * added to the anchor tag. If the URL changes, the class is removed.\n *\n * You can set more than one class using a space-separated string or an array.\n * For example:\n *\n * ```\n * <a routerLink=\"/user/bob\" routerLinkActive=\"class1 class2\">Bob</a>\n * <a routerLink=\"/user/bob\" [routerLinkActive]=\"['class1', 'class2']\">Bob</a>\n * ```\n *\n * To add the classes only when the URL matches the link exactly, add the option `exact: true`:\n *\n * ```\n * <a routerLink=\"/user/bob\" routerLinkActive=\"active-link\" [routerLinkActiveOptions]=\"{exact:\n * true}\">Bob</a>\n * ```\n *\n * To directly check the `isActive` status of the link, assign the `RouterLinkActive`\n * instance to a template variable.\n * For example, the following checks the status without assigning any CSS classes:\n *\n * ```\n * <a routerLink=\"/user/bob\" routerLinkActive #rla=\"routerLinkActive\">\n * Bob {{ rla.isActive ? '(already open)' : ''}}\n * </a>\n * ```\n *\n * You can apply the `RouterLinkActive` directive to an ancestor of linked elements.\n * For example, the following sets the active-link class on the `<div>` parent tag\n * when the URL is either '/user/jim' or '/user/bob'.\n *\n * ```\n * <div routerLinkActive=\"active-link\" [routerLinkActiveOptions]=\"{exact: true}\">\n * <a routerLink=\"/user/jim\">Jim</a>\n * <a routerLink=\"/user/bob\">Bob</a>\n * </div>\n * ```\n *\n * @ngModule RouterModule\n *\n * @publicApi\n */\n@Directive({\n selector: '[routerLinkActive]',\n exportAs: 'routerLinkActive',\n})\nexport class RouterLinkActive implements OnChanges, OnDestroy, AfterContentInit {\n @ContentChildren(RouterLink, {descendants: true}) links!: QueryList<RouterLink>;\n @ContentChildren(RouterLinkWithHref, {descendants: true})\n linksWithHrefs!: QueryList<RouterLinkWithHref>;\n\n private classes: string[] = [];\n private routerEventsSubscription: Subscription;\n private linkInputChangesSubscription?: Subscription;\n public readonly

isActive: boolean = false;\n\n  @Input() routerLinkActiveOptions:
 {exact: boolean} = {exact: false};\n\n  constructor(\n      private router: Router, private element: ElementRef,
private renderer: Renderer2,\n      private readonly cdr: ChangeDetectorRef, @Optional() private link?:
RouterLink,\n      @Optional() private linkWithHref?: RouterLinkWithHref) {\n    this.routerEventsSubscription =
router.events.subscribe((s: Event) => {\n      if (s instanceof NavigationEnd) {\n        this.update();\n      }\n    });\n
}\n\n  /** @nodoc */\n  ngAfterContentInit(): void {\n    // `of(null)` is used to force subscribe body to execute once
immediately (like `startWith`).\n    from([this.links.changes, this.linksWithHrefs.changes, of(null)])\n
.pipe(mergeAll())\n        .subscribe(_ => {\n          this.update();\n          this.subscribeToEachLinkOnChanges();\n
});\n  }\n\n  private subscribeToEachLinkOnChanges() {\n    this.linkInputChangesSubscription?.unsubscribe();\n
const allLinkChanges =\n        [...this.links.toArray(),
 ...this.linksWithHrefs.toArray(), this.link, this.linkWithHref]\n            .filter((link): link is
RouterLink|RouterLinkWithHref => !!link)\n            .map(link => link.onChanges);\n
this.linkInputChangesSubscription = from(allLinkChanges).pipe(mergeAll()).subscribe(link => {\n      if
(this.isActive !== this.isLinkActive(this.router)(link)) {\n        this.update();\n      }\n    });\n  }\n\n  @Input()\n  set
routerLinkActive(data: string[]|string) {\n    const classes = Array.isArray(data) ? data : data.split(' ');\n    this.classes
= classes.filter(c => !!c);\n  }\n\n  /** @nodoc */\n  ngOnChanges(changes: SimpleChanges): void {\n
this.update();\n  }\n  /** @nodoc */\n  ngOnDestroy(): void {\n    this.routerEventsSubscription.unsubscribe();\n
this.linkInputChangesSubscription?.unsubscribe();\n  }\n\n  private update(): void {\n    if (!this.links ||
!this.linksWithHrefs || !this.router.navigated) return;\n    Promise.resolve().then(() => {\n      const hasActiveLinks
 = this.hasActiveLinks();\n      if (this.isActive !== hasActiveLinks) {\n        (this as any).isActive =
hasActiveLinks;\n        this.cdr.markForCheck();\n        this.classes.forEach((c) => {\n          if (hasActiveLinks) {\n
          this.renderer.addClass(this.element.nativeElement, c);\n          } else {\n
this.renderer.removeClass(this.element.nativeElement, c);\n          }\n        });\n      }\n    });\n  }\n\n  private
isLinkActive(router: Router): (link: (RouterLink|RouterLinkWithHref)) => boolean {\n    return (link:
RouterLink|RouterLinkWithHref) =>\n                router.isActive(link.urlTree, this.routerLinkActiveOptions.exact);\n
}\n\n  private hasActiveLinks(): boolean {\n    const isActiveCheckFn = this.isLinkActive(this.router);\n    return
this.link && isActiveCheckFn(this.link) ||\n        this.linkWithHref && isActiveCheckFn(this.linkWithHref) ||\n
this.links.some(isActiveCheckFn) || this.linksWithHrefs.some(isActiveCheckFn);\n  }\n}\n","/**\n
 * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an
MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Attribute,
ChangeDetectorRef, ComponentFactoryResolver, ComponentRef, Directive, EventEmitter, Injector, OnDestroy,
OnInit, Output, ViewContainerRef} from '@angular/core';\n\nimport {Data} from '../config';\nimport
{ChildrenOutletContexts} from '../router_outlet_context';\nimport {ActivatedRoute} from '../router_state';\nimport
{PRIMARY_OUTLET} from '../shared';\n\n/**\n * @description\n *\n * Acts as a placeholder that Angular
dynamically fills based on the current router state.\n *\n * Each outlet can have a unique name, determined by the
optional `name` attribute.\n * The name cannot be set or changed dynamically. If not set, default value is
\"primary\".\n *\n * ```\n * <router-outlet></router-outlet>\n * <router-outlet name='left'></router-outlet>\n *
<router-outlet
 name='right'></router-outlet>\n * ```\n *\n * Named outlets can be the targets of secondary routes.\n * The `Route`
object for a secondary route has an `outlet` property to identify the target outlet:\n *\n * `{path: <base-path>,
component: <component>, outlet: <target_outlet_name>}`\n *\n * Using named outlets and secondary routes, you
can target multiple outlets in\n * the same `RouterLink` directive.\n *\n * The router keeps track of separate
branches in a navigation tree for each named outlet and\n * generates a representation of that tree in the URL.\n *
The URL for a secondary route uses the following syntax to specify both the primary and secondary\n * routes at the
same time:\n *\n * `http://base-path/primary-route-path(outlet-name:route-path)`\n *\n * A router outlet emits an
activate event when a new component is instantiated,\n * and a deactivate event when a component is destroyed.\n
*\n * ```\n * <router-outlet\n *   (activate)='onActivate($event)'\n *   (deactivate)='onDeactivate($event)'></router-
outlet>\n

```
 * ```\n *\n * @see [Routing tutorial](guide/router-tutorial-toh#named-outlets \"Example of a named\n * outlet and secondary route configuration\").\n * @see `RouterLink`\n * @see `Route`\n * @ngModule RouterModule\n *\n * @publicApi\n */\n@Directive({selector: 'router-outlet', exportAs: 'outlet'})\nexport class RouterOutlet implements OnDestroy, OnInit {\n  private activated: ComponentRef<any>|null = null;\n  private _activatedRoute: ActivatedRoute|null = null;\n  private name: string;\n\n  @Output('activate') activateEvents = new EventEmitter<any>();\n  @Output('deactivate') deactivateEvents = new EventEmitter<any>();\n\n  constructor(\n      private parentContexts: ChildrenOutletContexts, private location: ViewContainerRef,\n      private resolver: ComponentFactoryResolver, @Attribute('name') name: string,\n      private changeDetector: ChangeDetectorRef) {\n    this.name = name || PRIMARY_OUTLET;\n    parentContexts.onChildOutletCreated(this.name, this);\n  }\n\n  /** @nodoc */\n  ngOnDestroy(): void {\n    this.parentContexts.onChildOutletDestroyed(this.name);\n  }\n\n  /** @nodoc */\n  ngOnInit(): void {\n    if (!this.activated) {\n      // If the outlet was not instantiated at the time the route got activated we need to populate\n      // the outlet when it is initialized (ie inside a NgIf)\n      const context = this.parentContexts.getContext(this.name);\n      if (context && context.route) {\n        if (context.attachRef) {\n          // `attachRef` is populated when there is an existing component to mount\n          this.attach(context.attachRef, context.route);\n        } else {\n          // otherwise the component defined in the configuration is created\n          this.activateWith(context.route, context.resolver || null);\n        }\n      }\n    }\n  }\n\n  get isActivated(): boolean {\n    return !!this.activated;\n  }\n\n  get component(): Object {\n    if (!this.activated) throw new Error('Outlet is not activated');\n    return this.activated.instance;\n  }\n\n  get activatedRoute(): ActivatedRoute {\n    if (!this.activated) throw new Error('Outlet is not activated');\n    return this._activatedRoute as ActivatedRoute;\n  }\n\n  get activatedRouteData(): Data {\n    if (this._activatedRoute) {\n      return this._activatedRoute.snapshot.data;\n    }\n    return {};\n  }\n\n  /**\n   * Called when the `RouteReuseStrategy` instructs to detach the subtree\n   */\n  detach(): ComponentRef<any> {\n    if (!this.activated) throw new Error('Outlet is not activated');\n    this.location.detach();\n    const cmp = this.activated;\n    this.activated = null;\n    this._activatedRoute = null;\n    return cmp;\n  }\n\n  /**\n   * Called when the `RouteReuseStrategy` instructs to re-attach a previously detached subtree\n   */\n  attach(ref: ComponentRef<any>, activatedRoute: ActivatedRoute) {\n    this.activated = ref;\n    this._activatedRoute = activatedRoute;\n    this.location.insert(ref.hostView);\n  }\n\n  deactivate(): void {\n    if (this.activated) {\n      const c = this.component;\n      this.activated.destroy();\n      this.activated = null;\n      this._activatedRoute = null;\n      this.deactivateEvents.emit(c);\n    }\n  }\n\n  activateWith(activatedRoute: ActivatedRoute, resolver: ComponentFactoryResolver|null) {\n    if (this.isActivated) {\n      throw new Error('Cannot activate an already activated outlet');\n    }\n    this._activatedRoute = activatedRoute;\n    const snapshot = activatedRoute._futureSnapshot;\n    const component = <any>snapshot.routeConfig!.component;\n    resolver = resolver || this.resolver;\n    const factory = resolver.resolveComponentFactory(component);\n    const childContexts = this.parentContexts.getOrCreateContext(this.name).children;\n    const injector = new OutletInjector(activatedRoute, childContexts, this.location.injector);\n    this.activated = this.location.createComponent(factory, this.location.length, injector);\n    //
 Calling `markForCheck` to make sure we will run the change detection when the\n    // `RouterOutlet` is inside a `ChangeDetectionStrategy.OnPush` component.\n    this.changeDetector.markForCheck();\n    this.activateEvents.emit(this.activated.instance);\n  }\n}\n\nclass OutletInjector implements Injector {\n  constructor(\n      private route: ActivatedRoute, private childContexts: ChildrenOutletContexts,\n      private parent: Injector) {}\n\n  get(token: any, notFoundValue?: any): any {\n    if (token === ActivatedRoute) {\n      return this.route;\n    }\n\n    if (token === ChildrenOutletContexts) {\n      return this.childContexts;\n    }\n\n    return this.parent.get(token, notFoundValue);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Compiler, Injectable, Injector, NgModuleFactoryLoader, NgModuleRef,
```

OnDestroy} from '@angular/core';\nimport {from, Observable, of, Subscription} from 'rxjs';\nimport {catchError, concatMap, filter, map, mergeAll, mergeMap} from 'rxjs/operators';\n\nimport {LoadedRouterConfig, Route, Routes} from './config';\nimport {Event, NavigationEnd, RouteConfigLoadEnd, RouteConfigLoadStart} from './events';\nimport {Router} from './router';\nimport {RouterConfigLoader} from './router_config_loader';\n\n\n/**\n * @description\n *\n * Provides a preloading strategy.\n *\n * @publicApi\n */\nexport abstract class PreloadingStrategy {\n  abstract preload(route: Route, fn: () => Observable<any>): Observable<any>;\n}\n\n/**\n * @description\n *\n * Provides a preloading strategy that preloads all modules as quickly as possible.\n *\n * ```\n * RouterModule.forRoot(ROUTES, {preloadingStrategy: PreloadAllModules})\n * ```\n *\n * @publicApi\n */\nexport class PreloadAllModules implements PreloadingStrategy {\n  preload(route: Route, fn: () => Observable<any>): Observable<any>
  {\n    return fn().pipe(catchError(() => of(null)));\n  }\n}\n\n/**\n * @description\n *\n * Provides a preloading strategy that does not preload any modules.\n *\n * This strategy is enabled by default.\n *\n * @publicApi\n */\nexport class NoPreloading implements PreloadingStrategy {\n  preload(route: Route, fn: () => Observable<any>): Observable<any> {\n    return of(null);\n  }\n}\n\n/**\n * The preloader optimistically loads all router configurations to\n * make navigations into lazily-loaded sections of the application faster.\n *\n * The preloader runs in the background. When the router bootstraps, the preloader\n * starts listening to all navigation events. After every such event, the preloader\n * will check if any configurations can be loaded lazily.\n *\n * If a route is protected by `canLoad` guards, the preloaded will not load it.\n *\n * @publicApi\n */\n@Injectable()\nexport class RouterPreloader implements OnDestroy {\n  private loader: RouterConfigLoader;\n  private subscription?: Subscription;\n\n  constructor(\n      private router: Router, moduleLoader: NgModuleFactoryLoader, compiler: Compiler,\n      private injector: Injector, private preloadingStrategy: PreloadingStrategy) {\n    const onStartLoad = (r: Route) => router.triggerEvent(new RouteConfigLoadStart(r));\n    const onEndLoad = (r: Route) => router.triggerEvent(new RouteConfigLoadEnd(r));\n\n    this.loader = new RouterConfigLoader(moduleLoader, compiler, onStartLoad, onEndLoad);\n  }\n\n  setUpPreloading(): void {\n    this.subscription =\n        this.router.events\n            .pipe(filter((e: Event) => e instanceof NavigationEnd), concatMap(() => this.preload()))\n            .subscribe(() => {});\n  }\n\n  preload(): Observable<any> {\n    const ngModule = this.injector.get(NgModuleRef);\n    return this.processRoutes(ngModule, this.router.config);\n  }\n\n  /** @nodoc */\n  ngOnDestroy(): void {\n    if (this.subscription) {\n      this.subscription.unsubscribe();\n    }\n  }\n\n  private processRoutes(ngModule: NgModuleRef<any>, routes: Routes): Observable<void> {\n    const res: Observable<any>[] = [];\n    for (const route of routes) {\n      // we already have the config loaded, just recurse\n      if (route.loadChildren && !route.canLoad && route._loadedConfig) {\n        const childConfig = route._loadedConfig;\n        res.push(this.processRoutes(childConfig.module, childConfig.routes));\n\n        // no config loaded, fetch the config\n      } else if (route.loadChildren && !route.canLoad) {\n        res.push(this.preloadConfig(ngModule, route));\n\n        // recurse into children\n      } else if (route.children) {\n        res.push(this.processRoutes(ngModule, route.children));\n      }\n    }\n    return from(res).pipe(mergeAll(), map((_) => void 0));\n  }\n\n  private preloadConfig(ngModule: NgModuleRef<any>, route: Route): Observable<void> {\n    return this.preloadingStrategy.preload(route, () => {\n      const loaded$ = this.loader.load(ngModule.injector, route);\n      return loaded$.pipe(mergeMap((config: LoadedRouterConfig) => {\n        route._loadedConfig = config;\n        return this.processRoutes(config.module, config.routes);\n      }));\n    });\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ViewportScroller} from '@angular/common';\nimport {Injectable, OnDestroy} from '@angular/core';\nimport {Unsubscribable} from 'rxjs';\n\nimport {NavigationEnd, NavigationStart, Scroll} from './events';\nimport {Router} from './router';\n\n\n@Injectable()\nexport class RouterScroller implements OnDestroy {\n  // TODO(issue/24571): remove '!'.\n  private routerEventsSubscription!: Unsubscribable;\n  // TODO(issue/24571): remove '!'.\n  private scrollEventsSubscription!: Unsubscribable;\n\n  private lastId = 0;\n  private lastSource: 'imperative'|'popstate'|'hashchange'|undefined

= 'imperative';\n  private restoredId = 0;\n  private store: {[key: string]: [number, number]} = {};\n\n  constructor(\n    private router: Router,\n      /** @docsNotRequired */ public readonly viewportScroller: ViewportScroller,
private options: {\n        scrollPositionRestoration?: 'disabled'|'enabled'|'top',\n        anchorScrolling?:
'disabled'|'enabled'\n      } = {}) {\n    // Default both options to 'disabled'\n    options.scrollPositionRestoration =
options.scrollPositionRestoration || 'disabled';\n    options.anchorScrolling = options.anchorScrolling || 'disabled';\n
}\n\n  init(): void {\n    // we want to disable the automatic scrolling because having two places\n    // responsible for
scrolling results race conditions, especially given\n    // that browser don't implement this behavior consistently\n
if (this.options.scrollPositionRestoration !== 'disabled') {\n
this.viewportScroller.setHistoryScrollRestoration('manual');\n
    }\n    this.routerEventsSubscription = this.createScrollEvents();\n    this.scrollEventsSubscription =
this.consumeScrollEvents();\n  }\n\n  private createScrollEvents() {\n    return this.router.events.subscribe(e => {\n
if (e instanceof NavigationStart) {\n        // store the scroll position of the current stable navigations.\n
this.store[this.lastId] = this.viewportScroller.getScrollPosition();\n        this.lastSource = e.navigationTrigger;\n
this.restoredId = e.restoredState ? e.restoredState.navigationId : 0;\n      } else if (e instanceof NavigationEnd) {\n
this.lastId = e.id;\n        this.scheduleScrollEvent(e, this.router.parseUrl(e.urlAfterRedirects).fragment);\n      }\n
});\n  }\n\n  private consumeScrollEvents() {\n    return this.router.events.subscribe(e => {\n      if (!(e instanceof
Scroll)) return;\n      // a popstate event. The pop state event will always ignore anchor scrolling.\n      if (e.position)
{\n        if (this.options.scrollPositionRestoration
=== 'top') {\n          this.viewportScroller.scrollToPosition([0, 0]);\n        } else if
(this.options.scrollPositionRestoration === 'enabled') {\n          this.viewportScroller.scrollToPosition(e.position);\n
    }\n        // imperative navigation \"forward\"\n      } else {\n        if (e.anchor && this.options.anchorScrolling ===
'enabled') {\n          this.viewportScroller.scrollToAnchor(e.anchor);\n        } else if
(this.options.scrollPositionRestoration !== 'disabled') {\n          this.viewportScroller.scrollToPosition([0, 0]);\n
}\n      }\n    });\n  }\n\n  private scheduleScrollEvent(routerEvent: NavigationEnd, anchor: string|null): void {\n
this.router.triggerEvent(new Scroll(\n        routerEvent, this.lastSource === 'popstate' ? this.store[this.restoredId] :
null, anchor));\n  }\n\n  /** @nodoc */\n  ngOnDestroy() {\n    if (this.routerEventsSubscription) {\n
this.routerEventsSubscription.unsubscribe();\n    }\n    if (this.scrollEventsSubscription)
{\n      this.scrollEventsSubscription.unsubscribe();\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC
All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in
the LICENSE file at https://angular.io/license\n */\n\nimport {APP_BASE_HREF, HashLocationStrategy, Location,
LOCATION_INITIALIZED, LocationStrategy, PathLocationStrategy, PlatformLocation, ViewportScroller,
getDOM as getDOM} from '@angular/common';\nimport {ANALYZE_FOR_ENTRY_COMPONENTS,
APP_BOOTSTRAP_LISTENER, APP_INITIALIZER, ApplicationRef, Compiler, ComponentRef, Inject,
Injectable, InjectionToken, Injector, ModuleWithProviders, NgModule, NgModuleFactoryLoader, NgProbeToken,
Optional, Provider, SkipSelf, SystemJsNgModuleLoader} from '@angular/core';\nimport {of, Subject} from
'rxjs';\n\nimport {EmptyOutletComponent} from './components/empty_outlet';\nimport {Route, Routes} from
'./config';\nimport {RouterLink, RouterLinkWithHref}
from './directives/router_link';\nimport {RouterLinkActive} from './directives/router_link_active';\nimport
{RouterOutlet} from './directives/router_outlet';\nimport {Event} from './events';\nimport {RouteReuseStrategy}
from './route_reuse_strategy';\nimport {ErrorHandler, Router} from './router';\nimport {ROUTES} from
'./router_config_loader';\nimport {ChildrenOutletContexts} from './router_outlet_context';\nimport {NoPreloading,
PreloadAllModules, PreloadingStrategy, RouterPreloader} from './router_preloader';\nimport {RouterScroller} from
'./router_scroller';\nimport {ActivatedRoute} from './router_state';\nimport {UrlHandlingStrategy} from
'./url_handling_strategy';\nimport {DefaultUrlSerializer, UrlSerializer, UrlTree} from './url_tree';\nimport {flatten}
from './utils/collection';\n\n/**\n * The directives defined in the `RouterModule`.\n */\nconst
ROUTER_DIRECTIVES =\n    [RouterOutlet, RouterLink, RouterLinkWithHref, RouterLinkActive,
EmptyOutletComponent];\n\n/**\n * A [DI token](guide/glossary/#di-token)

for the router service.\n *\n * @publicApi\n */\nexport const ROUTER_CONFIGURATION = new InjectionToken<ExtraOptions>('ROUTER_CONFIGURATION');\n\n/**\n * @docsNotRequired\n */\nexport const ROUTER_FORROOT_GUARD = new InjectionToken<void>('ROUTER_FORROOT_GUARD');\n\nexport const ROUTER_PROVIDERS: Provider[] = [\n Location,\n {provide: UrlSerializer, useClass: DefaultUrlSerializer},\n {\n provide: Router,\n useFactory: setupRouter,\n deps: [\n UrlSerializer, ChildrenOutletContexts, Location, Injector, NgModuleFactoryLoader, Compiler,\n ROUTES, ROUTER_CONFIGURATION, [UrlHandlingStrategy, new Optional()],\n [RouteReuseStrategy, new Optional()]\n ]\n },\n ChildrenOutletContexts,\n {provide: ActivatedRoute, useFactory: rootRoute, deps: [Router]},\n {provide: NgModuleFactoryLoader, useClass: SystemJsNgModuleLoader},\n RouterPreloader,\n NoPreloading,\n PreloadAllModules,\n {provide: ROUTER_CONFIGURATION, useValue: {enableTracing: false}},\n];\n\nexport function routerNgProbeToken() {\n return new NgProbeToken('Router', Router);\n}\n\n/**\n * @description\n *\n * Adds directives and providers for in-app navigation among views defined in an application.\n * Use the Angular `Router` service to declaratively specify application states and manage state\n * transitions.\n *\n * You can import this NgModule multiple times, once for each lazy-loaded bundle.\n * However, only one `Router` service can be active.\n * To ensure this, there are two ways to register routes when importing this module:\n *\n * * The `forRoot()` method creates an `NgModule` that contains all the directives, the given\n * routes, and the `Router` service itself.\n * * The `forChild()` method creates an `NgModule` that contains all the directives and the given\n * routes, but does not include the `Router` service.\n *\n * @see [Routing and Navigation guide](guide/router) for an\n * overview of how the `Router` service should be used.\n *\n * @publicApi\n */\n@NgModule({\n declarations: ROUTER_DIRECTIVES,\n exports: ROUTER_DIRECTIVES,\n entryComponents: [EmptyOutletComponent]\n})\nexport class RouterModule {\n // Note: We are injecting the Router so it gets created eagerly...\n constructor(@Optional() @Inject(ROUTER_FORROOT_GUARD) guard: any, @Optional() router: Router) {}\n\n /**\n * Creates and configures a module with all the router providers and directives.\n * Optionally sets up an application listener to perform an initial navigation.\n *\n * When registering the NgModule at the root, import as follows:\n *\n * ```\n * @NgModule({\n * imports: [RouterModule.forRoot(ROUTES)]\n * })\n * class MyNgModule {}\n * ```\n *\n * @param routes An array of `Route` objects that define the navigation paths for the application.\n * @param config An `ExtraOptions` configuration object that controls how navigation is performed.\n * @return The new `NgModule`.\n *\n */\n static forRoot(routes: Routes, config?: ExtraOptions): ModuleWithProviders<RouterModule> {\n return {\n ngModule: RouterModule,\n providers: [\n ROUTER_PROVIDERS,\n provideRoutes(routes),\n {\n provide: ROUTER_FORROOT_GUARD,\n useFactory: provideForRootGuard,\n deps: [[Router, new Optional(), new SkipSelf()]]\n },\n {provide: ROUTER_CONFIGURATION, useValue: config ? config : {}},\n {\n provide: LocationStrategy,\n useFactory: provideLocationStrategy,\n deps:\n [PlatformLocation, [new Inject(APP_BASE_HREF), new Optional()], ROUTER_CONFIGURATION]\n },\n {\n provide: RouterScroller,\n useFactory: createRouterScroller,\n deps: [Router, ViewportScroller, ROUTER_CONFIGURATION]\n },\n {\n provide: PreloadingStrategy,\n useExisting: config && config.preloadingStrategy ? config.preloadingStrategy :\n NoPreloading\n },\n {provide: NgProbeToken, multi: true, useFactory: routerNgProbeToken},\n provideRouterInitializer(),\n ],\n };\n }\n\n /**\n * Creates a module with all the router directives and a provider registering routes,\n * without creating a new Router service.\n * When registering for submodules and lazy-loaded submodules, create the NgModule as follows:\n *\n * ```\n * @NgModule({\n * imports: [RouterModule.forChild(ROUTES)]\n * })\n * class MyNgModule {}\n * ```\n *\n * @param routes An array of `Route` objects that define the navigation paths for the submodule.\n * @return The new NgModule.\n *\n */\n static forChild(routes: Routes): ModuleWithProviders<RouterModule> {\n return {ngModule: RouterModule, providers: [provideRoutes(routes)]};\n }\n}\n\nexport function createRouterScroller(\n router: Router, viewportScroller: ViewportScroller, config: ExtraOptions): RouterScroller

{\n  if (config.scrollOffset) {\n    viewportScroller.setOffset(config.scrollOffset);\n  }\n  return new RouterScroller(router, viewportScroller, config);\n}\n\nexport function provideLocationStrategy(\n platformLocationStrategy: PlatformLocation, baseHref: string, options: ExtraOptions = {}) {\n  return options.useHash ? new HashLocationStrategy(platformLocationStrategy, baseHref) :\n                           new PathLocationStrategy(platformLocationStrategy, baseHref);\n}\n\nexport function provideForRootGuard(router: Router): any {\n  if ((typeof ngDevMode === 'undefined' || ngDevMode) && router) {\n    throw new Error(\n `RouterModule.forRoot() called twice. Lazy loaded modules should use RouterModule.forChild() instead.`);\n  }\n  return 'guarded';\n}\n\n/**\n * Registers a [DI provider](guide/glossary#provider) for a set of routes.\n * @param routes The route configuration to provide.\n *\n * @usageNotes\n *\n * ```\n * @NgModule({\n *   imports: [RouterModule.forChild(ROUTES)],\n
 *   providers: [provideRoutes(EXTRA_ROUTES)]\n * })\n * class MyNgModule {}\n * ```\n *\n * @publicApi\n */\nexport function provideRoutes(routes: Routes): any {\n  return [\n    {provide: ANALYZE_FOR_ENTRY_COMPONENTS, multi: true, useValue: routes},\n    {provide: ROUTES, multi: true, useValue: routes},\n  ];\n}\n\n/**\n * Allowed values in an `ExtraOptions` object that configure\n * when the router performs the initial navigation operation.\n *\n * * 'enabledNonBlocking' - (default) The initial navigation starts after the\n * root component has been created. The bootstrap is not blocked on the completion of the initial\n * navigation.\n * * 'enabledBlocking' - The initial navigation starts before the root component is created.\n * The bootstrap is blocked until the initial navigation is complete. This value is required\n * for [server-side rendering](guide/universal) to work.\n * * 'disabled' - The initial navigation is not performed. The location listener
 is set up before\n * the root component gets created. Use if there is a reason to have\n * more control over when the router starts its initial navigation due to some complex\n * initialization logic.\n *\n * The following values have been [deprecated](guide/releases#deprecation-practices) since v11,\n * and should not be used for new applications.\n *\n * * 'enabled' - This option is 1:1 replaceable with `enabledBlocking`.\n *\n * @see `forRoot()`\n *\n * @publicApi\n */\nexport type InitialNavigation = 'disabled'|'enabled'|'enabledBlocking'|'enabledNonBlocking';\n\n/**\n * A set of configuration options for a router module, provided in the\n * `forRoot()` method.\n *\n * @see `forRoot()`\n *\n *\n * @publicApi\n */\nexport interface ExtraOptions {\n  /**\n   * When true, log all internal navigation events to the console.\n   * Use for debugging.\n   */\n  enableTracing?: boolean;\n\n  /**\n   * When true, enable the location strategy that uses the URL fragment\n   * instead of the history
 API.\n   */\n  useHash?: boolean;\n\n  /**\n   * One of `enabled`, `enabledBlocking`, `enabledNonBlocking` or `disabled`.\n   * When set to `enabled` or `enabledBlocking`, the initial navigation starts before the root\n   * component is created. The bootstrap is blocked until the initial navigation is complete. This\n   * value is required for [server-side rendering](guide/universal) to work. When set to\n   * `enabledNonBlocking`, the initial navigation starts after the root component has been created.\n   * The bootstrap is not blocked on the completion of the initial navigation. When set to\n   * `disabled`, the initial navigation is not performed. The location listener is set up before the\n   * root component gets created. Use if there is a reason to have more control over when the router\n   * starts its initial navigation due to some complex initialization logic.\n   */\n  initialNavigation?: InitialNavigation;\n\n  /**\n   * A custom error handler for failed navigations.\n
   * If the handler returns a value, the navigation Promise is resolved with this value.\n   * If the handler throws an exception, the navigation Promise is rejected with the exception.\n   *\n   */\n  errorHandler?: ErrorHandler;\n\n  /**\n   * Configures a preloading strategy.\n   * One of `PreloadAllModules` or `NoPreloading` (the default).\n   */\n  preloadingStrategy?: any;\n\n  /**\n   * Define what the router should do if it receives a navigation request to the current URL.\n   * Default is `ignore`, which causes the router ignores the navigation.\n   * This can disable features such as a \"refresh\" button.\n   * Use this option to configure the behavior when navigating to the\n   * current URL. Default is 'ignore'.\n   */\n  onSameUrlNavigation?: 'reload'|'ignore';\n\n  /**\n   * Configures if the scroll position needs to be restored when navigating back.\n   *\n   * * 'disabled'- (Default) Does nothing. Scroll position is maintained on navigation.\n   * * 'top'- Sets the scroll

position to x = 0, y = 0 on all navigation.\n * * 'enabled'- Restores the previous scroll position on backward navigation, else sets the\n * position to the anchor if one is provided, or sets the scroll position to [0, 0] (forward\n * navigation). This option will be the default in the future.\n *\n * You can implement custom scroll restoration behavior by adapting the enabled behavior as\n * in the following example.\n *\n * ```typescript\n * class AppModule {\n * constructor(router: Router, viewportScroller: ViewportScroller) {\n * router.events.pipe(\n * filter((e: Event): e is Scroll => e instanceof Scroll)\n * ).subscribe(e => {\n * if (e.position) {\n * // backward navigation\n * viewportScroller.scrollToPosition(e.position);\n * } else if (e.anchor) {\n * // anchor navigation\n * viewportScroller.scrollToAnchor(e.anchor);\n * } else {\n * // forward navigation\n * viewportScroller.scrollToPosition([0, 0]);\n * }\n * });\n * }\n * }\n * ```\n */\n scrollPositionRestoration?: 'disabled'|'enabled'|'top';\n\n /**\n * When set to 'enabled', scrolls to the anchor element when the URL has a fragment.\n * Anchor scrolling is disabled by default.\n *\n * Anchor scrolling does not happen on 'popstate'. Instead, we restore the position\n * that we stored or scroll to the top.\n */\n anchorScrolling?: 'disabled'|'enabled';\n\n /**\n * Configures the scroll offset the router will use when scrolling to an element.\n *\n * When given a tuple with x and y position value,\n * the router uses that offset each time it scrolls.\n * When given a function, the router invokes the function every time\n * it restores scroll position.\n */\n scrollOffset?: [number, number]|(() => [number, number]);\n\n /**\n * Defines how the router merges parameters, data, and resolved data from parent to child\n * routes. By default ('emptyOnly'), inherits parent parameters only for\n * path-less or component-less routes.\n * Set to 'always' to enable unconditional inheritance of parent parameters.\n */\n paramsInheritanceStrategy?: 'emptyOnly'|'always';\n\n /**\n * A custom handler for malformed URI errors. The handler is invoked when `encodedURI` contains\n * invalid character sequences.\n * The default implementation is to redirect to the root URL, dropping\n * any path or parameter information. The function takes three parameters:\n *\n * - `'URIError'` - Error thrown when parsing a bad URL.\n * - `'UrlSerializer'` - UrlSerializer that’s configured with the router.\n * - `'url'` - The malformed URL that caused the URIError\n * */\n malformedUriErrorHandler?:\n (error: URIError, urlSerializer: UrlSerializer, url: string) => UrlTree;\n\n /**\n * Defines when the router updates the browser URL. By default ('deferred'),\n * update after successful navigation.\n * Set to 'eager' if prefer to update the URL at the beginning of navigation.\n * Updating the URL early allows you to handle a failure of navigation by\n * showing an error message with the URL that failed.\n */\n urlUpdateStrategy?: 'deferred'|'eager';\n\n /**\n * Enables a bug fix that corrects relative link resolution in components with empty paths.\n * Example:\n *\n * ```\n * const routes = [\n * {\n * path: '',\n * component: ContainerComponent,\n * children: [\n * { path: 'a', component: AComponent },\n * { path: 'b', component: BComponent },\n * ]\n * }\n * ];\n * ```\n *\n * From the `ContainerComponent`, this will not work:\n *\n * `<a [routerLink]=\"['./a']\">Link to A</a>`\n *\n * However, this will work:\n *\n * `<a [routerLink]=\"['../a']\">Link to A</a>`\n *\n * In other words, you're required to use `../` rather than `./`.\n *\n * The default in v11 is `corrected`.\n */\n relativeLinkResolution?: 'legacy'|'corrected';\n}\n\nexport function setupRouter(\n urlSerializer: UrlSerializer, contexts: ChildrenOutletContexts, location: Location,\n injector: Injector, loader: NgModuleFactoryLoader, compiler: Compiler, config: Route[][],\n opts: ExtraOptions = {}, urlHandlingStrategy?: UrlHandlingStrategy,\n routeReuseStrategy?: RouteReuseStrategy) {\n const router = new Router(\n null, urlSerializer, contexts, location, injector, loader, compiler, flatten(config));\n\n if (urlHandlingStrategy) {\n router.urlHandlingStrategy = urlHandlingStrategy;\n }\n\n if (routeReuseStrategy) {\n router.routeReuseStrategy = routeReuseStrategy;\n }\n\n assignExtraOptionsToRouter(opts, router);\n\n if (opts.enableTracing) {\n const dom = getDOM();\n router.events.subscribe((e: Event) => {\n dom.logGroup(`Router Event: ${(<any>e.constructor).name}`);\n dom.log(e.toString());\n dom.log(e);\n dom.logGroupEnd();\n });\n\n }\n\n return router;\n}\n\nexport function assignExtraOptionsToRouter(opts: ExtraOptions, router: Router): void {\n if (opts.errorHandler) {\n router.errorHandler = opts.errorHandler;\n }\n\n if

(opts.malformedUriErrorHandler) {\n router.malformedUriErrorHandler = opts.malformedUriErrorHandler;\n }\n\n if (opts.onSameUrlNavigation) {\n router.onSameUrlNavigation = opts.onSameUrlNavigation;\n }\n\n if (opts.paramsInheritanceStrategy) {\n router.paramsInheritanceStrategy = opts.paramsInheritanceStrategy;\n }\n\n if (opts.relativeLinkResolution) {\n router.relativeLinkResolution = opts.relativeLinkResolution;\n }\n\n if (opts.urlUpdateStrategy) {\n router.urlUpdateStrategy = opts.urlUpdateStrategy;\n }\n}\n\nexport function rootRoute(router: Router): ActivatedRoute {\n return router.routerState.root;\n}\n\n/**\n * Router initialization requires two steps:\n *\n * First, we start the navigation in a `APP_INITIALIZER` to block the bootstrap if\n * a resolver
or a guard executes asynchronously.\n *\n * Next, we actually run activation in a `BOOTSTRAP_LISTENER`, using the\n * `afterPreactivation` hook provided by the router.\n * The router navigation starts, reaches the point when preactivation is done, and then\n * pauses. It waits for the hook to be resolved. We then resolve it only in a bootstrap listener.\n */\n@Injectable()\nexport class RouterInitializer {\n private initNavigation: boolean = false;\n private resultOfPreactivationDone = new Subject<void>();\n\n constructor(private injector: Injector) {}\n\n appInitializer(): Promise<any> {\n const p: Promise<any> = this.injector.get(LOCATION_INITIALIZED, Promise.resolve(null));\n return p.then(() => {\n let resolve: Function = null!;\n const res = new Promise(r => resolve = r);\n const router = this.injector.get(Router);\n const opts = this.injector.get(ROUTER_CONFIGURATION);\n\n if (opts.initialNavigation === 'disabled') {\n router.setUpLocationChangeListener();\n resolve(true);\n } else if (\n // TODO: enabled is deprecated as of v11, can be removed in v13\n opts.initialNavigation === 'enabled' || opts.initialNavigation === 'enabledBlocking') {\n router.hooks.afterPreactivation = () => {\n // only the initial navigation should be delayed\n if (!this.initNavigation) {\n this.initNavigation = true;\n resolve(true);\n return this.resultOfPreactivationDone;\n\n // subsequent navigations should not be delayed\n } else {\n return of(null) as any;\n }\n };\n router.initialNavigation();\n } else {\n resolve(true);\n }\n\n return res;\n });\n }\n\n bootstrapListener(bootstrappedComponentRef: ComponentRef<any>): void {\n const opts = this.injector.get(ROUTER_CONFIGURATION);\n const preloader = this.injector.get(RouterPreloader);\n const routerScroller = this.injector.get(RouterScroller);\n const router = this.injector.get(Router);\n const ref = this.injector.get<ApplicationRef>(ApplicationRef);\n\n if (bootstrappedComponentRef !== ref.components[0]) {\n return;\n }\n\n // Default case\n if (opts.initialNavigation === 'enabledNonBlocking' || opts.initialNavigation === undefined) {\n router.initialNavigation();\n }\n\n preloader.setUpPreloading();\n routerScroller.init();\n router.resetRootComponentType(ref.componentTypes[0]);\n this.resultOfPreactivationDone.next(null!);\n this.resultOfPreactivationDone.complete();\n }\n}\n\nexport function getAppInitializer(r: RouterInitializer) {\n return r.appInitializer.bind(r);\n}\n\nexport function getBootstrapListener(r: RouterInitializer) {\n return r.bootstrapListener.bind(r);\n}\n\n/**\n * A [DI token](guide/glossary/#di-token) for the router initializer that\n * is called after the app is bootstrapped.\n *\n * @publicApi\n */\nexport const ROUTER_INITIALIZER =\n new InjectionToken<(compRef: ComponentRef<any>) => void>('Router Initializer');\n\nexport function provideRouterInitializer() {\n return [\n RouterInitializer,\n {\n provide: APP_INITIALIZER,\n multi: true,\n useFactory: getAppInitializer,\n deps: [RouterInitializer]\n },\n {provide: ROUTER_INITIALIZER, useFactory: getBootstrapListener, deps: [RouterInitializer]},\n {provide: APP_BOOTSTRAP_LISTENER, multi: true, useExisting: ROUTER_INITIALIZER},\n ];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All Rights
Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nexport {EmptyOutletComponent} from

'./components/empty_outlet';\nexport {assignExtraOptionsToRouter as assignExtraOptionsToRouter, ROUTER_PROVIDERS as ROUTER_PROVIDERS} from './router_module';\nexport {flatten as flatten} from './utils/collection';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nexport {Data, DeprecatedLoadChildren, LoadChildren, LoadChildrenCallback, QueryParamsHandling, ResolveData, Route, Routes, RunGuardsAndResolvers, UrlMatcher, UrlMatchResult} from './config';\nexport {RouterLink, RouterLinkWithHref} from './directives/router_link';\nexport {RouterLinkActive} from './directives/router_link_active';\nexport {RouterOutlet} from './directives/router_outlet';\nexport {ActivationEnd, ActivationStart, ChildActivationEnd, ChildActivationStart, Event, GuardsCheckEnd, GuardsCheckStart, NavigationCancel, NavigationEnd, NavigationError, NavigationStart, ResolveEnd, ResolveStart, RouteConfigLoadEnd, RouteConfigLoadStart, RouterEvent, RoutesRecognized, Scroll} from './events';\nexport {CanActivate, CanActivateChild, CanDeactivate, CanLoad, Resolve} from './interfaces';\nexport {BaseRouteReuseStrategy, DetachedRouteHandle, RouteReuseStrategy} from './route_reuse_strategy';\nexport {Navigation, NavigationBehaviorOptions, NavigationExtras, Router, UrlCreationOptions} from './router';\nexport {ROUTES} from './router_config_loader';\nexport {ExtraOptions, InitialNavigation, provideRoutes, ROUTER_CONFIGURATION, ROUTER_INITIALIZER, RouterModule} from './router_module';\nexport {ChildrenOutletContexts, OutletContext} from './router_outlet_context';\nexport {NoPreloading, PreloadAllModules, PreloadingStrategy, RouterPreloader} from './router_preloader';\nexport {ActivatedRoute, ActivatedRouteSnapshot, RouterState, RouterStateSnapshot} from './router_state';\nexport {convertToParamMap, ParamMap, Params, PRIMARY_OUTLET} from './shared';\nexport {UrlHandlingStrategy} from './url_handling_strategy';\nexport {DefaultUrlSerializer, UrlSegment, UrlSegmentGroup, UrlSerializer, UrlTree} from './url_tree';\nexport {VERSION} from './version';\n\nexport * from './private_export';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/index';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {EmptyOutletComponent as angular_packages_router_router_l} from './src/components/empty_outlet';\nexport {ROUTER_FORROOT_GUARD as angular_packages_router_router_a,RouterInitializer as angular_packages_router_router_h,createRouterScroller as angular_packages_router_router_c,getAppInitializer as angular_packages_router_router_i,getBootstrapListener as angular_packages_router_router_j,provideForRootGuard as angular_packages_router_router_e,provideLocationStrategy as angular_packages_router_router_d,provideRouterInitializer as angular_packages_router_router_k,rootRoute as angular_packages_router_router_g,routerNgProbeToken as angular_packages_router_router_b,setupRouter as angular_packages_router_router_f} from './src/router_module';\nexport {RouterScroller as angular_packages_router_router_o} from './src/router_scroller';\nexport {Tree as angular_packages_router_router_m,TreeNode as angular_packages_router_router_n} from './src/utils/tree';"],"names":["lastValue","isObservable","isPromise","EmptyOutletComponent","applyRedirects","applyRedirectsFn","NoMatch","split","match","recognize","recognizeFn","Console","getDOM"],"mappings":";;;;;;;;;;AAAA;;;;;;;AAsBA;;;;;;;;;;;;;;;;;;;;;;;;;MAsBa,WAAW;IAAC,tB;;IAEW,EAAU;;IAEV,EAAW;QAAC,EAAK,EAAO,EAAO,EAAO

,IAAI,CAAC;KAC9D;CACF;AAED;;;;;;;;;MASa,aAAc,SAAQ,WAAW;IAC5C;;IAEI,EAAU;;IAEV,GAAW;;IAEJ,iBAAyB;QACIC,KAAK,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC;QADN,sBAAiB,GAAjB,iBAAiB,CAAQ;KAEnC;;IAGD,QAAQ;QACN,OAAO,qBAAqB,IAAI,CAAC,EAAE,WAAW,IAAI,CAAC,GAAG,0BAAlD,IAAI,CAAC,iBAAiB,IAAI,CAAC;KAChC;CACF;AAED;;;;;;;;;;MAWa,gBAAiB,SAAQ,WAAW;IAC/C;;IAEI,EAAU;;IAEV,GAAW;;IAEJ,MAAc;QACvB,KAAK,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC;QADN,WAAM,GAAN,MAAM,CAAQ;KAExB;;IAGD,QAAQ;QACN,OAAO,wBAAwB,IAAI,CAAC,EAAE,WAAW,IAAI,CAAC,GAAG,IAAI,CAAC;KAC/D;CACF;AAED;;;;;;;;;MASa,eAAgB,SAAQ,WAAW;IAC9C;;IAEI,EAAU;;IAEV,GAAW;;IAEJ,KAAa;QACtB,KAAK,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC;QADN,UAAK,GAAL,KAAK,CAAQ;KAEvB;;IAGD,QAAQ;QACN,OAAO,uBAAuB,IAAI,CAAC,EAAE,WAAW,IAAI,CAAC,GAAG,aAAa,IAAI,CAAC,KAAK,GAAG,CAAC;KACpF;CACF;AAED;;;;;MAKa,gBAAiB,SAAQ,WAAW;IAC/C;;IAEI,EAAU;;IAEV,GAAW;;IAEJ,MAAc;QACvB,KAAK,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC;QADN,WAAM,GAAN,MAAM,CAAQ;KAExB;;IAGD,QAAQ;QACN,OAAO,wBAAwB,IAAI,CAAC,EAAE,WAAW,IAAI,CAAC,GAAG,IAAI,CAAC;KAC/D;CACF;AAED;;;;;;;MAOa,eAAgB,SAAQ,WAAW;IAC9C;;IAEI,EAAU;;IAEV,GAAW;;IAEJ,KAAa;QACtB,KAAK,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC;QADN,UAAK,GAAL,KAAK,CAAQ;KAEvB;;IAGD,QAAQ;QACN,OAAO,uBAAuB,IAAI,CAAC,EAAE,WAAW,IAAI,CAAC,GAAG,aAAa,IAAI,CAAC,KAAK,GAAG,CAAC;KACpF;CACF;AAED;;;;;;;MAOa,eAAgB,SAAQ,WAAW;IAC9C;;IAEI,EAAU;;IAEV,GAAW;;IAEJ,KAAa;QACtB,KAAK,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC;QADN,UAAK,GAAL,KAAK,CAAQ;KAEvB;;IAGD,QAAQ;QACN,OAAO,uBAAuB,IAAI,CAAC,EAAE,WAAW,IAAI,CAAC,GAAG,aAAa,IAAI,CAAC,KAAK,GAAG,CAAC;KACpF;CACF;AAED;;;;;;;;;MAU

O,mBAAmB,IAAI,CAAC,MAAM,iBAAiB,GAAG,IAAI,CAAC;KAC/D;;;AC3bH;;;;;;;AAYA;;;;;MAKa,cAAc,GAAG,UAAU;AAmDxC,MAAM,WAAW;IAGf,YAAY,MAAc;QACxB,IAAI,CAAC,MAAM,GAAG,MAAM,IAAI,EAAE,CAAC;KAC5B;IAED,GAAG,CAAC,IAAY;QACd,OAAO,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE,IAAI,CAAC,CAAC;KAChE;IAED,GAAG,CAAC,IAAY;QACd,IAAI,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE;YAClB,MAAM,CAAC,GAAG,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;YAC5B,IAAI,CAAC,KAAK,SAAS,EAAE;gBACnB,OAAO,CAAC,CAAC;aACV;SACF;QACD,OAAO,SAAS,CAAC;KAClB;IAED,GAAG,CAAC,IAAY,EAAE,KAAQ;QACxB,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,GAAG,KAAK,CAAC;KAC3B;IAED,MAAM,CAAC,IAAY;QACjB,OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;KAC1B;IAED,GAAG,CAAC,IAAY;QACd,OAAO,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;KACvB;IAED,KAAK;QACH,IAAI,CAAC,MAAM,GAAG,EAAE,CAAC;KAClB;IAED,IAAI,IAAI;QACN,OAAO,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,MAAM,CAAC;KACxC;IAED,CAAC,OAAO,CAAC,CAAC,QAAkC;QAC1C,KAAK,MAAM,GAAG,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,EAAE;YAC/C,QAAQ,CAAC,GAAG,EAAE,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC,CAAC;SACjC;KACF;IAED,CAAC,OAAO,CAAC,CAAC,QAAkC,EAAE,IAAS;QACrD,KAAK,MAAM,GAAG,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,EAAE;YAC/C,QAAQ,CAAC,IAAI,CAAC,IAAI,EAAE,GAAG,EAAE,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC,CAAC;SAC5C

KAAK,MAAM,IAAI,IAAI,GAAG,EAAE;QACtB,IAAI,GAAG,CAAC,cAAc,CAAC,IAAI,CAAC,EAAE;YAC5B,QAAQ,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE,IAAI,CAAC,CAAC;SAC3B;KACF;AACH,CAAC;SAEe,UAAU,CACtB,GAAqB,EAAE,EAAsC;IAC/D,IAAI,MAAM,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,KAAK,CAAC,EAAE;QACjC,OAAO,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;KACf;IAED,MAAM,QAAQ,GAAG,oB,EAAE,CAAC;IACrC,MAAM,QAAQ,GAAG,oB,EAAE,CAAC;IACrC,MAAM,GAAG,GAAqB,EAAE,CAAC;IAEjC,OAAO,CAAC,GAAG,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC

WAAW,CAAQ;QAEnB,aAAQ,GAAR,QAAQ,CAAa;KAAI;IAEpC,IAAI,aAAa;QACf,IAAI,CAAC,IAAI,CAAC,cAAc,EAAE;YACxB,IAAI,CAAC,cAAc,GAAG,iBAAiB,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;SAC3D;QACD,OAAO,IAAI,CAAC,cAAc,CAAC;KAC5B;;IAGD,QAAQ;QACN,OAAO,kBAAkB,CAAC,SAAS,CAAC,IAAI,CAAC,;;;;;;;;;MASa,eAAe;IAU1B;;IAEW,QAAAsB;;IAEtB,QAA0C;QAF1C,aAAQ,GAAR,QAAQ,CAAc;QAEtB,aAAQ,GAAR,QAAQ,CAAkC;;QANrD,WAAM,GAAyB,IAAI,CAAC;QAOlC,OAAO,CAAC,QAAQ,EAAE,CAAC,CAAM,EAAE,CAAC,KAAK,CAAC,CAAC,MAAM,GAAG,IAAI,CAAC,CAAC;KACxD;;IAGD,WAAW;QACT,OAAO,IAAI,CAAC,gBAAgB,GAAG,CAAC,CAAC;KAClC;;IAGD,IAAI,gBAAgB;QAClB,OAAO,MAAM,CAAC,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,QAAQ,CAAC,MAAM,CAAC;KAC1C;;IAGD,QAAQ;QACN,OAAO,cAAc,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC

AC,KAAK,QAAQ,CAAC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC;KAC9D;AACH,CAAC;AAED;;;;;;AAMA,SA
AS,eAAe,CAAC,CAAS;IAChC,OAAO,kBAAkB,CAAC,CAAC,CAAC;SACvB,OAAO,CAAC,MAAM,EAAE,G
AAG,CAAC;SACpB,OAAO,CAAC,OAAO,EAAE,GAAG,CAAC;SACrB,OAAO,CAAC,MAAM,EAAE,GAAG,
CAAC;SACpB,OAAO,CAAC,OAAO,EAAE,GAAG,CAAC,CAAC;AAC7B,CAAC;AAED;;;;;;SAMgB,cAAc,CA
AC,CAAS;IACtC,OAAO,eAAe,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,OAAO,EAAE,GAAG,CAAC,CAAC;
AAClD,CAAC;AAED;;;;;;SAMgB,iBAAiB,CAAC,CAAS;IACzC,OAAO,SAAS,CAAC,CAAC,CAAC,CAAC;AA
CtB,CAAC;AAED;;;;;;;SAOgB,gBAAgB,CAAC,CAAS;IACxC,OAAO,eAAe,CAAC,CAAC,CAAC,CAAC,OAA
O,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,OAAO,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,OAAO,CAAC
,OAAO,EAAE,GAAG,CAAC,CAAC;AAC9F,CAAC;SAEe,MAAM,CAAC,CAAS;IAC9B,OAAO,kBAAkB,CAA
C,CAAC,CAAC,CAAC;AAC/B,CAAC;AAED;AACA;SACgB,WAAW,CAAC,CAAS;IACnC,OAAO,MAAM,CAAC,CAAC,CAAC,CAAC
,CAAC,CAAC,OAAO,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,CAAC;AACzC,CAAC;SAEe,MAAM,CAAC,CAAS;IAC9B,OAAO,eAAe,CAAC,CAAC,CAAC,CAAC;AAC5B

CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC,MAAM,GAAG,CAAC,EAAE;YAC3D,GAAG,CAAC,cAAc,CAAC,GAAG,IAAI,eAAe,CAAC,QAAQ,EAAE,QAAQ,CAAC,CAAC;SAC/D;QAED,OAAO,GAAG,CAAC;KACZ;;;IAIO,YAAY;QAClB,MAAM,IAAI,GAAG,aAAa,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;QAC3C,IAAI,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC;QAC3C,IAAI,IAAI,GAAG,IAAI,KAAK,EAAE,IAAI,IAAI,IAAI,CAAC,cAAc,CAAC,cAAc,CAAC,GAAG,CAAC,EAAE,IAAI,IAAI,CAAC,CAAC,cAAc,CAAC,CAAC,GAAG,CAAC,EAAE;YAC3C,MAAM,IAAI,GAAG,KAAK,CAAC,GAAG,mDAAmD,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;SACxF;QAED,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC;QACpB

QAClC,OAAO,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,C
AAC,GAAG,EAAE,CAAC;KAC9C;;;;IAKD,UAAU,CAAC,CAAI;QACb,MAAM,CAAC,GAAG,QAAQ,CAAC,
CAAC,EAAE,IAAI,CAAC,KAAK,CAAC,CAAC;QAClC,OAAO,CAAC,IAAI,CAAC,CAAC,QAAQ,CAAC,MA
AM,GAAG,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC,KAAK,GAAG,IAAI,CAAC;KACh
E;;;;IAKD,QAAQ,CAAC,CAAI;QACX,MAAM,CAAC,GAAG,QAAQ,CAAC,CAAC,EAAE,IAAI,CAAC,KAAK,
CAAC,CAAC;QAClC,IAAI,CAAC,CAAC,MAAM,GAAG,CAAC;YAAE,OAAO,EAAE,CAAC;QAE5B,MAAM,
CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,QAAQ,CAAC,GAAG,CAAC,
CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC;QACrD,OAAO,CAAC,CAAC,MAAM,CAAC,IAAI,EAAE,IAAI,EA
AE,KAAK,CAAC,CAAC,CAAC;KCjC;;;;IAKD,YAAY,CAAC,CAAI;QACf,OAAO,QAAQ,CAAC,CAAC,EAAA
E,IAAI,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,CAAC;KAClD;C
ACF;AAGD;AACA,SAAS,QAAQ,CAAI,KAAQ,EAAE,IAAiB;IAC9C,IAAI,KAAK,KAAK,IAAI,CAAC,CAAC,
QAAE,OAAO,IAAI,CAAC;IAEtC,KAAK,MAAM,KAAK,IAAI,IAAI,CAAC,QAAQ,EAAE;QACjC,MAAM,IAA
I,GAAG,QAAQ,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;QACpC,IAAI,IAAI;YAAE,OAAO,IAAI,CAAC;KA
CvB;IAED,OAAO,IAAI,CAAC;AACd,CAAC;AAED;AACA,SAAS,QAAQ,CAAI,KAAQ,EAAE,IAAiB;IAC9C,I
AAI,KAAK,KAAK,IAAI,CAAC,CAAC,KAAK;QAAE,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC;IAExC,KAK,MAAM,KAAA
K,IAAI,IAAI,CAAC,QAAQ,EAAE;QACjC,MAAM,IAAI,GAAG,QAAQ,CAAC,KAAK,EAAE,KAAK,CAAC,C
AAC;QACpC,IAAI,IAAI,CAAC,MAAM,EAAE;YACf,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC;KACvB;IAED,OAAO,
CAAC,CAAC,MAAM,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;AAC9B,CAAC;AAED;AACA,SAAS,QAAQ,CAAI,
KAAQ,EAAE,IAAiB;IAC9C,IAAI,KAAK,KAAK,IAAI,CAAC,CAAC,KAAK;QAAE,OAAO,CAAC,IAAI,CAAC,
CAAC,CAAC;IAExC,KAAK,MAAM,KAAK

CAAC;KACzC;;IAGD,IAAI,YAAY;QACd,OAAO,IAAI,CAAC,YAAY,CAAC,YAAY,CAAC,IAAI,CAAC,CAAC;KAC7C;;;;;;IAOD,IAAI,QAAQ;QACV,IAAI,CAAC,IAAI,CAAC,SAAS,EAAE;YACnB,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAS,KAAe,iBAAiB,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;SACvF;QACD,OAAO,IAAI,CAAC,SAAS,CAAC;KACvB;;;;;IAMD,IAAI,aAAa;QACf,IAAI,CAAC,IAAI,CAAC,cAAc;gBACxB,IAAI,CAAC,cAAc;gBAAC,gBACf,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

CAAC,QAAQ,EAAE;QAClB,MAAM,eAAe,GAAG,KAAK,CAAC,QAAQ,CAAC;QACvC,MAAM,YAAY,GAAG,KAAK,CAAC,eAAe,CAAC;QAC3C,KAAK,CAAC,QAAQ,GAAG,YAAY,CAAC;QAC9B,IAAI,CAAC,YAAY,CAAC,eAAe,CAAC,WAAW,EAAE,YAAY,CAAC,WAAW,CAAC,EAAE;YAClE,KAAK,CAAC,WAAY,CAAC,IAAI,CAAC,YAAY,CAAC,WAAW,CAAC,CAAC;SACzD;QACD,IAAI,eAAe,CAAC,QAAQ,KAAK,YAAY,CAAC,QAAQ,EAAE;YAChD,KAAK,CAAC,QAAS,CAAC,IAAI,CAAC,KAAK,CAAC,QAAS,CAAC,IAAI,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC;SACnD;QACD,IAAI,CAAC,YAAY,CAAC,eAAe,CAAC,MAAM,EAAE,YAAY,CAAC,MAAM,CAAC,EAAE;YAC5D,KAAK,CAAC,MAAO,CAAC,IAAI,CAAC,KAAK,CAAC,MAAO,CAAC,IAAI,CAAC,YAAY,CAAC,MAAM,CAAC,CAAC;SAC/D

AAE,QAAQ,CAAC,CAAC;KACzE;IAED,MAAM,GAAG,GAAG,iBAAiB,CAAC,QAAQ,CAAC,CAAC;IAExC,IAAI,GAAG,CAAC,MAAM,EAAE,EAAE;QAChB,OAAO,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,CAAC,EAAE,OAAO,EAAE,WAAW,EAAE,QAAQ,CAAC,CAAC;KACxF;IAED,MAAM,gBAAgB,GAAG,oBAAoB,CAAC,GAAG,EAAE,OAAO,EAAE,KAAK,CAAC,CAAC;IAEnE,MAAM,YAAY,GAAG,eAAe,CAAC,gBAAgB,CAAC,CAAC,YAAY,EAAE,gBAAgB,CAAC,KAAK,EAAE,GAAG,CAAC,QAAQ,CAAC,CAAC;QAACxE,kBAAkB,CAAC,gBAAgB,CAAC,CAAC,YAAY,EAAE,gBAAgB,CAAC,KAAK,EAAE,GAAG,CAAC,QAAQ,CAAC,CAAC;IAC5K,IAAC5F,OAAO,IAAI,CAAC,gBAAgB,CAAC,CAAC,YAAY,EAAE,YAAY,EAAE,YAAY,EAAE,OAAO,IAAI,CAAC,gBAAgB,CAAC,CAAC,YAAY,EAAE,YAAY,EAAE,OAAO,IAAI,CAAC,QAAQ,CAAC,CAAC;QAAC,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE

E,EAAE,CAAC,CAAC;IAEP,OAAO,IAAI,UAAU,CAAC,UAAU,EAAE,kBAAkB,EAAE,GAAG,CAAC,CAAC;AAC7D,CAAC;AAED,MAAM,QAAQ;IACZ,YACW,YAA6B,EAAS,eAAAwB,EAAS,KAAAa;QAApF,iBAAY,GAAZ,YAAY,CAAiB;QAAS,oBAAe,GAAf,eAAe,CAAS;QAAS,UAAK,GAAL,KAAK,CAAS;QAAS,UAAK,GAAL,KAAK,CAAS;QAAS,KAAC9F;;IAAC,CAAC;CAAA;AAED,SAAS,oBAAoB,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE

AAI,QAAQ,CAAC,MAAM;YAAE,OAAO,OAAO,CAAC;QAC3D,MAAM,IAAI,GAAG,YAAY,CAAC,QAAQ,CAAC,gBAAgB,CAAC,CAAC;QACrD,MAAM,OAAO,GAAG,QAAQ,CAAC,mBAAmB,CAAC,CAAC;;;;QAI9C,IAAI,oBAAoB,CAAC,OAAO,CAAC,EAAE;YACjC,MAAM;SACP;QACD,MAAM,IAAI,GAAG,GAAG,OAAO,EAAE,CAAC;QAC1B,MAAM,IAAI,GAAG,CN,mBAAmB,GAAG,QAAQ,CAAC,MAAM,GAAG,CAAC,GAAG,QAAQ,CAAC,GAAG,QAAQ,CAAC,mBAAmB,GAAG,GAAG,CAAC,CAAC,GAAG,IAAI,CAAC;QAEzF,IAAI,gBAAgB,GAAG,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,SAAS;YAAE,OAAO;QAC1D,MAAM,KAAK,GAAG,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC;QAC3C,IAAI,KAAK,CAAC,MAAM,GAAG,CAAC;YAAE,OAAO;QAC7B,MAAM,IAAI,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;QACtB,IAAI,IAAI,CAAC,MAAM,GAAG,CAAC;YAAE,OAAO;QAC5B,MAAM,CAAC,GAAG,IAAI,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC;QAC7B,IAAI,CAAC,GAAG,EAAE,IAAI,CAAC,GAAG,EAAE;YAAE,OAAO;QAC7

CAAC,CAAC;YACxE,OAAO,QAAQ,CAAC,eAAe,CAAC,CAAC;SAClC,CAAC,CAAC;;QAGH,OAAO,CAAC,QAAQ,EAAE,CAAC,CAA2B,EAAE,SAAiB;YAC/D,IAAI,CAAC,6BAA6B,CAAC,CAAC,EAAE,QAAQ,CAAC,CAAC;SAClD,CAAC,CAAC;KACJ;IAEO,gBAAgB,CACpB,UAAoC,EAAE,QAAkC,EAAE,aAAqC;QAC/G,MAAM,MAAM,GAAG,UAAU,CAAC,QAAQ,CAAC,CAAC;QACpC,MAAM,IAAI,GAAG,MAAM,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC;QACxC,KAAK,MAAM,GAAG,IAAI,IAAI,EAAE;YACtB,MAAM,KAAK,GAAG,aAAa,CAAC,GAAG,CAAC,CAAC;YACjC,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,EAAE;gBAChB,MAAM,CAAC,GAAG,CAAC,GAAG,KAAK,CAAC;aACrB;iBAAM;gBACL,MAAM,CAAC,GAAG,CAAC,GAAG,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,GAAG,CAAC,EAAE,KAAK,CAAC,CAAC;aAC7C;SACF;QACD,OAAO,MAAM,CAAC;KACf

AAC;oBACtC,IAAI,OAAO,CAAC,MAAM,EAAE;;;wBAGlB,OAAO,CAAC,MAAM,CAAC,YAAY,CAAC,MA
AM,EAAE,kBAAkB,CAAC,CAAC;qBACzD;oBAED,IAAI,CAAC,mBAAmB,CAAC,UAAU,EAAE,IAAI,EAAE,
OAAO,CAAC,QAAQ,CAAC,CAAC;iBAC9D;aACF;iBAAM;;gBAEL,IAAI,CAAC,mBAAmB,CAAC,UAAU,EA
AE,IAAI,EAAE,cAAc,CAAC,CAAC;aAC5D;SACF;KACF;CACF;AAED,SAAS,uCAAuC,CAAC,IAA8B;IAC7E,
qBAAqB,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;IAClC,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,uCAAuC,
CAAC,CAAC;AACjE,CAAC;AAED,SAAS,kBAAkB,CAAC,QAAgC;IAC1D,KAAK,IAAI,CAAC,GAAG,QAAQ
,CAAC,MAAM,EAAE,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE;QAC7C,MAAM,KAAK,GA
G,CAAC,CAAC,WAAW,CAAC;QAC5B,IAAI,KAAK,IAAI,KAAK,CAAC,aAAa;YAAE,OAAO,KAAK,CAAC,a
AAa,CAAC;QAC7D,IAAI,KAAK,IAAI,KAAK,CAAC,SAAS;YAAE,OAAO,IAAI,CAAC;KAC3C;IAED,OAAO,
IAAI,CAAC;AACd;;ACpNA;;;;;;;MAuea,kBAAkB;IAC7B,YAAmB,MAAe,EAAS,MAAwB;QAAhD,WAAM,
GAAN,MAAM,CAAS;QAAS,WAAM,GAAN,MAAM,CAAkB;IAAG,CAAC;IAEjE,IAAI,QAAQ;QACV,OAAO,IAAI,
CAAC,MAAM,CAAC,QAAQ,CAAC;IAC9B,CAAC;IAED,IAAI,KAAK;QACP,OAAO,IAAI,CAAC,MAAM,CAAC,KAAK;YAAE,
OAAO,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC;QAC5C,OAAO,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC,IAAI,CAAC,
MAAM,CAAC,CAAC;IACxC,CAAC;IAED,IAAI,KAAK,CAAC,KAAa;QACrB,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC,IAAI,CAAC,
MAAM,CAAC,GAAG,KAAK,CAAC;IAC/B,CAAC;IAED,IAAI,KAAK;QACP,OAAO,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC;IAC3
B,CAAC;IAED,IAAI,KAAK,CAAC,KAAa;QACrB,IAAI,CAAC,MAAM,CAAC,KAAK,GAAG,KAAK,CAAC;IAC5B,CAAC;
IAED,IAAI,MAAM;QACR,OAAO,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC;IAC5B,CAAC;IAED,IAAI,MAAM,CAAC,
MAAc;QACvB,IAAI,CAAC,MAAM,CAAC,MAAM,GAAG,MAAM,CAAC;IAC9B,CAAC;IAED,IAAI,MAAM;QACR,OAAO,
IAAI,CAAC,MAAM,CAAC,MAAM,CAAC;IAC5B,CAAC;IAED,IAAI,MAAM,CAAC,MAAc;QACvB,IAAI,CAAC,MAAM,
CAAC,MAAM,GAAG,MAAM,CAAC;IAC9B,CAAC;IAED,IAAI,IAAI;QACN,OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC;
IAC1B,CAAC;IAED,IAAI,IAAI,CAAC,IAAY;QACnB,IAAI,CAAC,MAAM,CAAC,IAAI,GAAG,IAAI,CAAC;IAC1B,CAAC;
IAED,IAAI,IAAI;QACN,OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC;IAC1B,CAAC;IAED,IAAI,IAAI,CAAC,IAAY;QACnB,IAAI,CAAC,MAAM,CAAC,IAAI,GAAG,IAAI,CAAC;IAC1B,CAAC;
IAED,IAAI,KAAK;QACP,OAAO,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC;IAC3B,CAAC;IAED,IAAI,KAAK,CAAC,KAAa;QACrB,IAAI,CAAC,MAAM,CAAC,KAAK,GAAG,KAAK,CAAC;IAC5B,CAAC;
IAED,IAAI,MAAM;QACR,OAAO,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC;IAC5B,CAAC;IAED,IAAI,MAAM,CAAC,
MAAc;QACvB,IAAI,CAAC,MAAM,CAAC,MAAM,GAAG,MAAM,CAAC;IAC9B,CAAC;IAED,IAAI,MAAM;QACR,OAAO,
IAAI,CAAC,MAAM,CAAC,MAAM,CAAC;IAC5B,CAAC;IAED,IAAI,MAAM,CAAC,MAAc;QACvB,IAAI,CAAC,MAAM,
CAAC,MAAM,GAAG,MAAM,CAAC;IAC9B,CAAC;IAED,IAAI,IAAI;QACN,OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC;

AAQ,IAAI,CAAC,KAAK,CAAC,YAAY,EAAE;YAC7F,MAAM,IAAI,KAAK,CAAC,mCACZ,QAAQ,2FAA2F,CAAC,CAAC;SAC1G;QACD,IAAI,KAAK,CAAC,IAAI,KAAK,KAAK,CAAC,IAAI,KAAK,CAAC,OAAO,KAAK,KAAK,CAAC,EAAE;YACrD,MAAM,IAAI,KAAK,CAAC,mCACZ,QAAQ,0DAA0D,CAAC,CAAC;SACzE;QACD,IAAI,OAAO,KAAK,CAAC,IAAI,KAAK,QAAQ,IAAI,KAAK,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,KAAK,GAAG,EAAE;YAClE,MAAM,IAAI,KAAK,CAAC,CACX,mCAAmC,QAAQ,mCAAmC,CAAC,CAAC;SACrF;QACD,IAAI,KAAK,CAAC,IAAI,KAAK,EAAE,IAAI,KAAK,CAAC,UAAU,KAAK,KAAK,CAAC,IAAI,KAAK,CAAC,SAAS,KAAK,KAAK,CAAC,EAAE;YAClF,MAAM,IAAI,GAAG,GAAG,CAAC,sFAAsF,CAAC;YAC3G,MAAM,IAAI,KAAK,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,KAAK,GAAG,EAAE,EAAE,CAAC,CAAC,CAAC;SACrD

AAI,CAAC,cAAc,GAAG,KAAK,CAAC;;gBAE5B,OAAO,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC,OAAO,CA
AC,CAAC;aAC9B;YAED,IAAI,CAAC,YAAY,OAAO,EAAE;gBACxB,MAAM,IAAI,CAAC,YAAY,CAAC,CAA
C,CAAC,CAAC;aAC5B;YAED,MAAM,CAAC,CAAC;SACT,CAAC,CAAC,CAAC;KACL;IAEO,KAAK,CAAC,
IAAa;QACzB,MAAM,SAAS,GACX,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,
MA
AM,EAAE,IAAI,CAAC,IAAI,EAAE,cAAc,CAAC,CAAC;QACnF,MAAM,OAAO,GAAG,SAAS,CAAC,IAAI,C
AC1B,GAAG,CAAC,CAAC,gBAAiC,KAC9B,IAAI,CAAC,aAAa,CAAC,gBAAgB,EAAE,IAAI,CAAC,WAAW,
EAAE,IAAI,CAAC,QAAS,CAAC,CAAC,CAAC,CAAC;QACrF,OAAO,OAAO,CAAC,IAAI,CAAC,UAAU,CAA
C,CAAC,CAAM;YACpC,IAAI,CAAC,YAAY,OAAO,EAAE;gBACxB,MAAM,IAAI,CAAC,YAAY,CAAC,CAA
C,CAAC,CAAC;aAC5B;YAED,MAAM,CAAC,CAAC;SACT,CAAC,CAAC,CAAC;KACL;IAEO,YAAY,CAAC,
CAAU;QAC7B,OAAO,IAAI,CAAC,0CAA0C,CAAC,CAAC,YAAY,GAAG,CAAC,CAAC;KAC/E;IAEO,
aAAa,CAAC,aA8B,EAAE,WAAmB,EAAE,QAAgB;QAEzF,MAAM,IAAI,GAAG,aAAa,CAAC,QAAQ,CAAC,
MAAM,GAAG,CAAC;YAC1C,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAC,CAAC,cAAc,GAAG,aAAa,CAAC,QAAQ,CAAC,
C;YAC1D,aAAa,CAAC;QAClB,OAAO,IAAI,CAAC,UAAU,CAAC,OAAO,IAAI,CAAC,IAAI,EAAE,WAAW,EAAE,QAAQ;
KACjD;IAEO,kBAAkB,CAAC,tB,QAA0B,EAAE,MAAe,EAAE,YAA6B,EAAC,cAAc,EAAE,QAAQ,
KAAK,CAAC,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,QAAQ,CAAC,CAAC,CAAC,CAAC;SACtE;QAED,OAAO,IAAI,CAAC,CAAC
,aAAa,CAAC,QAAQ,EAAE,EAAE,YAAY,EAAE,MAAM,EAAE,YAAY,CAAC,QAAQ,EAAE,MAAM,EAAE,IAAI,CA
AC,CAAC;KAChG;;IAGO,cAAc,CAAC,IAAa,EAAE,QAAQ,EAAE,MAAM,EAAE,EAC3C,YAA6B;QAAC,UAAU,CAAC,
YAAY,CAAC,QAAQ,EAAE,MAAM,EAAE,KAAK,EAAE,WAAW,CAAC,CAAC,CAAC,CAAC

CAC1C,QAA0B,EAAE,YAA6B,EAAE,MAAe,EAAE,KAAY,EACxF,QAAsB,EAAE,MAAc;QACxC,IAAI,KAAA
K,CAAC,IAAI,KAAK,IAAI,EAAE;YACvB,OAAO,IAAI,CAAC,iDAAiD,CACzD,QAAQ,EAAE,MAAM,EAAE,
KAAK,EAAE,MAAM,CAAC,CAAC;SACtC;QAED,OAAO,IAAI,CAAC,6CAA6C,CACrD,QAAQ,EAAE,YAAY
,EAAE,MAAM,EAAE,KAAK,EAAE,QAAQ,EAAE,MAAM,CAAC,CAAC;KAC9D;IAEO,iDAAiD,CACrD,QAA
0B,EAAE,MAAe,EAAE,KAAY,EACzD,MAAc;QAChB,MAAM,OAAO,GAAG,IAAI,CAAC,qBAAqB,CAAC,E
AAE,EAAE,KAAK,CAAC,UAAW,EAAE,EAAE,CAAC,CAAC;QACtE,IAAI,KAAK,CAAC,UAAW,CAAC,UA
AU,CAAC,GAAG,CAAC,EAAE;YACrC,OAAO,gBAAgB,CAAC,OAAO,CAAC,CAAC;SAClC;QAED,OAAO,I
AAI,CAAC,kBAAkB,CAAC,KAAK,EAAE,OAAO,CAAC,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC,WAAyB;Y
ACrF,MAAM,KAAK,GAAG,IAAI,eAAe,CAAC,WAAW,EAAE,EAAE,CAAC,CAAC;YACnD,OAAO,IAAI,CA
AC,aAAa,CAAC,QAAQ,EAAE,KAAK,EAAE,MAAM,EAAE,WAAW,EAAE,MAAM,EAAE,KAAK,CAAC,CA
AC;SAChF,CAAC,CAAC,CAAC;KCL;IAEO,6CAA6C,CACjD,QAA0B,EAAE,YAA6B,EAAE,MAAe,EAAE,K
AAY,EACxF,QAAsB,EAAE,MAAc;QACxC,MAAM,EAAC,OAAO,EAAE,gBAAgB,EAAE,SAAS,EAAE,uBAA
uB,EAAC,GACjE,KAAK,CAAC,YAAY,EAAE,KAAK,EAAE,QAAQ,CAAC,CAAC;QACzC,IAAI,CAAC,OAA
O;YAAE,OAAO,OAAO,CAAC,YAAY,CAAC,CAAC;QAE3C,MAAM,OAAO,GAAG,IAAI,CAAC,qBAAqB,CA
CtC,gBAAgB,EAAE,KAAK,CAAC,UAAW,EAAO,uBAAuB,CAAC,CAAC;QACvE,IAAI,KAAK,CAAC,UAAW
,CAAC,UAAU,CAAC,GAAG,CAAC,EAAE;YACrC,OAAO,gBAAgB,CAAC,OAAO,CAAC,CAAC;SAClC;QAED,OAAO,IAAI,CAAC,kBAAkB,CAAC,KAAK,EAAE,OAAO,CAAC,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC,
WAAyB;YACrF,OAAO,IAAI,CAAC,aAAa,CACrB,QAAQ,EAAE,YAAY,EAAE,MAAM,EAAE,WAAW,EAAE,MAAM,CAAC,CAAC,
MAAM,CAAC,QAAQ,CAAC,KAAK,CAAC,SAAS,CAAC,CAAC,EAAE,MAAM,EACrF,KAAK,CAAC,CAAC,CAAC;SACZ,CAAC,CAAC,CAAC;KCL;IAEO,wBAAwB,CAC5B,5B,QAA0B,EAAE,eAAgC,EAAE,KAAY,EAC1E,QAAsB,EAAE,MAAc;QACxC,MAAM,EAAC,OAAO,EAAE,gBAAgB,EAAE,SAAS,EAAE,uBAAuB,EAAE,gBAAgB,EAAE,KAAK,EAAE,QA
AsB;QACxB,IAAI,KAAK,CAAC,UAAW,CAAC,UAAU,CAAC,GAAG,CAAC,EAAE;YACrC,OAAO,IAAI,CAAC,kBAAkB,CAAC,KAAK,EAAE,OAAO,CAAC,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC,WAAyB;gBACrF,OAAO,IAAI,CAAC,aAAa,CACrB,QAAQ,EAAE,YAAY,EAAE,MAAM,EAAE,WAAW,EAAE,MAAM,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,KAAK,CAAC,SAAS,CAAC,CAAC,EAAE,MAAM,EACrF,KAAK,CAAC,CAAC,CAAC;aACZ,CAAC,CAAC,CAAC;SACL;QAED,MAAM,IAAI,KAAK,CAAC,gBAAgB,CAAC,CAAC;KACnC;IAEO,kBAAkB,CACtB,KAAY,EAAE,OAAgB,EAAE,QAAsB,EAAE,MAAc;QAC1E,MAAM,EAAC,OAAO,EAAE,gBAAgB,EAAE,SAAS,EAAE,uBAAuB,EAAE,gBAAgB,EAAE,KAAK,EAAE,QA
AsB;QACxB,IAAI,KAAK,CAAC,UAAW,CAAC,UAAU,CAAC,GAAG,CAAC,EAAE;YACrC,OAAO,IAAI,CAAC,kBAAkB,CAAC,KAAK,EAAE,OAAO,CAAC,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC,WAAyB;gBACrF,OAAO,IAAI,CAAC,aAAa,CACrB,QAAQ,EAAE,YAAY,EAAE,MAAM,EAAE,WAAW,EAAE,MAAM,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,KAAK,CAAC,SAAS,CAAC,CAAC,EAAE,MAAM,EACrF,KAAK,CAAC,CAAC,CAAC;aACZ,CAAC,CAAC,CAAC;SACL;QAED,MAAM,IAAI,KAAK,CAAC,gBAAgB,CAAC,CAAC;KACnC;IAEO,aAAa,CACjB,QAAsB,EAAE,MAAc;QAC1C

OAAO,YAAY,CAAC,KAAK,CAAC,CAAC;aAC5B,CAAC,CAAC,CAAC;SACT;QAED,OAAO,EAAE,CAAC,I
AAI,kBAAkB,CAAC,EAAE,EAAE,QAAQ,CAAC,CAAC,CAAC;KACjD;IAEO,gBAAgB,CAAC,cAAwB,EAAE,
KAAY,EAAE,QAAsB;QAErF,MAAM,OAAO,GAAG,KAAK,CAAC,OAAO,CAAC;QAC9B,IAAI,CAAC,OAAO
,IAAI,OAAO,CAAC,MAAM,KAAK,CAAC;YAAE,OAAO,EAAE,CAAC,IAAI,CAAC,CAAC;QAEtD,MAAM,k
BAAkB,GAAG,OAAO,CAAC,GAAG,CAAC,CAAC,cAAmB;YACzD,MAAM,KAAK,GAAG,cAAc,CAAC,GA
G,CAAC,cAAc,CAAC,CAAC;YACjD,IAAI,QAAQ,CAAC;YACb,IAAI,SAAS,CAAC,KAAK,CAAC,EAAE;gBA
CpB,QAAQ,GAAG,KAAK,CAAC,OAAO,CAAC,KAAK,EAAE,QAAQ,CAAC,CAAC;aAC3C;iBAAM,IAAI,UA
AU,CAAY,KAAK,CAAC,EAAE;gBACvC,QAAQ,GAAG,KAAK,CAAC,KAAK,EAAE,QAAQ,CAAC,CAAC;aA
CnC;iBAAM;gBACL,MAAM,IAAI,KAAK,CAAC,uBAAuB,CAAC,CAAC;aAC1C;YACD,OAAO,kBAAkB,CA
AC,QAAQ,CAAC,CAAC;SACrC,CAAC,CAAC;QAEH,OAAO,EAAE,CAAC,kBAAkB,CAAC;aACxB,IAAI,CA
CD,qBAAqB,EAAE,EACvB,GAAG,CAAC,CAAC,MAAuB;YAC1B,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC;g
BAAE,OAAO;YAE/B,MAAM,KAAK,GA0B,wBAAwB,CACzD,mBAAmB,IAAI,CAAC,aAAa,CAAC,SAAS,C
AAC,MAAM,CAAC,GAAG,CAAC,CAAC;YAChE,SAAS,KAAK,CAAC,GAAG,CAAC,GAAG,MAAM,CAAC;YACnB
M,KAAK,CAAC;SACb,CAAC,EACF,GAAG,CAAC,MAAM,IAAI,MAAM,KAAK,IAAI,CAAC,CAAC,CAAC;
KACP;IAEO,kBAAkB,CAAC,KAAY,EAAE,OAAgB;QACvD,IAAI,GAAG,iB,EAAE,CAAC,CAAC;QAC3B,IAAI,
CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;QACrB,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE;QACnB,YAAY,EAAE,
CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
KAC5E;IAEO,2BAA2B,CAAC/B,UAAkB,EAAE,OAAgB,EAAE,QAAsB,EAC5D,SAAoC;QACtE,MAAM,
OAAO,GAAG,IAAI,CAAC,kBAAkB,CAAC,UAAU,EAAE,OAAO,CAAC,IAAI,EAAE,QAAQ,EAAE,SAAS,CA
AC,CAAC;QACvF,OAAO,IAAI,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,WAA
W,EAAE,IAAI,CAAC,OAAO,CAAC,WAAW,CAAC,EAC9E,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

CAAC,SAAS,KAAK,MAAM,MAAM,YAAY,CAAC,WAAW,EAAE,IAAI,QAAQ,CAAC,MAAM,GAAG,CAAC,CAAC,EAAE;YACvF,OAAO,EAAC,OAAO,EAAE,KAAK,EAAE,gBAAgB,EAAE,EAAE,EAAE,SAAS,EAAE,CAAC,EAAE,uBAAuB,EAAE,EAAE,EAAC,CAAC;SAC1F;QAED,OAAO,EAAC,OAAO,EAAE,IAAI,EAAE,gBAAgB,EAAE,EAAE,EAAE,SAAS,EAAE,CAAC,EAAE,uBAAuB,EAAE,EAAE,EAAC,CAAC;KACzF;IAED,MAAM,OAAO,GAAG,KAAK,CAAC,OAAO,IAAI,iBAAiB,CAAC;IACnD,MAAM,GAAG,GAAG,OAAO,CAAC,QAAQ,EAAE,YAAY,EAAE,KAAK,CAAC,CAAC,CAAC;IAE

AE1C,OAAO,mBAAmB,CAAC,UAAU,EAAE,QAAQ,EAAE,cAAc,EAAE,CAAC,UAAU,CAAC,KAAK,CAAC,CAAC,CAAC;AACvF,CAAC;SAEe,mBAAmB,CAAC,CAAyB;IAE3D,MAAM,gBAAgB,GAAG,CAAC,CAAC,WAAW,GAAG,CAAC,CAAC,WAAW,CAAC,gBAAgB,GAAG,IAAI,CAAC;IAC/E,CAAC,gBAAgB,GAAG,IAAI,CAAC,gBAAgB,GAAG,IAAI,CAAC,gBAAgB,CAAC,MAAM,KAAK,CAAC,QAAQ,EAAE,CAAC,EAAE,MAAM,EAAE,gBAAgB,GAAG,EAAE,CAAC,CAAC;AAAA,CAAC;AAAA,CAAC;AAAA

,GAAG,KAAK,CAAC,KAAK,CAAC;IAEtB,OAAO,CAAC,QAAQ,EAAE,CAAC,IAAsC,EAAE,SAAiB;QAC1E,IAAI,CAAC,CAAC,CAAC,SAAS,EAAE;YAChB,6BAA6B,CAAC,IAAI,EAAE,OAAO,EAAE,MAAM,CAAC,CAAC;SACtD;aAAM,IAAI,OAAO,EAAE;YAClB,6BAA6B,CAAC,IAAI,EAAE,OAAO,CAAC,QAAQ,CAAC,UAAU,CAAC,SAAS,CAAC,EAAE,MAAM,CAAC,CAAC,CAAC;SACrF;aAAM;YACL,6BAA6B,CAAC,IAAI,EAAE,IAAI,EAAE,MAAM,CAAC,CAAC,CAAC;SACnD;KACF,CAAC,CAAC;IAEH,IAAI,CAAC,CAAC,CAAC,SAAS,EAAE;QAChB,MAAM,CAAC,mBAAmB,CAAC,IAAI,EAAE,CAAC,CAAC,aAAa,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,CAAC;KAC7D;SAAM,IAAI,OAAO,EAAE,IAAI,OAAO,CAAC,MAAM,IAAI,OAAO,CAAC,MAAM,CAAC,WAAW,EAAE;QACpE,MAAM,CAAC,mBAAmB,CAAC,IAAI,EAAE,OAAO,CAAC,MAAM,CAAC,SAAS,EAAE,CAAC,CAAC,aAAa,CAAC,IAAI,EAAE,CAAC,CAAC,OAAO,CAAC,MAAM,CAAC,SAAS,EAAE,CAAC,CAAC,CAAC,CAAC;KACjH;SAAM;QACL,MAAM,CAAC,mBAAmB,CAAC,IAAI,EAAE,CAAC,CAAC,aAAa,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,CAAC;KACnE;IAED

ACT,GAAG,CAAC,CAAC,IAAI,mBAAmB,CAAC,CAAC,CAAC,CAAC;SAChC,MAAM,CAAC,CAAC,IAAI,CAAC,KAAK,IAAI,CAAC,CAAC;IAE5D,MAAM,4BAA4B,GAAG,sBAAsB,CAAC,GAAG,CAAC,CAAC,CAAM;QACrE,OAAO,KAAK,CAAC;YACX,MAAM,YAAY,GAAG,CAAC,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC,CAAM;gBACvC,MAAM,KAAK,GAAG,QAAQ,CAAC,EAAE,CAAC,CAAC,IAAI,CAAC,qBAAqB,EAAE,CAAC,CAAC;gBACzD,IAAI,UAAU,CAAC;gBACf,IAAI,kBAAkB,KAAK,EAAE,CAAC,CAAC,IAAI,CAAC,qBAAqB,EAAE,CAAC,CAAC;gBAC7D

AED,eAAe,CAAC,MAAe,EAAE,YAA6B;QAE5D,MAAM,QAAQ,GAAG,oBAAoB,CACjC,YAAY,EAAE,CAAC,KAAK,EAAE,WAAW,KAAK,IAAI,CAAC,mBAAmB,CAAC,MAAM,EAAE,KAAK,EAAE,WAAW,CAAC,CAAC,CAAC;QAChG,yBAAyB,CAAC,QAAQ,CAAC,CAAC;QACpC,2BAA2B,CAAC,QAAQ,CAAC,CAAC;QACtC,OAAO,QAAQ,CAAC;KACjB;IAED,cAAc,CACV,MAAe,EAAE,YA6B,EAAE,QAAsB,EAAE,MAAc;QAChB,KAAK,EAAE,KAAK,EAAE,WAAW,KAAK,IAAI,MAAM,CAAC,EAAE,EAAE,KAAK,EAAE,WAAW,CAAC,CAAC,CAAC;QAC1F

OAAO,CAAC,GAAG,CAAC,SAAU,EAAE,CAAC,CAAa,EAAE,CAAS;QAC/C,SAAS,CAAC,CAAC,CAAC,GA
AG,CAAC,CAAC,IAAI,CAAC;KACvB,CAAC,CAAC;IACH,MAAM,UAAU,GAAG,GAAG,CAAC,QAAQ,CAA
C,MAAM,GAAG,CAAC,mCAClC,SAAS,GAAK,GAAG,CAAC,QAAQ,CAAC,GAAG,CAAC,QAAQ,CAAC,M
AAM,GAAG,CAAC,CAAC,CAAC,UAAU;QAClE,SAAS,CAAC;IAEd,OAAO,EAAC,gBAAgB,EAAE,GAAG,C
AAC,QAAQ,EAAE,SAAS,EAAE,GAAG,CAAC,QAAQ,CAAC,MAAM,EAAE,UAAU,EAAC,CAAC;AACtF,CA
AC;AAED,SAAS,yBAAyB,CAAC,KAAyC;IAC1E,MAAM,KAAK,GAA0C,EAAE,CAAC;IACxD,KAAK,CAAC,
OAAO,CAAC,CAAC;QACb,MAAM,uBAAuB,GAAG,CAAC,CAAC,CAAC,KAAK,CAAC,MAAM,,CAA
C,CAAC;QACtD,IAAI,uBAAuB,EAAE;YAC3B,MAAM,CAAC,GAAG,uBAAuB,CAAC,GAAG,CAAC,GAAG,
CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,QAAQ,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;YACvE,MA
AM,CAAC,GAAG,CAAC,CAAC,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,QAA
Q,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;YACvD,MAAM,IAAI,KAAK,CAAC,mDAAmD,CA
AC,UAAU,CAAC,IAAI,CAAC,CAAC;SACtF;QACD,KAAK,CAAC,CAAC,CAAC,KAAK,CAAC,MAAM,,CA
C,GAAG,CAAC,CAAC,KAAK,CAAC;KACjC,CAAC,CAAC;AACL,SAAS,qBAAqB,CAAC,YA
6B;IAC1D,IAAI,CAAC,GAAG,YAAY,CAAC;IACrB,OAAO,CAAC,CAAC,cAAc,EAAE;QACvB,GAAG,CAAC,CAAC,KAAK,CAAC;KACtB;IACD,OAAO,CAAC,CAAC;AACX,SAAS,iBAAiB,CAAC,Y
AA6B;IACtD,IAAI,CAAC,GAAG,YAAY,CAAC;IACrB,IAAI,GAAG,IAAI,CAAC,CAAC,kBAAkB,GAAG,CAA
C,CAAC,kBAAkB,GAAG,CAAC,CAAC,CAAC;IAC5D,OAAO,CAAC,CAAC,cAAc,EAAE;QACvB,GAAG,CAAC,CAAC,KAAK,CAAC;KACtB;IACD,OAAO,CAAC,CAAC,GA
AG,CAAC,CAAC,cAAc,EAAE;QACvB,GAAG,CAAC,KAAK,CAAC,CAAC,kBAAkB,GAAG,CAAC,CAAC,kBAAkB,
GAAG,CAAC,CAAC,CAAC;IAC5D,KAAK,CAAC,CAAC,CAAC,KAAK,CAAC,MAAM,,CA
AC;AACjB,SAAS,aAAa,CAAC,KAAyC;IAC9D,MAAM,KAAK,GAA0C,EAAE,CAAC;IACxD,KAAK,CAAC,
OAAO,CAAC,CAAC;QACb,MAAM,uBAAuB,GAAG,CAAC,CAAC,CAAC,KAAK,CAAC,MAAM,,CA
C,CAAC;QACtD,IAAI,uBAAuB,EAAE;YAC3B,MAAM,CAAC,GAAG,uBAAuB,CAAC,GAAG,CAAC,GAAG,
CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,QAAQ,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;YACvE,MA
AM,CAAC,GAAG,CAAC,CAAC,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,QAA
Q,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;YACvD,MAAM,IAAI,KAAK,CAAC,mDAAmD,CA
AC,UAAU,CAAC,IAAI,CAAC,CAAC;SACtF;QACD,KAAK,CAAC,CAAC,CAAC,KAAK,CAAC,MAAM,,CA
C,GAAG,CAAC,CAAC,KAAK,CAAC;KACjC,CAAC,CAAC;AACL,SAAS,qBAAqB,CAAC,YA
6B;IAC1D,IAAI,CAAC,GAAG,YAAY,CAAC;IACrB

AAwC,CAC7C,YAA6B,EAAE,cAA4B,EAAE,MAAe;IAC9E,OAAO,MAAM,CAAC,IAAI,CACd,CAAC,IAAI,cAAc,CAAC,YAAY,EAAE,cAAc,EAAE,CAAC,CAAC,IAAI,SAAS,CAAC,CAAC,CAAC,KAAK,cAAc,CAAC,CAAC;AAC/F,CAAC;AAED,SAAS,wBAAwB,CAC7B,YAA6B,EAAE,cAA4B,EAAE,MAAe;IAC9E,OAAO,MAAM,CAAC,IAAI,CAAC,CAAC,IAAI,cAAc,CAAC,YAAY,EAAE,cAAc,EAAE,CAAC,CAAC,CAAC,CAAC;AAC3E,CAAC;AAED,SAAS,cAAc,CACnB,YAA6B,EAAE,cAA4B,EAAE,CAAQ;IACvE,IAAI,CAAC,YAAY,CAAC,WAAW,EAAE,IAAI,CAAC,MAAM,GAAG,CAAC,KAAK,CAAC,CAAC,CAAC,SAAS,CAAC,KAAK,CAAC,MAAM,EAAE,EAAE;QACvF,OAAO,KAAK,CAAC;KACd;IAED,OAAO,CAAC,CAAC,IAAI,KAAK,EAAE,IAAI,CAAC,CAAC,CAAC,UAAU,KAAK,SAAS,CAAC;AAC1D,CAAC;AAED,SAAS,OAAO,CAAC,IAAI;IACjB,OAAO,IAAI,CAAC,IAAI,KAAK,YAAY,CAAC,IAAI,CAAC

AsB;;;AChHrE;;;;;;;AAgBA;;;;;MAKa,MAAM,GAAG,IAAI,cAAc,CAAY,QAAQ,EAAE;MAEjD,kBAAkB;IAC7B,YACY,MAA6B,EAAU,QAAkB,EACzD,mBAAwC,EACxC,iBAAsC;QAFtC,WAAM,GAAN,MAAM,CAAuB;QAAU,aAAQ,GAAR,QAAQ,CAAU;QACzD,wBAAmB,GAAnB,mBAAmB,CAAqB;QACxC,sBAAiB,GAAjB,iBAAiB,CAAqB;KAAI;IAEtD,IAAI,CAAC,cAAwB,EAAE,KAAY;QACzC,IAAI,IAAI,CAAC,mBAAmB,EAAE;YAC5B,IAAI,CAAC,mBAAmB,CAAC,KAAK,CAAC,CAAC;SACjC;QAED,MAAM,cAAc,GAAI,IAAI,CAAC,iBAAiB,CAAC,KAAK,CAAC,YAAa,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,OAA6B;YAC3D,IAAI,IAAI,CAAC,iBAAiB,CAAC,KAAK,CAAC,CAAC;aAC/B;YAED,MAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,cAAc,CAAC,cAAc,CAAC,CAAC;YAE1D,IAAI,CAAC,MAAM,EAAE;gBACX,MAAM,IAAI,KAAK,CAAC,kBAAkB,cAAc,EAAE,CAAC,CAAC;aACrD;YAED,OAAO,MAAM,CAAC;SACf;QAED,IAAI,CAAC,MAAM,GAAG,cAAc,CAAC;KAC9B;IAED

AkB,CAAC,CAAC,CAAC,CAAC,CAAC;QAE7E,IAAI,CAAC,QAAQ,GAAG,QAAQ,CAAC,GAAG,CAAC,WA
AW,CAAC,CAAC;QAC1C,IAAI,CAAC,OAAO,GAAG,QAAQ,CAAC,GAAG,CAACC,QAAO,CAAC,CAAC;Q
ACrC,MAAM,MAAM,GAAG,QAAQ,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;QACpC,IAAI,CAAC,eAAe,
GAAG,MAAM,YAAY,,MAAM,CAAC;QAEhD,IAAI,CAAC,WAAW,CAAC,MAAM,CAAC,CAAC;QACzB,IAA
I,CAAC,cAAc,GAAG,kBAAkB,EAAE,CAAC;QAC3C,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC,cAAc,CAAC;Q
ACtC,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC,cAAc,CAAC;QAE1C,IAAI,CAAC,YAAY,GAAG,IAAI,kBAAkB,
CAAC,MAAM,EAAE,QAAQ,EAAE,WAAW,EAAE,SAAS,CAAC,CAAC;QACrF,IAAI,CAAC,WAAW,GAAG,g
BAAgB,CAAC,IAAI,CAAC,cAAc,EAAE,IAAI,CAAC,iBAAiB,CAAC,CAAC;QAEjF,IAAI,CAAC,WAAW,GAA
G,IAAI,eAAe,CAAuB;YAC3D,EAAE,EAAE,CAAC;YACL,cAAc,EAAE,IAAI,CAAC,cAAc;YACnC,aAAa,EAA
E,IAAI,CAAC,cAAc;YAClC,YAAY,EAAE,IAAI,CAAC,mBAAmB,CAAC,OAAO,CAAC,IAAI,CAAC,cAAc,CA
AC;YACnE,iBAAiB,EAAE,IAAI,CAAC,mBAAmB,CAAC,OAAO,CAAC,IAAI,CAAC,cAAc,CAAC;YACxE,M
AAM,EAAE,IAAI,CAAC,cAAc;YAC3B,MAAM,EAAE,EAAE;YACV,OAAO,EAAE,IAAI;YACb,MAAM,EAA
E,IAAI;YACZ,OAAO,EAAE,OAAO,CAAC,OAAO,CAAC,IAAI,CAAC;YAC9B,MAAM,EAAE,YAAY;YACpB,
aAAa,EAAE,IAAI;YACnB,eAAe,EAAE,IAAI,CAAC,WAAW,CAAC,QAAQ;YAC1C,cAAc,EAAE,IAAI;YACpB
,kBAAkB,EAAE,IAAI,CAAC,WAAW;YACpC,iBAAiB,EAAE,IAAI;YACvB,MAAM,EAAE,EAAC,iBAAiB,EA
AE,EAAE,EAAE,mBAAmB,EAAE,EAAE,EAAC;YACxD,YAAY,EAAE,IAAI;SACnB,CAAC,CAAC;QACH,IA
AI,CAAC,WAAW,GAAG,IAAI,CAAC,gBAAgB,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;QAE3D,IAAI,CAA
C,kBAAkB,EAAE,CAAC;KAC3B;IAEO,gBAAgB,CAAC,WA6C;QAEpE,MAAM,aAAa,GAAI,IAAI,CAAC,
AAyB,CAAC;QACtD,OAAO,WAAW,CAAC,IAAI,CACrB,CACZ,KAAK,CAAC,CAAC;;QAGvB,CAAC,KACI,gCAAI,CAAC,IAAI,CAAC,KAAE,EAAE,IAAI,CAAC,mBAAmB,CAAC,CAAC,CAAC,IAAI,CAAC,
AmB,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,MAAM,CAAC,GAC1C,CAAC,CAAA,CAAC;QAAC,OAAO,CAAC,CAAC;QAAC,MAAM,CAAC,CAAC;;QAG/B,CAAC,CAAC,CAAC,CAAC,CAAC

BAAgB,CAAC,CAAC;qBACtC,CAAC,CAAC,CAAC;iBACT;qBAAM;oBACL,MAAM,kBAAkB,GAAG,aAAa,IAAI,IAAI,CAAC,UAAU;wBACvD,IAAI,CAAC,mBAAmB,CAAC,gBAAgB,CAAC,IAAI,CAAC,UAAU,CAAC,CAAC;;;;oBAI/D,IAAI,kBAAkB,EAAE;wBACtB,MAAM,EAAC,EAAE,EAAE,YAAY,EAAE,MAAM,EAAE,aAAa,EAAE,MAAM,EAAC,GAAG,CAAC,CAAC;wBAC5D,MAAM,QAAQ,GAAG,IAAI,eAAe,CAChC,EAAE,EAAE,IAAI,CAAC,YAAY,CAAC,YAAY,CAAC,EAAE,MAAM,EAAE,aAAa,CAAC,CAAC;wBAC9D,aAAa,CAAC,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;wBAC9B,MAAM,cAAc,GAAG,IAAI,eAAe,CACxC,EAAE,EAAE,IAAI,CAAC,YAAY,CAAC,YAAY,CAAC,EAAE,MAAM,EAAE,aAAa,CAAC,CAAC;wBAC9D,aAAa,CAAC,CAAC,IAAI,CAAC,cAAc,CAAC,CAAC;wBACpC,MAAM,EAAC,EAAE,EAAE,YAAY,EAAE,MAAM,EAAE,aAAa,EAAE,MAAM,EAAE,aAAa,EAAE,MAAM,EAAC,GAAG,CAAC,CAAC;wBACnF

E,cAAc,EAC5B,MAAM,EAAE,UAAU,EAClB,MAAM,EAAE,EAAC,kBAAkB,EAAE,UAAU,EAAC,EACzC,GAAG,CAAC,CAAC;gBACN,OAAO,IAAI,CAAC,KAAK,CAAC,kBAAkB,CAAC,cAAe,EAAE;oBACpD,YAAY;oBACZ,cAAc;oBACd,UAAU;oBACV,kBAAkB,EAAE,CAAC,CAAC,kBAAkB;oBACxC,UAAU,EAAE,CAAC,CAAC,UAAU;iBACzB,CAAC,CAAC;aACJ,CAAC,EAEF,GAAG,CAAC,CAAC,CAAAuB;gBAC1B,MAAM,iBAAiB,GAAG,CACvC,IAAI,CAAC,kBAAkB,EAAE,CAAC,CAAC,cAAe,EAAE,CAAC,CAAC,kBAAkB,CAAC,CAAC;gBACtE,wCAAY,CAAC,KAAE,iBAAiB,KAAG;aACpC,CAAC;;;;;;YAOF,GAAG,CAAC,CAAC,CAAAuB;gBAC1B,MAAM,gBAAgB,CAAC,IAAI,CAAC,cAAc,iBAAiB,CAAC;gBAC1C,IAAI,CAAC,UAAU;oBACX,IAAI,CAAC,mBAAmB,CAAC,KAAK,CAAC,IAAI,CAAC,cAAe,EAAE,CAAC,CAAC,MAAM,CAAC,CAAC;gBAEjE,kEAAiE,IAAI,CAAC,WAAW,GAAG,CAAC,CAAC,kBAAkB,CAAC,gBAAgB,IAAI,IAAI,CAAC,iBAAiB,KAAK,UAAU,EAAE;oBACzJ,IAAI,CAAC,CAAC,CAAC,kBAAkB,CAAC,CAAC,MAAM,CAAC,kBAAkB,EAAE;wBAChC,IAAI,CAAC,aAAa,CAAC,aAAa,CAAC,IAAI,CAAC,UAAU,EAAE,CAAC,CAAC,MAAM,CAAC,UAAU,EAAE,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,CAAC;qBAAA,CAAC,CAAC;gBAAA,CAAC,CAAC;gBAAA,CAAC,CAAC;g

AS,CAAC,KAAK;gBACvD,MAAM,aAAa,GAAG,IAAI,CAAC,kCAAkC,CAAC,KAAK,CAAC,CAAC;gBACrE,IAAI,IAAI,CAAC,wBAAwB,CAAC,IAAI,CAAC,sBAAsB,EAAE,aAAa,CAAC,EAAE;;;oBAG7E,UAAU,CAAC;wBACT,MAAM,EAAC,MAAM,EAAE,KAAK,EAAE,OAAO,EAAC,GAAG,aAAa,CAAC;wBAC/C,MAAM,GAAqB,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;wBACpD,IAAI,KAAK,EAAE;4BACT,OAAO,SAAS,CAAC,YAAY,CAAC;4BAC9B

QACD,OAAO,OAAO,CAAC;KAChB;;IAGD,QAAQ,CAAC,GAAmB,EAAE,KAAc;QAC1C,IAAI,SAAS,CAAC,GAAG,CAAC,EAAE;YAClB,OAAO,YAAY,CAAC,IAAI,CAAC,cAAc,EAAE,GAAG,EAAE,KAAK,CAAC,CAAC;SACtD;QAED,MAAM,OAAO,GAAG,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,CAAC;QACnC,OAAO,YAAY,CAAC,IAAI,CAAC,cAAc,EAAE,OAAO,EAAE,KAAK,CAAC,CAAC;KAC1D;IAEO,gBAAgB,CAAC,MAAc;QACrC,OAAO,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,MAAM,CAAC,CAAC,MAAM,CAAC,CAAC,MAAM,CAAC,CAAC,MAAM,CAAC,CAAC,MAAM,EAAE,GAAG,CAAC;YAC5D,MAAM,KAAK,GAAG,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,CAAC;YACjC,OAAO,KAAK,CAAC,IAAI,CAAC,KAAK,CAAC

B;QAPjD,aAAQ,GAAU,EAAE,CAAC;;QAI7B,cAAS,GAAG,IAAI,OAAO,EAAc,CAAC;QAKpC,IAAI,QAAQ,IAAI,IAAI,EAAE;YACpB,QAAQ,CAAC,YAAY,CAAC,EAAE,CAAC,aAAa,EAAE,UAAU,EAAE,GAAG,CAAC,CAAC;SAC1D;KACF;;IAGD,WAAW,CAAC,OAAsB;;;QAGhC,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC;KAC3B;;;;;;;;IASD,IACI,UAAU,CAAC,QAAqC;QAClD,IAAI,QAAQ,IAAI,IAAI,EAAE;YACpB,IAAI,CAAC,QAAQ,GAAG,KAAK,CAAC,OAAO,CAAC,QAAQ,GAAG,QAAQ,GAAG,CAAC,QAAQ,CAAC,CAAC;SACjE;aAAM;YACL,IAAI,CAAC,QAAQ,GAAG,EAAE,CAAC;SACpB;KACF;;IAID,OAAO;QACL,MAAM,MAAM,GAAG,YAAY,CAAC;QAC5B,IAAI,CAAC,UAAU,CAAC,MAAM,CAAC,CAAC;KACzB;;;;;;;;

ACf;SACF,CAAC,CAAC;KACJ;;IAGD,kBAAkB;;QAEhB,IAAI,CAAC,CAAC,IAAI,CAAC,KAAK,CAAC,OAAO,EAAE,IAAI,CAAC,cAAc,CAAC,OAAO,EAAE,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC;aAC5D,IAAI,CAAC,QAAQ,EAAE,EAAE,CAAC;aAChB,SAAS,CAAC,CAAC,CAAC;YACV,IAAI,CAAC,MAAM,M,EAAE,EAAE,CAAC;YACd,IAAI,CAAC,4BAA4B,CAAC,4BAA4B,0CAAE,WAAW,GAAG;QACjD,MAAM,cAAc,CAAC,CAAC,CAAC

CAAC,QAAQ,CAAC,IAAI,CAAC;SAC3C;QACD,OAAO,EAAE,CAAC;KACX;;;;IAKD,MAAM;QACJ,IAAI,CAAC,IAAI,CAAC,SAAS;YAAE,MAAM,IAAI,KAAK,CAAC,yBAAyB,CAAC,CAAC;QAChE,IAAI,CAAC,QAAQ,CAAC,MAAM,EAAE,CAAC;QACvB,MAAM,GAAG,GAAG,IAAI,CAAC,SAAS,CAAC;QAC3B,IAAI,CAAC,eAAe,GAAG,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,SAAS

C,QAAQ,EAAE,KAAK,CAAC,QAAQ,CAAC,CAAC,CAAC;aACxD;SACF;QACD,OAAO,IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,QAAQ,EAAE,EAAE,GAAG,CAAC,CAAC,CAAC,KAAK,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC;KACvD;IAEO,aAAa,CAAC,QAA0B,EAAE,KAAY;QAC5D,OAAO,IAAI,CAAC,kBAAkB,CAAC,QAAQ,EAAE,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC

CAAC;AAED;;;;;;;;;;;;;;;;;;;;;MA0Ba,YAAY;;IAEvB,YAAsD,KAAU,EAAc,MAAc,KAAI;;;;;;;;;;;;;;;;;;IAoBhG,OAAO,OAAO,CAAC,MAAc,EAAE,MAAqB;QAClD,OAAO;YACL,QAAQ,EAAE,YAAY;YACtB,SAAS,EAAE;gBACT,gBAAgB;gBAChB,aAAa,CAAC,MAAM,CAAC;gBACrB;oBACE,OAAO,EAAE,oBAAoB;oBAC7B,UAAU,EAAE,mBAAmB;oBAC/B,IAAI,EAAE,CAAC,CAAC,MAAM,EAAE,IAAI,QAAQ,EAAE,EAAE,IAAI,QAAQ,EAAE,CAAC,CAAC;iBACjD;gBACD,EAAC,OAAO,EAAE,oBAAoB,EAAE,QAAQ,EAAE,MAAM,GAAG,MAAM,GAAG,EAAE,EAAC;gBAC/D;oBACE,OAAO,EAAE,gBAAgB;oBACzB,UAAU,EAAE,uBAAuB;oBACnC,IAAI,EACA,CAAC,gBAAgB,EAAE,CAAC,IAAI,MAAM,CAAC,aAAa,CAAC,EAAE,IAAI,QAAQ,EAAE,CAAC,EAAE,oBAAoB,CAAC;iBAC1F;gBACD;oBACE,OAAO,EAAE,gBAAgB;oBACzB,UAAU,EAAE,uBAAuB;oBACnC,IAAI,EAAE,CAAC,IAAI,MAAM,EAAE,gBAAgB,EAAE,oBAAoB,CAAC;iBAC3D;gBACD;oBACE,OAAO,EAAE,kBAAkB;oBAC3B,UAAU,EAAE,yBAAyB;oBACrC,IAAI,EAAE,CAAC,IAAI,MAAM,CAAC,kBAAkB,GAAG,MAAM,CAAC,kBAAkB;wBACpE,YAAY;iBACb;gBACD,EAAC,OAAO,EAAE,oBAAoB,EAAE,UAAU,EAAE,kBAAkB,EAAC;gBAC/D;oBACE,OAAO,EAAE,gBAAgB;oBACzB,UAAU,EAAE,uBAAuB;oBACnC,IAAI,EAAE,CAAC,IAAI,MAAM,CAAC,aAAa,CAAC,EAAE,IAAI,QAAQ,EAAE,CAAC,EAAE,oBAAoB,CAAC;iBAC1F

AG,CAAC,CAAC,CAAC;YAC1C,MAAM,MAAM,GAAG,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;YACzC,MAAM,IAAI,GAAG,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,oBAAoB,CAAC,CAAC;YAErD,IAAI,IAAI,CAAC,iBAAiB,KAAK,UAAU,EAAE;gBACzC,MAAM,CAAC,2BAA2B,EAAE,CAAC;gBACrC,OAAO,CAAC,IAAI,CAAC,CAAC;aACf;iBAAM;;YAEH,IAAI,CAAC,iBAAiB,KAAK,SAAS,IAAI,IAAI,CAAC,iBAAiB,KAAK,iBAAiB,EAAE;gBACxF,MAAM,CAAC,KAAK,CAAC,kBAAkB,GAAG;;oBAEhC,IAAI,CAAC,IAAI,CAAC,cAAc,EAAE;wBACxB,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC;wBAC3B,OAAO,CAAC,IAAI,CAAC,CAAC;wBACd,OAAO,IAAI,CAAC,yBAAyB,CAAC;;qBAGvC;yBAAM;wBACL,IAAI,CAAC,IAAI,CAAC,CAAC;qBACZ;iBACF,CAAC;gBACF,MAAM,CAAC,iBAAiB,GAAG,IAAI,CAAC,IAAI,CAAC,CAAC;aACvC;iBAAM;gBACL,MAAM,CAAC,KAAK,CAAC,kBAAkB,GAAG,IAAI,CAAC,IAAI,CAAC,CAAC;aAC9C;YAED,IAAI,CAAC,IAAI,CAAC,CAAC;QACb,CAAC;QAED,IAAI,CAAC,IAAI,CAAC,CAAC;IACb,CAAC;IAED,iBAAiB,CAAC,wBAA2C;QAC3D,IAAI,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC,IAAI,CAAC,wBAAwB,CAAC,CAAC;IACjD,CAAC;IAED,oBAAoB,CAAC,2BAAiD;QACpE,IAAI,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC,IAAI,CAAC,2BAA2B,CAAC,CAAC;IACpD,CAAC;IAED,eAAe,CAAC,sBAAqC;QACnD,IAAI,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC,IAAI,CAAC,sBAAsB,CAAC,CAAC;IAC/C

ackages/router/src/directives/router_outlet.ts","../../../../../packages/router/src/router_preloader.ts","../../../../../packages/router/src/router_scroller.ts","../../../../../packages/router/src/router_module.ts","../../../../../packages/router/src/version.ts","../../../../../packages/router/src/private_export.ts","../../../../../packages/router/src/index.ts","../../../../../packages/router/public_api.ts","../../../../../packages/router/index.ts","../../../../../packages/router/router.ts"],"sourcesContent":["/*!
 *****************************************************************************\r\nCopyright (c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR
 PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS SOFTWARE.\r\n***************************************************************************** */\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics = Object.setPrototypeOf ||\r\n        ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n
  function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d; }\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n        for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n
            for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n                t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n    var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators,
  target, key, desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value)
  { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) &&

t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)
return t;\r\n if (y = 0, t) op = [op[0] & 2, t.value];\r\n switch (op[0]) {\r\n case 0: case 1: t = op; break;\r\n case 4: _.label++; return { value: op[1], done: false };\r\n case 5: _.label++; y = op[1]; op = [0]; continue;\r\n case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n default:\r\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n if (t[2]) _.ops.pop();\r\n _.trys.pop(); continue;\r\n }\r\n op = body.call(thisArg, _);\r\n } catch (e)
{ op = [6, e]; y = 0; } finally { f = t = 0; }\r\n if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n if (m) return m.call(o);\r\n if (o && typeof o.length === \"number\") return {\r\n next: function () {\r\n if (o && i >= o.length) o = void 0;\r\n return { value: o && o[i++], done: !o };\r\n }\r\n };\r\n
throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n if (!m) return o;\r\n var i = m.call(o), r, ar = [], e;\r\n try {\r\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n }\r\n catch (error) { e = { error: error }; }\r\n finally {\r\n try {\r\n if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n }\r\n finally { if (e) throw e.error; }\r\n }\r\n return ar;\r\n}\r\n\r\nexport function __spread() {\r\n for (var ar = [], i = 0; i < arguments.length; i++)\r\n ar = ar.concat(__read(arguments[i]));\r\n return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n for (var
a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n r[k] = a[j];\r\n return r;\r\n};\r\n\r\nexport function __await(v) {\r\n return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n function fulfill(value) { resume(\"next\",
value); }\r\n function reject(value) { resume(\"throw\", value); }\r\n function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n var i, p;\r\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var m = o[Symbol.asyncIterator], i;\r\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n function verb(n) { i[n] = o[n] &&
function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n if (Object.defineProperty) {

Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n    return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n    Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n    o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n    if (mod && mod.__esModule) return mod;\r\n    var result = {};\r\n    if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n    __setModuleDefault(result, mod);\r\n    return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n    return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to get private field on non-instance\");\r\n    }\r\n    return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to set private field on non-instance\");\r\n    }\r\n    privateMap.set(receiver, value);\r\n    return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Route} from './config';\nimport {ActivatedRouteSnapshot, RouterStateSnapshot} from './router_state';\n\n/**\n * Identifies the call or event that triggered a navigation.\n *\n * * 'imperative': Triggered by `router.navigateByUrl()` or `router.navigate()`.\n * * 'popstate' : Triggered by a `popstate` event.\n * * 'hashchange'-: Triggered by a `hashchange` event.\n *\n * @publicApi\n */\nexport type NavigationTrigger = 'imperative'|'popstate'|'hashchange';\n\n/**\n * Base for events the router goes through, as opposed to events tied to a specific\n * route. Fired one time for any given navigation.\n *\n * The following code shows how a class subscribes to router events.\n *\n * ```ts\n * class MyService {\n *   constructor(public router: Router, logger: Logger) {\n *     router.events.pipe(\n *       filter((e: Event): e is RouterEvent => e instanceof RouterEvent)\n *     ).subscribe((e: RouterEvent) => {\n *       logger.log(e.id, e.url);\n *     });\n *   }\n * }\n * ```\n *\n * @see `Event`\n * @see [Router events summary](guide/router#router-events)\n * @publicApi\n */\nexport class RouterEvent {\n  constructor(\n      /** A unique ID that the router assigns to every router navigation. */\n      public id: number,\n      /** The URL that is the destination for this navigation. */\n      public url: string) {}\n}\n\n/**\n * An event triggered when a navigation starts.\n *\n * @publicApi\n */\nexport class NavigationStart extends RouterEvent {\n  /**\n   * Identifies the call or event that triggered the navigation.\n   * An `imperative` trigger is a call to `router.navigateByUrl()` or `router.navigate()`.\n   *\n   * @see `NavigationEnd`\n   * @see `NavigationCancel`\n   * @see `NavigationError`\n   */\n  navigationTrigger?: 'imperative'|'popstate'|'hashchange';\n\n  /**\n   * The navigation state that was previously supplied to the `pushState` call,\n   * when the navigation is triggered by a `popstate` event. Otherwise null.\n   *\n   * The state object is defined by `NavigationExtras`, and contains any\n   * developer-defined state value, as well as a unique ID that\n   * the router assigns to every router transition/navigation.\n   *\n   * From the perspective of the router, the router never \"goes back\".\n   * When the user clicks on the back button in the browser,\n   * a new navigation ID is created.\n   *\n   * Use the ID in this previous-state object to differentiate between a newly created\n   * state and one returned to by a `popstate` event, so that you can restore some\n   * remembered state, such as scroll position.\n   *\n   */\n  restoredState?: {[k: string]: any, navigationId: number}|null;\n\n  constructor(\n      /** @docsNotRequired */\n      id: number,\n      /** @docsNotRequired */\n      url: string,\n      /** @docsNotRequired */\n      navigationTrigger: 'imperative'|'popstate'|'hashchange' = 'imperative',\n      /** @docsNotRequired */\n      restoredState: {[k: string]: any, navigationId: number}|null = null) {\n    super(id, url);\n    this.navigationTrigger = navigationTrigger;\n    this.restoredState = restoredState;\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return `NavigationStart(id: ${this.id}, url: '${this.url}')`;\n  }\n}\n\n/**\n * An event triggered when a navigation ends successfully.\n *\n * @see `NavigationStart`\n * @see `NavigationCancel`\n * @see `NavigationError`\n *\n * @publicApi\n */\nexport class NavigationEnd extends RouterEvent {\n  constructor(\n      /** @docsNotRequired */\n      id: number,\n      /** @docsNotRequired */\n      url: string,\n      /** @docsNotRequired */\n      public urlAfterRedirects: string) {\n    super(id, url);\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return

`NavigationEnd(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}')`;\n }\n}\n\n/**\n * An event triggered when a navigation is canceled, directly or indirectly.\n * This can happen when a route guard\n * returns `false` or initiates a redirect by returning a `UrlTree`.\n *\n * @see `NavigationStart`\n * @see `NavigationEnd`\n * @see `NavigationError`\n *\n * @publicApi\n */\nexport class NavigationCancel extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public reason: string) {\n super(id, url);\n }\n\n /** @docsNotRequired */\n toString(): string {\n return `NavigationCancel(id: ${this.id}, url: '${this.url}')`;\n }\n}\n\n/**\n * An event triggered when a navigation fails due to an unexpected error.\n *\n * @see `NavigationStart`\n * @see `NavigationEnd`\n * @see `NavigationCancel`\n *\n * @publicApi\n */\nexport class NavigationError extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public error: any) {\n super(id, url);\n }\n\n /** @docsNotRequired */\n toString(): string {\n return `NavigationError(id: ${this.id}, url: '${this.url}', error: ${this.error})`;\n }\n}\n\n/**\n * An event triggered when routes are recognized.\n *\n * @publicApi\n */\nexport class RoutesRecognized extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot) {\n super(id, url);\n }\n\n /** @docsNotRequired */\n toString(): string {\n return `RoutesRecognized(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state})`;\n }\n}\n\n/**\n * An event triggered at the start of the Guard phase of routing.\n *\n * @see `GuardsCheckEnd`\n *\n * @publicApi\n */\nexport class GuardsCheckStart extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /**\n @docsNotRequired */\n public state: RouterStateSnapshot) {\n super(id, url);\n }\n\n toString(): string {\n return `GuardsCheckStart(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state})`;\n }\n}\n\n/**\n * An event triggered at the end of the Guard phase of routing.\n *\n * @see `GuardsCheckStart`\n *\n * @publicApi\n */\nexport class GuardsCheckEnd extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot,\n /** @docsNotRequired */\n public shouldActivate: boolean) {\n super(id, url);\n }\n\n toString(): string {\n return `GuardsCheckEnd(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state}, shouldActivate: ${this.shouldActivate})`;\n }\n}\n\n/**\n * An event triggered at the the start of the Resolve phase of routing.\n *\n * Runs in the \"resolve\" phase whether or not there is anything to resolve.\n * In future, may change to only run when there are things to be resolved.\n *\n * @see `ResolveEnd`\n *\n * @publicApi\n */\nexport class ResolveStart extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot) {\n super(id, url);\n }\n\n toString(): string {\n return `ResolveStart(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state})`;\n }\n}\n\n/**\n * An event triggered at the end of the Resolve phase of routing.\n * @see `ResolveStart`.\n *\n * @publicApi\n */\nexport class ResolveEnd extends RouterEvent {\n constructor(\n /** @docsNotRequired */\n id: number,\n /** @docsNotRequired */\n url: string,\n /** @docsNotRequired */\n public urlAfterRedirects: string,\n /** @docsNotRequired */\n public state: RouterStateSnapshot) {\n super(id, url);\n }\n\n toString(): string {\n return `ResolveEnd(id: ${this.id}, url: '${this.url}', urlAfterRedirects: '${\n this.urlAfterRedirects}', state: ${this.state})`;\n }\n}\n\n/**\n * An event triggered before lazy loading a route configuration.\n *\n * @see `RouteConfigLoadEnd`\n *\n * @publicApi\n */\nexport class RouteConfigLoadStart {\n constructor(\n /** @docsNotRequired */\n public route: Route) {}\n toString(): string {\n return `RouteConfigLoadStart(path: ${this.route.path})`;\n }\n}\n\n/**\n * An event triggered when a route has been lazy loaded.\n *\n * @see `RouteConfigLoadStart`\n *\n * @publicApi\n */\nexport

class RouteConfigLoadEnd {\n constructor(\n /**
@docsNotRequired */\n public route: Route) {}\n toString(): string {\n return `RouteConfigLoadEnd(path: ${this.route.path})`;\n }\n}\n\n/**\n * An event triggered at the start of the child-activation\n * part of the Resolve phase of routing.\n * @see `ChildActivationEnd`\n * @see `ResolveStart`\n *\n * @publicApi\n */\nexport class ChildActivationStart {\n constructor(\n /** @docsNotRequired */\n public snapshot: ActivatedRouteSnapshot) {}\n toString(): string {\n const path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n return `ChildActivationStart(path: '${path}')`;\n }\n}\n\n/**\n * An event triggered at the end of the child-activation part\n * of the Resolve phase of routing.\n * @see `ChildActivationStart`\n * @see `ResolveStart`\n * @publicApi\n */\nexport class ChildActivationEnd {\n constructor(\n /** @docsNotRequired */\n public snapshot: ActivatedRouteSnapshot) {}\n toString(): string {\n const path = this.snapshot.routeConfig
&& this.snapshot.routeConfig.path || '';\n return `ChildActivationEnd(path: '${path}')`;\n }\n}\n\n/**\n * An event triggered at the start of the activation part\n * of the Resolve phase of routing.\n * @see `ActivationEnd`\n * @see `ResolveStart`\n *\n * @publicApi\n */\nexport class ActivationStart {\n constructor(\n /** @docsNotRequired */\n public snapshot: ActivatedRouteSnapshot) {}\n toString(): string {\n const path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n return `ActivationStart(path: '${path}')`;\n }\n}\n\n/**\n * An event triggered at the end of the activation part\n * of the Resolve phase of routing.\n * @see `ActivationStart`\n * @see `ResolveStart`\n *\n * @publicApi\n */\nexport class ActivationEnd {\n constructor(\n /** @docsNotRequired */\n public snapshot: ActivatedRouteSnapshot) {}\n toString(): string {\n const path = this.snapshot.routeConfig && this.snapshot.routeConfig.path ||
'';\n return `ActivationEnd(path: '${path}')`;\n }\n}\n\n/**\n * An event triggered by scrolling.\n *\n * @publicApi\n */\nexport class Scroll {\n constructor(\n /** @docsNotRequired */\n readonly routerEvent: NavigationEnd,\n\n /** @docsNotRequired */\n readonly position: [number, number]|null,\n\n /** @docsNotRequired */\n readonly anchor: string|null) {}\n\n toString(): string {\n const pos = this.position ? `${this.position[0]}, ${this.position[1]}` : null;\n return `Scroll(anchor: '${this.anchor}', position: '${pos}')`;\n }\n}\n\n/**\n * Router events that allow you to track the lifecycle of the router.\n *\n * The events occur in the following sequence:\n *\n * * [NavigationStart](api/router/NavigationStart): Navigation starts.\n * * [RouteConfigLoadStart](api/router/RouteConfigLoadStart): Before\n * the router [lazy loads](/guide/router#lazy-loading) a route configuration.\n * * [RouteConfigLoadEnd](api/router/RouteConfigLoadEnd): After
a route has been lazy loaded.\n * * [RoutesRecognized](api/router/RoutesRecognized): When the router parses the URL\n * and the routes are recognized.\n * * [GuardsCheckStart](api/router/GuardsCheckStart): When the router begins the *guards*\n * phase of routing.\n * * [ChildActivationStart](api/router/ChildActivationStart): When the router\n * begins activating a route's children.\n * * [ActivationStart](api/router/ActivationStart): When the router begins activating a route.\n * * [GuardsCheckEnd](api/router/GuardsCheckEnd): When the router finishes the *guards*\n * phase of routing successfully.\n * * [ResolveStart](api/router/ResolveStart): When the router begins the *resolve*\n * phase of routing.\n * * [ResolveEnd](api/router/ResolveEnd): When the router finishes the *resolve*\n * phase of routing successfuly.\n * * [ChildActivationEnd](api/router/ChildActivationEnd): When the router finishes\n * activating a route's children.\n * * [ActivationEnd](api/router/ActivationEnd): When
the router finishes activating a route.\n * * [NavigationEnd](api/router/NavigationEnd): When navigation ends successfully.\n * * [NavigationCancel](api/router/NavigationCancel): When navigation is canceled.\n * * [NavigationError](api/router/NavigationError): When navigation fails\n * due to an unexpected error.\n * * [Scroll](api/router/Scroll): When the user scrolls.\n *\n * @publicApi\n */\nexport type Event = RouterEvent|RouteConfigLoadStart|RouteConfigLoadEnd|ChildActivationStart|\n ChildActivationEnd|ActivationStart|ActivationEnd|Scroll;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Route, UrlMatchResult} from './config';\nimport {UrlSegment, UrlSegmentGroup} from './url_tree';\n\n\n/**\n * The primary routing outlet.\n *\n * @publicApi\n */\nexport const PRIMARY_OUTLET = 'primary';\n\n/**\n * A collection

of matrix and query URL parameters.\n * @see `convertToParamMap()`\n * @see `ParamMap`\n *\n * @publicApi\n */\nexport type Params = {\n  [key: string]: any;\n};\n\n/**\n * A map that provides access to the required and optional parameters\n * specific to a route.\n * The map supports retrieving a single value with `get()`\n * or multiple values with `getAll()`.\n *\n * @see [URLSearchParams](https://developer.mozilla.org/en-US/docs/Web/API/URLSearchParams)\n *\n * @publicApi\n */\nexport interface ParamMap {\n  /**\n   * Reports whether the map contains a given parameter.\n   * @param name The parameter name.\n   * @returns True if the map contains the given parameter, false otherwise.\n   */\n  has(name: string): boolean;\n  /**\n   * Retrieves a single value for a parameter.\n   * @param name The parameter name.\n   * @return The parameter's single value,\n   * or the first value if the parameter has multiple values,\n   * or `null` when there is no such parameter.\n   */\n  get(name: string): string|null;\n  /**\n   * Retrieves multiple values for a parameter.\n   * @param name The parameter name.\n   * @return An array containing one or more values,\n   * or an empty array if there is no such parameter.\n   *\n   */\n  getAll(name: string): string[];\n\n  /** Names of the parameters in the map. */\n  readonly keys: string[];\n}\n\nclass ParamsAsMap implements ParamMap {\n  private params: Params;\n\n constructor(params: Params) {\n    this.params = params || {};\n  }\n\n  has(name: string): boolean {\n    return Object.prototype.hasOwnProperty.call(this.params, name);\n  }\n\n  get(name: string): string|null {\n    if (this.has(name)) {\n      const v = this.params[name];\n      return Array.isArray(v) ? v[0] : v;\n    }\n\n    return null;\n  }\n\n  getAll(name: string): string[] {\n    if (this.has(name)) {\n      const v = this.params[name];\n      return Array.isArray(v) ? v : [v];\n    }\n\n    return [];\n  }\n\n  get keys(): string[] {\n    return Object.keys(this.params);\n  }\n}\n\n/**\n * Converts a `Params` instance to a `ParamMap`.\n * @param params The instance to convert.\n * @returns The new map instance.\n *\n * @publicApi\n */\nexport function convertToParamMap(params: Params): ParamMap {\n  return new ParamsAsMap(params);\n}\n\nconst NAVIGATION_CANCELING_ERROR = 'ngNavigationCancelingError';\n\nexport function navigationCancelingError(message: string) {\n  const error = Error('NavigationCancelingError: ' + message);\n (error as any)[NAVIGATION_CANCELING_ERROR] = true;\n  return error;\n}\n\nexport function isNavigationCancelingError(error: Error) {\n  return error && (error as any)[NAVIGATION_CANCELING_ERROR];\n}\n\n// Matches the route configuration (`route`) against the actual URL (`segments`).\nexport function defaultUrlMatcher(\n    segments: UrlSegment[], segmentGroup: UrlSegmentGroup, route: Route): UrlMatchResult|null {\n  const parts = route.path!.split('/');\n\n  if (parts.length > segments.length) {\n // The actual URL is shorter than the config, no match\n    return null;\n  }\n\n  if (route.pathMatch === 'full' &&\n  (segmentGroup.hasChildren() || parts.length < segments.length)) {\n    // The config is longer than the actual URL but we are looking for a full match, return null\n    return null;\n  }\n\n  const posParams: {[key: string]: UrlSegment} = {};\n\n  // Check each config part against the actual URL\n  for (let index = 0; index < parts.length; index++) {\n    const part = parts[index];\n    const segment = segments[index];\n    const isParameter = part.startsWith(':');\n    if (isParameter) {\n      posParams[part.substring(1)] = segment;\n    } else if (part !== segment.path) {\n      // The actual URL part does not match the config, no match\n      return null;\n    }\n  }\n\n  return {consumed: segments.slice(0, parts.length), posParams};\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
 license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {isObservable as isObservable, isPromise as isPromise} from '@angular/core';\nimport {from, Observable, of} from 'rxjs';\nimport {concatAll, last as lastValue, map} from 'rxjs/operators';\n\nimport {Params, PRIMARY_OUTLET} from '../shared';\n\nexport function shallowEqualArrays(a: any[], b: any[]): boolean {\n  if (a.length !== b.length) return false;\n  for (let i = 0; i < a.length; ++i) {\n    if (!shallowEqual(a[i], b[i])) return false;\n  }\n  return true;\n}\n\nexport function shallowEqual(a: Params, b: Params): boolean {\n  // Casting Object.keys return values to include `undefined` as there are some cases\n  // in IE 11 where this can happen. Cannot provide a test because the behavior only\n  // exists in certain circumstances in IE 11, therefore doing this cast ensures the\n  // logic is correct for when this edge case is hit.\n  const k1 = Object.keys(a) as string[] | undefined;\n

```
  const k2 = Object.keys(b) as string[] | undefined;\n  if (!k1 || !k2 || k1.length != k2.length) {\n    return false;\n  }\n  let key: string;\n  for (let i = 0; i < k1.length; i++) {\n    key = k1[i];\n    if (!equalArraysOrString(a[key], b[key])) {\n      return false;\n    }\n  }\n  return true;\n}\n\n/**\n * Test equality for arrays of strings or a string.\n */\nexport function equalArraysOrString(a: string|string[], b: string|string[]) {\n  if (Array.isArray(a) && Array.isArray(b)) {\n    if (a.length !== b.length) return false;\n    const aSorted = [...a].sort();\n    const bSorted = [...b].sort();\n    return aSorted.every((val, index) => bSorted[index] === val);\n  } else {\n    return a === b;\n  }\n}\n\n/**\n * Flattens single-level nested arrays.\n */\nexport function flatten<T>(arr: T[][]): T[] {\n  return Array.prototype.concat.apply([], arr);\n}\n\n/**\n * Return the last element of an array.\n */\nexport function last<T>(a: T[]): T|null {\n  return a.length > 0 ? a[a.length - 1] : null;\n}\n\n/**\n * Verifys all booleans in an array are `true`.\n */\nexport function and(bools: boolean[]): boolean {\n  return !bools.some(v => !v);\n}\n\nexport function forEach<K, V>(map: {[key: string]: V}, callback: (v: V, k: string) => void): void {\n  for (const prop in map) {\n    if (map.hasOwnProperty(prop)) {\n      callback(map[prop], prop);\n    }\n  }\n}\n\nexport function waitForMap<A, B>(\n    obj: {[k: string]: A}, fn: (k: string, a: A) => Observable<B>): Observable<{[k: string]: B}> {\n  if (Object.keys(obj).length === 0) {\n    return of({});\n  }\n\n  const waitHead: Observable<B>[] = [];\n  const waitTail: Observable<B>[] = [];\n  const res: {[k: string]: B} = {};\n\n  forEach(obj, (a: A, k: string) => {\n    const mapped = fn(k, a).pipe(map((r: B) => res[k] = r));\n    if (k === PRIMARY_OUTLET) {\n      waitHead.push(mapped);\n    } else {\n      waitTail.push(mapped);\n    }\n  });\n\n  // Closure compiler has problem with using spread operator here.\n  So we use \"Array.concat\".\n  // Note that we also need to cast the new promise because TypeScript cannot infer the type\n  // when calling the \"of\" function through \"Function.apply\"\n  return (of.apply(null, waitHead.concat(waitTail)) as Observable<Observable<B>>)\n      .pipe(concatAll(), lastValue(), map(() => res));\n}\n\nexport function wrapIntoObservable<T>(value: T|Promise<T>|Observable<T>): Observable<T> {\n  if (isObservable(value)) {\n    return value;\n  }\n\n  if (isPromise(value)) {\n    // Use `Promise.resolve()` to wrap promise-like instances.\n    // Required ie when a Resolver returns a AngularJS `$q` promise to correctly trigger the\n    // change detection.\n    return from(Promise.resolve(value));\n  }\n\n  return of(value);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {convertToParamMap,
  ParamMap, Params, PRIMARY_OUTLET} from './shared';\nimport {equalArraysOrString, forEach, shallowEqual} from './utils/collection';\n\nexport function createEmptyUrlTree() {\n  return new UrlTree(new UrlSegmentGroup([], {}), {}, null);\n}\n\nexport function containsTree(container: UrlTree, containee: UrlTree, exact: boolean): boolean {\n  if (exact) {\n    return equalQueryParams(container.queryParams, containee.queryParams) &&\n        equalSegmentGroups(container.root, containee.root);\n  }\n\n  return containsQueryParams(container.queryParams, containee.queryParams) &&\n      containsSegmentGroup(container.root, containee.root);\n}\n\nfunction equalQueryParams(container: Params, containee: Params): boolean {\n  // TODO: This does not handle array params correctly.\n  return shallowEqual(container, containee);\n}\n\nfunction equalSegmentGroups(container: UrlSegmentGroup, containee: UrlSegmentGroup): boolean {\n  if (!equalPath(container.segments, containee.segments)) return false;\n  if (container.numberOfChildren !== containee.numberOfChildren) return false;\n  for (const c in containee.children) {\n    if (!container.children[c]) return false;\n    if (!equalSegmentGroups(container.children[c], containee.children[c])) return false;\n  }\n  return true;\n}\n\nfunction containsQueryParams(container: Params, containee: Params): boolean {\n  return Object.keys(containee).length <= Object.keys(container).length &&\n      Object.keys(containee).every(key => equalArraysOrString(container[key], containee[key]));\n}\n\nfunction containsSegmentGroup(container: UrlSegmentGroup, containee: UrlSegmentGroup): boolean {\n  return containsSegmentGroupHelper(container, containee, containee.segments);\n}\n\nfunction containsSegmentGroupHelper(\n    container: UrlSegmentGroup, containee: UrlSegmentGroup, containeePaths: UrlSegment[]): boolean {\n  if (container.segments.length > containeePaths.length) {\n    const current = container.segments.slice(0, containeePaths.length);\n
```

```
    if (!equalPath(current, containeePaths)) return false;\n    if (containee.hasChildren()) return false;\n    return true;\n\n  } else if (container.segments.length === containeePaths.length) {\n    if (!equalPath(container.segments, containeePaths)) return false;\n    for (const c in containee.children) {\n      if (!container.children[c]) return false;\n      if (!containsSegmentGroup(container.children[c], containee.children[c])) return false;\n    }\n    return true;\n\n  } else {\n    const current = containeePaths.slice(0, container.segments.length);\n    const next = containeePaths.slice(container.segments.length);\n    if (!equalPath(container.segments, current)) return false;\n    if (!container.children[PRIMARY_OUTLET]) return false;\n    return containsSegmentGroupHelper(container.children[PRIMARY_OUTLET], containee, next);\n  }\n}\n\n/**\n * @description\n *\n * Represents the parsed URL.\n *\n * Since a router state is a tree, and the URL is nothing but a serialized state,
 the URL is a\n * serialized tree.\n * UrlTree is a data structure that provides a lot of affordances in dealing with URLs\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n *   constructor(router: Router) {\n *     const tree: UrlTree =\n * router.parseUrl('/team/33/(user/victor//support:help)?debug=true#fragment');\n *     const f = tree.fragment; // return 'fragment'\n *     const q = tree.queryParams; // returns {debug: 'true'}\n *     const g: UrlSegmentGroup = tree.root.children[PRIMARY_OUTLET];\n *     const s: UrlSegment[] = g.segments; // returns 2 segments 'team' and '33'\n *     g.children[PRIMARY_OUTLET].segments; // returns 2 segments 'user' and 'victor'\n * g.children['support'].segments; // return 1 segment 'help'\n *   }\n * }\n * ```\n *\n * @publicApi\n */\nexport class UrlTree {\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _queryParamMap!: ParamMap;\n\n  /** @internal */\n
  constructor(\n      /** The root segment group of the URL tree */\n      public root: UrlSegmentGroup,\n      /** The query params of the URL */\n      public queryParams: Params,\n      /** The fragment of the URL */\n      public fragment: string|null) {}\n\n  get queryParamMap(): ParamMap {\n    if (!this._queryParamMap) {\n      this._queryParamMap = convertToParamMap(this.queryParams);\n    }\n    return this._queryParamMap;\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return DEFAULT_SERIALIZER.serialize(this);\n  }\n}\n\n/**\n * @description\n *\n * Represents the parsed URL segment group.\n *\n * See `UrlTree` for more information.\n *\n * @publicApi\n */\nexport class UrlSegmentGroup {\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _sourceSegment!: UrlSegmentGroup;\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _segmentIndexShift!: number;\n  /** The parent node in the url tree */\n  parent: UrlSegmentGroup|null = null;\n\n  constructor(\n
      /** The URL segments of this group. See `UrlSegment` for more information */\n      public segments: UrlSegment[],\n      /** The list of children of this group */\n      public children: {[key: string]: UrlSegmentGroup}) {\n    forEach(children, (v: any, k: any) => v.parent = this);\n  }\n\n  /** Whether the segment has child segments */\n  hasChildren(): boolean {\n    return this.numberOfChildren > 0;\n  }\n\n  /** Number of child segments */\n  get numberOfChildren(): number {\n    return Object.keys(this.children).length;\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return serializePaths(this);\n  }\n}\n\n/**\n * @description\n *\n * Represents a single URL segment.\n *\n * A UrlSegment is a part of a URL between the two slashes. It contains a path and the matrix\n * parameters associated with the segment.\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n *   constructor(router:
 Router) {\n *     const tree: UrlTree = router.parseUrl('/team;id=33');\n *     const g: UrlSegmentGroup = tree.root.children[PRIMARY_OUTLET];\n *     const s: UrlSegment[] = g.segments;\n *     s[0].path; // returns 'team'\n *     s[0].parameters; // returns {id: 33}\n *   }\n * }\n * ```\n *\n * @publicApi\n */\nexport class UrlSegment {\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _parameterMap!: ParamMap;\n\n  constructor(\n      /** The path part of a URL segment */\n      public path: string,\n\n      /** The matrix parameters associated with a segment */\n      public parameters: {[name: string]: string}) {}\n\n  get parameterMap() {\n    if (!this._parameterMap) {\n      this._parameterMap = convertToParamMap(this.parameters);\n    }\n    return this._parameterMap;\n  }\n\n  /** @docsNotRequired */\n  toString(): string {\n    return serializePath(this);\n  }\n}\n\nexport function equalSegments(as: UrlSegment[], bs: UrlSegment[]): boolean {\n  return equalPath(as,
```

```
bs) && as.every((a, i) => shallowEqual(a.parameters, bs[i].parameters));\n}\n\nexport function equalPath(as:
UrlSegment[], bs: UrlSegment[]): boolean {\n  if (as.length !== bs.length) return false;\n  return as.every((a, i) =>
a.path === bs[i].path);\n}\n\nexport function mapChildrenIntoArray<T>(\n    segment: UrlSegmentGroup, fn: (v:
UrlSegmentGroup, k: string) => T[]): T[] {\n  let res: T[] = [];\n  forEach(segment.children, (child:
UrlSegmentGroup, childOutlet: string) => {\n    if (childOutlet === PRIMARY_OUTLET) {\n      res =
res.concat(fn(child, childOutlet));\n    }\n  });\n  forEach(segment.children, (child: UrlSegmentGroup, childOutlet:
string) => {\n    if (childOutlet !== PRIMARY_OUTLET) {\n      res = res.concat(fn(child, childOutlet));\n    }\n
});\n  return res;\n}\n\n\n/**\n * @description\n *\n * Serializes and deserializes a URL string into a URL tree.\n *\n
* The url serialization strategy is customizable. You can\n * make all URLs case insensitive by providing
 a custom UrlSerializer.\n *\n * See `DefaultUrlSerializer` for an example of a URL serializer.\n *\n * @publicApi\n
*/\nexport abstract class UrlSerializer {\n  /** Parse a url into a `UrlTree` */\n  abstract parse(url: string):
UrlTree;\n\n  /** Converts a `UrlTree` into a url */\n  abstract serialize(tree: UrlTree): string;\n}\n\n/**\n *
@description\n *\n * A default implementation of the `UrlSerializer`.\n *\n * Example URLs:\n *\n * ```\n *
/inbox/33(popup:compose)\n * /inbox/33;open=true/messages/44\n * ```\n *\n * DefaultUrlSerializer uses
parentheses to serialize secondary segments (e.g., popup:compose), the\n * colon syntax to specify the outlet, and
the ';parameter=value' syntax (e.g., open=true) to\n * specify route specific parameters.\n *\n * @publicApi\n
*/\nexport class DefaultUrlSerializer implements UrlSerializer {\n  /** Parses a url into a `UrlTree` */\n  parse(url:
string): UrlTree {\n    const p = new UrlParser(url);\n    return new UrlTree(p.parseRootSegment(),
p.parseQueryParams(),
 p.parseFragment());\n  }\n\n  /** Converts a `UrlTree` into a url */\n  serialize(tree: UrlTree): string {\n    const
segment = `/${serializeSegment(tree.root, true)}`;\n    const query = serializeQueryParams(tree.queryParams);\n
const fragment =\n        typeof tree.fragment === `string` ? `#${encodeUriFragment(tree.fragment!)}` : '';\n\n
return `${segment}${query}${fragment}`;\n  }\n}\n\nconst DEFAULT_SERIALIZER = new
DefaultUrlSerializer();\n\nexport function serializePaths(segment: UrlSegmentGroup): string {\n  return
segment.segments.map(p => serializePath(p)).join('/');\n}\n\nfunction serializeSegment(segment: UrlSegmentGroup,
root: boolean): string {\n  if (!segment.hasChildren()) {\n    return serializePaths(segment);\n  }\n\n  if (root) {\n
const primary = segment.children[PRIMARY_OUTLET] ?\n
serializeSegment(segment.children[PRIMARY_OUTLET], false) :\n        '';\n    const children: string[] = [];\n\n
forEach(segment.children, (v: UrlSegmentGroup,
 k: string) => {\n      if (k !== PRIMARY_OUTLET) {\n        children.push(`${k}:${serializeSegment(v, false)}`);\n
    }\n    });\n\n    return children.length > 0 ? `${primary}(${children.join('//')})` : primary;\n\n  } else {\n    const
children = mapChildrenIntoArray(segment, (v: UrlSegmentGroup, k: string) => {\n      if (k ===
PRIMARY_OUTLET) {\n        return [serializeSegment(segment.children[PRIMARY_OUTLET], false)];\n
}\n\n      return [`${k}:${serializeSegment(v, false)}`];\n    });\n\n    // use no parenthesis if the only child is a
primary outlet route\n    if (Object.keys(segment.children).length === 1 &&
segment.children[PRIMARY_OUTLET] != null) {\n      return `${serializePaths(segment)}/${children[0]}`;\n
}\n\n    return `${serializePaths(segment)}/(${children.join('//')})`;\n  }\n}\n\n/**\n * Encodes a URI string with the
default encoding. This function will only ever be called from\n * `encodeUriQuery` or `encodeUriSegment` as it's
the base set of
 encodings to be used. We need\n * a custom encoding because encodeURIComponent is too aggressive and
encodes stuff that doesn't\n * have to be encoded per https://url.spec.whatwg.org.\n */\nfunction encodeUriString(s:
string): string {\n  return encodeURIComponent(s)\n      .replace(/%40/g, '@')\n      .replace(/%3A/gi, ':')\n
.replace(/%24/g, '$')\n      .replace(/%2C/gi, ',');\n}\n\n/**\n * This function should be used to encode both keys and
values in a query string key/value. In\n * the following URL, you need to call encodeUriQuery on \"k\" and \"v\":\n
*\n * http://www.site.org/html;mk=mv?k=v#f\n */\nexport function encodeUriQuery(s: string): string {\n  return
encodeUriString(s).replace(/%3B/gi, ';');\n}\n\n/**\n * This function should be used to encode a URL fragment. In
the following URL, you need to call\n * encodeUriFragment on \"f\":\n *\n *
http://www.site.org/html;mk=mv?k=v#f\n */\nexport function encodeUriFragment(s: string): string {\n  return
```

```
encodeURI(s);\n}\n\n/**\n
 * This function should be run on any URI segment as well as the key and value in a key/value\n * pair for matrix params. In the following URL, you need to call encodeUriSegment on \"html\",\n * \"mk\", and \"mv\":\n *\n * http://www.site.org/html;mk=mv?k=v#f\n */\nexport function encodeUriSegment(s: string): string {\n  return encodeUriString(s).replace(/\\(/g, '%28').replace(/\\)/g, '%29').replace(/%26/gi, '&');\n}\n\nexport function decode(s: string): string {\n  return decodeURIComponent(s);\n}\n\n// Query keys/values should have the \"+\" replaced first, as \"+\" in a query string is \" \".\n// decodeURIComponent function will not decode \"+\" as a space.\nexport function decodeQuery(s: string): string {\n  return decode(s.replace(/\\+/g, '%20'));\n}\n\nexport function serializePath(path: UrlSegment): string {\n  return `${encodeUriSegment(path.path)}${serializeMatrixParams(path.parameters)}`;\n}\n\nfunction serializeMatrixParams(params: {[key: string]: string}): string {\n  return Object.keys(params)\n      .map(key => `;${encodeUriSegment(key)}=${encodeUriSegment(params[key])}`)\n      .join('');\n}\n\nfunction serializeQueryParams(params: {[key: string]: any}): string {\n  const strParams: string[] = Object.keys(params).map((name) => {\n    const value = params[name];\n    return Array.isArray(value) ?\n value.map(v => `${encodeUriQuery(name)}=${encodeUriQuery(v)}`).join('&') :\n `${encodeUriQuery(name)}=${encodeUriQuery(value)}`;\n  });\n\n  return strParams.length ? `?${strParams.join('&')}` : '';\n}\n\nconst SEGMENT_RE = /^[^\\/()?;=#]+/;\nfunction matchSegments(str: string): string {\n  const match = str.match(SEGMENT_RE);\n  return match ? match[0] : '';\n}\n\nconst QUERY_PARAM_RE = /^[^=?&#]+/;\n// Return the name of the query param at the start of the string or an empty string\nfunction matchQueryParams(str: string): string {\n  const match = str.match(QUERY_PARAM_RE);\n  return match ? match[0] : '';\n}\n\nconst QUERY_PARAM_VALUE_RE
 = /^[^?&#]+/;\n// Return the value of the query param at the start of the string or an empty string\nfunction matchUrlQueryParamValue(str: string): string {\n  const match = str.match(QUERY_PARAM_VALUE_RE);\n  return match ? match[0] : '';\n}\n\nclass UrlParser {\n  private remaining: string;\n\n  constructor(private url: string) {\n    this.remaining = url;\n  }\n\n  parseRootSegment(): UrlSegmentGroup {\n    this.consumeOptional('/');\n\n    if (this.remaining === '' || this.peekStartsWith('?') || this.peekStartsWith('#')) {\n      return new UrlSegmentGroup([], {});\n    }\n\n    // The root segment group never has segments\n    return new UrlSegmentGroup([], this.parseChildren());\n  }\n\n  parseQueryParams(): Params {\n    const params: Params = {};\n    if (this.consumeOptional('?')) {\n      do {\n        this.parseQueryParam(params);\n      } while (this.consumeOptional('&'));\n    }\n    return params;\n  }\n\n  parseFragment(): string|null {\n    return this.consumeOptional('#')
 ? decodeURIComponent(this.remaining) : null;\n  }\n\n  private parseChildren(): {[outlet: string]: UrlSegmentGroup} {\n    if (this.remaining === '') {\n      return {};\n    }\n\n    this.consumeOptional('/');\n\n    const segments: UrlSegment[] = [];\n    if (!this.peekStartsWith('(')) {\n      segments.push(this.parseSegment());\n    }\n\n    while (this.peekStartsWith('/') && !this.peekStartsWith('//') && !this.peekStartsWith('/(')) {\n      this.capture('/');\n      segments.push(this.parseSegment());\n    }\n\n    let children: {[outlet: string]: UrlSegmentGroup} = {};\n    if (this.peekStartsWith('/(')) {\n      this.capture('/');\n      children = this.parseParens(true);\n    }\n\n    let res: {[outlet: string]: UrlSegmentGroup} = {};\n    if (this.peekStartsWith('(')) {\n      res = this.parseParens(false);\n    }\n\n    if (segments.length > 0 || Object.keys(children).length > 0) {\n      res[PRIMARY_OUTLET] = new UrlSegmentGroup(segments, children);\n    }\n\n    return res;\n  }\n\n  // parse a segment with its matrix parameters\n  // ie `name;k1=v1;k2`\n  private parseSegment(): UrlSegment {\n    const path = matchSegments(this.remaining);\n    if (path === '' && this.peekStartsWith(';')) {\n      throw new Error(`Empty path url segment cannot have parameters: '${this.remaining}'.`);\n    }\n\n    this.capture(path);\n    return new UrlSegment(decode(path), this.parseMatrixParams());\n  }\n\n  private parseMatrixParams(): {[key: string]: any} {\n    const params: {[key: string]: any} = {};\n    while (this.consumeOptional(';')) {\n      this.parseParam(params);\n    }\n    return params;\n  }\n\n  private parseParam(params: {[key: string]: any}): void {\n    const key = matchSegments(this.remaining);\n    if (!key) {\n
```

return;\n }\n this.capture(key);\n let value: any = '';\n if (this.consumeOptional('=')) {\n const valueMatch = matchSegments(this.remaining);\n if (valueMatch) {\n value = valueMatch;\n this.capture(value);\n }\n }\n\n params[decode(key)] = decode(value);\n }\n\n // Parse a single query parameter `name[=value]`\nprivate parseQueryParam(params: Params): void {\n const key = matchQueryParams(this.remaining);\n if (!key) {\n return;\n }\n this.capture(key);\n let value: any = '';\n if (this.consumeOptional('=')) {\n const valueMatch = matchUrlQueryParamValue(this.remaining);\n if (valueMatch) {\n value = valueMatch;\n this.capture(value);\n }\n }\n\n const decodedKey = decodeQuery(key);\n const decodedVal = decodeQuery(value);\n\n if (params.hasOwnProperty(decodedKey)) {\n // Append to existing values\n let currentVal = params[decodedKey];\n if (!Array.isArray(currentVal)) {\n currentVal = [currentVal];\n params[decodedKey] = currentVal;\n }\n currentVal.push(decodedVal);\n } else {\n // Create a new value\n params[decodedKey] = decodedVal;\n }\n }\n\n // parse `(a/b//outlet_name:c/d)`\n private parseParens(allowPrimary: boolean): {[outlet: string]: UrlSegmentGroup} {\n const segments: {[key: string]: UrlSegmentGroup} = {};\n this.capture('(');\n\n while (!this.consumeOptional(')') && this.remaining.length > 0) {\n const path = matchSegments(this.remaining);\n\n const next = this.remaining[path.length];\n\n // if is is not one of these characters, then the segment was unescaped\n // or the group was not closed\n if (next !== '/' && next !== ')' && next !== ';') {\n throw new Error(`Cannot parse url '${this.url}'`);\n }\n\n let outletName: string = undefined!;\n if (path.indexOf(':') > -1) {\n outletName = path.substr(0, path.indexOf(':'));\n this.capture(outletName);\n this.capture(':');\n } else if (allowPrimary) {\n outletName = PRIMARY_OUTLET;\n }\n\n const children = this.parseChildren();\n segments[outletName] = Object.keys(children).length === 1 ? children[PRIMARY_OUTLET] :\n new UrlSegmentGroup([], children);\n this.consumeOptional('//');\n }\n\n return segments;\n }\n\n private peekStartsWith(str: string): boolean {\n return this.remaining.startsWith(str);\n }\n\n // Consumes the prefix when it is present and returns whether it has been consumed\n private consumeOptional(str: string): boolean {\n if (this.peekStartsWith(str)) {\n this.remaining = this.remaining.substring(str.length);\n return true;\n }\n return false;\n }\n\n private capture(str: string): void {\n if (!this.consumeOptional(str)) {\n throw new Error(`Expected \"${str}\".`);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport class Tree<T> {\n /** @internal */\n _root: TreeNode<T>;\n\n constructor(root: TreeNode<T>) {\n this._root = root;\n }\n\n get root(): T {\n return this._root.value;\n }\n\n /**\n * @internal\n */\n parent(t: T): T|null {\n const p = this.pathFromRoot(t);\n return p.length > 1 ? p[p.length - 2] : null;\n }\n\n /**\n * @internal\n */\n children(t: T): T[] {\n const n = findNode(t, this._root);\n return n ? n.children.map(t => t.value) : [];\n }\n\n /**\n * @internal\n */\n firstChild(t: T): T|null {\n const n = findNode(t, this._root);\n return n && n.children.length > 0 ? n.children[0].value : null;\n }\n\n /**\n * @internal\n */\n siblings(t: T): T[] {\n const p = findPath(t, this._root);\n if (p.length < 2) return [];\n\n const c = p[p.length - 2].children.map(c => c.value);\n return c.filter(cc => cc !== t);\n }\n\n /**\n * @internal\n */\n pathFromRoot(t: T): T[] {\n return findPath(t, this._root).map(s => s.value);\n }\n}\n\n// DFS for the node matching the value\nfunction findNode<T>(value: T, node: TreeNode<T>): TreeNode<T>|null {\n if (value === node.value) return node;\n\n for (const child of node.children) {\n const node = findNode(value, child);\n if (node) return node;\n }\n\n return null;\n}\n\n// Return the path to the node with the given value using DFS\nfunction findPath<T>(value: T, node: TreeNode<T>): TreeNode<T>[] {\n if (value === node.value) return [node];\n\n for (const child of node.children) {\n const path = findPath(value, child);\n if (path.length) {\n path.unshift(node);\n return path;\n }\n }\n\n return [];\n}\n\nexport class TreeNode<T> {\n constructor(public value: T, public children: TreeNode<T>[]) {}\n\n toString(): string {\n return `TreeNode(${this.value})`;\n }\n}\n\n// Return the list of T indexed by outlet name\nexport function nodeChildrenAsMap<T extends {outlet: string}>(node: TreeNode<T>|null) {\n const map: {[outlet:

string]: TreeNode<T>} = {};\n\n  if (node) {\n    node.children.forEach(child => map[child.value.outlet] = child);\n  }\n\n  return map;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '@angular/core';\nimport {BehaviorSubject, Observable} from 'rxjs';\nimport {map} from 'rxjs/operators';\n\nimport {Data, ResolveData, Route} from './config';\nimport {convertToParamMap, ParamMap, Params, PRIMARY_OUTLET} from './shared';\nimport {equalSegments, UrlSegment, UrlSegmentGroup, UrlTree} from './url_tree';\nimport {shallowEqual, shallowEqualArrays} from './utils/collection';\nimport {Tree, TreeNode} from './utils/tree';\n\n\n\n/**\n * Represents the state of the router as a tree of activated routes.\n *\n * @usageNotes\n *\n * Every node in the route tree is an `ActivatedRoute` instance\n * that knows about
the \"consumed\" URL segments, the extracted parameters,\n * and the resolved data.\n * Use the `ActivatedRoute` properties to traverse the tree from any node.\n *\n * The following fragment shows how a component gets the root node\n * of the current state to establish its own route tree:\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n *   constructor(router: Router) {\n *     const state: RouterState = router.routerState;\n *     const root: ActivatedRoute = state.root;\n *     const child = root.firstChild;\n *     const id: Observable<string> = child.params.map(p => p.id);\n *     //...\n *   }\n * }\n * ```\n *\n * @see `ActivatedRoute`\n * @see [Getting route information](guide/router#getting-route-information)\n *\n * @publicApi\n */\nexport class RouterState extends Tree<ActivatedRoute> {\n  /** @internal */\n  constructor(\n      root: TreeNode<ActivatedRoute>,\n      /** The current snapshot of the router state */\n      public snapshot: RouterStateSnapshot) {\n    super(root);\n    setRouterState(<RouterState>this, root);\n  }\n\n  toString(): string {\n    return this.snapshot.toString();\n  }\n}\n\nexport function createEmptyState(urlTree: UrlTree, rootComponent: Type<any>|null): RouterState {\n  const snapshot = createEmptyStateSnapshot(urlTree, rootComponent);\n  const emptyUrl = new BehaviorSubject([new UrlSegment('', {})]);\n  const emptyParams = new BehaviorSubject({});\n  const emptyData = new BehaviorSubject({});\n  const emptyQueryParams = new BehaviorSubject({});\n  const fragment = new BehaviorSubject('');\n  const activated = new ActivatedRoute(\n      emptyUrl, emptyParams, emptyQueryParams, fragment, emptyData, PRIMARY_OUTLET, rootComponent,\n      snapshot.root);\n  activated.snapshot = snapshot.root;\n  return new RouterState(new TreeNode<ActivatedRoute>(activated, []), snapshot);\n}\n\nexport function createEmptyStateSnapshot(\n    urlTree: UrlTree, rootComponent: Type<any>|null): RouterStateSnapshot
{\n  const emptyParams = {};\n  const emptyData = {};\n  const emptyQueryParams = {};\n  const fragment = '';\n  const activated = new ActivatedRouteSnapshot(\n      [], emptyParams, emptyQueryParams, fragment, emptyData, PRIMARY_OUTLET, rootComponent, null,\n      urlTree.root, -1, {});\n  return new RouterStateSnapshot('', new TreeNode<ActivatedRouteSnapshot>(activated, []));\n}\n\n/**\n * Provides access to information about a route associated with a component\n * that is loaded in an outlet.\n * Use to traverse the `RouterState` tree and extract information from nodes.\n *\n * The following example shows how to construct a component using information from a\n * currently activated route.\n *\n * {@example router/activated-route/module.ts region=\"activated-route\"\n *     header=\"activated-route.component.ts\"}\n *\n * @see [Getting route information](guide/router#getting-route-information)\n *\n * @publicApi\n */\nexport class ActivatedRoute {\n  /** The current snapshot of this
route */\n  snapshot!: ActivatedRouteSnapshot;\n  /** @internal */\n  _futureSnapshot: ActivatedRouteSnapshot;\n  /** @internal */\n  _routerState!: RouterState;\n  /** @internal */\n  _paramMap!: Observable<ParamMap>;\n  /** @internal */\n  _queryParamMap!: Observable<ParamMap>;\n\n  /** @internal */\n  constructor(\n      /** An observable of the URL segments matched by this route. */\n      public url: Observable<UrlSegment[]>,\n      /** An observable of the matrix parameters scoped to this route. */\n      public params: Observable<Params>,\n      /** An observable of the query parameters shared by all the routes. */\n      public queryParams: Observable<Params>,\n      /** An observable of the URL fragment shared by all the routes. */\n      public fragment: Observable<string>,\n      /** An observable of the static and resolved data of this route. */\n      public data: Observable<Data>,\n      /** The outlet name of the route, a constant. */\n      public outlet: string,\n

```
/** The component of the route, a constant. */\n      // TODO(vsavkin): remove |string\n      public component: Type<any>|string|null, futureSnapshot: ActivatedRouteSnapshot) {\n    this._futureSnapshot = futureSnapshot;\n  }\n\n  /** The configuration used to match this route. */\n  get routeConfig(): Route|null {\n    return this._futureSnapshot.routeConfig;\n  }\n\n  /** The root of the router state. */\n  get root(): ActivatedRoute {\n    return this._routerState.root;\n  }\n\n  /** The parent of this route in the router state tree. */\n  get parent(): ActivatedRoute|null {\n    return this._routerState.parent(this);\n  }\n\n  /** The first child of this route in the router state tree. */\n  get firstChild(): ActivatedRoute|null {\n    return this._routerState.firstChild(this);\n  }\n\n  /** The children of this route in the router state tree. */\n  get children(): ActivatedRoute[] {\n    return this._routerState.children(this);\n  }\n\n  /** The path from the root of the router
   state tree to this route. */\n  get pathFromRoot(): ActivatedRoute[] {\n    return this._routerState.pathFromRoot(this);\n  }\n\n  /**\n   * An Observable that contains a map of the required and optional parameters\n   * specific to the route.\n   * The map supports retrieving single and multiple values from the same parameter.\n   */\n  get paramMap(): Observable<ParamMap> {\n    if (!this._paramMap) {\n      this._paramMap = this.params.pipe(map((p: Params): ParamMap => convertToParamMap(p)));\n    }\n    return this._paramMap;\n  }\n\n  /**\n   * An Observable that contains a map of the query parameters available to all routes.\n   * The map supports retrieving single and multiple values from the query parameter.\n   */\n  get queryParamMap(): Observable<ParamMap> {\n    if (!this._queryParamMap) {\n      this._queryParamMap =\n          this.queryParams.pipe(map((p: Params): ParamMap => convertToParamMap(p)));\n    }\n    return this._queryParamMap;\n  }\n\n  toString(): string {\n
    return this.snapshot ? this.snapshot.toString() : `Future(${this._futureSnapshot})`;\n  }\n}\n\nexport type ParamsInheritanceStrategy = 'emptyOnly'|'always';\n\n/** @internal */\nexport type Inherited = {\n  params: Params,\n  data: Data,\n  resolve: Data,\n};\n\n/**\n * Returns the inherited params, data, and resolve for a given route.\n * By default, this only inherits values up to the nearest path-less or component-less route.\n * @internal\n */\nexport function inheritedParamsDataResolve(\n    route: ActivatedRouteSnapshot,\n    paramsInheritanceStrategy: ParamsInheritanceStrategy = 'emptyOnly'): Inherited {\n  const pathFromRoot = route.pathFromRoot;\n\n  let inheritingStartingFrom = 0;\n  if (paramsInheritanceStrategy !== 'always') {\n    inheritingStartingFrom = pathFromRoot.length - 1;\n\n    while (inheritingStartingFrom >= 1) {\n      const current = pathFromRoot[inheritingStartingFrom];\n      const parent = pathFromRoot[inheritingStartingFrom - 1];\n      // current route
   is an empty path => inherits its parent's params and data\n      if (current.routeConfig && current.routeConfig.path === '') {\n        inheritingStartingFrom--;\n\n        // parent is componentless => current route should inherit its params and data\n      } else if (!parent.component) {\n        inheritingStartingFrom--;\n\n      } else {\n        break;\n      }\n    }\n  }\n\n  return flattenInherited(pathFromRoot.slice(inheritingStartingFrom));\n}\n\n/** @internal */\nfunction flattenInherited(pathFromRoot: ActivatedRouteSnapshot[]): Inherited {\n  return pathFromRoot.reduce((res, curr) => {\n    const params = {...res.params, ...curr.params};\n    const data = {...res.data, ...curr.data};\n    const resolve = {...res.resolve, ...curr._resolvedData};\n    return {params, data, resolve};\n  }, <any>{params: {}, data: {}, resolve: {}});\n}\n\n/**\n * @description\n *\n * Contains the information about a route associated with a component loaded in an\n * outlet at a particular
   moment in time. ActivatedRouteSnapshot can also be used to\n * traverse the router state tree.\n *\n * The following example initializes a component with route information extracted\n * from the snapshot of the root node at the time of creation.\n *\n * ```\n * @Component({templateUrl:'./my-component.html'})\n * class MyComponent {\n *   constructor(route: ActivatedRoute) {\n *     const id: string = route.snapshot.params.id;\n *     const url: string = route.snapshot.url.join('');\n *     const user = route.snapshot.data.user;\n *   }\n * }\n * ```\n *\n * @publicApi\n */\nexport class ActivatedRouteSnapshot {\n  /** The configuration used to match this route **/\n  public readonly routeConfig: Route|null;\n  /** @internal **/\n  _urlSegment: UrlSegmentGroup;\n  /** @internal */\n  _lastPathIndex: number;\n  /** @internal */\n  _resolve: ResolveData;\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _resolvedData!: Data;\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n
```

_routerState!: RouterStateSnapshot;\n /** @internal */\n // TODO(issue/24571): remove '!'.\n _paramMap!: ParamMap;\n /** @internal */\n // TODO(issue/24571): remove '!'.\n _queryParamMap!: ParamMap;\n\n /** @internal */\n constructor(\n /** The URL segments matched by this route */\n public url: UrlSegment[],\n /** The matrix parameters scoped to this route */\n public params: Params,\n /** The query parameters shared by all the routes */\n public queryParams: Params,\n /** The URL fragment shared by all the routes */\n public fragment: string,\n /** The static and resolved data of this route */\n public data: Data,\n /** The outlet name of the route */\n public outlet: string,\n /** The component of the route */\n public component: Type<any>|string|null, routeConfig: Route|null, urlSegment: UrlSegmentGroup,\n lastPathIndex: number, resolve: ResolveData) {\n this.routeConfig = routeConfig;\n this._urlSegment = urlSegment;\n this._lastPathIndex = lastPathIndex;\n this._resolve = resolve;\n }\n\n /** The root of the router state */\n get root(): ActivatedRouteSnapshot {\n return this._routerState.root;\n }\n\n /** The parent of this route in the router state tree */\n get parent(): ActivatedRouteSnapshot|null {\n return this._routerState.parent(this);\n }\n\n /** The first child of this route in the router state tree */\n get firstChild(): ActivatedRouteSnapshot|null {\n return this._routerState.firstChild(this);\n }\n\n /** The children of this route in the router state tree */\n get children(): ActivatedRouteSnapshot[] {\n return this._routerState.children(this);\n }\n\n /** The path from the root of the router state tree to this route */\n get pathFromRoot(): ActivatedRouteSnapshot[] {\n return this._routerState.pathFromRoot(this);\n }\n\n get paramMap(): ParamMap {\n if (!this._paramMap) {\n this._paramMap = convertToParamMap(this.params);\n }\n return this._paramMap;\n }\n\n get queryParamMap(): ParamMap {\n if (!this._queryParamMap) {\n this._queryParamMap = convertToParamMap(this.queryParams);\n }\n return this._queryParamMap;\n }\n\n toString(): string {\n const url = this.url.map(segment => segment.toString()).join('/');\n const matched = this.routeConfig ? this.routeConfig.path : '';\n return `Route(url:'${url}', path:'${matched}')`;\n }\n}\n\n/**\n * @description\n *\n * Represents the state of the router at a moment in time.\n *\n * This is a tree of activated route snapshots. Every node in this tree knows about\n * the \"consumed\" URL segments, the extracted parameters, and the resolved data.\n *\n * The following example shows how a component is initialized with information\n * from the snapshot of the root node's state at the time of creation.\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n * constructor(router: Router) {\n * const state: RouterState = router.routerState;\n * const snapshot: RouterStateSnapshot = state.snapshot;\n * const root: ActivatedRouteSnapshot = snapshot.root;\n * const child = root.firstChild;\n * const id: Observable<string> = child.params.map(p => p.id);\n * //...\n * }\n * }\n * ```\n *\n * @publicApi\n */\nexport class RouterStateSnapshot extends Tree<ActivatedRouteSnapshot> {\n /** @internal */\n constructor(\n /** The url from which this snapshot was created */\n public url: string, root: TreeNode<ActivatedRouteSnapshot>) {\n super(root);\n setRouterState(<RouterStateSnapshot>this, root);\n }\n\n toString(): string {\n return serializeNode(this._root);\n }\n}\n\nfunction setRouterState<U, T extends {_routerState: U}>(state: U, node: TreeNode<T>): void {\n node.value._routerState = state;\n node.children.forEach(c => setRouterState(state, c));\n}\n\nfunction serializeNode(node: TreeNode<ActivatedRouteSnapshot>): string {\n const c = node.children.length > 0 ? ` { ${node.children.map(serializeNode).join(', ')} } ` : '';\n return `${node.value}${c}`;\n}\n\n/**\n * The expectation is that the activate route is created with the right set of parameters.\n * So we push new values into the observables only when they are not the initial values.\n * And we detect that by checking if the snapshot field is set.\n */\nexport function advanceActivatedRoute(route: ActivatedRoute): void {\n if (route.snapshot) {\n const currentSnapshot = route.snapshot;\n const nextSnapshot = route._futureSnapshot;\n route.snapshot = nextSnapshot;\n if (!shallowEqual(currentSnapshot.queryParams, nextSnapshot.queryParams)) {\n (<any>route.queryParams).next(nextSnapshot.queryParams);\n }\n if (currentSnapshot.fragment !== nextSnapshot.fragment) {\n (<any>route.fragment).next(nextSnapshot.fragment);\n }\n if (!shallowEqual(currentSnapshot.params, nextSnapshot.params)) {\n (<any>route.params).next(nextSnapshot.params);\n }\n if (!shallowEqualArrays(currentSnapshot.url, nextSnapshot.url)) {\n (<any>route.url).next(nextSnapshot.url);\n }\n if (!shallowEqual(currentSnapshot.data, nextSnapshot.data)) {\n

(<any>route.data).next(nextSnapshot.data);\n }\n } else {\n route.snapshot = route._futureSnapshot;\n\n // this is for resolved data\n (<any>route.data).next(route._futureSnapshot.data);\n }\n}\n\n\nexport function equalParamsAndUrlSegments(\n a: ActivatedRouteSnapshot, b: ActivatedRouteSnapshot): boolean {\n const equalUrlParams = shallowEqual(a.params, b.params) && equalSegments(a.url, b.url);\n const parentsMismatch = !a.parent !== !b.parent;\n\n return equalUrlParams && !parentsMismatch &&\n (!a.parent || equalParamsAndUrlSegments(a.parent, b.parent!));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nimport {BehaviorSubject} from 'rxjs';\n\nimport {DetachedRouteHandleInternal, RouteReuseStrategy} from './route_reuse_strategy';\nimport {ActivatedRoute, ActivatedRouteSnapshot, RouterState, RouterStateSnapshot} from './router_state';\nimport {TreeNode} from './utils/tree';\n\nexport function createRouterState(\n routeReuseStrategy: RouteReuseStrategy, curr: RouterStateSnapshot,\n prevState: RouterState): RouterState {\n const root = createNode(routeReuseStrategy, curr._root, prevState ? prevState._root : undefined);\n return new RouterState(root, curr);\n}\n\nfunction createNode(\n routeReuseStrategy: RouteReuseStrategy, curr: TreeNode<ActivatedRouteSnapshot>,\n prevState?: TreeNode<ActivatedRoute>): TreeNode<ActivatedRoute> {\n // reuse an activated route that is currently displayed on the screen\n if (prevState && routeReuseStrategy.shouldReuseRoute(curr.value, prevState.value.snapshot)) {\n const value = prevState.value;\n value._futureSnapshot
= curr.value;\n const children = createOrReuseChildren(routeReuseStrategy, curr, prevState);\n return new TreeNode<ActivatedRoute>(value, children);\n\n // retrieve an activated route that is used to be displayed, but is not currently displayed\n } else {\n const detachedRouteHandle =\n <DetachedRouteHandleInternal>routeReuseStrategy.retrieve(curr.value);\n if (detachedRouteHandle) {\n const tree: TreeNode<ActivatedRoute> = detachedRouteHandle.route;\n setFutureSnapshotsOfActivatedRoutes(curr, tree);\n return tree;\n\n } else {\n const value = createActivatedRoute(curr.value);\n const children = curr.children.map(c => createNode(routeReuseStrategy, c));\n return new TreeNode<ActivatedRoute>(value, children);\n }\n }\n}\n\nfunction setFutureSnapshotsOfActivatedRoutes(\n curr: TreeNode<ActivatedRouteSnapshot>, result: TreeNode<ActivatedRoute>): void {\n if (curr.value.routeConfig !== result.value.routeConfig)
{\n throw new Error('Cannot reattach ActivatedRouteSnapshot created from a different route');\n }\n if (curr.children.length !== result.children.length) {\n throw new Error('Cannot reattach ActivatedRouteSnapshot with a different number of children');\n }\n result.value._futureSnapshot = curr.value;\n for (let i = 0; i < curr.children.length; ++i) {\n setFutureSnapshotsOfActivatedRoutes(curr.children[i], result.children[i]);\n }\n}\n\nfunction createOrReuseChildren(\n routeReuseStrategy: RouteReuseStrategy, curr: TreeNode<ActivatedRouteSnapshot>,\n prevState: TreeNode<ActivatedRoute>) {\n return curr.children.map(child => {\n for (const p of prevState.children) {\n if (routeReuseStrategy.shouldReuseRoute(child.value, p.value.snapshot)) {\n return createNode(routeReuseStrategy, child, p);\n }\n }\n return createNode(routeReuseStrategy, child);\n });\n}\n\nfunction createActivatedRoute(c: ActivatedRouteSnapshot) {\n return new ActivatedRoute(\n new BehaviorSubject(c.url), new BehaviorSubject(c.params), new BehaviorSubject(c.queryParams),\n new BehaviorSubject(c.fragment), new BehaviorSubject(c.data), c.outlet, c.component, c);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ActivatedRoute} from './router_state';\nimport {Params, PRIMARY_OUTLET} from './shared';\nimport {UrlSegment, UrlSegmentGroup, UrlTree} from './url_tree';\nimport {forEach, last, shallowEqual} from './utils/collection';\n\nexport function createUrlTree(\n route: ActivatedRoute, urlTree: UrlTree, commands: any[], queryParams: Params,\n fragment: string): UrlTree {\n if (commands.length === 0) {\n return tree(urlTree.root, urlTree.root, urlTree, queryParams, fragment);\n }\n\n const nav = computeNavigation(commands);\n\n if (nav.toRoot()) {\n return

tree(urlTree.root, new UrlSegmentGroup([], {}), urlTree, queryParams, fragment);\n }\n\n const startingPosition = findStartingPosition(nav, urlTree, route);\n\n const segmentGroup = startingPosition.processChildren ?\n updateSegmentGroupChildren(\n startingPosition.segmentGroup, startingPosition.index, nav.commands) :\n updateSegmentGroup(startingPosition.segmentGroup, startingPosition.index, nav.commands);\n return tree(startingPosition.segmentGroup, segmentGroup, urlTree, queryParams, fragment);\n}\n\nfunction isMatrixParams(command: any): boolean {\n return typeof command === 'object' && command != null && !command.outlets && !command.segmentPath;\n}\n\n/**\n * Determines if a given command has an `outlets` map. When we encounter a command\n * with an outlets k/v map, we need to apply each outlet individually to the existing segment.\n */\nfunction isCommandWithOutlets(command: any): command is {outlets: {[key: string]: any}} {\n return typeof command === 'object' && command != null && command.outlets;\n}\n\nfunction tree(\n oldSegmentGroup: UrlSegmentGroup, newSegmentGroup: UrlSegmentGroup, urlTree: UrlTree,\n queryParams: Params, fragment: string): UrlTree {\n let qp: any = {};\n if (queryParams) {\n forEach(queryParams, (value: any, name: any) => {\n qp[name] = Array.isArray(value) ? value.map((v: any) => `${v}`) : `${value}`;\n });\n }\n\n if (urlTree.root === oldSegmentGroup) {\n return new UrlTree(newSegmentGroup, qp, fragment);\n }\n\n return new UrlTree(replaceSegment(urlTree.root, oldSegmentGroup, newSegmentGroup), qp, fragment);\n}\n\nfunction replaceSegment(\n current: UrlSegmentGroup, oldSegment: UrlSegmentGroup,\n newSegment: UrlSegmentGroup): UrlSegmentGroup {\n const children: {[key: string]: UrlSegmentGroup} = {};\n forEach(current.children, (c: UrlSegmentGroup, outletName: string) => {\n if (c === oldSegment) {\n children[outletName] = newSegment;\n } else {\n children[outletName] = replaceSegment(c, oldSegment, newSegment);\n }\n });\n return new UrlSegmentGroup(current.segments, children);\n}\n\nclass Navigation {\n constructor(\n public isAbsolute: boolean, public numberOfDoubleDots: number, public commands: any[]) {\n if (isAbsolute && commands.length > 0 && isMatrixParams(commands[0])) {\n throw new Error('Root segment cannot have matrix parameters');\n }\n\n const cmdWithOutlet = commands.find(isCommandWithOutlets);\n if (cmdWithOutlet && cmdWithOutlet !== last(commands)) {\n throw new Error('{outlets:{}} has to be the last command');\n }\n }\n\n public toRoot(): boolean {\n return this.isAbsolute && this.commands.length === 1 && this.commands[0] == '/';\n }\n}\n\n/** Transforms commands to a normalized `Navigation` */\nfunction computeNavigation(commands: any[]): Navigation {\n if ((typeof commands[0] === 'string') && commands.length === 1 && commands[0] === '/') {\n return new Navigation(true, 0, commands);\n }\n\n let numberOfDoubleDots = 0;\n let isAbsolute = false;\n\n const res: any[] = commands.reduce((res, cmd, cmdIdx) => {\n if (typeof cmd === 'object' && cmd != null) {\n if (cmd.outlets) {\n const outlets: {[k: string]: any} = {};\n forEach(cmd.outlets, (commands: any, name: string) => {\n outlets[name] = typeof commands === 'string' ? commands.split('/') : commands;\n });\n return [...res, {outlets}];\n }\n\n if (cmd.segmentPath) {\n return [...res, cmd.segmentPath];\n }\n }\n\n if (!(typeof cmd === 'string')) {\n return [...res, cmd];\n }\n\n if (cmdIdx === 0) {\n cmd.split('/').forEach((urlPart, partIndex) => {\n if (partIndex == 0 && urlPart === '.') {\n // skip './a'\n } else if (partIndex == 0 && urlPart === '') { // '/a'\n isAbsolute = true;\n } else if (urlPart === '..') { // '../a'\n numberOfDoubleDots++;\n }\n else if (urlPart != '') {\n res.push(urlPart);\n }\n });\n\n return res;\n }\n\n return [...res, cmd];\n }, []);\n\n return new Navigation(isAbsolute, numberOfDoubleDots, res);\n}\n\nclass Position {\n constructor(\n public segmentGroup: UrlSegmentGroup, public processChildren: boolean, public index: number) {\n }\n}\n\nfunction findStartingPosition(nav: Navigation, tree: UrlTree, route: ActivatedRoute): Position {\n if (nav.isAbsolute) {\n return new Position(tree.root, true, 0);\n }\n\n if (route.snapshot._lastPathIndex === -1) {\n const segmentGroup = route.snapshot._urlSegment;\n // Pathless ActivatedRoute has _lastPathIndex === -1 but should not process children\n // see issue #26224, #13011, #35687\n // However, if the ActivatedRoute is the root we should process children like above.\n const processChildren = segmentGroup === tree.root;\n return new Position(segmentGroup, processChildren, 0);\n }\n\n const modifier

```
 = isMatrixParams(nav.commands[0]) ? 0 : 1;\n  const index = route.snapshot._lastPathIndex + modifier;\n  return createPositionApplyingDoubleDots(\n      route.snapshot._urlSegment, index, nav.numberOfDoubleDots);\n}\n\nfunction createPositionApplyingDoubleDots(\n    group: UrlSegmentGroup, index: number, numberOfDoubleDots: number): Position {\n  let g = group;\n  let ci = index;\n  let dd = numberOfDoubleDots;\n  while (dd > ci) {\n    dd -= ci;\n    g = g.parent!;\n    if (!g) {\n      throw new Error('Invalid number of \\'../\\'');\n    }\n    ci = g.segments.length;\n  }\n  return new Position(g, false, ci - dd);\n}\n\nfunction getOutlets(commands: unknown[]): {[k: string]: unknown[]|string} {\n  if (isCommandWithOutlets(commands[0])) {\n    return commands[0].outlets;\n  }\n\n  return {[PRIMARY_OUTLET]: commands};\n}\n\nfunction updateSegmentGroup(\n    segmentGroup: UrlSegmentGroup, startIndex: number, commands: any[]): UrlSegmentGroup {\n  if (!segmentGroup) {\n    segmentGroup
 = new UrlSegmentGroup([], {});\n  }\n  if (segmentGroup.segments.length === 0 && segmentGroup.hasChildren()) {\n    return updateSegmentGroupChildren(segmentGroup, startIndex, commands);\n  }\n\n  const m = prefixedWith(segmentGroup, startIndex, commands);\n  const slicedCommands = commands.slice(m.commandIndex);\n  if (m.match && m.pathIndex < segmentGroup.segments.length) {\n    const g = new UrlSegmentGroup(segmentGroup.segments.slice(0, m.pathIndex), {});\n    g.children[PRIMARY_OUTLET] =\n        new UrlSegmentGroup(segmentGroup.segments.slice(m.pathIndex), segmentGroup.children);\n    return updateSegmentGroupChildren(g, 0, slicedCommands);\n  } else if (m.match && slicedCommands.length === 0) {\n    return new UrlSegmentGroup(segmentGroup.segments, {});\n  } else if (m.match && !segmentGroup.hasChildren()) {\n    return createNewSegmentGroup(segmentGroup, startIndex, commands);\n  } else if (m.match) {\n    return updateSegmentGroupChildren(segmentGroup, 0, slicedCommands);\n
  } else {\n    return createNewSegmentGroup(segmentGroup, startIndex, commands);\n  }\n}\n\nfunction updateSegmentGroupChildren(\n    segmentGroup: UrlSegmentGroup, startIndex: number, commands: any[]): UrlSegmentGroup {\n  if (commands.length === 0) {\n    return new UrlSegmentGroup(segmentGroup.segments, {});\n  } else {\n    const outlets = getOutlets(commands);\n    const children: {[key: string]: UrlSegmentGroup} = {};\n\n    forEach(outlets, (commands, outlet) => {\n      if (typeof commands === 'string') {\n        commands = [commands];\n      }\n      if (commands !== null) {\n        children[outlet] = updateSegmentGroup(segmentGroup.children[outlet], startIndex, commands);\n      }\n    });\n\n    forEach(segmentGroup.children, (child: UrlSegmentGroup, childOutlet: string) => {\n      if (outlets[childOutlet] === undefined) {\n        children[childOutlet] = child;\n      }\n    });\n    return new UrlSegmentGroup(segmentGroup.segments, children);\n  }\n}\n\nfunction prefixedWith(segmentGroup:
 UrlSegmentGroup, startIndex: number, commands: any[]) {\n  let currentCommandIndex = 0;\n  let currentPathIndex = startIndex;\n\n  const noMatch = {match: false, pathIndex: 0, commandIndex: 0};\n  while (currentPathIndex < segmentGroup.segments.length) {\n    if (currentCommandIndex >= commands.length) return noMatch;\n    const path = segmentGroup.segments[currentPathIndex];\n    const command = commands[currentCommandIndex];\n    // Do not try to consume command as part of the prefixing if it has outlets because it can\n    // contain outlets other than the one being processed. Consuming the outlets command would\n    // result in other outlets being ignored.\n    if (isCommandWithOutlets(command)) {\n      break;\n    }\n    const curr = `${command}`;\n    const next =\n        currentCommandIndex < commands.length - 1 ? commands[currentCommandIndex + 1] : null;\n\n    if (currentPathIndex > 0 && curr === undefined) break;\n\n    if (curr && next && (typeof next
 === 'object') && next.outlets === undefined) {\n      if (!compare(curr, next, path)) return noMatch;\n      currentCommandIndex += 2;\n    } else {\n      if (!compare(curr, {}, path)) return noMatch;\n      currentCommandIndex++;\n    }\n    currentPathIndex++;\n  }\n\n  return {match: true, pathIndex: currentPathIndex, commandIndex: currentCommandIndex};\n}\n\nfunction createNewSegmentGroup(\n    segmentGroup: UrlSegmentGroup, startIndex: number, commands: any[]): UrlSegmentGroup {\n  const paths = segmentGroup.segments.slice(0, startIndex);\n\n  let i = 0;\n  while (i < commands.length) {\n    const command = commands[i];\n    if (isCommandWithOutlets(command)) {\n      const children =
```

createNewSegmentChildren(command.outlets);\n return new UrlSegmentGroup(paths, children);\n }\n\n // if we start with an object literal, we need to reuse the path part from the segment\n if (i === 0 && isMatrixParams(commands[0])) {\n const p = segmentGroup.segments[startIndex];\n paths.push(new UrlSegment(p.path, commands[0]));\n i++;\n continue;\n }\n\n const curr = isCommandWithOutlets(command) ? command.outlets[PRIMARY_OUTLET] : `${command}`;\n const next = (i < commands.length - 1) ? commands[i + 1] : null;\n if (curr && next && isMatrixParams(next)) {\n paths.push(new UrlSegment(curr, stringify(next)));\n i += 2;\n } else {\n paths.push(new UrlSegment(curr, {}));\n i++;\n }\n }\n return new UrlSegmentGroup(paths, {});\n}\n\nfunction createNewSegmentChildren(outlets: {[name: string]: unknown[]|string}):\n {[outlet: string]: UrlSegmentGroup} {\n const children: {[outlet: string]: UrlSegmentGroup} = {};\n forEach(outlets, (commands, outlet) => {\n if (typeof commands === 'string') {\n commands = [commands];\n }\n if (commands !== null) {\n children[outlet] = createNewSegmentGroup(new UrlSegmentGroup([], {}), 0, commands);\n }\n });\n return children;\n}\n\nfunction stringify(params:
{[key: string]: any}): {[key: string]: string} {\n const res: {[key: string]: string} = {};\n forEach(params, (v: any, k: string) => res[k] = `${v}`);\n return res;\n}\n\nfunction compare(path: string, params: {[key: string]: any}, segment: UrlSegment): boolean {\n return path == segment.path && shallowEqual(params, segment.parameters);\n}\n",
"/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {MonoTypeOperatorFunction} from 'rxjs';\nimport {map} from 'rxjs/operators';\n\nimport {LoadedRouterConfig} from '../config';\nimport {ActivationEnd, ChildActivationEnd, Event} from '../events';\nimport {DetachedRouteHandleInternal, RouteReuseStrategy} from '../route_reuse_strategy';\nimport {NavigationTransition} from '../router';\nimport {ChildrenOutletContexts} from '../router_outlet_context';\nimport {ActivatedRoute,
ActivatedRouteSnapshot, advanceActivatedRoute, RouterState} from '../router_state';\nimport {forEach} from '../utils/collection';\nimport {nodeChildrenAsMap, TreeNode} from '../utils/tree';\n\nexport const activateRoutes =\n (rootContexts: ChildrenOutletContexts, routeReuseStrategy: RouteReuseStrategy,\n forwardEvent: (evt: Event) => void): MonoTypeOperatorFunction<NavigationTransition> =>\n map(t => {\n new ActivateRoutes(\n routeReuseStrategy, t.targetRouterState!, t.currentRouterState, forwardEvent)\n .activate(rootContexts);\n return t;\n });\n\nexport class ActivateRoutes {\n constructor(\n private routeReuseStrategy: RouteReuseStrategy, private futureState: RouterState,\n private currState: RouterState, private forwardEvent: (evt: Event) => void) {}\n\n activate(parentContexts: ChildrenOutletContexts): void {\n const futureRoot = this.futureState._root;\n const currRoot = this.currState ? this.currState._root
: null;\n\n this.deactivateChildRoutes(futureRoot, currRoot, parentContexts);\n advanceActivatedRoute(this.futureState.root);\n this.activateChildRoutes(futureRoot, currRoot, parentContexts);\n }\n\n // De-activate the child route that are not re-used for the future state\n private deactivateChildRoutes(\n futureNode: TreeNode<ActivatedRoute>, currNode: TreeNode<ActivatedRoute>|null,\n contexts: ChildrenOutletContexts): void {\n const children: {[outletName: string]: TreeNode<ActivatedRoute>} = nodeChildrenAsMap(currNode);\n\n // Recurse on the routes active in the future state to de-activate deeper children\n futureNode.children.forEach(futureChild => {\n const childOutletName = futureChild.value.outlet;\n this.deactivateRoutes(futureChild, children[childOutletName], contexts);\n delete children[childOutletName];\n });\n\n // De-activate the routes that will not be re-used\n forEach(children, (v: TreeNode<ActivatedRoute>,
childName: string) => {\n this.deactivateRouteAndItsChildren(v, contexts);\n });\n }\n\n private deactivateRoutes(\n futureNode: TreeNode<ActivatedRoute>, currNode: TreeNode<ActivatedRoute>,\n parentContext: ChildrenOutletContexts): void {\n const future = futureNode.value;\n const curr = currNode ? currNode.value : null;\n\n if (future === curr) {\n // Reusing the node, check to see if the children need to be de-activated\n if (future.component) {\n // If we have a normal route, we need to go through an outlet.\n const context = parentContext.getContext(future.outlet);\n if (context) {\n

```
this.deactivateChildRoutes(futureNode, currNode, context.children);\n      }\n    } else {\n      // if we have a componentless route, we recurse but keep the same outlet map.\n      this.deactivateChildRoutes(futureNode, currNode, parentContext);\n    }\n  } else {\n    if (curr) {\n      // Deactivate the current route which will not be re-used\n      this.deactivateRouteAndItsChildren(currNode, parentContext);\n    }\n  }\n}\n\n private deactivateRouteAndItsChildren(\n    route: TreeNode<ActivatedRoute>, parentContexts: ChildrenOutletContexts): void {\n  if (this.routeReuseStrategy.shouldDetach(route.value.snapshot)) {\n    this.detachAndStoreRouteSubtree(route, parentContexts);\n  } else {\n    this.deactivateRouteAndOutlet(route, parentContexts);\n  }\n}\n\n private detachAndStoreRouteSubtree(\n    route: TreeNode<ActivatedRoute>, parentContexts: ChildrenOutletContexts): void {\n  const context = parentContexts.getContext(route.value.outlet);\n  if (context && context.outlet) {\n    const componentRef = context.outlet.detach();\n    const contexts = context.children.onOutletDeactivated();\n    this.routeReuseStrategy.store(route.value.snapshot, {componentRef, route, contexts});\n  }\n}\n\n private deactivateRouteAndOutlet(\n    route: TreeNode<ActivatedRoute>, parentContexts: ChildrenOutletContexts): void {\n  const context = parentContexts.getContext(route.value.outlet);\n\n  if (context) {\n    const children: {[outletName: string]: any} = nodeChildrenAsMap(route);\n    const contexts = route.value.component ? context.children : parentContexts;\n\n    forEach(children, (v: any, k: string) => this.deactivateRouteAndItsChildren(v, contexts));\n\n    if (context.outlet) {\n      // Destroy the component\n      context.outlet.deactivate();\n      // Destroy the contexts for all the outlets that were in the component\n      context.children.onOutletDeactivated();\n    }\n  }\n}\n\n private activateChildRoutes(\n    futureNode: TreeNode<ActivatedRoute>, currNode: TreeNode<ActivatedRoute>|null,\n    contexts: ChildrenOutletContexts): void {\n  const children: {[outlet: string]: any} = nodeChildrenAsMap(currNode);\n  futureNode.children.forEach(c => {\n    this.activateRoutes(c, children[c.value.outlet],\n    contexts);\n    this.forwardEvent(new ActivationEnd(c.value.snapshot));\n  });\n  if (futureNode.children.length) {\n    this.forwardEvent(new ChildActivationEnd(futureNode.value.snapshot));\n  }\n}\n\n private activateRoutes(\n    futureNode: TreeNode<ActivatedRoute>, currNode: TreeNode<ActivatedRoute>,\n    parentContexts: ChildrenOutletContexts): void {\n  const future = futureNode.value;\n  const curr = currNode ? currNode.value : null;\n\n  advanceActivatedRoute(future);\n\n  // reusing the node\n  if (future === curr) {\n    if (future.component) {\n      // If we have a normal route, we need to go through an outlet.\n      const context = parentContexts.getOrCreateContext(future.outlet);\n      this.activateChildRoutes(futureNode, currNode, context.children);\n    } else {\n      // if we have a componentless route, we recurse but keep the same outlet map.\n      this.activateChildRoutes(futureNode, currNode, parentContexts);\n    }\n  } else {\n    if (future.component) {\n      // if we have a normal route, we need to place the component into the outlet and recurse.\n      const context = parentContexts.getOrCreateContext(future.outlet);\n\n      if (this.routeReuseStrategy.shouldAttach(future.snapshot)) {\n        const stored =\n        (<DetachedRouteHandleInternal>this.routeReuseStrategy.retrieve(future.snapshot));\n        this.routeReuseStrategy.store(future.snapshot, null);\n        context.children.onOutletReAttached(stored.contexts);\n        context.attachRef = stored.componentRef;\n        context.route = stored.route.value;\n        if (context.outlet) {\n          // Attach right away when the outlet has already been instantiated\n          // Otherwise attach from `RouterOutlet.ngOnInit` when it is instantiated\n          context.outlet.attach(stored.componentRef, stored.route.value);\n        }\n        advanceActivatedRouteNodeAndItsChildren(stored.route);\n      } else {\n        const config = parentLoadedConfig(future.snapshot);\n        const cmpFactoryResolver = config ? config.module.componentFactoryResolver : null;\n\n        context.attachRef = null;\n        context.route = future;\n        context.resolver = cmpFactoryResolver;\n        if (context.outlet) {\n          // Activate the outlet when it has already been instantiated\n          // Otherwise it will get activated from its `ngOnInit` when instantiated\n          context.outlet.activateWith(future, cmpFactoryResolver);\n        }\n\n        this.activateChildRoutes(futureNode, null, context.children);\n      }\n    } else {\n      // if we have a
```

componentless route, we recurse but keep the same outlet map.\n this.activateChildRoutes(futureNode, null, parentContexts);\n }\n }\n }\n}\n\nfunction advanceActivatedRouteNodeAndItsChildren(node: TreeNode<ActivatedRoute>): void {\n advanceActivatedRoute(node.value);\n node.children.forEach(advanceActivatedRouteNodeAndItsChildren);\n}\n\nfunction parentLoadedConfig(snapshot: ActivatedRouteSnapshot): LoadedRouterConfig|null {\n for (let s = snapshot.parent; s; s = s.parent) {\n const route = s.routeConfig;\n if (route && route._loadedConfig) return route._loadedConfig;\n if (route && route.component) return null;\n }\n\n return null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {NgModuleFactory, NgModuleRef, Type} from '@angular/core';\nimport {Observable} from 'rxjs';\n\nimport {ActivatedRouteSnapshot} from './router_state';\nimport {UrlSegment, UrlSegmentGroup} from './url_tree';\n\n\n/**\n * Represents a route configuration for the Router service.\n * An array of `Route` objects, used in `Router.config` and for nested route configurations\n * in `Route.children`.\n *\n * @see `Route`\n * @see `Router`\n * @see [Router configuration guide](guide/router#configuration)\n * @publicApi\n */\nexport type Routes = Route[];\n\n/**\n * Represents the result of matching URLs with a custom matching function.\n *\n * * `consumed` is an array of the consumed URL segments.\n * * `posParams` is a map of positional parameters.\n *\n * @see `UrlMatcher()`\n * @publicApi\n */\nexport type UrlMatchResult = {\n consumed: UrlSegment[];\n posParams?: {[name: string]: UrlSegment};\n};\n\n/**\n * A function for matching a route against URLs. Implement a custom URL matcher\n * for `Route.matcher` when a combination of `path` and `pathMatch`\n * is not expressive enough. Cannot be used together with `path` and `pathMatch`.\n *\n * The function takes the following arguments and returns a `UrlMatchResult` object.\n * * *segments* : An array of URL segments.\n * * *group* : A segment group.\n * * *route* : The route to match against.\n *\n * The following example implementation matches HTML files.\n *\n * ```\n * export function htmlFiles(url: UrlSegment[]) {\n * return url.length === 1 && url[0].path.endsWith('.html') ? ({consumed: url}) : null;\n * }\n *\n * export const routes = [{ matcher: htmlFiles, component: AnyComponent }];\n * ```\n *\n * @publicApi\n */\nexport type UrlMatcher = (segments: UrlSegment[], group: UrlSegmentGroup, route: Route) =>\n UrlMatchResult|null;\n\n/**\n *\n * Represents static data associated with a particular route.\n *\n * @see `Route#data`\n *\n * @publicApi\n */\nexport type Data = {\n [name: string]: any\n};\n\n/**\n *\n * Represents the resolved data associated with a particular route.\n *\n * @see `Route#resolve`.\n *\n * @publicApi\n */\nexport type ResolveData = {\n [name: string]: any\n};\n\n/**\n *\n * A function that is called to resolve a collection of lazy-loaded routes.\n * Must be an arrow function of the following form:\n * `() => import('...').then(mod => mod.MODULE)`\n *\n * For example:\n *\n * ```\n * [{\n * path: 'lazy',\n * loadChildren: () => import('./lazy-route/lazy.module').then(mod => mod.LazyModule),\n * }];\n * ```\n *\n * @see [Route.loadChildren](api/router/Route#loadChildren)\n * @publicApi\n */\nexport type LoadChildrenCallback = () =>\nType<any>|NgModuleFactory<any>|Observable<Type<any>>|\nPromise<NgModuleFactory<any>|Type<any>|any>;\n\n/**\n *\n * A function that returns a set of routes to load.\n *\n * The string form of `LoadChildren` is deprecated (see `DeprecatedLoadChildren`). The function\n * form (`LoadChildrenCallback`) should be used instead.\n *\n * @see `loadChildrenCallback`\n * @publicApi\n */\nexport type LoadChildren = LoadChildrenCallback|DeprecatedLoadChildren;\n\n/**\n * A string of the form `path/to/file#exportName` that acts as a URL for a set of routes to load.\n *\n * @see `loadChildrenCallback`\n * @publicApi\n * @deprecated The `string` form of `loadChildren` is deprecated in favor of the\n * `LoadChildrenCallback` function which uses the ES dynamic `import()` expression.\n * This offers a more natural and standards-based mechanism to dynamically\n * load an ES module at runtime.\n */\nexport type DeprecatedLoadChildren = string;\n\n/**\n *\n * How to handle query parameters in a router link.\n * One of:\n * - `merge` : Merge new with current parameters.\n * - `preserve` : Preserve current parameters.\n *\n * @see `UrlCreationOptions#queryParamsHandling`\n * @see `RouterLink`\n * @publicApi\n */\nexport type QueryParamsHandling = 'merge'|'preserve'|'';\n\n/**\n *\n * A

policy for when to run guards and resolvers on a route.\n *\n * @see [Route.runGuardsAndResolvers](api/router/Route#runGuardsAndResolvers)\n * @publicApi\n */\nexport type RunGuardsAndResolvers =\n 'pathParamsChange'|'pathParamsOrQueryParamsChange'|'paramsChange'|'paramsOrQueryParamsChange'|\n 'always'|((from: ActivatedRouteSnapshot, to: ActivatedRouteSnapshot) => boolean);\n\n/**\n * A configuration object that defines a single route.\n *
A set of routes are collected in a `Routes` array to define a `Router` configuration.\n * The router attempts to match segments of a given URL against each route,\n * using the configuration options defined in this object.\n *\n * Supports static, parameterized, redirect, and wildcard routes, as well as\n * custom route data and resolve methods.\n *\n * For detailed usage information, see the [Routing Guide](guide/router).\n *\n * @usageNotes\n *\n * ### Simple Configuration\n *\n * The following route specifies that when navigating to, for example,\n * `/team/11/user/bob`, the router creates the 'Team' component\n * with the 'User' child component in it.\n *\n * ```\n * [{\n * path: 'team/:id',\n * component: Team,\n * children: [{\n * path: 'user/:name',\n * component: User\n * }]\n * }]\n * ```\n *\n * ### Multiple Outlets\n *\n * The following route creates sibling components with multiple outlets.\n * When navigating to `/team/11(aux:chat/jim)`, the router creates
the 'Team' component next to\n * the 'Chat' component. The 'Chat' component is placed into the 'aux' outlet.\n *\n * ```\n * [{\n * path: 'team/:id',\n * component: Team\n * }, {\n * path: 'chat/:user',\n * component: Chat\n * outlet: 'aux'\n * }]\n * ```\n *\n * ### Wild Cards\n *\n * The following route uses wild-card notation to specify a component\n * that is always instantiated regardless of where you navigate to.\n *\n * ```\n * [{\n * path: '**',\n * component: WildcardComponent\n * }]\n * ```\n *\n * ### Redirects\n *\n * The following route uses the `redirectTo` property to ignore a segment of\n * a given URL when looking for a child path.\n *\n * When navigating to '/team/11/legacy/user/jim', the router changes the URL segment\n * '/team/11/legacy/user/jim' to '/team/11/user/jim', and then instantiates\n * the Team component with the User child component in it.\n *\n * ```\n * [{\n * path: 'team/:id',\n * component: Team,\n * children: [{\n * path: 'legacy/user/:name',\n * redirectTo: 'user/:name'\n * }, {\n * path: 'user/:name',\n * component: User\n * }]\n * }]\n * ```\n *\n * The redirect path can be relative, as shown in this example, or absolute.\n * If we change the `redirectTo` value in the example to the absolute URL segment '/user/:name',\n * the result URL is also absolute, '/user/jim'.\n\n * ### Empty Path\n *\n * Empty-path route configurations can be used to instantiate components that do not 'consume'\n * any URL segments.\n *\n * In the following configuration, when navigating to\n * `/team/11`, the router instantiates the 'AllUsers' component.\n *\n * ```\n * [{\n * path: 'team/:id',\n * component: Team,\n * children: [{\n * path: '',\n * component: AllUsers\n * }, {\n * path: 'user/:name',\n * component: User\n * }]\n * }]\n * ```\n *\n * Empty-path routes can have children. In the following example, when navigating\n * to `/team/11/user/jim`, the router instantiates the wrapper
component with\n * the user component in it.\n *\n * Note that an empty path route inherits its parent's parameters and data.\n *\n * ```\n * [{\n * path: 'team/:id',\n * component: Team,\n * children: [{\n * path: '',\n * component: WrapperCmp,\n * children: [{\n * path: 'user/:name',\n * component: User\n * }]\n * }]\n * }]\n * ```\n *\n * ### Matching Strategy\n *\n * The default path-match strategy is 'prefix', which means that the router\n * checks URL elements from the left to see if the URL matches a specified path.\n * For example, '/team/11/user' matches 'team/:id'.\n *\n * ```\n * [{\n * path: '',\n * pathMatch: 'prefix', //default\n * redirectTo: 'main'\n * }, {\n * path: 'main',\n * component: Main\n * }]\n * ```\n *\n * You can specify the path-match strategy 'full' to make sure that the path\n * covers the whole unconsumed URL. It is important to do this when redirecting\n * empty-path routes. Otherwise, because an empty
path is a prefix of any URL,\n * the router would apply the redirect even when navigating to the redirect destination,\n * creating an endless loop.\n *\n * In the following example, supplying the 'full' `pathMatch` strategy ensures\n * that the router applies the redirect if and only if navigating to '/'.\n *\n * ```\n * [{\n * path: '',\n * pathMatch: 'full',\n * redirectTo: 'main'\n * }, {\n * path: 'main',\n * component: Main\n * }]\n * ```\n *\n * ### Componentless Routes\n *\n * You can share parameters between sibling components.\n * For example, suppose that two sibling components should go next to each other,\n * and both of them require an ID parameter. You can

accomplish this using a route\n * that does not specify a component at the top level.\n *\n * In the following example, 'MainChild' and 'AuxChild' are siblings.\n * When navigating to 'parent/10/(a//aux:b)', the route instantiates\n * the main child and aux child components next to each other.\n * For this to work, the application component must have the primary and aux outlets defined.\n *\n * ```\n * [{\n *  path: 'parent/:id',\n *  children: [\n *  { path: 'a', component: MainChild },\n *  { path: 'b', component: AuxChild, outlet: 'aux' }\n *  ]\n * }]\n * ```\n *\n * The router merges the parameters, data, and resolve of the componentless\n * parent into the parameters, data, and resolve of the children.\n *\n * This is especially useful when child components are defined\n * with an empty path string, as in the following example.\n * With this configuration, navigating to '/parent/10' creates\n * the main child and aux components.\n *\n * ```\n * [{\n *  path: 'parent/:id',\n *  children: [\n *  { path: '', component: MainChild },\n *  { path: '', component: AuxChild, outlet: 'aux' }\n *  ]\n * }]\n * ```\n *\n * ### Lazy Loading\n *\n * Lazy loading speeds up application load time by splitting the application\n * into multiple bundles and loading them on demand.\n * To use lazy loading, provide the `loadChildren` property in the `Route` object,\n * instead of the `children` property.\n *\n * Given the following example route, the router will lazy load\n * the associated module on demand using the browser native import system.\n *\n * ```\n * [{\n *  path: 'lazy',\n *  loadChildren: () => import('./lazy-route/lazy.module').then(mod => mod.LazyModule),\n * }];\n * ```\n *\n * @publicApi\n */\nexport interface Route {\n /**\n  * The path to match against. Cannot be used together with a custom `matcher` function.\n  * A URL string that uses router matching notation.\n  * Can be a wild card (`**`) that matches any URL (see Usage Notes below).\n  * Default is \"/\" (the root path).\n  *\n  */\n  path?: string;\n /**\n  * The path-matching strategy, one of 'prefix' or 'full'.\n  * Default is 'prefix'.\n  *\n  * By default, the router checks URL elements from the left to see if the URL\n  * matches a given  path, and stops when there is a match. For example,\n  * '/team/11/user' matches 'team/:id'.\n  *\n  * The path-match strategy 'full' matches against the entire URL.\n  * It is important to do this when redirecting empty-path routes.\n  * Otherwise, because an empty path is a prefix of any URL,\n  * the router would apply the redirect even when navigating\n  * to the redirect destination, creating an endless loop.\n  *\n  */\n  pathMatch?: string;\n /**\n  * A custom URL-matching function. Cannot be used together with `path`.\n  */\n  matcher?: UrlMatcher;\n /**\n  * The component to instantiate when the path matches.\n  * Can be empty if child routes specify components.\n  */\n  component?: Type<any>;\n /**\n  * A URL to redirect to when the path matches.\n  * Absolute if the URL begins with a slash (/), otherwise relative to the path URL.\n  * When not present, router does not redirect.\n  */\n  redirectTo?: string;\n /**\n  * Name of a `RouterOutlet` object where the component can be placed\n  * when the path matches.\n  */\n  outlet?: string;\n /**\n  * An array of dependency-injection tokens used to look up `CanActivate()`\n  * handlers, in order to determine if the current user is allowed to\n  * activate the component. By default, any user can activate.\n  */\n  canActivate?: any[];\n /**\n  * An array of DI tokens used to look up `CanActivateChild()` handlers,\n  * in order to determine if the current user is allowed to activate\n  * a child of the component. By default, any user can activate a child.\n  */\n  canActivateChild?: any[];\n /**\n  * An array of DI tokens used to look up `CanDeactivate()`\n  * handlers, in order to determine if the current user is allowed to\n  * deactivate the component. By default, any user can deactivate.\n  *\n  */\n  canDeactivate?: any[];\n /**\n  * An array of DI tokens used to look up `CanLoad()`\n  * handlers, in order to determine if the current user is allowed to\n  * load the component. By default, any user can load.\n  */\n  canLoad?: any[];\n /**\n  * Additional developer-defined data provided to the component via\n  * `ActivatedRoute`. By default, no additional data is passed.\n  */\n  data?: Data;\n /**\n  * A map of DI tokens used to look up data resolvers. See `Resolve`.\n  */\n  resolve?: ResolveData;\n /**\n  * An array of child `Route` objects that specifies a nested route\n  * configuration.\n  */\n  children?: Routes;\n /**\n  * An object specifying lazy-loaded child routes.\n  */\n  loadChildren?: LoadChildren;\n /**\n  * Defines when guards and resolvers will be run. One of\n  * - `paramsOrQueryParamsChange` : Run when query parameters change.\n  * - `always` : Run on every execution.\n  * By default, guards and resolvers run only when the matrix\n  * parameters of the route change.\n  */\n  runGuardsAndResolvers?: RunGuardsAndResolvers;\n /**\n  * Filled for routes with `loadChildren` once the module has been loaded\n  * @internal\n  */\n

_loadedConfig?: LoadedRouterConfig;\n}\n\nexport class LoadedRouterConfig {\n constructor(public routes: Route[], public module: NgModuleRef<any>) {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CanActivate, CanActivateChild, CanDeactivate, CanLoad} from '../interfaces';\nimport {UrlTree} from '../url_tree';\n\n/**\n * Simple function check, but generic so type inference will flow. Example:\n *\n * function product(a: number, b: number) {\n * return a * b;\n * }\n *\n * if (isFunction<product>(fn)) {\n * return fn(1, 2);\n * } else {\n * throw \"Must provide the `product` function\";\n * }\n */\nexport function isFunction<T>(v: any): v is T {\n return typeof v === 'function';\n}\n\nexport function isBoolean(v: any): v is boolean {\n return typeof v === 'boolean';\n}\n\nexport function isUrlTree(v: any): v is UrlTree {\n return v instanceof UrlTree;\n}\n\nexport function isCanLoad(guard: any): guard is CanLoad {\n return guard && isFunction<CanLoad>(guard.canLoad);\n}\n\nexport function isCanActivate(guard: any): guard is CanActivate {\n return guard && isFunction<CanActivate>(guard.canActivate);\n}\n\nexport function isCanActivateChild(guard: any): guard is CanActivateChild {\n return guard && isFunction<CanActivateChild>(guard.canActivateChild);\n}\n\nexport function isCanDeactivate<T>(guard: any): guard is CanDeactivate<T> {\n return guard && isFunction<CanDeactivate<T>>(guard.canDeactivate);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {combineLatest, Observable, OperatorFunction} from 'rxjs';\nimport {filter, map, scan, startWith, switchMap, take} from 'rxjs/operators';\n\nimport {UrlTree} from '../url_tree';\nimport {isUrlTree} from '../utils/type_guards';\n\nconst INITIAL_VALUE = Symbol('INITIAL_VALUE');\ndeclare type INTERIM_VALUES = typeof INITIAL_VALUE | boolean | UrlTree;\n\nexport function prioritizedGuardValue():\n OperatorFunction<Observable<boolean|UrlTree>[], boolean|UrlTree> {\n return switchMap(obs => {\n return combineLatest(\n ...obs.map(o => o.pipe(take(1), startWith(INITIAL_VALUE as INTERIM_VALUES))))\n .pipe(\n scan(\n (acc: INTERIM_VALUES, list: INTERIM_VALUES[]) => {\n let isPending = false;\n return list.reduce((innerAcc, val, i: number) => {\n if (innerAcc !== INITIAL_VALUE) return innerAcc;\n\n // Toggle pending flag if any values haven't been set yet\n if (val === INITIAL_VALUE) isPending = true;\n\n // Any other return values are only valid if we haven't yet hit a pending\n // call. This guarantees that in the case of a guard at the bottom of the\n // tree that returns a redirect, we will wait for the higher priority\n // guard at the top to finish before performing the redirect.\n if (!isPending) {\n // Early return when we hit a `false` value as that should always\n // cancel navigation\n if (val === false) return val;\n\n if (i === list.length - 1 || isUrlTree(val)) {\n return val;\n }\n }\n\n return innerAcc;\n }, acc);\n },\n INITIAL_VALUE),\n filter(item => item !== INITIAL_VALUE),\n map(item => isUrlTree(item) ? item : item === true), //\n take(1)) as Observable<boolean|UrlTree>;\n });\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Component} from '@angular/core';\n\n/**\n * This component is used internally within the router to be a placeholder when an empty\n * router-outlet is needed. For example, with a config such as:\n *\n * `{path: 'parent', outlet: 'nav', children: [...]}`\n *\n * In order to render, there needs to be a component on this config, which will default\n * to this `EmptyOutletComponent`.\n */\n@Component({template: `<router-outlet></router-outlet>`})\nexport class EmptyOutletComponent {}\n\nexport {EmptyOutletComponent as EmptyOutletComponent};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {EmptyOutletComponent} from '../components/empty_outlet';\nimport {Route, Routes} from

'../config';\nimport {PRIMARY_OUTLET} from '../shared';\n\nexport function validateConfig(config: Routes, parentPath: string = ''): void {\n // forEach doesn't iterate undefined values\n for (let i = 0; i < config.length; i++) {\n const route: Route = config[i];\n const fullPath: string = getFullPath(parentPath, route);\n validateNode(route, fullPath);\n }\n}\n\nfunction validateNode(route: Route, fullPath: string): void {\n if (typeof ngDevMode === 'undefined' || ngDevMode) {\n if (!route) {\n throw new Error(`\n Invalid configuration of route '${fullPath}': Encountered undefined route.\n The reason might be an extra comma.\n\n Example:\n const routes: Routes = [\n { path: '', redirectTo: '/dashboard', pathMatch: 'full' },\n { path: 'dashboard', component: DashboardComponent },, << two commas\n { path: 'detail/:id', component: HeroDetailComponent }\n ];\n `);\n }\n if (Array.isArray(route)) {\n throw new Error(`Invalid configuration of route '${fullPath}': Array cannot be specified`);\n }\n if (!route.component && !route.children && !route.loadChildren &&\n (route.outlet && route.outlet !== PRIMARY_OUTLET)) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': a componentless route without children or loadChildren cannot have a named outlet set`);\n }\n if (route.redirectTo && route.children) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': redirectTo and children cannot be used together`);\n }\n if (route.redirectTo && route.loadChildren) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': redirectTo and loadChildren cannot be used together`);\n }\n if (route.children && route.loadChildren) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': children and loadChildren cannot be used together`);\n }\n if (route.redirectTo && route.component) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': redirectTo and component cannot be used together`);\n }\n if (route.path && route.matcher) {\n throw new Error(\n `Invalid configuration of route '${fullPath}': path and matcher cannot be used together`);\n }\n if (route.redirectTo === void 0 && !route.component && !route.children && !route.loadChildren) {\n throw new Error(`Invalid configuration of route '${\n fullPath}'. One of the following must be provided: component, redirectTo, children or loadChildren`);\n }\n if (route.path === void 0 && route.matcher === void 0) {\n throw new Error(`Invalid configuration of route '${\n fullPath}': routes must have either a path or a matcher specified`);\n }\n if (typeof route.path === 'string' && route.path.charAt(0) === '/') {\n throw new Error(\n `Invalid configuration of route '${fullPath}': path cannot start with a slash`);\n }\n if (route.path === '' && route.redirectTo !== void 0 && route.pathMatch === void 0) {\n const exp =\n `The default value of 'pathMatch' is 'prefix', but often the intent is to use 'full'.`;\n throw new Error(`Invalid configuration of route '{path: \"${fullPath}\", redirectTo: \"${\n route.redirectTo}\"}': please provide 'pathMatch'. ${exp}`);\n }\n if (route.pathMatch !== void 0 && route.pathMatch !== 'full' && route.pathMatch !== 'prefix') {\n throw new Error(`Invalid configuration of route '${\n fullPath}': pathMatch can only be set to 'prefix' or 'full'`);\n }\n if (route.children) {\n validateConfig(route.children, fullPath);\n }\n}\n\nfunction getFullPath(parentPath: string, currentRoute: Route): string {\n if (!currentRoute) {\n return parentPath;\n }\n if (!parentPath && !currentRoute.path) {\n return '';\n } else if (parentPath && !currentRoute.path) {\n return `${parentPath}/`;\n } else if (!parentPath && currentRoute.path) {\n return currentRoute.path;\n } else {\n return `${parentPath}/${currentRoute.path}`;\n }\n}\n\n/**\n * Makes a copy of the config and adds any default required properties.\n */\nexport function standardizeConfig(r: Route): Route {\n const children = r.children && r.children.map(standardizeConfig);\n const c = children ? {...r, children} : {...r};\n if (!c.component && (children || c.loadChildren) && (c.outlet && c.outlet !== PRIMARY_OUTLET)) {\n c.component = EmptyOutletComponent;\n }\n return c;\n}\n\n/** Returns of `Map` of outlet names to the `Route`s for that outlet. */\nexport function groupRoutesByOutlet(routes: Route[]): Map<string, Route[]> {\n return routes.reduce((map, route) => {\n const routeOutlet = getOutlet(route);\n if (map.has(routeOutlet)) {\n map.get(routeOutlet)!.push(route);\n } else {\n map.set(routeOutlet, [route]);\n }\n return map;\n }, new Map<string, Route[]>());\n}\n\n/** Returns the `route.outlet` or PRIMARY_OUTLET if none exists. */\nexport function getOutlet(route: Route): string {\n return route.outlet || PRIMARY_OUTLET;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at

https://angular.io/license\n */\n\nimport {Injector, NgModuleRef} from '@angular/core';\nimport {EmptyError, from, Observable, Observer, of} from 'rxjs';\nimport {catchError, combineAll, concatMap, first, map, mergeMap, tap} from 'rxjs/operators';\n\nimport {LoadedRouterConfig, Route, Routes} from './config';\nimport {CanLoadFn} from './interfaces';\nimport {prioritizedGuardValue} from './operators/prioritized_guard_value';\nimport {RouterConfigLoader} from './router_config_loader';\nimport {defaultUrlMatcher, navigationCancelingError, Params, PRIMARY_OUTLET} from './shared';\nimport {UrlSegment, UrlSegmentGroup, UrlSerializer, UrlTree} from './url_tree';\nimport {forEach, waitForMap, wrapIntoObservable} from './utils/collection';\nimport {getOutlet, groupRoutesByOutlet} from './utils/config';\nimport {isCanLoad, isFunction, isUrlTree} from './utils/type_guards';\n\nclass NoMatch {\n public segmentGroup: UrlSegmentGroup|null;\n\n constructor(segmentGroup?: UrlSegmentGroup) {\n this.segmentGroup = segmentGroup || null;\n }\n}\n\nclass AbsoluteRedirect {\n constructor(public urlTree: UrlTree) {}\n}\n\nfunction noMatch(segmentGroup: UrlSegmentGroup): Observable<UrlSegmentGroup> {\n return new Observable<UrlSegmentGroup>(\n (obs: Observer<UrlSegmentGroup>) => obs.error(new NoMatch(segmentGroup)));\n}\n\nfunction absoluteRedirect(newTree: UrlTree): Observable<any> {\n return new Observable<UrlSegmentGroup>(\n (obs: Observer<UrlSegmentGroup>) => obs.error(new AbsoluteRedirect(newTree)));\n}\n\nfunction namedOutletsRedirect(redirectTo: string): Observable<any> {\n return new Observable<UrlSegmentGroup>(\n (obs: Observer<UrlSegmentGroup>) => obs.error(new Error(\n `Only absolute redirects can have named outlets. redirectTo: '${redirectTo}'`)));\n}\n\nfunction canLoadFails(route: Route): Observable<LoadedRouterConfig> {\n return new Observable<LoadedRouterConfig>(\n (obs: Observer<LoadedRouterConfig>) => obs.error(\n navigationCancelingError(`Cannot load children because the guard of the route \"path: '${\n route.path}'\" returned false`)));\n}\n\n/**\n * Returns the `UrlTree` with the redirection applied.\n *\n * Lazy modules are loaded along the way.\n */\nexport function applyRedirects(\n moduleInjector: Injector, configLoader: RouterConfigLoader, urlSerializer: UrlSerializer,\n urlTree: UrlTree, config: Routes): Observable<UrlTree>\n {\n return new ApplyRedirects(moduleInjector, configLoader, urlSerializer, urlTree, config).apply();\n}\n\nclass ApplyRedirects {\n private allowRedirects: boolean = true;\n private ngModule: NgModuleRef<any>;\n\n constructor(\n moduleInjector: Injector, private configLoader: RouterConfigLoader,\n private urlSerializer: UrlSerializer, private urlTree: UrlTree, private config: Routes) {\n this.ngModule = moduleInjector.get(NgModuleRef);\n }\n\n apply(): Observable<UrlTree> {\n const expanded$ =\n this.expandSegmentGroup(this.ngModule, this.config, this.urlTree.root, PRIMARY_OUTLET);\n const urlTrees$ = expanded$.pipe(\n map((rootSegmentGroup: UrlSegmentGroup) => this.createUrlTree(\n rootSegmentGroup, this.urlTree.queryParams, this.urlTree.fragment!)));\n return urlTrees$.pipe(catchError((e: any) => {\n if (e instanceof AbsoluteRedirect) {\n // after an absolute redirect we do not apply any more redirects!\n this.allowRedirects\n = false;\n // we need to run matching, so we can fetch all lazy-loaded modules\n return this.match(e.urlTree);\n }\n\n if (e instanceof NoMatch) {\n throw this.noMatchError(e);\n }\n\n throw e;\n }));\n }\n\n private match(tree: UrlTree): Observable<UrlTree> {\n const expanded$ =\n this.expandSegmentGroup(this.ngModule, this.config, tree.root, PRIMARY_OUTLET);\n const mapped$ = expanded$.pipe(\n map((rootSegmentGroup: UrlSegmentGroup) =>\n this.createUrlTree(rootSegmentGroup, tree.queryParams, tree.fragment!)));\n return mapped$.pipe(catchError((e: any): Observable<UrlTree> => {\n if (e instanceof NoMatch) {\n throw this.noMatchError(e);\n }\n\n throw e;\n }));\n }\n\n private noMatchError(e: NoMatch): any {\n return new Error(`Cannot match any routes. URL Segment: '${e.segmentGroup}'`);\n }\n\n private createUrlTree(rootCandidate: UrlSegmentGroup, queryParams:\n Params, fragment: string):\n UrlTree {\n const root = rootCandidate.segments.length > 0 ?\n new UrlSegmentGroup([], {[PRIMARY_OUTLET]: rootCandidate}) :\n rootCandidate;\n return new UrlTree(root, queryParams, fragment);\n }\n\n private expandSegmentGroup(\n ngModule: NgModuleRef<any>, routes: Route[], segmentGroup: UrlSegmentGroup,\n outlet: string):

```
Observable<UrlSegmentGroup> {\n    if (segmentGroup.segments.length === 0 && segmentGroup.hasChildren()) {\n      return this.expandChildren(ngModule, routes, segmentGroup)\n          .pipe(map((children: any) => new UrlSegmentGroup([], children)));\n    }\n\n    return this.expandSegment(ngModule, segmentGroup, routes, segmentGroup.segments, outlet, true);\n  }\n\n  // Recursively expand segment groups for all the child outlets\n  private expandChildren(\n      ngModule: NgModuleRef<any>, routes: Route[],\n      segmentGroup: UrlSegmentGroup): Observable<{[name: string]: UrlSegmentGroup}> {\n    return waitForMap(\n        segmentGroup.children,\n        (childOutlet, child) => this.expandSegmentGroup(ngModule, routes, child, childOutlet));\n  }\n\n  private expandSegment(\n      ngModule: NgModuleRef<any>, segmentGroup: UrlSegmentGroup, routes: Route[],\n      segments: UrlSegment[], outlet: string,\n      allowRedirects: boolean): Observable<UrlSegmentGroup> {\n    // We need to expand each outlet group independently to ensure that we not only load modules\n    // for routes matching the given `outlet`, but also those which will be activated because\n    // their path is empty string. This can result in multiple outlets being activated at once.\n    const routesByOutlet: Map<string, Route[]> = groupRoutesByOutlet(routes);\n    if (!routesByOutlet.has(outlet)) {\n      routesByOutlet.set(outlet, []);\n    }\n\n    const expandRoutes = (routes: Route[]) => {\n      return from(routes).pipe(\n          concatMap((r: Route) => {\n            const expanded$ = this.expandSegmentAgainstRoute(\n                ngModule, segmentGroup, routes, r, segments, outlet, allowRedirects);\n            return expanded$.pipe(catchError(e => {\n              if (e instanceof NoMatch) {\n                return of(null);\n              }\n              throw e;\n            }));\n          }),\n          first((s: UrlSegmentGroup|null): s is UrlSegmentGroup => s !== null),\n          catchError(e => {\n            if (e instanceof EmptyError || e.name === 'EmptyError') {\n              if (this.noLeftoversInUrl(segmentGroup, segments, outlet)) {\n                return of(new UrlSegmentGroup([], {}));\n              }\n              throw new NoMatch(segmentGroup);\n            }\n            throw e;\n          }),\n      );\n    };\n\n    const expansions = Array.from(routesByOutlet.entries()).map(([routeOutlet, routes]) => {\n      const expanded = expandRoutes(routes);\n      // Map all results from outlets we aren't activating to `null` so they can be ignored later\n      return routeOutlet === outlet ? expanded : expanded.pipe(map(() => null), catchError(() => of(null)));\n    });\n    return from(expansions)\n        .pipe(\n            combineAll(),\n            first(),\n            // Return only the expansion for the route outlet we are trying to activate.\n            map(results => results.find(result => result !== null)!),\n        );\n  }\n\n  private noLeftoversInUrl(segmentGroup: UrlSegmentGroup, segments: UrlSegment[], outlet: string):\n      boolean {\n    return segments.length === 0 && !segmentGroup.children[outlet];\n  }\n\n  private expandSegmentAgainstRoute(\n      ngModule: NgModuleRef<any>, segmentGroup: UrlSegmentGroup, routes: Route[], route: Route,\n      paths: UrlSegment[], outlet: string, allowRedirects: boolean): Observable<UrlSegmentGroup> {\n    // Empty string segments are special because multiple outlets can match a single path, i.e.\n    // `[{path: '', component: B}, {path: '', loadChildren: () => {}, outlet: \"about\"}]`\n    if (getOutlet(route) !== outlet && route.path !== '') {\n      return noMatch(segmentGroup);\n    }\n\n    if (route.redirectTo === undefined) {\n      return this.matchSegmentAgainstRoute(ngModule, segmentGroup, route, paths);\n    }\n\n    if (allowRedirects && this.allowRedirects) {\n      return this.expandSegmentAgainstRouteUsingRedirect(\n          ngModule, segmentGroup, routes, route, paths, outlet);\n    }\n\n    return noMatch(segmentGroup);\n  }\n\n  private expandSegmentAgainstRouteUsingRedirect(\n      ngModule: NgModuleRef<any>, segmentGroup: UrlSegmentGroup, routes: Route[], route: Route,\n      segments: UrlSegment[], outlet: string): Observable<UrlSegmentGroup> {\n    if (route.path === '**') {\n      return this.expandWildCardWithParamsAgainstRouteUsingRedirect(\n          ngModule, routes, route, outlet);\n    }\n\n    return this.expandRegularSegmentAgainstRouteUsingRedirect(\n        ngModule, segmentGroup, routes, route, segments, outlet);\n  }\n\n  private expandWildCardWithParamsAgainstRouteUsingRedirect(\n      ngModule: NgModuleRef<any>, routes: Route[], route: Route,\n      outlet: string): Observable<UrlSegmentGroup> {\n    const newTree = this.applyRedirectCommands([], route.redirectTo!, {});\n    if (route.redirectTo!.startsWith('/')) {\n      return absoluteRedirect(newTree);\n    }\n\n    return this.lineralizeSegments(route, newTree).pipe(mergeMap((newSegments: UrlSegment[]) => {\n      const group =
```

```
new UrlSegmentGroup(newSegments, {});\n      return this.expandSegment(ngModule, group, routes, newSegments,
outlet, false);\n    }));\n  }\n\n  private expandRegularSegmentAgainstRouteUsingRedirect(\n      ngModule:
NgModuleRef<any>, segmentGroup: UrlSegmentGroup, routes: Route[], route: Route,\n      segments:
UrlSegment[], outlet: string): Observable<UrlSegmentGroup> {\n    const {matched, consumedSegments, lastChild,
positionalParamSegments} =\n        match(segmentGroup, route, segments);\n
    if (!matched) return noMatch(segmentGroup);\n\n    const newTree = this.applyRedirectCommands(\n
consumedSegments, route.redirectTo!, <any>positionalParamSegments);\n    if (route.redirectTo!.startsWith('/')) {\n
    return absoluteRedirect(newTree);\n    }\n\n    return this.lineralizeSegments(route,
newTree).pipe(mergeMap((newSegments: UrlSegment[]) => {\n      return this.expandSegment(\n          ngModule,
segmentGroup, routes, newSegments.concat(segments.slice(lastChild)), outlet,\n          false);\n    }));\n  }\n\n
  private matchSegmentAgainstRoute(\n      ngModule: NgModuleRef<any>, rawSegmentGroup: UrlSegmentGroup,
route: Route,\n      segments: UrlSegment[]): Observable<UrlSegmentGroup> {\n    if (route.path === '**') {\n      if
(route.loadChildren) {\n        return this.configLoader.load(ngModule.injector, route)\n            .pipe(map((cfg:
LoadedRouterConfig) => {\n              route._loadedConfig = cfg;\n              return new UrlSegmentGroup(segments,
{});\n            }));\n      }\n\n      return of(new UrlSegmentGroup(segments, {}));\n    }\n\n    const {matched,
consumedSegments, lastChild} = match(rawSegmentGroup, route, segments);\n    if (!matched) return
noMatch(rawSegmentGroup);\n\n    const rawSlicedSegments = segments.slice(lastChild);\n    const childConfig$ =
this.getChildConfig(ngModule, route, segments);\n\n    return childConfig$.pipe(mergeMap((routerConfig:
LoadedRouterConfig) => {\n      const childModule = routerConfig.module;\n      const childConfig =
routerConfig.routes;\n\n      const {segmentGroup, slicedSegments} =\n          split(rawSegmentGroup,
consumedSegments, rawSlicedSegments, childConfig);\n\n      if (slicedSegments.length === 0 &&
segmentGroup.hasChildren()) {\n        const expanded$ = this.expandChildren(childModule, childConfig,
segmentGroup);\n        return expanded$.pipe(\n            map((children: any) => new
UrlSegmentGroup(consumedSegments, children)));\n      }\n\n      if (childConfig.length
 === 0 && slicedSegments.length === 0) {\n        return of(new UrlSegmentGroup(consumedSegments, {}));\n
}\n\n      const expanded$ = this.expandSegment(\n          childModule, segmentGroup, childConfig, slicedSegments,
PRIMARY_OUTLET, true);\n      return expanded$.pipe(\n          map((cs: UrlSegmentGroup) =>\n              new
UrlSegmentGroup(consumedSegments.concat(cs.segments), cs.children)));\n    }));\n  }\n\n  private
getChildConfig(ngModule: NgModuleRef<any>, route: Route, segments: UrlSegment[]):\n
Observable<LoadedRouterConfig> {\n    if (route.children) {\n      // The children belong to the same module\n
return of(new LoadedRouterConfig(route.children, ngModule));\n    }\n\n    if (route.loadChildren) {\n      // lazy
children belong to the loaded module\n      if (route._loadedConfig !== undefined) {\n        return
of(route._loadedConfig);\n      }\n\n      return this.runCanLoadGuards(ngModule.injector, route, segments)\n
.pipe(mergeMap((shouldLoadResult:
 boolean) => {\n          if (shouldLoadResult) {\n            return this.configLoader.load(ngModule.injector, route)\n
              .pipe(map((cfg: LoadedRouterConfig) => {\n                route._loadedConfig = cfg;\n                return
cfg;\n              }));\n          }\n          return canLoadFails(route);\n        }));\n    }\n\n    return of(new
LoadedRouterConfig([], ngModule));\n  }\n\n  private runCanLoadGuards(moduleInjector: Injector, route: Route,
segments: UrlSegment[]):\n      Observable<boolean> {\n    const canLoad = route.canLoad;\n    if (!canLoad ||
canLoad.length === 0) return of(true);\n\n    const canLoadObservables = canLoad.map((injectionToken: any) =>
{\n      const guard = moduleInjector.get(injectionToken);\n      let guardVal;\n      if (isCanLoad(guard)) {\n
guardVal = guard.canLoad(route, segments);\n      } else if (isFunction<CanLoadFn>(guard)) {\n        guardVal =
guard(route, segments);\n
    } else {\n        throw new Error('Invalid CanLoad guard');\n      }\n      return wrapIntoObservable(guardVal);\n
});\n\n    return of(canLoadObservables)\n        .pipe(\n            prioritizedGuardValue(),\n            tap((result:
UrlTree|boolean) => {\n              if (!isUrlTree(result)) return;\n\n              const error: Error&{url?: UrlTree} =
navigationCancelingError(\n                  `Redirecting to \"${this.urlSerializer.serialize(result)}\"`);\n              error.url
= result;\n              throw error;\n            }),\n            map(result => result === true),\n        );\n  }\n\n  private
```

```
lineralizeSegments(route: Route, urlTree: UrlTree): Observable<UrlSegment[]> {\n    let res: UrlSegment[] = [];\n    let c = urlTree.root;\n    while (true) {\n      res = res.concat(c.segments);\n      if (c.numberOfChildren === 0) {\n        return of(res);\n      }\n\n      if (c.numberOfChildren > 1 || !c.children[PRIMARY_OUTLET]) {\n        return namedOutletsRedirect(route.redirectTo!);\n
      }\n\n      c = c.children[PRIMARY_OUTLET];\n    }\n  }\n\n  private applyRedirectCommands(\n      segments: UrlSegment[], redirectTo: string, posParams: {[k: string]: UrlSegment}): UrlTree {\n    return this.applyRedirectCreatreUrlTree(\n        redirectTo, this.urlSerializer.parse(redirectTo), segments, posParams);\n  }\n\n  private applyRedirectCreatreUrlTree(\n      redirectTo: string, urlTree: UrlTree, segments: UrlSegment[],\n      posParams: {[k: string]: UrlSegment}): UrlTree {\n    const newRoot = this.createSegmentGroup(redirectTo, urlTree.root, segments, posParams);\n    return new UrlTree(\n        newRoot, this.createQueryParams(urlTree.queryParams, this.urlTree.queryParams),\n        urlTree.fragment);\n  }\n\n  private createQueryParams(redirectToParams: Params, actualParams: Params): Params {\n    const res: Params = {};\n    forEach(redirectToParams, (v: any, k: string) => {\n      const copySourceValue = typeof v === 'string' &&
      v.startsWith(':');\n      if (copySourceValue) {\n        const sourceName = v.substring(1);\n        res[k] = actualParams[sourceName];\n      } else {\n        res[k] = v;\n      }\n    });\n    return res;\n  }\n\n  private createSegmentGroup(\n      redirectTo: string, group: UrlSegmentGroup, segments: UrlSegment[],\n      posParams: {[k: string]: UrlSegment}): UrlSegmentGroup {\n    const updatedSegments = this.createSegments(redirectTo, group.segments, segments, posParams);\n\n    let children: {[n: string]: UrlSegmentGroup} = {};\n    forEach(group.children, (child: UrlSegmentGroup, name: string) => {\n      children[name] = this.createSegmentGroup(redirectTo, child, segments, posParams);\n    });\n\n    return new UrlSegmentGroup(updatedSegments, children);\n  }\n\n  private createSegments(\n      redirectTo: string, redirectToSegments: UrlSegment[], actualSegments: UrlSegment[],\n      posParams: {[k: string]: UrlSegment}): UrlSegment[] {\n    return redirectToSegments.map(\n
        s => s.path.startsWith(':') ? this.findPosParam(redirectTo, s, posParams) :\n        this.findOrReturn(s, actualSegments));\n  }\n\n  private findPosParam(\n      redirectTo: string, redirectToUrlSegment: UrlSegment,\n      posParams: {[k: string]: UrlSegment}): UrlSegment {\n    const pos = posParams[redirectToUrlSegment.path.substring(1)];\n    if (!pos)\n      throw new Error(\n          `Cannot redirect to '${redirectTo}'. Cannot find '${redirectToUrlSegment.path}'.`);\n    return pos;\n  }\n\n  private findOrReturn(redirectToUrlSegment: UrlSegment, actualSegments: UrlSegment[]): UrlSegment {\n    let idx = 0;\n    for (const s of actualSegments) {\n      if (s.path === redirectToUrlSegment.path) {\n        actualSegments.splice(idx);\n        return s;\n      }\n      idx++;\n    }\n    return redirectToUrlSegment;\n  }\n}\n\nfunction match(segmentGroup: UrlSegmentGroup, route: Route, segments: UrlSegment[]): {\n  matched: boolean,\n  consumedSegments:
  UrlSegment[],\n  lastChild: number,\n  positionalParamSegments: {[k: string]: UrlSegment}\n} {\n  if (route.path === '') {\n    if ((route.pathMatch === 'full') && (segmentGroup.hasChildren() || segments.length > 0)) {\n      return {matched: false, consumedSegments: [], lastChild: 0, positionalParamSegments: {}};\n    }\n\n    return {matched: true, consumedSegments: [], lastChild: 0, positionalParamSegments: {}};\n  }\n\n  const matcher = route.matcher || defaultUrlMatcher;\n  const res = matcher(segments, segmentGroup, route);\n\n  if (!res) {\n    return {\n      matched: false,\n      consumedSegments: <any[]>[],\n      lastChild: 0,\n      positionalParamSegments: {},\n    };\n  }\n\n  return {\n    matched: true,\n    consumedSegments: res.consumed!,\n    lastChild: res.consumed.length!,\n    positionalParamSegments: res.posParams!,\n  };\n}\n\nfunction split(\n    segmentGroup: UrlSegmentGroup, consumedSegments: UrlSegment[], slicedSegments: UrlSegment[],\n    config:
  Route[]) {\n  if (slicedSegments.length > 0 &&\n      containsEmptyPathRedirectsWithNamedOutlets(segmentGroup, slicedSegments, config)) {\n    const s = new UrlSegmentGroup(\n        consumedSegments,\n        createChildrenForEmptySegments(\n            config, new UrlSegmentGroup(slicedSegments, segmentGroup.children)));\n    return {segmentGroup: mergeTrivialChildren(s), slicedSegments: []};\n  }\n\n  if (slicedSegments.length === 0 &&\n      containsEmptyPathRedirects(segmentGroup, slicedSegments, config)) {\n    const s = new UrlSegmentGroup(\n
```

segmentGroup.segments,\n addEmptySegmentsToChildrenIfNeeded(\n segmentGroup, slicedSegments, config, segmentGroup.children));\n return {segmentGroup: mergeTrivialChildren(s), slicedSegments};\n }\n\n return {segmentGroup, slicedSegments};\n}\n\nfunction mergeTrivialChildren(s: UrlSegmentGroup): UrlSegmentGroup {\n if (s.numberOfChildren === 1 && s.children[PRIMARY_OUTLET]) {\n const c = s.children[PRIMARY_OUTLET];\n return new UrlSegmentGroup(s.segments.concat(c.segments), c.children);\n }\n\n return s;\n}\n\nfunction addEmptySegmentsToChildrenIfNeeded(\n segmentGroup: UrlSegmentGroup, slicedSegments: UrlSegment[], routes: Route[],\n children: {[name: string]: UrlSegmentGroup}): {[name: string]: UrlSegmentGroup} {\n const res: {[name: string]: UrlSegmentGroup} = {};\n for (const r of routes) {\n if (isEmptyPathRedirect(segmentGroup, slicedSegments, r) && !children[getOutlet(r)]) {\n res[getOutlet(r)] = new UrlSegmentGroup([], {});\n }\n }\n return {...children, ...res};\n}\n\nfunction createChildrenForEmptySegments(\n routes: Route[], primarySegmentGroup: UrlSegmentGroup): {[name: string]: UrlSegmentGroup} {\n const res: {[name: string]: UrlSegmentGroup} = {};\n res[PRIMARY_OUTLET] = primarySegmentGroup;\n for (const r of routes) {\n if (r.path === '' && getOutlet(r) !== PRIMARY_OUTLET) {\n res[getOutlet(r)] = new UrlSegmentGroup([], {});\n }\n }\n return res;\n}\n\nfunction containsEmptyPathRedirectsWithNamedOutlets(\n segmentGroup: UrlSegmentGroup, segments: UrlSegment[], routes: Route[]): boolean {\n return routes.some(\n r => isEmptyPathRedirect(segmentGroup, segments, r) && getOutlet(r) !== PRIMARY_OUTLET);\n}\n\nfunction containsEmptyPathRedirects(\n segmentGroup: UrlSegmentGroup, segments: UrlSegment[], routes: Route[]): boolean {\n return routes.some(r => isEmptyPathRedirect(segmentGroup, segments, r));\n}\n\nfunction isEmptyPathRedirect(\n segmentGroup: UrlSegmentGroup, segments: UrlSegment[], r: Route): boolean {\n if ((segmentGroup.hasChildren() || segments.length > 0) && r.pathMatch === 'full') {\n return false;\n }\n\n return r.path === '' && r.redirectTo !== undefined;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\nimport {MonoTypeOperatorFunction, Observable} from 'rxjs';\nimport {map, switchMap} from 'rxjs/operators';\n\nimport {applyRedirects as applyRedirectsFn} from '../apply_redirects';\nimport {Routes} from '../config';\nimport {NavigationTransition} from '../router';\nimport {RouterConfigLoader} from '../router_config_loader';\nimport {UrlSerializer} from '../url_tree';\n\nexport function applyRedirects(\n moduleInjector: Injector, configLoader: RouterConfigLoader, urlSerializer: UrlSerializer,\n config: Routes): MonoTypeOperatorFunction<NavigationTransition> {\n return function(source: Observable<NavigationTransition>) {\n return source.pipe(switchMap(\n t => applyRedirectsFn(moduleInjector, configLoader, urlSerializer, t.extractedUrl, config)\n .pipe(map(urlAfterRedirects => ({...t, urlAfterRedirects})))));\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed\n by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\n\nimport {LoadedRouterConfig, RunGuardsAndResolvers} from '../config';\nimport {ChildrenOutletContexts, OutletContext} from '../router_outlet_context';\nimport {ActivatedRouteSnapshot, equalParamsAndUrlSegments, RouterStateSnapshot} from '../router_state';\nimport {equalPath} from '../url_tree';\nimport {forEach, shallowEqual} from '../utils/collection';\nimport {nodeChildrenAsMap, TreeNode} from '../utils/tree';\n\nexport class CanActivate {\n readonly route: ActivatedRouteSnapshot;\n constructor(public path: ActivatedRouteSnapshot[]) {\n this.route = this.path[this.path.length - 1];\n }\n}\n\nexport class CanDeactivate {\n constructor(public component: Object|null, public route: ActivatedRouteSnapshot) {}\n}\n\nexport declare type Checks = {\n canDeactivateChecks: CanDeactivate[],\n canActivateChecks: CanActivate[],\n};\n\nexport function getAllRouteGuards(\n future: RouterStateSnapshot, curr: RouterStateSnapshot,\n parentContexts: ChildrenOutletContexts) {\n const futureRoot = future._root;\n const currRoot = curr ? curr._root : null;\n\n return getChildRouteGuards(futureRoot, currRoot, parentContexts, [futureRoot.value]);\n}\n\nexport function

getCanActivateChild(p: ActivatedRouteSnapshot):\n {node: ActivatedRouteSnapshot, guards: any[]}|null {\n const canActivateChild = p.routeConfig ? p.routeConfig.canActivateChild : null;\n if (!canActivateChild || canActivateChild.length === 0) return null;\n return {node: p, guards: canActivateChild};\n}\n\nexport function getToken(\n token: any, snapshot: ActivatedRouteSnapshot, moduleInjector: Injector): any {\n const config = getClosestLoadedConfig(snapshot);\n const injector = config ? config.module.injector : moduleInjector;\n return injector.get(token);\n}\n\nfunction getClosestLoadedConfig(snapshot: ActivatedRouteSnapshot): LoadedRouterConfig|null
{\n if (!snapshot) return null;\n\n for (let s = snapshot.parent; s; s = s.parent) {\n const route = s.routeConfig;\n if (route && route._loadedConfig) return route._loadedConfig;\n }\n\n return null;\n}\n\nfunction getChildRouteGuards(\n futureNode: TreeNode<ActivatedRouteSnapshot>, currNode: TreeNode<ActivatedRouteSnapshot>|null,\n contexts: ChildrenOutletContexts|null, futurePath: ActivatedRouteSnapshot[], checks: Checks = {\n canDeactivateChecks: [],\n canActivateChecks: []\n }): Checks {\n const prevChildren = nodeChildrenAsMap(currNode);\n\n // Process the children of the future route\n futureNode.children.forEach(c => {\n getRouteGuards(c, prevChildren[c.value.outlet], contexts, futurePath.concat([c.value]), checks);\n delete prevChildren[c.value.outlet];\n });\n\n // Process any children left from the current route (not active for the future route)\n forEach(\n prevChildren,\n (v: TreeNode<ActivatedRouteSnapshot>, k:
string) =>\n deactivateRouteAndItsChildren(v, contexts!.getContext(k), checks));\n\n return checks;\n}\n\nfunction getRouteGuards(\n futureNode: TreeNode<ActivatedRouteSnapshot>, currNode: TreeNode<ActivatedRouteSnapshot>,\n parentContexts: ChildrenOutletContexts|null, futurePath: ActivatedRouteSnapshot[],\n checks: Checks = {\n canDeactivateChecks: [],\n canActivateChecks: []\n }): Checks {\n const future = futureNode.value;\n const curr = currNode ? currNode.value : null;\n const context = parentContexts ? parentContexts.getContext(futureNode.value.outlet) : null;\n\n // reusing the node\n if (curr && future.routeConfig === curr.routeConfig) {\n const shouldRun =\n shouldRunGuardsAndResolvers(curr, future, future.routeConfig!.runGuardsAndResolvers);\n if (shouldRun) {\n checks.canActivateChecks.push(new CanActivate(futurePath));\n } else {\n // we need to set the data\n future.data = curr.data;\n future._resolvedData
= curr._resolvedData;\n }\n\n // If we have a component, we need to go through an outlet.\n if (future.component) {\n getChildRouteGuards(\n futureNode, currNode, context ? context.children : null, futurePath, checks);\n\n // if we have a componentless route, we recurse but keep the same outlet map.\n } else {\n getChildRouteGuards(futureNode, currNode, parentContexts, futurePath, checks);\n }\n\n if (shouldRun && context && context.outlet && context.outlet.isActivated) {\n checks.canDeactivateChecks.push(new CanDeactivate(context.outlet.component, curr));\n }\n } else {\n if (curr) {\n deactivateRouteAndItsChildren(currNode, context, checks);\n }\n\n checks.canActivateChecks.push(new CanActivate(futurePath));\n // If we have a component, we need to go through an outlet.\n if (future.component) {\n getChildRouteGuards(futureNode, null, context ? context.children : null, futurePath, checks);\n\n // if we have a componentless route, we recurse but keep the same outlet map.\n } else {\n getChildRouteGuards(futureNode, null, parentContexts, futurePath, checks);\n }\n }\n\n return checks;\n}\n\nfunction shouldRunGuardsAndResolvers(\n curr: ActivatedRouteSnapshot, future: ActivatedRouteSnapshot,\n mode: RunGuardsAndResolvers|undefined): boolean {\n if (typeof mode === 'function') {\n return mode(curr, future);\n }\n switch (mode) {\n case 'pathParamsChange':\n return !equalPath(curr.url, future.url);\n\n case 'pathParamsOrQueryParamsChange':\n return !equalPath(curr.url, future.url) ||\n !shallowEqual(curr.queryParams, future.queryParams);\n\n case 'always':\n return true;\n\n case 'paramsOrQueryParamsChange':\n return !equalParamsAndUrlSegments(curr, future) ||\n !shallowEqual(curr.queryParams, future.queryParams);\n\n case 'paramsChange':\n default:\n return !equalParamsAndUrlSegments(curr, future);\n }\n}\n\nfunction deactivateRouteAndItsChildren(\n route: TreeNode<ActivatedRouteSnapshot>, context: OutletContext|null, checks: Checks): void {\n const children = nodeChildrenAsMap(route);\n const r =

route.value;\n\n  forEach(children, (node: TreeNode<ActivatedRouteSnapshot>, childName: string) => {\n    if (!r.component) {\n      deactivateRouteAndItsChildren(node, context, checks);\n    } else if (context) {\n deactivateRouteAndItsChildren(node, context.children.getContext(childName), checks);\n    } else {\n deactivateRouteAndItsChildren(node, null, checks);\n    }\n  });\n\n  if (!r.component) {\n checks.canDeactivateChecks.push(new CanDeactivate(null, r));\n  } else if (context && context.outlet && context.outlet.isActivated) {\n    checks.canDeactivateChecks.push(new CanDeactivate(context.outlet.component, r));\n  } else {\n    checks.canDeactivateChecks.push(new CanDeactivate(null, r));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n
 *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '@angular/core';\nimport {defer, from, MonoTypeOperatorFunction, Observable, of} from 'rxjs';\nimport {concatAll, concatMap, first, map, mergeMap} from 'rxjs/operators';\n\nimport {ActivationStart, ChildActivationStart, Event} from '../events';\nimport {CanActivateChildFn, CanActivateFn, CanDeactivateFn} from '../interfaces';\nimport {NavigationTransition} from '../router';\nimport {ActivatedRouteSnapshot, RouterStateSnapshot} from '../router_state';\nimport {UrlTree} from '../url_tree';\nimport {wrapIntoObservable} from '../utils/collection';\nimport {CanActivate, CanDeactivate, getCanActivateChild, getToken} from '../utils/preactivation';\nimport {isBoolean, isCanActivate, isCanActivateChild, isCanDeactivate, isFunction} from '../utils/type_guards';\n\nimport {prioritizedGuardValue} from './prioritized_guard_value';\n\nexport
 function checkGuards(moduleInjector: Injector, forwardEvent?: (evt: Event) => void):\n MonoTypeOperatorFunction<NavigationTransition> {\n  return function(source: Observable<NavigationTransition>) {\n    return source.pipe(mergeMap(t => {\n      const {targetSnapshot, currentSnapshot, guards: {canActivateChecks, canDeactivateChecks}} = t;\n      if (canDeactivateChecks.length === 0 && canActivateChecks.length === 0) {\n        return of({...t, guardsResult: true});\n      }\n\n      return runCanDeactivateChecks(\n                 canDeactivateChecks, targetSnapshot!, currentSnapshot, moduleInjector)\n          .pipe(\n              mergeMap(canDeactivate => {\n                return canDeactivate && isBoolean(canDeactivate) ?\n                    runCanActivateChecks(\n                        targetSnapshot!, canActivateChecks, moduleInjector, forwardEvent) :\n                    of(canDeactivate);\n              }),\n              map(guardsResult => ({...t, guardsResult})));\n
    }));\n  };\n}\n\nfunction runCanDeactivateChecks(\n    checks: CanDeactivate[], futureRSS: RouterStateSnapshot, currRSS: RouterStateSnapshot,\n    moduleInjector: Injector) {\n  return from(checks).pipe(\n      mergeMap(\n          check =>\n              runCanDeactivate(check.component, check.route, currRSS, futureRSS, moduleInjector)),\n      first(result => {\n        return result !== true;\n      }, true as boolean | UrlTree));\n}\n\nfunction runCanActivateChecks(\n    futureSnapshot: RouterStateSnapshot, checks: CanActivate[], moduleInjector: Injector,\n    forwardEvent?: (evt: Event) => void) {\n  return from(checks).pipe(\n      concatMap((check: CanActivate) => {\n        return from([\n                 fireChildActivationStart(check.route.parent, forwardEvent),\n          fireActivationStart(check.route, forwardEvent),\n                 runCanActivateChild(futureSnapshot, check.path, moduleInjector),\n                 runCanActivate(futureSnapshot, check.route,
 moduleInjector)\n                 ])\n            .pipe(concatAll(), first(result => {\n                    return result !== true;\n
      }, true as boolean | UrlTree));\n      }),\n      first(result => {\n        return result !== true;\n      }, true as boolean | UrlTree));\n}\n\n/**\n * This should fire off `ActivationStart` events for each route being activated at this\n * level.\n * In other words, if you're activating `a` and `b` below, `path` will contain the\n * `ActivatedRouteSnapshot`s for both and we will fire `ActivationStart` for both. Always\n * return\n * `true` so checks continue to run.\n */\nfunction fireActivationStart(\n    snapshot: ActivatedRouteSnapshot|null,\n    forwardEvent?: (evt: Event) => void): Observable<boolean> {\n  if (snapshot !== null && forwardEvent) {\n forwardEvent(new ActivationStart(snapshot));\n  }\n  return of(true);\n}\n\n/**\n * This should fire off `ChildActivationStart` events for each route being activated at this\n
 * level.\n * In other words, if you're activating `a` and `b` below, `path` will contain the\n * `ActivatedRouteSnapshot`s for both and we will fire `ChildActivationStart` for both. Always\n * return\n * `true` so

checks continue to run.\n */\nfunction fireChildActivationStart(\n snapshot: ActivatedRouteSnapshot|null,\n forwardEvent?: (evt: Event) => void): Observable<boolean> {\n if (snapshot !== null && forwardEvent) {\n forwardEvent(new ChildActivationStart(snapshot));\n }\n return of(true);\n}\n\nfunction runCanActivate(\n futureRSS: RouterStateSnapshot, futureARS: ActivatedRouteSnapshot,\n moduleInjector: Injector): Observable<boolean|UrlTree> {\n const canActivate = futureARS.routeConfig ? futureARS.routeConfig.canActivate : null;\n if (!canActivate || canActivate.length === 0) return of(true);\n\n const canActivateObservables = canActivate.map((c: any) => {\n return defer(() => {\n const guard = getToken(c, futureARS, moduleInjector);\n let observable;\n if (isCanActivate(guard)) {\n observable = wrapIntoObservable(guard.canActivate(futureARS, futureRSS));\n } else if (isFunction<CanActivateFn>(guard)) {\n observable = wrapIntoObservable(guard(futureARS, futureRSS));\n } else {\n throw new Error('Invalid CanActivate guard');\n }\n return observable.pipe(first());\n });\n });\n return of(canActivateObservables).pipe(prioritizedGuardValue());\n}\n\nfunction runCanActivateChild(\n futureRSS: RouterStateSnapshot, path: ActivatedRouteSnapshot[],\n moduleInjector: Injector): Observable<boolean|UrlTree> {\n const futureARS = path[path.length - 1];\n\n const canActivateChildGuards = path.slice(0, path.length - 1)\n .reverse()\n .map(p => getCanActivateChild(p))\n .filter(_ => _ !== null);\n\n const canActivateChildGuardsMapped = canActivateChildGuards.map((d: any) => {\n return defer(() => {\n const guardsMapped = d.guards.map((c: any) => {\n const guard = getToken(c, d.node, moduleInjector);\n let observable;\n if (isCanActivateChild(guard)) {\n observable = wrapIntoObservable(guard.canActivateChild(futureARS, futureRSS));\n } else if (isFunction<CanActivateChildFn>(guard)) {\n observable = wrapIntoObservable(guard(futureARS, futureRSS));\n } else {\n throw new Error('Invalid CanActivateChild guard');\n }\n return observable.pipe(first());\n });\n return of(guardsMapped).pipe(prioritizedGuardValue());\n });\n });\n return of(canActivateChildGuardsMapped).pipe(prioritizedGuardValue());\n}\n\nfunction runCanDeactivate(\n component: Object|null, currARS: ActivatedRouteSnapshot, currRSS: RouterStateSnapshot,\n futureRSS: RouterStateSnapshot, moduleInjector: Injector): Observable<boolean|UrlTree> {\n const canDeactivate = currARS && currARS.routeConfig\n ? currARS.routeConfig.canDeactivate : null;\n if (!canDeactivate || canDeactivate.length === 0) return of(true);\n const canDeactivateObservables = canDeactivate.map((c: any) => {\n const guard = getToken(c, currARS, moduleInjector);\n let observable;\n if (isCanDeactivate(guard)) {\n observable = wrapIntoObservable(guard.canDeactivate(component!, currARS, currRSS, futureRSS));\n } else if (isFunction<CanDeactivateFn<any>>(guard)) {\n observable = wrapIntoObservable(guard(component, currARS, currRSS, futureRSS));\n } else {\n throw new Error('Invalid CanDeactivate guard');\n }\n return observable.pipe(first());\n });\n return of(canDeactivateObservables).pipe(prioritizedGuardValue());\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '@angular/core';\nimport {Observable, Observer, of} from 'rxjs';\n\nimport {Data, ResolveData, Route, Routes} from './config';\nimport {ActivatedRouteSnapshot, inheritedParamsDataResolve, ParamsInheritanceStrategy, RouterStateSnapshot} from './router_state';\nimport {defaultUrlMatcher, PRIMARY_OUTLET} from './shared';\nimport {mapChildrenIntoArray, UrlSegment, UrlSegmentGroup, UrlTree} from './url_tree';\nimport {forEach, last} from './utils/collection';\nimport {getOutlet} from './utils/config';\nimport {TreeNode} from './utils/tree';\n\nclass NoMatch {}\n\nexport function recognize(\n rootComponentType: Type<any>|null, config: Routes, urlTree: UrlTree, url: string,\n paramsInheritanceStrategy: ParamsInheritanceStrategy = 'emptyOnly',\n relativeLinkResolution: 'legacy'|'corrected' = 'legacy'): Observable<RouterStateSnapshot> {\n return new Recognizer(\n rootComponentType, config, urlTree, url, paramsInheritanceStrategy,\n relativeLinkResolution)\n .recognize();\n}\n\nclass

```
Recognizer {\n  constructor(\n      private rootComponentType: Type<any>|null, private config: Routes, private urlTree: UrlTree,\n      private url: string, private paramsInheritanceStrategy: ParamsInheritanceStrategy,\n private relativeLinkResolution: 'legacy'|'corrected') {}\n\n  recognize(): Observable<RouterStateSnapshot> {\n    try {\n      const rootSegmentGroup =\n          split(this.urlTree.root, [], [], this.config, this.relativeLinkResolution).segmentGroup;\n\n      const children = this.processSegmentGroup(this.config, rootSegmentGroup, PRIMARY_OUTLET);\n\n      const root = new ActivatedRouteSnapshot(\n          [], Object.freeze({}), Object.freeze({...this.urlTree.queryParams}),\n          this.urlTree.fragment!, {}, PRIMARY_OUTLET, this.rootComponentType, null,\n          this.urlTree.root, -1, {});\n\n      const rootNode = new TreeNode<ActivatedRouteSnapshot>(root, children);\n      const routeState = new RouterStateSnapshot(this.url, rootNode);\n      this.inheritParamsAndData(routeState._root);\n
      return of(routeState);\n\n    } catch (e) {\n      return new Observable<RouterStateSnapshot>(\n          (obs: Observer<RouterStateSnapshot>) => obs.error(e));\n    }\n  }\n\n  inheritParamsAndData(routeNode: TreeNode<ActivatedRouteSnapshot>): void {\n    const route = routeNode.value;\n\n    const i = inheritedParamsDataResolve(route, this.paramsInheritanceStrategy);\n    route.params = Object.freeze(i.params);\n route.data = Object.freeze(i.data);\n\n    routeNode.children.forEach(n => this.inheritParamsAndData(n));\n  }\n\n processSegmentGroup(config: Route[], segmentGroup: UrlSegmentGroup, outlet: string):\n TreeNode<ActivatedRouteSnapshot>[] {\n    if (segmentGroup.segments.length === 0 && segmentGroup.hasChildren()) {\n      return this.processChildren(config, segmentGroup);\n    }\n\n    return this.processSegment(config, segmentGroup, segmentGroup.segments, outlet);\n  }\n\n  processChildren(config: Route[], segmentGroup:
  UrlSegmentGroup):\n      TreeNode<ActivatedRouteSnapshot>[] {\n    const children = mapChildrenIntoArray(\n  segmentGroup, (child, childOutlet) => this.processSegmentGroup(config, child, childOutlet));\n checkOutletNameUniqueness(children);\n    sortActivatedRouteSnapshots(children);\n    return children;\n  }\n\n processSegment(\n      config: Route[], segmentGroup: UrlSegmentGroup, segments: UrlSegment[],\n      outlet: string): TreeNode<ActivatedRouteSnapshot>[] {\n    for (const r of config) {\n      try {\n        return this.processSegmentAgainstRoute(r, segmentGroup, segments, outlet);\n      } catch (e) {\n        if (!(e instanceof NoMatch)) throw e;\n      }\n    }\n    if (this.noLeftoversInUrl(segmentGroup, segments, outlet)) {\n      return [];\n }\n\n    throw new NoMatch();\n  }\n\n  private noLeftoversInUrl(segmentGroup: UrlSegmentGroup, segments: UrlSegment[], outlet: string):\n      boolean {\n    return segments.length === 0 && !segmentGroup.children[outlet];\n
  }\n\n  processSegmentAgainstRoute(\n      route: Route, rawSegment: UrlSegmentGroup, segments: UrlSegment[],\n      outlet: string): TreeNode<ActivatedRouteSnapshot>[] {\n    if (route.redirectTo) throw new NoMatch();\n\n    if ((route.outlet || PRIMARY_OUTLET) !== outlet) throw new NoMatch();\n\n    let snapshot: ActivatedRouteSnapshot;\n    let consumedSegments: UrlSegment[] = [];\n    let rawSlicedSegments: UrlSegment[] = [];\n\n    if (route.path === '**') {\n      const params = segments.length > 0 ? last(segments)!.parameters : {};\n snapshot = new ActivatedRouteSnapshot(\n          segments, params, Object.freeze({...this.urlTree.queryParams}), this.urlTree.fragment!,\n          getData(route), outlet, route.component!, route, getSourceSegmentGroup(rawSegment),\n          getPathIndexShift(rawSegment) + segments.length, getResolve(route));\n    } else {\n      const result: MatchResult = match(rawSegment, route, segments);\n consumedSegments = result.consumedSegments;\n
      rawSlicedSegments = segments.slice(result.lastChild);\n\n      snapshot = new ActivatedRouteSnapshot(\n consumedSegments, result.parameters, Object.freeze({...this.urlTree.queryParams}),\n          this.urlTree.fragment!, getData(route), outlet, route.component!, route,\n          getSourceSegmentGroup(rawSegment),\n getPathIndexShift(rawSegment) + consumedSegments.length, getResolve(route));\n    }\n\n    const childConfig: Route[] = getChildConfig(route);\n\n    const {segmentGroup, slicedSegments} = split(\n        rawSegment, consumedSegments, rawSlicedSegments, childConfig, this.relativeLinkResolution);\n\n    if (slicedSegments.length === 0 && segmentGroup.hasChildren()) {\n      const children = this.processChildren(childConfig, segmentGroup);\n      return [new TreeNode<ActivatedRouteSnapshot>(snapshot, children)];\n    }\n\n    if
```

```
(childConfig.length === 0 && slicedSegments.length === 0) {\n      return [new
TreeNode<ActivatedRouteSnapshot>(snapshot,
 [])];\n    }\n\n    const children = this.processSegment(childConfig, segmentGroup, slicedSegments,
PRIMARY_OUTLET);\n    return [new TreeNode<ActivatedRouteSnapshot>(snapshot, children)];\n
}\n}\n\nfunction sortActivatedRouteSnapshots(nodes: TreeNode<ActivatedRouteSnapshot>[]): void {\n
nodes.sort((a, b) => {\n    if (a.value.outlet === PRIMARY_OUTLET) return -1;\n    if (b.value.outlet ===
PRIMARY_OUTLET) return 1;\n    return a.value.outlet.localeCompare(b.value.outlet);\n  });\n}\n\nfunction
getChildConfig(route: Route): Route[] {\n  if (route.children) {\n    return route.children;\n  }\n\n  if
(route.loadChildren) {\n    return route._loadedConfig!.routes;\n  }\n\n  return [];\n}\n\ninterface MatchResult {\n
consumedSegments: UrlSegment[];\n  lastChild: number;\n  parameters: any;\n}\n\nfunction match(segmentGroup:
UrlSegmentGroup, route: Route, segments: UrlSegment[]): MatchResult {\n  if (route.path === '') {\n    if
(route.pathMatch === 'full' && (segmentGroup.hasChildren()
 || segments.length > 0)) {\n      throw new NoMatch();\n    }\n\n    return {consumedSegments: [], lastChild: 0,
parameters: {}};\n  }\n\n  const matcher = route.matcher || defaultUrlMatcher;\n  const res = matcher(segments,
segmentGroup, route);\n  if (!res) throw new NoMatch();\n\n  const posParams: {[n: string]: string} = {};\n
forEach(res.posParams!, (v: UrlSegment, k: string) => {\n    posParams[k] = v.path;\n  });\n  const parameters =
res.consumed.length > 0 ?\n      {...posParams, ...res.consumed[res.consumed.length - 1].parameters} :\n
posParams;\n\n  return {consumedSegments: res.consumed, lastChild: res.consumed.length,
parameters};\n}\n\nfunction checkOutletNameUniqueness(nodes: TreeNode<ActivatedRouteSnapshot>[]): void {\n
const names: {[k: string]: ActivatedRouteSnapshot} = {};\n  nodes.forEach(n => {\n    const
routeWithSameOutletName = names[n.value.outlet];\n    if (routeWithSameOutletName) {\n      const p =
routeWithSameOutletName.url.map(s => s.toString()).join('/');\n
    const c = n.value.url.map(s => s.toString()).join('/');\n      throw new Error(`Two segments cannot have the same
outlet name: '${p}' and '${c}'.`);\n    }\n    names[n.value.outlet] = n.value;\n  });\n}\n\nfunction
getSourceSegmentGroup(segmentGroup: UrlSegmentGroup): UrlSegmentGroup {\n  let s = segmentGroup;\n
while (s._sourceSegment) {\n    s = s._sourceSegment;\n  }\n  return s;\n}\n\nfunction
getPathIndexShift(segmentGroup: UrlSegmentGroup): number {\n  let s = segmentGroup;\n  let res =
(s._segmentIndexShift ? s._segmentIndexShift : 0);\n  while (s._sourceSegment) {\n    s = s._sourceSegment;\n    res
+= (s._segmentIndexShift ? s._segmentIndexShift : 0);\n  }\n  return res - 1;\n}\n\nfunction split(\n    segmentGroup:
UrlSegmentGroup, consumedSegments: UrlSegment[], slicedSegments: UrlSegment[],\n    config: Route[],
relativeLinkResolution: 'legacy'|'corrected') {\n  if (slicedSegments.length > 0 &&\n
containsEmptyPathMatchesWithNamedOutlets(segmentGroup,
 slicedSegments, config)) {\n    const s = new UrlSegmentGroup(\n        consumedSegments,\n
createChildrenForEmptyPaths(\n            segmentGroup, consumedSegments, config,\n            new
UrlSegmentGroup(slicedSegments, segmentGroup.children())));\n    s._sourceSegment = segmentGroup;\n
s._segmentIndexShift = consumedSegments.length;\n    return {segmentGroup: s, slicedSegments: []};\n  }\n\n  if
(slicedSegments.length === 0 &&\n      containsEmptyPathMatches(segmentGroup, slicedSegments, config)) {\n
const s = new UrlSegmentGroup(\n        segmentGroup.segments,\n        addEmptyPathsToChildrenIfNeeded(\n
   segmentGroup, consumedSegments, slicedSegments, config, segmentGroup.children,\n
relativeLinkResolution));\n    s._sourceSegment = segmentGroup;\n    s._segmentIndexShift =
consumedSegments.length;\n    return {segmentGroup: s, slicedSegments};\n  }\n\n  const s = new
UrlSegmentGroup(segmentGroup.segments, segmentGroup.children);\n  s._sourceSegment
 = segmentGroup;\n  s._segmentIndexShift = consumedSegments.length;\n  return {segmentGroup: s,
slicedSegments};\n}\n\nfunction addEmptyPathsToChildrenIfNeeded(\n    segmentGroup: UrlSegmentGroup,
consumedSegments: UrlSegment[], slicedSegments: UrlSegment[],\n    routes: Route[], children: {[name: string]:
UrlSegmentGroup},\n    relativeLinkResolution: 'legacy'|'corrected'): {[name: string]: UrlSegmentGroup} {\n  const
res: {[name: string]: UrlSegmentGroup} = {};\n  for (const r of routes) {\n    if (emptyPathMatch(segmentGroup,
slicedSegments, r) && !children[getOutlet(r)]) {\n      const s = new UrlSegmentGroup([], {});\n
```

s._sourceSegment = segmentGroup;\n if (relativeLinkResolution === 'legacy') {\n s._segmentIndexShift = segmentGroup.segments.length;\n } else {\n s._segmentIndexShift = consumedSegments.length;\n }\n res[getOutlet(r)] = s;\n }\n }\n return {...children, ...res};\n}\n\nfunction createChildrenForEmptyPaths(\n segmentGroup:
UrlSegmentGroup, consumedSegments: UrlSegment[], routes: Route[],\n primarySegment: UrlSegmentGroup):
{[name: string]: UrlSegmentGroup} {\n const res: {[name: string]: UrlSegmentGroup} = {};\n
res[PRIMARY_OUTLET] = primarySegment;\n primarySegment._sourceSegment = segmentGroup;\n
primarySegment._segmentIndexShift = consumedSegments.length;\n\n for (const r of routes) {\n if (r.path === '
&& getOutlet(r) !== PRIMARY_OUTLET) {\n const s = new UrlSegmentGroup([], {});\n s._sourceSegment
= segmentGroup;\n s._segmentIndexShift = consumedSegments.length;\n res[getOutlet(r)] = s;\n }\n }\n
return res;\n}\n\nfunction containsEmptyPathMatchesWithNamedOutlets(\n segmentGroup: UrlSegmentGroup,
slicedSegments: UrlSegment[], routes: Route[]): boolean {\n return routes.some(\n r =>
emptyPathMatch(segmentGroup, slicedSegments, r) && getOutlet(r) !== PRIMARY_OUTLET);\n}\n\nfunction
containsEmptyPathMatches(\n segmentGroup: UrlSegmentGroup, slicedSegments:
UrlSegment[], routes: Route[]): boolean {\n return routes.some(r => emptyPathMatch(segmentGroup,
slicedSegments, r));\n}\n\nfunction emptyPathMatch(\n segmentGroup: UrlSegmentGroup, slicedSegments:
UrlSegment[], r: Route): boolean {\n if ((segmentGroup.hasChildren() || slicedSegments.length > 0) &&
r.pathMatch === 'full') {\n return false;\n }\n\n return r.path === '' && r.redirectTo ===
undefined;\n}\n\nfunction getData(route: Route): Data {\n return route.data || {};\n}\n\nfunction getResolve(route:
Route): ResolveData {\n return route.resolve || {};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights
Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the
LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '@angular/core';\nimport
{MonoTypeOperatorFunction, Observable} from 'rxjs';\nimport {map, mergeMap} from 'rxjs/operators';\n\nimport
{Route} from '../config';\nimport {recognize
as recognizeFn} from '../recognize';\nimport {NavigationTransition} from '../router';\nimport {UrlTree} from
'../url_tree';\n\nexport function recognize(\n rootComponentType: Type<any>|null, config: Route[], serializer: (url:
UrlTree) => string,\n paramsInheritanceStrategy: 'emptyOnly'|'always',\n relativeLinkResolution:
'legacy'|'corrected'): MonoTypeOperatorFunction<NavigationTransition> {\n return function(source:
Observable<NavigationTransition>) {\n return source.pipe(mergeMap(\n t => recognizeFn(\n
rootComponentType, config, t.urlAfterRedirects, serializer(t.urlAfterRedirects),\n
paramsInheritanceStrategy, relativeLinkResolution)\n .pipe(map(targetSnapshot => ({...t,
targetSnapshot})))));\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of
this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nimport
{Injector} from '@angular/core';\nimport {EMPTY, from, MonoTypeOperatorFunction, Observable, of} from
'rxjs';\nimport {concatMap, map, mergeMap, takeLast, tap} from 'rxjs/operators';\n\nimport {ResolveData} from
'../config';\nimport {NavigationTransition} from '../router';\nimport {ActivatedRouteSnapshot,
inheritedParamsDataResolve, RouterStateSnapshot} from '../router_state';\nimport {wrapIntoObservable} from
'../utils/collection';\nimport {getToken} from '../utils/preactivation';\n\nexport function resolveData(\n
paramsInheritanceStrategy: 'emptyOnly'|'always',\n moduleInjector: Injector):
MonoTypeOperatorFunction<NavigationTransition> {\n return function(source:
Observable<NavigationTransition>) {\n return source.pipe(mergeMap(t => {\n const {targetSnapshot, guards:
{canActivateChecks}} = t;\n\n if (!canActivateChecks.length) {\n return of(t);\n }\n let
canActivateChecksResolved = 0;\n return from(canActivateChecks)\n .pipe(\n
concatMap(\n check => runResolve(\n check.route, targetSnapshot!,
paramsInheritanceStrategy, moduleInjector)),\n tap(() => canActivateChecksResolved++),\n
takeLast(1),\n mergeMap(_ => canActivateChecksResolved === canActivateChecks.length ? of(t) :
EMPTY),\n );\n }));\n };\n}\n\nfunction runResolve(\n futureARS: ActivatedRouteSnapshot, futureRSS:

RouterStateSnapshot,\n paramsInheritanceStrategy: 'emptyOnly'|'always', moduleInjector: Injector) {\n const resolve = futureARS._resolve;\n return resolveNode(resolve, futureARS, futureRSS, moduleInjector)\n .pipe(map((resolvedData: any) => {\n futureARS._resolvedData = resolvedData;\n futureARS.data = {\n ...futureARS.data,\n ...inheritedParamsDataResolve(futureARS, paramsInheritanceStrategy).resolve\n };\n return null;\n }));\n}\n\nfunction resolveNode(\n resolve: ResolveData,
futureARS: ActivatedRouteSnapshot, futureRSS: RouterStateSnapshot,\n moduleInjector: Injector):
Observable<any> {\n const keys = Object.keys(resolve);\n if (keys.length === 0) {\n return of({});\n }\n const data: {[k: string]: any} = {};\n return from(keys).pipe(\n mergeMap(\n (key: string) =>
getResolver(resolve[key], futureARS, futureRSS, moduleInjector)\n .pipe(tap((value: any) => {\n data[key] = value;\n }))),\n takeLast(1),\n mergeMap(() => {\n //
Ensure all resolvers returned values, otherwise don't emit any \"next\" and just complete\n // the chain which will cancel navigation\n if (Object.keys(data).length === keys.length) {\n return of(data);\n }\n return EMPTY;\n }),\n );\n}\n\nfunction getResolver(\n injectionToken: any, futureARS:
ActivatedRouteSnapshot, futureRSS: RouterStateSnapshot,\n moduleInjector:
Injector): Observable<any> {\n const resolver = getToken(injectionToken, futureARS, moduleInjector);\n return resolver.resolve ? wrapIntoObservable(resolver.resolve(futureARS, futureRSS)) :\n wrapIntoObservable(resolver(futureARS, futureRSS));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {from, MonoTypeOperatorFunction, ObservableInput} from 'rxjs';\nimport {map, switchMap} from 'rxjs/operators';\n\n/**\n * Perform a side effect through a switchMap for every emission on the source Observable,\n * but return an Observable that is identical to the source. It's essentially the same as\n * the `tap` operator, but if the side effectful `next` function returns an ObservableInput,\n * it will wait before continuing with the original value.\n */\nexport function switchTap<T>(next:
(x: T) => void|ObservableInput<any>):\n MonoTypeOperatorFunction<T> {\n return function(source) {\n return source.pipe(switchMap(v => {\n const nextResult = next(v);\n if (nextResult) {\n return from(nextResult).pipe(map(() => v));\n }\n return from([v]);\n }));\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentRef} from '@angular/core';\n\nimport {OutletContext} from './router_outlet_context';\nimport {ActivatedRoute, ActivatedRouteSnapshot} from './router_state';\nimport {TreeNode} from './utils/tree';\n\n/**\n * @description\n *\n * Represents the detached route tree.\n *\n * This is an opaque value the router will give to a custom route reuse strategy\n * to store and retrieve later on.\n *\n * @publicApi\n */\nexport type DetachedRouteHandle = {};\n\n/**
@internal */\nexport type DetachedRouteHandleInternal = {\n contexts: Map<string, OutletContext>,\n componentRef: ComponentRef<any>,\n route: TreeNode<ActivatedRoute>,\n};\n\n/**\n * @description\n *\n * Provides a way to customize when activated routes get reused.\n *\n * @publicApi\n */\nexport abstract class RouteReuseStrategy {\n /** Determines if this route (and its subtree) should be detached to be reused later */\n abstract shouldDetach(route: ActivatedRouteSnapshot): boolean;\n\n /**\n * Stores the detached route.\n *\n * Storing a `null` value should erase the previously stored value.\n */\n abstract store(route:
ActivatedRouteSnapshot, handle: DetachedRouteHandle|null): void;\n\n /** Determines if this route (and its subtree) should be reattached */\n abstract shouldAttach(route: ActivatedRouteSnapshot): boolean;\n\n /**
Retrieves the previously stored route */\n abstract retrieve(route: ActivatedRouteSnapshot):
DetachedRouteHandle|null;\n\n /** Determines
if a route should be reused */\n abstract shouldReuseRoute(future: ActivatedRouteSnapshot, curr:
ActivatedRouteSnapshot): boolean;\n}\n\n/**\n * @description\n *\n * This base route reuse strategy only reuses routes when the matched router configs are\n * identical. This prevents components from being destroyed and recreated\n * when just the fragment or query parameters change\n * (that is, the existing component is _reused_).\n *\n * This strategy does not store any routes for later reuse.\n *\n * Angular uses this strategy by default.\n *\n *\n * It can be used as a base class for custom route reuse strategies, i.e. you can create your own\n * class that extends

the `BaseRouteReuseStrategy` one.\n * @publicApi\n */\nexport abstract class BaseRouteReuseStrategy implements RouteReuseStrategy {\n  /**\n   * Whether the given route should detach for later reuse.\n   * Always returns false for `BaseRouteReuseStrategy`.\n   * */\n  shouldDetach(route: ActivatedRouteSnapshot): boolean {\n    return false;\n  }\n\n  /**\n   * A no-op; the route is never stored since this strategy never detaches routes for later re-use.\n   */\n  store(route: ActivatedRouteSnapshot, detachedTree: DetachedRouteHandle): void {}\n\n  /** Returns `false`, meaning the route (and its subtree) is never reattached */\n  shouldAttach(route: ActivatedRouteSnapshot): boolean {\n    return false;\n  }\n\n  /** Returns `null` because this strategy does not store routes for later re-use. */\n  retrieve(route: ActivatedRouteSnapshot): DetachedRouteHandle|null {\n    return null;\n  }\n\n  /**\n   * Determines if a route should be reused.\n   * This strategy returns `true` when the future route config and current route config are\n   * identical.\n   */\n  shouldReuseRoute(future: ActivatedRouteSnapshot, curr: ActivatedRouteSnapshot): boolean {\n    return future.routeConfig === curr.routeConfig;\n  }\n}\n\nexport class DefaultRouteReuseStrategy extends BaseRouteReuseStrategy {}\n","/**\n * @license\n
 * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Compiler, InjectionToken, Injector, NgModuleFactory, NgModuleFactoryLoader} from '@angular/core';\nimport {from, Observable, of} from 'rxjs';\nimport {map, mergeMap} from 'rxjs/operators';\n\nimport {LoadChildren, LoadedRouterConfig, Route} from './config';\nimport {flatten, wrapIntoObservable} from './utils/collection';\nimport {standardizeConfig} from './utils/config';\n\n/**\n * The [DI token](guide/glossary/#di-token) for a router configuration.\n * @see `ROUTES`\n * @publicApi\n */\nexport const ROUTES = new InjectionToken<Route[][]>('ROUTES');\n\nexport class RouterConfigLoader {\n  constructor(\n      private loader: NgModuleFactoryLoader, private compiler: Compiler,\n      private onLoadStartListener?: (r: Route) => void,\n      private onLoadEndListener?: (r: Route) => void) {}\n\n
  load(parentInjector: Injector, route: Route): Observable<LoadedRouterConfig> {\n    if (this.onLoadStartListener) {\n      this.onLoadStartListener(route);\n    }\n\n    const moduleFactory$ = this.loadModuleFactory(route.loadChildren!);\n\n    return moduleFactory$.pipe(map((factory: NgModuleFactory<any>) => {\n      if (this.onLoadEndListener) {\n        this.onLoadEndListener(route);\n      }\n\n
    const module = factory.create(parentInjector);\n\n      return new LoadedRouterConfig(\n          flatten(module.injector.get(ROUTES)).map(standardizeConfig), module);\n    }));\n  }\n\n  private loadModuleFactory(loadChildren: LoadChildren): Observable<NgModuleFactory<any>> {\n    if (typeof loadChildren === 'string') {\n      return from(this.loader.load(loadChildren));\n    } else {\n      return wrapIntoObservable(loadChildren()).pipe(mergeMap((t: any) => {\n        if (t instanceof NgModuleFactory) {\n
 return of(t);\n        } else {\n          return from(this.compiler.compileModuleAsync(t));\n
        }\n      }));\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentFactoryResolver, ComponentRef} from '@angular/core';\n\nimport {RouterOutlet} from './directives/router_outlet';\nimport {ActivatedRoute} from './router_state';\n\n\n/**\n * Store contextual information about a `RouterOutlet`\n *\n * @publicApi\n */\nexport class OutletContext {\n  outlet: RouterOutlet|null = null;\n  route: ActivatedRoute|null = null;\n  resolver: ComponentFactoryResolver|null = null;\n  children = new ChildrenOutletContexts();\n  attachRef: ComponentRef<any>|null = null;\n}\n\n/**\n * Store contextual information about the children (= nested) `RouterOutlet`\n *\n * @publicApi\n */\nexport class ChildrenOutletContexts {\n  // contexts for child outlets, by name.\n  private
 contexts = new Map<string, OutletContext>();\n\n  /** Called when a `RouterOutlet` directive is instantiated */\n  onChildOutletCreated(childName: string, outlet: RouterOutlet): void {\n    const context = this.getOrCreateContext(childName);\n    context.outlet = outlet;\n    this.contexts.set(childName, context);\n  }\n\n  /**\n   * Called when a `RouterOutlet` directive is destroyed.\n   * We need to keep the context as the outlet could be destroyed inside a NgIf and might be\n   * re-created later.\n   */\n  onChildOutletDestroyed(childName: string): void {\n    const context = this.getContext(childName);\n    if (context) {\n      context.outlet = null;\n    }\n  }\n\n

/**\n * Called when the corresponding route is deactivated during navigation.\n * Because the component get destroyed, all children outlet are destroyed.\n */\n onOutletDeactivated(): Map<string, OutletContext> {\n const contexts = this.contexts;\n this.contexts = new Map();\n return contexts;\n }\n\n onOutletReAttached(contexts: Map<string, OutletContext>) {\n this.contexts = contexts;\n }\n\n getOrCreateContext(childName: string): OutletContext {\n let context = this.getContext(childName);\n\n if (!context) {\n context = new OutletContext();\n this.contexts.set(childName, context);\n }\n\n return context;\n }\n\n getContext(childName: string): OutletContext|null {\n return this.contexts.get(childName) || null;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {UrlTree} from './url_tree';\n\n/**\n * @description\n *\n * Provides a way to migrate AngularJS applications to Angular.\n *\n * @publicApi\n */\nexport abstract class UrlHandlingStrategy {\n /**\n * Tells the router if this URL should be processed.\n *\n * When it returns true, the router will execute the regular navigation.\n * When it returns false, the router will set the router state to an empty state.\n * As a result, all the active components will be destroyed.\n *\n */\n abstract shouldProcessUrl(url: UrlTree): boolean;\n\n /**\n * Extracts the part of the URL that should be handled by the router.\n * The rest of the URL will remain untouched.\n */\n abstract extract(url: UrlTree): UrlTree;\n\n /**\n * Merges the URL fragment with the rest of the URL.\n */\n abstract merge(newUrlPart: UrlTree, rawUrl: UrlTree): UrlTree;\n}\n\n/**\n * @publicApi\n */\nexport class DefaultUrlHandlingStrategy implements UrlHandlingStrategy {\n shouldProcessUrl(url: UrlTree): boolean {\n return true;\n }\n extract(url: UrlTree): UrlTree {\n return url;\n }\n merge(newUrlPart: UrlTree, wholeUrl: UrlTree): UrlTree {\n return newUrlPart;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Location, PopStateEvent} from '@angular/common';\nimport {Compiler, Injectable, Injector, NgModuleFactoryLoader, NgModuleRef, NgZone, Type, Console as Console} from '@angular/core';\nimport {BehaviorSubject, EMPTY, Observable, of, Subject, SubscriptionLike} from 'rxjs';\nimport {catchError, filter, finalize, map, switchMap, tap} from 'rxjs/operators';\n\nimport {QueryParamsHandling, Route, Routes} from './config';\nimport {createRouterState} from './create_router_state';\nimport {createUrlTree} from './create_url_tree';\nimport {Event, GuardsCheckEnd, GuardsCheckStart, NavigationCancel, NavigationEnd, NavigationError, NavigationStart, NavigationTrigger, ResolveEnd, ResolveStart, RouteConfigLoadEnd, RouteConfigLoadStart, RoutesRecognized} from './events';\nimport {activateRoutes} from './operators/activate_routes';\nimport {applyRedirects} from './operators/apply_redirects';\nimport {checkGuards} from './operators/check_guards';\nimport {recognize} from './operators/recognize';\nimport {resolveData} from './operators/resolve_data';\nimport {switchTap} from './operators/switch_tap';\nimport {DefaultRouteReuseStrategy, RouteReuseStrategy} from './route_reuse_strategy';\nimport {RouterConfigLoader} from './router_config_loader';\nimport {ChildrenOutletContexts} from './router_outlet_context';\nimport {ActivatedRoute, createEmptyState, RouterState, RouterStateSnapshot} from './router_state';\nimport {isNavigationCancelingError, navigationCancelingError, Params} from './shared';\nimport {DefaultUrlHandlingStrategy, UrlHandlingStrategy} from './url_handling_strategy';\nimport {containsTree, createEmptyUrlTree, UrlSerializer, UrlTree} from './url_tree';\nimport {standardizeConfig, validateConfig} from './utils/config';\nimport {Checks, getAllRouteGuards} from './utils/preactivation';\nimport {isUrlTree} from './utils/type_guards';\n\n\n\n/**\n * @description\n *\n * Options that modify the `Router` URL.\n * Supply an object containing any of these properties to a `Router` navigation function to\n * control how the target URL should be constructed.\n *\n * @see [Router.navigate() method](api/router/Router#navigate)\n * @see [Router.createUrlTree() method](api/router/Router#createurltree)\n * @see [Routing and Navigation guide](guide/router)\n *\n * @publicApi\n */\nexport interface UrlCreationOptions {\n /**\n * Specifies a root URI to use for relative navigation.\n *\n * For example, consider the following route configuration where the parent route\n * has two children.\n *\n * ```\n * [{\n * path: 'parent',\n * component: ParentComponent,\n * children: [{\n * path: 'list',\n * component: ListComponent\n * },{\n

* path: 'child',\n * component: ChildComponent\n * }]\n * }]\n * ```\n *\n * The following `go()` function navigates to the `list` route by\n * interpreting the destination URI as relative to the activated `child` route\n *\n * ```\n * @Component({...})\n * class ChildComponent {\n * constructor(private router: Router, private route: ActivatedRoute) {}\n *\n * go() {\n * this.router.navigate(['../list'], { relativeTo: this.route });\n * }\n * }\n * ```\n */\n relativeTo?: ActivatedRoute|null;\n\n /**\n * Sets query parameters to the URL.\n *\n * ```\n * // Navigate to /results?page=1\n * this.router.navigate(['/results'], { queryParams: { page: 1 } });\n * ```\n */\n queryParams?: Params|null;\n\n /**\n * Sets the hash fragment for the URL.\n *\n * ```\n * // Navigate to /results#top\n * this.router.navigate(['/results'], { fragment: 'top' });\n * ```\n */\n fragment?: string;\n\n /**\n * How to handle query parameters in the router link for the next navigation.\n * One of:\n * * `preserve` : Preserve current parameters.\n * * `merge` : Merge new with current parameters.\n *\n * The \"preserve\" option discards any new query params:\n * ```\n * // from /view1?page=1 to/view2?page=1\n * this.router.navigate(['/view2'], { queryParams: { page: 2 }, queryParamsHandling: \"preserve\"\n * });\n * ```\n * The \"merge\" option appends new query params to the params from the current URL:\n * ```\n * // from /view1?page=1 to/view2?page=1&otherKey=2\n * this.router.navigate(['/view2'], { queryParams: { otherKey: 2 }, queryParamsHandling: \"merge\"\n * });\n * ```\n * In case of a key collision between current parameters and those in the `queryParams` object,\n * the new value is used.\n *\n */\n queryParamsHandling?: QueryParamsHandling|null;\n\n /**\n * When true, preserves the URL fragment for the next navigation\n *\n * ```\n * // Preserve fragment from /results#top to /view#top\n * this.router.navigate(['/view'], { preserveFragment: true });\n * ```\n */\n preserveFragment?: boolean;\n}\n\n/**\n * @description\n *\n * Options that modify the `Router` navigation strategy.\n * Supply an object containing any of these properties to a `Router` navigation function to\n * control how the navigation should be handled.\n *\n * @see [Router.navigate() method](api/router/Router#navigate)\n * @see [Router.navigateByUrl() method](api/router/Router#navigatebyurl)\n * @see [Routing and Navigation guide](guide/router)\n *\n * @publicApi\n */\nexport interface NavigationBehaviorOptions {\n /**\n * When true, navigates without pushing a new state into history.\n *\n * ```\n * // Navigate silently to /view\n * this.router.navigate(['/view'], { skipLocationChange: true });\n * ```\n */\n skipLocationChange?: boolean;\n\n /**\n * When true, navigates while replacing the current state in history.\n *\n * ```\n * // Navigate to /view\n * this.router.navigate(['/view'], { replaceUrl: true });\n * ```\n */\n replaceUrl?: boolean;\n\n /**\n * Developer-defined state that can be passed to any navigation.\n * Access this value through the `Navigation.extras` object\n * returned from the [Router.getCurrentNavigation()\n * method](api/router/Router#getcurrentnavigation) while a navigation is executing.\n *\n * After a navigation completes, the router writes an object containing this\n * value together with a `navigationId` to `history.state`.\n * The value is written when `location.go()` or `location.replaceState()`\n * is called before activating this route.\n *\n * Note that `history.state` does not pass an object equality test because\n * the router adds the `navigationId` on each navigation.\n *\n */\n state?: {[k: string]: any};\n}\n\n/**\n * @description\n *\n * Options that modify the `Router` navigation strategy.\n * Supply an object containing any of these properties to a `Router` navigation function to\n * control how the target URL should be constructed or interpreted.\n *\n * @see [Router.navigate() method](api/router/Router#navigate)\n * @see [Router.navigateByUrl() method](api/router/Router#navigatebyurl)\n * @see [Router.createUrlTree() method](api/router/Router#createurltree)\n * @see [Routing and Navigation guide](guide/router)\n * @see UrlCreationOptions\n * @see NavigationBehaviorOptions\n *\n * @publicApi\n */\nexport interface NavigationExtras extends UrlCreationOptions, NavigationBehaviorOptions {}\n\n/**\n * Error handler that is invoked when a navigation error occurs.\n *\n * If the handler returns a value, the navigation Promise is resolved with this value.\n * If the handler throws an exception, the navigation Promise is rejected with\n * the exception.\n *\n * @publicApi\n */\nexport type ErrorHandler = (error: any) => any;\n\nfunction defaultErrorHandler(error: any): any {\n throw error;\n}\n\nfunction defaultMalformedUriErrorHandler(\n error: URIError, urlSerializer: UrlSerializer, url: string): UrlTree {\n return urlSerializer.parse('/');\n}\n\nexport type RestoredState = {\n [k: string]:

any; navigationId: number;\n};\n\n/**\n * Information about a navigation operation.\n * Retrieve the most recent navigation object with the\n * [Router.getCurrentNavigation() method](api/router/Router#getcurrentnavigation) .\n *\n * * *id* : The unique identifier of the current navigation.\n * * *initialUrl* : The target URL passed into the `Router#navigateByUrl()` call before navigation.\n * This is the value before the router has parsed or applied redirects to it.\n * * *extractedUrl* : The initial target URL after being parsed with `UrlSerializer.extract()`.\n * * *finalUrl* : The extracted URL after redirects have been applied.\n * This URL may not be available immediately, therefore this property can be `undefined`.\n * It is guaranteed to be set after the `RoutesRecognized` event fires.\n * * *trigger* : Identifies how this navigation was triggered.\n * -- 'imperative'--Triggered by `router.navigateByUrl` or `router.navigate`.\n * -- 'popstate'--Triggered by a popstate event.\n
* -- 'hashchange'--Triggered by a hashchange event.\n * * *extras* : A `NavigationExtras` options object that controlled the strategy used for this\n * navigation.\n * * *previousNavigation* : The previously successful `Navigation` object. Only one previous\n * navigation is available, therefore this previous `Navigation` object has a `null` value for its\n * own `previousNavigation`.\n *\n * @publicApi\n */\nexport type Navigation = {\n /**\n * The unique identifier of the current navigation.\n */\n id: number;\n /**\n * The target URL passed into the `Router#navigateByUrl()` call before navigation. This is\n * the value before the router has parsed or applied redirects to it.\n */\n initialUrl: string | UrlTree;\n /**\n * The initial target URL after being parsed with `UrlSerializer.extract()`.\n */\n extractedUrl: UrlTree;\n /**\n * The extracted URL after redirects have been applied.\n * This URL may not be available immediately, therefore this property
can be `undefined`.\n * It is guaranteed to be set after the `RoutesRecognized` event fires.\n */\n finalUrl?: UrlTree;\n /**\n * Identifies how this navigation was triggered.\n *\n * * 'imperative'--Triggered by `router.navigateByUrl` or `router.navigate`.\n * * 'popstate'--Triggered by a popstate event.\n * * 'hashchange'--Triggered by a hashchange event.\n */\n trigger: 'imperative' | 'popstate' | 'hashchange';\n /**\n * Options that controlled the strategy used for this navigation.\n * See `NavigationExtras`.\n */\n extras: NavigationExtras;\n /**\n * The previously successful `Navigation` object. Only one previous navigation\n * is available, therefore this previous `Navigation` object has a `null` value\n * for its own `previousNavigation`.\n */\n previousNavigation: Navigation | null;\n};\n\nexport type NavigationTransition = {\n id: number,\n currentUrlTree: UrlTree,\n currentRawUrl: UrlTree,\n extractedUrl: UrlTree,\n urlAfterRedirects: UrlTree,\n rawUrl: UrlTree,\n extras: NavigationExtras,\n resolve: any,\n reject: any,\n promise: Promise<boolean>,\n source: NavigationTrigger,\n restoredState: RestoredState|null,\n currentSnapshot: RouterStateSnapshot,\n targetSnapshot: RouterStateSnapshot|null,\n currentRouterState: RouterState,\n targetRouterState: RouterState|null,\n guards: Checks,\n guardsResult: boolean|UrlTree|null,\n};\n\n/**\n * @internal\n */\nexport type RouterHook = (snapshot: RouterStateSnapshot, runExtras: {\n appliedUrlTree: UrlTree,\n rawUrlTree: UrlTree,\n skipLocationChange: boolean,\n replaceUrl: boolean,\n navigationId: number\n}) => Observable<void>;\n\n/**\n * @internal\n */\nfunction defaultRouterHook(snapshot: RouterStateSnapshot, runExtras: {\n appliedUrlTree: UrlTree,\n rawUrlTree: UrlTree,\n skipLocationChange: boolean,\n replaceUrl: boolean,\n navigationId: number\n}): Observable<void> {\n return of(null) as any;\n}\n\n/**\n * Information related to a location change,
necessary for scheduling follow-up Router navigations.\n */\ntype LocationChangeInfo = {\n source: 'popstate'|'hashchange',\n urlTree: UrlTree,\n state: RestoredState|null,\n transitionId: number\n};\n\n/**\n * @description\n *\n * A service that provides navigation among views and URL manipulation capabilities.\n *\n * @see `Route`.\n * @see [Routing and Navigation Guide](guide/router).\n *\n * @ngModule RouterModule\n *\n * @publicApi\n */\n@Injectable()\nexport class Router {\n private currentUrlTree: UrlTree;\n private rawUrlTree: UrlTree;\n private browserUrlTree: UrlTree;\n private readonly transitions: BehaviorSubject<NavigationTransition>;\n private navigations: Observable<NavigationTransition>;\n private lastSuccessfulNavigation: Navigation|null = null;\n private currentNavigation: Navigation|null = null;\n\n private locationSubscription?: SubscriptionLike;\n /**\n * Tracks the previously seen location change from the location subscription so we can compare\n

```
 * the two latest to see if they are duplicates. See setUpLocationChangeListener.\n */\n private
lastLocationChangeInfo: LocationChangeInfo|null = null;\n private navigationId: number = 0;\n private
configLoader: RouterConfigLoader;\n private ngModule: NgModuleRef<any>;\n private console: Console;\n
private isNgZoneEnabled: boolean = false;\n\n /**\n * An event stream for routing events in this NgModule.\n
*/\n public readonly events: Observable<Event> = new Subject<Event>();\n /**\n * The current state of routing
in this NgModule.\n */\n public readonly routerState: RouterState;\n\n /**\n * A handler for navigation errors in
this NgModule.\n */\n errorHandler: ErrorHandler = defaultErrorHandler;\n\n /**\n * A handler for errors
thrown by `Router.parseUrl(url)`\n * when `url` contains an invalid character.\n * The most common case is a `%`
sign\n * that's not encoded and is not part of a percent encoded sequence.\n */\n malformedUriErrorHandler:\n
    (error: URIError, urlSerializer: UrlSerializer,\n      url: string) => UrlTree =
defaultMalformedUriErrorHandler;\n\n /**\n * True if at least one navigation event has occurred,\n * false
otherwise.\n */\n navigated: boolean = false;\n private lastSuccessfulId: number = -1;\n\n /**\n * Hooks that
enable you to pause navigation,\n * either before or after the preactivation phase.\n * Used by `RouterModule`.\n
*\n * @internal\n */\n hooks: {\n beforePreactivation: RouterHook,\n afterPreactivation: RouterHook\n } =
{beforePreactivation: defaultRouterHook, afterPreactivation: defaultRouterHook};\n\n /**\n * A strategy for
extracting and merging URLs.\n * Used for AngularJS to Angular migrations.\n */\n urlHandlingStrategy:
UrlHandlingStrategy = new DefaultUrlHandlingStrategy();\n\n /**\n * A strategy for re-using routes.\n */\n
routeReuseStrategy: RouteReuseStrategy = new DefaultRouteReuseStrategy();\n\n /**\n * How to handle a
navigation
 request to the current URL. One of:\n * - `'ignore'` :  The router ignores the request.\n * - `'reload'` : The router
reloads the URL. Use to implement a \"refresh\" feature.\n */\n onSameUrlNavigation: 'reload'|'ignore' =
'ignore';\n\n /**\n * How to merge parameters, data, and resolved data from parent to child\n * routes. One of:\n
*\n * - `'emptyOnly'` : Inherit parent parameters, data, and resolved data\n * for path-less or component-less
routes.\n * - `'always'` : Inherit parent parameters, data, and resolved data\n * for all child routes.\n */\n
paramsInheritanceStrategy: 'emptyOnly'|'always' = 'emptyOnly';\n\n /**\n * Determines when the router updates
the browser URL.\n * By default (`\"deferred\"`), updates the browser URL after navigation has finished.\n * Set
to `'eager'` to update the browser URL at the beginning of navigation.\n * You can choose to update early so that, if
navigation fails,\n * you can show an error message with
 the URL that failed.\n */\n urlUpdateStrategy: 'deferred'|'eager' = 'deferred';\n\n /**\n * Enables a bug fix that
corrects relative link resolution in components with empty paths.\n * @see `RouterModule`\n */\n
relativeLinkResolution: 'legacy'|'corrected' = 'corrected';\n\n /**\n * Creates the router service.\n */\n // TODO:
vsavkin make internal after the final is out.\n constructor(\n      private rootComponentType: Type<any>|null,
private urlSerializer: UrlSerializer,\n      private rootContexts: ChildrenOutletContexts, private location: Location,
injector: Injector,\n      loader: NgModuleFactoryLoader, compiler: Compiler, public config: Routes) {\n    const
onLoadStart = (r: Route) => this.triggerEvent(new RouteConfigLoadStart(r));\n    const onLoadEnd = (r: Route) =>
this.triggerEvent(new RouteConfigLoadEnd(r));\n\n    this.ngModule = injector.get(NgModuleRef);\n    this.console
= injector.get(Console);\n    const ngZone = injector.get(NgZone);\n    this.isNgZoneEnabled
 = ngZone instanceof NgZone;\n\n    this.resetConfig(config);\n    this.currentUrlTree = createEmptyUrlTree();\n
this.rawUrlTree = this.currentUrlTree;\n    this.browserUrlTree = this.currentUrlTree;\n\n    this.configLoader = new
RouterConfigLoader(loader, compiler, onLoadStart, onLoadEnd);\n    this.routerState =
createEmptyState(this.currentUrlTree, this.rootComponentType);\n\n    this.transitions = new
BehaviorSubject<NavigationTransition>({\n      id: 0,\n      currentUrlTree: this.currentUrlTree,\n      currentRawUrl:
this.currentUrlTree,\n      extractedUrl: this.urlHandlingStrategy.extract(this.currentUrlTree),\n      urlAfterRedirects:
this.urlHandlingStrategy.extract(this.currentUrlTree),\n      rawUrl: this.currentUrlTree,\n      extras: {},\n
resolve: null,\n      reject: null,\n      promise: Promise.resolve(true),\n      source: 'imperative',\n      restoredState:
null,\n      currentSnapshot: this.routerState.snapshot,\n      targetSnapshot: null,\n
  currentRouterState: this.routerState,\n      targetRouterState: null,\n      guards: {canActivateChecks: [],
canDeactivateChecks: []},\n      guardsResult: null,\n    });\n    this.navigations =
```

```
this.setupNavigations(this.transitions);\n\n    this.processNavigations();\n  }\n\n  private
setupNavigations(transitions: Observable<NavigationTransition>):\n      Observable<NavigationTransition> {\n
const eventsSubject = (this.events as Subject<Event>);\n    return transitions.pipe(\n              filter(t => t.id !==
0),\n\n            // Extract URL\n            map(t =>\n                ({...t, extractedUrl:
this.urlHandlingStrategy.extract(t.rawUrl)} as\n                  NavigationTransition)),\n\n            // Using
switchMap so we cancel executing navigations when a new one comes in\n            switchMap(t => {\n
let completed = false;\n            let errored = false;\n            return of(t).pipe(\n              // Store
 the Navigation object\n              tap(t => {\n                this.currentNavigation = {\n                  id: t.id,\n
                initialUrl: t.currentRawUrl,\n                  extractedUrl: t.extractedUrl,\n                  trigger:
t.source,\n                  extras: t.extras,\n                  previousNavigation: this.lastSuccessfulNavigation ?\n
                {...this.lastSuccessfulNavigation, previousNavigation: null} :\n                  null\n
};\n              }),\n              switchMap(t => {\n                const urlTransition = !this.navigated ||\n
          t.extractedUrl.toString() !== this.browserUrlTree.toString();\n              const processCurrentUrl =\n
              (this.onSameUrlNavigation === 'reload' ? true : urlTransition) &&\n
this.urlHandlingStrategy.shouldProcessUrl(t.rawUrl);\n\n
              if (processCurrentUrl) {\n                return of(t).pipe(\n                  // Fire NavigationStart
event\n                  switchMap(t => {\n                    const transition = this.transitions.getValue();\n
              eventsSubject.next(new NavigationStart(\n                      t.id, this.serializeUrl(t.extractedUrl),
t.source,\n                      t.restoredState));\n                    if (transition !== this.transitions.getValue())
{\n                      return EMPTY;\n                    }\n                    return [t];\n
}),\n\n                  // This delay is required to match old behavior that forced navigation\n                  //
to always be async\n                  switchMap(t => Promise.resolve(t)),\n\n
            // ApplyRedirects\n                  applyRedirects(\n                    this.ngModule.injector,
this.configLoader, this.urlSerializer,\n                    this.config),\n\n                  // Update the
currentNavigation\n                  tap(t => {\n                    this.currentNavigation = {\n
 ...this.currentNavigation!,\n                      finalUrl: t.urlAfterRedirects\n                    };\n
   }),\n\n                  // Recognize\n                  recognize(\n
this.rootComponentType, this.config,\n                    (url) => this.serializeUrl(url),
this.paramsInheritanceStrategy,\n                    this.relativeLinkResolution),\n\n                  // Update
URL if in `eager` update mode\n
      tap(t => {\n                    if (this.urlUpdateStrategy === 'eager') {\n                      if
(!t.extras.skipLocationChange) {\n                        this.setBrowserUrl(\n
t.urlAfterRedirects, !!t.extras.replaceUrl, t.id,\n                          t.extras.state);\n                      }\n
                this.browserUrlTree = t.urlAfterRedirects;\n                    }\n                  }),\n\n
        // Fire RoutesRecognized\n                  tap(t => {\n                    const routesRecognized = new
RoutesRecognized(\n                      t.id, this.serializeUrl(t.extractedUrl),\n
this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot!);\n
eventsSubject.next(routesRecognized);\n                  }));\n
              } else {\n                const processPreviousUrl = urlTransition && this.rawUrlTree &&\n
          this.urlHandlingStrategy.shouldProcessUrl(this.rawUrlTree);\n                /* When the current URL
shouldn't be processed, but the previous one was,\n                 * we handle this \"error condition\" by
navigating to the previously\n                 * successful URL, but leaving the URL intact.*/\n                if
(processPreviousUrl) {\n                  const {id, extractedUrl, source, restoredState, extras} = t;\n
const navStart = new NavigationStart(\n                    id, this.serializeUrl(extractedUrl), source,
restoredState);\n                  eventsSubject.next(navStart);\n                  const targetSnapshot =\n
          createEmptyState(extractedUrl, this.rootComponentType).snapshot;\n\n
              return of({\n                  ...t,\n                  targetSnapshot,\n
urlAfterRedirects: extractedUrl,\n                  extras: {...extras, skipLocationChange: false, replaceUrl:
```

```
false},\n                    });\n                } else {\n                    /* When neither the current or previous
URL can be processed, do nothing\n                     * other than update router's internal reference to the current
\"settled\"\n                     * URL. This way the next navigation will be coming from the current URL\n
        * in the browser.\n                     */\n                    this.rawUrlTree = t.rawUrl;\n
this.browserUrlTree = t.urlAfterRedirects;\n                    t.resolve(null);\n                    return EMPTY;\n
            }\n                }\n
            }),\n\n                // Before Preactivation\n                switchTap(t => {\n                    const {\n
          targetSnapshot,\n                    id: navigationId,\n                    extractedUrl: appliedUrlTree,\n
      rawUrl: rawUrlTree,\n                    extras: {skipLocationChange, replaceUrl}\n                } = t;\n
       return this.hooks.beforePreactivation(targetSnapshot!, {\n                    navigationId,\n
appliedUrlTree,\n                    rawUrlTree,\n                    skipLocationChange: !!skipLocationChange,\n
          replaceUrl: !!replaceUrl,\n                });\n                }),\n\n                // --- GUARDS ---\n
    tap(t => {\n                    const guardsStart = new GuardsCheckStart(\n                        t.id,
this.serializeUrl(t.extractedUrl),\n
                        this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot!);\n
this.triggerEvent(guardsStart);\n                }),\n\n                map(t => ({\n                    ...t,\n
guards: getAllRouteGuards(\n                        t.targetSnapshot!, t.currentSnapshot, this.rootContexts)\n
      })),\n\n                checkGuards(this.ngModule.injector, (evt: Event) => this.triggerEvent(evt)),\n
tap(t => {\n                    if (isUrlTree(t.guardsResult)) {\n                        const error: Error&{url?: UrlTree} =
navigationCancelingError(\n                            `Redirecting to \"${this.serializeUrl(t.guardsResult)}\"`);\n
      error.url = t.guardsResult;\n                        throw error;\n                    }\n                }),\n\n                tap(t
=> {\n                    const
 guardsEnd = new GuardsCheckEnd(\n                        t.id, this.serializeUrl(t.extractedUrl),\n
this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot!,\n                        !!t.guardsResult);\n
this.triggerEvent(guardsEnd);\n                }),\n\n                filter(t => {\n                    if (!t.guardsResult) {\n
                this.resetUrlToCurrentUrlTree();\n                        const navCancel =\n                            new
NavigationCancel(t.id, this.serializeUrl(t.extractedUrl), '');\n                        eventsSubject.next(navCancel);\n
          t.resolve(false);\n                        return false;\n                    }\n                    return true;\n
}),\n\n                // --- RESOLVE ---\n                switchTap(t => {\n                    if
(t.guards.canActivateChecks.length) {\n
        return of(t).pipe(\n                            tap(t => {\n                                const resolveStart = new ResolveStart(\n
                        t.id, this.serializeUrl(t.extractedUrl),\n                                this.serializeUrl(t.urlAfterRedirects),
t.targetSnapshot!);\n                                this.triggerEvent(resolveStart);\n                            }),\n
switchMap(t => {\n                                let dataResolved = false;\n                                return of(t).pipe(\n
            resolveData(\n                                    this.paramsInheritanceStrategy, this.ngModule.injector),\n
              tap({\n                                    next: () => dataResolved = true,\n                                    complete: () => {\n
                            if (!dataResolved) {\n                                        const navCancel
 = new NavigationCancel(\n                                            t.id, this.serializeUrl(t.extractedUrl),\n
        `At least one route resolver didn't emit any value.`);\n
eventsSubject.next(navCancel);\n                                        t.resolve(false);\n                                    }\n
            }\n                                }),\n                                );\n                            }),\n                            tap(t => {\n
                    const resolveEnd = new ResolveEnd(\n                                t.id, this.serializeUrl(t.extractedUrl),\n
                        this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot!);\n
this.triggerEvent(resolveEnd);\n                            }));\n                    }\n                    return undefined;\n
    }),\n\n                // --- AFTER PREACTIVATION ---\n                switchTap((t: NavigationTransition) =>
{\n                    const {\n                        targetSnapshot,\n                        id: navigationId,\n
extractedUrl: appliedUrlTree,\n                        rawUrl: rawUrlTree,\n                        extras: {skipLocationChange,
replaceUrl}\n                    } = t;\n                    return this.hooks.afterPreactivation(targetSnapshot!, {\n
```

```
    navigationId,\n                appliedUrlTree,\n                rawUrlTree,\n
skipLocationChange: !!skipLocationChange,\n                replaceUrl: !!replaceUrl,\n                });\n
    }),\n\n                map((t: NavigationTransition) => {\n                const targetRouterState =
createRouterState(\n                this.routeReuseStrategy,
 t.targetSnapshot!, t.currentRouterState);\n                return ({...t, targetRouterState});\n                }),\n\n
        /* Once here, we are about to activate syncronously. The assumption is this\n                will succeed, and
user code may read from the Router service. Therefore\n                before activation, we need to update router
properties storing the current\n                URL and the RouterState, as well as updated the browser URL. All
this should\n                happen *before* activating. */\n                tap((t: NavigationTransition) => {\n
        this.currentUrlTree = t.urlAfterRedirects;\n                this.rawUrlTree =\n
this.urlHandlingStrategy.merge(this.currentUrlTree, t.rawUrl);\n\n                (this as {routerState:
RouterState}).routerState = t.targetRouterState!;\n\n                if (this.urlUpdateStrategy === 'deferred')
 {\n                if (!t.extras.skipLocationChange) {\n                this.setBrowserUrl(\n
this.rawUrlTree, !!t.extras.replaceUrl, t.id, t.extras.state);\n                }\n                this.browserUrlTree =
t.urlAfterRedirects;\n                }\n                }),\n\n                activateRoutes(\n
this.rootContexts, this.routeReuseStrategy,\n                (evt: Event) => this.triggerEvent(evt)),\n\n
tap({\n                next() {\n                completed = true;\n                },\n                complete() {\n
            completed = true;\n                }\n                }),\n                finalize(() => {\n                /*
When the navigation stream finishes either through error or success, we\n                * set the `completed` or
`errored`
 flag. However, there are some situations\n                * where we could get here without either of those being
set. For instance, a\n                * redirect during NavigationStart. Therefore, this is a catch-all to make\n
        * sure the NavigationCancel\n                * event is fired when a navigation gets cancelled but not caught
by other\n                * means. */\n                if (!completed && !errored) {\n                // Must reset to
current URL tree here to ensure history.state is set. On a\n                // fresh page load, if a new navigation
comes in before a successful\n                // navigation completes, there will be nothing in\n                //
history.state.navigationId. This can cause sync problems with AngularJS\n                // sync code which looks
for a value here in order to determine whether or\n                // not to
 handle a given popstate event or to leave it to the Angualr\n                // router.\n
this.resetUrlToCurrentUrlTree();\n                const navCancel = new NavigationCancel(\n
t.id, this.serializeUrl(t.extractedUrl),\n                `Navigation ID ${t.id} is not equal to the current navigation
id ${\n                this.navigationId}`);\n                eventsSubject.next(navCancel);\n
t.resolve(false);\n                }\n                // currentNavigation should always be reset to null here. If
navigation was\n                // successful, lastSuccessfulTransition will have already been set. Therefore\n
        // we can safely set currentNavigation to null here.\n                this.currentNavigation = null;\n
}),\n                catchError((e) => {\n
  errored = true;\n                /* This error type is issued during Redirect, and is handled as a\n                *
cancellation rather than an error. */\n                if (isNavigationCancelingError(e)) {\n                const
redirecting = isUrlTree(e.url);\n                if (!redirecting) {\n                // Set property only if we're not
redirecting. If we landed on a page and\n                // redirect to `/` route, the new navigation is going to see
the `/`\n                // isn't a change from the default currentUrlTree and won't navigate.\n                //
This is only applicable with initial navigation, so setting\n                // `navigated` only when not redirecting
resolves this scenario.\n                this.navigated = true;\n
this.resetStateAndUrl(t.currentRouterState, t.currentUrlTree, t.rawUrl);\n
   }\n                const navCancel = new NavigationCancel(\n                t.id,
this.serializeUrl(t.extractedUrl), e.message);\n                eventsSubject.next(navCancel);\n\n                //
When redirecting, we need to delay resolving the navigation\n                // promise and push it to the redirect
navigation\n                if (!redirecting) {\n                t.resolve(false);\n                } else {\n
```

```
        // setTimeout is required so this navigation finishes with\n                    // the return EMPTY below. If it isn't allowed to finish\n                    // processing, there can be multiple navigations to the same\n                    // URL.\n                    setTimeout(() => {\n                      const mergedTree =\n this.urlHandlingStrategy.merge(e.url, this.rawUrlTree);\n                      const extras = {\n                        skipLocationChange: t.extras.skipLocationChange,\n                        replaceUrl: this.urlUpdateStrategy === 'eager'\n                      };\n\n                      return this.scheduleNavigation(\n                          mergedTree, 'imperative', null, extras,\n                          {resolve: t.resolve, reject: t.reject, promise: t.promise});\n                    }, 0);\n                  }\n\n                  /* All other errors should reset to the router's internal URL reference to\n                   * the pre-error state. */\n                } else {\n                  this.resetStateAndUrl(t.currentRouterState, t.currentUrlTree, t.rawUrl);\n                  const navError =\n                      new NavigationError(t.id, this.serializeUrl(t.extractedUrl), e);\n                  eventsSubject.next(navError);\n                  try {\n                    t.resolve(this.errorHandler(e));\n                  } catch (ee) {\n                    t.reject(ee);\n                  }\n                }\n                return EMPTY;\n              }));\n              // TODO(jasonaden): remove cast once g3 is on updated TypeScript\n            })) as any as Observable<NavigationTransition>;\n  }\n\n  /**\n   * @internal\n   * TODO: this should be removed once the constructor of the router made internal\n   */\n  resetRootComponentType(rootComponentType: Type<any>): void {\n    this.rootComponentType = rootComponentType;\n    // TODO: vsavkin router 4.0 should make the root component set to null\n    // this will simplify the lifecycle of the router.\n    this.routerState.root.component = this.rootComponentType;\n  }\n\n  private getTransition(): NavigationTransition {\n    const transition = this.transitions.value;\n    // This value needs to be set. Other values such as extractedUrl are set on initial navigation\n    // but the urlAfterRedirects may not get set if we aren't processing the new URL *and* not\n    // processing the previous URL.\n    transition.urlAfterRedirects = this.browserUrlTree;\n    return transition;\n  }\n\n  private setTransition(t: Partial<NavigationTransition>): void {\n    this.transitions.next({...this.getTransition(), ...t});\n  }\n\n  /**\n   * Sets up the location change listener and performs the initial navigation.\n   */\n  initialNavigation(): void {\n    this.setUpLocationChangeListener();\n    if (this.navigationId === 0) {\n      this.navigateByUrl(this.location.path(true), {replaceUrl: true});\n    }\n  }\n\n  /**\n   * Sets up the location change listener. This listener detects navigations triggered from outside\n   * the Router (the browser back/forward buttons, for example) and schedules a corresponding Router\n   * navigation so that the correct events, guards, etc. are triggered.\n   */\n  setUpLocationChangeListener(): void {\n    // Don't need to use Zone.wrap any more, because zone.js\n    // already patch onPopState, so location change callback will\n    // run into ngZone\n    if (!this.locationSubscription) {\n      this.locationSubscription = this.location.subscribe(event => {\n        const currentChange = this.extractLocationChangeInfoFromEvent(event);\n        if (this.shouldScheduleNavigation(this.lastLocationChangeInfo, currentChange)) {\n          // The `setTimeout` was added in #12160 and is likely to support Angular/AngularJS\n          // hybrid apps.\n          setTimeout(() => {\n            const {source, state, urlTree} = currentChange;\n            const extras: NavigationExtras = {replaceUrl: true};\n            if (state) {\n              const stateCopy = {...state} as Partial<RestoredState>;\n              delete stateCopy.navigationId;\n              if (Object.keys(stateCopy).length !== 0) {\n                extras.state = stateCopy;\n              }\n            }\n            this.scheduleNavigation(urlTree, source, state, extras);\n          }, 0);\n        }\n        this.lastLocationChangeInfo = currentChange;\n      });\n    }\n  }\n\n  /** Extracts router-related information from a `PopStateEvent`. */\n  private extractLocationChangeInfoFromEvent(change: PopStateEvent): LocationChangeInfo {\n    return {\n      source: change['type'] === 'popstate' ? 'popstate' : 'hashchange',\n      urlTree: this.parseUrl(change['url']!),\n      // Navigations coming from Angular router have a navigationId state\n      // property. When this exists, restore the state.\n      state: change.state?.navigationId ? change.state : null,\n      transitionId: this.getTransition().id\n    } as const;\n  }\n\n  /**\n   * Determines whether two events triggered by the Location subscription are due to the same\n   * navigation. The location subscription can fire two events (popstate and hashchange) for a\n   * single navigation.
```

```
 The second one should be ignored, that is, we should not schedule another\n   * navigation in the Router.\n   */\n private shouldScheduleNavigation(previous: LocationChangeInfo|null, current: LocationChangeInfo):\n      boolean {\n    if (!previous) return true;\n\n    const sameDestination = current.urlTree.toString() ===
previous.urlTree.toString();\n    const eventsOccurredAtSameTime = current.transitionId ===
previous.transitionId;\n    if (!eventsOccurredAtSameTime || !sameDestination) {\n      return true;\n    }\n\n    if
((current.source === 'hashchange' && previous.source === 'popstate') ||\n        (current.source === 'popstate' &&
previous.source === 'hashchange')) {\n      return false;\n    }\n\n    return true;\n  }\n\n  /** The current URL. */\n
get url(): string {\n    return this.serializeUrl(this.currentUrlTree);\n  }\n\n  /** The current Navigation object if one
exists */\n  getCurrentNavigation(): Navigation|null {\n    return this.currentNavigation;\n  }\n\n
  /** @internal */\n  triggerEvent(event: Event): void {\n    (this.events as Subject<Event>).next(event);\n  }\n\n
/**\n   * Resets the route configuration used for navigation and generating links.\n   *\n   * @param config The
route array for the new configuration.\n   *\n   * @usageNotes\n   *\n   * ```\n   * router.resetConfig([\n   *  { path:
'team/:id', component: TeamCmp, children: [\n   *    { path: 'simple', component: SimpleCmp },\n   *    { path:
'user/:name', component: UserCmp }\n   *  ]}\n   * ]);\n   * ```\n   */\n  resetConfig(config: Routes): void {\n
validateConfig(config);\n    this.config = config.map(standardizeConfig);\n    this.navigated = false;\n
this.lastSuccessfulId = -1;\n  }\n\n  /** @nodoc */\n  ngOnDestroy(): void {\n    this.dispose();\n  }\n\n  /**
Disposes of the router. */\n  dispose(): void {\n    if (this.locationSubscription) {\n
this.locationSubscription.unsubscribe();\n      this.locationSubscription = undefined;\n    }\n  }\n\n  /**\n
   * Appends URL segments to the current URL tree to create a new URL tree.\n   *\n   * @param commands An
array of URL fragments with which to construct the new URL tree.\n   * If the path is static, can be the literal URL
string. For a dynamic path, pass an array of path\n   * segments, followed by the parameters for each segment.\n   *
The fragments are applied to the current URL tree or the one provided  in the `relativeTo`\n   * property of the
options object, if supplied.\n   * @param navigationExtras Options that control the navigation strategy.\n   *
@returns The new URL tree.\n   *\n   * @usageNotes\n   *\n   * ```\n   * // create /team/33/user/11\n   *
router.createUrlTree(['/team', 33, 'user', 11]);\n   *\n   * // create /team/33;expand=true/user/11\n   *
router.createUrlTree(['/team', 33, {expand: true}, 'user', 11]);\n   *\n   * // you can collapse static segments like this
(this works only with the first passed-in value):\n   * router.createUrlTree(['/team/33/user', userId]);\n
   *\n   * // If the first segment can contain slashes, and you do not want the router to split it,\n   * // you can do the
following:\n   * router.createUrlTree([{segmentPath: '/one/two'}]);\n   *\n   * // create
/team/33/(user/11//right:chat)\n   * router.createUrlTree(['/team', 33, {outlets: {primary: 'user/11', right: 'chat'}}]);\n
*\n   * // remove the right secondary node\n   * router.createUrlTree(['/team', 33, {outlets: {primary: 'user/11', right:
null}}]);\n   *\n   * // assuming the current url is `/team/33/user/11` and the route points to `user/11`\n   *\n   * //
navigate to /team/33/user/11/details\n   * router.createUrlTree(['details'], {relativeTo: route});\n   *\n   * // navigate
to /team/33/user/22\n   * router.createUrlTree(['../22'], {relativeTo: route});\n   *\n   * // navigate to
/team/44/user/22\n   * router.createUrlTree(['../../team/44/user/22'], {relativeTo: route});\n   * ```\n   */\n
createUrlTree(commands: any[], navigationExtras: UrlCreationOptions
 = {}): UrlTree {\n    const {relativeTo, queryParams, fragment, queryParamsHandling, preserveFragment} =\n
navigationExtras;\n    const a = relativeTo || this.routerState.root;\n    const f = preserveFragment ?
this.currentUrlTree.fragment : fragment;\n    let q: Params|null = null;\n    switch (queryParamsHandling) {\n
case 'merge':\n        q = {...this.currentUrlTree.queryParams, ...queryParams};\n        break;\n      case 'preserve':\n
 q = this.currentUrlTree.queryParams;\n        break;\n      default:\n        q = queryParams || null;\n    }\n    if (q !==
null) {\n      q = this.removeEmptyProps(q);\n    }\n    return createUrlTree(a, this.currentUrlTree, commands, q!,
f!);\n  }\n\n  /**\n   * Navigates to a view using an absolute route path.\n   *\n   * @param url An absolute path for a
defined route. The function does not apply any delta to the\n   *     current URL.\n   * @param extras An object
containing properties that modify the navigation strategy.\n
   *\n   * @returns A Promise that resolves to 'true' when navigation succeeds,\n   * to 'false' when navigation fails,
or is rejected on error.\n   *\n   * @usageNotes\n   *\n   * The following calls request navigation to an absolute
path.\n   *\n   * ```\n   * router.navigateByUrl(\"/team/33/user/11\");\n   *\n   * // Navigate without updating the
```

```
URL\n   * router.navigateByUrl(\"/team/33/user/11\", { skipLocationChange: true });\n   * ```\n   *\n   * @see [Routing and Navigation guide](guide/router)\n   *\n   */\n  navigateByUrl(url: string|UrlTree, extras: NavigationBehaviorOptions = {\n    skipLocationChange: false\n  }): Promise<boolean> {\n    if (typeof ngDevMode === 'undefined' ||\n        ngDevMode && this.isNgZoneEnabled && !NgZone.isInAngularZone()) {\n      this.console.warn(\n          `Navigation triggered outside Angular zone, did you forget to call 'ngZone.run()'?`);\n    }\n\n    const urlTree = isUrlTree(url) ? url : this.parseUrl(url);\n    const mergedTree = this.urlHandlingStrategy.merge(urlTree,
 this.rawUrlTree);\n\n    return this.scheduleNavigation(mergedTree, 'imperative', null, extras);\n  }\n\n  /**\n   * Navigate based on the provided array of commands and a starting point.\n   * If no starting route is provided, the navigation is absolute.\n   *\n   * @param commands An array of URL fragments with which to construct the target URL.\n   * If the path is static, can be the literal URL string. For a dynamic path, pass an array of path\n   * segments, followed by the parameters for each segment.\n   * The fragments are applied to the current URL or the one provided  in the `relativeTo` property\n   * of the options object, if supplied.\n   * @param extras An options object that determines how the URL should be constructed or\n   *     interpreted.\n   *\n   * @returns A Promise that resolves to `true` when navigation succeeds, to `false` when navigation\n   *     fails,\n   * or is rejected on error.\n   *\n   * @usageNotes\n   *\n   * The
 following calls request navigation to a dynamic route path relative to the current URL.\n   *\n   * ```\n   * router.navigate(['team', 33, 'user', 11], {relativeTo: route});\n   *\n   * // Navigate without updating the URL, overriding the default behavior\n   * router.navigate(['team', 33, 'user', 11], {relativeTo: route, skipLocationChange: true});\n   * ```\n   *\n   * @see [Routing and Navigation guide](guide/router)\n   *\n   */\n  navigate(commands: any[], extras: NavigationExtras = {skipLocationChange: false}):\n      Promise<boolean> {\n    validateCommands(commands);\n    return this.navigateByUrl(this.createUrlTree(commands, extras), extras);\n  }\n\n  /** Serializes a `UrlTree` into a string */\n  serializeUrl(url: UrlTree): string {\n    return this.urlSerializer.serialize(url);\n  }\n\n  /** Parses a string into a `UrlTree` */\n  parseUrl(url: string): UrlTree {\n    let urlTree: UrlTree;\n    try {\n      urlTree = this.urlSerializer.parse(url);\n    } catch (e) {\n      urlTree = this.malformedUriErrorHandler(e, this.urlSerializer, url);\n    }\n    return urlTree;\n  }\n\n  /** Returns whether the url is activated */\n  isActive(url: string|UrlTree, exact: boolean): boolean {\n    if (isUrlTree(url)) {\n      return containsTree(this.currentUrlTree, url, exact);\n    }\n\n    const urlTree = this.parseUrl(url);\n    return containsTree(this.currentUrlTree, urlTree, exact);\n  }\n\n  private removeEmptyProps(params: Params): Params {\n    return Object.keys(params).reduce((result: Params, key: string) => {\n      const value: any = params[key];\n      if (value !== null && value !== undefined) {\n        result[key] = value;\n      }\n      return result;\n    }, {});\n  }\n\n  private processNavigations(): void {\n    this.navigations.subscribe(\n        t => {\n          this.navigated = true;\n          this.lastSuccessfulId = t.id;\n          (this.events as Subject<Event>)\n              .next(new NavigationEnd(\n                  t.id, this.serializeUrl(t.extractedUrl),
 this.serializeUrl(this.currentUrlTree)));\n          this.lastSuccessfulNavigation = this.currentNavigation;\n          this.currentNavigation = null;\n          t.resolve(true);\n        },\n        e => {\n          this.console.warn(`Unhandled Navigation Error: `);\n        });\n  }\n\n  private scheduleNavigation(\n      rawUrl: UrlTree, source: NavigationTrigger, restoredState: RestoredState|null,\n      extras: NavigationExtras,\n      priorPromise?: {resolve: any, reject: any, promise: Promise<boolean>}): Promise<boolean> {\n    // * Imperative navigations (router.navigate) might trigger additional navigations to the same\n    //   URL via a popstate event and the locationChangeListener. We should skip these duplicate\n    //   navs. Duplicates may also be triggered by attempts to sync AngularJS and Angular router\n    //   states.\n    // * Imperative navigations can be cancelled by router guards, meaning the URL won't change. If\n    //   the user follows
 that with a navigation using the back/forward button or manual URL change,\n    //   the destination may be the same as the previous imperative attempt. We should not skip\n    //   these navigations because it's a separate case from the one above -- it's not a duplicate\n    //   navigation.\n    const lastNavigation = this.getTransition();\n    // We don't want to skip duplicate successful navs if they're imperative because\n    // onSameUrlNavigation could be 'reload' (so the duplicate is intended).\n    const browserNavPrecededByRouterNav =\n        source !== 'imperative'
```

```
&& lastNavigation?.source === 'imperative';\n    const lastNavigationSucceeded = this.lastSuccessfulId ===
lastNavigation.id;\n    // If the last navigation succeeded or is in flight, we can use the rawUrl as the comparison.\n
// However, if it failed, we should compare to the final result (urlAfterRedirects).\n    const lastNavigationUrl =
(lastNavigationSucceeded || this.currentNavigation) ?\n        lastNavigation.rawUrl
 :\n        lastNavigation.urlAfterRedirects;\n    const duplicateNav = lastNavigationUrl.toString() ===
rawUrl.toString();\n    if (browserNavPrecededByRouterNav && duplicateNav) {\n      return Promise.resolve(true);
// return value is not used\n    }\n\n    let resolve: any;\n    let reject: any;\n    let promise: Promise<boolean>;\n    if
(priorPromise) {\n      resolve = priorPromise.resolve;\n      reject = priorPromise.reject;\n      promise =
priorPromise.promise;\n\n    } else {\n      promise = new Promise<boolean>((res, rej) => {\n        resolve = res;\n
 reject = rej;\n      });\n    }\n\n    const id = ++this.navigationId;\n    this.setTransition({\n      id,\n      source,\n
restoredState,\n      currentUrlTree: this.currentUrlTree,\n      currentRawUrl: this.rawUrlTree,\n      rawUrl,\n
extras,\n      resolve,\n      reject,\n      promise,\n      currentSnapshot: this.routerState.snapshot,\n
currentRouterState: this.routerState\n
    });\n\n    // Make sure that the error is propagated even though `processNavigations` catch\n    // handler does not
rethrow\n    return promise.catch((e: any) => {\n      return Promise.reject(e);\n    });\n  }\n\n  private
setBrowserUrl(\n      url: UrlTree, replaceUrl: boolean, id: number, state?: {[key: string]: any}) {\n    const path =
this.urlSerializer.serialize(url);\n    state = state || {};\n    if (this.location.isCurrentPathEqualTo(path) || replaceUrl)
{\n      // TODO(jasonaden): Remove first `navigationId` and rely on `ng` namespace.\n
this.location.replaceState(path, '', {...state, navigationId: id});\n    } else {\n      this.location.go(path, '', {...state,
navigationId: id});\n    }\n  }\n\n  private resetStateAndUrl(storedState: RouterState, storedUrl: UrlTree, rawUrl:
UrlTree): void {\n    (this as {routerState: RouterState}).routerState = storedState;\n    this.currentUrlTree =
storedUrl;\n    this.rawUrlTree = this.urlHandlingStrategy.merge(this.currentUrlTree,
 rawUrl);\n    this.resetUrlToCurrentUrlTree();\n  }\n\n  private resetUrlToCurrentUrlTree(): void {\n
this.location.replaceState(\n        this.urlSerializer.serialize(this.rawUrlTree), '', {navigationId:
this.lastSuccessfulId});\n  }\n}\n\nfunction validateCommands(commands: string[]): void {\n  for (let i = 0; i <
commands.length; i++) {\n    const cmd = commands[i];\n    if (cmd == null) {\n      throw new Error(`The requested
path contains ${cmd} segment at index ${i}`);\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All
Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the
LICENSE file at https://angular.io/license\n */\n\nimport {LocationStrategy} from '@angular/common';\nimport
{Attribute, Directive, ElementRef, HostBinding, HostListener, Input, OnChanges, OnDestroy, Renderer2,
SimpleChanges} from '@angular/core';\nimport {Subject, Subscription} from 'rxjs';\n\nimport
{QueryParamsHandling} from
 '../config';\nimport {Event, NavigationEnd} from '../events';\nimport {Router} from '../router';\nimport
{ActivatedRoute} from '../router_state';\nimport {Params} from '../shared';\nimport {UrlTree} from
'../url_tree';\n\n\n/**\n * @description\n *\n * When applied to an element in a template, makes that element a link\n
* that initiates navigation to a route. Navigation opens one or more routed components\n * in one or more `<router-
outlet>` locations on the page.\n *\n * Given a route configuration `[{ path: 'user/:name', component: UserCmp
}]`,\n * the following creates a static link to the route:\n * `<a routerLink=\"/user/bob\">link to user
component</a>`\n *\n * You can use dynamic values to generate the link.\n * For a dynamic link, pass an array of
path segments,\n * followed by the params for each segment.\n * For example, `['/team', teamId, 'user', userName,
{details: true}]`\n * generates a link to `/team/11/user/bob;details=true`.\n *\n * Multiple static segments can be
merged
 into one term and combined with dynamic segements.\n * For example, `['/team/11/user', userName, {details:
true}]`\n *\n * The input that you provide to the link is treated as a delta to the current URL.\n * For instance,
suppose the current URL is `/user/(box//aux:team)`.\n * The link `<a [routerLink]=\"['/user/jim']\">Jim</a>` creates
the URL\n * `/user/(jim//aux:team)`.\n * See {@link Router#createUrlTree createUrlTree} for more information.\n
*\n * @usageNotes\n *\n * You can use absolute or relative paths in a link, set query parameters,\n * control how
parameters are handled, and keep a history of navigation states.\n *\n * ### Relative link paths\n *\n * The first
```

segment name can be prepended with `/`, `./`, or `../`.\n * * If the first segment begins with `/`, the router looks up the route from the root of the\n * app.\n * * If the first segment begins with `./`, or doesn't begin with a slash, the router\n * looks in the children of the current activated route.\n * *
If the first segment begins with `../`, the router goes up one level in the route tree.\n *\n * ### Setting and handling query params and fragments\n *\n * The following link adds a query parameter and a fragment to the generated URL:\n *\n * ```\n * <a [routerLink]=\"['/user/bob']\" [queryParams]=\"{debug: true}\" fragment=\"education\">\n * link to user component\n * </a>\n * ```\n * By default, the directive constructs the new URL using the given query parameters.\n * The example generates the link: `/user/bob?debug=true#education`.\n *\n * You can instruct the directive to handle query parameters differently\n * by specifying the `queryParamsHandling` option in the link.\n * Allowed values are:\n *\n * - `'merge'`: Merge the given `queryParams` into the current query params.\n * - `'preserve'`: Preserve the current query params.\n *\n * For example:\n *\n * ```\n * <a [routerLink]=\"['/user/bob']\" [queryParams]=\"{debug: true}\" queryParamsHandling=\"merge\">\n * link to user component\n * </a>\n * ```\n *\n * See {@link UrlCreationOptions.queryParamsHandling UrlCreationOptions#queryParamsHandling}.\n *\n * ### Preserving navigation history\n *\n * You can provide a `state` value to be persisted to the browser's\n * [`History.state` property](https://developer.mozilla.org/en-US/docs/Web/API/History#Properties).\n * For example:\n *\n * ```\n * <a [routerLink]=\"['/user/bob']\" [state]=\"{tracingId: 123}\">\n * link to user component\n * </a>\n * ```\n *\n * Use {@link Router.getCurrentNavigation() Router#getCurrentNavigation} to retrieve a saved\n * navigation-state value. For example, to capture the `tracingId` during the `NavigationStart`\n * event:\n *\n * ```\n * // Get NavigationStart events\n * router.events.pipe(filter(e => e instanceof NavigationStart)).subscribe(e => {\n * const navigation = router.getCurrentNavigation();\n * tracingService.trace({id: navigation.extras.state.tracingId});\n * });\n * ```\n *\n * @ngModule RouterModule\n *\n
* @publicApi\n */\n@Directive({selector: ':not(a):not(area)[routerLink]'})\nexport class RouterLink implements OnChanges {\n /**\n * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n * `UrlCreationOptions`.\n * @see {@link UrlCreationOptions#queryParams UrlCreationOptions#queryParams}\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n @Input() queryParams?: Params|null;\n /**\n * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n * `UrlCreationOptions`.\n * @see {@link UrlCreationOptions#fragment UrlCreationOptions#fragment}\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n @Input() fragment?: string;\n /**\n * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n * `UrlCreationOptions`.\n * @see {@link UrlCreationOptions#queryParamsHandling UrlCreationOptions#queryParamsHandling}\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n
@Input() queryParamsHandling?: QueryParamsHandling|null;\n /**\n * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n * `UrlCreationOptions`.\n * @see {@link UrlCreationOptions#preserveFragment UrlCreationOptions#preserveFragment}\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n // TODO(issue/24571): remove '!'.\n @Input() preserveFragment!: boolean;\n /**\n * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n * `NavigationBehaviorOptions`.\n * @see {@link NavigationBehaviorOptions#skipLocationChange NavigationBehaviorOptions#skipLocationChange}\n * @see {@link Router#navigateByUrl Router#navigateByUrl}\n */\n // TODO(issue/24571): remove '!'.\n @Input() skipLocationChange!: boolean;\n /**\n * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n * `NavigationBehaviorOptions`.\n * @see {@link NavigationBehaviorOptions#replaceUrl NavigationBehaviorOptions#replaceUrl}\n
* @see {@link Router#navigateByUrl Router#navigateByUrl}\n */\n // TODO(issue/24571): remove '!'.\n @Input() replaceUrl!: boolean;\n /**\n * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n * `NavigationBehaviorOptions`.\n * @see {@link NavigationBehaviorOptions#state NavigationBehaviorOptions#state}\n * @see {@link Router#navigateByUrl Router#navigateByUrl}\n */\n @Input() state?: {[k: string]: any};\n private commands: any[] = [];\n private preserve!: boolean;\n\n /** @internal

```
*/\n  onChanges = new Subject<RouterLink>();\n\n  constructor(\n      private router: Router, private route: ActivatedRoute,\n      @Attribute('tabindex') tabIndex: string, renderer: Renderer2, el: ElementRef) {\n    if (tabIndex == null) {\n      renderer.setAttribute(el.nativeElement, 'tabindex', '0');\n    }\n  }\n\n  /** @nodoc */\n  ngOnChanges(changes: SimpleChanges) {\n    // This is subscribed to by `RouterLinkActive` so that it knows to update when
  there are changes\n    // to the RouterLinks it's tracking.\n    this.onChanges.next(this);\n  }\n\n  /**\n   * Commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n   *   - **array**: commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n   *   - **string**: shorthand for array of commands with just the string, i.e. `['/route']`\n   *   - **null|undefined**: shorthand for an empty array of commands, i.e. `[]`\n   * @see {@link Router#createUrlTree Router#createUrlTree}\n   */\n  @Input()\n  set routerLink(commands: any[]|string|null|undefined) {\n    if (commands != null) {\n      this.commands = Array.isArray(commands) ? commands : [commands];\n    } else {\n      this.commands = [];\n    }\n  }\n\n  /** @nodoc */\n  @HostListener('click')\n  onClick(): boolean {\n    const extras = {\n      skipLocationChange: attrBoolValue(this.skipLocationChange),\n      replaceUrl: attrBoolValue(this.replaceUrl),\n      state: this.state,\n    };\n    this.router.navigateByUrl(this.urlTree,
  extras);\n    return true;\n  }\n\n  get urlTree(): UrlTree {\n    return this.router.createUrlTree(this.commands, {\n      relativeTo: this.route,\n      queryParams: this.queryParams,\n      fragment: this.fragment,\n      queryParamsHandling: this.queryParamsHandling,\n      preserveFragment: attrBoolValue(this.preserveFragment),\n    });\n  }\n}\n\n/**\n * @description\n *\n * Lets you link to specific routes in your app.\n *\n * See `RouterLink` for more information.\n *\n * @ngModule RouterModule\n *\n * @publicApi\n */\n@Directive({selector: 'a[routerLink],area[routerLink]'})\nexport class RouterLinkWithHref implements OnChanges, OnDestroy {\n  // TODO(issue/24571): remove '!'.\n  @HostBinding('attr.target') @Input() target!: string;\n  /**\n   * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n   * `UrlCreationOptions`.\n   * @see {@link UrlCreationOptions#queryParams UrlCreationOptions#queryParams}\n   * @see {@link
  Router#createUrlTree Router#createUrlTree}\n   */\n  @Input() queryParams?: Params|null;\n  /**\n   * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n   * `UrlCreationOptions`.\n   * @see {@link UrlCreationOptions#fragment UrlCreationOptions#fragment}\n   * @see {@link Router#createUrlTree Router#createUrlTree}\n   */\n  @Input() fragment?: string;\n  /**\n   * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n   * `UrlCreationOptions`.\n   * @see {@link UrlCreationOptions#queryParamsHandling UrlCreationOptions#queryParamsHandling}\n   * @see {@link Router#createUrlTree Router#createUrlTree}\n   */\n  @Input() queryParamsHandling?: QueryParamsHandling|null;\n  /**\n   * Passed to {@link Router#createUrlTree Router#createUrlTree} as part of the\n   * `UrlCreationOptions`.\n   * @see {@link UrlCreationOptions#preserveFragment UrlCreationOptions#preserveFragment}\n   * @see {@link Router#createUrlTree Router#createUrlTree}\n   */\n  // TODO(issue/24571): remove '!'.\n  @Input() preserveFragment!: boolean;\n  /**\n   * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n   * `NavigationBehaviorOptions`.\n   * @see {@link NavigationBehaviorOptions#skipLocationChange NavigationBehaviorOptions#skipLocationChange}\n   * @see {@link Router#navigateByUrl Router#navigateByUrl}\n   */\n  // TODO(issue/24571): remove '!'.\n  @Input() skipLocationChange!: boolean;\n  /**\n   * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n   * `NavigationBehaviorOptions`.\n   * @see {@link NavigationBehaviorOptions#replaceUrl NavigationBehaviorOptions#replaceUrl}\n   * @see {@link Router#navigateByUrl Router#navigateByUrl}\n   */\n  // TODO(issue/24571): remove '!'.\n  @Input() replaceUrl!: boolean;\n  /**\n   * Passed to {@link Router#navigateByUrl Router#navigateByUrl} as part of the\n   * `NavigationBehaviorOptions`.\n   * @see {@link NavigationBehaviorOptions#state NavigationBehaviorOptions#state}\n
   * @see {@link Router#navigateByUrl Router#navigateByUrl}\n   */\n  @Input() state?: {[k: string]: any};\n  private commands: any[] = [];\n  private subscription: Subscription;\n  // TODO(issue/24571): remove '!'.\n  private preserve!: boolean;\n\n  // the url displayed on the anchor element.\n  // TODO(issue/24571): remove '!'.\n  @HostBinding() href!: string;\n\n  /** @internal */\n  onChanges = new Subject<RouterLinkWithHref>();\n\n
```

constructor(\n private router: Router, private route: ActivatedRoute,\n private locationStrategy: LocationStrategy) {\n this.subscription = router.events.subscribe((s: Event) => {\n if (s instanceof NavigationEnd) {\n this.updateTargetUrlAndHref();\n }\n });\n }\n\n /**\n * Commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n * - **array**: commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n * - **string**: shorthand for array of commands with just the string, i.e. `['/route']`\n * - **null|undefined**: shorthand for an empty array of commands, i.e. `[]`\n * @see {@link Router#createUrlTree Router#createUrlTree}\n */\n @Input()\n set routerLink(commands: any[]|string|null|undefined) {\n if (commands != null) {\n this.commands = Array.isArray(commands) ? commands : [commands];\n } else {\n this.commands = [];\n }\n }\n\n /** @nodoc */\n ngOnChanges(changes: SimpleChanges): any {\n this.updateTargetUrlAndHref();\n this.onChanges.next(this);\n }\n /** @nodoc */\n ngOnDestroy(): any {\n this.subscription.unsubscribe();\n }\n\n /** @nodoc */\n @HostListener(\n 'click',\n ['$event.button', '$event.ctrlKey', '$event.shiftKey', '$event.altKey', '$event.metaKey'])\n onClick(button: number, ctrlKey: boolean, shiftKey: boolean, altKey: boolean, metaKey: boolean):\n boolean {\n if (button !== 0 || ctrlKey || shiftKey || altKey || metaKey) {\n return true;\n }\n\n if (typeof this.target === 'string' && this.target != '_self') {\n return true;\n }\n\n const extras = {\n skipLocationChange: attrBoolValue(this.skipLocationChange),\n replaceUrl: attrBoolValue(this.replaceUrl),\n state: this.state\n };\n this.router.navigateByUrl(this.urlTree, extras);\n return false;\n }\n\n private updateTargetUrlAndHref(): void {\n this.href = this.locationStrategy.prepareExternalUrl(this.router.serializeUrl(this.urlTree));\n }\n\n get urlTree(): UrlTree {\n return this.router.createUrlTree(this.commands, {\n relativeTo: this.route,\n queryParams: this.queryParams,\n fragment: this.fragment,\n queryParamsHandling: this.queryParamsHandling,\n preserveFragment: attrBoolValue(this.preserveFragment),\n });\n }\n}\n\nfunction attrBoolValue(s: any): boolean {\n return s === '' || !!s;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AfterContentInit, ChangeDetectorRef, ContentChildren, Directive, ElementRef, Input, OnChanges, OnDestroy, Optional, QueryList, Renderer2, SimpleChanges} from '@angular/core';\nimport {from, of, Subscription} from 'rxjs';\nimport {mergeAll} from 'rxjs/operators';\n\nimport {Event, NavigationEnd} from '../events';\nimport {Router} from '../router';\n\nimport {RouterLink, RouterLinkWithHref} from './router_link';\n\n\n/**\n *\n * @description\n *\n * Tracks whether the linked route of an element is currently active, and allows you\n * to specify one or more CSS classes to add to the element when the linked route\n * is active.\n *\n * Use this directive to create a visual distinction for elements associated with an active route.\n * For example, the following code highlights the word \"Bob\" when the the router\n * activates the associated route:\n *\n * ```\n * <a routerLink=\"/user/bob\" routerLinkActive=\"active-link\">Bob</a>\n * ```\n *\n * Whenever the URL is either '/user' or '/user/bob', the \"active-link\" class is\n * added to the anchor tag. If the URL changes, the class is removed.\n *\n * You can set more than one class using a space-separated string or an array.\n * For example:\n *\n * ```\n * <a routerLink=\"/user/bob\" routerLinkActive=\"class1 class2\">Bob</a>\n * <a routerLink=\"/user/bob\" [routerLinkActive]=\"['class1', 'class2']\">Bob</a>\n * ```\n *\n * To add the classes only when the URL matches the link exactly, add the option `exact: true`:\n *\n * ```\n * <a routerLink=\"/user/bob\" routerLinkActive=\"active-link\" [routerLinkActiveOptions]=\"{exact:\n * true}\">Bob</a>\n * ```\n *\n * To directly check the `isActive` status of the link, assign the `RouterLinkActive`\n * instance to a template variable.\n * For example, the following checks the status without assigning any CSS classes:\n *\n * ```\n * <a routerLink=\"/user/bob\" routerLinkActive #rla=\"routerLinkActive\">\n * Bob {{ rla.isActive ? '(already open)' : ''}}\n * </a>\n * ```\n *\n * You can apply the `RouterLinkActive` directive to an ancestor of linked elements.\n * For example, the following sets the active-link class on the `<div>` parent tag\n * when the URL is either '/user/jim' or '/user/bob'.\n *\n * ```\n * <div routerLinkActive=\"active-link\" [routerLinkActiveOptions]=\"{exact: true}\">\n * <a routerLink=\"/user/jim\">Jim</a>\n * <a routerLink=\"/user/bob\">Bob</a>\n * </div>\n * ```\n *\n * @ngModule

```
RouterModule\n *\n * @publicApi\n */\n@Directive({\n  selector: '[routerLinkActive]',\n  exportAs:
'routerLinkActive',\n})\nexport class RouterLinkActive implements OnChanges, OnDestroy, AfterContentInit {\n
@ContentChildren(RouterLink, {descendants: true}) links!: QueryList<RouterLink>;\n
@ContentChildren(RouterLinkWithHref, {descendants: true})\n  linksWithHrefs!:
QueryList<RouterLinkWithHref>;\n\n  private classes: string[] = [];\n  private
 routerEventsSubscription: Subscription;\n  private linkInputChangesSubscription?: Subscription;\n  public readonly
isActive: boolean = false;\n\n  @Input() routerLinkActiveOptions: {exact: boolean} = {exact: false};\n\n
constructor(\n      private router: Router, private element: ElementRef, private renderer: Renderer2,\n      private
readonly cdr: ChangeDetectorRef, @Optional() private link?: RouterLink,\n      @Optional() private linkWithHref?:
RouterLinkWithHref) {\n    this.routerEventsSubscription = router.events.subscribe((s: Event) => {\n      if (s
instanceof NavigationEnd) {\n        this.update();\n      }\n    });\n  }\n\n  /** @nodoc */\n  ngAfterContentInit():
void {\n    // `of(null)` is used to force subscribe body to execute once immediately (like `startWith`).\n
from([this.links.changes, this.linksWithHrefs.changes, of(null)])\n        .pipe(mergeAll())\n        .subscribe(_ => {\n
      this.update();\n          this.subscribeToEachLinkOnChanges();\n
    });\n  }\n\n  private subscribeToEachLinkOnChanges() {\n    this.linkInputChangesSubscription?.unsubscribe();\n
  const allLinkChanges =\n        [...this.links.toArray(), ...this.linksWithHrefs.toArray(), this.link,
this.linkWithHref]\n            .filter((link): link is RouterLink|RouterLinkWithHref => !!link)\n            .map(link =>
link.onChanges);\n    this.linkInputChangesSubscription = from(allLinkChanges).pipe(mergeAll()).subscribe(link
=> {\n      if (this.isActive !== this.isLinkActive(this.router)(link)) {\n        this.update();\n      }\n    });\n  }\n\n
@Input()\n  set routerLinkActive(data: string[]|string) {\n    const classes = Array.isArray(data) ? data : data.split('
');\n    this.classes = classes.filter(c => !!c);\n  }\n\n  /** @nodoc */\n  ngOnChanges(changes: SimpleChanges):
void {\n    this.update();\n  }\n  /** @nodoc */\n  ngOnDestroy(): void {\n
this.routerEventsSubscription.unsubscribe();\n    this.linkInputChangesSubscription?.unsubscribe();\n  }\n\n
  private update(): void {\n    if (!this.links || !this.linksWithHrefs || !this.router.navigated) return;\n
Promise.resolve().then(() => {\n      const hasActiveLinks = this.hasActiveLinks();\n      if (this.isActive !==
hasActiveLinks) {\n        (this as any).isActive = hasActiveLinks;\n        this.cdr.markForCheck();\n
this.classes.forEach((c) => {\n          if (hasActiveLinks) {\n
this.renderer.addClass(this.element.nativeElement, c);\n          } else {\n
this.renderer.removeClass(this.element.nativeElement, c);\n          }\n        });\n      }\n    });\n  }\n\n  private
isLinkActive(router: Router): (link: (RouterLink|RouterLinkWithHref)) => boolean {\n    return (link:
RouterLink|RouterLinkWithHref) =>\n                router.isActive(link.urlTree, this.routerLinkActiveOptions.exact);\n
}\n\n  private hasActiveLinks(): boolean {\n    const isActiveCheckFn = this.isLinkActive(this.router);\n    return
this.link && isActiveCheckFn(this.link)
 ||\n        this.linkWithHref && isActiveCheckFn(this.linkWithHref) ||\n        this.links.some(isActiveCheckFn) ||
this.linksWithHrefs.some(isActiveCheckFn);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights
Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the
LICENSE file at https://angular.io/license\n */\n\nimport {Attribute, ChangeDetectorRef,
ComponentFactoryResolver, ComponentRef, Directive, EventEmitter, Injector, OnDestroy, OnInit, Output,
ViewContainerRef} from '@angular/core';\n\nimport {Data} from '../config';\nimport {ChildrenOutletContexts}
from '../router_outlet_context';\nimport {ActivatedRoute} from '../router_state';\nimport {PRIMARY_OUTLET}
from '../shared';\n\n/**\n * @description\n *\n * Acts as a placeholder that Angular dynamically fills based on the
current router state.\n *\n * Each outlet can have a unique name, determined by the optional `name` attribute.\n *
The name cannot be set or changed
 dynamically. If not set, default value is \"primary\".\n *\n * ```\n * <router-outlet></router-outlet>\n * <router-
outlet name='left'></router-outlet>\n * <router-outlet name='right'></router-outlet>\n * ```\n *\n * Named outlets
can be the targets of secondary routes.\n * The `Route` object for a secondary route has an `outlet` property to
identify the target outlet:\n *\n * `{path: <base-path>, component: <component>, outlet: <target_outlet_name>}`\n
*\n * Using named outlets and secondary routes, you can target multiple outlets in\n * the same `RouterLink`
```

directive.\n *\n * The router keeps track of separate branches in a navigation tree for each named outlet and\n * generates a representation of that tree in the URL.\n * The URL for a secondary route uses the following syntax to specify both the primary and secondary\n * routes at the same time:\n *\n * `http://base-path/primary-route-path(outlet-name:route-path)`\n *\n * A router outlet emits an activate event when a new component is instantiated,\n * and a deactivate event when a component is destroyed.\n *\n * ```\n * <router-outlet\n * (activate)='onActivate($event)'\n *  (deactivate)='onDeactivate($event)'></router-outlet>\n * ```\n *\n * @see [Routing tutorial](guide/router-tutorial-toh#named-outlets \"Example of a named\n * outlet and secondary route configuration\").\n * @see `RouterLink`\n * @see `Route`\n * @ngModule RouterModule\n *\n * @publicApi\n */\n@Directive({selector: 'router-outlet', exportAs: 'outlet'})\nexport class RouterOutlet implements OnDestroy, OnInit {\n  private activated: ComponentRef<any>|null = null;\n  private _activatedRoute: ActivatedRoute|null = null;\n  private name: string;\n\n  @Output('activate') activateEvents = new EventEmitter<any>();\n @Output('deactivate') deactivateEvents = new EventEmitter<any>();\n\n  constructor(\n      private parentContexts: ChildrenOutletContexts, private location: ViewContainerRef,\n      private resolver: ComponentFactoryResolver, @Attribute('name')\n  name: string,\n      private changeDetector: ChangeDetectorRef) {\n    this.name = name || PRIMARY_OUTLET;\n  parentContexts.onChildOutletCreated(this.name, this);\n  }\n\n  /** @nodoc */\n  ngOnDestroy(): void {\n this.parentContexts.onChildOutletDestroyed(this.name);\n  }\n\n  /** @nodoc */\n  ngOnInit(): void {\n    if (!this.activated) {\n      // If the outlet was not instantiated at the time the route got activated we need to populate\n // the outlet when it is initialized (ie inside a NgIf)\n      const context = this.parentContexts.getContext(this.name);\n      if (context && context.route) {\n        if (context.attachRef) {\n          // `attachRef` is populated when there is an existing component to mount\n          this.attach(context.attachRef, context.route);\n        } else {\n          // otherwise the component defined in the configuration is created\n          this.activateWith(context.route, context.resolver || null);\n        }\n      }\n    }\n  }\n\n  get isActivated(): boolean {\n    return !!this.activated;\n  }\n\n  get component(): Object {\n    if (!this.activated) throw new Error('Outlet is not activated');\n    return this.activated.instance;\n  }\n\n  get activatedRoute(): ActivatedRoute {\n    if (!this.activated) throw new Error('Outlet is not activated');\n    return this._activatedRoute as ActivatedRoute;\n  }\n\n  get activatedRouteData(): Data {\n    if (this._activatedRoute) {\n      return this._activatedRoute.snapshot.data;\n    }\n    return {};\n  }\n\n  /**\n   * Called when the `RouteReuseStrategy` instructs to detach the subtree\n   */\n  detach(): ComponentRef<any> {\n    if (!this.activated) throw new Error('Outlet is not activated');\n    this.location.detach();\n    const cmp = this.activated;\n    this.activated = null;\n    this._activatedRoute = null;\n    return cmp;\n  }\n\n  /**\n   * Called when the `RouteReuseStrategy` instructs to re-attach a previously detached subtree\n   */\n  attach(ref: ComponentRef<any>, activatedRoute: ActivatedRoute) {\n    this.activated = ref;\n    this._activatedRoute = activatedRoute;\n    this.location.insert(ref.hostView);\n  }\n\n  deactivate(): void {\n    if (this.activated) {\n      const c = this.component;\n      this.activated.destroy();\n      this.activated = null;\n      this._activatedRoute = null;\n      this.deactivateEvents.emit(c);\n    }\n  }\n\n  activateWith(activatedRoute: ActivatedRoute, resolver: ComponentFactoryResolver|null) {\n    if (this.isActivated) {\n      throw new Error('Cannot activate an already activated outlet');\n    }\n    this._activatedRoute = activatedRoute;\n    const snapshot = activatedRoute._futureSnapshot;\n    const component = <any>snapshot.routeConfig!.component;\n    resolver = resolver || this.resolver;\n    const factory = resolver.resolveComponentFactory(component);\n    const childContexts = this.parentContexts.getOrCreateContext(this.name).children;\n    const injector = new OutletInjector(activatedRoute,\n  childContexts, this.location.injector);\n    this.activated = this.location.createComponent(factory, this.location.length, injector);\n    // Calling `markForCheck` to make sure we will run the change detection when the\n    // `RouterOutlet` is inside a `ChangeDetectionStrategy.OnPush` component.\n    this.changeDetector.markForCheck();\n    this.activateEvents.emit(this.activated.instance);\n  }\n}\n\nclass OutletInjector implements Injector {\n  constructor(\n      private route: ActivatedRoute, private childContexts: ChildrenOutletContexts,\n      private parent: Injector) {}\n\n  get(token: any, notFoundValue?: any): any {\n    if

(token === ActivatedRoute) {\n return this.route;\n }\n\n if (token === ChildrenOutletContexts) {\n return this.childContexts;\n }\n\n return this.parent.get(token, notFoundValue);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Compiler, Injectable, Injector, NgModuleFactoryLoader, NgModuleRef, OnDestroy} from '@angular/core';\nimport {from, Observable, of, Subscription} from 'rxjs';\nimport {catchError, concatMap, filter, map, mergeAll, mergeMap} from 'rxjs/operators';\n\nimport {LoadedRouterConfig, Route, Routes} from './config';\nimport {Event, NavigationEnd, RouteConfigLoadEnd, RouteConfigLoadStart} from './events';\nimport {Router} from './router';\nimport {RouterConfigLoader} from './router_config_loader';\n\n\n/**\n * @description\n *\n * Provides a preloading strategy.\n *\n * @publicApi\n */\nexport abstract class PreloadingStrategy {\n abstract preload(route: Route, fn: () => Observable<any>): Observable<any>;\n}\n\n/**\n * @description\n *\n * Provides a preloading strategy that preloads all modules as quickly as possible.\n *\n * ```\n * RouterModule.forRoot(ROUTES, {preloadingStrategy: PreloadAllModules})\n * ```\n *\n * @publicApi\n */\nexport class PreloadAllModules implements PreloadingStrategy {\n preload(route: Route, fn: () => Observable<any>): Observable<any> {\n return fn().pipe(catchError(() => of(null)));\n }\n}\n\n/**\n * @description\n *\n * Provides a preloading strategy that does not preload any modules.\n *\n * This strategy is enabled by default.\n *\n * @publicApi\n */\nexport class NoPreloading implements PreloadingStrategy {\n preload(route: Route, fn: () => Observable<any>): Observable<any> {\n return of(null);\n }\n}\n\n/**\n * The preloader optimistically loads all router configurations to\n * make navigations into lazily-loaded sections of the application faster.\n *\n * The preloader runs in the background. When the router bootstraps, the preloader\n * starts listening to all navigation events. After every such event, the preloader\n * will check if any configurations can be loaded lazily.\n *\n * If a route is protected by `canLoad` guards, the preloaded will not load it.\n *\n * @publicApi\n */\n@Injectable()\nexport class RouterPreloader implements OnDestroy {\n private loader: RouterConfigLoader;\n private subscription?: Subscription;\n\n constructor(\n private router: Router, moduleLoader: NgModuleFactoryLoader, compiler: Compiler,\n private injector: Injector, private preloadingStrategy: PreloadingStrategy) {\n const onStartLoad = (r: Route) => router.triggerEvent(new RouteConfigLoadStart(r));\n const onEndLoad = (r: Route) => router.triggerEvent(new RouteConfigLoadEnd(r));\n\n this.loader = new RouterConfigLoader(moduleLoader, compiler, onStartLoad, onEndLoad);\n }\n\n setUpPreloading(): void {\n this.subscription =\n this.router.events\n .pipe(filter((e: Event) => e instanceof NavigationEnd), concatMap(() => this.preload()))\n .subscribe(() => {});\n }\n\n preload(): Observable<any> {\n const ngModule = this.injector.get(NgModuleRef);\n return this.processRoutes(ngModule, this.router.config);\n }\n\n /** @nodoc */\n ngOnDestroy(): void {\n if (this.subscription) {\n this.subscription.unsubscribe();\n }\n }\n\n private processRoutes(ngModule: NgModuleRef<any>, routes: Routes): Observable<void> {\n const res: Observable<any>[] = [];\n for (const route of routes) {\n // we already have the config loaded, just recurse\n if (route.loadChildren && !route.canLoad && route._loadedConfig) {\n const childConfig = route._loadedConfig;\n res.push(this.processRoutes(childConfig.module, childConfig.routes));\n\n // no config loaded, fetch the config\n } else if (route.loadChildren && !route.canLoad) {\n res.push(this.preloadConfig(ngModule, route));\n\n // recurse into children\n } else if (route.children) {\n res.push(this.processRoutes(ngModule, route.children));\n }\n }\n return from(res).pipe(mergeAll(), map((_) => void 0));\n }\n\n private preloadConfig(ngModule: NgModuleRef<any>, route: Route): Observable<void> {\n return this.preloadingStrategy.preload(route, () => {\n const loaded$ = this.loader.load(ngModule.injector, route);\n return loaded$.pipe(mergeMap((config: LoadedRouterConfig) => {\n route._loadedConfig = config;\n return this.processRoutes(config.module, config.routes);\n }));\n });\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ViewportScroller} from '@angular/common';\nimport {Injectable,

OnDestroy} from '@angular/core';\nimport {Unsubscribable} from 'rxjs';\n\nimport {NavigationEnd, NavigationStart, Scroll} from './events';\nimport {Router} from './router';\n\n@Injectable()\nexport class RouterScroller implements OnDestroy {\n  // TODO(issue/24571): remove '!'.\n  private routerEventsSubscription!: Unsubscribable;\n  // TODO(issue/24571): remove '!'.\n  private scrollEventsSubscription!: Unsubscribable;\n\n private lastId = 0;\n  private lastSource: 'imperative'|'popstate'|'hashchange'|undefined = 'imperative';\n  private restoredId = 0;\n  private store: {[key: string]: [number, number]} = {};\n\n  constructor(\n      private router: Router,\n      /** @docsNotRequired */ public readonly viewportScroller: ViewportScroller, private options: {\n scrollPositionRestoration?: 'disabled'|'enabled'|'top',\n        anchorScrolling?: 'disabled'|'enabled'\n      } = {}) {\n    // Default both options to 'disabled'\n    options.scrollPositionRestoration = options.scrollPositionRestoration || 'disabled';\n    options.anchorScrolling = options.anchorScrolling || 'disabled';\n  }\n\n  init(): void {\n    // we want to disable the automatic scrolling because having two places\n    // responsible for scrolling results race conditions, especially given\n    // that browser don't implement
 this behavior consistently\n    if (this.options.scrollPositionRestoration !== 'disabled') {\n this.viewportScroller.setHistoryScrollRestoration('manual');\n    }\n    this.routerEventsSubscription = this.createScrollEvents();\n    this.scrollEventsSubscription = this.consumeScrollEvents();\n  }\n\n  private createScrollEvents() {\n    return this.router.events.subscribe(e => {\n      if (e instanceof NavigationStart) {\n        // store the scroll position of the current stable navigations.\n        this.store[this.lastId] = this.viewportScroller.getScrollPosition();\n        this.lastSource = e.navigationTrigger;\n        this.restoredId = e.restoredState ? e.restoredState.navigationId : 0;\n      } else if (e instanceof NavigationEnd) {\n        this.lastId = e.id;\n        this.scheduleScrollEvent(e, this.router.parseUrl(e.urlAfterRedirects).fragment);\n      }\n    });\n  }\n\n  private consumeScrollEvents() {\n    return this.router.events.subscribe(e => {\n      if (!(e
 instanceof Scroll)) return;\n      // a popstate event. The pop state event will always ignore anchor scrolling.\n      if (e.position) {\n        if (this.options.scrollPositionRestoration === 'top') {\n this.viewportScroller.scrollToPosition([0, 0]);\n        } else if (this.options.scrollPositionRestoration === 'enabled') {\n          this.viewportScroller.scrollToPosition(e.position);\n        }\n        // imperative navigation \"forward\"\n      } else {\n        if (e.anchor && this.options.anchorScrolling === 'enabled') {\n this.viewportScroller.scrollToAnchor(e.anchor);\n        } else if (this.options.scrollPositionRestoration !== 'disabled') {\n          this.viewportScroller.scrollToPosition([0, 0]);\n        }\n      }\n    });\n  }\n\n  private scheduleScrollEvent(routerEvent: NavigationEnd, anchor: string|null): void {\n    this.router.triggerEvent(new Scroll(\n        routerEvent, this.lastSource === 'popstate' ? this.store[this.restoredId] : null,
 anchor));\n  }\n\n  /** @nodoc */\n  ngOnDestroy() {\n    if (this.routerEventsSubscription) {\n this.routerEventsSubscription.unsubscribe();\n    }\n    if (this.scrollEventsSubscription) {\n this.scrollEventsSubscription.unsubscribe();\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {APP_BASE_HREF, HashLocationStrategy, Location, LOCATION_INITIALIZED, LocationStrategy, PathLocationStrategy, PlatformLocation, ViewportScroller, getDOM as getDOM} from '@angular/common';\nimport {ANALYZE_FOR_ENTRY_COMPONENTS, APP_BOOTSTRAP_LISTENER, APP_INITIALIZER, ApplicationRef, Compiler, ComponentRef, Inject, Injectable, InjectionToken, Injector, ModuleWithProviders, NgModule, NgModuleFactoryLoader, NgProbeToken, Optional, Provider, SkipSelf, SystemJsNgModuleLoader} from '@angular/core';\nimport {of, Subject}
 from 'rxjs';\n\nimport {EmptyOutletComponent} from './components/empty_outlet';\nimport {Route, Routes} from './config';\nimport {RouterLink, RouterLinkWithHref} from './directives/router_link';\nimport {RouterLinkActive} from './directives/router_link_active';\nimport {RouterOutlet} from './directives/router_outlet';\nimport {Event} from './events';\nimport {RouteReuseStrategy} from './route_reuse_strategy';\nimport {ErrorHandler, Router} from './router';\nimport {ROUTES} from './router_config_loader';\nimport {ChildrenOutletContexts} from './router_outlet_context';\nimport {NoPreloading, PreloadAllModules, PreloadingStrategy, RouterPreloader} from './router_preloader';\nimport {RouterScroller} from './router_scroller';\nimport {ActivatedRoute} from './router_state';\nimport {UrlHandlingStrategy} from './url_handling_strategy';\nimport {DefaultUrlSerializer,

UrlSerializer, UrlTree} from './url_tree';\nimport {flatten} from './utils/collection';\n\n/**\n * The directives defined in the `RouterModule`.\n */\nconst ROUTER_DIRECTIVES =\n [RouterOutlet, RouterLink, RouterLinkWithHref, RouterLinkActive, EmptyOutletComponent];\n\n/**\n * A [DI token](guide/glossary/#di-token) for the router service.\n *\n * @publicApi\n */\nexport const ROUTER_CONFIGURATION = new InjectionToken<ExtraOptions>('ROUTER_CONFIGURATION');\n\n/**\n * @docsNotRequired\n */\nexport const ROUTER_FORROOT_GUARD = new InjectionToken<void>('ROUTER_FORROOT_GUARD');\n\nexport const ROUTER_PROVIDERS: Provider[] = [\n Location,\n {provide: UrlSerializer, useClass: DefaultUrlSerializer},\n {\n provide: Router,\n useFactory: setupRouter,\n deps: [\n UrlSerializer, ChildrenOutletContexts, Location, Injector, NgModuleFactoryLoader, Compiler,\n ROUTES, ROUTER_CONFIGURATION, [UrlHandlingStrategy, new Optional()],\n [RouteReuseStrategy, new Optional()]\n ]\n },\n ChildrenOutletContexts,\n {provide: ActivatedRoute, useFactory: rootRoute, deps: [Router]},\n {provide: NgModuleFactoryLoader,
useClass: SystemJsNgModuleLoader},\n RouterPreloader,\n NoPreloading,\n PreloadAllModules,\n {provide: ROUTER_CONFIGURATION, useValue: {enableTracing: false}},\n];\n\nexport function routerNgProbeToken() {\n return new NgProbeToken('Router', Router);\n}\n\n/**\n * @description\n *\n * Adds directives and providers for in-app navigation among views defined in an application.\n * Use the Angular `Router` service to declaratively specify application states and manage state\n * transitions.\n *\n * You can import this NgModule multiple times, once for each lazy-loaded bundle.\n * However, only one `Router` service can be active.\n * To ensure this, there are two ways to register routes when importing this module:\n *\n * * The `forRoot()` method creates an `NgModule` that contains all the directives, the given\n * routes, and the `Router` service itself.\n * * The `forChild()` method creates an `NgModule` that contains all the directives and the given\n * routes, but
does not include the `Router` service.\n *\n * @see [Routing and Navigation guide](guide/router) for an\n * overview of how the `Router` service should be used.\n *\n * @publicApi\n */\n@NgModule({\n declarations: ROUTER_DIRECTIVES,\n exports: ROUTER_DIRECTIVES,\n entryComponents: [EmptyOutletComponent]\n})\nexport class RouterModule {\n // Note: We are injecting the Router so it gets created eagerly...\n constructor(@Optional() @Inject(ROUTER_FORROOT_GUARD) guard: any, @Optional() router: Router) {}\n\n /**\n * Creates and configures a module with all the router providers and directives.\n * Optionally sets up an application listener to perform an initial navigation.\n *\n * When registering the NgModule at the root, import as follows:\n *\n * ```\n * @NgModule({\n * imports: [RouterModule.forRoot(ROUTES)]\n * })\n * class MyNgModule {}\n * ```\n *\n * @param routes An array of `Route` objects that define the navigation paths for the application.\n
* @param config An `ExtraOptions` configuration object that controls how navigation is performed.\n * @return The new `NgModule`.\n *\n */\n static forRoot(routes: Routes, config?: ExtraOptions): ModuleWithProviders<RouterModule> {\n return {\n ngModule: RouterModule,\n providers: [\n ROUTER_PROVIDERS,\n provideRoutes(routes),\n {\n provide: ROUTER_FORROOT_GUARD,\n useFactory: provideForRootGuard,\n deps: [[Router, new Optional(), new SkipSelf()]]\n },\n {provide: ROUTER_CONFIGURATION, useValue: config ? config : {}},\n {\n provide: LocationStrategy,\n useFactory: provideLocationStrategy,\n deps:\n [PlatformLocation, [new Inject(APP_BASE_HREF), new Optional()], ROUTER_CONFIGURATION]\n },\n {\n provide: RouterScroller,\n useFactory: createRouterScroller,\n deps: [Router, ViewportScroller, ROUTER_CONFIGURATION]\n
},\n {\n provide: PreloadingStrategy,\n useExisting: config && config.preloadingStrategy ? config.preloadingStrategy :\n NoPreloading\n },\n {provide: NgProbeToken, multi: true, useFactory: routerNgProbeToken},\n provideRouterInitializer(),\n ],\n };\n }\n\n /**\n * Creates a module with all the router directives and a provider registering routes,\n * without creating a new Router service.\n * When registering for submodules and lazy-loaded submodules, create the NgModule as follows:\n *\n * ```\n * @NgModule({\n * imports: [RouterModule.forChild(ROUTES)]\n * })\n * class MyNgModule {}\n * ```\n *\n * @param routes An array of `Route` objects that define the

navigation paths for the submodule.\n * @return The new NgModule.\n *\n */\n static forChild(routes: Routes): ModuleWithProviders<RouterModule> {\n return {ngModule: RouterModule, providers: [provideRoutes(routes)]};\n }\n}\n\nexport function createRouterScroller(\n router: Router, viewportScroller: ViewportScroller, config: ExtraOptions): RouterScroller {\n if (config.scrollOffset) {\n viewportScroller.setOffset(config.scrollOffset);\n }\n return new RouterScroller(router, viewportScroller, config);\n}\n\nexport function provideLocationStrategy(\n platformLocationStrategy: PlatformLocation, baseHref: string, options: ExtraOptions = {}) {\n return options.useHash ? new HashLocationStrategy(platformLocationStrategy, baseHref) :\n new PathLocationStrategy(platformLocationStrategy, baseHref);\n}\n\nexport function provideForRootGuard(router: Router): any {\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && router) {\n throw new Error(\n `RouterModule.forRoot() called twice. Lazy loaded modules should use RouterModule.forChild() instead.`);\n }\n return 'guarded';\n}\n\n/**\n * Registers a [DI provider](guide/glossary#provider) for a set of routes.\n * @param routes The route configuration to provide.\n *\n * @usageNotes\n *\n * ```\n * @NgModule({\n * imports: [RouterModule.forChild(ROUTES)],\n * providers: [provideRoutes(EXTRA_ROUTES)]\n * })\n * class MyNgModule {}\n * ```\n *\n * @publicApi\n */\nexport function provideRoutes(routes: Routes): any {\n return [\n {provide: ANALYZE_FOR_ENTRY_COMPONENTS, multi: true, useValue: routes},\n {provide: ROUTES, multi: true, useValue: routes},\n ];\n}\n\n/**\n * Allowed values in an `ExtraOptions` object that configure\n * when the router performs the initial navigation operation.\n *\n * * 'enabledNonBlocking' - (default) The initial navigation starts after the\n * root component has been created. The bootstrap is not blocked on the completion of the initial\n * navigation.\n * * 'enabledBlocking' - The initial navigation starts before the root component is created.\n * The bootstrap is blocked until the initial navigation is complete. This value is required\n * for [server-side rendering](guide/universal) to work.\n * * 'disabled' - The initial navigation is not performed. The location listener is set up before\n * the root component gets created. Use if there is a reason to have\n * more control over when the router starts its initial navigation due to some complex\n * initialization logic.\n *\n * The following values have been [deprecated](guide/releases#deprecation-practices) since v11,\n * and should not be used for new applications.\n *\n * * 'enabled' - This option is 1:1 replaceable with `enabledBlocking`.\n *\n * @see `forRoot()`\n *\n * @publicApi\n */\nexport type InitialNavigation = 'disabled'|'enabled'|'enabledBlocking'|'enabledNonBlocking';\n\n/**\n * A set of configuration options for a router module, provided in the\n * `forRoot()` method.\n *\n * @see `forRoot()`\n *\n *\n * @publicApi\n */\nexport interface ExtraOptions {\n /**\n * When true, log all internal navigation events to the console.\n * Use for debugging.\n */\n enableTracing?: boolean;\n\n /**\n * When true, enable the location strategy that uses the URL fragment\n * instead of the history API.\n */\n useHash?: boolean;\n\n /**\n * One of `enabled`, `enabledBlocking`, `enabledNonBlocking` or `disabled`.\n * When set to `enabled` or `enabledBlocking`, the initial navigation starts before the root\n * component is created. The bootstrap is blocked until the initial navigation is complete. This\n * value is required for [server-side rendering](guide/universal) to work. When set to\n * `enabledNonBlocking`, the initial navigation starts after the root component has been created.\n * The bootstrap is not blocked on the completion of the initial navigation. When set to\n * `disabled`, the initial navigation is not performed. The location listener is set up before the\n * root component gets created. Use if there is a reason to have more control over when the router\n * starts its initial navigation due to some complex initialization logic.\n */\n initialNavigation?: InitialNavigation;\n\n /**\n * A custom error handler for failed navigations.\n * If the handler returns a value, the navigation Promise is resolved with this value.\n * If the handler throws an exception, the navigation Promise is rejected with the exception.\n *\n */\n errorHandler?: ErrorHandler;\n\n /**\n * Configures a preloading strategy.\n * One of `PreloadAllModules` or `NoPreloading` (the default).\n */\n preloadingStrategy?: any;\n\n /**\n * Define what the router should do if it receives a navigation request to the current URL.\n * Default is `ignore`, which causes the router ignores the navigation.\n * This can disable features such as a \"refresh\" button.\n * Use this option to configure the behavior when navigating to the\n * current URL. Default is 'ignore'.\n */\n

onSameUrlNavigation?: 'reload'|'ignore';\n\n /**\n * Configures if the scroll position
needs to be restored when navigating back.\n *\n * * 'disabled'- (Default) Does nothing. Scroll position is
maintained on navigation.\n * * 'top'- Sets the scroll position to x = 0, y = 0 on all navigation.\n * * 'enabled'-
Restores the previous scroll position on backward navigation, else sets the\n * position to the anchor if one is
provided, or sets the scroll position to [0, 0] (forward\n * navigation). This option will be the default in the
future.\n *\n * You can implement custom scroll restoration behavior by adapting the enabled behavior as\n * in
the following example.\n *\n * ```typescript\n * class AppModule {\n * constructor(router: Router,
viewportScroller: ViewportScroller) {\n * router.events.pipe(\n * filter((e: Event): e is Scroll => e
instanceof Scroll)\n * ).subscribe(e => {\n * if (e.position) {\n * // backward navigation\n *
viewportScroller.scrollToPosition(e.position);\n * } else
if (e.anchor) {\n * // anchor navigation\n * viewportScroller.scrollToAnchor(e.anchor);\n * } else
{\n * // forward navigation\n * viewportScroller.scrollToPosition([0, 0]);\n * }\n * });\n *
}\n * }\n * ```\n */\n scrollPositionRestoration?: 'disabled'|'enabled'|'top';\n\n /**\n * When set to 'enabled',
scrolls to the anchor element when the URL has a fragment.\n * Anchor scrolling is disabled by default.\n *\n *
Anchor scrolling does not happen on 'popstate'. Instead, we restore the position\n * that we stored or scroll to the
top.\n */\n anchorScrolling?: 'disabled'|'enabled';\n\n /**\n * Configures the scroll offset the router will use when
scrolling to an element.\n *\n * When given a tuple with x and y position value,\n * the router uses that offset
each time it scrolls.\n * When given a function, the router invokes the function every time\n * it restores scroll
position.\n */\n
scrollOffset?: [number, number]|(() => [number, number]);\n\n /**\n * Defines how the router merges
parameters, data, and resolved data from parent to child\n * routes. By default ('emptyOnly'), inherits parent
parameters only for\n * path-less or component-less routes.\n * Set to 'always' to enable unconditional inheritance
of parent parameters.\n */\n paramsInheritanceStrategy?: 'emptyOnly'|'always';\n\n /**\n * A custom handler for
malformed URI errors. The handler is invoked when `encodedURI` contains\n * invalid character sequences.\n *
The default implementation is to redirect to the root URL, dropping\n * any path or parameter information. The
function takes three parameters:\n *\n * - `'URIError'` - Error thrown when parsing a bad URL.\n * -
`'UrlSerializer'` - UrlSerializer that’s configured with the router.\n * - `'url'` - The malformed URL that caused the
URIError\n * */\n malformedUriErrorHandler?:\n (error: URIError, urlSerializer:
UrlSerializer, url: string) => UrlTree;\n\n /**\n * Defines when the router updates the browser URL. By default
('deferred'),\n * update after successful navigation.\n * Set to 'eager' if prefer to update the URL at the beginning
of navigation.\n * Updating the URL early allows you to handle a failure of navigation by\n * showing an error
message with the URL that failed.\n */\n urlUpdateStrategy?: 'deferred'|'eager';\n\n /**\n * Enables a bug fix that
corrects relative link resolution in components with empty paths.\n * Example:\n *\n * ```\n * const routes = [\n
* {\n * path: '',\n * component: ContainerComponent,\n * children: [\n * { path: 'a', component:
AComponent },\n * { path: 'b', component: BComponent },\n * ]\n * }\n * ];\n * ```\n *\n * From the
`ContainerComponent`, this will not work:\n *\n * `<a [routerLink]=\"['./a']\">Link to A</a>`\n *\n * However,
this will work:\n *\n * `<a
[routerLink]=\"['../a']\">Link to A</a>`\n *\n * In other words, you're required to use `../` rather than `./`.\n *\n
* The default in v11 is `corrected`.\n */\n relativeLinkResolution?: 'legacy'|'corrected';\n}\n\nexport function
setupRouter(\n urlSerializer: UrlSerializer, contexts: ChildrenOutletContexts, location: Location,\n injector:
Injector, loader: NgModuleFactoryLoader, compiler: Compiler, config: Route[][],\n opts: ExtraOptions = {},
urlHandlingStrategy?: UrlHandlingStrategy,\n routeReuseStrategy?: RouteReuseStrategy) {\n const router = new
Router(\n null, urlSerializer, contexts, location, injector, loader, compiler, flatten(config));\n\n if
(urlHandlingStrategy) {\n router.urlHandlingStrategy = urlHandlingStrategy;\n }\n\n if (routeReuseStrategy) {\n
router.routeReuseStrategy = routeReuseStrategy;\n }\n\n assignExtraOptionsToRouter(opts, router);\n\n if
(opts.enableTracing) {\n const dom = getDOM();\n router.events.subscribe((e:
Event) => {\n dom.logGroup(`Router Event: ${(<any>e.constructor).name}`);\n dom.log(e.toString());\n
dom.log(e);\n dom.logGroupEnd();\n });\n }\n\n return router;\n}\n\nexport function

```
assignExtraOptionsToRouter(opts: ExtraOptions, router: Router): void {\n  if (opts.errorHandler) {\n
router.errorHandler = opts.errorHandler;\n  }\n\n  if (opts.malformedUriErrorHandler) {\n
router.malformedUriErrorHandler = opts.malformedUriErrorHandler;\n  }\n\n  if (opts.onSameUrlNavigation) {\n
router.onSameUrlNavigation = opts.onSameUrlNavigation;\n  }\n\n  if (opts.paramsInheritanceStrategy) {\n
router.paramsInheritanceStrategy = opts.paramsInheritanceStrategy;\n  }\n\n  if (opts.relativeLinkResolution) {\n
router.relativeLinkResolution = opts.relativeLinkResolution;\n  }\n\n  if (opts.urlUpdateStrategy) {\n
router.urlUpdateStrategy = opts.urlUpdateStrategy;\n  }\n}\n\nexport function rootRoute(router: Router):
ActivatedRoute {\n  return router.routerState.root;\n}\n\n/**\n
 * Router initialization requires two steps:\n *\n * First, we start the navigation in a `APP_INITIALIZER` to block
the bootstrap if\n * a resolver or a guard executes asynchronously.\n *\n * Next, we actually run activation in a
`BOOTSTRAP_LISTENER`, using the\n * `afterPreactivation` hook provided by the router.\n * The router
navigation starts, reaches the point when preactivation is done, and then\n * pauses. It waits for the hook to be
resolved. We then resolve it only in a bootstrap listener.\n */\n@Injectable()\nexport class RouterInitializer {\n
private initNavigation: boolean = false;\n  private resultOfPreactivationDone = new Subject<void>();\n\n
constructor(private injector: Injector) {}\n\n  appInitializer(): Promise<any> {\n    const p: Promise<any> =
this.injector.get(LOCATION_INITIALIZED, Promise.resolve(null));\n    return p.then(() => {\n      let resolve:
Function = null!;\n      const res = new Promise(r => resolve = r);\n      const router = this.injector.get(Router);\n
      const opts = this.injector.get(ROUTER_CONFIGURATION);\n\n      if (opts.initialNavigation === 'disabled')
{\n        router.setUpLocationChangeListener();\n        resolve(true);\n      } else if (\n          // TODO: enabled is
deprecated as of v11, can be removed in v13\n          opts.initialNavigation === 'enabled' || opts.initialNavigation
=== 'enabledBlocking') {\n        router.hooks.afterPreactivation = () => {\n          // only the initial navigation should
be delayed\n          if (!this.initNavigation) {\n            this.initNavigation = true;\n            resolve(true);\n
return this.resultOfPreactivationDone;\n\n          // subsequent navigations should not be delayed\n          } else {\n
        return of(null) as any;\n          }\n        };\n        router.initialNavigation();\n      } else {\n        resolve(true);\n
}\n\n      return res;\n    });\n  }\n\n  bootstrapListener(bootstrappedComponentRef: ComponentRef<any>):
 void {\n    const opts = this.injector.get(ROUTER_CONFIGURATION);\n    const preloader =
this.injector.get(RouterPreloader);\n    const routerScroller = this.injector.get(RouterScroller);\n    const router =
this.injector.get(Router);\n    const ref = this.injector.get<ApplicationRef>(ApplicationRef);\n\n    if
(bootstrappedComponentRef !== ref.components[0]) {\n      return;\n    }\n\n    // Default case\n    if
(opts.initialNavigation === 'enabledNonBlocking' || opts.initialNavigation === undefined) {\n
router.initialNavigation();\n    }\n\n    preloader.setUpPreloading();\n    routerScroller.init();\n
router.resetRootComponentType(ref.componentTypes[0]);\n    this.resultOfPreactivationDone.next(null!);\n
this.resultOfPreactivationDone.complete();\n  }\n}\n\nexport function getAppInitializer(r: RouterInitializer) {\n
return r.appInitializer.bind(r);\n}\n\nexport function getBootstrapListener(r: RouterInitializer) {\n  return
r.bootstrapListener.bind(r);\n}\n\n/**\n
 * A [DI token](guide/glossary/#di-token) for the router initializer that\n * is called after the app is bootstrapped.\n
*\n * @publicApi\n */\nexport const ROUTER_INITIALIZER =\n    new InjectionToken<(compRef:
ComponentRef<any>) => void>('Router Initializer');\n\nexport function provideRouterInitializer() {\n  return [\n
RouterInitializer,\n    {\n      provide: APP_INITIALIZER,\n      multi: true,\n      useFactory: getAppInitializer,\n
deps: [RouterInitializer]\n    },\n    {provide: ROUTER_INITIALIZER, useFactory: getBootstrapListener, deps:
[RouterInitializer]},\n    {provide: APP_BOOTSTRAP_LISTENER, multi: true, useExisting:
ROUTER_INITIALIZER},\n  ];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n *
Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the
common package.\n */\n\nimport
 {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new
Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
```

*/\n\n\nexport {EmptyOutletComponent} from './components/empty_outlet';\nexport {assignExtraOptionsToRouter as assignExtraOptionsToRouter, ROUTER_PROVIDERS as ROUTER_PROVIDERS} from './router_module';\nexport {flatten as flatten} from './utils/collection';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nexport {Data, DeprecatedLoadChildren, LoadChildren, LoadChildrenCallback, QueryParamsHandling, ResolveData, Route, Routes, RunGuardsAndResolvers, UrlMatcher, UrlMatchResult} from './config';\nexport {RouterLink, RouterLinkWithHref} from './directives/router_link';\nexport {RouterLinkActive} from './directives/router_link_active';\nexport {RouterOutlet} from './directives/router_outlet';\nexport {ActivationEnd, ActivationStart, ChildActivationEnd, ChildActivationStart, Event, GuardsCheckEnd, GuardsCheckStart, NavigationCancel, NavigationEnd, NavigationError, NavigationStart, ResolveEnd, ResolveStart, RouteConfigLoadEnd, RouteConfigLoadStart, RouterEvent, RoutesRecognized, Scroll} from './events';\nexport {CanActivate, CanActivateChild, CanDeactivate, CanLoad, Resolve} from './interfaces';\nexport {BaseRouteReuseStrategy, DetachedRouteHandle, RouteReuseStrategy} from './route_reuse_strategy';\nexport {Navigation, NavigationBehaviorOptions, NavigationExtras, Router, UrlCreationOptions} from './router';\nexport {ROUTES} from './router_config_loader';\nexport {ExtraOptions, InitialNavigation, provideRoutes, ROUTER_CONFIGURATION, ROUTER_INITIALIZER, RouterModule} from './router_module';\nexport {ChildrenOutletContexts, OutletContext} from './router_outlet_context';\nexport {NoPreloading, PreloadAllModules, PreloadingStrategy, RouterPreloader} from './router_preloader';\nexport {ActivatedRoute, ActivatedRouteSnapshot, RouterState, RouterStateSnapshot} from './router_state';\nexport {convertToParamMap, ParamMap, Params, PRIMARY_OUTLET} from './shared';\nexport {UrlHandlingStrategy} from './url_handling_strategy';\nexport {DefaultUrlSerializer, UrlSegment, UrlSegmentGroup, UrlSerializer, UrlTree} from './url_tree';\nexport {VERSION} from './version';\n\nexport * from './private_export';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/index';\n\n// This file only reexports content of the `src` folder.
Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {EmptyOutletComponent as angular_packages_router_router_l} from './src/components/empty_outlet';\nexport {ROUTER_FORROOT_GUARD as angular_packages_router_router_a,RouterInitializer as angular_packages_router_router_h,createRouterScroller as angular_packages_router_router_c,getAppInitializer as angular_packages_router_router_i,getBootstrapListener as angular_packages_router_router_j,provideForRootGuard as angular_packages_router_router_e,provideLocationStrategy as angular_packages_router_router_d,provideRouterInitializer as angular_packages_router_router_k,rootRoute as angular_packages_router_router_g,routerNgProbeToken as angular_packages_router_router_b,setupRouter as angular_packages_router_router_f} from './src/router_module';\nexport {RouterScroller as angular_packages_router_router_o} from './src/router_scroller';\nexport {Tree as angular_packages_router_router_m,TreeNode as angular_packages_router_router_n} from './src/utils/tree';"],"names":["of","map","concatAll","lastValue","isObservable","isPromise","from","BehaviorSubject","switchMap","combineLatest","take","startWith","scan","filter","Component","EmptyOutletComponent","Observable","NgModuleRef","catchError","concatMap","first","EmptyError","combineAll","mergeMap","tap","applyRedirects","applyRedirectsFn","defer","split","NoMatch","match","recognize","recognizeFn","takeLast","EMPTY","InjectionToken","NgModuleFactory","Subject","Console","NgZone","finalize","Injectable","Type","Location","Injector

","NgModuleFactoryLoader","Compiler","Directive","Attribute","Renderer2","ElementRef","Input","HostListener",
"LocationStrategy","HostBinding","mergeAll","ChangeDetectorRef","Optional","ContentChildren","EventEmitter",
"ViewContainerRef","ComponentFactoryResolver","Output","ViewportScroller","SystemJsNgModuleLoader","Ng
ProbeToken","SkipSelf","PlatformLocation","Inject","APP_BASE_HREF","NgModule","HashLocationStrategy","
PathLocationStrategy","ANALYZE_FOR_ENTRY_COMPONENTS","getDOM","LOCATION_INITIALIZED","
ApplicationRef","APP_INITIALIZER","APP_BOOTSTRAP_LISTENER","Version"],"mappings":";;;;;;;;;;;;IAAA;
;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC;QAC7B,aAAa,GAAG,MAAM,CAAC,cAAc,IAAI,EAAE,SAAS,EAAE,KAAK,IAAI,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,CAAC,SAAS,GAAG,CAAC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC,SAAS

AS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC;aAA
E;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAAE;YAC3F,SAAS,QAA
Q,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,CAAC,KAAK,CAAC,CAAC,CA
AC;aAAE;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAAE;YAC9F,SA
AS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,
KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC,EAAE;YA
C9G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,E
AAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,CAAC;aAEe,WAAW,CAAC,OAAO,EAAE,IAAI;
QACrC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,cAAa,IAAI,CAAC,CAAC,CAAC,C
AAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,C
AAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAAE,EAAE,EAAE,CAAC,EAAE,CAAC,E
AAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC,
EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,EAAE,
OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAa,OAAO,IAAI,C
AAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzH,SAAS,IAAI,CAAC,CAAC,IAAI,OAAO,UAAU,CAAC,IAAI,O
AAO,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE;QAClE,SAAS,IAAI,
CAAC,EAAE;YACZ,IAAI,CAAC;gBAAE,MAAM,IAAI,SAAS,CAAC,iCAAiC,CAAC,CAAC;YAC9D,OAAO,C
AAC;gBAAE,IAAI;oBACV,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,KAAK,CAAC,GAAG,EAAE,CAAC,CAA
C,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,
CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,KAAK,EAAE,CAAC,CAAC,IAAI,CA
AC,CAAC,CAAC,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,GAAG,C
AAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI;wBAAE,OAAO,CAAC
,CAAC;oBAC7J,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC;wBAAE,EAAE,GAAG,CAAC,CAAC,CAAC,
CAAC,GAAG,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC;oBACxC,QAAQ,CAAC,EAAE,CAAC,CAAC;
wBACT,KAAK,CAAC,CAAC;wBAAC,KAAK,CAAC;4BAAE,CAAC,GAAG,EAAE,CAAC;4BAAC,MAAM;w
BAC9B,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,OAAO,EAAE,KAAK,EAAE,EAAE
,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC;wBACxD,KAAK,CAAC;4BAAE,CAAC,CAAC,
KAAK,EAAE,CAAC;4BAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;4BAAC,EAAE,GAAG,CAAC,
CAAC,CAAC;4BAAC,SAAS;wBACjD,KAAK,CAAC;4BAAE,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE,GAAG,CAAC,
GAAG,EAAE,CAAC;4BAAC,CAAC,GAAG,EAAE,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC;4BAAC,SAAS;wBACjD;4BACI,IAAI,
EAAE,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,GAAG,CAAC,I
AAI,CAAC,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,KA
AK,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE;gCAAE,CAAC,GAAG,CAAC,CAAC
;gCAAC,SAAS;6BAAE;4BAC5G,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,CAAC,KAAK
,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CA
AC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,GAAG,CAAC,CAAC,CAAC,KAAK,CAAC,GAAG,EAAE,CAAC,CAAC,CAAA
C,CAAC;gCAAC,MAAM;6BAAE;4BACtF,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC,
C,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC,CAAA
C,CAAC,CAAC;gCAAC,CAAC,GAAG,EAAE,CAAC;gCAAC,EAAE,GAAG,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACrE,IAAI,CAAC,IAAI,CAAC,
AC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,CAAC,KAAK,GAAG,CAAC,CA
AC,CAAC,CAAC;gCAAC,CAAC,GAAG,EAAE,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC;gCAAC,MAA
M;6BAAE;4BACnE,IAAI,CAAC,CAAC,CAAC,CAAC;gCAAE,CAAC,CAAC,CAAC,KAAK,GAAG,EAAE,CAAC,CAAC,
AC;4BACtB,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;4BAAC,SAAS;qBAAE;oBAC5D,EAAE,GAAG,I
AAI,CAAC,IAAI,CAAC,OAAO,EAAE,CAAC,CAAC,CAAC;iBAC9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,
AAE,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;oBAAC,SAAS;iBAAE;wBAAS;oB
BAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAAE;YAC1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,C
AAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC,CAAC;YAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,C
AAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAAK,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;

SACpF;IACL,CAAC;IAEM,IAAI,eAAe,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,EAAE
,CAAC,EAAE,EAAE;QAC9D,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,MAAM,
CAAC,cAAc,CAAC,CAAC,EAAE,EAAE,EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,
CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC;IACzF,CAAC,KAAK,UAAS,CAAC,EAAE,CA
AC,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,
CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;IACjB,CAAC,CAAC,CAAC;aEa,YA
AY,CAAC,CAAC,EAAE,OAAO;QACnC,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,CAAC,KAAK,SAAS,IA
AI,CAAC,OAAO,CAAC,cAAc,CAAC,CAAC,CAAC;gBAAE,eAAe,CAAC,OAAO,EAAE,CAAC,EAAE,CAAC,
CAAC,CAAC;IACvG,CAAC;aEe,QAAQ,CAAC;aEe,QAAQ;QACtB,IAAI,CAAC,GAAG,OAAO,MAAM,KAAK,U
AAU,IAAI,MAAM,CAAC,QAAQ,EAAE,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC
,GAAG,CAAC,CAAC;QAC9E,IAAI,CAAC;YAAE,OAAO,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;QA
CxB,IAAI,CAAC,IAAI,OAAO,CAAC,CAAC,MAAM,KAAK,QAAQ;YAAE,OAAO;gBAC1C,IAAI,EAAE;oBA
CF,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,MAAM;wBAAE,CAAC,GAAG,KAAK,CAAC,CAAC;oBACn
C,OAAO,EAAE,KAAK,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAA
C,EAAE,CAAC;iBAC3C;aACJ,CAAC;QACF,MAAM,IAAI,SAAS,CAAC,CAAC,GAAG,yBAAyB,GAAG,iCAAi
C,CAAC,CAAC;IAC3F,CAAC;aEe,QAAQ,CAAC,MAAM,CAAC,CAAC,EAAE,CAAC;QACvB,IAAI,CAAC,GAAG,OAAO,
MAAM,KAAK,UAAU,IAAI,MAAM,CAAC,QAAQ,EAAE,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC;QAC3D,
IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;YAAE,OAAO,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC7B,
IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

AC,KAAK,YAAY,OAAO,GAAG,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CA
AC,IAAI,CAAC,OAAO,EAAE,MAAM,CAAC,GAAG,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAA
C,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE;QACxH,SAAS,OAAO,CAAC,KAAK,IAAI,MAAM,CAAC,MAAM
,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,KAAK,IAAI,MAAM,CAAC,OAAO,EAAE,K
AAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC
,CAAC,EAAE,CAAC,CAAC,KAAK,EAAE,EAAE,CAAC,CAAC,MAAM;YAAE,MAAM,CAAC,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EA
AE;IACtF,CAAC;aAEe,gBAAgB,CAAC,CAAC;QAC9B,IAAI,CAAC,EAAE,CAAC,CAAC;QACT,OAAO,CAA
C,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,EAAE,UAAU,CAAC,IAAI,MA
AM,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,QAAQ
,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QAC5I,SAAS,IAAI,CAAC,CAAC,EAAE,
CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,UAAU,CAAC,IAAI,OAA
O,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,KAAK,EAAE,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,C
AAC,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,CAAC,KAAK,QAAQ,EAAE,GAAG,CAAC,GAAG,CAAC,CAA
C,CAAC,CAAC,GAAG,CAAC,CAAC,EAAE,GAAG,CAAC,CAAC,EAAE;IACnJ,CAAC;aAEe,aAAa,CAAC,CA
AC;QAC3B,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,CAAC,sCAAsC,CAAC,CAAC;QAC
vF,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,EAAE,CAAC,CAAC;QACnC,OAAO,CAAC,
GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,GAAG,OAAO,QAAQ,KAAK,UAAU,GAAG,QA
AQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,EAAE,EAAE,CAAC,GAAG,EAA
E,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAA
E,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC,CA
AC;QACjN,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,I
AAI,UAAU,CAAC,IAAI,OAAO,IAAI,OAAO,CAAC,UAAU,OAAO,EAAE,MAAM,IAAI,CAAC,GAAG,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,MAAM,CAAC,OAAO,EAAE,MAAM,EAAE,CAAC,CAAC,I
AAI,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE;QAChK,SAAS,MAAA
M,CAAC,OAAO,EAAE,MAAM,EAAE,CAAC,EAAE,CAAC,IAAI,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,
CAAC,IAAI,CAAC,UAAS,CAAC,IAAI,OAAO,CAAC,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,E
AAE,CAAC,CAAC,EAAE,EAAE,MAAM,CAAC,CAAC,EAAE;IAChI,CAAC;aAEe,aAAa,CAAC,CAAC,EAAE,oBAAoB,CAAC,MAAM,E
AAE,GAAG;QAC5C,IAAI,MAAM,CAAC,cAAc,EAAE;YAAE,MAAM,CAAC,cAAc,CAAC,CAAC,EAAE,CAAC,
CAAC,KAAK,EAAE,EAAE,KAAK,EAAE,GAAG,EAAE,CAAC,CAAC;SAAE;aAAM;YAAE,CAAC,CAAC,CAAC
,GAAG,CAAC;SAAE;QAAC,OAAO,CAAC;IAAC,CAAC;aAElB,gBAAgB,CAAC,OAAO,MAAM,CAAC;IAAA,kB
AAkB,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,MAAM;QAAI,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC
,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAAE,IAAI,MAAM,GAAG,SAAS,CAAC,CAAC,CAAC
,CAAC,IAAI,MAAM,EAAE;gBAAE,KAAK,IAAI,GAAG,IAAI,MAAM,EAAE;oBAAE,IAAI,MAAM,CAAC,SA
AS,CAAC,cAAc,CAAC,IAAI,CAAC,MAAM,EAAE,GAAG,CAAC;wBAAE,MAAM,CAAC,GAAG,CAAC,GAAG,M
AAM,CAAC,GAAG,CAAC;iBAAE;aAAE;SAAE;QAAC,OAAO,MAAM;IAAC,CAAC;IAAA,CAAC;IAEhD,IAAI,
CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,CAAC

AAA,oBAAmE;YARvE,YASE,kBAAM,EAAE,EAAE,GAAG,CAAC,SAGf;YAFC,KAAI,CAAC,iBAAiB,GAAG
,iBAAiB,CAAC;YAC3C,KAAI,CAAC,aAAa,GAAG,aAAa,CAAC;;SACpC;;QAGD,kCAAQ,GAAR;YACE,OAA
O,yBAAuB,IAAI,CAAC,EAAE,gBAAW,IAAI,CAAC,GAAG,OAAI,CAAC;SAC9D;8BACF;KAhDD,CAAqC,W
AAW,GAgD/C;IAED;;;;;;;;;;QASmC,iCAAW;QAC5C;;QAEI,EAAU;;QAEV,GAAW;;QAEJ,iBAAyB;YANpC,Y
AOE,kBAAM,EAAE,EAAE,GAAG,CAAC,SCf;YAFU,uBAAiB,GAAjB,iBAAiB,CAAQ;;SAEnC;;QAGD,gCA
AQ,GAAR;YACE,OAAO,uBAAqB,IAAI,CAAC,EAAE,gBAAW,IAAI,CAAC,GAAG,+BAClD,IAAI,CAAC,iBA
AiB,OAAI,CAAC;SAChC;4BACF;KAhBD,CAAmC,WAAW,GAgB7C;IAED;;;;;;;;;;;QAWsC,oCAAW;QAC/C;;
QAEI,EAAU;;QAEV,GAAW;;QAEJ,MAAc;YANzB,YAOE,kBAAM,EAAE,EAAE,GAAG,CAAC,SCf;YAFU,
YAAM,GAAN,MAAM,CAAQ;;SAExB;;QAGD,mCAAQ,GAAR;YACE,OAAO,0BAAwB,IAAI,CAAC,EAAE,g
BAAW,IAAI,CAAC,GAAG,OAAI,CAAC;SAC/D;+BACF;KAfD,CAAsC,WAAW,GAehD;IAED;;;;;;;;;;QASqC,mC
AAW;QAC9C;;QAEI,EAAU;;QAEV,GAAW;;QAEJ,KAAU;YANrB,YAOE,kBAAM,EAAE,EAAE,GAAG,C
AAC,SCf;YAFU,WAAK,GAAL,KAAK,CAAK;;SAEpB;;QAGD,kCAAQ,GAAR;YACE,OAAO,yBAAuB,IAAI,
CAAC,EAAE,gBAAW,IAAI,CAAC,GAAG,kBAAa,IAAI,CAAC,KAAK,MAAG,CAAC;SCpF;8BACF;KAfD,C
AAqC,WAAW,GAe/C;IAED;;;;;;QAKsC,oCAAW;QAC/C;;QAEI,EAAU;;QAEV,GAAW;;QAEJ,iBAAyB;;QAEz
B,KAA0B;YARrC,YASE,kBAAM,EAAE,EAAE,GAAG,CAAC,SCf;YAFU,uBAAiB,GAAjB,iBAAiB,CAAQ;Y
AEzB,WAAK,GAAL,KAAK,CAAK,CAAqB;;SAEpC;;QAGD,mCAAQ,GAAR;YACE,OAAO,0BAAwB,IAAI,CAAC,E
AAE,gBAAW,IAAI,CAAC,GAAG,+BACrD,IAAI,CAAC,iBAAiB,kBAAa,IAAI,CAAC,KAAK,MAAG,CAAC;S
ACtD;+BACF;KAlBD,CAAsC,WAAW,GAkBhD;IAED;;;;;;;;QAOsC,oCAAW;QAC/C;;QAEI,EAAU;;QAEV,GA
AW;;QAEJ,iBAAyB;;QAEzB,KAA0B;YARrC,YASE,kBAAM,EAAE,EAAE,GAAG,CAAC,SCf;YAFU,uBAAiB
,GAAjB,iBAAiB,CAAQ;YAEzB,WAAK,GAAL,KAAK,CAAK,CAAqB;;SAEpC;QAED,mCAAQ,GAAR;YACE,OAAO,0BAAwB,IAAI,CAAC,EAAE,gBAAW,IAAI,CAAC,GAAG,+BACrD,IAAI,CAAC,iBAAiB,kBAAa,IAAI,CAAC,KAAK,MAAG,CAAC;SCtD;+BACF;KAlBD,CAAsC,WAAW,GAkBhD;IAED;;;;;;;;;QAQsC,oCAAW;QAC/C;;QAEI,EAAU;;QAEV,GAAW;;QAEJ,iBAAyB;;QAEzB,KAA0B;;QAE1B,cAAuB;YAVlC,YAWE,kBAAM,EAAE,EAAE,GAAG,CAAC,SCf;YAFU,uBAAiB,GAAjB,iBAAiB,CAAQ;YAEzB,WAAK,GAAL,KAAK,CAAK,CAAqB;YAE1B,oBAAc,GAAd,cAAc,CAAS;;SAEpC;;QAGD,mCAAQ,GAAR;YACE,OAAO,0BAAwB,IAAI,CAAC,E
AAE,EAAE,GAAG,CAAC,SCf;YAFU,uBAAiB,GAAjB,iBAAiB,CAAQ;YAEzB,WAAK,GAAL,KAAK,CAAK,CAAqB;YAE1B,oBAAc,GAAd,cAAc,CAAS,CAAqB;YAE1D

AAwB;SAAI;QAC/C,gCAAQ,GAAR;YACE,IAAM,IAAI,GAAG,IAAI,CAAC,QAAQ,CAAC,WAAW,IAAI,IAAI
,CAAC,QAAQ,CAAC,WAAW,CAAC,IAAI,IAAI,EAAE,CAAC;YAC/E,OAAO,0BAAwB,IAAI,OAAI,CAAC;S
ACzC;4BACF;KAAA,IAAA;IAED;;;;;;QAME;;QAEa,WA0B;;QAG1B,QA+B;;QAG/B,MAAmB;YANnB,gB
AAW,GAAX,WAAW,CAAe;YAG1B,aAAQ,GAAR,QAAQ,CAAuB;YAG/B,WAAM,GAAN,MAAM,CAAa;SAA
I;QAEpC,yBAAQ,GAAR;YACE,IAAM,GAAG,GAAG,IAAI,CAAC,QAAQ,GAAM,IAAI,CAAC,QAAQ,CAAC,
CAAC,CAAC,UAAK,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAG,GAAG,IAAI,CAAC;YAC9E,OAAO,qBAAmB,I
AAI,CAAC,MAAM,sBAAiB,GAAG,OAAI,CAAC;SAC/D;qBACF;KAAA;;IC5bD;;;;;;;IAYA;;;;;QAKa,cAAc,GA
AG,UAAU;IAmDxC;QAGE,qBAAY,MAAc;YACxB,IAAI,CAAC,MAAM,GAAG,IAAI,CAAC,MAAM,GAAG,IAAI,EAAE,CAAC;S
AC5B;QAED,yBAAG,GAAH,UAAI,IAAY;YACd,OAAO,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE,IAAI,CAAC,
C,IAAI,CAAC,MAAM,EAAE,IAAI,CAAC,CAAC;SAChE;QAED,yBAAG,GAAH,UAAI,IAAY;YACd,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC,KAAK,SAAS,EAAE;gBAAC,OAAO,IA
I,CAAC,GAAG,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC,EAAE;gBAAC,OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC;aAAC;YAC1G,OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC;SAC1F;QAED,yBAAG,GAAH,UAAI,IAAY,EAAE,KAAa;YAC7B,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC,KAAK,SAAS,EAAE;gBAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC,GAAG,KAAK;aAAC;YAC1G,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,GAAG,KAAK;SAC9D;QAED,yBAAG,GAAH,UAAI,IAAY;YACd

CAAC,KAAK,GAAG,GAAA,CAAC,CAAC;SAC9D;aAAM;YACL,OAAO,CAAC,KAAK,CAAC,CAAC;SAChB;IACH,CAAC;IAED;;;aAGgB,OAAO,CAAI,GAAU;QACnC,OAAO,KAAK,CAAC,SAAS,CAAC,MAAM,CAAC,KAAK,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC;IAC/C/C;IAED;;;aAGgB,IAAI,CAAI,CAAM;QAC5B,OAAO,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,SAAS,CAAC;IAClC;IAED;;;

OAAO,IAAI,CAAC;SAEb;aAAM;YACL,IAAM,OAAO,GAAG,cAAc,CAAC,KAAK,CAAC,CAAC,EAAE,SAAS,CAAC,QAAQ,CAAC,MAAM,CAAC,CAAC;YACnE,IAAM,IAAI,GAAG,cAAc,CAAC,KAAK,CAAC,SAAS,C AAC,QAAQ,CAAC,MAAM,CAAC,CAAC;YAC7D,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,QAAQ,EAAE,OA AO,CAAC;gBAAE,OAAO,KAAK,CAAC;YAC1D,IAAI,CAAC,SAAS,CAAC,QAAQ,CAAC,cAAc,CAAC;gBAA E,OAAO,KAAK,CAAC;YACtD,OAAO,0BAA0B,CAAC,SAAS,CAAC,QAAQ,CAAC,cAAc,CAAC,EAAE,SA S,EAAE,IAAI,CAAC,CAAC;SACxF;IACH,CAAC;IAED;;;

SAAI,gBAAgB,CAAC,CAAC,EAAE,KAAK,CAAG,CAAC,CAAC;iBACrD;aACF,CAAC,CAAC;YAEH,OAAO,UAAQ,CAAC,MAAM,GAAG,CAAC,GAAM,OAAO,SAAI,UAAQ,CAAC,IAAI,CAAC,IAAI,CAAC,MAAG,GAAG,OAAO,CAAC;SAE7E;aAAM;YACL,IAAM,QAAQ,GAAG,oBAAAoB,CAAC,OAAO,EAAE,UAAC,CAAAkB,EAAE,CAAS;gBAC3E,IAAI,CAAC,KAAK,cAAAA,cAAA,cAAA,c

I,CAAC,cAAc,CAAC,GAAG,CAAC,EAAE;gBAC7B,QAAQ,CAAC,IAAI,CAAC,IAAI,CAAC,YAAY,EAAE,CAAC,CAAC;aACpC;YAED,OAAO,IAAI,CAAC,cAAc,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;gBAC3F,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC;gBAClB,QAAQ,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,YAAY,EAAE,CAAC,CAAC;aACpC;YAED,IAAI,QAAQ,GAAwC,EAAE,CAAC;YACvD,IAAI,IAAI,CAAC,cAAc,CAAC,CAAC,IAAI,CAAC,EAAE;gBAC7B,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC;gBAClB,QAAQ,CAAC,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC;aACnC;YAED,IAAI,GAAG,GAAwC,EAAE,CAAC;YAClD,IAAI,IAAI,CAAC,cAAc,CAAC,CAAC,IAAI,CAAC,EAAE;gBAC5B,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,YAAY,EAAE,CAAC,CAAC;aACnC;YAED,IAAI,GAAG,GAAG,CAAC,CAAC;YACZ,IAAI,IAAI,CAAC,cAAc,CAAC,CAAC,IAAI,CAAC,EAAE;gBAC5B,GAAG,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC;aAC3B;YAED,IAAI,CAAC,GAAG,CAAC,CAAC;YACV,IAAI,IAAI,CAAC,cAAc,CAAC,CAAC,IAAI,CAAC,EAAE;gBAC5B,CAAC,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC;aACzB

AgB,GAAW;YACjC,IAAI,IAAI,CAAC,cAAc,CAAC,GAAG,CAAC,EAAE;gBAC5B,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;gBACtD,OAAO,IAAI,CAAC;aACb;YACD,OAAO,KAAK,CAAC;SCd;QAEO,2BAAO,,GAAAP,UAAAQ,GAAAR,UAAAS,GAAAT,UAAAU,GAAAV,UAAAW,GAAAX,UAAAY,GAAAZ,UAAAa,GAAAb,UAAAc,GAAAd,UAAAe,GAAAf,UAAAgB,GAAAhB,UAAAiB,GAAAjB,UAAAkB,GAAAlB,UAAAmB,GAAAnB,UAAAoB,GAAApB,UAAAqB,GAAArB,UAAAsB,GAAAtB,UAAAuB,GAAAvB,UAAAwB,GAAAxB,UAAAyB,GAAAzB,UAAA0B,GAAA1B,UAAA2B,GAAA3B,UAAA4B,GAAA5B,UAAA6B,GAAA7B,UAAA8B,GAAA9B,UAAA+B,GAAA/B,UAAAgC,GAAAhC,UAAAiC,GAAAjC,UAAAkC,GAAAlC,UAAAmC,GAAAnC,UAAAoC,GAAApC,UAAAqC,GAAArC,UAAAsC,GAAAtC,UAAAuC,GAAAvC,UAAAwC,GAAAxC,UAAAyC,GAAAzC,UAAA0C,GAAA1C,UAAA2C,GAAA3C,UAAA4C,GAAA5C,UAAA6C,GAAA7C,UAAA8C,GAAA9C,UAAA+C,GAAA/C,UAAAgD,GAAAhD,UAAAiD,GAAAjD,UAAAkD,GAAAlD,UAAAmD,GAAAnD,UAAAoD,GAAApD,UAAAqD,GAAArD,UAAAsD,GAAAtD,UAAAuD,GAAAvD,UAAAwD,GAAAxD,UAAAyD,GAAAzD,UAAA0D,GAAA1D,UAAA2D,GAAA3D,UAAA4D,GAAA5D,UAAA6D,GAAA7D,UAAA8D,GAAA9D,UAAA+D,GAAA/D,UAAAgE,GAAAhE,UAAAiE,GAAAjE,UAAAkE,GAAAlE,UAAAmE,GAAAnE,UAAAoE,GAAApE,UAAAqE,GAAArE,UAAAsE,GAAAtE,UAAAuE,GAAAvE,UAAAwE,GAAAxE,UAAAyE,GAAAzE,UAAA0E,GAAA1E,UAAA2E,GAAA3E,UAAA4E,GAAA5E,UAAA6E,GAAA7E,UAAA8E,GAAA9E,UAAA+E,GAAA/E,UAAAgF,GAAAhF,UAAAiF,GAAAjF,UAAAkF,GAAAlF,UAAAmF,GAAAnF,UAAAoF,GAAApF,UAAAqF,GAAArF,UAAAsF,GAAAtF,UAAAuF,GAAAvF,UAAAwF,GAAAxF,UAAAyF,GAAAzF,UAAA0F,GAAA1F,UAAA2F,GAAA3F,UAAA4F,GAAA5F,UAAA6F,GAAA7F,UAAA8F,GAAA9F,UAAA+F,GAAA/F,UAAAgG,GAAAhG,UAAAiG,GAAAjG,UAAAkG,GAAAlG,UAAAmG,GAAAnG,UAAAoG,GAAApG,UAAAqG,GAAArG,UAAAsG,GAAAtG,UAAAuG,GAAAvG,UAAAwG,GAAAxG,UAAAyG,GAAAzG,UAAA0G,GAAA1G,UAAA2G,GAAA3G,UAAA4G,GAAA5G,UAAA6G,GAAA7G,UAAA8G,GAAA9G,UAAA+G,GAAA/G,UAAAgH,GAAAhH,UAAAiH,GAAAjH,UAAAkH,GAAAlH,UAAAmH,GAAAnH,UAAAoH,GAAApH,UAAAqH,GAAArH,UAAAsH,GAAAtH,UAAAuH,GAAAvH,UAAAwH,GAAAxH,UAAAyH,GAAAzH,UAAA0H,GAAA1H,UAAA2H,GAAA3H,UAAA4H,GAAA5H,UAAA6H,GAAA7H,UAAA8H,GAAA9H,UAAA+H,GAAA/H,UAAAgI,GAAAhI,UAAAiI,GAAAjI,UAAAkI,GAAAlI,UAAAmI,GAAAnI,UAAAoI,GAAApI,UAAAqI,GAAArI,UAAAsI,GAAAtI,UAAAuI,GAAAvI,UAAAwI,GAAAxI,UAAAyI,GAAAzI,UAAA0I,GAAA1I,UAAA2I,GAAA3I,UAAA4I,GAAA5I,UAAA6I,GAAA7I,UAAA8I,GAAA9I,UAAA+I,GAAA/I,UAAAgJ,GAAAhJ,UAAAiJ,GAAAjJ,UAAAkJ,GAAAlJ,UAAAmJ,GAAAnJ,UAAAoJ,GAAApJ,UAAAqJ,GAAArJ,UAAAsJ,GAAAtJ,UAAAuJ,GAAAvJ,UAAAwJ,GAAAxJ,UAAAyJ,GAAAzJ,UAAA0J,GAAA1J,UAAA2J,GAAA3J,UAAA4J,GAAA5J,UAAA6J,GAAA7J,UAAA8J,GAAA9J,UAAA+J,GAAA/J,UAAAgK,GAAAhK,UAAAiK,GAAAjK,UAAAkK,GAAAlK,UAAAmK,GAAAnK,UAAAoK,GAAApK,UAAAqK,GAAArK,UAAAsK,GAAAtK,UAAAuK,GAAAvK,UAAAwK,GAAAxK,UAAAyK,GAAAzK,UAAA0K,GAAA1K,UAAA2K,GAAA3K,UAAA4K,GAAA5K,UAAA6K,GAAA7K,UAAA8K,GAAA9K,UAAA+K,GAAA/K,UAAAgL,GAAAhL,UAAAiL,GAAAjL,UAAAkL,GAAAlL,UAAAmL,GAAAnL,UAAAoL,GAAApL,UAAAqL,GAAArL,UAAAsL,GAAAtL,UAAAuL,GAAAvL,UAAAwL,GAAAxL,UAAAyL,GAAAzL,UAAA0L,GAAA1L,UAAA2L,GAAA3L,UAAA4L,GAAA5L,UAAA6L,GAAA7L,UAAA8L,GAAA9L,UAAA+L,GAAA/L,UAAAgM,GAAAhM,UAAAiM,GAAAjM,UAAAkM,GAAAlM,UAAAmM,GAAAnM,UAAAoM,GAAApM,UAAAqM,GAAArM,UAAAsM,GAAAtM,UAAAuM,GAAAvM,UAAAwM,GAAAxM,UAAAyM,GAAAzM,UAAA0M,GAAA1M,UAAA2M,GAAA3M,UAAA4M,GAAA5M,UAAA6M,GAAA7M,UAAA8M,GAAA9M,UAAA+M,GAAA/M,UAAAgN,GAAAhN,UAAAiN,GAAAjN,UAAAkN,GAAAlN,UAAAmN,GAAAnN,UAAAoN,GAAApN,UAAAqN,GAAArN,UAAAsN,GAAAtN,UAAAuN,GAAAvN,UAAAwN,GAAAxN,UAAAyN,GAAAzN,UAAA0N,GAAA1N,UAAA2N,GAAA3N,UAAA4N,GAAA5N,UAAA6N,GAAA7N,UAAA8N,GAAA9N,UAAA+N,GAAA/N,UAAAgO,GAAAhO,UAAAiO,GAAAjO,UAAAkO,GAAAlO,UAAAmO,GAAAnO,UAAAoO,GAAApO,UAAAqO,GAAArO,UAAAsO,GAAAtO,UAAAuO,GAAAvO,UAAAwO,GAAAxO,UAAAyO,GAAAzO,UAAA0O,GAAA1O,UAAA2O,GAAA3O,UAAA4O,GAAA5O,UAAA6O,GAAA7O,UAAA8O,GAAA9O,UAAA+O,GAAA/O,UAAAgP,GAAAhP,UAAAiP,GAAAjP,UAAAkP,GAAAlP,UAAAmP,GAAAnP,UAAAoP,GAAApP,UAAAqP,GAAArP,UAAAsP,GAAAtP,UAAAuP,GAAAvP,UAAAwP,GAAAxP,UAAAyP,GAAAzP,UAAA0P,GAAA1P,UAAA2P,GAAA3P,UAAA4P,GAAA5P,UAAA6P,GAAA7P,UAAA8P,GAAA9P,UAAA+P,GAAA/P,UAAAgQ,GAAAhQ,UAAAiQ,GAAAjQ,UAAAkQ,GAAAlQ,UAAAmQ,GAAAnQ,UAAAoQ,GAAApQ,UAAAqQ,GAAArQ,UAAAsQ,GAAAtQ,UAAAuQ,GAAAvQ,UAAAwQ,GAAAxQ,UAAAyQ,GAAAzQ,UAAA0Q,GAAA1Q,UAAA2Q,GAAA3Q,UAAA4Q,GAAA5Q,UAAA6Q,GAAA7Q,UAAA8Q,GAAA9Q,UAAA+Q,GAAA/Q,UAAAgR,GAAAhR,UAAAiR,GAAAjR,UAAAkR,GAAAlR,UAAAmR,GAAAnR,UAAAoR,GAAApR,UAAAqR,GAAArR,UAAAsR,GAAAtR,UAAAuR,GAAAvR,UAAAwR,GAAAxR,UAAAyR,GAAAzR,UAAA0R,GAAA1R,UAAA2R,GAAA3R,UAAA4R,GAAA5R,UAAA6R,GAAA7R,UAAA8R,GAAA9R,UAAA+R,GAAA/R,UAAAgS,GAAAhS,UAAAiS,GAAAjS,UAAAkS,GAAAlS,UAAAmS,GAAAnS,UAAAoS,GAAApS,UAAAqS,GAAArS,UAAAsS,GAAAtS,UAAAuS,GAAAvS,UAAAwS,GAAAxS,UAAAyS,GAAAzS,UAAA0S,GAAA1S,UAAA2S,GAAA3S,UAAA4S,GAAA5S,UAAA6S,GAAA7S,UAAA8S,GAAA9S,UAAA+S,GAAA/S,UAAAgT,GAAAhT,UAAAiT,GAAAjT,UAAAkT,GAAAlT,UAAAmT,GAAAnT,UAAAoT,GAAApT,UAAAqT,GAAArT,UAAAsT,GAAAtT,UAAAuT,GAAAvT,UAAAwT,GAAAxT,UAAAyT,GAAAzT,UAAA0T,GAAA1T,UAAA2T,GAAA3T,UAAA4T,GAAA5T,UAAA6T,GAAA7T,UAAA8T,GAAA9T,UAAA+T,GAAA/T,UAAAgU,GAAAhU,UAAAiU,GAAAjU,UAAAkU,GAAAlU,UAAAmU,GAAAnU,UAAAoU,GAAApU,UAAAqU,GAAArU,UAAAsU,GAAAtU,UAAAuU,GAAAvU,UAAAwU,GAAAxU,UAAAyU,GAAAzU,UAAA0U,GAAA1U,UAAA2U,GAAA3U,UAAA4U,GAAA5U,UAAA6U,GAAA7U,UAAA8U,GAAA9U,UAAA+U,GAAA/U,UAAAgV,GAAAhV,UAAAiV,GAAAjV,UAAAkV,GAAAlV,UAAAmV,GAAAnV,UAAAoV,GAAApV,UAAAqV,GAAArV,UAAAsV,GAAAtV,UAAAuV,GAAAvV,UAAAwV,GAAAxV,UAAAyV,GAAAzV,UAAA0V,GAAA1V,UAAA2V,GAAA3V,UAAA4V,GAAA5V,UAAA6V,GAAA7V,UAAA8V,GAAA9V,UAAA+V,GAAA/V,UAAAgW,GAAAhW,UAAAiW,GAAAjW,UAAAkW,GAAAlW,UAAAmW,GAAAnW,UAAAoW,GAAApW,UAAAqW,GAAArW,UAAAsW,GAAAtW,UAAAuW,GAAAvW,UAAAwW,GAAAxW,UAAAyW,GAAAzW,UAAA0W,GAAA1W,UAAA2W,GAAA3W,UAAA4W,GAAA5W,UAAA6W,GAAA7W,UAAA8W,GAAA9W,UAAA+W,GAAA/W,UAAAgX,GAAAhX,UAAAiX,GAAAjX,UAAAkX,GAAAlX,UAAAmX,GAAAnX,UAAAoX,GAAApX,UAAAqX,GAAArX,UAAAsX,GAAAtX,UAAAuX,GAAAvX,UAAAwX,GAAAxX,UAAAyX,GAAAzX,UAAA0X,GAAA1X,UAAA2X,GAAA3X,UAAA4X,GAAA5X,UAAA6X,GAAA7X,UAAA8X,GAAA9X,UAAA+X,GAAA/X,UAAAgY,GAAAhY,UAAAiY,GAAAjY,UAAAkY,GAAAlY,UAAAmY,GAAAnY,UAAAoY,GAAApY,UAAAqY,GAAArY,UAAAsY,GAAAtY,UAAAuY,GAAAvY,UAAAwY,GAAAxY,UAAAyY,GAAAzY,UAAA0Y,GAAA1Y,UAAA2Y,GAAA3Y,UAAA4Y,GAAA5Y,UAAA6Y,GAAA7Y,UAAA8Y,GAAA9Y,UAAA+Y,GAAA/Y,UAAAgZ,GAAAhZ,UAAAiZ,GAAAjZ,UAAAkZ,GAAAlZ,UAAAmZ,GAAAnZ,UAAAoZ,GAAApZ,UAAAqZ,GAAArZ,UAAAsZ,GAAAtZ,UAAAuZ,GAAAvZ,UAAAwZ,GAAAxZ,UAAAyZ,GAAAzZ,UAAA0Z,GAAA1Z,UAAA2Z,GAAA3Z,UAAA4Z,GAAA5Z,UAAA6Z,GAAA7Z,UAAA8Z,GAAA9Z,UAAA+Z,GAAA/Z,UAAAga,GAAAha,UAAAia,GAAAja,UAAAka,GAAAla,UAAAma,GAAAna,UAAAoa,GAAApa,UAAAqa,GAAAra,UAAAsa,GAAAta,UAAAua,GAAAva,UAAAwa,GAAAxa,UAAAya,GAAAza,UAAA0a,GAAA1a,UAAA2a,GAAA3a,UAAA4a,GAAA5a,UAAA6a,GAAA7a,UAAA8a,GAAA9a,UAAA+a,GAAA/a,UAAAgb,GAAAhb,UAAAib,GAAAjb,UAAAkb,GAAAlb,UAAAmb,GAAAnb,UAAAob,GAAApb,UAAAqb,GAAArb,UAAAsb,GAAAtb,UAAAub,GAAAvb,UAAAwb,GAAAxb,UAAAyb,GAAAzb,UAAA0b,GAAA1b,UAAA2b,GAAA3b,UAAA4b,GAAA5b,UAAA6b,GAAA7b,UAAA8b,GAAA9b,UAAA+b,GAAA/b,UAAAgc,GAAAhc,UAAAic,GAAAjc,UAAAkc,GAAAlc,UAAAmc,GAAAnc,UAAAoc,GAAApc,UAAAqc,GAAArc,UAAAsc,GAAAtc,UAAAuc,GAAAvc,UAAAwc,GAAAxc,UAAAyc,GAAAzc,UAAA0c,GAAA1c,UAAA2c,GAAA3c,UAAA4c,GAAA5c,UAAA6c,GAAA7c,UAAA8c,GAAA9c,UAAA+c,GAAA/c,UAAAgd,GAAAhd,UAAAid,GAAAjd,UAAAkd,GAAAld,UAAAmd,GAAAnd,UAAAod,GAAApd,UAAAqd,GAAArd,UAAAsd,GAAAtd,UAAAud,GAAAvd,UAAAwd,GAAAxd,UAAAyd,GAAAzd,UAAA0d,GAAA1d,UAAA2d,GAAA3d,UAAA4d,GAAA5d,UAAA6d,GAAA7d,UAAA8d,GAAA9d,UAAA+d,GAAA/d,UAAAge,GAAAhe,UAAAie,GAAAje,UAAAke,GAAAle,UAAAme,GAAAne,UAAAoe,GAAApe,UAAAqe,GAAAre,UAAAse,GAAAte,UAAAue,GAAAve,UAAAwe,GAAAxe,UAAAye,GAAAze,UAAA0e,GAAA1e,UAAA2e,GAAA3e,UAAA4e,GAAA5e,UAAA6e,GAAA7e,UAAA8e,GAAA9e,UAAA+e,GAAA/e,UAAAgf,GAAAhf,UAAAif,GAAAjf,UAAAkf,GAAAlf,UAAAmf,GAAAnf,UAAAof,GAAApf,UAAAqf,GAAArf,UAAAsf,GAAAtf,UAAAuf,GAAAvf,UAAAwf,GAAAxf,UAAAyf,GAAAzf,UAAA0f,GAAA1f,UAAA2f,GAAA3f,UAAA4f,GAAA5f,UAAA6f,GAAA7f,UAAA8f,GAAA9f,UAAA+f,GAAA/f,UAAAgg,GAAAhg,UAAAig,GAAAjg,UAAAkg,GAAAlg,UAAAmg,GAAAng,UAAAog,GAAApg,UAAAqg,GAAArg,UAAAsg,GAAAtg,UAAAug,GAAAvg,UAAAwg,GAAAxg,UAAAyg,GAAAzg,UAAA0g,GAAA1g,UAAA2g,GAAA3g,UAAA4g,GAAA5g,UAAA6g,GAAA7g,UAAA8g,GAAA9g,UAAA+g,GAAA/g,UAAAgh,GAAAhh,UAAAih,GAAAjh,UAAAkh,GAAAlh,UAAAmh,GAAAnh,UAAAoh,GAAAph,UAAAqh,GAAArh,UAAAsh,GAAAth,UAAAuh,GAAAvh,UAAAwh,GAAAxh,UAAAyh,GAAAzh,UAAA0h,GAAA1h,UAAA2h,GAAA3h,UAAA4h,GAAA5h,UAAA6h,GAAA7h,UAAA8h,GAAA9h,UAAA+h,GAAA/h,UAAAgi,GAAAhi,UAAAii,GAAAji,UAAAki,GAAAli,UAAAmi,GAAAni,UAAAoi,GAAApi,UAAAqi,GAAAri,UAAAsi,GAAAti,UAAAui,GAAAvi,UAAAwi,GAAAxi,UAAAyi,GAAAzi,UAAA0i,GAAA1i,UAAA2i,GAAA3i,UAAA4i,GAAA5i,UAAA6i,GAAA7i,UAAA8i,GAAA9i,UAAA+i,GAAA/i,UAAAgj,GAAAhj,UAAAij,GAAAjj,UAAAkj,GAAAlj,UAAAmj,GAAAnj,UAAAoj,GAAApj,UAAAqj,GAAArj,UAAAsj,GAAAtj,UAAAuj,GAAAvj,UAAAwj,GAAAxj,UAAAyj,GAAAzj,UAAA0j,GAAA1j,UAAA2j,GAAA3j,UAAA4j,GAAA5j,UAAA6j,GAAA7j,UAAA8j,GAAA9j,UAAA+j,GAAA/j,UAAAgk,GAAAhk,UAAAik,GAAAjk,UAAAkk,GAAAlk,UAAAmk,GAAAnk,UAAAok,GAAApk,UAAAqk,GAAArk,UAAAsk,GAAAtk,UAAAuk,GAAAvk,UAAAwk,GAAAxk,UAAAyk,GAAAzk,UAAA0k,GAAA1k,UAAA2k,GAAA3k,UAAA4k,GAAA5k,UAAA6k,GAAA7k,UAAA8k,GAAA9k,UAAA+k,GAAA/k,UAAAgl,GAAAhl,UAAAil,GAAAjl,UAAAkl,GAAAll,UAAAml,GAAAnl,UAAAol,GAAApl,UAAAql,GAAArl,UAAAsl,GAAAtl,UAAAul,GAAAvl,UAAAwl,GAAAxl,UAAAyl,GAAAzl,UAAA0l,GAAA1l,UAAA2l,GAAA3l,UAAA4l,GAAA5l,UAAA6l,GAAA7l,UAAA8l,GAAA9l,UAAA+l,GAAA/l,UAAAgm,GAAAhm,UAAAim,GAAAjm,UAAAkm,GAAAlm,UAAAmm,GAAAnm,UAAAom,GAAApm,UAAAqm,GAAArm,UAAAsm,GAAAtm,UAAAum,GAAAvm,UAAAwm,GAAAxm,UAAAym,GAAAzm,UAAA0m,GAAA1m,UAAA2m,GAAA3m,UAAA4m,GAAA5m,UAAA6m,GAAA7m,UAAA8m,GAAA9m,UAAA+m,GAAA/m,UAAAgn,GAAAhn,UAAAin,GAAAjn,UAAAkn,GAAAln,UAAAmn,GAAAnn,UAAAon,GAAApn,UAAAqn,GAAArn,UAAAsn,GAAAtn,UAAAun,GAAAvn,UAAAwn,GAAAxn,UAAAyn,GAAAzn,UAAA0n,GAAA1n,UAAA2n,GAAA3n,UAAA4n,GAAA5n,UAAA6n,GAAA7n,UAAA8n,GAAA9n,UAAA+n,GAAA/n,UAAAgo,GAAAho,UAAAio,GAAAjo,UAAAko,GAAAlo,UAAAmo,GAAAno,UAAAoo,GAAApo,UAAAqo,GAAAro,UAAAso,GAAAto,UAAAuo,GAAAvo,UAAAwo,GAAAxo,UAAAyo,GAAAzo,UAAA0o,GAAA1o,UAAA2o,GAAA3o,UAAA4o,GAAA5o,UAAA6o,GAAA7o,UAAA8o,GAAA9o,UAAA+o,GAAA/o,UAAAgp,GAAAhp,UAAAip,GAAAjp,UAAAkp,GAAAlp,UAAAmp,GAAAnp,UAAAop,GAAAp,UAAAqp,GAAArp,UAAAsp,GAAAtp,UAAAup,GAAAvp,UAAAwp,GAAAxp,UAAAyp,GAAAzp,UAAA0p,GAAA1p,UAAA2p,GAAA3p,UAAA4p,GAAA5p,UAAA6p,GAAA7p,UAAA8p,GAAA9p,UAAA+p,GAAA/p,UAAAgq,GAAAhq,UAAAiq,GAAAjq,UAAAkq,GAAAlq,UAAAmq,GAAAnq,UAAAoq,GAAApq,UAAAqq,GAAArq,UAAAsq,GAAAtq,UAAAuq,GAAAvq,UAAAwq,GAAAxq,UAAAyq,GAAAzq,UAAA0q,GAAA1q,UAAA2q,GAAA3q,UAAA4q,GAAA5q,UAAA6q,GAAA7q,UAAA8q,GAAA9q,UAAA+q,GAAA/q,UAAAgr,GAAAhr,UAAAir,GAAAjr,UAAAkr,GAAAlr,UAAAmr,GAAAnr,UAAAor,GAAApr,UAAAqr,GAAArr,UAAAsr,GAAAtr,UAAAur,GAAAvr,UAAAwr,GAAAxr,UAAAyr,GAAAzr,UAAA0r,GAAA1r,UAAA2r,GAAA3r,UAAA4r,GAAA5r,UAAA6r,GAAA7r,UAAA8r,GAAA9r,UAAA+r,GAAA/r,UAAAgs,GAAAhs,UAAAis,GAAAjs,UAAAks,GAAAls,UAAAms,GAAAns,UAAAos,GAAApsAAAqsAAA

AC;QAC5B,IAAM,QAAQ,GAAG,EAAE,CAAC;QACpB,IAAM,SAAS,GAAG,IAAI,sBAAsB,CACxC,EAAE,EAAE,WAAW,EAAE,gBAAgB,EAAE,QAAQ,EAAE,SAAS,EAAE,cAAc,EAAE,aAAa,EAAE,IAAI,EAC3F,OAAO,CAAC,IAAI,EAAE,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC;QAC1B,OAAO,IAAI,mBAAmB,CAAC,EAAE,EAAE,EAAE,IAAI,,QAAQ,,CAAA,IAAI,EAAE,CAAA,EAAE,EAAE,IAAI,EAAE,CAAC,CAAC,CAAC;IAC1F,CAAC;IAED;;;;;;;;;;;;;;;;QA4BE;;QAEW,GAA6B;;QAE7B,MAA0B;;QAE1B,WA+B;;QAE/B,QAA4B;;QAE5B,IAAsB;;QAEtB,MAAc;;;QAGd,SAAgC,EAAE,cAAsC;YAAxE,sBAAE,EAAE,cAAE,EAAE,cAAE,EAAE,c

AQ;iBAAZ;gBACE,IAAI,CAAC,IAAI,CAAC,SAAS,EAAE;oBACnB,IAAI,CAAC,SAAS,GAAG,iBAAiB,CAAC
,IAAI,CAAC,MAAM,CAAC,CAAC;iBACjD;gBACD,OAAO,IAAI,CAAC,SAAS,CAAC;aACvB;;;WAAA;QAED
,sBAAI,iDAAa;iBAAjB;gBACE,IAAI,CAAC,IAAI,CAAC,cAAc,EAAE;oBACxB,IAAI,CAAC,cAAc,GAAG,iBA
AiB,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;iBAC3D;gBACD,OAAO,IAAI,CAAC,cAAc,CAAC;aAC5B;;;W
AAA;QAED,yCAAQ,GAAR;YACE,IAAM,GAAG,GAAG,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,UAAA,OA
AO,IAAI,OAAA,OAAO,CAAC,QAAQ,EAAE,GAAA,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;YAClE,I
AAM,OAAO,GAAG,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC,IAAI,GAAG,EAAE,CAAC;YAC
9D,OAAO,gBAAc,GAAG,iBAAY,OAAO,OAAI,CAAC;SACjD;qCACF;KAAA,IAAA;IAED;;;

KAAK,MAAM,CAAC,KAAK,CAAC,WAAW,EAAE;YACvD,MAAM,IAAI,KAAK,CAAC,uEAAuE,CAAC,CA
AC;SAC1F;QACD,IAAI,IAAI,CAAC,QAAQ,CAAC,MAAM,KAAK,MAAM,CAAC,QAAQ,CAAC,MAAM,EAA
E;YACnD,MAAM,IAAI,KAAK,CAAC,4EAA4E,CAAC,CAAC;SAC/F;QACD,MAAM,CAAC,KAAK,CAAC,eA
Ae,GAAG,IAAI,CAAC,KAAK,CAAC;QAC1C,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,C
AAC,QAAQ,CAAC,MAAM,EAAE,EAAE,CAAC,EAAE;YAC7C,mCAAmC,CAAC,IAAI,CAAC,QAAQ,CAAC,
CAAC,CAAC,EAAE,MAAM,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC,CAAC;SAC3E;IACH,CAAC;IAED,SA
AS,qBAAqB,CAC1B,kBAAsC,EAAE,IAAsC,EAC9E,SAAmC;QACrC,OAAO,IAAI,CAAC,QAAQ,CAAC,GAA
G,CAAC,UAAA,KAAK;;;gBAC5B,KAAgB,IAAA,KAAA,SAAA,KAAK,CAAC,QAAQ,CAAA,gBAAA,4BAAE;
oBAA/B,IAAM,CAAC,WAAA;oBACV,IAAI,kBAAkB,CAAC,gBAAgB,CAAC,KAAK,CAAC,KAAK,EAAE,CA
AC,CAAC,KAAK,CAAC,QAAQ,CAAC,EAAE;wBACtE,OAAO,UAAU,CAAC,kBAAkB,EAAE,KAAK,EAAE,
CAAC,CAAC,CAAC;qBACjD;iBACF;;;;;;;;;YACD,OAAO,UAAU,CAAC,kBAAkB,EAAE,KAAK,CAAC,CAAC
;SAC9C,CAAC,CAAC;IACL,CAAC;IAED,SAAS,oBAAoB,CAAC,CAAyB;QACrD,OAAO,IAAI,cAAc,CAAC,
IAAIM,oBAAe,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,EAAE,IAAIA,IAAIA,oBAAe,CAAC,CAAC,CAAC,CAAC,MAAM,CAAC,
EAAE,IAAIA,oBAAe,CAAC,CAAC,CAAC,CAAC,WAAW,CAAC,EAC7F,IAAIA,oBAAe,CAAC,CAAC,CAAC,CAAC,QAAQ
,CAAC,EAAE,IAAIA,oBAAe,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC,MAAM,EAAE,CAAC,C
AAC,SAAS,EAAE,CAAC,CAAC,CAAC;IAC9F;;aAClEgB,aAAa,CACzB,KAAK,EAAE,OAAgB,EAAE,EAAE,QAAe,E
AAE,WAAmB,EAC7E,QAAgB;QAClB,IAAI,QAAQ,CAAC,MAAM,KAAK,CAAC,EAAE;YACzB,OAAO,IAAI,CAAC,
CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,QAAQ,CAAC,CAA
C;SACzE;QAED,IAAM,GAAG,GAAG,iBAAiB,CAAC,QAAQ,CAAC,CAAC;QAExC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YACjC,IAAM,CAAC,GAAG,IAAI,CAAC,CAAC,CAAC,CAAC;YAClB,IAAI,CAAC,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,QAAQ,CAAC,CAAC,
EAAE;gBAC1D,OAAO,CAAC,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,QAAQ,CAAC,CAAC;aAC7E;SACF;QAED,OAAO,IAAI,CAAC,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,QAAQ,CAAC,CAAC;IAC3E,CAAC;IAED,SAAS,iBAAiB,CAAC,QAAe;QACxC,IAAM,GAAG,GAAG,IAAI,GAAG,EAAE,CAAC;QACtB,KAAK,IAAM,CAAC,IAAI,QAAQ,EAAE;YACxB,IAAM,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,QAAQ,CAAC,CAAC;YACxE,IAAI,CAAC,GAAG,CAAC,CAAC,EAAE;gBACV,GAAG,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;aACf;SACF;QACD,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,OAAO,CAAC,CAAS,EAAE,CAAS,EAAE,OAAgB,EAAE,EAAE,QAAe,EAAE,WAAmB,EAC7F,QAAgB;QAClB,IAAI,CAAC,KAAK,CAAC,EAAE;YACX,OAAO,CAAC,CAAC;SACV;QACD,IAAI,CAAC,KAAK,CAAC,EAAE;YACX,OAAO,CAAC,CAAC;SACV;QACD,IAAI,CAAC,CAAC,MAAM,KAAK,CAAC,IAAI,CAAC,CAAC,MAAM,KAAK,CAAC,EAAE;YACpC,OAAO,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,MAAM,CAAC;SAC5B;QAED,IAAM,GAAG,GAAG,iBAAiB,CAAC,QAAQ,CAAC,CAAC;QAExC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAC5B,IAAM,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;YACf,IAAI,CAAC,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,QAAQ,CAAC,CAAC,
EAAE;gBAC1D,OAAO,CAAC,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,QAAQ,CAAC,CAAC;aAC7E;SACF;QAED,OAAO,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,MAAM,CAAC;IAC7B

jF;yBACF;KAAA,IAAA;IAED;IACA,SAAS,iBAAiB,CAAC,QAAe;QACxC,IAAI,CAAC,OAAO,QAAQ,CAAC,CAAC,CAAC,KAAK,QAAQ,KAAK,QAAQ,CAAC,MAAM,KAAK,CAAC,IAAI,QAAQ,CAAC,CAAC,CAAC,KAAK,GAAG,EAAE;YACrF,OAAO,IAAI,UAAU,CAAC,IAAI,EAAE,CAAC,EAAE,QAAQ,CAAC,CAAC;SAC1C;QAED,IAAI,kBAAkB,GAAG,CAAC,CAAC;QAC3B,IAAI,UAAU,GAAG,KAAK,CAAC;QAEvB,IAAI,GAAG,GAAG,CAAC,CAAC;QACZ

vD;aAAM,IAAI,CAAC,CAAC,KAAK,IAAI,CAAC,YAAY,CAAC,WAAW,EAAE,EAAE;YACjD,OAAO,qBAAqB,CAAC,YAAY,EAAE,UAAU,EAAE,QAAQ,CAAC,CAAC;SAClE;aAAM,IAAI,CAAC,CAAC,KAAK,EAAE;YAClB,OAAO,0BAA0B,CAAC,YAAY,EAAE,CAAC,EAAE,cAAc,CAAC,CAAC;SACpE;aAAM;YACL,OAAO,qBAAqB,CAAC,YAAY,EAAE,UAAU,EAAE,QAAQ,CAAC,CAAC;SAClE;IACH,CAAC;IAED,SAAS,0BAA0B,CAC/B,CAAC/B,YA6B6B,EAAE,UAAkB,kBAAkB,EAAE,QAAe,CAAC,EAAE,CAAC,EAAE;YACzF,OAAO,IAAI,CAAC,eAAe,CAAC,CAAC,EAAE,QAAQ,CAAC,CAAC,MAAM,KAAK,CAAC,EAAE;YACvD,OAAO,IAAI,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,CAAC,SAAS

SAAS,CAAC,MAA4B;QAC7C,IAAM,GAAG,GAA4B,EAAE,CAAC;QACxC,OAAO,CAAC,MAAM,EAAE,UA
AC,CAAM,EAAE,CAAS,IAAK,OAAA,GAAG,CAAC,CAAC,CAAC,GAAG,KAAG,CAAG,GAAA,CAAC,CAA
C;QACxD,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,OAAO,CAAC,IAAY,EAAE,MAA4B,EAAE,OAAm
B;QAC9E,OAAO,IAAI,IAAI,OAAO,CAAC,IAAI,IAAI,YAAY,CAAC,MAAM,EAAE,OAAO,CAAC,UAAU,CA
AC,CAAC;IAC1E;;IClVA;;;;;;;IAoBO,IAAM,cAAc,GAAG,UAAC,YAAoB,EAAE,kBAAsC,EAAE,YAAkC,IA
C/B,OAAAN,aAAG,CAAC,UAAA,CAAC;QACH,IAAI,cAAc,CAAC,CAAC,kBAAkB,EAAE,CAAC,CAAC,iBAAkB,EA
AE,CAAC,CAAC,kBAAkB,EAAE,YAAY,CAAC;aAC5E,QAAQ,CAAC,YAAY,CAAC,CAAC;QAC5B,OAAO,C
AAC,CAAC;IACX,CAAC,CAAC,GAAA,CAAC;IAEX;QAACE,wBACY,kBAAsC,EAAU,WAAwB,EAAU,YAAkC,EAAU,SAAA
B,EAAU,YAAkC;YADlK,uBAAkB,GAAlB,kBAAkB,CAAoB;YAAU,gBAAW,GAAX,WAAW,CAAa;YAAU,iBAAY,GAAZ,YAAY,CAAsB;YAAU,cAAS,GAAT,S
AAS,GAAT,SAAS,CAAa;YAAU,iBAAY,GAAZ,YAAY,CAAsB;YAAU,cAAS,GAAT,SAAS,CAAa;YAAU,iBAAY,GAAZ,YAAY,CAAsB;YAAU,cAAS,GAAT,S
A

AU,CAAC,KAAK,CAAC,QAAQ,CAAC,CAAC,CAAC;aACtE;SACF;QAEO,uCAAc,GAAd,UACJ,UAAoC,EAAE,QAAkC,EACxE,cAAsC;YACxC,IAAM,MAAM,GAAG,UAAU,CAAC,KAAK,CAAC;YAChC,IAAM,IAAI,GAAG,QAAQ,GAAG,QAAQ,CAAC,KAAK,CAAC,IAAI,GAAG,QAAQ,GAAG,QAAQ,CAAC,KAAK,CAAC,IAAI,GAAG,UAAU,CAAC,KAAK,CAAC;YAE9C,qBAAqB,CAAC,MAAM,CAAC,KAAK,CAAC;;YAG9B,IAAI,MAAM,CAAC,KAAK,CAAC,IAAI,EAAE;gBAAC,IAAI,MAAM,CAAC,KAAK,CAAC,SAAS,EAAE;;oBAAE,IAAM,OAAO,GAAG,CAAC,cAAc,CAAC,kBAAkB,CAAC,MAAM,CAAC,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC

I,GAAA,CAAC;YACnDS,cAAI,CAAC,CAAC,CAAC,CAAgC,CAAC;SACxD,CAAC,CAAC;IACL;;ICtDA;;;;;;;I
AUA;;;;;;;;;;QAUA;;;;;gBADCI,cAAS,SAAC,EAAC,QAAQ,EAAE,iCAAiC,EAAC;;;ICnBxD;;;;;;;aAYgB,cAAc,C
AAC,MAAc,EAAE,UAAuB;QAAvB,2BAAA,EAAA,eAAuB;;QAEpE,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,
CAAC,GAAG,MAAM,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YACtC,IAAM,KAAK,GAAG,MAAM,CAAC,UAAU,CAAC,CAAC,CAAC;YAC/B,IAAM,QAAQ,GAAG,WAAW,CAAC,UAAU,CAAC,CAAC,CAAC;YACxD,IAAY,CAAC,CAAC,CAAC,CAAC;YAAC,IAAM,QAAQ,GAAG,WAAW,CAAC,UAAU,CAAC,CAAC,CAAC;YAAC,IAAM,CAAC

A,IAAA;IAED;QACE,0BAAmB,OAAgB;YAAhB,YAAO,GAAP,OAAO,CAAS;SAAI;+BACxC;KAAA,IAAA;IAED,SAAS,OAAO,CAAC,YAA6B;QAC5C,OAAO,IAAIC,eAAU,CACjB,UAAC,GAA8B,IAAK,OAAA,GAAG,CAAC,KAAK,CAAC,IAAI,OAAO,CAAC,YAAY,CAAC,CAAC,GAAA,CAAC,CAAC;IAChF,F,CAAS,CAAC

C;oBACzE,OAAO,SAAS,CAAC,IAAI,CAACD,oBAAU,CAAC,UAAA,CAAC;wBAChC,IAAI,CAAC,YAAY,OAAO,EAAE;4BACxB,OAAOlB,OAAE,CAAC,IAAI,CAAC,CAAC;yBACjB;wBACD,MAAM,CAAC,CAAC;qBACT,CAAC,CAAC,CAAC;iBACL,CAAC,EACFoB,eAAK,CAAC,UAAC,CAAAuB,IAA2B,OAAA,CAAC,KAAK,IAAI,GAAA,EAAE,CAAC,CAAC,EACpE,oBAAU,CAAC,UAAA,CAAC;oBACV,IAAI,CAAC,YAAY,EAAE;oBAAU,IAAI,CAAC,CAAC,IAAI,CAAC,KAAK,YAAY,EAAE;wBACzD,IAAI,KAAI,CAAC,CAAC,IAAI,CAAC,KAAK,YAAY,EAAE,QAAQ,EAAE,MAAM,CAAC,EAAE;4BACzD,OAAOrB,EAAE,CAAC,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC,CAAC;yBACvB;wBACD,MAAM,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;qBACjB;iBACF,CAAC,CAAC,CAAC

C,CAAC;iBACT;gBAED,OAAOD,OAAE,CAAC,IAAI,eAAe,CAAC,QAAQ,EAAE,EAAE,CAAC,CAAC,CAAC;aAC9C;YAEK,IAAA,KAAyC,KAAK,CAAC,eAAe,EAAE,KAAK,EAAE,QAAQ,CAAC,EAA/E,OAAO,aAAA,EAAE,gBAAgB,sBAAA,EAAE,SAAS,eAA2C,CAAC;YACvF,IAAI,CAAC,OAAO;gBAAE,OAAO,OAAO,CAAC,eAAe,CAAC,CAAC;YAE9C,IAAM,iBAAiB,GAAG,QAAQ,CAAC,KAAK,CAAC,SAAS,CAAC,CAAC;YACpD,IAAM,YAAY,GAAG,IAAI,CAAC,cAAc,EAAE,KAAK,EAAE,QAAQ,CAAC,CAAC;YAEpE,OAAO,YAAY,CAAC,IAAI,CAAC,CAACuB,EAAE,gBAAgB,EAAE,WAAW,GAAG,KAAK,EAAE,YAAY,CAAC,EAAE,CAAC,MAAM,CAAC;gBAExF,IAAM,WAAW,GAAG,KAAK,EAAE,gBAAgB,EAAE,WAAW,GAAG,KAAK,EAAE,YAAY,CAAC,EAAE,CAAC,MAAM,CAAC;gBAEzF,IAAM,UAAU,GAAG,IAAI,CAAC,aAAa,EAAE,KAAK,EAAE,QAAQ,CAAC,CAAC;gBAExD,IAAM,SAAS,GAAG,IAAI,CAAC,YAAY,EAAE,KAAK,EAAE,QAAQ,CAAC,CAAC;gBAEtD

E,QAAQ,EAAE,SAAS,CAAC,CAAC;SAC5E;QAEO,oDAA2B,GAA3B,UACJ,UAAkB,EAAE,OAAgB,EAAE,QAAsB,EAC5D,SAAoC;YACtC,IAAM,OAAO,GAAG,IAAI,CAAC,kBAAkB,CAAC,UAAU,EAAE,OAAO,CAAC,IAAI,EAAE,QAAQ,EAAE,SAAS,CAAC,CAAC;YACvF,OAAO,IAAI,OAAO,CAAC,GAAG,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,OAAO,EAAE,WAAW,EAAE,IAAI,CAAC,OAAO,EAAE,WAAW,CAAC,CAAC,EAAC9E,OAAO,EAAE,CAAC,CAAC,QAAQ,CAAC,CAAC;SACvB;QAEO,0CAAiB,GAAjB,UAAkB,gBAAwB,EAAE,YAAoB,EAAE,WAAmB,EAAE,SAAiB,EAAE,SAAiB;YACnH,IAAM,CAAC,GAAG,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,OAAO,EAAE,gBAAgB,EAAE,IAAI,CAAC,OAAO,EAAE,YAAY,CAAC,CAAC;YACpF,IAAM,CAAC,GAAG,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,OAAO,EAAE,WAAW,EAAE,IAAI,CAAC,OAAO,EAAE,SAAS,CAAC,CAAC;YACjF,IAAM,CAAC,GAAG,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,OAAO,EAAE,SAAS,EAAE,IAAI,CAAC,OAAO,EAAE,SAAS,CAAC,CAAC;YAClF,OAAO,IAAI,OAAO,CAAC,GAAG,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,OAAO,EAAE,CAAC,EAAE,IAAI,CAAC,OAAO,EAAE

C,QAAQ,CAAC,cAAc,CAAC,CAAC;YACrC,OAAO,IAAI,eAAe,CAAC,CAAC,CAAC,QAAQ,CAAC,MAAM,C
AAC,CAAC,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,QAAQ,CAAC,CAAC;SACvE;QAED,OAAO,CAAC,CA
AC;IACX,CAAC;IAED,SAAS,kCAAkC,CACvC,YAA6B,EAAE,cAA4B,EAAE,MAAe,EAC5E,QAA2C;;QAC7C
,IAAM,GAAG,GAAsC,EAAE,CAAC;;YAClD,KAAgB,IAAA,WAAA,SAAA,MAAM,CAAA,8BAAA,kDAAE;g
BAAnB,IAAM,CAAC,mBAAA;gBACV,IAAI,mBAAmB,CAAC,YAAY,EAAE,cAAc,EAAE,CAAC,CAAC,IAAI
,CAAC,QAAQ,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC,EAAE;oBACnF,GAAG,CAAC,SAAS,CAAC,CAAC,
CAAC,CAAC,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,CAAC,CAAC;iBACjD;aACF;;;;;;;;;QACD,uCAAA
W,QAAQ,GAAK,GAAG,EAAE;IAC/B,CAAC;IAED,SAAS,8BAA8B,CACnC,MAAe,EAAE,mBAAoC;;QACvD,
IAAM,GAAG,GAAsC,EAAE,CAAC;QAClD,GAAG,CAAC,cAAc,CAAC,GAAG,mBAAmB,CAAC;;YAC1C,KA
AgB,IAAA,WAAA,SAAA,MAAM,CAAA,8BAAA,kDAAE;gBAAnB,IAAM,CAAC,mBAAA;gBACV,IAAI,CAAC,mBAAA;gBACV,IAAI,CAA
C,CAAC,IAAI,KAAK,EAAE,IAAI,SAAS,CAAC,CAAC,CAAC,KAAK,cAAc,EAAE;oBACpD,GAAG,CAAC,SA
AS,CAAC,CAAC,CAAC,CAAC,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,CAAC,CAAC;iBACjD;aACF;;;;
;;;;QACD,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0CAA0C,CAC/C,MAAe,EAAE,QAAsB;QACvC,IAAM,GAAG,GAAG,IA
AI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QACpC,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,
CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAAG,GAAG,IAAI,eAAe,CAAC,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;QAC1C,KAAK,IAAM,CAAC,IAAI,MAAM,EAAE;YACtB,IAAI,CAAC,KAAK,QAAQ,EAAE;gBAClB,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;aACzB;SACF;QAED,OAAO,GAAG,CAAC;IACb,CAAC;IAED,SAAS,0BAA0B,CAAC,MAAe,EAAE,QAAsB;QACzE,IAAM,GAG

OAAA,6BAA6B,CAAC,CAAC,EAAE,QAAS,CAAC,UAAU,CAAC,CAAC,CAAC,EAAE,MAAM,CAAC,GAAA
,CAAC,CAAC;QAE3E,OAAO,MAAM,CAAC;IAChB,CAAC;IAED,SAAS,cAAc,CACnB,UA4C,EAAE,QA0
C,EACxF,cAA2C,EAAE,UAAoC,EACjF,MAGC;QAHD,uBAAA,EAAA;YACE,mBAAmB,EAAE,EAAE;YACv
B,iBAAiB,EAAE,EAAE;SACtB;QACH,IAAM,MAAM,GAAG,UAAU,CAAC,KAAK,CAAC;QAChC,IAAM,IAA
I,GAAG,QAAQ,GAAG,QAAQ,CAAC,KAAK,GAAG,IAAI,CAAC;QAC9C,IAAM,OAAO,GAAG,cAAc,GAAG,c
AAc,GAAG,cAAc,CAAC,UAAU,CAAC,UAAU,CAAC,KAAK,CAAC,MAAM,CAAC,GAAG,IAAI,CAAC;;QAG3F,IAAI,IAA
I,IAAI,MAAM,CAAC,WAAW,KAAK,IAAI,CAAC,WAAW,EAAE;YACnD,IAAM,SAAS,GACX,2BAA2B,CAAC,IAAI,EAAE,MAAM,EAAE,MAAM,CAAC,WAAY,CAAC,qBAAqB,CAAC,CAAC;YACzF,IAAI,SAAS,EAAE,MAAM,CAAC,SAAS,CAAC;SACnC;QAED,IAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,UAAC,CAAC,EAAE,CAAC,IAAK,OAAA,CAAC,GAAG,CAAC,EAAL,CAAK,EAAE,CAAC,CAAC,CAAC;QAC1D,IAAM,KAAK,GAAG,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC;QACnC,IAAM,IAAI,GAAG,IAAI,CAAC,MAAM,CAAC,UAAC,CAAC,EAAE,CAAC,IAAK,OAAA,CAAC,GAAG,CAAC,EAAL,CAAK,EAAE,CAAC,CAAC,GAAG,KAAK,CAAC;QAC7D,IAAM,GAAG,GAAG,IAAI,GAAG,KAAK,CAAC;QAEzB

CAAC;wBACrEvB,OAAE,CAAC,aAAa,CAAC,CAAC;iBACvB,CAAC,EACFC,aAAG,CAAC,UAAA,YAAY,IA
AI,wCAAK,CAAC,KAAE,YAAY,cAAA,OAAE,CAAC,CAAC,CAAC;aACtD,CAAC,CAAC,CAAC;SACL,CAA
C;IACJ,CAAC;IAED,SAAS,sBAAsB,CAC3B,MAAAuB,EAAE,SA8B,EAAE,OA4B,EACrF,cAAwB;QAC1B,O
AAOK,SAAI,CAAC,MAAM,CAAC,CAAC,IAAI,CACpBiB,kBAAQ,CACJ,UAAA,KAAK,IACD,OAAA,gBAAg
B,CAAC,KAAK,CAAC,SAAS,EAAE,KAAK,CAAC,KAAK,EAAE,OAAO,EAAE,SAAS,EAAE,cAAc,CAAC,G
AAA,CAAC,EAC3FH,eAAK,CAAC,UAAA,MAAM;YACV,OAAO,MAAM,KAAK,IAAI,CAAC;SACxB,EAAE,
IAAyB,CAAC,CAAC,CAAC;IACrC,CAAC;IAED,SAAS,oBAAoB,CACzB,cAAmC,EAAE,MAAqB,EAAE,cAA
wB,EACpF,YAAmC;QACrC,OAAOd,SAAI,CAAC,MAAM,CAAC,CAAC,IAAI,CACpBa,mBAAS,CAAC,UAA
C,KAAkB;YAC3B,OAAOb,SAAI,CAAC,gBACH,wBAAwB,CAAC,KAAK,CAAC,KAAK,CAAC,MAAM,EAA
E,YAAY,CAAC;gBAC1D,mBAAmB,CAAC,KAAK,CAAC,KAAK,EAAE,YAAY,CAAC;gBAC9C,mBAAmB,C
AAC,cAAc,EAAE,KAAK,CAAC,IAAI,EAAE,cAAc,CAAC;gBAC/D,cAAc,CAAC,CAAC,cAAc,EAAE,KAAK,CAAC,K
AAK,EAAE,cAAc,CAAC;aAC5D,CAAC;iBACJ,IAAI,CAACJ,mBAAS,EAAE,EAAEkB,eAAK,CAAC,UAAA,M
AAM;gBACvB,OAAO,MAAM,KAAK,IAAI,CAAC;aACxB,EAAE,IAAyB,CAAC,CAAC,CAAC;SAC1C,CAAC,EACFA,
EACFA,eAAK,CAAC,UAAA,MAAM;YACV,OAAO,MAAM,KAAK,IAAI,CAAC;SACxB,EAAE,IAAyB,CAAC
,CAAC,CAAC;IACrC,CAAC;IAED;;;;;;;;IAQA,SAAS,mBAAmB,CACxB,QAAqC,EACrC,YAAmC;QACrC,OAAOd,SAAI,CAAC,MAAM,CAAC,CAAC,IAAI,CACpBa,mBAAS,CAAC,UAAA,KAAK,IACD,OAAA,gBAAgB,CAAC,KAAK,CAAC,KAAK,CAAC,MAAM,EAAE,YAAY,CAAC,CAAC,IAAI,CAAC,UAAA,MAAM,IAAI,OAAA,CAAC,MAAM,IAAI,KAAK,CAAC,MAAM,KAAK,CAAC,CAAA,EAAA,CAAC,GAAA,CAAC,CAAC,CAAC,KAAK,GAAG,SAAS,EAAA,CAAC,CAAC,CAAC

,CAAM;YACxD,IAAM,KAAK,GAAG,QAAQ,CAAC,CAAC,EAAE,OAAO,EAAE,cAAc,CAAC,CAAC;YACnD,IAAI,UAAU,CAAC;YACf,IAAI,eAAe,CAAC,KAAK,CAAC,EAAE;gBAC1B,UAAU,GAAG,kBAAkB,CAAC,KAAK,CAAC,aAAa,CAAC,SAAU,EAAE,OAAO,EAAE,OAAO,EAAE,OAAO,EAAE,SAAS,CAAC,CAAC,CAAC;aAC/F;iBAAM,IAAI,UAAU,CAAC,uBAAK,CAAC,KAAK,CAAC,EAAE;gBAClD,UAAU,GAAG,kBAAkB,CAAC,KAAK,CAAC,EAAE,OAAO,EAAE,OAAO,EAAE,OAAO,EAAE,SAAS,CAAC,CAAC,CAAC;aAChF;iBAAM;gBACL,UAAU,GAAG,kBAAkB,CAAC,KAAK,CAAC,EAAE,OAAO,EAAE,OAAO,EAAE,OAAO,EAAE,SAAS,CAAC,CAAC,CAAC;aACjF;YACD,IAAI,eAAe,CAAC,KAAK,CAAC,EAAE;gBAC1B

AAC;YAErE,IAAI,QAAgC,CAAC;YACrC,IAAI,gBAAgB,GAAiB,EAAE,CAAC;YACxC,IAAI,iBAAiB,GAAiB,EAAE,CAAC;YAEzC,IAAI,KAAK,CAAC,IAAI,KAAK,IAAI,EAAE;gBACvB,IAAM,MAAM,GAAG,QAAQ,CAAC,MAAM,GAAG,CAAC,GAAG,IAAI,CAAC,GAAG,EAAE,CAAC;gBAEhD,IAAI,sBAAsB,CACjC,QAAQ,EAAE,MAAM,EAAE,MAAM,CAAC,MAAM,mBAAK,IAAI,CAAC,OAAO,CAAC,WAAW,EAAE,EAAE,IAAI,CAAC,OAAO,CAAC,QAAS,EACtF,OAAO,CAAC,KAAK,CAAC,EAAE,EAAE,MAAM,EAAE,KAAK,CAAC,SAAU,EAAE,KAAK,CAAC,EAAE,EAAE,qBAAqB,CAAC,UAAU,CAAC,EAClF,iBAAiB,CAAC,UAAU,CAAC,GAAG,QAAQ,CAAC,MAAM,EAAE,UAAU,CAAC,KAAK,CAAC,CAAC,CAAC;aACtE,iBAAM;gBACL,IAAM,MAAM,GAAG,CAAC,GAAG,IAAI,CAAC,GAAG,EAAE,CAAC;gBAEhC

K,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC,KAAK,CAAC;SACjC,CAAC,CAAC;IACL,CAAC;IAED,SAAS,q
BAAqB,CAAC,YAA6B;QAC1D,IAAI,CAAC,GAAG,YAAY,CAAC;QACrB,OAAO,CAAC,CAAC,cAAc,EAAE;
YACvB,CAAC,GAAG,CAAC,CAAC,cAAc,CAAC;SACtB;QACD,OAAO,CAAC,CAAC;IACX,CAAC;IAED,SA
AS,iBAAiB,CAAC,YAA6B;QACtD,IAAI,CAAC,GAAG,YAAY,CAAC;QACrB,IAAI,GAAG,IAAI,CAAC,CAAC,CAA
C,kBAAkB,GAAG,CAAC,CAAC,kBAAkB,GAAG,CAAC,CAAC,CAAC;QAC5D,OAAO,CAAC,CAAC,cAAc,E
AAE;YACvB,CAAC,GAAG,CAAC,CAAC,cAAc,CAAC;YACrB,GAAG,KAAK,CAAC,CAAC,kBAAkB,GAAG,
CAAC,CAAC,kBAAkB,GAAG,CAAC,CAAC,CAAC;SAC1D;QACD,OAAO,GAAG,GAAG,CAAC,CAAC;IACjb
B,CAAC;IAED,SASD,OAAK,CACV,YAA6B,EAAE,gBAA8B,EAAE,cAA4B,EAAC,MAAe,EAAE,sBAA4C;
QAC/D,IAAI,cAAc,CAAC,MAAM,GAAG,CAAC;YACzB,wCAAwC,CAAC,YAAY,EAAE,cAAc,EAAE,MAAM
,CAAC,EAAE;YAClF,IAAM,GAAC,GAAG,IAAI,eAAe,CAAzB,gBAAgB,EAAChB,2BAA2B,CAAvB,YAAY,EA
AE,gBAAgB,EAAE,MAAM,EAAtC,IAAI,eAAe,CAAC,cAAc,EAAE,YAAY,CAAC,QAAQ,CAAC,CAAC,CAA
C,CAAC;YACrE,GAAC,CAAC,cAAc,GAAG,YAAY,CAAC;YAChC,GAAC,CAAC,kBAAkB,GAAG,gBAAgB,
CAAC,MAAM,CAAC;YAC/C,OAAO,EAAC,YAAY,EAAE,GAAC,EAAE,cAAc,EAAE,YAAY,EAAC,CAAC;SA
C9C;QAED,IAAI,cAAc,CAAC,MAAM,KAAK,CAAC;YAC3B,wBAAwB,CAAC,YAAY,EAAE,cAAc,EAAE,M
AAM,CAAC,EAAE;YAClE,IAAM,GAAC,GAAG,IAAI,eAAe,CAAzB,gBAAgB,EAAC,YAAY,CAAC,QAAQ,EACrB,+BAA+B,C
AC3B,YAAY,EAAE,gBAAgB,EAAE,cAAc,EAAE,MAAM,EAAE,YAAY,CAAC,QAAQ,EAC7E,sBAAsB,CAA
C,CAAC,CAAC;YACjC,GAAC,CAAC,cAAc,GAAG,YAAY,CAAC;YAChC,GAAC,CAAC,kBAAkB,GAAG,gB
AAgB,CAAC,MAAM,CAAC;YAC/C,OAAO,EAAC,YAAY,EAAE,GAAC,EAAE,cAAc,EAAE,gBAAgB,EAAC,CAAC;S
AC1C;QAED,IAAM,CAAC,GAAG,IAAI,eAAe,CAAzB,gBAAgB,EAAC,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC,QAAQ,CAA
C,CAAC;QAC5E,CAAC,CAAC,cAAc,GAAG,YAAY,CAAC;QAChC,CAAC,CAAC,kBAAkB,GAAG,gBAAgB,
CAAC,MAAM,CAAC;QAC/C,OAAO,EAAC,YAAY,EAAE,CAAC,EAAE,cAAc,EAAE,gBAAgB,EAAC,CAAC;IAC3C,
CAAC;IAED,SAAS,+BAA+B,CAAC,YAA6B,EAAE,MAAe,EAAE,QAA2C,
sBAA4C;;QAC9I,IAAM,GAAG,GAAG,IAAI,eAAe,CAAzB,gBAAgB,EAAC,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC,QAAQ,CAA
C,CAAC,CAAC;YACjC,GAAC,CAAC,cAAc,GAAG,YAAY,CAAC;YAChC,GAAC,CAAC,kBAAkB,GAAG,gB
AAgB,CAAC,MAAM,CAAC;YAC/C,OAAO,EAAC,YAAY,EAAE,GAAC,EAAE,cAAc,EAAE,gBAAgB,EAAC,CAAC;S
AC1C;QAED,IAAM,CAAC,GAAG,IAAI,eAAe,CAAzB,gBAAgB,EAAC,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC,QAAQ,CAA
C,CAAC;QAC5E,CAAC,CAAC,cAAc,GAAG,YAAY,CAAC;QAChC,CAAC,CAAC,kBAAkB,GAAG,gBAAgB,
CAAC,MAAM,CAAC;QAC/C,OAAO,EAAC,YAAY,EAAE,CAAC,EAAE,cAAc,EAAE,gBAAgB,EAAC,CAAC;IAC3C,
CAAC;IAED,SAAS,+BAA+B,CAAC,YAA6B,EAAE,MAAe,EAAE,QAA2C,
sBAA4C;;QAC9I,IAAM,GAAG,GAAG,IAAI,eAAe,CAAzB,gBAAgB,EAAC,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC,QAAQ,CA
C,CAAC,CAAC;YACjC,GAAC,CAAC,cAAc,GAAG,YAAY,CAAC;YAChC,GAAC,CAAC,kBAAkB,GAAG,gB
AAgB,CAAC,MAAM,CAAC;YAC/C,OAAO,EAAC,YAAY,EAAE,GAAC,EAAE,cAAc,EAAE,gBAAgB,EAAC,CAAC;S
AC1C;QAED,IAAM,CAAC,GAAG,IAAI,eAAe,CAAzB,gBAAgB,EAAC,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC,QAAQ,C

EAC/C,sBAA4C;QAC9C,OAAO,UAAS,MAAwC;YACtD,OAAO,MAAM,CAAC,IAAI,CAACR,kBAAQ,CACvB,UAAA,CAAC,IAAI,OAAAS,SAAW,CACP,iBAAiB,EAAE,MAAM,EAAE,CAAC,CAAC,iBAAiB,EAAE,UAAU,CAAC,CAAC,CAAC,iBAAiB,CAAC,EAC/E,yBAAyB,EAAE,sBAAsB,CAAC;iBACjD,IAAI,CAAC/B,aAAG,CAAC,UAAA,CAAC,IAAI,wCAAK,CAAC,KAAE,cAAC,gBAAA,OAAE,CAAC,CAAC,GAAA,CAAC,CAAC,CAAC,CAAC;SACvE,CAAC;IACJ;;IC5BA;;;;;;;aAkBgB,WAAW,CACvB,yBAA+C,EAC/C,wBAAQ1B,gBAAM,CAAC,UAAA,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC

AM,MAAM,GAAG,OAAO,CAAC,MAAM,CAAC,cAAc,CAAC,CAAC;gBAE9C,OAAO,IAAI,kBAAkB,CACzB,OAAO,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC,CAAC,GAAG,CAAC,iBAAiB,CAAC,EAAE,MAAM,CAAC,CAAC;aAC1E,CAAC,CAAC,CAAC;SACL;QAEO,8CAAiB,GAAjB,UAAkB,YA A0B;YAA5C,iBAYP;YAXC,IAAI,OAAO,YAAY,KAAK,QAAQ,EAAE;gBACpC,OAAOK,SAAI,CAAC,IAAI,C AAC,MAAM,CAAC,IAAI,CAAC,YAAY,CAAC,CAAC,CAAC;aAC7C;iBAAM;gBACL,OAAO,kBAAkB,CAAC ,YAAY,EAAE,CAAC,CAAC,IAAI,CACzC iB,kBAAQ,CAAC,UAAC,CAAC,CAAC,oBAAC,CAAC,CAAC,CAAC;oBAC7D,IAAI,CAAC,YAAYa,oBA Ae,EAAE;wBAChC,OAAOpC,OAAE,CAAC,CAAC,CAAC,CAAC,CAAC;qBACd;yBAAM;wBACL,OAAOM,SAAI,CA AC,KAAI,CAAC,QAAQ,CAAC,kBAAkB,CAAC,CAAC,CAAC,CAAC,CAAC;qBAClD;iBACF,CAAC,CAAC,C AAC;aACL;SACF;iCACF;KAAA;;IC7DD;;;;;;;IAcA;;;;;;QAKA;YACE,WAAM,GAAsB,IAAI,CAAC;YACjC,UA AK,GAAwB,IAAI,CAAC;YAClC,aAAQ,GAAkB,IAAI,CAAC;YAC/C,aAAQ,GAAkB,IAAI,sBAAsB,EAAE,CAA C;YACxC,cAAS,GAA2B,IAAI,CAAC;SAC1C;4BAAA;KAAA,IAAA;IAED;;;;;;QAKA;;YAEU,aAAQ,GAAG,IA AI,GAAG,EAAyB,CAAC;SAiDrD;;QA9CC,qDAAoB,GAApB,UAAqB,UAAqB,EAAE,MAAoB;YAC1D,IAAM,O AAO,GAAG,IAAI,CAAC,kBAAkB,CAAC,UAAU,CAAC;YACnD,IAAM,MAAM,GAAG,IAAI,CAAC,kBAAkB,CAAC,MAAM,CAAC;YAC9C,IAAI,CAAC,OAAO,IAAI,CAAC,MAAM,EAAE;gBACvB,OAAO,IAAI,CAAC;aACb;YAED,IAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,CAAC;YACnC,IAAM,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC;YACjC,IAAI,CAAC,MAAM,IAAI,CAAC,KAAK,EAAE;gBACrB,OAAO,IAAI,CAAC;aACb;YAED,IAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,OAAO,CAAC,CAAC;YACpC,IAAM,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC,OAAO,CAAC,CAAC;YAClC,IAAI,CAAC,MAAM,IAAI,CAAC,KAAK,EAAE;gBACrB,OAAO,IAAI,CAAC;aACb;YAED,OAAO,MAAM,CAAC,MAAM,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC;SACnC;QAED,qDAAoB,GAApB,UAAqB,UAAqB,EAAE,MAAoB;YAC9D,IAAM,OA

AC,cAAc,CAAC;YAE1C,IAAI,CAAC,YAAY,GAAG,IAAI,kBAAkB,CAAC,MAAM,EAAE,QAAQ,EAAE,WAA
W,EAAE,SAAS,CAAC,CAAC;YACrF,IAAI,CAAC,WAAW,GAAG,gBAAgB,CAAC,IAAI,CAAC,cAAc,EAAE,I
AAI,CAAC,iBAAiB,CAAC,CAAC;YAEjF,IAAI,CAAC,WAAW,GAAG,IAAIhC,oBAAe,CAAAuB;gBAC3D,EAA
E,EAAE,CAAC;gBACL,cAAc,EAAE,IAAI,CAAC,cAAc;gBACnC,aAAa,EAAE,IAAI,CAAC,cAAc;gBAClC,YA
AY,EAAE,IAAI,CAAC,mBAAmB,CAAC,OAAO,CAAC,IAAI,CAAC,cAAc,CAAC;gBACnE,iBAAiB,EAAE,IA
AI,CAAC,mBAAmB,CAAC,OAAO,CAAC,IAAI,CAAC,cAAc,CAAC;gBACxE,MAAM,EAAE,IAAI,CAAC,cA
c;gBAC3B,MAAM,EAAE,EAAE;gBACV,OAAO,EAAE,IAAI;gBACb,MAAM,EAAE,IAAI;gBACZ,OAAO,EAA
E,OAAO,CAAC,OAAO,CAAC,IAAI,CAAC;gBAC9B,MAAM,EAAE,YAAY;gBACpB,aAAa,EAAE,IAAI;gBAC
nB,eAAe,EAAE,IAAI,CAAC,WAAW,CAAC,QAAQ;gBAC1C,cAAc,EAAE,IAAI;gBACpB,kBAAkB,EAAE,IAA
I,CAAC,WAAW;gBACpC,iBAAiB,EAAE,IAAI;gBACvB,MAAM,EAAE,EAAC,iBAAiB,EAAE,EAAE,EAAE,mB
BAAmB,EAAE,EAAE,EAAC;gBACxD,YAAY,EAAE,IAAI;aACnB,CAAC,CAAC;YACH,IAAI,CAAC,WAAW,
GAAG,IAAI,CAAC,gBAAgB,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;YAE3D,IAAI,CAAC,kBAAkB,EAAE,
CAAC;SAC3B;QAEO,iCAAgB,GAAhB,UAAiB,WA6C;YAA9D,iBXP;YAlXC,IAAM,aAAa,GAAI,IAAI,CAAC,MAAM,
CAAC,MAAyB,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,MAAM,CAAC,MAAyB,CAAC,CAAC,CAAC,CAAC,IAAI,
CAAC,CAAC,EAAE,KAAK,CAAC,GAAA,CAAC;YAGvG,IAAM,UAAU,GAAG,IAAI,CAAC,MAAM,CAAC,MAAM,
CAAC,UAAA,CAAC;;YAAG,OAAA,CAAC,CAAC,IACG,QAAC,gCAAI,CAAC,KAAK,CAAC,GAAA,CAAC,IAAI,CAAC
,CAAC,KAAE,YAAY,EAAE,EAAE,KAAI,CAAC,mBAAmB,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,MAAM,CAAC,GAC
1C,IAAA,CAAC;;YAG/BO,mBAAS,CAAC,UAAA,CAAC;gBACT,IAAI,SAAS,GAAG,CAAC,CAAC,IAAI,CAAC;gBACtB,IAAI,CAAC,SAAS,IAAI,SAAS,KAAK,CAAC,EAAE;oBAAE,OAAO,KAAK,CAAC;iBAAE;gBACpD,IAAM,IAAI,GAAG,SAAS,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;gBACjC,OAAO,IAAI,KAAK,CAAC,IAAI,IAAI,KAAK,CAAC,IAAI,IAAI,KAAK,CAAC,CAAC;aACnD,CAAC,CAAC;YAEH,IAAM,SAAS,GAAG,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,UAAA,CAAC,IAAI,OAAA,CAAC,UAAU,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAA,CAAC,CAAC;YAEnE

AM,GAA2B,CAAC,OAA5B,EAAE,aAAa,GAAY,CAAC,cAAb,EAAE,MAAM,GAAI,CAAC,OAAL,CAAM;4BA
C5D,IAAM,QAAQ,GAAG,IAAI,eAAe,CAChC,EAAE,EAAE,KAAI,CAAC,YAAY,CAAC,YAAY,CAAC,EAAE,
MAAM,EAAE,aAAa,CAAC,CAAC;4BAChE,aAAa,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;4BAC7B,IAAM,c
AAc,GAChB,gBAAgB,CAAC,YAAY,EAAE,KAAI,CAAC,iBAAiB,CAAC,CAAC,QAAQ,CAAC;4BAEpE,OAA
OxB,OAAE,iCACJ,CAAC,KACJ,cAAc,gBAAA,EACd,iBAAiB,EAAE,YAAY,EAC/B,MAAM,kCAAM,MAAM,
KAAE,kBAAkB,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,OAChE,CAAC;yBACJ;6BAAM;;;;;;4BAML,KAAI,
CAAC,UAAU,GAAG,CAAC,CAAC,MAAM,CAAC;4BAC3B,KAAI,CAAC,cAAc,GAAG,CAAC,CAAC,iBAAiB
,CAAC;4BAC1C,CAAC,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC;4BAChB,OAAOkC,UAAK,CAAC;yBACd;q
BACF;iBACF,CAAC;;gBAGF,SAAS,CAAC,UAAA,CAAC;oBAEP,IAAA,cAAc,GAKZ,CAAC,eALW,EACV,YAAY,GAId,CAAC,GAJa,EACd,cAAc,GAGZ,CAAC,aAHW,EACZ,cAAc,GAEZ,CAAC,OAFe,EAClB,KACE,CAAC,OADqC,EAA/B,kBAAkB,wBAAA,EAAE,UAAU,gBAAA,EAAE,CAAC,CAAC;oBACzC,IAAA,KAAK,GAAG,CAAC,CAAC,KAAK,CAAC;oBAEtB,IAAM,mBAAmB,GAAG,CAAC,CAAC,cAAc,CAAC,CAAC,CAAC,cAAc,CAAC,CAAC,CAAC,CAAC,CAAC;oBAEnE

UAAU,GAEhB,CAAC,OAFe,EAClB,KACE,CAAC,OADqC,EAA/B,kBAAkB,wBAAA,EAAE,UAAU,gBAAC,CACpC;oBACN,OAAO,KAAI,CAAC,KAAK,CAAC,kBAAkB,CAAC,cAAe,EAAE;wBACpD,YAAY,cAAA;wBACZ,cAAc,gBAAA;wBACd,UAAU,YAAA;wBACV,kBAAkB,EAAE,CAAC,CAAC,kBAAkB;wBACxC,UAAU,EAAE,CAAC,CAAC,UAAU;qBACzB,CAAC,CAAC;iBACJ,CAAC,EAEFvB,aAAG,CAAC,UAAC,CAAAuB;oBAC1B,IAAAM,iBAAAiB,GAAG,iBAAAiB,CACvC,KAAI,CAAC,kBAAkB,EAAE,CAAC,CAAC,cAAe,EAAE,CAAC,CAAC,kBAAkB,CAAC,CAAC;oBACtE,wCAAAY,CAAC,KAAI,CAAC,KAAE,EAAE,iBAAAiB,mBAAA,KAAG;iBACpC,CAAC;;;;;;gBAOFuB,aAAG,CAAC,UAAC,CAAAuB;oBAC1B,IAAAM,iBAAAiB,cAAc,iBAAAiB,CACvC,KAAI,CAAC,cAAc,EAAE,CAAC,CAAC,iBAAAiB,CAAC;oBACtE,IAAAM,iBAAAiB,CAAC,KAAI,CAAC,UAAU;wBACpB,CACX,CAAC,MAAM,CAAC,CAAC;oBAEjE,KAAAmB,mBAAAiB,CAAC,WAAW,GAAG,CAAC,CAAC,iBAAAkB,CAAC;oBAExE,IAAI,KAAI,CAAC,iBAAAiB,CAAC,KAAK,UAAU,EAAE;wBACzC,CAAC,IAAI,CAAC,CAAC,CAAC,MAAM,CAAC,kBAAkB,EAAE;4BAChC,CAAC,KAAI,CAAC,aAAa,CAAC,UAAU,EAAE,CAAC,CAAC,CAAC,CAAC,MAAM,CAAC,UAAU,EAAE,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC;yBACnE;wBACD,KAAI,CAAC,cAAc,EAAE,CAAC,CAAC,iBAAAiB,CAAC;qBAC3C;iBACF,CAAC,EAEF,cAAc,EAAE,CAAC,CAAC,UAAU;qBAC5B,CAAC,CAAC,iBAAAiB,CAAC,KAAK,UAAU,EAAE,EAAC1C,CAAC,UAAU,EAAE,KAAI,CAAC,KAAK,CAAC,YAAY,EAAE,KAAI,CAAC,kBAAkB,EAAC,CAAC,UAAU,EAAE,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,UAAU,EAAE,CAAC,CAAC,EAAE3CA,aAAG,CAAC,UAAC,CAAAoBACF,IAAI;wBACF,SAAS,GAAG,EAAE,IAAI,CAAC,UAAC,CAAAqBAClB;oBACD,QAAQ;wBACN,SAAS,GAAG,EAAE,IAAI,CAAC,UAAC,CAAAqBAClB;iBACF,CAAC,EACFgB,kBAAQ,CAAC,EAAE,CAAC,CAAC;;;;;;;;oBAQP,IAAI,CAAC,CAAC,SAAS,IAAI,CAAC,CAAC,OAAO,EAAE,EAAE;;;;;;;;wBAQ1B,KAAI,CAAC,CAAC,wBAAAwB,EAAE,CAAC,CAAC,CAAC;wBAC1B,ChC,IAAM,SAAS,GAAG,EAAE,IAAI,gBAAAgB,CAAC,ClC,CAAC,CAAC,CAAC,EAAE,EAAE,KAAI,CAAC,CAAC,YAAY,CAAC,CAAC,CAAC,CAAC,CAAC,YAAY,CAAC,CAAC,EACvC,mBAAAiB,CAAC,CAAC,CAAC,CAAC,EAAE,mDAAAjB,CAAC,KAAI,CAAC,CAAC,YAAY,CAAC,CAAC,CAAC;wBAC7B,CAAC,IAAI,CAAC,aAAa,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;wBAC/B,CAAC,IAAI,CAAC,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,EAAE;wBACrB

YAAA,iBA0BC;;;;YAtBC,IAAI,CAAC,IAAI,CAAC,oBAAoB,EAAE;gBAC9B,IAAI,CAAC,oBAAoB,GAAG,IAAI,CAAC,QAAQ,CAAC,SAAS,CAAC,UAAA,KAAK;oBACvD,IAAM,aAAa,GAAG,KAAI,CAAC,kCAAkC,CAAC,KAAK,CAAC,CAAC;oBACrE,IAAI,KAAI,CAAC,wBAAwB,CAAC,KAAI,CAAC,sBAAsB,EAAE,aAAa,CAAC,EAAE;;;wBAG7E,UAAU,CAAC;4BACF,IAAA,MAAM,GAAA,oB,aAAA,OAAA,jC,EAAE,KAAK,GAAa,aAAA,MAAA,EAAE,MAAM,GAAA,aAAA,OAAA,EAAE,OAAO,GAAA,aAAA,QAAA,jB,EAAE,CAAC,KAAK,CAAC,CAAC;yBACvD,EAAE,CAAC,CAAC,CAAC;qBACP;oBACD,IAAI,CAAC,sBAAsB,GAAG,aAAa,CAAC;iBAC7C;aACJ;SACF;;QAGO,mDAAkC,GAAlC,UAAmC,MAAqB;;YAC9D,IAAM,OAAO;gBACT,IAAM,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC;gBACjC

CAAC,EAAE,MAAM,CAAC,CAAC;SACzE;;QAGD,6BAAY,GAAZ,UAAa,GAAY;YACvB,OAAO,IAAI,CAAC,aAAa,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC;SAC1C;;QAGD,yBAAQ,GAAR,UAAS,GAAW;YAClB,IAAI,OAAgB,CAAC;YACrB,IAAI;gBACF,OAAO,GAAG,IAAI,CAAC,aAAa,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;aACzC;YACD,OAAO,CAAC,EAAE;gBACV,OAAO,GAAG,IAAI,CAAC,aAAa,CAAC,wBAAwB,CAAC,CAAC,EAAE,IAAI,CAAC,aAAa,EAAE,GAAG,CAAC,CAAC;aACnF;YACD,IAAI,OAAO,KAAK,IAAI,EAAE;gBACpB,MAAM,IAAI,SAAS,CAAC,GAAG,GAAG,kBAAkB,CAAC,CAAC;aAC/C;YACD,OAAO,OAAO,CAAC;SAChB;;QAGD,yBAAQ,GAAR,UAAS,GAAW;YAClB,IAAI,OAAO,GAAG,IAAI,CAAC,aAAa,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;YAC5C,IAAI,OAAO,KAAK,IAAI,EAAE;gBACpB,MAAM,IAAI,SAAS,CAAC,GAAG,GAAG,kBAAkB,CAAC,CAAC;aAC/C;YACD,OAAO,OAAO,CAAC;SAChB;;QAGD,yBAAQ,GAAR,UAAS,GAAW,EAAE,KAAa;YACjC,IAAI,OAAO,GAAG,IAAI,CAAC,aAAa,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;YAC5C,IAAI,OAAO,KAAK,IAAI,EAAE;gBACpB,MAAM,IAAI,SAAS,CAAC,GAAG,GAAG,kBAAkB,CAAC,CAAC;aAC/C;YACD,OAAO,CAAC,KAAK,GAAG,KAAK,CAAC;SACvB;;QAGD,yBAAQ,GAAR,UAAS,GAAW;YAClB,IAAI,OAAO,GAAG,IAAI,CAAC,aAAa,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;YAC5C,IAAI,OAAO,KAAK,IAAI,EAAE;gBACpB,MAAM,IAAI,SAAS,CAAC,GAAG,GAAG,kBAAkB,CAAC,CAAC;aAC/C;YACD,OAAO,OAAO,CAAC,KAAK,CAAC;SACtB;;QAGD,4BAAW,GAAX,UAAY,GAAW;YACrB,IAAI,OAAO,GAAG,IAAI,CAAC,aAAa,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;YAC5C,IAAI,OAAO,KAAK,IAAI,EAAE;gBACpB,MAAM,IAAI,SAAS,CAAC,GAAG,GAAG,kBAAkB,CAAC,CAAC;aAC/C;YACD,OAAO,OAAO,CAAC,KAAK,KAAK,SAAS,CAAC;SACpC

BC,eAAQ;gBACcC,aAAQ;gBAAEC,0BAAqB;gBAArDC,aAAQ;;;IAmzChB,SAAS,gBAAgB,CAAC,QAAkB;QAC1C,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,QAAQ,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YACxC,IAAM,GAAG,GAAG,QAAQ,CAAC,CAAC,CAAC,CAAC;YACxB,IAAI,GAAG,IAAI,IAAI,EAAE;gBACf,MAAM,IAAI,KAAK,CAAC,iCAAiC,GAAG,GAAG,CAAC,CAAC;aAC1D;SACF;IACH;;ICn0CA;;;;;;;IAoBA;;;;;;;

AgB,EAAE,iBAAiB,EAAE,eAAe,EAAE,gBAAgB,CAAC;;IAmC/F,SAAS,aAAa,CAAC,CAAM;QAC3B,OAAO,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC;IAChXA;;;

GD,kCAAW,GAAX;YACE,IAAI,CAAC,cAAc,CAAC,sBAAsB,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;SACvD;;QAGD,+BAAQ,GAAR;YACE,IAAI,CAAC,IAAI,CAAC,SAAS,EAAE;;;gBAGnB,IAAM,OAAO,GAAG,IAAI,CAAC,cAAc,CAAC,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;gBAC1D,IAAI,OAAO,IAAI,OAAO,CAAC,KAAK,EAAE;oBAC5B,IAAI,OAAO,CAAC,SAAS,EAAE;;wBAErB,IAAI,CAAC,MAAM,CAAC,OAAO,CAAC,SAAS,EAAE,OAAO,CAAC,KAAK,EAAE,OAAO,CAAC,CAAC;qBAC/C,yBAAM;;wBAEL,IAAI,CAAC,YAAY,CAAC,OAAO,CAAC,KAAK,EAAE,OAAO,CAAC,QAAQ,IAAI,IAAI,CAAC,CAAC;qBAC5D;iBACF;aACF;SACF;QAED,sBAAI,qCAAW;iBAAf;gBACE,OAAO,CAAC,CAAC,IAAI,CAAC,SAAS,CAAC;aACzB;;;WAAA;QAED,sBAAI,mCAAS;iBAAb;gBACE,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,SAAS;oBAAE,MAAM,IAAI,KAAK,CAAC,yBAAyB,CAAC,CAAC;gBACrE,OAAO,IAAI,CAAC,SAAS,CAAC;aACvB;;;WAAA;QAED,sBAAI,mCAAS;iBAAb;gBACE,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,SAAS;oBAAE,MAAM,IAAI,KAAK,CAAC,yBAAyB,CAAC,CAAC;gBACrE,OAAO,IAAI,CAAC,SAAS,CAAC;aACvB;;;WAAA;QAED,sBAAI,kCAAQ;iBAAZ;gBACE,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,QAAQ;oBAAE,MAAM,IAAI,KAAK,CAAC,wBAAwB,CAAC,CAAC;gBACnE,OAAO,IAAI,CAAC,QAAQ,CAAC;aACt

AAC;SACtF;QAED,yCAAe,GAAf;YAAA,iBAKC;YAJC,IAAI,CAAC,YAAY;gBACb,IAAI,CAAC,MAAM,CAAC,MAAM;qBACb,IAAI,CAACa,gBAAM,CAAC,UAAC,CAAQ,IAAK,OAAA,CAAC,YAAY,aAAa,GAAA,CAAC,EAAEM,mBAAS,CAAC,cAAM,OAAA,KAAI,CAAC,OAAO,EAAE,GAAA,CAAC,CAAC;qBACvF,SAAS,CAAC,eAAQ,CAAC,CAAC;SAC9B;QAED,iCAAO,GAAP;YACE,IAAM,QAAQ,GAAG,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,CAAC;YACzC

CzE,IAAI,CAAC,MAAM,CAAC,YAAY,CAAC,IAAI,MAAM,CAC/B,WAAW,EAAE,IAAI,CAAC,UAAU,KAAAK,UAAU,GAAG,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,UAAU,CAAC,GAAG,IAAI,EAAE,MAAM,CAAC,CAAAC,CAAC;SAChG;;QAGD,oCAAW,GAAX;YACE,IAAI,IAAI,CAAC,wBAAwB,EAAE;gBACjC,IAAI,CAAC,wBAAwB,CAAC,WAAW,EAAE,CAAC;aAC7C;YACD,IAAI,IAAI,CAAC,wBAAwB,EAAE;gBACjC,IAAI,CAAC,wBAAwB,CAAC,WAAW,EAAE,CAAC;aAC7C;SACF;;;;gBAlFH,eAAU;;;gBAFH,MAAM;gBALnB,sBAAgB;;;;

AAE;YACtB,IAAM,KAAG,GAAGC,cAAM,EAAE,CAAC;YACrB,MAAM,CAAC,MAAM,CAAC,SAAS,CAAC,UAAC,CAAQ;gBAC/B,KAAG,CAAC,QAAQ,CAAC,mBAAuB,CAAC,CAAC,WAAY,CAAC,IAAM,CAAC,CAAC;gBAC3D,KAAG,CAAC,GAAG,CAAC,CAAC,CAAC,QAAQ,EAAE,CAAC,CAAC;gBACtB,KAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC;gBACX,KAAG,CAAC,WAAW,EAAE,CAAC;aACnB,CAAC,CAAC;SACJ;QAED,OAAO,MAAM,CAAC;IAChB,CAAC;aAkB,EAAE,MAAc;QAC3E,IAAI,IAAI,CAAC,YAAY,EAAE;YAAE,OAAO,IAAI,CAAC,YAAY,CAAC,KAAK,EAAE,MAAM,CAAC,CAAC;SAAE;QACnE,IAAI,KAAK,KAAK,CAAC,IAAI,MAAM,KAAK,CAAC,EAAE;YAAE,OAAO,IAAI,CAAC,KAAK,EAAE,CAAC;SAAE;QACzD,IAAI,KAAK,KAAK,CAAC,IAAI,MAAM,KAAK,IAAI,CAAC,MAAM,EAAE;YAAE,OAAO,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC;SAAE;QAC1E,IAAI,MAAM,GAAG,IAAI,CAAC,KAAK,CAAC,KAAK,EAAE,KAAK,GAAG,MAAM,CAAC,CAAC;QAC/C,IAAI,KAAK,GAAG,CAAC,EAAE;YAAE,MAAM,IAAI,IAAI,CAAC,KAAK,CAAC,CAAC,EAAE,KAAK,CAAC,CAAC;SAAE;QAClD,OAAO,MAAM,CAAC;IAChB,CAAC;IAED,IAAI,CAAC,SAAS,CAAC,MAAM,GAAG,UAAU,KAAa,EAAE,GAAW;QAC1D,IAAI,IAAI,CAAC,YAAY,EAAE;YAAE,OAAO,IAAI,CAAC,YAAY,CAAC,KAAK,EAAE,GAAG,CAAC,CAAC;SAAE;QAChE,IAAI,KAAK,KAAK,CAAC,IAAI,GAAG,KAAK,IAAI,CAAC,MAAM,EAAE;YAAE,OAAO,IAAI,CAAC,KAAK,EAAE,CAAC;SAAE;QAC5D,IAAI,KAAK,KAAK,CAAC,IAAI,GAAG,KAAK,IAAI,CAAC,MAAM,EAAE;YAAE,OAAO,IAAI,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;SAAE;QAC/D,IAAI,MAAM,GAAG,IAAI,CAAC,KAAK,CAAC,KAAK,EAAE,KAAK,GAAG,GAAG,CAAC,CAAC;QAC5

in path(s):
* /router-11-0-5-tgz/package/bundles/router.umd.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/router/router-
testing.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","router","testi
ng","common","core","this","SpyNgModuleFactoryLoader","compiler","_stubbedModules","Object","defineProper
y","prototype","get","set","modules","e_1","_a","res","_b","__values","o","s","Symbol","iterator","m","i","call","le
ngth","next","value","done","TypeError","keys","_c","t","compileModuleAsync","e_1_1","error","return","enumera
ble","configurable","load","path","Promise","reject","Error","setupTestingRouter","urlSerializer","contexts","locati
on","loader","injector","routes","opts","urlHandlingStrategy","router$1","Router","flatten","isUrlHandlingStrategy"
,"assignExtraOptionsToRouter","decorators","type","Injectable","ctorParameters","Compiler","RouterTestingModul
e","withRoutes","config","ngModule","providers","provideRoutes","provide","ROUTER_CONFIGURATION","us
eValue","NgModule","args","RouterModule","ROUTER_PROVIDERS","Location","useClass","SpyLocation","Lo
cationStrategy","MockLocationStrategy","NgModuleFactoryLoader","useFactory","deps","UrlSerializer","Children
OutletContexts","Injector","ROUTES","UrlHandlingStrategy","Optional","PreloadingStrategy","useExisting","NoP
reloading"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GAAS,iBAAZC,SAAoC,iBAAXC,OAAuBF,EAAQC,QAAQ,GAAG,mBAAoBE,QAAUA,OAAOC,IAAMD,OAAO,CAAC,KAAM,UAAWH,GAAS,iBAAoBC,UAAYA,QAAQI,WAAaL,EAAQC,QAAQ,WAAYA,QAAQK,KAAOL,QAAQK,KAAKC,SAAW,GAAIP,EAAQD,EAAKA,EAAKS,KAAM,CAAC,EAAG,SAAUC,EAAIC,EAAQC,EAAUC,EAAQC,EAASC,EAAOC,EAAKC,EAAMC,EAAIC,EAAOC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EA

AG1F,CAAEpB,QAAStE,EAAO2F,mBAAoBC,YAAa5F,EAAO6F,cAAgB7F,EAAOqE,cAAc;;;;;;;;;;;;;;;;;;;AAkCnH5E,EAAQuE,oBAAAsBA,EAAC9BvE,EAAQY,yBAA2BA,EACnCZ,EAAQoD,mBAAqBA,EAAE7BrC,OAAOC,eAAAehB,EAAAoB,aAAA,CAAAC,OAAA,IAAA,KAAA,GAAA,SAAAC,EAAAC,GAAA,IAAAD,EAAA,OAAAC,EAAA,GAAA,iBAAAD,GAAA,OAAAA,EAAA,GAAAA,EAAAE,WAAA,OAAAF,EAAA,IAAAG,EAAAC,OAAAC,OAAA,MAAA,GAAAC,EAAAA,QAAAH,GAAAC,OAAAC,eAAAF,EAAA,UAAA,CAAAG,YAAA,EAAAC,MAAAP,IAAA,EAAAC,GAAA,iBAAAD,EAAA,IAAA,IAAAQ,KAAAR,EAAAC,OAAAC,eAAAF,EAAAS,KAAAC,KAAAD,EAAAR,EAAAQ,IAAA,OAAAT,EAAAW,EAAAA,QAAA,SAAAX,GAAA,OAAAA,EAAAO,IAAAK,KAAA,KAAAZ,IAAA,OAAAA,EAAAa,EAAAA,QAAA,SAAAb,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAoB,EAAAA,QAAA,SAAArB,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAqB,EAAAA,QAAA,SAAAtB,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAsB,EAAAA,QAAA,SAAAvB,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAuB,EAAAA,QAAA,SAAAxB,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAwB,EAAAA,QAAA,SAAAzB,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAyB,EAAAA,QAAA,SAAA1B,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA0B,EAAAA,QAAA,SAAA3B,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA2B,EAAAA,QAAA,SAAA5B,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA4B,EAAAA,QAAA,SAAA7B,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA6B,EAAAA,QAAA,SAAA9B,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA8B,EAAAA,QAAA,SAAA/B,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA+B,EAAAA,QAAA,SAAAhC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAgC,EAAAA,QAAA,SAAAjC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAiC,EAAAA,QAAA,SAAAlC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAkC,EAAAA,QAAA,SAAAnC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAmC,EAAAA,QAAA,SAAApC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAoC,EAAAA,QAAA,SAAArC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAqC,EAAAA,QAAA,SAAAtC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAsC,EAAAA,QAAA,SAAAvC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAuC,EAAAA,QAAA,SAAAxC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAwC,EAAAA,QAAA,SAAAzC,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAyC,EAAAA,QAAA,SAAA1C,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA0C,EAAAA,QAAA,SAAA3C,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA2C,EAAAA,QAAA,SAAA5C,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA4C,EAAAA,QAAA,SAAA7C,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA6C,EAAAA,QAAA,SAAA9C,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA8C,EAAAA,QAAA,SAAA/C,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA+C,EAAAA,QAAA,SAAAhD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAgD,EAAAA,QAAA,SAAAjD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAiD,EAAAA,QAAA,SAAAlD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAkD,EAAAA,QAAA,SAAAnD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAmD,EAAAA,QAAA,SAAApD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAoD,EAAAA,QAAA,SAAArD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAqD,EAAAA,QAAA,SAAAtD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAsD,EAAAA,QAAA,SAAAvD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAuD,EAAAA,QAAA,SAAAxD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAwD,EAAAA,QAAA,SAAAzD,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAyD,EAAAA,QAAA,SAAA1D,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA0D,EAAAA,QAAA,SAAA3D,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA2D,EAAAA,QAAA,SAAA5D,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA4D,EAAAA,QAAA,SAAA7D,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA6D,EAAAA,QAAA,SAAA9D,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA8D,EAAAA,QAAA,SAAA/D,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA+D,EAAAA,QAAA,SAAAhE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAgE,EAAAA,QAAA,SAAAjE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAiE,EAAAA,QAAA,SAAAlE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAkE,EAAAA,QAAA,SAAAnE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAmE,EAAAA,QAAA,SAAApE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAoE,EAAAA,QAAA,SAAArE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAqE,EAAAA,QAAA,SAAAtE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAsE,EAAAA,QAAA,SAAAvE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAuE,EAAAA,QAAA,SAAAxE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAwE,EAAAA,QAAA,SAAAzE,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAyE,EAAAA,QAAA,SAAA1E,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA0E,EAAAA,QAAA,SAAA3E,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA2E,EAAAA,QAAA,SAAA5E,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA4E,EAAAA,QAAA,SAAA7E,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA6E,EAAAA,QAAA,SAAA9E,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA8E,EAAAA,QAAA,SAAA/E,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAA+E,EAAAA,QAAA,SAAAhF,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAgF,EAAAA,QAAA,SAAAjF,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAiF,EAAAA,QAAA,SAAAlF,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAkF,EAAAA,QAAA,SAAAnF,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAmF,EAAAA,QAAA,SAAApF,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA,OAAAF,EAAAc,SAAA,WAAA,OAAAd,GAAA,OAAAA,EAAAC,EAAAc,EAAAA,QAAAb,EAAAA,EAAAc,EAAAA,QAAA,SAAAhB,EAAAC,GAAA,OAAAE,OAAAc,UAAAC,eAAAC,KAAAnB,EAAAC,IAAAA,EAAAmB,EAAAA,QAAA,GAAAnB,EAAAoF,EAAAA,QAAA,SAAArF,GAAA,IAAAC,EAAAD,GAAAA,EAAAE,WAAA,WAAA

```
? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\n            step((generator =
generator.apply(thisArg, _arguments || [])).next());\n        });\n    }\n    function __generator(thisArg, body) {\n
var _ = { label: 0, sent: function () { if (t[0] & 1)\n                throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n
return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" &&
(g[Symbol.iterator] = function () { return this; }), g;\n        function verb(n) { return function (v) { return step([n, v]);
}; }\n        function step(op) {\n            if (f)\n                throw new TypeError(\"Generator is already executing.\");\n
        while (_)\n                try {\n                    if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t
= y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n                        return t;\n
                    if (y = 0, t)\n                        op = [op[0] & 2, t.value];\n                    switch (op[0]) {\n
case 0:\n                        case 1:\n                            t = op;\n                            break;\n                        case 4:\n
            _.label++;\n                            return { value: op[1], done: false };\n                        case 5:\n
_.label++;\n                            y = op[1];\n                            op = [0];\n                            continue;\n
case 7:\n                            op = _.ops.pop();\n                            _.trys.pop();\n                            continue;\n
    default:\n                            if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2))
{\n                                _ = 0;\n                                continue;\n
                    }\n                        if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n
_.label = op[1];\n                            break;\n                        }\n                        if (op[0] === 6 && _.label <
t[1]) {\n                            _.label = t[1];\n                            t = op;\n                            break;\n
}\n                        if (t && _.label < t[2]) {\n                            _.label = t[2];\n
_.ops.push(op);\n                            break;\n                        }\n                        if (t[2])\n
_.ops.pop();\n                            _.trys.pop();\n                        continue;\n                    }\n                    op =
body.call(thisArg, _);\n                } catch (e) {\n                    op = [6,
 e];\n                    y = 0;\n                } finally {\n                    f = t = 0;\n                }\n            if (op[0] &
5)\n                throw op[1];\n            return { value: op[0] ? op[1] : void 0, done: true };\n        }\n    }\n    var
__createBinding = Object.create ? (function (o, m, k, k2) {\n        if (k2 === undefined)\n            k2 = k;\n
Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n    }) : (function (o, m, k, k2)
{\n        if (k2 === undefined)\n            k2 = k;\n        o[k2] = m[k];\n    });\n    function __exportStar(m, exports) {\n
    for (var p in m)\n            if (p !== \"default\" && !exports.hasOwnProperty(p))\n
__createBinding(exports, m, p);\n    }\n    function __values(o) {\n        var s = typeof Symbol === \"function\" &&
Symbol.iterator, m = s && o[s], i = 0;\n        if (m)\n            return m.call(o);\n        if (o && typeof o.length ===
 \"number\")\n            return {\n                next: function () {\n                    if (o && i >= o.length)\n                        o
= void 0;\n                    return { value: o && o[i++], done: !o };\n                }\n            };\n        throw new
TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n    }\n    function __read(o, n) {\n
var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n        if (!m)\n            return o;\n        var i =
m.call(o), r, ar = [], e;\n        try {\n            while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n
ar.push(r.value);\n        }\n        catch (error) {\n            e = { error: error };\n        }\n        finally {\n            try {\n
            if (r && !r.done && (m = i[\"return\"]))\n                    m.call(i);\n            }\n            finally {\n                if
(e)\n                    throw e.error;\n            }\n        }\n
        return ar;\n    }\n    function __spread() {\n        for (var ar = [], i = 0; i < arguments.length; i++)\n            ar =
ar.concat(__read(arguments[i]));\n        return ar;\n    }\n    function __spreadArrays() {\n        for (var s = 0, i = 0, il
= arguments.length; i < il; i++)\n            s += arguments[i].length;\n        for (var r = Array(s), k = 0, i = 0; i < il;
i++)\n            for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n                r[k] = a[j];\n        return r;\n
    }\n    ;\n    function __await(v) {\n        return this instanceof __await ? (this.v = v, this) : new __await(v);\n    }\n
function __asyncGenerator(thisArg, _arguments, generator) {\n        if (!Symbol.asyncIterator)\n            throw new
TypeError(\"Symbol.asyncIterator is not defined.\");\n        var g = generator.apply(thisArg, _arguments || []), i, q =
[];\n        return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function
 () { return this; }, i;\n        function verb(n) { if (g[n])\n            i[n] = function (v) { return new Promise(function (a,
b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n        function resume(n, v) { try {\n            step(g[n](v));\n
```

```
}\n        catch (e) {\n            settle(q[0][3], e);\n        } }\n        function step(r) { r.value instanceof __await ?
Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n        function fulfill(value) { resume(\"next\",
value); }\n        function reject(value) { resume(\"throw\", value); }\n        function settle(f, v) { if (f(v), q.shift(),
q.length)\n            resume(q[0][0], q[0][1]); }\n    }\n    function __asyncDelegator(o) {\n        var i, p;\n        return i
= {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () {
return this; }, i;\n        function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value:
__await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n    }\n    function __asyncValues(o) {\n        if
(!Symbol.asyncIterator)\n            throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n        var m =
o[Symbol.asyncIterator], i;\n        return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) :
o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () {
return this; }, i);\n        function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject)
{ v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n        function settle(resolve, reject, d, v) {
Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n    }\n    function
__makeTemplateObject(cooked, raw) {\n        if (Object.defineProperty) {\n            Object.defineProperty(cooked,
\"raw\", { value: raw });\n        }\n        else {\n
  cooked.raw = raw;\n        }\n        return cooked;\n    }\n    ;\n    var __setModuleDefault = Object.create ? (function
(o, v) {\n        Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n    }) : function (o, v) {\n
o[\"default\"] = v;\n    };\n    function __importStar(mod) {\n        if (mod && mod.__esModule)\n            return
mod;\n        var result = {};\n        if (mod != null)\n            for (var k in mod)\n                if
(Object.hasOwnProperty.call(mod, k))\n                    __createBinding(result, mod, k);\n
__setModuleDefault(result, mod);\n        return result;\n    }\n    function __importDefault(mod) {\n        return (mod
&& mod.__esModule) ? mod : { default: mod };\n    }\n    function __classPrivateFieldGet(receiver, privateMap)
{\n        if (!privateMap.has(receiver)) {\n            throw new TypeError(\"attempted to get private field on non-
instance\");\n        }\n        return privateMap.get(receiver);\n    }\n
   function __classPrivateFieldSet(receiver, privateMap, value) {\n        if (!privateMap.has(receiver)) {\n
throw new TypeError(\"attempted to set private field on non-instance\");\n        }\n        privateMap.set(receiver,
value);\n        return value;\n    }\n\n    /**\n     * @description\n     *\n     * Allows to simulate the loading of ng
modules in tests.\n     *\n     * ```\n     * const loader = TestBed.inject(NgModuleFactoryLoader);\n     *\n     *
@Component({template: 'lazy-loaded'})\n     * class LazyLoadedComponent {}\n     * @NgModule({\n     *
declarations: [LazyLoadedComponent],\n     *   imports: [RouterModule.forChild([{path: 'loaded', component:
LazyLoadedComponent}])]\n     * })\n     *\n     * class LoadedModule {}\n     *\n     * // sets up stubbedModules\n
 * loader.stubbedModules = {lazyModule: LoadedModule};\n     *\n     * router.resetConfig([\n     *   {path: 'lazy',
loadChildren: 'lazyModule'},\n     * ]);\n     *\n     * router.navigateByUrl('/lazy/loaded');\n
    * ```\n     *\n     * @publicApi\n     */\n    var SpyNgModuleFactoryLoader = /** @class */ (function () {\n
function SpyNgModuleFactoryLoader(compiler) {\n            this.compiler = compiler;\n            /**\n             *
@docsNotRequired\n             */\n            this._stubbedModules = {};\n        }\n
Object.defineProperty(SpyNgModuleFactoryLoader.prototype, \"stubbedModules\", {\n            /**\n             *
@docsNotRequired\n             */\n            get: function () {\n                return this._stubbedModules;\n            },\n
  /**\n             * @docsNotRequired\n             */\n            set: function (modules) {\n                var e_1, _a;\n
  var res = {};\n                try {\n                    for (var _b = __values(Object.keys(modules)), _c = _b.next(); !_c.done;
_c = _b.next()) {\n                        var t = _c.value;\n                        res[t] =
this.compiler.compileModuleAsync(modules[t]);\n
                }\n                }\n                catch (e_1_1) { e_1 = { error: e_1_1 }; }\n                finally {\n
try {\n                    if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n                }\n                finally { if
(e_1) throw e_1.error; }\n                }\n                this._stubbedModules = res;\n            },\n            enumerable:
false,\n            configurable: true\n        });\n        SpyNgModuleFactoryLoader.prototype.load = function (path) {\n
        if (this._stubbedModules[path]) {\n                return this._stubbedModules[path];\n            }\n            else {\n
          return Promise.reject(new Error(\"Cannot find module \" + path));\n            }\n        };\n        return
```

SpyNgModuleFactoryLoader;\n }());\n SpyNgModuleFactoryLoader.decorators = [\n { type: core.Injectable }\n ];\n SpyNgModuleFactoryLoader.ctorParameters = function () { return [\n { type: core.Compiler }\n ]; };\n function isUrlHandlingStrategy(opts) {\n // This property check is needed because UrlHandlingStrategy is an interface and doesn't exist at\n // runtime.\n return 'shouldProcessUrl' in opts;\n }\n /**\n * Router setup factory function used for testing.\n *\n * @publicApi\n */\n function setupTestingRouter(urlSerializer, contexts, location, loader, compiler, injector, routes, opts, urlHandlingStrategy) {\n var router$1 = new router.Router(null, urlSerializer, contexts, location, injector, loader, compiler, router.flatten(routes));\n if (opts) {\n // Handle deprecated argument ordering.\n if (isUrlHandlingStrategy(opts)) {\n router$1.urlHandlingStrategy = opts;\n }\n else {\n // Handle ExtraOptions\n router.assignExtraOptionsToRouter(opts, router$1);\n }\n }\n if (urlHandlingStrategy) {\n router$1.urlHandlingStrategy = urlHandlingStrategy;\n }\n return router$1;\n }\n /**\n * @description\n *\n * Sets up the router to be used for testing.\n *\n * The modules sets up the router to be used for testing.\n * It provides spy implementations of `Location`, `LocationStrategy`, and {@link\n * NgModuleFactoryLoader}.\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * beforeEach(() => {\n * TestBed.configureTestingModule({\n * imports: [\n * RouterTestingModule.withRoutes(\n * [{path: '', component: BlankCmp}, {path: 'simple', component: SimpleCmp}]\n * )\n * ]\n * });\n * });\n * ```\n *\n * @publicApi\n */\n var RouterTestingModule = /** @class */ (function () {\n function RouterTestingModule() {\n }\n RouterTestingModule.withRoutes = function (routes, config) {\n return {\n ngModule: RouterTestingModule,\n providers: [\n router.provideRoutes(routes),\n { provide: router.ROUTER_CONFIGURATION, useValue: config ? config : {} },\n ]\n };\n };\n return RouterTestingModule;\n }());\n RouterTestingModule.decorators = [\n { type: core.NgModule, args: [{\n exports: [router.RouterModule],\n providers: [\n router.ROUTER_PROVIDERS, { provide: common.Location, useClass: testing.SpyLocation },\n { provide: common.LocationStrategy, useClass: testing.MockLocationStrategy },\n { provide: core.NgModuleFactoryLoader, useClass: SpyNgModuleFactoryLoader }, {\n provide: router.Router,\n useFactory: setupTestingRouter,\n deps: [\n router.UrlSerializer, router.ChildrenOutletContexts, common.Location, core.NgModuleFactoryLoader, core.Compiler, core.Injector,\n router.ROUTES, router.ROUTER_CONFIGURATION, [router.UrlHandlingStrategy, new core.Optional()]\n ]\n },\n { provide: router.PreloadingStrategy, useExisting: router.NoPreloading },\n router.provideRoutes([])\n ]\n },] }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n //\n This file only reexports content of the `src` folder. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.RouterTestingModule = RouterTestingModule;\n exports.SpyNgModuleFactoryLoader = SpyNgModuleFactoryLoader;\n exports.setupTestingRouter = setupTestingRouter;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}));\n//# sourceMappingURL=router-testing.umd.js.map\n"]}

Found in path(s):
* /router-11-0-5-tgz/package/bundles/router-testing.umd.min.js.map

No license file was found, but licenses were detected in source scan.

{"version":3,"file":"testing.js","sources":["../../../../../../packages/router/testing/src/router_testing_module.ts","../../../../../../packages/router/testing/src/testing.ts","../../../../../../packages/router/testing/public_api.ts","../../../../../../packages/router/testing/index.ts","../../../../../../packages/router/testing/testing.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Location, LocationStrategy} from '@angular/common';\nimport {MockLocationStrategy, SpyLocation} from '@angular/common/testing';\nimport {Compiler, Injectable, Injector, ModuleWithProviders, NgModule, NgModuleFactory, NgModuleFactoryLoader, Optional} from '@angular/core';\nimport {ChildrenOutletContexts, ExtraOptions, NoPreloading, PreloadingStrategy,\n provideRoutes, Route, Router, ROUTER_CONFIGURATION, RouterModule, ROUTES, Routes, UrlHandlingStrategy, UrlSerializer, assignExtraOptionsToRouter as assignExtraOptionsToRouter, flatten as flatten, ROUTER_PROVIDERS as ROUTER_PROVIDERS} from '@angular/router';\n\n\n\n/**\n * @description\n *\n * Allows to simulate the loading of ng modules in tests.\n *\n * ```\n * const loader = TestBed.inject(NgModuleFactoryLoader);\n *\n * @Component({template: 'lazy-loaded'})\n * class LazyLoadedComponent {}\n * @NgModule({\n *   declarations: [LazyLoadedComponent],\n *   imports: [RouterModule.forChild([{path: 'loaded', component: LazyLoadedComponent}])]\n * })\n *\n * class LoadedModule {}\n *\n * // sets up stubbedModules\n * loader.stubbedModules = {lazyModule: LoadedModule};\n *\n * router.resetConfig([\n *   {path: 'lazy', loadChildren: 'lazyModule'},\n * ]);\n *\n * router.navigateByUrl('/lazy/loaded');\n * ```\n *\n * @publicApi\n */\n@Injectable()\nexport class SpyNgModuleFactoryLoader
 implements NgModuleFactoryLoader {\n  /**\n   * @docsNotRequired\n   */\n  private _stubbedModules: {[path: string]: Promise<NgModuleFactory<any>>} = {};\n\n  /**\n   * @docsNotRequired\n   */\n  set stubbedModules(modules: {[path: string]: any}) {\n    const res: {[path: string]: any} = {};\n    for (const t of Object.keys(modules)) {\n      res[t] = this.compiler.compileModuleAsync(modules[t]);\n    }\n    this._stubbedModules = res;\n  }\n\n  /**\n   * @docsNotRequired\n   */\n  get stubbedModules(): {[path: string]: any} {\n    return this._stubbedModules;\n  }\n\n  constructor(private compiler: Compiler) {}\n\n  load(path: string): Promise<NgModuleFactory<any>> {\n    if (this._stubbedModules[path]) {\n      return this._stubbedModules[path];\n    } else {\n      return <any>Promise.reject(new Error(`Cannot find module ${path}`));\n    }\n  }\n}\n\nfunction isUrlHandlingStrategy(opts: ExtraOptions|\n UrlHandlingStrategy): opts is UrlHandlingStrategy
 {\n  // This property check is needed because UrlHandlingStrategy is an interface and doesn't exist at\n  // runtime.\n  return 'shouldProcessUrl' in opts;\n}\n\n/**\n * Router setup factory function used for testing.\n *\n * @publicApi\n */\nexport function setupTestingRouter(\n    urlSerializer: UrlSerializer, contexts: ChildrenOutletContexts, location: Location,\n    loader: NgModuleFactoryLoader, compiler: Compiler, injector: Injector, routes: Route[][],\n    opts?: ExtraOptions, urlHandlingStrategy?: UrlHandlingStrategy): Router;\n\n/**\n * Router setup factory function used for testing.\n *\n * @deprecated As of v5.2. The 2nd-to-last argument should be `ExtraOptions`, not\n * `UrlHandlingStrategy`\n * @publicApi\n */\nexport function setupTestingRouter(\n    urlSerializer: UrlSerializer, contexts: ChildrenOutletContexts, location: Location,\n    loader: NgModuleFactoryLoader, compiler: Compiler, injector: Injector, routes: Route[][],\n    urlHandlingStrategy?: UrlHandlingStrategy):
 Router;\n\n/**\n * Router setup factory function used for testing.\n *\n * @publicApi\n */\nexport function setupTestingRouter(\n    urlSerializer: UrlSerializer, contexts: ChildrenOutletContexts, location: Location,\n    loader: NgModuleFactoryLoader, compiler: Compiler, injector: Injector, routes: Route[][],\n    opts?: ExtraOptions|UrlHandlingStrategy, urlHandlingStrategy?: UrlHandlingStrategy) {\n  const router = new Router(\n      null!, urlSerializer, contexts, location, injector, loader, compiler, flatten(routes));\n  if (opts) {\n    // Handle deprecated argument ordering.\n    if (isUrlHandlingStrategy(opts)) {\n      router.urlHandlingStrategy = opts;\n    } else {\n      // Handle ExtraOptions\n      assignExtraOptionsToRouter(opts, router);\n    }\n  }\n\n  if

(urlHandlingStrategy) {\n router.urlHandlingStrategy = urlHandlingStrategy;\n }\n return router;\n}\n\n/**\n * @description\n *\n * Sets up the router to be used for testing.\n *\n * The modules sets up the router to be used for testing.\n * It provides spy implementations of `Location`, `LocationStrategy`, and {@link\n * NgModuleFactoryLoader}.\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * beforeEach(() => {\n * TestBed.configureTestingModule({\n * imports: [\n * RouterTestingModule.withRoutes(\n * [{path: '', component: BlankCmp}, {path: 'simple', component: SimpleCmp}]\n * )\n * ]\n * });\n * });\n * ```\n *\n * @publicApi\n */\n@NgModule({\n exports: [RouterModule],\n providers: [\n ROUTER_PROVIDERS,\n {provide: Location, useClass: SpyLocation},\n {provide: LocationStrategy, useClass: MockLocationStrategy},\n {provide: NgModuleFactoryLoader, useClass: SpyNgModuleFactoryLoader}, {\n provide: Router,\n useFactory: setupTestingRouter,\n deps: [\n UrlSerializer, ChildrenOutletContexts, Location, NgModuleFactoryLoader, Compiler, Injector,\n ROUTES, ROUTER_CONFIGURATION, [UrlHandlingStrategy, new Optional()]\n ]\n },\n {provide: PreloadingStrategy, useExisting: NoPreloading}, provideRoutes([])\n ]\n})\nexport class RouterTestingModule {\n static withRoutes(routes: Routes, config?: ExtraOptions):\n ModuleWithProviders<RouterTestingModule> {\n return {\n ngModule: RouterTestingModule,\n providers: [\n provideRoutes(routes),\n {provide: ROUTER_CONFIGURATION, useValue: config ? config : {}},\n ]\n };\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the router/testing package.\n */\nexport * from './router_testing_module';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/testing';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n"],"names":["flatten","assignExtraOptionsToRouter","ROUTER_PROVIDERS"],"mappings":";;;;;;;;;;;AAAA;;;;;;;AAeA;;;;;;;;;;;;;;;;;;;;;;;;;;;;;MA8Ba,wBAAwB;IAwBnC,YAAoB,QAAkB;QAAlB,aAAQ,GAAR,QAAQ,CAAU;;;;QApBpB,cAAS,GAAG,IAAI,GAAG,EAAE,CAAC;QAqBpC,IAAI,CAAC,MAAM,GAAG,QAAQ,CAAC,MAAM,CAAC;QAC9B,IAAI,CAAC,QAAQ,GAAG,QAAQ,CAAC,QAAQ,CAAC;QAClC,IAAI,CAAC,QAAQ,GAAG,QAAQ,CAAC,QAAQ,CAAC;QAClC,IAAI,CAAC,IAAI,GAAG,QAAQ,CAAC,IAAI,CAAC;QAC1B,IAAI,CAAC,MAAM,GAAG,QAAQ,CAAC,MAAM,CAAC;QAC9B,IAAI,CAAC,IAAI,GAAG,QAAQ,CAAC,IAAI,CAAC;QAC1

,oBAAoB,EAAE,QAAQ,EAAE,MAAM,GAAG,MAAM,GAAG,EAAE,EAAC;aAChE;SACF,CAAC;KACH;;;YA
1BF,QAAQ,SAAC;gBACR,OAAO,EAAE,CAAC,YAAY,CAAC;gBACvB,SAAS,EAAE;oBACTC,iBAAgB,EAAA
E,EAAC,OAAO,EAAE,QAAQ,EAAE,QAAQ,EAAE,WAAW,EAAC;oBAC5D,EAAC,OAAO,EAAE,gBAAgB,E
AAE,QAAQ,EAAE,oBAAoB,EAAC;oBAC3D,EAAC,OAAO,EAAE,qBAAqB,EAAE,QAAQ,EAAE,wBAAwB,E
AAC,EAAE;wBACpE,OAAO,EAAE,MAAM;wBACf,UAAU,EAAE,kBAAkB;wBAC9B,IAAI,EAAE;4BACJ,aA
Aa,EAAE,sBAAsB,EAAE,QAAQ,EAAE,qBAAqB,EAAE,QAAQ,EAAE,QAAQ;4BAC1F,MAAM,EAAE,oBAAo
B,EAAE,CAAC,mBAAmB,EAAE,IAAI,QAAQ,EAAE,CAAC;yBACpE;qBACF;oBACD,EAAC,OAAO,EAAE,k
BAAkB,EAAE,WAAW,EAAE,YAAY,EAAC,EAAE,aAAa,CAAC,EAAE,CAAC;iBAC5E;aACF;;;ACjLD;;;;;;;;A
CAA;;;;;;;AAeA;;ACfA;;;;;;;;ACAA;;;;;;"}

Found
in path(s):
* /router-11-0-5-tgz/package/fesm2015/testing.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"router-
testing.umd.js","sources":["../../../../../external/npm/node_modules/tslib/tslib.es6.js","../../../../../packages/router/testin
g/src/router_testing_module.ts","../../../../../packages/router/testing/src/testing.ts","../../../../../packages/router/testing/p
ublic_api.ts","../../../../../packages/router/testing/index.ts","../../../../../packages/router/testing/testing.ts"],"sourcesCont
ent":["/*!
*****************************************************************************\r\nCopyright (c)
Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose
with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR
DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED
WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT,
OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF
USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF
THIS
SOFTWARE.\r\n*****************************************************************************
*/\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics =
Object.setPrototypeOf ||\r\n        ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n
  function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d,
b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d;
}\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var
__assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n
    for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n            for (var p in s) if
(Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return
__assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if
(Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof
Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i <
p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n
  t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n
var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) :
desc, d;\r\n    if (typeof
 Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key,
desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target,

key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try {
step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try {
step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0]
? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n            if (y = 0, t) op = [op[0] & 2, t.value];\r\n            switch (op[0]) {\r\n                case 0: case 1: t = op; break;\r\n                case 4: _.label++; return { value: op[1], done: false };\r\n                case 5: _.label++; y = op[1]; op = [0]; continue;\r\n                case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n                default:\r\n                    if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n                    if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n                    if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n                    if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n                    if (t[2]) _.ops.pop();\r\n                    _.trys.pop(); continue;\r\n            }\r\n            op = body.call(thisArg, _);\r\n        } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n        if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n    }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n    for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n    if (m) return m.call(o);\r\n    if (o && typeof o.length === \"number\") return {\r\n        next: function () {\r\n            if (o && i >= o.length) o
= void 0;\r\n            return { value: o && o[i++], done: !o };\r\n        }\r\n    };\r\n    throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n    var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n    if (!m) return o;\r\n    var i = m.call(o), r, ar = [], e;\r\n    try {\r\n        while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n    }\r\n    catch (error) { e = { error: error }; }\r\n    finally {\r\n        try {\r\n            if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n        }\r\n        finally { if (e) throw e.error; }\r\n    }\r\n    return ar;\r\n}\r\n\r\nexport function __spread() {\r\n    for (var ar = [], i = 0; i < arguments.length; i++)\r\n        ar = ar.concat(__read(arguments[i]));\r\n    return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n    for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n
    for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n        for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n            r[k] = a[j];\r\n    return r;\r\n};\r\n\r\nexport function __await(v) {\r\n    return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n    return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n    function verb(n) { if (g[n]) i[n] =

function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n    function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n    function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n    function fulfill(value) { resume(\"next\", value); }\r\n    function reject(value) { resume(\"throw\", value); }\r\n    function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n    var i, p;\r\n    return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n    function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var m = o[Symbol.asyncIterator], i;\r\n    return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n    function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n    function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n    if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n    return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n    Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n    o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n    if (mod && mod.__esModule) return mod;\r\n    var result = {};\r\n    if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n    __setModuleDefault(result, mod);\r\n    return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n    return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to get private field on non-instance\");\r\n    }\r\n    return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to set private field on non-instance\");\r\n    }\r\n    privateMap.set(receiver, value);\r\n    return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Location, LocationStrategy} from '@angular/common';\nimport {MockLocationStrategy, SpyLocation} from '@angular/common/testing';\nimport {Compiler, Injectable, Injector, ModuleWithProviders, NgModule, NgModuleFactory, NgModuleFactoryLoader, Optional} from '@angular/core';\nimport {ChildrenOutletContexts, ExtraOptions, NoPreloading, PreloadingStrategy, provideRoutes, Route, Router, ROUTER_CONFIGURATION, RouterModule, ROUTES, Routes, UrlHandlingStrategy, UrlSerializer, assignExtraOptionsToRouter as assignExtraOptionsToRouter, flatten as flatten, ROUTER_PROVIDERS as ROUTER_PROVIDERS} from '@angular/router';\n\n\n\n/**\n * @description\n *\n * Allows to simulate the loading of ng modules in tests.\n *\n * ```\n * const loader = TestBed.inject(NgModuleFactoryLoader);\n *\n * @Component({template: 'lazy-loaded'})\n * class LazyLoadedComponent {}\n * @NgModule({\n *   declarations: [LazyLoadedComponent],\n *   imports: [RouterModule.forChild([{path: 'loaded', component: LazyLoadedComponent}])]\n * })\n *\n * class LoadedModule {}\n *\n * // sets up stubbedModules\n * loader.stubbedModules = {lazyModule: LoadedModule};\n *\n * router.resetConfig([\n *   {path: 'lazy', loadChildren: 'lazyModule'},\n * ]);\n *\n * router.navigateByUrl('/lazy/loaded');\n * ```\n *\n * @publicApi\n */\n@Injectable()\nexport class SpyNgModuleFactoryLoader implements NgModuleFactoryLoader {\n  /**\n   * @docsNotRequired\n   */\n  private _stubbedModules: {[path: string]: Promise<NgModuleFactory<any>>} = {};\n\n  /**\n   * @docsNotRequired\n   */\n  set stubbedModules(modules: {[path: string]: any}) {\n    const res: {[path: string]: any} = {};\n    for (const t of Object.keys(modules)) {\n      res[t] = this.compiler.compileModuleAsync(modules[t]);\n    }\n    this._stubbedModules = res;\n  }\n\n  /**\n   *

@docsNotRequired\n */\n get stubbedModules(): {[path: string]: any} {\n return this._stubbedModules;\n }\n\n constructor(private compiler: Compiler) {}\n\n load(path: string): Promise<NgModuleFactory<any>> {\n if (this._stubbedModules[path]) {\n return this._stubbedModules[path];\n } else {\n return <any>Promise.reject(new Error(`Cannot find module ${path}`));\n }\n }\n}\n\nfunction isUrlHandlingStrategy(opts: ExtraOptions|\n UrlHandlingStrategy): opts is UrlHandlingStrategy {\n // This property check is needed because UrlHandlingStrategy is an interface and doesn't exist at\n // runtime.\n return 'shouldProcessUrl' in opts;\n}\n\n/**\n * Router setup factory function used for testing.\n *\n * @publicApi\n */\nexport function setupTestingRouter(\n urlSerializer: UrlSerializer, contexts: ChildrenOutletContexts, location: Location,\n loader: NgModuleFactoryLoader, compiler: Compiler, injector: Injector, routes: Route[][],\n opts?: ExtraOptions, urlHandlingStrategy?: UrlHandlingStrategy): Router;\n\n/**\n * Router setup factory function used for testing.\n *\n * @deprecated As of v5.2. The 2nd-to-last argument should be `ExtraOptions`, not\n * `UrlHandlingStrategy`\n * @publicApi\n */\nexport function setupTestingRouter(\n urlSerializer: UrlSerializer, contexts: ChildrenOutletContexts, location: Location,\n loader: NgModuleFactoryLoader, compiler: Compiler, injector: Injector, routes: Route[][],\n urlHandlingStrategy?: UrlHandlingStrategy): Router;\n\n/**\n * Router setup factory function used for testing.\n *\n * @publicApi\n */\nexport function setupTestingRouter(\n urlSerializer: UrlSerializer, contexts: ChildrenOutletContexts, location: Location,\n loader: NgModuleFactoryLoader, compiler: Compiler, injector: Injector, routes: Route[][],\n opts?: ExtraOptions|UrlHandlingStrategy, urlHandlingStrategy?: UrlHandlingStrategy) {\n const router = new Router(\n null!, urlSerializer, contexts, location, injector, loader, compiler, flatten(routes));\n if (opts) {\n // Handle deprecated argument ordering.\n if (isUrlHandlingStrategy(opts)) {\n router.urlHandlingStrategy = opts;\n } else {\n // Handle ExtraOptions\n

assignExtraOptionsToRouter(opts, router);\n }\n }\n\n if (urlHandlingStrategy) {\n router.urlHandlingStrategy = urlHandlingStrategy;\n }\n return router;\n}\n\n/**\n * @description\n *\n * Sets up the router to be used for testing.\n *\n * The modules sets up the router to be used for testing.\n * It provides spy implementations of `Location`, `LocationStrategy`, and {@link\n * NgModuleFactoryLoader}.\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * beforeEach(() => {\n * TestBed.configureTestingModule({\n * imports: [\n * RouterTestingModule.withRoutes(\n * [{path: '', component: BlankCmp}, {path: 'simple', component: SimpleCmp}]\n * )\n * ]\n * });\n * });\n * ```\n *\n * @publicApi\n */\n@NgModule({\n exports: [RouterModule],\n providers: [\n ROUTER_PROVIDERS, {provide: Location, useClass: SpyLocation},\n {provide: LocationStrategy, useClass: MockLocationStrategy},\n {provide: NgModuleFactoryLoader, useClass: SpyNgModuleFactoryLoader},
{\n provide: Router,\n useFactory: setupTestingRouter,\n deps: [\n UrlSerializer, ChildrenOutletContexts, Location, NgModuleFactoryLoader, Compiler, Injector,\n ROUTES, ROUTER_CONFIGURATION, [UrlHandlingStrategy, new Optional()]\n ]\n },\n {provide: PreloadingStrategy, useExisting: NoPreloading}, provideRoutes([])\n ]\n})\nexport class RouterTestingModule {\n static withRoutes(routes: Routes, config?: ExtraOptions):\n ModuleWithProviders<RouterTestingModule> {\n return {\n ngModule: RouterTestingModule,\n providers: [\n provideRoutes(routes),\n {provide: ROUTER_CONFIGURATION, useValue: config ? config : {}},\n ]\n };\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public
APIs of the router/testing package.\n */\nexport * from './router_testing_module';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/testing';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n

*\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n"],"names":["Injectable","Compiler","router","Router","flatten","assignExtraOptionsToRouter","provideRoutes","ROUTER_CONFIGURATION","NgModule","RouterModule","ROUTER_PROVIDERS","Location","SpyLocation","LocationStrategy","MockLocationStrategy","NgModuleFactoryLoader","UrlSerializer","ChildrenOutletContexts","Injector","ROUTES","UrlHandlingStrategy","Optional","PreloadingStrategy","NoPreloading"],"mappings":";;;;;;;;;;;;;IAAA;;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC;QAC7B,aAAa,GAAG,MAAM,CAAC,cAAc;aAChC,EAAE,SAAS,EAAE,EAAE,YAAY,KAAK,IAAI,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,SAAS,GAAG,CAAC,CAAC;YACtE,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,CAAC;IAC/F,CAAC,CAAC;IAEF,uBAAuB,CAAC,EAAE,CAAC;QACvB,IAAI,OAAO,CAAC,KAAK,UAAU,IAAI,CAAC,KAAK,IAAI,EAAE;YACvC,MAAM,IAAI,SAAS,CAAC,sBAAsB,GAAG,MAAM,CAAC,CAAC,CAAC,GAAG,+BAA+B,CAAC,CAAC;QAC9F,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;QACpB,gBAAgB,IAAI,CAAC,WAAW,GAAG,CAAC,CAAC;QACrC,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,GAAG,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,SAAS,EAAE,CAAC,CAAC,SAAS,EAAE,IAAI,EAAE,EAAE,CAAC,CAAC;IAC3F,CAAC;IAED,IAAI,QAAQ,GAAG;QACX,QAAQ,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC;YAClC,KAAK,IAAI,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gBAC1C,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;gBACjB,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;aAC/E;YACD,OAAO,CAAC,CAAC;QACb,CAAC,CAAC;QACF,OAAO,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;IAC3C,CAAC,CAAC;IAEF,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC;QAChB,IAAI,CAAC,GAAG,EAAE,CAAC;QACX,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;QAC5F,IAAI,CAAC,IAAI,IAAI,IAAI,OAAO,MAAM,CAAC,qBAAqB,KAAK,UAAU;YAC/D,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC,qBAAqB,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,CAAC,EAAE;gBAC/D,IAAI,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,SAAS,CAAC,oBAAoB,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC

E,CAAC,EAAE,SAAS;QACvD,SAAS,KAAK,CAAC,KAAK,IAAI,OAAO,KAAK,YAAY,CAAC,GAAG,KAAK,
GAAG,IAAI,CAAC,CAAC,UAAU,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,EAA
E;QAC5G,OAAO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,EAAE,UAAU,OAAO,EAAE,MAAM;YA
CrD,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CA
AC,CAAC;aAAE;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAAE;YAC
3F,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,CAAC,KAAK,CA
AC,CAAC,CAAC;aAAE;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAA
E;YAC9F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,
CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CA
AC,EAAE;YAC9G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,E
AAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,CAAC;aAEe,WAAW,CAAC,OAAO,
EAAE,IAAI;QACrC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,cAAa,IAAI,CAAC,CA
AC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,CA
AC,CAAC,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAAE,EAAE,EAAE,CAAC,E
AAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC,
CAAC,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC
,EAAE,EAAE,OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAa,
OAAO,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzH,IAAI,CAAC,IAAI,CAAC,SAAS,IAAI,CAAC,CAAC,IAAI,OAAO,UAAU,
CAAC,IAAI,OAAO,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE;QACjH
E,SAAS,IAAI,CAAC,EAAE;YACZ,IAAI,CAAC;gBAAE,MAAM,IAAI,SAAS,CAAC,iCAAiC,CAAC,CAAC;YA
C9D,OAAO,CAAC;gBAAE,IAAI;oBACV,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,KAAK,CAAC,GAAG,EAAE,
E,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,
GAAG,CAAC,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,KAAK,CAAC,C
AAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,C
AAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI;wBAAE
,OAAO,CAAC,CAAC;oBAC7J,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC;wBAAE,KAAK,CAAC,CAAC,CAAC,CAAC,EAAE,GAAG,CAAC,EAAE,
CAAC,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC;oBACxC,QAAQ,EAAE,CAAC,
CAAC,CAAC;wBACT,KAAK,CAAC,CAAC;wBACP,KAAK,CAAC;4BAAE,EAAE,CAAC,GAAG,EAAE,CAAC;4BA
AC,MAAM;wBAC9B,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,OAAO,EAAE,KAAK
,EAAE,EAAE,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC;wBACxD,KAAK,CAAC;4BAAE,
CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;4BAAC,EAAE,
GAAG,CAAC,CAAC,CAAC,CAAC;4BAAC,SAAS;wBACjD,KAAK,CAAC;4BAAE,EAAE,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;4BAAC,CAAC,GAAG,EAAE,
C,GAAG,CAAC,GAAG,EAAE,CAAC;4BAAC,CAAC,CAAC,IAAI,CAAC,EAAE,CAAC,GAAG,EAAE,CAAC;4BAAC,SAAS;
wBACjD;4BACI,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,G
AAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,KAAK,EAAE,CAAC,CA
AC,CAAC,KAAK,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE;gBAAE,CAAC,GAAG
,CAAC,CAAC;gBAAC,SAAS;6BAAE;4BAC5G,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CA
C,GAAG,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE;gBAAE,CAAC,GAAG,CAAC,CAAC;gBAAC,SAAS;6BAAE;4BAC
CtF,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAAI,
I,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gBAAE,CAAC,GAAG,CAAC,CAAC,KAAK,GAAG,CAAC
,CAAC,CAAC,CAAC;gBAAC,CAAC,GAAG,EAAE,CAAC;gBAAC,MAAM;6BAAE;4BAAC,IAAI,CA
AC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gBAAE,CAAC,GAAG,CAAC,KAAK,GAA
G,CAAC,CAAC,CAAC,CAAC;gBAAC,CAAC,GAAG,EAAE,CAAC;gBAAC,MAAM;6BAAE;4BAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gBAAC,SAAS;6BAAE;4BAAC,IAAI,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE;gBAAE,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC

E;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAAE;YAC1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC,CAAC;YAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAAK,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;SACpF;IACL,CAAC;IAEM,IAAI,eAAe,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QAC9D9D,IAAI,EAAE,EAAE,KAAK,EAAE,KAAK,EAAE,SAAS;YAAE,EAAE,EAAE,GAAG,CAAC,CAAC,CAAC;QAC7B7B,MAAM,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,GAAG,EAAE,cAAc,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC

AC1I,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI;YAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,C
AAC,CAAC,CAAC,CAAC,CAAC;SAAE;QAAC,OAAO,CAAC,EAAE;YAAE,MAAM,CAAC,CAAC,CAAC,CA
AC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;SAAE,EAAE;QAClF,SAAS,IAAI,CAAC,CAAC,I
AAI,CAAC,CAAC,KAAK,YAAY,OAAO,GAAG,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,KAAK,CAAC,CA
AC,CAAC,CAAC,IAAI,CAAC,OAAO,EAAE,MAAM,CAAC,GAAG,MAAM,CAAC,CAAC,CAAC,CAAC,CAA
C,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE;QACxH,SAAS,OAAO,CAAC,KAAK,IAAI,MAAM,
CAAC,MAAM,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,KAAK,IAAI,MAAM,CAAC,
OAAO,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI,CAA
C,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,KAAK,EAAE,EAAE,CAAC,CAAC,MAAM;YAAE,MAAM,CAAC
,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,C
AAC,CAAC,EAAE;IACtF,CAAC;aAEe,gBAAgB,CAAC,CAAC;QAC9B,IAAI,CAAC,EAAE,CAAC,CAAC;QA
CT,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,EAAE,UAAU,C
AAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAA
M,CAAC,QAAQ,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QAC5I,SAAS,IAAI,CA
AC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,UAU,
CAAC,IAAI,OAAO,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,KAAK,EAAE,OAAO,CAAC,CAAC,CAA
C,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,CAAC,KAAK,QAAQ,EAAE,GAAG,CAAC,G
AAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,EAAE,GAAG,CAAC,CAAC,EAAE;IACnJ,CAAC;aAE
e,aAAa,CAAC,CAAC;QAC3B,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,C,sCAAsC,C
AAC,CAAC;QACvF,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,EAAE,CAAC,CAAC;QAC
nC,OAAO,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,GAAG,OAAO,QAAQ,KAAK,
UAAU,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,EAAE,EAAE,
CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,
QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAA
E,CAAC,CAAC,CAAC;QACjN,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CA
AC,CAAC,IAAI,UAAU,CAAC,IAAI,OAAO,IAAI,OAAO,CAAC,UAAU,OAAO,EAAE,MAAM,IAAI,CA
AC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,MAAM,CAAC,OAAO,EAAE,MAAM,EA
AE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE;Q
AChK,SAAS,MAAM,CAAC,OAAO,EAAE,MAAM,EAAE,CAAC,EAAE,CAAC,IAAI,OAAO,CAAC,OAAO,CA
AC,CAAC,CAAC,CAAC,IAAI,CAAC,UAAS,CAAC,IAAI,OAAO,CAAC,EAAE,KAAK,EAAE,CAAC,EAAE,IA
AI,EAAE,CAAC,EAAE,CAAC,CAAC,EAAE,EAAE,MAAM,CAAC,CAAC,EAAE;IAChI,CAAC;aAEoB,oB
,CAAC,MAAM,EAAE,GAAG;QAC5C,I,MAAM,CAAC,cAAc,EAAE,KAAK,CAAC,EAAE;YAAE,MAAM,IAAI,cAAc,CAAC,cAAc,EAAE;QAC
AAC,GAAG,GAAG,GAAG,CAAC;SAAE;QAAC,OAAO,MAAM,CAAC;IAAC,CAAC;IAAA,CAAC;IAEF,
kBAAkB,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,CAAC;QACnD,MAAM,CAAC,cAAc,CAAC,
CAAC,EAAE,SAAS,EAAE,UAAU,EAAE,IAAI,EAAE,YAAY,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC,EAAE,IA
xE,CAAC,IAAI,UAAS,CAAC,EAAE,CAAC;QACd,IAAI,CAAC,GAAG,EAAE,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,EAAE,SAAS,CAAC,GAAG,CAAC,CAAC,CAAC;IACrB,CrB,C
AAC,CAAC;aAEc,YAAY,CAAC,GAAG;QAC5B,IAAI,CAAC,GAAG,EAAE,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,EAAE,SAAS,CAAC,GAAG,CAAC,CAAC,CAAC;IAAC,CAAC;IAAA,CAAC;IAEF,
kBAAkB,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,CAAC;QACnD,MAAM,CAAC,cAAc,CAAC,
CAAC,EAAE,SAAS,EAAE,UAAU,EAAE,IAAI,EAAE,YAAY,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC,EAAE,IA
xE,CAAC,IAAI,UAAS,CAAC,EAAE,CAAC;QACd

O,KAAK,CAAC;IACjB;;ICnNA;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;QAsDE,kCAAoB,QAAkB;YAAlB,aAAQ,GAAR,QAAQ,CAAU;;;;YApB9B,oBAAe,GAAoD,EAAE,CAAC;SAoBpC;QAf1C,sBAAI,oDAAc;;;;iBAWlB;gBACE,OAAO,IAAI,CAAC,eAAe,CAAC;aAC7B;;;;iBAbD,UAAmB,OAA8B;;gBAC/C,IAAM,GAAG,GAAI,IAAM,CAAC,EAAE,CAAC;;oBACtC,KAAgB,IAAA,KAAA,SAAA,MAAM,CAAC,IAAI,CAAC,OAAO,CAAC,CAAA,gBAAA,4BAAE;wBAAjC,IAAM,CAAC,WAAA;wBACV,GAAG,CAAC,CAAC,CAAC,GAAG,IAAM,CAAC,CAAC,CAAC

IA6FIC,EA7FAC,EAAKC,EAiCT,SAASA,EAA8BC,GACnC,OAAO,WACHC,EAAkBD,IAe1B,SAASC,EAAkBD,EAAWE,GAElC,QADgB,IAAZA,IAAsBA,EAAU,SAC/BF,EAAUG,UACX,MAAM,IAAIC,MAAM,iNAEpB,IAAIC,EAAWL,EAAUM,SAASC,IAAIjB,GAAIkB,EAAOR,EAAUM,SAASC,IAAIC,GAAMC,EAAOT,EAAUM,SAASC,IAAIE,GAAMC,EAAOV,EAAUM,SAASC,IAAIG,GAAMC,EAAOX,EAAUM,SAASC,IAAII,GAAMC,EAAOZ,EAAUM,SAASC,IAAIK,GAAMC,EAAOb,EAAUM,SAASC,IAAIM,GAAMC,EAAOd,EAAUM,SAASC,IAAIO,GAAMC,EAAOf,EAAUM,SAASC,IAAIQ,GAAMC,EAAOhB,EAAUM,SAASC,IAAIS,GAAMC,EAAOjB,EAAUM,SAASC,IAAIU,GAAMC,EAAOlB,EAAUM,SAASC,IAAIW,GAAMC,EAAOnB,EAAUM,SAASC,IAAIY,GAAMC,EAAOpB,EAAUM,SAASC,IAAIa,GAAMC,EAAOrB,EAAUM,SAASC,IAAIc,GAAMC,EAAOtB,EAAUM,SAASC,IAAIe,GAAMC,EAAOvB,EAAUM,SAASC,IAAIgB,GAAMC,EAAOxB,EAAUM,SAASC,IAAIiB,GAAMC,EAAOzB,EAAUM,SAASC,IAAIkB,GAAMC,EAAO1B,EAAUM,SAASC,IAAImB,GAAMC,EAAO3B,EAAUM,SAASC,IAAIoB,GAAMC,EAAO5B,EAAUM,SAASC,IAAIqB,GAAMC,EAAO7B,EAAUM,SAASC,IAAIsB,GAAMC,EAAO9B,EAAUM,SAASC,IAAIuB,GAAMC,EAAO/B,EAAUM,SAASC,IAAIwB,GAAMC,EAAOhC,EAAUM,SAASC,IAAIyB,GAAMC,EAAOjC,EAAUM,SAASC,IAAI0B,GAAMC,EAAOlC,EAAUM,SAASC,IAAI2B,GAAMC,EAAOnC,EAAUM,SAASC,IAAI4B,GAAMC,EAAOpC,EAAUM,SAASC,IAAI6B,GAAMC,EAAOrC,EAAUM,SAASC,IAAI8B,GAAMC,EAAOtC,EAAUM,SAASC,IAAI+B,GAAMC,EAAOvC,EAAUM,SAASC,IAAIgC,GAAMC,EAAOxC,EAAUM,SAASC,IAAIiC,GAAMC,EAAOzC,EAAUM,SAASC,IAAIkC,GAAMC,EAAO1C,EAAUM,SAASC,IAAImC,GAAMC,EAAO3C,EAAUM,SAASC,IAAIoC,GAAMC,EAAO5C,EAAUM,SAASC,IAAIqC,GAAMC,EAAO7C,EAAUM,SAASC,IAAIsC,GAAMC,EAAO9C,EAAUM,SAASC,IAAIuC,GAAMC,EAAO/C,EAAUM,SAASC,IAAIwC,GAAMC,EAAOhD,EAAUM,SAASC,IAAIyC,GAAMC,EAAOjD,EAAUM,SAASC,IAAI0C,GAAMC,EAAOlD,EAAUM,SAASC,IAAI2C,GAAMC,EAAOnD,EAAUM,SAASC,IAAI4C,GAAMC,EAAOpD,EAAUM,SAASC,IAAI6C,GAAMC,EAAOrD,EAAUM,SAASC,IAAI8C,GAAMC,EAAOtD,EAAUM,SAASC,IAAI+C,GAAMC,EAAOvD,EAAUM,SAASC,IAAIgD,GAAMC,EAAOxD,EAAUM,SAASC,IAAIiD,GAAMC,EAAOzD,EAAUM,SAASC,IAAIkD,GAAMC,EAAO1D,EAAUM,SAASC,IAAImD,GAAMC,EAAO3D,EAAUM,SAASC,IAAIoD,GAAMC,EAAO5D,EAAUM,SAASC,IAAIqD,GAAMC,EAAO7D,EAAUM,SAASC,IAAIsD,GAAMC,EAAO9D,EAAUM,SAASC,IAAIuD,GAAMC,EAAO/D,EAAUM,SAASC,IAAIwD,GAAMC,EAAOhE,EAAUM,SAASC,IAAIyD,GAAMC,EAAOjE,EAAUM,SAASC,IAAI0D,GAAMC,EAAOlE,EAAUM,SAASC,IAAI2D,GAAMC,EAAOnE,EAAUM,SAASC,IAAI4D,GAAMC,EAAOpE,EAAUM,SAASC,IAAI6D,GAAMC,EAAOrE,EAAUM,SAASC,IAAI8D,GAAMC,EAAOtE,EAAUM,SAASC,IAAI+D,GAAMC,EAAOvE,EAAUM,SAASC,IAAIgE,GAAMC,EAAOxE,EAAUM,SAASC,IAAIiE,GAAMC,EAAOzE,EAAUM,SAASC,IAAIkE,GAAMC,EAAO1E,EAAUM,SAASC,IAAImE,GAAMC,EAAO3E,EAAUM,SAASC,IAAIoE,GAAMC,EAAO5E,EAAUM,SAASC,IAAIqE,GAAMC,EAAO7E,EAAUM,SAASC,IAAIsE,GAAMC,EAAO9E,EAAUM,SAASC,IAAIuE,GAAMC,EAAO/E,EAAUM,SAASC,IAAIwE,GAAMC,EAAOhF,EAAUM,SAASC,IAAIyE,GAAMC,EAAOjF,EAAUM,SAASC,IAAI0E,GAAMC,EAAOlF,EAAUM,SAASC,IAAI2E,GAAMC,EAAOnF,EAAUM,SAASC,IAAI4E,GAAMC,EAAOpF,EAAUM,SAASC,IAAI6E,GAAMC,EAAOrF,EAAUM,SAASC,IAAI8E,GAAMC,EAAOtF,EAAUM,SAASC,IAAI+E,GAAMC,EAAOvF,EAAUM,SAASC,IAAIgF,GAAMC,EAAOxF,EAAUM,SAASC,IAAIiF,GAAMC,EAAOzF,EAAUM,SAASC,IAAIkF,GAAMC,EAAO1F,EAAUM,SAASC,IAAImF,GAAMC,EAAO3F,EAAUM,SAASC,IAAIoF,GAAMC,EAAO5F,EAAUM,SAASC,IAAIqF,GAAMC,EAAO7F,EAAUM,SAASC,IAAIsF,GAAMC,EAAO9F,EAAUM,SAASC,IAAIuF,GAAMC,EAAO/F,EAAUM,SAASC,IAAIwF,GAAMC,EAAOhG,EAAUM,SAASC,IAAIyF,GAAMC,EAAOjG,EAAUM,SAASC,IAAI0F,GAAMC,EAAOlG,EAAUM,SAASC,IAAI2F,GAAMC,EAAOnG,EAAUM,SAASC,IAAI4F,GAAMC,EAAOpG,EAAUM,SAASC,IAAI6F,GAAMC,EAAOrG,EAAUM,SAASC,IAAI8F,GAAMC,EAAOtG,EAAUM,SAASC,IAAI+F,GAAMC,EAAOvG,EAAUM,SAASC,IAAIgG,GAAMC,EAAOxG,EAAUM,SAASC,IAAIiG,GAAMC,EAAOzG,EAAUM,SAASC,IAAIkG,GAAMC,EAAO1G,EAAUM,SAASC,IAAImG,GAAMC,EAAO3G,EAAUM,SAASC,IAAIoG,GAAMC,EAAO5G,EAAUM,SAASC,IAAIqG,GAAMC,EAAO7G,EAAUM,SAASC,IAAIsG,GAAMC,EAAO9G,EAAUM,SAASC,IAAIuG,GAAMC,EAAO/G,EAAUM,SAASC,IAAIwG,GAAMC,EAAOhH,EAAUM,SAASC,IAAIyG,GAAMC,EAAOjH,EAAUM,SAASC,IAAI0G,GAAMC,EAAOlH,EAAUM,SAASC,IAAI2G,GAAMC,EAAOnH,EAAUM,SAASC,IAAI4G,GAAMC,EAAOpH,EAAUM,SAASC,IAAI6G,GAAMC,EAAOrH,EAAUM,SAASC,IAAI8G,GAAMC,EAAOtH,EAAUM,SAASC,IAAI+G,GAAMC,EAAOvH,EAAUM,SAASC,IAAIgH,GAAMC,EAAOxH,EAAUM,SAASC,IAAIiH,GAAMC,EAAOzH,EAAUM,SAASC,IAAIkH,GAAMC,EAAO1H,EAAUM,SAASC,IAAImH,GAAMC,EAAO3H,EAAUM,SAASC,IAAIoH,GAAMC,EAAO5H,EAAUM,SAASC,IAAIqH,GAAMC,EAAO7H,EAAUM,SAASC,IAAIsH,GAAMC,EAAO9H,EAAUM,SAASC,IAAIuH,GAAMC,EAAO/H,EAAUM,SAASC,IAAIwH,GAAMC,EAAOhI,EAAUM,SAASC,IAAIyH,GAAMC,EAAOjI,EAAUM,SAASC,IAAI0H,GAAMC,EAAOlI,EAAUM,SAASC,IAAI2H,GAAMC,EAAOnI,EAAUM,SAASC,IAAI4H,GAAMC,EAAOpI,EAAUM,SAASC,IAAI6H,GAAMC,EAAOrI,EAAUM,SAASC,IAAI8H,GAAMC,EAAOtI,EAAUM,SAASC,IAAI+H,GAAMC,EAAOvI,EAAUM,SAASC,IAAIgI,GAAMC,EAAOxI,EAAUM,SAASC,IAAIiI,GAAMC,EAAOzI,EAAUM,SAASC,IAAIkI,GAAMC,EAAO1I,EAAUM,SAASC,IAAImI,GAAMC,EAAO3I,EAAUM,SAASC,IAAIoI,GAAMC,EAAO5I,EAAUM,SAASC,IAAIqI,GAAMC,EAAO7I,EAAUM,SAASC,IAAIsI,GAAMC,EAAO9I,EAAUM,SAASC,IAAIuI,GAAMC,EAAO/I,EAAUM,SAASC,IAAIwI,GAAMC,EAAOhJ,EAAUM,SAASC,IAAIyI,GAAMC,EAAOjJ,EAAUM,SAASC,IAAI0I,GAAMC,EAAOlJ,EAAUM,SAASC,IAAI2I,GAAMC,EAAOnJ,EAAUM,SAASC,IAAI4I,GAAMC,EAAOpJ,EAAUM,SAASC,IAAI6I,GAAMC,EAAOrJ,EAAUM,SAASC,IAAI8I,GAAMC,EAAOtJ,EAAUM,SAASC,IAAI+I,GAAMC,EAAOvJ,EAAUM,SAASC,IAAIgJ,GAAMC,EAAOxJ,EAAUM,SAASC,IAAIiJ,GAAMC,EAAOzJ,EAAUM,SAASC,IAAIkJ,GAAMC,EAAO1J,EAAUM,SAASC,IAAImJ,GAAMC,EAAO3J,EAAUM,SAASC,IAAIoJ,GAAMC,EAAO5J,EAAUM,SAASC,IAAIqJ,GAAMC,EAAO7J,EAAUM,SAASC,IAAIsJ,GAAMC,EAAO9J,EAAUM,SAASC,IAAIuJ,GAAMC,EAAO/J,EAAUM,SAASC,IAAIwJ,GAAMC,EAAOhK,EAAUM,SAASC,IAAIyJ,GAAMC,EAAOjK,EAAUM,SAASC,IAAI0J,GAAMC,EAAOlK,EAAUM,SAASC,IAAI2J,GAAMC,EAAOnK,EAAUM,SAASC,IAAI4J,GAAMC,EAAOpK,EAAUM,SAASC,IAAI6J,GAAMC,EAAOrK,EAAUM,SAASC,IAAI8J,GAAMC,EAAOtK,EAAUM,SAASC,IAAI+J,GAAMC,EAAOvK,EAAUM,SAASC,IAAIgK,GAAMC,EAAOxK,EAAUM,SAASC,IAAIiK,GAAMC,EAAOzK,EAAUM,SAASC,IAAIkK,GAAMC,EAAO1K,EAAUM,SAASC,IAAImK,GAAMC,EAAO3K,EAAUM,SAASC,IAAIoK,GAAMC,EAAO5K,EAAUM,SAASC,IAAIqK,GAAMC,EAAO7K,EAAUM,SAASC,IAAIsK,GAAMC,EAAO9K,EAAUM,SAASC,IAAIuK,GAAMC,EAAO/K,EAAUM,SAASC,IAAIwK,GAAMC,EAAOhL,EAAUM,SAASC,IAAIyK,GAAMC,EAAOjL,EAAUM,SAASC,IAAI0K,GAAMC,EAAOlL,EAAUM,SAASC,IAAI2K,GAAMC,EAAOnL,EAAUM,SAASC,IAAI4K,GAAMC,EAAOpL,EAAUM,SAASC,IAAI6K,GAAMC,EAAOrL,EAAUM,SAASC,IAAI8K,GAAMC,EAAOtL,EAAUM,SAASC,IAAI+K,GAAMC,EAAOvL,EAAUM,SAASC,IAAIgL,GAAMC,EAAOxL,EAAUM,SAASC,IAAIiL,GAAMC,EAAOzL,EAAUM,SAASC,IAAIkL,GAAMC,EAAO1L,EAAUM,SAASC,IAAImL,GAAMC,EAAO3L,EAAUM,SAASC,IAAIoL,GAAMC,EAAO5L,EAAUM,SAASC,IAAIqL,GAAMC,EAAO7L,EAAUM,SAASC,IAAIsL,GAAMC,EAAO9L,EAAUM,SAASC,IAAIuL,GAAMC,EAAO/L,EAAUM,SAASC,IAAIwL,GAAMC,EAAOhM,EAAUM,SAASC,IAAIyL,GAAMC,EAAOjM,EAAUM,SAASC,IAAI0L,GAAMC,EAAOlM,EAAUM,SAASC,IAAI2L,GAAMC,EAAOnM,EAAUM,SAASC,IAAI4L,GAAMC,EAAOpM,EAAUM,SAASC,IAAI6L,GAAMC,EAAOrM,EAAUM,SAASC,IAAI8L,GAAMC,EAAOtM,EAAUM,SAASC,IAAI+L,GAAMC,EAAOvM,EAAUM,SAASC,IAAIgM,GAAMC,EAAOxM,EAAUM,SAASC,IAAIiM,GAAMC,EAAOzM,EAAUM,SAASC,IAAIkM,GAAMC,EAAO1M,EAAUM,SAASC,IAAImM,GAAMC,EAAO3M,EAAUM,SAASC,IAAIoM,GAAMC,EAAO5M,EAAUM,SAASC,IAAIqM,GAAMC,EAAO7M,EAAUM,SAASC,IAAIsM,GAAMC,EAAO9M,EAAUM,SAASC,IAAIuM,GAAMC,EAAO/M,EAAUM,SAASC,IAAIwM,GAAMC,EAAOhN,EAAUM,SAASC,IAAIyM,GAAMC,EAAOjN,EAAUM,SAASC,IAAI0M,GAAMC,EAAOlN,EAAUM,SAASC,IAAI2M,GAAMC,EAAOnN,EAAUM,SAASC,IAAI4M,GAAMC,EAAOpN,EAAUM,SAASC,IAAI6M,GAAMC,EAAOrN,EAAUM,SAASC,IAAI8M,GAAMC,EAAOtN,EAAUM,SAASC,IAAI+M,GAAMC,EAAOvN,EAAUM,SAASC,IAAIgN,GAAMC,EAAOxN,EAAUM,SAASC,IAAIiN,GAAMC,EAAOzN,EAAUM,SAASC,IAAIkN,GAAMC,EAAO1N,EAAUM,SAASC,IAAImN,GAAMC,EAAO3N,EAAUM,SAASC,IAAIoN,GAAMC,EAAO5N,EAAUM,SAASC,IAAIqN,GAAMC,EAAO7N,EAAUM,SAASC,IAAIsN,GAAMC,EAAO9N,EAAUM,SAASC,IAAIuN,GAAMC,EAAO/N,EAAUM,SAASC,IAAIwN,GAAMC,EAAOhO,EAAUM,SAASC,IAAIyN,GAAMC,EAAOjO,EAAUM,SAASC,IAAI0N,GAAMC,EAAOlO,EAAUM,SAASC,IAAI2N,GAAMC,EAAOnO,EAAUM,SAASC,IAAI4N,GAAMC,EAAOpO,EAAUM,SAASC,IAAI6N,GAAMC,EAAOrO,EAAUM,SAASC,IAAI8N,GAAMC,EAAOtO,EAAUM,SAASC,IAAI+N,GAAMC,EAAOvO,EAAUM,SAASC,IAAIgO,GAAMC,EAAOxO,EAAUM,SAASC,IAAIiO,GAAMC,EAAOzO,EAAUM,SAASC,IAAIkO,GAAMC,EAAO1O,EAAUM,SAASC,IAAImO,GAAMC,EAAO3O,EAAUM,SAASC,IAAIoO,GAAMC,EAAO5O,EAAUM,SAASC,IAAIqO,GAAMC,EAAO7O,EAAUM,SAASC,IAAIsO,GAAMC,EAAO9O,EAAUM,SAASC,IAAIuO,GAAMC,EAAO/O,EAAUM,SAASC,IAAIwO,GAAMC,EAAOhP,EAAUM,SAASC,IAAIyO,GAAMC,EAAOjP,EAAUM,SAASC,IAAI0O,GAAMC,EAAOlP,EAAUM,SAASC,IAAI2O,GAAMC,EAAOnP,EAAUM,SAASC,IAAI4O,GAAMC,EAAOpP,EAAUM,SAASC,IAAI6O,GAAMC,EAAOrP,EAAUM,SAASC,IAAI8O,GAAMC,EAAOtP,EAAUM,SAASC,IAAI+O,GAAMC,EAAOvP,EAAUM,SAASC,IAAIgP,GAAMC,EAAOxP,EAAUM,SAASC,IAAIiP,GAAMC,EAAOzP,EAAUM,SAASC,IAAIkP,GAAMC,EAAO1P,EAAUM,SAASC,IAAImP,GAAMC,EAAO3P,EAAUM,SAASC,IAAIoP,GAAMC,EAAO5P,EAAUM,SAASC,IAAIqP,GAAMC,EAAO7P,EAAUM,SAASC,IAAIsP,GAAMC,EAAO9P,EAAUM,SAASC,IAAIuP,GAAMC,EAAO/P,EAAUM,SAASC,IAAIwP,GAAMC,EAAOhQ,EAAUM,SAASC,IAAIyP,GAAMC,EAAOjQ,EAAUM,SAASC,IAAI0P,GAAMC,EAAOlQ,EAAUM,SAASC,IAAI2P,GAAMC,EAAOnQ,EAAUM,SAASC,IAAI4P,GAAMC,EAAOpQ,EAAUM,SAASC,IAAI6P,GAAMC,EAAOrQ,EAAUM,SAASC,IAAI8P,GAAMC,EAAOtQ,EAAUM,SAASC,IAAI+P,GAAMC,EAAOvQ,EAAUM,SAASC,IAAIgQ,GAAMC,EAAOxQ,EAAUM,SAASC,IAAIiQ,GAAMC,EAAOzQ,EAAUM,SAASC,IAAIkQ,GAAMC,EAAO1Q,EAAUM,SAASC,IAAImQ,GAAMC,EAAO3Q,EAAUM,SAASC,IAAIoQ,GAAMC,EAAO5Q,EAAUM,SAASC,IAAIqQ,GAAMC,EAAO7Q,EAAUM,SAASC,IAAIsQ,GAAMC,EAAO9Q,EAAUM,SAASC,IAAIuQ,GAAMC,EAAO/Q,EAAUM,SAASC,IAAIwQ,GAAMC,EAAOhR,EAAUM,SAASC,IAAIyQ,GAAMC,EAAOjR,EAAUM,SAASC,IAAI0Q,GAAMC,EAAOlR,EAAUM,SAASC,IAAI2Q,GAAMC,EAAOnR,EAAUM,SAASC,IAAI4Q,GAAMC,EAAOpR,EAAUM,SAASC,IAAI6Q,GAAMC,EAAOrR,EAAUM,SAASC,IAAI8Q,GAAMC,EAAOtR,EAAUM,SAASC,IAAI+Q,GAAMC,EAAOvR,EAAUM,SAASC,IAAIgR,GAAMC,EAAOxR,EAAUM,SAASC,IAAIiR,GAAMC,EAAOzR,EAAUM,SAASC,IAAIkR,GAAMC,EAAO1R,EAAUM,SAASC,IAAImR,GAAMC,EAAO3R,EAAUM,SAASC,IAAIoR,GAAMC,EAAO5R,EAAUM,SAASC,IAAIqR,GAAMC,EAAO7R,EAAUM,SAASC,IAAIsR,GAAMC,EAAO9R,EAAUM,SAASC,IAAIuR,GAAMC,EAAO/R,EAAUM,SAASC,IAAIwR,GAAMC,EAAOhS,EAAUM,SAASC,IAAIyR,GAAMC,EAAOjS,EAAUM,SAASC,IAAI0R,GAAMC,EAAOlS,EAAUM,SAASC,IAAI2R,GAAMC,EAAOnS,EAAUM,SAASC,IAAI4R,GAAMC,EAAOpS,EAAUM,SAASC,IAAI6R,GAAMC,EAAOrS,EAAUM,SAASC,IAAI8R,GAAMC,EAAOtS,EAAUM,SAASC,IAAI+R,GAAMC,EAAOvS,EAAUM,SAASC,IAAIgS,GAAMC,EAAOxS,EAAUM,SAASC,IAAIiS,GAAMC,EAAOzS,EAAUM,SAASC,IAAIkS,GAAMC,EAAO1S,EAAUM,SAASC,IAAImS,GAAMC,EAAO3S,EAAUM,SAASC,IAAIoS,GAAMC,EAAO5S,EAAUM,SAASC,IAAIqS,GAAMC,EAAO7S,EAAUM,SAASC,IAAIsS,GAAMC,EAAO9S,EAAUM,SAASC,IAAIuS,GAAMC,EAAO/S,EAAUM,SAASC,IAAIwS,GAAMC,EAAOhT,EAAUM,SAASC,IAAIyS,GAAMC,EAAOjT,EAAUM,SAASC,IAAI0S,GAAMC,EAAOlT,EAAUM,SAASC,IAAI2S,GAAMC,EAAOnT,EAAUM,SAASC,IAAI4S,GAAMC,EAAOpT,EAAUM,SAASC,IAAI6S,GAAMC,EAAOrT,EAAUM,SAASC,IAAI8S,GAAMC,EAAOtT,EAAUM,SAASC,IAAI+S,GAAMC,EAAOvT,EAAUM,SAASC,IAAIgT,GAAMC,EAAOxT,EAAUM,SAASC,IAAIiT,GAAMC,EAAOzT,EAAUM,SAASC,IAAIkT,GAAMC,EAAO1T,EAAUM,SAASC,IAAImT,GAAMC,EAAO3T,EAAUM,SAASC,IAAIoT,GAAMC,EAAO5T,EAAUM,SAASC,IAAIqT,GAAMC,EAAO7T,EAAUM,SAASC,IAAIsT,GAAMC,EAAO9T,EAAUM,SAASC,IAAIuT,GAAMC,EAAO/T,EAAUM,SAASC,IAAIwT,GAAMC,EAAOhU,EAAUM,SAASC,IAAIyT,GAAMC,EAAOjU,EAAUM,SAASC,IAAI0T,GAAMC,EAAOlU,EAAUM,SAASC,IAAI2T,GAAMC,EAAOnU,EAAUM,SAASC,IAAI4T,GAAMC,EAAOpU,EAAUM,SAASC,IAAI6T,GAAMC,EAAOrU,EAAUM,SAASC,IAAI8T,GAAMC,EAAOtU,EAAUM,SAASC,IAAI+T,GAAMC,EAAOvU,EAAUM,SAASC,IAAIgU,GAAMC,EAAOxU,EAAUM,SAASC,IAAIiU,GAAMC,EAAOzU,EAAUM,SAASC,IAAIkU,GAAMC,EAAO1U,EAAUM,SAASC,IAAImU,GAAMC,EAAO3U,EAAUM,SAASC,IAAIoU,GAAMC,EAAO5U,EAAUM,SAASC,IAAIqU,GAAMC,EAAO7U,EAAUM,SAASC,IAAIsU,GAAMC,EAAO9U,EAAUM,SAASC,IAAIuU,GAAMC,EAAO/U,EAAUM,SAASC,IAAIwU,GAAMC,EAAOhV,EAAUM,SAASC,IAAIyU,GAAMC,EAAOjV,EAAUM,SAASC,IAAI0U,GAAMC,EAAOlV,EAAUM,SAASC,IAAI2U,GAAMC,EAAOnV,EAAUM,SAASC,IAAI4U,GAAMC,EAAOpV,EAAUM,SAASC,IAAI6U,GAAMC,EAAOrV,EAAUM,SAASC,IAAI8U,GAAMC,EAAOtV,EAAUM,SAASC,IAAI+U,GAAMC,EAAOvV,EAAUM,SAASC,IAAIgV,GAAMC,EAAOxV,EAAUM,SAASC,IAAIiV,GAAMC,EAAOzV,EAAUM,SAASC,IAAIkV,GAAMC,EAAO1V,EAAUM,SAASC,IAAImV,GAAMC,EAAO3V,EAAUM,SAASC,IAAIoV,GAAMC,EAAO5V,EAAUM,SAASC,IAAIqV,GAAMC,EAAO7V,EAAUM,SAASC,IAAIsV,GAAMC,EAAO9V,EAAUM,SAASC,IAAIuV,GAAMC,EAAO/V,EAAUM,SAASC,IAAIwV,GAAMC,EAAOhW,EAAUM,SAASC,IAAIyV,GAAMC,EAAOjW,EAAUM,SAASC,IAAI0V,GAAMC,EAAOlW,EAAUM,SAASC,IAAI2V,GAAMC,EAAOnW,EAAUM,SAASC,IAAI4V,GAAMC,EAAOpW,EAAUM,SAASC,IAAI6V,GAAMC,EAAOrW,EAAUM,SAASC,IAAI8V,GAAMC,EAAOtW,EAAUM,SAASC,IAAI+V,GAAMC,EAAOvW,EAAUM,SAASC,IAAIgW,GAAMC,EAAOxW,EAAUM,SAASC,IAAIiW,GAAMC,EAAOzW,EAAUM,SAASC,IAAIkW,GAAMC,EAAO1W,EAAUM,SAASC,IAAImW,GAAMC,EAAO3W,EAAUM,SAASC,IAAIoW,GAAMC,EAAO5W,EAAUM,SAASC,IAAIqW,GAAMC,EAAO7W,EAAUM,SAASC,IAAIsW,GAAMC,EAAO9W,EAAUM,SAASC,IAAIuW,GAAMC,EAAO/W,EAAUM,SAASC,IAAIwW,GAAMC,EAAOhX,EAAUM,SAASC,IAAIyW,GAAMC,EAAOjX,EAAUM,SAASC,IAAI0W,GAAMC,EAAOlX,EAAUM,SAASC,IAAI2W,GAAMC,EAAOnX,EAAUM,SAASC,IAAI4W,GAAMC,EAAOpX,EAAUM,SAASC,IAAI6W,GAAMC,EAAOrX,EAAUM,SAASC,IAAI8W,GAAMC,EAAOtX,EAAUM,SAASC,IAAI+W,GAAMC,EAAOvX,EAAUM,SAASC,IAAIgX,GAAMC,EAAOxX,EAAUM,SAASC,IAAIiX,GAAMC,EAAOzX,EAAUM,SAASC,IAAIkX,GAAMC,EAAO1X,EAAUM,SAASC,IAAImX,GAAMC,EAAO3X,EAAUM,SAASC,IAAIoX,GAAMC,EAAO5X,EAAUM,SAASC,IAAIqX,GAAMC,EAAO7X,EAAUM,SAASC,IAAIsX,GAAMC,EAAO9X,EAAUM,SAASC,IAAIuX,GAAMC,EAAO/X,EAAUM,SAASC,IAAIwX,GAAMC,EAAOhY,EAAUM,SAASC,IAAIyX,GAAMC,EAAOjY,EAAUM,SAASC,IAAI0X,GAAMC,EAAOlY,EAAUM,SAASC,IAAI2X,GAAMC,EAAOnY,EAAUM,SAASC,IAAI4X,GAAMC,EAAOpY,EAAUM,SAASC,IAAI6X,GAAMC,EAAOrY,EAAUM,SAASC,IAAI8X,GAAMC,EAAOtY,EAAUM,SAASC,IAAI+X,GAAMC,EAAOvY,EAAUM,SAASC,IAAIgY,GAAMC,EAAOxY,EAAUM,SAASC,IAAIiY,GAAMC,EAAOzY,EAAUM,SAASC,IAAIkY,GAAMC,EAAO1Y,EAAUM,SAASC,IAAImY,GAAMC,EAAO3Y,EAAUM,SAASC,IAAIoY,GAAMC,EAAO5Y,EAAUM,SAASC,IAAIqY,GAAMC,EAAO7Y,EAAUM,SAASC,IAAIsY,GAAMC,EAAO9Y,EAAUM,SAASC,IAAIuY,GAAMC,EAAO/Y,EAAUM,SAASC,IAAIwY,GAAMC,EAAOhZ,EAAUM,SAASC,IAAIyY,GAAMC,EAAOjZ,EAAUM,SAASC,IAAI0Y,GAAMC,EAAOlZ,EAAUM,SAASC,IAAI2Y,GAAMC,EAAOnZ,EAAUM,SAASC,IAAI4Y,GAAMC,EAAOpZ,EAAUM,SAASC,IAAI6Y,GAAMC,EAAOrZ,EAAUM,SAASC,IAAI8Y,GAAMC,EAAOtZ,EAAUM,SAASC,IAAI+Y,GAAMC,EAAOvZ,EAAUM,SAASC,IAAIgZ,GAAMC,EAAOxZ,EAAUM,SAASC,IAAIiZ,GAAMC,EAAOzZ,EAAUM,SAASC,IAAIkZ,GAAMC,EAAO1Z,EAAUM,SAASC,IAAImZ,GAAMC,EAAO3Z,EAAUM,SAASC,IAAIoZ,GAAMC,EAAO5Z,EAAUM,SAASC,IAAIqZ,GAAMC,EAAO7Z,EAAUM,SAASC,IAAIsZ,GAAMC,EAAO9Z,EAAUM,SAASC,IAAIuZ,GAAMC,EAAO/Z,EAAUM,SAASC,IAAIwZ,GAAMC,EAAOha,EAAUM,SAASC,IAAIyZ,GAAMC,EAAOja,EAAUM,SAASC,IAAI0Z,GAAMC,EAAOla,EAAUM,SAASC,IAAI2Z,GAAMC,EAAOna,EAAUM,SAASC,IAAI4Z,GAAMC,EAAOpa,EAAUM,SAASC,IAAI6Z,GAAMC,EAAOra,EAAUM,SAASC,IAAI8Z,GAAMC,EAAOta,EAAUM,SAASC,IAAI+Z,GAAMC,EAAOva,EAAUM,SAASC,IAAIga,GAAMC,EAAOxa,EAAUM,SAASC,IAAIia,GAAMC,EAAOza,EAAUM,SAASC,IAAIka,GAAMC,EAAO1a,EAAUM,SAASC,IAAIma,GAAMC,EAAO3a,EAAUM,SAASC,IAAIoa,GAAMC,EAAO5a,EAAUM,SAASC,IAAIqa,GAAMC,EAAO7a,EAAUM,SAASC,IAAIsa,GAAMC,EAAO9a,EAAUM,SAASC,IAAIua,GAAMC,EAAO/a,EAAUM,SAASC,IAAIwa,GAAMC,EAAOhb,EAAUM,SAASC,IAAIya,GAAMC,EAAOjb,EAAUM,SAASC,IAAI0a,GAAMC,EAAOlb,EAAUM,SAASC,IAAI2a,GAAMC,EAAOnb,EAAUM,SAASC,IAAI4a,GAAMC,EAAOpb,EAAUM,SAASC,IAAI6a,GAAMC,EAAOrb,EAAUM,SAASC,IAAI8a,GAAMC,EAAOtb,EAAUM,SAASC,IAAI+a,GAAMC,EAAOvb,EAAUM,SAASC,IAAIgb,GAAMC,EAAOxb,EAAUM,SAASC,IAAIib,GAAMC,EAAOzb,EAAUM,SAASC,IAAIkb,GAAMC,EAAO1b,EAAUM,SAASC,IAAImb,GAAMC,EAAO3b,EAAUM,SAASC,IAAIob,GAAMC,EAAO5b,EAAUM,SAASC,IAAIqb,GAAMC,EAAO7b,EAAUM,SAASC,IAAIsb,GAAMC,EAAO9b,EAAUM,SAASC,IAAIub,GAAMC,EAAO/b,EAAUM,SAASC,IAAIwb,GAAMC,EAAOhc,EAAUM,SAASC,IAAIyb,GAAMC,EAAOjc,EAAUM,SAASC,IAAI0b,GAAMC,EAAOlc,EAAUM,SAASC,IAAI2b,GAAMC,EAAOnc,EAAUM,SAASC,IAAI4b,GAAMC,EAAOpc,EAAUM,SAASC,IAAI6b,GAAMC,EAAOrc,EAAUM,SAASC,IAAI8b,GAAMC,EAAOtc,EAAUM,SAASC,IAAI+b,GAAMC,EAAOvc,EAAUM,SAASC,IAAIgc,GAAMC,EAAOxc,EAAUM,SAASC,IAAIic,GAAMC,EAAOzc,EAAUM,SAASC,IAAIkc,GAAMC,EAAO1c,EAAUM,SAASC,IAAImc,GAAMC,EAAO3c,EAAUM,SAASC,IAAIoc,GAAMC,EAAO5c,EAAUM,SAASC,IAAIqc,GAAMC,EAAO7c,EAAUM,SAASC,IAAIsc,GAAMC,EAAO9c,EAAUM,SAASC,IAAIuc,GAAMC,EAAO/c,EAAUM,SAASC,IAAIwc,GAAMC,EAAOhd,EAAUM,SAASC,IAAIyc,GAAMC,EAAOjd,EAAUM,SAASC,IAAI0c,GAAMC,EAAOld,EAAUM,SAASC,IAAI2c,GAAMC,EAAOnd,EAAUM,SAASC,IAAI4c,GAAMC,EAAOpd,EAAUM,SAASC,IAAI6c,GAAMC,EAAOrd,EAAUM,SAASC,IAAI8c,GAAMC,EAAOtd,EAAUM,SAASC,IAAI+c,GAAMC,EAAOvd,EAAUM,SAASC,IAAIgd,GAAMC,EAAOxd,EAAUM,SAASC,IAAIid,GAAMC,EAAOzd,EAAUM,SAASC,IAAIkd,GAAMC,EAAO1d,EAAUM,SAASC,IAAImd,GAAMC,EAAO3d,EAAUM,SAASC,IAAIod,GAAMC,EAAO5d,EAAUM,SAASC,IAAIqd,GAAMC,EAAO7d,EAAUM,SAASC,IAAIsd,GAAMC,EAAO9d,EAAUM,SAASC,IAAIud,GAAMC,EAAO/d,EAAUM,SAASC,IAAIwd,GAAMC,EAAOhe,EAAUM,SAASC,IAAIyd,GAAMC,EAAOje,EAAUM,SAASC,IAAI0d,GAAMC,EAAOle,EAAUM,SAASC,IAAI2d,GAAMC,EAAOne,EAAUM,SAASC,IAAI4d,GAAMC,EAAOpe,EAAUM,SAASC,IAAI6d,GAAMC,EAAOre,EAAUM,SAASC,IAAI8d,GAAMC,EAAOte,EAAUM,SAASC,IAAI+d,GAAMC,EAAOve,EAAUM,SAASC,IAAIge,GAAMC,EAAOxe,EAAUM,SAASC,IAAIie,GAAMC,EAAOze,EAAUM,SAASC,IAAIke,GAAMC,EAAO1e,EAAUM,SAASC,IAAIme,GAAMC,EAAO3e,EAAUM,SAASC,IAAIoe,GAAMC,EAAO5e,EAAUM,SAASC,IAAIqe,GAAMC,EAAO7e,EAAUM,SAASC,IAAIse,GAAMC,EAAO9e,EAAUM,SAASC,IAAIue,GAAMC,EAAO/e,EAAUM,SAASC,IAAIwe,GAAMC,EAAOhf,EAAUM,SAASC,IAAIye,GAAMC,EAAOjf,EAAUM,SAASC,IAAI0e,GAAMC,EAAOlf,EAAUM,SAASC,IAAI2e,GAAMC,EAAOnf,EAAUM,SAASC,IAAI4e,GAAMC,EAAOpf,EAAUM,SAASC,IAAI6e,GAAMC,EAAOrf,EAAUM,SAASC,IAAI8e,GAAMC,EAAOtf,EAAUM,SAASC,IAAI+e,GAAMC,EAAOvf,EAAUM,SAASC,IAAIgf,GAAMC,EAAOxf,EAAUM,SAASC,IAAIif,GAAMC,EAAOzf,EAAUM,SAASC,IAAIkf,GAAMC,EAAO1f,EAAUM,SAASC,IAAImf,GAAMC,EAAO3f,EAAUM,SAASC,IAAIof,GAAMC,EAAO5f,EAAUM,SAASC,IAAIqf,GAAMC,EAAO7f,EAAUM,SAASC,IAAIsf,GAAMC,EAAO9f,EAAUM,SAASC,IAAIuf,GAAMC,EAAO/f,EAAUM,SAASC,IAAIwf,GAAMC,EAAOhgB,EAAUM,SAASC,IAAIyf,GAAMC,EAAOjgB,EAAUM,SAASC,IAAI0f,GAAMC,EAAOlgB,EAAUM,SAASC,IAAI2f,GAAMC,EAAOngB,EAAUM,SAASC,IAAI4f,GAAMC,EAAOpgB,EAAUM,SAASC,IAAI6f,G

* Normalizes and parses a URL.\n *\n * - Normalizing means that a relative URL will be resolved into an absolute URL in the context of\n * the application document.\n * - Parsing means that the anchor's `protocol`, `hostname`, `port`, `pathname` and related\n * properties are all populated to reflect the normalized URL.\n *\n * While this approach has wide compatibility, it doesn't work as expected on IE. On IE, normalizing\n * happens similar to other browsers, but the parsed components will not be set. (E.g. if you assign\n * `a.href = 'foo'`, then `a.protocol`, `a.host`, etc. will not be correctly updated.)\n * We work around that by performing the parsing in a 2nd step by taking a previously normalized URL\n * and assigning it again. This correctly populates all properties.\n *\n * See\n * https://github.com/angular/angular.js/blob/2c7400e7d07b0f6cec1817dab40b9250ce8ebce6/src/ng/urlUtils.js#L26-L33\n * for more info.\n */\n var anchor;\n function resolveUrl(url) {\n if (!anchor) {\n anchor = document.createElement('a');\n }\n anchor.setAttribute('href', url);\n anchor.setAttribute('href', anchor.href);\n return {\n // IE does not start `pathname` with `/` like other browsers.\n pathname: \"/\" + anchor.pathname.replace(/^\\//, ''),\n search: anchor.search,\n hash: anchor.hash\n };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // This file only reexports content of the `src` folder. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE
file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.RouterUpgradeInitializer = RouterUpgradeInitializer;\n exports.locationSyncBootstrapListener = locationSyncBootstrapListener;\n exports.setUpLocationSync = setUpLocationSync;\n exports.0 = 0;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}))));\n//# sourceMappingURL=router-upgrade.umd.js.map\n"]}

Found in path(s):
* /router-11-0-5-tgz/package/bundles/router-upgrade.umd.min.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/router/router.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","router","common","core","rxjs","operators","this","extendStatics","d","b","Object","setPrototypeOf","__proto__","Array","p","hasOwnProperty","__extends","__","constructor","prototype","create","__values","o","s","Symbol","iterator","m","i","call","length","next","value","done","TypeError","__read","n","r","e","ar","push","error","__spread","arguments","concat","RouterEvent","NavigationStart","_super","id","url","navigationTrigger","restoredState","_this","toString","NavigationEnd","urlAfterRedirects","NavigationCancel","reason","NavigationError","RoutesRecognized","state","GuardsCheckStart","GuardsCheckEnd","shouldActivate","ResolveStart","ResolveEnd","RouteConfigLoadStart","route","path","RouteConfigLoadEnd","ChildActivationStart","snapshot","routeConfig","ChildActivationEnd","ActivationStart","ActivationEnd","Scroll","routerEvent","position","anchor","ParamsAsMap","params","has","name","get","v","isArray","getAll","defineProperty","keys","enumerable","configurable","convertToParamMap","navigationCancelingError","message","Error","defaultUrlMatcher","segments","segmentGroup","parts","split","pathMatch","hasChildren","posParams","index","part","segment","startsWith","substring","consumed","slice","shallowEqual","a","key","k1","k2","equalArraysOrString","aSorted","sort","bSorted_1","every","val","flatten","arr","apply","last","forEach","map","callback","prop","wrapIntoObservable","isObservable","isPromise","from","Promise","resolve","of","containsTree","container","containee","exact","equalQueryParams","queryParams","equalSegmentGroups","equalPath","numberOfChildren","c","children","root","containsQueryParams","containsSegmentGroup","containsSegmentGroupHelper","containeePaths","current","UrlTree","fragment","_queryParamMap","DEFAULT_SERIALIZER","serialize","UrlSegmentGroup","parent","k","serializePaths","UrlSegment","parameters","_parameterMap","serializePath","as","bs","mapChildrenIntoArray","fn","res","child","childOutlet","U

rlSerializer","DefaultUrlSerializer","parse","UrlParser","parseRootSegment","parseQueryParams","parseFragment","tree","serializeSegment","primary","children_1","join","serializeQueryParams","strParams","encodeUriQuery","encodeUriFragment","encodeURI","encodeUriString","encodeURIComponent","replace","encodeUriSegment","decode","decodeURIComponent","decodeQuery","serializeMatrixParams","SEGMENT_RE","matchSegments","str","match","QUERY_PARAM_RE","QUERY_PARAM_VALUE_RE","remaining","consumeOptional","peekStartsWith","parseChildren","parseQueryParam","parseSegment","capture","parseParens","parseMatrixParams","parseParam","valueMatch","matchQueryParams","matchUrlQueryParamValue","decodedKey","decodedVal","currentVal","allowPrimary","outletName","undefined","indexOf","substr","Tree","_root","t","pathFromRoot","findNode","firstChild","siblings","findPath","filter","cc","node","e_1","_a","_b","_c","node_1","e_1_1","return","e_2","unshift","e_2_1","TreeNode","nodeChildrenAsMap","outlet","RouterState","setRouterState","createEmptyState","urlTree","rootComponent","createEmptyStateSnapshot","activated","ActivatedRouteSnapshot","RouterStateSnapshot","emptyUrl","BehaviorSubject","emptyParams","emptyData","emptyQueryParams","ActivatedRoute","data","component","futureSnapshot","_futureSnapshot","_routerState","_paramMap","pipe","inheritedParamsDataResolve","paramsInheritanceStrategy","inheritingStartingFrom","flattenInherited","reduce","curr","assign","_resolvedData","urlSegment","lastPathIndex","_urlSegment","_lastPathIndex","_resolve","serializeNode","advanceActivatedRoute","currentSnapshot","nextSnapshot","shallowEqualArrays","equalParamsAndUrlSegments","equalSegments","isMatrixParams","command","outlets","segmentPath","isCommandWithOutlets","oldSegmentGroup","newSegmentGroup","qp","replaceSegment","oldSegment","newSegment","Navigation","isAbsolute","numberOfDoubleDots","commands","cmdWithOutlet","find","toRoot","Position","processChildren","updateSegmentGroup","startIndex","updateSegmentGroupChildren","prefixedWith","currentCommandIndex","currentPathIndex","noMatch","pathIndex","commandIndex","compare","slicedCommands","g","createNewSegmentGroup","outlets_2","getOutlets","paths","createNewSegmentChildren","stringify","ActivateRoutes","routeReuseStrategy","futureState","currState","forwardEvent","activate","parentContexts","futureRoot","currRoot","deactivateChildRoutes","activateChildRoutes","futureNode","currNode","contexts","futureChild","childOutletName","deactivateRoutes","childName","deactivateRouteAndItsChildren","parentContext","future","context","getContext","shouldDetach","detachAndStoreRouteSubtree","deactivateRouteAndOutlet","componentRef","detach","onOutletDeactivated","store","contexts_1","deactivate","activateRoutes","getOrCreateContext","shouldAttach","stored","retrieve","onOutletReAttached","attachRef","attach","advanceActivatedRouteNodeAndItsChildren","config","parentLoadedConfig","_loadedConfig","cmpFactoryResolver","componentFactoryResolver","resolver","activateWith","LoadedRouterConfig","routes","isFunction","isUrlTree","EmptyOutletComponent","INITIAL_VALUE","prioritizedGuardValue","switchMap","obs","combineLatest","take","startWith","scan","acc","list","isPending","innerAcc","item","validateConfig","parentPath","validateNode","getFullPath","fullPath","currentRoute","standardizeConfig","loadChildren","getOutlet","decorators","type","Component","args","template","NoMatch","AbsoluteRedirect","Observable","absoluteRedirect","newTree","namedOutletsRedirect","redirectTo","ApplyRedirects","moduleInjector","configLoader","urlSerializer","allowRedirects","ngModule","NgModuleRef","expandSegmentGroup","rootSegmentGroup","createUrlTree","catchError","noMatchError","rootCandidate","expandChildren","expandSegment","waitForMap","obj","waitHead","waitTail","mapped","concatAll","routesByOutlet","groupRoutesByOutlet","routeOutlet","set","Map","expansions","entries","expanded","concatMap","expandSegmentAgainstRoute","first","EmptyError","noLeftoversInUrl","expandRoutes","combineAll","results","result","matchSegmentAgainstRoute","expandSegmentAgainstRouteUsingRedirect","expandWildCardWithParamsAgainstRouteUsingRedirect","expandRegularSegmentAgainstRouteUsingRedirect","applyRedirectCommands","lineralizeSegments","mergeMap","newSegments","group","consumedSegments","lastChild","positionalParamSegments","matched","rawSegmentGroup","load","injector","cfg","rawSlicedSegments","getChildConfig","routerConfig","childModule","childConfig","slicedSegments","containsEmptyPathRedirectsWithNamedOutlets","some","isEmptyPathRedirect","mergeTrivialChildren","createChildrenForEmptySegments","primarySegmentGroup","e_3","routes_2","routes_2_1","e_3_1","containsEmptyPathRedirects","addEmptySegmentsToChildrenIfNeeded","routes_1","routes_1_1","cs","runCanLoadGuards","shouldLoadResult","canLoadFails","canLoad","canLoadObservables","injectionToken","guardVal","guard","isCanLoad","tap","applyRedirectCreatreUrlTree","newRoot","createSegmentGroup","createQueryParams","redirectToParams","actualParams","sourceName","updatedSegments","createSegments","redirectToSegments","actualSegments",

"findPosParam","findOrReturn","redirectToUrlSegment","pos","idx","actualSegments_1","actualSegments_1_1","s
plice","matcher","CanActivate","CanDeactivate","getToken","token","getClosestLoadedConfig","getChildRouteGu
ards","futurePath","checks","canDeactivateChecks","canActivateChecks","prevChildren","getRouteGuards","should
Run","shouldRunGuardsAndResolvers","mode","runGuardsAndResolvers","isActivated","fireActivationStart","fire
ChildActivationStart","runCanActivate","futureRSS","futureARS","canActivate","canActivateObservables","defer",
"observable","isCanActivate","runCanActivateChild","canActivateChildGuardsMapped","reverse","getCanActivate
Child","canActivateChild","guards","_","guardsMapped","isCanActivateChild","NoMatch$1","Recognizer","rootC
omponentType","relativeLinkResolution","recognize","split$1","processSegmentGroup","freeze","rootNode","route
State","inheritParamsAndData","routeNode","processSegment","checkOutletNameUniqueness","nodes","names","r
outeWithSameOutletName","sortActivatedRouteSnapshots","localeCompare","config_1","config_1_1","processSeg
mentAgainstRoute","rawSegment","getData","getSourceSegmentGroup","getPathIndexShift","getResolve","match$
1","_sourceSegment","_segmentIndexShift","containsEmptyPathMatchesWithNamedOutlets","emptyPathMatch","s
_1","createChildrenForEmptyPaths","primarySegment","containsEmptyPathMatches","s_2","addEmptyPathsToChil
drenIfNeeded","switchTap","source","nextResult","RouteReuseStrategy","BaseRouteReuseStrategy","detachedTree
","shouldReuseRoute","DefaultRouteReuseStrategy","ROUTES","InjectionToken","RouterConfigLoader","loader",
"compiler","onLoadStartListener","onLoadEndListener","parentInjector","loadModuleFactory","NgModuleFactory"
,"compileModuleAsync","OutletContext","ChildrenOutletContexts","onChildOutletCreated","onChildOutletDestroy
ed","UrlHandlingStrategy","DefaultUrlHandlingStrategy","shouldProcessUrl","extract","merge","newUrlPart","who
leUrl","defaultErrorHandler","defaultMalformedUriErrorHandler","defaultRouterHook","runExtras","Router","root
Contexts","location","lastSuccessfulNavigation","currentNavigation","lastLocationChangeInfo","navigationId","isN
gZoneEnabled","events","Subject","errorHandler","malformedUriErrorHandler","navigated","lastSuccessfulId","ho
oks","beforePreactivation","afterPreactivation","urlHandlingStrategy","onSameUrlNavigation","urlUpdateStrategy"
,"console","Console","ngZone","NgZone","resetConfig","currentUrlTree","createEmptyUrlTree","rawUrlTree","bro
wserUrlTree","triggerEvent","routerState","transitions","currentRawUrl","extractedUrl","rawUrl","extras","reject","
promise","targetSnapshot","currentRouterState","targetRouterState","guardsResult","navigations","setupNavigation
s","processNavigations","eventsSubject","completed","errored","initialUrl","trigger","previousNavigation","urlTran
sition","transition","getValue","serializeUrl","EMPTY","applyRedirects$1","applyRedirects","finalUrl","recognize$
1","serializer","skipLocationChange","setBrowserUrl","replaceUrl","routesRecognized","navStart","appliedUrlTree
","guardsStart","checkGuards","runCanDeactivateChecks","currRSS","check","runCanDeactivate","currARS","can
Deactivate","canDeactivateObservables","isCanDeactivate","isBoolean","runCanActivateChecks","evt","guardsEnd
","resetUrlToCurrentUrlTree","navCancel","resolveStart","dataResolved","resolveData","canActivateChecksResolv
ed","runResolve","resolveNode","getResolver","takeLast","resolvedData","complete","resolveEnd","createRouterSt
ate","prevState","createNode","createOrReuseChildren","detachedRouteHandle","setFutureSnapshotsOfActivatedR
outes","createActivatedRoute","finalize","isNavigationCancelingError","redirecting","resetStateAndUrl","setTimeo
ut","mergedTree","scheduleNavigation","navError","ee","resetRootComponentType","getTransition","setTransition
","initialNavigation","setUpLocationChangeListener","navigateByUrl","locationSubscription","subscribe","event","
currentChange","extractLocationChangeInfoFromEvent","shouldScheduleNavigation","stateCopy","change","parse
Url","transitionId","previous","sameDestination","getCurrentNavigation","ngOnDestroy","dispose","unsubscribe","
navigationExtras","relativeTo","f","preserveFragment","q","queryParamsHandling","removeEmptyProps","nav","co
mputeNavigation","cmd","cmdIdx","outlets_1","urlPart","partIndex","startingPosition","findStartingPosition","mod
ifier","createPositionApplyingDoubleDots","ci","dd","navigate","validateCommands","isActive","warn","priorProm
ise","lastNavigation","browserNavPrecededByRouterNav","duplicateNav","rej","catch","isCurrentPathEqualTo","re
placeState","go","storedState","storedUrl","Injectable","ctorParameters","Type","Location","Injector","NgModuleF
actoryLoader","Compiler","RouterLink","tabIndex","renderer","el","onChanges","setAttribute","nativeElement","n
gOnChanges","changes","onClick","attrBoolValue","Directive","selector","String","Attribute","Renderer2","Eleme
ntRef","propDecorators","Input","routerLink","HostListener","RouterLinkWithHref","locationStrategy","subscripti
on","updateTargetUrlAndHref","button","ctrlKey","shiftKey","altKey","metaKey","target","href","prepareExternal
Url","LocationStrategy","HostBinding","RouterLinkActive","element","cdr","link","linkWithHref","classes","router

LinkActiveOptions","routerEventsSubscription","update","ngAfterContentInit","links","linksWithHrefs","mergeAll","subscribeToEachLinkOnChanges","linkInputChangesSubscription","allLinkChanges","toArray","isLinkActive","then","hasActiveLinks","markForCheck","addClass","removeClass","isActiveCheckFn","exportAs","ChangeDetectorRef","Optional","ContentChildren","descendants","routerLinkActive","RouterOutlet","changeDetector","_activatedRoute","activateEvents","EventEmitter","deactivateEvents","ngOnInit","instance","cmp","ref","activatedRoute","insert","hostView","destroy","emit","resolveComponentFactory","childContexts","OutletInjector","createComponent","ViewContainerRef","ComponentFactoryResolver","Output","notFoundValue","PreloadingStrategy","PreloadAllModules","preload","NoPreloading","RouterPreloader","moduleLoader","preloadingStrategy","setUpPreloading","processRoutes","preloadConfig","RouterScroller","viewportScroller","options","lastId","lastSource","restoredId","scrollPositionRestoration","anchorScrolling","init","setHistoryScrollRestoration","createScrollEvents","scrollEventsSubscription","consumeScrollEvents","getScrollPosition","scheduleScrollEvent","scrollToPosition","scrollToAnchor","ViewportScroller","ROUTER_DIRECTIVES","ROUTER_CONFIGURATION","ROUTER_FORROOT_GUARD","ROUTER_PROVIDERS","provide","useClass","useFactory","setupRouter","deps","rootRoute","SystemJsNgModuleLoader","useValue","enableTracing","routerNgProbeToken","NgProbeToken","RouterModule","forRoot","providers","provideRoutes","provideForRootGuard","SkipSelf","provideLocationStrategy","PlatformLocation","Inject","APP_BASE_HREF","createRouterScroller","useExisting","multi","provideRouterInitializer","forChild","scrollOffset","setOffset","platformLocationStrategy","baseHref","useHash","HashLocationStrategy","PathLocationStrategy","ANALYZE_FOR_ENTRY_COMPONENTS","opts","assignExtraOptionsToRouter","dom_1","getDOM","logGroup","log","logGroupEnd","NgModule","declarations","entryComponents","RouterInitializer","initNavigation","resultOfPreactivationDone","appInitializer","LOCATION_INITIALIZED","bootstrapListener","bootstrappedComponentRef","preloader","routerScroller","ApplicationRef","components","componentTypes","getAppInitializer","bind","getBootstrapListener","ROUTER_INITIALIZER","APP_INITIALIZER","APP_BOOTSTRAP_LISTENER","VERSION","Version","PRIMARY_OUTLET","ROUTER_PROVIDERS","angular_packages_router_router_a","angular_packages_router_router_b","angular_packages_router_router_c","angular_packages_router_router_d","angular_packages_router_router_e","angular_packages_router_router_f","angular_packages_router_router_g","angular_packages_router_router_h","angular_packages_router_router_i","angular_packages_router_router_j","angular_packages_router_router_k","angular_packages_router_router_l","angular_packages_router_router_m","angular_packages_router_router_n","angular_packages_router_router_o","assignExtraOptionsToRouter","flatten"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GAAiBD,EAAOE,QAAUD,IAAmBE,KAAM,WAAc,aAAc,IAAIC,EAAgB,CAAEC,KAAM,SAAUC,QAAS,SAAUC,QAAS,SAAUC,QAAS

UC,GAE3C,SAASD,EAETE,EAEAC,EAEAC,EAEAC,QAC8B,IAAtBD,IAAgCA,EAAoB,mBAClC,IAAlBC,IA
A4BA,EAAgB,MAChD,IAAIC,EAAQL,EAAOlB,KAAKtB,KAAAMyC,EAAIC,IAAQ1C,KAG1C,OAFA6C,EAA
MF,kBAAoBA,EAC1BE,EAAMD,cAAgBA,EACfC,EAMX,OArBAnC,EAAU6B,EAAiBC,GAkB3BD,EAB1B
,UAAUiC,SAAW,WACjC,MAAO,uBAAyB9C,KAAKyC,GAAK,WAAazC,KAAK0C,IAAM,MAE/DH,
CAhBhCD,EACA,SAASA,EAETG,EAEAC,GACI1C,KAAKyC,GAAKA,EACVzC,KAAK0C,IAAMA,IA0CfK,E
AA+B,SAAUP,GAEzC,SASO,EAETN,EAEAC,EAEAM,GACI,IAAIH,EAAQL,EAAOlB,KAAKtB,KAAAMyC,
EAAIC,IAAQ1C,KAE1C,OADA6C,EAAMG,kBAAoBA,EACnBH,EAMX,OAhBAnC,EAAU6B,EAAiBC,GAa3BD,EAAgB
O,EAAclC,UAAUiC,SAAW,WAC/B,MAAO,qBAAuB9C,KAAKyC,GAAK,WAAazC,KAAK0C,IAAM,0BAA4B
1C,KAAKgD,kBAAoBA,EAClHD,EAAmBC,GAAqBA,EAAkBC,cAAgBD,EAAkBC,cAAgBD,EAAoB,
KAAMC,EAAgBF,EAAmBA,EAAiBE,cAAgB,KAC1KC,EAAcH,EAAmBA,EAAiBG,YAAc,KAChEC,EAAcJ,EAAmBA,EAAiBI,YAAc,KAChEC,EAAcL,EAAmBA,EAAiBK,YAAc,KAChEC,EAAcN,EAAmBA,EAAiBM,YAAc,KAChEC,EAAcP,EAAmBA,EAAiBO,YAAc,KAChEC,EAAcR,EAAmBA,EAAiBQ,YAAc,KAChEC,EAAcT,EAAmBA,EAAiBS,YAAc,KAChEC,EAAcV,EAAmBA,EAAiBU,YAAc,KAChEC,EAAcX,EAAmBA,EAAiBW,YAAc,KAChEC,EAAcZ,EAAmBA,EAAiBY,YAAc,KAChEC,EAAcb,EAAmBA,EAAiBa,YAAc,KAChEC,EAAcd,EAAmBA,EAAiBc,YAAc,KAChEC,EAAcf,EAAmBA,EAAiBe,YAAc,KAChEC,EAAchB,EAAmBA,EAAiBgB,YAAc,KAChEC,EAAcjB,EAAmBA,EAAiBiB,YAAc,KAChEC,EAAclB,EAAmBA,EAAiBkB,YAAc,KAChEC,EAAcnB,EAAmBA,EAAiBmB,YAAc,KAChEC,EAAcpB,EAAmBA,EAAiBoB,YAAc,KAChEC,EAAcrB,EAAmBA,EAAiBqB,YAAc,KAChEC,EAAcC,EAAmBA,EAAiBD,YAAc,KAChEE,EAAcD,EAAmBA,EAAiBC,YAAc,KAChEC,EAAcF,EAAmBA,EAAiBE,YAAc,KAChE

jE,KAAKgE,SAASC,YAAYJ,MAAQ,IAClC,MAErCO,EAVuB,GAiB9BC,EAAwB,WACxB,SAASA,EAETC,EA
EAC,EAEAC,GACIxE,KAAKsE,YAAcA,EACnBtE,KAAKuE,SAAWA,EAChBvE,KAAKwE,OAASA,EAMlB,O
AJAH,EAAOxD,UAAUiC,SAAW,WAExB,MAAO,mBAAqB9C,KAAKwE,OAAS,kBADhCxE,KAAKuE,SAAW
vE,KAAKuE,SAAS,GAAK,KAAOvE,KAAKuE,SAAS,GAAK,MACJ,MAEhEF,EAhBgB,GAgCvBI,EAA6B,WA
C7B,SAASA,EAAYC,GACjB1E,KAAK0E,OAASA,GAAU,GAAU,GA0B5D,OAAxBAD,EAAY5D,UAAU8D,IAAM,
SAAUC,GACjC,OAAO5E,KAAK0E,OAAOE,IAAU,GAAK,GAAK,GAAK,GAAK,GAAK,GAAK,GAAK,GAAK,
GAClC,OAAOxE,OAAOyE,aAAaC,MAAM1E,OAAQ2E,GAAS,GAAK,IAAM,GAAK,IAAM,GAAK,IAAM,GAAK,
SAAUC,GAAS,OAAOA,EAAQ,IAAM,IAAMA,EAAQ,IAAMA,EAAQ,IAAMA,EAAQ,IAAMA,EAAQ,IAAMA,EAAQ,
GAAK,KAAOvE,KAAKuE,SAAS,GAAK,KAAOvE,KAAKuE,SAAS,GAAK,MAAOvE,KAAKuE,SAAS,GAAK,KAAOvE,KAAKuE,SAAS,
GAAK,KAAOvE,KAAKuE,SAAS,GAAK,KAAOvE,KAAKuE,SAAS,GAAK,K

KqJ,iBACNrJ,KAAKqJ,eAAiBhE,EAAkBrF,KAAKuI,cAE1CvI,KAAKqJ,gBAEhBlE,YAAY,EACZC,cAAc,IAGlB+D,EAAQtI,UAAUiC,SAAW,WACzB,OAAOwG,EAAmBC,UAAUvJ,OAEjCmJ,EA3BiB,GAsCxBK,EAAiC,WACjC,SAASA,EAET9D,EAEAkD,GACI,IAAI/F,EAAQ7C,KACZA,KAAK0F,SAAWA,EAChB1F,KAAK4I,SAAWA,EAChB5I,KAAKyJ,OAAS,KACdlC,EAAQqB,GAAUU,EAAU9D,EAAG4E,GAAK,OAAO5E,EAAE2E,OAAS5G,KAkB1D,OAfA2G,EAAgB3I,UAAUkF,YAAc,WACpC,OAAOpF,KAAK0I,iBAAmBA,EAAgBtD,EAAQpF,KAAK0F,SAAU1F,KAAK4I,WAAa,GAE5FC,EAAgB3I,UAAW,mBAAoB,CAAEgJ,IAAK,WAAc,OAAOlJ,KAAK0I,iBAAmB,GAAM,EAAMS,YAAY,EAAMC,cAAc,IAAOP,EAAgB3I,UAAW,WAAY

hC,GAAuB,KAAnBzM,KAAKsM,UACL,MAAO,GAEXtM,KAAKuM,gBAAgB,KACrB,IAAI7G,EAAW,GAIf,IAHK1F,KAAKwM,eAAe,MACrB9G,EAASzD,KAAKjC,KAAK2M,gBAEhB3M,KAAKwM,eAAe,OAASxM,KAAKwM,eAAe,QAAUxM,KAAKwM,eAAe,OAClFxM,KAAK4M,QAAQ,KAAblH,EAASzD,KAAKjC,KAAK2M,gBAAEvH,EAAW5E,KAAKwM,eAAe,QAAUxM,KAAKwM,eAAe,OAAOxM

OAEjC,OAAO,KAGX,SAASgM,GAASzM,EAAO4M,GACrB,IAAIQ,EAAKN,EACT,GAAI9M,IAAU4M,EAAK
5M,MACf,MAAO,CAAC4M,GACZ,IACI,IAAK,IAAIG,EAAKzN,EAASsN,EAAKzF,UAAW6F,EAAKD,EAAG
hN,QAASiN,EAAG/M,KAAM+M,EAAKD,EAAGhN,OAAQ,CAC7E,IACIqC,EAAOqK,GAASzM,EADRgN,EA
AGhN,OAEf,GAAIoC,EAAKtC,OAEL,OADAsC,EAAKiL,QAAQT,GACNxK,GAInB,MAAOkL,GAASF,EAAM
,CAAE3M,MAAO6M,GAC/B,QACI,IACQN,IAAOA,EAAG/M,OAAS6M,EAAKC,EAAGI,SASL,EAAGjN,KA
AKkN,GAEpD,QAAU,GAAIK,EAAK,MAAMA,EAAI3M,OAEjC,MAAO,GAEX,IAAI8M,GAA0B,WAC1B,SA
ASA,EAASvN,EAAOmH,GACrB5I,KAAKyB,MAAQA,EACbzB,KAAK4I,SAAWA,EAChB5I,KAAKwB,IAAM,EACbxB
,UAAUiC,SAAW,WAC1B,MAAO,YAAc9C,KAAKyB,MAAQ,EAAIzB,KAAKwB,IAAMxB,KAAK4I,SAASC,SAASG,
BZ7B,IAAIoG,EAAQ,SAAUC,GAClB,OAAOA,GAAMA,EAAGC,MAAQA,MAAQD,GAEpCE,EAAOC,QAEHJ,EAAQ,iBAAV
L,EAUR,SAASwL,EAAyBF,EAASC,EAAYE,EAAKC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,
C,UA+BkGH,EAAe,KAAMD,EAAQzD,EAAG,IAC1J,IAAIiE,EAAIR,EAAQzD,EAAG,GAAIkE,EAAIT,EAAQzD,EAAG,
MACxDkG,EAAc,IAAIlC,EAAIhE,EAAG,GAAIiE,EAAIjE,EAAG,IAAIkE,EAAIlE,EAAG,GAAIiG,EAAIjG,EAAG,
AIlQ,EAAK+F,EAAgB,MAAOD,EAAQzD,EAAG,IAAIiE,EAAIR,EAAQzD,EAAG,GAAIkE,EAAIT,EAAQzD,EAAG,
S6E,KACvB,IAAIsG,GAAY,IAAIH,EAAcnG,EAAG,GAAIiG,EAAIjG,EAAG,IAAIkG,EAAIlG,EAAG,GAAIuG,EAAIvG,EAAG,
vN,EAEAgC,EAEA6D,EAEAa,EAEA8G,EAEAhB,EAAGiB,EAAWC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAG

KkP,OAASA,EACdlP,KAAKmQ,UAAYA,EACjBnQ,KAAKiE,YAAcA,EACnBjE,KAAKmR,YAAcF,EACnBjR,KAAKoR,eAAiBF,EACtBlR,KAAKqR,SAAWrJ,EAmEpB,OAjEA5H,OAAO6E,eAAeyK,EAAuB7O,UAAW,OAAQ,CAE5DgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAazH,MAE7B1D,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,SAAU,CAE9DgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa7G,OAAOzJ,OAEpCmF,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,aAAc,CAElEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAatC,WAE7BnI,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaC,SAE7B1L,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa1H,SAE7BzD,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaE,SAE7B3L,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaG,SAE7B5L,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaI,SAE7B7L,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaK,SAE7B9L,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaM,SAE7B/L,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaO,SAE7BhM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaQ,SAE7BjM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaS,SAE7BlM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaU,SAE7BnM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaW,SAE7BpM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaY,SAE7BrM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaa,SAE7BtM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAac,SAE7BvM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAae,SAE7BxM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagB,SAE7BzM,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiB,SAE7B1M,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakB,SAE7B3M,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamB,SAE7B5M,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoB,SAE7B7M,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqB,SAE7B9M,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasB,SAE7B/M,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauB,SAE7BhN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawB,SAE7BjN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayB,SAE7BlN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa0B,SAE7BnN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa2B,SAE7BpN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa4B,SAE7BrN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa6B,SAE7BtN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa8B,SAE7BvN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa+B,SAE7BxN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagC,SAE7BzN,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiC,SAE7B1N,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakC,SAE7B3N,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamC,SAE7B5N,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoC,SAE7B7N,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqC,SAE7B9N,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasC,SAE7B/N,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauC,SAE7BhO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawC,SAE7BjO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayC,SAE7BlO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa0C,SAE7BnO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa2C,SAE7BpO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa4C,SAE7BrO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa6C,SAE7BtO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa8C,SAE7BvO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa+C,SAE7BxO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagD,SAE7BzO,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiD,SAE7B1O,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakD,SAE7B3O,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamD,SAE7B5O,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoD,SAE7B7O,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqD,SAE7B9O,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasD,SAE7B/O,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauD,SAE7BhP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawD,SAE7BjP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayD,SAE7BlP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa0D,SAE7BnP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa2D,SAE7BpP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa4D,SAE7BrP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa6D,SAE7BtP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa8D,SAE7BvP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa+D,SAE7BxP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagE,SAE7BzP,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiE,SAE7B1P,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakE,SAE7B3P,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamE,SAE7B5P,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoE,SAE7B7P,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqE,SAE7B9P,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasE,SAE7B/P,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauE,SAE7BhQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawE,SAE7BjQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayE,SAE7BlQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa0E,SAE7BnQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa2E,SAE7BpQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa4E,SAE7BrQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa6E,SAE7BtQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa8E,SAE7BvQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa+E,SAE7BxQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagF,SAE7BzQ,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiF,SAE7B1Q,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakF,SAE7B3Q,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamF,SAE7B5Q,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoF,SAE7B7Q,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqF,SAE7B9Q,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasF,SAE7B/Q,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauF,SAE7BhR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawF,SAE7BjR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayF,SAE7BlR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa0F,SAE7BnR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa2F,SAE7BpR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa4F,SAE7BrR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa6F,SAE7BtR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa8F,SAE7BvR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa+F,SAE7BxR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagG,SAE7BzR,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiG,SAE7B1R,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakG,SAE7B3R,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamG,SAE7B5R,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoG,SAE7B7R,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqG,SAE7B9R,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasG,SAE7B/R,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauG,SAE7BhS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawG,SAE7BjS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayG,SAE7BlS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa0G,SAE7BnS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa2G,SAE7BpS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa4G,SAE7BrS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa6G,SAE7BtS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa8G,SAE7BvS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa+G,SAE7BxS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagH,SAE7BzS,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiH,SAE7B1S,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakH,SAE7B3S,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamH,SAE7B5S,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoH,SAE7B7S,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqH,SAE7B9S,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasH,SAE7B/S,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauH,SAE7BhT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawH,SAE7BjT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayH,SAE7BlT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa0H,SAE7BnT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa2H,SAE7BpT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa4H,SAE7BrT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa6H,SAE7BtT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa8H,SAE7BvT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa+H,SAE7BxT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagI,SAE7BzT,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiI,SAE7B1T,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakI,SAE7B3T,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamI,SAE7B5T,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoI,SAE7B7T,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqI,SAE7B9T,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasI,SAE7B/T,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauI,SAE7BhU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawI,SAE7BjU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayI,SAE7BlU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa0I,SAE7BnU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa2I,SAE7BpU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa4I,SAE7BrU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa6I,SAE7BtU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa8I,SAE7BvU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAa+I,SAE7BxU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAagJ,SAE7BzU,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaiJ,SAE7B1U,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAakJ,SAE7B3U,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAamJ,SAE7B5U,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaoJ,SAE7B7U,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAaqJ,SAE7B9U,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAasJ,SAE7B/U,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAauJ,SAE7BhV,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAawJ,SAE7BjV,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,OAAO7E,KAAKsQ,aAAayJ,SAE7BlV,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAeyK,EAAuB7O,UAAW,WAAY,CAEhEgE,IAAK,WACD,O

IACDA,EAAe,IAAI6D,EAAgB,GAAI,KAEN,IAAjC7D,EAAaD,SAASnE,QAAgBoE,EAAaI,cACnD,OAAOoN,GAA2BxN,EAAcuN,EAAAYP,GAEhE,IAAIvR,EA4CR,SAASgS,EAAazN,EAAcuN,EAAAYP,GAI5C,EAAAsB,EACtBC,EAAmBJ,EACnBK,EAAAU,CAAAEpH,OAAAOgH,EAAAqH,EAAAC,EAAAC,EAAAC

6Q,IAG7CN,EAAetT,UAAU8U,2BAA6B,SAAU/R,EAAO6Q,GACnE,IAAIe,EAAUf,EAAegB,WAAW7R,EAA
MnC,MAAMyN,QACpD,GAAIsG,GAAWA,EAAQtG,OAAQ,CAC3B,IAAI2G,EAAeL,EAAQtG,OAAO4G,SAC
9Bd,EAAWQ,EAAQ5M,SASmN,sBAChC/V,KAAKoU,mBAAmB4B,MAAMpS,EAAMnC,MAAMuC,SAAU,C
AAE6R,aAAcA,EAAcjS,MAAOA,EAAOoR,SAAUA,MAGlHb,EAAetT,UAAU+U,yBAA2B,SAAUhS,
GACjE,IAAI5R,EAAQ7C,KACRwV,EAAUf,EAAegB,WAAW7R,EAAMnC,MAAMyN,QACpD,GAAIsG,EAAAS
,CACT,IAAI5M,EAAWqG,GAAkBrL,GAC7BqS,EAAarS,EAAMnC,MAAM0O,UAAYqF,EAAQ5M,SAAW6L,E
AC5DlN,EAAQqB,GAAU,SAAU9D,EAAG4E,GAAK,OAAO7G,EAAMwS,mBAC9ET,E
AAQtG,SAERsG,EAAQtG,OAAOgH,aAEfV,EAAQ5M,SASmN,yBAI7B5B,EAAetT,UAAUgU,oBAAsB,SAA
UC,EAAYC,EAAUC,GAC3E,IAAInS,EAAQ7C,KACR4I,EAAqBkM,GAAkB8F,GACjCD,EAAWlM,SAASrB,SA
AQ,SAAUoB,GAClC9F,EAAMsT,eAAexN,EAAGC,EAASD,EAAGC,EAAS8F,EAAWlM,SAASrH,MAAMyN,QAAS8F0R
,aAAa,IAAInQ,EAAcuE,EAAelH,MAAMuC,cAE7C8Q,EAAWlM,SASrH,QACpBvB,KAAKuU,aAAa,IAAIrQ,
EAAmB4Q,EAAWrT,MAAMuC,YAGlEmQ,EAAetT,UAAUsV,eAAiB,SAAUrB,EAAYC,EAAUC,GAAS,IAAIc
,EAAST,EAAWrT,MACpBqP,EAAOiE,EAAWrT,MAAQ,KAAKvC,SAAS8P,GAAOA,EAAK9P,SAAS,EAAGuW,EAAWrT,MAAQ,
WzE,EACX,GAAIyE,EAAOpF,UAAW,CAElB,IAAIqF,EAAUf,EAAegB,WAAW7R,EAAMnC,MAAMyN,QAAS8F0R
U,oBAAoBC,EAAYC,EAAUC,GAAS,IAAIc,EAAST,EAAWrT,MAAQ,KAAKvC,SAAS8P,GAAOA,EAAK9P,SAAS,EAAGuW,EAAWrT,MAAQ,QAAS,
OpF,UAGP,GADIqF,EAAUf,EAAegB,WAAW7R,EAAMnC,MAAMyN,QAAS8F0R
,UAAW,CACvD,IAAIsS,EAAWlM,SAASrB,SA
4B,MAAMT,EAAOvR,EAAMuC,YAAcvC,EAAMuC,YAAcvC,EAAMuC,YAAcvC

UA,GAIvB,SAASiE,GAAQ5N,GACb,OAAO,IAAI7F,EAAKuZ,YAAW,SAAU1B,GAAO,OAAOA,EAAIzV,MA
AM,IAAIiX,GAAQxT,OAE7E,SAAS2T,GAAiBC,GACtB,OAAO,IAAIzZ,EAAKuZ,YAAW,SAAU1B,GAAO,O
AAOA,EAAIzV,MAAM,IAAIkX,GAAiBG,OAEtF,SAASC,GAAqBC,GAC1B,OAAO,IAAI3Z,EAAKuZ,YAAW,
SAAU1B,GAAO,OAAOA,EAAIzV,MAAM,IAAIsD,MAAM,gEAAkEiU,EAAa,SAa1J,IAAIC,GAAgC,WAChC,SAAS
A,EACpB5Z,EAAKuZ,YAAW,SAAU1B,GAAO,OAAOA,EAAIzV,MAAM,IAAIsD,MAAM,gEAAkEiU,EAAa,SAAS
A,EAAeC,EAAgBC,EAAcC,EAAevK,EAASsK,EAAgBC,EAAcC,EAAgBC,EAAcC,EAAgBC,EAAcC,EAAgBC,
A,EACrB7Z,EAAKuZ,YAAW,SAAU1B,GAAO,OAAOA,EAAIzV,MAAM,IAAIsD,MAAM,gEAAkEiU,EAAa,SAAS
AAWJ,EAAe9U,IAAIhF,EAAKma,aA6S5C,OA3SAN,EAAe7Y,UAAUwG,MAAQ,WAC7B,IAAIxE,EAAKuZ,YAAW,SAAU1B,GAAO,OAAOA,EAAIzV,MAAM,IAAIsD,MAAM,gEAAkEiU,EAAa,SAAS
AGZ,OAFgBA,EAAKia,mBAAmBja,EAAK+Z,SAAU/Z,EAAKuZ,YAAW,SAAU1B,GAAO,OAAOA,EAAIzV,MAAM,IAAIsD,MAAM,gEAAkEiU,EAAa,SAAS
AmkEa2H,KAAKzQ,EAAUyH,KAAI,SAAU0S,GAAQ,OAAOA,EAAKrX,EAAMsX,cAAcD,EAAKE,YAAYF,EAAMyM,QAA
Q/G,YAAa1F,EAAMyM,QAAQlG,cAChJoH,KAAKzQ,EAAUqa,YAAW,SAAUrY,GAAQ,OAAOA,EAAKrX,EAAMsX,cAAcD,EAAKE,YAAYF,EAAMyM,QAAQ
Ib,OAFAvW,EAAMiX,gBAAiBjB,EAAEhBjX,EAAMsJ,MAAMpK,EAAEuN,SAAEzB,GAAIvN,EAAEwN,aAAaoX,GACb,MA
AMtW,EAAMwX,aAAatY,GAE7B,MAAMA,OAAGd2X,EAAe7Y,UAAUsL,MAAQ,SAAUrB,GAAQ,OAAOA,EAAKrX,EAAMsX,cAAcD,EAAKE,YAAYF,EAAMyM,QAAQ
AQ7C,KAAGZ,OAFgBA,EAAKia,mBAAmBja,EAAK+Z,SAAU/Z,EAAKuZ,YAAW,SAAU1B,GAAO,OAAOA,EAAIzV,MAAM,IAAIsD,MAAM,gEAAkEiU,EAAa,SAAS
lEW2H,KAAKzQ,EAAUyH,KAAI,SAAU0S,GAAQ,OAAOA,EAAKrX,EAAMsX,cAAcD,EAAKE,YAAYF,EAAMyM,QAAQ
EAAK1B,cAC9HoH,KAAKzQ,EAAUqa,YAAW,SAAUrY,GAAQ,OAAOA,EAAKrX,EAAMsX,cAAcD,EAAKE,YAAYF,EAAMyM,QAAQ
X,aAAatY,GAE7B,MAAMA,OAAGd2X,EAAe7Y,UAAUwZ,MAAQ,SAAUrB,GAAQ,OAAOA,EAAKrX,EAAMsX,cAAcD,EAAKE,YAAYF,EAAMyM,QAAQ
AA4CzD,EAAE4D,aAAe,MAAMlF+T,EAAe7Y,UAAUsZ,cAAgB,SAAUrB,GAAQ,OAAOA,EAAKrX,EAAMsX,cAAcD,EAAKE,YAAYF,EAAMyM,QAAQ
A1F,EAAOyR,EAAc5U,SAASnE,OAAS,EAAGvB,KAAKiI,EAAGgB,KAAK+E,EAAK,IAAIqB,QAAQ,QAAI+L,EAAe/L,IAAC
tE+L,EACJ,OAAO,IAAInR,EAAQN,EAAMN,EAAaa,IAE1CsQ,EAAe7Y,UAAUoZ,mBAAqB,SAAUF,EAAUF,EAAUF,E

AUpU,EAAc/B,EAAOoQ,GAEpE8F,GAAkB9Z,KAAK8Z,eAChB9Z,KAAKic,uCAAuClC,EAAUpU,EAAcyR,EAAQxT,EAAOoQ,EAAO9E,GAE9FqE,GAAQ5N,IAEnB+T,EAAe7Y,UAAUob,uCAAyC,SAAUlC,EAAUpU,EAAcyR,EAAQxT,EAAO8B,EAAUwJ,GACzH,MAAmB,OAAftL,EAAMC,KACC7D,KAAKkc,kDAAkDnC,EAAU3C,EAAQxT,EAAOsL,GAEpFlP,KAAKmc,8CAA8CpC,EAAUpU,EAAcyR,EAAQxT,EAAO8B,EAAUwJ,IAE/GwK,EAAe7Y,UAAUqb,kDAAoD,SAAUnC,EAAU3C,EAAQxT,EAAOsL,GAC5G,IAAIrM,EAAQ7C,KACRuc,EAAUpC,EAAS3C,EAAQxT,EAAOsL,GAAQ5N,KAAK,IAAK,IAAIC,EAAIqC,EAAMwZ,EAAQ5b,OAAQD,EAAIA,EAAIqC,EAAMwZ,EAAQ7b,GAAK,IAAK,CAAC,IAAIuC,EAAIvC

MgF,SAAUmR,IAEtDnW,EAAMgV,kBAEsBpL,IAAxB5J,EAAMkT,cACChX,EAAKmI,GAAGrE,EAAMkT,eA
ElB9W,KAAKse,iBAAiBvE,EAASgD,SAAUnZ,EAAO8B,GAClD8K,KAAKzQ,EAAUuc,UAAS,SAAUiC,GACn
C,OAAIA,EACO1b,EAAM+W,aAAakD,KAAK/C,EAASgD,SAAUnZ,GAC7C4M,KAAKzQ,EAAUyH,KAAI,SA
AUwV,GAE9B,OADApZ,EAAMkT,cAAgBkG,EACfA,MA9M/B,SAASwB,EAAa5a,GAClB,OAAO,IAAI9D,EA
AKuZ,YAAW,SAAU1B,GAAO,OAAOA,EAAIzV,MAAMoD,EAAyB,gEAAkE1B,EAAMC,KAAO,0BAgNlJ2a,
CAAa5a,OAGrB9D,EAAKmI,GAAG,IAAIkP,GAAmB,GAAI4C,KAAE9CL,EAAe7Y,UAAUyd,iBAAmB,SAAU3
E,EAAgB/V,EAAO8B,GACzE,IAAI7C,EAAQ7C,KACRye,EAAU7a,EAAM6a,QACpBA,EAAQpB,IAAIA,GAA8B
A,EAAQld,OACpB,OAAOzB,EAAKmI,GAAGnB,IAAIyW,EAAqBD,EAAQjX,KAAI,SAAUmX,GAAM,OAAOA,
CIC,EADAC,EAAQlF,EAAe9U,IAAI8Z,EAAGtZ,KAAKuZ,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,
EAAMJ,SAAqarBK,CAAUD,GACVD,EAAWC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,
IhB,MAAM,IAAIrZ,MAAM,yBAHhBoZ,EAAWC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,
AO9e,EAAKmI,GAAGyW,GACVlO,KAAKiH,KAAKyH,KAAKzB,EAAUgf,KAAKI,SAAUhf,EAAOuB,EAAMC,KAAKzQ,EAAUuhD,GACvD,GAAKzE,
E,GAAf,CAAEA,IAAI7Z,EAAAQoD,EAAAyB,mBAAAsBzC,EAAAMgX,cAAActQ,UAAAUwS,GAAAU,KAAAEnG,MADA7Z,
EAAMQ,IAAAMqZ,EAACN7Z,MAACnZ,EAAAyB,mBAAAsBzC,EAAAMgX,cAAActQ,UAAAUwS,GAAAU,KAAAEnG,MADA7Z,
UAAUwb,mBAAqBSAAUzY,EAAO0L,GAG3D,IAFA,IAAIlF,EAAAMgX,cAAActQ,UAAAUwS,GAAAU,KAAAEnG,MADA7Z,EAAI2G,GAAAQAAqBzC,EAAAMgX,cAAActQ,UAAAUwS,GAAAU,KAAAEnG,MADA7Z,
ET,GADAuB,EAAAMA,EAAI/H,OAAOsG,EAAAEjD,UACQ,IAAAvBiD,EAAAED,iBACF,OAAO5I,EAAAKmI,GAAAG
mC,GAAEnB,GAAAIzB,EAAAED,iBAAAmBAAmBIAAMC,EAAAEC,SAAAuB,QACpD,OAAO4Q,GAAAqB5V,EAAAMUA,
tC9Q,EAAIA,EAAAEC,SAAAuB,UAGrC8Q,EAAAe7Y,UAAAUub,sBAAAwB,SAAAU1W,EAAAU+T,EAAAYzT,GAAC7E,O
AAOhG,KAAAKgf,4BAA4BvF,EAAAYzZ,KAAAK6Z,cAAApP,MAAAMgP,EAAA/T,EAAAUM,IAAExG0T,EAAAe7Y,UA
AUme,4BAA8B,SAAAUvF,EAAAYnK,EAAAS5J,EAAAUM,GAAC5F,IAAAIiZ,EAAAUjf,KAAAKkf,mBAAAmBzF,EAAAYnK
,EAAQzG,KAAAMnD,EAAAUM,GAAC1E,OAAAO,IAAAImD,EAAQ8V,EAASjf,KAAAKmf,kBAAAkB7P,EAAAQ/G,YAA
avI,KAAKsP,QAAQ/G,aAAc+G,EAAAQlG,WAE/GsQ,EAAAe7Y,UAAAUse,kBAAAoB,SAAAUC,EAAAkBC,GACrE,IA
AIjV,EAAAM,GAWV,OAVA7C,EAAAQ6X,GAAAkB,SAAAUta,EAAAG4E,GAAAnC,GADmC,iBAAAN5E,GAAAN,IAAAM
AEsB,WAAW,KACvC,CACjB,IAAIkZ,EAAAaxa,EAAAEuB,UAAAU,GAC7B+D,EAAAIV,GAAAK2V,EAAAC,lB
V,EAAAIV,GAAAK5E,KAGVsF,GAEXsP,EAAAe7Y,UAAAUqe,mBAAAqB,SAAAUzF,EAAAY+C,EAAAO9W,EAAAU9W,EAAAU
ACjF,IAAAInD,EAAAQ7C,KACRuf,EAAAkBvf,KAAAKwf,eAAAkB/F,EAAAY/Z,KAAAK6Z,cAAAlP,MAAAMgP,EAAA/T,EAAAUM,IAAExG0E4
C,EAAAW,GAAAIf,OAAAHArB,EAAAQiV,EAAAM5T,UAAAU,SAAAUyB,EAAAqB+V,EAAAC,CgE,SAAAC,EAAAC,
,mBAAAmBzF,EAAAYpP,EAAAO3E,EAAAUM,MAAEpE,IAAAIwD,EAAAgB+V,EAAAiBW,EAAAC,EAAAC,EAAAC,EAAAC,
e,eAAAiB,SAAAU/F,EAAAYgG,EAAAoBC,EAAAgB1Z,GAAChG,IAAAInD,EAAAQ7C,KACZ,OAAAOyf,f,EAAAmBjY,,KAAAI,
SAAAUvG,GAAAK,OAAAOA,EAAAE4C,KAAAKuC,WAAAW,KAAAOvD,EAAAM8c,aAAAalG,EAAAYxY,EAAAG+E,GAAC3
GnD,EAAAM+c,aAAAa3e,EAAAGye,OAE9BhG,EAAAe7Y,UAAAU8e,8e,7Y,UAAU8e,aAAe,SAAUlG,EAAAsBlG,EAAAsB7Z,GAAChF,IAAAIiZ,EAAAUjf,KAAAKkf,mBAAAmBzF,EAAAYnK
AI8Z,EAAAM9Z,EAAAU6Z,EAAAqBhc,KAAAKwC,UAAAU,IACxD,IAAAKyZ,EAAAC,EAACD,MAAAM,IAAAIta,EAAAGye,OAE9BhG,EAAAe7Y,UAAAU8e,8e,7Y,UAAU8e,aAAe,SAAUlG,EAAAsBlG,EAAAsB7Z,GAAChF,IAAAIiZ,EAAAUjf,KAAAKkf,mBAAAmBzF,EAAAYnK
iU,EAAAa,mBAAAqBoG,EAAAqBhc,KAAAKwC,UAAAU,IACxD,IAAAKyZ,EAAAC,EACAD,MAAAM,IAAAIta,EAAAGye,OAE9BhG,EAAAe7Y,UAAAU8e,8e,7Y,UAAU8e,aAAe,SAAUlG,EAAAsBlG,EAAAsB7Z,GAAChF,IAAAIiZ,EAAAUjf,KAAAKkf,mBAAAmBzF,EAAAYnK
H,GACpE,IAAAIpR,EAAAKC,EACLwR,EAAAM,EACV,IACI,IAAAK,IAAAIC,EAAAmBjf,EAAAS2e,GAAAIBO,EAAAqBD,,
EAAAiBxe,QAASye,EAAAmBve,KAAAMue,EAAAqBD,EAAAiBxe,OAAAQ,CACxK,IAAAIP,EAAAgf,IAAAgf,Igf,EAAAmBxe
,GAAAIR,EAAAE4C,OAASgc,EAAAqBhc,KAAEhC,EAAAOADA6b,EAAAeQ,OAAAOH,GACf9e,EAAAOAOH,GACf,GAACf9e,
AASL,EAAAM,CAAAEpM,MAAAOyM,GAAC/B,QACI,IACQsR,IAACQsR,IAAAuBA,EAAAmBve,KAAAMue,EAAAqBD,EAAAiBxe,OAAAQ,CACxK,IAAAIP,EAAAgf,IAAAgf,Igf,EAAAmBxe
SAASL,EAAAGjN,KAAAK0e,GAAAlG,EAAAqBhc,KAAAKwC,UAAAU,IACxD,IAAAKyZ,EAAAC,E

ACjB7D,KAAK6D,KAAOA,EACZ7D,KAAK4D,MAAQ5D,KAAK6D,KAAK7D,KAAK6D,KAAKtC,OAAS,IAI
9C8e,GACA,SAASA,GAAclQ,EAAWvM,GAC9B5D,KAAKmQ,UAAYA,EACjBnQ,KAAK4D,MAAQA,GAerB,
SAAS0c,GAASC,EAAOvc,EAAU2V,GAC/B,IAAI/C,EAAIR,SAAS4J,EAAuBxc,GAC5B,IAAKA,EACD,OAAO,K
ACX,IAAK,IAAI/C,EAAI+C,EAASyF,OAAQxI,EAAGA,EAAIA,EAAEwI,OAAQ,CAC3C,IAAI7F,EAAI3C,7F,EAAQ3C,E
AAEgD,YACd,GAAIL,GAASA,EAAMkT,cACf,OAAOlT,EAAMkT,cAErB,OAAO,KAZM0J,CAAuBxc,GAEpC,
OADe4S,EAASA,EAAOvX,X,OAAO0d,SAAWpD,GACjC9U,IAAI0b,B,GAAYxB,SASE,GAAoB3L,EAAYC,EAAU
C,EAAU0L,EAAYC,QACtD,IAAXA,IAAqBA,EAAS,CAAC9B,oBAAqB,GACrBC,kBAAmB,KAEvBC,IAAK,EA
Ae7R,GAAkB8F,GAAQrC,OAAND,EAAWlM,SAASrB,SAAQ,Q,SAAUoB,IAAQ1Q,oB,IAAQ3C,SAAoBsT,EAAejM,EAAA
UN,EAAgBiM,EAAYC,QACvD,IAAXA,IAAqBA,EAAS,CAAC9B,oBAAqB,GACrBC,kBAAmB,KAEvBC,IAAIt
L,EAAST,EAAWrT,MACpBqP,EAAOiE,EAAWA,EAASrT,MAAQ,GAAIqP,EAAOgE,EAAWA,EAASrT,MAAQ,GAAI

I,GAAG+Z,GAA8BxR,KAAKiH,MAuBtD,IAAI+K,GACA,SAASrJ,OAUTsJ,GAA4B,WAC5B,SAASA,EAAWC,
EAAmB9L,EAAQtH,EAAS5M,EAAKgO,EAA2BiS,GACpF3iB,KAAK0iB,kBAAoBA,EACzB1iB,KAAK4W,OA
ASA,EACd5W,KAAKsP,QAAUA,EACftP,KAAK0C,IAAMA,EACX1C,KAAK0Q,0BAA4BA,EACjC1Q,KAAK
2iB,uBAAyBA,EAgGlC,OA9FAF,EAAW5hB,UAAU+hB,UAAY,WAC7B,IACI,IAAI1I,EAAmB2I,GAAQ7iB,K
AAKsP,QAAQzG,KAAM,GAAI,GAAI7I,KAAK4W,OAAQ5W,KAAK2iB,wBAAwBhd,aAChGiD,EAAW5I,KA
AK8iB,oBAAoB9iB,KAAK4W,OAAQsD,EA3xF5C,WA4xFLrR,EAAO,IAAI6G,GAAuB,GAAuB,GAAuB,OAAO2iB,OA
AO,IAAK3iB,OAAO2iB,OAAO3iB,OAAO2Q,OAAO,GAAI/Q,KAAKsP,QAAQ/G,cAAevI,KAAKsP,QAAQlG,S
AAU,GA5xFvI,UA4xF2JpJ,KAAK0iB,kBAAmB,KAAM1iB,KAAKsP,QAAQzG,MAAO,EAAG,IACrNma,EAAA
W,IAAIhU,GAASnG,EAAMD,GAC9Bqa,EAAaIAAItT,GAAoB3P,KAAK0C,IAAKsgB,GAEnD,OADAhjB,KA
AKkjB,qBAAqBD,EAAWrV,OAC9B9N,EAAKmI,GAAgBgb,GAEnB,MAAOlhB,GACH,OAAO,IAAIjC,EAAKu
Z,YAAW,SAAU1B,GAAO,OAAOA,EAAIzV,MAAMH,QAAGrE0gB,EAAW5hB,UAAUqiB,qBAAuB,SAAUC,G
AClD,IAAItgB,EAAQ7C,KACR4D,EAAuf,EAAU1hB,MAClBJ,EAAIoP,GAA2B7M,EAAO5D,KAAK0Q,2BA
C/C9M,EAAMc,OAAStE,OAAO2iB,OAAO1hB,EAAEqD,QAC/Bd,MAAMsM,KAAO9P,KAAK0Q,2BAA6B,EAAI,EAAE6O,MAC7BiT,WAAYC,qBAAuBC,EAAE
AAW5hB,UAAUiiB,oBAAsB,SAAUlM,GAAO,IAAIlM,EAAQ,KAAMA,EAAQ,IAAIkM,GAAOlM,EAAMqY,cvE,EAAaI,cAC5C/C/F,KAAKgT,gBAAgB4D,EAAQjC3F,KAAKojB,eAAexM,EAAQjR,EAAMA,EAAMD,EAAMC,EAAMA,EAAMD,SA
AUwJ,IAE5EuT,EAAW5hB,UAAUmS,gBAAkB,SAAUkB,EAAQ,IAAIA,GAAOlM,EAAMqY,cvE,EAAaI,cAC5C/C/F,KAAKgT,gBAAgB4D,EAAQjC3F,KAAKojB,eAAexM,EAAQjR,EAAMA,EAAMD,EAAMC,EAAMA,EAAMD,SA
sB,EAAqBvE,GAAc,SAAU0E,EAAOC,GAAe,OAAOzE,EAAMwE,EAAOC,GAAOC,EAAMF,EAAOC,GAAOE,EAAMH,EAAOC,GAAOG,EAAMJ,EAAOC,GAAOI,EAAML,EAAOC,GAAOK,EAAMN,EAAOC,GAAOM,EAAMP,EAAOC,GAAOO,EAAMR,EAAOC,GAAOQ,EAAMT,EAAOC,GAAOS,EAAMV,EAAOC,GAAOU,EAAMX,EAAOC,GAAOW,EAAMZ,EAAOC,GAAOY,EAAMb,EAAOC,GAAOa,EAAMd,EAAOC,GAAOc,EAAMf,EAAOC,GAAOe,EAAMhB,EAAOC,GAAOgB,EAAMjB,EAAOC,GAAOiB,EAAMlB,EAAOC,GAAOkB,EAAMnB,EAAOC,GAAOmB,EAAMpB,EAAOC,GAAOoB,EAAMrB,EAAOC,GAAOqB,EAAMtB,EAAOC,GAAOsB,EAAMvB,EAAOC,GAAOuB,EAAMxB,EAAOC,GAAOwB,EAAMzB,EAAOC,GAAOyB,EAAM1B,EAAOC,GAAO0B,EAAM3B,EAAOC,GAAO2B,EAAM5B,EAAOC,GAAO4B,EAAM7B,EAAOC,GAAO6B,EAAM9B,EAAOC,GAAO8B,EAAM/B,EAAOC,GAAO+B,EAAMhC,EAAOC,GAAOgC,EAAMjC,EAAOC,GAAOiC,EAAMlC,EAAOC,GAAOkC,EAAMnC,EAAOC,GAAOmC,EAAMpC,EAAOC,GAAOoC,EAAMrC,EAAOC,GAAOqC,EAAMtC,EAAOC,GAAOsC,EAAMvC,EAAOC,GAAOuC,EAAMxC,EAAOC,GAAOwC,EAAMzC,EAAOC,GAAOyC,EAAM1C,EAAOC,GAAO0C,EAAM3C,EAAOC,GAAO2C,EAAM5C,EAAOC,GAAO4C,EAAM7C,EAAOC,GAAO6C,EAAM9C,EAAOC,GAAO8C,EAAM/C,EAAOC,GAAO+C,EAAMhD,EAAOC,GAAOgD,EAAMjD,EAAOC,GAAOiD,EAAMlD,EAAOC,GAAOkD,EAAMnD,EAAOC,GAAOmD,EAAMpD,EAAOC,GAAOoD,EAAMrD,EAAOC,GAAOqD,EAAMtD,EAAOC,GAAOsD,EAAMvD,EAAOC,GAAOuD,EAAMxD,EAAOC,GAAOwD,EAAMzD,EAAOC,GAAOyD,EAAM1D,EAAOC,GAAO0D,EAAM3D,EAAOC,GAAO2D,EAAM5D,EAAOC,GAAO4D,EAAM7D,EAAOC,GAAO6D,EAAM9D,EAAOC,GAAO8D,EAAM/D,EAAOC,GAAO+D,EAAMhE,EAAOC,GAAOgE,EAAMjE,EAAOC,GAAOiE,EAAMlE,EAAOC,GAAOkE,EAAMnE,EAAOC,GAAOmE,EAAMpE,EAAOC,GAAOoE,EAAMrE,EAAOC,GAAOqE,EAAMtE,EAAOC,GAAOsE,EAAMvE,EAAOC,GAAOuE,EAAMxE,EAAOC,GAAOwE,EAAMzE,EAAOC,GAAOyE,EAAM1E,EAAOC,GAAO0E,EAAM3E,EAAOC,GAAO2E,EAAM5E,EAAOC,GAAO4E,EAAM7E,EAAOC,GAAO6E,EAAM9E,EAAOC,GAAO8E,EAAM/E,EAAOC,GAAO+E,EAAMhF,EAAOC,GAAOgF,EAAMjF,EAAOC,GAAOiF,EAAMlF,EAAOC,GAAOkF,EAAMnF,EAAOC,GAAOmF,EAAMpF,EAAOC,GAAOoF,EAAMrF,EAAOC,GAAOqF,EAAMtF,EAAOC,GAAOsF,EAAMvF,EAAOC,GAAOuF,EAAMxF,EAAOC,GAAOwF,EAAMzF,EAAOC,GAAOyF,EAAM1F,EAAOC,GAAO0F,EAAM3F,EAAOC,GAAO2F,EAAM5F,EAAOC,GAAO4F,EAAM7F,EAAOC,GAAO6F,EAAM9F,EAAOC,GAAO8F,EAAM/F,EAAOC,GAAO+F,EAAMhG,EAAOC,GAAOgG,EAAMjG,EAAOC,GAAOiG,EAAMlG,EAAOC,GAAOkG,EAAMnG,EAAOC,GAAOmG,EAAMpG,EAAOC,GAAOoG,EAAMrG,EAAOC,GAAOqG,EAAMtG,EAAOC,GAAOsG,EAAMvG,EAAOC,GAAOuG,EAAMxG,EAAOC,GAAOwG,EAAMzG,EAAOC,GAAOyG,EAAM1G,EAAOC,GAAO0G,EAAM3G,EAAOC,GAAO2G,EAAM5G,EAAOC,GAAO4G,EAAM7G,EAAOC,GAAO6G,EAAM9G,EAAOC,GAAO8G,EAAM/G,EAAOC,GAAO+G,EAAMhH,EAAOC,GAAOgH,EAAMjH,EAAOC,GAAOiH,EAAMlH,EAAOC,GAAOkH,EAAMnH,EAAOC,GAAOmH,EAAMpH,EAAOC,GAAOoH,EAAMrH,EAAOC,GAAOqH,EAAMtH,EAAOC,GAAOsH,EAAMvH,EAAOC,GAAOuH,EAAMxH,EAAOC,GAAOwH,EAAMzH,EAAOC,GAAOyH,EAAM1H,EAAOC,GAAO0H,EAAM3H,EAAOC,GAAO2H,EAAM5H,EAAOC,GAAO4H,EAAM7H,EAAOC,GAAO6H,EAAM9H,EAAOC,GAAO8H,EAAM/H,EAAOC,GAAO+H,EAAMhI,EAAOC,GAAOgI,EAAMjI,EAAOC,GAAOiI,EAAMlI,EAAOC,GAAOkI,EAAMnI,EAAOC,GAAOmI,EAAMpI,EAAOC,GAAOoI,EAAMrI,EAAOC,GAAOqI,EAAMtI,EAAOC,GAAOsI,EAAMvI,EAAOC,GAAOuI,EAAMxI,EAAOC,GAAOwI,EAAMzI,EAAOC,GAAOyI,EAAM1I,EAAOC,GAAO0I,EAAM3I,EAAOC,GAAO2I,EAAM5I,EAAOC,GAAO4I,EAAM7I,EAAOC,GAAO6I,EAAM9I,EAAOC,GAAO8I,EAAM/I,EAAOC,GAAO+I,EAAMhJ,EAAOC,GAAOgJ,EAAMjJ,EAAOC,GAAOiJ,EAAMlJ,EAAOC,GAAOkJ,EAAMnJ,EAAOC,GAAOmJ,EAAMpJ,EAAOC,GAAOoJ,EAAMrJ,EAAOC,GAAOqJ,EAAMtJ,EAAOC,GAAOsJ,EAAMvJ,EAAOC,GAAOuJ,EAAMxJ,EAAOC,GAAOwJ,EAAMzJ,EAAOC,GAAOyJ,EAAM1J,EAAOC,GAAO0J,EAAM3J,EAAOC,GAAO2J,EAAM5J,EAAOC,GAAO4J,EAAM7J,EAAOC,GAAO6J,EAAM9J,EAAOC,GAAO8J,EAAM/J,EAAOC,GAAO+J,EAAMhK,EAAOC,GAAOgK,EAAMjK,EAAOC,GAAOiK,EAAMlK,EAAOC,GAAOkK,EAAMnK,EAAOC,GAAOmK,EAAMpK,EAAOC,GAAOoK,EAAMrK,EAAOC,GAAOqK,EAAMtK,EAAOC,GAAOsK,EAAMvK,EAAOC,GAAOuK,EAAMxK,EAAOC,GAAOwK,EAAMzK,EAAOC,GAAOyK,EAAM1K,EAAOC,GAAO0K,EAAM3K,EAAOC,GAAO2K,EAAM5K,EAAOC,GAAO4K,EAAM7K,EAAOC,GAAO6K,EAAM9K,EAAOC,GAAO8K,EAAM/K,EAAOC,GAAO+K,EAAMhL,EAAOC,GAAOgL,EAAMjL,EAAOC,GAAOiL,EAAMlL,EAAOC,GAAOkL,EAAMnL,EAAOC,GAAOmL,EAAMpL,EAAOC,GAAOoL,EAAMrL,EAAOC,GAAOqL,EAAMtL,EAAOC,GAAOsL,EAAMvL,EAAOC,GAAOuL,EAAMxL,EAAOC,GAAOwL,EAAMzL,EAAOC,GAAOyL,EAAM1L,EAAOC,GAAO0L,EAAM3L,EAAOC,GAAO2L,EAAM5L,EAAOC,GAAO4L,EAAM7L,EAAOC,GAAO6L,EAAM9L,EAAOC,GAAO8L,EAAM/L,EAAOC,GAAO+L,EAAMhM,EAAOC,GAAOgM,EAAMjM,EAAOC,GAAOiM,EAAMlM,EAAOC,GAAOkM,EAAMnM,EAAOC,GAAOmM,EAAMpM,EAAOC,GAAOoM,EAAMrM,EAAOC,GAAOqM,EAAMtM,EAAOC,GAAOsM,EAAMvM,EAAOC,GAAOuM,EAAMxM,EAAOC,GAAOwM,EAAMzM,EAAOC,GAAOyM,EAAM1M,EAAOC,GAAO0M,EAAM3M,EAAOC,GAAO2M,EAAM5M,EAAOC,GAAO4M,EAAM7M,EAAOC,GAAO6M,EAAM9M,EAAOC,GAAO8M,EAAM/M,EAAOC,GAAO+M,EAAMhN,EAAOC,GAAOgN,EAAMjN,EAAOC,GAAOiN,EAAMlN,EAAOC,GAAOkN,EAAMnN,EAAOC,GAAOmN,EAAMpN,EAAOC,GAAOoN,EAAMrN,EAAOC,GAAOqN,EAAMtN,EAAOC,GAAOsN,EAAMvN,EAAOC,GAAOuN,EAAMxN,EAAOC,GAAOwN,EAAMzN,EAAOC,GAAOyN,EAAM1N,EAAOC,GAAO0N,EAAM3N,EAAOC,GAAO2N,EAAM5N,EAAOC,GAAO4N,EAAM7N,EAAOC,GAAO6N,EAAM9N,EAAOC,GAAO8N,EAAM/N,EAAOC,GAAO+N,EAAMhO,EAAOC,GAAOgO,EAAMjO,EAAOC,GAAOiO,EAAMlO,EAAOC,GAAOkO,EAAMnO,EAAOC,GAAOmO,EAAMpO,EAAOC,GAAOoO,EAAMrO,EAAOC,GAAOqO,EAAMtO,EAAOC,GAAOsO,EAAMvO,EAAOC,GAAOuO,EAAMxO,EAAOC,GAAOwO,EAAMzO,EAAOC,GAAOyO,EAAM1O,EAAOC,GAAO0O,EAAM3O,EAAOC,GAAO2O,EAAM5O,EAAOC,GAAO4O,EAAM7O,EAAOC,GAAO6O,EAAM9O,EAAOC,GAAO8O,EAAM/O,EAAOC,GAAO+O,EAAMhP,EAAOC,GAAOgP,EAAMjP,EAAOC,GAAOiP,EAAMlP,EAAOC,GAAOkP,EAAMnP,EAAOC,GAAOmP,EAAMpP,EAAOC,GAAOoP,EAAMrP,EAAOC,GAAOqP,EAAMtP,EAAOC,GAAOsP,EAAMvP,EAAOC,GAAOuP,EAAMxP,EAAOC,GAAOwP,EAAMzP,EAAOC,GAAOyP,EAAM1P,EAAOC,GAAO0P,EAAM3P,EAAOC,GAAO2P,EAAM5P,EAAOC,GAAO4P,EAAM7P,EAAOC,GAAO6P,EAAM9P,EAAOC,GAAO8P,EAAM/P,EAAOC,GAAO+P,EAAMhQ,EAAOC,GAAOgQ,EAAMjQ,EAAOC,GAAOiQ,EAAMlQ,EAAOC,GAAOkQ,EAAMnQ,EAAOC,GAAOmQ,EAAMpQ,EAAOC,GAAOoQ,EAAMrQ,EAAOC,GAAOqQ,EAAMtQ,EAAOC,GAAOsQ,EAAMvQ,EAAOC,GAAOuQ,EAAMxQ,EAAOC,GAAOwQ,EAAMzQ,EAAOC,GAAOyQ,EAAM1Q,EAAOC,GAAO0Q,EAAM3Q,EAAOC,GAAO2Q,EAAM5Q,EAAOC,GAAO4Q,EAAM7Q,EAAOC,GAAO6Q,EAAM9Q,EAAOC,GAAO8Q,EAAM/Q,EAAOC,GAAO+Q,EAAMhR,EAAOC,GAAOgR,EAAMjR,EAAOC,GAAOiR,EAAMlR,EAAOC,GAAOkR,EAAMnR,EAAOC,GAAOmR,EAAMpR,EAAOC,GAAOoR,EAAMrR,EAAOC,GAAOqR,EAAMtR,EAAOC,GAAOsR,EAAMvR,EAAOC,GAAOuR,EAAMxR,EAAOC,GAAOwR,EAAMzR,EAAOC,GAAOyR,EAAM1R,EAAOC,GAAO0R,EAAM3R,EAAOC,GAAO2R,EAAM5R,EAAOC,GAAO4R,EAAM7R,EAAOC,GAAO6R,EAAM9R,EAAOC,GAAO8R,EAAM/R,EAAOC,GAAO+R,EAAMhS,EAAOC,GAAOgS,EAAMjS,EAAOC,GAAOiS,EAAMlS,EAAOC,GAAOkS,EAAMnS,EAAOC,GAAOmS,EAAMpS,EAAOC,GAAOoS,EAAMrS,EAAOC,GAAOqS,EAAMtS,EAAOC,GAAOsS,EAAMvS,EAAOC,GAAOuS,EAAMxS,EAAOC,GAAOwS,EAAMzS,EAAOC,GAAOyS,EAAM1S,EAAOC,GAAO0S,EAAM3S,EAAOC,GAAO2S,EAAM5S,EAAOC,GAAO4S,EAAM7S,EAAOC,GAAO6S,EAAM9S,EAAOC,GAAO8S,EAAM/S,EAAOC,GAAO+S,EAAMhT,EAAOC,GAAOgT,EAAMjT,EAAOC,GAAOiT,EAAMlT,EAAOC,GAAOkT,EAAMnT,EAAOC,GAAOmT,EAAMpT,EAAOC,GAAOoT,EAAMrT,EAAOC,GAAOqT,EAAMtT,EAAOC,GAAOsT,EAAMvT,EAAOC,GAAOuT,EAAMxT,EAAOC,GAAOwT,EAAMzT,EAAOC,GAAOyT,EAAM1T,EAAOC,GAAO0T,EAAM3T,EAAOC,GAAO2T,EAAM5T,EAAOC,GAAO4T,EAAM7T,EAAOC,GAAO6T,EAAM9T,EAAOC,GAAO8T,EAAM/T,EAAOC,GAAO+T,EAAMhU,EAAOC,GAAOgU,EAAMjU,EAAOC,GAAOiU,EAAMlU,EAAOC,GAAOkU,EAAMnU,EAAOC,GAAOmU,EAAMpU,EAAOC,GAAOoU,EAAMrU,EAAOC,GAAOqU,EAAMtU,EAAOC,GAAOsU,EAAMvU,EAAOC,GAAOuU,EAAMxU,EAAOC,GAAOwU,EAAMzU,EAAOC,GAAOyU,EAAM1U,EAAOC,GAAO0U,EAAM3U,EAAOC,GAAO2U,EAAM5U,EAAOC,GAAO4U,EAAM7U,EAAOC,GAAO6U,EAAM9U,EAAOC,GAAO8U,EAAM/U,EAAOC,GAAO+U,EAAMhV,EAAOC,GAAOgV,EAAMjV,EAAOC,GAAOiV,EAAMlV,EAAOC,GAAOkV,EAAMnV,EAAOC,GAAOmV,EAAMpV,EAAOC,GAAOoV,EAAMrV,EAAOC,GAAOqV,EAAMtV,EAAOC,GAAOsV,EAAMvV,EAAOC,GAAOuV,EAAMxV,EAAOC,GAAOwV,EAAMzV,EAAOC,GAAOyV,EAAM1V,EAAOC,GAAO0V,EAAM3V,EAAOC,GAAO2V,EAAM5V,EAAOC,GAAO4V,EAAM7V,EAAOC,GAAO6V,EAAM9V,EAAOC,GAAO8V,EAAM/V,EAAOC,GAAO+V,EAAMhW,EAAOC,GAAOgW,EAAMjW,EAAOC,GAAOiW,EAAMlW,EAAOC,GAAOkW,EAAMnW,EAAOC,GAAOmW,EAAMpW,EAAOC,GAAOoW,EAAMrW,EAAOC,GAAOqW,EAAMtW,EAAOC,GAAOsW,EAAMvW,EAAOC,GAAOuW,EAAMxW,EAAOC,GAAOwW,EAAMzW,EAAOC,GAAOyW,EAAM1W,EAAOC,GAAO0W,EAAM3W,EAAOC,GAAO2W,EAAM5W,EAAOC,GAAO4W,EAAM7W,EAAOC,GAAO6W,EAAM9W,EAAOC,GAAO8W,EAAM/W,EAAOC,GAAO+W,EAAMhX,EAAOC,GAAOgX,EAAMjX,EAAOC,GAAOiX,EAAMlX,EAAOC,GAAOkX,EAAMnX,EAAOC,GAAOmX,EAAMpX,EAAOC,GAAOoX,EAAMrX,EAAOC,GAAOqX,EAAMtX,EAAOC,GAAOsX,EAAMvX,EAAOC,GAAOuX,EAAMxX,EAAOC,GAAOwX,EAAMzX,EAAOC,GAAOyX,EAAM1X,EAAOC,GAAO0X,EAAM3X,EAAOC,GAAO2X,EAAM5X,EAAOC,GAAO4X,EAAM7X,EAAOC,GAAO6X,EAAM9X,EAAOC,GAAO8X,EAAM/X,EAAOC,GAAO+X,EAAMhY,EAAOC,GAAOgY,EAAMjY,EAAOC,GAAOiY,EAAMlY,EAAOC,GAAOkY,EAAMnY,EAAOC,GAAOmY,EAAMpY,EAAOC,GAAOoY,EAAMrY,EAAOC,GAAOqY,EAAMtY,EAAOC,GAAOsY,EAAMvY,EAAOC,GAAOuY,EAAMxY,EAAOC,GAAOwY,EAAMzY,EAAOC,GAAOyY,EAAM1Y,EAAOC,GAAO0Y,EAAM3Y,EAAOC,GAAO2Y,EAAM5Y,EAAOC,GAAO4Y,EAAM7Y,EAAOC,GAAO6Y,EAAM9Y,EAAOC,GAAO8Y,EAAM/Y,EAAOC,GAAO+Y,EAAMhZ,EAAOC,GAAOgZ,EAAMjZ,EAAOC,GAAOiZ,EAAMlZ,EAAOC,GAAOkZ,EAAMnZ,EAAOC,GAAOmZ,EAAMpZ,EAAOC,GAAOoZ,EAAMrZ,EAAOC,GAAOqZ,EAAMtZ,EAAOC,GAAOsZ,EAAMvZ,EAAOC,GAAOuZ,EAAMxZ,EAAOC,GAAOwZ,EAAMzZ,EAAOC,GAAOyZ,EAAM1Z,EAAOC,GAAO0Z,EAAM3Z,EAAOC,GAAO2Z,EAAM5Z,EAAOC,GAAO4Z,EAAM7Z,EAAOC,GAAO6Z,EAAM9Z,EAAOC,GAAO8Z,EAAM/Z,EAAOC,GAAO+Z,EAAMha,EAAOC,GAAOga,EAAMja,EAAOC,GAAOia,EAAMla,EAAOC,GAAOka,EAAMna,EAAOC,GAAOma,EAAMpa,EAAOC,GAAOoa,EAAMra,EAAOC,GAAOqa,EAAMta,EAAOC,GAAOsa,EAAMva,EAAOC,GAAOua,EAAMxa,EAAOC,GAAOwa,EAAMza,EAAOC,GAAOya,EAAM1a,EAAOC,GAAO0a,EAAM3a,EAAOC,GAAO2a,EAAM5a,EAAOC,GAAO4a,EAAM7a,EAAOC,GAAO6a,EAAM9a,EAAOC,GAAO8a,EAAM/a,EAAOC,GAAO+a,EAAMhb,EAAOC,GAAOgb,EAAMjb,EAAOC,GAAOib,EAAMlb,EAAOC,GAAOkb,EAAMnb,EAAOC,GAAOmb,EAAMpb,EAAOC,GAAOob,EAAMrb,EAAOC,GAAOqb,EAAMtb,EAAOC,GAAOsb,EAAMvb,EAAOC,GAAOub,EAAMxb,EAAOC,GAAOwb,EAAMzb,EAAOC,GAAOyb,EAAM1b,EAAOC,GAAO0b,EAAM3b,EAAOC,GAAO2b,EAAM5b,EAAOC,GAAO4b,EAAM7b,EAAOC,GAAO6b,EAAM9b,EAAOC,GAAO8b,EAAM/b,EAAOC,GAAO+b,EAAMhc,EAAOC,GAAOgc,EAAMjc,EAAOC,GAAOic,EAAMlc,EAAOC,GAAOkc,EAAMnc,EAAOC,GAAOmc,EAAMpc,EAAOC,GAAOoc,EAAMrc,EAAOC,GAAOqc,EAAMtc,EAAOC,GAAOsc,EAAMvc,EAAOC,GAAOuc,EAAMxc,EAAOC,GAAOwc,EAAMzc,EAAOC,GAAOyc,EAAM1c,EAAOC,GAAO0c,EAAM3c,EAAOC,GAAO2c,EAAM5c,EAAOC,GAAO4c,EAAM7c,EAAOC,GAAO6c,EAAM9c,EAAOC,GAAO8c,EAAM/c,EAAOC,GAAO+c,EAAMhd,EAAOC,GAAOgd,EAAMjd,EAAOC,GAAOid,EAAMld,EAAOC,GAAOkd,EAAMnd,EAAOC,GAAOmd,EAAMpd,EAAOC,GAAOod,EAAMrd,EAAOC,GAAOqd,EAAMtd,EAAOC,GAAOsd,EAAMvd,EAAOC,GAAOud,EAAMxd,EAAOC,GAAOwd,EAAMzd,EAAOC,GAAOyd,EAAM1d,EAAOC,GAAO0d,EAAM3d,EAAOC,GAAO2d,EAAM5d,EAAOC,GAAO4d,EAAM7d,EAAOC,GAAO6d,EAAM9d,EAAOC,GAAO8d,EAAM/d,EAAOC,GAAO+d,EAAMhe,EAAOC,GAAOge,EAAMje,EAAOC,GAAOie,EAAMle,EAAOC,GAAOke,EAAMne,EAAOC,GAAOme,EAAMpe,EAAOC,GAAOoe,EAAMre,EAAOC,GAAOqe,EAAMte,EAAOC,GAAOse,EAAMve,EAAOC,GAAOue,EAAMxe,EAAOC,GAAOwe,EAAMze,EAAOC,GAAOye,EAAM1e,EAAOC,GAAO0e,EAAM3e,EAAOC,GAAO2e,EAAM5e,EAAOC,GAAO4e,EAAM7e,EAAOC,GAAO6e,EAAM9e,EAAOC,GAAO8e,EAAM/e,EAAOC,GAAO+e,EAAMhf,EAAOC,GAAOgf,EAAMjf,EAAOC,GAAOif,EAAMlf,EAAOC,GAAOkf,EAAMnf,EAAOC,GAAOmf,EAAMpf,EAAOC,GAAOof,EAAMrf,EAAOC,GAAOqf,EAAMtf,EAAOC,GAAOsf,EAAMvf,EAAOC,GAAOuf,EAAMxf,EAAOC,GAAOwf,EAAMzf,EAAOC,GAAOyf,EAAM1f,EAAOC,GAAO0f,EAAM3f,EAAOC,GAAO2f,EAAM5f,EAAOC,GAAO4f,EAAM7f,EAAOC,GAAO6f,EAAM9f,EAAOC,GAAO8f,EAAM/f,EAAOC,GAAO+f,EAAMhg,EAAOC,GAAOgg,EAAMjg,EAAOC,GAAOig,EAAMlg,EAAOC,GAAOkg,EAAMng,EAAOC,GAAOmg,EAAMpg,EAAOC,GAAOog,EAAMrg,EAAOC,GAAOqg,EAAMtg,EAAOC,GAAOsg,EAAMvg,EAAOC,GAAOug,EAAMxg,EAAOC,GAAOwg,EAAMzg,EAAOC,GAAOyg,EAAM1g,EAAOC,GAAO0g,EAAM3g,EAAOC,GAAO2g,EAAM5g,EAAOC,GAAO4g,EAAM7g,EAAOC,GAAO6g,EAAM9g,EAAOC,GAAO8g,EAAM/g,EAAOC,GAAO+g,EAAMhh,EAAOC,GAAOghh,EAAMjh,EAAOC,GAAOih,EAAMlh,EAAOC,GAAOkh,EAAMnh,EAAOC,GAAOmh,EAAMph,EAAOC,GAAOoh,EAAMrh,EAAOC,GAAOqh,EAAMth,EAAOC,GAAOsh,EAAMvh,EAAOC,GAAOuh,EAAMxh,EAAOC,GAAOwh,EAAMzh,EAAOC,GAAOyh,EAAM1h,EAAOC,GAAO0h,EAAM3h,EAAOC,GAAO2h,EAAM5h,EAAOC,GAAO4h,EAAM7h,EAAOC,GAAO6h,EAAM9h,EAAOC,GAAO8h,EAAM/h,EAAOC,GAAO+h,EAAMhi,EAAOC,GAAOgi,EAAMji,EAAOC,GAAOii,EAAMli,EAAOC,GAAOki,EAAMni,EAAOC,GAAOmi,EAAMpi,EAAOC,GAAOoi,EAAMri,EAAOC,GAAOqi,EAAMti,EAAOC,GAAOsi,EAAMvi,EAAOC,GAAOui,EAAMxi,EAAOC,GAAOwi,EAAMzi,EAAOC,GAAOyi,EAAM1i,EAAOC,GAAO0i,EAAM3i,EAAOC,GAAO2i,EAAM5i,EAAOC,GAAO4i,EAAM7i,EAAOC,GAAO6i,EAAM9i,EAAOC,GAAO8i,EAAM/i,EAAOC,GAAO+i,EAAMhj,EAAOC,GAAOgj,EAAMjj,EAAOC,GAAOij,EAAMlj,EAAOC,GAAOkj,EAAMnj,EAAOC,GAAOmj,EAAMpj,EAAOC,GAAOoj,EAAMrj,EAAOC,GAAOqj,EAAMtj,EAAOC,GAAOsj,EAAMvj,EAAOC,GAAOuj,EAAMxj,EAAOC,GAAOwj,EAAMzj,EAAOC,GAAOyj,EAAM1j,EAAOC,GAAO0j,EAAM3j,EAAOC,GAAO2j,EAAM5j,EAAOC,GAAO4j,EAAM7j,EAAOC,GAAO6j,EAAM9j,EAAOC,GAAO8j,EAAM/j,EAAOC,GAAO+j,EAAMhk,EAAOC,GAAOgk,EAAMjk,EAAOC,GAAOik,EAAMlk,EAAOC,GAAOkk,EAAMnk,EAAOC,GAAOmk,EAAMpk,EAAOC,GAAOokk,EAAMrk,EAAOC,GAAOqk,EAAMtk,EAAOC,GAAOsk,EAAMvk,EAAOC,GAAOuk,EAAMxk,EAAOC,GAAOwk,EAAMzk,EAAOC,GAAOyk,EAAM1k,EAAOC,GAAO0k,EAAM3k,EAAOC,GAAO2k,EAAM5k,EAAOC,GAAO4k,EAAM7k,EAAOC,GAAO6k,EAAM9k,EAAOC,GAAO8k,EAAM/k,EAAOC,GAAO+k,EAAMhl,EAAOC,GAAOgl,EAAMjl,EAAOC,GAAOil,EAAMll,EAAOC,GAAOkl,EAAMnl,EAAOC,GAAOml,EAAMpl,EAAOC,GAAOol,EAAMrl,EAAOC,GAAOql,EAAMtl,EAAOC,GAAOsl,EAAMvl,EAAOC,GAAOul,EAAMxl,EAAOC,GAAOwl,EAAMzl,EAAOC,GAAOyl,EAAM1l,EAAOC,GAAO0l,EAAM3l,EAAOC,GAAO2l,EAAM5l,EAAOC,GAAO4l,EAAM7l,EAAOC,GAAO6l,EAAM9l,EAAOC,GAAO8l,EAAM/l,EAAOC,GAAO+l,EAAMhm,EAAOC,GAAOgm,EAAMjm,EAAOC,GAAOim,EAAMlm,EAAOC,GAAOkm,EAAMnm,EAAOC,GAAOmm,EAAMpm,EAAOC,GAAOom,EAAMrm,EAAOC,GAAOqm,EAAMtm,EAAOC,GAAOsm,EAAMvm,EAAOC,GAAOum,EAAMxm,EAAOC,GAAOwm,EAAMzm,EAAOC,GAAOym,EAAM1m,EAAOC,GAAO0m,EAAM3m,EAAOC,GAAO2m,EAAM5m,EAAOC,GAAO4m,EAAM7m,EAAOC,GAAO6m,EAAM9m,EAAOC,GAAO8m,EAAM/m,EAAOC,GAAO+m,EAAMhn,EAAOC,GAAOgn,EAAMjn,EAAOC,GAAOin,EAAMlnEAAOC,GAAOknEAAMnnEAAOC,GAAOmnEAAMpnEAAOC,GAAOonEAAMrnEAAOC,GAAOqnEAAMtnEAAOC,GAAOsnEAAMvnEAAOC,GAAOunEAAMxnEAAOC,GAAOwnEAAMznEAAOC,GAAOynEAAM1nEAAOC,GAAO0nEAAM3nEAAOC,GAAO2nEAAM5nEAAOC,GAAO4nEAAM7nEAAOC,GAAO6nEAAM9nEAAOC,GAAO8nEAAM/nEAAOC,GAAO+nEAAMhoEAAOC,GAAOgoEAAMjoEAAOC,GAAOioEAAMloEAAOC,GAAOkoEAAMnoEAAOC,GAAOmoEAAMpoEAAOC,GAAOooEAAMroEAAOC,GAAOqoEAAMtoEAAOC,GAAOsoEAAMvoEAAOC,GAAOuoEAAMxoEAAOC,GAAOwoEAAMzoEAAOC,GAAOyoEAAM1oEAAOC,GAAO0oEAAM3oEAAOC,GAAO2oEAAM5oEAAOC,GAAO4oEAAM7oEAAOC,GAAO6oEAAM9oEAAOC,GAAO8oEAAM/oEAAOC,GAAO+oEAAMhpEAAOC,GAAOgpEAAMjpEAAOC,GAAOipEAAMlpEAAOC,GAAOkpEAAMnpEAAOC,GAAOmpEAAMppEAAOC,GAAOopEAAMrpEAAOC,GAAOqpEAAMtpEAAOC,GAAOspEAAMvpEAAOC,GAAOupEAAMxpEAAOC,GAAOwpEAAMzpEAAOC,GAAOypEAAM1pEAAOC,GAAO0pEAAM3pEAAOC,GAAO2pEAAM5pEAAOC,GAAO4pEAAM7pEAAOC,GAAO6pEAAM9pEAAOC,GAAO8pEAAM/pEAAOC,GAAO+pEAAMhqEAAOC,GAAOgqEAAMjqEAAOC,GAAOiqEAAMlqEAAOC,GAAOkqEAAMnqEAAOC,GAAOmqEAAMpqEAAOC,GAAOoqEAAMrqEAAOC,GAAOqqEAAMtqEAAOC,GAAOsqEAAMvqEAAOC,GAAOuqEAAMxqEAAOC,GAAOwqEAAMzqEAAOC,GAAOyqEAAM1qEAAOC,GAAO0qEAAM3qEAAOC,GAAO2qEAAM5qEAAOC,GAAO4qEAAM7qEAAOC,GAAO6qEAAM9qEAAOC,GAAO8qEAAM/qEAAOC,GAAO+qEAAMhrEAAOC,GAAOgrEAAMjrEAAOC,GAAOirEAAMlrEAAOC,GAAOkrEAAMnrEAAOC,GAAOmrEAAMprEAAOC,GAAOorEAAMrrEAAOC,GAAOqrEAAMtrEAAOC,GAAOsrEAAMvrEAAOC,GAAOurEAAMxrEAAOC,GAAOwrEAAMzrEAAOC,GAAOyrEAAM1rEAAOC,GAAO0rEAAM3rEAAOC,GAAO2rEAAM5rEAAOC,GAAO4rEAAM7rEAAOC,GAAO6rEAAM9rEAAOC,GAAO8rEAAM/rEAAOC,GAAO+rEAAMhsEAAOC,GAAOgsEAAMjsEAAOC,GAAOisEAAMlsEAAOC,GAAOksEAAMnsEAAOC,GAAOmsEAAMpsEAAOC,GAAOosEAAMrsEAAOC,GAAOqsEAAMtsEAAOC,GAAOssEAAMvsEAAOC,GAAOusEAAMxsEAAOC,GAAOwsEAAMzsEAAOC,GAAOysEAAM1sEAAOC,GAAO0sEAAM3sEAAOC,GAAO2sEAAM5sEAAOC,GAAO4sEAAM7sEAAOC,GAAO6sEAAM9sEAAOC,GAAO8sEAAM/sEAAOC,GAAO+sEAAMhtEAAOC,GAAOgtEAAMjtEAAOC,GAAOitEAAMltEAAOC,GAAOktEAAMntEAAOC,GAAOmtEAAMptEAAOC,GAAOotEAAMrtEAAOC,GAAOqtEAAMttEAAOC,GAAOstEAAMvtEAAOC,GAAOutEAAMxtEAAOC,GAAOwtEAAMztEAAOC,GAAOytEAAM1tEAAOC,GAAO0tEAAM3tEAAOC,GAAO2tEAAM5tEAAOC,GAAO4tEAAM7tEAAOC,GAAO6tEAAM9tEAAOC,GAAO8tEAAM/tEAAOC,GAAO+tEAAMhuEAAOC,GAAOguEAAMjuEAAOC,GAAOiuEAAMluEAAOC,GAAOkuEAAMnuEAAOC,GA

AAYzJ,OAAO2iB,OAAO3iB,OAAO2Q,OAAO,GAAI/Q,KAAKsP,QAAQ/G,cAAevI,KAAKsP,QAAQlG,SAAU2a,GAAQngB,GAAQsL,EAAQtL,EAAMuM,UAAWvM,EAAOogB,GAAsBF,GAAAaG,GAAkBH,GAAcrH,EAAiBlb,OAAQ2iB,GAAWtgB,IAEzT,IAAIyZ,EAuBZ,SAASH,EAAetZ,GACpB,OAAIA,EAAMgF,SACCC,EAAMjF,EAAMgF,UAAYC,EAAMjF,EAAMuZ,QAAUvZ,EAAMuZ,OAAOvU,OAAS,EAExEhF,EAAMuZ,QAAUvZ,EAAMuZ,OAAOvU,OAAS,EAAIhF,EAAMuZ,OAAO,GAAKvZ,EAAMwZ,KAAOxZ,EAAMwZ,KAAKxU,OAAS,EAAIhF,EAAMwZ,KAAK,GAAK,EAAI

AK7M,aAEhCihB,EA9BgC,GAgCvCG,GAA2C,SAAU7iB,GAErD,SAAS6iB,IACL,OAAkB,OAAX7iB,GAAmB
A,EAAO6E,MAAMrH,KAAMoC,YAAcpC,KAE/D,OAJAU,EAAU2kB,EAA2B7iB,GAI9B6iB,EALmC,CAM5C
H,IAcEI,GAAS,IAAIzlB,EAAK0lB,eAAe,UACjCC,GAAoC,WACpC,SASA,EAAmBC,EAAQC,EAAUC,EAAq
BC,GAC/D5lB,KAAKylB,OAASA,EACdzlB,KAAK0lB,SAAWA,EAChB1lB,KAAK2lB,oBAAsBA,EAC3B3lB,
KAAK4lB,kBAAoBA,EAgC7B,OA9BAJ,EAAmB3kB,UAAUic,KAAO,SAAU+I,EAAgBjiB,GAC1D,IAAIf,EAA
Q7C,KAKZ,OAJIA,KAAK2lB,qBACL3lB,KAAK2lB,oBAAoB/hB,GAER5D,KAAK8lB,kBliB,EAAmgV,c
AC5BpI,KAAKzQ,EAAUyH,KAAI,SAAUrI,GAC3C0D,EAAM+iB,mBACN/iB,EAAM+iB,kBAAkBhiB,GAE5B,
IAAIvE,EAASF,EAAQ2B,OAAO+kB,GAC5B,OAAO,IAAI1O,GAAmBhQ,EAAQ9H,EAAO0d,SASlY,IAAIyg
B,KAAS9d,IAAImR,IAAoBtZ,QAGnGmmB,EAAmB3kB,UAAUilB,kBAAoB,SAAUlN,GACvD,IAAI/V,EAAS,
C,KACZ,MAA4B,iBAAjB4Y,EACA9Y,EAAKgI,KAAK9H,KAAKylB,OAAO3I,KAAKlE,IAG3BjR,EAAmBiR,
KAAgBpI,KAAKzQ,EAAUuc,UAAS,SAAUzO,GACxE,OAAIA,aAAhO,EAAKkmB,gBACXjmB,EAAmBmI,GA
AG4F,GAGR/N,EAAKgI,KAAKjF,EAAM6iB,SAASM,mBAAmBnY,SAK5D2X,EArC4B,GAAoDnCS,GACA,SA
ASA,KACLjmB,KAAKkP,OAAS,KACdlP,KAAK4D,MAAQ,KAAK5D,KAAKiX,SAAW,KAAK4O,BjX,KAAK4I,SA
AW,IAAIsd,GACpBlmB,KAAKyW,UAAY,MASrByP,GAAwC,WACxC,SASA,IAELlmB,KAAKgV,IAAIG,IA0CxB,OAvCA+K,EAAuBrlB,UAAUslB,qBAAuB,SAAU/K/Q,EAAAuB,KAAKgV,IAAIG,IAAIsd,GAAW,SAAU
KoW,mBAAmBhB,GACtCI,EAAQtG,OAASA,EACjBlP,KAAKgV,IAAIG,IAAIsd,GAAW,SAAUK

,KAAK4pB,qBAkqBT,OAhqBA5C,EAAOnmB,UAAU8oB,iBAAmB,SAAUZ,GAC1C,IAAIlmB,EAAQ7C,KACR6pB,EAAgB7pB,KAAKwnB,OACzB,OAAOuB,EAAYvY,KAAKzQ,EAAUoO,QAAO,SAAUN,GAAK,IAATA,EAAEpL,MAEjE1C,EAAUyH,KAAI,SAAUqG,GAAK,GAAKA,EAAEqzN,OAAO2Q,OAAO3Q,OAAO2Q,OAAO,GAAIlD,GAAI,CAAEob,aAAcpmB,EAAAMolB,oBAAoBzB,QAAQ3Y,EAAEqb,aAE7HnpB,EAAU2X,WAAU,SAAUC,GAAK,OAAOA,EAAEpL,MAAQ1C,EAAU0C,KAAOoL,EAAEmb,aAAenb,EAAEob,aAAepb,EAAEqb,aAAerb,EAAEsb,aAAetb,EAAEub,aAAevb,EAAEwb,aAAexb,EAAEyb,aAAezb,EAAE0b,aAAe1b,EAAE2b,aAAe3b,EAAE4b,aAAe5b,EAAE6b,aAAe7b,EAAE8b,aAAe9b,EAAE+b,aAAe/b,EAAEgc,aAAehc,EAAEic,aAAejc,EAAEkc,aAAelc,EAAEmc,aAAenc,EAAEoc,aAAepc,EAAEqc,aAAerc,EAAEsc,aAAetc,EAAEuc,aAAevc,EAAEwc,aAAexc,EAAEyc,aAAezc,EAAE0c,aAAe1c,EAAE2c,aAAe3c,EAAE4c,aAAe5c,EAAE6c,aAAe7c,EAAE8c,aAAe9c,EAAE+c,aAAe/c,EAAEgd,aAAehd,EAAEid,aAAejd,EAAEkd,aAAeld,EAAEmd,aAAend,EAAEod,aAAepd,EAAEqd,aAAerd,EAAEsd,aAAetd,EAAEud,aAAevd,EAAEwd,aAAexd,EAAEyd,aAAezd,EAAE0d,aAAe1d,EAAE2d,aAAe3d,EAAE4d,aAAe5d,EAAE6d,aAAe7d,EAAE8d,aAAe9d,EAAE+d,aAAe/d,EAAEge,aAAehe,EAAEie,aAAeje,EAAEke,aAAele,EAAEme,aAAene,EAAEoe,aAAepe,EAAEqe,aAAere,EAAEse,aAAete,EAAEue,aAAeve,EAAEwe,aAAexe,EAAEye,aAAeze,EAAE0e,aAAe1e,EAAE2e,aAAe3e,EAAE4e,aAAe5e,EAAE6e,aAAe7e,EAAE8e,aAAe9e,EAAE+e,aAAe/e,EAAEgf,aAAehf,EAAEif,aAAejf,EAAEkf,aAAelf,EAAEmf,aAAenf,EAAEof,aAAepf,EAAEqf,aAAerf,EAAEsf,aAAetf,EAAEuf,aAAevf,EAAEwf,aAAexf,EAAEyf,aAAezf,EAAE0f,aAAe1f,EAAE2f,aAAe3f,EAAE4f,aAAe5f,EAAE6f,aAAe7f,EAAE8f,aAAe9f,EAAE+f,aAAe/f,EAAEggb,aAAehgb,EAAEigb,aAAejgb,EAAEkgb,aAAelgb,EAAEmgb,aAAengb,EAAEogb,aAAepgb,EAAEqgb,aAAergb,EAAEsgb,aAAetgb,EAAEugb,aAAevgb,EAAEwgb,aAAexgb,EAAEygb,aAAezgb,EAAE0gb,aAAe1gb,EAAE2gb,aAAe3gb,EAAE4gb,aAAe5gb,EAAE6gb,aAAe7gb,EAAE8gb,aAAe9gb,EAAE+gb,aAAe/gb,EAAEghb,aAAehhb,EAAEihb,aAAejhb,EAAEkhb,aAAelhb,EAAEmhb,aAAenhb,EAAEohb,aAAephb,EAAEqhb,aAAerhb,EAAEshb,aAAethb,EAAEuhb,aAAevhb,EAAEwhb,aAAexhb,EAAEyhb,aAAezhb,EAAE0hb,aAAe1hb,EAAE2hb,aAAe3hb,EAAE4hb,aAAe5hb,EAAE6hb,aAAe7hb,EAAE8hb,aAAe9hb,EAAE+hb,aAAe/hb,EAAEgib,aAAehib,EAAEiib,aAAejib,EAAEkib,aAAelib,EAAEmib,aAAenib,EAAEoib,aAAepib,EAAEqib,aAAerib,EAAEsib,aAAetib,EAAEuib,aAAevib,EAAEwib,aAAexib,EAAEyib,aAAezib,EAAE0ib,aAAe1ib,EAAE2ib,aAAe3ib,EAAE4ib,aAAe5ib,EAAE6ib,aAAe7ib,EAAE8ib,aAAe9ib,EAAE+ib,aAAe/ib,EAAEgjb,aAAehjb,EAAEijb,aAAejjb,EAAEkjb,aAAeljb,EAAEmjb,aAAenjb,EAAEojb,aAAepjb,EAAEqjb,aAAerjb,EAAEsjb,aAAetjb,EAAEujb,aAAevjb,EAAEwjb,aAAexjb,EAAEyjb,aAAezjb,EAAE0jb,aAAe1jb,EAAE2jb,aAAe3jb,EAAE4jb,aAAe5jb,EAAE6jb,aAAe7jb,EAAE8jb,aAAe9jb,EAAE+jb,aAAe/jb,EAAEgkb,aAAehkb,EAAEikb,aAAejkb,EAAEkkb,aAAelkb,EAAEmkb,aAAenkb,EAAEokb,aAAepkb,EAAEqkb,aAAerkb,EAAEskb,aAAetkb,EAAEukb,aAAevkb,EAAEwkb,aAAexkb,EAAEykb,aAAezkb,EAAE0kb,aAAe1kb,EAAE2kb,aAAe3kb,EAAE4kb,aAAe5kb,EAAE6kb,aAAe7kb,EAAE8kb,aAAe9kb,EAAE+kb,aAAe/kb,EAAEglb,aAAehlb,EAAEilb,aAAejlb,EAAEklb,aAAellb,EAAEmlb,aAAenlb,EAAEolb,aAAeplb,EAAEqlb,aAAerlb,EAAEslb,aAAetlb,EAAEulb,aAAevlb,EAAEwlb,aAAexlb,EAAEylb,aAAezlb,EAAE0lb,aAAe1lb,EAAE2lb,aAAe3lb,EAAE4lb,aAAe5lb,EAAE6lb,aAAe7lb,EAAE8lb,aAAe9lb,EAAE+lb,aAAe/lb,EAAEgmb,aAAehmb,EAAEimb,aAAejmb,EAAEkmb,aAAelmb,EAAEmmb,aAAenmb,EAAEomb,aAAepmb,EAAEqmb,aAAermb,EAAEsmb,aAAetmb,EAAEumb,aAAevmb,EAAEwmb,aAAexmb,EAAEymb,aAAezmb,EAAE0mb,aAAe1mb,EAAE2mb,aAAe3mb,EAAE4mb,aAAe5mb,EAAE6mb,aAAe7mb,EAAE8mb,aAAe9mb,EAAE+mb,aAAe/mb,EAAEgnb,aAAehnb,EAAEinb,aAAejnb,EAAEknb,aAAelnb,EAAEmnb,aAAennb,EAAEonb,aAAepnb,EAAEqnb,aAAernb,EAAEsnb,aAAetnb,EAAEunb,aAAevnb,EAAEwnb,aAAexnb,EAAEynb,aAAeznb,EAAE0nb,aAAe1nb,EAAE2nb,aAAe3nb,EAAE4nb,aAAe5nb,EAAE6nb,aAAe7nb,EAAE8nb,aAAe9nb,EAAE+nb,aAAe/nb,EAAEgob,aAAehob,EAAEiob,aAAejob,EAAEkob,aAAelob,EAAEmob,aAAenob,EAAEoob,aAAepob,EAAEqob,aAAerob,EAAEsob,aAAetob,EAAEuob,aAAevob,EAAEwob,aAAexob,EAAEyob,aAAezob,EAAE0ob,aAAe1ob,EAAE2ob,aAAe3ob,EAAE4ob,aAAe5ob,EAAE6ob,aAAe7ob,EAAE8ob,aAAe9ob,EAAE+ob,aAAe/ob,EAAEgpb,aAAehpb,EAAEipb,aAAejpb,EAAEkpb,aAAelpb,EAAEmpb,aAAenpb,EAAEopb,aAAeppb,EAAEqpb,aAAerpb,EAAEspb,aAAetpb,EAAEupb,aAAevpb,EAAEwpb,aAAexpb,EAAEypb,aAAezpb,EAAE0pb,aAAe1pb,EAAE2pb,aAAe3pb,EAAE4pb,aAAe5pb,EAAE6pb,aAAe7pb,EAAE8pb,aAAe9pb,EAAE+pb,aAAe/pb,EAAEgqb,aAAehqb,EAAEiqb,aAAejqb,EAAEkqb,aAAelqb,EAAEmqb,aAAenqb,EAAEoqb,aAAepqb,EAAEqqb,aAAerqb,EAAEsqb,aAAetqb,EAAEuqb,aAAevqb,EAAEwqb,aAAexqb,EAAEyqb,aAAezqb,EAAE0qb,aAAe1qb,EAAE2qb,aAAe3qb,EAAE4qb,aAAe5qb,EAAE6qb,aAAe7qb,EAAE8qb,aAAe9qb,EAAE+qb,aAAe/qb,EAAEgrb,aAAehrb,EAAEirb,aAAejrb,EAAEkrb,aAAelrb,EAAEmrb,aAAenrb,EAAEorb,aAAeprb,EAAEqrb,aAAerrb,EAAEsrb,aAAetrb,EAAEurb,aAAevrb,EAAEwrb,aAAexrb,EAAEyrb,aAAezrb,EAAE0rb,aAAe1rb,EAAE2rb,aAAe3rb,EAAE4rb,aAAe5rb,EAAE6rb,aAAe7rb,EAAE8rb,aAAe9rb,EAAE+rb,aAAe/rb,EAAEgsb,aAAehsb,EAAEisb,aAAejsb,EAAEksb,aAAelsb,EAAEmsb,aAAensb,EAAEosb,aAAepsb,EAAEqsb,aAAersb,EAAEssb,aAAetsb,EAAEusb,aAAevsb,EAAEwsb,aAAexsb,EAAEysb,aAAezsb,EAAE0sb,aAAe1sb,EAAE2sb,aAAe3sb,EAAE4sb,aAAe5sb,EAAE6sb,aAAe7sb,EAAE8sb,aAAe9sb,EAAE+sb,aAAe/sb,EAAEgtb,aAAehtb,EAAEitb,aAAejtb,EAAEktb,aAAeltb,EAAEmtb,aAAentb,EAAEotb,aAAeptb,EAAEqtb,aAAertb,EAAEstb,aAAettb,EAAEutb,aAAevtb,EAAEwtb,aAAextb,EAAEytb,aAAeztb,EAAE0tb,aAAe1tb,EAAE2tb,aAAe3tb,EAAE4tb,aAAe5tb,EAAE6tb,aAAe7tb,EAAE8tb,aAAe9tb,EAAE+tb,aAAe/tb,EAAEgub,aAAehub,EAAEiub,aAAejub,EAAEkub,aAAelub,EAAEmub,aAAenub,EAAEoub,aAAepub,EAAEqub,aAAerub,EAAEsub,aAAetub,EAAEuub,aAAevub,EAAEwub,aAAexub,EAAEyub,aAAezub,EAAE0ub,aAAe1ub,EAAE2ub,aAAe3ub,EAAE4ub,aAAe5ub,EAAE6ub,aAAe7ub,EAAE8ub,aAAe9ub,EAAE+ub,aAAe/ub,EAAEgvb,aAAehvb,EAAEivb,aAAejvb,EAAEkvb,aAAelvb,EAAEmvb,aAAenvb,EAAEovb,aAAepvb,EAAEqvb,aAAervb,EAAEsvb,aAAetvb,EAAEuvb,aAAevvb,EAAEwvb,aAAexvb,EAAEyvb,aAAezvb,EAAE0vb,aAAe1vb,EAAE2vb,aAAe3vb,EAAE4vb,aAAe5vb,EAAE6vb,aAAe7vb,EAAE8vb,aAAe9vb,EAAE+vb,aAAe/vb,EAAEgwb,aAAehwb,EAAEiwb,aAAejwb,EAAEkwb,aAAelwb,EAAEmwb,aAAenwb,EAAEowb,aAAepwb,EAAEqwb,aAAerwb,EAAEswb,aAAetwb,EAAEuwb,aAAevwb,EAAEwwb,aAAexwb,EAAEywb,aAAezwb,EAAE0wb,aAAe1wb,EAAE2wb,aAAe3wb,EAAE4wb,aAAe5wb,EAAE6wb,aAAe7wb,EAAE8wb,aAAe9wb,EAAE+wb,aAAe/wb,EAAExwb,aAAexwb,EAAEywb,aAAezwb,EAAE0wb,aAAe1wb,EAAE2wb,aAAe3wb,EAAE4wb,aAAe5wb,EAAE6wb,aAAe7wb,EAAE8wb,aAAe9wb,EAAE+wb,aAAe/wb,EAAEgxb,aAAehxb,EAAEixb,aAAejxb,EAAEkxb,aAAelxb,EAAEmxb,aAAenxb,EAAEoxb,aAAepxb,EAAEqxb,aAAerxb,EAAEsxb,aAAetxb,EAAEuxb,aAAevxb,EAAEwxb,aAAexxb,EAAEyxb,aAAezxb,EAAE0xb,aAAe1xb,EAAE2xb,aAAe3xb,EAAE4xb,aAAe5xb,EAAE6xb,aAAe7xb,EAAE8xb,aAAe9xb,EAAE+xb,aAAe/xb,EAAEgyb,aAAehyb,EAAEiyb,aAAejyb,EAAEkyb,aAAelyb,EAAEmyb,aAAenyb,EAAEoyb,aAAepyb,EAAEqyb,aAAeryb,EAAEsyb,aAAetyb,EAAEuyb,aAAevyb,EAAEwyb,aAAexyb,EAAEyyb,aAAezyb,EAAE0yb,aAAe1yb,EAAE2yb,aAAe3yb,EAAE4yb,aAAe5yb,EAAE6yb,aAAe7yb,EAAE8yb,aAAe9yb,EAAE+yb,aAAe/yb,EAAEgzb,aAAehzb,EAAEizb,aAAejzb,EAAEkzb,aAAelzb,EAAEmzb,aAAenzb,EAAEozb,aAAepzb,EAAEqzb,aAAerzb,EAAEszb,aAAetzb,EAAEuzb,aAAevzb,EAAEwzb,aAAexzb,EAAEyzb,aAAezzb,EAAE0zb,aAAe1zb,EAAE2zb,aAAe3zb,EAAE4zb,aAAe5zb,EAAE6zb,aAAe7zb,EAAE8zb,aAAe9zb,EAAE+zb,aAAe/zb,EAAEg0b,aAAeh0b,EAAEi0b,aAAej0b,EAAEk0b,aAAel0b,EAAEm0b,aAAen0b,EAAEo0b,aAAep0b,EAAEq0b,aAAer0b,EAAEs0b,aAAet0b,EAAEu0b,aAAev0b,EAAEw0b,aAAex0b,EAAEy0b,aAAez0b,EAAE00b,aAAe10b,EAAE20b,aAAe30b,EAAE40b,aAAe50b,EAAE60b,aAAe70b,EAAE80b,aAAe90b,EAAE+0b,aAAe/0b,EAAEg1b,aAAeh1b,EAAEi1b,aAAej1b,EAAEk1b,aAAel1b,EAAEm1b,aAAen1b,EAAEo1b,aAAep1b,EAAEq1b,aAAer1b,EAAEs1b,aAAet1b,EAAEu1b,aAAev1b,EAAEw1b,aAAex1b,EAAEy1b,aAAez1b,EAAE01b,aAAe11b,EAAE21b,aAAe31b,EAAE41b,aAAe51b,EAAE61b,aAAe71b,EAAE81b,aAAe91b,EAAE+1b,aAAe/1b,EAAEg2b,aAAeh2b,EAAEi2b,aAAej2b,EAAEk2b,aAAel2b,EAAEm2b,aAAen2b,EAAEo2b,aAAep2b,EAAEq2b,aAAer2b,EAAEs2b,aAAet2b,EAAEu2b,aAAev2b,EAAEw2b,aAAex2b,EAAEy2b,aAAez2b,EAAE02b,aAAe12b,EAAE22b,aAAe32b,EAAE42b,aAAe52b,EAAE62b,aAAe72b,EAAE82b,aAAe92b,EAAE+2b,aAAe/2b,EAAEg3b,aAAeh3b,EAAEi3b,aAAej3b,EAAEk3b,aAAel3b,EAAEm3b,aAAen3b,EAAEo3b,aAAep3b,EAAEq3b,aAAer3b,EAAEs3b,aAAet3b,EAAEu3b,aAAev3b,EAAEw3b,aAAex3b,EAAEy3b,aAAez3b,EAAE03b,aAAe13b,EAAE23b,aAAe33b,EAAE43b,aAAe53b,EAAE63b,aAAe73b,EAAE83b,aAAe93b,EAAE+3b,aAAe/3b,EAAEg4b,aAAeh4b,EAAEi4b,aAAej4b,EAAEk4b,aAAel4b,EAAEm4b,aAAen4b,EAAEo4b,aAAep4b,EAAEq4b,aAAer4b,EAAEs4b,aAAet4b,EAAEu4b,aAAev4b,EAAEw4b,aAAex4b,EAAEy4b,aAAez4b,EAAE04b,aAAe14b,EAAE24b,aAAe34b,EAAE44b,aAAe54b,EAAE64b,aAAe74b,EAAE84b,aAAe94b,EAAE+4b,aAAe/4b,EAAEg5b,aAAeh5b,EAAEi5b,aAAej5b,EAAEk5b,aAAel5b,EAAEm5b,aAAen5b,EAAEo5b,aAAep5b,EAAEq5b,aAAer5b,EAAEs5b,aAAet5b,EAAEu5b,aAAev5b,EAAEw5b,aAAex5b,EAAEy5b,aAAez5b,EAAE05b,aAAe15b,EAAE25b,aAAe35b,EAAE45b,aAAe55b,EAAE65b,aAAe75b,EAAE85b,aAAe95b,EAAE+5b,aAAe/5b,EAAEg6b,aAAeh6b,EAAEi6b,aAAej6b,EAAEk6b,aAAel6b,EAAEm6b,aAAen6b,EAAEo6b,aAAep6b,EAAEq6b,aAAer6b,EAAEs6b,aAAet6b,EAAEu6b,aAAev6b,EAAEw6b,aAAex6b,EAAEy6b,aAAez6b,EAAE06b,aAAe16b,EAAE26b,aAAe36b,EAAE46b,aAAe56b,EAAE66b,aAAe76b,EAAE86b,aAAe96b,EAAE+6b,aAAe/6b,EAAEg7b,aAAeh7b,EAAEi7b,aAAej7b,EAAEk7b,aAAel7b,EAAEm7b,aAAen7b,EAAEo7b,aAAep7b,EAAEq7b,aAAer7b,EAAEs7b,aAAet7b,EAAEu7b,aAAev7b,EAAEw7b,aAAex7b,EAAEy7b,aAAez7b,EAAE07b,aAAe17b,EAAE27b,aAAe37b,EAAE47b,aAAe57b,EAAE67b,aAAe77b,EAAE87b,aAAe97b,EAAE+7b,aAAe/7b,EAAEg8b,aAAeh8b,EAAEi8b,aAAej8b,EAAEk8b,aAAel8b,EAAEm8b,aAAen8b,EAAEo8b,aAAep8b,EAAEq8b,aAAer8b,EAAEs8b,aAAet8b,EAAEu8b,aAAev8b,EAAEw8b,aAAex8b,EAAEy8b,aAAez8b,EAAE08b,aAAe18b,EAAE28b,aAAe38b,EAAE48b,aAAe58b,EAAE68b,aAAe78b,EAAE88b,aAAe98b,EAAE+8b,aAAe/8b,EAAEg9b,aAAeh9b,EAAEi9b,aAAej9b,EAAEk9b,aAAel9b,EAAEm9b,aAAen9b,EAAEo9b,aAAep9b,EAAEq9b,aAAer9b,EAAEs9b,aAAet9b,EAAEu9b,aAAev9b,EAAEw9b,aAAex9b,EAAEy9b,aAAez9b,EAAE09b,aAAe19b,EAAE29b,aAAe39b,EAAE49b,aAAe59b,EAAE69b,aAAe79b,EAAE89b,aAAe99b,EAAE+9b,aAAe/9b,EAAEg+b,aAAeh+b,EAAEi+b,aAAej+b,EAAEk+b,aAAel+b,EAAEm+b,aAAen+b,EAAEo+b,aAAep+b,EAAEq+b,aAAer+b,EAAEs+b,aAAet+b,EAAEu+b,aAAev+b,EAAEw+b,aAAex+b,EAAEy+b,aAAez+b,EAAE0+b,aAAe1+b,EAAE2+b,aAAe3+b,EAAE4+b,aAAe5+b,EAAE6+b,aAAe7+b,EAAE8+b,aAAe9+b,EAAE++b,aAAe/+b,EAAEggc,aAAehgc,EAAEigc,aAAejgc,EAAEkgc,aAAelgc,EAAEmgc,aAAengc,EAAEogc,aAAepgc,EAAEqgc,aAAergc,EAAEsgc,aAAetgc,EAAEugc,aAAevgc,EAAEwgc,aAAexgc,EAAEygc,aAAezgc,EAAE0gc,aAAe1gc,EAAE2gc,aAAe3gc,EAAE4gc,aAAe5gc,EAAE6gc,aAAe7gc,EAAE8gc,aAAe9gc,EAAE+gc,aAAe/gc,EAAEghc,aAAehhc,EAAEihc,aAAejhc,EAAEkhc,aAAelhc,EAAEmhc,aAAenhc,EAAEohc,aAAephc,EAAEqhc,aAAerhc,EAAEshc,aAAethc,EAAEuhc,aAAevhc,EAAEwhc,aAAexhc,EAAEyhc,aAAezhc,EAAE0hc,aAAe1hc,EAAE2hc,aAAe3hc,EAAE4hc,aAAe5hc,EAAE6hc,aAAe7hc,EAAE8hc,aAAe9hc,EAAE+hc,aAAe/hc,EAAEgic,aAAehic,EAAEiic,aAAejic,EAAEkic,aAAelic,EAAEmic,aAAenic,EAAEoic,aAAepic,EAAEqic,aAAeric,EAAEsic,aAAetic,EAAEuic,aAAevic,EAAEwic,aAAexic,EAAEyic,aAAezic,EAAE0ic,aAAe1ic,EAAE2ic,aAAe3ic,EAAE4ic,aAAe5ic,EAAE6ic,aAAe7ic,EAAE8ic,aAAe9ic,EAAE+ic,aAAe/ic,EAAEgjc,aAAehjc,EAAEijc,aAAejjc,EAAEkjc,aAAeljc,EAAEmjc,aAAenjc,EAAEojc,aAAepjc,EAAEqjc,aAAerjc,EAAEsjc,aAAetjc,EAAEujc,aAAevjc,EAAEwjc,aAAexjc,EAAEyjc,aAAezjc,EAAE0jc,aAAe1jc,EAAE2jc,aAAe3jc,EAAE4jc,aAAe5jc,EAAE6jc,aAAe7jc,EAAE8jc,aAAe9jc,EAAE+jc,aAAe/jc,EAAEgkc,aAAehkc,EAAEikc,aAAejkc,EAAEkkc,aAAelkc,EAAEmkc,aAAenkc,EAAEokc,aAAepkc,EAAEqkc,aAAerkc,EAAEskc,aAAetkc,EAAEukc,aAAevkc,EAAEwkc,aAAexkc,EAAEykc,aAAezkc,EAAE0kc,aAAe1kc,EAAE2kc,aAAe3kc,EAAE4kc,aAAe5kc,EAAE6kc,aAAe7kc,EAAE8kc,aAAe9kc,EAAE+kc,aAAe/kc,EAAEglc,aAAehlc,EAAEilc,aAAejlc,EAAEklc,aAAellc,EAAEmlc,aAAenlc,EAAEolc,aAAeplc,EAAEqlc,aAAerlc,EAAEslc,aAAetlc,EAAEulc,aAAevlc,EAAEwlc,aAAexlc,EAAEylc,aAAezlc,EAAE0lc,aAAe1lc,EAAE2lc,aAAe3lc,EAAE4lc,aAAe5lc,EAAE6lc,aAAe7lc,EAAE8lc,aAAe9lc,EAAE+lc,aAAe/lc,EAAEgmc,aAAehmc,EAAEimc,aAAejmc,EAAEkmc,aAAelmc,EAAEmmc,aAAenmc,EAAEomc,aAAepmc,EAAEqmc,aAAermc,EAAEsmc,aAAetmc,EAAEumc,aAAevmc,EAAEwmc,aAAexmc,EAAEymc,aAAezmc,EAAE0mc,aAAe1mc,EAAE2mc,aAAe3mc,EAAE4mc,aAAe5mc,EAAE6mc,aAAe7mc,EAAE8mc,aAAe9mc,EAAE+mc,aAAe/mc,EAAEgnc,aAAehnc,EAAEinc,aAAejnc,EAAEknc,aAAelnc,EAAEmnc,aAAennc,EAAEonc,aAAepnc,EAAEqnc,aAAernc,EAAEsnc,aAAetnc,EAAEunc,aAAevnc,EAAEwnc,aAAexnc,EAAEync,aAAeznc,EAAE0nc,aAAe1nc,EAAE2nc,aAAe3nc,EAAE4nc,aAAe5nc,EAAE6nc,aAAe7nc,EAAE8nc,aAAe9nc,EAAE+nc,aAAe/nc,EAAEgoc,aAAehoc,EAAEioc,aAAejoc,EAAEkoc,aAAeloc,EAAEmoc,aAAenoc,EAAEooc,aAAepoc,EAAEqoc,aAAeroc,EAAEsoc,aAAetoc,EAAEuoc,aAAevoc,EAAEwoc,aAAexoc,EAAEyoc,aAAezoc,EAAE0oc,aAAe1oc,EAAE2oc,aAAe3oc,EAAE4oc,aAAe5oc,EAAE6oc,aAAe7oc,EAAE8oc,aAAe9oc,EAAE+oc,aAAe/oc,EAAEgpc,aAAehpc,EAAEipc,aAAejpc,EAAEkpc,aAAelpc,EAAEmpc,aAAenpc,EAAEopc,aAAeppc,EAAEqpc,aAAerpc,EAAEspc,aAAetpc,EAAEupc,aAAevpc,EAAEwpc,aAAexpc,EAAEypc,aAAezpc,EAAE0pc,aAAe1pc,EAAE2pc,aAAe3pc,EAAE4pc,aAAe5pc,EAAE6pc,aAAe7pc,EAAE8pc,aAAe9pc,EAAE+pc,aAAe/pc,EAAEgqc,aAAehqc,EAAEiqc,aAAejqc,EAAEkqc,aAAelqc,EAAEmqc,aAAenqc,EAAEoqc,aAAepqc,EAAEqqc,aAAerqc,EAAEsqc,aAAetqc,EAAEuqc,aAAevqc,EAAEwqc,aAAexqc,EAAEyqc,aAAezqc,EAAE0qc,aAAe1qc,EAAE2qc,aAAe3qc,EAAE4qc,aAAe5qc,EAAE6qc,aAAe7qc,EAAE8qc,aAAe9qc,EAAE+qc,aAAe/qc,EAAEgrc,aAAehrc,EAAEirc,aAAejrc,EAAEkrc,aAAelrc,EAAEmrc,aAAenrc,EAAEorc,aAAeprc,EAAEqrc,aAAerrc,EAAEsrc,aAAetrc,EAAEurc,aAAevrc,EAAEwrc,aAAexrc,EAAEyrc,aAAezrc,EAAE0rc,aAAe1rc,EAAE2rc,aAAe3rc,EAAE4rc,aAAe5rc,EAAE6rc,aAAe7rc,EAAE8rc,aAAe9rc,EAAE+rc,aAAe/rc,EAAEgsc,aAAehsc,EAAEisc,aAAejsc,EAAEksc,aAAelsc,EAAEmsc,aAAensc,EAAEosc,aAAepsc,EAAEqsc,aAAersc,EAAEssc,aAAetsc,EAAEusc,aAAevsc,EAAEwsc,aAAexsc,EAAEysc,aAAezsc,EAAE0sc,aAAe1sc,EAAE2sc,aAAe3sc,EAAE4sc,aAAe5sc,EAAE6sc,aAAe7sc,EAAE8sc,aAAe9sc,EAAE+sc,aAAe/sc,EAAEgtc,aAAehtc,EAAEitc,aAAejtc,EAAEktc,aAAeltc,EAAEmtc,aAAentc,EAAEotc,aAAeptc,EAAEqtc,aAAertc,EAAEstc,aAAettc,EAAEutc,aAAevtc,EAAEwtc,aAAextc,EAAEytc,aAAeztc,EAAE0tc,aAAe1tc,EAAE2tc,aAAe3tc,EAAE4tc,aAAe5tc,EAAE6tc,aAAe7tc,EAAE8tc,aAAe9tc,EAAE+tc,aAAe/tc,EAAEgub,aAAehub,EAAEiub,aAAejub,EAAEkub,aAAelub,EAAEmub,aAAenub,EAAEoub,aAAepub,EAAEqub,aAAerub,EAAEsub,aAAetub,EAAEuub,aAAevub,EAAEwub,aAAexub,EAAEyub,aAAezub,EAAE0ub,aAAe1ub,EAAE2ub,aAAe3ub,EAAE4ub,aAAe5ub,EAAE6ub,aAAe7ub,EAAE8ub,aAAe9ub,EAAE+ub,aAAe/ub,EAAEgvb,aAAehvb,EAAEivb,aAAejvb,EAAEkvb,aAAelvb,EAAEmvb,aAAenvb,EAAEovb,aAAepvb,EAAEqvb,aAAervb,EAAEsvb,aAAetvb,EAAEuvb,aAAevvb,EAAEwvb,aAAexvb,EAAEyvb,aAAezvb,EAAE0vb,aAAe1vb,EAAE2vb,aAAe3vb,EAAE4vb,aAAe5vb,EAAE6vb,aAAe7vb,EAAE8vb,aAAe9vb,EAAE+vb,aAAe/vb,EAAEgwb,aAAehwb,EAAEiwb,aAAejwb,EAAEkwb,aAAelwb,EAAEmwb,aAAenwb,EAAEowb,aAAepwb,EAAEqwb,aAAerwb,EAAEswb,aAAetwb,EAAEuwb,aAAevwb,EAAEwwb,aAAexwb,EAAEywb,aAAezwb,EAAE0wb,aAAe1wb,EAAE2wb,aAAe3wb,EAAE4wb,aAAe5wb,EAAE6wb,aAAe7wb,EAAE8wb,aAAe9wb,EAAE+wb,aAAe/wb,EAAExwb,aAAexwb,EAAEywb,aAAezwb,EAAE0wb,aAAe1wb,EAAE2wb,aAAe3wb,EAAE4wb,aAAe5wb,EAAE6wb,aAAe7wb,EAAE8wb,aAAe9wb,EAAE+wb,aAAe/wb,EAAEgxb,aAAehxb,EAAEixb,aAAejxb,EAAEkxb,aAAelxb,EAAEmxb,aAAenxb,EAAEoxb,aAAepxb,EAAEqxb,aAAerxb,EAAEsxb,aAAetxb,EAAEuxb,aAAevxb,EAAEwxb,aAAexxb,EAAEyxb,aAAezxb,EAAE0xb,aAAe1xb,EAAE2xb,aAAe3xb,EAAE4xb,aAAe5xb,EAAE6xb,aAAe7xb,EAAE8xb,aAAe9xb,EAAE+xb,aAAe/xb,EAAEgyb,aAAehyb,EAAEiyb,aAAejyb,EAAEkyb,aAAelyb,EAAEmyb,aAAenyb,EAAEoyb,aAAepyb,EAAEqyb,aAAeryb,EAAEsyb,aAAetyb,EAAEuyb,aAAevyb,EAAEwyb,aAAexyb,EAAEyyb,aAAezyb,EAAE0yb,aAAe1yb,EAAE2yb,aAAe3yb,EAAE4yb,aAAe5yb,EAAE6yb,aAAe7yb,EAAE8yb,aAAe9yb,EAAE+yb,aAAe/yb,EAAEgzb,aAAehzb,EAAEizb,aAAejzb,EAAEkzb,aAAelzb,EAAEmzb,aAAenzb,EAAEozb,aAAepzb,EAAEqzb,aAAerzb,EAAEszb,aAAetzb,EAAEuzb,aAAevzb,EAAEwzb,aAAexzb,EAAEyzb,aAAezzb,EAAE0zb,aAAe1zb,EAAE2zb,aAAe3zb,EAAE4zb,aAAe5zb,EAAE6zb,aAAe7zb,EAAE8zb,aAAe9zb,EAAE+zb,aAAe/zb,EAAEg0b,aAAeh0b,EAAEi0b,aAAej0b,EAAEk0b,aAAel0b,EAAEm0b,aAAen0b,EAAEo0b,aAAep0b,EAAEq0b,aAAer0b,EAAEs0b,aAAet0b,EAAEu0b,aAAev0b,EAAEw0b,aAAex0b,EAAEy0b,aAAez0b,EAAE00b,aAAe10b,EAAE20b,aAAe30b,EAAE40b,aAAe50b,EAAE60b,aAAe70b,EAAE80b,aAAe90b,EAAE+0b,aAAe/0b,EAAEg1b,aAAeh1b,EAAEi1b,aAAej1b,EAAEk1b,aAAel1b,EAAEm1b,aAAen1b,EAAEo1b,aAAep1b,EAAEq1b,aAAer1b,EAAEs1b,aAAet1b,EAAEu1b,aAAev1b,EAAEw1b,aAAex1b,EAAEy1b,aAAez1b,EAAE01b,aAAe11b,EAAE21b,aAAe31b,EAAE41b,aAAe51b,EAAE61b,aAAe71b,EAAE81b,aAAe91b,EAAE+1b,aAAe/1b,EAAEg2b,aAAeh2b,EAAEi2b,aAAej2b,EAAEk2b,aAAel2b,EAAEm2b,aAAen2b,EAAEo2b,aAAep2b,EAAEq2b,aAAer2b,EAAEs2b,aAAet2b,EAAEu2b,aAAev2b,EAAEw2b,aAAex2b,EAAEy2b,aAAez2b,EAAE02b,aAAe12b,EAAE22b,aAAe32b,EAAE42b,aAAe52b,EAAE62b,aAAe72b,EAAE82b,aAAe92b,EAAE+2b,aAAe/2b,EAAEg3b,aAAeh3b,EAAEi3b,aAAej3b,EAAEk3b,aAAel3b,EAAEm3b,aAAen3b,EAAEo3b,aAAep3b,EAAEq3b,aAAer3b,EAAEs3b,aAAet3b,EAAEu3b,aAAev3b,EAAEw3b,aAAex3b,EAAEy3b,aAAez3b,EAAE03b,aAAe13b,EAAE23b,aAAe33b,EAAE43b,aAAe53b,EAAE63b,aAAe73b,EAAE83b,aAAe93b,EAAE+3b,aAAe/3b,EAAEg4b,aAAeh4b,EAAEi4b,aAAej4b,EAAEk4b,aAAel4b,EAAEm4b,aAAen4b,EAAEo4b,aAAep4b,EAAEq4b,aAAer4b,EAAEs4b,aAAet4b,EAAEu4b,aAAev4b,EAAEw4b,aAAex4b,EAAEy4b,aAAez4b,EAAE04b,aAAe14b,EAAE24b,aAAe34b,EAAE44b,aAAe54b,EAAE64b,aAAe74b,EAAE84b,aAAe94b,EAAE+4b,aAAe/4b,EAAEg5b,aAAeh5b,EAAEi5b,aAAej5b,EAAEk5b,aAAel5b,EAAEm5b,aAAen5b,EAAEo5b,aAAep5b,EAAEq5b,aAAer5b,EAAEs5b,aAAet5b,EAAEu5b,aAAev5b,EAAEw5b,aAAex5b,EAAEy5b,aAAez5b,EAAE05b,aAAe15b,EAAE25b,aAAe35b,EAAE45b,aAAe55b,EAAE65b,aAAe75b,EAAE85b,aAAe95b,EAAE+5b,aAAe/5b,EAAEg6b,aAAeh6b,EAAEi6b,aAAej6b,EAAEk6b,aAAel6b,EAAEm6b,aAAen6b,EAAEo6b,aAAep6b,EAAEq6b,aAAer6b,EAAEs6b,aAAet6b,EAAEu6b,aAAev6b,EAAEw6b,aAAex6b,EAAEy6b,aAAez6b,EAAE06b,aAAe16b,EAAE26b,aAAe36b,EAAE46b,aAAe56b,EAAE66b,aAAe76b,EAAE86b,aAAe96b,EAAE+6b,aAAe/6b,EAAEg7b,aAAeh7b,EAAEi7b,aAAej7b,EAAEk7b,aAAel7b,EAAEm7b,aAAen7b,EAAEo7b,aAAep7b,EAAEq7b,aAAer7b,EAAEs7b,aAAet7b,EAAEu7b,aAAev7b,EAAEw7b,aAAex7b,EAAEy7b,aAAez7b,EAAE07b,aAAe17b,EAAE27b,aAAe37b,EAAE47b,aAAe57b,EAAE67b,aAAe77b,EAAE87b,aAAe97b,EAAE+7b,aAAe/7b,EAAEg8b,aAAeh8b,EAAEi8b,aAAej8b,EAAEk8b,aAAel8b,EAAEm8b,aAAen8b,EAAEo8b,aAAep8b,EAAEq8b,aAAer8b,EAAEs8b,aAAet8b,EAAEu8b,aAAev8b,EAAEw8b,aAAex8b,EAAEy8b,aAAez8b,EAAE08b,aAAe18b,EAAE28b,aAAe38b,EAAE48b,aAAe58b,EAAE68b,aAAe78b,EAAE88b,aAAe98b,EAAE+8b,aAAe/8b,EAAEg9b,aAAeh9b,EAAEi9b,aAAej9b

5D,EAAOA,EAAKlD,MAAQ,KACc6G,EAAgB,CAACC,EAAWjT,WAHjF,IAA2B8T,EAAQzE,EAAM2D,EACjCC,KA2IR,SAAS0W,EAAYzR,EAAgBpF,GACjC,OAAO,SAAUwQ,GACb,OAAOA,EAAOvU,EAAKzQ,EAAGuc,EAAGC,EAAGC,EAAGC

OAFAlL,EAAUzQ,cAAgB2b,EAC1BlL,EAAUvR,KAAO9P,OAAO2Q,OAAO3Q,OAAO2Q,OAAO,GAAI0Q,EA
AUvR,MAAOO,GAA2BgR,EAAW/Q,GAA2B1I,SAC5H,SAVqDukB,CAAWhB,EAAM3nB,MAAO0lB,EAAgB5
Y,EAA2BiJ,MAAqB5Z,EAAUgf,KAAI,WAAc,OAAOuN,OAAiCvsB,EAAU2sB,SAAS,GAAI3sB,EAAUuc,UAA
S,SAAU+F,GAAK,OAAOiK,IAA8BzL,EAAkBtf,OAASzB,EAAKmI,GAAG4F,GAAK/N,EAAKyqB,eA6kB5T8
B,CAAYxpB,EAAM6N,0BAA2B7N,EAAMkX,SASgD,UAAWhd,EAAUgf,IAAI,CACxGvd,KAAM,WAAc,
AO4qB,GAAe,GAC1CQ,SAAU,WACN,IAAKR,EAAc,CACf,IAAIjpB,EAAK,IAAIyB,MAAM,mCAAmC,EAAIA,EAAGwB,KAAO,mBAAoBxB,EAAGqB,KAAOrB,EAAGwB,KAAM,MAAMxB,
,EAAMynB,aAAazc,EAAEob,cAAe,sDAC/EY,EAAcroB,KAAK0qB,GACnBre,EAAE7F,SAAQ,WAAcwiB,EAAcA,EAAYvoB,QAAO,SAAUwoB,GAAK,OAAOA,IAAMpe,KAAQ,WAAY,IAAIqe,EAAU
gf,KAAI,SAAUlR,GACxB,IAAIgf,IAAIhf,EAAEa,IAAIb,EAAEa,IAAInpB,EAAEWmK,EAAEpL,GAAII,EAAMynB,aAAazc,EAAEob,cAAe,cAAeA,EAAcroB,KAAK0qB,GAAWre,EAAE7F,SAAQ,WAAcwiB,EAAcA,EAAYvoB,QAAO,SAAUwoB,GAAK,OAAOA,IAAMpe,KAAQ,WAAY,IAAIqe,EAAU
AepmB,EAAMynB,aAAazc,EAAEob,cAAe,EAAE7K,mBAAoB6K,EAAEyb,gBACrHzmB,EAAMgmB,aAAaagE,UAM/B/H,IAA
U,SAAUjX,GAChB,IAAoHW,EAAKX,EAAEsb,cAAe,OAC3H,OAAOtmB,EAAMilB,MAAME,mBADEna,EAAEyb,eA
AC+B,CAClDhC,aAFkDzZ,EAAEpL,GAGpDyoB,eAHyErd,EAAEob,aAI3EN,WAJsG9a,EAAEqb,OAKxG2B,qB
ALoJrc,EAAGqc,mBAMvJE,aANwLvc,EAAGuc,gBAQ/LhrB,EAAUyH,KAAI,SAAUqG,GAAK,OAAOA,EAAEqb,eAAgBrb,EAAEsb,cAAe,IAAIC,EAAUvb,EAAEwb,KAAMxb,EAAEyb,eAAgBzb,EAAE0b,cAAe,IAAIC,EAAU3b,EAAE4b,KAAM5b,EAAE6b,eAAgB7b,EAAE8b,cAAe,IAAIC,EAAU/b,EAAEgc,KAAMhc,EAAEic,eAAgBjc,EAAEkc,cAAe,IAAIC,EAAUnc,EAAEoc,KAAMpc,EAAEqc,eAAgBrc,EAAEsc,cAAe,IAAIC,EAAUvc,EAAEwc,KAAMxc,EAAEyc,eAAgBzc,EAAE0c,cAAe,IAAIC,EAAU3c,EAAE4c,KAAM5c,EAAE6c,eAAgB7c,EAAE8c,cAAe,IAAIC,EAAU/c,EAAEgd,KAAMhd,EAAEid,eAAgBjd,EAAEkd,cAAe,IAAIC,EAAUnd,EAAEod,KAAMpd,EAAEqd,eAAgBrd,EAAEsd,cAAe,IAAIC,EAAUvd,EAAEwd,KAAMxd,EAAEyd,eAAgBzd,EAAE0d,cAAe,IAAIC,EAAU3d,EAAE4d,KAAM5d,EAAE6d,eAAgB7d,EAAE8d,cAAe,IAAIC,EAAU/d,EAAEge,KAAMhe,EAAEie,eAAgBje,EAAEke,cAAe,IAAIC,EAAUne,EAAEoe,KAAMpe,EAAEqe,eAAgBre,EAAEse,cAAe,IAAIC,EAAUve,EAAEwe,KAAMxe,EAAEye,eAAgBze,EAAE0e,cAAe,IAAIC,EAAU3e,EAAE4e,KAAM5e,EAAE6e,eAAgB7e,EAAE8e,cAAe,IAAIC,EAAU/e,EAAEgf,KAAMhf,EAAEif,eAAgBjf,EAAEkf,cAAe,IAAIC,EAAUnf,EAAEof,KAAMpf,EAAEqf,eAAgBrf,EAAEsf,cAAe,IAAIC,EAAUvf,EAAEwf,KAAMxf,EAAEyf,eAAgBzf,EAAE0f,cAAe,IAAIC,EAAU3f,EAAE4f,KAAM5f,EAAE6f,eAAgB7f,EAAE8f,cAAe,IAAIC,EAAU/f,EAAEggB,KAAMhgB,EAAEigB,eAAgBjgB,EAAEkgB,cAAe,IAAIC,EAAUngB,EAAEogB,KAAMpgB,EAAEqgB,eAAgBrgB,EAAEsgB,cAAe,IAAIC,EAAUvgB,EAAEwgB,KAAMxgB,EAAEygB,eAAgBzgB,EAAE0gB,cAAe,IAAIC,EAAU3gB,EAAE4gB,KAAM5gB,EAAE6gB,eAAgB7gB,EAAE8gB,cAAe,IAAIC,EAAU/gB,EAAEghB,KAAMhhB,EAAEihB,eAAgBjhB,EAAEkhB,cAAe,IAAIC,EAAUnhB,EAAEohB,KAAMphB,EAAEqhB,eAAgBrhB,EAAEshB,cAAe,IAAIC,EAAUvhB,EAAEwhB,KAAMxhB,EAAEyhB,eAAgBzhB,EAAE0hB,cAAe,IAAIC,EAAU3hB,EAAE4hB,KAAM5hB,EAAE6hB,eAAgB7hB,EAAE8hB,cAAe,IAAIC,EAAU/hB,EAAEgiB,KAAMhiB,EAAEiiB,eAAgBjiB,EAAEkiB,cAAe,IAAIC,EAAUniB,EAAEoiB,KAAMpiB,EAAEqiB,eAAgBriB,EAAEsiB,cAAe,IAAIC,EAAUviB,EAAEwiB,KAAMxiB,EAAEyiB,eAAgBziB,EAAE0iB,cAAe,IAAIC,EAAU3iB,EAAE4iB,KAAM5iB,EAAE6iB,eAAgB7iB,EAAE8iB,cAAe,IAAIC,EAAU/iB,EAAEgjB,KAAMhjB,EAAEijB,eAAgBjjB,EAAEkjB,cAAe,IAAIC,EAAUnjB,EAAEojB,KAAMpjB,EAAEqjB,eAAgBrjB,EAAEsjB,cAAe,IAAIC,EAAUvjB,EAAEwjB,KAAMxjB,EAAEyjB,eAAgBzjB,EAAE0jB,cAAe,IAAIC,EAAU3jB,EAAE4jB,KAAM5jB,EAAE6jB,eAAgB7jB,EAAE8jB,cAAe,IAAIC,EAAU/jB,EAAEgkB,KAAMhkB,EAAEikB,eAAgBjkB,EAAEkkB,cAAe,IAAIC,EAAUnkB,EAAEokB,KAAMpkB,EAAEqkB,eAAgBrkB,EAAEskB,cAAe,IAAIC,EAAUvkB,EAAEwkB,KAAMxkB,EAAEykB,eAAgBzkB,EAAE0kB,cAAe,IAAIC,EAAU3kB,EAAE4kB,KAAM5kB,EAAE6kB,eAAgB7kB,EAAE8kB,cAAe,IAAIC,EAAU/kB,EAAEglB,KAAMhlB,EAAEilB,eAAgBjlB,EAAEklB,cAAe,IAAIC,EAAUnlB,EAAEolB,KAAMplB,EAAEqlB,eAAgBrlB,EAAEslB,cAAe,IAAIC,EAAUvlB,EAAEwlB,KAAMxlB,EAAEylB,eAAgBzlB,EAAE0lB,cAAe,IAAIC,EAAU3lB,EAAE4lB,KAAM5lB,EAAE6lB,eAAgB7lB,EAAE8lB,cAAe,IAAIC,EAAU/lB,EAAEgmB,KAAMhmB,EAAEimB,eAAgBjmB,EAAEkmB,cAAe,IAAIC,EAAUnmB,EAAEomB,KAAMpmB,EAAEqmB,eAAgBrmB,EAAEsmB,cAAe,IAAIC,EAAUvmB,EAAEwmB,KAAMxmB,EAAEymB,eAAgBzmB,EAAE0mB,cAAe,IAAIC,EAAU3mB,EAAE4mB,KAAM5mB,EAAE6mB,eAAgB7mB,EAAE8mB,cAAe,IAAIC,EAAU/mB,EAAEgnB,KAAMhnB,EAAEinB,eAAgBjnB,EAAEknB,cAAe,IAAIC,EAAUnnB,EAAEonB,KAAMpnB,EAAEqnB,eAAgBrnB,EAAEsnB,cAAe,IAAIC,EAAUvnB,EAAEwnB,KAAMxnB,EAAEynB,eAAgBznB,EAAE0nB,cAAe,IAAIC,EAAU3nB,EAAE4nB,KAAM5nB,EAAE6nB,eAAgB7nB,EAAE8nB,cAAe,IAAIC,EAAU/nB,EAAEgoB,KAAMhoB,EAAEioB,eAAgBjoB,EAAEkoB,cAAe,IAAIC,EAAUnoB,EAAEooB,KAAMpoB,EAAEqoB,eAAgBroB,EAAEsoB,cAAe,IAAIC,EAAUvoB,EAAEwoB,KAAMxoB,EAAEyoB,eAAgBzoB,EAAE0oB,cAAe,IAAIC,EAAU3oB,EAAE4oB,KAAM5oB,EAAE6oB,eAAgB7oB,EAAE8oB,cAAe,IAAIC,EAAU/oB,EAAEgpB,KAAMhpB,EAAEipB,eAAgBjpB,EAAEkpB,cAAe,IAAIC,EAAUnpB,EAAEopB,KAAMppB,EAAEqpB,eAAgBrpB,EAAEspB,cAAe,IAAIC,EAAUvpB,EAAEwpB,KAAMxpB,EAAEypB,eAAgBzpB,EAAE0pB,cAAe,IAAIC,EAAU3pB,EAAE4pB,KAAM5pB,EAAE6pB,eAAgB7pB,EAAE8pB,cAAe,IAAIC,EAAU/pB,EAAEgqB,KAAMhqB,EAAEiqB,eAAgBjqB,EAAEkqB,cAAe,IAAIC,EAAUnqB,EAAEoqB,KAAMpqB,EAAEqqB,eAAgBrqB,EAAEsqB,cAAe,IAAIC,EAAUvqB,EAAEwqB,KAAMxqB,EAAEyqB,eAAgBzqB,EAAE0qB,cAAe,IAAIC,EAAU3qB,EAAE4qB,KAAM5qB,EAAE6qB,eAAgB7qB,EAAE8qB,cAAe,IAAIC,EAAU/qB,EAAEgrB,KAAMhrB,EAAEirB,eAAgBjrB,EAAEkrB,cAAe,IAAIC,EAAUnrB,EAAEorB,KAAMprB,EAAEqrB,eAAgBrrB,EAAEsrB,cAAe,IAAIC,EAAUvrB,EAAEwrB,KAAMxrB,EAAEyrB,eAAgBzrB,EAAE0rB,cAAe,IAAIC,EAAU3rB,EAAE4rB,KAAM5rB,EAAE6rB,eAAgB7rB,EAAE8rB,cAAe,IAAIC,EAAU/rB,EAAEgsB,KAAMhsB,EAAEisB,eAAgBjsB,EAAEksB,cAAe,IAAIC,EAAUnsB,EAAEosB,KAAMpsB,EAAEqsB,eAAgBrsB,EAAEssB,cAAe,IAAIC,EAAUvsB,EAAEwsB,KAAMxsB,EAAEysB,eAAgBzsB,EAAE0sB,cAAe,IAAIC,EAAU3sB,EAAE4sB,KAAM5sB,EAAE6sB,eAAgB7sB,EAAE8sB,cAAe,IAAIC,EAAU/sB,EAAEgtB,KAAMhtB,EAAEitB,eAAgBjtB,EAAEktB,cAAe,IAAIC,EAAUntB,EAAEotB,KAAMptB,EAAEqtB,eAAgBrtB,EAAEstB,cAAe,IAAIC,EAAUvtB,EAAEwtB,KAAMxtB,EAAEytB,eAAgBztB,EAAE0tB,cAAe,IAAIC,EAAU3tB,EAAE4tB,KAAM5tB,EAAE6tB,eAAgB7tB,EAAE8tB,cAAe,IAAIC,EAAU/tB,EAAEguB,KAAMhuB,EAAEiuB,eAAgBjuB,EAAEkuB,cAAe,IAAIC,EAAUnuB,EAAEouB,KAAMpuB,EAAEquB,eAAgBruB,EAAEsuB,cAAe,IAAIC,EAAUvuB,EAAEwuB,KAAMxuB,EAAEyuB,eAAgBzuB,EAAE0uB,cAAe,IAAIC,EAAU3uB,EAAE4uB,KAAM5uB,EAAE6uB,eAAgB7uB,EAAE8uB,cAAe,IAAIC,EAAU/uB,EAAEgvB,KAAMhvB,EAAEivB,eAAgBjvB,EAAEkvB,cAAe,IAAIC,EAAUnvB,EAAEovB,KAAMpvB,EAAEqvB,eAAgBrvB,EAAEsvB,cAAe,IAAIC,EAAUvvB,EAAEwvB,KAAMxvB,EAAEyvB,eAAgBzvB,EAAE0vB,cAAe,IAAIC,EAAU3vB,EAAE4vB,KAAM5vB,EAAE6vB,eAAgB7vB,EAAE8vB,cAAe,IAAIC,EAAU/vB,EAAEgwB,KAAMhwB,EAAEiwB,eAAgBjwB,EAAEkwB,cAAe,IAAIC,EAAUnwB,EAAEowB,KAAMpwB,EAAEqwB,eAAgBrwB,EAAEswB,cAAe,IAAIC,EAAUvwB,EAAEwwB,KAAMxwB,EAAEywB,eAAgBzwB,EAAE0wB,cAAe,IAAIC,EAAU3wB,EAAE4wB,KAAM5wB,EAAE6wB,eAAgB7wB,EAAE8wB,cAAe,IAAIC,EAAU/wB,EAAEgxB,KAAMhxB,EAAEixB,eAAgBjxB,EAAEkxB,cAAe,IAAIC,EAAUnxB,EAAEoxB,KAAMpxB,EAAEqxB,eAAgBrxB,EAAEsxB,cAAe,IAAIC,EAAUvxB,EAAEwxB,KAAMxxB,EAAEyxB,eAAgBzxB,EAAE0xB,cAAe,IAAIC,EAAU3xB,EAAE4xB,KAAM5xB,EAAE6xB,eAAgB7xB,EAAE8xB,cAAe,IAAIC,EAAU/xB,EAAEgyB,KAAMhyB,EAAEiyB,eAAgBjyB,EAAEkyB,cAAe,IAAIC,EAAUnyB,EAAEoyB,KAAMpyB,EAAEqyB,eAAgBryB,EAAEsyB,cAAe,IAAIC,EAAUvyB,EAAEwyB,KAAMxyB,EAAEyyB,eAAgBzyB,EAAE0yB,cAAe,IAAIC,EAAU3yB,EAAE4yB,KAAM5yB,EAAE6yB,eAAgB7yB,EAAE8yB,cAAe,IAAIC,EAAU/yB,EAAEgzB,KAAMhzB,EAAEizB,eAAgBjzB,EAAEkzB,cAAe,IAAIC,EAAUnzB,EAAEozB,KAAMpzB,EAAEqzB,eAAgBrzB,EAAEszB,cAAe,IAAIC,EAAUvzB,EAAEwzB,KAAMxzB,EAAEyzB,eAAgBzzB,EAAE0zB,cAAe,IAAIC,EAAU3zB,EAAE4zB,KAAM5zB,EAAE6zB,eAAgB7zB,EAAE8zB,cAAe,IAAIC,EAAU/zB,EAAEg0B,KAAMh0B,EAAEi0B,eAAgBj0B,EAAEk0B,cAAe,IAAIC,EAAUn0B,EAAEo0B,KAAMp0B,EAAEq0B,eAAgBr0B,EAAEs0B,cAAe,IAAIC,EAAUv0B,EAAEw0B,KAAMx0B,EAAEy0B,eAAgBz0B,EAAE00B,cAAe,IAAIC,EAAU30B,EAAE40B,KAAM50B,EAAE60B,eAAgB70B,EAAE80B,cAAe,IAAIC,EAAU/0B,EAAEg1B,KAAMh1B,EAAEi1B,eAAgBj1B,EAAEk1B,cAAe,IAAIC,EAAUn1B,EAAEo1B,KAAMp1B,EAAEq1B,eAAgBr1B,EAAEs1B,cAAe,IAAIC,EAAUv1B,EAAEw1B,KAAMx1B,EAAEy1B,eAAgBz1B,EAAE01B,cAAe,IAAIC,EAAU31B,EAAE41B,KAAM51B,EAAE61B,eAAgB71B,EAAE81B,cAAe,IAAIC,EAAU/1B,EAAEg2B,KAAMh2B,EAAEi2B,eAAgBj2B,EAAEk2B,cAAe,IAAIC,EAAUn2B,EAAEo2B,KAAMp2B,EAAEq2B,eAAgBr2B,EAAEs2B,cAAe,IAAIC,EAAUv2B,EAAEw2B,KAAMx2B,EAAEy2B,eAAgBz2B,EAAE02B,cAAe,IAAIC,EAAU32B,EAAE42B,KAAM52B,EAAE62B,eAAgB72B,EAAE82B,cAAe,IAAIC,EAAU/2B,EAAEg3B,KAAMh3B,EAAEi3B,eAAgBj3B,EAAEk3B,cAAe,IAAIC,EAAUn3B,EAAEo3B,KAAMp3B,EAAEq3B,eAAgBr3B,EAAEs3B,cAAe,IAAIC,EAAUv3B,EAAEw3B,KAAMx3B,EAAEy3B,eAAgBz3B,EAAE03B,cAAe,IAAIC,EAAU33B,EAAE43B,KAAM53B,EAAE63B,eAAgB73B,EAAE83B,cAAe,IAAIC,EAAU/3B,EAAEg4B,KAAMh4B,EAAEi4B,eAAgBj4B,EAAEk4B,cAAe,IAAIC,EAAUn4B,EAAEo4B,KAAMp4B,EAAEq4B,eAAgBr4B,EAAEs4B,cAAe,IAAIC,EAAUv4B,EAAEw4B,KAAMx4B,EAAEy4B,eAAgBz4B,EAAE04B,cAAe,IAAIC,EAAU34B,EAAE44B,KAAM54B,EAAE64B,eAAgB74B,EAAE84B,cAAe,IAAIC,EAAU/4B,EAAEg5B,KAAMh5B,EAAEi5B,eAAgBj5B,EAAEk5B,cAAe,IAAIC,EAAUn5B,EAAEo5B,KAAMp5B,EAAEq5B,eAAgBr5B,EAAEs5B,cAAe,IAAIC,EAAUv5B,EAAEw5B,KAAMx5B,EAAEy5B,eAAgBz5B,EAAE05B,cAAe,IAAIC,EAAU35B,EAAE45B,KAAM55B,EAAE65B,eAAgB75B,EAAE85B,cAAe,IAAIC,EAAU/5B,EAAEg6B,KAAMh6B,EAAEi6B,eAAgBj6B,EAAEk6B,cAAe,IAAIC,EAAUn6B,EAAEo6B,KAAMp6B,EAAEq6B,eAAgBr6B,EAAEs6B,cAAe,IAAIC,EAAUv6B,EAAEw6B,KAAMx6B,EAAEy6B,eAAgBz6B,EAAE06B,cAAe,IAAIC,EAAU36B,EAAE46B,KAAM56B,EAAE66B,eAAgB76B,EAAE86B,cAAe,IAAIC,EAAU/6B,EAAEg7B,KAAMh7B,EAAEi7B,eAAgBj7B,EAAEk7B,cAAe,IAAIC,EAAUn7B,EAAEo7B,KAAMp7B,EAAEq7B,eAAgBr7B,EAAEs7B,cAAe,IAAIC,EAAUv7B,EAAEw7B,KAAMx7B,EAAEy7B,eAAgBz7B,EAAE07B,cAAe,IAAIC,EAAU37B,EAAE47B,KAAM57B,EAAE67B,eAAgB77B,EAAE87B,cAAe,IAAIC,EAAU/7B,EAAEg8B,KAAMh8B,EAAEi8B,eAAgBj8B,EAAEk8B,cAAe,IAAIC,EAAUn8B,EAAEo8B,KAAMp8B,EAAEq8B,eAAgBr8B,EAAEs8B,cAAe,IAAIC,EAAUv8B,EAAEw8B,KAAMx8B,EAAEy8B,eAAgBz8B,EAAE08B,cAAe,IAAIC,EAAU38B,EAAE48B,KAAM58B,EAAE68B,eAAgB78B,EAAE88B,cAAe,IAAIC,EAAU/8B,EAAEg9B,KAAMh9B,EAAEi9B,eAAgBj9B,EAAEk9B,cAAe,IAAIC,EAAUn9B,EAAEo9B,KAAMp9B,EAAEq9B,eAAgBr9B,EAAEs9B,cAAe,IAAIC,EAAUv9B,EAAEw9B,KAAMx9B,EAAEy9B,eAAgBz9B,EAAE09B,cAAe,IAAIC,EAAU39B,EAAE49B,KAAM59B,EAAE69B,eAAgB79B,EAAE89B,cAAe,IAAIC,EAAU/9B,EAAEg+B,KAAMh+B,EAAEi+B,eAAgBj+B,EAAEk+B,cAAe,IAAIC,EAAUn+B,EAAEo+B,KAAMp+B,EAAEq+B,eAAgBr+B,EAAEs+B,cAAe,IAAIC,EAAUv+B,EAAEw+B,KAAMx+B,EAAEy+B,eAAgBz+B,EAAE0+B,cAAe,IAAIC,EAAU3+B,EAAE4+B,KAAM5+B,EAAE6+B,eAAgB7+B,EAAE8+B,cAAe,IAAIC,EAAU/+B,EAAEg/B,KAAMh/B,EAAEi/B,eAAgBj/B,EAAEk/B,cAAe,IAAIC,EAAUn/B,EAAEo/B,KAAMp/B,EAAEq/B,eAAgBr/B,EAAEs/B,cAAe,IAAIC,EAAUv/B,EAAEw/B,KAAMx/B,EAAEy/B,eAAgBz/B,EAAE0/B,cAAe,IAAIC,EAAU3/B,EAAE4/B,KAAM5/B,EAAE6/B,eAAgB7/B,EAAE8/B,cAAe,IAAIC,EAAU//B,EAAEggC,KAAMhgC,EAAEigC,eAAgBjgC,EAAEkgC,cAAe,IAAIC,EAAUngC,EAAEogC,KAAMpgC,EAAEqgC,eAAgBrgC,EAAEsgC,cAAe,IAAIC,EAAUvgC,EAAEwgC,KAAMxgC,EAAEygC,eAAgBzgC,EAAE0gC,cAAe,IAAIC,EAAU3gC,EAAE4gC,KAAM5gC,EAAE6gC,eAAgB7gC,EAAE8gC,cAAe,IAAIC,EAAU/gC,EAAEghC,KAAMhhC,EAAEihC,eAAgBjhC,EAAEkhC,cAAe,IAAIC,EAAUnhC,EAAEohC,KAAMphC,EAAEqhC,eAAgBrhC,EAAEshC,cAAe,IAAIC,EAAUvhC,EAAEwhC,KAAMxhC,EAAEyhC,eAAgBzhC,EAAE0hC,cAAe,IAAIC,EAAU3hC,EAAE4hC,KAAM5hC,EAAE6hC,eAAgB7hC,EAAE8hC,cAAe,IAAIC,EAAU/hC,EAAEgiC,KAAMhiC,EAAEiiC,eAAgBjiC,EAAEkiC,cAAe,IAAIC,EAAUniC,EAAEoiC,KAAMpiC,EAAEqiC,eAAgBriC,EAAEsiC,cAAe,IAAIC,EAAUviC,EAAEwiC,KAAMxiC,EAAEyiC,eAAgBziC,EAAE0iC,cAAe,IAAIC,EAAU3iC,EAAE4iC,KAAM5iC,EAAE6iC,eAAgB7iC,EAAE8iC,cAAe,IAAIC,EAAU/iC,EAAEgjC,KAAMhjC,EAAEijC,eAAgBjjC,EAAEkjC,cAAe,IAAIC,EAAUnjC,EAAEojC,KAAMpjC,EAAEqjC,eAAgBrjC,EAAEsjC,cAAe,IAAIC,EAAUvjC,EAAEwjC,KAAMxjC,EAAEyjC,eAAgBzjC,EAAE0jC,cAAe,IAAIC,EAAU3jC,EAAE4jC,KAAM5jC,EAAE6jC,eAAgB7jC,EAAE8jC,cAAe,IAAIC,EAAU/jC,EAAEgkC,KAAMhkC,EAAEikC,eAAgBjkC,EAAEkkC,cAAe,IAAIC,EAAUnkC,EAAEokC,KAAMpkC,EAAEqkC,eAAgBrkC,EAAEskC,cAAe,IAAIC,EAAUvkC,EAAEwkC,KAAMxkC,EAAEykC,eAAgBzkC,EAAE0kC,cAAe,IAAIC,EAAU3kC,EAAE4kC,KAAM5kC,EAAE6kC,eAAgB7kC,EAAE8kC,cAAe,IAAIC,EAAU/kC,EAAEglC,KAAMhlC,EAAEilC,eAAgBjlC,EAAEklC,cAAe,IAAIC,EAAUnlC,EAAEolC,KAAMplC,EAAEqlC,eAAgBrlC,EAAEslC,cAAe,IAAIC,EAAUvlC,EAAEwlC,KAAMxlC,EAAEylC,eAAgBzlC,EAAE0lC,cAAe,IAAIC,EAAU3lC,EAAE4lC,KAAM5lC,EAAE6lC,eAAgB7lC,EAAE8lC,cAAe,IAAIC,EAAU/lC,EAAEgmC,KAAMhmC,EAAEimC,eAAgBjmC,EAAEkmC,cAAe,IAAIC,EAAUnmC,EAAEomC,KAAMpmC,EAAEqmC,eAAgBrmC,EAAEsmC,cAAe,IAAIC,EAAUvmC,EAAEwmC,KAAMxmC,EAAEymC,eAAgBzmC,EAAE0mC,cAAe,IAAIC,EAAU3mC,EAAE4mC,KAAM5mC,EAAE6mC,eAAgB7mC,EAAE8mC,cAAe,IAAIC,EAAU/mC,EAAEgnC,KAAMhnC,EAAEinC,eAAgBjnC,EAAEknC,cAAe,IAAIC,EAAUnnC,EAAEonC,KAAMpnC,EAAEqnC,eAAgBrnC,EAAEsnC,cAAe,IAAIC,EAAUvnC,EAAEwnC,KAAMxnC,EAAEynC,eAAgBznC,EAAE0nC,cAAe,IAAIC,EAAU3nC,EAAE4nC,KAAM5nC,EAAE6nC,eAAgB7nC,EAAE8nC,cAAe,IAAIC,EAAU/nC,EAAEgoC,KAAMhoC,EAAEioC,eAAgBjoC,EAAEkoC,cAAe,IAAIC,EAAUnoC,EAAEooC,KAAMpoC,EAAEqoC,eAAgBroC,EAAEsoC,cAAe,IAAIC,EAAUvoC,EAAEwoC,KAAMxoC,EAAEyoC,eAAgBzoC,EAAE0oC,cAAe,IAAIC,EAAU3oC,EAAE4oC,KAAM5oC,EAAE6oC,eAAgB7oC,EAAE8oC,cAAe,IAAIC,EAAU/oC,EAAEgpC,KAAMhpC,EAAEipC,eAAgBjpC,EAAEkpC,cAAe,IAAIC,EAAUnpC,EAAEopC,KAAMppC,EAAEqpC,eAAgBrpC,EAAEspC,cAAe,IAAIC,EAAUvpC,EAAEwpC,KAAMxpC,EAAEypC,eAAgBzpC,EAAE0pC,cAAe,IAAIC,EAAU3pC,EAAE4pC,KAAM5pC,EAAE6pC,eAAgB7pC,EAAE8pC,cAAe,IAAIC,EAAU/pC,EAAEgqC,KAAMhqC,EAAEiqC,eAAgBjqC,EAAEkqC,cAAe,IAAIC,EAAUnqC,EAAEoqC,KAAMpqC,EAAEqqC,eAAgBrqC,EAAEsqC,cAAe,IAAIC,EAAUvqC,EAAEwqC,KAAMxqC,EAAEyqC,eAAgBzqC,EAAE0qC,cAAe,IAAIC,EAAU3qC,EAAE4qC,KAAM5qC,EAAE6qC,eAAgB7qC,EAAE8qC,cAAe,IAAIC,EAAU/qC,EAAEgrC,KAAMhrC,EAAEirC,eAAgBjrC,EAAEkrC,cAAe,IAAIC,EAAUnrC,EAAEorC,KAAMprC,EAAEqrC,eAAgBrrC,EAAEsrC,cAAe,IAAIC,EAAUvrC,EAAEwrC,KAAMxrC,EAAEyrC,eAAgBzrC,EAAE0rC,cAAe,IAAIC,EAAU3rC,EAAE4rC,KAAM5rC,EAAE6rC,eAAgB7rC,EAAE8rC,cAAe,IAAIC,EAAU/rC,EAAEgsC,KAAMhsC,EAAEisC,eAAgBjsC,EAAEksC,cAAe,IAAIC,EAAUnsC,EAAEosC,KAAMpsC,EAAEqsC,eAAgBrsC,EAAEssC,cAAe,IAAIC,EAAUvsC,EAAEwsC,KAAMxsC,EAAEysC,eAAgBzsC,EAAE0sC,cAAe,IAAIC,EAAU3sC,EAAE4sC,KAAM5sC,EAAE6sC,eAAgB7sC,EAAE8sC,cAAe,IAAIC,EAAU/sC,EAAEgtC,KAAMhtC,EAAEitC,eAAgBjtC,EAAEktC,cAAe,IAAIC,EAAUntC,EAAEotC,KAAMptC,EAAEqtC,eAAgBrtC,EAAEstC,cAAe,IAAIC,EAAUvtC,EAAEwtC,KAAMxtC,EAAEytC,eAAgBztC,EAAE0tC,cAAe,IAAIC,EAAU3tC,EAAE4tC,KAAM5tC,EAAE6tC,eAAgB7tC,EAAE8tC,cAAe,IAAIC,EAAU/tC,EAAEguC,KAAMhuC,EAAEiuC,eAAgBjuC,EAAEkuC,cAAe,IAAIC,EAAUnuC,EAAEouC,KAAMpuC,EAAEquC,eAAgBruC,EAAEsuC,cAAe,IAAIC,EAAUvuC,EAAEwuC,KAAMxuC,EAAEyuC,eAAgBzuC,EAAE0uC,cAAe,IAAIC,EAAU3uC,EAAE4uC,KAAM5uC,EAAE6uC,eAAgB7uC,EAAE8uC,cAAe,IAAIC,EAAU/uC,EAAEgvC,KAAMhvC,EAAEivC,eAAgBjvC,EAAEkvC,cAAe,IAAIC,EAAUnvC,EAAEovC,KAAMpvC,EAAEqvC,eAAgBrvC,EAAEsvC,cAAe,IAAIC,EAAUvvC,EAAEwvC,KAAMxvC,EAAEyvC,eAAgBzvC,EAAE0vC,cAAe,IAAIC,EAAU3vC,EAAE4vC,KAAM5vC,EAAE6vC,eAAgB7vC,EAAE8vC,cAAe,IAAIC,EAAU/vC,EAAEgwC,KAAMhwC,EAAEiwC,eAAgBjwC,EAAEkwC,cAAe,IAAIC,EAAUnwC,EAAEowC,KAAMpwC,EAAEqwC,eAAgBrwC,EAAEswC,cAAe,IAAIC,EAAUvwC,EAAEwwC,KAAMxwC,EAAEywC,eAAgBzwC,EAAE0wC,cAAe,IAAIC,EAAU3wC,EAAE4wC,KAAM5wC,EAAE6wC,eAAgB7wC,EAAE8wC,cAAe,IAAIC,EAAU/wC,EAAEgxC,KAAMhxC,EAAEixC,eAAgBjxC,EAAEkxC,cAAe,IAAIC,EAAUnxC,EAAEoxC,KAAMpxC,EAAEqxC,eAAgBrxC,EAAEsxC,cAAe,IAAIC,EAAUvxC,EAAEwxC,KAAMxxC,EAAEyxC,eAAgBzxC,EAAE0xC,cAAe,IAAIC,EAAU3xC,EAAE4xC,KAAM5xC,EAAE6xC,eAAgB7xC,EAAE8xC,cAAe,IAAIC,EAAU/xC,EAAEgyC,KAAMhyC,EAAEiyC,eAAgBjyC,EAAEkyC,cAAe,IAAIC,EAAUnyC,EAAEoyC,KAAMpyC,EAAEqyC,eAAgBryC,EAAEsyC,cAAe,IAAIC,EAAUvyC,EAAEwyC,KAAMxyC,EAAEyyC,eAAgBzyC,EAAE0yC,cAAe,IAAIC,EAAU3yC,EAAE4yC,KAAM5yC,EAAE6yC,eAAgB7yC,EAAE8yC,cAAe,IAAIC,EAAU/yC,EAAEgzC,KAAMhzC,EAAEizC,eAAgBjzC,EAAEkzC,cAAe,IAAIC,EAAUnzC,EAAEozC,KAAMpzC,EAAEqzC,eAAgBrzC,EAAEszC,cAAe,IAAIC,EAAUvzC,EAAEwzC,KAAMxzC,EAAEyzC,eAAgBzzC,EAAE0zC,cAAe,IAAIC,EAAU3zC,EAAE4zC,KAAM5zC,EAAE6zC,eAAgB7zC,EAAE8zC,cAAe,IAAIC,EAAU/zC,EAAEg0C,KAAMh0C,EAAEi0C,eAAgBj0C,EAAEk0C,cAAe,IAAIC,EAAUn0C,EAAEo0C,KAAMp0C,EAAEq0C,eAAgBr0C,EAAEs0C,cAAe,IAAIC,EAAUv0C,EAAEw0C,KAAMx0C,EAAEy0C,eAAgBz0C,EAAE00C,cAAe,IAAIC,EAAU30C,EAAE40C,KAAM50C,EAAE60C,eAAgB70C,EAAE80C,cAAe,IAAIC,EAAU/0C,EAAEg1C,KAAMh1C,EAAEi1C,eAAgBj1C,EAAEk1C,cAAe,IAAIC,EAAUn1C,EAAEo1C,KAAMp1C,EAAEq1C,eAAgBr1C,EAAEs1C,cAAe,IAAIC,EAAUv1C,EAAEw1C,KAAMx1C,EAAEy1C,eAAgBz1C,EAAE01C,cAAe,IAAIC,EAAU31C,EAAE41C,KAAM51C,EAAE61C,eAAgB71C,EAAE81C,cAAe,IAAIC,EAAU/1C,EAAEg2C,KAAMh2C,EAAEi2C,eAAgBj2C,EAAEk2C,cAAe,IAAIC,EAAUn2C,EAAEo2C,KAAMp2C,EAAEq2C,eAAgBr2C,EAAEs2C,cAAe,IAAIC,EAAUv2C,EAAEw2C,KAAMx2C,EAAEy2C,eAAgBz2C,EAAE02C,cAAe,IAAIC,EAAU32C,EAAE42C,KAAM52C,EAAE62C,eAAgB72C,EAAE82C,cAAe,IAAIC,EAAU/2C,EAAEg3C,KAAMh3C,EAAEi3C,eAAgBj3C,EAAEk3C,cAAe,IAAIC,EAAUn3C,EAAEo3C,KAAMp3C,EAAEq3C,eAAgBr3C,EAAEs3C,cAAe,IAAIC,EAAUv3C,EAAEw3C,KAAMx3C,EAAEy3C,eAAgBz3C,EAAE03C,cAAe,IAAIC,EAAU33C,EAAE43C,KAAM53C,EAAE63C,eAAgB73C,EAAE83C,cAAe,IAAIC,EAAU/3C,EAAEg4C,KAAMh4C,EAAEi4C,eAAgBj4C,EAAEk4C,cAAe,IAAIC,EAAUn4C,EAAEo4C,KAAMp4C,EAAEq4C,eAAgBr4C,EAAEs4C,cAAe,IAAIC,EAAUv4C,EAAEw4C,KAAMx4C,EAAEy4C,eAAgBz4C,EAAE04C,cAAe,IAAIC,EAAU34C,EAAE44C,KAAM54C,EAAE64C,eAAgB74C,EAAE84C,cAAe,IAAIC,EAAU/4C,EAAEg5C,KAAMh5C,EAAEi5C,eAAgBj5C,EAAEk5C,cAAe,IAAIC,EAAUn5C,EAAEo5C,KAAMp5C,EAAEq5C,eAAgBr5C,EAAEs5C,cAAe,IAAIC,EAAUv5C,EAAEw5C,KAAMx5C,EAAEy5C,eAAgBz5C,EAAE05C,cAAe,IAAIC,EAAU35C,EAAE45C,KAAM55C,EAAE65C,eAAgB75C,EAAE85C,cAAe,IAAIC,EAAU/5C,EAAEg6C,KAAMh6C,EAAEi6C,eAAgBj6C,EAAEk6C,cAAe,IAAIC,EAAUn6C,EAAEo6C,KAAMp6C,EAAEq6C,eAAgBr6C,EAAE

E,IAAIgD,EAAY,IAAIjpB,EAAiB4K,EAAEpL,GAAII,EAAMynB,aAAazc,EAAEob,cAAelnB,EAAEwD,SACjFskB,EAAcroB,KAAK0qB,GAGdqB,EAQDE,YAAW,WACP,IAAIC,EAAa7qB,EAAMolB,oBAAoBxB,MAAM1kB,EAAEW,IAAKG,EAAM8lB,YAK9D,OAAO9lB,EAAM8qB,mBAmBD,EAAY,aAAc,KAJ7C,CACT7C,mBAAoBhd,EAAEsb,OAAO0B,mBAC7BE,WAAwC,UAA5BloB,EAAMslB,mBAAkCD,EAAEngB,QAAS6F,EAAAE7F,QSohBOAQvb,EAAEub,OAAQC,QAASxb,EAAEwb,YAAC5H,GAAdHxb,EAAE7F,SAAQ,SAAQC,mBAAoBC,EAAEC,EAAEC,EAAE

bA,GAA8B,MAAZD,IAGA,GAAbC,GAA8B,KAAZD,EACvBvd,GAAa,EAEI,OAAZud,EACLtd,IAEgB,IAAXsd,GACL5lB,EAAInI,KAAK+tB,OAGV5lB,GAEJjI,EAASiI,EAAK,CAACylB,MACvB,IACH,OAAO,IAAIrd,GAAAWC,EAAYC,EAAoBtI,GAAxG5CwlB,CAAkBjd,GAC5B,GAAIgd,GAAAI,EAAAK8F,IAAAK,EAAAQzG,EAAAQqG,KAAAM,IAAAM,EAAAC,EAAAC,EAAAC

,iBAAmB,SAAU6D,EAAaC,EAAWpI,GAClElpB,KAAK8oB,YAAcuI,EACnBrxB,KAAKyoB,eAAiB6I,EACtBtx
B,KAAK2oB,WAAa3oB,KAAKioB,oBAAoBxB,MAAMzmB,KAAKyoB,eAAgBS,GACtElpB,KAAKisB,4BAET
jF,EAAOnmB,UAAUorB,yBAA2B,WACxCjsB,KAAKknB,SAASiK,aAAanxB,KAAAK6Z,cAAActQ,UAAUvJ,KAAA
K2oB,YAAa,GAAI,CAAErB,aAActnB,KAAK6nB,oBAEhGb,EA3xBgB,GA6xB3BA,GAAOlO,WAAa,CAAChB,C
AAEC,KAAMlZ,EAAK0xB,aEjBvK,GAAOwK,eAAiB,WAAc,MAAO,CAAzC,CAAEzY,CAAAEzY,MAAAC,KAAAC,UAAA,
MACb,CAAE1Y,KAAMxO,GACR,CAAEwO,KAAMmN,IACR,CAAEnN,KAAMnN,IACR,CAAEnN,KAAMnZ,EAAO8xB,UACf,CAAE3Y
,KAAMlZ,EAAK8xB,UACb,CAAE5Y,KAAMlZ,EAAK+xB,uBACb,CAAE7Y,KAAMlZ,EAAKgyB,gBAAiB,UACb,CAA
E9Y,UAAMvL,KAmHZ,IAAIskB,GAA4B,WAC5B,SAASA,EAAWnyB,EAAQiyB,EAAOG,EAAUC,EAAOC,EAAUC,
GACnDjyB,KAAKL,OAASA,EACdK,KAAK4D,MAAQA,EACb5D,KAAK2D,OAASA,EACd3D,KAAK2S,SAAW,
QAAQ4N,GAAYA,EAAW,CAACA,IAAIlgB,OAAS,EAAIkgB,EAAW,KAC3DA,EAAWA,EAAS,GAAK,
KAAK+qB,YAAc,KACnBzyB,KAAK0yB,WAAa,KAClB1yB,KAAK2yB,WAAa,KAClB3yB,KAAK4yB,WAAa,KAClB5yB,KAAK6yB,
WAAa,KAClB7yB,KAAK8yB,WAAa,KAClB9yB,KAAK+yB,WAAa,KAClB/yB,KAAKgzB,WAAa,KAClBhzB,KAAKizB,
WAAa,KAClBjzB,KAAKkzB,WAAa,KAClBlzB,KAAKmzB,WAAa,KAClBnzB,KAAKozB,WAAa,KAClBpzB,KAAKqzB,
WAAa,KAClBrzB,KAAKszB,WAAa,KAClBtzB,KAAKuzB,WAAa,KAClBvzB,KAAKwzB,WAAa,KAClBxzB,KAAKyzB,
WAAa,KAClBzzB,KAAK0zB,WAAa,KAClB1zB,KAAK2zB,WAAa,KAClB3zB,KAAK4zB,WAAa,KAClB5zB,KAAK6zB,
WAAa,KAClB7zB,KAAK8zB,WAAa,KAClB9zB,KAAK+zB,WAAa,KAClB/zB,KAAKg0B,WAAa,KAClBh0B,KAAKi0B,
WAAa,KAClBj0B,KAAKk0B,WAAa,KAClBl0B,KAAKm0B,WAAa,KAClBn0B,KAAKo0B,WAAa,KAClBp0B,KAAKq0B,
WAAa,KAClBr0B,KAAKs0B,WAAa,KAClBt0B,KAAKu0B,WAAa,KAClBv0B,KAAKw0B,WAAa,KAClBx0B,KAAKy0B,
WAAa,KAClBz0B,KAAK00B,WAAa,KAClB10B,KAAK20B,WAAa,KAClB30B,KAAK40B,WAAa,KAClB50B,KAAK60B,
WAAa,KAClB70B,KAAK80B,WAAa,KAClB90B,KAAK+0B,WAAa,KAClB/0B,KAAKg1B,WAAa,KAClBh1B,KAAKi1B,
WAAa,KAClBj1B,KAAKk1B,WAAa,KAClBl1B,KAAKm1B,WAAa,KAClBn1B,KAAKo1B,WAAa,KAClBp1B,KAAKq1B,
WAAa,KAClBr1B,KAAKs1B,WAAa,KAClBt1B,KAAKu1B,WAAa,KAClBv1B,KAAKw1B,WAAa,KAClBx1B,KAAKy1B,
WAAa,KAClBz1B,KAAK01B,WAAa,KAClB11B,KAAK21B,WAAa,KAClB31B,KAAK41B,WAAa,KAClB51B,KAAK61B,
WAAa,KAClB71B,KAAK81B,WAAa,KAClB91B,KAAK+1B,WAAa,KAClB/1B,KAAKg2B,WAAa,KAClBh2B,KAAKi2B,
WAAa,KAClBj2B,KAAKk2B,WAAa,KAClBl2B,KAAKm2B,WAAa,KAClBn2B,KAAKo2B,WAAa,KAClBp2B,KAAKq2B,
WAAa,KAClBr2B,KAAKs2B,WAAa,KAClBt2B,KAAKu2B,WAAa,KAClBv2B,KAAKw2B,WAAa,KAClBx2B,KAAKy2B,
WAAa,KAClBz2B,KAAK02B,WAAa,KAClB12B,KAAK22B,WAAa,KAClB32B,KAAK42B,WAAa,KAClB52B,KAAK62B,
WAAa,KAClB72B,KAAK82B,WAAa,KAClB92B,KAAK+2B,WAAa,KAClB/2B,KAAKg3B,WAAa,KAClBh3B,KAAKi3B,
WAAa,KAClBj3B,KAAKk3B,WAAa,KAClBl3B,KAAKm3B,WAAa,KAClBn3B,KAAKo3B,WAAa,KAClBp3B,KAAKq3B,
WAAa,KAClBr3B,KAAKs3B,WAAa,KAClBt3B,KAAKu3B,WAAa,KAClBv3B,KAAKw3B,WAAa,KAClBx3B,KAAKy3B,
WAAa,KAClBz3B,KAAK03B,WAAa,KAClB13B,KAAK23B,WAAa,KAClB33B,KAAK43B,WAAa,KAClB53B,KAAK63B,
WAAa,KAClB73B,KAAK83B,WAAa,KAClB93B,KAAK+3B,WAAa,KAClB/3B,KAAKg4B,WAAa,KAClBh4B,KAAKi4B,
WAAa,KAClBj4B,KAAKk4B,WAAa,KAClBl4B,KAAKm4B,WAAa,KAClBn4B,KAAKo4B,WAAa,KAClBp4B,KAAKq4B,
WAAa,KAClBr4B,KAAKs4B,WAAa,KAClBt4B,KAAKu4B,WAAa,KAClBv4B,KAAKw4B,WAAa,KAClBx4B,KAAKy4B,
WAAa,KAClBz4B,KAAK04B,WAAa,KAClB14B,KAAK24B,WAAa,KAClB34B,KAAK44B,WAAa,KAClB54B,KAAK64B,
WAAa,KAClB74B,KAAK84B,WAAa,KAClB94B,KAAK+4B,WAAa,KAClB/4B,KAAKg5B,WAAa,KAClBh5B,KAAKi5B,
WAAa,KAClBj5B,KAAKk5B,WAAa,KAClBl5B,KAAKm5B,WAAa,KAClBn5B,KAAKo5B,WAAa,KAClBp5B,KAAKq5B,
WAAa,KAClBr5B,KAAKs5B,WAAa,KAClBt5B,KAAKu5B,WAAa,KAClBv5B,KAAKw5B,WAAa,KAClBx5B,KAAKy5B,
WAAa,KAClBz5B,KAAK05B,WAAa,KAClB15B,KAAK25B,WAAa,KAClB35B,KAAK45B,WAAa,KAClB55B,KAAK65B,
WAAa,KAClB75B,KAAK85B,WAAa,KAClB95B,KAAK+5B,WAAa,KAClB/5B,KAAKg6B,WAAa,KAClBh6B,KAAKi6B,
WAAa,KAClBj6B,KAAKk6B,WAAa,KAClBl6B,KAAKm6B,WAAa,KAClBn6B,KAAKo6B,WAAa,KAClBp6B,KAAKq6B,
WAAa,KAClBr6B,KAAKs6B,WAAa,KAClBt6B,KAAKu6B,WAAa,KAClBv6B,KAAKw6B,WAAa,KAClBx6B,KAAKy6B,
WAAa,KAClBz6B,KAAK06B,WAAa,KAClB16B,KAAK26B,WAAa,KAClB36B,KAAK46B,WAAa,KAClB56B,KAAK66B,
WAAa,KAClB76B,KAAK86B,WAAa,KAClB96B,KAAK+6B,WAAa,KAClB/6B,KAAKg7B,WAAa,KAClBh7B,KAAKi7B,
WAAa,KAClBj7B,KAAKk7B,WAAa,KAClBl7B,KAAKm7B,WAAa,KAClBn7B,KAAKo7B,WAAa,KAClBp7B,KAAKq7B,
WAAa,KAClBr7B,KAAKs7B,WAAa,KAClBt7B,KAAKu7B,WAAa,KAClBv7B,KAAKw7B,WAAa,KAClBx7B,KAAKy7B,
WAAa,KAClBz7B,KAAK07B,WAAa,KAClB17B,KAAK27B,WAAa,KAClB37B,KAAK47B,WAAa,KAClB57B,KAAK67B,
WAAa,KAClB77B,KAAK87B,WAAa,KAClB97B,KAAK+7B,WAAa,KAClB/7B,KAAKg8B,WAAa,KAClBh8B,KAAKi8B,
WAAa,KAClBj8B,KAAKk8B,WAAa,KAClBl8B,KAAKm8B,WAAa,KAClBn8B,KAAKo8B,WAAa,KAClBp8B,KAAKq8B,
WAAa,KAClBr8B,KAAKs8B,WAAa,KAClBt8B,KAAKu8B,WAAa,KAClBv8B,KAAKw8B,WAAa,KAClBx8B,KAAKy8B,
WAAa,KAClBz8B,KAAK08B,WAAa,KAClB18B,KAAK28B,WAAa,KAClB38B,KAAK48B,WAAa,KAClB58B,KAAK68B,
WAAa,KAClB78B,KAAK88B,WAAa,KAClB98B,KAAK+8B,WAAa,KAClB/8B,KAAKg9B,WAAa,KAClBh9B,KAAKi9B,
WAAa,KAClBj9B,KAAKk9B,WAAa,KAClBl9B,KAAKm9B,WAAa,KAClBn9B,KAAKo9B,WAAa,KAClBp9B,KAAKq9B,
WAAa,KAClBr9B,KAAKs9B,WAAa,KAClBt9B,KAAKu9B,WAAa,KAClBv9B,KAAKw9B,WAAa,KAClBx9B,KAAKy9B,
WAAa,KAClBz9B,KAAK09B,WAAa,KAClB19B,KAAK29B,WAAa,KAClB39B,KAAK49B,WAAa,KAClB59B,KAAK69B,
WAAa,KAClB79B,KAAK89B,WAAa,KAClB99B,KAAK+9B,WAAa,KAClB/9B,KAAKg+B,WAAa,KAClBh+B,KAAKi+B,
WAAa,KAClBj+B,KAAKk+B,WAAa,KAClBl+B,KAAKm+B,WAAa,KAClBn+B,KAAKo+B,WAAa,KAClBp+B,KAAKq+B,
WAAa,KAClBr+B,KAAKs+B,WAAa,KAClBt+B,KAAKu+B,WAAa,KAClBv+B,KAAKw+B,WAAa,KAClBx+B,KAAKy+B,
WAAa,KAClBz+B,KAAK0+B,WAAa,KAClB1+B,KAAK2+B,WAAa,KAClB3+B,KAAK4+B,WAAa,KAClB5+B,KAAK6+B,
WAAa,KAClB7+B,KAAK8+B,WAAa,KAClB9+B,KAAK++B,WAAa,KAClB/+B,KAAKg/B,WAAa,KAClBh/B,KAAKi/B,
WAAa,KAClBj/B,KAAKk/B,WAAa,KAClBl/B,KAAKm/B,WAAa,KAClBn/B,KAAKo/B,WAAa,KAClBp/B,KAAKq/B,
WAAa,KAClBr/B,KAAKs/B,WAAa,KAClBt/B,KAAKu/B,WAAa,KAClBv/B,KAAKw/B,WAAa,KAClBx/B,KAAKy/B,
WAAa,KAClBz/B,KAAK0/B,WAAa,KAClB1/B,KAAK2/B,WAAa,KAClB3/B,KAAK4/B,WAAa,KAClB5/B,KAAK6/B,
WAAa,KAClB7/B,KAAK8/B,WAAa,KAClB9/B,KAAK+/B,WAAa,KAClB//B,KAAKggC,WAAa,KAClBhgC,KAAKigC,
WAAa,KAClBjgC,KAAKkgC,WAAa,KAClBlgC,KAAKmgC,WAAa,KAClBngC,KAAKogC,WAAa,KAClBpgC,KAAKqgC,
WAAa,KAClBrgC,KAAKsgC,WAAa,KAClBtgC,KAAKugC,WAAa,KAClBvgC,KAAKwgC,WAAa,KAClBxgC,KAAKygC,
WAAa,KAClBzgC,KAAK0gC,WAAa,KAClB1gC,KAAK2gC,WAAa,KAClB3gC,KAAK4gC,WAAa,KAClB5gC,KAAK6gC,
WAAa,KAClB7gC,KAAK8gC,WAAa,KAClB9gC,KAAK+gC,WAAa,KAClB/gC,KAAKghC,WAAa,KAClBhhC,KAAKihC,
WAAa,KAClBjhC,KAAKkhC,WAAa,KAClBlhC,KAAKmhC,WAAa,KAClBnhC,KAAKohC,WAAa,KAClBphC,KAAKqhC,
WAAa,KAClBrhC,KAAKshC,WAAa,KAClBthC,KAAKuhC,WAAa,KAClBvhC,KAAKwhC,WAAa,KAClBxhC,KAAKyhC,
WAAa,KAClBzhC,KAAK0hC,WAAa,KAClB1hC,KAAK2hC,WAAa,KAClB3hC,KAAK4hC,WAAa,KAClB5hC,KAAK6hC,
WAAa,KAClB7hC,KAAK8hC,WAAa,KAClB9hC,KAAK+hC,WAAa,KAClB/hC,KAAKgiC,WAAa,KAClBhiC,KAAKiiC,
WAAa,KAClBjiC,KAAKkiC,WAAa,KAClBliC,KAAKmiC,WAAa,KAClBniC,KAAKoiC,WAAa,KAClBpiC,KAAKqiC,
WAAa,KAClBriC,KAAKsiC,WAAa,KAClBtiC,KAAKuiC,WAAa,KAClBviC,KAAKwiC,WAAa,KAClBxiC,KAAKyiC,
WAAa,KAClBziC,KAAK0iC,WAAa,KAClB1iC,KAAK2iC,WAAa,KAClB3iC,KAAK4iC,WAAa,KAClB5iC,KAAK6iC,
WAAa,KAClB7iC,KAAK8iC,WAAa,KAClB9iC,KAAK+iC,WAAa,KAClB/iC,KAAKgjC,WAAa,KAClBhjC,KAAKijC,
WAAa,KAClBjjC,KAAKkjC,WAAa,KAClBljC,KAAKmjC,WAAa,KAClBnjC,KAAKojC,WAAa,KAClBpjC,KAAKqjC,
WAAa,KAClBrjC,KAAKsjC,WAAa,KAClBtjC,KAAKujC,WAAa,KAClBvjC,KAAKwjC,WAAa,KAClBxjC,KAAKyjC,
WAAa,KAClBzjC,KAAK0jC,WAAa,KAClB1jC,KAAK2jC,WAAa,KAClB3jC,KAAK4jC,WAAa,KAClB5jC,KAAK6jC,
WAAa,KAClB7jC,KAAK8jC,WAAa,KAClB9jC,KAAK+jC,WAAa,KAClB/jC,KAAKgkC,WAAa,KAClBhkC,KAAKikC,
WAAa,KAClBjkC,KAAKkkC,WAAa,KAClBlkC,KAAKmkC,WAAa,KAClBnkC,KAAKokC,WAAa,KAClBpkC,KAAKqkC,
WAAa,KAClBrkC,KAAKskC,WAAa,KAClBtkC,KAAKukC,WAAa,KAClBvkC,KAAKwkC,WAAa,KAClBxkC,KAAKykC,
WAAa,KAClBzkC,KAAK0kC,WAAa,KAClB1kC,KAAK2kC,WAAa,KAClB3kC,KAAK4kC,WAAa,KAClB5kC,KAAK6kC,
WAAa,KAClB7kC,KAAK8kC,WAAa,KAClB9kC,KAAK+kC,WAAa,KAClB/kC,KAAKglC,WAAa,KAClBhlC,KAAKilC,
WAAa,KAClBjlC,KAAKklC,WAAa,KAClBllC,KAAKmlC,WAAa,KAClBnlC,KAAKolC,WAAa,KAClBplC,KAAKqlC,
WAAa,KAClBrlC,KAAKslC,WAAa,KAClBtlC,KAAKulC,WAAa,KAClBvlC,KAAKwlC,WAAa,KAClBxlC,KAAKylC,
WAAa,KAClBzlC,KAAK0lC,WAAa,KAClB1lC,KAAK2lC,WAAa,KAClB3lC,KAAK4lC,WAAa,KAClB5lC,KAAK6lC,
WAAa,KAClB7lC,KAAK8lC,WAAa,KAClB9lC,KAAK+lC,WAAa,KAClB/lC,KAAKgmC,WAAa,KAClBhmC,KAAKimC,
WAAa,KAClBjmC,KAAKkmC,WAAa,KAClBlmC,KAAKmmC,WAAa,KAClBnmC,KAAKomC,WAAa,KAClBpmC,KAAKqmC,
WAAa,KAClBrmC,KAAKsmC,WAAa,KAClBtmC,KAAKumC,WAAa,KAClBvmC,KAAKwmC,WAAa,KAClBxmC,KAAKymC,
WAAa,KAClBzmC,KAAK0mC,WAAa,KAClB1mC,KAAK2mC,WAAa,KAClB3mC,KAAK4mC,WAAa,KAClB5mC,KAAK6mC,
WAAa,KAClB7mC,KAAK8mC,WAAa,KAClB9mC,KAAK+mC,WAAa,KAClB/mC,KAAKgnC,WAAa,KAClBhnC,KAAKinC,
WAAa,KAClBjnC,KAAKknC,WAAa,KAClBlnC,KAAKmnC,WAAa,KAClBnnC,KAAKonC,WAAa,KAClBpnC,KAAKqnC,
WAAa,KAClBrnC,KAAKsnC,WAAa,KAClBtnC,KAAKunC,WAAa,KAClBvnC,KAAKwnC,WAAa,KAClBxnC,KAAKynC,
WAAa,KAClBznC,KAAK0nC,WAAa,KAClB1nC,KAAK2nC,WAAa,KAClB3nC,KAAK4nC,WAAa,KAClB5nC,KAAK6nC,
WAAa,KAClB7nC,KAAK8nC,WAAa,KAClB9nC,KAAK+nC,WAAa,KAClB/nC,KAAKgoC,WAAa,KAClBhoC,KAAKioC,
WAAa,KAClBjoC,KAAKkoC,WAAa,KAClBloC,KAAKmoC,WAAa,KAClBnoC,KAAKooC,WAAa,KAClBpoC,KAAKqoC,
WAAa,KAClBroC,KAAKsoC,WAAa,KAClBtoC,KAAKuoC,WAAa,KAClBvoC,KAAKwoC,WAAa,KAClBxoC,KAAKyoC,
WAAa,KAClBzoC,KAAK0oC,WAAa,KAClB1oC,KAAK2oC,WAAa,KAClB3oC,KAAK4oC,WAAa,KAClB5oC,KAAK6oC,
WAAa,KAClB7oC,KAAK8oC,WAAa,KAClB9oC,KAAK+oC,WAAa,KAClB/oC,KAAKgpC,WAAa,KAClBhpC,KAAKipC,
WAAa,KAClBjpC,KAAKkpC,WAAa,KAClBlpC,KAAKmpC,WAAa,KAClBnpC,KAAKopC,WAAa,KAClBppC,KAAKqpC,
WAAa,KAClBrpC,KAAKspC,WAAa,KAClBtpC,KAAKupC,WAAa,KAClBvpC,KAAKwpC,WAAa,KAClBxpC,KAAKypC,
WAAa,KAClBzpC,KAAK0pC,WAAa,KAClB1pC,KAAK2pC,WAAa,KAClB3pC,KAAK4pC,WAAa,KAClB5pC,KAAK6pC,
WAAa,KAClB7pC,KAAK8pC,WAAa,KAClB9pC,KAAK+pC,WAAa,KAClB/pC,KAAKgqC,WAAa,KAClBhqC,KAAKiqC,
WAAa,KAClBjqC,KAAKkqC,WAAa,KAClBlqC,KAAKmqC,WAAa,KAClBnqC,KAAKoqC,WAAa,KAClBpqC,KAAKqqC,
WAAa,KAClBrqC,KAAKsqC,WAAa,KAClBtqC,KAAKuqC,WAAa,KAClBvqC,KAAKwqC,WAAa,KAClBxqC,KAAKyqC,
WAAa,KAClBzqC,KAAK0qC,WAAa,KAClB1qC,KAAK2qC,WAAa,KAClB3qC,KAAK4qC,WAAa,KAClB5qC,KAAK6qC,
WAAa,KAClB7qC,KAAK8qC,WAAa,KAClB9qC,KAAK+qC,WAAa,KAClB/qC,KAAKgrC,WAAa,KAClBhrC,KAAKirC,
WAAa,KAClBjrC,KAAKkrC,WAAa,KAClBlrC,KAAKmrC,WAAa,KAClBnrC,KAAKorC,WAAa,KAClBprC,KAAKqrC,
WAAa,KAClBrrC,KAAKsrC,WAAa,KAClBtrC,KAAKurC,WAAa,KAClBvrC,KAAKwrC,WAAa,KAClBxrC,KAAKyrC,
WAAa,KAClBzrC,KAAK0rC,WAAa,KAClB1rC,KAAK2rC,WAAa,KAClB3rC,KAAK4rC,WAAa,KAClB5rC,KAAK6rC,
WAAa,KAClB7rC,KAAK8rC,WAAa,KAClB9rC,KAAK+rC,WAAa,KAClB/rC,KAAKgsC,WAAa,KAClBhsC,KAAKisC,
WAAa,KAClBjsC,KAAKksC,WAAa,KAClBlsC,KAAKmsC,WAAa,KAClBnsC,KAAKosC,WAAa,KAClBpsC,KAAKqsC,
WAAa,KAClBrsC,KAAKssC,WAAa,KAClBtsC,KAAKusC,WAAa,KAClBvsC,KAAKwsC,WAAa,KAClBxsC,KAAKysC,
WAAa,KAClBzsC,KAAK0sC,WAAa,KAClB1sC,KAAK2sC,WAAa,KAClB3sC,KAAK4sC,WAAa,KAClB5sC,KAAK6sC,
WAAa,KAClB7sC,KAAK8sC,WAAa,KAClB9sC,KAAK+sC,WAAa,KAClB/sC,KAAKgtC,WAAa,KAClBhtC,KAAKitC,
WAAa,KAClBjtC,KAAKktC,WAAa,KAClBltC,KAAKmtC,WAAa,KAClBntC,KAAKotC,WAAa,KAClBptC,KAAKqtC,
WAAa,KAClBrtC,KAAKstC,WAAa,KAClBttC,KAAKutC,WAAa,KAClBvtC,KAAKwtC,WAAa,KAClBxtC,KAAKytC,
WAAa,KAClBztC,KAAK0tC,WAAa,KAClB1tC,KAAK2tC,WAAa,KAClB3tC,KAAK4tC,WAAa,KAClB5tC,KAAK6tC,
WAAa,KAClB7tC,KAAK8tC,WAAa,KAClB9tC,KAAK+tC,WAAa,KAClB/tC,KAAKguC,WAAa,KAClBhuC,KAAKiuC,
WAAa,KAClBjuC,KAAKkuC,WAAa,KAClBluC,KAAKmuC,WAAa,KAClBnuC,KAAKouC,WAAa,KAClBpuC,KAAKquC,
WAAa,KAClBruC,KAAKsuC,WAAa,KAClBtuC,KAAKuuC,WAAa,KAClBvuC,KAAKwuC,WAAa,KAClBxuC,KAAKyuC,
WAAa,KAClBzuC,KAAK0uC,WAAa,KAClB1uC,KAAK2uC,WAAa,KAClB3uC,KAAK4uC,WAAa,KAClB5uC,KAAK6uC,
WAAa,KAClB7uC,KAAK8uC,WAAa,KAClB9uC,KAAK+uC,WAAa,KAClB/uC,KAAKgvC,WAAa,KAClBhvC,KAAKivC,
WAAa,KAClBjvC,KAAKkvC,WAAa,KAClBlvC,KAAKmvC,WAAa,KAClBnvC,KAAKovC,WAAa,KAClBpvC,KAAKqvC,
WAAa,KAClBrvC,KAAKsvC,WAAa,KAClBtvC,KAAKuvC,WAAa,KAClBvvC,KAAKwvC,WAAa,KAClBxvC,KAAKyvC,
WAAa,KAClBzvC,KAAK0vC,WAAa,KAClB1vC,KAAK2vC,WAAa,KAClB3vC,KAAK4vC,WAAa,KAClB5vC,KAAK6vC,
WAAa,KAClB7vC,KAAK8vC,WAAa,KAClB9vC,KAAK+vC,WAAa,KAClB/vC,KAAKgwC,WAAa,KAClBhwC,KAAKiwC,
WAAa,KAClBjwC,KAAKkwC,WAAa,KAClBlwC,KAAKmwC,WAAa,KAClBnwC,KAAKowC,WAAa,KAClBpwC,KAAKqwC,
WAAa,KAClBrwC,KAAKswC,WAAa,KAClBtwC,KAAKuwC,WAAa,KAClBvwC,KAAKwwC,WAAa,KAClBxwC,KAAKywC,
WAAa,KAClBzwC,KAAK0wC,WAAa,KAClB1wC,KAAK2wC,WAAa,KAClB3wC,KAAK4wC,WAAa,KAClB5wC,KAAK6wC,
WAAa,KAClB7wC,KAAK8wC,WAAa,KAClB9wC,KAAK+wC,WAAa,KAClB/wC,KAAKgxC,WAAa,KAClBhxC,KAAKixC,
WAAa,KAClBjxC,KAAKkxC,WAAa,KAClBlxC,KAAKmxC,WAAa,KAClBnxC,KAAKoxC,WAAa,KAClBpxC,KAAKqxC,
WAAa,KAClBrxC,KAAKsxC,WAAa,KAClBtxC,KAAKuxC,WAAa,KAClBvxC,KAAKwxC,WAAa,KAClBxxC,KAAKyxC,
WAAa,KAClBzxC,KAAK0xC,WAAa,KAClB1xC,KAAK2xC,WAAa,KAClB3xC,KAAK4xC,WAAa,KAClB5xC,KAAK6xC,
WAAa,KAClB7xC,KAAK8xC,WAAa,KAClB9xC,KAAK+xC,WAAa,KAClB/xC,KAAKgyC,WAAa,KAClBhyC,KAAKiyC,
WAAa,KAClBjyC,KAAKkyC,WAAa,KAClBlyC,KAAKmyC,WAAa,KAClBnyC,KAAKoyC,WAAa,KAClBpyC,KAAKqyC,
WAAa,KAClBryC,KAAKsyC,WAAa,KAClBtyC,KAAKuyC,WAAa,KAClBvyC,KAAKwyC,WAAa,KAClBxyC,KAAKyyC,
WAAa,KAClBzyC,KAAK0yC,WAAa,KAClB1yC,KAAK2yC,WAAa,KAClB3yC,KAAK4yC,WAAa,KAClB5yC,KAAK6yC,
WAAa,KAClB7yC,KAAK8yC,WAAa,KAClB9yC,KAAK+yC,WAAa,KAClB/yC,KAAKgzC,WAAa,KAClBhzC,KAAKizC,
WAAa,KAClBjzC,KAAKkzC,WAAa,KAClBlzC,KAAKmzC,WAAa,KAClBnzC,KAAKozC,WAAa,KAClBpzC,KAAKqzC,
WAAa,KAClBrzC,KAAKszC,WAAa,KAClBtzC,KAAKuzC,WAAa,KAClBvzC,KAAKwzC,WAAa,KAClBxzC,KAAKyzC,
WAAa,KAClBzzC,KAAK0zC,WAAa,KAClB1zC,KAAK2zC,WAAa,KAClB3zC,KAAK4zC,WAAa,KAClB5zC,KAAK6zC,
WAAa,KAClB7zC,KAAK8zC,WAAa,KAClB9zC,KAAK+zC,WAAa,KAClB/zC,KAAKg0C,WAAa,KAClBh0C,KAAKi0C,
WAAa,KAClBj0C,KAAKk0C,WAAa,KAClBl0C,KAAKm0C,WAAa,KAClBn0C,KAAKo0C,WAAa,KAClBp0C,KAAKq0C,
WAAa,KAClBr0C,KAAKs0C,WAAa,KAClBt0C,KAAKu0C,WAAa,KAClBv0C,KAAKw0C,WAAa,KAClBx0C,KAAKy0C,
WAAa,KAClBz0C,KAAK00C,WAAa,KAClB10C,KAAK20C,WAAa,KAClB30C,KAAK40C,WAAa,KAClB50C,KAAK60C,
WAAa,KAClB70C,KAAK80C,WAAa,KAClB90C,KAAK+0C,WAAa,KAClB/0C,KAAKg1C,WAAa,KAClBh1C,KAAKi1C,
WAAa,KAClBj1C,KAAKk1C,WAAa,KAClBl1C,KAAKm1C,WAAa,KAClBn1C,KAAKo1C,WAAa,KAClBp1C,KAAKq1C,
WAAa,KAClBr1C,KAAKs1C,WAAa,KAClBt1C,KAAKu1C,WAAa,KAClBv1C,KAAKw1C,WAAa,KAClBx1C,KAAKy1C,
WAAa,KAClBz1C,KAAK01C,WAAa,KAClB11C,KAAK21C,WAAa,KAClB31C,KAAK41C,WAAa,KAClB51C,KAAK61C,
WAAa,KAClB71C,KAAK81C,WAAa,KAClB91C,KAAK+1C,WAAa,KAClB/1C,KAAKg2C,WAAa,KAClBh2C,KAAKi2C,
WAAa,KAClBj2C,KAAKk2C,WAAa,KAClBl2C,KAAKm2C,WAAa,KAClBn2C,KAAKo2C,WAAa,KAClBp2C,KAAKq2C,
WAAa,KAClBr2C,KAAKs2C,WAAa,KAClBt2C,KAAKu2C,WAAa,KAClBv2C,KAAKw2C,WAAa,KAClBx2C,KAAKy2C,
WAAa,KAClBz2C,KAAK02C,WAAa,KAClB12C,KAAK22C,WAAa,KAClB32C,KAAK42C,WAAa,KAClB52C,KAAK62C,
WAAa,KAClB72C,KAAK82C,WAAa,KAClB92C,KAAK+2C,WAAa,KAClB/2C,KAAKg3C,WAAa,KAClBh3C,KAAKi3C,
WAAa,KAClBj3C,KAAKk3C,WAAa,KAClBl3C,KAAKm3C,WAAa,KAClBn3C,KAAKo3C,WAAa,KAClBp3C,KAAKq3C,
WAAa,KAClBr3C,KAAKs3C,WAAa,KAClBt3C,KAAKu3C,WAAa,KAClBv3C,KAAKw3C,WAAa,KAClBx3C,KAAKy3C,
WAAa,KAClBz3C,KAAK03C,WAAa,KAClB13C,KAAK23C,WAAa,KAClB33C,KAAK43C,WAAa,KAClB53C,KAAK63C,
WAAa,KAClB73C,KAAK83C,WAAa,KAClB93C,KAAK+3C,WAAa,KAClB/3C,KAAKg4C,WAAa,KAClBh4C,KAAKi4C,
WAAa,KAClBj4C,KAAKk4C,WAAa,KAClBl4C,KAAKm4C,WAAa,KAClBn4C,KAAKo4C,WAAa,KAClBp4C,KAAKq4C,
WAAa,KAClBr4C,KAAKs4C,WAAa,KAClBt4C,KAAKu4C,WAAa,KAClBv4C,KAAKw4C,WAAa,KAClBx4C,KAAKy4C,
WAAa,KAClBz4C,KAAK04C,WAAa,KAClB14C,KAAK24C,WAAa,KAClB34C,KAAK44C,WAAa,KAClB54C,KAAK64C,
WAAa,KAClB74C,KAAK84C,WAAa,KAClB94C,KAAK+4C,WAAa,KAClB/4C,KAAKg5C,WAAa,KAClBh5C,KAAKi5C,
WAAa,KAClBj5C,KAAKk5C,WAAa,KAClBl5C,KAAKm5C,WAAa,KAClBn5C,KAAKo5C,WAAa,KAClBp5C,KAAKq5C,
WAAa,KAClBr5C,KAAKs5C,WAAa,KAClBt5C,KAAKu5C,WAAa,KAClBv5C,KAAKw5C,WAAa,KAClBx5C,KAAKy5C,
WAAa,KAClBz5C,KAAK05C,WAAa,KAClB15C,KAAK25C,WAAa,KAClB35C,KAAK45C,WAAa,KAClB55C,KAAK65C,
WAAa,KAClB75C,KAAK85C,WAAa,KAClB95C,KAAK+5C,WAAa,KAClB/5C,KAAKg6C,WAAa,KAClBh6C,KAAKi6C,
WAAa,KAClBj6C,KAAKk6C,WAAa,KAClBl6C,KAAKm6C,WAAa,KAClBn6C,KAAKo6C,WAAa,KAClBp6C,KAAKq6C,
WAAa,KAClBr6C,KAAKs6C,WAAa,KAClBt6C,KAAKu6C,WAAa,KAClBv6C,KAAKw6C,WAAa,KAClBx6C,KAAKy6C,
WAAa,KAClBz6C,KAAK06C,WAAa,KAClB16C,KAAK26C,WAAa,KAClB36C,KAAK46C,WAAa,KAClB56C,KAAK66C,
WAAa,KAClB76C,KAAK86C,WAAa,KAClB96C,KAAK+6C,WAAa,KAClB/6C,KAAKg7C,WAAa,KAClBh7C,KAAKi7C,
WAAa,KAClBj7C,KAAKk7C,WAAa,KAClBl7C,KAAKm7C,WAAa,KAClBn7C,KAAKo7C,WAAa,KAClBp7C,KAAKq7C,
WAAa,KAClBr7C,KAAKs7C,WAAa,KAClBt7C,KAAKu7C,WAAa,KAClBv7C,KAAKw7C,WAAa,KAClBx7C,KAAKy7C,
WAAa,KAClBz7C,KAAK07C,WAAa,KAClB17C,KAAK27C,WAAa,KAClB37C,KAAK47C,WAAa,KAClB57C,KAAK67C,
WAAa,KAClB77C,KAAK87C,WAAa,KAClB97C,KAAK+7C,WAAa,KAClB/7C,KAAKg8C,WAAa,KAClBh8C,KAAKi8C,
WAAa,KAClBj8C,KAAKk8C,WAAa,KAClBl8C,KAAKm8C,WAAa,KAClBn8C,KAAKo8C,WAAa,KAClBp8C,KAAKq8C,
WAAa,KAClBr8C,KAAKs8C,WAAa,KAClBt8C,KAAKu8C,WAAa,KAClBv8C,KAAKw8C,WAAa,KAClBx8C,KAAKy8C,
WAAa,KAClBz8C,KAAK08C,WAAa,KAClB18C,KAAK28C,WAAa,KAClB38C,KAAK48C,WAAa,KAClB58C,KAAK68C,
WAAa,KAClB78C,KAAK88C,WAAa,KAClB98C,KAAK+8C,WAAa,KAClB/8C,KAAKg9C,WAAa,KAClBh9C,KAAKi9C,
WAAa,KAClBj9C,KAAKk9C,WAAa,KAClBl9C,KAAKm9C,WAAa,KAClBn9C,KAAKo9C,WAAa,KAClBp9C,KAAKq9C,
WAAa,KAClBr9C,KAAKs9C,WAAa,KAClBt9C,KAAKu9C,WAAa,KAClBv9C,KAAKw9C,WAAa,KAClBx9C,KAAKy9C,
WAAa,KAClBz9C,KAAK09C,WAAa,KAClB19C,KAAK29C,WAAa,KAClB39C,KAAK49C,WAAa,KAClB59C,KAAK69C,
WAAa,KAClB79C,KAAK89C,WAAa,KAClB99C,KAAK+9C,WAAa,KAClB/9C,KAAKg+C,WAAa,KAClBh+C,KAAKi+C,
WAAa,KAClBj+C,KAAKk+C,WAAa,KAClBl+C,KAAKm+C,WAAa,KAClBn+C,KAAKo+C,WAAa,KAClBp+C,KAAKq+C,
WAAa,KAClBr+C,KAAKs+C,WAAa,KAClBt+C,KAAKu+C,WAAa,KAClBv+C,KAAKw+C,WAAa,KAClBx+C,KAAKy+C,
WAAa,KAClBz+C,KAAK0+C,WAAa,KAClB1+C,KAAK2+C,WAAa,KAClB3+C,KAAK4+C,WAAa,KAClB5+C,KAAK6+C,
WAAa,KAClB7+C,KAAK8+C,WAAa,KAClB9+C,KAAK++C,WAAa,KAClB/+C,KAAKg/C,WAAa,KAClBh/C,KAAKi/C,
WAAa,KAClBj/C,KAAKk/C,WAAa,KAClBl/C,KAAKm/C,WAAa,KAClBn/C,KAAKo/C,WAAa,KAClBp/C,KAAKq/C,
WAAa,KAClBr/C,KAAKs/C,WAAa,KAClBt/C,KAAKu/C,WAAa,KAClBv/C,KAAKw/C,WAAa,KAClBx/C,KAAKy/C,
WAAa,KAClBz/C,KAAK0/C,WAAa,KAClB1/C,KAAK2/C,WAAa,KAClB3/C,KAAK4/C,WAAa,KAClB5/C,KAAK6/C,
WAAa,KAClB7/C,KAAK8/C,WAAa,KAClB9/C,KAAK+/C,WAAa,KAClB//C,KAAKggD,WAAa,K

AAU,CAAC,CAAE2P,KAAMlZ,EAAKmzB,QACxBvD,oBAAqB,CAAC,CAAE1W,KAAMlZ,EAAKmzB,QACnCzD,iBAAkB,CAAC,CAAExW,KAAMlZ,EAAKmzB,QAChCnI,mBAAoB,CAAC,CAAE9R,KAAMlZ,EAAKmzB,QAClCjI,WAAY,CAAC,CAAEhS,KAAMlZ,EAAKmzB,QAC1B3vB,MAAO,CAAC,CAAE0V,KAAMlZ,EAAKmzB,QACrBBa,KAAM,CAAC,CAAE9a,KAAMlZ,EAAKm0B,QACpBf,Bf,WAAY,CAAC,CAAEla,KAAMlZ,EAAKmzB,QAC1BC1BT,QAAS,CAAC,CAAExZ,KAAMlZ,EAAKqzB,QACvBqB,gB,iBAAkB,kBAAmB,gBAAiB,sBAAiB,IAAIgb,GAAkC,WAAlC,SAASA,EAAiBt0B,EAAQu0B,Qu0B,EAASlC,EAAUmC,EAAKC,EAAMC,GAAK5D,EAAK6D,EAAKC,EAAKC,EAAKC

jB,EAAQ5R,OAIvC5D,KAAKkX,aAAa1B,EAAQ5R,MAAO4R,EAAQyB,UAAY,SAKrE7W,OAAO6E,eAAe8w
B,EAAal1B,UAAW,cAAe,CACzDgE,IAAK,WACD,QAAS7E,KAAKyP,WAElBtK,YAAY,EACZC,cAAc,IAElBh
F,OAAO6E,eAAe8wB,EAAal1B,UAAW,YAAa,CACvDgE,IAAK,WACD,IAAK7E,KAAKyP,UACN,MAAM,IA
AIjK,MAAM,2BACpB,OAAOxF,KAAKyP,UAAU6mB,UAE1BnxB,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,e
AAe8wB,EAAal1B,UAAW,iBAAkB,CAC5DgE,IAAK,WACD,IAAK7E,KAAKyP,UACN,MAAM,IAAIjK,MAAM
,2BACpB,OAAOxF,KAAKi2B,iBAEhB9wB,YAAY,EACZC,cAAc,IAElBhF,OAAO6E,eAAe8wB,EAAal1B,U
AAW,qBAAsB,CAChEgE,IAAK,WACD,OAAI7E,KAAKi2B,gBACEj2B,KAAKi2B,gBAAgBjyB,SAASkM,KAE
lC,IAEX/K,YAAY,EACZC,cAAc,IAAlB2wB,EAAal1B,UAAUiV,OAAS,WAC5B,IAAK9P,KAAK9V,V,OAAK8V,KAAK9V,
MAAM,IAAIjK,MAAM,2BACpBxF,KAAKknB,SASpR,SACd,IAAIygB,EAAMv2B,,KAAKyP,UAGf,OAFAzP,KAAK
AKyP,UAAY,KACjBzP,KAAKi2B,gBAAkB,KAAhBM,GAKXR,EAAal1B,UAAU6V,OAAS,SAAUC,U6V,OAAS,SAAU,SAAU8f,
GAC3Cz2B,KAAKyP,UAAY,+BACjBzP,KAAKi2B,gBAAkB,EACjBx2B,KAAKknB,SAASwP,OAAOF,
EAAIG,WAE7BZ,EAAal1B,UAAUqV,WAAa,WAChC,GAAIlW,KAAKyP,UAAW,CAChB,IAAIzP,KAAKi2B,gBAAkB,
KAAKmQ,UACbnQ,KAAKyP,UAAUmnB,UACf52B,KAAKyP,UAAY,KACjBzP,KAAKi2B,gBAAkB,KACvBj2

C,GAAKoG,KAAKzQ,EAAU80B,WAAY90B,EAAUyH,KAAI,SAAU6a,SAE7EqV,EAAgB72B,UAAUk3B,cAAgB,SAAUhe,EAAUnW,GAC1D,IAAIf,EAAQ7C,KACZ,OAAOA,KAAK43B,mBAAmBJ,QAAQ5zB,GAAO,WAE1C,OADcf,EAAM4iB,OAAO3I,KAAK/C,EAASgD,SAAUnZ,GACpCpC4M,KAAKzQ,EAAUuc,UAAS,SAAU1F,GAAE7C,OADAhT,EAAMkT,QAAQ,EAAGF,EAAE,IAAIA,EAAE,IAAIA,EAAE,IAAIA

B,GAIzB,MAAO,UAkBX,SAASy6B,GAAchjB,GACnB,MAAO,CACH,CAAEkiB,QAASz5B,EAAK07B,6BAA8
BV,OAAO,EAAMhB,SAAUziB,GACrE,CAAEkiB,QAAShU,GAAQuV,OAAO,EAAMhB,SAAUziB,IAGlD,SAA
SqiB,GAAY5f,EAAe7E,EAAUkS,EAAUnK,EAAU0I,EAAQC,EAAU9O,EAAQ4kB,EAAMvT,EAAqB7T,QACt
G,IAATonB,IAAmBA,EAAO,IAC9B,IAAI77B,EAAS,IAAIqnB,GAAO,KAAMnN,EAAe7E,EAAUkS,EAAUnK,
EAAU0I,EAAQC,EAAUve,EAAQyP,IAQrG,GAPIqR,IACAtoB,EAAOsoB,oB,oBAAsBA,GAE7B7T,IACAzU,
OyU,mBAAqBA,GAEhCqnB,GAA2BD,EAAM77B,GAC7B67B,EAAK1B,cAAe,cAAeA,GAAe,EAAM77B,GAC7B67B,EAAK1B,cAAe,cAAeA,GAAe,EA
AO+7B,UACnBh8B,EAAO6nB,OAAO6G,WAAU,SAAUsB,GAC9B25B,GAAS,iBAAmB75B,EAAEnB
,YAAYgE,MAChD82B,EAAMG,IAAI95B,EAAEe,YACZ44B,EAAMG,IAAI95B,GACV25B,GAAS,iBAAmB75B,EAAEnB

AAQ+P,YAAcA,GACtB/P,EAAQuQ,oBAAsBA,GAC9BvQ,EAAQgE,iBAAmBA,EAC3BhE,EAAQiF,OAASA,EACjBjF,EAAQinB,oBAAsBA,GAC9BjnB,EAAQwK,WAAaA,EACrBxK,EAAQoK,gBAAkBA,EAC1BpK,EAAQmL,cAAgBA,EACxBnL,EAAQ+J,QAAUA,EAClB/J,EAAQg+B,BAAiBA,EAAQiG,kBAAoBA,EAC5BjG,EAAQg7B,BAAiBA,EAAQmY,sBAAwBA,GAChCnY,EAAQm+B,BAAkBA,EAC5Bn+B,EAAQo+B,BAAmBA,EAC3Bp+B,EAAQq+B,BAAmBA,EAC3Br+B,EAAQs+B,BAAmBA,EAC3Bt+B,EAAQu+B,BAAmBA,EAC3Bv+B,EAAQw+B,BAAmBA,EAC3Bx+B,EAAQy+B,BAAmBA,EAC3Bz+B,EAAQ0+B,BAAmBA,EAC3B1+B,EAAQ2+B,BAAmBA,EAC3B3+B,EAAQ4+B,BAAmBA,EAC3B5+B,EAAQ6+B,BAAmBA,EAC3B7+B,EAAQ8+B,BAAmBA,EAC3B9+B,EAAQ++B,BAAmBA,EAC3B/+B,EAAQg/B,BAAmBA,EAC3Bh/B,EAAQi/B,BAAmBA,EAC3Bj/B,EAAQk/B,BAAmBA,EAC3Bl/B,EAAQm/B,BAAmBA,EAC3Bn/B,EAAQo/B,BAAmBA,EAC3Bp/B,EAAQq/B,BAAmBA,EAC3Br/B,EAAQs/B,BAAmBA,EAC3Bt/B,EAAQu/B,BAAmBA,EAC3Bv/B,EAAQw/B,BAAmBA,EAC3Bx/B,EAAQy/B,BAAmBA,EAC3Bz/B,EAAQ0/B,BAAmBA,EAC3B1/B,EAAQ2/B,BAAmBA,EAC3B3/B,EAAQ4/B,BAAmBA,EAC3B5/B,EAAQ6/B,BAAmBA,EAC3B7/B,EAAQ8/B,BAAmBA,EAC3B9/B,EAAQ+/B,BAAmBA,EAC3B//B,EAAQggC,BAAmBA,EAC3BhgC,EAAQigC,BAAmBA,EAC3BjgC,EAAQkgC,BAAmBA,EAC3BlgC,EAAQmgC,BAAmBA,EAC3BngC,EAAQogC,BAAmBA,EAC3BpgC,EAAQqgC,BAAmBA,EAC3BrgC,EAAQsgC,BAAmBA,EAC3BtgC,EAAQugC,BAAmBA,EAC3BvgC,EAAQwgC,BAAmBA,EAC3BxgC,EAAQygC,BAAmBA,EAC3BzgC,EAAQ0gC,BAAmBA,EAC3B1gC,EAAQ2gC,BAAmBA,EAC3B3gC,EAAQ4gC,BAAmBA,EAC3B5gC,EAAQ6gC,BAAmBA,EAC3B7gC,EAAQ8gC,BAAmBA,EAC3B9gC,EAAQ+gC,BAAmBA,EAC3B/gC,EAAQghC,BAAmBA,EAC3BhhC,EAAQihC,BAAmBA,EAC3BjhC,EAAQkhC,BAAmBA,EAC3BlhC,EAAQmhC,BAAmBA,EAC3BnhC,EAAQohC,BAAmBA,EAC3BphC,EAAQqhC,BAAmBA,EAC3BrhC,EAAQshC,BAAmBA,EAC3BthC,EAAQuhC,BAAmBA,EAC3BvhC,EAAQwhC,BAAmBA,EAC3BxhC,EAAQyhC,BAAmBA,EAC3BzhC,EAAQ0hC,BAAmBA,EAC3B1hC,EAAQ2hC,BAAmBA,EAC3B3hC,EAAQ4hC,BAAmBA,EAC3B5hC,EAAQ6hC,BAAmBA,EAC3B7hC,EAAQ8hC,BAAmBA,EAC3B9hC,EAAQ+hC,BAAmBA,EAC3B/hC,EAAQgiC,BAAmBA,EAC3BhiC,EAAQiiC,BAAmBA,EAC3BjiC,EAAQkiC,BAAmBA,EAC3BliC,EAAQmiC,BAAmBA,EAC3BniC,EAAQoiC,BAAmBA,EAC3BpiC,EAAQqiC,BAAmBA,EAC3BriC,EAAQsiC,BAAmBA,EAC3BtiC,EAAQuiC,BAAmBA,EAC3BviC,EAAQwiC,BAAmBA,EAC3BxiC,EAAQyiC,BAAmBA,EAC3BziC,EAAQ0iC,BAAmBA,EAC3B1iC,EAAQ2iC,BAAmBA,EAC3B3iC,EAAQ4iC,BAAmBA,EAC3B5iC,EAAQ6iC,BAAmBA,EAC3B7iC,EAAQ8iC,BAAmBA,EAC3B9iC,EAAQ+iC,BAAmBA,EAC3B/iC,EAAQgjC,BAAmBA,EAC3BhjC,EAAQijC,BAAmBA,EAC3BjjC,EAAQkjC,BAAmBA,EAC3BljC,EAAQmjC,BAAmBA,EAC3BnjC,EAAQojC,BAAmBA,EAC3BpjC,EAAQqjC,BAAmBA,EAC3BrjC,EAAQsjC,BAAmBA,EAC3BtjC,EAAQujC,BAAmBA,EAC3BvjC,EAAQwjC,BAAmBA,EAC3BxjC,EAAQyjC,BAAmBA,EAC3BzjC,EAAQ0jC,BAAmBA,EAC3B1jC,EAAQ2jC,BAAmBA,EAC3B3jC,EAAQ4jC,BAAmBA,EAC3B5jC,EAAQ6jC,BAAmBA,EAC3B7jC,EAAQ8jC,BAAmBA,EAC3B9jC,EAAQ+jC,BAAmBA,EAC3B/jC,EAAQgkC,BAAmBA,EAC3BhkC,EAAQikC,BAAmBA,EAC3BjkC,EAAQkkC,BAAmBA,EAC3BlkC,EAAQmkC,BAAmBA,EAC3BnkC,EAAQokC,BAAmBA,EAC3BpkC,EAAQqkC,BAAmBA,EAC3BrkC,EAAQskC,BAAmBA,EAC3BtkC,EAAQukC,BAAmBA,EAC3BvkC,EAAQwkC,BAAmBA,EAC3BxkC,EAAQykC,BAAmBA,EAC3BzkC,EAAQ0kC,BAAmBA,EAC3B1kC,EAAQ2kC,BAAmBA,EAC3B3kC,EAAQ4kC,BAAmBA,EAC3B5kC,EAAQ6kC,BAAmBA,EAC3B7kC,EAAQ8kC,BAAmBA,EAC3B9kC,EAAQ+kC,BAAmBA,EAC3B/kC,EAAQglC,BAAmBA,EAC3BhlC,EAAQilC,BAAmBA,EAC3BjlC,EAAQklC,BAAmBA,EAC3BllC,EAAQmlC,BAAmBA,EAC3BnlC,EAAQolC,BAAmBA,EAC3BplC,EAAQqlC,BAAmBA,EAC3BrlC,EAAQslC,BAAmBA,EAC3BtlC,EAAQulC,BAAmBA,EAC3BvlC,EAAQwlC,BAAmBA,EAC3BxlC,EAAQylC,BAAmBA,EAC3BzlC,EAAQ0lC,BAAmBA,EAC3B1lC,EAAQ2lC,BAAmBA,EAC3B3lC,EAAQ4lC,BAAmBA,EAC3B5lC,EAAQ6lC,BAAmBA,EAC3B7lC,EAAQ8lC,BAAmBA,EAC3B9lC,EAAQ+lC,BAAmBA,EAC3B/lC,EAAQgmC,BAAmBA,EAC3BhmC,EAAQimC,BAAmBA,EAC3BjmC,EAAQkmC,BAAmBA,EAC3BlmC,EAAQmmC,BAAmBA,EAC3BnmC,EAAQomC,BAAmBA,EAC3BpmC,EAAQqmC,BAAmBA,EAC3BrmC,EAAQsmC,BAAmBA,EAC3BtmC,EAAQumC,BAAmBA,EAC3BvmC,EAAQwmC,BAAmBA,EAC3BxmC,EAAQymC,BAAmBA,EAC3BzmC,EAAQ0mC,BAAmBA,EAC3B1mC,EAAQ2mC,BAAmBA,EAC3B3mC,EAAQ4mC,BAAmBA,EAC3B5mC,EAAQ6mC,BAAmBA,EAC3B7mC,EAAQ8mC,BAAmBA,EAC3B9mC,EAAQ+mC,BAAmBA,EAC3B/mC,EAAQgnC,BAAmBA,EAC3BhnC,EAAQinC,BAAmBA,EAC3BjnC,EAAQknC,BAAmBA,EAC3BlnC,EAAQmnC,BAAmBA,EAC3BnnC,EAAQonC,BAAmBA,EAC3BpnC,EAAQqnC,BAAmBA,EAC3BrnC,EAAQsnC,BAAmBA,EAC3BtnC,EAAQunC,BAAmBA,EAC3BvnC,EAAQwnC,BAAmBA,EAC3BxnC,EAAQynC,BAAmBA,EAC3BznC,EAAQ0nC,BAAmBA,EAC3B1nC,EAAQ2nC,BAAmBA,EAC3B3nC,EAAQ4nC,BAAmBA,EAC3B5nC,EAAQ6nC,BAAmBA,EAC3B7nC,EAAQ8nC,BAAmBA,EAC3B9nC,EAAQ+nC,BAAmBA,EAC3B/nC,EAAQgoC,BAAmBA,EAC3BhoC,EAAQioC,BAAmBA,EAC3BjoC,EAAQkoC,BAAmBA,EAC3BloC,EAAQmoC,BAAmBA,EAC3BnoC,EAAQooC,BAAmBA,EAC3BpoC,EAAQqoC,BAAmBA,EAC3BroC,EAAQsoC,BAAmBA,EAC3BtoC,EAAQuoC,BAAmBA,EAC3BvoC,EAAQwoC,BAAmBA,EAC3BxoC,EAAQyoC,BAAmBA,EAC3BzoC,EAAQ0oC,BAAmBA,EAC3B1oC,EAAQ2oC,BAAmBA,EAC3B3oC,EAAQ4oC,BAAmBA,EAC3B5oC,EAAQ6oC,BAAmBA,EAC3B7oC,EAAQ8oC,BAAmBA,EAC3B9oC,EAAQ+oC,BAAmBA,EAC3B/oC,EAAQgpC,BAAmBA,EAC3BhpC,EAAQipC,BAAmBA,EAC3BjpC,EAAQkpC,BAAmBA,EAC3BlpC,EAAQmpC,BAAmBA,EAC3BnpC,EAAQopC,BAAmBA,EAC3BppC,EAAQqpC,BAAmBA,EAC3BrpC,EAAQspC,BAAmBA,EAC3BtpC,EAAQupC,BAAmBA,EAC3BvpC,EAAQwpC,BAAmBA,EAC3BxpC,EAAQypC,BAAmBA,EAC3BzpC,EAAQ0pC,BAAmBA,EAC3B1pC,EAAQ2pC,BAAmBA,EAC3B3pC,EAAQ4pC,BAAmBA,EAC3B5pC,EAAQ6pC,BAAmBA,EAC3B7pC,EAAQ8pC,BAAmBA,EAC3B9pC,EAAQ+pC,BAAmBA,EAC3B/pC,EAAQgqC,BAAmBA,EAC3BhqC,EAAQiqC,BAAmBA,EAC3BjqC,EAAQkqC,BAAmBA,EAC3BlqC,EAAQmqC,BAAmBA,EAC3BnqC,EAAQoqC,BAAmBA,EAC3BpqC,EAAQqqC,BAAmBA,EAC3BrqC,EAAQsqC,BAAmBA,EAC3BtqC,EAAQuqC,BAAmBA,EAC3BvqC,EAAQwqC,BAAmBA,EAC3BxqC,EAAQyqC,BAAmBA,EAC3BzqC,EAAQ0qC,BAAmBA,EAC3B1qC,EAAQ2qC,BAAmBA,EAC3B3qC,EAAQ4qC,BAAmBA,EAC3B5qC,EAAQ6qC,BAAmBA,EAC3B7qC,EAAQ8qC,BAAmBA,EAC3B9qC,EAAQ+qC,BAAmBA,EAC3B/qC,EAAQgrC,BAAmBA,EAC3BhrC,EAAQirC,BAAmBA,EAC3BjrC,EAAQkrC,BAAmBA,EAC3BlrC,EAAQmrC,BAAmBA,EAC3BnrC,EAAQorC,BAAmBA,EAC3BprC,EAAQqrC,BAAmBA,EAC3BrrC,EAAQsrC,BAAmBA,EAC3BtrC,EAAQurC,BAAmBA,EAC3BvrC,EAAQwrC,BAAmBA,EAC3BxrC,EAAQyrC,BAAmBA,EAC3BzrC,EAAQ0rC,BAAmBA,EAC3B1rC,EAAQ2rC,BAAmBA,EAC3B3rC,EAAQ4rC,BAAmBA,EAC3B5rC,EAAQ6rC,BAAmBA,EAC3B7rC,EAAQ8rC,BAAmBA,EAC3B9rC,EAAQ+rC,BAAmBA,EAC3B/rC,EAAQgsC,BAAmBA,EAC3BhsC,EAAQisC,BAAmBA,EAC3BjsC,EAAQksC,BAAmBA,EAC3BlsC,EAAQmsC,BAAmBA,EAC3BnsC,EAAQosC,BAAmBA,EAC3BpsC,EAAQqsC,BAAmBA,EAC3BrsC,EAAQssC,BAAmBA,EAC3BtsC,EAAQusC,BAAmBA,EAC3BvsC,EAAQwsC,BAAmBA,EAC3BxsC,EAAQysC,BAAmBA,EAC3BzsC,EAAQ0sC,BAAmBA,EAC3B1sC,EAAQ2sC,BAAmBA,EAC3B3sC,EAAQ4sC,BAAmBA,EAC3B5sC,EAAQ6sC,BAAmBA,EAC3B7sC,EAAQ8sC,BAAmBA,EAC3B9sC,EAAQ+sC,BAAmBA,EAC3B/sC,EAAQgtC,BAAmBA,EAC3BhtC,EAAQitC,BAAmBA,EAC3BjtC,EAAQktC,BAAmBA,EAC3BltC,EAAQmtC,BAAmBA,EAC3BntC,EAAQotC,BAAmBA,EAC3BptC,EAAQqtC,BAAmBA,EAC3BrtC,EAAQstC,BAAmBA,EAC3BttC,EAAQutC,BAAmBA,EAC3BvtC,EAAQwtC,BAAmBA,EAC3BxtC,EAAQytC,BAAmBA,EAC3BztC,EAAQ0tC,BAAmBA,EAC3B1tC,EAAQ2tC,BAAmBA,EAC3B3tC,EAAQ4tC,BAAmBA,EAC3B5tC,EAAQ6tC,BAAmBA,EAC3B7tC,EAAQ8tC,BAAmBA,EAC3B9tC,EAAQ+tC,BAAmBA,EAC3B/tC,EAAQguC,BAAmBA,EAC3BhuC,EAAQiuC,BAAmBA,EAC3BjuC,EAAQkuC,BAAmBA,EAC3BluC,EAAQmuC,BAAmBA,EAC3BnuC,EAAQouC,BAAmBA,EAC3BpuC,EAAQquC,BAAmBA,EAC3BruC,EAAQsuC,BAAmBA,EAC3BtuC,EAAQuuC,BAAmBA,EAC3BvuC,EAAQwuC,BAAmBA,EAC3BxuC,EAAQyuC,BAAmBA,EAC3BzuC,EAAQ0uC,BAAmBA,EAC3B1uC,EAAQ2uC,BAAmBA,EAC3B3uC,EAAQ4uC,BAAmBA,EAC3B5uC,EAAQ6uC,BAAmBA,EAC3B7uC,EAAQ8uC,BAAmBA,EAC3B9uC,EAAQ+uC,BAAmBA,EAC3B/uC,EAAQgvC,BAAmBA,EAC3BhvC,EAAQivC,BAAmBA,EAC3BjvC,EAAQkvC,BAAmBA,EAC3BlvC,EAAQmvC,BAAmBA,EAC3BnvC,EAAQovC,BAAmBA,EAC3BpvC,EAAQqvC,BAAmBA,EAC3BrvC,EAAQsvC,BAAmBA,EAC3BtvC,EAAQuvC,BAAmBA,EAC3BvvC,EAAQwvC,BAAmBA,EAC3BxvC,EAAQyvC,BAAmBA,EAC3BzvC,EAAQ0vC,BAAmBA,EAC3B1vC,EAAQ2vC,BAAmBA,EAC3B3vC,EAAQ4vC,BAAmBA,EAC3B5vC,EAAQ6vC,BAAmBA,EAC3B7vC,EAAQ8vC,BAAmBA,EAC3B9vC,EAAQ+vC,BAAmBA,EAC3B/vC,EAAQgwC,BAAmBA,EAC3BhwC,EAAQiwC,BAAmBA,EAC3BjwC,EAAQkwC,BAAmBA,EAC3BlwC,EAAQmwC,BAAmBA,EAC3BnwC,EAAQowC,BAAmBA,EAC3BpwC,EAAQqwC,BAAmBA,EAC3BrwC,EAAQswC,BAAmBA,EAC3BtwC,EAAQuwC,BAAmBA,EAC3BvwC,EAAQwwC,BAAmBA,EAC3BxwC,EAAQywC,BAAmBA,EAC3BzwC,EAAQ0wC,BAAmBA,EAC3B1wC,EAAQ2wC,BAAmBA,EAC3B3wC,EAAQ4wC,BAAmBA,EAC3B5wC,EAAQ6wC,BAAmBA,EAC3B7wC,EAAQ8wC,BAAmBA,EAC3B9wC,EAAQ+wC,BAAmBA,EAC3B/wC,EAAQgxC,BAAmBA,EAC3BhxC,EAAQixC,BAAmBA,EAC3BjxC,EAAQkxC,BAAmBA,EAC3BlxC,EAAQmxC,BAAmBA,EAC3BnxC,EAAQoxC,BAAmBA,EAC3BpxC,EAAQqxC,BAAmBA,EAC3BrxC,EAAQsxC,BAAmBA,EAC3BtxC,EAAQuxC,BAAmBA,EAC3BvxC,EAAQwxC,BAAmBA,EAC3BxxC,EAAQyxC,BAAmBA,EAC3BzxC,EAAQ0xC,BAAmBA,EAC3B1xC,EAAQ2xC,BAAmBA,EAC3B3xC,EAAQ4xC,BAAmBA,EAC3B5xC,EAAQ6xC,BAAmBA,EAC3B7xC,EAAQ8xC,BAAmBA,EAC3B9xC,EAAQ+xC,BAAmBA,EAC3B/xC,EAAQgyC,BAAmBA,EAC3BhyC,EAAQiyC,BAAmBA,EAC3BjyC,EAAQkyC,BAAmBA,EAC3BlyC,EAAQmyC,BAAmBA,EAC3BnyC,EAAQoyC,BAAmBA,EAC3BpyC,EAAQqyC,BAAmBA,EAC3BryC,EAAQsyC,BAAmBA,EAC3BtyC,EAAQuyC,BAAmBA,EAC3BvyC,EAAQwyC,BAAmBA,EAC3BxyC,EAAQyyC,BAAmBA,EAC3BzyC,EAAQ0yC,BAAmBA,EAC3B1yC,EAAQ2yC,BAAmBA,EAC3B3yC,EAAQ4yC,BAAmBA,EAC3B5yC,EAAQ6yC,BAAmBA,EAC3B7yC,EAAQ8yC,BAAmBA,EAC3B9yC,EAAQ+yC,BAAmBA,EAC3B/yC,EAAQgzC,BAAmBA,EAC3BhzC,EAAQizC,BAAmBA,EAC3BjzC,EAAQkzC,BAAmBA,EAC3BlzC,EAAQmzC,BAAmBA,EAC3BnzC,EAAQozC,BAAmBA,EAC3BpzC,EAAQqzC,BAAmBA,EAC3BrzC,EAAQszC,BAAmBA,EAC3BtzC,EAAQuzC,BAAmBA,EAC3BvzC,EAAQwzC,BAAmBA,EAC3BxzC,EAAQyzC,BAAmBA,EAC3BzzC,EAAQ0zC,BAAmBA,EAC3B1zC,EAAQ2zC,BAAmBA,EAC3B3zC,EAAQ4zC,BAAmBA,EAC3B5zC,EAAQ6zC,BAAmBA,EAC3B7zC,EAAQ8zC,BAAmBA,EAC3B9zC,EAAQ+zC,BAAmBA,EAC3B/zC,EAAQg0C,BAAmBA,EAC3Bh0C,EAAQi0C,BAAmBA,EAC3Bj0C,EAAQk0C,BAAmBA,EAC3Bl0C,EAAQm0C,BAAmBA,EAC3Bn0C,EAAQo0C,BAAmBA,EAC3Bp0C,EAAQq0C,BAAmBA,EAC3Br0C,EAAQs0C,BAAmBA,EAC3Bt0C,EAAQu0C,BAAmBA,EAC3Bv0C,EAAQw0C,BAAmBA,EAC3Bx0C,EAAQy0C,BAAmBA,EAC3Bz0C,EAAQ00C,BAAmBA,EAC3B10C,EAAQ20C,BAAmBA,EAC3B30C,EAAQ40C,BAAmBA,EAC3B50C,EAAQ60C,BAAmBA,EAC3B70C,EAAQ80C,BAAmBA,EAC3B90C,EAAQ+0C,BAAmBA,EAC3B/0C,EAAQg1C,BAAmBA,EAC3Bh1C,EAAQi1C,BAAmBA,EAC3Bj1C,EAAQk1C,BAAmBA,EAC3Bl1C,EAAQm1C,BAAmBA,EAC3Bn1C,EAAQo1C,BAAmBA,EAC3Bp1C,EAAQq1C,BAAmBA,EAC3Br1C,EAAQs1C,BAAmBA,EAC3Bt1C,EAAQu1C,BAAmBA,EAC3Bv1C,EAAQw1C,BAAmBA,EAC3Bx1C,EAAQy1C,BAAmBA,EAC3Bz1C,EAAQ01C,BAAmBA,EAC3B11C,EAAQ21C,BAAmBA,EAC3B31C,EAAQ41C,BAAmBA,EAC3B51C,EAAQ61C,BAAmBA,EAC3B71C,EAAQ81C,BAAmBA,EAC3B91C,EAAQ+1C,BAAmBA,EAC3B/1C,EAAQg2C,BAAmBA,EAC3Bh2C,EAAQi2C,BAAmBA,EAC3Bj2C,EAAQk2C,BAAmBA,EAC3Bl2C,EAAQm2C,BAAmBA,EAC3Bn2C,EAAQo2C,BAAmBA,EAC3Bp2C,EAAQq2C,BAAmBA,EAC3Br2C,EAAQs2C,BAAmBA,EAC3Bt2C,EAAQu2C,BAAmBA,EAC3Bv2C,EAAQw2C,BAAmBA,EAC3Bx2C,EAAQy2C,BAAmBA,EAC3Bz2C,EAAQ02C,BAAmBA,EAC3B12C,EAAQ22C,BAAmBA,EAC3B32C,EAAQ42C,BAAmBA,EAC3B52C,EAAQ62C,BAAmBA,EAC3B72C,EAAQ82C,BAAmBA,EAC3B92C,EAAQ+2C,BAAmBA,EAC3B/2C,EAAQg3C,BAAmBA,EAC3Bh3C,EAAQi3C,BAAmBA,EAC3Bj3C,EAAQk3C,BAAmBA,EAC3Bl3C,EAAQm3C,BAAmBA,EAC3Bn3C,EAAQo3C,BAAmBA,EAC3Bp3C,EAAQq3C,BAAmBA,EAC3Br3C,EAAQs3C,BAAmBA,EAC3Bt3C,EAAQu3C,BAAmBA,EAC3Bv3C,EAAQw3C,BAAmBA,EAC3Bx3C,EAAQy3C,BAAmBA,EAC3Bz3C,EAAQ03C,BAAmBA,EAC3B13C,EAAQ23C,BAAmBA,EAC3B33C,EAAQ43C,BAAmBA,EAC3B53C,EAAQ63C,BAAmBA,EAC3B73C,EAAQ83C,BAAmBA,EAC3B93C,EAAQ+3C,BAAmBA,EAC3B/3C,EAAQg4C,BAAmBA,EAC3Bh4C,EAAQi4C,BAAmBA,EAC3Bj4C,EAAQk4C,BAAmBA,EAC3Bl4C,EAAQm4C,BAAmBA,EAC3Bn4C,EAAQo4C,BAAmBA,EAC3Bp4C,EAAQq4C,BAAmBA,EAC3Br4C,EAAQs4C,BAAmBA,EAC3Bt4C,EAAQu4C,BAAmBA,EAC3Bv4C,EAAQw4C,BAAmBA,EAC3Bx4C,EAAQy4C,BAAmBA,EAC3Bz4C,EAAQ04C,BAAmBA,EAC3B14C,EAAQ24C,BAAmBA,EAC3B34C,EAAQ44C,BAAmBA,EAC3B54C,EAAQ64C,BAAmBA,EAC3B74C,EAAQ84C,BAAmBA,EAC3B94C,EAAQ+4C,BAAmBA,EAC3B/4C,EAAQg5C,BAAmBA,EAC3Bh5C,EAAQi5C,BAAmBA,EAC3Bj5C,EAAQk5C,BAAmBA,EAC3Bl5C,EAAQm5C,BAAmBA,EAC3Bn5C,EAAQo5C,BAAmBA,EAC3Bp5C,EAAQq5C,BAAmBA,EAC3Br5C,EAAQs5C,BAAmBA,EAC3Bt5C,EAAQu5C,BAAmBA,EAC3Bv5C,EAAQw5C,BAAmBA,EAC3Bx5C,EAAQy5C,BAAmBA,EAC3Bz5C,EAAQ05C,BAAmBA,EAC3B15C,EAAQ25C,BAAmBA,EAC3B35C,EAAQ45C,BAAmBA,EAC3B55C,EAAQ65C,BAAmBA,EAC3B75C,EAAQ85C,BAAmBA,EAC3B95C,EAAQ+5C,BAAmBA,EAC3B/5C,EAAQg6C,BAAmBA,EAC3Bh6C,EAAQi6C,BAAmBA,EAC3Bj6C,EAAQk6C,BAAmBA,EAC3Bl6C,EAAQm6C,BAAmBA,EAC3Bn6C,EAAQo6C,BAAmBA,EAC3Bp6C,EAAQq6C,BAAmBA,EAC3Br6C,EAAQs6C,BAAmBA,EAC3Bt6C,EAAQu6C,BAAmBA,EAC3Bv6C,EAAQw6C,BAAmBA,EAC3Bx6C,EAAQy6C,BAAmBA,EAC3Bz6C,EAAQ06C,BAAmBA,EAC3B16C,EAAQ26C,BAAmBA,EAC3B36C,EAAQ46C,BAAmBA,EAC3B56C,EAAQ66C,BAAmBA,EAC3B76C,EAAQ86C,BAAmBA,EAC3B96C,EAAQ+6C,BAAmBA,EAC3B/6C,EAAQg7C,BAAmBA,EAC3Bh7C,EAAQi7C,BAAmBA,EAC3Bj7C,EAAQk7C,BAAmBA,EAC3Bl7C,EAAQm7C,BAAmBA,EAC3Bn7C,EAAQo7C,BAAmBA,EAC3Bp7C,EAAQq7C,BAAmBA,EAC3Br7C,EAAQs7C,BAAmBA,EAC3Bt7C,EAAQu7C,BAAmBA,EAC3Bv7C,EAAQw7C,BAAmBA,EAC3Bx7C,EAAQy7C,BAAmBA,EAC3Bz7C,EAAQ07C,BAAmBA,EAC3B17C,EAAQ27C,BAAmBA,EAC3B37C,EAAQ47C,BAAmBA,EAC3B57C,EAAQ67C,BAAmBA,EAC3B77C,EAAQ87C,BAAmBA,EAC3B97C,EAAQ+7C,BAAmBA,EAC3B/7C,EAAQg8C,BAAmBA,EAC3Bh8C,EAAQi8C,BAAmBA,EAC3Bj8C,EAAQk8C,BAAmBA,EAC3Bl8C,EAAQm8C,BAAmBA,EAC3Bn8C,EAAQo8C,BAAmBA,EAC3Bp8C,EAAQq8C,BAAmBA,EAC3Br8C,EAAQs8C,BAAmBA,EAC3Bt8C,EAAQu8C,BAAmBA,EAC3Bv8C,EAAQw8C,BAAmBA,EAC3Bx8C,EAAQy8C,BAAmBA,EAC3Bz8C,EAAQ08C,BAAmBA,EAC3B18C,EAAQ28C,BAAmBA,EAC3B38C,EAAQ48C,BAAmBA,EAC3B58C,EAAQ68C,BAAmBA,EAC3B78C,EAAQ88C,BAAmBA,EAC3B98C,EAAQ+8C,BAAmBA,EAC3B/8C,EAAQg9C,BAAmBA,EAC3Bh9C,EAAQi9C,BAAmBA,EAC3Bj9C,EAAQk9C,BAAmBA,EAC3Bl9C,EAAQm9C,BAAmBA,EAC3Bn9C,EAAQo9C,BAAmBA,EAC3Bp9C,EAAQq9C,BAAmBA,EAC3Br9C,EAAQs9C,BAAmBA,EAC3Bt9C,EAAQu9C,BAAmBA,EAC3Bv9C,EAAQw9C,BAAmBA,EAC3Bx9C,EAAQy9C,BAAmBA,EAC3Bz9C,EAAQ09C,BAAmBA,EAC3B19C,EAAQ29C,BAAmBA,EAC3B39C,EAAQ49C,BAAmBA,EAC3B59C,EAAQ69C,BAAmBA,EAC3B79C,EAAQ89C,BAAmBA,EAC3B99C,EAAQ+9C,BAAmBA,EAC3B/9C,EAAQg+C,BAAmBA,EAC3Bh+C,EAAQi+C,BAAmBA,EAC3Bj+C,EAAQk+C,BAAmBA,EAC3Bl+C,EAAQm+C,BAAmBA,EAC3Bn+C,EAAQo+C,BAAmBA,EAC3Bp+C,EAAQq+C,BAAmBA,EAC3Br+C,EAAQs+C,BAAmBA,EAC3Bt+C,EAAQu+C,BAAmBA,EAC3Bv+C,EAAQw+C,BAAmBA,EAC3Bx+C,EAAQy+C,BAAmBA,EAC3Bz+C,EAAQ0+C,BAAmBA,EAC3B1+C,EAAQ2+C,BAAmBA,EAC3B3+C,EAAQ4+C,BAAmBA,EAC3B5+C,EAAQ6+C,BAAmBA,EAC3B7+C,EAAQ8+C,BAAmBA,EAC3B9+C,EAAQ++C,BAAmBA,EAC3B/+C,EAAQg/C,BAAmBA,EAC3Bh/C,EAAQi/C,BAAmBA,EAC3Bj/C,EAAQk/C,BAAmBA,EAC3Bl/C,EAAQm/C,BAAmBA,EAC3Bn/C,EAAQo/C,BAAmBA,EAC3Bp/C,EAAQq/C,BAAmBA,EAC3Br/C,EAAQs/C,BAAmBA,EAC3Bt/C,EAAQu/C,BAAmBA,EAC3Bv/C,EAAQw/C,BAAmBA,EAC3Bx/C,EAAQy/C,BAAmBA,EAC3Bz/C,EAAQ0/C,BAAmBA,EAC3B1/C,EAAQ2/C,BAAmBA,EAC3B3/C,EAAQ4/C,BAAmBA,EAC3B5/C,EAAQ6/C,BAAmBA,EAC3B7/C,EAAQ8/C,BAAmBA,EAC3B9/C,EAAQ+/C,BAAmBA,EAC3B//C,EAAQggD,BAAmBA,EAC3BhgD,EAAQigD,BAAmBA,EAC3BjgD,EAAQkgD,BAAmBA,EAC3BlgD,EAAQmgD,BAAmBA,EAC3BngD,EAAQogD,BAAmBA,EAC3BpgD,EAAQqgD,BAAmBA,EAC3BrgD,EAAQsgD,BAAmBA,EAC3BtgD,EAAQugD,BAAmBA,EAC3BvgD,EAAQwgD,BAAmBA,EAC3BxgD,EAAQygD,BAAmBA,EAC3BzgD,EAAQ0gD,BAAmBA,EAC3B1gD,EAAQ2gD,BAAmBA,EAC3B3gD,EAAQ4gD,BAAmBA,EAC3B5gD,EAAQ6gD,BAAmBA,EAC3B7gD,EAAQ8gD,BAAmBA,EAC3B9gD,EAAQ+gD,BAAmBA,EAC3B/gD,EAAQghD,BAAmBA,EAC3BhhD,EAAQihD,BAAmBA,EAC3BjhD,EAAQkhD,BAAmBA,EAC3BlhD,EAAQmhD,BAAmBA,EAC3BnhD,EAAQohD,BAAmBA,EAC3BphD,EAAQqhD,BAAmBA,EAC3BrhD,EAAQshD,BAAmBA,EAC3BthD,EAAQuhD,BAAmBA,EAC3BvhD,EAAQwhD,BAAmBA,EAC3BxhD,EAAQyhD,BAAmBA,EAC3BzhD,EAAQ0hD,BAAmBA,EAC3B1hD,EAAQ2hD,BAAmBA,EAC3B3hD,EAAQ4hD,BAAmBA,EAC3B5hD,EAAQ6hD,BAAmBA,EAC3B7hD,EAAQ8hD,BAAmBA,EAC3B9hD,EAAQ+hD,BAAmBA,EAC3B/hD,EAAQgiD,BAAmBA,EAC3BhiD,EAAQiiD,BAAmBA,EAC3BjiD,EAAQkiD,BAAmBA,EAC3BliD,EAAQmiD,BAAmBA,EAC3BniD,EAAQoiD,BAAmBA,EAC3BpiD,EAAQqiD,BAAmBA,EAC3BriD,EAAQsiD,BAAmBA,EAC3BtiD,EAAQuiD,BAAmBA,EAC3BviD,EAAQwiD,BAAmBA,EAC3BxiD,EAAQyiD,BAAmBA,EAC3BziD,EAAQ0iD,BAAmBA,EAC3B1iD,EAAQ2iD,BAAmBA,EAC3B3iD,EAAQ4iD,BAAmBA,EAC3B5iD,EAAQ6iD,BAAmBA,EAC3B7iD,EAAQ8iD,BAAmBA,EAC3B9iD,EAAQ+iD,BAAmBA,EAC3B/iD,EAAQgjD,BAAmBA,EAC3BhjD,EAAQijD,BAAmBA,EAC3BjjD,EAAQkjD,BAAmBA,EAC3BljD,EAAQmjD,BAAmBA,EAC3BnjD,EAAQojD,BAAmBA,EAC3BpjD,EAAQqjD,BAAmBA,EAC3BrjD,EAAQsjD,BAAmBA,EAC3BtjD,EAAQujD,BAAmBA,EAC3BvjD,EAAQwjD,BAAmBA,EAC3BxjD,EAAQyjD,BAAmBA,EAC3BzjD,EAAQ0jD,BAAmBA,EAC3B1jD,EAAQ2jD,BAAmBA,EAC3B3jD,EAAQ4jD,BAAmBA,EAC3B5jD,EAAQ6jD,BAAmBA,EAC3B7jD,EAAQ8jD,BAAmBA,EAC3B9jD,EAAQ+jD,BAAmBA,EAC3B/jD,EAAQgkD,BAAmBA,EAC3BhkD,EAAQikD,BAAmBA,EAC3BjkD,EAAQkkD,BAAmBA,EAC3BlkD,EAAQmkD,BAAmBA,EAC3BnkD,EAAQokD,BAAmBA,EAC3BpkD,EAAQqkD,BAAmBA,EAC3BrkD,EAAQskD,BAAmBA,EAC3BtkD,EAAQukD,BAAmBA,EAC3BvkD,EAAQwkD,BAAmBA,EAC3BxkD,EAAQykD,BAAmBA,EAC3BzkD,EAAQ0kD,BAAmBA,EAC3B1kD,EAAQ2kD,BAAmBA,EAC3B3kD,EAAQ4kD,BAAmBA,EAC3B5kD,EAAQ6kD,BAAmBA,EAC3B7kD,EAAQ8kD,BAAmBA,EAC3B9kD,EAAQ+kD,BAAmBA,EAC3B/kD,EAAQglD,BAAmBA,EAC3BhlD,EAAQilD,BAAmBA,EAC3BjlD,EAAQklD,BAAmBA,EAC3BllD,EAAQmlD,BAAmBA,EAC3BnlD,EAAQolD,BAAmBA,EAC3BplD,EAAQqlD,BAAmBA,EAC3BrlD,EAAQslD,BAAmBA,EAC3BtlD,EAAQulD,BAAmBA,EAC3BvlD,EAAQwlD,BAAmBA,EAC3BxlD,EAAQylD,BAAmBA,EAC3BzlD,EAAQ0lD,BAAmBA,EAC3B1lD,EAAQ2lD,BAAmBA,EAC3B3lD,EAAQ4lD,BAAmBA,EAC3B5lD,EAAQ6lD,BAAmBA,EAC3B7lD,EAAQ8lD,BAAmBA,EAC3B9lD,EAAQ+lD,BAAmBA,EAC3B/lD,EAAQgmD,BAAmBA,EAC3BhmD,EAAQimD,BAAmBA,EAC3BjmD,EAAQkmD,BAAmBA,EAC3BlmD,EAAQmmD,BAAmBA,EAC3BnmD,EAAQomD,BAAmBA,EAC3BpmD,EAAQqmD,BAAmBA,EAC3BrmD,EAAQsmD,BAAmBA,EAC3BtmD,EAAQumD,BAAmBA,EAC3BvmD,EAAQwmD,BAAmBA,EAC3BxmD,EAAQymD,BAAmBA,EAC3BzmD,EAAQ0mD,BAAmBA,EAC3B1mD,EAAQ2mD,BAAmBA,EAC3B

{\n return function (target, key) { decorator(target, key, paramIndex); };\n }\n function __metadata(metadataKey, metadataValue) {\n if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n return Reflect.metadata(metadataKey, metadataValue);\n }\n function __awaiter(thisArg, _arguments, P, generator) {\n function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\n return new (P || (P = Promise))(function (resolve, reject) {\n function fulfilled(value) { try {\n step(generator.next(value));\n }\n catch (e) {\n reject(e);\n } }\n function rejected(value) { try {\n step(generator[\"throw\"](value));\n }\n catch (e) {\n reject(e);\n } }\n function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\n step((generator = generator.apply(thisArg, _arguments || [])).next());\n });\n }\n function __generator(thisArg, body) {\n var _ = { label: 0, sent: function () { if (t[0] & 1)\n throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function () { return this; }), g;\n function verb(n) { return function (v) { return step([n, v]); }; }\n function step(op) {\n if (f)\n throw new TypeError(\"Generator is already executing.\");\n while (_)\n try {\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n return t;\n if (y = 0, t)\n op = [op[0] & 2, t.value];\n switch (op[0]) {\n case 0:\n case 1:\n t = op;\n break;\n case 4:\n _.label++;\n return { value: op[1], done: false };\n case 5:\n _.label++;\n y = op[1];\n op = [0];\n continue;\n case 7:\n op = _.ops.pop();\n _.trys.pop();\n continue;\n default:\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) {\n _ = 0;\n continue;\n }\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n _.label = op[1];\n break;\n }\n if (op[0] === 6 && _.label < t[1]) {\n _.label = t[1];\n t = op;\n break;\n }\n if (t && _.label < t[2]) {\n _.label = t[2];\n _.ops.push(op);\n break;\n }\n if (t[2])\n _.ops.pop();\n _.trys.pop();\n continue;\n }\n op = body.call(thisArg, _);\n }\n catch (e) {\n op = [6, e];\n y = 0;\n }\n finally {\n f = t = 0;\n }\n if (op[0] & 5)\n throw op[1];\n return { value: op[0] ? op[1] : void 0, done: true };\n }\n }\n var __createBinding = Object.create ? (function (o, m, k, k2) {\n if (k2 === undefined)\n k2 = k;\n Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n }) : (function (o, m, k, k2) {\n if (k2 === undefined)\n k2 = k;\n o[k2] = m[k];\n });\n function __exportStar(m, exports) {\n for (var p in m)\n if (p !== \"default\" && !exports.hasOwnProperty(p))\n __createBinding(exports, m, p);\n }\n function __values(o) {\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n if (m)\n return m.call(o);\n if (o && typeof o.length === \"number\")\n return {\n next: function () {\n if (o && i >= o.length)\n o = void 0;\n return { value: o && o[i++], done: !o };\n }\n };\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n }\n function __read(o, n) {\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n if (!m)\n return o;\n var i = m.call(o), r, ar = [], e;\n try {\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n ar.push(r.value);\n }\n catch (error) {\n e = { error: error };\n }\n finally {\n try {\n if (r && !r.done && (m = i[\"return\"]))\n m.call(i);\n }\n finally {\n if (e)\n throw e.error;\n }\n }\n return ar;\n }\n function __spread()

{\n for (var ar = [], i = 0; i < arguments.length; i++)\n ar = ar.concat(__read(arguments[i]));\n return ar;\n }\n function __spreadArrays() {\n for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n s += arguments[i].length;\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n r[k] = a[j];\n return r;\n }\n ;\n function __await(v) {\n return this instanceof __await ? (this.v = v, this) : new __await(v);\n }\n function __asyncGenerator(thisArg, _arguments, generator) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\n function verb(n) { if (g[n])\n i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n function resume(n, v) { try {\n step(g[n](v));\n }\n catch (e) {\n settle(q[0][3], e);\n } }\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n function fulfill(value) { resume(\"next\", value); }\n function reject(value) { resume(\"throw\", value); }\n function settle(f, v) { if (f(v), q.shift(), q.length)\n resume(q[0][0], q[0][1]); }\n }\n function __asyncDelegator(o) {\n var i, p;\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } :\n f ? f(v) : v; } : f; }\n }\n function __asyncValues(o) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var m = o[Symbol.asyncIterator], i;\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n }\n function __makeTemplateObject(cooked, raw) {\n if (Object.defineProperty) {\n Object.defineProperty(cooked, \"raw\", { value: raw });\n }\n else {\n cooked.raw = raw;\n }\n return cooked;\n }\n ;\n var __setModuleDefault = Object.create ? (function (o, v) {\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n }) : function (o, v) {\n o[\"default\"] = v;\n };\n function __importStar(mod) {\n if (mod && mod.__esModule)\n return mod;\n var result = {};\n if (mod != null)\n for (var k in mod)\n if (Object.hasOwnProperty.call(mod, k))\n __createBinding(result, mod, k);\n __setModuleDefault(result, mod);\n return result;\n }\n function __importDefault(mod) {\n return (mod && mod.__esModule) ? mod : { default: mod };\n }\n function __classPrivateFieldGet(receiver, privateMap) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to get private field on non-instance\");\n }\n return privateMap.get(receiver);\n }\n function __classPrivateFieldSet(receiver, privateMap, value) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to set private field on non-instance\");\n }\n privateMap.set(receiver, value);\n return value;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Base for events the router goes through, as opposed to events tied to a specific\n * route. Fired one time for any given navigation.\n *\n * The following code shows how a class subscribes to router events.\n *\n * ```ts\n * class MyService {\n * constructor(public router: Router, logger: Logger) {\n * router.events.pipe(\n * filter((e: Event): e is RouterEvent => e instanceof RouterEvent)\n * ).subscribe((e: RouterEvent) => {\n * logger.log(e.id, e.url);\n * });\n * }\n * }\n * ```\n *\n * @see `Event`\n * @see [Router events summary](guide/router#router-events)\n * @publicApi\n */\n var RouterEvent = /** @class */ (function () {\n function RouterEvent(\n /** A unique ID that the router assigns to every router navigation. */\n id, \n /** The URL that is the destination for this navigation. */\n url) {\n this.id = id;\n this.url =

```
url;\n    }\n    return RouterEvent;\n}());\n/**\n * An event triggered when a navigation starts.\n *\n * @publicApi\n */\nvar NavigationStart = /** @class */ (function (_super) {\n    __extends(NavigationStart, _super);\n    function NavigationStart(\n    /** @docsNotRequired */\n    id, \n    /** @docsNotRequired */\n    url, \n    /** @docsNotRequired */\n    navigationTrigger, \n    /** @docsNotRequired */\n    restoredState)\n    {\n        if (navigationTrigger === void 0) { navigationTrigger = 'imperative'; }\n        if (restoredState === void 0) { restoredState = null; }\n        var _this = _super.call(this, id, url) || this;\n        _this.navigationTrigger = navigationTrigger;\n        _this.restoredState = restoredState;\n        return _this;\n    }\n    /** @docsNotRequired */\n    NavigationStart.prototype.toString = function () {\n        return \"NavigationStart(id: \" + this.id + \", url: '\" + this.url + \"')\";\n    };\n    return NavigationStart;\n}(RouterEvent));\n/**\n * An event triggered when a navigation ends successfully.\n *\n * @see `NavigationStart`\n * @see `NavigationCancel`\n * @see `NavigationError`\n *\n * @publicApi\n */\nvar NavigationEnd = /** @class */ (function (_super) {\n    __extends(NavigationEnd, _super);\n    function NavigationEnd(\n    /** @docsNotRequired */\n    id, \n    /** @docsNotRequired */\n    url, \n    /** @docsNotRequired */\n    urlAfterRedirects) {\n        var _this = _super.call(this, id, url) || this;\n        _this.urlAfterRedirects = urlAfterRedirects;\n        return _this;\n    }\n    /** @docsNotRequired */\n    NavigationEnd.prototype.toString = function () {\n        return \"NavigationEnd(id: \" + this.id + \", url: '\" + this.url + \"', urlAfterRedirects: '\" + this.urlAfterRedirects + \"')\";\n    };\n    return NavigationEnd;\n}(RouterEvent));\n/**\n * An event triggered when a navigation is canceled, directly or indirectly.\n * This can happen when a route guard\n * returns `false` or initiates a redirect by returning a `UrlTree`.\n *\n * @see `NavigationStart`\n * @see `NavigationEnd`\n * @see `NavigationError`\n *\n * @publicApi\n */\nvar NavigationCancel = /** @class */ (function (_super) {\n    __extends(NavigationCancel, _super);\n    function NavigationCancel(\n    /** @docsNotRequired */\n    id, \n    /** @docsNotRequired */\n    url, \n    /** @docsNotRequired */\n    reason) {\n        var _this = _super.call(this, id, url) || this;\n        _this.reason = reason;\n        return _this;\n    }\n    /** @docsNotRequired */\n    NavigationCancel.prototype.toString = function () {\n        return \"NavigationCancel(id: \" + this.id + \", url: '\" + this.url + \"')\";\n    };\n    return NavigationCancel;\n}(RouterEvent));\n/**\n * An event triggered when a navigation fails due to an unexpected error.\n *\n * @see `NavigationStart`\n * @see `NavigationEnd`\n * @see `NavigationCancel`\n *\n * @publicApi\n */\nvar NavigationError = /** @class */ (function (_super) {\n    __extends(NavigationError, _super);\n    function NavigationError(\n    /** @docsNotRequired */\n    id, \n    /** @docsNotRequired */\n    url, \n    /** @docsNotRequired */\n    error) {\n        var _this = _super.call(this, id, url) || this;\n        _this.error = error;\n        return _this;\n    }\n    /** @docsNotRequired */\n    NavigationError.prototype.toString = function () {\n        return \"NavigationError(id: \" + this.id + \", url: '\" + this.url + \"', error: \" + this.error + \")\";\n    };\n    return NavigationError;\n}(RouterEvent));\n/**\n * An event triggered when routes are recognized.\n *\n * @publicApi\n */\nvar RoutesRecognized = /** @class */ (function (_super) {\n    __extends(RoutesRecognized, _super);\n    function RoutesRecognized(\n    /** @docsNotRequired */\n    id, \n    /** @docsNotRequired */\n    url, \n    /** @docsNotRequired */\n    urlAfterRedirects, \n    /** @docsNotRequired */\n    state) {\n        var _this = _super.call(this, id, url) || this;\n        _this.urlAfterRedirects = urlAfterRedirects;\n        _this.state = state;\n        return _this;\n    }\n    /** @docsNotRequired */\n    RoutesRecognized.prototype.toString = function () {\n        return \"RoutesRecognized(id: \" + this.id + \", url: '\" + this.url + \"', urlAfterRedirects: '\" + this.urlAfterRedirects + \"', state: \" + this.state + \")\";\n    };\n    return RoutesRecognized;\n}(RouterEvent));\n/**\n * An event triggered at the start of the Guard phase of routing.\n *\n * @see `GuardsCheckEnd`\n *\n * @publicApi\n */\nvar GuardsCheckStart = /** @class */ (function (_super) {\n    __extends(GuardsCheckStart, _super);\n    function GuardsCheckStart(\n```
```

```
/** @docsNotRequired */\n        id, \n        /** @docsNotRequired */\n        url, \n        /** @docsNotRequired */\n        urlAfterRedirects, \n        /** @docsNotRequired\n     */\n        state) {\n            var _this = _super.call(this, id, url) || this;\n            _this.urlAfterRedirects = urlAfterRedirects;\n            _this.state = state;\n            return _this;\n        }\n    GuardsCheckStart.prototype.toString = function () {\n            return \"GuardsCheckStart(id: \" + this.id + \", url: '\" + this.url + \"', urlAfterRedirects: '\" + this.urlAfterRedirects + \"', state: \" + this.state + \")\";\n        };\n        return GuardsCheckStart;\n    }(RouterEvent));\n    /**\n     * An event triggered at the end of the Guard phase of routing.\n     *\n     * @see `GuardsCheckStart`\n     *\n     * @publicApi\n     */\n    var GuardsCheckEnd = /** @class */ (function (_super) {\n        __extends(GuardsCheckEnd, _super);\n        function GuardsCheckEnd(\n        /** @docsNotRequired */\n        id, \n        /** @docsNotRequired */\n        url, \n        /** @docsNotRequired */\n        urlAfterRedirects, \n        /** @docsNotRequired\n     */\n        state, \n        /** @docsNotRequired */\n        shouldActivate) {\n            var _this = _super.call(this, id, url) || this;\n            _this.urlAfterRedirects = urlAfterRedirects;\n            _this.state = state;\n            _this.shouldActivate = shouldActivate;\n            return _this;\n        }\n        GuardsCheckEnd.prototype.toString = function () {\n            return \"GuardsCheckEnd(id: \" + this.id + \", url: '\" + this.url + \"', urlAfterRedirects: '\" + this.urlAfterRedirects + \"', state: \" + this.state + \", shouldActivate: \" + this.shouldActivate + \")\";\n        };\n        return GuardsCheckEnd;\n    }(RouterEvent));\n    /**\n     * An event triggered at the the start of the Resolve phase of routing.\n     *\n     * Runs in the \"resolve\" phase whether or not there is anything to resolve.\n     * In future, may change to only run when there are things to be resolved.\n     *\n     * @see `ResolveEnd`\n     *\n     * @publicApi\n     */\n    var ResolveStart = /** @class */ (function (_super) {\n        __extends(ResolveStart, _super);\n        function ResolveStart(\n        /** @docsNotRequired */\n        id, \n        /** @docsNotRequired */\n        url, \n        /** @docsNotRequired */\n        urlAfterRedirects, \n        /** @docsNotRequired */\n        state) {\n            var _this = _super.call(this, id, url) || this;\n            _this.urlAfterRedirects = urlAfterRedirects;\n            _this.state = state;\n            return _this;\n        }\n        ResolveStart.prototype.toString = function () {\n            return \"ResolveStart(id: \" + this.id + \", url: '\" + this.url + \"', urlAfterRedirects: '\" + this.urlAfterRedirects + \"', state: \" + this.state + \")\";\n        };\n        return ResolveStart;\n    }(RouterEvent));\n    /**\n     * An event triggered at the end of the Resolve phase of routing.\n     * @see `ResolveStart`.\n     *\n     * @publicApi\n     */\n    var ResolveEnd = /** @class */ (function (_super) {\n        __extends(ResolveEnd, _super);\n        function ResolveEnd(\n        /** @docsNotRequired */\n        id, \n        /** @docsNotRequired */\n        url, \n        /** @docsNotRequired */\n        urlAfterRedirects, \n        /** @docsNotRequired */\n        state) {\n            var _this = _super.call(this, id, url) || this;\n            _this.urlAfterRedirects = urlAfterRedirects;\n            _this.state = state;\n            return _this;\n        }\n        ResolveEnd.prototype.toString = function () {\n            return \"ResolveEnd(id: \" + this.id + \", url: '\" + this.url + \"', urlAfterRedirects: '\" + this.urlAfterRedirects + \"', state: \" + this.state + \")\";\n        };\n        return ResolveEnd;\n    }(RouterEvent));\n    /**\n     * An event triggered before lazy loading a route configuration.\n     *\n     * @see `RouteConfigLoadEnd`\n     *\n     * @publicApi\n     */\n    var RouteConfigLoadStart = /** @class */ (function () {\n        function RouteConfigLoadStart(\n        /** @docsNotRequired */\n        route) {\n            this.route = route;\n        }\n        RouteConfigLoadStart.prototype.toString = function () {\n            return \"RouteConfigLoadStart(path: \" + this.route.path + \")\";\n        };\n        return RouteConfigLoadStart;\n    }());\n    /**\n     * An event triggered when a route has been lazy loaded.\n     *\n     * @see `RouteConfigLoadStart`\n     *\n     * @publicApi\n     */\n    var RouteConfigLoadEnd = /** @class */ (function () {\n        function RouteConfigLoadEnd(\n        /** @docsNotRequired */\n        route) {\n            this.route = route;\n        }\n        RouteConfigLoadEnd.prototype.toString = function () {\n            return \"RouteConfigLoadEnd(path: \" + this.route.path + \")\";\n        };\n        return RouteConfigLoadEnd;\n    }());\n    /**\n     * An event triggered at the start of the child-activation\n     * part of the Resolve phase of routing.\n     * @see `ChildActivationEnd`\n     * @see `ResolveStart`\n     *\n     * @publicApi\n     */\n    var ChildActivationStart = /** @class */ (function () {\n        function ChildActivationStart(\n        /**
```

@docsNotRequired */\n snapshot) {\n this.snapshot = snapshot;\n }\n ChildActivationStart.prototype.toString = function () {\n var path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n return \"ChildActivationStart(path: '\" + path + \"')\";\n };\n return ChildActivationStart;\n }());\n /**\n * An event triggered at the end of the child-activation part\n * of the Resolve phase of routing.\n * @see `ChildActivationStart`\n * @see `ResolveStart`\n * @publicApi\n */\n var ChildActivationEnd = /** @class */ (function () {\n function ChildActivationEnd(\n /** @docsNotRequired */\n snapshot) {\n this.snapshot = snapshot;\n }\n ChildActivationEnd.prototype.toString = function () {\n var path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n return \"ChildActivationEnd(path: '\" + path + \"')\";\n };\n return ChildActivationEnd;\n }());\n /**\n * An event triggered at the start of the activation part\n * of the Resolve phase of routing.\n * @see `ActivationEnd`\n * @see `ResolveStart`\n *\n * @publicApi\n */\n var ActivationStart = /** @class */ (function () {\n function ActivationStart(\n /** @docsNotRequired */\n snapshot) {\n this.snapshot = snapshot;\n }\n ActivationStart.prototype.toString = function () {\n var path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n return \"ActivationStart(path: '\" + path + \"')\";\n };\n return ActivationStart;\n }());\n /**\n * An event triggered at the end
of the activation part\n * of the Resolve phase of routing.\n * @see `ActivationStart`\n * @see `ResolveStart`\n *\n * @publicApi\n */\n var ActivationEnd = /** @class */ (function () {\n function ActivationEnd(\n /** @docsNotRequired */\n snapshot) {\n this.snapshot = snapshot;\n }\n ActivationEnd.prototype.toString = function () {\n var path = this.snapshot.routeConfig && this.snapshot.routeConfig.path || '';\n return \"ActivationEnd(path: '\" + path + \"')\";\n };\n return ActivationEnd;\n }());\n /**\n * An event triggered by scrolling.\n *\n * @publicApi\n */\n var Scroll = /** @class */ (function () {\n function Scroll(\n /** @docsNotRequired */\n routerEvent, \n /** @docsNotRequired */\n position, \n /** @docsNotRequired */\n anchor) {\n this.routerEvent = routerEvent;\n this.position
= position;\n this.anchor = anchor;\n }\n Scroll.prototype.toString = function () {\n var pos = this.position ? this.position[0] + ', ' + this.position[1] : null;\n return \"Scroll(anchor: '\" + this.anchor + \"', position: '\" + pos + \"')\";\n };\n return Scroll;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * The primary routing outlet.\n *\n * @publicApi\n */\n var PRIMARY_OUTLET = 'primary';\n var ParamsAsMap = /** @class */ (function () {\n function ParamsAsMap(params) {\n this.params = params || {};\n }\n ParamsAsMap.prototype.has = function (name) {\n return Object.prototype.hasOwnProperty.call(this.params, name);\n };\n
ParamsAsMap.prototype.get = function (name) {\n if (this.has(name)) {\n var v = this.params[name];\n return Array.isArray(v) ? v[0] : v;\n }\n return null;\n };\n ParamsAsMap.prototype.getAll = function (name) {\n if (this.has(name)) {\n var v = this.params[name];\n return Array.isArray(v) ? v : [v];\n }\n return [];\n };\n Object.defineProperty(ParamsAsMap.prototype, \"keys\", {\n get: function () {\n return Object.keys(this.params);\n },\n enumerable: false,\n configurable: true\n });\n return ParamsAsMap;\n }());\n /**\n * Converts a `Params` instance to a `ParamMap`.\n * @param params The instance to convert.\n * @returns The new map instance.\n *\n * @publicApi\n */\n function convertToParamMap(params) {\n return
new ParamsAsMap(params);\n }\n var NAVIGATION_CANCELING_ERROR = 'ngNavigationCancelingError';\n function navigationCancelingError(message) {\n var error = Error('NavigationCancelingError: ' + message);\n error[NAVIGATION_CANCELING_ERROR] = true;\n return error;\n }\n function isNavigationCancelingError(error) {\n return error && error[NAVIGATION_CANCELING_ERROR];\n }\n // Matches the route configuration (`route`) against the

actual URL (`segments`).\n function defaultUrlMatcher(segments, segmentGroup, route) {\n var parts = route.path.split('/');\n if (parts.length > segments.length) {\n // The actual URL is shorter than the config, no match\n return null;\n }\n if (route.pathMatch === 'full' &&\n (segmentGroup.hasChildren() || parts.length < segments.length)) {\n // The config is longer than the actual URL but we are looking for a full match, return null\n return null;\n }\n var posParams = {};\n // Check each config part against the actual URL\n for (var index = 0; index < parts.length; index++) {\n var part = parts[index];\n var segment = segments[index];\n var isParameter = part.startsWith(':');\n if (isParameter) {\n posParams[part.substring(1)] = segment;\n }\n else if (part !== segment.path) {\n // The actual URL part does not match the config, no match\n return null;\n }\n }\n return { consumed: segments.slice(0, parts.length), posParams: posParams };\n }\n\n function shallowEqualArrays(a, b) {\n if (a.length !== b.length)\n return false;\n for (var i = 0; i < a.length; ++i) {\n if (!shallowEqual(a[i], b[i]))\n return false;\n }\n return true;\n }\n function shallowEqual(a, b) {\n //
Casting Object.keys return values to include `undefined` as there are some cases\n // in IE 11 where this can happen. Cannot provide a test because the behavior only\n // exists in certain circumstances in IE 11, therefore doing this cast ensures the\n // logic is correct for when this edge case is hit.\n var k1 = Object.keys(a);\n var k2 = Object.keys(b);\n if (!k1 || !k2 || k1.length != k2.length) {\n return false;\n }\n var key;\n for (var i = 0; i < k1.length; i++) {\n key = k1[i];\n if (!equalArraysOrString(a[key], b[key])) {\n return false;\n }\n }\n return true;\n }\n /**\n * Test equality for arrays of strings or a string.\n */\n function equalArraysOrString(a, b) {\n if (Array.isArray(a) && Array.isArray(b)) {\n if (a.length !== b.length)\n return false;\n var aSorted = __spread(a).sort();\n var bSorted_1 = __spread(b).sort();\n return aSorted.every(function (val, index) { return bSorted_1[index] === val; });\n }\n else {\n return a === b;\n }\n }\n /**\n * Flattens single-level nested arrays.\n */\n function flatten(arr) {\n return Array.prototype.concat.apply([], arr);\n }\n /**\n * Return the last element of an array.\n */\n function last(a) {\n return a.length > 0 ? a[a.length - 1] : null;\n }\n /**\n * Verifys all booleans in an array are `true`.\n */\n function and(bools) {\n return !bools.some(function (v) { return !v; });\n }\n function forEach(map, callback) {\n for (var prop in map) {\n if (map.hasOwnProperty(prop)) {\n callback(map[prop], prop);\n }\n }\n }\n function waitForMap(obj, fn) {\n if (Object.keys(obj).length === 0) {\n return rxjs.of({});\n }\n var waitHead = [];\n var waitTail = [];\n var res = {};\n forEach(obj, function (a, k) {\n var mapped = fn(k, a).pipe(operators.map(function (r) { return res[k] = r; }));\n if (k === PRIMARY_OUTLET) {\n waitHead.push(mapped);\n }\n else {\n waitTail.push(mapped);\n }\n });\n // Closure compiler has problem with using spread operator here. So we use \"Array.concat\".\n // Note that we also need to cast the new promise because TypeScript cannot infer the type\n // when calling the \"of\" function through \"Function.apply\"\n return rxjs.of.apply(null, waitHead.concat(waitTail))\n .pipe(operators.concatAll(), operators.last(), operators.map(function () { return res; }));\n }\n function wrapIntoObservable(value) {\n if (core.isObservable(value)) {\n return value;\n }\n if (core.isPromise(value))
{\n // Use `Promise.resolve()` to wrap promise-like instances.\n // Required ie when a Resolver returns a AngularJS `$q` promise to correctly trigger the\n // change detection.\n return rxjs.from(Promise.resolve(value));\n }\n return rxjs.of(value);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function createEmptyUrlTree() {\n return new UrlTree(new UrlSegmentGroup([], {}), {}, null);\n }\n function containsTree(container, containee, exact) {\n if (exact) {\n return equalQueryParams(container.queryParams, containee.queryParams) &&\n

equalSegmentGroups(container.root, containee.root);\n }\n return containsQueryParams(container.queryParams, containee.queryParams) &&\n containsSegmentGroup(container.root, containee.root);\n }\n function equalQueryParams(container, containee) {\n // TODO: This does not handle array params correctly.\n return shallowEqual(container, containee);\n }\n function equalSegmentGroups(container, containee) {\n if (!equalPath(container.segments, containee.segments))\n return false;\n if (container.numberOfChildren !== containee.numberOfChildren)\n return false;\n for (var c in containee.children) {\n if (!container.children[c])\n return false;\n if (!equalSegmentGroups(container.children[c], containee.children[c]))\n return false;\n }\n return true;\n }\n function containsQueryParams(container, containee) {\n return Object.keys(containee).length <= Object.keys(container).length &&\n Object.keys(containee).every(function (key) { return equalArraysOrString(container[key], containee[key]); });\n }\n function containsSegmentGroup(container, containee) {\n return containsSegmentGroupHelper(container, containee, containee.segments);\n }\n function containsSegmentGroupHelper(container, containee, containeePaths) {\n if (container.segments.length > containeePaths.length) {\n var current = container.segments.slice(0, containeePaths.length);\n if (!equalPath(current, containeePaths))\n return false;\n if (containee.hasChildren())\n return false;\n return true;\n }\n else if (container.segments.length === containeePaths.length) {\n if (!equalPath(container.segments, containeePaths))\n return false;\n for (var c in containee.children) {\n if (!container.children[c])\n return false;\n if (!containsSegmentGroup(container.children[c], containee.children[c]))\n return false;\n }\n return true;\n }\n else {\n var current = containeePaths.slice(0, container.segments.length);\n var next = containeePaths.slice(container.segments.length);\n if (!equalPath(container.segments, current))\n return false;\n if (!container.children[PRIMARY_OUTLET])\n return false;\n return containsSegmentGroupHelper(container.children[PRIMARY_OUTLET], containee, next);\n }\n }\n /**\n * @description\n *\n * Represents the parsed URL.\n *\n * Since a router state is a tree, and the URL is nothing but a serialized state, the URL is a\n * serialized tree.\n * UrlTree is a data structure that provides a lot of affordances in dealing with URLs\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n * constructor(router: Router) {\n * const tree: UrlTree =\n * router.parseUrl('/team/33/(user/victor//support:help)?debug=true#fragment');\n * const f = tree.fragment; // return 'fragment'\n * const q = tree.queryParams; // returns {debug: 'true'}\n * const g: UrlSegmentGroup = tree.root.children[PRIMARY_OUTLET];\n * const s: UrlSegment[] = g.segments; // returns 2 segments 'team' and '33'\n * g.children[PRIMARY_OUTLET].segments; // returns 2 segments 'user' and 'victor'\n * g.children['support'].segments; // return 1 segment 'help'\n * }\n * }\n * ```\n *\n * @publicApi\n */\n var UrlTree = /** @class */ (function () {\n /** @internal */\n function UrlTree(\n /** The root segment group of the URL tree */\n root, \n /** The query params of the URL */\n queryParams, \n /** The fragment of the URL */\n fragment) {\n this.root = root;\n this.queryParams = queryParams;\n this.fragment = fragment;\n }\n Object.defineProperty(UrlTree.prototype, \"queryParamMap\", {\n get: function () {\n if (!this._queryParamMap) {\n this._queryParamMap = convertToParamMap(this.queryParams);\n }\n return this._queryParamMap;\n },\n enumerable: false,\n configurable: true\n });\n /** @docsNotRequired */\n UrlTree.prototype.toString = function () {\n return DEFAULT_SERIALIZER.serialize(this);\n };\n return UrlTree;\n }());\n /**\n * @description\n *\n * Represents the parsed URL segment group.\n *\n * See `UrlTree` for more information.\n *\n * @publicApi\n */\n var UrlSegmentGroup = /** @class */ (function () {\n function UrlSegmentGroup(\n /** The URL segments of this group.

See `UrlSegment` for more information */\n segments, \n /** The list of children of this group */\n children) {\n var _this = this;\n this.segments = segments;\n this.children = children;\n /** The parent node in the url tree */\n this.parent = null;\n forEach(children, function (v, k) { return v.parent = _this; });\n }\n /** Whether the segment has child segments */\n UrlSegmentGroup.prototype.hasChildren = function () {\n return this.numberOfChildren > 0;\n };\n Object.defineProperty(UrlSegmentGroup.prototype, \"numberOfChildren\", {\n /** Number of child segments */\n get: function () {\n return Object.keys(this.children).length;\n },\n enumerable: false,\n configurable: true\n });\n /** @docsNotRequired */\n UrlSegmentGroup.prototype.toString = function () {\n return serializePaths(this);\n };\n return UrlSegmentGroup;\n }());\n /**\n * @description\n *\n * Represents a single URL segment.\n *\n * A UrlSegment is a part of a URL between the two slashes. It contains a path and the matrix\n * parameters associated with the segment.\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n * constructor(router: Router) {\n * const tree: UrlTree = router.parseUrl('/team;id=33');\n * const g: UrlSegmentGroup = tree.root.children[PRIMARY_OUTLET];\n * const s: UrlSegment[] = g.segments;\n * s[0].path; // returns 'team'\n * s[0].parameters; // returns {id: 33}\n * }\n * }\n * ```\n *\n * @publicApi\n */\n var UrlSegment = /** @class */ (function () {\n function UrlSegment(\n /** The path part of a URL segment */\n path, \n /** The matrix parameters associated with a segment */\n parameters) {\n this.path = path;\n this.parameters = parameters;\n }\n Object.defineProperty(UrlSegment.prototype, \"parameterMap\", {\n get: function () {\n if (!this._parameterMap) {\n this._parameterMap = convertToParamMap(this.parameters);\n }\n return this._parameterMap;\n },\n enumerable: false,\n configurable: true\n });\n /** @docsNotRequired */\n UrlSegment.prototype.toString = function () {\n return serializePath(this);\n };\n return UrlSegment;\n }());\n function equalSegments(as, bs) {\n return equalPath(as, bs) && as.every(function (a, i) { return shallowEqual(a.parameters, bs[i].parameters); });\n }\n function equalPath(as, bs) {\n if (as.length !== bs.length)\n return false;\n return as.every(function (a, i) { return a.path === bs[i].path; });\n }\n function mapChildrenIntoArray(segment, fn) {\n var res = [];\n forEach(segment.children, function (child, childOutlet) {\n if (childOutlet === PRIMARY_OUTLET) {\n res = res.concat(fn(child, childOutlet));\n }\n });\n forEach(segment.children, function (child, childOutlet) {\n if (childOutlet !== PRIMARY_OUTLET) {\n res = res.concat(fn(child, childOutlet));\n }\n });\n return res;\n }\n /**\n * @description\n *\n * Serializes and deserializes a URL string into a URL tree.\n *\n * The url serialization strategy is customizable. You can\n * make all URLs case insensitive by providing a custom UrlSerializer.\n *\n * See `DefaultUrlSerializer` for an example of a URL serializer.\n *\n * @publicApi\n */\n var UrlSerializer = /** @class */ (function () {\n function UrlSerializer() {\n }\n return UrlSerializer;\n }());\n /**\n * @description\n *\n * A default implementation of the `UrlSerializer`.\n *\n * Example URLs:\n *\n * ```\n * /inbox/33(popup:compose)\n * /inbox/33;open=true/messages/44\n * ```\n *\n * DefaultUrlSerializer uses parentheses to serialize secondary segments (e.g., popup:compose), the\n * colon syntax to specify the outlet, and the ';parameter=value' syntax (e.g., open=true) to\n * specify route specific parameters.\n *\n * @publicApi\n */\n var DefaultUrlSerializer = /** @class */ (function () {\n function DefaultUrlSerializer() {\n }\n /** Parses a url into a `UrlTree` */\n DefaultUrlSerializer.prototype.parse = function (url) {\n var p = new UrlParser(url);\n return new UrlTree(p.parseRootSegment(), p.parseQueryParams(), p.parseFragment());\n };\n /** Converts a `UrlTree` into a url */\n DefaultUrlSerializer.prototype.serialize = function (tree) {\n var segment = \"/\" + serializeSegment(tree.root, true);\n var query = serializeQueryParams(tree.queryParams);\n var fragment = typeof tree.fragment === \"string\" ? \"#\" +

```
encodeUriFragment(tree.fragment) : ";\n            return \"\" + segment + query + fragment;\n        };\n        return DefaultUrlSerializer;\n    }());\n    var DEFAULT_SERIALIZER = new DefaultUrlSerializer();\n    function serializePaths(segment) {\n        return segment.segments.map(function (p) { return serializePath(p); }).join('/');\n    }\n    function serializeSegment(segment, root) {\n        if (!segment.hasChildren()) {\n            return serializePaths(segment);\n        }\n        if (root) {\n            var primary = segment.children[PRIMARY_OUTLET] ?\n                serializeSegment(segment.children[PRIMARY_OUTLET], false) :\n            ";\n            var children_1 = [];\n            forEach(segment.children, function (v, k) {\n                if (k !== PRIMARY_OUTLET) {\n                    children_1.push(k + \":\" + serializeSegment(v, false));\n                }\n            });\n            return children_1.length > 0 ? primary + \"(\" + children_1.join('//') + \")\" : primary;\n        }\n        else {\n            var children = mapChildrenIntoArray(segment, function (v, k) {\n                if (k === PRIMARY_OUTLET) {\n                    return [serializeSegment(segment.children[PRIMARY_OUTLET], false)];\n                }\n                return [k + \":\" + serializeSegment(v, false)];\n            });\n            // use no parenthesis if the only child is a primary outlet route\n            if (Object.keys(segment.children).length === 1 && segment.children[PRIMARY_OUTLET] != null) {\n                return serializePaths(segment) + \"/\" + children[0];\n            }\n            return serializePaths(segment)\n             + \"/(\" + children.join('//') + \")\";\n        }\n    }\n    /**\n     * Encodes a URI string with the default encoding. This function will only ever be called from\n     * `encodeUriQuery` or `encodeUriSegment` as it's the base set of encodings to be used. We need\n     * a custom encoding because encodeURIComponent is too aggressive and encodes stuff that doesn't\n     * have to be encoded per https://url.spec.whatwg.org.\n     */\n    function encodeUriString(s) {\n        return encodeURIComponent(s)\n            .replace(/%40/g, '@')\n            .replace(/%3A/gi, ':')\n            .replace(/%24/g, '$')\n            .replace(/%2C/gi, ',');\n    }\n    /**\n     * This function should be used to encode both keys and values in a query string key/value. In\n     * the following URL, you need to call encodeUriQuery on \"k\" and \"v\":\n     *\n     * http://www.site.org/html;mk=mv?k=v#f\n     */\n    function encodeUriQuery(s) {\n        return encodeUriString(s).replace(/%3B/gi, ';');\n    }\n    /**\n     * This function should be used to encode a URL fragment. In the following URL, you need to call\n     * encodeUriFragment on \"f\":\n     *\n     * http://www.site.org/html;mk=mv?k=v#f\n     */\n    function encodeUriFragment(s) {\n        return encodeURI(s);\n    }\n    /**\n     * This function should be run on any URI segment as well as the key and value in a key/value\n     * pair for matrix params. In the following URL, you need to call encodeUriSegment on \"html\",\n     * \"mk\", and \"mv\":\n     *\n     * http://www.site.org/html;mk=mv?k=v#f\n     */\n    function encodeUriSegment(s) {\n        return encodeUriString(s).replace(/\\(/g, '%28').replace(/\\)/g, '%29').replace(/%26/gi, '&');\n    }\n    function decode(s) {\n        return decodeURIComponent(s);\n    }\n    // Query keys/values should have the \"+\" replaced first, as \"+\" in a query string is \" \".\n    // decodeURIComponent function will not decode \"+\" as a space.\n    function decodeQuery(s) {\n        return decode(s.replace(/\\+/g, '%20'));\n    }\n    function serializePath(path) {\n        return \"\" + encodeUriSegment(path.path) + serializeMatrixParams(path.parameters);\n    }\n    function serializeMatrixParams(params) {\n        return Object.keys(params)\n            .map(function (key) { return \";\" + encodeUriSegment(key) + \"=\" + encodeUriSegment(params[key]); })\n            .join('');\n    }\n    function serializeQueryParams(params) {\n        var strParams = Object.keys(params).map(function (name) {\n            var value = params[name];\n            return Array.isArray(value) ?\n                value.map(function (v) { return encodeUriQuery(name) + \"=\" + encodeUriQuery(v); }).join('&') :\n                encodeUriQuery(name) + \"=\" + encodeUriQuery(value);\n        });\n        return strParams.length ? \"?\" + strParams.join('&') : '';\n    }\n    var SEGMENT_RE = /^[^\\/()?;=#]+/;\n    function matchSegments(str) {\n        var match = str.match(SEGMENT_RE);\n        return match ? match[0] : '';\n    }\n    var QUERY_PARAM_RE = /^[^=?&#]+/;\n    // Return the name of the query param at the start of the string or an empty string\n    function matchQueryParams(str) {\n        var match = str.match(QUERY_PARAM_RE);\n        return match ? match[0] : '';\n    }\n    var QUERY_PARAM_VALUE_RE = /^[^?&#]+/;\n    // Return the value of the query param at the start of the string or an empty string\n    function matchUrlQueryParamValue(str) {\n        var match = str.match(QUERY_PARAM_VALUE_RE);\n        return match ? match[0] : '';\n    }\n    var UrlParser =
```

```
/** @class */ (function () {\n        function UrlParser(url) {\n            this.url = url;\n            this.remaining = url;\n        }\n        UrlParser.prototype.parseRootSegment = function () {\n            this.consumeOptional('/');\n            if (this.remaining === '' || this.peekStartsWith('?') || this.peekStartsWith('#')) {\n                return new UrlSegmentGroup([], {});\n            }\n            // The root segment group never has segments\n            return new UrlSegmentGroup([], this.parseChildren());\n        };\n        UrlParser.prototype.parseQueryParams = function () {\n            var params = {};\n            if (this.consumeOptional('?')) {\n                do {\n                    this.parseQueryParam(params);\n                } while (this.consumeOptional('&'));\n            }\n            return params;\n        };\n        UrlParser.prototype.parseFragment = function () {\n            return this.consumeOptional('#') ? decodeURIComponent(this.remaining) : null;\n        };\n        UrlParser.prototype.parseChildren = function () {\n            if (this.remaining === '') {\n                return {};\n            }\n            this.consumeOptional('/');\n            var segments = [];\n            if (!this.peekStartsWith('(')) {\n                segments.push(this.parseSegment());\n            }\n            while (this.peekStartsWith('/') && !this.peekStartsWith('//') && !this.peekStartsWith('/(')) {\n                this.capture('/');\n                segments.push(this.parseSegment());\n            }\n            var children = {};\n            if (this.peekStartsWith('/(')) {\n                this.capture('/');\n                children = this.parseParens(true);\n            }\n            var res = {};\n            if (this.peekStartsWith('(')) {\n                res = this.parseParens(false);\n            }\n            if (segments.length > 0 || Object.keys(children).length > 0) {\n                res[PRIMARY_OUTLET] = new UrlSegmentGroup(segments, children);\n            }\n            return res;\n        };\n        // parse a segment with its matrix parameters\n        // ie `name;k1=v1;k2`\n        UrlParser.prototype.parseSegment = function () {\n            var path = matchSegments(this.remaining);\n            if (path === '' && this.peekStartsWith(';')) {\n                throw new Error(\"Empty path url segment cannot have parameters: '\" + this.remaining + \"'.\");\n            }\n            this.capture(path);\n            return new UrlSegment(decode(path), this.parseMatrixParams());\n        };\n        UrlParser.prototype.parseMatrixParams = function () {\n            var params = {};\n            while (this.consumeOptional(';')) {\n                this.parseParam(params);\n            }\n            return params;\n        };\n        UrlParser.prototype.parseParam = function (params) {\n            var key = matchSegments(this.remaining);\n            if (!key) {\n                return;\n            }\n            this.capture(key);\n            var value = '';\n            if (this.consumeOptional('=')) {\n                var valueMatch = matchSegments(this.remaining);\n                if (valueMatch) {\n                    value = valueMatch;\n                    this.capture(value);\n                }\n            }\n            params[decode(key)] = decode(value);\n        };\n        // Parse a single query parameter `name[=value]`\n        UrlParser.prototype.parseQueryParam = function (params) {\n            var key = matchQueryParams(this.remaining);\n            if (!key) {\n                return;\n            }\n            this.capture(key);\n            var value = '';\n            if (this.consumeOptional('=')) {\n                var valueMatch = matchUrlQueryParamValue(this.remaining);\n                if (valueMatch) {\n                    value = valueMatch;\n                    this.capture(value);\n                }\n            }\n            var decodedKey = decodeQuery(key);\n            var decodedVal = decodeQuery(value);\n            if (params.hasOwnProperty(decodedKey)) {\n                // Append to existing values\n                var currentVal = params[decodedKey];\n                if (!Array.isArray(currentVal)) {\n                    currentVal = [currentVal];\n                    params[decodedKey] = currentVal;\n                }\n                currentVal.push(decodedVal);\n            }\n            else {\n                // Create a new value\n                params[decodedKey] = decodedVal;\n            }\n        };\n        // parse `(a/b//outlet_name:c/d)`\n        UrlParser.prototype.parseParens = function (allowPrimary) {\n            var segments = {};\n            this.capture('(');\n            while (!this.consumeOptional(')') && this.remaining.length > 0) {\n                var path = matchSegments(this.remaining);\n                var next = this.remaining[path.length];\n                // if is is not one of these characters, then the segment was unescaped\n                // or the group was not closed\n                if (next !== '/' && next !== ')' && next !== ';') {\n                    throw new Error(\"Cannot parse url '\" + this.url + \"'\");\n                }\n                var outletName = undefined;\n                if (path.indexOf(':') > -1) {\n                    outletName = path.substr(0, path.indexOf(':'));\n                    this.capture(outletName);\n                    this.capture(':');\n                }\n                else if (allowPrimary) {\n                    outletName = PRIMARY_OUTLET;\n                }\n                var children = this.parseChildren();\n                segments[outletName] = Object.keys(children).length === 1 ? children[PRIMARY_OUTLET] :\n                    new
```

```
UrlSegmentGroup([], children);\n            this.consumeOptional('//');\n        }\n        return segments;\n    };\n    UrlParser.prototype.peekStartsWith = function (str) {\n        return this.remaining.startsWith(str);\n    };\n    // Consumes the prefix when it is present and returns whether it has been consumed\n    UrlParser.prototype.consumeOptional = function (str) {\n        if (this.peekStartsWith(str)) {\n            this.remaining = this.remaining.substring(str.length);\n            return true;\n        }\n        return false;\n    };\n    UrlParser.prototype.capture = function (str) {\n        if (!this.consumeOptional(str)) {\n            throw new Error(\"Expected \\\"\" + str + \"\\\".\");\n        }\n    };\n    return UrlParser;\n}());\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nvar Tree = /** @class */ (function () {\n    function Tree(root) {\n        this._root = root;\n    }\n    Object.defineProperty(Tree.prototype, \"root\", {\n        get: function () {\n            return this._root.value;\n        },\n        enumerable: false,\n        configurable: true\n    });\n    /**\n     * @internal\n     */\n    Tree.prototype.parent = function (t) {\n        var p = this.pathFromRoot(t);\n        return p.length > 1 ? p[p.length - 2] : null;\n    };\n    /**\n     * @internal\n     */\n    Tree.prototype.children = function (t) {\n        var n = findNode(t, this._root);\n        return n ? n.children.map(function (t) { return t.value; }) : [];\n    };\n    /**\n     * @internal\n     */\n    Tree.prototype.firstChild = function (t) {\n        var n = findNode(t, this._root);\n        return n && n.children.length > 0 ? n.children[0].value : null;\n    };\n    /**\n     * @internal\n     */\n    Tree.prototype.siblings = function (t) {\n        var p = findPath(t, this._root);\n        if (p.length < 2)\n            return [];\n        var c = p[p.length - 2].children.map(function (c) { return c.value; });\n        return c.filter(function (cc) { return cc !== t; });\n    };\n    /**\n     * @internal\n     */\n    Tree.prototype.pathFromRoot = function (t) {\n        return findPath(t, this._root).map(function (s) { return s.value; });\n    };\n    return Tree;\n}());\n// DFS for the node matching the value\nfunction findNode(value, node) {\n    var e_1, _a;\n    if (value === node.value)\n        return node;\n    try {\n        for (var _b = __values(node.children), _c = _b.next(); !_c.done; _c = _b.next()) {\n            var child = _c.value;\n            var node_1 = findNode(value, child);\n            if (node_1)\n                return node_1;\n        }\n    }\n    catch (e_1_1) { e_1 = { error: e_1_1 }; }\n    finally {\n        try {\n            if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n        }\n        finally { if (e_1) throw e_1.error; }\n    }\n    return null;\n}\n// Return the path to the node with the given value using DFS\nfunction findPath(value, node) {\n    var e_2, _a;\n    if (value === node.value)\n        return [node];\n    try {\n        for (var _b = __values(node.children), _c = _b.next(); !_c.done; _c = _b.next()) {\n            var child = _c.value;\n            var path = findPath(value, child);\n            if (path.length) {\n                path.unshift(node);\n                return path;\n            }\n        }\n    }\n    catch (e_2_1) { e_2 = { error: e_2_1 }; }\n    finally {\n        try {\n            if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n        }\n        finally { if (e_2) throw e_2.error; }\n    }\n    return [];\n}\nvar TreeNode = /** @class */ (function () {\n    function TreeNode(value, children) {\n        this.value = value;\n        this.children = children;\n    }\n    TreeNode.prototype.toString = function () {\n        return \"TreeNode(\" + this.value + \")\";\n    };\n    return TreeNode;\n}());\n// Return the list of T indexed by outlet name\nfunction nodeChildrenAsMap(node) {\n    var map = {};\n    if (node) {\n        node.children.forEach(function (child) { return map[child.value.outlet] = child; });\n    }\n    return map;\n}\n\n/**\n * Represents the state of the router as a tree of activated routes.\n *\n * @usageNotes\n *\n * Every node in the route tree is an `ActivatedRoute` instance\n * that knows about the \"consumed\" URL segments, the extracted parameters,\n * and the resolved data.\n * Use the `ActivatedRoute` properties to traverse the tree from any node.\n *\n * The following fragment shows how a component gets the root node\n * of the current state to establish its own route tree:\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n *   constructor(router: Router) {\n *     const state: RouterState = router.routerState;\n *     const root: ActivatedRoute = state.root;\n *     const child = root.firstChild;\n *     const id: Observable<string> = child.params.map(p => p.id);\n *
```

```
//...\n     *   }\n     * }\n     * ```\n     *\n     * @see `ActivatedRoute`\n     * @see [Getting route information](guide/router#getting-route-information)\n     *\n     * @publicApi\n     */\n    var RouterState = /** @class */ (function (_super) {\n        __extends(RouterState, _super);\n        /** @internal */\n        function RouterState(root, \n        /** The current snapshot of the router state */\n        snapshot) {\n            var _this = _super.call(this, root) || this;\n            _this.snapshot = snapshot;\n            setRouterState(_this, root);\n            return _this;\n        }\n        RouterState.prototype.toString = function () {\n            return this.snapshot.toString();\n        };\n        return
 RouterState;\n    }(Tree));\n    function createEmptyState(urlTree, rootComponent) {\n        var snapshot = createEmptyStateSnapshot(urlTree, rootComponent);\n        var emptyUrl = new rxjs.BehaviorSubject([new UrlSegment('', {})]);\n        var emptyParams = new rxjs.BehaviorSubject({});\n        var emptyData = new rxjs.BehaviorSubject({});\n        var emptyQueryParams = new rxjs.BehaviorSubject({});\n        var fragment = new rxjs.BehaviorSubject('');\n        var activated = new ActivatedRoute(emptyUrl, emptyParams, emptyQueryParams, fragment, emptyData, PRIMARY_OUTLET, rootComponent, snapshot.root);\n        activated.snapshot = snapshot.root;\n        return new RouterState(new TreeNode(activated, []), snapshot);\n    }\n    function createEmptyStateSnapshot(urlTree, rootComponent) {\n        var emptyParams = {};\n        var emptyData = {};\n
 var emptyQueryParams = {};\n        var fragment = '';\n        var activated = new ActivatedRouteSnapshot([], emptyParams,
 emptyQueryParams, fragment, emptyData, PRIMARY_OUTLET, rootComponent, null, urlTree.root, -1, {});\n        return new RouterStateSnapshot('', new TreeNode(activated, []));\n    }\n    /**\n     * Provides access to information about a route associated with a component\n     * that is loaded in an outlet.\n     * Use to traverse the `RouterState` tree and extract information from nodes.\n     *\n     * The following example shows how to construct a component using information from a\n     * currently activated route.\n     *\n     * {@example router/activated-route/module.ts region=\"activated-route\"\n     *     header=\"activated-route.component.ts\"}\n     *\n     * @see [Getting route information](guide/router#getting-route-information)\n     *\n     * @publicApi\n     */\n    var ActivatedRoute = /** @class */ (function () {\n        /** @internal */\n        function ActivatedRoute(\n        /** An observable of the URL segments matched by this route. */\n        url, \n
 /** An observable of the matrix parameters scoped to this route. */\n        params, \n        /** An observable of the query parameters shared by all the routes. */\n        queryParams, \n        /** An observable of the URL fragment shared by all the routes. */\n        fragment, \n        /** An observable of the static and resolved data of this route. */\n        data, \n        /** The outlet name of the route, a constant. */\n        outlet, \n        /** The component of the route, a constant. */\n        // TODO(vsavkin): remove |string\n        component, futureSnapshot) {\n            this.url = url;\n            this.params = params;\n            this.queryParams = queryParams;\n            this.fragment = fragment;\n
        this.data = data;\n            this.outlet = outlet;\n            this.component = component;\n            this._futureSnapshot = futureSnapshot;\n        }\n        Object.defineProperty(ActivatedRoute.prototype, \"routeConfig\", {\n            /**
 The configuration used to match this route. */\n            get: function () {\n                return this._futureSnapshot.routeConfig;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(ActivatedRoute.prototype, \"root\", {\n            /** The root of the router state. */\n            get: function () {\n                return this._routerState.root;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(ActivatedRoute.prototype, \"parent\", {\n            /** The parent of this route in the router state tree. */\n            get: function () {\n                return this._routerState.parent(this);\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(ActivatedRoute.prototype, \"firstChild\", {\n            /** The first child of this route in the router state tree. */\n
            get: function () {\n                return this._routerState.firstChild(this);\n            },\n            enumerable: false,\n
        configurable: true\n        });\n        Object.defineProperty(ActivatedRoute.prototype, \"children\", {\n            /** The children of this route in the router state tree. */\n            get: function () {\n                return this._routerState.children(this);\n            },\n            enumerable: false,\n            configurable: true\n        });\n
```

```
Object.defineProperty(ActivatedRoute.prototype, \"pathFromRoot\", {\n            /** The path from the root of the router state tree to this route. */\n            get: function () {\n                return this._routerState.pathFromRoot(this);\n            },\n            enumerable: false,\n            configurable: true\n        });\n    Object.defineProperty(ActivatedRoute.prototype, \"paramMap\", {\n            /**\n             * An Observable that contains a map of
 the required and optional parameters\n             * specific to the route.\n             * The map supports retrieving single and multiple values from the same parameter.\n             */\n            get: function () {\n                if (!this._paramMap) {\n                    this._paramMap = this.params.pipe(operators.map(function (p) { return convertToParamMap(p); }));\n                }\n                return this._paramMap;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(ActivatedRoute.prototype, \"queryParamMap\", {\n            /**\n             * An Observable that contains a map of the query parameters available to all routes.\n             * The map supports retrieving single and multiple values from the query parameter.\n             */\n            get: function () {\n                if (!this._queryParamMap) {\n                    this._queryParamMap =\n                        this.queryParams.pipe(operators.map(function
 (p) { return convertToParamMap(p); }));\n                }\n                return this._queryParamMap;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        ActivatedRoute.prototype.toString = function () {\n            return this.snapshot ? this.snapshot.toString() : \"Future(\" + this._futureSnapshot + \")\";\n        };\n        return ActivatedRoute;\n    }());\n    /**\n     * Returns the inherited params, data, and resolve for a given route.\n     * By default, this only inherits values up to the nearest path-less or component-less route.\n     * @internal\n     */\n    function inheritedParamsDataResolve(route, paramsInheritanceStrategy) {\n        if (paramsInheritanceStrategy === void 0) { paramsInheritanceStrategy = 'emptyOnly'; }\n        var pathFromRoot = route.pathFromRoot;\n        var inheritingStartingFrom = 0;\n        if (paramsInheritanceStrategy !== 'always') {\n            inheritingStartingFrom
 = pathFromRoot.length - 1;\n            while (inheritingStartingFrom >= 1) {\n                var current =
pathFromRoot[inheritingStartingFrom];\n                var parent = pathFromRoot[inheritingStartingFrom - 1];\n
  // current route is an empty path => inherits its parent's params and data\n                if (current.routeConfig &&
current.routeConfig.path === '') {\n                    inheritingStartingFrom--;\n                    // parent is componentless
=> current route should inherit its params and data\n                }\n                else if (!parent.component) {\n
 inheritingStartingFrom--;\n                }\n                else {\n                    break;\n                }\n            }\n        }\n
return flattenInherited(pathFromRoot.slice(inheritingStartingFrom));\n    }\n    /** @internal */\n    function
flattenInherited(pathFromRoot) {\n        return pathFromRoot.reduce(function (res, curr) {\n
   var params = Object.assign(Object.assign({}, res.params), curr.params);\n            var data =
Object.assign(Object.assign({}, res.data), curr.data);\n            var resolve = Object.assign(Object.assign({},
res.resolve), curr._resolvedData);\n            return { params: params, data: data, resolve: resolve };\n        }, { params:
{}, data: {}, resolve: {} });\n    }\n    /**\n     * @description\n     *\n     * Contains the information about a route
associated with a component loaded in an\n     * outlet at a particular moment in time. ActivatedRouteSnapshot can
also be used to\n     * traverse the router state tree.\n     *\n     * The following example initializes a component with
route information extracted\n     * from the snapshot of the root node at the time of creation.\n     *\n     * ```\n     *
@Component({templateUrl:'./my-component.html'})\n     * class MyComponent {\n     *   constructor(route:
ActivatedRoute) {\n     *     const id: string = route.snapshot.params.id;\n
    *     const url: string = route.snapshot.url.join('');\n     *     const user = route.snapshot.data.user;\n     *   }\n     *
}\n     * ```\n     *\n     * @publicApi\n     */\n    var ActivatedRouteSnapshot = /** @class */ (function () {\n        /**
@internal */\n        function ActivatedRouteSnapshot(\n        /** The URL segments matched by this route */\n
url, \n        /** The matrix parameters scoped to this route */\n        params, \n        /** The query parameters shared
by all the routes */\n        queryParams, \n        /** The URL fragment shared by all the routes */\n        fragment, \n
   /** The static and resolved data of this route */\n        data, \n        /** The outlet name of the route */\n        outlet,
\n        /** The component of the route */\n        component, routeConfig, urlSegment, lastPathIndex, resolve) {\n
   this.url = url;\n            this.params = params;\n            this.queryParams = queryParams;\n
```

```
this.fragment = fragment;\n this.data = data;\n this.outlet = outlet;\n this.component = component;\n this.routeConfig = routeConfig;\n this._urlSegment = urlSegment;\n this._lastPathIndex = lastPathIndex;\n this._resolve = resolve;\n }\n Object.defineProperty(ActivatedRouteSnapshot.prototype, \"root\", {\n /** The root of the router state */\n get: function () {\n return this._routerState.root;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ActivatedRouteSnapshot.prototype, \"parent\", {\n /** The parent of this route in the router state tree */\n get: function () {\n return this._routerState.parent(this);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ActivatedRouteSnapshot.prototype, \"firstChild\", {\n /** The first child of this route in the router state tree */\n get: function () {\n return this._routerState.firstChild(this);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ActivatedRouteSnapshot.prototype, \"children\", {\n /** The children of this route in the router state tree */\n get: function () {\n return this._routerState.children(this);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ActivatedRouteSnapshot.prototype, \"pathFromRoot\", {\n /** The path from the root of the router state tree to this route */\n get: function () {\n return this._routerState.pathFromRoot(this);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ActivatedRouteSnapshot.prototype, \"paramMap\", {\n get: function () {\n if (!this._paramMap) {\n this._paramMap = convertToParamMap(this.params);\n }\n return this._paramMap;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ActivatedRouteSnapshot.prototype, \"queryParamMap\", {\n get: function () {\n if (!this._queryParamMap) {\n this._queryParamMap = convertToParamMap(this.queryParams);\n }\n return this._queryParamMap;\n },\n enumerable: false,\n configurable: true\n });\n ActivatedRouteSnapshot.prototype.toString = function () {\n var url = this.url.map(function (segment) { return segment.toString(); }).join('/');\n var matched = this.routeConfig ? this.routeConfig.path : '';\n return \"Route(url:'\" + url + \"', path:'\" + matched + \"')\";\n };\n return ActivatedRouteSnapshot;\n }());\n /**\n * @description\n *\n * Represents the state of the router at a moment in time.\n *\n * This is a tree of activated route snapshots. Every node in this tree knows about\n * the \"consumed\" URL segments, the extracted parameters, and the resolved data.\n *\n * The following example shows how a component is initialized with information\n * from the snapshot of the root node's state at the time of creation.\n *\n * ```\n * @Component({templateUrl:'template.html'})\n * class MyComponent {\n * constructor(router: Router) {\n * const state: RouterState = router.routerState;\n * const snapshot: RouterStateSnapshot = state.snapshot;\n * const root: ActivatedRouteSnapshot = snapshot.root;\n * const child = root.firstChild;\n * const id: Observable<string>
 = child.params.map(p => p.id);\n * //...\n * }\n * }\n * ```\n *\n * @publicApi\n */\n var RouterStateSnapshot = /** @class */ (function (_super) {\n __extends(RouterStateSnapshot, _super);\n /** @internal */\n function RouterStateSnapshot(\n /** The url from which this snapshot was created */\n url, root) {\n var _this = _super.call(this, root) || this;\n _this.url = url;\n setRouterState(_this, root);\n return _this;\n }\n RouterStateSnapshot.prototype.toString = function () {\n return serializeNode(this._root);\n };\n return RouterStateSnapshot;\n }(Tree));\n function setRouterState(state, node) {\n node.value._routerState = state;\n node.children.forEach(function (c) { return setRouterState(state, c); });\n }\n function serializeNode(node) {\n var c = node.children.length > 0 ? \" { \" + node.children.map(serializeNode).join(',
 ') + \" } \" : '';\n return \"\" + node.value + c;\n }\n /**\n * The expectation is that the activate route is created with the right set of parameters.\n * So we push new values into the observables only when they are not the initial values.\n * And we detect that by checking if the snapshot field is set.\n */\n function advanceActivatedRoute(route) {\n if (route.snapshot) {\n var currentSnapshot = route.snapshot;\n
```

```
var nextSnapshot = route._futureSnapshot;\n            route.snapshot = nextSnapshot;\n            if
(!shallowEqual(currentSnapshot.queryParams, nextSnapshot.queryParams)) {\n
route.queryParams.next(nextSnapshot.queryParams);\n            }\n            if (currentSnapshot.fragment !==
nextSnapshot.fragment) {\n                route.fragment.next(nextSnapshot.fragment);\n            }\n            if
(!shallowEqual(currentSnapshot.params, nextSnapshot.params))
 {\n                route.params.next(nextSnapshot.params);\n            }\n            if
(!shallowEqualArrays(currentSnapshot.url, nextSnapshot.url)) {\n                route.url.next(nextSnapshot.url);\n
 }\n            if (!shallowEqual(currentSnapshot.data, nextSnapshot.data)) {\n
route.data.next(nextSnapshot.data);\n            }\n        }\n        else {\n            route.snapshot =
route._futureSnapshot;\n            // this is for resolved data\n            route.data.next(route._futureSnapshot.data);\n
}\n    }\n    function equalParamsAndUrlSegments(a, b) {\n        var equalUrlParams = shallowEqual(a.params,
b.params) && equalSegments(a.url, b.url);\n        var parentsMismatch = !a.parent !== !b.parent;\n        return
equalUrlParams && !parentsMismatch &&\n            (!a.parent || equalParamsAndUrlSegments(a.parent,
b.parent));\n    }\n\n    function createRouterState(routeReuseStrategy, curr, prevState) {\n        var root =
createNode(routeReuseStrategy,
 curr._root, prevState ? prevState._root : undefined);\n        return new RouterState(root, curr);\n    }\n    function
createNode(routeReuseStrategy, curr, prevState) {\n        // reuse an activated route that is currently displayed on the
screen\n        if (prevState && routeReuseStrategy.shouldReuseRoute(curr.value, prevState.value.snapshot)) {\n
   var value = prevState.value;\n            value._futureSnapshot = curr.value;\n            var children =
createOrReuseChildren(routeReuseStrategy, curr, prevState);\n            return new TreeNode(value, children);\n
 // retrieve an activated route that is used to be displayed, but is not currently displayed\n        }\n        else {\n
var detachedRouteHandle = routeReuseStrategy.retrieve(curr.value);\n            if (detachedRouteHandle) {\n
var tree = detachedRouteHandle.route;\n                setFutureSnapshotsOfActivatedRoutes(curr, tree);\n
return tree;\n
            }\n            else {\n                var value = createActivatedRoute(curr.value);\n                var children =
curr.children.map(function (c) { return createNode(routeReuseStrategy, c); });\n                return new
TreeNode(value, children);\n            }\n        }\n    }\n    function setFutureSnapshotsOfActivatedRoutes(curr, result)
{\n        if (curr.value.routeConfig !== result.value.routeConfig) {\n            throw new Error('Cannot reattach
ActivatedRouteSnapshot created from a different route');\n        }\n        if (curr.children.length !==
result.children.length) {\n            throw new Error('Cannot reattach ActivatedRouteSnapshot with a different number
of children');\n        }\n        result.value._futureSnapshot = curr.value;\n        for (var i = 0; i < curr.children.length;
++i) {\n            setFutureSnapshotsOfActivatedRoutes(curr.children[i], result.children[i]);\n        }\n    }\n    function
createOrReuseChildren(routeReuseStrategy,
 curr, prevState) {\n        return curr.children.map(function (child) {\n            var e_1, _a;\n            try {\n
for (var _b = __values(prevState.children), _c = _b.next(); !_c.done; _c = _b.next()) {\n                var p =
_c.value;\n                if (routeReuseStrategy.shouldReuseRoute(child.value, p.value.snapshot)) {\n
return createNode(routeReuseStrategy, child, p);\n                }\n            }\n            }\n            catch (e_1_1) {
e_1 = { error: e_1_1 }; }\n            finally {\n                try {\n                    if (_c && !_c.done && (_a = _b.return))
_a.call(_b);\n                }\n                finally { if (e_1) throw e_1.error; }\n            }\n            return
createNode(routeReuseStrategy, child);\n        });\n    }\n    function createActivatedRoute(c) {\n        return new
ActivatedRoute(new rxjs.BehaviorSubject(c.url), new rxjs.BehaviorSubject(c.params), new
rxjs.BehaviorSubject(c.queryParams),
 new rxjs.BehaviorSubject(c.fragment), new rxjs.BehaviorSubject(c.data), c.outlet, c.component, c);\n    }\n\n
function createUrlTree(route, urlTree, commands, queryParams, fragment) {\n        if (commands.length === 0) {\n
        return tree(urlTree.root, urlTree.root, urlTree, queryParams, fragment);\n        }\n        var nav =
computeNavigation(commands);\n        if (nav.toRoot()) {\n            return tree(urlTree.root, new
UrlSegmentGroup([], {}), urlTree, queryParams, fragment);\n        }\n        var startingPosition =
findStartingPosition(nav, urlTree, route);\n        var segmentGroup = startingPosition.processChildren ?\n
```

```
updateSegmentGroupChildren(startingPosition.segmentGroup, startingPosition.index, nav.commands) :\n updateSegmentGroup(startingPosition.segmentGroup, startingPosition.index, nav.commands);\n return tree(startingPosition.segmentGroup, segmentGroup, urlTree, queryParams, fragment);\n }\n function isMatrixParams(command) {\n return typeof command === 'object' && command != null && !command.outlets && !command.segmentPath;\n }\n /**\n * Determines if a given command has an `outlets` map. When we encounter a command\n * with an outlets k/v map, we need to apply each outlet individually to the existing segment.\n */\n function isCommandWithOutlets(command) {\n return typeof command === 'object' && command != null && command.outlets;\n }\n function tree(oldSegmentGroup, newSegmentGroup, urlTree, queryParams, fragment) {\n var qp = {};\n if (queryParams) {\n forEach(queryParams, function (value, name) {\n qp[name] = Array.isArray(value) ? value.map(function (v) { return \"\" + v; }) : \"\" + value;\n });\n }\n if (urlTree.root === oldSegmentGroup) {\n return new UrlTree(newSegmentGroup, qp, fragment);\n }\n return new UrlTree(replaceSegment(urlTree.root, oldSegmentGroup, newSegmentGroup), qp, fragment);\n }\n function replaceSegment(current, oldSegment, newSegment) {\n var children = {};\n forEach(current.children, function (c, outletName) {\n if (c === oldSegment) {\n children[outletName] = newSegment;\n }\n else {\n children[outletName] = replaceSegment(c, oldSegment, newSegment);\n }\n });\n return new UrlSegmentGroup(current.segments, children);\n }\n var Navigation = /** @class */ (function () {\n function Navigation(isAbsolute, numberOfDoubleDots, commands) {\n this.isAbsolute = isAbsolute;\n this.numberOfDoubleDots = numberOfDoubleDots;\n this.commands = commands;\n if (isAbsolute && commands.length > 0 && isMatrixParams(commands[0])) {\n throw new Error('Root segment cannot have matrix parameters');\n }\n var cmdWithOutlet = commands.find(isCommandWithOutlets);\n if (cmdWithOutlet && cmdWithOutlet !== last(commands)) {\n throw new Error('{outlets:{}} has to be the last command');\n }\n }\n Navigation.prototype.toRoot = function () {\n return this.isAbsolute && this.commands.length === 1 && this.commands[0] == '/';\n };\n return Navigation;\n }());\n /** Transforms commands to a normalized `Navigation` */\n function computeNavigation(commands) {\n if ((typeof commands[0] === 'string') && commands.length === 1 && commands[0] === '/') {\n return new Navigation(true, 0, commands);\n }\n var numberOfDoubleDots = 0;\n var isAbsolute = false;\n var res = commands.reduce(function (res, cmd, cmdIdx) {\n if (typeof cmd === 'object' && cmd != null) {\n if (cmd.outlets) {\n var outlets_1 = {};\n forEach(cmd.outlets, function (commands,
 name) {\n outlets_1[name] = typeof commands === 'string' ? commands.split('/') : commands;\n });\n return __spread(res, [{ outlets: outlets_1 }]);\n }\n if (cmd.segmentPath) {\n return __spread(res, [cmd.segmentPath]);\n }\n }\n if (!(typeof cmd === 'string')) {\n return __spread(res, [cmd]);\n }\n if (cmdIdx === 0) {\n cmd.split('/').forEach(function (urlPart, partIndex) {\n if (partIndex == 0 && urlPart === '.') {\n // skip './a'\n }\n else if (partIndex == 0 && urlPart === '') { //  '/a'\n isAbsolute = true;\n }\n else if (urlPart === '..') { //  '../a'\n numberOfDoubleDots++;\n }\n
  else if (urlPart != '') {\n res.push(urlPart);\n }\n });\n return res;\n
  }\n return __spread(res, [cmd]);\n }, []);\n return new Navigation(isAbsolute, numberOfDoubleDots, res);\n }\n var Position = /** @class */ (function () {\n function Position(segmentGroup, processChildren, index) {\n this.segmentGroup = segmentGroup;\n this.processChildren = processChildren;\n this.index = index;\n }\n return Position;\n }());\n function findStartingPosition(nav, tree, route) {\n if (nav.isAbsolute) {\n return new Position(tree.root, true, 0);\n }\n if (route.snapshot._lastPathIndex === -1) {\n var segmentGroup = route.snapshot._urlSegment;\n // Pathless ActivatedRoute has _lastPathIndex === -1 but should not process children\n // see issue #26224, #13011, #35687\n
```

```
        // However, if the ActivatedRoute is the root we should process children like above.\n            var
processChildren = segmentGroup === tree.root;\n            return new Position(segmentGroup, processChildren, 0);\n
    }\n        var modifier = isMatrixParams(nav.commands[0]) ? 0 : 1;\n        var index =
route.snapshot._lastPathIndex + modifier;\n        return
createPositionApplyingDoubleDots(route.snapshot._urlSegment, index, nav.numberOfDoubleDots);\n    }\n
function createPositionApplyingDoubleDots(group, index, numberOfDoubleDots) {\n        var g = group;\n        var
ci = index;\n        var dd = numberOfDoubleDots;\n        while (dd > ci) {\n            dd -= ci;\n            g = g.parent;\n
        if (!g) {\n                throw new Error('Invalid number of \\'../\\'');\n            }\n            ci = g.segments.length;\n
  }\n        return new Position(g, false, ci - dd);\n    }\n    function getOutlets(commands) {\n        var _a;\n
    if (isCommandWithOutlets(commands[0])) {\n            return commands[0].outlets;\n        }\n        return _a = {},
_a[PRIMARY_OUTLET] = commands, _a;\n    }\n    function updateSegmentGroup(segmentGroup, startIndex,
commands) {\n        if (!segmentGroup) {\n            segmentGroup = new UrlSegmentGroup([], {});\n        }\n        if
(segmentGroup.segments.length === 0 && segmentGroup.hasChildren()) {\n            return
updateSegmentGroupChildren(segmentGroup, startIndex, commands);\n        }\n        var m =
prefixedWith(segmentGroup, startIndex, commands);\n        var slicedCommands =
commands.slice(m.commandIndex);\n        if (m.match && m.pathIndex < segmentGroup.segments.length) {\n
  var g = new UrlSegmentGroup(segmentGroup.segments.slice(0, m.pathIndex), {});\n
g.children[PRIMARY_OUTLET] =\n                new UrlSegmentGroup(segmentGroup.segments.slice(m.pathIndex),
segmentGroup.children);\n            return updateSegmentGroupChildren(g, 0, slicedCommands);\n
        }\n        else if (m.match && slicedCommands.length === 0) {\n            return new
UrlSegmentGroup(segmentGroup.segments, {});\n        }\n        else if (m.match && !segmentGroup.hasChildren())
{\n            return createNewSegmentGroup(segmentGroup, startIndex, commands);\n        }\n        else if (m.match)
{\n            return updateSegmentGroupChildren(segmentGroup, 0, slicedCommands);\n        }\n        else {\n
return createNewSegmentGroup(segmentGroup, startIndex, commands);\n        }\n    }\n    function
updateSegmentGroupChildren(segmentGroup, startIndex, commands) {\n        if (commands.length === 0) {\n
 return new UrlSegmentGroup(segmentGroup.segments, {});\n        }\n        else {\n            var outlets_2 =
getOutlets(commands);\n            var children_1 = {};\n            forEach(outlets_2, function (commands, outlet) {\n
        if (typeof commands === 'string') {\n                    commands = [commands];\n
            }\n                if (commands !== null) {\n                    children_1[outlet] =
updateSegmentGroup(segmentGroup.children[outlet], startIndex, commands);\n                }\n            });\n
forEach(segmentGroup.children, function (child, childOutlet) {\n                if (outlets_2[childOutlet] === undefined)
{\n                    children_1[childOutlet] = child;\n                }\n            });\n            return new
UrlSegmentGroup(segmentGroup.segments, children_1);\n        }\n    }\n    function prefixedWith(segmentGroup,
startIndex, commands) {\n        var currentCommandIndex = 0;\n        var currentPathIndex = startIndex;\n        var
noMatch = { match: false, pathIndex: 0, commandIndex: 0 };\n        while (currentPathIndex <
segmentGroup.segments.length) {\n            if (currentCommandIndex >= commands.length)\n                return
noMatch;\n            var path = segmentGroup.segments[currentPathIndex];\n            var command
 = commands[currentCommandIndex];\n            // Do not try to consume command as part of the prefixing if it has
outlets because it can\n            // contain outlets other than the one being processed. Consuming the outlets command
would\n            // result in other outlets being ignored.\n            if (isCommandWithOutlets(command)) {\n
break;\n            }\n            var curr = \"\" + command;\n            var next = currentCommandIndex <
commands.length - 1 ? commands[currentCommandIndex + 1] : null;\n            if (currentPathIndex > 0 && curr
=== undefined)\n                break;\n            if (curr && next && (typeof next === 'object') && next.outlets ===
undefined) {\n                if (!compare(curr, next, path))\n                    return noMatch;\n
currentCommandIndex += 2;\n            }\n            else {\n                if (!compare(curr, {}, path))\n                    return
noMatch;\n                currentCommandIndex++;\n
            }\n            currentPathIndex++;\n        }\n        return { match: true, pathIndex: currentPathIndex,
commandIndex: currentCommandIndex };\n    }\n    function createNewSegmentGroup(segmentGroup, startIndex,
```

```
commands) {\n        var paths = segmentGroup.segments.slice(0, startIndex);\n        var i = 0;\n        while (i < commands.length) {\n            var command = commands[i];\n            if (isCommandWithOutlets(command)) {\n                var children = createNewSegmentChildren(command.outlets);\n                return new UrlSegmentGroup(paths, children);\n            }\n            // if we start with an object literal, we need to reuse the path part from the segment\n            if (i === 0 && isMatrixParams(commands[0])) {\n                var p = segmentGroup.segments[startIndex];\n                paths.push(new UrlSegment(p.path, commands[0]));\n                i++;\n                continue;\n            }\n            var curr = isCommandWithOutlets(command)
 ? command.outlets[PRIMARY_OUTLET] : \"\" + command;\n            var next = (i < commands.length - 1) ? commands[i + 1] : null;\n            if (curr && next && isMatrixParams(next)) {\n                paths.push(new UrlSegment(curr, stringify(next)));\n                i += 2;\n            }\n            else {\n                paths.push(new UrlSegment(curr, {}));\n                i++;\n            }\n        }\n        return new UrlSegmentGroup(paths, {});\n    }\n    function createNewSegmentChildren(outlets) {\n        var children = {};\n        forEach(outlets, function (commands, outlet) {\n            if (typeof commands === 'string') {\n                commands = [commands];\n            }\n            if (commands !== null) {\n                children[outlet] = createNewSegmentGroup(new UrlSegmentGroup([], {}), 0, commands);\n            }\n        });\n        return children;\n    }\n    function stringify(params) {\n        var res = {};\n        forEach(params,
 function (v, k) { return res[k] = \"\" + v; });\n        return res;\n    }\n    function compare(path, params, segment) {\n        return path == segment.path && shallowEqual(params, segment.parameters);\n    }\n\n    /**\n     * @license\n * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var activateRoutes = function (rootContexts, routeReuseStrategy, forwardEvent) { return operators.map(function (t) {\n        new ActivateRoutes(routeReuseStrategy, t.targetRouterState, t.currentRouterState, forwardEvent)\n.activate(rootContexts);\n        return t;\n    }); };\n    var ActivateRoutes = /** @class */ (function () {\n    function ActivateRoutes(routeReuseStrategy, futureState, currState, forwardEvent) {\n        this.routeReuseStrategy = routeReuseStrategy;\n        this.futureState = futureState;\n        this.currState = currState;\n        this.forwardEvent = forwardEvent;\n    }\n    ActivateRoutes.prototype.activate = function (parentContexts) {\n        var futureRoot = this.futureState._root;\n        var currRoot = this.currState ? this.currState._root : null;\n        this.deactivateChildRoutes(futureRoot, currRoot, parentContexts);\n        advanceActivatedRoute(this.futureState.root);\n        this.activateChildRoutes(futureRoot, currRoot, parentContexts);\n    };\n    // De-activate the child route that are not re-used for the future state\n    ActivateRoutes.prototype.deactivateChildRoutes = function (futureNode, currNode, contexts) {\n        var _this = this;\n        var children = nodeChildrenAsMap(currNode);\n        // Recurse on the routes active in the future state to de-activate deeper children\n        futureNode.children.forEach(function (futureChild) {\n            var childOutletName = futureChild.value.outlet;\n            _this.deactivateRoutes(futureChild, children[childOutletName], contexts);\n            delete children[childOutletName];\n        });\n        // De-activate the routes that will not be re-used\n        forEach(children, function (v, childName) {\n            _this.deactivateRouteAndItsChildren(v, contexts);\n        });\n    };\n    ActivateRoutes.prototype.deactivateRoutes = function (futureNode, currNode, parentContext) {\n        var future = futureNode.value;\n        var curr = currNode ? currNode.value : null;\n        if (future === curr) {\n            // Reusing the node, check to see if the children need to be de-activated\n            if (future.component) {\n                // If we have a normal route, we need to go through an outlet.\n                var context = parentContext.getContext(future.outlet);\n                if (context) {\n                    this.deactivateChildRoutes(futureNode,
 currNode, context.children);\n                }\n            }\n            else {\n                // if we have a componentless route, we recurse but keep the same outlet map.\n                this.deactivateChildRoutes(futureNode, currNode, parentContext);\n            }\n        }\n        else {\n            if (curr) {\n                // Deactivate the current route which will not be re-used\n                this.deactivateRouteAndItsChildren(currNode, parentContext);\n            }\n        };\n
```

ActivateRoutes.prototype.deactivateRouteAndItsChildren = function (route, parentContexts) {\n if (this.routeReuseStrategy.shouldDetach(route.value.snapshot)) {\n this.detachAndStoreRouteSubtree(route, parentContexts);\n }\n else {\n this.deactivateRouteAndOutlet(route, parentContexts);\n }\n };\n ActivateRoutes.prototype.detachAndStoreRouteSubtree
= function (route, parentContexts) {\n var context = parentContexts.getContext(route.value.outlet);\n if (context && context.outlet) {\n var componentRef = context.outlet.detach();\n var contexts = context.children.onOutletDeactivated();\n this.routeReuseStrategy.store(route.value.snapshot, {
componentRef: componentRef, route: route, contexts: contexts });\n }\n };\n
ActivateRoutes.prototype.deactivateRouteAndOutlet = function (route, parentContexts) {\n var _this = this;\n var context = parentContexts.getContext(route.value.outlet);\n if (context) {\n var children = nodeChildrenAsMap(route);\n var contexts_1 = route.value.component ? context.children :
parentContexts;\n forEach(children, function (v, k) { return _this.deactivateRouteAndItsChildren(v, contexts_1); });\n
if (context.outlet) {\n // Destroy the component\n context.outlet.deactivate();\n // Destroy the contexts for all the outlets that were in the component\n
context.children.onOutletDeactivated();\n }\n }\n };\n
ActivateRoutes.prototype.activateChildRoutes = function (futureNode, currNode, contexts) {\n var _this = this;\n var children = nodeChildrenAsMap(currNode);\n futureNode.children.forEach(function (c) {\n _this.activateRoutes(c, children[c.value.outlet], contexts);\n _this.forwardEvent(new
ActivationEnd(c.value.snapshot));\n });\n if (futureNode.children.length) {\n
this.forwardEvent(new ChildActivationEnd(futureNode.value.snapshot));\n }\n };\n
ActivateRoutes.prototype.activateRoutes = function (futureNode, currNode, parentContexts)
{\n var future = futureNode.value;\n var curr = currNode ? currNode.value : null;\n
advanceActivatedRoute(future);\n // reusing the node\n if (future === curr) {\n if
(future.component) {\n // If we have a normal route, we need to go through an outlet.\n var
context = parentContexts.getOrCreateContext(future.outlet);\n this.activateChildRoutes(futureNode,
currNode, context.children);\n }\n else {\n // if we have a componentless route, we
recurse but keep the same outlet map.\n this.activateChildRoutes(futureNode, currNode,
parentContexts);\n }\n }\n else {\n if (future.component) {\n // if we
have a normal route, we need to place the component into the outlet and recurse.\n var context =
parentContexts.getOrCreateContext(future.outlet);\n
if (this.routeReuseStrategy.shouldAttach(future.snapshot)) {\n var stored =
this.routeReuseStrategy.retrieve(future.snapshot);\n this.routeReuseStrategy.store(future.snapshot,
null);\n context.children.onOutletReAttached(stored.contexts);\n context.attachRef =
stored.componentRef;\n context.route = stored.route.value;\n if (context.outlet) {\n
// Attach right away when the outlet has already been instantiated\n // Otherwise attach
from `RouterOutlet.ngOnInit` when it is instantiated\n context.outlet.attach(stored.componentRef,
stored.route.value);\n }\n advanceActivatedRouteNodeAndItsChildren(stored.route);\n
}\n else {\n
var config = parentLoadedConfig(future.snapshot);\n var cmpFactoryResolver = config ?
config.module.componentFactoryResolver : null;\n context.attachRef = null;\n
context.route = future;\n context.resolver = cmpFactoryResolver;\n if (context.outlet)
{\n // Activate the outlet when it has already been instantiated\n // Otherwise it will
get activated from its `ngOnInit` when instantiated\n context.outlet.activateWith(future,
cmpFactoryResolver);\n }\n this.activateChildRoutes(futureNode, null,
context.children);\n }\n }\n else {\n // if we have a componentless route,
we recurse but keep the same outlet map.\n this.activateChildRoutes(futureNode, null,

```
parentContexts);\n            }\n        }\n    };\n    return ActivateRoutes;\n}());\nfunction advanceActivatedRouteNodeAndItsChildren(node) {\n    advanceActivatedRoute(node.value);\n    node.children.forEach(advanceActivatedRouteNodeAndItsChildren);\n}\nfunction parentLoadedConfig(snapshot) {\n    for (var s = snapshot.parent; s; s = s.parent) {\n        var route = s.routeConfig;\n        if (route && route._loadedConfig)\n            return route._loadedConfig;\n        if (route && route.component)\n            return null;\n    }\n    return null;\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nvar LoadedRouterConfig = /** @class */ (function () {\n    function LoadedRouterConfig(routes, module) {\n        this.routes = routes;\n        this.module = module;\n    }\n    return LoadedRouterConfig;\n}());\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n/**\n * Simple function check, but generic so type inference will flow. Example:\n *\n * function product(a: number, b: number) {\n *   return a * b;\n * }\n *\n * if (isFunction<product>(fn)) {\n *   return fn(1, 2);\n * } else {\n *   throw \"Must provide the `product` function\";\n * }\n */\nfunction isFunction(v) {\n    return typeof v === 'function';\n}\nfunction isBoolean(v) {\n    return typeof v === 'boolean';\n}\nfunction isUrlTree(v) {\n    return v instanceof UrlTree;\n}\nfunction isCanLoad(guard) {\n    return guard && isFunction(guard.canLoad);\n}\nfunction isCanActivate(guard) {\n    return guard && isFunction(guard.canActivate);\n}\nfunction isCanActivateChild(guard) {\n    return guard && isFunction(guard.canActivateChild);\n}\nfunction isCanDeactivate(guard) {\n    return guard && isFunction(guard.canDeactivate);\n}\n\nvar INITIAL_VALUE = Symbol('INITIAL_VALUE');\nfunction prioritizedGuardValue() {\n    return operators.switchMap(function (obs) {\n        return rxjs.combineLatest.apply(void 0, __spread(obs.map(function (o) { return o.pipe(operators.take(1), operators.startWith(INITIAL_VALUE)); }))).pipe(operators.scan(function (acc, list) {\n            var isPending = false;\n            return list.reduce(function (innerAcc, val, i) {\n                if (innerAcc !== INITIAL_VALUE)\n                    return innerAcc;\n                // Toggle pending flag if any values haven't been set yet\n                if (val === INITIAL_VALUE)\n                    isPending = true;\n                // Any other return values are only valid if we haven't yet hit a pending\n                // call. This guarantees that in the case of a guard at the bottom of the\n                // tree that returns a redirect, we will wait for the higher priority\n                // guard at the top to finish before performing the redirect.\n                if (!isPending) {\n                    // Early return when we hit a `false` value as that should always\n                    // cancel navigation\n                    if (val === false)\n                        return val;\n                    if (i === list.length - 1 || isUrlTree(val)) {\n                        return val;\n                    }\n                }\n                return innerAcc;\n            }, acc);\n        }, INITIAL_VALUE), operators.filter(function (item) { return item !== INITIAL_VALUE; }), operators.map(function (item) { return isUrlTree(item) ? item : item === true; }), //\n        operators.take(1));\n    });\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n/**\n * This component is used internally within the router to be a placeholder when an empty\n * router-outlet is needed. For example, with a config such as:\n *\n * `{path: 'parent', outlet: 'nav', children: [...]}`\n *\n * In order to render, there needs to be a component on this config, which will default\n * to this `EmptyOutletComponent`.\n */\nvar EmptyOutletComponent = /** @class */ (function () {\n    function EmptyOutletComponent() {\n    }\n    return EmptyOutletComponent;\n}());\nEmptyOutletComponent.decorators = [\n    { type: core.Component, args: [{ template: \"<router-outlet></router-outlet>\" },] }\n];\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nfunction validateConfig(config, parentPath) {\n    if (parentPath === void 0) { parentPath = ''; }\n    // forEach doesn't
```

```
iterate undefined values\n        for (var i = 0; i < config.length; i++) {\n            var route = config[i];\n            var fullPath = getFullPath(parentPath, route);\n            validateNode(route, fullPath);\n        }\n    }\n    function validateNode(route, fullPath) {\n        if (typeof ngDevMode === 'undefined' || ngDevMode) {\n            if (!route) {\n                throw new Error(\"\\n      Invalid configuration of route '\" + fullPath + \"': Encountered undefined route.\\n      The reason might be an extra
 comma.\\n\\n      Example:\\n      const routes: Routes = [\\n        { path: '', redirectTo: '/dashboard', pathMatch: 'full' },\\n        { path: 'dashboard',  component: DashboardComponent },, << two commas\\n        { path: 'detail/:id', component: HeroDetailComponent }\\n      ];\\n    \");\n            }\n            if (Array.isArray(route)) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': Array cannot be specified\");\n            }\n            if (!route.component && !route.children && !route.loadChildren &&\n                (route.outlet && route.outlet !== PRIMARY_OUTLET)) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': a componentless route without children or loadChildren cannot have a named outlet set\");\n            }\n            if (route.redirectTo && route.children) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': redirectTo and children cannot
 be used together\");\n            }\n            if (route.redirectTo && route.loadChildren) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': redirectTo and loadChildren cannot be used together\");\n            }\n            if (route.children && route.loadChildren) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': children and loadChildren cannot be used together\");\n            }\n            if (route.redirectTo && route.component) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': redirectTo and component cannot be used together\");\n            }\n            if (route.path && route.matcher) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': path and matcher cannot be used together\");\n            }\n            if (route.redirectTo === void 0 && !route.component && !route.children && !route.loadChildren) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"'. One of the following must be provided: component, redirectTo, children or loadChildren\");\n            }\n            if (route.path === void 0 && route.matcher === void 0) {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': routes must have either a path or a matcher specified\");\n            }\n            if (typeof route.path === 'string' && route.path.charAt(0) === '/') {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': path cannot start with a slash\");\n            }\n            if (route.path === '' && route.redirectTo !== void 0 && route.pathMatch === void 0) {\n                var exp = \"The default value of 'pathMatch' is 'prefix', but often the intent is to use 'full'.\";\n                throw new Error(\"Invalid configuration of route '{path: \\\"\" + fullPath + \"\\\", redirectTo: \\\"\" + route.redirectTo + \"\\\"}':
 please provide 'pathMatch'. \" + exp);\n            }\n            if (route.pathMatch !== void 0 && route.pathMatch !== 'full' && route.pathMatch !== 'prefix') {\n                throw new Error(\"Invalid configuration of route '\" + fullPath + \"': pathMatch can only be set to 'prefix' or 'full'\");\n            }\n        }\n        if (route.children) {\n            validateConfig(route.children, fullPath);\n        }\n    }\n    function getFullPath(parentPath, currentRoute) {\n        if (!currentRoute) {\n            return parentPath;\n        }\n        if (!parentPath && !currentRoute.path) {\n            return '';\n        }\n        else if (parentPath && !currentRoute.path) {\n            return parentPath + \"/\";\n        }\n        else if (!parentPath && currentRoute.path) {\n            return currentRoute.path;\n        }\n        else {\n            return parentPath + \"/\" + currentRoute.path;\n        }\n    }\n    /**\n     * Makes a copy of the config and
 adds any default required properties.\n     */\n    function standardizeConfig(r) {\n        var children = r.children && r.children.map(standardizeConfig);\n        var c = children ? Object.assign(Object.assign({}, r), { children: children }) : Object.assign({}, r);\n        if (!c.component && (children || c.loadChildren) && (c.outlet && c.outlet !== PRIMARY_OUTLET)) {\n            c.component = EmptyOutletComponent;\n        }\n        return c;\n    }\n    /** Returns of `Map` of outlet names to the `Route`s for that outlet. */\n    function groupRoutesByOutlet(routes) {\n        return routes.reduce(function (map, route) {\n            var routeOutlet = getOutlet(route);\n            if (map.has(routeOutlet)) {\n                map.get(routeOutlet).push(route);\n            }\n            else {\n                map.set(routeOutlet, [route]);\n            }\n            return map;\n        }, new Map());\n    }\n    /** Returns the
```

`route.outlet` or PRIMARY_OUTLET if none exists.
 */\n    function getOutlet(route) {\n        return route.outlet || PRIMARY_OUTLET;\n    }\n\n    var NoMatch = /** @class */ (function () {\n        function NoMatch(segmentGroup) {\n            this.segmentGroup = segmentGroup || null;\n        }\n        return NoMatch;\n    }());\n    var AbsoluteRedirect = /** @class */ (function () {\n        function AbsoluteRedirect(urlTree) {\n            this.urlTree = urlTree;\n        }\n        return AbsoluteRedirect;\n    }());\n    function noMatch(segmentGroup) {\n        return new rxjs.Observable(function (obs) { return obs.error(new NoMatch(segmentGroup)); });\n    }\n    function absoluteRedirect(newTree) {\n        return new rxjs.Observable(function (obs) { return obs.error(new AbsoluteRedirect(newTree)); });\n    }\n    function namedOutletsRedirect(redirectTo) {\n        return new rxjs.Observable(function (obs) { return obs.error(new Error(\"Only absolute redirects can have named outlets. redirectTo: '\" + redirectTo + \"'\")); });\n    }\n    function canLoadFails(route) {\n        return new rxjs.Observable(function (obs) { return obs.error(navigationCancelingError(\"Cannot load children because the guard of the route \\\"path: '\" + route.path + \"'\\\" returned false\")); });\n    }\n    /**\n     * Returns the `UrlTree` with the redirection applied.\n     *\n     * Lazy modules are loaded along the way.\n     */\n    function applyRedirects(moduleInjector, configLoader, urlSerializer, urlTree, config) {\n        return new ApplyRedirects(moduleInjector, configLoader, urlSerializer, urlTree, config).apply();\n    }\n    var ApplyRedirects = /** @class */ (function () {\n        function ApplyRedirects(moduleInjector, configLoader, urlSerializer, urlTree, config) {\n            this.configLoader = configLoader;\n            this.urlSerializer = urlSerializer;\n            this.urlTree = urlTree;\n            this.config = config;\n            this.allowRedirects = true;\n            this.ngModule = moduleInjector.get(core.NgModuleRef);\n        }\n        ApplyRedirects.prototype.apply = function () {\n            var _this = this;\n            var expanded$ = this.expandSegmentGroup(this.ngModule, this.config, this.urlTree.root, PRIMARY_OUTLET);\n            var urlTrees$ = expanded$.pipe(operators.map(function (rootSegmentGroup) { return _this.createUrlTree(rootSegmentGroup, _this.urlTree.queryParams, _this.urlTree.fragment); }));\n            return urlTrees$.pipe(operators.catchError(function (e) {\n                if (e instanceof AbsoluteRedirect) {\n                    // after an absolute redirect we do not apply any more redirects!\n                    _this.allowRedirects = false;\n                    // we need to run matching, so we can fetch all lazy-loaded modules\n                    return _this.match(e.urlTree);\n                }\n                if (e instanceof NoMatch) {\n                    throw _this.noMatchError(e);\n                }\n                throw\n                e;\n            }));\n        };\n        ApplyRedirects.prototype.match = function (tree) {\n            var _this = this;\n            var expanded$ = this.expandSegmentGroup(this.ngModule, this.config, tree.root, PRIMARY_OUTLET);\n            var mapped$ = expanded$.pipe(operators.map(function (rootSegmentGroup) { return _this.createUrlTree(rootSegmentGroup, tree.queryParams, tree.fragment); }));\n            return mapped$.pipe(operators.catchError(function (e) {\n                if (e instanceof NoMatch) {\n                    throw _this.noMatchError(e);\n                }\n                throw e;\n            }));\n        };\n        ApplyRedirects.prototype.noMatchError = function (e) {\n            return new Error(\"Cannot match any routes. URL Segment: '\" + e.segmentGroup + \"'\");\n        };\n        ApplyRedirects.prototype.createUrlTree = function (rootCandidate, queryParams, fragment) {\n            var _a;\n            var root = rootCandidate.segments.length > 0 ?\n                new UrlSegmentGroup([], (_a = {}, _a[PRIMARY_OUTLET] = rootCandidate, _a)) :\n                rootCandidate;\n            return new UrlTree(root, queryParams, fragment);\n        };\n        ApplyRedirects.prototype.expandSegmentGroup = function (ngModule, routes, segmentGroup, outlet) {\n            if (segmentGroup.segments.length === 0 && segmentGroup.hasChildren()) {\n                return this.expandChildren(ngModule, routes, segmentGroup)\n                    .pipe(operators.map(function (children) { return new UrlSegmentGroup([], children); }));\n            }\n            return this.expandSegment(ngModule, segmentGroup, routes, segmentGroup.segments, outlet, true);\n        };\n        // Recursively expand segment groups for all the child outlets\n        ApplyRedirects.prototype.expandChildren = function (ngModule, routes, segmentGroup) {\n            var _this = this;\n            return waitForMap(segmentGroup.children, function (childOutlet, child) { return

```
 _this.expandSegmentGroup(ngModule, routes, child, childOutlet); });\n        };\n
ApplyRedirects.prototype.expandSegment = function (ngModule, segmentGroup, routes, segments, outlet,
allowRedirects) {\n            var _this = this;\n            // We need to expand each outlet group independently to ensure
that we not only load modules\n            // for routes matching the given `outlet`, but also those which will be
activated because\n            // their path is empty string. This can result in multiple outlets being activated at once.\n
        var routesByOutlet = groupRoutesByOutlet(routes);\n            if (!routesByOutlet.has(outlet)) {\n
routesByOutlet.set(outlet, []);\n            }\n            var expandRoutes = function (routes) {\n                return
rxjs.from(routes).pipe(operators.concatMap(function (r) {\n                    var expanded$ =
_this.expandSegmentAgainstRoute(ngModule, segmentGroup, routes, r, segments, outlet, allowRedirects);\n
                return expanded$.pipe(operators.catchError(function (e) {\n                        if (e instanceof NoMatch)
{\n                            return rxjs.of(null);\n                        }\n                        throw e;\n                    }));\n                }),
operators.first(function (s) { return s !== null; }), operators.catchError(function (e) {\n                    if (e instanceof
rxjs.EmptyError || e.name === 'EmptyError') {\n                        if (_this.noLeftoversInUrl(segmentGroup, segments,
outlet)) {\n                            return rxjs.of(new UrlSegmentGroup([], {}));\n                        }\n                        throw
new NoMatch(segmentGroup);\n                    }\n                    throw e;\n                }));\n            };\n            var
expansions = Array.from(routesByOutlet.entries()).map(function (_a) {\n                var _b = __read(_a, 2),
routeOutlet = _b[0], routes = _b[1];\n                var expanded
 = expandRoutes(routes);\n                // Map all results from outlets we aren't activating to `null` so they can be
ignored later\n                return routeOutlet === outlet ? expanded :\n
expanded.pipe(operators.map(function () { return null; }), operators.catchError(function () { return rxjs.of(null);
}));\n            });\n            return rxjs.from(expansions)\n                .pipe(operators.combineAll(), operators.first(), \n
        // Return only the expansion for the route outlet we are trying to activate.\n            operators.map(function
(results) { return results.find(function (result) { return result !== null; }); }));\n        };\n
ApplyRedirects.prototype.noLeftoversInUrl = function (segmentGroup, segments, outlet) {\n            return
segments.length === 0 && !segmentGroup.children[outlet];\n        };\n
ApplyRedirects.prototype.expandSegmentAgainstRoute = function (ngModule, segmentGroup, routes, route, paths,
outlet,
 allowRedirects) {\n            // Empty string segments are special because multiple outlets can match a single path,
i.e.\n            // `[{path: '', component: B}, {path: '', loadChildren: () => {}, outlet: \"about\"}]`\n            if
(getOutlet(route) !== outlet && route.path !== '') {\n                return noMatch(segmentGroup);\n            }\n
if (route.redirectTo === undefined) {\n                return this.matchSegmentAgainstRoute(ngModule, segmentGroup,
route, paths);\n            }\n            if (allowRedirects && this.allowRedirects) {\n                return
this.expandSegmentAgainstRouteUsingRedirect(ngModule, segmentGroup, routes, route, paths, outlet);\n            }\n
            return noMatch(segmentGroup);\n        };\n
ApplyRedirects.prototype.expandSegmentAgainstRouteUsingRedirect = function (ngModule, segmentGroup,
routes, route, segments, outlet) {\n            if (route.path === '**') {\n                return
this.expandWildCardWithParamsAgainstRouteUsingRedirect(ngModule,
 routes, route, outlet);\n            }\n            return this.expandRegularSegmentAgainstRouteUsingRedirect(ngModule,
segmentGroup, routes, route, segments, outlet);\n        };\n
ApplyRedirects.prototype.expandWildCardWithParamsAgainstRouteUsingRedirect = function (ngModule, routes,
route, outlet) {\n            var _this = this;\n            var newTree = this.applyRedirectCommands([], route.redirectTo,
{});\n            if (route.redirectTo.startsWith('/')) {\n                return absoluteRedirect(newTree);\n            }\n
return this.lineralizeSegments(route, newTree).pipe(operators.mergeMap(function (newSegments) {\n                var
group = new UrlSegmentGroup(newSegments, {});\n                return _this.expandSegment(ngModule, group,
routes, newSegments, outlet, false);\n            }));\n        };\n
ApplyRedirects.prototype.expandRegularSegmentAgainstRouteUsingRedirect = function (ngModule,
segmentGroup, routes,
```

```
 route, segments, outlet) {\n            var _this = this;\n            var _a = match(segmentGroup, route, segments),
matched = _a.matched, consumedSegments = _a.consumedSegments, lastChild = _a.lastChild,
positionalParamSegments = _a.positionalParamSegments;\n            if (!matched)\n                return
noMatch(segmentGroup);\n            var newTree = this.applyRedirectCommands(consumedSegments,
route.redirectTo, positionalParamSegments);\n            if (route.redirectTo.startsWith('/')) {\n                return
absoluteRedirect(newTree);\n            }\n            return this.lineralizeSegments(route,
newTree).pipe(operators.mergeMap(function (newSegments) {\n                return _this.expandSegment(ngModule,
segmentGroup, routes, newSegments.concat(segments.slice(lastChild)), outlet, false);\n            }));\n        };\n
ApplyRedirects.prototype.matchSegmentAgainstRoute = function (ngModule, rawSegmentGroup, route, segments)
{\n            var _this = this;\n
          if (route.path === '**') {\n                if (route.loadChildren) {\n                    return
this.configLoader.load(ngModule.injector, route)\n                        .pipe(operators.map(function (cfg) {\n
  route._loadedConfig = cfg;\n                        return new UrlSegmentGroup(segments, {});\n                    }));\n
    }\n                return rxjs.of(new UrlSegmentGroup(segments, {}));\n            }\n            var _a =
match(rawSegmentGroup, route, segments), matched = _a.matched, consumedSegments = _a.consumedSegments,
lastChild = _a.lastChild;\n            if (!matched)\n                return noMatch(rawSegmentGroup);\n            var
rawSlicedSegments = segments.slice(lastChild);\n            var childConfig$ = this.getChildConfig(ngModule, route,
segments);\n            return childConfig$.pipe(operators.mergeMap(function (routerConfig) {\n                var
childModule = routerConfig.module;\n                var
 childConfig = routerConfig.routes;\n                var _a = split(rawSegmentGroup, consumedSegments,
rawSlicedSegments, childConfig), segmentGroup = _a.segmentGroup, slicedSegments = _a.slicedSegments;\n
   if (slicedSegments.length === 0 && segmentGroup.hasChildren()) {\n                    var expanded$_1 =
_this.expandChildren(childModule, childConfig, segmentGroup);\n                    return
expanded$_1.pipe(operators.map(function (children) { return new UrlSegmentGroup(consumedSegments, children);
}));\n                }\n                if (childConfig.length === 0 && slicedSegments.length === 0) {\n                    return
rxjs.of(new UrlSegmentGroup(consumedSegments, {}));\n                }\n                var expanded$ =
_this.expandSegment(childModule, segmentGroup, childConfig, slicedSegments, PRIMARY_OUTLET, true);\n
        return expanded$.pipe(operators.map(function (cs) { return new
UrlSegmentGroup(consumedSegments.concat(cs.segments), cs.children);
}));\n            }));\n        };\n        ApplyRedirects.prototype.getChildConfig = function (ngModule, route, segments)
{\n            var _this = this;\n            if (route.children) {\n                // The children belong to the same module\n
     return rxjs.of(new LoadedRouterConfig(route.children, ngModule));\n            }\n            if (route.loadChildren)
{\n                // lazy children belong to the loaded module\n                if (route._loadedConfig !== undefined) {\n
          return rxjs.of(route._loadedConfig);\n                }\n                return
this.runCanLoadGuards(ngModule.injector, route, segments)\n                    .pipe(operators.mergeMap(function
(shouldLoadResult) {\n                    if (shouldLoadResult) {\n                        return
_this.configLoader.load(ngModule.injector, route)\n                            .pipe(operators.map(function (cfg) {\n
            route._loadedConfig = cfg;\n
                            return cfg;\n                        }));\n                    }\n                    return canLoadFails(route);\n
}));\n            }\n            return rxjs.of(new LoadedRouterConfig([], ngModule));\n        };\n
ApplyRedirects.prototype.runCanLoadGuards = function (moduleInjector, route, segments) {\n            var _this =
this;\n            var canLoad = route.canLoad;\n            if (!canLoad || canLoad.length === 0)\n                return
rxjs.of(true);\n            var canLoadObservables = canLoad.map(function (injectionToken) {\n                var guard =
moduleInjector.get(injectionToken);\n                var guardVal;\n                if (isCanLoad(guard)) {\n
guardVal = guard.canLoad(route, segments);\n                }\n                else if (isFunction(guard)) {\n
guardVal = guard(route, segments);\n                }\n                else {\n                    throw new Error('Invalid
 CanLoad guard');\n                }\n                return wrapIntoObservable(guardVal);\n            });\n            return
rxjs.of(canLoadObservables)\n                .pipe(prioritizedGuardValue(), operators.tap(function (result) {\n
```

```
if (!isUrlTree(result))\n return;\n var error = navigationCancelingError(\"Redirecting to \\\"\" + _this.urlSerializer.serialize(result) + \"\\\"\");\n error.url = result;\n throw error;\n }), operators.map(function (result) { return result === true; }));\n };\n ApplyRedirects.prototype.lineralizeSegments = function (route, urlTree) {\n var res = [];\n var c = urlTree.root;\n while (true) {\n res = res.concat(c.segments);\n if (c.numberOfChildren === 0) {\n return rxjs.of(res);\n }\n if (c.numberOfChildren > 1 || !c.children[PRIMARY_OUTLET])\n {\n return namedOutletsRedirect(route.redirectTo);\n }\n c = c.children[PRIMARY_OUTLET];\n }\n };\n ApplyRedirects.prototype.applyRedirectCommands = function (segments, redirectTo, posParams) {\n return this.applyRedirectCreatreUrlTree(redirectTo, this.urlSerializer.parse(redirectTo), segments, posParams);\n };\n ApplyRedirects.prototype.applyRedirectCreatreUrlTree = function (redirectTo, urlTree, segments, posParams) {\n var newRoot = this.createSegmentGroup(redirectTo, urlTree.root, segments, posParams);\n return new UrlTree(newRoot, this.createQueryParams(urlTree.queryParams, this.urlTree.queryParams), urlTree.fragment);\n };\n ApplyRedirects.prototype.createQueryParams = function (redirectToParams, actualParams) {\n var res = {};\n forEach(redirectToParams, function (v, k) {\n var copySourceValue = typeof v === 'string' && v.startsWith(':');\n if (copySourceValue) {\n var sourceName = v.substring(1);\n res[k] = actualParams[sourceName];\n }\n else {\n res[k] = v;\n }\n });\n return res;\n };\n ApplyRedirects.prototype.createSegmentGroup = function (redirectTo, group, segments, posParams) {\n var _this = this;\n var updatedSegments = this.createSegments(redirectTo, group.segments, segments, posParams);\n var children = {};\n forEach(group.children, function (child, name) {\n children[name] = _this.createSegmentGroup(redirectTo, child, segments, posParams);\n });\n return new UrlSegmentGroup(updatedSegments, children);\n };\n ApplyRedirects.prototype.createSegments = function (redirectTo, redirectToSegments, actualSegments, posParams) {\n var _this = this;\n return redirectToSegments.map(function (s) { return s.path.startsWith(':') ? _this.findPosParam(redirectTo, s, posParams) :\n _this.findOrReturn(s, actualSegments); });\n };\n ApplyRedirects.prototype.findPosParam = function (redirectTo, redirectToUrlSegment, posParams) {\n var pos = posParams[redirectToUrlSegment.path.substring(1)];\n if (!pos)\n throw new Error(\"Cannot redirect to '\" + redirectTo + \"'. Cannot find '\" + redirectToUrlSegment.path + \"'.\");\n return pos;\n };\n ApplyRedirects.prototype.findOrReturn = function (redirectToUrlSegment, actualSegments) {\n var e_1, _a;\n var idx = 0;\n try {\n for (var actualSegments_1 = __values(actualSegments), actualSegments_1_1 = actualSegments_1.next(); !actualSegments_1_1.done; actualSegments_1_1 = actualSegments_1.next()) {\n var s = actualSegments_1_1.value;\n if (s.path === redirectToUrlSegment.path) {\n actualSegments.splice(idx);\n return s;\n }\n idx++;\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (actualSegments_1_1 && !actualSegments_1_1.done && (_a = actualSegments_1.return)) _a.call(actualSegments_1);\n }\n finally { if (e_1) throw e_1.error; }\n }\n return redirectToUrlSegment;\n };\n return ApplyRedirects;\n }());\n function match(segmentGroup, route, segments) {\n if (route.path === '') {\n if ((route.pathMatch === 'full') && (segmentGroup.hasChildren() || segments.length > 0)) {\n return { matched: false, consumedSegments: [], lastChild: 0, positionalParamSegments: {} };\n }\n return { matched: true, consumedSegments: [], lastChild: 0, positionalParamSegments: {} };\n }\n var matcher = route.matcher || defaultUrlMatcher;\n var res = matcher(segments, segmentGroup, route);\n if (!res) {\n return {\n matched: false,\n consumedSegments: [],\n lastChild: 0,\n positionalParamSegments: {},\n };\n }\n return {\n matched: true,\n consumedSegments: res.consumed,\n lastChild: res.consumed.length,\n positionalParamSegments:
```

```
res.posParams,\n        };\n    }\n    function split(segmentGroup, consumedSegments, slicedSegments, config) {\n
if (slicedSegments.length > 0 &&\n            containsEmptyPathRedirectsWithNamedOutlets(segmentGroup,
slicedSegments, config)) {\n            var s = new UrlSegmentGroup(consumedSegments,
createChildrenForEmptySegments(config, new UrlSegmentGroup(slicedSegments,
 segmentGroup.children)));\n            return { segmentGroup: mergeTrivialChildren(s), slicedSegments: [] };\n
}\n        if (slicedSegments.length === 0 &&\n            containsEmptyPathRedirects(segmentGroup, slicedSegments,
config)) {\n            var s = new UrlSegmentGroup(segmentGroup.segments,
addEmptySegmentsToChildrenIfNeeded(segmentGroup, slicedSegments, config, segmentGroup.children));\n
return { segmentGroup: mergeTrivialChildren(s), slicedSegments: slicedSegments };\n        }\n        return {
segmentGroup: segmentGroup, slicedSegments: slicedSegments };\n    }\n    function mergeTrivialChildren(s) {\n
  if (s.numberOfChildren === 1 && s.children[PRIMARY_OUTLET]) {\n            var c =
s.children[PRIMARY_OUTLET];\n            return new UrlSegmentGroup(s.segments.concat(c.segments),
c.children);\n        }\n        return s;\n    }\n    function addEmptySegmentsToChildrenIfNeeded(segmentGroup,
slicedSegments, routes, children) {\n
  var e_2, _a;\n        var res = {};\n        try {\n            for (var routes_1 = __values(routes), routes_1_1 =
routes_1.next(); !routes_1_1.done; routes_1_1 = routes_1.next()) {\n                var r = routes_1_1.value;\n
if (isEmptyPathRedirect(segmentGroup, slicedSegments, r) && !children[getOutlet(r)]) {\n
res[getOutlet(r)] = new UrlSegmentGroup([], {});\n                }\n            }\n        }\n        catch (e_2_1) { e_2 = {
error: e_2_1 }; }\n        finally {\n            try {\n                if (routes_1_1 && !routes_1_1.done && (_a =
routes_1.return)) _a.call(routes_1);\n            }\n            finally { if (e_2) throw e_2.error; }\n        }\n        return
Object.assign(Object.assign({}, children), res);\n    }\n    function createChildrenForEmptySegments(routes,
primarySegmentGroup) {\n        var e_3, _a;\n        var res = {};\n        res[PRIMARY_OUTLET] =
primarySegmentGroup;\n        try {\n            for (var routes_2
 = __values(routes), routes_2_1 = routes_2.next(); !routes_2_1.done; routes_2_1 = routes_2.next()) {\n                var
r = routes_2_1.value;\n                if (r.path === '' && getOutlet(r) !== PRIMARY_OUTLET) {\n
res[getOutlet(r)] = new UrlSegmentGroup([], {});\n                }\n            }\n        }\n        catch (e_3_1) { e_3 = {
error: e_3_1 }; }\n        finally {\n            try {\n                if (routes_2_1 && !routes_2_1.done && (_a =
routes_2.return)) _a.call(routes_2);\n            }\n            finally { if (e_3) throw e_3.error; }\n        }\n        return
res;\n    }\n    function containsEmptyPathRedirectsWithNamedOutlets(segmentGroup, segments, routes) {\n
return routes.some(function (r) { return isEmptyPathRedirect(segmentGroup, segments, r) && getOutlet(r) !==
PRIMARY_OUTLET; });\n    }\n    function containsEmptyPathRedirects(segmentGroup, segments, routes) {\n
return routes.some(function (r) { return isEmptyPathRedirect(segmentGroup,
 segments, r); });\n    }\n    function isEmptyPathRedirect(segmentGroup, segments, r) {\n        if
((segmentGroup.hasChildren() || segments.length > 0) && r.pathMatch === 'full') {\n            return false;\n        }\n
    return r.path === '' && r.redirectTo !== undefined;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC
All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     *
found in the LICENSE file at https://angular.io/license\n     */\n    function applyRedirects$1(moduleInjector,
configLoader, urlSerializer, config) {\n        return function (source) {\n            return
source.pipe(operators.switchMap(function (t) { return applyRedirects(moduleInjector, configLoader, urlSerializer,
t.extractedUrl, config)\n                .pipe(operators.map(function (urlAfterRedirects) { return
(Object.assign(Object.assign({}, t), { urlAfterRedirects: urlAfterRedirects })); })); }));\n        };\n
    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source
code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n
  */\n    var CanActivate = /** @class */ (function () {\n        function CanActivate(path) {\n            this.path =
path;\n            this.route = this.path[this.path.length - 1];\n        }\n        return CanActivate;\n    }());\n    var
CanDeactivate = /** @class */ (function () {\n        function CanDeactivate(component, route) {\n
this.component = component;\n            this.route = route;\n        }\n        return CanDeactivate;\n    }());\n    function
getAllRouteGuards(future, curr, parentContexts) {\n        var futureRoot = future._root;\n        var currRoot = curr ?
```

```
curr._root : null;\n        return getChildRouteGuards(futureRoot, currRoot, parentContexts, [futureRoot.value]);\n
}\n    function getCanActivateChild(p)
 {\n        var canActivateChild = p.routeConfig ? p.routeConfig.canActivateChild : null;\n        if (!canActivateChild
|| canActivateChild.length === 0)\n            return null;\n        return { node: p, guards: canActivateChild };\n    }\n
function getToken(token, snapshot, moduleInjector) {\n        var config = getClosestLoadedConfig(snapshot);\n
var injector = config ? config.module.injector : moduleInjector;\n        return injector.get(token);\n    }\n    function
getClosestLoadedConfig(snapshot) {\n        if (!snapshot)\n            return null;\n        for (var s = snapshot.parent; s;
s = s.parent) {\n            var route = s.routeConfig;\n            if (route && route._loadedConfig)\n                return
route._loadedConfig;\n        }\n        return null;\n    }\n    function getChildRouteGuards(futureNode, currNode,
contexts, futurePath, checks) {\n        if (checks === void 0) { checks = {\n            canDeactivateChecks: [],\n
canActivateChecks:
 []\n        }; }\n        var prevChildren = nodeChildrenAsMap(currNode);\n        // Process the children of the future
route\n        futureNode.children.forEach(function (c) {\n            getRouteGuards(c, prevChildren[c.value.outlet],
contexts, futurePath.concat([c.value]), checks);\n            delete prevChildren[c.value.outlet];\n        });\n        //
Process any children left from the current route (not active for the future route)\n        forEach(prevChildren,
function (v, k) { return deactivateRouteAndItsChildren(v, contexts.getContext(k), checks); });\n        return
checks;\n    }\n    function getRouteGuards(futureNode, currNode, parentContexts, futurePath, checks) {\n        if
(checks === void 0) { checks = {\n            canDeactivateChecks: [],\n            canActivateChecks: []\n        }; }\n
var future = futureNode.value;\n        var curr = currNode ? currNode.value : null;\n        var context =
parentContexts ? parentContexts.getContext(futureNode.value.outlet)
 : null;\n        // reusing the node\n        if (curr && future.routeConfig === curr.routeConfig) {\n            var
shouldRun = shouldRunGuardsAndResolvers(curr, future, future.routeConfig.runGuardsAndResolvers);\n            if
(shouldRun) {\n                checks.canActivateChecks.push(new CanActivate(futurePath));\n            }\n            else
{\n                // we need to set the data\n                future.data = curr.data;\n                future._resolvedData =
curr._resolvedData;\n            }\n            // If we have a component, we need to go through an outlet.\n            if
(future.component) {\n                getChildRouteGuards(futureNode, currNode, context ? context.children : null,
futurePath, checks);\n            // if we have a componentless route, we recurse but keep the same outlet map.\n
  }\n            else {\n                getChildRouteGuards(futureNode, currNode, parentContexts, futurePath, checks);\n

    }\n            if (shouldRun && context && context.outlet && context.outlet.isActivated) {\n
checks.canDeactivateChecks.push(new CanDeactivate(context.outlet.component, curr));\n            }\n        }\n
else {\n            if (curr) {\n                deactivateRouteAndItsChildren(currNode, context, checks);\n            }\n
checks.canActivateChecks.push(new CanActivate(futurePath));\n            // If we have a component, we need to go
through an outlet.\n            if (future.component) {\n                getChildRouteGuards(futureNode, null, context ?
context.children : null, futurePath, checks);\n                // if we have a componentless route, we recurse but keep the
same outlet map.\n            }\n            else {\n                getChildRouteGuards(futureNode, null, parentContexts,
futurePath, checks);\n            }\n        }\n        return checks;\n    }\n    function shouldRunGuardsAndResolvers(curr,
future, mode) {\n        if
 (typeof mode === 'function') {\n            return mode(curr, future);\n        }\n        switch (mode) {\n            case
'pathParamsChange':\n                return !equalPath(curr.url, future.url);\n            case
'pathParamsOrQueryParamsChange':\n                return !equalPath(curr.url, future.url) ||\n
!shallowEqual(curr.queryParams, future.queryParams);\n            case 'always':\n                return true;\n            case
'paramsOrQueryParamsChange':\n                return !equalParamsAndUrlSegments(curr, future) ||\n
!shallowEqual(curr.queryParams, future.queryParams);\n            case 'paramsChange':\n            default:\n
return !equalParamsAndUrlSegments(curr, future);\n        }\n    }\n    function deactivateRouteAndItsChildren(route,
context, checks) {\n        var children = nodeChildrenAsMap(route);\n        var r = route.value;\n
forEach(children, function (node, childName) {\n            if (!r.component)
```

{\n deactivateRouteAndItsChildren(node, context, checks);\n }\n else if (context) {\n deactivateRouteAndItsChildren(node, context.children.getContext(childName), checks);\n }\n else {\n deactivateRouteAndItsChildren(node, null, checks);\n }\n });\n if (!r.component) {\n checks.canDeactivateChecks.push(new CanDeactivate(null, r));\n }\n else if (context && context.outlet && context.outlet.isActivated) {\n checks.canDeactivateChecks.push(new CanDeactivate(context.outlet.component, r));\n }\n else {\n checks.canDeactivateChecks.push(new CanDeactivate(null, r));\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function checkGuards(moduleInjector, forwardEvent) {\n return function (source) {\n return source.pipe(operators.mergeMap(function (t) {\n var targetSnapshot = t.targetSnapshot, currentSnapshot = t.currentSnapshot, _a = t.guards, canActivateChecks = _a.canActivateChecks, canDeactivateChecks = _a.canDeactivateChecks;\n if (canDeactivateChecks.length === 0 && canActivateChecks.length === 0) {\n return rxjs.of(Object.assign(Object.assign({}, t), { guardsResult: true }));\n }\n return runCanDeactivateChecks(canDeactivateChecks, targetSnapshot, currentSnapshot, moduleInjector)\n .pipe(operators.mergeMap(function (canDeactivate) {\n return canDeactivate && isBoolean(canDeactivate) ?\n runCanActivateChecks(targetSnapshot, canActivateChecks, moduleInjector, forwardEvent) :\n rxjs.of(canDeactivate);\n }), operators.map(function (guardsResult) { return (Object.assign(Object.assign({}, t), { guardsResult: guardsResult })); }));\n }));\n };\n }\n function runCanDeactivateChecks(checks, futureRSS, currRSS, moduleInjector) {\n return rxjs.from(checks).pipe(operators.mergeMap(function (check) { return runCanDeactivate(check.component, check.route, currRSS, futureRSS, moduleInjector); }), operators.first(function (result) {\n return result !== true;\n }, true));\n }\n function runCanActivateChecks(futureSnapshot, checks, moduleInjector, forwardEvent) {\n return rxjs.from(checks).pipe(operators.concatMap(function (check) {\n return rxjs.from([\n fireChildActivationStart(check.route.parent, forwardEvent),\n fireActivationStart(check.route, forwardEvent),\n runCanActivateChild(futureSnapshot, check.path, moduleInjector),\n runCanActivate(futureSnapshot, check.route, moduleInjector)\n ])\n .pipe(operators.concatAll(), operators.first(function (result) {\n return result !== true;\n }, true));\n }), operators.first(function (result) {\n return result !== true;\n }, true));\n }\n /**\n * This should fire off `ActivationStart` events for each route being activated at this\n * level.\n * In other words, if you're activating `a` and `b` below, `path` will contain the\n * `ActivatedRouteSnapshot`s for both and we will fire `ActivationStart` for both. Always\n * return\n * `true` so checks continue to run.\n */\n function fireActivationStart(snapshot, forwardEvent) {\n if (snapshot !== null && forwardEvent) {\n forwardEvent(new ActivationStart(snapshot));\n }\n return rxjs.of(true);\n }\n /**\n * This should fire off `ChildActivationStart` events for each route being activated at this\n * level.\n * In other words, if you're activating `a` and `b` below, `path` will contain the\n * `ActivatedRouteSnapshot`s for both and we will fire `ChildActivationStart` for both. Always\n * return\n * `true` so checks continue to run.\n */\n function fireChildActivationStart(snapshot, forwardEvent) {\n if (snapshot !== null && forwardEvent) {\n forwardEvent(new ChildActivationStart(snapshot));\n }\n return rxjs.of(true);\n }\n function runCanActivate(futureRSS, futureARS, moduleInjector) {\n var canActivate = futureARS.routeConfig ? futureARS.routeConfig.canActivate : null;\n if (!canActivate || canActivate.length === 0)\n return rxjs.of(true);\n var canActivateObservables = canActivate.map(function (c) {\n return rxjs.defer(function () {\n var guard = getToken(c, futureARS, moduleInjector);\n var observable;\n if (isCanActivate(guard)) {\n observable = wrapIntoObservable(guard.canActivate(futureARS, futureRSS));\n }\n else if (isFunction(guard)) {\n observable = wrapIntoObservable(guard(futureARS, futureRSS));\n }\n else {\n throw new Error('Invalid CanActivate guard');\n }\n return

```
observable.pipe(operators.first());\n            });\n        });\n        return
rxjs.of(canActivateObservables).pipe(prioritizedGuardValue());\n    }\n    function runCanActivateChild(futureRSS,
path, moduleInjector) {\n        var futureARS = path[path.length - 1];\n        var canActivateChildGuards =
path.slice(0, path.length - 1)\n            .reverse()\n            .map(function (p) { return getCanActivateChild(p); })\n
   .filter(function (_) { return _ !== null; });\n        var canActivateChildGuardsMapped =
canActivateChildGuards.map(function (d) {\n            return
 rxjs.defer(function () {\n                var guardsMapped = d.guards.map(function (c) {\n                    var guard =
getToken(c, d.node, moduleInjector);\n                    var observable;\n                    if (isCanActivateChild(guard)) {\n
                observable = wrapIntoObservable(guard.canActivateChild(futureARS, futureRSS));\n                    }\n
            else if (isFunction(guard)) {\n                    observable = wrapIntoObservable(guard(futureARS,
futureRSS));\n                }\n                else {\n                    throw new Error('Invalid CanActivateChild
guard');\n                }\n                return observable.pipe(operators.first());\n                });\n                return
rxjs.of(guardsMapped).pipe(prioritizedGuardValue());\n            });\n        });\n        return
rxjs.of(canActivateChildGuardsMapped).pipe(prioritizedGuardValue());\n    }\n    function
runCanDeactivate(component, currARS,
 currRSS, futureRSS, moduleInjector) {\n        var canDeactivate = currARS && currARS.routeConfig ?
currARS.routeConfig.canDeactivate : null;\n        if (!canDeactivate || canDeactivate.length === 0)\n            return
rxjs.of(true);\n        var canDeactivateObservables = canDeactivate.map(function (c) {\n            var guard =
getToken(c, currARS, moduleInjector);\n            var observable;\n            if (isCanDeactivate(guard)) {\n
observable = wrapIntoObservable(guard.canDeactivate(component, currARS, currRSS, futureRSS));\n            }\n
    else if (isFunction(guard)) {\n                observable = wrapIntoObservable(guard(component, currARS, currRSS,
futureRSS));\n            }\n            else {\n                throw new Error('Invalid CanDeactivate guard');\n            }\n
 return observable.pipe(operators.first());\n        });\n        return
rxjs.of(canDeactivateObservables).pipe(prioritizedGuardValue());\n    }\n\n    var NoMatch$1
 = /** @class */ (function () {\n        function NoMatch() {\n        }\n        return NoMatch;\n    }());\n    function
recognize(rootComponentType, config, urlTree, url, paramsInheritanceStrategy, relativeLinkResolution) {\n        if
(paramsInheritanceStrategy === void 0) { paramsInheritanceStrategy = 'emptyOnly'; }\n        if
(relativeLinkResolution === void 0) { relativeLinkResolution = 'legacy'; }\n        return new
Recognizer(rootComponentType, config, urlTree, url, paramsInheritanceStrategy, relativeLinkResolution)\n
.recognize();\n    }\n    var Recognizer = /** @class */ (function () {\n        function
Recognizer(rootComponentType, config, urlTree, url, paramsInheritanceStrategy, relativeLinkResolution) {\n
this.rootComponentType = rootComponentType;\n            this.config = config;\n            this.urlTree = urlTree;\n
   this.url = url;\n            this.paramsInheritanceStrategy = paramsInheritanceStrategy;\n
this.relativeLinkResolution
 = relativeLinkResolution;\n        }\n        Recognizer.prototype.recognize = function () {\n            try {\n
var rootSegmentGroup = split$1(this.urlTree.root, [], [], this.config, this.relativeLinkResolution).segmentGroup;\n
            var children = this.processSegmentGroup(this.config, rootSegmentGroup, PRIMARY_OUTLET);\n
var root = new ActivatedRouteSnapshot([], Object.freeze({}), Object.freeze(Object.assign({},
this.urlTree.queryParams)), this.urlTree.fragment, {}, PRIMARY_OUTLET, this.rootComponentType, null,
this.urlTree.root, -1, {});\n                var rootNode = new TreeNode(root, children);\n                var routeState = new
RouterStateSnapshot(this.url, rootNode);\n                this.inheritParamsAndData(routeState._root);\n                return
rxjs.of(routeState);\n            }\n            catch (e) {\n                return new rxjs.Observable(function (obs) { return
obs.error(e); });\n            }\n
   };\n        Recognizer.prototype.inheritParamsAndData = function (routeNode) {\n            var _this = this;\n
var route = routeNode.value;\n            var i = inheritedParamsDataResolve(route, this.paramsInheritanceStrategy);\n
        route.params = Object.freeze(i.params);\n            route.data = Object.freeze(i.data);\n
routeNode.children.forEach(function (n) { return _this.inheritParamsAndData(n); });\n        };\n
Recognizer.prototype.processSegmentGroup = function (config, segmentGroup, outlet) {\n            if
```

```
(segmentGroup.segments.length === 0 && segmentGroup.hasChildren()) {\n                return
this.processChildren(config, segmentGroup);\n            }\n            return this.processSegment(config, segmentGroup,
segmentGroup.segments, outlet);\n        };\n        Recognizer.prototype.processChildren = function (config,
segmentGroup) {\n            var _this = this;\n            var children = mapChildrenIntoArray(segmentGroup, function
 (child, childOutlet) { return _this.processSegmentGroup(config, child, childOutlet); });\n
checkOutletNameUniqueness(children);\n            sortActivatedRouteSnapshots(children);\n            return children;\n
    };\n        Recognizer.prototype.processSegment = function (config, segmentGroup, segments, outlet) {\n
var e_1, _a;\n            try {\n                for (var config_1 = __values(config), config_1_1 = config_1.next();
!config_1_1.done; config_1_1 = config_1.next()) {\n                    var r = config_1_1.value;\n                    try {\n
                return this.processSegmentAgainstRoute(r, segmentGroup, segments, outlet);\n                    }\n
catch (e) {\n                        if (!(e instanceof NoMatch$1))\n                            throw e;\n                    }\n                }\n
            }\n            catch (e_1_1) { e_1 = { error: e_1_1 }; }\n            finally {\n                try {\n
                    if (config_1_1 && !config_1_1.done && (_a = config_1.return)) _a.call(config_1);\n                }\n
    finally { if (e_1) throw e_1.error; }\n            }\n            if (this.noLeftoversInUrl(segmentGroup, segments,
outlet)) {\n                return [];\n            }\n            throw new NoMatch$1();\n        };\n
Recognizer.prototype.noLeftoversInUrl = function (segmentGroup, segments, outlet) {\n            return
segments.length === 0 && !segmentGroup.children[outlet];\n        };\n
Recognizer.prototype.processSegmentAgainstRoute = function (route, rawSegment, segments, outlet) {\n            if
(route.redirectTo)\n                throw new NoMatch$1();\n            if ((route.outlet || PRIMARY_OUTLET) !==
outlet)\n                throw new NoMatch$1();\n            var snapshot;\n            var consumedSegments = [];\n
var rawSlicedSegments = [];\n            if (route.path === '**') {\n                var params =
 segments.length > 0 ? last(segments).parameters : {};\n                snapshot = new
ActivatedRouteSnapshot(segments, params, Object.freeze(Object.assign({}, this.urlTree.queryParams)),
this.urlTree.fragment, getData(route), outlet, route.component, route, getSourceSegmentGroup(rawSegment),
getPathIndexShift(rawSegment) + segments.length, getResolve(route));\n            }\n            else {\n                var
result = match$1(rawSegment, route, segments);\n                consumedSegments = result.consumedSegments;\n
    rawSlicedSegments = segments.slice(result.lastChild);\n                snapshot = new
ActivatedRouteSnapshot(consumedSegments, result.parameters, Object.freeze(Object.assign({},
this.urlTree.queryParams)), this.urlTree.fragment, getData(route), outlet, route.component, route,
getSourceSegmentGroup(rawSegment), getPathIndexShift(rawSegment) + consumedSegments.length,
getResolve(route));\n            }\n            var childConfig = getChildConfig(route);\n
            var _a = split$1(rawSegment, consumedSegments, rawSlicedSegments, childConfig,
this.relativeLinkResolution), segmentGroup = _a.segmentGroup, slicedSegments = _a.slicedSegments;\n            if
(slicedSegments.length === 0 && segmentGroup.hasChildren()) {\n                var children_1 =
this.processChildren(childConfig, segmentGroup);\n                return [new TreeNode(snapshot, children_1)];\n
}\n            if (childConfig.length === 0 && slicedSegments.length === 0) {\n                return [new
TreeNode(snapshot, [])];\n            }\n            var children = this.processSegment(childConfig, segmentGroup,
slicedSegments, PRIMARY_OUTLET);\n            return [new TreeNode(snapshot, children)];\n        };\n        return
Recognizer;\n    }());\n    function sortActivatedRouteSnapshots(nodes) {\n        nodes.sort(function (a, b) {\n
if (a.value.outlet === PRIMARY_OUTLET)\n                return -1;\n            if (b.value.outlet ===
PRIMARY_OUTLET)\n
                return 1;\n            return a.value.outlet.localeCompare(b.value.outlet);\n        });\n    }\n    function
getChildConfig(route) {\n        if (route.children) {\n            return route.children;\n        }\n        if
(route.loadChildren) {\n            return route._loadedConfig.routes;\n        }\n        return [];\n    }\n    function
match$1(segmentGroup, route, segments) {\n        if (route.path === '') {\n            if (route.pathMatch === 'full' &&
(segmentGroup.hasChildren() || segments.length > 0)) {\n                throw new NoMatch$1();\n            }\n
return { consumedSegments: [], lastChild: 0, parameters: {} };\n        }\n        var matcher = route.matcher ||
defaultUrlMatcher;\n        var res = matcher(segments, segmentGroup, route);\n        if (!res)\n            throw new
```

```
NoMatch$1();\n        var posParams = {};\n        forEach(res.posParams, function (v, k) {\n            posParams[k] = v.path;\n        });\n
    var parameters = res.consumed.length > 0 ? Object.assign(Object.assign({}, posParams), res.consumed[res.consumed.length - 1].parameters) :\n            posParams;\n        return { consumedSegments: res.consumed, lastChild: res.consumed.length, parameters: parameters };\n    }\n    function checkOutletNameUniqueness(nodes) {\n        var names = {};\n        nodes.forEach(function (n) {\n            var routeWithSameOutletName = names[n.value.outlet];\n            if (routeWithSameOutletName) {\n                var p = routeWithSameOutletName.url.map(function (s) { return s.toString(); }).join('/');\n                var c = n.value.url.map(function (s) { return s.toString(); }).join('/');\n                throw new Error(\"Two segments cannot have the same outlet name: '\" + p + \"' and '\" + c + \"'.\");\n            }\n            names[n.value.outlet] = n.value;\n        });\n    }\n    function getSourceSegmentGroup(segmentGroup) {\n        var s = segmentGroup;\n        while (s._sourceSegment) {\n            s = s._sourceSegment;\n        }\n        return s;\n    }\n    function getPathIndexShift(segmentGroup) {\n        var s = segmentGroup;\n        var res = (s._segmentIndexShift ? s._segmentIndexShift : 0);\n        while (s._sourceSegment) {\n            s = s._sourceSegment;\n            res += (s._segmentIndexShift ? s._segmentIndexShift : 0);\n        }\n        return res - 1;\n    }\n    function split$1(segmentGroup, consumedSegments, slicedSegments, config, relativeLinkResolution) {\n        if (slicedSegments.length > 0 &&\n            containsEmptyPathMatchesWithNamedOutlets(segmentGroup, slicedSegments, config)) {\n            var s_1 = new UrlSegmentGroup(consumedSegments, createChildrenForEmptyPaths(segmentGroup, consumedSegments, config, new UrlSegmentGroup(slicedSegments, segmentGroup.children)));\n            s_1._sourceSegment = segmentGroup;\n            s_1._segmentIndexShift = consumedSegments.length;\n            return { segmentGroup: s_1, slicedSegments: [] };\n        }\n        if (slicedSegments.length === 0 &&\n            containsEmptyPathMatches(segmentGroup, slicedSegments, config)) {\n            var s_2 = new UrlSegmentGroup(segmentGroup.segments, addEmptyPathsToChildrenIfNeeded(segmentGroup, consumedSegments, slicedSegments, config, segmentGroup.children, relativeLinkResolution));\n            s_2._sourceSegment = segmentGroup;\n            s_2._segmentIndexShift = consumedSegments.length;\n            return { segmentGroup: s_2, slicedSegments: slicedSegments };\n        }\n        var s = new UrlSegmentGroup(segmentGroup.segments, segmentGroup.children);\n        s._sourceSegment = segmentGroup;\n        s._segmentIndexShift = consumedSegments.length;\n        return { segmentGroup: s, slicedSegments: slicedSegments };\n    }\n    function addEmptyPathsToChildrenIfNeeded(segmentGroup, consumedSegments, slicedSegments, routes, children, relativeLinkResolution) {\n        var e_2, _a;\n        var res = {};\n        try {\n            for (var routes_1 = __values(routes), routes_1_1 = routes_1.next(); !routes_1_1.done; routes_1_1 = routes_1.next()) {\n                var r = routes_1_1.value;\n                if (emptyPathMatch(segmentGroup, slicedSegments, r) && !children[getOutlet(r)]) {\n                    var s = new UrlSegmentGroup([], {});\n                    s._sourceSegment = segmentGroup;\n                    if (relativeLinkResolution === 'legacy') {\n                        s._segmentIndexShift = segmentGroup.segments.length;\n                    }\n                    else {\n                        s._segmentIndexShift = consumedSegments.length;\n                    }\n                    res[getOutlet(r)] = s;\n                }\n            }\n        }\n        catch (e_2_1) { e_2 = { error: e_2_1 }; }\n        finally {\n            try {\n                if (routes_1_1 && !routes_1_1.done && (_a = routes_1.return)) _a.call(routes_1);\n            }\n            finally { if (e_2) throw e_2.error; }\n        }\n        return Object.assign(Object.assign({}, children), res);\n    }\n    function createChildrenForEmptyPaths(segmentGroup, consumedSegments, routes, primarySegment) {\n        var e_3, _a;\n        var res = {};\n        res[PRIMARY_OUTLET] = primarySegment;\n        primarySegment._sourceSegment = segmentGroup;\n        primarySegment._segmentIndexShift = consumedSegments.length;\n        try {\n            for (var routes_2 = __values(routes), routes_2_1 = routes_2.next(); !routes_2_1.done; routes_2_1 = routes_2.next()) {\n                var r = routes_2_1.value;\n                if (r.path === '' && getOutlet(r) !== PRIMARY_OUTLET) {\n                    var s = new UrlSegmentGroup([], {});\n                    s._sourceSegment = segmentGroup;\n                    s._segmentIndexShift = consumedSegments.length;\n                    res[getOutlet(r)] = s;\n                }\n            }\n        }\n        catch (e_3_1) { e_3
```

= { error: e_3_1 }; }\n finally {\n try {\n if (routes_2_1 && !routes_2_1.done && (_a = routes_2.return)) _a.call(routes_2);\n }\n finally { if (e_3) throw e_3.error; }\n }\n return res;\n }\n function containsEmptyPathMatchesWithNamedOutlets(segmentGroup, slicedSegments, routes) {\n return routes.some(function (r) { return emptyPathMatch(segmentGroup, slicedSegments, r) && getOutlet(r) !== PRIMARY_OUTLET; });\n }\n function containsEmptyPathMatches(segmentGroup, slicedSegments, routes) {\n return routes.some(function (r) { return emptyPathMatch(segmentGroup, slicedSegments, r); });\n }\n function emptyPathMatch(segmentGroup, slicedSegments, r) {\n if ((segmentGroup.hasChildren() || slicedSegments.length > 0) && r.pathMatch === 'full') {\n return false;\n }\n return r.path === '' && r.redirectTo === undefined;\n }\n function getData(route) {\n return route.data || {};\n }\n function getResolve(route) {\n return route.resolve || {};\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function recognize$1(rootComponentType, config, serializer, paramsInheritanceStrategy, relativeLinkResolution) {\n return function (source) {\n return source.pipe(operators.mergeMap(function (t) { return recognize(rootComponentType, config, t.urlAfterRedirects, serializer(t.urlAfterRedirects), paramsInheritanceStrategy, relativeLinkResolution)\n .pipe(operators.map(function (targetSnapshot) { return (Object.assign(Object.assign({}, t), { targetSnapshot: targetSnapshot })); })); }));\n };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function resolveData(paramsInheritanceStrategy, moduleInjector) {\n return function (source) {\n return source.pipe(operators.mergeMap(function (t) {\n var targetSnapshot = t.targetSnapshot, canActivateChecks = t.guards.canActivateChecks;\n if (!canActivateChecks.length) {\n return rxjs.of(t);\n }\n var canActivateChecksResolved = 0;\n return rxjs.from(canActivateChecks)\n .pipe(operators.concatMap(function (check) { return runResolve(check.route, targetSnapshot, paramsInheritanceStrategy, moduleInjector); }), operators.tap(function () { return canActivateChecksResolved++; }), operators.takeLast(1), operators.mergeMap(function (_) { return canActivateChecksResolved === canActivateChecks.length ? rxjs.of(t) : rxjs.EMPTY; }));\n }));\n };\n }\n function runResolve(futureARS, futureRSS, paramsInheritanceStrategy, moduleInjector) {\n var resolve = futureARS._resolve;\n return resolveNode(resolve, futureARS, futureRSS, moduleInjector)\n .pipe(operators.map(function (resolvedData) {\n futureARS._resolvedData = resolvedData;\n futureARS.data = Object.assign(Object.assign({}, futureARS.data), inheritedParamsDataResolve(futureARS, paramsInheritanceStrategy).resolve);\n return null;\n }));\n }\n function resolveNode(resolve, futureARS, futureRSS, moduleInjector) {\n var keys = Object.keys(resolve);\n if (keys.length === 0) {\n return rxjs.of({});\n }\n var data = {};\n return rxjs.from(keys).pipe(operators.mergeMap(function (key) { return getResolver(resolve[key], futureARS, futureRSS, moduleInjector)\n .pipe(operators.tap(function (value) {\n data[key] = value;\n })); }), operators.takeLast(1), operators.mergeMap(function () {\n // Ensure all resolvers returned values, otherwise don't emit any \"next\" and just complete\n // the chain which will cancel navigation\n if (Object.keys(data).length === keys.length) {\n return rxjs.of(data);\n }\n return rxjs.EMPTY;\n }));\n }\n function getResolver(injectionToken, futureARS, futureRSS, moduleInjector) {\n var resolver = getToken(injectionToken, futureARS, moduleInjector);\n return resolver.resolve ? wrapIntoObservable(resolver.resolve(futureARS, futureRSS)) :\n wrapIntoObservable(resolver(futureARS, futureRSS));\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n *
Perform a side effect through a switchMap for every emission on the source Observable,\n * but return an Observable that is identical to the source. It's essentially the same as\n * the `tap` operator, but if the side effectful `next` function returns an ObservableInput,\n * it will wait before continuing with the original value.\n */\n

function switchTap(next) {\n return function (source) {\n return source.pipe(operators.switchMap(function (v) {\n var nextResult = next(v);\n if (nextResult) {\n return rxjs.from(nextResult).pipe(operators.map(function () { return v; }));\n }\n return rxjs.from([v]);\n }));\n };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n

/**\n * @description\n *\n * Provides a way to customize when activated routes get reused.\n *\n * @publicApi\n */\n var RouteReuseStrategy = /** @class */ (function () {\n function RouteReuseStrategy() {\n }\n return RouteReuseStrategy;\n }());\n /**\n * @description\n *\n * This base route reuse strategy only reuses routes when the matched router configs are\n * identical. This prevents components from being destroyed and recreated\n * when just the fragment or query parameters change\n * (that is, the existing component is _reused_).\n *\n * This strategy does not store any routes for later reuse.\n *\n * Angular uses this strategy by default.\n *\n *\n * It can be used as a base class for custom route reuse strategies, i.e. you can create your own\n * class that extends the `BaseRouteReuseStrategy` one.\n * @publicApi\n */\n var BaseRouteReuseStrategy = /** @class */ (function () {\n function BaseRouteReuseStrategy() {\n }\n /**\n * Whether the given route should detach for later reuse.\n * Always returns false for `BaseRouteReuseStrategy`.\n * */\n BaseRouteReuseStrategy.prototype.shouldDetach = function (route) {\n return false;\n };\n /**\n * A no-op; the route is never stored since this strategy never detaches routes for later re-use.\n */\n BaseRouteReuseStrategy.prototype.store = function (route, detachedTree) { };\n /** Returns `false`, meaning the route (and its subtree) is never reattached */\n BaseRouteReuseStrategy.prototype.shouldAttach = function (route) {\n return false;\n };\n /** Returns `null` because this strategy does not store routes for later re-use. */\n BaseRouteReuseStrategy.prototype.retrieve = function (route) {\n return null;\n };\n /**\n

* Determines if a route should be reused.\n * This strategy returns `true` when the future route config and current route config are\n * identical.\n */\n BaseRouteReuseStrategy.prototype.shouldReuseRoute = function (future, curr) {\n return future.routeConfig === curr.routeConfig;\n };\n return BaseRouteReuseStrategy;\n }());\n var DefaultRouteReuseStrategy = /** @class */ (function (_super) {\n __extends(DefaultRouteReuseStrategy, _super);\n function DefaultRouteReuseStrategy() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n return DefaultRouteReuseStrategy;\n }(BaseRouteReuseStrategy));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * The [DI token](guide/glossary/#di-token) for a router configuration.\n * @see `ROUTES`\n * @publicApi\n */\n var ROUTES = new core.InjectionToken('ROUTES');\n var RouterConfigLoader = /** @class */ (function () {\n function RouterConfigLoader(loader, compiler, onLoadStartListener, onLoadEndListener) {\n this.loader = loader;\n this.compiler = compiler;\n this.onLoadStartListener = onLoadStartListener;\n this.onLoadEndListener = onLoadEndListener;\n }\n RouterConfigLoader.prototype.load = function (parentInjector, route) {\n var _this = this;\n if (this.onLoadStartListener) {\n this.onLoadStartListener(route);\n }\n var moduleFactory$ = this.loadModuleFactory(route.loadChildren);\n return moduleFactory$.pipe(operators.map(function (factory) {\n if (_this.onLoadEndListener) {\n _this.onLoadEndListener(route);\n }\n var module = factory.create(parentInjector);\n return new LoadedRouterConfig(flatten(module.injector.get(ROUTES)).map(standardizeConfig), module);\n }));\n };\n RouterConfigLoader.prototype.loadModuleFactory = function (loadChildren) {\n var _this = this;\n if (typeof loadChildren === 'string') {\n return rxjs.from(this.loader.load(loadChildren));\n }\n else {\n return wrapIntoObservable(loadChildren()).pipe(operators.mergeMap(function (t) {\n if (t instanceof core.NgModuleFactory) {\n return rxjs.of(t);\n }\n else {\n

return rxjs.from(_this.compiler.compileModuleAsync(t));\n }\n }));\n }\n };\n return RouterConfigLoader;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Store contextual information about a `RouterOutlet`\n *\n * @publicApi\n */\n var OutletContext = /** @class */ (function () {\n function OutletContext() {\n this.outlet = null;\n this.route = null;\n this.resolver = null;\n this.children = new ChildrenOutletContexts();\n this.attachRef = null;\n }\n return OutletContext;\n }());\n /**\n * Store contextual information about the children (= nested) `RouterOutlet`\n *\n * @publicApi\n */\n var ChildrenOutletContexts = /** @class */ (function () {\n function ChildrenOutletContexts() {\n // contexts for child outlets, by name.\n this.contexts = new Map();\n }\n /** Called when a `RouterOutlet` directive is instantiated */\n ChildrenOutletContexts.prototype.onChildOutletCreated = function (childName, outlet) {\n var context = this.getOrCreateContext(childName);\n context.outlet = outlet;\n this.contexts.set(childName, context);\n };\n /**\n * Called when a `RouterOutlet` directive is destroyed.\n * We need to keep the context as the outlet could be destroyed inside a NgIf and might be re-created later.\n */\n ChildrenOutletContexts.prototype.onChildOutletDestroyed = function (childName) {\n var context = this.getContext(childName);\n if (context) {\n context.outlet = null;\n }\n };\n /**\n * Called when the corresponding route is deactivated during navigation.\n * Because the component get destroyed, all children outlet are destroyed.\n */\n ChildrenOutletContexts.prototype.onOutletDeactivated = function () {\n var contexts = this.contexts;\n this.contexts = new Map();\n return contexts;\n };\n ChildrenOutletContexts.prototype.onOutletReAttached = function (contexts) {\n this.contexts = contexts;\n };\n ChildrenOutletContexts.prototype.getOrCreateContext = function (childName) {\n var context = this.getContext(childName);\n if (!context) {\n context = new OutletContext();\n this.contexts.set(childName, context);\n }\n return context;\n };\n ChildrenOutletContexts.prototype.getContext = function (childName) {\n return this.contexts.get(childName) || null;\n };\n return ChildrenOutletContexts;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @description\n *\n * Provides a way to migrate AngularJS applications to Angular.\n *\n * @publicApi\n */\n var UrlHandlingStrategy = /** @class */ (function () {\n function UrlHandlingStrategy() {\n }\n return UrlHandlingStrategy;\n }());\n /**\n * @publicApi\n */\n var DefaultUrlHandlingStrategy = /** @class */ (function () {\n function DefaultUrlHandlingStrategy() {\n }\n DefaultUrlHandlingStrategy.prototype.shouldProcessUrl = function (url) {\n return true;\n };\n DefaultUrlHandlingStrategy.prototype.extract = function (url) {\n return url;\n };\n DefaultUrlHandlingStrategy.prototype.merge = function (newUrlPart, wholeUrl) {\n return newUrlPart;\n };\n return DefaultUrlHandlingStrategy;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function defaultErrorHandler(error) {\n throw error;\n }\n function defaultMalformedUriErrorHandler(error, urlSerializer, url) {\n return urlSerializer.parse('/');\n }\n /**\n * @internal\n */\n function defaultRouterHook(snapshot, runExtras) {\n return rxjs.of(null);\n }\n /**\n * @description\n *\n * A service that provides navigation among views and URL manipulation capabilities.\n *\n * @see `Route`.\n * @see [Routing and Navigation Guide](guide/router).\n *\n * @ngModule RouterModule\n *\n * @publicApi\n */\n var Router = /** @class */ (function () {\n /**\n * Creates the router service.\n */\n // TODO: vsavkin make internal after the final is out.\n function Router(rootComponentType,

```
urlSerializer, rootContexts, location, injector, loader, compiler, config) {\n var _this = this;\n this.rootComponentType = rootComponentType;\n this.urlSerializer = urlSerializer;\n this.rootContexts = rootContexts;\n this.location = location;\n this.config = config;\n this.lastSuccessfulNavigation = null;\n this.currentNavigation = null;\n /**\n * Tracks the previously seen location change from the location subscription so we can compare\n * the two latest to see if they are duplicates. See setUpLocationChangeListener.\n */\n this.lastLocationChangeInfo = null;\n this.navigationId = 0;\n this.isNgZoneEnabled = false;\n /**\n * An event stream for routing events in this NgModule.\n */\n this.events = new rxjs.Subject();\n /**\n * A handler for navigation errors in this NgModule.\n */\n this.errorHandler = defaultErrorHandler;\n /**\n * A handler for errors thrown by `Router.parseUrl(url)`\n * when `url` contains an invalid character.\n * The most common case is a `%` sign\n * that's not encoded and is not part of a percent encoded sequence.\n */\n this.malformedUriErrorHandler = defaultMalformedUriErrorHandler;\n /**\n * True if at least one navigation event has occurred,\n * false otherwise.\n */\n this.navigated = false;\n this.lastSuccessfulId = -1;\n /**\n * Hooks that enable you to pause navigation,\n * either before or after the preactivation phase.\n * Used by `RouterModule`.\n *\n * @internal\n */\n this.hooks = { beforePreactivation: defaultRouterHook, afterPreactivation: defaultRouterHook };\n /**\n * A strategy for extracting and merging URLs.\n * Used for AngularJS to Angular migrations.\n */\n this.urlHandlingStrategy = new DefaultUrlHandlingStrategy();\n /**\n * A strategy for re-using routes.\n */\n this.routeReuseStrategy = new DefaultRouteReuseStrategy();\n /**\n * How to handle a navigation request to the current URL. One of:\n * - `'ignore'` : The router ignores the request.\n * - `'reload'` : The router reloads the URL. Use to implement a \"refresh\" feature.\n */\n this.onSameUrlNavigation = 'ignore';\n /**\n * How to merge parameters, data, and resolved data from parent to child\n * routes. One of:\n *\n * - `'emptyOnly'` : Inherit parent parameters, data, and resolved data\n * for path-less or component-less routes.\n * - `'always'` : Inherit parent parameters, data, and resolved data\n * for all child routes.\n */\n this.paramsInheritanceStrategy = 'emptyOnly';\n /**\n * Determines when the router updates the browser URL.\n * By default (`\"deferred\"`), updates the browser URL after navigation has finished.\n * Set to `'eager'` to update the browser URL at the beginning of navigation.\n * You can choose to update early so that, if navigation fails,\n * you can show an error message with the URL that failed.\n */\n this.urlUpdateStrategy = 'deferred';\n /**\n * Enables a bug fix that corrects relative link resolution in components with empty paths.\n * @see `RouterModule`\n */\n this.relativeLinkResolution = 'corrected';\n var onLoadStart = function (r) { return _this.triggerEvent(new RouteConfigLoadStart(r)); };\n var onLoadEnd = function (r) { return _this.triggerEvent(new RouteConfigLoadEnd(r)); };\n this.ngModule = injector.get(core.NgModuleRef);\n this.console = injector.get(core.Console);\n var ngZone = injector.get(core.NgZone);\n this.isNgZoneEnabled = ngZone instanceof core.NgZone;\n this.resetConfig(config);\n this.currentUrlTree = createEmptyUrlTree();\n this.rawUrlTree = this.currentUrlTree;\n this.browserUrlTree = this.currentUrlTree;\n this.configLoader = new RouterConfigLoader(loader, compiler, onLoadStart, onLoadEnd);\n this.routerState = createEmptyState(this.currentUrlTree, this.rootComponentType);\n this.transitions = new rxjs.BehaviorSubject({\n id: 0,\n currentUrlTree: this.currentUrlTree,\n currentRawUrl: this.currentUrlTree,\n extractedUrl: this.urlHandlingStrategy.extract(this.currentUrlTree),\n urlAfterRedirects: this.urlHandlingStrategy.extract(this.currentUrlTree),\n rawUrl: this.currentUrlTree,\n extras: {},\n resolve: null,\n reject: null,\n promise: Promise.resolve(true),\n source: 'imperative',\n restoredState: null,\n currentSnapshot: this.routerState.snapshot,\n targetSnapshot: null,\n currentRouterState: this.routerState,\n targetRouterState: null,\n guards: { canActivateChecks: [], canDeactivateChecks: [] },\n guardsResult: null,\n });\n
```

```
this.navigations = this.setupNavigations(this.transitions);\n            this.processNavigations();\n        }\n
Router.prototype.setupNavigations = function (transitions) {\n            var _this = this;\n
        var eventsSubject = this.events;\n            return transitions.pipe(operators.filter(function (t) { return t.id !== 0;
}), \n            // Extract URL\n            operators.map(function (t) { return (Object.assign(Object.assign({}, t), {
extractedUrl: _this.urlHandlingStrategy.extract(t.rawUrl) })); }), \n            // Using switchMap so we cancel
executing navigations when a new one comes in\n            operators.switchMap(function (t) {\n                var
completed = false;\n                var errored = false;\n                return rxjs.of(t).pipe(\n                // Store the
Navigation object\n                operators.tap(function (t) {\n                    _this.currentNavigation = {\n
id: t.id,\n                    initialUrl: t.currentRawUrl,\n                    extractedUrl: t.extractedUrl,\n
trigger: t.source,\n                    extras: t.extras,\n                    previousNavigation:
_this.lastSuccessfulNavigation
 ? Object.assign(Object.assign({}, _this.lastSuccessfulNavigation), { previousNavigation: null }) :\n
null\n                };\n                }), operators.switchMap(function (t) {\n                    var urlTransition =
!_this.navigated ||\n                        t.extractedUrl.toString() !== _this.browserUrlTree.toString();\n                    var
processCurrentUrl = (_this.onSameUrlNavigation === 'reload' ? true : urlTransition) &&\n
_this.urlHandlingStrategy.shouldProcessUrl(t.rawUrl);\n                    if (processCurrentUrl) {\n                        return
rxjs.of(t).pipe(\n                        // Fire NavigationStart event\n                        operators.switchMap(function (t) {\n
                var transition = _this.transitions.getValue();\n                            eventsSubject.next(new
NavigationStart(t.id, _this.serializeUrl(t.extractedUrl), t.source, t.restoredState));\n
                        if (transition !== _this.transitions.getValue()) {\n                            return rxjs.EMPTY;\n
            }\n                        return [t];\n                    }), \n                    // This delay is required to match old
behavior that forced navigation\n                    // to always be async\n                    operators.switchMap(function
(t) { return Promise.resolve(t); }), \n                    // ApplyRedirects\n
applyRedirects$1(_this.ngModule.injector, _this.configLoader, _this.urlSerializer, _this.config), \n                    //
Update the currentNavigation\n                    operators.tap(function (t) {\n                        _this.currentNavigation
= Object.assign(Object.assign({}, _this.currentNavigation), { finalUrl: t.urlAfterRedirects });\n                    }), \n
                // Recognize\n                    recognize$1(_this.rootComponentType,
 _this.config, function (url) { return _this.serializeUrl(url); }, _this.paramsInheritanceStrategy,
_this.relativeLinkResolution), \n                    // Update URL if in `eager` update mode\n
operators.tap(function (t) {\n                        if (_this.urlUpdateStrategy === 'eager') {\n                            if
(!t.extras.skipLocationChange) {\n                                _this.setBrowserUrl(t.urlAfterRedirects,
!!t.extras.replaceUrl, t.id, t.extras.state);\n                            }\n                            _this.browserUrlTree =
t.urlAfterRedirects;\n                        }\n                    }), \n                    // Fire RoutesRecognized\n
   operators.tap(function (t) {\n                        var routesRecognized = new RoutesRecognized(t.id,
_this.serializeUrl(t.extractedUrl), _this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot);\n
                        eventsSubject.next(routesRecognized);\n                    }));\n                }\n                else {\n
                var processPreviousUrl = urlTransition && _this.rawUrlTree &&\n
_this.urlHandlingStrategy.shouldProcessUrl(_this.rawUrlTree);\n                    /* When the current URL shouldn't
be processed, but the previous one was,\n                    * we handle this \"error condition\" by navigating to the
previously\n                    * successful URL, but leaving the URL intact.*/\n                    if (processPreviousUrl)
{\n                        var id = t.id, extractedUrl = t.extractedUrl, source = t.source, restoredState = t.restoredState,
extras = t.extras;\n                        var navStart = new NavigationStart(id, _this.serializeUrl(extractedUrl), source,
restoredState);\n                        eventsSubject.next(navStart);\n
   var targetSnapshot = createEmptyState(extractedUrl, _this.rootComponentType).snapshot;\n
return rxjs.of(Object.assign(Object.assign({}, t), { targetSnapshot: targetSnapshot, urlAfterRedirects: extractedUrl,
extras: Object.assign(Object.assign({}, extras), { skipLocationChange: false, replaceUrl: false }) }));\n
}\n                else {\n                    /* When neither the current or previous URL can be processed, do
nothing\n                    * other than update router's internal reference to the current \"settled\"\n
```

```
* URL. This way the next navigation will be coming from the current URL\n                 * in the browser.\n                 */\n                _this.rawUrlTree = t.rawUrl;\n                _this.browserUrlTree = t.urlAfterRedirects;\n                t.resolve(null);\n                return rxjs.EMPTY;\n            }\n        }), \n        // Before Preactivation\n        switchTap(function (t) {\n            var targetSnapshot = t.targetSnapshot, navigationId = t.id, appliedUrlTree = t.extractedUrl, rawUrlTree = t.rawUrl, _b = t.extras, skipLocationChange = _b.skipLocationChange, replaceUrl = _b.replaceUrl;\n            return _this.hooks.beforePreactivation(targetSnapshot, {\n                navigationId: navigationId,\n                appliedUrlTree: appliedUrlTree,\n                rawUrlTree: rawUrlTree,\n                skipLocationChange: !!skipLocationChange,\n                replaceUrl: !!replaceUrl,\n            });\n        }), \n        // --- GUARDS ---\n        operators.tap(function (t) {\n            var guardsStart = new GuardsCheckStart(t.id, _this.serializeUrl(t.extractedUrl), _this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot);\n            _this.triggerEvent(guardsStart);\n        }), operators.map(function (t) { return (Object.assign(Object.assign({}, t), { guards: getAllRouteGuards(t.targetSnapshot, t.currentSnapshot, _this.rootContexts) })); }), checkGuards(_this.ngModule.injector, function (evt) { return _this.triggerEvent(evt); }), operators.tap(function (t) {\n            if (isUrlTree(t.guardsResult)) {\n                var error = navigationCancelingError(\"Redirecting to \\\"\" + _this.serializeUrl(t.guardsResult) + \"\\\"\");\n                error.url = t.guardsResult;\n                throw error;\n            }\n        }), operators.tap(function (t) {\n            var guardsEnd = new GuardsCheckEnd(t.id, _this.serializeUrl(t.extractedUrl), _this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot, !!t.guardsResult);\n            _this.triggerEvent(guardsEnd);\n        }),\n        operators.filter(function (t) {\n            if (!t.guardsResult) {\n                _this.resetUrlToCurrentUrlTree();\n                var navCancel = new NavigationCancel(t.id, _this.serializeUrl(t.extractedUrl), '');\n                eventsSubject.next(navCancel);\n                t.resolve(false);\n                return false;\n            }\n            return true;\n        }), \n        // --- RESOLVE ---\n        switchTap(function (t) {\n            if (t.guards.canActivateChecks.length) {\n                return rxjs.of(t).pipe(operators.tap(function (t) {\n                    var resolveStart = new ResolveStart(t.id, _this.serializeUrl(t.extractedUrl), _this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot);\n                    _this.triggerEvent(resolveStart);\n                }), operators.switchMap(function (t) {\n                    var dataResolved = false;\n                    return rxjs.of(t).pipe(resolveData(_this.paramsInheritanceStrategy, _this.ngModule.injector), operators.tap({\n                        next: function () { return dataResolved = true; },\n                        complete: function () {\n                            if (!dataResolved) {\n                                var navCancel = new NavigationCancel(t.id, _this.serializeUrl(t.extractedUrl), \"At least one route resolver didn't emit any value.\");\n                                eventsSubject.next(navCancel);\n                                t.resolve(false);\n                            }\n                        }\n                    }));\n                }), operators.tap(function (t) {\n                    var resolveEnd = new ResolveEnd(t.id, _this.serializeUrl(t.extractedUrl), _this.serializeUrl(t.urlAfterRedirects), t.targetSnapshot);\n                    _this.triggerEvent(resolveEnd);\n                }));\n            }\n            return undefined;\n        }), \n        // --- AFTER PREACTIVATION ---\n        switchTap(function (t) {\n            var targetSnapshot = t.targetSnapshot, navigationId = t.id, appliedUrlTree = t.extractedUrl, rawUrlTree = t.rawUrl, _b = t.extras, skipLocationChange = _b.skipLocationChange, replaceUrl = _b.replaceUrl;\n            return _this.hooks.afterPreactivation(targetSnapshot, {\n                navigationId: navigationId,\n                appliedUrlTree: appliedUrlTree,\n                rawUrlTree: rawUrlTree,\n                skipLocationChange: !!skipLocationChange,\n                replaceUrl: !!replaceUrl,\n            });\n        }),\n        operators.map(function (t) {\n            var targetRouterState = createRouterState(_this.routeReuseStrategy, t.targetSnapshot, t.currentRouterState);\n            return (Object.assign(Object.assign({}, t), { targetRouterState: targetRouterState }));\n        }), \n        /* Once here, we are about to activate syncronously. The assumption is this\n        will succeed, and user code may read from the Router service. Therefore\n        before activation, we need to update router properties storing the current\n        URL and the RouterState, as
```

```
well as updated the browser URL. All this should\n                happen *before* activating. */\n
operators.tap(function (t) {\n                _this.currentUrlTree = t.urlAfterRedirects;\n                _this.rawUrlTree
=\n                _this.urlHandlingStrategy.merge(_this.currentUrlTree, t.rawUrl);\n                _this.routerState =
t.targetRouterState;\n                if (_this.urlUpdateStrategy === 'deferred') {\n
    if (!t.extras.skipLocationChange) {\n                    _this.setBrowserUrl(_this.rawUrlTree,
!!t.extras.replaceUrl, t.id, t.extras.state);\n                }\n                _this.browserUrlTree =
t.urlAfterRedirects;\n                }\n            }), activateRoutes(_this.rootContexts, _this.routeReuseStrategy,
function (evt) { return _this.triggerEvent(evt); }), operators.tap({\n                next: function () {\n
completed = true;\n                },\n                complete: function () {\n                    completed = true;\n
    }\n            }), operators.finalize(function () {\n                /* When the navigation stream finishes either
through error or success, we\n                 * set the `completed` or `errored` flag. However, there are some
situations\n                 * where we could get here without either of those being set. For instance, a\n
             * redirect during NavigationStart. Therefore, this is a catch-all to make\n                 * sure the
NavigationCancel\n                 * event is fired when a navigation gets cancelled but not caught by other\n
    * means. */\n                if (!completed && !errored) {\n                    // Must reset to current URL tree here to
ensure history.state is set. On a\n                    // fresh page load, if a new navigation comes in before a successful\n
                // navigation completes, there will be nothing in\n                    // history.state.navigationId. This can
cause sync problems with AngularJS\n                    // sync code which looks for a value here in order to determine
whether or\n                    // not to handle a given popstate event or to leave it to the Angualr\n                    //
router.\n                    _this.resetUrlToCurrentUrlTree();\n
    var navCancel = new NavigationCancel(t.id, _this.serializeUrl(t.extractedUrl), \"Navigation ID \" + t.id + \" is
not equal to the current navigation id \" + _this.navigationId);\n                    eventsSubject.next(navCancel);\n
            t.resolve(false);\n                }\n                // currentNavigation should always be reset to null here. If
navigation was\n                // successful, lastSuccessfulTransition will have already been set. Therefore\n
   // we can safely set currentNavigation to null here.\n                _this.currentNavigation = null;\n            }),
operators.catchError(function (e) {\n                errored = true;\n                /* This error type is issued during
Redirect, and is handled as a\n                 * cancellation rather than an error. */\n                if
(isNavigationCancelingError(e)) {\n                    var redirecting = isUrlTree(e.url);\n
            if (!redirecting) {\n                    // Set property only if we're not redirecting. If we landed on a page
and\n                    // redirect to `/` route, the new navigation is going to see the `/`\n                    // isn't a
change from the default currentUrlTree and won't navigate.\n                    // This is only applicable with initial
navigation, so setting\n                    // `navigated` only when not redirecting resolves this scenario.\n
    _this.navigated = true;\n                    _this.resetStateAndUrl(t.currentRouterState, t.currentUrlTree,
t.rawUrl);\n                }\n                var navCancel = new NavigationCancel(t.id,
_this.serializeUrl(t.extractedUrl), e.message);\n                eventsSubject.next(navCancel);\n                //
When redirecting, we need to delay resolving the navigation\n                // promise and
 push it to the redirect navigation\n                if (!redirecting) {\n                    t.resolve(false);\n
  }\n                else {\n                    // setTimeout is required so this navigation finishes with\n
   // the return EMPTY below. If it isn't allowed to finish\n                    // processing, there can be multiple
navigations to the same\n                    // URL.\n                    setTimeout(function () {\n
var mergedTree = _this.urlHandlingStrategy.merge(e.url, _this.rawUrlTree);\n                        var extras = {\n
                    skipLocationChange: t.extras.skipLocationChange,\n                        replaceUrl:
_this.urlUpdateStrategy === 'eager'\n                    };\n                    return
_this.scheduleNavigation(mergedTree, 'imperative', null,
 extras, { resolve: t.resolve, reject: t.reject, promise: t.promise });\n                    }, 0);\n                }\n
        /* All other errors should reset to the router's internal URL reference to\n                 * the pre-error state.
*/\n                }\n                else {\n                    _this.resetStateAndUrl(t.currentRouterState, t.currentUrlTree,
t.rawUrl);\n                    var navError = new NavigationError(t.id, _this.serializeUrl(t.extractedUrl), e);\n
```

```
eventsSubject.next(navError);\n                try {\n                    t.resolve(_this.errorHandler(e));\n
}\n                catch (ee) {\n                    t.reject(ee);\n                }\n            }\n
return rxjs.EMPTY;\n            }));\n            // TODO(jasonaden): remove cast once g3 is on updated
TypeScript\n
        }));\n    };\n    /**\n     * @internal\n     * TODO: this should be removed once the constructor of
the router made internal\n     */\n    Router.prototype.resetRootComponentType = function
(rootComponentType) {\n        this.rootComponentType = rootComponentType;\n        // TODO: vsavkin
router 4.0 should make the root component set to null\n        // this will simplify the lifecycle of the router.\n
this.routerState.root.component = this.rootComponentType;\n    };\n    Router.prototype.getTransition =
function () {\n        var transition = this.transitions.value;\n        // This value needs to be set. Other values such
as extractedUrl are set on initial navigation\n        // but the urlAfterRedirects may not get set if we aren't
processing the new URL *and* not\n        // processing the previous URL.\n        transition.urlAfterRedirects =
this.browserUrlTree;\n        return transition;\n
    };\n    Router.prototype.setTransition = function (t) {\n
this.transitions.next(Object.assign(Object.assign({}, this.getTransition()), t));\n    };\n    /**\n     * Sets up the
location change listener and performs the initial navigation.\n     */\n    Router.prototype.initialNavigation =
function () {\n        this.setUpLocationChangeListener();\n        if (this.navigationId === 0) {\n
this.navigateByUrl(this.location.path(true), { replaceUrl: true });\n        }\n    };\n    /**\n     * Sets up the
location change listener. This listener detects navigations triggered from outside\n     * the Router (the browser
back/forward buttons, for example) and schedules a corresponding Router\n     * navigation so that the correct
events, guards, etc. are triggered.\n     */\n    Router.prototype.setUpLocationChangeListener = function () {\n
    var _this = this;\n        // Don't need
 to use Zone.wrap any more, because zone.js\n        // already patch onPopState, so location change callback will\n
        // run into ngZone\n        if (!this.locationSubscription) {\n            this.locationSubscription =
this.location.subscribe(function (event) {\n                var currentChange =
_this.extractLocationChangeInfoFromEvent(event);\n                if
(_this.shouldScheduleNavigation(_this.lastLocationChangeInfo, currentChange)) {\n                    // The
`setTimeout` was added in #12160 and is likely to support Angular/AngularJS\n                    // hybrid apps.\n
            setTimeout(function () {\n                        var source = currentChange.source, state = currentChange.state,
urlTree = currentChange.urlTree;\n                        var extras = { replaceUrl: true };\n                        if (state)
{\n                            var stateCopy = Object.assign({}, state);\n
                delete stateCopy.navigationId;\n                            if (Object.keys(stateCopy).length !== 0) {\n
                  extras.state = stateCopy;\n                            }\n                        }\n
_this.scheduleNavigation(urlTree, source, state, extras);\n                    }, 0);\n                }\n
_this.lastLocationChangeInfo = currentChange;\n            });\n        }\n    };\n    /** Extracts router-related
information from a `PopStateEvent`. */\n    Router.prototype.extractLocationChangeInfoFromEvent = function
(change) {\n        var _a;\n        return {\n            source: change['type'] === 'popstate' ? 'popstate' :
'hashchange',\n            urlTree: this.parseUrl(change['url']),\n            // Navigations coming from Angular router
have a navigationId state\n            // property. When this exists, restore the state.\n
            state: ((_a = change.state) === null || _a === void 0 ? void 0 : _a.navigationId) ? change.state : null,\n
    transitionId: this.getTransition().id\n        };\n    };\n    /**\n     * Determines whether two events
triggered by the Location subscription are due to the same\n     * navigation. The location subscription can fire
two events (popstate and hashchange) for a\n     * single navigation. The second one should be ignored, that is, we
should not schedule another\n     * navigation in the Router.\n     */\n
Router.prototype.shouldScheduleNavigation = function (previous, current) {\n        if (!previous)\n
return true;\n        var sameDestination = current.urlTree.toString() === previous.urlTree.toString();\n        var
eventsOccurredAtSameTime = current.transitionId === previous.transitionId;\n        if
(!eventsOccurredAtSameTime || !sameDestination) {\n            return
```

```
 true;\n            }\n            if ((current.source === 'hashchange' && previous.source === 'popstate') ||\n (current.source === 'popstate' && previous.source === 'hashchange')) {\n                return false;\n            }\n return true;\n        };\n        Object.defineProperty(Router.prototype, \"url\", {\n            /** The current URL. */\n   get: function () {\n                return this.serializeUrl(this.currentUrlTree);\n            },\n            enumerable: false,\n        configurable: true\n        });\n        /** The current Navigation object if one exists */\n Router.prototype.getCurrentNavigation = function () {\n            return this.currentNavigation;\n        };\n        /** @internal */\n        Router.prototype.triggerEvent = function (event) {\n            this.events.next(event);\n        };\n        /**\n         * Resets the route configuration used for navigation and generating links.\n         *\n    * @param config The route array for the new configuration.\n         *\n         * @usageNotes\n         *\n         * ```\n         * router.resetConfig([\n         *  { path: 'team/:id', component: TeamCmp, children: [\n         *    { path: 'simple', component: SimpleCmp },\n         *    { path: 'user/:name', component: UserCmp }\n         *  ]}\n         * ]);\n         * ```\n         */\n        Router.prototype.resetConfig = function (config) {\n            validateConfig(config);\n        this.config = config.map(standardizeConfig);\n            this.navigated = false;\n            this.lastSuccessfulId = -1;\n        };\n        /** @nodoc */\n        Router.prototype.ngOnDestroy = function () {\n            this.dispose();\n        };\n        /** Disposes of the router. */\n        Router.prototype.dispose = function () {\n            if (this.locationSubscription) {\n                this.locationSubscription.unsubscribe();\n                this.locationSubscription\n = undefined;\n            }\n        };\n        /**\n         * Appends URL segments to the current URL tree to create a new URL tree.\n         *\n         * @param commands An array of URL fragments with which to construct the new URL tree.\n         * If the path is static, can be the literal URL string. For a dynamic path, pass an array of path\n         * segments, followed by the parameters for each segment.\n         * The fragments are applied to the current URL tree or the one provided  in the `relativeTo`\n         * property of the options object, if supplied.\n         * @param navigationExtras Options that control the navigation strategy.\n         * @returns The new URL tree.\n         *\n         * @usageNotes\n         *\n         * ```\n         * // create /team/33/user/11\n         * router.createUrlTree(['/team', 33, 'user', 11]);\n         *\n         * // create /team/33;expand=true/user/11\n         * router.createUrlTree(['/team', 33, {expand: true}, 'user', 11]);\n
         *\n         * // you can collapse static segments like this (this works only with the first passed-in value):\n         * router.createUrlTree(['/team/33/user', userId]);\n         *\n         * // If the first segment can contain slashes, and you do not want the router to split it,\n         * // you can do the following:\n         * router.createUrlTree([{segmentPath: '/one/two'}]);\n         *\n         * // create /team/33/(user/11//right:chat)\n         * router.createUrlTree(['/team', 33, {outlets: {primary: 'user/11', right: 'chat'}}]);\n         *\n         * // remove the right secondary node\n         * router.createUrlTree(['/team', 33, {outlets: {primary: 'user/11', right: null}}]);\n         *\n         * // assuming the current url is `/team/33/user/11` and the route points to `user/11`\n         *\n         * // navigate to /team/33/user/11/details\n         * router.createUrlTree(['details'], {relativeTo: route});\n         *\n         * // navigate to /team/33/user/22\n
         * router.createUrlTree(['../22'], {relativeTo: route});\n         *\n         * // navigate to /team/44/user/22\n         * router.createUrlTree(['../../team/44/user/22'], {relativeTo: route});\n         * ```\n         */\n Router.prototype.createUrlTree = function (commands, navigationExtras) {\n            if (navigationExtras === void 0) { navigationExtras = {}; }\n            var relativeTo = navigationExtras.relativeTo, queryParams = navigationExtras.queryParams, fragment = navigationExtras.fragment, queryParamsHandling = navigationExtras.queryParamsHandling, preserveFragment = navigationExtras.preserveFragment;\n            var a = relativeTo || this.routerState.root;\n            var f = preserveFragment ? this.currentUrlTree.fragment : fragment;\n    var q = null;\n            switch (queryParamsHandling) {\n                case 'merge':\n                    q = Object.assign(Object.assign({}, this.currentUrlTree.queryParams), queryParams);\n                    break;\n                case 'preserve':\n                    q = this.currentUrlTree.queryParams;\n                    break;\n                default:\n                    q = queryParams || null;\n            }\n            if (q !== null) {\n                q = this.removeEmptyProps(q);\n            }\n            return createUrlTree(a, this.currentUrlTree, commands, q, f);\n        };\n        /**\n         * Navigates to a view using an absolute route path.\n         *\n         * @param url An absolute
```

path for a defined route. The function does not apply any delta to the\n * current URL.\n * @param extras An object containing properties that modify the navigation strategy.\n *\n * @returns A Promise that resolves to 'true' when navigation succeeds,\n * to 'false' when navigation fails, or is rejected on error.\n *\n * @usageNotes\n *\n * The following calls request navigation to an absolute path.\n *\n * ```\n * router.navigateByUrl(\"/team/33/user/11\");\n *\n * // Navigate without updating the URL\n * router.navigateByUrl(\"/team/33/user/11\", { skipLocationChange: true });\n * ```\n *\n * @see [Routing and Navigation guide](guide/router)\n *\n */\n Router.prototype.navigateByUrl = function (url, extras) {\n if (extras === void 0) { extras = {\n skipLocationChange: false\n }; }\n if (typeof ngDevMode === 'undefined' ||\n ngDevMode && this.isNgZoneEnabled && !core.NgZone.isInAngularZone()) {\n this.console.warn(\"Navigation triggered outside Angular zone, did you forget to call 'ngZone.run()'?\");\n }\n var urlTree = isUrlTree(url) ? url : this.parseUrl(url);\n var mergedTree = this.urlHandlingStrategy.merge(urlTree, this.rawUrlTree);\n return this.scheduleNavigation(mergedTree, 'imperative', null, extras);\n };\n /**\n * Navigate based on the provided array of commands and a starting point.\n * If no starting route is provided, the navigation is absolute.\n *\n * @param commands An array of URL fragments with which to construct the target URL.\n * If the path is static, can be the literal URL string. For a dynamic path, pass an array of path\n * segments, followed by the parameters for each segment.\n * The fragments are applied to the current URL or the one provided in the `relativeTo` property\n * of the options object, if supplied.\n * @param extras An options object that determines how the URL should be constructed or\n * interpreted.\n *\n * @returns A Promise that resolves to `true` when navigation succeeds, to `false` when navigation\n * fails,\n * or is rejected on error.\n *\n * @usageNotes\n *\n * The following calls request navigation to a dynamic route path relative to the current URL.\n *\n * ```\n * router.navigate(['team', 33, 'user', 11], {relativeTo: route});\n *\n * // Navigate without updating the URL, overriding the default behavior\n * router.navigate(['team', 33, 'user', 11], {relativeTo: route, skipLocationChange: true});\n * ```\n *\n * @see [Routing and Navigation guide](guide/router)\n *\n */\n Router.prototype.navigate = function (commands, extras) {\n if (extras === void 0) { extras = { skipLocationChange: false }; }\n validateCommands(commands);\n return this.navigateByUrl(this.createUrlTree(commands, extras), extras);\n };\n /** Serializes a `UrlTree` into a string */\n Router.prototype.serializeUrl = function (url) {\n return this.urlSerializer.serialize(url);\n };\n /** Parses a string into a `UrlTree` */\n Router.prototype.parseUrl = function (url) {\n var urlTree;\n try {\n urlTree = this.urlSerializer.parse(url);\n }\n catch (e) {\n urlTree = this.malformedUriErrorHandler(e, this.urlSerializer, url);\n }\n return urlTree;\n };\n /** Returns whether the url is activated */\n Router.prototype.isActive = function (url, exact) {\n if (isUrlTree(url)) {\n return containsTree(this.currentUrlTree, url, exact);\n }\n var urlTree = this.parseUrl(url);\n return containsTree(this.currentUrlTree, urlTree, exact);\n };\n Router.prototype.removeEmptyProps = function (params) {\n return Object.keys(params).reduce(function (result, key) {\n var value = params[key];\n if (value !== null && value !== undefined) {\n result[key] = value;\n }\n return result;\n }, {});\n };\n Router.prototype.processNavigations = function () {\n var _this = this;\n this.navigations.subscribe(function (t) {\n _this.navigated = true;\n _this.lastSuccessfulId = t.id;\n _this.events\n .next(new NavigationEnd(t.id, _this.serializeUrl(t.extractedUrl), _this.serializeUrl(_this.currentUrlTree)));\n _this.lastSuccessfulNavigation = _this.currentNavigation;\n _this.currentNavigation = null;\n t.resolve(true);\n }, function (e) {\n _this.console.warn(\"Unhandled Navigation Error: \");\n });\n };\n Router.prototype.scheduleNavigation = function (rawUrl, source, restoredState, extras, priorPromise) {\n // * Imperative navigations (router.navigate) might

trigger additional navigations to the same\n // URL via a popstate event and the locationChangeListener. We should skip these duplicate\n // navs. Duplicates may also be triggered by attempts to sync AngularJS and Angular router\n // states.\n // * Imperative navigations can be cancelled by router guards, meaning the URL won't change. If\n // the user follows that with a navigation using the back/forward button or manual URL change,\n // the destination may be the same as the previous imperative attempt. We should not skip\n // these navigations because it's a separate case from the one above -- it's not a duplicate\n // navigation.\n var lastNavigation = this.getTransition();\n // We don't want to skip duplicate successful navs if they're imperative because\n // onSameUrlNavigation could be 'reload' (so the duplicate is intended).\n var browserNavPrecededByRouterNav = source !== 'imperative' && (lastNavigation === null || lastNavigation === void 0 ? void 0 : lastNavigation.source) === 'imperative';\n var lastNavigationSucceeded = this.lastSuccessfulId === lastNavigation.id;\n // If the last navigation succeeded or is in flight, we can use the rawUrl as the comparison.\n // However, if it failed, we should compare to the final result (urlAfterRedirects).\n var lastNavigationUrl = (lastNavigationSucceeded || this.currentNavigation) ?\n lastNavigation.rawUrl :\n lastNavigation.urlAfterRedirects;\n var duplicateNav = lastNavigationUrl.toString() === rawUrl.toString();\n if (browserNavPrecededByRouterNav && duplicateNav) {\n return Promise.resolve(true); // return value is not used\n }\n var resolve;\n var reject;\n var promise;\n if (priorPromise) {\n resolve = priorPromise.resolve;\n reject = priorPromise.reject;\n promise = priorPromise.promise;\n }\n else {\n promise = new Promise(function (res, rej) {\n resolve = res;\n reject = rej;\n });\n }\n var id = ++this.navigationId;\n this.setTransition({\n id: id,\n source: source,\n restoredState: restoredState,\n currentUrlTree: this.currentUrlTree,\n currentRawUrl: this.rawUrlTree,\n rawUrl: rawUrl,\n extras: extras,\n resolve: resolve,\n reject: reject,\n promise: promise,\n currentSnapshot: this.routerState.snapshot,\n currentRouterState: this.routerState\n });\n // Make sure that the error is propagated even though `processNavigations` catch\n // handler does not rethrow\n return promise.catch(function (e) {\n return Promise.reject(e);\n });\n };\n Router.prototype.setBrowserUrl = function (url, replaceUrl, id, state) {\n var path = this.urlSerializer.serialize(url);\n state = state || {};\n if (this.location.isCurrentPathEqualTo(path) || replaceUrl) {\n // TODO(jasonaden): Remove first `navigationId` and rely on `ng` namespace.\n this.location.replaceState(path, '', Object.assign(Object.assign({}, state), { navigationId: id }));\n }\n else {\n this.location.go(path, '', Object.assign(Object.assign({}, state), { navigationId: id }));\n }\n };\n Router.prototype.resetStateAndUrl = function (storedState, storedUrl, rawUrl) {\n this.routerState = storedState;\n this.currentUrlTree = storedUrl;\n this.rawUrlTree = this.urlHandlingStrategy.merge(this.currentUrlTree, rawUrl);\n this.resetUrlToCurrentUrlTree();\n };\n Router.prototype.resetUrlToCurrentUrlTree = function () {\n this.location.replaceState(this.urlSerializer.serialize(this.rawUrlTree), '', { navigationId: this.lastSuccessfulId });\n };\n return Router;\n }());\n Router.decorators = [\n { type: core.Injectable }\n ];\n Router.ctorParameters = function () { return [\n { type: core.Type },\n { type: UrlSerializer },\n { type: ChildrenOutletContexts },\n { type: common.Location },\n { type: core.Injector },\n { type: core.NgModuleFactoryLoader },\n { type: core.Compiler },\n { type: undefined }\n ]; };\n function validateCommands(commands) {\n for (var i = 0; i < commands.length; i++) {\n var cmd = commands[i];\n if (cmd == null) {\n throw new Error('The requested path contains ' + cmd + ' segment at index ' + i);\n }\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @description\n *\n * When applied to an element in a template, makes that element a link\n * that initiates navigation to a

```
route. Navigation opens one or more routed components\n     * in one or more `<router-outlet>` locations on the page.\n     *\n     * Given a route configuration `[{ path: 'user/:name', component: UserCmp }]`,\n     * the following creates a static link to the route:\n     * `<a routerLink=\"/user/bob\">link to user component</a>`\n     *\n     * You can use dynamic values to generate the link.\n     * For a dynamic link, pass an array of path segments,\n     * followed by the params for each segment.\n
    * For example, `['/team', teamId, 'user', userName, {details: true}]`\n     * generates a link to `/team/11/user/bob;details=true`.\n     *\n     * Multiple static segments can be merged into one term and combined with dynamic segements.\n     * For example, `['/team/11/user', userName, {details: true}]`\n     *\n     * The input that you provide to the link is treated as a delta to the current URL.\n     * For instance, suppose the current URL is `/user/(box//aux:team)`.\n     * The link `<a [routerLink]=\"['/user/jim']\">Jim</a>` creates the URL\n     * `/user/(jim//aux:team)`.\n     * See {@link Router#createUrlTree createUrlTree} for more information.\n     *\n     * @usageNotes\n     *\n     * You can use absolute or relative paths in a link, set query parameters,\n     * control how parameters are handled, and keep a history of navigation states.\n     *\n     * ### Relative link paths\n     *\n     * The first segment name can be prepended with `/`, `./`, or `../`.\n
    * * If the first segment begins with `/`, the router looks up the route from the root of the\n     *   app.\n     * * If the first segment begins with `./`, or doesn't begin with a slash, the router\n     *   looks in the children of the current activated route.\n     * * If the first segment begins with `../`, the router goes up one level in the route tree.\n     *\n     * ### Setting and handling query params and fragments\n     *\n     * The following link adds a query parameter and a fragment to the generated URL:\n     *\n     * ```\n     * <a [routerLink]=\"['/user/bob']\" [queryParams]=\"{debug: true}\" fragment=\"education\">\n     *   link to user component\n     * </a>\n     * ```\n     * By default, the directive constructs the new URL using the given query parameters.\n     * The example generates the link: `/user/bob?debug=true#education`.\n     *\n     * You can instruct the directive to handle query parameters differently\n     * by specifying the `queryParamsHandling`
 option in the link.\n     * Allowed values are:\n     *\n     *  - `'merge'`: Merge the given `queryParams` into the current query params.\n     *  - `'preserve'`: Preserve the current query params.\n     *\n     * For example:\n     *\n     * ```\n     * <a [routerLink]=\"['/user/bob']\" [queryParams]=\"{debug: true}\" queryParamsHandling=\"merge\">\n     *   link to user component\n     * </a>\n     * ```\n     *\n     * See {@link UrlCreationOptions.queryParamsHandling UrlCreationOptions#queryParamsHandling}.\n     *\n     * ### Preserving navigation history\n     *\n     * You can provide a `state` value to be persisted to the browser's\n     * [`History.state` property](https://developer.mozilla.org/en-US/docs/Web/API/History#Properties).\n     * For example:\n     *\n     * ```\n     * <a [routerLink]=\"['/user/bob']\" [state]=\"{tracingId: 123}\">\n     *   link to user component\n     * </a>\n     * ```\n     *\n     * Use {@link Router.getCurrentNavigation() Router#getCurrentNavigation}
 to retrieve a saved\n     * navigation-state value. For example, to capture the `tracingId` during the `NavigationStart`\n     * event:\n     *\n     * ```\n     * // Get NavigationStart events\n     * router.events.pipe(filter(e => e instanceof NavigationStart)).subscribe(e => {\n     *   const navigation = router.getCurrentNavigation();\n     *   tracingService.trace({id: navigation.extras.state.tracingId});\n     * });\n     * ```\n     *\n     * @ngModule RouterModule\n     *\n     * @publicApi\n     */\n    var RouterLink = /** @class */ (function () {\n        function RouterLink(router, route, tabIndex, renderer, el) {\n            this.router = router;\n            this.route = route;\n            this.commands = [];\n            /** @internal */\n            this.onChanges = new rxjs.Subject();\n            if (tabIndex == null) {\n                renderer.setAttribute(el.nativeElement, 'tabindex', '0');\n            }\n        }\n        /** @nodoc */\n
 RouterLink.prototype.ngOnChanges = function (changes) {\n            // This is subscribed to by `RouterLinkActive` so that it knows to update when there are changes\n            // to the RouterLinks it's tracking.\n            this.onChanges.next(this);\n        };\n        Object.defineProperty(RouterLink.prototype, \"routerLink\", {\n            /**\n             * Commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n             *   - **array**: commands to pass to {@link Router#createUrlTree Router#createUrlTree}.\n             *   - **string**: shorthand for array of commands with just the string, i.e. `['/route']`\n             *   - **null|undefined**: shorthand for an empty array of commands, i.e. `[]`\n             * @see {@link Router#createUrlTree Router#createUrlTree}\n
```

```
 */\n            set: function (commands) {\n                if (commands != null) {\n                    this.commands =
Array.isArray(commands) ? commands : [commands];\n
            }\n                else {\n                    this.commands = [];\n                }\n            },\n            enumerable: false,\n
        configurable: true\n        });\n        /** @nodoc */\n        RouterLink.prototype.onClick = function () {\n
var extras = {\n                skipLocationChange: attrBoolValue(this.skipLocationChange),\n                replaceUrl:
attrBoolValue(this.replaceUrl),\n                state: this.state,\n            };\n
this.router.navigateByUrl(this.urlTree, extras);\n            return true;\n        };\n
Object.defineProperty(RouterLink.prototype, \"urlTree\", {\n            get: function () {\n                return
this.router.createUrlTree(this.commands, {\n                    relativeTo: this.route,\n                    queryParams:
this.queryParams,\n                    fragment: this.fragment,\n                    queryParamsHandling:
this.queryParamsHandling,\n                    preserveFragment:
 attrBoolValue(this.preserveFragment),\n                });\n            },\n            enumerable: false,\n            configurable:
true\n        });\n        return RouterLink;\n    }());\n    RouterLink.decorators = [\n        { type: core.Directive, args: [{
selector: ':not(a):not(area)[routerLink]' },] }\n    ];\n    RouterLink.ctorParameters = function () { return [\n        {
type: Router },\n        { type: ActivatedRoute },\n        { type: String, decorators: [{ type: core.Attribute, args:
['tabindex',] }] },\n        { type: core.Renderer2 },\n        { type: core.ElementRef }\n    ]; };\n
RouterLink.propDecorators = {\n        queryParams: [{ type: core.Input }],\n        fragment: [{ type: core.Input }],\n
    queryParamsHandling: [{ type: core.Input }],\n        preserveFragment: [{ type: core.Input }],\n
skipLocationChange: [{ type: core.Input }],\n        replaceUrl: [{ type: core.Input }],\n        state: [{ type: core.Input
}],\n        routerLink: [{
 type: core.Input }],\n        onClick: [{ type: core.HostListener, args: ['click',] }]\n    };\n    /**\n     * @description\n
 *\n     * Lets you link to specific routes in your app.\n     *\n     * See `RouterLink` for more information.\n     *\n
* @ngModule RouterModule\n     *\n     * @publicApi\n     */\n    var RouterLinkWithHref = /** @class */
(function () {\n        function RouterLinkWithHref(router, route, locationStrategy) {\n            var _this = this;\n
 this.router = router;\n            this.route = route;\n            this.locationStrategy = locationStrategy;\n
this.commands = [];\n            /** @internal */\n            this.onChanges = new rxjs.Subject();\n
this.subscription = router.events.subscribe(function (s) {\n                if (s instanceof NavigationEnd) {\n
_this.updateTargetUrlAndHref();\n                }\n            });\n        }\n
Object.defineProperty(RouterLinkWithHref.prototype,
 \"routerLink\", {\n            /**\n             * Commands to pass to {@link Router#createUrlTree
Router#createUrlTree}.\n             *   - **array**: commands to pass to {@link Router#createUrlTree
Router#createUrlTree}.\n             *   - **string**: shorthand for array of commands with just the string, i.e.
`['/route']`\n             *   - **null|undefined**: shorthand for an empty array of commands, i.e. `[]`\n             * @see
{@link Router#createUrlTree Router#createUrlTree}\n             */\n            set: function (commands) {\n                if
(commands != null) {\n                    this.commands = Array.isArray(commands) ? commands : [commands];\n
    }\n                else {\n                    this.commands = [];\n                }\n            },\n            enumerable: false,\n
configurable: true\n        });\n        /** @nodoc */\n        RouterLinkWithHref.prototype.ngOnChanges = function
(changes) {\n            this.updateTargetUrlAndHref();\n
            this.onChanges.next(this);\n        };\n        /** @nodoc */\n        RouterLinkWithHref.prototype.ngOnDestroy
= function () {\n            this.subscription.unsubscribe();\n        };\n        /** @nodoc */\n
RouterLinkWithHref.prototype.onClick = function (button, ctrlKey, shiftKey, altKey, metaKey) {\n            if (button
!== 0 || ctrlKey || shiftKey || altKey || metaKey) {\n                return true;\n            }\n            if (typeof this.target ===
'string' && this.target != '_self') {\n                return true;\n            }\n            var extras = {\n
skipLocationChange: attrBoolValue(this.skipLocationChange),\n                replaceUrl:
attrBoolValue(this.replaceUrl),\n                state: this.state\n            };\n
this.router.navigateByUrl(this.urlTree, extras);\n            return false;\n        };\n
RouterLinkWithHref.prototype.updateTargetUrlAndHref = function () {\n            this.href
```

```
= this.locationStrategy.prepareExternalUrl(this.router.serializeUrl(this.urlTree));\n        };\n
Object.defineProperty(RouterLinkWithHref.prototype, \"urlTree\", {\n            get: function () {\n                return
this.router.createUrlTree(this.commands, {\n                    relativeTo: this.route,\n                    queryParams:
this.queryParams,\n                    fragment: this.fragment,\n                    queryParamsHandling:
this.queryParamsHandling,\n                    preserveFragment: attrBoolValue(this.preserveFragment),\n                });\n
            },\n            enumerable: false,\n            configurable: true\n        });\n        return RouterLinkWithHref;\n
}());\n    RouterLinkWithHref.decorators = [\n        { type: core.Directive, args: [{ selector:
'a[routerLink],area[routerLink]' },] }\n    ];\n    RouterLinkWithHref.ctorParameters = function () { return [\n        {
type: Router },\n        { type: ActivatedRoute },\n        { type:
common.LocationStrategy }\n    ]; };\n    RouterLinkWithHref.propDecorators = {\n        target: [{ type:
core.HostBinding, args: ['attr.target',] }, { type: core.Input }],\n        queryParams: [{ type: core.Input }],\n
fragment: [{ type: core.Input }],\n        queryParamsHandling: [{ type: core.Input }],\n        preserveFragment: [{
type: core.Input }],\n        skipLocationChange: [{ type: core.Input }],\n        replaceUrl: [{ type: core.Input }],\n
state: [{ type: core.Input }],\n        href: [{ type: core.HostBinding }],\n        routerLink: [{ type: core.Input }],\n
onClick: [{ type: core.HostListener, args: ['click',\n                    ['$event.button', '$event.ctrlKey', '$event.shiftKey',
'$event.altKey', '$event.metaKey'],] }]\n    };\n    function attrBoolValue(s) {\n        return s === '' || !!s;\n    }\n\n
/**\n     *\n     * @description\n     *\n     * Tracks whether the linked route of an element is currently active, and
allows you\n
 * to specify one or more CSS classes to add to the element when the linked route\n     * is active.\n     *\n     * Use
this directive to create a visual distinction for elements associated with an active route.\n     * For example, the
following code highlights the word \"Bob\" when the the router\n     * activates the associated route:\n     *\n     *
```\n     * <a routerLink=\"/user/bob\" routerLinkActive=\"active-link\">Bob</a>\n     * ```\n     *\n     * Whenever
the URL is either '/user' or '/user/bob', the \"active-link\" class is\n     * added to the anchor tag. If the URL changes,
the class is removed.\n     *\n     * You can set more than one class using a space-separated string or an array.\n     *
For example:\n     *\n     * ```\n     * <a routerLink=\"/user/bob\" routerLinkActive=\"class1 class2\">Bob</a>\n     *
<a routerLink=\"/user/bob\" [routerLinkActive]=\"['class1', 'class2']\">Bob</a>\n     * ```\n     *\n     * To add the
classes only when the URL matches the link
 exactly, add the option `exact: true`:\n     *\n     * ```\n     * <a routerLink=\"/user/bob\" routerLinkActive=\"active-
link\" [routerLinkActiveOptions]=\"{exact:\n     * true}\">Bob</a>\n     * ```\n     *\n     * To directly check the
`isActive` status of the link, assign the `RouterLinkActive`\n     * instance to a template variable.\n     * For example,
the following checks the status without assigning any CSS classes:\n     *\n     * ```\n     * <a
routerLink=\"/user/bob\" routerLinkActive #rla=\"routerLinkActive\">\n     *   Bob {{ rla.isActive ? '(already open)'
: ''}}\n     * </a>\n     * ```\n     *\n     * You can apply the `RouterLinkActive` directive to an ancestor of linked
elements.\n     * For example, the following sets the active-link class on the `<div>` parent tag\n     * when the URL
is either '/user/jim' or '/user/bob'.\n     *\n     * ```\n     * <div routerLinkActive=\"active-link\"
[routerLinkActiveOptions]=\"{exact: true}\">\n     *   <a routerLink=\"/user/jim\">Jim</a>\n
*   <a routerLink=\"/user/bob\">Bob</a>\n     * </div>\n     * ```\n     *\n     * @ngModule RouterModule\n     *\n
 * @publicApi\n     */\n    var RouterLinkActive = /** @class */ (function () {\n        function
RouterLinkActive(router, element, renderer, cdr, link, linkWithHref) {\n            var _this = this;\n            this.router
= router;\n            this.element = element;\n            this.renderer = renderer;\n            this.cdr = cdr;\n            this.link
= link;\n            this.linkWithHref = linkWithHref;\n            this.classes = [];\n            this.isActive = false;\n
this.routerLinkActiveOptions = { exact: false };\n            this.routerEventsSubscription =
router.events.subscribe(function (s) {\n                if (s instanceof NavigationEnd) {\n                    _this.update();\n
            }\n            });\n        }\n        /** @nodoc */\n        RouterLinkActive.prototype.ngAfterContentInit = function
() {\n
            var _this = this;\n            // `of(null)` is used to force subscribe body to execute once immediately (like
`startWith`).\n            rxjs.from([this.links.changes, this.linksWithHrefs.changes, rxjs.of(null)])\n
.pipe(operators.mergeAll())\n                .subscribe(function (_) {\n                _this.update();\n
```
```

```
_this.subscribeToEachLinkOnChanges();\n            });\n        };\n
RouterLinkActive.prototype.subscribeToEachLinkOnChanges = function () {\n            var _this = this;\n            var
_a;\n            (_a = this.linkInputChangesSubscription) === null || _a === void 0 ? void 0 : _a.unsubscribe();\n
var allLinkChanges = __spread(this.links.toArray(), this.linksWithHrefs.toArray(), [this.link,
this.linkWithHref]).filter(function (link) { return !!link; })\n                .map(function (link) { return link.onChanges;
});\n            this.linkInputChangesSubscription =
rxjs.from(allLinkChanges).pipe(operators.mergeAll()).subscribe(function
 (link) {\n                if (_this.isActive !== _this.isLinkActive(_this.router)(link)) {\n                    _this.update();\n
      }\n            });\n        };\n        Object.defineProperty(RouterLinkActive.prototype, \"routerLinkActive\", {\n
 set: function (data) {\n                var classes = Array.isArray(data) ? data : data.split(' ');\n                this.classes =
classes.filter(function (c) { return !!c; });\n            },\n            enumerable: false,\n            configurable: true\n
});\n        /** @nodoc */\n        RouterLinkActive.prototype.ngOnChanges = function (changes) {\n
this.update();\n        };\n        /** @nodoc */\n        RouterLinkActive.prototype.ngOnDestroy = function () {\n
var _a;\n            this.routerEventsSubscription.unsubscribe();\n            (_a = this.linkInputChangesSubscription) ===
null || _a === void 0 ? void 0 : _a.unsubscribe();\n        };\n
      RouterLinkActive.prototype.update = function () {\n            var _this = this;\n            if (!this.links ||
!this.linksWithHrefs || !this.router.navigated)\n                return;\n            Promise.resolve().then(function () {\n
    var hasActiveLinks = _this.hasActiveLinks();\n                if (_this.isActive !== hasActiveLinks) {\n
_this.isActive = hasActiveLinks;\n                    _this.cdr.markForCheck();\n
_this.classes.forEach(function (c) {\n                        if (hasActiveLinks) {\n
_this.renderer.addClass(_this.element.nativeElement, c);\n                        }\n                        else {\n
_this.renderer.removeClass(_this.element.nativeElement, c);\n                        }\n                    });\n                }\n
 });\n        };\n        RouterLinkActive.prototype.isLinkActive = function (router) {\n            var _this = this;\n
            return function (link) { return router.isActive(link.urlTree, _this.routerLinkActiveOptions.exact); };\n
};\n        RouterLinkActive.prototype.hasActiveLinks = function () {\n            var isActiveCheckFn =
this.isLinkActive(this.router);\n            return this.link && isActiveCheckFn(this.link) ||\n
this.linkWithHref && isActiveCheckFn(this.linkWithHref) ||\n                this.links.some(isActiveCheckFn) ||
this.linksWithHrefs.some(isActiveCheckFn);\n        };\n        return RouterLinkActive;\n    }());\n
RouterLinkActive.decorators = [\n        { type: core.Directive, args: [{\n                    selector: '[routerLinkActive]',\n
            exportAs: 'routerLinkActive',\n                },] }\n    ];\n    RouterLinkActive.ctorParameters = function () {
return [\n        { type: Router },\n        { type: core.ElementRef },\n        { type: core.Renderer2 },\n        { type:
core.ChangeDetectorRef },\n        { type: RouterLink,
 decorators: [{ type: core.Optional }] },\n        { type: RouterLinkWithHref, decorators: [{ type: core.Optional }] }\n
 ]; };\n    RouterLinkActive.propDecorators = {\n        links: [{ type: core.ContentChildren, args: [RouterLink, {
descendants: true },] }],\n        linksWithHrefs: [{ type: core.ContentChildren, args: [RouterLinkWithHref, {
descendants: true },] }],\n        routerLinkActiveOptions: [{ type: core.Input }],\n        routerLinkActive: [{ type:
core.Input }]\n    };\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of
this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    /**\n     * @description\n     *\n     * Acts as a placeholder that Angular
dynamically fills based on the current router state.\n     *\n     * Each outlet can have a unique name, determined by
the optional `name` attribute.\n     * The name cannot be set or changed
 dynamically. If not set, default value is \"primary\".\n     *\n     * ```\n     * <router-outlet></router-outlet>\n     *
<router-outlet name='left'></router-outlet>\n     * <router-outlet name='right'></router-outlet>\n     * ```\n     *\n     *
Named outlets can be the targets of secondary routes.\n     * The `Route` object for a secondary route has an `outlet`
property to identify the target outlet:\n     *\n     * `{path: <base-path>, component: <component>, outlet:
<target_outlet_name>}`\n     *\n     * Using named outlets and secondary routes, you can target multiple outlets in\n
  * the same `RouterLink` directive.\n     *\n     * The router keeps track of separate branches in a navigation tree for
each named outlet and\n     * generates a representation of that tree in the URL.\n     * The URL for a secondary
```

route uses the following syntax to specify both the primary and secondary\n * routes at the same time:\n *\n * `http://base-path/primary-route-path(outlet-name:route-path)`\n *\n * A router outlet emits an activate event when a new component is instantiated,\n * and a deactivate event when a component is destroyed.\n *\n * ```\n * <router-outlet\n * (activate)='onActivate($event)'\n * (deactivate)='onDeactivate($event)'></router-outlet>\n * ```\n *\n * @see [Routing tutorial](guide/router-tutorial-toh#named-outlets \"Example of a named\n * outlet and secondary route configuration\").\n * @see `RouterLink`\n * @see `Route`\n * @ngModule RouterModule\n *\n * @publicApi\n */\n var RouterOutlet = /** @class */ (function () {\n function RouterOutlet(parentContexts, location, resolver, name, changeDetector) {\n this.parentContexts = parentContexts;\n this.location = location;\n this.resolver = resolver;\n this.changeDetector = changeDetector;\n this.activated = null;\n this._activatedRoute
= null;\n this.activateEvents = new core.EventEmitter();\n this.deactivateEvents = new core.EventEmitter();\n this.name = name || PRIMARY_OUTLET;\n parentContexts.onChildOutletCreated(this.name, this);\n }\n /** @nodoc */\n RouterOutlet.prototype.ngOnDestroy = function () {\n this.parentContexts.onChildOutletDestroyed(this.name);\n };\n /** @nodoc */\n RouterOutlet.prototype.ngOnInit = function () {\n if (!this.activated) {\n // If the outlet was not instantiated at the time the route got activated we need to populate\n // the outlet when it is initialized (ie inside a NgIf)\n var context = this.parentContexts.getContext(this.name);\n if (context && context.route) {\n if (context.attachRef) {\n // `attachRef` is populated when there is an existing component to mount\n this.attach(context.attachRef, context.route);\n }\n else {\n // otherwise the component defined in the configuration is created\n this.activateWith(context.route, context.resolver || null);\n }\n }\n };\n Object.defineProperty(RouterOutlet.prototype, \"isActivated\", {\n get: function () {\n return !!this.activated;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(RouterOutlet.prototype, \"component\", {\n get: function () {\n if (!this.activated)\n throw new Error('Outlet is not activated');\n return this.activated.instance;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(RouterOutlet.prototype,
\"activatedRoute\", {\n get: function () {\n if (!this.activated)\n throw new Error('Outlet is not activated');\n return this._activatedRoute;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(RouterOutlet.prototype, \"activatedRouteData\", {\n get: function () {\n if (this._activatedRoute) {\n return this._activatedRoute.snapshot.data;\n }\n return {};\n },\n enumerable: false,\n configurable: true\n });\n /**\n * Called when the `RouteReuseStrategy` instructs to detach the subtree\n */\n RouterOutlet.prototype.detach = function () {\n if (!this.activated)\n throw new Error('Outlet is not activated');\n this.location.detach();\n var cmp = this.activated;\n this.activated = null;\n this._activatedRoute = null;\n return cmp;\n };\n /**\n * Called when the `RouteReuseStrategy` instructs to re-attach a previously detached subtree\n */\n RouterOutlet.prototype.attach = function (ref, activatedRoute) {\n this.activated = ref;\n this._activatedRoute = activatedRoute;\n this.location.insert(ref.hostView);\n };\n RouterOutlet.prototype.deactivate = function () {\n if (this.activated) {\n var c = this.component;\n this.activated.destroy();\n this.activated = null;\n this._activatedRoute = null;\n this.deactivateEvents.emit(c);\n }\n };\n RouterOutlet.prototype.activateWith = function (activatedRoute, resolver) {\n if (this.isActivated) {\n throw new Error('Cannot activate an already activated outlet');\n

```
}\n        this._activatedRoute = activatedRoute;\n        var snapshot = activatedRoute._futureSnapshot;\n
    var component = snapshot.routeConfig.component;\n        resolver = resolver || this.resolver;\n        var
factory = resolver.resolveComponentFactory(component);\n        var childContexts =
this.parentContexts.getOrCreateContext(this.name).children;\n        var injector = new
OutletInjector(activatedRoute, childContexts, this.location.injector);\n        this.activated =
this.location.createComponent(factory, this.location.length, injector);\n        // Calling `markForCheck` to make
sure we will run the change detection when the\n        // `RouterOutlet` is inside a
`ChangeDetectionStrategy.OnPush` component.\n        this.changeDetector.markForCheck();\n
this.activateEvents.emit(this.activated.instance);\n    };\n    return RouterOutlet;\n}());\n
RouterOutlet.decorators = [\n    {
 type: core.Directive, args: [{ selector: 'router-outlet', exportAs: 'outlet' },] }\n];\n RouterOutlet.ctorParameters =
function () { return [\n    { type: ChildrenOutletContexts },\n    { type: core.ViewContainerRef },\n    { type:
core.ComponentFactoryResolver },\n    { type: String, decorators: [{ type: core.Attribute, args: ['name',] }] },\n
 { type: core.ChangeDetectorRef }\n]; };\n RouterOutlet.propDecorators = {\n    activateEvents: [{ type:
core.Output, args: ['activate',] }],\n    deactivateEvents: [{ type: core.Output, args: ['deactivate',] }]\n};\n var
OutletInjector = /** @class */ (function () {\n    function OutletInjector(route, childContexts, parent) {\n
this.route = route;\n        this.childContexts = childContexts;\n        this.parent = parent;\n    }\n
OutletInjector.prototype.get = function (token, notFoundValue) {\n        if (token === ActivatedRoute) {\n
 return
 this.route;\n        }\n        if (token === ChildrenOutletContexts) {\n            return this.childContexts;\n
}\n        return this.parent.get(token, notFoundValue);\n    };\n    return OutletInjector;\n}());\n\n /**\n
* @description\n *\n * Provides a preloading strategy.\n *\n * @publicApi\n */\n var
PreloadingStrategy = /** @class */ (function () {\n    function PreloadingStrategy() {\n    }\n    return
PreloadingStrategy;\n}());\n /**\n * @description\n *\n * Provides a preloading strategy that preloads all
modules as quickly as possible.\n *\n * ```\n * RouterModule.forRoot(ROUTES, {preloadingStrategy:
PreloadAllModules})\n * ```\n *\n * @publicApi\n */\n var PreloadAllModules = /** @class */
(function () {\n    function PreloadAllModules() {\n    }\n    PreloadAllModules.prototype.preload = function
(route, fn) {\n        return
 fn().pipe(operators.catchError(function () { return rxjs.of(null); }));\n    };\n    return PreloadAllModules;\n
}());\n /**\n * @description\n *\n * Provides a preloading strategy that does not preload any modules.\n
*\n * This strategy is enabled by default.\n *\n * @publicApi\n */\n var NoPreloading = /** @class */
(function () {\n    function NoPreloading() {\n    }\n    NoPreloading.prototype.preload = function (route, fn)
{\n        return rxjs.of(null);\n    };\n    return NoPreloading;\n}());\n /**\n * The preloader
optimistically loads all router configurations to\n * make navigations into lazily-loaded sections of the application
faster.\n *\n * The preloader runs in the background. When the router bootstraps, the preloader\n * starts
listening to all navigation events. After every such event, the preloader\n * will check if any configurations can be
loaded lazily.\n
 *\n * If a route is protected by `canLoad` guards, the preloaded will not load it.\n *\n * @publicApi\n */\n
 var RouterPreloader = /** @class */ (function () {\n    function RouterPreloader(router, moduleLoader,
compiler, injector, preloadingStrategy) {\n        this.router = router;\n        this.injector = injector;\n
this.preloadingStrategy = preloadingStrategy;\n        var onStartLoad = function (r) { return
router.triggerEvent(new RouteConfigLoadStart(r)); };\n        var onEndLoad = function (r) { return
router.triggerEvent(new RouteConfigLoadEnd(r)); };\n        this.loader = new
RouterConfigLoader(moduleLoader, compiler, onStartLoad, onEndLoad);\n    }\n
RouterPreloader.prototype.setUpPreloading = function () {\n        var _this = this;\n        this.subscription =\n
    this.router.events\n            .pipe(operators.filter(function (e) { return e instanceof NavigationEnd; }),
operators.concatMap(function
```

() { return _this.preload(); }))\n .subscribe(function () { });\n };\n RouterPreloader.prototype.preload = function () {\n var ngModule = this.injector.get(core.NgModuleRef);\n return this.processRoutes(ngModule, this.router.config);\n };\n /** @nodoc */\n RouterPreloader.prototype.ngOnDestroy = function () {\n if (this.subscription) {\n this.subscription.unsubscribe();\n }\n };\n RouterPreloader.prototype.processRoutes = function (ngModule, routes) {\n var e_1, _a;\n var res = [];\n try {\n for (var routes_1 = __values(routes), routes_1_1 = routes_1.next(); !routes_1_1.done; routes_1_1 = routes_1.next()) {\n var route = routes_1_1.value;\n // we already have the config loaded, just recurse\n if (route.loadChildren && !route.canLoad && route._loadedConfig) {\n var childConfig = route._loadedConfig;\n res.push(this.processRoutes(childConfig.module, childConfig.routes));\n // no config loaded, fetch the config\n }\n else if (route.loadChildren && !route.canLoad) {\n res.push(this.preloadConfig(ngModule, route));\n // recurse into children\n }\n else if (route.children) {\n res.push(this.processRoutes(ngModule, route.children));\n }\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (routes_1_1 && !routes_1_1.done && (_a = routes_1.return)) _a.call(routes_1);\n }\n finally { if (e_1) throw e_1.error; }\n }\n return rxjs.from(res).pipe(operators.mergeAll(), operators.map(function (_) { return void 0; }));\n };\n RouterPreloader.prototype.preloadConfig = function (ngModule, route) {\n var _this = this;\n return this.preloadingStrategy.preload(route, function () {\n var loaded$ = _this.loader.load(ngModule.injector, route);\n return loaded$.pipe(operators.mergeMap(function (config) {\n route._loadedConfig = config;\n return _this.processRoutes(config.module, config.routes);\n }));\n });\n };\n return RouterPreloader;\n }());\n RouterPreloader.decorators = [\n { type: core.Injectable }\n ];\n RouterPreloader.ctorParameters = function () { return [\n { type: Router },\n { type: core.NgModuleFactoryLoader },\n { type: core.Compiler },\n { type: core.Injector },\n { type: PreloadingStrategy }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var RouterScroller = /** @class */ (function () {\n function RouterScroller(router, \n /** @docsNotRequired */ viewportScroller, options) {\n if (options === void 0) { options = {}; }\n this.router = router;\n this.viewportScroller = viewportScroller;\n this.options = options;\n this.lastId = 0;\n this.lastSource = 'imperative';\n this.restoredId = 0;\n this.store = {};\n // Default both options to 'disabled'\n options.scrollPositionRestoration = options.scrollPositionRestoration || 'disabled';\n options.anchorScrolling = options.anchorScrolling || 'disabled';\n }\n RouterScroller.prototype.init = function () {\n // we want to disable the automatic scrolling because having two places\n // responsible for scrolling results race conditions, especially given\n // that browser don't implement this behavior consistently\n if (this.options.scrollPositionRestoration !== 'disabled') {\n this.viewportScroller.setHistoryScrollRestoration('manual');\n }\n this.routerEventsSubscription = this.createScrollEvents();\n this.scrollEventsSubscription = this.consumeScrollEvents();\n };\n RouterScroller.prototype.createScrollEvents = function () {\n var _this = this;\n return this.router.events.subscribe(function (e) {\n if (e instanceof NavigationStart) {\n // store the scroll position of the current stable navigations.\n _this.store[_this.lastId] = _this.viewportScroller.getScrollPosition();\n _this.lastSource = e.navigationTrigger;\n _this.restoredId = e.restoredState ? e.restoredState.navigationId : 0;\n }\n else if (e instanceof NavigationEnd) {\n _this.lastId = e.id;\n _this.scheduleScrollEvent(e, _this.router.parseUrl(e.urlAfterRedirects).fragment);\n }\n });\n };\n RouterScroller.prototype.consumeScrollEvents = function () {\n var _this = this;\n return

this.router.events.subscribe(function (e) {\n if (!(e instanceof Scroll))\n return;\n // a popstate event. The pop state event will always ignore anchor scrolling.\n if (e.position) {\n if (_this.options.scrollPositionRestoration === 'top') {\n _this.viewportScroller.scrollToPosition([0, 0]);\n }\n else if (_this.options.scrollPositionRestoration === 'enabled') {\n _this.viewportScroller.scrollToPosition(e.position);\n }\n // imperative navigation \"forward\"\n }\n else {\n if (e.anchor && _this.options.anchorScrolling === 'enabled') {\n _this.viewportScroller.scrollToAnchor(e.anchor);\n }\n else if (_this.options.scrollPositionRestoration !== 'disabled') {\n _this.viewportScroller.scrollToPosition([0, 0]);\n }\n }\n });\n };\n RouterScroller.prototype.scheduleScrollEvent = function (routerEvent, anchor) {\n this.router.triggerEvent(new Scroll(routerEvent, this.lastSource === 'popstate' ? this.store[this.restoredId] : null, anchor));\n };\n /** @nodoc */\n RouterScroller.prototype.ngOnDestroy = function () {\n if (this.routerEventsSubscription) {\n this.routerEventsSubscription.unsubscribe();\n }\n if (this.scrollEventsSubscription) {\n this.scrollEventsSubscription.unsubscribe();\n }\n };\n return RouterScroller;\n }());\n RouterScroller.decorators = [\n { type: core.Injectable }\n ];\n RouterScroller.ctorParameters = function () { return [\n { type: Router },\n { type: common.ViewportScroller },\n { type: undefined }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * The directives defined in the `RouterModule`.\n */\n var ROUTER_DIRECTIVES = [RouterOutlet, RouterLink, RouterLinkWithHref, RouterLinkActive, EmptyOutletComponent];\n /**\n * A [DI token](guide/glossary/#di-token) for the router service.\n *\n * @publicApi\n */\n var ROUTER_CONFIGURATION = new core.InjectionToken('ROUTER_CONFIGURATION');\n /**\n * @docsNotRequired\n */\n var ROUTER_FORROOT_GUARD = new core.InjectionToken('ROUTER_FORROOT_GUARD');\n var 0 = { enableTracing: false };\n var ROUTER_PROVIDERS = [\n common.Location,\n { provide: UrlSerializer, useClass: DefaultUrlSerializer },\n {\n provide: Router,\n useFactory: setupRouter,\n deps: [\n UrlSerializer, ChildrenOutletContexts, common.Location, core.Injector, core.NgModuleFactoryLoader, core.Compiler,\n ROUTES, ROUTER_CONFIGURATION, [UrlHandlingStrategy, new core.Optional()],\n [RouteReuseStrategy, new core.Optional()]\n ]\n },\n ChildrenOutletContexts,\n { provide: ActivatedRoute, useFactory: rootRoute, deps: [Router] },\n { provide: core.NgModuleFactoryLoader, useClass: core.SystemJsNgModuleLoader },\n RouterPreloader,\n NoPreloading,\n PreloadAllModules,\n { provide: ROUTER_CONFIGURATION, useValue: 0 },\n ];\n function routerNgProbeToken() {\n return new core.NgProbeToken('Router', Router);\n }\n /**\n * @description\n *\n * Adds directives and providers for in-app navigation among views defined in an application.\n * Use the Angular `Router` service to declaratively specify application states and manage state\n * transitions.\n *\n * You can import this NgModule multiple times, once for each lazy-loaded bundle.\n * However, only one `Router` service can be active.\n * To ensure this, there are two ways to register routes when importing this module:\n *\n * * The `forRoot()` method creates an `NgModule` that contains all the directives, the given\n * routes, and the `Router` service itself.\n * * The `forChild()` method creates an `NgModule` that contains all the directives and the given\n * routes, but does not include the `Router` service.\n *\n * @see [Routing and Navigation guide](guide/router) for an\n * overview of how the `Router` service should be used.\n *\n * @publicApi\n */\n var RouterModule = /** @class */ (function () {\n // Note: We are injecting the Router so it gets created eagerly...\n function RouterModule(guard, router) {\n }\n /**\n * Creates and configures a module with all the router providers and directives.\n * Optionally sets up an application listener to perform an initial navigation.\n *\n * When registering the NgModule at the root, import as follows:\n *\n * ```\n * @NgModule({\n * imports: [RouterModule.forRoot(ROUTES)]\n * })\n *

```
class MyNgModule {}\n * ```\n *\n * @param routes An array of `Route` objects that define the navigation paths for the
 application.\n * @param config An `ExtraOptions` configuration object that controls how navigation is performed.\n * @return The new `NgModule`.\n *\n */\n RouterModule.forRoot = function (routes, config) {\n return {\n ngModule: RouterModule,\n providers: [\n ROUTER_PROVIDERS,\n provideRoutes(routes),\n {\n provide: ROUTER_FORROOT_GUARD,\n useFactory: provideForRootGuard,\n deps: [[Router, new core.Optional(), new core.SkipSelf()]]\n },\n { provide: ROUTER_CONFIGURATION, useValue: config ? config : {} },\n {\n provide: common.LocationStrategy,\n useFactory: provideLocationStrategy,\n deps: [common.PlatformLocation, [new core.Inject(common.APP_BASE_HREF), new
 core.Optional()], ROUTER_CONFIGURATION]\n },\n {\n provide: RouterScroller,\n useFactory: createRouterScroller,\n deps: [Router, common.ViewportScroller, ROUTER_CONFIGURATION]\n },\n {\n provide: PreloadingStrategy,\n useExisting: config && config.preloadingStrategy ? config.preloadingStrategy :\n NoPreloading\n },\n { provide: core.NgProbeToken, multi: true, useFactory: routerNgProbeToken },\n provideRouterInitializer(),\n ],\n };\n };\n /**\n * Creates a module with all the router directives and a provider registering routes,\n * without creating a new Router service.\n * When registering for submodules and lazy-loaded submodules, create the NgModule
 as follows:\n *\n * ```\n * @NgModule({\n * imports: [RouterModule.forChild(ROUTES)]\n * })\n * class MyNgModule {}\n * ```\n *\n * @param routes An array of `Route` objects that define the navigation paths for the submodule.\n * @return The new NgModule.\n *\n */\n RouterModule.forChild = function (routes) {\n return { ngModule: RouterModule, providers: [provideRoutes(routes)] };\n };\n return RouterModule;\n }());\n RouterModule.decorators = [\n { type: core.NgModule, args: [{\n declarations: ROUTER_DIRECTIVES,\n exports: ROUTER_DIRECTIVES,\n entryComponents: [EmptyOutletComponent]\n },] }\n ];\n RouterModule.ctorParameters = function () { return [\n { type: undefined, decorators: [{ type: core.Optional }, { type: core.Inject, args: [ROUTER_FORROOT_GUARD,] }]
 },\n { type: Router, decorators: [{ type: core.Optional }] }\n ]; };\n function createRouterScroller(router, viewportScroller, config) {\n if (config.scrollOffset) {\n viewportScroller.setOffset(config.scrollOffset);\n }\n return new RouterScroller(router, viewportScroller, config);\n }\n function provideLocationStrategy(platformLocationStrategy, baseHref, options) {\n if (options === void 0) { options = {}; }\n return options.useHash ? new common.HashLocationStrategy(platformLocationStrategy, baseHref) :\n new common.PathLocationStrategy(platformLocationStrategy, baseHref);\n }\n function provideForRootGuard(router) {\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && router) {\n throw new Error(\"RouterModule.forRoot() called twice. Lazy loaded modules should use RouterModule.forChild() instead.\");\n }\n return 'guarded';\n }\n /**\n * Registers a [DI provider](guide/glossary#provider) for a set of routes.\n * @param routes The route configuration to provide.\n *\n * @usageNotes\n *\n * ```\n * @NgModule({\n * imports: [RouterModule.forChild(ROUTES)],\n * providers: [provideRoutes(EXTRA_ROUTES)]\n * })\n * class MyNgModule {}\n * ```\n *\n * @publicApi\n */\n function provideRoutes(routes) {\n return [\n { provide: core.ANALYZE_FOR_ENTRY_COMPONENTS, multi: true, useValue: routes },\n { provide: ROUTES, multi: true, useValue: routes },\n ];\n }\n function setupRouter(urlSerializer, contexts, location, injector, loader, compiler, config, opts, urlHandlingStrategy, routeReuseStrategy) {\n if (opts === void 0) { opts = {}; }\n var router = new Router(null, urlSerializer, contexts, location, injector, loader, compiler, flatten(config));\n if (urlHandlingStrategy) {\n router.urlHandlingStrategy = urlHandlingStrategy;\n
```

```
}\n    if (routeReuseStrategy) {\n        router.routeReuseStrategy = routeReuseStrategy;\n    }\n
assignExtraOptionsToRouter(opts, router);\n    if (opts.enableTracing) {\n        var dom_1 =
common.getDOM();\n        router.events.subscribe(function (e) {\n            dom_1.logGroup(\"Router Event: \"
+ e.constructor.name);\n            dom_1.log(e.toString());\n            dom_1.log(e);\n
dom_1.logGroupEnd();\n        });\n    }\n    return router;\n}\n function
assignExtraOptionsToRouter(opts, router) {\n    if (opts.errorHandler) {\n        router.errorHandler =
opts.errorHandler;\n    }\n    if (opts.malformedUriErrorHandler) {\n        router.malformedUriErrorHandler
= opts.malformedUriErrorHandler;\n    }\n    if (opts.onSameUrlNavigation) {\n
router.onSameUrlNavigation = opts.onSameUrlNavigation;\n    }\n    if (opts.paramsInheritanceStrategy)
{\n        router.paramsInheritanceStrategy = opts.paramsInheritanceStrategy;\n    }\n    if
(opts.relativeLinkResolution) {\n        router.relativeLinkResolution = opts.relativeLinkResolution;\n    }\n
if (opts.urlUpdateStrategy) {\n        router.urlUpdateStrategy = opts.urlUpdateStrategy;\n    }\n}\n function
rootRoute(router) {\n    return router.routerState.root;\n}\n/**\n * Router initialization requires two
steps:\n *\n * First, we start the navigation in a `APP_INITIALIZER` to block the bootstrap if\n * a resolver
or a guard executes asynchronously.\n *\n * Next, we actually run activation in a `BOOTSTRAP_LISTENER`,
using the\n * `afterPreactivation` hook provided by the router.\n * The router navigation starts, reaches the
point when preactivation is done, and then\n * pauses. It waits for the hook to be resolved. We then resolve it only
in a bootstrap listener.\n */\n
var RouterInitializer = /** @class */ (function () {\n    function RouterInitializer(injector) {\n        this.injector
= injector;\n        this.initNavigation = false;\n        this.resultOfPreactivationDone = new rxjs.Subject();\n
}\n    RouterInitializer.prototype.appInitializer = function () {\n        var _this = this;\n        var p =
this.injector.get(common.LOCATION_INITIALIZED, Promise.resolve(null));\n        return p.then(function () {\n
            var resolve = null;\n            var res = new Promise(function (r) { return resolve = r; });\n            var
router = _this.injector.get(Router);\n            var opts = _this.injector.get(ROUTER_CONFIGURATION);\n
if (opts.initialNavigation === 'disabled') {\n                router.setUpLocationChangeListener();\n
resolve(true);\n            }\n            else if (\n            // TODO: enabled is deprecated as of v11, can
be removed in v13\n            opts.initialNavigation === 'enabled' || opts.initialNavigation === 'enabledBlocking')
{\n                router.hooks.afterPreactivation = function () {\n                    // only the initial navigation should be
delayed\n                    if (!_this.initNavigation) {\n                        _this.initNavigation = true;\n
resolve(true);\n                        return _this.resultOfPreactivationDone;\n                    // subsequent
navigations should not be delayed\n                    }\n                    else {\n                        return rxjs.of(null);\n
                }\n                };\n                router.initialNavigation();\n            }\n            else {\n
resolve(true);\n            }\n            return res;\n        });\n    };\n
RouterInitializer.prototype.bootstrapListener = function
(bootstrappedComponentRef) {\n        var opts = this.injector.get(ROUTER_CONFIGURATION);\n        var
preloader = this.injector.get(RouterPreloader);\n        var routerScroller = this.injector.get(RouterScroller);\n
var router = this.injector.get(Router);\n        var ref = this.injector.get(core.ApplicationRef);\n        if
(bootstrappedComponentRef !== ref.components[0]) {\n            return;\n        }\n        // Default case\n
if (opts.initialNavigation === 'enabledNonBlocking' || opts.initialNavigation === undefined) {\n
router.initialNavigation();\n        }\n        preloader.setUpPreloading();\n        routerScroller.init();\n
router.resetRootComponentType(ref.componentTypes[0]);\n        this.resultOfPreactivationDone.next(null);\n
this.resultOfPreactivationDone.complete();\n    };\n    return RouterInitializer;\n}());\n
RouterInitializer.decorators =
[\n    { type: core.Injectable }\n];\n RouterInitializer.ctorParameters = function () { return [\n    { type:
core.Injector }\n]; };\n function getAppInitializer(r) {\n    return r.appInitializer.bind(r);\n}\n function
getBootstrapListener(r) {\n    return r.bootstrapListener.bind(r);\n}\n/**\n * A [DI
token](guide/glossary/#di-token) for the router initializer that\n * is called after the app is bootstrapped.\n *\n
* @publicApi\n */\n var ROUTER_INITIALIZER = new core.InjectionToken('Router Initializer');\n function
```

provideRouterInitializer() {\n return [\n RouterInitializer,\n {\n provide: core.APP_INITIALIZER,\n multi: true,\n useFactory: getAppInitializer,\n deps: [RouterInitializer]\n },\n { provide: ROUTER_INITIALIZER, useFactory: getBootstrapListener, deps: [RouterInitializer] },\n { provide: core.APP_BOOTSTRAP_LISTENER, multi: true, useExisting: ROUTER_INITIALIZER },\n ];\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @publicApi\n */\n var VERSION = new core.Version('11.0.5');\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // This file only reexports content of the `src` folder. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.ActivatedRoute = ActivatedRoute;\n exports.ActivatedRouteSnapshot = ActivatedRouteSnapshot;\n exports.ActivationEnd = ActivationEnd;\n exports.ActivationStart = ActivationStart;\n exports.BaseRouteReuseStrategy = BaseRouteReuseStrategy;\n exports.ChildActivationEnd = ChildActivationEnd;\n exports.ChildActivationStart = ChildActivationStart;\n exports.ChildrenOutletContexts = ChildrenOutletContexts;\n exports.DefaultUrlSerializer = DefaultUrlSerializer;\n exports.GuardsCheckEnd = GuardsCheckEnd;\n exports.GuardsCheckStart = GuardsCheckStart;\n exports.NavigationCancel = NavigationCancel;\n exports.NavigationEnd = NavigationEnd;\n exports.NavigationError = NavigationError;\n exports.NavigationStart = NavigationStart;\n exports.NoPreloading = NoPreloading;\n exports.OutletContext = OutletContext;\n exports.PRIMARY_OUTLET = PRIMARY_OUTLET;\n exports.PreloadAllModules = PreloadAllModules;\n exports.PreloadingStrategy = PreloadingStrategy;\n exports.ROUTER_CONFIGURATION = ROUTER_CONFIGURATION;\n exports.ROUTER_INITIALIZER = ROUTER_INITIALIZER;\n exports.ROUTES = ROUTES;\n exports.ResolveEnd = ResolveEnd;\n exports.ResolveStart = ResolveStart;\n exports.RouteConfigLoadEnd = RouteConfigLoadEnd;\n exports.RouteConfigLoadStart = RouteConfigLoadStart;\n exports.RouteReuseStrategy = RouteReuseStrategy;\n exports.Router = Router;\n exports.RouterEvent = RouterEvent;\n exports.RouterLink = RouterLink;\n exports.RouterLinkActive = RouterLinkActive;\n exports.RouterLinkWithHref = RouterLinkWithHref;\n exports.RouterModule = RouterModule;\n exports.RouterOutlet = RouterOutlet;\n exports.RouterPreloader = RouterPreloader;\n exports.RouterState = RouterState;\n exports.RouterStateSnapshot = RouterStateSnapshot;\n exports.RoutesRecognized = RoutesRecognized;\n exports.Scroll = Scroll;\n exports.UrlHandlingStrategy = UrlHandlingStrategy;\n exports.UrlSegment = UrlSegment;\n exports.UrlSegmentGroup = UrlSegmentGroup;\n exports.UrlSerializer = UrlSerializer;\n exports.UrlTree = UrlTree;\n exports.VERSION = VERSION;\n exports.convertToParamMap = convertToParamMap;\n exports.provideRoutes = provideRoutes;\n exports.EmptyOutletComponent = EmptyOutletComponent;\n exports.ROUTER_PROVIDERS = ROUTER_PROVIDERS;\n exports.angular_packages_router_router_a = ROUTER_FORROOT_GUARD;\n exports.angular_packages_router_router_b = routerNgProbeToken;\n exports.angular_packages_router_router_c = createRouterScroller;\n exports.angular_packages_router_router_d = provideLocationStrategy;\n exports.angular_packages_router_router_e = provideForRootGuard;\n exports.angular_packages_router_router_f

= setupRouter;\n    exports.angular_packages_router_router_g = rootRoute;\n
exports.angular_packages_router_router_h = RouterInitializer;\n    exports.angular_packages_router_router_i =
getAppInitializer;\n    exports.angular_packages_router_router_j = getBootstrapListener;\n
exports.angular_packages_router_router_k = provideRouterInitializer;\n
exports.angular_packages_router_router_l = EmptyOutletComponent;\n
exports.angular_packages_router_router_m = Tree;\n    exports.angular_packages_router_router_n = TreeNode;\n
exports.angular_packages_router_router_o = RouterScroller;\n    exports.assignExtraOptionsToRouter =
assignExtraOptionsToRouter;\n    exports.flatten
 = flatten;\n\n    Object.defineProperty(exports, '__esModule', { value: true });\n\n})));\n//#
sourceMappingURL=router.umd.js.map\n"]}

Found in path(s):
* /router-11-0-5-tgz/package/bundles/router.umd.min.js.map

# 1.432 angular-common 11.0.5

## 1.432.1 Available under license :

No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/common/common.umd.js"],"names":["global","factory","exports","module","req
uire","define","amd","self","ng","common","core","this","i0","_DOM","getDOM","DomAdapter","extendStatics","
d","b","Object","setPrototypeOf","__proto__","Array","p","hasOwnProperty","__extends","__","constructor","proto
type","create","__values","o","s","Symbol","iterator","m","i","call","length","next","value","done","TypeError","__
read","n","r","e","ar","push","error","PlatformLocation","DOCUMENT","InjectionToken","useBrowserPlatformLo
cation","inject","BrowserPlatformLocation","prov","defineInjectable","token","providedIn","decorators","type","Inj
ectable","args","useFactory","LocationStrategy","LOCATION_INITIALIZED","_super","_doc","_this","_init","loc
ation","getLocation","_history","getHistory","getBaseHrefFromDOM","getBaseHref","onPopState","fn","getGlobal
EventTarget","addEventListener","onHashChange","defineProperty","get","href","enumerable","configurable","prot
ocol","hostname","port","pathname","set","newPath","search","hash","pushState","state","title","url","supportsState
","replaceState","forward","back","getState","window","history","createBrowserPlatformLocation","joinWithSlash"
,"start","end","slashes","endsWith","startsWith","substring","stripTrailingSlash","match","pathEndIdx","index","sli
ce","normalizeQueryParams","params","provideLocationStrategy","platformLocation","PathLocationStrategy","ori
gin","ctorParameters","undefined","Inject","APP_BASE_HREF","_platformLocation","Error","_baseHref","prepare
ExternalUrl","internal","path","includeHash","queryParams","externalUrl","String","Optional","HashLocationStrate
gy","Location","platformStrategy","_subject","EventEmitter","_urlChangeListeners","_platformStrategy","browser
BaseHref","_stripIndexHtml","ev","emit","pop","normalize","isCurrentPathEqualTo","query","_stripBaseHref","ba
seHref","go","_notifyUrlChangeListeners","onUrlChange","_urlChangeSubscription","subscribe","v","forEach","on
Next","onThrow","onReturn","complete","createLocation","replace","NumberFormatStyle","Plural","FormStyle","
TranslationWidth","FormatWidth","NumberSymbol","WeekDay","CURRENCIES_EN","ADP","AFN","ALL","A
MD","AOA","ARS","AUD","BAM","BBD","BDT","BHD","BIF","BMD","BND","BOB","BRL","BSD","BWP","
BYN","BYR","BZD","CAD","CHF","CLF","CLP","CNY","COP","CRC","CUC","CUP","CZK","DJF","DKK","D
OP","EGP","ESP","EUR","FJD","FKP","GBP","GEL","GIP","GNF","GTQ","GYD","HKD","HNL","HRK","HUF
","IDR","ILS","INR","IQD","IRR","ISK","ITL","JMD","JOD","JPY","KHR","KMF","KPW","KRW","KWD","KY
D","KZT","LAK","LBP","LKR","LRD","LTL","LUF","LVL","LYD","MGA","MGF","MMK","MNT","MRO","M
UR","MXN","MYR","NAD","NGN","NIO","NOK","NPR","NZD","OMR","PHP","PKR","PLN","PYG","RON","
RSD","RUB","RUR","RWF","SBD","SEK","SGD","SHP","SLL","SOS","SRD","SSP","STD","STN","SYP","THB
","TMM","TND","TOP","TRL","TRY","TTD","TWD","TZS","UAH","UGX","USD","UYI","UYU","UYW","UZS

","VEF","VND","VUV","XAF","XCD","XOF","XPF","XXX","YER","ZAR","ZMK","ZMW","ZWD","getLocaleId","locale","findLocaleData","LocaleDataIndex","LocaleId","getLocaleDayPeriods","formStyle","width","data","amPm","getLastDefinedValue","DayPeriodsFormat","DayPeriodsStandalone","getLocaleDayNames","days","DaysFormat","DaysStandalone","getLocaleMonthNames","months","MonthsFormat","MonthsStandalone","getLocaleEraNames","Eras","getLocaleDateFormat","DateFormat","getLocaleTimeFormat","TimeFormat","getLocaleDateTimeFormat","DateTimeFormat","getLocaleNumberSymbol","symbol","res","NumberSymbols","CurrencyDecimal","Decimal","CurrencyGroup","Group","getLocaleNumberFormat","NumberFormats","getLocalePluralCase","getLocalePluralCase","checkFullData","ExtraData","getLocaleExtraDayPeriodRules","map","rule","extractTime","getLocaleExtraDayPeriods","dayPeriods","time","_a","split","hours","minutes","getCurrencySymbol","code","format","currency","getLocaleCurrencies","Currencies","symbolNarrow","getNumberOfCurrencyDigits","digits","ZoneWidth","DateType","TranslationType","ISO8601_DATE_REGEX","NAMED_FORMATS","DATE_FORMATS_SPLIT","formatDate","timezone","date","toDate","isDate","isNaN","Date","trim","parsedNb","parseFloat","test","val","isoStringToDate","tzHour","tzMin","dateSetter","setUTCFullYear","setFullYear","timeSetter","setUTCHours","setHours","Number","h","ms","Math","floor","getNamedFormat","localeId","formatValue","Short","Medium","Long","Full","shortTime","shortDate","formatDateTime","mediumTime","mediumDate","longTime","longDate","fullTime","fullDate","parts","exec","part","concat","dateTimezoneOffset","getTimezoneOffset","timezoneToOffset","convertTimezoneToLocal","reverse","reverseValue","addDateMinutes","getTime","setMinutes","getMinutes","text","dateFormatter","getDateFormatter","DATE_FORMATS","formatter","dateStrGetter","Abbreviated","Wide","Narrow","dateGetter","FullYear","weekNumberingYearGetter","Month","Months","Standalone","weekGetter","Days","DayPeriods","Format","Hours","Minutes","Seconds","FractionalSeconds","timeZoneGetter","Extended","ShortGMT","str","opt_values","key","padNumber","num","minusSign","negWrap","neg","strNum","substr","name","size","offset","getDatePart","getFullYear","getMonth","getDate","getHours","getSeconds","getMilliseconds","Day","getDay","formatFractionalSeconds","milliseconds","localeMinus","MinusSign","form","extended","getDateTranslation","currentHours_1","currentMinutes_1","rules","findIndex","isArray","from","to","afterFrom","beforeTo","zone","ceil","abs","getThursdayThisWeek","datetime","monthBased","result","nbDaysBefore1stDayOfMonth","today","thisThurs","firstThurs","getFirstThursdayOfYear","year","firstDayOfYear","THURSDAY","diff","round","fallback","requestedTimezoneOffset","parse","valueOf","NgLocalization","NUMBER_FORMAT_REGEXP","formatNumberToLocaleString","pattern","groupSymbol","decimalSymbol","digitsInfo","isPercent","formattedText","isZero","isFinite","parsedNumber","parseNumber","integerLen","j","zeros","numStr","exponent","indexOf","charAt","splice","MAX_DIGITS","toPercent","fractionLen","minInt","minFraction","minFrac","maxFraction","maxFrac","minIntPart","minFractionPart","maxFractionPart","parseIntAutoRadix","roundNumber","fractionSize","min","max","roundAt","digit","k","unshift","dropTrailingZeros","minLen","carry","reduceRight","decimals","every","groups","lgSize","join","gSize","Exponential","Infinity","negPre","negSuf","posPre","posSuf","formatCurrency","currencyCode","parseNumberFormat","Currency","formatPercent","Percent","RegExp","PercentSign","formatNumber","patternParts","positive","negative","positiveParts","lastIndexOf","integer","fraction","ch","trunkLen","pos","parseInt","getPluralCategory","cases","ngLocalization","NgLocaleLocalization","Zero","One","Two","Few","Many","LOCALE_ID","NgClass","_iterableDiffers","_keyValueDiffers","_ngEl","_renderer","_iterableDiffer","_keyValueDiffer","_initialClasses","_rawClass","_removeClasses","_applyClasses","isListLikeIterable","find","ngDoCheck","iterableChanges","_applyIterableChanges","keyValueChanges","_applyKeyValueChanges","changes","forEachAddedItem","record","_toggleClass","currentValue","forEachChangedItem","forEachRemovedItem","previousValue","item","stringify","rawClassVal","Set","klass","keys","enabled","addClass","nativeElement","removeClass","Directive","selector","IterableDiffers","KeyValueDiffers","ElementRef","Renderer2","propDecorators","Input","ngClass","NgComponentOutlet","_viewContainerRef","_componentRef","_moduleRef","ngOnChanges","clear","ngComponentOutlet","elInjector","ngComponentOutletInjector","parentInjector","destroy","ngComponentOutletNgModuleFactory","parentModule","NgModuleRef","injector","componentFactory","componentFactoryResolver","ComponentFactoryResolver","resolveComponentFactory","createComponent","ngComponentOutletContent","ngOnDestroy","ViewContainerRef","NgForOfContext","$implicit","ngForOf","count","even","NgForOf","_viewContainer","_template","_differs","_ngForOf","_ngForOfDirty","_differ","_trackByFn","ngForTrackBy","getTypeName","_applyChanges","insertTuples","forEachOperation",

"adjustedPreviousIndex","currentIndex","previousIndex","view","createEmbeddedView","tuple","RecordViewTuple","remove","move","_perViewChange","ilen","viewRef","context","forEachIdentityChange","ngTemplateContextGuard","dir","ctx","TemplateRef","ngForTemplate","NgIf","templateRef","_context","NgIfContext","_thenTemplateRef","_elseTemplateRef","_thenViewRef","_elseViewRef","condition","ngIf","_updateView","assertTemplate","ngIfThen","ngIfElse","property","SwitchView","_templateRef","_created","enforceState","created","NgSwitch","_defaultUsed","_caseCount","_lastCaseCheckIndex","_lastCasesMatched","newValue","_ngSwitch","_updateDefaultCases","_addCase","_addDefault","_defaultViews","_matchCase","matched","useDefault","ngSwitch","NgSwitchDefault","NgSwitchCase","viewContainer","_view","ngSwitchCase","Host","NgPluralCase","NgPlural","_localization","_caseViews","_switchValue","addCase","switchView","_clearViews","_activateView","_activeView","ngPlural","template","isANumber","Attribute","NgStyle","_ngStyle","values","_setStyle","nameAndUnit","unit","setStyle","removeStyle","ngStyle","NgTemplateOutlet","_viewRef","ngTemplateOutletContext","ngTemplateOutlet","_shouldRecreateView","viewContainerRef","_updateExistingContext","ctxChange","_hasContextShapeChanged","e_1","prevCtxKeys","currCtxKeys","currCtxKeys_1","currCtxKeys_1_1","e_1_1","return","e_2","_b","_c","propName","e_2_1","COMMON_DIRECTIVES","invalidPipeArgumentError","ObservableStrategy","createSubscription","async","updateLatestValue","dispose","subscription","unsubscribe","onDestroy","_promiseStrategy","PromiseStrategy","then","_observableStrategy","AsyncPipe","_ref","_latestValue","_subscription","_obj","_strategy","_dispose","transform","obj","_subscribe","_selectStrategy","_updateLatestValue","isPromise","isObservable","markForCheck","Pipe","pure","ChangeDetectorRef","LowerCasePipe","toLowerCase","unicodeWordMatch","TitleCasePipe","txt","toUpperCase","UpperCasePipe","DatePipe","message","_INTERPOLATION_REGEXP","I18nPluralPipe","pluralMap","toString","I18nSelectPipe","mapping","JsonPipe","JSON","stringify","KeyValuePipe","differs","keyValues","input","compareFn","defaultComparator","Map","differ","differChanges","forEachItem","makeKeyValuePair","sort","keyValueA","keyValueB","a","aString","bString","DecimalPipe","_locale","isValue","strToNumber","PercentPipe","CurrencyPipe","_defaultCurrencyCode","display","DEFAULT_CURRENCY_CODE","SlicePipe","supports","CommonModule","COMMON_PIPES","NgModule","declarations","providers","provide","useClass","ViewportScroller","VERSION","Version","BrowserViewportScroller","ErrorHandler","document","errorHandler","setOffset","getScrollPosition","supportsScrolling","pageXOffset","pageYOffset","scrollToPosition","position","scrollTo","scrollToAnchor","anchor","elSelected","getElementById","getElementsByName","scrollToElement","setHistoryScrollRestoration","scrollRestoration","supportScrollRestoration","el","rect","getBoundingClientRect","left","top","scrollRestorationDescriptor","getScrollRestorationProperty","getPrototypeOf","writable","getOwnPropertyDescriptor","NullViewportScroller","getLocaleCurrencyCode","getLocaleCurrencyCode","getLocaleCurrencyName","CurrencyName","getLocaleCurrencySymbol","CurrencySymbol","getLocaleDirection","Directionality","getLocaleFirstDayOfWeek","FirstDayOfWeek","getLocaleWeekEndRange","WeekendRange","isPlatformBrowser","platformId","isPlatformServer","isPlatformWorkerApp","isPlatformWorkerUi","registerLocaleData","extraData","registerLocaleData","BrowserPlatformLocation","DomAdapter","NullViewportScroller","PLATFORM_BROWSER_ID","PLATFORM_SERVER_ID","PLATFORM_WORKER_APP_ID","PLATFORM_WORKER_UI_ID","angular_packages_common_common_a","angular_packages_common_common_b","angular_packages_common_common_c","angular_packages_common_common_d","angular_packages_common_common_e","angular_packages_common_common_f","getDOM","parseCookieValue","parseCookieValue","cookieStr","encodeURIComponent","cookie","eqIndex","_d","cookieValue","decodeURIComponent","setRootDomAdapter","setRootDomAdapter","adapter"],"mappings":";;;;;CAMC,SAAUA,EAAQC,EAAIiBAAZC,CAAeC,EAAIC,EAAIC,EAAI

GACd,IAAIC,EAAsB,mBAAXC,QAAyBA,OAAOC,SAAUC,EAAIH,GAAKD,EAAEC,GAAII,EAAI,EAC5E,GAAID,EACA,OAAOA,EAAEE,KAAKN,GAClB,GAAIA,GAAyB,iBAAbA,EAAEO,OACd,MAAO,CACHC,GAAIR,EAAGQ,GAAKC,KAAMT,EAAGS,KAAMC,QAAST,EAAEU,WAAWD,QAASE,WAAYX,EAAEU,WAAWC,WAAYC,OAAQZ,EAAEU,WAAWE,OAAQC,SAAUb,EAAEU,WAAWG,SAAUC,SAAUd,EAAEU,WAAWI,SAAUC,SAAUf,EAAEU,WAAWK,SAAUC,SAAUhB,EAAEU,WAAWM,SAAUC,SAAUjB,EAAEU,WAAWO,SAAUC,SAAUlB,EAAEU,WAAWQ,SAAUC,SAAUnB,EAAEU,WAAWS,SAAUC,SAAUpB,EAAEU,WAAWU,SAAUC,SAAUrB,EAAEU,WAAWW,SAAUC,SAAUtB,EAAEU,WAAWY,SAAUC,SAAUvB,EAAEU,WAAWa,SAAUC,SAAUxB,EAAEU,WAAWc,SAAUC,SAAUzB,EAAEU,WAAWe,SAAUC,SAAU1B,EAAEU,WAAWgB,SAAUC,SAAU3B,EAAEU,WAAWiB,SAAUC,SAAU5B,EAAEU,WAAWkB,SAAUC,SAAU7B,EAAEU,WAAWmB,SAAUC,SAAU9B,EAAEU,WAAWoB,SAAUC,SAAU/B,EAAEU,WAAWqB,SAAUC,SAAUhC,EAAEU,WAAWsB,SAAUC,SAAUjC,EAAEU,WAAWuB,SAAUC,SAAUlC,EAAEU,WAAWwB,SAAUC,SAAUnC,EAAEU,WAAWyB,SAAUC,SAAUpC,EAAEU,WAAW0B,SAAUC,SAAUrC,EAAEU,WAAW2B,SAAUC,SAAUtC,EAAEU,WAAW4B,SAAUC,SAAUvC,EAAEU,WAAW6B,SAAUC,SAAUxC,EAAEU,WAAW8B,SAAUC,SAAUzC,EAAEU,WAAW+B,SAAUC,SAAU1C,EAAEU,WAAWgC,SAAUC,SAAU3C,EAAEU,WAAWiC,SAAUC,SAAU5C,EAAEU,WAAWkC,SAAUC,SAAU7C,EAAEU,WAAWmC,SAAUC,SAAU9C,EAAEU,WAAWoC,SAAUC,SAAU/C,EAAEU,WAAWqC,SAAUC,SAAUhD,EAAEU,WAAWsC,SAAUC,SAAUjD,EAAEU,WAAWuC,SAAUC,SAAUlD,EAAEU,WAAWwC,SAAUC,SAAUnD,EAAEU,WAAWyC,SAAUC,SAAUpD,EAAEU,WAAW0C,SAAUC,SAAUrD,EAAEU,WAAW2C,SAAUC,SAAUtD,EAAEU,WAAW4C,SAAUC,SAAUvD,EAAEU,WAAW6C,SAAUC,SAAUxD,EAAEU,WAAW8C,SAAUC,SAAUzD,EAAEU,WAAW+C,SAAUC,SAAU1D,EAAEU,WAAWgD,SAAUC,SAAU3D,EAAEU,WAAWiD,SAAUC,SAAU5D,EAAEU,WAAWkD,SAAUC,SAAU7D,EAAEU,WAAWmD,SAAUC,SAAU9D,EAAEU,WAAWoD,SAAUC,SAAU/D,EAAEU,WAAWqD,SAAUC,SAAUhE,EAAEU,WAAWsD,SAAUC,SAAUjE,EAAEU,WAAWuD,SAAUC,SAAUlE,EAAEU,WAAWwD,SAAUC,SAAUnE,EAAEU,WAAWyD,SAAUC,SAAUpE,EAAEU,WAAW0D,SAAUC,SAAUrE,EAAEU,WAAW2D,SAAUC,SAAUtE,EAAEU,WAAW4D,SAAUC,SAAUvE,EAAEU,WAAW6D,SAAUC,SAAUxE,EAAEU,WAAW8D,SAAUC,SAAUzE,EAAEU,WAAW+D,SAAUC,SAAU1E,EAAEU,WAAWgE,SAAUC,SAAU3E,EAAEU,WAAWiE,SAAUC,SAAU5E,EAAEU,WAAWkE,SAAUC,SAAU7E,EAAEU,WAAWmE,SAAUC,SAAU9E,EAAEU,WAAWoE,SAAUC,SAAU/E,EAAEU,WAAWqE,SAAUC,SAAUhF,EAAEU,WAAWsE,SAAUC,SAAUjF,EAAEU,WAAWuE,SAAUC,SAAUlF,EAAEU,WAAWwE,SAAUC,SAAUnF,EAAEU,WAAWyE,SAAUC,SAAUpF,EAAEU,WAAW0E,SAAUC,SAAUrF,EAAEU,WAAW2E,SAAUC,SAAUtF,EAAEU,WAAW4E,SAAUC,SAAUvF,EAAEU,WAAW6E,SAAUC,SAAUxF,EAAEU,WAAW8E,SAAUC,SAAUzF,EAAEU,WAAW+E,SAAUC,SAAU1F,EAAEU,WAAWgF,SAAUC,SAAU3F,EAAEU,WAAWiF,SAAUC,SAAU5F,EAAEU,WAAWkF,SAAUC,SAAU7F,EAAEU,WAAWmF,SAAUC,SAAU9F,EAAEU,WAAWoF,SAAUC,SAAU/F,EAAEU,WAAWqF,SAAUC,SAAUhG,EAAEU,WAAWsF,SAAUC,SAAUjG,EAAEU,WAAWuF,SAAUC,SAAUlG,EAAEU,WAAWwF,SAAUC,SAAUnG,EAAEU,WAAWyF,SAAUC,SAAUpG,EAAEU,WAAW0F,SAAUC,SAAUrG,EAAEU,WAAW2F,SAAUC,SAAUtG,EAAEU,WAAW4F,SAAUC,SAAUvG,EAAEU,WAAW6F,SAAUC,SAAUxG,EAAEU,WAAW8F,SAAUC,SAAUzG,EAAEU,WAAW+F,SAAUC,SAAU1G,EAAEU,WAAWgG,SAAUC,SAAU3G,EAAEU,WAAWiG,SAAUC,SAAU5G,EAAEU,WAAWkG,SAAUC,SAAU7G,EAAEU,WAAWmG,SAAUC,SAAU9G,EAAEU,WAAWoG,SAAUC,SAAU/G,EAAEU,WAAWqG,SAAUC,SAAUhH,EAAEU,WAAWsG,SAAUC,SAAUjH,EAAEU,WAAWuG,SAAUC,SAAUlH,EAAEU,WAAWwG,SAAUC,SAAUnH,EAAEU,WAAWyG,SAAUC,SAAUpH,EAAEU,WAAW0G,SAAUC,SAAUrH,EAAEU,WAAW2G,SAAUC,SAAUtH,EAAEU,WAAW4G,SAAUC,SAAUvH,EAAEU,WAAW6G,SAAUC,SAAUxH,EAAEU,WAAW8G,SAAUC,SAAUzH,EAAEU,WAAW+G,SAAUC,SAAU1H,EAAEU,WAAWgH,SAAUC,SAAU3H,EAAEU,WAAWiH,SAAUC,SAAU5H,EAAEU,WAAWkH,SAAUC,SAAU7H,EAAEU,WAAWmH,SAAUC,SAAU9H,EAAEU,WAAWoH,SAAUC,SAAU/H,EAAEU,WAAWqH,SAAUC,SAAUhI,EAAEU,WAAWsH,SAAUC,SAAUjI,EAAEU,WAAWuH,SAAUC,SAAUlI,EAAEU,WAAWwH,SAAUC,SAAUnI,EAAEU,WAAWyH,SAAUC,SAAUpI,EAAEU,WAAW0H,SAAUC,SAAUrI,EAAEU,WAAW2H,SAAUC,SAAUtI,EAAEU,WAAW4H,SAAUC,SAAUvI,EAAEU,WAAW6H,SAAUC,SAAUxI,EAAEU,WAAW8H,SAAUC,SAAUzI,EAAEU,WAAW+H,SAAUC,SAAU1I,EAAEU,WAAWgI,SAAUC,SAAU3I,EAAEU,WAAWiI,SAAUC,SAAU5I,EAAEU,WAAWkI,SAAUC,SAAU7I,EAAEU,WAAWmI,SAAUC,SAAU9I,EAAEU,WAAWoI,SAAUC,SAAU/I,EAAEU,WAAWqI,SAAUC,SAAUhJ,EAAEU,WAAWsI,SAAUC,SAAUjJ,EAAEU,WAAWuI,SAAUC,SAAUlJ,EAAEU,WAAWwI,SAAUC,SAAUnJ,EAAEU,WAAWyI,SAAUC,SAAUpJ,EAAEU,WAAW0I,SAAUC,SAAUrJ,EAAEU,WAAW2I,SAAUC,SAAUtJ,EAAEU,WAAW4I,SAAUC,SAAUvJ,EAAEU,WAAW6I,SAAUC,SAAUxJ,EAAEU,WAAW8I,SAAUC,SAAUzJ,EAAEU,WAAW+I,SAAUC,SAAU1J,EAAEU,WAAWgJ,SAAUC,SAAU3J,EAAEU,WAAWiJ,SAAUC,SAAU5J,EAAEU,WAAWkJ,SAAUC,SAAU7J,EAAEU,WAAWmJ,SAAUC,SAAU9J,EAAEU,WAAWoJ,SAAUC,SAAU/J,EAAEU,WAAWqJ,SAAUC,SAAUhK,EAAEU,WAAWsJ,SAAUC,SAAUjK,EAAEU,WAAWuJ,SAAUC,SAAUlK,EAAEU,WAAWwJ,SAAUC,SAAUnK,EAAEU,WAAWyJ,SAAUC,SAAUpK,EAAEU,WAAW0J,SAAUC,SAAUrK,EAAEU,WAAW2J,SAAUC,SAAUtK,EAAEU,WAAW4J,SAAUC,SAAUvK,EAAEU,WAAW6J,SAAUC,SAAUxK,EAAEU,WAAW8J,SAAUC,SAAUzK,EAAEU,WAAW+J,SAAUC,SAAU1K,EAAEU,WAAWgK,SAAUC,SAAU3K,EAAEU,WAAWiK,SAAUC,SAAU5K,EAAEU,WAAWkK,SAAUC,SAAU7K,EAAEU,WAAWmK,SAAUC,SAAU9K,EAAEU,WAAWoK,SAAUC,SAAU/K,EAAEU,WAAWqK,SAAUC,SAAUhL,EAAEU,WAAWsK,SAAUC,SAAUjL,EAAEU,WAAWuK,SAAUC,SAAUlL,EAAEU,WAAWwK,SAAUC,SAAUnL,EAAEU,WAAWyK,SAAUC,SAAUpL,EAAEU,WAAW0K,SAAUC,SAAUrL,EAAEU,WAAW2K,SAAUC,SAAUtL,EAAEU,WAAW4K,SAAUC,SAAUvL,EAAEU,WAAW6K,SAAUC,SAAUxL,EAAEU,WAAW8K,SAAUC,SAAUzL,EAAEU,WAAW+K,SAAUC,SAAU1L,EAAEU,WAAWgL,SAAUC,SAAU3L,EAAEU,WAAWiL,SAAUC,SAAU5L,EAAEU,WAAWkL,SAAUC,SAAU7L,EAAEU,WAAWmL,SAAUC,SAAU9L,EAAEU,WAAWoL,SAAUC,SAAU/L,EAAEU,WAAWqL,SAAUC,SAAUhM,EAAEU,WAAWsL,SAAUC,SAAUjM,EAAEU,WAAWuL,SAAUC,SAAUlM,EAAEU,WAAWwL,SAAUC,SAAUnM,EAAEU,WAAWyL,SAAUC,SAAUpM,EAAEU,WAAW0L,SAAUC,SAAUrM,EAAEU,WAAW2L,SAAUC,SAAUtM,EAAEU,WAAW4L,SAAUC,SAAUvM,EAAEU,WAAW6L,SAAUC,SAAUxM,EAAEU,WAAW8L,SAAUC,SAAUzM,EAAEU,WAAW+L,SAAUC,SAAU1M,EAAEU,WAAWgM,SAAUC,SAAU3M,EAAEU,WAAWiM,SAAUC,SAAU5M,EAAEU,WAAWkM,SAAUC,SAAU7M,EAAEU,WAAWmM,SAAUC,SAAU9M,EAAEU,WAAWoM,SAAUC,SAAU/M,EAAEU,WAAWqM,SAAUC,SAAUhN,EAAEU,WAAWsM,SAAUC,SAAUjN,EAAEU,WAAWuM,SAAUC,SAAUlN,EAAEU,WAAWwM,SAAUC,SAAUnN,EAAEU,WAAWyM,SAAUC,SAAUpN,EAAEU,WAAW0M,SAAUC,SAAUrN,EAAEU,WAAW2M,SAAUC,SAAUtN,EAAEU,WAAW4M,SAAUC,SAAUvN,EAAEU,WAAW6M,SAAUC,SAAUxN,EAAEU,WAAW8M,SAAUC,SAAUzN,EAAEU,WAAW+M,SAAUC,SAAU1N,EAAEU,WAAWgN,SAAUC,SAAU3N,EAAEU,WAAWiN,SAAUC,SAAU5N,EAAEU,WAAWkN,SAAUC,SAAU7N,EAAEU,WAAWmN,SAAUC,SAAU9N,EAAEU,WAAWoN,SAAUC,SAAU/N,EAAEU,WAAWqN,SAAUC,SAAUhO,EAAEU,WAAWsN,SAAUC,SAAUjO,EAAEU,WAAWuN,SAAUC,SAAUlO,EAAEU,WAAWwN,SAAUC,SAAUnO,EAAEU,WAAWyN,SAAUC,SAAUpO,EAAEU,WAAW0N,SAAUC,SAAUrO,EAAEU,WAAW2N,SAAUC,SAAUtO,EAAEU,WAAW4N,SAAUC,SAAUvO,EAAEU,WAAW6N,SAAUC,SAAUxO,EAAEU,WAAW8N,SAAUC,SAAUzO,EAAEU,WAAW+N,SAAUC,SAAU1O,EAAEU,WAAWgO,SAAUC,SAAU3O,EAAEU,WAAWiO,SAAUC,SAAU5O,EAAEU,WAAWkO,SAAUC,SAAU7O,EAAEU,WAAWmO,SAAUC,SAAU9O,EAAEU,WAAWoO,SAAUC,SAAU/O,EAAEU,WAAWqO,SAAUC,SAAUhP,EAAEU,WAAWsO,SAAUC,SAAUjP,EAAEU,WAAWuO,SAAUC,SAAUlP,EAAEU,WAAWwO,SAAUC,SAAUnP,EAAEU,WAAWyO,SAAUC,SAAUpP,EAAEU,WAAW0O,SAAUC,SAAUrP,EAAEU,WAAW2O,SAAUC,SAAUtP,EAAEU,WAAW4O,SAAUC,SAAUvP,EAAEU,WAAW6O,SAAUC,SAAUxP,EAAEU,WAAW8O,SAAUC,SAAUzP,EAAEU,WAAW+O,SAAUC,SAAU1P,EAAEU,WAAWgP,SAAUC,SAAU3P,EAAEU,WAAWiP,SAAUC,SAAU5P,EAAEU,WAAWkP,SAAUC,SAAU7P,EAAEU,WAAWmP,SAAUC,SAAU9P,EAAEU,WAAWoP,SAAUC,SAAU/P,EAAEU,WAAWqP,SAAUC,SAAUhQ,EAAEU,WAAWsP,SAAUC,SAAUjQ,EAAEU,WAAWuP,SAAUC,SAAUlQ,EAAEU,WAAWwP,SAAUC,SAAUnQ,EAAEU,WAAWyP,SAAUC,SAAUpQ,EAAEU,WAAW0P,SAAUC,SAAUrQ,EAAEU,WAAW2P,SAAUC,SAAUtQ,EAAEU,WAAW4P,SAAUC,SAAUvQ,EAAEU,WAAW6P,SAAUC,SAAUxQ,EAAEU,WAAW8P,SAAUC,SAAUzQ,EAAEU,WAAW+P,SAAUC,SAAU1Q,EAAEU,WAAWgQ,SAAUC,SAAU3Q,EAAEU,WAAWiQ,SAAUC,SAAU5Q,EAAEU,WAAWkQ,SAAUC,SAAU7Q,EAAEU,WAAWmQ,SAAUC,SAAU9Q,EAAEU,WAAWoQ,SAAUC,SAAU/Q,EAAEU,WAAWqQ,SAAUC,SAAUhR,EAAEU,WAAWsQ,SAAUC,SAAUjR,EAAEU,WAAWuQ,SAAUC,SAAUlR,EAAEU,WAAWwQ,SAAUC,SAAUnR,EAAEU,WAAWyQ,SAAUC,SAAUpR,EAAEU,WAAW0Q,SAAUC,SAAUrR,EAAEU,WAAW2Q,SAAUC,SAAUtR,EAAEU,WAAW4Q,SAAUC,SAAUvR,EAAEU,WAAW6Q,SAAUC,SAAUxR,EAAEU,WAAW8Q,SAAUC,SAAUzR,EAAEU,WAAW+Q,SAAUC,SAAU1R,EAAEU,WAAWgR,SAAUC,SAAU3R,EAAEU,WAAWiR,SAAUC,SAAU5R,EAAEU,WAAWkR,SAAUC,SAAU7R,EAAEU,WAAWmR,SAAUC,SAAU9R,EAAEU,WAAWoR,SAAUC,SAAU/R,EAAEU,WAAWqR,SAAUC,SAAUhS,EAAEU,WAAWsR,SAAUC,SAAUjS,EAAEU,WAAWuR,SAAUC,SAAUlS,EAAEU,WAAWwR,SAAUC,SAAUnS,EAAEU,WAAWyR,SAAUC,SAAUpS,EAAEU,WAAW0R,SAAUC,SAAUrS,EAAEU,WAAW2R,SAAUC,SAAUtS,EAAEU,WAAW4R,SAAUC,SAAUvS,EAAEU,WAAW6R,SAAUC,SAAUxS,EAAEU,WAAW8R,SAAUC,SAAUzS,EAAEU,WAAW+R,SAAUC,SAAU1S,EAAEU,WAAWgS,SAAUC,SAAU3S,EAAEU,WAAWiS,SAAUC,SAAU5S,EAAEU,WAAWkS,SAAUC,SAAU7S,EAAEU,WAAWmS,SAAUC,SAAU9S,EAAEU,WAAWoS,SAAUC,SAAU/S,EAAEU,WAAWqS,SAAUC,SAAUhT,EAAEU,WAAWsS,SAAUC,SAAUjT,EAAEU,WAAWuS,SAAUC,SAAUlT,EAAEU,WAAWwS,SAAUC,SAAUnT,EAAEU,WAAWyS,SAAUC,SAAUpT,EAAEU,WAAW0S,SAAUC,SAAUrT,EAAEU,WAAW2S,SAAUC,SAAUtT,EAAEU,WAAW4S,SAAUC,SAAUvT,EAAEU,WAAW6S,SAAUC,SAAUxT,EAAEU,WAAW8S,SAAUC,SAAUzT,EAAEU,WAAW+S,SAAUC,SAAU1T,EAAEU,WAAWgT,SAAUC,SAAU3T,EAAEU,WAAWiT,SAAUC,SAAU5T,EAAEU,WAAWkT,SAAUC,SAAU7T,EAAEU,WAAWmT,SAAUC,SAAU9T,EAAEU,WAAWoT,SAAUC,SAAU/T,EAAEU,WAAWqT,SAAUC,SAAUhU,EAAEU,WAAWsT,SAAUC,SAAUjU,EAAEU,WAAWuT,SAAUC,SAAUlU,EAAEU,WAAWwT,SAAUC,SAAUnU,EAAEU,WAAWyT,SAAUC,SAAUpU,EAAEU,WAAW0T,SAAUC,SAAUrU,EAAEU,WAAW2T,SAAUC,SAAUtU,EAAEU,WAAW4T,SAAUC,SAAUvU,EAAEU,WAAW6T,SAAUC,SAAUxU,EAAEU,WAAW8T,SAAUC,SAAUzU,EAAEU,WAAW+T,SAAUC,SAAU1U,EAAEU,WAAWgU,SAAUC,SAAU3U,EAAEU,WAAWiU,SAAUC,SAAU5U,EAAEU,WAAWkU,SAAUC,SAAU7U,EAAEU,WAAWmU,SAAUC,SAAU9U,EAAEU,WAAWoU,SAAUC,SAAU/U,EAAEU,WAAWqU,SAAUC,SAAUhV,EAAEU,WAAWsU,SAAUC,SAAUjV,EAAEU,WAAWuU,SAAUC,SAAUlV,EAAEU,WAAWwU,SAAUC,SAAUnV,EAAEU,WAAWyU,SAAUC,SAAUpV,EAAEU,WAAW0U,SAAUC,SAAUrV,EAAEU,WAAW2U,SAAUC,SAAUtV,EAAEU,WAAW4U,SAAUC,SAAUvV,EAAEU,WAAW6U,SAAUC,SAAUxV,EAAEU,WAAW8U,SAAUC,SAAUzV,EAAEU,WAAW+U,SAAUC,SAAU1V,EAAEU,WAAWgV,SAAUC,SAAU3V,EAAEU,WAAWiV,SAAUC,SAAU5V,EAAEU,WAAWkV,SAAUC,SAAU7V,EAAEU,WAAWmV,SAAUC,SAAU9V,EAAEU,WAAWoV,SAAUC,SAAU/V,EAAEU,WAAWqV,SAAUC,SAAUhW,EAAEU,WAAWsV,SAAUC,SAAUjW,EAAEU,WAAWuV,SAAUC,SAAUlW,EAAEU,WAAWwV,SAAUC,SAAUnW,EAAEU,WAAWyV,SAAUC,SAAUpW,EAAEU,WAAW0V,SAAUC,SAAUrW,EAAEU,WAAW2V,SAAUC,SAAUtW,EAAEU,WAAW4V,SAAUC,SAAUvW,EAAEU,WAAW6V,SAAUC,SAAUxW,EAAEU,WAAW8V,SAAUC,SAAUzW,EAAEU,WAAW+V,SAAUC,SAAU1W,EAAEU,WAAWgW,SAAUC,SAAU3W,EAAEU,WAAWiW,SAAUC,SAAU5W,EAAEU,WAAWkW,SAAUC,SAAU7W,EAAEU,WAAWmW,SAAUC,SAAU9W,EAAEU,WAAWoW,SAAUC,SAAU/W,EAAEU,WAAWqW,SAAUC,SAAUhX,EAAEU,WAAWsW,SAAUC,SAAUjX,EAAEU,WAAWuW,SAAUC,SAAUlX,EAAEU,WAAWwW,SAAUC,SAAUnX,EAAEU,WAAWyW,SAAUC,SAAUpX,EAAEU,WAAW0W,SAAUC,SAAUrX,EAAEU,WAAW2W,SAAUC,SAAUtX,EAAEU,WAAW4W,SAAUC,SAAUvX,EAAEU,WAAW6W,SAAUC,SAAUxX,EAAEU,WAAW8W,SAAUC,SAAUzX,EAAEU,WAAW+W,SAAUC,SAAU1X,EAAEU,WAAWgX,SAAUC,SAAU3X,EAAEU,WAAWiX,SAAUC,SAAU5X,EAAEU,WAAWkX,SAAUC,SAAU7X,EAAEU,WAAWmX,SAAUC,SAAU9X,EAAEU,WAAWoX,SAAUC,SAAU/X,EAAEU,WAAWqX,SAAUC,SAAUhY,EAAEU,WAAWsX,SAAUC,SAAUjY,EAAEU,WAAWuX,SAAUC,SAAUlY,EAAEU,WAAWwX,SAAUC,SAAUnY,EAAEU,WAAWyX,SAAUC,SAAUpY,EAAEU,WAAW0X,SAAUC,SAAUrY,EAAEU,WAAW2X,SAAUC,SAAUtY,EAAEU,WAAW4X,SAAUC,SAAUvY,EAAEU,WAAW6X,SAAUC,SAAUxY,EAAEU,WAAW8X,SAAUC,SAAUzY,EAAEU,WAAW+X,SAAUC,SAAU1Y,EAAEU,WAAWgY,SAAUC,SAAU3Y,EAAEU,WAAWiY,SAAUC,SAAU5Y,EAAEU,WAAWkY,SAAUC,SAAU7Y,EAAEU,WAAWmY,SAAUC,SAAU9Y,EAAEU,WAAWoY,SAAUC,SAAU/Y,EAAEU,WAAWqY,SAAUC,SAAUhZ,EAAEU,WAAWsY,SAAUC,SAAUjZ,EAAEU,WAAWuY,SAAUC,SAAUlZ,EAAEU,WAAWwY,SAAUC,SAAUnZ,EAAEU,WAAWyY,SAAUC,SAAUpZ,EAAEU,WAAW0Y,SAAUC,SAAUrZ,EAAEU,WAAW2Y,SAAUC,SAAUtZ,EAAEU,WAAW4Y,SAAUC,SAAUvZ,EAAEU,WAAW6Y,SAAUC,SAAUxZ,EAAEU,WAAW8Y,SAAUC,SAAUzZ,EAAEU,WAAW+Y,SAAUC,SAAU1Z,EAAEU,WAAWgZ,SAAUC,SAAU3Z,EAAEU,WAAWiZ,SAAUC,SAAU5Z,EAAEU,WAAWkZ,SAAUC,SAAU7Z,EAAEU,WAAWmZ,SAAUC,SAAU9Z,EAAEU,WAAWoZ,SAAUC,SAAU/Z,EAAEU,WAAWqZ,SAAUC,SAAUha,EAAEU,WAAWsZ,SAAUC,SAAUja,EAAEU,WAAWuZ,SAAUC,SAAUla,EAAEU,WAAWwZ,SAAUC,SAAUna,EAAEU,WAAWyZ,SAAUC,SAAUpa,EAAEU,WAAW0Z,SAAUC,SAAUra,EAAEU,WAAW2Z,SAAUC,SAAUta,EAAEU,WAAW4Z,SAAUC,SAAUva,EAAEU,WAAW6Z,SAAUC,SAAUxa,EAAEU,WAAW8Z,SAAUC,SAAUza,EAAEU,WAAW+Z,SAAUC,SAAU1a,EAAEU,WAAWga,SAAUC,SAAU3a,EAAEU,WAAWia,SAAUC,SAAU5a,EAAEU,WAAWka,SAAUC,SAAU7a,EAAEU,WAAWma,SAAUC,SAAU9a,EAAEU,WAAWoa,SAAUC,SAAU/a,EAAEU,WAAWqa,SAAUC,SAAUhb,EAAEU,WAAWsa,SAAUC,SAAUjb,EAAEU,WAAWua,SAAUC,SAAUlb,EAAEU,WAAWwa,SAAUC,SAAUnb,EAAEU,WAAWya,SAAUC,SAAUpb,EAAEU,WAAW0a,SAAUC,SAAUrb,EAAEU,WAAW2a,SAAUC,SAAUtb,EAAEU,WAAW4a,SAAUC,SAAUvb,EAAEU,WAAW6a,SAAUC,SAAUxb,EAAEU,WAAW8a,SAAUC,SAAUzb,EAAEU,WAAW+a,SAAUC,SAAU1b,EAAEU,WAAWgb,SAAUC,SAAU3b,EAAEU,WAAWib,SAAUC,SAAU5b,EAAEU,WAAWkb,SAAUC,SAAU7b,EAAEU,WAAWmb,SAAUC,SAAU9b,EAAEU,WAAWob,SAAUC,SAAU/b,EAAEU,WAAWqb,SAAUC,SAAUhc,EAAEU,WAAWsb,SAAUC,SAAUjc,EAAEU,WAAWub,SAAUC,SAAUlc,EAAEU,WAAWwb,SAAUC,SAAUnc,EAAEU,WAAWyb,SAAUC,SAAUpc,EAAEU,WAAW0b,SAAUC,SAAUrc,EAAEU,WAAW2b,SAAUC,SAAUtc,EAAEU,WAAW4b,SAAUC,SAAUvc,EAAEU,WAAW6b,SAAUC,SAAUxc,EAAEU,WAAW8b,SAAUC,SAAUzc,EAAEU,WAAW+b,SAAUC,SAAU1c,EAAEU,WAAWgc,SAAUC,SAAU3c,EAAEU,WAAWic,SAAUC,SAAU5c,EAAEU,WAAWkc,SAAUC,SAAU7c,EAAEU,WAAWmc,SAAUC,SAAU9c,EAAEU,WAAWoc,SAAUC,SAAU/c,EAAEU,WAAWqc,SAAUC,SAAUhd,EAAEU,WAAWsc,SAAUC,SAAUjd,EAAEU,WAAWuc,SAAUC,SAAUld,EAAEU,WAAWwc,SAAUC,SAAUnd,EAAEU,WAAWyc,SAAUC,SAAUpd,EAAEU,WAAW0c,SAAUC,SAAUrd,EAAEU,WAAW2c,SAAUC,SAAUtd,EAAEU,WAAW4c,SAAUC,SAAUvd,EAAEU,WAAW6c,SAAUC,SAAUxd,EAAEU,WAAW8c,SAAUC,SAAUzd,EAAEU,WAAW+c,SAAUC,SAAU1d,EAAEU,WAAWgd,SAAUC,SAAU3d,EAAEU,WAAWid,SAAUC,SAAU5d,EAAEU,WAAWkd,SAAUC,SAAU7d,EAAEU,WAAWmd,SAAUC,SAAU9d,EAAEU,WAAWod,SAAUC,SAAU/d,EAAEU,WAAWqd,SAAUC,SAAUhe,EAAEU,WAAWsd,SAAUC,SAAUje,EAAEU,WAAWud,SAAUC,SAAUle,EAAEU,WAAWwd,SAAUC,SAAUne,EAAEU,WAAWyd,SAAUC,SAAUpe,EAAEU,WAAW0d,SAAUC,SAAUre,EAAEU,WAAW2d,SAAUC,SAAUte,EAAEU,WAAW4d,SAAUC,SAAUve,EAAEU,WAAW6d,SAAUC,SAAUxe,EAAEU,WAAW8d,SAAUC,SAAUze,EAAEU,WAAW+d,SAAUC,SAAU1e,EAAEU,WAAWge,SAAUC,SAAU3e,EAAEU,WAAWie,SAAUC,SAAU5e,EAAEU,WAAWke,SAAUC,SAAU7e,EAAEU,WAAWme,SAAUC,SAAU9e,EAAEU,WAAWoe,SAAUC,SAAU/e,EAAEU,WAAWqe,SAAUC,SAAUhf,EAAEU,WAAWse,SAAUC,SAAUjf,EAAEU,WAAWue,SAAUC,SAAUlf,EAAEU,WAAWwe,SAAUC,SAAUnf,EAAEU,WAAWye,SAAUC,SAAUpf,EAAEU,WAAW0e,SAAUC,SAAUrf,EAAEU,WAAW2e,SAAUC,SAAUtf,EAAEU,WAAW4e,SAAUC,SAAUvf,EAAEU,WAAW6e,SAAUC,SAAUxf,EAAEU,WAAW8e,SAAUC,SAAUzf,EAAEU,WAAW+e,SAAUC,SAAU1f,EAAEU,WAAWgf,SAAUC,SAAU3f,EAAEU,WAAWif,SAAUC,SAAU5f,EAAEU,WAAWkf,SAAUC,SAAU7f,EAAEU,WAAWmf,SAAUC,SAAU9f,EAAEU,WAAWof,SAAUC,SAAU/f,EAAEU,WAAWqf,SAAUC,SAAUhg,EAAEU,WAAWsf,SAAUC,SAAUjg,EAAEU,WAAWuf,SAAUC,SAAUlg,EAAEU,WAAWwf,SAAUC,SAAUng,EAAEU,WAAWyf,SAAUC,SAAUpg,EAAEU,WAAW0f,SAAUC,SAAUrg,EAAEU,WAAW2f,SAAUC,SAAUtg,EAAEU,WAAW4f,SAAUC,SAAUvg,EAAEU,WAAW6f,SAAUC,SAAUxg,EAAEU,WAAW8f,SAAUC,SAAUzg,EAAEU,WAAW+f,SAAUC,SAAU1g,EAAEU,WAAWggB,SAAUC,SAAU3g,EAAEU,WAAWigB,SAAUC,SAAU5g,EAAEU,WAAWkgB,SAAUC,SAAU7g,EAAEU,WAAWmgB,SAAUC,SAAU9g,EAAEU,WAAWogB,SAAUC,SAAU/g,EAAEU,WAAWqgB,SAAUC,SAAUhh,EAAEU,WAAWsgB,SAAUC,SAAUjh,EAAEU,WAAWugB,SAAUC,SAAUlh,EAAEU,WAAWwgB,SAAUC,SAAUnh,EAAEU,WAAWygB,SAAUC,SAAUph,EAAEU,WAAW0gB,SAAUC,SAAUrh,EAAEU,WAAW2gB,SAAUC,SAAUth,EAAEU,WAAW4gB,SAAUC,SAAUvh,EAAEU,WAAW6gB,SAAUC,SAAUxh,EAAEU,WAAW8gB,SAAUC,SAAUzh,EAAEU,WAAW+gB,SAAUC,SAAU1h,EAAEU,WAAWghB,SAAUC,SAAU3h,EAAEU,WAAWihB,SAAUC,SAAU5h,EAAEU,WAAWkhB,SAAUC,SAAU7h,EAAEU,WAAWmhB,SAAUC,SAAU9h,EAAEU,WAAWohB,SAAUC,SAAU/h,EAAEU,WAAWqhB,SAAUC,SAAUhi,EAAEU,WAAWshB,SAAUC,SAAUjiB,EAAEU,WAAWuhB,SAAUC,SAAUliB,EAAEU,WAAWwhB,SAAUC,SAAUniB,EAAEU,WAAWyhB,SAAUC,SAAUpiB,EAAEU,WAAW0hB,SAAUC,SAAUriB,EAAEU,WAAW2hB,SAAUC,SAAUtiB,EAAEU,WAAW4hB,SAAUC,SAAUviB,EAAEU,WAAW6hB,SAAUC,SAAUxiB,EAAEU,WAAW8hB,SAAUC,SAAUziB,EAAEU,WAAW+hB,SAAUC,SAAU1iB,EAAEU,WAAWgiB,SAAUC,SAAU3iB,EAAEU,WAAWiiB,SAAUC,SAAU5iB,EAAEU,WAAWkiB,SAAUC,SAAU7iB,EAAEU,WAAWmiB,SAAUC,SAAU9iB,EAAEU,WAAWoiB,SAAUC,SAAU/iB,EAAEU,WAAWqiB,SAAUC,SAAUhjB,EAAEU,WAAWsiB,SAAUC,SAAUjjB,EAAEU,WAAWuiB,SAAUC,SAAUljB,EAAEU,WAAWwiB,SAAUC,SAAUnjB,EAAEU,WAAWyiB,SAAUC,SAAUpjB,EAAEU,WAAW0iB,SAAUC,SAAUrjB,EAAEU,WAAW2iB,SAAUC,SAAUtjB,EAAEU,WAAW4iB,SAAUC,SAAUvjB,EAAEU,WAAW6iB,SAAUC,SAAUxjB,EAAEU,WAAW8iB,SAAUC,SAAUzjB,EAAEU,WAAW+iB,SAAUC,SAAU1jB,EAAEU,WAAWgjB,SAAUC,SAAU3jB,EAAEU,WAAWijB,SAAUC,SAAU5jB,EAAEU,WAAWkjB,SAAUC,SAAU7jB,EAAEU,WAAWmjB,SAAUC,SAAU9jB,EAAEU,WAAWojB,SAAUC,SAAU/jB,EAAEU,WAAWqjB,SAAUC,SAAUhkB,EAAEU,WAAWsjB,SAAUC,SAAUjkB,EAAEU,WAAWujB,SAAUC,SAAUlkB,EAAEU,WAAWwjB,SAAUC,SAAUnkB,EAAEU,WAAWyjB,SAAUC,SAAUpkB,EAAEU,WAAW0jB,SAAUC,SAAUrkB,EAAEU,WAAW2jB,SAAUC,SAAUtkB,EAAEU,WAAW4jB,SAAUC,SAAUvkB,EAAEU,WAAW6jB,SAAUC,SAAUxkB,EAAEU,WAAW8jB,SAAUC,SAAUzkB,EAAEU,WAAW+jB,SAAUC,SAAU1kB,EAAEU,WAAWgkB,SAAUC,SAAU3kB,EAAEU,WAAWikB,SAAUC,SAAU5kB,EAAEU,WAAWkkB,SAAUC,SAAU7kB,EAAEU,WAAWmkB,SAAUC,SAAU9kB,EAAEU,WAAWokB,SAAUC,SAAU/kB,EAAEU,WAAWqkB,SAAUC,SAAUhlB,EAAEU,WAAWskB,SAAUC,SAAUjlB,EAAEU,WAAWukB,SAAUC,SAAUllB,EAAEU,WAAWwkB,SAAUC,SAAUnlB,EAAEU,WAAWykB,SAAUC,SAAUplB,EAAEU,WAAW0kB,SAAUC,SAAUrlB,EAAEU,WAAW2kB,SAAUC,SAAUtlB,EAAEU,WAAW4kB,SAAUC,SAAUvlB,EAAEU,WAAW6kB,SAAUC,SAAUxlB,EAAEU,WAAW8kB,SAAUC,SAAUzlB,EAAEU,WAAW+kB,SAAUC,SAAU1lB,EAAEU,WAAWglB,SAAUC,SAAU3lB,EAAEU,WAAWilB,SAAUC,SAAU5lB,EAAEU,WAAWklB,SAAUC,SAAU7lB,EAAEU,WAAWmlB,SAAUC,SAAU9lB,EAAEU,WAAWolB,SAAUC,SAAU/lB,EAAEU,WAAWqlB,SAAUC,SAAUhmB,EAAEU,WAAWslB,SAAUC,SAAUjmB,EAAEU,WAAWulB,SAAUC,SAAUlmB,EAAEU,WAAWwlB,SAAUC,SAAUnmB,EAAEU,WAAWyl

EAAgB,IAAIpH,EAAGwC,eAAe,eAgCtCuE,EAAsC,SAAUxD,GAEhD,SAASwD,EAAqBM,EAAmB7C,GAC7C
,IAAIf,EAAQF,EAAO9B,KAAK1B,OAASA,KAKjC,GAJA0D,EAAM4D,kBAAoBA,EACCd,MAAR7C,IACAA,E
AAOf,EAAM4D,kBAAkBtD,sBAEvB,MAARS,EACCA,MAAM,IAAI8C,MAAM,+GAGpB,OADA7D,EAAM8D,
UAAY/C,EACXf,EAgCX,OA3CA5C,EAAUkG,EAAsBxD,GAahCwD,EAAqB/F,UAAUiD,WAAa,SAAUC,
DnE,KAAKsH,kBAAkBpD,WAAWC,EAAClCnE,KAAKsH,kBAAkBhD,aAAaH,IAExC6C,EAAqB/F,UAAUgD,Y
AAc,WACzC,OAAOjE,KAAKwH,WAAhBR,EAAqB/F,UAAUwG,mBAAqB,SAAUC,EAAGC,EAAC1D,EAAOA,
G,KAAKwH,UAAWE,IAEzCV,EAAqB/F,UAAU0G,KAAO,SAAUC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,
7C,EAAW/E,KAAKsH,kBAAkBvC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,
5B,WAE3BsB,EAAqB/F,UAAU0E,KAAO,WAAClC3F,KAAKsH,kBAAkB3B,QAAEpBqB,EA5C8B,CA6CvC1D,GACF0D,E
AAqB/D,WAAa,CAC9B,CAAEC,KAAMjD,EAAGkD,aAEf6D,EAAqBE,eAAiB,WAAc,MAAO,CAAC,CAAEhE,KAAMX,EAAGY,WAAY,MAAO,CAACvE,KAAKuI,
E,KAAMX,EAAGR,EAAGS,WAAY,EAAGC,QAAS9E,KAAKuI,EAAE,KAAMX,EAAGR,EAAGS,WAAY,EAAGC,QAAS9E,KAAKuI,E9E,
KAAMjD,EAAGmH,EAAGlD,QAAShE,KAAKuI,EAAE,KAAMX,EAAGR,EAAGS,WAAY,EAAGC,QAAS9E,KAAKuI,EzE,EAAqBX,E
AAmBE,GAC7C,IAAI9D,EAAQF,EAAO9B,KAAK1B,OAASA,KAAMjC,OALA0D,EAAM4D,kBAAoBA,EAAC1B
5D,EAAM8D,UAAY,GACD,MAAbA,IACA9D,EAAM8D,UAAYA,GAEf9D,EAAM4D,kBAAoBA,EAAC0C,OAAlDA5C,EAAUmH,EAAEA
sBzE,GAAUhCyE,EAAqBhH,UAAUiD,WAAa,SAAUC,GAAlClE,KAAKsH,kBAAkBpD,WAAWC,EAAGlE,KAAKsH,kBAAkBhD,aAAaH,IAAIC,EAAGl

AAOf,EAAqBmC,IAAS1D,IAUhG6C,EAASjH,UAAUwE,aAAe,SAAUkC,EAAMoB,EAAO1D,QACvC,IAAV0D
,IAAoBA,EAAQ,SAClB,IAAV1D,IAAoBA,EAAQ,MAChCrF,KAAKuI,kBAAkB9C,aAAaJ,EAAO,GAAIsC,EA
AMoB,GACrD/I,KAAKmJ,0BAA0BnJ,KAAKyH,mBAAmBE,EAAOf,EAAqBmC,IAAS1D,IAKhG6C,EAASjH,
UAAUyE,QAAU,WACzB1F,KAAKuI,kBAAkB7C,WAK3BwC,EAASjH,UAAU0E,KAAO,WACtB3F,KAAKuI,
kBAAkB5C,QAQ3BuC,EAASjH,UAAUmI,YAAc,SAAUjF,GACvC,IAAIT,EAAQ1D,KAAKqJ,IAAI,YAAa,KACZA,IAAI,oBAAoB
BjG,KAAK8B,GACzBnE,KAAKqJ,yBACNrJ,KAAKqJ,uBAAyBrJ,KAAKsJ,WAAU,SAAUC,GACvC,IAAIT,EAAQ,MAAMU,KAAKD,EAAQ,MAAMC,KAAKF,EAAQ,MAAMG,KAAKH,EAAQ,MAAMG,KAAKH,EAAQ,MAAMG,KAAKH

ACnBgJ,IAAO,MAAChJ,EAAW,IAAK,GACxBiJ,IAAO,MAACjJ,EAAW,OACnBkJ,IAAO,MAAClJ,OAAWA,E
AAW,GAC9BmJ,IAAO,MAACnJ,EAAW,KACnBoJ,IAAO,MAACpJ,EAAW,MACnBqJ,IAAO,MAACrJ,EAAW,
KAAM,GACzBsJ,IAAO,MAACtJ,EAAW,KACnBuJ,IAAO,MAACvJ,EAAW,KAAM,GACzBwJ,IAAO,MAACxJ
,EAAW,KACnByJ,IAAO,MAACzJ,EAAW,KACnB0J,IAAO,MAAC1J,OAAWA,EAAW,GAC9B2J,IAAO,MAAC
3J,OAAWA,EAAW,GAC9B4J,IAAO,MAAC5J,EAAW,KACnB6J,IAAO,MAAC7J,EAAW,KACnB8J,IAAO,MA
AC9J,OAAWA,EAAW,GAC9B+J,IAAO,MAAC/J,EAAW,MACnBgK,IAAO,MAAChK,EAAW,KAAK,GACxBiK
,IAAO,MAACjK,EAAW,KACnBkK,IAAO,MAAClK,OAAWA,EAAW,GAC9BmK,IAAO,MAACnK,OAAWA,E
AAW,GAC9BoK,IAAO,MAACpK,EAAW,MACnBqK,IAAO,MAACrK,OAAWA,EAAW,GAC9BsK,IAAO,MA
ACtK,EAAW,KACnBuK,IAAO,MAACvK,EAAW,KACnBwK,IAAO,CAAC,MAAO,IAAK,GACpBC,IAAO,MA
ACzK,OAAWA,EAAW,GAC9B0K,IAAO,MAAC1K,EAAW,KACnB2K,IAAO,MAAC3K,OAAWA,EAAW,GAC
9B4K,IAAO,CAAC,KACRC,IAAO,MAAC7K,OAAWA,EAAW,GAC9B8K,IAAO,MAAC9K,EAAW,KACnB+K,IAAO,
IAAO,MAAC/K,OAAWA,EAAW,GAC9BgL,IAAO,MAAChL,OAAWA,EAAW,GAC9BiL,IAAO,MAACjL,EAAW,KAAM
W,KAAM,GACzBkL,IAAO,CAAC,SAAKlL,EAAW,GACxBmL,IAAO,MAACnL,OAAWA,EAAW,GAC9BoL,I
AAO,CAAC,YAAQpL,EAAW,GAC3BqL,IAAO,CAAC,MAAO,KCfC,IAAO,CAAC,WAAOtL,EAAW,GAC1B
uL,IAAO,CAAC,YAAQvL,EAAW,GAC3BwL,IAAO,CAAC,KACRC,IAAO,MAACzL,OAAWA,EAAW,GAC9B
0L,IAAO,MAAC1L,EAAW,KACnB2L,IAAO,MAAC3L,OAAWA,EAAW,GAC9B4L,IAAO,MAAC5L,EAAW,M
ACnB6L,IAAO,MAAC7L,OAAWA,EAAW,IAiJlC,SAAS8L,EAAYC,GACjB,OAAOjT,EAAGkT,gBAAgBD,GA
AQjT,EAAGmT,iBAAiBC,UAa1D,SASC,EAAoBJ,EAAQK,EAAWC,GAC5C,IAAIC,EAAOxT,EAAGkT,gBAAgBD,G
AI1BQ,EAAOC,EAHI,CACXF,EAAKxT,EAAGmT,iBAAQ,kBAAmBH,EAAKxT,EAAGmT,iBAAiB
S,uBAEhCN,GACzC,OAAOI,EAAoBD,EAAMF,EAAcrT,EAAGmT,iBAAQ,kBAAmBH,EAAKxT,EAAGmT,iBAAiBY,YAAaP,EAAKxT,
EAAGmT,iBAAiBa,iBACtCV,GACzC,OAAOI,EAAoBI,EAAMF,EAAcrT,EAAGmT,iBAAQ,kBAAmBH,EAAKxT,EAAGmT,iBAAiBBg
B,cAAeX,EAAKxT,EAAGmT,iBAAiBiB,mBACtCd,GAC7C,OAAOI,EAAoBQ,EAAMF,EAAcrT,EAAGmT,iBAAQ,kBAAmBH,EAAKxT,EAAGmT,iBAAiBmB
pB,EAAQM,GAG/B,OAAOG,EAFI1T,EAAGkT,gBAAgBD,GACVjT,EAAGmT,iBAAiBmB,MACHf,GAAyCzC,S
AASgB,EAAoBtB,EAAQM,GAEjC,OAAOG,EADI1T,EAAGkT,gBAAgBD,GACEjT,EAAGmT,iBAAiBqB,YAA
ajB,GAAarE,SAASkB,EAAoBxB,EAAQM,GAEjC,OAAOG,EADI1T,EAAGkT,gBAAgBD,GACEjT,EAAGmT,iBAAiB
AAiBuB,YAAanB,GAAarE,SAASoB,EAAwB1B,EAAQM,GAGrC,OAAOG,EAFI1T,EAAGkT,gBAAgBD,GACAj
T,EAAGmT,iBAAiByB,gBACHrB,GAAYnD,SAASsB,EAAsB5B,EAAQ6B,GACnC,IAAItB,EAAOxT,EAAGkT,gBAAgBD,G
BAAgBD,GAC1B8B,EAAMvB,EAAKxT,EAAGmT,iBAAiB6B,eAAeC,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC5
B,GAAID,IAAWxV,EAAQ6K,aAAa8K,gBAAOC,OAAOzB,EAAKxT,EAAGmT,iBAAiB6B,eAAeC,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa+K,SAAEnE,GAAIJ,IAAWxV,EAAQ6K,aAAagL,cAACrC,EAAKxT,EAAGmT,iBAAiB6B,eAAeC,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaiL,OAG5E,OAAOL,EAAqCX,SAASiB,EAAsBC,EAAQC,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaqL,SAAEzE,GAAIJ,IAAWxV,EAAQ6K,aAAaqL,cAAC1C,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAasL,SAAE1E,GAAIJ,IAAWxV,EAAQ6K,aAAasL,cAAC3C,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAauL,SAAE3E,GAAIJ,IAAWxV,EAAQ6K,aAAauL,cAAC5C,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAawL,SAAE5E,GAAIJ,IAAWxV,EAAQ6K,aAAawL,cAAC7C,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAayL,SAAE7E,GAAIJ,IAAWxV,EAAQ6K,aAAayL,cAAC9C,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa0L,SAAE9E,GAAIJ,IAAWxV,EAAQ6K,aAAa0L,cAAC/C,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa2L,SAAE/E,GAAIJ,IAAWxV,EAAQ6K,aAAa2L,cAAChD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa4L,SAAEhF,GAAIJ,IAAWxV,EAAQ6K,aAAa4L,cAACjD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa6L,SAAEjF,GAAIJ,IAAWxV,EAAQ6K,aAAa6L,cAAClD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa8L,SAAElF,GAAIJ,IAAWxV,EAAQ6K,aAAa8L,cAACnD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa+L,SAAEnF,GAAIJ,IAAWxV,EAAQ6K,aAAa+L,cAACpD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAagM,SAAEpF,GAAIJ,IAAWxV,EAAQ6K,aAAagM,cAACrD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaiM,SAAErF,GAAIJ,IAAWxV,EAAQ6K,aAAaiM,cAACtD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAakM,SAAEtF,GAAIJ,IAAWxV,EAAQ6K,aAAakM,cAACvD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAamM,SAAEvF,GAAIJ,IAAWxV,EAAQ6K,aAAamM,cAACxD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaoM,SAAExF,GAAIJ,IAAWxV,EAAQ6K,aAAaoM,cAACzD,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaqM,SAAEzF,GAAIJ,IAAWxV,EAAQ6K,aAAaqM,cAAC1D,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAasM,SAAE1F,GAAIJ,IAAWxV,EAAQ6K,aAAasM,cAAC3D,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAauM,SAAE3F,GAAIJ,IAAWxV,EAAQ6K,aAAauM,cAAC5D,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAawM,SAAE5F,GAAIJ,IAAWxV,EAAQ6K,aAAawM,cAAC7D,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAayM,SAAE7F,GAAIJ,IAAWxV,EAAQ6K,aAAayM,cAAC9D,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa0M,SAAE9F,GAAIJ,IAAWxV,EAAQ6K,aAAa0M,cAAC/D,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa2M,SAAE/F,GAAIJ,IAAWxV,EAAQ6K,aAAa2M,cAAChE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa4M,SAAEhG,GAAIJ,IAAWxV,EAAQ6K,aAAa4M,cAACjE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa6M,SAAEjG,GAAIJ,IAAWxV,EAAQ6K,aAAa6M,cAAClE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa8M,SAAElG,GAAIJ,IAAWxV,EAAQ6K,aAAa8M,cAACnE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa+M,SAAEnG,GAAIJ,IAAWxV,EAAQ6K,aAAa+M,cAACpE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAagN,SAAEpG,GAAIJ,IAAWxV,EAAQ6K,aAAagN,cAACrE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaiN,SAAErG,GAAIJ,IAAWxV,EAAQ6K,aAAaiN,cAACtE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAakN,SAAEtG,GAAIJ,IAAWxV,EAAQ6K,aAAakN,cAACvE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAamN,SAAEvG,GAAIJ,IAAWxV,EAAQ6K,aAAamN,cAACxE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaoN,SAAExG,GAAIJ,IAAWxV,EAAQ6K,aAAaoN,cAACzE,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaqN,SAAEzG,GAAIJ,IAAWxV,EAAQ6K,aAAaqN,cAAC1E,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAasN,SAAE1G,GAAIJ,IAAWxV,EAAQ6K,aAAasN,cAAC3E,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAauN,SAAE3G,GAAIJ,IAAWxV,EAAQ6K,aAAauN,cAAC5E,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAawN,SAAE5G,GAAIJ,IAAWxV,EAAQ6K,aAAawN,cAAC7E,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAayN,SAAE7G,GAAIJ,IAAWxV,EAAQ6K,aAAayN,cAAC9E,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa0N,SAAE9G,GAAIJ,IAAWxV,EAAQ6K,aAAa0N,cAAC/E,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa2N,SAAE/G,GAAIJ,IAAWxV,EAQ6K,aAAa2N,cAAChF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa4N,SAAEhH,GAAIJ,IAAWxV,EAAQ6K,aAAa4N,cAACjF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa6N,SAAEjH,GAAIJ,IAAWxV,EAAQ6K,aAAa6N,cAAClF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa8N,SAAElH,GAAIJ,IAAWxV,EAAQ6K,aAAa8N,cAACnF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa+N,SAAEnH,GAAIJ,IAAWxV,EAAQ6K,aAAa+N,cAACpF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAagO,SAAEpH,GAAIJ,IAAWxV,EAAQ6K,aAAagO,cAACrF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaiO,SAAErH,GAAIJ,IAAWxV,EAAQ6K,aAAaiO,cAACtF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAakO,SAAEtH,GAAIJ,IAAWxV,EAAQ6K,aAAakO,cAACvF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAamO,SAAEvH,GAAIJ,IAAWxV,EAAQ6K,aAAamO,cAACxF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaoO,SAAExH,GAAIJ,IAAWxV,EAAQ6K,aAAaoO,cAACzF,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaqO,SAAEzH,GAAIJ,IAAWxV,EAAQ6K,aAAaqO,cAAC1F,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAasO,SAAE1H,GAAIJ,IAAWxV,EAAQ6K,aAAasO,cAAC3F,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAauO,SAAE3H,GAAIJ,IAAWxV,EAAQ6K,aAAauO,cAAC5F,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAawO,SAAE5H,GAAIJ,IAAWxV,EAAQ6K,aAAawO,cAAC7F,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAayO,SAAE7H,GAAIJ,IAAWxV,EAAQ6K,aAAayO,cAAC9F,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa0O,SAAE9H,GAAIJ,IAAWxV,EAAQ6K,aAAa0O,cAAC/F,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa2O,SAAE/H,GAAIJ,IAAWxV,EAAQ6K,aAAa2O,cAAChG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa4O,SAAEhI,GAAIJ,IAAWxV,EAAQ6K,aAAa4O,cAACjG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa6O,SAAEjI,GAAIJ,IAAWxV,EAAQ6K,aAAa6O,cAAClG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa8O,SAAElI,GAAIJ,IAAWxV,EAAQ6K,aAAa8O,cAACnG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa+O,SAAEnI,GAAIJ,IAAWxV,EAAQ6K,aAAa+O,cAACpG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAagP,SAAEpI,GAAIJ,IAAWxV,EAAQ6K,aAAagP,cAACrG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaiP,SAAErI,GAAIJ,IAAWxV,EAAQ6K,aAAaiP,cAACtG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAakP,SAAEtI,GAAIJ,IAAWxV,EAAQ6K,aAAakP,cAACvG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAamP,SAAEvI,GAAIJ,IAAWxV,EAAQ6K,aAAamP,cAACxG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaoP,SAAExI,GAAIJ,IAAWxV,EAAQ6K,aAAaoP,cAACzG,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaqP,SAAEzI,GAAIJ,IAAWxV,EAAQ6K,aAAaqP,cAAC1G,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAasP,SAAE1I,GAAIJ,IAAWxV,EAAQ6K,aAAasP,cAAC3G,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAauP,SAAE3I,GAAIJ,IAAWxV,EAAQ6K,aAAauP,cAAC5G,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAawP,SAAE5I,GAAIJ,IAAWxV,EAAQ6K,aAAawP,cAAC7G,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAayP,SAAE7I,GAAIJ,IAAWxV,EAAQ6K,aAAayP,cAAC9G,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa0P,SAAE9I,GAAIJ,IAAWxV,EAAQ6K,aAAa0P,cAAC/G,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa2P,SAAE/I,GAAIJ,IAAWxV,EAAQ6K,aAAa2P,cAAChH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa4P,SAAEhJ,GAAIJ,IAAWxV,EAAQ6K,aAAa4P,cAACjH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa6P,SAAEjJ,GAAIJ,IAAWxV,EAAQ6K,aAAa6P,cAAClH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa8P,SAAElJ,GAAIJ,IAAWxV,EAAQ6K,aAAa8P,cAACnH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa+P,SAAEnJ,GAAIJ,IAAWxV,EAAQ6K,aAAa+P,cAACpH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAagQ,SAAEpJ,GAAIJ,IAAWxV,EAAQ6K,aAAagQ,cAACrH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaiQ,SAAErJ,GAAIJ,IAAWxV,EAAQ6K,aAAaiQ,cAACtH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAakQ,SAAEtJ,GAAIJ,IAAWxV,EAAQ6K,aAAakQ,cAACvH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAamQ,SAAEvJ,GAAIJ,IAAWxV,EAAQ6K,aAAamQ,cAACxH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaoQ,SAAExJ,GAAIJ,IAAWxV,EAAQ6K,aAAaoQ,cAACzH,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaqQ,SAAEzJ,GAAIJ,IAAWxV,EAAQ6K,aAAaqQ,cAAC1H,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAasQ,SAAE1J,GAAIJ,IAAWxV,EAAQ6K,aAAasQ,cAAC3H,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAauQ,SAAE3J,GAAIJ,IAAWxV,EAAQ6K,aAAauQ,cAAC5H,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAawQ,SAAE5J,GAAIJ,IAAWxV,EAAQ6K,aAAawQ,cAAC7H,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAayQ,SAAE7J,GAAIJ,IAAWxV,EAAQ6K,aAAayQ,cAAC9H,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa0Q,SAAE9J,GAAIJ,IAAWxV,EAAQ6K,aAAa0Q,cAAC/H,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa2Q,SAAE/J,GAAIJ,IAAWxV,EAAQ6K,aAAa2Q,cAAChI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa4Q,SAAEhK,GAAIJ,IAAWxV,EAAQ6K,aAAa4Q,cAACjI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa6Q,SAAEjK,GAAIJ,IAAWxV,EAAQ6K,aAAa6Q,cAAClI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa8Q,SAAElK,GAAIJ,IAAWxV,EAAQ6K,aAAa8Q,cAACnI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAa+Q,SAAEnK,GAAIJ,IAAWxV,EAAQ6K,aAAa+Q,cAACpI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAagR,SAAEpK,GAAIJ,IAAWxV,EAAQ6K,aAAagR,cAACrI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaiR,SAAErK,GAAIJ,IAAWxV,EAAQ6K,aAAaiR,cAACtI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAakR,SAAEtK,GAAIJ,IAAWxV,EAAQ6K,aAAakR,cAACvI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAamR,SAAEvK,GAAIJ,IAAWxV,EAAQ6K,aAAamR,cAACxI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaoR,SAAExK,GAAIJ,IAAWxV,EAAQ6K,aAAaoR,cAACzI,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,EAAQ6B,GAAOC,QAAmBC,IAAmBC,EAAaC,EAAC,aAAaqR,SAAEzK,GAAIJ,IAAWxV,EAAQ6K,aAAaqR,cAAC1I,EAAKxT,EAAGmT,iBAAiBmB,MAAMf,GAAyCzC,SAASqB,EAAsB3B,

BAKnDA,EAAaA,EAA8B,gBAAI,IAAM,kBAKrDA,EAAaA,EAA4B,cAAI,IAAM,iBAE5CC,EAQR9K,EAAQ8K,UAAY9K,EAAQ8K,QAAU,KAP7BA,EAAgB,OAAI,GAAK,SAAjCA,CA,EAAAQA,EAAAgB,OAAI,GAAK,SAAjCA,CA,EAAAQA,EAAAiB,QAAI,GAAK,UAAClCA,EAAAQA,EAAAmB,UAAI,GAAK,YAApCA,CA,EAAAQA,EAAAkB,SAAI,GAAK,WAAnCA,CnCA,EAAAQA,EAAAgB,OAAI,GAAK,SAAjCA,CA,EAAAQA,EAAAkB,SAAI,GAAK,WAAqBvC,EAAAGwV,qBAC7BC,SAASC,EAAAcjC,EAAGnB,IAAAKA,EAAAxB,EAAAmT,iBAAAiBuC,WAC1BC,1BAAMC,MAAAC,EAAAC,EAAAC,E

Ae9F,EAAQ,YAClC6G,EAAWf,EAAe9F,EAAQ,YACtCgG,EACIO,GAAe7E,EAAwB1B,EAAQ3T,EAAQ4K,YAAYmP,MAAO,CAACQ,EAAUC,IAMjG,OAHIb,IACA9B,GAAAc6B,GAAAUxC,GAAAUyC,GAE/BA,EA3FWF,CAAAe9F,EAAAQuD,IACjBA,EAGxB,IAFA,IACIjQ,EADAwT,EAAAQ,GAELvD,GAAAQ,CAEX,IAAS3B,GAAAmX,KAAAoU,GAAAC,IAAAC,GAAAC,GAAAC,G

F,kBAAmB,GACnD,MACJ,IAAK,MACDlB,EAAYK,GAAWtE,GAASmF,kBAAmB,GACnD,MAEJ,IAAK,IACL
,IAAK,KACL,IAAK,MACDlB,EAAYmB,GAAerF,EAAUmC,OACrC,MAEJ,IAAK,QACD+B,EAAYmB,GAAer
F,EAAUsF,UACrC,MAEJ,IAAK,IACL,IAAK,KACL,IAAK,MAEL,IAAK,IACL,IAAK,KACL,IAAK,MACDpB,E
AAYmB,GAAerF,EAAUuF,UACrC,MAEJ,IAAK,OACL,IAAK,OAEL,IAAK,OACDrB,EAAYmB,GAAerF,EAA
UqC,MACrC,MACJ,QACI,OAAO,KAGf,OADA4B,GAAaxE,GAAUyE,EAChBA,EA1gBiBF,CAAiBnZ,GACrCi
Z,GAAQC,EACJA,EAAcvD,EAAMtE,EAAQkH,GAClB,OAAVvY,EAAmB,IAAOA,EAAMiI,QAAQ,WAAY,IA
AIA,QAAQ,MAAO,QAExEgR,EA8DX,SAASrB,GAAe+C,EACpB,QAAQ,eAAe,SAAUtD,EAAGuD,EAAIC,EAAIC,EAAIC

AWsB,EAAMgC,GAEtB,YADmB,IAAfA,IAAyBA,GAAa,GACnC,SAAU3H,EAAMtE,GACnB,IAAIkM,EACJ,GAAID,EAAY,CACZ,IAAIE,EAA4B,IAAIzH,KAAKJ,EAAK8F,cAAe9F,EAAK+F,WAAY,GAAGM,SAAW,EACxFyB,EAAQ9H,EAAKgG,UACjB4B,EAAS,EAAIG,KAAKC,OAAOuG,EAAQD,GAA6B,OAE7D,CACD,IAAIE,EAAYN,GAAoBzH,GAAhCgI,EAAqCC,EAAEpB,hBAAhBqB,SAASC,EAAEC,WAAWC,EAAEC,WAAWC,EAAEC,WAAW

EAAO1U,KAAK,GAChB,IAAIugB,EAAqC,IAAjBP,EAGpBQ,EAAShB,EAAUf,EAAaE,WAEhC8B,EAAQ/L,EAAOgM,aAAY,SAAUD,EAAOxiB,EAAGmB,EAAGsV,GAYlD,OAVAA,EAAOtV,IADPnB,GAAQwiB,GACQ,GAAKxiB,EAAIA,,EAAIA,GACzBsiB,IAEkB,IAAd7L,EAAOtV,IAAYA,EAAOnO,MAAGPgaAoB,GAGrBtiB,GAAK,GAAK,EAAI,IACtB,GAAKwiB,EAAIA,,cA1UboB,CAAYtB,EAAcc,EAAaE,GACvC/I,J,EAAa/J,OACtBiK,EAAaF,EAAaE,WAAC1BI,EAAWN,EAAOM,WAAEN,EAAOM,WAAEN,EAAOM,WAAE

K,OAAOob,KAChB,MAAO,OACX,KAAK7lB,EAAQyK,OAAOqb,IAChB,MAAO,MACX,KAAK9lB,EAAQyK,OAAOsb,IAChB,MAAO,MACX,KAAK/lB,EAAQyK,OAAOub,IAChB,MAAO,MACX,KAAKhmB,EAAQyK,OAAOwb,KAChB,MAAO,OACX,QACI,MAAO,UAGZL,EAAxB8B,CA7BrChF,GACA,SAASA,QAAsDgF,GAAAqBliB,WAAAa,CAAC9B,CAAAEC,KAAAmB,EAAAC,KAAAC,EAAAC,KAAAC,EAAAC,KAAAC

BAC7E7oB,KAAKyoB,cAAgBzoB,KAAKwoB,kBAAkBkB,gBAAgBJ,EAAkBtpB,KAAKwoB,kBAAkB7mB,OAAQmnB,EAAY9oB,KAAK2pB,4BAGtIpB,EAAkBtnB,UAAU2oB,YAAc,WAClC5pB,KAAK0oB,YACL1oB,KAAK0oB,WAAWO,WAEjBV,EAhC2B,GAkCtCA,GAAkBtlB,WAAa,CAC3B,CAAEC,KAAMjD,EAAG6nB,UAAW1kB,KAAM,WAAa,CAAEF

AAe,KACpB1sB,KAAKusB,iBAAmBH,EAsE5B,OApEA5rB,OAAO+D,eAAe4nB,EAAKlrB,UAAW,OAAQ,CAI1C+D,IAAK,SAAU2nB,GACX3sB,KAAKqsB,SAAStC,UAAY/pB,KAAKqsB,SAASO,KAAOD,EAC/C3sB,KAAK6sB,eAETnoB,YAAY,EACZC,cAAc,IAElBnE,OAAO+D,eAAe4nB,EAAKlrB,UAAW,WAAY,CAI9C+D,IAAK,SAAUonB,GACX,GAAIA,IAAUtrB,KAAKurB,SAAU,CACzB,IAAIC,EAAOxrB,KAAKyrB,YAAYH,GAC5B,GAAIE,EAAM,CACRxrB,KAAKurB,SAAWD,EAChBtrB,KAAK0rB,UAAYF,EAAKG,MACtB3rB,KAAK4rB,WAAaJ,EAAKK,OACvB7rB,KAAK8rB,WAAaN,EAAKO,MACvB/rB,KAAKgsB,YAAcR,EAAKS,OACxBjsB,KAAKksB,WAAaV,EAAKW,MACvBnsB,KAAKosB,YAAcZ,EAAKa,OACxBrsB,KAAKssB,WAAad,EAAKe,MACvBvsB,KAAKwsB,YAAchB,EAAKiB,OACxBzsB,KAAK0sB,WAAalB,EAAKmB,MACvB3sB,KAAK4sB,YAAcpB,EAAKqB,OACxB7sB,KAAK8sB,WAAatB,EAAKuB,MACvB/sB,KAAKgtB,YAAcxB,EAAKyB,OACxBjtB,KAAKktB,WAAa1B,EAAK2B,MACvBntB,KAAKotB,YAAc5B,EAAK6B,OACxBrtB,KAAKstB,WAAa9B,EAAK+B,MACvBvtB,KAAKwtB,YAAchC,EAAKiC,OACxBztB,KAAK0tB,WAAalC,EAAKmC,MACvB3tB,KAAK4tB,YAAcpC,EAAKqC,OACxB7tB,KAAK8tB,WAAatC,EAAKuC,MACvB/tB,KAAKguB,YAAcxC,EAAKyC,OACxBjuB,KAAKkuB,WAAa1C,EAAK2C,MACvBnuB,KAAKouB,YAAc5C,EAAK6C,OACxBruB,KAAKsuB,WAAa9C,EAAK+C,MACvBvuB,KAAKwuB,YAAchD,EAAKiD,OACxBzuB,KAAK0uB,WAAalD,EAAKmD,MACvB3uB,KAAK4uB,YAAcpD,EAAKqD,OACxB7uB,KAAK8uB,WAAatD,EAAKuD,MACvB/uB,KAAKgvB,YAAcxD,EAAKyD,OACxBjvB,KAAKkvB,WAAa1D,EAAK2D,MACvBnvB,KAAKovB,YAAc5D,EAAK6D,OACxBrvB,KAAKsvB,WAAa9D,EAAK+D,MACvBvvB,KAAKwvB,YAAchE,EAAKiE,OACxBzvB,KAAK0vB,WAAalE,EAAKmE,MACvB3vB,KAAK4vB,YAAcpE,EAAKqE,OACxB7vB,KAAK8vB,WAAatE,EAAKuE,MACvB/vB,KAAKgwB,YAAcxE,EAAKyE,OACxBjwB,KAAKkwB,WAAa1E,EAAK2E,MACvBnwB,KAAKowB,YAAc5E,EAAK6E,OACxBrwB,KAAKswB,WAAa9E,EAAK+E,MACvBvwB,KAAKwwB,YAAchF,EAAKiF,OACxBzwB,KAAK0wB,WAAalF,EAAKmF,MACvB3wB,KAAK4wB,YAAcpF,EAAKqF,OACxB7wB,KAAK8wB,WAAatF,EAAKuF,MACvB/wB,KAAKgxB,YAAcxF,EAAKyF,OACxBjxB,KAAKkxB,WAAa1F,EAAK2F,MACvBnxB,KAAKoxB,YAAc5F,EAAK6F,OACxBrxB,KAAKsxB,WAAa9F,EAAK+F,MACvBvxB,KAAKwxB,YAAchG,EAAKiG,OACxBzxB,KAAK0xB,WAAalG,EAAKmG,MACvB3xB,KAAK4xB,YAAcpG,EAAKqG,OACxB7xB,KAAK8xB,WAAatG,EAAKuG,MACvB/xB,KAAKgyB,YAAcxG,EAAKyG,OACxBjyB,KAAKkyB,WAAa1G,EAAK2G,MACvBnyB,KAAKoyB,YAAc5G,EAAK6G,OACxBryB,KAAKsyB,WAAa9G,EAAK+G,MACvBvyB,KAAKwyB,YAAchH,EAAKiH,OACxBzyB,KAAK0yB,WAAalH,EAAKmH,MACvB3yB,KAAK4yB,YAAcpH,EAAKqH,OACxB7yB,KAAK8yB,WAAatH,EAAKuH,MACvB/yB,KAAKgzB,YAAcxH,EAAKyH,OACxBjzB,KAAKkzB,WAAa1H,EAAK2H,MACvBnzB,KAAKozB,YAAc5H,EAAK6H,OACxBrzB,KAAKszB,WAAa9H,EAAK+H,MACvBvzB,KAAKwzB,YAAchI,EAAKiI,OACxBzzB,KAAK0zB,WAAalI,EAAKmI,MACvB3zB,KAAK4zB,YAAcpI,EAAKqI,OACxB7zB,KAAK8zB,WAAatI,EAAKuI,MACvB/zB,KAAKg0B,YAAcxI,EAAKyI,OACxBj0B,KAAKk0B,WAAa1I,EAAK2I,MACvBn0B,KAAKo0B,YAAc5I,EAAK6I,OACxBr0B,KAAKs0B,WAAa9I,EAAK+I,MACvBv0B,KAAKw0B,YAAchJ,EAAKiJ,OACxBz0B,KAAK00B,WAAalJ,EAAKmJ,MACvB30B,KAAK40B,YAAcpJ,EAAKqJ,OACxB70B,KAAK80B,WAAatJ,EAAKuJ,MACvB/0B,KAAKg1B,YAAcxJ,EAAKyJ,OACxBj1B,KAAKk1B,WAAa1J,EAAK2J,MACvBn1B,KAAKo1B,YAAc5J,EAAK6J,OACxBr1B,KAAKs1B,WAAa9J,EAAK+J,MACvBv1B,KAAKw1B,YAAchK,EAAKiK,OACxBz1B,KAAK01B,WAAalK,EAAKmK,MACvB31B,KAAK41B,YAAcpK,EAAKqK,OACxB71B,KAAK81B,WAAatK,EAAKuK,MACvB/1B,KAAKg2B,YAAcxK,EAAKyK,OACxBj2B,KAAKk2B,WAAa1K,EAAK2K,MACvBn2B,KAAKo2B,YAAc5K,EAAK6K,OACxBr2B,KAAKs2B,WAAa9K,EAAK+K,MACvBv2B,KAAKw2B,YAAchL,EAAKiL,OACxBz2B,KAAK02B,WAAalL,EAAKmL,MACvB32B,KAAK42B,YAAcpL,EAAKqL,OACxB72B,KAAK82B,WAAatL,EAAKuL,MACvB/2B,KAAKg3B,YAAcxL,EAAKyL,OACxBj3B,KAAKk3B,WAAa1L,EAAK2L,MACvBn3B,KAAKo3B,YAAc5L,EAAK6L,OACxBr3B,KAAKs3B,WAAa9L,EAAK+L,MACvBv3B,KAAKw3B,YAAchM,EAAKiM,OACxBz3B,KAAK03B,WAAalM,EAAKmM,MACvB33B,KAAK43B,YAAcpM,EAAKqM,OACxB73B,KAAK83B,WAAatM,EAAKuM,MACvB/3B,KAAKg4B,YAAcxM,EAAKyM,OACxBj4B,KAAKk4B,WAAa1M,EAAK2M,MACvBn4B,KAAKo4B,YAAc5M,EAAK6M,OACxBr4B,KAAKs4B,WAAa9M,EAAK+M,MACvBv4B,KAAKw4B,YAAchN,EAAKiN,OACxBz4B,KAAK04B,WAAalN,EAAKmN,MACvB34B,KAAK44B,YAAcpN,EAAKqN,OACxB74B,KAAK84B,WAAatN,EAAKuN,MACvB/4B,KAAKg5B,YAAcxN,EAAKyN,OACxBj5B,KAAKk5B,WAAa1N,EAAK2N,MACvBn5B,KAAKo5B,YAAc5N,EAAK6N,OACxBr5B,KAAKs5B,WAAa9N,EAAK+N,MACvBv5B,KAAKw5B,YAAchO,EAAKiO,OACxBz5B,KAAK05B,WAAalO,EAAKmO,MACvB35B,KAAK45B,YAAcpO,EAAKqO,OACxB75B,KAAK85B,WAAatO,EAAKuO,MACvB/5B,KAAKg6B,YAAcxO,EAAKyO,OACxBj6B,KAAKk6B,WAAa1O,EAAK2O,MACvBn6B,KAAKo6B,YAAc5O,EAAK6O,OACxBr6B,KAAKs6B,WAAa9O,EAAK+O,MACvBv6B,KAAKw6B,YAAchP,EAAKiP,OACxBz6B,KAAK06B,WAAalP,EAAKmP,MACvB36B,KAAK46B,YAAcpP,EAAKqP,OACxB76B,KAAK86B,WAAatP,EAAKuP,MACvB/6B,KAAKg7B,YAAcxP,EAAKyP,OACxBj7B,KAAKk7B,WAAa1P,EAAK2P,MACvBn7B,KAAKo7B,YAAc5P,EAAK6P,OACxBr7B,KAAKs7B,WAAa9P,EAAK+P,MACvBv7B,KAAKw7B,YAAchQ,EAAKiQ,OACxBz7B,KAAK07B,WAAalQ,EAAKmQ,MACvB37B,KAAK47B,YAAcpQ,EAAKqQ,OACxB77B,KAAK87B,WAAatQ,EAAKuQ,MACvB/7B,KAAKg8B,YAAcxQ,EAAKyQ,OACxBj8B,KAAKk8B,WAAa1Q,EAAK2Q,MACvBn8B,KAAKo8B,YAAc5Q,EAAK6Q,OACxBr8B,KAAKs8B,WAAa9Q,EAAK+Q,MACvBv8B,KAAKw8B,YAAchR,EAAKiR,OACxBz8B,KAAK08B,WAAalR,EAAKmR,MACvB38B,KAAK48B,YAAcpR,EAAKqR,OACxB78B,KAAK88B,WAAatR,EAAKuR,MACvB/8B,KAAKg9B,YAAcxR,EAAKyR,OACxBj9B,KAAKk9B,WAAa1R,EAAK2R,MACvBn9B,KAAKo9B,YAAc5R,EAAK6R,OACxBr9B,KAAKs9B,WAAa9R,EAAK+R,MACvBv9B,KAAKw9B,YAAchS,EAAKiS,OACxBz9B,KAAK09B,WAAalS,EAAKmS,MACvB39B,KAAK49B,YAAcpS,EAAKqS,OACxB79B,KAAK89B,WAAatS,EAAKuS,MACvB/9B,KAAKg+B,YAAcxS,EAAKyS,OACxBj+B,KAAKk+B,WAAa1S,EAAK2S,MACvBn+B,KAAKo+B,YAAc5S,EAAK6S,OACxBr+B,KAAKs+B,WAAa9S,EAAK+S,MACvBv+B,KAAKw+B,YAAchT,EAAKiT,OACxBz+B,KAAK0+B,WAAalT,EAAKmT,MACvB3+B,KAAK4+B,YAAcpT,EAAKqT,OACxB7+B,KAAK8+B,WAAatT,EAAKuT,MACvB/+B,KAAKg/B,YAAcxT,EAAKyT,OACxBj/B,KAAKk/B,WAAa1T,EAAK2T,MACvBn/B,KAAKo/B,YAAc5T,EAAK6T,OACxBr/B,KAAKs/B,WAAa9T,EAAK+T,MACvBv/B,KAAKw/B,YAAchU,EAAKiU,OACxBz/B,KAAK0/B,WAAalU,EAAKmU,MACvB3/B,KAAK4/B,YAAcpU,EAAKqU,OACxB7/B,KAAK8/B,WAAatU,EAAKuU,MACvB//B,KAAKggC,YAAcxU,EAAKyU,OACxBjgC,KAAKkgC,WAAa1U,EAAK2U,MACvBngC,KAAKogC,YAAc5U,EAAK6U,OACxBrgC,KAAKsgC,WAAa9U,EAAK+U,MACvBvgC,KAAKwgC,YAAchV,EAAKiV,OACxBzgC,KAAK0gC,WAAalV,EAAKmV,MACvB3gC,KAAK4gC,YAAcpV,EAAKqV,OACxB7gC,KAAK8gC,WAAatV,EAAKuV,MACvB/gC,KAAKghC,YAAcxV,EAAKyV,OACxBjhC,KAAKkhC,WAAa1V,EAAK2V,MACvBnhC,KAAKohC,YAAc5V,EAAK6V,OACxBrhC,KAAKshC,WAAa9V,EAAK+V,MACvBvhC,KAAKwhC,YAAchW,EAAKiW,OACxBzhC,KAAK0hC,WAAalW,EAAKmW,MACvB3hC,KAAK4hC,YAAcpW,EAAKqW,OACxB7hC,KAAK8hC,WAAatW,EAAKuW,MACvB/hC,KAAKgiC,YAAcxW,EAAKyW,OACxBjiC,KAAKkiC,WAAa1W,EAAK2W,MACvBniC,KAAKoiC,YAAc5W,EAAK6W,OACxBriC,KAAKsiC,WAAa9W,EAAK+W,MACvBviC,KAAKwiC,YAAchX,EAAKiX,OACxBziC,KAAK0iC,WAAalX,EAAKmX,MACvB3iC,KAAK4iC,YAAcpX,EAAKqX,OACxB7iC,KAAK8iC,WAAatX,EAAKuX,MACvB/iC,KAAKgjC,YAAcxX,EAAKyX,OACxBjjC,KAAKkjC,WAAa1X,EAAK2X,MACvBnjC,KAAKojC,YAAc5X,EAAK6X,OACxBrjC,KAAKsjC,WAAa9X,EAAK+X,MACvBvjC,KAAKwjC,YAAchY,EAAKiY,OACxBzjC,KAAK0jC,WAAalY,EAAKmY,MACvB3jC,KAAK4jC,YAAcpY,EAAKqY,OACxB7jC,KAAK8jC,WAAatY,EAAKuY,MACvB/jC,KAAKgkC,YAAcxY,EAAKyY,OACxBjkC,KAAKkkC,WAAa1Y,EAAK2Y,MACvBnkC,KAAKokC,YAAc5Y,EAAK6Y,OACxBrkC,KAAKskC,WAAa9Y,EAAK+Y,MACvBvkC,KAAKwkC,YAAchZ,EAAKiZ,OACxBzkC,KAAK0kC,WAAalZ,EAAKmZ,MACvB3kC,KAAK4kC,YAAcpZ,EAAKqZ,OACxB7kC,KAAK8kC,WAAatZ,EAAKuZ,MACvB/kC,KAAKglC,YAAcxZ,EAAKyZ,OACxBjlC,KAAKklC,WAAa1Z,EAAK2Z,MACvBnlC,KAAKolC,YAAc5Z,EAAK6Z,OACxBrlC,KAAKslC,WAAa9Z,EAAK+Z,MACvBvlC,KAAKwlC,YAAcha,EAAKia,OACxBzlC,KAAK0lC,WAAala,EAAKma,MACvB3lC,KAAK4lC,YAAcpa,EAAKqa,OACxB7lC,KAAK8lC,WAAata,EAAKua,MACvB/lC,KAAKgmC,YAAcxa,EAAKya,OACxBjmC,KAAKkmC,WAAa1a,EAAK2a,MACvBnmC,KAAKomC,YAAc5a,EAAK6a,OACxBrmC,KAAKsmC,WAAa9a,EAAK+a,MACvBvmC,KAAKwmC,YAAchb,EAAKib,OACxBzmC,KAAK0mC,WAAalb,EAAKmb,MACvB3mC,KAAK4mC,YAAcpb,EAAKqb,OACxB7mC,KAAK8mC,WAAatb,EAAKub,MACvB/mC,KAAKgnC,YAAcxb,EAAKyb,OACxBjnC,KAAKknC,WAAa1b,EAAK2b,MACvBnnC,KAAKonC,YAAc5b,EAAK6b,OACxBrnC,KAAKsnC,WAAa9b,EAAK+b,MACvBvnC,KAAKwnC,YAAchc,EAAKic,OACxBznC,KAAK0nC,WAAalc,EAAKmc,MACvB3nC,KAAK4nC,YAAcpc,EAAKqc,OACxB7nC,KAAK8nC,WAAatc,EAAKuc,MACvB/nC,KAAKgoC,YAAcxc,EAAKyc,OACxBjoC,KAAKkoC,WAAa1c,EAAK2c,MACvBnoC,KAAKooC,YAAc5c,EAAK6c,OACxBroC,KAAKsoC,WAAa9c,EAAK+c,MACvBvoC,KAAKwoC,YAAchd,EAAKid,OACxBzoC,KAAK0oC,WAAald,EAAKmd,MACvB3oC,KAAK4oC,YAAcpd,EAAKqd,OACxB7oC,KAAK8oC,WAAatd,EAAKud,MACvB/oC,KAAKgpC,YAAcxd,EAAKyd,OACxBjpC,KAAKkpC,WAAa1d,EAAK2d,MACvBnpC,KAAKopC,YAAc5d,EAAK6d,OACxBrpC,KAAKspC,WAAa9d,EAAK+d,MACvBvpC,KAAKwpC,YAAche,EAAKie,OACxBzpC,KAAK0pC,WAAale,EAAKme,MACvB3pC,KAAK4pC,YAAcpe,EAAKqe,OACxB7pC,KAAK8pC,WAAate,EAAKue,MACvB/pC,KAAKgqC,YAAcxe,EAAKye,OACxBjqC,KAAKkqC,WAAa1e,EAAK2e,MACvBnqC,KAAKoqC,YAAc5e,EAAK6e,OACxBrqC,KAAKsqC,WAAa9e,EAAK+e,MACvBvqC,KAAKwqC,YAAchf,EAAKif,OACxBzqC,KAAK0qC,WAAalf,EAAKmf,MACvB3qC,KAAK4qC,YAAcpf,EAAKqf,OACxB7qC,KAAK8qC,WAAatf,EAAKuf,MACvB/qC,KAAKgrC,YAAcxf,EAAKyf,OACxBjrC,KAAKkrC,WAAa1f,EAAK2f,MACvBnrC,KAAKorC,YAAc5f,EAAK6f,OACxBrrC,KAAKsrC,WAAa9f,EAAK+f,MACvBvrC,KAAKwrC,YAAchgB,EAAKigB,OACxBzrC,KAAK0rC,WAAalgB,EAAKmgB,MACvB3rC,KAAK4rC,YAAcpgB,EAAKqgB,OACxB7rC,KAAK8rC,WAAatgB,EAAKugB,MACvB/rC,KAAKgsC,YAAcxgB,EAAKygB,OACxBjsC,KAAKksC,WAAa1gB,EAAK2gB,MACvBnsC,KAAKosC,YAAc5gB,EAAK6gB,OACxBrsC,KAAKssC,WAAa9gB,EAAK+gB,MACvBvsC,KAAKwsC,YAAchhB,EAAKihB,OACxBzsC,KAAK0sC,WAAalhB,EAAKmhB,MACvB3sC,KAAK4sC,YAAcphB,EAAKqhB,OACxB7sC,KAAK8sC,WAAathB,EAAKuhB,MACvB/sC,KAAKgtC,YAAcxhB,EAAKyhB,OACxBjtC,KAAKktC,WAAa1hB,EAAK2hB,MACvBntC,KAAKotC,YAAc5hB,EAAK6hB,OACxBrtC,KAAKstC,WAAa9hB,EAAK+hB,MACvBvtC,KAAKwtC,YAAchiB,EAAKiiB,OACxBztC,KAAK0tC,WAAaliB,EAAKmiB,MACvB3tC,KAAK4tC,YAAcpiB,EAAKqiB,OACxB7tC,KAAK8tC,WAAatiB,EAAKuiB,MACvB/tC,KAAKguC,YAAcxiB,EAAKyiB,OACxBjuC,KAAKkuC,WAAa1iB,EAAK2iB,MACvBnuC,KAAKouC,YAAc5iB,EAAK6iB,OACxBruC,KAAKsuC,WAAa9iB,EAAK+iB,MACvBvuC,KAAKwuC,YAAchjB,EAAKijB,OACxBzuC,KAAK0uC,WAAaljB,EAAKmjB,MACvB3uC,KAAK4uC,YAAcpjB,EAAKqjB,OACxB7uC,KAAK8uC,WAAatjB,EAAKujB,MACvB/uC,KAAKgvC,YAAcxjB,EAAKyjB,OACxBjvC,KAAKkvC,WAAa1jB,EAAK2jB,MACvBnvC,KAAKovC,YAAc5jB,EAAK6jB,OACxBrvC,KAAKsvC,WAAa9jB,EAAK+jB,MACvBvvC,KAAKwvC,YAAchkB,EAAKikB,OACxBzvC,KAAK0vC,WAAalkB,EAAKmkB,MACvB3vC,KAAK4vC,YAAcpkB,EAAKqkB,OACxB7vC,KAAK8vC,WAAatkB,EAAKukB,MACvB/vC,KAAKgwC,YAAcxkB,EAAKykB,OACxBjwC,KAAKkwC,WAAa1kB,EAAK2kB,MACvBnwC,KAAKowC,YAAc5kB,EAAK6kB,OACxBrwC,KAAKswC,WAAa9kB,EAAK+kB,MACvBvwC,KAAKwwC,YAAchlB,EAAKilB,OACxBzwC,KAAK0wC,WAAallB,EAAKmlB,MACvB3wC,KAAK4wC,YAAcplB,EAAKqlB,OACxB7wC,KAAK8wC,WAAatlB,EAAKulB,MACvB/wC,KAAKgxC,YAAcxlB,EAAKylB,OACxBjxC,KAAKkxC,WAAa1lB,EAAK2lB,MACvBnxC,KAAKoxC,YAAc5lB,EAAK6lB,OACxBrxC,KAAKsxC,WAAa9lB,EAAK+lB,MACvBvxC,KAAKwxC,YAAchmB,EAAKimB,OACxBzxC,KAAK0xC,WAAalmB,EAAKmmB,MACvB3xC,KAAK4xC,YAAcpmB,EAAKqmB,OACxB7xC,KAAK8xC,WAAatmB,EAAKumB,MACvB/xC,KAAKgyC,YAAcxmB,EAAKymB,OACxBjyC,KAAKkyC,WAAa1mB,EAAK2mB,MACvBnyC,KAAKoyC,YAAc5mB,EAAK6mB,OACxBryC,KAAKsyC,WAAa9mB,EAAK+mB,MACvBvyC,KAAKwyC,YAAchnB,EAAKinB,OACxBzyC,KAAK0yC,WAAalnB,EAAKmnB,MACvB3yC,KAAK4yC,YAAcpnB,EAAKqnB,OACxB7yC,KAAK8yC,WAAatnB,EAAKunB,MACvB/yC,KAAKgzC,YAAcxnB,EAAKynB,OACxBjzC,KAAKkzC,WAAa1nB,EAAK2nB,MACvBnzC,KAAKozC,YAAc5nB,EAAK6nB,OACxBrzC,KAAKszC,WAAa9nB,EAAK+nB,MACvBvzC,KAAKwzC,YAAchoB,EAAKioB,OACxBzzC,KAAK0zC,WAAaloB,EAAKmoB,MACvB3zC,KAAK4zC,YAAcpoB,EAAKqoB,OACxB7zC,KAAK8zC,WAAatoB,EAAKuoB,MACvB/zC,KAAKg0C,YAAcxoB,EAAKyoB,OACxBj0C,KAAKk0C,WAAa1oB,EAAK2oB,MACvBn0C,KAAKo0C,YAAc5oB,EAAK6oB,OACxBr0C,KAAKs0C,WAAa9oB,EAAK+oB,MACvBv0C,KAAKw0C,YAAchpB,EAAKipB,OACxBz0C,KAAK00C,WAAalpB,EAAKmpB,MACvB30C,KAAK40C,YAAcppB,EAAKqpB,OACxB70C,KAAK80C,WAAatpB,EAAKupB,MACvB/0C,KAAKg1C,YAAcxpB,EAAKypB,OACxBj1C,KAAKk1C,WAAa1pB,EAAK2pB,MACvBn1C,KAAKo1C,YAAc5pB,EAAK6pB,OACxBr1C,KAAKs1C,WAAa9pB,EAAK+pB,MACvBv1C,KAAKw1C,YAAchqB,EAAKiqB,OACxBz1C,KAAK01C,WAAalqB,EAAKmqB,MACvB31C,KAAK41C,YAAcpqB,EAAKqqB,OACxB71C,KAAK81C,WAAatqB,EAAKuqB,MACvB/1C,KAAKg2C,YAAcxqB,EAAKyqB,OACxBj2C,KAAKk2C,WAAa1qB,EAAK2qB,MACvBn2C,KAAKo2C,YAAc5qB,EAAK6qB,OACxBr2C,KAAKs2C,WAAa9qB,EAAK+qB,MACvBv2C,KAAKw2C,YAAchrB,EAAKirB,OACxBz2C,KAAK02C,WAAalrB,EAAKmrB,MACvB32C,KAAK42C,YAAcprB,EAAKqrB,OACxB72C,KAAK82C,WAAatrB,EAAKurB,MACvB/2C,KAAKg3C,YAAcxrB,EAAKyrB,OACxBj3C,KAAKk3C,WAAa1rB,EAAK2rB,MACvBn3C,KAAKo3C,YAAc5rB,EAAK6rB,OACxBr3C,KAAKs3C,WAAa9rB,EAAK+rB,MACvBv3C,KAAKw3C,YAAchsB,EAAKisB,OACxBz3C,KAAK03C,WAAalsB,EAAKmsB,MACvB33C,KAAK43C,YAAcpsB,EAAKqsB,OACxB73C,KAAK83C,WAAatsB,EAAKusB,MACvB/3C,KAAKg4C,YAAcxsB,EAAKysB,OACxBj4C,KAAKk4C,WAAa1sB,EAAK2sB,MACvBn4C,KAAKo4C,YAAc5sB,EAAK6sB,OACxBr4C,KAAKs4C,WAAa9sB,EAAK+sB,MACvBv4C,KAAKw4C,YAAchtB,EAAKitB,OACxBz4C,KAAK04C,WAAaltB,EAAKmtB,MACvB34C,KAAK44C,YAAcptB,EAAKqtB,OACxB74C,KAAK84C,WAAattB,EAAKutB,MACvB/4C,KAAKg5C,YAAcxtB,EAAKytB,OACxBj5C,KAAKk5C,WAAa1tB,EAAK2tB,MACvBn5C,KAAKo5C,YAAc5tB,EAAK6tB,OACxBr5C,KAAKs5C,WAAa9tB,EAAK+tB,MACvBv5C,KAAKw5C,YAAchuB,EAAKiuB,OACxBz5C,KAAK05C,WAAaluB,EAAKmuB,MACvB35C,KAAK45C,YAAcpuB,EAAKquB,OACxB75C,KAAK85C,WAAatuB,EAAKuuB,MACvB/5C,KAAKg6C,YAAcxuB,EAAKyuB,OACxBj6C,KAAKk6C,WAAa1uB,EAAK2uB,MACvBn6C,KAAKo6C,YAAc5uB,EAAK6uB,OACxBr6C,KAAKs6C,WAAa9uB,EAAK+uB,MACvBv6C,KAAKw6C,YAAchvB,EAAKivB,OACxBz6C,KAAK06C,WAAalvB,EAAKmvB,MACvB36C,KAAK46C,YAAcpvB,EAAKqvB,OACxB76C,KAAK86C,WAAatvB,EAAKuvB,MACvB/6C,KAAKg7C,YAAcxvB,EAAKyvB,OACxBj7C,KAAKk7C,WAAa1vB,EAAK2vB,MACvBn7C,KAAKo7C,YAAc5vB,EAAK6vB,OACxBr7C,KAAKs7C,WAAa9vB,EAAK+vB,MACvBv7C,KAAKw7C,YAAchwB,EAAKiwB,OACxBz7C,KAAK07C,WAAalwB,EAAKmwB,MACvB37C,KAAK47C,YAAcpwB,EAAKqwB,OACxB77C,KAAK87C,WAAatwB,EAAKuwB,MACvB/7C,KAAKg8C,YAAcxwB,EAAKywB,OACxBj8C,KAAKk8C,WAAa1wB,EAAK2wB,MACvBn8C,KAAKo8C,YAAc5wB,EAAK6wB,OACxBr8C,KAAKs8C,WAAa9wB,EAAK+wB,MACvBv8C,KAAKw8C,YAAchxB,EAAKixB,OACxBz8C,KAAK08C,WAAalxB,EAAKmxB,MACvB38C,KAAK48C,YAAcpxB,EAAKqxB,OACxB78C,KAAK88C,WAAatxB,EAAKuxB,MACvB/8C,KAAKg9C,YAAcxxB,EAAKyxB,OACxBj9C,KAAKk9C,WAAa1xB,EAAK2xB,MACvBn9C,KAAKo9C,YAAc5xB,EAAK6xB,OACxBr9C,KAAKs9C,WAAa9xB,EAAK+xB,MACvBv9C,KAAKw9C,YAAchyB,EAAKiyB,OACxBz9C,KAAK09C,WAAalyB,EAAKmyB,MACvB39C,KAAK49C,YAAcpyB,EAAKqyB,OACxB79C,KAAK89C,WAAatyB,EAAKuyB,MACvB/9C,KAAKg+C,YAAcxyB,EAAKyyB,OACxBj+C,KAAKk+C,WAAa1yB,EAAK2yB,MACvBn+C,KAAKo+C,YAAc5yB,EAAK6yB,OACxBr+C,KAAKs+C,WAAa9yB,EAAK+yB,MACvBv+C,KAAKw+C,YAAchzB,EAAKizB,OACxBz+C,KAAK0+C,WAAalzB,EAAKmzB,MACvB3+C,KAAK4+C,YAAcpzB,EAAKqzB,OACxB7+C,KAAK8+C,WAAatzB,EAAKuzB,MACvB/+C,KAAKg/C,YAAcxzB,EAAKyzB,OACxBj/C,KAAKk/C,WAAa1zB,EAAK2zB,MACvBn/C,KAAKo/C,YAAc5zB,EAAK6zB,OACxBr/C,KAAKs/C,WAAa9zB,EAAK+zB,MACvBv/C,KAAKw/C,YAAch0B,EAAKi0B,OACxBz/C,KAAK0/C,WAAal0B,EAAKm0B,MACvB3/C,KAAK4/C,YAAcp0B,EAAKq0B,OACxB7/C,KAAK8/C,WAAat0B,EAAKu0B,MACvB//C,KAAKggD,YAAcx0B,EAAKy0B,OACxBjgD,KAAKkgD,WAAa10B,EAAK20B,MACvBngD,KAAKogD,YAAc50B,EAAK60B,OACxBrgD,KAAKsgD,WAAa90B,EAAK+0B,MACvBvgD,KAAKwgD,YAAch1B,EAAKi1B,OACxBzgD,KAAK0gD,WAAal1B,EAAKm1B,MACvB3gD,KAAK4gD,YAAcp1B,EAAKq1B,OACxB7gD,KAAK8gD,WAAat1B,EAAKu1B,MACvB/gD,KAAKghD,YAAcx1B,EAAKy1B,OACxBjhD,KAAKkhD,WAAa11B,EAAK21B,MACvBnhD,KAAKohD,YAAc51B,EAAK61B,OACxBrhD,KAAKshD,WAAa91B,EAAK+1B,MACvBvhD,KAAKwhD,YAAch2B,EAAKi2B,OACxBzhD,KAAK0hD,WAAal2B,EAAKm2B,MACvB3hD,KAAK4hD,YAAcp2B,EAAKq2B,OACxB7hD,KAAK8hD,WAAat2B,EAAKu2B,MACvB/hD,KAAKgiD,YAAcx2B,EAAKy2B,OACxBjiD,KAAKkiD,WAAa12B,EAAK22B,MACvBniD,KAAKoiD,YAAc52B,EAAK62B,OACxBriD,KAAKsiD,WAAa92B,EAAK+2B,MACvBviD,KAAKwiD,YAAch3B,EAAKi3B,OACxBziD,KAAK0iD,WAAal3B,EAAKm3B,MACvB3iD,KAAK4iD,YAAcp3B,EAAKq3B,OACxB7iD,KAAK8iD,WAAat3B,EAAKu3B,MACvB/iD,KAAKgjD,YAAcx3B,EAAKy3B,OACxBjjD,KAAKkjD,WAAa13B,EAAK23B,MACvBnjD,KAAKojD,YAAc53B,EAAK63B,OACxBrjD,KAAKsjD,WAAa93B,EAAK+3B,MACvBvjD,KAAKwjD,YAAch4B,EAAKi4B,OACxBzjD,KAAK0jD,WAAal4B,EAAKm4B,MACvB3jD,KAAK4jD,YAAcp4B,EAAKq4B,OACxB7jD,KAAK8jD,WAAat4B,EAAKu4B,MACvB/jD,KAAKgkD,YAAcx4B,EAAKy4B,OACxBjkD,KAAKkkD,WAAa14B,EAAK24B,MACvBnkD,KAAKokD,YAAc54B,EAAK64B,OACxBrkD,KAAKskD,WAAa94B,EAAK+4B,MACvBvkD,KAAKwkD,YAAch5B,EAAKi5B,OACxBzkD,KAAK0kD,WAAal5B,EAAKm5B,MACvB3kD,KAAK4kD,YAAcp5B,EAAKq5B,OACxB7kD,KAAK8kD,WAAat5B,EAAKu5B,MACvB/kD,KAAKglD,YAAcx5B,EAAKy5B,OACxBjlD,KAAKklD,WAAa15B,EAAK25B,MACvBnlD,KAAKolD,YAAc55B,EAAK65B,OACxBrlD,KAAKslD,WAAa95B,EAAK+5B,MACvBvlD,KAAKwlD,YAAch6B,EAAKi6B,OACxBzlD,KAAK0lD,WAAal6B,EAAKm6B,MACvB3lD,KAAK4lD,YAAcp6B,EAAKq6B,OACxB7lD,KAAK8lD,WAAat6B,EAAKu6B,MACvB/lD,KAAKgmD,YAAcx6B,EAAKy6B,OACxBjmD,KAAKkmD,WAAa16B,EAAK26B,MACvBnmD,KAAKomD,YAAc56B,EAAK66B,OACxBrmD,KAAKsmD,WAAa96B,EAAK+6B,MACvBvmD,KAAKwmD,YAAch7B,EAAKi7B,OACxBzmD,KAAK0mD,WAAal7B,EAAKm7B,MACvB3mD,KAAK4mD,YAAcp7B,EAAKq7B,OACxB7mD,KAAK8mD,WAAat7B,EAAKu7B,MACvB/mD,KAAKgnD,YAAcx7B,EAAKy7B,OACxBjnD,KAAKknD,WAAa17B,EAAK27B,MACvBnnD,KAAKonD,YAAc57B,EAAK67B,OACxBrnD,KAAKsnD,WAAa97B,EAAK+7B,MACvBvnD,KAAKwnD,YAAch8B,EAAKi8B,OACxBznD,KAAK0nD,WAAal8B,EAAKm8B,MACvB3nD,KAAK4nD,YAAcp8B,EAAKq8B,OACxB7nD,KAAK8nD,WAAat8B,EAAKu8B,MACvB/nD,KAAKgoD,YAAcx8B,EAAKy8B,OACxBjoD,KAAKkoD,WAAa18B,EAAK28B,MACvBnoD,KAAKooD,YAAc58B,EAAK68B,OACxBroD,KAAKsoD,WAAa98B,EAAK+8B,MACvBvoD,KAAKwoD,YAAch9B,EAAKi9B,OACxBzoD,KAAK0oD,WAAal9B,EAAKm9B,MACvB3oD,KAAK4oD,YAAcp9B,EAAKq9B,OACxB7oD,KAAK8oD,WAAat9B,EAAKu9B,MACvB/oD,KAAKgpD,YAAcx9B,EAAKy9B,OACxBjpD,KAAKkpD,WAAa19B,EAAK29B,MACvBnpD,KAAKopD,YAAc59B,EAAK69B,OACxBrpD,KAAKspD,WAAa99B,EAAK+9B,MACvBvpD,KAAKwpD,YAAch+B,EAAKi+B,OACxBzpD,KAAK0pD,WAAal+B,EAAKm+B,MACvB3pD,KAAK4pD,YAAcp+B,EAAKq+B,OACxB7pD,KAAK8pD,WAAat+B,EAAKu+B,MACvB/pD,KAAKgqD,YAAcx+B,EAAKy+B,OACxBjqD,KAAKkqD,WAAa1+B,EAAK2+B,MACvBnqD,KAAKoqD,YAAc5+B,EAAK6+B,OACxBrqD,KAAKsqD,WAAa9+B,EAAK++B,MACvBvqD,KAAKwqD,YAAch/B,EAAKi/B,OACxBzqD,KAAK0qD,WAAal/B,EAAKm/B,MACvB3qD,KAAK4qD,YAAcp/B,EAAKq/B,OACxB7qD,KAAK8qD,WAAat/B,EAAKu/B,MACvB/qD,KAAKgrD,YAAcx/B,EAAKy/B,OACxBjrD,KAAKkrD,WAAa1/B,EAAK2/B,MACvBnrD,KAAKorD,YAAc5/B,EAAK6/B,OACxBrrD,KAAKsrD,WAAa9/B,EAAK+/B,MACvBvrD,KAAKwrD,YAAchgC,EAAKigC,OACxBzrD,KAAK0rD,WAAalgC,EAAKmgC,MACvB3rD,KAAK4rD,YAAcpgC,EAAKqgC,OACxB7rD,KAAK8rD,WAAatgC,EAAKugC,MACvB/rD,KAAKgsD,YAAcxgC,EAAKygC,OACxBjsD,KAAKksD,WAAa1gC,EAAK2gC,MACvBnsD,KAAKosD,YAAc5gC,EAAK6gC,OACxBrsD,KAAKssD,WAAa9gC,EAAK+gC,MACvBvsD,KAA

AAesqB,EAAS5tB,UAAW,WAAY,CAClD+D,IAAK,SAAUnD,GACX7B,KAAKgvB,aAAentB,EACpB7B,KAAK6sB,eAETnoB,YAAY,EACZC,cAAc,IAElBkqB,EAAS5tB,UAAUguB,QAAU,SAAUptB,EAAOqtB,EAAOC,GAC1ClvB,KAAK+uB,WAAWltB,GASqtB,GAE7BL,EAAS5tB,UAAU4rB,YAAc,WAC7B7sB,KAAKmvB,cACL,IAAIlK,EAAQzB,KAAKznB,MAAMkpB,MAAQ,EAC/BzB,KAAKznB,MAAMkpB,MAAQ,EACnBzB,KAAK+uB,WAAWrS,KAAKvb,GAAO,SAAUqtB,GAClCxvB,KAAKyvB,cAAcD,EAAOrtB,EAAOqtB,EAAOC,GAAO,SAAUC,GACnDF,EAAMG,QAAQD,GACdF,EAAMI,SAAS,SAAUC,GACvBL,EAAMM,KAAK,QAASD,GACpBL,EAAMO,IAAI,SAIhB,SAASC,EAAcC,GACrB,IAAIC,EAAQ,GACZ,IAAK,IAAIC,KAAOF,EACVA,EAAIG,eAAeD,IACrBD,EAAMG,KAAKF,GAGf,OAAOD,EAGT,SAASI,EAAQC,GACf,IAAIC,EAAO,GACX,IAAK,IAAIL,KAAOI,EACVA,EAAIH,eAAeD,IACrBK,EAAKF,KAAKC,EAAIJ,IAGlB,OAAOK,EAGT,SAASC,EAAOC,EAAQC,GACtB,IAAIC,EAAO,GACX,IAAK,IAAIT,KAAOO,EACVA,EAAOP,eAAeD,IACxBU,EAAKT,KAAKD,EAAKO,EAAOP,IAG1B,IAAK,IAAIA,KAAOQ,EACVA,EAAOP,eAAeD,IACxBU,EAAKT,KAAKD,EAAKQ,EAAOR,IAG1B,OAAOU,EAGT,SAASC,EAAOC,EAAMC,GACpB,IAAIC,EAAO,GACX,IAAK,IAAIb,KAAOW,EACVA,EAAKV,eAAeD,IACtBa,EAAKZ,KAAKD,EAAKW,EAAKX,IAGxB,IAAK,IAAIA,KAAOY,EACVA,EAAKX,eAAeD,IACtBa,EAAKZ,KAAKD,EAAKY,EAAKZ,IAGxB,OAAOa,EAGT,SAASC,EAAOC,EAAMC,GACpB,IAAIC,EAAO,GACX,IAAK,IAAIjB,KAAOe,EACVA,EAAKd,eAAeD,IACtBiB,EAAKhB,KAAKD,EAAKe,EAAKf,IAGxB,IAAK,IAAIA,KAAOgB,EACVA,EAAKf,eAAeD,IACtBiB,EAAKhB,KAAKD,EAAKgB,EAAKhB,IAGxB,OAAOiB,EAGT,SAASC,EAAOC,EAAMC,GACpB,IAAIC,EAAO,GACX,IAAK,IAAIrB,KAAOmB,EACVA,EAAKlB,eAAeD,IACtBqB,EAAKpB,KAAKD,EAAKmB,EAAKnB,IAGxB,IAAK,IAAIA,KAAOoB,EACVA,EAAKnB,eAAeD,IACtBqB,EAAKpB,KAAKD,EAAKoB,EAAKpB,IAGxB,OAAOqB,EAGT,SAASC,EAAOC,EAAMC,GACpB,IAAIC,EAAO,GACX,IAAK,IAAIzB,KAAOuB,EACVA,EAAKtB,eAAeD,IACtByB,EAAKxB,KAAKD,EAAKuB,EAAKvB,IAGxB,IAAK,IAAIA,KAAOwB,EACVA,EAAKvB,eAAeD,IACtByB,EAAKxB,KAAKD,EAAKwB,EAAKxB,IAGxB,OAAOyB,EAGT,SAASC,EAAOC,EAAMC,GACpB,IAAIC,EAAO,GACX,IAAK,IAAI7B,KAAO2B,EACVA,EAAK1B,eAAeD,IACtB6B,EAAK5B,KAAKD,EAAK2B,EAAK3B,IAGxB,IAAK,IAAIA,KAAO4B,EACVA,EAAK3B,eAAeD,IACtB6B,EAAK5B,KAAKD,EAAK4B,EAAK5B

ChF,IAAI0vB,EAAWD,EAAGxvB,MAClB7B,KAAKowB,SAASxE,QAAQ0F,GAAYtxB,KAAKqwB,wBAAwBiB,IAGvE,MAAOC,GAASJ,EAAM,CAAE7uB,MAAOivB,GAC/B,QACI,IACQF,IAAOA,EAAGvvB,OASqU,EAAKib,EAAGF,,SAAS/a,EAAGzU,KAAK0vB,GAEpD,QAAU,GAAID,EAAK,MAAMA,EAAI7uB,MAAO,EAAI7uB,MAAO,EAAI7uB,MAAO,EArF0B,GAAuFrCA,GAAiBltB,WAAWa,CAAC1B,CAAEA,EAAE,EAAEC,CAAEA,EAAE,EAAEC,CAAEA,EAAE,EAAEC

EAAepF,GACpB9uB,KAAK8uB,cAAgBA,EAkBzB,OATAoF,EAAejzB,UAAU4xB,UAAY,SAAUhxB,EAAOsy
B,EAAWjhB,GAC7D,GAAa,MAATrR,EACA,MAAO,GACX,GAAyB,iBAAdsyB,GAAwC,OAAdA,EACjC,MA
AM1C,GAAyByC,EAAgBC,GAGnD,OAAOA,EADGnP,GAAkBnjB,EAAOrB,OAAOinB,KAAK0M,GAAYn0B,
KAAK8uB,cAAe5b,IACzDpJ,QAAQmqB,GAAuBpyB,EAAMuyB,aAExDF,EApBwB,GAsBnCA,GAAejxB,WA
Aa,CACxB,CAAEC,KAAMjD,EAAGozB,KAAMjwB,KAAM,CAAC,CAAE8Z,KAAM,aAAcoW,MAAM,MAEx
DY,GAAehtB,eAAiB,WAAc,MAAO,CACjD,CAAEhE,KAAMid;;;;;;;;AA2BZ,IAAIkU,GAAgC,WAChC,SASA
,KAqBT,OAdAA,EAAepzB,UAAU4xB,UAAY,SAAUhxB,EAAOyyB,GAClD,GAAa,MAATzyB,EACA,MAAO,
GACX,GAAyB,iBAAZyyB,GAAwC,OAAZA,EACrC,MAAM4vB,GAAyB4C,EAAgBC,GAEnD,OAAIA,EAAe
QzzB,eAAegB,GAChByB,EAAQzyB,GAEfyyB,EAAQzzB,eAAeA,eAAe,SAChByzB,EAAe,MAEnB,IAEJD,EAtBwB,G
AwBnCA,GAAepxB,WAAa,CACxB,CAAEC,KAAMjD,EAAGozB,KAAMjwB,KAAM,CAAC,CAAE8Z,KAAM,aAAcoW,MAAM,
aAAcoW,MAAM;;;;;;;;AAyBxD,IAAIiB,GAA0B,WAC1B,SASA,KAQT,OAHAA,EAAStzB,UAAU4xB,UAAY
,SAAUhxB,EAAOsyB,GACrC,OAAO2yB,GAAW5yB,EAAOC,GAAS,IAAIC,GAAgBD,GAAWA,EAAQ,IAAIC,GAAgB
wB,EAAMkxB,UAAUvyB;;;;;;;;AA1ChC,SAAS+yB,EAAiB1Y,EAAK7a,GAAO,OAAO6a,EAAIpb,eAAeO,GAAO6a[
K7a,MAAOA,GAAyCOuzB,CAAiBlzB,EAAMwa,IAAKxa,EAAE8kB,kBAAEnDhnB,KAAK40B,UAAUS,KAAKP,I
AEjB90B,KAAK40B,WAETF,EAAzBsB,GAAiCjC,SASK,GAAkBO,EAAWC,GAAClC,IAAIC,EAAIF,EAAU5Y,IA
Cdnc,EAAIg1B,EAAU7Y,IAAElB,GAAI8Y,IAAMj1B,EACN,OAAO,EAEX,QAAU4G,IAANquB,EACA,OAAO,EAEX,
ACX,QAAUruB,IAAN5G,EAAQ,EAEZ,GAAU,OAAOi1B,EACA,OAAO,EACX,GAAU,OAAOj1B,EACA,OAAO,EAEA
A,OAAQ,EACZ,GAAgB,iBAAkBi1B,EAAE6B,OAAOi1B,EAAIj1B,EAAC/B,OAAOi1B,EAAIj1B,EAAE,GAAK,GAAK
gB,iBAAkBi1B,EAAE6B,OAAOi1B,EAAIj1B,EAAC/B,OAAOi1B,EAAIj1B,EAAEf,GAAgB,kBAAkBi1B,EAAE8B,OAAOi1B,
AChC,OAAOi1B,EAAIj1B,EAAE,GAAK,EAAIA,EAAGxB,IAAIk1B,EAAU1tB,OAAOytB,GAAcjBE,EAAU3tB,OAAOxH,
GACrB,OAAOk1B,EAAE,GAAWC,EAAU,EAAID,EAAUC,GAAW,EAAI;;;;;;;OAlC7DhB,GAAazB,WAAa,CACtB,CAAEC,KAAMjD,EAAGozB,KAAMjwB,KAAM,CAAC,CAAE8Z,KAAM,aAAcoW,MAAM,CAAEpW,KAAM,WAAYoW,MAAM,MAEtDoB,GAAaxB,UAAY,SAAUhxB,EAAOsyB,GAAS,OAAO,IAAIE,GAAgBxyB,EAAOsyB,GAAS,MAAM,MAAM,MAAM

EAlCsB,GA2CjC,SAASH,GAAQh0B,GACb,QAAkB,MAATA,GAA2B,KAAVA,GAAgBA,GAAUA,GAKxD,SAASi0B,GAAYj0B,GAEjB,GAAqB,iBAAVA,IAAuB8V,MAAMgB,OAAO9W,GAASkW,WAAWlW,IAC/D,OAAO8W,OAAO9W,GAElB,GAAqB,iBAAVA,IAACP,MAAM,IAAI0F,MAAM1F,EAAQ,oBAE5B,OAAOA;;;;;;;OArBXm0B,GAAa/yB,WAAa,CACtB,CAAEC,KAAM,SAAUC,MAAO,IAAIC,OAAO,KAAM,MAAOC,IAAK,KAAMC,IAAK,KAAMC,IAAK,KAAM

AAQ+uB,gBAAkBA,GAC1B/uB,EAAQ4wB,iBAAmBA,GAC3B5wB,EAAQyH,qBAAuBA,EAC/BzH,EAAQw2B,YAAcA,GACtBx2B,EAAQgD,iBAAmBA,EAC3BhD,EAAQ62B,UAAYA,GACpB72B,EAAQo0B,cAAgBA,GACxBp0B,EAAQu0B,cAAgBA,GACxBv0B,EAAQu3B,QAAUA,GAClBv3B,EAAQs3B,iBAAmBA,EAC3Bt3B,EAAQqkB,eAAiBA,EACzBrkB,EAAQ+X,WAAaA,GACrB/X,EAAQ6kB,aAAeA,GACvB7kB,EAAQykB,cAAgBA,GACxBzkB,EAAQ2kB,cAAgBA,GACxB3kB,EAAQgX,gBAAkBA,EAC5BhX,EAAQy5B,hBAAkBA,EAC1Bz5B,EAAQy5B,gBAAkBA,EAC1Bz5B,EAAQ25B,gBAAkBA,EAC1B35B,EAAQ25B,gBAAkBA,EAC1B35B,EAAQ45B,iBAAmBA,EAC3B55B,EAAQ45B,iBAAmBA,EAC3B55B,EAAQ65B,iBAAmBA,EAC3B75B,EAAQ65B,iBAAmBA,EAC3B75B,EAAQ85B,iBAAmBA,EAC3B95B,EAAQ85B,iBAAmBA,EAC3B95B,EAAQ+5B,iBAAmBA,EAC3B/5B,EAAQ+5B,iBAAmBA,EAC3B/5B,EAAQg6B,iBAAmBA,EAC3Bh6B,EAAQg6B,iBAAmBA,EAC3Bh6B,EAAQi6B,iBAAmBA,EAC3Bj6B,EAAQi6B,iBAAmBA,EAC3Bj6B,EAAQk6B,iBAAmBA,EAC3Bl6B,EAAQk6B,iBAAmBA,EAC3Bl6B,EAAQm6B,iBAAmBA,EAC3Bn6B,EAAQm6B,iBAAmBA,EAC3Bn6B,EAAQo6B,iBAAmBA,EAC3Bp6B,EAAQo6B,iBAAmBA,EAC3Bp6B,EAAQq6B,iBAAmBA,EAC3Br6B,EAAQq6B,iBAAmBA,EAC3Br6B,EAAQs6B,iBAAmBA,EAC3Bt6B,EAAQs6B,iBAAmBA,EAC3Bt6B,EAAQu6B,iBAAmBA,EAC3Bv6B,EAAQu6B,iBAAmBA,EAC3Bv6B,EAAQw6B,iBAAmBA,EAC3Bx6B,EAAQw6B,iBAAmBA,EAC3Bx6B,EAAQy6B,iBAAmBA,EAC3Bz6B,EAAQy6B,iBAAmBA,EAC3Bz6B,EAAQ06B,iBAAmBA,EAC3B16B,EAAQ06B,iBAAmBA,EAC3B16B,EAAQ26B,iBAAmBA,EAC3B36B,EAAQ26B,iBAAmBA,EAC3B36B,EAAQ46B,iBAAmBA,EAC3B56B,EAAQ46B,iBAAmBA,EAC3B56B,EAAQ66B,iBAAmBA,EAC3B76B,EAAQ66B,iBAAmBA,EAC3B76B,EAAQ86B,iBAAmBA,EAC3B96B,EAAQ86B,iBAAmBA,EAC3B96B,EAAQ+6B,iBAAmBA,EAC3B/6B,EAAQ+6B,iBAAmBA,EAC3B/6B,EAAQg7B,iBAAmBA,EAC3Bh7B,EAAQg7B,iBAAmBA,EAC3Bh7B,EAAQi7B,iBAAmBA,EAC3Bj7B,EAAQi7B,iBAAmBA,EAC3Bj7B,EAAQk7B,iBAAmBA,EAC3Bl7B,EAAQk7B,iBAAmBA,EAC3Bl7B,EAAQm7B,iBAAmBA,EAC3Bn7B,EAAQm7B,iBAAmBA,EAC3Bn7B,EAAQo7B,iBAAmBA,EAC3Bp7B,EAAQo7B,iBAAmBA,EAC3Bp7B,EAAQq7B,iBAAmBA,EAC3Br7B,EAAQq7B,iBAAmBA,EAC3Br7B,EAAQs7B,iBAAmBA,EAC3Bt7B,EAAQs7B,iBAAmBA,EAC3Bt7B,EAAQu7B,iBAAmBA,EAC3Bv7B,EAAQu7B,iBAAmBA,EAC3Bv7B,EAAQw7B,iBAAmBA,EAC3Bx7B,EAAQw7B,iBAAmBA,EAC3Bx7B,EAAQy7B,iBAAmBA,EAC3Bz7B,EAAQy7B,iBAAmBA,EAC3Bz7B,EAAQ07B,iBAAmBA,EAC3B17B,EAAQ07B,iBAAmBA,EAC3B17B,EAAQ27B,iBAAmBA,EAC3B37B,EAAQ27B,iBAAmBA,EAC3B37B,EAAQ47B,iBAAmBA,EAC3B57B,EAAQ47B,iBAAmBA,EAC3B57B,EAAQ67B,iBAAmBA,EAC3B77B,EAAQ67B,iBAAmBA,EAC3B77B,EAAQ87B,iBAAmBA,EAC3B97B,EAAQ87B,iBAAmBA,EAC3B97B,EAAQ+7B,iBAAmBA,EAC3B/7B,EAAQ+7B,iBAAmBA,EAC3B/7B,EAAQg8B,iBAAmBA,EAC3Bh8B,EAAQg8B,iBAAmBA,EAC3Bh8B,EAAQi8B,iBAAmBA,EAC3Bj8B,EAAQi8B,iBAAmBA,EAC3Bj8B,EAAQk8B,iBAAmBA,EAC3Bl8B,EAAQk8B,iBAAmBA,EAC3Bl8B,EAAQm8B,iBAAmBA,EAC3Bn8B,EAAQm8B,iBAAmBA,EAC3Bn8B,EAAQo8B,iBAAmBA,EAC3Bp8B,EAAQo8B,iBAAmBA,EAC3Bp8B,EAAQq8B,iBAAmBA,EAC3Br8B,EAAQq8B,iBAAmBA,EAC3Br8B,EAAQs8B,iBAAmBA,EAC3Bt8B,EAAQs8B,iBAAmBA,EAC3Bt8B,EAAQu8B,iBAAmBA,EAC3Bv8B,EAAQu8B,iBAAmBA,EAC3Bv8B,EAAQw8B,iBAAmBA,EAC3Bx8B,EAAQw8B,iBAAmBA,EAC3Bx8B,EAAQy8B,iBAAmBA,EAC3Bz8B,EAAQy8B,iBAAmBA,EAC3Bz8B,EAAQ08B,iBAAmBA,EAC3B18B,EAAQ08B,iBAAmBA,EAC3B18B,EAAQ28B,iBAAmBA,EAC3B38B,EAAQ28B,iBAAmBA,EAC3B38B,EAAQ48B,iBAAmBA,EAC3B58B,EAAQ48B,iBAAmBA,EAC3B58B,EAAQ68B,iBAAmBA,EAC3B78B,EAAQ68B,iBAAmBA,EAC3B78B,EAAQ88B,iBAAmBA,EAC3B98B,EAAQ88B,iBAAmBA,EAC3B98B,EAAQ+8B,iBAAmBA,EAC3B/8B,EAAQ+8B,iBAAmBA,EAC3B/8B,EAAQg9B,iBAAmBA,EAC3Bh9B,EAAQg9B,iBAAmBA,EAC3Bh9B,EAAQi9B,iBAAmBA,EAC3Bj9B,EAAQi9B,iBAAmBA,EAC3Bj9B,EAAQk9B,iBAAmBA,EAC3Bl9B,EAAQk9B,iBAAmBA,EAC3Bl9B,EAAQm9B,iBAAmBA,EAC3Bn9B,EAAQm9B,iBAAmBA,EAC3Bn9B,EAAQo9B,iBAAmBA,EAC3Bp9B,EAAQo9B,iBAAmBA,EAC3Bp9B,EAAQq9B,iBAAmBA,EAC3Br9B,EAAQq9B,iBAAmBA,EAC3Br9B,EAAQs9B,iBAAmBA,EAC3Bt9B,EAAQs9B,iBAAmBA,EAC3Bt9B,EAAQu9B,iBAAmBA,EAC3Bv9B,EAAQu9B,iBAAmBA,EAC3Bv9B,EAAQw9B,iBAAmBA,EAC3Bx9B,EAAQw9B,iBAAmBA,EAC3Bx9B,EAAQy9B,iBAAmBA,EAC3Bz9B,EAAQy9B,iBAAmBA,EAC3Bz9B,EAAQ09B,iBAAmBA,EAC3B19B,EAAQ09B,iBAAmBA,EAC3B19B,EAAQ29B,iBAAmBA,EAC3B39B,EAAQ29B,iBAAmBA,EAC3B39B,EAAQ49B,iBAAmBA,EAC3B59B,EAAQ49B,iBAAmBA,EAC3B59B,EAAQ69B,iBAAmBA,EAC3B79B,EAAQ69B,iBAAmBA,EAC3B79B,EAAQ89B,iBAAmBA,EAC3B99B,EAAQ89B,iBAAmBA,EAC3B99B,EAAQ+9B,iBAAmBA,EAC3B/9B,EAAQ+9B,iBAAmBA,EAC3B/9B,EAAQg+B,iBAAmBA,EAC3Bh+B,EAAQg+B,iBAAmBA,EAC3Bh+B,EAAQi+B,iBAAmBA,EAC3Bj+B,EAAQi+B,iBAAmBA,EAC3Bj+B,EAAQk+B,iBAAmBA,EAC3Bl+B,EAAQk+B,iBAAmBA,EAC3Bl+B,EAAQm+B,iBAAmBA,EAC3Bn+B,EAAQm+B,iBAAmBA,EAC3Bn+B,EAAQo+B,iBAAmBA,EAC3Bp+B,EAAQo+B,iBAAmBA,EAC3Bp+B,EAAQq+B,iBAAmBA,EAC3Br+B,EAAQq+B,iBAAmBA,EAC3Br+B,EAAQs+B,iBAAmBA,EAC3Bt+B,EAAQs+B,iBAAmBA,EAC3Bt+B,EAAQu+B,iBAAmBA,EAC3Bv+B,EAAQu+B,iBAAmBA,EAC3Bv+B,EAAQw+B,iBAAmBA,EAC3Bx+B,EAAQw+B,iBAAmBA,EAC3Bx+B,EAAQy+B,iBAAmBA,EAC3Bz+B,EAAQy+B,iBAAmBA,EAC3Bz+B,EAAQ0+B,iBAAmBA,EAC3B1+B,EAAQ0+B,iBAAmBA,EAC3B1+B,EAAQ2+B,iBAAmBA,EAC3B3+B,EAAQ2+B,iBAAmBA,EAC3B3+B,EAAQ4+B,iBAAmBA,EAC3B5+B,EAAQ4+B,iBAAmBA,EAC3B5+B,EAAQ6+B,iBAAmBA,EAC3B7+B,EAAQ6+B,iBAAmBA,EAC3B7+B,EAAQ8+B,iBAAmBA,EAC3B9+B,EAAQ8+B,iBAAmBA,EAC3B9+B,EAAQ++B,iBAAmBA,EAC3B/+B,EAAQ++B,iBAAmBA,EAC3B/+B,EAAQg/B,iBAAmBA,EAC3Bh/B,EAAQg/B,iBAAmBA,EAC3Bh/B,EAAQi/B,iBAAmBA,EAC3Bj/B,EAAQi/B,iBAAmBA,EAC3Bj/B,EAAQk/B,iBAAmBA,EAC3Bl/B,EAAQk/B,iBAAmBA,EAC3Bl/B,EAAQm/B,iBAAmBA,EAC3Bn/B,EAAQm/B,iBAAmBA,EAC3Bn/B,EAAQo/B,iBAAmBA,EAC3Bp/B,EAAQo/B,iBAAmBA,EAC3Bp/B,EAAQq/B,iBAAmBA,EAC3Br/B,EAAQq/B,iBAAmBA,EAC3Br/B,EAAQs/B,iBAAmBA,EAC3Bt/B,EAAQs/B,iBAAmBA,EAC3Bt/B,EAAQu/B,iBAAmBA,EAC3Bv/B,EAAQu/B,iBAAmBA,EAC3Bv/B,EAAQw/B,iBAAmBA,EAC3Bx/B,EAAQw/B,iBAAmBA,EAC3Bx/B,EAAQy/B,iBAAmBA,EAC3Bz/B,EAAQy/B,iBAAmBA,EAC3Bz/B,EAAQ0/B,iBAAmBA,EAC3B1/B,EAAQ0/B,iBAAmBA,EAC3B1/B,EAAQ2/B,iBAAmBA,EAC3B3/B,EAAQ2/B,iBAAmBA,EAC3B3/B,EAAQ4/B,iBAAmBA,EAC3B5/B,EAAQ4/B,iBAAmBA,EAC3B5/B,EAAQ6/B,iBAAmBA,EAC3B7/B,EAAQ6/B,iBAAmBA,EAC3B7/B,EAAQ8/B,iBAAmBA,EAC3B9/B,EAAQ8/B,iBAAmBA,EAC3B9/B,EAAQ+/B,iBAAmBA,EAC3B//B,EAAQ+/B,iBAAmBA,EAC3B//B,EAAQggC,iBAAmBA,EAC3BhgC,EAAQggC,iBAAmBA,EAC3BhgC,EAAQigC,iBAAmBA,EAC3BjgC,EAAQigC,iBAAmBA,EAC3BjgC,EAAQkgC,iBAAmBA,EAC3BlgC,EAAQkgC,iBAAmBA,EAC3BlgC,EAAQmgC,iBAAmBA,EAC3BngC,EAAQmgC,iBAAmBA,EAC3BngC,EAAQogC,iBAAmBA,EAC3BpgC,EAAQogC,iBAAmBA,EAC3BpgC,EAAQqgC,iBAAmBA,EAC3BrgC,EAAQqgC,iBAAmBA,EAC3BrgC,EAAQsgC,iBAAmBA,EAC3BtgC,EAAQsgC,iBAAmBA,EAC3BtgC,EAAQugC,iBAAmBA,EAC3BvgC,EAAQugC,iBAAmBA,EAC3BvgC,EAAQwgC,iBAAmBA,EAC3BxgC,EAAQwgC,iBAAmBA,EAC3BxgC,EAAQygC,iBAAmBA,EAC3BzgC,EAAQygC,iBAAmBA,EAC3BzgC,EAAQ0gC,iBAAmBA,EAC3B1gC,EAAQ0gC,iBAAmBA,EAC3B1gC,EAAQ2gC,iBAAmBA,EAC3B3gC,EAAQ2gC,iBAAmBA,EAC3B3gC,EAAQ4gC,iBAAmBA,EAC3B5gC,EAAQ4gC,iBAAmBA,EAC3B5gC,EAAQ6gC,iBAAmBA,EAC3B7gC,EAAQ6gC,iBAAmBA,EAC3B7gC,EAAQ8gC,iBAAmBA,EAC3B9gC,EAAQ8gC,iBAAmBA,EAC3B9gC,EAAQ+gC,iBAAmBA,EAC3B/gC,EAAQ+gC,iBAAmBA,EAC3B/gC,EAAQghC,iBAAmBA,EAC3BhhC,EAAQghC,iBAAmBA,EAC3BhhC,EAAQihC,iBAAmBA,EAC3BjhC,EAAQihC,iBAAmBA,EAC3BjhC,EAAQkhC,iBAAmBA,EAC3BlhC,EAAQkhC,iBAAmBA,EAC3BlhC,EAAQmhC,iBAAmBA,EAC3BnhC,EAAQmhC,iBAAmBA,EAC3BnhC,EAAQohC,iBAAmBA,EAC3BphC,EAAQohC,iBAAmBA,EAC3BphC,EAAQqhC,iBAAmBA,EAC3BrhC,EAAQqhC,iBAAmBA,EAC3BrhC,EAAQshC,iBAAmBA,EAC3BthC,EAAQshC,iBAAmBA,EAC3BthC,EAAQuhC,iBAAmBA,EAC3BvhC,EAAQuhC,iBAAmBA,EAC3BvhC,EAAQwhC,iBAAmBA,EAC3BxhC,EAAQwhC,iBAAmBA,EAC3BxhC,EAAQyhC,iBAAmBA,EAC3BzhC,EAAQyhC,iBAAmBA,EAC3BzhC,EAAQ0hC,iBAAmBA,EAC3B1hC,EAAQ0hC,iBAAmBA,EAC3B1hC,EAAQ2hC,iBAAmBA,EAC3B3hC,EAAQ2hC,iBAAmBA,EAC3B3hC,EAAQ4hC,iBAAmBA,EAC3B5hC,EAAQ4hC,iBAAmBA,EAC3B5hC,EAAQ6hC,iBAAmBA,EAC3B7hC,EAAQ6hC,iBAAmBA,EAC3B7hC,EAAQ8hC,iBAAmBA,EAC3B9hC,EAAQ8hC,iBAAmBA,EAC3B9hC,EAAQ+hC,iBAAmBA,EAC3B/hC,EAAQ+hC,iBAAmBA,EAC3B/hC,EAAQgiC,iBAAmBA,EAC3BhiC,EAAQgiC,iBAAmBA,EAC3BhiC,EAAQiiC,iBAAmBA,EAC3BjiC,EAAQiiC,iBAAmBA,EAC3BjiC,EAAQkiC,iBAAmBA,EAC3BliC,EAAQkiC,iBAAmBA,EAC3BliC,EAAQmiC,iBAAmBA,EAC3BniC,EAAQmiC,iBAAmBA,EAC3BniC,EAAQoiC,iBAAmBA,EAC3BpiC,EAAQoiC,iBAAmBA,EAC3BpiC,EAAQqiC,iBAAmBA,EAC3BriC,EAAQqiC,iBAAmBA,EAC3BriC,EAAQsiC,iBAAmBA,EAC3BtiC,EAAQsiC,iBAAmBA,EAC3BtiC,EAAQuiC,iBAAmBA,EAC3BviC,EAAQuiC,iBAAmBA,EAC3BviC,EAAQwiC,iBAAmBA,EAC3BxiC,EAAQwiC,iBAAmBA,EAC3BxiC,EAAQyiC,iBAAmBA,EAC3BziC,EAAQyiC,iBAAmBA,EAC3BziC,EAAQ0iC,iBAAmBA,EAC3B1iC,EAAQ0iC,iBAAmBA,EAC3B1iC,EAAQ2iC,iBAAmBA,EAC3B3iC,EAAQ2iC,iBAAmBA,EAC3B3iC,EAAQ4iC,iBAAmBA,EAC3B5iC,EAAQ4iC,iBAAmBA,EAC3B5iC,EAAQ6iC,iBAAmBA,EAC3B7iC,EAAQ6iC,iBAAmBA,EAC3B7iC,EAAQ8iC,iBAAmBA,EAC3B9iC,EAAQ8iC,iBAAmBA,EAC3B9iC,EAAQ+iC,iBAAmBA,EAC3B/iC,EAAQ+iC,iBAAmBA,EAC3B/iC,EAAQgjC,iBAAmBA,EAC3BhjC,EAAQgjC,iBAAmBA,EAC3BhjC,EAAQijC,iBAAmBA,EAC3BjjC,EAAQijC,iBAAmBA,EAC3BjjC,EAAQkjC,iBAAmBA,EAC3BljC,EAAQkjC,iBAAmBA,EAC3BljC,EAAQmjC,iBAAmBA,EAC3BnjC,EAAQmjC,iBAAmBA,EAC3BnjC,EAAQojC,iBAAmBA,EAC3BpjC,EAAQojC,iBAAmBA,EAC3BpjC,EAAQqjC,iBAAmBA,EAC3BrjC,EAAQqjC,iBAAmBA,EAC3BrjC,EAAQsjC,iBAAmBA,EAC3BtjC,EAAQsjC,iBAAmBA,EAC3BtjC,EAAQujC,iBAAmBA,EAC3BvjC,EAAQujC,iBAAmBA,EAC3BvjC,EAAQwjC,iBAAmBA,EAC3BxjC,EAAQwjC,iBAAmBA,EAC3BxjC,EAAQyjC,iBAAmBA,EAC3BzjC,EAAQyjC,iBAAmBA,EAC3BzjC,EAAQ0jC,iBAAmBA,EAC3B1jC,EAAQ0jC,iBAAmBA,EAC3B1jC,EAAQ2jC,iBAAmBA,EAC3B3jC,EAAQ2jC,iBAAmBA,EAC3B3jC,EAAQ4jC,iBAAmBA,EAC3B5jC,EAAQ4jC,iBAAmBA,EAC3B5jC,EAAQ6jC,iBAAmBA,EAC3B7jC,EAAQ6jC,iBAAmBA,EAC3B7jC,EAAQ8jC,iBAAmBA,EAC3B9jC,EAAQ8jC,iBAAmBA,EAC3B9jC,EAAQ+jC,iBAAmBA,EAC3B/jC,EAAQ+jC,iBAAmBA,EAC3B/jC,EAAQgkC,iBAAmBA,EAC3BhkC,EAAQgkC,iBAAmBA,EAC3BhkC,EAAQikC,iBAAmBA,EAC3BjkC,EAAQikC,iBAAmBA,EAC3BjkC,EAAQkkC,iBAAmBA,EAC3BlkC,EAAQkkC,iBAAmBA,EAC3BlkC,EAAQmkC,iBAAmBA,EAC3BnkC,EAAQmkC,iBAAmBA,EAC3BnkC,EAAQokC,iBAAmBA,EAC3BpkC,EAAQokC,iBAAmBA,EAC3BpkC,EAAQqkC,iBAAmBA,EAC3BrkC,EAAQqkC,iBAAmBA,EAC3BrkC,EAAQskC,iBAAmBA,EAC3BtkC,EAAQskC,iBAAmBA,EAC3BtkC,EAAQukC,iBAAmBA,EAC3BvkC,EAAQukC,iBAAmBA,EAC3BvkC,EAAQwkC,iBAAmBA,EAC3BxkC,EAAQwkC,iBAAmBA,EAC3BxkC,EAAQykC,iBAAmBA,EAC3BzkC,EAAQykC,iBAAmBA,EAC3BzkC,EAAQ0kC,iBAAmBA,EAC3B1kC,EAAQ0kC,iBAAmBA,EAC3B1kC,EAAQ2kC,iBAAmBA,EAC3B3kC,EAAQ2kC,iBAAmBA,EAC3B3kC,EAAQ4kC,iBAAmBA,EAC3B5kC,EAAQ4kC,iBAAmBA,EAC3B5kC,EAAQ6kC,iBAAmBA,EAC3B7kC,EAAQ6kC,iBAAmBA,EAC3B7kC,EAAQ8kC,iBAAmBA,EAC3B9kC,EAAQ8kC,iBAAmBA,EAC3B9kC,EAAQ+kC,iBAAmBA,EAC3B/kC,EAAQ+kC,iBAAmBA,EAC3B/kC,EAAQglC,iBAAmBA,EAC3BhlC,EAAQglC,iBAAmBA,EAC3BhlC,EAAQilC,iBAAmBA,EAC3BjlC,EAAQilC,iBAAmBA,EAC3BjlC,EAAQklC,iBAAmBA,EAC3BllC,EAAQklC,iBAAmBA,EAC3BllC,EAAQmlC,iBAAmBA,EAC3BnlC,EAAQmlC,iBAAmBA,EAC3BnlC,EAAQolC,iBAAmBA,EAC3BplC,EAAQolC,iBAAmBA,EAC3BplC,EAAQqlC,iBAAmBA,EAC3BrlC,EAAQqlC,iBAAmBA,EAC3BrlC,EAAQslC,iBAAmBA,EAC3BtlC,EAAQslC,iBAAmBA,EAC3BtlC,EAAQulC,iBAAmBA,EAC3BvlC,EAAQulC,iBAAmBA,EAC3BvlC,EAAQwlC,iBAAmBA,EAC3BxlC,EAAQwlC,iBAAmBA,EAC3BxlC,EAAQylC,iBAAmBA,EAC3BzlC,EAAQylC,iBAAmBA,EAC3BzlC,EAAQ0lC,iBAAmBA,EAC3B1lC,EAAQ0lC,iBAAmBA,EAC3B1lC,EAAQ2lC,iBAAmBA,EAC3B3lC,EAAQ2lC,iBAAmBA,EAC3B3lC,EAAQ4lC,iBAAmBA,EAC3B5lC,EAAQ4lC,iBAAmBA,EAC3B5lC,EAAQ6lC,iBAAmBA,EAC3B7lC,EAAQ6lC,iBAAmBA,EAC3B7lC,EAAQ8lC,iBAAmBA,EAC3B9lC,EAAQ8lC,iBAAmBA,EAC3B9lC,EAAQ+lC,iBAAmBA,EAC3B/lC,EAAQ+lC,iBAAmBA,EAC3B/lC,EAAQgmC,iBAAmBA,EAC3BhmC,EAAQgmC,iBAAmBA,EAC3BhmC,EAAQimC,iBAAmBA,EAC3BjmC,EAAQimC,iBAAmBA,EAC3BjmC,EAAQkmC,iBAAmBA,EAC3BlmC,EAAQkmC,iBAAmBA,EAC3BlmC,EAAQmmC,iBAAmBA,EAC3BnmC,EAAQmmC,iBAAmBA,EAC3BnmC,EAAQomC,iBAAmBA,EAC3BpmC,EAAQomC,iBAAmBA,EAC3BpmC,EAAQqmC,iBAAmBA,EAC3BrmC,EAAQqmC,iBAAmBA,EAC3BrmC,EAAQsmC,iBAAmBA,EAC3BtmC,EAAQsmC,iBAAmBA,EAC3BtmC,EAAQumC,iBAAmBA,EAC3BvmC,EAAQumC,iBAAmBA,EAC3BvmC,EAAQwmC,iBAAmBA,EAC3BxmC,EAAQwmC,iBAAmBA,EAC3BxmC,EAAQymC,iBAAmBA,EAC3BzmC,EAAQymC,iBAAmBA,EAC3BzmC,EAAQ0mC,iBAAmBA,EAC3B1mC,EAAQ0mC,iBAAmBA,EAC3B1mC,EAAQ2mC,iBAAmBA,EAC3B3mC,EAAQ2mC,iBAAmBA,EAC3B3mC,EAAQ4mC,iBAAmBA,EAC3B5mC,EAAQ4mC,iBAAmBA,EAC3B5mC,EAAQ6mC,iBAAmBA,EAC3B7mC,EAAQ6mC,iBAAmBA,EAC3B7mC,EAAQ8mC,iBAAmBA,EAC3B9mC,EAAQ8mC,iBAAmBA,EAC3B9mC,EAAQ+mC,iBAAmBA,EAC3B/mC,EAAQ+mC,iBAAmBA,EAC3B/mC,EAAQgnC,iBAAmBA,EAC3BhnC,EAAQgnC,iBAAmBA,EAC3BhnC,EAAQinC,iBAAmBA,EAC3BjnC,EAAQinC,iBAAmBA,EAC3BjnC,EAAQknC,iBAAmBA,EAC3BlnC,EAAQknC,iBAAmBA,EAC3BlnC,EAAQmnC,iBAAmBA,EAC3BnnC,EAAQmnC,iBAAmBA,EAC3BnnC,EAAQonC,iBAAmBA,EAC3BpnC,EAAQonC,iBAAmBA,EAC3BpnC,EAAQqnC,iBAAmBA,EAC3BrnC,EAAQqnC,iBAAmBA,EAC3BrnC,EAAQsnC,iBAAmBA,EAC3BtnC,EAAQsnC,iBAAmBA,EAC3BtnC,EAAQunC,iBAAmBA,EAC3BvnC,EAAQunC,iBAAmBA,EAC3BvnC,EAAQwnC,iBAAmBA,EAC3BxnC,EAAQwnC,iBAAmBA,EAC3BxnC,EAAQynC,iBAAmBA,EAC3BznC,EAAQynC,iBAAmBA,EAC3BznC,EAAQ0nC,iBAAmBA,EAC3B1nC,EAAQ0nC,iBAAmBA,EAC3B1nC,EAAQ2nC,iBAAmBA,EAC3B3nC,EAAQ2nC,iBAAmBA,EAC3B3nC,EAAQ4nC,iBAAmBA,EAC3B5nC,EAAQ4nC,iBAAmBA,EAC3B5nC,EAAQ6nC,iBAAmBA,EAC3B7nC,EAAQ6nC,iBAAmBA,EAC3B7nC,EAAQ8nC,iBAAmBA,EAC3B9nC,EAAQ8nC,iBAAmBA,EAC3B9nC,EAAQ+nC,iBAAmBA,EAC3B/nC,EAAQ+nC,iBAAmBA,EAC3B/nC,EAAQgoC,iBAAmBA,EAC3BhoC,EAAQgoC,iBAAmBA,EAC3BhoC,EAAQioC,iBAAmBA,EAC3BjoC,EAAQioC,iBAAmBA,EAC3BjoC,EAAQkoC,iBAAmBA,EAC3BloC,EAAQkoC,iBAAmBA,EAC3BloC,EAAQmoC,iBAAmBA,EAC3BnoC,EAAQmoC,iBAAmBA,EAC3BnoC,EAAQooC,iBAAmBA,EAC3BpoC,EAAQooC,iBAAmBA,EAC3BpoC,EAAQqoC,iBAAmBA,EAC3BroC,EAAQqoC,iBAAmBA,EAC3BroC,EAAQsoC,iBAAmBA,EAC3BtoC,EAAQsoC,iBAAmBA,EAC3BtoC,EAAQuoC,iBAAmBA,EAC3BvoC,EAAQuoC,iBAAmBA,EAC3BvoC,EAAQwoC,iBAAmBA,EAC3BxoC,EAAQwoC,iBAAmBA,EAC3BxoC,EAAQyoC,iBAAmBA,EAC3BzoC,EAAQyoC,iBAAmBA,EAC3BzoC,EAAQ0oC,iBAAmBA,EAC3B1oC,EAAQ0oC,iBAAmBA,EAC3B1oC,EAAQ2oC,iBAAmBA,EAC3B3oC,EAAQ2oC,iBAAmBA,EAC3B3oC,EAAQ4oC,iBAAmBA,EAC3B5oC,EAAQ4oC,iBAAmBA,EAC3B5oC,EAAQ6oC,iBAAmBA,EAC3B7oC,EAAQ6oC,iBAAmBA,EAC3B7oC,EAAQ8oC,iBAAmBA,EAC3B9oC,EAAQ8oC,iBAAmBA,EAC3B9oC,EAAQ+oC,iBAAmBA,EAC3B/oC,EAAQ+oC,iBAAmBA,EAC3B/oC,EAAQgpC,iBAAmBA,EAC3BhpC,EAAQgpC,iBAAmBA,EAC3BhpC,EAAQipC,iBAAmBA,EAC3BjpC,EAAQipC,iBAAmBA,EAC3BjpC,EAAQkpC,iBAAmBA,EAC3BlpC,EAAQkpC,iBAAmBA,EAC3BlpC,EAAQmpC,iBAAmBA,EAC3BnpC,EAAQmpC,iBAAmBA,EAC3BnpC,EAAQopC,iBAAmBA,EAC3BppC,EAAQopC,iBAAmBA,EAC3BppC,EAAQqpC,iBAAmBA,EAC3BrpC,EAAQqpC,iBAAmBA,EAC3BrpC,EAAQspC,iBAAmBA,EAC3BtpC,EAAQspC,iBAAmBA,EAC3BtpC,EAAQupC,iBAAmBA,EAC3BvpC,EAAQupC,iBAAmBA,EAC3BvpC,EAAQwpC,iBAAmBA,EAC3BxpC,EAAQwpC,iBAAmBA,EAC3BxpC,EAAQypC,iBAAmBA,EAC3BzpC,EAAQypC,iBAAmBA,EAC3BzpC,EAAQ0pC,iBAAmBA,EAC3B1pC,EAAQ0pC,iBAAmBA,EAC3B1pC,EAAQ2pC,iBAAmBA,EAC3B3pC,EAAQ2pC,iBAAmBA,EAC3B3pC,EAAQ4pC,iBAAmBA,EAC3B5pC,EAAQ4pC,iBAAmBA,EAC3B5pC,EAAQ6pC,iBAAmBA,EAC3B7pC,EAAQ6pC,iBAAmBA,EAC3B7pC,EAAQ8pC,iBAAmBA,EAC3B9pC,EAAQ8pC,iBAAmBA,EAC3B9pC,EAAQ+pC,iBAAmBA,EAC3B/pC,EAAQ+pC,iBAAmBA,EAC3B/pC,EAAQgqC,iBAAmBA,EAC3BhqC,EAAQgqC,iBAAmBA,EAC3BhqC,EAAQiqC,iBAAmBA,EAC3BjqC,EAAQiqC,iBAAmBA,EAC3BjqC,EAAQkqC,iBAAmBA,EAC3BlqC,EAAQkqC,iBAAmBA,EAC3BlqC,EAAQmqC,iBAAmBA,EAC3BnqC,EAAQmqC,iBAAmBA,EAC3BnqC,EAAQoqC,iBAAmBA,EAC3BpqC,EAAQoqC,iBAAmBA,EAC3BpqC,EAAQqqC,iBAAmBA,EAC3BrqC,EAAQqqC,iBAAmBA,EAC3BrqC,EAAQsqC,iBAAmBA,EAC3BtqC,EAAQsqC,iBAAmBA,EAC3BtqC,EAAQuqC,iBAAmBA,EAC3BvqC,EAAQuqC,iBAAmBA,EAC3BvqC,EAAQwqC,iBAAmBA,EAC3BxqC,EAAQwqC,iBAAmBA,EAC3BxqC,EAAQyqC,iBAAmBA,EAC3BzqC,EAAQyqC,iBAAmBA,EAC3BzqC,EAAQ0qC,iBAAmBA,EAC3B1qC,EAAQ0qC,iBAAmBA,EAC3B1qC,EAAQ2qC,iBAAmBA,EAC3B3qC,EAAQ2qC,iBAAmBA,EAC3B3qC,EAAQ4qC,iBAAmBA,EAC3B5qC,EAAQ4qC,iBAAmBA,EAC3B5qC,EAAQ6qC,iBAAmBA,EAC3B7qC,EAAQ6qC,iBAAmBA,EAC3B7qC,EAAQ8qC,iBAAmBA,EAC3B9qC,EAAQ8qC,iBAAmBA,EAC3B9qC,EAAQ+qC,iBAAmBA,EAC3B/qC,EAAQ+qC,iBAAmBA,EAC3B/qC,EAAQgrC,iBAAmBA,EAC3BhrC,EAAQgrC,iBAAmBA,EAC3BhrC,EAAQirC,iBAAmBA,EAC3BjrC,EAAQirC,iBAAmBA,EAC3BjrC,EAAQkrC,iBAAmBA,EAC3BlrC,EAAQkrC,iBAAmBA,EAC3BlrC,EAAQmrC,iBAAmBA,EAC3BnrC,EAAQmrC,iBAAmBA,EAC3BnrC,EAAQorC,iBAAmBA,EAC3BprC,EAAQorC,iBAAmBA,EAC3BprC,EAAQqrC,iBAAmBA,EAC3BrrC,EAAQqrC,iBAAmBA,EAC3BrrC,EAAQsrC,iBAAmBA,EAC3BtrC,EAAQsrC,iBAAmBA,EAC3BtrC,EAAQurC,iBAAmBA,EAC3BvrC,EAAQurC,iBAAmBA,EAC3BvrC,EAAQwrC,iBAAmBA,EAC3BxrC,EAAQwrC,iBAAmBA,EAC3BxrC,EAAQyrC,iBAAmBA,EAC3BzrC,EAAQyrC,iBAAmBA,EAC3BzrC,EAAQ0rC,iBAAmBA,EAC3B1rC,EAAQ0rC,iBAAmBA,EAC3B1rC,EAAQ2rC,iBAAmBA,EAC3B3rC,EAAQ2rC,iBAAmBA,EAC3B3rC,EAAQ4rC,iBAAmBA,EAC3B5rC,EAAQ4rC,iBAAmBA,EAC3B5rC,EAAQ6rC,iBAAmBA,EAC3B7rC,EAAQ6rC,iBAAmBA,EAC3B7rC,EAAQ8rC,iBAAmBA,EAC3B9rC,EAAQ8rC,iBAAmBA,EAC3B9rC,EAAQ+rC,iBAAmBA,EAC3B/rC,EAAQ+rC,iBAAmBA,EAC3B/rC,EAAQgsC,iBAAmBA,EAC3BhsC,EAAQgsC,iBAAmBA,EAC3BhsC,EAAQisC,iBAAmBA,EAC3BjsC,EAAQisC,iBAAmBA,EAC3BjsC,EAAQksC,iBAAmBA,EAC3BlsC,EAAQksC,iBAAmBA,EAC3BlsC,EAAQmsC,iBAAmBA,EAC3BnsC,EAAQmsC,iBAAmBA,EAC3BnsC,EAAQosC,iBAAmBA,EAC3BpsC,EAAQosC,iBAAmBA,EAC3BpsC,EAAQqsC,iBAAmBA,EAC3BrsC,EAAQqsC,iBAAmBA,EAC3BrsC,EAAQssC,iBAAmBA,EAC3BtsC,EAAQssC,iBAAmBA,EAC3BtsC,EAAQusC,iBAAmBA,EAC3BvsC,EAAQusC,iBAAmBA,EAC3BvsC,EAAQwsC,iBAAmBA,EAC3BxsC,EAAQwsC,iBAAmBA,EAC3BxsC,EAAQysC,iBAAmBA,EAC3BzsC,EAAQysC,iBAAmBA,EAC3BzsC,EAAQ0sC,iBAAmBA,EAC3B1sC,EAAQ0sC,iBAAmBA,EAC3B1sC,EAAQ2sC,iBAAmBA,EAC3B3sC,EAAQ2sC,iBAAmBA,EAC3B3sC,EAAQ4sC,iBAAmBA,EAC3B5sC,EAAQ4sC,iBAAmBA,EAC3B5sC,EAAQ6sC,iBAAmBA,EAC3B7sC,EAAQ6sC,iBAAmBA,EAC3B7sC,EAAQ8sC,iBAAmBA,EAC3B9sC,EAAQ8sC,iBAAmBA,EAC3B9sC,EAAQ+sC,iBAAmBA,EAC3B/sC,EAAQ+sC,iBA

Microsoft Corporation.\n\n Permission to use, copy, modify, and/or distribute this software for any\n purpose with or without fee is hereby granted.\n\n THE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\n REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\n AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\n INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\n LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\n OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\n PERFORMANCE OF THIS SOFTWARE.\n
***************************************************************************** */\n /* global Reflect, Promise */\n var extendStatics = function (d, b) {\n extendStatics = Object.setPrototypeOf ||\n ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\n function (d, b) { for (var p in b)\n if (b.hasOwnProperty(p))\n d[p] = b[p]; };\n return extendStatics(d, b);\n };\n function __extends(d, b) {\n extendStatics(d, b);\n function __() { this.constructor = d; }\n d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\n }\n var __assign = function () {\n __assign = Object.assign || function __assign(t) {\n for (var s, i = 1, n = arguments.length; i < n; i++) {\n s = arguments[i];\n for (var p in s)\n if (Object.prototype.hasOwnProperty.call(s, p))\n t[p] = s[p];\n }\n return t;\n };\n return __assign.apply(this, arguments);\n };\n function __rest(s, e) {\n var t = {};\n for (var p in s)\n if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\n t[p] = s[p];\n if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\n for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\n if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\n t[p[i]] = s[p[i]];\n }\n return t;\n }\n function __decorate(decorators, target, key, desc) {\n var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\n if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\")\n r = Reflect.decorate(decorators, target, key, desc);\n else\n for (var i = decorators.length - 1; i >= 0; i--)\n if (d = decorators[i])\n r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\n return c > 3 && r && Object.defineProperty(target, key, r), r;\n }\n function __param(paramIndex, decorator) {\n return function (target, key) { decorator(target, key, paramIndex); };\n }\n function __metadata(metadataKey, metadataValue) {\n if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n return Reflect.metadata(metadataKey, metadataValue);\n }\n function __awaiter(thisArg, _arguments, P, generator) {\n function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\n return new (P || (P = Promise))(function (resolve, reject) {\n function fulfilled(value) { try {\n step(generator.next(value));\n }\n catch (e) {\n reject(e);\n } }\n function rejected(value) { try {\n step(generator[\"throw\"](value));\n }\n catch (e) {\n reject(e);\n } }\n function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\n step((generator = generator.apply(thisArg, _arguments || [])).next());\n });\n }\n function __generator(thisArg, body) {\n var _ = { label: 0, sent: function () { if (t[0] & 1)\n throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function () { return this; }), g;\n function verb(n) { return function (v) { return step([n, v]); }; }\n function step(op) {\n if (f)\n throw new TypeError(\"Generator is already executing.\");\n while (_)\n try {\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n return t;\n if (y = 0, t)\n op = [op[0] & 2, t.value];\n switch (op[0]) {\n case 0:\n case 1:\n t = op;\n break;\n case 4:\n _.label++;\n return { value: op[1], done: false };\n case 5:\n _.label++;\n y =

op[1];\n op = [0];\n continue;\n case 7:\n op = _.ops.pop();\n _.trys.pop();\n continue;\n default:\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) {\n _ = 0;\n continue;\n }\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n _.label = op[1];\n break;\n }\n if (op[0] === 6 && _.label < t[1]) {\n _.label = t[1];\n t = op;\n break;\n }\n if (t && _.label < t[2]) {\n _.label = t[2];\n _.ops.push(op);\n break;\n }\n if (t[2])\n _.ops.pop();\n _.trys.pop();\n continue;\n }\n op = body.call(thisArg, _);\n }\n catch (e) {\n op = [6, e];\n y = 0;\n }\n finally {\n f = t = 0;\n }\n if (op[0] & 5)\n throw op[1];\n return { value: op[0] ? op[1] : void 0, done: true };\n }\n }\n var __createBinding = Object.create ? (function (o, m, k, k2) {\n if (k2 === undefined)\n k2 = k;\n Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n }) : (function (o, m, k, k2) {\n if (k2 === undefined)\n k2 = k;\n o[k2] = m[k];\n });\n function __exportStar(m, exports) {\n for (var p in m)\n if (p !== \"default\" && !exports.hasOwnProperty(p))\n __createBinding(exports, m, p);\n }\n function __values(o) {\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n if (m)\n return m.call(o);\n if (o && typeof o.length === \"number\")\n return {\n next: function () {\n if (o && i >= o.length)\n o = void 0;\n return { value: o && o[i++], done: !o };\n }\n };\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n }\n function __read(o, n) {\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n if (!m)\n return o;\n var i = m.call(o), r, ar = [], e;\n try {\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n ar.push(r.value);\n }\n catch (error) {\n e = { error: error };\n }\n finally {\n try {\n if (r && !r.done && (m = i[\"return\"]))\n m.call(i);\n }\n finally {\n if (e)\n throw e.error;\n }\n }\n return ar;\n }\n function __spread() {\n for (var ar = [], i = 0; i < arguments.length; i++)\n ar = ar.concat(__read(arguments[i]));\n return ar;\n }\n function __spreadArrays() {\n for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n s += arguments[i].length;\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n r[k] = a[j];\n return r;\n }\n ;\n function __await(v) {\n return this instanceof __await ? (this.v = v, this) : new __await(v);\n }\n function __asyncGenerator(thisArg, _arguments, generator) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\n function verb(n) { if (g[n])\n i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n function resume(n, v) { try {\n step(g[n](v));\n }\n catch (e) {\n settle(q[0][3], e);\n } }\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n function fulfill(value) { resume(\"next\", value); }\n function reject(value) { resume(\"throw\", value); }\n function settle(f, v) { if (f(v), q.shift(), q.length)\n resume(q[0][0], q[0][1]); }\n }\n function __asyncDelegator(o) {\n var i, p;\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n }\n function __asyncValues(o) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var m = o[Symbol.asyncIterator], i;\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject)

{ v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n }\n function __makeTemplateObject(cooked, raw) {\n if (Object.defineProperty) {\n Object.defineProperty(cooked, \"raw\", { value: raw });\n }\n else {\n cooked.raw = raw;\n }\n return cooked;\n }\n ;\n var __setModuleDefault = Object.create ? (function (o, v) {\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n }) : function (o, v) {\n o[\"default\"] = v;\n };\n function __importStar(mod) {\n if (mod && mod.__esModule)\n return mod;\n var result = {};\n if (mod != null)\n for (var k in mod)\n if (Object.hasOwnProperty.call(mod, k))\n __createBinding(result, mod, k);\n __setModuleDefault(result, mod);\n return result;\n }\n function __importDefault(mod) {\n return (mod && mod.__esModule) ? mod : { default: mod };\n }\n function __classPrivateFieldGet(receiver, privateMap) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to get private field on non-instance\");\n }\n return privateMap.get(receiver);\n }\n function __classPrivateFieldSet(receiver, privateMap, value) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to set private field on non-instance\");\n }\n privateMap.set(receiver, value);\n return value;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A DI Token representing the main rendering context. In a browser this is the DOM Document.\n *\n * Note: Document might not be available in the Application Context when Application and Rendering\n * Contexts are not the same (e.g. when running the application in a Web Worker).\n *\n * @publicApi\n */\n var DOCUMENT = new i0.InjectionToken('DocumentToken');\n\n /**\n * This class should not be used directly by an application developer. Instead, use\n * {@link Location}.\n *\n * `PlatformLocation` encapsulates all calls to DOM APIs, which allows the Router to be\n * platform-agnostic.\n * This means that we can have different implementation of `PlatformLocation` for the different\n * platforms that Angular supports. For example, `@angular/platform-browser` provides an\n * implementation specific to the browser environment, while `@angular/platform-server` provides\n * one suitable for use with server-side rendering.\n *\n * The `PlatformLocation` class is used directly by all implementations of {@link LocationStrategy}\n * when they need to interact with the DOM APIs like pushState, popState, etc.\n *\n * {@link LocationStrategy} in turn is used by the {@link Location} service which is used directly\n * by the {@link Router} in order to navigate between routes. Since all interactions between {@link\n * Router} /\n * {@link Location} / {@link LocationStrategy} and DOM APIs flow through the `PlatformLocation`\n * class, they are all platform-agnostic.\n *\n * @publicApi\n */\n var PlatformLocation = /** @class */ (function () {\n function PlatformLocation() {\n }\n return PlatformLocation;\n }());\n PlatformLocation.prov = i0.defineInjectable({ factory: useBrowserPlatformLocation, token: PlatformLocation, providedIn: \"platform\" });\n PlatformLocation.decorators = [\n { type: i0.Injectable, args: [{\n providedIn: 'platform',\n // See #23917\n useFactory: useBrowserPlatformLocation\n },] }\n ];\n function useBrowserPlatformLocation() {\n return i0.inject(BrowserPlatformLocation);\n }\n /**\n * @description\n * Indicates when a location is initialized.\n *\n * @publicApi\n */\n var LOCATION_INITIALIZED = new i0.InjectionToken('Location Initialized');\n /**\n * `PlatformLocation` encapsulates all of the direct calls to platform APIs.\n * This class should not be used directly by an application developer. Instead, use\n * {@link Location}.\n */\n var BrowserPlatformLocation = /** @class */ (function (_super) {\n __extends(BrowserPlatformLocation, _super);\n function BrowserPlatformLocation(_doc) {\n var _this = _super.call(this) || this;\n _this._doc = _doc;\n _this._init();\n return _this;\n }\n // This is moved to its own method so that `MockPlatformLocationStrategy` can overwrite it\n /** @internal */\n BrowserPlatformLocation.prototype._init = function () {\n this.location = getDOM().getLocation();\n

```
this._history = getDOM().getHistory();\n    };\n
BrowserPlatformLocation.prototype.getBaseHrefFromDOM = function () {\n        return
getDOM().getBaseHref(this._doc);\n    };\n    BrowserPlatformLocation.prototype.onPopState = function (fn)
{\n        getDOM().getGlobalEventTarget(this._doc, 'window').addEventListener('popstate', fn, false);\n    };\n
  BrowserPlatformLocation.prototype.onHashChange = function (fn) {\n
getDOM().getGlobalEventTarget(this._doc, 'window').addEventListener('hashchange', fn, false);\n    };\n
Object.defineProperty(BrowserPlatformLocation.prototype, \"href\", {\n        get: function () {\n            return
this.location.href;\n        },\n        enumerable: false,\n        configurable: true\n    });\n
Object.defineProperty(BrowserPlatformLocation.prototype, \"protocol\", {\n        get: function () {\n
return this.location.protocol;\n
    },\n        enumerable: false,\n        configurable: true\n    });\n
Object.defineProperty(BrowserPlatformLocation.prototype, \"hostname\", {\n        get: function () {\n
return this.location.hostname;\n        },\n        enumerable: false,\n        configurable: true\n    });\n
Object.defineProperty(BrowserPlatformLocation.prototype, \"port\", {\n        get: function () {\n            return
this.location.port;\n        },\n        enumerable: false,\n        configurable: true\n    });\n
Object.defineProperty(BrowserPlatformLocation.prototype, \"pathname\", {\n        get: function () {\n
return this.location.pathname;\n        },\n        set: function (newPath) {\n            this.location.pathname =
newPath;\n        },\n        enumerable: false,\n        configurable: true\n    });\n
Object.defineProperty(BrowserPlatformLocation.prototype,
 \"search\", {\n        get: function () {\n            return this.location.search;\n        },\n        enumerable:
false,\n        configurable: true\n    });\n    Object.defineProperty(BrowserPlatformLocation.prototype,
\"hash\", {\n        get: function () {\n            return this.location.hash;\n        },\n        enumerable: false,\n
    configurable: true\n    });\n    BrowserPlatformLocation.prototype.pushState = function (state, title, url) {\n
      if (supportsState()) {\n            this._history.pushState(state, title, url);\n        }\n        else {\n
this.location.hash = url;\n        }\n    };\n    BrowserPlatformLocation.prototype.replaceState = function (state,
title, url) {\n        if (supportsState()) {\n            this._history.replaceState(state, title, url);\n        }\n
else {\n            this.location.hash
 = url;\n        }\n    };\n    BrowserPlatformLocation.prototype.forward = function () {\n
this._history.forward();\n    };\n    BrowserPlatformLocation.prototype.back = function () {\n
this._history.back();\n    };\n    BrowserPlatformLocation.prototype.getState = function () {\n        return
this._history.state;\n    };\n    return BrowserPlatformLocation;\n}(PlatformLocation));\n
BrowserPlatformLocation.prov = i0.defineInjectable({ factory: createBrowserPlatformLocation, token:
BrowserPlatformLocation, providedIn: \"platform\" });\n BrowserPlatformLocation.decorators = [\n    { type:
i0.Injectable, args: [{\n            providedIn: 'platform',\n            // See #23917\n            useFactory:
createBrowserPlatformLocation,\n        },] }\n ];\n BrowserPlatformLocation.ctorParameters = function () {
return [\n    { type: undefined, decorators: [{ type:
 i0.Inject, args: [DOCUMENT,] }] }\n ]; };\n function supportsState() {\n    return
!!window.history.pushState;\n }\n function createBrowserPlatformLocation() {\n    return new
BrowserPlatformLocation(i0.inject(DOCUMENT));\n }\n\n /**\n * @license\n * Copyright Google LLC
All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n *
found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google
LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n /**\n * Joins two parts of a URL with a slash
if needed.\n *\n * @param start  URL string\n * @param end    URL string\n *\n *\n * @returns The
joined URL string.\n */\n function joinWithSlash(start, end) {\n    if (start.length
 == 0) {\n        return end;\n    }\n    if (end.length == 0) {\n        return start;\n    }\n    var slashes =
0;\n    if (start.endsWith('/')) {\n        slashes++;\n    }\n    if (end.startsWith('/')) {\n        slashes++;\n
}\n    if (slashes == 2) {\n        return start + end.substring(1);\n    }\n    if (slashes == 1) {\n        return
```

start + end;\n }\n return start + '/' + end;\n }\n /**\n * Removes a trailing slash from a URL string if needed.\n * Looks for the first occurrence of either `#`, `?`, or the end of the\n * line as `/` characters and removes the trailing slash if one exists.\n *\n * @param url URL string.\n *\n * @returns The URL string, modified if needed.\n */\n function stripTrailingSlash(url) {\n var match = url.match(/#|\\?|$/);\n var pathEndIdx = match && match.index || url.length;\n var droppedSlashIdx = pathEndIdx - (url[pathEndIdx - 1] === '/' ? 1 : 0);\n return url.slice(0, droppedSlashIdx) + url.slice(pathEndIdx);\n }\n /**\n * Normalizes URL parameters by prepending with `?` if needed.\n *\n * @param params String of URL parameters.\n *\n * @returns The normalized URL parameters string.\n */\n function normalizeQueryParams(params) {\n return params && params[0] !== '?' ? '?' + params : params;\n }\n\n /**\n * Enables the `Location` service to read route state from the browser's URL.\n * Angular provides two strategies:\n * `HashLocationStrategy` and `PathLocationStrategy`.\n *\n * Applications should use the `Router` or `Location` services to\n * interact with application route state.\n *\n * For instance, `HashLocationStrategy` produces URLs like\n * <code class=\"no-auto-link\">http://example.com#/foo</code>,\n * and `PathLocationStrategy` produces\n * <code class=\"no-auto-link\">http://example.com/foo</code> as an equivalent URL.\n *\n * See these two classes for more.\n *\n * @publicApi\n */\n var LocationStrategy = /** @class */ (function () {\n function LocationStrategy() {\n }\n return LocationStrategy;\n }());\n LocationStrategy.prov = i0.defineInjectable({ factory: provideLocationStrategy, token: LocationStrategy, providedIn: \"root\" });\n LocationStrategy.decorators = [\n { type: i0.Injectable, args: [{ providedIn: 'root', useFactory: provideLocationStrategy },] }\n ];\n function provideLocationStrategy(platformLocation) {\n // See #23917\n var location = i0.inject(DOCUMENT).location;\n return new PathLocationStrategy(i0.inject(PlatformLocation), location && location.origin || '');\n }\n /**\n * A predefined [DI token](guide/glossary#di-token) for the base href\n * to be used with the `PathLocationStrategy`.\n * The base href is the URL prefix that should be preserved when generating\n * and recognizing URLs.\n *\n * @usageNotes\n *\n * The following example shows how to use this token to configure the root app injector\n * with a base href value, so that the DI framework can supply the dependency anywhere in the app.\n *\n * ```typescript\n * import {Component, NgModule} from '@angular/core';\n * import {APP_BASE_HREF} from '@angular/common';\n *\n * @NgModule({\n * providers: [{provide: APP_BASE_HREF, useValue: '/my/app'}]\n * })\n * class AppModule {}\n * ```\n *\n * @publicApi\n */\n var APP_BASE_HREF = new i0.InjectionToken('appBaseHref');\n /**\n * @description\n * A {@link LocationStrategy} used to configure the {@link Location} service to\n * represent its state in the\n * [path](https://en.wikipedia.org/wiki/Uniform_Resource_Locator#Syntax) of the\n * browser's URL.\n *\n * If you're using `PathLocationStrategy`, you must provide a {@link APP_BASE_HREF}\n * or add a `<base href>` element to the document.\n *\n * For instance, if you provide an `APP_BASE_HREF` of `'/my/app/'` and call\n * `location.go('/foo')`, the browser's URL will become\n * `example.com/my/app/foo`. To ensure all relative URIs resolve correctly,\n * the `<base href>` and/or `APP_BASE_HREF` should end with a `/`.\n *\n * Similarly, if you add `<base href='/my/app/'/>` to the document and call\n * `location.go('/foo')`, the browser's URL will become\n * `example.com/my/app/foo`.\n *\n * Note that when using `PathLocationStrategy`, neither the query nor\n * the fragment in the `<base href>` will be preserved, as outlined\n * by the [RFC](https://tools.ietf.org/html/rfc3986#section-5.2.2).\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example common/location/ts/path_location_component.ts region='LocationComponent'}\n *\n * @publicApi\n */\n var PathLocationStrategy = /** @class */ (function (_super) {\n __extends(PathLocationStrategy, _super);\n function PathLocationStrategy(_platformLocation, href) {\n var _this = _super.call(this) || this;\n _this._platformLocation = _platformLocation;\n if (href == null) {\n href = _this._platformLocation.getBaseHrefFromDOM();\n }\n if (href == null) {\n throw new

```
Error(\"No base href set. Please provide a value for the APP_BASE_HREF token or add a base element to the document.\");\n        }\n        _this._baseHref = href;\n        return _this;\n    }\n PathLocationStrategy.prototype.onPopState = function (fn) {\n        this._platformLocation.onPopState(fn);\n  this._platformLocation.onHashChange(fn);\n    };\n    PathLocationStrategy.prototype.getBaseHref = function () {\n        return this._baseHref;\n    };\n
    PathLocationStrategy.prototype.prepareExternalUrl = function (internal) {\n        return joinWithSlash(this._baseHref, internal);\n    };\n    PathLocationStrategy.prototype.path = function (includeHash) {\n        if (includeHash === void 0) { includeHash = false; }\n        var pathname = this._platformLocation.pathname + normalizeQueryParams(this._platformLocation.search);\n        var hash = this._platformLocation.hash;\n        return hash && includeHash ? \"\\" + pathname + hash : pathname;\n    };\n
   PathLocationStrategy.prototype.pushState = function (state, title, url, queryParams) {\n        var externalUrl = this.prepareExternalUrl(url + normalizeQueryParams(queryParams));\n this._platformLocation.pushState(state, title, externalUrl);\n    };\n PathLocationStrategy.prototype.replaceState = function (state, title, url, queryParams) {\n        var externalUrl = this.prepareExternalUrl(url + normalizeQueryParams(queryParams));\n
        this._platformLocation.replaceState(state, title, externalUrl);\n    };\n PathLocationStrategy.prototype.forward = function () {\n        this._platformLocation.forward();\n    };\n PathLocationStrategy.prototype.back = function () {\n        this._platformLocation.back();\n    };\n    return PathLocationStrategy;\n }(LocationStrategy));\n PathLocationStrategy.decorators = [\n    { type: i0.Injectable }\n ];\n PathLocationStrategy.ctorParameters = function () { return [\n    { type: PlatformLocation },\n    { type: String, decorators: [{ type: i0.Optional }, { type: i0.Inject, args: [APP_BASE_HREF,] }] }\n ]; };\n\n /**\n  * @description\n  * A {@link LocationStrategy} used to configure the {@link Location} service to\n  * represent its state in the\n  * [hash fragment](https://en.wikipedia.org/wiki/Uniform_Resource_Locator#Syntax)\n  * of the browser's URL.\n  *\n  * For instance, if you call `location.go('/foo')`, the browser's URL will become\n  * `example.com#/foo`.\n  *\n  * @usageNotes\n  *\n  * ### Example\n  *\n  * {@example common/location/ts/hash_location_component.ts region='LocationComponent'}\n  *\n  * @publicApi\n  */\n var HashLocationStrategy = /** @class */ (function (_super) {\n    __extends(HashLocationStrategy, _super);\n  function HashLocationStrategy(_platformLocation, _baseHref) {\n        var _this = _super.call(this) || this;\n  _this._platformLocation = _platformLocation;\n        _this._baseHref = '';\n        if (_baseHref != null) {\n  _this._baseHref = _baseHref;\n        }\n        return _this;\n    }\n HashLocationStrategy.prototype.onPopState = function (fn) {\n        this._platformLocation.onPopState(fn);\n  this._platformLocation.onHashChange(fn);\n    };\n    HashLocationStrategy.prototype.getBaseHref = function () {\n        return this._baseHref;\n    };\n    HashLocationStrategy.prototype.path = function (includeHash) {\n        if (includeHash === void 0) { includeHash = false; }\n        // the hash value is always prefixed with a `#`\n        // and if it is empty then it will stay empty\n        var path = this._platformLocation.hash;\n        if (path == null)\n            path = '#';\n        return path.length > 0 ? path.substring(1) : path;\n    };\n    HashLocationStrategy.prototype.prepareExternalUrl = function (internal) {\n
        var url = joinWithSlash(this._baseHref, internal);\n        return url.length > 0 ? ('#' + url) : url;\n    };\n HashLocationStrategy.prototype.pushState = function (state, title, path, queryParams) {\n        var url = this.prepareExternalUrl(path + normalizeQueryParams(queryParams));\n        if (url.length == 0) {\n            url = this._platformLocation.pathname;\n
        }\n        this._platformLocation.pushState(state, title, url);\n    };\n HashLocationStrategy.prototype.replaceState = function (state, title, path, queryParams) {\n        var url = this.prepareExternalUrl(path + normalizeQueryParams(queryParams));\n        if (url.length == 0) {\n            url = this._platformLocation.pathname;\n        }\n        this._platformLocation.replaceState(state, title, url);\n };\n    HashLocationStrategy.prototype.forward = function () {\n        this._platformLocation.forward();\n };\n    HashLocationStrategy.prototype.back = function () {\n        this._platformLocation.back();\n    };\n
```

```
return HashLocationStrategy;\n    }(LocationStrategy));\n    HashLocationStrategy.decorators = [\n        { type: i0.Injectable }\n    ];\n    HashLocationStrategy.ctorParameters = function () { return [\n        { type: PlatformLocation },\n        { type: String,
 decorators: [{ type: i0.Optional }, { type: i0.Inject, args: [APP_BASE_HREF,] }] }\n    ]; };\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * @description\n     *\n     * A service that applications can use to interact with a browser's URL.\n     *\n     * Depending on the `LocationStrategy` used, `Location` persists\n     * to the URL's path or the URL's hash segment.\n     *\n     * @usageNotes\n     *\n     * It's better to use the `Router#navigate` service to trigger route changes. Use\n     * `Location` only if you need to interact with or create normalized URLs outside of\n     * routing.\n     *\n     * `Location` is responsible for normalizing the URL against the application's base href.\n     * A normalized URL is absolute from the URL host, includes the application's base
 href, and has no\n     * trailing slash:\n     * - `/my/app/user/123` is normalized\n     * - `my/app/user/123` **is not** normalized\n     * - `/my/app/user/123/` **is not** normalized\n     *\n     * ### Example\n     *\n     * <code-example path='common/location/ts/path_location_component.ts'\n     * region='LocationComponent'></code-example>\n     *\n     * @publicApi\n     */\n    var Location = /** @class */ (function () {\n        function Location(platformStrategy, platformLocation) {\n            var _this = this;\n            /** @internal */\n            this._subject = new i0.EventEmitter();\n            /** @internal */\n            this._urlChangeListeners = [];\n            this._platformStrategy = platformStrategy;\n            var browserBaseHref = this._platformStrategy.getBaseHref();\n            this._platformLocation = platformLocation;\n            this._baseHref = stripTrailingSlash(_stripIndexHtml(browserBaseHref));\n            this._platformStrategy.onPopState(function (ev) {\n                _this._subject.emit({\n                    'url': _this.path(true),\n                    'pop': true,\n                    'state': ev.state,\n                    'type': ev.type,\n                });\n            });\n        }\n        /**\n         * Normalizes the URL path for this location.\n         *\n         * @param includeHash True to include an anchor fragment in the path.\n         *\n         * @returns The normalized URL path.\n         */\n        // TODO: vsavkin. Remove the boolean flag and always include hash once the deprecated router is\n        // removed.\n        Location.prototype.path = function (includeHash) {\n            if (includeHash === void 0) { includeHash = false; }\n            return this.normalize(this._platformStrategy.path(includeHash));\n        };\n        /**\n         * Reports the current state of the location history.\n         * @returns The current value of the `history.state` object.\n         */\n        Location.prototype.getState = function () {\n            return this._platformLocation.getState();\n        };\n        /**\n         * Normalizes the given path and compares to the current normalized path.\n         *\n         * @param path The given URL path.\n         * @param query Query parameters.\n         *\n         * @returns True if the given URL path is equal to the current normalized path, false\n         * otherwise.\n         */\n        Location.prototype.isCurrentPathEqualTo = function (path, query) {\n            if (query === void 0) { query = ''; }\n            return this.path() == this.normalize(path + normalizeQueryParams(query));\n        };\n        /**\n         * Normalizes a URL path by stripping any trailing slashes.\n         *\n         * @param url String representing a URL.\n         *\n         * @returns The normalized URL string.\n         */\n        Location.prototype.normalize = function (url) {\n            return Location.stripTrailingSlash(_stripBaseHref(this._baseHref, _stripIndexHtml(url)));\n        };\n        /**\n         * Normalizes an external URL path.\n         * If the given URL doesn't begin with a leading slash (`'/'`), adds one\n         * before normalizing. Adds a hash if `HashLocationStrategy` is\n         * in use, or the `APP_BASE_HREF` if the `PathLocationStrategy` is in use.\n         *\n         * @param url String representing a URL.\n         *\n         * @returns  A normalized platform-specific URL.\n         */\n        Location.prototype.prepareExternalUrl = function (url) {\n            if (url && url[0] !== '/') {\n                url = '/' + url;\n            }\n            return this._platformStrategy.prepareExternalUrl(url);\n        };\n        // TODO: rename this method to pushState\n        /**\n         * Changes the browser's URL to a normalized version of a given URL, and pushes a\n         * new item onto the platform's history.\n         *\n         * @param path  URL path to normalize.\n         * @param query Query parameters.\n         * @param state Location history state.\n         *\n         */\n        Location.prototype.go = function (path, query, state) {\n            if (query === void 0) { query = ''; }\n
```

```
  if (state === void 0) { state = null; }\n            this._platformStrategy.pushState(state, '', path, query);\n
this._notifyUrlChangeListeners(this.prepareExternalUrl(path + normalizeQueryParams(query)), state);\n        };\n
 /**\n         * Changes the browser's URL to a normalized version of the given URL, and replaces\n         * the top
item on the platform's history stack.\n         *\n         * @param path  URL path to normalize.\n         * @param query
Query parameters.\n         * @param state Location history state.\n         */\n        Location.prototype.replaceState =
function (path, query, state) {\n            if (query === void 0) { query = ''; }\n            if (state === void 0) { state =
null;
 }\n            this._platformStrategy.replaceState(state, '', path, query);\n
this._notifyUrlChangeListeners(this.prepareExternalUrl(path + normalizeQueryParams(query)), state);\n        };\n
 /**\n         * Navigates forward in the platform's history.\n         */\n        Location.prototype.forward = function ()
{\n            this._platformStrategy.forward();\n        };\n        /**\n         * Navigates back in the platform's history.\n
    */\n        Location.prototype.back = function () {\n            this._platformStrategy.back();\n        };\n        /**\n
* Registers a URL change listener. Use to catch updates performed by the Angular\n         * framework that are not
detectible through \"popstate\" or \"hashchange\" events.\n         *\n         * @param fn The change handler function,
which take a URL and a location history state.\n         */\n        Location.prototype.onUrlChange = function (fn) {\n
      var _this = this;\n
    this._urlChangeListeners.push(fn);\n            if (!this._urlChangeSubscription) {\n
this._urlChangeSubscription = this.subscribe(function (v) {\n                _this._notifyUrlChangeListeners(v.url,
v.state);\n            });\n        }\n        };\n        /** @internal */\n
Location.prototype._notifyUrlChangeListeners = function (url, state) {\n            if (url === void 0) { url = ''; }\n
 this._urlChangeListeners.forEach(function (fn) { return fn(url, state); });\n        };\n        /**\n         * Subscribes to
the platform's `popState` events.\n         *\n         * @param value Event that is triggered when the state history
changes.\n         * @param exception The exception to throw.\n         *\n         * @returns Subscribed events.\n
*/\n        Location.prototype.subscribe = function (onNext, onThrow, onReturn) {\n            return
this._subject.subscribe({ next: onNext, error: onThrow, complete: onReturn });\n
        };\n        return Location;\n    }());\n    /**\n     * Normalizes URL parameters by prepending with `?` if
needed.\n     *\n     * @param  params String of URL parameters.\n     *\n     * @returns The normalized URL
parameters string.\n     */\n    Location.normalizeQueryParams = normalizeQueryParams;\n    /**\n     * Joins two
parts of a URL with a slash if needed.\n     *\n     * @param start  URL string\n     * @param end    URL string\n
*\n     *\n     * @returns The joined URL string.\n     */\n    Location.joinWithSlash = joinWithSlash;\n    /**\n     *
Removes a trailing slash from a URL string if needed.\n     * Looks for the first occurrence of either `#`, `?`, or the
end of the\n     * line as `/` characters and removes the trailing slash if one exists.\n     *\n     * @param url URL
string.\n     *\n     * @returns The URL string, modified if needed.\n     */\n    Location.stripTrailingSlash =
stripTrailingSlash;\n    Location.prov = i0.defineInjectable({ factory:
 createLocation, token: Location, providedIn: \"root\" });\n    Location.decorators = [\n        { type: i0.Injectable,
args: [{\n                    providedIn: 'root',\n                    // See #23917\n                    useFactory: createLocation,\n
    },] }\n    ];\n    Location.ctorParameters = function () { return [\n        { type: LocationStrategy },\n        { type:
PlatformLocation }\n    ]; };\n    function createLocation() {\n        return new Location(i0.inject(LocationStrategy),
i0.inject(PlatformLocation));\n    }\n    function _stripBaseHref(baseHref, url) {\n        return baseHref &&
url.startsWith(baseHref) ? url.substring(baseHref.length) : url;\n    }\n    function _stripIndexHtml(url) {\n
return url.replace(/\\/index.html$/, '');\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights
Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the
LICENSE file
 at https://angular.io/license\n     */\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n
*\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    /** @internal */\n    var CURRENCIES_EN = {\n        'ADP': [undefined,
undefined, 0],\n        'AFN': [undefined, undefined, 0],\n        'ALL': [undefined, undefined, 0],\n        'AMD':
[undefined, undefined, 2],\n        'AOA': [undefined, 'Kz'],\n        'ARS': [undefined, '$'],\n        'AUD': ['A$', '$'],\n
```

'BAM': [undefined, 'KM'],\n 'BBD': [undefined, '$'],\n 'BDT': [undefined, ''],\n 'BHD': [undefined, undefined, 3],\n 'BIF': [undefined, undefined, 0],\n 'BMD': [undefined, '$'],\n 'BND': [undefined, '$'],\n 'BOB': [undefined, 'Bs'],\n 'BRL': ['R$'],\n 'BSD': [undefined, '$'],\n 'BWP': [undefined, 'P'],\n 'BYN': [undefined, '.', 2],\n 'BYR': [undefined, undefined, 0],\n 'BZD': [undefined, '$'],\n 'CAD': ['CA$', '$', 2],\n 'CHF': [undefined, undefined, 2],\n 'CLF': [undefined, undefined, 4],\n 'CLP': [undefined, '$', 0],\n 'CNY': ['CN¥', '¥'],\n 'COP': [undefined, '$', 2],\n 'CRC': [undefined, '', 2],\n 'CUC': [undefined, '$'],\n 'CUP': [undefined, '$'],\n 'CZK': [undefined, 'K', 2],\n 'DJF': [undefined, undefined, 0],\n 'DKK': [undefined, 'kr', 2],\n 'DOP': [undefined, '$'],\n 'EGP': [undefined, 'E£'],\n 'ESP': [undefined, '', 0],\n 'EUR': ['€'],\n 'FJD': [undefined, '$'],\n 'FKP': [undefined, '£'],\n 'GBP': ['£'],\n 'GEL': [undefined, ''],\n 'GIP': [undefined, '£'],\n 'GNF': [undefined, 'FG', 0],\n 'GTQ': [undefined, 'Q'],\n 'GYD': [undefined, '$', 2],\n 'HKD': ['HK$', '$'],\n 'HNL': [undefined, 'L'],\n 'HRK': [undefined, 'kn'],\n 'HUF': [undefined, 'Ft', 2],\n 'IDR': [undefined, 'Rp', 2],\n 'ILS': [''],\n 'INR': [''],\n 'IQD': [undefined, undefined, 0],\n 'IRR': [undefined, undefined, 0],\n 'ISK': [undefined, 'kr', 0],\n 'ITL': [undefined, undefined, 0],\n 'JMD': [undefined, '$'],\n 'JOD': [undefined, undefined, 3],\n 'JPY': ['¥', undefined, 0],\n 'KHR': [undefined, ''],\n 'KMF': [undefined, 'CF', 0],\n 'KPW': [undefined, '', 0],\n 'KRW': ['', undefined, 0],\n 'KWD': [undefined, undefined, 3],\n 'KYD': [undefined, '$'],\n 'KZT': [undefined, ''],\n 'LAK': [undefined, '', 0],\n 'LBP': [undefined, 'L£', 0],\n 'LKR': [undefined, 'Rs'],\n 'LRD': [undefined, '$'],\n 'LTL': [undefined, 'Lt'],\n 'LUF': [undefined, undefined, 0],\n 'LVL': [undefined, 'Ls'],\n 'LYD': [undefined, undefined, 3],\n 'MGA': [undefined, 'Ar', 0],\n 'MGF': [undefined, undefined, 0],\n 'MMK': [undefined, 'K', 0],\n 'MNT': [undefined, '', 2],\n 'MRO': [undefined, undefined, 0],\n 'MUR': [undefined, 'Rs', 2],\n 'MXN': ['MX$', '$'],\n 'MYR': [undefined, 'RM'],\n 'NAD': [undefined, '$'],\n 'NGN': [undefined, ''],\n 'NIO': [undefined, 'C$'],\n 'NOK': [undefined, 'kr', 2],\n 'NPR': [undefined, 'Rs'],\n 'NZD': ['NZ$', '$'],\n 'OMR': [undefined, undefined, 3],\n 'PHP': [undefined, ''],\n 'PKR': [undefined, 'Rs', 2],\n 'PLN': [undefined, 'z'],\n 'PYG': [undefined, '', 0],\n 'RON': [undefined, 'lei'],\n 'RSD': [undefined, undefined, 0],\n 'RUB': [undefined, ''],\n 'RUR': [undefined, '.'],\n 'RWF': [undefined, 'RF', 0],\n 'SBD': [undefined, '$'],\n 'SEK': [undefined, 'kr', 2],\n 'SGD': [undefined, '$'],\n 'SHP': [undefined, '£'],\n 'SLL': [undefined, undefined, 0],\n 'SOS': [undefined, undefined, 0],\n 'SRD': [undefined, '$'],\n 'SSP': [undefined, '£'],\n 'STD': [undefined, undefined, 0],\n 'STN': [undefined, 'Db'],\n 'SYP': [undefined, '£', 0],\n 'THB': [undefined, ''],\n 'TMM': [undefined, undefined, 0],\n 'TND': [undefined, undefined, 3],\n 'TOP': [undefined, 'T$'],\n 'TRL': [undefined, undefined, 0],\n 'TRY': [undefined, ''],\n 'TTD': [undefined, '$'],\n 'TWD': ['NT$', '$', 2],\n 'TZS': [undefined, undefined, 2],\n 'UAH': [undefined, ''],\n 'UGX': [undefined, undefined, 0],\n 'USD': ['$'],\n 'UYI': [undefined, undefined, 0],\n 'UYU': [undefined, '$'],\n 'UYW': [undefined, undefined, 4],\n 'UZS': [undefined, undefined, 2],\n 'VEF': [undefined, 'Bs', 2],\n 'VND': ['', undefined, 0],\n 'VUV': [undefined, undefined, 0],\n 'XAF': ['FCFA', undefined, 0],\n 'XCD': ['EC$', '$'],\n 'XOF': ['CFA', undefined, 0],\n 'XPF': ['CFPF', undefined, 0],\n 'XXX': ['¤'],\n 'YER': [undefined, undefined, 0],\n 'ZAR': [undefined, 'R'],\n 'ZMK': [undefined, undefined, 0],\n 'ZMW': [undefined, 'ZK'],\n 'ZWD': [undefined, undefined, 0]\n };\n\n (function (NumberFormatStyle) {\n NumberFormatStyle[NumberFormatStyle[\"Decimal\"] = 0] = \"Decimal\";\n NumberFormatStyle[NumberFormatStyle[\"Percent\"] = 1] = \"Percent\";\n NumberFormatStyle[NumberFormatStyle[\"Currency\"] = 2] = \"Currency\";\n NumberFormatStyle[NumberFormatStyle[\"Scientific\"] = 3] = \"Scientific\";\n })(exports.NumberFormatStyle || (exports.NumberFormatStyle = {}));\n (function (Plural) {\n Plural[Plural[\"Zero\"] = 0] = \"Zero\";\n Plural[Plural[\"One\"] = 1] = \"One\";\n Plural[Plural[\"Two\"] = 2] = \"Two\";\n Plural[Plural[\"Few\"] = 3] = \"Few\";\n Plural[Plural[\"Many\"] = 4] = \"Many\";\n Plural[Plural[\"Other\"] = 5] = \"Other\";\n })(exports.Plural || (exports.Plural = {}));\n (function (FormStyle) {\n FormStyle[FormStyle[\"Format\"] = 0] = \"Format\";\n FormStyle[FormStyle[\"Standalone\"] = 1] =

\"Standalone\";\n })(exports.FormStyle || (exports.FormStyle = {}));\n (function (TranslationWidth) {\n /** 1 character for `en-US`. For example: 'S' */\n TranslationWidth[TranslationWidth[\"Narrow\"] = 0] = \"Narrow\";\n /** 3 characters for `en-US`. For example: 'Sun' */\n TranslationWidth[TranslationWidth[\"Abbreviated\"] = 1] = \"Abbreviated\";\n /** Full length for `en-US`. For example: \"Sunday\" */\n TranslationWidth[TranslationWidth[\"Wide\"] = 2] = \"Wide\";\n /** 2 characters for `en-US`, For example: \"Su\" */\n TranslationWidth[TranslationWidth[\"Short\"] = 3] = \"Short\";\n })(exports.TranslationWidth
|| (exports.TranslationWidth = {}));\n (function (FormatWidth) {\n /**\n * For `en-US`, 'M/d/yy, h:mm a'`\n * (Example: `6/15/15, 9:03 AM`)\n */\n FormatWidth[FormatWidth[\"Short\"] = 0] = \"Short\";\n /**\n * For `en-US`, `'MMM d, y, h:mm:ss a'`\n * (Example: `Jun 15, 2015, 9:03:01 AM`)\n */\n FormatWidth[FormatWidth[\"Medium\"] = 1] = \"Medium\";\n /**\n * For `en-US`, `'MMMM d, y, h:mm:ss a z'`\n * (Example: `June 15, 2015 at 9:03:01 AM GMT+1`)\n */\n FormatWidth[FormatWidth[\"Long\"] = 2] = \"Long\";\n /**\n * For `en-US`, `'EEEE, MMMM d, y, h:mm:ss a zzzz'`\n * (Example: `Monday, June 15, 2015 at 9:03:01 AM GMT+01:00`)\n */\n FormatWidth[FormatWidth[\"Full\"] = 3] = \"Full\";\n })(exports.FormatWidth || (exports.FormatWidth = {}));\n (function (NumberSymbol) {\n /**\n * Decimal separator.\n
* For `en-US`, the dot character.\n * Example : 2,345`.`67\n */\n NumberSymbol[NumberSymbol[\"Decimal\"] = 0] = \"Decimal\";\n /**\n * Grouping separator, typically for thousands.\n * For `en-US`, the comma character.\n * Example: 2`,`345.67\n */\n NumberSymbol[NumberSymbol[\"Group\"] = 1] = \"Group\";\n /**\n * List-item separator.\n * Example: \"one, two, and three\"\n */\n NumberSymbol[NumberSymbol[\"List\"] = 2] = \"List\";\n /**\n * Sign for percentage (out of 100).\n * Example: 23.4%\n */\n NumberSymbol[NumberSymbol[\"PercentSign\"] = 3] = \"PercentSign\";\n /**\n * Sign for positive numbers.\n * Example: +23\n */\n NumberSymbol[NumberSymbol[\"PlusSign\"] = 4] = \"PlusSign\";\n /**\n * Sign for negative numbers.\n * Example: -23\n */\n NumberSymbol[NumberSymbol[\"MinusSign\"]
= 5] = \"MinusSign\";\n /**\n * Computer notation for exponential value (n times a power of 10).\n * Example: 1.2E3\n */\n NumberSymbol[NumberSymbol[\"Exponential\"] = 6] = \"Exponential\";\n /**\n * Human-readable format of exponential.\n * Example: 1.2x103\n */\n NumberSymbol[NumberSymbol[\"SuperscriptingExponent\"] = 7] = \"SuperscriptingExponent\";\n /**\n * Sign for permille (out of 1000).\n * Example: 23.4‰\n */\n NumberSymbol[NumberSymbol[\"PerMille\"] = 8] = \"PerMille\";\n /**\n * Infinity, can be used with plus and minus.\n * Example: , +, -\n */\n NumberSymbol[NumberSymbol[\"Infinity\"] = 9] = \"Infinity\";\n /**\n * Not a number.\n * Example: NaN\n */\n NumberSymbol[NumberSymbol[\"NaN\"] = 10] = \"NaN\";\n /**\n * Symbol used between time units.\n
* Example: 10:52\n */\n NumberSymbol[NumberSymbol[\"TimeSeparator\"] = 11] = \"TimeSeparator\";\n /**\n * Decimal separator for currency values (fallback to `Decimal`).\n * Example: $2,345.67\n */\n NumberSymbol[NumberSymbol[\"CurrencyDecimal\"] = 12] = \"CurrencyDecimal\";\n /**\n * Group separator for currency values (fallback to `Group`).\n * Example: $2,345.67\n */\n NumberSymbol[NumberSymbol[\"CurrencyGroup\"] = 13] = \"CurrencyGroup\";\n })(exports.NumberSymbol || (exports.NumberSymbol = {}));\n (function (WeekDay) {\n WeekDay[WeekDay[\"Sunday\"] = 0] = \"Sunday\";\n WeekDay[WeekDay[\"Monday\"] = 1] = \"Monday\";\n WeekDay[WeekDay[\"Tuesday\"] = 2] = \"Tuesday\";\n WeekDay[WeekDay[\"Wednesday\"] = 3] = \"Wednesday\";\n WeekDay[WeekDay[\"Thursday\"] = 4] = \"Thursday\";\n WeekDay[WeekDay[\"Friday\"] = 5] = \"Friday\";\n WeekDay[WeekDay[\"Saturday\"]
= 6] = \"Saturday\";\n })(exports.WeekDay || (exports.WeekDay = {}));\n /**\n * Retrieves the locale ID from the currently loaded locale.\n * The loaded locale could be, for example, a global one rather than a regional one.\n * @param locale A locale code, such as `fr-FR`.\n * @returns The locale code. For example, `fr`.\n *

@see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLocaleId(locale) {\n return i0.findLocaleData(locale)[i0.LocaleDataIndex.LocaleId];\n }\n /**\n * Retrieves day period strings for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized period strings. For example, `[AM, PM]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLocaleDayPeriods(locale, formStyle, width) {\n var data = i0.findLocaleData(locale);\n var amPmData = [\n data[i0.LocaleDataIndex.DayPeriodsFormat], data[i0.LocaleDataIndex.DayPeriodsStandalone]\n ];\n var amPm = getLastDefinedValue(amPmData, formStyle);\n return getLastDefinedValue(amPm, width);\n }\n /**\n * Retrieves days of the week for the given locale, using the Gregorian calendar.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized name strings.\n * For example,`[Sunday, Monday, ... Saturday]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLocaleDayNames(locale, formStyle, width) {\n var data = i0.findLocaleData(locale);\n var daysData = [data[i0.LocaleDataIndex.DaysFormat], data[i0.LocaleDataIndex.DaysStandalone]];\n var days = getLastDefinedValue(daysData, formStyle);\n return getLastDefinedValue(days, width);\n }\n /**\n * Retrieves months of the year for the given locale, using the Gregorian calendar.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized name strings.\n * For example, `[January, February, ...]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLocaleMonthNames(locale, formStyle, width) {\n var data = i0.findLocaleData(locale);\n var monthsData = [data[i0.LocaleDataIndex.MonthsFormat], data[i0.LocaleDataIndex.MonthsStandalone]];\n var months = getLastDefinedValue(monthsData, formStyle);\n return getLastDefinedValue(months, width);\n }\n /**\n * Retrieves Gregorian-calendar eras for the given locale.\n * @param locale A locale code for the locale format rules to use.\n * @param width The required character width.\n\n * @returns An array of localized era strings.\n * For example, `[AD, BC]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLocaleEraNames(locale, width) {\n var data = i0.findLocaleData(locale);\n var erasData = data[i0.LocaleDataIndex.Eras];\n return getLastDefinedValue(erasData, width);\n }\n /**\n * Retrieves the first day of the week for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns A day index number, using the 0-based week-day index for `en-US`\n * (Sunday = 0, Monday = 1, ...).\n * For example, for `fr-FR`, returns 1 to indicate that the first day is Monday.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLocaleFirstDayOfWeek(locale) {\n var data = i0.findLocaleData(locale);\n return data[i0.LocaleDataIndex.FirstDayOfWeek];\n }\n /**\n * Range of week days that are considered the week-end for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns The range of day values, `[startDay, endDay]`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLocaleWeekEndRange(locale) {\n var data = i0.findLocaleData(locale);\n return data[i0.LocaleDataIndex.WeekendRange];\n }\n /**\n * Retrieves a localized date-value formating string.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param width The format type.\n * @returns The localized formating string.\n * @see `FormatWidth`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLocaleDateFormat(locale, width) {\n var data = i0.findLocaleData(locale);\n return getLastDefinedValue(data[i0.LocaleDataIndex.DateFormat], width);\n }\n /**\n * Retrieves a localized time-value formatting string.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param

```
width The format type.\n     * @returns The localized formatting string.\n     * @see `FormatWidth`\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n\n     * @publicApi\n     */\n    function getLocaleTimeFormat(locale, width) {\n        var data = i0.findLocaleData(locale);\n        return getLastDefinedValue(data[i0.LocaleDataIndex.TimeFormat],
 width);\n    }\n    /**\n     * Retrieves a localized date-time formatting string.\n     *\n     * @param locale A locale code for the locale format rules to use.\n     * @param width The format type.\n     * @returns The localized formatting string.\n     * @see `FormatWidth`\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function getLocaleDateTimeFormat(locale, width) {\n        var data = i0.findLocaleData(locale);\n        var dateTimeFormatData = data[i0.LocaleDataIndex.DateTimeFormat];\n        return getLastDefinedValue(dateTimeFormatData, width);\n    }\n    /**\n     * Retrieves a localized number symbol that can be used to replace placeholders in number formats.\n     * @param locale The locale code.\n     * @param symbol The symbol to localize.\n     * @returns The character for the localized symbol.\n     * @see `NumberSymbol`\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function getLocaleNumberSymbol(locale, symbol) {\n        var data = i0.findLocaleData(locale);\n        var res = data[i0.LocaleDataIndex.NumberSymbols][symbol];\n        if (typeof res === 'undefined') {\n            if (symbol === exports.NumberSymbol.CurrencyDecimal) {\n                return data[i0.LocaleDataIndex.NumberSymbols][exports.NumberSymbol.Decimal];\n            }\n            else if (symbol === exports.NumberSymbol.CurrencyGroup) {\n                return data[i0.LocaleDataIndex.NumberSymbols][exports.NumberSymbol.Group];\n            }\n        }\n        return res;\n    }\n    /**\n     * Retrieves a number format for a given locale.\n     *\n     * Numbers are formatted using patterns, like `#,###.00`. For example, the pattern `#,###.00`\n     * when used to format the number 12345.678 could result in \"12'345,678\". That would happen if the\n     * grouping separator for your language is an apostrophe, and the decimal separator is a comma.\n     *\n     * <b>Important:</b> The characters `.` `,` `0` `#` (and others below) are special placeholders\n     * that stand for the decimal separator, and so on, and are NOT real characters.\n     * You must NOT \"translate\" the placeholders. For example, don't change `.` to `,` even though in\n     * your language the decimal point is written with a comma. The symbols should be replaced by the\n     * local equivalents, using the appropriate `NumberSymbol` for your language.\n     *\n     * Here are the special characters used in number patterns:\n     *\n     * | Symbol | Meaning |\n     * |--------|---------|\n     * | . | Replaced automatically by the character used for the decimal point. |\n     * | , | Replaced by the \"grouping\" (thousands) separator. |\n     * | 0 | Replaced by a digit (or zero if there aren't enough digits). |\n     * | # | Replaced by a digit (or nothing if there aren't enough). |\n     *
 | ¤ | Replaced by a currency symbol, such as $ or USD. |\n     * | % | Marks a percent format. The % symbol may change position, but must be retained. |\n     * | E | Marks a scientific format. The E symbol may change position, but must be retained. |\n     * | ' | Special characters used as literal characters are quoted with ASCII single quotes. |\n     *\n     * @param locale A locale code for the locale format rules to use.\n     * @param type The type of numeric value to be formatted (such as `Decimal` or `Currency`.)\n     * @returns The localized format string.\n     * @see `NumberFormatStyle`\n     * @see [CLDR website](http://cldr.unicode.org/translation/number-patterns)\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function getLocaleNumberFormat(locale, type) {\n        var data = i0.findLocaleData(locale);\n        return data[i0.LocaleDataIndex.NumberFormats][type];\n    }\n    /**\n     * Retrieves
 the symbol used to represent the currency for the main country\n     * corresponding to a given locale. For example, '$' for `en-US`.\n     *\n     * @param locale A locale code for the locale format rules to use.\n     * @returns The localized symbol character,\n     * or `null` if the main country cannot be determined.\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function getLocaleCurrencySymbol(locale) {\n        var data = i0.findLocaleData(locale);\n        return data[i0.LocaleDataIndex.CurrencySymbol] || null;\n    }\n    /**\n     * Retrieves the name of the currency for the
```

```
main country corresponding\n     * to a given locale. For example, 'US Dollar' for `en-US`.\n     * @param locale A locale code for the locale format rules to use.\n     * @returns The currency name,\n     * or `null` if the main country cannot be determined.\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function getLocaleCurrencyName(locale) {\n        var data = i0.findLocaleData(locale);\n        return data[i0.LocaleDataIndex.CurrencyName] || null;\n    }\n    /**\n     * Retrieves the default currency code for the given locale.\n     *\n     * The default is defined as the first currency which is still in use.\n     *\n     * @param locale The code of the locale whose currency code we want.\n     * @returns The code of the default currency for the given locale.\n     *\n     * @publicApi\n     */\n    function getLocaleCurrencyCode(locale) {\n        return i0.getLocaleCurrencyCode(locale);\n    }\n    /**\n     * Retrieves the currency values for a given locale.\n     * @param locale A locale code for the locale format rules to use.\n     * @returns The currency values.\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     */\n    function getLocaleCurrencies(locale) {\n        var data = i0.findLocaleData(locale);\n        return data[i0.LocaleDataIndex.Currencies];\n    }\n    /**\n     * @alias core/getLocalePluralCase\n     * @publicApi\n     */\n    var getLocalePluralCase = i0.getLocalePluralCase;\n    function checkFullData(data) {\n        if (!data[i0.LocaleDataIndex.ExtraData]) {\n            throw new Error(\"Missing extra locale data for the locale \\\"\" + data[i0.LocaleDataIndex\n                .LocaleId] + \"\\\". Use \\\"registerLocaleData\\\" to load new data. See the \\\"I18n guide\\\" on angular.io to know more.\");\n        }\n    }\n    /**\n     * Retrieves locale-specific rules used to determine which day period to use\n     * when more than one period is defined for a locale.\n     *\n     * There is a rule for each defined day period. The\n     * first rule is applied to the first day period and so on.\n     * Fall back to AM/PM when no rules are available.\n     *\n     * A rule can specify a period as time range, or as a single time value.\n     *\n     * This functionality is only available when you have loaded the full locale data.\n     * See the [\"I18n guide\"](guide/i18n#i18n-pipes).\n     *\n     * @param locale A locale code for the locale format rules to use.\n     * @returns The rules for the locale, a single time value or array of *from-time, to-time*,\n     * or null if no periods are available.\n     *\n     * @see `getLocaleExtraDayPeriods()`\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function getLocaleExtraDayPeriodRules(locale) {\n        var data = i0.findLocaleData(locale);\n        checkFullData(data);\n        var rules = data[i0.LocaleDataIndex.ExtraData][2 /* ExtraDayPeriodsRules */] || [];\n        return rules.map(function (rule) {\n            if (typeof rule === 'string') {\n                return extractTime(rule);\n            }\n            return [extractTime(rule[0]), extractTime(rule[1])];\n        });\n    }\n    /**\n     * Retrieves locale-specific day periods, which indicate roughly how a day is broken up\n     * in different languages.\n     * For example, for `en-US`, periods are morning, noon, afternoon, evening, and midnight.\n     *\n     * This functionality is only available when you have loaded the full locale data.\n     * See the [\"I18n guide\"](guide/i18n#i18n-pipes).\n     *\n     * @param locale A locale code for the locale format rules to use.\n     * @param formStyle The required grammatical form.\n     * @param width The required character width.\n     * @returns The translated day-period strings.\n     * @see `getLocaleExtraDayPeriodRules()`\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function getLocaleExtraDayPeriods(locale, formStyle, width) {\n        var data = i0.findLocaleData(locale);\n        checkFullData(data);\n        var dayPeriodsData = [\n            data[i0.LocaleDataIndex.ExtraData][0 /* ExtraDayPeriodFormats */],\n            data[i0.LocaleDataIndex.ExtraData][1 /* ExtraDayPeriodStandalone */]\n        ];\n        var dayPeriods = getLastDefinedValue(dayPeriodsData, formStyle) || [];\n        return getLastDefinedValue(dayPeriods, width) || [];\n    }\n    /**\n     * Retrieves the writing direction of a specified locale\n     * @param locale A locale code for the locale format rules to use.\n     * @publicApi\n     * @returns 'rtl' or 'ltr'\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     */\n    function getLocaleDirection(locale) {\n        var data = i0.findLocaleData(locale);\n        return data[i0.LocaleDataIndex.Directionality];\n    }\n    /**\n     * Retrieves the first value that is defined in an array, going backwards from an index position.\n     *\n     * To avoid repeating the same data (as when the \"format\" and \"standalone\" forms are the same)\n     * add the first value to the locale data arrays, and
```

add other values only if they are different.\n *\n * @param data The data array to retrieve from.\n * @param index A 0-based index into the array to start from.\n * @returns The value immediately before the given index position.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getLastDefinedValue(data, index) {\n for (var i = index; i > -1; i--) {\n if (typeof data[i] !== 'undefined') {\n return data[i];\n }\n }\n throw new Error('Locale data API: locale data undefined');\n }\n /**\n * Extracts the hours and minutes from a string like \"15:45\"\n */\n function extractTime(time) {\n var _a = __read(time.split(':'), 2), h = _a[0], m = _a[1];\n return { hours: +h, minutes: +m };\n }\n /**\n * Retrieves the currency symbol for a given currency code.\n *\n * For example, for the default
`en-US` locale, the code `USD` can\n * be represented by the narrow symbol `$` or the wide symbol `US$`.\n *\n * @param code The currency code.\n * @param format The format, `wide` or `narrow`.\n * @param locale A locale code for the locale format rules to use.\n *\n * @returns The symbol, or the currency code if no symbol is available.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getCurrencySymbol(code, format, locale) {\n if (locale === void 0) { locale = 'en'; }\n var currency = getLocaleCurrencies(locale)[code] || CURRENCIES_EN[code] || [];\n var symbolNarrow = currency[1 /* SymbolNarrow */];\n if (format === 'narrow' && typeof symbolNarrow === 'string') {\n return symbolNarrow;\n }\n return currency[0 /* Symbol */] || code;\n }\n // Most currencies have cents, that's why the default is 2\n var DEFAULT_NB_OF_CURRENCY_DIGITS
= 2;\n /**\n * Reports the number of decimal digits for a given currency.\n * The value depends upon the presence of cents in that particular currency.\n *\n * @param code The currency code.\n * @returns The number of decimal digits, typically 0 or 2.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\n function getNumberOfCurrencyDigits(code) {\n var digits;\n var currency = CURRENCIES_EN[code];\n if (currency) {\n digits = currency[2 /* NbOfDigits */];\n }\n return typeof digits === 'number' ? digits : DEFAULT_NB_OF_CURRENCY_DIGITS;\n }\n\n var ISO8601_DATE_REGEX = /^(\\d{4})-?(\\d\\d)-?(\\d\\d)(?:T(\\d\\d)(?::?(\\d\\d)(?::?(\\d\\d)(?:\\.(\\d+))?)?)?(Z|([+-])(\\d\\d):?(\\d\\d))?)?$/;\n // 1 2 3 4 5 6 7 8 9 10 11\n var NAMED_FORMATS = {};\n var DATE_FORMATS_SPLIT
=
/((?:[^GyYMLwWdEabBhHmsSzZO']+)|(?:'(?:[^']|'')*')|(?:G{1,5}|y{1,4}|Y{1,4}|M{1,5}|L{1,5}|w{1,2}|W{1}|d{1,2}|E{1,6}|a{1,5}|b{1,5}|B{1,5}|h{1,2}|H{1,2}|m{1,2}|s{1,2}|S{1,3}|z{1,4}|Z{1,5}|O{1,4}))([\\s\\S]*)/;\n var ZoneWidth;\n (function (ZoneWidth) {\n ZoneWidth[ZoneWidth[\"Short\"] = 0] = \"Short\";\n ZoneWidth[ZoneWidth[\"ShortGMT\"] = 1] = \"ShortGMT\";\n ZoneWidth[ZoneWidth[\"Long\"] = 2] = \"Long\";\n ZoneWidth[ZoneWidth[\"Extended\"] = 3] = \"Extended\";\n })(ZoneWidth || (ZoneWidth = {}));\n var DateType;\n (function (DateType) {\n DateType[DateType[\"FullYear\"] = 0] = \"FullYear\";\n DateType[DateType[\"Month\"] = 1] = \"Month\";\n DateType[DateType[\"Date\"] = 2] = \"Date\";\n DateType[DateType[\"Hours\"] = 3] = \"Hours\";\n DateType[DateType[\"Minutes\"] = 4] = \"Minutes\";\n DateType[DateType[\"Seconds\"] = 5] = \"Seconds\";\n DateType[DateType[\"FractionalSeconds\"] = 6] = \"FractionalSeconds\";\n DateType[DateType[\"Day\"] = 7] = \"Day\";\n })(DateType || (DateType = {}));\n var TranslationType;\n (function (TranslationType) {\n TranslationType[TranslationType[\"DayPeriods\"] = 0] = \"DayPeriods\";\n TranslationType[TranslationType[\"Days\"] = 1] = \"Days\";\n TranslationType[TranslationType[\"Months\"] = 2] = \"Months\";\n TranslationType[TranslationType[\"Eras\"] = 3] = \"Eras\";\n })(TranslationType || (TranslationType = {}));\n /**\n * @ngModule CommonModule\n * @description\n *\n * Formats a date according to locale rules.\n *\n * @param value The date to format, as a Date, or a number (milliseconds since UTC epoch)\n * or an [ISO date-time string](https://www.w3.org/TR/NOTE-datetime).\n * @param format The date-time components to include. See `DatePipe` for details.\n * @param locale A locale code for the locale format rules to use.\n * @param timezone The

```
time zone. A time zone offset from GMT (such as `'+0430'`),\n     * or a standard UTC/GMT or continental US time zone abbreviation.\n     * If not specified, uses host system settings.\n     *\n     * @returns The formatted date string.\n     *\n     * @see `DatePipe`\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function formatDate(value, format, locale, timezone) {\n        var date = toDate(value);\n        var namedFormat = getNamedFormat(locale, format);\n        format = namedFormat || format;\n        var parts = [];\n        var match;\n        while (format) {\n            match = DATE_FORMATS_SPLIT.exec(format);\n            if (match) {\n                parts = parts.concat(match.slice(1));\n                var part = parts.pop();\n                if (!part) {\n                    break;\n                }\n                format = part;\n            }\n            else {\n                parts.push(format);\n                break;\n            }\n        }\n        var dateTimezoneOffset = date.getTimezoneOffset();\n        if (timezone) {\n            dateTimezoneOffset = timezoneToOffset(timezone, dateTimezoneOffset);\n            date = convertTimezoneToLocal(date, timezone, true);\n        }\n        var text = '';\n        parts.forEach(function (value) {\n            var dateFormatter = getDateFormatter(value);\n            text += dateFormatter ?\n                dateFormatter(date, locale, dateTimezoneOffset) :\n                value === '\\'\\'' ? '\\'' : value.replace(/(^'|'$)/g, '').replace(/''/g, '\\'');\n        });\n        return text;\n    }\n    function getNamedFormat(locale, format) {\n        var localeId = getLocaleId(locale);\n        NAMED_FORMATS[localeId] = NAMED_FORMATS[localeId] || {};\n        if (NAMED_FORMATS[localeId][format]) {\n            return NAMED_FORMATS[localeId][format];\n        }\n        var formatValue = '';\n        switch (format) {\n            case 'shortDate':\n                formatValue = getLocaleDateFormat(locale, exports.FormatWidth.Short);\n                break;\n            case 'mediumDate':\n                formatValue = getLocaleDateFormat(locale, exports.FormatWidth.Medium);\n                break;\n            case 'longDate':\n                formatValue = getLocaleDateFormat(locale, exports.FormatWidth.Long);\n                break;\n            case 'fullDate':\n                formatValue = getLocaleDateFormat(locale, exports.FormatWidth.Full);\n                break;\n            case 'shortTime':\n                formatValue = getLocaleTimeFormat(locale, exports.FormatWidth.Short);\n                break;\n            case 'mediumTime':\n                formatValue = getLocaleTimeFormat(locale, exports.FormatWidth.Medium);\n                break;\n            case 'longTime':\n                formatValue = getLocaleTimeFormat(locale, exports.FormatWidth.Long);\n                break;\n            case 'fullTime':\n                formatValue = getLocaleTimeFormat(locale, exports.FormatWidth.Full);\n                break;\n            case 'short':\n                var shortTime = getNamedFormat(locale, 'shortTime');\n                var shortDate = getNamedFormat(locale, 'shortDate');\n                formatValue = formatDateTime(getLocaleDateTimeFormat(locale, exports.FormatWidth.Short), [shortTime, shortDate]);\n                break;\n            case 'medium':\n                var mediumTime = getNamedFormat(locale, 'mediumTime');\n                var mediumDate = getNamedFormat(locale, 'mediumDate');\n                formatValue = formatDateTime(getLocaleDateTimeFormat(locale, exports.FormatWidth.Medium), [mediumTime, mediumDate]);\n                break;\n            case 'long':\n                var longTime = getNamedFormat(locale, 'longTime');\n                var longDate = getNamedFormat(locale, 'longDate');\n                formatValue =\n                    formatDateTime(getLocaleDateTimeFormat(locale, exports.FormatWidth.Long), [longTime, longDate]);\n                break;\n            case 'full':\n                var fullTime = getNamedFormat(locale, 'fullTime');\n                var fullDate = getNamedFormat(locale, 'fullDate');\n                formatValue =\n                    formatDateTime(getLocaleDateTimeFormat(locale, exports.FormatWidth.Full), [fullTime, fullDate]);\n                break;\n            }\n        if (formatValue) {\n            NAMED_FORMATS[localeId][format] = formatValue;\n        }\n        return formatValue;\n    }\n    function formatDateTime(str, opt_values) {\n        if (opt_values) {\n            str = str.replace(/\\{([^}]+)}/g, function (match, key) {\n                return (opt_values != null && key in opt_values) ? opt_values[key] : match;\n            });\n        }\n        return str;\n    }\n    function padNumber(num, digits, minusSign, trim, negWrap) {\n        if (minusSign === void 0) { minusSign = '-'; }\n        var neg = '';\n        if (num < 0 || (negWrap && num <= 0)) {\n            if (negWrap) {\n                num = -num + 1;\n            }\n            else {\n                num = -num;\n                neg = minusSign;\n            }\n        }\n
```

```
var strNum = String(num);\n        while (strNum.length < digits) {\n            strNum = '0' + strNum;\n        }\n        if (trim) {\n            strNum = strNum.substr(strNum.length - digits);\n        }\n        return neg + strNum;\n    }\n    function formatFractionalSeconds(milliseconds, digits) {\n        var strMs = padNumber(milliseconds, 3);\n        return strMs.substr(0, digits);\n    }\n    /**\n     * Returns a date formatter that transforms a date into its locale digit representation\n     */\n    function dateGetter(name, size, offset, trim, negWrap) {\n        if (offset === void 0) { offset = 0; }\n        if (trim === void 0) { trim = false; }\n        if (negWrap === void 0) { negWrap = false; }\n        return function (date, locale) {\n            var part = getDatePart(name, date);\n            if (offset > 0 || part > -offset) {\n                part += offset;\n            }\n            if (name === DateType.Hours) {\n                if (part === 0 && offset === -12) {\n                    part = 12;\n                }\n            }\n            else if (name === DateType.FractionalSeconds) {\n                return formatFractionalSeconds(part, size);\n            }\n            var localeMinus = getLocaleNumberSymbol(locale, exports.NumberSymbol.MinusSign);\n            return padNumber(part, size, localeMinus, trim, negWrap);\n        };\n    }\n    function getDatePart(part, date) {\n        switch (part) {\n            case DateType.FullYear:\n                return date.getFullYear();\n            case DateType.Month:\n                return date.getMonth();\n            case DateType.Date:\n                return date.getDate();\n            case DateType.Hours:\n                return date.getHours();\n            case DateType.Minutes:\n                return date.getMinutes();\n            case DateType.Seconds:\n                return date.getSeconds();\n            case DateType.FractionalSeconds:\n                return date.getMilliseconds();\n            case DateType.Day:\n                return date.getDay();\n            default:\n                throw new Error(\"Unknown DateType value \\\"\" + part + \"\\\".\");\n        }\n    }\n    /**\n     * Returns a date formatter that transforms a date into its locale string representation\n     */\n    function dateStrGetter(name, width, form, extended) {\n        if (form === void 0) { form = exports.FormStyle.Format; }\n        if (extended === void 0) { extended = false; }\n        return function (date, locale) {\n            return getDateTranslation(date, locale, name, width, form, extended);\n        };\n    }\n    /**\n     * Returns the locale translation of a date for a given form, type and width\n     */\n    function getDateTranslation(date, locale, name, width, form, extended) {\n        switch (name) {\n            case TranslationType.Months:\n                return getLocaleMonthNames(locale, form, width)[date.getMonth()];\n            case TranslationType.Days:\n                return getLocaleDayNames(locale, form, width)[date.getDay()];\n            case TranslationType.DayPeriods:\n                var currentHours_1 = date.getHours();\n                var currentMinutes_1 = date.getMinutes();\n                if (extended) {\n                    var rules = getLocaleExtraDayPeriodRules(locale);\n                    var dayPeriods = getLocaleExtraDayPeriods(locale, form, width);\n                    var index = rules.findIndex(function (rule) {\n                        if (Array.isArray(rule)) {\n                            // morning, afternoon, evening, night\n                            var _a = __read(rule, 2), from = _a[0], to = _a[1];\n
                            var afterFrom = currentHours_1 >= from.hours && currentMinutes_1 >= from.minutes;\n
                            var beforeTo = (currentHours_1 < to.hours ||\n                                (currentHours_1 === to.hours && currentMinutes_1 < to.minutes));\n                            // We must account for normal rules that span a period during the day (e.g. 6am-9am)\n                            // where `from` is less (earlier) than `to`. But also rules that span midnight (e.g.\n                            // 10pm - 5am) where `from` is greater (later!) than `to`.\n                            //\n                            // In the first case the current time must be BOTH after `from` AND before `to`\n                            // (e.g. 8am is after 6am AND before 10am).\n                            //\n                            // In the second case the current time must be EITHER after `from` OR before `to`\n                            // (e.g. 4am is
                            before 5am but not after 10pm; and 11pm is not before 5am but it is\n                            // after 10pm).\n
                            if (from.hours < to.hours) {\n                                if (afterFrom && beforeTo) {\n                                    return true;\n                                }\n                            }\n                            else if (afterFrom || beforeTo) {\n                                return true;\n                            }\n                        }\n                        else { // noon or midnight\n                            if (rule.hours === currentHours_1 && rule.minutes === currentMinutes_1) {\n                                return true;\n                            }\n                        }\n                        return false;\n                    });\n                    if (index !== -1) {\n                        return dayPeriods[index];\n                    }\n                }\n                // if no
```

```
 rules for the day periods, we use am/pm by default\n                return getLocaleDayPeriods(locale, form,
width)[currentHours_1 < 12 ? 0 : 1];\n            case TranslationType.Eras:\n                return
getLocaleEraNames(locale, width)[date.getFullYear() <= 0 ? 0 : 1];\n            default:\n                // This default case
is not needed by TypeScript compiler, as the switch is exhaustive.\n                // However Closure Compiler does not
understand that and reports an error in typed mode.\n                // The `throw new Error` below works around the
problem, and the unexpected: never variable\n                // makes sure tsc still checks this code is unreachable.\n
      var unexpected = name;\n                throw new Error(\"unexpected translation type \" + unexpected);\n        }\n
}\n    /**\n     * Returns a date formatter that transforms a date and an offset into a timezone with ISO8601 or\n     *
GMT format depending on the width (eg: short = +0430,
 short:GMT = GMT+4, long = GMT+04:30,\n     * extended = +04:30)\n     */\n    function timeZoneGetter(width)
{\n        return function (date, locale, offset) {\n            var zone = -1 * offset;\n            var minusSign =
getLocaleNumberSymbol(locale, exports.NumberSymbol.MinusSign);\n            var hours = zone > 0 ?
Math.floor(zone / 60) : Math.ceil(zone / 60);\n            switch (width) {\n                case ZoneWidth.Short:\n
   return ((zone >= 0) ? '+' : '') + padNumber(hours, 2, minusSign) +\n                    padNumber(Math.abs(zone %
60), 2, minusSign);\n                case ZoneWidth.ShortGMT:\n                    return 'GMT' + ((zone >= 0) ? '+' : '') +
padNumber(hours, 1, minusSign);\n                case ZoneWidth.Long:\n                    return 'GMT' + ((zone >= 0) ? '+'
: '') + padNumber(hours, 2, minusSign) + ':' +\n                    padNumber(Math.abs(zone % 60), 2, minusSign);\n
          case ZoneWidth.Extended:\n
                if (offset === 0) {\n                    return 'Z';\n                }\n                else {\n                    return
((zone >= 0) ? '+' : '') + padNumber(hours, 2, minusSign) + ':' +\n                    padNumber(Math.abs(zone %
60), 2, minusSign);\n                }\n            default:\n                throw new Error(\"Unknown zone width \\\"\"
+ width + \"\\\"\");\n            }\n        };\n    }\n    var JANUARY = 0;\n    var THURSDAY = 4;\n    function
getFirstThursdayOfYear(year) {\n        var firstDayOfYear = (new Date(year, JANUARY, 1)).getDay();\n
return new Date(year, 0, 1 + ((firstDayOfYear <= THURSDAY) ? THURSDAY : THURSDAY + 7) -
firstDayOfYear);\n    }\n    function getThursdayThisWeek(datetime) {\n        return new
Date(datetime.getFullYear(), datetime.getMonth(), datetime.getDate() + (THURSDAY - datetime.getDay()));\n
}\n    function weekGetter(size, monthBased) {\n        if (monthBased === void
 0) { monthBased = false; }\n        return function (date, locale) {\n            var result;\n            if (monthBased) {\n
          var nbDaysBefore1stDayOfMonth = new Date(date.getFullYear(), date.getMonth(), 1).getDay() - 1;\n
 var today = date.getDate();\n                result = 1 + Math.floor((today + nbDaysBefore1stDayOfMonth) / 7);\n
}\n            else {\n                var thisThurs = getThursdayThisWeek(date);\n                // Some days of a year are part
of next year according to ISO 8601.\n                // Compute the firstThurs from the year of this week's Thursday\n
        var firstThurs = getFirstThursdayOfYear(thisThurs.getFullYear());\n                var diff = thisThurs.getTime() -
firstThurs.getTime();\n                result = 1 + Math.round(diff / 6.048e8); // 6.048e8 ms per week\n            }\n
return padNumber(result, size, getLocaleNumberSymbol(locale, exports.NumberSymbol.MinusSign));\n        };\n
   }\n    /**\n     * Returns a date formatter that provides the week-numbering year for the input date.\n     */\n
function weekNumberingYearGetter(size, trim) {\n        if (trim === void 0) { trim = false; }\n        return function
(date, locale) {\n            var thisThurs = getThursdayThisWeek(date);\n            var weekNumberingYear =
thisThurs.getFullYear();\n            return padNumber(weekNumberingYear, size, getLocaleNumberSymbol(locale,
exports.NumberSymbol.MinusSign), trim);\n        };\n    }\n    var DATE_FORMATS = {};\n    // Based on CLDR
formats:\n    // See complete list: http://www.unicode.org/reports/tr35/tr35-dates.html#Date_Field_Symbol_Table\n
// See also explanations: http://cldr.unicode.org/translation/date-time\n    // TODO(ocombe): support all missing cldr
formats: Y, U, Q, D, F, e, c, j, J, C, A, v, V, X, x\n    function getDateFormatter(format) {\n        if
(DATE_FORMATS[format]) {\n            return DATE_FORMATS[format];\n        }\n        var
 formatter;\n        switch (format) {\n            // Era name (AD/BC)\n            case 'G':\n            case 'GG':\n            case
'GGG':\n                formatter = dateStrGetter(TranslationType.Eras, exports.TranslationWidth.Abbreviated);\n
   break;\n            case 'GGGG':\n                formatter = dateStrGetter(TranslationType.Eras,
exports.TranslationWidth.Wide);\n                break;\n            case 'GGGGG':\n                formatter =
```

```
dateStrGetter(TranslationType.Eras, exports.TranslationWidth.Narrow);\n                break;\n            // 1 digit representation of the year, e.g. (AD 1 => 1, AD 199 => 199)\n            case 'y':\n                formatter = dateGetter(DateType.FullYear, 1, 0, false, true);\n                break;\n            // 2 digit representation of the year, padded (00-99). (e.g. AD 2001 => 01, AD 2010 => 10)\n            case 'yy':\n                formatter = dateGetter(DateType.FullYear, 2, 0, true, true);\n
    break;\n            // 3 digit representation of the year, padded (000-999). (e.g. AD 2001 => 01, AD 2010 => 10)\n
    case 'yyy':\n                formatter = dateGetter(DateType.FullYear, 3, 0, false, true);\n                break;\n            // 4 digit representation of the year (e.g. AD 1 => 0001, AD 2010 => 2010)\n            case 'yyyy':\n                formatter = dateGetter(DateType.FullYear, 4, 0, false, true);\n                break;\n            // 1 digit representation of the week-numbering year, e.g. (AD 1 => 1, AD 199 => 199)\n            case 'Y':\n                formatter = weekNumberingYearGetter(1);\n                break;\n            // 2 digit representation of the week-numbering year, padded (00-99). (e.g. AD 2001 => 01, AD\n            // 2010 => 10)\n            case 'YY':\n                formatter = weekNumberingYearGetter(2, true);\n                break;\n            // 3 digit representation of the week-numbering year, padded (000-999). (e.g.
 AD 1 => 001, AD\n            // 2010 => 2010)\n            case 'YYY':\n                formatter = weekNumberingYearGetter(3);\n                break;\n            // 4 digit representation of the week-numbering year (e.g. AD 1 => 0001, AD 2010 => 2010)\n            case 'YYYY':\n                formatter = weekNumberingYearGetter(4);\n
        break;\n            // Month of the year (1-12), numeric\n            case 'M':\n            case 'L':\n                formatter = dateGetter(DateType.Month, 1, 1);\n                break;\n            case 'MM':\n            case 'LL':\n                formatter = dateGetter(DateType.Month, 2, 1);\n                break;\n            // Month of the year (January, ...), string, format\n
    case 'MMM':\n                formatter = dateStrGetter(TranslationType.Months, exports.TranslationWidth.Abbreviated);\n                break;\n            case 'MMMM':\n                formatter = dateStrGetter(TranslationType.Months, exports.TranslationWidth.Wide);\n
            break;\n            case 'MMMMM':\n                formatter = dateStrGetter(TranslationType.Months, exports.TranslationWidth.Narrow);\n                break;\n            // Month of the year (January, ...), string, standalone\n            case 'LLL':\n                formatter =\n                    dateStrGetter(TranslationType.Months, exports.TranslationWidth.Abbreviated, exports.FormStyle.Standalone);\n                break;\n            case 'LLLL':\n
        formatter =\n                    dateStrGetter(TranslationType.Months, exports.TranslationWidth.Wide, exports.FormStyle.Standalone);\n                break;\n            case 'LLLLL':\n                formatter =\n dateStrGetter(TranslationType.Months, exports.TranslationWidth.Narrow, exports.FormStyle.Standalone);\n
  break;\n            // Week of the year (1, ... 52)\n            case 'w':\n                formatter = weekGetter(1);\n
        break;\n            case 'ww':\n                formatter = weekGetter(2);\n                break;\n            // Week of the month (1, ...)\n            case 'W':\n                formatter = weekGetter(1, true);\n                break;\n            // Day of the month (1-31)\n            case 'd':\n                formatter = dateGetter(DateType.Date, 1);\n                break;\n            case 'dd':\n                formatter = dateGetter(DateType.Date, 2);\n                break;\n            // Day of the Week\n
case 'E':\n            case 'EE':\n            case 'EEE':\n                formatter = dateStrGetter(TranslationType.Days, exports.TranslationWidth.Abbreviated);\n                break;\n            case 'EEEE':\n                formatter = dateStrGetter(TranslationType.Days, exports.TranslationWidth.Wide);\n                break;\n            case 'EEEEE':\n
        formatter = dateStrGetter(TranslationType.Days, exports.TranslationWidth.Narrow);\n
            break;\n            case 'EEEEEE':\n                formatter = dateStrGetter(TranslationType.Days, exports.TranslationWidth.Short);\n                break;\n            // Generic period of the day (am-pm)\n            case 'a':\n
        case 'aa':\n            case 'aaa':\n                formatter = dateStrGetter(TranslationType.DayPeriods, exports.TranslationWidth.Abbreviated);\n                break;\n            case 'aaaa':\n                formatter = dateStrGetter(TranslationType.DayPeriods, exports.TranslationWidth.Wide);\n                break;\n            case 'aaaaa':\n                formatter = dateStrGetter(TranslationType.DayPeriods, exports.TranslationWidth.Narrow);\n
        break;\n            // Extended period of the day (midnight, at night, ...), standalone\n            case 'b':\n            case 'bb':\n            case 'bbb':\n                formatter = dateStrGetter(TranslationType.DayPeriods, exports.TranslationWidth.Abbreviated,
```

```
exports.FormStyle.Standalone, true);\n break;\n case 'bbbb':\n formatter =
dateStrGetter(TranslationType.DayPeriods, exports.TranslationWidth.Wide, exports.FormStyle.Standalone, true);\n
break;\n case 'bbbbb':\n formatter = dateStrGetter(TranslationType.DayPeriods,
exports.TranslationWidth.Narrow, exports.FormStyle.Standalone, true);\n break;\n // Extended
period of the day (midnight, night, ...), standalone\n case 'B':\n case 'BB':\n case 'BBB':\n
formatter = dateStrGetter(TranslationType.DayPeriods, exports.TranslationWidth.Abbreviated,
exports.FormStyle.Format, true);\n break;\n case 'BBBB':\n formatter =\n
dateStrGetter(TranslationType.DayPeriods, exports.TranslationWidth.Wide, exports.FormStyle.Format, true);\n
break;\n case 'BBBBB':\n
formatter = dateStrGetter(TranslationType.DayPeriods, exports.TranslationWidth.Narrow,
exports.FormStyle.Format, true);\n break;\n // Hour in AM/PM, (1-12)\n case 'h':\n
formatter = dateGetter(DateType.Hours, 1, -12);\n break;\n case 'hh':\n formatter =
dateGetter(DateType.Hours, 2, -12);\n break;\n // Hour of the day (0-23)\n case 'H':\n
formatter = dateGetter(DateType.Hours, 1);\n break;\n // Hour in day, padded (00-23)\n case
'HH':\n formatter = dateGetter(DateType.Hours, 2);\n break;\n // Minute of the hour (0-
59)\n case 'm':\n formatter = dateGetter(DateType.Minutes, 1);\n break;\n case
'mm':\n formatter = dateGetter(DateType.Minutes, 2);\n break;\n // Second
of the minute (0-59)\n case 's':\n formatter = dateGetter(DateType.Seconds, 1);\n break;\n
case 'ss':\n formatter = dateGetter(DateType.Seconds, 2);\n break;\n // Fractional
second\n case 'S':\n formatter = dateGetter(DateType.FractionalSeconds, 1);\n break;\n
case 'SS':\n formatter = dateGetter(DateType.FractionalSeconds, 2);\n break;\n case
'SSS':\n formatter = dateGetter(DateType.FractionalSeconds, 3);\n break;\n // Timezone
ISO8601 short format (-0430)\n case 'Z':\n case 'ZZ':\n case 'ZZZ':\n formatter =
timeZoneGetter(ZoneWidth.Short);\n break;\n // Timezone ISO8601 extended format (-04:30)\n
case 'ZZZZZ':\n formatter = timeZoneGetter(ZoneWidth.Extended);\n
break;\n // Timezone GMT short format (GMT+4)\n case 'O':\n case 'OO':\n
case 'OOO':\n // Should be location, but fallback to format O instead because we don't have the data yet\n
case 'z':\n case 'zz':\n case 'zzz':\n formatter = timeZoneGetter(ZoneWidth.ShortGMT);\n
break;\n // Timezone GMT long format (GMT+0430)\n case 'OOOO':\n case 'ZZZZ':\n
// Should be location, but fallback to format O instead because we don't have the data yet\n case 'zzzz':\n
formatter = timeZoneGetter(ZoneWidth.Long);\n break;\n default:\n return null;\n
}\n DATE_FORMATS[format] = formatter;\n return formatter;\n }\n function
timezoneToOffset(timezone, fallback) {\n // Support: IE 11 only, Edge 13-15+\n // IE/Edge do not
\"understand\"
colon (`:`) in timezone\n timezone = timezone.replace(/:/g, '');\n var requestedTimezoneOffset =
Date.parse('Jan 01, 1970 00:00:00 ' + timezone) / 60000;\n return isNaN(requestedTimezoneOffset) ? fallback :
requestedTimezoneOffset;\n }\n function addDateMinutes(date, minutes) {\n date = new
Date(date.getTime());\n date.setMinutes(date.getMinutes() + minutes);\n return date;\n }\n function
convertTimezoneToLocal(date, timezone, reverse) {\n var reverseValue = reverse ? -1 : 1;\n var
dateTimezoneOffset = date.getTimezoneOffset();\n var timezoneOffset = timezoneToOffset(timezone,
dateTimezoneOffset);\n return addDateMinutes(date, reverseValue * (timezoneOffset - dateTimezoneOffset));\n
}\n /**\n * Converts a value to date.\n *\n * Supported input formats:\n * - `Date`\n * - number:
timestamp\n * - string: numeric (e.g. \"1234\"), ISO and date strings in a format supported
by\n * [Date.parse()](https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/Date/parse).\n * Note: ISO strings without time return a
date without timeoffset.\n *\n * Throws if unable to convert to a date.\n */\n function toDate(value) {\n
if (isDate(value)) {\n return value;\n }\n if (typeof value === 'number' && !isNaN(value)) {\n
return new Date(value);\n }\n if (typeof value === 'string') {\n value = value.trim();\n var
```

```
parsedNb = parseFloat(value);\n            // any string that only contains numbers, like \"1234\" but not like \"1234hello\"\n            if (!isNaN(value - parsedNb)) {\n                return new Date(parsedNb);\n            }\n            if (/^(\\d{4}-\\d{1,2}-\\d{1,2})$/.test(value)) {\n                /* For ISO Strings without time the day, month and year must be extracted from the ISO String\n                before Date creation\n                to avoid time offset and errors in the new Date.\n                If we only replace '-' with ',' in the ISO String (\"2015,01,01\"), and try to create a new\n                date, some browsers (e.g. IE 9) will throw an invalid Date error.\n                If we leave the '-' (\"2015-01-01\") and try to create a new Date(\"2015-01-01\") the timeoffset\n                is applied.\n                Note: ISO months are 0 for January, 1 for February, ... */\n                var _a = __read(value.split('-').map(function (val) { return +val; }), 3), y = _a[0], m = _a[1], d = _a[2];\n                return new Date(y, m - 1, d);\n            }\n            var match = void 0;\n            if (match = value.match(ISO8601_DATE_REGEX)) {\n                return isoStringToDate(match);\n            }\n        }\n        var date = new Date(value);\n        if (!isDate(date)) {\n            throw new Error(\"Unable to convert \\\"\" + value + \"\\\" into a date\");\n        }\n        return date;\n    }\n    /**\n     * Converts a date in ISO8601 to a Date.\n     * Used instead of `Date.parse` because of browser discrepancies.\n     */\n    function isoStringToDate(match) {\n        var date = new Date(0);\n        var tzHour = 0;\n        var tzMin = 0;\n        // match[8] means that the string contains \"Z\" (UTC) or a timezone like \"+01:00\" or \"+0100\"\n        var dateSetter = match[8] ? date.setUTCFullYear : date.setFullYear;\n        var timeSetter = match[8] ? date.setUTCHours : date.setHours;\n        // if there is a timezone defined like \"+01:00\" or \"+0100\"\n        if (match[9]) {\n            tzHour = Number(match[9] + match[10]);\n            tzMin = Number(match[9] + match[11]);\n        }\n        dateSetter.call(date, Number(match[1]), Number(match[2]) - 1, Number(match[3]));\n        var h = Number(match[4] || 0) - tzHour;\n        var m = Number(match[5] || 0) - tzMin;\n        var s = Number(match[6] || 0);\n        // The ECMAScript specification (https://www.ecma-international.org/ecma-262/5.1/#sec-15.9.1.11)\n        // defines that `DateTime` milliseconds should always be rounded down, so that `999.9ms`\n        // becomes `999ms`.\n        var ms = Math.floor(parseFloat('0.' + (match[7] || 0)) * 1000);\n        timeSetter.call(date, h, m, s, ms);\n        return date;\n    }\n    function isDate(value) {\n        return value instanceof Date && !isNaN(value.valueOf());\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var NUMBER_FORMAT_REGEXP = /^(\\d+)?\\.((\\d+)(-(\\d+))?)?$/;\n    var MAX_DIGITS = 22;\n    var DECIMAL_SEP = '.';\n    var ZERO_CHAR = '0';\n    var PATTERN_SEP = ';';\n    var GROUP_SEP = ',';\n    var DIGIT_CHAR = '#';\n    var CURRENCY_CHAR = '¤';\n    var PERCENT_CHAR = '%';\n    /**\n     * Transforms a number to a locale string based on a style and a format.\n     */\n    function formatNumberToLocaleString(value, pattern, locale, groupSymbol, decimalSymbol, digitsInfo, isPercent) {\n        if (isPercent === void 0) { isPercent = false; }\n        var formattedText = '';\n        var isZero = false;\n        if (!isFinite(value)) {\n            formattedText = getLocaleNumberSymbol(locale, exports.NumberSymbol.Infinity);\n        }\n        else {\n            var parsedNumber = parseNumber(value);\n            if (isPercent) {\n                parsedNumber = toPercent(parsedNumber);\n            }\n            var minInt = pattern.minInt;\n            var minFraction = pattern.minFrac;\n            var maxFraction = pattern.maxFrac;\n            if (digitsInfo) {\n                var parts = digitsInfo.match(NUMBER_FORMAT_REGEXP);\n                if (parts === null) {\n                    throw new Error(digitsInfo + \" is not a valid digit info\");\n                }\n                var minIntPart = parts[1];\n                var minFractionPart = parts[3];\n                var maxFractionPart = parts[5];\n                if (minIntPart != null) {\n                    minInt = parseIntAutoRadix(minIntPart);\n                }\n                if (minFractionPart != null) {\n                    minFraction = parseIntAutoRadix(minFractionPart);\n                }\n                if (maxFractionPart != null) {\n                    maxFraction = parseIntAutoRadix(maxFractionPart);\n                }\n                else if (minFractionPart != null && minFraction > maxFraction) {\n                    maxFraction = minFraction;\n                }\n            }\n            roundNumber(parsedNumber, minFraction, maxFraction);\n            var digits = parsedNumber.digits;\n            var integerLen = parsedNumber.integerLen;\n            var exponent = parsedNumber.exponent;\n            var decimals = [];\n            isZero = digits.every(function (d) { return
```

```
!d; });\n            // pad zeros for small numbers\n            for (; integerLen < minInt; integerLen++) {\n
digits.unshift(0);\n            }\n            // pad zeros for small numbers\n            for (; integerLen < 0; integerLen++) {\n
                digits.unshift(0);\n            }\n            // extract decimals digits\n            if (integerLen > 0) {\n
decimals = digits.splice(integerLen, digits.length);\n            }\n            else {\n                decimals = digits;\n
digits = [0];\n            }\n            // format the integer digits with grouping separators\n            var groups = [];\n
if (digits.length >= pattern.lgSize) {\n                groups.unshift(digits.splice(-pattern.lgSize, digits.length).join(''));\n
        }\n            while (digits.length > pattern.gSize) {\n                groups.unshift(digits.splice(-pattern.gSize,
digits.length).join(''));\n            }\n            if (digits.length)
 {\n                groups.unshift(digits.join(''));\n            }\n            formattedText =
groups.join(getLocaleNumberSymbol(locale, groupSymbol));\n            // append the decimal digits\n            if
(decimals.length) {\n                formattedText += getLocaleNumberSymbol(locale, decimalSymbol) +
decimals.join('');\n            }\n            if (exponent) {\n                formattedText += getLocaleNumberSymbol(locale,
exports.NumberSymbol.Exponential) + '+' + exponent;\n            }\n        }\n        if (value < 0 && !isZero) {\n
formattedText = pattern.negPre + formattedText + pattern.negSuf;\n        }\n        else {\n            formattedText =
pattern.posPre + formattedText + pattern.posSuf;\n        }\n        return formattedText;\n    }\n    /**\n     *
@ngModule CommonModule\n     * @description\n     *\n     * Formats a number as currency using locale rules.\n
*\n     * @param value The number to format.\n     * @param locale
 A locale code for the locale format rules to use.\n     * @param currency A string containing the currency symbol or
its name,\n     * such as \"$\" or \"Canadian Dollar\". Used in output string, but does not affect the operation\n     * of
the function.\n     * @param currencyCode The [ISO 4217](https://en.wikipedia.org/wiki/ISO_4217)\n     * currency
code, such as `USD` for the US dollar and `EUR` for the euro.\n     * Used to determine the number of digits in the
decimal part.\n     * @param digitInfo Decimal representation options, specified by a string in the following
format:\n     * `{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}`. See `DecimalPipe` for more
details.\n     *\n     * @returns The formatted currency value.\n     *\n     * @see `formatNumber()`\n     * @see
`DecimalPipe`\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     *
@publicApi\n     */\n    function formatCurrency(value, locale, currency, currencyCode, digitsInfo)
 {\n        var format = getLocaleNumberFormat(locale, exports.NumberFormatStyle.Currency);\n        var pattern =
parseNumberFormat(format, getLocaleNumberSymbol(locale, exports.NumberSymbol.MinusSign));\n
pattern.minFrac = getNumberOfCurrencyDigits(currencyCode);\n        pattern.maxFrac = pattern.minFrac;\n        var
res = formatNumberToLocaleString(value, pattern, locale, exports.NumberSymbol.CurrencyGroup,
exports.NumberSymbol.CurrencyDecimal, digitsInfo);\n        return res\n            .replace(CURRENCY_CHAR,
currency)\n            // if we have 2 time the currency character, the second one is ignored\n
.replace(CURRENCY_CHAR, '')\n            // If there is a spacing between currency character and the value and\n
    // the currency character is supressed by passing an empty string, the\n            // spacing character would remain
as part of the string. Then we\n            // should remove it.\n            .trim();\n    }\n    /**\n     *
 @ngModule CommonModule\n     * @description\n     *\n     * Formats a number as a percentage according to
locale rules.\n     *\n     * @param value The number to format.\n     * @param locale A locale code for the locale
format rules to use.\n     * @param digitInfo Decimal representation options, specified by a string in the following
format:\n     * `{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}`. See `DecimalPipe` for more
details.\n     *\n     * @returns The formatted percentage value.\n     *\n     * @see `formatNumber()`\n     * @see
`DecimalPipe`\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     * @publicApi\n
*\n     */\n    function formatPercent(value, locale, digitsInfo) {\n        var format = getLocaleNumberFormat(locale,
exports.NumberFormatStyle.Percent);\n        var pattern = parseNumberFormat(format,
getLocaleNumberSymbol(locale, exports.NumberSymbol.MinusSign));\n        var res =
formatNumberToLocaleString(value,
 pattern, locale, exports.NumberSymbol.Group, exports.NumberSymbol.Decimal, digitsInfo, true);\n        return
res.replace(new RegExp(PERCENT_CHAR, 'g'), getLocaleNumberSymbol(locale,
exports.NumberSymbol.PercentSign));\n    }\n    /**\n     * @ngModule CommonModule\n     * @description\n
```

```
*\n     * Formats a number as text, with group sizing, separator, and other\n     * parameters based on the locale.\n     *\n     * @param value The number to format.\n     * @param locale A locale code for the locale format rules to use.\n     * @param digitInfo Decimal representation options, specified by a string in the following format:\n     * `{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}`. See `DecimalPipe` for more details.\n     *\n     * @returns The formatted text string.\n     * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n     *\n     * @publicApi\n     */\n    function formatNumber(value, locale, digitsInfo) {\n        var format = getLocaleNumberFormat(locale,
 exports.NumberFormatStyle.Decimal);\n        var pattern = parseNumberFormat(format, getLocaleNumberSymbol(locale, exports.NumberSymbol.MinusSign));\n        return formatNumberToLocaleString(value, pattern, locale, exports.NumberSymbol.Group, exports.NumberSymbol.Decimal, digitsInfo);\n    }\n    function parseNumberFormat(format, minusSign) {\n        if (minusSign === void 0) { minusSign = '-'; }\n        var p = {\n            minInt: 1,\n            minFrac: 0,\n            maxFrac: 0,\n            posPre: '',\n            posSuf: '',\n            negPre: '',\n            negSuf: '',\n            gSize: 0,\n            lgSize: 0\n        };\n        var patternParts = format.split(PATTERN_SEP);\n        var positive = patternParts[0];\n        var negative = patternParts[1];\n        var positiveParts = positive.indexOf(DECIMAL_SEP) !== -1 ?\n            positive.split(DECIMAL_SEP) :\n            [\n                positive.substring(0, positive.lastIndexOf(ZERO_CHAR) + 1),\n                positive.substring(positive.lastIndexOf(ZERO_CHAR) + 1)\n            ], integer = positiveParts[0], fraction = positiveParts[1] || '';\n        p.posPre = integer.substr(0, integer.indexOf(DIGIT_CHAR));\n        for (var i = 0; i < fraction.length; i++) {\n            var ch = fraction.charAt(i);\n            if (ch === ZERO_CHAR) {\n                p.minFrac = p.maxFrac = i + 1;\n            }\n            else if (ch === DIGIT_CHAR) {\n                p.maxFrac = i + 1;\n            }\n            else {\n                p.posSuf += ch;\n            }\n        }\n        var groups = integer.split(GROUP_SEP);\n        p.gSize = groups[1] ? groups[1].length : 0;\n        p.lgSize = (groups[2] || groups[1]) ? (groups[2] || groups[1]).length : 0;\n        if (negative) {\n            var trunkLen = positive.length - p.posPre.length - p.posSuf.length, pos = negative.indexOf(DIGIT_CHAR);\n            p.negPre = negative.substr(0, pos).replace(/'/g, '');\n
            p.negSuf = negative.substr(pos + trunkLen).replace(/'/g, '');\n        }\n        else {\n            p.negPre = minusSign + p.posPre;\n            p.negSuf = p.posSuf;\n        }\n        return p;\n    }\n    // Transforms a parsed number into a percentage by multiplying it by 100\n    function toPercent(parsedNumber) {\n        // if the number is 0, don't do anything\n        if (parsedNumber.digits[0] === 0) {\n            return parsedNumber;\n        }\n        // Getting the current number of decimals\n        var fractionLen = parsedNumber.digits.length - parsedNumber.integerLen;\n        if (parsedNumber.exponent) {\n            parsedNumber.exponent += 2;\n        }\n        else {\n            if (fractionLen === 0) {\n                parsedNumber.digits.push(0, 0);\n            }\n            else if (fractionLen === 1) {\n                parsedNumber.digits.push(0);\n            }\n            parsedNumber.integerLen += 2;\n        }\n        return parsedNumber;\n
    }\n    /**\n     * Parses a number.\n     * Significant bits of this parse algorithm came from https://github.com/MikeMcl/big.js/\n     */\n    function parseNumber(num) {\n        var numStr = Math.abs(num) + '';\n        var exponent = 0, digits, integerLen;\n        var i, j, zeros;\n        // Decimal point?\n        if ((integerLen = numStr.indexOf(DECIMAL_SEP)) > -1) {\n            numStr = numStr.replace(DECIMAL_SEP, '');\n        }\n        // Exponential form?\n        if ((i = numStr.search(/e/i)) > 0) {\n            // Work out the exponent.\n            if (integerLen < 0)\n                integerLen = i;\n            integerLen += +numStr.slice(i + 1);\n            numStr = numStr.substring(0, i);\n        }\n        else if (integerLen < 0) {\n            // There was no decimal point or exponent so it is an integer.\n            integerLen = numStr.length;\n        }\n        // Count the number of leading zeros.\n        for (i = 0; numStr.charAt(i) === ZERO_CHAR;
 i++) { /* empty */\n        }\n        if (i === (zeros = numStr.length)) {\n            // The digits are all zero.\n            digits = [0];\n            integerLen = 1;\n        }\n        else {\n            // Count the number of trailing zeros\n            zeros--;\n            while (numStr.charAt(zeros) === ZERO_CHAR)\n                zeros--;\n            // Trailing zeros are insignificant so ignore them\n            integerLen -= i;\n            digits = [];\n            // Convert string to array of digits without leading/trailing zeros.\n            for (j = 0; i <= zeros; i++, j++) {\n                digits[j] =
```

```
Number(numStr.charAt(i));\n            }\n        }\n        // If the number overflows the maximum allowed digits then use an exponent.\n        if (integerLen > MAX_DIGITS) {\n            digits = digits.splice(0, MAX_DIGITS - 1);\n            exponent = integerLen - 1;\n            integerLen = 1;\n        }\n        return { digits: digits, exponent: exponent, integerLen: integerLen };\n    }\n    /**\n     * Round the parsed number to the specified number of decimal places\n     * This function changes the parsedNumber in-place\n     */\n    function roundNumber(parsedNumber, minFrac, maxFrac) {\n        if (minFrac > maxFrac) {\n            throw new Error(\"The minimum number of digits after fraction (\" + minFrac + \") is higher than the maximum (\" + maxFrac + \").\");\n        }\n        var digits = parsedNumber.digits;\n        var fractionLen = digits.length - parsedNumber.integerLen;\n        var fractionSize = Math.min(Math.max(minFrac, fractionLen), maxFrac);\n        // The index of the digit to where rounding is to occur\n        var roundAt = fractionSize + parsedNumber.integerLen;\n        var digit = digits[roundAt];\n        if (roundAt > 0) {\n            // Drop fractional digits beyond `roundAt`\n            digits.splice(Math.max(parsedNumber.integerLen, roundAt));\n            // Set non-fractional digits beyond `roundAt` to 0\n            for (var j = roundAt; j < digits.length; j++) {\n                digits[j] = 0;\n            }\n        }\n        else {\n            // We rounded to zero so reset the parsedNumber\n            fractionLen = Math.max(0, fractionLen);\n            parsedNumber.integerLen = 1;\n            digits.length = Math.max(1, roundAt = fractionSize + 1);\n            digits[0] = 0;\n            for (var i = 1; i < roundAt; i++)\n                digits[i] = 0;\n        }\n        if (digit >= 5) {\n            if (roundAt - 1 < 0) {\n                for (var k = 0; k > roundAt; k--) {\n                    digits.unshift(0);\n                    parsedNumber.integerLen++;\n                }\n                digits.unshift(1);\n                parsedNumber.integerLen++;\n            }\n            else {\n                digits[roundAt - 1]++;\n            }\n        }\n        // Pad out with zeros to get the required fraction length\n        for (; fractionLen < Math.max(0, fractionSize); fractionLen++)\n            digits.push(0);\n        var dropTrailingZeros = fractionSize !== 0;\n        // Minimal length = nb of decimals required + current nb of integers\n        // Any number besides that is optional and can be removed if it's a trailing 0\n        var minLen = minFrac + parsedNumber.integerLen;\n        // Do any carrying, e.g. a digit was rounded up to 10\n        var carry = digits.reduceRight(function (carry, d, i, digits) {\n            d = d + carry;\n            digits[i] = d < 10 ? d : d - 10; // d % 10\n            if (dropTrailingZeros) {\n                // Do not keep meaningless fractional trailing zeros (e.g. 15.52000 --> 15.52)\n                if (digits[i] === 0 && i >= minLen) {\n                    digits.pop();\n                }\n                else {\n                    dropTrailingZeros = false;\n                }\n            }\n            return d >= 10 ? 1 : 0; // Math.floor(d / 10);\n        }, 0);\n        if (carry) {\n            digits.unshift(carry);\n            parsedNumber.integerLen++;\n        }\n    }\n    function parseIntAutoRadix(text) {\n        var result = parseInt(text);\n        if (isNaN(result)) {\n            throw new Error('Invalid integer literal when parsing ' + text);\n        }\n        return result;\n    }\n\n    /**\n     * @publicApi\n     */\n    var NgLocalization = /** @class */ (function () {\n        function NgLocalization() {\n        }\n        return NgLocalization;\n    }());\n    /**\n     * Returns the plural category for a given value.\n     * - \"=value\" when the case exists,\n     * - the plural category otherwise\n     */\n    function getPluralCategory(value, cases, ngLocalization, locale) {\n        var key = \"=\" + value;\n        if (cases.indexOf(key) > -1) {\n            return key;\n        }\n        key = ngLocalization.getPluralCategory(value, locale);\n        if (cases.indexOf(key) > -1) {\n            return key;\n        }\n        if (cases.indexOf('other') > -1) {\n            return 'other';\n        }\n        throw new Error(\"No plural message found for value \\\"\" + value + \"\\\"\");\n    }\n    /**\n     * Returns the plural case based on the locale\n     *\n     * @publicApi\n     */\n    var NgLocaleLocalization = /** @class */ (function (_super) {\n        __extends(NgLocaleLocalization, _super);\n        function NgLocaleLocalization(locale) {\n            var _this = _super.call(this) || this;\n            _this.locale = locale;\n            return _this;\n        }\n        NgLocaleLocalization.prototype.getPluralCategory = function (value, locale) {\n            var plural = getLocalePluralCase(locale || this.locale)(value);\n            switch (plural) {\n                case exports.Plural.Zero:\n                    return 'zero';\n                case exports.Plural.One:\n                    return 'one';\n                case exports.Plural.Two:\n                    return 'two';\n                case exports.Plural.Few:\n                    return 'few';\n                case exports.Plural.Many:\n                    return 'many';\n                default:\n                    return 'other';\n            }\n        };\n        return NgLocaleLocalization;\n
```

}(NgLocalization));\n NgLocaleLocalization.decorators = [\n { type: i0.Injectable }\n ];\n NgLocaleLocalization.ctorParameters = function () { return [\n { type: String, decorators: [{ type: i0.Inject, args: [i0.LOCALE_ID,] }] }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Register global data to be used internally by Angular. See the\n * [\"I18n guide\"](guide/i18n#i18n-pipes) to know how to import additional locale data.\n *\n * The signature registerLocaleData(data: any, extraData?: any) is deprecated since v5.1\n *\n * @publicApi\n */\n function registerLocaleData(data, localeId, extraData) {\n return i0.registerLocaleData(data, localeId, extraData);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function parseCookieValue(cookieStr, name) {\n var e_1, _a;\n name = encodeURIComponent(name);\n try {\n for (var _b = __values(cookieStr.split(';')), _c = _b.next(); !_c.done; _c = _b.next()) {\n var cookie = _c.value;\n var eqIndex = cookie.indexOf('=');\n var _d = __read(eqIndex == -1 ? [cookie, ''] : [cookie.slice(0, eqIndex), cookie.slice(eqIndex + 1)], 2), cookieName = _d[0], cookieValue = _d[1];\n if (cookieName.trim() === name) {\n return decodeURIComponent(cookieValue);\n }\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n }\n finally { if (e_1) throw e_1.error; }\n }\n return null;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @ngModule CommonModule\n *\n * @usageNotes\n * ```\n * <some-element [ngClass]=\"'first second'\">...</some-element>\n *\n * <some-element [ngClass]=\"['first', 'second']\">...</some-element>\n *\n * <some-element [ngClass]=\"{'first': true, 'second': true, 'third': false}\">...</some-element>\n *\n * <some-element [ngClass]=\"stringExp|arrayExp|objExp\">...</some-element>\n *\n * <some-element [ngClass]=\"{'class1 class2 class3' : true}\">...</some-element>\n * ```\n *\n * @description\n *\n * Adds and removes CSS classes on an HTML element.\n *\n * The CSS classes are updated as follows, depending on the type of the expression evaluation:\n * - `string` - the CSS classes listed in the string (space delimited) are added,\n * - `Array` - the CSS classes declared as Array elements are added,\n * - `Object` - keys are CSS classes that get added when the expression given in the value\n * evaluates to a truthy value, otherwise they are removed.\n *\n * @publicApi\n */\n var NgClass = /** @class */ (function () {\n function NgClass(_iterableDiffers, _keyValueDiffers, _ngEl, _renderer) {\n this._iterableDiffers = _iterableDiffers;\n this._keyValueDiffers = _keyValueDiffers;\n this._ngEl = _ngEl;\n this._renderer = _renderer;\n this._iterableDiffer = null;\n this._keyValueDiffer = null;\n this._initialClasses = [];\n this._rawClass = null;\n }\n Object.defineProperty(NgClass.prototype, \"klass\", {\n set: function (value) {\n this._removeClasses(this._initialClasses);\n this._initialClasses = typeof value === 'string' ? value.split(/\\s+/) : [];\n this._applyClasses(this._initialClasses);\n this._applyClasses(this._rawClass);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(NgClass.prototype, \"ngClass\", {\n set: function (value) {\n this._removeClasses(this._rawClass);\n this._applyClasses(this._initialClasses);\n this._iterableDiffer = null;\n this._keyValueDiffer = null;\n this._rawClass = typeof value === 'string' ? value.split(/\\s+/) : value;\n if (this._rawClass) {\n if (i0.isListLikeIterable(this._rawClass)) {\n this._iterableDiffer = this._iterableDiffers.find(this._rawClass).create();\n }\n else {\n this._keyValueDiffer = this._keyValueDiffers.find(this._rawClass).create();\n }\n }\n },\n enumerable: false,\n configurable: true\n });\n NgClass.prototype.ngDoCheck = function

() {\n if (this._iterableDiffer) {\n var iterableChanges = this._iterableDiffer.diff(this._rawClass);\n if (iterableChanges) {\n this._applyIterableChanges(iterableChanges);\n }\n }\n else if (this._keyValueDiffer) {\n var keyValueChanges = this._keyValueDiffer.diff(this._rawClass);\n if (keyValueChanges) {\n this._applyKeyValueChanges(keyValueChanges);\n }\n }\n };\n NgClass.prototype._applyKeyValueChanges = function (changes) {\n var _this = this;\n changes.forEachAddedItem(function (record) { return _this._toggleClass(record.key, record.currentValue); });\n changes.forEachChangedItem(function (record) { return _this._toggleClass(record.key, record.currentValue); });\n changes.forEachRemovedItem(function (record) {\n if (record.previousValue) {\n _this._toggleClass(record.key, false);\n }\n });\n };\n NgClass.prototype._applyIterableChanges = function (changes) {\n var _this = this;\n changes.forEachAddedItem(function (record) {\n if (typeof record.item === 'string') {\n _this._toggleClass(record.item,
true);\n }\n else {\n throw new Error(\"NgClass can only toggle CSS classes expressed as strings, got \" + i0.stringify(record.item));\n }\n });\n changes.forEachRemovedItem(function (record) { return _this._toggleClass(record.item, false); });\n };\n /**\n * Applies a collection of CSS classes to the DOM element.\n *\n * For argument of type Set and Array CSS class names contained in those collections are always\n * added.\n * For argument of type Map CSS class name in the map's key is toggled based on the value (added\n * for truthy and removed for falsy).\n */\n NgClass.prototype._applyClasses = function (rawClassVal) {\n var _this = this;\n if (rawClassVal) {\n if (Array.isArray(rawClassVal) || rawClassVal instanceof Set) {\n rawClassVal.forEach(function
(klass) { return _this._toggleClass(klass, true); });\n }\n else {\n Object.keys(rawClassVal).forEach(function (klass) { return _this._toggleClass(klass, !!rawClassVal[klass]); });\n }\n }\n };\n /**\n * Removes a collection of CSS classes from the DOM element. This is mostly useful for cleanup\n * purposes.\n */\n NgClass.prototype._removeClasses = function (rawClassVal) {\n var _this = this;\n if (rawClassVal) {\n if (Array.isArray(rawClassVal) || rawClassVal instanceof Set) {\n rawClassVal.forEach(function (klass) { return _this._toggleClass(klass, false); });\n }\n else {\n Object.keys(rawClassVal).forEach(function (klass) { return _this._toggleClass(klass, false); });\n }\n }\n };\n NgClass.prototype._toggleClass = function
(klass, enabled) {\n var _this = this;\n klass = klass.trim();\n if (klass) {\n klass.split(/\\s+/g).forEach(function (klass) {\n if (enabled) {\n _this._renderer.addClass(_this._ngEl.nativeElement, klass);\n }\n else {\n _this._renderer.removeClass(_this._ngEl.nativeElement, klass);\n }\n });\n }\n };\n return NgClass;\n }());\n NgClass.decorators = [\n { type: i0.Directive, args: [{ selector: '[ngClass]' },] }\n ];\n NgClass.ctorParameters = function () { return [\n { type: i0.IterableDiffers },\n { type: i0.KeyValueDiffers },\n { type: i0.ElementRef },\n { type: i0.Renderer2 }\n ]; };\n NgClass.propDecorators = {\n klass: [{ type: i0.Input, args: ['class',] }],\n ngClass: [{ type: i0.Input, args: ['ngClass',]
}]\n };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Instantiates a single {@link Component} type and inserts its Host View into current View.\n * `NgComponentOutlet` provides a declarative approach for dynamic component creation.\n *\n * `NgComponentOutlet` requires a component type, if a falsy value is set the view will clear and\n * any existing component will get destroyed.\n *\n * @usageNotes\n *\n * ### Fine tune control\n *\n * You can control the component creation process by using the following optional attributes:\n *\n * * `ngComponentOutletInjector`: Optional custom {@link Injector} that will be used as parent for\n * the Component. Defaults to the injector of the current view container.\n *\n * * `ngComponentOutletContent`:

```
 Optional list of projectable nodes to insert into the content\n     * section of the component, if exists.\n     *\n     * * `ngComponentOutletNgModuleFactory`: Optional module factory to allow dynamically loading other\n     * module, then load a component from that module.\n     *\n     * ### Syntax\n     *\n     * Simple\n     * ```\n     * <ng-container *ngComponentOutlet=\"componentTypeExpression\"></ng-container>\n     * ```\n     *\n     * Customized injector/content\n     * ```\n     * <ng-container *ngComponentOutlet=\"componentTypeExpression;\n     *                 injector: injectorExpression;\n     *                 content: contentNodesExpression;\">\n     * </ng-container>\n     * ```\n     *\n     * Customized ngModuleFactory\n     * ```\n     * <ng-container *ngComponentOutlet=\"componentTypeExpression;\n     *                 ngModuleFactory: moduleFactory;\">\n     * </ng-container>\n
     * ```\n     *\n     * ### A simple example\n     *\n     * {@example common/ngComponentOutlet/ts/module.ts region='SimpleExample'}\n     *\n     * A more complete example with additional options:\n     *\n     * {@example common/ngComponentOutlet/ts/module.ts region='CompleteExample'}\n     *\n     * @publicApi\n     * @ngModule CommonModule\n     */\n    var NgComponentOutlet = /** @class */ (function () {\n        function NgComponentOutlet(_viewContainerRef) {\n            this._viewContainerRef = _viewContainerRef;\n            this._componentRef = null;\n            this._moduleRef = null;\n        }\n        NgComponentOutlet.prototype.ngOnChanges = function (changes) {\n            this._viewContainerRef.clear();\n            this._componentRef = null;\n            if (this.ngComponentOutlet) {\n                var elInjector = this.ngComponentOutletInjector || this._viewContainerRef.parentInjector;\n                if (changes['ngComponentOutletNgModuleFactory']) {\n                    if (this._moduleRef)\n                        this._moduleRef.destroy();\n                    if (this.ngComponentOutletNgModuleFactory) {\n                        var parentModule = elInjector.get(i0.NgModuleRef);\n                        this._moduleRef = this.ngComponentOutletNgModuleFactory.create(parentModule.injector);\n                    }\n                    else {\n                        this._moduleRef = null;\n                    }\n                }\n                var componentFactoryResolver = this._moduleRef ? this._moduleRef.componentFactoryResolver :\n                    elInjector.get(i0.ComponentFactoryResolver);\n                var componentFactory = componentFactoryResolver.resolveComponentFactory(this.ngComponentOutlet);\n                this._componentRef = this._viewContainerRef.createComponent(componentFactory, this._viewContainerRef.length, elInjector, this.ngComponentOutletContent);\n            }\n        };\n        NgComponentOutlet.prototype.ngOnDestroy = function () {\n            if (this._moduleRef)\n                this._moduleRef.destroy();\n        };\n        return NgComponentOutlet;\n    }());\n    NgComponentOutlet.decorators = [\n        { type: i0.Directive, args: [{ selector: '[ngComponentOutlet]' },] }\n    ];\n    NgComponentOutlet.ctorParameters = function () { return [\n        { type: i0.ViewContainerRef }\n    ]; };\n    NgComponentOutlet.propDecorators = {\n        ngComponentOutlet: [{ type: i0.Input }],\n        ngComponentOutletInjector: [{ type: i0.Input }],\n        ngComponentOutletContent: [{ type: i0.Input }],\n        ngComponentOutletNgModuleFactory: [{ type: i0.Input }]\n    };\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * @publicApi\n     */\n    var NgForOfContext = /** @class */ (function () {\n        function NgForOfContext($implicit, ngForOf, index, count) {\n            this.$implicit = $implicit;\n            this.ngForOf = ngForOf;\n            this.index = index;\n            this.count = count;\n        }\n        Object.defineProperty(NgForOfContext.prototype, \"first\", {\n            get: function () {\n                return this.index === 0;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(NgForOfContext.prototype, \"last\", {\n            get: function () {\n                return this.index === this.count - 1;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(NgForOfContext.prototype, \"even\", {\n            get: function () {\n                return this.index % 2 === 0;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(NgForOfContext.prototype,
```

```
\"odd\", {\n            get: function () {\n                return !this.even;\n            },\n            enumerable: false,\n
configurable: true\n        });\n        return NgForOfContext;\n    }());\n    /**\n     * A [structural
directive](guide/structural-directives) that renders\n     * a template for each item in a collection.\n     * The directive
is placed on an element, which becomes the parent\n     * of the cloned templates.\n     *\n     * The `ngForOf`
directive is generally used in the\n     * [shorthand form](guide/structural-directives#the-asterisk--prefix) `*ngFor`.\n
   * In this form, the template to be rendered for each iteration is the content\n     * of an anchor element containing
the directive.\n     *\n     * The following example shows the shorthand syntax with some options,\n     * contained in
an `<li>` element.\n     *\n     * ```\n     * <li *ngFor=\"let item of items; index as i; trackBy: trackByFn\">...</li>\n
* ```\n
     *\n     * The shorthand form expands into a long form that uses the `ngForOf` selector\n     * on an `<ng-
template>` element.\n     * The content of the `<ng-template>` element is the `<li>` element that held the\n     *
short-form directive.\n     *\n     * Here is the expanded version of the short-form example.\n     *\n     * ```\n     *
<ng-template ngFor let-item [ngForOf]=\"items\" let-i=\"index\" [ngForTrackBy]=\"trackByFn\">\n     *
<li>...</li>\n     * </ng-template>\n     * ```\n     *\n     * Angular automatically expands the shorthand syntax as it
compiles the template.\n     * The context for each embedded view is logically merged to the current component\n
* context according to its lexical position.\n     *\n     * When using the shorthand syntax, Angular allows only [one
structural directive\n     * on an element](guide/structural-directives#one-structural-directive-per-host-element).\n
* If you want to iterate conditionally, for example,\n     * put the
 `*ngIf` on a container element that wraps the `*ngFor` element.\n     * For futher discussion, see\n     * [Structural
Directives](guide/structural-directives#one-per-element).\n     *\n     * @usageNotes\n     *\n     * ### Local
variables\n     *\n     * `NgForOf` provides exported values that can be aliased to local variables.\n     * For
example:\n     *\n     * ```\n     * <li *ngFor=\"let user of users; index as i; first as isFirst\">\n     *
{{i}}/{{users.length}}. {{user}} <span *ngIf=\"isFirst\">default</span>\n     * </li>\n     * ```\n     *\n     * The
following exported values can be aliased to local variables:\n     *\n     * - `$implicit: T`: The value of the individual
items in the iterable (`ngForOf`).\n     * - `ngForOf: NgIterable<T>`: The value of the iterable expression. Useful
when the expression is\n     * more complex then a property access, for example when using the async pipe
(`userStreams |\n     * async`).\n     * - `index: number`: The index of the current
 item in the iterable.\n     * - `count: number`: The length of the iterable.\n     * - `first: boolean`: True when the item
is the first item in the iterable.\n     * - `last: boolean`: True when the item is the last item in the iterable.\n     * -
`even: boolean`: True when the item has an even index in the iterable.\n     * - `odd: boolean`: True when the item
has an odd index in the iterable.\n     *\n     * ### Change propagation\n     *\n     * When the contents of the iterator
changes, `NgForOf` makes the corresponding changes to the DOM:\n     *\n     * * When an item is added, a new
instance of the template is added to the DOM.\n     * * When an item is removed, its template instance is removed
from the DOM.\n     * * When items are reordered, their respective templates are reordered in the DOM.\n     *\n     *
Angular uses object identity to track insertions and deletions within the iterator and reproduce\n     * those changes
in the DOM. This has important implications
 for animations and any stateful\n     * controls that are present, such as `<input>` elements that accept user input.
Inserted rows can\n     * be animated in, deleted rows can be animated out, and unchanged rows retain any unsaved
state\n     * such as user input.\n     * For more on animations, see [Transitions and Triggers](guide/transition-and-
triggers).\n     *\n     * The identities of elements in the iterator can change while the data does not.\n     * This can
happen, for example, if the iterator is produced from an RPC to the server, and that\n     * RPC is re-run. Even if the
data hasn't changed, the second response produces objects with\n     * different identities, and Angular must tear
down the entire DOM and rebuild it (as if all old\n     * elements were deleted and all new elements inserted).\n
*\n     * To avoid this expensive operation, you can customize the default tracking algorithm.\n     * by supplying the
`trackBy` option to `NgForOf`.\n     * `trackBy` takes
 a function that has two arguments: `index` and `item`.\n     * If `trackBy` is given, Angular tracks changes by the
return value of the function.\n     *\n     * @see [Structural Directives](guide/structural-directives)\n     *
@ngModule CommonModule\n     * @publicApi\n     */\n    var NgForOf = /** @class */ (function () {\n
```

function NgForOf(_viewContainer, _template, _differs) {\n this._viewContainer = _viewContainer;\n this._template = _template;\n this._differs = _differs;\n this._ngForOf = null;\n this._ngForOfDirty = true;\n this._differ = null;\n }\n Object.defineProperty(NgForOf.prototype, \"ngForOf\", {\n /**\n * The value of the iterable expression, which can be used as a\n * [template input variable](guide/structural-directives#template-input-variable).\n */\n set: function (ngForOf) {\n this._ngForOf = ngForOf;\n this._ngForOfDirty = true;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(NgForOf.prototype, \"ngForTrackBy\", {\n get: function () {\n return this._trackByFn;\n },\n /**\n * A function that defines how to track changes for items in the iterable.\n *\n * When items are added, moved, or removed in the iterable,\n * the directive must re-render the appropriate DOM nodes.\n * To minimize churn in the DOM, only nodes that have changed\n * are re-rendered.\n *\n * By default, the change detector assumes that\n * the object instance identifies the node in the iterable.\n * When this function is supplied, the directive uses\n * the result of calling this function to identify the item node,\n * rather than the identity of the object itself.\n *\n * The function receives two inputs,\n * the iteration index and the associated node data.\n */\n set: function (fn) {\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && fn != null && typeof fn !== 'function') {\n // TODO(vicb): use a log service once there is a public one available\n if (console && console.warn) {\n console.warn(\"trackBy must be a function, but received \" + JSON.stringify(fn) + \". \" +\n \"See https://angular.io/api/common/NgForOf#change-propagation for more information.\");\n }\n }\n this._trackByFn = fn;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(NgForOf.prototype, \"ngForTemplate\", {\n /**\n * A reference to the template that is stamped out for each item in the iterable.\n * @see [template reference variable](guide/template-reference-variables)\n */\n set: function (value) {\n // TODO(TS2.1): make TemplateRef<Partial<NgForRowOf<T>>> once we move to TS v2.1\n // The current type is too restrictive; a template that just uses index, for example,\n // should be acceptable.\n if (value) {\n this._template = value;\n }\n },\n enumerable: false,\n configurable: true\n });\n /**\n * Applies the changes when needed.\n */\n NgForOf.prototype.ngDoCheck = function () {\n if (this._ngForOfDirty) {\n this._ngForOfDirty = false;\n // React on ngForOf changes only once all inputs have been initialized\n var value = this._ngForOf;\n if (!this._differ && value) {\n try {\n this._differ = this._differs.find(value).create(this.ngForTrackBy);\n }\n catch (_a) {\n throw new Error(\"Cannot find a differ supporting object '\" + value + \"' of type '\" + getTypeName(value) + \"'. NgFor only supports binding to Iterables such as Arrays.\");\n }\n }\n }\n if (this._differ) {\n var changes = this._differ.diff(this._ngForOf);\n if (changes)\n this._applyChanges(changes);\n }\n };\n NgForOf.prototype._applyChanges = function (changes) {\n var _this = this;\n var insertTuples = [];\n changes.forEachOperation(function (item, adjustedPreviousIndex, currentIndex) {\n if (item.previousIndex == null) {\n // NgForOf is never \"null\" or \"undefined\" here because the differ detected\n // that a new item needs to be inserted from the iterable. This implies that\n // there is an iterable value for \"_ngForOf\".\n var view = _this._viewContainer.createEmbeddedView(_this._template, new NgForOfContext(null, _this._ngForOf, -1, -1), currentIndex === null ? undefined : currentIndex);\n var tuple = new RecordViewTuple(item, view);\n insertTuples.push(tuple);\n }\n else if (currentIndex == null) {\n _this._viewContainer.remove(adjustedPreviousIndex === null ? undefined : adjustedPreviousIndex);\n }\n else if (adjustedPreviousIndex !== null) {\n var view = _this._viewContainer.get(adjustedPreviousIndex);\n _this._viewContainer.move(view, currentIndex);\n var tuple = new RecordViewTuple(item, view);\n

```
    insertTuples.push(tuple);\n                }\n            });\n            for (var i = 0; i < insertTuples.length; i++) {\n
 this._perViewChange(insertTuples[i].view, insertTuples[i].record);\n            }\n            for (var i = 0, ilen =
this._viewContainer.length; i < ilen; i++) {\n                var viewRef = this._viewContainer.get(i);\n
viewRef.context.index = i;\n                viewRef.context.count = ilen;\n                viewRef.context.ngForOf =
this._ngForOf;\n            }\n            changes.forEachIdentityChange(function (record) {\n                var viewRef =
_this._viewContainer.get(record.currentIndex);\n                viewRef.context.$implicit = record.item;\n            });\n
  };\n        NgForOf.prototype._perViewChange = function (view, record) {\n            view.context.$implicit =
record.item;\n        };\n        /**\n         * Asserts the correct type of the context for the template that `NgForOf` will
render.\n
         *\n         * The presence of this method is a signal to the Ivy template type-check compiler that the\n         *
`NgForOf` structural directive renders its template with a specific context type.\n         */\n
NgForOf.ngTemplateContextGuard = function (dir, ctx) {\n            return true;\n        };\n        return NgForOf;\n
}());\n    NgForOf.decorators = [\n        { type: i0.Directive, args: [{ selector: '[ngFor][ngForOf]' },] }\n    ];\n
NgForOf.ctorParameters = function () { return [\n        { type: i0.ViewContainerRef },\n        { type: i0.TemplateRef
},\n        { type: i0.IterableDiffers }\n    ]; };\n    NgForOf.propDecorators = {\n        ngForOf: [{ type: i0.Input }],\n
    ngForTrackBy: [{ type: i0.Input }],\n        ngForTemplate: [{ type: i0.Input }]\n    };\n    var RecordViewTuple =
/** @class */ (function () {\n        function RecordViewTuple(record, view) {\n            this.record = record;\n
this.view = view;\n        }\n
        return RecordViewTuple;\n    }());\n    function getTypeName(type) {\n        return type['name'] || typeof type;\n
  }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code
is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n
*/\n    /**\n     * A structural directive that conditionally includes a template based on the value of\n     * an
expression coerced to Boolean.\n     * When the expression evaluates to true, Angular renders the template\n     *
provided in a `then` clause, and when  false or null,\n     * Angular renders the template provided in an optional
`else` clause. The default\n     * template for the `else` clause is blank.\n     *\n     * A [shorthand
form](guide/structural-directives#the-asterisk--prefix) of the directive,\n     * `*ngIf=\"condition\"`, is generally
used, provided\n     * as an attribute of the anchor element for the
 inserted template.\n     * Angular expands this into a more explicit version, in which the anchor element\n     * is
contained in an `<ng-template>` element.\n     *\n     * Simple form with shorthand syntax:\n     *\n     * ```\n     *
<div *ngIf=\"condition\">Content to render when condition is true.</div>\n     * ```\n     *\n     * Simple form with
expanded syntax:\n     *\n     * ```\n     * <ng-template [ngIf]=\"condition\"><div>Content to render when condition
is\n     * true.</div></ng-template>\n     * ```\n     *\n     * Form with an \"else\" block:\n     *\n     * ```\n     * <div
*ngIf=\"condition; else elseBlock\">Content to render when condition is true.</div>\n     * <ng-template
#elseBlock>Content to render when condition is false.</ng-template>\n     * ```\n     *\n     * Shorthand form with
\"then\" and \"else\" blocks:\n     *\n     * ```\n     * <div *ngIf=\"condition; then thenBlock else elseBlock\"></div>\n
   * <ng-template #thenBlock>Content to render when condition
 is true.</ng-template>\n     * <ng-template #elseBlock>Content to render when condition is false.</ng-template>\n
 * ```\n     *\n     * Form with storing the value locally:\n     *\n     * ```\n     * <div *ngIf=\"condition as value; else
elseBlock\">{{value}}</div>\n     * <ng-template #elseBlock>Content to render when value is null.</ng-
template>\n     * ```\n     *\n     * @usageNotes\n     *\n     * The `*ngIf` directive is most commonly used to
conditionally show an inline template,\n     * as seen in the following  example.\n     * The default `else` template is
blank.\n     *\n     * {@example common/ngIf/ts/module.ts region='NgIfSimple'}\n     *\n     * ### Showing an
alternative template using `else`\n     *\n     * To display a template when `expression` evaluates to false, use an
`else` template\n     * binding as shown in the following example.\n     * The `else` binding points to an `<ng-
template>`  element labeled `#elseBlock`.\n     * The template can be defined
 anywhere in the component view, but is typically placed right after\n     * `ngIf` for readability.\n     *\n     *
{@example common/ngIf/ts/module.ts region='NgIfElse'}\n     *\n     * ### Using an external `then` template\n
*\n     * In the previous example, the then-clause template is specified inline, as the content of the\n     * tag that
```

contains the `ngIf` directive. You can also specify a template that is defined\n * externally, by referencing a labeled `<ng-template>` element. When you do this, you can\n * change which template to use at runtime, as shown in the following example.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfThenElse'}\n *\n * ### Storing a conditional result in a variable\n *\n * You might want to show a set of properties from the same object. If you are waiting\n * for asynchronous data, the object can be undefined.\n * In this case, you can use `ngIf` and store the result of the condition in a local\n

* variable as shown in the the following example.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfAs'}\n *\n * This code uses only one `AsyncPipe`, so only one subscription is created.\n * The conditional statement stores the result of `userStream|async` in the local variable `user`.\n * You can then bind the local `user` repeatedly.\n *\n * The conditional displays the data only if `userStream` returns a value,\n * so you don't need to use the\n * safe-navigation-operator (`?.`)\n * to guard against null values when accessing properties.\n * You can display an alternative template while waiting for the data.\n *\n * ### Shorthand syntax\n *\n * The shorthand syntax `*ngIf` expands into two separate template specifications\n * for the \"then\" and \"else\" clauses. For example, consider the following shorthand statement,\n * that is meant to show a loading page while waiting for data to be loaded.\n

*\n * ```\n * <div class=\"hero-list\" *ngIf=\"heroes else loading\">\n * ...\n * </div>\n *\n * <ng-template #loading>\n * <div>Loading...</div>\n * </ng-template>\n * ```\n *\n * You can see that the \"else\" clause references the `<ng-template>`\n * with the `#loading` label, and the template for the \"then\" clause\n * is provided as the content of the anchor element.\n *\n * However, when Angular expands the shorthand syntax, it creates\n * another `<ng-template>` tag, with `ngIf` and `ngIfElse` directives.\n * The anchor element containing the template for the \"then\" clause becomes\n * the content of this unlabeled `<ng-template>` tag.\n *\n * ```\n * <ng-template [ngIf]=\"heroes\" [ngIfElse]=\"loading\">\n * <div class=\"hero-list\">\n * ...\n * \n * </ng-template>\n *\n * <ng-template #loading>\n * Loading... \n * </ng-template>\n *

```\n *\n * The presence of the implicit template object has implications for the nesting of\n * structural directives. For more on this subject, see\n * [Structural Directives](https://angular.io/guide/structural-directives#one-per-element).\n *\n * @ngModule CommonModule\n * @publicApi\n */\n var NgIf = /** @class */ (function () {\n function NgIf(_viewContainer, templateRef) {\n this._viewContainer = _viewContainer;\n this._context = new NgIfContext();\n this._thenTemplateRef = null;\n this._elseTemplateRef = null;\n this._thenViewRef = null;\n this._elseViewRef = null;\n this._thenTemplateRef = templateRef;\n }\n Object.defineProperty(NgIf.prototype, \"ngIf\", {\n /**\n * The Boolean expression to evaluate as the condition for showing a template.\n */\n set: function (condition) {\n this._context.$implicit

= this._context.ngIf = condition;\n this._updateView();\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(NgIf.prototype, \"ngIfThen\", {\n /**\n * A template to show if the condition expression evaluates to true.\n */\n set: function (templateRef) {\n assertTemplate('ngIfThen', templateRef);\n this._thenTemplateRef = templateRef;\n this._thenViewRef = null; // clear previous view if any.\n this._updateView();\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(NgIf.prototype, \"ngIfElse\", {\n /**\n * A template to show if the condition expression evaluates to false.\n */\n set: function (templateRef) {\n assertTemplate('ngIfElse', templateRef);\n this._elseTemplateRef = templateRef;\n this._elseViewRef = null; // clear previous view if any.\n this._updateView();\n },\n enumerable: false,\n configurable: true\n });\n NgIf.prototype._updateView = function () {\n if (this._context.$implicit) {\n if (!this._thenViewRef) {\n this._viewContainer.clear();\n this._elseViewRef = null;\n if (this._thenTemplateRef) {\n this._thenViewRef =\n this._viewContainer.createEmbeddedView(this._thenTemplateRef, this._context);\n }\n }\n }\n else {\n if (!this._elseViewRef) {\n this._viewContainer.clear();\n
```

this._thenViewRef = null;\n if (this._elseTemplateRef) {\n this._elseViewRef =\n this._viewContainer.createEmbeddedView(this._elseTemplateRef, this._context);\n }\n }\n }\n };\n /**\n * Asserts the correct type of the context for the template that `NgIf` will render.\n *\n * The presence of this method is a signal to the Ivy template type-check compiler that the\n * `NgIf` structural directive renders its template with a specific context type.\n */\n NgIf.ngTemplateContextGuard = function (dir, ctx) {\n return true;\n };\n return NgIf;\n }());\n NgIf.decorators = [\n { type: i0.Directive, args: [{ selector: '[ngIf]' },] }\n ];\n NgIf.ctorParameters = function () { return [\n { type: i0.ViewContainerRef },\n { type: i0.TemplateRef }\n ]; };\n NgIf.propDecorators = {\n ngIf: [{ type: i0.Input }],\n ngIfThen: [{ type: i0.Input }],\n ngIfElse: [{ type: i0.Input }]\n };\n /**\n * @publicApi\n */\n var NgIfContext = /** @class */ (function () {\n function NgIfContext() {\n this.$implicit = null;\n this.ngIf = null;\n }\n return NgIfContext;\n }());\n function assertTemplate(property, templateRef) {\n var isTemplateRefOrNull = !!(!templateRef || templateRef.createEmbeddedView);\n if (!isTemplateRefOrNull) {\n throw new Error(property + \" must be a TemplateRef, but received '\" + i0.stringify(templateRef) + \"'.\");\n }\n }\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var SwitchView = /** @class */ (function () {\n function SwitchView(_viewContainerRef, _templateRef) {\n this._viewContainerRef = _viewContainerRef;\n this._templateRef = _templateRef;\n this._created = false;\n }\n SwitchView.prototype.create = function () {\n this._created = true;\n this._viewContainerRef.createEmbeddedView(this._templateRef);\n };\n SwitchView.prototype.destroy = function () {\n this._created = false;\n this._viewContainerRef.clear();\n };\n SwitchView.prototype.enforceState = function (created) {\n if (created && !this._created) {\n this.create();\n }\n else if (!created && this._created) {\n this.destroy();\n }\n };\n return SwitchView;\n }());\n /**\n * @ngModule CommonModule\n *\n * @description\n * The `[ngSwitch]` directive on a container specifies an expression to match against.\n * The expressions to match are provided by `ngSwitchCase` directives on views within the container.\n * - Every view that matches is rendered.\n * - If there are no matches, a view with the `ngSwitchDefault` directive is rendered.\n * - Elements within the `[NgSwitch]` statement but outside of any `NgSwitchCase`\n * or `ngSwitchDefault` directive are preserved at the location.\n *\n * @usageNotes\n * Define a container element for the directive, and specify the switch expression\n * to match against as an attribute:\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n * ```\n *\n * Within the container, `*ngSwitchCase` statements specify the match expressions\n * as attributes. Include `*ngSwitchDefault` as the final case.\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n * <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n * ...\n * <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * ### Usage Examples\n *\n * The following example shows how to use more than one case to display the same view:\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n * <!-- the same view can be shown in more than one case -->\n * <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n * <some-element *ngSwitchCase=\"match_expression_2\">...</some-element>\n * <some-other-element *ngSwitchCase=\"match_expression_3\">...</some-other-element>\n * <!--default case when there are no matches -->\n * <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * The following example shows how cases can be nested:\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n * <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n * <some-element *ngSwitchCase=\"match_expression_2\">...</some-element>\n * <some-other-element *ngSwitchCase=\"match_expression_3\">...</some-other-element>\n * <ng-container *ngSwitchCase=\"match_expression_3\">\n * <!-- use a ng-container to group multiple root nodes -->\n *

<inner-element></inner-element>\n * <inner-other-element></inner-other-element>\n * </ng-container>\n * <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * @publicApi\n * @see `NgSwitchCase`\n * @see `NgSwitchDefault`\n * @see [Structural Directives](guide/structural-directives)\n *\n */\n var NgSwitch = /** @class */ (function () {\n function NgSwitch() {\n this._defaultUsed = false;\n this._caseCount = 0;\n this._lastCaseCheckIndex = 0;\n this._lastCasesMatched = false;\n }\n Object.defineProperty(NgSwitch.prototype, \"ngSwitch\", {\n set: function (newValue) {\n this._ngSwitch = newValue;\n if (this._caseCount === 0) {\n this._updateDefaultCases(true);\n }\n },\n enumerable: false,\n configurable: true\n });\n /** @internal */\n NgSwitch.prototype._addCase = function () {\n return this._caseCount++;\n };\n /** @internal */\n NgSwitch.prototype._addDefault = function (view) {\n if (!this._defaultViews) {\n this._defaultViews = [];\n }\n this._defaultViews.push(view);\n };\n /** @internal */\n NgSwitch.prototype._matchCase = function (value) {\n var matched = value == this._ngSwitch;\n this._lastCasesMatched = this._lastCasesMatched || matched;\n this._lastCaseCheckIndex++;\n if (this._lastCaseCheckIndex === this._caseCount) {\n this._updateDefaultCases(!this._lastCasesMatched);\n this._lastCaseCheckIndex = 0;\n this._lastCasesMatched = false;\n }\n return matched;\n };\n NgSwitch.prototype._updateDefaultCases = function (useDefault) {\n if (this._defaultViews && useDefault !== this._defaultUsed) {\n this._defaultUsed = useDefault;\n for (var i = 0; i < this._defaultViews.length; i++) {\n var defaultView = this._defaultViews[i];\n defaultView.enforceState(useDefault);\n }\n }\n };\n return NgSwitch;\n }());\n NgSwitch.decorators = [\n { type: i0.Directive, args: [{ selector: '[ngSwitch]' },] }\n ];\n NgSwitch.propDecorators = {\n ngSwitch: [{ type: i0.Input }]\n };\n /**\n * @ngModule CommonModule\n *\n * @description\n * Provides a switch case expression to match against an enclosing `ngSwitch` expression.\n * When the expressions match the given `NgSwitchCase` template is rendered.\n * If multiple match expressions match the switch expression value, all of them are displayed.\n *\n * @usageNotes\n *\n * Within a switch container, `*ngSwitchCase` statements specify the match expressions\n * as attributes. Include `*ngSwitchDefault` as the final case.\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n * <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n * ...\n * <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * Each switch-case statement contains an in-line HTML template or template reference\n * that defines the subtree to be selected if the value of the match expression\n * matches the value of the switch expression.\n *\n * Unlike JavaScript, which uses strict equality, Angular uses loose equality.\n * This means that the empty string, `\"\"` matches 0.\n *\n * @publicApi\n * @see `NgSwitch`\n * @see `NgSwitchDefault`\n *\n */\n var NgSwitchCase = /** @class */ (function () {\n function NgSwitchCase(viewContainer, templateRef, ngSwitch) {\n this.ngSwitch = ngSwitch;\n ngSwitch._addCase();\n this._view = new SwitchView(viewContainer, templateRef);\n }\n /**\n * Performs case matching. For internal use only.\n */\n NgSwitchCase.prototype.ngDoCheck = function () {\n this._view.enforceState(this.ngSwitch._matchCase(this.ngSwitchCase));\n };\n return NgSwitchCase;\n }());\n NgSwitchCase.decorators = [\n { type: i0.Directive, args: [{ selector: '[ngSwitchCase]' },] }\n ];\n NgSwitchCase.ctorParameters = function () { return [\n { type: i0.ViewContainerRef },\n { type: i0.TemplateRef },\n { type: NgSwitch, decorators: [{ type: i0.Host }] }\n ]; };\n NgSwitchCase.propDecorators = {\n ngSwitchCase: [{ type: i0.Input }]\n };\n /**\n * @ngModule CommonModule\n *\n * @description\n *\n * Creates a view that is rendered when no `NgSwitchCase` expressions\n * match the `NgSwitch` expression.\n * This statement should be the final case in an `NgSwitch`.\n *\n * @publicApi\n * @see `NgSwitch`\n * @see `NgSwitchCase`\n *\n */\n var NgSwitchDefault = /** @class */ (function () {\n function NgSwitchDefault(viewContainer, templateRef,

ngSwitch) {\n ngSwitch._addDefault(new SwitchView(viewContainer, templateRef));\n }\n return NgSwitchDefault;\n }());\n NgSwitchDefault.decorators = [\n { type: i0.Directive, args: [{ selector: '[ngSwitchDefault]' },] }\n ];\n NgSwitchDefault.ctorParameters = function () { return [\n { type: i0.ViewContainerRef },\n { type: i0.TemplateRef },\n { type: NgSwitch, decorators: [{ type: i0.Host }] }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @ngModule CommonModule\n *\n * @usageNotes\n * ```\n * <some-element [ngPlural]=\"value\">\n * <ng-template ngPluralCase=\"=0\">there is nothing</ng-template>\n * <ng-template ngPluralCase=\"=1\">there is one</ng-template>\n * <ng-template ngPluralCase=\"few\">there are a few</ng-template>\n * </some-element>\n * ```\n *\n * @description\n *\n * Adds / removes DOM sub-trees based on a numeric value. Tailored for pluralization.\n *\n * Displays DOM sub-trees that match the switch expression value, or failing that, DOM sub-trees\n * that match the switch expression's pluralization category.\n *\n * To use this directive you must provide a container element that sets the `[ngPlural]` attribute\n * to a switch expression. Inner elements with a `[ngPluralCase]` will display based on their\n * expression:\n * - if `[ngPluralCase]` is set to a value starting with `=`, it will only display if the value\n * matches the switch expression exactly,\n * - otherwise, the view will be treated as a \"category match\", and will only display if exact\n * value matches aren't found and the value maps to its category for the defined locale.\n *\n * See http://cldr.unicode.org/index/cldr-spec/plural-rules\n *\n * @publicApi\n */\n var NgPlural = /** @class */ (function () {\n function NgPlural(_localization) {\n this._localization = _localization;\n this._caseViews = {};\n }\n Object.defineProperty(NgPlural.prototype, \"ngPlural\", {\n set: function (value) {\n this._switchValue = value;\n this._updateView();\n },\n enumerable: false,\n configurable: true\n });\n NgPlural.prototype.addCase = function (value, switchView) {\n this._caseViews[value] = switchView;\n };\n NgPlural.prototype._updateView = function () {\n this._clearViews();\n var cases = Object.keys(this._caseViews);\n var key = getPluralCategory(this._switchValue, cases, this._localization);\n this._activateView(this._caseViews[key]);\n };\n NgPlural.prototype._clearViews = function () {\n if (this._activeView)\n this._activeView.destroy();\n };\n NgPlural.prototype._activateView = function (view) {\n if (view) {\n this._activeView = view;\n this._activeView.create();\n }\n };\n return NgPlural;\n }());\n NgPlural.decorators = [\n { type: i0.Directive, args: [{ selector: '[ngPlural]' },] }\n ];\n NgPlural.ctorParameters = function () { return [\n { type: NgLocalization }\n ]; };\n NgPlural.propDecorators = {\n ngPlural: [{ type: i0.Input }]\n };\n /**\n * @ngModule CommonModule\n *\n * @description\n *\n * Creates a view that will be added/removed from the parent {@link NgPlural} when the\n * given expression matches the plural expression according to CLDR rules.\n *\n * @usageNotes\n * ```\n * <some-element [ngPlural]=\"value\">\n * <ng-template ngPluralCase=\"=0\">...</ng-template>\n * <ng-template ngPluralCase=\"other\">...</ng-template>\n * </some-element>\n *```\n *\n * See {@link NgPlural} for more details and example.\n *\n * @publicApi\n */\n var NgPluralCase = /** @class */ (function () {\n function NgPluralCase(value, template, viewContainer, ngPlural) {\n this.value = value;\n var isANumber = !isNaN(Number(value));\n ngPlural.addCase(isANumber ? \"=\" + value : value, new SwitchView(viewContainer, template));\n }\n return NgPluralCase;\n }());\n NgPluralCase.decorators = [\n { type: i0.Directive, args: [{ selector: '[ngPluralCase]' },] }\n ];\n NgPluralCase.ctorParameters = function () { return [\n { type: String, decorators: [{ type: i0.Attribute, args: ['ngPluralCase',] }] },\n { type: i0.TemplateRef },\n { type: i0.ViewContainerRef },\n { type: NgPlural, decorators: [{ type: i0.Host }] }\n ]; };\n\n /**\n * @ngModule CommonModule\n *\n * @usageNotes\n *\n * Set the font of the containing element to the result of an expression.\n *\n * ```\n * <some-element [ngStyle]=\"{'font-style': styleExp}\">...</some-element>\n * ```\n *\n * Set the

```
width of the containing element to a pixel value returned by an expression.\n     *\n     * ```\n     * <some-element [ngStyle]=\"{'max-width.px': widthExp}\">...</some-element>\n     * ```\n     *\n     * Set a collection of style values using an expression that returns key-value pairs.\n     *\n     * ```\n     * <some-element [ngStyle]=\"objExp\">...</some-element>\n     * ```\n     *\n     * @description\n     *\n     * An attribute directive that updates styles for the containing HTML element.\n     * Sets one or more style properties, specified as colon-separated key-value pairs.\n     * The key is a style name, with an optional `.<unit>` suffix\n     * (such as 'top.px', 'font-style.em').\n     * The value is an expression to be evaluated.\n     * The resulting non-null value, expressed in the given unit,\n     * is assigned to the given style property.\n     * If the result of evaluation is null, the corresponding style is removed.\n     *\n     * @publicApi\n     */\n    var NgStyle = /** @class */ (function () {\n        function NgStyle(_ngEl, _differs, _renderer) {\n            this._ngEl = _ngEl;\n            this._differs = _differs;\n            this._renderer = _renderer;\n            this._ngStyle = null;\n            this._differ = null;\n        }\n        Object.defineProperty(NgStyle.prototype, \"ngStyle\", {\n            set: function (values) {\n                this._ngStyle = values;\n                if (!this._differ && values) {\n                    this._differ = this._differs.find(values).create();\n                }\n            },\n            enumerable: false,\n            configurable: true\n        });\n        NgStyle.prototype.ngDoCheck = function () {\n            if (this._differ) {\n                var changes = this._differ.diff(this._ngStyle);\n                if (changes) {\n                    this._applyChanges(changes);\n                }\n            }\n        };\n        NgStyle.prototype._setStyle = function (nameAndUnit, value) {\n            var _a = __read(nameAndUnit.split('.'), 2), name = _a[0], unit = _a[1];\n            value = value != null && unit ? \"\" + value + unit : value;\n            if (value != null) {\n                this._renderer.setStyle(this._ngEl.nativeElement, name, value);\n            }\n            else {\n                this._renderer.removeStyle(this._ngEl.nativeElement, name);\n            }\n        };\n        NgStyle.prototype._applyChanges = function (changes) {\n            var _this = this;\n            changes.forEachRemovedItem(function (record) { return _this._setStyle(record.key, null); });\n            changes.forEachAddedItem(function (record) { return _this._setStyle(record.key, record.currentValue); });\n            changes.forEachChangedItem(function (record) { return _this._setStyle(record.key, record.currentValue); });\n        };\n        return NgStyle;\n    }());\n    NgStyle.decorators = [\n        { type: i0.Directive, args: [{ selector: '[ngStyle]' },] }\n    ];\n    NgStyle.ctorParameters = function () { return [\n        { type: i0.ElementRef },\n        { type: i0.KeyValueDiffers },\n        { type: i0.Renderer2 }\n    ]; };\n    NgStyle.propDecorators = {\n        ngStyle: [{ type: i0.Input, args: ['ngStyle',] }]\n    };\n\n    /**\n     * @ngModule CommonModule\n     *\n     * @description\n     *\n     * Inserts an embedded view from a prepared `TemplateRef`.\n     *\n     * You can attach a context object to the `EmbeddedViewRef` by setting `[ngTemplateOutletContext]`.\n     * `[ngTemplateOutletContext]` should be an object, the object's keys will be available for binding\n     * by the local template `let` declarations.\n     *\n     * @usageNotes\n     * ```\n     * <ng-container *ngTemplateOutlet=\"templateRefExp; context: contextExp\"></ng-container>\n     * ```\n     *\n     * Using the key `$implicit` in the context object will set its value as default.\n     *\n     * ### Example\n     *\n     * {@example common/ngTemplateOutlet/ts/module.ts region='NgTemplateOutlet'}\n     *\n     * @publicApi\n     */\n    var NgTemplateOutlet = /** @class */ (function () {\n        function NgTemplateOutlet(_viewContainerRef) {\n            this._viewContainerRef = _viewContainerRef;\n            this._viewRef = null;\n            /**\n             * A context object to attach to the {@link EmbeddedViewRef}. This should be an\n             * object, the object's keys will be available for binding by the local template `let`\n             * declarations.\n             * Using the key `$implicit` in the context object will set its value as default.\n             */\n            this.ngTemplateOutletContext = null;\n            /**\n             * A string defining the template reference and optionally the context object for the template.\n             */\n            this.ngTemplateOutlet = null;\n        }\n        NgTemplateOutlet.prototype.ngOnChanges = function (changes) {\n            var recreateView = this._shouldRecreateView(changes);\n            if (recreateView) {\n                var viewContainerRef = this._viewContainerRef;\n                if (this._viewRef) {\n                    viewContainerRef.remove(viewContainerRef.indexOf(this._viewRef));\n                }\n                this._viewRef =
```

```
this.ngTemplateOutlet ?\n viewContainerRef.createEmbeddedView(this.ngTemplateOutlet,
this.ngTemplateOutletContext) :\n null;\n }\n else if (this._viewRef &&
this.ngTemplateOutletContext) {\n this._updateExistingContext(this.ngTemplateOutletContext);\n
}\n };\n /**\n * We need to re-create existing embedded view if:\n * - templateRef has changed\n
* - context has changes\n *\n * We mark context object as changed when the corresponding object\n
* shape changes (new properties are added or existing properties are removed).\n * In other words we
consider context with the same properties as \"the same\" even\n * if object reference changes (see
https://github.com/angular/angular/issues/13407).\n */\n
NgTemplateOutlet.prototype._shouldRecreateView = function (changes) {\n var ctxChange =
changes['ngTemplateOutletContext'];\n return !!changes['ngTemplateOutlet'] || (ctxChange &&
this._hasContextShapeChanged(ctxChange));\n };\n
NgTemplateOutlet.prototype._hasContextShapeChanged = function (ctxChange) {\n var e_1, _a;\n var
prevCtxKeys = Object.keys(ctxChange.previousValue || {});\n var currCtxKeys =
Object.keys(ctxChange.currentValue || {});\n if (prevCtxKeys.length === currCtxKeys.length) {\n
try {\n for (var currCtxKeys_1 = __values(currCtxKeys), currCtxKeys_1_1 = currCtxKeys_1.next();
!currCtxKeys_1_1.done; currCtxKeys_1_1 = currCtxKeys_1.next()) {\n var propName =
currCtxKeys_1_1.value;\n if (prevCtxKeys.indexOf(propName) === -1) {\n
return true;\n }\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 };
}\n finally {\n try {\n if (currCtxKeys_1_1 && !currCtxKeys_1_1.done && (_a
= currCtxKeys_1.return)) _a.call(currCtxKeys_1);\n }\n finally { if (e_1) throw e_1.error;
}\n }\n return false;\n }\n return true;\n };\n
NgTemplateOutlet.prototype._updateExistingContext = function (ctx) {\n var e_2, _a;\n try {\n
for (var _b = __values(Object.keys(ctx)), _c = _b.next(); !_c.done; _c = _b.next()) {\n var propName =
_c.value;\n this._viewRef.context[propName] = this.ngTemplateOutletContext[propName];\n
}\n }\n catch (e_2_1) { e_2 = { error: e_2_1 }; }\n finally {\n
try {\n if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n }\n finally { if
(e_2) throw e_2.error; }\n }\n };\n return NgTemplateOutlet;\n }());\n
NgTemplateOutlet.decorators = [\n { type: i0.Directive, args: [{ selector: '[ngTemplateOutlet]' },] }\n ];\n
NgTemplateOutlet.ctorParameters = function () { return [\n { type: i0.ViewContainerRef }\n ]; };\n
NgTemplateOutlet.propDecorators = {\n ngTemplateOutletContext: [{ type: i0.Input }],\n
ngTemplateOutlet: [{ type: i0.Input }]\n };\n\n /**\n * @license\n * Copyright Google LLC All Rights
Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the
LICENSE file at https://angular.io/license\n */\n /**\n * A collection of Angular directives that are likely to
be used in each and every Angular\n * application.\n */\n
var COMMON_DIRECTIVES = [\n NgClass,\n NgComponentOutlet,\n NgForOf,\n NgIf,\n
NgTemplateOutlet,\n NgStyle,\n NgSwitch,\n NgSwitchCase,\n NgSwitchDefault,\n
NgPlural,\n NgPluralCase,\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n
*\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file
at https://angular.io/license\n */\n function invalidPipeArgumentError(type, value) {\n return
Error(\"InvalidPipeArgument: '\" + value + \"' for pipe '\" + i0.stringify(type) + \"'\");\n }\n\n /**\n *
@license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an
MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var
ObservableStrategy = /** @class */ (function () {\n function ObservableStrategy()
{\n }\n ObservableStrategy.prototype.createSubscription = function (async, updateLatestValue) {\n
return async.subscribe({\n next: updateLatestValue,\n error: function (e) {\n throw
e;\n }\n });\n };\n ObservableStrategy.prototype.dispose = function (subscription) {\n
subscription.unsubscribe();\n };\n ObservableStrategy.prototype.onDestroy = function (subscription) {\n
subscription.unsubscribe();\n };\n return ObservableStrategy;\n }());\n var PromiseStrategy = /**
```

@class */ (function () {\n function PromiseStrategy() {\n }\n PromiseStrategy.prototype.createSubscription = function (async, updateLatestValue) {\n return async.then(updateLatestValue, function (e) {\n throw e;\n });\n };\n PromiseStrategy.prototype.dispose = function (subscription) { };\n PromiseStrategy.prototype.onDestroy = function (subscription) { };\n return PromiseStrategy;\n }());\n var _promiseStrategy = new PromiseStrategy();\n var _observableStrategy = new ObservableStrategy();\n /**\n * @ngModule CommonModule\n * @description\n *\n * Unwraps a value from an asynchronous primitive.\n *\n * The `async` pipe subscribes to an `Observable` or `Promise` and returns the latest value it has\n * emitted. When a new value is emitted, the `async` pipe marks the component to be checked for\n * changes. When the component gets destroyed, the `async` pipe unsubscribes automatically to avoid\n * potential memory leaks.\n *\n * @usageNotes\n *\n * ### Examples\n *\n * This example binds a `Promise` to the view. Clicking the `Resolve` button resolves the\n * promise.\n *\n * {@example common/pipes/ts/async_pipe.ts region='AsyncPipePromise'}\n *\n *
It's also possible to use `async` with Observables. The example below binds the `time` Observable\n * to the view. The Observable continuously updates the view with the current time.\n *\n * {@example common/pipes/ts/async_pipe.ts region='AsyncPipeObservable'}\n *\n * @publicApi\n */\n var AsyncPipe = /** @class */ (function () {\n function AsyncPipe(_ref) {\n this._ref = _ref;\n this._latestValue = null;\n this._subscription = null;\n this._obj = null;\n this._strategy = null;\n }\n AsyncPipe.prototype.ngOnDestroy = function () {\n if (this._subscription) {\n this._dispose();\n }\n };\n AsyncPipe.prototype.transform = function (obj) {\n if (!this._obj) {\n if (obj) {\n this._subscribe(obj);\n }\n return this._latestValue;\n }\n if (obj !== this._obj) {\n this._dispose();\n return this.transform(obj);\n }\n return this._latestValue;\n };\n AsyncPipe.prototype._subscribe = function (obj) {\n var _this = this;\n this._obj = obj;\n this._strategy = this._selectStrategy(obj);\n this._subscription = this._strategy.createSubscription(obj, function (value) { return _this._updateLatestValue(obj, value); });\n };\n AsyncPipe.prototype._selectStrategy = function (obj) {\n if (i0.isPromise(obj)) {\n return _promiseStrategy;\n }\n if (i0.isObservable(obj)) {\n return _observableStrategy;\n }\n throw invalidPipeArgumentError(AsyncPipe, obj);\n };\n AsyncPipe.prototype._dispose = function () {\n this._strategy.dispose(this._subscription);\n this._latestValue = null;\n this._subscription = null;\n this._obj = null;\n };\n AsyncPipe.prototype._updateLatestValue = function (async, value) {\n if (async === this._obj) {\n this._latestValue = value;\n this._ref.markForCheck();\n }\n };\n return AsyncPipe;\n }());\n AsyncPipe.decorators = [\n { type: i0.Pipe, args: [{ name: 'async', pure: false },] }\n ];\n AsyncPipe.ctorParameters = function () { return [\n { type: i0.ChangeDetectorRef }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Transforms text to all lower case.\n *\n * @see `UpperCasePipe`\n * @see `TitleCasePipe`\n * @usageNotes\n *\n * The following example defines a view that allows the user to enter\n
* text, and then uses the pipe to convert the input text to all lower case.\n *\n * <code-example path=\"common/pipes/ts/lowerupper_pipe.ts\" region='LowerUpperPipe'></code-example>\n *\n * @ngModule CommonModule\n * @publicApi\n */\n var LowerCasePipe = /** @class */ (function () {\n function LowerCasePipe() {\n }\n LowerCasePipe.prototype.transform = function (value) {\n if (value == null)\n return null;\n if (typeof value !== 'string') {\n throw invalidPipeArgumentError(LowerCasePipe, value);\n }\n return value.toLowerCase();\n };\n return LowerCasePipe;\n }());\n LowerCasePipe.decorators = [\n { type: i0.Pipe, args: [{ name: 'lowercase' },] }\n ];\n //\n // Regex below matches any Unicode word and compatible with ES5. In ES2018 the same result\n // can be achieved by using /\\p{L}\\S*/gu and also known as Unicode Property

Escapes\n // (https://2ality.com/2017/07/regexp-unicode-property-escapes.html). Since there is no\n // transpilation of this functionality down to ES5 without external tool, the only solution is\n // to use already transpiled form. Example can be found here -\n // https://mothereff.in/regexpu#input=var+regex+%3D+/%5Cp%7BL%7D/u%3B&unicodePropertyEscape=1\n //\n var unicodeWordMatch = /(?:[A-Za-z\\xAA\\xB5\\xBA\\xC0-\\xD6\\xD8-\\xF6\\xF8-\\u02C1\\u02C6-\\u02D1\\u02E0-\\u02E4\\u02EC\\u02EE\\u0370-\\u0374\\u0376\\u0377\\u037A-\\u037D\\u037F\\u0386\\u0388-\\u038A\\u038C\\u038E-\\u03A1\\u03A3-\\u03F5\\u03F7-\\u0481\\u048A-\\u052F\\u0531-\\u0556\\u0559\\u0561-\\u0587\\u05D0-\\u05EA\\u05F0-\\u05F2\\u0620-\\u064A\\u066E\\u066F\\u0671-\\u06D3\\u06D5\\u06E5\\u06E6\\u06EE\\u06EF\\u06FA-\\u06FC\\u06FF\\u0710\\u0712-\\u072F\\u074D-\\u07A5\\u07B1\\u07CA-\\u07EA\\u07F4\\u07F5\\u07FA\\u0800-\\u0815\\u081A\\u0824\\u0828\\u0840-\\u0858\\u0860-\\u086A\\u08A0-\\u08B4\\u08B6-\\u08BD\\u0904-\\u0939\\u093D\\u0950\\u0958-\\u0961\\u0971-\\u0980\\u0985-\\u098C\\u098F\\u0990\\u0993-\\u09A8\\u09AA-\\u09B0\\u09B2\\u09B6-\\u09B9\\u09BD\\u09CE\\u09DC\\u09DD\\u09DF-\\u09E1\\u09F0\\u09F1\\u09FC\\u0A05-\\u0A0A\\u0A0F\\u0A10\\u0A13-\\u0A28\\u0A2A-\\u0A30\\u0A32\\u0A33\\u0A35\\u0A36\\u0A38\\u0A39\\u0A59-\\u0A5C\\u0A5E\\u0A72-\\u0A74\\u0A85-\\u0A8D\\u0A8F-\\u0A91\\u0A93-\\u0AA8\\u0AAA-\\u0AB0\\u0AB2\\u0AB3\\u0AB5-\\u0AB9\\u0ABD\\u0AD0\\u0AE0\\u0AE1\\u0AF9\\u0B05-\\u0B0C\\u0B0F\\u0B10\\u0B13-\\u0B28\\u0B2A-\\u0B30\\u0B32\\u0B33\\u0B35-\\u0B39\\u0B3D\\u0B5C\\u0B5D\\u0B5F-\\u0B61\\u0B71\\u0B83\\u0B85-\\u0B8A\\u0B8E-\\u0B90\\u0B92-\\u0B95\\u0B99\\u0B9A\\u0B9C\\u0B9E\\u0B9F\\u0BA3\\u0BA4\\u0BA8-\\u0BAA\\u0BAE-\\u0BB9\\u0BD0\\u0C05-\\u0C0C\\u0C0E-\\u0C10\\u0C12-\\u0C28\\u0C2A-\\u0C39\\u0C3D\\u0C58-\\u0C5A\\u0C60\\u0C61\\u0C80\\u0C85-\\u0C8C\\u0C8E-\\u0C90\\u0C92-\\u0CA8\\u0CAA-\\u0CB3\\u0CB5-\\u0CB9\\u0CBD\\u0CDE\\u0CE0\\u0CE1\\u0CF1\\u0CF2\\u0D05-\\u0D0C\\u0D0E-\\u0D10\\u0D12-\\u0D3A\\u0D3D\\u0D4E\\u0D54-\\u0D56\\u0D5F-\\u0D61\\u0D7A-\\u0D7F\\u0D85-\\u0D96\\u0D9A-\\u0DB1\\u0DB3-\\u0DBB\\u0DBD\\u0DC0-\\u0DC6\\u0E01-\\u0E30\\u0E32\\u0E33\\u0E40-\\u0E46\\u0E81\\u0E82\\u0E84\\u0E87\\u0E88\\u0E8A\\u0E8D\\u0E94-\\u0E97\\u0E99-\\u0E9F\\u0EA1-\\u0EA3\\u0EA5\\u0EA7\\u0EAA\\u0EAB\\u0EAD-\\u0EB0\\u0EB2\\u0EB3\\u0EBD\\u0EC0-\\u0EC4\\u0EC6\\u0EDC-\\u0EDF\\u0F00\\u0F40-\\u0F47\\u0F49-\\u0F6C\\u0F88-\\u0F8C\\u1000-\\u102A\\u103F\\u1050-\\u1055\\u105A-\\u105D\\u1061\\u1065\\u1066\\u106E-\\u1070\\u1075-\\u1081\\u108E\\u10A0-\\u10C5\\u10C7\\u10CD\\u10D0-\\u10FA\\u10FC-\\u1248\\u124A-\\u124D\\u1250-\\u1256\\u1258\\u125A-\\u125D\\u1260-\\u1288\\u128A-\\u128D\\u1290-\\u12B0\\u12B2-\\u12B5\\u12B8-\\u12BE\\u12C0\\u12C2-\\u12C5\\u12C8-\\u12D6\\u12D8-\\u1310\\u1312-\\u1315\\u1318-\\u135A\\u1380-\\u138F\\u13A0-\\u13F5\\u13F8-\\u13FD\\u1401-\\u166C\\u166F-\\u167F\\u1681-\\u169A\\u16A0-\\u16EA\\u16F1-\\u16F8\\u1700-\\u170C\\u170E-\\u1711\\u1720-\\u1731\\u1740-\\u1751\\u1760-\\u176C\\u176E-\\u1770\\u1780-\\u17B3\\u17D7\\u17DC\\u1820-\\u1877\\u1880-\\u1884\\u1887-\\u18A8\\u18AA\\u18B0-\\u18F5\\u1900-\\u191E\\u1950-\\u196D\\u1970-\\u1974\\u1980-\\u19AB\\u19B0-\\u19C9\\u1A00-\\u1A16\\u1A20-\\u1A54\\u1AA7\\u1B05-\\u1B33\\u1B45-\\u1B4B\\u1B83-\\u1BA0\\u1BAE\\u1BAF\\u1BBA-\\u1BE5\\u1C00-\\u1C23\\u1C4D-\\u1C4F\\u1C5A-\\u1C7D\\u1C80-\\u1C88\\u1CE9-\\u1CEC\\u1CEE-\\u1CF1\\u1CF5\\u1CF6\\u1D00-\\u1DBF\\u1E00-\\u1F15\\u1F18-\\u1F1D\\u1F20-\\u1F45\\u1F48-\\u1F4D\\u1F50-\\u1F57\\u1F59\\u1F5B\\u1F5D\\u1F5F-\\u1F7D\\u1F80-\\u1FB4\\u1FB6-\\u1FBC\\u1FBE\\u1FC2-\\u1FC4\\u1FC6-\\u1FCC\\u1FD0-\\u1FD3\\u1FD6-\\u1FDB\\u1FE0-\\u1FEC\\u1FF2-\\u1FF4\\u1FF6-\\u1FFC\\u2071\\u207F\\u2090-\\u209C\\u2102\\u2107\\u210A-\\u2113\\u2115\\u2119-\\u211D\\u2124\\u2126\\u2128\\u212A-\\u212D\\u212F-\\u2139\\u213C-\\u213F\\u2145-\\u2149\\u214E\\u2183\\u2184\\u2C00-\\u2C2E\\u2C30-\\u2C5E\\u2C60-\\u2CE4\\u2CEB-\\u2CEE\\u2CF2\\u2CF3\\u2D00-\\u2D25\\u2D27\\u2D2D\\u2D30-\\u2D67\\u2D6F\\u2D80-\\u2D96\\u2DA0-\\u2DA6\\u2DA8-\\u2DAE\\u2DB0-\\u2DB6\\u2DB8-\\u2DBE\\u2DC0-\\u2DC6\\u2DC8-\\u2DCE\\u2DD0-\\u2DD6\\u2DD8-\\u2DDE\\u2E2F\\u3005\\u3006\\u3031-\\u3035\\u303B\\u303C\\u3041-\\u3096\\u309D-\\u309F\\u30A1-\\u30FA\\u30FC-\\u30FF\\u3105-\\u312E\\u3131-\\u318E\\u31A0-\\u31BA\\u31F0-\\u31FF\\u3400-\\u4DB5\\u4E00-\\u9FEA\\uA000-\\uA48C\\uA4D0-\\uA4FD\\uA500-\\uA60C\\uA610-

\\uA61F\\uA62A\\uA62B\\uA640-\\uA66E\\uA67F-\\uA69D\\uA6A0-\\uA6E5\\uA717-\\uA71F\\uA722-
\\uA788\\uA78B-\\uA7AE\\uA7B0-\\uA7B7\\uA7F7-\\uA801\\uA803-\\uA805\\uA807-\\uA80A\\uA80C-
\\uA822\\uA840-\\uA873\\uA882-\\uA8B3\\uA8F2-\\uA8F7\\uA8FB\\uA8FD\\uA90A-\\uA925\\uA930-
\\uA946\\uA960-\\uA97C\\uA984-\\uA9B2\\uA9CF\\uA9E0-\\uA9E4\\uA9E6-\\uA9EF\\uA9FA-\\uA9FE\\uAA00-
\\uAA28\\uAA40-\\uAA42\\uAA44-\\uAA4B\\uAA60-\\uAA76\\uAA7A\\uAA7E-
\\uAAAF\\uAAB1\\uAAB5\\uAAB6\\uAAB9-\\uAABD\\uAAC0\\uAAC2\\uAADB-\\uAADD\\uAAE0-
\\uAAEA\\uAAF2-\\uAAF4\\uAB01-\\uAB06\\uAB09-\\uAB0E\\uAB11-\\uAB16\\uAB20-\\uAB26\\uAB28-
\\uAB2E\\uAB30-\\uAB5A\\uAB5C-\\uAB65\\uAB70-\\uABE2\\uAC00-\\uD7A3\\uD7B0-\\uD7C6\\uD7CB-
\\uD7FB\\uF900-\\uFA6D\\uFA70-\\uFAD9\\uFB00-\\uFB06\\uFB13-\\uFB17\\uFB1D\\uFB1F-\\uFB28\\uFB2A-
\\uFB36\\uFB38-\\uFB3C\\uFB3E\\uFB40\\uFB41\\uFB43\\uFB44\\uFB46-\\uFBB1\\uFBD3-\\uFD3D\\uFD50-
\\uFD8F\\uFD92-\\uFDC7\\uFDF0-\\uFDFB\\uFE70-\\uFE74\\uFE76-\\uFEFC\\uFF21-\\uFF3A\\uFF41-
\\uFF5A\\uFF66-\\uFFBE\\uFFC2-\\uFFC7\\uFFCA-\\uFFCF\\uFFD2-\\uFFD7\\uFFDA-
\\uFFDC]|\\uD800[\\uDC00-\\uDC0B\\uDC0D-\\uDC26\\uDC28-\\uDC3A\\uDC3C\\uDC3D\\uDC3F-
\\uDC4D\\uDC50-\\uDC5D\\uDC80-\\uDCFA\\uDE80-\\uDE9C\\uDEA0-\\uDED0\\uDF00-\\uDF1F\\uDF2D-
\\uDF40\\uDF42-\\uDF49\\uDF50-\\uDF75\\uDF80-\\uDF9D\\uDFA0-\\uDFC3\\uDFC8-
\\uDFCF]|\\uD801[\\uDC00-\\uDC9D\\uDCB0-\\uDCD3\\uDCD8-\\uDCFB\\uDD00-\\uDD27\\uDD30-
\\uDD63\\uDE00-\\uDF36\\uDF40-\\uDF55\\uDF60-\\uDF67]|\\uD802[\\uDC00-\\uDC05\\uDC08\\uDC0A-
\\uDC35\\uDC37\\uDC38\\uDC3C\\uDC3F-\\uDC55\\uDC60-\\uDC76\\uDC80-\\uDC9E\\uDCE0-
\\uDCF2\\uDCF4\\uDCF5\\uDD00-\\uDD15\\uDD20-\\uDD39\\uDD80-
\\uDDB7\\uDDBE\\uDDBF\\uDE00\\uDE10-\\uDE13\\uDE15-\\uDE17\\uDE19-\\uDE33\\uDE60-
\\uDE7C\\uDE80-\\uDE9C\\uDEC0-\\uDEC7\\uDEC9-\\uDEE4\\uDF00-\\uDF35\\uDF40-\\uDF55\\uDF60-
\\uDF72\\uDF80-\\uDF91]|\\uD803[\\uDC00-\\uDC48\\uDC80-\\uDCB2\\uDCC0-\\uDCF2]|\\uD804[\\uDC03-
\\uDC37\\uDC83-\\uDCAF\\uDCD0-\\uDCE8\\uDD03-\\uDD26\\uDD50-\\uDD72\\uDD76\\uDD83-
\\uDDB2\\uDDC1-\\uDDC4\\uDDDA\\uDDDC\\uDE00-\\uDE11\\uDE13-\\uDE2B\\uDE80-
\\uDE86\\uDE88\\uDE8A-\\uDE8D\\uDE8F-\\uDE9D\\uDE9F-\\uDEA8\\uDEB0-\\uDEDE\\uDF05-
\\uDF0C\\uDF0F\\uDF10\\uDF13-\\uDF28\\uDF2A-\\uDF30\\uDF32\\uDF33\\uDF35-
\\uDF39\\uDF3D\\uDF50\\uDF5D-\\uDF61]|\\uD805[\\uDC00-\\uDC34\\uDC47-\\uDC4A\\uDC80-
\\uDCAF\\uDCC4\\uDCC5\\uDCC7\\uDD80-\\uDDAE\\uDDD8-\\uDDDB\\uDE00-\\uDE2F\\uDE44\\uDE80-
\\uDEAA\\uDF00-\\uDF19]|\\uD806[\\uDCA0-\\uDCDF\\uDCFF\\uDE00\\uDE0B-
\\uDE32\\uDE3A\\uDE50\\uDE5C-\\uDE83\\uDE86-\\uDE89\\uDEC0-\\uDEF8]|\\uD807[\\uDC00-
\\uDC08\\uDC0A-\\uDC2E\\uDC40\\uDC72-\\uDC8F\\uDD00-\\uDD06\\uDD08\\uDD09\\uDD0B-
\\uDD30\\uDD46]|\\uD808[\\uDC00-\\uDF99]|\\uD809[\\uDC80-\\uDD43]|[\\uD80C\\uD81C-\\uD820\\uD840-
\\uD868\\uD86A-\\uD86C\\uD86F-\\uD872\\uD874-\\uD879][\\uDC00-\\uDFFF]|\\uD80D[\\uDC00-
\\uDC2E]|\\uD811[\\uDC00-\\uDE46]|\\uD81A[\\uDC00-\\uDE38\\uDE40-\\uDE5E\\uDED0-\\uDEED\\uDF00-
\\uDF2F\\uDF40-\\uDF43\\uDF63-\\uDF77\\uDF7D-\\uDF8F]|\\uD81B[\\uDF00-\\uDF44\\uDF50\\uDF93-
\\uDF9F\\uDFE0\\uDFE1]|\\uD821[\\uDC00-\\uDFEC]|\\uD822[\\uDC00-\\uDEF2]|\\uD82C[\\uDC00-
\\uDD1E\\uDD70-\\uDEFB]|\\uD82F[\\uDC00-\\uDC6A\\uDC70-\\uDC7C\\uDC80-\\uDC88\\uDC90-
\\uDC99]|\\uD835[\\uDC00-\\uDC54\\uDC56-\\uDC9C\\uDC9E\\uDC9F\\uDCA2\\uDCA5\\uDCA6\\uDCA9-
\\uDCAC\\uDCAE-\\uDCB9\\uDCBB\\uDCBD-\\uDCC3\\uDCC5-\\uDD05\\uDD07-\\uDD0A\\uDD0D-
\\uDD14\\uDD16-\\uDD1C\\uDD1E-\\uDD39\\uDD3B-\\uDD3E\\uDD40-\\uDD44\\uDD46\\uDD4A-
\\uDD50\\uDD52-\\uDEA5\\uDEA8-\\uDEC0\\uDEC2-\\uDEDA\\uDEDC-\\uDEFA\\uDEFC-\\uDF14\\uDF16-
\\uDF34\\uDF36-\\uDF4E\\uDF50-\\uDF6E\\uDF70-\\uDF88\\uDF8A-\\uDFA8\\uDFAA-\\uDFC2\\uDFC4-
\\uDFCB]|\\uD83A[\\uDC00-\\uDCC4\\uDD00-\\uDD43]|\\uD83B[\\uDE00-\\uDE03\\uDE05-
\\uDE1F\\uDE21\\uDE22\\uDE24\\uDE27\\uDE29-\\uDE32\\uDE34-
\\uDE37\\uDE39\\uDE3B\\uDE42\\uDE47\\uDE49\\uDE4B\\uDE4D-
\\uDE4F\\uDE51\\uDE52\\uDE54\\uDE57\\uDE59\\uDE5B\\uDE5D\\uDE5F\\uDE61\\uDE62\\uDE64\\uDE67-
\\uDE6A\\uDE6C-\\uDE72\\uDE74-\\uDE77\\uDE79-\\uDE7C\\uDE7E\\uDE80-\\uDE89\\uDE8B-
\\uDE9B\\uDEA1-\\uDEA3\\uDEA5-\\uDEA9\\uDEAB-\\uDEBB]|\\uD869[\\uDC00-\\uDED6\\uDF00-

```
\\uDFFF]|\\uD86D[\\uDC00-\\uDF34\\uDF40-\\uDFFF]|\\uD86E[\\uDC00-\\uDC1D\\uDC20-
\\uDFFF]|\\uD873[\\uDC00-\\uDEA1\\uDEB0-\\uDFFF]|\\uD87A[\\uDC00-\\uDFE0]|\\uD87E[\\uDC00-
\\uDE1D])\\S*/g;\n
    /**\n     * Transforms text to title case.\n     * Capitalizes the first letter of each word and transforms the\n     * rest of the word to lower case.\n     * Words are delimited by any whitespace character, such as a space, tab, or line-feed character.\n     *\n     * @see `LowerCasePipe`\n     * @see `UpperCasePipe`\n     *\n     * @usageNotes\n     * The following example shows the result of transforming various strings
 into title case.\n     *\n     * <code-example path=\"common/pipes/ts/titlecase_pipe.ts\" region='TitleCasePipe'></code-example>\n     *\n     * @ngModule CommonModule\n     * @publicApi\n     */\n var TitleCasePipe = /** @class */ (function () {\n         function TitleCasePipe() {\n         }\n TitleCasePipe.prototype.transform = function (value) {\n             if (value == null)\n                 return null;\n             if (typeof value !== 'string') {\n                 throw invalidPipeArgumentError(TitleCasePipe, value);\n             }\n return value.replace(unicodeWordMatch, (function (txt) { return txt[0].toUpperCase() + txt.substr(1).toLowerCase(); }));\n         };\n         return TitleCasePipe;\n     }());\n     TitleCasePipe.decorators = [\n  { type: i0.Pipe, args: [{ name: 'titlecase' },] }\n     ];\n     /**\n     * Transforms text to all upper case.\n     * @see `LowerCasePipe`\n     * @see `TitleCasePipe`\n     *\n     * @ngModule CommonModule\n
 * @publicApi\n     */\n     var UpperCasePipe = /** @class */ (function () {\n         function UpperCasePipe() {\n         }\n         UpperCasePipe.prototype.transform = function (value) {\n             if (value == null)\n                 return null;\n             if (typeof value !== 'string') {\n                 throw invalidPipeArgumentError(UpperCasePipe, value);\n             }\n             return value.toUpperCase();\n         };\n         return UpperCasePipe;\n     }());\n UpperCasePipe.decorators = [\n         { type: i0.Pipe, args: [{ name: 'uppercase' },] }\n     ];\n\n     /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n     // clang-format off\n     /**\n     * @ngModule CommonModule\n     * @description\n     *\n     * Formats a date value according to locale rules.\n     *\n     * Only the `en-US` locale
 data comes with Angular. To localize dates\n     * in another language, you must import the corresponding locale data.\n     * See the [I18n guide](guide/i18n#i18n-pipes) for more information.\n     *\n     * @see `formatDate()`\n *\n     *\n     * @usageNotes\n     *\n     * The result of this pipe is not reevaluated when the input is mutated. To avoid the need to\n     * reformat the date on every change-detection cycle, treat the date as an immutable object\n * and change the reference when the pipe needs to run again.\n     *\n     * ### Pre-defined format options\n     *\n * | Option        | Equivalent to                | Examples (given in `en-US` locale)              |\n     * |---------------|------------------------------|-------------------------------------------------|\n     * | `'short'`     | `'M/d/yy, h:mm a'`           | `6/15/15, 9:03 AM`                              |\n     * | `'medium'`    | `'MMM d, y, h:mm:ss a'`
 | `Jun 15, 2015, 9:03:01 AM`                      |\n     * | `'long'`      | `'MMMM d, y, h:mm:ss a z'`   | `June 15, 2015 at 9:03:01 AM GMT+1`             |\n     * | `'full'`      | `'EEEE, MMMM d, y, h:mm:ss a zzzz'` | `Monday, June 15, 2015 at 9:03:01 AM GMT+01:00` |\n     * | `'shortDate'` | `'M/d/yy'`                   | `6/15/15`
 |\n     * | `'mediumDate'`| `'MMM d, y'`                 | `Jun 15, 2015`                                  |\n     * | `longDate`  | `'MMMM d, y'`                | `June 15, 2015`                                 |\n     * | `'fullDate'`  | `'EEEE, MMMM d, y'`
      | `Monday, June 15, 2015`                         |\n     * | `'shortTime'` | `'h:mm a'`                   | `9:03 AM`
                |\n     * | `'mediumTime'`| `'h:mm:ss a'`                | `9:03:01 AM`                                    |\n     * | `longTime`  | `'h:mm:ss
 a z'`              | `9:03:01 AM GMT+1`                              |\n     * | `'fullTime'`  | `'h:mm:ss a zzzz'`           | `9:03:01 AM GMT+01:00`                          |\n     *\n     * ### Custom format options\n     *\n     * You can construct a format string using symbols to specify the components\n     * of a date-time value, as described in the following table.\n     * Format details depend on the locale.\n     * Fields marked with (*) are only available in the extra data set for the given locale.\n     *\n     *  | Field type         | Format      | Description                                                   | Example Value                                   |\n     *  |--------------------|-------------|---------------------------------------------------------------|-------------------------------------------------|\n     *  | Era                | G, GG & GGG |
```

Abbreviated | AD |\n * | | GGGG | Wide | Anno Domini |\n * | | GGGGG | Narrow | A |\n * | Year | y | Numeric: minimum digits | 2, 20, 201, 2017, 20173 |\n * | | yy | Numeric: 2 digits + zero padded | 02, 20, 01, 17, 73 |\n * | | yyy | Numeric: 3 digits + zero padded | 002, 020, 201, 2017, 20173 |\n * | | yyyy | Numeric: 4 digits or more + zero padded | 0002, 0020, 0201, 2017, 20173 |\n * | Week-numbering year| Y | Numeric: minimum digits | 2, 20, 201, 2017, 20173 |\n * | | YY | Numeric: 2 digits + zero padded | 02, 20, 01, 17, 73 |\n * | | YYY | Numeric: 3 digits + zero padded | 002, 020, 201, 2017, 20173 |\n * | | YYYY | Numeric: 4 digits or more + zero padded | 0002, 0020, 0201, 2017, 20173 |\n * | Month | M | Numeric: 1 digit | 9, 12 |\n * | | MM | Numeric: 2 digits + zero padded | 09, 12 |\n * | | MMM | Abbreviated | Sep |\n * | | MMMM | Wide | September |\n * | | MMMMM | Narrow | S |\n * | Month standalone | L | Numeric: 1 digit | 9, 12 |\n * | | LL | Numeric: 2 digits + zero padded | 09, 12 |\n * | | LLL | Abbreviated | Sep |\n * | | LLLL | Wide | September |\n * | | LLLLL | Narrow | S |\n * | Week of year | w | Numeric: minimum digits | 1... 53 |\n * | | ww | Numeric: 2 digits + zero padded | 01... 53 |\n * | Week of month | W | Numeric: 1 digit | 1... 5 |\n * | Day of month | d | Numeric: minimum digits | 1 |\n * | | dd | Numeric: 2 digits + zero padded | 01 |\n * | Week day | E, EE & EEE | Abbreviated | Tue |\n * | | EEEE | Wide | Tuesday |\n * | | EEEEE | Narrow | T |\n * | | EEEEEE | Short | Tu |

|\n * | Period | a, aa & aaa | Abbreviated | am/pm or AM/PM |\n * | | aaaa | Wide (fallback to `a` when missing) | ante meridiem/post meridiem |\n * | | aaaaa | Narrow | a/p |\n * | Period* | B, BB & BBB | Abbreviated | mid. |\n * | | BBBB | Wide | am, pm, midnight, noon, morning, afternoon, evening, night |\n * | | BBBBB | Narrow | md |\n * | Period standalone* | b, bb & bbb | Abbreviated | mid. |\n * | | bbbb | Wide | am, pm, midnight, noon, morning, afternoon, evening, night |\n * | | bbbbb | Narrow | md |\n * | Hour 1-12 | h | Numeric: minimum digits | 1, 12 |\n * | | hh | Numeric: 2

digits + zero padded | 01, 12 |\n * | Hour 0-23 | H | Numeric: minimum digits
| 0, 23 |\n * | | HH | Numeric: 2 digits + zero padded
| 00, 23 |\n * | Minute | m | Numeric: minimum digits
| 8, 59 |\n * | | mm | Numeric: 2 digits + zero
padded | 08, 59 |\n * | Second | s | Numeric:
minimum digits | 0... 59 |\n * | | ss |
Numeric: 2 digits + zero padded | 00... 59 |\n * | Fractional
seconds | S | Numeric: 1 digit
| 0... 9 |\n * | | SS | Numeric: 2 digits + zero
padded | 00... 99 |\n * | | SSS | Numeric: 3
digits + zero padded (= milliseconds) | 000... 999 |\n * | Zone | z,
zz & zzz | Short specific non location format (fallback to O) | GMT-8 |\n *
| | zzzz | Long specific non location format (fallback to OOOO) | GMT-08:00
|\n * | | Z, ZZ & ZZZ | ISO8601 basic format | -0800
|\n * | | ZZZZ | Long localized
GMT format | GMT-8:00 |\n * | | ZZZZZ |
ISO8601 extended format + Z indicator for offset 0 (= XXXXX) | -08:00 |\n * |
| O, OO & OOO | Short localized GMT format | GMT-8
|\n * | | OOOO | Long localized GMT format | GMT-08:00
|\n *\n * Note that timezone correction is not applied to an ISO string that has no time
component, such as \"2016-09-19\"\n *\n * ### Format examples\n *\n * These examples transform a date
into various formats,\n * assuming that `dateObj` is a JavaScript `Date` object for\n * year: 2015, month: 6,
day: 15, hour: 21, minute: 43, second: 11,\n
* given in the local time for the `en-US` locale.\n *\n * ```\n * {{ dateObj | date }} // output is
'Jun 15, 2015'\n * {{ dateObj | date:'medium' }} // output is 'Jun 15, 2015, 9:43:11 PM'\n * {{ dateObj |
date:'shortTime' }} // output is '9:43 PM'\n * {{ dateObj | date:'mm:ss' }} // output is '43:11'\n * ```\n *\n
* ### Usage example\n *\n * The following component uses a date pipe to display the current date in
different formats.\n *\n * ```\n * @Component({\n * selector: 'date-pipe',\n * template: ` \n *
Today is {{today | date}} \n * Or if you prefer, {{today | date:'fullDate'}} \n * The time
is {{today | date:'h:mm a z'}} \n * `\n * })\n * // Get the current date and time as a date-time
value.\n * export class DatePipeComponent {\n * today: number = Date.now();\n * }\n * ```\n *\n *
@publicApi\n
*/\n // clang-format on\n var DatePipe = /** @class */ (function () {\n function DatePipe(locale) {\n
this.locale = locale;\n }\n DatePipe.prototype.transform = function (value, format, timezone, locale) {\n
if (format === void 0) { format = 'mediumDate'; }\n if (value == null || value === '' || value !== value)\n
return null;\n try {\n return formatDate(value, format, locale || this.locale, timezone);\n
}\n catch (error) {\n throw invalidPipeArgumentError(DatePipe, error.message);\n }\n
};\n return DatePipe;\n }());\n DatePipe.decorators = [\n { type: i0.Pipe, args: [{ name: 'date', pure: true
},] }\n ];\n DatePipe.ctorParameters = function () { return [\n { type: String, decorators: [{ type: i0.Inject,
args: [i0.LOCALE_ID,] }] }\n ]; };\n\n /**\n * @license\n * Copyright Google
LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n var _INTERPOLATION_REGEXP = /#/g;\n
/**\n * @ngModule CommonModule\n * @description\n *\n * Maps a value to a string that pluralizes the
value according to locale rules.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example
common/pipes/ts/i18n_pipe.ts region='I18nPluralPipeComponent'}\n *\n * @publicApi\n */\n var
I18nPluralPipe = /** @class */ (function () {\n function I18nPluralPipe(_localization) {\n
this._localization = _localization;\n }\n /**\n * @param value the number to be formatted\n *

@param pluralMap an object that mimics the ICU format, see\n * http://userguide.icu-project.org/formatparse/messages.\n * @param locale a `string` defining the locale to use (uses the current {@link LOCALE_ID} by\n * default).\n */\n I18nPluralPipe.prototype.transform = function (value, pluralMap, locale) {\n if (value == null)\n return '';\n if (typeof pluralMap !== 'object' || pluralMap === null) {\n throw invalidPipeArgumentError(I18nPluralPipe, pluralMap);\n }\n var key = getPluralCategory(value, Object.keys(pluralMap), this._localization, locale);\n return pluralMap[key].replace(_INTERPOLATION_REGEXP, value.toString());\n };\n return I18nPluralPipe;\n }());\n I18nPluralPipe.decorators = [\n { type: i0.Pipe, args: [{ name: 'i18nPlural', pure: true },] }\n ];\n I18nPluralPipe.ctorParameters = function () { return [\n { type: NgLocalization }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @ngModule CommonModule\n * @description\n *\n * Generic selector that displays the string that matches the current value.\n *\n * If none of the keys of the `mapping` match the `value`, then the content\n * of the `other` key is returned when present, otherwise an empty string is returned.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example common/pipes/ts/i18n_pipe.ts region='I18nSelectPipeComponent'}\n *\n * @publicApi\n */\n var I18nSelectPipe = /** @class */ (function () {\n function I18nSelectPipe() {\n }\n /**\n * @param value a string to be internationalized.\n * @param mapping an object that indicates the text that should be displayed\n * for different values of the provided `value`.\n */\n I18nSelectPipe.prototype.transform = function (value, mapping) {\n if (value == null)\n return '';\n if (typeof mapping !== 'object' || typeof value !== 'string') {\n throw invalidPipeArgumentError(I18nSelectPipe, mapping);\n }\n if (mapping.hasOwnProperty(value)) {\n return mapping[value];\n }\n if (mapping.hasOwnProperty('other')) {\n return mapping['other'];\n }\n return '';\n };\n return I18nSelectPipe;\n }());\n I18nSelectPipe.decorators = [\n { type: i0.Pipe, args: [{ name: 'i18nSelect', pure: true },] }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @ngModule CommonModule\n * @description\n *\n * Converts a value into its JSON-format representation. Useful\n for debugging.\n *\n * @usageNotes\n *\n * The following component uses a JSON pipe to convert an object\n * to JSON format, and displays the string in both formats for comparison.\n *\n * {@example common/pipes/ts/json_pipe.ts region='JsonPipe'}\n *\n * @publicApi\n */\n var JsonPipe = /** @class */ (function () {\n function JsonPipe() {\n }\n /**\n * @param value A value of any type to convert into a JSON-format string.\n */\n JsonPipe.prototype.transform = function (value) {\n return JSON.stringify(value, null, 2);\n };\n return JsonPipe;\n }());\n JsonPipe.decorators = [\n { type: i0.Pipe, args: [{ name: 'json', pure: false },] }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function makeKeyValuePair(key, value) {\n return { key: key, value: value };\n }\n /**\n * @ngModule CommonModule\n * @description\n *\n * Transforms Object or Map into an array of key value pairs.\n *\n * The output array will be ordered by keys.\n * By default the comparator will be by Unicode point value.\n * You can optionally pass a compareFn if your keys are complex types.\n *\n * @usageNotes\n * ### Examples\n *\n * This examples show how an Object or a Map can be iterated by ngFor with the use of this\n * keyvalue pipe.\n *\n * {@example common/pipes/ts/keyvalue_pipe.ts region='KeyValuePipe'}\n *\n * @publicApi\n */\n var KeyValuePipe = /** @class */ (function () {\n function KeyValuePipe(differs) {\n this.differs = differs;\n this.keyValues = [];\n }\n KeyValuePipe.prototype.transform = function (input, compareFn) {\n

```
        var _this = this;\n            if (compareFn === void 0) { compareFn = defaultComparator; }\n            if (!input ||
(!(input instanceof Map) && typeof input !== 'object')) {\n                return null;\n            }\n            if (!this.differ)
{\n                // make a differ for whatever type we've been passed in\n                this.differ =
this.differs.find(input).create();\n            }\n            var differChanges = this.differ.diff(input);\n            if
(differChanges) {\n                this.keyValues = [];\n                differChanges.forEachItem(function (r) {\n
_this.keyValues.push(makeKeyValuePair(r.key, r.currentValue));\n                });\n
this.keyValues.sort(compareFn);\n            }\n            return this.keyValues;\n        };\n        return KeyValuePipe;\n
}());\n    KeyValuePipe.decorators = [\n        { type: i0.Pipe, args: [{ name: 'keyvalue', pure: false },] }\n    ];\n
KeyValuePipe.ctorParameters
 = function () { return [\n        { type: i0.KeyValueDiffers }\n    ]; };\n    function defaultComparator(keyValueA,
keyValueB) {\n        var a = keyValueA.key;\n        var b = keyValueB.key;\n        // if same exit with 0;\n        if (a
=== b)\n            return 0;\n        // make sure that undefined are at the end of the sort.\n        if (a === undefined)\n
    return 1;\n        if (b === undefined)\n            return -1;\n        // make sure that nulls are at the end of the sort.\n
  if (a === null)\n            return 1;\n        if (b === null)\n            return -1;\n        if (typeof a == 'string' && typeof b
== 'string') {\n            return a < b ? -1 : 1;\n        }\n        if (typeof a == 'number' && typeof b == 'number') {\n
  return a - b;\n        }\n        if (typeof a == 'boolean' && typeof b == 'boolean') {\n            return a < b ? -1 : 1;\n
}\n        // `a` and `b` are of different types. Compare their string values.\n
        var aString = String(a);\n        var bString = String(b);\n        return aString == bString ? 0 : aString < bString ? -
1 : 1;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this
source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    /**\n     * @ngModule CommonModule\n     * @description\n     *\n     *
Transforms a number into a string,\n     * formatted according to locale rules that determine group sizing and\n     *
separator, decimal-point character, and other locale-specific\n     * configurations.\n     *\n     * If no parameters are
specified, the function rounds off to the nearest value using this\n     * [rounding
method](https://en.wikibooks.org/wiki/Arithmetic/Rounding).\n     * The behavior differs from that of the JavaScript
```Math.round()``` function.\n     * In the following case for example, the pipe rounds down
 where\n     * ```Math.round()``` rounds up:\n     *\n     * ```html\n     * -2.5 | number:'1.0-0'\n     * > -3\n     *
Math.round(-2.5)\n     * > -2\n     * ```\n     *\n     * @see `formatNumber()`\n     *\n     * @usageNotes\n     * The
following code shows how the pipe transforms numbers\n     * into text strings, according to various format
specifications,\n     * where the caller's default locale is `en-US`.\n     *\n     * ### Example\n     *\n     * <code-
example path=\"common/pipes/ts/number_pipe.ts\" region='NumberPipe'></code-example>\n     *\n     *
@publicApi\n     */\n    var DecimalPipe = /** @class */ (function () {\n        function DecimalPipe(_locale) {\n
  this._locale = _locale;\n        }\n        DecimalPipe.prototype.transform = function (value, digitsInfo, locale) {\n
   if (!isValue(value))\n                return null;\n            locale = locale || this._locale;\n            try {\n                var
num = strToNumber(value);\n
     return formatNumber(num, locale, digitsInfo);\n            }\n            catch (error) {\n                throw
invalidPipeArgumentError(DecimalPipe, error.message);\n            }\n        };\n        return DecimalPipe;\n    }());\n
DecimalPipe.decorators = [\n        { type: i0.Pipe, args: [{ name: 'number' },] }\n    ];\n
DecimalPipe.ctorParameters = function () { return [\n        { type: String, decorators: [{ type: i0.Inject, args:
[i0.LOCALE_ID,] }] }\n    ]; };\n    /**\n     * @ngModule CommonModule\n     * @description\n     *\n     *
Transforms a number to a percentage\n     * string, formatted according to locale rules that determine group sizing
and\n     * separator, decimal-point character, and other locale-specific\n     * configurations.\n     *\n     * @see
`formatPercent()`\n     *\n     * @usageNotes\n     * The following code shows how the pipe transforms numbers\n
* into text strings, according to various format specifications,\n     * where the caller's
 default locale is `en-US`.\n     *\n     * <code-example path=\"common/pipes/ts/percent_pipe.ts\"
region='PercentPipe'></code-example>\n     *\n     * @publicApi\n     */\n    var PercentPipe = /** @class */
(function () {\n        function PercentPipe(_locale) {\n            this._locale = _locale;\n        }\n
PercentPipe.prototype.transform = function (value, digitsInfo, locale) {\n            if (!isValue(value))\n
```
```

```
return null;\n            locale = locale || this._locale;\n            try {\n                var num = strToNumber(value);\n
  return formatPercent(num, locale, digitsInfo);\n            }\n            catch (error) {\n                throw
invalidPipeArgumentError(PercentPipe, error.message);\n            }\n        };\n        return PercentPipe;\n    }());\n
PercentPipe.decorators = [\n        { type: i0.Pipe, args: [{ name: 'percent' },] }\n    ];\n    PercentPipe.ctorParameters
= function () { return [\n        { type:
 String, decorators: [{ type: i0.Inject, args: [i0.LOCALE_ID,] }] }\n    ]; };\n    /**\n     * @ngModule
CommonModule\n     * @description\n     *\n     * Transforms a number to a currency string, formatted according to
locale rules\n     * that determine group sizing and separator, decimal-point character,\n     * and other locale-specific
configurations.\n     *\n     * {@a currency-code-deprecation}\n     * <div class=\"alert is-helpful\">\n     *\n     *
**Deprecation notice:**\n     *\n     * The default currency code is currently always `USD` but this is deprecated
from v9.\n     *\n     * **In v11 the default currency code will be taken from the current locale identified by\n     *
the `LOCAL_ID` token. See the [i18n guide](guide/i18n#setting-up-the-locale-of-your-app) for\n     * more
information.**\n     *\n     * If you need the previous behavior then set it by creating a
`DEFAULT_CURRENCY_CODE` provider in\n     * your application `NgModule`:\n     *\n     * ```ts\n     *
{provide:
 DEFAULT_CURRENCY_CODE, useValue: 'USD'}\n     * ```\n     *\n     * </div>\n     *\n     * @see
`getCurrencySymbol()`\n     * @see `formatCurrency()`\n     *\n     * @usageNotes\n     * The following code shows
how the pipe transforms numbers\n     * into text strings, according to various format specifications,\n     * where the
caller's default locale is `en-US`.\n     *\n     * <code-example path=\"common/pipes/ts/currency_pipe.ts\"
region='CurrencyPipe'></code-example>\n     *\n     * @publicApi\n     */\n    var CurrencyPipe = /** @class */
(function () {\n        function CurrencyPipe(_locale, _defaultCurrencyCode) {\n            if (_defaultCurrencyCode
=== void 0) { _defaultCurrencyCode = 'USD'; }\n            this._locale = _locale;\n            this._defaultCurrencyCode
= _defaultCurrencyCode;\n        }\n        CurrencyPipe.prototype.transform = function (value, currencyCode,
display, digitsInfo, locale) {\n            if (display === void 0) { display = 'symbol';
 }\n            if (!isValue(value))\n                return null;\n            locale = locale || this._locale;\n            if (typeof
display === 'boolean') {\n                if ((typeof ngDevMode === 'undefined' || ngDevMode) && console &&
console.warn) {\n                    console.warn(\"Warning: the currency pipe has been changed in Angular v5. The
symbolDisplay option (third parameter) is now a string instead of a boolean. The accepted values are \\\"code\\\",
\\\"symbol\\\" or \\\"symbol-narrow\\\".\");\n                }\n                display = display ? 'symbol' : 'code';\n            }\n
        var currency = currencyCode || this._defaultCurrencyCode;\n            if (display !== 'code') {\n                if
(display === 'symbol' || display === 'symbol-narrow') {\n                    currency = getCurrencySymbol(currency,
display === 'symbol' ? 'wide' : 'narrow', locale);\n                }\n                else {\n                    currency = display;\n

        }\n            }\n            try {\n                var num = strToNumber(value);\n                return formatCurrency(num,
locale, currency, currencyCode, digitsInfo);\n            }\n            catch (error) {\n                throw
invalidPipeArgumentError(CurrencyPipe, error.message);\n            }\n        };\n        return CurrencyPipe;\n    }());\n
 CurrencyPipe.decorators = [\n        { type: i0.Pipe, args: [{ name: 'currency' },] }\n    ];\n
CurrencyPipe.ctorParameters = function () { return [\n        { type: String, decorators: [{ type: i0.Inject, args:
[i0.LOCALE_ID,] }] },\n        { type: String, decorators: [{ type: i0.Inject, args:
[i0.DEFAULT_CURRENCY_CODE,] }] }\n    ]; };\n    function isValue(value) {\n        return !(value == null ||
value === '' || value !== value);\n    }\n    /**\n     * Transforms a string into a number (if needed).\n     */\n
function strToNumber(value) {\n        // Convert strings to numbers\n        if (typeof value ===
 'string' && !isNaN(Number(value) - parseFloat(value))) {\n            return Number(value);\n        }\n        if (typeof
value !== 'number') {\n            throw new Error(value + \" is not a number\");\n        }\n        return value;\n    }\n\n
/**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is
governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n
 /**\n     * @ngModule CommonModule\n     * @description\n     *\n     * Creates a new `Array` or `String`
containing a subset (slice) of the elements.\n     *\n     * @usageNotes\n     *\n     * All behavior is based on the
```

expected behavior of the JavaScript API `Array.prototype.slice()`\n * and `String.prototype.slice()`.\n *\n * When operating on an `Array`, the returned `Array` is always a copy even when all\n * the elements are being returned.\n *\n * When operating on a blank
value, the pipe returns the blank value.\n *\n * ### List Example\n *\n * This `ngFor` example:\n *\n * {@example common/pipes/ts/slice_pipe.ts region='SlicePipe_list'}\n *\n * produces the following:\n *\n * ```html\n * <li>b</li>\n * <li>c</li>\n * ```\n *\n * ### String Examples\n *\n * {@example common/pipes/ts/slice_pipe.ts region='SlicePipe_string'}\n *\n * @publicApi\n */\n var SlicePipe = /** @class */ (function () {\n function SlicePipe() {\n }\n SlicePipe.prototype.transform = function (value, start, end) {\n if (value == null)\n return null;\n if (!this.supports(value)) {\n throw invalidPipeArgumentError(SlicePipe, value);\n }\n return value.slice(start, end);\n };\n SlicePipe.prototype.supports = function (obj) {\n return typeof obj === 'string' || Array.isArray(obj);\n };\n return SlicePipe;\n }());\n SlicePipe.decorators = [\n { type: i0.Pipe, args: [{ name: 'slice', pure: false },] }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A collection of Angular pipes that are likely to be used in each and every application.\n */\n var COMMON_PIPES = [\n AsyncPipe,\n UpperCasePipe,\n LowerCasePipe,\n JsonPipe,\n SlicePipe,\n DecimalPipe,\n PercentPipe,\n TitleCasePipe,\n CurrencyPipe,\n DatePipe,\n I18nPluralPipe,\n I18nSelectPipe,\n KeyValuePipe,\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n // Note: This does not contain the location providers,\n // as they need some platform specific implementations to work.\n /**\n * Exports all the basic Angular directives and pipes,\n * such as `NgIf`, `NgForOf`, `DecimalPipe`, and so on.\n * Re-exported by `BrowserModule`, which is included automatically in the root\n * `AppModule` when you create a new app with the CLI `new` command.\n *\n * * The `providers` options configure the NgModule's injector to provide\n * localization dependencies to members.\n * * The `exports` options make the declared directives and pipes available for import\n * by other NgModules.\n *\n * @publicApi\n */\n var CommonModule = /** @class */ (function () {\n function CommonModule() {\n }\n return CommonModule;\n }());\n CommonModule.decorators = [\n { type: i0.NgModule, args: [{\n declarations: [COMMON_DIRECTIVES, COMMON_PIPES],\n exports: [COMMON_DIRECTIVES, COMMON_PIPES],\n providers: [\n { provide: NgLocalization, useClass: NgLocaleLocalization },\n ],\n },] }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var PLATFORM_BROWSER_ID = 'browser';\n var PLATFORM_SERVER_ID = 'server';\n var PLATFORM_WORKER_APP_ID = 'browserWorkerApp';\n var PLATFORM_WORKER_UI_ID = 'browserWorkerUi';\n /**\n * Returns whether a platform id represents a browser platform.\n * @publicApi\n */\n function isPlatformBrowser(platformId) {\n return platformId === PLATFORM_BROWSER_ID;\n }\n /**\n * Returns whether a platform id represents a server
platform.\n * @publicApi\n */\n function isPlatformServer(platformId) {\n return platformId === PLATFORM_SERVER_ID;\n }\n /**\n * Returns whether a platform id represents a web worker app platform.\n * @publicApi\n */\n function isPlatformWorkerApp(platformId) {\n return platformId === PLATFORM_WORKER_APP_ID;\n }\n /**\n * Returns whether a platform id represents a web worker UI platform.\n * @publicApi\n */\n function isPlatformWorkerUi(platformId) {\n return platformId === PLATFORM_WORKER_UI_ID;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @publicApi\n */\n var VERSION = new i0.Version('11.0.5');\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n *

```
 Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Defines a scroll position manager. Implemented by `BrowserViewportScroller`.\n     *\n     * @publicApi\n     */\n    var ViewportScroller = /** @class */ (function () {\n        function ViewportScroller() {\n        }\n        return ViewportScroller;\n    }());\n    // De-sugared tree-shakable injection\n    // See #23917\n    /** @nocollapse */\n    ViewportScroller.prov = i0.defineInjectable({\n        token: ViewportScroller,\n        providedIn: 'root',\n        factory: function () { return new BrowserViewportScroller(i0.inject(DOCUMENT), window, i0.inject(i0.ErrorHandler)); }\n    });\n    /**\n     * Manages the scroll position for a browser window.\n     */\n    var BrowserViewportScroller = /** @class */ (function () {\n        function BrowserViewportScroller(document, window, errorHandler) {\n            this.document = document;\n            this.window = window;\n            this.errorHandler = errorHandler;\n            this.offset = function () { return [0, 0]; };\n        }\n        /**\n         * Configures the top offset used when scrolling to an anchor.\n         * @param offset A position in screen coordinates (a tuple with x and y values)\n         * or a function that returns the top offset position.\n         *\n         */\n        BrowserViewportScroller.prototype.setOffset = function (offset) {\n            if (Array.isArray(offset)) {\n                this.offset = function () { return offset; };\n            }\n            else {\n                this.offset = offset;\n            }\n        };\n        /**\n         * Retrieves the current scroll position.\n         * @returns The position in screen coordinates.\n         */\n        BrowserViewportScroller.prototype.getScrollPosition = function () {\n            if (this.supportsScrolling()) {\n                return [this.window.pageXOffset, this.window.pageYOffset];\n            }\n            else {\n                return [0, 0];\n            }\n        };\n        /**\n         * Sets the scroll position.\n         * @param position The new position in screen coordinates.\n         */\n        BrowserViewportScroller.prototype.scrollToPosition = function (position) {\n            if (this.supportsScrolling()) {\n                this.window.scrollTo(position[0], position[1]);\n            }\n        };\n        /**\n         * Scrolls to an anchor element.\n         * @param anchor The ID of the anchor element.\n         */\n        BrowserViewportScroller.prototype.scrollToAnchor = function (anchor) {\n            if (this.supportsScrolling()) {\n                var elSelected = this.document.getElementById(anchor) || this.document.getElementsByName(anchor)[0];\n                if (elSelected) {\n                    this.scrollToElement(elSelected);\n                }\n            }\n        };\n        /**\n         * Disables automatic scroll restoration provided by the browser.\n         */\n        BrowserViewportScroller.prototype.setHistoryScrollRestoration = function (scrollRestoration) {\n            if (this.supportScrollRestoration()) {\n                var history = this.window.history;\n                if (history && history.scrollRestoration) {\n                    history.scrollRestoration = scrollRestoration;\n                }\n            }\n        };\n        BrowserViewportScroller.prototype.scrollToElement = function (el) {\n            var rect = el.getBoundingClientRect();\n            var left = rect.left + this.window.pageXOffset;\n            var top = rect.top + this.window.pageYOffset;\n            var offset = this.offset();\n            this.window.scrollTo(left - offset[0], top - offset[1]);\n        };\n        /**\n         * We only support scroll restoration when we can get a hold of window.\n         * This means that we do not support\n         this behavior when running in a web worker.\n         *\n         * Lifting this restriction right now would require more changes in the dom adapter.\n         * Since webworkers aren't widely used, we will lift it once RouterScroller is\n          * battle-tested.\n         */\n        BrowserViewportScroller.prototype.supportScrollRestoration = function () {\n            try {\n                if (!this.supportsScrolling()) {\n                    return false;\n                }\n                // The `scrollRestoration` property could be on the `history` instance or its prototype.\n                var scrollRestorationDescriptor = getScrollRestorationProperty(this.window.history) ||\n                    getScrollRestorationProperty(Object.getPrototypeOf(this.window.history));\n                // We can write to the `scrollRestoration` property if it is a writable data field or it has a\n                // setter function.\n                return !!scrollRestorationDescriptor &&\n                    !!(scrollRestorationDescriptor.writable || scrollRestorationDescriptor.set);\n            }\n            catch (_a) {\n                return false;\n            }\n        };\n        BrowserViewportScroller.prototype.supportsScrolling = function () {\n            try {\n                return !!this.window && !!this.window.scrollTo && 'pageXOffset' in this.window;\n            }\n            catch (_a) {\n                return false;\n            }\n        };\n        return BrowserViewportScroller;\n
```

}());\n function getScrollRestorationProperty(obj) {\n return Object.getOwnPropertyDescriptor(obj, 'scrollRestoration');\n }\n /**\n * Provides an empty implementation of the viewport scroller.\n */\n var NullViewportScroller = /** @class */ (function () {\n function NullViewportScroller() {\n }\n /**\n * Empty implementation\n */\n NullViewportScroller.prototype.setOffset = function (offset) {\n };\n /**\n * Empty implementation\n */\n NullViewportScroller.prototype.getScrollPosition = function () {\n return [0, 0];\n };\n /**\n * Empty implementation\n */\n NullViewportScroller.prototype.scrollToPosition = function (position) { };\n /**\n * Empty implementation\n */\n NullViewportScroller.prototype.scrollToAnchor = function (anchor) { };\n /**\n * Empty implementation\n */\n NullViewportScroller.prototype.setHistoryScrollRestoration = function (scrollRestoration) { };\n return NullViewportScroller;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // This file only reexports content of the `src` folder. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.APP_BASE_HREF = APP_BASE_HREF;\n exports.AsyncPipe = AsyncPipe;\n exports.CommonModule = CommonModule;\n exports.CurrencyPipe = CurrencyPipe;\n exports.DOCUMENT = DOCUMENT;\n exports.DatePipe = DatePipe;\n exports.DecimalPipe = DecimalPipe;\n exports.HashLocationStrategy = HashLocationStrategy;\n exports.I18nPluralPipe = I18nPluralPipe;\n exports.I18nSelectPipe = I18nSelectPipe;\n exports.JsonPipe = JsonPipe;\n exports.KeyValuePipe = KeyValuePipe;\n exports.LOCATION_INITIALIZED = LOCATION_INITIALIZED;\n exports.Location = Location;\n exports.LocationStrategy = LocationStrategy;\n exports.LowerCasePipe = LowerCasePipe;\n exports.NgClass = NgClass;\n exports.NgComponentOutlet = NgComponentOutlet;\n exports.NgForOf = NgForOf;\n exports.NgForOfContext = NgForOfContext;\n exports.NgIf = NgIf;\n exports.NgIfContext = NgIfContext;\n exports.NgLocaleLocalization = NgLocaleLocalization;\n exports.NgLocalization = NgLocalization;\n exports.NgPlural = NgPlural;\n exports.NgPluralCase = NgPluralCase;\n exports.NgStyle = NgStyle;\n exports.NgSwitch = NgSwitch;\n exports.NgSwitchCase = NgSwitchCase;\n exports.NgSwitchDefault = NgSwitchDefault;\n exports.NgTemplateOutlet = NgTemplateOutlet;\n exports.PathLocationStrategy = PathLocationStrategy;\n exports.PercentPipe = PercentPipe;\n exports.PlatformLocation = PlatformLocation;\n exports.SlicePipe = SlicePipe;\n exports.TitleCasePipe = TitleCasePipe;\n exports.UpperCasePipe = UpperCasePipe;\n exports.VERSION = VERSION;\n exports.ViewportScroller = ViewportScroller;\n exports.formatCurrency = formatCurrency;\n exports.formatDate = formatDate;\n exports.formatNumber = formatNumber;\n exports.formatPercent = formatPercent;\n exports.getCurrencySymbol = getCurrencySymbol;\n exports.getLocaleCurrencyCode = getLocaleCurrencyCode;\n exports.getLocaleCurrencyName = getLocaleCurrencyName;\n exports.getLocaleCurrencySymbol = getLocaleCurrencySymbol;\n exports.getLocaleDateFormat = getLocaleDateFormat;\n exports.getLocaleDateTimeFormat = getLocaleDateTimeFormat;\n exports.getLocaleDayNames = getLocaleDayNames;\n exports.getLocaleDayPeriods = getLocaleDayPeriods;\n exports.getLocaleDirection = getLocaleDirection;\n exports.getLocaleEraNames = getLocaleEraNames;\n exports.getLocaleExtraDayPeriodRules = getLocaleExtraDayPeriodRules;\n exports.getLocaleExtraDayPeriods = getLocaleExtraDayPeriods;\n exports.getLocaleFirstDayOfWeek = getLocaleFirstDayOfWeek;\n exports.getLocaleId = getLocaleId;\n exports.getLocaleMonthNames = getLocaleMonthNames;\n exports.getLocaleNumberFormat = getLocaleNumberFormat;\n exports.getLocaleNumberSymbol = getLocaleNumberSymbol;\n exports.getLocalePluralCase =

getLocalePluralCase;\n    exports.getLocaleTimeFormat = getLocaleTimeFormat;\n
exports.getLocaleWeekEndRange = getLocaleWeekEndRange;\n    exports.getNumberOfCurrencyDigits =
getNumberOfCurrencyDigits;\n    exports.isPlatformBrowser = isPlatformBrowser;\n    exports.isPlatformServer =
isPlatformServer;\n    exports.isPlatformWorkerApp = isPlatformWorkerApp;\n    exports.isPlatformWorkerUi =
isPlatformWorkerUi;\n    exports.registerLocaleData = registerLocaleData;\n    exports.BrowserPlatformLocation =
BrowserPlatformLocation;\n    exports.DomAdapter = DomAdapter;\n    exports.NullViewportScroller =
NullViewportScroller;\n
    exports.PLATFORM_BROWSER_ID = PLATFORM_BROWSER_ID;\n    exports.PLATFORM_SERVER_ID
= PLATFORM_SERVER_ID;\n    exports.PLATFORM_WORKER_APP_ID =
PLATFORM_WORKER_APP_ID;\n    exports.PLATFORM_WORKER_UI_ID =
PLATFORM_WORKER_UI_ID;\n    exports.angular_packages_common_common_a =
useBrowserPlatformLocation;\n    exports.angular_packages_common_common_b =
createBrowserPlatformLocation;\n    exports.angular_packages_common_common_c = createLocation;\n
exports.angular_packages_common_common_d = provideLocationStrategy;\n
exports.angular_packages_common_common_e = COMMON_DIRECTIVES;\n
exports.angular_packages_common_common_f = COMMON_PIPES;\n    exports.getDOM = getDOM;\n
exports.parseCookieValue = parseCookieValue;\n    exports.setRootDomAdapter = setRootDomAdapter;\n\n
Object.defineProperty(exports, '__esModule', { value: true });\n\n}));\n//#
sourceMappingURL=common.umd.js.map\n"]}

Found in path(s):
* /common-11-0-5-tgz/package/bundles/common.umd.min.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"http.js","sources":["../../../../../../packages/common/http/src/backend.ts","../../../../../../packages/common/http/src/headers.ts","../../../../../../packages/common/http/src/params.ts","../../../../../../packages/common/http/src/request.ts","../../../../../../packages/common/http/src/response.ts","../../../../../../packages/common/http/src/client.ts","../../../../../../packages/common/http/src/interceptor.ts","../../../../../../packages/common/http/src/jsonp.ts","../../../../../../packages/common/http/src/xhr.ts","../../../../../../packages/common/http/src/xsrf.ts","../../../../../../packages/common/http/src/module.ts","../../../../../../packages/common/http/public_api.ts","../../../../../../packages/common/http/index.ts","../../../../../../packages/common/http/http.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed
by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Observable} from 'rxjs';\nimport {HttpRequest} from './request';\nimport {HttpEvent} from './response';\n\n/**\n * Transforms an `HttpRequest` into a stream of `HttpEvent`s, one of which will likely be a\n * `HttpResponse`.\n *\n * `HttpHandler` is injectable. When injected, the handler instance dispatches requests to the\n * first interceptor in the chain, which dispatches to the second, etc, eventually reaching the\n * `HttpBackend`.\n *\n * In an `HttpInterceptor`, the `HttpHandler` parameter is the next interceptor in the chain.\n *\n * @publicApi\n */\nexport abstract class HttpHandler {\n  abstract handle(req: HttpRequest<any>): Observable<HttpEvent<any>>;\n}\n\n/**\n * A final `HttpHandler` which will dispatch the request via browser HTTP APIs to a backend.\n *\n * Interceptors sit between the `HttpClient` interface and the `HttpBackend`.\n *\n * When injected, `HttpBackend`
dispatches requests directly to the backend, without going\n * through the interceptor chain.\n *\n * @publicApi\n */\nexport abstract class HttpBackend implements HttpHandler {\n  abstract handle(req: HttpRequest<any>): Observable<HttpEvent<any>>;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\ninterface Update {\n  name: string;\n  value?: string|string[];\n  op: 'a'|'s'|'d';\n}\n\n/**\n * Represents the header configuration options for an HTTP request.\n * Instances are immutable. Modifying methods return a cloned\n * instance with the change. The original object is never changed.\n

```
*\n * @publicApi\n */\nexport class HttpHeaders {\n  /**\n   * Internal map of lowercase header names to values.\n */\n  // TODO(issue/24571): remove '!'.\n  private headers!: Map<string, string[]>;\n\n\n  /**\n   * Internal map of lowercased header names to the normalized\n   * form of the name (the form seen first).\n   */\n  private normalizedNames: Map<string, string> = new Map();\n\n  /**\n   * Complete the lazy initialization of this object (needed before reading).\n   */\n  private lazyInit!: HttpHeaders|Function|null;\n\n  /**\n   * Queued updates to be materialized the next initialization.\n   */\n  private lazyUpdate: Update[]|null = null;\n\n  /**  Constructs a new HTTP header object with the given values.*/\n\n  constructor(headers?: string|{[name: string]: string | string[]}) {\n if (!headers) {\n      this.headers = new Map<string, string[]>();\n    } else if (typeof headers === 'string') {\n this.lazyInit = () => {\n        this.headers = new Map<string, string[]>();\n        headers.split('\\n').forEach(line => {\n          const index = line.indexOf(':');\n          if (index > 0) {\n            const name = line.slice(0, index);\n            const key = name.toLowerCase();\n
    const value = line.slice(index + 1).trim();\n            this.maybeSetNormalizedName(name, key);\n            if (this.headers.has(key)) {\n              this.headers.get(key)!.push(value);\n            } else {\n              this.headers.set(key, [value]);\n            }\n          }\n        });\n      };\n    } else {\n      this.lazyInit = () => {\n this.headers = new Map<string, string[]>();\n        Object.keys(headers).forEach(name => {\n          let values: string|string[] = headers[name];\n          const key = name.toLowerCase();\n          if (typeof values === 'string') {\n            values = [values];\n          }\n          if (values.length > 0) {\n            this.headers.set(key, values);\n this.maybeSetNormalizedName(name, key);\n          }\n        });\n      };\n    }\n  }\n\n  /**\n   * Checks for existence of a given header.\n   *\n   * @param name The header name to check for existence.\n   *\n   * @returns True if the header exists, false
 otherwise.\n   */\n  has(name: string): boolean {\n    this.init();\n\n    return this.headers.has(name.toLowerCase());\n }\n\n  /**\n   * Retrieves the first value of a given header.\n   *\n   * @param name The header name.\n   *\n   * @returns The value string if the header exists, null otherwise\n   */\n  get(name: string): string|null {\n this.init();\n\n    const values = this.headers.get(name.toLowerCase());\n    return values && values.length > 0 ? values[0] : null;\n  }\n\n  /**\n   * Retrieves the names of the headers.\n   *\n   * @returns A list of header names.\n */\n  keys(): string[] {\n    this.init();\n\n    return Array.from(this.normalizedNames.values());\n  }\n\n  /**\n   * Retrieves a list of values for a given header.\n   *\n   * @param name The header name from which to retrieve values.\n   *\n   * @returns A string of values if the header exists, null otherwise.\n   */\n  getAll(name: string): string[]|null {\n    this.init();\n\n    return this.headers.get(name.toLowerCase())
 || null;\n  }\n\n  /**\n   * Appends a new value to the existing set of values for a header\n   * and returns them in a clone of the original instance.\n   *\n   * @param name The header name for which to append the values.\n   * @param value The value to append.\n   *\n   * @returns A clone of the HTTP headers object with the value appended to the given header.\n   */\n\n  append(name: string, value: string|string[]): HttpHeaders {\n    return this.clone({name, value, op: 'a'});\n  }\n  /**\n   * Sets or modifies a value for a given header in a clone of the original instance.\n   * If the header already exists, its value is replaced with the given value\n   * in the returned object.\n   *\n   * @param name The header name.\n   * @param value The value or values to set or overide for the given header.\n   *\n   * @returns A clone of the HTTP headers object with the newly set header value.\n   */\n  set(name: string, value: string|string[]): HttpHeaders {\n    return
 this.clone({name, value, op: 's'});\n  }\n  /**\n   * Deletes values for a given header in a clone of the original instance.\n   *\n   * @param name The header name.\n   * @param value The value or values to delete for the given header.\n   *\n   * @returns A clone of the HTTP headers object with the given value deleted.\n   */\n  delete(name: string, value?: string|string[]): HttpHeaders {\n    return this.clone({name, value, op: 'd'});\n  }\n\n  private maybeSetNormalizedName(name: string, lcName: string): void {\n    if (!this.normalizedNames.has(lcName)) {\n this.normalizedNames.set(lcName, name);\n    }\n  }\n\n  private init(): void {\n    if (!!this.lazyInit) {\n      if (this.lazyInit instanceof HttpHeaders) {\n        this.copyFrom(this.lazyInit);\n      } else {\n        this.lazyInit();\n }\n      this.lazyInit = null;\n      if (!!this.lazyUpdate) {\n        this.lazyUpdate.forEach(update => this.applyUpdate(update));\n        this.lazyUpdate = null;\n      }\n
```

```
}\n }\n\n private copyFrom(other: HttpHeaders) {\n other.init();\n Array.from(other.headers.keys()).forEach(key => {\n this.headers.set(key, other.headers.get(key)!);\n this.normalizedNames.set(key, other.normalizedNames.get(key)!);\n });\n }\n\n private clone(update: Update): HttpHeaders {\n const clone = new HttpHeaders();\n clone.lazyInit =\n (!!this.lazyInit && this.lazyInit instanceof HttpHeaders) ? this.lazyInit : this;\n clone.lazyUpdate = (this.lazyUpdate || []).concat([update]);\n return clone;\n }\n\n private applyUpdate(update: Update): void {\n const key = update.name.toLowerCase();\n switch (update.op) {\n case 'a':\n case 's':\n let value = update.value!;\n if (typeof value === 'string') {\n value = [value];\n }\n if (value.length === 0) {\n return;\n }\n this.maybeSetNormalizedName(update.name, key);\n const base = (update.op === 'a' ? this.headers.get(key) : undefined) || [];\n base.push(...value);\n this.headers.set(key, base);\n break;\n case 'd':\n const toDelete = update.value as string | undefined;\n if (!toDelete) {\n this.headers.delete(key);\n this.normalizedNames.delete(key);\n } else {\n let existing = this.headers.get(key);\n if (!existing) {\n return;\n }\n existing = existing.filter(value => toDelete.indexOf(value) === -1);\n if (existing.length === 0) {\n this.headers.delete(key);\n this.normalizedNames.delete(key);\n } else {\n this.headers.set(key, existing);\n }\n }\n break;\n }\n }\n\n /**\n * @internal\n */\n forEach(fn: (name: string, values: string[]) => void) {\n this.init();\n Array.from(this.normalizedNames.keys())\n .forEach(key => fn(this.normalizedNames.get(key)!, this.headers.get(key)!));\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A codec for encoding and decoding parameters in URLs.\n *\n * Used by `HttpParams`.\n *\n * @publicApi\n **/\nexport interface HttpParameterCodec {\n encodeKey(key: string): string;\n encodeValue(value: string): string;\n\n decodeKey(key: string): string;\n decodeValue(value: string): string;\n}\n\n/**\n * Provides encoding and decoding of URL parameter and query-string values.\n *\n * Serializes and parses URL parameter keys and values to encode and decode them.\n * If you pass URL query parameters without encoding,\n * the query parameters can be misinterpreted at the receiving end.\n *\n *\n * @publicApi\n */\nexport class HttpUrlEncodingCodec implements HttpParameterCodec {\n /**\n * Encodes a key name for a URL parameter or query-string.\n * @param
 key The key name.\n * @returns The encoded key name.\n */\n encodeKey(key: string): string {\n return standardEncoding(key);\n }\n\n /**\n * Encodes the value of a URL parameter or query-string.\n * @param value The value.\n * @returns The encoded value.\n */\n encodeValue(value: string): string {\n return standardEncoding(value);\n }\n\n /**\n * Decodes an encoded URL parameter or query-string key.\n * @param key The encoded key name.\n * @returns The decoded key name.\n */\n decodeKey(key: string): string {\n return decodeURIComponent(key);\n }\n\n /**\n * Decodes an encoded URL parameter or query-string value.\n * @param value The encoded value.\n * @returns The decoded value.\n */\n decodeValue(value: string) {\n return decodeURIComponent(value);\n }\n}\n\n\nfunction paramParser(rawParams: string, codec: HttpParameterCodec): Map<string, string[]> {\n const map = new Map<string, string[]>();\n if (rawParams.length > 0) {\n
 const params: string[] = rawParams.split('&');\n params.forEach((param: string) => {\n const eqIdx = param.indexOf('=');\n const [key, val]: string[] = eqIdx == -1 ?\n [codec.decodeKey(param), ''] :\n [codec.decodeKey(param.slice(0, eqIdx)), codec.decodeValue(param.slice(eqIdx + 1))];\n const list = map.get(key) || [];\n list.push(val);\n map.set(key, list);\n });\n }\n return map;\n}\nfunction standardEncoding(v: string): string {\n return encodeURIComponent(v)\n .replace(/%40/gi, '@')\n .replace(/%3A/gi, ':')\n .replace(/%24/gi, '$')\n .replace(/%2C/gi, ',')\n .replace(/%3B/gi, ';')\n .replace(/%2B/gi, '+')\n .replace(/%3D/gi, '=')\n .replace(/%3F/gi, '?')\n .replace(/%2F/gi, '/');\n}\n\n\ninterface Update {\n param: string;\n value?: string;\n op: 'a'|'d'|'s';\n}\n\n/**\n * Options used to construct an `HttpParams` instance.\n *\n * @publicApi\n */\nexport interface HttpParamsOptions {\n
```

```
 /**\n  * String representation of the HTTP parameters in URL-query-string format.\n  * Mutually exclusive with `fromObject`.\n  */\n  fromString?: string;\n\n  /** Object map of the HTTP parameters. Mutually exclusive with `fromString`. */\n  fromObject?: {[param: string]: string|ReadonlyArray<string>};\n\n  /** Encoding codec used to parse and serialize the parameters. */\n  encoder?: HttpParameterCodec;\n}\n\n/**\n * An HTTP request/response body that represents serialized parameters,\n * per the MIME type `application/x-www-form-urlencoded`.\n *\n * This class is immutable; all mutation operations return a new instance.\n *\n * @publicApi\n */\nexport class HttpParams {\n  private map: Map<string, string[]>|null;\n  private encoder: HttpParameterCodec;\n  private updates: Update[]|null = null;\n  private cloneFrom: HttpParams|null = null;\n\n  constructor(options: HttpParamsOptions = {} as HttpParamsOptions) {\n    this.encoder = options.encoder || new HttpUrlEncodingCodec();\n
    if (!!options.fromString) {\n      if (!!options.fromObject) {\n        throw new Error(`Cannot specify both fromString and fromObject.`);\n      }\n      this.map = paramParser(options.fromString, this.encoder);\n    } else if (!!options.fromObject) {\n      this.map = new Map<string, string[]>();\n      Object.keys(options.fromObject).forEach(key => {\n        const value = (options.fromObject as any)[key];\n        this.map!.set(key, Array.isArray(value) ? value : [value]);\n      });\n    } else {\n      this.map = null;\n    }\n  }\n\n  /**\n   * Reports whether the body includes one or more values for a given parameter.\n   * @param param The parameter name.\n   * @returns True if the parameter has one or more values,\n   * false if it has no value or is not present.\n   */\n  has(param: string): boolean {\n    this.init();\n    return this.map!.has(param);\n  }\n\n  /**\n   * Retrieves the first value for a parameter.\n   * @param param The parameter name.\n   * @returns The first value of the given parameter,\n   * or `null` if the parameter is not present.\n   */\n  get(param: string): string|null {\n    this.init();\n    const res = this.map!.get(param);\n    return !!res ? res[0] : null;\n  }\n\n  /**\n   * Retrieves all values for a  parameter.\n   * @param param The parameter name.\n   * @returns All values in a string array,\n   * or `null` if the parameter not present.\n   */\n  getAll(param: string): string[]|null {\n    this.init();\n    return this.map!.get(param) || null;\n  }\n\n  /**\n   * Retrieves all the parameters for this body.\n   * @returns The parameter names in a string array.\n   */\n  keys(): string[] {\n    this.init();\n    return Array.from(this.map!.keys());\n  }\n\n  /**\n   * Appends a new value to existing values for a parameter.\n   * @param param The parameter name.\n   * @param value The new value to add.\n   * @return A new body with the appended value.\n   */\n  append(param: string, value: string): HttpParams {\n    return this.clone({param, value, op: 'a'});\n  }\n\n  /**\n   * Replaces the value for a parameter.\n   * @param param The parameter name.\n   * @param value The new value.\n   * @return A new body with the new value.\n   */\n  set(param: string, value: string): HttpParams {\n    return this.clone({param, value, op: 's'});\n  }\n\n  /**\n   * Removes a given value or all values from a parameter.\n   * @param param The parameter name.\n   * @param value The value to remove, if provided.\n   * @return A new body with the given value removed, or with all values\n   * removed if no value is specified.\n   */\n  delete(param: string, value?: string): HttpParams {\n    return this.clone({param, value, op: 'd'});\n  }\n\n  /**\n   * Serializes the body to an encoded string, where key-value pairs (separated by `=`) are\n   * separated by `&`s.\n   */\n  toString(): string {\n    this.init();\n    return this.keys()\n        .map(key => {\n          const eKey = this.encoder.encodeKey(key);\n
          // `a: ['1']` produces `'a=1'`\n          // `b: []` produces `''`\n          // `c: ['1', '2']` produces `'c=1&c=2'`\n          return this.map!.get(key)!.map(value => eKey + '=' + this.encoder.encodeValue(value))\n              .join('&');\n        })\n        // filter out empty values because `b: []` produces `''`\n        // which results in `a=1&&c=1&c=2` instead of `a=1&c=1&c=2` if we don't\n        .filter(param => param !== '')\n        .join('&');\n  }\n\n  private clone(update: Update): HttpParams {\n    const clone = new HttpParams({encoder: this.encoder} as HttpParamsOptions);\n    clone.cloneFrom = this.cloneFrom || this;\n    clone.updates = (this.updates || []).concat([update]);\n    return clone;\n  }\n\n  private init() {\n    if (this.map === null) {\n      this.map = new Map<string, string[]>();\n    }\n    if (this.cloneFrom !== null) {\n      this.cloneFrom.init();\n      this.cloneFrom.keys().forEach(key => this.map!.set(key, this.cloneFrom!.map!.get(key)!));\n
      this.updates!.forEach(update => {\n        switch (update.op) {\n          case 'a':\n          case 's':\n            const base = (update.op === 'a' ? this.map!.get(update.param) : undefined) || [];\n            base.push(update.value!);\n
```

this.map!.set(update.param, base);\n break;\n case 'd':\n if (update.value !== undefined) {\n let base = this.map!.get(update.param) || [];\n const idx = base.indexOf(update.value);\n if (idx !== -1) {\n base.splice(idx, 1);\n }\n if (base.length > 0) {\n this.map!.set(update.param, base);\n } else {\n this.map!.delete(update.param);\n }\n } else {\n this.map!.delete(update.param);\n break;\n }\n }\n });\n this.cloneFrom = this.updates = null;\n }\n }\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {HttpHeaders} from './headers';\nimport {HttpParams} from './params';\n\n/**\n * Construction interface for `HttpRequest`s.\n *\n * All values are optional and will override default values if provided.\n */\ninterface HttpRequestInit {\n headers?: HttpHeaders;\n reportProgress?: boolean;\n params?: HttpParams;\n responseType?: 'arraybuffer'|'blob'|'json'|'text';\n withCredentials?: boolean;\n}\n\n/**\n * Determine whether the given HTTP method may include a body.\n */\nfunction mightHaveBody(method: string): boolean {\n switch (method) {\n case 'DELETE':\n case 'GET':\n case 'HEAD':\n case 'OPTIONS':\n case 'JSONP':\n return false;\n default:\n return true;\n }\n}\n\n/**\n * Safely assert whether the given value is an ArrayBuffer.\n *\n * In some execution environments ArrayBuffer is not defined.\n */\nfunction isArrayBuffer(value: any): value is ArrayBuffer {\n return typeof ArrayBuffer !== 'undefined' && value instanceof ArrayBuffer;\n}\n\n/**\n * Safely assert whether the given value is a Blob.\n *\n * In some execution environments Blob is not defined.\n */\nfunction isBlob(value: any): value is Blob {\n return typeof Blob !== 'undefined' && value instanceof Blob;\n}\n\n/**\n * Safely assert whether the given value is a FormData instance.\n *\n * In some execution environments FormData is not defined.\n */\nfunction isFormData(value: any): value is FormData {\n return typeof FormData !== 'undefined' && value instanceof FormData;\n}\n\n/**\n * An outgoing HTTP request with an optional typed body.\n *\n * `HttpRequest` represents an outgoing request, including URL, method,\n * headers, body, and other request configuration options. Instances should be\n * assumed to be immutable. To modify a `HttpRequest`, the `clone`\n * method should be used.\n *\n * @publicApi\n */\nexport class HttpRequest<T> {\n /**\n * The request body, or `null` if one isn't set.\n *\n * Bodies are not enforced to be immutable, as they can include a reference to any\n * user-defined data type. However, interceptors should take care to preserve\n * idempotence by treating them as such.\n */\n readonly body: T|null = null;\n\n /**\n * Outgoing headers for this request.\n */\n // TODO(issue/24571): remove '!'.\n readonly headers!: HttpHeaders;\n\n /**\n * Whether this request should be made in a way that exposes progress events.\n *\n * Progress events are expensive (change detection runs on each event) and so\n * they should only be requested if the consumer intends to monitor them.\n */\n readonly reportProgress: boolean = false;\n\n /**\n * Whether this request should be sent with outgoing credentials (cookies).\n */\n readonly withCredentials: boolean = false;\n\n /**\n * The expected response type of the server.\n *\n * This is used to parse the response appropriately before returning it to\n * the requestee.\n */\n readonly responseType: 'arraybuffer'|'blob'|'json'|'text' = 'json';\n\n /**\n * The outgoing HTTP request method.\n */\n readonly method: string;\n\n /**\n * Outgoing URL parameters.\n */\n // TODO(issue/24571): remove '!'.\n readonly params!: HttpParams;\n\n /**\n * The outgoing URL with all URL parameters set.\n */\n readonly urlWithParams: string;\n\n constructor(method: 'DELETE'|'GET'|'HEAD'|'JSONP'|'OPTIONS', url: string, init?: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n });\n constructor(method: 'POST'|'PUT'|'PATCH', url: string, body: T|null, init?: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n });\n constructor(method: string, url: string, body: T|null, init?: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n });\n constructor(\n method: string, readonly url: string, third?: T|{\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n }|null,\n fourth?: {\n headers?:

```
HttpHeaders,\n        reportProgress?: boolean,\n        params?: HttpParams,\n        responseType?:
'arraybuffer'|'blob'|'json'|'text',\n        withCredentials?: boolean,\n      }) {\n    this.method = method.toUpperCase();\n
  // Next, need to figure out which argument holds the HttpRequestInit\n    // options, if any.\n    let options:
HttpRequestInit|undefined;\n\n    // Check whether a body argument is expected.
 The only valid way to omit\n    // the body argument is to use a known no-body method like GET.\n    if
(mightHaveBody(this.method) || !!fourth) {\n      // Body is the third argument, options are the fourth.\n      this.body
= (third !== undefined) ? third as T : null;\n      options = fourth;\n    } else {\n      // No body required, options are
the third argument. The body stays null.\n      options = third as HttpRequestInit;\n    }\n\n    // If options have been
passed, interpret them.\n    if (options) {\n      // Normalize reportProgress and withCredentials.\n
this.reportProgress = !!options.reportProgress;\n      this.withCredentials = !!options.withCredentials;\n\n      //
Override default response type of 'json' if one is provided.\n      if (!!options.responseType) {\n
this.responseType = options.responseType;\n      }\n\n      // Override headers if they're provided.\n      if
(!!options.headers) {\n        this.headers = options.headers;\n      }\n\n
   if (!!options.params) {\n        this.params = options.params;\n      }\n    }\n\n    // If no headers have been passed in,
construct a new HttpHeaders instance.\n    if (!this.headers) {\n      this.headers = new HttpHeaders();\n    }\n\n    // If
no parameters have been passed in, construct a new HttpUrlEncodedParams instance.\n    if (!this.params) {\n
this.params = new HttpParams();\n      this.urlWithParams = url;\n    } else {\n      // Encode the parameters to a
string in preparation for inclusion in the URL.\n      const params = this.params.toString();\n      if (params.length
=== 0) {\n        // No parameters, the visible URL is just the URL given at creation time.\n        this.urlWithParams =
url;\n      } else {\n        // Does the URL already have query parameters? Look for '?'.\n        const qIdx =
url.indexOf('?');\n        // There are 3 cases to handle:\n        // 1) No existing parameters -> append '?' followed by
params.\n        // 2) '?' exists and is followed
 by existing query string ->\n        //    append '&' followed by params.\n        // 3) '?' exists at the end of the url ->
append params directly.\n        // This basically amounts to determining the character, if any, with\n        // which to
join the URL and parameters.\n        const sep: string = qIdx === -1 ? '?' : (qIdx < url.length - 1 ? '&' : '');\n
this.urlWithParams = url + sep + params;\n      }\n    }\n  }\n\n  /**\n   * Transform the free-form body into a
serialized format suitable for\n   * transmission to the server.\n   */\n  serializeBody():
ArrayBuffer|Blob|FormData|string|null {\n    // If no body is present, no need to serialize it.\n    if (this.body ===
null) {\n      return null;\n    }\n    // Check whether the body is already in a serialized form. If so,\n    // it can just be
returned directly.\n    if (isArrayBuffer(this.body) || isBlob(this.body) || isFormData(this.body) ||\n        typeof
this.body === 'string') {\n      return this.body;\n
   }\n    // Check whether the body is an instance of HttpUrlEncodedParams.\n    if (this.body instanceof
HttpParams) {\n      return this.body.toString();\n    }\n    // Check whether the body is an object or array, and
serialize with JSON if so.\n    if (typeof this.body === 'object' || typeof this.body === 'boolean' ||\n
Array.isArray(this.body)) {\n      return JSON.stringify(this.body);\n    }\n    // Fall back on toString() for everything
else.\n    return (this.body as any).toString();\n  }\n\n  /**\n   * Examine the body and attempt to infer an appropriate
MIME type\n   * for it.\n   *\n   * If no such type can be inferred, this method will return `null`.\n   */\n
detectContentTypeHeader(): string|null {\n    // An empty body has no content type.\n    if (this.body === null) {\n
return null;\n    }\n    // FormData bodies rely on the browser's content type assignment.\n    if
(isFormData(this.body)) {\n      return null;\n    }\n    // Blobs usually have their own
 content type. If it doesn't, then\n    // no type can be inferred.\n    if (isBlob(this.body)) {\n      return this.body.type ||
null;\n    }\n    // Array buffers have unknown contents and thus no type can be inferred.\n    if
(isArrayBuffer(this.body)) {\n      return null;\n    }\n    // Technically, strings could be a form of JSON data, but it's
safe enough\n    // to assume they're plain strings.\n    if (typeof this.body === 'string') {\n      return 'text/plain';\n
}\n    // `HttpUrlEncodedParams` has its own content-type.\n    if (this.body instanceof HttpParams) {\n      return
'application/x-www-form-urlencoded;charset=UTF-8';\n    }\n    // Arrays, objects, and numbers will be encoded as
JSON.\n    if (typeof this.body === 'object' || typeof this.body === 'number' ||\n        Array.isArray(this.body)) {\n
return 'application/json';\n    }\n    // No type could be inferred.\n    return null;\n  }\n\n  clone(): HttpRequest<T>;\n
```

clone(update: {\n    headers?: HttpHeaders,\n
    reportProgress?: boolean,\n    params?: HttpParams,\n    responseType?: 'arraybuffer'|'blob'|'json'|'text',\n
withCredentials?: boolean,\n    body?: T|null,\n    method?: string,\n    url?: string,\n    setHeaders?: {[name: string]:
string|string[]},\n    setParams?: {[param: string]: string},\n  }): HttpRequest<T>;\n  clone<V>(update: {\n
headers?: HttpHeaders,\n    reportProgress?: boolean,\n    params?: HttpParams,\n    responseType?:
'arraybuffer'|'blob'|'json'|'text',\n    withCredentials?: boolean,\n    body?: V|null,\n    method?: string,\n    url?:
string,\n    setHeaders?: {[name: string]: string|string[]},\n    setParams?: {[param: string]: string},\n  }):
HttpRequest<V>;\n  clone(update: {\n    headers?: HttpHeaders,\n    reportProgress?: boolean,\n    params?:
HttpParams,\n    responseType?: 'arraybuffer'|'blob'|'json'|'text',\n    withCredentials?: boolean,\n    body?: any|null,\n
  method?: string,\n    url?: string,\n    setHeaders?: {[name: string]:
  string|string[]},\n    setParams?: {[param: string]: string};\n  } = {}): HttpRequest<any> {\n    // For method, url,
and responseType, take the current value unless\n    // it is overridden in the update hash.\n    const method =
update.method || this.method;\n    const url = update.url || this.url;\n    const responseType = update.responseType ||
this.responseType;\n\n    // The body is somewhat special - a `null` value in update.body means\n    // whatever
current body is present is being overridden with an empty\n    // body, whereas an `undefined` value in update.body
implies no\n    // override.\n    const body = (update.body !== undefined) ? update.body : this.body;\n\n    //
Carefully handle the boolean options to differentiate between\n    // `false` and `undefined` in the update args.\n
const withCredentials =\n        (update.withCredentials !== undefined) ? update.withCredentials :
this.withCredentials;\n    const reportProgress =\n        (update.reportProgress !== undefined)
  ? update.reportProgress : this.reportProgress;\n\n    // Headers and params may be appended to if `setHeaders` or\n
// `setParams` are used.\n    let headers = update.headers || this.headers;\n    let params = update.params ||
this.params;\n\n    // Check whether the caller has asked to add headers.\n    if (update.setHeaders !== undefined) {\n
    // Set every requested header.\n      headers =\n          Object.keys(update.setHeaders)\n              .reduce((headers,
name) => headers.set(name, update.setHeaders![name]), headers);\n    }\n\n    // Check whether the caller has asked
to set params.\n    if (update.setParams) {\n      // Set every requested param.\n      params =
Object.keys(update.setParams)\n                    .reduce((params, param) => params.set(param,
update.setParams![param]), params);\n    }\n\n    // Finally, construct the new HttpRequest using the pieces from
above.\n    return new HttpRequest(method, url, body, {\n      params,\n      headers,\n
  reportProgress,\n      responseType,\n      withCredentials,\n    });\n  }\n}\n","/**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n\nimport {HttpHeaders} from './headers';\n\n/**\n *
Type enumeration for the different kinds of `HttpEvent`.\n *\n * @publicApi\n */\nexport enum HttpEventType {\n
/**\n   * The request was sent out over the wire.\n   */\n  Sent,\n\n  /**\n   * An upload progress event was
received.\n   */\n  UploadProgress,\n\n  /**\n   * The response status code and headers were received.\n   */\n
ResponseHeader,\n\n  /**\n   * A download progress event was received.\n   */\n  DownloadProgress,\n\n  /**\n   *
The full response including the body was received.\n   */\n  Response,\n\n  /**\n   * A custom event from an
interceptor or a backend.\n   */\n  User,\n}\n\n/**\n * Base interface for progress events.\n *\n
  * @publicApi\n */\nexport interface HttpProgressEvent {\n  /**\n   * Progress event type is either upload or
download.\n   */\n  type: HttpEventType.DownloadProgress|HttpEventType.UploadProgress;\n\n  /**\n   * Number
of bytes uploaded or downloaded.\n   */\n  loaded: number;\n\n  /**\n   * Total number of bytes to upload or
download. Depending on the request or\n   * response, this may not be computable and thus may not be present.\n
*/\n  total?: number;\n}\n\n/**\n * A download progress event.\n *\n * @publicApi\n */\nexport interface
HttpDownloadProgressEvent extends HttpProgressEvent {\n  type: HttpEventType.DownloadProgress;\n\n  /**\n   *
The partial response body as downloaded so far.\n   *\n   * Only present if the responseType was `text`.\n   */\n
partialText?: string;\n}\n\n/**\n * An upload progress event.\n *\n * @publicApi\n */\nexport interface
HttpUploadProgressEvent extends HttpProgressEvent {\n  type: HttpEventType.UploadProgress;\n}\n\n/**\n * An
event indicating

that the request was sent to the server. Useful\n * when a request may be retried multiple times, to distinguish between\n * retries on the final event stream.\n *\n * @publicApi\n */\nexport interface HttpSentEvent {\n type: HttpEventType.Sent;\n}\n\n/**\n * A user-defined event.\n *\n * Grouping all custom events under this type ensures they will be handled\n * and forwarded by all implementations of interceptors.\n *\n * @publicApi\n */\nexport interface HttpUserEvent<T> {\n type: HttpEventType.User;\n}\n\n/**\n * An error that represents a failed attempt to JSON.parse text coming back\n * from the server.\n *\n * It bundles the Error object with the actual response body that failed to parse.\n *\n *\n */\nexport interface HttpJsonParseError {\n error: Error;\n text: string;\n}\n\n/**\n * Union type for all possible events on the response stream.\n *\n * Typed according to the expected type of the response.\n *\n * @publicApi\n */\nexport type HttpEvent<T> =\n HttpSentEvent|HttpHeaderResponse|HttpResponse<T>|HttpProgressEvent|HttpUserEvent<T>;\n\n/**\n * Base class for both `HttpResponse` and `HttpHeaderResponse`.\n *\n * @publicApi\n */\nexport abstract class HttpResponseBase {\n /**\n * All response headers.\n */\n readonly headers: HttpHeaders;\n\n /**\n * Response status code.\n */\n readonly status: number;\n\n /**\n * Textual description of response status code, defaults to OK.\n *\n * Do not depend on this.\n */\n readonly statusText: string;\n\n /**\n * URL of the resource retrieved, or null if not available.\n */\n readonly url: string|null;\n\n /**\n * Whether the status code falls in the 2xx range.\n */\n readonly ok: boolean;\n\n /**\n * Type of the response, narrowed to either the full response or the header.\n */\n // TODO(issue/24571): remove '!'.\n readonly type!: HttpEventType.Response|HttpEventType.ResponseHeader;\n\n /**\n * Super-constructor for all responses.\n *\n * The single parameter
accepted is an initialization hash. Any properties\n * of the response passed there will override the default values.\n */\n constructor(\n init: {\n headers?: HttpHeaders,\n status?: number,\n statusText?: string,\n url?: string,\n },\n defaultStatus: number = 200, defaultStatusText: string = 'OK') {\n // If the hash has values passed, use them to initialize the response.\n // Otherwise use the default values.\n this.headers = init.headers || new HttpHeaders();\n this.status = init.status !== undefined ? init.status : defaultStatus;\n this.statusText = init.statusText || defaultStatusText;\n this.url = init.url || null;\n\n // Cache the ok value to avoid defining a getter.\n this.ok = this.status >= 200 && this.status < 300;\n }\n}\n\n/**\n * A partial HTTP response which only includes the status and header data,\n * but no response body.\n *\n * `HttpHeaderResponse` is a `HttpEvent` available on the response\n
* event stream, only when progress events are requested.\n *\n * @publicApi\n */\nexport class HttpHeaderResponse extends HttpResponseBase {\n /**\n * Create a new `HttpHeaderResponse` with the given parameters.\n */\n constructor(init: {\n headers?: HttpHeaders,\n status?: number,\n statusText?: string,\n url?: string,\n } = {}) {\n super(init);\n }\n\n readonly type: HttpEventType.ResponseHeader = HttpEventType.ResponseHeader;\n\n /**\n * Copy this `HttpHeaderResponse`, overriding its contents with the\n * given parameter hash.\n */\n clone(update: {headers?: HttpHeaders; status?: number; statusText?: string; url?: string;} = {}):\n HttpHeaderResponse {\n // Perform a straightforward initialization of the new HttpHeaderResponse,\n // overriding the current parameters with new ones if given.\n return new HttpHeaderResponse({\n headers: update.headers || this.headers,\n status: update.status !== undefined ? update.status : this.status,\n
statusText: update.statusText || this.statusText,\n url: update.url || this.url || undefined,\n });\n }\n}\n\n/**\n * A full HTTP response, including a typed response body (which may be `null`\n * if one was not returned).\n *\n * `HttpResponse` is a `HttpEvent` available on the response event\n * stream.\n *\n * @publicApi\n */\nexport class HttpResponse<T> extends HttpResponseBase {\n /**\n * The response body, or `null` if one was not returned.\n */\n readonly body: T|null;\n\n /**\n * Construct a new `HttpResponse`.\n */\n constructor(init: {\n body?: T|null,\n headers?: HttpHeaders;\n status?: number;\n statusText?: string;\n url?: string;\n } = {}) {\n super(init);\n this.body = init.body !== undefined ? init.body : null;\n }\n\n readonly type: HttpEventType.Response = HttpEventType.Response;\n\n clone(): HttpResponse<T>;\n clone(update: {headers?: HttpHeaders; status?: number; statusText?: string; url?: string;}):\n

HttpResponse<T>;\n clone<V>(update: {\n body?: V|null,\n headers?: HttpHeaders;\n status?: number;\n statusText?: string;\n url?: string;\n }): HttpResponse<V>;\n clone(update: {\n body?: any|null;\n headers?: HttpHeaders;\n status?: number;\n statusText?: string;\n url?: string;\n } = {}): HttpResponse<any> {\n return new HttpResponse<any>({\n body: (update.body !== undefined) ? update.body : this.body,\n headers: update.headers || this.headers,\n status: (update.status !== undefined) ? update.status : this.status,\n statusText: update.statusText || this.statusText,\n url: update.url || this.url || undefined,\n });\n }\n}\n\n/**\n * A response that represents an error or failure, either from a\n * non-successful HTTP status, an error while executing the request,\n * or some other failure which occurred during the parsing of the response.\n *\n * Any error returned on the `Observable` response stream will be\n * wrapped
in an `HttpErrorResponse` to provide additional context about\n * the state of the HTTP layer when the error occurred. The error property\n * will contain either a wrapped Error object or the error response returned\n * from the server.\n *\n * @publicApi\n */\nexport class HttpErrorResponse extends HttpResponseBase implements Error {\n readonly name = 'HttpErrorResponse';\n readonly message: string;\n readonly error: any|null;\n\n /**\n * Errors are never okay, even when the status code is in the 2xx success range.\n */\n readonly ok = false;\n\n constructor(init: {\n error?: any;\n headers?: HttpHeaders;\n status?: number;\n statusText?: string;\n url?: string;\n }) {\n // Initialize with a default status of 0 / Unknown Error.\n super(init, 0, 'Unknown Error');\n\n // If the response was successful, then this was a parse error. Otherwise, it was\n // a protocol-level failure of some sort. Either the request failed in transit\n // or the server
returned an unsuccessful status code.\n if (this.status >= 200 && this.status < 300) {\n this.message = `Http failure during parsing for ${init.url || '(unknown url)'}`;\n } else {\n this.message = `Http failure response for ${init.url || '(unknown url)'}: ${init.status} ${\n init.statusText}`;\n }\n this.error = init.error || null;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable} from '@angular/core';\nimport {Observable, of} from 'rxjs';\nimport {concatMap, filter, map} from 'rxjs/operators';\n\nimport {HttpHandler} from './backend';\nimport {HttpHeaders} from './headers';\nimport {HttpParams, HttpParamsOptions} from './params';\nimport {HttpRequest} from './request';\nimport {HttpEvent, HttpResponse} from './response';\n\n\n/**\n * Constructs an instance of `HttpRequestOptions<T>`
from a source `HttpMethodOptions` and\n * the given `body`. This function clones the object and adds the body.\n *\n * Note that the `responseType` *options* value is a String that identifies the\n * single data type of the response.\n * A single overload version of the method handles each response type.\n * The value of `responseType` cannot be a union, as the combined signature could imply.\n *\n */\nfunction addBody<T>(\n options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n },\n body: T|null): any {\n return {\n body,\n headers: options.headers,\n observe: options.observe,\n params: options.params,\n reportProgress: options.reportProgress,\n responseType: options.responseType,\n withCredentials:
options.withCredentials,\n };\n}\n\nexport type HttpObserve = 'body'|'events'|'response';\n\n/**\n * Performs HTTP requests.\n * This service is available as an injectable class, with methods to perform HTTP requests.\n * Each request method has multiple signatures, and the return type varies based on\n * the signature that is called (mainly the values of `observe` and `responseType`).\n *\n * Note that the `responseType` *options* value is a String that identifies the\n * single data type of the response.\n * A single overload version of the method handles each response type.\n * The value of `responseType` cannot be a union, as the combined signature could imply.\n\n *\n * @usageNotes\n * Sample HTTP requests for the [Tour of Heroes](/tutorial/toh-pt0) application.\n *\n * ### HTTP Request Example\n *\n * ```\n * // GET heroes whose name contains search term\n * searchHeroes(term: string): observable<Hero[]>{\n *\n * const params = new HttpParams({fromString: 'name=term'});\n
* return this.httpClient.request('GET', this.heroesUrl, {responseType:'json', params});\n * }\n * ```\n * ### JSONP Example\n * ```\n * requestJsonp(url, callback = 'callback') {\n * return

```
this.httpClient.jsonp(this.heroesURL, callback);\n * }\n * ```\n *\n * ### PATCH Example\n * ```\n * // PATCH one of the heroes' name\n * patchHero (id: number, heroName: string): Observable<{}> {\n * const url = `${this.heroesUrl}/${id}`;   // PATCH api/heroes/42\n *  return this.httpClient.patch(url, {name: heroName}, httpOptions)\n *    .pipe(catchError(this.handleError('patchHero')));\n * }\n * ```\n *\n * @see [HTTP Guide](guide/http)\n *\n * @publicApi\n */\n@Injectable()\nexport class HttpClient {\n  constructor(private handler: HttpHandler) {}\n\n  /**\n   * Sends an `HttpRequest` and returns a stream of `HttpEvent`s.\n   *\n   * @return An `Observable` of the response, with the response body as a stream of `HttpEvent`s.\n   */\n  request<R>(req: HttpRequest<any>): Observable<HttpEvent<R>>;\n\n  /**\n   * Constructs a request that interprets the body as an `ArrayBuffer` and returns the response in\n   * an `ArrayBuffer`.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   *\n   * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'arraybuffer',\n    withCredentials?: boolean,\n  }): Observable<ArrayBuffer>;\n\n  /**\n   * Constructs a request that interprets the body as a blob and returns\n   * the response as a blob.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response, with the response body of type `Blob`.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'blob',\n    withCredentials?: boolean,\n  }): Observable<Blob>;\n\n  /**\n   * Constructs a request that interprets the body as a text string and\n   * returns a string value.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response, with the response body of type string.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'text',\n    withCredentials?: boolean,\n  }): Observable<string>;\n\n  /**\n   * Constructs a request that interprets the body as an `ArrayBuffer` and returns the\n   * the full event stream.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response, with the response body as an array of `HttpEvent`s for\n   * the request.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    params?: HttpParams|{[param: string]: string | string[]}, observe: 'events',\n    reportProgress?: boolean, responseType: 'arraybuffer',\n    withCredentials?: boolean,\n  }): Observable<HttpEvent<ArrayBuffer>>;\n\n  /**\n   * Constructs a request that interprets the body as a `Blob` and returns\n   * the full event stream.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of all `HttpEvent`s for the request,\n   * with the response body of type `Blob`.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'blob',\n    withCredentials?: boolean,\n  }): Observable<HttpEvent<Blob>>;\n\n  /**\n   * Constructs a request which interprets the body as a text string and returns the full event\n   * stream.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of all `HttpEvent`s for the request,\n   * with the response body of type string.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'text',\n    withCredentials?: boolean,\n  }): Observable<HttpEvent<string>>;\n\n  /**\n   * Constructs a request which interprets the body as a JSON object and returns the full event\n   * stream.\n   *\n   * @param method  The
```

HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body of type `Object`.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n reportProgress?: boolean, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<any>>;\n\n /**\n * Constructs a request which interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body of type `R`.\n */\n request<R>(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n reportProgress?: boolean, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<R>>;\n\n /**\n * Constructs a request which interprets the body as an `ArrayBuffer`\n * and returns the full `HttpResponse`.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body as an `ArrayBuffer`.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a request which interprets the body as a `Blob` and returns the full `HttpResponse`.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of type `Blob`.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a request which interprets the body as a text stream and returns the full\n * `HttpResponse`.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the HTTP response, with the response body of type string.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a request which interprets the body as a JSON object and returns the full\n * `HttpResponse`.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`,\n * with the response body of type `Object`.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n reportProgress?: boolean, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a request which interprets the body as a JSON object and returns\n * the full `HttpResponse` with the response body in the requested type.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`, with the response body of type `R`.\n */\n request<R>(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n reportProgress?: boolean, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<R>>;\n\n /**\n * Constructs a request which interprets the body as a JSON object and returns the full\n * `HttpResponse` as a JSON object.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the

`HttpResponse`, with the response body of type `Object`.\n */\n request(method: string, url: string, options?: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n reportProgress?: boolean,\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a request which interprets the body as a JSON object\n * with the response body of the requested type.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of type `R`.\n */\n request<R>(method: string, url: string, options?: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n reportProgress?: boolean,\n withCredentials?: boolean,\n }): Observable<R>;\n\n /**\n * Constructs a request where response type and requested observable are not known statically.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the reuested response, wuth body of type `any`.\n */\n request(method: string, url: string, options?: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n params?: HttpParams|{[param: string]: string | string[]},\n observe?: HttpObserve,\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n }): Observable<any>;\n\n /**\n * Constructs an observable for a generic HTTP request that, when subscribed,\n * fires the request through the chain of registered interceptors and on to the\n * server.\n *\n * You can pass an `HttpRequest` directly as the only parameter. In this case,\n * the call returns an observable of the raw `HttpEvent` stream.\n *\n * Alternatively you can pass an HTTP method as the first parameter,\n * a URL string as the second, and an options hash containing the request body as the third.\n * See `addBody()`. In this case, the specified `responseType` and `observe` options determine the\n * type of returned observable.\n * * The `responseType` value determines how a successful response body is parsed.\n * * If `responseType` is the default `json`, you can pass a type interface for the resulting\n * object as a type parameter to the call.\n *\n * The `observe` value determines the return type, according to what you are interested in\n * observing.\n * * An `observe` value of events returns an observable of the raw `HttpEvent` stream, including\n * progress events by default.\n * * An `observe` value of response returns an observable of `HttpResponse<T>`,\n * where the `T` parameter depends on the `responseType` and any optionally provided type\n * parameter.\n * * An `observe` value of body returns an observable of `<T>` with the same `T` body type.\n *\n */\n request(first: string|HttpRequest<any>, url?: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n let req: HttpRequest<any>;\n // First, check whether the primary argument is an instance of `HttpRequest`.\n if (first instanceof HttpRequest) {\n // It is. The other arguments must be undefined (per the signatures) and can be\n // ignored.\n req = first;\n } else {\n // It's a string, so it represents a URL. Construct a request based on it,\n // and incorporate the remaining arguments (assuming `GET` unless a method is\n // provided.\n\n // Figure out the headers.\n let headers: HttpHeaders|undefined = undefined;\n if (options.headers instanceof HttpHeaders) {\n headers = options.headers;\n } else {\n headers = new HttpHeaders(options.headers);\n }\n\n // Sort out parameters.\n let params: HttpParams|undefined = undefined;\n if (!!options.params) {\n if (options.params instanceof HttpParams) {\n params = options.params;\n } else {\n params = new HttpParams({fromObject: options.params} as HttpParamsOptions);\n }\n }\n\n // Construct the request.\n req = new HttpRequest(first, url!, (options.body !== undefined ? options.body : null), {\n headers,\n params,\n reportProgress: options.reportProgress,\n // By default, JSON is assumed to be returned for all calls.\n responseType: options.responseType || 'json',\n withCredentials: options.withCredentials,\n });\n }\n\n // Start with an Observable.of() the initial

```
request, and run the handler (which\n    // includes all interceptors) inside a concatMap(). This way, the handler runs\n    // inside an Observable chain, which causes interceptors to be re-run on every\n    // subscription (this also makes retries re-run the handler, including interceptors).\n    const events$: Observable<HttpEvent<any>> =\n of(req).pipe(concatMap((req: HttpRequest<any>) => this.handler.handle(req)));\n\n    // If coming via the API signature which accepts a previously constructed HttpRequest,\n    // the only option is to get the event stream. Otherwise, return the event stream if\n    // that is what was requested.\n    if (first instanceof HttpRequest || options.observe === 'events') {\n      return events$;\n    }\n\n    // The requested stream contains either the full response or the body. In either\n    // case, the first step is to filter the event stream to extract a stream of\n    // responses(s).\n    const res$: Observable<HttpResponse<any>> =\n <Observable<HttpResponse<any>>>events$.pipe(\n        filter((event: HttpEvent<any>) => event instanceof HttpResponse));\n\n    // Decide which stream to return.\n    switch (options.observe || 'body') {\n      case 'body':\n // The requested stream is the body. Map the response stream to the response\n        // body. This could be done more simply, but a misbehaving interceptor might\n        // transform the response body into a different format and ignore the requested\n        // responseType. Guard against this by validating that the response is of the\n        // requested type.\n        switch (req.responseType) {\n          case 'arraybuffer':\n            return res$.pipe(map((res: HttpResponse<any>) => {\n              // Validate that the body is an ArrayBuffer.\n              if (res.body !== null && !(res.body instanceof ArrayBuffer)) {\n                throw new Error('Response is not an ArrayBuffer.');\n              }\n              return res.body;\n
  }));\n          case 'blob':\n            return res$.pipe(map((res: HttpResponse<any>) => {\n              // Validate that the body is a Blob.\n              if (res.body !== null && !(res.body instanceof Blob)) {\n                throw new Error('Response is not a Blob.');\n              }\n              return res.body;\n            }));\n          case 'text':\n            return res$.pipe(map((res: HttpResponse<any>) => {\n              // Validate that the body is a string.\n              if (res.body !== null && typeof res.body !== 'string') {\n                throw new Error('Response is not a string.');\n              }\n              return res.body;\n            }));\n          case 'json':\n          default:\n            // No validation needed for JSON responses, as they can be of any type.\n            return res$.pipe(map((res: HttpResponse<any>) => res.body));\n        }\n      case 'response':\n        // The response stream was requested directly, so return it.\n        return res$;\n      default:\n        // Guard against new future observe types being added.\n        throw new Error(`Unreachable: unhandled observe type ${options.observe}}`);\n    }\n  }\n\n  /**\n   * Constructs a `DELETE` request that interprets the body as an `ArrayBuffer`\n   * and returns the response as an `ArrayBuffer`.\n   *\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return  An `Observable` of the response body as an `ArrayBuffer`.\n   */\n  delete(url: string, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'arraybuffer',\n    withCredentials?: boolean,\n  }): Observable<ArrayBuffer>;\n\n\n  /**\n   * Constructs a `DELETE` request that interprets the body as a `Blob` and returns\n   * the response as a `Blob`.\n   *\n   * @param url
 The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response body as a `Blob`.\n   */\n  delete(url: string, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'blob',\n    withCredentials?: boolean,\n  }): Observable<Blob>;\n\n  /**\n   * Constructs a `DELETE` request that interprets the body as a text string and returns\n   * a string.\n   *\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response, with the response body of type string.\n   */\n  delete(url: string, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'text',\n    withCredentials?: boolean,\n  }): Observable<string>;\n\n  /**\n   * Constructs a `DELETE` request that interprets the body as an `ArrayBuffer`\n   * and returns the full event stream.\n   *\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of all `HttpEvent`s for the request,\n   * with response body as an `ArrayBuffer`.\n   */\n  delete(url:
```

string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a `Blob`\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request, with the response body as a\n * `Blob`.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a text string\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with the response\n * body of type string.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with response body of\n * type `Object`.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a `DELETE`request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request, with a response\n * body in the requested type.\n */\n delete<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as an `ArrayBuffer` and returns\n * the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`, with the response body as an `ArrayBuffer`.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a `Blob` and returns the full\n * `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of type `Blob`.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a text stream and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`, with the response body of type string.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `DELETE` request the interprets the body as a JSON object and returns\n * the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An

`Observable` of the `HttpResponse`, with the response body of type `Object`.\n *\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of the requested type.\n */\n delete<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a JSON object and\n * returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type `Object`.\n */\n delete(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a DELETE request that interprets the body as a JSON object and returns\n * the response in a given type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with response body in the requested type.\n */\n delete<T>(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `DELETE` request to execute on the server. See the individual overloads for\n * details on the return type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('DELETE', url, options as any);\n }\n\n\n /**\n * Constructs a `GET` request that interprets the body as an `ArrayBuffer` and returns the\n * response in an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param options
The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `GET` request that interprets the body as a `Blob`\n * and returns the response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,
responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `GET` request that interprets the body as a text string\n * and returns the response as a string value.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type string.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `GET` request that interprets the body as an `ArrayBuffer` and returns\n * the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s

for the request, with the response\n * body as an `ArrayBuffer`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a `Blob` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a text string and returns\n * the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type string.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type `Object`.\n */\n get(url:
string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with a response body in the requested type.\n */\n get<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a `GET` request that interprets
the body as an `ArrayBuffer` and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as an `ArrayBuffer`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a `Blob` and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a `Blob`.\n */\n get(url:
string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a text stream and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type string.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `GET` request
that interprets the body as a JSON object and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`,\n * with the response body of type `Object`.\n */\n get(url: string,

options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a JSON object and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse` for the request,\n * with a response body in the requested type.\n */\n get<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a JSON object and\n * returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n *\n * @return An `Observable` of the response body as a JSON object.\n */\n get(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a `GET` request that interprets the body as a JSON object and returns\n * the response body in a given type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with a response body in the requested type.\n */\n get<T>(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `GET` request to execute on the server. See the individual overloads for\n * details on the return type.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('GET', url, options as any);\n }\n\n\n /**\n * Constructs a `HEAD` request that interprets the body as an `ArrayBuffer` and\n * returns the response as an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a `Blob` and returns\n * the response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a text string and returns the response\n * as a string value.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type string.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as an `ArrayBuffer`\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n

reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a `Blob` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as a `Blob`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a text string\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with the response body of type\n * string.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object\n * and returns the full HTTP event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with a response body of\n * type `Object`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object and\n * returns the full event stream.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with a response body in the requested type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n */\n head<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as an `ArrayBuffer`\n * and returns the full HTTP response.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as an `ArrayBuffer`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a `Blob` and returns\n * the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a blob.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as text stream\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type string.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type `Object`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n

params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a responnse body of the requested type.\n */\n head<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object and\n * returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as a JSON object.\n */\n head(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object and returns\n * the response in a given type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body of the given type.\n */\n head<T>(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `HEAD` request to execute on the server. The `HEAD` method returns\n * meta information about the resource without transferring the\n * resource itself. See the individual overloads for\n * details on the return type.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('HEAD', url, options as any);\n }\n\n /**\n * Constructs a `JSONP` request for the given URL and name of the callback parameter.\n *\n * @param url The resource URL.\n * @param callbackParam The callback function name.\n *\n * @return An `Observable` of the response object, with response body as an object.\n */\n jsonp(url: string, callbackParam: string): Observable<Object>;\n\n /**\n * Constructs a `JSONP` request for the given URL and name of the callback parameter.\n *\n * @param url The resource URL.\n * @param callbackParam The callback function name.\n *\n * You must install a suitable interceptor, such as one provided by `HttpClientJsonpModule`.\n * If no such interceptor is reached,\n * then the `JSONP` request can be rejected by the configured backend.\n *\n * @return An `Observable` of the response object, with response body in the requested type.\n */\n jsonp<T>(url: string, callbackParam: string): Observable<T>;\n\n /**\n * Constructs an `Observable` that, when subscribed, causes a request with the special method\n * `JSONP` to be dispatched via the interceptor pipeline.\n * The [JSONP pattern](https://en.wikipedia.org/wiki/JSONP) works around limitations of certain\n * API endpoints that don't support newer,\n * and preferable [CORS](https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS) protocol.\n * JSONP treats the endpoint API as a JavaScript file and tricks the browser to process the\n * requests even if the API endpoint is not located on the same domain (origin) as the client-side\n * application making the request.\n * The endpoint API must support JSONP callback for JSONP requests to work.\n * The resource API returns the JSON response wrapped in a callback function.\n * You can pass the callback function name as one of the query parameters.\n * Note that JSONP requests can only be used with `GET` requests.\n *\n * @param url The resource URL.\n * @param callbackParam The callback function name.\n *\n */\n jsonp<T>(url: string, callbackParam: string): Observable<T> {\n return this.request<any>('JSONP', url, {\n params: new HttpParams().append(callbackParam, 'JSONP_CALLBACK'),\n observe: 'body',\n responseType: 'json',\n });\n }\n\n /**\n * Constructs an

`OPTIONS` request that interprets the body as an\n * `ArrayBuffer` and returns the response as an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a `Blob` and returns\n * the response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a text string and\n * returns a string value.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body of type string.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as an `ArrayBuffer`\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a `Blob` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as a `Blob`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a text string\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with the response body of type string.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request with the response\n * body of type `Object`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with a response body in the requested type.\n */\n options<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as an `ArrayBuffer`\n * and returns the full HTTP response.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as an `ArrayBuffer`.\n */\n

options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a `Blob`\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a `Blob`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as text stream\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type string.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type `Object`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the requested type.\n */\n options<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object and returns the\n * response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as a JSON object.\n */\n options(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object and returns the\n * response in a given type.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse`, with a response body of the given type.\n */\n options<T>(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an `Observable` that, when subscribed, causes the configured\n * `OPTIONS` request to execute on the server. This method allows the client\n * to determine the supported HTTP methods and other capabilites of an endpoint,\n * without implying a resource action. See the individual overloads for\n * details on the return type.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('OPTIONS', url, options as any);\n }\n\n /**\n * Constructs a `PATCH` request that interprets the body as an `ArrayBuffer` and returns\n * the response as an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n patch(url: string, body: any|null,

options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a `Blob` and returns the response\n * as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a text string and\n * returns the response as a string value.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with a response body of type string.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as an `ArrayBuffer` and\n * returns the the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a `Blob`\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request, with the\n * response body as `Blob`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a text string\n * and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request, with a\n * response body of type string.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with a response body of type `Object`.\n */\n patch(url: string,\n body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with a response body in the requested type.\n */\n patch<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n\n /**\n * Constructs a `PATCH` request that interprets the body as an `ArrayBuffer`\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param

options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as an `ArrayBuffer`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a `Blob` and returns the full\n * `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a `Blob`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a text stream and returns the\n * full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body of type string.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the requested type.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the given type.\n */\n patch<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object and\n * returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as a JSON object.\n */\n patch(url: string, body: any|null, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the response in a given type.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the given type.\n */\n patch<T>(url: string, body: any|null, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `PATCH` request\n to execute on the server. See the individual overloads for\n * details on the return type.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('PATCH', url, addBody(options, body));\n }\n\n /**\n * Constructs a `POST` request that

interprets the body as an `ArrayBuffer` and returns\n * an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `POST` request that interprets the body as a `Blob` and returns the\n * response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `POST` request that interprets the body as a text string and\n * returns the response as a string value.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with a response body of type string.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `POST` request that interprets the body as an `ArrayBuffer` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `POST` request that interprets the body as a `Blob`\n * and returns the response in an observable of the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with the response body as `Blob`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `POST` request that interprets\n the body as a text string and returns the full\n * event stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with a response body of type string.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a POST request that interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with a response body of type `Object`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a POST request that interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with a response body in the requested type.\n */\n post<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]:

string | string[]}, observe: 'events',\n  params?: HttpParams|{[param: string]: string | string[]},\n  reportProgress?: boolean,\n  responseType?: 'json',\n  withCredentials?: boolean,\n
}): Observable<HttpEvent<T>>;\n\n /**\n  * Constructs a POST request that interprets the body as an `ArrayBuffer`\n  *  and returns the full `HttpResponse`.\n  *\n  * @param url The endpoint URL.\n  * @param body The content to replace with.\n  * @param options HTTP options\n  *\n  * @return  An `Observable` of the `HttpResponse` for the request, with the response body as an\n  * `ArrayBuffer`.\n  */\n post(url: string, body: any|null, options: {\n  headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n  params?: HttpParams|{[param: string]: string | string[]},\n  reportProgress?: boolean, responseType: 'arraybuffer',\n  withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n  * Constructs a `POST` request that interprets the body as a `Blob` and returns the full\n  * `HttpResponse`.\n  *\n  * @param url The endpoint URL.\n  * @param body The content to replace with.\n  * @param options HTTP options\n  *\n  * @return An `Observable` of the `HttpResponse` for the request,\n  * with the response body as a `Blob`.\n  */\n post(url: string, body: any|null, options: {\n  headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n  params?: HttpParams|{[param: string]: string | string[]},\n  reportProgress?: boolean, responseType: 'blob',\n  withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n  * Constructs a `POST` request that interprets the body as a text stream and returns\n  * the full `HttpResponse`.\n  *\n  * @param url The endpoint URL.\n  * @param body The content to replace with.\n  * @param options HTTP options\n  *\n  * @return  An `Observable` of the `HttpResponse` for the request,\n  * with a response body of type string.\n  */\n post(url: string, body: any|null, options: {\n  headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n  params?: HttpParams|{[param: string]:
 string | string[]},\n  reportProgress?: boolean, responseType: 'text',\n  withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n  * Constructs a `POST` request that interprets the body as a JSON object\n  * and returns the full `HttpResponse`.\n  *\n  * @param url The endpoint URL.\n  * @param body The content to replace with.\n  * @param options HTTP options\n  *\n  * @return An `Observable` of the `HttpResponse` for the request, with a response body of type\n  * `Object`.\n  */\n post(url: string, body: any|null, options: {\n  headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n  params?: HttpParams|{[param: string]: string | string[]},\n  reportProgress?: boolean,\n  responseType?: 'json',\n  withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n  * Constructs a `POST` request that interprets the body as a JSON object and returns the full\n  * `HttpResponse`.\n  *\n  *\n  *
 @param url The endpoint URL.\n  * @param body The content to replace with.\n  * @param options HTTP options\n  *\n  * @return An `Observable` of the `HttpResponse` for the request, with a response body in the\n  * requested type.\n  */\n post<T>(url: string, body: any|null, options: {\n  headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n  params?: HttpParams|{[param: string]: string | string[]},\n  reportProgress?: boolean,\n  responseType?: 'json',\n  withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n  * Constructs a `POST` request that interprets the body as a\n  * JSON object and returns the response body as a JSON object.\n  *\n  * @param url The endpoint URL.\n  * @param body The content to replace with.\n  * @param options HTTP options\n  *\n  * @return An `Observable` of the response, with the response body as a JSON object.\n  */\n post(url: string, body: any|null, options?: {\n  headers?: HttpHeaders|{[header:
 string]: string | string[]},\n  observe?: 'body',\n  params?: HttpParams|{[param: string]: string | string[]},\n  reportProgress?: boolean,\n  responseType?: 'json',\n  withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n  * Constructs a `POST` request that interprets the body as a JSON object\n  * and returns an observable of the response.\n  *\n  * @param url The endpoint URL.\n  * @param body The content to replace with.\n  * @param options HTTP options\n  *\n  * @return  An `Observable` of the `HttpResponse` for the request, with a response body in the\n  * requested type.\n  */\n post<T>(url: string, body: any|null, options?: {\n  headers?: HttpHeaders|{[header: string]: string | string[]},\n  observe?: 'body',\n  params?: HttpParams|{[param: string]: string | string[]},\n  reportProgress?: boolean,\n  responseType?: 'json',\n  withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n  * Constructs an observable that,

when subscribed, causes the configured\n * `POST` request to execute on the server. The server responds with the location of\n * the replaced resource. See the individual overloads for\n * details on the return type.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('POST', url, addBody(options, body));\n }\n\n /**\n * Constructs a `PUT` request that interprets the body as an `ArrayBuffer` and returns the\n * response as an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with the response body as
an `ArrayBuffer`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a `Blob` and returns\n * the response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n
/**\n * Constructs a `PUT` request that interprets the body as a text string and\n * returns the response as a string value.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with a response body of type string.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `PUT` request that interprets the body as an `ArrayBuffer` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the
response body as an `ArrayBuffer`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a `Blob` and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as a `Blob`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?:
boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a text string and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with a response body\n * of type string.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return
An `Observable` of all `HttpEvent`s for the request, with a response body of\n * type `Object`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n

params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a JSON object and returns the\n * full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with a response body in the requested type.\n */\n put<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as an\n * `ArrayBuffer` and returns an observable of the full HTTP response.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request, with the response body as an\n * `ArrayBuffer`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a `Blob` and returns the\n * full HTTP response.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a `Blob`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a text stream and returns the\n * full HTTP response.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request, with a response body of type\n * string.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a JSON object and returns the full HTTP\n * response.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request, with a response body\n * of type 'Object`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as an instance of the requested type and\n * returns the full HTTP response.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the requested type.\n */\n put<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a JSON object\n * and returns an observable of JSON object.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the response as a JSON
object.\n */\n put(url: string, body: any|null, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a `PUT` request that interprets the body as an instance of the requested type\n * and returns an

observable of the requested type.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the requested type.\n */\n put<T>(url: string, body: any|null, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `PUT` request to execute on the server. The `PUT` method replaces an existing resource\n * with a new set of values.\n * See the individual overloads for details on the return type.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('PUT', url, addBody(options, body));\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable, InjectionToken} from '@angular/core';\nimport {Observable} from 'rxjs';\n\nimport {HttpHandler} from './backend';\nimport {HttpRequest} from './request';\nimport {HttpEvent} from './response';\n\n/**\n * Intercepts and handles an `HttpRequest` or `HttpResponse`.\n *\n * Most interceptors transform the outgoing request before passing it to the\n * next interceptor in the chain, by calling `next.handle(transformedReq)`.\n * An interceptor may transform the\n * response event stream as well, by applying additional RxJS operators on the stream\n * returned by `next.handle()`.\n *\n * More rarely, an interceptor may handle the request entirely,\n * and compose a new event stream instead of invoking `next.handle()`. This is an\n * acceptable behavior, but keep in mind that further interceptors will be skipped entirely.\n *\n * It is also rare but valid for an interceptor to return multiple responses on the\n * event stream for a single request.\n *\n * @publicApi\n *\n * @see [HTTP Guide](guide/http#intercepting-requests-and-responses)\n *\n * @usageNotes\n *\n * To use the same instance of `HttpInterceptors` for the entire app, import the `HttpClientModule`\n * only in your `AppModule`, and add the interceptors to the root application injector .\n * If you import `HttpClientModule` multiple times across different modules (for example, in lazy\n * loading modules), each import creates a new copy of the `HttpClientModule`, which overwrites the\n * interceptors provided in the root module.\n *\n */\nexport interface HttpInterceptor {\n /**\n * Identifies and handles a given HTTP request.\n * @param req The outgoing request object to handle.\n * @param next The next interceptor in the chain, or the backend\n * if no interceptors remain in the chain.\n * @returns An observable of the event stream.\n */\n intercept(req: HttpRequest<any>, next: HttpHandler): Observable<HttpEvent<any>>;\n}\n\n/**\n * `HttpHandler` which applies an `HttpInterceptor` to an `HttpRequest`.\n *\n *\n */\nexport class HttpInterceptorHandler implements HttpHandler {\n constructor(private next: HttpHandler, private interceptor: HttpInterceptor) {}\n\n handle(req: HttpRequest<any>): Observable<HttpEvent<any>> {\n return this.interceptor.intercept(req, this.next);\n }\n}\n\n/**\n * A multi-provider token that represents the array of registered\n * `HttpInterceptor` objects.\n *\n * @publicApi\n */\nexport const HTTP_INTERCEPTORS = new InjectionToken<HttpInterceptor[]>('HTTP_INTERCEPTORS');\n\n@Injectable()\nexport class NoopInterceptor implements HttpInterceptor {\n intercept(req: HttpRequest<any>, next: HttpHandler): Observable<HttpEvent<any>> {\n return next.handle(req);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT} from '@angular/common';\nimport {Inject, Injectable} from '@angular/core';\nimport {Observable, Observer} from 'rxjs';\n\nimport {HttpBackend, HttpHandler} from './backend';\nimport {HttpRequest} from './request';\nimport {HttpErrorResponse, HttpEvent, HttpEventType, HttpResponse} from './response';\n\n// Every request made through JSONP needs a callback name that's unique across the\n// whole page. Each request is assigned an id and the callback name is constructed\n// from that. The next id to be assigned is tracked in a global variable here that\n// is shared among all applications on the page.\nlet nextRequestId: number = 0;\n\n// Error text given when a JSONP script is injected, but doesn't invoke the callback\n// passed in its URL.\nexport const

```
JSONP_ERR_NO_CALLBACK = 'JSONP injected script did not invoke callback.';\n\n// Error text given when a request is passed to the JsonpClientBackend that doesn't\n// have a request method JSONP.\nexport const JSONP_ERR_WRONG_METHOD = 'JSONP requests must use JSONP request method.';\nexport const JSONP_ERR_WRONG_RESPONSE_TYPE = 'JSONP requests must
 use Json response type.';\n\n/**\n * DI token/abstract type representing a map of JSONP callbacks.\n *\n * In the browser, this should always be the `window` object.\n *\n *\n */\nexport abstract class JsonpCallbackContext {\n [key: string]: (data: any) => void;\n}\n\n/**\n * Processes an `HttpRequest` with the JSONP method,\n * by performing JSONP style requests.\n * @see `HttpHandler`\n * @see `HttpXhrBackend`\n *\n * @publicApi\n */\n@Injectable()\nexport class JsonpClientBackend implements HttpBackend {\n  /**\n   * A resolved promise that can be used to schedule microtasks in the event handlers.\n   */\n  private readonly resolvedPromise = Promise.resolve();\n\n  constructor(private callbackMap: JsonpCallbackContext, @Inject(DOCUMENT) private document: any) {}\n\n  /**\n   * Get the name of the next callback method, by incrementing the global `nextRequestId`.\n   */\n  private nextCallback(): string {\n    return `ng_jsonp_callback_${nextRequestId++}`;\n  }\n\n  /**\n   * Processes
 a JSONP request and returns an event stream of the results.\n   * @param req The request object.\n   * @returns An observable of the response events.\n   *\n   */\n  handle(req: HttpRequest<never>): Observable<HttpEvent<any>> {\n    // Firstly, check both the method and response type. If either doesn't match\n    // then the request was improperly routed here and cannot be handled.\n    if (req.method !== 'JSONP') {\n      throw new Error(JSONP_ERR_WRONG_METHOD);\n    } else if (req.responseType !== 'json') {\n      throw new Error(JSONP_ERR_WRONG_RESPONSE_TYPE);\n    }\n\n    // Everything else happens inside the Observable boundary.\n    return new Observable<HttpEvent<any>>((observer: Observer<HttpEvent<any>>) => {\n      // The first step to make a request is to generate the callback name, and replace the\n      // callback placeholder in the URL with the name. Care has to be taken here to ensure\n      // a trailing &, if matched, gets inserted back into the URL in the correct
 place.\n      const callback = this.nextCallback();\n      const url = req.urlWithParams.replace(/=JSONP_CALLBACK(&|$)/, `=${callback}$1`);\n\n      // Construct the <script> tag and point it at the URL.\n      const node = this.document.createElement('script');\n      node.src = url;\n\n      // A JSONP request requires waiting for multiple callbacks. These variables\n      // are closed over and track state across those callbacks.\n\n      // The response object, if one has been received, or null otherwise.\n      let body: any|null = null;\n\n      // Whether the response callback has been called.\n      let finished: boolean = false;\n\n      // Whether the request has been cancelled (and thus any other callbacks)\n      // should be ignored.\n      let cancelled: boolean = false;\n\n      // Set the response callback in this.callbackMap (which will be the window\n      // object in the browser. The script being loaded via the <script> tag will\n      // eventually call this callback.\n
      this.callbackMap[callback] = (data?: any) => {\n        // Data has been received from the JSONP script. Firstly, delete this callback.\n        delete this.callbackMap[callback];\n\n        // Next, make sure the request wasn't cancelled in the meantime.\n        if (cancelled) {\n          return;\n        }\n\n        // Set state to indicate data was received.\n        body = data;\n        finished = true;\n      };\n\n      // cleanup() is a utility closure that removes the <script> from the page and\n      // the response callback from the window. This logic is used in both the\n      // success, error, and cancellation paths, so it's extracted out for convenience.\n      const cleanup = () => {\n        // Remove the <script> tag if it's still on the page.\n        if (node.parentNode) {\n          node.parentNode.removeChild(node);\n        }\n\n        // Remove the response callback from the callbackMap (window object in the\n        // browser).\n        delete this.callbackMap[callback];\n      };\n\n      // onLoad() is the success callback which runs after the response callback\n      // if the JSONP script loads successfully. The event itself is unimportant.\n      // If something went wrong, onLoad() may run without the response callback\n      // having been invoked.\n      const onLoad = (event: Event) => {\n        // Do nothing if the request has been cancelled.\n        if (cancelled) {\n          return;\n        }\n\n
        // We wrap it in an extra Promise, to ensure the microtask\n        // is scheduled after the loaded endpoint has executed any potential microtask itself,\n        // which is not guaranteed in Internet Explorer and EdgeHTML. See issue #39496\n        this.resolvedPromise.then(() => {\n          // Cleanup the page.\n          cleanup();\n\n          //
```

Check whether the response callback has run.\n if (!finished) {\n // It hasn't, something went wrong with the request. Return an error via\n
// the Observable error path. All JSONP errors have status 0.\n observer.error(new HttpErrorResponse({\n url,\n status: 0,\n statusText: 'JSONP Error',\n error: new Error(JSONP_ERR_NO_CALLBACK),\n }));\n return;\n }\n\n // Success. body either contains the response body or null if none was\n // returned.\n observer.next(new HttpResponse({\n body,\n status: 200,\n statusText: 'OK',\n url,\n }));\n\n // Complete the stream, the response is over.\n observer.complete();\n });\n };\n\n // onError() is the error callback, which runs if the script returned generates\n // a Javascript error. It emits the error via the Observable error channel as\n // a HttpErrorResponse.\n const onError: any = (error: Error) => {\n // If the request was already cancelled, no need to emit anything.\n if (cancelled) {\n return;\n }\n cleanup();\n\n // Wrap the error in a HttpErrorResponse.\n observer.error(new HttpErrorResponse({\n error,\n status: 0,\n statusText: 'JSONP Error',\n url,\n }));\n };\n\n // Subscribe to both the success (load) and error events on the <script> tag,\n // and add it to the page.\n node.addEventListener('load', onLoad);\n node.addEventListener('error', onError);\n this.document.body.appendChild(node);\n\n // The request has now been successfully sent.\n observer.next({type: HttpEventType.Sent});\n\n // Cancellation handler.\n return () => {\n // Track the cancellation so event listeners won't do anything even if already scheduled.\n cancelled = true;\n\n // Remove the event listeners so they won't run if the events later fire.\n node.removeEventListener('load', onLoad);\n
node.removeEventListener('error', onError);\n\n // And finally, clean up the page.\n cleanup();\n };\n });\n }\n}\n\n/**\n * Identifies requests with the method JSONP and\n * shifts them to the `JsonpClientBackend`.\n *\n * @see `HttpInterceptor`\n *\n * @publicApi\n */\n@Injectable()\nexport class JsonpInterceptor {\n constructor(private jsonp: JsonpClientBackend) {}\n\n /**\n * Identifies and handles a given JSONP request.\n * @param req The outgoing request object to handle.\n * @param next The next interceptor in the chain, or the backend\n * if no interceptors remain in the chain.\n * @returns An observable of the event stream.\n */\n intercept(req: HttpRequest<any>, next: HttpHandler): Observable<HttpEvent<any>> {\n if (req.method === 'JSONP') {\n return this.jsonp.handle(req as HttpRequest<never>);\n }\n // Fall through for normal HTTP requests.\n return next.handle(req);\n }\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable} from '@angular/core';\nimport {Observable, Observer} from 'rxjs';\n\nimport {HttpBackend} from './backend';\nimport {HttpHeaders} from './headers';\nimport {HttpRequest} from './request';\nimport {HttpDownloadProgressEvent, HttpErrorResponse, HttpEvent, HttpEventType, HttpHeaderResponse, HttpJsonParseError, HttpResponse, HttpUploadProgressEvent} from './response';\n\nconst XSSI_PREFIX = /^\\)\\]\\}',?\\n/;\n\n/**\n * Determine an appropriate URL for the response, by checking either\n * XMLHttpRequest.responseURL or the X-Request-URL header.\n */\nfunction getResponseUrl(xhr: any): string|null {\n if ('responseURL' in xhr && xhr.responseURL) {\n return xhr.responseURL;\n }\n if (/^X-Request-URL:/m.test(xhr.getAllResponseHeaders())) {\n return xhr.getResponseHeader('X-Request-URL');\n
}\n return null;\n}\n\n/**\n * A wrapper around the `XMLHttpRequest` constructor.\n *\n * @publicApi\n */\nexport abstract class XhrFactory {\n abstract build(): XMLHttpRequest;\n}\n\n/**\n * A factory for `HttpXhrBackend` that uses the `XMLHttpRequest` browser API.\n *\n */\n@Injectable()\nexport class BrowserXhr implements XhrFactory {\n constructor() {}\n build(): any {\n return <any>(new XMLHttpRequest());\n }\n}\n\n/**\n * Tracks a response from the server that does not yet have a body.\n */\ninterface PartialResponse {\n headers: HttpHeaders;\n status: number;\n statusText: string;\n url: string;\n}\n\n/**\n * Uses `XMLHttpRequest` to send requests to a backend server.\n * @see `HttpHandler`\n * @see `JsonpClientBackend`\n *\n * @publicApi\n */\n@Injectable()\nexport class HttpXhrBackend implements HttpBackend {\n constructor(private xhrFactory: XhrFactory) {}\n\n /**\n * Processes a request and returns a stream of response events.\n * @param req The

```
 request object.\n   * @returns An observable of the response events.\n   */\n  handle(req: HttpRequest<any>):
Observable<HttpEvent<any>> {\n    // Quick check to give a better error message when a user attempts to use\n    //
HttpClient.jsonp() without installing the HttpClientJsonpModule\n    if (req.method === 'JSONP') {\n      throw new
Error(\n          `Attempted to construct Jsonp request without HttpClientJsonpModule installed.`);\n    }\n\n    //
Everything happens on Observable subscription.\n    return new Observable((observer: Observer<HttpEvent<any>>)
=> {\n      // Start by setting up the XHR object with request method, URL, and withCredentials flag.\n      const xhr
= this.xhrFactory.build();\n      xhr.open(req.method, req.urlWithParams);\n      if (!!req.withCredentials) {\n
xhr.withCredentials = true;\n      }\n\n      // Add all the requested headers.\n      req.headers.forEach((name, values)
=> xhr.setRequestHeader(name, values.join(',')));\n\n      // Add an
 Accept header if one isn't present already.\n      if (!req.headers.has('Accept')) {\n
xhr.setRequestHeader('Accept', 'application/json, text/plain, */*');\n      }\n\n      // Auto-detect the Content-Type
header if one isn't present already.\n      if (!req.headers.has('Content-Type')) {\n        const detectedType =
req.detectContentTypeHeader();\n        // Sometimes Content-Type detection fails.\n        if (detectedType !== null)
{\n          xhr.setRequestHeader('Content-Type', detectedType);\n        }\n      }\n\n      // Set the responseType if one
was requested.\n      if (req.responseType) {\n        const responseType = req.responseType.toLowerCase();\n\n
// JSON responses need to be processed as text. This is because if the server\n        // returns an XSSI-prefixed JSON
response, the browser will fail to parse it,\n        // xhr.response will be null, and xhr.responseText cannot be
accessed to\n        // retrieve the prefixed JSON data in order to strip the
 prefix. Thus, all JSON\n        // is parsed by first requesting text and then applying JSON.parse.\n
xhr.responseType = ((responseType !== 'json') ? responseType : 'text') as any;\n      }\n\n      // Serialize the request
body if one is present. If not, this will be set to null.\n      const reqBody = req.serializeBody();\n\n      // If progress
events are enabled, response headers will be delivered\n      // in two events - the HttpHeaderResponse event and the
full HttpResponse\n      // event. However, since response headers don't change in between these\n      // two events,
it doesn't make sense to parse them twice. So headerResponse\n      // caches the data extracted from the response
whenever it's first parsed,\n      // to ensure parsing isn't duplicated.\n      let headerResponse:
HttpHeaderResponse|null = null;\n\n      // partialFromXhr extracts the HttpHeaderResponse from the current
XMLHttpRequest\n      // state, and memoizes it into headerResponse.\n      const
 partialFromXhr = (): HttpHeaderResponse => {\n        if (headerResponse !== null) {\n          return
headerResponse;\n        }\n\n        // Read status and normalize an IE9 bug (https://bugs.jquery.com/ticket/1450).\n
  const status: number = xhr.status === 1223 ? 204 : xhr.status;\n        const statusText = xhr.statusText || 'OK';\n\n
  // Parse headers from XMLHttpRequest - this step is lazy.\n        const headers = new
HttpHeaders(xhr.getAllResponseHeaders());\n\n        // Read the response URL from the XMLHttpResponse
instance and fall back on the\n        // request URL.\n        const url = getResponseUrl(xhr) || req.url;\n\n        //
Construct the HttpHeaderResponse and memoize it.\n        headerResponse = new HttpHeaderResponse({headers,
status, statusText, url});\n        return headerResponse;\n      };\n\n      // Next, a few closures are defined for the
various events which XMLHttpRequest can\n      // emit. This allows them to be unregistered as event
 listeners later.\n\n      // First up is the load event, which represents a response being fully available.\n      const
onLoad = () => {\n        // Read response state from the memoized partial data.\n        let {headers, status, statusText,
url} = partialFromXhr();\n\n        // The body will be read out if present.\n        let body: any|null = null;\n\n        if
(status !== 204) {\n          // Use XMLHttpRequest.response if set, responseText otherwise.\n          body = (typeof
xhr.response === 'undefined') ? xhr.responseText : xhr.response;\n        }\n\n        // Normalize another potential bug
(this one comes from CORS).\n        if (status === 0) {\n          status = !!body ? 200 : 0;\n        }\n\n        // ok
determines whether the response will be transmitted on the event or\n        // error channel. Unsuccessful status
codes (not 2xx) will always be errors,\n        // but a successful status code can still result in an error if the user\n
// asked for JSON
 data and the body cannot be parsed as such.\n        let ok = status >= 200 && status < 300;\n\n        // Check whether
the body needs to be parsed as JSON (in many cases the browser\n        // will have done that already).\n        if
(req.responseType === 'json' && typeof body === 'string') {\n          // Save the original body, before attempting
```

```
XSSI prefix stripping.\n        const originalBody = body;\n        body = body.replace(XSSI_PREFIX, '');\n
try {\n          // Attempt the parse. If it fails, a parse error should be delivered to the user.\n          body = body !==
'' ? JSON.parse(body) : null;\n        } catch (error) {\n          // Since the JSON.parse failed, it's reasonable to
assume this might not have been a\n          // JSON response. Restore the original body (including any XSSI prefix)
to deliver\n          // a better error response.\n          body = originalBody;\n\n          // If this was an error request
to begin with, leave
 it as a string, it probably\n          // just isn't JSON. Otherwise, deliver the parsing error to the user.\n          if (ok)
{\n            // Even though the response status was 2xx, this is still an error.\n            ok = false;\n            // The
parse error contains the text of the body that failed to parse.\n            body = {error, text: body} as
HttpJsonParseError;\n          }\n        }\n      }\n\n      if (ok) {\n        // A successful response is delivered on the
event stream.\n        observer.next(new HttpResponse({\n          body,\n          headers,\n          status,\n
statusText,\n          url: url || undefined,\n        }));\n        // The full body has been received and delivered, no
further events\n        // are possible. This request is complete.\n        observer.complete();\n      } else {\n        //
An unsuccessful request is delivered on the error channel.\n        observer.error(new HttpErrorResponse({\n
          // The error in this case is the response body (error from the server).\n          error: body,\n          headers,\n
        status,\n          statusText,\n          url: url || undefined,\n        }));\n      }\n    };\n\n    // The onError
callback is called when something goes wrong at the network level.\n    // Connection timeout, DNS error, offline,
etc. These are actual errors, and are\n    // transmitted on the error channel.\n    const onError = (error:
ProgressEvent) => {\n      const {url} = partialFromXhr();\n      const res = new HttpErrorResponse({\n
error,\n        status: xhr.status || 0,\n        statusText: xhr.statusText || 'Unknown Error',\n        url: url ||
undefined,\n      });\n      observer.error(res);\n    };\n\n    // The sentHeaders flag tracks whether the
HttpResponseHeaders event\n    // has been sent on the stream. This is necessary to track if progress\n    // is
enabled
 since the event will be sent on only the first download\n    // progerss event.\n    let sentHeaders = false;\n\n    //
The download progress event handler, which is only registered if\n    // progress events are enabled.\n    const
onDownProgress = (event: ProgressEvent) => {\n      // Send the HttpResponseHeaders event if it hasn't been sent
already.\n      if (!sentHeaders) {\n        observer.next(partialFromXhr());\n        sentHeaders = true;\n      }\n\n
  // Start building the download progress event to deliver on the response\n      // event stream.\n      let
progressEvent: HttpDownloadProgressEvent = {\n        type: HttpEventType.DownloadProgress,\n        loaded:
event.loaded,\n      };\n\n      // Set the total number of bytes in the event if it's available.\n      if
(event.lengthComputable) {\n        progressEvent.total = event.total;\n      }\n\n      // If the request was for text
content and a partial response is\n
    // available on XMLHttpRequest, include it in the progress event\n      // to allow for streaming reads.\n      if
(req.responseType === 'text' && !!xhr.responseText) {\n        progressEvent.partialText = xhr.responseText;\n
}\n\n      // Finally, fire the event.\n      observer.next(progressEvent);\n    };\n\n    // The upload progress event
handler, which is only registered if\n    // progress events are enabled.\n    const onUpProgress = (event:
ProgressEvent) => {\n      // Upload progress events are simpler. Begin building the progress\n      // event.\n
let progress: HttpUploadProgressEvent = {\n        type: HttpEventType.UploadProgress,\n        loaded:
event.loaded,\n      };\n\n      // If the total number of bytes being uploaded is available, include\n      // it.\n      if
(event.lengthComputable) {\n        progress.total = event.total;\n      }\n\n      // Send the event.\n
observer.next(progress);\n    };\n\n
    // By default, register for load and error events.\n    xhr.addEventListener('load', onLoad);\n
xhr.addEventListener('error', onError);\n\n    // Progress events are only enabled if requested.\n    if
(req.reportProgress) {\n      // Download progress is always enabled if requested.\n
xhr.addEventListener('progress', onDownProgress);\n\n      // Upload progress depends on whether there is a body
to upload.\n      if (reqBody !== null && xhr.upload) {\n        xhr.upload.addEventListener('progress',
onUpProgress);\n      }\n    }\n\n    // Fire the request, and notify the event stream that it was fired.\n
xhr.send(reqBody!);\n    observer.next({type: HttpEventType.Sent});\n\n    // This is the return from the
```

Observable function, which is the\n // request cancellation handler.\n return () => {\n // On a cancellation, remove all registered event listeners.\n xhr.removeEventListener('error', onError);\n xhr.removeEventListener('load', onLoad);\n if (req.reportProgress) {\n xhr.removeEventListener('progress', onDownProgress);\n if (reqBody !== null && xhr.upload) {\n xhr.upload.removeEventListener('progress', onUpProgress);\n }\n }\n\n // Finally, abort the in-flight request.\n if (xhr.readyState !== xhr.DONE) {\n xhr.abort();\n }\n };\n });\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT, parseCookieValue as parseCookieValue} from '@angular/common';\nimport {Inject, Injectable, InjectionToken, PLATFORM_ID} from '@angular/core';\nimport {Observable} from 'rxjs';\n\nimport {HttpHandler} from './backend';\nimport {HttpInterceptor} from './interceptor';\nimport {HttpRequest} from './request';\nimport {HttpEvent} from './response';\n\nexport const XSRF_COOKIE_NAME = new InjectionToken<string>('XSRF_COOKIE_NAME');\nexport const XSRF_HEADER_NAME = new InjectionToken<string>('XSRF_HEADER_NAME');\n\n/**\n * Retrieves the current XSRF token to use with the next outgoing request.\n *\n * @publicApi\n */\nexport abstract class HttpXsrfTokenExtractor {\n /**\n * Get the XSRF token to use with an outgoing request.\n *\n * Will be called for every request, so the token may change between requests.\n */\n abstract getToken(): string|null;\n}\n\n/**\n * `HttpXsrfTokenExtractor` which retrieves the token from a cookie.\n */\n@Injectable()\nexport class HttpXsrfCookieExtractor implements HttpXsrfTokenExtractor {\n private lastCookieString: string = '';\n private lastToken: string|null = null;\n\n /**\n * @internal for testing\n */\n parseCount: number = 0;\n\n constructor(\n @Inject(DOCUMENT) private doc: any, @Inject(PLATFORM_ID) private platform: string,\n @Inject(XSRF_COOKIE_NAME) private cookieName: string) {}\n\n getToken(): string|null {\n if (this.platform === 'server') {\n return null;\n }\n const cookieString = this.doc.cookie || '';\n if (cookieString !== this.lastCookieString) {\n this.parseCount++;\n this.lastToken = parseCookieValue(cookieString, this.cookieName);\n this.lastCookieString = cookieString;\n }\n return this.lastToken;\n }\n}\n\n/**\n * `HttpInterceptor` which adds an XSRF token to eligible outgoing requests.\n */\n@Injectable()\nexport class HttpXsrfInterceptor implements HttpInterceptor {\n constructor(\n private tokenService: HttpXsrfTokenExtractor,\n @Inject(XSRF_HEADER_NAME) private headerName: string) {}\n\n intercept(req: HttpRequest<any>, next: HttpHandler): Observable<HttpEvent<any>> {\n const lcUrl = req.url.toLowerCase();\n // Skip both non-mutating requests and absolute URLs.\n // Non-mutating requests don't require a token, and absolute URLs require special handling\n // anyway as the cookie set\n // on our origin is not the same as the token expected by another origin.\n if (req.method === 'GET' || req.method === 'HEAD' || lcUrl.startsWith('http://') ||\n lcUrl.startsWith('https://')) {\n return next.handle(req);\n }\n const token = this.tokenService.getToken();\n\n // Be careful not to overwrite an existing header of the same name.\n if (token !== null && !req.headers.has(this.headerName)) {\n req = req.clone({headers: req.headers.set(this.headerName, token)});\n }\n return next.handle(req);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable, Injector, ModuleWithProviders, NgModule} from '@angular/core';\nimport {Observable} from 'rxjs';\n\nimport {HttpBackend, HttpHandler} from './backend';\nimport {HttpClient} from './client';\nimport {HTTP_INTERCEPTORS, HttpInterceptor, HttpInterceptorHandler, NoopInterceptor} from './interceptor';\nimport {JsonpCallbackContext, JsonpClientBackend, JsonpInterceptor} from './jsonp';\nimport {HttpRequest} from './request';\nimport {HttpEvent} from './response';\nimport {BrowserXhr, HttpXhrBackend, XhrFactory} from './xhr';\nimport {HttpXsrfCookieExtractor, HttpXsrfInterceptor, HttpXsrfTokenExtractor, XSRF_COOKIE_NAME, XSRF_HEADER_NAME} from './xsrf';\n\n/**\n * An injectable `HttpHandler` that applies multiple interceptors\n * to a request before passing it to the given `HttpBackend`.\n *\n * The interceptors are loaded lazily from the injector, to allow\n * interceptors to themselves inject classes depending indirectly\n * on

`HttpInterceptingHandler` itself.\n * @see `HttpInterceptor`\n */\n@Injectable()\nexport class HttpInterceptingHandler implements HttpHandler {\n  private chain: HttpHandler|null = null;\n\n constructor(private backend: HttpBackend,
 private injector: Injector) {}\n\n  handle(req: HttpRequest<any>): Observable<HttpEvent<any>> {\n    if (this.chain === null) {\n      const interceptors = this.injector.get(HTTP_INTERCEPTORS, []);\n      this.chain = interceptors.reduceRight(\n          (next, interceptor) => new HttpInterceptorHandler(next, interceptor), this.backend);\n    }\n    return this.chain.handle(req);\n  }\n}\n\n/**\n * Constructs an `HttpHandler` that applies interceptors\n * to a request before passing it to the given `HttpBackend`.\n *\n * Use as a factory function within `HttpClientModule`.\n *\n *\n */\nexport function interceptingHandler(\n    backend: HttpBackend, interceptors: HttpInterceptor[]|null = []): HttpHandler {\n  if (!interceptors) {\n    return backend;\n  }\n  return interceptors.reduceRight(\n      (next, interceptor) => new HttpInterceptorHandler(next, interceptor), backend);\n}\n\n/**\n * Factory function that determines where to store JSONP callbacks.\n *\n * Ordinarily JSONP callbacks
 are stored on the `window` object, but this may not exist\n * in test environments. In that case, callbacks are stored on an anonymous object instead.\n *\n *\n */\nexport function jsonpCallbackContext(): Object {\n  if (typeof window === 'object') {\n    return window;\n  }\n  return {};\n}\n\n/**\n * Configures XSRF protection support for outgoing requests.\n *\n * For a server that supports a cookie-based XSRF protection system,\n * use directly to configure XSRF protection with the correct\n * cookie and header names.\n *\n * If no names are supplied, the default cookie name is `XSRF-TOKEN`\n * and the default header name is `X-XSRF-TOKEN`.\n *\n * @publicApi\n */\n@NgModule({\n  providers: [\n    HttpXsrfInterceptor,\n    {provide: HTTP_INTERCEPTORS, useExisting: HttpXsrfInterceptor, multi: true},\n    {provide: HttpXsrfTokenExtractor, useClass: HttpXsrfCookieExtractor},\n    {provide: XSRF_COOKIE_NAME, useValue: 'XSRF-TOKEN'},\n    {provide: XSRF_HEADER_NAME, useValue: 'X-XSRF-TOKEN'},\n
 ],\n})\nexport class HttpClientXsrfModule {\n  /**\n   * Disable the default XSRF protection.\n   */\n  static disable(): ModuleWithProviders<HttpClientXsrfModule> {\n    return {\n      ngModule: HttpClientXsrfModule,\n      providers: [\n        {provide: HttpXsrfInterceptor, useClass: NoopInterceptor},\n      ],\n    };\n  }\n\n  /**\n   * Configure XSRF protection.\n   * @param options An object that can specify either or both\n   * cookie name or header name.\n   * - Cookie name default is `XSRF-TOKEN`.\n   * - Header name default is `X-XSRF-TOKEN`.\n   *\n   */\n  static withOptions(options: {\n    cookieName?: string,\n    headerName?: string,\n  } = {}): ModuleWithProviders<HttpClientXsrfModule> {\n    return {\n      ngModule: HttpClientXsrfModule,\n      providers: [\n        options.cookieName ? {provide: XSRF_COOKIE_NAME, useValue: options.cookieName} : [],\n        options.headerName ? {provide: XSRF_HEADER_NAME, useValue: options.headerName} : [],\n      ],\n    };\n  }\n}\n\n/**\n * Configures the [dependency injector](guide/glossary#injector) for `HttpClient`\n * with supporting services for XSRF. Automatically imported by `HttpClientModule`.\n *\n * You can add interceptors to the chain behind `HttpClient` by binding them to the\n * multiprovider for built-in [DI token](guide/glossary#di-token) `HTTP_INTERCEPTORS`.\n *\n * @publicApi\n */\n@NgModule({\n  /**\n   * Optional configuration for XSRF protection.\n   */\n  imports: [\n    HttpClientXsrfModule.withOptions({\n      cookieName: 'XSRF-TOKEN',\n      headerName: 'X-XSRF-TOKEN',\n    }),\n  ],\n  /**\n   * Configures the [dependency injector](guide/glossary#injector) where it is imported\n   * with supporting services for HTTP communications.\n   */\n  providers: [\n    HttpClient,\n    {provide: HttpHandler, useClass: HttpInterceptingHandler},\n    HttpXhrBackend,\n    {provide: HttpBackend, useExisting: HttpXhrBackend},\n    BrowserXhr,\n    {provide: XhrFactory, useExisting: BrowserXhr},\n
 ],\n})\nexport class HttpClientModule {\n}\n\n/**\n * Configures the [dependency injector](guide/glossary#injector) for `HttpClient`\n * with supporting services for JSONP.\n * Without this module, Jsonp requests reach the backend\n * with method JSONP, where they are rejected.\n *\n * You can add interceptors to the chain behind `HttpClient` by binding them to the\n * multiprovider for built-in [DI token](guide/glossary#di-token) `HTTP_INTERCEPTORS`.\n *\n * @publicApi\n */\n@NgModule({\n  providers: [\n    JsonpClientBackend,\n    {provide: JsonpCallbackContext, useFactory: jsonpCallbackContext},\n    {provide:

HTTP_INTERCEPTORS, useClass: JsonpInterceptor, multi: true},\n ],\n})\nexport class HttpClientJsonpModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {HttpBackend, HttpHandler} from './src/backend';\nexport {HttpClient} from './src/client';\nexport {HttpHeaders} from './src/headers';\nexport {HTTP_INTERCEPTORS, HttpInterceptor} from './src/interceptor';\nexport {JsonpClientBackend, JsonpInterceptor} from './src/jsonp';\nexport {HttpClientJsonpModule, HttpClientModule, HttpClientXsrfModule, HttpInterceptingHandler as HttpInterceptingHandler} from './src/module';\nexport {HttpParameterCodec, HttpParams, HttpUrlEncodingCodec} from './src/params';\nexport {HttpRequest} from './src/request';\nexport {HttpDownloadProgressEvent, HttpErrorResponse, HttpEvent, HttpEventType, HttpHeaderResponse, HttpProgressEvent, HttpResponse, HttpResponseBase, HttpSentEvent, HttpUploadProgressEvent, HttpUserEvent} from './src/response';\nexport {HttpXhrBackend, XhrFactory} from './src/xhr';\nexport {HttpXsrfTokenExtractor} from './src/xsrf';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {NoopInterceptor as angular_packages_common_http_http_a} from './src/interceptor';\nexport {JsonpCallbackContext as angular_packages_common_http_http_b} from './src/jsonp';\nexport {jsonpCallbackContext as angular_packages_common_http_http_c} from './src/module';\nexport {BrowserXhr as angular_packages_common_http_http_d} from './src/xhr';\nexport {HttpXsrfCookieExtractor as angular_packages_common_http_http_g,HttpXsrfInterceptor as angular_packages_common_http_http_h,XSRF_COOKIE_NAME as angular_packages_common_http_http_e,XSRF_HEADER_NAME as angular_packages_common_http_http_f} from './src/xsrf';"],"names":["parseCookieValue"],"mappings":";;;;;;;;;;;AAAA;;;;;;;AAYA;;;;;;;;;;;;MAYsB,WAAW;CAEhC;AAED;;;;;;;;;;MAUsB,WAAW;;;ACtCjC;;;;;;;AAcA;;;;;;;MAOa,WAAW;;IA0BtB,YAAY,OAAAoD;;;;;QAKxD,oBAAAe,GAAAA,EAAAA,EAAAA,E

AAI,EAAE,CAAC;QAEZ,MAAM,MAAM,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,WAA
W,EAAE,CAAC,CAAC;QACpD,OAAO,MAAM,IAAI,MAAM,CAAC,MAAM,GAAG,CAAC,GAAG,MAAM,C
AAC,CAAC,CAAC,GAAG,IAAI,CAAC;KACvD;;;;;;IAOD,IAAI;QACF,IAAI,CAAC,IAAI,EAAE,CAAC;QAEZ,
OAAO,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;KAClD;;;;;;;;IASD,
MAAM,CAAC,IAAY;QACjB,IAAI,CAAC,IAAI,EAAE,CAAC;QAEZ,OAAO,IAAI,CAAC,OAAO,CAAC,GAAG
,CAAC,IAAI,CAAC,WAAW,EAAE,CAAC,IAAI,IAAI,CAAC;KACrD;;;;;;;;;;IAYD,MAAM,CAAC,IAAY,EAAE
,KAAsB;QACzC,OAAO,IAAI,CAAC,KAAK,CAAC,EAAC,IAAI,IAAI,EAAE,KAAK,EAAE,EAAE,EAAE,GAAG,EA
AC,CAAC,CAAC;KAC3C;;;;;;;;;;IAWD,GAAG,CAAC,IAAY,EAAE,KAAsB;QACtC,OAAO,IAAI,CAAC,KA
K,CAAC,EAAC,IAAI,IAAI,EAAE,KAAK,EAAE,EAAE,EAAE,GAAG,EAAC,CAAC,CAAC;KAC3C;;;;;;;;IASD,MA
AM,CAAC,IAAY,EAAE,KAAuB;QAC1C,OAAO,IAAI,CAAC,KAAK,CAAC,EAAC,IAAI,IAAI,EAAE,KAAK,EAAE,
EAAE,EAAE,GAAG,EAAC,CAAC,CAAC;KAC3C;IAEO,sBAAsB,CAAC,IAAY,EAAE,MAAc;QACzD,IAAI,C
AAC,IAAI,CAAC,eAAe,CAAC,GAAG,CAAC,MAAM,CAAC,EAAE;YACrC,IAAI,CAAC,eAAe,CAAC,GAAG,
CAAC,MAAM,EAAE,IAAI,CAAC,CAAC;KACvC

AW;QACnB,OAAO,kBAAkB,CAAC,GAAG,CAAC,CAAC;KAChC;;;;;;IAOD,WAAW,CAAC,KAAa;QACvB,OAAO,kBAAkB,CAAC,KAAK,CAAC,CAAC;KAClC;CACF;AAGD,SAAS,WAAW,CAAC,SAAiB,EAAE,KAAyB;IAC/D,MAAM,GAAG,GAAG,IAAI,GAAG,EAAoB,CAAC;IACxC,IAAI,SAAS,CAAC,MAAM,GAAG,GAAG,CAAC,EAAE;QACxB,MAAM,MAAM,GAAG,IAAI,GAAG,EAAE,CAAC;QAC9C,MAAM,CAAC,OAAO,CAAC,CAAC,KAAK,CAAC,CAAC;YAC3B,MAAM,KAAK,GAAG,IAAI,GAAG,EAAE,KAAK,IAAI,CAAC,CAAC;gBACpC,KAAK,CAAC,OAAO,CAAC,CAAC,KAAK,CAAC,CAAC;gBACtB,KAAK,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;YACnB,CAAC,CAAC,CAAC;YACH,MAAM,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;QACpB,CAAC,CAAC,CAAC;QACH,OAAO,MAAM,CAAC;IAChB,CAAC;IACD,OAAO,GAAG,CAAC;AACb,CAAC;AAED,SAAS,aAAa,CAAC,SAAiB,EAAE,KAAyB;IACjE

CAAC;SACxC;QACD,IAAI,IAAI,CAAC,SAAS,KAAK,IAAI,EAAE;YAC3B,IAAI,CAAC,SAAS,CAAC,IAAI,EAAE,CAAC;YACtB,IAAI,CAAC,SAAS,CAAC,IAAI,EAAE,CAAC,OAAO,CAAC,GAAG,IAAI,IAAI,CAAC,GAAI,CAAC,GAAG,CAAC,GAAG,EAAE,IAAI,CAAC,SAAU,CAAC,GAAI,CAAC,GAAG,CAAC,GAAG,CAAE,CAAC,CAAC,CAAC;YACzF,IAAI,CAAC,OAAQ,CAAC,OAAO,CAAC,MAAM;gBAC1B,QAAQ,MAAM,CAAC,EAAE;oBACf,KAAK,GAAG,CAAC;oBACT,KAAK,GAAG;wBACN,MAAM,IAAI,GAAG,CAAC,MAAM,CAAC,EAAE,KAAK,GAAG,GAAG,IAAI,CAAC,GAAI,CAAC,GAAG,CAAC,GAAG,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,CAAC,SAAS,KAAK,EAAE,CAAC;wBACjF,MAAM,IAAI,GAAG,CAAC,MAAM,CAAC,EAAE,CAAC;wBACxB,MAAM,IAAI,GAAG,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG

KAAK,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;YAC5B,OAAO,IAAI,CAAC,SAAS,CAAC,IAAI,
CAAC,IAAI,CAAC,CAAC;SAClC;;QAED,OAAQ,IAAI,CAAC,IAAY,CAAC,QAAQ,EAAE,CAAC;KACtC;;;;;;;I
AQD,uBAAuB;;QAErB,IAAI,IAAI,CAAC,IAAI,KAAK,IAAI,EAAE;YACtB,OAAO,IAAI,CAAC;SACb;;QAED,
IAAI,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;YACzB,OAAO,IAAI,CAAC;SACb;;;QAGD,IAAI,MAAM,
CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;YACrB,OAAO,IAAI,CAAC,IAAI,CAAC,IAAI,IAAI,IAAI,CAAC;SAC/
B;;QAED,IAAI,aAAa,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;YAC5B,OAAO,IAAI,CAAC;SACb;;;QAGD,IAAI,
OAAO,IAAI,CAAC,IAAI,KAAK,QAAQ,EAAE;YACjC,OAAO,YAAY,CAAC;SACrB;;QAED,IAAI,IAAI,CAAC
,IAAI,YAAY,,UAAU,,EAAE;YACnC,OAAO,iDAAiD,CAAC;SAC1D;;QAED,IAAI,OAAO,IAAI,CAAC,IAAI,KA
AK,QAAQ,IAAI,OAAO,IAAI,CAAC,IAAI,KAAK,QAAQ;YAC9D,OAAO,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IA
AI,CAAC,EAAE;YAC5B,OAAO,kBAAkB,CAAC;SAC3B;;QAED,OAAO,IAAI,CAAC;KACb;IA2BD,KAAK,C
AAC,SAWF,EAAE;;;QAGJ,MAAM,MAAM,GAAG,MAAM,CAAC,MAAM,IAAI,IAAI,CAAC,MAAM,CAAC;Q
AC5C,MAAM,GAAG,GAAG,MAAM,CAAC,GAAG,IAAI,IAAI,CAAC,GAAG,CAAC;QACnC,MAAM,YAAY,,
GAAG,MAAM,CAAC,YAAY,,IAAI,IAAI,CAAC,YAAY,,CAAC;;;;;QAM9D,MAAM,IAAI,GAAG,CAAC,MAA
M,CAAC,IAAI,KAAK,SAAS,IAAI,MAAM,CAAC,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;;;QAInE,MAAM,eAA
e,GACjB,CAAC,MAAM,CAAC,eAAe,KAAK,SAAS,IAAI,MAAM,CAAC,eAAe,GAAG,IAAI,CAAC,eAAe,CAA
C;QAC3F,MAAM,cAAc,GAChB,CAAC,MAAM,CAAC,cAAc,KAAK,SAAS,IAAI,MAAM,CAAC,cAAc,GAAG,
IAAI,CAAC,cAAc,CAAC;;;QAIxF,IAAI,OAAO,GAAG,MAAM,CAAC,OAAO,IAAI,IAAI,CAAC,OAAO,CAAC
;QAC7C,IAAI,MAAM,GAAG,MAAM,CAAC,MAAM,IAAI,IAAI,CAAC,MAAM,CAAC;;QAG1C,IAAI,MAAM,
CAAC,UAAU,KAAK,SAAS,EAAE;;YAEnC,OAAO;gBACH,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,UAAU
,CAAC;qBACzB,MAAM,CAAC,CAAC,OAAO,EAAE,IAAI,KAAK,OAAO,CAAC,GAAG,CAAC,IAAI,EAAE,
MAAM,CAAC,UAAW,CAAC,IAAI,CAAC,CAAC,EAAE,OAAO,CAAC,CAAC;SAC1F;;QAGD,IAAI,MAAM,C
AAC,SAAS,EAAE;;YAEpB,MAAM,GAAG,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,SAAS,CAAC;iBACxB,
MAAM,CAAC,CAAC,MAAM,EAAE,KAAK,KAAK,MAAM,CAAC,GAAG,CAAC,KAAK,EAAE,MAAM,CAA
C,SAAU,CAAC,KAAK,CAAC,CAAC,EAAE,MAAM,CAAC,CAAC;SAC9F;;QAGD,OAAO,IAAI,WAAW,,CAA
C,MAAM,EAAE,GAAG,EAAE,IAAI,EAAE;YACxC,MAAM,CAAC,MAAM;YACb,OAAO;YACP,cAAc;YACd,YAAY;YACZ,
eAAe;SAChB,CAAC,CAAC;KACJ;;;ACpYH;;;;;;;AAUA;;;;;IAKY;AAAZ,WAAY,aAAa;;;;IAIvB,iDAAI,CAAA;;;
;IAKJ,qEAAc,CAAA;;;;IAId,qEAAc,CAAA;;;;IAId,yEAAgB,CAAA;;;;IAIhB,yDAAQ,CAAA;;;;IAIR,iDAAI
,CAAA;AACN,CAAC,EA9BW,aAAa,GAAb,qBAAa,KAAb,qBAAa,QA8BxB;AAgGD;;;;;;;MAKsB,gBAAgB;;;;;;;IAwCpC,YACI,IAKC,EACD,gBAAwB,GAAG,EAAE,oBAA4B,IAAI;;;QAG/D,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,OAAO,IAAI,
IAAI,IAAI,WAAW,EAAE,CAAC;QACjD,IAAI,CAAC,MAAM,GAAG,IAAI,CAAC,MAAM,IAAI,KAAK,SAAS,GA
G,IAAI,CAAC,MAAM,CAAC;QACnE,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC,UAAU,IAAI,IAAI,CAAC,UAAU,IAAI,iBAA
iB,CAAC;QACvD,IAAI,CAAC,GAAG,GAAG,IAAI,CAAC,GAAG,IAAI,IAAI,CAAC,GAAG,IAAI,IAAI,CAAC;;QAG5B,IAAI,CAAC,E
AAE,GAAG,IAAI,CAAC,MAAM,IAAI,GAAG,GAAG,CAAC;KACnD;CACF;AAED;;;;;;;;;MASa,kBAAmB,SAAQ,gBAAgB;;;;IAItD,YAAY,OAKR,EAAE;QACJ,KAAK,CAAC,IAAI,CAAC,
CAAC;QACZ,IAAI,CAAC,GAAG,GAAG,IAAI,CAAC,GAAG,IAAI,CAAC;KACzB;;;;;;;;;

,mBAAmB,CAAC;;;;QAO3B,OAAE,GAAG,KAAK,CAAC;;;;QAelB,IAAI,IAAI,CAAC,MAAM,IAAI,GAAG,IA
AI,IAAI,CAAC,MAAM,GAAG,GAAG,EAAE;YAC3C,IAAI,CAAC,OAAO,GAAG,mCAAmC,IAAI,CAAC,GAA
G,IAAI,eAAe,EAAE,CAAC;SACjF;aAAM;YACL,IAAI,CAAC,OAAO,GAAG,6BAA6B,IAAI,CAAC,GAAG,IA
AI,eAAe,KAAK,IAAI,CAAC,MAAM,IACnF,IAAI,CAAC,UAAU,EAAE,CAAC;SACvB;QACD,IAAI,CAAC,KA
AK,GAAG,IAAI,CAAC,KAAK,IAAI,IAAI,CAAC;KACjC;;;AC5VH;;;;;;;AAmBA;;;;;;;;;;AAUA,SAAS,OAAO,C
ACZ,OAOC,EACD,IAAY;IACd,OAAO;QACL,IAAI;QACJ,OAAO,EAAE,OAAO,CAAC,OAAO;QACxB,OAAO
,EAAE,OAAO,CAAC,OAAO;QACxB,MAAM,EAAE,OAAO,CAAC,MAAM;QACtB,cAAc,EAAE,OAAO,CAA
C,cAAc;QACtC,YAAY,EAAE,OAAO,CAAC,YAAY;QAClC,eAAe,EAAE,OAAO,CAAC,eAAe;KACzC,CAAC;
AACJ,CAAC;AAID;;;;;;;;;;

AC,CAAC;KAChE;;;;;;;IA6RD,IAAI,CAAC,GAAW,EAAE,IAAc,EAAE,UAO9B,EAAE;QACJ,OAAO,IAAI,CA
AC,OAAO,CAAM,MAAM,EAAE,GAAG,EAAE,OAAO,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC;KAC/
D;;;;;;;IA4RD,GAAG,CAAC,GAAW,EAAE,IAAc,EAAE,UAO7B,EAAE;QACJ,OAAO,IAAI,CAAC,OAAO,CAA
M,KAAK,EAAE,GAAG,EAAE,OAAO,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC;KAC9D;;;YAt8EF,UA
AU;;;YAtFH,WAAW;;;ACZnB;;;;;;;AAuDA;;;;;MAKa,sBAAsB;IACjC,YAAoB,IAAAiB,EAAU,WA4B;QAAvD,
SAAI,GAAJ,IAAI,CAAa;QAAU,gBAAW,GAAX,WAAW,CAAAiB;KAAI;IAE/E,MAAM,CAAC,GAAqB;QAC1B,
OAAO,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,GAAG,EAAE,IAAI,CAAC,IAAI,CAAC,CAAC;KACnD;CAC
F;AAED;;;;;;MAMa,iBAAiB,GAAG,IAAI,cAAc,CAAC,mBAAmB,EAAE;MAG/E,eAAe,IAAI,SAAS,CAAC,
GAAqB,EAAE,IAAiB;QAChD,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,EAAE,IAAI,CAAC;KAAC;;;YAJF,UAA
U;;;AC5EX;;;;;;;AAgBA;AACA;AACA;AACA;AACA,IAAI,aAAa,GAAW,CAAC,CAAC;AE9B;AACA;CAAC;AAEtF;;;;;;;MAOsB,oBAAoB;CAEzC;AAED;;;;;;;;MASa,kBAAkB;IAM7B,YAAoB,WAAiC,EAA4B,
QAA1E,gBAAW,GAAX,WAAW,CAAsB;QAAU,aAAQ,GAAR,QAAQ,CAAkB;QAAE,IAAI,CAAC,KAAK,GAAG,IAAI,
QAAQ,CAAK;;;;QAF7E,oBAAe,oBAAoB,CAAC,OAAO,EAAE,CAAC;KAE6C;;;;IAK1F,YAAY;QAClB,OAAO,
qBAAqB,aAAa,EAAE,EAAE,CAAC;KAC/C;;;;;;;IAQD,MAAM,CAAC,GAAuB;;;QAG5B,IAAI,GAAG,CAAC,
,MAAM,KAAK,OAAO,EAAE;YAC1B,MAAM,IAAI,KAAK,CAAC,sBAAsB,CAAC,CAAC;SACzC;aAAM,IAAI
I,GAAG,CAAC,YAAY,KAAK,MAAM,EAAE;YACtC,MAAM,IAAI,KAAK,CAAC,6BAA6B,CAAC,CAAC;SA
ChD;;QAGD,OAAO,IAAI,UAAU,CAAiB,CAAC,QAAkC;;;;YAIvE,MAAM,QAAQ,GAAG,IAAI,CAAC,YAAY,,
EAAE,CAAC;YACrC,MAAM,GAAG,GAAG,GAAG,CAAC,aAAa,CAAC,OAAO,CAAC,sBAAsB,EAAE,IAAI,
QAAQ,IAAI,CAAC,CAAC;;YAGhF,MAAM,IAAI,GAAG,IAAI,CAAC,QAAQ,CAAC,aAAa,CAAC,QAAQ,CAAC,aAAa,CAAC,QAAQ,CAA
C,CAAC;YACnD,IAAI,CAAC,GAAG,GAAG,GAAG,CAAC;;;;YAMf,IAAI,IAAI,GAAG,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC;;;YAI9B,IAAI,CAAC,
AAI,QAAQ,GAAG,KAAK,CAAC,EAAE;;;wBAGvB,QAAQ,CAAC,KAAK,EAAE,CAAC,IAAI,CAAC,iBAAiB,CAAC;4BACtC,
qBAAqB,CAAC;yBACxC,CAAC,CAAC,CAAC;wBACJ,IAAI;wBACJ,MAAM,EAAE,GAAG;wBACX,UAAU,EAAE,IAAI;wBAChB,GAAG;qBACJ,CAAC,CAAC,CAAC;;oBAGJ,QAAQ,CAAC,QAAQ,EAAE,CAAC;iBACrB,CAAC,CAAC;aACJ,CAAC;;
;;YAKF,MAAM,OAAO,GAAQ,CAAC,KAAY;;gBAEhC,IAAI,SAAS,EAAE,iBAAiB,CAAC,OAAO;iBACnC;gBACD,OAAO,
EAAE,CAAC;;gBAGV,QAAQ,CAAC,KAAK,CAAC,IAAI,iBAAiB,CAAC;oBACnC,KAAK;oBACL,MAAM
,EAAE,CAAC;oBACT,UAAU,EAAE,aAAa;oBACzB,GAAG;iBACJ,CAAC,CAAC,CAAC;gBAEJ,IAAI,CAAC,YAAY

,CAAC,IAAI,CAAC,GAAG,CAAC,qBAAqB,EAAE,CAAC,EAAE;QACxD,OAAO,GAAG,CAAC,iBAAiB,CAAAC,eAAe,CAAC,CAAC;KAC/C;IACD,OAAO,IAAI,CAAC;AACd,CAAC;AAED;;;;;MAKsB,UAAU;CAE/B;AAED;;;;MAKa,UAAU;IACrB,iBAAgB;IAChB,KAAK;QACH,QAAa,IAAI,cAAc,EAAE,EAAE;KACpC;;;YALF,UAAU;;;AAkBX;;;;;;;MAQa,cAAc,IAAI,CAAC;IACzB,YAAoB,UAAsB;QAAtB,QAAAA,UAAU,CAAY;KAAI;;YAVnD,UAAU;;;AAcX;;;;;;;

;;gBAKD,IAAI,GAAG,CAAC,YAAY,KAAK,MAAM,IAAI,CAAC,CAAC,GAAG,CAAC,YAAY,EAAE;oBACrD
,aAAa,CAAC,WAAW,GAAG,GAAG,CAAC,YAAY,CAAC;iBAC9C;;gBAGD,QAAQ,CAAC,IAAI,CAAC,aAAa,
CAAC,CAAC;aAC9B,CAAC;;;YAIF,MAAM,YAAY,GAAG,CAAC,KAAoB;;;gBAGxC,IAAI,QAAQ,GA4B;oB
ACtC,IAAI,EAAE,aAAa,CAAC,cAAc;oBAClC,MAAM,EAAE,KAAK,CAAC,MAAM;iBACrB,CAAC;;;gBAIF,I
AAI,KAAK,CAAC,gBAAgB,EAAE;oBAC1B,QAAQ,CAAC,KAAK,GAAG,KAAK,CAAC,KAAK,CAAC;iBAC9
B;;gBAGD,QAAQ,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;aACzB,CAAC;;YAGF,GAAG,CAAC,gBAAgB,CA
AC,MAAM,EAAE,MAAM,CAAC,CAAC;YACrC,GAAG,CAAC,gBAAgB,CAAC,OAAO,EAAE,OAAO,CAAC,
CAAC;;YAGvC,IAAI,GAAG,CAAC,cAAc,EAAE;;gBAEtB,GAAG,CAAC,gBAAgB,CAAC,UAAU,EAAE,cAAc
,CAAC,CAAC;;gBAGjD,IAAI,OAAO,KAAK,IAAI,IAAI,GAAG,CAAC,MAAM,EAAE;oBAClC,GAAG,CAAC,
MAAM,CAAC,gBAAgB,CAAC,UAAU,EAAE,YAAY,CAAC,CAAC;iBACvD;aACF;;YAGD,GAAG,CAAC,IAA
I,CAAC,OAAQ,CAAC,CAAC;YACnB,QAAQ,CAAC,IAAI,CAAC,EAAC,IAAI,EAAE,aAAa,CAAC,IAAI,EAA
C,CAAC,CAAC;;;YAI1C,OAAO;;gBAEL,GAAG,CAAC,mBAAmB,CAAC,OAAO,EAAE,OAAO,CAAC,CAAC;
gBAC1C,GAAG,CAAC,mBAAmB,CAAC,MAAM,EAAE,MAAM,CAAC,CAAC;gBACxC,IAAI,GAAG,CAAC,cAAc,EAAE;oBACtB,GAAG,CAAC,mBAAmB,CAAC,UAAU,EAAE,cAAc,CAAC,CAAC;oBACpD,IAAI,OAAO
,KAAK,IAAI,IAAI,GAAG,CAAC,MAAM,EAAE;wBAClC,GAAG,CAAC,MAAM,CAAC,mBAAmB,CAAC,UA
AU,EAAE,YAAY,CAAC,CAAC;qBAC1D;iBACF;;gBAGD,IAAI,GAAG,CAAC,UAAU,KAAK,GAAG,CAAC,I
AAI,EAAE;oBAC/B,GAAG,CAAC,KAAK,EAAE,CAAC;iBACb;aACF,CAAC;SACH,CAAC,CAAC;KACJ;;;YA
rRF,UAAU;;;YAEuB,UAAU;;;ACxE5C;;;;;;;MAiBa,gBAAgB,GAAG,IAAI,cAAc,CAAS,kBAAkB,EAAE;MAClE
,gBAAgB,GAAG,IAAI,cAAc,CAAS,kBAAkB,EAAE;AAE/E;;;;;MAKsB,sBAAsB;CAO3C;AAED;;;MAIa,uBAA
uB;IASlC,YAC8B,GAAQ,EAA+B,QAAgB,EAC/C,UAAkB;QAD1B,QAD1B,QAAG,GAAH,GAAG,CAAK,EAAE,aAAa,CAAC,IAAI,EAAE,aAAa,CAAC,IAAI,EAAE,aAAa,CAAC,IAAI

EAAE,CAAC;AACZ,CAAC;AAED;;;;;;;;;;;;MAqBa,oBAAoB;;;;IAI/B,OAAO,OAAO;QACZ,OAAO;YACL,QAAAQ,EAAAE,oBAAoB;YAC9B,SAAS,EAAAE;gBACT,EAAAC,OAAO,EAAAE,mBAAAmB,EAAAE,QAAAQ,EAAAE,eAAAe,EAAAC;aAC1D;SACF,CAAAC;KACH;;;;;;;;;IAUD,OAAO,WAAW,CAAAC,UAAGf,EAAAE;QACJ,QAAAC,OAAO;YACL,QAAAQ,EAAAE,oBAAoB;YAC9B,SAAS,EAAAE;gBACT,EAAAC,OAAO,CAAAC,UAAAU,EAAAC,GAAAG,EAAAE;gBAAAC,nF,OAAAO,CAAAC,UAAAU,GAAAG,EAAAC,OAAAO,EAAAE,gBAAAgB,EAAAE,QAAAQ,EAAAE,OAAAO,CAAAC,UAAAU,EAAAC,GAAAG,EAAAE;aACpF;SACF,CAAAC;KACH;;;YAzCF,QAAAQ,SAAAC;gBAAAC,EAAAC,OAAAC,EAAAE,oBAAAmB,mB,OAAAC,EAAAC,OAAAO,EAAAE,iBAAAiB,EAAAE,WAAAW,EAAAE,mBAAAmB,EAAAE,KAAAK,EAAAE,IAAAI,EAAAC;oBAAAC,3E,OAAAC,EAAAC,OAAAO,EAAAE,sBAAAkB,EAAAE,QAAAQ,EAAAE,uBAAAmB,EAAAC;oBAAAC,pE,OAAAC,EAAAC,OAAAO,EAAAE,gBAAAgB,EAAAE,QAAAQ,EAAAE,YAAAY,EAAAC;oBAAAC,nD,OAAAC,EAAAC,OAAAO,EAAAE,gBAAAgB,EAAAE,QAAAQ,EAAAE,cAAAc,EAAAC,iBAAAC,tD;aAAAC,F;;AAAoCD;;;;;;;;;MAAgBE,Ca,gBAAAgB;;;YAAAC,vB5B,QAAAQ,SAAAC;;;;gBAAAC,IAAAC,OAAAC,EAAAE,oBAAAmB,EAAAE,QAAAQ,EAAAE,cAAAc,EAAAC,iBAAAC,tC,OAAAC,EAAAC,OAAAO,EAAAE,gBAAAgB,EAAAE,QAAAQ,EAAAE,YAAAY

DomAdapter = null!;\n\nexport function getDOM():
DomAdapter {\n  return _DOM;\n}\n\nexport function setDOM(adapter: DomAdapter) {\n  _DOM =
adapter;\n}\n\nexport function setRootDomAdapter(adapter: DomAdapter) {\n  if (!_DOM) {\n    _DOM =
adapter;\n  }\n}\n\n/* tslint:disable:requireParameterType */\n/**\n * Provides DOM operations in an environment-
agnostic way.\n *\n * @security Tread carefully! Interacting with the DOM directly is dangerous and\n * can
introduce XSS risks.\n */\nexport abstract class DomAdapter {\n  // Needs Domino-friendly test utility\n  abstract
getProperty(el: Element, name: string): any;\n  abstract dispatchEvent(el: any, evt: any): any;\n\n  // Used by
router\n  abstract log(error: any): any;\n  abstract logGroup(error: any): any;\n  abstract logGroupEnd(): any;\n\n  //
Used by Meta\n  abstract remove(el: any): Node;\n  abstract createElement(tagName: any, doc?: any):
HTMLElement;\n  abstract createHtmlDocument(): HTMLDocument;\n  abstract getDefaultDocument():
Document;\n\n  // Used by By.css\n  abstract
isElementNode(node: any): boolean;\n\n  // Used by Testability\n  abstract isShadowRoot(node: any): boolean;\n\n
// Used by KeyEventsPlugin\n  abstract onAndCancel(el: any, evt: any, listener: any): Function;\n  abstract
supportsDOMEvents(): boolean;\n\n  // Used by PlatformLocation and ServerEventManagerPlugin\n  abstract
getGlobalEventTarget(doc: Document, target: string): any;\n\n  // Used by PlatformLocation\n  abstract getHistory():
History;\n  abstract getLocation():\n      any; /** This is the ambient Location definition, NOT Location from
@angular/common.  */\n  abstract getBaseHref(doc: Document): string|null;\n  abstract resetBaseElement():
void;\n\n  // TODO: remove dependency in DefaultValueAccessor\n  abstract getUserAgent(): string;\n\n  // Used by
AngularProfiler\n  abstract performanceNow(): number;\n\n  // Used by CookieXSRFStrategy\n  abstract
supportsCookies(): boolean;\n  abstract getCookie(name: string): string|null;\n}\n","/*!
*****************************************************************************\r\nCopyright
(c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose
with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR
DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED
WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY
DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS
SOFTWARE.\r\n***************************************************************************
*/\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics =
Object.setPrototypeOf ||\r\n        ({ __proto__: [] } instanceof Array && function
(d, b) { d.__proto__ = b; }) ||\r\n        function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n
return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __()
{ this.constructor = d; }\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new
__());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n
for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n            for (var p in s) if
(Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return
__assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if
(Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof
Object.getOwnPropertySymbols === \"function\")\r\n
        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 &&
Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n                t[p[i]] = s[p[i]];\r\n        }\r\n    return
t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n    var c = arguments.length, r = c < 3 ?
target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof Reflect ===
\"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n    else
for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target,
key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function

__param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey,
 metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1];
 }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n            if (y = 0, t) op = [op[0] & 2, t.value];\r\n            switch (op[0]) {\r\n                case 0: case 1: t = op; break;\r\n                case 4: _.label++; return { value: op[1], done: false };\r\n                case 5: _.label++; y = op[1]; op = [0]; continue;\r\n
    case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n                default:\r\n                    if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n                    if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n                    if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n                    if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n                    if (t[2]) _.ops.pop();\r\n                    _.trys.pop(); continue;\r\n            }\r\n            op = body.call(thisArg, _);\r\n        } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n        if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n    }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n
    o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n    for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n    if (m) return m.call(o);\r\n    if (o && typeof o.length === \"number\") return {\r\n        next: function () {\r\n            if (o && i >= o.length) o = void 0;\r\n            return { value: o && o[i++], done: !o };\r\n        }\r\n    };\r\n    throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n    var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n    if (!m) return o;\r\n    var i = m.call(o), r, ar = [], e;\r\n    try {\r\n        while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n    }\r\n    catch (error) { e = { error: error }; }\r\n
    finally {\r\n        try {\r\n            if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n        }\r\n        finally { if (e) throw e.error; }\r\n    }\r\n    return ar;\r\n}\r\n\r\nexport function __spread() {\r\n    for (var ar = [], i = 0; i < arguments.length; i++)\r\n        ar = ar.concat(__read(arguments[i]));\r\n    return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n    for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n    for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n        for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n
    r[k] = a[j];\r\n    return r;\r\n};\r\n\r\nexport function __await(v) {\r\n    return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var g = generator.apply(thisArg,
 _arguments || []), i, q = [];\r\n    return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n    function verb(n) { if (g[n]) i[n] = function (v) { return

new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n    function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n    function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n    function fulfill(value) { resume(\"next\", value); }\r\n    function reject(value) { resume(\"throw\", value); }\r\n    function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n    var i, p;\r\n    return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n    function verb(n, f) { i[n] =
 o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var m = o[Symbol.asyncIterator], i;\r\n    return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n    function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n    function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n    if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n    return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n    Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n    o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n    if (mod && mod.__esModule) return mod;\r\n    var result = {};\r\n    if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n    __setModuleDefault(result, mod);\r\n    return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n    return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to get private field on non-instance\");\r\n    }\r\n    return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n    if (!privateMap.has(receiver))
 {\r\n        throw new TypeError(\"attempted to set private field on non-instance\");\r\n    }\r\n    privateMap.set(receiver, value);\r\n    return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from '@angular/core';\n\n/**\n * A DI Token representing the main rendering context. In a browser this is the DOM Document.\n *\n * Note: Document might not be available in the Application Context when Application and Rendering\n * Contexts are not the same (e.g. when running the application in a Web Worker).\n *\n * @publicApi\n */\nexport const DOCUMENT = new InjectionToken<Document>('DocumentToken');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file
 at https://angular.io/license\n */\n\nimport {Inject, Injectable, InjectionToken, inject} from '@angular/core';\nimport {getDOM} from '../dom_adapter';\nimport {DOCUMENT} from '../dom_tokens';\n\n/**\n * This class should not be used directly by an application developer. Instead, use\n * {@link Location}.\n *\n * `PlatformLocation` encapsulates all calls to DOM APIs, which allows the Router to be\n * platform-agnostic.\n * This means that we can have different implementation of `PlatformLocation` for the different\n * platforms that Angular supports. For example, `@angular/platform-browser` provides an\n * implementation specific to the browser environment, while `@angular/platform-server` provides\n * one suitable for use with server-side rendering.\n *\n * The `PlatformLocation` class is used directly by all implementations of {@link LocationStrategy}\n * when they need to interact with the DOM APIs like pushState, popState, etc.\n *\n * {@link LocationStrategy} in turn is used
 by the {@link Location} service which is used directly\n * by the {@link Router} in order to navigate between routes. Since all interactions between {@link\n * Router} /\n * {@link Location} / {@link LocationStrategy} and

DOM APIs flow through the `PlatformLocation`\n * class, they are all platform-agnostic.\n *\n * @publicApi\n */\n@Injectable({\n providedIn: 'platform',\n // See #23917\n useFactory: useBrowserPlatformLocation\n})\nexport abstract class PlatformLocation {\n abstract getBaseHrefFromDOM(): string;\n abstract getState(): unknown;\n abstract onPopState(fn: LocationChangeListener): void;\n abstract onHashChange(fn: LocationChangeListener): void;\n\n abstract get href(): string;\n abstract get protocol(): string;\n abstract get hostname(): string;\n abstract get port(): string;\n abstract get pathname(): string;\n abstract get search(): string;\n abstract get hash(): string;\n\n abstract replaceState(state: any, title: string, url: string): void;\n\n abstract
pushState(state: any, title: string, url: string): void;\n\n abstract forward(): void;\n\n abstract back(): void;\n}\n\nexport function useBrowserPlatformLocation() {\n return inject(BrowserPlatformLocation);\n}\n\n/**\n * @description\n * Indicates when a location is initialized.\n *\n * @publicApi\n */\nexport const LOCATION_INITIALIZED = new InjectionToken<Promise<any>>('Location Initialized');\n\n/**\n * @description\n * A serializable version of the event from `onPopState` or `onHashChange`\n *\n * @publicApi\n */\nexport interface LocationChangeEvent {\n type: string;\n state: any;\n}\n\n/**\n * @publicApi\n */\nexport interface LocationChangeListener {\n (event: LocationChangeEvent): any;\n}\n\n\n\n/**\n * `PlatformLocation` encapsulates all of the direct calls to platform APIs.\n * This class should not be used directly by an application developer. Instead, use\n * {@link Location}.\n */\n@Injectable({\n providedIn: 'platform',\n // See #23917\n useFactory: createBrowserPlatformLocation,\n})\nexport
class BrowserPlatformLocation extends PlatformLocation {\n public readonly location!: Location;\n private _history!: History;\n\n constructor(@Inject(DOCUMENT) private _doc: any) {\n super();\n this._init();\n }\n\n // This is moved to its own method so that `MockPlatformLocationStrategy` can overwrite it\n /** @internal */\n _init() {\n (this as {location: Location}).location = getDOM().getLocation();\n this._history = getDOM().getHistory();\n }\n\n getBaseHrefFromDOM(): string {\n return getDOM().getBaseHref(this._doc)!;\n }\n\n onPopState(fn: LocationChangeListener): void {\n getDOM().getGlobalEventTarget(this._doc, 'window').addEventListener('popstate', fn, false);\n }\n\n onHashChange(fn: LocationChangeListener): void {\n getDOM().getGlobalEventTarget(this._doc, 'window').addEventListener('hashchange', fn, false);\n }\n\n get href(): string {\n return this.location.href;\n }\n get protocol(): string {\n return this.location.protocol;\n }\n get hostname(): string {\n return this.location.hostname;\n }\n get port(): string {\n return this.location.port;\n }\n get pathname(): string {\n return this.location.pathname;\n }\n get search(): string {\n return this.location.search;\n }\n get hash(): string {\n return this.location.hash;\n }\n set pathname(newPath: string) {\n this.location.pathname = newPath;\n }\n\n pushState(state: any, title: string, url: string): void {\n if (supportsState()) {\n this._history.pushState(state, title, url);\n } else {\n this.location.hash = url;\n }\n }\n\n replaceState(state: any, title: string, url: string): void {\n if (supportsState()) {\n this._history.replaceState(state, title, url);\n } else {\n this.location.hash = url;\n }\n }\n\n forward(): void {\n this._history.forward();\n }\n\n back(): void {\n this._history.back();\n }\n\n getState(): unknown {\n return
this._history.state;\n }\n}\n\nexport function supportsState(): boolean {\n return !!window.history.pushState;\n}\nexport function createBrowserPlatformLocation() {\n return new BrowserPlatformLocation(inject(DOCUMENT));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {DomAdapter as DomAdapter, getDOM as getDOM, setRootDomAdapter as setRootDomAdapter} from './dom_adapter';\nexport {BrowserPlatformLocation as BrowserPlatformLocation} from './location/platform_location';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n/**\n * Joins two parts of a URL with a slash if needed.\n *\n * @param start  URL string\n * @param end    URL string\n *\n
*\n * @returns The joined URL string.\n */\nexport function joinWithSlash(start: string, end: string): string {\n if (start.length == 0) {\n return end;\n }\n if (end.length == 0) {\n return start;\n }\n let slashes = 0;\n if

(start.endsWith('/')) {\n  slashes++;\n }\n if (end.startsWith('/')) {\n  slashes++;\n }\n if (slashes == 2) {\n return start + end.substring(1);\n }\n if (slashes == 1) {\n  return start + end;\n }\n return start + '/' + end;\n}\n\n/**\n * Removes a trailing slash from a URL string if needed.\n * Looks for the first occurrence of either `#`, `?`, or the end of the\n * line as `/` characters and removes the trailing slash if one exists.\n *\n * @param url URL string.\n *\n * @returns The URL string, modified if needed.\n */\nexport function stripTrailingSlash(url: string): string {\n const match = url.match(/#|\\?|$/);\n const pathEndIdx = match && match.index || url.length;\n const droppedSlashIdx = pathEndIdx - (url[pathEndIdx - 1] === '/' ? 1 : 0);\n return url.slice(0, droppedSlashIdx) + url.slice(pathEndIdx);\n}\n\n/**\n * Normalizes URL parameters by prepending with `?` if needed.\n *\n * @param params String of URL parameters.\n *\n * @returns The normalized URL parameters string.\n */\nexport function normalizeQueryParams(params: string): string {\n return params && params[0] !== '?' ? '?' + params : params;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, Injectable, InjectionToken, Optional, inject} from '@angular/core';\nimport {DOCUMENT} from '../dom_tokens';\nimport {LocationChangeListener, PlatformLocation} from './platform_location';\nimport {joinWithSlash, normalizeQueryParams} from './util';\n\n/**\n * Enables the `Location` service to read route state from the browser's URL.\n * Angular provides two strategies:\n * `HashLocationStrategy` and `PathLocationStrategy`.\n *\n * Applications should use the `Router` or `Location` services to\n * interact with application route state.\n *\n * For instance, `HashLocationStrategy` produces URLs like\n * <code class=\"no-auto-link\">http://example.com#/foo</code>,\n * and `PathLocationStrategy` produces\n * <code class=\"no-auto-link\">http://example.com/foo</code> as an equivalent URL.\n *\n * See these two classes for more.\n *\n * @publicApi\n */\n@Injectable({providedIn: 'root', useFactory: provideLocationStrategy})\nexport abstract class LocationStrategy {\n abstract path(includeHash?: boolean): string;\n abstract prepareExternalUrl(internal: string): string;\n abstract pushState(state: any, title: string, url: string, queryParams: string): void;\n abstract replaceState(state: any, title: string, url: string, queryParams: string): void;\n abstract forward(): void;\n abstract back(): void;\n abstract onPopState(fn: LocationChangeListener): void;\n abstract getBaseHref(): string;\n}\n\nexport function provideLocationStrategy(platformLocation: PlatformLocation) {\n // See #23917\n const location = inject(DOCUMENT).location;\n return new PathLocationStrategy(\n inject(PlatformLocation as any), location && location.origin || '');\n}\n\n/**\n * A predefined [DI token](guide/glossary#di-token) for the base href\n * to be used with the `PathLocationStrategy`.\n * The base href is the URL prefix that should be preserved when generating\n * and recognizing URLs.\n *\n * @usageNotes\n *\n * The following example shows how to use this token to configure the root app injector\n * with a base href value, so that the DI framework can supply the dependency anywhere in the app.\n *\n * ```typescript\n * import {Component, NgModule} from '@angular/core';\n * import {APP_BASE_HREF} from '@angular/common';\n *\n * @NgModule({\n *  providers: [{provide: APP_BASE_HREF, useValue: '/my/app'}]\n * })\n * class AppModule {}\n * ```\n *\n * @publicApi\n */\nexport const APP_BASE_HREF = new InjectionToken<string>('appBaseHref');\n\n/**\n * @description\n * A {@link LocationStrategy} used to configure the {@link Location} service to\n * represent its state in the\n * [path](https://en.wikipedia.org/wiki/Uniform_Resource_Locator#Syntax) of the\n * browser's URL.\n *\n * If you're using `PathLocationStrategy`, you must provide a {@link APP_BASE_HREF}\n * or add a `<base href>` element to the document.\n *\n * For instance, if you provide an `APP_BASE_HREF` of `'/my/app/'` and call\n * `location.go('/foo')`, the browser's URL will become\n * `example.com/my/app/foo`. To ensure all relative URIs resolve correctly,\n * the `<base href>` and/or `APP_BASE_HREF` should end with a `/`.\n *\n * Similarly, if you add `<base href='/my/app/'/>` to the document and call\n * `location.go('/foo')`, the browser's URL will become\n * `example.com/my/app/foo`.\n *\n * Note that when using `PathLocationStrategy`, neither the query nor\n * the fragment in the `<base href>` will be preserved, as outlined\n * by the [RFC](https://tools.ietf.org/html/rfc3986#section-5.2.2).\n *\n * @usageNotes\n *\n * ### Example\n *\n *

{@example common/location/ts/path_location_component.ts region='LocationComponent'}\n *\n * @publicApi\n */\n@Injectable()\nexport class PathLocationStrategy extends LocationStrategy {\n  private _baseHref: string;\n\n constructor(\n      private _platformLocation: PlatformLocation,\n      @Optional() @Inject(APP_BASE_HREF) href?: string) {\n    super();\n\n    if (href == null) {\n      href = this._platformLocation.getBaseHrefFromDOM();\n    }\n\n    if (href == null) {\n      throw new Error(\n          `No base href set. Please provide a value for the APP_BASE_HREF token or add a base element to the document.`);\n    }\n\n    this._baseHref = href;\n  }\n\n onPopState(fn: LocationChangeListener): void {\n    this._platformLocation.onPopState(fn);\n this._platformLocation.onHashChange(fn);\n  }\n\n  getBaseHref(): string {\n    return this._baseHref;\n  }\n\n  prepareExternalUrl(internal: string): string {\n return joinWithSlash(this._baseHref, internal);\n  }\n\n  path(includeHash: boolean = false): string {\n    const pathname =\n        this._platformLocation.pathname + normalizeQueryParams(this._platformLocation.search);\n const hash = this._platformLocation.hash;\n    return hash && includeHash ? `${pathname}${hash}` : pathname;\n  }\n\n  pushState(state: any, title: string, url: string, queryParams: string) {\n    const externalUrl = this.prepareExternalUrl(url + normalizeQueryParams(queryParams));\n    this._platformLocation.pushState(state, title, externalUrl);\n  }\n\n  replaceState(state: any, title: string, url: string, queryParams: string) {\n    const externalUrl = this.prepareExternalUrl(url + normalizeQueryParams(queryParams));\n this._platformLocation.replaceState(state, title, externalUrl);\n  }\n\n  forward(): void {\n this._platformLocation.forward();\n  }\n\n  back(): void {\n    this._platformLocation.back();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, Injectable, Optional} from '@angular/core';\nimport {APP_BASE_HREF, LocationStrategy} from './location_strategy';\nimport {LocationChangeListener, PlatformLocation} from './platform_location';\nimport {joinWithSlash, normalizeQueryParams} from './util';\n\n\n\n/**\n * @description\n * A {@link LocationStrategy} used to configure the {@link Location} service to\n * represent its state in the\n * [hash fragment](https://en.wikipedia.org/wiki/Uniform_Resource_Locator#Syntax)\n * of the browser's URL.\n *\n * For instance, if you call `location.go('/foo')`, the browser's URL will become\n * `example.com#/foo`.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example common/location/ts/hash_location_component.ts region='LocationComponent'}\n *\n * @publicApi\n */\n@Injectable()\nexport class HashLocationStrategy extends LocationStrategy {\n  private _baseHref: string = '';\n  constructor(\n      private _platformLocation: PlatformLocation,\n      @Optional() @Inject(APP_BASE_HREF) _baseHref?: string) {\n    super();\n    if (_baseHref != null) {\n      this._baseHref = _baseHref;\n    }\n  }\n\n onPopState(fn: LocationChangeListener): void {\n    this._platformLocation.onPopState(fn);\n    this._platformLocation.onHashChange(fn);\n  }\n\n getBaseHref(): string {\n    return this._baseHref;\n  }\n\n  path(includeHash: boolean = false): string {\n    // the hash value is always prefixed with a `#`\n    // and if it is empty then it will stay empty\n    let path = this._platformLocation.hash;\n    if (path == null) path = '#';\n\n    return path.length > 0 ? path.substring(1) : path;\n  }\n\n  prepareExternalUrl(internal: string): string {\n    const url = joinWithSlash(this._baseHref, internal);\n    return url.length > 0 ? ('#' + url) : url;\n  }\n\n  pushState(state: any, title: string, path: string, queryParams: string) {\n    let url: string|null = this.prepareExternalUrl(path + normalizeQueryParams(queryParams));\n    if (url.length == 0) {\n      url = this._platformLocation.pathname;\n    }\n    this._platformLocation.pushState(state, title, url);\n  }\n\n  replaceState(state: any, title: string, path: string, queryParams: string) {\n    let url = this.prepareExternalUrl(path + normalizeQueryParams(queryParams));\n    if (url.length == 0) {\n      url = this._platformLocation.pathname;\n    }\n    this._platformLocation.replaceState(state, title, url);\n  }\n\n  forward(): void {\n    this._platformLocation.forward();\n  }\n\n  back(): void {\n this._platformLocation.back();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {EventEmitter, Injectable, inject} from '@angular/core';\nimport {SubscriptionLike} from 'rxjs';\nimport {LocationStrategy} from

'./location_strategy';\nimport {PlatformLocation} from './platform_location';\nimport {joinWithSlash, normalizeQueryParams, stripTrailingSlash} from './util';\n\n/** @publicApi */\nexport interface PopStateEvent {\n pop?: boolean;\n state?: any;\n type?: string;\n url?: string;\n}\n\n/**\n * @description\n *\n * A service that applications can use to interact with a browser's URL.\n *\n * Depending on the `LocationStrategy` used, `Location` persists\n * to the URL's path or the URL's hash segment.\n *\n * @usageNotes\n *\n * It's better to use the `Router#navigate` service to trigger route changes. Use\n * `Location` only if you need to interact with or create normalized URLs outside of\n * routing.\n *\n * `Location` is responsible for normalizing the URL against the application's base
href.\n * A normalized URL is absolute from the URL host, includes the application's base href, and has no\n * trailing slash:\n * - `/my/app/user/123` is normalized\n * - `my/app/user/123` **is not** normalized\n * - `/my/app/user/123/` **is not** normalized\n *\n * ### Example\n *\n * <code-example path='common/location/ts/path_location_component.ts'\n * region='LocationComponent'></code-example>\n *\n * @publicApi\n */\n@Injectable({\n providedIn: 'root',\n // See #23917\n useFactory: createLocation,\n})\nexport class Location {\n /** @internal */\n _subject: EventEmitter<any> = new EventEmitter();\n /** @internal */\n _baseHref: string;\n /** @internal */\n _platformStrategy: LocationStrategy;\n /** @internal */\n _platformLocation: PlatformLocation;\n /** @internal */\n _urlChangeListeners: ((url: string, state: unknown) => void)[] = [];\n /** @internal */\n _urlChangeSubscription?: SubscriptionLike;\n\n constructor(platformStrategy: LocationStrategy, platformLocation:
PlatformLocation) {\n this._platformStrategy = platformStrategy;\n const browserBaseHref = this._platformStrategy.getBaseHref();\n this._platformLocation = platformLocation;\n this._baseHref = stripTrailingSlash(_stripIndexHtml(browserBaseHref));\n this._platformStrategy.onPopState((ev) => {\n this._subject.emit({\n 'url': this.path(true),\n 'pop': true,\n 'state': ev.state,\n 'type': ev.type,\n });\n });\n }\n\n /**\n * Normalizes the URL path for this location.\n *\n * @param includeHash True to include an anchor fragment in the path.\n *\n * @returns The normalized URL path.\n */\n // TODO: vsavkin. Remove the boolean flag and always include hash once the deprecated router is\n // removed.\n path(includeHash: boolean = false): string {\n return this.normalize(this._platformStrategy.path(includeHash));\n }\n\n /**\n * Reports the current state of the location history.\n * @returns The current value
of the `history.state` object.\n */\n getState(): unknown {\n return this._platformLocation.getState();\n }\n\n /**\n * Normalizes the given path and compares to the current normalized path.\n *\n * @param path The given URL path.\n * @param query Query parameters.\n *\n * @returns True if the given URL path is equal to the current normalized path, false\n * otherwise.\n */\n isCurrentPathEqualTo(path: string, query: string = ''): boolean {\n return this.path() == this.normalize(path + normalizeQueryParams(query));\n }\n\n /**\n * Normalizes a URL path by stripping any trailing slashes.\n *\n * @param url String representing a URL.\n *\n * @returns The normalized URL string.\n */\n normalize(url: string): string {\n return Location.stripTrailingSlash(_stripBaseHref(this._baseHref, _stripIndexHtml(url)));\n }\n\n /**\n * Normalizes an external URL path.\n * If the given URL doesn't begin with a leading slash (`'/'`), adds one\n *
before normalizing. Adds a hash if `HashLocationStrategy` is\n * in use, or the `APP_BASE_HREF` if the `PathLocationStrategy` is in use.\n *\n * @param url String representing a URL.\n *\n * @returns A normalized platform-specific URL.\n */\n prepareExternalUrl(url: string): string {\n if (url && url[0] !== '/') {\n url = '/' + url;\n }\n return this._platformStrategy.prepareExternalUrl(url);\n }\n\n // TODO: rename this method to pushState\n /**\n * Changes the browser's URL to a normalized version of a given URL, and pushes a\n * new item onto the platform's history.\n *\n * @param path URL path to normalize.\n * @param query Query parameters.\n * @param state Location history state.\n *\n */\n go(path: string, query: string = '', state: any = null): void {\n this._platformStrategy.pushState(state, '', path, query);\n this._notifyUrlChangeListeners(\n this.prepareExternalUrl(path + normalizeQueryParams(query)), state);\n }\n\n /**\n * Changes the browser's URL to a normalized version of the given URL, and replaces\n * the top item on the platform's history stack.\n *\n * @param path URL path to normalize.\n * @param query Query parameters.\n * @param state Location history state.\n */\n replaceState(path: string, query: string = '', state: any

= null): void {\n this._platformStrategy.replaceState(state, '', path, query);\n this._notifyUrlChangeListeners(\n this.prepareExternalUrl(path + normalizeQueryParams(query)), state);\n }\n\n /**\n * Navigates forward in the platform's history.\n */\n forward(): void {\n this._platformStrategy.forward();\n }\n\n /**\n * Navigates back in the platform's history.\n */\n back(): void {\n this._platformStrategy.back();\n }\n\n /**\n * Registers a URL change listener. Use to catch updates performed by the Angular\n * framework that are not detectible through \"popstate\" or \"hashchange\" events.\n *\n * @param
fn The change handler function, which take a URL and a location history state.\n */\n onUrlChange(fn: (url: string, state: unknown) => void) {\n this._urlChangeListeners.push(fn);\n\n if (!this._urlChangeSubscription) {\n this._urlChangeSubscription = this.subscribe(v => {\n this._notifyUrlChangeListeners(v.url, v.state);\n });\n }\n }\n\n /** @internal */\n _notifyUrlChangeListeners(url: string = '', state: unknown) {\n this._urlChangeListeners.forEach(fn => fn(url, state));\n }\n\n /**\n * Subscribes to the platform's `popState` events.\n *\n * @param value Event that is triggered when the state history changes.\n * @param exception The exception to throw.\n *\n * @returns Subscribed events.\n */\n subscribe(\n onNext: (value: PopStateEvent) => void, onThrow?: ((exception: any) => void)|null,\n onReturn?: (() => void)|null): SubscriptionLike {\n return this._subject.subscribe({next: onNext, error: onThrow, complete:
onReturn});\n }\n\n /**\n * Normalizes URL parameters by prepending with `?` if needed.\n *\n * @param params String of URL parameters.\n *\n * @returns The normalized URL parameters string.\n */\n public static normalizeQueryParams: (params: string) => string = normalizeQueryParams;\n\n /**\n * Joins two parts of a URL with a slash if needed.\n *\n * @param start URL string\n * @param end URL string\n *\n *\n * @returns The joined URL string.\n */\n public static joinWithSlash: (start: string, end: string) => string = joinWithSlash;\n\n /**\n * Removes a trailing slash from a URL string if needed.\n * Looks for the first occurrence of either `#`, `?`, or the end of the\n * line as `/` characters and removes the trailing slash if one exists.\n *\n * @param url URL string.\n *\n * @returns The URL string, modified if needed.\n */\n public static stripTrailingSlash: (url: string) => string = stripTrailingSlash;\n}\n\nexport function
createLocation() {\n return new Location(inject(LocationStrategy as any), inject(PlatformLocation as any));\n}\n\nfunction _stripBaseHref(baseHref: string, url: string): string {\n return baseHref && url.startsWith(baseHref) ? url.substring(baseHref.length) : url;\n}\n\nfunction _stripIndexHtml(url: string): string {\n return url.replace(/\\/index.html$/, '');\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {HashLocationStrategy} from './hash_location_strategy';\nexport {Location, PopStateEvent} from './location';\nexport {APP_BASE_HREF, LocationStrategy, PathLocationStrategy} from './location_strategy';\nexport {LOCATION_INITIALIZED, LocationChangeEvent, LocationChangeListener, PlatformLocation} from './platform_location';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of
this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// THIS CODE IS GENERATED - DO NOT MODIFY\n// See angular/tools/gulp-tasks/cldr/extract.js\n\nexport type CurrenciesSymbols = [string]|[string | undefined, string];\n\n/** @internal */\nexport const CURRENCIES_EN:\n {[code: string]: CurrenciesSymbols|[string | undefined, string | undefined, number]} = {\n 'ADP': [undefined, undefined, 0],\n 'AFN': [undefined, undefined, 0],\n 'ALL': [undefined, undefined, 0],\n 'AMD': [undefined, undefined, 2],\n 'AOA': [undefined, 'Kz'],\n 'ARS': [undefined, '$'],\n 'AUD': ['A$', '$'],\n 'BAM': [undefined, 'KM'],\n 'BBD': [undefined, '$'],\n 'BDT': [undefined, ''],\n 'BHD': [undefined, undefined, 3],\n 'BIF': [undefined, undefined, 0],\n 'BMD': [undefined, '$'],\n 'BND': [undefined, '$'],\n 'BOB': [undefined, 'Bs'],\n 'BRL': ['R$'],\n
'BSD': [undefined, '$'],\n 'BWP': [undefined, 'P'],\n 'BYN': [undefined, '.', 2],\n 'BYR': [undefined, undefined, 0],\n 'BZD': [undefined, '$'],\n 'CAD': ['CA$', '$', 2],\n 'CHF': [undefined, undefined, 2],\n 'CLF': [undefined, undefined, 4],\n 'CLP': [undefined, '$', 0],\n 'CNY': ['CN¥', '¥'],\n 'COP': [undefined, '$', 2],\n 'CRC': [undefined, '', 2],\n 'CUC': [undefined, '$'],\n 'CUP': [undefined, '$'],\n 'CZK': [undefined, 'K', 2],\n 'DJF': [undefined, undefined, 0],\n 'DKK': [undefined, 'kr', 2],\n 'DOP': [undefined, '$'],\n

'EGP': [undefined, 'E£'],\n 'ESP': [undefined, '', 0],\n 'EUR': ['€'],\n 'FJD': [undefined, '$'],\n 'FKP': [undefined, '£'],\n 'GBP': ['£'],\n 'GEL': [undefined, ''],\n 'GIP': [undefined, '£'],\n 'GNF': [undefined, 'FG', 0],\n 'GTQ': [undefined, 'Q'],\n 'GYD': [undefined, '$', 2],\n 'HKD': ['HK$', '$'],\n 'HNL': [undefined, 'L'],\n 'HRK': [undefined, 'kn'],\n 'HUF': [undefined, 'Ft', 2],\n 'IDR': [undefined, 'Rp', 2],\n 'ILS': [''],\n 'INR': [''],\n 'IQD': [undefined, undefined, 0],\n 'IRR': [undefined, undefined, 0],\n 'ISK': [undefined, 'kr', 0],\n 'ITL': [undefined, undefined, 0],\n 'JMD': [undefined, '$'],\n 'JOD': [undefined, undefined, 3],\n 'JPY': ['¥', undefined, 0],\n 'KHR': [undefined, ''],\n 'KMF': [undefined, 'CF', 0],\n 'KPW': [undefined, '', 0],\n 'KRW': ['', undefined, 0],\n 'KWD': [undefined, undefined, 3],\n 'KYD': [undefined, '$'],\n 'KZT': [undefined, ''],\n 'LAK': [undefined, '', 0],\n 'LBP': [undefined, 'L£', 0],\n 'LKR': [undefined, 'Rs'],\n 'LRD': [undefined, '$'],\n 'LTL': [undefined, 'Lt'],\n 'LUF': [undefined, undefined, 0],\n 'LVL': [undefined, 'Ls'],\n 'LYD': [undefined, undefined, 3],\n 'MGA': [undefined, 'Ar', 0],\n

'MGF': [undefined, undefined, 0],\n 'MMK': [undefined, 'K', 0],\n 'MNT': [undefined, '', 2],\n 'MRO': [undefined, undefined, 0],\n 'MUR': [undefined, 'Rs', 2],\n 'MXN': ['MX$', '$'],\n 'MYR': [undefined, 'RM'],\n 'NAD': [undefined, '$'],\n 'NGN': [undefined, ''],\n 'NIO': [undefined, 'C$'],\n 'NOK': [undefined, 'kr', 2],\n 'NPR': [undefined, 'Rs'],\n 'NZD': ['NZ$', '$'],\n 'OMR': [undefined, undefined, 3],\n 'PHP': [undefined, ''],\n 'PKR': [undefined, 'Rs', 2],\n 'PLN': [undefined, 'z'],\n 'PYG': [undefined, '', 0],\n 'RON': [undefined, 'lei'],\n 'RSD': [undefined, undefined, 0],\n 'RUB': [undefined, ''],\n 'RUR': [undefined, '.'],\n 'RWF': [undefined, 'RF', 0],\n 'SBD': [undefined, '$'],\n 'SEK': [undefined, 'kr', 2],\n 'SGD': [undefined, '$'],\n 'SHP': [undefined, '£'],\n 'SLL': [undefined, undefined, 0],\n 'SOS': [undefined, undefined,

0],\n 'SRD': [undefined, '$'],\n 'SSP': [undefined, '£'],\n 'STD': [undefined, undefined, 0],\n 'STN': [undefined, 'Db'],\n 'SYP': [undefined, '£', 0],\n 'THB': [undefined, ''],\n 'TMM': [undefined, undefined, 0],\n 'TND': [undefined, undefined, 3],\n 'TOP': [undefined, 'T$'],\n 'TRL': [undefined, undefined, 0],\n 'TRY': [undefined, ''],\n 'TTD': [undefined, '$'],\n 'TWD': ['NT$', '$', 2],\n 'TZS': [undefined, undefined, 2],\n 'UAH': [undefined, ''],\n 'UGX': [undefined, undefined, 0],\n 'USD': ['$'],\n 'UYI': [undefined, undefined, 0],\n 'UYU': [undefined, '$'],\n 'UYW': [undefined, undefined, 4],\n 'UZS': [undefined, undefined, 2],\n 'VEF': [undefined, 'Bs', 2],\n 'VND': ['', undefined, 0],\n 'VUV': [undefined, undefined, 0],\n 'XAF': ['FCFA', undefined, 0],\n 'XCD': ['EC$', '$'],\n 'XOF': ['CFA', undefined, 0],\n 'XPF': ['CFPF', undefined,

0],\n 'XXX': ['¤'],\n 'YER': [undefined, undefined, 0],\n 'ZAR': [undefined, 'R'],\n 'ZMK': [undefined, undefined, 0],\n 'ZMW': [undefined, 'ZK'],\n 'ZWD': [undefined, undefined, 0]\n };\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CurrencyIndex, ExtraLocaleDataIndex, findLocaleData, getLocaleCurrencyCode, getLocalePluralCase, LocaleDataIndex} from '@angular/core';\n\nimport {CURRENCIES_EN, CurrenciesSymbols} from './currencies';\n\n\n/**\n * Format styles that can be used to represent numbers.\n * @see `getLocaleNumberFormat()`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport enum NumberFormatStyle {\n Decimal,\n Percent,\n Currency,\n Scientific\n}\n\n/**\n * Plurality cases used for translating plurals to different languages.\n *\n * @see `NgPlural`\n * @see `NgPluralCase`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport enum Plural {\n Zero = 0,\n One = 1,\n Two = 2,\n Few = 3,\n Many = 4,\n Other = 5,\n}\n\n/**\n * Context-dependant translation forms for strings.\n * Typically the standalone version is for the nominative form of the word,\n * and the format version is used for the genitive case.\n * @see [CLDR website](http://cldr.unicode.org/translation/date-time-1/date-time#TOC-Standalone-vs.-Format-Styles)\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport enum FormStyle {\n Format,\n Standalone\n}\n\n/**\n * String widths available for translations.\n * The specific character widths are locale-specific.\n * Examples are given for the word \"Sunday\" in English.\n *\n * @publicApi\n */\nexport enum TranslationWidth {\n /** 1 character for `en-US`. For example:

'S' */\n  Narrow,\n  /** 3 characters for `en-US`. For example: 'Sun' */\n  Abbreviated,\n  /** Full length for `en-US`. For example: \"Sunday\" */\n  Wide,\n  /** 2 characters for `en-US`, For example: \"Su\" */\n  Short\n}\n\n/**\n * String widths available for date-time formats.\n * The specific character widths are locale-specific.\n * Examples are given for `en-US`.\n *\n * @see `getLocaleDateFormat()`\n * @see `getLocaleTimeFormat()`\n * @see `getLocaleDateTimeFormat()`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n * @publicApi\n */\nexport enum FormatWidth {\n  /**\n   * For `en-US`, 'M/d/yy, h:mm a'`\n   * (Example: `6/15/15, 9:03 AM`)\n   */\n  Short,\n  /**\n   * For `en-US`, `'MMM d, y, h:mm:ss a'`\n   * (Example: `Jun 15, 2015, 9:03:01 AM`)\n   */\n  Medium,\n  /**\n   * For `en-US`, `'MMMM d, y, h:mm:ss a z'`\n   * (Example: `June 15, 2015 at 9:03:01 AM GMT+1`)\n   */\n  Long,\n  /**\n   * For `en-US`, `'EEEE, MMMM d, y, h:mm:ss a zzzz'`\n
   * (Example: `Monday, June 15, 2015 at 9:03:01 AM GMT+01:00`)\n   */\n  Full\n}\n\n/**\n * Symbols that can be used to replace placeholders in number patterns.\n * Examples are based on `en-US` values.\n *\n * @see `getLocaleNumberSymbol()`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport enum NumberSymbol {\n  /**\n   * Decimal separator.\n   * For `en-US`, the dot character.\n   * Example : 2,345`.`67\n   */\n  Decimal,\n  /**\n   * Grouping separator, typically for thousands.\n   * For `en-US`, the comma character.\n   * Example: 2`,`345.67\n   */\n  Group,\n  /**\n   * List-item separator.\n   * Example: \"one, two, and three\"\n   */\n  List,\n  /**\n   * Sign for percentage (out of 100).\n   * Example: 23.4%\n   */\n  PercentSign,\n  /**\n   * Sign for positive numbers.\n   * Example: +23\n   */\n  PlusSign,\n  /**\n   * Sign for negative numbers.\n   * Example: -23\n   */\n  MinusSign,\n  /**\n   * Computer notation
 for exponential value (n times a power of 10).\n   * Example: 1.2E3\n   */\n  Exponential,\n  /**\n   * Human-readable format of exponential.\n   * Example: 1.2x103\n   */\n  SuperscriptingExponent,\n  /**\n   * Sign for permille (out of 1000).\n   * Example: 23.4‰\n   */\n  PerMille,\n  /**\n   * Infinity, can be used with plus and minus.\n   * Example: , +, -\n   */\n  Infinity,\n  /**\n   * Not a number.\n   * Example: NaN\n   */\n  NaN,\n  /**\n   * Symbol used between time units.\n   * Example: 10:52\n   */\n  TimeSeparator,\n  /**\n   * Decimal separator for currency values (fallback to `Decimal`).\n   * Example: $2,345.67\n   */\n  CurrencyDecimal,\n  /**\n   * Group separator for currency values (fallback to `Group`).\n   * Example: $2,345.67\n   */\n  CurrencyGroup\n}\n\n/**\n * The value for each day of the week, based on the `en-US` locale\n *\n * @publicApi\n */\nexport enum WeekDay {\n  Sunday = 0,\n  Monday,\n  Tuesday,\n  Wednesday,\n  Thursday,\n  Friday,\n  Saturday\n}\n\n/**\n
 * Retrieves the locale ID from the currently loaded locale.\n * The loaded locale could be, for example, a global one rather than a regional one.\n * @param locale A locale code, such as `fr-FR`.\n * @returns The locale code. For example, `fr`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleId(locale: string): string {\n  return findLocaleData(locale)[LocaleDataIndex.LocaleId];\n}\n\n/**\n * Retrieves day period strings for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized period strings. For example, `[AM, PM]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleDayPeriods(\n    locale: string, formStyle: FormStyle, width: TranslationWidth):
 Readonly<[string, string]> {\n  const data = findLocaleData(locale);\n  const amPmData = <[string, string][][]>[\n    data[LocaleDataIndex.DayPeriodsFormat], data[LocaleDataIndex.DayPeriodsStandalone]\n  ];\n  const amPm = getLastDefinedValue(amPmData, formStyle);\n  return getLastDefinedValue(amPm, width);\n}\n\n/**\n * Retrieves days of the week for the given locale, using the Gregorian calendar.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized name strings.\n * For example,`[Sunday, Monday, ... Saturday]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleDayNames(\n    locale: string, formStyle: FormStyle, width: TranslationWidth): ReadonlyArray<string> {\n  const data = findLocaleData(locale);\n  const daysData =\n <string[][][]>[data[LocaleDataIndex.DaysFormat],

data[LocaleDataIndex.DaysStandalone]];\n  const days = getLastDefinedValue(daysData, formStyle);\n  return getLastDefinedValue(days, width);\n}\n\n/**\n * Retrieves months of the year for the given locale, using the Gregorian calendar.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized name strings.\n * For example,  `[January, February, ...]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleMonthNames(\n    locale: string, formStyle: FormStyle, width: TranslationWidth): ReadonlyArray<string> {\n  const data = findLocaleData(locale);\n  const monthsData =\n      <string[][]>[data[LocaleDataIndex.MonthsFormat], data[LocaleDataIndex.MonthsStandalone]];\n  const months = getLastDefinedValue(monthsData, formStyle);\n  return getLastDefinedValue(months, width);\n}\n\n/**\n * Retrieves Gregorian-calendar eras for the given locale.\n * @param locale A locale code for the locale format rules to use.\n * @param width The required character width.\n\n * @returns An array of localized era strings.\n * For example, `[AD, BC]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleEraNames(\n    locale: string, width: TranslationWidth): Readonly<[string, string]> {\n  const data = findLocaleData(locale);\n  const erasData = <[string, string][]>data[LocaleDataIndex.Eras];\n  return getLastDefinedValue(erasData, width);\n}\n\n/**\n * Retrieves the first day of the week for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns A day index number, using the 0-based week-day index for `en-US`\n * (Sunday = 0, Monday = 1, ...).\n * For example, for `fr-FR`, returns 1 to indicate that the first day is Monday.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleFirstDayOfWeek(locale: string): WeekDay {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.FirstDayOfWeek];\n}\n\n/**\n * Range of week days that are considered the week-end for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns The range of day values, `[startDay, endDay]`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleWeekEndRange(locale: string): [WeekDay, WeekDay] {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.WeekendRange];\n}\n\n/**\n * Retrieves a localized date-value formating string.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param width The format type.\n * @returns The localized formating string.\n * @see `FormatWidth`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleDateFormat(locale: string, width: FormatWidth): string {\n  const data = findLocaleData(locale);\n  return getLastDefinedValue(data[LocaleDataIndex.DateFormat], width);\n}\n\n/**\n * Retrieves a localized time-value formatting string.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param width The format type.\n * @returns The localized formatting string.\n * @see `FormatWidth`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n\n * @publicApi\n */\nexport function getLocaleTimeFormat(locale: string, width: FormatWidth): string {\n  const data = findLocaleData(locale);\n  return getLastDefinedValue(data[LocaleDataIndex.TimeFormat], width);\n}\n\n/**\n * Retrieves a localized date-time formatting string.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param width The format type.\n * @returns The localized formatting string.\n * @see `FormatWidth`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleDateTimeFormat(locale: string, width: FormatWidth): string {\n  const data = findLocaleData(locale);\n  const dateTimeFormatData = <string[]>data[LocaleDataIndex.DateTimeFormat];\n  return getLastDefinedValue(dateTimeFormatData, width);\n}\n\n/**\n * Retrieves a localized number symbol that can be used to replace placeholders in number formats.\n * @param locale The locale code.\n * @param symbol The symbol to localize.\n * @returns The character for the localized symbol.\n * @see `NumberSymbol`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleNumberSymbol(locale: string, symbol: NumberSymbol): string {\n  const data = findLocaleData(locale);\n  const res = data[LocaleDataIndex.NumberSymbols][symbol];\n

```
 if (typeof res === 'undefined') {\n    if (symbol === NumberSymbol.CurrencyDecimal) {\n      return data[LocaleDataIndex.NumberSymbols][NumberSymbol.Decimal];\n    } else if (symbol === NumberSymbol.CurrencyGroup) {\n      return data[LocaleDataIndex.NumberSymbols][NumberSymbol.Group];\n    }\n  }\n  return res;\n}\n\n/**\n * Retrieves a number format for a given locale.\n *\n * Numbers are formatted using patterns, like `#,###.00`. For example, the pattern `#,###.00`\n * when used to format the number 12345.678 could result in \"12'345,678\". That would happen if the\n * grouping separator for your language is an apostrophe, and the decimal separator is a comma.\n *\n * <b>Important:</b> The characters `.` `,` `0` `#` (and others below) are special placeholders\n * that stand for the decimal separator, and so on, and are NOT real characters.\n * You must NOT \"translate\" the placeholders. For example, don't change `.` to `,` even though in\n * your language
 the decimal point is written with a comma. The symbols should be replaced by the\n * local equivalents, using the appropriate `NumberSymbol` for your language.\n *\n * Here are the special characters used in number patterns:\n *\n * | Symbol | Meaning |\n * |--------|---------|\n * | . | Replaced automatically by the character used for the decimal point. |\n * | , | Replaced by the \"grouping\" (thousands) separator. |\n * | 0 | Replaced by a digit (or zero if there aren't enough digits). |\n * | # | Replaced by a digit (or nothing if there aren't enough). |\n * | ¤ | Replaced by a currency symbol, such as $ or USD. |\n * | % | Marks a percent format. The % symbol may change position, but must be retained. |\n * | E | Marks a scientific format. The E symbol may change position, but must be retained. |\n * | ' | Special characters used as literal characters are quoted with ASCII single quotes. |\n *\n * @param locale A locale code for the locale format rules to use.\n * @param type The
 type of numeric value to be formatted (such as `Decimal` or `Currency`.)\n * @returns The localized format string.\n * @see `NumberFormatStyle`\n * @see [CLDR website](http://cldr.unicode.org/translation/number-patterns)\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleNumberFormat(locale: string, type: NumberFormatStyle): string {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.NumberFormats][type];\n}\n\n/**\n * Retrieves the symbol used to represent the currency for the main country\n * corresponding to a given locale. For example, '$' for `en-US`.\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns The localized symbol character,\n * or `null` if the main country cannot be determined.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleCurrencySymbol(locale: string): string|null
 {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.CurrencySymbol] || null;\n}\n\n/**\n * Retrieves the name of the currency for the main country corresponding\n * to a given locale. For example, 'US Dollar' for `en-US`.\n * @param locale A locale code for the locale format rules to use.\n * @returns The currency name,\n * or `null` if the main country cannot be determined.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleCurrencyName(locale: string): string|null {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.CurrencyName] || null;\n}\n\n/**\n * Retrieves the default currency code for the given locale.\n *\n * The default is defined as the first currency which is still in use.\n *\n * @param locale The code of the locale whose currency code we want.\n * @returns The code of the default currency for the given locale.\n *\n * @publicApi\n */\nexport function
 getLocaleCurrencyCode(locale: string): string|null {\n  return getLocaleCurrencyCode(locale);\n}\n\n/**\n * Retrieves the currency values for a given locale.\n * @param locale A locale code for the locale format rules to use.\n * @returns The currency values.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n */\nfunction getLocaleCurrencies(locale: string): {[code: string]: CurrenciesSymbols} {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.Currencies];\n}\n\n/**\n * @alias core/getLocalePluralCase\n * @publicApi\n */\nexport const getLocalePluralCase: (locale: string) => ((value: number) => Plural) =\n    getLocalePluralCase;\n\nfunction checkFullData(data: any) {\n  if (!data[LocaleDataIndex.ExtraData]) {\n    throw new Error(`Missing extra locale data for the locale \"${\n        data[LocaleDataIndex\n                .LocaleId]}\". Use \"registerLocaleData\" to load new data. See the \"I18n guide\" on angular.io to know more.`);\n
```

```
}\n}\n\n/**\n * Retrieves locale-specific rules used to determine which day period to use\n * when more than one period is defined for a locale.\n *\n * There is a rule for each defined day period. The\n * first rule is applied to the first day period and so on.\n * Fall back to AM/PM when no rules are available.\n *\n * A rule can specify a period as time range, or as a single time value.\n *\n * This functionality is only available when you have loaded the full locale data.\n * See the [\"I18n guide\"](guide/i18n#i18n-pipes).\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns The rules for the locale, a single time value or array of *from-time, to-time*,\n * or null if no periods are available.\n *\n * @see `getLocaleExtraDayPeriods()`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleExtraDayPeriodRules(locale: string): (Time|[Time, Time])[] {\n  const data = findLocaleData(locale);\n  checkFullData(data);\n  const rules = data[LocaleDataIndex.ExtraData][ExtraLocaleDataIndex.ExtraDayPeriodsRules] || [];\n  return rules.map((rule: string|[string, string]) => {\n    if (typeof rule === 'string') {\n      return extractTime(rule);\n    }\n    return [extractTime(rule[0]), extractTime(rule[1])];\n  });\n}\n\n/**\n * Retrieves locale-specific day periods, which indicate roughly how a day is broken up\n * in different languages.\n * For example, for `en-US`, periods are morning, noon, afternoon, evening, and midnight.\n *\n * This functionality is only available when you have loaded the full locale data.\n * See the [\"I18n guide\"](guide/i18n#i18n-pipes).\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns The translated day-period strings.\n * @see `getLocaleExtraDayPeriodRules()`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleExtraDayPeriods(\n locale: string, formStyle: FormStyle, width: TranslationWidth): string[] {\n  const data = findLocaleData(locale);\n  checkFullData(data);\n  const dayPeriodsData = <string[][][]>[\n    data[LocaleDataIndex.ExtraData][ExtraLocaleDataIndex.ExtraDayPeriodFormats],\n    data[LocaleDataIndex.ExtraData][ExtraLocaleDataIndex.ExtraDayPeriodStandalone]\n  ];\n  const dayPeriods = getLastDefinedValue(dayPeriodsData, formStyle) || [];\n  return getLastDefinedValue(dayPeriods, width) || [];\n}\n\n/**\n * Retrieves the writing direction of a specified locale\n * @param locale A locale code for the locale format rules to use.\n * @publicApi\n * @returns 'rtl' or 'ltr'\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n */\nexport function getLocaleDirection(locale: string): 'ltr'|'rtl' {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.Directionality];\n}\n\n/**\n * Retrieves the first value that is defined in an array, going backwards from an index position.\n *\n * To avoid repeating the same data (as when the \"format\" and \"standalone\" forms are the same)\n * add the first value to the locale data arrays, and add other values only if they are different.\n *\n * @param data The data array to retrieve from.\n * @param index A 0-based index into the array to start from.\n * @returns The value immediately before the given index position.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nfunction getLastDefinedValue<T>(data: T[], index: number): T {\n  for (let i = index; i > -1; i--) {\n    if (typeof data[i] !== 'undefined') {\n      return data[i];\n    }\n  }\n  throw new Error('Locale data API: locale data undefined');\n}\n\n/**\n * Represents a time value with hours and minutes.\n *\n * @publicApi\n */\nexport type Time = {\n  hours: number,\n  minutes: number\n};\n\n/**\n * Extracts the hours and minutes from a string like \"15:45\"\n */\nfunction extractTime(time: string): Time {\n  const [h, m] = time.split(':');\n  return {hours: +h, minutes: +m};\n}\n\n\n\n/**\n * Retrieves the currency symbol for a given currency code.\n *\n * For example, for the default `en-US` locale, the code `USD` can\n * be represented by the narrow symbol `$` or the wide symbol `US$`.\n *\n * @param code The currency code.\n * @param format The format, `wide` or `narrow`.\n * @param locale A locale code for the locale format rules to use.\n *\n * @returns The symbol, or the currency code if no symbol is available.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getCurrencySymbol(code: string, format: 'wide'|'narrow', locale = 'en'): string {\n  const currency = getLocaleCurrencies(locale)[code] || CURRENCIES_EN[code] || [];\n  const symbolNarrow = currency[CurrencyIndex.SymbolNarrow];\n\n
```

```
 if (format === 'narrow' && typeof symbolNarrow === 'string') {\n    return symbolNarrow;\n  }\n\n  return currency[CurrencyIndex.Symbol] || code;\n}\n\n// Most currencies have cents, that's why the default is 2\nconst DEFAULT_NB_OF_CURRENCY_DIGITS = 2;\n\n/**\n * Reports the number of decimal digits for a given currency.\n * The value depends upon the presence of cents in that particular currency.\n *\n * @param code The currency code.\n * @returns The number of decimal digits, typically 0 or 2.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getNumberOfCurrencyDigits(code: string): number {\n  let digits;\n  const currency = CURRENCIES_EN[code];\n  if (currency) {\n    digits = currency[CurrencyIndex.NbOfDigits];\n  }\n  return typeof digits === 'number' ? digits : DEFAULT_NB_OF_CURRENCY_DIGITS;\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
 license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {FormatWidth, FormStyle, getLocaleDateFormat, getLocaleDateTimeFormat, getLocaleDayNames, getLocaleDayPeriods, getLocaleEraNames, getLocaleExtraDayPeriodRules, getLocaleExtraDayPeriods, getLocaleId, getLocaleMonthNames, getLocaleNumberSymbol, getLocaleTimeFormat, NumberSymbol, Time, TranslationWidth} from './locale_data_api';\n\nexport const ISO8601_DATE_REGEX =\n    /^(\\d{4})-?(\\d\\d)-?(\\d\\d)(?:T(\\d\\d)(?::?(\\d\\d)(?::?(\\d\\d)(?:\\.(\\d+))?)?)?(Z|([+-])(\\d\\d):?(\\d\\d))?)?$/;\n//    1        2       3         4          5          6          7          8  9     10      11\nconst NAMED_FORMATS: {[localeId: string]: {[format: string]: string}} = {};\nconst DATE_FORMATS_SPLIT =\n/((?:[^GyYMLwWdEabBhHmsSzZO']+)|(?:'(?:[^']|'')*')|(?:G{1,5}|y{1,4}|Y{1,4}|M{1,5}|L{1,5}|w{1,2}|W{1}|d{1,2}|E{1,6}|a{1,5}|b{1,5}|B{1,5}|h{1,2}|H{1,2}|m{1,2}|s{1,2}|S{1,3}|z{1,4}|Z{1,5}|O{1,4}))([\\s\\S]*)/;\n\nenum ZoneWidth {\n  Short,\n  ShortGMT,\n  Long,\n  Extended\n}\n\nenum DateType {\n  FullYear,\n  Month,\n  Date,\n  Hours,\n  Minutes,\n  Seconds,\n  FractionalSeconds,\n  Day\n}\n\nenum TranslationType {\n  DayPeriods,\n  Days,\n  Months,\n  Eras\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Formats a date according to locale rules.\n *\n * @param value The date to format, as a Date, or a number (milliseconds since UTC epoch)\n * or an [ISO date-time string](https://www.w3.org/TR/NOTE-datetime).\n * @param format The date-time components to include. See `DatePipe` for details.\n * @param locale A locale code for the locale format rules to use.\n * @param timezone The time zone. A time zone offset from GMT (such as `'+0430'`),\n * or a standard UTC/GMT or continental US time zone abbreviation.\n * If not specified, uses host system settings.\n *\n * @returns The formatted date string.\n *\n * @see `DatePipe`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n
 *\n * @publicApi\n */\nexport function formatDate(\n    value: string|number|Date, format: string, locale: string, timezone?: string): string {\n  let date = toDate(value);\n  const namedFormat = getNamedFormat(locale, format);\n  format = namedFormat || format;\n\n  let parts: string[] = [];\n  let match;\n  while (format) {\n    match = DATE_FORMATS_SPLIT.exec(format);\n    if (match) {\n      parts = parts.concat(match.slice(1));\n      const part = parts.pop();\n      if (!part) {\n        break;\n      }\n      format = part;\n    } else {\n      parts.push(format);\n      break;\n    }\n  }\n\n  let dateTimezoneOffset = date.getTimezoneOffset();\n  if (timezone) {\n    dateTimezoneOffset = timezoneToOffset(timezone, dateTimezoneOffset);\n    date = convertTimezoneToLocal(date, timezone, true);\n  }\n\n  let text = '';\n  parts.forEach(value => {\n    const dateFormatter = getDateFormatter(value);\n    text += dateFormatter ?\n        dateFormatter(date,
 locale, dateTimezoneOffset) :\n        value === '\\'\\'' ? '\\'' : value.replace(/(^'|'$)/g, '').replace(/''/g, '\\'');\n  });\n\n  return text;\n}\n\nfunction getNamedFormat(locale: string, format: string): string {\n  const localeId = getLocaleId(locale);\n  NAMED_FORMATS[localeId] = NAMED_FORMATS[localeId] || {};\n\n  if (NAMED_FORMATS[localeId][format]) {\n    return NAMED_FORMATS[localeId][format];\n  }\n\n  let formatValue = '';\n  switch (format) {\n    case 'shortDate':\n      formatValue = getLocaleDateFormat(locale, FormatWidth.Short);\n      break;\n    case 'mediumDate':\n      formatValue = getLocaleDateFormat(locale, FormatWidth.Medium);\n      break;\n    case 'longDate':\n      formatValue = getLocaleDateFormat(locale, FormatWidth.Long);\n      break;\n    case 'fullDate':\n      formatValue = getLocaleDateFormat(locale, FormatWidth.Full);\n      break;\n    case 'shortTime':\n      formatValue = getLocaleTimeFormat(locale,
```

FormatWidth.Short);\n break;\n case 'mediumTime':\n formatValue = getLocaleTimeFormat(locale, FormatWidth.Medium);\n break;\n case 'longTime':\n formatValue = getLocaleTimeFormat(locale, FormatWidth.Long);\n break;\n case 'fullTime':\n formatValue = getLocaleTimeFormat(locale, FormatWidth.Full);\n break;\n case 'short':\n const shortTime = getNamedFormat(locale, 'shortTime');\n const shortDate = getNamedFormat(locale, 'shortDate');\n formatValue = formatDateTime(\n getLocaleDateTimeFormat(locale, FormatWidth.Short), [shortTime, shortDate]);\n break;\n case 'medium':\n const mediumTime = getNamedFormat(locale, 'mediumTime');\n const mediumDate = getNamedFormat(locale, 'mediumDate');\n formatValue = formatDateTime(\n getLocaleDateTimeFormat(locale, FormatWidth.Medium), [mediumTime, mediumDate]);\n break;\n case 'long':\n const longTime = getNamedFormat(locale, 'longTime');\n const longDate = getNamedFormat(locale, 'longDate');\n formatValue =\n formatDateTime(getLocaleDateTimeFormat(locale, FormatWidth.Long), [longTime, longDate]);\n break;\n case 'full':\n const fullTime = getNamedFormat(locale, 'fullTime');\n const fullDate = getNamedFormat(locale, 'fullDate');\n formatValue =\n formatDateTime(getLocaleDateTimeFormat(locale, FormatWidth.Full), [fullTime, fullDate]);\n break;\n }\n if (formatValue) {\n NAMED_FORMATS[localeId][format] = formatValue;\n }\n return formatValue;\n}\n\nfunction formatDateTime(str: string, opt_values: string[]) {\n if (opt_values) {\n str = str.replace(/\\{([^}]+)}/g, function(match, key) {\n return (opt_values != null && key in opt_values) ? opt_values[key] : match;\n });\n }\n return str;\n}\n\nfunction padNumber(\n num: number, digits: number, minusSign = '-', trim?: boolean, negWrap?: boolean): string {\n let neg = '';\n if (num < 0 || (negWrap && num <= 0)) {\n if (negWrap) {\n num = -num + 1;\n } else {\n num = -num;\n neg = minusSign;\n }\n }\n let strNum = String(num);\n while (strNum.length < digits) {\n strNum = '0' + strNum;\n }\n if (trim) {\n strNum = strNum.substr(strNum.length - digits);\n }\n return neg + strNum;\n}\n\nfunction formatFractionalSeconds(milliseconds: number, digits: number): string {\n const strMs = padNumber(milliseconds, 3);\n return strMs.substr(0, digits);\n}\n\n/**\n * Returns a date formatter that transforms a date into its locale digit representation\n */\nfunction dateGetter(\n name: DateType, size: number, offset: number = 0, trim = false,\n negWrap = false): DateFormatter {\n return function(date: Date, locale: string): string {\n let part = getDatePart(name, date);\n if (offset > 0 || part > -offset) {\n part += offset;\n }\n\n if (name === DateType.Hours) {\n if (part === 0 && offset === -12) {\n part = 12;\n }\n } else if (name === DateType.FractionalSeconds)\n {\n return formatFractionalSeconds(part, size);\n }\n\n const localeMinus = getLocaleNumberSymbol(locale, NumberSymbol.MinusSign);\n return padNumber(part, size, localeMinus, trim, negWrap);\n };\n}\n\nfunction getDatePart(part: DateType, date: Date): number {\n switch (part) {\n case DateType.FullYear:\n return date.getFullYear();\n case DateType.Month:\n return date.getMonth();\n case DateType.Date:\n return date.getDate();\n case DateType.Hours:\n return date.getHours();\n case DateType.Minutes:\n return date.getMinutes();\n case DateType.Seconds:\n return date.getSeconds();\n case DateType.FractionalSeconds:\n return date.getMilliseconds();\n case DateType.Day:\n return date.getDay();\n default:\n throw new Error(`Unknown DateType value \"${part}\".`);\n }\n}\n\n/**\n * Returns a date formatter that transforms a date into its locale string representation\n */\nfunction dateStrGetter(\n name: TranslationType, width: TranslationWidth, form: FormStyle = FormStyle.Format,\n extended = false): DateFormatter {\n return function(date: Date, locale: string): string {\n return getDateTranslation(date, locale, name, width, form, extended);\n };\n}\n\n/**\n * Returns the locale translation of a date for a given form, type and width\n */\nfunction getDateTranslation(\n date: Date, locale: string, name: TranslationType, width: TranslationWidth, form: FormStyle,\n extended: boolean) {\n switch (name) {\n case TranslationType.Months:\n return getLocaleMonthNames(locale, form, width)[date.getMonth()];\n case TranslationType.Days:\n return getLocaleDayNames(locale, form, width)[date.getDay()];\n case TranslationType.DayPeriods:\n const currentHours = date.getHours();\n const currentMinutes =

date.getMinutes();\n if (extended) {\n const rules = getLocaleExtraDayPeriodRules(locale);\n const dayPeriods = getLocaleExtraDayPeriods(locale,
form, width);\n const index = rules.findIndex(rule => {\n if (Array.isArray(rule)) {\n // morning, afternoon, evening, night\n const [from, to] = rule;\n const afterFrom = currentHours >= from.hours && currentMinutes >= from.minutes;\n const beforeTo =\n (currentHours < to.hours ||\n (currentHours === to.hours && currentMinutes < to.minutes));\n // We must account for normal rules that span a period during the day (e.g. 6am-9am)\n // where `from` is less (earlier) than `to`. But also rules that span midnight (e.g.\n // 10pm - 5am) where `from` is greater (later!) than `to`.\n //\n // In the first case the current time must be BOTH after `from` AND before `to`\n // (e.g. 8am is after 6am AND before 10am).\n //\n // In the second case the current time must be EITHER after `from` OR before `to`\n // (e.g. 4am is before 5am but not after 10pm; and 11pm is not before 5am but it is\n // after 10pm).\n if (from.hours < to.hours) {\n if (afterFrom && beforeTo) {\n return true;\n }\n } else if (afterFrom || beforeTo) {\n return true;\n }\n } else { // noon or midnight\n if (rule.hours === currentHours && rule.minutes === currentMinutes) {\n return true;\n }\n }\n return false;\n });\n if (index !== -1) {\n return dayPeriods[index];\n }\n }\n // if no rules for the day periods, we use am/pm by default\n return getLocaleDayPeriods(locale, form, <TranslationWidth>width)[currentHours < 12 ? 0 : 1];\n case TranslationType.Eras:\n return getLocaleEraNames(locale, <TranslationWidth>width)[date.getFullYear() <= 0 ? 0 : 1];\n default:\n // This default
case is not needed by TypeScript compiler, as the switch is exhaustive.\n // However Closure Compiler does not understand that and reports an error in typed mode.\n // The `throw new Error` below works around the problem, and the unexpected: never variable\n // makes sure tsc still checks this code is unreachable.\n const unexpected: never = name;\n throw new Error(`unexpected translation type ${unexpected}`);\n }\n}\n\n/**\n * Returns a date formatter that transforms a date and an offset into a timezone with ISO8601 or\n * GMT format depending on the width (eg: short = +0430, short:GMT = GMT+4, long = GMT+04:30,\n * extended = +04:30)\n */\nfunction timeZoneGetter(width: ZoneWidth): DateFormatter {\n return function(date: Date, locale: string, offset: number) {\n const zone = -1 * offset;\n const minusSign = getLocaleNumberSymbol(locale, NumberSymbol.MinusSign);\n const hours = zone > 0 ? Math.floor(zone / 60) : Math.ceil(zone / 60);\n switch (width)
{\n case ZoneWidth.Short:\n return ((zone >= 0) ? '+' : '') + padNumber(hours, 2, minusSign) +\n padNumber(Math.abs(zone % 60), 2, minusSign);\n case ZoneWidth.ShortGMT:\n return 'GMT' + ((zone >= 0) ? '+' : '') + padNumber(hours, 1, minusSign);\n case ZoneWidth.Long:\n return 'GMT' + ((zone >= 0) ? '+' : '') + padNumber(hours, 2, minusSign) + ':' +\n padNumber(Math.abs(zone % 60), 2, minusSign);\n case ZoneWidth.Extended:\n if (offset === 0) {\n return 'Z';\n } else {\n return ((zone >= 0) ? '+' : '') + padNumber(hours, 2, minusSign) + ':' +\n padNumber(Math.abs(zone % 60), 2, minusSign);\n }\n default:\n throw new Error(`Unknown zone width \"${width}\"`);\n }\n };\n}\n\nconst JANUARY = 0;\nconst THURSDAY = 4;\nfunction getFirstThursdayOfYear(year: number) {\n const firstDayOfYear = (new Date(year, JANUARY, 1)).getDay();\n return new Date(\n year,
0, 1 + ((firstDayOfYear <= THURSDAY) ? THURSDAY : THURSDAY + 7) - firstDayOfYear);\n}\n\nfunction getThursdayThisWeek(datetime: Date) {\n return new Date(\n datetime.getFullYear(), datetime.getMonth(),\n datetime.getDate() + (THURSDAY - datetime.getDay()));\n}\n\nfunction weekGetter(size: number, monthBased = false): DateFormatter {\n return function(date: Date, locale: string) {\n let result;\n if (monthBased) {\n const nbDaysBefore1stDayOfMonth =\n new Date(date.getFullYear(), date.getMonth(), 1).getDay() - 1;\n const today = date.getDate();\n result = 1 + Math.floor((today + nbDaysBefore1stDayOfMonth) / 7);\n } else {\n const thisThurs = getThursdayThisWeek(date);\n // Some days of a year are part of next year according to ISO 8601.\n // Compute the firstThurs from the year of this week's Thursday\n const firstThurs = getFirstThursdayOfYear(thisThurs.getFullYear());\n const diff = thisThurs.getTime() - firstThurs.getTime();\n

```
result = 1 + Math.round(diff / 6.048e8);  // 6.048e8 ms per week\n    }\n\n    return padNumber(result, size, getLocaleNumberSymbol(locale, NumberSymbol.MinusSign));\n  };\n}\n\n/**\n * Returns a date formatter that provides the week-numbering year for the input date.\n */\nfunction weekNumberingYearGetter(size: number, trim = false): DateFormatter {\n  return function(date: Date, locale: string) {\n    const thisThurs = getThursdayThisWeek(date);\n    const weekNumberingYear = thisThurs.getFullYear();\n    return padNumber(\n  weekNumberingYear, size, getLocaleNumberSymbol(locale, NumberSymbol.MinusSign), trim);\n  };\n}\n\ntype DateFormatter = (date: Date, locale: string, offset: number) => string;\n\nconst DATE_FORMATS: {[format: string]: DateFormatter} = {};\n\n// Based on CLDR formats:\n// See complete list: http://www.unicode.org/reports/tr35/tr35-dates.html#Date_Field_Symbol_Table\n// See also explanations: http://cldr.unicode.org/translation/date-time\n//  TODO(ocombe): support all missing cldr formats: Y, U, Q, D, F, e, c, j, J, C, A, v, V, X, x\nfunction getDateFormatter(format: string): DateFormatter|null {\n  if (DATE_FORMATS[format]) {\n    return DATE_FORMATS[format];\n  }\n  let formatter;\n  switch (format) {\n    // Era name (AD/BC)\n    case 'G':\n    case 'GG':\n    case 'GGG':\n      formatter = dateStrGetter(TranslationType.Eras, TranslationWidth.Abbreviated);\n      break;\n    case 'GGGG':\n      formatter = dateStrGetter(TranslationType.Eras, TranslationWidth.Wide);\n      break;\n    case 'GGGGG':\n      formatter = dateStrGetter(TranslationType.Eras, TranslationWidth.Narrow);\n      break;\n\n    // 1 digit representation of the year, e.g. (AD 1 => 1, AD 199 => 199)\n    case 'y':\n      formatter = dateGetter(DateType.FullYear, 1, 0, false, true);\n      break;\n    // 2 digit representation of the year, padded (00-99). (e.g. AD 2001 => 01, AD 2010 => 10)\n    case 'yy':\n      formatter = dateGetter(DateType.FullYear,
  2, 0, true, true);\n      break;\n    // 3 digit representation of the year, padded (000-999). (e.g. AD 2001 => 01, AD 2010 => 10)\n    case 'yyy':\n      formatter = dateGetter(DateType.FullYear, 3, 0, false, true);\n      break;\n    // 4 digit representation of the year (e.g. AD 1 => 0001, AD 2010 => 2010)\n    case 'yyyy':\n      formatter = dateGetter(DateType.FullYear, 4, 0, false, true);\n      break;\n\n    // 1 digit representation of the week-numbering year, e.g. (AD 1 => 1, AD 199 => 199)\n    case 'Y':\n      formatter = weekNumberingYearGetter(1);\n      break;\n    // 2 digit representation of the week-numbering year, padded (00-99). (e.g. AD 2001 => 01, AD\n    // 2010 => 10)\n    case 'YY':\n      formatter = weekNumberingYearGetter(2, true);\n      break;\n    // 3 digit representation of the week-numbering year, padded (000-999). (e.g. AD 1 => 001, AD\n    // 2010 => 2010)\n    case 'YYY':\n      formatter = weekNumberingYearGetter(3);\n      break;\n    // 4 digit
  representation of the week-numbering year (e.g. AD 1 => 0001, AD 2010 => 2010)\n    case 'YYYY':\n      formatter = weekNumberingYearGetter(4);\n      break;\n\n    // Month of the year (1-12), numeric\n    case 'M':\n    case 'L':\n      formatter = dateGetter(DateType.Month, 1, 1);\n      break;\n    case 'MM':\n    case 'LL':\n      formatter = dateGetter(DateType.Month, 2, 1);\n      break;\n\n    // Month of the year (January, ...), string, format\n    case 'MMM':\n      formatter = dateStrGetter(TranslationType.Months, TranslationWidth.Abbreviated);\n      break;\n    case 'MMMM':\n      formatter = dateStrGetter(TranslationType.Months, TranslationWidth.Wide);\n      break;\n    case 'MMMMM':\n      formatter = dateStrGetter(TranslationType.Months, TranslationWidth.Narrow);\n      break;\n\n    // Month of the year (January, ...), string, standalone\n    case 'LLL':\n      formatter =\n          dateStrGetter(TranslationType.Months, TranslationWidth.Abbreviated, FormStyle.Standalone);\n      break;\n    case 'LLLL':\n      formatter =\n          dateStrGetter(TranslationType.Months, TranslationWidth.Wide, FormStyle.Standalone);\n      break;\n    case 'LLLLL':\n      formatter =\n          dateStrGetter(TranslationType.Months, TranslationWidth.Narrow, FormStyle.Standalone);\n      break;\n\n    // Week of the year (1, ... 52)\n    case 'w':\n      formatter = weekGetter(1);\n      break;\n    case 'ww':\n      formatter = weekGetter(2);\n      break;\n\n    // Week of the month (1, ...)\n    case 'W':\n      formatter = weekGetter(1, true);\n      break;\n\n    // Day of the month (1-31)\n    case 'd':\n      formatter = dateGetter(DateType.Date, 1);\n      break;\n    case 'dd':\n      formatter = dateGetter(DateType.Date, 2);\n      break;\n\n    // Day of the Week\n    case 'E':\n    case 'EE':\n    case 'EEE':\n      formatter = dateStrGetter(TranslationType.Days, TranslationWidth.Abbreviated);\n      break;\n    case 'EEEE':\n      formatter = dateStrGetter(TranslationType.Days,
  TranslationWidth.Wide);\n      break;\n    case 'EEEEE':\n      formatter = dateStrGetter(TranslationType.Days, TranslationWidth.Narrow);\n      break;\n    case 'EEEEEE':\n      formatter = dateStrGetter(TranslationType.Days,
```

TranslationWidth.Short);\n break;\n\n // Generic period of the day (am-pm)\n case 'a':\n case 'aa':\n case 'aaa':\n formatter = dateStrGetter(TranslationType.DayPeriods, TranslationWidth.Abbreviated);\n break;\n case 'aaaa':\n formatter = dateStrGetter(TranslationType.DayPeriods, TranslationWidth.Wide);\n break;\n case 'aaaaa':\n formatter = dateStrGetter(TranslationType.DayPeriods, TranslationWidth.Narrow);\n break;\n\n // Extended period of the day (midnight, at night, ...), standalone\n case 'b':\n case 'bb':\n case 'bbb':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Abbreviated, FormStyle.Standalone, true);\n break;\n
case 'bbbb':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Wide, FormStyle.Standalone, true);\n break;\n case 'bbbbb':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Narrow, FormStyle.Standalone, true);\n break;\n\n // Extended period of the day (midnight, night, ...), standalone\n case 'B':\n case 'BB':\n case 'BBB':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Abbreviated, FormStyle.Format, true);\n break;\n case 'BBBB':\n formatter =\n dateStrGetter(TranslationType.DayPeriods, TranslationWidth.Wide, FormStyle.Format, true);\n break;\n case 'BBBBB':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Narrow, FormStyle.Format, true);\n break;\n\n // Hour in AM/PM, (1-12)\n case 'h':\n formatter = dateGetter(DateType.Hours, 1, -12);\n break;\n
case 'hh':\n formatter = dateGetter(DateType.Hours, 2, -12);\n break;\n\n // Hour of the day (0-23)\n case 'H':\n formatter = dateGetter(DateType.Hours, 1);\n break;\n // Hour in day, padded (00-23)\n case 'HH':\n formatter = dateGetter(DateType.Hours, 2);\n break;\n\n // Minute of the hour (0-59)\n case 'm':\n formatter = dateGetter(DateType.Minutes, 1);\n break;\n case 'mm':\n formatter = dateGetter(DateType.Minutes, 2);\n break;\n\n // Second of the minute (0-59)\n case 's':\n formatter = dateGetter(DateType.Seconds, 1);\n break;\n case 'ss':\n formatter = dateGetter(DateType.Seconds, 2);\n break;\n\n // Fractional second\n case 'S':\n formatter = dateGetter(DateType.FractionalSeconds, 1);\n break;\n case 'SS':\n formatter = dateGetter(DateType.FractionalSeconds, 2);\n break;\n case 'SSS':\n formatter = dateGetter(DateType.FractionalSeconds,
3);\n break;\n\n\n // Timezone ISO8601 short format (-0430)\n case 'Z':\n case 'ZZ':\n case 'ZZZ':\n formatter = timeZoneGetter(ZoneWidth.Short);\n break;\n // Timezone ISO8601 extended format (-04:30)\n case 'ZZZZZ':\n formatter = timeZoneGetter(ZoneWidth.Extended);\n break;\n\n // Timezone GMT short format (GMT+4)\n case 'O':\n case 'OO':\n case 'OOO':\n // Should be location, but fallback to format O instead because we don't have the data yet\n case 'z':\n case 'zz':\n case 'zzz':\n formatter = timeZoneGetter(ZoneWidth.ShortGMT);\n break;\n // Timezone GMT long format (GMT+0430)\n case 'OOOO':\n case 'ZZZZ':\n // Should be location, but fallback to format O instead because we don't have the data yet\n case 'zzzz':\n formatter = timeZoneGetter(ZoneWidth.Long);\n break;\n default:\n return null;\n }\n DATE_FORMATS[format] = formatter;\n return formatter;\n}\n\nfunction timezoneToOffset(timezone:
string, fallback: number): number {\n // Support: IE 11 only, Edge 13-15+\n // IE/Edge do not \"understand\" colon (`:`) in timezone\n timezone = timezone.replace(/:/g, '');\n const requestedTimezoneOffset = Date.parse('Jan 01, 1970 00:00:00 ' + timezone) / 60000;\n return isNaN(requestedTimezoneOffset) ? fallback : requestedTimezoneOffset;\n}\n\nfunction addDateMinutes(date: Date, minutes: number) {\n date = new Date(date.getTime());\n date.setMinutes(date.getMinutes() + minutes);\n return date;\n}\n\nfunction convertTimezoneToLocal(date: Date, timezone: string, reverse: boolean): Date {\n const reverseValue = reverse ? -1 : 1;\n const dateTimezoneOffset = date.getTimezoneOffset();\n const timezoneOffset = timezoneToOffset(timezone, dateTimezoneOffset);\n return addDateMinutes(date, reverseValue * (timezoneOffset - dateTimezoneOffset));\n}\n\n/**\n * Converts a value to date.\n *\n * Supported input formats:\n * - `Date`\n * - number: timestamp\n *
- string: numeric (e.g. \"1234\"), ISO and date strings in a format supported by\n * [Date.parse()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Date/parse).\n * Note: ISO strings without time return a date without timeoffset.\n *\n * Throws if unable to convert to a date.\n */\nexport function toDate(value: string|number|Date): Date {\n if (isDate(value)) {\n return value;\n }\n\n if

(typeof value === 'number' && !isNaN(value)) {\n return new Date(value);\n }\n\n if (typeof value === 'string') {\n value = value.trim();\n\n const parsedNb = parseFloat(value);\n\n // any string that only contains numbers, like \"1234\" but not like \"1234hello\"\n if (!isNaN(value as any - parsedNb)) {\n return new Date(parsedNb);\n }\n\n if (/^(\\d{4}-\\d{1,2}-\\d{1,2})$/.test(value)) {\n /* For ISO Strings without time the day, month and year must be extracted from the ISO String\n before Date creation to avoid time offset and errors in the new Date.\n If we only replace '-' with ',' in the ISO String (\"2015,01,01\"), and try to create a new\n date, some browsers (e.g. IE 9) will throw an invalid Date error.\n If we leave the '-' (\"2015-01-01\") and try to create a new Date(\"2015-01-01\") the timeoffset\n is applied.\n Note: ISO months are 0 for January, 1 for February, ... */\n const [y, m, d] = value.split('-').map((val: string) => +val);\n return new Date(y, m - 1, d);\n }\n\n let match: RegExpMatchArray|null;\n if (match = value.match(ISO8601_DATE_REGEX)) {\n return isoStringToDate(match);\n }\n }\n\n const date = new Date(value as any);\n if (!isDate(date)) {\n throw new Error(`Unable to convert \"${value}\" into a date`);\n }\n return date;\n}\n\n/**\n * Converts a date in ISO8601 to a Date.\n * Used instead of `Date.parse` because of browser discrepancies.\n */\nexport function isoStringToDate(match: RegExpMatchArray): Date {\n const date = new Date(0);\n let tzHour = 0;\n let tzMin = 0;\n\n // match[8] means that the string contains \"Z\" (UTC) or a timezone like \"+01:00\" or \"+0100\"\n const dateSetter = match[8] ? date.setUTCFullYear : date.setFullYear;\n const timeSetter = match[8] ? date.setUTCHours : date.setHours;\n\n // if there is a timezone defined like \"+01:00\" or \"+0100\"\n if (match[9]) {\n tzHour = Number(match[9] + match[10]);\n tzMin = Number(match[9] + match[11]);\n }\n dateSetter.call(date, Number(match[1]), Number(match[2]) - 1, Number(match[3]));\n const h = Number(match[4] || 0) - tzHour;\n const m = Number(match[5] || 0) - tzMin;\n const s = Number(match[6] || 0);\n // The ECMAScript specification (https://www.ecma-international.org/ecma-262/5.1/#sec-15.9.1.11)\n // defines that `DateTime` milliseconds should always be rounded down, so that `999.9ms`\n // becomes `999ms`.\n const ms = Math.floor(parseFloat('0.' + (match[7] || 0)) * 1000);\n timeSetter.call(date,
h, m, s, ms);\n return date;\n}\n\nexport function isDate(value: any): value is Date {\n return value instanceof Date && !isNaN(value.valueOf());\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getLocaleNumberFormat, getLocaleNumberSymbol, getNumberOfCurrencyDigits, NumberFormatStyle, NumberSymbol} from './locale_data_api';\n\nexport const NUMBER_FORMAT_REGEXP = /^(\\d+)?\\.((\\d+)(-(\\d+))?)?$/;\nconst MAX_DIGITS = 22;\nconst DECIMAL_SEP = '.';\nconst ZERO_CHAR = '0';\nconst PATTERN_SEP = ';';\nconst GROUP_SEP = ',';\nconst DIGIT_CHAR = '#';\nconst CURRENCY_CHAR = '¤';\nconst PERCENT_CHAR = '%';\n\n/**\n * Transforms a number to a locale string based on a style and a format.\n */\nfunction formatNumberToLocaleString(\n value: number, pattern: ParsedNumberFormat, locale: string, groupSymbol: NumberSymbol,\n
decimalSymbol: NumberSymbol, digitsInfo?: string, isPercent = false): string {\n let formattedText = '';\n let isZero = false;\n\n if (!isFinite(value)) {\n formattedText = getLocaleNumberSymbol(locale, NumberSymbol.Infinity);\n } else {\n let parsedNumber = parseNumber(value);\n\n if (isPercent) {\n parsedNumber = toPercent(parsedNumber);\n }\n\n let minInt = pattern.minInt;\n let minFraction = pattern.minFrac;\n let maxFraction = pattern.maxFrac;\n\n if (digitsInfo) {\n const parts = digitsInfo.match(NUMBER_FORMAT_REGEXP);\n if (parts === null) {\n throw new Error(`${digitsInfo} is not a valid digit info`);\n }\n const minIntPart = parts[1];\n const minFractionPart = parts[3];\n const maxFractionPart = parts[5];\n if (minIntPart != null) {\n minInt = parseIntAutoRadix(minIntPart);\n }\n if (minFractionPart != null) {\n minFraction = parseIntAutoRadix(minFractionPart);\n }\n
if (maxFractionPart != null) {\n maxFraction = parseIntAutoRadix(maxFractionPart);\n } else if (minFractionPart != null && minFraction > maxFraction) {\n maxFraction = minFraction;\n }\n }\n\n roundNumber(parsedNumber, minFraction, maxFraction);\n\n let digits = parsedNumber.digits;\n let integerLen = parsedNumber.integerLen;\n const exponent = parsedNumber.exponent;\n let decimals = [];\n isZero = digits.every(d => !d);\n\n // pad zeros for small numbers\n for (; integerLen < minInt; integerLen++) {\n

```
digits.unshift(0);\n    }\n\n    // pad zeros for small numbers\n    for (; integerLen < 0; integerLen++) {\n
digits.unshift(0);\n    }\n\n    // extract decimals digits\n    if (integerLen > 0) {\n      decimals =
digits.splice(integerLen, digits.length);\n    } else {\n      decimals = digits;\n      digits = [0];\n    }\n\n    // format the
integer digits with grouping separators\n    const groups = [];\n    if (digits.length
 >= pattern.lgSize) {\n      groups.unshift(digits.splice(-pattern.lgSize, digits.length).join(''));\n    }\n\n    while
(digits.length > pattern.gSize) {\n      groups.unshift(digits.splice(-pattern.gSize, digits.length).join(''));\n    }\n\n    if
(digits.length) {\n      groups.unshift(digits.join(''));\n    }\n\n    formattedText =
groups.join(getLocaleNumberSymbol(locale, groupSymbol));\n\n    // append the decimal digits\n    if
(decimals.length) {\n      formattedText += getLocaleNumberSymbol(locale, decimalSymbol) + decimals.join('');\n
}\n\n    if (exponent) {\n      formattedText += getLocaleNumberSymbol(locale, NumberSymbol.Exponential) + '+' +
exponent;\n    }\n  }\n\n  if (value < 0 && !isZero) {\n    formattedText = pattern.negPre + formattedText +
pattern.negSuf;\n  } else {\n    formattedText = pattern.posPre + formattedText + pattern.posSuf;\n  }\n\n  return
formattedText;\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Formats a number as currency
 using locale rules.\n *\n * @param value The number to format.\n * @param locale A locale code for the locale
format rules to use.\n * @param currency A string containing the currency symbol or its name,\n * such as \"$\" or
\"Canadian Dollar\". Used in output string, but does not affect the operation\n * of the function.\n * @param
currencyCode The [ISO 4217](https://en.wikipedia.org/wiki/ISO_4217)\n * currency code, such as `USD` for the
US dollar and `EUR` for the euro.\n * Used to determine the number of digits in the decimal part.\n * @param
digitInfo Decimal representation options, specified by a string in the following format:\n *
`{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}`. See `DecimalPipe` for more details.\n *\n *
@returns The formatted currency value.\n *\n * @see `formatNumber()`\n * @see `DecimalPipe`\n * @see
[Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function
formatCurrency(\n    value: number,
 locale: string, currency: string, currencyCode?: string,\n    digitsInfo?: string): string {\n  const format =
getLocaleNumberFormat(locale, NumberFormatStyle.Currency);\n  const pattern = parseNumberFormat(format,
getLocaleNumberSymbol(locale, NumberSymbol.MinusSign));\n\n  pattern.minFrac =
getNumberOfCurrencyDigits(currencyCode!);\n  pattern.maxFrac = pattern.minFrac;\n\n  const res =
formatNumberToLocaleString(\n      value, pattern, locale, NumberSymbol.CurrencyGroup,
NumberSymbol.CurrencyDecimal, digitsInfo);\n  return res\n      .replace(CURRENCY_CHAR, currency)\n      // if
we have 2 time the currency character, the second one is ignored\n      .replace(CURRENCY_CHAR, '')\n      // If
there is a spacing between currency character and the value and\n      // the currency character is supressed by
passing an empty string, the\n      // spacing character would remain as part of the string. Then we\n      // should
remove it.\n      .trim();\n}\n\n/**\n * @ngModule CommonModule\n
 * @description\n *\n * Formats a number as a percentage according to locale rules.\n *\n * @param value The
number to format.\n * @param locale A locale code for the locale format rules to use.\n * @param digitInfo
Decimal representation options, specified by a string in the following format:\n *
`{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}`. See `DecimalPipe` for more details.\n *\n *
@returns The formatted percentage value.\n *\n * @see `formatNumber()`\n * @see `DecimalPipe`\n * @see
[Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n * @publicApi\n *\n */\nexport function
formatPercent(value: number, locale: string, digitsInfo?: string): string {\n  const format =
getLocaleNumberFormat(locale, NumberFormatStyle.Percent);\n  const pattern = parseNumberFormat(format,
getLocaleNumberSymbol(locale, NumberSymbol.MinusSign));\n  const res = formatNumberToLocaleString(\n
value, pattern, locale, NumberSymbol.Group, NumberSymbol.Decimal, digitsInfo, true);\n
  return res.replace(\n      new RegExp(PERCENT_CHAR, 'g'), getLocaleNumberSymbol(locale,
NumberSymbol.PercentSign));\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Formats a
number as text, with group sizing, separator, and other\n * parameters based on the locale.\n *\n * @param value
The number to format.\n * @param locale A locale code for the locale format rules to use.\n * @param digitInfo
Decimal representation options, specified by a string in the following format:\n *
```

```
`{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}`. See `DecimalPipe` for more details.\n *\n *
@returns The formatted text string.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n
* @publicApi\n */\nexport function formatNumber(value: number, locale: string, digitsInfo?: string): string {\n
const format = getLocaleNumberFormat(locale, NumberFormatStyle.Decimal);\n  const pattern =
parseNumberFormat(format, getLocaleNumberSymbol(locale, NumberSymbol.MinusSign));\n
  return formatNumberToLocaleString(\n      value, pattern, locale, NumberSymbol.Group, NumberSymbol.Decimal,
digitsInfo);\n}\n\ninterface ParsedNumberFormat {\n  minInt: number;\n  // the minimum number of digits required
in the fraction part of the number\n  minFrac: number;\n  // the maximum number of digits required in the fraction
part of the number\n  maxFrac: number;\n  // the prefix for a positive number\n  posPre: string;\n  // the suffix for a
positive number\n  posSuf: string;\n  // the prefix for a negative number (e.g. `-` or `(`)\n  negPre: string;\n  // the
suffix for a negative number (e.g. `)`)\n  negSuf: string;\n  // number of digits in each group of separated digits\n
gSize: number;\n  // number of digits in the last group of digits before the decimal separator\n  lgSize:
number;\n}\n\nfunction parseNumberFormat(format: string, minusSign = '-'): ParsedNumberFormat {\n  const p =
{\n    minInt: 1,\n    minFrac: 0,\n    maxFrac: 0,\n    posPre: '',\n
  posSuf: '',\n    negPre: '',\n    negSuf: '',\n    gSize: 0,\n    lgSize: 0\n  };\n\n  const patternParts =
format.split(PATTERN_SEP);\n  const positive = patternParts[0];\n  const negative = patternParts[1];\n\n  const
positiveParts = positive.indexOf(DECIMAL_SEP) !== -1 ?\n      positive.split(DECIMAL_SEP) :\n      [\n
positive.substring(0, positive.lastIndexOf(ZERO_CHAR) + 1),\n
positive.substring(positive.lastIndexOf(ZERO_CHAR) + 1)\n      ],\n        integer = positiveParts[0], fraction =
positiveParts[1] || '';\n\n  p.posPre = integer.substr(0, integer.indexOf(DIGIT_CHAR));\n\n  for (let i = 0; i <
fraction.length; i++) {\n    const ch = fraction.charAt(i);\n    if (ch === ZERO_CHAR) {\n      p.minFrac =
p.maxFrac = i + 1;\n    } else if (ch === DIGIT_CHAR) {\n      p.maxFrac = i + 1;\n    } else {\n      p.posSuf +=
ch;\n    }\n  }\n\n  const groups = integer.split(GROUP_SEP);\n  p.gSize = groups[1] ? groups[1].length : 0;\n
p.lgSize = (groups[2] || groups[1]) ?
  (groups[2] || groups[1]).length : 0;\n\n  if (negative) {\n    const trunkLen = positive.length - p.posPre.length -
p.posSuf.length,\n          pos = negative.indexOf(DIGIT_CHAR);\n\n    p.negPre = negative.substr(0,
pos).replace(/'/g, '');\n    p.negSuf = negative.substr(pos + trunkLen).replace(/'/g, '');\n  } else {\n    p.negPre =
minusSign + p.posPre;\n    p.negSuf = p.posSuf;\n  }\n\n  return p;\n}\n\ninterface ParsedNumber {\n  // an array of
digits containing leading zeros as necessary\n  digits: number[];\n  // the exponent for numbers that would need more
than `MAX_DIGITS` digits in `d`\n  exponent: number;\n  // the number of the digits in `d` that are to the left of the
decimal point\n  integerLen: number;\n}\n\n// Transforms a parsed number into a percentage by multiplying it by
100\nfunction toPercent(parsedNumber: ParsedNumber): ParsedNumber {\n  // if the number is 0, don't do
anything\n  if (parsedNumber.digits[0] === 0) {\n    return parsedNumber;\n  }\n\n  // Getting
  the current number of decimals\n  const fractionLen = parsedNumber.digits.length - parsedNumber.integerLen;\n  if
(parsedNumber.exponent) {\n    parsedNumber.exponent += 2;\n  } else {\n    if (fractionLen === 0) {\n
parsedNumber.digits.push(0, 0);\n    } else if (fractionLen === 1) {\n      parsedNumber.digits.push(0);\n    }\n
parsedNumber.integerLen += 2;\n  }\n\n  return parsedNumber;\n}\n\n/**\n * Parses a number.\n * Significant bits
of this parse algorithm came from https://github.com/MikeMcl/big.js/\n */\nfunction parseNumber(num: number):
ParsedNumber {\n  let numStr = Math.abs(num) + '';\n  let exponent = 0, digits, integerLen;\n  let i, j, zeros;\n\n  //
Decimal point?\n  if ((integerLen = numStr.indexOf(DECIMAL_SEP)) > -1) {\n    numStr =
numStr.replace(DECIMAL_SEP, '');\n  }\n\n  // Exponential form?\n  if ((i = numStr.search(/e/i)) > 0) {\n    // Work
out the exponent.\n    if (integerLen < 0) integerLen = i;\n    integerLen += +numStr.slice(i + 1);\n    numStr =
  numStr.substring(0, i);\n  } else if (integerLen < 0) {\n    // There was no decimal point or exponent so it is an
integer.\n    integerLen = numStr.length;\n  }\n\n  // Count the number of leading zeros.\n  for (i = 0;
numStr.charAt(i) === ZERO_CHAR; i++) { /* empty */\n  }\n\n  if (i === (zeros = numStr.length)) {\n    // The
digits are all zero.\n    digits = [0];\n    integerLen = 1;\n  } else {\n    // Count the number of trailing zeros\n    zeros-
-;\n    while (numStr.charAt(zeros) === ZERO_CHAR) zeros--;\n\n    // Trailing zeros are insignificant so ignore
them\n    integerLen -= i;\n    digits = [];\n    // Convert string to array of digits without leading/trailing zeros.\n    for
```

(j = 0; i <= zeros; i++, j++) {\n digits[j] = Number(numStr.charAt(i));\n }\n }\n\n // If the number overflows the maximum allowed digits then use an exponent.\n if (integerLen > MAX_DIGITS) {\n digits = digits.splice(0, MAX_DIGITS - 1);\n exponent = integerLen - 1;\n integerLen = 1;\n }\n\n return {digits, exponent, integerLen};\n}\n\n/**\n * Round the parsed number to the specified number of decimal places\n * This function changes the parsedNumber in-place\n */\nfunction roundNumber(parsedNumber: ParsedNumber, minFrac: number, maxFrac: number) {\n if (minFrac > maxFrac) {\n throw new Error(`The minimum number of digits after fraction (${\n minFrac}) is higher than the maximum (${maxFrac}).`);\n }\n\n let digits = parsedNumber.digits;\n let fractionLen = digits.length - parsedNumber.integerLen;\n const fractionSize = Math.min(Math.max(minFrac, fractionLen), maxFrac);\n\n // The index of the digit to where rounding is to occur\n let roundAt = fractionSize + parsedNumber.integerLen;\n let digit = digits[roundAt];\n\n if (roundAt > 0) {\n // Drop fractional digits beyond `roundAt`\n digits.splice(Math.max(parsedNumber.integerLen, roundAt));\n\n // Set non-fractional digits beyond `roundAt` to 0\n for (let j = roundAt; j < digits.length; j++) {\n digits[j] = 0;\n }\n } else {\n // We rounded to zero so reset the parsedNumber\n fractionLen = Math.max(0, fractionLen);\n parsedNumber.integerLen = 1;\n digits.length = Math.max(1, roundAt = fractionSize + 1);\n digits[0] = 0;\n for (let i = 1; i < roundAt; i++) digits[i] = 0;\n }\n\n if (digit >= 5) {\n if (roundAt - 1 < 0) {\n for (let k = 0; k > roundAt; k--) {\n digits.unshift(0);\n parsedNumber.integerLen++;\n }\n digits.unshift(1);\n parsedNumber.integerLen++;\n } else {\n digits[roundAt - 1]++;\n }\n }\n\n // Pad out with zeros to get the required fraction length\n for (; fractionLen < Math.max(0, fractionSize); fractionLen++) digits.push(0);\n\n let dropTrailingZeros = fractionSize !== 0;\n // Minimal length = nb of decimals required + current nb of integers\n // Any number besides that is optional and can be removed if it's a trailing 0\n const minLen = minFrac + parsedNumber.integerLen;\n // Do any carrying, e.g. a digit was rounded up to 10\n const carry = digits.reduceRight(function(carry, d, i, digits) {\n d = d + carry;\n digits[i] = d < 10 ? d : d - 10; // d % 10\n if (dropTrailingZeros) {\n // Do not keep meaningless fractional trailing zeros (e.g. 15.52000 --> 15.52)\n if (digits[i] === 0 && i >= minLen) {\n digits.pop();\n } else {\n dropTrailingZeros = false;\n }\n }\n return d >= 10 ? 1 : 0; // Math.floor(d / 10);\n }, 0);\n if (carry) {\n digits.unshift(carry);\n parsedNumber.integerLen++;\n }\n}\n\nexport function parseIntAutoRadix(text: string): number {\n const result: number = parseInt(text);\n if (isNaN(result)) {\n throw new Error('Invalid integer literal when parsing ' + text);\n }\n return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, Injectable, LOCALE_ID} from '@angular/core';\n\nimport {getLocalePluralCase, Plural} from './locale_data_api';\n\n\n/**\n * @publicApi\n */\nexport abstract class NgLocalization {\n abstract getPluralCategory(value: any, locale?: string): string;\n}\n\n\n/**\n * Returns the plural category for a given value.\n * - \"=value\" when the case exists,\n * - the plural category otherwise\n */\nexport function getPluralCategory(\n value: number, cases: string[], ngLocalization: NgLocalization, locale?: string): string {\n let key = `=${value}`;\n\n if (cases.indexOf(key) > -1) {\n return key;\n }\n\n key = ngLocalization.getPluralCategory(value, locale);\n\n if (cases.indexOf(key) > -1) {\n return key;\n }\n\n if (cases.indexOf('other') > -1) {\n return 'other';\n }\n\n throw new Error(`No plural message found for value \"${value}\"`);\n}\n\n/**\n * Returns the plural case based on the locale\n *\n * @publicApi\n */\n@Injectable()\nexport class NgLocaleLocalization extends NgLocalization {\n constructor(@Inject(LOCALE_ID) protected locale: string) {\n super();\n }\n\n getPluralCategory(value: any, locale?: string): string {\n const plural = getLocalePluralCase(locale || this.locale)(value);\n\n switch (plural) {\n case Plural.Zero:\n return 'zero';\n case Plural.One:\n return 'one';\n case Plural.Two:\n return 'two';\n case Plural.Few:\n return 'few';\n case Plural.Many:\n return 'many';\n default:\n return 'other';\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {registerLocaleData} from '@angular/core';\n\n/**\n * Register global data

to be used internally by Angular. See the\n * [\"I18n guide\"](guide/i18n#i18n-pipes) to know how to import additional locale data.\n *\n * The signature registerLocaleData(data: any, extraData?: any) is deprecated since v5.1\n *\n * @publicApi\n */\nexport function registerLocaleData(data: any, localeId?: string|any, extraData?: any): void {\n  return registerLocaleData(data, localeId, extraData);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function parseCookieValue(cookieStr: string, name: string): string|null {\n  name = encodeURIComponent(name);\n  for (const cookie of cookieStr.split(';')) {\n    const eqIndex = cookie.indexOf('=');\n    const [cookieName, cookieValue]: string[] =\n        eqIndex == -1 ? [cookie, ''] : [cookie.slice(0, eqIndex), cookie.slice(eqIndex + 1)];\n    if (cookieName.trim() === name) {\n      return decodeURIComponent(cookieValue);\n    }\n  }\n  return null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {Directive, DoCheck, ElementRef, Input, IterableChanges, IterableDiffer, IterableDiffers, KeyValueChanges, KeyValueDiffer, KeyValueDiffers, Renderer2, isListLikeIterable as isListLikeIterable, stringify as stringify} from '@angular/core';\n\ntype NgClassSupportedTypes = string[]|Set<string>|{[klass: string]: any}|null|undefined;\n\n/**\n * @ngModule CommonModule\n *\n * @usageNotes\n * ```\n *     <some-element [ngClass]=\"'first second'\">...</some-element>\n *\n *     <some-element [ngClass]=\"['first', 'second']\">...</some-element>\n *\n *     <some-element [ngClass]=\"{'first': true, 'second': true, 'third': false}\">...</some-element>\n *\n *     <some-element [ngClass]=\"stringExp|arrayExp|objExp\">...</some-element>\n *\n *     <some-element [ngClass]=\"{'class1 class2 class3' : true}\">...</some-element>\n * ```\n *\n * @description\n *\n * Adds and removes CSS classes on an HTML element.\n *\n * The CSS classes are updated as follows, depending on the type of the expression evaluation:\n * - `string` - the CSS classes listed in the string (space delimited) are added,\n * - `Array` - the CSS classes declared as Array elements are added,\n * - `Object` - keys are CSS classes that get added when the expression given in the value\n *              evaluates to a truthy value, otherwise they are removed.\n *\n * @publicApi\n */\n@Directive({selector: '[ngClass]'})\nexport class NgClass implements DoCheck {\n  private _iterableDiffer: IterableDiffer<string>|null = null;\n  private _keyValueDiffer: KeyValueDiffer<string, any>|null = null;\n  private _initialClasses: string[] = [];\n  private _rawClass: NgClassSupportedTypes = null;\n\n  constructor(\n      private _iterableDiffers: IterableDiffers, private _keyValueDiffers: KeyValueDiffers,\n      private _ngEl: ElementRef, private _renderer: Renderer2) {}\n\n\n  @Input('class')\n  set klass(value: string) {\n    this._removeClasses(this._initialClasses);\n    this._initialClasses = typeof value === 'string' ? value.split(/\\s+/) : [];\n    this._applyClasses(this._initialClasses);\n    this._applyClasses(this._rawClass);\n  }\n\n  @Input('ngClass')\n  set ngClass(value: string|string[]|Set<string>|{[klass: string]: any}) {\n    this._removeClasses(this._rawClass);\n    this._applyClasses(this._initialClasses);\n\n    this._iterableDiffer = null;\n    this._keyValueDiffer = null;\n\n    this._rawClass = typeof value === 'string' ? value.split(/\\s+/) : value;\n\n    if (this._rawClass) {\n      if (isListLikeIterable(this._rawClass)) {\n        this._iterableDiffer = this._iterableDiffers.find(this._rawClass).create();\n      } else {\n        this._keyValueDiffer = this._keyValueDiffers.find(this._rawClass).create();\n      }\n    }\n  }\n\n  ngDoCheck() {\n    if (this._iterableDiffer) {\n      const iterableChanges = this._iterableDiffer.diff(this._rawClass as string[]);\n      if (iterableChanges) {\n        this._applyIterableChanges(iterableChanges);\n      }\n    } else if (this._keyValueDiffer) {\n      const keyValueChanges = this._keyValueDiffer.diff(this._rawClass as {[k: string]: any});\n      if (keyValueChanges) {\n        this._applyKeyValueChanges(keyValueChanges);\n      }\n    }\n  }\n\n  private _applyKeyValueChanges(changes: KeyValueChanges<string, any>): void {\n    changes.forEachAddedItem((record) => this._toggleClass(record.key, record.currentValue));\n    changes.forEachChangedItem((record) => this._toggleClass(record.key, record.currentValue));\n    changes.forEachRemovedItem((record) => {\n      if (record.previousValue) {\n        this._toggleClass(record.key, false);\n      }\n    });\n  }\n\n  private _applyIterableChanges(changes: IterableChanges<string>): void {\n

changes.forEachAddedItem((record) => {\n if (typeof record.item
=== 'string') {\n this._toggleClass(record.item, true);\n } else {\n throw new Error(`NgClass can only
toggle CSS classes expressed as strings, got ${\n stringify(record.item)}`);\n }\n });\n\n
changes.forEachRemovedItem((record) => this._toggleClass(record.item, false));\n }\n\n /**\n * Applies a
collection of CSS classes to the DOM element.\n *\n * For argument of type Set and Array CSS class names
contained in those collections are always\n * added.\n * For argument of type Map CSS class name in the map's
key is toggled based on the value (added\n * for truthy and removed for falsy).\n */\n private
_applyClasses(rawClassVal: NgClassSupportedTypes) {\n if (rawClassVal) {\n if (Array.isArray(rawClassVal)
|| rawClassVal instanceof Set) {\n (<any>rawClassVal).forEach((klass: string) => this._toggleClass(klass,
true));\n } else {\n Object.keys(rawClassVal).forEach(klass => this._toggleClass(klass,
!!rawClassVal[klass]));\n }\n }\n }\n\n /**\n * Removes a collection of CSS classes from the DOM element.
This is mostly useful for cleanup\n * purposes.\n */\n private _removeClasses(rawClassVal:
NgClassSupportedTypes) {\n if (rawClassVal) {\n if (Array.isArray(rawClassVal) || rawClassVal instanceof
Set) {\n (<any>rawClassVal).forEach((klass: string) => this._toggleClass(klass, false));\n } else {\n
Object.keys(rawClassVal).forEach(klass => this._toggleClass(klass, false));\n }\n }\n }\n\n private
_toggleClass(klass: string, enabled: boolean): void {\n klass = klass.trim();\n if (klass) {\n
klass.split(/\\s+/g).forEach(klass => {\n if (enabled) {\n this._renderer.addClass(this._ngEl.nativeElement,
klass);\n } else {\n this._renderer.removeClass(this._ngEl.nativeElement, klass);\n }\n });\n }\n
}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n
* Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nimport {ComponentFactoryResolver, ComponentRef, Directive, Injector, Input,
NgModuleFactory, NgModuleRef, OnChanges, OnDestroy, SimpleChanges, StaticProvider, Type,
ViewContainerRef} from '@angular/core';\n\n\n/**\n * Instantiates a single {@link Component} type and inserts its
Host View into current View.\n * `NgComponentOutlet` provides a declarative approach for dynamic component
creation.\n *\n * `NgComponentOutlet` requires a component type, if a falsy value is set the view will clear and\n *
any existing component will get destroyed.\n *\n * @usageNotes\n *\n * ### Fine tune control\n *\n * You can
control the component creation process by using the following optional attributes:\n *\n * *
`ngComponentOutletInjector`: Optional custom {@link Injector} that will be used as parent for\n * the Component.
Defaults to the injector of the current
view container.\n *\n * * `ngComponentOutletContent`: Optional list of projectable nodes to insert into the
content\n * section of the component, if exists.\n *\n * * `ngComponentOutletNgModuleFactory`: Optional module
factory to allow dynamically loading other\n * module, then load a component from that module.\n *\n * ###
Syntax\n *\n * Simple\n * ```\n * <ng-container *ngComponentOutlet=\"componentTypeExpression\"></ng-
container>\n * ```\n *\n * Customized injector/content\n * ```\n * <ng-container
*ngComponentOutlet=\"componentTypeExpression;\n * injector: injectorExpression;\n *
content: contentNodesExpression;\">\n * </ng-container>\n * ```\n *\n * Customized
ngModuleFactory\n * ```\n * <ng-container *ngComponentOutlet=\"componentTypeExpression;\n *
ngModuleFactory: moduleFactory;\">\n * </ng-container>\n * ```\n *\n * ### A simple example\n *\n *
{@example common/ngComponentOutlet/ts/module.ts
region='SimpleExample'}\n *\n * A more complete example with additional options:\n *\n * {@example
common/ngComponentOutlet/ts/module.ts region='CompleteExample'}\n *\n * @publicApi\n * @ngModule
CommonModule\n */\n@Directive({selector: '[ngComponentOutlet]'})\nexport class NgComponentOutlet
implements OnChanges, OnDestroy {\n // TODO(issue/24571): remove '!'.\n @Input() ngComponentOutlet!:
Type<any>;\n // TODO(issue/24571): remove '!'.\n @Input() ngComponentOutletInjector!: Injector;\n //
TODO(issue/24571): remove '!'.\n @Input() ngComponentOutletContent!: any[][];\n // TODO(issue/24571):
remove '!'.\n @Input() ngComponentOutletNgModuleFactory!: NgModuleFactory<any>;\n\n private
_componentRef: ComponentRef<any>|null = null;\n private _moduleRef: NgModuleRef<any>|null = null;\n\n
constructor(private _viewContainerRef: ViewContainerRef) {}\n\n ngOnChanges(changes: SimpleChanges) {\n

this._viewContainerRef.clear();\n    this._componentRef = null;\n\n    if (this.ngComponentOutlet) {\n      const elInjector = this.ngComponentOutletInjector || this._viewContainerRef.parentInjector;\n\n      if (changes['ngComponentOutletNgModuleFactory']) {\n        if (this._moduleRef) this._moduleRef.destroy();\n\n        if (this.ngComponentOutletNgModuleFactory) {\n          const parentModule = elInjector.get(NgModuleRef);\n          this._moduleRef = this.ngComponentOutletNgModuleFactory.create(parentModule.injector);\n        } else {\n          this._moduleRef = null;\n        }\n      }\n\n      const componentFactoryResolver = this._moduleRef ? this._moduleRef.componentFactoryResolver :\n          elInjector.get(ComponentFactoryResolver);\n\n      const componentFactory =\n          componentFactoryResolver.resolveComponentFactory(this.ngComponentOutlet);\n\n      this._componentRef = this._viewContainerRef.createComponent(\n          componentFactory, this._viewContainerRef.length, elInjector,\n          this.ngComponentOutletContent);\n    }\n  }\n\n  ngOnDestroy() {\n    if (this._moduleRef) this._moduleRef.destroy();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, DoCheck, EmbeddedViewRef, Input, IterableChangeRecord, IterableChanges, IterableDiffer, IterableDiffers, NgIterable, TemplateRef, TrackByFunction, ViewContainerRef} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport class NgForOfContext<T, U extends NgIterable<T> = NgIterable<T>> {\n  constructor(public $implicit: T, public ngForOf: U, public index: number, public count: number) {}\n\n  get first(): boolean {\n    return this.index === 0;\n  }\n\n  get last(): boolean {\n    return this.index === this.count - 1;\n  }\n\n  get even(): boolean {\n    return this.index % 2 === 0;\n  }\n\n  get odd(): boolean {\n    return !this.even;\n  }\n}\n\n/**\n * A [structural directive](guide/structural-directives) that renders\n * a template for each item in a collection.\n * The directive is placed on an element, which becomes the parent\n * of the cloned templates.\n *\n * The `ngForOf` directive is generally used in the\n * [shorthand form](guide/structural-directives#the-asterisk--prefix) `*ngFor`.\n * In this form, the template to be rendered for each iteration is the content\n * of an anchor element containing the directive.\n *\n * The following example shows the shorthand syntax with some options,\n * contained in an `<li>` element.\n *\n * ```\n * <li *ngFor=\"let item of items; index as i; trackBy: trackByFn\">...</li>\n * ```\n *\n * The shorthand form expands into a long form that uses the `ngForOf` selector\n * on an `<ng-template>` element.\n * The content of the `<ng-template>` element is the `<li>` element that held the\n * short-form directive.\n *\n * Here is the expanded version of the short-form example.\n *\n * ```\n * <ng-template ngFor let-item [ngForOf]=\"items\" let-i=\"index\" [ngForTrackBy]=\"trackByFn\">\n *   <li>...</li>\n * </ng-template>\n * ```\n *\n * Angular automatically expands the shorthand syntax as it compiles the template.\n * The context for each embedded view is logically merged to the current component\n * context according to its lexical position.\n *\n * When using the shorthand syntax, Angular allows only [one structural directive\n * on an element](guide/structural-directives#one-structural-directive-per-host-element).\n * If you want to iterate conditionally, for example,\n * put the `*ngIf` on a container element that wraps the `*ngFor` element.\n * For futher discussion, see\n * [Structural Directives](guide/structural-directives#one-per-element).\n *\n * @usageNotes\n *\n * ### Local variables\n *\n * `NgForOf` provides exported values that can be aliased to local variables.\n * For example:\n *\n *  ```\n * <li *ngFor=\"let user of users; index as i; first as isFirst\">\n *    {{i}}/{{users.length}}. {{user}} <span *ngIf=\"isFirst\">default</span>\n * </li>\n * ```\n *\n * The following exported values can be aliased to local variables:\n *\n * - `$implicit: T`: The value of the individual items in the iterable (`ngForOf`).\n * - `ngForOf: NgIterable<T>`: The value of the iterable expression. Useful when the expression is\n * more complex then a property access, for example when using the async pipe (`userStreams |\n * async`).\n * - `index: number`: The index of the current item in the iterable.\n * - `count: number`: The length of the iterable.\n * - `first: boolean`: True when the item is the first item in the iterable.\n * - `last: boolean`: True when the item is the last item in the iterable.\n * - `even: boolean`: True when the item has an even index in the iterable.\n * - `odd: boolean`: True when the item has an odd index in the iterable.\n *\n * ### Change propagation\n *\n * When the contents of the iterator changes,

`NgForOf` makes the corresponding changes to the DOM:\n *\n * * When an item is added, a new instance of the template is added to the DOM.\n * * When an item is removed, its template instance is removed from the DOM.\n * * When items are reordered, their respective templates are reordered in the DOM.\n *\n * Angular uses object identity to track insertions and deletions within the iterator and reproduce\n * those changes in the DOM. This has important implications for animations and any stateful\n * controls that are present, such as `<input>` elements that accept user input. Inserted rows can\n * be animated in, deleted rows can be animated out, and unchanged rows retain any unsaved state\n * such as user input.\n * For more on animations, see [Transitions and Triggers](guide/transition-and-triggers).\n *\n * The identities of elements in the iterator can change while the data does not.\n * This can happen, for example, if the iterator is produced from an RPC to the server, and that\n * RPC is re-run. Even if the data hasn't changed, the second response produces objects with\n * different identities, and Angular must tear down the entire DOM and rebuild it (as if all old\n * elements were deleted and all new elements inserted).\n *\n * To avoid this expensive operation, you can customize the default tracking algorithm.\n * by supplying the `trackBy` option to `NgForOf`.\n * `trackBy` takes a function that has two arguments: `index` and `item`.\n * If `trackBy` is given, Angular tracks changes by the return value of the function.\n *\n * @see [Structural Directives](guide/structural-directives)\n * @ngModule CommonModule\n * @publicApi\n */\n@Directive({selector: '[ngFor][ngForOf]'})\nexport class NgForOf<T, U extends NgIterable<T> = NgIterable<T>> implements DoCheck {\n  /**\n   * The value of the iterable expression, which can be used as a\n   * [template input variable](guide/structural-directives#template-input-variable).\n   */\n  @Input()\n  set ngForOf(ngForOf: U&NgIterable<T>|undefined|null) {\n    this._ngForOf = ngForOf;\n    this._ngForOfDirty = true;\n  }\n  /**\n   * A function that defines how to track changes for items in the iterable.\n   *\n   * When items are added, moved, or removed in the iterable,\n   * the directive must re-render the appropriate DOM nodes.\n   * To minimize churn in the DOM, only nodes that have changed\n   * are re-rendered.\n   *\n   * By default, the change detector assumes that\n   * the object instance identifies the node in the iterable.\n   * When this function is supplied, the directive uses\n   * the result of calling this function to identify the item node,\n   * rather than the identity of the object itself.\n   *\n   * The function receives two inputs,\n   * the iteration index and the associated node data.\n   */\n  @Input()\n  set ngForTrackBy(fn: TrackByFunction<T>) {\n    if ((typeof ngDevMode === 'undefined' || ngDevMode) && fn != null && typeof fn !== 'function') {\n      // TODO(vicb): use a log service once there is a public one available\n      if (<any>console && <any>console.warn) {\n        console.warn(\n            `trackBy must be a function, but received ${JSON.stringify(fn)}. ` +\n            `See https://angular.io/api/common/NgForOf#change-propagation for more information.`);\n      }\n    }\n    this._trackByFn = fn;\n  }\n\n  get ngForTrackBy(): TrackByFunction<T> {\n    return this._trackByFn;\n  }\n\n  private _ngForOf: U|undefined|null = null;\n  private _ngForOfDirty: boolean = true;\n  private _differ: IterableDiffer<T>|null = null;\n  // TODO(issue/24571): remove '!'.\n  private _trackByFn!: TrackByFunction<T>;\n\n  constructor(\n      private _viewContainer: ViewContainerRef,\n      private _template: TemplateRef<NgForOfContext<T, U>>, private _differs: IterableDiffers) {}\n\n  /**\n   * A reference to the template that is stamped out for each item in the iterable.\n   * @see [template reference variable](guide/template-reference-variables)\n   */\n  @Input()\n  set ngForTemplate(value: TemplateRef<NgForOfContext<T, U>>) {\n    // TODO(TS2.1): make TemplateRef<Partial<NgForRowOf<T>>> once we move to TS v2.1\n    // The current type is too restrictive; a template that just uses index, for example,\n    // should be acceptable.\n    if (value) {\n      this._template = value;\n    }\n  }\n\n  /**\n   * Applies the changes when needed.\n   */\n  ngDoCheck(): void {\n    if (this._ngForOfDirty) {\n      this._ngForOfDirty = false;\n      // React on ngForOf changes only once all inputs have been initialized\n      const value = this._ngForOf;\n      if (!this._differ && value) {\n        try {\n          this._differ = this._differs.find(value).create(this.ngForTrackBy);\n        } catch {\n          throw new Error(`Cannot find a differ supporting object '${value}' of type '${\n              getTypeName(value)}'. NgFor only supports binding to Iterables such as Arrays.`);\n        }\n      }\n    }\n    if (this._differ) {\n

const changes = this._differ.diff(this._ngForOf);\n if (changes) this._applyChanges(changes);\n }\n }\n\n private _applyChanges(changes: IterableChanges<T>) {\n const insertTuples: RecordViewTuple<T, U>[] = [];\n changes.forEachOperation(\n (item: IterableChangeRecord<any>, adjustedPreviousIndex: number|null,\n currentIndex: number|null) => {\n if (item.previousIndex == null) {\n // NgForOf is never \"null\" or \"undefined\" here because the differ detected\n // that a new item needs to be inserted from the iterable. This implies that\n // there is an iterable value for \"_ngForOf\".\n const view = this._viewContainer.createEmbeddedView(\n this._template, new NgForOfContext<T, U>(null!, this._ngForOf!, -1, -1),\n currentIndex === null ? undefined : currentIndex);\n const tuple = new RecordViewTuple<T, U>(item, view);\n insertTuples.push(tuple);\n } else if (currentIndex == null) {\n this._viewContainer.remove(\n adjustedPreviousIndex === null ? undefined : adjustedPreviousIndex);\n } else if (adjustedPreviousIndex !== null) {\n const view = this._viewContainer.get(adjustedPreviousIndex)!;\n this._viewContainer.move(view, currentIndex);\n const tuple = new RecordViewTuple(item, <EmbeddedViewRef<NgForOfContext<T, U>>>view);\n insertTuples.push(tuple);\n }\n });\n\n for (let i = 0; i < insertTuples.length; i++) {\n this._perViewChange(insertTuples[i].view, insertTuples[i].record);\n }\n\n for (let i = 0, ilen = this._viewContainer.length; i < ilen; i++) {\n const viewRef = <EmbeddedViewRef<NgForOfContext<T, U>>>this._viewContainer.get(i);\n viewRef.context.index = i;\n viewRef.context.count = ilen;\n viewRef.context.ngForOf = this._ngForOf!;\n }\n\n changes.forEachIdentityChange((record: any) => {\n const viewRef =\n <EmbeddedViewRef<NgForOfContext<T, U>>>this._viewContainer.get(record.currentIndex);\n viewRef.context.$implicit = record.item;\n });\n }\n\n private _perViewChange(\n view: EmbeddedViewRef<NgForOfContext<T, U>>, record: IterableChangeRecord<any>) {\n view.context.$implicit = record.item;\n }\n\n /**\n * Asserts the correct type of the context for the template that `NgForOf` will render.\n *\n * The presence of this method is a signal to the Ivy template type-check compiler that the\n * `NgForOf` structural directive renders its template with a specific context type.\n */\n static ngTemplateContextGuard<T, U extends NgIterable<T>>(dir: NgForOf<T, U>, ctx: any):\n ctx is NgForOfContext<T, U> {\n return true;\n }\n}\n\nclass RecordViewTuple<T, U extends NgIterable<T>> {\n constructor(public record: any, public view: EmbeddedViewRef<NgForOfContext<T, U>>) {}\n}\n\nfunction getTypeName(type: any): string {\n return type['name'] || typeof type;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, EmbeddedViewRef, Input, TemplateRef, ViewContainerRef, stringify as stringify} from '@angular/core';\n\n\n/**\n * A structural directive that conditionally includes a template based on the value of\n * an expression coerced to Boolean.\n * When the expression evaluates to true, Angular renders the template\n * provided in a `then` clause, and when false or null,\n * Angular renders the template provided in an optional `else` clause. The default\n * template for the `else` clause is blank.\n *\n * A [shorthand form](guide/structural-directives#the-asterisk--prefix) of the directive,\n * `*ngIf=\"condition\"`, is generally used, provided\n * as an attribute of the anchor element for the inserted template.\n * Angular expands this into a more explicit version, in which the anchor element\n * is contained in an `<ng-template>` element.\n *\n * Simple form with shorthand syntax:\n *\n * ```\n * <div *ngIf=\"condition\">Content to render when condition is true.</div>\n * ```\n *\n * Simple form with expanded syntax:\n *\n * ```\n * <ng-template [ngIf]=\"condition\"><div>Content to render when condition is\n * true.</div></ng-template>\n * ```\n *\n * Form with an \"else\" block:\n *\n * ```\n * <div *ngIf=\"condition; else elseBlock\">Content to render when condition is true.</div>\n * <ng-template #elseBlock>Content to render when condition is false.</ng-template>\n * ```\n *\n * Shorthand form with \"then\" and \"else\" blocks:\n *\n * ```\n * <div *ngIf=\"condition; then thenBlock else elseBlock\"></div>\n * <ng-template #thenBlock>Content to render when condition is true.</ng-template>\n * <ng-template #elseBlock>Content to render when condition is false.</ng-template>\n * ```\n *\n * Form with storing the value locally:\n *\n * ```\n * <div *ngIf=\"condition as value; else elseBlock\">{{value}}</div>\n * <ng-template #elseBlock>Content to render when value is null.</ng-template>\n * ```\n *\n * @usageNotes\n *\n *

The `*ngIf` directive is most commonly used to conditionally show an inline template,\n * as seen in the following example.\n * The default `else` template is blank.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfSimple'}\n *\n * ### Showing an alternative template using `else`\n *\n * To display a template when `expression` evaluates to false, use an `else` template\n * binding as shown in the following example.\n * The `else` binding points to an `<ng-template>` element labeled `#elseBlock`.\n * The template can be defined anywhere in the component view, but is typically placed right after\n * `ngIf` for readability.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfElse'}\n *\n * ### Using an external `then` template\n *\n * In the previous example,
the then-clause template is specified inline, as the content of the\n * tag that contains the `ngIf` directive. You can also specify a template that is defined\n * externally, by referencing a labeled `<ng-template>` element. When you do this, you can\n * change which template to use at runtime, as shown in the following example.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfThenElse'}\n *\n * ### Storing a conditional result in a variable\n *\n * You might want to show a set of properties from the same object. If you are waiting\n * for asynchronous data, the object can be undefined.\n * In this case, you can use `ngIf` and store the result of the condition in a local\n * variable as shown in the the following example.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfAs'}\n *\n * This code uses only one `AsyncPipe`, so only one subscription is created.\n * The conditional statement stores the result of `userStream|async` in the local variable `user`.\n * You can then
bind the local `user` repeatedly.\n *\n * The conditional displays the data only if `userStream` returns a value,\n * so you don't need to use the\n * safe-navigation-operator (`?.`)\n * to guard against null values when accessing properties.\n * You can display an alternative template while waiting for the data.\n *\n * ### Shorthand syntax\n *\n * The shorthand syntax `*ngIf` expands into two separate template specifications\n * for the \"then\" and \"else\" clauses. For example, consider the following shorthand statement,\n * that is meant to show a loading page while waiting for data to be loaded.\n *\n * ```\n * <div class=\"hero-list\" *ngIf=\"heroes else loading\">\n * ...\n * </div>\n *\n * <ng-template #loading>\n * <div>Loading...</div>\n * </ng-template>\n * ```\n *\n * You can see that the \"else\" clause references the `<ng-template>`\n * with the `#loading` label, and the template for the \"then\" clause\n * is provided as the content of the anchor element.\n *\n * However,
when Angular expands the shorthand syntax, it creates\n * another `<ng-template>` tag, with `ngIf` and `ngIfElse` directives.\n * The anchor element containing the template for the \"then\" clause becomes\n * the content of this unlabeled `<ng-template>` tag.\n *\n * ```\n * <ng-template [ngIf]=\"heroes\" [ngIfElse]=\"loading\">\n * <div class=\"hero-list\">\n * ...\n * </div>\n * </ng-template>\n *\n * <ng-template #loading>\n * <div>Loading...</div>\n * </ng-template>\n * ```\n *\n * The presence of the implicit template object has implications for the nesting of\n * structural directives. For more on this subject, see\n * [Structural Directives](https://angular.io/guide/structural-directives#one-per-element).\n *\n * @ngModule CommonModule\n * @publicApi\n */\n@Directive({selector: '[ngIf]'})\nexport class NgIf<T = unknown> {\n private _context: NgIfContext<T> = new NgIfContext<T>();\n private _thenTemplateRef: TemplateRef<NgIfContext<T>>|null = null;\n private _elseTemplateRef:
TemplateRef<NgIfContext<T>>|null = null;\n private _thenViewRef: EmbeddedViewRef<NgIfContext<T>>|null = null;\n private _elseViewRef: EmbeddedViewRef<NgIfContext<T>>|null = null;\n\n constructor(private _viewContainer: ViewContainerRef, templateRef: TemplateRef<NgIfContext<T>>) {\n this._thenTemplateRef = templateRef;\n }\n\n /**\n * The Boolean expression to evaluate as the condition for showing a template.\n */\n @Input()\n set ngIf(condition: T) {\n this._context.$implicit = this._context.ngIf = condition;\n this._updateView();\n }\n\n /**\n * A template to show if the condition expression evaluates to true.\n */\n @Input()\n set ngIfThen(templateRef: TemplateRef<NgIfContext<T>>|null) {\n assertTemplate('ngIfThen', templateRef);\n this._thenTemplateRef = templateRef;\n this._thenViewRef = null; // clear previous view if any.\n this._updateView();\n }\n\n /**\n * A template to show if the condition expression evaluates to false.\n */\n @Input()\n set ngIfElse(templateRef: TemplateRef<NgIfContext<T>>|null) {\n assertTemplate('ngIfElse', templateRef);\n this._elseTemplateRef = templateRef;\n this._elseViewRef = null; // clear previous view if

```
any.\n    this._updateView();\n  }\n\n  private _updateView() {\n    if (this._context.$implicit) {\n      if (!this._thenViewRef) {\n        this._viewContainer.clear();\n        this._elseViewRef = null;\n        if (this._thenTemplateRef) {\n          this._thenViewRef =\n this._viewContainer.createEmbeddedView(this._thenTemplateRef, this._context);\n        }\n      }\n    } else {\n      if (!this._elseViewRef) {\n        this._viewContainer.clear();\n        this._thenViewRef = null;\n        if (this._elseTemplateRef) {\n          this._elseViewRef =\n this._viewContainer.createEmbeddedView(this._elseTemplateRef, this._context);\n        }\n      }\n    }\n  }\n\n  /** @internal */\n  public static ngIfUseIfTypeGuard: void;\n\n
  /**\n   * Assert the correct type of the expression bound to the `ngIf` input within the template.\n   *\n   * The presence of this static field is a signal to the Ivy template type check compiler that\n   * when the `NgIf` structural directive renders its template, the type of the expression bound\n   * to `ngIf` should be narrowed in some way. For `NgIf`, the binding expression itself is used to\n   * narrow its type, which allows the strictNullChecks feature of TypeScript to work with `NgIf`.\n   */\n  static ngTemplateGuard_ngIf: 'binding';\n\n  /**\n   * Asserts the correct type of the context for the template that `NgIf` will render.\n   *\n   * The presence of this method is a signal to the Ivy template type-check compiler that the\n   * `NgIf` structural directive renders its template with a specific context type.\n   */\n  static ngTemplateContextGuard<T>(dir: NgIf<T>, ctx: any):\n      ctx is NgIfContext<Exclude<T, false|0|''|null|undefined>> {\n    return true;\n  }\n}\n\n/**\n
 * @publicApi\n */\nexport class NgIfContext<T = unknown> {\n  public $implicit: T = null!;\n  public ngIf: T = null!;\n}\n\nfunction assertTemplate(property: string, templateRef: TemplateRef<any>|null): void {\n  const isTemplateRefOrNull = !!(!templateRef || templateRef.createEmbeddedView);\n  if (!isTemplateRefOrNull) {\n    throw new Error(`${property} must be a TemplateRef, but received '${stringify(templateRef)}'.`);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, DoCheck, Host, Input, TemplateRef, ViewContainerRef} from '@angular/core';\n\nexport class SwitchView {\n  private _created = false;\n\n  constructor(\n      private _viewContainerRef: ViewContainerRef, private _templateRef: TemplateRef<Object>) {}\n\n  create(): void {\n    this._created = true;\n    this._viewContainerRef.createEmbeddedView(this._templateRef);\n
  }\n\n  destroy(): void {\n    this._created = false;\n    this._viewContainerRef.clear();\n  }\n\n  enforceState(created: boolean) {\n    if (created && !this._created) {\n      this.create();\n    } else if (!created && this._created) {\n      this.destroy();\n    }\n  }\n}\n\n/**\n * @ngModule CommonModule\n *\n * @description\n * The `[ngSwitch]` directive on a container specifies an expression to match against.\n * The expressions to match are provided by `ngSwitchCase` directives on views within the container.\n * - Every view that matches is rendered.\n * - If there are no matches, a view with the `ngSwitchDefault` directive is rendered.\n * - Elements within the `[NgSwitch]` statement but outside of any `NgSwitchCase`\n * or `ngSwitchDefault` directive are preserved at the location.\n *\n * @usageNotes\n * Define a container element for the directive, and specify the switch expression\n * to match against as an attribute:\n *\n * ```\n
 * <container-element [ngSwitch]=\"switch_expression\">\n * ```\n *\n * Within the container, `*ngSwitchCase` statements specify the match expressions\n * as attributes. Include `*ngSwitchDefault` as the final case.\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n *    <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n * ...\n *    <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * ### Usage Examples\n *\n * The following example shows how to use more than one case to display the same view:\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n *   <!-- the same view can be shown in more than one case -->\n *   <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n *   <some-element *ngSwitchCase=\"match_expression_2\">...</some-element>\n *   <some-other-element *ngSwitchCase=\"match_expression_3\">...</some-other-element>\n *   <!--default case when there are no matches -->\n *   <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * The following example shows how cases can be nested:\n * ```\n * <container-element
```

[ngSwitch]=\"switch_expression\">\n *  <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n *  <some-element *ngSwitchCase=\"match_expression_2\">...</some-element>\n *  <some-other-element *ngSwitchCase=\"match_expression_3\">...</some-other-element>\n *  <ng-container *ngSwitchCase=\"match_expression_3\">\n *  <!-- use a ng-container to group multiple root nodes -->\n * <inner-element></inner-element>\n *  <inner-other-element></inner-other-element>\n *  </ng-container>\n *  <some-element *ngSwitchDefault>...</some-element>\n *  </container-element>\n * ```\n *\n * @publicApi\n * @see `NgSwitchCase`\n * @see `NgSwitchDefault`\n * @see [Structural Directives](guide/structural-directives)\n *\n */\n@Directive({selector: '[ngSwitch]'})\nexport class NgSwitch {\n  // TODO(issue/24571): remove '!'.\n  private _defaultViews!: SwitchView[];\n  private _defaultUsed = false;\n  private _caseCount = 0;\n  private _lastCaseCheckIndex = 0;\n  private _lastCasesMatched = false;\n  private _ngSwitch: any;\n\n  @Input()\n  set ngSwitch(newValue: any) {\n    this._ngSwitch = newValue;\n    if (this._caseCount === 0) {\n      this._updateDefaultCases(true);\n    }\n  }\n\n  /** @internal */\n  _addCase(): number {\n    return this._caseCount++;\n  }\n\n  /** @internal */\n  _addDefault(view: SwitchView) {\n    if (!this._defaultViews) {\n      this._defaultViews = [];\n    }\n    this._defaultViews.push(view);\n  }\n\n  /** @internal */\n  _matchCase(value: any): boolean {\n    const matched = value == this._ngSwitch;\n    this._lastCasesMatched = this._lastCasesMatched || matched;\n    this._lastCaseCheckIndex++;\n    if (this._lastCaseCheckIndex === this._caseCount) {\n      this._updateDefaultCases(!this._lastCasesMatched);\n      this._lastCaseCheckIndex = 0;\n      this._lastCasesMatched = false;\n    }\n    return matched;\n  }\n\n  private _updateDefaultCases(useDefault: boolean) {\n    if (this._defaultViews && useDefault !== this._defaultUsed) {\n      this._defaultUsed = useDefault;\n      for (let i = 0; i < this._defaultViews.length; i++) {\n        const defaultView = this._defaultViews[i];\n        defaultView.enforceState(useDefault);\n      }\n    }\n  }\n}\n\n/**\n * @ngModule CommonModule\n *\n * @description\n * Provides a switch case expression to match against an enclosing `ngSwitch` expression.\n * When the expressions match, the given `NgSwitchCase` template is rendered.\n * If multiple match expressions match the switch expression value, all of them are displayed.\n *\n * @usageNotes\n *\n * Within a switch container, `*ngSwitchCase` statements specify the match expressions\n * as attributes. Include `*ngSwitchDefault` as the final case.\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n *  <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n *  ...\n *  <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * Each switch-case statement contains an in-line HTML template or template reference\n * that defines the subtree to be selected if the value of the match expression\n * matches the value of the switch expression.\n *\n * Unlike JavaScript, which uses strict equality, Angular uses loose equality.\n * This means that the empty string, `\"\"` matches 0.\n *\n * @publicApi\n * @see `NgSwitch`\n * @see `NgSwitchDefault`\n *\n */\n@Directive({selector: '[ngSwitchCase]'})\nexport class NgSwitchCase implements DoCheck {\n  private _view: SwitchView;\n  /**\n   * Stores the HTML template to be selected on match.\n   */\n  @Input() ngSwitchCase: any;\n\n  constructor(\n      viewContainer: ViewContainerRef, templateRef: TemplateRef<Object>,\n      @Host() private ngSwitch: NgSwitch) {\n    ngSwitch._addCase();\n    this._view = new SwitchView(viewContainer, templateRef);\n  }\n\n  /**\n   * Performs case matching. For internal use only.\n   */\n  ngDoCheck() {\n    this._view.enforceState(this.ngSwitch._matchCase(this.ngSwitchCase));\n  }\n}\n\n/**\n * @ngModule CommonModule\n *\n * @description\n *\n * Creates a view that is rendered when no `NgSwitchCase` expressions\n * match the `NgSwitch` expression.\n * This statement should be the final case in an `NgSwitch`.\n *\n * @publicApi\n * @see `NgSwitch`\n * @see `NgSwitchCase`\n *\n */\n@Directive({selector: '[ngSwitchDefault]'})\nexport class NgSwitchDefault {\n  constructor(\n      viewContainer: ViewContainerRef, templateRef: TemplateRef<Object>,\n      @Host() ngSwitch: NgSwitch) {\n    ngSwitch._addDefault(new SwitchView(viewContainer, templateRef));\n  }\n}\n\","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Attribute, Directive, Host, Input, TemplateRef, ViewContainerRef} from '@angular/core';\n\nimport {getPluralCategory, NgLocalization} from '../i18n/localization';\n\nimport {SwitchView} from './ng_switch';\n\n\n/**\n * @ngModule CommonModule\n *\n *

@usageNotes\n * ```\n * <some-element [ngPlural]=\"value\">\n *   <ng-template ngPluralCase=\"=0\">there is nothing</ng-template>\n *   <ng-template ngPluralCase=\"=1\">there is one</ng-template>\n *   <ng-template ngPluralCase=\"few\">there are a few</ng-template>\n * </some-element>\n * ```\n *\n * @description\n *\n * Adds / removes DOM sub-trees based on a numeric value. Tailored for pluralization.\n *\n * Displays DOM sub-trees that match the switch expression value, or failing that, DOM sub-trees\n * that match the switch expression's pluralization category.\n *\n * To use this directive you must provide a container element that sets the `[ngPlural]` attribute\n * to a switch
expression. Inner elements with a `[ngPluralCase]` will display based on their\n * expression:\n * - if `[ngPluralCase]` is set to a value starting with `=`, it will only display if the value\n *   matches the switch expression exactly,\n * - otherwise, the view will be treated as a \"category match\", and will only display if exact\n *   value matches aren't found and the value maps to its category for the defined locale.\n *\n * See http://cldr.unicode.org/index/cldr-spec/plural-rules\n *\n * @publicApi\n */\n@Directive({selector: '[ngPlural]'})\nexport class NgPlural {\n  // TODO(issue/24571): remove '!'.\n  private _switchValue!: number;\n  // TODO(issue/24571): remove '!'.\n  private _activeView!: SwitchView;\n  private _caseViews: {[k: string]: SwitchView} = {};\n\n  constructor(private _localization: NgLocalization) {}\n\n  @Input()\n  set ngPlural(value: number) {\n    this._switchValue = value;\n    this._updateView();\n  }\n\n  addCase(value: string, switchView: SwitchView):
void {\n    this._caseViews[value] = switchView;\n  }\n\n  private _updateView(): void {\n    this._clearViews();\n\n    const cases = Object.keys(this._caseViews);\n    const key = getPluralCategory(this._switchValue, cases, this._localization);\n    this._activateView(this._caseViews[key]);\n  }\n\n  private _clearViews() {\n    if (this._activeView) this._activeView.destroy();\n  }\n\n  private _activateView(view: SwitchView) {\n    if (view) {\n      this._activeView = view;\n      this._activeView.create();\n    }\n  }\n}\n\n/**\n * @ngModule CommonModule\n *\n * @description\n *\n * Creates a view that will be added/removed from the parent {@link NgPlural} when the\n * given expression matches the plural expression according to CLDR rules.\n *\n * @usageNotes\n * ```\n * <some-element [ngPlural]=\"value\">\n *   <ng-template ngPluralCase=\"=0\">...</ng-template>\n *   <ng-template ngPluralCase=\"other\">...</ng-template>\n * </some-element>\n *```\n *\n * See {@link NgPlural} for
more details and example.\n *\n * @publicApi\n */\n@Directive({selector: '[ngPluralCase]'})\nexport class NgPluralCase {\n  constructor(\n      @Attribute('ngPluralCase') public value: string, template: TemplateRef<Object>,\n      viewContainer: ViewContainerRef, @Host() ngPlural: NgPlural) {\n    const isANumber: boolean = !isNaN(Number(value));\n    ngPlural.addCase(isANumber ? `=${value}` : value, new SwitchView(viewContainer, template));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {Directive, DoCheck, ElementRef, Input, KeyValueChanges, KeyValueDiffer, KeyValueDiffers, Renderer2} from '@angular/core';\n\n\n/**\n * @ngModule CommonModule\n *\n * @usageNotes\n *\n * Set the font of the containing element to the result of an expression.\n *\n * ```\n * <some-element [ngStyle]=\"{'font-style': styleExp}\">...</some-element>\n
 * ```\n *\n * Set the width of the containing element to a pixel value returned by an expression.\n *\n * ```\n * <some-element [ngStyle]=\"{'max-width.px': widthExp}\">...</some-element>\n * ```\n *\n * Set a collection of style values using an expression that returns key-value pairs.\n *\n * ```\n * <some-element [ngStyle]=\"objExp\">...</some-element>\n * ```\n *\n * @description\n *\n * An attribute directive that updates styles for the containing HTML element.\n * Sets one or more style properties, specified as colon-separated key-value pairs.\n * The key is a style name, with an optional `.<unit>` suffix\n * (such as 'top.px', 'font-style.em').\n * The value is an expression to be evaluated.\n * The resulting non-null value, expressed in the given unit,\n * is assigned to the given style property.\n * If the result of evaluation is null, the corresponding style is removed.\n *\n * @publicApi\n */\n@Directive({selector: '[ngStyle]'})\nexport class NgStyle
 implements DoCheck {\n  private _ngStyle: {[key: string]: string}|null = null;\n  private _differ: KeyValueDiffer<string, string|number>|null = null;\n\n  constructor(\n      private _ngEl: ElementRef, private

_differs: KeyValueDiffers, private _renderer: Renderer2) {}\n\n  @Input('ngStyle')\n  set ngStyle(values: {[klass: string]: any}|null) {\n    this._ngStyle = values;\n    if (!this._differ && values) {\n      this._differ = this._differs.find(values).create();\n    }\n  }\n\n  ngDoCheck() {\n    if (this._differ) {\n      const changes = this._differ.diff(this._ngStyle!);\n      if (changes) {\n        this._applyChanges(changes);\n      }\n    }\n  }\n\n  private _setStyle(nameAndUnit: string, value: string|number|null|undefined): void {\n    const [name, unit] = nameAndUnit.split('.');\n    value = value != null && unit ? `${value}${unit}` : value;\n\n    if (value != null) {\n      this._renderer.setStyle(this._ngEl.nativeElement, name, value as string);\n    } else {\n      this._renderer.removeStyle(this._ngEl.nativeElement,\n       name);\n    }\n  }\n\n  private _applyChanges(changes: KeyValueChanges<string, string|number>): void {\n    changes.forEachRemovedItem((record) => this._setStyle(record.key, null));\n    changes.forEachAddedItem((record) => this._setStyle(record.key, record.currentValue));\n    changes.forEachChangedItem((record) => this._setStyle(record.key, record.currentValue));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, EmbeddedViewRef, Input, OnChanges, SimpleChange, SimpleChanges, TemplateRef, ViewContainerRef} from '@angular/core';\n\n/**\n * @ngModule CommonModule\n *\n * @description\n *\n * Inserts an embedded view from a prepared `TemplateRef`.\n *\n * You can attach a context object to the `EmbeddedViewRef` by setting `[ngTemplateOutletContext]`.\n
 * `[ngTemplateOutletContext]` should be an object, the object's keys will be available for binding\n * by the local template `let` declarations.\n *\n * @usageNotes\n * ```\n * <ng-container *ngTemplateOutlet=\"templateRefExp; context: contextExp\"></ng-container>\n * ```\n *\n * Using the key `$implicit` in the context object will set its value as default.\n *\n * ### Example\n *\n * {@example common/ngTemplateOutlet/ts/module.ts region='NgTemplateOutlet'}\n *\n * @publicApi\n */\n@Directive({selector: '[ngTemplateOutlet]'})\nexport class NgTemplateOutlet implements OnChanges {\n  private _viewRef: EmbeddedViewRef<any>|null = null;\n\n  /**\n   * A context object to attach to the {@link EmbeddedViewRef}. This should be an\n   * object, the object's keys will be available for binding by the local template `let`\n   * declarations.\n   * Using the key `$implicit` in the context object will set its value as default.\n   */\n  @Input() public ngTemplateOutletContext: Object|null = null;\n\n  /**\n   * A string defining the template reference and optionally the context object for the template.\n   */\n  @Input() public ngTemplateOutlet: TemplateRef<any>|null = null;\n\n  constructor(private _viewContainerRef: ViewContainerRef) {}\n\n  ngOnChanges(changes: SimpleChanges) {\n    const recreateView = this._shouldRecreateView(changes);\n\n    if (recreateView) {\n      const viewContainerRef = this._viewContainerRef;\n\n      if (this._viewRef) {\n        viewContainerRef.remove(viewContainerRef.indexOf(this._viewRef));\n      }\n\n      this._viewRef = this.ngTemplateOutlet ?\n          viewContainerRef.createEmbeddedView(this.ngTemplateOutlet, this.ngTemplateOutletContext) :\n          null;\n    } else if (this._viewRef && this.ngTemplateOutletContext) {\n      this._updateExistingContext(this.ngTemplateOutletContext);\n    }\n  }\n\n  /**\n   * We need to re-create existing embedded view if:\n   * - templateRef has changed\n   * - context has changes\n   *\n   * We
 mark context object as changed when the corresponding object\n   * shape changes (new properties are added or existing properties are removed).\n   * In other words we consider context with the same properties as \"the same\" even\n   * if object reference changes (see https://github.com/angular/angular/issues/13407).\n   */\n  private _shouldRecreateView(changes: SimpleChanges): boolean {\n    const ctxChange = changes['ngTemplateOutletContext'];\n    return !!changes['ngTemplateOutlet'] || (ctxChange && this._hasContextShapeChanged(ctxChange));\n  }\n\n  private _hasContextShapeChanged(ctxChange: SimpleChange): boolean {\n    const prevCtxKeys = Object.keys(ctxChange.previousValue || {});\n    const currCtxKeys = Object.keys(ctxChange.currentValue || {});\n\n    if (prevCtxKeys.length === currCtxKeys.length) {\n      for (let propName of currCtxKeys) {\n        if (prevCtxKeys.indexOf(propName) === -1) {\n          return true;\n        }\n      }\n      return false;\n    }\n    return

true;\n  }\n\n  private _updateExistingContext(ctx: Object): void {\n    for (let propName of Object.keys(ctx)) {\n      (<any>this._viewRef!.context)[propName] = (<any>this.ngTemplateOutletContext)[propName];\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Provider} from '@angular/core';\nimport {NgClass} from './ng_class';\nimport {NgComponentOutlet} from './ng_component_outlet';\nimport {NgForOf, NgForOfContext} from './ng_for_of';\nimport {NgIf, NgIfContext} from './ng_if';\nimport {NgPlural, NgPluralCase} from './ng_plural';\nimport {NgStyle} from './ng_style';\nimport {NgSwitch, NgSwitchCase, NgSwitchDefault} from './ng_switch';\nimport {NgTemplateOutlet} from './ng_template_outlet';\n\nexport {\n  NgClass,\n  NgComponentOutlet,\n  NgForOf,\n  NgForOfContext,\n  NgIf,\n  NgIfContext,\n  NgPlural,\n  NgPluralCase,\n  NgStyle,\n  NgSwitch,\n  NgSwitchCase,\n  NgSwitchDefault,\n  NgTemplateOutlet,\n};\n\n\n\n/**\n * A collection of Angular directives that are likely to be used in each and every Angular\n * application.\n */\nexport const COMMON_DIRECTIVES: Provider[] = [\n  NgClass,\n  NgComponentOutlet,\n  NgForOf,\n  NgIf,\n  NgTemplateOutlet,\n  NgStyle,\n  NgSwitch,\n  NgSwitchCase,\n  NgSwitchDefault,\n  NgPlural,\n  NgPluralCase,\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type, stringify as stringify} from '@angular/core';\n\nexport function invalidPipeArgumentError(type: Type<any>, value: Object) {\n  return Error(`InvalidPipeArgument: '${value}' for pipe '${stringify(type)}'`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed\n by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef, EventEmitter, OnDestroy, Pipe, PipeTransform, isObservable, isPromise} from '@angular/core';\nimport {Observable, SubscriptionLike} from 'rxjs';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\ninterface SubscriptionStrategy {\n  createSubscription(async: Observable<any>|Promise<any>, updateLatestValue: any): SubscriptionLike\n      |Promise<any>;\n  dispose(subscription: SubscriptionLike|Promise<any>): void;\n  onDestroy(subscription: SubscriptionLike|Promise<any>): void;\n}\n\nclass ObservableStrategy implements SubscriptionStrategy {\n  createSubscription(async: Observable<any>, updateLatestValue: any): SubscriptionLike {\n    return async.subscribe({\n      next: updateLatestValue,\n      error: (e: any) => {\n        throw e;\n      }\n    });\n  }\n\n  dispose(subscription: SubscriptionLike): void {\n    subscription.unsubscribe();\n  }\n\n  onDestroy(subscription: SubscriptionLike): void {\n    subscription.unsubscribe();\n  }\n}\n\nclass PromiseStrategy implements SubscriptionStrategy {\n  createSubscription(async: Promise<any>, updateLatestValue: (v: any) => any): Promise<any> {\n    return async.then(updateLatestValue, e => {\n      throw e;\n    });\n  }\n\n  dispose(subscription: Promise<any>): void {}\n\n  onDestroy(subscription: Promise<any>): void {}\n}\n\nconst _promiseStrategy = new PromiseStrategy();\nconst _observableStrategy = new ObservableStrategy();\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Unwraps a value from an asynchronous primitive.\n *\n * The `async` pipe subscribes to an `Observable` or `Promise` and returns the latest value it has\n * emitted. When a new value is emitted, the `async` pipe marks the component to be checked for\n * changes. When the component gets destroyed, the `async` pipe unsubscribes automatically to avoid\n * potential memory leaks.\n\n *\n * @usageNotes\n *\n * ### Examples\n *\n * This example binds a `Promise` to the view. Clicking the `Resolve` button resolves the\n * promise.\n *\n * {@example common/pipes/ts/async_pipe.ts region='AsyncPipePromise'}\n *\n * It's also possible to use `async` with Observables. The example below binds the `time` Observable\n * to the view. The Observable continuously updates the view with the current time.\n *\n * {@example common/pipes/ts/async_pipe.ts region='AsyncPipeObservable'}\n *\n * @publicApi\n */\n@Pipe({name: 'async', pure: false})\nexport class AsyncPipe implements OnDestroy, PipeTransform {\n  private _latestValue: any = null;\n\n  private _subscription: SubscriptionLike|Promise<any>|null = null;\n  private _obj: Observable<any>|Promise<any>|EventEmitter<any>|null = null;\n  private _strategy: SubscriptionStrategy =

null!;\n\n  constructor(private _ref: ChangeDetectorRef) {}\n\n  ngOnDestroy(): void {\n    if (this._subscription) {\n      this._dispose();\n    }\n  }\n\n  transform<T>(obj: Observable<T>|Promise<T>): T|null;\n  transform<T>(obj: null|undefined): null;\n  transform<T>(obj: Observable<T>|Promise<T>|null|undefined): T|null;\n  transform<T>(obj: Observable<T>|Promise<T>|null|undefined): T|null {\n    if (!this._obj) {\n      if (obj) {\n        this._subscribe(obj);\n      }\n      return this._latestValue;\n    }\n\n    if (obj !== this._obj) {\n      this._dispose();\n      return this.transform(obj);\n    }\n\n    return this._latestValue;\n  }\n\n  private _subscribe(obj: Observable<any>|Promise<any>|EventEmitter<any>): void {\n    this._obj = obj;\n    this._strategy = this._selectStrategy(obj);\n    this._subscription = this._strategy.createSubscription(\n        obj, (value: Object) => this._updateLatestValue(obj, value));\n  }\n\n  private _selectStrategy(obj: Observable<any>|Promise<any>|EventEmitter<any>): any {\n    if (isPromise(obj)) {\n      return _promiseStrategy;\n    }\n\n    if (isObservable(obj)) {\n      return _observableStrategy;\n    }\n\n    throw invalidPipeArgumentError(AsyncPipe, obj);\n  }\n\n  private _dispose(): void {\n    this._strategy.dispose(this._subscription!);\n    this._latestValue = null;\n    this._subscription = null;\n    this._obj = null;\n  }\n\n  private _updateLatestValue(async: any, value: Object): void {\n    if (async === this._obj) {\n      this._latestValue = value;\n      this._ref.markForCheck();\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n/**\n * Transforms text to all lower case.\n *\n * @see `UpperCasePipe`\n * @see `TitleCasePipe`\n * @usageNotes\n *\n * The following example defines a view that allows the user to enter\n * text, and then uses the pipe to convert the input text to all lower case.\n *\n * <code-example path=\"common/pipes/ts/lowerupper_pipe.ts\" region='LowerUpperPipe'></code-example>\n *\n * @ngModule CommonModule\n * @publicApi\n */\n@Pipe({name: 'lowercase'})\nexport class LowerCasePipe implements PipeTransform {\n  /**\n   * @param value The string to transform to lower case.\n   */\n  transform(value: string): string;\n  transform(value: null|undefined): null;\n  transform(value: string|null|undefined): string|null;\n  transform(value: string|null|undefined): string|null {\n    if (value == null) return null;\n    if (typeof value !== 'string') {\n      throw invalidPipeArgumentError(LowerCasePipe, value);\n    }\n    return value.toLowerCase();\n  }\n}\n\n/\n// Regex below matches any Unicode word and compatible with ES5. In ES2018 the same result\n// can be achieved by using /\\p{L}\\S*/gu and also known as Unicode Property Escapes\n// (https://2ality.com/2017/07/regexp-unicode-property-escapes.html). Since there is no\n// transpilation of this functionality down to ES5 without external tool, the only solution is\n// to use already transpiled form. Example can be found here -\n// https://mothereff.in/regexpu#input=var+regex+%3D+/%5Cp%7BL%7D/u%3B&unicodePropertyEscape=1\n//\n\nconst unicodeWordMatch =\n    /(?:[A-Za-z\\xAA\\xB5\\xBA\\xC0-\\xD6\\xD8-\\xF6\\xF8-\\u02C1\\u02C6-\\u02D1\\u02E0-\\u02E4\\u02EC\\u02EE\\u0370-\\u0374\\u0376\\u0377\\u037A-\\u037D\\u037F\\u0386\\u0388-\\u038A\\u038C\\u038E-\\u03A1\\u03A3-\\u03F5\\u03F7-\\u0481\\u048A-\\u052F\\u0531-\\u0556\\u0559\\u0561-\\u0587\\u05D0-\\u05EA\\u05F0-\\u05F2\\u0620-\\u064A\\u066E\\u066F\\u0671-\\u06D3\\u06D5\\u06E5\\u06E6\\u06EE\\u06EF\\u06FA-\\u06FC\\u06FF\\u0710\\u0712-\\u072F\\u074D-\\u07A5\\u07B1\\u07CA-\\u07EA\\u07F4\\u07F5\\u07FA\\u0800-\\u0815\\u081A\\u0824\\u0828\\u0840-\\u0858\\u0860-\\u086A\\u08A0-\\u08B4\\u08B6-\\u08BD\\u0904-\\u0939\\u093D\\u0950\\u0958-\\u0961\\u0971-\\u0980\\u0985-\\u098C\\u098F\\u0990\\u0993-\\u09A8\\u09AA-\\u09B0\\u09B2\\u09B6-\\u09B9\\u09BD\\u09CE\\u09DC\\u09DD\\u09DF-\\u09E1\\u09F0\\u09F1\\u09FC\\u0A05-\\u0A0A\\u0A0F\\u0A10\\u0A13-\\u0A28\\u0A2A-\\u0A30\\u0A32\\u0A33\\u0A35\\u0A36\\u0A38\\u0A39\\u0A59-\\u0A5C\\u0A5E\\u0A72-\\u0A74\\u0A85-\\u0A8D\\u0A8F-\\u0A91\\u0A93-\\u0AA8\\u0AAA-\\u0AB0\\u0AB2\\u0AB3\\u0AB5-\\u0AB9\\u0ABD\\u0AD0\\u0AE0\\u0AE1\\u0AF9\\u0B05-\\u0B0C\\u0B0F\\u0B10\\u0B13-\\u0B28\\u0B2A-\\u0B30\\u0B32\\u0B33\\u0B35-\\u0B39\\u0B3D\\u0B5C\\u0B5D\\u0B5F-\\u0B61\\u0B71\\u0B83\\u0B85-

\\u0B8A\\u0B8E-\\u0B90\\u0B92-\\u0B95\\u0B99\\u0B9A\\u0B9C\\u0B9E\\u0B9F\\u0BA3\\u0BA4\\u0BA8-
\\u0BAA\\u0BAE-\\u0BB9\\u0BD0\\u0C05-\\u0C0C\\u0C0E-\\u0C10\\u0C12-\\u0C28\\u0C2A-
\\u0C39\\u0C3D\\u0C58-\\u0C5A\\u0C60\\u0C61\\u0C80\\u0C85-\\u0C8C\\u0C8E-\\u0C90\\u0C92-
\\u0CA8\\u0CAA-\\u0CB3\\u0CB5-\\u0CB9\\u0CBD\\u0CDE\\u0CE0\\u0CE1\\u0CF1\\u0CF2\\u0D05-
\\u0D0C\\u0D0E-\\u0D10\\u0D12-\\u0D3A\\u0D3D\\u0D4E\\u0D54-\\u0D56\\u0D5F-\\u0D61\\u0D7A-
\\u0D7F\\u0D85-\\u0D96\\u0D9A-\\u0DB1\\u0DB3-\\u0DBB\\u0DBD\\u0DC0-\\u0DC6\\u0E01-
\\u0E30\\u0E32\\u0E33\\u0E40-\\u0E46\\u0E81\\u0E82\\u0E84\\u0E87\\u0E88\\u0E8A\\u0E8D\\u0E94-
\\u0E97\\u0E99-\\u0E9F\\u0EA1-\\u0EA3\\u0EA5\\u0EA7\\u0EAA\\u0EAB\\u0EAD-
\\u0EB0\\u0EB2\\u0EB3\\u0EBD\\u0EC0-\\u0EC4\\u0EC6\\u0EDC-\\u0EDF\\u0F00\\u0F40-\\u0F47\\u0F49-
\\u0F6C\\u0F88-\\u0F8C\\u1000-\\u102A\\u103F\\u1050-\\u1055\\u105A-\\u105D\\u1061\\u1065\\u1066\\u106E-
\\u1070\\u1075-\\u1081\\u108E\\u10A0-\\u10C5\\u10C7\\u10CD\\u10D0-\\u10FA\\u10FC-\\u1248\\u124A-
\\u124D\\u1250-\\u1256\\u1258\\u125A-\\u125D\\u1260-\\u1288\\u128A-\\u128D\\u1290-\\u12B0\\u12B2-
\\u12B5\\u12B8-\\u12BE\\u12C0\\u12C2-\\u12C5\\u12C8-\\u12D6\\u12D8-\\u1310\\u1312-\\u1315\\u1318-
\\u135A\\u1380-\\u138F\\u13A0-\\u13F5\\u13F8-\\u13FD\\u1401-\\u166C\\u166F-\\u167F\\u1681-\\u169A\\u16A0-
\\u16EA\\u16F1-\\u16F8\\u1700-\\u170C\\u170E-\\u1711\\u1720-\\u1731\\u1740-\\u1751\\u1760-\\u176C\\u176E-
\\u1770\\u1780-\\u17B3\\u17D7\\u17DC\\u1820-\\u1877\\u1880-\\u1884\\u1887-\\u18A8\\u18AA\\u18B0-
\\u18F5\\u1900-\\u191E\\u1950-\\u196D\\u1970-\\u1974\\u1980-\\u19AB\\u19B0-\\u19C9\\u1A00-
\\u1A16\\u1A20-\\u1A54\\u1AA7\\u1B05-\\u1B33\\u1B45-\\u1B4B\\u1B83-\\u1BA0\\u1BAE\\u1BAF\\u1BBA-
\\u1BE5\\u1C00-\\u1C23\\u1C4D-\\u1C4F\\u1C5A-\\u1C7D\\u1C80-\\u1C88\\u1CE9-\\u1CEC\\u1CEE-
\\u1CF1\\u1CF5\\u1CF6\\u1D00-\\u1DBF\\u1E00-\\u1F15\\u1F18-\\u1F1D\\u1F20-\\u1F45\\u1F48-
\\u1F4D\\u1F50-\\u1F57\\u1F59\\u1F5B\\u1F5D\\u1F5F-\\u1F7D\\u1F80-\\u1FB4\\u1FB6-
\\u1FBC\\u1FBE\\u1FC2-\\u1FC4\\u1FC6-\\u1FCC\\u1FD0-\\u1FD3\\u1FD6-\\u1FDB\\u1FE0-\\u1FEC\\u1FF2-
\\u1FF4\\u1FF6-\\u1FFC\\u2071\\u207F\\u2090-\\u209C\\u2102\\u2107\\u210A-\\u2113\\u2115\\u2119-
\\u211D\\u2124\\u2126\\u2128\\u212A-\\u212D\\u212F-\\u2139\\u213C-\\u213F\\u2145-
\\u2149\\u214E\\u2183\\u2184\\u2C00-\\u2C2E\\u2C30-\\u2C5E\\u2C60-\\u2CE4\\u2CEB-
\\u2CEE\\u2CF2\\u2CF3\\u2D00-\\u2D25\\u2D27\\u2D2D\\u2D30-\\u2D67\\u2D6F\\u2D80-\\u2D96\\u2DA0-
\\u2DA6\\u2DA8-\\u2DAE\\u2DB0-\\u2DB6\\u2DB8-\\u2DBE\\u2DC0-\\u2DC6\\u2DC8-\\u2DCE\\u2DD0-
\\u2DD6\\u2DD8-\\u2DDE\\u2E2F\\u3005\\u3006\\u3031-\\u3035\\u303B\\u303C\\u3041-\\u3096\\u309D-
\\u309F\\u30A1-\\u30FA\\u30FC-\\u30FF\\u3105-\\u312E\\u3131-\\u318E\\u31A0-\\u31BA\\u31F0-
\\u31FF\\u3400-\\u4DB5\\u4E00-\\u9FEA\\uA000-\\uA48C\\uA4D0-\\uA4FD\\uA500-\\uA60C\\uA610-
\\uA61F\\uA62A\\uA62B\\uA640-\\uA66E\\uA67F-\\uA69D\\uA6A0-\\uA6E5\\uA717-\\uA71F\\uA722-
\\uA788\\uA78B-\\uA7AE\\uA7B0-\\uA7B7\\uA7F7-\\uA801\\uA803-\\uA805\\uA807-\\uA80A\\uA80C-
\\uA822\\uA840-\\uA873\\uA882-\\uA8B3\\uA8F2-\\uA8F7\\uA8FB\\uA8FD\\uA90A-\\uA925\\uA930-
\\uA946\\uA960-\\uA97C\\uA984-\\uA9B2\\uA9CF\\uA9E0-\\uA9E4\\uA9E6-\\uA9EF\\uA9FA-\\uA9FE\\uAA00-
\\uAA28\\uAA40-\\uAA42\\uAA44-\\uAA4B\\uAA60-\\uAA76\\uAA7A\\uAA7E-
\\uAAAF\\uAAB1\\uAAB5\\uAAB6\\uAAB9-\\uAABD\\uAAC0\\uAAC2\\uAADB-\\uAADD\\uAAE0-
\\uAAEA\\uAAF2-\\uAAF4\\uAB01-\\uAB06\\uAB09-\\uAB0E\\uAB11-\\uAB16\\uAB20-\\uAB26\\uAB28-
\\uAB2E\\uAB30-\\uAB5A\\uAB5C-\\uAB65\\uAB70-\\uABE2\\uAC00-\\uD7A3\\uD7B0-\\uD7C6\\uD7CB-
\\uD7FB\\uF900-\\uFA6D\\uFA70-\\uFAD9\\uFB00-\\uFB06\\uFB13-\\uFB17\\uFB1D\\uFB1F-\\uFB28\\uFB2A-
\\uFB36\\uFB38-\\uFB3C\\uFB3E\\uFB40\\uFB41\\uFB43\\uFB44\\uFB46-\\uFBB1\\uFBD3-\\uFD3D\\uFD50-
\\uFD8F\\uFD92-\\uFDC7\\uFDF0-\\uFDFB\\uFE70-\\uFE74\\uFE76-\\uFEFC\\uFF21-\\uFF3A\\uFF41-
\\uFF5A\\uFF66-\\uFFBE\\uFFC2-\\uFFC7\\uFFCA-\\uFFCF\\uFFD2-\\uFFD7\\uFFDA-
\\uFFDC]|\\uD800[\\uDC00-\\uDC0B\\uDC0D-\\uDC26\\uDC28-\\uDC3A\\uDC3C\\uDC3D\\uDC3F-
\\uDC4D\\uDC50-\\uDC5D\\uDC80-\\uDCFA\\uDE80-\\uDE9C\\uDEA0-\\uDED0\\uDF00-\\uDF1F\\uDF2D-
\\uDF40\\uDF42-\\uDF49\\uDF50-\\uDF75\\uDF80-\\uDF9D\\uDFA0-\\uDFC3\\uDFC8-
\\uDFCF]|\\uD801[\\uDC00-\\uDC9D\\uDCB0-\\uDCD3\\uDCD8-\\uDCFB\\uDD00-\\uDD27\\uDD30-
\\uDD63\\uDE00-\\uDF36\\uDF40-\\uDF55\\uDF60-\\uDF67]|\\uD802[\\uDC00-\\uDC05\\uDC08\\uDC0A-
\\uDC35\\uDC37\\uDC38\\uDC3C\\uDC3F-\\uDC55\\uDC60-\\uDC76\\uDC80-\\uDC9E\\uDCE0-

\\uDCF2\\uDCF4\\uDCF5\\uDD00-\\uDD15\\uDD20-\\uDD39\\uDD80-
\\uDDB7\\uDDBE\\uDDBF\\uDE00\\uDE10-\\uDE13\\uDE15-\\uDE17\\uDE19-\\uDE33\\uDE60-
\\uDE7C\\uDE80-\\uDE9C\\uDEC0-\\uDEC7\\uDEC9-\\uDEE4\\uDF00-\\uDF35\\uDF40-\\uDF55\\uDF60-
\\uDF72\\uDF80-\\uDF91]|\\uD803[\\uDC00-\\uDC48\\uDC80-\\uDCB2\\uDCC0-\\uDCF2]|\\uD804[\\uDC03-
\\uDC37\\uDC83-\\uDCAF\\uDCD0-\\uDCE8\\uDD03-\\uDD26\\uDD50-\\uDD72\\uDD76\\uDD83-
\\uDDB2\\uDDC1-\\uDDC4\\uDDDA\\uDDDC\\uDE00-\\uDE11\\uDE13-\\uDE2B\\uDE80-
\\uDE86\\uDE88\\uDE8A-\\uDE8D\\uDE8F-\\uDE9D\\uDE9F-\\uDEA8\\uDEB0-\\uDEDE\\uDF05-
\\uDF0C\\uDF0F\\uDF10\\uDF13-\\uDF28\\uDF2A-\\uDF30\\uDF32\\uDF33\\uDF35-
\\uDF39\\uDF3D\\uDF50\\uDF5D-\\uDF61]|\\uD805[\\uDC00-\\uDC34\\uDC47-\\uDC4A\\uDC80-
\\uDCAF\\uDCC4\\uDCC5\\uDCC7\\uDD80-\\uDDAE\\uDDD8-\\uDDDB\\uDE00-\\uDE2F\\uDE44\\uDE80-
\\uDEAA\\uDF00-\\uDF19]|\\uD806[\\uDCA0-\\uDCDF\\uDCFF\\uDE00\\uDE0B-
\\uDE32\\uDE3A\\uDE50\\uDE5C-\\uDE83\\uDE86-\\uDE89\\uDEC0-\\uDEF8]|\\uD807[\\uDC00-
\\uDC08\\uDC0A-\\uDC2E\\uDC40\\uDC72-\\uDC8F\\uDD00-\\uDD06\\uDD08\\uDD09\\uDD0B-
\\uDD30\\uDD46]|\\uD808[\\uDC00-\\uDF99]|\\uD809[\\uDC80-\\uDD43]|[\\uD80C\\uD81C-\\uD820\\uD840-
\\uD868\\uD86A-\\uD86C\\uD86F-\\uD872\\uD874-\\uD879][\\uDC00-\\uDFFF]|\\uD80D[\\uDC00-
\\uDC2E]|\\uD811[\\uDC00-\\uDE46]|\\uD81A[\\uDC00-\\uDE38\\uDE40-\\uDE5E\\uDED0-\\uDEED\\uDF00-
\\uDF2F\\uDF40-\\uDF43\\uDF63-\\uDF77\\uDF7D-\\uDF8F]|\\uD81B[\\uDF00-\\uDF44\\uDF50\\uDF93-
\\uDF9F\\uDFE0\\uDFE1]|\\uD821[\\uDC00-\\uDFEC]|\\uD822[\\uDC00-\\uDEF2]|\\uD82C[\\uDC00-
\\uDD1E\\uDD70-\\uDEFB]|\\uD82F[\\uDC00-\\uDC6A\\uDC70-\\uDC7C\\uDC80-\\uDC88\\uDC90-
\\uDC99]|\\uD835[\\uDC00-\\uDC54\\uDC56-\\uDC9C\\uDC9E\\uDC9F\\uDCA2\\uDCA5\\uDCA6\\uDCA9-
\\uDCAC\\uDCAE-\\uDCB9\\uDCBB\\uDCBD-\\uDCC3\\uDCC5-\\uDD05\\uDD07-\\uDD0A\\uDD0D-
\\uDD14\\uDD16-\\uDD1C\\uDD1E-\\uDD39\\uDD3B-\\uDD3E\\uDD40-\\uDD44\\uDD46\\uDD4A-
\\uDD50\\uDD52-\\uDEA5\\uDEA8-\\uDEC0\\uDEC2-\\uDEDA\\uDEDC-\\uDEFA\\uDEFC-\\uDF14\\uDF16-
\\uDF34\\uDF36-\\uDF4E\\uDF50-\\uDF6E\\uDF70-\\uDF88\\uDF8A-\\uDFA8\\uDFAA-\\uDFC2\\uDFC4-
\\uDFCB]|\\uD83A[\\uDC00-\\uDCC4\\uDD00-\\uDD43]|\\uD83B[\\uDE00-\\uDE03\\uDE05-
\\uDE1F\\uDE21\\uDE22\\uDE24\\uDE27\\uDE29-\\uDE32\\uDE34-
\\uDE37\\uDE39\\uDE3B\\uDE42\\uDE47\\uDE49\\uDE4B\\uDE4D-
\\uDE4F\\uDE51\\uDE52\\uDE54\\uDE57\\uDE59\\uDE5B\\uDE5D\\uDE5F\\uDE61\\uDE62\\uDE64\\uDE67-
\\uDE6A\\uDE6C-\\uDE72\\uDE74-\\uDE77\\uDE79-\\uDE7C\\uDE7E\\uDE80-\\uDE89\\uDE8B-
\\uDE9B\\uDEA1-\\uDEA3\\uDEA5-\\uDEA9\\uDEAB-\\uDEBB]|\\uD869[\\uDC00-\\uDED6\\uDF00-
\\uDFFF]|\\uD86D[\\uDC00-\\uDF34\\uDF40-\\uDFFF]|\\uD86E[\\uDC00-\\uDC1D\\uDC20-
\\uDFFF]|\\uD873[\\uDC00-\\uDEA1\\uDEB0-\\uDFFF]|\\uD87A[\\uDC00-\\uDFE0]|\\uD87E[\\uDC00-
\\uDE1D])\\S*/g;\n\n/**\n
 * Transforms text to title case.\n * Capitalizes the first letter of each word and transforms the\n * rest of the word to lower case.\n * Words are delimited by any whitespace character, such as a space, tab, or line-feed character.\n *\n * @see `LowerCasePipe`\n * @see `UpperCasePipe`\n *\n * @usageNotes\n * The following example shows the result of transforming various strings into title case.\n *\n * <code-example path=\"common/pipes/ts/titlecase_pipe.ts\" region='TitleCasePipe'></code-example>\n *\n * @ngModule CommonModule\n
 * @publicApi\n */\n@Pipe({name: 'titlecase'})\nexport class TitleCasePipe implements PipeTransform {\n  /**\n * @param value The string to transform to title case.\n   */\n  transform(value: string): string;\n  transform(value: null|undefined): null;\n  transform(value: string|null|undefined): string|null;\n  transform(value: string|null|undefined): string|null {\n    if (value == null) return null;\n    if (typeof value !== 'string') {\n      throw invalidPipeArgumentError(TitleCasePipe, value);\n    }\n\n    return value.replace(\n        unicodeWordMatch, (txt => txt[0].toUpperCase() + txt.substr(1).toLowerCase()));\n  }\n}\n\n/**\n * Transforms text to all upper case.\n * @see `LowerCasePipe`\n * @see `TitleCasePipe`\n *\n * @ngModule CommonModule\n * @publicApi\n */\n@Pipe({name: 'uppercase'})\nexport class UpperCasePipe implements PipeTransform {\n  /**\n   * @param value The string to transform to upper case.\n   */\n  transform(value: string): string;\n  transform(value:

null|undefined): null;\n  transform(value: string|null|undefined): string|null;\n  transform(value: string|null|undefined): string|null {\n    if (value == null) return null;\n    if (typeof value !== 'string') {\n      throw invalidPipeArgumentError(UpperCasePipe, value);\n    }\n    return value.toUpperCase();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, LOCALE_ID, Pipe, PipeTransform} from '@angular/core';\nimport {formatDate} from '../i18n/format_date';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n// clang-format off\n/**\n * @ngModule CommonModule\n * @description\n *\n * Formats a date value according to locale rules.\n *\n * Only the `en-US` locale data comes with Angular. To localize dates\n * in another language, you must import the corresponding locale data.\n * See the [I18n guide](guide/i18n#i18n-pipes) for more information.\n *\n * @see `formatDate()`\n *\n *\n * @usageNotes\n *\n * The result of this pipe is not reevaluated when the input is mutated. To avoid the need to\n * reformat the date on every change-detection cycle, treat the date as an immutable object\n * and change the reference when the pipe needs to run again.\n *\n * ### Pre-defined format options\n *\n * | Option        | Equivalent to                      | Examples (given in `en-US` locale)            |\n * |---------------|------------------------------------|-----------------------------------------------|\n * | `'short'`     | `'M/d/yy, h:mm a'`                 | `6/15/15, 9:03 AM`                            |\n * | `'medium'`    | `'MMM d, y, h:mm:ss a'`            | `Jun 15, 2015, 9:03:01 AM`                    |\n * | `'long'`      | `'MMMM d, y, h:mm:ss a z'`         | `June 15, 2015 at 9:03:01 AM GMT+1`           |\n * | `'full'`      | `'EEEE, MMMM d, y, h:mm:ss a zzzz'` | `Monday, June 15, 2015 at 9:03:01 AM GMT+01:00` |\n * | `'shortDate'` | `'M/d/yy'`                         | `6/15/15`                                     |\n * | `'mediumDate'`| `'MMM d, y'`                       | `Jun 15, 2015`                                |\n * | `'longDate'`  | `'MMMM d, y'`                      | `June 15, 2015`                               |\n * | `'fullDate'`  | `'EEEE, MMMM d, y'`                | `Monday, June 15, 2015`                       |\n * | `'shortTime'` | `'h:mm a'`                         | `9:03 AM`                                     |\n * | `'mediumTime'`| `'h:mm:ss a'`                      | `9:03:01 AM`                                  |\n * | `'longTime'`  | `'h:mm:ss a z'`                    | `9:03:01 AM GMT+1`                            |\n * | `'fullTime'`  | `'h:mm:ss a zzzz'`                 | `9:03:01 AM GMT+01:00`                        |\n *\n * ### Custom format options\n *\n * You can construct a format string using symbols to specify the components\n * of a date-time value, as described in the following table.\n * Format details depend on the locale.\n * Fields marked with (*) are only available in the extra data set for the given locale.\n *\n *  | Field type         | Format      | Description                                                   | Example Value                              |\n * |--------------------|-------------|---------------------------------------------------------------|--------------------------------------------|\n * | Era                | G, GG & GGG | Abbreviated                                                   | AD                                         |\n * |                    | GGGG        | Wide                                                          | Anno Domini                                |\n * |                    | GGGGG       | Narrow                                                        | A                                          |\n * | Year               | y           | Numeric: minimum digits                                       | 2, 20, 201, 2017, 20173                    |\n * |                    | yy          | Numeric: 2 digits + zero padded                               | 02, 20, 01, 17, 73                         |\n * |                    | yyy         | Numeric: 3 digits + zero padded                               | 002, 020, 201, 2017, 20173                 |\n * |                    | yyyy        | Numeric: 4 digits or more + zero padded                       | 0002, 0020, 0201, 2017, 20173              |\n * | Week-numbering year| Y           | Numeric: minimum digits                                       | 2, 20, 201, 2017, 20173                    |\n * |                    | YY          | Numeric: 2 digits + zero padded                               | 02, 20, 01, 17, 73                         |\n * |                    | YYY         | Numeric: 3 digits + zero padded                               | 002, 020, 201, 2017, 20173                 |\n * |                    | YYYY        | Numeric: 4 digits or more + zero padded                       | 0002, 0020, 0201, 2017, 20173              |\n * | Month              | M           | Numeric: 1 digit                                              | 9, 12                                      |\n * |                    | MM          | Numeric: 2 digits + zero padded                               | 09, 12                                     |\n * |                    | MMM         | Abbreviated                                                   | Sep                                        |\n * |                    | MMMM        | Wide

| September |\n * | | MMMMM | Narrow | S |\n * | Month standalone | L | Numeric: 1 digit | 9, 12 |\n * | | LL | Numeric: 2 digits + zero padded | 09, 12 |\n * | | LLL | Abbreviated | Sep |\n * | | LLLL | Wide | September |\n * | | LLLLL |
Narrow | S |\n * | Week of year | w | Numeric: minimum digits | 1... 53 |\n * | | ww | Numeric: 2 digits + zero padded | 01... 53 |\n * | Week of month | W | Numeric: 1 digit | 1... 5 |\n * | Day of month | d | Numeric: minimum digits | 1 |\n * | | dd | Numeric: 2 digits + zero padded | 01 |\n * | Week day | E, EE & EEE | Abbreviated | Tue |\n * | | EEEE | Wide | Tuesday |\n * | | EEEEE | Narrow | T |\n * | | EEEEEE | Short | Tu |\n * | Period | a, aa & aaa | Abbreviated | am/pm or AM/PM |\n * | | aaaa | Wide (fallback to `a` when missing) | ante meridiem/post meridiem |\n * | | aaaaa | Narrow | a/p |\n * | Period* | B, BB & BBB | Abbreviated | mid. |\n * | | BBBB | Wide | am, pm, midnight, noon, morning, afternoon, evening, night |\n * | | BBBBB | Narrow | md |\n * | Period standalone* | b, bb & bbb | Abbreviated | mid. |\n * | | bbbb | Wide | am, pm, midnight, noon, morning, afternoon, evening, night |\n * | | bbbbb | Narrow | md |\n * | Hour 1-12 | h | Numeric: minimum digits | 1, 12 |\n * | | hh | Numeric: 2 digits + zero padded | 01, 12 |\n * | Hour 0-23 | H | Numeric: minimum digits | 0, 23 |\n * | | HH | Numeric: 2 digits + zero padded | 00, 23 |\n * | Minute | m | Numeric: minimum digits | 8, 59 |\n * | | mm | Numeric: 2 digits + zero padded | 08, 59 |\n * | Second | s | Numeric: minimum digits | 0... 59 |\n * | | ss | Numeric: 2 digits + zero padded | 00... 59 |\n * | Fractional seconds | S | Numeric: 1 digit | 0... 9 |\n * | | SS | Numeric: 2 digits + zero padded | 00... 99 |\n * | | SSS | Numeric: 3 digits + zero padded (= milliseconds) | 000... 999 |\n * | Zone | z, zz & zzz | Short specific non location format (fallback to O) | GMT-8 |\n * | | zzzz | Long specific non location format (fallback to OOOO) | GMT-08:00 |\n * | | Z, ZZ & ZZZ | ISO8601 basic format | -0800 |\n * | | ZZZZ | Long localized GMT format | GMT-8:00 |\n * | | ZZZZZ | ISO8601 extended format + Z indicator for offset 0 (= XXXXX) | -08:00 |\n * | | O, OO & OOO | Short localized GMT

format | GMT-8 |\n * | |
OOOO | Long localized GMT format | GMT-08:00 |\n *\n * Note that timezone correction is not applied to an ISO string that has no time component, such as \"2016-09-19\"\n *\n * ### Format examples\n *\n * These examples transform a date into various formats,\n * assuming that `dateObj` is a JavaScript `Date` object for\n * year: 2015, month: 6, day: 15, hour: 21, minute: 43, second: 11,\n * given in the local time for the `en-US` locale.\n *\n * ```\n * {{ dateObj | date }} // output is 'Jun 15, 2015'\n * {{ dateObj | date:'medium' }} // output is 'Jun 15, 2015, 9:43:11 PM'\n * {{ dateObj | date:'shortTime' }} // output is '9:43 PM'\n * {{ dateObj | date:'mm:ss' }} // output is '43:11'\n * ```\n *\n * ### Usage example\n *\n * The following component uses a date pipe to display the current date in different formats.\n *\n * ```\n * @Component({\n * selector: 'date-pipe',\n
* template: `<div>\n * <p>Today is {{today | date}}</p>\n * <p>Or if you prefer, {{today | date:'fullDate'}}</p>\n * <p>The time is {{today | date:'h:mm a z'}}</p>\n * </div>`\n * })\n * // Get the current date and time as a date-time value.\n * export class DatePipeComponent {\n * today: number = Date.now();\n * }\n * ```\n *\n * @publicApi\n */\n// clang-format on\n@Pipe({name: 'date', pure: true})\nexport class DatePipe implements PipeTransform {\n constructor(@Inject(LOCALE_ID) private locale: string) {}\n\n /**\n * @param value The date expression: a `Date` object, a number\n * (milliseconds since UTC epoch), or an ISO string (https://www.w3.org/TR/NOTE-datetime).\n * @param format The date/time components to include, using predefined options or a\n * custom format string.\n * @param timezone A timezone offset (such as `'+0430'`), or a standard\n * UTC/GMT or continental US timezone abbreviation.\n * When not supplied, uses the end-user's local system
timezone.\n * @param locale A locale code for the locale format rules to use.\n * When not supplied, uses the value of `LOCALE_ID`, which is `en-US` by default.\n * See [Setting your app locale](guide/i18n#setting-up-the-locale-of-your-app).\n * @returns A date string in the desired format.\n */\n transform(value: Date|string|number, format?: string, timezone?: string, locale?: string): string\n |null;\n transform(value: null|undefined, format?: string, timezone?: string, locale?: string): null;\n transform(\n value: Date|string|number|null|undefined, format?: string, timezone?: string,\n locale?: string): string|null;\n transform(\n value: Date|string|number|null|undefined, format = 'mediumDate', timezone?: string,\n locale?: string): string|null {\n if (value == null || value === '' || value !== value) return null;\n\n try {\n return formatDate(value, format, locale || this.locale, timezone);\n } catch (error) {\n throw
invalidPipeArgumentError(DatePipe, error.message);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\n\nimport {getPluralCategory, NgLocalization} from '../i18n/localization';\n\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\nconst _INTERPOLATION_REGEXP: RegExp = /#/g;\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Maps a value to a string that pluralizes the value according to locale rules.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example common/pipes/ts/i18n_pipe.ts region='I18nPluralPipeComponent'}\n *\n * @publicApi\n */\n@Pipe({name: 'i18nPlural', pure: true})\nexport class I18nPluralPipe implements PipeTransform {\n constructor(private _localization: NgLocalization) {}\n\n /**\n * @param value the number
to be formatted\n * @param pluralMap an object that mimics the ICU format, see\n * http://userguide.icu-project.org/formatparse/messages.\n * @param locale a `string` defining the locale to use (uses the current {@link LOCALE_ID} by\n * default).\n */\n transform(value: number|null|undefined, pluralMap: {[count: string]: string}, locale?: string):\n string {\n if (value == null) return '';\n\n if (typeof pluralMap !== 'object' || pluralMap === null) {\n throw invalidPipeArgumentError(I18nPluralPipe, pluralMap);\n }\n\n const key = getPluralCategory(value, Object.keys(pluralMap), this._localization, locale);\n\n return pluralMap[key].replace(_INTERPOLATION_REGEXP, value.toString());\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from

'@angular/core';\nimport
{invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Generic selector that displays the string that matches the current value.\n *\n * If none of the keys of the `mapping` match the `value`, then the content\n * of the `other` key is returned when present, otherwise an empty string is returned.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example common/pipes/ts/i18n_pipe.ts region='I18nSelectPipeComponent'}\n *\n * @publicApi\n */\n@Pipe({name: 'i18nSelect', pure: true})\nexport class I18nSelectPipe implements PipeTransform {\n /**\n * @param value a string to be internationalized.\n * @param mapping an object that indicates the text that should be displayed\n * for different values of the provided `value`.\n */\n transform(value: string|null|undefined, mapping: {[key: string]: string}): string {\n if (value == null) return '';\n\n if (typeof mapping !== 'object' || typeof value !== 'string') {\n throw invalidPipeArgumentError(I18nSelectPipe, mapping);\n }\n\n if (mapping.hasOwnProperty(value)) {\n return mapping[value];\n }\n\n if (mapping.hasOwnProperty('other')) {\n return mapping['other'];\n }\n\n return '';\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Converts a value into its JSON-format representation. Useful for debugging.\n *\n * @usageNotes\n *\n * The following component uses a JSON pipe to convert an object\n * to JSON format, and displays the string in both formats for comparison.\n *\n * {@example common/pipes/ts/json_pipe.ts region='JsonPipe'}\n *\n * @publicApi\n */\n@Pipe({name: 'json', pure: false})\nexport class JsonPipe implements
PipeTransform {\n /**\n * @param value A value of any type to convert into a JSON-format string.\n */\n transform(value: any): string {\n return JSON.stringify(value, null, 2);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {KeyValueChangeRecord, KeyValueChanges, KeyValueDiffer, KeyValueDiffers, Pipe, PipeTransform} from '@angular/core';\n\nfunction makeKeyValuePair<K, V>(key: K, value: V): KeyValue<K, V> {\n return {key: key, value: value};\n}\n\n/**\n * A key value pair.\n * Usually used to represent the key value pairs from a Map or Object.\n *\n * @publicApi\n */\nexport interface KeyValue<K, V> {\n key: K;\n value: V;\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Transforms Object or Map into an array of key value pairs.\n *\n * The output array will be ordered by keys.\n
* By default the comparator will be by Unicode point value.\n * You can optionally pass a compareFn if your keys are complex types.\n *\n * @usageNotes\n * ### Examples\n *\n * This examples show how an Object or a Map can be iterated by ngFor with the use of this\n * keyvalue pipe.\n *\n * {@example common/pipes/ts/keyvalue_pipe.ts region='KeyValuePipe'}\n *\n * @publicApi\n */\n@Pipe({name: 'keyvalue', pure: false})\nexport class KeyValuePipe implements PipeTransform {\n constructor(private readonly differs: KeyValueDiffers) {}\n\n private differ!: KeyValueDiffer<any, any>;\n private keyValues: Array<KeyValue<any, any>> = [];\n\n /*\n * NOTE: when the `input` value is a simple Record<K, V> object, the keys are extracted with\n * Object.keys(). This means that even if the `input` type is Record<number, V> the keys are\n * compared/returned as `string`s.\n */\n transform<K, V>(\n input: ReadonlyMap<K, V>,\n compareFn?: (a: KeyValue<K, V>, b: KeyValue<K, V>) =>
number): Array<KeyValue<K, V>>;\n transform<K extends number, V>(\n input: Record<K, V>, compareFn?: (a: KeyValue<string, V>, b: KeyValue<string, V>) => number):\n Array<KeyValue<string, V>>;\n transform<K extends string, V>(\n input: Record<K, V>|ReadonlyMap<K, V>,\n compareFn?: (a: KeyValue<K, V>, b: KeyValue<K, V>) => number): Array<KeyValue<K, V>>;\n transform(\n input: null|undefined,\n compareFn?: (a: KeyValue<unknown, unknown>, b: KeyValue<unknown, unknown>) => number): null;\n transform<K, V>(\n input: ReadonlyMap<K, V>|null|undefined,\n compareFn?: (a: KeyValue<K, V>, b: KeyValue<K, V>) => number): Array<KeyValue<K, V>>|null;\n transform<K extends number, V>(\n input: Record<K, V>|null|undefined,\n compareFn?: (a: KeyValue<string, V>, b:

KeyValue<string, V>) => number):\n Array<KeyValue<string, V>>|null;\n transform<K extends string, V>(\n input: Record<K, V>|ReadonlyMap<K, V>|null|undefined,\n compareFn?:
(a: KeyValue<K, V>, b: KeyValue<K, V>) => number): Array<KeyValue<K, V>>|null;\n transform<K, V>(\n input: undefined|null|{[key: string]: V, [key: number]: V}|ReadonlyMap<K, V>,\n compareFn: (a: KeyValue<K, V>, b: KeyValue<K, V>) => number = defaultComparator):\n Array<KeyValue<K, V>>|null {\n if (!input || (!(input instanceof Map) && typeof input !== 'object')) {\n return null;\n }\n\n if (!this.differ) {\n // make a differ for whatever type we've been passed in\n this.differ = this.differs.find(input).create();\n }\n\n const differChanges: KeyValueChanges<K, V>|null = this.differ.diff(input as any);\n\n if (differChanges) {\n this.keyValues = [];\n differChanges.forEachItem((r: KeyValueChangeRecord<K, V>) => {\n this.keyValues.push(makeKeyValuePair(r.key, r.currentValue!));\n });\n this.keyValues.sort(compareFn);\n }\n return this.keyValues;\n }\n}\n\nexport function defaultComparator<K, V>(\n keyValueA:
KeyValue<K, V>, keyValueB: KeyValue<K, V>): number {\n const a = keyValueA.key;\n const b = keyValueB.key;\n // if same exit with 0;\n if (a === b) return 0;\n // make sure that undefined are at the end of the sort.\n if (a === undefined) return 1;\n if (b === undefined) return -1;\n // make sure that nulls are at the end of the sort.\n if (a === null) return 1;\n if (b === null) return -1;\n if (typeof a == 'string' && typeof b == 'string') {\n return a < b ? -1 : 1;\n }\n if (typeof a == 'number' && typeof b == 'number') {\n return a - b;\n }\n if (typeof a == 'boolean' && typeof b == 'boolean') {\n return a < b ? -1 : 1;\n }\n // `a` and `b` are of different types. Compare their string values.\n const aString = String(a);\n const bString = String(b);\n return aString == bString ? 0 : aString < bString ? -1 : 1;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DEFAULT_CURRENCY_CODE, Inject, LOCALE_ID, Pipe, PipeTransform} from '@angular/core';\nimport {formatCurrency, formatNumber, formatPercent} from '../i18n/format_number';\nimport {getCurrencySymbol} from '../i18n/locale_data_api';\n\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Transforms a number into a string,\n * formatted according to locale rules that determine group sizing and\n * separator, decimal-point character, and other locale-specific\n * configurations.\n *\n * If no parameters are specified, the function rounds off to the nearest value using this\n * [rounding method](https://en.wikibooks.org/wiki/Arithmetic/Rounding).\n * The behavior differs from that of the JavaScript ```Math.round()``` function.\n * In the following case for example, the pipe rounds down where\n * ```Math.round()``` rounds up:\n
*\n * ```html\n * -2.5 | number:'1.0-0'\n * > -3\n * Math.round(-2.5)\n * > -2\n * ```\n *\n * @see `formatNumber()`\n *\n * @usageNotes\n * The following code shows how the pipe transforms numbers\n * into text strings, according to various format specifications,\n * where the caller's default locale is `en-US`.\n *\n * ### Example\n *\n * <code-example path=\"common/pipes/ts/number_pipe.ts\" region='NumberPipe'></code-example>\n *\n * @publicApi\n */\n@Pipe({name: 'number'})\nexport class DecimalPipe implements PipeTransform {\n constructor(@Inject(LOCALE_ID) private _locale: string) {}\n\n /**\n * @param value The number to be formatted.\n * @param digitsInfo Decimal representation options, specified by a string\n * in the following format:<br>\n * <code>{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}</code>.\n * - `minIntegerDigits`: The minimum number of integer digits before the decimal point.\n * Default is `1`.\n * - `minFractionDigits`: The minimum
number of digits after the decimal point.\n * Default is `0`.\n * - `maxFractionDigits`: The maximum number of digits after the decimal point.\n * Default is `3`.\n * @param locale A locale code for the locale format rules to use.\n * When not supplied, uses the value of `LOCALE_ID`, which is `en-US` by default.\n * See [Setting your app locale](guide/i18n#setting-up-the-locale-of-your-app).\n */\n transform(value: number|string, digitsInfo?: string, locale?: string): string|null;\n transform(value: null|undefined, digitsInfo?: string, locale?: string): null;\n transform(value: number|string|null|undefined, digitsInfo?: string, locale?: string): string|null;\n transform(value: number|string|null|undefined, digitsInfo?: string, locale?: string): string\n |null {\n if (!isValue(value)) return

null;\n\n  locale = locale || this._locale;\n\n  try {\n  const num = strToNumber(value);\n  return formatNumber(num, locale, digitsInfo);\n  } catch (error)
 {\n  throw invalidPipeArgumentError(DecimalPipe, error.message);\n  }\n  }\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Transforms a number to a percentage\n * string, formatted according to locale rules that determine group sizing and\n * separator, decimal-point character, and other locale-specific\n * configurations.\n *\n * @see `formatPercent()`\n *\n * @usageNotes\n * The following code shows how the pipe transforms numbers\n * into text strings, according to various format specifications,\n * where the caller's default locale is `en-US`.\n *\n * <code-example path=\"common/pipes/ts/percent_pipe.ts\" region='PercentPipe'></code-example>\n *\n * @publicApi\n */\n@Pipe({name: 'percent'})\nexport class PercentPipe implements PipeTransform {\n constructor(@Inject(LOCALE_ID) private _locale: string) {}\n\n /**\n  *\n  * @param value The number to be formatted as a percentage.\n  * @param digitsInfo Decimal representation options, specified by a string\n
  * in the following format:<br>\n  * <code>{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}</code>.\n  *  - `minIntegerDigits`: The minimum number of integer digits before the decimal point.\n  * Default is `1`.\n  *  - `minFractionDigits`: The minimum number of digits after the decimal point.\n  * Default is `0`.\n  *  - `maxFractionDigits`: The maximum number of digits after the decimal point.\n  * Default is `0`.\n  * @param locale A locale code for the locale format rules to use.\n  * When not supplied, uses the value of `LOCALE_ID`, which is `en-US` by default.\n  * See [Setting your app locale](guide/i18n#setting-up-the-locale-of-your-app).\n  */\n transform(value: number|string, digitsInfo?: string, locale?: string): string|null;\n transform(value: null|undefined, digitsInfo?: string, locale?: string): null;\n transform(value: number|string|null|undefined, digitsInfo?: string, locale?: string): string|null;\n transform(value: number|string|null|undefined,
 digitsInfo?: string, locale?: string): string\n  |null {\n  if (!isValue(value)) return null;\n  locale = locale || this._locale;\n  try {\n  const num = strToNumber(value);\n  return formatPercent(num, locale, digitsInfo);\n } catch (error) {\n  throw invalidPipeArgumentError(PercentPipe, error.message);\n  }\n }\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Transforms a number to a currency string, formatted according to locale rules\n * that determine group sizing and separator, decimal-point character,\n * and other locale-specific configurations.\n *\n * {@a currency-code-deprecation}\n * <div class=\"alert is-helpful\">\n *\n * **Deprecation notice:**\n *\n * The default currency code is currently always `USD` but this is deprecated from v9.\n *\n * **In v11 the default currency code will be taken from the current locale identified by\n * the `LOCAL_ID` token. See the [i18n guide](guide/i18n#setting-up-the-locale-of-your-app) for\n
 * more information.**\n *\n * If you need the previous behavior then set it by creating a `DEFAULT_CURRENCY_CODE` provider in\n * your application `NgModule`:\n *\n * ```ts\n * {provide: DEFAULT_CURRENCY_CODE, useValue: 'USD'}\n * ```\n *\n * \n *\n * @see `getCurrencySymbol()`\n * @see `formatCurrency()`\n *\n * @usageNotes\n * The following code shows how the pipe transforms numbers\n * into text strings, according to various format specifications,\n * where the caller's default locale is `en-US`.\n *\n * <code-example path=\"common/pipes/ts/currency_pipe.ts\" region='CurrencyPipe'></code-example>\n *\n * @publicApi\n */\n@Pipe({name: 'currency'})\nexport class CurrencyPipe implements PipeTransform {\n constructor(\n  @Inject(LOCALE_ID) private _locale: string,\n  @Inject(DEFAULT_CURRENCY_CODE) private _defaultCurrencyCode: string = 'USD') {}\n\n /**\n  *\n  * @param value The number to be formatted as currency.\n  * @param currencyCode The [ISO 4217](https://en.wikipedia.org/wiki/ISO_4217)
 currency code,\n  * such as `USD` for the US dollar and `EUR` for the euro. The default currency code can be\n  * configured using the `DEFAULT_CURRENCY_CODE` injection token.\n  * @param display The format for the currency indicator. One of the following:\n  *  - `code`: Show the code (such as `USD`).\n  *  - `symbol`(default): Show the symbol (such as `$`).\n  *  - `symbol-narrow`: Use the narrow symbol for locales that have two symbols for their\n  * currency.\n  * For example, the Canadian dollar CAD has the symbol `CA$` and the symbol-narrow `$`. If the\n  * locale has no narrow symbol, uses the standard symbol for the locale.\n  *  - String: Use the given string value instead of a code or a symbol.\n  * For example, an empty string will suppress the currency &

symbol.\n * - Boolean (marked deprecated in v5): `true` for symbol and false for `code`.\n *\n * @param digitsInfo Decimal representation options, specified by a string\n
* in the following format:<br>\n * <code>{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}</code>.\n * - `minIntegerDigits`: The minimum number of integer digits before the decimal point.\n * Default is `1`.\n * - `minFractionDigits`: The minimum number of digits after the decimal point.\n * Default is `2`.\n * - `maxFractionDigits`: The maximum number of digits after the decimal point.\n * Default is `2`.\n * If not provided, the number will be formatted with the proper amount of digits,\n * depending on what the [ISO 4217](https://en.wikipedia.org/wiki/ISO_4217) specifies.\n * For example, the Canadian dollar has 2 digits, whereas the Chilean peso has none.\n * @param locale A locale code for the locale format rules to use.\n * When not supplied, uses the value of `LOCALE_ID`, which is `en-US` by default.\n * See [Setting your app locale](guide/i18n#setting-up-the-locale-of-your-app).\n */\n transform(\n value: number|string, currencyCode?:
string,\n display?: 'code'|'symbol'|'symbol-narrow'|string|boolean, digitsInfo?: string,\n locale?: string): string|null;\n transform(\n value: null|undefined, currencyCode?: string,\n display?: 'code'|'symbol'|'symbol-narrow'|string|boolean, digitsInfo?: string,\n locale?: string): null;\n transform(\n value: number|string|null|undefined, currencyCode?: string,\n display?: 'code'|'symbol'|'symbol-narrow'|string|boolean, digitsInfo?: string,\n locale?: string): string|null;\n transform(\n value: number|string|null|undefined, currencyCode?: string,\n display: 'code'|'symbol'|'symbol-narrow'|string|boolean = 'symbol', digitsInfo?: string,\n locale?: string): string|null {\n if (!isValue(value)) return null;\n\n locale = locale || this._locale;\n\n if (typeof display === 'boolean') {\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && <any>console && <any>console.warn) {\n console.warn(\n
`Warning: the currency pipe has been changed in Angular v5. The symbolDisplay option (third parameter) is now a string instead of a boolean. The accepted values are \"code\", \"symbol\" or \"symbol-narrow\".`);\n }\n display = display ? 'symbol' : 'code';\n }\n\n let currency: string = currencyCode || this._defaultCurrencyCode;\n if (display !== 'code') {\n if (display === 'symbol' || display === 'symbol-narrow') {\n currency = getCurrencySymbol(currency, display === 'symbol' ? 'wide' : 'narrow', locale);\n } else {\n currency = display;\n }\n }\n\n try {\n const num = strToNumber(value);\n return formatCurrency(num, locale, currency, currencyCode, digitsInfo);\n } catch (error) {\n throw invalidPipeArgumentError(CurrencyPipe, error.message);\n }\n }\n}\n\nfunction isValue(value: number|string|null|undefined): value is number|string {\n return !(value == null || value === '' || value !== value);\n}\n\n/**\n
* Transforms a string into a number (if needed).\n */\nfunction strToNumber(value: number|string): number {\n // Convert strings to numbers\n if (typeof value === 'string' && !isNaN(Number(value) - parseFloat(value))) {\n return Number(value);\n }\n if (typeof value !== 'number') {\n throw new Error(`${value} is not a number`);\n }\n return value;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Creates a new `Array` or `String` containing a subset (slice) of the elements.\n *\n * @usageNotes\n *\n * All behavior is based on the expected behavior of the JavaScript API `Array.prototype.slice()`\n * and `String.prototype.slice()`.\n
*\n * When operating on an `Array`, the returned `Array` is always a copy even when all\n * the elements are being returned.\n *\n * When operating on a blank value, the pipe returns the blank value.\n *\n * ### List Example\n *\n * This `ngFor` example:\n *\n * {@example common/pipes/ts/slice_pipe.ts region='SlicePipe_list'}\n *\n * produces the following:\n *\n * ```html\n * <li>b</li>\n * <li>c</li>\n * ```\n *\n * ### String Examples\n *\n * {@example common/pipes/ts/slice_pipe.ts region='SlicePipe_string'}\n *\n * @publicApi\n */\n@Pipe({name: 'slice', pure: false})\nexport class SlicePipe implements PipeTransform {\n /**\n * @param value a list or a string to be sliced.\n * @param start the starting index of the subset to return:\n * - **a positive integer**: return the item at `start` index and all items after\n * in the list or string expression.\n * - **a negative integer**: return

the item at `start` index from the end and all items after\n * in
the list or string expression.\n * - **if positive and greater than the size of the expression**: return an empty list or\n * string.\n * - **if negative and greater than the size of the expression**: return entire list or string.\n * @param end the ending index of the subset to return:\n * - **omitted**: return all items until the end.\n * - **if positive**: return all items before `end` index of the list or string.\n * - **if negative**: return all items before `end` index from the end of the list or string.\n */\n transform<T>(value: ReadonlyArray<T>, start: number, end?: number): Array<T>;\n transform(value: null|undefined, start: number, end?: number): null;\n transform<T>(value: ReadonlyArray<T>|null|undefined, start: number, end?: number): Array<T>|null;\n transform(value: string, start: number, end?: number): string;\n transform(value: string|null|undefined, start: number, end?: number): string|null;\n transform<T>(value: ReadonlyArray<T>|string|null|undefined,
start: number, end?: number):\n Array<T>|string|null {\n if (value == null) return null;\n\n if (!this.supports(value)) {\n throw invalidPipeArgumentError(SlicePipe, value);\n }\n\n return value.slice(start, end);\n }\n\n private supports(obj: any): boolean {\n return typeof obj === 'string' || Array.isArray(obj);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * This module provides a set of common Pipes.\n */\nimport {AsyncPipe} from './async_pipe';\nimport {LowerCasePipe, TitleCasePipe, UpperCasePipe} from './case_conversion_pipes';\nimport {DatePipe} from './date_pipe';\nimport {I18nPluralPipe} from './i18n_plural_pipe';\nimport {I18nSelectPipe} from './i18n_select_pipe';\nimport {JsonPipe} from './json_pipe';\nimport {KeyValue, KeyValuePipe}
from './keyvalue_pipe';\nimport {CurrencyPipe, DecimalPipe, PercentPipe} from './number_pipe';\nimport {SlicePipe} from './slice_pipe';\n\nexport {\n AsyncPipe,\n CurrencyPipe,\n DatePipe,\n DecimalPipe,\n I18nPluralPipe,\n I18nSelectPipe,\n JsonPipe,\n KeyValue,\n KeyValuePipe,\n LowerCasePipe,\n PercentPipe,\n SlicePipe,\n TitleCasePipe,\n UpperCasePipe,\n};\n\n\n/**\n * A collection of Angular pipes that are likely to be used in each and every application.\n */\nexport const COMMON_PIPES = [\n AsyncPipe,\n UpperCasePipe,\n LowerCasePipe,\n JsonPipe,\n SlicePipe,\n DecimalPipe,\n PercentPipe,\n TitleCasePipe,\n CurrencyPipe,\n DatePipe,\n I18nPluralPipe,\n I18nSelectPipe,\n KeyValuePipe,\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {NgModule} from '@angular/core';\nimport
{COMMON_DIRECTIVES} from './directives/index';\nimport {NgLocaleLocalization, NgLocalization} from './i18n/localization';\nimport {COMMON_PIPES} from './pipes/index';\n\n\n// Note: This does not contain the location providers,\n// as they need some platform specific implementations to work.\n/**\n * Exports all the basic Angular directives and pipes,\n * such as `NgIf`, `NgForOf`, `DecimalPipe`, and so on.\n * Re-exported by `BrowserModule`, which is included automatically in the root\n * `AppModule` when you create a new app with the CLI `new` command.\n *\n * * The `providers` options configure the NgModule's injector to provide\n * localization dependencies to members.\n * * The `exports` options make the declared directives and pipes available for import\n * by other NgModules.\n *\n * @publicApi\n */\n@NgModule({\n declarations: [COMMON_DIRECTIVES, COMMON_PIPES],\n exports: [COMMON_DIRECTIVES, COMMON_PIPES],\n providers: [\n {provide: NgLocalization, useClass: NgLocaleLocalization},\n ],\n})\nexport class CommonModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport const PLATFORM_BROWSER_ID = 'browser';\nexport const PLATFORM_SERVER_ID = 'server';\nexport const PLATFORM_WORKER_APP_ID = 'browserWorkerApp';\nexport const PLATFORM_WORKER_UI_ID = 'browserWorkerUi';\n\n/**\n * Returns whether a platform id represents a browser platform.\n * @publicApi\n */\nexport function isPlatformBrowser(platformId: Object): boolean {\n return platformId === PLATFORM_BROWSER_ID;\n}\n\n/**\n * Returns whether a platform id represents a server platform.\n *

@publicApi\n */\nexport function isPlatformServer(platformId: Object): boolean {\n return platformId === PLATFORM_SERVER_ID;\n}\n\n/**\n * Returns whether a platform id represents a web worker app platform.\n * @publicApi\n */\nexport function isPlatformWorkerApp(platformId: Object): boolean {\n return platformId === PLATFORM_WORKER_APP_ID;\n}\n\n/**\n * Returns whether a platform id represents a web worker UI platform.\n * @publicApi\n */\nexport function isPlatformWorkerUi(platformId: Object): boolean {\n return platformId === PLATFORM_WORKER_UI_ID;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ErrorHandler, defineInjectable, inject} from '@angular/core';\n\nimport {DOCUMENT} from './dom_tokens';\n\n\n\n/**\n * Defines a scroll position manager. Implemented by `BrowserViewportScroller`.\n *\n * @publicApi\n */\nexport abstract class ViewportScroller {\n // De-sugared tree-shakable injection\n // See #23917\n /** @nocollapse */\n static prov = defineInjectable({\n token: ViewportScroller,\n providedIn: 'root',\n factory: () => new BrowserViewportScroller(inject(DOCUMENT), window, inject(ErrorHandler))\n });\n\n /**\n * Configures the top offset used when scrolling to an anchor.\n * @param offset A position in screen coordinates (a tuple with x and y values)\n * or a function that returns the top offset position.\n *\n */\n abstract setOffset(offset: [number, number]|(() => [number, number])): void;\n\n /**\n * Retrieves the current scroll position.\n * @returns A position in screen coordinates (a tuple with x and y values).\n */\n abstract getScrollPosition(): [number, number];\n\n /**\n * Scrolls to a specified position.\n * @param position A position in screen coordinates (a tuple with x and y values).\n */\n abstract scrollToPosition(position: [number, number]): void;\n\n /**\n * Scrolls to an anchor element.\n * @param anchor The ID of the anchor element.\n */\n abstract scrollToAnchor(anchor: string): void;\n\n /**\n * Disables automatic scroll restoration provided by the browser.\n * See also [window.history.scrollRestoration\n * info](https://developers.google.com/web/updates/2015/09/history-api-scroll-restoration).\n */\n abstract setHistoryScrollRestoration(scrollRestoration: 'auto'|'manual'): void;\n}\n\n/**\n * Manages the scroll position for a browser window.\n */\nexport class BrowserViewportScroller implements ViewportScroller {\n private offset: () => [number, number] = () => [0, 0];\n\n constructor(private document: any, private window: any, private errorHandler: ErrorHandler) {}\n\n /**\n * Configures the top offset used when scrolling to an anchor.\n * @param offset A position in screen coordinates (a tuple with x and y values)\n * or a function that returns the top offset position.\n *\n */\n setOffset(offset: [number, number]|(() => [number, number])): void {\n if (Array.isArray(offset)) {\n this.offset = () => offset;\n } else {\n this.offset = offset;\n }\n }\n\n /**\n * Retrieves the current scroll position.\n * @returns The position in screen coordinates.\n */\n getScrollPosition(): [number, number] {\n if (this.supportsScrolling()) {\n return [this.window.pageXOffset, this.window.pageYOffset];\n } else {\n return [0, 0];\n }\n }\n\n /**\n * Sets the scroll position.\n * @param position The new position in screen coordinates.\n */\n scrollToPosition(position: [number, number]): void {\n if (this.supportsScrolling()) {\n this.window.scrollTo(position[0], position[1]);\n }\n }\n\n /**\n * Scrolls to an anchor element.\n * @param anchor The ID of the anchor element.\n */\n scrollToAnchor(anchor: string): void {\n if (this.supportsScrolling()) {\n const elSelected =\n this.document.getElementById(anchor) || this.document.getElementsByName(anchor)[0];\n if (elSelected) {\n this.scrollToElement(elSelected);\n }\n }\n }\n\n /**\n * Disables automatic scroll restoration provided by the browser.\n */\n setHistoryScrollRestoration(scrollRestoration: 'auto'|'manual'): void {\n if (this.supportScrollRestoration()) {\n const history = this.window.history;\n if (history && history.scrollRestoration) {\n history.scrollRestoration = scrollRestoration;\n }\n }\n }\n\n private

scrollToElement(el: any): void {\n const rect = el.getBoundingClientRect();\n const left = rect.left + this.window.pageXOffset;\n const top = rect.top + this.window.pageYOffset;\n const offset = this.offset();\n this.window.scrollTo(left
- offset[0], top - offset[1]);\n }\n\n /**\n * We only support scroll restoration when we can get a hold of window.\n * This means that we do not support this behavior when running in a web worker.\n *\n * Lifting this restriction right now would require more changes in the dom adapter.\n * Since webworkers aren't widely used, we will lift it once RouterScroller is\n * battle-tested.\n */\n private supportScrollRestoration(): boolean {\n try {\n if (!this.supportsScrolling()) {\n return false;\n }\n // The `scrollRestoration` property could be on the `history` instance or its prototype.\n const scrollRestorationDescriptor = getScrollRestorationProperty(this.window.history) ||\n getScrollRestorationProperty(Object.getPrototypeOf(this.window.history));\n // We can write to the `scrollRestoration` property if it is a writable data field or it has a\n // setter function.\n return !!scrollRestorationDescriptor
&&\n !!(scrollRestorationDescriptor.writable || scrollRestorationDescriptor.set);\n } catch {\n return false;\n }\n }\n\n private supportsScrolling(): boolean {\n try {\n return !!this.window && !!this.window.scrollTo && 'pageXOffset' in this.window;\n } catch {\n return false;\n }\n }\n}\n\nfunction getScrollRestorationProperty(obj: any): PropertyDescriptor|undefined {\n return Object.getOwnPropertyDescriptor(obj, 'scrollRestoration');\n}\n\n/**\n * Provides an empty implementation of the viewport scroller.\n */\nexport class NullViewportScroller implements ViewportScroller {\n /**\n * Empty implementation\n */\n setOffset(offset: [number, number]|(() => [number, number])): void {}\n\n /**\n * Empty implementation\n */\n getScrollPosition(): [number, number] {\n return [0, 0];\n }\n\n /**\n * Empty implementation\n */\n scrollToPosition(position: [number, number]): void {}\n\n /**\n * Empty implementation\n
*/\n scrollToAnchor(anchor: string): void {}\n\n /**\n * Empty implementation\n */\n setHistoryScrollRestoration(scrollRestoration: 'auto'|'manual'): void {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\nexport * from './private_export';\nexport * from './location/index';\nexport {formatDate} from './i18n/format_date';\nexport {formatCurrency, formatNumber, formatPercent} from './i18n/format_number';\nexport {NgLocaleLocalization, NgLocalization} from './i18n/localization';\nexport {registerLocaleData} from './i18n/locale_data';\nexport {Plural, NumberFormatStyle, FormStyle, Time, TranslationWidth, FormatWidth, NumberSymbol, WeekDay, getNumberOfCurrencyDigits, getCurrencySymbol, getLocaleDayPeriods, getLocaleDayNames,
getLocaleMonthNames, getLocaleId, getLocaleEraNames, getLocaleWeekEndRange, getLocaleFirstDayOfWeek, getLocaleDateFormat, getLocaleDateTimeFormat, getLocaleExtraDayPeriodRules, getLocaleExtraDayPeriods, getLocalePluralCase, getLocaleTimeFormat, getLocaleNumberSymbol, getLocaleNumberFormat, getLocaleCurrencyCode, getLocaleCurrencyName, getLocaleCurrencySymbol, getLocaleDirection} from './i18n/locale_data_api';\nexport {parseCookieValue as parseCookieValue} from './cookie';\nexport {CommonModule} from './common_module';\nexport {NgClass, NgForOf, NgForOfContext, NgIf, NgIfContext, NgPlural, NgPluralCase, NgStyle, NgSwitch, NgSwitchCase, NgSwitchDefault, NgTemplateOutlet, NgComponentOutlet} from './directives/index';\nexport {DOCUMENT} from './dom_tokens';\nexport {AsyncPipe, DatePipe, I18nPluralPipe, I18nSelectPipe, JsonPipe, LowerCasePipe, CurrencyPipe, DecimalPipe, PercentPipe, SlicePipe, UpperCasePipe, TitleCasePipe, KeyValuePipe, KeyValue} from './pipes/index';\nexport {PLATFORM_BROWSER_ID
as PLATFORM_BROWSER_ID, PLATFORM_SERVER_ID as PLATFORM_SERVER_ID, PLATFORM_WORKER_APP_ID as PLATFORM_WORKER_APP_ID, PLATFORM_WORKER_UI_ID as PLATFORM_WORKER_UI_ID, isPlatformBrowser, isPlatformServer, isPlatformWorkerApp, isPlatformWorkerUi} from './platform_id';\nexport {VERSION} from './version';\nexport {ViewportScroller,

NullViewportScroller as NullViewportScroller} from './viewport_scroller';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/common';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {COMMON_DIRECTIVES as angular_packages_common_common_e} from './src/directives/index';\nexport {createLocation as angular_packages_common_common_c} from './src/location/location';\nexport {provideLocationStrategy as angular_packages_common_common_d} from './src/location/location_strategy';\nexport {createBrowserPlatformLocation as angular_packages_common_common_b,useBrowserPlatformLocation as angular_packages_common_common_a} from './src/location/platform_location';\nexport {COMMON_PIPES as angular_packages_common_common_f} from './src/pipes/index';"],"names":["InjectionToken","Injectable","inject","Inject","Optional","EventEmitter","NumberFormatStyle","Plural","FormStyle","TranslationWidth","FormatWidth","NumberSymbol","WeekDay","findLocaleData","LocaleDataIndex","getLocaleCurrencyCode","getLocalePluralCase","LOCALE_ID","registerLocaleData","isListLikeIterable","stringify","Directive","IterableDiffers","KeyValueDiffers","ElementRef","Renderer2","Input","NgModuleRef","ComponentFactoryResolver","ViewContainerRef","TemplateRef","Host","Attribute","isPromise","isObservable","Pipe","ChangeDetectorRef","DEFAULT_CURRENCY_CODE","NgModule","Version","defineInjectable","ErrorHandler"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;IAQA,IAAI,IAAI,GAAe,EAAE,CAAC;aAEV,MAAM,CAAC,QAAQ,EAAE,IAAI;QACnC,IAAI,CAAC,QAAQ,CAAC,GAAG,IAAI,CAAC;IACxB,CAAC;aAEe

AC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC1E,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CA
AC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;aACzB;QACL,OAAO,CAAC,CAAC;IACb
,CAAC;aAEe,UAAU,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI;QACpD,IAAI,CAAC,GAAG,SA
AS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,MAAM,GAAG,IAAI,KAAK,IAAI,GAAG
,IAAI,GAAG,MAAM,CAAC,wBAAwB,CAAC,MAAM,EAAE,GAAG,CAAC,GAAG,IAAI,EAAE,CAAC,CAAC
;QAC7H,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,CAAC,G
AAG,OAAO,CAAC,QAAQ,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI,CAAC,CAAC;;YAC1H,K
AAK,IAAI,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE
;gBAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC;oBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,
GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,
EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,CAAC,KAAK,CAAC,CAAC;QAClJ,OAAO,C
AAC,GAAG,CAAC,IAAI,CAAC,IAAI,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC
,EAAE,CAAC,CAAC;IAClE,CAAC;aAEe,OAAO,CAAC,UAAU,EAAE,SAAS;QACzC,UAAU,CAAC,MAAM,GAAG
,EAAE,GAAG,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,
GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CA
AC;IACz

wBACjD,KAAK,CAAC;4BAAE,EAAE,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC;4BAAC,CAA
C,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;4BAAC,SAAS;wBACjD;4BACI,IAAI,EAAE,CAAC,GAAG,CAAC,
CAAC,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,MA
AM,GAAG,CAAC,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAAI,EAAE,CAAC,CAAC,
CAAC,KAAK,CAAC,CAAC,EAAE;gCAAE,CAAC,GAAG,CAAC,CAAC;gCAAC,SAAS;6BAAE;4BAC5G,IAA
I,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,GAAG,
CAAC,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CA
AC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4
BACtF,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAA
C,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,GAA
G,EAAE,CAAC;gCAAC,MAAM;6BAAE;4BACrE,IAAI,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAA
C,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAA
C,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACnE,IAAI,CAAC,CAA
C,CAAC,CAAC;gCAAE,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC;4BACtB,CAAC,CAAC,IAAI,CAAC
,GAAG,EAAE,CAAC;4BAAC,SAAS;qBAC9B;oBACD,EAAE,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,
CAAC,CAAC,CAAC;iBAC9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,EAAE,GAAG,CAAC,CAAC,EAAE,CAA
C,CAAC,CAAC;oBAAC,CAAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,C
AAC,CAAC;iBAAE;YAC1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,C
AAC,CAAC,CAAC;YAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CA
AC,CAAC,GAAG,KAAK,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;SACpF;IACL,CAAC;IAEM,IAAI,eAA
e,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,CAAC,EAAE,EAAE;QAC9D,IAAI,E
AAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,MAAM,CAAC,cAAc,CAAC,CAAC,CAAC,EAAE,EA
AE,EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,E
AAE,EAAE,CAAC,CAAC;IACzF,CAAC,CAAC,IAAI,CAAC,KAAK,UAAS,CAAC,EAAE,CAAC,CAAC,EAAE,EAAE;QAAE,
CtB,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,
AAC,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC;aAEa,YAAY,CAAC,CAAC,EAAE,OAAO;QAC
nC,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,EAAE,IAAI,CAAC,KAAK,SAAS,IAAI,CAAC,OAAO,CAAC,cAAc,CAAC
,CAAC,CAAC;gBAAE,eAAe,CAAC,OAAO,EAAE,CAAC,EAAE,CAAC,CAAC;IACvG,CAAC;aAEe,aAAa,CAAC,EAAE,EAAE,CAAC,EAAE,CAAC;QACpC,IAAI,CAAC,GAAG,EAAE,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE,
E,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC;QAAE,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC

AE,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,EAAE,EAAE,CAAC,EAAE;YAAE,CAAC,IAAI,SAAS,
CAAC,CAAC,CAAC,CAAC,MAAM,CAAC;QACpF,KAAK,IAAI,CAAC,GAAG,KAAK,CAAC,CAAC,CAAC,E
AAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,EAAE,EAAE,CAAC,EAAE;YAC
5C,KAAK,IAAI,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,EAAE,GAAG,C
AAC,CAAC,MAAM,EAAE,CAAC,GAAG,EAAE,EAAE,CAAC,EAAE,EAAE,CAAC,EAAE;gBAC7D,CAAC,C
AAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;QACpB,OAAO,CAAC,CAAC;IACb,CAAC;IAA
A,CAAC;aAEc,OAAO,CAAC,CAAC;QACrB,OAAO,IAAI,YAAY,OAAO,IAAI,IAAI,CAAC,CAAC,GAAG,CA
AC,EAAE,IAAI,IAAI,IAAI,OAAO,CAAC,CAAC,CAAC,CAAC;IACzE,CAAC;aAEe,gBAAgB,CAAC,OAAO,E
AAE,UAAU,EAAE,SAAS;QAC3D,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,CAAC,sCAA
sC,CAAC,CAAC;QACvF,IAAI,CAAC,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,C
AAC,EAAE,CAAC,EAAE,CAAC,GAAG,EAAE,CAAC;QAC9D,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAA
C,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,M
AAM,CAAC,aAAa,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QACtH,SAAS,IAAI,C
AAC,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC;YAAE,CAAC,GAAG,UAAU,CAAC,GAAG,CAAC,EAAE,CAAC,
IAAI,OAAO,IAAI,OAAO,CAAC,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,E
AAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAA
C,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE;QAC1I,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,I
AAI,IAAI;YAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;SAAE;QAC,
OAAO,CAAC,EAAE;YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,C
AAC,CAAC;SAAE,EAAE;QAClF,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,KAAK,YAAY,OAAO,GAAG,
OAAO,CAAC,OAAO,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,OAAO,EAAE,MA
AM,CAAC,GAAG,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CA
AC,EAAE;QACxH,SAAS,OAAO,CAAC,KAAK,IAAI,MAAM,CAAC,MAAM,EAAE,KAAK,CAAC,CAAC,EAA
E;QAClD,SAAS,MAAM,CAAC,KAAK,IAAI,MAAM,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,KA
AK,EAAE,EAAE,CAAC,CAAC,MAAM;YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CA
AC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;IACtF,CAAC;aAEgB,gBAAgB
B,CAAC,CAAC;QAC9B,IAAI,CAAC,EAAE,CAAC,CAAC;QACT,OAAO,IAAI,CAAC,GAAG,EAAE,EAAE,IAAI,CA
AC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,EAAE,UAAU,CAAC,IAAI,MAAM,CAAC,CAAC,CAAC,EAAE,CAAC,
EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAc,OAAO,IAA
I,CAAC,EAAE,EAAE,CAAC,CAAC;QAC5I,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,GAAG,UAAU,CAAC,GAAG,CAAC,EAAE,CAAC,
CAAC,IAAI,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,UAAU,CAAC,IAAI,MAAM,CAAC,CAAC,CAAC,EAAE,CAAC,
CAAC,IAAI,EAAE,KAAK,EAAE,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EA
AE,IAAI,EAAE,CAAC,KAAK,QAAQ,EAAE,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,GAAG,CAAC,
CAAC,EAAE,GAAG,CAAC,CAAC,EAAE;IACnJ,CAAC;aAEe,gBAAgB,CAAC,CAAC,EAAE,CAAC;QACnC,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,CAAC,sCAAsC,CAAC,CAAC;QACvF,IAAI,CAAC,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,GAAG,EAAE,CAAC;QAC9D,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QAC1G

AAM,CAAC,cAAc,EAAE;YAAE,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,KAAK,EAAE,EAAE,KAAK,EA
AE,GAAG,EAAE,CAAC,CAAC;SAAE;aAAM;YAAE,MAAM,CAAC,GAAG,GAAG,GAAG,CAAC;SAAE;QAC
/G,OAAO,MAAM,CAAC;IAClB,CAAC;IAAA,CAAC;IAEF,IAAI,kBAAkB,GAAG,MAAM,CAAC,MAAM,IAAI
,UAAS,CAAC,EAAE,CAAC;QACnD,MAAM,CAAC,cAAc,CAAC,CAAC,EAAE,SAAS,EAAE,EAAE,UAAU,E
AAE,IAAI,EAAE,KAAK,EAAE,CAAC,EAAE,CAAC,CAAC;IACxE,CAAC,IAAI,UAAS,CAAC,EAAE,CAAC;
QACd,CAAC,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC;IACrB,CAAC,CAAC;aAEc,YAAY,CAAC,GAAG;QA
C5B,IAAI,GAAG,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QACtC,IAAI,MAAM,GAAG,EAAE
,CAAC;QAChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,
cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,GAAG,EAAE,CAA
C,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;I
AClB,CAAC;aAEe,eAAe,CAAC,GAAG;QAC/B,OAAO,CAAC,GAAG,IAAI,GAAG,CAAC,UAAU,IAAI,GAAG,
GAAG,EAAE,OAAO,EAAE,GAAG,EAAE,CAAC;IAC5D,CAAC;aAEe,sBAAsB,CAAC,QAAQ,EAAE,UAAU;Q
ACvD,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,EAAE;YAC3B,MAAM,IAAI,SAAS,CAAC,gD
AAgD,CAAC,CAAC;SACzE;QACD,OAAO,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;IACpC,CAAC;a
AEe,sBAAsB,CAAC,QAAQ,EAAE,UAAU,EAAE,KAAK;QAC9D,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,Q
AAQ,CAAC,EAAE;YAC3B,MAAM,IAAI,SAAS,CAAC,gDAAgD,CAAC,CAAC;SACzE;QACD,UAAU,CAAC,
GAAG,CAAC,QAAQ,EAAE,KAAK,CAAC,CAAC;QAChC,OAAO,KAAK;IACd,CAAC;aAEe,cAAc,CAAC,QAAQ,
;;;

AAO,GAAG,CAAC;SACZ;QACD,IAAI,GAAG,CAAC,MAAM,IAAI,CAAC,EAAE;YACnB,OAAO,KAAK,CAAC;SACd;QACD,IAAI,OAAO,GAAG,CAAC,CAAC;QAChB,IAAI,KAAK,CAAC,QAAQ,CAAC,GAAG,CAAC,EAAE;YACvB,OAAO,EAAE,CAAC;SACX;QACD,IAAI,GAAG,CAAC,UAAU,CAAC,GAAG,CAAC,EAAE;YACvB,OAAO,EAAE,CAAC;SACX;QACD,IAAI,OAAO,IAAI,CAAC,EAAE;YAChB,OAAO,KAAK,GAAG,GAAG,CAAC,CAAC,GAAG,CAAC,EAAE;YACvB,OAAO,EAAE,CAAC;SACX;QACD,IAAI,OAAO,IAAI,CAAC,EAAE;YAChB,OAAO,KAAK,GAAG,GAAG,CAAC,CAAC,GAAG,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC;SACjC;QACD,IAAI,OAAO,IAAI,CAAC,EAAE;YAChB,OAAO,KAAK,GAAG,GAAG,CAAC,CAAC,GAAG,CAAC,EAAE;YACvB,OAAO,EAAE,CAAC;SACX

C,CAAC,CAAC;YACzF,IAAI,GAAG,CAAC,MAAM,IAAI,CAAC,EAAE;gBACnB,GAAG,GAAG,IAAI,CAAC,iBAAiB,CAAC,QAAQ,CAAC;aACvC;YACD,IAAI,CAAC,iBAAiB,CAAC,SAAS,CAAC,KAAK,EAAE,KAAK,EAAE,GAAG,CAAC,CAAC;SACrD;QAED,2CAAY,GAAZ,UAAa,KAAU,EAAE,IAAY,EAAE,KAAa,EAAE,IAAY,EAAE,WAAmB;YACvE,IAAI,GAAG,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,GAAG,CAAC,oBAAoB,CAAC,WAAW,CAAC,CAAC,CAAC;YAC5E,5CAAY,GAAZ,UAAa,KAAU,EAAE,IAAY,EAAE,KAAa,EAAE,IAAY,EAAE,WAAmB;YACvE,IAAI,GAAG,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,GAAG,CAAC,oBAAoB,CAAC,YAAY,CAAC,KAAK,EAAE,KAAK,EAAE,GAAG,CAAC,CAAC,CAAC;YAC7E,4CAAY,GAAZ,UAAa,KAAU,EAAE,IAAY,EAAE,KAAa,EAAE,IAAY,EAAE,WAAmB;YACvE,IAAI,GAAG,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,GAAG,CAAC,oBAAoB,CAAC,OAAO,CAAC,EAAE,CAAC,CAAC,CAAC;YAC5E,0CAAU,GAAV,UAAW,KAAU,EAAE,IAAY,EAAE,KAAa,EAAE,IAAY,EAAE,WAAmB;YACrE,IAAI,GAAG,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,GAAG,CAAC,oBAAoB,CAAC,SAAS,CAAC,KAAK,EAAE,KAAK,EAAE,GAAG,CAAC,CAAC,CAAC;YAC1

,MAAM,CAAC,GAAG,GAAG,CAAC;IACrF,CAAC;IAED,SAAS,eAAe,CAAC,GAAW;QAClC,OAAO,GAAG,CAAC,OAAO,CAAC,eAAe,EAAE,CAAC,CAAC;IAC1C;;IC3QA;;;;;;;;ICAA;;;;;;;IAaA;IACO,IAAM,aAAa,GACiE;QACrF,KAAK,EAAE,CAAC,SAAS,EAAE,SAAS,EAAE,CAAC,CAAC;QAChC

AAK,EAAE,CAAC,SAAS,EAAE,IAAI,EAAE,CAAC,CAAC;QAC3B,KAAK,EAAE,CAAC,KAAK,EAAE,GAAG,CAAC;QACnB,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,CAAC;QACxB,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,CAAC;QACvB,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,CAAC;QACvB,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,CAAC;QACxB,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,EAAE,CAAC,CAAC;QAC3B,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,CAAC;QACxB,KAAK,EAAE,CAAC,KAAK,EAAE,GAAG,CAAC;QACnB,KAAK,EAAE,CAAC,SAAS,EAAE,SAAS,EAAE,CAAC,CAAC;QAChC,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,EAAE,CAAC,CAAC;QAC3B,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,CAAC;QACxB,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,EAAE,CAAC,CAAC;QAC1B,KAAK,EAAE,CAAC,SAAS,EAAE,KAAK,CAAC;QACzB,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,CAAC;QACvB

CAAA;IACV,CAAC,EARWC,eAAO,KAAPA,eAAO,QAQlB;IAED;;;;;;;;;aASgB,WAAW,CAAC,MAAc;QACxC,OAAOC,kBAAe,CAAC,MAAM,CAAC,CAACC,mBAAgB,CAAC,QAAQ,CAAC,CAAC;IAC5D,CAAC;IAED;;;;;;;;;aAWgB,mBAAmB,CAC/B,MAAc,EAAE,SAAoB,EAAE,KAAuB;QAC/D,IAAM,IAAI,GAAGD,kBAAe,CAAC,MAAM,CAAC,CAACC,mBAAgB,CAAC,gBAAgB,CAAC,CAAC;IAC5E,CAAC;IAED;;;;;;;;;;;;aAYgB,iBAAiB,CAC7B,MAAc,EAAE,SAAoB,EAAE,KAAuB;QAC/D,IAAM,IAAI,GAAGD,kBAAe,CAAC,MAAM,CAAC,CAACC,mBAAgB,CAAC,QAAQ,CAAC,CAAC;QAChE,IAAM,IAAI,GAAGD,kBAAe,CAAC,MAAM,CAAC,CAACC,mBAAgB,CAAC,QAAQ,CAAC,CAAC;QAChE,IAAM,IAAI,GAAGD,kBAAe,CAAC,MAAM,CAAC,CAACC,mBAAgB,CAAC,QAAQ,CAAC,CAAC;IAChE

EAAE,CAAC;QACjG,OAAO,KAAK,CAAC,GAAG,CAAC,UAAC,IAA6B;YAC7C,IAAI,OAAO,IAAI,KAAK,QAAQ,EAAE;gBAC5B,OAAO,WAAW,CAAC,IAAI,CAAC,CAAC;aAC1B;YACD,OAAO,CAAC,WAAW,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,WAAW,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;SACrD,CAAC,CAAC;IACL,CAAC;IAED;;;;;;;;;;;;;;;aAiBgB,wBAAwB,CACpC,MAAc,EAAE,SAAoB,EAAE,KAAuB;QAC/D,IAAM,IAAI,GAAG,KAAK,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC;QAChC,IAAM,IAAI,GAAG,IAAI,CAAC,MAAM,CAAC;QACzB

AAO,aAAa,CAAC,QAAQ,CAAC,CAAC,MAAM,CAAC,CAAC;SACxC;QAED,IAAI,WAAW,GAAG,EAAE,CAAC;QACrB,QAAQ,MAAM;YACZ,KAAK,WAAW;gBACd,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEJ,mBAAW,CAAC,KAAK,CAAC,CAAC;gBAC7D,MAAM;YACR,KAAK,YAAY;gBACf,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEA,mBAAW,CAAC,KAAK,CAAC,CAAC;gBAC/D,MAAM;YACR,KAAK,UAAU;gBACb,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEA,mBAAW,CAAC,KAAK,CAAC,CAAC;gBAC/D,MAAM;YACR,KAAK,WAAW;gBACd,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEA,mBAAW,CAAC,IAAI,CAAC,CAAC;gBAC5D,MAAM;YACR,KAAK,OAAO;gBACV,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEA,mBAAW,CAAC,KAAK,CAAC,CAAC;gBAC7D,MAAM;YACR,KAAK,WAAW;gBACd,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEA,mBAAW,CAAC,KAAK,CAAC,CAAC;gBAC/D,MAAM;YACR,KAAK,UAAU;gBACb,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEA,mBAAW,CAAC,IAAI,CAAC,CAAC;gBAC5D,MAAM;YACR,KAAK,OAAO;gBACV,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEA,mBAAW,CAAC,KAAK,CAAC,CAAC;gBAC7D,MAAM;YACR,KAAK,WAAW;gBACd,WAAW,GAAG,mBAAmB,CAAC,MAAM,EAAEA,mBAAW,CAAC,IAAI,CAAC,CAAC;gBAC5

W,CAAC,IAAc,EAAE,IAAU;QAC7C,QAAQ,IAAI;YACV,KAAK,QAAQ,CAAC,QAAQ;gBACpB,OAAO,IAAI,CAAC,WAAW,EAAE,CAAC;YAC5B,KAAK,QAAQ,CAAC,KAAK;gBACjB,OAAO,IAAI,CAAC,QAAQ,EAAE,CAAC;YACzB,KAAK,QAAQ,CAAC,IAAI;gBAChB,OAAO,IAAI,CAAC,OAAO,EAAE,CAAC;YACxB,KAAK,QAAQ,CAAC,KAAK;gBACjB,OAAO,IAAI,CAAC,QAAQ,EAAE,CAAC;YACzB,KAAK,QAAQ,CAAC,OAAO;gBACnB,OAAO,IAAI,CAAC,UAAU,EAAE,CAAC;YAC3B,KAAK,QAAQ,CAAC,OAAO;gBACnB,OAAO,IAAI,CAAC,UAAU,EAAE,CAAC;YAC3B,KAAK,QAAQ,CAAC,iBAAiB;gBAC7B,OAAO,IAAI,CAAC,eAAe,EAAE,CAAC;YAChC,KAAK,QAAQ,CAAC,GAAG;gBACf,OAAO,IAAI,CAAC,MAAM,EAAE,CAAC;YACvB,KAAK,QAAQ,CAAC,8BAA2B,IAAI,QAAQ,IAAI,CAAC,CAAC;SAC5D,IAAI,CAAC,EAAE,CAAC;;;IAGT,aAAa,SAAS,aAAa,CAAC,QAAQ,EAAE,QAAQ,EAAE,QAAQ,EAAE

EAAE,SAAS,CAAC,CAAC;qBAClD;gBACH;oBACE,MAAM,IAAI,KAAK,CAAC,0BAAuB,KAAK,OAAG,CA
AC,CAAC;aACpD;SACF,CAAC;IACJ,CAAC;IAED,IAAM,OAAO,GAAG,CAAC,CAAC;IAClB,IAAM,QAAQ,
GAAG,CAAC,CAAC;IACnB,SAAS,sBAAsB,CAAC,IAAY;QAC1C,IAAM,cAAc,GAAG,CAAC,IAAI,IAAI,CA
AC,IAAI,EAAE,OAAO,EAAE,CAAC,CAAC,EAAE,MAAM,EAAE,CAAC;QAC7D,OAAO,IAAI,IAAI,CACX,I
AAI,EAAE,CAAC,EAAE,CAAC,IAAI,CAAC,cAAc,IAAI,QAAQ,IAAI,QAAQ,GAAG,QAAQ,GAAG,CAAC,CA
AC,GAAG,cAAc,CAAC,CAAC;IAC9F,CAAC,IAAI,CAAC,IAAI,EAAE,SAAS,mBAAmB,CAAC,QAAc;QACzC,OAAO,IAAI,IAAI
,CACX,QAAQ,CAAC,WAAW,EAAE,EAAE,QAAQ,CAAC,QAAQ,EAAE,EAC3C,QAAQ,CAAC,OAAO,EAAE,
IAAI,QAAQ,GAAG,QAAQ,CAAC,MAAM,EAAE,CAAC,CAAC,CAAC;IAC3D,CAAC;IAED,SAAS,UAAU,CAAC,
IAAY,EAAE,UAAkB;QACrC,IAAM,2BAAA,QAAA,EAAA,OAAO,UAAS,IAAI,EAAE,MAAc;YAAd,IAAA,WAAA,KAAA,GAAA,SAAA,CAAA,CAAA,GAAA,MAAM,GAAA,CAAA,CAAA,GAAA,CAAA,CAAA,C

AgB,CAAC,IAAI,EAAED,iBAAS,CAAC,UAAU,CAAC,CAAC;gBACvF,MAAM;YACR,KAAK,OAAO;gBACV
,SAAS;oBACL,aAAa,CAAC,eAAe,CAAC,MAAM,EAAEC,wBAAgB,CAAC,MAAM,EAAED,iBAAS,CAAC,U
AAU,CAAC,CAAC;gBACzF,MAAM;;YAGR,KAAK,GAAG;gBACN,SAAS,GAAG,UAAU,CAAC,CAAC,CAA
C,CAAC;gBAC1B,MAAM;YACR,KAAK,IAAI;gBACP,SAAS,GAAG,UAAU,CAAC,CAAC,CAAC,CAAC;gBA
C1B,MAAM;;YAGR,KAAK,GAAG;gBACN,SAAS,GAAG,UAAU,CAAC,CAAC,EAAE,IAAI,CAAC,CAAC;gB
AChC,MAAM;;YAGR,KAAK,GAAG;gBACN,SAAS,GAAG,UAAU,CAAC,QAAQ,CAAC,IAAI,EAAE,CAAC,C
AAC,CAAC;gBACzC,MAAM;YACR,KAAK,IAAI;gBACP,SAAS,GAAG,UAAU,CAAC,QAAQ,CAAC,IAAI,EA
AE,CAAC,CAAC,CAAC;gBACzC,MAAM;;YAGR,KAAK,GAAG,CAAC;YACT,KAAK,IAAI,CAAC;YACV,K
AAK,KAAK;gBACR,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,IAAI,EAAEC,wBAAgB,CAAC,WAAW,CAAC,C
AAC;gBAC9E,MAAM;YACR,KAAK,MAAM;gBACT,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,IAAI,EAAEA,,
wBAAgB,CAAC,IAAI,CAAC,CAAC;gBACvE,MAAM;YACR,KAAK,OAAO;gBACV,SAAS,GAAG,aAAa,CAAC
,eAAe,CAAC,IAAI,EAAEA,,wBAAgB,CAAC,MAAM,CAAC,CAAC;gBACzE,MAAM;YACR,KAAK,QAAQ;gB
ACX,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,IAAI,EAAEA,,wBAAgB,CAAC,KAAK,CAAC,CAAC;gBACxE,
MAAM;;YAGR,KAAK,GAAG,CAAC;YACT,KAAK,IAAI,CAAC;YACV,KAAK,KAAK;gBACR,SAAS,GAAG,
aAAa,CAAC,eAAe,CAAC,UAAU,EAAEA,,wBAAgB,CAAC,WAAW,CAAC,CAAC;gBACpF,MAAM;YACR,KAAK,MAAM;gBACT,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAEA,,wBAAgB,CAAC,IAAI,CAAC,CA
AC;gBAC7E,MAAM;YACR,KAAK,OAAO;gBACV,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAEA,,w
BAAgB,CAAC,MAAM,CAAC,CAAC;gBAC/E,MAAM;;YAGR,KAAK,GAAG,CAAC;YACT,KAAK,IAAI,CAAC;YACV,KAAK,KAAK;gBACR,SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAEA,,wBAAgB,CAAC,W
AAW,EAAED,iBAAS,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;gBAC1F,MAAM;YACR,KAAK,MAAM;gBACT,SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAEC,wBAAgB,CAAC,IAAI,EAAED,iBAAS,CAAC,UAA
U,EAAE,IAAI,CAAC,CAAC;gBACnF,MAAM;YACR,KAAK,OAAO;gBACV,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;gBACnE,MAAM;;YAGR,KAAK,GAAG,CAAC;YACT,KAAK,IAAI,CAAC;YACV,KAAK,KAAK;gBACR,SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;gBACtC,MAAM;YACR,KAAK,MAAM;gBACT,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;gBAC5D,MAAM;YACR,KAAK,OAAO;gBACV,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;gBACnE,MAAM;;YAGR,KAAK,GAAG,CAAC;YACT,KAAK,IAAI,CAAC;YACV,KAAK,KAAK;gBACR,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;gBAC5D

AAC,CAAC;gBAC3C,MAAM;YACR;gBACE,OAAO,IAAI,CAAC;SACf;QACD,YAAY,CAAC,MAAM,CAAC,GAAG,SAAS,CAAC;QACjC,OAAO,SAAS,CAAC;IACnB,CAAC;IAED,SAAS,gBAAgB,CAAC,QAAgB,EAAE,QAAgB;;;QAG1D,QAAQ,GAAG,QAAQ,CAAC,OAAO,CAAC,IAAI,EAAE,EAAE,CAAC,CAAC;QACtC,IAAM ,uBAAuB,GAAG,IAAI,CAAC,KAAK,CAAC,wBAAwB,GAAG,QAAQ,CAAC,GAAG,KAAK,CAAC;QACxF,OAAO,KAAK,CAAC,uBAAuB,CAAC,GAAG,QAAQ,GAAG,uBAAuB,CAAC;IAC7E,CAAC;IAED,SAAS,cAAc,CAAC,IAAI,EAAE,IAAI;QAChC,IAAI,CAAC,IAAI,IAAI,CAAC,IAAI,IAAI,CAAC,IAAI,IAAI,CAAC,IAAI,IAAI,CAAC,OAAO,EAAE,CAAC,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI

C,KAAK,CAAC,CAAC;YAEtC,IAAI,SAAS,EAAE;gBACb,YAAY,GAAG,SAAS,CAAC,YAAY,CAAC,CAAC;aACxC;YAED,IAAI,MAAM,GAAG,OAAO,CAAC,MAAM,CAAC;YAC5B,IAAI,WAAW,GAAG,OAAO,CAAC,OAAO,CAAC;YAClC,IAAI,WAAW,GAAG,OAAO,CAAC,OAAO,CAAC;YAElC,IAAI,UAAU,EAAE;gBACd,IAAM,KAAK,GAAG,UAAU,CAAC,KAAK,CAAC,oBAAoB,CAAC,CAAC;gBACrD,IAAI,KAAK,KAAK,IAAI,EAAE;oBAClB,MAAM,IAAI,KAAK,CAAC,+BAA+B,CAAC,CAAC;iBAClD;gBACD,IAAM,KAAK,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;gBAClC

L,yBAAiB,CAAC,OAAO,CAAC,CAAC;QACxE,IAAM,OAAO,GAAG,iBAAiB,CAAC,MAAM,EAAE,qBAAqB,CAAC,MAAM,EAAEK,oBAAY,CAAC,SAAS,CAAC,CAAC,CAAC;QACjG,OAAO,0BAA0B,CAC7B,KAAK,EAAE,OAAO,EAAE,MAAM,EAAEA,oBAAY,CAAC,KAAK,EAAEA,oBAAY,CAAC,OAAO,EAAE,UAAU,CAAC,CAAC;IACpF,CAAC;IAED,SAAS,iBAAiB,CACtB,KAAK,EAAE,MAAM,EAAE,MAAM,EAAE,MAAM

AAC,CAAC;YACb,UAAU,GAAG,CAAC,CAAC;SAChB;aAAM;;YAEL,KAAK,EAAE,CAAC;YACR,OAAO,MAAM,CAAC,MAAM,CAAC,KAAK,CAAC,KAAK,SAAS;gBAAE,KAAK,EAAE,CAAC;;YAGnD,UAAU,IAAI,CAAC,CAAC;YAChB,MAAM,GAAG,EAAE,CAAC;;YAEZ,KAAK,CAAC,GAAG,CAAC,EAAE,CAAC,IAAI,KAAK,EAAE,CAAC,EAAE,EAAE,CAAC,EAAE,EAAE;gBAChC,MAAM,CAAC,CAAC,CAAC,CAAC,GAAG,MAAM,CAAC,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;aACtC;SACF;;QAGD,IAAI,UAAU,GAAG,UAAU,EAAE;YAC3B,MAAM,GAAG,MAAM,CAAC,CAAC,CAAC,CAAC

M;gBACZ,KAAKJ,cAAM,CAAC,IAAI;oBACd,OAAO,MAAM,CAAC;gBAChB,KAAKA,cAAM,CAAC,GAAG;oBACb,OAAO,KAAK,CAAC;gBACf,KAAKA,cAAM,CAAC,GAAG;oBACb,OAAO,KAAK,CAAC;gBACf,KAAKA,cAAM,CAAC,GAAG;oBACb,OAAO,KAAK,CAAC;gBACf,KAAKA,cAAM,CAAC,IAAI;oBACd,OAAO,MAAM,CAAC;gBAChB;oBACE,OAAO,OAAO,CAAC;aAClB;SACF;;KAtBH,CAA0C,cAAc;;gBADvDn,DN,aAAU;;;6CAEIE,IE,SAAM,SAAcc,C,YAAS,S;;;ICtD/B;;;;;;;IAUA;;;;;;;;aAQgB,kBAAkB,CAAC,IAAS,EAAE,QAAqB,EAAE,SAAe;QAClF,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC;QACjB,IAAI,CAAC,QAAQ,GAAG,QAAQ,CAAC;QACzB,IAAI,CAAC,SAAS,GAAG,SAAS,CAAC;IAC7B,CAAC;IAED;;;;;;;;

AO,CAAC,UAAA,KAAK,IAAI,OAAA,KAAI,CAAC,YAAY,CAAC,KAAK,EAAE,CAAC,CAAC,WAAW,CAA
C,KAAK,CAAC,CAAC,GAAA,CAAC,CAAC;iBAC3F;aACF;SACF;;;;;QAMO,gCAAc,GAAd,UAAe,WAAkC;Y
AAjD,iBAQP;YAPC,IAAI,WAAW,EAAE;gBACf,IAAI,KAAK,CAAC,OAAO,CAAC,WAAW,CAAC,IAAI,WA
AW,YAAY,GAAG,EAAE;oBACtD,WAAY,CAAC,OAAO,CAAC,UAAC,KAAa,IAAK,OAAA,KAAI,CAAC,YA
AY,CAAC,KAAK,EAAE,KAAK,CAAC,GAAA,CAAC,CAAC;iBAChF;qBAAM;oBACL,MAAM,CAAC,IAAI,C
AAC,WAAW,CAAC,CAAC,OAAO,CAAC,UAAA,KAAK,IAAI,OAAA,KAAI,CAAC,YAAY,CAAC,KAAK,EA
AE,KAAK,CAAC,GAAA,CAAC,CAAC;iBAC5E;aACF;SACF;QAEO,8BAAY,GAAZ,UAAa,KAAa,EAAE,OAA
gB;YAA5C,iBAWP;YAVC,KAAK,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,CAAC;YACrB,IAAI,KAAK,EAAE;gBAC
T,KAAK,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC,OAAO,CAAC,UAAA,KAAK;oBAC/B,IAAI,OAAO,EAA
E;wBACX,KAAI,CAAC,SAAS,CAAC,QAAQ,CAAC,KAAI,CAAC,KAAK,CAAC,aAAa,EAAE,KAAK,CAAC,C
AAC;qBAC1D;yBAAM;wBACL,KAAI,CAAC,SAAS,CAAC,WAAW,CAAC,KAAI,CAAC,KAAK,CAAC,aAAa,
EAAE,KAAK,CAAC,CAAC;qBAC7D;iBACF,CAAC,CAAC;aACJ;SACF;;;;gBAvHFC,YAAS,SAAC,EAAC,QA
AQ,EAAE,WAAW,EAAC;;;gBAhC8CC,kBAAe;gBAAmCC,kBAAe;gBAArHC,aAAU;gBA6GzJC,YAAS;;;wBA
4CzJC,QAAK,SAAC,OAAO;0BAQbA,QAAK,SAAC,SAAS;;;IC3DlB;;;;;;;IAWA;;;;;;;

CAAC,QAAQ,CAAC;gBAC5B,IAAI,CAAC,IAAI,CAAC,OAAO,IAAI,KAAK,EAAE;oBAC1B,IAAI;wBACF,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,MAAM,CAAC,IAAI,CAAC,YAAY,CAAC,CAAC;qBACpE;oBAAC,WAAM;wBACN,MAAM,IAAI,KAAK,CAAC,6CAA2C,KAAK,mBAC5D,WAAW,CAAC,KAAK,CAAC,gEAA6D,CAAC,CAAC;qBACtF;iBACF;aACF;YACD,IAAI,IAAI,CAAC,OAAO,EAAE;gBAChB,IAAM,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;gBACtD,IAAI,OAAO;oBAAE,IAAI,CAAC,aAAa,CAAC,OAAO,CAAC,CAAC;aAC1C;SACF;QAEO,+BAAa,GAAb,UAAc,OAA2B;YAAzC,iBAyCC;YAxCC,IAAM,IAAI,GAAG,IAAI,CAAC,YAAY,CAAC;YAC/B

;oBACtB,IAAI,CAAC,cAAc,CAAC,KAAK,EAAE,CAAC;oBAC5B,IAAI,CAAC,YAAY,GAAG,IAAI,CAAC;oBACzB,IAAI,IAAI,CAAC,gBAAgB,EAAE;wBACzB,IAAI,CAAC,YAAY;4BACb,IAAI,CAAC,cAAc,CAAC,kBAAkB,CAAC,IAAI,CAAC,gBAAgB,EAAE,IAAI,CAAC,QAAQ,CAAC,CAAC;qBAClF;iBACF;aACF;SACF;;;;;;;QAqBM,2BAAsB,GAA7B,UAAiC,OAAO,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,EAAE;;;gBAAvE;;;;;;;

I,CAAC,aAAa,CAAC,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,CAAC,CAAC;SAC1C;QAEO,8BAAW,GAAX;YACN,IAAI,IAAI,CAAC,WAAW;gBAAE,IAAI,CAAC,WAAW,CAAC,OAAO,EAAE,CAAC;SAClD;QAEO,gCAAa,GAAb,UAAc,IAAgB;YACpC,IAAI,IAAI,EAAE;gBACR,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC;gBACxB,IAAI,CAAC,WAAW,CAAC,MAAM,EAAE,CAAC;aAC3B;SACF;;;;gBArCFV,YAAS,SAAC,EAAE,QAAQ,EAAE,MAAM,EAAE;;;;

AI,CAAC,QAAS,CAAC,OAAQ,CAAC,QAAQ,CAAC,GAAS,IAAI,CAAC,uBAAwB,CAAC,QAAQ,CAAC,CAAC;iBACzF;;;;;;;;;SACF;;;;gBAvEFL,YAAS,SAAC,EAAC,QAAQ,EAAE,oBAAoB,EAAC;;;gBA1BqDQ,mBAAgB;;;0CAoC7GH,QAAK;mCAKLA,QAAK;;;ICjDR;;;;;;;IAoCA;;;;QAIa,iBAAiB,GAAe;QAC3C,OAAO;QACP,iBAAiB;QACjB,OAAO;QACP,IAAI;QACJ,gBAAgB;QAChB,OAAO;QACP,QAAQ;QACR,YAAY;QACZ,eAAe;QACf,QAAQ;QACR,YAAY;;;ICnDd;;;;;;;aUgB,wBAAwB,CAAC,IAAe,EAAE,KAAa;QCrE,OAAO,KAAK,CAAC,2BAAyB,KAAK,OAAO,KAAK,CAAC,MAAG,CAAC,CAAC,CAAC

,4BAAS,GAAT,UACI,KAAwC,EAAE,MAAqB,EAAE,QAAiB,EAClF,MAAe;YAD2B,uBAAA,EAAA,qBAAqB;YAEjE,IAAI,KAAK,IAAI,IAAI,IAAI,KAAK,KAAK,EAAE,IAAI,KAAK,KAAK,KAAK;gBAAE,OAAO,IAAI,CAAC;YAElE,IAAI;gBACF,OAAO,UAAU,CAAC,KAAK,EAAE,MAAM,EAAE,MAAM,IAAI,IAAI,CAAC,MAAM,EAAE,QAAQ,CAAC,CAAC;aACnE;YAAC,OAAO,KAAK,EAAE;gBACd,MAAM,wBAAwB,CAAC,QAAQ,EAAE,KAAK,CAAC,OAAO,CAAC,CAAC;aACzD;SACF;;;;gBAAjCFA,OAAI,SAAC,EAAC,IAAI,EAAE,MAAM,,EAAE,IAAI,EAAE,MAAM,,EAAE,IAAI,EAAE,IAAI,EAAC;;;6CAEjBhC,SAAM,SAAC,c,YAAS;;;;

C,OAAO,CAAC;YAEhC,IAAI;gBACF,IAAM,GAAG,GAAG,WAAW,CAAC,KAAK,CAAC,CAAC;gBAC/B,OAAO,YAAY,CAAC,GAAG,EAAE,MAAM,EAAE,UAAU,CAAC,CAAC;aAC9C;YAAC,OAAO,KAAK,EAAE;gBACd,MAAM,wBAAwB,CAAC,WAAW,EAAE,KAAK,CAAC,OAAO,CAAC,CAAC;aAC5D;SACF;;;;gBAlCFY,OAAI,SAAC,EAAC,QAAQ,EAAE,EAAC,EAAC,QAAQ,EAAE,EAAC,EAAC,QAAQ,EAAE,E

AE,MAAM;QAClB,OAAO,EAAE,cAAM,OAAA,IAAI,uBAAuB,CAACtC,WAAQ,CAAC,QAAQ,CAAC,EAAE,MAAM,EAAEA,WAAQ,CAACuC,eAAY,CAAC,CAAC,GAAA;KAC/F,CAAC,CAAC;IAoCL;;;IAGA;QAGE,iCAAoB,QAAAa,EAAAU,MAAAW,EAAAU,YA0B;YAAtE,aAAQ,GAAR,QAAQ,CAAK,CAAK;SAAwD;;;

rtsWith","go","splice","locationState","replaceState","history","forward","back","onUrlChange","fn","_this","_urlChangeSubscription","subscribe","v","_notifyUrlChangeListeners","forEach","onNext","onThrow","onReturn","next","error","complete","normalize","decorators","Injectable","extendStatics","d","b","Object","setPrototypeOf","__proto__","Array","p","hasOwnProperty","MockLocationStrategy","_super","call","internalBaseHref","internalPath","internalTitle","stateChanges","__extends","__","constructor","create","simulatePopState","_MockPopStateEvent","includeHash","internal","pushState","ctx","title","externalUrl","onPopState","getBaseHref","LocationStrategy","ctorParameters","newUrl","urlParse","MOCK_PLATFORM_LOCATION_CONFIG","InjectionToken","MockPlatformLocation","config","baseHref","hashUpdate","Subject","hostname","protocol","port","search","hash","appBaseHref","parsedChanges","parseChanges","startUrl","assign","defineProperty","get","enumerable","configurable","getBaseHrefFromDOM","onHashChange","JSON","parse","stringify","parseUrl","urlStr","serverBase","parsedUrl","test","URL","e","result","exec","Error","hostSplit","split","indexOf","_a","parsedState","unshift","oldUrl","oldHash","shift","scheduleMicroTask","cb","Promise","resolve","then","undefined","Inject","args","Optional","value"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GACI,iBAAZC,SAAAA,EAAAC,QAAAF,EAAAC,QAAAA,QAAAA,Q

ARJ,IAAkBA,EAAM,IAC5Bd,KAAKW,oBAAoBqC,SAAQ,SAAUN,GAAM,OAAOA,EAAG5B,EAAKI,OAEpE
jB,EAAYW,UAAUiC,UAAY,SAAUI,EAAQC,EAASC,GACzD,OAAOnD,KAAKM,SASuC,UAAU,CAAEO,K
AAMH,EAAQI,MAAOH,EAASI,SAAUH,KAE7ElD,EAAYW,UAAU2C,UAAY,SAAUzC,GACxC,OAAO,MAEJ
b,EAhHqB,GAkHhCA,EAAYuD,WAAa,CACrB,CAAE3B,KAAM/B,EAAIrD,EAAIqF,EAAIpF,GAAIqF,EAAIpF,GAAIqF,EAAIpF,G

F,UAAW,OAAQ,CAC1DkG,IAAK,WAGD,OAFU9G,KAAKoG,SAAW,KAAOpG,KAAKmG,UAAYnG,KAAKqG,KAAO,IAAMrG,KAAKqG,KAAO,KACjD,MAAlBrG,KAAK0B,SAAmB,GAAK1B,KAAK0B,UAAY1B,KAAKsG,OAAStG,KAAKuG,MAGlFQ,YAAY,EACZC,cAAc,IAAElBnD,OAAOgD,eAAef,EAAqBlF,UAAW,MAAO,CACzDkG,IAAK,WACD,MAAO,GAAK9G,KAAK9C,KAAK9C,KAAK0B,SAAW,IAAMkB,KAAK9C,KAAK0B,UAAY,IAAMoB,KAAK9C,KAAK0B,UAAY,IAAMoB,KAAK9C,KAAK0B,UAAY,IAAMo

(url) {\n this._history[this._historyIndex].path = url;\n };\n SpyLocation.prototype.setBaseHref = function
(url) {\n this._baseHref = url;\n };\n SpyLocation.prototype.path = function () {\n return this._history[this._historyIndex].path;\n };\n SpyLocation.prototype.getState = function () {\n return this._history[this._historyIndex].state;\n };\n SpyLocation.prototype.isCurrentPathEqualTo = function (path, query) {\n if (query === void 0) { query = ''; }\n var givenPath = path.endsWith('/') ? path.substring(0, path.length - 1) : path;\n var currPath = this.path().endsWith('/') ? this.path().substring(0, this.path().length - 1) : this.path();\n return currPath == givenPath + (query.length > 0 ? ('?' + query) : '');\n };\n SpyLocation.prototype.simulateUrlPop = function (pathname) {\n this._subject.emit({ 'url': pathname, 'pop': true, 'type': 'popstate' });\n };\n SpyLocation.prototype.simulateHashChange = function (pathname) {\n
// Because we don't prevent the native event, the browser will independently update the path\n this.setInitialPath(pathname);\n this.urlChanges.push('hash: ' + pathname);\n this._subject.emit({ 'url': pathname, 'pop': true, 'type': 'hashchange' });\n };\n SpyLocation.prototype.prepareExternalUrl = function (url) {\n if (url.length > 0 && !url.startsWith('/')) {\n url = '/' + url;\n }\n return this._baseHref + url;\n };\n SpyLocation.prototype.go = function (path, query, state) {\n if (query === void 0) { query = ''; }\n if (state === void 0) { state = null; }\n path = this.prepareExternalUrl(path);\n if (this._historyIndex > 0) {\n this._history.splice(this._historyIndex + 1);\n }\n this._history.push(new LocationState(path, query, state));\n this._historyIndex = this._history.length - 1;\n var locationState = this._history[this._historyIndex - 1];\n if (locationState.path == path && locationState.query == query) {\n return;\n }\n var url = path + (query.length > 0 ? ('?' + query) : '');\n this.urlChanges.push(url);\n this._subject.emit({ 'url': url, 'pop': false });\n };\n SpyLocation.prototype.replaceState = function (path, query, state) {\n if (query === void 0) { query = ''; }\n if (state === void 0) { state = null; }\n path = this.prepareExternalUrl(path);\n var history = this._history[this._historyIndex];\n if (history.path == path && history.query == query) {\n return;\n }\n history.path = path;\n history.query = query;\n history.state = state;\n var url = path + (query.length > 0 ? ('?' + query) : '');\n this.urlChanges.push('replace: ' + url);\n };\n SpyLocation.prototype.forward = function () {\n if (this._historyIndex < (this._history.length - 1)) {\n this._historyIndex++;\n this._subject.emit({ 'url': this.path(), 'state': this.getState(), 'pop': true });\n }\n };\n SpyLocation.prototype.back = function () {\n if (this._historyIndex > 0) {\n this._historyIndex--;\n this._subject.emit({ 'url': this.path(), 'state': this.getState(), 'pop': true });\n }\n };\n SpyLocation.prototype.onUrlChange = function (fn) {\n var _this = this;\n this._urlChangeListeners.push(fn);\n if (!this._urlChangeSubscription) {\n this._urlChangeSubscription = this.subscribe(function (v) {\n _this._notifyUrlChangeListeners(v.url, v.state);\n });\n }\n };\n /** @internal */\n SpyLocation.prototype._notifyUrlChangeListeners = function (url, state) {\n if (url === void 0) { url = ''; }\n this._urlChangeListeners.forEach(function (fn) { return fn(url, state); });\n };\n SpyLocation.prototype.subscribe = function (onNext, onThrow, onReturn) {\n return this._subject.subscribe({ next: onNext, error: onThrow, complete: onReturn });\n };\n SpyLocation.prototype.normalize = function (url) {\n return null;\n };\n return SpyLocation;\n }());\n SpyLocation.decorators = [\n { type: core.Injectable }\n ];\n var LocationState = /** @class */ (function () {\n function LocationState(path, query, state) {\n this.path = path;\n this.query = query;\n this.state = state;\n }\n return LocationState;\n }());\n\n /*!
**********\n Copyright (c) Microsoft
Corporation.\n\n Permission to use, copy, modify, and/or distribute this software for any\n purpose with or without fee is hereby granted.\n\n THE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR

DISCLAIMS ALL WARRANTIES WITH\n REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\n AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\n INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\n LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\n OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\n PERFORMANCE OF THIS SOFTWARE.\n ***************************************************************************** */\n /* global Reflect, Promise */\n var extendStatics = function (d, b) {\n extendStatics = Object.setPrototypeOf ||\n ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\n function (d, b) { for (var p in b)\n if (b.hasOwnProperty(p))\n d[p] = b[p]; };\n return extendStatics(d, b);\n };\n function __extends(d, b) {\n extendStatics(d, b);\n function __() { this.constructor = d; }\n d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\n }\n var __assign = function () {\n __assign = Object.assign || function __assign(t) {\n for (var s, i = 1, n = arguments.length; i < n; i++) {\n s = arguments[i];\n for (var p in s)\n if (Object.prototype.hasOwnProperty.call(s, p))\n t[p] = s[p];\n }\n return t;\n };\n return __assign.apply(this, arguments);\n };\n function __rest(s, e) {\n var t = {};\n for (var p in s)\n if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\n t[p] = s[p];\n if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\n for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\n if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\n t[p[i]] = s[p[i]];\n }\n return t;\n }\n function __decorate(decorators, target, key, desc) {\n var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\n if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\")\n r = Reflect.decorate(decorators, target, key, desc);\n else\n for (var i = decorators.length - 1; i >= 0; i--)\n if (d = decorators[i])\n r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\n return c > 3 && r && Object.defineProperty(target, key, r), r;\n }\n function __param(paramIndex, decorator) {\n return function (target, key) { decorator(target, key, paramIndex); };\n }\n function __metadata(metadataKey, metadataValue) {\n if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n return Reflect.metadata(metadataKey, metadataValue);\n }\n function __awaiter(thisArg, _arguments, P, generator) {\n function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\n return new (P || (P = Promise))(function (resolve, reject) {\n function fulfilled(value) { try {\n step(generator.next(value));\n }\n catch (e) {\n reject(e);\n } }\n function rejected(value) { try {\n step(generator[\"throw\"](value));\n }\n catch (e) {\n reject(e);\n } }\n function step(result) { result.done ? resolve(result.value)\n : adopt(result.value).then(fulfilled, rejected); }\n step((generator = generator.apply(thisArg, _arguments || [])).next());\n });\n }\n function __generator(thisArg, body) {\n var _ = { label: 0, sent: function () { if (t[0] & 1)\n throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function () { return this; }), g;\n function verb(n) { return function (v) { return step([n, v]); }; }\n function step(op) {\n if (f)\n throw new TypeError(\"Generator is already executing.\");\n while (_)\n try {\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n return t;\n if (y = 0, t)\n op = [op[0] & 2, t.value];\n switch (op[0]) {\n case 0:\n case 1:\n t = op;\n break;\n case 4:\n _.label++;\n return { value: op[1], done: false };\n case 5:\n _.label++;\n y = op[1];\n op = [0];\n continue;\n case 7:\n op = _.ops.pop();\n _.trys.pop();\n continue;\n

```
    default:\n                    if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) {\n                    _ = 0;\n                    continue;\n                }\n                if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n                    _.label = op[1];\n                    break;\n                }\n                if (op[0] === 6 && _.label < t[1]) {\n                    _.label = t[1];\n                    t = op;\n                    break;\n                }\n                if (t && _.label < t[2]) {\n                    _.label = t[2];\n                    _.ops.push(op);\n                    break;\n                }\n                if (t[2])\n                    _.ops.pop();\n                _.trys.pop();\n                continue;\n            }\n            op = body.call(thisArg, _);\n        }\n        catch (e) {\n            op = [6, e];\n            y = 0;\n        }\n        finally {\n            f = t = 0;\n        }\n        if (op[0] & 5)\n            throw op[1];\n        return { value: op[0] ? op[1] : void 0, done: true };\n    }\n};\nvar __createBinding = Object.create ? (function (o, m, k, k2) {\n    if (k2 === undefined)\n        k2 = k;\n    Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n}) : (function (o, m, k, k2) {\n    if (k2 === undefined)\n        k2 = k;\n    o[k2] = m[k];\n});\nfunction __exportStar(m, exports) {\n    for (var p in m)\n        if (p !== \"default\" && !exports.hasOwnProperty(p))\n            __createBinding(exports, m, p);\n}\nfunction __values(o) {\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n    if (m)\n        return m.call(o);\n    if (o && typeof o.length === \"number\")\n        return {\n            next: function () {\n                if (o && i >= o.length)\n                    o = void 0;\n                return { value: o && o[i++], done: !o };\n            }\n        };\n    throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n}\nfunction __read(o, n) {\n    var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n    if (!m)\n        return o;\n    var i = m.call(o), r, ar = [], e;\n    try {\n        while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n            ar.push(r.value);\n    }\n    catch (error) {\n        e = { error: error };\n    }\n    finally {\n        try {\n            if (r && !r.done && (m = i[\"return\"]))\n                m.call(i);\n        }\n        finally {\n            if (e)\n                throw e.error;\n        }\n    }\n    return ar;\n}\nfunction __spread() {\n    for (var ar = [], i = 0; i < arguments.length; i++)\n        ar = ar.concat(__read(arguments[i]));\n    return ar;\n}\nfunction __spreadArrays() {\n    for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n        s += arguments[i].length;\n    for (var r = Array(s), k = 0, i = 0; i < il; i++)\n        for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n            r[k] = a[j];\n    return r;\n};\nfunction __await(v) {\n    return this instanceof __await ? (this.v = v, this) : new __await(v);\n}\nfunction __asyncGenerator(thisArg, _arguments, generator) {\n    if (!Symbol.asyncIterator)\n        throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n    var g = generator.apply(thisArg, _arguments || []), i, q = [];\n    return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this;
}, i;\n    function verb(n) { if (g[n])\n        i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n    function resume(n, v) { try {\n        step(g[n](v));\n    }\n    catch (e) {\n        settle(q[0][3], e);\n    } }\n    function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n    function fulfill(value) { resume(\"next\", value); }\n    function reject(value) { resume(\"throw\", value); }\n    function settle(f, v) { if (f(v), q.shift(), q.length)\n        resume(q[0][0], q[0][1]); }\n}\nfunction __asyncDelegator(o) {\n    var i, p;\n    return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n    function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done:
n === \"return\" } : f ? f(v) : v; } : f; }\n}\nfunction __asyncValues(o) {\n    if (!Symbol.asyncIterator)\n        throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n    var m = o[Symbol.asyncIterator], i;\n    return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n    function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v),
```

settle(resolve, reject, v.done, v.value); }); }; }\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n }\n function __makeTemplateObject(cooked, raw) {\n if (Object.defineProperty) {\n Object.defineProperty(cooked, \"raw\", { value: raw });\n }\n else {\n cooked.raw = raw;\n }\n return cooked;\n }\n ;\n var __setModuleDefault = Object.create ? (function (o, v) {\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n }) : function (o, v) {\n o[\"default\"] = v;\n };\n function __importStar(mod) {\n if (mod && mod.__esModule)\n return mod;\n var result = {};\n if (mod != null)\n for (var k in mod)\n if (Object.hasOwnProperty.call(mod, k))\n __createBinding(result, mod, k);\n __setModuleDefault(result, mod);\n return result;\n }\n function __importDefault(mod) {\n return (mod && mod.__esModule) ? mod : { default: mod };\n }\n function __classPrivateFieldGet(receiver, privateMap) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to get private field on non-instance\");\n }\n return privateMap.get(receiver);\n }\n function __classPrivateFieldSet(receiver, privateMap, value) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to set private field on non-instance\");\n }\n privateMap.set(receiver, value);\n return value;\n }\n\n /**\n * A mock implementation of {@link LocationStrategy} that allows tests to fire simulated\n * location events.\n *\n * @publicApi\n */\n var MockLocationStrategy = /** @class */ (function (_super) {\n __extends(MockLocationStrategy, _super);\n function MockLocationStrategy() {\n var _this = _super.call(this) || this;\n _this.internalBaseHref = '/';\n _this.internalPath = '/';\n _this.internalTitle = '';\n _this.urlChanges = [];\n /** @internal */\n _this._subject = new core.EventEmitter();\n _this.stateChanges = [];\n return _this;\n }\n MockLocationStrategy.prototype.simulatePopState = function (url) {\n this.internalPath = url;\n this._subject.emit(new _MockPopStateEvent(this.path()));\n };\n MockLocationStrategy.prototype.path = function (includeHash) {\n if (includeHash === void 0) { includeHash = false; }\n return this.internalPath;\n };\n MockLocationStrategy.prototype.prepareExternalUrl = function (internal) {\n if (internal.startsWith('/') && this.internalBaseHref.endsWith('/')) {\n return this.internalBaseHref + internal.substring(1);\n }\n return this.internalBaseHref + internal;\n };\n MockLocationStrategy.prototype.pushState = function (ctx, title, path, query) {\n // Add state change to changes array\n this.stateChanges.push(ctx);\n this.internalTitle = title;\n var url = path + (query.length > 0 ? ('?' + query) : '');\n this.internalPath = url;\n\n var externalUrl = this.prepareExternalUrl(url);\n this.urlChanges.push(externalUrl);\n };\n MockLocationStrategy.prototype.replaceState = function (ctx, title, path, query) {\n // Reset the last index of stateChanges to the ctx (state) object\n this.stateChanges[(this.stateChanges.length || 1) - 1] = ctx;\n this.internalTitle = title;\n var url = path + (query.length > 0 ? ('?' + query) : '');\n this.internalPath = url;\n var externalUrl = this.prepareExternalUrl(url);\n this.urlChanges.push('replace: ' + externalUrl);\n };\n MockLocationStrategy.prototype.onPopState = function (fn) {\n this._subject.subscribe({ next: fn });\n };\n MockLocationStrategy.prototype.getBaseHref = function () {\n return this.internalBaseHref;\n };\n MockLocationStrategy.prototype.back = function () {\n if (this.urlChanges.length > 0) {\n this.urlChanges.pop();\n this.stateChanges.pop();\n var nextUrl = this.urlChanges.length > 0 ? this.urlChanges[this.urlChanges.length - 1] : '';\n this.simulatePopState(nextUrl);\n }\n };\n MockLocationStrategy.prototype.forward = function () {\n throw 'not implemented';\n };\n MockLocationStrategy.prototype.getState = function () {\n return this.stateChanges[(this.stateChanges.length || 1) - 1];\n };\n return MockLocationStrategy;\n }(common.LocationStrategy));\n MockLocationStrategy.decorators = [\n { type: core.Injectable }\n ];\n MockLocationStrategy.ctorParameters = function () { return []; };\n var _MockPopStateEvent = /** @class */ (function () {\n function _MockPopStateEvent(newUrl) {\n this.newUrl = newUrl;\n this.pop =

```
true;\n            this.type = 'popstate';\n        }\n        return
 _MockPopStateEvent;\n    }());\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n
*\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    /**\n     * Parser from https://tools.ietf.org/html/rfc3986#appendix-B\n     *
^(([^:/?#]+):)?(//([^/?#]*))?([^?#]*)(\\?([^#]*))?(#(.*))?\n     *  12            3  4          5       6  7        8 9\n     *\n     *
Example: http://www.ics.uci.edu/pub/ietf/uri/#Related\n     *\n     * Results in:\n     *\n     * $1 = http:\n     * $2 =
http\n     * $3 = //www.ics.uci.edu\n     * $4 = www.ics.uci.edu\n     * $5 = /pub/ietf/uri/\n     * $6 = <undefined>\n
* $7 = <undefined>\n     * $8 = #Related\n     * $9 = Related\n     */\n    var urlParse =
/^(([^:\\/?#]+):)?(\\/\\/([^\\/?#]*))?([^?#]*)(\\?([^#]*))?(#(.*))?/;\n    function parseUrl(urlStr, baseHref) {\n        var
verifyProtocol = /^((http[s]?|ftp):\\/\\/)/;\n
        var serverBase;\n        // URL class requires full URL. If the URL string doesn't start with protocol, we need to
add\n        // an arbitrary base URL which can be removed afterward.\n        if (!verifyProtocol.test(urlStr)) {\n
serverBase = 'http://empty.com/';\n        }\n        var parsedUrl;\n        try {\n            parsedUrl = new URL(urlStr,
serverBase);\n        }\n        catch (e) {\n            var result = urlParse.exec(serverBase || '' + urlStr);\n            if
(!result) {\n                throw new Error(\"Invalid URL: \" + urlStr + \" with base: \" + baseHref);\n            }\n
var hostSplit = result[4].split(':');\n            parsedUrl = {\n                protocol: result[1],\n                hostname:
hostSplit[0],\n                port: hostSplit[1] || '',\n                pathname: result[5],\n                search: result[6],\n
hash: result[8],\n            };\n        }\n        if (parsedUrl.pathname && parsedUrl.pathname.indexOf(baseHref)
 === 0) {\n            parsedUrl.pathname = parsedUrl.pathname.substring(baseHref.length);\n        }\n        return {\n
      hostname: !serverBase && parsedUrl.hostname || '',\n            protocol: !serverBase && parsedUrl.protocol || ':',\n
        port: !serverBase && parsedUrl.port || '',\n            pathname: parsedUrl.pathname || '/',\n            search:
parsedUrl.search || '',\n            hash: parsedUrl.hash || '',\n        };\n    }\n    /**\n     * Provider for mock platform
location config\n     *\n     * @publicApi\n     */\n    var MOCK_PLATFORM_LOCATION_CONFIG = new
core.InjectionToken('MOCK_PLATFORM_LOCATION_CONFIG');\n    /**\n     * Mock implementation of URL
state.\n     *\n     * @publicApi\n     */\n    var MockPlatformLocation = /** @class */ (function () {\n        function
MockPlatformLocation(config) {\n            this.baseHref = '';\n            this.hashUpdate = new rxjs.Subject();\n
this.urlChanges = [{
 hostname: '', protocol: '', port: '', pathname: '/', search: '', hash: '', state: null }];\n            if (config) {\n
this.baseHref = config.appBaseHref || '';\n                var parsedChanges = this.parseChanges(null, config.startUrl ||
'http://<empty>/', this.baseHref);\n                this.urlChanges[0] = Object.assign({}, parsedChanges);\n            }\n
}\n        Object.defineProperty(MockPlatformLocation.prototype, \"hostname\", {\n            get: function () {\n
  return this.urlChanges[0].hostname;\n            },\n            enumerable: false,\n            configurable: true\n        });\n
    Object.defineProperty(MockPlatformLocation.prototype, \"protocol\", {\n            get: function () {\n
return this.urlChanges[0].protocol;\n            },\n            enumerable: false,\n            configurable: true\n        });\n
Object.defineProperty(MockPlatformLocation.prototype, \"port\", {\n            get: function
 () {\n                return this.urlChanges[0].port;\n            },\n            enumerable: false,\n            configurable: true\n
  });\n        Object.defineProperty(MockPlatformLocation.prototype, \"pathname\", {\n            get: function () {\n
        return this.urlChanges[0].pathname;\n            },\n            enumerable: false,\n            configurable: true\n
});\n        Object.defineProperty(MockPlatformLocation.prototype, \"search\", {\n            get: function () {\n
return this.urlChanges[0].search;\n            },\n            enumerable: false,\n            configurable: true\n        });\n
Object.defineProperty(MockPlatformLocation.prototype, \"hash\", {\n            get: function () {\n                return
this.urlChanges[0].hash;\n            },\n            enumerable: false,\n            configurable: true\n        });\n
Object.defineProperty(MockPlatformLocation.prototype, \"state\", {\n
  get: function () {\n                return this.urlChanges[0].state;\n            },\n            enumerable: false,\n
configurable: true\n        });\n        MockPlatformLocation.prototype.getBaseHrefFromDOM = function () {\n
return this.baseHref;\n        };\n        MockPlatformLocation.prototype.onPopState = function (fn) {\n            // No-
op: a state stack is not implemented, so\n            // no events will ever come.\n        };\n
MockPlatformLocation.prototype.onHashChange = function (fn) {\n            this.hashUpdate.subscribe(fn);\n
```

};\n Object.defineProperty(MockPlatformLocation.prototype, \"href\", {\n get: function () {\n var url = this.protocol + \"//\" + this.hostname + (this.port ? ':' + this.port : '');\n url += \"\" + (this.pathname === '/' ? '' : this.pathname) + this.search + this.hash;\n return url;\n },\n enumerable: false,\n configurable:
true\n });\n Object.defineProperty(MockPlatformLocation.prototype, \"url\", {\n get: function () {\n return \"\" + this.pathname + this.search + this.hash;\n },\n enumerable: false,\n configurable: true\n });\n MockPlatformLocation.prototype.parseChanges = function (state, url, baseHref) {\n if (baseHref === void 0) { baseHref = ''; }\n // When the `history.state` value is stored, it is always copied.\n state = JSON.parse(JSON.stringify(state));\n return Object.assign(Object.assign({}, parseUrl(url, baseHref)), { state: state });\n };\n MockPlatformLocation.prototype.replaceState = function (state, title, newUrl) {\n var _a = this.parseChanges(state, newUrl), pathname = _a.pathname, search = _a.search, parsedState = _a.state, hash = _a.hash;\n this.urlChanges[0] = Object.assign(Object.assign({}, this.urlChanges[0]),
{ pathname: pathname, search: search, hash: hash, state: parsedState });\n };\n MockPlatformLocation.prototype.pushState = function (state, title, newUrl) {\n var _a = this.parseChanges(state, newUrl), pathname = _a.pathname, search = _a.search, parsedState = _a.state, hash = _a.hash;\n this.urlChanges.unshift(Object.assign(Object.assign({}, this.urlChanges[0]), { pathname: pathname, search: search, hash: hash, state: parsedState }));\n };\n MockPlatformLocation.prototype.forward = function () {\n throw new Error('Not implemented');\n };\n MockPlatformLocation.prototype.back = function () {\n var _this = this;\n var oldUrl = this.url;\n var oldHash = this.hash;\n this.urlChanges.shift();\n var newHash = this.hash;\n if (oldHash !== newHash) {\n scheduleMicroTask(function () { return _this.hashUpdate.next({ type: 'hashchange', state: null, oldUrl: oldUrl, newUrl: _this.url }); });\n }\n };\n MockPlatformLocation.prototype.getState = function () {\n return this.state;\n };\n return MockPlatformLocation;\n }());\n MockPlatformLocation.decorators = [\n { type: core.Injectable }\n ];\n MockPlatformLocation.ctorParameters = function () { return [\n { type: undefined, decorators: [{ type: core.Inject, args: [MOCK_PLATFORM_LOCATION_CONFIG,] }, { type: core.Optional }] }\n ]; };\n function scheduleMicroTask(cb) {\n Promise.resolve(null).then(cb);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // This file only reexports content of the `src` folder. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.MOCK_PLATFORM_LOCATION_CONFIG = MOCK_PLATFORM_LOCATION_CONFIG;\n exports.MockLocationStrategy = MockLocationStrategy;\n exports.MockPlatformLocation = MockPlatformLocation;\n exports.SpyLocation = SpyLocation;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}));\n//# sourceMappingURL=common-testing.umd.js.map\n"]}

Found in path(s):
* /common-11-0-5-tgz/package/bundles/common-testing.umd.min.js.map
No license file was found, but licenses were detected in source scan.

/**
* @license
* Copyright Google LLC All Rights Reserved.
*

* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/

Found in path(s):
* /common-11-0-5-tgz/package/locales/extra/sw.d.ts
* /common-11-0-5-tgz/package/locales/ar-SD.d.ts
* /common-11-0-5-tgz/package/locales/extra/de-LU.js
* /common-11-0-5-tgz/package/locales/en-DK.js
* /common-11-0-5-tgz/package/locales/te.d.ts
* /common-11-0-5-tgz/package/locales/global/en-TT.js
* /common-11-0-5-tgz/package/locales/extra/en-SL.d.ts
* /common-11-0-5-tgz/package/locales/extra/sq-MK.js
* /common-11-0-5-tgz/package/locales/extra/en-BZ.js
* /common-11-0-5-tgz/package/locales/extra/hsb.js
* /common-11-0-5-tgz/package/locales/extra/ccp-IN.d.ts
* /common-11-0-5-tgz/package/locales/extra/lkt.js
* /common-11-0-5-tgz/package/locales/extra/zh-Hans.d.ts
* /common-11-0-5-tgz/package/locales/es-419.js
*
 /common-11-0-5-tgz/package/locales/global/en-TK.js
* /common-11-0-5-tgz/package/locales/fr-TG.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-JM.d.ts
* /common-11-0-5-tgz/package/locales/extra/bs-Latn.d.ts
* /common-11-0-5-tgz/package/locales/global/en-CH.js
* /common-11-0-5-tgz/package/locales/global/rw.js
* /common-11-0-5-tgz/package/locales/es-EC.d.ts
* /common-11-0-5-tgz/package/locales/ja.js
* /common-11-0-5-tgz/package/locales/en-IN.d.ts
* /common-11-0-5-tgz/package/locales/nds.js
* /common-11-0-5-tgz/package/locales/ga-GB.js
* /common-11-0-5-tgz/package/locales/extra/vai-Latn.js
* /common-11-0-5-tgz/package/locales/extra/it-SM.js
* /common-11-0-5-tgz/package/locales/global/sr-Latn-XK.js
* /common-11-0-5-tgz/package/locales/ccp.d.ts
* /common-11-0-5-tgz/package/locales/global/nnh.js
* /common-11-0-5-tgz/package/locales/extra/ga.js
* /common-11-0-5-tgz/package/locales/en-IE.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-RW.js
* /common-11-0-5-tgz/package/locales/global/lrc.js
*
 /common-11-0-5-tgz/package/locales/hy.js
* /common-11-0-5-tgz/package/locales/fr-CI.js
* /common-11-0-5-tgz/package/locales/en-US-POSIX.d.ts
* /common-11-0-5-tgz/package/locales/ar-TD.js
* /common-11-0-5-tgz/package/locales/extra/zh-Hans-HK.d.ts
* /common-11-0-5-tgz/package/locales/kkj.d.ts
* /common-11-0-5-tgz/package/locales/global/es-EC.js

* /common-11-0-5-tgz/package/locales/so-DJ.d.ts
* /common-11-0-5-tgz/package/locales/en-NR.js
* /common-11-0-5-tgz/package/locales/extra/ar-TD.d.ts
* /common-11-0-5-tgz/package/locales/extra/fa.js
* /common-11-0-5-tgz/package/locales/extra/yo-BJ.js
* /common-11-0-5-tgz/package/locales/en-GY.d.ts
* /common-11-0-5-tgz/package/locales/extra/sq-MK.d.ts
* /common-11-0-5-tgz/package/locales/en-DE.d.ts
* /common-11-0-5-tgz/package/locales/global/tr.js
* /common-11-0-5-tgz/package/locales/gsw-FR.js
* /common-11-0-5-tgz/package/locales/global/kln.js
* /common-11-0-5-tgz/package/locales/en-KI.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-VG.js
*
/common-11-0-5-tgz/package/locales/fr-BE.js
* /common-11-0-5-tgz/package/locales/es-EC.js
* /common-11-0-5-tgz/package/locales/en-ZW.d.ts
* /common-11-0-5-tgz/package/locales/en-CY.js
* /common-11-0-5-tgz/package/locales/extra/or.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-MA.js
* /common-11-0-5-tgz/package/locales/wo.d.ts
* /common-11-0-5-tgz/package/locales/sq.d.ts
* /common-11-0-5-tgz/package/locales/global/zh-Hans-SG.js
* /common-11-0-5-tgz/package/locales/extra/sr-Latn.js
* /common-11-0-5-tgz/package/locales/en-VG.js
* /common-11-0-5-tgz/package/locales/global/en-PW.js
* /common-11-0-5-tgz/package/locales/yo-BJ.js
* /common-11-0-5-tgz/package/locales/extra/lv.d.ts
* /common-11-0-5-tgz/package/locales/nb-SJ.d.ts
* /common-11-0-5-tgz/package/locales/global/es-CO.js
* /common-11-0-5-tgz/package/locales/ca-ES-VALENCIA.d.ts
* /common-11-0-5-tgz/package/locales/ti.d.ts
* /common-11-0-5-tgz/package/locales/dsb.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-TN.js
* /common-11-0-5-tgz/package/locales/sr-Cyrl-BA.d.ts
*
/common-11-0-5-tgz/package/locales/tr.js
* /common-11-0-5-tgz/package/locales/bem.d.ts
* /common-11-0-5-tgz/package/locales/extra/cgg.js
* /common-11-0-5-tgz/package/locales/es-HN.js
* /common-11-0-5-tgz/package/locales/extra/en-KE.js
* /common-11-0-5-tgz/package/locales/global/fr-CG.js
* /common-11-0-5-tgz/package/locales/global/om-KE.js
* /common-11-0-5-tgz/package/locales/global/af.js
* /common-11-0-5-tgz/package/locales/extra/fr-TD.d.ts
* /common-11-0-5-tgz/package/locales/extra/de.d.ts
* /common-11-0-5-tgz/package/locales/extra/sl.d.ts
* /common-11-0-5-tgz/package/locales/extra/ro-MD.js

* /common-11-0-5-tgz/package/locales/global/en-KI.js
* /common-11-0-5-tgz/package/locales/kde.js
* /common-11-0-5-tgz/package/locales/chr.js
* /common-11-0-5-tgz/package/locales/extra/en-SH.js
* /common-11-0-5-tgz/package/locales/es-GT.js
* /common-11-0-5-tgz/package/locales/lb.js
* /common-11-0-5-tgz/package/locales/kk.d.ts
* /common-11-0-5-tgz/package/locales/extra/yue-Hans.d.ts
*
/common-11-0-5-tgz/package/locales/ku.js
* /common-11-0-5-tgz/package/locales/af.js
* /common-11-0-5-tgz/package/locales/extra/vai-Vaii.js
* /common-11-0-5-tgz/package/locales/extra/hr.js
* /common-11-0-5-tgz/package/locales/hy.d.ts
* /common-11-0-5-tgz/package/locales/mzn.js
* /common-11-0-5-tgz/package/locales/global/so-DJ.js
* /common-11-0-5-tgz/package/locales/extra/nl-SX.js
* /common-11-0-5-tgz/package/locales/br.js
* /common-11-0-5-tgz/package/locales/ar.d.ts
* /common-11-0-5-tgz/package/locales/extra/es.js
* /common-11-0-5-tgz/package/locales/extra/kw.js
* /common-11-0-5-tgz/package/locales/en-BZ.js
* /common-11-0-5-tgz/package/locales/extra/es-MX.js
* /common-11-0-5-tgz/package/locales/extra/en-PR.d.ts
* /common-11-0-5-tgz/package/locales/extra/wae.js
* /common-11-0-5-tgz/package/locales/cy.d.ts
* /common-11-0-5-tgz/package/locales/en-FJ.js
* /common-11-0-5-tgz/package/locales/extra/es-GQ.d.ts
* /common-11-0-5-tgz/package/locales/extra/sn.js
* /common-11-0-5-tgz/package/locales/extra/en-AI.d.ts
*
/common-11-0-5-tgz/package/locales/global/ar-KM.js
* /common-11-0-5-tgz/package/locales/global/nl-BE.js
* /common-11-0-5-tgz/package/locales/extra/az-Cyrl.js
* /common-11-0-5-tgz/package/locales/th.d.ts
* /common-11-0-5-tgz/package/locales/fr-NE.js
* /common-11-0-5-tgz/package/locales/gsw-LI.js
* /common-11-0-5-tgz/package/locales/global/en-AS.js
* /common-11-0-5-tgz/package/esm2015/src/pipes/case_conversion_pipes.js
* /common-11-0-5-tgz/package/locales/global/fr-BJ.js
* /common-11-0-5-tgz/package/locales/global/en-DK.js
* /common-11-0-5-tgz/package/locales/global/id.js
* /common-11-0-5-tgz/package/esm2015/http/testing/src/request.js
* /common-11-0-5-tgz/package/locales/extra/zh-Hans-MO.js
* /common-11-0-5-tgz/package/locales/extra/rof.d.ts
* /common-11-0-5-tgz/package/locales/ti.js
* /common-11-0-5-tgz/package/locales/fr-CH.js
* /common-11-0-5-tgz/package/locales/extra/fr-DZ.d.ts

* /common-11-0-5-tgz/package/locales/extra/nl-CW.js
* /common-11-0-5-tgz/package/locales/global/en-AI.js
*
 /common-11-0-5-tgz/package/locales/extra/de-BE.js
* /common-11-0-5-tgz/package/locales/extra/fr-TG.js
* /common-11-0-5-tgz/package/locales/extra/en-AG.d.ts
* /common-11-0-5-tgz/package/locales/vai-Vaii.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-TD.js
* /common-11-0-5-tgz/package/locales/extra/km.d.ts
* /common-11-0-5-tgz/package/locales/mas.d.ts
* /common-11-0-5-tgz/package/locales/global/en-UM.js
* /common-11-0-5-tgz/package/locales/mgh.js
* /common-11-0-5-tgz/package/locales/extra/es-SV.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-ER.js
* /common-11-0-5-tgz/package/locales/extra/ca-IT.js
* /common-11-0-5-tgz/package/locales/extra/eu.d.ts
* /common-11-0-5-tgz/package/locales/extra/sk.js
* /common-11-0-5-tgz/package/locales/nl-SR.d.ts
* /common-11-0-5-tgz/package/locales/extra/tk.js
* /common-11-0-5-tgz/package/locales/global/pt-GQ.js
* /common-11-0-5-tgz/package/locales/ku.d.ts
* /common-11-0-5-tgz/package/locales/gl.d.ts
*
 /common-11-0-5-tgz/package/locales/zh-Hans.d.ts
* /common-11-0-5-tgz/package/locales/global/mk.js
* /common-11-0-5-tgz/package/locales/extra/es-CU.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-TN.js
* /common-11-0-5-tgz/package/locales/extra/fr-BL.js
* /common-11-0-5-tgz/package/locales/global/es-PE.js
* /common-11-0-5-tgz/package/locales/extra/se-FI.js
* /common-11-0-5-tgz/package/locales/en-VI.d.ts
* /common-11-0-5-tgz/package/locales/ml.js
* /common-11-0-5-tgz/package/locales/nl-BE.d.ts
* /common-11-0-5-tgz/package/locales/uz-Arab.js
* /common-11-0-5-tgz/package/locales/extra/de-CH.js
* /common-11-0-5-tgz/package/locales/extra/so.d.ts
* /common-11-0-5-tgz/package/locales/extra/uz-Latn.d.ts
* /common-11-0-5-tgz/package/esm2015/testing/public_api.js
* /common-11-0-5-tgz/package/locales/extra/asa.js
* /common-11-0-5-tgz/package/locales/global/mt.js
* /common-11-0-5-tgz/package/locales/de-AT.js
* /common-11-0-5-tgz/package/locales/global/es-PH.js
* /common-11-0-5-tgz/package/locales/global/asa.js
*
 /common-11-0-5-tgz/package/locales/global/ewo.js
* /common-11-0-5-tgz/package/locales/extra/fy.js
* /common-11-0-5-tgz/package/locales/sw.js
* /common-11-0-5-tgz/package/locales/extra/fr-GP.d.ts

* /common-11-0-5-tgz/package/locales/extra/fo.d.ts
* /common-11-0-5-tgz/package/locales/tr.d.ts
* /common-11-0-5-tgz/package/locales/mer.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-IL.js
* /common-11-0-5-tgz/package/locales/extra/en-MS.d.ts
* /common-11-0-5-tgz/package/locales/en-MU.js
* /common-11-0-5-tgz/package/locales/az-Latn.d.ts
* /common-11-0-5-tgz/package/locales/en-TV.js
* /common-11-0-5-tgz/package/locales/global/yue-Hant.js
* /common-11-0-5-tgz/package/locales/extra/es-CO.d.ts
* /common-11-0-5-tgz/package/locales/extra/ln-CG.js
* /common-11-0-5-tgz/package/locales/extra/luo.js
* /common-11-0-5-tgz/package/locales/pt.js
* /common-11-0-5-tgz/package/locales/extra/es-BZ.js
* /common-11-0-5-tgz/package/locales/extra/rm.js
* /common-11-0-5-tgz/package/locales/extra/as.js
*
/common-11-0-5-tgz/package/locales/ff-Latn-SL.d.ts
* /common-11-0-5-tgz/package/locales/zh-Hans-SG.d.ts
* /common-11-0-5-tgz/package/locales/extra/fo-DK.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-GQ.js
* /common-11-0-5-tgz/package/locales/global/fr.js
* /common-11-0-5-tgz/package/locales/extra/ar-SD.d.ts
* /common-11-0-5-tgz/package/locales/extra/wo.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-NE.js
* /common-11-0-5-tgz/package/locales/zgh.js
* /common-11-0-5-tgz/package/locales/extra/ta-LK.js
* /common-11-0-5-tgz/package/locales/my.d.ts
* /common-11-0-5-tgz/package/locales/global/sah.js
* /common-11-0-5-tgz/package/locales/kk.js
* /common-11-0-5-tgz/package/locales/global/de-LU.js
* /common-11-0-5-tgz/package/esm2015/src/i18n/format_number.js
* /common-11-0-5-tgz/package/locales/global/en-NA.js
* /common-11-0-5-tgz/package/locales/extra/ar-EH.js
* /common-11-0-5-tgz/package/locales/global/en-MG.js
* /common-11-0-5-tgz/package/locales/extra/zgh.js
* /common-11-0-5-tgz/package/locales/teo-KE.js
*
/common-11-0-5-tgz/package/locales/ar-DJ.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-VE.js
* /common-11-0-5-tgz/package/locales/extra/en-BM.js
* /common-11-0-5-tgz/package/locales/extra/nds.d.ts
* /common-11-0-5-tgz/package/locales/extra/ti-ER.d.ts
* /common-11-0-5-tgz/package/locales/en-KI.js
* /common-11-0-5-tgz/package/locales/global/en-PH.js
* /common-11-0-5-tgz/package/locales/global/fr-DZ.js
* /common-11-0-5-tgz/package/locales/extra/ne.js
* /common-11-0-5-tgz/package/locales/en-IE.js

* /common-11-0-5-tgz/package/locales/extra/ksf.js
* /common-11-0-5-tgz/package/locales/fr-ML.d.ts
* /common-11-0-5-tgz/package/locales/ar-IQ.d.ts
* /common-11-0-5-tgz/package/locales/extra/fo.js
* /common-11-0-5-tgz/package/locales/extra/sv-AX.js
* /common-11-0-5-tgz/package/locales/twq.js
* /common-11-0-5-tgz/package/locales/chr.d.ts
* /common-11-0-5-tgz/package/locales/extra/sv.js
* /common-11-0-5-tgz/package/locales/en-UG.js
* /common-11-0-5-tgz/package/locales/es-IC.js
*
/common-11-0-5-tgz/package/locales/ps.js
* /common-11-0-5-tgz/package/esm2015/src/private_export.js
* /common-11-0-5-tgz/package/locales/de-BE.d.ts
* /common-11-0-5-tgz/package/locales/zh.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-WS.js
* /common-11-0-5-tgz/package/locales/extra/en-PK.d.ts
* /common-11-0-5-tgz/package/locales/extra/ia.js
* /common-11-0-5-tgz/package/locales/global/lv.js
* /common-11-0-5-tgz/package/locales/extra/fr-PF.js
* /common-11-0-5-tgz/package/locales/extra/ha.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-GF.js
* /common-11-0-5-tgz/package/locales/extra/en-IE.js
* /common-11-0-5-tgz/package/locales/extra/tt.d.ts
* /common-11-0-5-tgz/package/locales/extra/az-Cyrl.d.ts
* /common-11-0-5-tgz/package/locales/extra/it-CH.js
* /common-11-0-5-tgz/package/locales/extra/ne.d.ts
* /common-11-0-5-tgz/package/locales/ur-IN.d.ts
* /common-11-0-5-tgz/package/locales/ff-GN.js
* /common-11-0-5-tgz/package/locales/ar-PS.js
* /common-11-0-5-tgz/package/esm2015/http/testing/index.js
*
/common-11-0-5-tgz/package/locales/global/fr-MF.js
* /common-11-0-5-tgz/package/locales/extra/ar-SS.js
* /common-11-0-5-tgz/package/locales/global/chr.js
* /common-11-0-5-tgz/package/locales/extra/pt-MZ.js
* /common-11-0-5-tgz/package/locales/en-CM.d.ts
* /common-11-0-5-tgz/package/locales/extra/ha-NE.js
* /common-11-0-5-tgz/package/locales/global/fr-LU.js
* /common-11-0-5-tgz/package/locales/extra/af.d.ts
* /common-11-0-5-tgz/package/locales/ta-LK.js
* /common-11-0-5-tgz/package/locales/es-CO.js
* /common-11-0-5-tgz/package/locales/en-SL.js
* /common-11-0-5-tgz/package/locales/extra/tt.js
* /common-11-0-5-tgz/package/locales/extra/yue.d.ts
* /common-11-0-5-tgz/package/locales/global/haw.js
* /common-11-0-5-tgz/package/locales/jgo.js
* /common-11-0-5-tgz/package/locales/extra/en-VU.d.ts

* /common-11-0-5-tgz/package/locales/extra/ki.d.ts
* /common-11-0-5-tgz/package/locales/global/en-DM.js
* /common-11-0-5-tgz/package/locales/prg.d.ts
* /common-11-0-5-tgz/package/esm2015/src/pipes/json_pipe.js
*
 /common-11-0-5-tgz/package/locales/fr-RW.js
* /common-11-0-5-tgz/package/locales/ur.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-DO.js
* /common-11-0-5-tgz/package/locales/extra/ee.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-IO.js
* /common-11-0-5-tgz/package/locales/extra/sg.js
* /common-11-0-5-tgz/package/locales/global/agq.js
* /common-11-0-5-tgz/package/locales/extra/ar-IL.d.ts
* /common-11-0-5-tgz/package/locales/bo-IN.d.ts
* /common-11-0-5-tgz/package/esm2015/http/testing/public_api.js
* /common-11-0-5-tgz/package/locales/global/kde.js
* /common-11-0-5-tgz/package/locales/ko.js
* /common-11-0-5-tgz/package/locales/extra/nl-BQ.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-DM.d.ts
* /common-11-0-5-tgz/package/locales/extra/vun.d.ts
* /common-11-0-5-tgz/package/locales/extra/kkj.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-DK.d.ts
* /common-11-0-5-tgz/package/esm2015/upgrade/index.js
* /common-11-0-5-tgz/package/locales/extra/ca-AD.d.ts
*
 /common-11-0-5-tgz/package/locales/extra/ii.js
* /common-11-0-5-tgz/package/locales/pt-GQ.d.ts
* /common-11-0-5-tgz/package/locales/extra/af-NA.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-PE.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-AU.js
* /common-11-0-5-tgz/package/locales/global/en-ZM.js
* /common-11-0-5-tgz/package/locales/bs-Latn.d.ts
* /common-11-0-5-tgz/package/locales/mas-TZ.js
* /common-11-0-5-tgz/package/locales/nl-AW.d.ts
* /common-11-0-5-tgz/package/locales/az.js
* /common-11-0-5-tgz/package/locales/am.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-BM.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-MP.d.ts
* /common-11-0-5-tgz/package/locales/ms.js
* /common-11-0-5-tgz/package/locales/extra/nb.d.ts
* /common-11-0-5-tgz/package/locales/extra/dyo.js
* /common-11-0-5-tgz/package/locales/extra/pt-AO.js
* /common-11-0-5-tgz/package/locales/ff-Latn-NE.d.ts
* /common-11-0-5-tgz/package/locales/global/en-NU.js
* /common-11-0-5-tgz/package/locales/global/ro-MD.js
*
 /common-11-0-5-tgz/package/locales/nl-BQ.js
* /common-11-0-5-tgz/package/locales/extra/brx.d.ts

* /common-11-0-5-tgz/package/locales/fr-SC.js
* /common-11-0-5-tgz/package/locales/extra/fr-HT.js
* /common-11-0-5-tgz/package/locales/global/en-KE.js
* /common-11-0-5-tgz/package/locales/extra/sv-FI.d.ts
* /common-11-0-5-tgz/package/locales/extra/id.js
* /common-11-0-5-tgz/package/locales/en-TZ.js
* /common-11-0-5-tgz/package/locales/yue-Hans.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-RW.js
* /common-11-0-5-tgz/package/locales/extra/om-KE.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-MR.d.ts
* /common-11-0-5-tgz/package/locales/extra/zh-Hant-HK.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-VU.js
* /common-11-0-5-tgz/package/locales/extra/en-JM.js
* /common-11-0-5-tgz/package/locales/extra/en-TV.js
* /common-11-0-5-tgz/package/locales/global/ca.js
* /common-11-0-5-tgz/package/locales/gv.d.ts
* /common-11-0-5-tgz/package/locales/ak.js
*
/common-11-0-5-tgz/package/locales/sr-Cyrl-XK.d.ts
* /common-11-0-5-tgz/package/locales/global/ln.js
* /common-11-0-5-tgz/package/locales/en-GI.d.ts
* /common-11-0-5-tgz/package/locales/km.js
* /common-11-0-5-tgz/package/locales/sah.js
* /common-11-0-5-tgz/package/locales/global/kok.js
* /common-11-0-5-tgz/package/locales/global/ff-GN.js
* /common-11-0-5-tgz/package/locales/extra/ar-TN.d.ts
* /common-11-0-5-tgz/package/locales/prg.js
* /common-11-0-5-tgz/package/locales/extra/fr-KM.d.ts
* /common-11-0-5-tgz/package/locales/extra/ka.d.ts
* /common-11-0-5-tgz/package/locales/extra/sr-Cyrl-ME.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-AS.d.ts
* /common-11-0-5-tgz/package/locales/extra/xog.js
* /common-11-0-5-tgz/package/locales/global/az-Latn.js
* /common-11-0-5-tgz/package/locales/en-MG.js
* /common-11-0-5-tgz/package/locales/pt-PT.js
* /common-11-0-5-tgz/package/locales/extra/fr-MQ.js
* /common-11-0-5-tgz/package/esm2015/http/testing/src/module.js
* /common-11-0-5-tgz/package/locales/el.js
*
/common-11-0-5-tgz/package/locales/extra/en-001.js
* /common-11-0-5-tgz/package/locales/es-BR.js
* /common-11-0-5-tgz/package/locales/shi.js
* /common-11-0-5-tgz/package/locales/bm.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-SN.d.ts
* /common-11-0-5-tgz/package/locales/kl.js
* /common-11-0-5-tgz/package/locales/extra/fr-HT.d.ts
* /common-11-0-5-tgz/package/locales/extra/ce.js
* /common-11-0-5-tgz/package/locales/global/os.js

* /common-11-0-5-tgz/package/locales/fr-MR.d.ts
* /common-11-0-5-tgz/package/locales/seh.js
* /common-11-0-5-tgz/package/esm2015/src/directives/ng_class.js
* /common-11-0-5-tgz/package/locales/extra/wo.js
* /common-11-0-5-tgz/package/locales/global/ar-SS.js
* /common-11-0-5-tgz/package/locales/nus.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-PR.d.ts
* /common-11-0-5-tgz/package/locales/global/ckb.js
* /common-11-0-5-tgz/package/locales/extra/kea.d.ts
* /common-11-0-5-tgz/package/locales/ro-MD.js
* /common-11-0-5-tgz/package/locales/extra/en-GG.js
*
/common-11-0-5-tgz/package/locales/global/fa.js
* /common-11-0-5-tgz/package/locales/fr-TN.js
* /common-11-0-5-tgz/package/locales/ta-SG.d.ts
* /common-11-0-5-tgz/package/locales/extra/luy.js
* /common-11-0-5-tgz/package/locales/ff-Latn-BF.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-EH.js
* /common-11-0-5-tgz/package/locales/extra/sbp.js
* /common-11-0-5-tgz/package/locales/en-PR.js
* /common-11-0-5-tgz/package/locales/en-HK.d.ts
* /common-11-0-5-tgz/package/locales/en-DE.js
* /common-11-0-5-tgz/package/esm2015/upgrade/public_api.js
* /common-11-0-5-tgz/package/locales/extra/fr-PF.d.ts
* /common-11-0-5-tgz/package/locales/global/fil.js
* /common-11-0-5-tgz/package/locales/extra/en-MW.d.ts
* /common-11-0-5-tgz/package/locales/extra/ebu.js
* /common-11-0-5-tgz/package/locales/fr-SC.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-YE.d.ts
* /common-11-0-5-tgz/package/locales/global/es-AR.js
* /common-11-0-5-tgz/package/locales/extra/en-SZ.d.ts
* /common-11-0-5-tgz/package/locales/fa-AF.js
*
/common-11-0-5-tgz/package/locales/ln-CG.js
* /common-11-0-5-tgz/package/locales/global/kea.js
* /common-11-0-5-tgz/package/locales/extra/ta.js
* /common-11-0-5-tgz/package/locales/extra/fr-CH.js
* /common-11-0-5-tgz/package/locales/global/rm.js
* /common-11-0-5-tgz/package/esm2015/http/src/interceptor.js
* /common-11-0-5-tgz/package/locales/extra/fr-LU.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-GN.js
* /common-11-0-5-tgz/package/locales/extra/en-VG.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-IN.js
* /common-11-0-5-tgz/package/locales/extra/pt-AO.d.ts
* /common-11-0-5-tgz/package/locales/extra/he.js
* /common-11-0-5-tgz/package/locales/ii.js
* /common-11-0-5-tgz/package/locales/global/ml.js
* /common-11-0-5-tgz/package/locales/extra/gsw.js

* /common-11-0-5-tgz/package/locales/en-IL.d.ts
* /common-11-0-5-tgz/package/locales/de-CH.d.ts
* /common-11-0-5-tgz/package/locales/extra/sd.d.ts
* /common-11-0-5-tgz/package/locales/global/en-SC.js
*
 /common-11-0-5-tgz/package/locales/extra/en-CY.d.ts
* /common-11-0-5-tgz/package/locales/extra/sr-Latn-XK.js
* /common-11-0-5-tgz/package/locales/extra/sw-KE.js
* /common-11-0-5-tgz/package/locales/global/pt.js
* /common-11-0-5-tgz/package/locales/extra/de-AT.d.ts
* /common-11-0-5-tgz/package/locales/extra/ksh.js
* /common-11-0-5-tgz/package/locales/ar-SS.js
* /common-11-0-5-tgz/package/locales/en-NA.d.ts
* /common-11-0-5-tgz/package/locales/global/en-MO.js
* /common-11-0-5-tgz/package/locales/fr-DZ.d.ts
* /common-11-0-5-tgz/package/locales/global/es-BZ.js
* /common-11-0-5-tgz/package/locales/extra/es-UY.js
* /common-11-0-5-tgz/package/locales/extra/bn.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-GW.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-SL.d.ts
* /common-11-0-5-tgz/package/locales/global/nyn.js
* /common-11-0-5-tgz/package/locales/global/sr-Latn-BA.js
* /common-11-0-5-tgz/package/locales/haw.js
* /common-11-0-5-tgz/package/locales/en-MH.js
* /common-11-0-5-tgz/package/locales/extra/es-AR.js
*
 /common-11-0-5-tgz/package/locales/extra/sg.d.ts
* /common-11-0-5-tgz/package/locales/extra/jv.js
* /common-11-0-5-tgz/package/locales/global/ce.js
* /common-11-0-5-tgz/package/locales/extra/en-US-POSIX.js
* /common-11-0-5-tgz/package/locales/extra/el.js
* /common-11-0-5-tgz/package/locales/fo-DK.js
* /common-11-0-5-tgz/package/locales/global/en-MU.js
* /common-11-0-5-tgz/package/locales/gu.js
* /common-11-0-5-tgz/package/esm2015/src/directives/ng_template_outlet.js
* /common-11-0-5-tgz/package/locales/ia.js
* /common-11-0-5-tgz/package/locales/mgh.d.ts
* /common-11-0-5-tgz/package/locales/global/zh-Hans.js
* /common-11-0-5-tgz/package/locales/global/en-GH.js
* /common-11-0-5-tgz/package/locales/ro.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-CM.js
* /common-11-0-5-tgz/package/locales/global/fr-CA.js
* /common-11-0-5-tgz/package/locales/global/ti-ER.js
* /common-11-0-5-tgz/package/locales/dsb.js
* /common-11-0-5-tgz/package/locales/dua.js
* /common-11-0-5-tgz/package/locales/tt.js
*

/common-11-0-5-tgz/package/locales/extra/fr-PM.js
* /common-11-0-5-tgz/package/locales/extra/rm.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-GA.js
* /common-11-0-5-tgz/package/locales/extra/kam.js
* /common-11-0-5-tgz/package/locales/smn.js
* /common-11-0-5-tgz/package/locales/extra/lag.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-MR.js
* /common-11-0-5-tgz/package/locales/sr-Cyrl.js
* /common-11-0-5-tgz/package/locales/ar-ER.js
* /common-11-0-5-tgz/package/locales/nl.js
* /common-11-0-5-tgz/package/locales/fr-VU.d.ts
* /common-11-0-5-tgz/package/locales/pt-GQ.js
* /common-11-0-5-tgz/package/locales/extra/ru-KG.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-KM.js
* /common-11-0-5-tgz/package/locales/global/en-MP.js
* /common-11-0-5-tgz/package/locales/extra/fr-GQ.d.ts
* /common-11-0-5-tgz/package/locales/extra/om-KE.js
* /common-11-0-5-tgz/package/locales/extra/sr-Cyrl-BA.d.ts
* /common-11-0-5-tgz/package/locales/en-KE.d.ts
* /common-11-0-5-tgz/package/locales/om.d.ts
*
/common-11-0-5-tgz/package/locales/haw.d.ts
* /common-11-0-5-tgz/package/locales/extra/ki.js
* /common-11-0-5-tgz/package/locales/khq.js
* /common-11-0-5-tgz/package/locales/global/pa-Guru.js
* /common-11-0-5-tgz/package/locales/global/en-VC.js
* /common-11-0-5-tgz/package/locales/extra/nn.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-ER.js
* /common-11-0-5-tgz/package/locales/global/en-ZA.js
* /common-11-0-5-tgz/package/locales/extra/en-IN.d.ts
* /common-11-0-5-tgz/package/locales/ksh.d.ts
* /common-11-0-5-tgz/package/locales/extra/lg.js
* /common-11-0-5-tgz/package/locales/vo.js
* /common-11-0-5-tgz/package/locales/en-PH.d.ts
* /common-11-0-5-tgz/package/locales/ug.d.ts
* /common-11-0-5-tgz/package/locales/ja.d.ts
* /common-11-0-5-tgz/package/locales/global/wo.js
* /common-11-0-5-tgz/package/locales/extra/yo.d.ts
* /common-11-0-5-tgz/package/locales/en-ZW.js
* /common-11-0-5-tgz/package/locales/global/en-DG.js
* /common-11-0-5-tgz/package/locales/de-IT.js
*
/common-11-0-5-tgz/package/locales/ee.d.ts
* /common-11-0-5-tgz/package/locales/es-UY.d.ts
* /common-11-0-5-tgz/package/esm2015/http/src/backend.js
* /common-11-0-5-tgz/package/locales/extra/ar-SY.js
* /common-11-0-5-tgz/package/locales/pl.d.ts
* /common-11-0-5-tgz/package/locales/en-GG.d.ts

* /common-11-0-5-tgz/package/locales/extra/de-LI.js
* /common-11-0-5-tgz/package/locales/extra/en-BS.d.ts
* /common-11-0-5-tgz/package/locales/nl-SR.js
* /common-11-0-5-tgz/package/locales/global/fr-ML.js
* /common-11-0-5-tgz/package/locales/en-ZM.js
* /common-11-0-5-tgz/package/locales/global/kk.js
* /common-11-0-5-tgz/package/locales/fr-CF.js
* /common-11-0-5-tgz/package/locales/pt-TL.js
* /common-11-0-5-tgz/package/locales/global/kn.js
* /common-11-0-5-tgz/package/locales/lag.d.ts
* /common-11-0-5-tgz/package/locales/fr-BF.js
* /common-11-0-5-tgz/package/locales/pt-PT.d.ts
* /common-11-0-5-tgz/package/locales/global/nb.js
* /common-11-0-5-tgz/package/locales/global/ckb-IR.js
*
/common-11-0-5-tgz/package/locales/global/it.js
* /common-11-0-5-tgz/package/locales/luy.d.ts
* /common-11-0-5-tgz/package/esm2015/src/directives/ng_if.js
* /common-11-0-5-tgz/package/locales/extra/ru-MD.js
* /common-11-0-5-tgz/package/locales/zh-Hant-HK.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-GT.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-MU.js
* /common-11-0-5-tgz/package/locales/extra/pt-GQ.js
* /common-11-0-5-tgz/package/locales/extra/th.d.ts
* /common-11-0-5-tgz/package/locales/fr-TD.js
* /common-11-0-5-tgz/package/locales/teo-KE.d.ts
* /common-11-0-5-tgz/package/locales/ckb.js
* /common-11-0-5-tgz/package/locales/bs-Latn.js
* /common-11-0-5-tgz/package/locales/global/os-RU.js
* /common-11-0-5-tgz/package/locales/extra/en-150.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-KN.d.ts
* /common-11-0-5-tgz/package/locales/ks.d.ts
* /common-11-0-5-tgz/package/locales/extra/br.d.ts
* /common-11-0-5-tgz/package/locales/zh-Hans-MO.js
* /common-11-0-5-tgz/package/locales/extra/vo.d.ts
*
/common-11-0-5-tgz/package/locales/global/teo-KE.js
* /common-11-0-5-tgz/package/locales/global/pt-AO.js
* /common-11-0-5-tgz/package/locales/dav.d.ts
* /common-11-0-5-tgz/package/locales/extra/so-DJ.js
* /common-11-0-5-tgz/package/locales/it.d.ts
* /common-11-0-5-tgz/package/locales/extra/haw.js
* /common-11-0-5-tgz/package/locales/global/gu.js
* /common-11-0-5-tgz/package/locales/extra/es-US.d.ts
* /common-11-0-5-tgz/package/locales/ky.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-NE.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-ER.d.ts
* /common-11-0-5-tgz/package/locales/nds-NL.d.ts

* /common-11-0-5-tgz/package/locales/extra/kn.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-GF.d.ts
* /common-11-0-5-tgz/package/esm2015/src/cookie.js
* /common-11-0-5-tgz/package/locales/fr-BL.js
* /common-11-0-5-tgz/package/locales/extra/ne-IN.js
* /common-11-0-5-tgz/package/esm2015/http/src/xsrf.js
* /common-11-0-5-tgz/package/locales/extra/sw-KE.d.ts
* /common-11-0-5-tgz/package/locales/lo.js
*
/common-11-0-5-tgz/package/locales/ak.d.ts
* /common-11-0-5-tgz/package/locales/en-TT.d.ts
* /common-11-0-5-tgz/package/esm2015/src/location/location.js
* /common-11-0-5-tgz/package/locales/extra/sr-Latn-ME.d.ts
* /common-11-0-5-tgz/package/locales/ko-KP.js
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-GN.d.ts
* /common-11-0-5-tgz/package/locales/global/en-MT.js
* /common-11-0-5-tgz/package/locales/fa-AF.d.ts
* /common-11-0-5-tgz/package/locales/extra/nds.js
* /common-11-0-5-tgz/package/locales/tk.d.ts
* /common-11-0-5-tgz/package/locales/extra/uz-Latn.js
* /common-11-0-5-tgz/package/locales/global/bem.js
* /common-11-0-5-tgz/package/locales/extra/en-CC.d.ts
* /common-11-0-5-tgz/package/locales/extra/nl-BE.d.ts
* /common-11-0-5-tgz/package/locales/az-Latn.js
* /common-11-0-5-tgz/package/locales/extra/rwk.js
* /common-11-0-5-tgz/package/locales/extra/ku.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-AE.d.ts
* /common-11-0-5-tgz/package/locales/dav.js
*
/common-11-0-5-tgz/package/locales/nus.js
* /common-11-0-5-tgz/package/locales/global/guz.js
* /common-11-0-5-tgz/package/locales/extra/fr-BI.d.ts
* /common-11-0-5-tgz/package/locales/extra/et.d.ts
* /common-11-0-5-tgz/package/locales/extra/ckb.js
* /common-11-0-5-tgz/package/locales/mk.js
* /common-11-0-5-tgz/package/locales/en-UG.d.ts
* /common-11-0-5-tgz/package/locales/extra/ml.d.ts
* /common-11-0-5-tgz/package/locales/extra/ee-TG.d.ts
* /common-11-0-5-tgz/package/locales/extra/zh-Hans-MO.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-KM.d.ts
* /common-11-0-5-tgz/package/locales/ar-ER.d.ts
* /common-11-0-5-tgz/package/locales/ses.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-CL.js
* /common-11-0-5-tgz/package/locales/extra/kde.js
* /common-11-0-5-tgz/package/locales/ha-GH.js
* /common-11-0-5-tgz/package/locales/global/fr-NC.js
* /common-11-0-5-tgz/package/locales/hi.js
* /common-11-0-5-tgz/package/locales/extra/en-IM.d.ts

* /common-11-0-5-tgz/package/locales/global/en-IN.js
*
 /common-11-0-5-tgz/package/locales/sv-AX.js
* /common-11-0-5-tgz/package/locales/sr-Cyrl-ME.js
* /common-11-0-5-tgz/package/locales/global/en-SH.js
* /common-11-0-5-tgz/package/locales/global/pt-PT.js
* /common-11-0-5-tgz/package/locales/extra/mfe.js
* /common-11-0-5-tgz/package/locales/extra/xh.d.ts
* /common-11-0-5-tgz/package/locales/nl-CW.js
* /common-11-0-5-tgz/package/locales/extra/ar-JO.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-GB.d.ts
* /common-11-0-5-tgz/package/locales/extra/pt-PT.d.ts
* /common-11-0-5-tgz/package/locales/global/zu.js
* /common-11-0-5-tgz/package/locales/global/en-CA.js
* /common-11-0-5-tgz/package/locales/sr-Latn-ME.js
* /common-11-0-5-tgz/package/locales/extra/en-CC.js
* /common-11-0-5-tgz/package/locales/extra/ja.js
* /common-11-0-5-tgz/package/locales/extra/my.js
* /common-11-0-5-tgz/package/locales/extra/gsw-LI.js
* /common-11-0-5-tgz/package/locales/zh.js
* /common-11-0-5-tgz/package/locales/da-GL.js
* /common-11-0-5-tgz/package/locales/global/ja.js
*
 /common-11-0-5-tgz/package/locales/global/nl-AW.js
* /common-11-0-5-tgz/package/locales/global/en-KN.js
* /common-11-0-5-tgz/package/locales/global/smn.js
* /common-11-0-5-tgz/package/locales/en-BW.d.ts
* /common-11-0-5-tgz/package/locales/pt.d.ts
* /common-11-0-5-tgz/package/locales/en-GU.d.ts
* /common-11-0-5-tgz/package/locales/en-GY.js
* /common-11-0-5-tgz/package/locales/en-SH.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-MC.js
* /common-11-0-5-tgz/package/locales/root.js
* /common-11-0-5-tgz/package/locales/en-DG.d.ts
* /common-11-0-5-tgz/package/locales/extra/ln.js
* /common-11-0-5-tgz/package/locales/extra/mgo.d.ts
* /common-11-0-5-tgz/package/locales/gsw-FR.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn.js
* /common-11-0-5-tgz/package/locales/es-CO.d.ts
* /common-11-0-5-tgz/package/locales/en-TC.d.ts
* /common-11-0-5-tgz/package/locales/extra/zh.js
* /common-11-0-5-tgz/package/locales/ml.d.ts
* /common-11-0-5-tgz/package/esm2015/src/location/location_strategy.js
*
 /common-11-0-5-tgz/package/locales/en-SS.d.ts
* /common-11-0-5-tgz/package/locales/global/en-SZ.js
* /common-11-0-5-tgz/package/locales/lkt.d.ts
* /common-11-0-5-tgz/package/locales/extra/sk.d.ts

* /common-11-0-5-tgz/package/locales/en-RW.d.ts
* /common-11-0-5-tgz/package/locales/extra/uz-Cyrl.js
* /common-11-0-5-tgz/package/locales/extra/sw.js
* /common-11-0-5-tgz/package/locales/fo.d.ts
* /common-11-0-5-tgz/package/locales/en-AS.js
* /common-11-0-5-tgz/package/locales/extra/lkt.d.ts
* /common-11-0-5-tgz/package/locales/en-SI.js
* /common-11-0-5-tgz/package/locales/extra/en-DG.js
* /common-11-0-5-tgz/package/locales/extra/tzm.d.ts
* /common-11-0-5-tgz/package/locales/en-BB.js
* /common-11-0-5-tgz/package/locales/extra/en-PW.d.ts
* /common-11-0-5-tgz/package/locales/be.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-DJ.d.ts
* /common-11-0-5-tgz/package/locales/sr-Cyrl-ME.d.ts
* /common-11-0-5-tgz/package/locales/ar-DJ.js
* /common-11-0-5-tgz/package/locales/ar-YE.js
*
/common-11-0-5-tgz/package/locales/extra/lo.d.ts
* /common-11-0-5-tgz/package/locales/ar-YE.d.ts
* /common-11-0-5-tgz/package/locales/global/yo-BJ.js
* /common-11-0-5-tgz/package/locales/extra/en-BZ.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-GM.js
* /common-11-0-5-tgz/package/locales/global/sg.js
* /common-11-0-5-tgz/package/locales/shi-Latn.d.ts
* /common-11-0-5-tgz/package/locales/en-FJ.d.ts
* /common-11-0-5-tgz/package/locales/extra/so-ET.d.ts
* /common-11-0-5-tgz/package/locales/ps.d.ts
* /common-11-0-5-tgz/package/locales/global/tr-CY.js
* /common-11-0-5-tgz/package/locales/extra/en-SL.js
* /common-11-0-5-tgz/package/locales/global/wae.js
* /common-11-0-5-tgz/package/locales/global/fr-CM.js
* /common-11-0-5-tgz/package/locales/es-GQ.js
* /common-11-0-5-tgz/package/locales/extra/tr-CY.js
* /common-11-0-5-tgz/package/locales/global/mgo.js
* /common-11-0-5-tgz/package/locales/extra/en-PW.js
* /common-11-0-5-tgz/package/esm2015/http/testing/src/backend.js
* /common-11-0-5-tgz/package/locales/extra/zh-Hant-MO.js
*
/common-11-0-5-tgz/package/locales/global/en-FJ.js
* /common-11-0-5-tgz/package/locales/global/fr-MU.js
* /common-11-0-5-tgz/package/locales/ln-AO.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-CI.js
* /common-11-0-5-tgz/package/locales/extra/mn.js
* /common-11-0-5-tgz/package/locales/luo.js
* /common-11-0-5-tgz/package/locales/global/ar-TN.js
* /common-11-0-5-tgz/package/locales/extra/en-NA.d.ts
* /common-11-0-5-tgz/package/locales/ig.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-MU.js

* /common-11-0-5-tgz/package/locales/global/fr-MR.js
* /common-11-0-5-tgz/package/locales/extra/ru-KG.js
* /common-11-0-5-tgz/package/locales/en.d.ts
* /common-11-0-5-tgz/package/locales/global/en-BE.js
* /common-11-0-5-tgz/package/locales/extra/en-CX.js
* /common-11-0-5-tgz/package/locales/extra/es-EA.d.ts
* /common-11-0-5-tgz/package/locales/uz.js
* /common-11-0-5-tgz/package/locales/pt-MO.js
* /common-11-0-5-tgz/package/locales/ta-LK.d.ts
*
/common-11-0-5-tgz/package/locales/extra/en-KI.js
* /common-11-0-5-tgz/package/locales/extra/ff-GN.js
* /common-11-0-5-tgz/package/locales/global/jgo.js
* /common-11-0-5-tgz/package/locales/extra/ca-ES-VALENCIA.js
* /common-11-0-5-tgz/package/locales/extra/en-JE.js
* /common-11-0-5-tgz/package/locales/extra/nnh.d.ts
* /common-11-0-5-tgz/package/locales/ru-MD.d.ts
* /common-11-0-5-tgz/package/locales/ks.js
* /common-11-0-5-tgz/package/locales/kln.js
* /common-11-0-5-tgz/package/locales/extra/en-LC.d.ts
* /common-11-0-5-tgz/package/locales/fr-GF.js
* /common-11-0-5-tgz/package/locales/extra/my.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-NF.js
* /common-11-0-5-tgz/package/locales/ckb-IR.js
* /common-11-0-5-tgz/package/locales/global/ln-CG.js
* /common-11-0-5-tgz/package/locales/extra/pt.js
* /common-11-0-5-tgz/package/locales/global/am.js
* /common-11-0-5-tgz/package/locales/global/es-419.js
* /common-11-0-5-tgz/package/locales/extra/lu.js
* /common-11-0-5-tgz/package/locales/sw-UG.d.ts
*
/common-11-0-5-tgz/package/locales/extra/sr-Latn-XK.d.ts
* /common-11-0-5-tgz/package/esm2015/src/location/hash_location_strategy.js
* /common-11-0-5-tgz/package/locales/global/ta-MY.js
* /common-11-0-5-tgz/package/locales/uz-Cyrl.d.ts
* /common-11-0-5-tgz/package/locales/global/luy.js
* /common-11-0-5-tgz/package/locales/he.d.ts
* /common-11-0-5-tgz/package/locales/global/zh-Hans-MO.js
* /common-11-0-5-tgz/package/locales/global/is.js
* /common-11-0-5-tgz/package/locales/en-GH.js
* /common-11-0-5-tgz/package/locales/extra/shi.d.ts
* /common-11-0-5-tgz/package/esm2015/src/i18n/locale_data.js
* /common-11-0-5-tgz/package/locales/global/it-VA.js
* /common-11-0-5-tgz/package/locales/extra/bs-Latn.js
* /common-11-0-5-tgz/package/locales/kab.d.ts
* /common-11-0-5-tgz/package/locales/en-WS.js
* /common-11-0-5-tgz/package/locales/extra/ms-BN.js
* /common-11-0-5-tgz/package/locales/extra/fr-GQ.js

* /common-11-0-5-tgz/package/locales/extra/en-SC.js
* /common-11-0-5-tgz/package/locales/extra/ar-LB.d.ts
*
 /common-11-0-5-tgz/package/locales/global/en-MY.js
* /common-11-0-5-tgz/package/locales/extra/fr-MR.js
* /common-11-0-5-tgz/package/locales/extra/ug.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-GH.js
* /common-11-0-5-tgz/package/locales/bg.js
* /common-11-0-5-tgz/package/locales/fr-MU.d.ts
* /common-11-0-5-tgz/package/locales/global/kkj.js
* /common-11-0-5-tgz/package/locales/global/yue-Hans.js
* /common-11-0-5-tgz/package/locales/en-SC.d.ts
* /common-11-0-5-tgz/package/locales/extra/ro.d.ts
* /common-11-0-5-tgz/package/locales/extra/so.js
* /common-11-0-5-tgz/package/locales/global/zh.js
* /common-11-0-5-tgz/package/locales/extra/en-GH.js
* /common-11-0-5-tgz/package/locales/pa-Arab.js
* /common-11-0-5-tgz/package/locales/ee-TG.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-ZW.js
* /common-11-0-5-tgz/package/locales/extra/he.d.ts
* /common-11-0-5-tgz/package/locales/nb.js
* /common-11-0-5-tgz/package/locales/so-KE.js
* /common-11-0-5-tgz/package/locales/en-IM.js
*
 /common-11-0-5-tgz/package/locales/extra/en-ZW.d.ts
* /common-11-0-5-tgz/package/locales/fy.d.ts
* /common-11-0-5-tgz/package/locales/global/sbp.js
* /common-11-0-5-tgz/package/locales/pt-CV.d.ts
* /common-11-0-5-tgz/package/locales/extra/tk.d.ts
* /common-11-0-5-tgz/package/locales/fr-SY.d.ts
* /common-11-0-5-tgz/package/locales/ff-CM.d.ts
* /common-11-0-5-tgz/package/locales/global/es-MX.js
* /common-11-0-5-tgz/package/locales/global/nn.js
* /common-11-0-5-tgz/package/locales/global/uz-Latn.js
* /common-11-0-5-tgz/package/locales/ta-SG.js
* /common-11-0-5-tgz/package/locales/extra/hy.js
* /common-11-0-5-tgz/package/locales/lrc-IQ.d.ts
* /common-11-0-5-tgz/package/locales/nl-CW.d.ts
* /common-11-0-5-tgz/package/locales/kea.d.ts
* /common-11-0-5-tgz/package/locales/so.js
* /common-11-0-5-tgz/package/locales/extra/ko.d.ts
* /common-11-0-5-tgz/package/esm2015/src/pipes/slice_pipe.js
* /common-11-0-5-tgz/package/locales/global/so.js
* /common-11-0-5-tgz/package/locales/extra/cu.js
*
 /common-11-0-5-tgz/package/locales/global/fr-YT.js
* /common-11-0-5-tgz/package/locales/jgo.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-RE.js

* /common-11-0-5-tgz/package/locales/extra/en-FI.js
* /common-11-0-5-tgz/package/locales/extra/es.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-MA.js
* /common-11-0-5-tgz/package/locales/extra/hi.d.ts
* /common-11-0-5-tgz/package/locales/global/ff-Latn-SL.js
* /common-11-0-5-tgz/package/locales/global/fr-TG.js
* /common-11-0-5-tgz/package/locales/brx.d.ts
* /common-11-0-5-tgz/package/locales/extra/nl-AW.js
* /common-11-0-5-tgz/package/locales/extra/yav.js
* /common-11-0-5-tgz/package/locales/global/en-GI.js
* /common-11-0-5-tgz/package/locales/extra/bg.d.ts
* /common-11-0-5-tgz/package/esm2015/testing/src/location_mock.js
* /common-11-0-5-tgz/package/locales/extra/sr-Cyrl-XK.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-BF.js
* /common-11-0-5-tgz/package/locales/sk.d.ts
* /common-11-0-5-tgz/package/locales/fr-KM.js
*
/common-11-0-5-tgz/package/locales/extra/fr-CA.d.ts
* /common-11-0-5-tgz/package/locales/extra/te.js
* /common-11-0-5-tgz/package/locales/global/cgg.js
* /common-11-0-5-tgz/package/locales/extra/ln-AO.d.ts
* /common-11-0-5-tgz/package/locales/extra/pa-Arab.d.ts
* /common-11-0-5-tgz/package/locales/pt-MO.d.ts
* /common-11-0-5-tgz/package/locales/yi.d.ts
* /common-11-0-5-tgz/package/locales/global/khq.js
* /common-11-0-5-tgz/package/locales/uz-Latn.d.ts
* /common-11-0-5-tgz/package/locales/es-DO.d.ts
* /common-11-0-5-tgz/package/esm2015/public_api.js
* /common-11-0-5-tgz/package/locales/kln.d.ts
* /common-11-0-5-tgz/package/locales/global/hu.js
* /common-11-0-5-tgz/package/locales/fr-SN.d.ts
* /common-11-0-5-tgz/package/locales/luo.d.ts
* /common-11-0-5-tgz/package/locales/en-FK.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-MT.js
* /common-11-0-5-tgz/package/locales/ar-IQ.js
* /common-11-0-5-tgz/package/locales/extra/fr-LU.js
* /common-11-0-5-tgz/package/locales/extra/ar-LY.d.ts
* /common-11-0-5-tgz/package/locales/global/el-CY.js
*
/common-11-0-5-tgz/package/locales/fr-BJ.js
* /common-11-0-5-tgz/package/locales/global/sr-Cyrl-BA.js
* /common-11-0-5-tgz/package/locales/global/or.js
* /common-11-0-5-tgz/package/locales/ru-MD.js
* /common-11-0-5-tgz/package/locales/extra/nl.d.ts
* /common-11-0-5-tgz/package/locales/gsw.d.ts
* /common-11-0-5-tgz/package/locales/pa.d.ts
* /common-11-0-5-tgz/package/locales/extra/guz.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-CA.js

* /common-11-0-5-tgz/package/locales/bn-IN.d.ts
* /common-11-0-5-tgz/package/locales/global/km.js
* /common-11-0-5-tgz/package/locales/extra/gu.d.ts
* /common-11-0-5-tgz/package/locales/extra/ln-CF.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-DE.js
* /common-11-0-5-tgz/package/locales/fr-GP.d.ts
* /common-11-0-5-tgz/package/locales/extra/se.d.ts
* /common-11-0-5-tgz/package/locales/global/dyo.js
* /common-11-0-5-tgz/package/locales/extra/fr-SC.js
* /common-11-0-5-tgz/package/locales/ia.d.ts
*
/common-11-0-5-tgz/package/locales/saq.d.ts
* /common-11-0-5-tgz/package/locales/es-EA.d.ts
* /common-11-0-5-tgz/package/locales/global/en-UG.js
* /common-11-0-5-tgz/package/locales/fy.js
* /common-11-0-5-tgz/package/locales/extra/ta-MY.js
* /common-11-0-5-tgz/package/locales/es.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-RE.d.ts
* /common-11-0-5-tgz/package/locales/global/en-FM.js
* /common-11-0-5-tgz/package/locales/en-FI.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-AE.js
* /common-11-0-5-tgz/package/locales/luy.js
* /common-11-0-5-tgz/package/locales/extra/ses.d.ts
* /common-11-0-5-tgz/package/locales/kn.js
* /common-11-0-5-tgz/package/locales/extra/da-GL.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn.js
* /common-11-0-5-tgz/package/locales/extra/ru-UA.d.ts
* /common-11-0-5-tgz/package/locales/global/ses.js
* /common-11-0-5-tgz/package/locales/global/it-CH.js
* /common-11-0-5-tgz/package/locales/en-LC.js
* /common-11-0-5-tgz/package/locales/global/ru.js
* /common-11-0-5-tgz/package/locales/fr-MA.js
*
/common-11-0-5-tgz/package/locales/ru-UA.js
* /common-11-0-5-tgz/package/locales/extra/smn.js
* /common-11-0-5-tgz/package/locales/global/es-VE.js
* /common-11-0-5-tgz/package/locales/es-CU.d.ts
* /common-11-0-5-tgz/package/locales/extra/yue-Hant.js
* /common-11-0-5-tgz/package/locales/ar-EG.js
* /common-11-0-5-tgz/package/locales/rof.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-GU.d.ts
* /common-11-0-5-tgz/package/locales/om-KE.d.ts
* /common-11-0-5-tgz/package/locales/naq.d.ts
* /common-11-0-5-tgz/package/locales/eo.js
* /common-11-0-5-tgz/package/locales/de.js
* /common-11-0-5-tgz/package/locales/es-BZ.js
* /common-11-0-5-tgz/package/locales/extra/de-LI.d.ts
* /common-11-0-5-tgz/package/locales/extra/cu.d.ts

* /common-11-0-5-tgz/package/locales/en-NF.js
* /common-11-0-5-tgz/package/locales/global/vai.js
* /common-11-0-5-tgz/package/locales/ca-IT.d.ts
* /common-11-0-5-tgz/package/locales/lrc-IQ.js
* /common-11-0-5-tgz/package/locales/global/ar-SO.js
*
/common-11-0-5-tgz/package/locales/vi.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-MG.js
* /common-11-0-5-tgz/package/locales/fr-MG.js
* /common-11-0-5-tgz/package/locales/extra/nl-BQ.js
* /common-11-0-5-tgz/package/locales/global/hsb.js
* /common-11-0-5-tgz/package/locales/extra/bo.js
* /common-11-0-5-tgz/package/locales/extra/twq.js
* /common-11-0-5-tgz/package/locales/global/yi.js
* /common-11-0-5-tgz/package/locales/extra/bn.js
* /common-11-0-5-tgz/package/locales/global/pt-LU.js
* /common-11-0-5-tgz/package/locales/extra/da-GL.d.ts
* /common-11-0-5-tgz/package/locales/ti-ER.js
* /common-11-0-5-tgz/package/locales/hu.js
* /common-11-0-5-tgz/package/locales/ca-IT.js
* /common-11-0-5-tgz/package/locales/extra/uz-Cyrl.d.ts
* /common-11-0-5-tgz/package/locales/extra/zh-Hans-HK.js
* /common-11-0-5-tgz/package/locales/extra/rw.js
* /common-11-0-5-tgz/package/locales/global/ps.js
* /common-11-0-5-tgz/package/locales/sr-Cyrl-BA.js
* /common-11-0-5-tgz/package/locales/extra/en-FJ.d.ts
*
/common-11-0-5-tgz/package/locales/extra/et.js
* /common-11-0-5-tgz/package/locales/fi.d.ts
* /common-11-0-5-tgz/package/locales/global/yav.js
* /common-11-0-5-tgz/package/locales/en-AT.js
* /common-11-0-5-tgz/package/locales/nyn.d.ts
* /common-11-0-5-tgz/package/locales/en-FM.d.ts
* /common-11-0-5-tgz/package/locales/extra/uz.js
* /common-11-0-5-tgz/package/locales/en-DK.d.ts
* /common-11-0-5-tgz/package/locales/extra/sw-UG.js
* /common-11-0-5-tgz/package/esm2015/testing/src/mock_platform_location.js
* /common-11-0-5-tgz/package/locales/extra/es-BZ.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-SC.js
* /common-11-0-5-tgz/package/locales/fr-NE.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-NG.js
* /common-11-0-5-tgz/package/locales/extra/en-TO.d.ts
* /common-11-0-5-tgz/package/locales/en-FI.js
* /common-11-0-5-tgz/package/locales/extra/smn.d.ts
* /common-11-0-5-tgz/package/locales/it-SM.js
* /common-11-0-5-tgz/package/locales/extra/ca-ES-VALENCIA.d.ts
* /common-11-0-5-tgz/package/locales/ar-AE.js
*

/common-11-0-5-tgz/package/locales/wae.js
* /common-11-0-5-tgz/package/locales/extra/mg.js
* /common-11-0-5-tgz/package/locales/extra/ig.js
* /common-11-0-5-tgz/package/locales/extra/ar-MR.d.ts
* /common-11-0-5-tgz/package/locales/lb.d.ts
* /common-11-0-5-tgz/package/locales/sr-Cyrl.d.ts
* /common-11-0-5-tgz/package/locales/en-SI.d.ts
* /common-11-0-5-tgz/package/locales/extra/pt-MO.js
* /common-11-0-5-tgz/package/locales/extra/ksh.d.ts
* /common-11-0-5-tgz/package/locales/en-SE.d.ts
* /common-11-0-5-tgz/package/locales/global/zh-Hant-MO.js
* /common-11-0-5-tgz/package/locales/extra/en-NU.js
* /common-11-0-5-tgz/package/locales/fr-RE.d.ts
* /common-11-0-5-tgz/package/locales/en-BM.d.ts
* /common-11-0-5-tgz/package/locales/global/ff-Latn-GN.js
* /common-11-0-5-tgz/package/locales/extra/uz.d.ts
* /common-11-0-5-tgz/package/locales/extra/ta-SG.js
* /common-11-0-5-tgz/package/locales/yue-Hant.js
* /common-11-0-5-tgz/package/locales/extra/ky.d.ts
* /common-11-0-5-tgz/package/locales/ms.d.ts
*
/common-11-0-5-tgz/package/locales/global/fr-CH.js
* /common-11-0-5-tgz/package/locales/global/en-MS.js
* /common-11-0-5-tgz/package/locales/extra/rwk.d.ts
* /common-11-0-5-tgz/package/locales/en-SC.js
* /common-11-0-5-tgz/package/locales/az.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-KY.d.ts
* /common-11-0-5-tgz/package/locales/global/en-BM.js
* /common-11-0-5-tgz/package/locales/global/nd.js
* /common-11-0-5-tgz/package/locales/vai.d.ts
* /common-11-0-5-tgz/package/locales/or.js
* /common-11-0-5-tgz/package/locales/extra/en-KY.js
* /common-11-0-5-tgz/package/locales/extra/en-PR.js
* /common-11-0-5-tgz/package/locales/en-CM.js
* /common-11-0-5-tgz/package/locales/extra/en-UM.d.ts
* /common-11-0-5-tgz/package/locales/global/ha.js
* /common-11-0-5-tgz/package/locales/global/lu.js
* /common-11-0-5-tgz/package/esm2015/src/dom_adapter.js
* /common-11-0-5-tgz/package/locales/global/luo.js
* /common-11-0-5-tgz/package/locales/en-TC.js
* /common-11-0-5-tgz/package/locales/extra/ff.js
*
/common-11-0-5-tgz/package/locales/extra/ff-Latn-GH.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-CY.js
* /common-11-0-5-tgz/package/locales/sw-KE.d.ts
* /common-11-0-5-tgz/package/locales/fr-GN.d.ts
* /common-11-0-5-tgz/package/locales/global/en-SI.js
* /common-11-0-5-tgz/package/locales/ceb.js

* /common-11-0-5-tgz/package/locales/extra/qu.js
* /common-11-0-5-tgz/package/locales/fr-MG.d.ts
* /common-11-0-5-tgz/package/locales/to.js
* /common-11-0-5-tgz/package/locales/extra/ko-KP.js
* /common-11-0-5-tgz/package/locales/en-001.js
* /common-11-0-5-tgz/package/locales/extra/bas.d.ts
* /common-11-0-5-tgz/package/locales/ses.js
* /common-11-0-5-tgz/package/locales/global/nmg.js
* /common-11-0-5-tgz/package/locales/en-SX.js
* /common-11-0-5-tgz/package/locales/global/en-CK.js
* /common-11-0-5-tgz/package/esm2015/upgrade/src/location_upgrade_module.js
* /common-11-0-5-tgz/package/locales/hsb.d.ts
* /common-11-0-5-tgz/package/locales/extra/sl.js
*
/common-11-0-5-tgz/package/locales/nd.d.ts
* /common-11-0-5-tgz/package/locales/extra/nd.js
* /common-11-0-5-tgz/package/locales/global/mn.js
* /common-11-0-5-tgz/package/locales/extra/ia.d.ts
* /common-11-0-5-tgz/package/locales/global/sr-Latn-ME.js
* /common-11-0-5-tgz/package/locales/extra/seh.d.ts
* /common-11-0-5-tgz/package/locales/en-CC.d.ts
* /common-11-0-5-tgz/package/locales/global/es-SV.js
* /common-11-0-5-tgz/package/locales/en-ER.d.ts
* /common-11-0-5-tgz/package/locales/en-NG.js
* /common-11-0-5-tgz/package/locales/ca-AD.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-BI.js
* /common-11-0-5-tgz/package/locales/fr-PF.d.ts
* /common-11-0-5-tgz/package/locales/ar-MA.js
* /common-11-0-5-tgz/package/locales/extra/yue-Hant.d.ts
* /common-11-0-5-tgz/package/locales/global/bez.js
* /common-11-0-5-tgz/package/esm2015/src/i18n/locale_data_api.js
* /common-11-0-5-tgz/package/locales/global/es-PA.js
* /common-11-0-5-tgz/package/locales/extra/ar-SA.d.ts
* /common-11-0-5-tgz/package/locales/extra/af.js
*
/common-11-0-5-tgz/package/locales/extra/jv.d.ts
* /common-11-0-5-tgz/package/locales/global/pa.js
* /common-11-0-5-tgz/package/locales/kw.d.ts
* /common-11-0-5-tgz/package/locales/extra/se-SE.d.ts
* /common-11-0-5-tgz/package/locales/extra/ast.js
* /common-11-0-5-tgz/package/locales/fr-PM.d.ts
* /common-11-0-5-tgz/package/locales/en-GD.js
* /common-11-0-5-tgz/package/locales/global/fr-HT.js
* /common-11-0-5-tgz/package/locales/sn.d.ts
* /common-11-0-5-tgz/package/locales/ga-GB.d.ts
* /common-11-0-5-tgz/package/locales/extra/lb.js
* /common-11-0-5-tgz/package/locales/global/ka.js
* /common-11-0-5-tgz/package/locales/en-PW.js

* /common-11-0-5-tgz/package/locales/gd.d.ts
* /common-11-0-5-tgz/package/locales/global/lb.js
* /common-11-0-5-tgz/package/locales/en-SG.js
* /common-11-0-5-tgz/package/locales/fr-RW.d.ts
* /common-11-0-5-tgz/package/locales/ta.js
* /common-11-0-5-tgz/package/locales/extra/jmc.d.ts
* /common-11-0-5-tgz/package/locales/lu.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-SC.d.ts
*
/common-11-0-5-tgz/package/locales/extra/ff-GN.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-GY.js
* /common-11-0-5-tgz/package/locales/global/en-VG.js
* /common-11-0-5-tgz/package/locales/extra/ceb.js
* /common-11-0-5-tgz/package/locales/global/ta-SG.js
* /common-11-0-5-tgz/package/locales/sr-Cyrl-XK.js
* /common-11-0-5-tgz/package/locales/gv.js
* /common-11-0-5-tgz/package/locales/extra/ar.js
* /common-11-0-5-tgz/package/locales/extra/root.js
* /common-11-0-5-tgz/package/locales/extra/fr-TG.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-MG.js
* /common-11-0-5-tgz/package/locales/bem.js
* /common-11-0-5-tgz/package/locales/extra/sr-Latn-BA.js
* /common-11-0-5-tgz/package/locales/es-US.d.ts
* /common-11-0-5-tgz/package/locales/global/zh-Hant-HK.js
* /common-11-0-5-tgz/package/locales/extra/lb.d.ts
* /common-11-0-5-tgz/package/locales/extra/ca.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-JE.d.ts
* /common-11-0-5-tgz/package/locales/pt-TL.d.ts
*
/common-11-0-5-tgz/package/locales/bg.d.ts
* /common-11-0-5-tgz/package/locales/en-MS.js
* /common-11-0-5-tgz/package/locales/global/es-DO.js
* /common-11-0-5-tgz/package/locales/ar-IL.js
* /common-11-0-5-tgz/package/locales/ne.js
* /common-11-0-5-tgz/package/locales/en-CK.d.ts
* /common-11-0-5-tgz/package/esm2015/src/pipes/keyvalue_pipe.js
* /common-11-0-5-tgz/package/locales/extra/fr-MF.d.ts
* /common-11-0-5-tgz/package/locales/rm.js
* /common-11-0-5-tgz/package/locales/extra/en-TC.d.ts
* /common-11-0-5-tgz/package/locales/global/en-US-POSIX.js
* /common-11-0-5-tgz/package/locales/se-SE.js
* /common-11-0-5-tgz/package/locales/global/da-GL.js
* /common-11-0-5-tgz/package/esm2015/src/pipes/index.js
* /common-11-0-5-tgz/package/locales/en-SB.js
* /common-11-0-5-tgz/package/locales/rwk.js
* /common-11-0-5-tgz/package/locales/global/en-NF.js
* /common-11-0-5-tgz/package/locales/ar-IL.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-CA.js

* /common-11-0-5-tgz/package/locales/extra/es-PA.d.ts
*
 /common-11-0-5-tgz/package/locales/extra/en-MY.js
* /common-11-0-5-tgz/package/locales/ms-BN.js
* /common-11-0-5-tgz/package/locales/global/hr.js
* /common-11-0-5-tgz/package/locales/es-BO.d.ts
* /common-11-0-5-tgz/package/locales/global/brx.js
* /common-11-0-5-tgz/package/locales/global/vo.js
* /common-11-0-5-tgz/package/locales/fr-BF.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn.js
* /common-11-0-5-tgz/package/locales/ki.js
* /common-11-0-5-tgz/package/locales/extra/bo.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-CG.d.ts
* /common-11-0-5-tgz/package/locales/de-BE.js
* /common-11-0-5-tgz/package/locales/en-JE.js
* /common-11-0-5-tgz/package/locales/en-RW.js
* /common-11-0-5-tgz/package/locales/extra/mt.d.ts
* /common-11-0-5-tgz/package/locales/extra/ak.js
* /common-11-0-5-tgz/package/locales/extra/mgh.js
* /common-11-0-5-tgz/package/locales/nds.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-CH.d.ts
* /common-11-0-5-tgz/package/locales/extra/uk.js
*
 /common-11-0-5-tgz/package/locales/extra/qu-EC.js
* /common-11-0-5-tgz/package/locales/fr-BJ.d.ts
* /common-11-0-5-tgz/package/locales/global/sk.js
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-GM.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-EG.js
* /common-11-0-5-tgz/package/locales/lt.js
* /common-11-0-5-tgz/package/locales/fr-YT.js
* /common-11-0-5-tgz/package/locales/extra/en-GD.d.ts
* /common-11-0-5-tgz/package/locales/extra/ta-MY.d.ts
* /common-11-0-5-tgz/package/locales/uk.d.ts
* /common-11-0-5-tgz/package/locales/extra/kea.js
* /common-11-0-5-tgz/package/locales/fr-TG.js
* /common-11-0-5-tgz/package/locales/extra/ccp-IN.js
* /common-11-0-5-tgz/package/locales/extra/en-DK.js
* /common-11-0-5-tgz/package/locales/ru.js
* /common-11-0-5-tgz/package/locales/extra/cs.js
* /common-11-0-5-tgz/package/locales/shi-Tfng.d.ts
* /common-11-0-5-tgz/package/locales/zh-Hant-MO.d.ts
* /common-11-0-5-tgz/package/locales/extra/rn.d.ts
* /common-11-0-5-tgz/package/locales/de-LI.js
*
 /common-11-0-5-tgz/package/locales/extra/khq.js
* /common-11-0-5-tgz/package/locales/ccp-IN.d.ts
* /common-11-0-5-tgz/package/locales/af-NA.js
* /common-11-0-5-tgz/package/locales/ce.d.ts

* /common-11-0-5-tgz/package/locales/extra/es-BO.d.ts
* /common-11-0-5-tgz/package/locales/en-MO.js
* /common-11-0-5-tgz/package/locales/extra/ee.js
* /common-11-0-5-tgz/package/locales/vi.js
* /common-11-0-5-tgz/package/locales/extra/pt-MZ.d.ts
* /common-11-0-5-tgz/package/locales/extra/bg.js
* /common-11-0-5-tgz/package/locales/extra/zh-Hant-MO.d.ts
* /common-11-0-5-tgz/package/locales/global/es-IC.js
* /common-11-0-5-tgz/package/locales/ar-LB.d.ts
* /common-11-0-5-tgz/package/locales/extra/shi-Latn.js
* /common-11-0-5-tgz/package/locales/pt-CV.js
* /common-11-0-5-tgz/package/locales/global/es-UY.js
* /common-11-0-5-tgz/package/locales/zgh.d.ts
* /common-11-0-5-tgz/package/locales/extra/se.js
* /common-11-0-5-tgz/package/locales/en-NU.d.ts
* /common-11-0-5-tgz/package/locales/os.js
* /common-11-0-5-tgz/package/locales/extra/en-ZM.d.ts
*
/common-11-0-5-tgz/package/locales/extra/es-PY.js
* /common-11-0-5-tgz/package/locales/extra/kl.js
* /common-11-0-5-tgz/package/locales/mi.d.ts
* /common-11-0-5-tgz/package/locales/extra/fi.d.ts
* /common-11-0-5-tgz/package/locales/extra/ckb.d.ts
* /common-11-0-5-tgz/package/locales/extra/pt-TL.d.ts
* /common-11-0-5-tgz/package/locales/extra/fy.d.ts
* /common-11-0-5-tgz/package/locales/ar-LY.js
* /common-11-0-5-tgz/package/locales/bas.d.ts
* /common-11-0-5-tgz/package/locales/extra/mer.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-BF.js
* /common-11-0-5-tgz/package/locales/ro-MD.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-SB.js
* /common-11-0-5-tgz/package/locales/nn.js
* /common-11-0-5-tgz/package/locales/global/es-BR.js
* /common-11-0-5-tgz/package/locales/extra/en-DM.js
* /common-11-0-5-tgz/package/locales/global/pa-Arab.js
* /common-11-0-5-tgz/package/locales/extra/pt-GW.d.ts
* /common-11-0-5-tgz/package/locales/fr-BI.js
* /common-11-0-5-tgz/package/locales/extra/mas-TZ.js
*
/common-11-0-5-tgz/package/locales/extra/ms-SG.js
* /common-11-0-5-tgz/package/locales/extra/guz.js
* /common-11-0-5-tgz/package/locales/extra/shi-Tfng.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-GH.d.ts
* /common-11-0-5-tgz/package/locales/extra/rw.d.ts
* /common-11-0-5-tgz/package/locales/extra/wae.d.ts
* /common-11-0-5-tgz/package/locales/es-MX.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-SZ.js
* /common-11-0-5-tgz/package/locales/extra/vai.d.ts

* /common-11-0-5-tgz/package/locales/sw-CD.d.ts
* /common-11-0-5-tgz/package/locales/de-LU.js
* /common-11-0-5-tgz/package/locales/global/ha-NE.js
* /common-11-0-5-tgz/package/locales/extra/ms.d.ts
* /common-11-0-5-tgz/package/locales/asa.d.ts
* /common-11-0-5-tgz/package/locales/fr-CM.js
* /common-11-0-5-tgz/package/locales/sw.d.ts
* /common-11-0-5-tgz/package/locales/extra/ta.d.ts
* /common-11-0-5-tgz/package/locales/ky.js
* /common-11-0-5-tgz/package/locales/extra/vi.d.ts
* /common-11-0-5-tgz/package/locales/se-FI.d.ts
*
/common-11-0-5-tgz/package/locales/extra/en-SG.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-NR.js
* /common-11-0-5-tgz/package/locales/extra/fr-WF.js
* /common-11-0-5-tgz/package/locales/en-AG.d.ts
* /common-11-0-5-tgz/package/locales/en-AU.js
* /common-11-0-5-tgz/package/locales/global/en-BZ.js
* /common-11-0-5-tgz/package/locales/az-Cyrl.js
* /common-11-0-5-tgz/package/locales/global/saq.js
* /common-11-0-5-tgz/package/locales/extra/en-CK.js
* /common-11-0-5-tgz/package/locales/sw-KE.js
* /common-11-0-5-tgz/package/locales/ceb.d.ts
* /common-11-0-5-tgz/package/locales/extra/os-RU.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-IQ.js
* /common-11-0-5-tgz/package/locales/extra/ff-CM.d.ts
* /common-11-0-5-tgz/package/locales/fr-CA.d.ts
* /common-11-0-5-tgz/package/locales/extra/nmg.js
* /common-11-0-5-tgz/package/locales/kde.d.ts
* /common-11-0-5-tgz/package/locales/fr-GF.d.ts
* /common-11-0-5-tgz/package/locales/extra/de-LU.d.ts
* /common-11-0-5-tgz/package/locales/fr-BE.d.ts
*
/common-11-0-5-tgz/package/locales/es-PR.js
* /common-11-0-5-tgz/package/locales/ne.d.ts
* /common-11-0-5-tgz/package/locales/extra/sw-UG.d.ts
* /common-11-0-5-tgz/package/locales/en-CY.d.ts
* /common-11-0-5-tgz/package/locales/extra/ca-FR.js
* /common-11-0-5-tgz/package/locales/fr-CD.js
* /common-11-0-5-tgz/package/locales/en-PR.d.ts
* /common-11-0-5-tgz/package/locales/en-TV.d.ts
* /common-11-0-5-tgz/package/locales/ps-PK.js
* /common-11-0-5-tgz/package/locales/tg.d.ts
* /common-11-0-5-tgz/package/locales/extra/lg.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-DG.d.ts
* /common-11-0-5-tgz/package/locales/extra/ru.js
* /common-11-0-5-tgz/package/locales/global/mi.js
* /common-11-0-5-tgz/package/esm2015/http/src/request.js

* /common-11-0-5-tgz/package/locales/extra/fur.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-AT.d.ts
* /common-11-0-5-tgz/package/locales/es-EA.js
* /common-11-0-5-tgz/package/locales/extra/en-PN.d.ts
* /common-11-0-5-tgz/package/locales/so.d.ts
*
/common-11-0-5-tgz/package/locales/global/dsb.js
* /common-11-0-5-tgz/package/locales/extra/en-TT.d.ts
* /common-11-0-5-tgz/package/locales/global/ak.js
* /common-11-0-5-tgz/package/locales/extra/sq.d.ts
* /common-11-0-5-tgz/package/locales/global/az-Cyrl.js
* /common-11-0-5-tgz/package/locales/en-MT.js
* /common-11-0-5-tgz/package/locales/extra/es-CL.d.ts
* /common-11-0-5-tgz/package/locales/extra/nmg.d.ts
* /common-11-0-5-tgz/package/locales/ckb.d.ts
* /common-11-0-5-tgz/package/locales/fr-CG.js
* /common-11-0-5-tgz/package/locales/global/fr-NE.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-MR.js
* /common-11-0-5-tgz/package/locales/extra/kk.d.ts
* /common-11-0-5-tgz/package/locales/global/en-AT.js
* /common-11-0-5-tgz/package/locales/global/en-CC.js
* /common-11-0-5-tgz/package/locales/global/en-IO.js
* /common-11-0-5-tgz/package/locales/extra/fr-TN.d.ts
* /common-11-0-5-tgz/package/locales/global/ff-MR.js
* /common-11-0-5-tgz/package/locales/es.js
*
/common-11-0-5-tgz/package/locales/shi-Latn.js
* /common-11-0-5-tgz/package/locales/en-NL.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-OM.js
* /common-11-0-5-tgz/package/locales/extra/cy.d.ts
* /common-11-0-5-tgz/package/locales/global/sr.js
* /common-11-0-5-tgz/package/locales/extra/es-GQ.js
* /common-11-0-5-tgz/package/locales/extra/ig.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-TC.js
* /common-11-0-5-tgz/package/locales/extra/fr-BJ.js
* /common-11-0-5-tgz/package/locales/hu.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-RW.d.ts
* /common-11-0-5-tgz/package/locales/en-TO.d.ts
* /common-11-0-5-tgz/package/locales/extra/ckb-IR.js
* /common-11-0-5-tgz/package/locales/global/fr-PM.js
* /common-11-0-5-tgz/package/locales/extra/fr-CD.js
* /common-11-0-5-tgz/package/locales/extra/nl-SR.js
* /common-11-0-5-tgz/package/locales/extra/sv-AX.d.ts
* /common-11-0-5-tgz/package/locales/global/en.js
* /common-11-0-5-tgz/package/locales/extra/en-NL.d.ts
* /common-11-0-5-tgz/package/locales/os-RU.js
*

/common-11-0-5-tgz/package/locales/fa.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-BF.js
* /common-11-0-5-tgz/package/locales/extra/ko-KP.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-LR.js
* /common-11-0-5-tgz/package/locales/extra/en-NZ.js
* /common-11-0-5-tgz/package/locales/extra/en-MG.d.ts
* /common-11-0-5-tgz/package/locales/global/xh.js
* /common-11-0-5-tgz/package/locales/global/fr-MQ.js
* /common-11-0-5-tgz/package/locales/global/fr-CD.js
* /common-11-0-5-tgz/package/locales/extra/ga.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-TT.js
* /common-11-0-5-tgz/package/locales/uz-Latn.js
* /common-11-0-5-tgz/package/locales/global/en-PR.js
* /common-11-0-5-tgz/package/locales/en-MS.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-TK.d.ts
* /common-11-0-5-tgz/package/locales/extra/zh.d.ts
* /common-11-0-5-tgz/package/locales/en-GI.js
* /common-11-0-5-tgz/package/locales/ff-GN.d.ts
* /common-11-0-5-tgz/package/locales/extra/ha.js
*
/common-11-0-5-tgz/package/locales/es-GQ.d.ts
* /common-11-0-5-tgz/package/locales/extra/zu.d.ts
* /common-11-0-5-tgz/package/locales/en-JE.d.ts
* /common-11-0-5-tgz/package/locales/hsb.js
* /common-11-0-5-tgz/package/locales/fr-MC.d.ts
* /common-11-0-5-tgz/package/locales/global/en-BI.js
* /common-11-0-5-tgz/package/locales/fr-HT.d.ts
* /common-11-0-5-tgz/package/locales/extra/qu-BO.js
* /common-11-0-5-tgz/package/locales/ar-KW.js
* /common-11-0-5-tgz/package/locales/en-MY.js
* /common-11-0-5-tgz/package/locales/extra/en-WS.d.ts
* /common-11-0-5-tgz/package/locales/en-CX.d.ts
* /common-11-0-5-tgz/package/esm2015/src/location/index.js
* /common-11-0-5-tgz/package/locales/global/en-SE.js
* /common-11-0-5-tgz/package/locales/fil.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-YE.js
* /common-11-0-5-tgz/package/locales/mt.js
* /common-11-0-5-tgz/package/locales/global/de-LI.js
* /common-11-0-5-tgz/package/locales/ff-CM.js
* /common-11-0-5-tgz/package/locales/global/es-GQ.js
* /common-11-0-5-tgz/package/locales/extra/twq.d.ts
*
/common-11-0-5-tgz/package/locales/global/mg.js
* /common-11-0-5-tgz/package/locales/extra/de-BE.d.ts
* /common-11-0-5-tgz/package/locales/xh.js
* /common-11-0-5-tgz/package/locales/extra/dsb.js
* /common-11-0-5-tgz/package/locales/global/ln-AO.js
* /common-11-0-5-tgz/package/locales/ps-PK.d.ts

* /common-11-0-5-tgz/package/locales/qu.js
* /common-11-0-5-tgz/package/locales/extra/es-BR.d.ts
* /common-11-0-5-tgz/package/locales/extra/ce.d.ts
* /common-11-0-5-tgz/package/locales/en-BI.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-CG.js
* /common-11-0-5-tgz/package/locales/global/fr-KM.js
* /common-11-0-5-tgz/package/locales/ff-Latn-MR.d.ts
* /common-11-0-5-tgz/package/locales/en-DM.js
* /common-11-0-5-tgz/package/locales/extra/it.d.ts
* /common-11-0-5-tgz/package/locales/bez.d.ts
* /common-11-0-5-tgz/package/locales/fr-KM.d.ts
* /common-11-0-5-tgz/package/locales/ne-IN.js
* /common-11-0-5-tgz/package/locales/extra/zh-Hans.js
* /common-11-0-5-tgz/package/locales/extra/es-IC.js
*
/common-11-0-5-tgz/package/locales/extra/ar-EG.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-LR.js
* /common-11-0-5-tgz/package/locales/extra/mua.js
* /common-11-0-5-tgz/package/locales/bo.js
* /common-11-0-5-tgz/package/locales/bs.d.ts
* /common-11-0-5-tgz/package/locales/global/om.js
* /common-11-0-5-tgz/package/locales/global/mr.js
* /common-11-0-5-tgz/package/locales/es-CR.js
* /common-11-0-5-tgz/package/locales/extra/kok.d.ts
* /common-11-0-5-tgz/package/locales/mn.js
* /common-11-0-5-tgz/package/locales/en-SD.d.ts
* /common-11-0-5-tgz/package/locales/extra/ccp.js
* /common-11-0-5-tgz/package/locales/en-FK.js
* /common-11-0-5-tgz/package/locales/extra/en-GM.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-DZ.js
* /common-11-0-5-tgz/package/locales/extra/az-Latn.js
* /common-11-0-5-tgz/package/locales/tk.js
* /common-11-0-5-tgz/package/locales/global/en-SB.js
* /common-11-0-5-tgz/package/locales/zh-Hant.js
* /common-11-0-5-tgz/package/locales/ha-GH.d.ts
*
/common-11-0-5-tgz/package/locales/global/kw.js
* /common-11-0-5-tgz/package/locales/global/en-NR.js
* /common-11-0-5-tgz/package/locales/extra/gd.d.ts
* /common-11-0-5-tgz/package/locales/global/tzm.js
* /common-11-0-5-tgz/package/locales/pt-ST.js
* /common-11-0-5-tgz/package/locales/global/fr-CI.js
* /common-11-0-5-tgz/package/locales/global/ar-ER.js
* /common-11-0-5-tgz/package/locales/en-KN.js
* /common-11-0-5-tgz/package/locales/is.d.ts
* /common-11-0-5-tgz/package/locales/ca.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-VI.d.ts
* /common-11-0-5-tgz/package/locales/extra/be.d.ts

* /common-11-0-5-tgz/package/locales/fr-TN.d.ts
* /common-11-0-5-tgz/package/locales/gd.js
* /common-11-0-5-tgz/package/locales/extra/nb-SJ.js
* /common-11-0-5-tgz/package/locales/global/ccp.js
* /common-11-0-5-tgz/package/locales/global/fr-BI.js
* /common-11-0-5-tgz/package/locales/global/zgh.js
* /common-11-0-5-tgz/package/locales/extra/vai-Vaii.d.ts
* /common-11-0-5-tgz/package/locales/extra/be.js
*
/common-11-0-5-tgz/package/locales/extra/en-FK.d.ts
* /common-11-0-5-tgz/package/locales/global/mas.js
* /common-11-0-5-tgz/package/locales/en-BS.d.ts
* /common-11-0-5-tgz/package/locales/extra/pa-Guru.d.ts
* /common-11-0-5-tgz/package/locales/global/sr-Cyrl.js
* /common-11-0-5-tgz/package/locales/extra/da.js
* /common-11-0-5-tgz/package/locales/extra/fr.d.ts
* /common-11-0-5-tgz/package/esm2015/testing/src/mock_location_strategy.js
* /common-11-0-5-tgz/package/locales/es-PR.d.ts
* /common-11-0-5-tgz/package/locales/global/el.js
* /common-11-0-5-tgz/package/esm2015/src/version.js
* /common-11-0-5-tgz/package/locales/extra/kok.js
* /common-11-0-5-tgz/package/locales/global/yo.js
* /common-11-0-5-tgz/package/locales/extra/ff-CM.js
* /common-11-0-5-tgz/package/locales/hi.d.ts
* /common-11-0-5-tgz/package/locales/extra/zh-Hant-HK.js
* /common-11-0-5-tgz/package/locales/de.d.ts
* /common-11-0-5-tgz/package/locales/extra/bs-Cyrl.js
* /common-11-0-5-tgz/package/locales/extra/mer.js
*
/common-11-0-5-tgz/package/locales/kam.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-NC.d.ts
* /common-11-0-5-tgz/package/locales/extra/it-SM.d.ts
* /common-11-0-5-tgz/package/locales/extra/sv.d.ts
* /common-11-0-5-tgz/package/locales/extra/de-AT.js
* /common-11-0-5-tgz/package/locales/global/fr-GN.js
* /common-11-0-5-tgz/package/locales/ig.js
* /common-11-0-5-tgz/package/locales/cu.d.ts
* /common-11-0-5-tgz/package/locales/extra/om.js
* /common-11-0-5-tgz/package/locales/global/fr-DJ.js
* /common-11-0-5-tgz/package/locales/global/es-CR.js
* /common-11-0-5-tgz/package/locales/extra/it-VA.js
* /common-11-0-5-tgz/package/locales/extra/lt.d.ts
* /common-11-0-5-tgz/package/locales/global/de-IT.js
* /common-11-0-5-tgz/package/locales/extra/en-PN.js
* /common-11-0-5-tgz/package/locales/extra/dz.d.ts
* /common-11-0-5-tgz/package/locales/am.js
* /common-11-0-5-tgz/package/locales/tg.js
* /common-11-0-5-tgz/package/locales/so-KE.d.ts

* /common-11-0-5-tgz/package/locales/extra/de-IT.js
*
 /common-11-0-5-tgz/package/locales/extra/en-SH.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-CH.js
* /common-11-0-5-tgz/package/locales/global/sv.js
* /common-11-0-5-tgz/package/locales/naq.js
* /common-11-0-5-tgz/package/locales/global/it-SM.js
* /common-11-0-5-tgz/package/locales/extra/pa-Arab.js
* /common-11-0-5-tgz/package/locales/global/ki.js
* /common-11-0-5-tgz/package/locales/extra/ar-EH.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-NG.d.ts
* /common-11-0-5-tgz/package/locales/extra/fil.js
* /common-11-0-5-tgz/package/locales/es-BZ.d.ts
* /common-11-0-5-tgz/package/locales/global/en-DE.js
* /common-11-0-5-tgz/package/esm2015/http/testing/src/api.js
* /common-11-0-5-tgz/package/locales/extra/fr-CF.d.ts
* /common-11-0-5-tgz/package/locales/ar-EG.d.ts
* /common-11-0-5-tgz/package/locales/bn.js
* /common-11-0-5-tgz/package/locales/sn.js
* /common-11-0-5-tgz/package/locales/wo.js
* /common-11-0-5-tgz/package/locales/nb-SJ.js
* /common-11-0-5-tgz/package/locales/global/fo-DK.js
*
 /common-11-0-5-tgz/package/locales/teo.js
* /common-11-0-5-tgz/package/locales/en-BM.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-NE.js
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-LR.d.ts
* /common-11-0-5-tgz/package/esm2015/http/src/module.js
* /common-11-0-5-tgz/package/locales/extra/sr-Cyrl-BA.js
* /common-11-0-5-tgz/package/locales/extra/en-MW.js
* /common-11-0-5-tgz/package/locales/global/lkt.js
* /common-11-0-5-tgz/package/locales/extra/ur.js
* /common-11-0-5-tgz/package/locales/es-PE.d.ts
* /common-11-0-5-tgz/package/locales/global/bn.js
* /common-11-0-5-tgz/package/locales/zh-Hant.d.ts
* /common-11-0-5-tgz/package/locales/global/pt-GW.js
* /common-11-0-5-tgz/package/locales/extra/fr-MR.d.ts
* /common-11-0-5-tgz/package/locales/extra/gsw-FR.js
* /common-11-0-5-tgz/package/locales/extra/shi.js
* /common-11-0-5-tgz/package/locales/dua.d.ts
* /common-11-0-5-tgz/package/locales/extra/gv.js
* /common-11-0-5-tgz/package/locales/extra/en.js
*
 /common-11-0-5-tgz/package/locales/global/ar-IL.js
* /common-11-0-5-tgz/package/esm2015/http/public_api.js
* /common-11-0-5-tgz/package/locales/extra/naq.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-LS.js
* /common-11-0-5-tgz/package/locales/extra/dz.js

* /common-11-0-5-tgz/package/locales/pt-CH.d.ts
* /common-11-0-5-tgz/package/locales/nn.d.ts
* /common-11-0-5-tgz/package/locales/extra/mk.d.ts
* /common-11-0-5-tgz/package/locales/global/en-WS.js
* /common-11-0-5-tgz/package/locales/extra/ug.d.ts
* /common-11-0-5-tgz/package/locales/ewo.js
* /common-11-0-5-tgz/package/locales/sq-XK.d.ts
* /common-11-0-5-tgz/package/locales/br.d.ts
* /common-11-0-5-tgz/package/locales/global/sv-AX.js
* /common-11-0-5-tgz/package/locales/extra/en-NR.d.ts
* /common-11-0-5-tgz/package/locales/nl-SX.d.ts
* /common-11-0-5-tgz/package/locales/qu-EC.d.ts
* /common-11-0-5-tgz/package/locales/brx.js
* /common-11-0-5-tgz/package/locales/extra/gl.d.ts
* /common-11-0-5-tgz/package/locales/it-VA.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-GH.js
*
/common-11-0-5-tgz/package/locales/extra/sw-CD.js
* /common-11-0-5-tgz/package/locales/global/fi.js
* /common-11-0-5-tgz/package/locales/en-MU.d.ts
* /common-11-0-5-tgz/package/locales/en-IO.js
* /common-11-0-5-tgz/package/locales/en-KN.d.ts
* /common-11-0-5-tgz/package/locales/xog.js
* /common-11-0-5-tgz/package/locales/extra/mzn.js
* /common-11-0-5-tgz/package/locales/extra/ru-MD.d.ts
* /common-11-0-5-tgz/package/locales/extra/dav.js
* /common-11-0-5-tgz/package/locales/extra/ti.js
* /common-11-0-5-tgz/package/locales/global/ee.js
* /common-11-0-5-tgz/package/locales/hr-BA.d.ts
* /common-11-0-5-tgz/package/locales/si.js
* /common-11-0-5-tgz/package/locales/extra/ku.js
* /common-11-0-5-tgz/package/locales/en-MO.d.ts
* /common-11-0-5-tgz/package/locales/en-VI.js
* /common-11-0-5-tgz/package/locales/da-GL.d.ts
* /common-11-0-5-tgz/package/locales/extra/kkj.js
* /common-11-0-5-tgz/package/locales/ee-TG.js
* /common-11-0-5-tgz/package/locales/extra/en-BS.js
*
/common-11-0-5-tgz/package/locales/extra/sr-Cyrl-XK.js
* /common-11-0-5-tgz/package/locales/ff-MR.js
* /common-11-0-5-tgz/package/locales/khq.d.ts
* /common-11-0-5-tgz/package/locales/fr-CF.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-UY.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-BI.js
* /common-11-0-5-tgz/package/locales/en.js
* /common-11-0-5-tgz/package/locales/sr-Latn-BA.js
* /common-11-0-5-tgz/package/locales/pl.js
* /common-11-0-5-tgz/package/locales/global/so-ET.js

* /common-11-0-5-tgz/package/locales/pt-ST.d.ts
* /common-11-0-5-tgz/package/locales/extra/nds-NL.js
* /common-11-0-5-tgz/package/locales/extra/cs.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-PR.js
* /common-11-0-5-tgz/package/locales/global/fo.js
* /common-11-0-5-tgz/package/locales/global/nl-BQ.js
* /common-11-0-5-tgz/package/esm2015/src/pipes/number_pipe.js
* /common-11-0-5-tgz/package/locales/extra/pt-TL.js
* /common-11-0-5-tgz/package/esm2015/src/common.js
* /common-11-0-5-tgz/package/esm2015/src/viewport_scroller.js
*
 /common-11-0-5-tgz/package/locales/en-TT.js
* /common-11-0-5-tgz/package/locales/extra/fr-PM.d.ts
* /common-11-0-5-tgz/package/locales/zu.d.ts
* /common-11-0-5-tgz/package/locales/extra/it.js
* /common-11-0-5-tgz/package/locales/extra/fr-YT.js
* /common-11-0-5-tgz/package/locales/extra/en-GH.d.ts
* /common-11-0-5-tgz/package/locales/pt-AO.d.ts
* /common-11-0-5-tgz/package/esm2015/http/src/jsonp.js
* /common-11-0-5-tgz/package/locales/en-SX.d.ts
* /common-11-0-5-tgz/package/locales/fr-TD.d.ts
* /common-11-0-5-tgz/package/locales/extra/asa.d.ts
* /common-11-0-5-tgz/package/locales/global/en-AG.js
* /common-11-0-5-tgz/package/locales/extra/vi.js
* /common-11-0-5-tgz/package/locales/fr-CM.d.ts
* /common-11-0-5-tgz/package/locales/en-NG.d.ts
* /common-11-0-5-tgz/package/locales/shi-Tfng.js
* /common-11-0-5-tgz/package/locales/en-MH.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-MU.d.ts
* /common-11-0-5-tgz/package/locales/extra/yi.d.ts
*
 /common-11-0-5-tgz/package/locales/extra/en-HK.d.ts
* /common-11-0-5-tgz/package/locales/extra/sr-Cyrl.d.ts
* /common-11-0-5-tgz/package/locales/en-CC.js
* /common-11-0-5-tgz/package/locales/om.js
* /common-11-0-5-tgz/package/locales/te.js
* /common-11-0-5-tgz/package/locales/global/hi.js
* /common-11-0-5-tgz/package/locales/ksf.js
* /common-11-0-5-tgz/package/locales/extra/so-KE.d.ts
* /common-11-0-5-tgz/package/locales/extra/os-RU.js
* /common-11-0-5-tgz/package/locales/extra/ar-SO.js
* /common-11-0-5-tgz/package/locales/mas-TZ.d.ts
* /common-11-0-5-tgz/package/locales/extra/de.js
* /common-11-0-5-tgz/package/locales/global/ceb.js
* /common-11-0-5-tgz/package/locales/extra/kab.js
* /common-11-0-5-tgz/package/locales/en-US-POSIX.js
* /common-11-0-5-tgz/package/locales/extra/fr-SN.js
* /common-11-0-5-tgz/package/locales/extra/fr-MF.js

* /common-11-0-5-tgz/package/locales/fr-MR.js
* /common-11-0-5-tgz/package/locales/extra/en-GB.js
* /common-11-0-5-tgz/package/locales/en-DG.js
* /common-11-0-5-tgz/package/locales/ebu.d.ts
*
 /common-11-0-5-tgz/package/locales/extra/ewo.js
* /common-11-0-5-tgz/package/locales/extra/en-SX.d.ts
* /common-11-0-5-tgz/package/locales/pt-MZ.d.ts
* /common-11-0-5-tgz/package/locales/ar-AE.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-TZ.js
* /common-11-0-5-tgz/package/locales/pa-Arab.d.ts
* /common-11-0-5-tgz/package/locales/extra/to.js
* /common-11-0-5-tgz/package/locales/extra/bem.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-IM.js
* /common-11-0-5-tgz/package/locales/ru.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-LY.js
* /common-11-0-5-tgz/package/locales/en-CA.d.ts
* /common-11-0-5-tgz/package/locales/global/cy.js
* /common-11-0-5-tgz/package/locales/extra/tg.js
* /common-11-0-5-tgz/package/locales/extra/is.d.ts
* /common-11-0-5-tgz/package/locales/ar-SO.js
* /common-11-0-5-tgz/package/locales/mgo.d.ts
* /common-11-0-5-tgz/package/locales/extra/ky.js
* /common-11-0-5-tgz/package/locales/extra/ln-CG.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-SY.js
*
 /common-11-0-5-tgz/package/locales/fr-DJ.js
* /common-11-0-5-tgz/package/locales/so-DJ.js
* /common-11-0-5-tgz/package/locales/ar-EH.js
* /common-11-0-5-tgz/package/locales/cs.js
* /common-11-0-5-tgz/package/locales/global/fr-PF.js
* /common-11-0-5-tgz/package/locales/en-SB.d.ts
* /common-11-0-5-tgz/package/locales/extra/gsw.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-FK.js
* /common-11-0-5-tgz/package/locales/global/gsw-LI.js
* /common-11-0-5-tgz/package/locales/zh-Hant-HK.js
* /common-11-0-5-tgz/package/esm2015/src/pipes/i18n_plural_pipe.js
* /common-11-0-5-tgz/package/locales/en-SL.d.ts
* /common-11-0-5-tgz/package/locales/global/gsw.js
* /common-11-0-5-tgz/package/locales/extra/ha-NE.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-EA.js
* /common-11-0-5-tgz/package/locales/extra/mi.js
* /common-11-0-5-tgz/package/locales/extra/hsb.d.ts
* /common-11-0-5-tgz/package/locales/global/br.js
* /common-11-0-5-tgz/package/locales/en-GM.d.ts
*
 /common-11-0-5-tgz/package/locales/en-ZM.d.ts
* /common-11-0-5-tgz/package/locales/th.js

* /common-11-0-5-tgz/package/locales/extra/en-AS.js
* /common-11-0-5-tgz/package/locales/extra/ru-KZ.js
* /common-11-0-5-tgz/package/locales/en-JM.js
* /common-11-0-5-tgz/package/locales/global/en-SX.js
* /common-11-0-5-tgz/package/locales/en-AT.d.ts
* /common-11-0-5-tgz/package/locales/bez.js
* /common-11-0-5-tgz/package/locales/extra/en-SE.d.ts
* /common-11-0-5-tgz/package/locales/extra/hy.d.ts
* /common-11-0-5-tgz/package/locales/et.d.ts
* /common-11-0-5-tgz/package/locales/yue.d.ts
* /common-11-0-5-tgz/package/locales/sq-XK.js
* /common-11-0-5-tgz/package/locales/es-PY.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-AT.js
* /common-11-0-5-tgz/package/locales/ff-Latn-LR.d.ts
* /common-11-0-5-tgz/package/locales/fo.js
* /common-11-0-5-tgz/package/locales/global/en-BW.js
* /common-11-0-5-tgz/package/locales/it-SM.d.ts
* /common-11-0-5-tgz/package/locales/lo.d.ts
* /common-11-0-5-tgz/package/locales/extra/ksb.d.ts
*
/common-11-0-5-tgz/package/locales/extra/th.js
* /common-11-0-5-tgz/package/locales/ar-JO.js
* /common-11-0-5-tgz/package/locales/extra/ses.js
* /common-11-0-5-tgz/package/locales/extra/ar-PS.js
* /common-11-0-5-tgz/package/locales/extra/pl.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-BH.js
* /common-11-0-5-tgz/package/locales/global/fr-WF.js
* /common-11-0-5-tgz/package/locales/global/ru-UA.js
* /common-11-0-5-tgz/package/locales/yav.d.ts
* /common-11-0-5-tgz/package/locales/extra/ko.js
* /common-11-0-5-tgz/package/locales/en-AE.js
* /common-11-0-5-tgz/package/locales/extra/en-NG.d.ts
* /common-11-0-5-tgz/package/locales/global/my.js
* /common-11-0-5-tgz/package/locales/global/to.js
* /common-11-0-5-tgz/package/locales/extra/es-EC.js
* /common-11-0-5-tgz/package/locales/fr-WF.d.ts
* /common-11-0-5-tgz/package/esm2015/src/directives/ng_style.js
* /common-11-0-5-tgz/package/locales/ar-TD.d.ts
* /common-11-0-5-tgz/package/locales/fr-GA.d.ts
* /common-11-0-5-tgz/package/locales/es-AR.js
*
/common-11-0-5-tgz/package/locales/en-SS.js
* /common-11-0-5-tgz/package/locales/ha.d.ts
* /common-11-0-5-tgz/package/locales/global/ff.js
* /common-11-0-5-tgz/package/locales/qu-BO.d.ts
* /common-11-0-5-tgz/package/locales/fr-BI.d.ts
* /common-11-0-5-tgz/package/esm2015/src/pipes/invalid_pipe_argument_error.js
* /common-11-0-5-tgz/package/locales/si.d.ts

* /common-11-0-5-tgz/package/locales/ar-TN.js
* /common-11-0-5-tgz/package/locales/fr-MF.js
* /common-11-0-5-tgz/package/locales/extra/en-ZM.js
* /common-11-0-5-tgz/package/locales/extra/fr-CD.d.ts
* /common-11-0-5-tgz/package/locales/kl.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-GA.js
* /common-11-0-5-tgz/package/locales/extra/en-VC.js
* /common-11-0-5-tgz/package/locales/da.js
* /common-11-0-5-tgz/package/locales/global/pl.js
* /common-11-0-5-tgz/package/locales/en-AU.d.ts
* /common-11-0-5-tgz/package/locales/nl-AW.js
* /common-11-0-5-tgz/package/locales/extra/fr-CM.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-SO.d.ts
*
/common-11-0-5-tgz/package/locales/ar-PS.d.ts
* /common-11-0-5-tgz/package/locales/eo.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-DJ.js
* /common-11-0-5-tgz/package/locales/nmg.js
* /common-11-0-5-tgz/package/locales/extra/ks.js
* /common-11-0-5-tgz/package/locales/kw.js
* /common-11-0-5-tgz/package/locales/to.d.ts
* /common-11-0-5-tgz/package/locales/qu.d.ts
* /common-11-0-5-tgz/package/locales/en-MT.d.ts
* /common-11-0-5-tgz/package/locales/global/seh.js
* /common-11-0-5-tgz/package/locales/extra/fr-BJ.d.ts
* /common-11-0-5-tgz/package/locales/extra/nl-SX.d.ts
* /common-11-0-5-tgz/package/locales/fr-DJ.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-GW.js
* /common-11-0-5-tgz/package/locales/extra/en-FM.js
* /common-11-0-5-tgz/package/locales/extra/haw.d.ts
* /common-11-0-5-tgz/package/locales/extra/mas.js
* /common-11-0-5-tgz/package/locales/extra/fr-MC.d.ts
* /common-11-0-5-tgz/package/locales/extra/zu.js
* /common-11-0-5-tgz/package/locales/global/sq.js
*
/common-11-0-5-tgz/package/locales/lv.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-FM.d.ts
* /common-11-0-5-tgz/package/locales/extra/dav.d.ts
* /common-11-0-5-tgz/package/locales/extra/luo.d.ts
* /common-11-0-5-tgz/package/locales/global/mer.js
* /common-11-0-5-tgz/package/locales/teo.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-CM.d.ts
* /common-11-0-5-tgz/package/locales/global/mua.js
* /common-11-0-5-tgz/package/locales/pt-LU.d.ts
* /common-11-0-5-tgz/package/locales/extra/os.d.ts
* /common-11-0-5-tgz/package/locales/ca-ES-VALENCIA.js
* /common-11-0-5-tgz/package/locales/ga.js
* /common-11-0-5-tgz/package/locales/en-VC.js

* /common-11-0-5-tgz/package/locales/en-IL.js
* /common-11-0-5-tgz/package/locales/extra/en-BI.d.ts
* /common-11-0-5-tgz/package/locales/global/ru-MD.js
* /common-11-0-5-tgz/package/locales/nl-BE.js
* /common-11-0-5-tgz/package/locales/global/ro.js
* /common-11-0-5-tgz/package/locales/en-VC.d.ts
* /common-11-0-5-tgz/package/locales/fur.js
*
/common-11-0-5-tgz/package/locales/global/kl.js
* /common-11-0-5-tgz/package/locales/fr-MQ.js
* /common-11-0-5-tgz/package/locales/extra/pt-LU.d.ts
* /common-11-0-5-tgz/package/locales/om-KE.js
* /common-11-0-5-tgz/package/locales/ln-CF.d.ts
* /common-11-0-5-tgz/package/locales/de-IT.d.ts
* /common-11-0-5-tgz/package/locales/extra/fa-AF.js
* /common-11-0-5-tgz/package/locales/cgg.js
* /common-11-0-5-tgz/package/locales/extra/ta-LK.d.ts
* /common-11-0-5-tgz/package/locales/ha-NE.d.ts
* /common-11-0-5-tgz/package/locales/global/nds-NL.js
* /common-11-0-5-tgz/package/locales/ebu.js
* /common-11-0-5-tgz/package/locales/extra/sq-XK.js
* /common-11-0-5-tgz/package/locales/lt.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-GT.js
* /common-11-0-5-tgz/package/locales/extra/qu.d.ts
* /common-11-0-5-tgz/package/locales/global/ur-IN.js
* /common-11-0-5-tgz/package/locales/rw.d.ts
* /common-11-0-5-tgz/package/locales/yue.js
* /common-11-0-5-tgz/package/locales/extra/ka.js
* /common-11-0-5-tgz/package/locales/global/ig.js
*
/common-11-0-5-tgz/package/locales/global/shi-Latn.js
* /common-11-0-5-tgz/package/locales/es-VE.js
* /common-11-0-5-tgz/package/locales/fr-MF.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-GW.d.ts
* /common-11-0-5-tgz/package/locales/global/en-JE.js
* /common-11-0-5-tgz/package/locales/extra/ar-LB.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-CM.js
* /common-11-0-5-tgz/package/locales/dje.js
* /common-11-0-5-tgz/package/locales/global/ca-ES-VALENCIA.js
* /common-11-0-5-tgz/package/locales/global/ms-SG.js
* /common-11-0-5-tgz/package/locales/ur-IN.js
* /common-11-0-5-tgz/package/locales/ar-BH.js
* /common-11-0-5-tgz/package/locales/jv.js
* /common-11-0-5-tgz/package/locales/extra/en-PG.js
* /common-11-0-5-tgz/package/locales/extra/fur.js
* /common-11-0-5-tgz/package/locales/extra/br.js
* /common-11-0-5-tgz/package/locales/extra/en-MH.js
* /common-11-0-5-tgz/package/locales/mer.js

* /common-11-0-5-tgz/package/locales/extra/en-SE.js
*
 /common-11-0-5-tgz/package/locales/he.js
* /common-11-0-5-tgz/package/locales/global/bn-IN.js
* /common-11-0-5-tgz/package/locales/en-AE.d.ts
* /common-11-0-5-tgz/package/locales/global/se.js
* /common-11-0-5-tgz/package/locales/fo-DK.d.ts
* /common-11-0-5-tgz/package/locales/global/zh-Hant.js
* /common-11-0-5-tgz/package/locales/extra/en-CM.d.ts
* /common-11-0-5-tgz/package/locales/global/sq-XK.js
* /common-11-0-5-tgz/package/locales/global/bo.js
* /common-11-0-5-tgz/package/locales/extra/rn.js
* /common-11-0-5-tgz/package/locales/global/en-SG.js
* /common-11-0-5-tgz/package/locales/global/uz-Cyrl.js
* /common-11-0-5-tgz/package/locales/extra/en-TO.js
* /common-11-0-5-tgz/package/locales/yi.js
* /common-11-0-5-tgz/package/locales/global/de-CH.js
* /common-11-0-5-tgz/package/locales/global/en-TZ.js
* /common-11-0-5-tgz/package/locales/ksf.d.ts
* /common-11-0-5-tgz/package/locales/lag.js
* /common-11-0-5-tgz/package/locales/extra/lrc-IQ.js
* /common-11-0-5-tgz/package/locales/global/si.js
*
 /common-11-0-5-tgz/package/locales/extra/teo.js
* /common-11-0-5-tgz/package/locales/extra/vai.js
* /common-11-0-5-tgz/package/locales/extra/si.js
* /common-11-0-5-tgz/package/locales/ki.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-SD.js
* /common-11-0-5-tgz/package/locales/en-BZ.d.ts
* /common-11-0-5-tgz/package/locales/vun.js
* /common-11-0-5-tgz/package/locales/global/ksf.js
* /common-11-0-5-tgz/package/locales/extra/agq.js
* /common-11-0-5-tgz/package/locales/global/ar-DZ.js
* /common-11-0-5-tgz/package/locales/extra/fr-GF.js
* /common-11-0-5-tgz/package/locales/ln.d.ts
* /common-11-0-5-tgz/package/locales/se.d.ts
* /common-11-0-5-tgz/package/locales/global/da.js
* /common-11-0-5-tgz/package/locales/extra/bo-IN.js
* /common-11-0-5-tgz/package/locales/global/es-BO.js
* /common-11-0-5-tgz/package/locales/sv-FI.js
* /common-11-0-5-tgz/package/locales/es-PH.d.ts
* /common-11-0-5-tgz/package/esm2015/testing/index.js
* /common-11-0-5-tgz/package/locales/extra/bem.js
* /common-11-0-5-tgz/package/locales/global/fr-MC.js
*
 /common-11-0-5-tgz/package/locales/ln-CF.js
* /common-11-0-5-tgz/package/locales/en-SZ.d.ts
* /common-11-0-5-tgz/package/locales/extra/gv.d.ts

* /common-11-0-5-tgz/package/locales/extra/teo-KE.d.ts
* /common-11-0-5-tgz/package/locales/extra/ak.d.ts
* /common-11-0-5-tgz/package/locales/sd.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-MR.js
* /common-11-0-5-tgz/package/locales/global/ar-LY.js
* /common-11-0-5-tgz/package/locales/en-GM.js
* /common-11-0-5-tgz/package/locales/extra/en-MY.d.ts
* /common-11-0-5-tgz/package/locales/global/mgh.js
* /common-11-0-5-tgz/package/locales/ru-KG.js
* /common-11-0-5-tgz/package/locales/extra/ar-AE.d.ts
* /common-11-0-5-tgz/package/locales/global/ti.js
* /common-11-0-5-tgz/package/locales/extra/pt-ST.js
* /common-11-0-5-tgz/package/locales/guz.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-QA.js
* /common-11-0-5-tgz/package/locales/ar-KW.d.ts
* /common-11-0-5-tgz/package/locales/global/de.js
*
/common-11-0-5-tgz/package/locales/kn.d.ts
* /common-11-0-5-tgz/package/locales/global/es-EA.js
* /common-11-0-5-tgz/package/locales/extra/es-SV.js
* /common-11-0-5-tgz/package/locales/extra/pt-MO.d.ts
* /common-11-0-5-tgz/package/locales/de-LI.d.ts
* /common-11-0-5-tgz/package/locales/en-001.d.ts
* /common-11-0-5-tgz/package/locales/sq-MK.js
* /common-11-0-5-tgz/package/esm2015/upgrade/src/location_shim.js
* /common-11-0-5-tgz/package/locales/hr.d.ts
* /common-11-0-5-tgz/package/locales/en-AS.d.ts
* /common-11-0-5-tgz/package/locales/extra/dyo.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-CR.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-OM.js
* /common-11-0-5-tgz/package/locales/extra/fr-TD.js
* /common-11-0-5-tgz/package/esm2015/src/i18n/localization.js
* /common-11-0-5-tgz/package/locales/es-SV.d.ts
* /common-11-0-5-tgz/package/locales/ff-MR.d.ts
* /common-11-0-5-tgz/package/locales/ta-MY.d.ts
* /common-11-0-5-tgz/package/locales/en-SD.js
* /common-11-0-5-tgz/package/locales/en-CX.js
*
/common-11-0-5-tgz/package/locales/extra/sah.js
* /common-11-0-5-tgz/package/locales/global/en-NZ.js
* /common-11-0-5-tgz/package/locales/es-CU.js
* /common-11-0-5-tgz/package/locales/extra/en-SI.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-UM.js
* /common-11-0-5-tgz/package/locales/extra/ja.d.ts
* /common-11-0-5-tgz/package/locales/fr-LU.js
* /common-11-0-5-tgz/package/locales/fr-NC.d.ts
* /common-11-0-5-tgz/package/locales/global/sr-Cyrl-ME.js
* /common-11-0-5-tgz/package/locales/extra/kab.d.ts

* /common-11-0-5-tgz/package/locales/extra/sq.js
* /common-11-0-5-tgz/package/locales/global/fy.js
* /common-11-0-5-tgz/package/locales/extra/en-NU.d.ts
* /common-11-0-5-tgz/package/locales/fr-CG.d.ts
* /common-11-0-5-tgz/package/locales/vai-Latn.js
* /common-11-0-5-tgz/package/esm2015/src/pipes/async_pipe.js
* /common-11-0-5-tgz/package/locales/extra/de-CH.d.ts
* /common-11-0-5-tgz/package/locales/extra/ps.js
* /common-11-0-5-tgz/package/locales/ru-KZ.js
* /common-11-0-5-tgz/package/locales/extra/es-HN.js
*
/common-11-0-5-tgz/package/locales/nl.d.ts
* /common-11-0-5-tgz/package/locales/en-SG.d.ts
* /common-11-0-5-tgz/package/locales/cu.js
* /common-11-0-5-tgz/package/locales/extra/ee-TG.js
* /common-11-0-5-tgz/package/locales/global/fr-TN.js
* /common-11-0-5-tgz/package/locales/lv.js
* /common-11-0-5-tgz/package/locales/global/en-NG.js
* /common-11-0-5-tgz/package/locales/global/ast.js
* /common-11-0-5-tgz/package/locales/mk.d.ts
* /common-11-0-5-tgz/package/locales/fr-PM.js
* /common-11-0-5-tgz/package/locales/global/ca-IT.js
* /common-11-0-5-tgz/package/locales/extra/cy.js
* /common-11-0-5-tgz/package/locales/nl-BQ.d.ts
* /common-11-0-5-tgz/package/locales/global/en-IM.js
* /common-11-0-5-tgz/package/locales/extra/en-TK.js
* /common-11-0-5-tgz/package/locales/eu.js
* /common-11-0-5-tgz/package/locales/extra/es-CO.js
* /common-11-0-5-tgz/package/locales/ur.js
* /common-11-0-5-tgz/package/locales/de-LU.d.ts
* /common-11-0-5-tgz/package/locales/global/en-IE.js
*
/common-11-0-5-tgz/package/locales/global/ar-IQ.js
* /common-11-0-5-tgz/package/locales/extra/zh-Hant.d.ts
* /common-11-0-5-tgz/package/locales/extra/chr.js
* /common-11-0-5-tgz/package/locales/global/se-FI.js
* /common-11-0-5-tgz/package/locales/global/ko.js
* /common-11-0-5-tgz/package/locales/en-GH.d.ts
* /common-11-0-5-tgz/package/locales/global/pt-CH.js
* /common-11-0-5-tgz/package/locales/extra/am.d.ts
* /common-11-0-5-tgz/package/locales/extra/mi.d.ts
* /common-11-0-5-tgz/package/locales/global/ksh.js
* /common-11-0-5-tgz/package/locales/extra/mk.js
* /common-11-0-5-tgz/package/locales/extra/ar-IL.js
* /common-11-0-5-tgz/package/locales/global/uk.js
* /common-11-0-5-tgz/package/locales/extra/shi-Latn.d.ts
* /common-11-0-5-tgz/package/locales/ar-LY.d.ts
* /common-11-0-5-tgz/package/esm2015/upgrade/src/index.js

* /common-11-0-5-tgz/package/locales/extra/es-NI.d.ts
* /common-11-0-5-tgz/package/locales/extra/am.js
* /common-11-0-5-tgz/package/locales/extra/mgh.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-BO.js
*
 /common-11-0-5-tgz/package/locales/extra/ti-ER.js
* /common-11-0-5-tgz/package/locales/global/ga-GB.js
* /common-11-0-5-tgz/package/locales/ko-KP.d.ts
* /common-11-0-5-tgz/package/locales/sr-Latn-XK.d.ts
* /common-11-0-5-tgz/package/locales/extra/as.d.ts
* /common-11-0-5-tgz/package/locales/mas.js
* /common-11-0-5-tgz/package/locales/extra/ga-GB.js
* /common-11-0-5-tgz/package/locales/seh.d.ts
* /common-11-0-5-tgz/package/locales/ff.d.ts
* /common-11-0-5-tgz/package/locales/extra/mas-TZ.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-PS.js
* /common-11-0-5-tgz/package/locales/extra/en-BE.d.ts
* /common-11-0-5-tgz/package/locales/tr-CY.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-AR.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-VE.d.ts
* /common-11-0-5-tgz/package/locales/extra/pl.js
* /common-11-0-5-tgz/package/locales/gsw-LI.d.ts
* /common-11-0-5-tgz/package/locales/ar-JO.d.ts
* /common-11-0-5-tgz/package/locales/extra/root.d.ts
*
 /common-11-0-5-tgz/package/locales/global/rof.js
* /common-11-0-5-tgz/package/locales/os-RU.d.ts
* /common-11-0-5-tgz/package/locales/extra/tr.js
* /common-11-0-5-tgz/package/locales/bn.d.ts
* /common-11-0-5-tgz/package/locales/extra/it-VA.d.ts
* /common-11-0-5-tgz/package/locales/global/nl.js
* /common-11-0-5-tgz/package/locales/sw-CD.js
* /common-11-0-5-tgz/package/locales/extra/en-LS.d.ts
* /common-11-0-5-tgz/package/locales/extra/ewo.d.ts
* /common-11-0-5-tgz/package/locales/es-CL.d.ts
* /common-11-0-5-tgz/package/locales/extra/zh-Hans-SG.d.ts
* /common-11-0-5-tgz/package/locales/global/so-KE.js
* /common-11-0-5-tgz/package/locales/mn.d.ts
* /common-11-0-5-tgz/package/locales/extra/lv.js
* /common-11-0-5-tgz/package/locales/extra/ms-BN.d.ts
* /common-11-0-5-tgz/package/locales/global/ks.js
* /common-11-0-5-tgz/package/locales/jmc.js
* /common-11-0-5-tgz/package/locales/ar-KM.d.ts
* /common-11-0-5-tgz/package/locales/extra/tr.d.ts
* /common-11-0-5-tgz/package/locales/pa.js
*
 /common-11-0-5-tgz/package/locales/extra/xh.js
* /common-11-0-5-tgz/package/locales/kok.js

* /common-11-0-5-tgz/package/locales/bs-Cyrl.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-BF.js
* /common-11-0-5-tgz/package/locales/global/bg.js
* /common-11-0-5-tgz/package/locales/extra/en-150.js
* /common-11-0-5-tgz/package/locales/global/en-001.js
* /common-11-0-5-tgz/package/locales/extra/pt-CH.js
* /common-11-0-5-tgz/package/locales/ha.js
* /common-11-0-5-tgz/package/locales/global/en-LS.js
* /common-11-0-5-tgz/package/locales/fr-LU.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-GW.js
* /common-11-0-5-tgz/package/locales/extra/en-SS.js
* /common-11-0-5-tgz/package/locales/extra/en-NF.d.ts
* /common-11-0-5-tgz/package/locales/global/en-VI.js
* /common-11-0-5-tgz/package/locales/fr-ML.js
* /common-11-0-5-tgz/package/locales/extra/sr-Latn.d.ts
* /common-11-0-5-tgz/package/locales/fr-SN.js
* /common-11-0-5-tgz/package/locales/global/ia.js
* /common-11-0-5-tgz/package/locales/global/fr-TD.js
*
/common-11-0-5-tgz/package/locales/extra/pa-Guru.js
* /common-11-0-5-tgz/package/locales/extra/ro-MD.d.ts
* /common-11-0-5-tgz/package/locales/ga.d.ts
* /common-11-0-5-tgz/package/locales/xh.d.ts
* /common-11-0-5-tgz/package/locales/global/es-GT.js
* /common-11-0-5-tgz/package/locales/extra/en-NA.js
* /common-11-0-5-tgz/package/locales/extra/fr-CF.js
* /common-11-0-5-tgz/package/locales/qu-EC.js
* /common-11-0-5-tgz/package/locales/extra/en-DE.d.ts
* /common-11-0-5-tgz/package/locales/ar.js
* /common-11-0-5-tgz/package/locales/extra/en-HK.js
* /common-11-0-5-tgz/package/locales/fr-CD.d.ts
* /common-11-0-5-tgz/package/locales/bo.d.ts
* /common-11-0-5-tgz/package/locales/global/en-SS.js
* /common-11-0-5-tgz/package/locales/es-SV.js
* /common-11-0-5-tgz/package/locales/tr-CY.js
* /common-11-0-5-tgz/package/locales/extra/en-NL.js
* /common-11-0-5-tgz/package/locales/extra/fr-DJ.js
* /common-11-0-5-tgz/package/locales/es-419.d.ts
* /common-11-0-5-tgz/package/locales/es-AR.d.ts
*
/common-11-0-5-tgz/package/locales/extra/fo-DK.js
* /common-11-0-5-tgz/package/esm2015/src/directives/ng_switch.js
* /common-11-0-5-tgz/package/locales/extra/gsw-LI.d.ts
* /common-11-0-5-tgz/package/locales/global/en-VU.js
* /common-11-0-5-tgz/package/locales/se-FI.js
* /common-11-0-5-tgz/package/locales/ar-TN.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-SG.js
* /common-11-0-5-tgz/package/esm2015/src/pipes/date_pipe.js

* /common-11-0-5-tgz/package/locales/extra/chr.d.ts
* /common-11-0-5-tgz/package/locales/global/sn.js
* /common-11-0-5-tgz/package/locales/en-TZ.d.ts
* /common-11-0-5-tgz/package/locales/en-LC.d.ts
* /common-11-0-5-tgz/package/locales/extra/jgo.d.ts
* /common-11-0-5-tgz/package/locales/extra/ckb-IR.d.ts
* /common-11-0-5-tgz/package/locales/extra/el.d.ts
* /common-11-0-5-tgz/package/locales/global/xog.js
* /common-11-0-5-tgz/package/locales/is.js
* /common-11-0-5-tgz/package/locales/es-DO.js
* /common-11-0-5-tgz/package/locales/extra/fr-WF.d.ts
* /common-11-0-5-tgz/package/locales/global/sr-Cyrl-XK.js
*
/common-11-0-5-tgz/package/locales/ff-Latn-SL.js
* /common-11-0-5-tgz/package/locales/extra/nl-CW.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-SX.js
* /common-11-0-5-tgz/package/esm2015/testing/src/testing.js
* /common-11-0-5-tgz/package/locales/id.js
* /common-11-0-5-tgz/package/locales/global/en-GU.js
* /common-11-0-5-tgz/package/locales/global/en-ZW.js
* /common-11-0-5-tgz/package/locales/extra/ebu.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-NI.js
* /common-11-0-5-tgz/package/locales/pt-GW.d.ts
* /common-11-0-5-tgz/package/locales/extra/zh-Hant.js
* /common-11-0-5-tgz/package/locales/global/en-AU.js
* /common-11-0-5-tgz/package/locales/sv.d.ts
* /common-11-0-5-tgz/package/locales/global/ta-LK.js
* /common-11-0-5-tgz/package/locales/extra/tg.d.ts
* /common-11-0-5-tgz/package/locales/de-CH.js
* /common-11-0-5-tgz/package/locales/en-150.d.ts
* /common-11-0-5-tgz/package/locales/ar-DZ.d.ts
* /common-11-0-5-tgz/package/locales/ar-EH.d.ts
*
/common-11-0-5-tgz/package/locales/extra/lt.js
* /common-11-0-5-tgz/package/locales/extra/or.js
* /common-11-0-5-tgz/package/locales/en-CH.js
* /common-11-0-5-tgz/package/locales/extra/kw.d.ts
* /common-11-0-5-tgz/package/locales/fr-BL.d.ts
* /common-11-0-5-tgz/package/locales/ms-SG.js
* /common-11-0-5-tgz/package/locales/ru-KZ.d.ts
* /common-11-0-5-tgz/package/locales/agq.d.ts
* /common-11-0-5-tgz/package/locales/global/en-BS.js
* /common-11-0-5-tgz/package/locales/extra/se-SE.js
* /common-11-0-5-tgz/package/locales/en-HK.js
* /common-11-0-5-tgz/package/locales/ca-FR.js
* /common-11-0-5-tgz/package/locales/ru-UA.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-MA.d.ts
* /common-11-0-5-tgz/package/locales/extra/saq.d.ts

* /common-11-0-5-tgz/package/locales/km.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-TD.js
* /common-11-0-5-tgz/package/locales/mzn.d.ts
* /common-11-0-5-tgz/package/locales/global/en-BB.js
* /common-11-0-5-tgz/package/locales/gl.js
* /common-11-0-5-tgz/package/locales/en-MP.js
*
 /common-11-0-5-tgz/package/locales/extra/en-MH.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-CM.js
* /common-11-0-5-tgz/package/locales/extra/ru-UA.js
* /common-11-0-5-tgz/package/locales/global/nds.js
* /common-11-0-5-tgz/package/locales/yue-Hant.d.ts
* /common-11-0-5-tgz/package/locales/fr-MQ.d.ts
* /common-11-0-5-tgz/package/locales/global/gd.js
* /common-11-0-5-tgz/package/locales/global/mas-TZ.js
* /common-11-0-5-tgz/package/locales/extra/ms-SG.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-KW.js
* /common-11-0-5-tgz/package/locales/extra/ar-DZ.d.ts
* /common-11-0-5-tgz/package/locales/extra/ca.js
* /common-11-0-5-tgz/package/locales/sbp.js
* /common-11-0-5-tgz/package/locales/en-VU.d.ts
* /common-11-0-5-tgz/package/locales/extra/kln.js
* /common-11-0-5-tgz/package/locales/extra/vai-Latn.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-GM.d.ts
* /common-11-0-5-tgz/package/locales/global/ar.js
* /common-11-0-5-tgz/package/esm2015/src/directives/ng_component_outlet.js
*
 /common-11-0-5-tgz/package/locales/extra/ccp.d.ts
* /common-11-0-5-tgz/package/locales/extra/mt.js
* /common-11-0-5-tgz/package/locales/lg.d.ts
* /common-11-0-5-tgz/package/locales/global/nus.js
* /common-11-0-5-tgz/package/esm2015/src/platform_id.js
* /common-11-0-5-tgz/package/esm2015/src/directives/ng_for_of.js
* /common-11-0-5-tgz/package/locales/pa-Guru.js
* /common-11-0-5-tgz/package/esm2015/src/directives/index.js
* /common-11-0-5-tgz/package/locales/extra/bas.js
* /common-11-0-5-tgz/package/locales/extra/yo.js
* /common-11-0-5-tgz/package/locales/extra/fa-AF.d.ts
* /common-11-0-5-tgz/package/locales/extra/ln-CF.js
* /common-11-0-5-tgz/package/locales/en-KE.js
* /common-11-0-5-tgz/package/locales/en-ER.js
* /common-11-0-5-tgz/package/locales/global/en-MH.js
* /common-11-0-5-tgz/package/locales/extra/nd.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-419.d.ts
* /common-11-0-5-tgz/package/locales/extra/lrc-IQ.d.ts
* /common-11-0-5-tgz/package/locales/fr-MA.d.ts
*

/common-11-0-5-tgz/package/locales/extra/ur-IN.d.ts
* /common-11-0-5-tgz/package/locales/fr-SY.js
* /common-11-0-5-tgz/package/locales/fr-GA.js
* /common-11-0-5-tgz/package/locales/global/mfe.js
* /common-11-0-5-tgz/package/locales/global/gl.js
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-CM.d.ts
* /common-11-0-5-tgz/package/locales/bs.js
* /common-11-0-5-tgz/package/locales/global/he.js
* /common-11-0-5-tgz/package/locales/smn.d.ts
* /common-11-0-5-tgz/package/locales/extra/hr-BA.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-BB.d.ts
* /common-11-0-5-tgz/package/locales/extra/ksb.js
* /common-11-0-5-tgz/package/locales/global/es-HN.js
* /common-11-0-5-tgz/package/locales/extra/en-LR.js
* /common-11-0-5-tgz/package/locales/global/en-NL.js
* /common-11-0-5-tgz/package/locales/vai-Latn.d.ts
* /common-11-0-5-tgz/package/locales/global/kam.js
* /common-11-0-5-tgz/package/locales/global/sw-CD.js
* /common-11-0-5-tgz/package/locales/es-PH.js
* /common-11-0-5-tgz/package/locales/global/vai-Latn.js
*
/common-11-0-5-tgz/package/locales/extra/ga-GB.d.ts
* /common-11-0-5-tgz/package/locales/extra/en.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-CM.js
* /common-11-0-5-tgz/package/locales/extra/pt-GW.js
* /common-11-0-5-tgz/package/locales/global/bm.js
* /common-11-0-5-tgz/package/locales/ln.js
* /common-11-0-5-tgz/package/locales/en-PH.js
* /common-11-0-5-tgz/package/locales/global/sr-Latn.js
* /common-11-0-5-tgz/package/locales/extra/ff-MR.d.ts
* /common-11-0-5-tgz/package/locales/global/sd.js
* /common-11-0-5-tgz/package/locales/global/eo.js
* /common-11-0-5-tgz/package/locales/extra/fr-GA.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-KI.d.ts
* /common-11-0-5-tgz/package/locales/sr.js
* /common-11-0-5-tgz/package/locales/extra/ar.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-MQ.d.ts
* /common-11-0-5-tgz/package/locales/dje.d.ts
* /common-11-0-5-tgz/package/locales/ar-QA.js
* /common-11-0-5-tgz/package/locales/global/dje.js
* /common-11-0-5-tgz/package/locales/en-GD.d.ts
*
/common-11-0-5-tgz/package/locales/global/en-CX.js
* /common-11-0-5-tgz/package/locales/global/pt-ST.js
* /common-11-0-5-tgz/package/locales/ms-BN.d.ts
* /common-11-0-5-tgz/package/locales/en-MW.d.ts
* /common-11-0-5-tgz/package/locales/global/en-GD.js
* /common-11-0-5-tgz/package/locales/extra/en-GD.js

* /common-11-0-5-tgz/package/locales/sr-Latn.js
* /common-11-0-5-tgz/package/locales/extra/to.d.ts
* /common-11-0-5-tgz/package/locales/ar-MR.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-CX.d.ts
* /common-11-0-5-tgz/package/locales/fr-PF.js
* /common-11-0-5-tgz/package/locales/global/ms-BN.js
* /common-11-0-5-tgz/package/locales/extra/en-PG.d.ts
* /common-11-0-5-tgz/package/locales/ca.js
* /common-11-0-5-tgz/package/locales/extra/eu.js
* /common-11-0-5-tgz/package/locales/extra/pt.d.ts
* /common-11-0-5-tgz/package/locales/rm.d.ts
* /common-11-0-5-tgz/package/locales/extra/da.d.ts
* /common-11-0-5-tgz/package/locales/extra/ne-IN.d.ts
* /common-11-0-5-tgz/package/locales/sah.d.ts
*
/common-11-0-5-tgz/package/locales/mr.js
* /common-11-0-5-tgz/package/locales/extra/sw-CD.d.ts
* /common-11-0-5-tgz/package/locales/extra/mas.d.ts
* /common-11-0-5-tgz/package/locales/rof.js
* /common-11-0-5-tgz/package/locales/extra/kl.d.ts
* /common-11-0-5-tgz/package/locales/fr-RE.js
* /common-11-0-5-tgz/package/locales/global/te.js
* /common-11-0-5-tgz/package/locales/et.js
* /common-11-0-5-tgz/package/locales/extra/khq.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-UG.d.ts
* /common-11-0-5-tgz/package/locales/global/qu.js
* /common-11-0-5-tgz/package/locales/extra/shi-Tfng.js
* /common-11-0-5-tgz/package/locales/ckb-IR.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-YT.d.ts
* /common-11-0-5-tgz/package/locales/global/ne.js
* /common-11-0-5-tgz/package/locales/extra/fr-CH.d.ts
* /common-11-0-5-tgz/package/locales/extra/nyn.js
* /common-11-0-5-tgz/package/locales/sq.js
* /common-11-0-5-tgz/package/locales/global/jv.js
* /common-11-0-5-tgz/package/locales/extra/dua.js
*
/common-11-0-5-tgz/package/locales/extra/en-MP.js
* /common-11-0-5-tgz/package/locales/global/en-GY.js
* /common-11-0-5-tgz/package/locales/uz-Arab.d.ts
* /common-11-0-5-tgz/package/locales/extra/pt-CV.js
* /common-11-0-5-tgz/package/locales/az-Cyrl.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-PA.js
* /common-11-0-5-tgz/package/locales/fr-DZ.js
* /common-11-0-5-tgz/package/locales/extra/fr-CI.d.ts
* /common-11-0-5-tgz/package/locales/global/en-CM.js
* /common-11-0-5-tgz/package/locales/yo-BJ.d.ts
* /common-11-0-5-tgz/package/locales/es-BO.js
* /common-11-0-5-tgz/package/locales/nb.d.ts

* /common-11-0-5-tgz/package/locales/global/shi.js
* /common-11-0-5-tgz/package/locales/extra/lrc.js
* /common-11-0-5-tgz/package/locales/ln-CG.d.ts
* /common-11-0-5-tgz/package/locales/af.d.ts
* /common-11-0-5-tgz/package/locales/global/en-PN.js
* /common-11-0-5-tgz/package/locales/extra/pa.js
* /common-11-0-5-tgz/package/locales/global/fr-CF.js
* /common-11-0-5-tgz/package/locales/global/fr-SN.js
*
/common-11-0-5-tgz/package/esm2015/src/dom_tokens.js
* /common-11-0-5-tgz/package/locales/global/bs-Latn.js
* /common-11-0-5-tgz/package/locales/global/tt.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-NG.js
* /common-11-0-5-tgz/package/locales/extra/en-ZA.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-LB.js
* /common-11-0-5-tgz/package/locales/en-NL.js
* /common-11-0-5-tgz/package/locales/global/bs.js
* /common-11-0-5-tgz/package/locales/de-AT.d.ts
* /common-11-0-5-tgz/package/locales/ru-BY.d.ts
* /common-11-0-5-tgz/package/locales/global/vi.js
* /common-11-0-5-tgz/package/locales/extra/de-IT.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-PH.js
* /common-11-0-5-tgz/package/locales/sr-Latn.d.ts
* /common-11-0-5-tgz/package/locales/kok.d.ts
* /common-11-0-5-tgz/package/locales/extra/gu.js
* /common-11-0-5-tgz/package/locales/se.js
* /common-11-0-5-tgz/package/locales/sv-AX.d.ts
* /common-11-0-5-tgz/package/locales/extra/dje.js
* /common-11-0-5-tgz/package/locales/global/en-TV.js
*
/common-11-0-5-tgz/package/locales/global/hy.js
* /common-11-0-5-tgz/package/locales/extra/pt-CV.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn.d.ts
* /common-11-0-5-tgz/package/locales/global/shi-Tfng.js
* /common-11-0-5-tgz/package/locales/en-SE.js
* /common-11-0-5-tgz/package/locales/sv.js
* /common-11-0-5-tgz/package/locales/global/lrc-IQ.js
* /common-11-0-5-tgz/package/locales/extra/ms.js
* /common-11-0-5-tgz/package/locales/global/az.js
* /common-11-0-5-tgz/package/locales/mr.d.ts
* /common-11-0-5-tgz/package/locales/fr-GP.js
* /common-11-0-5-tgz/package/locales/extra/es-PY.d.ts
* /common-11-0-5-tgz/package/locales/kea.js
* /common-11-0-5-tgz/package/locales/extra/fr-SY.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-AU.d.ts
* /common-11-0-5-tgz/package/locales/sw-UG.js
* /common-11-0-5-tgz/package/locales/global/en-IL.js
* /common-11-0-5-tgz/package/locales/extra/en-GU.js

* /common-11-0-5-tgz/package/locales/global/en-GG.js
* /common-11-0-5-tgz/package/locales/global/es-CU.js
*
 /common-11-0-5-tgz/package/locales/ksh.js
* /common-11-0-5-tgz/package/esm2015/src/location/platform_location.js
* /common-11-0-5-tgz/package/locales/en-NF.d.ts
* /common-11-0-5-tgz/package/esm2015/src/pipes/i18n_select_pipe.js
* /common-11-0-5-tgz/package/locales/en-NZ.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-PH.js
* /common-11-0-5-tgz/package/locales/en-GB.js
* /common-11-0-5-tgz/package/locales/en-UM.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-VU.d.ts
* /common-11-0-5-tgz/package/locales/extra/uk.d.ts
* /common-11-0-5-tgz/package/locales/en-PW.d.ts
* /common-11-0-5-tgz/package/locales/global/ru-KZ.js
* /common-11-0-5-tgz/package/locales/extra/bm.js
* /common-11-0-5-tgz/package/locales/extra/pt-ST.d.ts
* /common-11-0-5-tgz/package/locales/ar-SY.js
* /common-11-0-5-tgz/package/locales/kab.js
* /common-11-0-5-tgz/package/locales/global/teo.js
* /common-11-0-5-tgz/package/locales/en-AG.js
* /common-11-0-5-tgz/package/locales/es-UY.js
*
 /common-11-0-5-tgz/package/locales/global/ru-KG.js
* /common-11-0-5-tgz/package/locales/extra/en-GY.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-BE.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-BE.js
* /common-11-0-5-tgz/package/locales/global/en-PG.js
* /common-11-0-5-tgz/package/locales/dyo.js
* /common-11-0-5-tgz/package/locales/extra/gsw-FR.d.ts
* /common-11-0-5-tgz/package/locales/global/en-TC.js
* /common-11-0-5-tgz/package/locales/en-CH.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-HN.d.ts
* /common-11-0-5-tgz/package/locales/tzm.js
* /common-11-0-5-tgz/package/locales/extra/brx.js
* /common-11-0-5-tgz/package/locales/extra/saq.js
* /common-11-0-5-tgz/package/locales/global/uz-Arab.js
* /common-11-0-5-tgz/package/locales/es-HN.d.ts
* /common-11-0-5-tgz/package/locales/saq.js
* /common-11-0-5-tgz/package/locales/extra/dua.d.ts
* /common-11-0-5-tgz/package/locales/global/ru-BY.js
* /common-11-0-5-tgz/package/locales/extra/en-SC.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-CR.js
*
 /common-11-0-5-tgz/package/locales/mt.d.ts
* /common-11-0-5-tgz/package/locales/extra/af-NA.js
* /common-11-0-5-tgz/package/locales/extra/os.js
* /common-11-0-5-tgz/package/locales/en-ZA.d.ts

* /common-11-0-5-tgz/package/locales/yue-Hans.js
* /common-11-0-5-tgz/package/locales/extra/sd.js
* /common-11-0-5-tgz/package/locales/extra/yue.js
* /common-11-0-5-tgz/package/locales/global/pt-MZ.js
* /common-11-0-5-tgz/package/esm2015/upgrade/src/params.js
* /common-11-0-5-tgz/package/locales/extra/bn-IN.js
* /common-11-0-5-tgz/package/locales/twq.d.ts
* /common-11-0-5-tgz/package/locales/extra/agq.d.ts
* /common-11-0-5-tgz/package/locales/sg.js
* /common-11-0-5-tgz/package/locales/extra/ru.d.ts
* /common-11-0-5-tgz/package/locales/zh-Hans-MO.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-NE.js
* /common-11-0-5-tgz/package/locales/global/nl-SX.js
* /common-11-0-5-tgz/package/locales/ti-ER.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-GN.d.ts
* /common-11-0-5-tgz/package/locales/ar-DZ.js
*
/common-11-0-5-tgz/package/locales/es-BR.d.ts
* /common-11-0-5-tgz/package/locales/global/prg.js
* /common-11-0-5-tgz/package/locales/extra/en-FI.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-VI.js
* /common-11-0-5-tgz/package/esm2015/http/src/xhr.js
* /common-11-0-5-tgz/package/locales/it.js
* /common-11-0-5-tgz/package/locales/extra/gl.js
* /common-11-0-5-tgz/package/locales/en-NU.js
* /common-11-0-5-tgz/package/locales/as.js
* /common-11-0-5-tgz/package/locales/global/en-GB.js
* /common-11-0-5-tgz/package/locales/ar-OM.js
* /common-11-0-5-tgz/package/locales/tzm.d.ts
* /common-11-0-5-tgz/package/locales/extra/dje.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-VU.js
* /common-11-0-5-tgz/package/locales/global/ca-FR.js
* /common-11-0-5-tgz/package/locales/extra/bs-Cyrl.d.ts
* /common-11-0-5-tgz/package/locales/extra/uz-Arab.js
* /common-11-0-5-tgz/package/locales/global/en-LR.js
* /common-11-0-5-tgz/package/locales/extra/nl-SR.d.ts
* /common-11-0-5-tgz/package/locales/qu-BO.js
*
/common-11-0-5-tgz/package/locales/global/ur.js
* /common-11-0-5-tgz/package/locales/extra/fil.d.ts
* /common-11-0-5-tgz/package/locales/extra/nl.js
* /common-11-0-5-tgz/package/locales/ksb.js
* /common-11-0-5-tgz/package/locales/extra/ksf.d.ts
* /common-11-0-5-tgz/package/locales/cy.js
* /common-11-0-5-tgz/package/locales/extra/ps-PK.js
* /common-11-0-5-tgz/package/locales/ff-Latn-NG.d.ts
* /common-11-0-5-tgz/package/locales/zh-Hans-SG.js
* /common-11-0-5-tgz/package/locales/global/ps-PK.js

* /common-11-0-5-tgz/package/locales/ksb.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-SL.js
* /common-11-0-5-tgz/package/locales/global/en-KY.js
* /common-11-0-5-tgz/package/locales/global/pt-CV.js
* /common-11-0-5-tgz/package/locales/global/de-BE.js
* /common-11-0-5-tgz/package/locales/global/pt-MO.js
* /common-11-0-5-tgz/package/locales/extra/es-EC.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-MR.js
* /common-11-0-5-tgz/package/locales/sg.d.ts
*
/common-11-0-5-tgz/package/locales/extra/mfe.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-MG.d.ts
* /common-11-0-5-tgz/package/locales/bs-Cyrl.js
* /common-11-0-5-tgz/package/locales/my.js
* /common-11-0-5-tgz/package/locales/extra/rof.js
* /common-11-0-5-tgz/package/locales/extra/mg.d.ts
* /common-11-0-5-tgz/package/locales/en-PN.js
* /common-11-0-5-tgz/package/locales/en-SZ.js
* /common-11-0-5-tgz/package/locales/sr.d.ts
* /common-11-0-5-tgz/package/locales/nyn.js
* /common-11-0-5-tgz/package/locales/extra/hi.js
* /common-11-0-5-tgz/package/locales/extra/te.d.ts
* /common-11-0-5-tgz/package/locales/es-CL.js
* /common-11-0-5-tgz/package/locales/extra/ln.d.ts
* /common-11-0-5-tgz/package/locales/af-NA.d.ts
* /common-11-0-5-tgz/package/locales/en-IO.d.ts
* /common-11-0-5-tgz/package/locales/kkj.js
* /common-11-0-5-tgz/package/esm2015/src/common_module.js
* /common-11-0-5-tgz/package/locales/fur.d.ts
* /common-11-0-5-tgz/package/locales/extra/lu.d.ts
* /common-11-0-5-tgz/package/locales/global/tg.js
*
/common-11-0-5-tgz/package/locales/uz.d.ts
* /common-11-0-5-tgz/package/locales/extra/tr-CY.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-MO.js
* /common-11-0-5-tgz/package/locales/el.d.ts
* /common-11-0-5-tgz/package/locales/extra/tzm.js
* /common-11-0-5-tgz/package/locales/extra/ar-DJ.js
* /common-11-0-5-tgz/package/locales/as.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-BL.js
* /common-11-0-5-tgz/package/locales/global/en-FK.js
* /common-11-0-5-tgz/package/locales/extra/fr-GN.js
* /common-11-0-5-tgz/package/locales/extra/zh-Hans-SG.js
* /common-11-0-5-tgz/package/locales/extra/en-US-POSIX.d.ts
* /common-11-0-5-tgz/package/locales/global/lag.js
* /common-11-0-5-tgz/package/locales/extra/az-Latn.d.ts
* /common-11-0-5-tgz/package/locales/extra/ca-FR.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-NG.js

* /common-11-0-5-tgz/package/locales/sq-MK.d.ts
* /common-11-0-5-tgz/package/locales/mua.js
* /common-11-0-5-tgz/package/esm2015/http/src/params.js
*
 /common-11-0-5-tgz/package/locales/ccp.js
* /common-11-0-5-tgz/package/locales/extra/el-CY.js
* /common-11-0-5-tgz/package/locales/extra/yo-BJ.d.ts
* /common-11-0-5-tgz/package/locales/ewo.d.ts
* /common-11-0-5-tgz/package/locales/global/bo-IN.js
* /common-11-0-5-tgz/package/esm2015/src/location/util.js
* /common-11-0-5-tgz/package/locales/extra/ca-IT.d.ts
* /common-11-0-5-tgz/package/locales/global/fa-AF.js
* /common-11-0-5-tgz/package/locales/xog.d.ts
* /common-11-0-5-tgz/package/locales/extra/bo-IN.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-KW.d.ts
* /common-11-0-5-tgz/package/locales/zh-Hans-HK.js
* /common-11-0-5-tgz/package/locales/ar-SA.js
* /common-11-0-5-tgz/package/locales/extra/seh.js
* /common-11-0-5-tgz/package/locales/extra/ff-MR.js
* /common-11-0-5-tgz/package/locales/en-PK.js
* /common-11-0-5-tgz/package/locales/vo.d.ts
* /common-11-0-5-tgz/package/esm2015/http/index.js
* /common-11-0-5-tgz/package/locales/extra/kk.js
* /common-11-0-5-tgz/package/locales/extra/ar-MA.js
*
 /common-11-0-5-tgz/package/locales/extra/es-419.js
* /common-11-0-5-tgz/package/locales/en-IN.js
* /common-11-0-5-tgz/package/locales/global/es.js
* /common-11-0-5-tgz/package/locales/extra/se-FI.d.ts
* /common-11-0-5-tgz/package/locales/extra/bm.d.ts
* /common-11-0-5-tgz/package/locales/hr.js
* /common-11-0-5-tgz/package/locales/extra/vun.js
* /common-11-0-5-tgz/package/locales/en-BW.js
* /common-11-0-5-tgz/package/locales/en-PG.js
* /common-11-0-5-tgz/package/locales/ce.js
* /common-11-0-5-tgz/package/locales/en-KY.js
* /common-11-0-5-tgz/package/locales/extra/en-AI.js
* /common-11-0-5-tgz/package/locales/global/as.js
* /common-11-0-5-tgz/package/locales/en-DM.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-KE.d.ts
* /common-11-0-5-tgz/package/locales/or.d.ts
* /common-11-0-5-tgz/package/locales/be.js
* /common-11-0-5-tgz/package/locales/sr-Latn-ME.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-BW.js
* /common-11-0-5-tgz/package/locales/global/en-LC.js
* /common-11-0-5-tgz/package/locales/en-PN.d.ts
*

/common-11-0-5-tgz/package/locales/global/gsw-FR.js
* /common-11-0-5-tgz/package/locales/extra/fr-NE.js
* /common-11-0-5-tgz/package/locales/en-NR.d.ts
* /common-11-0-5-tgz/package/locales/en-BI.js
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-NG.js
* /common-11-0-5-tgz/package/locales/extra/fr-DZ.js
* /common-11-0-5-tgz/package/locales/fr-YT.d.ts
* /common-11-0-5-tgz/package/locales/en-NZ.js
* /common-11-0-5-tgz/package/locales/global/en-FI.js
* /common-11-0-5-tgz/package/locales/global/ff-CM.js
* /common-11-0-5-tgz/package/locales/global/es-PY.js
* /common-11-0-5-tgz/package/locales/global/yue.js
* /common-11-0-5-tgz/package/locales/extra/lag.js
* /common-11-0-5-tgz/package/locales/ha-NE.js
* /common-11-0-5-tgz/package/locales/extra/sr-Cyrl-ME.js
* /common-11-0-5-tgz/package/locales/extra/ast.d.ts
* /common-11-0-5-tgz/package/locales/dz.js
* /common-11-0-5-tgz/package/locales/fr-CA.js
* /common-11-0-5-tgz/package/locales/global/es-US.js
*
/common-11-0-5-tgz/package/locales/rn.d.ts
* /common-11-0-5-tgz/package/locales/global/fr-BE.js
* /common-11-0-5-tgz/package/locales/global/fr-SY.js
* /common-11-0-5-tgz/package/locales/global/et.js
* /common-11-0-5-tgz/package/locales/ka.js
* /common-11-0-5-tgz/package/locales/extra/en-TZ.d.ts
* /common-11-0-5-tgz/package/locales/rw.js
* /common-11-0-5-tgz/package/locales/extra/sr.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-PH.d.ts
* /common-11-0-5-tgz/package/locales/extra/zgh.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-SS.d.ts
* /common-11-0-5-tgz/package/locales/extra/sr-Cyrl.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-GW.js
* /common-11-0-5-tgz/package/locales/fr-GQ.d.ts
* /common-11-0-5-tgz/package/locales/extra/lo.js
* /common-11-0-5-tgz/package/locales/el-CY.js
* /common-11-0-5-tgz/package/locales/extra/en-VC.d.ts
* /common-11-0-5-tgz/package/locales/fr-HT.js
* /common-11-0-5-tgz/package/locales/global/ku.js
* /common-11-0-5-tgz/package/locales/extra/en-MO.d.ts
*
/common-11-0-5-tgz/package/locales/global/nl-SR.js
* /common-11-0-5-tgz/package/locales/ff-Latn-GM.js
* /common-11-0-5-tgz/package/locales/extra/en-BB.js
* /common-11-0-5-tgz/package/locales/extra/ps.d.ts
* /common-11-0-5-tgz/package/locales/lg.js
* /common-11-0-5-tgz/package/locales/cgg.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-AE.js

* /common-11-0-5-tgz/package/esm2015/upgrade/src/utils.js
* /common-11-0-5-tgz/package/locales/extra/en-MU.d.ts
* /common-11-0-5-tgz/package/locales/extra/ru-KZ.d.ts
* /common-11-0-5-tgz/package/locales/fr-NC.js
* /common-11-0-5-tgz/package/locales/jv.d.ts
* /common-11-0-5-tgz/package/locales/ar-SS.d.ts
* /common-11-0-5-tgz/package/locales/global/bas.js
* /common-11-0-5-tgz/package/locales/fr-MU.js
* /common-11-0-5-tgz/package/locales/global/en-SD.js
* /common-11-0-5-tgz/package/locales/nl-SX.js
* /common-11-0-5-tgz/package/locales/extra/teo-KE.js
* /common-11-0-5-tgz/package/locales/global/en-SL.js
* /common-11-0-5-tgz/package/locales/ta.d.ts
*
/common-11-0-5-tgz/package/locales/extra/mgo.js
* /common-11-0-5-tgz/package/locales/en-PK.d.ts
* /common-11-0-5-tgz/package/locales/fi.js
* /common-11-0-5-tgz/package/locales/extra/en-GG.d.ts
* /common-11-0-5-tgz/package/locales/extra/hu.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-LC.js
* /common-11-0-5-tgz/package/locales/extra/en-GI.js
* /common-11-0-5-tgz/package/locales/extra/en-UG.js
* /common-11-0-5-tgz/package/locales/nds-NL.js
* /common-11-0-5-tgz/package/locales/pt-GW.js
* /common-11-0-5-tgz/package/locales/extra/bez.d.ts
* /common-11-0-5-tgz/package/locales/uz-Cyrl.js
* /common-11-0-5-tgz/package/locales/extra/nl-BE.js
* /common-11-0-5-tgz/package/locales/so-ET.js
* /common-11-0-5-tgz/package/locales/el-CY.d.ts
* /common-11-0-5-tgz/package/locales/es-PA.d.ts
* /common-11-0-5-tgz/package/locales/global/ii.js
* /common-11-0-5-tgz/package/locales/en-LR.js
* /common-11-0-5-tgz/package/locales/es-IC.d.ts
* /common-11-0-5-tgz/package/locales/extra/pt-CH.d.ts
* /common-11-0-5-tgz/package/locales/ff-Latn-GH.js
*
/common-11-0-5-tgz/package/locales/extra/ar-PS.d.ts
* /common-11-0-5-tgz/package/locales/extra/prg.d.ts
* /common-11-0-5-tgz/package/locales/extra/vo.js
* /common-11-0-5-tgz/package/locales/extra/sr-Latn-ME.js
* /common-11-0-5-tgz/package/locales/global/en-HK.js
* /common-11-0-5-tgz/package/locales/global/es-PR.js
* /common-11-0-5-tgz/package/locales/en-FM.js
* /common-11-0-5-tgz/package/locales/extra/so-KE.js
* /common-11-0-5-tgz/package/locales/global/ee-TG.js
* /common-11-0-5-tgz/package/locales/rn.js
* /common-11-0-5-tgz/package/locales/zu.js
* /common-11-0-5-tgz/package/locales/extra/ff.d.ts

* /common-11-0-5-tgz/package/locales/extra/nyn.d.ts
* /common-11-0-5-tgz/package/locales/en-JM.d.ts
* /common-11-0-5-tgz/package/locales/fr-MC.js
* /common-11-0-5-tgz/package/locales/global/ksb.js
* /common-11-0-5-tgz/package/locales/vun.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-SY.d.ts
* /common-11-0-5-tgz/package/locales/global/en-RW.js
*
/common-11-0-5-tgz/package/locales/extra/az.js
* /common-11-0-5-tgz/package/locales/global/tk.js
* /common-11-0-5-tgz/package/locales/ast.d.ts
* /common-11-0-5-tgz/package/locales/global/root.js
* /common-11-0-5-tgz/package/locales/nmg.d.ts
* /common-11-0-5-tgz/package/locales/sd.js
* /common-11-0-5-tgz/package/locales/global/lo.js
* /common-11-0-5-tgz/package/locales/extra/en-SB.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-SI.js
* /common-11-0-5-tgz/package/locales/extra/ru-BY.d.ts
* /common-11-0-5-tgz/package/locales/global/zh-Hans-HK.js
* /common-11-0-5-tgz/package/locales/global/twq.js
* /common-11-0-5-tgz/package/locales/extra/ks.d.ts
* /common-11-0-5-tgz/package/locales/pa-Guru.d.ts
* /common-11-0-5-tgz/package/locales/extra/ln-AO.js
* /common-11-0-5-tgz/package/locales/global/ar-KW.js
* /common-11-0-5-tgz/package/locales/global/fur.js
* /common-11-0-5-tgz/package/locales/extra/sq-XK.d.ts
* /common-11-0-5-tgz/package/locales/it-VA.js
* /common-11-0-5-tgz/package/locales/extra/en-VU.js
*
/common-11-0-5-tgz/package/locales/extra/yue-Hans.js
* /common-11-0-5-tgz/package/locales/fr-GN.js
* /common-11-0-5-tgz/package/locales/extra/prg.js
* /common-11-0-5-tgz/package/locales/lrc.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-LR.d.ts
* /common-11-0-5-tgz/package/locales/ar-SO.d.ts
* /common-11-0-5-tgz/package/locales/extra/az.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-MG.js
* /common-11-0-5-tgz/package/locales/extra/nl-AW.d.ts
* /common-11-0-5-tgz/package/locales/en-VU.js
* /common-11-0-5-tgz/package/locales/extra/es-BR.js
* /common-11-0-5-tgz/package/locales/extra/fr-MA.d.ts
* /common-11-0-5-tgz/package/locales/ar-BH.d.ts
* /common-11-0-5-tgz/package/locales/sbp.d.ts
* /common-11-0-5-tgz/package/locales/global/rn.js
* /common-11-0-5-tgz/package/locales/en-MG.d.ts
* /common-11-0-5-tgz/package/locales/ms-SG.d.ts
* /common-11-0-5-tgz/package/locales/ru-BY.js
* /common-11-0-5-tgz/package/locales/extra/hr.d.ts

* /common-11-0-5-tgz/package/esm2015/src/i18n/format_date.js
*
 /common-11-0-5-tgz/package/locales/global/en-PK.js
* /common-11-0-5-tgz/package/locales/global/se-SE.js
* /common-11-0-5-tgz/package/locales/nnh.d.ts
* /common-11-0-5-tgz/package/locales/mgo.js
* /common-11-0-5-tgz/package/locales/zh-Hans-HK.d.ts
* /common-11-0-5-tgz/package/locales/global/be.js
* /common-11-0-5-tgz/package/locales/extra/fr-MA.js
* /common-11-0-5-tgz/package/locales/global/naq.js
* /common-11-0-5-tgz/package/locales/extra/bs.d.ts
* /common-11-0-5-tgz/package/locales/global/ug.js
* /common-11-0-5-tgz/package/locales/ff-Latn-GN.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-DO.d.ts
* /common-11-0-5-tgz/package/locales/ar-QA.d.ts
* /common-11-0-5-tgz/package/locales/extra/nus.d.ts
* /common-11-0-5-tgz/package/locales/extra/pt-PT.js
* /common-11-0-5-tgz/package/locales/dyo.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-JO.js
* /common-11-0-5-tgz/package/locales/lrc.js
* /common-11-0-5-tgz/package/locales/extra/fr-ML.js
* /common-11-0-5-tgz/package/locales/global/nb-SJ.js
*
 /common-11-0-5-tgz/package/locales/kam.js
* /common-11-0-5-tgz/package/locales/global/ebu.js
* /common-11-0-5-tgz/package/locales/ff.js
* /common-11-0-5-tgz/package/locales/mi.js
* /common-11-0-5-tgz/package/locales/extra/nnh.js
* /common-11-0-5-tgz/package/locales/global/vai-Vaii.js
* /common-11-0-5-tgz/package/locales/global/ko-KP.js
* /common-11-0-5-tgz/package/locales/es-NI.d.ts
* /common-11-0-5-tgz/package/locales/ru-KG.d.ts
* /common-11-0-5-tgz/package/locales/sl.d.ts
* /common-11-0-5-tgz/package/locales/en-150.js
* /common-11-0-5-tgz/package/locales/extra/so-ET.js
* /common-11-0-5-tgz/package/locales/zh-Hant-MO.js
* /common-11-0-5-tgz/package/locales/ca-AD.js
* /common-11-0-5-tgz/package/locales/ff-Latn-LR.js
* /common-11-0-5-tgz/package/locales/extra/nus.js
* /common-11-0-5-tgz/package/locales/nnh.js
* /common-11-0-5-tgz/package/locales/sr-Latn-XK.js
* /common-11-0-5-tgz/package/esm2015/http/src/headers.js
* /common-11-0-5-tgz/package/locales/extra/ar-DJ.d.ts
*
 /common-11-0-5-tgz/package/locales/extra/mua.d.ts
* /common-11-0-5-tgz/package/locales/global/en-GM.js
* /common-11-0-5-tgz/package/locales/es-MX.js
* /common-11-0-5-tgz/package/locales/extra/fr-GP.js

* /common-11-0-5-tgz/package/locales/yo.js
* /common-11-0-5-tgz/package/locales/extra/fr-SY.js
* /common-11-0-5-tgz/package/locales/fr-GQ.js
* /common-11-0-5-tgz/package/locales/extra/mr.js
* /common-11-0-5-tgz/package/locales/en-CA.js
* /common-11-0-5-tgz/package/locales/en-GU.js
* /common-11-0-5-tgz/package/locales/es-VE.d.ts
* /common-11-0-5-tgz/package/esm2015/http/src/response.js
* /common-11-0-5-tgz/package/locales/extra/ar-YE.js
* /common-11-0-5-tgz/package/locales/extra/ur.d.ts
* /common-11-0-5-tgz/package/locales/global/dua.js
* /common-11-0-5-tgz/package/locales/pt-MZ.js
* /common-11-0-5-tgz/package/locales/extra/qu-BO.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-IQ.d.ts
* /common-11-0-5-tgz/package/locales/global/dz.js
* /common-11-0-5-tgz/package/locales/extra/luy.d.ts
*
/common-11-0-5-tgz/package/locales/extra/ff-Latn-GN.js
* /common-11-0-5-tgz/package/locales/extra/teo.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-FJ.js
* /common-11-0-5-tgz/package/esm2015/index.js
* /common-11-0-5-tgz/package/locales/bn-IN.js
* /common-11-0-5-tgz/package/locales/extra/jmc.js
* /common-11-0-5-tgz/package/locales/extra/eo.js
* /common-11-0-5-tgz/package/locales/global/en-TO.js
* /common-11-0-5-tgz/package/locales/sk.js
* /common-11-0-5-tgz/package/locales/global/en-150.js
* /common-11-0-5-tgz/package/locales/fil.js
* /common-11-0-5-tgz/package/locales/extra/es-CU.js
* /common-11-0-5-tgz/package/locales/extra/km.js
* /common-11-0-5-tgz/package/locales/global/ha-GH.js
* /common-11-0-5-tgz/package/locales/extra/lrc.d.ts
* /common-11-0-5-tgz/package/locales/global/sq-MK.js
* /common-11-0-5-tgz/package/locales/global/ar-AE.js
* /common-11-0-5-tgz/package/locales/global/ar-JO.js
* /common-11-0-5-tgz/package/locales/es-PE.js
* /common-11-0-5-tgz/package/locales/ta-MY.js
*
/common-11-0-5-tgz/package/locales/zh-Hans.js
* /common-11-0-5-tgz/package/locales/eu.d.ts
* /common-11-0-5-tgz/package/locales/en-MP.d.ts
* /common-11-0-5-tgz/package/locales/extra/pt-GQ.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-NZ.d.ts
* /common-11-0-5-tgz/package/locales/extra/bez.js
* /common-11-0-5-tgz/package/locales/pt-LU.js
* /common-11-0-5-tgz/package/locales/sl.js
* /common-11-0-5-tgz/package/locales/extra/ti.d.ts
* /common-11-0-5-tgz/package/locales/gu.d.ts

* /common-11-0-5-tgz/package/locales/extra/ha-GH.d.ts
* /common-11-0-5-tgz/package/locales/nd.js
* /common-11-0-5-tgz/package/locales/global/pt-TL.js
* /common-11-0-5-tgz/package/locales/root.d.ts
* /common-11-0-5-tgz/package/locales/ee.js
* /common-11-0-5-tgz/package/locales/global/eu.js
* /common-11-0-5-tgz/package/locales/extra/ar-SD.js
* /common-11-0-5-tgz/package/locales/extra/en-SD.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-PH.d.ts
* /common-11-0-5-tgz/package/locales/extra/uz-Arab.d.ts
*
/common-11-0-5-tgz/package/locales/extra/ar-SA.js
* /common-11-0-5-tgz/package/locales/global/en-ER.js
* /common-11-0-5-tgz/package/locales/global/vun.js
* /common-11-0-5-tgz/package/locales/en-AI.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-QA.js
* /common-11-0-5-tgz/package/locales/global/ff-Latn-GM.js
* /common-11-0-5-tgz/package/locales/shi.d.ts
* /common-11-0-5-tgz/package/locales/hr-BA.js
* /common-11-0-5-tgz/package/locales/global/dav.js
* /common-11-0-5-tgz/package/locales/en-IM.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-CK.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-GI.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-BH.d.ts
* /common-11-0-5-tgz/package/locales/extra/xog.d.ts
* /common-11-0-5-tgz/package/locales/en-WS.d.ts
* /common-11-0-5-tgz/package/locales/extra/yav.d.ts
* /common-11-0-5-tgz/package/locales/en-TK.js
* /common-11-0-5-tgz/package/locales/ccp-IN.js
* /common-11-0-5-tgz/package/locales/extra/es-PE.js
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-BF.js
*
/common-11-0-5-tgz/package/locales/extra/nb.js
* /common-11-0-5-tgz/package/locales/fr.js
* /common-11-0-5-tgz/package/locales/global/ms.js
* /common-11-0-5-tgz/package/locales/extra/ps-PK.d.ts
* /common-11-0-5-tgz/package/locales/en-BE.js
* /common-11-0-5-tgz/package/locales/global/en-MW.js
* /common-11-0-5-tgz/package/locales/ar-SY.d.ts
* /common-11-0-5-tgz/package/locales/ne-IN.d.ts
* /common-11-0-5-tgz/package/locales/global/en-AE.js
* /common-11-0-5-tgz/package/locales/wae.d.ts
* /common-11-0-5-tgz/package/locales/en-NA.js
* /common-11-0-5-tgz/package/locales/yav.js
* /common-11-0-5-tgz/package/locales/extra/ceb.d.ts
* /common-11-0-5-tgz/package/locales/extra/ml.js
* /common-11-0-5-tgz/package/locales/en-TK.d.ts
* /common-11-0-5-tgz/package/locales/en-UM.js

* /common-11-0-5-tgz/package/locales/global/nl-CW.js
* /common-11-0-5-tgz/package/locales/extra/sah.d.ts
* /common-11-0-5-tgz/package/locales/es-NI.js
* /common-11-0-5-tgz/package/locales/sr-Latn-BA.d.ts
*
 /common-11-0-5-tgz/package/locales/global/ta.js
* /common-11-0-5-tgz/package/locales/en-AI.js
* /common-11-0-5-tgz/package/locales/extra/en-KN.js
* /common-11-0-5-tgz/package/locales/global/es-CL.js
* /common-11-0-5-tgz/package/locales/rwk.d.ts
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-CM.js
* /common-11-0-5-tgz/package/locales/extra/mr.d.ts
* /common-11-0-5-tgz/package/locales/global/hr-BA.js
* /common-11-0-5-tgz/package/locales/extra/si.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-IL.d.ts
* /common-11-0-5-tgz/package/locales/global/mzn.js
* /common-11-0-5-tgz/package/locales/extra/fr-BE.js
* /common-11-0-5-tgz/package/locales/extra/en-ZA.js
* /common-11-0-5-tgz/package/locales/extra/fr-NE.d.ts
* /common-11-0-5-tgz/package/locales/ca-FR.d.ts
* /common-11-0-5-tgz/package/locales/extra/ru-BY.js
* /common-11-0-5-tgz/package/locales/extra/sv-FI.js
* /common-11-0-5-tgz/package/locales/extra/fr-NC.js
* /common-11-0-5-tgz/package/locales/extra/en-001.d.ts
* /common-11-0-5-tgz/package/locales/extra/sr.js
*
 /common-11-0-5-tgz/package/locales/extra/it-CH.d.ts
* /common-11-0-5-tgz/package/locales/en-GG.js
* /common-11-0-5-tgz/package/locales/extra/es-IC.d.ts
* /common-11-0-5-tgz/package/locales/global/ga.js
* /common-11-0-5-tgz/package/locales/extra/so-DJ.d.ts
* /common-11-0-5-tgz/package/locales/en-VG.d.ts
* /common-11-0-5-tgz/package/locales/global/sw-KE.js
* /common-11-0-5-tgz/package/locales/se-SE.d.ts
* /common-11-0-5-tgz/package/locales/global/lg.js
* /common-11-0-5-tgz/package/locales/ro.js
* /common-11-0-5-tgz/package/locales/en-MW.js
* /common-11-0-5-tgz/package/locales/extra/fr-RW.d.ts
* /common-11-0-5-tgz/package/locales/ar-MA.d.ts
* /common-11-0-5-tgz/package/locales/pt-AO.js
* /common-11-0-5-tgz/package/locales/extra/el-CY.d.ts
* /common-11-0-5-tgz/package/locales/extra/hu.js
* /common-11-0-5-tgz/package/locales/lu.js
* /common-11-0-5-tgz/package/locales/es-PA.js
* /common-11-0-5-tgz/package/locales/dz.d.ts
* /common-11-0-5-tgz/package/locales/ug.js
*

/common-11-0-5-tgz/package/locales/cs.d.ts
* /common-11-0-5-tgz/package/locales/global/cu.js
* /common-11-0-5-tgz/package/locales/extra/ar-EG.d.ts
* /common-11-0-5-tgz/package/locales/extra/ar-OM.d.ts
* /common-11-0-5-tgz/package/locales/extra/nds-NL.d.ts
* /common-11-0-5-tgz/package/locales/ii.d.ts
* /common-11-0-5-tgz/package/locales/global/de-AT.js
* /common-11-0-5-tgz/package/locales/so-ET.d.ts
* /common-11-0-5-tgz/package/locales/global/ca-AD.js
* /common-11-0-5-tgz/package/locales/ar-KM.js
* /common-11-0-5-tgz/package/locales/es-CR.d.ts
* /common-11-0-5-tgz/package/locales/extra/ta-SG.d.ts
* /common-11-0-5-tgz/package/locales/extra/bn-IN.d.ts
* /common-11-0-5-tgz/package/locales/extra/es-MX.d.ts
* /common-11-0-5-tgz/package/locales/extra/nn.js
* /common-11-0-5-tgz/package/locales/mfe.d.ts
* /common-11-0-5-tgz/package/locales/global/sw.js
* /common-11-0-5-tgz/package/locales/global/sw-UG.js
* /common-11-0-5-tgz/package/locales/extra/fr-ML.d.ts
* /common-11-0-5-tgz/package/locales/en-BB.d.ts
*
/common-11-0-5-tgz/package/locales/global/jmc.js
* /common-11-0-5-tgz/package/locales/global/uz.js
* /common-11-0-5-tgz/package/locales/global/ar-MR.js
* /common-11-0-5-tgz/package/locales/fr-WF.js
* /common-11-0-5-tgz/package/locales/extra/mn.d.ts
* /common-11-0-5-tgz/package/locales/extra/ha-GH.js
* /common-11-0-5-tgz/package/locales/extra/is.js
* /common-11-0-5-tgz/package/locales/en-BE.d.ts
* /common-11-0-5-tgz/package/locales/extra/ca-AD.js
* /common-11-0-5-tgz/package/locales/fr-VU.js
* /common-11-0-5-tgz/package/locales/global/lt.js
* /common-11-0-5-tgz/package/locales/uk.js
* /common-11-0-5-tgz/package/locales/en-KY.d.ts
* /common-11-0-5-tgz/package/locales/tt.d.ts
* /common-11-0-5-tgz/package/locales/global/ky.js
* /common-11-0-5-tgz/package/locales/global/bs-Cyrl.js
* /common-11-0-5-tgz/package/locales/extra/kde.d.ts
* /common-11-0-5-tgz/package/locales/extra/nb-SJ.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-ER.d.ts
* /common-11-0-5-tgz/package/locales/global/ccp-IN.js
*
/common-11-0-5-tgz/package/locales/ar-LB.js
* /common-11-0-5-tgz/package/locales/mg.d.ts
* /common-11-0-5-tgz/package/locales/vai-Vaii.js
* /common-11-0-5-tgz/package/locales/lkt.js
* /common-11-0-5-tgz/package/locales/extra/en-AG.js
* /common-11-0-5-tgz/package/locales/bas.js

* /common-11-0-5-tgz/package/locales/extra/ur-IN.js
* /common-11-0-5-tgz/package/locales/extra/ar-QA.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-SS.d.ts
* /common-11-0-5-tgz/package/locales/en-CK.js
* /common-11-0-5-tgz/package/locales/en-ZA.js
* /common-11-0-5-tgz/package/locales/extra/en-CA.d.ts
* /common-11-0-5-tgz/package/locales/es-US.js
* /common-11-0-5-tgz/package/locales/mfe.js
* /common-11-0-5-tgz/package/locales/en-TO.js
* /common-11-0-5-tgz/package/locales/extra/es-US.js
* /common-11-0-5-tgz/package/locales/global/kab.js
* /common-11-0-5-tgz/package/locales/en-PG.d.ts
* /common-11-0-5-tgz/package/locales/en-MY.d.ts
* /common-11-0-5-tgz/package/locales/global/ne-IN.js
*
/common-11-0-5-tgz/package/locales/global/en-CY.js
* /common-11-0-5-tgz/package/locales/ln-AO.js
* /common-11-0-5-tgz/package/locales/fr-CI.d.ts
* /common-11-0-5-tgz/package/locales/global/qu-EC.js
* /common-11-0-5-tgz/package/locales/extra/bs.js
* /common-11-0-5-tgz/package/locales/mg.js
* /common-11-0-5-tgz/package/locales/extra/ar-BH.js
* /common-11-0-5-tgz/package/locales/global/af-NA.js
* /common-11-0-5-tgz/package/locales/en-GB.d.ts
* /common-11-0-5-tgz/package/locales/gsw.js
* /common-11-0-5-tgz/package/locales/extra/pt-LU.js
* /common-11-0-5-tgz/package/locales/es-PY.js
* /common-11-0-5-tgz/package/locales/guz.js
* /common-11-0-5-tgz/package/locales/it-CH.d.ts
* /common-11-0-5-tgz/package/locales/da.d.ts
* /common-11-0-5-tgz/package/locales/ko.d.ts
* /common-11-0-5-tgz/package/locales/agq.js
* /common-11-0-5-tgz/package/esm2015/src/directives/ng_plural.js
* /common-11-0-5-tgz/package/locales/extra/fa.d.ts
* /common-11-0-5-tgz/package/locales/sv-FI.d.ts
* /common-11-0-5-tgz/package/locales/global/es-NI.js
*
/common-11-0-5-tgz/package/locales/extra/naq.js
* /common-11-0-5-tgz/package/locales/extra/en-IO.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-MS.js
* /common-11-0-5-tgz/package/locales/fr-CH.d.ts
* /common-11-0-5-tgz/package/locales/extra/kln.d.ts
* /common-11-0-5-tgz/package/locales/asa.js
* /common-11-0-5-tgz/package/locales/global/cs.js
* /common-11-0-5-tgz/package/locales/ast.js
* /common-11-0-5-tgz/package/locales/extra/fr-BL.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-BF.d.ts
* /common-11-0-5-tgz/package/locales/extra/fr-RW.js

* /common-11-0-5-tgz/package/locales/extra/fr-RE.js
* /common-11-0-5-tgz/package/locales/extra/yi.js
* /common-11-0-5-tgz/package/locales/extra/ff-Latn.d.ts
* /common-11-0-5-tgz/package/locales/yo.d.ts
* /common-11-0-5-tgz/package/locales/extra/qu-EC.d.ts
* /common-11-0-5-tgz/package/locales/ar-SD.js
* /common-11-0-5-tgz/package/locales/en-SH.js
* /common-11-0-5-tgz/package/locales/vai.js
* /common-11-0-5-tgz/package/locales/extra/ff-Latn-BF.d.ts
*
/common-11-0-5-tgz/package/locales/extra/fr.js
* /common-11-0-5-tgz/package/locales/extra/en-MT.d.ts
* /common-11-0-5-tgz/package/locales/extra/fi.js
* /common-11-0-5-tgz/package/locales/ar-OM.d.ts
* /common-11-0-5-tgz/package/locales/jmc.d.ts
* /common-11-0-5-tgz/package/locales/id.d.ts
* /common-11-0-5-tgz/package/locales/global/ar-SD.js
* /common-11-0-5-tgz/package/locales/ar-MR.js
* /common-11-0-5-tgz/package/locales/bm.js
* /common-11-0-5-tgz/package/locales/extra/en-TV.d.ts
* /common-11-0-5-tgz/package/locales/extra/eo.d.ts
* /common-11-0-5-tgz/package/locales/extra/gd.js
* /common-11-0-5-tgz/package/locales/es-GT.d.ts
* /common-11-0-5-tgz/package/locales/extra/om.d.ts
* /common-11-0-5-tgz/package/locales/global/ln-CF.js
* /common-11-0-5-tgz/package/locales/extra/sr-Latn-BA.d.ts
* /common-11-0-5-tgz/package/locales/extra/cgg.d.ts
* /common-11-0-5-tgz/package/locales/it-CH.js
* /common-11-0-5-tgz/package/locales/global/en-JM.js
* /common-11-0-5-tgz/package/locales/extra/ii.d.ts
*
/common-11-0-5-tgz/package/locales/extra/kam.d.ts
* /common-11-0-5-tgz/package/locales/global/rwk.js
* /common-11-0-5-tgz/package/locales/extra/en-GM.js
* /common-11-0-5-tgz/package/locales/os.d.ts
* /common-11-0-5-tgz/package/locales/extra/sbp.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-PK.js
* /common-11-0-5-tgz/package/locales/en-BS.js
* /common-11-0-5-tgz/package/locales/extra/kn.js
* /common-11-0-5-tgz/package/locales/global/gv.js
* /common-11-0-5-tgz/package/locales/extra/dsb.d.ts
* /common-11-0-5-tgz/package/locales/global/th.js
* /common-11-0-5-tgz/package/locales/ka.d.ts
* /common-11-0-5-tgz/package/locales/global/qu-BO.js
* /common-11-0-5-tgz/package/locales/global/ar-SA.js
* /common-11-0-5-tgz/package/locales/global/fr-GP.js
* /common-11-0-5-tgz/package/locales/extra/en-IE.d.ts
* /common-11-0-5-tgz/package/esm2015/src/i18n/currencies.js

* /common-11-0-5-tgz/package/locales/fr.d.ts
* /common-11-0-5-tgz/package/locales/global/sv-FI.js
*
 /common-11-0-5-tgz/package/locales/pt-CH.js
* /common-11-0-5-tgz/package/locales/extra/id.d.ts
* /common-11-0-5-tgz/package/esm2015/http/src/client.js
* /common-11-0-5-tgz/package/locales/extra/ro.js
* /common-11-0-5-tgz/package/locales/en-LS.js
* /common-11-0-5-tgz/package/locales/global/sl.js
* /common-11-0-5-tgz/package/locales/extra/ar-KM.js
* /common-11-0-5-tgz/package/locales/extra/hr-BA.js
* /common-11-0-5-tgz/package/locales/extra/pa.d.ts
* /common-11-0-5-tgz/package/locales/extra/en-BW.d.ts
* /common-11-0-5-tgz/package/locales/ar-SA.d.ts
* /common-11-0-5-tgz/package/locales/en-LR.d.ts
* /common-11-0-5-tgz/package/locales/bo-IN.js
* /common-11-0-5-tgz/package/locales/extra/sn.d.ts
* /common-11-0-5-tgz/package/locales/fa.d.ts
* /common-11-0-5-tgz/package/locales/en-LS.d.ts
* /common-11-0-5-tgz/package/locales/extra/mzn.d.ts
* /common-11-0-5-tgz/package/locales/extra/jgo.js
* /common-11-0-5-tgz/package/locales/mua.d.ts
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
    * @license
    * Copyright Google LLC All Rights Reserved.
    *
    * Use of this source code is governed by an MIT-style license that can be
    * found in the LICENSE file at https://angular.io/license
    */
/*! *****************************************************************************
  Copyright (c) Microsoft Corporation.

  Permission to use, copy, modify, and/or distribute this software for any
  purpose with or without fee is hereby granted.

  THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
  REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
  AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
  INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
  LOSS OF USE, DATA OR PROFITS,

WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.
********** */

Found in path(s):
* /common-11-0-5-tgz/package/bundles/common.umd.js
* /common-11-0-5-tgz/package/bundles/common.umd.min.js
* /common-11-0-5-tgz/package/bundles/common-http.umd.js
* /common-11-0-5-tgz/package/bundles/common-testing.umd.min.js
* /common-11-0-5-tgz/package/bundles/common-testing.umd.js
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"common-http-testing.umd.js","sources":["../../../../../packages/common/http/testing/src/api.ts","../../../../../packages/common/http/testing/src/request.ts","../../../../../packages/common/http/testing/src/backend.ts","../../../../../packages/common/http/testing/src/module.ts","../../../../../packages/common/http/testing/public_api.ts","../../../../../packages/common/http/testing/index.ts","../../../../../packages/common/http/testing/testing.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {HttpRequest} from '@angular/common/http';\n\nimport {TestRequest} from './request';\n\n/**\n * Defines a matcher for requests based on URL, method, or both.\n *\n * @publicApi\n */\nexport interface RequestMatch {\n  method?: string;\n  url?: string;\n}\n\n/**\n * Controller to be injected into tests, that allows for mocking and flushing\n * of requests.\n *\n * @publicApi\n */\nexport abstract class HttpTestingController {\n  /**\n   * Search for requests that match the given parameter, without any expectations.\n   */\n  abstract match(match: string|RequestMatch|((req: HttpRequest<any>) => boolean)): TestRequest[];\n\n  /**\n   * Expect that a single request has been made which matches the given URL, and return its\n   * mock.\n   *\n   * If no such request has been made, or more than one such request has been made, fail with an\n   * error message including the given request description, if any.\n   */\n  abstract expectOne(url: string, description?: string): TestRequest;\n\n  /**\n   * Expect that a single request has been made which matches the given parameters, and return\n   * its mock.\n   *\n   * If no such request has been made, or more than one such request has been made, fail with an\n   *
 error message including the given request description, if any.\n   */\n  abstract expectOne(params: RequestMatch, description?: string): TestRequest;\n\n  /**\n   * Expect that a single request has been made which matches the given predicate function, and\n   * return its mock.\n   *\n   * If no such request has been made, or more than one such request has been made, fail with an\n   * error message including the given request description, if any.\n   */\n  abstract expectOne(matchFn: ((req: HttpRequest<any>) => boolean), description?: string):\n      TestRequest;\n\n  /**\n   * Expect that a single request has been made which matches the given condition, and return\n   * its mock.\n   *\n   * If no such request has been made, or more than one such request has been made, fail with an\n   * error message including the given request description, if any.\n   */\n  abstract expectOne(\n      match: string|RequestMatch|((req: HttpRequest<any>) => boolean),\n      description?: string): TestRequest;\n\n  /**\n   * Expect that no requests have been made which match the given URL.\n   *\n   * If a matching request has been made, fail with an error message including the given request\n   * description, if any.\n   */\n  abstract expectNone(url: string, description?: string): void;\n\n  /**\n   * Expect that no requests have been made which match the given parameters.\n   *\n   * If a matching request has been made, fail with an error message including the given request\n   * description, if any.\n   */\n  abstract expectNone(params: RequestMatch, description?: string): void;\n\n  /**\n   * Expect that no requests have been made which match the given predicate function.\n   *\n   * If a matching request has been made, fail with an error message including the given request\n   * description, if any.\n   */\n  abstract expectNone(matchFn: ((req: HttpRequest<any>) => boolean), description?: string): void;\n\n  /**\n   *

Expect that no requests have been made which match the given
condition.\n *\n * If a matching request has been made, fail with an error message including the given request\n * description, if any.\n */\n abstract expectNone(\n match: string|RequestMatch|((req: HttpRequest<any>) => boolean), description?: string): void;\n\n /**\n * Verify that no unmatched requests are outstanding.\n *\n * If any requests are outstanding, fail with an error message indicating which requests were not\n * handled.\n *\n * If `ignoreCancelled` is not set (the default), `verify()` will also fail if cancelled requests\n * were not explicitly matched.\n */\n abstract verify(opts?: {ignoreCancelled?: boolean}): void;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {HttpErrorResponse, HttpEvent, HttpHeaders, HttpRequest, HttpResponse} from '@angular/common/http';\nimport
{Observer} from 'rxjs';\n\n/**\n * A mock requests that was received and is ready to be answered.\n *\n * This interface allows access to the underlying `HttpRequest`, and allows\n * responding with `HttpEvent`s or `HttpErrorResponse`s.\n *\n * @publicApi\n */\nexport class TestRequest {\n /**\n * Whether the request was cancelled after it was sent.\n */\n get cancelled(): boolean {\n return this._cancelled;\n }\n\n /**\n * @internal set by `HttpClientTestingBackend`\n */\n _cancelled = false;\n\n constructor(public request: HttpRequest<any>, private observer: Observer<HttpEvent<any>>) {}\n\n /**\n * Resolve the request by returning a body plus additional HTTP information (such as response\n * headers) if provided.\n * If the request specifies an expected body type, the body is converted into the requested type.\n * Otherwise, the body is converted to `JSON` by default.\n *\n * Both successful and unsuccessful responses can be delivered via `flush()`.\n
*/\n flush(\n body: ArrayBuffer|Blob|boolean|string|number|Object|(boolean|string|number|Object|null)[]|\n null,\n opts: {\n headers?: HttpHeaders|{[name: string]: string | string[]},\n status?: number,\n statusText?: string,\n } = {}): void {\n if (this.cancelled) {\n throw new Error(`Cannot flush a cancelled request.`);\n }\n const url = this.request.urlWithParams;\n const headers =\n (opts.headers instanceof HttpHeaders) ? opts.headers : new HttpHeaders(opts.headers);\n body =
_maybeConvertBody(this.request.responseType, body);\n let statusText: string|undefined = opts.statusText;\n let status: number = opts.status !== undefined ? opts.status : 200;\n if (opts.status === undefined) {\n if (body === null) {\n status = 204;\n statusText = statusText || 'No Content';\n } else {\n statusText = statusText || 'OK';\n }\n }\n if (statusText === undefined) {\n
throw new Error('statusText is required when setting a custom status.');\n }\n if (status >= 200 && status < 300) {\n this.observer.next(new HttpResponse<any>({body, headers, status, statusText, url}));\n this.observer.complete();\n } else {\n this.observer.error(new HttpErrorResponse({error: body, headers, status, statusText, url}));\n }\n }\n\n /**\n * Resolve the request by returning an `ErrorEvent` (e.g. simulating a network failure).\n */\n error(error: ErrorEvent, opts: {\n headers?: HttpHeaders|{[name: string]: string | string[]},\n status?: number,\n statusText?: string,\n } = {}): void {\n if (this.cancelled) {\n throw new Error(`Cannot return an error for a cancelled request.`);\n }\n if (opts.status && opts.status >= 200 && opts.status < 300) {\n throw new Error(`error() called with a successful status.`);\n }\n const headers =\n (opts.headers instanceof HttpHeaders) ? opts.headers : new HttpHeaders(opts.headers);\n
this.observer.error(new HttpErrorResponse({\n error,\n headers,\n status: opts.status || 0,\n statusText: opts.statusText || '',\n url: this.request.urlWithParams,\n }));\n }\n\n /**\n * Deliver an arbitrary `HttpEvent` (such as a progress event) on the response stream for this\n * request.\n */\n event(event: HttpEvent<any>): void {\n if (this.cancelled) {\n throw new Error(`Cannot send events to a cancelled request.`);\n }\n this.observer.next(event);\n }\n}\n\n\n/**\n * Helper function to convert a response body to an ArrayBuffer.\n */\nfunction _toArrayBufferBody(body: ArrayBuffer|Blob|string|number|Object|\n (string | number | Object | null)[]): ArrayBuffer {\n if (typeof ArrayBuffer === 'undefined') {\n throw new Error('ArrayBuffer responses are not supported on this platform.');\n }\n if (body instanceof ArrayBuffer) {\n return body;\n }\n throw new Error('Automatic conversion
to ArrayBuffer is not supported for response type.');\n}\n\n/**\n * Helper function to convert a response body to a Blob.\n */\nfunction _toBlob(body: ArrayBuffer|Blob|string|number|Object|\n (string | number | Object |

null)[]): Blob {\n  if (typeof Blob === 'undefined') {\n    throw new Error('Blob responses are not supported on this platform.');\n  }\n  if (body instanceof Blob) {\n    return body;\n  }\n  if (ArrayBuffer && body instanceof ArrayBuffer) {\n    return new Blob([body]);\n  }\n  throw new Error('Automatic conversion to Blob is not supported for response type.');\n}\n\n/**\n * Helper function to convert a response body to JSON data.\n */\nfunction _toJsonBody(\n    body: ArrayBuffer|Blob|boolean|string|number|Object|\n    (boolean | string | number | Object | null)[],\n    format: string = 'JSON'): Object|string|number|(Object | string | number)[] {\n  if (typeof ArrayBuffer !== 'undefined' && body instanceof ArrayBuffer) {\n    throw new Error(`Automatic conversion to ${format} is not supported for ArrayBuffers.`);\n  }\n  if (typeof Blob !== 'undefined' && body instanceof Blob) {\n    throw new Error(`Automatic conversion to ${format} is not supported for Blobs.`);\n  }\n  if (typeof body === 'string' || typeof body === 'number' || typeof body === 'object' ||\n      typeof body === 'boolean' || Array.isArray(body)) {\n    return body;\n  }\n  throw new Error(`Automatic conversion to ${format} is not supported for response type.`);\n}\n\n/**\n * Helper function to convert a response body to a string.\n */\nfunction _toTextBody(body: ArrayBuffer|Blob|string|number|Object|\n                     (string | number | Object | null)[]): string {\n  if (typeof body === 'string') {\n    return body;\n  }\n  if (typeof ArrayBuffer !== 'undefined' && body instanceof ArrayBuffer) {\n    throw new Error('Automatic conversion to text is not supported for ArrayBuffers.');\n  }\n  if (typeof Blob !== 'undefined' && body instanceof Blob) {\n    throw new Error('Automatic conversion to text is not supported for Blobs.');\n  }\n  return JSON.stringify(_toJsonBody(body, 'text'));\n}\n\n/**\n * Convert a response body to the requested type.\n */\nfunction _maybeConvertBody(\n    responseType: string,\n    body: ArrayBuffer|Blob|string|number|Object|(string | number | Object | null)[]|\n    null): ArrayBuffer|Blob|string|number|Object|(string | number | Object | null)[]|null {\n  if (body === null) {\n    return null;\n  }\n  switch (responseType) {\n    case 'arraybuffer':\n      return _toArrayBufferBody(body);\n    case 'blob':\n      return _toBlob(body);\n    case 'json':\n      return _toJsonBody(body);\n    case 'text':\n      return _toTextBody(body);\n    default:\n      throw new Error(`Unsupported responseType: ${responseType}`);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {HttpBackend, HttpEvent, HttpEventType, HttpRequest} from '@angular/common/http';\nimport {Injectable} from '@angular/core';\nimport {Observable, Observer} from 'rxjs';\n\nimport {HttpTestingController, RequestMatch} from './api';\nimport {TestRequest} from './request';\n\n\n/**\n * A testing backend for `HttpClient` which both acts as an `HttpBackend`\n * and as the `HttpTestingController`.\n *\n * `HttpClientTestingBackend` works by keeping a list of all open requests.\n * As requests come in, they're added to the list. Users can assert that specific\n * requests were made and then flush them. In the end, a verify() method asserts\n * that no unexpected requests were made.\n *\n *\n */\n@Injectable()\nexport class HttpClientTestingBackend implements HttpBackend, HttpTestingController {\n  /**\n   * List of pending requests which have not yet been expected.\n   */\n  private open: TestRequest[] = [];\n\n  /**\n   * Handle an incoming request by queueing it in the list of open requests.\n   */\n  handle(req: HttpRequest<any>): Observable<HttpEvent<any>> {\n    return new Observable((observer: Observer<any>) => {\n      const testReq = new TestRequest(req, observer);\n      this.open.push(testReq);\n      observer.next({type: HttpEventType.Sent} as HttpEvent<any>);\n      return () => {\n        testReq._cancelled = true;\n      };\n    });\n  }\n\n  /**\n   * Helper function to search for requests in the list of open requests.\n   */\n  private _match(match: string|RequestMatch|((req: HttpRequest<any>) => boolean)): TestRequest[] {\n    if (typeof match === 'string') {\n      return this.open.filter(testReq => testReq.request.urlWithParams === match);\n    } else if (typeof match === 'function') {\n      return this.open.filter(testReq => match(testReq.request));\n    } else {\n      return this.open.filter(\n          testReq =>\n(!match.method || testReq.request.method === match.method.toUpperCase()) &&\n              (!match.url || testReq.request.urlWithParams === match.url));\n    }\n  }\n\n  /**\n   * Search for requests in the list of open requests, and return all that match\n   * without asserting anything about the number of matches.\n   */\n  match(match: string|RequestMatch|((req: HttpRequest<any>) => boolean)): TestRequest[] {\n    const results = this._match(match);\n    results.forEach(result => {\n      const index = this.open.indexOf(result);\n      if (index !== -

1) {\n this.open.splice(index, 1);\n }\n });\n return results;\n }\n\n /**\n * Expect that a single outstanding request matches the given matcher, and return\n * it.\n *\n * Requests returned through this API will no longer be in the list of open requests,\n * and thus will not match twice.\n */\n expectOne(match: string|RequestMatch|((req: HttpRequest<any>) => boolean), description?: string):\n TestRequest {\n description = description || this.descriptionFromMatcher(match);\n const matches = this.match(match);\n if (matches.length > 1) {\n throw new Error(`Expected one matching request for criteria \"${description}\", found ${\n matches.length} requests.`);\n }\n if (matches.length === 0) {\n let message = `Expected one matching request for criteria \"${description}\", found none.`;\n if (this.open.length > 0) {\n // Show the methods and URLs of open requests in the error, for convenience.\n const requests = this.open\n .map(testReq => {\n const url = testReq.request.urlWithParams;\n const method = testReq.request.method;\n return `${method} ${url}`;\n })\n .join(', ');\n message += ` Requests received are: ${requests}.`;\n }\n throw new Error(message);\n }\n return matches[0];\n }\n\n /**\n * Expect that no outstanding requests match the given matcher, and throw an error\n * if any do.\n */\n expectNone(match: string|RequestMatch|((req: HttpRequest<any>) => boolean), description?: string):\n void {\n description = description || this.descriptionFromMatcher(match);\n const matches = this.match(match);\n if (matches.length > 0) {\n throw new Error(`Expected zero matching requests for criteria \"${description}\", found ${\n matches.length}.`);\n }\n }\n\n /**\n * Validate that there are no outstanding requests.\n */\n verify(opts: {ignoreCancelled?: boolean} = {}): void {\n let open = this.open;\n // It's possible that some requests may be cancelled, and this is expected.\n // The user can ask to ignore open requests which have been cancelled.\n if (opts.ignoreCancelled) {\n open = open.filter(testReq => !testReq.cancelled);\n }\n if (open.length > 0) {\n // Show the methods and URLs of open requests in the error, for convenience.\n const requests = open.map(testReq => {\n const url = testReq.request.urlWithParams.split('?')[0];\n const method = testReq.request.method;\n return `${method} ${url}`;\n })\n .join(', ');\n throw new Error(`Expected no open requests, found ${open.length}: ${requests}`);\n }\n }\n\n private descriptionFromMatcher(matcher: string|RequestMatch|\n ((req: HttpRequest<any>) => boolean)): string {\n if (typeof matcher === 'string') {\n return `Match URL: ${matcher}`;\n } else if (typeof matcher === 'object') {\n const method = matcher.method || '(any)';\n const url = matcher.url || '(any)';\n return `Match method: ${method}, URL: ${url}`;\n } else {\n return `Match by function: ${matcher.name}`;\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {HttpBackend, HttpClientModule} from '@angular/common/http';\nimport {NgModule} from '@angular/core';\n\nimport {HttpTestingController} from './api';\nimport {HttpClientTestingBackend} from './backend';\n\n\n/**\n * Configures `HttpClientTestingBackend` as the `HttpBackend` used by `HttpClient`.\n *\n * Inject `HttpTestingController` to expect and flush requests in your tests.\n *\n * @publicApi\n */\n@NgModule({\n imports: [\n HttpClientModule,\n ],\n providers: [\n HttpClientTestingBackend,\n {provide: HttpBackend, useExisting: HttpClientTestingBackend},\n {provide: HttpTestingController, useExisting: HttpClientTestingBackend},\n ],\n})\nexport class HttpClientTestingModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {HttpTestingController, RequestMatch} from './src/api';\nexport {HttpClientTestingModule} from './src/module';\nexport {TestRequest} from './src/request';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {HttpClientTestingBackend as angular_packages_common_http_testing_testing_a} from './src/backend';"],"names":["HttpHeaders","HttpResponse","HttpErrorResponse","Observable","HttpEventType","In

jectable","NgModule","HttpClientModule","HttpBackend"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;IAsBA;;;;;;;QAMA;SAwFC;oCAAA;KAAA;;ICpHD;;;;;;;IAWA;;;;;;;;;QAqBE,qBAAmB,OAAyB,EAAU,QAAkC;YAArE,qBAAmB,OAAyB,EAAU,QAAkC;YAAxE,YAAO,GAAP,OAAO,CAAkB;YAAU,aAAQ,GAAR,QAAQ,CAA0B;;;;YAFxF,eAAU,GAAV,UAAU,CAAQ;YAAU,aAAQ,GAAR,QAAQ,CAAQ;YAAU,eAAU,GAAV,UAAU,CAAQ;YAAU,eAAU,GAAV,UAAU,CAAQ;SAEyE;QAAT5F,sBAAS,GAAT,SAAS;;;;;;;;;;;

QACN,IAAI,IAAI,KAAK,IAAI,EAAE;YACjB,OAAO,IAAI,CAAC;SACb;QACD,QAAQ,YAAY;YAClB,KAAK,aAAa;gBAChB,OAAO,kBAAkB,CAAC,IAAI,CAAC,CAAC;YAClC,KAAK,MAAM;gBACT,OAAO,OAAO,CAAC,IAAI,CAAC,CAAC;YACvB,KAAK,MAAM;gBACT,OAAO,WAAW,CAAC,IAAI,CAAC,CAAC;YAC3B,KAAK,MAAM;gBACT,OAAO,WAAW,CAAC,IAAI,CAAC,CAAC;YAC3B;gBACE,MAAM,IAAI,KAAK,CAAC,+BAA6B,YAAc,CAAC,CAAC,CAAC,SAAS,CAAC,CAAC,CAAC;SAChF,EAAE,YAAc,CAAC,CAAC,CAAC;SACnB,EAAE,CAAC,CAAC,CAAC;SACP,EAAE,IAAI,CAAC,CAAC,CAAC;SACT,EAAE,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC

;;;;;;;QAiBA;;;;;gBAVCC,aAAQ,SAAC;oBACR,OAAO,EAAE;wBACPC,qBAAgB;qBACjB;oBACD,SAAS,EAAE;wBACT,wBAAwB;wBACxB,EAAC,OAAO,EAAEC,gBAAW,EAAE,WAAW,EAAE,wBAAwB,EAAC;wBAC7D,EAAC,OAAO,EAAE,qBAAqB,EAAE,WAAW,EAAE,wBAAwB,EAAC;qBACxE;iBACF;;;IC/BD;;;;;;;;ICAA;;;;;;;;ICAA;;;;;;;;;;;;;;;;"}

Found
in path(s):
* /common-11-0-5-tgz/package/bundles/common-http-testing.umd.js.map
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/

Found in path(s):
* /common-11-0-5-tgz/package/fesm2015/http.js
* /common-11-0-5-tgz/package/fesm2015/upgrade.js
* /common-11-0-5-tgz/package/fesm2015/testing.js
* /common-11-0-5-tgz/package/fesm2015/http/testing.js
* /common-11-0-5-tgz/package/fesm2015/common.js
No license file was found, but licenses were detected in source scan.

Angular
=======

The sources for this package are in the main [Angular](https://github.com/angular/angular) repo. Please file issues and pull requests against that repo.

Usage information and reference details can be found in [Angular documentation](https://angular.io/docs).

License: MIT

Found in path(s):
* /common-11-0-5-tgz/package/README.md
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"common-testing.umd.js","sources":["../../../../../packages/common/testing/src/location_mock.ts","../../../../../external/npm/node_modules/tslib/tslib.es6.js","../../../../../packages/common/testing/src/mock_location_strategy.ts","../../../../../packages

/common/testing/src/mock_platform_location.ts","../../../../../packages/common/testing/src/testing.ts","../../../../../packages/common/testing/public_api.ts","../../../../../packages/common/testing/index.ts","../../../../../packages/common/testing/testing.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Location, LocationStrategy, PlatformLocation} from '@angular/common';\nimport {EventEmitter, Injectable} from '@angular/core';\nimport {SubscriptionLike} from 'rxjs';\n\n/**\n * A spy for {@link Location} that allows tests to fire simulated location events.\n *\n * @publicApi\n */\n@Injectable()\nexport class SpyLocation implements Location {\n urlChanges: string[] = [];\n private _history: LocationState[] = [new LocationState('', '', null)];\n private _historyIndex: number = 0;\n /** @internal */\n _subject: EventEmitter<any> = new EventEmitter();\n /** @internal */\n _baseHref: string = '';\n /** @internal */\n _platformStrategy: LocationStrategy = null!;\n /** @internal */\n _platformLocation: PlatformLocation = null!;\n /** @internal */\n _urlChangeListeners: ((url: string, state: unknown) => void)[] = [];\n /** @internal */\n _urlChangeSubscription?: SubscriptionLike;\n\n setInitialPath(url: string) {\n this._history[this._historyIndex].path = url;\n }\n\n setBaseHref(url: string) {\n this._baseHref = url;\n }\n\n path(): string {\n return this._history[this._historyIndex].path;\n }\n\n getState(): unknown {\n return this._history[this._historyIndex].state;\n }\n\n isCurrentPathEqualTo(path: string, query: string = ''): boolean {\n const givenPath = path.endsWith('/') ? path.substring(0, path.length - 1) : path;\n const currPath =\n this.path().endsWith('/') ? this.path().substring(0, this.path().length - 1) : this.path();\n\n return currPath == givenPath + (query.length > 0 ? ('?' + query) : '');\n }\n\n simulateUrlPop(pathname: string) {\n this._subject.emit({'url': pathname, 'pop': true, 'type': 'popstate'});\n }\n\n simulateHashChange(pathname: string) {\n // Because we don't prevent the native event, the browser will independently update the path\n this.setInitialPath(pathname);\n this.urlChanges.push('hash: ' + pathname);\n this._subject.emit({'url': pathname, 'pop': true, 'type': 'hashchange'});\n }\n\n prepareExternalUrl(url: string): string {\n if (url.length > 0 && !url.startsWith('/')) {\n url = '/' + url;\n }\n return this._baseHref + url;\n }\n\n go(path: string, query: string = '', state: any = null) {\n path = this.prepareExternalUrl(path);\n\n if (this._historyIndex > 0) {\n this._history.splice(this._historyIndex + 1);\n }\n this._history.push(new LocationState(path, query, state));\n this._historyIndex = this._history.length - 1;\n\n const locationState = this._history[this._historyIndex - 1];\n if (locationState.path == path && locationState.query == query) {\n return;\n }\n\n const url = path + (query.length > 0 ? ('?' + query) : '');\n this.urlChanges.push(url);\n this._subject.emit({'url': url, 'pop': false});\n }\n\n replaceState(path: string, query: string = '', state: any = null) {\n path = this.prepareExternalUrl(path);\n\n const history = this._history[this._historyIndex];\n if (history.path == path && history.query == query) {\n return;\n }\n\n history.path = path;\n history.query = query;\n history.state = state;\n\n const url = path + (query.length > 0 ? ('?' + query) : '');\n this.urlChanges.push('replace: ' + url);\n }\n\n forward() {\n if (this._historyIndex < (this._history.length - 1)) {\n this._historyIndex++;\n this._subject.emit({'url': this.path(), 'state': this.getState(), 'pop': true});\n }\n }\n\n back() {\n if (this._historyIndex > 0) {\n this._historyIndex--;\n this._subject.emit({'url': this.path(), 'state': this.getState(), 'pop': true});\n }\n }\n\n onUrlChange(fn: (url: string, state: unknown) => void) {\n this._urlChangeListeners.push(fn);\n\n if (!this._urlChangeSubscription) {\n this._urlChangeSubscription = this.subscribe(v => {\n this._notifyUrlChangeListeners(v.url, v.state);\n });\n }\n }\n\n /** @internal */\n _notifyUrlChangeListeners(url: string = '', state: unknown) {\n this._urlChangeListeners.forEach(fn => fn(url, state));\n }\n\n subscribe(\n onNext: (value: any) => void, onThrow?: ((error: any) => void)|null,\n onReturn?: (() => void)|null): SubscriptionLike {\n return this._subject.subscribe({next: onNext, error: onThrow, complete: onReturn});\n }\n\n normalize(url: string): string {\n return null!;\n }\n}\n\nclass LocationState {\n constructor(public path: string, public query: string, public state: any) {}\n}\n","/*!\n*****************************************************************************\r\nCopyright (c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose

with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT,
NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS
SOFTWARE.\r\n*****
*/\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n extendStatics = Object.setPrototypeOf ||\r\n ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n extendStatics(d, b);\r\n function __() { this.constructor = d; }\r\n d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n __assign = Object.assign || function __assign(t) {\r\n for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n s = arguments[i];\r\n for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n }\r\n return t;\r\n }\r\n return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n var t = {};\r\n for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n t[p] = s[p];\r\n if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n t[p[i]] = s[p[i]];\r\n }\r\n return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n return new (P || (P = Promise))(function (resolve, reject) {\r\n function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n function rejected(value) { try { step(generator[\"throw\"](value));
} catch (e) { reject(e); } }\r\n function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n function verb(n) { return function (v) { return step([n, v]); }; }\r\n function step(op) {\r\n if (f) throw new TypeError(\"Generator is already executing.\");\r\n while (_) try {\r\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n if (y
= 0, t) op = [op[0] & 2, t.value];\r\n switch (op[0]) {\r\n case 0: case 1: t = op; break;\r\n case 4: _.label++; return { value: op[1], done: false };\r\n case 5: _.label++; y = op[1]; op = [0]; continue;\r\n case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n default:\r\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n if (op[0] === 6 &&

```
_.label < t[1]) { _.label = t[1]; t = op; break; }\r\n                if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n                if (t[2]) _.ops.pop();\r\n                _.trys.pop(); continue;\r\n            }\r\n            op = body.call(thisArg, _);\r\n        } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n        if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n    }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n    for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n    if (m) return m.call(o);\r\n    if (o && typeof o.length === \"number\") return {\r\n        next: function () {\r\n            if (o && i >= o.length) o = void 0;\r\n            return { value: o && o[i++], done: !o };\r\n        }\r\n    };\r\n    throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n    var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n    if (!m) return o;\r\n    var i = m.call(o), r, ar = [], e;\r\n    try {\r\n        while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n    }\r\n    catch (error) { e = { error: error }; }\r\n    finally {\r\n        try {\r\n            if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n        }\r\n        finally { if (e) throw e.error; }\r\n    }\r\n    return ar;\r\n}\r\n\r\nexport function __spread() {\r\n    for (var ar = [], i = 0; i < arguments.length; i++)\r\n        ar = ar.concat(__read(arguments[i]));\r\n    return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n    for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n    for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n        for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n            r[k] = a[j];\r\n    return r;\r\n};\r\n\r\nexport function __await(v) {\r\n    return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n    return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n    function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n    function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n    function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n    function fulfill(value) { resume(\"next\", value); }\r\n    function reject(value) { resume(\"throw\", value); }\r\n    function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n    var i, p;\r\n    return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n    function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var m = o[Symbol.asyncIterator], i;\r\n    return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n    function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n    function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n    if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n    return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n    Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n    o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n    if (mod && mod.__esModule) return mod;\r\n    var result = {};\r\n    if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n    __setModuleDefault(result, mod);\r\n    return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n    return (mod &&
```

mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to get private field on non-instance\");\r\n }\r\n return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to set private field on non-instance\");\r\n }\r\n privateMap.set(receiver, value);\r\n return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {LocationStrategy} from '@angular/common';\nimport {EventEmitter, Injectable} from '@angular/core';\n\n\n\n/**\n * A mock implementation of {@link LocationStrategy} that allows tests to fire simulated\n * location events.\n *\n * @publicApi\n */\n@Injectable()\nexport class MockLocationStrategy extends LocationStrategy {\n internalBaseHref: string = '/';\n internalPath: string = '/';\n internalTitle: string = '';\n urlChanges: string[] = [];\n /** @internal */\n _subject: EventEmitter<any> = new EventEmitter();\n private stateChanges: any[] = [];\n constructor() {\n super();\n }\n\n simulatePopState(url: string): void {\n this.internalPath = url;\n this._subject.emit(new _MockPopStateEvent(this.path()));\n }\n\n path(includeHash: boolean = false): string {\n return this.internalPath;\n }\n\n prepareExternalUrl(internal: string): string {\n if (internal.startsWith('/') && this.internalBaseHref.endsWith('/')) {\n return this.internalBaseHref + internal.substring(1);\n }\n return this.internalBaseHref + internal;\n }\n\n pushState(ctx: any, title: string, path: string, query: string): void {\n // Add state change to changes array\n this.stateChanges.push(ctx);\n\n this.internalTitle = title;\n\n const url = path + (query.length > 0 ? ('?' + query) : '');\n this.internalPath = url;\n\n const externalUrl = this.prepareExternalUrl(url);\n this.urlChanges.push(externalUrl);\n }\n\n replaceState(ctx: any, title: string, path: string, query: string): void {\n // Reset the last index of stateChanges to the ctx (state) object\n this.stateChanges[(this.stateChanges.length || 1) - 1] = ctx;\n\n this.internalTitle = title;\n\n const url = path + (query.length > 0 ? ('?' + query) : '');\n this.internalPath = url;\n\n const externalUrl = this.prepareExternalUrl(url);\n this.urlChanges.push('replace: ' + externalUrl);\n }\n\n onPopState(fn: (value: any) => void): void {\n this._subject.subscribe({next: fn});\n }\n\n getBaseHref(): string {\n return this.internalBaseHref;\n }\n\n back(): void {\n if (this.urlChanges.length > 0) {\n this.urlChanges.pop();\n this.stateChanges.pop();\n\n const nextUrl = this.urlChanges.length > 0 ? this.urlChanges[this.urlChanges.length - 1] : '';\n this.simulatePopState(nextUrl);\n }\n }\n\n forward(): void {\n throw 'not implemented';\n }\n\n getState(): unknown {\n return this.stateChanges[(this.stateChanges.length || 1) - 1];\n }\n}\n\nclass _MockPopStateEvent {\n pop: boolean = true;\n type: string = 'popstate';\n constructor(public newUrl: string) {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {LocationChangeEvent, LocationChangeListener, PlatformLocation} from '@angular/common';\nimport {Inject, Injectable, InjectionToken, Optional} from '@angular/core';\nimport {Subject} from 'rxjs';\n\n/**\n * Parser from https://tools.ietf.org/html/rfc3986#appendix-B\n * ^(([^:/?#]+):)?(//([^/?#]*))?([^?#]*)(\\?([^#]*))?(#(.*))?\n * 12 3 4 5 6 7 8 9\n *\n * Example: http://www.ics.uci.edu/pub/ietf/uri/#Related\n *\n * Results in:\n *\n * $1 = http:\n * $2 = http\n * $3 = //www.ics.uci.edu\n * $4 = www.ics.uci.edu\n * $5 = /pub/ietf/uri/\n * $6 = <undefined>\n * $7 = <undefined>\n * $8 = #Related\n * $9 = Related\n */\nconst urlParse = /^(([^:\\/?#]+):)?(\\\\/([^\\/?#]*))?([^?#]*)(\\?([^#]*))?(#(.*))?/;\n\nfunction parseUrl(urlStr: string, baseHref: string) {\n const verifyProtocol = /^((http[s]?|ftp):\\/\\/)/;\n let serverBase: string|undefined;\n\n // URL class requires full URL. If the URL string doesn't start with protocol, we need to add\n // an arbitrary base URL which can be removed afterward.\n if (!verifyProtocol.test(urlStr)) {\n serverBase = 'http://empty.com/';\n }\n let parsedUrl: {\n protocol: string,\n hostname: string,\n port: string,\n pathname: string,\n search: string,\n hash: string\n };\n try {\n parsedUrl = new URL(urlStr,\n serverBase);\n } catch (e) {\n const result = urlParse.exec(serverBase || '' + urlStr);\n if (!result) {\n throw new Error(`Invalid URL: ${urlStr} with base: ${baseHref}`);\n }\n const hostSplit = result[4].split(':');\n

parsedUrl = {\n protocol: result[1],\n hostname: hostSplit[0],\n port: hostSplit[1] || '',\n pathname: result[5],\n search: result[6],\n hash: result[8],\n };\n }\n if (parsedUrl.pathname && parsedUrl.pathname.indexOf(baseHref) === 0) {\n parsedUrl.pathname = parsedUrl.pathname.substring(baseHref.length);\n }\n return {\n hostname: !serverBase && parsedUrl.hostname || '',\n protocol: !serverBase && parsedUrl.protocol || ':',\n port: !serverBase && parsedUrl.port || '',\n pathname: parsedUrl.pathname || '/',\n search: parsedUrl.search || '',\n hash: parsedUrl.hash || '',\n };\n}\n\n/**\n * Mock platform location config\n *\n * @publicApi\n */\nexport interface MockPlatformLocationConfig {\n startUrl?: string;\n appBaseHref?: string;\n}\n\n/**\n * Provider for mock platform location config\n *\n * @publicApi\n */\nexport const MOCK_PLATFORM_LOCATION_CONFIG =\n new InjectionToken<MockPlatformLocationConfig>('MOCK_PLATFORM_LOCATION_CONFIG');\n\n/**\n * Mock implementation of URL state.\n *\n * @publicApi\n */\n@Injectable()\nexport class MockPlatformLocation implements PlatformLocation {\n private baseHref: string = '';\n private hashUpdate = new Subject<LocationChangeEvent>();\n private urlChanges: {\n hostname: string,\n protocol: string,\n port: string,\n pathname: string,\n search: string,\n hash: string,\n state: unknown\n }[] = [{hostname: '', protocol: '', port: '', pathname: '/', search: '', hash: '', state: null}];\n\n constructor(@Inject(MOCK_PLATFORM_LOCATION_CONFIG) @Optional() config?:\n MockPlatformLocationConfig) {\n if (config) {\n this.baseHref = config.appBaseHref || '';\n\n const parsedChanges\n =\n this.parseChanges(null, config.startUrl || 'http://<empty>/', this.baseHref);\n this.urlChanges[0] = {...parsedChanges};\n }\n }\n\n get hostname() {\n return this.urlChanges[0].hostname;\n }\n get protocol() {\n return this.urlChanges[0].protocol;\n }\n get port() {\n return this.urlChanges[0].port;\n }\n get pathname() {\n return this.urlChanges[0].pathname;\n }\n get search() {\n return this.urlChanges[0].search;\n }\n get hash() {\n return this.urlChanges[0].hash;\n }\n get state() {\n return this.urlChanges[0].state;\n }\n\n getBaseHrefFromDOM(): string {\n return this.baseHref;\n }\n\n onPopState(fn: LocationChangeListener): void {\n // No-op: a state stack is not implemented, so\n // no events will ever come.\n }\n\n onHashChange(fn: LocationChangeListener): void {\n this.hashUpdate.subscribe(fn);\n }\n\n get href(): string {\n let url = `${this.protocol}//${this.hostname}${this.port ? ':' + this.port\n : ''}`;\n url += `${this.pathname === '/' ? '' : this.pathname}${this.search}${this.hash}`;\n return url;\n }\n\n get url(): string {\n return `${this.pathname}${this.search}${this.hash}`;\n }\n\n private parseChanges(state: unknown, url: string, baseHref: string = '') {\n // When the `history.state` value is stored, it is always copied.\n state = JSON.parse(JSON.stringify(state));\n return {...parseUrl(url, baseHref), state};\n }\n\n replaceState(state: any, title: string, newUrl: string): void {\n const {pathname, search, state: parsedState, hash} = this.parseChanges(state, newUrl);\n\n this.urlChanges[0] = {...this.urlChanges[0], pathname, search, hash, state: parsedState};\n }\n\n pushState(state: any, title: string, newUrl: string): void {\n const {pathname, search, state: parsedState, hash} = this.parseChanges(state, newUrl);\n this.urlChanges.unshift({...this.urlChanges[0], pathname, search, hash, state: parsedState});\n }\n\n forward():\n void {\n throw new Error('Not implemented');\n }\n\n back(): void {\n const oldUrl = this.url;\n const oldHash = this.hash;\n this.urlChanges.shift();\n const newHash = this.hash;\n\n if (oldHash !== newHash) {\n scheduleMicroTask(\n () => this.hashUpdate.next(\n {type: 'hashchange', state: null, oldUrl, newUrl: this.url} as LocationChangeEvent));\n }\n }\n\n getState(): unknown {\n return this.state;\n }\n}\n\nexport function scheduleMicroTask(cb: () => any) {\n Promise.resolve(null).then(cb);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common/testing package.\n */\nexport {SpyLocation} from './location_mock';\nexport {MockLocationStrategy} from './mock_location_strategy';\nexport {MOCK_PLATFORM_LOCATION_CONFIG, MockPlatformLocation, MockPlatformLocationConfig} from './mock_platform_location';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at

https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/testing';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport
 * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from
'./index';\n"],"names":["EventEmitter","Injectable","LocationStrategy","InjectionToken","Subject","Inject","Optiona
l"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;IAYA;;;;;;QAKA;YAEE,eAAU,GAAa,EAAE,CAAC;YAClB,aAAQ,GAAA oB,C
AAC,IAAI,aAAa,CAAC,EAAE,EAAE,EAAE,EAAE,IAAI,CAAC,CAAC,CAAC;YAC9D,kBAAa,GAAW,CAAC,
CAAC;;YAElC,aAAQ,GAAA sB,IAAA IA,iBAAY,EAAE,CAAC;;YAEjD,cAAS,GAAW,EAAE,CAAC;;YAEvB,sBA
AiB,GAAA qB,IAAA K,CAAC;;YAE5C,sBAAiB,GAAA qB,IAAA K,CAAC;;YAE5C,wBAAmB,GAA A8C,EAAE,CAAC;S
AsHrE;QAlHC,oCAAc,GAAd,UAAe,GAAW;YACxB,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,aAAa,CAAC,CA
AC,IAAI,GAAG,GAAG,CAAC;SC9C;QED,iCAAW,GAAX,UAAY,GAAW;YACrB,IAAI,CAAC,SAAS,
CAAC,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC,IAAI,
CAAC,IAAI,GAAG,GAAG,CAAC;SACtB;QED,0BAAI,GAAJ,UAAK,GAAW;YACd,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC,IAAI,CAAC,aAAa,CAAC,CA
AC,IAAI,CAAC,aAAa,CAAC,CAAC,IAAI,CAAC,aAAa,CAAC,aAAa,CAAC,CAAC,IAAI,CAAC,aAAa,CAAC,a
AAa,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC,IAAI,CAAC,aAAa,CAAC,aAAa,CAAC,
CAA

WAAW,GAAG,GAAG,CAAC,CAAC;SACzC;QAED,6BAAO,GAAP;YACE,IAAI,IAAI,CAAC,aAAa,IAAI,IAAI
,CAAC,QAAQ,CAAC,MAAM,GAAG,CAAC,CAAC,EAAE;gBACnD,IAAI,CAAC,aAAa,EAAE,CAAC;gBACrB
,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,EAAC,KAAK,EAAE,IAAI,CAAC,IAAI,EAAE,EAAE,OAAO,EAAE,I
AAI,CAAC,QAAQ,EAAE,EAAE,KAAK,EAAE,IAAI,EAAC,CAAC,CAAC;aACjF;SACF;QAED,0BAAI,GAAJ;
YACE,IAAI,IAAI,CAAC,aAAa,GAAG,CAAC,EAAE;gBAC1B,IAAI,CAAC,aAAa,EAAE,CAAC;gBACrB,IAAI,
CAAC,QAAQ,CAAC,IAAI,CAAC,EAAC,KAAK,EAAE,IAAI,CAAC,IAAI,EAAE,EAAE,OAAO,EAAE,IAAI,C
AAC,QAAQ,EAAE,EAAE,KAAK,EAAE,IAAI,EAAC,CAAC,CAAC;aACjF;SACF;QACD,iCAAW,GAAX,UAA
Y,EAAyC;YAArD,iBAQC;YAPC,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;YAElC,IAA
I,CAAC,IAAI,CAAC,sBAAsB,EAAE;gBAChC,IAAI,CAAC,sBAAsB,GAAG,IAAI,CAAC,SAAS,CAAC,UAAA,
CAAC;oBAC5C,KAAI,CAAC,yBAAyB,CAAC,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,KAAK,CAAC,CAA
C;iBAChD,CAAC,CAAC;aACJ;SACF;;QAGD,+CAAyB,GAAzB,UAA0B,KAAc,EAAE,MAAe,EAAE,KAAc,
EAAE,OAAgB;YACzF,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,EAAE,CAAC,KAAK,EAAE,MAAM,EAAE,KA
AA,QAAQ,EAAE,OAAO,CAAC,CAAC;SACpD;QACD,+CAAyB,GAAzB,UAA0B,KAAc,EAAE,MAAe,EAAE,KAAc,
EAAE,OAAgB;YACzF,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,EAAE,CAAC,KAAK,EAAE,MAAM,EAAE,KA
AA,QAAQ,EAAE,OAAO,EAAE,IAAI,CAAC;SACpD;QACD,+CAAyB,GAAzB,UAA0B,KAAc,EAAE,MAAe,EAAE,KAAc,
EAAE,OAAgB;YACzF,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,EAAE,CAAC,KAAK,EAAE,MAAM,EAAE,KA
AA,QAAQ,EAAE,OAAO,EAAE,KAAK,CAAC;SACr

UAAU,CAAC,CAAC,CAAC;oBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,
CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,GAAG,
CAAC,CAAC,MAAM,EAAE,GAAG,CAAC,KAAK,CAAC,CAAC;QAClJ,OAAO,CAAC,GAAG,CAAC,IAAI,C
AAC,IAAI,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC;IACl
E,CAAC;aAEe,OAAO,CAAC,UAAU,EAAE,SAAS;QACzC,OAAO,UAAU,MAAM,EAAE,GAAG,IAAI,SAAS,C
AAC,MAAM,EAAE,GAAG,EAAE,UAAU,CAAC,CAAC,EAAE,CAAA;IACzE,CAAC;aAEe,UAAU,CAAC,WA
AW,EAAE,aAAa;QACjD,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU
;YAAE,OAAO,OAAO,CAAC,QAAQ,CAAC,WAAW,EAAE,aAAa,CAAC,CAAC;IACnI,CAAC;aAEe,SAAS,CA
AC,OAAO,EAAE,UAAU,EAAE,CAAC,EAAE,SAAS;QACvD,SAAS,KAAK,IAAI,SAAS,KAAK,IAAI,KAAK,
,YAAY,CAAC,GAAG,KAAK,GAAG,IAAI,CAAC,CAAC,UAAU,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,CA
AC,EAAE,CAAC,CAAC,EAAE;QAC5G,OAAO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,EAAE,UA
AU,OAAO,EAAE,MAAM;YACrD,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,I
AAI,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE;YAC3C,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CA
AC,CAAC;aAAE,EAAE;YAC3F,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,O
AAO,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE;YACzC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,C
AAC,CAAC,CAAC;aAAE,EAAE;YAC9F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,
CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,S
AAS,EAAE,QAAQ,CAAC,CAAC,EAAE;YAC9G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,IAAI,
C,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,CAA
C;aAEe,WAAW,CAAC,OAAO,EAAE,IAAI;QACrC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,KAK
AI,EAAE,cAAa,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,
CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAA
E,EAAE,EAAE,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,
EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,E
AAE,IAAI,CAAC,CAAC,CAAC,EAAE,EAAE,OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CA
AC,QAAQ,CAAC,GAAG,cAAa,OAAO,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzE,SAAS,IAAI,CA
AC,CAAC,IAAI,OAAO,UAAU,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CA
AC,EAAE,CAAC,EAAE;QACzC,SAAS,IAAI,CAAC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,
C,QAAQ,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,I
AAI,CAAC,IAAI,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,C
AAC,CAAC,EAAE,IAAI;wBAAE,OAAO,CAAC,CAAC;oBAC7J,IAAI,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC;wB
AAE,EAAE,GAAG,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,CA
AC;oBACxC,QAAQ,EAAE,CAAC,CAAC,CAAC;wBACT,KAAK,CAAC,CAAC;wBAAC,KAAK,CAAC;4BAA
E,CAAC,GAAG,EAAE,CAAC;4BAAC,MAAM;wBAC9B,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,EAAE,C
AAC;4BAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,KAAK,EAAE,CAA
C;wBACxD,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,MAAM,CAAC,CAAC,CAAC,
AAC,CAAC,CAAC;4BAAC,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC;4BAAC,SAAS;wBACjD,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,MAAM,CAAC,CAAC,CAAC,
AAG,EAAE,CAAC;4BAAC,MAAM,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
AAC,IAAI,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,CAAC,
C,CAAC,KAAK,EAAE,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,
AAC,EAAE;gCAAE,CAAC,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,SAAS;6BAAE;4BAC5G,IAAI,EAAE,CAAC,CAAC,
CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,C
AAC,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAA
C,CAAC,KAAK,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;6BAAE;4BAAC,MAAM;wBAC9C,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,MAAM,CAAC,IAAI

AC,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAA
E,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,GAAG,EAAE,CAAC;gCAA
C,MAAM;6BAAE;4BACrE,IAAI,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE
;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,CAAC,GAAG,CAAC
,IAAI,CAAC,EAAE,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACnE,IAAI,CAAC,CAAC,CAAC,CAAC;gCAA
E,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC;4BACtB,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;
4BAAC,SAAS;qBAC9B;oBACD,EAAE,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,CAAC,CAAC,CAAC;i
BAC9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,EAAE,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;oBAA
C,CAAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAAE;YA
C1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC,CAAC;YA
AC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAA
K,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;SACpF;IACL,CAAC;IAEM,IAAI,eAAe,GAAG,MAAM,CAAC
,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QAC9D,IAAI,EAAE,KAAK,SAAS;YA
AE,EAAE,GAAG,CAAC,CAAC;QAC7B,MAAM,CAAC,cAAc,CAAC,CAAC,CAAC,EAAE,EAAE,EAAE,EAAE,UAA
U,EAAE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CA
AC;IACzF,CAAC,KAAK,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,EAAE,KAAK,
SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,C
AAC,CAAC;IACjB,CAAC,CAAC,CAAC;aAEa,YAAY,CAAC,CAAC,EAAE,OAAO;QACnC,KAAK,IAAI,CAAC
,IAAI,CAAC;YAAE,IAAI,CAAC,KAAK,SAAS,IAAI,OAAO,CAAC,cAAc,CAAC,CAAC,CAAC;gBAA
E,eAAe,CAAC,OAAO,EAAE,CAAC,EAAE,CAAC,CAAC;IACvG,CAAC;aAEe,QAAQ,CAAC,CAAC,EAAE,CAAC;QAC
CtB,IAAI,CAAC,GAAG,OAAO,,MAAM,KAAK,UAAU,IAAI,MAAM,CAAC,QAAQ,EAAE,CAAC,GAAG,CA
AC,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC;QAC9E,IAAI,CAAC,CAAC;YAAE,OAAO,
CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;QACxB,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,GAAG,
IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC

AS;QAC3D,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,CAAC,sCAAsC,CAAC,CAAC;QAC
vF,IAAI,CAAC,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,EAAE,CAAC,EA
AE,CAAC,GAAG,EAAE,CAAC;QAC9D,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAA
E,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,aAAa,CA
AC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QACtH,SAAS,IAAI,CAAC,CAAC,IAAI,IAA
I,CAAC,CAAC,CAAC,CAAC;YAAE,CAAC,CAAC,GAAG,UAAU,CAAC,IAAI,OAAO,IAAI,OA
AO,CAAC,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,C
AAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAAC,CAAC,EAA
E,CAAC,CAAC,EAAE,CAAC,EAAE;QAC1I,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI;YAAE,IA
AI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;SAAE;QAAC,OAAO,CAAC,EAAE;
YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;SAAE,E
AAE;QAClF,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,YAAY,OAAO,GAAG,OAAO,CAAC,OAAO
,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,OAAO,EAAE,MAAM,CAAC,GAAG,M
AAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE;QACxH,SA
AS,OAAO,CAAC,KAAK,IAAI,MAAM,CAAC,MAAM,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM
M,CAAC,KAAK,IAAI,MAAM,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC
,CAAC,EAAE,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,KAAK,EAAE,EAAE,CAAC
,CAAC,MAAM;YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;IAAC,CAAC,aAAa,gBAAgB,CAAC,CAAC;QAC9B,I
AAI,CAAC,EAAE,CAAC,CAAC;QACT,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,CAAC,EAAE
,IAAI,CAAC,OAAO,EAAE,UAAU,CAAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,CAAC,QAA
Q,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,C
AAC,CAAC;QAC5I,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,
CAAC,CAAC,CAAC,GAAG,UAAU,CAAC,IAAI,OAAO,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,KAA
K,EAAE,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,CAAC,K
AAK,QAAQ,EAAE,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,EAAE,GAAG,CA
AC,CAAC,EAAE;IAAC,nJ,CAAC;aAAe,aAAa,CAAC,CAAC;QAC3B,QAAQ,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,M
AAM,IAAI,SAAS,CAAC,sCAAsC,CAAC,CAAC;QACvF,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,aA
Aa,CAAC,EAAE,CAAC,CAAC;QACnC,OAAO,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,
CAAC,GAAG,OAAO,QAAQ,KAAK,UAAU,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,
CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

C,GAAG,EAAE,CAAC,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,CAAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CAAC;aAEe,eAAe,CAAC,GAAG;QAC/B,OAAO,CAAC,GAAG,IAAI,GAAG,CAAC,UAAU,IAAI,GAAG,GAAG,EAAE,OAAO,EAAE,GAAG,EAAE,CAAC;IAC5D,CAAC;aAEe,sBAAsB,CAAC,QAAQ,EAAE,UAAU;QACvD,IAAI,CAAC,UAAU,CAAC,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,EAAE;YAC3B,MAAM,IAAI,SAAS,CAAC,gDAAgD,CAAC,CAAC;SACzE;QACD,OAAO,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;IACpC,CAAC;aAEe,sBAAsB,CAAC,QAAQ,EAAE,UAAU;QACvD,IAAI,QAAQ,KAAK,UAAU,EAAE;YACzB,MAAM,IAAI,SAAS,CAAC,gDAAgD,CAAC,CAAC;SACzE;QACD,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;IAC7B,CAAC;;;;;;;QAO0C,wCAAgB;QAAxD;;;;;;;

AC,CAAC,CAAC;gBACnB,MAAM,EAAE,MAAM,CAAC,CAAC,CAAC;gBACjB,IAAI,EAAE,MAAM,CAAC,
CAAC,CAAC;aAChB,CAAC;SACH;QACD,IAAI,SAAS,CAAC,QAAQ,IAAI,SAAS,CAAC,QAAQ,CAAC,OAA
O,CAAC,QAAQ,CAAC,KAAK,CAAC,EAAE;YACpE,SAAS,CAAC,QAAQ,GAAG,SAAS,CAAC,QAAQ,CAAC
,SAAS,CAAC,QAAQ,CAAC,MAAM,CAAC,CAAC;SACpE;QACD,OAAO;YACL,QAAQ,EAAE,CAAC,UAAU,
IAAI,SAAS,CAAC,QAAQ,IAAI,EAAE;YACjD,QAAQ,EAAE,CAAC,UAAU,IAAI,SAAS,CAAC,QAAQ,IAAI,E
AAE;YACjD,IAAI,EAAE,CAAC,UAAU,IAAI,SAAS,CAAC,IAAI,IAAI,EAAE;YACzC,QAAQ,EAAE,SAAS,CA
AC,QAAQ,IAAI,GAAG;YACnC,MAAM,EAAE,SAAS,CAAC,MAAM,IAAI,EAAE;YAC9B,IAAI,EAAE,SAAS,
CAAC,IAAI,IAAI,EAAE;SAC3B,CAAC;IACJ,CAAC;IAYD;;;;;QAKa,6BAA6B,GACtC,IAAIE,mBAAc,CAAC,+BAA+B,CAAC,CAAC;IAAA,CAAA,CAAA,C

C,6BAA6B,cAAGC,aAAQ;;aAgG9C,iBAAiB,CAAC,EAAa;QAC7C,OAAO,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;IACjC;;ICvNA;;;;;;;;ICAA;;;;;;;IAeA;;ICfA;;;;;;;;ICAA;;;;;;;;;;;;;;;;;"}

Found
in path(s):
* /common-11-0-5-tgz/package/bundles/common-testing.umd.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/common/common-http.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","common","http","core","rxjs","operators","this","HttpHandler","HttpBackend","extendStatics","d","b","Object","setPrototypeOf","__proto__","Array","p","hasOwnProperty","__extends","__","constructor","prototype","create","__read","o","n","m","Symbol","iterator","r","e","i","call","ar","next","done","push","value","error","HttpHeaders","headers","_this","normalizedNames","Map","lazyUpdate","lazyInit","split","forEach","line","index","indexOf","name","slice","key","toLowerCase","trim","maybeSetNormalizedName","has","get","set","keys","values","length","init","from","getAll","append","clone","op","delete","lcName","copyFrom","update","applyUpdate","other","concat","base","undefined","apply","__spread","arguments","toDelete_1","existing","filter","fn","HttpUrlEncodingCodec","encodeKey","standardEncoding","encodeValue","decodeKey","decodeURIComponent","decodeValue","v","encodeURIComponent","replace","HttpParams","options","updates","cloneFrom","encoder","fromString","fromObject","Error","map","paramParser","rawParams","codec","param","eqIdx","_a","val","list","isArray","res","toString","eKey","join","base_1","idx","splice","isArrayBuffer","ArrayBuffer","isBlob","Blob","isFormData","FormData","HttpEventType","HttpRequest","method","url","third","fourth","body","reportProgress","withCredentials","responseType","toUpperCase","mightHaveBody","params","urlWithParams","qIdx","serializeBody","JSON","stringify","detectContentTypeHeader","type","setHeaders","reduce","setParams","HttpResponseBase","HttpHeaderResponse","_super","ResponseHeader","status","statusText","defaultStatus","defaultStatusText","ok","HttpResponse","Response","HttpErrorResponse","message","addBody","observe","HttpClient","handler","request","first","req","events$","of","pipe","concatMap","handle","res$","event","head","jsonp","callbackParam","patch","post","put","decorators","Injectable","ctorParameters","HttpInterceptorHandler","interceptor","intercept","HTTP_INTERCEPTORS","InjectionToken","NoopInterceptor","nextRequestId","JsonpCallbackContext","JsonpClientBackend","callbackMap","document","resolvedPromise","Promise","resolve","nextCallback","Observable","observer","callback","node","createElement","src","finished","cancelled","data","cleanup","parentNode","removeChild","onLoad","then","complete","onError","addEventListener","appendChild","Sent","removeEventListener","Inject","args","DOCUMENT","JsonpInterceptor","XSSI_PREFIX","XhrFactory","BrowserXhr","build","XMLHttpRequest","HttpXhrBackend","xhrFactory","xhr","open","setRequestHeader","detectedType","reqBody","headerResponse","partialFromXhr","getAllResponseHeaders","getResponseUrl","responseURL","test","getResponseHeader","response","responseText","originalBody","parse","text","sentHeaders","onDownProgress","progressEvent","DownloadProgress","loaded","lengthComputable","total","partialText","onUpProgress","progress","UploadProgress","upload","send","readyState","DONE","abort","XSRF_COOKIE_NAME","XSRF_HEADER_NAME","HttpXsrfTokenExtractor","HttpXsrfCookieExtractor","doc","platform","cookieName","lastCookieString","lastToken","parseCount","getToken","cookieString","cookie","parseCookieValue","String","PLATFORM_ID","HttpXsrfInterceptor","tokenService","headerName","lcUrl","startsWith","token","HttpInterceptingHandler","backend","injector","chain","interceptors","reduceRight","jsonpCallbackContext","window","Injector","HttpClientModule","HttpClientJsonpModule","HttpClientXsrfModule","disable","ngModule","providers","provide","useClass","withOptions","useValue","NgModule","useExisting","multi","imports","useFactory","HttpInterceptingHandler","angular_packages_common_http_http_a","angular_packages_common_http_http_b","angular_packages_common_http_http_c","angular_packages_common_http_http_d","angular_packages_common_http_http_e","angular_packages_common_http_http_f","angular_packages_common_http_http_g","angular_packages_common_http_http_h","defineProperty"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GACfA,EAAQC,QAAUD,EAAQ,EAAQ,QAClCE,EAAOC,QAAUH,EAAQ,EAAQ,QAAQ,EAAQ,QAAQ,EAAQ,Q

OC,IAAMD,OAAO,uBAAwB,CAAC,UAAW,gBAAiB,OAAQ,iBAAkB,mBAAoBJ,GAC7HA,IAAzBD,EAASA,GAAUO,MAAsBC,GAAKR,EAAOQ,IAAMR,EAAOQ,GAAGC,OAAST,EAAOQ,GAAGC,QAAUA,GAAIT,EAAOQ,GAAGC,OAAOC,KAAOA,IAAKV,EAAOQ,GAAGG,KAAKC,MAAMX,EAAOQ,GAAGG,KAAKC,MAAMC,OAAS,EAAGb

CJ,IAAK,IACD,IAAIK,EAAaT,EAAOnC,MACxB,GAAK4C,EAIA,CACD,IAAIC,EAAW5E,KAAKkC,QAAQkB
,IAAIL,GAChC,IAAK6B,EACD,OAGoB,KADxBA,EAAWA,EASC,QAAO,SAAU9C,GAAS,OAAsC,IAA/B4C
,EAAW/B,QAAQb,OAC3DyB,QACTxD,KAAKkC,QAAQ6B,OAAOhB,GACpB/C,KAAKoC,gBAAgB2B,OAA
OhB,IAG5B/C,KAAKkC,QAAQmB,IAAIN,EAAK6B,E,QAd1B5E,KAAKkC,QAAQ6B,OAAOhB,GACpB/C,KAAKA
KoC,gBAAgB2B,OAAOhB,KAsB5Cd,EAAYlB,UAAU0B,QAAU,SAAUqC,GACtC,IAAIC,EAAWjF,KAAKkF,
KAAKyD,OACLhD,MAAMiD,KAAK1D,KAAKoC,gBAAgBkB,QAC3Bb,SAAQ,SAAUuB,GAAS,OAAO+C,EAA
AG3C,EAAMC,gBAAgBgB,IAAIL,GAAMZ,EAAMD,QAAQkB,IAAIL,QAAEvFd,EAAzBsC,GA6B8B,EAAsC,
WACtC,SAASA,KAAKCT,OA3BtBA,EAAaqB,EAAUuB,EAAOC,EAAUC,EAAUC,EAAOC,EAAOC,EAAO

WAS5CrG,KAAK4F,UAAY5F,KAAK2F,QAAU,OAGjCF,EA7JoB;;;;;;;OA2L/B,SAASyB,EAAcnF,GACnB,MA
A8B,oBAAhBoF,aAA+BpF,aAAiBoF,YAOlE,SAASC,EAAOrF,GACZ,MAAuB,oBAATsF,MAAwBtF,aAAiBsF,
KAO3D,SAASC,EAAWvF,GAChB,MAA2B,oBAAbwF,UAA4BxF,aAAiBwF,SAY/D,IA6MWC,EA7MPC,EAA6
B,WAC7B,SAASA,EAAYC,EAAQC,EAAKC,EAAOC,GA+BrC,IAAInC,EAAkCJ,gBAAgBqC,IAAiBA,
EAAQX,3H,KAAK8H,KAAKO,KAAKC,+H,gBAAiBC,EAAItB/H,KAAKgI,iBAAkBC,EAAOvBhI,KAAKiI,aAAe,O
ACpBjI,KAAK0H,OAASA,EAAOQ,cA3E7B,SAASC,EAAcT,GACnB,OAAQA,GACJ,IAAK,SACL,IAAK,MAC
L,IAAK,OACL,IAAK,UACL,IAAK,QACD,OAAO,EACX,QACI,OAAO,GAwEPS,CAAcnI,KAAK0H,SAAaG,G
AEhC7H,KAAK8H,UAAkBvD,IAAVqD,EAAuBA,EAAQ,KC5ClC,EAAUmC,EAAUnC,GAAS,KAAMoC,EAAUpC,GAAS,
EA1F,KAAK+H,iBAAmBrC,EAAQqC,eAChC/H,KAAKgI,kBAAoBtC,EAAQsC,gBAE3BtC,EAAQuC,eACVjI,
KAAKiI,aAAevC,EAAQuC,cAG1BvC,EAAQxD,UACVlC,KAAKkC,QAAUwD,EAAQxD,SAErBwD,EAAQ0C,
SACVpI,KAAKoI,OAAS1C,EAAQ0C,SAIzBpI,KAAKkC,UACNlC,KAAKkC,QAAU,IAAID,GAGlBjC,KAAKoI
,OAIL,CAED,IAAIA,EAASpI,KAAKoI,OAAOxB,WACzB,GAAsB,IAAlBwB,EAAOvB,QAAgBuB,EAAOxB,WAAa,EAAO5E,xD,KAAKqI,cAAcD,EAAQ,KAAK
gBV,MAEpB,CAED,IAAIW,EAAQ/I,KAAKqI,cAAcD,EAAQ,IADD,IAAVW,EAAc,EAAc,IAAVA,EAAc,EAAO
A,EAAOX,EAAOY,InE,OAAS,EAAI,IAAM,IAC5B4B4E,QArBrCpI,KAAKoI,OAAS,IAAIC,EAAWF,EAAOxB,WAAYwB,EAAOvB,QAAUuB,EAAOxB,WAAa,EAAIwB,EAAOvB,
QAAS,GAAIuB,EAAOxB,WAAa,EAAIwB,EAAOvB,

IAC3B,IAAIsF,EAAa,CACpB1B,UAAuBvD,IAAhBL,EAAO4D,KAAsB5D,EAAO4D,KAAO9H,KAAK8H,KAC
vD5F,QAASgC,EAAOhC,SAAWlC,KAAKkC,QAChCiH,YAA2B5E,IAAlBL,EAAOiF,OAAwBjF,EAAOiF,OAA
SnJ,KAAKmJ,OAC7DC,WAAYlF,EAAOkF,YAAcpJ,KAAKoJ,WACtCzB,IAAKzD,EAAOyD,KAAO3H,KAAK
2H,UAAOpD,KAAGhCiF,EAtBsB,CAuB/BT,GAcEW,EAAmC,SAAUT,GAE7C,SAASS,EAAkBC,EAAMC,EAAMC,EAAQC,EAAOC,EAAOC,EAAO

AAK8L,gBAAkBC,QAAQC,UAgJnC,OA3IAL,EAAmB5K,UAAUkL,aAAe,WACxC,MAAO,qBAAuBR,KAQlCE,EAAmB5K,UAAUwJ,OAAS,SAAUL,GAC5C,IAAI/H,EAAQnC,KAGZ,GAAmB,UAAfkK,EAAIxC,OACJ,MAAM,IAAI1B,MAhDO,iDAkDhB,GAAyB,SArBkE,EAAIjC,aACT,MAAM,IAAIjC,MAlDc,+CAqD5B,OAAO,IAAIlG,EAAAAoM,YAAW,SAAUC,GAC5C,IAAIC,EAAUC,YAAW,WACrBF,EAAQ,uBAAwB,IAAM4G,EAAEzC,MAAQ,IAAMyC,EAAEC,OAAS,IAAMD,EAAEE,SAAW,IAAMF,EAAEG,SAAW,IAAMH,EAAEI,SAAW,IAAMJ,EAAEK,SAAW,IAAML,EAAEM,SAAW,IAAMN,EAAEO,SAAW,IAAMP,EAAEQ,SAAW,IAAMR,EAAES,SAAW,IAAMT,EAAEU,SAAW,IAAMV,EAAEW,SAAW,IAAMX,EAAEY,SAAW,IAAMZ,EAAEa,SAAW,IAAMb,EAAEc,SAAW,IAAMd,EAAEe,SAAW,IAAMf,EAAEgB,SAAW,IAAMhB,EAAEiB,SAAW,IAAMjB,EAAEkB,SAAW,IAAMlB,EAAEmB,SAAW,IAAMnB,EAAEoB,SAAW,IAAMpB,EAAEqB,SAAW,IAAMrB,EAAEsB,SAAW,IAAMtB,EAAEuB,SAAW,IAAMvB,EAAEwB,SAAW,IAAMxB,EAAEyB,SAAW,IAAMzB,EAAE0B,SAAW,IAAM1B,EAAE2B,SAAW,IAAM3B,EAAE4B,SAAW,IAAM5B,EAAE6B,SAAW,IAAM7B,EAAE8B,SAAW,IAAM9B,EAAE+B,SAAW,IAAM/B,EAAEgC,SAAW,IAAMhC,EAAEiC,SAAW,IAAMjC,EAAEkC,SAAW,IAAMlC,EAAEmC,SAAW,IAAMnC,EAAEoC,SAAW,IAAMpC,EAAEqC,SAAW,IAAMrC,EAAEsC,SAAW,IAAMtC,EAAEuC,SAAW,IAAMvC,EAAEwC,SAAW,IAAMxC,EAAEyC,SAAW,IAAMzC,EAAE0C,SAAW,IAAM1C,EAAE2C,SAAW,IAAM3C,EAAE4C,SAAW,IAAM5C,EAAE6C,SAAW,IAAM7C,EAAE8C,SAAW,IAAM9C,EAAE+C,SAAW,IAAM/C,EAAEgD,SAAW,IAAMhD,EAAEiD,SAAW,IAAMjD,EAAEkD,SAAW,IAAMlD,EAAEmD,SAAW,IAAMnD,EAAEoD,SAAW,IAAMpD,EAAEqD,SAAW,IAAMrD,EAAEsD,SAAW,IAAMtD,EAAEuD,SAAW,IAAMvD,EAAEwD,SAAW,IAAMxD,EAAEyD,SAAW,IAAMzD,EAAE0D,SAAW,IAAM1D,EAAE2D,SAAW,IAAM3D,EAAE4D,SAAW,IAAM5D,EAAE6D,SAAW,IAAM7D,EAAE8D,SAAW,IAAM9D,EAAE+D,SAAW,IAAM/D,EAAEgE,SAAW,IAAMhE,EAAEiE,SAAW,IAAMjE,EAAEkE,SAAW,IAAMlE,EAAEmE,SAAW,IAAMnE,EAAEoE,SAAW,IAAMpE,EAAEqE,SAAW,IAAMrE,EAAEsE,SAAW,IAAMtE,EAAEuE,SAAW,IAAMvE,EAAEwE,SAAW,IAAMxE,EAAEyE,SAAW,IAAMzE,EAAE0E,SAAW,IAAM1E,EAAE2E,SAAW,IAAM3E,EAAE4E,SAAW,IAAM5E,EAAE6E,SAAW,IAAM7E,EAAE8E,SAAW,IAAM9E,EAAE+E,SAAW,IAAM/E,EAAEgF,SAAW,IAAMhF,EAAEiF,SAAW,IAAMjF,EAAEkF,SAAW,IAAMlF,EAAEmF,SAAW,IAAMnF,EAAEoF,SAAW,IAAMpF,EAAEqF,SAAW,IAAMrF,EAAEsF,SAAW,IAAMtF,EAAEuF,SAAW,IAAMvF,EAAEwF,SAAW,IAAMxF,EAAEyF,SAAW,IAAMzF,EAAE0F,SAAW,IAAM1F,EAAE2F,SAAW,IAAM3F,EAAE4F,SAAW,IAAM5F,EAAE6F,SAAW,IAAM7F,EAAE8F,SAAW,IAAM9F,EAAE+F,SAAW,IAAM/F,EAAEgG,SAAW,IAAMhG,EAAEiG,SAAW,IAAMjG,EAAEkG,SAAW,IAAMlG,EAAEmG,SAAW,IAAMnG,EAAEoG,SAAW,IAAMpG,EAAEqG,SAAW,IAAMrG,EAAEsG,SAAW,IAAMtG,EAAEuG,SAAW,IAAMvG,EAAEwG,SAAW,IAAMxG,EAAEyG,SAAW,IAAMzG,EAAE0G,SAAW,IAAM1G,EAAE2G,SAAW,IAAM3G,EAAE4G,SAAW,IAAM5G,EAAE6G,SAAW,IAAM7G,EAAE8G,SAAW,IAAM9G,EAAE+G,SAAW,IAAM/G,EAAEgH,SAAW,IAAMhH,EAAEiH,SAAW,IAAMjH,EAAEkH,SAAW,IAAMlH,EAAEmH,SAAW,IAAMnH,EAAEoH,SAAW,IAAMpH,EAAEqH,SAAW,IAAMrH,EAAEsH,SAAW,IAAMtH,EAAEuH,SAAW,IAAMvH,EAAEwH,SAAW,IAAMxH,EAAEyH,SAAW,IAAMzH,EAAE0H,SAAW,IAAM1H,EAAE2H,SAAW,IAAM3H,EAAE4H,SAAW,IAAM5H,EAAE6H,SAAW,IAAM7H,EAAE8H,SAAW,IAAM9H,EAAE+H,SAAW,IAAM/H,EAAEgI,SAAW,IAAMhI,EAAEiI,SAAW,IAAMjI,EAAEkI,SAAW,IAAMlI,EAAEmI,SAAW,IAAMnI,EAAEoI,SAAW,IAAMpI,EAAEqI,SAAW,IAAMrI,EAAEsI,SAAW,IAAMtI,EAAEuI,SAAW,IAAMvI,EAAEwI,SAAW,IAAMxI,EAAEyI,SAAW,IAAMzI,EAAE0I,SAAW,IAAM1I,EAAE2I,SAAW,IAAM3I,EAAE4I,SAAW,IAAM5I,EAAE6I,SAAW,IAAM7I,EAAE8I,SAAW,IAAM9I,EAAE+I,SAAW,IAAM/I,EAAEgJ,SAAW,IAAMhJ,EAAEiJ,SAAW,IAAMjJ,EAAEkJ,SAAW,IAAMlJ,EAAEmJ,SAAW,IAAMnJ,EAAEoJ,SAAW,IAAMpJ,EAAEqJ,SAAW,IAAMrJ,EAAEsJ,SAAW,IAAMtJ,EAAEuJ,SAAW,IAAMvJ,EAAEwJ,SAAW,IAAMxJ,EAAEyJ,SAAW,IAAMzJ,EAAE0J,SAAW,IAAM1J,EAAE2J,SAAW,IAAM3J,EAAE4J,SAAW,IAAM5J,EAAE6J,SAAW,IAAM7J,EAAE8J,SAAW,IAAM9J,EAAE+J,SAAW,IAAM/J,EAAEgK,SAAW,IAAMhK,EAAEiK,SAAW,IAAMjK,EAAEkK,SAAW,IAAMlK,EAAEmK,SAAW,IAAMnK,EAAEoK,SAAW,IAAMpK,EAAEqK,SAAW,IAAMrK,EAAEsK,SAAW,IAAMtK,EAAEuK,SAAW,IAAMvK,EAAEwK,SAAW,IAAMxK,EAAEyK,SAAW,IAAMzK,EAAE0K,SAAW,IAAM1K,EAAE2K,SAAW,IAAM3K,EAAE4K,SAAW,IAAM5K,EAAE6K,SAAW,IAAM7K,EAAE8K,SAAW,IAAM9K,EAAE+K,SAAW,IAAM/K,EAAEgL,SAAW,IAAMhL,EAAEiL,SAAW,IAAMjL,EAAEkL,SAAW,IAAMlL,EAAEmL,SAAW,IAAMnL,EAAEoL,SAAW,IAAMpL,EAAEqL,SAAW,IAAMrL,EAAEsL,SAAW,IAAMtL,EAAEuL,SAAW,IAAMvL,EAAEwL,SAAW,IAAMxL,EAAEyL,SAAW,IAAMzL,EAAE0L,SAAW,IAAM1L,EAAE2L,SAAW,IAAM3L,EAAE4L,SAAW,IAAM5L,EAAE6L,SAAW,IAAM7L,EAAE8L,SAAW,IAAM9L,EAAE+L,SAAW,IAAM/L,EAAEgM,SAAW,IAAMhM,EAAEiM,SAAW,IAAMjM,EAAEkM,SAAW,IAAMlM,EAAEmM,SAAW,IAAMnM,EAAEoM,SAAW,IAAMpM,EAAEqM,SAAW,IAAMrM,EAAEsM,SAAW,IAAMtM,EAAEuM,SAAW,IAAMvM,EAAEwM,SAAW,IAAMxM,EAAEyM,SAAW,IAAMzM,EAAE0M,SAAW,IAAM1M,EAAE2M,SAAW,IAAM3M,EAAE4M,SAAW,IAAM5M,EAAE6M,SAAW,IAAM7M,EAAE8M,SAAW,IAAM9M,EAAE+M,SAAW,IAAM/M,EAAEgN,SAAW,IAAMhN,EAAEiN,SAAW,IAAMjN,EAAEkN,SAAW,IAAMlN,EAAEmN,SAAW,IAAMnN,EAAEoN,SAAW,IAAMpN,EAAEqN,SAAW,IAAMrN,EAAEsN,SAAW,IAAMtN,EAAEuN,SAAW,IAAMvN,EAAEwN,SAAW,IAAMxN,EAAEyN,SAAW,IAAMzN,EAAE0N,SAAW,IAAM1N,EAAE2N,SAAW,IAAM3N,EAAE4N,SAAW,IAAM5N,EAAE6N,SAAW,IAAM7N,EAAE8N,SAAW,IAAM9N,EAAE+N,SAAW,IAAM/N,EAAEgO,SAAW,IAAMhO,EAAEiO,SAAW,IAAMjO,EAAEkO,SAAW,IAAMlO,EAAEmO,SAAW,IAAMnO,EAAEoO,SAAW,IAAMpO,EAAEqO,SAAW,IAAMrO,EAAEsO,SAAW,IAAMtO,EAAEuO,SAAW,IAAMvO,EAAEwO,SAAW,IAAMxO,EAAEyO,SAAW,IAAMzO,EAAE0O,SAAW,IAAM1O,EAAE2O,SAAW,IAAM3O,EAAE4O,SAAW,IAAM5O,EAAE6O,SAAW,IAAM7O,EAAE8O,SAAW,IAAM9O,EAAE+O,SAAW,IAAM/O,EAAEgP,SAAW,IAAMhP,EAAEiP,SAAW,IAAMjP,EAAEkP,SAAW,IAAMlP,EAAEmP,SAAW,IAAMnP,EAAEoP,SAAW,IAAMpP,EAAEqP,SAAW,IAAMrP,EAAEsP,SAAW,IAAMtP,EAAEuP,SAAW,IAAMvP,EAAEwP,SAAW,IAAMxP,EAAEyP,SAAW,IAAMzP,EAAE0P,SAAW,IAAM1P,EAAE2P,SAAW,IAAM3P,EAAE4P,SAAW,IAAM5P,EAAE6P,SAAW,IAAM7P,EAAE8P,SAAW,IAAM9P,EAAE+P,SAAW,IAAM/P,EAAEgQ,SAAW,IAAMhQ,EAAEiQ,SAAW,IAAMjQ,EAAEkQ,SAAW,IAAMlQ,EAAEmQ,SAAW,IAAMnQ,EAAEoQ,SAAW,IAAMpQ,EAAEqQ,SAAW,IAAMrQ,EAAEsQ,SAAW,IAAMtQ,EAAEuQ,SAAW,IAAMvQ,EAAEwQ,SAAW,IAAMxQ,EAAEyQ,SAAW,IAAMzQ,EAAE0Q,SAAW,IAAM1Q,EAAE2Q,SAAW,IAAM3Q,EAAE4Q,SAAW,IAAM5Q,EAAE6Q,SAAW,IAAM7Q,EAAE8Q,SAAW,IAAM9Q,EAAE+Q,SAAW,IAAM/Q,EAAEgR,SAAW,IAAMhR,EAAEiR,SAAW,IAAMjR,EAAEkR,SAAW,IAAMlR,EAAEmR,SAAW,IAAMnR,EAAEoR,SAAW,IAAMpR,EAAEqR,SAAW,IAAMrR,EAAEsR,SAAW,IAAMtR,EAAEuR,SAAW,IAAMvR,EAAEwR,SAAW,IAAMxR,EAAEyR,SAAW,IAAMzR,EAAE0R,SAAW,IAAM1R,EAAE2R,SAAW,IAAM3R,EAAE4R,SAAW,IAAM5R,EAAE6R,SAAW,IAAM7R,EAAE8R,SAAW,IAAM9R,EAAE+R,SAAW,IAAM/R,EAAEgS,SAAW,IAAMhS,EAAEiS,SAAW,IAAMjS,EAAEkS,SAAW,IAAMlS,EAAEmS,SAAW,IAAMnS,EAAEoS,SAAW,IAAMpS,EAAEqS,SAAW,IAAMrS,EAAEsS,SAAW,IAAMtS,EAAEuS,SAAW,IAAMvS,EAAEwS,SAAW,IAAMxS,EAAEyS,SAAW,IAAMzS,EAAE0S,SAAW,IAAM1S,EAAE2S,SAAW,IAAM3S,EAAE4S,SAAW,IAAM5S,EAAE6S,SAAW,IAAM7S,EAAE8S,SAAW,IAAM9S,EAAE+S,SAAW,IAAM/S,EAAEgT,SAAW,IAAMhT,EAAEiT,SAAW,IAAMjT,EAAEkT,SAAW,IAAMlT,EAAEmT,SAAW,IAAMnT,EAAEoT,SAAW,IAAMpT,EAAEqT,SAAW,IAAMrT,EAAEsT,SAAW,IAAMtT,EAAEuT,SAAW,IAAMvT,EAAEwT,SAAW,IAAMxT,EAAEyT,SAAW,IAAMzT,EAAE0T,SAAW,IAAM1T,EAAE2T,SAAW,IAAM3T,EAAE4T,SAAW,IAAM5T,EAAE6T,SAAW,IAAM7T,EAAE8T,SAAW,IAAM9T,EAAE+T,SAAW,IAAM/T,EAAEgU,SAAW,IAAMhU,EAAEiU,SAAW,IAAMjU,EAAEkU,SAAW,IAAMlU,EAAEmU,SAAW,IAAMnU,EAAEoU,SAAW,IAAMpU,EAAEqU,SAAW,IAAMrU,EAAEsU,SAAW,IAAMtU,EAAEuU,SAAW,IAAMvU,EAAEwU,SAAW,IAAMxU,EAAEyU,SAAW,IAAMzU,EAAE0U,SAAW,IAAM1U,EAAE2U,SAAW,IAAM3U,EAAE4U,SAAW,IAAM5U,EAAE6U,SAAW,IAAM7U,EAAE8U,SAAW,IAAM9U,EAAE+U,SAAW,IAAM/U,EAAEgV,SAAW,IAAMhV,EAAEiV,SAAW,IAAMjV,EAAEkV,SAAW,IAAMlV,EAAEmV,SAAW,IAAMnV,EAAEoV,SAAW,IAAMpV,EAAEqV,SAAW,IAAMrV,EAAEsV,SAAW,IAAMtV,EAAEuV,SAAW,IAAMvV,EAAEwV,SAAW,IAAMxV,EAAEyV,SAAW,IAAMzV,EAAE0V,SAAW,IAAM1V,EAAE2V,SAAW,IAAM3V,EAAE4V,SAAW,IAAM5V,EAAE6V,SAAW,IAAM7V,EAAE8V,SAAW,IAAM9V,EAAE+V,SAAW,IAAM/V,EAAEgW,SAAW,IAAMhW,EAAEiW,SAAW,IAAMjW,EAAEkW,SAAW,IAAMlW,EAAEmW,SAAW,IAAMnW,EAAEoW,SAAW,IAAMpW,EAAEqW,SAAW,IAAMrW,EAAEsW,SAAW,IAAMtW,EAAEuW,SAAW,IAAMvW,EAAEwW,SAAW,IAAMxW,EAAEyW,SAAW,IAAMzW,EAAE0W,SAAW,IAAM1W,EAAE2W,SAAW,IAAM3W,EAAE4W,SAAW,IAAM5W,EAAE6W,SAAW,IAAM7W,EAAE8W,SAAW,IAAM9W,EAAE+W,SAAW,IAAM/W,EAAEgX,SAAW,IAAMhX,EAAEiX,SAAW,IAAMjX,EAAEkX,SAAW,IAAMlX,EAAEmX,SAAW,IAAMnX,EAAEoX,SAAW,IAAMpX,EAAEqX,SAAW,IAAMrX,EAAEsX,SAAW,IAAMtX,EAAEuX,SAAW,IAAMvX,EAAEwX,SAAW,IAAMxX,EAAEyX,SAAW,IAAMzX,EAAE0X,SAAW,IAAM1X,EAAE2X,SAAW,IAAM3X,EAAE4X,SAAW,IAAM5X,EAAE6X,SAAW,IAAM7X,EAAE8X,SAAW,IAAM9X,EAAE+X,SAAW,IAAM/X,EAAEgY,SAAW,IAAMhY,EAAEiY,SAAW,IAAMjY,EAAEkY,SAAW,IAAMlY,EAAEmY,SAAW,IAAMnY,EAAEoY,SAAW,IAAMpY,EAAEqY,SAAW,IAAMrY,EAAEsY,SAAW,IAAMtY,EAAEuY,SAAW,IAAMvY,EAAEwY,SAAW,IAAMxY,EAAEyY,SAAW,IAAMzY,EAAE0Y,SAAW,IAAM1Y,EAAE2Y,SAAW,IAAM3Y,EAAE4Y,SAAW,IAAM5Y,EAAE6Y,SAAW,IAAM7Y,EAAE8Y,SAAW,IAAM9Y,EAAE+Y,SAAW,IAAM/Y,EAAEgZ,SAAW,IAAMhZ,EAAEiZ,SAAW,IAAMjZ,EAAEkZ,SAAW,IAAMlZ,EAAEmZ,SAAW,IAAMnZ,EAAEoZ,SAAW,IAAMpZ,EAAEqZ,SAAW,IAAMrZ,EAAEsZ,SAAW,IAAMtZ,EAAEuZ,SAAW,IAAMvZ,EAAEwZ,SAAW,IAAMxZ,EAAEyZ,SAAW,IAAMzZ,EAAE0Z,SAAW,IAAM1Z,EAAE2Z,SAAW,IAAM3Z,EAAE4Z,SAAW,IAAM5Z,EAAE6Z,SAAW,IAAM7Z,EAAE8Z,SAAW,IAAM9Z,EAAE+Z,SAAW,IAAM/Z,EAAEga,SAAW,IAAMha,EAAEia,SAAW,IAAMja,EAAEka,SAAW,IAAMla,EAAEma,SAAW,IAAMna,EAAEoa,SAAW,IAAMpa,EAAEqa,SAAW,IAAMra,EAAEsa,SAAW,IAAMta,EAAEua,SAAW,IAAMva,EAAEwa,SAAW,IAAMxa,EAAEya,SAAW,IAAMza,EAAE0a,SAAW,IAAM1a,EAAE2a,SAAW,IAAM3a,EAAE4a,SAAW,IAAM5a,EAAE6a,SAAW,IAAM7a,EAAE8a,SAAW,IAAM9a,EAAE+a,SAAW,IAAM/a,EAAEgb,SAAW,IAAMhb,EAAEib,SAAW,IAAMjb,EAAEkb,SAAW,IAAMlb,EAAEmb,SAAW,IAAMnb,EAAEob,SAAW,IAAMpb,EAAEqb,SAAW,IAAMrb,EAAEsb,SAAW,IAAMtb,EAAEub,SAAW,IAAMvb,EAAEwb,SAAW,IAAMxb,EAAEyb,SAAW,IAAMzb,EAAE0b,SAAW,IAAM1b,EAAE2b,SAAW,IAAM3b,EAAE4b,SAAW,IAAM5b,EAAE6b,SAAW,IAAM7b,EAAE8b,SAAW,IAAM9b,EAAE+b,SAAW,IAAM/b,EAAEgc,SAAW,IAAMhc,EAAEic,SAAW,IAAMjc,EAAEkc,SAAW,IAAMlc,EAAEmc,SAAW,IAAMnc,EAAEoc,SAAW,IAAMpc,EAAEqc,SAAW,IAAMrc,EAAEsc,SAAW,IAAMtc,EAAEuc,SAAW,IAAMvc,EAAEwc,SAAW,IAAMxc,EAAEyc,SAAW,IAAMzc,EAAE0c,SAAW,IAAM1c,EAAE2c,SAAW,IAAM3c,EAAE4c,SAAW,IAAM5c,EAAE6c,SAAW,IAAM7c,EAAE8c,SAAW,IAAM9c,EAAE+c,SAAW,IAAM/c,EAAEgd,SAAW,IAAMhd,EAAEid,SAAW,IAAMjd,EAAEkd,SAAW,IAAMld,EAAEmd,SAAW,IAAMnd,EAAEod,SAAW,IAAMpd,EAAEqd,SAAW,IAAMrd,EAAEsd,SAAW,IAAMtd,EAAEud,SAAW,IAAMvd,EAAEwd,SAAW,IAAMxd,EAAEyd,SAAW,IAAMzd,EAAE0d,SAAW,IAAM1d,EAAE2d,SAAW,IAAM3d,EAAE4d,SAAW,IAAM5d,EAAE6d,SAAW,IAAM7d,EAAE8d,SAAW,IAAM9d,EAAE+d,SAAW,IAAM/d,EAAEge,SAAW,IAAMhe,EAAEie,SAAW,IAAMje,EAAEke,SAAW,IAAMle,EAAEme,SAAW,IAAMne,EAAEoe,SAAW,IAAMpe,EAAEqe,SAAW,IAAMre,EAAEse,SAAW,IAAMte,EAAEue,SAAW,IAAMve,EAAEwe,SAAW,IAAMxe,EAAEye,SAAW,IAAMze,EAAE0e,SAAW,IAAM1e,EAAE2e,SAAW,IAAM3e,EAAE4e,SAAW,IAAM5e,EAAE6e,SAAW,IAAM7e,EAAE8e,SAAW,IAAM9e,EAAE+e,SAAW,IAAM/e,EAAEgf,SAAW,IAAMhf,EAAEif,SAAW,IAAMjf,EAAEkf,SAAW,IAAMlf,EAAEmf,SAAW,IAAMnf,EAAEof,SAAW,IAAMpf,EAAEqf,SAAW,IAAMrf,EAAEsf,SAAW,IAAMtf,EAAEuf,SAAW,IAAMvf,EAAEwf,SAAW,IAAMxf,EAAEyf,SAAW,IAAMzf,EAAE0f,SAAW,IAAM1f,EAAE2f,SAAW,IAAM3f,EAAE4f,SAAW,IAAM5f,EAAE6f,SAAW,IAAM7f,EAAE8f,SAAW,IAAM9f,EAAE+f,SAAW,IAAM/f,EAAEggB,SAAW,IAAMhgB,EAAEigB,SAAW,IAAMjgB,EAAEkgB,SAAW,IAAMlgB,EAAEmgB,SAAW,IAAMngB,EAAEogB,SAAW,IAAMpgB,EAAEqgB,SAAW,IAAMrgB,EAAEsgB,SAAW,IAAMtgB,EAAEugB,SAAW,IAAMvgB,EAAEwgB,SAAW,IAAMxgB,EAAEygB,SAAW,IAAMzgB,EAAE0gB,SAAW,IAAM1gB,EAAE2gB,SAAW,IAAM3gB,EAAE4gB,SAAW,IAAM5gB,EAAE6gB,SAAW,IAAM7gB,EAAE8gB,SAAW,IAAM9gB,EAAE+gB,SAAW,IAAM/gB,EAAEghB,SAAW,IAAMhhB,EAAEihB,SAAW,IAAMjhB,EAAEkhB,SAAW,IAAMlhB,EAAEmhB,SAAW,IAAMnhB,EAAEohB,SAAW,IAAMphB,EAAEqhB,SAAW,IAAMrhB,EAAEshB,SAAW,IAAMthB,EAAEuhB,SAAW,IAAMvhB,EAAEwhB,SAAW,IAAMxhB,EAAEyhB,SAAW,IAAMzhB,EAAE0hB,SAAW,IAAM1hB,EAAE2hB,SAAW,IAAM3hB,EAAE4hB,SAAW,IAAM5hB,EAAE6hB,SAAW,IAAM7hB,EAAE8hB,SAAW,IAAM9hB,EAAE+hB,SAAW,IAAM/hB,EAAEgiB,SAAW,IAAMhiB,EAAEiiB,SAAW,IAAMjiB,EAAEkiB,SAAW,IAAMliB,EAAEmiB,SAAW,IAAMniB,EAAEoiB,SAAW,IAAMpiB,EAAEqiB,SAAW,IAAMriB,EAAEsiB,SAAW,IAAMtiB,EAAEuiB,SAAW,IAAMviB,EAAEwiB,SAAW,IAAMxiB,EAAEyiB,SAAW,IAAMziB,EAAE0iB,SAAW,IAAM1iB,EAAE2iB,SAAW,IAAM3iB,EAAE4iB,SAAW,IAAM5iB,EAAE6iB,SAAW,IAAM7iB,EAAE8iB,SAAW,IAAM9iB,EAAE+iB,SAAW,IAAM/iB,EAAEgjB,SAAW,IAAMhjB,EAAEijB,SAAW,IAAMjjB,EAAEkjB,SAAW,IAAMljB,EAAEmjB,SAAW,IAAMnjB,EAAEojB,SAAW,IAAMpjB,EAAEqjB,SAAW,IAAMrjB,EAAEsjB,SAAW,IAAMtjB,EAAEujB,SAAW,IAAMvjB,EAAEwjB,SAAW,IAAMxjB,EAAEyjB,SAAW,IAAMzjB,EAAE0jB,SAAW,IAAM1jB,EAAE2jB,SAAW,IAAM3jB,EAAE4jB,SAAW,IAAM5jB,EAAE6jB,SAAW,IAAM7jB,EAAE8jB,SAAW,IAAM9jB,EAAE+jB,SAAW,IAAM/jB,EAAEgkB,SAAW,IAAMhkB,EAAEikB,SAAW,IAAMjkB,EAAEkkB,SAAW,IAAMlkB,EAAEmkB,SAAW,IAAMnkB,EAAEokB,SAAW,IAAMpkB,EAAEqkB,SAAW,IAAMrkB,EAAEskB,SAAW,IAAMtkB,EAAEukB,SAAW,IAAMvkB,EAAEwkB,SAAW,IAAMxkB,EAAEykB,SAAW,IAAMzkB,EAAE0kB,SAAW,IAAM1kB,EAAE2kB,SAAW,IAAM3kB,EAAE4kB,SAAW,IAAM5kB,EAAE6kB,SAAW,IAAM7kB,EAAE8kB,SAAW,IAAM9kB,EAAE+kB,SAAW,IAAM/kB,EAAEglB,SAAW,IAAMhlB,EAAEilB,SAAW,IAAMjlB,EAAEklB,SAAW,IAAMllB,EAAEmlB,SAAW,IAAMnlB,EAAEolB,SAAW,IAAMplB,EAAEqlB,SAAW,IAAMrlB,EAAEslB,SAAW,IAAMtlB,EAAEulB,SAAW,IAAMvlB,EAAEwlB,SAAW,IAAMxlB,EAAEylB,SAAW,IAAMzlB,EAAE0lB,SAAW,IAAM1lB,EAAE2lB,SAAW,IAAM3lB,EAAE4lB,SAAW,IAAM5lB,EAAE6lB,SAAW,IAAM7lB,EAAE8lB,SAAW,IAAM9lB,EAAE+lB,SAAW,IAAM/lB,EAAEgmB,SAAW,IAAMhmB,EAAEimB,SAAW,IAAMjmB,EAAEkmB,SAAW,IAAMlmB,EAAEmmB,SAAW,IAAMnmB,EAAEomB,SAAW,IAAMpmB,EAAEqmB,SAAW,IAAMrmB,EAAEsmB,SAAW,IAAMtmB,EAAEumB,SAAW,IAAMvmB,EAAEwmB,SAAW,IAAMxmB,EAAEymB,SAAW,IAAMzmB,EAAE0mB,SAAW,IAAM1mB,EAAE2mB,SAAW,IAAM3mB,EAAE4mB,SAAW,IAAM5mB,EAAE6mB,SAAW,IAAM7mB,EAAE8mB,SAAW,IAAM9mB,EAAE+mB,SAAW,IAAM/mB,EAAEgnB,SAAW,IAAMhnB,EAAEinB,SAAW,IAAMjnB,EAAEknB,SAAW,IAAMlnB,EAAEmnB,SAAW,IAAMnnB,EAAEonB,SAAW,IAAMpnB,EAAEqnB,SAAW,IAAMrnB,EAAEsnB,SAAW,IAAMtnB,EAAEunB,SAAW,IAAMvnB,EAAEwnB,SAAW,IAAMxnB,EAAEynB,SAAW,IAAMznB,EAAE0nB,SAAW,IAAM1nB,EAAE2nB,SAAW,IAAM3nB,EAAE4nB,SAAW,IAAM5nB,EAAE6nB,SAAW,IAAM7nB,EAAE8nB,SAAW,IAAM9nB,EAAE+nB,SAAW,IAAM/nB,EAAEgoB,SAAW,IAAMhoB,EAAEioB,SAAW,IAAMjoB,EAAEkoB,SAAW,IAAMloB,EAAEmoB,SAAW,IAAMnoB,EAAEooB,SAAW,IAAMpoB,EAAEqoB,SAAW,IAAMroB,EAAEsoB,SAAW,IAAMtoB,EAAEuoB,SAAW,IAAMvoB,EAAEwoB,SAAW,IAAMxoB,EAAEyoB,SAAW,IAAMzoB,EAAE0oB,SAAW,IAAM1oB,EAAE2oB,SAAW,IAAM3oB,EAAE4oB,SAAW,IAAM5oB,EAAE6oB,SAAW,IAAM7oB,EAAE8oB,SAAW,IAAM9oB,EAAE+oB,SAAW,IAAM/oB,EAAEgpB,SAAW,IAAMhpB,EAAEipB,SAAW,IAAMjpB,EAAEkpB,SAAW,IAAMlpB,EAAEmpB,SAAW,IAAMnpB,EAAEopB,SAAW,IAAMppB,EAAEqpB,SAAW,IAAMrpB,EAAEspB,SAAW,IAAMtpB,EAAEupB,SAAW,IAAMvpB,EAAEwpB,SAAW,IAAMxpB,EAAEypB,SAAW,IAAMzpB,EAAE0pB,SAAW,IAAM1pB,EAAE2pB,SAAW,IAAM3pB,EAAE4pB,SAAW,IAAM5pB,EAAE6pB,SAAW,IAAM7pB,EAAE8pB,SAAW,IAAM9pB,EAAE+pB,SAAW,IAAM/pB,EAAEgqB,SAAW,IAAMhqB,EAAEiqB,SAAW,IAAMjqB,EAAEkqB,SAAW,IAAMlqB,EAAEmqB,SAAW,IAAMnqB,EAAEoqB,SAAW,IAAMpqB,EAAEqqB,SAAW,IAAMrqB,EAAEsqB,SAAW,IAAMtqB,EAAEuqB,SAAW,IAAMvqB,EAAEwqB,SAAW,IAAMxqB,EAAEyqB,SAAW,IAAMzqB,EAAE0qB,SAAW,IAAM1qB,EAAE2qB,SAAW,IAAM3qB,EAAE4qB,SAAW,IAAM5qB,EAAE6qB,SAAW,IAAM7qB,EAAE8qB,SAAW,IAAM9qB,EAAE+qB,SAAW,IAAM/qB,EAAEgrB,SAAW,IAAMhrB,EAAEirB,SAAW,IAAMjrB,EAAEkrB,SAAW,IAAMlrB,EAAEmrB,SAAW,IAAMnrB,EAAEorB,SAAW,IAAMprB,EAAEqrB,SAAW,IAAMrrB,EAAEsrB,SAAW,IAAMtrB,EAAEurB,SAAW,IAAMvrB,EAAEwrB,SAAW,IAAMxrB,EAAEyrB,SAAW,IAAMzrB,EAAE0rB,SAAW,IAAM1rB,EAAE2rB,SAAW,IAAM3rB,EAAE4rB,SAAW,IAAM5rB,EAAE6rB,SAAW,IAAM7rB,EAAE8rB,SAAW,IAAM9rB,EAAE+rB,SAAW,IAAM/rB,EAAEgsB,SAAW,IAAMhsB,EAAEisB,SAAW,IAAMjsB,EAAEksB,SAAW,IAAMlsB,EAAEmsB,SAAW,IAAMnsB,EAAEosB,SAAW,IAAMpsB,EAAEqsB,SAAW,IAAMrsB,EAAEssB,SAAW,IAAMtsB,EAAEusB,SAAW,IAAMvsB,EAAEwsB,SAAW,IAAMxsB,EAAEysB,SAAW,IAAMzsB,EAAE0sB,SAAW,IAAM1sB,EAAE2sB,SAAW,IAAM3sB,EAAE4sB,SAAW,IAAM5sB,EAAE6sB,SAAW,IAAM7sB,EAAE8sB,SAAW,IAAM9sB,EAAE+sB,SAAW,IAAM/sB,EAAEgtB,SAAW,IAAMhtB,EAAEitB,SAAW,IAAMjtB,EAAEktB,SAAW,IAAMltB,EAAEmtB,SAAW,IAAMntB,EAAEotB,SAAW,IAAMptB,EAAEqtB,SAAW,IAAMrtB,EAAEstB,SAAW,IAAMttB,EAAEutB,SAAW,IAAMvtB,EAAEwtB,SAAW,IAAMxtB,EAAEytB,SAAW,IAAMztB,EAAE0tB,SAAW,IAAM1tB,EAAE2tB,SAAW,IAAM3tB,EAAE4tB,SAAW,IAAM5tB,EAAE6tB,SAAW,IAAM7tB,EAAE8tB,SAAW,IAAM9tB,EAAE+tB,SAAW,IAAM/tB,EAAEguB,SAAW,IAAMhuB,EAAEiuB,SAAW,IAAMjuB,EAAEkuB,SAAW,IAAMluB,EAAEmuB,SAAW,IAAMnuB,EAAEouB,SAAW,IAAMpuB,EAAEquB,SAAW,IAAMruB,EAAEsuB,SAAW,IAAMtuB,EAAEuuB,SAAW,IAAMvuB,EAAEwuB,SAAW,IAAMxuB,EAAEyuB,SAAW,IAAMzuB,EAAE0uB,SAAW,IAAM1uB,EAAE2uB,SAAW,IAAM3uB,EAAE4uB,SAAW,IAAM5uB,EAAE6uB,SAAW,IAAM7uB,EAAE8uB,SAAW,IAAM9uB,EAAE+uB,SAAW,IAAM/uB,EAAEgvB,SAAW,IAAMhvB,EAAEivB,SAAW,IAAMjvB,EAAEkvB,SAAW,IAAMlvB,EAAEmvB,SAAW,IAAMnvB,EAAEovB,SAAW,IAAMpvB,EAAEqvB,SAAW,IAAMrvB,EAAEsvB,SAAW,IAAMtvB,EAAEuvB,SAAW,IAAMvvB,EAAEwvB,SAAW,IAAMxvB,EAAEyvB,SAAW,IAAMzvB,EAAE0vB,SAAW,IAAM1vB,EAAE2vB,SAAW,IAAM3vB,EAAE4vB,SAAW,IAAM5vB,EAAE6vB,SAAW,IAAM7vB,EAAE8vB,SAAW,IAAM9vB,EAAE+vB,SAAW,IAAM/vB,EAAEgwB,SAAW,IAAMhwB,EAAEiwB,SAAW,IAAMjwB,EAAEkwB,SAAW,IAAMlwB,EAAEmwB,SAAW,IAAMnwB,EAAEowB,SAAW,IAAMpwB,EAAEqwB,SAAW,IAAMrwB,EAAEswB,SAAW,IAAMtwB,EAAEuwB,SAAW,IAAMvwB,EAAEwwB,SAAW,IAAMxwB,EAAEywB,SAAW,IAAMzwB,EAAE0wB,SAAW,IAAM1wB,EAAE2wB,SAAW,IAAM3wB,EAAE4wB,SAAW,IAAM5wB,EAAE6wB,SAAW,IAAM7wB,EAAE8wB,SAAW,IAAM9wB,EAAE+wB,SAAW,IAAM/wB,EAAEgxB,SAAW,IAAMhxB,EAAEixB,SAAW,IAAMjxB,EAAEkxB,SAAW,IAAMlxB,EAAEmxB,SAAW,IAAMnxB,EAAEoxB,SAAW,IAAMpxB,EAAEqxB,SAAW,IAAMrxB,EAAEsxB,SAAW,IAAMtxB,EAAEuxB,SAAW,IAAMvxB,EAAEwxB,SAAW,IAAMxxB,EAAEyxB,SAAW,IAAMzxB,EAAE0xB,SAAW,IAAM1xB,EAAE2xB,SAAW,IAAM3xB,EAAE4xB,SAAW,IAAM5xB,EAAE6xB,SAAW,IAAM7xB

AMfuI,GAAc,EAGdC,EAAiB,SAAU1E,GAEtByE,IACD/C,EAASvK,KAAK2M,KACdW,GAAc,GAIlB,IAAIE,EAAgB,CAChBzG,KAAMvJ,EAAQoI,cAAc6H,iBAC5BC,OAAQ7E,EAAM6E,QAGd7E,EAAM8E,mBACNH,EAAcI,MAAQ/E,,EAAM+E,OAKP,SArBtF,EAAIjC,cAA6BgG,EAAIa,eACrCM,EAAcK,YAAcxB,EAAIa,cAAcpC3C,EAASvK,KAAKwN,IAAIdM,EAAAe,SAAUjF,GAGzB,IAAIkF,EAAW,CACXC,IAAKC,EAAcC,KAAMC,EAAcC,KAAMC,EAAcC,KAAM

SAepDsE,EACA,SAASA,OAISlH,WAAa,CAC/B,CAAErC,KAAM9I,EAAK8S,SAAUpF,KAAM,CAAC,CAClB+E,UAAW,CACP3G,EACA,CAAE4G,QAAS7G,EAAsBqH,WAAYjB,GAC7C,CAAES,QAASjH,EAAmBkH,SAAU/E,EAAkBoF,OAAO;;;;;;;;;;;;;;AAyBrFzT,EAAQkM,kBAAoBA,EAC5BlM,QAAc,YAAcA,EAAQ0T,cAAgBA,EAAcC,KAAOA,EAAQ0K,WAAaA,EAAcrB,MAAQA,EAAOsB,eAAiBA,EAAgBC,SAAWA,EAAUC,UAAYA,EAAWC,SAAWA,EAAUC,UAAYA,EAAWC,SAAWA,EAAUC,UAAYA,EAAW

```
__assign = Object.assign || function __assign(t) {\n            for (var s, i = 1, n = arguments.length; i < n; i++) {\n
    s = arguments[i];\n
            for (var p in s)\n                if (Object.prototype.hasOwnProperty.call(s, p))\n                    t[p] = s[p];\n
        }\n            return t;\n        };\n        return __assign.apply(this, arguments);\n    };\n    function __rest(s, e) {\n
 var t = {};\n        for (var p in s)\n            if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\n
        t[p] = s[p];\n        if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\n            for (var i
= 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\n                if (e.indexOf(p[i]) < 0 &&
Object.prototype.propertyIsEnumerable.call(s, p[i]))\n                    t[p[i]] = s[p[i]];\n            }\n        return t;\n    }\n
function __decorate(decorators, target, key, desc) {\n        var c = arguments.length, r = c < 3 ? target : desc === null
? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\n        if (typeof
 Reflect === \"object\" && typeof Reflect.decorate === \"function\")\n            r = Reflect.decorate(decorators,
target, key, desc);\n        else\n            for (var i = decorators.length - 1; i >= 0; i--)\n                if (d = decorators[i])\n
                r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\n        return c > 3 && r &&
Object.defineProperty(target, key, r), r;\n    }\n    function __param(paramIndex, decorator) {\n        return function
(target, key) { decorator(target, key, paramIndex); };\n    }\n    function __metadata(metadataKey, metadataValue)
{\n        if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n            return
Reflect.metadata(metadataKey, metadataValue);\n    }\n    function __awaiter(thisArg, _arguments, P, generator) {\n
    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\n
return new (P || (P = Promise))(function
 (resolve, reject) {\n            function fulfilled(value) { try {\n                step(generator.next(value));\n            }\n
 catch (e) {\n                reject(e);\n            } }\n            function rejected(value) { try {\n
step(generator[\"throw\"](value));\n            }\n            catch (e) {\n                reject(e);\n            } }\n            function
step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\n
step((generator = generator.apply(thisArg, _arguments || [])).next());\n        });\n    }\n    function
__generator(thisArg, body) {\n        var _ = { label: 0, sent: function () { if (t[0] & 1)\n                throw t[1]; return
t[1]; }, trys: [], ops: [] }, f, y, t, g;\n        return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof
Symbol === \"function\" && (g[Symbol.iterator] = function () { return this; }), g;\n        function verb(n) { return
function
 (v) { return step([n, v]); }; }\n        function step(op) {\n            if (f)\n                throw new TypeError(\"Generator
is already executing.\");\n            while (_)\n                try {\n                    if (f = 1, y && (t = op[0] & 2 ?
y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n
                return t;\n                if (y = 0, t)\n                    op = [op[0] & 2, t.value];\n                    switch (op[0])
{\n                    case 0:\n                    case 1:\n                        t = op;\n                        break;\n
case 4:\n                        _.label++;\n                        return { value: op[1], done: false };\n                    case
5:\n                        _.label++;\n                        y = op[1];\n                        op = [0];\n
    continue;\n                    case 7:\n                        op = _.ops.pop();\n                        _.trys.pop();\n
        continue;\n                    default:\n                        if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) &&
(op[0] === 6 || op[0] === 2)) {\n                            _ = 0;\n                            continue;\n                        }\n
                if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n                            _.label = op[1];\n
                break;\n                        }\n                        if (op[0] === 6 && _.label < t[1]) {\n
_.label = t[1];\n                            t = op;\n                            break;\n                        }\n                        if (t
&& _.label < t[2]) {\n                            _.label = t[2];\n
                _.ops.push(op);\n                            break;\n                        }\n                        if (t[2])\n
            _.ops.pop();\n                        _.trys.pop();\n                        continue;\n                    }\n                    op =
body.call(thisArg, _);\n                }\n                catch (e) {\n                    op = [6, e];\n                    y = 0;\n
                }\n                finally {\n                    f = t = 0;\n                }\n            if (op[0] & 5)\n                throw op[1];\n
return { value: op[0] ? op[1] : void 0, done: true };\n        }\n    }\n    var __createBinding = Object.create ? (function
(o, m, k, k2) {\n        if (k2 === undefined)\n            k2 = k;\n        Object.defineProperty(o, k2, { enumerable: true,
```

```
get: function () { return m[k]; } });\n    }) : (function (o, m, k, k2) {\n        if (k2 === undefined)\n            k2 = k;\n        o[k2] = m[k];\n    });\n    function __exportStar(m, exports) {\n        for (var p in m)\n            if (p !== \"default\" && !exports.hasOwnProperty(p))\n                __createBinding(exports, m, p);\n    }\n    function __values(o) {\n        var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n        if (m)\n            return m.call(o);\n        if (o && typeof o.length === \"number\")\n            return {\n                next: function () {\n                    if (o && i >= o.length)\n                        o = void 0;\n                    return { value: o && o[i++], done: !o };\n                }\n            };\n        throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n    }\n    function __read(o, n) {\n        var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n        if (!m)\n            return o;\n        var i = m.call(o), r, ar = [], e;\n        try {\n            while ((n
 === void 0 || n-- > 0) && !(r = i.next()).done)\n                ar.push(r.value);\n        }\n        catch (error) {\n            e = { error: error };\n        }\n        finally {\n            try {\n                if (r && !r.done && (m = i[\"return\"]))\n
 m.call(i);\n            }\n            finally {\n                if (e)\n                    throw e.error;\n            }\n        }\n        return ar;\n    }\n    function __spread() {\n        for (var ar = [], i = 0; i < arguments.length; i++)\n            ar = ar.concat(__read(arguments[i]));\n        return ar;\n    }\n    function __spreadArrays() {\n        for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n            s += arguments[i].length;\n        for (var r = Array(s), k = 0, i = 0; i < il; i++)\n            for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n                r[k] = a[j];\n        return r;\n    }\n    ;\n    function __await(v) {\n        return this
 instanceof __await ? (this.v = v, this) : new __await(v);\n    }\n    function __asyncGenerator(thisArg, _arguments, generator) {\n        if (!Symbol.asyncIterator)\n            throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n        var g = generator.apply(thisArg, _arguments || []), i, q = [];\n        return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\n        function verb(n) { if (g[n])\n            i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n        function resume(n, v) { try {\n            step(g[n](v));\n        }\n        catch (e) {\n            settle(q[0][3], e);\n        } }\n        function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n        function fulfill(value) { resume(\"next\", value); }\n        function reject(value) { resume(\"throw\",
 value); }\n        function settle(f, v) { if (f(v), q.shift(), q.length)\n            resume(q[0][0], q[0][1]); }\n    }\n    function __asyncDelegator(o) {\n        var i, p;\n        return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n        function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n    }\n    function __asyncValues(o) {\n        if (!Symbol.asyncIterator)\n            throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n        var m = o[Symbol.asyncIterator], i;\n        return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n        function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve,
 reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n        function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n    }\n    function __makeTemplateObject(cooked, raw) {\n        if (Object.defineProperty) {\n            Object.defineProperty(cooked, \"raw\", { value: raw });\n        }\n        else {\n            cooked.raw = raw;\n        }\n        return cooked;\n    }\n    ;\n    var __setModuleDefault = Object.create ? (function (o, v) {\n        Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n    }) : function (o, v) {\n        o[\"default\"] = v;\n    };\n    function __importStar(mod) {\n        if (mod && mod.__esModule)\n            return mod;\n        var result = {};\n        if (mod != null)\n            for (var k in mod)\n                if (Object.hasOwnProperty.call(mod, k))\n                    __createBinding(result, mod, k);\n        __setModuleDefault(result,
 mod);\n        return result;\n    }\n    function __importDefault(mod) {\n        return (mod && mod.__esModule) ? mod : { default: mod };\n    }\n    function __classPrivateFieldGet(receiver, privateMap) {\n        if (!privateMap.has(receiver)) {\n            throw new TypeError(\"attempted to get private field on non-instance\");\n
```

```
}\n    return privateMap.get(receiver);\n}\nfunction __classPrivateFieldSet(receiver, privateMap, value) {\n
    if (!privateMap.has(receiver)) {\n        throw new TypeError(\"attempted to set private field on non-
instance\");\n    }\n    privateMap.set(receiver, value);\n    return value;\n}\n\n/**\n * @license\n *
Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n/**\n * Represents the
header configuration options
 for an HTTP request.\n * Instances are immutable. Modifying methods return a cloned\n * instance with the
change. The original object is never changed.\n *\n * @publicApi\n */\nvar HttpHeaders = /** @class */
(function () {\n    /**  Constructs a new HTTP header object with the given values.*/\n    function
HttpHeaders(headers) {\n        var _this = this;\n        /**\n         * Internal map of lowercased header names
to the normalized\n         * form of the name (the form seen first).\n         */\n        this.normalizedNames =
new Map();\n        /**\n         * Queued updates to be materialized the next initialization.\n         */\n
this.lazyUpdate = null;\n        if (!headers) {\n            this.headers = new Map();\n        }\n        else if
(typeof headers === 'string') {\n            this.lazyInit = function () {\n                _this.headers = new Map();\n

        headers.split('\\n').forEach(function (line) {\n                var index = line.indexOf(':');\n                if
(index > 0) {\n                    var name = line.slice(0, index);\n                    var key = name.toLowerCase();\n
                    var value = line.slice(index + 1).trim();\n                    _this.maybeSetNormalizedName(name,
key);\n                    if (_this.headers.has(key)) {\n                        _this.headers.get(key).push(value);\n
                    }\n                    else {\n                        _this.headers.set(key, [value]);\n                    }\n
                }\n            });\n        };\n    }\n    else {\n        this.lazyInit = function () {\n
    _this.headers = new Map();\n            Object.keys(headers).forEach(function (name) {\n
  var values = headers[name];\n                var key = name.toLowerCase();\n                if (typeof values
=== 'string') {\n                    values = [values];\n                }\n                if (values.length > 0) {\n
                    _this.headers.set(key, values);\n                    _this.maybeSetNormalizedName(name, key);\n
    }\n            });\n        };\n    }\n}\n/**\n * Checks for existence of a given header.\n
    *\n     * @param name The header name to check for existence.\n     *\n     * @returns True if the header
exists, false otherwise.\n     */\n    HttpHeaders.prototype.has = function (name) {\n        this.init();\n
return this.headers.has(name.toLowerCase());\n    };\n    /**\n     * Retrieves the first value of a given
header.\n     *\n     * @param name The header name.\n
     *\n     * @returns The value string if the header exists, null otherwise\n     */\n
HttpHeaders.prototype.get = function (name) {\n        this.init();\n        var values =
this.headers.get(name.toLowerCase());\n        return values && values.length > 0 ? values[0] : null;\n    };\n
/**\n     * Retrieves the names of the headers.\n     *\n     * @returns A list of header names.\n     */\n
HttpHeaders.prototype.keys = function () {\n        this.init();\n        return
Array.from(this.normalizedNames.values());\n    };\n    /**\n     * Retrieves a list of values for a given
header.\n     *\n     * @param name The header name from which to retrieve values.\n     *\n     * @returns
A string of values if the header exists, null otherwise.\n     */\n    HttpHeaders.prototype.getAll = function
(name) {\n        this.init();\n        return this.headers.get(name.toLowerCase())
 || null;\n    };\n    /**\n     * Appends a new value to the existing set of values for a header\n     * and
returns them in a clone of the original instance.\n     *\n     * @param name The header name for which to
append the values.\n     * @param value The value to append.\n     *\n     * @returns A clone of the HTTP
headers object with the value appended to the given header.\n     */\n    HttpHeaders.prototype.append =
function (name, value) {\n        return this.clone({ name: name, value: value, op: 'a' });\n    };\n    /**\n     *
Sets or modifies a value for a given header in a clone of the original instance.\n     * If the header already exists,
its value is replaced with the given value\n     * in the returned object.\n     *\n     * @param name The header
name.\n     * @param value The value or values to set or overide for the given header.\n     *\n     * @returns
A clone of the
```

HTTP headers object with the newly set header value.\n */\n HttpHeaders.prototype.set = function (name, value) {\n return this.clone({ name: name, value: value, op: 's' });\n };\n /**\n * Deletes values for a given header in a clone of the original instance.\n *\n * @param name The header name.\n * @param value The value or values to delete for the given header.\n *\n * @returns A clone of the HTTP headers object with the given value deleted.\n */\n HttpHeaders.prototype.delete = function (name, value) {\n return this.clone({ name: name, value: value, op: 'd' });\n };\n HttpHeaders.prototype.maybeSetNormalizedName = function (name, lcName) {\n if (!this.normalizedNames.has(lcName)) {\n this.normalizedNames.set(lcName, name);\n }\n };\n HttpHeaders.prototype.init = function () {\n var _this = this;\n if (!!this.lazyInit) {\n if (this.lazyInit instanceof HttpHeaders) {\n this.copyFrom(this.lazyInit);\n }\n else {\n this.lazyInit();\n }\n this.lazyInit = null;\n if (!!this.lazyUpdate) {\n this.lazyUpdate.forEach(function (update) { return _this.applyUpdate(update); });\n this.lazyUpdate = null;\n }\n }\n };\n HttpHeaders.prototype.copyFrom = function (other) {\n var _this = this;\n other.init();\n Array.from(other.headers.keys()).forEach(function (key) {\n _this.headers.set(key, other.headers.get(key));\n _this.normalizedNames.set(key, other.normalizedNames.get(key));\n });\n };\n HttpHeaders.prototype.clone = function (update) {\n var clone = new HttpHeaders();\n clone.lazyInit =\n (!!this.lazyInit && this.lazyInit instanceof HttpHeaders) ? this.lazyInit : this;\n clone.lazyUpdate = (this.lazyUpdate || []).concat([update]);\n return clone;\n };\n HttpHeaders.prototype.applyUpdate = function (update) {\n var key = update.name.toLowerCase();\n switch (update.op) {\n case 'a':\n case 's':\n var value = update.value;\n if (typeof value === 'string') {\n value = [value];\n }\n if (value.length === 0) {\n return;\n }\n this.maybeSetNormalizedName(update.name, key);\n var base = (update.op === 'a' ? this.headers.get(key) : undefined) || [];\n base.push.apply(base, __spread(value));\n this.headers.set(key, base);\n break;\n case 'd':\n var toDelete_1 = update.value;\n if (!toDelete_1) {\n this.headers.delete(key);\n this.normalizedNames.delete(key);\n }\n else {\n var existing = this.headers.get(key);\n if (!existing) {\n return;\n }\n existing = existing.filter(function (value) { return toDelete_1.indexOf(value) === -1; });\n if (existing.length === 0) {\n this.headers.delete(key);\n this.normalizedNames.delete(key);\n }\n else {\n this.headers.set(key, existing);\n }\n }\n break;\n }\n };\n /**\n * @internal\n */\n HttpHeaders.prototype.forEach = function (fn) {\n var _this = this;\n this.init();\n Array.from(this.normalizedNames.keys())\n .forEach(function (key) { return fn(_this.normalizedNames.get(key), _this.headers.get(key)); });\n };\n return HttpHeaders;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Provides encoding and decoding of URL parameter and query-string values.\n *\n * Serializes and parses URL parameter keys and values to encode and decode them.\n * If you pass URL query parameters without encoding,\n * the query parameters can be misinterpreted at the receiving end.\n *\n *\n * @publicApi\n */\n var HttpUrlEncodingCodec = /** @class */ (function () {\n function HttpUrlEncodingCodec() {\n }\n /**\n * Encodes a key name for a URL parameter or query-string.\n * @param key The key name.\n * @returns The encoded key name.\n */\n HttpUrlEncodingCodec.prototype.encodeKey = function (key) {\n return standardEncoding(key);\n };\n /**\n * Encodes the value of a URL parameter or query-string.\n * @param value The value.\n * @returns The encoded value.\n */\n HttpUrlEncodingCodec.prototype.encodeValue = function (value) {\n return standardEncoding(value);\n };\n /**\n * Decodes an encoded URL parameter or query-string key.\n * @param key The encoded key name.\n * @returns The decoded key name.\n */\n

```
HttpUrlEncodingCodec.prototype.decodeKey = function (key) {\n return decodeURIComponent(key);\n };\n /**\n * Decodes
 an encoded URL parameter or query-string value.\n * @param value The encoded value.\n * @returns The decoded value.\n */\n HttpUrlEncodingCodec.prototype.decodeValue = function (value) {\n return decodeURIComponent(value);\n };\n return HttpUrlEncodingCodec;\n }());\n function paramParser(rawParams, codec) {\n var map = new Map();\n if (rawParams.length > 0) {\n var params = rawParams.split('&');\n params.forEach(function (param) {\n var eqIdx = param.indexOf('=');\n var _a = __read(eqIdx == -1 ?\n [codec.decodeKey(param), ''] :\n [codec.decodeKey(param.slice(0, eqIdx)), codec.decodeValue(param.slice(eqIdx + 1))], 2), key = _a[0], val = _a[1];\n var list = map.get(key) || [];\n list.push(val);\n map.set(key, list);\n });\n }\n return map;\n }\n
 function standardEncoding(v) {\n return encodeURIComponent(v)\n .replace(/%40/gi, '@')\n .replace(/%3A/gi, ':')\n .replace(/%24/gi, '$')\n .replace(/%2C/gi, ',')\n .replace(/%3B/gi, ';')\n .replace(/%2B/gi, '+')\n .replace(/%3D/gi, '=')\n .replace(/%3F/gi, '?')\n .replace(/%2F/gi, '/');\n }\n /**\n * An HTTP request/response body that represents serialized parameters,\n * per the MIME type `application/x-www-form-urlencoded`.\n *\n * This class is immutable; all mutation operations return a new instance.\n *\n * @publicApi\n */\n var HttpParams = /** @class */ (function () {\n function HttpParams(options) {\n var _this = this;\n if (options === void 0) { options = {}; }\n this.updates = null;\n this.cloneFrom = null;\n this.encoder = options.encoder || new HttpUrlEncodingCodec();\n
 if (!!options.fromString) {\n if (!!options.fromObject) {\n throw new Error(\"Cannot specify both fromString and fromObject.\");\n }\n this.map = paramParser(options.fromString, this.encoder);\n }\n else if (!!options.fromObject) {\n this.map = new Map();\n Object.keys(options.fromObject).forEach(function (key) {\n var value = options.fromObject[key];\n _this.map.set(key, Array.isArray(value) ? value : [value]);\n });\n }\n else {\n this.map = null;\n }\n }\n /**\n * Reports whether the body includes one or more values for a given parameter.\n * @param param The parameter name.\n * @returns True if the parameter has one or more values,\n * false if it has no value or is not present.\n */\n HttpParams.prototype.has
 = function (param) {\n this.init();\n return this.map.has(param);\n };\n /**\n * Retrieves the first value for a parameter.\n * @param param The parameter name.\n * @returns The first value of the given parameter,\n * or `null` if the parameter is not present.\n */\n HttpParams.prototype.get = function (param) {\n this.init();\n var res = this.map.get(param);\n return !!res ? res[0] : null;\n };\n /**\n * Retrieves all values for a  parameter.\n * @param param The parameter name.\n * @returns All values in a string array,\n * or `null` if the parameter not present.\n */\n HttpParams.prototype.getAll = function (param) {\n this.init();\n return this.map.get(param) || null;\n };\n /**\n * Retrieves all the parameters for this body.\n * @returns The parameter
 names in a string array.\n */\n HttpParams.prototype.keys = function () {\n this.init();\n return Array.from(this.map.keys());\n };\n /**\n * Appends a new value to existing values for a parameter.\n * @param param The parameter name.\n * @param value The new value to add.\n * @return A new body with the appended value.\n */\n HttpParams.prototype.append = function (param, value) {\n return this.clone({ param: param, value: value, op: 'a' });\n };\n /**\n * Replaces the value for a parameter.\n * @param param The parameter name.\n * @param value The new value.\n * @return A new body with the new value.\n */\n HttpParams.prototype.set = function (param, value) {\n return this.clone({ param: param, value: value, op: 's' });\n };\n /**\n * Removes a given value or all values from a
 parameter.\n * @param param The parameter name.\n * @param value The value to remove, if provided.\n * @return A new body with the given value removed, or with all values\n * removed if no value is specified.\n */\n HttpParams.prototype.delete = function (param, value) {\n return
```

```
this.clone({ param: param, value: value, op: 'd' });\n        };\n        /**\n         * Serializes the body to an encoded string, where key-value pairs (separated by `=`) are\n         * separated by `&`s.\n         */\n        HttpParams.prototype.toString = function () {\n            var _this = this;\n            this.init();\n            return this.keys()\n                .map(function (key) {\n                var eKey = _this.encoder.encodeKey(key);\n                // `a: ['1']` produces `'a=1'`\n                // `b: []` produces `''`\n                // `c: ['1', '2']` produces `'c=1&c=2'`\n                return _this.map.get(key).map(function (value) { return eKey + '=' + _this.encoder.encodeValue(value); })\n                    .join('&');\n            })\n                // filter out empty values because `b: []` produces `''`\n                // which results in `a=1&&c=1&c=2` instead of `a=1&c=1&c=2` if we don't\n                .filter(function (param) { return param !== ''; })\n                .join('&');\n        };\n        HttpParams.prototype.clone = function (update) {\n            var clone = new HttpParams({ encoder: this.encoder });\n            clone.cloneFrom = this.cloneFrom || this;\n            clone.updates = (this.updates || []).concat([update]);\n            return clone;\n        };\n        HttpParams.prototype.init = function () {\n            var _this = this;\n            if (this.map === null) {\n                this.map = new Map();\n            }\n            if (this.cloneFrom !== null) {\n                this.cloneFrom.init();\n                this.cloneFrom.keys().forEach(function (key) { return _this.map.set(key, _this.cloneFrom.map.get(key)); });\n                this.updates.forEach(function (update) {\n                    switch (update.op) {\n                        case 'a':\n                        case 's':\n                            var base = (update.op === 'a' ? _this.map.get(update.param) : undefined) || [];\n                            base.push(update.value);\n                            _this.map.set(update.param, base);\n                            break;\n                        case 'd':\n                            if (update.value !== undefined) {\n                                var base_1 = _this.map.get(update.param) || [];\n                                var idx = base_1.indexOf(update.value);\n                                if (idx !== -1) {\n                                    base_1.splice(idx, 1);\n                                }\n                                if (base_1.length > 0) {\n                                    _this.map.set(update.param, base_1);\n                                }\n                                else {\n                                    _this.map.delete(update.param);\n                                }\n                            }\n                            else {\n                                _this.map.delete(update.param);\n                                break;\n                            }\n                    }\n                });\n                this.cloneFrom = this.updates = null;\n            }\n        };\n        return HttpParams;\n    }());\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Determine whether the given HTTP method may include a body.\n     */\n    function mightHaveBody(method) {\n        switch (method) {\n            case 'DELETE':\n            case 'GET':\n            case 'HEAD':\n            case 'OPTIONS':\n            case 'JSONP':\n                return false;\n            default:\n                return true;\n        }\n    }\n    /**\n     * Safely assert whether the given value is an ArrayBuffer.\n     *\n     * In some execution environments ArrayBuffer is not defined.\n     */\n    function isArrayBuffer(value) {\n        return typeof ArrayBuffer !== 'undefined' && value instanceof ArrayBuffer;\n    }\n    /**\n     * Safely assert whether the given value is a Blob.\n     *\n     * In some execution environments Blob is not defined.\n     */\n    function isBlob(value) {\n        return typeof Blob !== 'undefined' && value instanceof Blob;\n    }\n    /**\n     * Safely assert whether the given value is a FormData instance.\n     *\n     * In some execution environments FormData is not defined.\n     */\n    function isFormData(value) {\n        return typeof FormData !== 'undefined' && value instanceof FormData;\n    }\n    /**\n     * An outgoing HTTP request with an optional typed body.\n     *\n     * `HttpRequest` represents an outgoing request, including URL, method,\n     * headers, body, and other request configuration options. Instances should be\n     * assumed to be immutable. To modify a `HttpRequest`, the `clone`\n     * method should be used.\n     *\n     * @publicApi\n     */\n    var HttpRequest = /** @class */ (function () {\n        function HttpRequest(method, url, third, fourth) {\n            this.url = url;\n            /**\n             * The request body, or `null` if one isn't set.\n             *\n             * Bodies are not enforced to be immutable, as they can include a reference to any\n             * user-defined data type. However, interceptors should take care to preserve\n             * idempotence by treating them as such.\n             */\n            this.body = null;\n            /**\n             * Whether this request should be made in a way
```

```
that
 exposes progress events.\n *\n * Progress events are expensive (change detection runs on each event)
and so\n * they should only be requested if the consumer intends to monitor them.\n */\n
this.reportProgress = false;\n /**\n * Whether this request should be sent with outgoing credentials
(cookies).\n */\n this.withCredentials = false;\n /**\n * The expected response type of
the server.\n *\n * This is used to parse the response appropriately before returning it to\n *
the requestee.\n */\n this.responseType = 'json';\n this.method = method.toUpperCase();\n
 // Next, need to figure out which argument holds the HttpRequestInit\n // options, if any.\n var
options;\n // Check whether a body argument is expected. The only valid way to omit\n
  // the body argument is to use a known no-body method like GET.\n if (mightHaveBody(this.method) ||
!!fourth) {\n // Body is the third argument, options are the fourth.\n this.body = (third !==
undefined) ? third : null;\n options = fourth;\n }\n else {\n // No body required,
options are the third argument. The body stays null.\n options = third;\n }\n // If options have
been passed, interpret them.\n if (options) {\n // Normalize reportProgress and withCredentials.\n
this.reportProgress = !!options.reportProgress;\n this.withCredentials = !!options.withCredentials;\n
 // Override default response type of 'json' if one is provided.\n if (!!options.responseType) {\n
this.responseType = options.responseType;\n }\n // Override
 headers if they're provided.\n if (!!options.headers) {\n this.headers = options.headers;\n
  }\n if (!!options.params) {\n this.params = options.params;\n }\n }\n //
If no headers have been passed in, construct a new HttpHeaders instance.\n if (!this.headers) {\n
this.headers = new HttpHeaders();\n }\n // If no parameters have been passed in, construct a new
HttpUrlEncodedParams instance.\n if (!this.params) {\n this.params = new HttpParams();\n
this.urlWithParams = url;\n }\n else {\n // Encode the parameters to a string in preparation for
inclusion in the URL.\n var params = this.params.toString();\n if (params.length === 0) {\n
// No parameters, the visible URL is just the URL given at creation
 time.\n this.urlWithParams = url;\n }\n else {\n // Does the URL already
have query parameters? Look for '?'.\n var qIdx = url.indexOf('?');\n // There are 3 cases to
handle:\n // 1) No existing parameters -> append '?' followed by params.\n // 2) '?' exists and
is followed by existing query string ->\n // append '&' followed by params.\n // 3) '?' exists
at the end of the url -> append params directly.\n // This basically amounts to determining the character,
if any, with\n // which to join the URL and parameters.\n var sep = qIdx === -1 ? '?' : (qIdx
< url.length - 1 ? '&' : '');\n this.urlWithParams = url + sep + params;\n }\n }\n }\n
 /**\n * Transform the free-form body into a
 serialized format suitable for\n * transmission to the server.\n */\n
HttpRequest.prototype.serializeBody = function () {\n // If no body is present, no need to serialize it.\n
if (this.body === null) {\n return null;\n }\n // Check whether the body is already in a
serialized form. If so,\n // it can just be returned directly.\n if (isArrayBuffer(this.body) ||
isBlob(this.body) || isFormData(this.body) ||\n typeof this.body === 'string') {\n return
this.body;\n }\n // Check whether the body is an instance of HttpUrlEncodedParams.\n if
(this.body instanceof HttpParams) {\n return this.body.toString();\n }\n // Check whether the
body is an object or array, and serialize with JSON if so.\n if (typeof this.body === 'object' || typeof this.body
=== 'boolean' ||\n Array.isArray(this.body))
 {\n return JSON.stringify(this.body);\n }\n // Fall back on toString() for everything else.\n
  return this.body.toString();\n };\n /**\n * Examine the body and attempt to infer an appropriate
MIME type\n * for it.\n *\n * If no such type can be inferred, this method will return `null`.\n
*/\n HttpRequest.prototype.detectContentTypeHeader = function () {\n // An empty body has no content
type.\n if (this.body === null) {\n return null;\n }\n // FormData bodies rely on the
browser's content type assignment.\n if (isFormData(this.body)) {\n return null;\n }\n
```

```
// Blobs usually have their own content type. If it doesn't, then\n // no type can be inferred.\n if (isBlob(this.body)) {\n return this.body.type || null;\n }\n // Array buffers have unknown contents and thus no type can be inferred.\n if (isArrayBuffer(this.body)) {\n return null;\n }\n // Technically, strings could be a form of JSON data, but it's safe enough\n // to assume they're plain strings.\n if (typeof this.body === 'string') {\n return 'text/plain';\n }\n // `HttpUrlEncodedParams` has its own content-type.\n if (this.body instanceof HttpParams) {\n return 'application/x-www-form-urlencoded;charset=UTF-8';\n }\n // Arrays, objects, and numbers will be encoded as JSON.\n if (typeof this.body === 'object' || typeof this.body === 'number' ||\n Array.isArray(this.body)) {\n return 'application/json';\n }\n // No type could be inferred.\n return null;\n };\n HttpRequest.prototype.clone = function (update) {\n if (update === void 0) { update = {}; }\n // For method, url, and responseType, take the current value unless\n // it is overridden in the update hash.\n var method = update.method || this.method;\n var url = update.url || this.url;\n var responseType = update.responseType || this.responseType;\n // The body is somewhat special - a `null` value in update.body means\n // whatever current body is present is being overridden with an empty\n // body, whereas an `undefined` value in update.body implies no\n // override.\n var body = (update.body !== undefined) ? update.body : this.body;\n // Carefully handle the boolean options to differentiate between\n // `false` and `undefined` in the update args.\n var withCredentials = (update.withCredentials !== undefined) ? update.withCredentials : this.withCredentials;\n var reportProgress = (update.reportProgress !== undefined) ? update.reportProgress : this.reportProgress;\n // Headers and params may be appended to if `setHeaders` or\n // `setParams` are used.\n var headers = update.headers || this.headers;\n var params = update.params || this.params;\n // Check whether the caller has asked to add headers.\n if (update.setHeaders !== undefined) {\n // Set every requested header.\n headers =\n Object.keys(update.setHeaders)\n .reduce(function (headers, name) { return headers.set(name, update.setHeaders[name]); }, headers);\n }\n // Check whether the caller has asked to set params.\n if (update.setParams) {\n // Set every requested param.\n params = Object.keys(update.setParams)\n .reduce(function (params, param) { return params.set(param, update.setParams[param]); }, params);\n }\n // Finally, construct the new HttpRequest using the pieces from above.\n return new HttpRequest(method, url, body, {\n params: params,\n headers: headers,\n reportProgress: reportProgress,\n responseType: responseType,\n withCredentials: withCredentials,\n });\n };\n return HttpRequest;\n}());\n\n (function (HttpEventType) {\n /**\n * The request was sent out over the wire.\n */\n HttpEventType[HttpEventType[\"Sent\"] = 0] = \"Sent\";\n /**\n * An upload progress event was received.\n */\n HttpEventType[HttpEventType[\"UploadProgress\"] = 1] = \"UploadProgress\";\n /**\n * The response status code and headers were received.\n */\n HttpEventType[HttpEventType[\"ResponseHeader\"] = 2] = \"ResponseHeader\";\n /**\n * A download progress event was received.\n */\n HttpEventType[HttpEventType[\"DownloadProgress\"] = 3] = \"DownloadProgress\";\n /**\n * The full response including the body was received.\n */\n HttpEventType[HttpEventType[\"Response\"] = 4] = \"Response\";\n /**\n * A custom event from an interceptor or a backend.\n */\n HttpEventType[HttpEventType[\"User\"] = 5] = \"User\";\n })(exports.HttpEventType || (exports.HttpEventType = {}));\n /**\n * Base class for both `HttpResponse` and `HttpHeaderResponse`.\n *\n * @publicApi\n */\n var HttpResponseBase = /** @class */ (function () {\n /**\n * Super-constructor for all responses.\n *\n * The single parameter accepted is an initialization hash. Any properties\n * of the response passed there will override the default values.\n */\n function HttpResponseBase(init,\n defaultStatus, defaultStatusText) {\n if (defaultStatus === void 0) { defaultStatus = 200; }\n if (defaultStatusText === void 0) { defaultStatusText = 'OK'; }\n // If the hash has values passed, use them to
```

initialize the response.\n // Otherwise use the default values.\n this.headers = init.headers || new HttpHeaders();\n this.status = init.status !== undefined ? init.status : defaultStatus;\n this.statusText = init.statusText || defaultStatusText;\n this.url = init.url || null;\n // Cache the ok value to avoid defining a getter.\n this.ok = this.status >= 200 && this.status < 300;\n }\n return HttpResponseBase;\n }());\n /**\n * A partial HTTP response which only includes the status and header data,\n * but no response body.\n *\n * `HttpHeaderResponse` is a `HttpEvent` available on the response\n * event stream, only when progress
events are requested.\n *\n * @publicApi\n */\n var HttpHeaderResponse = /** @class */ (function (_super) {\n __extends(HttpHeaderResponse, _super);\n /**\n * Create a new `HttpHeaderResponse` with the given parameters.\n */\n function HttpHeaderResponse(init) {\n if (init === void 0) { init = {}; }\n var _this = _super.call(this, init) || this;\n _this.type = exports.HttpEventType.ResponseHeader;\n return _this;\n }\n /**\n * Copy this `HttpHeaderResponse`, overriding its contents with the\n * given parameter hash.\n */\n HttpHeaderResponse.prototype.clone = function (update) {\n if (update === void 0) { update = {}; }\n // Perform a straightforward initialization of the new HttpHeaderResponse,\n // overriding the current parameters with new ones if given.\n return new HttpHeaderResponse({\n headers: update.headers || this.headers,\n status: update.status !== undefined ? update.status : this.status,\n statusText: update.statusText || this.statusText,\n url: update.url || this.url || undefined,\n });\n };\n return HttpHeaderResponse;\n }(HttpResponseBase));\n /**\n * A full HTTP response, including a typed response body (which may be `null`\n * if one was not returned).\n *\n * `HttpResponse` is a `HttpEvent` available on the response event\n * stream.\n *\n * @publicApi\n */\n var HttpResponse = /** @class */ (function (_super) {\n __extends(HttpResponse, _super);\n /**\n * Construct a new `HttpResponse`.\n */\n function HttpResponse(init) {\n if (init === void 0) { init = {}; }\n var _this = _super.call(this, init) || this;\n _this.type = exports.HttpEventType.Response;\n _this.body
= init.body !== undefined ? init.body : null;\n return _this;\n }\n HttpResponse.prototype.clone = function (update) {\n if (update === void 0) { update = {}; }\n return new HttpResponse({\n body: (update.body !== undefined) ? update.body : this.body,\n headers: update.headers || this.headers,\n status: (update.status !== undefined) ? update.status : this.status,\n statusText: update.statusText || this.statusText,\n url: update.url || this.url || undefined,\n });\n };\n return HttpResponse;\n }(HttpResponseBase));\n /**\n * A response that represents an error or failure, either from a\n * non-successful HTTP status, an error while executing the request,\n * or some other failure which occurred during the parsing of the response.\n *\n * Any error returned on the `Observable` response stream will be\n * wrapped in an `HttpErrorResponse` to provide additional context about\n * the state of the HTTP layer when the error occurred. The error property\n * will contain either a wrapped Error object or the error response returned\n * from the server.\n *\n * @publicApi\n */\n var HttpErrorResponse = /** @class */ (function (_super) {\n __extends(HttpErrorResponse, _super);\n function HttpErrorResponse(init) {\n var _this = \n // Initialize with a default status of 0 / Unknown Error.\n _super.call(this, init, 0, 'Unknown Error') || this;\n _this.name = 'HttpErrorResponse';\n /**\n * Errors are never okay, even when the status code is in the 2xx success range.\n */\n _this.ok = false;\n // If the response was successful, then this was a parse error. Otherwise, it was\n // a protocol-level failure of some sort. Either the request failed in transit\n // or the server returned an unsuccessful status code.\n if (_this.status >= 200 && _this.status < 300) {\n _this.message = \"Http failure during parsing for \" + (init.url || '(unknown url)');\n }\n else {\n _this.message = \"Http failure response for \" + (init.url || '(unknown url)') + \": \" + init.status + \" \" + init.statusText;\n }\n _this.error = init.error || null;\n return _this;\n }\n return HttpErrorResponse;\n }(HttpResponseBase));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Constructs an instance of `HttpRequestOptions<T>`

from a source `HttpMethodOptions` and\n * the given `body`. This function clones the object and adds the body.\n *\n * Note that the `responseType` *options* value is a String that identifies the\n * single data type of the response.\n * A single overload version of the method handles each response type.\n * The value of `responseType` cannot be a union, as the combined signature could imply.\n *\n */\n function addBody(options, body) {\n return {\n body: body,\n headers: options.headers,\n observe: options.observe,\n params: options.params,\n reportProgress: options.reportProgress,\n responseType: options.responseType,\n withCredentials: options.withCredentials,\n };\n }\n /**\n * Performs HTTP requests.\n * This service is available as an injectable class, with methods to perform HTTP requests.\n * Each request method has multiple signatures, and the return type varies based on\n * the signature that is called (mainly the values of `observe` and `responseType`).\n *\n * Note that the `responseType` *options* value is a String that identifies the\n * single data type of the response.\n * A single overload version of the method handles each response type.\n * The value of `responseType` cannot be a union, as the combined signature could imply.\n\n *\n * @usageNotes\n * Sample HTTP requests for the [Tour of Heroes](/tutorial/toh-pt0) application.\n *\n * ### HTTP Request Example\n *\n * ```\n * // GET heroes whose name contains search term\n * searchHeroes(term: string): observable<Hero[]>{\n *\n * const params = new HttpParams({fromString: 'name=term'});\n * return this.httpClient.request('GET', this.heroesUrl, {responseType:'json', params});\n * }\n * ```\n * ### JSONP Example\n * ```\n * requestJsonp(url, callback = 'callback') {\n * return this.httpClient.jsonp(this.heroesURL, callback);\n * }\n * ```\n *\n * ### PATCH Example\n * ```\n * // PATCH one of the heroes' name\n * patchHero (id: number, heroName: string): Observable<{}> {\n * const url = `${this.heroesUrl}/${id}`; // PATCH api/heroes/42\n * return this.httpClient.patch(url, {name: heroName}, httpOptions)\n * .pipe(catchError(this.handleError('patchHero')));\n * }\n * ```\n *\n * @see [HTTP Guide](guide/http)\n *\n * @publicApi\n */\n var HttpClient = /** @class */ (function () {\n function HttpClient(handler) {\n this.handler = handler;\n }\n /**\n * Constructs an observable for a generic HTTP request that, when subscribed,\n * fires the request through the chain of registered interceptors and on to the\n * server.\n *\n * You can pass an `HttpRequest` directly as the only parameter. In this case,\n * the call returns an observable of the raw `HttpEvent` stream.\n *\n * Alternatively you can pass an HTTP method as the first parameter,\n * a URL string as the second, and an options hash containing the request body as the third.\n * See `addBody()`. In this case, the specified `responseType` and `observe` options determine the\n * type of returned observable.\n * * The `responseType` value determines how a successful response body is parsed.\n * * If `responseType` is the default `json`, you can pass a type interface for the resulting\n * object as a type parameter to the call.\n *\n * The `observe` value determines the return type, according to what you are interested in\n * observing.\n * * An `observe` value of events returns an observable of the raw `HttpEvent` stream, including\n * progress events by default.\n * * An `observe` value of response returns an observable of `HttpResponse<T>`,\n * where the `T` parameter depends on the `responseType` and any optionally provided type\n * parameter.\n * * An `observe` value of body returns an observable of `<T>` with the same `T` body type.\n *\n */\n HttpClient.prototype.request = function (first, url, options) {\n var _this = this;\n if (options === void 0) { options = {}; }\n var req;\n // First, check whether the primary argument is an instance of `HttpRequest`.\n if (first instanceof HttpRequest) {\n // It is. The other arguments must be undefined (per the signatures) and can be\n // ignored.\n req = first;\n }\n else {\n // It's a string, so it represents a URL. Construct a request based on it,\n // and incorporate the remaining arguments (assuming `GET` unless a method is\n // provided.\n // Figure out the headers.\n var headers = undefined;\n if (options.headers instanceof HttpHeaders) {\n headers = options.headers;\n }\n else {\n headers = new HttpHeaders(options.headers);\n }\n // Sort out parameters.\n

```
var params = undefined;\n if (!!options.params) {\n if (options.params instanceof HttpParams) {\n params = options.params;\n }\n else {\n params = new HttpParams({ fromObject: options.params });\n }\n }\n // Construct the request.\n req = new HttpRequest(first, url, (options.body !== undefined ? options.body : null), {\n headers: headers,\n params: params,\n reportProgress: options.reportProgress,\n // By default, JSON is assumed to be returned for all calls.\n responseType: options.responseType || 'json',\n withCredentials: options.withCredentials,\n });\n }\n // Start with an Observable.of() the initial request, and run the handler (which\n // includes all interceptors) inside a concatMap(). This way, the handler runs\n // inside an Observable chain, which causes interceptors to be re-run on every\n // subscription (this also makes retries re-run the handler, including interceptors).\n var events$ = rxjs.of(req).pipe(operators.concatMap(function (req) { return _this.handler.handle(req); }));\n // If coming via the API signature which accepts a previously constructed HttpRequest,\n // the only option is to get the event stream. Otherwise, return the event stream if\n // that is what was requested.\n if (first instanceof HttpRequest || options.observe === 'events') {\n return events$;\n }\n // The requested stream contains either the full response or the body. In either\n // case, the first step is to filter the event stream to extract a stream of\n // responses(s).\n var res$ = events$.pipe(operators.filter(function (event) { return event instanceof HttpResponse; }));\n // Decide which stream to return.\n switch (options.observe || 'body') {\n case 'body':\n // The requested stream is the body. Map the response stream to the response\n // body. This could be done more simply, but a misbehaving interceptor might\n // transform the response body into a different format and ignore the requested\n // responseType. Guard against this by validating that the response is of the\n // requested type.\n switch (req.responseType) {\n case 'arraybuffer':\n return res$.pipe(operators.map(function (res) {\n // Validate that the body is an ArrayBuffer.\n if (res.body !== null && !(res.body instanceof ArrayBuffer)) {\n throw new Error('Response is not an ArrayBuffer.');\n }\n return res.body;\n }));\n case 'blob':\n return res$.pipe(operators.map(function (res) {\n // Validate that the body is a Blob.\n if (res.body !== null && !(res.body instanceof Blob)) {\n throw new Error('Response is not a Blob.');\n }\n return res.body;\n }));\n case 'text':\n return res$.pipe(operators.map(function (res) {\n // Validate that the body is a string.\n if (res.body !== null && typeof res.body !== 'string') {\n throw new Error('Response is not a string.');\n }\n return res.body;\n }));\n case 'json':\n default:\n // No validation needed for JSON responses, as they can be of any type.\n return res$.pipe(operators.map(function (res) { return res.body; }));\n }\n case 'response':\n // The response stream was requested directly, so return it.\n return res$;\n default:\n // Guard against new future observe types being added.\n throw new Error(\"Unreachable: unhandled observe type \" + options.observe + \"}\");\n }\n};\n/**\n * Constructs an observable that, when subscribed, causes the configured\n * `DELETE` request to execute on the server. See the individual overloads for\n * details on the return type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n */\nHttpClient.prototype.delete = function (url, options) {\n if (options === void 0) { options = {}; }\n return this.request('DELETE', url, options);\n};\n/**\n * Constructs an observable that, when subscribed, causes the configured\n * `GET` request to execute on the server. See the individual overloads for\n * details on the return type.\n */\nHttpClient.prototype.get = function (url, options) {\n if
```

(options === void 0) { options = {}; }\n return this.request('GET', url, options);\n };\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `HEAD` request to execute on the server. The `HEAD` method returns\n * meta information about the resource without transferring the\n * resource itself. See the individual overloads for\n * details on the return type.\n */\n HttpClient.prototype.head = function (url, options) {\n if (options === void 0) { options = {}; }\n return this.request('HEAD', url, options);\n };\n /**\n * Constructs an `Observable` that, when subscribed, causes a request with the special method\n * `JSONP` to be dispatched via the interceptor pipeline.\n * The [JSONP pattern](https://en.wikipedia.org/wiki/JSONP) works around limitations of certain\n * API endpoints that don't support newer,\n * and preferable [CORS](https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS) protocol.\n * JSONP treats the endpoint API as a JavaScript file and tricks the browser to process the\n * requests even if the API endpoint is not located on the same domain (origin) as the client-side\n * application making the request.\n * The endpoint API must support JSONP callback for JSONP requests to work.\n * The resource API returns the JSON response wrapped in a callback function.\n * You can pass the callback function name as one of the query parameters.\n * Note that JSONP requests can only be used with `GET` requests.\n *\n * @param url The resource URL.\n * @param callbackParam The callback function name.\n *\n */\n HttpClient.prototype.jsonp = function (url, callbackParam) {\n return this.request('JSONP', url, {\n params: new HttpParams().append(callbackParam,
'JSONP_CALLBACK'),\n observe: 'body',\n responseType: 'json',\n });\n };\n /**\n * Constructs an `Observable` that, when subscribed, causes the configured\n * `OPTIONS` request to execute on the server. This method allows the client\n * to determine the supported HTTP methods and other capabilites of an endpoint,\n * without implying a resource action. See the individual overloads for\n * details on the return type.\n */\n HttpClient.prototype.options = function (url, options) {\n if (options === void 0) { options = {}; }\n return this.request('OPTIONS', url, options);\n };\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `PATCH` request to execute on the server. See the individual overloads for\n * details on the return type.\n */\n HttpClient.prototype.patch = function
(url, body, options) {\n if (options === void 0) { options = {}; }\n return this.request('PATCH', url, addBody(options, body));\n };\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `POST` request to execute on the server. The server responds with the location of\n * the replaced resource. See the individual overloads for\n * details on the return type.\n */\n HttpClient.prototype.post = function (url, body, options) {\n if (options === void 0) { options = {}; }\n return this.request('POST', url, addBody(options, body));\n };\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `PUT` request to execute on the server. The `PUT` method replaces an existing resource\n * with a new set of values.\n * See the individual overloads for details on the return type.\n */\n HttpClient.prototype.put = function (url, body, options) {\n if (options === void 0) { options = {}; }\n return this.request('PUT', url, addBody(options, body));\n };\n return HttpClient;\n }());\n HttpClient.decorators = [\n { type: core.Injectable }\n ];\n HttpClient.ctorParameters = function () { return [\n { type: HttpHandler }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * `HttpHandler` which applies an `HttpInterceptor` to an `HttpRequest`.\n *\n *\n */\n var HttpInterceptorHandler = /** @class */ (function () {\n function HttpInterceptorHandler(next, interceptor) {\n this.next = next;\n this.interceptor = interceptor;\n }\n HttpInterceptorHandler.prototype.handle
= function (req) {\n return this.interceptor.intercept(req, this.next);\n };\n return HttpInterceptorHandler;\n }());\n /**\n * A multi-provider token that represents the array of registered\n * `HttpInterceptor` objects.\n *\n * @publicApi\n */\n var HTTP_INTERCEPTORS = new

```
core.InjectionToken('HTTP_INTERCEPTORS');\n    var NoopInterceptor = /** @class */ (function () {\n        function NoopInterceptor() {\n        }\n        NoopInterceptor.prototype.intercept = function (req, next) {\n            return next.handle(req);\n        };\n        return NoopInterceptor;\n    }());\n    NoopInterceptor.decorators = [\n        { type: core.Injectable }\n    ];\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    // Every request made through JSONP needs a callback name that's unique across the\n    // whole page. Each request is assigned an id and the callback name is constructed\n    // from that. The next id to be assigned is tracked in a global variable here that\n    // is shared among all applications on the page.\n    var nextRequestId = 0;\n    // Error text given when a JSONP script is injected, but doesn't invoke the callback\n    // passed in its URL.\n    var JSONP_ERR_NO_CALLBACK = 'JSONP injected script did not invoke callback.';\n    // Error text given when a request is passed to the JsonpClientBackend that doesn't\n    // have a request method JSONP.\n    var JSONP_ERR_WRONG_METHOD = 'JSONP requests must use JSONP request method.';\n    var JSONP_ERR_WRONG_RESPONSE_TYPE = 'JSONP requests must use Json response type.';\n    /**\n     * DI token/abstract type representing a map of JSONP callbacks.\n     *\n     * In the browser, this should always be the `window` object.\n     *\n     *\n     */\n    var JsonpCallbackContext = /** @class */ (function () {\n        function JsonpCallbackContext() {\n        }\n        return JsonpCallbackContext;\n    }());\n    /**\n     * Processes an `HttpRequest` with the JSONP method,\n     * by performing JSONP style requests.\n     * @see `HttpHandler`\n     * @see `HttpXhrBackend`\n     *\n     * @publicApi\n     */\n    var JsonpClientBackend = /** @class */ (function () {\n        function JsonpClientBackend(callbackMap, document) {\n            this.callbackMap = callbackMap;\n            this.document = document;\n            /**\n             * A resolved promise that can be used to schedule microtasks in the event handlers.\n             */\n            this.resolvedPromise = Promise.resolve();\n        }\n        /**\n         * Get the name of the next callback method, by incrementing the global `nextRequestId`.\n         */\n        JsonpClientBackend.prototype.nextCallback = function () {\n            return \"ng_jsonp_callback_\" + nextRequestId++;\n        };\n        /**\n         * Processes a JSONP request and returns an event stream of the results.\n         * @param req The request object.\n         * @returns An observable of the response events.\n         *\n         */\n        JsonpClientBackend.prototype.handle = function (req) {\n            var _this = this;\n            // Firstly, check both the method and response type. If either doesn't match\n            // then the request was improperly routed here and cannot be handled.\n            if (req.method !== 'JSONP') {\n                throw new Error(JSONP_ERR_WRONG_METHOD);\n            }\n            else if (req.responseType !== 'json') {\n                throw new Error(JSONP_ERR_WRONG_RESPONSE_TYPE);\n            }\n            // Everything else happens inside the Observable boundary.\n            return new rxjs.Observable(function (observer) {\n                // The first step to make a request is to generate the callback name, and replace the\n                // callback placeholder in the URL with the name. Care has to be taken here to ensure\n                // a trailing &, if matched, gets inserted back into the URL in the correct place.\n                var callback = _this.nextCallback();\n                var url = req.urlWithParams.replace(/=JSONP_CALLBACK(&|$)/, \"=\" + callback + \"$1\");\n                // Construct the <script> tag and point it at the URL.\n                var node = _this.document.createElement('script');\n                node.src = url;\n                // A JSONP request requires waiting for multiple callbacks. These variables\n                // are closed over and track state across those callbacks.\n                // The response object, if one has been received, or null otherwise.\n                var body = null;\n                // Whether the response callback has been called.\n                var finished = false;\n                // Whether the request has been cancelled (and thus any other callbacks)\n                // should be ignored.\n                var cancelled = false;\n                // Set the response callback in this.callbackMap (which will be the window\n                // object in the browser. The script being loaded via the <script> tag will\n                // eventually call this callback.\n                _this.callbackMap[callback] = function (data) {\n                    // Data has been received from the JSONP script. Firstly, delete this callback.\n                    delete _this.callbackMap[callback];\n                    // Next, make sure the request wasn't cancelled in the meantime.\n                    if (cancelled) {\n                        return;\n                    }\n
```

// Set state to indicate data was received.\n body = data;\n finished = true;\n };\n // cleanup() is a utility closure that removes the <script> from the page and\n // the response callback from the window. This logic is used in both the\n // success, error, and cancellation paths, so it's extracted out for convenience.\n var cleanup = function () {\n // Remove the <script> tag if it's still on the page.\n if (node.parentNode) {\n node.parentNode.removeChild(node);\n }\n // Remove the response callback from the callbackMap (window object in the\n // browser).\n delete _this.callbackMap[callback];\n };\n // onLoad() is the success callback which runs after the response callback\n // if the JSONP script loads successfully. The event itself is unimportant.\n // If something went wrong, onLoad() may run without the response callback\n // having been invoked.\n var onLoad = function (event) {\n // Do nothing if the request has been cancelled.\n if (cancelled) {\n return;\n }\n // We wrap it in an extra Promise, to ensure the microtask\n // is scheduled after the loaded endpoint has executed any potential microtask itself,\n // which is not guaranteed in Internet Explorer and EdgeHTML. See issue #39496\n _this.resolvedPromise.then(function () {\n // Cleanup the page.\n cleanup();\n // Check whether the response callback has run.\n if (!finished) {\n // It hasn't, something went wrong with the request. Return an error via\n // the Observable error path. All JSONP errors have status 0.\n observer.error(new HttpErrorResponse({\n url: url,\n status: 0,\n statusText: 'JSONP Error',\n error: new Error(JSONP_ERR_NO_CALLBACK),\n }));\n return;\n }\n // Success. body either contains the response body or null if none was\n // returned.\n observer.next(new HttpResponse({\n body: body,\n status: 200,\n statusText: 'OK',\n url: url,\n }));\n // Complete the stream, the response is over.\n observer.complete();\n });\n };\n // onError() is the error callback, which runs if the script returned generates\n // a Javascript error. It emits the error via the Observable error channel as\n // a HttpErrorResponse.\n var onError = function (error) {\n // If the request was already cancelled, no need to emit anything.\n if (cancelled) {\n return;\n }\n cleanup();\n // Wrap the error in a HttpErrorResponse.\n observer.error(new HttpErrorResponse({\n error: error,\n status: 0,\n statusText: 'JSONP Error',\n url: url,\n }));\n };\n // Subscribe to both the success (load) and error events on the <script> tag,\n // and add it to the page.\n node.addEventListener('load', onLoad);\n node.addEventListener('error', onError);\n _this.document.body.appendChild(node);\n // The request has now been successfully sent.\n observer.next({ type: exports.HttpEventType.Sent });\n // Cancellation handler.\n return function () {\n // Track the cancellation so event listeners won't do anything even if already scheduled.\n cancelled = true;\n // Remove the event listeners so they won't run if the events later fire.\n node.removeEventListener('load', onLoad);\n node.removeEventListener('error', onError);\n // And finally, clean up the page.\n cleanup();\n };\n });\n };\n return JsonpClientBackend;\n }());\n JsonpClientBackend.decorators = [\n { type: core.Injectable }\n ];\n JsonpClientBackend.ctorParameters = function () { return [\n { type: JsonpCallbackContext },\n { type: undefined, decorators: [{ type: core.Inject, args: [common.DOCUMENT,] }] }\n ]; };\n /**\n * Identifies requests with the method JSONP and\n * shifts them to the `JsonpClientBackend`.\n *\n * @see `HttpInterceptor`\n *\n * @publicApi\n */\n var JsonpInterceptor = /** @class */ (function () {\n function JsonpInterceptor(jsonp) {\n this.jsonp = jsonp;\n }\n /**\n * Identifies and handles a given JSONP request.\n * @param req The outgoing request object to handle.\n * @param next The next interceptor in the chain, or the backend\n * if no interceptors remain in the chain.\n * @returns An observable of the event stream.\n

```
*/\n        JsonpInterceptor.prototype.intercept = function (req, next) {\n            if (req.method === 'JSONP') {\n
    return this.jsonp.handle(req);\n            }\n            // Fall through for normal HTTP requests.\n            return
next.handle(req);\n
    };\n        return JsonpInterceptor;\n    }());\n    JsonpInterceptor.decorators = [\n        { type: core.Injectable }\n
];\n    JsonpInterceptor.ctorParameters = function () { return [\n        { type: JsonpClientBackend }\n    ]; };\n\n
/**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is
governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n
 var XSSI_PREFIX = /^\\)\\]\\}',?\\n/;\n    /**\n     * Determine an appropriate URL for the response, by checking
either\n     * XMLHttpRequest.responseURL or the X-Request-URL header.\n     */\n    function
getResponseUrl(xhr) {\n        if ('responseURL' in xhr && xhr.responseURL) {\n            return xhr.responseURL;\n
    }\n        if (/^X-Request-URL:/m.test(xhr.getAllResponseHeaders())) {\n            return
xhr.getResponseHeader('X-Request-URL');\n        }\n        return null;\n    }\n    /**\n
    * A wrapper around the `XMLHttpRequest` constructor.\n     *\n     * @publicApi\n     */\n    var XhrFactory =
/** @class */ (function () {\n        function XhrFactory() {\n        }\n        return XhrFactory;\n    }());\n    /**\n     *
A factory for `HttpXhrBackend` that uses the `XMLHttpRequest` browser API.\n     *\n     */\n    var BrowserXhr =
/** @class */ (function () {\n        function BrowserXhr() {\n        }\n        BrowserXhr.prototype.build = function ()
{\n            return (new XMLHttpRequest());\n        };\n        return BrowserXhr;\n    }());\n    BrowserXhr.decorators
= [\n        { type: core.Injectable }\n    ];\n    BrowserXhr.ctorParameters = function () { return []; };\n    /**\n     *
Uses `XMLHttpRequest` to send requests to a backend server.\n     * @see `HttpHandler`\n     * @see
`JsonpClientBackend`\n     *\n     * @publicApi\n     */\n    var HttpXhrBackend = /** @class */ (function () {\n
function HttpXhrBackend(xhrFactory) {\n
  this.xhrFactory = xhrFactory;\n        }\n        /**\n         * Processes a request and returns a stream of response
events.\n         * @param req The request object.\n         * @returns An observable of the response events.\n
*/\n        HttpXhrBackend.prototype.handle = function (req) {\n            var _this = this;\n            // Quick check to
give a better error message when a user attempts to use\n            // HttpClient.jsonp() without installing the
HttpClientJsonpModule\n            if (req.method === 'JSONP') {\n                throw new Error(\"Attempted to
construct Jsonp request without HttpClientJsonpModule installed.\");\n            }\n            // Everything happens on
Observable subscription.\n            return new rxjs.Observable(function (observer) {\n                // Start by setting up
the XHR object with request method, URL, and withCredentials flag.\n                var xhr =
_this.xhrFactory.build();\n                xhr.open(req.method,
 req.urlWithParams);\n                if (!!req.withCredentials) {\n                    xhr.withCredentials = true;\n                }\n
                // Add all the requested headers.\n                req.headers.forEach(function (name, values) { return
xhr.setRequestHeader(name, values.join(',')); });\n                // Add an Accept header if one isn't present already.\n
        if (!req.headers.has('Accept')) {\n                    xhr.setRequestHeader('Accept', 'application/json, text/plain,
*/*');\n                }\n                // Auto-detect the Content-Type header if one isn't present already.\n                if
(!req.headers.has('Content-Type')) {\n                    var detectedType = req.detectContentTypeHeader();\n
// Sometimes Content-Type detection fails.\n                    if (detectedType !== null) {\n
xhr.setRequestHeader('Content-Type', detectedType);\n                    }\n                }\n
 // Set the responseType if one was requested.\n                if (req.responseType) {\n                    var responseType =
req.responseType.toLowerCase();\n                    // JSON responses need to be processed as text. This is because if
the server\n                    // returns an XSSI-prefixed JSON response, the browser will fail to parse it,\n                    //
xhr.response will be null, and xhr.responseText cannot be accessed to\n                    // retrieve the prefixed JSON
data in order to strip the prefix. Thus, all JSON\n                    // is parsed by first requesting text and then applying
JSON.parse.\n                    xhr.responseType = ((responseType !== 'json') ? responseType : 'text');\n                }\n
        // Serialize the request body if one is present. If not, this will be set to null.\n                var reqBody =
req.serializeBody();\n                // If progress events are enabled, response headers will be delivered\n
        // in two events - the HttpHeaderResponse event and the full HttpResponse\n                // event. However,
since response headers don't change in between these\n                // two events, it doesn't make sense to parse them
```

```
twice. So headerResponse\n // caches the data extracted from the response whenever it's first parsed,\n
// to ensure parsing isn't duplicated.\n var headerResponse = null;\n // partialFromXhr extracts
the HttpHeaderResponse from the current XMLHttpRequest\n // state, and memoizes it into
headerResponse.\n var partialFromXhr = function () {\n if (headerResponse !== null) {\n
return headerResponse;\n }\n // Read status and normalize an IE9 bug
(https://bugs.jquery.com/ticket/1450).\n var status = xhr.status === 1223 ? 204 : xhr.status;\n
var statusText
= xhr.statusText || 'OK';\n // Parse headers from XMLHttpRequest - this step is lazy.\n var
headers = new HttpHeaders(xhr.getAllResponseHeaders());\n // Read the response URL from the
XMLHttpResponse instance and fall back on the\n // request URL.\n var url =
getResponseUrl(xhr) || req.url;\n // Construct the HttpHeaderResponse and memoize it.\n
headerResponse = new HttpHeaderResponse({ headers: headers, status: status, statusText: statusText, url: url });\n
return headerResponse;\n };\n // Next, a few closures are defined for the various events
which XMLHttpRequest can\n // emit. This allows them to be unregistered as event listeners later.\n
// First up is the load event, which represents a response being fully available.\n var onLoad = function ()
{\n
// Read response state from the memoized partial data.\n var _a = partialFromXhr(), headers =
_a.headers, status = _a.status, statusText = _a.statusText, url = _a.url;\n // The body will be read out if
present.\n var body = null;\n if (status !== 204) {\n // Use
XMLHttpRequest.response if set, responseText otherwise.\n body = (typeof xhr.response ===
'undefined') ? xhr.responseText : xhr.response;\n }\n // Normalize another potential bug (this
one comes from CORS).\n if (status === 0) {\n status = !!body ? 200 : 0;\n }\n
// ok determines whether the response will be transmitted on the event or\n // error channel.
Unsuccessful status codes (not 2xx) will always be errors,\n // but a successful status
code can still result in an error if the user\n // asked for JSON data and the body cannot be parsed as
such.\n var ok = status >= 200 && status < 300;\n // Check whether the body needs to be
parsed as JSON (in many cases the browser\n // will have done that already).\n if
(req.responseType === 'json' && typeof body === 'string') {\n // Save the original body, before
attempting XSSI prefix stripping.\n var originalBody = body;\n body =
body.replace(XSSI_PREFIX, '');\n try {\n // Attempt the parse. If it fails, a parse
error should be delivered to the user.\n body = body !== '' ? JSON.parse(body) : null;\n
}\n catch (error) {\n // Since the JSON.parse failed, it's reasonable
to assume this might not have been a\n // JSON response. Restore the original body (including any
XSSI prefix) to deliver\n // a better error response.\n body = originalBody;\n
// If this was an error request to begin with, leave it as a string, it probably\n // just isn't
JSON. Otherwise, deliver the parsing error to the user.\n if (ok) {\n // Even
though the response status was 2xx, this is still an error.\n ok = false;\n // The
parse error contains the text of the body that failed to parse.\n body = { error: error, text: body
};\n }\n }\n }\n if (ok) {\n // A successful
response is delivered on
the event stream.\n observer.next(new HttpResponse({\n body: body,\n
headers: headers,\n status: status,\n statusText: statusText,\n
url: url || undefined,\n }));\n // The full body has been received and delivered, no further
events\n // are possible. This request is complete.\n observer.complete();\n
}\n else {\n // An unsuccessful request is delivered on the error channel.\n
observer.error(new HttpErrorResponse({\n // The error in this case is the response body (error from
the server).\n error: body,\n headers: headers,\n status: status,\n
```

```
            statusText: statusText,\n                url: url || undefined,\n            }));\n        }\n    };\n    // The onError callback is called when something goes wrong at the network level.\n    // Connection timeout, DNS error, offline, etc. These are actual errors, and are\n    // transmitted on the error channel.\n    var onError = function (error) {\n        var url = partialFromXhr().url;\n        var res = new HttpErrorResponse({\n            error: error,\n            status: xhr.status || 0,\n            statusText: xhr.statusText || 'Unknown Error',\n            url: url || undefined,\n        });\n        observer.error(res);\n    };\n    // The sentHeaders flag tracks whether the HttpResponseHeaders event\n    // has been sent on the
     stream. This is necessary to track if progress\n    // is enabled since the event will be sent on only the first download\n    // progerss event.\n    var sentHeaders = false;\n    // The download progress event handler, which is only registered if\n    // progress events are enabled.\n    var onDownProgress = function (event) {\n        // Send the HttpResponseHeaders event if it hasn't been sent already.\n        if (!sentHeaders) {\n            observer.next(partialFromXhr());\n            sentHeaders = true;\n        }\n        // Start building the download progress event to deliver on the response\n        // event stream.\n        var progressEvent = {\n            type: exports.HttpEventType.DownloadProgress,\n            loaded: event.loaded,\n        };\n        //
     Set the total number of bytes in the event if it's available.\n        if (event.lengthComputable) {\n            progressEvent.total = event.total;\n        }\n        // If the request was for text content and a partial response is\n        // available on XMLHttpRequest, include it in the progress event\n        // to allow for streaming reads.\n        if (req.responseType === 'text' && !!xhr.responseText) {\n            progressEvent.partialText = xhr.responseText;\n        }\n        // Finally, fire the event.\n        observer.next(progressEvent);\n    };\n    // The upload progress event handler, which is only registered if\n    // progress events are enabled.\n    var onUpProgress = function (event) {\n        // Upload progress events are simpler. Begin building the progress\n        // event.\n        var progress = {\n            type: exports.HttpEventType.UploadProgress,\n            loaded: event.loaded,\n        };\n        // If the total number of bytes being uploaded is available, include\n        // it.\n        if (event.lengthComputable) {\n            progress.total = event.total;\n        }\n        // Send the event.\n        observer.next(progress);\n    };\n    // By default, register for load and error events.\n    xhr.addEventListener('load', onLoad);\n    xhr.addEventListener('error', onError);\n    // Progress events are only enabled if requested.\n    if (req.reportProgress) {\n        // Download progress is always enabled if requested.\n        xhr.addEventListener('progress', onDownProgress);\n        // Upload progress depends on whether there is a body to upload.\n        if (reqBody !== null && xhr.upload) {\n            xhr.upload.addEventListener('progress', onUpProgress);\n        }\n    }\n    // Fire the request, and notify the event stream that it was fired.\n    xhr.send(reqBody);\n    observer.next({ type: exports.HttpEventType.Sent });\n    // This is the return from the Observable function, which is the\n    // request cancellation handler.\n    return function () {\n        // On a cancellation, remove all registered event listeners.\n        xhr.removeEventListener('error', onError);\n        xhr.removeEventListener('load', onLoad);\n        if (req.reportProgress) {\n            xhr.removeEventListener('progress', onDownProgress);\n            if (reqBody !== null && xhr.upload) {\n                xhr.upload.removeEventListener('progress', onUpProgress);\n            }\n        }\n        // Finally, abort the in-flight request.\n        if (xhr.readyState !== xhr.DONE) {\n            xhr.abort();\n        }\n    };\n    });\n};\n    return HttpXhrBackend;\n}());\nHttpXhrBackend.decorators = [\n    { type: core.Injectable }\n];\nHttpXhrBackend.ctorParameters = function () { return [\n    { type: XhrFactory }\n]; };\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nvar XSRF_COOKIE_NAME = new core.InjectionToken('XSRF_COOKIE_NAME');\nvar XSRF_HEADER_NAME = new
```

```
core.InjectionToken('XSRF_HEADER_NAME');\n    /**\n     *
 Retrieves the current XSRF token to use with the next outgoing request.\n     *\n     * @publicApi\n     */\n    var
HttpXsrfTokenExtractor = /** @class */ (function () {\n        function HttpXsrfTokenExtractor() {\n        }\n
return HttpXsrfTokenExtractor;\n    }());\n    /**\n     * `HttpXsrfTokenExtractor` which retrieves the token from a
cookie.\n     */\n    var HttpXsrfCookieExtractor = /** @class */ (function () {\n        function
HttpXsrfCookieExtractor(doc, platform, cookieName) {\n            this.doc = doc;\n            this.platform = platform;\n
            this.cookieName = cookieName;\n            this.lastCookieString = '';\n            this.lastToken = null;\n
/**\n             * @internal for testing\n             */\n            this.parseCount = 0;\n        }\n
HttpXsrfCookieExtractor.prototype.getToken = function () {\n            if (this.platform === 'server') {\n
return null;\n            }\n            var cookieString
 = this.doc.cookie || '';\n            if (cookieString !== this.lastCookieString) {\n                this.parseCount++;\n
 this.lastToken = common.parseCookieValue(cookieString, this.cookieName);\n                this.lastCookieString =
cookieString;\n            }\n            return this.lastToken;\n        };\n        return HttpXsrfCookieExtractor;\n    }());\n
HttpXsrfCookieExtractor.decorators = [\n        { type: core.Injectable }\n    ];\n
HttpXsrfCookieExtractor.ctorParameters = function () { return [\n        { type: undefined, decorators: [{ type:
core.Inject, args: [common.DOCUMENT,] }] },\n        { type: String, decorators: [{ type: core.Inject, args:
[core.PLATFORM_ID,] }] },\n        { type: String, decorators: [{ type: core.Inject, args: [XSRF_COOKIE_NAME,]
}] }\n    ]; };\n    /**\n     * `HttpInterceptor` which adds an XSRF token to eligible outgoing requests.\n     */\n    var
HttpXsrfInterceptor = /** @class */ (function () {\n        function
 HttpXsrfInterceptor(tokenService, headerName) {\n            this.tokenService = tokenService;\n
this.headerName = headerName;\n        }\n        HttpXsrfInterceptor.prototype.intercept = function (req, next) {\n
    var lcUrl = req.url.toLowerCase();\n            // Skip both non-mutating requests and absolute URLs.\n            //
Non-mutating requests don't require a token, and absolute URLs require special handling\n            // anyway as the
cookie set\n            // on our origin is not the same as the token expected by another origin.\n            if (req.method
=== 'GET' || req.method === 'HEAD' || lcUrl.startsWith('http://') ||\n                lcUrl.startsWith('https://')) {\n
return next.handle(req);\n            }\n            var token = this.tokenService.getToken();\n            // Be careful not to
overwrite an existing header of the same name.\n            if (token !== null && !req.headers.has(this.headerName))
{\n                req
 = req.clone({ headers: req.headers.set(this.headerName, token) });\n            }\n            return next.handle(req);\n
};\n        return HttpXsrfInterceptor;\n    }());\n    HttpXsrfInterceptor.decorators = [\n        { type: core.Injectable }\n
 ];\n    HttpXsrfInterceptor.ctorParameters = function () { return [\n        { type: HttpXsrfTokenExtractor },\n        {
type: String, decorators: [{ type: core.Inject, args: [XSRF_HEADER_NAME,] }] }\n    ]; };\n\n    /**\n     *
@license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an
MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * An
injectable `HttpHandler` that applies multiple interceptors\n     * to a request before passing it to the given
`HttpBackend`.\n     *\n     * The interceptors are loaded lazily from the injector, to allow\n     * interceptors to
themselves inject classes depending
 indirectly\n     * on `HttpInterceptingHandler` itself.\n     * @see `HttpInterceptor`\n     */\n    var
HttpInterceptingHandler = /** @class */ (function () {\n        function HttpInterceptingHandler(backend, injector)
{\n            this.backend = backend;\n            this.injector = injector;\n            this.chain = null;\n        }\n
HttpInterceptingHandler.prototype.handle = function (req) {\n            if (this.chain === null) {\n                var
interceptors = this.injector.get(HTTP_INTERCEPTORS, []);\n                this.chain =
interceptors.reduceRight(function (next, interceptor) { return new HttpInterceptorHandler(next, interceptor); },
this.backend);\n            }\n            return this.chain.handle(req);\n        };\n        return HttpInterceptingHandler;\n
}());\n    HttpInterceptingHandler.decorators = [\n        { type: core.Injectable }\n    ];\n
HttpInterceptingHandler.ctorParameters = function () { return [\n        { type: HttpBackend },\n
    { type: core.Injector }\n    ]; };\n    /**\n     * Constructs an `HttpHandler` that applies interceptors\n     * to a
request before passing it to the given `HttpBackend`.\n     *\n     * Use as a factory function within
```

`HttpClientModule`.\n *\n *\n */\n function interceptingHandler(backend, interceptors) {\n if (interceptors === void 0) { interceptors = []; }\n if (!interceptors) {\n return backend;\n }\n return interceptors.reduceRight(function (next, interceptor) { return new HttpInterceptorHandler(next, interceptor); }, backend);\n }\n /**\n * Factory function that determines where to store JSONP callbacks.\n *\n * Ordinarily JSONP callbacks are stored on the `window` object, but this may not exist\n * in test environments. In that case, callbacks are stored on an anonymous object instead.\n *\n *\n */\n function jsonpCallbackContext() {\n if (typeof window === 'object') {\n return window;\n }\n return {};\n }\n /**\n * Configures XSRF protection support for outgoing requests.\n *\n * For a server that supports a cookie-based XSRF protection system,\n * use directly to configure XSRF protection with the correct\n * cookie and header names.\n *\n * If no names are supplied, the default cookie name is `XSRF-TOKEN`\n * and the default header name is `X-XSRF-TOKEN`.\n *\n * @publicApi\n */\n var HttpClientXsrfModule = /** @class */ (function () {\n function HttpClientXsrfModule() {\n }\n /**\n * Disable the default XSRF protection.\n */\n HttpClientXsrfModule.disable = function () {\n return {\n ngModule: HttpClientXsrfModule,\n providers: [\n { provide: HttpXsrfInterceptor, useClass: NoopInterceptor },\n ],\n };\n };\n /**\n * Configure XSRF protection.\n * @param options An object that can specify either or both\n * cookie name or header name.\n * - Cookie name default is `XSRF-TOKEN`.\n * - Header name default is `X-XSRF-TOKEN`.\n *\n */\n HttpClientXsrfModule.withOptions = function (options) {\n if (options === void 0) { options = {}; }\n return {\n ngModule: HttpClientXsrfModule,\n providers: [\n options.cookieName ? { provide: XSRF_COOKIE_NAME, useValue: options.cookieName } : [],\n options.headerName ? { provide: XSRF_HEADER_NAME, useValue: options.headerName } : [],\n ],\n };\n };\n return HttpClientXsrfModule;\n }());\n HttpClientXsrfModule.decorators = [\n { type: core.NgModule, args: [{\n providers: [\n HttpXsrfInterceptor,\n { provide: HTTP_INTERCEPTORS, useExisting: HttpXsrfInterceptor, multi: true },\n { provide: HttpXsrfTokenExtractor, useClass: HttpXsrfCookieExtractor },\n { provide: XSRF_COOKIE_NAME, useValue: 'XSRF-TOKEN' },\n { provide: XSRF_HEADER_NAME, useValue: 'X-XSRF-TOKEN' },\n ],\n },] }\n ];\n /**\n * Configures the [dependency injector](guide/glossary#injector) for `HttpClient`\n * with supporting services for XSRF. Automatically imported by `HttpClientModule`.\n *\n * You can add interceptors to the chain behind `HttpClient` by binding them to the\n * multiprovider for built-in [DI token](guide/glossary#di-token) `HTTP_INTERCEPTORS`.\n *\n * @publicApi\n */\n var HttpClientModule = /** @class */ (function () {\n function HttpClientModule() {\n }\n return HttpClientModule;\n }());\n HttpClientModule.decorators = [\n { type: core.NgModule, args: [{\n /**\n * Optional configuration for XSRF protection.\n */\n imports: [\n HttpClientXsrfModule.withOptions({\n cookieName: 'XSRF-TOKEN',\n headerName: 'X-XSRF-TOKEN',\n }),\n ],\n /**\n * Configures the [dependency injector](guide/glossary#injector) where it is imported\n * with supporting services for HTTP communications.\n */\n providers: [\n HttpClient,\n { provide: HttpHandler, useClass: HttpInterceptingHandler },\n HttpXhrBackend,\n { provide: HttpBackend, useExisting: HttpXhrBackend },\n BrowserXhr,\n { provide: XhrFactory, useExisting: BrowserXhr },\n ],\n },] }\n ];\n /**\n * Configures the [dependency injector](guide/glossary#injector) for `HttpClient`\n * with supporting services for JSONP.\n * Without this module, Jsonp requests reach the backend\n * with method JSONP, where they are rejected.\n *\n * You can add interceptors to the chain behind `HttpClient` by binding them to the\n * multiprovider for built-in [DI token](guide/glossary#di-token) `HTTP_INTERCEPTORS`.\n *\n * @publicApi\n */\n var HttpClientJsonpModule = /** @class */ (function () {\n function HttpClientJsonpModule() {\n }\n

return HttpClientJsonpModule;\n }());\n HttpClientJsonpModule.decorators = [\n { type: core.NgModule, args: [{\n providers: [\n JsonpClientBackend,\n { provide: JsonpCallbackContext, useFactory: jsonpCallbackContext },\n { provide: HTTP_INTERCEPTORS, useClass: JsonpInterceptor, multi: true },\n ],\n },] }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.HTTP_INTERCEPTORS = HTTP_INTERCEPTORS;\n exports.HttpBackend = HttpBackend;\n exports.HttpClient = HttpClient;\n exports.HttpClientJsonpModule = HttpClientJsonpModule;\n exports.HttpClientModule = HttpClientModule;\n exports.HttpClientXsrfModule = HttpClientXsrfModule;\n exports.HttpErrorResponse = HttpErrorResponse;\n exports.HttpHandler = HttpHandler;\n exports.HttpHeaderResponse = HttpHeaderResponse;\n exports.HttpHeaders = HttpHeaders;\n exports.HttpParams = HttpParams;\n exports.HttpRequest = HttpRequest;\n exports.HttpResponse = HttpResponse;\n exports.HttpResponseBase = HttpResponseBase;\n exports.HttpUrlEncodingCodec = HttpUrlEncodingCodec;\n exports.HttpXhrBackend = HttpXhrBackend;\n exports.HttpXsrfTokenExtractor = HttpXsrfTokenExtractor;\n exports.JsonpClientBackend = JsonpClientBackend;\n exports.JsonpInterceptor = JsonpInterceptor;\n exports.XhrFactory = XhrFactory;\n exports.HttpInterceptingHandler = HttpInterceptingHandler;\n exports.angular_packages_common_http_http_a = NoopInterceptor;\n exports.angular_packages_common_http_http_b = JsonpCallbackContext;\n exports.angular_packages_common_http_http_c = jsonpCallbackContext;\n exports.angular_packages_common_http_http_d = BrowserXhr;\n exports.angular_packages_common_http_http_e = XSRF_COOKIE_NAME;\n exports.angular_packages_common_http_http_f = XSRF_HEADER_NAME;\n exports.angular_packages_common_http_http_g = HttpXsrfCookieExtractor;\n exports.angular_packages_common_http_http_h = HttpXsrfInterceptor;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}))));\n//# sourceMappingURL=common-http.umd.js.map\n"]}

Found in path(s):
* /common-11-0-5-tgz/package/bundles/common-http.umd.min.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"common-upgrade.umd.js","sources":["../../../../../external/npm/node_modules/tslib/tslib.es6.js","../../../../../packages/common/upgrade/src/utils.ts","../../../../../packages/common/upgrade/src/location_shim.ts","../../../../../packages/common/upgrade/src/params.ts","../../../../../packages/common/upgrade/src/location_upgrade_module.ts","../../../../../packages/common/upgrade/src/index.ts","../../../../../packages/common/upgrade/public_api.ts","../../../../../packages/common/upgrade/index.ts","../../../../../packages/common/upgrade/upgrade.ts"],"sourcesContent":["/*!\r\n*****************************************************************************\r\nCopyright (c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS

SOFTWARE.\r\n*****\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics = Object.setPrototypeOf ||\r\n        ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n  function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d; }\r\n    d.prototype = b === null
 ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n        for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n  s = arguments[i];\r\n            for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n      return t;\r\n    }\r\n    return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n                t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators,
 target, key, desc) {\r\n    var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P
 ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n            if (y = 0, t) op = [op[0] & 2, t.value];\r\n            switch (op[0]) {\r\n  case 0: case 1: t = op; break;\r\n                case 4: _.label++; return { value: op[1], done: false };\r\n                case 5: _.label++; y = op[1]; op = [0]; continue;\r\n                case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n  default:\r\n                if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n                if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n                if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n                if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n                if (t[2]) _.ops.pop();\r\n                _.trys.pop(); continue;\r\n            }\r\n            op = body.call(thisArg, _);\r\n        } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n        if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n    }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n    for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p))

__createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s],
i = 0;\r\n if (m) return m.call(o);\r\n if (o && typeof o.length === \"number\") return {\r\n next: function () {\r\n if (o && i >= o.length) o = void 0;\r\n return { value: o && o[i++], done: !o };\r\n }\r\n };\r\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n if (!m) return o;\r\n var i = m.call(o), r, ar = [], e;\r\n try {\r\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n }\r\n catch (error) { e = { error: error }; }\r\n finally {\r\n try {\r\n if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n }\r\n finally { if (e) throw e.error; }\r\n }\r\n return ar;\r\n}\r\n\r\nexport function __spread() {\r\n for (var ar = [], i = 0; i < arguments.length; i++)\r\n ar = ar.concat(__read(arguments[i]));\r\n
return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n r[k] = a[j];\r\n return r;\r\n};\r\n\r\nexport function __await(v) {\r\n return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v);
}); }; }\r\n function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n function fulfill(value) { resume(\"next\", value); }\r\n function reject(value) { resume(\"throw\", value); }\r\n function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n var i, p;\r\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var m = o[Symbol.asyncIterator], i;\r\n
return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n if (mod && mod.__esModule) return mod;\r\n var result = {};\r\n if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n __setModuleDefault(result, mod);\r\n return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to get private field on non-instance\");\r\n }\r\n return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to set private field on non-instance\");\r\n }\r\n privateMap.set(receiver, value);\r\n return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style

license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function stripPrefix(val: string, prefix: string): string {\n  return val.startsWith(prefix) ? val.substring(prefix.length) : val;\n}\n\nexport function deepEqual(a: any, b: any): boolean {\n  if (a === b) {\n    return true;\n  } else if (!a || !b) {\n    return false;\n  } else {\n    try {\n      if ((a.prototype !== b.prototype) || (Array.isArray(a) && Array.isArray(b))) {\n        return false;\n      }\n      return JSON.stringify(a) === JSON.stringify(b);\n    } catch (e) {\n      return false;\n    }\n  }\n}\n\nexport function isAnchor(el: (Node&ParentNode)|Element|null): el is HTMLAnchorElement {\n  return (<HTMLAnchorElement>el).href !== undefined;\n}\n\nexport function isPromise<T = any>(obj: any): obj is Promise<T> {\n  // allow any Promise/A+ compliant thenable.\n  // It's up to the caller to ensure that obj.then conforms to the spec\n  return !!obj && typeof obj.then === 'function';\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Location, LocationStrategy, PlatformLocation} from '@angular/common';\nimport {UpgradeModule} from '@angular/upgrade/static';\nimport {ReplaySubject} from 'rxjs';\n\nimport {UrlCodec} from './params';\nimport {deepEqual, isAnchor, isPromise} from './utils';\n\n\nconst PATH_MATCH = /^([^?#]*)(\\?([^#]*))?(#(.*))?$/;\nconst DOUBLE_SLASH_REGEX = /^\\s*[\\\\/]{2,}/;\nconst IGNORE_URI_REGEXP = /^\\s*(javascript|mailto):/i;\nconst DEFAULT_PORTS: {[key: string]: number} = {\n  'http:': 80,\n  'https:': 443,\n  'ftp:': 21\n};\n\n/**\n * Location service that provides a drop-in replacement for the $location service\n * provided in AngularJS.\n *\n * @see [Using the Angular Unified Location Service](guide/upgrade#using-the-unified-angular-location-service)\n *\n * @publicApi\n */\nexport class $locationShim {\n  private initalizing = true;\n  private updateBrowser = false;\n  private $$absUrl: string = '';\n  private $$url: string = '';\n  private $$protocol: string;\n  private $$host: string = '';\n  private $$port: number|null;\n  private $$replace: boolean = false;\n  private $$path: string = '';\n  private $$search: any = '';\n  private $$hash: string = '';\n  private $$state: unknown;\n  private $$changeListeners: [\n    ((url: string, state: unknown, oldUrl: string, oldState: unknown, err?: (e: Error) => void) =>\n        void),\n    (e: Error) => void\n  ][] = [];\n\n  private cachedState: unknown = null;\n\n  private urlChanges = new ReplaySubject<{newUrl: string, newState: unknown}>(1);\n\n  constructor(\n      $injector: any, private location: Location, private platformLocation: PlatformLocation,\n      private urlCodec: UrlCodec, private locationStrategy: LocationStrategy) {\n    const initialUrl = this.browserUrl();\n\n    let parsedUrl
 = this.urlCodec.parse(initialUrl);\n\n    if (typeof parsedUrl === 'string') {\n      throw 'Invalid URL';\n    }\n\n    this.$$protocol = parsedUrl.protocol;\n    this.$$host = parsedUrl.hostname;\n    this.$$port = parseInt(parsedUrl.port) || DEFAULT_PORTS[parsedUrl.protocol] || null;\n\n    this.$$parseLinkUrl(initialUrl, initialUrl);\n    this.cacheState();\n    this.$$state = this.browserState();\n\n    this.location.onUrlChange((newUrl, newState) => {\n      this.urlChanges.next({newUrl, newState});\n    });\n\n    if (isPromise($injector)) {\n      $injector.then($i => this.initialize($i));\n    } else {\n      this.initialize($injector);\n    }\n  }\n\n  private initialize($injector: any) {\n    const $rootScope = $injector.get('$rootScope');\n    const $rootElement = $injector.get('$rootElement');\n\n    $rootElement.on('click', (event: any) => {\n      if (event.ctrlKey || event.metaKey || event.shiftKey || event.which === 2 ||\n          event.button === 2) {\n        return;\n      }\n\n      let elm: (Node&ParentNode)|null = event.target;\n\n      // traverse the DOM up to find first A tag\n      while (elm && elm.nodeName.toLowerCase() !== 'a') {\n        // ignore rewriting if no A tag (reached root element, or no parent - removed from document)\n        if (elm === $rootElement[0] || !(elm = elm.parentNode)) {\n          return;\n        }\n      }\n\n      if (!isAnchor(elm)) {\n        return;\n      }\n\n      const absHref = elm.href;\n      const relHref = elm.getAttribute('href');\n\n      // Ignore when url is started with javascript: or mailto:\n      if (IGNORE_URI_REGEXP.test(absHref)) {\n        return;\n      }\n\n      if (absHref && !elm.getAttribute('target') && !event.isDefaultPrevented()) {\n        if (this.$$parseLinkUrl(absHref, relHref)) {\n          // We do a preventDefault for all urls that are part of the AngularJS application,\n          // in html5mode and also without, so that we are able to abort navigation without\n
          // getting double entries in the location history.\n          event.preventDefault();\n          // update location manually\n          if (this.absUrl() !== this.browserUrl()) {\n            $rootScope.$apply();\n          }\n        }\n      }\n

```
});\n\n    this.urlChanges.subscribe(({newUrl, newState}) => {\n      const oldUrl = this.absUrl();\n      const oldState
= this.$$state;\n      this.$$parse(newUrl);\n      newUrl = this.absUrl();\n      this.$$state = newState;\n      const
defaultPrevented =\n          $rootScope.$broadcast('$locationChangeStart', newUrl, oldUrl, newState, oldState)\n
    .defaultPrevented;\n\n      // if the location was changed by a `$locationChangeStart` handler then stop\n      //
processing this location change\n      if (this.absUrl() !== newUrl) return;\n\n      // If default was prevented, set back
to old state. This is the state that was locally\n      // cached in the $location service.\n      if (defaultPrevented) {\n
 this.$$parse(oldUrl);\n
        this.state(oldState);\n        this.setBrowserUrlWithFallback(oldUrl, false, oldState);\n
this.$$notifyChangeListeners(this.url(), this.$$state, oldUrl, oldState);\n      } else {\n        this.initalizing = false;\n
  $rootScope.$broadcast('$locationChangeSuccess', newUrl, oldUrl, newState, oldState);\n
this.resetBrowserUpdate();\n      }\n      if (!$rootScope.$$phase) {\n        $rootScope.$digest();\n      }\n    });\n\n    //
update browser\n    $rootScope.$watch(() => {\n      if (this.initalizing || this.updateBrowser) {\n
this.updateBrowser = false;\n\n        const oldUrl = this.browserUrl();\n        const newUrl = this.absUrl();\n
const oldState = this.browserState();\n        let currentReplace = this.$$replace;\n\n        const urlOrStateChanged =\n
          !this.urlCodec.areEqual(oldUrl, newUrl) || oldState !== this.$$state;\n\n        // Fire location changes one time
to on initialization. This must be done
 on the\n        // next tick (thus inside $evalAsync()) in order for listeners to be registered\n        // before the event
fires. Mimicing behavior from $locationWatch:\n        //
https://github.com/angular/angular.js/blob/master/src/ng/location.js#L983\n        if (this.initalizing ||
urlOrStateChanged) {\n          this.initalizing = false;\n\n          $rootScope.$evalAsync(() => {\n            // Get the
new URL again since it could have changed due to async update\n            const newUrl = this.absUrl();\n
const defaultPrevented =\n                $rootScope\n                    .$broadcast('$locationChangeStart', newUrl, oldUrl,
this.$$state, oldState)\n                    .defaultPrevented;\n\n            // if the location was changed by a
`$locationChangeStart` handler then stop\n            // processing this location change\n            if (this.absUrl() !==
newUrl) return;\n\n            if (defaultPrevented) {\n              this.$$parse(oldUrl);\n
      this.$$state = oldState;\n            } else {\n              // This block doesn't run when initalizing because it's going to
perform the update to\n              // the URL which shouldn't be needed when initalizing.\n              if
(urlOrStateChanged) {\n                this.setBrowserUrlWithFallback(\n                    newUrl, currentReplace, oldState
=== this.$$state ? null : this.$$state);\n                this.$$replace = false;\n              }\n
$rootScope.$broadcast(\n                  '$locationChangeSuccess', newUrl, oldUrl, this.$$state, oldState);\n              if
(urlOrStateChanged) {\n                this.$$notifyChangeListeners(this.url(), this.$$state, oldUrl, oldState);\n
}\n            }\n          });\n        }\n      }\n      this.$$replace = false;\n    });\n  }\n\n  private resetBrowserUpdate() {\n
this.$$replace = false;\n    this.$$state = this.browserState();\n    this.updateBrowser = false;\n    this.lastBrowserUrl
=
 this.browserUrl();\n  }\n\n  private lastHistoryState: unknown;\n  private lastBrowserUrl: string = ';\n  private
browserUrl(): string;\n  private browserUrl(url: string, replace?: boolean, state?: unknown): this;\n  private
browserUrl(url?: string, replace?: boolean, state?: unknown) {\n    // In modern browsers `history.state` is `null` by
default; treating it separately\n    // from `undefined` would cause `$browser.url('/foo')` to change `history.state`\n
// to undefined via `pushState`. Instead, let's change `undefined` to `null` here.\n    if (typeof state === 'undefined')
{\n      state = null;\n    }\n\n    // setter\n    if (url) {\n      let sameState = this.lastHistoryState === state;\n\n      //
Normalize the inputted URL\n      url = this.urlCodec.parse(url).href;\n\n      // Don't change anything if previous and
current URLs and states match.\n      if (this.lastBrowserUrl === url && sameState) {\n        return this;\n      }\n
this.lastBrowserUrl = url;\n
 this.lastHistoryState = state;\n\n      // Remove server base from URL as the Angular APIs for updating URL
require\n      // it to be the path+.\n      url = this.stripBaseUrl(this.getServerBase(), url) || url;\n\n      // Set the URL\n
  if (replace) {\n        this.locationStrategy.replaceState(state, '', url, '');\n      } else {\n
this.locationStrategy.pushState(state, '', url, '');\n      }\n\n      this.cacheState();\n\n      return this;\n    // getter\n    }
else {\n      return this.platformLocation.href;\n    }\n  }\n\n  // This variable should be used *only* inside the
```

```
cacheState function.\n  private lastCachedState: unknown = null;\n  private cacheState() {\n    // This should be the only place in $browser where `history.state` is read.\n    this.cachedState = this.platformLocation.getState();\n    if (typeof this.cachedState === 'undefined') {\n      this.cachedState = null;\n    }\n\n    // Prevent callbacks fo fire twice if both hashchange & popstate were fired.\n
    if (deepEqual(this.cachedState, this.lastCachedState)) {\n      this.cachedState = this.lastCachedState;\n    }\n\n    this.lastCachedState = this.cachedState;\n    this.lastHistoryState = this.cachedState;\n  }\n\n  /**\n   * This function emulates the $browser.state() function from AngularJS. It will cause\n   * history.state to be cached unless changed with deep equality check.\n   */\n  private browserState(): unknown {\n    return this.cachedState;\n  }\n\n  private stripBaseUrl(base: string, url: string) {\n    if (url.startsWith(base)) {\n      return url.substr(base.length);\n    }\n    return undefined;\n  }\n\n  private getServerBase() {\n    const {protocol, hostname, port} = this.platformLocation;\n    const baseHref = this.locationStrategy.getBaseHref();\n    let url = `${protocol}//${hostname}${port ? ':' + port : ''}${baseHref || '/'}`;\n    return url.endsWith('/') ? url : url + '/';\n  }\n\n  private parseAppUrl(url: string) {\n    if (DOUBLE_SLASH_REGEX.test(url))
    {\n      throw new Error(`Bad Path - URL cannot start with double slashes: ${url}`);\n    }\n\n    let prefixed = (url.charAt(0) !== '/');\n    if (prefixed) {\n      url = '/' + url;\n    }\n    let match = this.urlCodec.parse(url, this.getServerBase());\n    if (typeof match === 'string') {\n      throw new Error(`Bad URL - Cannot parse URL: ${url}`);\n    }\n    let path =\n        prefixed && match.pathname.charAt(0) === '/' ? match.pathname.substring(1) : match.pathname;\n    this.$$path = this.urlCodec.decodePath(path);\n    this.$$search = this.urlCodec.decodeSearch(match.search);\n    this.$$hash = this.urlCodec.decodeHash(match.hash);\n\n    // make sure path starts with '/';\n    if (this.$$path && this.$$path.charAt(0) !== '/') {\n      this.$$path = '/' + this.$$path;\n    }\n  }\n\n  /**\n   * Registers listeners for URL changes. This API is used to catch updates performed by the\n   * AngularJS framework. These changes are a subset of the `$locationChangeStart` and\n
   * `$locationChangeSuccess` events which fire when AngularJS updates its internally-referenced\n   * version of the browser URL.\n   *\n   * It's possible for `$locationChange` events to happen, but for the browser URL\n   * (window.location) to remain unchanged. This `onChange` callback will fire only when AngularJS\n   * actually updates the browser URL (window.location).\n   *\n   * @param fn The callback function that is triggered for the listener when the URL changes.\n   * @param err The callback function that is triggered when an error occurs.\n   */\n  onChange(\n      fn: (url: string, state: unknown, oldUrl: string, oldState: unknown) => void,\n      err: (e: Error) => void = (e: Error) => {}) {\n    this.$$changeListeners.push([fn, err]);\n  }\n\n  /** @internal */\n  $$notifyChangeListeners(\n      url: string = '', state: unknown, oldUrl: string = '', oldState: unknown) {\n    this.$$changeListeners.forEach(([fn, err]) => {\n      try {\n        fn(url, state, oldUrl,
    oldState);\n      } catch (e) {\n        err(e);\n      }\n    });\n  }\n\n  /**\n   * Parses the provided URL, and sets the current URL to the parsed result.\n   *\n   * @param url The URL string.\n   */\n  $$parse(url: string) {\n    let pathUrl: string|undefined;\n    if (url.startsWith('/')) {\n      pathUrl = url;\n    } else {\n      // Remove protocol & hostname if URL starts with it\n      pathUrl = this.stripBaseUrl(this.getServerBase(), url);\n    }\n    if (typeof pathUrl === 'undefined') {\n      throw new Error(`Invalid url \"${url}\", missing path prefix \"${this.getServerBase()}\".`);\n    }\n\n    this.parseAppUrl(pathUrl);\n\n    if (!this.$$path) {\n      this.$$path = '/';\n    }\n    this.composeUrls();\n  }\n\n  /**\n   * Parses the provided URL and its relative URL.\n   *\n   * @param url The full URL string.\n   * @param relHref A URL string relative to the full URL string.\n   */\n  $$parseLinkUrl(url: string, relHref?: string|null): boolean {\n    // When relHref
    is passed, it should be a hash and is handled separately\n    if (relHref && relHref[0] === '#') {\n      this.hash(relHref.slice(1));\n      return true;\n    }\n    let rewrittenUrl;\n    let appUrl = this.stripBaseUrl(this.getServerBase(), url);\n    if (typeof appUrl !== 'undefined') {\n      rewrittenUrl = this.getServerBase() + appUrl;\n    } else if (this.getServerBase() === url + '/') {\n      rewrittenUrl = this.getServerBase();\n    }\n    // Set the URL\n    if (rewrittenUrl) {\n      this.$$parse(rewrittenUrl);\n    }\n    return !!rewrittenUrl;\n  }\n\n  private setBrowserUrlWithFallback(url: string, replace: boolean, state: unknown) {\n    const oldUrl = this.url();\n    const oldState = this.$$state;\n    try {\n      this.browserUrl(url, replace, state);\n\n      // Make sure $location.state() returns referentially identical (not just deeply equal)\n      // state object; this makes
```

```
possible quick checking if the state changed in the digest\n      // loop. Checking deep
 equality would be too expensive.\n      this.$$state = this.browserState();\n    } catch (e) {\n      // Restore old values
if pushState fails\n      this.url(oldUrl);\n      this.$$state = oldState;\n\n      throw e;\n    }\n  }\n\n  private
composeUrls() {\n    this.$$url = this.urlCodec.normalize(this.$$path, this.$$search, this.$$hash);\n    this.$$absUrl
= this.getServerBase() + this.$$url.substr(1);  // remove '/' from front of URL\n    this.updateBrowser = true;\n  }\n\n
/**\n   * Retrieves the full URL representation with all segments encoded according to\n   * rules specified in\n   *
[RFC 3986](https://tools.ietf.org/html/rfc3986).\n   *\n   *\n   * ```js\n   * // given URL
http://example.com/#/some/path?foo=bar&baz=xoxo\n   * let absUrl = $location.absUrl();\n   * // =>
\"http://example.com/#/some/path?foo=bar&baz=xoxo\"\n   * ```\n   */\n  absUrl(): string {\n    return
this.$$absUrl;\n  }\n\n  /**\n   * Retrieves the current URL, or sets a new URL. When setting a URL,\n
   * changes the path, search, and hash, and returns a reference to its own instance.\n   *\n   * ```js\n   * // given URL
http://example.com/#/some/path?foo=bar&baz=xoxo\n   * let url = $location.url();\n   * // =>
\"/some/path?foo=bar&baz=xoxo\"\n   * ```\n   */\n  url(): string;\n  url(url: string): this;\n  url(url?: string):
string|this {\n    if (typeof url === 'string') {\n      if (!url.length) {\n        url = '/';\n      }\n\n      const match =
PATH_MATCH.exec(url);\n      if (!match) return this;\n      if (match[1] || url === '')
this.path(this.urlCodec.decodePath(match[1]));\n      if (match[2] || match[1] || url === '') this.search(match[3] || '');\n
   this.hash(match[5] || '');\n\n      // Chainable method\n      return this;\n    }\n\n    return this.$$url;\n  }\n\n  /**\n   *
Retrieves the protocol of the current URL.\n   *\n   * ```js\n   * // given URL
http://example.com/#/some/path?foo=bar&baz=xoxo\n   * let protocol = $location.protocol();\n   * // => \"http\"\n
   * ```\n   */\n  protocol(): string {\n    return this.$$protocol;\n  }\n\n  /**\n   * Retrieves the protocol of the current
URL.\n   *\n   * In contrast to the non-AngularJS version `location.host` which returns `hostname:port`, this\n   *
returns the `hostname` portion only.\n   *\n   *\n   * ```js\n   * // given URL
http://example.com/#/some/path?foo=bar&baz=xoxo\n   * let host = $location.host();\n   * // => \"example.com\"\n
*\n   * // given URL http://user:password@example.com:8080/#/some/path?foo=bar&baz=xoxo\n   * host =
$location.host();\n   * // => \"example.com\"\n   * host = location.host;\n   * // => \"example.com:8080\"\n   * ```\n
*/\n  host(): string {\n    return this.$$host;\n  }\n\n  /**\n   * Retrieves the port of the current URL.\n   *\n   * ```js\n
* // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n   * let port = $location.port();\n   * // => 80\n
* ```\n   */\n  port(): number|null {\n    return this.$$port;\n  }\n\n  /**\n   * Retrieves
 the path of the current URL, or changes the path and returns a reference to its own\n   * instance.\n   *\n   * Paths
should always begin with forward slash (/). This method adds the forward slash\n   * if it is missing.\n   *\n   * ```js\n
 * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n   * let path = $location.path();\n   * // =>
\"/some/path\"\n   * ```\n   */\n  path(): string;\n  path(path: string|number|null): this;\n  path(path?:
string|number|null): string|this {\n    if (typeof path === 'undefined') {\n      return this.$$path;\n    }\n\n    // null path
converts to empty string. Prepend with \"/\" if needed.\n    path = path !== null ? path.toString() : '';\n    path =
path.charAt(0) === '/' ? path : '/' + path;\n\n    this.$$path = path;\n\n    this.composeUrls();\n    return this;\n  }\n\n
/**\n   * Retrieves a map of the search parameters of the current URL, or changes a search\n   * part and returns a
reference to its own instance.\n   *\n   *\n   *
 ```js\n   * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n   * let searchObject =
$location.search();\n   * // => {foo: 'bar', baz: 'xoxo'}\n   *\n   * // set foo to 'yipee'\n   * $location.search('foo',
'yipee');\n   * // $location.search() => {foo: 'yipee', baz: 'xoxo'}\n   * ```\n   *\n   * @param
{string|Object.<string>|Object.<Array.<string>>} search New search params - string or\n   * hash object.\n   *\n   *
When called with a single argument the method acts as a setter, setting the `search` component\n   * of `$location` to
the specified value.\n   *\n   * If the argument is a hash object containing an array of values, these values will be
encoded\n   * as duplicate search parameters in the URL.\n   *\n   * @param
{(string|Number|Array<string>|boolean)=} paramValue If `search` is a string or number,\n   *     then
`paramValue`\n   * will override only a single search property.\n   *\n   * If `paramValue` is an array, it will override
the property of the `search`
```
```

component of\n * `$location` specified via the first argument.\n *\n * If `paramValue` is `null`, the property specified via the first argument will be deleted.\n *\n * If `paramValue` is `true`, the property specified via the first argument will be added with no\n * value nor trailing equal sign.\n *\n * @return {Object} The parsed `search` object of the current URL, or the changed `search` object.\n */\n search(): {[key: string]: unknown};\n search(search: string|number|{[key: string]: unknown}): this;\n search(\n search: string|number|{[key: string]: unknown},\n paramValue: null|undefined|string|number|boolean|string[]): this;\n search(\n search?: string|number|{[key: string]: unknown},\n paramValue?: null|undefined|string|number|boolean|string[]): {[key: string]: unknown}|this {\n switch (arguments.length) {\n case 0:\n return this.$$search;\n case 1:\n if (typeof search === 'string' || typeof search === 'number')
{\n this.$$search = this.urlCodec.decodeSearch(search.toString());\n } else if (typeof search === 'object' && search !== null) {\n // Copy the object so it's never mutated\n search = {...search};\n // remove object undefined or null properties\n for (const key in search) {\n if (search[key] == null) delete search[key];\n }\n\n this.$$search = search;\n } else {\n throw new Error(\n 'LocationProvider.search(): First argument must be a string or an object.');\n }\n break;\n default:\n if (typeof search === 'string') {\n const currentSearch = this.search();\n if (typeof paramValue === 'undefined' || paramValue === null) {\n delete currentSearch[search];\n return this.search(currentSearch);\n } else {\n currentSearch[search] = paramValue;\n return this.search(currentSearch);\n
}\n }\n }\n this.composeUrls();\n return this;\n }\n\n /**\n * Retrieves the current hash fragment, or changes the hash fragment and returns a reference to\n * its own instance.\n *\n * ```js\n * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo#hashValue\n * let hash = $location.hash();\n * // => \"hashValue\"\n * ```\n */\n hash(): string;\n hash(hash: string|number|null): this;\n hash(hash?: string|number|null): string|this {\n if (typeof hash === 'undefined') {\n return this.$$hash;\n }\n\n this.$$hash = hash !== null ? hash.toString() : '';\n\n this.composeUrls();\n return this;\n }\n\n /**\n * Changes to `$location` during the current `$digest` will replace the current\n * history record, instead of adding a new one.\n */\n replace(): this {\n this.$$replace = true;\n return this;\n }\n\n /**\n * Retrieves the history state object when called without any parameter.\n *\n * Change the history
state object when called with one parameter and return `$location`.\n * The state object is later passed to `pushState` or `replaceState`.\n *\n * This method is supported only in HTML5 mode and only in browsers supporting\n * the HTML5 History API methods such as `pushState` and `replaceState`. If you need to support\n * older browsers (like Android < 4.0), don't use this method.\n *\n */\n state(): unknown;\n state(state: unknown): this;\n state(state?: unknown): unknown|this {\n if (typeof state === 'undefined') {\n return this.$$state;\n }\n\n this.$$state = state;\n return this;\n }\n}\n\n/**\n * The factory function used to create an instance of the `$locationShim` in Angular,\n * and provides an API-compatiable `$locationProvider` for AngularJS.\n *\n * @publicApi\n */\nexport class $locationShimProvider {\n constructor(\n private ngUpgrade: UpgradeModule, private location: Location,\n private platformLocation: PlatformLocation,
private urlCodec: UrlCodec,\n private locationStrategy: LocationStrategy) {}\n\n /**\n * Factory method that returns an instance of the $locationShim\n */\n $get() {\n return new $locationShim(\n this.ngUpgrade.$injector, this.location, this.platformLocation, this.urlCodec,\n this.locationStrategy);\n }\n\n /**\n * Stub method used to keep API compatible with AngularJS. This setting is configured through\n * the LocationUpgradeModule's `config` method in your Angular app.\n */\n hashPrefix(prefix?: string) {\n throw new Error('Configure LocationUpgrade through LocationUpgradeModule.config method.');\n }\n\n /**\n * Stub method used to keep API compatible with AngularJS. This setting is configured through\n * the LocationUpgradeModule's `config` method in your Angular app.\n */\n html5Mode(mode?: any) {\n throw new Error('Configure LocationUpgrade through LocationUpgradeModule.config method.');\n }\n}\n","/**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A codec for encoding and decoding URL

```
parts.\n *\n * @publicApi\n **/\nexport abstract class UrlCodec {\n  /**\n   * Encodes the path from the provided string\n   *\n   * @param path The path string\n   */\n  abstract encodePath(path: string): string;\n\n  /**\n   * Decodes the path from the provided string\n   *\n   * @param path The path string\n   */\n  abstract decodePath(path: string): string;\n\n  /**\n   * Encodes the search string from the provided string or object\n   *\n   * @param path The path string or object\n   */\n  abstract encodeSearch(search: string|{[k: string]: unknown}): string;\n\n  /**\n   * Decodes the search objects from the provided string\n   *\n   * @param path The path string\n   */\n  abstract decodeSearch(search: string): {[k: string]: unknown};\n\n  /**\n   * Encodes
 the hash from the provided string\n   *\n   * @param path The hash string\n   */\n  abstract encodeHash(hash: string): string;\n\n  /**\n   * Decodes the hash from the provided string\n   *\n   * @param path The hash string\n   */\n  abstract decodeHash(hash: string): string;\n\n  /**\n   * Normalizes the URL from the provided string\n   *\n   * @param path The URL string\n   */\n  abstract normalize(href: string): string;\n\n\n  /**\n   * Normalizes the URL from the provided string, search, hash, and base URL parameters\n   *\n   * @param path The URL path\n   * @param search The search object\n   * @param hash The has string\n   * @param baseUrl The base URL for the URL\n   */\n  abstract normalize(path: string, search: {[k: string]: unknown}, hash: string, baseUrl?: string):\n string;\n\n  /**\n   * Checks whether the two strings are equal\n   * @param valA First string for comparison\n   * @param valB Second string for comparison\n   */\n  abstract areEqual(valA: string, valB:
 string): boolean;\n\n  /**\n   * Parses the URL string based on the base URL\n   *\n   * @param url The full URL string\n   * @param base The base for the URL\n   */\n  abstract parse(url: string, base?: string): {\n    href: string,\n
 protocol: string,\n    host: string,\n    search: string,\n    hash: string,\n    hostname: string,\n    port: string,\n
pathname: string\n  };\n}\n\n/**\n * A `UrlCodec` that uses logic from AngularJS to serialize and parse URLs\n *
and URL parameters.\n *\n * @publicApi\n */\nexport class AngularJSUrlCodec implements UrlCodec {\n  //
https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L15\n  encodePath(path: string): string {\n
const segments = path.split('/');\n    let i = segments.length;\n\n    while (i--) {\n      // decode forward slashes to
prevent them from being double encoded\n      segments[i] = encodeUriSegment(segments[i].replace(/%2F/g, '/'));\n
 }\n\n    path = segments.join('/');\n    return _stripIndexHtml((path
 && path[0] !== '/' && '/' || '') + path);\n  }\n\n  //
https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L42\n  encodeSearch(search: string|{[k:
string]: unknown}): string {\n    if (typeof search === 'string') {\n      search = parseKeyValue(search);\n    }\n\n
search = toKeyValue(search);\n    return search ? '?' + search : '';\n  }\n\n  //
https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L44\n  encodeHash(hash: string) {\n    hash =
encodeUriSegment(hash);\n    return hash ? '#' + hash : '';\n  }\n\n  //
https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L27\n  decodePath(path: string, html5Mode =
true): string {\n    const segments = path.split('/');\n    let i = segments.length;\n\n    while (i--) {\n      segments[i] =
decodeURIComponent(segments[i]);\n      if (html5Mode) {\n        // encode forward slashes to prevent them from
being mistaken for path separators\n        segments[i] = segments[i].replace(/\//g,
 '%2F');\n      }\n    }\n\n    return segments.join('/');\n  }\n\n  //
https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L72\n  decodeSearch(search: string) {\n
return parseKeyValue(search);\n  }\n\n  //
https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L73\n  decodeHash(hash: string) {\n    hash =
decodeURIComponent(hash);\n    return hash[0] === '#' ? hash.substring(1) : hash;\n  }\n\n  //
https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L149\n  //
https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L42\n  normalize(href: string): string;\n
normalize(path: string, search: {[k: string]: unknown}, hash: string, baseUrl?: string): string;\n
normalize(pathOrHref: string, search?: {[k: string]: unknown}, hash?: string, baseUrl?: string):\n      string {\n    if
(arguments.length === 1) {\n      const parsed = this.parse(pathOrHref, baseUrl);\n\n      if (typeof parsed ===
'string') {\n        return
 parsed;\n      }\n\n      const serverUrl =\n          `${parsed.protocol}://${parsed.hostname}${parsed.port ? ':' +
parsed.port : ''}`;\n\n      return this.normalize(\n          this.decodePath(parsed.pathname),
```

this.decodeSearch(parsed.search),\n this.decodeHash(parsed.hash), serverUrl);\n } else {\n const encPath = this.encodePath(pathOrHref);\n const encSearch = search && this.encodeSearch(search) || '';\n const encHash = hash && this.encodeHash(hash) || '';\n\n let joinedPath = (baseUrl || '') + encPath;\n\n if (!joinedPath.length || joinedPath[0] !== '/') {\n joinedPath = '/' + joinedPath;\n }\n return joinedPath + encSearch + encHash;\n }\n }\n\n areEqual(valA: string, valB: string) {\n return this.normalize(valA) === this.normalize(valB);\n }\n\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/urlUtils.js#L60\n parse(url: string, base?: string) {\n try {\n // Safari 12 throws an error when the URL constructor is called with an undefined base.\n const parsed = !base ? new URL(url) : new URL(url, base);\n return {\n href: parsed.href,\n protocol: parsed.protocol ? parsed.protocol.replace(/:$/, '') : '',\n host: parsed.host,\n search: parsed.search ? parsed.search.replace(/^\\?/, '') : '',\n hash: parsed.hash ? parsed.hash.replace(/^#/, '') : '',\n hostname: parsed.hostname,\n port: parsed.port,\n pathname: (parsed.pathname.charAt(0) === '/') ? parsed.pathname : '/' + parsed.pathname\n };\n } catch (e) {\n throw new Error(`Invalid URL (${url}) with base (${base})`);\n }\n }\n}\n\nfunction _stripIndexHtml(url: string): string {\n return url.replace(/\\/index.html$/, '');\n}\n\n/**\n * Tries to decode the URI component without throwing an exception.\n *\n * @param str value potential URI component to check.\n * @returns the decoded URI if it can be decoded or else `undefined`.\n */\nfunction tryDecodeURIComponent(value: string): string|undefined {\n try {\n return decodeURIComponent(value);\n } catch (e) {\n // Ignore any invalid uri component.\n return undefined;\n }\n}\n\n/**\n * Parses an escaped url query string into key-value pairs. Logic taken from\n * https://github.com/angular/angular.js/blob/864c7f0/src/Angular.js#L1382\n */\nfunction parseKeyValue(keyValue: string): {[k: string]: unknown} {\n const obj: {[k: string]: unknown} = {};\n (keyValue || '').split('&').forEach((keyValue) => {\n let splitPoint, key, val;\n if (keyValue) {\n key = keyValue = keyValue.replace(/\\+/g, '%20');\n splitPoint = keyValue.indexOf('=');\n if (splitPoint !== -1) {\n key = keyValue.substring(0, splitPoint);\n val = keyValue.substring(splitPoint + 1);\n }\n key = tryDecodeURIComponent(key);\n if (typeof key !== 'undefined') {\n val = typeof val !== 'undefined' ? tryDecodeURIComponent(val) : true;\n if (!obj.hasOwnProperty(key)) {\n obj[key] = val;\n } else if (Array.isArray(obj[key])) {\n (obj[key] as unknown[]).push(val);\n } else {\n obj[key] = [obj[key], val];\n }\n }\n });\n return obj;\n}\n\n/**\n * Serializes into key-value pairs. Logic taken from\n * https://github.com/angular/angular.js/blob/864c7f0/src/Angular.js#L1409\n */\nfunction toKeyValue(obj: {[k: string]: unknown}) {\n const parts: unknown[] = [];\n for (const key in obj) {\n let value = obj[key];\n if (Array.isArray(value)) {\n value.forEach((arrayValue) => {\n parts.push(\n encodeUriQuery(key, true) +\n (arrayValue === true ? '' : '=' + encodeUriQuery(arrayValue, true)));\n });\n } else {\n parts.push(\n encodeUriQuery(key, true) +\n (value === true ? '' : '=' + encodeUriQuery(value as any, true)));\n }\n }\n return parts.length ? parts.join('&') : '';\n}\n\n/**\n * We need our custom method because encodeURIComponent is too aggressive and doesn't follow\n * https://tools.ietf.org/html/rfc3986 with regards to the character set (pchar) allowed in path\n * segments:\n * segment = *pchar\n * pchar = unreserved / pct-encoded / sub-delims / ':' / '@'\n * pct-encoded = '%' HEXDIG HEXDIG\n * unreserved = ALPHA / DIGIT / '-' / '.' / '_' / '~'\n * sub-delims = '!' / '$' / '&' / ''' / '(' / ')'\n * / '*' / '+' / ',' / ';' / '='\n *\n * Logic from https://github.com/angular/angular.js/blob/864c7f0/src/Angular.js#L1437\n */\nfunction encodeUriSegment(val: string) {\n return encodeUriQuery(val, true).replace(/%26/g, '&').replace(/%3D/gi, '=').replace(/%2B/gi, '+');\n}\n\n/**\n * This method is intended for encoding *key* or *value* parts of query component. We need a custom\n * method because encodeURIComponent is too aggressive and encodes stuff that doesn't have to be\n * encoded per https://tools.ietf.org/html/rfc3986:\n * query = *( pchar / '/' / '?' )\n * pchar = unreserved / pct-encoded / sub-delims / ':' / '@'\n * unreserved = ALPHA / DIGIT / '-' / '.' / '_' / '~'\n * pct-encoded = '%' HEXDIG HEXDIG\n * sub-delims = '!' / '$' / '&' / ''' / '(' / ')'\n * / '*' / '+' / ',' / ';' / '='\n *\n * Logic from

https://github.com/angular/angular.js/blob/864c7f0/src/Angular.js#L1456\n */\nfunction encodeUriQuery(val: string, pctEncodeSpaces: boolean = false) {\n  return encodeURIComponent(val)\n      .replace(/%40/g, '@')\n .replace(/%3A/gi, ':')\n      .replace(/%24/g, '$')\n      .replace(/%2C/gi, ',')\n      .replace(/%3B/gi, ';')\n .replace(/%20/g, (pctEncodeSpaces ? '%20' : '+'));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE
 file at https://angular.io/license\n */\n\nimport {APP_BASE_HREF, CommonModule, HashLocationStrategy, Location, LocationStrategy, PathLocationStrategy, PlatformLocation} from '@angular/common';\nimport {Inject, InjectionToken, ModuleWithProviders, NgModule, Optional} from '@angular/core';\nimport {UpgradeModule} from '@angular/upgrade/static';\n\nimport {$locationShim, $locationShimProvider} from './location_shim';\nimport {AngularJSUrlCodec, UrlCodec} from './params';\n\n\n/**\n * Configuration options for LocationUpgrade.\n *\n * @publicApi\n */\nexport interface LocationUpgradeConfig {\n  /**\n   * Configures whether the location upgrade module should use the `HashLocationStrategy`\n   * or the `PathLocationStrategy`\n   */\n  useHash?: boolean;\n  /**\n   * Configures the hash prefix used in the URL when using the `HashLocationStrategy`\n   */\n  hashPrefix?: string;\n  /**\n   * Configures the URL codec for encoding and decoding URLs. Default is the `AngularJSCodec`\n */\n  urlCodec?:
 typeof UrlCodec;\n  /**\n   * Configures the base href when used in server-side rendered applications\n   */\n serverBaseHref?: string;\n  /**\n   * Configures the base href when used in client-side rendered applications\n   */\n appBaseHref?: string;\n}\n\n/**\n * A provider token used to configure the location upgrade module.\n *\n * @publicApi\n */\nexport const LOCATION_UPGRADE_CONFIGURATION =\n    new InjectionToken<LocationUpgradeConfig>('LOCATION_UPGRADE_CONFIGURATION');\n\nconst APP_BASE_HREF_RESOLVED = new InjectionToken<string>('APP_BASE_HREF_RESOLVED');\n\n/**\n * `NgModule` used for providing and configuring Angular's Unified Location Service for upgrading.\n *\n * @see [Using the Unified Angular Location Service](guide/upgrade#using-the-unified-angular-location-service)\n *\n * @publicApi\n */\n@NgModule({imports: [CommonModule]})\nexport class LocationUpgradeModule {\n  static config(config?: LocationUpgradeConfig): ModuleWithProviders<LocationUpgradeModule> {\n    return {\n      ngModule: LocationUpgradeModule,\n      providers: [\n        Location,\n        {\n          provide: $locationShim,\n          useFactory: provide$location,\n          deps: [UpgradeModule, Location, PlatformLocation, UrlCodec, LocationStrategy]\n        },\n        {provide: LOCATION_UPGRADE_CONFIGURATION, useValue: config ? config : {}},\n        {provide: UrlCodec, useFactory: provideUrlCodec, deps: [LOCATION_UPGRADE_CONFIGURATION]},\n        {\n          provide: APP_BASE_HREF_RESOLVED,\n          useFactory: provideAppBaseHref,\n          deps: [LOCATION_UPGRADE_CONFIGURATION, [new Inject(APP_BASE_HREF), new Optional()]]\n        },\n        {\n          provide: LocationStrategy,\n          useFactory: provideLocationStrategy,\n          deps: [\n            PlatformLocation,\n            APP_BASE_HREF_RESOLVED,\n            LOCATION_UPGRADE_CONFIGURATION,\n          ]\n        },\n      ],\n    };\n  }\n}\n\nexport function provideAppBaseHref(config: LocationUpgradeConfig,
 appBaseHref?: string) {\n  if (config && config.appBaseHref != null) {\n    return config.appBaseHref;\n  } else if (appBaseHref != null) {\n    return appBaseHref;\n  }\n  return '';\n}\n\nexport function provideUrlCodec(config: LocationUpgradeConfig) {\n  const codec = config && config.urlCodec || AngularJSUrlCodec;\n  return new (codec as any)();\n}\n\nexport function provideLocationStrategy(\n    platformLocation: PlatformLocation, baseHref: string, options: LocationUpgradeConfig = {}) {\n  return options.useHash ? new HashLocationStrategy(platformLocation, baseHref) :\n                           new PathLocationStrategy(platformLocation, baseHref);\n}\n\nexport function provide$location(\n    ngUpgrade: UpgradeModule, location: Location, platformLocation: PlatformLocation,\n    urlCodec: UrlCodec, locationStrategy: LocationStrategy) {\n  const $locationProvider =\n      new $locationShimProvider(ngUpgrade, location, platformLocation, urlCodec, locationStrategy);\n\n  return $locationProvider.$get();\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at

https://angular.io/license\n */\n\nexport {$locationShim, $locationShimProvider} from './location_shim';\nexport {LOCATION_UPGRADE_CONFIGURATION, LocationUpgradeConfig, LocationUpgradeModule} from './location_upgrade_module';\nexport {AngularJSUrlCodec, UrlCodec} from './params';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/index';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this
source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {provide$location as angular_packages_common_upgrade_upgrade_d,provideAppBaseHref as angular_packages_common_upgrade_upgrade_a,provideLocationStrategy as angular_packages_common_upgrade_upgrade_c,provideUrlCodec as angular_packages_common_upgrade_upgrade_b} from './src/location_upgrade_module';"],"names":["ReplaySubject","InjectionToken","Location","UpgradeModule","PlatformLocation","LocationStrategy","Inject","APP_BASE_HREF","Optional","NgModule","CommonModule","HashLocationStrategy","PathLocationStrategy"],"mappings":";;;;;;;;;;;;;IAAA;;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC;QAC7B,aAAa,GAAG,MAAM,CAAC,cAAc;aAChC,EAAE,SAAS,EAAE,EAAE,YAAY,KAAK,IAAI,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,cAAc,CAAC,CAAC,EAAE,CAAC,CAAC,IAAI,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,CAAC,SAAS,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,KAAK,IAAI,GAAG,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,EAAE,IAAI,CAAC,EAAE,CAAC,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,CAAC;IAAC,CAAC,CAAC;IAAC,OAAO,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC;AAAC,CAAC,CAAC;AAAC,MAAM,CAAC,MAAM,GAAG,UAAS,CAAC,EAAE,CAAC;IAAC,IAAI,OAAO,CAAC,KAAK,UAAU,IAAI,CAAC,KAAK,IAAI,EAAE,MAAM,IAAI,SAAS,CAAC,sBAAsB,GAAG,MAAM,CAAC,CAAC,CAAC,GAAG,+BAA+B,CAAC,CAAC;IAAC,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,SAAS,EAAE;QAAC,IAAI,CAAC,WAAW,GAAG,CAAC,CAAC;IAAA,CAAC;IAAC,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,GAAG,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,EAAE,IAAI,EAAE,CAAC,CAAC;AAAC,CAAC,CAAC;AAAC,IAAI,QAAQ,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC;IAAC,KAAK,IAAI,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QAAC,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;QAAC,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC;IAAA,CAAC;IAAC,OAAO,CAAC,CAAC;AAAA,CAAC,CAAC;AAAC,IAAI,SAAS,GAAG,UAAS,CAAC,EAAE,CAAC;IAAC,IAAI,CAAC,GAAG,EAAE,CAAC;IAAC,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,IAAI,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC,qBAAqB,KAAK,IAAI,EAAE,CAAC,GAAG,CAAC,MAAM,CAAC,qBAAqB,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QAAC,IAAI,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,IAAI,CAAC,EAAE,IAAI,MAAM,CAAC,SAAS,CAAC,oBAAoB,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,SAAS;QAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;IAAA,CAAC;IAAC,OAAO,CAAC,CAAC;AAAA,CAAC,CAAC;AAAC,SAAS,UAAU,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI;IAAC,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,MAAM,GAAG,IAAI,KAAK,IAAI,GAAG,MAAM,CAAC,wBAAwB,CAAC,MAAM,EAAE,GAAG,CAAC,GAAG,IAAI,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,GAAG,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE

OAAO,CAAC,QAAQ,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI,CAAC,CAAC;;YAC1H,KAAK,IAAI,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE;gBAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC;oBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,CAAC,KAAK,CAAC,CAAC;QAClJ,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC;IAClE,CAAC;aAAE,OAAO,CAAC,UAAU,EAAE,SAAS;QACzC,OAAO,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,UAAU,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC;IACzE,CAAC;aAAE,OAAO,CAAC,UAAU,EAAE,WAAW,EAAE,aAAa;QACjD,OAAO,CAAC,IAAI,OAAO,CAAC,OAAO,CAAC,KAAK,CAAC,QAAQ,CAAC,IAAI,OAAO,CAAC,OAAO,CAAC,CAAC,QAAQ,CAAC,KAAK,CAAC,UAAU;YAAE,OAAO,CAAC,OAAO,CAAC,CAAC,QAAQ,CAAC,CAAC,WAAW,EAAE,aAAa,CAAC,CAAC,CAAC;IACnI,CAAC;aAAE,OAAO,CAAC,UAAU,EAAE,SAAS,CAAC,CAAC,OAAO,CAAC,EAAE,CAAC,UAAU,EAAE,CAAC,EAAE,CAAC,SAAS;QACzE,OAAO,CAAC,IAAI,OAAO,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI,OAAO,CAAC,KAAK,CAAC,YAAY,CAAC,CAAC,OAAO,CAAC,KAAK,CAAC,UAAU,CAAC,OAAO,CAAC,IAAI,OAAO,CAAC,OAAO,CAAC,CAAC,QAAQ,CAAC,KAAK,CAAC,UAAU,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,QAAQ,CAAC,KAAK,CAAC,KAAK,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE;QAAC,OAAO,CAAC,OAAO,CAAC,KAAK,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI

AAC,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAA
C,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4B
ACtF,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,
CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,GAAG,
EAAE,CAAC;gCAAC,MAAM;6BAAE;4BACrE,IAAI,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,
CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,
CAAC,GAAG,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACnE,IAAI,CAAC,CAAC,
CAAC,CAAC;gCAAE,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC;4BACtB,CAAC,CAAC,IAAI,CAAC,
GAAG,EAAE,CAAC;4BAAC,SAAS;qBAC9B;oBACD,EAAE,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,C
AAC,CAAC,CAAC;iBAC9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,EAAE,GAAG,CAAC,CAAC,EAAE,CAAC,
CAAC,CAAC;oBAAC,CAAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,CAA
C,CAAC;iBAAE;YAC1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAA
C,CAAC,CAAC;YAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,
CAAC,GAAG,KAAK,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;SACpF;IACL,CAAC;IAEM,IAAI,eAAe,G
AAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QAC9D,IAAI,EAA
E,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,MAAM,CAAC,cAAc,CAAC,EAAE,EAAE,
EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE
,EAAE,CAAC,CAAC;IACzF,CAAC,KAAK,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QACtB,IA
AI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAA
C,CAAC,CAAC,CAAC,CAAC;IACjB,CAAC,aAEa,YAAY,CAAC,CAAC,EAAE,OAAO;QACnC,
KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,CAAC,KAAK,SAAS,IAAI,CAAC,OAAO,CAAC,cAAc,CAAC,
CAAC,CAAC;gBAAE,eAAe,CAAC,OAAO,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC;IACvG,CAAC;aAAE,QAAQ
Q,CAAC,CAAC;QACtB,IAAI,CAAC,GAAG,OAAO,MAAM,KAAK,UAAU,IAAI,MAAM,CAAC,QAAQ,EAAE,
CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC;QAC9E,IAAI,CAAC,EAAE
C;YAAE,OAAO,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;QAC5B,IAAI,CAAC,GAAG,CAAC,EAAE,
CAAC,GAAG,IAAI,KAAK,CAAC,CAAC,CAAC,MAAM,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE
,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;YAAE,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC;
QAC1B,OAAO,CAAC;IACV,CAAC;IAED,IAAI,CAAC,GAAG,IAAI,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC,CAAC,CAAC,
CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,IAAI,CAAC,CAAC,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

AC;aAEc,OAAO,CAAC,CAAC;QACrB,OAAO,IAAI,YAAY,OAAO,IAAI,IAAI,CAAC,CAAC,GAAG,CAAC,EA
AE,IAAI,IAAI,IAAI,OAAO,CAAC,CAAC,CAAC,CAAC;IACzE,CAAC;aAEe,gBAAgB,CAAC,OAAO,EAAE,U
AAU,EAAE,SAAS;QAC3D,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,CAAC,sCAAsC,CA
AC,CAAC;QACvF,IAAI,CAAC,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,E
AAE,CAAC,EAAE,CAAC,GAAG,EAAE,CAAC;QAC9D,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MA
AM,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,
CAAC,aAAa,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QACtH,SAAS,IAAI,CAAC,
CAAC,IAAI,IAAI,CAAC,CAAC,CAAC,CAAC;YAAE,CAAC,CAAC,CAAC,GAAG,UAAU,CAAC,IAAI,
OAAO,IAAI,OAAO,CAAC,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,
CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,CAAC,CAAC,EAAE,CAAC,CA
AC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE;QAC1I,SAAS,MAAM,CAAC,CAAC,IAAI,IAAI;YAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;SAAE;QAAC,OAAO
,CAAC,EAAE;YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,C
AAC;SAAE,EAAE;QAClF,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,YAAY,OAAO,GAAG,OAAO,
CAAC,OAAO,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,IAAI,CAAC,OAAO,EAAE,MAAM,C
AAC,GAAG,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EA
AE;QACxH,SAAS,OAAO,CAAC,KAAK,IAAI,MAAM,CAAC,MAAM,EAAE,KAAK,CAAC,CAAC,EAAE;QA
ClD,SAAS,MAAM,CAAC,KAAK,IAAI,MAAM,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS
S,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,KAAK,EA
AE,EAAE,CAAC,CAAC,MAAM;YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EA
AE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;IACtF,CAAC;aAAe,gBAAgB,CAA
C,CAAC;QAC9B,IAAI,CAAC,EAAE,CAAC,CAAC;QAAE,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,CAAC,EAAE,EAAE
,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAc,OAAO,IAAI,CAA
C,EAAE,EAAE,CAAC,CAAC;QAC5I,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

AAG,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QACtC,IAAI,MAAM,GAAG,EAAE,CAAC;QA
ChB,IAAI,GAAG,IAAI,IAAI;YAAE,KAAK,IAAI,CAAC,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,CAA
C,IAAI,CAAC,GAAG,EAAE,CAAC,CAAC;oBAAE,eAAe,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,C
AAC;QAC5G,kBAAkB,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC;QAChC,OAAO,MAAM,CAAC;IAClB,CA
AC;aAEe,eAAe,CAAC,GAAG;QAC/B,OAAO,CAAC,GAAG,IAAI,GAAG,CAAC,UAAU,IAAI,GAAG,GAAG,E
AAE,OAAO,EAAE,GAAG,EAAE,CAAC;IAC5D,CAAC;aAEe,sBAAsB,CAAC,QAAQ,EAAE,UAAU;QACvD,I
AAI,CAAC,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,EAAE;YAC3B,MAAM,IAAI,SAAS,CAAC,gDAAgD,C
AAC,CAAC;SACzE;QACD,OAAO,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;IACpC,CAAC;aAEe,sB
AAsB,CAAC,QAAQ,EAAE,UAAU,EAAE,KAAK;QAC9D,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,QAAQ,C
AAC,EAAE;YAC3B,MAAM,IAAI,SAAS,CAAC,gDAAgD,CAAC,CAAC;SACzE;QACD,UAAU,CAAC,GAAG,
CAAC,QAAQ,EAAE,KAAK,CAAC,CAAC;QAChC,OAAO,KAAK,CAAC;IACjB;;;;;;;aAQgB,WAAW,C
AAC,GAAW,EAAE,MAAc;QACrD,OAAO,GAAG,CAAC,MAAM,CAAC,CAAC,GAAG,EAAE,IAAI,EAAE,KAAK,KAAK,
SAAS,CAAC,MAAM,CAAC,CAAC,GAAG,CAAC,IAAI,CAAC,GAAG,KAAK,CAAC,GAAG,IAAI,CAAC,GAAG,IAAI,CAAC,
IACrE,CAAC;aAEe,SAAS,CAAC,CAAM,EAAE,CAAM;QACvC,IAAI,CAAC,KAAK,CAAC,EAAE;YAAE,OAAO,IAAI;
AAM;YACtC,IAAI,CAAC,KAAK,EAAE;YAAE,OAAO,KAAK;QAC1B,IAAI,CAAC,KAAK,CAAC,EAAE;YAAE,OAAO,KAAK;
QAC1B,IAAI,CAAC,KAAK,CAAC

AC,IAAI,EAAE,GAAG,GAAG,GAAG,CAAC,UAAU,CAAC,EAAE;wBACtD,OAAO;qBACR;iBACF;gBAED,I
AAI,CAAC,QAAQ,CAAC,GAAG,CAAC,EAAE;oBAClB,OAAO;iBACR;gBAED,IAAM,OAAO,GAAG,GAAG,
CAAC,IAAI,CAAC;gBACzB,IAAM,OAAO,GAAG,GAAG,CAAC,YAAY,CAAC,MAAM,CAAC,CAAC;;gBAGz
C,IAAI,iBAAiB,CAAC,IAAI,CAAC,OAAO,CAAC,EAAE;oBACnC,OAAO;iBACR;gBAED,IAAI,OAAO,IAAI,
CAAC,GAAG,CAAC,YAAY,CAAC,QAAQ,CAAC,IAAI,CAAC,KAAK,CAAC,kBAAkB,EAAE,EAAE;oBACzE
,IAAI,KAAI,CAAC,cAAc,CAAC,OAAO,EAAE,OAAO,CAAC,EAAE;;;;wBAIzC,KAAK,CAAC,cAAc,EAAE,C
AAC;;wBAEvB,IAAI,KAAI,CAAC,MAAM,EAAE,KAAK,KAAI,CAAC,UAAU,EAAE,EAAE;4BACvC,UAAU,
CAAC,MAAM,EAAE,CAAC;yBACrB;qBACF;iBACF;aACF,CAAC,CAAC;YAEH,IAAI,CAAC,UAAU,CAAC,S
AAS,CAAC,UAAC,EAAkB;oBAAjB,MAAM,YAAA,EAAE,QAAQ,cAAA;gBAC1C,IAAM,MAAM,GAAG,
KAAI,CAAC,MAAM,EAAE,CAAC;gBAC7B,IAAM,QAAQ,GAAG,KAAI,CAAC,OAAO,CAAC;gBAC9B,IAAM,CAAC,
OAAO,CAAC,MAAM,CAAC,CAAC;gBACrB,IAAM,MAAM,GAAG,KAAI,CAAC,MAAM,EAAE,KAAK,KAAI,CAAC;gBACvB
B,KAAI,CAAC,OAAO,GAAG,QAAQ,CAAC;gBACxB,IAAM,gBAAgB,GAAG,UAAU,CAAC,UAAU,CAAC,sB
AAsB,EAAE,MAAM,EAAE,MAAM,EAAE,QAAQ,EAAE,QAAQ,CAAC;qBAC5E,gBAAgB,CAAC;;;gBAI1B,I
AAI,KAAI,CAAC,MAAM,EAAE,KAAK,MAAM;oBAAE,OAAO;;;gBAIrC,IAAI,gBAAgB,EAAE;oBACpB,KA
AI,CAAC,OAAO,CAAC,MAAM,CAAC,CAAC;oBACrB,KAAI,CAAC,KAAK,CAAC,QAAQ,CAAC,CAAC;oB
ACrB,KAAI,CAAC,yBAAyB,CAAC,MAAM,EAAE,KAAK,EAAE,QAAQ,CAAC,CAAC;oBACxD,KAAI,CAAC
,uBAAuB,CAAC,KAAI,CAAC,GAAG,EAAE,EAAE,KAAI,CAAC,OAAO,EAAE,MAAM,EAAE,QAAQ,CAAC,
CAAC;iBAC1E;qBAAM;oBACL,KAAI,CAAC,WAAW,GAAG,KAAK,CAAC;oBACzB,KAAI,CAAC,UAAU,CAAC
,wBAAwB,EAAE,MAAM,EAAE,MAAM,EAAE,QAAQ,EAAE,QAAQ,CAAC,CAAC;oBACpF,KAAI,CAAC,kBAAkB,EAAE,CAAC;iBAC3B;gBACD,IAAI,CAAC,OAAO,EAAE;oBACZ,KAAI,CAAC,OAAO,GAAG,IAAI;oBACnB,KAAI,CAAC,OAAO,EAAE;iBACf;YACH,CAAC,CAAC;iBACCtB;aACF,CAAC,CAAC;;YAGH,UAAU,CAAC,MAAM,CAAC,
WAAW,IAAI,KAAI,CAAC,aAAa,EAAE;oBAAE,KAAI,CAAC,OAAO,EAAE;iBAAE;YAAC,CAAC,EAAE,C
AAC;oBAAE,KAAI,CAAC,OAAO,EAAE;iBAAE;YAAC,CAAC,EAAE,IAAI,CAAC;;;;

AAM;oBACL,IAAI,CAAC,gBAAgB,CAAC,SAAS,CAAC,KAAK,EAAE,EAAE,EAAE,GAAG,EAAE,EAAE,CA
AC,CAAC;iBACrD;gBAED,IAAI,CAAC,UAAU,EAAE,CAAC;gBAElB,OAAO,IAAI,CAAC;;aAEb;iBAAM;gB
ACL,OAAO,IAAI,CAAC,gBAAgB,CAAC,IAAI,CAAC;aACnC;SACF;QAIO,kCAAU,GAAV;;YAEN,IAAI,CAA
C,WAAW,GAAG,IAAI,CAAC,gBAAgB,CAAC,QAAQ,EAAE,CAAC;YACpD,IAAI,OAAO,IAAI,CAAC,WA
W,KAAK,WAAW,EAAE;gBAC3C,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC;aACzB;;YAGD,IAAI,SAAS,CAA
C,IAAI,CAAC,WAAW,EAAE,IAAI,CAAC,eAAe,CAAC,EAAE;gBACrD,IAAI,CAAC,WAAW,GAAG,IAAI,CAA
AC,eAAe,CAAC;aACzC;YAED,IAAI,CAAC,eAAe,GAAG,IAAI,CAAC,WAAW,CAAC;YACxC,IAAI,CAAC,gB
AAgB,GAAG,IAAI,CAAC,WAAW,CAAC;SAC1C;;;;;QAMO,oCAAY,GAAZ;YACN,OAAO,IAAI,CAAC,WA
W,CAAC;SACzB;QAEO,oCAAY,GAAZ,UAAa,IAAY,EAAE,GAAW;YAC5C,IAAI,CAAC,IAAI,CAAC,eAAe,CAAC,EAAE;gBACxB,IAAI,CAAC,eAAe,CAAC,EAAE;oBACnB,OAAO,GAAG,CAAC,MAAM,CAAC,IAAI,CAAC,eAAe,CAAC,MAAM,CAAC,CAAC;aACtD;YAED,IAAI,CAAC,eAAe,CAAC,EAAE,GAAG,IAAI,CAAC,eAAe,CAAC,EAAE,CAAC,GAAG,CAAC;aACzD,IAAI,CAAC,eAAe,CAAC,EAAE,CAAC,MAAM,CAAC,IAAI,CAAC,eAAe,CAAC,MAAM,CAAC,CAAC;aAC5D,IAAI,CAAC,eAAe,CAAC,EAAE,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;YAChD,IAAI,CAAC,eAAe,CAAC,EAAE,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;YAC3C

OAAgB,EAAE,KAAc;YAC7E,IAAM,MAAM,GAAG,IAAI,CAAC,GAAG,EAAE,CAAC;YAC1B,IAAM,QAAQ,GAAG,IAAI,CAAC,OAAO,CAAC;YAC9B,IAAI;gBACF,IAAI,CAAC,UAAU,CAAC,GAAG,EAAE,OAAO,EAAE,KAAK,CAAC,CAAC;;;;gBAKrC,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,YAAY,EAAE,CAAC;aACpC;YAAC,OAAO,CAAC,EAAE;;gBAEV,IAAI,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;gBACjB,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,EAAE,QAAQ,CAAC;gBACxB,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,EAAE,QAAQ,CAAC;aAC3D;;;;;;;;;;;;QAcD,8BAAM,GAAN;YACE,OAAO,IAAI,CAAC,QAAQ,CAAC;SACtB;QAcD,2BAAG,GAAH,UAAI,GAAY;YACd,IAAI,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC;YAC3B,IAAI,GAAG,EAAE;gBACP,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;aACtC;YACD,OAAO,OAAO,CAAC;SAChB;QAED,2BAAG,GAAH,UAAI,GAAW,EAAE,KAAa;YAC5B,IAAI,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC;YAC3B,IAAI,GAAG,EAAE;gBACP,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;aACtC;YACD,IAAI,KAAK,KAAK,OAAO,EAAE;gBACrB,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,EAAE,KAAK,CAAC,CAAC;aACzC;SACF;QAED,8BAAM,GAAN,UAAO,GAAW;YAChB,IAAI,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC;YAC3B,IAAI,GAAG,EAAE;gBACP,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;aACtC;YACD,IAAI,OAAO,EAAE;gBACX,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,EAAE,SAAS,CAAC,CAAC;aAC7C;SACF;QAED,+BAAO,GAAP;YACE,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;SAC9C

CxB,MAAM,IAAI,KAAK,CAAC,wEAAwE,CAAC,CAAC;SAC3F;;;;;QAMD,yCAAS,GAAT,UAAU,IAAU;YAC
lB,MAAM,IAAI,KAAK,CAAC,wEAAwE,CAAC,CAAC;SAC3F;oCACF;KAAA;;ICtuBD;;;;;;;IAQA;;;;;;QAKA;S
AqFC;uBAAA;KAAA,IAAA;IAED;;;;;;;QAMA;SAkHC;;QAhHC,sCAAU,GAAV,UAAW,IAAY;YACrB,
QAAQ,GAAG,IAAI,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;YACjC,IAAI,CAAC,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,gBAAgB,CAAC,
QAAQ,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,MAAM,EAAE,GAAG,CAAC,CAAC,CAAC;aAClE;YAED,I
AAI,GAAG,QAAQ,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;YAC1B,OAAO,eAAe,CAAC,CAAC,IAAI,IAAI,I
AAI,CAAC,CAAC,CAAC,KAAK,GAAG,IAAI,GAAG,IAAI,EAAE,IAAI,IAAI,CAAC,CAAC;SACvE;;QAGD,w
CAAY,GAAZ,UAAa,MAAqC;YAChD,IAAI,OAAO,MAAM,KAAK,QAAQ,EAAE;gBAC9B,MAAM,GAAG,aA
Aa,CAAC,MAAM,CAAC,CAAC;aAChC;YAED,MAAM,GAAG,UAAU,CAAC,MAAM,CAAC,CAAC;YAC5B,
OAAO,MAAM,GAAG,GAAG,GAAG,MAAM,GAAG,EAAE,CAAC;SACnC;;QAGD,sCAAU,GAAV,UAAW,IAAY;YACrB,IAAI,CAAC,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,gBAAgB,CAAC,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC;YAC
,GAAG,EAAE,CAAC;SAC/B;;QAGD,sCAAU,GAAV,UAAW,IAAY,EAAE,SAAgB;YACvC,IAAI,OAAO,GAAG,IAAI,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;YAC9B,IAAI,CAAC,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,gBAAgB,CAAC,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC;YACvC,IAAI,CAAC,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,gBAAgB,CAAC,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC;YACnD

CAAC,EAAE;;YAEV,OAAO,SAAS,CAAC;SAClB;IACH,CAAC;IAGD;;;;IAIA,SAAS,aAAa,CAAC,QAAgB;QA
CrC,IAAM,GAAG,GAA2B,EAAE,CAAC;QACvC,CAAC,QAAQ,IAAI,EAAE,EAAE,KAAK,CAAC,GAAG,CA
AC,CAAC,OAAO,CAAC,UAAC,QAAQ;YAC3C,IAAI,UAAU,EAAE,GAAG,EAAE,GAAG,CAAC;YACzB,IAA
I,QAAQ,EAAE;gBACZ,GAAG,GAAG,QAAQ,GAAG,QAAQ,CAAC,OAAO,CAAC,KAAK,EAAE,KAAK,CAA
C,CAAC;gBAChD,UAAU,GAAG,QAAQ,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC;gBACnC,IAAI,UAAU,KA
AK,CAAC,CAAC,EAAE;oBACrB,GAAG,GAAG,QAAQ,CAAC,SAAS,CAAC,CAAC,EAAE,UAAU,CAAC,CA
AC;oBACxC,GAAG,GAAG,QAAQ,CAAC,SAAS,CAAC,UAAU,GAAG,CAAC,CAAC,CAAC;iBAC1C;gBACD,
GAAG,GAAG,qBAAqB,CAAC,GAAG,CAAC,CAAC;gBACjC,IAAI,OAAO,GAAG,KAAK,WAAW,EAAE;oBA
C9B,GAAG,GAAG,OAAO,GAAG,KAAK,WAAW,GAAG,qBAAqB,CAAC,GAAG,CAAC,IAAI,CAAC;o
BACrE,IAAI,CAAC,GAAG,CAAC,cAAc,CAAC,GAAG,CAAC,EAAE;wBAC5B,GAAG,CAAC,GAAG,GAAG,CAAC,
GAAG,GAAG,CAAC;qBAChB;yBAAM,IAAI,KAAK,CAAC,OAAO,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,
EAAE;wBACjC,GAAG,CAAC,GAAG,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;qBACnC;yBAAM;wBA
CL,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,EAAE,GAAG,CAAC,CAAC;qBA
C5B;iBACF;aACF;SACF,CAAC,CAAC;QACH,OAAO,GAAG,CAAC;IACb;;;;IAED;;;;IAIA,SAAS,UAAU,
CAAC,GAA2B;QAC7C,IAAM,KAAK,GAAG,EAAE,CAAC;gCACjB,IAAI,KAAK,GAAG,CAAC,GAAG,CAAC,CAAC;
YACrB,IAAI,KAAK,CAAC,OAAO,CAAC,KAAK,CAAC,EAAE;gBACxB,KAAK,CAAC,OAAO,CAAC,UAAC,QAAQ;
oBACvB,KAAK,CAAC,IAAI,CACN,cAAc,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,cAAc,IAAI,CAAC,SAAS,CAAC,QAAQ,
CAAC,CAAC,CAAC;iBAC1E,CAAC,CAAC;aACN;iBAAM;gBACH,KAAK,CAAC,IAAI,CACN,cAAc,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,cAAc,IAAI,CAAC,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC;aAC5E;;QAZL,KAAK,IAAM,GAAG,IAAI,GAAG;oBAAV,GAAG;SAaZ;QACD,OAAO,KAAK,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;IAC3B;;;;IAED,SAAS,cAAc,CAAC,GAAG;QACvB,OAAO,GAAG,CAAC,OAAO,CAAC,KAAK,EAAE,KAAK,CAAC

AE,gBAAkC;QACxD,IAAM,iBAAiB,GACnB,IAAI,qBAAqB,CAAC,SAAS,EAAE,QAAQ,EAAE,gBAAgB,EAAA
E,QAAQ,EAAE,gBAAgB,CAAC,CAAC;QAEjG,OAAO,iBAAiB,CAAC,IAAI,EAAE,CAAC;IAClC;;IC1HA;;;;;;;
;ICAA;;;;;;;IAeA;;ICfA;;;;;;;;ICAA;;;;;;;;;;;;;;;;;;;;;;;;;"}

Found
in path(s):
* /common-11-0-5-tgz/package/bundles/common-upgrade.umd.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/common/common-http-
testing.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","common","ht
tp","testing","core","rxjs","this","HttpTestingController","TestRequest","request","observer","_cancelled","Object",
"defineProperty","prototype","get","enumerable","configurable","flush","body","opts","cancelled","Error","url","url
WithParams","headers","HttpHeaders","_maybeConvertBody","responseType","_toArrayBufferBody","ArrayBuffe
r","_toBlob","Blob","_toJsonBody","_toTextBody","JSON","stringify","statusText","status","undefined","next","Ht
tpResponse","complete","error","HttpErrorResponse","event","format","Array","isArray","HttpClientTestingModul
e","HttpClientTestingBackend","open","handle","req","_this","Observable","testReq","push","type","HttpEventTyp
e","Sent","_match","match","filter","method","toUpperCase","results","forEach","result","index","indexOf","splice
","expectOne","description","descriptionFromMatcher","matches","length","message","map","join","expectNone","
verify","ignoreCancelled","requests","split","matcher","name","decorators","Injectable","NgModule","args","import
s","HttpClientModule","providers","provide","HttpBackend","useExisting","angular_packages_common_http_testin
g_testing_a","value"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GACI,iBAAZC,SAAuC,iBAAXC,OAAyBF,EAA
QC,QAASE,QAAQ,wBAAyBA,QAAQ,iBAAkBA,QAAQ,SAAUC,IAAM,mBAAXC,QAAyBA,OAAOC,OAAOC,KAAKH,EAAO,+BAAgC,CAAC,UAAW,OAAQ,UAAW,SAAU,UAAW,SAAU,MAAO,OAAQ,KAAM,UAAW,SAAU,OAAQ,SAAU,OAAQ,SAAU,OAAQ

AUA,EAAOvB,GAE3C,QADa,IAATA,IAAmBA,EAAO,IAC1Bd,KAAKe,UACL,MAAM,IAAIC,MAAM,mDAEpB,GAAIF,EAAKkB,QAAUlB,EAAKkB,QAAU,KAAOlB,EAAKkB,OAAS,IACnD,MAAM,IAAIhB,MAAM,4CAEpB,IAAIG,EAAWL,EAAKK,mBAAvBD,EAAKK,QAAU,IAAIvB,EAAKwB,YAAYN,EAAKK,SAAzCL,EAAKK,SACpGnB,KAAKI,SAASiC,MAAM,IAAIzC,EAAK0C,kBAAkB,CAC3CD,MAAOA,EACPE,SAAUA,EACVC,WAAYA,EACZC,SAAUA,EACVC,WAAYA,EACZC,SAAUA,EACVC,WAAYA,EACZC

Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Controller to be injected into tests, that allows for mocking and flushing\n * of requests.\n *\n * @publicApi\n */\n var HttpTestingController = /** @class */ (function () {\n function HttpTestingController() {\n }\n return HttpTestingController;\n }());\n\n /**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A mock requests that was received and is ready to be answered.\n *\n * This interface allows access to the underlying `HttpRequest`, and allows\n * responding with `HttpEvent`s or `HttpErrorResponse`s.\n *\n * @publicApi\n */\n var TestRequest = /** @class */ (function () {\n function TestRequest(request, observer) {\n this.request = request;\n this.observer = observer;\n /**\n * @internal set by `HttpClientTestingBackend`\n */\n this._cancelled = false;\n }\n Object.defineProperty(TestRequest.prototype, \"cancelled\", {\n /**\n * Whether the request was cancelled after it was sent.\n */\n get: function () {\n return this._cancelled;\n },\n enumerable: false,\n configurable: true\n });\n /**\n * Resolve the request by returning a body plus additional HTTP information (such as response\n * headers) if provided.\n * If the request specifies an expected body type, the body is converted into the requested type.\n * Otherwise, the body is converted to `JSON` by default.\n *\n * Both successful and unsuccessful responses can be delivered via `flush()`.\n */\n TestRequest.prototype.flush = function (body, opts) {\n if (opts === void 0) { opts = {}; }\n if (this.cancelled) {\n throw new Error(\"Cannot flush a cancelled request.\");\n }\n var url = this.request.urlWithParams;\n var headers = (opts.headers instanceof http.HttpHeaders) ? opts.headers : new http.HttpHeaders(opts.headers);\n body = _maybeConvertBody(this.request.responseType,
body);\n var statusText = opts.statusText;\n var status = opts.status !== undefined ? opts.status : 200;\n if (opts.status === undefined) {\n if (body === null) {\n status = 204;\n statusText = statusText || 'No Content';\n }\n else {\n statusText = statusText || 'OK';\n }\n }\n if (statusText === undefined) {\n throw new Error('statusText is required when setting a custom status.');\n }\n if (status >= 200 && status < 300) {\n this.observer.next(new http.HttpResponse({ body: body, headers: headers, status: status, statusText: statusText, url: url }));\n this.observer.complete();\n }\n else {\n this.observer.error(new http.HttpErrorResponse({ error: body, headers: headers, status:
status, statusText: statusText, url: url }));\n }\n };\n /**\n * Resolve the request by returning an `ErrorEvent` (e.g. simulating a network failure).\n */\n TestRequest.prototype.error = function (error, opts) {\n if (opts === void 0) { opts = {}; }\n if (this.cancelled) {\n throw new Error(\"Cannot return an error for a cancelled request.\");\n }\n if (opts.status && opts.status >= 200 && opts.status < 300) {\n throw new Error(\"error() called with a successful status.\");\n }\n var headers = (opts.headers instanceof http.HttpHeaders) ? opts.headers : new http.HttpHeaders(opts.headers);\n this.observer.error(new http.HttpErrorResponse({\n error: error,\n headers: headers,\n status: opts.status || 0,\n statusText: opts.statusText || '',\n url: this.request.urlWithParams,\n }));\n };\n /**\n * Deliver an arbitrary `HttpEvent` (such as a progress event) on the response stream for this\n * request.\n */\n TestRequest.prototype.event = function (event) {\n if (this.cancelled) {\n throw new Error(\"Cannot send events to a cancelled request.\");\n }\n this.observer.next(event);\n };\n return TestRequest;\n }());\n /**\n * Helper function to convert a response body to an ArrayBuffer.\n */\n function _toArrayBufferBody(body) {\n if (typeof ArrayBuffer === 'undefined') {\n throw new Error('ArrayBuffer responses are not supported on this platform.');\n }\n if (body instanceof ArrayBuffer) {\n return body;\n }\n throw new Error('Automatic conversion to ArrayBuffer is not supported for response type.');\n }\n /**\n * Helper function to convert a response

```
 body to a Blob.\n     */\n    function _toBlob(body) {\n        if (typeof Blob === 'undefined') {\n            throw new Error('Blob responses are not supported on this platform.');\n        }\n        if (body instanceof Blob) {\n            return body;\n        }\n        if (ArrayBuffer && body instanceof ArrayBuffer) {\n            return new Blob([body]);\n        }\n        throw new Error('Automatic conversion to Blob is not supported for response type.');\n    }\n    /**\n     * Helper function to convert a response body to JSON data.\n     */\n    function _toJsonBody(body, format) {\n        if (format === void 0) { format = 'JSON'; }\n        if (typeof ArrayBuffer !== 'undefined' && body instanceof ArrayBuffer) {\n            throw new Error(\"Automatic conversion to \" + format + \" is not supported for ArrayBuffers.\");\n        }\n        if (typeof Blob !== 'undefined' && body instanceof Blob) {\n            throw new Error(\"Automatic conversion to \" + format
 + \" is not supported for Blobs.\");\n        }\n        if (typeof body === 'string' || typeof body === 'number' || typeof body === 'object' ||\n            typeof body === 'boolean' || Array.isArray(body)) {\n            return body;\n        }\n        throw new Error(\"Automatic conversion to \" + format + \" is not supported for response type.\");\n    }\n    /**\n     * Helper function to convert a response body to a string.\n     */\n    function _toTextBody(body) {\n        if (typeof body === 'string') {\n            return body;\n        }\n        if (typeof ArrayBuffer !== 'undefined' && body instanceof ArrayBuffer) {\n            throw new Error('Automatic conversion to text is not supported for ArrayBuffers.');\n        }\n        if (typeof Blob !== 'undefined' && body instanceof Blob) {\n            throw new Error('Automatic conversion to text is not supported for Blobs.');\n        }\n        return JSON.stringify(_toJsonBody(body, 'text'));\n    }\n    /**\n     * Convert
 a response body to the requested type.\n     */\n    function _maybeConvertBody(responseType, body) {\n        if (body === null) {\n            return null;\n        }\n        switch (responseType) {\n            case 'arraybuffer':\n                return _toArrayBufferBody(body);\n            case 'blob':\n                return _toBlob(body);\n            case 'json':\n                return _toJsonBody(body);\n            case 'text':\n                return _toTextBody(body);\n            default:\n                throw new Error(\"Unsupported responseType: \" + responseType);\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * A testing backend for `HttpClient` which both acts as an `HttpBackend`\n     * and as the `HttpTestingController`.\n     *\n     * `HttpClientTestingBackend` works by keeping a list of all open requests.\n     * As requests come in, they're added to the list. Users can assert that specific\n     * requests were made and then flush them. In the end, a verify() method asserts\n     * that no unexpected requests were made.\n     *\n     *\n     */\n    var HttpClientTestingBackend = /** @class */ (function () {\n        function HttpClientTestingBackend() {\n            /**\n             * List of pending requests which have not yet been expected.\n             */\n            this.open = [];\n        }\n        /**\n         * Handle an incoming request by queueing it in the list of open requests.\n         */\n        HttpClientTestingBackend.prototype.handle = function (req) {\n            var _this = this;\n            return new rxjs.Observable(function (observer) {\n                var testReq = new TestRequest(req, observer);\n                _this.open.push(testReq);\n                observer.next({ type: http.HttpEventType.Sent
 });\n                return function () {\n                    testReq._cancelled = true;\n                };\n            });\n        };\n        /**\n         * Helper function to search for requests in the list of open requests.\n         */\n        HttpClientTestingBackend.prototype._match = function (match) {\n            if (typeof match === 'string') {\n                return this.open.filter(function (testReq) { return testReq.request.urlWithParams === match; });\n            }\n            else if (typeof match === 'function') {\n                return this.open.filter(function (testReq) { return match(testReq.request); });\n            }\n            else {\n                return this.open.filter(function (testReq) { return (!match.method || testReq.request.method === match.method.toUpperCase()) &&\n                    (!match.url || testReq.request.urlWithParams === match.url); });\n            }\n        };\n        /**\n         * Search for requests
 in the list of open requests, and return all that match\n         * without asserting anything about the number of matches.\n         */\n        HttpClientTestingBackend.prototype.match = function (match) {\n            var _this = this;\n            var results = this._match(match);\n            results.forEach(function (result) {\n                var index = _this.open.indexOf(result);\n                if (index !== -1) {\n                    _this.open.splice(index, 1);\n                }\n            });\n            return results;\n        };\n        /**\n         * Expect that a single outstanding request matches the given
```

matcher, and return\n * it.\n *\n * Requests returned through this API will no longer be in the list of open requests,\n * and thus will not match twice.\n */\n HttpClientTestingBackend.prototype.expectOne = function (match, description) {\n description = description || this.descriptionFromMatcher(match);\n var matches = this.match(match);\n if (matches.length > 1) {\n throw new Error(\"Expected one matching request for criteria \\\"\" + description + \"\\\", found \" + matches.length + \" requests.\");\n }\n if (matches.length === 0) {\n var message = \"Expected one matching request for criteria \\\"\" + description + \"\\\", found none.\";\n if (this.open.length > 0) {\n // Show the methods and URLs of open requests in the error, for convenience.\n var requests = this.open\n .map(function (testReq) {\n var url = testReq.request.urlWithParams;\n var method = testReq.request.method;\n return method + \" \" + url;\n })\n .join(', ');\n message += \" Requests received are: \" + requests + \".\";\n }\n throw new Error(message);\n }\n return matches[0];\n };\n /**\n * Expect that no outstanding requests match the given matcher, and throw an error\n * if any do.\n */\n HttpClientTestingBackend.prototype.expectNone = function (match, description) {\n description = description || this.descriptionFromMatcher(match);\n var matches = this.match(match);\n if (matches.length > 0) {\n throw new Error(\"Expected zero matching requests for criteria \\\"\" + description + \"\\\", found \" + matches.length + \".\");\n }\n };\n /**\n * Validate that there are no outstanding requests.\n */\n HttpClientTestingBackend.prototype.verify = function (opts) {\n if (opts === void 0) { opts = {}; }\n var open = this.open;\n // It's possible that some requests may be cancelled, and this is
expected.\n // The user can ask to ignore open requests which have been cancelled.\n if (opts.ignoreCancelled) {\n open = open.filter(function (testReq) { return !testReq.cancelled; });\n }\n if (open.length > 0) {\n // Show the methods and URLs of open requests in the error, for convenience.\n var requests = open.map(function (testReq) {\n var url = testReq.request.urlWithParams.split('?')[0];\n var method = testReq.request.method;\n return method + \" \" + url;\n })\n .join(', ');\n throw new Error(\"Expected no open requests, found \" + open.length + \": \" + requests);\n }\n };\n HttpClientTestingBackend.prototype.descriptionFromMatcher = function (matcher) {\n if (typeof matcher === 'string') {\n return \"Match URL: \" + matcher;\n }\n else if (typeof matcher === 'object') {\n var method = matcher.method || '(any)';\n var url = matcher.url || '(any)';\n return \"Match method: \" + method + \", URL: \" + url;\n }\n else {\n return \"Match by function: \" + matcher.name;\n }\n };\n return HttpClientTestingBackend;\n }());\n HttpClientTestingBackend.decorators = [\n { type: core.Injectable }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Configures `HttpClientTestingBackend` as the `HttpBackend` used by `HttpClient`.\n *\n * Inject `HttpTestingController` to expect and flush requests in your tests.\n *\n * @publicApi\n */\n var HttpClientTestingModule
= /** @class */ (function () {\n function HttpClientTestingModule() {\n }\n return HttpClientTestingModule;\n }());\n HttpClientTestingModule.decorators = [\n { type: core.NgModule, args: [{\n imports: [\n http.HttpClientModule,\n ],\n providers: [\n HttpClientTestingBackend,\n { provide: http.HttpBackend, useExisting: HttpClientTestingBackend },\n { provide: HttpTestingController, useExisting: HttpClientTestingBackend },\n ],\n },] }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n *

Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.HttpClientTestingModule = HttpClientTestingModule;\n exports.HttpTestingController = HttpTestingController;\n exports.TestRequest = TestRequest;\n exports.angular_packages_common_http_testing_testing_a = HttpClientTestingBackend;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}))));\n//# sourceMappingURL=common-http-testing.umd.js.map\n"]}

Found in path(s):
* /common-11-0-5-tgz/package/bundles/common-http-testing.umd.min.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"common.js","sources":["../../../../../../packages/common/src/dom_adapter.ts","../../../../../../packages/common/src/dom_tokens.ts","../../../../../../packages/common/src/location/platform_location.ts","../../../../../../packages/common/src/private_export.ts","../../../../../../packages/common/src/location/util.ts","../../../../../../packages/common/src/location/location_strategy.ts","../../../../../../packages/common/src/location/hash_location_strategy.ts","../../../../../../packages/common/src/location/location.ts","../../../../../../packages/common/src/location/index.ts","../../../../../../packages/common/src/i18n/currencies.ts","../../../../../../packages/common/src/i18n/locale_data_api.ts","../../../../../../packages/common/src/i18n/format_date.ts","../../../../../../packages/common/src/i18n/format_number.ts","../../../../../../packages/common/src/i18n/localization.ts","../../../../../../packages/common/src/i18n/locale_data.ts","../../../../../../packages/common/src/cookie.ts","../../../../../../packages/common/src/directives/ng_class.ts","../../../../../../packages/common/src/directives/ng_component_outlet.ts","../../../../../../packages/common/src/directives/ng_for_of.ts","../../../../../../packages/common/src/directives/ng_if.ts","../../../../../../packages/common/src/directives/ng_switch.ts","../../../../../../packages/common/src/directives/ng_plural.ts","../../../../../../packages/common/src/directives/ng_style.ts","../../../../../../packages/common/src/directives/ng_template_outlet.ts","../../../../../../packages/common/src/directives/index.ts","../../../../../../packages/common/src/pipes/invalid_pipe_argument_error.ts","../../../../../../packages/common/src/pipes/async_pipe.ts","../../../../../../packages/common/src/pipes/case_conversion_pipes.ts","../../../../../../packages/common/src/pipes/date_pipe.ts","../../../../../../packages/common/src/pipes/i18n_plural_pipe.ts","../../../../../../packages/common/src/pipes/i18n_select_pipe.ts","../../../../../../packages/common/src/pipes/json_pipe.ts","../../../../../../packages/common/src/pipes/keyvalue_pipe.ts","../../../../../../packages/common/src/pipes/number_pipe.ts","../../../../../../packages/common/src/pipes/slice_pipe.ts","../../../../../../packages/common/src/pipes/index.ts","../../../../../../packages/common/src/common_module.ts","../../../../../../packages/common/src/platform_id.ts","../../../../../../packages/common/src/version.ts","../../../../../../packages/common/src/viewport_scroller.ts","../../../../../../packages/common/src/common.ts","../../../../../../packages/common/public_api.ts","../../../../../../packages/common/index.ts","../../../../../../packages/common/common.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nlet _DOM: DomAdapter = null!;\n\nexport function getDOM(): DomAdapter {\n return _DOM;\n}\n\nexport function setDOM(adapter: DomAdapter) {\n _DOM = adapter;\n}\n\nexport function setRootDomAdapter(adapter: DomAdapter) {\n if (!_DOM) {\n _DOM = adapter;\n }\n}\n\n/* tslint:disable:requireParameterType */\n/**\n * Provides DOM operations in an environment-agnostic way.\n *\n * @security Tread carefully! Interacting with the DOM directly is dangerous and\n * can introduce XSS risks.\n */\nexport abstract class DomAdapter {\n // Needs Domino-friendly test utility\n abstract getProperty(el: Element, name: string): any;\n abstract dispatchEvent(el: any, evt: any): any;\n\n // Used by router\n abstract log(error: any): any;\n abstract logGroup(error: any): any;\n abstract logGroupEnd(): any;\n\n // Used by Meta\n abstract remove(el: any): Node;\n abstract createElement(tagName: any, doc?: any): HTMLElement;\n abstract createHtmlDocument(): HTMLDocument;\n abstract

getDefaultDocument(): Document;\n\n  // Used by By.css\n  abstract isElementNode(node: any): boolean;\n\n  // Used by Testability\n  abstract isShadowRoot(node: any): boolean;\n\n  // Used by KeyEventsPlugin\n  abstract onAndCancel(el: any, evt: any, listener: any): Function;\n  abstract supportsDOMEvents(): boolean;\n\n  // Used by PlatformLocation and ServerEventManagerPlugin\n  abstract getGlobalEventTarget(doc: Document, target: string): any;\n\n  // Used by PlatformLocation\n  abstract getHistory(): History;\n  abstract getLocation():\n      any; /** This is the ambient Location definition, NOT Location from @angular/common.  */\n  abstract getBaseHref(doc: Document): string|null;\n  abstract resetBaseElement(): void;\n\n  // TODO: remove dependency in DefaultValueAccessor\n  abstract getUserAgent(): string;\n\n  // Used by AngularProfiler\n  abstract performanceNow(): number;\n\n  // Used by CookieXSRFStrategy\n  abstract supportsCookies(): boolean;\n  abstract getCookie(name:
string): string|null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from '@angular/core';\n\n/**\n * A DI Token representing the main rendering context. In a browser this is the DOM Document.\n *\n * Note: Document might not be available in the Application Context when Application and Rendering\n * Contexts are not the same (e.g. when running the application in a Web Worker).\n *\n * @publicApi\n */\nexport const DOCUMENT = new InjectionToken<Document>('DocumentToken');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, Injectable, InjectionToken, inject} from '@angular/core';\nimport {getDOM} from '../dom_adapter';\nimport
{DOCUMENT} from '../dom_tokens';\n\n/**\n * This class should not be used directly by an application developer. Instead, use\n * {@link Location}.\n *\n * `PlatformLocation` encapsulates all calls to DOM APIs, which allows the Router to be\n * platform-agnostic.\n * This means that we can have different implementation of `PlatformLocation` for the different\n * platforms that Angular supports. For example, `@angular/platform-browser` provides an\n * implementation specific to the browser environment, while `@angular/platform-server` provides\n * one suitable for use with server-side rendering.\n *\n * The `PlatformLocation` class is used directly by all implementations of {@link LocationStrategy}\n * when they need to interact with the DOM APIs like pushState, popState, etc.\n *\n * {@link LocationStrategy} in turn is used by the {@link Location} service which is used directly\n * by the {@link Router} in order to navigate between routes. Since all interactions between {@link
 * Router} /\n * {@link Location} / {@link LocationStrategy} and DOM APIs flow through the `PlatformLocation`\n * class, they are all platform-agnostic.\n *\n * @publicApi\n */\n@Injectable({\n  providedIn: 'platform',\n  // See #23917\n  useFactory: useBrowserPlatformLocation\n})\nexport abstract class PlatformLocation {\n  abstract getBaseHrefFromDOM(): string;\n  abstract getState(): unknown;\n  abstract onPopState(fn: LocationChangeListener): void;\n  abstract onHashChange(fn: LocationChangeListener): void;\n\n  abstract get href(): string;\n  abstract get protocol(): string;\n  abstract get hostname(): string;\n  abstract get port(): string;\n  abstract get pathname(): string;\n  abstract get search(): string;\n  abstract get hash(): string;\n\n  abstract replaceState(state: any, title: string, url: string): void;\n\n  abstract pushState(state: any, title: string, url: string): void;\n\n  abstract forward(): void;\n\n  abstract back(): void;\n}\n\nexport function useBrowserPlatformLocation() {\n  return inject(BrowserPlatformLocation);\n}\n\n/**\n * @description\n * Indicates when a location is initialized.\n *\n * @publicApi\n */\nexport const LOCATION_INITIALIZED = new InjectionToken<Promise<any>>('Location Initialized');\n\n/**\n * @description\n * A serializable version of the event from `onPopState` or `onHashChange`\n *\n * @publicApi\n */\nexport interface LocationChangeEvent {\n  type: string;\n  state: any;\n}\n\n/**\n * @publicApi\n */\nexport interface LocationChangeListener {\n  (event: LocationChangeEvent): any;\n}\n\n\n\n/**\n * `PlatformLocation` encapsulates all of the direct calls to platform APIs.\n * This class should not be used directly by an application developer. Instead, use\n * {@link Location}.\n */\n@Injectable({\n  providedIn: 'platform',\n  // See #23917\n  useFactory: createBrowserPlatformLocation,\n})\nexport class BrowserPlatformLocation extends PlatformLocation {\n  public readonly location!: Location;\n  private _history!:

History;\n\n constructor(@Inject(DOCUMENT) private _doc: any) {\n super();\n this._init();\n }\n\n // This is moved to its own method so that `MockPlatformLocationStrategy` can overwrite it\n /** @internal */\n _init() {\n (this as {location: Location}).location = getDOM().getLocation();\n this._history = getDOM().getHistory();\n }\n\n getBaseHrefFromDOM(): string {\n return getDOM().getBaseHref(this._doc)!;\n }\n\n onPopState(fn: LocationChangeListener): void {\n getDOM().getGlobalEventTarget(this._doc, 'window').addEventListener('popstate', fn, false);\n }\n\n onHashChange(fn: LocationChangeListener): void {\n getDOM().getGlobalEventTarget(this._doc, 'window').addEventListener('hashchange', fn, false);\n }\n\n get href(): string {\n return this.location.href;\n }\n get protocol(): string {\n return this.location.protocol;\n }\n get hostname(): string {\n return this.location.hostname;\n }\n get port(): string {\n return this.location.port;\n }\n get pathname(): string {\n return this.location.pathname;\n }\n get search(): string {\n return this.location.search;\n }\n get hash(): string {\n return this.location.hash;\n }\n set pathname(newPath: string) {\n this.location.pathname = newPath;\n }\n\n pushState(state: any, title: string, url: string): void {\n if (supportsState()) {\n this._history.pushState(state, title, url);\n } else {\n this.location.hash = url;\n }\n }\n\n replaceState(state: any, title: string, url: string): void {\n if (supportsState()) {\n this._history.replaceState(state, title, url);\n } else {\n this.location.hash = url;\n }\n }\n\n forward(): void {\n this._history.forward();\n }\n\n back(): void {\n this._history.back();\n }\n\n getState(): unknown {\n return this._history.state;\n }\n}\n\nexport function supportsState(): boolean {\n return !!window.history.pushState;\n}\nexport function createBrowserPlatformLocation() {\n return new BrowserPlatformLocation(inject(DOCUMENT));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {DomAdapter as DomAdapter, getDOM as getDOM, setRootDomAdapter as setRootDomAdapter} from './dom_adapter';\nexport {BrowserPlatformLocation as BrowserPlatformLocation} from './location/platform_location';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n/**\n * Joins two parts of a URL with a slash if needed.\n *\n * @param start  URL string\n * @param end    URL string\n *\n *\n * @returns The joined URL string.\n */\nexport function joinWithSlash(start: string, end: string): string {\n if (start.length == 0) {\n return end;\n }\n if (end.length == 0) {\n return start;\n }\n let slashes = 0;\n if (start.endsWith('/')) {\n slashes++;\n }\n if (end.startsWith('/')) {\n slashes++;\n }\n if (slashes == 2) {\n return start + end.substring(1);\n }\n if (slashes == 1) {\n return start + end;\n }\n return start + '/' + end;\n}\n\n/**\n * Removes a trailing slash from a URL string if needed.\n * Looks for the first occurrence of either `#`, `?`, or the end of the\n * line as `/` characters and removes the trailing slash if one exists.\n *\n * @param url URL string.\n *\n * @returns The URL string, modified if needed.\n */\nexport function stripTrailingSlash(url: string): string {\n const match = url.match(/#|\\?|$/);\n const pathEndIdx = match && match.index || url.length;\n const droppedSlashIdx = pathEndIdx - (url[pathEndIdx - 1] === '/' ? 1 : 0);\n return url.slice(0, droppedSlashIdx) + url.slice(pathEndIdx);\n}\n\n/**\n * Normalizes URL parameters by prepending with `?` if needed.\n *\n * @param  params String of URL parameters.\n *\n * @returns The normalized URL parameters string.\n */\nexport function normalizeQueryParams(params: string): string {\n return params && params[0] !== '?' ? '?' + params : params;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, Injectable, InjectionToken, Optional, inject} from '@angular/core';\nimport {DOCUMENT} from '../dom_tokens';\nimport {LocationChangeListener, PlatformLocation} from './platform_location';\nimport {joinWithSlash, normalizeQueryParams} from './util';\n\n/**\n * Enables the `Location` service to read route state from the browser's URL.\n * Angular provides two strategies:\n * `HashLocationStrategy` and `PathLocationStrategy`.\n *\n * Applications should use the `Router` or `Location` services to\n * interact with application route state.\n *\n * For instance, `HashLocationStrategy` produces URLs like\n * <code class=\"no-auto-link\">http://example.com#/foo</code>,\n * and `PathLocationStrategy` produces\n * <code class=\"no-auto-

link\">http://example.com/foo</code> as an equivalent URL.\n *\n * See these two classes for more.\n *\n * @publicApi\n */\n@Injectable({providedIn: 'root', useFactory: provideLocationStrategy})\nexport abstract class LocationStrategy {\n  abstract path(includeHash?: boolean): string;\n  abstract prepareExternalUrl(internal: string): string;\n  abstract pushState(state: any, title: string, url: string, queryParams: string): void;\n  abstract replaceState(state: any, title: string, url: string, queryParams: string): void;\n  abstract forward(): void;\n  abstract back(): void;\n  abstract onPopState(fn: LocationChangeListener): void;\n  abstract getBaseHref(): string;\n}\n\nexport function provideLocationStrategy(platformLocation: PlatformLocation) {\n  // See #23917\n const
 location = inject(DOCUMENT).location;\n  return new PathLocationStrategy(\n      inject(PlatformLocation as any), location && location.origin || '');\n}\n\n\n/**\n * A predefined [DI token](guide/glossary#di-token) for the base href\n * to be used with the `PathLocationStrategy`.\n * The base href is the URL prefix that should be preserved when generating\n * and recognizing URLs.\n *\n * @usageNotes\n *\n * The following example shows how to use this token to configure the root app injector\n * with a base href value, so that the DI framework can supply the dependency anywhere in the app.\n *\n * ```typescript\n * import {Component, NgModule} from '@angular/core';\n * import {APP_BASE_HREF} from '@angular/common';\n *\n * @NgModule({\n *    providers: [{provide: APP_BASE_HREF, useValue: '/my/app'}]\n * })\n * class AppModule {}\n * ```\n *\n * @publicApi\n */\nexport const APP_BASE_HREF = new InjectionToken<string>('appBaseHref');\n\n/**\n * @description\n * A {@link LocationStrategy}
 used to configure the {@link Location} service to\n * represent its state in the\n * [path](https://en.wikipedia.org/wiki/Uniform_Resource_Locator#Syntax) of the\n * browser's URL.\n *\n * If you're using `PathLocationStrategy`, you must provide a {@link APP_BASE_HREF}\n * or add a `<base href>` element to the document.\n *\n * For instance, if you provide an `APP_BASE_HREF` of `'/my/app/'` and call\n * `location.go('/foo')`, the browser's URL will become\n * `example.com/my/app/foo`. To ensure all relative URIs resolve correctly,\n * the `<base href>` and/or `APP_BASE_HREF` should end with a `/`.\n *\n * Similarly, if you add `<base href='/my/app/'/>` to the document and call\n * `location.go('/foo')`, the browser's URL will become\n * `example.com/my/app/foo`.\n *\n * Note that when using `PathLocationStrategy`, neither the query nor\n * the fragment in the `<base href>` will be preserved, as outlined\n * by the [RFC](https://tools.ietf.org/html/rfc3986#section-5.2.2).\n *\n *
 @usageNotes\n *\n * ### Example\n *\n * {@example common/location/ts/path_location_component.ts region='LocationComponent'}\n *\n * @publicApi\n */\n@Injectable()\nexport class PathLocationStrategy extends LocationStrategy {\n  private _baseHref: string;\n\n  constructor(\n      private _platformLocation: PlatformLocation,\n      @Optional() @Inject(APP_BASE_HREF) href?: string) {\n    super();\n\n    if (href == null) {\n      href = this._platformLocation.getBaseHrefFromDOM();\n    }\n\n    if (href == null) {\n      throw new Error(\n          `No base href set. Please provide a value for the APP_BASE_HREF token or add a base element to the document.`);\n    }\n\n    this._baseHref = href;\n  }\n\n  onPopState(fn: LocationChangeListener): void {\n    this._platformLocation.onPopState(fn);\n    this._platformLocation.onHashChange(fn);\n  }\n\n  getBaseHref(): string {\n    return this._baseHref;\n  }\n\n  prepareExternalUrl(internal: string): string {\n    return joinWithSlash(this._baseHref,
 internal);\n  }\n\n  path(includeHash: boolean = false): string {\n    const pathname =\n        this._platformLocation.pathname + normalizeQueryParams(this._platformLocation.search);\n    const hash = this._platformLocation.hash;\n    return hash && includeHash ? `${pathname}${hash}` : pathname;\n  }\n\n  pushState(state: any, title: string, url: string, queryParams: string) {\n    const externalUrl = this.prepareExternalUrl(url + normalizeQueryParams(queryParams));\n    this._platformLocation.pushState(state, title, externalUrl);\n  }\n\n  replaceState(state: any, title: string, url: string, queryParams: string) {\n    const externalUrl = this.prepareExternalUrl(url + normalizeQueryParams(queryParams));\n    this._platformLocation.replaceState(state, title, externalUrl);\n  }\n\n  forward(): void {\n    this._platformLocation.forward();\n  }\n\n  back(): void {\n    this._platformLocation.back();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n

* Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, Injectable, Optional} from '@angular/core';\nimport {APP_BASE_HREF, LocationStrategy} from './location_strategy';\nimport {LocationChangeListener, PlatformLocation} from './platform_location';\nimport {joinWithSlash, normalizeQueryParams} from './util';\n\n\n\n/**\n * @description\n * A {@link LocationStrategy} used to configure the {@link Location} service to\n * represent its state in the\n * [hash fragment](https://en.wikipedia.org/wiki/Uniform_Resource_Locator#Syntax)\n * of the browser's URL.\n *\n * For instance, if you call `location.go('/foo')`, the browser's URL will become\n * `example.com#/foo`.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example common/location/ts/hash_location_component.ts region='LocationComponent'}\n *\n * @publicApi\n */\n@Injectable()\nexport class HashLocationStrategy extends LocationStrategy {\n private _baseHref: string = '';\n constructor(\n private _platformLocation: PlatformLocation,\n @Optional() @Inject(APP_BASE_HREF) _baseHref?: string) {\n super();\n if (_baseHref != null) {\n this._baseHref = _baseHref;\n }\n }\n\n onPopState(fn: LocationChangeListener): void {\n this._platformLocation.onPopState(fn);\n this._platformLocation.onHashChange(fn);\n }\n\n getBaseHref(): string {\n return this._baseHref;\n }\n\n path(includeHash: boolean = false): string {\n // the hash value is always prefixed with a `#`\n // and if it is empty then it will stay empty\n let path = this._platformLocation.hash;\n if (path == null) path = '#';\n\n return path.length > 0 ? path.substring(1) : path;\n }\n\n prepareExternalUrl(internal: string): string {\n const url = joinWithSlash(this._baseHref, internal);\n return url.length > 0 ? ('#' + url) : url;\n }\n\n pushState(state: any, title: string, path: string, queryParams: string) {\n let url: string|null = this.prepareExternalUrl(path + normalizeQueryParams(queryParams));\n if (url.length == 0) {\n url = this._platformLocation.pathname;\n }\n this._platformLocation.pushState(state, title, url);\n }\n\n replaceState(state: any, title: string, path: string, queryParams: string) {\n let url = this.prepareExternalUrl(path + normalizeQueryParams(queryParams));\n if (url.length == 0) {\n url = this._platformLocation.pathname;\n }\n this._platformLocation.replaceState(state, title, url);\n }\n\n forward(): void {\n this._platformLocation.forward();\n }\n\n back(): void {\n this._platformLocation.back();\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {EventEmitter, Injectable, inject} from '@angular/core';\nimport {SubscriptionLike} from 'rxjs';\nimport {LocationStrategy} from './location_strategy';\nimport {PlatformLocation} from './platform_location';\nimport {joinWithSlash, normalizeQueryParams, stripTrailingSlash} from './util';\n\n/**\n * @publicApi\n */\nexport interface PopStateEvent {\n pop?: boolean;\n state?: any;\n type?: string;\n url?: string;\n}\n\n/**\n * @description\n *\n * A service that applications can use to interact with a browser's URL.\n *\n * Depending on the `LocationStrategy` used, `Location` persists\n * to the URL's path or the URL's hash segment.\n *\n * @usageNotes\n *\n * It's better to use the `Router#navigate` service to trigger route changes. Use\n * `Location` only if you need to interact with or create normalized URLs outside of\n * routing.\n *\n * `Location` is responsible for normalizing the URL against the application's base href.\n * A normalized URL is absolute from the URL host, includes the application's base href, and has no\n * trailing slash:\n * - `/my/app/user/123` is normalized\n * - `my/app/user/123` **is not** normalized\n * - `/my/app/user/123/` **is not** normalized\n *\n * ### Example\n *\n * <code-example path='common/location/ts/path_location_component.ts'\n * region='LocationComponent'></code-example>\n *\n * @publicApi\n */\n@Injectable({\n providedIn: 'root',\n // See #23917\n useFactory: createLocation,\n})\nexport class Location {\n /** @internal */\n _subject: EventEmitter<any> = new EventEmitter();\n /** @internal */\n _baseHref: string;\n /** @internal */\n _platformStrategy: LocationStrategy;\n /** @internal */\n _platformLocation: PlatformLocation;\n /** @internal */\n _urlChangeListeners: ((url: string, state: unknown) => void)[] = [];\n /** @internal */\n _urlChangeSubscription?: SubscriptionLike;\n\n constructor(platformStrategy: LocationStrategy, platformLocation: PlatformLocation) {\n this._platformStrategy = platformStrategy;\n const browserBaseHref = this._platformStrategy.getBaseHref();\n this._platformLocation

```
= platformLocation;\n    this._baseHref = stripTrailingSlash(_stripIndexHtml(browserBaseHref));\n
this._platformStrategy.onPopState((ev) => {\n      this._subject.emit({\n        'url': this.path(true),\n        'pop': true,\n
    'state': ev.state,\n        'type': ev.type,\n      });\n    });\n  }\n\n  /**\n   * Normalizes the URL path for this
location.\n   *\n   * @param includeHash True to include an anchor fragment in the path.\n   *\n   * @returns The
normalized URL path.\n   */\n  // TODO: vsavkin. Remove the boolean flag and always include hash once the
deprecated router is\n  // removed.\n  path(includeHash: boolean = false): string {\n    return
this.normalize(this._platformStrategy.path(includeHash));\n  }\n\n  /**\n   * Reports the current state of the location
history.\n   * @returns The current value of the `history.state` object.\n   */\n  getState(): unknown {\n    return
this._platformLocation.getState();\n  }\n\n  /**\n   * Normalizes the given
 path and compares to the current normalized path.\n   *\n   * @param path The given URL path.\n   * @param
query Query parameters.\n   *\n   * @returns True if the given URL path is equal to the current normalized path,
false\n   * otherwise.\n   */\n  isCurrentPathEqualTo(path: string, query: string = ''): boolean {\n    return this.path()
== this.normalize(path + normalizeQueryParams(query));\n  }\n\n  /**\n   * Normalizes a URL path by stripping
any trailing slashes.\n   *\n   * @param url String representing a URL.\n   *\n   * @returns The normalized URL
string.\n   */\n  normalize(url: string): string {\n    return Location.stripTrailingSlash(_stripBaseHref(this._baseHref,
_stripIndexHtml(url)));\n  }\n\n  /**\n   * Normalizes an external URL path.\n   * If the given URL doesn't begin
with a leading slash (`'/'`), adds one\n   * before normalizing. Adds a hash if `HashLocationStrategy` is\n   * in use,
or the `APP_BASE_HREF` if the `PathLocationStrategy` is in use.\n   *\n   * @param
 url String representing a URL.\n   *\n   * @returns  A normalized platform-specific URL.\n   */\n
prepareExternalUrl(url: string): string {\n    if (url && url[0] !== '/') {\n      url = '/' + url;\n    }\n    return
this._platformStrategy.prepareExternalUrl(url);\n  }\n\n  // TODO: rename this method to pushState\n  /**\n   *
Changes the browser's URL to a normalized version of a given URL, and pushes a\n   * new item onto the platform's
history.\n   *\n   * @param path  URL path to normalize.\n   * @param query Query parameters.\n   * @param state
Location history state.\n   *\n   */\n  go(path: string, query: string = '', state: any = null): void {\n
this._platformStrategy.pushState(state, '', path, query);\n    this._notifyUrlChangeListeners(\n
this.prepareExternalUrl(path + normalizeQueryParams(query)), state);\n  }\n\n  /**\n   * Changes the browser's URL
to a normalized version of the given URL, and replaces\n   * the top item on the platform's history stack.\n
   *\n   * @param path  URL path to normalize.\n   * @param query Query parameters.\n   * @param state Location
history state.\n   */\n  replaceState(path: string, query: string = '', state: any = null): void {\n
this._platformStrategy.replaceState(state, '', path, query);\n    this._notifyUrlChangeListeners(\n
this.prepareExternalUrl(path + normalizeQueryParams(query)), state);\n  }\n\n  /**\n   * Navigates forward in the
platform's history.\n   */\n  forward(): void {\n    this._platformStrategy.forward();\n  }\n\n  /**\n   * Navigates back
in the platform's history.\n   */\n  back(): void {\n    this._platformStrategy.back();\n  }\n\n  /**\n   * Registers a
URL change listener. Use to catch updates performed by the Angular\n   * framework that are not detectible through
\"popstate\" or \"hashchange\" events.\n   *\n   * @param fn The change handler function, which take a URL and a
location history state.\n   */\n  onUrlChange(fn: (url: string, state: unknown) => void) {\n
   this._urlChangeListeners.push(fn);\n\n    if (!this._urlChangeSubscription) {\n      this._urlChangeSubscription =
this.subscribe(v => {\n        this._notifyUrlChangeListeners(v.url, v.state);\n      });\n    }\n  }\n\n  /** @internal */\n
_notifyUrlChangeListeners(url: string = '', state: unknown) {\n    this._urlChangeListeners.forEach(fn => fn(url,
state));\n  }\n\n  /**\n   * Subscribes to the platform's `popState` events.\n   *\n   * @param value Event that is
triggered when the state history changes.\n   * @param exception The exception to throw.\n   *\n   * @returns
Subscribed events.\n   */\n  subscribe(\n      onNext: (value: PopStateEvent) => void, onThrow?: ((exception: any)
=> void)|null,\n      onReturn?: (() => void)|null): SubscriptionLike {\n    return this._subject.subscribe({next:
onNext, error: onThrow, complete: onReturn});\n  }\n\n  /**\n   * Normalizes URL parameters by prepending with
`?` if needed.\n   *\n   * @param  params String of URL parameters.\n   *\n
   * @returns The normalized URL parameters string.\n   */\n  public static normalizeQueryParams: (params: string)
=> string = normalizeQueryParams;\n\n  /**\n   * Joins two parts of a URL with a slash if needed.\n   *\n   *
@param start  URL string\n   * @param end    URL string\n   *\n   *\n   * @returns The joined URL string.\n   */\n
```

public static joinWithSlash: (start: string, end: string) => string = joinWithSlash;\n\n /**\n * Removes a trailing slash from a URL string if needed.\n * Looks for the first occurrence of either `#`, `?`, or the end of the\n * line as `/` characters and removes the trailing slash if one exists.\n *\n * @param url URL string.\n *\n * @returns The URL string, modified if needed.\n */\n public static stripTrailingSlash: (url: string) => string = stripTrailingSlash;\n}\n\nexport function createLocation() {\n return new Location(inject(LocationStrategy as any), inject(PlatformLocation as any));\n}\n\nfunction _stripBaseHref(baseHref:
string, url: string): string {\n return baseHref && url.startsWith(baseHref) ? url.substring(baseHref.length) : url;\n}\n\nfunction _stripIndexHtml(url: string): string {\n return url.replace(/\\/index.html$/, '');\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {HashLocationStrategy} from './hash_location_strategy';\nexport {Location, PopStateEvent} from './location';\nexport {APP_BASE_HREF, LocationStrategy, PathLocationStrategy} from './location_strategy';\nexport {LOCATION_INITIALIZED, LocationChangeEvent, LocationChangeListener, PlatformLocation} from './platform_location';\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// THIS CODE IS GENERATED
- DO NOT MODIFY\n// See angular/tools/gulp-tasks/cldr/extract.js\n\nexport type CurrenciesSymbols = [string]|[string | undefined, string];\n\n/** @internal */\nexport const CURRENCIES_EN:\n {[code: string]: CurrenciesSymbols|[string | undefined, string | undefined, number]} = {\n 'ADP': [undefined, undefined, 0],\n 'AFN': [undefined, undefined, 0],\n 'ALL': [undefined, undefined, 0],\n 'AMD': [undefined, undefined, 2],\n 'AOA': [undefined, 'Kz'],\n 'ARS': [undefined, '$'],\n 'AUD': ['A$', '$'],\n 'BAM': [undefined, 'KM'],\n 'BBD': [undefined, '$'],\n 'BDT': [undefined, ''],\n 'BHD': [undefined, undefined, 3],\n 'BIF': [undefined, undefined, 0],\n 'BMD': [undefined, '$'],\n 'BND': [undefined, '$'],\n 'BOB': [undefined, 'Bs'],\n 'BRL': ['R$'],\n 'BSD': [undefined, '$'],\n 'BWP': [undefined, 'P'],\n 'BYN': [undefined, '.', 2],\n 'BYR': [undefined, undefined, 0],\n 'BZD': [undefined,
'$'],\n 'CAD': ['CA$', '$', 2],\n 'CHF': [undefined, undefined, 2],\n 'CLF': [undefined, undefined, 4],\n 'CLP': [undefined, '$', 0],\n 'CNY': ['CN¥', '¥'],\n 'COP': [undefined, '$', 2],\n 'CRC': [undefined, '', 2],\n 'CUC': [undefined, '$'],\n 'CUP': [undefined, '$'],\n 'CZK': [undefined, 'K', 2],\n 'DJF': [undefined, undefined, 0],\n 'DKK': [undefined, 'kr', 2],\n 'DOP': [undefined, '$'],\n 'EGP': [undefined, 'E£'],\n 'ESP': [undefined, '', 0],\n 'EUR': ['€'],\n 'FJD': [undefined, '$'],\n 'FKP': [undefined, '£'],\n 'GBP': ['£'],\n 'GEL': [undefined, ''],\n 'GIP': [undefined, '£'],\n 'GNF': [undefined, 'FG', 0],\n 'GTQ': [undefined, 'Q'],\n 'GYD': [undefined, '$', 2],\n 'HKD': ['HK$', '$'],\n 'HNL': [undefined, 'L'],\n 'HRK': [undefined, 'kn'],\n 'HUF': [undefined, 'Ft', 2],\n 'IDR': [undefined, 'Rp', 2],\n 'ILS': [''],\n
'INR': [''],\n 'IQD': [undefined, undefined, 0],\n 'IRR': [undefined, undefined, 0],\n 'ISK': [undefined, 'kr', 0],\n 'ITL': [undefined, undefined, 0],\n 'JMD': [undefined, '$'],\n 'JOD': [undefined, undefined, 3],\n 'JPY': ['¥', undefined, 0],\n 'KHR': [undefined, ''],\n 'KMF': [undefined, 'CF', 0],\n 'KPW': [undefined, '', 0],\n 'KRW': ['', undefined, 0],\n 'KWD': [undefined, undefined, 3],\n 'KYD': [undefined, '$'],\n 'KZT': [undefined, ''],\n 'LAK': [undefined, '', 0],\n 'LBP': [undefined, 'L£', 0],\n 'LKR': [undefined, 'Rs'],\n 'LRD': [undefined, '$'],\n 'LTL': [undefined, 'Lt'],\n 'LUF': [undefined, undefined, 0],\n 'LVL': [undefined, 'Ls'],\n 'LYD': [undefined, undefined, 3],\n 'MGA': [undefined, 'Ar', 0],\n 'MGF': [undefined, undefined, 0],\n 'MMK': [undefined, 'K', 0],\n 'MNT': [undefined, '', 2],\n 'MRO': [undefined, undefined, 0],\n
'MUR': [undefined, 'Rs', 2],\n 'MXN': ['MX$', '$'],\n 'MYR': [undefined, 'RM'],\n 'NAD': [undefined, '$'],\n 'NGN': [undefined, ''],\n 'NIO': [undefined, 'C$'],\n 'NOK': [undefined, 'kr', 2],\n 'NPR': [undefined, 'Rs'],\n 'NZD': ['NZ$', '$'],\n 'OMR': [undefined, undefined, 3],\n 'PHP': [undefined, ''],\n 'PKR': [undefined, 'Rs', 2],\n 'PLN': [undefined, 'z'],\n 'PYG': [undefined, '', 0],\n 'RON': [undefined, 'lei'],\n
'RSD': [undefined, undefined, 0],\n 'RUB': [undefined, ''],\n 'RUR': [undefined, '.'],\n 'RWF': [undefined, 'RF', 0],\n 'SBD': [undefined, '$'],\n 'SEK': [undefined, 'kr', 2],\n 'SGD': [undefined, '$'],\n 'SHP': [undefined, '£'],\n 'SLL': [undefined, undefined, 0],\n 'SOS': [undefined, undefined, 0],\n 'SRD': [undefined,

'$'],\n 'SSP': [undefined, '£'],\n 'STD': [undefined, undefined, 0],\n 'STN': [undefined, 'Db'],\n 'SYP': [undefined, '£', 0],\n 'THB': [undefined, ''],\n 'TMM': [undefined, undefined, 0],\n 'TND': [undefined, undefined, 3],\n 'TOP': [undefined, 'T$'],\n 'TRL': [undefined, undefined, 0],\n 'TRY': [undefined, ''],\n 'TTD': [undefined, '$'],\n 'TWD': ['NT$', '$', 2],\n 'TZS': [undefined, undefined, 2],\n 'UAH': [undefined, ''],\n 'UGX': [undefined, undefined, 0],\n 'USD': ['$'],\n 'UYI': [undefined, undefined, 0],\n 'UYU': [undefined, '$'],\n 'UYW': [undefined, undefined, 4],\n 'UZS': [undefined, undefined, 2],\n 'VEF': [undefined, 'Bs', 2],\n 'VND': ['', undefined, 0],\n 'VUV': [undefined, undefined, 0],\n 'XAF': ['FCFA', undefined, 0],\n 'XCD': ['EC$', '$'],\n 'XOF': ['CFA', undefined, 0],\n 'XPF': ['CFPF', undefined, 0],\n 'XXX': ['¤'],\n 'YER': [undefined, undefined, 0],\n 'ZAR': [undefined, 'R'],\n 'ZMK': [undefined, undefined, 0],\n
'ZMW': [undefined, 'ZK'],\n 'ZWD': [undefined, undefined, 0]\n };\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CurrencyIndex, ExtraLocaleDataIndex, findLocaleData, getLocaleCurrencyCode, getLocalePluralCase, LocaleDataIndex} from '@angular/core';\n\nimport {CURRENCIES_EN, CurrenciesSymbols} from './currencies';\n\n\n/**\n * Format styles that can be used to represent numbers.\n * @see `getLocaleNumberFormat()`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport enum NumberFormatStyle {\n Decimal,\n Percent,\n Currency,\n Scientific\n}\n\n/**\n * Plurality cases used for translating plurals to different languages.\n *\n * @see `NgPlural`\n * @see `NgPluralCase`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n
*\n * @publicApi\n */\nexport enum Plural {\n Zero = 0,\n One = 1,\n Two = 2,\n Few = 3,\n Many = 4,\n Other = 5,\n}\n\n/**\n * Context-dependant translation forms for strings.\n * Typically the standalone version is for the nominative form of the word,\n * and the format version is used for the genitive case.\n * @see [CLDR website](http://cldr.unicode.org/translation/date-time-1/date-time#TOC-Standalone-vs.-Format-Styles)\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport enum FormStyle {\n Format,\n Standalone\n}\n\n/**\n * String widths available for translations.\n * The specific character widths are locale-specific.\n * Examples are given for the word \"Sunday\" in English.\n *\n * @publicApi\n */\nexport enum TranslationWidth {\n /** 1 character for `en-US`. For example: 'S' */\n Narrow,\n /** 3 characters for `en-US`. For example: 'Sun' */\n Abbreviated,\n /** Full length for `en-US`. For example: \"Sunday\" */\n Wide,\n /** 2 characters for `en-US`, For example: \"Su\" */\n Short\n}\n\n/**\n * String widths available for date-time formats.\n * The specific character widths are locale-specific.\n * Examples are given for `en-US`.\n *\n * @see `getLocaleDateFormat()`\n * @see `getLocaleTimeFormat()``\n * @see `getLocaleDateTimeFormat()`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n * @publicApi\n */\nexport enum FormatWidth {\n /**\n * For `en-US`, 'M/d/yy, h:mm a'`\n * (Example: `6/15/15, 9:03 AM`)\n */\n Short,\n /**\n * For `en-US`, `'MMM d, y, h:mm:ss a'`\n * (Example: `Jun 15, 2015, 9:03:01 AM`)\n */\n Medium,\n /**\n * For `en-US`, `'MMMM d, y, h:mm:ss a z'`\n * (Example: `June 15, 2015 at 9:03:01 AM GMT+1`)\n */\n Long,\n /**\n * For `en-US`, `'EEEE, MMMM d, y, h:mm:ss a zzzz'`\n * (Example: `Monday, June 15, 2015 at 9:03:01 AM GMT+01:00`)\n */\n Full\n}\n\n/**\n * Symbols that can be used to replace placeholders in number patterns.\n * Examples are based on `en-US` values.\n *\n * @see `getLocaleNumberSymbol()`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport enum NumberSymbol {\n /**\n * Decimal separator.\n * For `en-US`, the dot character.\n * Example : 2,345`.`67\n */\n Decimal,\n /**\n * Grouping separator, typically for thousands.\n * For `en-US`, the comma character.\n * Example: 2`,`345.67\n */\n Group,\n /**\n * List-item separator.\n * Example: \"one, two, and three\"\n */\n List,\n /**\n * Sign for percentage (out of 100).\n * Example: 23.4%\n */\n PercentSign,\n /**\n * Sign for positive numbers.\n * Example: +23\n */\n PlusSign,\n /**\n * Sign for negative numbers.\n * Example: -23\n */\n MinusSign,\n /**\n * Computer notation for exponential value (n times a power of 10).\n * Example: 1.2E3\n */\n Exponential,\n /**\n * Human-readable format of exponential.\n *

Example: 1.2x103\n */\n SuperscriptingExponent,\n /**\n * Sign for permille (out of 1000).\n * Example: 23.4‰\n */\n PerMille,\n /**\n * Infinity, can be used with plus and minus.\n * Example: , +, -\n */\n Infinity,\n /**\n * Not a number.\n * Example: NaN\n */\n NaN,\n /**\n * Symbol used between time units.\n * Example: 10:52\n */\n TimeSeparator,\n /**\n * Decimal separator for currency values (fallback to `Decimal`).\n * Example: $2,345.67\n */\n CurrencyDecimal,\n /**\n * Group separator for currency values (fallback to `Group`).\n * Example: $2,345.67\n */\n CurrencyGroup\n}\n\n/**\n * The value for each day of the week, based on the `en-US` locale\n *\n * @publicApi\n */\nexport enum WeekDay {\n Sunday = 0,\n Monday,\n Tuesday,\n Wednesday,\n Thursday,\n Friday,\n Saturday\n}\n\n/**\n * Retrieves the locale ID from the currently loaded locale.\n * The loaded locale could be, for example, a global one rather than a regional one.\n * @param locale A locale code, such as `fr-FR`.\n * @returns The locale code. For example, `fr`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleId(locale: string): string {\n return findLocaleData(locale)[LocaleDataIndex.LocaleId];\n}\n\n/**\n * Retrieves day period strings for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized period strings. For example, `[AM, PM]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleDayPeriods(\n locale: string, formStyle: FormStyle, width: TranslationWidth): Readonly<[string, string]> {\n const data = findLocaleData(locale);\n const amPmData = <[string, string][][]>[\n data[LocaleDataIndex.DayPeriodsFormat], data[LocaleDataIndex.DayPeriodsStandalone]\n ];\n const amPm = getLastDefinedValue(amPmData, formStyle);\n return getLastDefinedValue(amPm, width);\n}\n\n/**\n * Retrieves days of the week for the given locale, using the Gregorian calendar.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized name strings.\n * For example,`[Sunday, Monday, ... Saturday]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleDayNames(\n locale: string, formStyle: FormStyle, width: TranslationWidth): ReadonlyArray<string> {\n const data = findLocaleData(locale);\n const daysData =\n <string[][][]>[data[LocaleDataIndex.DaysFormat], data[LocaleDataIndex.DaysStandalone]];\n const days = getLastDefinedValue(daysData, formStyle);\n return getLastDefinedValue(days, width);\n}\n\n/**\n * Retrieves months of the year for the given locale, using the Gregorian calendar.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns An array of localized name strings.\n * For example, `[January, February, ...]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleMonthNames(\n locale: string, formStyle: FormStyle, width: TranslationWidth): ReadonlyArray<string> {\n const data = findLocaleData(locale);\n const monthsData =\n <string[][][]>[data[LocaleDataIndex.MonthsFormat], data[LocaleDataIndex.MonthsStandalone]];\n const months = getLastDefinedValue(monthsData, formStyle);\n return getLastDefinedValue(months, width);\n}\n\n/**\n * Retrieves Gregorian-calendar eras for the given locale.\n * @param locale A locale code for the locale format rules to use.\n * @param width The required character width.\n\n * @returns An array of localized era strings.\n * For example, `[AD, BC]` for `en-US`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleEraNames(\n locale: string, width: TranslationWidth): Readonly<[string, string]> {\n const data = findLocaleData(locale);\n const erasData = <[string, string][]>data[LocaleDataIndex.Eras];\n return getLastDefinedValue(erasData, width);\n}\n\n/**\n * Retrieves the first day of the week for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns A day index number, using the 0-based week-day index for `en-US`\n * (Sunday = 0, Monday = 1, ...).\n * For example, for `fr-FR`, returns 1 to indicate that the first day is Monday.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport

function getLocaleFirstDayOfWeek(locale: string): WeekDay {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.FirstDayOfWeek];\n}\n\n/**\n * Range of week days that are considered the week-end for the given locale.\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns The range of day values, `[startDay, endDay]`.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleWeekEndRange(locale: string): [WeekDay, WeekDay] {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.WeekendRange];\n}\n\n/**\n * Retrieves a localized date-value formating string.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param width The format type.\n * @returns The localized formating string.\n * @see `FormatWidth`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleDateFormat(locale:
string, width: FormatWidth): string {\n  const data = findLocaleData(locale);\n  return getLastDefinedValue(data[LocaleDataIndex.DateFormat], width);\n}\n\n/**\n * Retrieves a localized time-value formatting string.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param width The format type.\n * @returns The localized formatting string.\n * @see `FormatWidth`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n\n * @publicApi\n */\nexport function getLocaleTimeFormat(locale: string, width: FormatWidth): string {\n  const data = findLocaleData(locale);\n  return getLastDefinedValue(data[LocaleDataIndex.TimeFormat], width);\n}\n\n/**\n * Retrieves a localized date-time formatting string.\n *\n * @param locale A locale code for the locale format rules to use.\n * @param width The format type.\n * @returns The localized formatting string.\n * @see `FormatWidth`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n
*\n * @publicApi\n */\nexport function getLocaleDateTimeFormat(locale: string, width: FormatWidth): string {\n const data = findLocaleData(locale);\n  const dateTimeFormatData = <string[]>data[LocaleDataIndex.DateTimeFormat];\n  return getLastDefinedValue(dateTimeFormatData, width);\n}\n\n/**\n * Retrieves a localized number symbol that can be used to replace placeholders in number formats.\n * @param locale The locale code.\n * @param symbol The symbol to localize.\n * @returns The character for the localized symbol.\n * @see `NumberSymbol`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleNumberSymbol(locale: string, symbol: NumberSymbol): string {\n  const data = findLocaleData(locale);\n  const res = data[LocaleDataIndex.NumberSymbols][symbol];\n  if (typeof res === 'undefined') {\n    if (symbol === NumberSymbol.CurrencyDecimal) {\n      return data[LocaleDataIndex.NumberSymbols][NumberSymbol.Decimal];\n
    } else if (symbol === NumberSymbol.CurrencyGroup) {\n      return data[LocaleDataIndex.NumberSymbols][NumberSymbol.Group];\n    }\n  }\n  return res;\n}\n\n/**\n * Retrieves a number format for a given locale.\n *\n * Numbers are formatted using patterns, like `#,###.00`. For example, the pattern `#,###.00`\n * when used to format the number 12345.678 could result in \"12'345,678\". That would happen if the\n * grouping separator for your language is an apostrophe, and the decimal separator is a comma.\n *\n * Important: The characters `.` `,` `0` `#` (and others below) are special placeholders\n * that stand for the decimal separator, and so on, and are NOT real characters.\n * You must NOT \"translate\" the placeholders. For example, don't change `.` to `,` even though in\n * your language the decimal point is written with a comma. The symbols should be replaced by the\n * local equivalents, using the appropriate `NumberSymbol` for your language.\n
*\n * Here are the special characters used in number patterns:\n *\n * | Symbol | Meaning |\n * |--------|---------|\n * | . | Replaced automatically by the character used for the decimal point. |\n * | , | Replaced by the \"grouping\" (thousands) separator. |\n * | 0 | Replaced by a digit (or zero if there aren't enough digits). |\n * | # | Replaced by a digit (or nothing if there aren't enough). |\n * | ¤ | Replaced by a currency symbol, such as $ or USD. |\n * | % | Marks a percent format. The % symbol may change position, but must be retained. |\n * | E | Marks a scientific format. The E symbol may change position, but must be retained. |\n * | ' | Special characters used as literal characters are quoted with ASCII single quotes. |\n *\n * @param locale A locale code for the locale format rules to

use.\n * @param type The type of numeric value to be formatted (such as `Decimal` or `Currency`.)\n * @returns The localized format string.\n * @see `NumberFormatStyle`\n * @see
[CLDR website](http://cldr.unicode.org/translation/number-patterns)\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleNumberFormat(locale: string, type: NumberFormatStyle): string {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.NumberFormats][type];\n}\n\n/**\n * Retrieves the symbol used to represent the currency for the main country\n * corresponding to a given locale. For example, '$' for `en-US`.\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns The localized symbol character,\n * or `null` if the main country cannot be determined.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleCurrencySymbol(locale: string): string|null {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.CurrencySymbol] || null;\n}\n\n/**\n * Retrieves the name of the currency
for the main country corresponding\n * to a given locale. For example, 'US Dollar' for `en-US`.\n * @param locale A locale code for the locale format rules to use.\n * @returns The currency name,\n * or `null` if the main country cannot be determined.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleCurrencyName(locale: string): string|null {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.CurrencyName] || null;\n}\n\n/**\n * Retrieves the default currency code for the given locale.\n *\n * The default is defined as the first currency which is still in use.\n *\n * @param locale The code of the locale whose currency code we want.\n * @returns The code of the default currency for the given locale.\n *\n * @publicApi\n */\nexport function getLocaleCurrencyCode(locale: string): string|null {\n  return getLocaleCurrencyCode(locale);\n}\n\n/**\n * Retrieves the currency values for a given
locale.\n * @param locale A locale code for the locale format rules to use.\n * @returns The currency values.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n */\nfunction getLocaleCurrencies(locale: string): {[code: string]: CurrenciesSymbols} {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.Currencies];\n}\n\n/**\n * @alias core/getLocalePluralCase\n * @publicApi\n */\nexport const getLocalePluralCase: (locale: string) => ((value: number) => Plural) =\n    getLocalePluralCase;\n\nfunction checkFullData(data: any) {\n  if (!data[LocaleDataIndex.ExtraData]) {\n    throw new Error(`Missing extra locale data for the locale \"${\n        data[LocaleDataIndex\n                .LocaleId]}\". Use \"registerLocaleData\" to load new data. See the \"I18n guide\" on angular.io to know more.`);\n  }\n}\n\n/**\n * Retrieves locale-specific rules used to determine which day period to use\n * when more than one period is defined for a locale.\n
*\n * There is a rule for each defined day period. The\n * first rule is applied to the first day period and so on.\n * Fall back to AM/PM when no rules are available.\n *\n * A rule can specify a period as time range, or as a single time value.\n *\n * This functionality is only available when you have loaded the full locale data.\n * See the [\"I18n guide\"](guide/i18n#i18n-pipes).\n *\n * @param locale A locale code for the locale format rules to use.\n * @returns The rules for the locale, a single time value or array of *from-time, to-time*,\n * or null if no periods are available.\n *\n * @see `getLocaleExtraDayPeriods()`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getLocaleExtraDayPeriodRules(locale: string): (Time|[Time, Time])[] {\n  const data = findLocaleData(locale);\n  checkFullData(data);\n  const rules =
data[LocaleDataIndex.ExtraData][ExtraLocaleDataIndex.ExtraDayPeriodsRules] || [];\n  return
rules.map((rule: string|[string, string]) => {\n    if (typeof rule === 'string') {\n      return extractTime(rule);\n    }\n    return [extractTime(rule[0]), extractTime(rule[1])];\n  });\n}\n\n/**\n * Retrieves locale-specific day periods, which indicate roughly how a day is broken up\n * in different languages.\n * For example, for `en-US`, periods are morning, noon, afternoon, evening, and midnight.\n *\n * This functionality is only available when you have loaded the full locale data.\n * See the [\"I18n guide\"](guide/i18n#i18n-pipes).\n *\n * @param locale A locale code for the locale format rules to use.\n * @param formStyle The required grammatical form.\n * @param width The required character width.\n * @returns The translated day-period strings.\n * @see `getLocaleExtraDayPeriodRules()`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n

* @publicApi\n */\nexport function getLocaleExtraDayPeriods(\n locale: string, formStyle: FormStyle, width: TranslationWidth): string[] {\n const data = findLocaleData(locale);\n checkFullData(data);\n const dayPeriodsData = <string[][][]>[\n data[LocaleDataIndex.ExtraData][ExtraLocaleDataIndex.ExtraDayPeriodFormats],\n data[LocaleDataIndex.ExtraData][ExtraLocaleDataIndex.ExtraDayPeriodStandalone]\n ];\n const dayPeriods = getLastDefinedValue(dayPeriodsData, formStyle) || [];\n return getLastDefinedValue(dayPeriods, width) || [];\n}\n\n/**\n * Retrieves the writing direction of a specified locale\n * @param locale A locale code for the locale format rules to use.\n * @publicApi\n * @returns 'rtl' or 'ltr'\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n */\nexport function getLocaleDirection(locale: string): 'ltr'|'rtl' {\n const data = findLocaleData(locale);\n return data[LocaleDataIndex.Directionality];\n}\n\n/**\n * Retrieves the first value that is defined in an array, going backwards from an index position.\n *\n * To avoid repeating the same data (as when the \"format\" and \"standalone\" forms are the same)\n * add the first value to the locale data arrays, and add other values only if they are different.\n *\n * @param data The data array to retrieve from.\n * @param index A 0-based index into the array to start from.\n * @returns The value immediately before the given index position.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nfunction getLastDefinedValue<T>(data: T[], index: number): T {\n for (let i = index; i > -1; i--) {\n if (typeof data[i] !== 'undefined') {\n return data[i];\n }\n }\n throw new Error('Locale data API: locale data undefined');\n}\n\n/**\n * Represents a time value with hours and minutes.\n *\n * @publicApi\n */\nexport type Time = {\n hours: number,\n minutes: number\n};\n\n/**\n * Extracts the hours and minutes from a string like \"15:45\"\n */\nfunction extractTime(time: string): Time {\n const [h, m] = time.split(':');\n return {hours: +h, minutes: +m};\n}\n\n\n\n/**\n * Retrieves the currency symbol for a given currency code.\n *\n * For example, for the default `en-US` locale, the code `USD` can\n * be represented by the narrow symbol `$` or the wide symbol `US$`.\n *\n * @param code The currency code.\n * @param format The format, `wide` or `narrow`.\n * @param locale A locale code for the locale format rules to use.\n *\n * @returns The symbol, or the currency code if no symbol is available.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getCurrencySymbol(code: string, format: 'wide'|'narrow', locale = 'en'): string {\n const currency = getLocaleCurrencies(locale)[code] || CURRENCIES_EN[code] || [];\n const symbolNarrow = currency[CurrencyIndex.SymbolNarrow];\n\n if (format === 'narrow' && typeof symbolNarrow === 'string') {\n return symbolNarrow;\n }\n\n return currency[CurrencyIndex.Symbol] || code;\n}\n\n//
Most currencies have cents, that's why the default is 2\nconst DEFAULT_NB_OF_CURRENCY_DIGITS = 2;\n\n/**\n * Reports the number of decimal digits for a given currency.\n * The value depends upon the presence of cents in that particular currency.\n *\n * @param code The currency code.\n * @returns The number of decimal digits, typically 0 or 2.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function getNumberOfCurrencyDigits(code: string): number {\n let digits;\n const currency = CURRENCIES_EN[code];\n if (currency) {\n digits = currency[CurrencyIndex.NbOfDigits];\n }\n return typeof digits === 'number' ? digits : DEFAULT_NB_OF_CURRENCY_DIGITS;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {FormatWidth, FormStyle, getLocaleDateFormat, getLocaleDateTimeFormat,
getLocaleDayNames, getLocaleDayPeriods, getLocaleEraNames, getLocaleExtraDayPeriodRules, getLocaleExtraDayPeriods, getLocaleId, getLocaleMonthNames, getLocaleNumberSymbol, getLocaleTimeFormat, NumberSymbol, Time, TranslationWidth} from './locale_data_api';\n\nexport const ISO8601_DATE_REGEX =\n /^(\\d{4})-?(\\d\\d)-?(\\d\\d)(?:T(\\d\\d)(?::?(\\d\\d)(?::?(\\d\\d)(?:\\.(\\d+))?)?)?(Z|([+-])(\\d\\d):?(\\d\\d))?)?$/;\n// 1 2 3 4 5 6 7 8 9 10 11\nconst NAMED_FORMATS: {[localeId: string]: {[format: string]: string}} = {};\nconst DATE_FORMATS_SPLIT =\n /((?:[^GyYMLwWdEabBhHmsSzZO']+)|(?:'(?:[^']|'')*')|(?:G{1,5}|y{1,4}|Y{1,4}|M{1,5}|L{1,5}|w{1,2}|W{1}|d{1,2}|E{1,6}|a{1,5}|b{1,5}|B{1,5}|h{1,2}|H{1,2}|m{1,2}|s{1,2}|S{1,3}|z{1,4}|Z{1,5}|O{1,4}))([\\s\\S]*)/;\n\nenum

```
ZoneWidth {\n  Short,\n  ShortGMT,\n  Long,\n  Extended\n}\n\nenum DateType {\n  FullYear,\n  Month,\n  Date,\n  Hours,\n  Minutes,\n
  Seconds,\n  FractionalSeconds,\n  Day\n}\n\nenum TranslationType {\n  DayPeriods,\n  Days,\n  Months,\n  Eras\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Formats a date according to locale rules.\n *\n * @param value The date to format, as a Date, or a number (milliseconds since UTC epoch)\n * or an [ISO date-time string](https://www.w3.org/TR/NOTE-datetime).\n * @param format The date-time components to include. See `DatePipe` for details.\n * @param locale A locale code for the locale format rules to use.\n * @param timezone The time zone. A time zone offset from GMT (such as `'+0430'`),\n * or a standard UTC/GMT or continental US time zone abbreviation.\n * If not specified, uses host system settings.\n *\n * @returns The formatted date string.\n *\n * @see `DatePipe`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function formatDate(\n    value: string|number|Date, format: string, locale: string, timezone?:
  string): string {\n  let date = toDate(value);\n  const namedFormat = getNamedFormat(locale, format);\n  format = namedFormat || format;\n\n  let parts: string[] = [];\n  let match;\n  while (format) {\n    match = DATE_FORMATS_SPLIT.exec(format);\n    if (match) {\n      parts = parts.concat(match.slice(1));\n      const part = parts.pop();\n      if (!part) {\n        break;\n      }\n      format = part;\n    } else {\n      parts.push(format);\n      break;\n    }\n  }\n\n  let dateTimezoneOffset = date.getTimezoneOffset();\n  if (timezone) {\n    dateTimezoneOffset = timezoneToOffset(timezone, dateTimezoneOffset);\n    date = convertTimezoneToLocal(date, timezone, true);\n  }\n\n  let text = '';\n  parts.forEach(value => {\n    const dateFormatter = getDateFormatter(value);\n    text += dateFormatter ?\n        dateFormatter(date, locale, dateTimezoneOffset) :\n        value === '\\'\\'' ? '\\'' : value.replace(/(^'|'$)/g, '').replace(/''/g, '\\'');\n  });\n\n  return text;\n}\n\nfunction
  getNamedFormat(locale: string, format: string): string {\n  const localeId = getLocaleId(locale);\n  NAMED_FORMATS[localeId] = NAMED_FORMATS[localeId] || {};\n\n  if (NAMED_FORMATS[localeId][format]) {\n    return NAMED_FORMATS[localeId][format];\n  }\n\n  let formatValue = '';\n  switch (format) {\n    case 'shortDate':\n      formatValue = getLocaleDateFormat(locale, FormatWidth.Short);\n      break;\n    case 'mediumDate':\n      formatValue = getLocaleDateFormat(locale, FormatWidth.Medium);\n      break;\n    case 'longDate':\n      formatValue = getLocaleDateFormat(locale, FormatWidth.Long);\n      break;\n    case 'fullDate':\n      formatValue = getLocaleDateFormat(locale, FormatWidth.Full);\n      break;\n    case 'shortTime':\n      formatValue = getLocaleTimeFormat(locale, FormatWidth.Short);\n      break;\n    case 'mediumTime':\n      formatValue = getLocaleTimeFormat(locale, FormatWidth.Medium);\n      break;\n    case 'longTime':\n      formatValue = getLocaleTimeFormat(locale,
   FormatWidth.Long);\n      break;\n    case 'fullTime':\n      formatValue = getLocaleTimeFormat(locale, FormatWidth.Full);\n      break;\n    case 'short':\n      const shortTime = getNamedFormat(locale, 'shortTime');\n      const shortDate = getNamedFormat(locale, 'shortDate');\n      formatValue = formatDateTime(\n          getLocaleDateTimeFormat(locale, FormatWidth.Short), [shortTime, shortDate]);\n      break;\n    case 'medium':\n      const mediumTime = getNamedFormat(locale, 'mediumTime');\n      const mediumDate = getNamedFormat(locale, 'mediumDate');\n      formatValue = formatDateTime(\n          getLocaleDateTimeFormat(locale, FormatWidth.Medium), [mediumTime, mediumDate]);\n      break;\n    case 'long':\n      const longTime = getNamedFormat(locale, 'longTime');\n      const longDate = getNamedFormat(locale, 'longDate');\n      formatValue =\n          formatDateTime(getLocaleDateTimeFormat(locale, FormatWidth.Long), [longTime, longDate]);\n      break;\n
    case 'full':\n      const fullTime = getNamedFormat(locale, 'fullTime');\n      const fullDate = getNamedFormat(locale, 'fullDate');\n      formatValue =\n          formatDateTime(getLocaleDateTimeFormat(locale, FormatWidth.Full), [fullTime, fullDate]);\n      break;\n  }\n  if (formatValue) {\n    NAMED_FORMATS[localeId][format] = formatValue;\n  }\n  return formatValue;\n}\n\nfunction formatDateTime(str: string, opt_values: string[]) {\n  if (opt_values) {\n    str = str.replace(/\\{([^}]+)}/g, function(match, key) {\n      return (opt_values != null && key in opt_values) ? opt_values[key] : match;\n    });\n  }\n  return str;\n}\n\nfunction padNumber(\n    num: number, digits: number, minusSign = '-', trim?: boolean,
```

negWrap?: boolean): string {\n  let neg = '';\n  if (num < 0 || (negWrap && num <= 0)) {\n    if (negWrap) {\n      num = -num + 1;\n    } else {\n      num = -num;\n      neg = minusSign;\n    }\n  }\n  let strNum = String(num);\n  while (strNum.length < digits)
 {\n    strNum = '0' + strNum;\n  }\n  if (trim) {\n    strNum = strNum.substr(strNum.length - digits);\n  }\n  return neg + strNum;\n}\n\nfunction formatFractionalSeconds(milliseconds: number, digits: number): string {\n  const strMs = padNumber(milliseconds, 3);\n  return strMs.substr(0, digits);\n}\n\n/**\n * Returns a date formatter that transforms a date into its locale digit representation\n */\nfunction dateGetter(\n    name: DateType, size: number, offset: number = 0, trim = false,\n    negWrap = false): DateFormatter {\n  return function(date: Date, locale: string): string {\n    let part = getDatePart(name, date);\n    if (offset > 0 || part > -offset) {\n      part += offset;\n    }\n\n    if (name === DateType.Hours) {\n      if (part === 0 && offset === -12) {\n        part = 12;\n      }\n    } else if (name === DateType.FractionalSeconds) {\n      return formatFractionalSeconds(part, size);\n    }\n\n    const localeMinus = getLocaleNumberSymbol(locale, NumberSymbol.MinusSign);\n
    return padNumber(part, size, localeMinus, trim, negWrap);\n  };\n}\n\nfunction getDatePart(part: DateType, date: Date): number {\n  switch (part) {\n    case DateType.FullYear:\n      return date.getFullYear();\n    case DateType.Month:\n      return date.getMonth();\n    case DateType.Date:\n      return date.getDate();\n    case DateType.Hours:\n      return date.getHours();\n    case DateType.Minutes:\n      return date.getMinutes();\n    case DateType.Seconds:\n      return date.getSeconds();\n    case DateType.FractionalSeconds:\n      return date.getMilliseconds();\n    case DateType.Day:\n      return date.getDay();\n    default:\n      throw new Error(`Unknown DateType value \"${part}\".`);\n  }\n}\n\n/**\n * Returns a date formatter that transforms a date into its locale string representation\n */\nfunction dateStrGetter(\n    name: TranslationType, width: TranslationWidth, form: FormStyle = FormStyle.Format,\n    extended = false): DateFormatter {\n  return function(date:
 Date, locale: string): string {\n    return getDateTranslation(date, locale, name, width, form, extended);\n  };\n}\n\n/**\n * Returns the locale translation of a date for a given form, type and width\n */\nfunction getDateTranslation(\n    date: Date, locale: string, name: TranslationType, width: TranslationWidth, form: FormStyle,\n    extended: boolean) {\n  switch (name) {\n    case TranslationType.Months:\n      return getLocaleMonthNames(locale, form, width)[date.getMonth()];\n    case TranslationType.Days:\n      return getLocaleDayNames(locale, form, width)[date.getDay()];\n    case TranslationType.DayPeriods:\n      const currentHours = date.getHours();\n      const currentMinutes = date.getMinutes();\n      if (extended) {\n        const rules = getLocaleExtraDayPeriodRules(locale);\n        const dayPeriods = getLocaleExtraDayPeriods(locale, form, width);\n        const index = rules.findIndex(rule => {\n          if (Array.isArray(rule)) {\n            // morning,
 afternoon, evening, night\n            const [from, to] = rule;\n            const afterFrom = currentHours >= from.hours && currentMinutes >= from.minutes;\n            const beforeTo =\n                (currentHours < to.hours ||\n                (currentHours === to.hours && currentMinutes < to.minutes));\n            // We must account for normal rules that span a period during the day (e.g. 6am-9am)\n            // where `from` is less (earlier) than `to`. But also rules that span midnight (e.g.\n            // 10pm - 5am) where `from` is greater (later!) than `to`.\n            //\n            // In the first case the current time must be BOTH after `from` AND before `to`\n            // (e.g. 8am is after 6am AND before 10am).\n            //\n            // In the second case the current time must be EITHER after `from` OR before `to`\n            // (e.g. 4am is before 5am but not after 10pm; and 11pm is not before 5am but it is\n            // after 10pm).\n            if (from.hours
 < to.hours) {\n              if (afterFrom && beforeTo) {\n                return true;\n              }\n            } else if (afterFrom || beforeTo) {\n              return true;\n            }\n          } else {  // noon or midnight\n            if (rule.hours === currentHours && rule.minutes === currentMinutes) {\n              return true;\n            }\n          }\n          return false;\n        });\n        if (index !== -1) {\n          return dayPeriods[index];\n        }\n      }\n      // if no rules for the day periods, we use am/pm by default\n      return getLocaleDayPeriods(locale, form,
 <TranslationWidth>width)[currentHours < 12 ? 0 : 1];\n    case TranslationType.Eras:\n      return getLocaleEraNames(locale, <TranslationWidth>width)[date.getFullYear() <= 0 ? 0 : 1];\n    default:\n      // This default case is not needed by TypeScript compiler, as the switch is exhaustive.\n      // However Closure Compiler

does not understand that and reports an error
in typed mode.\n // The `throw new Error` below works around the problem, and the unexpected: never variable\n // makes sure tsc still checks this code is unreachable.\n const unexpected: never = name;\n throw new Error(`unexpected translation type ${unexpected}`);\n }\n}\n\n/**\n * Returns a date formatter that transforms a date and an offset into a timezone with ISO8601 or\n * GMT format depending on the width (eg: short = +0430, short:GMT = GMT+4, long = GMT+04:30,\n * extended = +04:30)\n */\nfunction timeZoneGetter(width: ZoneWidth): DateFormatter {\n return function(date: Date, locale: string, offset: number) {\n const zone = -1 * offset;\n const minusSign = getLocaleNumberSymbol(locale, NumberSymbol.MinusSign);\n const hours = zone > 0 ? Math.floor(zone / 60) : Math.ceil(zone / 60);\n switch (width) {\n case ZoneWidth.Short:\n return ((zone >= 0) ? '+' : '') + padNumber(hours, 2, minusSign) +\n padNumber(Math.abs(zone % 60), 2, minusSign);\n case ZoneWidth.ShortGMT:\n return 'GMT' + ((zone >= 0) ? '+' : '') + padNumber(hours, 1, minusSign);\n case ZoneWidth.Long:\n return 'GMT' + ((zone >= 0) ? '+' : '') + padNumber(hours, 2, minusSign) + ':' +\n padNumber(Math.abs(zone % 60), 2, minusSign);\n case ZoneWidth.Extended:\n if (offset === 0) {\n return 'Z';\n } else {\n return ((zone >= 0) ? '+' : '') + padNumber(hours, 2, minusSign) + ':' +\n padNumber(Math.abs(zone % 60), 2, minusSign);\n }\n default:\n throw new Error(`Unknown zone width \"${width}\"`);\n }\n };\n}\n\nconst JANUARY = 0;\nconst THURSDAY = 4;\nfunction getFirstThursdayOfYear(year: number) {\n const firstDayOfYear = (new Date(year, JANUARY, 1)).getDay();\n return new Date(\n year, 0, 1 + ((firstDayOfYear <= THURSDAY) ? THURSDAY : THURSDAY + 7) - firstDayOfYear);\n}\n\nfunction getThursdayThisWeek(datetime: Date) {\n return new Date(\n datetime.getFullYear(), datetime.getMonth(),\n datetime.getDate() + (THURSDAY - datetime.getDay()));\n}\n\nfunction weekGetter(size: number, monthBased = false): DateFormatter {\n return function(date: Date, locale: string) {\n let result;\n if (monthBased) {\n const nbDaysBefore1stDayOfMonth =\n new Date(date.getFullYear(), date.getMonth(), 1).getDay() - 1;\n const today = date.getDate();\n result = 1 + Math.floor((today + nbDaysBefore1stDayOfMonth) / 7);\n } else {\n const thisThurs = getThursdayThisWeek(date);\n // Some days of a year are part of next year according to ISO 8601.\n // Compute the firstThurs from the year of this week's Thursday\n const firstThurs = getFirstThursdayOfYear(thisThurs.getFullYear());\n const diff = thisThurs.getTime() - firstThurs.getTime();\n result = 1 + Math.round(diff / 6.048e8); // 6.048e8 ms per week\n }\n\n return padNumber(result, size, getLocaleNumberSymbol(locale,
NumberSymbol.MinusSign));\n };\n}\n\n/**\n * Returns a date formatter that provides the week-numbering year for the input date.\n */\nfunction weekNumberingYearGetter(size: number, trim = false): DateFormatter {\n return function(date: Date, locale: string) {\n const thisThurs = getThursdayThisWeek(date);\n const weekNumberingYear = thisThurs.getFullYear();\n return padNumber(\n weekNumberingYear, size, getLocaleNumberSymbol(locale, NumberSymbol.MinusSign), trim);\n };\n}\n\ntype DateFormatter = (date: Date, locale: string, offset: number) => string;\n\nconst DATE_FORMATS: {[format: string]: DateFormatter} = {};\n\n// Based on CLDR formats:\n// See complete list: http://www.unicode.org/reports/tr35/tr35-dates.html#Date_Field_Symbol_Table\n// See also explanations: http://cldr.unicode.org/translation/date-time\n// TODO(ocombe): support all missing cldr formats: Y, U, Q, D, F, e, c, j, J, C, A, v, V, X, x\nfunction getDateFormatter(format: string): DateFormatter|null
{\n if (DATE_FORMATS[format]) {\n return DATE_FORMATS[format];\n }\n let formatter;\n switch (format) {\n // Era name (AD/BC)\n case 'G':\n case 'GG':\n case 'GGG':\n formatter = dateStrGetter(TranslationType.Eras, TranslationWidth.Abbreviated);\n break;\n case 'GGGG':\n formatter = dateStrGetter(TranslationType.Eras, TranslationWidth.Wide);\n break;\n case 'GGGGG':\n formatter = dateStrGetter(TranslationType.Eras, TranslationWidth.Narrow);\n break;\n\n // 1 digit representation of the year, e.g. (AD 1 => 1, AD 199 => 199)\n case 'y':\n formatter = dateGetter(DateType.FullYear, 1, 0, false, true);\n break;\n // 2 digit representation of the year, padded (00-99). (e.g. AD 2001 => 01, AD 2010 => 10)\n case 'yy':\n formatter = dateGetter(DateType.FullYear, 2, 0, true, true);\n break;\n // 3 digit representation of the year, padded (000-999). (e.g. AD 2001 => 01, AD 2010 => 10)\n case 'yyy':\n

```
formatter = dateGetter(DateType.FullYear, 3, 0, false, true);\n break;\n // 4 digit representation of the year (e.g. AD 1 => 0001, AD 2010 => 2010)\n case 'yyyy':\n formatter = dateGetter(DateType.FullYear, 4, 0, false, true);\n break;\n\n // 1 digit representation of the week-numbering year, e.g. (AD 1 => 1, AD 199 => 199)\n case 'Y':\n formatter = weekNumberingYearGetter(1);\n break;\n // 2 digit representation of the week-numbering year, padded (00-99). (e.g. AD 2001 => 01, AD\n // 2010 => 10)\n case 'YY':\n formatter = weekNumberingYearGetter(2, true);\n break;\n // 3 digit representation of the week-numbering year, padded (000-999). (e.g. AD 1 => 001, AD\n // 2010 => 2010)\n case 'YYY':\n formatter = weekNumberingYearGetter(3);\n break;\n // 4 digit representation of the week-numbering year (e.g. AD 1 => 0001, AD 2010 => 2010)\n case 'YYYY':\n formatter = weekNumberingYearGetter(4);\n break;\n\n // Month of the year (1-12), numeric\n case 'M':\n case 'L':\n formatter = dateGetter(DateType.Month, 1, 1);\n break;\n case 'MM':\n case 'LL':\n formatter = dateGetter(DateType.Month, 2, 1);\n break;\n\n // Month of the year (January, ...), string, format\n case 'MMM':\n formatter = dateStrGetter(TranslationType.Months, TranslationWidth.Abbreviated);\n break;\n case 'MMMM':\n formatter = dateStrGetter(TranslationType.Months, TranslationWidth.Wide);\n break;\n case 'MMMMM':\n formatter = dateStrGetter(TranslationType.Months, TranslationWidth.Narrow);\n break;\n\n // Month of the year (January, ...), string, standalone\n case 'LLL':\n formatter =\n dateStrGetter(TranslationType.Months, TranslationWidth.Abbreviated, FormStyle.Standalone);\n break;\n case 'LLLL':\n formatter =\n dateStrGetter(TranslationType.Months, TranslationWidth.Wide, FormStyle.Standalone);\n break;\n case 'LLLLL':\n formatter =\n dateStrGetter(TranslationType.Months, TranslationWidth.Narrow, FormStyle.Standalone);\n break;\n\n // Week of the year (1, ... 52)\n case 'w':\n formatter = weekGetter(1);\n break;\n case 'ww':\n formatter = weekGetter(2);\n break;\n\n // Week of the month (1, ...)\n case 'W':\n formatter = weekGetter(1, true);\n break;\n\n // Day of the month (1-31)\n case 'd':\n formatter = dateGetter(DateType.Date, 1);\n break;\n case 'dd':\n formatter = dateGetter(DateType.Date, 2);\n break;\n\n // Day of the Week\n case 'E':\n case 'EE':\n case 'EEE':\n formatter = dateStrGetter(TranslationType.Days, TranslationWidth.Abbreviated);\n break;\n case 'EEEE':\n formatter = dateStrGetter(TranslationType.Days, TranslationWidth.Wide);\n break;\n case 'EEEEE':\n formatter = dateStrGetter(TranslationType.Days, TranslationWidth.Narrow);\n break;\n case 'EEEEEE':\n formatter = dateStrGetter(TranslationType.Days, TranslationWidth.Short);\n break;\n\n // Generic period of the day (am-pm)\n case 'a':\n case 'aa':\n case 'aaa':\n formatter = dateStrGetter(TranslationType.DayPeriods, TranslationWidth.Abbreviated);\n break;\n case 'aaaa':\n formatter = dateStrGetter(TranslationType.DayPeriods, TranslationWidth.Wide);\n break;\n case 'aaaaa':\n formatter = dateStrGetter(TranslationType.DayPeriods, TranslationWidth.Narrow);\n break;\n\n // Extended period of the day (midnight, at night, ...), standalone\n case 'b':\n case 'bb':\n case 'bbb':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Abbreviated, FormStyle.Standalone, true);\n break;\n case 'bbbb':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Wide, FormStyle.Standalone, true);\n break;\n case 'bbbbb':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Narrow, FormStyle.Standalone, true);\n break;\n\n // Extended period of the day (midnight, night, ...), standalone\n case 'B':\n case 'BB':\n case 'BBB':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Abbreviated, FormStyle.Format, true);\n break;\n case 'BBBB':\n formatter =\n dateStrGetter(TranslationType.DayPeriods, TranslationWidth.Wide, FormStyle.Format, true);\n break;\n case 'BBBBB':\n formatter = dateStrGetter(\n TranslationType.DayPeriods, TranslationWidth.Narrow, FormStyle.Format, true);\n break;\n\n // Hour in AM/PM, (1-12)\n case 'h':\n formatter = dateGetter(DateType.Hours, 1, -12);\n break;\n case 'hh':\n formatter = dateGetter(DateType.Hours, 2, -12);\n break;\n\n // Hour of the day (0-23)\n case 'H':\n formatter
= dateGetter(DateType.Hours, 1);\n break;\n // Hour in day, padded (00-23)\n case 'HH':\n formatter = dateGetter(DateType.Hours, 2);\n break;\n\n // Minute of the hour (0-59)\n case 'm':\n formatter =
```

dateGetter(DateType.Minutes, 1);\n break;\n case 'mm':\n formatter = dateGetter(DateType.Minutes, 2);\n break;\n\n // Second of the minute (0-59)\n case 's':\n formatter = dateGetter(DateType.Seconds, 1);\n break;\n case 'ss':\n formatter = dateGetter(DateType.Seconds, 2);\n break;\n\n // Fractional second\n case 'S':\n formatter = dateGetter(DateType.FractionalSeconds, 1);\n break;\n case 'SS':\n formatter = dateGetter(DateType.FractionalSeconds, 2);\n break;\n case 'SSS':\n formatter = dateGetter(DateType.FractionalSeconds, 3);\n break;\n\n\n // Timezone ISO8601 short format (-0430)\n case 'Z':\n case 'ZZ':\n case 'ZZZ':\n formatter = timeZoneGetter(ZoneWidth.Short);\n break;\n // Timezone ISO8601 extended format (-04:30)\n case 'ZZZZZ':\n formatter = timeZoneGetter(ZoneWidth.Extended);\n break;\n\n // Timezone GMT short format (GMT+4)\n case 'O':\n case 'OO':\n case 'OOO':\n // Should be location, but fallback to format O instead because we don't have the data yet\n case 'z':\n case 'zz':\n case 'zzz':\n formatter = timeZoneGetter(ZoneWidth.ShortGMT);\n break;\n // Timezone GMT long format (GMT+0430)\n case 'OOOO':\n case 'ZZZZ':\n // Should be location, but fallback to format O instead because we don't have the data yet\n case 'zzzz':\n formatter = timeZoneGetter(ZoneWidth.Long);\n break;\n default:\n return null;\n }\n DATE_FORMATS[format] = formatter;\n return formatter;\n}\n\nfunction timezoneToOffset(timezone: string, fallback: number): number {\n // Support: IE 11 only, Edge 13-15+\n // IE/Edge do not \"understand\" colon (`:`) in timezone\n timezone = timezone.replace(/:/g, '');\n const requestedTimezoneOffset = Date.parse('Jan 01, 1970 00:00:00 ' + timezone) / 60000;\n return isNaN(requestedTimezoneOffset) ? fallback : requestedTimezoneOffset;\n}\n\nfunction addDateMinutes(date: Date, minutes: number) {\n date = new Date(date.getTime());\n date.setMinutes(date.getMinutes() + minutes);\n return date;\n}\n\nfunction convertTimezoneToLocal(date: Date, timezone: string, reverse: boolean): Date {\n const reverseValue = reverse ? -1 : 1;\n const dateTimezoneOffset = date.getTimezoneOffset();\n const timezoneOffset = timezoneToOffset(timezone, dateTimezoneOffset);\n return addDateMinutes(date, reverseValue * (timezoneOffset - dateTimezoneOffset));\n}\n\n/**\n * Converts a value to date.\n *\n * Supported input formats:\n * - `Date`\n * - number: timestamp\n * - string: numeric (e.g. \"1234\"), ISO and date strings in a format supported by\n * [Date.parse()](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Date/parse).\n * Note: ISO strings without time return a date without timeoffset.\n *\n * Throws if unable to convert to a date.\n */\nexport function toDate(value: string|number|Date): Date {\n if (isDate(value)) {\n return value;\n }\n\n if (typeof value === 'number' && !isNaN(value)) {\n return new Date(value);\n }\n\n if (typeof value === 'string') {\n value = value.trim();\n\n\n const parsedNb = parseFloat(value);\n\n\n // any string that only contains numbers, like \"1234\" but not like \"1234hello\"\n if (!isNaN(value as any - parsedNb)) {\n return new Date(parsedNb);\n }\n\n if (/^(\\d{4}-\\d{1,2}-\\d{1,2})$/.test(value)) {\n /* For ISO Strings without time the day, month and year must be extracted from the ISO String\n before Date creation to avoid time offset and errors in the new Date.\n If we only replace '-' with ',' in the ISO String (\"2015,01,01\"), and try to create a new\n date, some browsers\n (e.g. IE 9) will throw an invalid Date error.\n If we leave the '-' (\"2015-01-01\") and try to create a new Date(\"2015-01-01\") the timeoffset\n is applied.\n Note: ISO months are 0 for January, 1 for February, ... */\n const [y, m, d] = value.split('-').map((val: string) => +val);\n return new Date(y, m - 1, d);\n }\n\n let match: RegExpMatchArray|null;\n if (match = value.match(ISO8601_DATE_REGEX)) {\n return isoStringToDate(match);\n }\n }\n\n const date = new Date(value as any);\n if (!isDate(date)) {\n throw new Error(`Unable to convert \"${value}\" into a date`);\n }\n return date;\n}\n\n/**\n * Converts a date in ISO8601 to a Date.\n * Used instead of `Date.parse` because of browser discrepancies.\n */\nexport function isoStringToDate(match: RegExpMatchArray): Date {\n const date = new Date(0);\n let tzHour = 0;\n let tzMin = 0;\n\n // match[8] means that the string contains \"Z\" (UTC) or a timezone like \"+01:00\" or \"+0100\"\n const dateSetter = match[8] ? date.setUTCFullYear : date.setFullYear;\n const timeSetter = match[8] ? date.setUTCHours : date.setHours;\n\n // if there is a timezone defined like \"+01:00\" or \"+0100\"\n if (match[9]) {\n tzHour = Number(match[9] + match[10]);\n tzMin = Number(match[9] + match[11]);\n }\n dateSetter.call(date, Number(match[1]), Number(match[2]) - 1, Number(match[3]));\n const h = Number(match[4

|| 0) - tzHour;\n  const m = Number(match[5] || 0) - tzMin;\n  const s = Number(match[6] || 0);\n  // The ECMAScript specification (https://www.ecma-international.org/ecma-262/5.1/#sec-15.9.1.11)\n  // defines that `DateTime` milliseconds should always be rounded down, so that `999.9ms`\n  // becomes `999ms`.\n  const ms = Math.floor(parseFloat('0.' + (match[7] || 0)) * 1000);\n  timeSetter.call(date, h, m, s, ms);\n  return date;\n}\n\nexport function isDate(value: any): value is Date {\n  return value instanceof Date && !isNaN(value.valueOf());\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getLocaleNumberFormat, getLocaleNumberSymbol, getNumberOfCurrencyDigits, NumberFormatStyle, NumberSymbol} from './locale_data_api';\n\nexport const NUMBER_FORMAT_REGEXP = /^(\\d+)?\\.((\\d+)(-(\\d+))?)?$/;\nconst MAX_DIGITS = 22;\nconst DECIMAL_SEP = '.';\nconst ZERO_CHAR = '0';\nconst PATTERN_SEP = ';';\nconst GROUP_SEP = ',';\nconst DIGIT_CHAR = '#';\nconst CURRENCY_CHAR = '¤';\nconst PERCENT_CHAR = '%';\n\n/**\n * Transforms a number to a locale string based on a style and a format.\n */\nfunction formatNumberToLocaleString(\n    value: number, pattern: ParsedNumberFormat, locale: string, groupSymbol: NumberSymbol,\n    decimalSymbol: NumberSymbol, digitsInfo?: string, isPercent = false): string {\n  let formattedText = '';\n  let isZero = false;\n\n  if (!isFinite(value))
  {\n    formattedText = getLocaleNumberSymbol(locale, NumberSymbol.Infinity);\n  } else {\n    let parsedNumber = parseNumber(value);\n\n    if (isPercent) {\n      parsedNumber = toPercent(parsedNumber);\n    }\n\n    let minInt = pattern.minInt;\n    let minFraction = pattern.minFrac;\n    let maxFraction = pattern.maxFrac;\n\n    if (digitsInfo) {\n      const parts = digitsInfo.match(NUMBER_FORMAT_REGEXP);\n      if (parts === null) {\n        throw new Error(`${digitsInfo} is not a valid digit info`);\n      }\n      const minIntPart = parts[1];\n      const minFractionPart = parts[3];\n      const maxFractionPart = parts[5];\n      if (minIntPart != null) {\n        minInt = parseIntAutoRadix(minIntPart);\n      }\n      if (minFractionPart != null) {\n        minFraction = parseIntAutoRadix(minFractionPart);\n      }\n      if (maxFractionPart != null) {\n        maxFraction = parseIntAutoRadix(maxFractionPart);\n      } else if (minFractionPart != null && minFraction
    > maxFraction) {\n        maxFraction = minFraction;\n      }\n    }\n\n    roundNumber(parsedNumber, minFraction, maxFraction);\n\n    let digits = parsedNumber.digits;\n    let integerLen = parsedNumber.integerLen;\n    const exponent = parsedNumber.exponent;\n    let decimals = [];\n    isZero = digits.every(d => !d);\n\n    // pad zeros for small numbers\n    for (; integerLen < minInt; integerLen++) {\n      digits.unshift(0);\n    }\n\n    // pad zeros for small numbers\n    for (; integerLen < 0; integerLen++) {\n      digits.unshift(0);\n    }\n\n    // extract decimals digits\n    if (integerLen > 0) {\n      decimals = digits.splice(integerLen, digits.length);\n    } else {\n      decimals = digits;\n      digits = [0];\n    }\n\n    // format the integer digits with grouping separators\n    const groups = [];\n    if (digits.length >= pattern.lgSize) {\n      groups.unshift(digits.splice(-pattern.lgSize, digits.length).join(''));\n    }\n\n    while (digits.length > pattern.gSize)
    {\n      groups.unshift(digits.splice(-pattern.gSize, digits.length).join(''));\n    }\n\n    if (digits.length) {\n      groups.unshift(digits.join(''));\n    }\n\n    formattedText = groups.join(getLocaleNumberSymbol(locale, groupSymbol));\n\n    // append the decimal digits\n    if (decimals.length) {\n      formattedText += getLocaleNumberSymbol(locale, decimalSymbol) + decimals.join('');\n    }\n\n    if (exponent) {\n      formattedText += getLocaleNumberSymbol(locale, NumberSymbol.Exponential) + '+' + exponent;\n    }\n  }\n\n  if (value < 0 && !isZero) {\n    formattedText = pattern.negPre + formattedText + pattern.negSuf;\n  } else {\n    formattedText = pattern.posPre + formattedText + pattern.posSuf;\n  }\n\n  return formattedText;\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Formats a number as currency using locale rules.\n *\n * @param value The number to format.\n * @param locale A locale code for the locale format rules to use.\n * @param currency
    A string containing the currency symbol or its name,\n * such as \"$\" or \"Canadian Dollar\". Used in output string, but does not affect the operation\n * of the function.\n * @param currencyCode The [ISO 4217](https://en.wikipedia.org/wiki/ISO_4217)\n * currency code, such as `USD` for the US dollar and `EUR` for the euro.\n * Used to determine the number of digits in the decimal part.\n * @param digitInfo Decimal representation options, specified by a string in the following format:\n * `{minIntegerDigits}.{minFractionDigits}-

{maxFractionDigits}`. See `DecimalPipe` for more details.\n *\n * @returns The formatted currency value.\n *\n * @see `formatNumber()`\n * @see `DecimalPipe`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function formatCurrency(\n value: number, locale: string, currency: string, currencyCode?: string,\n digitsInfo?: string): string {\n const format = getLocaleNumberFormat(locale, NumberFormatStyle.Currency);\n const pattern = parseNumberFormat(format, getLocaleNumberSymbol(locale, NumberSymbol.MinusSign));\n\n pattern.minFrac = getNumberOfCurrencyDigits(currencyCode!);\n pattern.maxFrac = pattern.minFrac;\n\n const res = formatNumberToLocaleString(\n value, pattern, locale, NumberSymbol.CurrencyGroup, NumberSymbol.CurrencyDecimal, digitsInfo);\n return res\n .replace(CURRENCY_CHAR, currency)\n // if we have 2 time the currency character, the second one is ignored\n .replace(CURRENCY_CHAR, '')\n // If there is a spacing between currency character and the value and\n // the currency character is supressed by passing an empty string, the\n // spacing character would remain as part of the string. Then we\n // should remove it.\n .trim();\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Formats a number as a percentage according to locale rules.\n *\n * @param value The number to format.\n * @param locale A locale code for the locale format rules to use.\n * @param digitInfo Decimal representation options, specified by a string in the following format:\n * `{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}`. See `DecimalPipe` for more details.\n *\n * @returns The formatted percentage value.\n *\n * @see `formatNumber()`\n * @see `DecimalPipe`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n * @publicApi\n *\n */\nexport function formatPercent(value: number, locale: string, digitsInfo?: string): string {\n const format = getLocaleNumberFormat(locale, NumberFormatStyle.Percent);\n const pattern = parseNumberFormat(format, getLocaleNumberSymbol(locale, NumberSymbol.MinusSign));\n const res = formatNumberToLocaleString(\n value, pattern, locale, NumberSymbol.Group, NumberSymbol.Decimal, digitsInfo, true);\n return res.replace(\n new RegExp(PERCENT_CHAR, 'g'), getLocaleNumberSymbol(locale, NumberSymbol.PercentSign));\n}\n\n/**\n * @ngModule CommonModule\n
 * @description\n *\n * Formats a number as text, with group sizing, separator, and other\n * parameters based on the locale.\n *\n * @param value The number to format.\n * @param locale A locale code for the locale format rules to use.\n * @param digitInfo Decimal representation options, specified by a string in the following format:\n * `{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}`. See `DecimalPipe` for more details.\n *\n * @returns The formatted text string.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n *\n * @publicApi\n */\nexport function formatNumber(value: number, locale: string, digitsInfo?: string): string {\n const format = getLocaleNumberFormat(locale, NumberFormatStyle.Decimal);\n const pattern = parseNumberFormat(format, getLocaleNumberSymbol(locale, NumberSymbol.MinusSign));\n return formatNumberToLocaleString(\n value, pattern, locale, NumberSymbol.Group, NumberSymbol.Decimal, digitsInfo);\n}\n\ninterface
 ParsedNumberFormat {\n minInt: number;\n // the minimum number of digits required in the fraction part of the number\n minFrac: number;\n // the maximum number of digits required in the fraction part of the number\n maxFrac: number;\n // the prefix for a positive number\n posPre: string;\n // the suffix for a positive number\n posSuf: string;\n // the prefix for a negative number (e.g. `-` or `(`))\n negPre: string;\n // the suffix for a negative number (e.g. `)`)\n negSuf: string;\n // number of digits in each group of separated digits\n gSize: number;\n // number of digits in the last group of digits before the decimal separator\n lgSize: number;\n}\n\nfunction parseNumberFormat(format: string, minusSign = '-'): ParsedNumberFormat {\n const p = {\n minInt: 1,\n minFrac: 0,\n maxFrac: 0,\n posPre: '',\n posSuf: '',\n negPre: '',\n negSuf: '',\n gSize: 0,\n lgSize: 0\n };\n\n const patternParts = format.split(PATTERN_SEP);\n const positive
 = patternParts[0];\n const negative = patternParts[1];\n\n const positiveParts = positive.indexOf(DECIMAL_SEP) !== -1 ?\n positive.split(DECIMAL_SEP) :\n [\n positive.substring(0, positive.lastIndexOf(ZERO_CHAR) + 1),\n positive.substring(positive.lastIndexOf(ZERO_CHAR) + 1)\n ],\n integer = positiveParts[0], fraction = positiveParts[1] || '';\n\n p.posPre = integer.substr(0, integer.indexOf(DIGIT_CHAR));\n\n for (let i = 0; i < fraction.length; i++) {\n const ch = fraction.charAt(i);\n

if (ch === ZERO_CHAR) {\n p.minFrac = p.maxFrac = i + 1;\n } else if (ch === DIGIT_CHAR) {\n p.maxFrac = i + 1;\n } else {\n p.posSuf += ch;\n }\n }\n\n const groups = integer.split(GROUP_SEP);\n p.gSize = groups[1] ? groups[1].length : 0;\n p.lgSize = (groups[2] || groups[1]) ? (groups[2] || groups[1]).length : 0;\n\n if (negative) {\n const trunkLen = positive.length - p.posPre.length - p.posSuf.length,\n pos = negative.indexOf(DIGIT_CHAR);\n\n p.negPre = negative.substr(0, pos).replace(/'/g, '');\n p.negSuf = negative.substr(pos + trunkLen).replace(/'/g, '');\n } else {\n p.negPre = minusSign + p.posPre;\n p.negSuf = p.posSuf;\n }\n\n return p;\n}\n\ninterface ParsedNumber {\n // an array of digits containing leading zeros as necessary\n digits: number[];\n // the exponent for numbers that would need more than `MAX_DIGITS` digits in `d`\n exponent: number;\n // the number of the digits in `d` that are to the left of the decimal point\n integerLen: number;\n}\n\n// Transforms a parsed number into a percentage by multiplying it by 100\nfunction toPercent(parsedNumber: ParsedNumber): ParsedNumber {\n // if the number is 0, don't do anything\n if (parsedNumber.digits[0] === 0) {\n return parsedNumber;\n }\n\n // Getting the current number of decimals\n const fractionLen = parsedNumber.digits.length - parsedNumber.integerLen;\n if (parsedNumber.exponent) {\n parsedNumber.exponent += 2;\n } else {\n if (fractionLen === 0) {\n parsedNumber.digits.push(0, 0);\n } else if (fractionLen === 1) {\n parsedNumber.digits.push(0);\n }\n parsedNumber.integerLen += 2;\n }\n\n return parsedNumber;\n}\n\n/**\n * Parses a number.\n * Significant bits of this parse algorithm came from https://github.com/MikeMcl/big.js/\n */\nfunction parseNumber(num: number): ParsedNumber {\n let numStr = Math.abs(num) + '';\n let exponent = 0, digits, integerLen;\n let i, j, zeros;\n\n // Decimal point?\n if ((integerLen = numStr.indexOf(DECIMAL_SEP)) > -1) {\n numStr = numStr.replace(DECIMAL_SEP, '');\n }\n\n // Exponential form?\n if ((i = numStr.search(/e/i)) > 0) {\n // Work out the exponent.\n if (integerLen < 0) integerLen = i;\n integerLen += +numStr.slice(i + 1);\n numStr = numStr.substring(0, i);\n } else if (integerLen < 0) {\n // There was no decimal point or exponent so it is an integer.\n integerLen = numStr.length;\n }\n\n // Count the number of leading zeros.\n for (i = 0; numStr.charAt(i) === ZERO_CHAR; i++) { /* empty */\n }\n\n if (i === (zeros = numStr.length)) {\n // The digits are all zero.\n digits = [0];\n integerLen = 1;\n } else {\n // Count the number of trailing zeros\n zeros--;\n while (numStr.charAt(zeros) === ZERO_CHAR) zeros--;\n\n // Trailing zeros are insignificant so ignore them\n integerLen -= i;\n digits = [];\n // Convert string to array of digits without leading/trailing zeros.\n for (j = 0; i <= zeros; i++, j++) {\n digits[j] = Number(numStr.charAt(i));\n }\n }\n\n // If the number overflows the maximum allowed digits then use an exponent.\n if (integerLen > MAX_DIGITS) {\n digits = digits.splice(0, MAX_DIGITS - 1);\n exponent = integerLen - 1;\n integerLen = 1;\n }\n\n return {digits, exponent, integerLen};\n}\n\n/**\n * Round the parsed number to the specified number of decimal places\n * This function changes the parsedNumber in-place\n */\nfunction roundNumber(parsedNumber: ParsedNumber, minFrac: number, maxFrac: number) {\n if (minFrac > maxFrac) {\n throw new Error(`The minimum number of digits after fraction (${\n minFrac}) is higher than the maximum (${maxFrac}).`);\n }\n\n let digits = parsedNumber.digits;\n let fractionLen = digits.length - parsedNumber.integerLen;\n const fractionSize = Math.min(Math.max(minFrac, fractionLen), maxFrac);\n\n // The index of the digit to where rounding is to occur\n let roundAt = fractionSize + parsedNumber.integerLen;\n let digit = digits[roundAt];\n\n if (roundAt > 0) {\n // Drop fractional digits beyond `roundAt`\n digits.splice(Math.max(parsedNumber.integerLen, roundAt));\n\n // Set non-fractional digits beyond `roundAt` to 0\n for (let j = roundAt; j < digits.length; j++) {\n digits[j] = 0;\n }\n } else {\n // We rounded to zero so reset the parsedNumber\n fractionLen = Math.max(0, fractionLen);\n parsedNumber.integerLen = 1;\n digits.length = Math.max(1, roundAt = fractionSize + 1);\n digits[0] = 0;\n for (let i = 1; i < roundAt; i++) digits[i] = 0;\n }\n\n if (digit >= 5) {\n if (roundAt - 1 < 0) {\n for (let k = 0; k > roundAt; k--) {\n digits.unshift(0);\n parsedNumber.integerLen++;\n }\n digits.unshift(1);\n parsedNumber.integerLen++;\n } else {\n digits[roundAt - 1]++;\n }\n }\n\n // Pad out with zeros to get the required fraction length\n for (; fractionLen < Math.max(0, fractionSize); fractionLen++) digits.push(0);\n\n let dropTrailingZeros = fractionSize !== 0;\n // Minimal length = nb of decimals required + current nb of integers\n // Any number besides that is optional and can be removed if it's a trailing 0\n const minLen = minFrac +

parsedNumber.integerLen;\n  // Do any carrying, e.g. a digit was rounded up to 10\n  const carry = digits.reduceRight(function(carry, d, i, digits) {\n    d = d + carry;\n    digits[i] = d < 10 ? d : d - 10;  // d % 10\n    if (dropTrailingZeros) {\n      // Do not keep meaningless fractional trailing zeros (e.g. 15.52000 --> 15.52)\n      if (digits[i] === 0 && i >= minLen) {\n        digits.pop();\n      } else {\n        dropTrailingZeros = false;\n      }\n    }\n    return d >= 10 ? 1 : 0;  // Math.floor(d / 10);\n  }, 0);\n  if (carry) {\n    digits.unshift(carry);\n    parsedNumber.integerLen++;\n  }\n}\n\nexport function parseIntAutoRadix(text: string): number {\n  const result: number = parseInt(text);\n  if (isNaN(result)) {\n    throw new Error('Invalid integer literal when parsing ' + text);\n  }\n  return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, Injectable, LOCALE_ID} from '@angular/core';\n\nimport {getLocalePluralCase, Plural} from './locale_data_api';\n\n\n/**\n * @publicApi\n */\nexport abstract class NgLocalization {\n  abstract getPluralCategory(value: any, locale?: string): string;\n}\n\n\n/**\n * Returns the plural category for a given value.\n * - \"=value\" when the case exists,\n * - the plural category otherwise\n */\nexport function getPluralCategory(\n    value: number, cases: string[], ngLocalization: NgLocalization, locale?: string): string {\n  let key = `=${value}`;\n\n  if (cases.indexOf(key) > -1) {\n    return key;\n  }\n\n  key = ngLocalization.getPluralCategory(value, locale);\n\n  if (cases.indexOf(key) > -1) {\n    return key;\n  }\n\n  if (cases.indexOf('other') > -1) {\n    return 'other';\n  }\n\n  throw new Error(`No plural message found for value \"${value}\"`);\n}\n\n/**\n * Returns the plural case based on the locale\n *\n * @publicApi\n */\n@Injectable()\nexport class NgLocaleLocalization extends NgLocalization {\n  constructor(@Inject(LOCALE_ID) protected locale: string) {\n    super();\n  }\n\n  getPluralCategory(value: any, locale?: string): string {\n    const plural = getLocalePluralCase(locale || this.locale)(value);\n\n    switch (plural) {\n      case Plural.Zero:\n        return 'zero';\n      case Plural.One:\n        return 'one';\n      case Plural.Two:\n        return 'two';\n      case Plural.Few:\n        return 'few';\n      case Plural.Many:\n        return 'many';\n      default:\n        return 'other';\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {registerLocaleData} from '@angular/core';\n\n\n/**\n * Register global data to be used internally by Angular. See the\n * [\"I18n guide\"](guide/i18n#i18n-pipes) to know how to import additional locale data.\n *\n * The signature registerLocaleData(data: any, extraData?: any) is deprecated since v5.1\n *\n * @publicApi\n */\nexport function registerLocaleData(data: any, localeId?: string|any, extraData?: any): void {\n  return registerLocaleData(data, localeId, extraData);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function parseCookieValue(cookieStr: string, name: string): string|null {\n  name = encodeURIComponent(name);\n  for (const cookie of cookieStr.split(';')) {\n    const eqIndex = cookie.indexOf('=');\n    const [cookieName, cookieValue]: string[] =\n        eqIndex == -1 ? [cookie, ''] : [cookie.slice(0, eqIndex), cookie.slice(eqIndex + 1)];\n    if (cookieName.trim() === name) {\n      return decodeURIComponent(cookieValue);\n    }\n  }\n  return null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, DoCheck, ElementRef, Input, IterableChanges, IterableDiffer, IterableDiffers, KeyValueChanges, KeyValueDiffer, KeyValueDiffers, Renderer2, isListLikeIterable as isListLikeIterable, stringify as stringify} from '@angular/core';\n\ntype NgClassSupportedTypes = string[]|Set<string>|{[klass: string]: any}|null|undefined;\n\n/**\n * @ngModule CommonModule\n *\n * @usageNotes\n * ```\n *     <some-element [ngClass]=\"'first second'\">...</some-element>\n *\n *     <some-element [ngClass]=\"['first', 'second']\">...</some-element>\n *\n *     <some-element [ngClass]=\"{'first': true, 'second': true, 'third': false}\">...</some-element>\n *\n *     <some-element [ngClass]=\"stringExp|arrayExp|objExp\">...</some-element>\n *\n *     <some-element [ngClass]=\"{'class1 class2 class3' : true}\">...</some-element>\n * ```\n *\n * @description\n *\n * Adds and removes CSS classes on an HTML element.\n *\n * The CSS classes

are updated as follows, depending on the type of the expression evaluation:\n * - `string` - the CSS classes listed in the string (space delimited) are added,\n * - `Array` - the CSS classes declared as Array elements are added,\n * - `Object` - keys are CSS classes that get added when the expression given in the value\n * evaluates to a truthy value, otherwise they are removed.\n *\n * @publicApi\n */\n@Directive({selector: '[ngClass]'})\nexport class NgClass implements DoCheck {\n private _iterableDiffer: IterableDiffer<string>|null = null;\n private _keyValueDiffer: KeyValueDiffer<string, any>|null = null;\n private _initialClasses: string[] = [];\n private _rawClass: NgClassSupportedTypes = null;\n\n constructor(\n private _iterableDiffers: IterableDiffers, private _keyValueDiffers: KeyValueDiffers,\n private _ngEl: ElementRef, private _renderer: Renderer2) {}\n\n\n @Input('class')\n set klass(value: string) {\n this._removeClasses(this._initialClasses);\n this._initialClasses = typeof value === 'string' ? value.split(/\\s+/) : [];\n this._applyClasses(this._initialClasses);\n this._applyClasses(this._rawClass);\n }\n\n @Input('ngClass')\n set ngClass(value: string|string[]|Set<string>|{[klass: string]: any}) {\n this._removeClasses(this._rawClass);\n this._applyClasses(this._initialClasses);\n\n this._iterableDiffer = null;\n this._keyValueDiffer = null;\n\n this._rawClass = typeof value === 'string' ? value.split(/\\s+/) : value;\n\n if (this._rawClass) {\n if (isListLikeIterable(this._rawClass)) {\n this._iterableDiffer = this._iterableDiffers.find(this._rawClass).create();\n } else {\n this._keyValueDiffer = this._keyValueDiffers.find(this._rawClass).create();\n }\n }\n }\n\n ngDoCheck() {\n if (this._iterableDiffer) {\n const iterableChanges = this._iterableDiffer.diff(this._rawClass as string[]);\n if (iterableChanges) {\n this._applyIterableChanges(iterableChanges);\n }\n } else if (this._keyValueDiffer) {\n const keyValueChanges = this._keyValueDiffer.diff(this._rawClass as {[k: string]: any});\n if (keyValueChanges) {\n this._applyKeyValueChanges(keyValueChanges);\n }\n }\n }\n\n private _applyKeyValueChanges(changes: KeyValueChanges<string, any>): void {\n changes.forEachAddedItem((record) => this._toggleClass(record.key, record.currentValue));\n changes.forEachChangedItem((record) => this._toggleClass(record.key, record.currentValue));\n changes.forEachRemovedItem((record) => {\n if (record.previousValue) {\n this._toggleClass(record.key, false);\n }\n });\n }\n\n private _applyIterableChanges(changes: IterableChanges<string>): void {\n changes.forEachAddedItem((record) => {\n if (typeof record.item === 'string') {\n this._toggleClass(record.item, true);\n } else {\n throw new Error(`NgClass can only toggle CSS classes expressed\n as strings, got ${\n stringify(record.item)}`);\n }\n });\n\n changes.forEachRemovedItem((record) => this._toggleClass(record.item, false));\n }\n\n /**\n * Applies a collection of CSS classes to the DOM element.\n *\n * For argument of type Set and Array CSS class names contained in those collections are always\n * added.\n * For argument of type Map CSS class name in the map's key is toggled based on the value (added\n * for truthy and removed for falsy).\n */\n private _applyClasses(rawClassVal: NgClassSupportedTypes) {\n if (rawClassVal) {\n if (Array.isArray(rawClassVal) || rawClassVal instanceof Set) {\n (<any>rawClassVal).forEach((klass: string) => this._toggleClass(klass, true));\n } else {\n Object.keys(rawClassVal).forEach(klass => this._toggleClass(klass, !!rawClassVal[klass]));\n }\n }\n }\n\n /**\n * Removes a collection of CSS classes from the DOM element. This is mostly useful for cleanup\n * purposes.\n */\n private _removeClasses(rawClassVal: NgClassSupportedTypes) {\n if (rawClassVal) {\n if (Array.isArray(rawClassVal) || rawClassVal instanceof Set) {\n (<any>rawClassVal).forEach((klass: string) => this._toggleClass(klass, false));\n } else {\n Object.keys(rawClassVal).forEach(klass => this._toggleClass(klass, false));\n }\n }\n }\n\n private _toggleClass(klass: string, enabled: boolean): void {\n klass = klass.trim();\n if (klass) {\n klass.split(/\\s+/g).forEach(klass => {\n if (enabled) {\n this._renderer.addClass(this._ngEl.nativeElement, klass);\n } else {\n this._renderer.removeClass(this._ngEl.nativeElement, klass);\n }\n });\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentFactoryResolver,

ComponentRef, Directive, Injector, Input, NgModuleFactory, NgModuleRef, OnChanges, OnDestroy, SimpleChanges, StaticProvider, Type, ViewContainerRef} from '@angular/core';\n\n\n/**\n * Instantiates a single {@link Component} type and inserts its Host View into current View.\n * `NgComponentOutlet` provides a declarative approach for dynamic component creation.\n *\n * `NgComponentOutlet` requires a component type, if a falsy value is set the view will clear and\n * any existing component will get destroyed.\n *\n * @usageNotes\n *\n * ### Fine tune control\n *\n * You can control the component creation process by using the following optional attributes:\n *\n * * `ngComponentOutletInjector`: Optional custom {@link Injector} that will be used as parent for\n * the Component. Defaults to the injector of the current view container.\n *\n * * `ngComponentOutletContent`: Optional list of projectable nodes to insert into the content\n * section of the component, if exists.\n *\n * * `ngComponentOutletNgModuleFactory`: Optional module factory to allow dynamically loading other\n * module, then load a component from that module.\n *\n * ### Syntax\n *\n * Simple\n * ```\n * <ng-container *ngComponentOutlet=\"componentTypeExpression\"></ng-container>\n * ```\n *\n * Customized injector/content\n * ```\n * <ng-container *ngComponentOutlet=\"componentTypeExpression;\n *  injector: injectorExpression;\n *  content: contentNodesExpression;\">\n * </ng-container>\n * ```\n *\n * Customized ngModuleFactory\n * ```\n * <ng-container *ngComponentOutlet=\"componentTypeExpression;\n *  ngModuleFactory: moduleFactory;\">\n * </ng-container>\n * ```\n *\n * ### A simple example\n *\n * {@example common/ngComponentOutlet/ts/module.ts region='SimpleExample'}\n *\n * A more complete example with additional options:\n *\n * {@example common/ngComponentOutlet/ts/module.ts region='CompleteExample'}\n *\n * @publicApi\n * @ngModule CommonModule\n */\n@Directive({selector: '[ngComponentOutlet]'})\nexport class NgComponentOutlet implements OnChanges, OnDestroy {\n  // TODO(issue/24571): remove '!'.\n  @Input() ngComponentOutlet!: Type<any>;\n  // TODO(issue/24571): remove '!'.\n  @Input() ngComponentOutletInjector!: Injector;\n  // TODO(issue/24571): remove '!'.\n  @Input() ngComponentOutletContent!: any[][];\n  // TODO(issue/24571): remove '!'.\n  @Input() ngComponentOutletNgModuleFactory!: NgModuleFactory<any>;\n\n  private _componentRef: ComponentRef<any>|null = null;\n  private _moduleRef: NgModuleRef<any>|null = null;\n\n  constructor(private _viewContainerRef: ViewContainerRef) {}\n\n  ngOnChanges(changes: SimpleChanges) {\n    this._viewContainerRef.clear();\n    this._componentRef = null;\n\n    if (this.ngComponentOutlet) {\n      const elInjector = this.ngComponentOutletInjector || this._viewContainerRef.parentInjector;\n\n      if (changes['ngComponentOutletNgModuleFactory'])\n {\n        if (this._moduleRef) this._moduleRef.destroy();\n\n        if (this.ngComponentOutletNgModuleFactory) {\n          const parentModule = elInjector.get(NgModuleRef);\n          this._moduleRef = this.ngComponentOutletNgModuleFactory.create(parentModule.injector);\n        } else {\n          this._moduleRef = null;\n        }\n      }\n\n      const componentFactoryResolver = this._moduleRef ? this._moduleRef.componentFactoryResolver :\n elInjector.get(ComponentFactoryResolver);\n\n      const componentFactory =\n componentFactoryResolver.resolveComponentFactory(this.ngComponentOutlet);\n\n      this._componentRef = this._viewContainerRef.createComponent(\n          componentFactory, this._viewContainerRef.length, elInjector,\n          this.ngComponentOutletContent);\n    }\n  }\n\n  ngOnDestroy() {\n    if (this._moduleRef) this._moduleRef.destroy();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, DoCheck, EmbeddedViewRef, Input, IterableChangeRecord, IterableChanges, IterableDiffer, IterableDiffers, NgIterable, TemplateRef, TrackByFunction, ViewContainerRef} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport class NgForOfContext<T, U extends NgIterable<T> = NgIterable<T>> {\n  constructor(public $implicit: T, public ngForOf: U, public index: number, public count: number) {}\n\n  get first(): boolean {\n    return this.index === 0;\n  }\n\n  get last(): boolean {\n    return this.index === this.count - 1;\n  }\n\n  get even(): boolean {\n    return this.index % 2 === 0;\n  }\n\n  get odd(): boolean {\n    return !this.even;\n  }\n}\n\n/**\n * A [structural

directive](guide/structural-directives) that renders\n * a template for each item in a collection.\n * The directive is placed on an element, which becomes the parent\n * of the cloned templates.\n *\n * The `ngForOf` directive is generally used in the\n * [shorthand form](guide/structural-directives#the-asterisk--prefix) `*ngFor`.\n * In this form, the template to be rendered for each iteration is the content\n * of an anchor element containing the directive.\n *\n * The following example shows the shorthand syntax with some options,\n * contained in an `<li>` element.\n *\n * ```\n * <li *ngFor=\"let item of items; index as i; trackBy: trackByFn\">...</li>\n * ```\n *\n * The shorthand form expands into a long form that uses the `ngForOf` selector\n * on an `<ng-template>` element.\n * The content of the `<ng-template>` element is the `<li>` element that held the\n * short-form directive.\n *\n * Here is the expanded version of the short-form example.\n *\n * ```\n * <ng-template ngFor let-item [ngForOf]=\"items\" let-i=\"index\" [ngForTrackBy]=\"trackByFn\">\n *   <li>...</li>\n * </ng-template>\n * ```\n *\n * Angular automatically expands the shorthand syntax as it compiles the template.\n * The context for each embedded view is logically merged to the current component\n * context according to its lexical position.\n *\n * When using the shorthand syntax, Angular allows only [one structural directive\n * on an element](guide/structural-directives#one-structural-directive-per-host-element).\n * If you want to iterate conditionally, for example,\n * put the `*ngIf` on a container element that wraps the `*ngFor` element.\n * For futher discussion, see\n * [Structural Directives](guide/structural-directives#one-per-element).\n *\n * @usageNotes\n *\n * ### Local variables\n *\n * `NgForOf` provides exported values that can be aliased to local variables.\n * For example:\n *\n *  ```\n * <li *ngFor=\"let user of users; index as i; first as isFirst\">\n * {{i}}/{{users.length}}. {{user}} <span *ngIf=\"isFirst\">default</span>\n * </li>\n * ```\n *\n * The following exported values can be aliased to local variables:\n *\n * - `$implicit: T`: The value of the individual items in the iterable (`ngForOf`).\n * - `ngForOf: NgIterable<T>`: The value of the iterable expression. Useful when the expression is\n * more complex then a property access, for example when using the async pipe (`userStreams |\n * async`).\n * - `index: number`: The index of the current item in the iterable.\n * - `count: number`: The length of the iterable.\n * - `first: boolean`: True when the item is the first item in the iterable.\n * - `last: boolean`: True when the item is the last item in the iterable.\n * - `even: boolean`: True when the item has an even index in the iterable.\n * - `odd: boolean`: True when the item has an odd index in the iterable.\n *\n * ### Change propagation\n *\n * When the contents of the iterator changes, `NgForOf` makes the corresponding changes to the DOM:\n *\n * * When an item is added, a new instance of the template is added to the DOM.\n * * When an item is removed, its template instance is removed from the DOM.\n * * When items are reordered, their respective templates are reordered in the DOM.\n *\n * Angular uses object identity to track insertions and deletions within the iterator and reproduce\n * those changes in the DOM. This has important implications for animations and any stateful\n * controls that are present, such as `<input>` elements that accept user input. Inserted rows can\n * be animated in, deleted rows can be animated out, and unchanged rows retain any unsaved state\n * such as user input.\n * For more on animations, see [Transitions and Triggers](guide/transition-and-triggers).\n *\n * The identities of elements in the iterator can change while the data does not.\n * This can happen, for example, if the iterator is produced from an RPC to the server, and that\n * RPC is re-run. Even if the data hasn't changed, the second response produces objects with\n * different identities, and Angular must tear down the entire DOM and rebuild it (as if all old\n * elements were deleted and all new elements inserted).\n *\n * To avoid this expensive operation, you can customize the default tracking algorithm.\n * by supplying the `trackBy` option to `NgForOf`.\n * `trackBy` takes a function that has two arguments: `index` and `item`.\n * If `trackBy` is given, Angular tracks changes by the return value of the function.\n *\n * @see [Structural Directives](guide/structural-directives)\n * @ngModule CommonModule\n * @publicApi\n */\n@Directive({selector: '[ngFor][ngForOf]'})\nexport class NgForOf<T, U extends NgIterable<T> = NgIterable<T>> implements DoCheck {\n  /**\n   * The value of the iterable expression, which can be used as a\n * [template input variable](guide/structural-directives#template-input-variable).\n   */\n  @Input()\n  set ngForOf(ngForOf: U&NgIterable<T>|undefined|null) {\n    this._ngForOf = ngForOf;\n    this._ngForOfDirty = true;\n  }\n  /**\n   * A function that defines how

to track changes for items in the iterable.\n *\n * When items are added, moved, or removed in the iterable,\n * the directive must re-render the appropriate DOM nodes.\n * To minimize churn in the DOM, only nodes that have changed\n * are re-rendered.\n *\n * By default, the change detector assumes that\n * the object instance identifies the node in the iterable.\n * When this function is supplied, the directive uses\n * the result of calling this function to identify the item node,\n * rather than the identity of the object itself.\n *\n * The function receives two inputs,\n * the iteration index and the associated node data.\n */\n @Input()\n set ngForTrackBy(fn: TrackByFunction<T>) {\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && fn != null && typeof fn !== 'function') {\n // TODO(vicb): use a log service once there is a public one available\n if (<any>console && <any>console.warn) {\n console.warn(\n `trackBy must be a function, but received ${JSON.stringify(fn)}. ` +\n `See https://angular.io/api/common/NgForOf#change-propagation for more information.`);\n }\n }\n this._trackByFn = fn;\n }\n\n get ngForTrackBy(): TrackByFunction<T> {\n return this._trackByFn;\n }\n\n private _ngForOf: U|undefined|null = null;\n private _ngForOfDirty: boolean = true;\n private _differ: IterableDiffer<T>|null = null;\n // TODO(issue/24571): remove '!'.\n private _trackByFn!: TrackByFunction<T>;\n\n constructor(\n private _viewContainer: ViewContainerRef,\n private _template: TemplateRef<NgForOfContext<T, U>>, private _differs: IterableDiffers) {}\n\n /**\n * A reference to the template that is stamped out for each item in the iterable.\n * @see [template reference variable](guide/template-reference-variables)\n */\n @Input()\n set ngForTemplate(value: TemplateRef<NgForOfContext<T, U>>) {\n // TODO(TS2.1): make TemplateRef<Partial<NgForRowOf<T>>> once we move to TS v2.1\n // The current type is too restrictive; a template that just uses index, for example,\n // should be acceptable.\n if (value) {\n this._template = value;\n }\n }\n\n /**\n * Applies the changes when needed.\n */\n ngDoCheck(): void {\n if (this._ngForOfDirty) {\n this._ngForOfDirty = false;\n // React on ngForOf changes only once all inputs have been initialized\n const value = this._ngForOf;\n if (!this._differ && value) {\n try {\n this._differ = this._differs.find(value).create(this.ngForTrackBy);\n } catch {\n throw new Error(`Cannot find a differ supporting object '${value}' of type '${\n getTypeName(value)}'. NgFor only supports binding to Iterables such as Arrays.`);\n }\n }\n }\n if (this._differ) {\n const changes = this._differ.diff(this._ngForOf);\n if (changes) this._applyChanges(changes);\n }\n }\n\n private _applyChanges(changes: IterableChanges<T>) {\n const insertTuples: RecordViewTuple<T, U>[] = [];\n changes.forEachOperation(\n (item: IterableChangeRecord<any>, adjustedPreviousIndex: number|null,\n currentIndex: number|null) => {\n if (item.previousIndex == null) {\n // NgForOf is never \"null\" or \"undefined\" here because the differ detected\n // that a new item needs to be inserted from the iterable. This implies that\n // there is an iterable value for \"_ngForOf\".\n const view = this._viewContainer.createEmbeddedView(\n this._template, new NgForOfContext<T, U>(null!, this._ngForOf!, -1, -1),\n currentIndex === null ? undefined : currentIndex);\n const tuple = new RecordViewTuple<T, U>(item, view);\n insertTuples.push(tuple);\n } else if (currentIndex == null) {\n this._viewContainer.remove(\n adjustedPreviousIndex === null ? undefined : adjustedPreviousIndex);\n } else if (adjustedPreviousIndex !== null) {\n const view = this._viewContainer.get(adjustedPreviousIndex)!;\n this._viewContainer.move(view, currentIndex);\n const tuple = new RecordViewTuple(item, <EmbeddedViewRef<NgForOfContext<T, U>>>view);\n insertTuples.push(tuple);\n }\n });\n\n for (let i = 0; i < insertTuples.length; i++) {\n this._perViewChange(insertTuples[i].view, insertTuples[i].record);\n }\n\n for (let i = 0, ilen = this._viewContainer.length; i < ilen; i++) {\n const viewRef = <EmbeddedViewRef<NgForOfContext<T, U>>>this._viewContainer.get(i);\n viewRef.context.index = i;\n viewRef.context.count = ilen;\n viewRef.context.ngForOf = this._ngForOf!;\n }\n\n changes.forEachIdentityChange((record: any) => {\n const viewRef =\n <EmbeddedViewRef<NgForOfContext<T, U>>>this._viewContainer.get(record.currentIndex);\n viewRef.context.$implicit

= record.item;\n });\n }\n\n private _perViewChange(\n view: EmbeddedViewRef<NgForOfContext<T, U>>, record: IterableChangeRecord<any>) {\n view.context.$implicit = record.item;\n }\n\n /**\n * Asserts the correct type of the context for the template that `NgForOf` will render.\n *\n * The presence of this method is a signal to the Ivy template type-check compiler that the\n * `NgForOf` structural directive renders its template with a specific context type.\n */\n static ngTemplateContextGuard<T, U extends NgIterable<T>>(dir: NgForOf<T, U>, ctx: any):\n ctx is NgForOfContext<T, U> {\n return true;\n }\n}\n\nclass RecordViewTuple<T, U extends NgIterable<T>> {\n constructor(public record: any, public view: EmbeddedViewRef<NgForOfContext<T, U>>) {}\n}\n\nfunction getTypeName(type: any): string {\n return type['name'] || typeof type;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, EmbeddedViewRef, Input, TemplateRef, ViewContainerRef, stringify as stringify} from '@angular/core';\n\n\n/**\n * A structural directive that conditionally includes a template based on the value of\n * an expression coerced to Boolean.\n * When the expression evaluates to true, Angular renders the template\n * provided in a `then` clause, and when false or null,\n * Angular renders the template provided in an optional `else` clause. The default\n * template for the `else` clause is blank.\n *\n * A [shorthand form](guide/structural-directives#the-asterisk--prefix) of the directive,\n * `*ngIf=\"condition\"`, is generally used, provided\n * as an attribute of the anchor element for the inserted template.\n * Angular expands this into a more explicit version, in which the anchor element\n * is contained in an `<ng-template>` element.\n *\n * Simple form with shorthand syntax:\n *\n * ```\n * <div *ngIf=\"condition\">Content to render when condition is true.</div>\n * ```\n *\n * Simple form with expanded syntax:\n *\n * ```\n * <ng-template [ngIf]=\"condition\"><div>Content to render when condition is\n * true.</div></ng-template>\n * ```\n *\n * Form with an \"else\" block:\n *\n * ```\n * <div *ngIf=\"condition; else elseBlock\">Content to render when condition is true.</div>\n * <ng-template #elseBlock>Content to render when condition is false.</ng-template>\n * ```\n *\n * Shorthand form with \"then\" and \"else\" blocks:\n *\n * ```\n * <div *ngIf=\"condition; then thenBlock else elseBlock\"></div>\n * <ng-template #thenBlock>Content to render when condition is true.</ng-template>\n * <ng-template #elseBlock>Content to render when condition is false.</ng-template>\n * ```\n *\n * Form with storing the value locally:\n *\n * ```\n * <div *ngIf=\"condition as value; else elseBlock\">{{value}}</div>\n * <ng-template #elseBlock>Content to render when value is null.</ng-template>\n * ```\n *\n * @usageNotes\n *\n * The `*ngIf` directive is most commonly used to conditionally show an inline template,\n * as seen in the following example.\n * The default `else` template is blank.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfSimple'}\n *\n * ### Showing an alternative template using `else`\n *\n * To display a template when `expression` evaluates to false, use an `else` template\n * binding as shown in the following example.\n * The `else` binding points to an `<ng-template>` element labeled `#elseBlock`.\n * The template can be defined anywhere in the component view, but is typically placed right after\n * `ngIf` for readability.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfElse'}\n *\n * ### Using an external `then` template\n *\n * In the previous example, the then-clause template is specified inline, as the content of the\n * tag that contains the `ngIf` directive. You can also specify a template that is defined\n * externally, by referencing a labeled `<ng-template>` element. When you do this, you can\n * change which template to use at runtime, as shown in the following example.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfThenElse'}\n *\n * ### Storing a conditional result in a variable\n *\n * You might want to show a set of properties from the same object. If you are waiting\n * for asynchronous data, the object can be undefined.\n * In this case, you can use `ngIf` and store the result of the condition in a local\n * variable as shown in the the following example.\n *\n * {@example common/ngIf/ts/module.ts region='NgIfAs'}\n *\n * This code uses only one `AsyncPipe`, so only one subscription is created.\n * The conditional statement stores the result of `userStream|async` in the local variable `user`.\n * You can then bind the local `user` repeatedly.\n *\n * The conditional displays the data only if `userStream` returns a value,\n * so you don't need to use the\n * safe-navigation-operator (`?.`)\n * to guard against null values when accessing properties.\n * You can display an alternative template while waiting for the data.\n *\n * ### Shorthand syntax\n *\n * The shorthand syntax `*ngIf` expands into two separate template specifications\n * for the \"then\" and \"else\" clauses. For example, consider the

following shorthand statement,\n * that is meant to show a loading page while waiting for data to be loaded.\n *\n * ```\n * <div class=\"hero-list\" *ngIf=\"heroes else loading\">\n *  ...\n * </div>\n *\n * <ng-template #loading>\n * <div>Loading...</div>\n * </ng-template>\n * ```\n *\n * You can see that the \"else\" clause references the `<ng-template>`\n * with the `#loading` label, and the template for the \"then\" clause\n * is provided as the content of the anchor element.\n *\n * However, when Angular expands the shorthand syntax, it creates\n * another `<ng-template>` tag, with `ngIf` and `ngIfElse` directives.\n * The anchor element
 containing the template for the \"then\" clause becomes\n * the content of this unlabeled `<ng-template>` tag.\n *\n * ```\n * <ng-template [ngIf]=\"heroes\" [ngIfElse]=\"loading\">\n *  <div class=\"hero-list\">\n *  ...\n *  </div>\n * </ng-template>\n *\n * <ng-template #loading>\n *  <div>Loading...</div>\n * </ng-template>\n * ```\n *\n * The presence of the implicit template object has implications for the nesting of\n * structural directives. For more on this subject, see\n * [Structural Directives](https://angular.io/guide/structural-directives#one-per-element).\n *\n * @ngModule CommonModule\n * @publicApi\n */\n@Directive({selector: '[ngIf]'})\nexport class NgIf<T = unknown> {\n  private _context: NgIfContext<T> = new NgIfContext<T>();\n  private _thenTemplateRef: TemplateRef<NgIfContext<T>>|null = null;\n  private _elseTemplateRef: TemplateRef<NgIfContext<T>>|null = null;\n  private _thenViewRef: EmbeddedViewRef<NgIfContext<T>>|null = null;\n  private _elseViewRef: EmbeddedViewRef<NgIfContext<T>>|null
 = null;\n\n  constructor(private _viewContainer: ViewContainerRef, templateRef: TemplateRef<NgIfContext<T>>) {\n    this._thenTemplateRef = templateRef;\n  }\n\n  /**\n   * The Boolean expression to evaluate as the condition for showing a template.\n   */\n  @Input()\n  set ngIf(condition: T) {\n    this._context.$implicit = this._context.ngIf = condition;\n    this._updateView();\n  }\n\n  /**\n   * A template to show if the condition expression evaluates to true.\n   */\n  @Input()\n  set ngIfThen(templateRef: TemplateRef<NgIfContext<T>>|null) {\n assertTemplate('ngIfThen', templateRef);\n    this._thenTemplateRef = templateRef;\n    this._thenViewRef = null; // clear previous view if any.\n    this._updateView();\n  }\n\n  /**\n   * A template to show if the condition expression evaluates to false.\n   */\n  @Input()\n  set ngIfElse(templateRef: TemplateRef<NgIfContext<T>>|null) {\n    assertTemplate('ngIfElse', templateRef);\n    this._elseTemplateRef
 = templateRef;\n    this._elseViewRef = null;  // clear previous view if any.\n    this._updateView();\n  }\n\n  private _updateView() {\n    if (this._context.$implicit) {\n      if (!this._thenViewRef) {\n this._viewContainer.clear();\n        this._elseViewRef = null;\n        if (this._thenTemplateRef) {\n this._thenViewRef =\n              this._viewContainer.createEmbeddedView(this._thenTemplateRef, this._context);\n        }\n      }\n    } else {\n      if (!this._elseViewRef) {\n        this._viewContainer.clear();\n        this._thenViewRef = null;\n        if (this._elseTemplateRef) {\n          this._elseViewRef =\n this._viewContainer.createEmbeddedView(this._elseTemplateRef, this._context);\n        }\n      }\n    }\n  }\n\n  /** @internal */\n  public static ngIfUseIfTypeGuard: void;\n\n  /**\n   * Assert the correct type of the expression bound to the `ngIf` input within the template.\n   *\n   * The presence of this static field is
 a signal to the Ivy template type check compiler that\n   * when the `NgIf` structural directive renders its template, the type of the expression bound\n   * to `ngIf` should be narrowed in some way. For `NgIf`, the binding expression itself is used to\n   * narrow its type, which allows the strictNullChecks feature of TypeScript to work with `NgIf`.\n   */\n  static ngTemplateGuard_ngIf: 'binding';\n\n  /**\n   * Asserts the correct type of the context for the template that `NgIf` will render.\n   *\n   * The presence of this method is a signal to the Ivy template type-check compiler that the\n   * `NgIf` structural directive renders its template with a specific context type.\n   */\n  static ngTemplateContextGuard<T>(dir: NgIf<T>, ctx: any):\n      ctx is NgIfContext<Exclude<T, false|0|''|null|undefined>> {\n    return true;\n  }\n}\n\n/**\n * @publicApi\n */\nexport class NgIfContext<T = unknown> {\n  public $implicit: T = null!;\n  public ngIf: T = null!;\n}\n\nfunction assertTemplate(property:
 string, templateRef: TemplateRef<any>|null): void {\n  const isTemplateRefOrNull = !!(!templateRef || templateRef.createEmbeddedView);\n  if (!isTemplateRefOrNull) {\n    throw new Error(`${property} must be a TemplateRef, but received '${stringify(templateRef)}'.`);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, DoCheck, Host, Input, TemplateRef,

ViewContainerRef} from '@angular/core';\n\nexport class SwitchView {\n  private _created = false;\n\n  constructor(\n      private _viewContainerRef: ViewContainerRef, private _templateRef: TemplateRef<Object>) {}\n\n  create(): void {\n    this._created = true;\n    this._viewContainerRef.createEmbeddedView(this._templateRef);\n  }\n\n  destroy(): void {\n    this._created = false;\n    this._viewContainerRef.clear();\n  }\n\n  enforceState(created: boolean) {\n    if (created && !this._created) {\n      this.create();\n    } else if (!created && this._created) {\n      this.destroy();\n    }\n  }\n}\n\n/**\n * @ngModule CommonModule\n *\n * @description\n * The `[ngSwitch]` directive on a container specifies an expression to match against.\n * The expressions to match are provided by `ngSwitchCase` directives on views within the container.\n * - Every view that matches is rendered.\n * - If there are no matches, a view with the `ngSwitchDefault` directive is rendered.\n * - Elements within the `[NgSwitch]` statement but outside of any `NgSwitchCase`\n * or `ngSwitchDefault` directive are preserved at the location.\n *\n * @usageNotes\n * Define a container element for the directive, and specify the switch expression\n * to match against as an attribute:\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n * ```\n *\n * Within the container, `*ngSwitchCase` statements specify the match expressions\n * as attributes. Include `*ngSwitchDefault` as the final case.\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n *    <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n * ...\n *    <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * ### Usage Examples\n *\n * The following example shows how to use more than one case to display the same view:\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n *   <!-- the same view can be shown in more than one case -->\n *   <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n *   <some-element *ngSwitchCase=\"match_expression_2\">...</some-element>\n *   <some-other-element *ngSwitchCase=\"match_expression_3\">...</some-other-element>\n *   <!--default case when there are no matches -->\n *   <some-element *ngSwitchDefault>...</some-element>\n * </container-element>\n * ```\n *\n * The following example shows how cases can be nested:\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n *       <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n *       <some-element *ngSwitchCase=\"match_expression_2\">...</some-element>\n *       <some-other-element *ngSwitchCase=\"match_expression_3\">...</some-other-element>\n *       <ng-container *ngSwitchCase=\"match_expression_3\">\n *         <!-- use a ng-container to group multiple root nodes -->\n *         <inner-element></inner-element>\n *         <inner-other-element></inner-other-element>\n *       </ng-container>\n *       <some-element *ngSwitchDefault>...</some-element>\n *     </container-element>\n * ```\n *\n * @publicApi\n * @see `NgSwitchCase`\n * @see `NgSwitchDefault`\n * @see [Structural Directives](guide/structural-directives)\n *\n */\n@Directive({selector: '[ngSwitch]'})\nexport class NgSwitch {\n  // TODO(issue/24571): remove '!'.\n  private _defaultViews!: SwitchView[];\n  private _defaultUsed = false;\n  private _caseCount = 0;\n  private _lastCaseCheckIndex = 0;\n  private _lastCasesMatched = false;\n  private _ngSwitch: any;\n\n  @Input()\n  set ngSwitch(newValue: any) {\n    this._ngSwitch = newValue;\n    if (this._caseCount === 0) {\n      this._updateDefaultCases(true);\n    }\n  }\n\n  /** @internal */\n  _addCase(): number {\n    return this._caseCount++;\n  }\n\n  /** @internal */\n  _addDefault(view: SwitchView) {\n    if (!this._defaultViews) {\n      this._defaultViews = [];\n    }\n    this._defaultViews.push(view);\n  }\n\n  /** @internal */\n  _matchCase(value: any): boolean {\n    const matched = value == this._ngSwitch;\n    this._lastCasesMatched = this._lastCasesMatched || matched;\n    this._lastCaseCheckIndex++;\n    if (this._lastCaseCheckIndex === this._caseCount) {\n      this._updateDefaultCases(!this._lastCasesMatched);\n      this._lastCaseCheckIndex = 0;\n      this._lastCasesMatched = false;\n    }\n    return matched;\n  }\n\n  private _updateDefaultCases(useDefault: boolean) {\n    if (this._defaultViews && useDefault !== this._defaultUsed) {\n      this._defaultUsed = useDefault;\n      for (let i = 0; i < this._defaultViews.length; i++) {\n        const defaultView = this._defaultViews[i];\n        defaultView.enforceState(useDefault);\n      }\n    }\n  }\n}\n\n/**\n * @ngModule CommonModule\n *\n * @description\n * Provides a switch case expression to match against an enclosing `ngSwitch` expression.\n * When the expressions match, the given `NgSwitchCase` template is rendered.\n * If

multiple match expressions match the switch expression value, all of them are displayed.\n *\n * @usageNotes\n *\n * Within a switch container, `*ngSwitchCase` statements specify the match expressions\n * as attributes. Include `*ngSwitchDefault` as the final case.\n *\n * ```\n * <container-element [ngSwitch]=\"switch_expression\">\n * <some-element *ngSwitchCase=\"match_expression_1\">...</some-element>\n *  ...\n *  <some-element *ngSwitchDefault>...</some-element>\n
 * </container-element>\n * ```\n *\n * Each switch-case statement contains an in-line HTML template or template reference\n * that defines the subtree to be selected if the value of the match expression\n * matches the value of the switch expression.\n *\n * Unlike JavaScript, which uses strict equality, Angular uses loose equality.\n * This means that the empty string, `\"\"` matches 0.\n *\n * @publicApi\n * @see `NgSwitch`\n * @see `NgSwitchDefault`\n *\n */\n@Directive({selector: '[ngSwitchCase]'})\nexport class NgSwitchCase implements DoCheck {\n  private _view: SwitchView;\n  /**\n   * Stores the HTML template to be selected on match.\n   */\n  @Input() ngSwitchCase: any;\n\n  constructor(\n      viewContainer: ViewContainerRef, templateRef: TemplateRef<Object>,\n      @Host() private ngSwitch: NgSwitch) {\n    ngSwitch._addCase();\n    this._view = new SwitchView(viewContainer, templateRef);\n  }\n\n  /**\n   * Performs case matching. For internal use only.\n   */\n
  ngDoCheck() {\n    this._view.enforceState(this.ngSwitch._matchCase(this.ngSwitchCase));\n  }\n}\n\n/**\n * @ngModule CommonModule\n *\n * @description\n *\n * Creates a view that is rendered when no `NgSwitchCase` expressions\n * match the `NgSwitch` expression.\n * This statement should be the final case in an `NgSwitch`.\n *\n * @publicApi\n * @see `NgSwitch`\n * @see `NgSwitchCase`\n *\n */\n@Directive({selector: '[ngSwitchDefault]'})\nexport class NgSwitchDefault {\n  constructor(\n      viewContainer: ViewContainerRef, templateRef: TemplateRef<Object>,\n      @Host() ngSwitch: NgSwitch) {\n    ngSwitch._addDefault(new SwitchView(viewContainer, templateRef));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Attribute, Directive, Host, Input, TemplateRef, ViewContainerRef} from '@angular/core';\n\nimport
 {getPluralCategory, NgLocalization} from '../i18n/localization';\n\nimport {SwitchView} from './ng_switch';\n\n\n/**\n * @ngModule CommonModule\n *\n * @usageNotes\n * ```\n * <some-element [ngPlural]=\"value\">\n *  <ng-template ngPluralCase=\"=0\">there is nothing</ng-template>\n *  <ng-template ngPluralCase=\"=1\">there is one</ng-template>\n *  <ng-template ngPluralCase=\"few\">there are a few</ng-template>\n * </some-element>\n * ```\n *\n * @description\n *\n * Adds / removes DOM sub-trees based on a numeric value. Tailored for pluralization.\n *\n * Displays DOM sub-trees that match the switch expression value, or failing that, DOM sub-trees\n * that match the switch expression's pluralization category.\n *\n * To use this directive you must provide a container element that sets the `[ngPlural]` attribute\n * to a switch expression. Inner elements with a `[ngPluralCase]` will display based on their\n * expression:\n * - if `[ngPluralCase]` is set to a value starting with
 `=`, it will only display if the value\n *  matches the switch expression exactly,\n * - otherwise, the view will be treated as a \"category match\", and will only display if exact\n *  value matches aren't found and the value maps to its category for the defined locale.\n *\n * See http://cldr.unicode.org/index/cldr-spec/plural-rules\n *\n * @publicApi\n */\n@Directive({selector: '[ngPlural]'})\nexport class NgPlural {\n  // TODO(issue/24571): remove '!'.\n  private _switchValue!: number;\n  // TODO(issue/24571): remove '!'.\n  private _activeView!: SwitchView;\n  private _caseViews: {[k: string]: SwitchView} = {};\n\n  constructor(private _localization: NgLocalization) {}\n\n  @Input()\n  set ngPlural(value: number) {\n    this._switchValue = value;\n    this._updateView();\n  }\n\n  addCase(value: string, switchView: SwitchView): void {\n    this._caseViews[value] = switchView;\n  }\n\n  private _updateView(): void {\n    this._clearViews();\n\n    const cases = Object.keys(this._caseViews);\n
    const key = getPluralCategory(this._switchValue, cases, this._localization);\n
    this._activateView(this._caseViews[key]);\n  }\n\n  private _clearViews() {\n    if (this._activeView) this._activeView.destroy();\n  }\n\n  private _activateView(view: SwitchView) {\n    if (view) {\n      this._activeView = view;\n      this._activeView.create();\n    }\n  }\n}\n\n/**\n * @ngModule CommonModule\n *\n * @description\n *\n * Creates a view that will be added/removed from the parent {@link NgPlural} when the\n

* given expression matches the plural expression according to CLDR rules.\n *\n * @usageNotes\n * ```\n * <some-element [ngPlural]=\"value\">\n *   <ng-template ngPluralCase=\"=0\">...</ng-template>\n *   <ng-template ngPluralCase=\"other\">...</ng-template>\n * </some-element>\n *```\n *\n * See {@link NgPlural} for more details and example.\n *\n * @publicApi\n */\n@Directive({selector: '[ngPluralCase]'})\nexport class NgPluralCase {\n  constructor(\n      @Attribute('ngPluralCase')
public value: string, template: TemplateRef<Object>,\n      viewContainer: ViewContainerRef, @Host() ngPlural: NgPlural) {\n    const isANumber: boolean = !isNaN(Number(value));\n    ngPlural.addCase(isANumber ? `=${value}` : value, new SwitchView(viewContainer, template));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {Directive, DoCheck, ElementRef, Input, KeyValueChanges, KeyValueDiffer, KeyValueDiffers, Renderer2} from '@angular/core';\n\n\n/**\n * @ngModule CommonModule\n *\n * @usageNotes\n *\n * Set the font of the containing element to the result of an expression.\n *\n * ```\n * <some-element [ngStyle]=\"{'font-style': styleExp}\">...</some-element>\n * ```\n *\n * Set the width of the containing element to a pixel value returned by an expression.\n *\n * ```\n * <some-element [ngStyle]=\"{'max-width.px': widthExp}\">...</some-element>\n * ```\n *\n * Set a collection of style values using an expression that returns key-value pairs.\n *\n * ```\n * <some-element [ngStyle]=\"objExp\">...</some-element>\n * ```\n *\n * @description\n *\n * An attribute directive that updates styles for the containing HTML element.\n * Sets one or more style properties, specified as colon-separated key-value pairs.\n * The key is a style name, with an optional `.<unit>` suffix\n * (such as 'top.px', 'font-style.em').\n * The value is an expression to be evaluated.\n * The resulting non-null value, expressed in the given unit,\n * is assigned to the given style property.\n * If the result of evaluation is null, the corresponding style is removed.\n *\n * @publicApi\n */\n@Directive({selector: '[ngStyle]'})\nexport class NgStyle implements DoCheck {\n  private _ngStyle: {[key: string]: string}|null = null;\n  private _differ: KeyValueDiffer<string, string|number>|null = null;\n\n  constructor(\n      private _ngEl: ElementRef, private _differs: KeyValueDiffers, private _renderer: Renderer2) {}\n\n  @Input('ngStyle')\n  set ngStyle(values: {[klass: string]: any}|null) {\n    this._ngStyle = values;\n    if (!this._differ && values) {\n      this._differ = this._differs.find(values).create();\n    }\n  }\n\n  ngDoCheck() {\n    if (this._differ) {\n      const changes = this._differ.diff(this._ngStyle!);\n      if (changes) {\n        this._applyChanges(changes);\n      }\n    }\n  }\n\n  private _setStyle(nameAndUnit: string, value: string|number|null|undefined): void {\n    const [name, unit] = nameAndUnit.split('.');\n    value = value != null && unit ? `${value}${unit}` : value;\n\n    if (value != null) {\n      this._renderer.setStyle(this._ngEl.nativeElement, name, value as string);\n    } else {\n      this._renderer.removeStyle(this._ngEl.nativeElement, name);\n    }\n  }\n\n  private _applyChanges(changes: KeyValueChanges<string, string|number>): void {\n    changes.forEachRemovedItem((record) => this._setStyle(record.key, null));\n    changes.forEachAddedItem((record) => this._setStyle(record.key, record.currentValue));\n    changes.forEachChangedItem((record) => this._setStyle(record.key, record.currentValue));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Directive, EmbeddedViewRef, Input, OnChanges, SimpleChange, SimpleChanges, TemplateRef, ViewContainerRef} from '@angular/core';\n\n/**\n * @ngModule CommonModule\n *\n * @description\n *\n * Inserts an embedded view from a prepared `TemplateRef`.\n *\n * You can attach a context object to the `EmbeddedViewRef` by setting `[ngTemplateOutletContext]`.\n * `[ngTemplateOutletContext]` should be an object, the object's keys will be available for binding\n * by the local template `let` declarations.\n *\n * @usageNotes\n * ```\n * <ng-container *ngTemplateOutlet=\"templateRefExp; context: contextExp\"></ng-container>\n * ```\n *\n * Using the key `$implicit` in the context object will set its value as default.\n *\n * ### Example\n *\n * {@example common/ngTemplateOutlet/ts/module.ts region='NgTemplateOutlet'}\n *\n * @publicApi\n */\n@Directive({selector: '[ngTemplateOutlet]'})\nexport class NgTemplateOutlet implements OnChanges {\n  private _viewRef: EmbeddedViewRef<any>|null = null;\n\n  /**\n   * A context object to attach to the {@link EmbeddedViewRef}. This should be an\n   * object, the object's keys will be available for binding by the

local template `let`\n * declarations.\n * Using the key `$implicit` in the context object will set its value as default.\n */\n @Input() public ngTemplateOutletContext: Object|null = null;\n\n /**\n * A string defining the template reference and optionally the context object for the template.\n */\n @Input() public ngTemplateOutlet: TemplateRef<any>|null = null;\n\n constructor(private _viewContainerRef: ViewContainerRef) {}\n\n ngOnChanges(changes: SimpleChanges) {\n const recreateView = this._shouldRecreateView(changes);\n\n if (recreateView) {\n const viewContainerRef = this._viewContainerRef;\n\n if (this._viewRef) {\n viewContainerRef.remove(viewContainerRef.indexOf(this._viewRef));\n }\n\n this._viewRef = this.ngTemplateOutlet ?\n viewContainerRef.createEmbeddedView(this.ngTemplateOutlet, this.ngTemplateOutletContext) :\n null;\n } else if (this._viewRef && this.ngTemplateOutletContext) {\n this._updateExistingContext(this.ngTemplateOutletContext);\n }\n }\n\n /**\n * We need to re-create existing embedded view if:\n * - templateRef has changed\n * - context has changes\n *\n * We mark context object as changed when the corresponding object\n * shape changes (new properties are added or existing properties are removed).\n * In other words we consider context with the same properties as \"the same\" even\n * if object reference changes (see https://github.com/angular/angular/issues/13407).\n */\n private _shouldRecreateView(changes: SimpleChanges): boolean {\n const ctxChange = changes['ngTemplateOutletContext'];\n return !!changes['ngTemplateOutlet'] || (ctxChange && this._hasContextShapeChanged(ctxChange));\n }\n\n private _hasContextShapeChanged(ctxChange: SimpleChange): boolean {\n const prevCtxKeys = Object.keys(ctxChange.previousValue || {});\n const currCtxKeys = Object.keys(ctxChange.currentValue || {});\n\n if (prevCtxKeys.length === currCtxKeys.length) {\n for (let propName of currCtxKeys) {\n if (prevCtxKeys.indexOf(propName) === -1) {\n return true;\n }\n }\n return false;\n }\n return true;\n }\n\n private _updateExistingContext(ctx: Object): void {\n for (let propName of Object.keys(ctx)) {\n (<any>this._viewRef!.context)[propName] = (<any>this.ngTemplateOutletContext)[propName];\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Provider} from '@angular/core';\nimport {NgClass} from './ng_class';\nimport {NgComponentOutlet} from './ng_component_outlet';\nimport {NgForOf, NgForOfContext} from './ng_for_of';\nimport {NgIf, NgIfContext} from './ng_if';\nimport {NgPlural, NgPluralCase} from './ng_plural';\nimport {NgStyle} from './ng_style';\nimport {NgSwitch, NgSwitchCase, NgSwitchDefault} from './ng_switch';\nimport {NgTemplateOutlet} from './ng_template_outlet';\n\nexport {\n NgClass,\n NgComponentOutlet,\n NgForOf,\n NgForOfContext,\n NgIf,\n NgIfContext,\n NgPlural,\n NgPluralCase,\n NgStyle,\n NgSwitch,\n NgSwitchCase,\n NgSwitchDefault,\n NgTemplateOutlet,\n};\n\n\n\n/**\n * A collection of Angular directives that are likely to be used in each and every Angular\n * application.\n */\nexport const COMMON_DIRECTIVES: Provider[] = [\n NgClass,\n NgComponentOutlet,\n NgForOf,\n NgIf,\n NgTemplateOutlet,\n NgStyle,\n NgSwitch,\n NgSwitchCase,\n NgSwitchDefault,\n NgPlural,\n NgPluralCase,\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type, stringify as stringify} from '@angular/core';\n\nexport function invalidPipeArgumentError(type: Type<any>, value: Object) {\n return Error(`InvalidPipeArgument: '${value}' for pipe '${stringify(type)}'`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef, EventEmitter, OnDestroy, Pipe, PipeTransform, isObservable, isPromise} from '@angular/core';\nimport {Observable, SubscriptionLike} from 'rxjs';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n\ninterface SubscriptionStrategy {\n createSubscription(async: Observable<any>|Promise<any>, updateLatestValue: any): SubscriptionLike\n |Promise<any>;\n dispose(subscription: SubscriptionLike|Promise<any>): void;\n onDestroy(subscription:

SubscriptionLike|Promise<any>): void;\n}\n\nclass ObservableStrategy implements SubscriptionStrategy {\n createSubscription(async: Observable<any>, updateLatestValue: any): SubscriptionLike {\n return async.subscribe({\n next: updateLatestValue,\n error: (e: any) => {\n throw e;\n }\n });\n }\n\n dispose(subscription: SubscriptionLike): void {\n subscription.unsubscribe();\n }\n\n onDestroy(subscription: SubscriptionLike): void {\n subscription.unsubscribe();\n }\n}\n\nclass PromiseStrategy implements SubscriptionStrategy {\n createSubscription(async: Promise<any>, updateLatestValue: (v: any) => any): Promise<any> {\n return async.then(updateLatestValue, e => {\n throw e;\n });\n }\n\n dispose(subscription: Promise<any>): void {}\n\n onDestroy(subscription: Promise<any>): void {}\n}\n\nconst _promiseStrategy = new PromiseStrategy();\nconst _observableStrategy = new ObservableStrategy();\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Unwraps a value from an asynchronous primitive.\n *\n * The `async` pipe subscribes to an `Observable` or `Promise` and returns the latest value it has\n * emitted. When a new value is emitted, the `async` pipe marks the component to be checked for\n * changes. When the component gets destroyed, the `async` pipe unsubscribes automatically to avoid\n * potential memory leaks.\n *\n * @usageNotes\n *\n * ### Examples\n *\n * This example binds a `Promise` to the view. Clicking the `Resolve` button resolves the\n * promise.\n *\n
* {@example common/pipes/ts/async_pipe.ts region='AsyncPipePromise'}\n *\n * It's also possible to use `async` with Observables. The example below binds the `time` Observable\n * to the view. The Observable continuously updates the view with the current time.\n *\n * {@example common/pipes/ts/async_pipe.ts region='AsyncPipeObservable'}\n *\n * @publicApi\n */\n@Pipe({name: 'async', pure: false})\nexport class AsyncPipe implements OnDestroy, PipeTransform {\n private _latestValue: any = null;\n\n private _subscription: SubscriptionLike|Promise<any>|null = null;\n private _obj: Observable<any>|Promise<any>|EventEmitter<any>|null = null;\n private _strategy: SubscriptionStrategy = null!;\n\n constructor(private _ref: ChangeDetectorRef) {}\n\n ngOnDestroy(): void {\n if (this._subscription) {\n this._dispose();\n }\n }\n\n transform<T>(obj: Observable<T>|Promise<T>): T|null;\n transform<T>(obj: null|undefined): null;\n transform<T>(obj: Observable<T>|Promise<T>|null|undefined): T|null;\n transform<T>(obj: Observable<T>|Promise<T>|null|undefined): T|null {\n if (!this._obj) {\n if (obj) {\n this._subscribe(obj);\n }\n return this._latestValue;\n }\n\n if (obj !== this._obj) {\n this._dispose();\n return this.transform(obj);\n }\n\n return this._latestValue;\n }\n\n private _subscribe(obj: Observable<any>|Promise<any>|EventEmitter<any>): void {\n this._obj = obj;\n this._strategy = this._selectStrategy(obj);\n this._subscription = this._strategy.createSubscription(\n obj, (value: Object) => this._updateLatestValue(obj, value));\n }\n\n private _selectStrategy(obj: Observable<any>|Promise<any>|EventEmitter<any>): any {\n if (isPromise(obj)) {\n return _promiseStrategy;\n }\n\n if (isObservable(obj)) {\n return _observableStrategy;\n }\n\n throw invalidPipeArgumentError(AsyncPipe, obj);\n }\n\n private _dispose(): void {\n this._strategy.dispose(this._subscription!);\n
this._latestValue = null;\n this._subscription = null;\n this._obj = null;\n }\n\n private _updateLatestValue(async: any, value: Object): void {\n if (async === this._obj) {\n this._latestValue = value;\n this._ref.markForCheck();\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n/**\n * Transforms text to all lower case.\n *\n * @see `UpperCasePipe`\n * @see `TitleCasePipe`\n * @usageNotes\n *\n * The following example defines a view that allows the user to enter\n * text, and then uses the pipe to convert the input text to all lower case.\n *\n * <code-example path=\"common/pipes/ts/lowerupper_pipe.ts\" region='LowerUpperPipe'></code-example>\n *\n * @ngModule CommonModule\n * @publicApi\n */\n@Pipe({name: 'lowercase'})\nexport class LowerCasePipe implements PipeTransform {\n /**\n * @param value The string to transform to lower case.\n */\n transform(value: string): string;\n transform(value: null|undefined): null;\n transform(value: string|null|undefined): string|null;\n transform(value: string|null|undefined): string|null {\n if (value == null) return

null;\n    if (typeof value !== 'string') {\n        throw invalidPipeArgumentError(LowerCasePipe, value);\n    }\n    return value.toLowerCase();\n  }\n}\n\n//\n// Regex below matches any Unicode word and compatible with ES5. In ES2018 the same result\n// can be achieved by using /\\p{L}\\S*/gu and also known as Unicode Property Escapes\n// (https://2ality.com/2017/07/regexp-unicode-property-escapes.html). Since there is no\n// transpilation of this functionality down to ES5 without external tool, the only solution is\n// to use already transpiled form. Example can be found here -\n//
https://mothereff.in/regexpu#input=var+regex+%3D+/%5Cp%7BL%7D/u%3B&unicodePropertyEscape=1\n//\n\nconst unicodeWordMatch =\n    /(?:[A-Za-z\\xAA\\xB5\\xBA\\xC0-\\xD6\\xD8-\\xF6\\xF8-\\u02C1\\u02C6-\\u02D1\\u02E0-\\u02E4\\u02EC\\u02EE\\u0370-\\u0374\\u0376\\u0377\\u037A-\\u037D\\u037F\\u0386\\u0388-\\u038A\\u038C\\u038E-\\u03A1\\u03A3-\\u03F5\\u03F7-\\u0481\\u048A-\\u052F\\u0531-\\u0556\\u0559\\u0561-\\u0587\\u05D0-\\u05EA\\u05F0-\\u05F2\\u0620-\\u064A\\u066E\\u066F\\u0671-\\u06D3\\u06D5\\u06E5\\u06E6\\u06EE\\u06EF\\u06FA-\\u06FC\\u06FF\\u0710\\u0712-\\u072F\\u074D-\\u07A5\\u07B1\\u07CA-\\u07EA\\u07F4\\u07F5\\u07FA\\u0800-\\u0815\\u081A\\u0824\\u0828\\u0840-\\u0858\\u0860-\\u086A\\u08A0-\\u08B4\\u08B6-\\u08BD\\u0904-\\u0939\\u093D\\u0950\\u0958-\\u0961\\u0971-\\u0980\\u0985-\\u098C\\u098F\\u0990\\u0993-\\u09A8\\u09AA-\\u09B0\\u09B2\\u09B6-\\u09B9\\u09BD\\u09CE\\u09DC\\u09DD\\u09DF-\\u09E1\\u09F0\\u09F1\\u09FC\\u0A05-\\u0A0A\\u0A0F\\u0A10\\u0A13-\\u0A28\\u0A2A-\\u0A30\\u0A32\\u0A33\\u0A35\\u0A36\\u0A38\\u0A39\\u0A59-\\u0A5C\\u0A5E\\u0A72-\\u0A74\\u0A85-\\u0A8D\\u0A8F-\\u0A91\\u0A93-\\u0AA8\\u0AAA-\\u0AB0\\u0AB2\\u0AB3\\u0AB5-\\u0AB9\\u0ABD\\u0AD0\\u0AE0\\u0AE1\\u0AF9\\u0B05-\\u0B0C\\u0B0F\\u0B10\\u0B13-\\u0B28\\u0B2A-\\u0B30\\u0B32\\u0B33\\u0B35-\\u0B39\\u0B3D\\u0B5C\\u0B5D\\u0B5F-\\u0B61\\u0B71\\u0B83\\u0B85-\\u0B8A\\u0B8E-\\u0B90\\u0B92-\\u0B95\\u0B99\\u0B9A\\u0B9C\\u0B9E\\u0B9F\\u0BA3\\u0BA4\\u0BA8-\\u0BAA\\u0BAE-\\u0BB9\\u0BD0\\u0C05-\\u0C0C\\u0C0E-\\u0C10\\u0C12-\\u0C28\\u0C2A-\\u0C39\\u0C3D\\u0C58-\\u0C5A\\u0C60\\u0C61\\u0C80\\u0C85-\\u0C8C\\u0C8E-\\u0C90\\u0C92-\\u0CA8\\u0CAA-\\u0CB3\\u0CB5-\\u0CB9\\u0CBD\\u0CDE\\u0CE0\\u0CE1\\u0CF1\\u0CF2\\u0D05-\\u0D0C\\u0D0E-\\u0D10\\u0D12-\\u0D3A\\u0D3D\\u0D4E\\u0D54-\\u0D56\\u0D5F-\\u0D61\\u0D7A-\\u0D7F\\u0D85-\\u0D96\\u0D9A-\\u0DB1\\u0DB3-\\u0DBB\\u0DBD\\u0DC0-\\u0DC6\\u0E01-\\u0E30\\u0E32\\u0E33\\u0E40-\\u0E46\\u0E81\\u0E82\\u0E84\\u0E87\\u0E88\\u0E8A\\u0E8D\\u0E94-\\u0E97\\u0E99-\\u0E9F\\u0EA1-\\u0EA3\\u0EA5\\u0EA7\\u0EAA\\u0EAB\\u0EAD-\\u0EB0\\u0EB2\\u0EB3\\u0EBD\\u0EC0-\\u0EC4\\u0EC6\\u0EDC-\\u0EDF\\u0F00\\u0F40-\\u0F47\\u0F49-\\u0F6C\\u0F88-\\u0F8C\\u1000-\\u102A\\u103F\\u1050-\\u1055\\u105A-\\u105D\\u1061\\u1065\\u1066\\u106E-\\u1070\\u1075-\\u1081\\u108E\\u10A0-\\u10C5\\u10C7\\u10CD\\u10D0-\\u10FA\\u10FC-\\u1248\\u124A-\\u124D\\u1250-\\u1256\\u1258\\u125A-\\u125D\\u1260-\\u1288\\u128A-\\u128D\\u1290-\\u12B0\\u12B2-\\u12B5\\u12B8-\\u12BE\\u12C0\\u12C2-\\u12C5\\u12C8-\\u12D6\\u12D8-\\u1310\\u1312-\\u1315\\u1318-\\u135A\\u1380-\\u138F\\u13A0-\\u13F5\\u13F8-\\u13FD\\u1401-\\u166C\\u166F-\\u167F\\u1681-\\u169A\\u16A0-\\u16EA\\u16F1-\\u16F8\\u1700-\\u170C\\u170E-\\u1711\\u1720-\\u1731\\u1740-\\u1751\\u1760-\\u176C\\u176E-\\u1770\\u1780-\\u17B3\\u17D7\\u17DC\\u1820-\\u1877\\u1880-\\u1884\\u1887-\\u18A8\\u18AA\\u18B0-\\u18F5\\u1900-\\u191E\\u1950-\\u196D\\u1970-\\u1974\\u1980-\\u19AB\\u19B0-\\u19C9\\u1A00-\\u1A16\\u1A20-\\u1A54\\u1AA7\\u1B05-\\u1B33\\u1B45-\\u1B4B\\u1B83-\\u1BA0\\u1BAE\\u1BAF\\u1BBA-\\u1BE5\\u1C00-\\u1C23\\u1C4D-\\u1C4F\\u1C5A-\\u1C7D\\u1C80-\\u1C88\\u1CE9-\\u1CEC\\u1CEE-\\u1CF1\\u1CF5\\u1CF6\\u1D00-\\u1DBF\\u1E00-\\u1F15\\u1F18-\\u1F1D\\u1F20-\\u1F45\\u1F48-\\u1F4D\\u1F50-\\u1F57\\u1F59\\u1F5B\\u1F5D\\u1F5F-\\u1F7D\\u1F80-\\u1FB4\\u1FB6-\\u1FBC\\u1FBE\\u1FC2-\\u1FC4\\u1FC6-\\u1FCC\\u1FD0-\\u1FD3\\u1FD6-\\u1FDB\\u1FE0-\\u1FEC\\u1FF2-\\u1FF4\\u1FF6-\\u1FFC\\u2071\\u207F\\u2090-\\u209C\\u2102\\u2107\\u210A-\\u2113\\u2115\\u2119-\\u211D\\u2124\\u2126\\u2128\\u212A-\\u212D\\u212F-\\u2139\\u213C-\\u213F\\u2145-\\u2149\\u214E\\u2183\\u2184\\u2C00-\\u2C2E\\u2C30-\\u2C5E\\u2C60-\\u2CE4\\u2CEB-\\u2CEE\\u2CF2\\u2CF3\\u2D00-\\u2D25\\u2D27\\u2D2D\\u2D30-\\u2D67\\u2D6F\\u2D80-\\u2D96\\u2DA0-\\u2DA6\\u2DA8-\\u2DAE\\u2DB0-\\u2DB6\\u2DB8-\\u2DBE\\u2DC0-\\u2DC6\\u2DC8-\\u2DCE\\u2DD0-

\\u2DD6\\u2DD8-\\u2DDE\\u2E2F\\u3005\\u3006\\u3031-\\u3035\\u303B\\u303C\\u3041-\\u3096\\u309D-
\\u309F\\u30A1-\\u30FA\\u30FC-\\u30FF\\u3105-\\u312E\\u3131-\\u318E\\u31A0-\\u31BA\\u31F0-
\\u31FF\\u3400-\\u4DB5\\u4E00-\\u9FEA\\uA000-\\uA48C\\uA4D0-\\uA4FD\\uA500-\\uA60C\\uA610-
\\uA61F\\uA62A\\uA62B\\uA640-\\uA66E\\uA67F-\\uA69D\\uA6A0-\\uA6E5\\uA717-\\uA71F\\uA722-
\\uA788\\uA78B-\\uA7AE\\uA7B0-\\uA7B7\\uA7F7-\\uA801\\uA803-\\uA805\\uA807-\\uA80A\\uA80C-
\\uA822\\uA840-\\uA873\\uA882-\\uA8B3\\uA8F2-\\uA8F7\\uA8FB\\uA8FD\\uA90A-\\uA925\\uA930-
\\uA946\\uA960-\\uA97C\\uA984-\\uA9B2\\uA9CF\\uA9E0-\\uA9E4\\uA9E6-\\uA9EF\\uA9FA-\\uA9FE\\uAA00-
\\uAA28\\uAA40-\\uAA42\\uAA44-\\uAA4B\\uAA60-\\uAA76\\uAA7A\\uAA7E-
\\uAAAF\\uAAB1\\uAAB5\\uAAB6\\uAAB9-\\uAABD\\uAAC0\\uAAC2\\uAADB-\\uAADD\\uAAE0-
\\uAAEA\\uAAF2-\\uAAF4\\uAB01-\\uAB06\\uAB09-\\uAB0E\\uAB11-\\uAB16\\uAB20-\\uAB26\\uAB28-
\\uAB2E\\uAB30-\\uAB5A\\uAB5C-\\uAB65\\uAB70-\\uABE2\\uAC00-\\uD7A3\\uD7B0-\\uD7C6\\uD7CB-
\\uD7FB\\uF900-\\uFA6D\\uFA70-\\uFAD9\\uFB00-\\uFB06\\uFB13-\\uFB17\\uFB1D\\uFB1F-\\uFB28\\uFB2A-
\\uFB36\\uFB38-\\uFB3C\\uFB3E\\uFB40\\uFB41\\uFB43\\uFB44\\uFB46-\\uFBB1\\uFBD3-\\uFD3D\\uFD50-
\\uFD8F\\uFD92-\\uFDC7\\uFDF0-\\uFDFB\\uFE70-\\uFE74\\uFE76-\\uFEFC\\uFF21-\\uFF3A\\uFF41-
\\uFF5A\\uFF66-\\uFFBE\\uFFC2-\\uFFC7\\uFFCA-\\uFFCF\\uFFD2-\\uFFD7\\uFFDA-
\\uFFDC]|\\uD800[\\uDC00-\\uDC0B\\uDC0D-\\uDC26\\uDC28-\\uDC3A\\uDC3C\\uDC3D\\uDC3F-
\\uDC4D\\uDC50-\\uDC5D\\uDC80-\\uDCFA\\uDE80-\\uDE9C\\uDEA0-\\uDED0\\uDF00-\\uDF1F\\uDF2D-
\\uDF40\\uDF42-\\uDF49\\uDF50-\\uDF75\\uDF80-\\uDF9D\\uDFA0-\\uDFC3\\uDFC8-
\\uDFCF]|\\uD801[\\uDC00-\\uDC9D\\uDCB0-\\uDCD3\\uDCD8-\\uDCFB\\uDD00-\\uDD27\\uDD30-
\\uDD63\\uDE00-\\uDF36\\uDF40-\\uDF55\\uDF60-\\uDF67]|\\uD802[\\uDC00-\\uDC05\\uDC08\\uDC0A-
\\uDC35\\uDC37\\uDC38\\uDC3C\\uDC3F-\\uDC55\\uDC60-\\uDC76\\uDC80-\\uDC9E\\uDCE0-
\\uDCF2\\uDCF4\\uDCF5\\uDD00-\\uDD15\\uDD20-\\uDD39\\uDD80-
\\uDDB7\\uDDBE\\uDDBF\\uDE00\\uDE10-\\uDE13\\uDE15-\\uDE17\\uDE19-\\uDE33\\uDE60-
\\uDE7C\\uDE80-\\uDE9C\\uDEC0-\\uDEC7\\uDEC9-\\uDEE4\\uDF00-\\uDF35\\uDF40-\\uDF55\\uDF60-
\\uDF72\\uDF80-\\uDF91]|\\uD803[\\uDC00-\\uDC48\\uDC80-\\uDCB2\\uDCC0-\\uDCF2]|\\uD804[\\uDC03-
\\uDC37\\uDC83-\\uDCAF\\uDCD0-\\uDCE8\\uDD03-\\uDD26\\uDD50-\\uDD72\\uDD76\\uDD83-
\\uDDB2\\uDDC1-\\uDDC4\\uDDDA\\uDDDC\\uDE00-\\uDE11\\uDE13-\\uDE2B\\uDE80-
\\uDE86\\uDE88\\uDE8A-\\uDE8D\\uDE8F-\\uDE9D\\uDE9F-\\uDEA8\\uDEB0-\\uDEDE\\uDF05-
\\uDF0C\\uDF0F\\uDF10\\uDF13-\\uDF28\\uDF2A-\\uDF30\\uDF32\\uDF33\\uDF35-
\\uDF39\\uDF3D\\uDF50\\uDF5D-\\uDF61]|\\uD805[\\uDC00-\\uDC34\\uDC47-\\uDC4A\\uDC80-
\\uDCAF\\uDCC4\\uDCC5\\uDCC7\\uDD80-\\uDDAE\\uDDD8-\\uDDDB\\uDE00-\\uDE2F\\uDE44\\uDE80-
\\uDEAA\\uDF00-\\uDF19]|\\uD806[\\uDCA0-\\uDCDF\\uDCFF\\uDE00\\uDE0B-
\\uDE32\\uDE3A\\uDE50\\uDE5C-\\uDE83\\uDE86-\\uDE89\\uDEC0-\\uDEF8]|\\uD807[\\uDC00-
\\uDC08\\uDC0A-\\uDC2E\\uDC40\\uDC72-\\uDC8F\\uDD00-\\uDD06\\uDD08\\uDD09\\uDD0B-
\\uDD30\\uDD46]|\\uD808[\\uDC00-\\uDF99]|\\uD809[\\uDC80-\\uDD43]|[\\uD80C\\uD81C-\\uD820\\uD840-
\\uD868\\uD86A-\\uD86C\\uD86F-\\uD872\\uD874-\\uD879][\\uDC00-\\uDFFF]|\\uD80D[\\uDC00-
\\uDC2E]|\\uD811[\\uDC00-\\uDE46]|\\uD81A[\\uDC00-\\uDE38\\uDE40-\\uDE5E\\uDED0-\\uDEED\\uDF00-
\\uDF2F\\uDF40-\\uDF43\\uDF63-\\uDF77\\uDF7D-\\uDF8F]|\\uD81B[\\uDF00-\\uDF44\\uDF50\\uDF93-
\\uDF9F\\uDFE0\\uDFE1]|\\uD821[\\uDC00-\\uDFEC]|\\uD822[\\uDC00-\\uDEF2]|\\uD82C[\\uDC00-
\\uDD1E\\uDD70-\\uDEFB]|\\uD82F[\\uDC00-\\uDC6A\\uDC70-\\uDC7C\\uDC80-\\uDC88\\uDC90-
\\uDC99]|\\uD835[\\uDC00-\\uDC54\\uDC56-\\uDC9C\\uDC9E\\uDC9F\\uDCA2\\uDCA5\\uDCA6\\uDCA9-
\\uDCAC\\uDCAE-\\uDCB9\\uDCBB\\uDCBD-\\uDCC3\\uDCC5-\\uDD05\\uDD07-\\uDD0A\\uDD0D-
\\uDD14\\uDD16-\\uDD1C\\uDD1E-\\uDD39\\uDD3B-\\uDD3E\\uDD40-\\uDD44\\uDD46\\uDD4A-
\\uDD50\\uDD52-\\uDEA5\\uDEA8-\\uDEC0\\uDEC2-\\uDEDA\\uDEDC-\\uDEFA\\uDEFC-\\uDF14\\uDF16-
\\uDF34\\uDF36-\\uDF4E\\uDF50-\\uDF6E\\uDF70-\\uDF88\\uDF8A-\\uDFA8\\uDFAA-\\uDFC2\\uDFC4-
\\uDFCB]|\\uD83A[\\uDC00-\\uDCC4\\uDD00-\\uDD43]|\\uD83B[\\uDE00-\\uDE03\\uDE05-
\\uDE1F\\uDE21\\uDE22\\uDE24\\uDE27\\uDE29-\\uDE32\\uDE34-
\\uDE37\\uDE39\\uDE3B\\uDE42\\uDE47\\uDE49\\uDE4B\\uDE4D-

\\uDE4F\\uDE51\\uDE52\\uDE54\\uDE57\\uDE59\\uDE5B\\uDE5D\\uDE5F\\uDE61\\uDE62\\uDE64\\uDE67-\\uDE6A\\uDE6C-\\uDE72\\uDE74-\\uDE77\\uDE79-\\uDE7C\\uDE7E\\uDE80-\\uDE89\\uDE8B-\\uDE9B\\uDEA1-\\uDEA3\\uDEA5-\\uDEA9\\uDEAB-\\uDEBB]|\\uD869[\\uDC00-\\uDED6\\uDF00-\\uDFFF]|\\uD86D[\\uDC00-\\uDF34\\uDF40-\\uDFFF]|\\uD86E[\\uDC00-\\uDC1D\\uDC20-\\uDFFF]|\\uD873[\\uDC00-\\uDEA1\\uDEB0-\\uDFFF]|\\uD87A[\\uDC00-\\uDFE0]|\\uD87E[\\uDC00-\\uDE1D])\\S*/g;\n\n/**\n * Transforms text to title case.\n * Capitalizes the first letter of each word and transforms the\n * rest of the word to lower case.\n * Words are delimited by any whitespace character, such as a space, tab, or line-feed character.\n *\n * @see `LowerCasePipe`\n * @see `UpperCasePipe`\n *\n * @usageNotes\n * The following example shows the result of transforming various strings into title case.\n *\n * <code-example path=\"common/pipes/ts/titlecase_pipe.ts\" region='TitleCasePipe'></code-example>\n *\n * @ngModule CommonModule\n * @publicApi\n */\n@Pipe({name: 'titlecase'})\nexport class TitleCasePipe implements PipeTransform {\n  /**\n   * @param value The string to transform to title case.\n   */\n  transform(value: string): string;\n  transform(value: null|undefined): null;\n  transform(value: string|null|undefined): string|null;\n  transform(value: string|null|undefined): string|null {\n    if (value == null) return null;\n    if (typeof value !== 'string') {\n      throw invalidPipeArgumentError(TitleCasePipe, value);\n    }\n\n    return value.replace(\n        unicodeWordMatch, (txt => txt[0].toUpperCase() + txt.substr(1).toLowerCase()));\n  }\n}\n\n/**\n * Transforms text to all upper case.\n * @see `LowerCasePipe`\n * @see `TitleCasePipe`\n *\n * @ngModule CommonModule\n * @publicApi\n */\n@Pipe({name: 'uppercase'})\nexport class UpperCasePipe implements PipeTransform {\n  /**\n   * @param value The string to transform to upper case.\n   */\n  transform(value: string): string;\n  transform(value: null|undefined): null;\n  transform(value: string|null|undefined): string|null;\n  transform(value: string|null|undefined): string|null {\n    if (value == null) return null;\n    if (typeof value !== 'string') {\n      throw invalidPipeArgumentError(UpperCasePipe, value);\n    }\n    return value.toUpperCase();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, LOCALE_ID, Pipe, PipeTransform} from '@angular/core';\nimport {formatDate} from '../i18n/format_date';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n// clang-format off\n/**\n * @ngModule CommonModule\n * @description\n *\n * Formats a date value according to locale rules.\n *\n * Only the `en-US` locale data comes with Angular. To localize dates\n * in another language, you must import the corresponding locale data.\n * See the [I18n guide](guide/i18n#i18n-pipes) for more information.\n *\n * @see `formatDate()`\n *\n *\n * @usageNotes\n *\n * The result of this pipe is not reevaluated when the input is mutated. To avoid the need to\n * reformat the date on every change-detection cycle, treat the date as an immutable object\n * and change the reference when the pipe needs to run again.\n *\n * ### Pre-defined format options\n *\n * | Option        | Equivalent to                      | Examples (given in `en-US` locale)            |\n * |---------------|------------------------------------|-----------------------------------------------|\n * | `'short'`     | `'M/d/yy, h:mm a'`                 | `6/15/15, 9:03 AM`                            |\n * | `'medium'`    | `'MMM d, y, h:mm:ss a'`            | `Jun 15, 2015, 9:03:01 AM`                    |\n * | `'long'`      | `'MMMM d, y, h:mm:ss a z'`         | `June 15, 2015 at 9:03:01 AM GMT+1`           |\n * | `'full'`      | `'EEEE, MMMM d, y, h:mm:ss a zzzz'` | `Monday, June 15, 2015 at 9:03:01 AM GMT+01:00` |\n * | `'shortDate'` | `'M/d/yy'`                         | `6/15/15`                                     |\n * | `'mediumDate'`| `'MMM d, y'`                       | `Jun 15, 2015`                                |\n * | `'longDate'`  | `'MMMM d, y'`                      | `June 15, 2015`                               |\n * | `'fullDate'`  | `'EEEE, MMMM d, y'`                | `Monday, June 15, 2015`                       |\n * | `'shortTime'` | `'h:mm a'`                         | `9:03 AM`                                     |\n * | `'mediumTime'`| `'h:mm:ss a'`                      | `9:03:01 AM`                                  |\n * | `'longTime'`  | `'h:mm:ss a z'`                    | `9:03:01 AM GMT+1`                            |\n * | `'fullTime'`  | `'h:mm:ss a zzzz'`                 | `9:03:01 AM GMT+01:00`                        |\n *\n * ### Custom format options\n *\n * You can construct a format string using symbols to specify the components\n * of a date-time value, as described

in the following table.\n
 * Format details depend on the locale.\n * Fields marked with (*) are only available in the extra data set for the given locale.\n *\n *  | Field type  | Format  | Description  | Example Value  |\n *  |-------------------|-------------|-------------------------------------------------------------------------|-------------------------------------------------------|\n *  | Era  | G, GG & GGG | Abbreviated  | AD  |\n *  |  | GGGG  | Wide  | Anno Domini  |\n *  |  | GGGGG  | Narrow  | A  |\n *  | Year  | y  | Numeric: minimum digits  | 2, 20, 201, 2017, 20173  |\n *  | yy  | Numeric: 2 digits + zero padded  | 02, 20, 01, 17, 73  |\n *  |  | yyy  | Numeric: 3 digits + zero padded  | 002, 020, 201, 2017, 20173  |\n *  |  | yyyy  | Numeric: 4 digits or more + zero padded  | 0002, 0020, 0201, 2017, 20173  |\n *  | Week-numbering year| Y  | Numeric: minimum digits  | 2, 20, 201, 2017, 20173  |\n *  |  | YY  | Numeric: 2 digits + zero padded  | 02, 20, 01, 17, 73  |\n *  |  | YYY  | Numeric: 3 digits + zero padded  | 002, 020, 201, 2017, 20173  |\n *  |  | YYYY  | Numeric: 4 digits or more + zero padded  | 0002, 0020, 0201, 2017, 20173  |\n *  | Month  | M  | Numeric: 1 digit  | 9, 12  |\n *  |  | MM  | Numeric: 2 digits + zero padded  | 09, 12  |\n *  |  | MMM  | Abbreviated  | Sep  |\n *  |  | MMMM  | Wide  | September  |\n *  |  | MMMMM  | Narrow  | S  |\n *  | Month standalone  | L  | Numeric: 1 digit  | 9, 12  |\n *  |  | LL  | Numeric: 2 digits + zero padded  | 09, 12  |\n *  |  | LLL  | Abbreviated  | Sep  |\n *  |  | LLLL  | Wide  | September  |\n *  |  | LLLLL  | Narrow  | S  |\n *  | Week of year  | w  | Numeric: minimum digits  | 1... 53  |\n *  |  | ww  | Numeric: 2 digits + zero padded  | 01... 53  |\n *  | Week of month  | W  | Numeric: 1 digit  | 1... 5  |\n *  | Day of month  | d  | Numeric: minimum digits  | 1  |\n *  |  | dd  | Numeric: 2 digits + zero padded  | 01  |\n *  | Week day  | E, EE & EEE | Abbreviated  | Tue  |\n *  |  | EEEE  | Wide  | Tuesday  |\n *  |  | EEEEE  | Narrow  | T  |\n *  |  | EEEEEE  | Short  | Tu  |\n *  | Period  | a, aa & aaa | Abbreviated  | am/pm or AM/PM  |\n *  |  | aaaa  | Wide (fallback to `a` when missing)  | ante meridiem/post meridiem  |\n *  |  | aaaaa  | Narrow  | a/p  |\n *  | Period*  | B, BB & BBB | Abbreviated  | mid.  |\n *  |  | BBBB  | Wide  | am, pm, midnight, noon, morning, afternoon, evening, night |\n *  |  | BBBBB  | Narrow  | md  |\n *  | Period standalone* | b, bb & bbb | Abbreviated  | mid.  |\n *  |  | bbbb  | Wide  | am, pm, midnight,

noon, morning, afternoon, evening, night |\n * | | bbbbb | Narrow | md |\n * | Hour 1-12 | h | Numeric: minimum digits | 1, 12 |\n * | | hh | Numeric: 2 digits + zero padded | 01, 12 |\n * | Hour 0-23 | H | Numeric: minimum digits | 0, 23 |\n * | | HH | Numeric: 2 digits + zero padded | 00, 23 |\n * | Minute | m | Numeric: minimum digits | 8, 59 |\n * | | mm | Numeric: 2 digits + zero padded | 08, 59 |\n * | Second | s | Numeric: minimum digits | 0... 59 |\n * | | ss | Numeric: 2 digits + zero padded | 00... 59 |\n * | Fractional seconds | S | Numeric: 1 digit | 0... 9 |\n * | | SS | Numeric: 2 digits + zero padded | 00... 99 |\n * | | SSS | Numeric: 3 digits + zero padded (= milliseconds) | 000... 999 |\n * | Zone | z, zz & zzz | Short specific non location format (fallback to O) | GMT-8 |\n * | | zzzz | Long specific non location format (fallback to OOOO) | GMT-08:00 |\n * | | Z, ZZ & ZZZ | ISO8601 basic format | -0800 |\n * | | ZZZZ | Long localized GMT format | GMT-8:00 |\n * | | ZZZZZ | ISO8601 extended format + Z indicator for offset 0 (= XXXXX) | -08:00 |\n * | | O, OO & OOO | Short localized GMT format | GMT-8 |\n * | | OOOO | Long localized GMT format | GMT-08:00 |\n *\n * Note that timezone correction is not applied to an ISO string that has no time component, such as \"2016-09-19\"\n *\n * ### Format examples\n *\n * These examples transform a date into various formats,\n * assuming that `dateObj` is a JavaScript `Date` object for\n * year: 2015, month: 6, day: 15, hour: 21, minute: 43, second: 11,\n * given in the local time for the `en-US` locale.\n *\n * ```\n * {{ dateObj | date }}               // output is 'Jun 15, 2015'\n * {{ dateObj | date:'medium' }}      // output is 'Jun 15, 2015, 9:43:11 PM'\n * {{ dateObj | date:'shortTime' }}   // output is '9:43 PM'\n * {{ dateObj | date:'mm:ss' }}       // output is '43:11'\n * ```\n *\n * ### Usage example\n *\n * The following component uses a date pipe to display the current date in different formats.\n *\n * ```\n * @Component({\n *  selector: 'date-pipe',\n *  template: `<div>\n *    <p>Today is {{today | date}}</p>\n *    <p>Or if you prefer, {{today | date:'fullDate'}}</p>\n *    <p>The time is {{today | date:'h:mm a z'}}</p>\n *  </div>`\n * })\n * // Get the current date and time as a date-time value.\n * export class DatePipeComponent {\n *   today: number = Date.now();\n * }\n * ```\n *\n * @publicApi\n */\n// clang-format on\n@Pipe({name: 'date', pure: true})\nexport class DatePipe implements PipeTransform {\n constructor(@Inject(LOCALE_ID) private locale: string) {}\n\n  /**\n   * @param value The date expression: a `Date` object,  a number\n   * (milliseconds since UTC epoch), or an ISO string (https://www.w3.org/TR/NOTE-datetime).\n   * @param format The date/time components to include, using predefined options or a\n   * custom format string.\n   * @param timezone A timezone offset (such as `'+0430'`), or a standard\n   * UTC/GMT or continental US timezone abbreviation.\n   * When not supplied, uses the end-user's local system timezone.\n   * @param locale A locale code for the locale format rules to use.\n   * When not supplied, uses the value of `LOCALE_ID`, which is `en-US` by default.\n   * See [Setting your app locale](guide/i18n#setting-up-the-locale-of-your-app).\n   * @returns A date string in the desired format.\n   */\n  transform(value: Date|string|number, format?: string, timezone?: string, locale?: string): string\n      |null;\n  transform(value: null|undefined, format?: string, timezone?: string, locale?: string): null;\n  transform(\n      value: Date|string|number|null|undefined, format?: string, timezone?: string,\n      locale?: string): string|null;\n  transform(\n      value: Date|string|number|null|undefined, format = 'mediumDate', timezone?: string,\n      locale?: string): string|null {\n    if (value == null || value === '' || value !== value) return null;\n\n    try

{\n return formatDate(value, format, locale || this.locale, timezone);\n } catch (error) {\n throw invalidPipeArgumentError(DatePipe, error.message);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this
source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\n\nimport {getPluralCategory, NgLocalization} from '../i18n/localization';\n\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\nconst _INTERPOLATION_REGEXP: RegExp = /#/g;\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Maps a value to a string that pluralizes the value according to locale rules.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example common/pipes/ts/i18n_pipe.ts region='I18nPluralPipeComponent'}\n *\n * @publicApi\n */\n@Pipe({name: 'i18nPlural', pure: true})\nexport class I18nPluralPipe implements PipeTransform {\n constructor(private _localization: NgLocalization) {}\n\n /**\n * @param value the number to be formatted\n * @param pluralMap an object that mimics the ICU format, see\n * http://userguide.icu-project.org/formatparse/messages.\n *
@param locale a `string` defining the locale to use (uses the current {@link LOCALE_ID} by\n * default).\n */\n transform(value: number|null|undefined, pluralMap: {[count: string]: string}, locale?: string):\n string {\n if (value == null) return '';\n\n if (typeof pluralMap !== 'object' || pluralMap === null) {\n throw invalidPipeArgumentError(I18nPluralPipe, pluralMap);\n }\n\n const key = getPluralCategory(value, Object.keys(pluralMap), this._localization, locale);\n\n return pluralMap[key].replace(_INTERPOLATION_REGEXP, value.toString());\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Generic selector
that displays the string that matches the current value.\n *\n * If none of the keys of the `mapping` match the `value`, then the content\n * of the `other` key is returned when present, otherwise an empty string is returned.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example common/pipes/ts/i18n_pipe.ts region='I18nSelectPipeComponent'}\n *\n * @publicApi\n */\n@Pipe({name: 'i18nSelect', pure: true})\nexport class I18nSelectPipe implements PipeTransform {\n /**\n * @param value a string to be internationalized.\n * @param mapping an object that indicates the text that should be displayed\n * for different values of the provided `value`.\n */\n transform(value: string|null|undefined, mapping: {[key: string]: string}): string {\n if (value == null) return '';\n\n if (typeof mapping !== 'object' || typeof value !== 'string') {\n throw invalidPipeArgumentError(I18nSelectPipe, mapping);\n }\n\n if (mapping.hasOwnProperty(value)) {\n return mapping[value];\n
}\n\n if (mapping.hasOwnProperty('other')) {\n return mapping['other'];\n }\n\n return '';\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Converts a value into its JSON-format representation. Useful for debugging.\n *\n * @usageNotes\n *\n * The following component uses a JSON pipe to convert an object\n * to JSON format, and displays the string in both formats for comparison.\n *\n * {@example common/pipes/ts/json_pipe.ts region='JsonPipe'}\n *\n * @publicApi\n */\n@Pipe({name: 'json', pure: false})\nexport class JsonPipe implements PipeTransform {\n /**\n * @param value A value of any type to convert into a JSON-format string.\n */\n transform(value: any): string {\n return JSON.stringify(value, null, 2);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {KeyValueChangeRecord, KeyValueChanges, KeyValueDiffer, KeyValueDiffers, Pipe, PipeTransform} from '@angular/core';\n\nfunction makeKeyValuePair<K, V>(key: K, value: V): KeyValue<K, V> {\n return {key: key, value: value};\n}\n\n/**\n * A key value pair.\n * Usually used to represent the key value pairs from a Map or Object.\n *\n * @publicApi\n */\nexport interface

KeyValue<K, V> {\n  key: K;\n  value: V;\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Transforms Object or Map into an array of key value pairs.\n *\n * The output array will be ordered by keys.\n * By default the comparator will be by Unicode point value.\n * You can optionally pass a compareFn if your keys are complex types.\n *\n * @usageNotes\n
 * ### Examples\n *\n * This examples show how an Object or a Map can be iterated by ngFor with the use of this\n * keyvalue pipe.\n *\n * {@example common/pipes/ts/keyvalue_pipe.ts region='KeyValuePipe'}\n *\n * @publicApi\n */\n@Pipe({name: 'keyvalue', pure: false})\nexport class KeyValuePipe implements PipeTransform {\n  constructor(private readonly differs: KeyValueDiffers) {}\n\n  private differ!: KeyValueDiffer<any, any>;\n  private keyValues: Array<KeyValue<any, any>> = [];\n\n  /*\n   * NOTE: when the `input` value is a simple Record<K, V> object, the keys are extracted with\n   * Object.keys(). This means that even if the `input` type is Record<number, V> the keys are\n   * compared/returned as `string`s.\n   */\n  transform<K, V>(\n      input: ReadonlyMap<K, V>,\n      compareFn?: (a: KeyValue<K, V>, b: KeyValue<K, V>) => number):
Array<KeyValue<K, V>>;\n  transform<K extends number, V>(\n      input: Record<K, V>, compareFn?: (a: KeyValue<string, V>, b: KeyValue<string,
 V>) => number):\n      Array<KeyValue<string, V>>;\n  transform<K extends string, V>(\n      input: Record<K, V>|ReadonlyMap<K, V>,\n      compareFn?: (a: KeyValue<K, V>, b: KeyValue<K, V>) => number):
Array<KeyValue<K, V>>;\n  transform(\n      input: null|undefined,\n      compareFn?: (a: KeyValue<unknown, unknown>, b: KeyValue<unknown, unknown>) => number): null;\n  transform<K, V>(\n      input: ReadonlyMap<K, V>|null|undefined,\n      compareFn?: (a: KeyValue<K, V>, b: KeyValue<K, V>) => number):
Array<KeyValue<K, V>>|null;\n  transform<K extends number, V>(\n      input: Record<K, V>|null|undefined,\n compareFn?: (a: KeyValue<string, V>, b: KeyValue<string, V>) => number):\n      Array<KeyValue<string, V>>|null;\n  transform<K extends string, V>(\n      input: Record<K, V>|ReadonlyMap<K, V>|null|undefined,\n compareFn?: (a: KeyValue<K, V>, b: KeyValue<K, V>) => number): Array<KeyValue<K, V>>|null;\n transform<K, V>(\n      input: undefined|null|{[key: string]: V, [key:
 number]: V}|ReadonlyMap<K, V>,\n      compareFn: (a: KeyValue<K, V>, b: KeyValue<K, V>) => number = defaultComparator):\n      Array<KeyValue<K, V>>|null {\n    if (!input || (!(input instanceof Map) && typeof input !== 'object')) {\n      return null;\n    }\n\n    if (!this.differ) {\n      // make a differ for whatever type we've been passed in\n      this.differ = this.differs.find(input).create();\n    }\n\n    const differChanges: KeyValueChanges<K, V>|null = this.differ.diff(input as any);\n\n    if (differChanges) {\n      this.keyValues = [];\n differChanges.forEachItem((r: KeyValueChangeRecord<K, V>) => {\n this.keyValues.push(makeKeyValuePair(r.key, r.currentValue!));\n      });\n      this.keyValues.sort(compareFn);\n    }\n    return this.keyValues;\n  }\n}\n\nexport function defaultComparator<K, V>(\n    keyValueA: KeyValue<K, V>, keyValueB: KeyValue<K, V>): number {\n  const a = keyValueA.key;\n  const b = keyValueB.key;\n  // if same exit with 0;\n  if (a
 === b) return 0;\n  // make sure that undefined are at the end of the sort.\n  if (a === undefined) return 1;\n  if (b === undefined) return -1;\n  // make sure that nulls are at the end of the sort.\n  if (a === null) return 1;\n  if (b === null) return -1;\n  if (typeof a == 'string' && typeof b == 'string') {\n    return a < b ? -1 : 1;\n  }\n  if (typeof a == 'number' && typeof b == 'number') {\n    return a - b;\n  }\n  if (typeof a == 'boolean' && typeof b == 'boolean') {\n  return a < b ? -1 : 1;\n  }\n  // `a` and `b` are of different types. Compare their string values.\n  const aString = String(a);\n  const bString = String(b);\n  return aString == bString ? 0 : aString < bString ? -1 : 1;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DEFAULT_CURRENCY_CODE, Inject, LOCALE_ID, Pipe, PipeTransform}
 from '@angular/core';\nimport {formatCurrency, formatNumber, formatPercent} from '../i18n/format_number';\nimport {getCurrencySymbol} from '../i18n/locale_data_api';\n\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Transforms a number into a string,\n * formatted according to locale rules that determine group sizing and\n * separator, decimal-point character, and other locale-specific\n * configurations.\n *\n * If no

parameters are specified, the function rounds off to the nearest value using this\n * [rounding method](https://en.wikibooks.org/wiki/Arithmetic/Rounding).\n * The behavior differs from that of the JavaScript ```Math.round()``` function.\n * In the following case for example, the pipe rounds down where\n * ```Math.round()``` rounds up:\n *\n * ```html\n * -2.5 | number:'1.0-0'\n * > -3\n * Math.round(-2.5)\n * > -2\n * ```\n *\n * @see `formatNumber()`\n *\n * @usageNotes\n * The following code shows how the pipe transforms numbers\n * into text strings, according to various format specifications,\n * where the caller's default locale is `en-US`.\n *\n * ### Example\n *\n * <code-example path=\"common/pipes/ts/number_pipe.ts\" region='NumberPipe'></code-example>\n *\n * @publicApi\n */\n@Pipe({name: 'number'})\nexport class DecimalPipe implements PipeTransform {\n constructor(@Inject(LOCALE_ID) private _locale: string) {}\n\n /**\n * @param value The number to be formatted.\n * @param digitsInfo Decimal representation options, specified by a string\n * in the following format:<br>\n * <code>{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}</code>.\n * - `minIntegerDigits`: The minimum number of integer digits before the decimal point.\n * Default is `1`.\n * - `minFractionDigits`: The minimum number of digits after the decimal point.\n * Default is `0`.\n * - `maxFractionDigits`: The maximum number of digits after the decimal point.\n * Default is `3`.\n * @param locale A locale code for the locale format rules to use.\n * When not supplied, uses the value of `LOCALE_ID`, which is `en-US` by default.\n * See [Setting your app locale](guide/i18n#setting-up-the-locale-of-your-app).\n */\n transform(value: number|string, digitsInfo?: string, locale?: string): string|null;\n transform(value: null|undefined, digitsInfo?: string, locale?: string): null;\n transform(value: number|string|null|undefined, digitsInfo?: string, locale?: string): string|null;\n transform(value: number|string|null|undefined, digitsInfo?: string, locale?: string): string\n |null {\n if (!isValue(value)) return null;\n\n locale = locale || this._locale;\n\n try {\n const num = strToNumber(value);\n return formatNumber(num, locale, digitsInfo);\n } catch (error) {\n throw invalidPipeArgumentError(DecimalPipe, error.message);\n }\n }\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Transforms a number to a percentage\n * string, formatted according to locale rules that determine group sizing and\n * separator, decimal-point character, and other locale-specific\n * configurations.\n *\n * @see `formatPercent()`\n *\n * @usageNotes\n * The following code shows how the pipe transforms numbers\n * into text strings, according to various format specifications,\n * where the caller's default locale is `en-US`.\n *\n * <code-example path=\"common/pipes/ts/percent_pipe.ts\" region='PercentPipe'></code-example>\n *\n * @publicApi\n */\n@Pipe({name: 'percent'})\nexport class PercentPipe implements PipeTransform {\n constructor(@Inject(LOCALE_ID) private _locale: string) {}\n\n /**\n *\n * @param value The number to be formatted as a percentage.\n * @param digitsInfo Decimal representation options, specified by a string\n * in the following format:<br>\n * <code>{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}</code>.\n * - `minIntegerDigits`: The minimum number of integer digits before the decimal point.\n * Default is `1`.\n * - `minFractionDigits`: The minimum number of digits after the decimal point.\n * Default is `0`.\n * - `maxFractionDigits`: The maximum number of digits after the decimal point.\n * Default is `0`.\n * @param locale A locale code for the locale format rules to use.\n * When not supplied, uses the value of `LOCALE_ID`, which is `en-US` by default.\n * See [Setting your app locale](guide/i18n#setting-up-the-locale-of-your-app).\n */\n transform(value: number|string, digitsInfo?: string, locale?: string): string|null;\n transform(value: null|undefined, digitsInfo?: string, locale?: string): null;\n transform(value: number|string|null|undefined, digitsInfo?: string, locale?: string): string|null;\n transform(value: number|string|null|undefined, digitsInfo?: string, locale?: string): string\n |null {\n if (!isValue(value)) return null;\n locale = locale || this._locale;\n try {\n const num = strToNumber(value);\n return formatPercent(num, locale, digitsInfo);\n } catch (error) {\n throw invalidPipeArgumentError(PercentPipe, error.message);\n }\n }\n}\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Transforms a number to a currency string, formatted according to locale rules\n * that determine group sizing and separator, decimal-point character,\n * and other locale-specific configurations.\n *\n * {@a currency-code-deprecation}\n * <div class=\"alert is-helpful\">\n *\n * **Deprecation

notice:**\n *\n * The default currency code is currently always `USD` but this is deprecated from v9.\n *\n * **In v11 the default currency code will be taken from the current locale identified by\n * the `LOCAL_ID` token. See the [i18n guide](guide/i18n#setting-up-the-locale-of-your-app) for\n * more information.**\n *\n * If you need the previous behavior then set it by creating a `DEFAULT_CURRENCY_CODE` provider in\n * your application `NgModule`:\n *\n * ```ts\n * {provide: DEFAULT_CURRENCY_CODE, useValue: 'USD'}\n * ```\n *\n * \n *\n * @see `getCurrencySymbol()`\n * @see `formatCurrency()`\n *\n * @usageNotes\n * The following code shows how the pipe transforms numbers\n * into text strings, according to various format specifications,\n * where the caller's default locale is `en-US`.\n *\n * <code-example path=\"common/pipes/ts/currency_pipe.ts\" region='CurrencyPipe'></code-example>\n *\n * @publicApi\n */\n@Pipe({name: 'currency'})\nexport class CurrencyPipe implements PipeTransform {\n constructor(\n @Inject(LOCALE_ID) private _locale: string,\n @Inject(DEFAULT_CURRENCY_CODE) private _defaultCurrencyCode: string = 'USD') {}\n\n /**\n *\n * @param value The number to be formatted as currency.\n * @param currencyCode The [ISO 4217](https://en.wikipedia.org/wiki/ISO_4217) currency code,\n * such as `USD` for the US dollar and `EUR` for the euro. The default currency code can be\n * configured using the `DEFAULT_CURRENCY_CODE` injection token.\n * @param display The format for the currency indicator. One of the following:\n * - `code`: Show the code (such as `USD`).\n * - `symbol`(default): Show the symbol (such as `$`).\n * - `symbol-narrow`: Use the narrow symbol for locales that have two symbols for their\n * currency.\n * For example, the Canadian dollar CAD has the symbol `CA$` and the symbol-narrow `$`. If the\n * locale has no narrow symbol, uses the standard symbol for the locale.\n * - String: Use the given string value instead of a code or a symbol.\n * For example, an empty string will suppress the currency & symbol.\n * - Boolean (marked deprecated in v5): `true` for symbol and false for `code`.\n *\n * @param digitsInfo Decimal representation options, specified by a string\n * in the following format:<br>\n * <code>{minIntegerDigits}.{minFractionDigits}-{maxFractionDigits}</code>.\n * - `minIntegerDigits`: The minimum number of integer digits before the decimal point.\n * Default is `1`.\n * - `minFractionDigits`: The minimum number of digits after the decimal point.\n * Default is `2`.\n * - `maxFractionDigits`: The maximum number of digits after the decimal point.\n * Default is `2`.\n * If not provided, the number will be formatted with the proper amount of digits,\n * depending on what the [ISO 4217](https://en.wikipedia.org/wiki/ISO_4217) specifies.\n * For example, the Canadian dollar has 2 digits, whereas the Chilean peso has none.\n * @param locale A locale code for the locale format rules to use.\n * When not supplied, uses the value of `LOCALE_ID`, which is `en-US` by default.\n * See [Setting your app locale](guide/i18n#setting-up-the-locale-of-your-app).\n */\n transform(\n value: number|string, currencyCode?: string,\n display?: 'code'|'symbol'|'symbol-narrow'|string|boolean, digitsInfo?: string,\n locale?: string): string|null;\n transform(\n value: null|undefined, currencyCode?: string,\n display?: 'code'|'symbol'|'symbol-narrow'|string|boolean, digitsInfo?: string,\n locale?: string): null;\n transform(\n value: number|string|null|undefined, currencyCode?: string,\n display?: 'code'|'symbol'|'symbol-narrow'|string|boolean, digitsInfo?: string,\n locale?: string): string|null;\n transform(\n value: number|string|null|undefined, currencyCode?: string,\n display: 'code'|'symbol'|'symbol-narrow'|string|boolean = 'symbol', digitsInfo?: string,\n locale?: string): string|null {\n if (!isValue(value)) return null;\n\n locale = locale || this._locale;\n\n if (typeof display === 'boolean') {\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && <any>console && <any>console.warn) {\n console.warn(\n `Warning: the currency pipe has been changed in Angular v5. The symbolDisplay option (third parameter) is now a string instead of a boolean. The accepted values are \"code\", \"symbol\" or \"symbol-narrow\".`);\n }\n display = display ? 'symbol' : 'code';\n }\n\n let currency: string = currencyCode || this._defaultCurrencyCode;\n if (display !== 'code') {\n if (display === 'symbol' || display === 'symbol-narrow') {\n currency = getCurrencySymbol(currency, display === 'symbol' ? 'wide' : 'narrow', locale);\n } else {\n currency = display;\n }\n }\n\n try {\n const num = strToNumber(value);\n return formatCurrency(num, locale, currency, currencyCode, digitsInfo);\n } catch (error) {\n throw invalidPipeArgumentError(CurrencyPipe, error.message);\n }\n }\n}\n\nfunction

isValue(value: number|string|null|undefined): value is number|string {\n  return !(value == null || value === '' || value !== value);\n}\n\n/**\n * Transforms a string into a number (if needed).\n */\nfunction strToNumber(value: number|string): number {\n  // Convert strings to numbers\n  if (typeof value === 'string' && !isNaN(Number(value) - parseFloat(value))) {\n    return Number(value);\n  }\n  if (typeof value !== 'number') {\n    throw new Error(`${value} is not a number`);\n  }\n  return value;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Pipe, PipeTransform} from '@angular/core';\nimport {invalidPipeArgumentError} from './invalid_pipe_argument_error';\n\n/**\n * @ngModule CommonModule\n * @description\n *\n * Creates a new `Array` or `String` containing a subset (slice) of the elements.\n *\n * @usageNotes\n *\n * All behavior is based on the expected behavior of the JavaScript API `Array.prototype.slice()`\n * and `String.prototype.slice()`.\n *\n * When operating on an `Array`, the returned `Array` is always a copy even when all\n * the elements are being returned.\n *\n * When operating on a blank value, the pipe returns the blank value.\n *\n * ### List Example\n *\n * This `ngFor` example:\n *\n * {@example common/pipes/ts/slice_pipe.ts region='SlicePipe_list'}\n *\n * produces the following:\n *\n * ```html\n * <li>b</li>\n * <li>c</li>\n * ```\n *\n * ### String Examples\n *\n * {@example common/pipes/ts/slice_pipe.ts region='SlicePipe_string'}\n *\n * @publicApi\n */\n@Pipe({name: 'slice', pure: false})\nexport class SlicePipe implements PipeTransform {\n  /**\n   * @param value a list or a string to be sliced.\n   * @param start the starting index of the subset to return:\n   *   - **a positive integer**: return the item at `start` index and all items after\n   *     in the list or string expression.\n   *   - **a negative integer**: return the item at `start` index from the end and all items after\n   *     in the list or string expression.\n   *   - **if positive and greater than the size of the expression**: return an empty list or\n   *     string.\n   *   - **if negative and greater than the size of the expression**: return entire list or string.\n   * @param end the ending index of the subset to return:\n   *   - **omitted**: return all items until the end.\n   *   - **if positive**: return all items before `end` index of the list or string.\n   *   - **if negative**: return all items before `end` index from the end of the list or string.\n   */\n  transform<T>(value: ReadonlyArray<T>, start: number, end?: number): Array<T>;\n  transform(value: null|undefined, start: number, end?: number): null;\n  transform<T>(value: ReadonlyArray<T>|null|undefined, start: number, end?: number): Array<T>|null;\n  transform(value: string, start: number, end?: number): string;\n  transform(value: string|null|undefined, start: number, end?: number): string|null;\n  transform<T>(value: ReadonlyArray<T>|string|null|undefined, start: number, end?: number):\n      Array<T>|string|null {\n    if (value == null) return null;\n\n    if (!this.supports(value)) {\n      throw invalidPipeArgumentError(SlicePipe, value);\n    }\n\n    return value.slice(start, end);\n  }\n\n  private supports(obj: any): boolean {\n    return typeof obj === 'string' || Array.isArray(obj);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * This module provides a set of common Pipes.\n */\nimport {AsyncPipe} from './async_pipe';\nimport {LowerCasePipe, TitleCasePipe, UpperCasePipe} from './case_conversion_pipes';\nimport {DatePipe} from './date_pipe';\nimport {I18nPluralPipe} from './i18n_plural_pipe';\nimport {I18nSelectPipe} from './i18n_select_pipe';\nimport {JsonPipe} from './json_pipe';\nimport {KeyValue, KeyValuePipe} from './keyvalue_pipe';\nimport {CurrencyPipe, DecimalPipe, PercentPipe} from './number_pipe';\nimport {SlicePipe} from './slice_pipe';\n\nexport {\n  AsyncPipe,\n  CurrencyPipe,\n  DatePipe,\n  DecimalPipe,\n  I18nPluralPipe,\n  I18nSelectPipe,\n  JsonPipe,\n  KeyValue,\n  KeyValuePipe,\n  LowerCasePipe,\n  PercentPipe,\n  SlicePipe,\n  TitleCasePipe,\n  UpperCasePipe,\n};\n\n/**\n * A collection of Angular pipes that are likely to be used in each and every application.\n */\nexport const COMMON_PIPES = [\n  AsyncPipe,\n  UpperCasePipe,\n  LowerCasePipe,\n  JsonPipe,\n  SlicePipe,\n  DecimalPipe,\n  PercentPipe,\n  TitleCasePipe,\n  CurrencyPipe,\n  DatePipe,\n  I18nPluralPipe,\n  I18nSelectPipe,\n  KeyValuePipe,\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the

LICENSE file at https://angular.io/license\n */\n\nimport {NgModule} from '@angular/core';\nimport {COMMON_DIRECTIVES} from './directives/index';\nimport {NgLocaleLocalization, NgLocalization} from './i18n/localization';\nimport {COMMON_PIPES} from './pipes/index';\n\n\n// Note: This does not contain the location providers,\n// as they need some platform specific implementations to work.\n/**\n * Exports all the basic Angular directives and pipes,\n * such as `NgIf`, `NgForOf`, `DecimalPipe`, and so on.\n * Re-exported by `BrowserModule`, which is included automatically in the root\n * `AppModule` when you create a new app with the CLI `new` command.\n *\n * * The `providers` options configure the NgModule's injector to provide\n * localization dependencies to members.\n * * The `exports` options make the declared directives and pipes available for import\n * by other NgModules.\n *\n * @publicApi\n */\n@NgModule({\n  declarations: [COMMON_DIRECTIVES, COMMON_PIPES],\n  exports: [COMMON_DIRECTIVES, COMMON_PIPES],\n  providers: [\n    {provide: NgLocalization, useClass: NgLocaleLocalization},\n  ],\n})\nexport class CommonModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport const PLATFORM_BROWSER_ID = 'browser';\nexport const PLATFORM_SERVER_ID = 'server';\nexport const PLATFORM_WORKER_APP_ID = 'browserWorkerApp';\nexport const PLATFORM_WORKER_UI_ID = 'browserWorkerUi';\n\n/**\n * Returns whether a platform id represents a browser platform.\n * @publicApi\n */\nexport function isPlatformBrowser(platformId: Object): boolean {\n  return platformId === PLATFORM_BROWSER_ID;\n}\n\n/**\n * Returns whether a platform id represents a server platform.\n * @publicApi\n */\nexport function isPlatformServer(platformId: Object): boolean {\n  return platformId === PLATFORM_SERVER_ID;\n}\n\n/**\n * Returns whether a platform id represents a web worker app platform.\n * @publicApi\n */\nexport function isPlatformWorkerApp(platformId: Object): boolean {\n  return platformId === PLATFORM_WORKER_APP_ID;\n}\n\n/**\n * Returns whether a platform id represents a web worker UI platform.\n * @publicApi\n */\nexport function isPlatformWorkerUi(platformId: Object): boolean {\n  return platformId === PLATFORM_WORKER_UI_ID;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ErrorHandler, defineInjectable, inject} from '@angular/core';\n\nimport {DOCUMENT} from './dom_tokens';\n\n\n\n/**\n * Defines a scroll position manager. Implemented by `BrowserViewportScroller`.\n *\n * @publicApi\n */\nexport abstract class ViewportScroller {\n  // De-sugared tree-shakable injection\n  // See #23917\n  /** @nocollapse */\n  static prov = defineInjectable({\n    token: ViewportScroller,\n    providedIn: 'root',\n    factory: () => new BrowserViewportScroller(inject(DOCUMENT), window, inject(ErrorHandler))\n  });\n\n  /**\n   * Configures the top offset used when scrolling to an anchor.\n   * @param offset A position in screen coordinates (a tuple with x and y values)\n   * or a function that returns the top offset position.\n   *\n   */\n  abstract setOffset(offset: [number, number]|(() => [number, number])): void;\n\n  /**\n   * Retrieves the current scroll position.\n   * @returns A position in screen coordinates (a tuple with x and y values).\n   */\n  abstract getScrollPosition(): [number, number];\n\n  /**\n   * Scrolls to a specified position.\n   * @param position A position in screen coordinates (a tuple with x and y values).\n   */\n  abstract scrollToPosition(position: [number, number]): void;\n\n  /**\n   * Scrolls to an anchor element.\n   * @param anchor The ID of the anchor element.\n   */\n  abstract scrollToAnchor(anchor: string): void;\n\n  /**\n   * Disables automatic scroll restoration provided by the browser.\n   * See also [window.history.scrollRestoration\n   * info](https://developers.google.com/web/updates/2015/09/history-api-scroll-restoration).\n   */\n  abstract setHistoryScrollRestoration(scrollRestoration: 'auto'|'manual'): void;\n}\n\n/**\n * Manages the scroll position for a browser window.\n */\nexport class BrowserViewportScroller implements ViewportScroller {\n  private offset: ()

=> [number, number] = () => [0, 0];\n\n constructor(private document: any, private window: any, private errorHandler: ErrorHandler) {}\n\n /**\n * Configures the top offset used when scrolling to an anchor.\n * @param offset A position in screen coordinates (a tuple with x and y values)\n * or a function that returns the top offset position.\n *\n */\n setOffset(offset: [number, number]|(() => [number, number])): void {\n if (Array.isArray(offset)) {\n this.offset = () => offset;\n } else {\n this.offset = offset;\n }\n }\n\n /**\n * Retrieves the current scroll position.\n * @returns The position in screen coordinates.\n */\n getScrollPosition(): [number, number] {\n if (this.supportsScrolling()) {\n return [this.window.pageXOffset, this.window.pageYOffset];\n } else {\n return [0, 0];\n }\n }\n\n /**\n * Sets the scroll position.\n * @param position The new position in screen coordinates.\n */\n scrollToPosition(position: [number, number]): void {\n if (this.supportsScrolling()) {\n this.window.scrollTo(position[0], position[1]);\n }\n }\n\n /**\n * Scrolls to an anchor element.\n * @param anchor The ID of the anchor element.\n */\n scrollToAnchor(anchor: string): void {\n if (this.supportsScrolling()) {\n const elSelected =\n this.document.getElementById(anchor) || this.document.getElementsByName(anchor)[0];\n if (elSelected) {\n this.scrollToElement(elSelected);\n }\n }\n }\n\n /**\n * Disables automatic scroll restoration provided by the browser.\n */\n setHistoryScrollRestoration(scrollRestoration: 'auto'|'manual'): void {\n if (this.supportScrollRestoration()) {\n const history = this.window.history;\n if (history && history.scrollRestoration) {\n history.scrollRestoration = scrollRestoration;\n }\n }\n }\n\n private scrollToElement(el: any): void {\n const rect = el.getBoundingClientRect();\n const left = rect.left + this.window.pageXOffset;\n const top = rect.top + this.window.pageYOffset;\n const offset = this.offset();\n this.window.scrollTo(left - offset[0], top - offset[1]);\n }\n\n /**\n * We only support scroll restoration when we can get a hold of window.\n * This means that we do not support this behavior when running in a web worker.\n *\n * Lifting this restriction right now would require more changes in the dom adapter.\n * Since webworkers aren't widely used, we will lift it once RouterScroller is\n * battle-tested.\n */\n private supportScrollRestoration(): boolean {\n try {\n if (!this.supportsScrolling()) {\n return false;\n }\n // The `scrollRestoration` property could be on the `history` instance or its prototype.\n const scrollRestorationDescriptor = getScrollRestorationProperty(this.window.history) ||\n getScrollRestorationProperty(Object.getPrototypeOf(this.window.history));\n // We can write to the `scrollRestoration` property if it is a writable data field or it has a\n // setter function.\n return !!scrollRestorationDescriptor &&\n !!(scrollRestorationDescriptor.writable || scrollRestorationDescriptor.set);\n } catch {\n return false;\n }\n }\n\n private supportsScrolling(): boolean {\n try {\n return !!this.window && !!this.window.scrollTo && 'pageXOffset' in this.window;\n } catch {\n return false;\n }\n }\n}\n\nfunction getScrollRestorationProperty(obj: any): PropertyDescriptor|undefined {\n return Object.getOwnPropertyDescriptor(obj, 'scrollRestoration');\n}\n\n/**\n * Provides an empty implementation of the viewport scroller.\n */\nexport class NullViewportScroller implements ViewportScroller {\n /**\n * Empty implementation\n */\n setOffset(offset: [number, number]|(() => [number, number])): void {}\n\n /**\n * Empty implementation\n */\n getScrollPosition(): [number, number] {\n return [0, 0];\n }\n\n /**\n * Empty implementation\n */\n scrollToPosition(position: [number, number]): void {}\n\n /**\n * Empty implementation\n */\n scrollToAnchor(anchor: string): void {}\n\n /**\n * Empty implementation\n */\n setHistoryScrollRestoration(scrollRestoration: 'auto'|'manual'): void {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\nexport * from './private_export';\nexport * from './location/index';\nexport {formatDate} from './i18n/format_date';\nexport {formatCurrency, formatNumber, formatPercent} from './i18n/format_number';\nexport {NgLocaleLocalization, NgLocalization} from './i18n/localization';\nexport {registerLocaleData} from './i18n/locale_data';\nexport {Plural, NumberFormatStyle, FormStyle, Time, TranslationWidth, FormatWidth, NumberSymbol, WeekDay,

getNumberOfCurrencyDigits, getCurrencySymbol, getLocaleDayPeriods, getLocaleDayNames, getLocaleMonthNames, getLocaleId, getLocaleEraNames, getLocaleWeekEndRange, getLocaleFirstDayOfWeek, getLocaleDateFormat, getLocaleDateTimeFormat,
getLocaleExtraDayPeriodRules, getLocaleExtraDayPeriods, getLocalePluralCase, getLocaleTimeFormat, getLocaleNumberSymbol, getLocaleNumberFormat, getLocaleCurrencyCode, getLocaleCurrencyName, getLocaleCurrencySymbol, getLocaleDirection} from './i18n/locale_data_api';\nexport {parseCookieValue as parseCookieValue} from './cookie';\nexport {CommonModule} from './common_module';\nexport {NgClass, NgForOf, NgForOfContext, NgIf, NgIfContext, NgPlural, NgPluralCase, NgStyle, NgSwitch, NgSwitchCase, NgSwitchDefault, NgTemplateOutlet, NgComponentOutlet} from './directives/index';\nexport {DOCUMENT} from './dom_tokens';\nexport {AsyncPipe, DatePipe, I18nPluralPipe, I18nSelectPipe, JsonPipe, LowerCasePipe, CurrencyPipe, DecimalPipe, PercentPipe, SlicePipe, UpperCasePipe, TitleCasePipe, KeyValuePipe, KeyValue} from './pipes/index';\nexport {PLATFORM_BROWSER_ID as PLATFORM_BROWSER_ID, PLATFORM_SERVER_ID as PLATFORM_SERVER_ID, PLATFORM_WORKER_APP_ID as PLATFORM_WORKER_APP_ID, PLATFORM_WORKER_UI_ID
as PLATFORM_WORKER_UI_ID, isPlatformBrowser, isPlatformServer, isPlatformWorkerApp, isPlatformWorkerUi} from './platform_id';\nexport {VERSION} from './version';\nexport {ViewportScroller, NullViewportScroller as NullViewportScroller} from './viewport_scroller';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/common';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language
service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {COMMON_DIRECTIVES as angular_packages_common_common_e} from './src/directives/index';\nexport {createLocation as angular_packages_common_common_c} from './src/location/location';\nexport {provideLocationStrategy as angular_packages_common_common_d} from './src/location/location_strategy';\nexport {createBrowserPlatformLocation as angular_packages_common_common_b,useBrowserPlatformLocation as angular_packages_common_common_a} from './src/location/platform_location';\nexport {COMMON_PIPES as angular_packages_common_common_f} from
'./src/pipes/index';"],"names":["isListLikeIterable","stringify"],"mappings":";;;;;;;;AAAA;;;;;;;AAQA,IAAI,IAAI,GAAe,IAAK,CAAC;SAEb,MAAM;IACpB,OAAO,IAAI,CAAC;AACd,CAAC;SAEe,MAAM,CAAC,OAAmB,EAAE,IAAI,GAAG,IAAI;IACrD,IAAI,GAAG,IAAI,IAAI,IAAI,CAAC;IACpB,IAAI,IAAI,KAAK,IAAI,EAAE;QACjB,OAAO,CAAC,IAAI,GAAG,IAAI,CAAC;KACrB;AACH,CAAC;AAED;;;;;;;MAMa,MAAM,GAAG,IAAI,cAAc,CAAS,QAAQ,CAAC;AAE1D;;;;;;;

K,CAAC,CAAC;KAC9F;IAED,IAAI,IAAI;QACN,OAAO,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC;KAC3B;IAC
D,IAAI,QAAQ;QACV,OAAO,IAAI,CAAC,QAAQ,CAAC,QAAQ,CAAC;KAC/B;IACD,IAAI,QAAQ;QACV,OA
AO,IAAI,CAAC,QAAQ,CAAC,QAAQ,CAAC;KAC/B;IACD,IAAI,IAAI;QACN,OAAO,IAAI,CAAC,QAAQ,CA
AC,IAAI,CAAC;KAC3B;IACD,IAAI,QAAQ;QACV,OAAO,IAAI,CAAC,QAAQ,CAAC,QAAQ,CAAC;KAC/B;I
ACD,IAAI,MAAM;QACR,OAAO,IAAI,CAAC,QAAQ,CAAC,MAAM,CAAC;KAC7B;IACD,IAAI,IAAI;QACN,
OAAO,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC;KAC3B;IACD,IAAI,QAAQ,CAAC,OAAe;QAC1B,IAAI,CAAC,
QAAQ,CAAC,QAAQ,GAAG,OAAO,CAAC;KAClC;IAED,SAAS,CAAC,KAAU,,EAAE,KAAa,,EAAE,GAAW;Q
AC9C,IAAI,aAAa,EAAE,EAAE;YACnB,IAAI,CAAC,QAAQ,CAAC,SAAS,CAAC,KAAK,EAAE,KAAK,EAAE,
GAAG,CAAC,CAAC;SAC5C;aAAM;YACL,IAAI,CAAC,QAAQ,CAAC,IAAI,GAAG,GAAG,CAAC;SAC1B;KA
CF;IAED,YAAY,CAAC,KAAU,,EAAE,KAAa,,EAAE,GAAW;QACjD,IAAI,aAAa,EAAE,EAAE;YACnB,IAAI,C
AAC,QAAQ,CAAC,YAAY,CAAC,KAAK,EAAE,KAAK,EAAE,GAAG,CAAC,CAAC;SAC/C;aAAM;YACL,IA
AI,CAAC,QAAQ,CAAC,IAAI,GAAG,GAAG,CAAC;SAC1B;KACF;IAED,OAAO;QACL,IAAI,CAAC,QAAQ,C
AAC,OAAO,EAAE,CAAC;KACzB;IAED,IAAI;QACF,IAAI,CAAC,QAAQ,CAAC,IAAI,EAAE,CAAC;KCtB;I
AED,QAAQ;QACN,OAAO,IAAI,CAAC,QAAQ,CAAC,KAAK,CAAC;KC5B;;;;YApFF,UAAU,SAAC;gBACV,
UAAU,EAAE,UAAU;;;gBAEtB,UAAU,EAAE,6BAA6B;aAC1C;;;4CAKc,MAAM,SAAC,QAAQ;;SA8Ed,aAAa;I
AC3B,OAAO,CAAC,CAAC,MAAM,CAAC,OAAO,CAAC,SAAS,CAAC;AACpC,CAAC,SAAS,6BAA6B;IAC3C
,OAAO,IAAI,uBAAuB,CAAC,QAAQ,CAAC,QAAQ,CAAC,CAAC,CAAC;AACzD;;AC/LA;;;;;;;;ACAA;;;;;;;AA
SA;;;;;;;;;SASgB,aAAa,CAAC,KAAa,,EAAE,GAAW;IACtD,IAAI,KAAK,CAAC,MAAM,IAAI,CAAC,QAAQ,CAAC,EAAE;QA
CrB,OAAO,GAAG,CAAC;KACZ;IACD,IAAI,GAAG,CAAC,MAAM,IAAI,CAAC,QAAQ,CAAC,EAAE;QACnB,OAAO,KAA
K,CAAC;KCd;IACD,IAAI,OAAO,GAAG,CAAC,CAAC;IAChB,IAAI,KAAK,CAAC,QAAQ,CAAC,QAAQ,CAAC,GAAG,CA
AC,EAAE;QACvB,OAAO,EAAE,CAAC;KCX;IACD,IAAI,GAAG,CAAC,UAAU,CAAC,GAAG,CAAC,EAAE
;QACvB,OAAO,EAAE,CAAC;KCX;IACD,IAAI,OAAO,IAAI,CAAC,EAAE;QAChB,OAAO,KAAK,GAAG,G
AAG,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC;KCjC;IACD,IAAI,OAAO,IAAI,CAAC,EAAE;QAChB,O
,KAAK,GAAG,GAAG,CAAC;KCpB;IACD,OAAO,KAAK,GAAG,GAAG,GAAG,GAAG,CAAC;AAC3B,CAA
C;AAED;;;;;;;;;SASgB,kBAAkB,CAAC,GAAW;IAC5C,MAAM,KAAK,GAAG,CAAC,QAAQ,CAAC,QAAQ,CAAC,QA
AQ,CAAC,CAAC;IAClC,MAAM,UAAU,GAAG,KAAK,IAAI,KAAK,CAAC,QAAQ,CAAC,KAAK,IAAI,GAAG,CAAC,
M,CAAC;IACtD,MAM,eAAe,GAAG,UAAU,IAAI,GAAG,CAAC,QAAQ,CAAC,QAAQ,CAAC,KAAK,IAAI,GAAG,
GAAG,CAAC,GAAG,CAAC,CAAC,CAAC;IAC3E,OAAO,GAAG,CAAC,KAAK,CAAC,CAAC,EAAE,eAAe,CAAC,
CAAC,GAAG,CAAC,KAAK,CAAC,eAAe,CAAC,CAAC,CAAC;AAC/D;;;;;;;SAOgB,oBAAoB,CAAC,
MAAc;IACjD,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,MAAM,KAAK,CAAC,EAAE;QAClC,OAAO,IAAI,CAAC;KACjB
;IACD,IAAI;;;;;;;;;

AC,CAAC;KAC7D;IAED,YAAY,CAAC,KAAU,EAAE,KAAa,EAAE,GAAW,EAAE,WAAmB;QACtE,MAAM,WAAW,GAAG,IAAI,CAAC,kBAAkB,CAAC,GAAG,GAAG,oBAAoB,CAAC,WAAW,CAAC,CAAC,CAAC;QACrF,IAAI,CAAC,iBAAiB,CAAC,YAAY,CAAC,KAAK,EAAE,KAAK,EAAE,WAAW,CAAC,CAAC;KAChE;IAED,OAAO;QACL,IAAI,CAAC,iBAAiB,CAAC,OAAO,EAAE,CAAC;KAClC;IAED,IAAI;QACF,IAAI,CAAC,iBAAiB,CAAC,IAAI,EAAE,CAAC;KAC/B;;;YAzDF,UAAU;;;YAhGqB,gBAAgB;yCAsGzC,QAAQ,YAAI,MAAM,SAAC,aAAa,aAAa;;;AAChH,hvC;;;;;;;AAeA;;;;;;;;;;;;;;;;;MAmBa,oBAAqB,SAAQ,gBAAgB;IAExD,YACY,iBAAmC,EACrC,SAAkB;QAE1B,KAAK,CAAC,iBAAiB,CAAC,CAAC;QAFjB,sBAAiB,GAAjB,iBAAiB,CAAkB;QAFvC,cAAS,GAAW,EAAE,CAAC;IAK/B,CAAC;IAED,IAAI,MAAM;QACR,OAAO,IAAI,CAAC,iBAAiB,CAAC,MAAM,CAAC;IACvC,CAAC;IAED,IAAI,MAAM,CAAC,KAAa;QACtB,IAAI,CAAC,iBAAiB,CAAC,MAAM,GAAG,KAAK,CAAC;IACxC,CAAC;IAED,IAAI,KAAK;QACP,OAAO,IAAI,CAAC,iBAAiB,CAAC,KAAK,CAAC;IACtC,CAAC;IAED,IAAI,KAAK,CAAC,KAAa;QACrB,IAAI,CAAC,iBAAiB,CAAC,KAAK,GAAG,KAAK,CAAC;IACvC,CAAC;IAED,IAAI,IAAI;QACN,OAAO,IAAI,CAAC,iBAAiB,CAAC,IAAI,CAAC;IACrC,CAAC;IAED,IAAI,IAAI,CAAC,KAAa;QACpB,IAAI,CAAC,iBAAiB,CAAC,IAAI,GAAG,KAAK,CAAC;IACt

AAE,CAAC;KAC/B;;;;;;;IAQD,WAAW,CAAC,EAAyC;QACnD,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;QAElC,IAAI,CAAC,IAAI,CAAC,sBAAsB,EAAE;YAChC,IAAI,CAAC,sBAAsB,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC;gBAC5C,IAAI,CAAC,yBAAyB,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC;aAChD,CAAC,CAAC,SACJ,CAAC,IAAI,CAAC,sBAAsB,GAAG,IAAI,CAAC,MAAc,EAAE,EAAE,KAAc;QACxD,IAAI,CAAC,IAAI,CAAC,mBAAmB,CAAC,CAAC,OAAO,CAAC,EAAE,IAAI,EAAE,CAAC,GAAG,EAAE,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;;;;;;;;IAUD,SAAS,CAAC,MAAsC,EAAE,OAAyC,EAAC,jF,QAA4B;QAAC,OAAO,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

SAAS,EAAE,CAAC,CAAC;IAC1B,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,CAAC;IACvB,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,EAAE,CAAC,CAAC;IAC3B,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,EAAE,CAAC,CAAC;IAC1B,KAAK,EAAE,CAAC,GAAG,EAAE,SAAS,EAAE,CAAC,CAAC;IAC1B,KAAK,EAAE,CAAC,SAAS,EAAE,SAAS,EAAE,CAAC,CAAC;IAChC,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,CAAC;IACvB,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,CAAC;IACvB,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,EAAE,CAAC,CAAC;IAC1B,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,EAAE,CAAC,CAAC;IAC3B,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,CAAC;IACxB,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,CAAC;IACvB,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,EAAE,CAAC,CAAC;IAC1B,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,CAAC;IACxB,KAAK,EAAE,CAAC,SAAS,EAAE,SAAS,EAAE,CAAC,CAAC;IAChC,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,CAAC;IACxB,KAAK,EAAE,CAAC,SAAS,EAAE,SAAS,EAAE,CAAC,CAAC;IAChC,KAAK,EAAE,CAAC,SAAS,EAAE,IAAI,EAAE,CAAC,CAAC;IAC3B,KAAK,EAAE,CAAC,SAAS,EAAE,SAAS,EAAE,SAAS,EAAE,CAAC,CAAC;IAC3C,KAAK,EAAE,CAAC,SAAS,EAAE,GAAG,EAAE,CAAC,CAAC;IAC1B

;;;;;;;IASY;AAAZ,WAAY,MAAM;IAChB,mCAAQ,CAAA;IACR,iCAAO,CAAA;IACP,iCAAO,CAAA;IACP,iCAAO,CAAA;IACP,mCAAQ,CAAA;IACR,qCAAS,CAAA;AACX,CAAC,EAPW,MAAM,KAAN,MAAM,QAOjB;AAED;;;;;;;;;IASY;AAAZ,WAAY,SAAS;IACnB,6CAAM,CAAA;IACN,qDAAU,CAAA;AACZ,CAAC,EAHW,SAAS,KAAT,SAAS,QAGpB,KAAT,QAAS,QAAG;AAED;;;;;;;IAOY;AAAZ,WAAY,gBAAgB;;IAE1B,2DAAM,CAAA;;IAEN,qEAAW,CAAA;;IAEX,uDAAI,CAAA;;IAEJ,yDAAK,CAAA;AACP,CAAC,EAVW,gBAAgB,KAAhB,gBAAgB,QAU3B,KAAT,QAAS,QAAG;AAED;;;;;;;;;;IAWY;AAAZ,WAAY,WAAW;;;;;IAErB,+CAAK,CAAA;;;;;IAEL,iDAAM,CAAA;;;;;IAEN,6CAAI,CAAA;;;;;IAEJ,8CAAK,CAAA;AACP,CAAC,EAVW,WAAW,KAAX,WAAW,QAUtB,KAAT,QAAS,QAAG;AAED;;;;;;;;;IAS

C,IAAI,CAAC,CAAC;AACpD,CAAC;AAED;;;;;;;;;;SAWgB,uBAAuB,CAAC,MAAc;IACpD,MAAM,IAAI,GAAG,eAAe,CAAC,MAAM,CAAC,CAAC;IACrC,OAAO,IAAI,CAAC,gBAAgB,CAAC,cAAc,CAAC,IAAI,IAAI,CAAC;AACvD,CAAC;AAED;;;;;;;;;SAUgB,qBAAqB,CAAC,MAAc;IAClD,MAAM,IAAI,GAAG,eAAe,CAAC,MAAM,CAAC,CAAC;IACrC,OAAO,IAAI,CAAC,gBAAgB,CAAC,YAAY,CAAC,IAAI,IAAI,CAAC;AACrD,CAAC;AAED;;;;;;;;;SAUgB,qBAAqB,CAAC,MAAc;IAClD,MAAM,IAAI,GAAG,eAAe,CAAC,MAAM,CAAC,CAAC;IACrC,OAAO,sBAAsB,CAAC,MAAM,CAAC,CAAC;AACxC,CAAC;AAED;;;;;;AAMA,SAAS,mBAAmB,CAAC,MAAc;IACzC,MAAM,IAAI,GAAG,eAAe,CAAC,MAAM,CAAC,CAAC;IACrC,OAAO,IAAI,CAAC,gBAAgB,CAAC,UAAU,CAAC,IAAI,IAAI,CAAC;AACnD,CAAC;AAED;;;;MAIa,sBAAsB,GAAG,mBAAmB,CAAC;AAE1D;;;;;;;;;;

AC,GAAG,EAAE,CAAC;YACzB,IAAI,CAAC,IAAI,EAAE;gBACT,MAAM;aACP;YACD,MAAM,GAAG,IAAI,CAAC;SACf;aAAM;YACL,KAAK,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC;YACnB,MAAM;SACP;KACF;IAED,IAAI,kBAAkB,GAAG,IAAI,CAAC,iBAAiB,EAAE,CAAC;IAClD,IAAI,QAAQ,EAAE;QACZ,kBAAkB,GAAG,gBAAgB,CAAC,QAAQ,EAAE,kBAAkB,EAAE,CAAC,CAAC;QACpE,IAAI,GAAG,sBAAsB,CAAC,IAAI,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC;KACrD;IAED,IAAI,IAAI,GAAG,EAAE,CAAC;IACd,IAAI,CAAC,IAAI,CAAC,kBAAkB,CAAC,CAAC;IAC9B,IAAI,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;IACnB,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;IACjB,IAAI,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;IACpB,IAAI,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC;IACz

KAAK,GAAG,SAAS,CAAC,YAAY,EAAE,CAAC,CAAC,CAAC;IACzC,OAAO,KAAK,CAAC,MAAM,CAAC,
CAAC,EAAE,MAAM,CAAC,CAAC;AACjC,CAAC;AAED;;;AAGA,SAAS,UAAU,CACf,IAAc,EAAE,IAAY,,EA
AE,SAAiB,CAAC,EAAE,IAAI,GAAG,KAAK,EAC9D,OAAO,GAAG,KAAK;IACjB,OAAO,UAAS,IAAU,EAAE
,MAAc;QACxC,IAAI,IAAI,GAAG,WAAW,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;QACnC,IAAI,MAAM,GA
G,CAAC,IAAI,IAAI,GAAG,CAAC,MAAM,EAAE;YAChC,IAAI,IAAI,MAAM,CAAC;SAChB;QAED,IAAI,IAA
I,KAAK,QAAQ,CAAC,KAAK,EAAE;YAC3B,IAAI,IAAI,KAAK,CAAC,IAAI,MAAM,,KAAK,CAAC,EAAE,EA
AE;gBAChC,IAAI,GAAG,EAAE,CAAC;aACX;SACF;aAAM,IAAI,IAAI,KAAK,QAAQ,CAAC,iBAAiB,EAAE;
YAC9C,OAAO,uBAAuB,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;SAC5C;QAED,MAAM,WAAW,GAAG,qBAA
qB,CAAC,MAAM,EAAE,YAAY,CAAC,SAAS,CAAC,CAAC;QAC1E,OAAO,SAAS,CAAC,IAAI,EAAE,IAAI,E
AAE,WAAW,EAAE,IAAI,EAAE,OAAO,CAAC,CAAC;KAC1D,CAAC;AACJ,CAAC;AAED,SAAS,WAAW,CA
AC,IAAc,EAAE,IAAY,EAAE,IAAU,EAAE,IAAU,EAAE,IAAU

AC5D,SAAS,CAAC,IAAI,CAAC,GAAG,CAAC,IAAI,GAAG,EAAE,CAAC,EAAE,CAAC,EAAE,SAAS,CAAC,CAAC;YACnD,KAAK,SAAS,CAAC,QAAQ;gBACrB,OAAO,KAAK,IAAI,CAAC,IAAI,IAAI,CAAC,IAAI,GAAG,GAAG,EAAE,CAAC,GAAG,SAAS,CAAC,KAAK,EAAE,CAAC,EAAE,SAAS,CAAC,CAAC;YAC3E,KAAK,SAAS,CAAC,IAAI;gBACjB,OAAO,KAAK,IAAI,CAAC,IAAI,IAAI,CAAC,IAAI,GAAG,GAAG,EAAE,CAAC,GAAG,SAAS,CAAC,KAAK,EAAE,CAAC,EAAE,SAAS,CAAC,GAAG,GAAG;oBAC1E,SAAS,CAAC,IAAI,GAAG,CAAC,GAAG,IAAI,CAAC,GAAG,GAAG,EAAE,CAAC,EAAE,CAAC,EAAE,SAAS,CAAC,CAAC;YACnD,KAAK,SAAS,CAAC,QAAQ;gBACrB,IAAI,MAAM,KAAK,CAAC,EAAE;oBAChB,OAAO,GAAG,CAAC;iBACZ;qBAAM,IAAI,MAAM,KAAK,CAAC,EAAE;oBACvB,OAAO,GAAG,CAAC;iBACZ;qBAAM;oBACL,OAAO,CAAC,CAAC,IAAI,IAAI,CAAC,IAAI,GAAG,GAAG,EAAE,IAAI,SAAS,CAAC,KAAK,EAAE,CAAC,EAAE,SAAS,CAAC,GAAG,GAAG;wBAClE,SAAS,CAAC,IAAI,CAAC,GAAG,GAAG,EAAE,CAAC,EAAE,CAAC,EAAE,SAAS,CAAC,CAAC;iBACnD;YACH

CAAC,KAAK,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC;YAC7C,MAAM;QACR,KAAK,IAAI,CAAC;QACV,K
AAK,IAAI;YACP,SAAS,GAAG,UAAU,CAAC,QAAQ,CAAC,KAAK,EAAE,CAAC,EAAE,CAAC,CAAC,CAA
C;YAC7C,MAAM;;QAGR,KAAK,KAAK;YACR,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,MAAM,EAAE,gBA
AgB,CAAC,WAAW,CAAC,CAAC;YAChF,MAAM;QACR,KAAK,MAAM;YACT,SAAS,GAAG,aAAa,CAAC,e
AAe,CAAC,MAAM,EAAE,gBAAgB,CAAC,IAAI,CAAC,CAAC;YACzE,MAAM;QACR,KAAK,OAAO;YACV,
SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,MAAM,EAAE,gBAAgB,CAAC,MAAM,CAAC,CAAC;YAC3E,MAA
M;;QAGR,KAAK,KAAK;YACR,SAAS;gBACL,aAAa,CAAC,eAAe,CAAC,MAAM,EAAE,gBAAgB,CAAC,WA
AW,EAAE,SAAS,CAAC,UAAU,CAAC,CAAC;YAC9F,MAAM;QACR,KAAK,MAAM;YACT,SAAS;gBACL,a
AAa,CAAC,eAAe,CAAC,MAAM,EAAE,gBAAgB,CAAC,IAAI,EAAE,SAAS,CAAC,UAAU,CAAC,CAAC;YAC
vF,MAAM;QACR,KAAK,OAAO;YACV,SAAS;gBACL,aAAa,CAAC,eAAe,CAAC,MAAM,EAAE,gBAAgB,CA
AC,MAAM,EAAE,SAAS,CAAC,UAAU,CAAC,CAAC;YACzF,MAAM;;QAGR,KAAK,GAAG;YACN,SAAS,G
AAG,UAAU,CAAC,CAAC,CAAC,CAAC;YAC1B,MAAM;QACR,KAAK,IAAI;YACP,SAAS,GAAG,UAAU,CA
AC,CAAC,CAAC,CAAC;YAC1B,MAAM;;QAGR,KAAK,GAAG;YACN,SAAS,GAAG,UAAU,CAAC,CAAC,E
AAE,IAAI,CAAC,CAAC;YAChC,MAAM;;QAGR,KAAK,GAAG;YACN,SAAS,GAAG,UAAU,CAAC,QAAQ,C
AAC,IAAI,EAAE,CAAC,CAAC,CAAC;YACzC,MAAM;QACR,KAAK,IAAI;YACP,SAAS,GAAG,UAAU,CAA
C,QAAQ,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC;YACzC,MAAM;;QAGR,KAAK,GAAG,CAAC;QACT,KAA
K,IAAI,CAAC;QACV,KAAK,KAAK;YACR,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,IAAI,EAAE,gBAAgB,CA
AC,WAAW,CAAC,CAAC;YAC9F,MAAM;QACR,KAAK,MAAM;YACT,SAAS,GAAG,aAAa,CAAC,eAAe,CA
AC,IAAI,EAAE,gBAAgB,CAAC,IAAI,CAAC,CAAC;YAC3E,MAAM;QACR,KAAK,OAAO;YACV,SAAS,GAAG,
aAAa,CAAC,eAAe,CAAC,IAAI,EAAE,gBAAgB,CAAC,MAAM,CAAC,CAAC;YAC3E,MAAM;QACR,KAAK,
QAAQ;YACX,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,IAAI,EAAE,gBAAgB,CAAC,KAAK,CAAC,CAAC;Y
ACxE,MAAM;;QAGR,KAAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,KAAK,KAAK;YACR,SAAS,G
AAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,WAAW,CAAC,CAAC;YACpF,MAAM;QACR,
KAAK,MAAM;YACT,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,IAAI,CAAC,CA
AC;YAC7E,MAAM;QACR,KAAK,OAAO;YACV,SAAS,GAAG,aAAa,CAAC,eAAe,CAAC,UAAU,EAAE,gBA
AgB,CAAC,MAAM,CAAC,CAAC;YAC/E,MAAM;;QAGR,KAAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,Q
ACV,KAAK,KAAK;YACR,SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,WAAW,E
AAE,SAAS,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;YAC1F,MAAM;QACR,KAAK,MAAM;YACT,SAAS,GA
AG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,IAAI,EAAE,SAAS,CAAC,UAAU,EAAE,IAAI,C
AAC,CAAC;YACnF,MAAM;QACR,KAAK,OAAO;YACV,SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EA
AE,gBAAgB,CAAC,MAAM,EAAE,SAAS,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;YACrF,MAAM;;QAGR,K
AAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,KAAK,KAAK;YACR,SAAS,GAAG,aAAa,CACrB,eAAe,
,CAAC,UAAU,EAAE,gBAAgB,CAAC,WAAW,EAAE,SAAS,CAAC,MAAM,EAAE,IAAI,CAAC,CAAC;YACtF,
MAAM;QACR,KAAK,MAAM;YACT,SAAS;gBACL,aAAa,CAAC,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,
IAAI,EAAE,SAAS,CAAC,MAAM,EAAE,IAAI,CAAC,CAAC;YAC7F,MAAM;QACR,KAAK,OAAO;YACV,SAAS,GA
AG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,MAAM,EAAE,SAAS,CAAC,UAAU,EA
AE,IAAI,CAAC,CAAC;YACnF,MAAM;;QAGR,KAAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,KAAK,KAAK;YACR,
SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,MAAM,EAAE,SAAS,CAAC,UAAU,EA
AE,IAAI,CAAC,CAAC;YACnF,MAAM;QACR,KAAK,MAAM;YACT,SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EA
AE,gBAAgB,CAAC,MAAM,EAAE,SAAS,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;YACrF,MAAM;;QAGR,K
AAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,KAAK,KAAK;YACR,SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,WAAW,EAAE,SAAS,CAAC,MAAM,EAAE,IAAI,CAAC,CAAC;YACtF,
MAAM;QACR,KAAK,MAAM;YACT,SAAS,GAAG,aAAa,CACrB,eAAe,CAAC,UAAU,EAAE,gBAAgB,CAAC,
IAAI,EAAE,SAAS,CAAC,MAAM,EAAE,IAAI,CAAC,CAAC;YAC7F,MAAM;QACR,KAAK,OAAO;YACV,SAAS,GAA

AAM;QACR,KAAK,KAAK;YACR,SAAS,GAAG,UAAU,CAAC,QAAQ,CAAC,iBAAiB,EAAE,CAAC,CAAC,CAAC;YACtD,MAAM;;QAIR,KAAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,KAAK,KAAK;YACR,SAAS,GAAG,cAAc,CAAC,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC;YAC5C,MAAM;;QAER,KAAK,OAAO;YACV,SAAS,GAAG,cAAc,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC,CAAC;YAC/C,MAAM;;QAGR,KAAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,KAAK,KAAK,CAAC;;QAEX,KAAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,KAAK,KAAK;YACR,SAAS,GAAG,cAAc,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC,CAAC;YAC/C,MAAM;;QAER,KAAK,GAAG,CAAC;QACT,KAAK,MAAM,CAAC;QACZ,KAAK,MAAM,CAAC;;QAEZ,KAAK,IAAI,CAAC;QACV,KAAK,MAAM;YACT,SAAS,GAAG,cAAc,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;YAC5C,MAAM;;QAER,KAAK,OAAO;YACV,SAAS,GAAG,cAAc,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC,CAAC;YAC/C,MAAM;;QAGR,KAAK,GAAG,CAAC;QACT,KAAK,IAAI,CAAC;QACV,KAAK,KAAK,CAAC;;QAEX

AAW,GAAG,GAAG,CAAC;AACxB,MAAM,SAAS,GAAG,GAAG,CAAC;AACtB,MAAM,WAAW,GAAG,GAA
G,CAAC;AACxB,MAAM,SAAS,GAAG,GAAG,CAAC;AACtB,MAAM,UAAU,GAAG,GAAG,CAAC;AACvB,
MAAM,aAAa,GAAG,GAAG,CAAC;AAC1B,MAAM,YAAY,GAAG,GAAG,CAAC;AAEzB;;;AAGA,SAAS,0BA
A0B,CAC/B,KAAAa,EAAE,OAA2B,EAAE,MAAc,EAAE,WAAyB,EACrF,aAA2B,EAAE,UAAmB,EAAE,SAAS,
GAAG,KAAK;IACrE,IAAI,aAAa,GAAG,EAAE,CAAC;IACvB,IAAI,MAAM,GAAG,KAAK,CAAC;IAEnB,IAAI
,CAAC,QAAQ,CAAC,KAAK,CAAC,EAAE;QACpB,aAAa,GAAG,qBAAqB,CAAC,MAAM,EAAE,YAAY,CAA
C,QAAQ,CAAC,CAAC;KACtE;SAAM;QACL,IAAI,YAAY,GAAG,WAAW,CAAC,KAAK,CAAC,CAAC;QAEt
C,IAAI,SAAS,EAAE;YACb,YAAY,GAAG,SAAS,CAAC,YAAY,CAAC,CAAC;SACxC;QAED,IAAI,MAAM,G
AAG,OAAO,CAAC,MAAM,CAAC;QAC5B,IAAI,WAAW,GAAG,OAAO,CAAC,OAAO,CAAC;QAClC,IAAI,W
AAW,GAAG,OAAO,CAAC,OAAO,CAAC;QAElC,IAAI,UAAU,EAAE;YACd,MAAM,KAAK,GAAG,UAAU,,C
AAC,KAAK,CAAC,oBAAoB,CAAC,CAAC;YACrD,IAAI,KAAK,KAAK,IAAI,EAAE;gBAClB,MAAM,IAAI,K
AAK,CAAC,GAAG,UAAU,,4BAA4B,CAAC,CAAC;aAC5D;YACD,MAAM,UAAU,GAAG,KAAK,CAAC,CAA
C,CAAC,CAAC;YAC5B,MAAM,eAAe,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC;YACjC,MAAM,eAAe,G
AAG,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC;YACjC,IAAI,UAAU,IAAI,IAAI,EAAE;gBACtB,MAAM,GAAG,iBAAiB,,
CAAC,UAAU,CAAC,CAAC;aACjC;YACD,IAAI,eAAe,IAAI,IAAI,EAAE;gBAC3B,WAAW,GAAG,iBAAiB,,C
AAC,eAAe,CAAC,CAAC;aACnC;YACD,IAAI,eAAe,IAAI,IAAI,EAAE;gBAC3B,WAAW,GAAG,iBAAiB,,CAA
C,eAAe,CAAC,CAAC;aACnC;iBAAM,IAAI,eAAe,IAAI,IAAI,IAAI,WAAW,GAAG,WAAW,EAAE;gBAC/D,W
AAW,GAAG,WAAW,CAAC,aAAa,CAAC;SACzC;QAED,WAAW,GAAG,WAAW,,CAAC,CAAC,CAAC,CAAC,CAAC;QAEpD,IAAI,MAAM,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC

,EAAE,iBAAiB,CAAC,OAAO,CAAC,CAAC;IACxE,MAAM,OAAO,GAAG,iBAAiB,CAAC,MAAM,EAAE,qBA
AqB,CAAC,MAAM,EAAE,YAAY,CAAC,SAAS,CAAC,CAAC,CAAC;IACjG,MAAM,GAAG,GAAG,0BAA0B,
CAClC,KAAK,EAAE,OAAO,EAAE,MAAM,EAAE,YAAY,CAAC,KAAK,EAAE,YAAY,CAAC,OAAO,EAAE,
UAAU,EAAE,IAAI,CAAC,CAAC;IACxF,OAAO,GAAG,CAAC,OAAO,CACd,IAAI,MAAM,CAAC,YAAY,,EA
AE,GAAG,CAAC,EAAE,qBAAqB,CAAC,MAAM,EAAE,YAAY,CAAC,WAAW,CAAC,CAAC,CAAC;AAC9F,
CAAC;AAED;;;;;;;;;;;;;;;;SAiBgB,YAAY,CAAC,KAAa,EAAE,MAAc,EAAE,UAAmB;IAC7E,MAAM,MAAM,G
AAG,qBAAqB,CAAC,MAAM,EAAE,iBAAiB,CAAC,OAAO,CAAC,CAAC;IACxE,MAAM,OAAO,GAAG,iBA
AiB,CAAC,MAAM,EAAE,qBAAqB,CAAC,MAAM,EAAE,YAAY,CAAC,SAAS,CAAC,CAAC,CAAC;IACjG,O
AAO,0BAA0B,CAC7B,KAAK,EAAE,OAAO,EAAE,MAAM,EAAE,YAAY,CAAC,KAAK,EAAE,YAAY,CAAC,
OAAO,EAAE,UAAU,CAAC,CAAC;AACpF,CAAC;AAsBD,SAAS,iBAAiB,CAAC,MAAc,EAAE,SAAS,GAAG,
GAAG;IACxD,MAAM,CAAC,GAAG;QACR,MAAM,EAAE,CAAC;QACT,OAAO,EAAE,CAAC;QACV,OAAO
,EAAE,CAAC;QACV,MAAM,EAAE,EAAE;QACV,MAAM,EAAE,EAAE;QACV,MAAM,EAAE,EAAE;QACV,MAAM,EAAE,EAAE;QACV,
MAAM,EAAE,EAAE;QACV,KAAK,EAAE,CAAC;QACR,MAAM,EAAE,CAAC;KACV,CAAC;IAEF,MAAM,
YAAY,GAAG,MAAM,CAAC,KAAK,,CAAC,WAAW,CAAC,CAAC;IAC/C,MAAM,QAAQ,GAAG,YAAY,CAA
C,CAAC,CAAC,CAAC;IACjC,MAAM,QAAQ,GAAG,YAAY,CAAC,CAAC,CAAC,CAAC,CAAC;IAEjC,MAAM,aAAa
,GAAG,MAAM,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC,CAAC;IAE1C,MAAM,QAAQ,GAAG,aAAa,CAAC,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,

CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;;QAEjC,IAAI,UAAU,GAAG,CAAC;YAAE,UAAU,GAAG,CAAC,CAA
C;QACnC,UAAU,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC;QACnC,MA
AM,GAAG,MAAM,CAAC,SAAS,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;KACjC;SAAM,IAAI,UAAU,GAA
G,CAAC,EAAE;;QAEzB,UAAU,GAAG,MAAM,CAAC,MAAM,CAAC;KAC5B;;IAGD,KAAK,CAAC,GAAG,C
AAC,EAAE,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,KAAK,SAAS,EAAE,CAAC,EAAE,EAAE;KAChD;IA
ED,IAAI,CAAC,MAAM,KAAK,GAAG,MAAM,CAAC,MAAM,CAAC,EAAE;;QAEjC,MAAM,GAAG,CAAC,C
AAC,CAAC,CAAC;QACb,UAAU,GAAG,CAAC,CAAC;KAChB;SAAM;;QAEL,KAAK,EAAE,CAAC;QACR,OAAO,MAAM,CAAC,MAAM,CAAC,KAAK,CAAC,KAAK,SAAS;YAAE,KAAK,EAAE,CAAC;;QAGnD,UAAU,
IAAI,CAAC,CAAC;QAChB,MAAM,GAAG,EAAE,CAAC;;QAEZ,KAAK,CAAC,GAAG,CAAC,EAAE,CAAC,I
AAI,KAAK,EAAE,CAAC,EAAE,EAAE,CAAC,EAAE,EAAE;YAChC,MAAM,CAAC,CAAC,CAAC,GAAG,MA
AM,CAAC,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,SACtC;KACF;;IAGD,IAAI,UAAU,GA
AG,UAAU,EAAE;QAC3B,MAAM,GAAG,MAAM,CAAC,MAAM,CAAC,CAAC,EAAE,UAAU,GAAG,CAAC,
CAAC,CAAC;QAC1C,QAAQ,GAAG,UAAU,GAAG,CAAC,CAAC;QAC1B,UAAU,GAAG,CAAC,CAAC;KAChB
B;IAED,OAAO,EAAC,MAAM,EAAE,QAAQ,EAAE,UAAU,EAAC,CAAC;AACxC,CAAC;AAED;;;;AAIA,SAA
S,WAAW,CAAC,YA0B,EAAE,OAAe,EAAE,OAAe;IAC/C,IAAI,KAAK,GAAG,OAAO,GAAG,OAAO,EAAE;QAC3B,MAAM,IAAI,KAAK,CAAC,gDACZ,OAAO,iCAAiC,OAAO,IAAI,CAAC,CAAC;KAC5D;IAED,IAAI,MAAM,GAAG,YAAY,CAAC,KAC1D;IAED,IAAI,MAAM,GAAG,YAAY,CAAC,KAAK,EAAE,CAAC;IAClC,OAAO,MAAM,CAAC,MAAM,GAAG,OAAO,EAAE;QAC5B,MAAM,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;KAClB;IACD,OAAO,MAAM,CAAC;AAClB;;IAGD,IAAI,WAAW,GAAG,CAAC,CAAC;IACpB,IAAI,MAAM,GAAG,CAAC,CAAC;IACf,IAAI,MAAM,GAAG,CAAC,CAAC;IACf,IAAI,MAAM,GAAG,CAAC,CAAC;IACf

K,CAAC,OAAO,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,EAAE;QAC3B,OAAO,GAAG,CAAC;KACZ;IAED
,IAAI,KAAK,CAAC,OAAO,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC,EAAE;QAC/B,OAAO,OAAO,CAAC;K
AChB;IAED,MAAM,IAAI,KAAK,CAAC,sCAAsC,KAAK,GAAG,CAAC,CAAC;AAClE,CAAC;AAED;;;;;MAM
a,oBAAqB,SAAQ,cAAc;IACtD,YAAyC,MAAc;QACrD,KAAK,EAAE,CAAC;QAD+B,WAAM,GAAN,MAAM,
CAAQ;KAEtD;IAED,iBAAiB,CAAC,KAAU,EAAE,MAAe;QAC3C,MAAM,MAAM,GAAG,mBAAmB,CAAC,
MAAM,IAAI,IAAI,CAAC,MAAM,CAAC,CAAC,KAAK,CAAC,CAAC;QAEjE,QAAQ,MAAM;YACZ,KAAK,
MAAM,CAAC,IAAI;gBACd,OAAO,MAAM,CAAC;YAChB,KAAK,MAAM,CAAC,CAAC,KAAK,CAAC,MAAM,CAAC,GAAG;gBACb,OAAO,KA
AK,CAAC;YACf,KAAK,MAAM,CAAC,GAAG;gBACb,OAAO,KAAK,CAAC;YACf,KAAK,MAAM,CAAC,GA
AG;gBACb,OAAO,KAAK,CAAC;YACf,KAAK,MAAM,CAAC,IAAI;gBACd,OAAO,MAAM,CAAC;YAChB;gB
ACE,OAAO,OAAO,CAAC;SAClB;KACF;;;YAvBF,UAAU;;;yCAEI,MAAM,SAAC,SAAS;;;ACtD/B;;;;;;;AAUA;
;;;;;;;SAQgB,kBAAkB,CAAC,IAAS,EAAE,QAAqB,EAAE,SAAe;IAClF,IAAI,mBAAmB,CAAC,IAAI,EAAE,Q
AAQ,EAAE,SAAS,CAAC,CAAC;AACxD;;ACpBA;;;;;;;SAQgB,gBAAgB,CAAC,SAAiB,EAAE,IAAY;IAAY;IAY;IAC9D,
IAAI,GAAG,kBAAkB,CAAC,IAAI,CAAC,CAAC,CAAC;IAEjC,IAAI,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,EAAE;QACnC,MAAM,IAAI,KAAK,CAAC,
kBAAkB,IAAI,GAAG,CAAC,CAAC;KACzC;IAED,OAAO,SAAS,CAAC,IAAI,CAAC,CAAC;AAC3B;;;;;;;

WAAkC;QACtD,IAAI,WAAW,EAAE;YACf,IAAI,KAAK,CAAC,OAAO,CAAC,WAAW,CAAC,IAAI,WAAW,Y
AAY,GAAG,EAAE;gBACtD,WAAY,CAAC,OAAO,CAAC,CAAC,KAAa,KAAK,IAAI,CAAC,YAAY,CAAC,K
AAK,EAAE,IAAI,CAAC,CAAC,CAAC;aAC/E;iBAAM;gBACL,MAAM,CAAC,IAAI,CAAC,WAAW,CAAC,CA
AC,OAAO,CAAC,KAAK,IAAI,IAAI,CAAC,YAAY,CAAC,KAAK,EAAE,CAAC,CAAC,WAAW,CAAC,KAAK,
CAAC,CAAC,CAAC,CAAC;aAC3F;SACF;KACF;;;;;IAMO,cAAc,CAAC,WAAkC;QACvD,IAAI,WAAW,EAAE
;YACf,IAAI,KAAK,CAAC,OAAO,CAAC,WAAW,CAAC,IAAI,WAAW,YAAY,GAAG,EAAE;gBACtD,WAAY,
CAAC,OAAO,CAAC,CAAC,KAAa,KAAK,IAAI,CAAC,YAAY,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,CA
AC;aAChF;iBAAM;gBACL,MAAM,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC,OAAO,CAAC,KAAK,IAAI,IAA
I,CAAC,YAAY,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,CAAC;aAC5E;SACF;KACF;IAEO,YAAY,CAAC,K
AAa,EAAE,OAAgB;QAClD,KAAK,GAAG,KAAK,CAAC,IAAI,EAAE,CAAC;QACrB,IAAI,EAAE,CAAC;QACT,KAAK,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC,OAAO,CAAC,KAAK;gBAC/B,IAAI,OAAO,EAAE;oBA
CX,IAAI,CAAC,SAAS,CAAC,QAAQ,CAAC,IAAI,CAAC,KAAK,CAAC,aAAa,EAAE,KAAK,CAAC,CAAC;iB
AC1D;qBAAM;oBACL,IAAI,CAAC,SAAS,CAAC,WAAW,CAAC,IAAI,CAAC,KAAK,CAAC,aAAa,EAAE,KA
AK,CAAC,CAAC;iBAC7D;aACF,CAAC,CAAC;SACJ;KACF;;;YAvHF,SAAS,SAAC,EAAC,QAAQ,EAAE,WA
AW,EAAC;;;YAhC8C,eAAe;YAAmC,eAAe;YAArH,UAAU;YAA6G,SAAS;;;oBA4CzJ,KAAK,SAAC,OAAO;sB
AQb,KAAK,SAAC,SAAS;;;AC3DlB;;;;;;;AAWA;;;;;;;

GAAG,IAAI,CAAC,QAAQ,CAAC;YAC5B,IAAI,CAAC,IAAI,CAAC,OAAO,IAAI,KAAK,EAAE;gBAC1B,IAAI
;oBACF,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,MAAM,CA
AC,IAAI,CAAC,YAAY,CAAC,CAAC;iBACpE;gBAAC,WAAM;oBACN,MAAM,IAAI,KAAK,CAAC,2CAA2C,
KAAK,cAC5D,WAAW,CAAC,KAAK,CAAC,6DAA6D,CAAC,CAAC;iBACtF;aACF;SACF;QACD,IAAI,IAAI,
CAAC,OAAO,EAAE;YAChB,MAAM,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,QA
AQ,CAAC,CAAC;YACjD,IAAI,OAAO;gBAAE,IAAI,CAAC,aAAa,CAAC,OAAO,CAAC,CAAC;SAC1C;KACF;
IAEO,aAAa,CAAC,OAA2B;QAC/C,MAAM,YAAY,GAA4B,EAAE,CAAC;QACjD,OAAO,CAAC,gBAAgB,CA
CpB,CAAC,IA+B,EAAE,qBAAkC,EACnE,YAAyB;YACxB,IAAI,IAAI,CAAC,aAAa,IAAI,IAAI,EAAE;;;;gBA
I9B,MAAM,IAAI,GAAG,IAAI,CAAC,cAAc,CAAC,kBAAkB,CAC/C,IAAI,CAAC,SAAS,EAAE,IAAI,cAAc,CA
AO,IAAK,EAAE,IAAI,CAAC,QAAS,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EACvE,YAAY,KAAK,I
AAI,GAAG,SAAS,GAAG,YAAY,CAAC,CAAC;gBACtD,MAAM,KAAK,GAAG,IAAI,eAAe,CAAO,IAAI,EAAA
E,IAAI,CAAC,CAAC;gBACpD,YAAY,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;aAC1B;iBAAM,IAAI,YAAY,I
AAI,IAAI,EAAE;gBAC/B,IAAI,CAAC,cAAc,CAAC,MAAM,CACtB,qBAAqB,KAAK,IAAI,GAAG,SAAS,GAA
G,qBAAqB,CAAC,CAAC;aACzE;iBAAM,IAAI,qBAAqB,KAAK,IAAI,EAAE;gBACzC,MAAM,IAAI,GAAG,IA
AI,CAAC,cAAc,CAAC,GAAG,CAAC,qBAAqB,CAAE,CAAC;gBAC7D,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,
IAAI,EAAE,YAAY,CAAC,CAAC;gBAC7C,MAAM,KAAK,GAAG,IAAI,eAAe,CAAO,IAAI,EAAE,CAAC,IAAI,CAA
C,CAAC;gBACrF,YAAY,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;aAC1B;SACF,CAAC,CAAC;QAEP,KAAK,
IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,YAAY,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAC5C,IA
AI,CAAC,cAAc,CAAC,YAAY,CAAC,CAAC,CAAC,CAAC,IAAI,EAAE,YAAY,CAAC,CAAC,CAAC,CAAC,M
AAM,CAAC,CAAC;SACnE;QAED,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,IAAI,GAAG,IAAI,CAAC,cAAc,CAAC,C
AAC,MAAM,EAAE,CAAC,GAAG,IAAI,EAAE,CAAC,EAAE,EAAE;YAChE,MAAM,OAAO,GAA0C,IAAI,CA
AC,cAAc,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC;YAClF,IAAI,OAAO,CAAC,OAAO,CAAC,CAAC,KAAK,GAAG,CAA
C,CAAC;YAC1B,OAAO,CAAC,OAAO,CAAC,CAAC,KAAK,GAAG,IAAI,CAAC,CAAC;YAC7B,OAAO,CAAC,OAAO,CAAC,CAAC,KAAK,GAAG,IAAI,CAAC,CAAC;YAC/

AI,CAAC,gBAAgB,EAAE;oBACzB,IAAI,CAAC,YAAY;wBACb,IAAI,CAAC,cAAc,CAAC,kBAAkB,CAAC,IA
AI,CAAC,gBAAgB,EAAE,IAAI,CAAC,QAAQ,CAAC,CAAC;iBAClF;aACF;SACF;KACF;;;;;;;IAqBD,OAAO,sB
AAsB,CAAI,GAAY,EAAE,GAAQ;QAErD,OAAO,IAAI,CAAC;KACb;;;YAvFF,SAAS,SAAC,EAAC,QAAQ,,EA
AE,QAAQ,EAAC;;;YA9IyB,gBAAgB;YAA7B,WAAW;;;mBA6JnD,KAAK;uBASL,KAAK;uBAWL,KAAK;;AA
uDR;;;MAGa,WAAW;IAAxB;QACS,cAAS,GAAM,IAAK,CAAC;QACrB,SAAI,GAAM,IAAK,CAAC;KACxB;C
AAA;AAED,SAAS,cAAc,CAAC,QAAgB,EAAE,WAAkC;IAC1E,MAAM,mBAAmB,GAAG,CAAC,EAAE,CAA
C,WAAW,IAAI,WAAW,CAAC,kBAAkB,CAAC,CAAC;IAC/E,IAAI,CAAC,mBAAmB,EAAE;QACxB,MAAM,I
AAI,KAAK,CAAC,GAAG,QAAQ,yCAAyCA,UAAS,CAAC,WAAW,CAAC,IAAI,CAAC,CAAC;KACjG;AACH;
;AC7PA;;;;;;;MAUa,UAAU;IAGrB,YACY,iBAAmC,EAAU,YAAiC;QAA9E,sBAAiB,GAAjB,iBAAiB,CAAkB;QAAU,
iBAAY,GAAZ,YAAY,CAAqB;QAHlF,aAAQ,GAAG,KAAK,CAAC;KAGqE;IAE9F,MAAM;QACJ,IAAI,C
AAC,QAAQ,GAAG,IAAI,CAAC;QACrB,IAAI,CAAC,iBAAiB,CAAC,kBAAkB,CAAC,IAAI,CAAC,YAAY,,CA
AC,CAAC;KAC9D;IAED,OAAO;QACL,IAAI,CAAC,QAAQ,GAAG,KAAK,CAAC;QACtB,IAAI,CAAC,iBAAi
B,CAAC,KAAK,EAAE,CAAC;KAChC;IAED,YAAY,CAAC,OAAgB;QAC3B,IAAI,CAAC,OAAO,IAAI,CAAC,QAAQ,CAAC,IAAI,C
AAC,QAAQ,EAAE;YAC7B,IAAI,CAAC,MAAM,EAAE,CAAC;SAChB;aAAM,IAAI,CAAC,OAAO,IAAI,IAAI,,C
AAC,QAAQ,EAAE;YACpC,IAAI,CAAC,OAAO,EAAE,CAAC;SAChB;KACF;CACF;AAED;;;;;;;

CR,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC;YACxB,IAAI,CAAC,WAAW,CAAC,MAAM,EAAE,CAAC;SAC3B;KACF;;;YArCF,SAAS,SAAC,EAAC,QAAQ,EAAE,YAAY,EAAC;;;YApCR,cAAc;;;uBA8CtC,KAAK;;AA8BR;;;;;;;;;;;;;;;;;;;MAqBa,YAAY;IACvB,YACsC,KAAa,EAAE,QAA6B,EAAC9E,aA++B+B,EAAU,QAAkB;QADzB,UAAK,GAAL,KAAK,CAAQ;QAEjD,aAAQ,GAAR,QAAQ,CAAU;QAAkB,cAAS,GAAT,SAAS,CAAS;QAAU

K,CAAC,yBAAyB,KAAK,eAAeA,UAAS,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;AAChF;;ACZA;;;;;;;AAmB
A,MAAM,kBAAkB;IACtB,kBAAkB,CAAC,KAAsB,EAAE,iBAAsB;QAC/D,OAAO,KAAK,CAAC,SAAS,CAA
C;YACrB,IAAI,EAAE,iBAAiB;YACvB,KAAK,EAAE,CAAC,CAAM;gBACZ,MAAM,CAAC,CAAC;aACT;SAC
F,CAAC,CAAC;KACJ;IAED,OAAO,CAAC,YAA8B;QACpC,YAAY,CAAC,WAAW,EAAE,CAAC;KAC5B;IAE
D,SAAS,CAAC,YAA8B;QACtC,YAAY,CAAC,WAAW,EAAE,CAAC;KAC5B;CACF;AAED,MAAM,eAAe;IAC
nB,kBAAkB,CAAC,KAAmB,EAAE,iBAAkC;QACxE,OAAO,KAAK,CAAC,IAAI,CAAC,iBAAiB,EAAE,CAAC
;YACpC,MAAM,CAAC,CAAC;SACT,CAAC,CAAC;KACJ;IAED,OAAO,CAAC,YAA0B,KAAU;IAE5C,SAAS,
CAAC,YAA0B,KAAU;CAC/C;AAED,MAAM,gBAAgB,GAAG,IAAI,eAAe,EAAE,CAAC;AAC/C,MAAM,mBA
AmB,GAAG,IAAI,kBAAkB,EAAE,CAAC;AAErD;;;;;;;;;;;;;;;;;;;;;;;;;MA4Ba,SAAS;IAOpB,YAAoB,IAAAuB,SAAS;QA
AvB,SAAI,GAAJ,IAAI,CAAmB;QANnC,iBAAY,GAAQ,IAAI,CAAC;QAEzB,kBAAa,GAAG,IAAI,CAAC;QAEzB,kBAAa,GAAG,IAAI,CAAC;QA
CzD,SAAI,GAAwD,IAAI,CAAC;QACjE,cAAS,GAAyB,IAAK,CAAC;KAED;IAE/C,WAAW;QACT,IAAI,IAAI,
CAAC,aAAa,EAAE;YACtB,IAAI,CAAC,QAAQ,EAAE,CAAC;SACjB;KACF;IAKD,SAAS,CAAI,GAA4C;QAC
vD,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE;YACd,IAAI,GAAG,EAAE;gBACP,IAAI,CAAC,UAAU,CAAC,GAAG
,CAAC,CAAC;aACT;SACF;QAED,OAAO,IAAI,CAAC,YAAY,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC;KAC1C;IAED,
YAAY,CAAC,KAAQ;QACnB,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE;YACnB,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,CAAC;SACtB;QAED,OAAO,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;KACvC;IAED,UAAU,CAAC,KAAQ;QACjB,IAAI,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE;YACvB,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;SAC5B;KACF;IAED,QAAQ;QACN,IAAI,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE;YACvB,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,EAAE,CAAC;SAC7B;KACF;IAED,IAAI,IAAI;QACN,OAAO,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC;KACrC;IAED,IAAI,IAAI,CAAC,KAAQ;QACf,IAAI,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE;YACvB,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC;SACnC;KACF;IAED,IAAI,KAAK;QACP,IAAI,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE;YACvB,OAAO,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC;SAClC;KACF;CACF;AAED,MAAM,eAAe;IAInB,YAAY,KAAQ,EAAE,IAAuB;QAC3C,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC;QACnB,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC;KAClB

AAS,CAAC,KAA4B,EAAE,SAAoC,EAAE,MAAe;QAE3F,IAAI,KAAK,IAAI,IAAI;YAAE,OAAO,EAAE,CAAC
;QAE7B,IAAI,OAAO,SAAS,KAAK,QAAQ,IAAI,SAAS,KAAK,IAAI,EAAE;YACvD,MAAM,wBAAwB,CAAC,
cAAc,EAAE,SAAS,CAAC,CAAC;SAC3D;QAED,MAAM,GAAG,GAAG,iBAAiB,CAAC,KAAK,EAAE,MAAM,
CAAC,IAAI,CAAC,SAAS,CAAC,EAAE,IAAI,CAAC,aAAa,EAAE,MAAM,CAAC,CAAC;QAEzF,OAAO,SAAS
,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,qBAAqB,EAAE,KAAK,CAAC,QAAQ,EAAE,CAAC,CAAC;KACx
E;;;YAtBF,IAAI,SAAC,EAAC,IAAI,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAC;;;YApBX,cAAc;;;;;
;;AAWA;;;;;;;;;;;;;;;;;MAkBa,cAAc;;;;;;IAMzB,SAAS,CAAC,KAA4B,EAAE,OAAgC;QACtE,IAAI,KAAK,IAAI,I
AAI;YAAE,OAAO,EAAE,CAAC;QAE7B,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,KAAK,KAAK,QAA
Q,EAAE;YAC5D,MAAM,wBAAwB,CAAC,cAAc,EAAE,OAAO,CAAC,CAAC;SACzD;QAED,IAAI,OAAO,CA
AC,cAAc,CAAC,KAAK,CAAC,EAAE;YACjC,OAAO,OAAO,CAAC,KAAK,CAAC,CAAC;SACvB;QAED,IAAI
,OAAO,CAAC,cAAc,CAAC,OAAO,CAAC,EAAE;YACnC,OAAO,OAAO,CAAC,OAAO,CAAC,CAAC;SACzB;
QAED,OAAO,EAAE,CAAC;KACX;;;YAvBF,IAAI,SAAC,EAAC,IAAI,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,
EAAC;;;AC5BtC;;;;;;;AAUA;;;;;;;;;;;;;;;MAgBa,QAAQ;;;;IAInB,SAAS,CAAC,KAAU;QAClB,OAAO,IAAI,CAA
C,SAAS,CAAC,KAAK,EAAE,IAAI,EAAE,CAAC,CAAC;KACvC;;;YAPF,IAAI,SAAC,EAAC,IAAI,EAAE,IAAI,E
AAE,MAAM,EAAE,IAAI,EAAE,KAAK,EAAC;;;ACzBjC;;;;;;;AAUA,SAAS,gBAAgB,CAAO,GAAM,EAAE,KAAQ;
;IAC9C,OAAO,EAAC,GAAG,EAAE,KAAK,EAAC,CAAC;AAClC,CAAC;AAaD;;;
;;;;;;;;;;;;;;;;;MAqBa,YAAY;IACvB,YAA6B,OAAwB;QAAxB,YAAO,GAAP,OAAO,CAAiB;QAG7C,cAAS
8B,EAAE,CAAC;KAHO;IAgCzD,SAAS,CACL,KAA4E,EAC5E,YAA8D,iBAAiB;QAEjF,IAAI,CAAC,KAAK,EAAE,
AAK,EAAE,KAAK,YAAY,GAAG,CAAC,IAAI,OAAO,KAAK,KAAK,QAAQ,CAAC,EAAE;YACpE,OAAO,IA
AI,CAAC;SACb;QAED,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE;;YAEhB,IAAI,CAAC,MAAM,GAAG,IAAI,C
AAC,OAAO,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,SAAS,CAAC,MAAM,EAAE,CAAC;SACjD;QAED,MAAM,aAAa,GA
A+B,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,KAAY,CAAC,CAAC,QAEjF;YACjB,IAAI,aAAa,EAAE;YACjB,IAAI,CA
AC,SAAS,GAAG,EAAE,CAAC;YACpB,aAAa,CAAC,WAAW,CAAC,CAAC,CAAC,CAA6B;gBACtD,IAAI,CAAC,SA
AS,CAAC,IAAI,CAAC,gBAAgB,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,YAAa,CAAC,CAAC,CAAC,CAA
C;aAC/D,CAAC,CAAC;YACH,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;QACpD

AU,CAAC,CAAC;SAC/C;QAAC,OAAO,KAAK,EAAE;YACd,MAAM,wBAAwB,CAAC,WAAW,EAAE,KAAK,CAAC,OAAO,CAAC,CAAC;SAC5D;KACF;;;YAjCF,IAAI,SAAC,EAAC,IAAI,EAAE,SAAS,EAAC;;;yCAER,MAAM,SAAC,SAAS;;AAkC/B;;;

,CAAC,CAAC;SACf;KACF;;;;;IAMD,gBAAgB,CAAC,QAA0B;QACzC,IAAI,IAAI,CAAC,iBAAiB,EAAE,EAAE;YAC5B,IAAI,CAAC,MAAM,CAAC,QAAQ,CAAC,QAAQ,CAAC,CAAC,CAAC,EAAE,QAAQ,CAAC,CAAC,CAAC,CAAC,CAAC;SAChD;KACF;;;;;IAMD,cAAc,CAAC,MAAc;QAC3B,IAAI,IAAI,CAAC,iBAAiB,EAAE,EAAE;YAC5B,MAAM,UAAU,GACZ,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,QAAQ,CAAC,CAAC,iBAAiB,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YACzG,IAAI,UAAU,EAAE;gBACd,MAAM,IAAI,KAAK,CAAC,UAAU,CAAC,CAAC;aAC7B;SACF;;;;;IAMD,2BAA2B,CAAC,QAAkB;QAC5C,IAAI,IAAI,CAAC,iBAAiB,EAAE,EAAE;YAC5B,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,CAAC,CAAC,EAAE,KAAK,EAAE,EAAE;gBACjC,IAAI,CAAC,KAAK,KAAK,CAAC,EAAE;oBAChB,MAAM,IAAI,KAAK,CAAC,CAAC,CAAC,CAAC;iBACpB;aACF,CAAC,CAAC;SACJ;KACF;;;;;IAMD,eAAe,CAAC,MAAc;QAC5B,IAAI,IAAI,CAAC,iBAAiB,EAAE,EAAE;YAC5B,MAAM,UAAU,GACZ,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,QAAQ,CAAC,CAAC,iBAAiB,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YACzG,IAAI,UAAU,EAAE;gBACd,MAAM,IAAI,KAAK,CAAC,UAAU,CAAC,CAAC;aAC7B;SACF;;;;;IAMD,cAAc,CAAC,MAAc;QAC3B,IAAI,IAAI,CAAC,iBAAiB,EAAE,EAAE;YAC5B,MAAM,UAAU,GACZ,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,QAAQ,CAAC,CAAC,iBAAiB,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YACzG,IAAI,UAAU,EAAE;gBACd,MAAM,IAAI,KAAK,CAAC,UAAU,CAAC,CAAC;aAC7B;S

* /common-11-0-5-tgz/package/bundles/common-http-testing.umd.js
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"upgrade.js","sources":["../../../../../../packages/common/upgrade/src/utils.ts","../../../../../../packages/common/upgrade/src/location_shim.ts","../../../../../../packages/common/upgrade/src/params.ts","../../../../../../packages/common/upgrade/src/location_upgrade_module.ts","../../../../../../packages/common/upgrade/src/index.ts","../../../../../../packages/common/upgrade/public_api.ts","../../../../../../packages/common/upgrade/index.ts","../../../../../../packages/common/upgrade/upgrade.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function stripPrefix(val: string, prefix: string): string {\n return val.startsWith(prefix) ? val.substring(prefix.length) : val;\n}\n\nexport function deepEqual(a: any, b: any): boolean {\n if (a === b) {\n return true;\n } else if (!a || !b) {\n return false;\n } else {\n try {\n if ((a.prototype !== b.prototype) || (Array.isArray(a) && Array.isArray(b))) {\n return false;\n }\n return JSON.stringify(a) === JSON.stringify(b);\n } catch (e) {\n return false;\n }\n }\n}\n\nexport function isAnchor(el: (Node&ParentNode)|Element|null): el is HTMLAnchorElement {\n return (<HTMLAnchorElement>el).href !== undefined;\n}\n\nexport function isPromise<T = any>(obj: any): obj is Promise<T> {\n // allow any Promise/A+ compliant thenable.\n // It's up to the caller to ensure that obj.then conforms to the spec\n return !!obj && typeof obj.then === 'function';\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Location, LocationStrategy, PlatformLocation}\n from '@angular/common';\nimport {UpgradeModule} from '@angular/upgrade/static';\nimport {ReplaySubject} from 'rxjs';\n\nimport {UrlCodec} from './params';\nimport {deepEqual, isAnchor, isPromise} from './utils';\n\nconst PATH_MATCH = /^([^?#]*)(\\?([^#]*))?(#(.*))?$/;\nconst DOUBLE_SLASH_REGEX = /^\\s*[\\\\/]{2,}/;\nconst IGNORE_URI_REGEXP = /^\\s*(javascript|mailto):/i;\nconst DEFAULT_PORTS: {[key: string]: number} = {\n 'http:': 80,\n 'https:': 443,\n 'ftp:': 21\n};\n\n/**\n * Location service that provides a drop-in replacement for the $location service\n * provided in AngularJS.\n *\n * @see [Using the Angular Unified Location Service](guide/upgrade#using-the-unified-angular-location-service)\n *\n * @publicApi\n */\nexport class $locationShim {\n private initalizing = true;\n private updateBrowser = false;\n private $$absUrl: string = '';\n private $$url: string = '';\n private $$protocol: string;\n private $$host: string = '';\n private $$port: number|null;\n private $$replace: boolean = false;\n private $$path: string = '';\n private $$search: any = '';\n private $$hash: string = '';\n private $$state: unknown;\n private $$changeListeners: [\n ((url: string, state: unknown, oldUrl: string, oldState: unknown, err?: (e: Error) => void) =>\n void),\n (e: Error) => void\n ][] = [];\n\n private cachedState: unknown = null;\n\n private urlChanges = new ReplaySubject<{newUrl: string, newState: unknown}>(1);\n\n constructor(\n $injector: any, private location: Location, private platformLocation: PlatformLocation,\n private urlCodec: UrlCodec, private locationStrategy: LocationStrategy) {\n const initialUrl = this.browserUrl();\n\n let parsedUrl = this.urlCodec.parse(initialUrl);\n\n if (typeof parsedUrl === 'string') {\n throw 'Invalid URL';\n }\n\n this.$$protocol = parsedUrl.protocol;\n this.$$host = parsedUrl.hostname;\n this.$$port = parseInt(parsedUrl.port) || DEFAULT_PORTS[parsedUrl.protocol] || null;\n\n this.$$parseLinkUrl(initialUrl, initialUrl);\n this.cacheState();\n this.$$state = this.browserState();\n\n this.location.onUrlChange((newUrl, newState) => {\n this.urlChanges.next({newUrl, newState});\n });\n\n if (isPromise($injector)) {\n $injector.then($i => this.initialize($i));\n } else {\n this.initialize($injector);\n }\n }\n\n private initialize($injector: any) {\n const $rootScope = $injector.get('$rootScope');\n const $rootElement = $injector.get('$rootElement');\n\n $rootElement.on('click', (event: any) => {\n if (event.ctrlKey || event.metaKey || event.shiftKey || event.which === 2 ||\n event.button === 2) {\n return;\n }\n\n let elm: (Node&ParentNode)|null = event.target;\n\n // traverse the DOM up to find first A tag\n while (elm && elm.nodeName.toLowerCase() !== 'a') {\n // ignore rewriting if no A tag (reached root element, or no parent - removed

```
 from document)\n        if (elm === $rootElement[0] || !(elm = elm.parentNode)) {\n          return;\n        }\n      }\n\n
  if (!isAnchor(elm)) {\n        return;\n      }\n\n      const absHref = elm.href;\n      const relHref =
elm.getAttribute('href');\n\n      // Ignore when url is started with javascript: or mailto:\n      if
(IGNORE_URI_REGEXP.test(absHref)) {\n        return;\n      }\n\n      if (absHref && !elm.getAttribute('target')
&& !event.isDefaultPrevented()) {\n        if (this.$$parseLinkUrl(absHref, relHref)) {\n          // We do a
preventDefault for all urls that are part of the AngularJS application,\n          // in html5mode and also without, so
that we are able to abort navigation without\n          // getting double entries in the location history.\n
event.preventDefault();\n          // update location manually\n          if (this.absUrl() !== this.browserUrl()) {\n
$rootScope.$apply();\n          }\n        }\n      }\n    });\n\n
  this.urlChanges.subscribe(({newUrl, newState}) => {\n      const oldUrl = this.absUrl();\n      const oldState =
this.$$state;\n      this.$$parse(newUrl);\n      newUrl = this.absUrl();\n      this.$$state = newState;\n      const
defaultPrevented =\n          $rootScope.$broadcast('$locationChangeStart', newUrl, oldUrl, newState, oldState)\n
    .defaultPrevented;\n\n      // if the location was changed by a `$locationChangeStart` handler then stop\n      //
processing this location change\n      if (this.absUrl() !== newUrl) return;\n\n      // If default was prevented, set back
to old state. This is the state that was locally\n      // cached in the $location service.\n      if (defaultPrevented) {\n
 this.$$parse(oldUrl);\n        this.state(oldState);\n        this.setBrowserUrlWithFallback(oldUrl, false, oldState);\n
 this.$$notifyChangeListeners(this.url(), this.$$state, oldUrl, oldState);\n      } else {\n        this.initalizing = false;\n
    $rootScope.$broadcast('$locationChangeSuccess',
 newUrl, oldUrl, newState, oldState);\n        this.resetBrowserUpdate();\n      }\n      if (!$rootScope.$$phase) {\n
$rootScope.$digest();\n      }\n    });\n\n    // update browser\n    $rootScope.$watch(() => {\n      if (this.initalizing ||
this.updateBrowser) {\n        this.updateBrowser = false;\n\n        const oldUrl = this.browserUrl();\n        const
newUrl = this.absUrl();\n        const oldState = this.browserState();\n        let currentReplace = this.$$replace;\n\n
const urlOrStateChanged =\n            !this.urlCodec.areEqual(oldUrl, newUrl) || oldState !== this.$$state;\n\n        //
Fire location changes one time to on initialization. This must be done on the\n        // next tick (thus inside
$evalAsync()) in order for listeners to be registered\n        // before the event fires. Mimicing behavior from
$locationWatch:\n        // https://github.com/angular/angular.js/blob/master/src/ng/location.js#L983\n
 if (this.initalizing || urlOrStateChanged) {\n          this.initalizing = false;\n\n          $rootScope.$evalAsync(() => {\n
          // Get the new URL again since it could have changed due to async update\n            const newUrl =
this.absUrl();\n            const defaultPrevented =\n                $rootScope\n
.$broadcast('$locationChangeStart', newUrl, oldUrl, this.$$state, oldState)\n                    .defaultPrevented;\n\n
 // if the location was changed by a `$locationChangeStart` handler then stop\n            // processing this location
change\n            if (this.absUrl() !== newUrl) return;\n\n            if (defaultPrevented) {\n
this.$$parse(oldUrl);\n              this.$$state = oldState;\n            } else {\n              // This block doesn't run when
initalizing because it's going to perform the update to\n              // the URL which shouldn't be needed when
initalizing.\n              if (urlOrStateChanged) {\n
                this.setBrowserUrlWithFallback(\n                    newUrl, currentReplace, oldState === this.$$state ? null :
this.$$state);\n                this.$$replace = false;\n              }\n              $rootScope.$broadcast(\n
'$locationChangeSuccess', newUrl, oldUrl, this.$$state, oldState);\n              if (urlOrStateChanged) {\n
this.$$notifyChangeListeners(this.url(), this.$$state, oldUrl, oldState);\n              }\n            });\n          }\n
}\n      this.$$replace = false;\n    });\n  }\n\n  private resetBrowserUpdate() {\n    this.$$replace = false;\n
this.$$state = this.browserState();\n    this.updateBrowser = false;\n    this.lastBrowserUrl = this.browserUrl();\n
}\n\n  private lastHistoryState: unknown;\n  private lastBrowserUrl: string = '';\n  private browserUrl(): string;\n
private browserUrl(url: string, replace?: boolean, state?: unknown): this;\n  private browserUrl(url?: string, replace?:
boolean,
 state?: unknown) {\n    // In modern browsers `history.state` is `null` by default; treating it separately\n    // from
`undefined` would cause `$browser.url('/foo')` to change `history.state`\n    // to undefined via `pushState`. Instead,
let's change `undefined` to `null` here.\n    if (typeof state === 'undefined') {\n      state = null;\n    }\n\n    // setter\n
if (url) {\n      let sameState = this.lastHistoryState === state;\n\n      // Normalize the inputted URL\n      url =
```

```
this.urlCodec.parse(url).href;\n\n      // Don't change anything if previous and current URLs and states match.\n      if (this.lastBrowserUrl === url && sameState) {\n        return this;\n      }\n      this.lastBrowserUrl = url;\n this.lastHistoryState = state;\n\n      // Remove server base from URL as the Angular APIs for updating URL require\n      // it to be the path+.\n      url = this.stripBaseUrl(this.getServerBase(), url) || url;\n\n      // Set the URL\n    if (replace) {\n  this.locationStrategy.replaceState(state, '', url, '');\n      } else {\n        this.locationStrategy.pushState(state, '', url, '');\n      }\n\n      this.cacheState();\n\n      return this;\n      // getter\n    } else {\n      return this.platformLocation.href;\n    }\n  }\n\n  // This variable should be used *only* inside the cacheState function.\n  private lastCachedState: unknown = null;\n  private cacheState() {\n    // This should be the only place in $browser where `history.state` is read.\n    this.cachedState = this.platformLocation.getState();\n    if (typeof this.cachedState === 'undefined') {\n      this.cachedState = null;\n    }\n\n    // Prevent callbacks fo fire twice if both hashchange & popstate were fired.\n    if (deepEqual(this.cachedState, this.lastCachedState)) {\n      this.cachedState = this.lastCachedState;\n    }\n\n    this.lastCachedState = this.cachedState;\n    this.lastHistoryState = this.cachedState;\n  }\n\n  /**\n   * This function emulates the $browser.state()
  function from AngularJS. It will cause\n   * history.state to be cached unless changed with deep equality check.\n   */\n  private browserState(): unknown {\n    return this.cachedState;\n  }\n\n  private stripBaseUrl(base: string, url: string) {\n    if (url.startsWith(base)) {\n      return url.substr(base.length);\n    }\n    return undefined;\n  }\n\n  private getServerBase() {\n    const {protocol, hostname, port} = this.platformLocation;\n    const baseHref = this.locationStrategy.getBaseHref();\n    let url = `${protocol}//${hostname}${port ? ':' + port : ''}${baseHref || '/'}`;\n    return url.endsWith('/') ? url : url + '/';\n  }\n\n  private parseAppUrl(url: string) {\n    if (DOUBLE_SLASH_REGEX.test(url)) {\n      throw new Error(`Bad Path - URL cannot start with double slashes: ${url}`);\n    }\n\n    let prefixed = (url.charAt(0) !== '/');\n    if (prefixed) {\n      url = '/' + url;\n    }\n    let match = this.urlCodec.parse(url, this.getServerBase());\n
  if (typeof match === 'string') {\n      throw new Error(`Bad URL - Cannot parse URL: ${url}`);\n    }\n    let path =\n        prefixed && match.pathname.charAt(0) === '/' ? match.pathname.substring(1) : match.pathname;\n this.$$path = this.urlCodec.decodePath(path);\n    this.$$search = this.urlCodec.decodeSearch(match.search);\n this.$$hash = this.urlCodec.decodeHash(match.hash);\n\n    // make sure path starts with '/';\n    if (this.$$path && this.$$path.charAt(0) !== '/') {\n      this.$$path = '/' + this.$$path;\n    }\n  }\n\n  /**\n   * Registers listeners for URL changes. This API is used to catch updates performed by the\n   * AngularJS framework. These changes are a subset of the `$locationChangeStart` and\n   * `$locationChangeSuccess` events which fire when AngularJS updates its internally-referenced\n   * version of the browser URL.\n   *\n   * It's possible for `$locationChange` events to happen, but for the browser URL\n   * (window.location) to remain unchanged.
  This `onChange` callback will fire only when AngularJS\n   * actually updates the browser URL (window.location).\n   *\n   * @param fn The callback function that is triggered for the listener when the URL changes.\n   * @param err The callback function that is triggered when an error occurs.\n   */\n  onChange(\n      fn: (url: string, state: unknown, oldUrl: string, oldState: unknown) => void,\n      err: (e: Error) => void = (e: Error) => {}) {\n    this.$$changeListeners.push([fn, err]);\n  }\n\n  /** @internal */\n  $$notifyChangeListeners(\n      url: string = '', state: unknown, oldUrl: string = '', oldState: unknown) {\n    this.$$changeListeners.forEach(([fn, err]) => {\n      try {\n        fn(url, state, oldUrl, oldState);\n      } catch (e) {\n        err(e);\n      }\n    });\n  }\n\n  /**\n   * Parses the provided URL, and sets the current URL to the parsed result.\n   *\n   * @param url The URL string.\n   */\n  $$parse(url: string) {\n    let pathUrl: string|undefined;\n
    if (url.startsWith('/')) {\n      pathUrl = url;\n    } else {\n      // Remove protocol & hostname if URL starts with it\n      pathUrl = this.stripBaseUrl(this.getServerBase(), url);\n    }\n    if (typeof pathUrl === 'undefined') {\n throw new Error(`Invalid url \"${url}\", missing path prefix \"${this.getServerBase()}\".`);\n    }\n\n this.parseAppUrl(pathUrl);\n\n    if (!this.$$path) {\n      this.$$path = '/';\n    }\n    this.composeUrls();\n  }\n\n  /**\n   * Parses the provided URL and its relative URL.\n   *\n   * @param url The full URL string.\n   * @param relHref A URL string relative to the full URL string.\n   */\n  $$parseLinkUrl(url: string, relHref?: string|null): boolean {\n    // When relHref is passed, it should be a hash and is handled separately\n    if (relHref && relHref[0]
```

=== '#') {\n this.hash(relHref.slice(1));\n return true;\n }\n let rewrittenUrl;\n let appUrl = this.stripBaseUrl(this.getServerBase(), url);\n if (typeof appUrl !== 'undefined') {\n rewrittenUrl = this.getServerBase() + appUrl;\n } else if (this.getServerBase() === url + '/') {\n rewrittenUrl = this.getServerBase();\n }\n // Set the URL\n if (rewrittenUrl) {\n this.$$parse(rewrittenUrl);\n }\n return !!rewrittenUrl;\n }\n\n private setBrowserUrlWithFallback(url: string, replace: boolean, state: unknown) {\n const oldUrl = this.url();\n const oldState = this.$$state;\n try {\n this.browserUrl(url, replace, state);\n\n // Make sure $location.state() returns referentially identical (not just deeply equal)\n // state object; this makes possible quick checking if the state changed in the digest\n // loop. Checking deep equality would be too expensive.\n this.$$state = this.browserState();\n } catch (e) {\n // Restore old values if pushState fails\n this.url(oldUrl);\n this.$$state = oldState;\n throw e;\n }\n }\n\n private composeUrls() {\n this.$$url = this.urlCodec.normalize(this.$$path, this.$$search, this.$$hash);\n this.$$absUrl = this.getServerBase() + this.$$url.substr(1); // remove '/' from front of URL\n this.updateBrowser = true;\n }\n\n /**\n * Retrieves the full URL representation with all segments encoded according to\n * rules specified in\n * [RFC 3986](https://tools.ietf.org/html/rfc3986).\n *\n *\n * ```js\n * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n * let absUrl = $location.absUrl();\n * // => \"http://example.com/#/some/path?foo=bar&baz=xoxo\"\n * ```\n */\n absUrl(): string {\n return this.$$absUrl;\n }\n\n /**\n * Retrieves the current URL, or sets a new URL. When setting a URL,\n * changes the path, search, and hash, and returns a reference to its own instance.\n *\n * ```js\n * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n * let url = $location.url();\n * // => \"/some/path?foo=bar&baz=xoxo\"\n * ```\n */\n url(): string;\n url(url: string): this;\n url(url?: string): string|this {\n if (typeof url === 'string') {\n if (!url.length) {\n url = '/';\n }\n\n const match = PATH_MATCH.exec(url);\n if (!match) return this;\n if (match[1] || url === '') this.path(this.urlCodec.decodePath(match[1]));\n if (match[2] || match[1] || url === '') this.search(match[3] || '');\n this.hash(match[5] || '');\n\n // Chainable method\n return this;\n }\n\n return this.$$url;\n }\n\n /**\n * Retrieves the protocol of the current URL.\n *\n * ```js\n * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n * let protocol = $location.protocol();\n * // => \"http\"\n * ```\n */\n protocol(): string {\n return this.$$protocol;\n }\n\n /**\n * Retrieves the protocol of the current URL.\n *\n * In contrast to the non-AngularJS version `location.host` which returns `hostname:port`, this\n * returns the `hostname`\n portion only.\n *\n *\n * ```js\n * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n * let host = $location.host();\n * // => \"example.com\"\n *\n * // given URL http://user:password@example.com:8080/#/some/path?foo=bar&baz=xoxo\n * host = $location.host();\n * // => \"example.com\"\n * host = location.host;\n * // => \"example.com:8080\"\n * ```\n */\n host(): string {\n return this.$$host;\n }\n\n /**\n * Retrieves the port of the current URL.\n *\n * ```js\n * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n * let port = $location.port();\n * // => 80\n * ```\n */\n port(): number|null {\n return this.$$port;\n }\n\n /**\n * Retrieves the path of the current URL, or changes the path and returns a reference to its own\n * instance.\n *\n * Paths should always begin with forward slash (/). This method adds the forward slash\n * if it is missing.\n *\n * ```js\n * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n * let path = $location.path();\n * // => \"/some/path\"\n * ```\n */\n path(): string;\n path(path: string|number|null): this;\n path(path?: string|number|null): string|this {\n if (typeof path === 'undefined') {\n return this.$$path;\n }\n\n // null path converts to empty string. Prepend with \"/\" if needed.\n path = path !== null ? path.toString() : '';\n path = path.charAt(0) === '/' ? path : '/' + path;\n\n this.$$path = path;\n\n this.composeUrls();\n return this;\n }\n\n /**\n * Retrieves a map of the search parameters of the current URL, or changes a search\n * part and returns a reference to its own instance.\n *\n *\n * ```js\n * // given URL http://example.com/#/some/path?foo=bar&baz=xoxo\n * let searchObject = $location.search();\n * // => {foo: 'bar', baz: 'xoxo'}\n *\n * // set foo to 'yipee'\n * $location.search('foo', 'yipee');\n * // $location.search() =>

```
{foo:
 'yipee', baz: 'xoxo'}\n   * ```\n   *\n   * @param {string|Object.<string>|Object.<Array.<string>>} search New
search params - string or\n   * hash object.\n   *\n   * When called with a single argument the method acts as a setter,
setting the `search` component\n   * of `$location` to the specified value.\n   *\n   * If the argument is a hash object
containing an array of values, these values will be encoded\n   * as duplicate search parameters in the URL.\n   *\n
* @param {(string|Number|Array<string>|boolean)=} paramValue If `search` is a string or number,\n   *     then
`paramValue`\n   * will override only a single search property.\n   *\n   * If `paramValue` is an array, it will override
the property of the `search` component of\n   * `$location` specified via the first argument.\n   *\n   * If
`paramValue` is `null`, the property specified via the first argument will be deleted.\n   *\n   * If `paramValue` is
`true`, the property specified via the first argument will be added
 with no\n   * value nor trailing equal sign.\n   *\n   * @return {Object} The parsed `search` object of the current
URL, or the changed `search` object.\n   */\n  search(): {[key: string]: unknown};\n  search(search:
string|number|{[key: string]: unknown}): this;\n  search(\n      search: string|number|{[key: string]: unknown},\n
paramValue: null|undefined|string|number|boolean|string[]): this;\n  search(\n      search?: string|number|{[key:
string]: unknown},\n      paramValue?: null|undefined|string|number|boolean|string[]): {[key: string]: unknown}|this
{\n    switch (arguments.length) {\n      case 0:\n        return this.$$search;\n      case 1:\n        if (typeof search ===
'string' || typeof search === 'number') {\n          this.$$search = this.urlCodec.decodeSearch(search.toString());\n
} else if (typeof search === 'object' && search !== null) {\n          // Copy the object so it's never mutated\n
search = {...search};\n          // remove object undefined
 or null properties\n          for (const key in search) {\n            if (search[key] == null) delete search[key];\n
}\n\n          this.$$search = search;\n        } else {\n          throw new Error(\n              'LocationProvider.search():
First argument must be a string or an object.');\n        }\n        break;\n      default:\n        if (typeof search ===
'string') {\n          const currentSearch = this.search();\n          if (typeof paramValue === 'undefined' || paramValue
=== null) {\n            delete currentSearch[search];\n            return this.search(currentSearch);\n          } else {\n
currentSearch[search] = paramValue;\n            return this.search(currentSearch);\n          }\n        }\n    }\n
this.composeUrls();\n    return this;\n  }\n\n  /**\n   * Retrieves the current hash fragment, or changes the hash
fragment and returns a reference to\n   * its own instance.\n   *\n   * ```js\n   * // given URL
http://example.com/#/some/path?foo=bar&baz=xoxo#hashValue\n
   * let hash = $location.hash();\n   * // => \"hashValue\"\n   * ```\n   */\n  hash(): string;\n  hash(hash:
string|number|null): this;\n  hash(hash?: string|number|null): string|this {\n    if (typeof hash === 'undefined') {\n
return this.$$hash;\n    }\n\n    this.$$hash = hash !== null ? hash.toString() : '';\n\n    this.composeUrls();\n    return
this;\n  }\n\n  /**\n   * Changes to `$location` during the current `$digest` will replace the current\n   * history
record, instead of adding a new one.\n   */\n  replace(): this {\n    this.$$replace = true;\n    return this;\n  }\n\n  /**\n
 * Retrieves the history state object when called without any parameter.\n   *\n   * Change the history state object
when called with one parameter and return `$location`.\n   * The state object is later passed to `pushState` or
`replaceState`.\n   *\n   * This method is supported only in HTML5 mode and only in browsers supporting\n   * the
HTML5 History API methods
 such as `pushState` and `replaceState`. If you need to support\n   * older browsers (like Android < 4.0), don't use
this method.\n   *\n   */\n  state(): unknown;\n  state(state: unknown): this;\n  state(state?: unknown): unknown|this
{\n    if (typeof state === 'undefined') {\n      return this.$$state;\n    }\n\n    this.$$state = state;\n    return this;\n
}\n}\n\n/**\n * The factory function used to create an instance of the `$locationShim` in Angular,\n * and provides
an API-compatiable `$locationProvider` for AngularJS.\n *\n * @publicApi\n */\nexport class
$locationShimProvider {\n  constructor(\n      private ngUpgrade: UpgradeModule, private location: Location,\n
private platformLocation: PlatformLocation, private urlCodec: UrlCodec,\n      private locationStrategy:
LocationStrategy) {}\n\n  /**\n   * Factory method that returns an instance of the $locationShim\n   */\n  $get() {\n
return new $locationShim(\n          this.ngUpgrade.$injector, this.location, this.platformLocation,
 this.urlCodec,\n          this.locationStrategy);\n  }\n\n  /**\n   * Stub method used to keep API compatible with
AngularJS. This setting is configured through\n   * the LocationUpgradeModule's `config` method in your Angular
```

app.\n */\n hashPrefix(prefix?: string) {\n throw new Error('Configure LocationUpgrade through LocationUpgradeModule.config method.');\n }\n\n /**\n * Stub method used to keep API compatible with AngularJS. This setting is configured through\n * the LocationUpgradeModule's `config` method in your Angular app.\n */\n html5Mode(mode?: any) {\n throw new Error('Configure LocationUpgrade through LocationUpgradeModule.config method.');\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A codec for encoding and decoding URL parts.\n *\n * @publicApi\n **/\nexport
abstract class UrlCodec {\n /**\n * Encodes the path from the provided string\n *\n * @param path The path string\n */\n abstract encodePath(path: string): string;\n\n /**\n * Decodes the path from the provided string\n *\n * @param path The path string\n */\n abstract decodePath(path: string): string;\n\n /**\n * Encodes the search string from the provided string or object\n *\n * @param path The path string or object\n */\n abstract encodeSearch(search: string|{[k: string]: unknown}): string;\n\n /**\n * Decodes the search objects from the provided string\n *\n * @param path The path string\n */\n abstract decodeSearch(search: string): {[k: string]: unknown};\n\n /**\n * Encodes the hash from the provided string\n *\n * @param path The hash string\n */\n abstract encodeHash(hash: string): string;\n\n /**\n * Decodes the hash from the provided string\n *\n * @param path The hash string\n */\n abstract decodeHash(hash: string):
string;\n\n /**\n * Normalizes the URL from the provided string\n *\n * @param path The URL string\n */\n abstract normalize(href: string): string;\n\n\n /**\n * Normalizes the URL from the provided string, search, hash, and base URL parameters\n *\n * @param path The URL path\n * @param search The search object\n * @param hash The has string\n * @param baseUrl The base URL for the URL\n */\n abstract normalize(path: string, search: {[k: string]: unknown}, hash: string, baseUrl?: string):\n string;\n\n /**\n * Checks whether the two strings are equal\n * @param valA First string for comparison\n * @param valB Second string for comparison\n */\n abstract areEqual(valA: string, valB: string): boolean;\n\n /**\n * Parses the URL string based on the base URL\n *\n * @param url The full URL string\n * @param base The base for the URL\n */\n abstract parse(url: string, base?: string): {\n href: string,\n protocol: string,\n host:
string,\n search: string,\n hash: string,\n hostname: string,\n port: string,\n pathname: string\n };\n}\n\n/**\n * A `UrlCodec` that uses logic from AngularJS to serialize and parse URLs\n * and URL parameters.\n *\n * @publicApi\n */\nexport class AngularJSUrlCodec implements UrlCodec {\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L15\n encodePath(path: string): string {\n const segments = path.split('/');\n let i = segments.length;\n\n while (i--) {\n // decode forward slashes to prevent them from being double encoded\n segments[i] = encodeUriSegment(segments[i].replace(/%2F/g, '/'));\n }\n\n path = segments.join('/');\n return _stripIndexHtml((path && path[0] !== '/' && '/' || '') + path);\n }\n\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L42\n encodeSearch(search: string|{[k: string]: unknown}): string {\n if (typeof search === 'string') {\n search = parseKeyValue(search);\n }\n\n search = toKeyValue(search);\n return search ? '?' + search : '';\n }\n\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L44\n encodeHash(hash: string) {\n hash = encodeUriSegment(hash);\n return hash ? '#' + hash : '';\n }\n\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L27\n decodePath(path: string, html5Mode = true): string {\n const segments = path.split('/');\n let i = segments.length;\n\n while (i--) {\n segments[i] = decodeURIComponent(segments[i]);\n if (html5Mode) {\n // encode forward slashes to prevent them from being mistaken for path separators\n segments[i] = segments[i].replace(/\//g, '%2F');\n }\n }\n\n return segments.join('/');\n }\n\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L72\n decodeSearch(search: string) {\n return parseKeyValue(search);\n }\n\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L73\n
decodeHash(hash: string) {\n hash = decodeURIComponent(hash);\n return hash[0] === '#' ? hash.substring(1) : hash;\n }\n\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L149\n // https://github.com/angular/angular.js/blob/864c7f0/src/ng/location.js#L42\n normalize(href: string): string;\n

```
normalize(path: string, search: {[k: string]: unknown}, hash: string, baseUrl?: string): string;\n normalize(pathOrHref: string, search?: {[k: string]: unknown}, hash?: string, baseUrl?: string):\n string {\n if (arguments.length === 1) {\n const parsed = this.parse(pathOrHref, baseUrl);\n\n if (typeof parsed === 'string') {\n return parsed;\n }\n\n const serverUrl =\n `${parsed.protocol}://${parsed.hostname}${parsed.port ? ':' + parsed.port : ''}`;\n\n return this.normalize(\n this.decodePath(parsed.pathname), this.decodeSearch(parsed.search),\n this.decodeHash(parsed.hash),\n serverUrl);\n } else {\n const encPath = this.encodePath(pathOrHref);\n const encSearch = search &&\n this.encodeSearch(search) || '';\n const encHash = hash && this.encodeHash(hash) || '';\n\n let joinedPath =\n (baseUrl || '') + encPath;\n\n if (!joinedPath.length || joinedPath[0] !== '/') {\n joinedPath = '/' + joinedPath;\n }\n return joinedPath + encSearch + encHash;\n }\n }\n\n areEqual(valA: string, valB: string) {\n return this.normalize(valA) === this.normalize(valB);\n }\n\n //\nhttps://github.com/angular/angular.js/blob/864c7f0/src/ng/urlUtils.js#L60\n parse(url: string, base?: string) {\n try {\n // Safari 12 throws an error when the URL constructor is called with an undefined base.\n const parsed =\n !base ? new URL(url) : new URL(url, base);\n return {\n href: parsed.href,\n protocol: parsed.protocol ?\nparsed.protocol.replace(/:$/, '') : '',\n host: parsed.host,\n search: parsed.search ? parsed.search.replace(/^\\?/, '') : '',\n hash: parsed.hash ? parsed.hash.replace(/^#/, '')\n: '',\n hostname: parsed.hostname,\n port: parsed.port,\n pathname: (parsed.pathname.charAt(0) === '/')\n? parsed.pathname : '/' + parsed.pathname\n };\n } catch (e) {\n throw new Error(`Invalid URL (${url}) with\nbase (${base})`);\n }\n }\n}\n\nfunction _stripIndexHtml(url: string): string {\n return\nurl.replace(/\\/index.html$/, '');\n}\n\n/**\n * Tries to decode the URI component without throwing an exception.\n\n*\n * @param str value potential URI component to check.\n * @returns the decoded URI if it can be decoded or\nelse `undefined`.\n */\nfunction tryDecodeURIComponent(value: string): string|undefined {\n try {\n return\ndecodeURIComponent(value);\n } catch (e) {\n // Ignore any invalid uri component.\n return undefined;\n\n}\n}\n\n\n/**\n * Parses an escaped url query string into key-value pairs. Logic\n taken from\n * https://github.com/angular/angular.js/blob/864c7f0/src/Angular.js#L1382\n */\nfunction\nparseKeyValue(keyValue: string): {[k: string]: unknown} {\n const obj: {[k: string]: unknown} = {};\n (keyValue\n|| '').split('&').forEach((keyValue) => {\n let splitPoint, key, val;\n if (keyValue) {\n key = keyValue =\nkeyValue.replace(/\\+/g, '%20');\n splitPoint = keyValue.indexOf('=');\n if (splitPoint !== -1) {\n key =\nkeyValue.substring(0, splitPoint);\n val = keyValue.substring(splitPoint + 1);\n }\n key =\ntryDecodeURIComponent(key);\n if (typeof key !== 'undefined') {\n val = typeof val !== 'undefined' ?\ntryDecodeURIComponent(val) : true;\n if (!obj.hasOwnProperty(key)) {\n obj[key] = val;\n } else if\n(Array.isArray(obj[key])) {\n (obj[key] as unknown[]).push(val);\n } else {\n obj[key] = [obj[key],\nval];\n }\n }\n }\n });\n return obj;\n}\n\n/**\n * Serializes\n into key-value pairs. Logic taken from\n *\nhttps://github.com/angular/angular.js/blob/864c7f0/src/Angular.js#L1409\n */\nfunction toKeyValue(obj: {[k:\nstring]: unknown}) {\n const parts: unknown[] = [];\n for (const key in obj) {\n let value = obj[key];\n if\n(Array.isArray(value)) {\n value.forEach((arrayValue) => {\n parts.push(\n encodeUriQuery(key,\ntrue) +\n (arrayValue === true ? '' : '=' + encodeUriQuery(arrayValue, true)));\n });\n } else {\n\nparts.push(\n encodeUriQuery(key, true) +\n (value === true ? '' : '=' + encodeUriQuery(value as any,\ntrue)));\n }\n }\n return parts.length ? parts.join('&') : '';\n}\n\n\n/**\n * We need our custom method because\nencodeURIComponent is too aggressive and doesn't follow\n * https://tools.ietf.org/html/rfc3986 with regards to the\ncharacter set (pchar) allowed in path\n * segments:\n *    segment       = *pchar\n *    pchar         = unreserved / pct-\nencoded /\n sub-delims / ':' / '@'\n *    pct-encoded   = '%' HEXDIG HEXDIG\n *    unreserved    = ALPHA / DIGIT /\n'-' / '.' / '_' / '~'\n *    sub-delims    = '!' / '$' / '&' / ''' / '(' / ')'\n *                    / '*' / '+' /\n',' / ';' / '='\n *\n * Logic from https://github.com/angular/angular.js/blob/864c7f0/src/Angular.js#L1437\n\n*/\nfunction encodeUriSegment(val: string) {\n return encodeUriQuery(val, true).replace(/%26/g,\n'&').replace(/%3D/gi, '=').replace(/%2B/gi, '+');\n}\n\n\n/**\n * This method is intended for encoding *key* or
```

*value* parts of query component. We need a custom\n * method because encodeURIComponent is too aggressive and encodes stuff that doesn't have to be\n * encoded per https://tools.ietf.org/html/rfc3986:\n *  query  = *( pchar / \"/\" / \"?\" )\n *  pchar  = unreserved / pct-encoded / sub-delims / \":\" / \"@\"\n *  unreserved  = ALPHA / DIGIT / \"-\" / \".\" / \"_\" / \"~\"\n *  pct-encoded  = \"%\" HEXDIG HEXDIG\n *  sub-delims  = \"!\" / \"$\" / \"&\" / \"'\" / \"(\" / \")\"\n *  / \"*\" / \"+\" / \",\" / \";\" / \"=\"\n *\n * Logic from https://github.com/angular/angular.js/blob/864c7f0/src/Angular.js#L1456\n */\nfunction encodeUriQuery(val: string, pctEncodeSpaces: boolean = false) {\n  return encodeURIComponent(val)\n  .replace(/%40/g, '@')\n  .replace(/%3A/gi, ':')\n  .replace(/%24/g, '$')\n  .replace(/%2C/gi, ',')\n  .replace(/%3B/gi, ';')\n  .replace(/%20/g, (pctEncodeSpaces ? '%20' : '+'));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {APP_BASE_HREF, CommonModule, HashLocationStrategy, Location, LocationStrategy, PathLocationStrategy, PlatformLocation} from '@angular/common';\nimport {Inject, InjectionToken, ModuleWithProviders, NgModule, Optional} from '@angular/core';\nimport {UpgradeModule} from '@angular/upgrade/static';\n\nimport {$locationShim, $locationShimProvider} from './location_shim';\nimport {AngularJSUrlCodec, UrlCodec} from './params';\n\n\n/**\n * Configuration options for LocationUpgrade.\n *\n * @publicApi\n */\nexport interface LocationUpgradeConfig {\n  /**\n   * Configures whether the location upgrade module should use the `HashLocationStrategy`\n   * or the `PathLocationStrategy`\n   */\n  useHash?: boolean;\n  /**\n   * Configures the hash prefix used in the URL when using the `HashLocationStrategy`\n   */\n  hashPrefix?: string;\n  /**\n   * Configures the URL codec for encoding and decoding URLs. Default is the `AngularJSCodec`\n   */\n  urlCodec?: typeof UrlCodec;\n  /**\n   * Configures the base href when used in server-side rendered applications\n   */\n  serverBaseHref?: string;\n  /**\n   * Configures the base href when used in client-side rendered applications\n   */\n  appBaseHref?: string;\n}\n\n/**\n * A provider token used to configure the location upgrade module.\n *\n * @publicApi\n */\nexport const LOCATION_UPGRADE_CONFIGURATION =\n    new InjectionToken<LocationUpgradeConfig>('LOCATION_UPGRADE_CONFIGURATION');\n\nconst APP_BASE_HREF_RESOLVED = new InjectionToken<string>('APP_BASE_HREF_RESOLVED');\n\n/**\n * `NgModule` used for providing and configuring Angular's Unified Location Service for upgrading.\n *\n * @see [Using the Unified Angular Location Service](guide/upgrade#using-the-unified-angular-location-service)\n *\n * @publicApi\n */\n@NgModule({imports: [CommonModule]})\nexport class LocationUpgradeModule {\n  static config(config?: LocationUpgradeConfig): ModuleWithProviders<LocationUpgradeModule> {\n    return {\n      ngModule: LocationUpgradeModule,\n      providers: [\n        Location,\n        {\n          provide: $locationShim,\n          useFactory: provide$location,\n          deps: [UpgradeModule, Location, PlatformLocation, UrlCodec, LocationStrategy]\n        },\n        {provide: LOCATION_UPGRADE_CONFIGURATION, useValue: config ? config : {}},\n        {provide: UrlCodec, useFactory: provideUrlCodec, deps: [LOCATION_UPGRADE_CONFIGURATION]},\n        {\n          provide: APP_BASE_HREF_RESOLVED,\n          useFactory: provideAppBaseHref,\n          deps: [LOCATION_UPGRADE_CONFIGURATION, [new Inject(APP_BASE_HREF), new Optional()]]\n        },\n        {\n          provide: LocationStrategy,\n          useFactory: provideLocationStrategy,\n          deps: [\n            PlatformLocation,\n            APP_BASE_HREF_RESOLVED,\n            LOCATION_UPGRADE_CONFIGURATION,\n          ]\n        },\n      ],\n    };\n  }\n}\n\nexport function provideAppBaseHref(config: LocationUpgradeConfig, appBaseHref?: string) {\n  if (config && config.appBaseHref != null) {\n    return config.appBaseHref;\n  } else if (appBaseHref != null) {\n    return appBaseHref;\n  }\n  return '';\n}\n\nexport function provideUrlCodec(config: LocationUpgradeConfig) {\n  const codec = config && config.urlCodec || AngularJSUrlCodec;\n  return new (codec as any)();\n}\n\nexport function provideLocationStrategy(\n    platformLocation: PlatformLocation, baseHref: string, options: LocationUpgradeConfig = {}) {\n  return options.useHash ? new HashLocationStrategy(platformLocation,

baseHref) :\n new PathLocationStrategy(platformLocation, baseHref);\n}\n\nexport function provide$location(\n ngUpgrade: UpgradeModule, location: Location, platformLocation: PlatformLocation,\n urlCodec: UrlCodec, locationStrategy: LocationStrategy) {\n const $locationProvider =\n new $locationShimProvider(ngUpgrade, location, platformLocation, urlCodec, locationStrategy);\n\n return $locationProvider.$get();\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {$locationShim, $locationShimProvider} from './location_shim';\nexport {LOCATION_UPGRADE_CONFIGURATION, LocationUpgradeConfig, LocationUpgradeModule} from './location_upgrade_module';\nexport {AngularJSUrlCodec, UrlCodec} from './params';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/index';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {provide$location as angular_packages_common_upgrade_upgrade_d,provideAppBaseHref as angular_packages_common_upgrade_upgrade_a,provideLocationStrategy as angular_packages_common_upgrade_upgrade_c,provideUrlCodec as angular_packages_common_upgrade_upgrade_b} from './src/location_upgrade_module';"],"names":[],"mappings":";;;;;;;;;;;AAAA;;;;;;;SAQgB,WAAW,CAAC,GAAW,EAAE,MAAc;IACrD,OAAO,GAAG,CAAC,UAAU,CAAC,MAAM,CAAC,GAAG,GAAG,GAAG,CAAC,SAAS,CAAC,MAAM,CAAC,MAAM,CAAC,GAAG,GAAG,CAAC;AAAA;;;;;;;SAQ,WAAW,CAAC,GAAW,EAAE,MAAc;IACrD,OAAO,GAAG,CAAC,UAAU,CAAC,MAAM,CAAC,GAAG,GAAG,GAAG,CAAC,SAAS,CAAC,MAAM,CAAC,MAAM,CAAC,GAAG,GAAG,CAAC;AAAA;;;;;;;SAQgB

Aa,CAAC,SAAS,CAAC,QAAQ,CAAC,IAAI,IAAI,CAAC;QAEpF,IAAI,CAAC,cAAc,CAAC,UAAU,EAAE,UAAU,CAAC,CAAC;QAC5C,IAAI,CAAC,UAAU,EAAE,CAAC;QAClB,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,YAAY,EAAE,CAAC;QAEnC,IAAI,CAAC,QAAQ,CAAC,WAAW,CAAC,CAAC,MAAM,EAAE,QAAQ;YACzC,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAC,CAAC,CAAC;SAC1C,CAAC,CAAC;QAEH,IAAI,SAAS,CAAC,IAAI,CAAC,CAAC,EAAE;YACxB,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE,IAAI,IAAI,CAAC,EAAE,IAAI,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;SAC3E,CAAC,CAAC;QAEH,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;QAEzB

QAAQ,CAAC,CAAC;6BAC1E;yBACF;qBACF,CAAC,CAAC;iBACJ;aACF;YACD,IAAI,CAAC,SAAS,GAAG,KAAK,CAAC;SACxB,CAAC,CAAC;KACJ;IAEO,kBAAkB;QACxB,IAAI,CAAC,SAAS,GAAG,KAAK,CAAC;QACvB,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,YAAY,EAAE,CAAC;QACnC,IAAI,CAAC,aAAa,GAAG,KAAK,CAAC;QAC3B,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC,UAAU,EAAE,CAAC;KACzC;IAMO,UAAU,CAAC,GAAY,EAAE,OAAiB,EAAE,KAAe;;;;QAIjE,IAAI,OAAO,EAAE;YACT,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC;SACtC;;;;

AO,CAAC,CAAC;QAE1B,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE;YAChB,IAAI,CAAC,MAAM,GAAG,GAAG,CAAC;SACnB;QACD,IAAI,CAAC,WAAW,EAAE,CAAC;KACpB;;;;;;;IAQD,cAAc,CAAC,GAAW,EAAE,OAAqB;;QAE/C,IAAI,OAAO,IAAI,OAAO,CAAC,CAAC,CAAC,KAAK,GAAG,EAAE;YACjC,IAAI,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YAC5B,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YAC3B,OAAO,IAAI,CAAC;SACf;QACD,IAAI,YAAY,CAAC;QACjB,IAAI,MAAM,GAAG,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,aAAa,EAAE,EAAE,GAAG,CAAC,CAAC;QAC7C,IAAI,OAAO,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

;IAMD,OAAO;QACL,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC;QACtB,OAAO,IAAI,CAAC;KACb;IAeD,KAAK,CAAC,KAAAe;QACnB,IAAI,OAAO,KAAK,KAAK,WAAW,EAAE;YAChC,OAAO,IAAI,CAAC,OAAO,CAAC;SACrB;QAED,IAAI,CAAC,OAAO,GAAG,KAAK,CAAC;QACrB,OAAO,IAAI,CAAC;KACb;CACF;AAED;;;;;;MAMa,qBAAqB;IAChC,YACY,SAAwB,EAAU,QAAkB,EACpD,gBAAkC,EAAU,QAAkB,EAC9D,gBAAkC;QAFlC,cAAS,GAAT,SAAS,CAAe;QAAU,aAAQ,GAAR,QAAQ,CAAU;QACpD,qBAAgB,GAAhB,gBAAgB,CAAkB;QAAU,aAAQ,GAAR,QAAQ,CAAU;QAC9D,qBAAgB,GAAhB,gBAAgB,CAAkB;KAAI;IAElD,IAAI,CAAC,OAAO,GAAG,KAAK,CAAC;QACnB,OAAO,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,gBAAgB,EAAE,IAAI,CAAC,gBAAgB,CAAC,CAAC;KACpF;IAED,IAAI,CAAC,OAAO,GAAG,KAAK,CAAC;QACnB,OAAO,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,gBAAgB,EAAE,IAAI,CAAC,gBAAgB,CAAC,CAAC;KACpF;CACF;;;;;;IAMD,UAAU,CAAC,MAAe;QACxB,IAAI,CAAC,MAAM,EAAE;YACX,MAAM,IAAI,KAAK,CAAC,wEAAwE,CAAC,CAAC;SAC3F;;;;;IAED,SAAS,CAAC,IAAU,EAAE,QAAkB,EAAE,gBAAkC,EAAE,gBAAkC;QAC9G,MAAM,IAAI,KAAK,CAAC,wEAAwE,CAAC,CAAC;KAC3F;;;;;;

I,EAAE,EAAE,CAAC,GAAG,EAAE;gBACtD,QAAQ,EAAE,MAAM,CAAC,QAAQ;gBACzB,IAAI,EAAE,MAAM,CAAC,IAAI;gBACjB,QAAQ,EAAE,CAAC,MAAM,CAAC,QAAQ,CAAC,MAAM,CAAC,CAAC,CAAC,KAAK,GAAG,IAAI,MAAM,CAAC,QAAQ,GAAG,GAAG,GAAG,MAAM,CAAC,QAAQ;aACxF,CAAC;SACH;QAAC,OAAO,CAAC,EAAE;YACV,MAAM,IAAI,KAAK,CAAC,gBAAgB,GAAG,gBAAgB,IAAI,GAAG,CAAC,CAAC;SAC7D;KACF;CACF;AAED,SAAS,eAAe,CAAC,GAAW;IAClC,OAAO,GAAG,CAAC,OAAO,CAAC,eAAe,EAAE,EAAE,CAAC,CAAC;AAC1C,CAAC

M,IAAI,WAAW,IAAI,IAAI,EAAE;QAC9B,OAAO,WAAW,CAAC;KACpB;IACD,OAAO,EAAE,CAAC;AACZ,CAAC;SAEe,eAAe,CAAC,MAA6B;IAC3D,MAAM,KAAK,GAAG,MAAM,IAAI,MAAM,CAAC,QAAQ,IAAI,iBAAiB,CAAC;IAC7D,OAAO,IAAK,KAAa,EAAE,CAAC;AAC9B,CAAC;SAEe,uBAAuB,CAACnC,gBAAE,CAAC,SAAS,EAAE,CAAC,QAAQ,EAAE,CAAC,QAAQ,EAAE,CAAC,QAAQ

function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d; }\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n        for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n            for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n                t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n    var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n            if (y = 0, t) op = [op[0] & 2, t.value];\r\n            switch (op[0]) {\r\n                case 0: case 1: t = op; break;\r\n                case 4: _.label++; return { value: op[1], done: false };\r\n                case 5: _.label++; y = op[1]; op = [0]; continue;\r\n                case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n                default:\r\n                    if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n                    if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n                    if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n                    if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n                    if (t[2]) _.ops.pop();\r\n                    _.trys.pop(); continue;\r\n            }\r\n            op = body.call(thisArg, _);\r\n        } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n        if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n    }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n    for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n    if (m) return m.call(o);\r\n    if (o && typeof o.length === \"number\") return {\r\n        next: function () {\r\n            if (o && i >= o.length) o = void 0;\r\n            return {

value: o && o[i++], done: !o };\r\n }\r\n };\r\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport
function __read(o, n) {\r\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n if (!m) return o;\r\n var i = m.call(o), r, ar = [], e;\r\n try {\r\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n }\r\n catch (error) { e = { error: error }; }\r\n finally {\r\n try {\r\n if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n }\r\n finally { if (e) throw e.error; }\r\n }\r\n return ar;\r\n}\r\n\r\nexport function __spread() {\r\n for (var ar = [], i = 0; i < arguments.length; i++)\r\n ar = ar.concat(__read(arguments[i]));\r\n return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n r[k] = a[j];\r\n return r;\r\n};\r\n\r\nexport
function __await(v) {\r\n return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n function fulfill(value) { resume(\"next\", value); }\r\n function reject(value) { resume(\"throw\", value); }\r\n function settle(f,
v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n var i, p;\r\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var m = o[Symbol.asyncIterator], i;\r\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done,
v.value); }); }; }\r\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n if (mod && mod.__esModule) return mod;\r\n var result = {};\r\n if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n __setModuleDefault(result, mod);\r\n return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function
__classPrivateFieldGet(receiver, privateMap) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to get private field on non-instance\");\r\n }\r\n return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to set private field on non-instance\");\r\n }\r\n privateMap.set(receiver, value);\r\n return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\ninterface Update {\n name: string;\n value?: string|string[];\n op: 'a'|'s'|'d';\n}\n\n/**\n * Represents the header configuration options for an HTTP request.\n * Instances are immutable. Modifying methods return a cloned\n * instance with the change. The original object

```
 is never changed.\n *\n * @publicApi\n */\nexport class HttpHeaders {\n  /**\n   * Internal map of lowercase header names to values.\n   */\n  // TODO(issue/24571): remove '!'.\n  private headers!: Map<string, string[]>;\n\n\n /**\n   * Internal map of lowercased header names to the normalized\n   * form of the name (the form seen first).\n */\n  private normalizedNames: Map<string, string> = new Map();\n\n  /**\n   * Complete the lazy initialization of this object (needed before reading).\n   */\n  private lazyInit!: HttpHeaders|Function|null;\n\n  /**\n   * Queued updates to be materialized the next initialization.\n   */\n  private lazyUpdate: Update[]|null = null;\n\n  /** Constructs a new HTTP header object with the given values.*/\n\n  constructor(headers?: string|{[name: string]: string | string[]}) {\n    if (!headers) {\n      this.headers = new Map<string, string[]>();\n    } else if (typeof headers === 'string') {\n      this.lazyInit = () => {\n        this.headers = new Map<string, string[]>();\n        headers.split('\\n').forEach(line => {\n          const index = line.indexOf(':');\n          if (index > 0) {\n            const name = line.slice(0, index);\n            const key = name.toLowerCase();\n            const value = line.slice(index + 1).trim();\n            this.maybeSetNormalizedName(name, key);\n            if (this.headers.has(key)) {\n              this.headers.get(key)!.push(value);\n            } else {\n              this.headers.set(key, [value]);\n            }\n          }\n        });\n      };\n    } else {\n      this.lazyInit = () => {\n        this.headers = new Map<string, string[]>();\n        Object.keys(headers).forEach(name => {\n          let values: string|string[] = headers[name];\n          const key = name.toLowerCase();\n          if (typeof values === 'string') {\n            values = [values];\n          }\n          if (values.length > 0) {\n            this.headers.set(key, values);\n            this.maybeSetNormalizedName(name, key);\n          }\n        });\n      };\n    }\n  }\n\n  /**\n   * Checks for existence of a given header.\n   *\n   * @param name The header name to check for existence.\n   *\n   * @returns True if the header exists, false otherwise.\n   */\n  has(name: string): boolean {\n    this.init();\n\n    return this.headers.has(name.toLowerCase());\n  }\n\n  /**\n   * Retrieves the first value of a given header.\n   *\n   * @param name The header name.\n   *\n   * @returns The value string if the header exists, null otherwise\n   */\n  get(name: string): string|null {\n    this.init();\n\n    const values = this.headers.get(name.toLowerCase());\n    return values && values.length > 0 ? values[0] : null;\n  }\n\n  /**\n   * Retrieves the names of the headers.\n   *\n   * @returns A list of header names.\n   */\n  keys(): string[] {\n    this.init();\n\n    return Array.from(this.normalizedNames.values());\n  }\n\n  /**\n   * Retrieves a list of values for a given header.\n
   *\n   * @param name The header name from which to retrieve values.\n   *\n   * @returns A string of values if the header exists, null otherwise.\n   */\n  getAll(name: string): string[]|null {\n    this.init();\n\n    return this.headers.get(name.toLowerCase()) || null;\n  }\n\n  /**\n   * Appends a new value to the existing set of values for a header\n   * and returns them in a clone of the original instance.\n   *\n   * @param name The header name for which to append the values.\n   * @param value The value to append.\n   *\n   * @returns A clone of the HTTP headers object with the value appended to the given header.\n   */\n\n  append(name: string, value: string|string[]): HttpHeaders {\n    return this.clone({name, value, op: 'a'});\n  }\n  /**\n   * Sets or modifies a value for a given header in a clone of the original instance.\n   * If the header already exists, its value is replaced with the given value\n   * in the returned object.\n   *\n   * @param name The header name.\n   * @param value The value or values to set or overide for the given header.\n   *\n   * @returns A clone of the HTTP headers object with the newly set header value.\n   */\n  set(name: string, value: string|string[]): HttpHeaders {\n    return this.clone({name, value, op: 's'});\n  }\n  /**\n   * Deletes values for a given header in a clone of the original instance.\n   *\n   * @param name The header name.\n   * @param value The value or values to delete for the given header.\n   *\n   * @returns A clone of the HTTP headers object with the given value deleted.\n   */\n  delete(name: string, value?: string|string[]): HttpHeaders {\n    return this.clone({name, value, op: 'd'});\n  }\n\n  private maybeSetNormalizedName(name: string, lcName: string): void {\n    if (!this.normalizedNames.has(lcName)) {\n      this.normalizedNames.set(lcName, name);\n    }\n  }\n\n  private init(): void {\n    if (!!this.lazyInit) {\n      if (this.lazyInit instanceof HttpHeaders) {\n        this.copyFrom(this.lazyInit);\n      } else {\n        this.lazyInit();\n      }\n      this.lazyInit = null;\n      if (!!this.lazyUpdate) {\n        this.lazyUpdate.forEach(update => this.applyUpdate(update));\n        this.lazyUpdate = null;\n      }\n    }\n  }\n\n  private copyFrom(other: HttpHeaders) {\n    other.init();\n    Array.from(other.headers.keys()).forEach(key => {\n
```

this.headers.set(key, other.headers.get(key)!);\n this.normalizedNames.set(key, other.normalizedNames.get(key)!);\n });\n }\n\n private clone(update: Update): HttpHeaders {\n const clone = new HttpHeaders();\n clone.lazyInit =\n (!!this.lazyInit && this.lazyInit instanceof HttpHeaders) ? this.lazyInit : this;\n clone.lazyUpdate = (this.lazyUpdate || []).concat([update]);\n return clone;\n }\n\n private applyUpdate(update: Update): void {\n const key = update.name.toLowerCase();\n switch (update.op) {\n case 'a':\n case 's':\n let value = update.value!;\n if (typeof value === 'string') {\n value = [value];\n }\n if (value.length === 0) {\n return;\n }\n this.maybeSetNormalizedName(update.name, key);\n const base = (update.op === 'a' ? this.headers.get(key) : undefined) || [];\n base.push(...value);\n this.headers.set(key, base);\n break;\n case 'd':\n const toDelete = update.value as string | undefined;\n if (!toDelete) {\n this.headers.delete(key);\n this.normalizedNames.delete(key);\n } else {\n let existing = this.headers.get(key);\n if (!existing) {\n return;\n }\n existing = existing.filter(value => toDelete.indexOf(value) === -1);\n if (existing.length === 0) {\n this.headers.delete(key);\n this.normalizedNames.delete(key);\n } else {\n this.headers.set(key, existing);\n }\n }\n break;\n }\n }\n\n /**\n * @internal\n */\n forEach(fn: (name: string, values: string[]) => void) {\n this.init();\n Array.from(this.normalizedNames.keys())\n .forEach(key => fn(this.normalizedNames.get(key)!, this.headers.get(key)!));\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A codec for encoding and decoding parameters in URLs.\n *\n * Used by `HttpParams`.\n *\n * @publicApi\n **/\nexport interface HttpParameterCodec {\n encodeKey(key: string): string;\n encodeValue(value: string): string;\n\n decodeKey(key: string): string;\n decodeValue(value: string): string;\n}\n\n/**\n * Provides encoding and decoding of URL parameter and query-string values.\n *\n * Serializes and parses URL parameter keys and values to encode and decode them.\n * If you pass URL query parameters without encoding,\n * the query parameters can be misinterpreted at the receiving end.\n *\n *\n * @publicApi\n */\nexport class HttpUrlEncodingCodec implements HttpParameterCodec {\n /**\n * Encodes a key name for a URL parameter or query-string.\n * @param key The key name.\n * @returns The encoded key name.\n */\n encodeKey(key: string): string {\n return standardEncoding(key);\n }\n\n /**\n * Encodes the value of a URL parameter or query-string.\n * @param value The value.\n * @returns The encoded value.\n */\n encodeValue(value: string): string {\n return standardEncoding(value);\n }\n\n /**\n * Decodes an encoded URL parameter or query-string key.\n * @param key The encoded key name.\n * @returns The decoded key name.\n */\n decodeKey(key: string): string {\n return decodeURIComponent(key);\n }\n\n /**\n * Decodes an encoded URL parameter or query-string value.\n * @param value The encoded value.\n * @returns The decoded value.\n */\n decodeValue(value: string) {\n return decodeURIComponent(value);\n }\n}\n\n\nfunction paramParser(rawParams: string, codec: HttpParameterCodec): Map<string, string[]> {\n const map = new Map<string, string[]>();\n if (rawParams.length > 0) {\n const params: string[] = rawParams.split('&');\n params.forEach((param: string) => {\n const eqIdx = param.indexOf('=');\n const [key, val]: string[] = eqIdx == -1 ?\n [codec.decodeKey(param), ''] :\n [codec.decodeKey(param.slice(0, eqIdx)), codec.decodeValue(param.slice(eqIdx + 1))];\n const list = map.get(key) || [];\n list.push(val);\n map.set(key, list);\n });\n }\n return map;\n}\n\nfunction standardEncoding(v: string): string {\n return encodeURIComponent(v)\n .replace(/%40/gi, '@')\n .replace(/%3A/gi, ':')\n .replace(/%24/gi, '$')\n .replace(/%2C/gi, ',')\n .replace(/%3B/gi, ';')\n .replace(/%2B/gi, '+')\n .replace(/%3D/gi, '=')\n .replace(/%3F/gi, '?')\n .replace(/%2F/gi, '/');\n}\n\n\ninterface Update {\n param: string;\n value?: string;\n op: 'a'|'d'|'s';\n}\n\n/**\n * Options used to construct an `HttpParams` instance.\n *\n * @publicApi\n */\nexport interface HttpParamsOptions {\n /**\n * String representation of the HTTP parameters in URL-query-string format.\n * Mutually exclusive with `fromObject`.\n */\n fromString?: string;\n\n /** Object map of the HTTP

```
parameters. Mutually exclusive with `fromString`. */\n  fromObject?: {[param: string]:
string|ReadonlyArray<string>};\n\n  /** Encoding codec used to parse and serialize the parameters. */\n  encoder?:
HttpParameterCodec;\n}\n\n/**\n * An HTTP request/response body that represents serialized parameters,\n * per
the MIME type `application/x-www-form-urlencoded`.\n *\n * This class is immutable; all mutation operations
return a new instance.\n *\n * @publicApi\n */\nexport class HttpParams {\n  private map: Map<string,
string[]>|null;\n  private encoder:
 HttpParameterCodec;\n  private updates: Update[]|null = null;\n  private cloneFrom: HttpParams|null = null;\n\n
constructor(options: HttpParamsOptions = {} as HttpParamsOptions) {\n    this.encoder = options.encoder || new
HttpUrlEncodingCodec();\n    if (!!options.fromString) {\n      if (!!options.fromObject) {\n        throw new
Error(`Cannot specify both fromString and fromObject.`);\n      }\n      this.map = paramParser(options.fromString,
this.encoder);\n    } else if (!!options.fromObject) {\n      this.map = new Map<string, string[]>();\n
Object.keys(options.fromObject).forEach(key => {\n        const value = (options.fromObject as any)[key];\n
this.map!.set(key, Array.isArray(value) ? value : [value]);\n      });\n    } else {\n      this.map = null;\n    }\n  }\n\n
/**\n   * Reports whether the body includes one or more values for a given parameter.\n   * @param param The
parameter name.\n   * @returns True if the parameter has one or more values,\n   * false
 if it has no value or is not present.\n   */\n  has(param: string): boolean {\n    this.init();\n    return
this.map!.has(param);\n  }\n\n  /**\n   * Retrieves the first value for a parameter.\n   * @param param The parameter
name.\n   * @returns The first value of the given parameter,\n   * or `null` if the parameter is not present.\n   */\n
get(param: string): string|null {\n    this.init();\n    const res = this.map!.get(param);\n    return !!res ? res[0] : null;\n
}\n\n  /**\n   * Retrieves all values for a  parameter.\n   * @param param The parameter name.\n   * @returns All
values in a string array,\n   * or `null` if the parameter not present.\n   */\n  getAll(param: string): string[]|null {\n
this.init();\n    return this.map!.get(param) || null;\n  }\n\n  /**\n   * Retrieves all the parameters for this body.\n   *
@returns The parameter names in a string array.\n   */\n  keys(): string[] {\n    this.init();\n    return
Array.from(this.map!.keys());\n  }\n\n  /**\n   * Appends
 a new value to existing values for a parameter.\n   * @param param The parameter name.\n   * @param value The
new value to add.\n   * @return A new body with the appended value.\n   */\n  append(param: string, value: string):
HttpParams {\n    return this.clone({param, value, op: 'a'});\n  }\n\n  /**\n   * Replaces the value for a parameter.\n
* @param param The parameter name.\n   * @param value The new value.\n   * @return A new body with the new
value.\n   */\n  set(param: string, value: string): HttpParams {\n    return this.clone({param, value, op: 's'});\n  }\n\n
/**\n   * Removes a given value or all values from a parameter.\n   * @param param The parameter name.\n   *
@param value The value to remove, if provided.\n   * @return A new body with the given value removed, or with
all values\n   * removed if no value is specified.\n   */\n  delete(param: string, value?: string): HttpParams {\n
return this.clone({param, value, op: 'd'});\n  }\n\n  /**\n   * Serializes the
 body to an encoded string, where key-value pairs (separated by `=`) are\n   * separated by `&`s.\n   */\n  toString():
string {\n    this.init();\n    return this.keys()\n        .map(key => {\n          const eKey =
this.encoder.encodeKey(key);\n          // `a: ['1']` produces `'a=1'`\n          // `b: []` produces `''`\n          // `c: ['1', '2']`
produces `'c=1&c=2'`\n          return this.map!.get(key)!.map(value => eKey + '=' +
this.encoder.encodeValue(value))\n              .join('&');\n        })\n        // filter out empty values because `b: []`
produces `''`\n        // which results in `a=1&&c=1&c=2` instead of `a=1&c=1&c=2` if we don't\n        .filter(param
=> param !== '')\n        .join('&');\n  }\n\n  private clone(update: Update): HttpParams {\n    const clone = new
HttpParams({encoder: this.encoder} as HttpParamsOptions);\n    clone.cloneFrom = this.cloneFrom || this;\n
clone.updates = (this.updates || []).concat([update]);\n    return clone;\n  }\n\n  private init()
 {\n    if (this.map === null) {\n      this.map = new Map<string, string[]>();\n    }\n    if (this.cloneFrom !== null)
{\n      this.cloneFrom.init();\n      this.cloneFrom.keys().forEach(key => this.map!.set(key,
this.cloneFrom!.map!.get(key)!));\n      this.updates!.forEach(update => {\n        switch (update.op) {\n          case
'a':\n          case 's':\n            const base = (update.op === 'a' ? this.map!.get(update.param) : undefined) || [];\n
base.push(update.value!);\n            this.map!.set(update.param, base);\n            break;\n          case 'd':\n            if
(update.value !== undefined) {\n              let base = this.map!.get(update.param) || [];\n              const idx =
```

base.indexOf(update.value);\n if (idx !== -1) {\n base.splice(idx, 1);\n }\n if (base.length > 0) {\n this.map!.set(update.param, base);\n } else {\n this.map!.delete(update.param);\n }\n } else {\n this.map!.delete(update.param);\n break;\n }\n }\n });\n this.cloneFrom = this.updates = null;\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {HttpHeaders} from './headers';\nimport {HttpParams} from './params';\n\n/**\n * Construction interface for `HttpRequest`s.\n *\n * All values are optional and will override default values if provided.\n */\ninterface HttpRequestInit {\n headers?: HttpHeaders;\n reportProgress?: boolean;\n params?: HttpParams;\n responseType?: 'arraybuffer'|'blob'|'json'|'text';\n withCredentials?: boolean;\n}\n\n/**\n * Determine whether the given HTTP method may include a body.\n */\nfunction mightHaveBody(method: string): boolean {\n switch (method) {\n case 'DELETE':\n case 'GET':\n case 'HEAD':\n case 'OPTIONS':\n case 'JSONP':\n return false;\n default:\n return true;\n }\n}\n\n/**\n * Safely assert whether the given value is an ArrayBuffer.\n *\n * In some execution environments ArrayBuffer is not defined.\n */\nfunction isArrayBuffer(value: any): value is ArrayBuffer {\n return typeof ArrayBuffer !== 'undefined' && value instanceof ArrayBuffer;\n}\n\n/**\n * Safely assert whether the given value is a Blob.\n *\n * In some execution environments Blob is not defined.\n */\nfunction isBlob(value: any): value is Blob {\n return typeof Blob !== 'undefined' && value instanceof Blob;\n}\n\n/**\n * Safely assert whether the given value is a FormData instance.\n *\n * In some execution environments FormData is not defined.\n */\nfunction isFormData(value: any): value is FormData {\n return typeof FormData !== 'undefined' && value instanceof FormData;\n}\n\n/**\n * An outgoing HTTP request with an optional typed body.\n *\n * `HttpRequest` represents an outgoing request, including URL, method,\n * headers, body, and other request configuration options. Instances should be\n * assumed to be immutable. To modify a `HttpRequest`, the `clone`\n * method should be used.\n *\n * @publicApi\n */\nexport class HttpRequest<T> {\n /**\n * The request body, or `null` if one isn't set.\n *\n * Bodies are not enforced to be immutable, as they can include a reference to any\n * user-defined data type. However, interceptors should take care to preserve\n * idempotence by treating them as such.\n */\n readonly body: T|null = null;\n\n /**\n * Outgoing headers for this request.\n */\n // TODO(issue/24571): remove '!'.\n readonly headers!: HttpHeaders;\n\n /**\n * Whether this request should be made in a way that exposes progress events.\n *\n * Progress events are expensive (change detection runs on each event) and so\n * they should only be requested if the consumer intends to monitor them.\n */\n readonly reportProgress: boolean = false;\n\n /**\n * Whether this request should be sent with outgoing credentials (cookies).\n */\n readonly withCredentials: boolean = false;\n\n /**\n * The expected response type of the server.\n *\n * This is used to parse the response appropriately before returning it to\n * the requestee.\n */\n readonly responseType: 'arraybuffer'|'blob'|'json'|'text' = 'json';\n\n /**\n * The outgoing HTTP request method.\n */\n readonly method: string;\n\n /**\n * Outgoing URL parameters.\n */\n // TODO(issue/24571): remove '!'.\n readonly params!: HttpParams;\n\n /**\n * The outgoing URL with all URL parameters set.\n */\n readonly urlWithParams: string;\n\n constructor(method: 'DELETE'|'GET'|'HEAD'|'JSONP'|'OPTIONS', url: string, init?: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n });\n constructor(method: 'POST'|'PUT'|'PATCH', url: string, body: T|null, init?: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n });\n constructor(method: string, url: string, body: T|null, init?: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n });\n constructor(\n method: string, readonly url: string, third?: T|{\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n }|null,\n fourth?: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n

}) {\n this.method = method.toUpperCase();\n // Next, need to figure out which argument holds the HttpRequestInit\n // options, if any.\n let options: HttpRequestInit|undefined;\n\n // Check whether a body argument is expected. The only valid way to omit\n // the body argument is to use a known no-body method like GET.\n if (mightHaveBody(this.method) || !!fourth) {\n // Body is the third argument, options are the fourth.\n this.body = (third !== undefined) ? third as T : null;\n options = fourth;\n } else {\n // No body required, options are the third argument. The body stays null.\n options = third as HttpRequestInit;\n }\n\n // If options have been passed, interpret them.\n if (options) {\n // Normalize reportProgress and withCredentials.\n this.reportProgress = !!options.reportProgress;\n this.withCredentials = !!options.withCredentials;\n\n // Override default response type of 'json' if one is provided.\n if (!!options.responseType) {\n this.responseType = options.responseType;\n }\n\n // Override headers if they're provided.\n if (!!options.headers) {\n this.headers = options.headers;\n }\n\n if (!!options.params) {\n this.params = options.params;\n }\n }\n\n // If no headers have been passed in, construct a new HttpHeaders instance.\n if (!this.headers) {\n this.headers = new HttpHeaders();\n }\n\n // If no parameters have been passed in, construct a new HttpUrlEncodedParams instance.\n if (!this.params) {\n this.params = new HttpParams();\n this.urlWithParams = url;\n } else {\n // Encode the parameters to a string in preparation for inclusion in the URL.\n const params = this.params.toString();\n if (params.length === 0) {\n // No parameters, the visible URL is just the URL given at creation time.\n this.urlWithParams = url;\n } else {\n // Does the URL already have query parameters? Look for '?'.\n const qIdx = url.indexOf('?');\n // There are 3 cases to handle:\n // 1) No existing parameters -> append '?' followed by params.\n // 2) '?' exists and is followed by existing query string ->\n // append '&' followed by params.\n // 3) '?' exists at the end of the url -> append params directly.\n // This basically amounts to determining the character, if any, with\n // which to join the URL and parameters.\n const sep: string = qIdx === -1 ? '?' : (qIdx < url.length - 1 ? '&' : '');\n this.urlWithParams = url + sep + params;\n }\n }\n }\n\n /**\n * Transform the free-form body into a serialized format suitable for\n * transmission to the server.\n */\n serializeBody(): ArrayBuffer|Blob|FormData|string|null {\n // If no body is present, no need to serialize it.\n if (this.body === null) {\n return null;\n }\n // Check whether the body is already in a serialized form. If so,\n // it can just be returned directly.\n if (isArrayBuffer(this.body) || isBlob(this.body) || isFormData(this.body) ||\n typeof this.body === 'string') {\n return this.body;\n }\n // Check whether the body is an instance of HttpUrlEncodedParams.\n if (this.body instanceof HttpParams) {\n return this.body.toString();\n }\n // Check whether the body is an object or array, and serialize with JSON if so.\n if (typeof this.body === 'object' || typeof this.body === 'boolean' ||\n Array.isArray(this.body)) {\n return JSON.stringify(this.body);\n }\n // Fall back on toString() for everything else.\n return (this.body as any).toString();\n }\n\n /**\n * Examine the body and attempt to infer an appropriate MIME type\n * for it.\n *\n * If no such type can be inferred, this method will return `null`.\n */\n detectContentTypeHeader(): string|null {\n // An empty body has no content type.\n if (this.body === null) {\n return null;\n }\n // FormData bodies rely on the browser's content type assignment.\n if (isFormData(this.body)) {\n return null;\n }\n // Blobs usually have their own content type. If it doesn't, then\n // no type can be inferred.\n if (isBlob(this.body)) {\n return this.body.type || null;\n }\n // Array buffers have unknown contents and thus no type can be inferred.\n if (isArrayBuffer(this.body)) {\n return null;\n }\n // Technically, strings could be a form of JSON data, but it's safe enough\n // to assume they're plain strings.\n if (typeof this.body === 'string') {\n return 'text/plain';\n }\n // `HttpUrlEncodedParams` has its own content-type.\n if (this.body instanceof HttpParams) {\n return 'application/x-www-form-urlencoded;charset=UTF-8';\n }\n // Arrays, objects, and numbers will be encoded as JSON.\n if (typeof this.body === 'object' || typeof this.body === 'number' ||\n Array.isArray(this.body)) {\n return 'application/json';\n }\n // No type could be inferred.\n return null;\n }\n\n clone(): HttpRequest<T>;\n clone(update: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?:

'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n body?: T|null,\n method?: string,\n url?: string,\n setHeaders?: {[name: string]: string|string[]},\n setParams?: {[param: string]: string},\n }): HttpRequest<T>;\n clone<V>(update: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n body?: V|null,\n method?: string,\n url?: string,\n setHeaders?: {[name: string]: string|string[]},\n setParams?: {[param: string]: string},\n }): HttpRequest<V>;\n clone(update: {\n headers?: HttpHeaders,\n reportProgress?: boolean,\n params?: HttpParams,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n body?: any|null,\n method?: string,\n url?: string,\n setHeaders?: {[name: string]: string|string[]},\n setParams?: {[param: string]: string};\n } = {}): HttpRequest<any> {\n // For method, url, and responseType, take the current value unless\n // it is overridden in the update hash.\n const method = update.method || this.method;\n const url = update.url || this.url;\n const responseType = update.responseType || this.responseType;\n\n // The body is somewhat special - a `null` value in update.body means\n // whatever current body is present is being overridden with an empty\n // body, whereas an `undefined` value in update.body implies no\n // override.\n const body = (update.body !== undefined) ? update.body : this.body;\n\n // Carefully handle the boolean options to differentiate between\n // `false` and `undefined` in the update args.\n const withCredentials =\n (update.withCredentials !== undefined) ? update.withCredentials : this.withCredentials;\n const reportProgress =\n (update.reportProgress !== undefined) ? update.reportProgress : this.reportProgress;\n\n // Headers and params may be appended to if `setHeaders` or\n // `setParams` are used.\n let headers = update.headers || this.headers;\n let params = update.params || this.params;\n\n // Check whether the caller has asked to add headers.\n if (update.setHeaders !== undefined) {\n // Set every requested header.\n headers =\n Object.keys(update.setHeaders)\n .reduce((headers, name) => headers.set(name, update.setHeaders![name]), headers);\n }\n\n // Check whether the caller has asked to set params.\n if (update.setParams) {\n // Set every requested param.\n params = Object.keys(update.setParams)\n .reduce((params,
param) => params.set(param, update.setParams![param]), params);\n }\n\n // Finally, construct the new HttpRequest using the pieces from above.\n return new HttpRequest(method, url, body, {\n params,\n headers,\n reportProgress,\n responseType,\n withCredentials,\n });\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {HttpHeaders} from './headers';\n\n/**\n * Type enumeration for the different kinds of `HttpEvent`.\n *\n * @publicApi\n */\nexport enum HttpEventType {\n /**\n * The request was sent out over the wire.\n */\n Sent,\n\n /**\n * An upload progress event was received.\n */\n UploadProgress,\n\n /**\n * The response status code and headers were received.\n */\n ResponseHeader,\n\n /**\n * A download progress event was received.\n */\n DownloadProgress,\n\n /**\n * The full response including the body was received.\n */\n Response,\n\n /**\n * A custom event from an interceptor or a backend.\n */\n User,\n}\n\n/**\n * Base interface for progress events.\n *\n * @publicApi\n */\nexport interface HttpProgressEvent {\n /**\n * Progress event type is either upload or download.\n */\n type: HttpEventType.DownloadProgress|HttpEventType.UploadProgress;\n\n /**\n * Number of bytes uploaded or downloaded.\n */\n loaded: number;\n\n /**\n * Total number of bytes to upload or download. Depending on the request or\n * response, this may not be computable and thus may not be present.\n */\n total?: number;\n}\n\n/**\n * A download progress event.\n *\n * @publicApi\n */\nexport interface HttpDownloadProgressEvent extends HttpProgressEvent {\n type: HttpEventType.DownloadProgress;\n\n /**\n * The partial response body as downloaded so far.\n *\n * Only present if the responseType was `text`.\n */\n partialText?: string;\n}\n\n/**\n * An upload progress event.\n *\n * @publicApi\n */\nexport interface HttpUploadProgressEvent extends HttpProgressEvent {\n type: HttpEventType.UploadProgress;\n}\n\n/**\n * An event indicating that the request was sent to the server. Useful\n * when a request may be retried multiple times, to distinguish between\n * retries on the final event stream.\n *\n * @publicApi\n */\nexport interface HttpSentEvent {\n type: HttpEventType.Sent;\n}\n\n/**\n * A user-defined event.\n *\n * Grouping all custom events under this type ensures they will be handled\n * and forwarded by all

implementations of interceptors.\n *\n * @publicApi\n */\nexport interface HttpUserEvent<T> {\n type: HttpEventType.User;\n}\n\n/**\n * An error that represents a failed attempt to JSON.parse text coming back\n * from the server.\n *\n * It bundles the Error object with the actual response body that failed to parse.\n *\n *\n */\nexport interface HttpJsonParseError
{\n error: Error;\n text: string;\n}\n\n/**\n * Union type for all possible events on the response stream.\n *\n * Typed according to the expected type of the response.\n *\n * @publicApi\n */\nexport type HttpEvent<T> =\n HttpSentEvent|HttpHeaderResponse|HttpResponse<T>|HttpProgressEvent|HttpUserEvent<T>;\n\n/**\n * Base class for both `HttpResponse` and `HttpHeaderResponse`.\n *\n * @publicApi\n */\nexport abstract class HttpResponseBase {\n /**\n * All response headers.\n */\n readonly headers: HttpHeaders;\n\n /**\n * Response status code.\n */\n readonly status: number;\n\n /**\n * Textual description of response status code, defaults to OK.\n *\n * Do not depend on this.\n */\n readonly statusText: string;\n\n /**\n * URL of the resource retrieved, or null if not available.\n */\n readonly url: string|null;\n\n /**\n * Whether the status code falls in the 2xx range.\n */\n readonly ok: boolean;\n\n /**\n * Type of the response, narrowed
to either the full response or the header.\n */\n // TODO(issue/24571): remove '!'.\n readonly type!: HttpEventType.Response|HttpEventType.ResponseHeader;\n\n /**\n * Super-constructor for all responses.\n *\n * The single parameter accepted is an initialization hash. Any properties\n * of the response passed there will override the default values.\n */\n constructor(\n init: {\n headers?: HttpHeaders,\n status?: number,\n statusText?: string,\n url?: string,\n },\n defaultStatus: number = 200, defaultStatusText: string = 'OK') {\n // If the hash has values passed, use them to initialize the response.\n // Otherwise use the default values.\n this.headers = init.headers || new HttpHeaders();\n this.status = init.status !== undefined ? init.status : defaultStatus;\n this.statusText = init.statusText || defaultStatusText;\n this.url = init.url || null;\n\n // Cache the ok value to avoid defining a getter.\n
this.ok = this.status >= 200 && this.status < 300;\n }\n}\n\n/**\n * A partial HTTP response which only includes the status and header data,\n * but no response body.\n *\n * `HttpHeaderResponse` is a `HttpEvent` available on the response\n * event stream, only when progress events are requested.\n *\n * @publicApi\n */\nexport class HttpHeaderResponse extends HttpResponseBase {\n /**\n * Create a new `HttpHeaderResponse` with the given parameters.\n */\n constructor(init: {\n headers?: HttpHeaders,\n status?: number,\n statusText?: string,\n url?: string,\n } = {}) {\n super(init);\n }\n\n readonly type: HttpEventType.ResponseHeader = HttpEventType.ResponseHeader;\n\n /**\n * Copy this `HttpHeaderResponse`, overriding its contents with the\n * given parameter hash.\n */\n clone(update: {headers?: HttpHeaders; status?: number; statusText?: string; url?: string;} = {}):\n HttpHeaderResponse {\n // Perform a straightforward initialization of
the new HttpHeaderResponse,\n // overriding the current parameters with new ones if given.\n return new HttpHeaderResponse({\n headers: update.headers || this.headers,\n status: update.status !== undefined ? update.status : this.status,\n statusText: update.statusText || this.statusText,\n url: update.url || this.url || undefined,\n });\n }\n}\n\n/**\n * A full HTTP response, including a typed response body (which may be `null`\n * if one was not returned).\n *\n * `HttpResponse` is a `HttpEvent` available on the response event\n * stream.\n *\n * @publicApi\n */\nexport class HttpResponse<T> extends HttpResponseBase {\n /**\n * The response body, or `null` if one was not returned.\n */\n readonly body: T|null;\n\n /**\n * Construct a new `HttpResponse`.\n */\n constructor(init: {\n body?: T|null,\n headers?: HttpHeaders;\n status?: number;\n statusText?: string;\n url?: string;\n } = {}) {\n super(init);\n this.body = init.body
!== undefined ? init.body : null;\n }\n\n readonly type: HttpEventType.Response = HttpEventType.Response;\n\n clone(): HttpResponse<T>;\n clone(update: {headers?: HttpHeaders; status?: number; statusText?: string; url?: string;}):\n HttpResponse<T>;\n clone<V>(update: {\n body?: V|null,\n headers?: HttpHeaders;\n status?: number;\n statusText?: string;\n url?: string;\n }): HttpResponse<V>;\n clone(update: {\n body?: any|null;\n headers?: HttpHeaders;\n status?: number;\n statusText?: string;\n url?: string;\n } = {}): HttpResponse<any> {\n return new HttpResponse<any>({\n body: (update.body !== undefined) ? update.body : this.body,\n headers: update.headers || this.headers,\n status: (update.status !== undefined) ? update.status : this.status,\n statusText: update.statusText || this.statusText,\n url: update.url || this.url || undefined,\n });\n }\n}\n\n/**\n * A

response that represents an error or failure,
either from a\n * non-successful HTTP status, an error while executing the request,\n * or some other failure which occurred during the parsing of the response.\n *\n * Any error returned on the `Observable` response stream will be\n * wrapped in an `HttpErrorResponse` to provide additional context about\n * the state of the HTTP layer when the error occurred. The error property\n * will contain either a wrapped Error object or the error response returned\n * from the server.\n *\n * @publicApi\n */\nexport class HttpErrorResponse extends HttpResponseBase implements Error {\n readonly name = 'HttpErrorResponse';\n readonly message: string;\n readonly error: any|null;\n\n /**\n * Errors are never okay, even when the status code is in the 2xx success range.\n */\n readonly ok = false;\n\n constructor(init: {\n error?: any;\n headers?: HttpHeaders;\n status?: number;\n statusText?: string;\n url?: string;\n }) {\n // Initialize with a default status of
0 / Unknown Error.\n super(init, 0, 'Unknown Error');\n\n // If the response was successful, then this was a parse error. Otherwise, it was\n // a protocol-level failure of some sort. Either the request failed in transit\n // or the server returned an unsuccessful status code.\n if (this.status >= 200 && this.status < 300) {\n this.message = `Http failure during parsing for ${init.url || '(unknown url)'}`;\n } else {\n this.message = `Http failure response for ${init.url || '(unknown url)'}: ${init.status} ${\n init.statusText}`;\n }\n this.error = init.error || null;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable} from '@angular/core';\nimport {Observable, of} from 'rxjs';\nimport {concatMap, filter, map} from 'rxjs/operators';\n\nimport {HttpHandler}
from './backend';\nimport {HttpHeaders} from './headers';\nimport {HttpParams, HttpParamsOptions} from './params';\nimport {HttpRequest} from './request';\nimport {HttpEvent, HttpResponse} from './response';\n\n\n/**\n * Constructs an instance of `HttpRequestOptions<T>` from a source `HttpMethodOptions` and\n * the given `body`. This function clones the object and adds the body.\n *\n * Note that the `responseType` *options* value is a String that identifies the\n * single data type of the response.\n * A single overload version of the method handles each response type.\n * The value of `responseType` cannot be a union, as the combined signature could imply.\n *\n */\nfunction addBody<T>(\n options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n },\n body: T|null): any {\n return {\n body,\n headers: options.headers,\n observe: options.observe,\n params: options.params,\n reportProgress: options.reportProgress,\n responseType: options.responseType,\n withCredentials: options.withCredentials,\n };\n}\n\nexport type HttpObserve = 'body'|'events'|'response';\n\n/**\n * Performs HTTP requests.\n * This service is available as an injectable class, with methods to perform HTTP requests.\n * Each request method has multiple signatures, and the return type varies based on\n * the signature that is called (mainly the values of `observe` and `responseType`).\n *\n * Note that the `responseType` *options* value is a String that identifies the\n * single data type of the response.\n * A single overload version of the method handles each response type.\n * The value of `responseType` cannot be a union, as the combined signature could imply.\n\n *\n * @usageNotes\n * Sample HTTP requests for the [Tour of Heroes](/tutorial/toh-pt0)
application.\n *\n * ### HTTP Request Example\n *\n * ```\n * // GET heroes whose name contains search term\n * searchHeroes(term: string): observable<Hero[]>{\n *\n * const params = new HttpParams({fromString: 'name=term'});\n * return this.httpClient.request('GET', this.heroesUrl, {responseType:'json', params});\n * }\n * ```\n * ### JSONP Example\n * ```\n * requestJsonp(url, callback = 'callback') {\n * return this.httpClient.jsonp(this.heroesURL, callback);\n * }\n * ```\n *\n * ### PATCH Example\n * ```\n * // PATCH one of the heroes' name\n * patchHero (id: number, heroName: string): Observable<{}> {\n * const url = `${this.heroesUrl}/${id}`; // PATCH api/heroes/42\n * return this.httpClient.patch(url, {name: heroName}, httpOptions)\n * .pipe(catchError(this.handleError('patchHero')));\n * }\n * ```\n *\n * @see [HTTP Guide](guide/http)\n *\n * @publicApi\n */\n@Injectable()\nexport class HttpClient {\n constructor(private handler: HttpHandler)

{}\n\n  /**\n   * Sends an `HttpRequest` and returns a stream of `HttpEvent`s.\n   *\n   * @return An `Observable` of the response, with the response body as a stream of `HttpEvent`s.\n   */\n  request<R>(req: HttpRequest<any>): Observable<HttpEvent<R>>;\n\n  /**\n   * Constructs a request that interprets the body as an `ArrayBuffer` and returns the response in\n   * an `ArrayBuffer`.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   *\n   * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'arraybuffer',\n    withCredentials?: boolean,\n  }): Observable<ArrayBuffer>;\n\n  /**\n   * Constructs a request that interprets the body as a blob and returns\n   * the response as a blob.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response, with the response body of type `Blob`.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'blob',\n    withCredentials?: boolean,\n  }): Observable<Blob>;\n\n  /**\n   * Constructs a request that interprets the body as a text string and\n   * returns a string value.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response, with the\n   response body of type string.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'text',\n    withCredentials?: boolean,\n  }): Observable<string>;\n\n  /**\n   * Constructs a request that interprets the body as an `ArrayBuffer` and returns the\n   * the full event stream.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response, with the response body as an array of `HttpEvent`s for\n   * the request.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    params?: HttpParams|{[param: string]: string | string[]}, observe: 'events',\n    reportProgress?: boolean, responseType: 'arraybuffer',\n    withCredentials?: boolean,\n  }): Observable<HttpEvent<ArrayBuffer>>;\n\n  /**\n   * Constructs a request that interprets the body as a `Blob` and returns\n   * the full event stream.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of all `HttpEvent`s for the request,\n   * with the response body of type `Blob`.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'blob',\n    withCredentials?: boolean,\n  }): Observable<HttpEvent<Blob>>;\n\n  /**\n   * Constructs a request which interprets the body as a text string and returns the full event\n   * stream.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of all `HttpEvent`s for the request,\n   * with the response body of type string.\n   */\n  request(method: string, url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'text',\n    withCredentials?: boolean,\n  }): Observable<HttpEvent<string>>;\n\n  /**\n   * Constructs a request which interprets the body as a JSON object and returns the full event\n   * stream.\n   *\n   * @param method  The HTTP method.\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the  request.\n   *\n   * @return An `Observable` of all `HttpEvent`s for the request,\n   * with the response body of type `Object`.\n   */\n  request(method: string,\n   url: string, options: {\n    body?: any,\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    reportProgress?: boolean, observe: 'events',\n    params?: HttpParams|{[param: string]: string | string[]},\n    responseType?: 'json',\n    withCredentials?: boolean,\n  }): Observable<HttpEvent<any>>;\n\n  /**\n   * Constructs

a request which interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body of type `R`.\n */\n request<R>(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n reportProgress?: boolean, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<R>>;\n\n /**\n * Constructs a request which interprets the body as an `ArrayBuffer`\n * and returns the full `HttpResponse`.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body as an `ArrayBuffer`.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a request which interprets the body as a `Blob` and returns the full `HttpResponse`.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options
The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of type `Blob`.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a request which interprets the body as a text stream and returns the full\n * `HttpResponse`.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the HTTP response, with the response body of type string.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},
observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a request which interprets the body as a JSON object and returns the full\n * `HttpResponse`.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`,\n * with the response body of type `Object`.\n */\n request(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n reportProgress?: boolean, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a request which interprets
the body as a JSON object and returns\n * the full `HttpResponse` with the response body in the requested type.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`, with the response body of type `R`.\n */\n request<R>(method: string, url: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n reportProgress?: boolean, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<R>>;\n\n /**\n * Constructs a request which interprets the body as a JSON object and returns the full\n * `HttpResponse` as a JSON object.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n
*\n * @return An `Observable` of the `HttpResponse`, with the response body of type `Object`.\n */\n request(method: string, url: string, options?: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n reportProgress?: boolean,\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a request which interprets the body as a JSON object\n * with the response body of the requested

type.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of type `R`.\n */\n request<R>(method: string, url: string, options?: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n responseType?: 'json',\n reportProgress?: boolean,\n withCredentials?: boolean,\n }): Observable<R>;\n\n /**\n * Constructs a request where response type and requested observable are not known statically.\n *\n * @param method The HTTP method.\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the reuested response, wuth body of type `any`.\n */\n request(method: string, url: string, options?: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n params?: HttpParams|{[param: string]: string | string[]},\n observe?: HttpObserve,\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n }): Observable<any>;\n\n /**\n * Constructs an observable for a generic HTTP request that, when subscribed,\n * fires the request through the chain of registered interceptors and on to the\n * server.\n *\n * You can pass an `HttpRequest` directly as the only parameter. In this case,\n * the call returns an observable of the raw `HttpEvent` stream.\n *\n * Alternatively you can pass an HTTP method as the first parameter,\n * a URL string as the second, and an options hash containing the request body as the third.\n * See `addBody()`. In this case, the specified `responseType` and `observe` options determine the\n * type of returned observable.\n * * The `responseType` value determines how a successful response body is parsed.\n * * If `responseType` is the default `json`, you can pass a type interface for the resulting\n * object as a type parameter to the call.\n *\n * The `observe` value determines the return type, according to what you are interested in\n * observing.\n * * An `observe` value of events returns an observable of the raw `HttpEvent` stream, including\n * progress events by default.\n * * An `observe` value of response returns an observable of `HttpResponse<T>`,\n * where the `T` parameter depends on the `responseType` and any optionally provided type\n * parameter.\n * * An `observe` value of body returns an observable of `<T>` with the same `T` body type.\n *\n */\n request(first: string|HttpRequest<any>, url?: string, options: {\n body?: any,\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n let req: HttpRequest<any>;\n // First, check whether the primary argument is an instance of `HttpRequest`.\n if (first instanceof HttpRequest) {\n // It is. The other arguments must be undefined (per the signatures) and can be\n // ignored.\n req = first;\n } else {\n // It's a string, so it represents a URL. Construct a request based on it,\n // and incorporate the remaining arguments (assuming `GET` unless a method is\n // provided.\n\n // Figure out the headers.\n let headers: HttpHeaders|undefined = undefined;\n if (options.headers instanceof HttpHeaders) {\n headers = options.headers;\n } else {\n headers = new HttpHeaders(options.headers);\n }\n\n // Sort out parameters.\n let params: HttpParams|undefined = undefined;\n if (!!options.params) {\n if (options.params instanceof HttpParams) {\n params = options.params;\n } else {\n params = new HttpParams({fromObject: options.params} as HttpParamsOptions);\n }\n }\n\n // Construct the request.\n req = new HttpRequest(first, url!, (options.body !== undefined ? options.body : null), {\n headers,\n params,\n reportProgress: options.reportProgress,\n // By default, JSON is assumed to be returned for all calls.\n responseType: options.responseType || 'json',\n withCredentials: options.withCredentials,\n });\n }\n\n // Start with an Observable.of() the initial request, and run the handler (which\n // includes all interceptors) inside a concatMap(). This way, the handler runs\n // inside an Observable chain, which causes interceptors to be re-run on every\n // subscription (this also makes retries re-run the handler, including interceptors).\n const events$: Observable<HttpEvent<any>> =\n of(req).pipe(concatMap((req: HttpRequest<any>) => this.handler.handle(req)));\n\n // If coming via the API signature which accepts a previously constructed HttpRequest,\n // the only option is to get the event stream. Otherwise, return the event stream if\n // that is what was requested.\n if (first instanceof HttpRequest ||

```
options.observe === 'events') {\n      return events$;\n
    }\n\n    // The requested stream contains either the full response or the body. In either\n    // case, the first step is to filter the event stream to extract a stream of\n    // responses(s).\n    const res$: Observable<HttpResponse<any>> = <Observable<HttpResponse<any>>>events$.pipe(\n        filter((event: HttpEvent<any>) => event instanceof HttpResponse));\n\n    // Decide which stream to return.\n    switch (options.observe || 'body') {\n      case 'body':\n        // The requested stream is the body. Map the response stream to the response\n        // body. This could be done more simply, but a misbehaving interceptor might\n        // transform the response body into a different format and ignore the requested\n        // responseType. Guard against this by validating that the response is of the\n        // requested type.\n        switch (req.responseType) {\n          case 'arraybuffer':\n            return res$.pipe(map((res: HttpResponse<any>) => {\n              //
 Validate that the body is an ArrayBuffer.\n              if (res.body !== null && !(res.body instanceof ArrayBuffer)) {\n                throw new Error('Response is not an ArrayBuffer.');\n              }\n              return res.body;\n            }));\n          case 'blob':\n            return res$.pipe(map((res: HttpResponse<any>) => {\n              // Validate that the body is a Blob.\n              if (res.body !== null && !(res.body instanceof Blob)) {\n                throw new Error('Response is not a Blob.');\n              }\n              return res.body;\n            }));\n          case 'text':\n            return res$.pipe(map((res: HttpResponse<any>) => {\n              // Validate that the body is a string.\n              if (res.body !== null && typeof res.body !== 'string') {\n                throw new Error('Response is not a string.');\n              }\n              return res.body;\n            }));\n          case 'json':\n          default:\n            // No
 validation needed for JSON responses, as they can be of any type.\n            return res$.pipe(map((res: HttpResponse<any>) => res.body));\n        }\n      case 'response':\n        // The response stream was requested directly, so return it.\n        return res$;\n      default:\n        // Guard against new future observe types being added.\n        throw new Error(`Unreachable: unhandled observe type ${options.observe}}`);\n    }\n  }\n\n  /**\n   * Constructs a `DELETE` request that interprets the body as an `ArrayBuffer`\n   * and returns the response as an `ArrayBuffer`.\n   *\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response body as an `ArrayBuffer`.\n   */\n  delete(url: string, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean,
 responseType: 'arraybuffer',\n    withCredentials?: boolean,\n  }): Observable<ArrayBuffer>;\n\n\n  /**\n   * Constructs a `DELETE` request that interprets the body as a `Blob` and returns\n   * the response as a `Blob`.\n   *\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response body as a `Blob`.\n   */\n  delete(url: string, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'blob',\n    withCredentials?: boolean,\n  }): Observable<Blob>;\n\n  /**\n   * Constructs a `DELETE` request that interprets the body as a text string and returns\n   * a string.\n   *\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of the response, with the response body
 of type string.\n   */\n  delete(url: string, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean,
 responseType: 'text',\n    withCredentials?: boolean,\n  }): Observable<string>;\n\n  /**\n   * Constructs a `DELETE` request that interprets the body as an `ArrayBuffer`\n   * and returns the full event stream.\n   *\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of all `HttpEvent`s for the request,\n   * with response body as an `ArrayBuffer`.\n   */\n  delete(url: string, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'arraybuffer',\n    withCredentials?: boolean,\n  }): Observable<HttpEvent<ArrayBuffer>>;\n\n
  /**\n   * Constructs a `DELETE` request that interprets the body as a `Blob`\n   * and returns the full event stream.\n   *\n   * @param url     The endpoint URL.\n   * @param options The HTTP options to send with the request.\n   *\n   * @return An `Observable` of all the `HttpEvent`s for the request, with the response body as a\n   *
```

`Blob`.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a text string\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with the response\n
* body of type string.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with response body of\n * type `Object`.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n
/**\n * Constructs a `DELETE`request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request, with a response\n * body in the requested type.\n */\n delete<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as an `ArrayBuffer` and returns\n * the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`, with
the response body as an `ArrayBuffer`.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a `Blob` and returns the full\n * `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of type `Blob`.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n
/**\n * Constructs a `DELETE` request that interprets the body as a text stream and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the full `HttpResponse`, with the response body of type string.\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `DELETE` request the interprets the body as a JSON object and returns\n * the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of type
`Object`.\n *\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with

the request.\n *\n * @return An `Observable` of the `HttpResponse`, with the response body of the requested type.\n */\n delete<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `DELETE` request that interprets the body as a JSON object and\n * returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type `Object`.\n */\n delete(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a DELETE request that interprets the body as a JSON object and returns\n * the response in a given type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with response body in the requested type.\n */\n delete<T>(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `DELETE` request to execute on the server. See the individual overloads for\n * details on the return type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n */\n delete(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('DELETE', url, options as any);\n }\n\n /**\n * Constructs a `GET` request that interprets the body as an `ArrayBuffer` and returns the\n * response in an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `GET` request that interprets the body as a `Blob`\n * and returns the response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `GET` request that interprets the body as a text string\n * and returns the response as a string value.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type string.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `GET` request that interprets the body as an `ArrayBuffer` and returns\n * the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with the response\n * body as an `ArrayBuffer`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a `Blob` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the

response, with the response body as a `Blob`.\n */\n get(url: string, options:
{\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param:
string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }):
Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a text string
and returns\n * the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP
options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type
string.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe:
'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType:
'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `GET`
request that interprets the body as a JSON object\n * and
returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options
to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type
`Object`.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe:
'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n
responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n *
Constructs a `GET` request that interprets the body as a JSON object and returns the full event\n * stream.\n *\n
* @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n *
@return An `Observable` of the response, with a response body in the requested type.\n */\n get<T>(url: string,
options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n
params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n
withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a `GET` request that
interprets the body as an `ArrayBuffer` and\n * returns the full `HttpResponse`.\n *\n * @param url The
endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An
`Observable` of the `HttpResponse` for the request,\n * with the response body as an `ArrayBuffer`.\n */\n
get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n
params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n
withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `GET`
request that interprets the body as a `Blob` and\n * returns the full `HttpResponse`.\n
*\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n
*\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a `Blob`.\n
*/\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n
params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n
withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `GET` request that
interprets the body as a text stream and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint
URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the
`HttpResponse` for the request,\n * with the response body of type string.\n */\n get(url: string, options: {\n
headers?: HttpHeaders|{[header: string]: string | string[]},
observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,
responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n *
Constructs a `GET` request that interprets the body as a JSON object and\n * returns the full `HttpResponse`.\n
*\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n
* @return An `Observable` of the full `HttpResponse`,\n * with the response body of type `Object`.\n */\n
get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n
params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n
withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `GET` request
that interprets the body as a JSON object and\n * returns the full `HttpResponse`.\n
*\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n
*\n * @return An `Observable` of the full `HttpResponse` for the request,\n * with a response body in the

requested type.\n */\n get<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `GET` request that interprets the body as a JSON object and\n * returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n *\n * @return An `Observable` of the response body as a JSON object.\n */\n get(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a `GET` request that interprets the body as a JSON object and returns\n * the response body in a given type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse`, with a response body in the requested type.\n */\n get<T>(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `GET` request to execute on the server. See the individual overloads for\n * details on the return type.\n */\n get(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('GET', url, options as any);\n }\n\n\n /**\n * Constructs a `HEAD` request that interprets the body as an `ArrayBuffer` and\n * returns the response as an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a `Blob` and returns\n * the response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a text string and returns the response\n * as a string value.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body of type string.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as an `ArrayBuffer`\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a `Blob` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as a `Blob`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?:

HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a text string\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with the response body of type\n * string.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object\n * and returns the full HTTP event stream.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with a response body of\n * type `Object`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object and\n * returns the full event stream.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with a response body in the requested type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n */\n head<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as an `ArrayBuffer`\n * and returns the full HTTP response.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as an `ArrayBuffer`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a `Blob` and returns\n * the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a blob.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as text stream\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type string.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type `Object`.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a responnse body of the requested type.\n */\n head<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe:

'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object and\n * returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the response, with the response body as a JSON object.\n */\n head(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a `HEAD` request that interprets the body as a JSON object and returns\n * the response in a given type.\n *\n * @param url The endpoint URL.\n * @param options The HTTP options to send with the request.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body of the given type.\n */\n head<T>(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `HEAD` request to execute on the server. The `HEAD` method returns\n * meta information about the resource without transferring the\n * resource itself. See the individual overloads for\n * details on the return type.\n */\n head(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('HEAD', url, options as any);\n }\n\n /**\n * Constructs a `JSONP` request for the given URL and name of the callback parameter.\n *\n * @param url The resource URL.\n * @param callbackParam The callback function name.\n *\n * @return An `Observable` of the response object, with response body as an object.\n */\n jsonp(url: string, callbackParam: string): Observable<Object>;\n\n /**\n * Constructs a `JSONP` request for the given URL and name of the callback parameter.\n *\n * @param url The resource URL.\n * @param callbackParam The callback function name.\n *\n * You must install a suitable interceptor, such as one provided by `HttpClientJsonpModule`.\n * If no such interceptor is reached,\n * then the `JSONP` request can be rejected by the configured backend.\n *\n * @return An `Observable` of the response object,\n * with response body in the requested type.\n */\n jsonp<T>(url: string, callbackParam: string): Observable<T>;\n\n /**\n * Constructs an `Observable` that, when subscribed, causes a request with the special method\n * `JSONP` to be dispatched via the interceptor pipeline.\n * The [JSONP pattern](https://en.wikipedia.org/wiki/JSONP) works around limitations of certain\n * API endpoints that don't support newer,\n * and preferable [CORS](https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS) protocol.\n * JSONP treats the endpoint API as a JavaScript file and tricks the browser to process the\n * requests even if the API endpoint is not located on the same domain (origin) as the client-side\n * application making the request.\n * The endpoint API must support JSONP callback for JSONP requests to work.\n * The resource API returns the JSON response wrapped in a callback function.\n * You can pass the callback function name as one of the query parameters.\n * Note that JSONP requests can only be used with `GET` requests.\n *\n * @param url The resource URL.\n * @param callbackParam The callback function name.\n *\n */\n jsonp<T>(url: string, callbackParam: string): Observable<T> {\n return this.request<any>('JSONP', url, {\n params: new HttpParams().append(callbackParam, 'JSONP_CALLBACK'),\n observe: 'body',\n responseType: 'json',\n });\n }\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as an\n * `ArrayBuffer` and returns the response as an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a `Blob` and returns\n * the response as a `Blob`.\n *\n * @param url The endpoint

URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a text string and\n * returns a string value.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body of type string.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as an `ArrayBuffer`\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a `Blob` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as a `Blob`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a text string\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with the response body of type string.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request with the response\n * body of type `Object`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with a response body in the requested type.\n */\n options<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as an `ArrayBuffer`\n * and returns the full HTTP response.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as an `ArrayBuffer`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a `Blob`\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a `Blob`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string |

string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as text stream\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type string.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body of type `Object`.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object and\n * returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the requested type.\n */\n options<T>(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object and returns the\n * response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as a JSON object.\n */\n options(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs an `OPTIONS` request that interprets the body as a JSON object and returns the\n * response in a given type.\n *\n * @param url The endpoint URL.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse`, with a response body of the given type.\n */\n options<T>(url: string, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an `Observable` that, when subscribed, causes the configured\n * `OPTIONS` request to execute on the server. This method allows the client\n * to determine the supported HTTP methods and other capabilites of an endpoint,\n * without implying a resource action. See the individual overloads for\n * details on the return type.\n */\n options(url: string, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('OPTIONS', url, options as any);\n }\n\n /**\n * Constructs a `PATCH` request that interprets the body as an `ArrayBuffer` and returns\n * the response as an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a `Blob` and returns the response\n * as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?:

HttpParams|{[param: string]: string | string[]},\n reportProgress?:
boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a text string and\n * returns the response as a string value.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with a response body of type string.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as an `ArrayBuffer` and\n * returns the the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP
options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a `Blob`\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request, with the\n * response body as `Blob`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a text string and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request, with a\n * response body of type string.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param
url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with a response body of type `Object`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of all the `HttpEvent`s for the request,\n * with a response body in the requested type.\n */\n patch<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as an `ArrayBuffer`\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as an `ArrayBuffer`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a `Blob` and returns the full\n * `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n *

@return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a `Blob`.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a text stream and returns the\n * full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body of type string.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the requested type.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the given type.\n */\n patch<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object and\n * returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as a JSON object.\n */\n patch(url: string, body: any|null, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a `PATCH` request that interprets the body as a JSON object\n * and returns the response in a given type.\n *\n * @param url The endpoint URL.\n * @param body The resources to edit.\n * @param options HTTP options.\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with a response body in the given type.\n */\n patch<T>(url: string, body: any|null, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `PATCH` request to execute on the server. See the individual overloads for\n * details on the return type.\n */\n patch(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('PATCH', url, addBody(options, body));\n }\n\n /**\n * Constructs a `POST` request that interprets the body as an `ArrayBuffer` and returns\n * an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options.\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `POST` request that interprets the body as a `Blob` and

returns the\n * response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `POST` request that interprets the body as a text string and\n * returns the response as a string value.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with a response body of type string.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `POST` request that interprets the body as an `ArrayBuffer` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `POST` request that interprets the body as a `Blob`\n * and returns the response in an observable of the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with the response body as `Blob`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `POST` request that interprets the body as a text string and returns the full\n * event stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with a response body of type string.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a POST request that interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with a response body of type `Object`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a POST request that interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with a response body in the requested type.\n */\n post<T>(url: string, body: any|null,\n options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<T>>;\n\n /**\n * Constructs a POST request that interprets the body as an `ArrayBuffer`\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request, with the response body as an\n * `ArrayBuffer`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,

responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpResponse<ArrayBuffer>>;\n\n /**\n * Constructs a `POST` request that interprets the body as a `Blob` and returns the full\n * `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request,\n * with the response body as a `Blob`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Blob>>;\n\n /**\n * Constructs a `POST` request that interprets the body as a text stream and returns\n * the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse`
for the request,\n * with a response body of type string.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpResponse<string>>;\n\n /**\n * Constructs a `POST` request that interprets the body as a JSON object\n * and returns the full `HttpResponse`.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request, with a response body of type\n * `Object`.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<Object>>;\n\n /**\n * Constructs a `POST` request that interprets the body as a JSON object and returns the full\n * `HttpResponse`.\n *\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request, with a response body in the\n * requested type.\n */\n post<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpResponse<T>>;\n\n /**\n * Constructs a `POST` request that interprets the body as a\n * JSON object and returns the response body as a JSON object.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with the response body as a JSON object.\n */\n post(url: string, body: any|null, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<Object>;\n\n /**\n * Constructs a `POST` request that interprets the body as a JSON object\n * and returns an observable of the response.\n *\n * @param url The endpoint URL.\n * @param body The content to replace with.\n * @param options HTTP options\n *\n * @return An `Observable` of the `HttpResponse` for the request, with a response body in the\n * requested type.\n */\n post<T>(url: string, body: any|null, options?: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<T>;\n\n /**\n * Constructs an observable that, when subscribed, causes the configured\n * `POST` request to execute on the server. The server responds with the location of\n * the replaced resource. See the individual overloads for\n * details on the return type.\n */\n post(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: HttpObserve,\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'arraybuffer'|'blob'|'json'|'text',\n withCredentials?: boolean,\n } = {}): Observable<any> {\n return this.request<any>('POST', url, addBody(options, body));\n }\n\n /**\n * Constructs a `PUT` request that interprets the body as an `ArrayBuffer` and

returns the\n * response as an `ArrayBuffer`.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with the response body as an `ArrayBuffer`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<ArrayBuffer>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a `Blob` and returns\n * the response as a `Blob`.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with the response body as a `Blob`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<Blob>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a text string and\n * returns the response as a string value.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of the response, with a response body of type string.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]},\n observe?: 'body',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<string>;\n\n /**\n * Constructs a `PUT` request that interprets the body as an `ArrayBuffer` and\n * returns the full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as an `ArrayBuffer`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'arraybuffer',\n withCredentials?: boolean,\n }): Observable<HttpEvent<ArrayBuffer>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a `Blob` and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with the response body as a `Blob`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'blob',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Blob>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a text string and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with a response body\n * of type string.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean, responseType: 'text',\n withCredentials?: boolean,\n }): Observable<HttpEvent<string>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a JSON object and returns the full event\n * stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request, with a response body of\n * type `Object`.\n */\n put(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }): Observable<HttpEvent<Object>>;\n\n /**\n * Constructs a `PUT` request that interprets the body as a JSON object and returns the\n * full event stream.\n *\n * @param url The endpoint URL.\n * @param body The resources to add/update.\n * @param options HTTP options\n *\n * @return An `Observable` of all `HttpEvent`s for the request,\n * with a response body in the requested type.\n */\n put<T>(url: string, body: any|null, options: {\n headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'events',\n params?: HttpParams|{[param: string]: string | string[]},\n reportProgress?: boolean,\n responseType?: 'json',\n withCredentials?: boolean,\n }):

Observable<HttpEvent<T>>;\n\n  /**\n   * Constructs a `PUT` request that interprets the body as an\n   * `ArrayBuffer` and returns an observable of the full HTTP response.\n   *\n   * @param url The endpoint URL.\n   * @param body The resources to add/update.\n   * @param options HTTP options\n   *\n   * @return An `Observable` of the `HttpResponse` for the request, with the response body as an\n   * `ArrayBuffer`.\n   */\n  put(url: string, body: any|null, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?:
 boolean, responseType: 'arraybuffer',\n    withCredentials?: boolean,\n  }):
Observable<HttpResponse<ArrayBuffer>>;\n\n  /**\n   * Constructs a `PUT` request that interprets the body as a `Blob` and returns the\n   * full HTTP response.\n   *\n   * @param url The endpoint URL.\n   * @param body The resources to add/update.\n   * @param options HTTP options\n   *\n   * @return An `Observable` of the `HttpResponse` for the request,\n   * with the response body as a `Blob`.\n   */\n  put(url: string, body: any|null, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'blob',\n    withCredentials?: boolean,\n  }): Observable<HttpResponse<Blob>>;\n\n  /**\n   * Constructs a `PUT` request that interprets the body as a text stream and returns the\n   * full HTTP response.\n   *\n   * @param url The endpoint URL.\n   * @param body The resources
 to add/update.\n   * @param options HTTP options\n   *\n   * @return An `Observable` of the `HttpResponse` for the request, with a response body of type\n   * string.\n   */\n  put(url: string, body: any|null, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean, responseType: 'text',\n    withCredentials?: boolean,\n  }): Observable<HttpResponse<string>>;\n\n  /**\n   * Constructs a `PUT` request that interprets the body as a JSON object and returns the full HTTP\n   * response.\n   *\n   * @param url The endpoint URL.\n   * @param body The resources to add/update.\n   * @param options HTTP options\n   *\n   * @return An `Observable` of the `HttpResponse` for the request, with a response body\n   * of type 'Object`.\n   */\n  put(url: string, body: any|null, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe:
 'response',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean,\n    responseType?: 'json',\n    withCredentials?: boolean,\n  }): Observable<HttpResponse<Object>>;\n\n  /**\n   * Constructs a `PUT` request that interprets the body as an instance of the requested type and\n   * returns the full HTTP response.\n   *\n   * @param url The endpoint URL.\n   * @param body The resources to add/update.\n   * @param options HTTP options\n   *\n   * @return An `Observable` of the `HttpResponse` for the request,\n   * with a response body in the requested type.\n   */\n  put<T>(url: string, body: any|null, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]}, observe: 'response',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean,\n    responseType?: 'json',\n    withCredentials?: boolean,\n  }): Observable<HttpResponse<T>>;\n\n  /**\n   * Constructs a `PUT` request that interprets the body
 as a JSON object\n   * and returns an observable of JSON object.\n   *\n   * @param url The endpoint URL.\n   * @param body The resources to add/update.\n   * @param options HTTP options\n   *\n   * @return An `Observable` of the response as a JSON object.\n   */\n  put(url: string, body: any|null, options?: {\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean,\n    responseType?: 'json',\n    withCredentials?: boolean,\n  }): Observable<Object>;\n\n  /**\n   * Constructs a `PUT` request that interprets the body as an instance of the requested type\n   * and returns an observable of the requested type.\n   *\n   * @param url The endpoint URL.\n   * @param body The resources to add/update.\n   * @param options HTTP options\n   *\n   * @return An `Observable` of the requested type.\n   */\n  put<T>(url: string, body: any|null, options?: {\n    headers?: HttpHeaders|{[header:
 string]: string | string[]},\n    observe?: 'body',\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean,\n    responseType?: 'json',\n    withCredentials?: boolean,\n  }): Observable<T>;\n\n  /**\n   * Constructs an observable that, when subscribed, causes the configured\n   * `PUT` request to execute on the server. The `PUT` method replaces an existing resource\n   * with a new set of values.\n   * See the individual

overloads for details on the return type.\n   */\n  put(url: string, body: any|null, options: {\n    headers?: HttpHeaders|{[header: string]: string | string[]},\n    observe?: HttpObserve,\n    params?: HttpParams|{[param: string]: string | string[]},\n    reportProgress?: boolean,\n    responseType?: 'arraybuffer'|'blob'|'json'|'text',\n    withCredentials?: boolean,\n  } = {}): Observable<any> {\n    return this.request<any>('PUT', url, addBody(options, body));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable, InjectionToken} from '@angular/core';\nimport {Observable} from 'rxjs';\n\nimport {HttpHandler} from './backend';\nimport {HttpRequest} from './request';\nimport {HttpEvent} from './response';\n\n/**\n * Intercepts and handles an `HttpRequest` or `HttpResponse`.\n *\n * Most interceptors transform the outgoing request before passing it to the\n * next interceptor in the chain, by calling `next.handle(transformedReq)`.\n * An interceptor may transform the\n * response event stream as well, by applying additional RxJS operators on the stream\n * returned by `next.handle()`.\n *\n * More rarely, an interceptor may handle the request entirely,\n * and compose a new event stream instead of invoking `next.handle()`. This is an\n * acceptable behavior, but keep in mind that further interceptors will be skipped entirely.\n *\n * It is also rare but valid for an interceptor to return multiple responses on the\n * event stream for a single request.\n *\n * @publicApi\n *\n * @see [HTTP Guide](guide/http#intercepting-requests-and-responses)\n *\n * @usageNotes\n *\n * To use the same instance of `HttpInterceptors` for the entire app, import the `HttpClientModule`\n * only in your `AppModule`, and add the interceptors to the root application injector .\n * If you import `HttpClientModule` multiple times across different modules (for example, in lazy\n * loading modules), each import creates a new copy of the `HttpClientModule`, which overwrites the\n * interceptors provided in the root module.\n *\n */\nexport interface HttpInterceptor {\n  /**\n   * Identifies and handles a given HTTP request.\n   * @param req The outgoing request object to handle.\n   * @param next The next interceptor in the chain, or the backend\n   * if no interceptors remain in the chain.\n   * @returns An observable of the event stream.\n   */\n  intercept(req: HttpRequest<any>, next: HttpHandler): Observable<HttpEvent<any>>;\n}\n\n/**\n * `HttpHandler` which applies an `HttpInterceptor` to an `HttpRequest`.\n *\n *\n */\nexport class HttpInterceptorHandler implements HttpHandler {\n  constructor(private next: HttpHandler, private interceptor: HttpInterceptor) {}\n\n  handle(req: HttpRequest<any>): Observable<HttpEvent<any>> {\n    return this.interceptor.intercept(req, this.next);\n  }\n}\n\n/**\n * A multi-provider token that represents the array of registered\n * `HttpInterceptor` objects.\n *\n * @publicApi\n */\nexport const HTTP_INTERCEPTORS = new InjectionToken<HttpInterceptor[]>('HTTP_INTERCEPTORS');\n\n@Injectable()\nexport class NoopInterceptor implements HttpInterceptor {\n  intercept(req: HttpRequest<any>, next: HttpHandler): Observable<HttpEvent<any>> {\n    return next.handle(req);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT} from '@angular/common';\nimport {Inject, Injectable} from '@angular/core';\nimport {Observable, Observer} from 'rxjs';\n\nimport {HttpBackend, HttpHandler} from './backend';\nimport {HttpRequest} from './request';\nimport {HttpErrorResponse, HttpEvent, HttpEventType, HttpResponse} from './response';\n\n// Every request made through JSONP needs a callback name that's unique across the\n// whole page. Each request is assigned an id and the callback name is constructed\n// from that. The next id to be assigned is tracked in a global variable here that\n// is shared among all applications on the page.\nlet nextRequestId: number = 0;\n\n// Error text given when a JSONP script is injected, but doesn't invoke the callback\n// passed in its URL.\nexport const JSONP_ERR_NO_CALLBACK = 'JSONP injected script did not invoke callback.';\n\n// Error text given when a request is passed to the JsonpClientBackend that doesn't\n// have a request method JSONP.\nexport const JSONP_ERR_WRONG_METHOD = 'JSONP requests must use JSONP request method.';\nexport const JSONP_ERR_WRONG_RESPONSE_TYPE = 'JSONP requests must use Json response type.';\n\n/**\n * DI

token/abstract type representing a map of JSONP callbacks.\n *\n * In the browser, this should always be the `window` object.\n *\n *\n */\nexport abstract class JsonpCallbackContext {\n  [key: string]: (data: any) => void;\n}\n\n/**\n * Processes an `HttpRequest` with the JSONP method,\n * by performing JSONP style requests.\n * @see `HttpHandler`\n * @see `HttpXhrBackend`\n *\n * @publicApi\n */\n@Injectable()\nexport class JsonpClientBackend implements HttpBackend {\n  /**\n   * A resolved promise that can be used to schedule microtasks in the event handlers.\n   */\n  private readonly resolvedPromise = Promise.resolve();\n\n constructor(private callbackMap: JsonpCallbackContext, @Inject(DOCUMENT)
 private document: any) {}\n\n  /**\n   * Get the name of the next callback method, by incrementing the global `nextRequestId`.\n   */\n  private nextCallback(): string {\n    return `ng_jsonp_callback_${nextRequestId++}`;\n  }\n\n  /**\n   * Processes a JSONP request and returns an event stream of the results.\n   * @param req The request object.\n   * @returns An observable of the response events.\n   *\n   */\n  handle(req: HttpRequest<never>): Observable<HttpEvent<any>> {\n    // Firstly, check both the method and response type. If either doesn't match\n // then the request was improperly routed here and cannot be handled.\n    if (req.method !== 'JSONP') {\n      throw new Error(JSONP_ERR_WRONG_METHOD);\n    } else if (req.responseType !== 'json') {\n      throw new Error(JSONP_ERR_WRONG_RESPONSE_TYPE);\n    }\n\n    // Everything else happens inside the Observable boundary.\n    return new Observable<HttpEvent<any>>((observer: Observer<HttpEvent<any>>) => {\n      // The first
 step to make a request is to generate the callback name, and replace the\n      // callback placeholder in the URL with the name. Care has to be taken here to ensure\n      // a trailing &, if matched, gets inserted back into the URL in the correct place.\n      const callback = this.nextCallback();\n      const url = req.urlWithParams.replace(/=JSONP_CALLBACK(&|$)/, `=${callback}$1`);\n\n      // Construct the <script> tag and point it at the URL.\n      const node = this.document.createElement('script');\n      node.src = url;\n\n      // A JSONP request requires waiting for multiple callbacks. These variables\n      // are closed over and track state across those callbacks.\n\n      // The response object, if one has been received, or null otherwise.\n      let body: any|null = null;\n\n      // Whether the response callback has been called.\n      let finished: boolean = false;\n\n      // Whether the request has been cancelled (and thus any other callbacks)\n      // should be ignored.\n
      let cancelled: boolean = false;\n\n      // Set the response callback in this.callbackMap (which will be the window\n      // object in the browser. The script being loaded via the <script> tag will\n      // eventually call this callback.\n      this.callbackMap[callback] = (data?: any) => {\n        // Data has been received from the JSONP script. Firstly, delete this callback.\n        delete this.callbackMap[callback];\n\n        // Next, make sure the request wasn't cancelled in the meantime.\n        if (cancelled) {\n          return;\n        }\n\n        // Set state to indicate data was received.\n        body = data;\n        finished = true;\n      };\n\n      // cleanup() is a utility closure that removes the <script> from the page and\n      // the response callback from the window. This logic is used in both the\n      // success, error, and cancellation paths, so it's extracted out for convenience.\n      const cleanup = () => {\n        // Remove the <script>
 tag if it's still on the page.\n        if (node.parentNode) {\n          node.parentNode.removeChild(node);\n        }\n\n
  // Remove the response callback from the callbackMap (window object in the\n        // browser).\n        delete this.callbackMap[callback];\n      };\n\n      // onLoad() is the success callback which runs after the response callback\n      // if the JSONP script loads successfully. The event itself is unimportant.\n      // If something went wrong, onLoad() may run without the response callback\n      // having been invoked.\n      const onLoad = (event: Event) => {\n        // Do nothing if the request has been cancelled.\n        if (cancelled) {\n          return;\n        }\n\n
   // We wrap it in an extra Promise, to ensure the microtask\n        // is scheduled after the loaded endpoint has executed any potential microtask itself,\n        // which is not guaranteed in Internet Explorer and EdgeHTML. See issue #39496\n        this.resolvedPromise.then(()
 => {\n          // Cleanup the page.\n          cleanup();\n\n          // Check whether the response callback has run.\n          if (!finished) {\n            // It hasn't, something went wrong with the request. Return an error via\n            // the Observable error path. All JSONP errors have status 0.\n            observer.error(new HttpErrorResponse({\n              url,\n              status: 0,\n              statusText: 'JSONP Error',\n              error: new

Error(JSONP_ERR_NO_CALLBACK),\n }));\n return;\n }\n\n // Success. body either contains the response body or null if none was\n // returned.\n observer.next(new HttpResponse({\n body,\n status: 200,\n statusText: 'OK',\n url,\n }));\n\n // Complete the stream, the response is over.\n observer.complete();\n });\n };\n\n // onError() is the error callback, which runs if the script returned generates\n // a Javascript error. It emits the error via the Observable error channel as\n // a HttpErrorResponse.\n const onError: any = (error: Error) => {\n // If the request was already cancelled, no need to emit anything.\n if (cancelled) {\n return;\n }\n cleanup();\n\n // Wrap the error in a HttpErrorResponse.\n observer.error(new HttpErrorResponse({\n error,\n status: 0,\n statusText: 'JSONP Error',\n url,\n }));\n };\n\n // Subscribe to both the success (load) and error events on the <script> tag,\n // and add it to the page.\n node.addEventListener('load', onLoad);\n node.addEventListener('error', onError);\n this.document.body.appendChild(node);\n\n // The request has now been successfully sent.\n observer.next({type: HttpEventType.Sent});\n\n // Cancellation handler.\n return () => {\n // Track the cancellation so event listeners won't do anything even if already scheduled.\n cancelled = true;\n\n // Remove the event listeners so they won't run if the events later fire.\n node.removeEventListener('load', onLoad);\n node.removeEventListener('error', onError);\n\n // And finally, clean up the page.\n cleanup();\n };\n });\n }\n}\n\n/**\n * Identifies requests with the method JSONP and\n * shifts them to the `JsonpClientBackend`.\n *\n * @see `HttpInterceptor`\n *\n * @publicApi\n */\n@Injectable()\nexport class JsonpInterceptor {\n constructor(private jsonp: JsonpClientBackend) {}\n\n /**\n * Identifies and handles a given JSONP request.\n * @param req The outgoing request object to handle.\n * @param next The next interceptor in the chain, or the backend\n * if no interceptors remain in the chain.\n * @returns An observable of the event stream.\n */\n intercept(req: HttpRequest<any>, next: HttpHandler): Observable<HttpEvent<any>> {\n if (req.method === 'JSONP') {\n return this.jsonp.handle(req as HttpRequest<never>);\n }\n // Fall through for normal HTTP requests.\n return next.handle(req);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable} from '@angular/core';\nimport {Observable, Observer} from 'rxjs';\n\nimport {HttpBackend} from './backend';\nimport {HttpHeaders} from './headers';\nimport {HttpRequest} from './request';\nimport {HttpDownloadProgressEvent, HttpErrorResponse, HttpEvent, HttpEventType, HttpHeaderResponse, HttpJsonParseError, HttpResponse, HttpUploadProgressEvent} from './response';\n\nconst XSSI_PREFIX = /^\\)\\]\\}',?\\n/;\n\n/**\n * Determine an appropriate URL for the response, by checking either\n * XMLHttpRequest.responseURL or the X-Request-URL header.\n */\nfunction getResponseUrl(xhr: any): string|null {\n if ('responseURL' in xhr && xhr.responseURL) {\n return xhr.responseURL;\n }\n if (/^X-Request-URL:/m.test(xhr.getAllResponseHeaders())) {\n return xhr.getResponseHeader('X-Request-URL');\n }\n return null;\n}\n\n/**\n * A wrapper around the `XMLHttpRequest` constructor.\n *\n * @publicApi\n */\nexport abstract class XhrFactory {\n abstract build(): XMLHttpRequest;\n}\n\n/**\n * A factory for `HttpXhrBackend` that uses the `XMLHttpRequest` browser API.\n *\n */\n@Injectable()\nexport class BrowserXhr implements XhrFactory {\n constructor() {}\n build(): any {\n return <any>(new XMLHttpRequest());\n }\n}\n\n/**\n * Tracks a response from the server that does not yet have a body.\n */\ninterface PartialResponse {\n headers: HttpHeaders;\n status: number;\n statusText: string;\n url: string;\n}\n\n/**\n * Uses `XMLHttpRequest` to send requests to a backend server.\n * @see `HttpHandler`\n * @see `JsonpClientBackend`\n *\n * @publicApi\n */\n@Injectable()\nexport class HttpXhrBackend implements HttpBackend {\n constructor(private xhrFactory: XhrFactory) {}\n\n /**\n * Processes a request and returns a stream of response events.\n * @param req The request object.\n * @returns An observable of the response events.\n */\n handle(req: HttpRequest<any>): Observable<HttpEvent<any>> {\n // Quick check to give a better error message when a user attempts to use\n // HttpClient.jsonp() without installing the HttpClientJsonpModule\n if (req.method === 'JSONP') {\n throw new Error(\n `Attempted to construct Jsonp request without

```
HttpClientJsonpModule installed.`);\n    }\n\n    // Everything happens on Observable subscription.\n    return new Observable((observer: Observer<HttpEvent<any>>) => {\n      // Start by setting up the XHR object with request method, URL, and withCredentials flag.\n      const xhr = this.xhrFactory.build();\n      xhr.open(req.method, req.urlWithParams);\n
    if (!!req.withCredentials) {\n        xhr.withCredentials = true;\n      }\n\n      // Add all the requested headers.\n      req.headers.forEach((name, values) => xhr.setRequestHeader(name, values.join(',')));\n\n      // Add an Accept header if one isn't present already.\n      if (!req.headers.has('Accept')) {\n        xhr.setRequestHeader('Accept', 'application/json, text/plain, */*');\n      }\n\n      // Auto-detect the Content-Type header if one isn't present already.\n
  if (!req.headers.has('Content-Type')) {\n        const detectedType = req.detectContentTypeHeader();\n        // Sometimes Content-Type detection fails.\n        if (detectedType !== null) {\n          xhr.setRequestHeader('Content-Type', detectedType);\n        }\n      }\n\n      // Set the responseType if one was requested.\n      if (req.responseType) {\n        const responseType = req.responseType.toLowerCase();\n\n        // JSON responses need to be processed as text. This is because
 if the server\n        // returns an XSSI-prefixed JSON response, the browser will fail to parse it,\n        // xhr.response will be null, and xhr.responseText cannot be accessed to\n        // retrieve the prefixed JSON data in order to strip the prefix. Thus, all JSON\n        // is parsed by first requesting text and then applying JSON.parse.\n        xhr.responseType = ((responseType !== 'json') ? responseType : 'text') as any;\n      }\n\n      // Serialize the request body if one is present. If not, this will be set to null.\n      const reqBody = req.serializeBody();\n\n      // If progress events are enabled, response headers will be delivered\n      // in two events - the HttpHeaderResponse event and the full HttpResponse\n      // event. However, since response headers don't change in between these\n      // two events, it doesn't make sense to parse them twice. So headerResponse\n      // caches the data extracted from the response whenever it's first parsed,\n      // to
 ensure parsing isn't duplicated.\n      let headerResponse: HttpHeaderResponse|null = null;\n\n      // partialFromXhr extracts the HttpHeaderResponse from the current XMLHttpRequest\n      // state, and memoizes it into headerResponse.\n      const partialFromXhr = (): HttpHeaderResponse => {\n        if (headerResponse !== null) {\n          return headerResponse;\n        }\n\n        // Read status and normalize an IE9 bug (https://bugs.jquery.com/ticket/1450).\n        const status: number = xhr.status === 1223 ? 204 : xhr.status;\n        const statusText = xhr.statusText || 'OK';\n\n        // Parse headers from XMLHttpRequest - this step is lazy.\n        const headers = new HttpHeaders(xhr.getAllResponseHeaders());\n\n        // Read the response URL from the XMLHttpResponse instance and fall back on the\n        // request URL.\n        const url = getResponseUrl(xhr) || req.url;\n\n        // Construct the HttpHeaderResponse and memoize it.\n        headerResponse = new HttpHeaderResponse({headers,
 status, statusText, url});\n        return headerResponse;\n      };\n\n      // Next, a few closures are defined for the various events which XMLHttpRequest can\n      // emit. This allows them to be unregistered as event listeners later.\n\n      // First up is the load event, which represents a response being fully available.\n      const onLoad = () => {\n        // Read response state from the memoized partial data.\n        let {headers, status, statusText, url} = partialFromXhr();\n\n        // The body will be read out if present.\n        let body: any|null = null;\n\n        if (status !== 204) {\n          // Use XMLHttpRequest.response if set, responseText otherwise.\n          body = (typeof xhr.response === 'undefined') ? xhr.responseText : xhr.response;\n        }\n\n        // Normalize another potential bug (this one comes from CORS).\n        if (status === 0) {\n          status = !!body ? 200 : 0;\n        }\n\n        // ok determines whether
 the response will be transmitted on the event or\n        // error channel. Unsuccessful status codes (not 2xx) will always be errors,\n        // but a successful status code can still result in an error if the user\n        // asked for JSON data and the body cannot be parsed as such.\n        let ok = status >= 200 && status < 300;\n\n        // Check whether the body needs to be parsed as JSON (in many cases the browser\n        // will have done that already).\n        if (req.responseType === 'json' && typeof body === 'string') {\n          // Save the original body, before attempting XSSI prefix stripping.\n          const originalBody = body;\n          body = body.replace(XSSI_PREFIX, '');\n          try {\n            // Attempt the parse. If it fails, a parse error should be delivered to the user.\n            body = body !==
```

```
" ? JSON.parse(body) : null;\n          } catch (error) {\n            // Since the JSON.parse failed, it's reasonable to assume this might not have
 been a\n            // JSON response. Restore the original body (including any XSSI prefix) to deliver\n            // a better error response.\n            body = originalBody;\n\n            // If this was an error request to begin with, leave it as a string, it probably\n            // just isn't JSON. Otherwise, deliver the parsing error to the user.\n            if (ok) {\n              // Even though the response status was 2xx, this is still an error.\n              ok = false;\n              // The parse error contains the text of the body that failed to parse.\n              body = {error, text: body} as HttpJsonParseError;\n            }\n          }\n        }\n\n        if (ok) {\n          // A successful response is delivered on the event stream.\n          observer.next(new HttpResponse({\n            body,\n            headers,\n            status,\n            statusText,\n            url: url || undefined,\n          }));\n          // The full body has been received
 and delivered, no further events\n          // are possible. This request is complete.\n          observer.complete();\n        } else {\n          // An unsuccessful request is delivered on the error channel.\n          observer.error(new HttpErrorResponse({\n            // The error in this case is the response body (error from the server).\n            error: body,\n            headers,\n            status,\n            statusText,\n            url: url || undefined,\n          }));\n        }\n      };\n\n      // The onError callback is called when something goes wrong at the network level.\n      // Connection timeout, DNS error, offline, etc. These are actual errors, and are\n      // transmitted on the error channel.\n      const onError = (error: ProgressEvent) => {\n        const {url} = partialFromXhr();\n        const res = new HttpErrorResponse({\n          error,\n          status: xhr.status || 0,\n          statusText: xhr.statusText || 'Unknown Error',\n          url:
 url || undefined,\n        });\n        observer.error(res);\n      };\n\n      // The sentHeaders flag tracks whether the HttpResponseHeaders event\n      // has been sent on the stream. This is necessary to track if progress\n      // is enabled since the event will be sent on only the first download\n      // progerss event.\n      let sentHeaders = false;\n\n      // The download progress event handler, which is only registered if\n      // progress events are enabled.\n      const onDownProgress = (event: ProgressEvent) => {\n        // Send the HttpResponseHeaders event if it hasn't been sent already.\n        if (!sentHeaders) {\n          observer.next(partialFromXhr());\n          sentHeaders = true;\n        }\n\n        // Start building the download progress event to deliver on the response\n        // event stream.\n        let progressEvent: HttpDownloadProgressEvent = {\n          type: HttpEventType.DownloadProgress,\n          loaded: event.loaded,\n        };\n\n
        // Set the total number of bytes in the event if it's available.\n        if (event.lengthComputable) {\n          progressEvent.total = event.total;\n        }\n\n        // If the request was for text content and a partial response is\n        // available on XMLHttpRequest, include it in the progress event\n        // to allow for streaming reads.\n        if (req.responseType === 'text' && !!xhr.responseText) {\n          progressEvent.partialText = xhr.responseText;\n        }\n\n        // Finally, fire the event.\n        observer.next(progressEvent);\n      };\n\n      // The upload progress event handler, which is only registered if\n      // progress events are enabled.\n      const onUpProgress = (event: ProgressEvent) => {\n        // Upload progress events are simpler. Begin building the progress\n        // event.\n        let progress: HttpUploadProgressEvent = {\n          type: HttpEventType.UploadProgress,\n          loaded: event.loaded,\n        };\n\n
        // If the total number of bytes being uploaded is available, include\n        // it.\n        if (event.lengthComputable) {\n          progress.total = event.total;\n        }\n\n        // Send the event.\n        observer.next(progress);\n      };\n\n      // By default, register for load and error events.\n      xhr.addEventListener('load', onLoad);\n      xhr.addEventListener('error', onError);\n\n      // Progress events are only enabled if requested.\n      if (req.reportProgress) {\n        // Download progress is always enabled if requested.\n        xhr.addEventListener('progress', onDownProgress);\n\n        // Upload progress depends on whether there is a body to upload.\n        if (reqBody !== null && xhr.upload) {\n          xhr.upload.addEventListener('progress', onUpProgress);\n        }\n      }\n\n      // Fire the request, and notify the event stream that it was fired.\n      xhr.send(reqBody!);\n      observer.next({type: HttpEventType.Sent});\n\n      // This is the
 return from the Observable function, which is the\n      // request cancellation handler.\n      return () => {\n        // On a cancellation, remove all registered event listeners.\n        xhr.removeEventListener('error', onError);\n
```

xhr.removeEventListener('load', onLoad);\n if (req.reportProgress) {\n xhr.removeEventListener('progress', onDownProgress);\n if (reqBody !== null && xhr.upload) {\n xhr.upload.removeEventListener('progress', onUpProgress);\n }\n }\n\n // Finally, abort the in-flight request.\n if (xhr.readyState !== xhr.DONE) {\n xhr.abort();\n }\n };\n });\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT, parseCookieValue as parseCookieValue} from '@angular/common';\nimport {Inject, Injectable, InjectionToken, PLATFORM_ID} from '@angular/core';\nimport {Observable} from 'rxjs';\n\nimport {HttpHandler} from './backend';\nimport {HttpInterceptor} from './interceptor';\nimport {HttpRequest} from './request';\nimport {HttpEvent} from './response';\n\nexport const XSRF_COOKIE_NAME = new InjectionToken<string>('XSRF_COOKIE_NAME');\nexport const XSRF_HEADER_NAME = new InjectionToken<string>('XSRF_HEADER_NAME');\n\n/**\n * Retrieves the current XSRF token to use with the next outgoing request.\n *\n * @publicApi\n */\nexport abstract class HttpXsrfTokenExtractor {\n /**\n * Get the XSRF token to use with an outgoing request.\n *\n * Will be called for every request, so the token may change between requests.\n */\n abstract getToken(): string|null;\n}\n\n/**\n * `HttpXsrfTokenExtractor` which retrieves the token from a cookie.\n */\n@Injectable()\nexport class HttpXsrfCookieExtractor implements HttpXsrfTokenExtractor {\n private lastCookieString: string = '';\n private lastToken: string|null = null;\n\n /**\n * @internal for testing\n */\n parseCount: number = 0;\n\n constructor(\n @Inject(DOCUMENT) private doc: any, @Inject(PLATFORM_ID) private platform: string,\n @Inject(XSRF_COOKIE_NAME) private cookieName: string) {}\n\n getToken(): string|null {\n if (this.platform === 'server') {\n return null;\n }\n const cookieString = this.doc.cookie || '';\n if (cookieString !== this.lastCookieString) {\n this.parseCount++;\n this.lastToken = parseCookieValue(cookieString, this.cookieName);\n this.lastCookieString = cookieString;\n }\n return this.lastToken;\n }\n}\n\n/**\n * `HttpInterceptor` which adds an XSRF token to eligible outgoing requests.\n */\n@Injectable()\nexport class HttpXsrfInterceptor implements HttpInterceptor {\n constructor(\n private tokenService: HttpXsrfTokenExtractor,\n @Inject(XSRF_HEADER_NAME) private headerName: string) {}\n\n intercept(req: HttpRequest<any>, next: HttpHandler): Observable<HttpEvent<any>> {\n const lcUrl = req.url.toLowerCase();\n // Skip both non-mutating requests and absolute URLs.\n // Non-mutating requests don't require a token, and absolute URLs require special handling\n // anyway as the cookie set\n // on our origin is not the same as the token expected by another origin.\n if (req.method === 'GET' || req.method === 'HEAD' || lcUrl.startsWith('http://') ||\n lcUrl.startsWith('https://')) {\n return next.handle(req);\n }\n const token = this.tokenService.getToken();\n\n // Be careful not to overwrite an existing header of the same name.\n if (token !== null && !req.headers.has(this.headerName)) {\n req = req.clone({headers: req.headers.set(this.headerName, token)});\n }\n return next.handle(req);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable, Injector, ModuleWithProviders, NgModule} from '@angular/core';\nimport {Observable} from 'rxjs';\n\nimport {HttpBackend, HttpHandler} from './backend';\nimport {HttpClient} from './client';\nimport {HTTP_INTERCEPTORS, HttpInterceptor, HttpInterceptorHandler, NoopInterceptor} from './interceptor';\nimport {JsonpCallbackContext, JsonpClientBackend, JsonpInterceptor} from './jsonp';\nimport {HttpRequest} from './request';\nimport {HttpEvent} from './response';\nimport {BrowserXhr, HttpXhrBackend, XhrFactory} from './xhr';\nimport {HttpXsrfCookieExtractor, HttpXsrfInterceptor, HttpXsrfTokenExtractor, XSRF_COOKIE_NAME, XSRF_HEADER_NAME} from './xsrf';\n\n/**\n * An injectable `HttpHandler` that applies multiple interceptors\n * to a request before passing it to the given `HttpBackend`.\n *\n * The interceptors are loaded lazily from the injector, to allow\n * interceptors to themselves inject classes depending indirectly\n * on `HttpInterceptingHandler` itself.\n * @see `HttpInterceptor`\n */\n@Injectable()\nexport class HttpInterceptingHandler implements HttpHandler {\n private chain: HttpHandler|null = null;\n\n

constructor(private backend: HttpBackend, private injector: Injector) {}\n\n  handle(req: HttpRequest<any>): Observable<HttpEvent<any>> {\n    if (this.chain === null) {\n      const interceptors = this.injector.get(HTTP_INTERCEPTORS, []);\n      this.chain = interceptors.reduceRight(\n          (next, interceptor) => new HttpInterceptorHandler(next, interceptor), this.backend);\n    }\n    return this.chain.handle(req);\n  }\n}\n\n/**\n * Constructs an `HttpHandler` that applies interceptors\n * to a request before passing it to the given `HttpBackend`.\n *\n * Use as a factory function within `HttpClientModule`.\n *\n *\n */\nexport function interceptingHandler(\n    backend: HttpBackend, interceptors: HttpInterceptor[]|null = []): HttpHandler {\n  if (!interceptors) {\n    return backend;\n  }\n  return interceptors.reduceRight(\n      (next, interceptor) => new HttpInterceptorHandler(next, interceptor), backend);\n}\n\n/**\n * Factory function that determines where to store JSONP callbacks.\n *\n * Ordinarily JSONP callbacks are stored on the `window` object, but this may not exist\n * in test environments. In that case, callbacks are stored on an anonymous object instead.\n *\n *\n */\nexport function jsonpCallbackContext(): Object {\n  if (typeof window === 'object') {\n    return window;\n  }\n  return {};\n}\n\n/**\n * Configures XSRF protection support for outgoing requests.\n *\n * For a server that supports a cookie-based XSRF protection system,\n * use directly to configure XSRF protection with the correct\n * cookie and header names.\n *\n * If no names are supplied, the default cookie name is `XSRF-TOKEN`\n * and the default header name is `X-XSRF-TOKEN`.\n *\n * @publicApi\n */\n@NgModule({\n  providers: [\n    HttpXsrfInterceptor,\n    {provide: HTTP_INTERCEPTORS, useExisting: HttpXsrfInterceptor, multi: true},\n    {provide: HttpXsrfTokenExtractor, useClass: HttpXsrfCookieExtractor},\n    {provide: XSRF_COOKIE_NAME, useValue: 'XSRF-TOKEN'},\n    {provide: XSRF_HEADER_NAME, useValue: 'X-XSRF-TOKEN'},\n  ],\n})\nexport class HttpClientXsrfModule {\n  /**\n   * Disable the default XSRF protection.\n   */\n  static disable(): ModuleWithProviders<HttpClientXsrfModule> {\n    return {\n      ngModule: HttpClientXsrfModule,\n      providers: [\n        {provide: HttpXsrfInterceptor, useClass: NoopInterceptor},\n      ],\n    };\n  }\n\n  /**\n   * Configure XSRF protection.\n   * @param options An object that can specify either or both\n   * cookie name or header name.\n   * - Cookie name default is `XSRF-TOKEN`.\n   * - Header name default is `X-XSRF-TOKEN`.\n   *\n   */\n  static withOptions(options: {\n    cookieName?: string,\n    headerName?: string,\n  } = {}): ModuleWithProviders<HttpClientXsrfModule> {\n    return {\n      ngModule: HttpClientXsrfModule,\n      providers: [\n        options.cookieName ? {provide: XSRF_COOKIE_NAME, useValue: options.cookieName} : [],\n        options.headerName ? {provide: XSRF_HEADER_NAME, useValue: options.headerName} : [],\n      ],\n    };\n  }\n}\n\n/**\n * Configures the [dependency injector](guide/glossary#injector) for `HttpClient`\n * with supporting services for XSRF. Automatically imported by `HttpClientModule`.\n *\n * You can add interceptors to the chain behind `HttpClient` by binding them to the\n * multiprovider for built-in [DI token](guide/glossary#di-token) `HTTP_INTERCEPTORS`.\n *\n * @publicApi\n */\n@NgModule({\n  /**\n   * Optional configuration for XSRF protection.\n   */\n  imports: [\n    HttpClientXsrfModule.withOptions({\n      cookieName: 'XSRF-TOKEN',\n      headerName: 'X-XSRF-TOKEN',\n    }),\n  ],\n  /**\n   * Configures the [dependency injector](guide/glossary#injector) where it is imported\n   * with supporting services for HTTP communications.\n   */\n  providers: [\n    HttpClient,\n    {provide: HttpHandler, useClass: HttpInterceptingHandler},\n    HttpXhrBackend,\n    {provide: HttpBackend, useExisting: HttpXhrBackend},\n    BrowserXhr,\n    {provide: XhrFactory, useExisting: BrowserXhr},\n  ],\n})\nexport class HttpClientModule {\n}\n\n/**\n * Configures the [dependency injector](guide/glossary#injector) for `HttpClient`\n * with supporting services for JSONP.\n * Without this module, Jsonp requests reach the backend\n * with method JSONP, where they are rejected.\n *\n * You can add interceptors to the chain behind `HttpClient` by binding them to the\n * multiprovider for built-in [DI token](guide/glossary#di-token) `HTTP_INTERCEPTORS`.\n *\n * @publicApi\n */\n@NgModule({\n  providers: [\n    JsonpClientBackend,\n    {provide: JsonpCallbackContext, useFactory: jsonpCallbackContext},\n    {provide: HTTP_INTERCEPTORS, useClass: JsonpInterceptor, multi: true},\n  ],\n})\nexport class HttpClientJsonpModule {\n}\n","/**\n

* @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {HttpBackend, HttpHandler} from './src/backend';\nexport {HttpClient} from './src/client';\nexport {HttpHeaders} from './src/headers';\nexport {HTTP_INTERCEPTORS, HttpInterceptor} from './src/interceptor';\nexport {JsonpClientBackend, JsonpInterceptor} from './src/jsonp';\nexport {HttpClientJsonpModule, HttpClientModule, HttpClientXsrfModule, HttpInterceptingHandler as HttpInterceptingHandler} from './src/module';\nexport {HttpParameterCodec, HttpParams, HttpUrlEncodingCodec} from './src/params';\nexport {HttpRequest} from './src/request';\nexport {HttpDownloadProgressEvent, HttpErrorResponse, HttpEvent, HttpEventType, HttpHeaderResponse, HttpProgressEvent, HttpResponse, HttpResponseBase, HttpSentEvent, HttpUploadProgressEvent, HttpUserEvent} from './src/response';\nexport {HttpXhrBackend, XhrFactory} from './src/xhr';\nexport {HttpXsrfTokenExtractor} from './src/xsrf';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {NoopInterceptor as angular_packages_common_http_http_a} from './src/interceptor';\nexport {JsonpCallbackContext as angular_packages_common_http_http_b} from './src/jsonp';\nexport {jsonpCallbackContext as angular_packages_common_http_http_c} from './src/module';\nexport {BrowserXhr as angular_packages_common_http_http_d} from './src/xhr';\nexport {HttpXsrfCookieExtractor as angular_packages_common_http_http_g,HttpXsrfInterceptor as angular_packages_common_http_http_h,XSRF_COOKIE_NAME as angular_packages_common_http_http_e,XSRF_HEADER_NAME as angular_packages_common_http_http_f} from './src/xsrf';"],"names":["HttpEventType","of","concatMap","filter","map","Injectable","InjectionToken","Observable","Inject","DOCUMENT","parseCookieValue","PLATFORM_ID","Injector","NgModule"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;IAYA;;;;;;;;;;;;;QAYA;SAEC;0BAAA;KAAA,IAAA;IAED;;;;;;;;;;;QAUA;SAEC;0BAAA;KAAA;;ICxCD;;;;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC;QAC7B,aAAC,GAAG,aAAC,ChC,EAAE,SAAS,EAAE,SAAS,EAAE,SAAS,EAAE,SAAS,EAAE,SAAS,EAAE,IAAI,EAAE,KAAK,EAAE,IAAI,EAAE,KAAK,EAAE,IAAI,EAAE,KAAK

E,IAAI,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,S
AAS,CAAC,oBAAoB,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC1E,CAAC,C
AAC,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;aAC
zB;QACL,OAAO,CAAC,CAAC;IACb,CAAC;aAEe,UAAU,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,I
AAI;QACpD,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,MA
AM,GAAG,IAAI,KAAK,IAAI,GAAG,IAAI,GAAG,MAAM,CAAC,wBAAwB,CAAC,MAAM,EAAE,GAAG,CA
AC,GAAG,IAAI,EAAE,CAAC,CAAC;QAC7H,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,
QAAQ,KAAK,UAAU;YAAE,CAAC,GAAG,OAAO,CAAC,QAAQ,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,
EAAE,IAAI,CAAC,CAAC;;YAC1H,KAAK,IAAI,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,CAAC,CAAC,EAAE,C
AAC,IAAI,CAAC,EAAE,CAAC,EAAE;gBAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC;oBAAE,CAA
C,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,GAG
,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,CAAC,
KAAK,CAAC,CAAC;QAClJ,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,MAAM,CAAC,cAAc,OAAO,CAAC,
M,EAAE,GAAG,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC;IAClE,CAAC;aAEe,OAAO,CAAC,UAAU,EAAE,S
AAS;QACzC,OAAO,UAAU,MAAM,EAAE,GAAG,IAAI,SAAS,CAAC,MAAM,EAAE,GAAG,EAAE,UAAU,CA
AC,CAAC,EAAE,CAAA;IACzE,CAAC;aAEe,UAAU,CAAC,WAAW,EAAE,aAAa;QACjD,IAAI,OAAO,OAAO,
KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,OAAO,OAAO,CAAC,QAAQ,CAAC,
WAAW,EAAE,aAAa,CAAC,CAAC;IACnI,CAAC;aAEe,SAAS,CAAC,OAAO,EAAE,UAAU,EAAE,CAAC,EAAA
E,SAAS;QACvD,SAAS,KAAK,IAAI,OAAO,KAAK,YAAY,CAAC,GAAG,KAAK,GAAG,IAAI,C
AAC,CAAC,UAAU,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE;QAC5G,OAA
AO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,EAAE,UAAU,OAAO,EAAE,MAAM;YACrD,SAAS,SA
AS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,KAAK,CAAC,CAAC,CAAC;aAA
E;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAAE;YAC3F,SAAS,QAA
Q,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,CAAC,KAAK,CAAC,CAAC,CA
AC;aAAE;YAAC,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE,EAAE;YAC9F,SA
AS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,
KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC,EAAE;YA
C9G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,E
AAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,CAAC,WAAW,CAAC,OAAO,EAAE,IAAI;
QACrC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,cAAa,IAAI,CAAC,CAAC,CAAC,C
AAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,C
AAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAAE,EAAE,CAAC,EAAE,CAAC,E
AAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,
EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,
OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAa,OAAO,IAAI,C
AAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzF,SAAS,IAAI,CAAC,CAAC,IAAI,OAAO,IAAI,CAAC,CAAC,IAAI,OAAO,UAAU,CAAC,CAAC,CAAC,O
AAO,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE;QAClE,SAAS,KAAK,IAAI,
CAAC,EAAE;YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

KAAK,EAAE,CAAC;4BAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;4BAAC,EAAE,GAAG,CAAC,
CAAC,CAAC,CAAC;4BAAC,SAAS;wBACjD,KAAK,CAAC;4BAAE,EAAE,GAAG,CAAC,CAAC,GAAG,CAA
C,GAAG,EAAE,CAAC;4BAAC,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;4BAAC,SAAS;wBACjD;4BA
CI,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,GAAG,CAAC,I
AAI,CAAC,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,KA
AK,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE;gCAAE,CAAC,GAAG,CAAC,CAAC
;gCAAC,SAAS;6BAAE;4BAC5G,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,KAAK
,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CA
AC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,EAAE,CAAC,CAAC,CAA
C,CAAC;gCAAC,MAAM;6BAAE;4BACtF,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAA
C,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAA
C,CAAC,CAAC;gCAAC,CAAC,GAAG,EAAE,CAAC;gCAAC,MAAM;6BAAE;4BACrE,IAAI,CAAC,IAAI,,CA
AC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CA
AC,CAAC,CAAC,CAAC;gCAAC,CAAC,CAAC,GAAG,CAAC,IAAI,,CAAC,EAAE,CAAC,CAAC;gCAAC,MAA
M;6BAAE;4BACnE,IAAI,CAAC,CAAC,CAAC,CAAC;gCAAE,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CA
AC;4BACtB,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;4BAAC,SAAS;qBAC9B;oBACD,EAAE,GAAG,I
AAI,CAAC,IAAI,CAAC,OAAO,EAAE,CAAC,CAAC,CAAC;iBAC9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,E
AAE,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;oBAAC,CAAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;o
BAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAAE;YAC1D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,C
AAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC,CAAC;YAAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,C
AAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAAK,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;
SACpF;IACL,CAAC;IAEM,IAAI,eAAe,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE
,CAAC,EAAE,EAAE;QAC9D,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC,CAAC;QAC7B,
CAAC,cAAc,CAAC,CAAC,EAAE,EAAE,EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,
CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC;IACzF,CAAC,KAAK,UAAS,CAAC,EAAE,CA
AC,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC,CAAC;QAC7B,
CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;IACjB,CAAC,CAAC;aAAE,YA
AY,CAAC,CAAC,EAAE,OAAO;QACnC,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,CAAC,cAAc,CAAC,CAAC,CAAC,IAAI,
AI,CAAC,OAAO,CAAC,cAAc,CAAC,CAAC,CAAC;gBAAE,eAAe,CAAC,OAAO,EAAE,CAAC,EAAE,CAAC,
CAAC,CAAC;IACvG,CAAC,aAAa,CAAC;aAAE,eAAe,QAAQ,EAAE,QAAQ,EAAE,CAAC,EAAE,CAAC;QAC
tB,IAAI,CAAC,GAAG,OAAO,,MAAM,,KAAK,UAAU,IAAI,QAAQ,CAAC,MAAM,CAAC,QAAQ,CAAC,EAAE,
CAAC,GAAG,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,
,GAAG,CAAC,CAAC;QAC9E,IAAI,CAAC;YAAE,OAAO,CAAC,CAAC;QAChB,IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CxB,IAAI,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC,CAAC,MAAM,,KAAK,QAAQ;YAAE,OAAO;gBAC1C,IAAI,EAAE;oB
CF,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,MAAM;wBAAE,CAAC,GAAG,KAAK,CAAC,CAAC;oBACn
C,OAAO,EAAE,KAAK,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC
C,EAAE,CAAC;iBAC3C;aACJ,CAAC;QACF,MAAM,IAAI,SAAS,CAAC,GAAG,yBAAyB,GAAG,iCAAi
C,CAAC,CAAC;IAC3F,CAAC,aAAa,CAAC;aAAE,eAAe,MAAM,CAAC,CAAC,EAAE,CAAC,EAAE,EAAE,CAAC;QACvB
B,IAAI,CAAC,GAAG,OAAO,,MAAM,,KAAK,UAAU,IAAI,QAAQ,CAAC,MAAM,CAAC,QAAQ,CAAC,EAAE,
MAAM,,KAAK,,UAAU,,IAAI,,CAAC,,CAAC,,MAAM,,CAAC,,QAAQ,,CAAC,,CAAC;QAC3D,IAAI,CAAC,CAAC;YAAE,OAAO,CAAC,CAAC;QACjB,IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjB,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjD,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjE,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjF,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjG,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjH,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjI,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjJ,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjK,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjL,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjM,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjN,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjO,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjP,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjQ,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjR,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjS,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjT,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjU,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjV,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjW,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjX,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjY,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
CjZ,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ca,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cb,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cc,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cd,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ce,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cf,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cg,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ch,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ci,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cj,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ck,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cl,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cm,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cn,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Co,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cp,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cq,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cr,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cs,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ct,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cu,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cv,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cw,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cx,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cy,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Cz,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C0,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C1,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C2,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C3,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C4,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C5,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C6,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C7,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C8,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
C9,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Da,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Db,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dc,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dd,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
De,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Df,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dg,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dh,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Di,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dj,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dk,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dl,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dm,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dn,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Do,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dp,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dq,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dr,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ds,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dt,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Du,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dv,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dw,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dx,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dy,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Dz,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E0,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E1,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E2,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E3,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E4,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E5,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E6,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E7,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E8,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
E9,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ea,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Eb,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ec,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ed,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ee,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ef,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Eg,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Eh,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ei,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ej,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ek,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
El,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Em,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
En,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Eo,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ep,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Eq,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Er,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Es,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Et,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Eu,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ev,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ew,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ex,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ey,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
Ez,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
F0,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
F1,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
F2,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
F3,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
F4,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
F5,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;QAC
F6,IAAI,CAAC,IAAI,CA

CAAC;QACzC,OAAO,EAAE,CAAC;IACd,CAAC;aAEe,cAAc;QAC1B,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,EAAE,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,EAAE,EAAE,CAAC,EAAE;YAAE,CAAC,IAAI,SAAS,CAAC,CAAC,CAAC,CAAC,MAAM,CAAC;QACpF,KAAK,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,EAAE,EAAE,CAAC,EAAE;YAC5C,KAAK,IAAI,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC,CAAC,MAAM,EAAE,CAAC,GAAG,EAAE,CAAC,EAAE,EAAE,CAAC,EAAE;gBAAE,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC;QAAC,CAAC,IAAI,OAAO,CAAC,CAAC,CAAC,IAAI,CAAC,GAAG

AAE,CAAC,CAAC,EAAE,EAAE,MAAM,CAAC,CAAC,EAAE;IAChI,CAAC;aAEe,oBAAoB,CAAC,MAAM,EAAE,GAAG;QAC5C,IAAI,MAAM,CAAC,cAAc,EAAE;YAAE,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,KAAK,EAAE,EAAE,KAAK,EAAE,GAAG,EAAE,CAAC,CAAC;SAAE;aAAM;YAAE,MAAM,CAAC,GAAG,GAAG,GAAG,CAAC;SAAE;QAC/G,OAAO,MAAM,CAAC;IAClB,CAAC;IAAA,CAAC;IAEF,IAAI,kBAAkB,GAAG,MAAM,CAAC,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE

EAAE,EAAE,EAAE,GAAG,EAAC,CAAC,CAAC;SAC3C;;;;;;;;QASD,4BAAM,GAAN,UAAO,IAAY,EAAE,KAAuB;YAC1C,OAAO,IAAI,CAAC,KAAK,CAAC,EAAC,IAAI,MAAA,EAAE,KAAK,OAAA,EAAE,EAAE,EAAE,GAAG,EAAC,CAAC,CAAC;SAC3C;QAEO,4CAAsB,GAAtB,UAAuB,IAAY,EAAE,MAAc;YACzCzD,IAAI,CAAC,eAAe,CAAC,IAAI,EAAE,MAAM,CAAC,CAAC;QAC3C,CAAC;QAEO,4CAAsB,GAAtB,UAAuB,IAAY,EAAE,MAAc;YACzCA

CAAC,SAAS,CAAC,KAAK,CAAC,EAAE,EAAE,CAAC;oBAC5B,CAAC,KAAK,CAAC,SAAS,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,EAAE,KAAK,CAAC,CAAC,EAAE,KAAK,CAAC,WAAW,CAAC,KAAK,CAAC,KAAK,CAAC,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,IAAA,A,EAAF,hF,GAAG,CAAC,QAAA,A,EAAA,E,EAAA,E,GAAG,CAAC,QAAE,wE,CAAC,CAAC;gBAACxF,IAAAM,IAAAI,GAAAG,GAAAG,CAAAC,GAAAC,CAAAC,GAAAC,CAAAC,IAAAI,EAAAE,CAAAC;gBAAChC,IAAAI,CAAAC,IAAAI,CAAAC,GAAAG,CAAAC,CAAC;gBACf,GAAAG,CAAAC,GAAAG,CAAAC,GAAAG,EAAAE,IAAAI,CAAAC,C,AAAC;aACpB,CAAAC,CAAAC;SACJ;QACD,OAAAO,GAAAG,CAAAC;IACb,CAAAC;IACD,SAAAS,gBAAAgB,CAAAC,CAAAS;QACjC,OAAAO,kBAAAkB,CAAAC,CAAAC,CAAAC;aACvB,OAAAO,CAAAC,OAAAO,EAAAE,GAAAG,CAAAC;aACA

CAAC,GAAA,CAAC,CAAC;gBACzF,IAAI,CAAC,OAAQ,CAAC,OAAO,CAAC,UAAA,MAAM;oBAC1B,QAAA
Q,MAAM,CAAC,EAAE;wBACf,KAAK,GAAG,CAAC;wBACT,KAAK,GAAG;4BACN,IAAM,IAAI,GAAG,CA
AC,MAAM,CAAC,EAAE,KAAK,GAAG,GAAG,KAAI,CAAC,GAAI,CAAC,GAAG,CAAC,MAAM,CAAC,KA
AK,CAAC,GAAG,SAAS,KAAK,EAAE,CAAC;4BACjF,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,KAAM,CAAC
,CAAC;4BACzB,KAAI,CAAC,GAAI,CAAC,GAAG,CAAC,MAAM,CAAC,KAK,EAE,IAAI,CAAC,CAAC;4
BAClC,MAAM;wBACR,KAAK,GAAG;4BACN,IAAI,MAAM,CAAC,KAK,KAK,SAAS,EAAE;gCAC9B,IA
AI,MAAI,GAAG,KAAI,CAAC,GAAI,CAAC,GAAG,CAAC,MAAM,CAAC,KAK,CAAC,IAAI,EAAE,CAAC;g
CAC7C,IAAM,GAAG,GAAG,MAAI,CAAC,OAAO,CAAC,MAAM,CAAC,KAK,CAAC,CAAC;gCACvC,IAAI
,GAAG,KAK,CAAC,CAAC,EAAE;oCACd,MAAI,CAAC,MAAM,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC;i
CACrB;gCACD,IAAI,MAAI,CAAC,MAM,GAAG,CAAC,EAAE;oCACnB,KAAI,CAAC,GAAI,CAAC,GAAG,
CAAC,MAAM,CAAC,KAK,EAE,MAAI,CAAC,CAAC;iCACnC;qCAAM;oCACL,KAAI,CAAC,GAAI,CAAA
C,MAAM,CAAC,MAAM,CAAC,KAK,CAAC,CAAC;iCAChC;6BACF;iCAAM;gCACL,KAAI,CAAC,GAAI,C
AAC,MAAM,CAAC,MAAM,CAAC,KAK,CAAC,CAAC;gCAC/B,6BACP;qBACJ;iBACF,CAAC,CAA
C;gBACH,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC;aACtC;SACF;yBACF;KAAA;;IC
xSD;;;;;;;IAwBA;;;IAGA,SAAS,aAAa,CAAC,MAAc;QACnC,QAAQ,MAAM;YACZ,KAAK,QAAQ,CAAC;YACd,KAAK,KAAK,CAAC;YACX,KAAK,MAAM,CAAC;YACZ,KAAK,KAAK,CAAC;YACf,KAAK,OAAO;gBACV,OAAO,KAAK,CAAC;YACf;gBACE,OAAO,IAAI,CAAC;SACf;IACH,CAAC;IAED;;;;;IAKA,SAAS,aAAa,CA
AC,KAAU;QAC/B,OAAO,OAAO,WAAW,KAAK,WAAW,IAAI,KAAK,YAAY,WAAW,CAAC;IAC5E,CAAC;I
AED;;;;;IAKA,SAAS,MAAM,CAAC,KAAU;QACxB,OAAO,OAAO,IAAI,KAAK,WAAW,IAAI,KAAK,YAAY,I
AAI,CAAC;IAC9D,CAAC;IAED;;;;;IAKA,SAAS,UAAU,CAAC,KAAU;QAC5B,OAAO,OAAO,QAAQ,KAAK,KAK,
WAAW,IAAI,KAAK,YAAY,QAAQ,CAAC;IACtE,CAAC;IAED;;;;;;;;;;QAoFE,qBACI,MAAc,EAAW,GAAW,E
AAE,KAMhC,EACN,MAMC;YAbwB,QAAG,GAAH,GAAG,CAAQ;;;;;;;;YAnE/B,SAAI,GAAW,IAAI,CAAC;;;;;
;;YAcpB,mBAAc,GAAY,KAAK,CAAC;;;;YAKhC,oBAAe,GAAY,KAAK,CAAC;;;;;;;YAQjC,iBAAY,GAAW,IAAI,C
AAM,CAAC;YAsDjE,IAAI,CAAC,MAAM,GAAG,MAAM,CAAC,WAAW,EAAE,CAAC;;;YAGnC,IAAI,OAAk
C,CAAC;;;YAIvC,IAAI,aAAa,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC,MAAM,EAAE;;gBAE1C,
IAAI,CAAC,IAAI,GAAG,CAAC,KAAK,KAAK,SAAS,IAAI,KAAU,GAAG,IAAI,CAAC;gBACtD,OAAO,GAA
G,MAAM,CAAC;aAClB;iBAAM;;gBAEL,OAAO,GAAG,KAAwB,CAAC;aACpC;;YAGD,IAAI,OAAO,EAAE;;
gBAEX,IAAI,CAAC,cAAc,GAAG,CAAC,CAAC,OAAO,CAAC,cAAc,CAAC;gBAC/C,IAAI,CAAC,eAAe,GAAG,
CAAC,CAAC,OAAO,CAAC,eAAe,CAAC;;gBAGjD,IAAI,CAAC,CAAC,OAAO,CAAC,YAAY,EAAE;oBAC1B
B,IAAI,CAAC,YAAY,GAAG,OAAO,CAAC,YAAY,CAAC;iBAC1C;;gBAGD,IAAI,CAAC,CAAC,OAAO,CAAA
C,OAAO,EAAE;oBACrB,IAAI,CAAC,OAAO,GAAG,OAAO,CAAC,OAAO,CAAC;iBAChC;gBAED,IAAI,CAA
C,CAAC,OAAO,CAAC,MAAM,EAAE;oBACpB,IAAI,CAAC,MAAM,GAAG,OAAO,CAAC,MAAM,CAAC;iB
AC9B;aACF;;YAGD,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE;gBACjB,IAAI,CAAC,OAAO,GAAG,IAAI,WAA
W,EAAE,CAAC;aAClC;;YAGD,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE;gBAChB,IAAI,CAAC,MAM,GAAG,
CAAC,GAAG,CAAC;aAC9B;iBAAM;gBACL,IAAI,CAAC,MAM,GAAG,IAAI,CAAC,MAM,GAAG,CAAC;aAC
zC;YAED,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE;gBAChB,IAAI,CAAC,MAM,GAAG,CAAC,GAAG,CAAC;aAC
9B;iBAAM;gBACL,IAAI,CAAC,MAM,GAAG,IAAI,CAAC,MAM,GAAG,CAAC;aAC1C;YAED,IAAI,CAAC,IAAI,
CAAC,MAM,GAAG,CAAC,EAAE;gBAChB,IAAI,CAAC,MAM,GAAG,CAAC,GAAG,CAAC;aAC9B;iBAAM;gBACL,
IAAI,CAAC,MAM,GAAG,IAAI,CAAC,MAM,GAAG,CAAC;aAC1C;YAED,IAAI,CAAC,IAAI,CAAC,MAM,GAAG,
CAAC,EAAE;gBAChB,IAAI,CAAC,MAM,GAAG,CAAC,GAAG,CAAC;aAC9B;iBAAM;gBACL,IAAI,CAAC,MAM,GAAG,
IAAI,CAAC,MAM,GAAG,CAAC;aAC1C;YAED,IAAI,CAAC,IAAI,CAAC,MAM,GAAG,CAAC,EAAE;gBAChB,IAAI,CAAC,MAM,GAAG,CAAC,GAAG,CAAC;aAC9B;iBAAM;gBACL,IAAI,CAAC,MAM,GAAG,IAAI,CAAC,MAM,GAAG,CAAC;aAC1C;YAED,IAAI,CAAC,IAAI,CAAC,MAM,GAAG,

AAK,IAAI,EAAE;gBACtB,OAAO,IAAI,CAAC;aACb;;YAED,IAAI,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;gBACzB,OAAO,IAAI,CAAC;aACb;;;YAGD,IAAI,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;gBACrB,OAAO,IAAI,CAAC,IAAI,CAAC,IAAI,IAAI,IAAI,CAAC;aAC/B;;YAED,IAAI,aAAa,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;gBAC5B,OAAO,IAAI,CAAC;aACb;;;YAGD,IAAI,OAAO,IAAI,CAAC,IAAI,KAAK,QAAQ,EAAE;gBACjC,OAAO,YAAY,CAAC;aACrB;;YAED,IAAI,IAAI,CAAC,IAAI,YAAY,UAAU,EAAE;gBACnC,OAAO,iDAAiD,CAAC;aAC1D;;YAED,IAAI,OAAO,IAAI,CAAC,IAAI,KAAK,QAAQ,IAAI,OAAO,IAAI,CAAC,IAAI,KAAK,QAAQ;gBAC9D,KAAK,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;gBAC5B,kBAAkB,CAAC;aAC3B;;YAED,OAAO,IAAI,CAAC;SACb;QA2BD,2BAAK,GAAL,UAAM,uBAAe,EAAE,WAAW;YAAX,4BAAA,EAAA,WAAW;YAChC,IAAI,MAAM,GAAG,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,CAAC;YACpC,IAAI,eAAe,EAAE;gBACnB,MAAM,GAAG,MAAM,CAAC,MAAM,CAAC,IAAI,CAAC,WAAW,CAAC,eAAe,CAAC,CAAC,CAAC;aAC3D;YACD,OAAO,MAAM,CAAC;SACf;QAED,+BAAS,GAAT,UAAU,IAAI;YACZ,IAAI,IAAI,CAAC,MAAM,KAAK,CAAC,EAAE;gBACrB,OAAO,IAAI,CAAC;aACb;YACD,IAAI,IAAI,CAAC,MAAM,KAAK,CAAC,EAAE;gBACrB,OAAO,IAAI,CAAC,CAAC,CAAC,CAAC;aAChB;YACD,IAAI,MAAM,GAAG,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;YAC7B,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;gBACpC,MAAM,GAAG,MAAM,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;aACtC

AAE,CAAC,EAAE,eAAe,CAAC,SAYhC;YA7BQ,UAAI,GAAG,mBAAmB,CAAC;;;;YAO3B,QAAE,GAAG,KAAK,CAAC;;;;YAelB,IAAI,KAAI,CAAC,MAAM,IAAI,GAAG,IAAI,KAAI,CAAC,MAAM,GAAG,GAAG,EAAE;gBAC3C,KAAI,CAAC,OAAO,GAAG,sCAAmC,IAAI,CAAC,GAAG,IAAI,eAAe,CAAE,CAAC;aACjF;iBAAM;gBACL,KAAI,CAAC,OAAO,GAAG,gCAA6B,IAAI,CAAC,GAAG,IAAI,eAAe,WAAK,IAAI,CAAC,MAAM,SACnF,IAAI,CAAC,UAAY,CAAC;aACvB;YACD,KAAI,CAAC,KAAK,GAAG,IAAI,CAAC,KAAK,IAAI,CAAC;;SACjC;gCACF;KA/BD,CAAuC,gBAAgB;;IC9TvD;;;;;;;IAmBA;;;;;;;;;;IAUA,SAAS,OAAO,CAAC,OAAO,CAAC,EACD,IAAY;QACd,OAAO;YACL,IAAI,MAAA;YACJ,OAAO;YACL,IAAI,MAAA;YACJ,OAAO,CAAC,OAAO;YACf,OAAO;YACL,IAAI,MAAA;YACJ,OAAO,CAAC,OAAO;YACf,OAAO;YACL,IAAI,MAAM,EAAE,OAAO,CAAC,MAAM;YAC1B,cAAc,EAAE,OAAO,CAAC,cAAc;YACtC,cAAc,YAAY,EAAE,OAAO,CAAC,YAAY;YAChD,eAAe,EAAE,OAAO,CAAC,eAAe;YACxC

;;;;QA8QD,4BAAO,GAAP,UAAQ,GAAW,EAAE,OAOf;YAPe,wBAAA,EAAA,YAOf;YACJ,OAAO,IAAI,CAAA
C,OAAO,CAAM,SAAS,EAAE,GAAG,EAAE,OAAc,CAAC,CAAC;SAC1D;;;;;;QA6RD,0BAAK,GAAL,UAAM,
GAAW,EAAE,IAAc,EAAE,OAO7B;YAP6B,wBAAA,EAAA,YAO7B;YACJ,OAAO,IAAI,CAAC,OAAO,CAAM,
OAAO,EAAE,GAAG,EAAE,OAAO,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC;SAChE;;;;;;;QA6RD,yBA
AI,GAAJ,UAAK,GAAW,EAAE,IAAc,EAAE,OAO5B;YAP4B,wBAAA,EAAA,YAO5B;YACJ,OAAO,IAAI,CAAA
C,OAAO,CAAM,MAAM,EAAE,GAAG,EAAE,OAAO,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC;SAC/D;
;;;;;;QA4RD,wBAAG,GAAH,UAAI,GAAW,EAAE,IAAc,EAAE,OAO3B;YAP2B,wBAAA,EAAA,YAO3B;YACJ
,OAAO,IAAI,CAAC,OAAO,CAAM,KAAK,EAAE,GAAG,EAAE,OAAO,CAAC,OAAO,EAAE,IAAI,CAAC,CA
AC,CAAC;SAC9D;;;;gBAt8EFC,eAAU;;;gBAtFH,WAAW;;;ICZnB;;;;;;;IAuDA;;;;;IAKA;QACE,gCAAoB,IAAIB
,EAAU,WA4B;YAAvD,SAAI,GAAJ,IAAI,CAAa;YAAU,gBAAW,GAAX,WAAW,CAAiB;SAAI;QAE/E,uCAAA
M,GAAN,UAAO,GAAqB;YAC1B,OAAO,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,GAAG,EAAE,IAAI,CAAC
,IAAI,CAAC,CAAC;SACnD;qCACF;KAAA,IAAA;IAED;;;;;;QAMa,iBAAiB,GAAG,IAAIC,mBAAc,mB
AAmB,EAAE;;QAG5F;;QACE,mCAAS,GAAT,UAAU,GAAqB,EAAE,IAAiB;YAChD,OAAO,IAAI,CAAC,WAAW,CAAC,M
AAM,CAAC,GAAG,CAAC,CAAC;SACzB;;;;gBAJFD,eAAU;;;IC5EX;;;;;;;IAgBA;IACA;IACA;IACA,IA
AI,aAAa,GAAW,CAAC,CAAC;IAE9B;IACA;IACO,IAAM,qBAAqB,GAAG,gDAAgD,CAAC;IAEtF;IACA;IAC
O,IAAM,sBAAsB,GAAG,+CAA+C,CAAC;IAC/E;IAAM,6BAA6B,GAAG,6CAA6C,CAAC;IAE3F;;;;;;;;QAOA;S
AEC;mCAAA;KAAA,IAAA;IAED;;;;;;;;;QAeE,4BAAoB,WAAiC,EAAA4B,QAAa;YAAb,YAA1E,gBAAW,GAAX,WAAW,CAAsB
W,CAAsB;YAAA,aAAA,GAAA,QAAA,CAAa;YAAA,YAA1E,gBAAW,GAAX,WAAW,CAAsB;YAAA,aAAA,GAAA,QAAA,CAAa;YAA
AsB;YAA4B,aAAQ,GAAR,QAAQ,CAAa;YAAA,YAA1E,gBAAW,GAAX,WAAW,CAAsB;YAAA,aAAA,GAAA,QAAA,CAAa;YAA
AQ,GAAR,QAAQ,CAAa;YAAA,YAA1E,gBAAW,GAAX,WAAW,CAAsB;YAAA,aAAA,GAAA,QAAA,CAAa;YAAA,YAA1E,gBAAW,GAAX,WAAW,CAAsB;YAAA,aAAA,GAAA,QAAA,CAAa;YAA
AK;;;;YAAF7E,oBAAAe,GAAG,OAAO,CAAC,OAAO,EAAE,CAAC;
SAE6C;;;;QAK1F,yCAAAY,GAAG,OAAO,CAAC,uBAAqB,aAAa,EAAI,CAAC;SAC/C;;;;;;;QAQD,mCAAM,GA
AN,UAAO,GAAuB;YAA9B,SAAuB,GAAvB,IAAI,CAAC,WAAW,CAAC,MAAM,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;gBAC1C1B,mBAAc,CAAC,IAAI,CAAC,WAAW,CAAC,MAAM,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;SAAE;QAAA,CAAC;QAAA,CAAC;QAAA,CAAC

K,CAAoB;SAAI;;;;;;;;QASjD,oCAAS,GAAT,UAAU,GAAqB,EAAE,IAAiB;YAChD,IAAI,GAAG,CAAC,MAAM,KAAK,OAAO,EAAE;gBAC1B,OAAO,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,GAAyB,CAAC,CAAC;aACrD;;YAED,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;SACzB;;;;gBAjBFJ,eAAU;;;gBAEkB,kBAAAkB;;;IC3O/C;;;;;;;;IAgBA,IAAM,WAAW,GAAG,cAAc,CAAC;IAEnC;;;;IAIA,SAAS,cAAc,CAAC,GAAQ;QAC9B,IAAI,aAAa,GAAG,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC;QACxC,IAAI,GAAG,GAAG,EAAE,CAAC;QACb,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,aAAa,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAC7C,IAAI,IAAI,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC;YAC5B,IAAI,IAAI,KAAK,GAAG,IAAI,IAAI,KAAK,GAAG,IAAI,IAAI,KAAK,GAAG,IAAI,IAAI,KAAK,GAAG,EAAE;gBAC1E,GAAG,IAAI,IAAI,CAAC;aACb;iBAAM;gBACL,GAAG,IAAI,KAAK,GAAG,IAAI,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,WAAW,EAAE,CAAC;aAC9D;SACF;QACD,OAAO,GAAG,CAAC;KACZ;IAED;;;;;;;;

EAAE,GAAG,CAAC,MAAM,IAAI,CAAC;wBACvB,UAAU,EAAE,GAAG,CAAC,UAAU,IAAI,eAAe;wBAC7C,GAAG,EAAE,GAAG,IAAI,SAAS;qBACtB,CAAC,CAAC;oBACH,QAAQ,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;iBACrB,CAAC;;;;;gBAMF,IAAI,WAAW,GAAG,KAAK,CAAC;;gBAIxB,IAAM,cAAc,GAAG,UAAC,KAAoB,EAAE,KAAoB,EAAE,KAAoB,EAAE

C,CAAC;gBAC9D,IAAI,CAAC,KAAK,GAAG,YAAY,CAAC,WAAW,CACjC,UAAC,IAAI,EAAE,WAAW,IAAAK,OAAA,IAAI,sBAAsB,CAAC,IAAI,EAAE,WAAW,CAAC,GAAA,A,EAAE,IAAI,CAAC,OAAO,CAAC,CAAC;aACzF;YACD,OAAO,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;SAC/B;;;;gBAbFH,eAAU;;;gBAlBlBH,WAAW;gBAHCO,aAAQ;;IAqC5B;;;;;;;;aAQgB,mBAAmB,CAC/B,OAAoB,EAAE,YAAyC;QAAzC,6BAAA,EAAA,iBAAyC;QAE/D,IAAI,CAAC,YAAY,EAAE;YACjB,IAAI,CAAC,YAAY,EAAE;gBACjB,MAAM,IAAI,KAAK,CAAC,uCAAuC,CAAC,CAAC;aAC1D;YACD,YAAY,GAAG,OAAO,CAAC,SAAS,CAAC,CAAC;SACnC;QAED,IAAI,CAAC,OAAO,EAAE;YACZ,OAAO,GAAG,IAAI,CAAC;SAChB;QAED,IAAI,OAAO,GAAG,CAAC,CAAC;QAChB,IAAI,OAAO,GAAG,YAAY,CAAC,MAAM,CAAC;QAClC,OAAO,OAAO,GAAG,OAAO,EAAE;YACxB,IAAI,IAAI,GAAG,YAAY,CAAC,OAAO,EAAE,CAAC;YAClC,IAAI,IAAI,KAAK,OAAO,EAAE;gBACpB,OAAO,GAAG,IAAI,CAAC;gBACf,MAAM;aACP;SACF;QAED,OAAO,OAAO,CAAC;KAChB;;;;;;;;

* /core-11-0-5-tgz/package/esm2015/src/application_tokens.js
* /core-11-0-5-tgz/package/schematics/migrations/wait-for-async/util.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/imports.d.ts
* /core-11-0-5-tgz/package/esm2015/src/sanitization/html_sanitizer.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/host_property.js
* /core-11-0-5-tgz/package/schematics/migrations/renderer-to-renderer2/index.d.ts
* /core-11-0-5-tgz/package/schematics/utils/typescript/class_declaration.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/component.js
*
 /core-11-0-5-tgz/package/esm2015/src/sanitization/bypass.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/transform.js
* /core-11-0-5-tgz/package/esm2015/src/render3/global_utils_api.js
* /core-11-0-5-tgz/package/esm2015/src/render3/di_setup.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-
di/decorator_rewrite/import_rewrite_visitor.js
* /core-11-0-5-tgz/package/esm2015/src/di/reflective_key.js
* /core-11-0-5-tgz/package/esm2015/src/render3/util/misc_utils.js
* /core-11-0-5-tgz/package/schematics/migrations/abstract-control-parent/index.js
* /core-11-0-5-tgz/package/schematics/migrations/relative-link-resolution/util.js
* /core-11-0-5-tgz/package/esm2015/src/util/global.js
* /core-11-0-5-tgz/package/esm2015/src/metadata/do_boostrap.js
* /core-11-0-5-tgz/package/esm2015/src/linker/component_factory_resolver.js
* /core-11-0-5-tgz/package/schematics/migrations/renderer-to-renderer2/helpers.js
* /core-11-0-5-tgz/package/esm2015/src/di/reflective_errors.js
*
 /core-11-0-5-tgz/package/esm2015/src/di/interface/provider.js
* /core-11-0-5-tgz/package/esm2015/src/util/security/trusted_type_defs.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/player.js
* /core-11-0-5-tgz/package/esm2015/src/reflection/reflector.js
* /core-11-0-5-tgz/package/esm2015/testing/src/async_test_completer.js
* /core-11-0-5-tgz/package/esm2015/src/di/jit/injectable.js
* /core-11-0-5-tgz/package/esm2015/src/error_handler.js
* /core-11-0-5-tgz/package/esm2015/src/render3/i18n/i18n_locale_id.js
* /core-11-0-5-tgz/package/schematics/migrations/renderer-to-renderer2/index.js
* /core-11-0-5-tgz/package/esm2015/src/metadata/ng_module.js
* /core-11-0-5-tgz/package/esm2015/src/render3/definition_factory.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/container.js
* /core-11-0-5-tgz/package/esm2015/src/view/view.js
* /core-11-0-5-tgz/package/esm2015/src/view/text.js
* /core-11-0-5-tgz/package/esm2015/src/render3/i18n/i18n_parse.js
*
 /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/usage_strategy/template_usage_visitor.js
* /core-11-0-5-tgz/package/esm2015/src/metadata/resource_loading.js
* /core-11-0-5-tgz/package/esm2015/src/sanitization/sanitization.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/property_name.js
* /core-11-0-5-tgz/package/esm2015/src/linker/component_factory.js
* /core-11-0-5-tgz/package/schematics/migrations/dynamic-queries/util.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/template.js

* /core-11-0-5-tgz/package/esm2015/src/change_detection/differs/default_iterable_differ.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/style_map_interpolation.js
* /core-11-0-5-tgz/package/esm2015/src/view/types.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/angular/ng_query_visitor.d.ts
* /core-11-0-5-tgz/package/schematics/utils/typescript/symbol.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/template_strategy/template_strategy.js
*
 /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/usage_strategy/super_class_context.js
* /core-11-0-5-tgz/package/schematics/migrations/static-
queries/strategies/usage_strategy/template_usage_visitor.d.ts
* /core-11-0-5-tgz/package/esm2015/src/metadata/view.js
* /core-11-0-5-tgz/package/esm2015/src/linker/template_ref.js
* /core-11-0-5-tgz/package/schematics/migrations/relative-link-resolution/update_recorder.d.ts
* /core-11-0-5-tgz/package/schematics/utils/typescript/property_name.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-decorated-fields/update_recorder.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/create_ngc_program.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/wait-for-async/index.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/angular/directive_inputs.d.ts
* /core-11-0-5-tgz/package/esm2015/src/di/injector_marker.js
*
 /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-decorated-fields/index.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/native-view-encapsulation/index.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/i18n.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/i18n.js
* /core-11-0-5-tgz/package/esm2015/src/render3/pure_function.js
* /core-11-0-5-tgz/package/esm2015/src/version.js
* /core-11-0-5-tgz/package/esm2015/src/view/util.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/class_declaration.js
* /core-11-0-5-tgz/package/esm2015/testing/src/ng_zone_mock.js
* /core-11-0-5-tgz/package/schematics/migrations/template-var-assignment/index.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/ng_declaration_collector.js
* /core-11-0-5-tgz/package/esm2015/src/render3/node_manipulation_i18n.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-decorated-fields/transform.d.ts
* /core-11-0-5-tgz/package/esm2015/src/debug/proxy.js
*
 /core-11-0-5-tgz/package/schematics/migrations/initial-navigation/update_recorder.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/interpolation.js
* /core-11-0-5-tgz/package/schematics/migrations/native-view-encapsulation/index.js
* /core-11-0-5-tgz/package/esm2015/src/zone/ng_zone.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/angular/super_class.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/update_recorder.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/find_base_classes.d.ts
* /core-11-0-5-tgz/package/schematics/utils/typescript/decorators.d.ts
* /core-11-0-5-tgz/package/esm2015/src/view/ng_content.js
* /core-11-0-5-tgz/package/schematics/migrations/native-view-encapsulation/util.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/transform.d.ts
* /core-11-0-5-tgz/package/esm2015/src/util/decorators.js
* /core-11-0-5-tgz/package/esm2015/src/change_detection/change_detection_util.js

*
 /core-11-0-5-tgz/package/schematics/utils/ng_component_template.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/document.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/usage_strategy/usage_strategy.js
* /core-11-0-5-tgz/package/esm2015/src/render3/hooks.js
* /core-11-0-5-tgz/package/esm2015/src/render3/styling/static_styling.js
* /core-11-0-5-tgz/package/schematics/migrations/abstract-control-parent/index.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/renderer-to-renderer2/util.js
* /core-11-0-5-tgz/package/esm2015/testing/index.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/functions.js
* /core-11-0-5-tgz/package/schematics/migrations/move-document/move-import.d.ts
* /core-11-0-5-tgz/package/esm2015/src/di/scope.js
* /core-11-0-5-tgz/package/esm2015/testing/src/r3_test_bed_compiler.js
* /core-11-0-5-tgz/package/esm2015/src/reflection/reflection.js
* /core-11-0-5-tgz/package/esm2015/testing/src/lang_utils.js
*
 /core-11-0-5-tgz/package/schematics/migrations/template-var-assignment/analyze_template.d.ts
* /core-11-0-5-tgz/package/esm2015/src/util/is_dev_mode.js
* /core-11-0-5-tgz/package/esm2015/src/render3/styling/styling_parser.js
* /core-11-0-5-tgz/package/esm2015/src/render3/util/global_utils.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/transform.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/decorators.js
* /core-11-0-5-tgz/package/esm2015/src/metadata/di.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/find_base_classes.js
* /core-11-0-5-tgz/package/schematics/migrations/router-preserve-query-params/util.js
* /core-11-0-5-tgz/package/esm2015/src/ivy_switch.js
* /core-11-0-5-tgz/package/esm2015/testing/src/logger.js
* /core-11-0-5-tgz/package/schematics/migrations/static-
queries/strategies/usage_strategy/declaration_usage_visitor.d.ts
* /core-11-0-5-tgz/package/esm2015/testing/src/metadata_override.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/angular/ng_query_visitor.js
*
 /core-11-0-5-tgz/package/schematics/migrations/static-queries/angular/directive_inputs.js
* /core-11-0-5-tgz/package/esm2015/src/linker.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-
di/decorator_rewrite/source_file_exports.js
* /core-11-0-5-tgz/package/esm2015/src/render3/ng_module_ref.js
* /core-11-0-5-tgz/package/esm2015/src/render3/empty.js
* /core-11-0-5-tgz/package/esm2015/src/render3/styling/class_differ.js
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/index.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/update_recorder.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/renderer.js
* /core-11-0-5-tgz/package/esm2015/src/util/named_array_type.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-decorated-fields/update_recorder.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/ng_declaration_collector.d.ts
*
 /core-11-0-5-tgz/package/esm2015/src/render/api_flags.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/imports.js

* /core-11-0-5-tgz/package/schematics/migrations/module-with-providers/collector.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/timing-strategy.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/update_recorder.d.ts
* /core-11-0-5-tgz/package/esm2015/testing/src/testing_internal.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-decorated-fields/index.js
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/definition_collector.js
* /core-11-0-5-tgz/package/esm2015/src/reflection/platform_reflection_capabilities.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/di.js
* /core-11-0-5-tgz/package/esm2015/src/linker/compiler.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/injector.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/projection.js
*
/core-11-0-5-tgz/package/esm2015/src/render3/component_ref.js
* /core-11-0-5-tgz/package/esm2015/testing/public_api.js
* /core-11-0-5-tgz/package/esm2015/src/debug/debug_node.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/i18n_icu_container_visitor.js
* /core-11-0-5-tgz/package/esm2015/src/render3/node_selector_matcher.js
* /core-11-0-5-tgz/package/schematics/migrations/module-with-providers/collector.d.ts
* /core-11-0-5-tgz/package/esm2015/src/application_init.js
* /core-11-0-5-tgz/package/schematics/migrations/move-document/index.js
* /core-11-0-5-tgz/package/esm2015/src/testability/testability.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/decorator_rewrite/path_format.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/angular/query-definition.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/template_strategy/template_strategy.d.ts
*
/core-11-0-5-tgz/package/esm2015/src/render3/instructions/property.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-
di/decorator_rewrite/import_rewrite_visitor.d.ts
* /core-11-0-5-tgz/package/esm2015/src/view/element.js
* /core-11-0-5-tgz/package/schematics/migrations/relative-link-resolution/collector.d.ts
* /core-11-0-5-tgz/package/esm2015/src/util/ng_reflect.js
* /core-11-0-5-tgz/package/esm2015/src/compiler/compiler_facade_interface.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-
di/decorator_rewrite/convert_directive_metadata.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/renderer_dom.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-
di/decorator_rewrite/convert_directive_metadata.d.ts
* /core-11-0-5-tgz/package/esm2015/src/change_detection.js
* /core-11-0-5-tgz/package/schematics/migrations/initial-navigation/update_recorder.js
* /core-11-0-5-tgz/package/esm2015/testing/src/component_fixture.js
*
/core-11-0-5-tgz/package/esm2015/src/render.js
* /core-11-0-5-tgz/package/esm2015/src/di/injection_token.js
* /core-11-0-5-tgz/package/esm2015/src/linker/view_ref.js
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/providers_evaluator.d.ts
* /core-11-0-5-tgz/package/esm2015/src/util/char_code.js
* /core-11-0-5-tgz/package/esm2015/src/util/microtask.js
* /core-11-0-5-tgz/package/esm2015/src/render3/i18n/i18n_util.js

* /core-11-0-5-tgz/package/esm2015/src/sanitization/security.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/usage_strategy/usage_strategy.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/sanitization.js
* /core-11-0-5-tgz/package/esm2015/src/change_detection/differs/keyvalue_differs.js
* /core-11-0-5-tgz/package/esm2015/src/metadata.js
* /core-11-0-5-tgz/package/esm2015/src/util/errors.js
* /core-11-0-5-tgz/package/esm2015/src/di/reflective_provider.js
* /core-11-0-5-tgz/package/esm2015/src/render3/styling/style_binding_list.js
*
/core-11-0-5-tgz/package/esm2015/src/view/query.js
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/definition_collector.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/node_manipulation.js
* /core-11-0-5-tgz/package/esm2015/testing/src/private_export_testing.js
* /core-11-0-5-tgz/package/esm2015/src/i18n/tokens.js
* /core-11-0-5-tgz/package/esm2015/src/i18n/locale_en.js
* /core-11-0-5-tgz/package/esm2015/src/di/metadata_attr.js
* /core-11-0-5-tgz/package/esm2015/src/render3/i18n/i18n_apply.js
* /core-11-0-5-tgz/package/schematics/utils/parse_html.js
* /core-11-0-5-tgz/package/schematics/migrations/abstract-control-parent/util.d.ts
* /core-11-0-5-tgz/package/esm2015/src/di/inject_switch.js
* /core-11-0-5-tgz/package/schematics/migrations/template-var-assignment/analyze_template.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/advance.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/timing-strategy.js
*
/core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/usage_strategy/super_class_context.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/util/stringify_utils.js
* /core-11-0-5-tgz/package/esm2015/src/change_detection/differs/iterable_differs.js
* /core-11-0-5-tgz/package/esm2015/src/reflection/reflection_capabilities.js
* /core-11-0-5-tgz/package/esm2015/src/render3/index.js
* /core-11-0-5-tgz/package/esm2015/src/application_module.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/usage_strategy/declaration_usage_visitor.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/transform.d.ts
* /core-11-0-5-tgz/package/esm2015/src/errors.js
* /core-11-0-5-tgz/package/esm2015/src/render3/util/discovery_utils.js
* /core-11-0-5-tgz/package/schematics/migrations/native-view-encapsulation/util.js
* /core-11-0-5-tgz/package/esm2015/src/change_detection/differs/default_keyvalue_differ.js
*
/core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/decorator_rewrite/source_file_exports.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/features/copy_definition_feature.js
* /core-11-0-5-tgz/package/esm2015/testing/src/fake_async.js
* /core-11-0-5-tgz/package/schematics/migrations/router-preserve-query-params/index.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/module-with-providers/transform.js
* /core-11-0-5-tgz/package/esm2015/src/linker/element_ref.js
* /core-11-0-5-tgz/package/schematics/utils/project_tsconfig_paths.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/relative-link-resolution/util.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/renderer-to-renderer2/helpers.d.ts

* /core-11-0-5-tgz/package/schematics/migrations/initial-navigation/collector.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/error_code.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/all.js
* /core-11-0-5-tgz/package/esm2015/testing/src/test_bed_common.js
*
 /core-11-0-5-tgz/package/schematics/migrations/router-preserve-query-params/util.d.ts
* /core-11-0-5-tgz/package/esm2015/src/metadata/ng_module_def.js
* /core-11-0-5-tgz/package/esm2015/src/di/r3_injector.js
* /core-11-0-5-tgz/package/esm2015/src/render3/collect_native_nodes.js
* /core-11-0-5-tgz/package/esm2015/src/render3/util/change_detection_utils.js
* /core-11-0-5-tgz/package/esm2015/src/change_detection/change_detector_ref.js
* /core-11-0-5-tgz/package/schematics/migrations/relative-link-resolution/index.js
* /core-11-0-5-tgz/package/esm2015/src/render3/tokens.js
* /core-11-0-5-tgz/package/esm2015/public_api.js
* /core-11-0-5-tgz/package/esm2015/src/util/symbol.js
* /core-11-0-5-tgz/package/schematics/utils/parse_html.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/jit/environment.js
* /core-11-0-5-tgz/package/esm2015/src/di/forward_ref.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/style_prop_interpolation.js
* /core-11-0-5-tgz/package/schematics/migrations/dynamic-queries/index.d.ts
*
 /core-11-0-5-tgz/package/esm2015/src/di/metadata.js
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/transform.d.ts
* /core-11-0-5-tgz/package/esm2015/testing/src/async.js
* /core-11-0-5-tgz/package/esm2015/src/di/reflective_injector.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/parse_tsconfig.d.ts
* /core-11-0-5-tgz/package/esm2015/src/application_ref.js
* /core-11-0-5-tgz/package/esm2015/src/util/lang.js
* /core-11-0-5-tgz/package/schematics/utils/line_mappings.d.ts
* /core-11-0-5-tgz/package/esm2015/src/util/ng_jit_mode.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/class_map_interpolation.js
* /core-11-0-5-tgz/package/esm2015/src/di/index.js
* /core-11-0-5-tgz/package/esm2015/src/render3/util/view_utils.js
* /core-11-0-5-tgz/package/schematics/migrations/relative-link-resolution/update_recorder.js
* /core-11-0-5-tgz/package/esm2015/src/util/stringify.js
* /core-11-0-5-tgz/package/esm2015/src/render3/namespaces.js
*
 /core-11-0-5-tgz/package/esm2015/src/i18n/locale_data_api.js
* /core-11-0-5-tgz/package/schematics/utils/import_manager.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/change_detection.js
* /core-11-0-5-tgz/package/esm2015/src/render3/errors.js
* /core-11-0-5-tgz/package/schematics/migrations/module-with-providers/index.d.ts
* /core-11-0-5-tgz/package/esm2015/src/view/ng_module.js
* /core-11-0-5-tgz/package/esm2015/testing/src/testing.js
* /core-11-0-5-tgz/package/esm2015/testing/src/r3_test_bed.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/text_interpolation.js
* /core-11-0-5-tgz/package/esm2015/src/view/pure_expression.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/angular/super_class.js

* /core-11-0-5-tgz/package/esm2015/src/di.js
* /core-11-0-5-tgz/package/esm2015/src/render3/state.js
* /core-11-0-5-tgz/package/esm2015/src/render3/pipe.js
* /core-11-0-5-tgz/package/esm2015/src/codegen_private_exports.js
*
 /core-11-0-5-tgz/package/esm2015/src/di/util.js
* /core-11-0-5-tgz/package/esm2015/src/r3_symbols.js
* /core-11-0-5-tgz/package/esm2015/src/di/injectable.js
* /core-11-0-5-tgz/package/schematics/migrations/abstract-control-parent/util.js
* /core-11-0-5-tgz/package/schematics/migrations/navigation-extras-omissions/index.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/element_container.js
* /core-11-0-5-tgz/package/esm2015/src/util/raf.js
* /core-11-0-5-tgz/package/esm2015/src/view/index.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/symbol.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/view.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/styling.js
* /core-11-0-5-tgz/package/esm2015/src/util/array_utils.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/definition.js
* /core-11-0-5-tgz/package/esm2015/src/linker/ng_module_factory_loader.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/di_attr.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/functions.d.ts
*
 /core-11-0-5-tgz/package/esm2015/src/console.js
* /core-11-0-5-tgz/package/esm2015/src/di/null_injector.js
* /core-11-0-5-tgz/package/esm2015/src/render3/query.js
* /core-11-0-5-tgz/package/esm2015/src/render3/i18n/i18n_debug.js
* /core-11-0-5-tgz/package/schematics/utils/ng_component_template.js
* /core-11-0-5-tgz/package/esm2015/src/view/services.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/nodes.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/test_strategy/test_strategy.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/projection.js
* /core-11-0-5-tgz/package/esm2015/src/linker/query_list.js
* /core-11-0-5-tgz/package/esm2015/src/change_detection/constants.js
* /core-11-0-5-tgz/package/esm2015/src/linker/ng_module_factory_registration.js
* /core-11-0-5-tgz/package/esm2015/src/di/interface/injector.js
* /core-11-0-5-tgz/package/esm2015/src/render3/jit/pipe.js
* /core-11-0-5-tgz/package/esm2015/src/render3/metadata.js
*
 /core-11-0-5-tgz/package/esm2015/src/render3/context_discovery.js
* /core-11-0-5-tgz/package/esm2015/src/util/assert.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/namespace.js
* /core-11-0-5-tgz/package/schematics/migrations/dynamic-queries/util.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/styling.js
* /core-11-0-5-tgz/package/esm2015/src/util/iterable.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/index.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/jit/module.js
* /core-11-0-5-tgz/package/esm2015/src/view/provider.js
* /core-11-0-5-tgz/package/schematics/utils/typescript/compiler_host.d.ts

* /core-11-0-5-tgz/package/esm2015/src/change_detection/change_detection.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/decorator_rewrite/decorator_rewriter.d.ts
* /core-11-0-5-tgz/package/esm2015/src/reflection/types.js
* /core-11-0-5-tgz/package/esm2015/testing/src/before_each.js
*
 /core-11-0-5-tgz/package/esm2015/src/core_render3_private_export.js
* /core-11-0-5-tgz/package/esm2015/src/view/errors.js
* /core-11-0-5-tgz/package/schematics/utils/ng_decorators.d.ts
* /core-11-0-5-tgz/package/esm2015/src/di/jit/environment.js
* /core-11-0-5-tgz/package/schematics/migrations/initial-navigation/util.d.ts
* /core-11-0-5-tgz/package/esm2015/src/linker/system_js_ng_module_factory_loader.js
* /core-11-0-5-tgz/package/esm2015/src/render3/features/ng_onchanges_feature.js
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/index.js
* /core-11-0-5-tgz/package/schematics/migrations/navigation-extras-omissions/util.d.ts
* /core-11-0-5-tgz/package/esm2015/src/view/entrypoint.js
* /core-11-0-5-tgz/package/esm2015/src/render3/features/inherit_definition_feature.js
* /core-11-0-5-tgz/package/esm2015/src/metadata/directives.js
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/providers_evaluator.js
* /core-11-0-5-tgz/package/esm2015/src/render3/definition.js
*
 /core-11-0-5-tgz/package/schematics/migrations/move-document/document_import_visitor.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/next_context.js
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/update_recorder.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/missing-injectable/transform.js
* /core-11-0-5-tgz/package/esm2015/src/render3/util/debug_utils.js
* /core-11-0-5-tgz/package/esm2015/src/render/api.js
* /core-11-0-5-tgz/package/esm2015/src/di/injector_token.js
* /core-11-0-5-tgz/package/esm2015/src/render3/view_ref.js
* /core-11-0-5-tgz/package/schematics/migrations/initial-navigation/index.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/listener.js
* /core-11-0-5-tgz/package/esm2015/src/view/view_attach.js
* /core-11-0-5-tgz/package/esm2015/src/render3/jit/directive.js
* /core-11-0-5-tgz/package/esm2015/src/render3/util/view_traversal_utils.js
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/context.js
*
 /core-11-0-5-tgz/package/esm2015/src/compiler/compiler_facade.js
* /core-11-0-5-tgz/package/esm2015/src/linker/ng_module_factory.js
* /core-11-0-5-tgz/package/esm2015/testing/src/test_compiler.js
* /core-11-0-5-tgz/package/schematics/utils/schematics_prompt.js
* /core-11-0-5-tgz/package/esm2015/src/linker/view_container_ref.js
* /core-11-0-5-tgz/package/schematics/migrations/move-document/index.d.ts
* /core-11-0-5-tgz/package/schematics/migrations/renderer-to-renderer2/util.d.ts
* /core-11-0-5-tgz/package/esm2015/src/event_emitter.js
* /core-11-0-5-tgz/package/schematics/utils/line_mappings.js
* /core-11-0-5-tgz/package/esm2015/src/metadata/schema.js
* /core-11-0-5-tgz/package/esm2015/src/render3/view_engine_compatibility_prebound.js
* /core-11-0-5-tgz/package/esm2015/testing/src/styling.js

* /core-11-0-5-tgz/package/schematics/utils/typescript/nodes.js
* /core-11-0-5-tgz/package/esm2015/testing/src/metadata_overrider.js
* /core-11-0-5-tgz/package/schematics/migrations/move-document/document_import_visitor.d.ts
*
 /core-11-0-5-tgz/package/esm2015/src/di/injector_compatibility.js
* /core-11-0-5-tgz/package/esm2015/src/di/interface/defs.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/decorator_rewrite/path_format.js
* /core-11-0-5-tgz/package/esm2015/src/util/noop.js
* /core-11-0-5-tgz/package/esm2015/src/interface/type.js
* /core-11-0-5-tgz/package/schematics/migrations/module-with-providers/util.js
* /core-11-0-5-tgz/package/esm2015/src/render3/i18n/i18n_insert_before_index.js
* /core-11-0-5-tgz/package/schematics/migrations/initial-navigation/index.d.ts
* /core-11-0-5-tgz/package/esm2015/index.js
* /core-11-0-5-tgz/package/esm2015/src/util/dom.js
* /core-11-0-5-tgz/package/esm2015/src/sanitization/inert_body.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/create_ngc_program.js
* /core-11-0-5-tgz/package/schematics/utils/import_manager.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/i18n/i18n_postprocess.js
*
 /core-11-0-5-tgz/package/esm2015/src/util/property.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/attribute.js
* /core-11-0-5-tgz/package/schematics/migrations/renderer-to-renderer2/migration.d.ts
* /core-11-0-5-tgz/package/esm2015/src/i18n/localization.js
* /core-11-0-5-tgz/package/schematics/migrations/wait-for-async/index.d.ts
* /core-11-0-5-tgz/package/esm2015/src/util/ng_dev_mode.js
* /core-11-0-5-tgz/package/esm2015/src/render3/di.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/lview_debug.js
* /core-11-0-5-tgz/package/schematics/migrations/initial-navigation/util.js
* /core-11-0-5-tgz/package/esm2015/src/render3/node_assert.js
* /core-11-0-5-tgz/package/esm2015/src/di/injector.js
* /core-11-0-5-tgz/package/schematics/migrations/module-with-providers/index.js
* /core-11-0-5-tgz/package/esm2015/src/render3/util/injector_utils.js
* /core-11-0-5-tgz/package/esm2015/src/util/comparison.js
* /core-11-0-5-tgz/package/schematics/migrations/router-preserve-query-params/index.js
*
 /core-11-0-5-tgz/package/schematics/utils/ng_decorators.js
* /core-11-0-5-tgz/package/schematics/migrations/wait-for-async/util.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/fields.js
* /core-11-0-5-tgz/package/esm2015/testing/src/resolvers.js
* /core-11-0-5-tgz/package/schematics/migrations/dynamic-queries/index.js
* /core-11-0-5-tgz/package/schematics/migrations/template-var-assignment/angular/html_variable_assignment_visitor.js
* /core-11-0-5-tgz/package/esm2015/src/interface/simple_change.js
* /core-11-0-5-tgz/package/esm2015/src/platform_core_providers.js
* /core-11-0-5-tgz/package/esm2015/src/zone.js
* /core-11-0-5-tgz/package/esm2015/src/render3/bindings.js
* /core-11-0-5-tgz/package/schematics/migrations/relative-link-resolution/transform.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/query.js

* /core-11-0-5-tgz/package/schematics/migrations/template-var-assignment/angular/html_variable_assignment_visitor.d.ts
*
 /core-11-0-5-tgz/package/esm2015/testing/src/test_bed.js
* /core-11-0-5-tgz/package/esm2015/src/render3/assert.js
* /core-11-0-5-tgz/package/schematics/migrations/renderer-to-renderer2/migration.js
* /core-11-0-5-tgz/package/schematics/utils/schematics_prompt.d.ts
* /core-11-0-5-tgz/package/schematics/utils/typescript/parse_tsconfig.js
* /core-11-0-5-tgz/package/schematics/migrations/template-var-assignment/index.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/storage.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/strategies/test_strategy/test_strategy.js
* /core-11-0-5-tgz/package/schematics/migrations/relative-link-resolution/index.d.ts
* /core-11-0-5-tgz/package/esm2015/src/sanitization/sanitizer.js
* /core-11-0-5-tgz/package/esm2015/src/sanitization/url_sanitizer.js
* /core-11-0-5-tgz/package/esm2015/src/change_detection/pipe_transform.js
* /core-11-0-5-tgz/package/esm2015/src/util/ng_i18n_closure_mode.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/index.d.ts
*
 /core-11-0-5-tgz/package/schematics/migrations/static-queries/angular/query-definition.js
* /core-11-0-5-tgz/package/esm2015/src/util/closure.js
* /core-11-0-5-tgz/package/esm2015/src/view/refs.js
* /core-11-0-5-tgz/package/esm2015/src/core.js
* /core-11-0-5-tgz/package/esm2015/src/di/jit/util.js
* /core-11-0-5-tgz/package/esm2015/src/util/security/trusted_types.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-decorated-fields/transform.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/element.js
* /core-11-0-5-tgz/package/schematics/migrations/undecorated-classes-with-di/index.js
* /core-11-0-5-tgz/package/schematics/migrations/module-with-providers/transform.d.ts
* /core-11-0-5-tgz/package/esm2015/src/render3/interfaces/type_checks.js
* /core-11-0-5-tgz/package/esm2015/src/render3/instructions/text.js
* /core-11-0-5-tgz/package/esm2015/src/core_private_export.js
* /core-11-0-5-tgz/package/esm2015/src/render3/i18n/i18n_tree_shaking.js
*
 /core-11-0-5-tgz/package/schematics/migrations/initial-navigation/transform.d.ts
* /core-11-0-5-tgz/package/schematics/utils/project_tsconfig_paths.js
* /core-11-0-5-tgz/package/schematics/migrations/navigation-extras-omissions/util.js
* /core-11-0-5-tgz/package/schematics/migrations/static-queries/index.js
* /core-11-0-5-tgz/package/schematics/migrations/module-with-providers/util.d.ts
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/core/core.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","core","rxjs","operators","this","getClosureSafeProperty","objWithPropertyToExtract","key","Error","fillProperties","target","source","hasOwnProperty","stringify","token","Array","isArray","map","join","overriddenName","name","res","toString","newLineIndex","indexOf","substring","concatStringsWithSpace","before","after","__forward_ref__","forwardRef","forwardRefFn","resolveForwardRef","type","isForwardRef","fn","assertNumber","actual","msg","throwError","assertDefined","expected","comparison","defineInjectable","opts","providedIn","value","undefined","defineInjector","options","providers","imports","getInjectableDef","getOwnDefinition","NG_PROV_DEF","NG_INJECTABLE_DEF","field","getInjectorDef","NG_INJ_DEF","NG_INJ

ECTOR_DEF","InjectFlags","_injectImplementation","ChangeDetectionStrategy","ChangeDetectorStatus","prov","inj","ngInjectableDef","ngInjectorDef","getInjectImplementation","setInjectImplementation","impl","previous","injectRootLimpMode","notFoundValue","flags","injectableDef","Optional","noSideEffects","ChangeDetectorStatus","ViewEncapsulation","__globalThis","globalThis","__window","window","__self","WorkerGlobalScope","__global","_global","EMPTY_OBJ","EMPTY_ARRAY","NG_COMP_DEF","cmp","NG_DIR_DEF","dir","NG_PIPE_DEF","pipe","NG_MOD_DEF","mod","NG_LOC_ID_DEF","loc","NG_FACTORY_DEF","fac","NG_ELEMENT_ID","__NG_ELEMENT_ID__","_renderCompCount","defineComponent","componentDefinition","declaredInputs","def","providersResolver","decls","vars","template","consts","ngContentSelectors","hostBindings","hostVars","hostAttrs","contentQueries","inputs","outputs","exportAs","onPush","changeDetection","OnPush","directiveDefs","pipeDefs","selectors","viewQuery","features","data","encapsulation","Emulated","id","styles","_","setInput","schemas","tView","directiveTypes","directives","feature","pipeTypes","pipes","invertObject","forEach","extractDirectiveDef","extractPipeDef","setComponentScope","getComponentDef","getDirectiveDef","getPipeDef","autoRegisterModuleById","defineNgModule","bootstrap","declarations","transitiveCompileScopes","setNgModuleScope","scope","ngModuleDef","getNgModuleDef","obj","secondary","newLookup","minifiedKey","publicName","declaredName","defineDirective","definePipe","pipeDef","pure","onDestroy","prototype","ngOnDestroy","throwNotFound","TViewTypeAsString","isLView","isLContainer","isContentQueryHost","tNode","isComponentHost","isDirectiveHost","isComponentDef","getFactoryDef","extendStatics","d","b","Object","setPrototypeOf","__proto__","p","__extends","__","constructor","create","__values","o","s","Symbol","iterator","m","i","call","length","next","done","TypeError","__read","n","r","e","ar","push","error","__spread","arguments","concat","RuntimeError","_super","code","message","_this","formatRuntimeError","renderStringify","String","stringifyForError","throwProviderNotFoundError","injectorName","injectorDetails","SimpleChange","previousValue","currentValue","firstChange","isFirstChange","NgOnChangesFeature","NgOnChangesFeatureImpl","definition","ngOnChanges","ngOnChangesSetInput","rememberChangeHistoryAndInvokeOnChangesHook","simpleChangesStore","getSimpleChangesStore","current","instance","privateName","setSimpleChangesStore","store","previousChange","ngInherit","RendererStyleFlags3","DOCUMENT","getDocument","document","isProceduralRenderer","renderer","domRendererFactory3","createRenderer","hostElement","rendererType","unwrapRNode","getNativeByIndex","index","lView","getNativeByTNode","getTNode","load","view","getComponentLViewByIndex","nodeIndex","hostView","slotValue","readPatchedData","readPatchedLView","isCreationMode","viewAttachedToChangeDetector","getConstant","resetPreOrderHookFlags","updateTransplantedViewCount","lContainer","amount","viewOrContainer","parent","instructionState","lFrame","createLFrame","bindingsEnabled","isInCheckNoChangesMode","getBindingsEnabled","enableBindings","disableBindings","getLView","getTView","restoreView","viewToRestore","contextLView","getCurrentTNode","currentTNode","getCurrentTNodePlaceholderOk","getCurrentParentTNode","isParent","setCurrentTNode","isCurrentTNodeParent","setCurrentTNodeAsNotParent","setIsInCheckNoChangesMode","mode","getBindingRoot","bindingRootIndex","bindingStartIndex","getBindingIndex","bindingIndex","setBindingIndex","nextBindingIndex","incrementBindingIndex","count","setInI18nBlock","isInI18nBlock","inI18n","setCurrentDirectiveIndex","currentDirectiveIndex","getCurrentDirectiveDef","tData","getCurrentQueryIndex","currentQueryIndex","setCurrentQueryIndex","getDeclarationTNode","declTNode","enterDI","SkipSelf","parentTNode","parentLView","Host","allocLFrame","enterView","newView","newLFrame","firstChild","currentLFrame","childLFrame","child","selectedIndex","elementDepthCount","currentNamespace","leaveViewLight","oldLFrame","leaveDI","leaveView","nextContextImpl","level","walkUpViews","nestingLevel","currentView","getSelectedIndex","setSelectedIndex","getSelectedTNode","namespaceSVG","namespaceMathML","namespaceHTML","namespaceHTMLInternal","registerPostOrderHooks","directiveStart","end","directiveEnd","lifecycleHooks","ngAfterContentInit","ngAfterContentChecked","ngAfterViewInit","ngAfterViewChecked","contentHooks","contentCheckHooks","viewHooks","viewCheckHooks","destroyHooks","executeCheckHooks","hooks","callHooks","executeInitAndCheckHooks","initPhase","incrementInitPhaseFlags","arr","currentNodeIndex","nodeIndexLimit","lastNodeIndexFound","callHook","isInitHook","hook","directive","NodeInjectorFactory","isViewProvider","injectImplementation","resolving","canSeeViewProviders","injectImpl","toTNodeTypeAsString","tNodeType","text","setUpAttributes","native","attrs","isProc","namespaceURI","attrName","attrVal","setAttribute","setAttributeNS","isAnimationProp","setProperty","isNameOnlyAttributeMarker","marker","charCodeAt","mergeHostAttrs

","dst","src","slice","srcMarker","item","mergeHostAttribute","key1","key2","markerInsertPosition","dstValue","spl
ice","hasParentInjector","parentLocation","getParentInjectorIndex","getParentInjectorView","location","startView",
"viewOffset","getParentInjectorViewOffset","parentView","includeViewProviders","setIncludeViewProviders","v",
"oldValue","nextNgElementId","getOrCreateNodeInjectorForNode","existingInjectorIndex","getInjectorIndex","firs
tCreatePass","injectorIndex","insertBloom","blueprint","parentLoc","getParentInjectorLocation","parentIndex","par
entData","footer","declarationViewOffset","lViewCursor","tViewType","diPublicInInjector","bloomAdd","bloomBi
t","BLOOM_SIZE","mask","b6","b5","injectAttributeImpl","attrNameToInject","classes","attrsLength","notFound
ValueOrThrow","lookupTokenUsingModuleInjector","Self","moduleInjector","previousInjectImplementation","get"
,"getOrCreateInjectable","Default","bloomHash","bloomHashBitOrFactory","tokenId","createNodeInjector","previo
usTView","hostTElementNode","shouldSearchParent","bloomHasToken","searchTokensOnInjector","NOT_FOUN
D","NodeInjector","currentTView","injectableIdx","locateDirectiveOrProvider","getNodeInjectable","canAccessVi
ewProviders","isHostSpecialCase","nodeProviderIndexes","providerIndexes","tInjectables","injectablesStart","direc
tivesStart","cptViewProvidersCount","endIndex","providerTokenOrDef","dirDef","isFactory","throwCyclicDepend
encyError","path","depPath","previousIncludeViewProviders","registerPreOrderHooks","directiveIndex","directive
Def","_a","ngOnInit","ngDoCheck","wrappedOnChanges","preOrderHooks","preOrderCheckHooks","injectorView
","isFirstHostTNode","_tNode","_lView","getFactoryOf","typeAny","injectorDef","getInheritedFactory","ownCons
tructor","ownFactory","objectPrototype","getPrototypeOf","t","injectAttribute","ANNOTATIONS","PARAMETER
S","PROP_METADATA","makeDecorator","props","parentClass","additionalProcessing","typeFn","metaCtor","m
akeMetadataCtor","DecoratorFactory","args","_i","apply","annotationInstance","bind","TypeDecorator","cls","defin
eProperty","ngMetadataName","annotationCls","ctor","values","propName","makeParamDecorator","ParamDecorat
orFactory","ParamDecorator","annotation","unusedKey","parameters","makePropDecorator","PropDecoratorFactor
y","decoratorInstance","PropDecorator","meta","unshift","R3ResolvedDependencyType","R3FactoryTarget","Quer
y","Attribute","CREATE_ATTRIBUTE_DECORATOR__PRE_R3__","attributeName","CREATE_ATTRIBUTE_
DECORATOR_IMPL","InjectionToken","_desc","ANALYZE_FOR_ENTRY_COMPONENTS","ContentChildren
","selector","assign","first","isViewQuery","descendants","ContentChild","ViewChildren","ViewChild","getCompil
erFacade","globalNg","compilerFacade","Type","Function","isType","flatten","list","deepForEach","input","addTo
Array","removeFromArray","pop","newArray","size","keyValueArraySet","keyValueArray","keyValueArrayIndex
Of","arrayInsert2","array","value1","value2","keyValueArrayGet","_arrayIndexOfSorted","shift","start","middle","
ES5_DELEGATE_CTOR","ES2015_INHERITED_CLASS","ES2015_INHERITED_CLASS_WITH_CTOR","ES
2015_INHERITED_CLASS_WITH_DELEGATE_CTOR","ReflectionCapabilities","reflect","_reflect","isReflectio
nEnabled","_zipTypesAndAnnotations","paramTypes","paramAnnotations","result","_ownParameters","parentCtor
","isDelegateCtor","typeStr","test","tsickleCtorParams","ctorParameters","paramTypes_1","ctorParam","paramAnn
otations_1","convertTsickleDecoratorIntoMetadata","decorators","getOwnMetadata","getParentCtor","_ownAnnota
tions","typeOrFunc","annotations","ownAnnotations","_ownPropMetadata","propMetadata","propDecorators","pro
pDecorators_1","propMetadata_1","keys","prop","parentPropMetadata_1","ownPropMetadata","hasLifecycleHook"
,"lcProperty","guards","getter","setter","method","importUri","resourceUri","resolveIdentifier","moduleUrl","memb
ers","runtime","resolveEnum","enumIdentifier","decoratorInvocations","decoratorInvocation","parentProto","0$2","
Inject","getReflect","reflectDependencies","convertDependencies","deps","compiler","dep","reflectDependency","h
ost","optional","resolved","Token","skipSelf","setTokenAndResolvedType","j","param","proto","__ChangeDetecto
rRef__","ChangeDetectorRef","Invalid","resolveComponentResources","resourceResolver","componentResolved","
urlMap","Map","cachedResourceResolve","url","promise","resp","set","then","unwrapResponse","componentResou
rceResolutionQueue","component","promises","templateUrl","styleUrls","styleOffset","styleUrl","style","fullyReso
lved","Promise","all","componentDefResolved","componentDefPendingResolution","delete","clearResolutionOfCo
mponentResourcesQueue","Set","componentNeedsResolution","old","response","THROW_IF_NOT_FOUND","N
EW_LINE","USE_VALUE","provide","useValue","_currentInjector","setCurrentInjector","injector","former","inje
ctInjectorOnly","inject","invalidFactoryDep","policy","inject","injectArgs","types","arg","catchInjectorError","injec
torErrorName","tokenPath","formatError","charAt","substr","context","parts","JSON","replace","getPolicy","truste
dTypes","createPolicy","createHTML","createScript","createScriptURL","trustedHTMLFromString","html","truste

dScriptFromString","script","trustedScriptURLFromString","SafeValueImpl","changingThisBreaksApplicationSecurity","SafeHtmlImpl","getTypeName","SafeStyleImpl","SafeScriptImpl","SafeUrlImpl","SafeResourceUrlImpl","unwrapSafeValue","allowSanitizationBypassAndThrow","actualType","getSanitizationBypassType","getInertBodyHelper","defaultDoc","isDOMParserAvailable","DOMParser","parseFromString","DOMParserHelper","InertDocumentHelper","getInertBodyElement","body","removeChild","inertDocument","implementation","createHTMLDocument","inertHtml","createElement","appendChild","inertBodyElement","templateEl","innerHTML","inertBody","documentMode","stripCustomNsAttrs","el","elAttrs","attributes","removeAttribute","childNode","nodeType","Node","ELEMENT_NODE","nextSibling","SAFE_URL_PATTERN","DATA_URL_PATTERN","_sanitizeUrl","match","sanitizeSrcset","srcset","split","trim","tagSet","tags","e_1","_b","_c","e_1_1","return","merge","e_2","sets","sets_1","sets_1_1","e_2_1","inertBodyHelper","SecurityContext","VOID_ELEMENTS","OPTIONAL_END_TAG_BLOCK_ELEMENTS","OPTIONAL_END_TAG_INLINE_ELEMENTS","OPTIONAL_END_TAG_ELEMENTS","BLOCK_ELEMENTS","INLINE_ELEMENTS","VALID_ELEMENTS","URI_ATTRS","SRCSET_ATTRS","HTML_ATTRS","ARIA_ATTRS","VALID_ATTRS","SKIP_TRAVERSING_CONTENT_IF_INVALID_ELEMENTS","SanitizingHtmlSerializer","sanitizedSomething","buf","sanitizeChildren","traverseContent","startElement","TEXT_NODE","chars","nodeValue","endElement","checkClobberedElement","parentNode","element","tagName","nodeName","toLowerCase","elAttr","lower","encodeEntities","node","nextNode","compareDocumentPosition","DOCUMENT_POSITION_CONTAINED_BY","outerHTML","SURROGATE_PAIR_REGEXP","NON_ALPHANUMERIC_REGEXP","_sanitizeHtml","unsafeHtmlInput","unsafeHtml","mXSSAttempts","parsedHtml","getTemplateContent","isTemplateElement","content","sanitizeHtml","sanitizer","getSanitizer","sanitize","HTML","sanitizeStyle","unsafeStyle","STYLE","sanitizeUrl","unsafeUrl","URL","sanitizeResourceUrl","unsafeResourceUrl","RESOURCE_URL","sanitizeScript","unsafeScript","SCRIPT","trustConstantHtml","trustConstantScript","trustConstantResourceUrl","getUrlSanitizer","tag","sanitizeUrlOrResourceUrl","getDebugContext","getOriginalError","defaultErrorLogger","console","ErrorHandler","_console","handleError","originalError","_findOriginalError","_findContext","errorLogger","getErrorLogger","END_COMMENT","escapeCommentText","CAMEL_CASE_REGEXP","normalizeDebugBindingValue","getLContext","mpValue","isComponentInstance","findViaComponent","isDirectiveInstance","findViaDirective","directiveInstance","directiveIndexEnd","traverseNextElement","getDirectivesAtNodeIndex","findViaNativeElement","existingCtx","createLContext","attachPatchData","rElement","parentContext","localRefs","getComponentViewByInstance","componentInstance","componentIndices","components","elementComponentIndex","includeComponents","directiveStartIndex","RendererStyleFlags2","_icuContainerIterate","defaultScheduler","requestAnimationFrame","setTimeout","resolveWindow","ownerDocument","defaultView","resolveDocument","resolveBody","maybeUnwrapFn","icuContainerIterate","tIcuContainerNode","getLViewParent","getRootContext","viewOrComponent","getRootView","componentOrLView","getFirstLContainer","getNearestLContainer","getNextLContainer","container","applyToElementOrContainer","action","lNodeToHandle","beforeNode","isComponent","rNode","nativeAppendChild","nativeInsertBefore","nativeRemoveNode","destroyNode","applyContainer","parentRElement","anchor","applyView","createTextNode","createText","updateTextNode","setValue","textContent","createCommentNode","createComment","createElementNode","namespace","createElementNS","detachMovedView","declarationContainer","movedViews","declarationViewIndex","insertionLContainer","detachView","removeIndex","indexInContainer","viewToDetach","declarationLContainer","removedLView","removeViewFromContainer","lQueries","destroyLView","destroyViewTree","rootView","lViewOrLContainer","cleanUpView","firstView","executeOnDestroys","toCall","processCleanups","tCleanup","cleanup","lCleanup","lastLCleanupIndex","idxOrTargetGetter","listener","useCaptureOrSubIdx","removeEventListener","unsubscribe","instanceCleanupFn","destroy","getParentRElement","getClosestRElement","None","isMove","insertBefore","nativeAppendOrInsertBefore","nativeParentNode","getInsertInFrontOfRNode","_getInsertInFrontOfRNodeWithI18n","getInsertInFrontOfRNodeWithNoI18n","_processI18nInsertBefore","setI18nHandling","getInsertInFrontOfRNodeWithI18n","processI18nInsertBefore","childRNode","childTNode","parentRNode","anchorNode","isHostElement","nativeParent","nativeRemoveChild","applyNodes","isProjection","rawSlotValue","nextRNode","applyProjectionRecursive","projectionNext","tProjectionNode","componentLView","nodeToProjectOrRNodes","projection","writeDirectStyle","newValue","cssText","writeDirectClass","className","classIndexOf","classToSearch","startingIndex","foundIndex","isCssClassMatching","cssClassToMatch"

,"isProjectionMode","isInlineTemplate","hasTagAndTypeMatch","currentSelector","isNodeMatchingSelector","nodeAttrs","nameOnlyMarkerIdx","getNameOnlyMarkerIndex","skipToNextSelector","isPositive","selectorAttrValue","attrIndexInNode","findAttrIndexInNode","nodeAttrValue","compareAgainstClassName","bindingsMode","maybeAttrName","matchTemplateAttribute","attr","isNodeMatchingSelectorList","isSelectorInSelectorList","selectorListLoop","currentSelectorInList","maybeWrapInNotSelector","isNegativeMode","chunk","stringifyCSSSelector","currentChunk","valueOrMarker","attrValue","NO_CHANGE","advance","delta","selectIndexInternal","checkNoChangesMode","toTStylingRange","prev","getTStylingRangePrev","tStylingRange","getTStylingRangePrevDuplicate","setTStylingRangePrevDuplicate","getTStylingRangeNext","setTStylingRangeNext","getTStylingRangeNextDuplicate","setTStylingRangeNextDuplicate","toDebugStyleBinding","isClassBased","tView_","bindings","range","classBindings","styleBindings","isTemplate","cursor","itemRange","prevDuplicate","nextDuplicate","nextIndex","prevIndex","residualClasses","residualStyles","processTNodeChildren","template_","toDebug","debug","toHtml","includeChildren","COMMENT_NODE","mapToHTML","children","toLViewRange","l","toDebugNodes","debugNodes","tNodeCursor","buildDebugNode","factories","instances","buildNodeInjectorDebug","viewProviders","providerIndexStart_","providerIndexEnd_","bloom","toBloom","cumulativeBloom","parentInjectorIndex","binary","idx","TView","queries","expandoStartIndex","hostBindingOpCodes","firstUpdatePass","staticViewQueries","staticContentQueries","directiveRegistry","pipeRegistry","incompleteFirstPass","_decls","_vars","enumerable","configurable","TNode","insertBeforeIndex","directiveStylingLast","propertyBindings","mergedAttrs","localNames","initialInputs","tViews","stylesWithoutHost","classesWithoutHost","debugNodeInjectorPath","type_","flags_","LViewDebug","_raw_lView","__raw__flags__","initPhaseState","creationMode","firstViewPass","checkAlways","dirty","attached","destroyed","isRoot","indexWithinInitPhase","nodes","childViews","childHead","LContainerDebug","_raw_lContainer","_CLEAN_PROMISE","resolve","refreshContentQueries","directiveDefIdx","createLView","tHostNode","rendererFactory","getOrCreateTNode","createTNodeAtIndex","createTNode","tParent","allocExpando","numSlotsToAlloc","initialValue","allocIdx","renderView","executeViewQueryFn","templateFn","executeTemplate","renderChildComponents","hostLView","renderComponent","refreshView","isInCheckNoChangesPass","hooksInitPhaseCompleted","markTransplantedViewsForRefresh","movedLView","refreshEmbeddedViews","embeddedLView","embeddedTView","processHostBindingOpCodes","opCode","directiveIdx","bindingRootIndx","hostBindingFn","refreshChildComponents","refreshComponent","renderComponentOrTemplate","normalExecutionPath","creationModeIsActive","begin","rf","prevSelectedIndex","executeContentQueries","createDirectivesInstances","instantiateAllDirectives","addComponentLogic","setInputsFromAttrs","invokeDirectivesHostBindings","elementIndex","getCurrentDirectiveIndex","dirIndex","invokeHostBindingsInCreationMode","saveResolvedLocalsInData","viewData","localRefExtractor","localIndex","getOrCreateTComponentView","createTView","constsOrFactory","initialViewLength","createViewBlueprint","fill","locateHostElement","elementOrSelector","selectRootElement","ShadowDom","querySelector","storeCleanupWithContext","cleanupFn","getLCleanup","getTViewCleanup","generatePropertyAliases","inputAliasMap","propStore","internalName","elementPropertyInternal","nativeOnly","dataValue","inputData","setInputsForProperty","markDirtyIfOnPush","viewIndex","childComponentLView","mapPropName","resolveDirectives","hasDirectives","findDirectiveDefMatches","registry","matches","markAsComponentHost","exportsMap","","initTNodeFlags","preOrderHooksFound","preOrderCheckHooksFound","configureViewWithDirective","saveNameToExportMap","lifeCycleHooks","initializeInputAndOutputAliases","tViewData","tNodeAttrs","inputsFromAttrs","inputsStore","outputsStore","directiveInputs","generateInitialInputs","cacheMatchingLocalNames","registerHostBindingOpCodes","directiveVarsIdx","elementIndx","lastSelectedElementIdx","hostTNode","numberOfDirectives","directiveFactory","nodeInjectorFactory","componentView","addToViewTree","elementAttributeInternal","setElementAttribute","strValue","initialInputData","inputsToStore","createLContainer","hostNative","componentHostIdx","refreshContainsDirtyView","componentTView","syncViewWithBlueprint","markViewDirty","tickRootContext","rootContext","rootComponent","detectChangesInternal","detectChangesInRootView","viewQueryFn","CLEAN_PROMISE","loadComponentRenderer","currentDef","unwrapLView","errorHandler","textBindingInternal","computeStaticStyling","writeToHost","detectChanges","markDirty","scheduleTick","res_1","clean","scheduler","playerHandler","flushPlayers","INJECTOR$1","NullInjector","INJECTOR_SCOPE","NOT_YET","CIRCULAR","EMPTY_ARRAY$1","NULL_INJECTOR","getNullInjector","createInjector","defType","additionalProviders","createInjectorWithoutInjectorInsta

nces","_resolveInjectorDefTypes","R3Injector","records","injectorDefTypes","_destroyed","dedupStack","provider","processProvider","processInjectorType","makeRecord","record","assertNotDestroyed","service","clear","previousInjector","couldBeInjectableType","injectableDefInScope","injectableDefOrInjectorDefFactory","hydrate","tokens","defOrWrappedDef","parents","ngModule","isDuplicate","importTypesWithProviders_1","imported","_loop_1","ngModule_1","add","defProviders","injectorType_1","ngModuleType","isTypeProvider","providerToRecord","isValueProvider","providerToFactory","multi","multiRecord_1","hasOnDestroy","has","getUndecoratedInjectableFactory","paramLength","inheritedInjectableDef","getInheritedInjectableDef","typeName","warn","unwrappedProvider","isFactoryProvider","useFactory","isExistingProvider","useExisting","classRef_1","useClass","hasDeps","INJECTOR_IMPL","INJECTOR_IMPL__PRE_R3__","StaticInjector","Injector","NULL","IDENT","EMPTY","CIRCULAR$1","MULTI_PROVIDER_FN","_records","useNew","recursivelyProcessProviders","staticError","resolvedProvider","resolveProvider","multiProvider","multiProviderMixError","lastInjector","tryResolveToken","resolveToken","NO_NEW_LINE$1","depRecords","depRecord","childRecord","computeDeps","providerDeps","getComponent","assertDomElement","loadLContext","getComponentAtNodeIndex","getContext","getOwningComponent","elementOrDir","getRootComponents","getInjector","getDirectives","throwOnNotFound","getHostElement","componentOrDirective","getListeners","lContext","listeners","firstParam","secondParam","listenerElement","callback","useCaptureOrIndx","useCapture","sort","sortListeners","a","Element","applyChanges","_published","publishGlobalUtil","COMPILED","createRootComponentView","hostRenderer","viewRenderer","createRootComponent","componentDef","rootLView","hostFeatures","instantiateRootComponent","rootTNode","createRootContext","LifecycleHooksFeature","getSuperType","InheritDefinitionFeature","superType","shouldInheritFields","inheritanceChain","superDef","writeableDef","maybeUnwrapEmpty","superHostBindings","inheritHostBindings","superViewQuery","superContentQueries","inheritViewQuery","inheritContentQueries","animation","defData","mergeHostAttrsAcrossInheritance","prevViewQuery","ctx","prevContentQueries","prevHostBindings","COPY_DIRECTIVE_FIELDS","COPY_COMPONENT_FIELDS","CopyDefinitionFeature","defAny","COPY_DIRECTIVE_FIELDS_1","COPY_DIRECTIVE_FIELDS_1_1","COPY_COMPONENT_FIELDS_1","COPY_COMPONENT_FIELDS_1_1","_symbolIterator","getSymbolIterator","getOwnPropertyNames","devModeEqual","isListLikeIterableA","isListLikeIterable","isListLikeIterableB","areIterablesEqual","comparator","iterator1","iterator2","item1","item2","is","WrappedValue","wrapped","wrap","unwrap","isWrapped","isJsObject","updateBinding","getBinding","bindingUpdated","bindingUpdated2","exp1","exp2","different","bindingUpdated3","exp3","bindingUpdated4","exp4","attribute","interpolationV","isBindingUpdated","interpolation1","prefix","v0","suffix","interpolation2","i0","v1","interpolation3","i1","v2","interpolation4","i2","v3","interpolation5","i3","v4","interpolation6","i4","v5","interpolation7","i5","v6","interpolation8","i6","v7","attributeInterpolate1","interpolatedValue","attributeInterpolate2","attributeInterpolate3","attributeInterpolate4","attributeInterpolate5","attributeInterpolate6","attributeInterpolate7","attributeInterpolate8","attributeInterpolateV","interpolated","template","attrsIndex","localRefsIndex","adjustedIndex","templateFirstCreatePass","tViewConsts","comment","reference","getContextLView","angularCoreDiEnv","getFactoryOf","USE_VALUE$1","isUseClassProvider","isUseFactoryProvider","getInjectableMetadata","srcMeta","compilerMeta","typeArgumentCount","userDeps","isUseValueProvider","isUseExistingProvider","USE_VALUE$2","EMPTY_ARRAY$2","convertInjectableProviderToFactory","deps_1","reflectionCapabilities","valueProvider_1","existingProvider_1","factoryProvider_1","classProvider_1","deps_2","deps_3","Injectable","SWITCH_COMPILE_INJECTABLE","render2CompileInjectable","injectableType","constructResolvingPath","findFirstClosedCycle","reverse","k","injectionError","constructResolvingMessage","errMsg","wrappedError","addKey","injectors","noAnnotationError","params","signature","ii","parameter","ReflectiveKey","displayName","_globalKeyRegistry","numberOfKeys","KeyRegistry","_allKeys","newKey","reflector","Reflector","updateCapabilities","caps","identifier","ReflectiveDependency","visibility","fromKey","_EMPTY_LIST","ResolvedReflectiveProvider_","resolvedFactories","resolvedFactory","ResolvedReflectiveFactory","dependencies","resolveReflectiveFactory","factoryFn","resolvedDeps","_dependenciesFor","aliasInstance","constructDependencies","params_1","_extractToken","resolveReflectiveProvider","resolveReflectiveProviders","resolvedProviderMap","mergeResolvedReflectiveProviders","normalizedProvidersMap","existing","_normalizeProviders","invalidProviderError","from","some","metadata","_createDependency","paramMetadata","UNDEFINED","ReflectiveInjector","resolveAndCreate","ResolvedReflectiveProviders","fromResolvedProviders","ReflectiveInjector_","_provider

s","_parent","_constructionCounter","len","keyIds","objs","_getByKey","resolveAndCreateChild","createChildFromResolved","inj","resolveAndInstantiate","instantiateResolved","_instantiateProvider","getProviderAtIndex","outOfBoundsError","_new","_getMaxNumberOfObjects","cyclicDependencyError","_instantiate","_getByReflectiveDependency","instantiationError","originalException","originalStack","INJECTOR_KEY","_getByKeySelf","_getByKeyDefault","_getObjByKeyId","keyId","_throwOrNull","noProviderError","inj_","_mapProviders","directiveInject","invalidFactory","property","setDirectiveInputsWhichShadowsStyling","property","elementStart","getNamespace","elementStartFirstCreatePass","elementStart","getElementDepthCount","increaseElementDepthCount","elementEnd","decreaseElementDepthCount","elementEnd","hasClassInput","hasStyleInput","element","elementContainerStart","elementContainerStartFirstCreatePass","elementContainerEnd","elementContainer","getCurrentView","isPromise","isObservable","subscribe","listener","eventName","listenerFn","eventTargetResolver","listenerInternal","syntheticHostListener","isTNodeDirectiveHost","processOutputs","lCleanupIndex","existingListener","findExistingListener","tNodeIdx","cleanupEventName","listenerIdxInLCleanup","__ngLastListenerFn__","__ngNextListenerFn__","wrapListener","listen","addEventListener","propsLength","subscription","executeListenerWithErrorHandling","wrapWithPreventDefault","wrapListenerIn_markDirtyAndPreventDefault","nextListenerFn","preventDefault","returnValue","nextContext","matchingProjectionSlotIndex","projectionSlots","wildcardNgContentIndex","ngProjectAsAttrVal","getProjectAsAttrValue","ngProjectAsAttrIdx","projectionDef","componentNode","projectionHeads","tails","componentChild","slotIndex","projection","selectorIndex","applyProjection","propertyInterpolate","propertyInterpolate1","propertyInterpolate2","propertyInterpolate3","propertyInterpolate4","propertyInterpolate5","propertyInterpolate6","propertyInterpolate7","propertyInterpolate8","propertyInterpolateV","EMPTY_ARRAY$3","markDuplicates","tStylingKey","isPrevDir","isClassBinding","tStylingAtIndex","isMap","foundDuplicate","tStyleRangeAtCursor","isStylingMatch","tStylingKeyCursor","parserState","textEnd","keyEnd","valueEnd","getLastParsedKey","getLastParsedValue","parseClassNameNext","consumeClassToken","startIndex","consumeWhitespace","parseStyleNext","consumeStyleKey","ch","consumeSeparator","consumeStyleValue","ch1","ch2","ch3","lastChIndex","consumeQuotedText","resetParserState","separator","quoteCharCode","styleProp","checkStylingProperty","classProp","styleMap","checkStylingMap","styleKeyValueArraySet","styleStringParser","parseStyle","classMap","classStringParser","parseClassName","stylingFirstUpdatePass","updateStyling","normalizeSuffix","stringParser","hasStylingInputShadow","isInHostBindings","staticPrefix","updateStylingMap","oldKeyValueArray","newKeyValueArray","oldIndex","newIndex","oldKey","setKey","toStylingKeyValueArray","styleKeyValueArray","unwrappedValue","isHostBindings","wrapInStaticStylingKey","stylingKey","hostDirectiveDef","residual","collectStylingFromTAttrs","collectStylingFromDirectives","templateStylingKey","getTemplateHeadTStylingKey","setTemplateHeadTStylingKey","collectResidual","insertTStylingBinding","tStylingKeyWithStatic","isHostBinding","tBindings","tmplHead","tmplTail","isKeyDuplicateOfStatic","previousNode","setTStylingRangePrev","markDuplicateOfResidualStyling","currentDirective","desiredMarker","currentMarker","tRange","isStylingValuePresent","findStylingValue","applyStyling","isProcedural","addClass","classList","removeClass","remove","DashCase","removeStyle","removeProperty","isImportant","endsWith","Important","setStyle","isPrevDirection","rawKey","containsStatics","isStylingMap","valueAtLViewIndex","text","textNative","textInterpolate","textInterpolate1","textInterpolate2","textInterpolate3","textInterpolate4","textInterpolate5","textInterpolate6","textInterpolate7","textInterpolate8","textInterpolateV","classMapInterpolate1","classMapInterpolate2","classMapInterpolate3","classMapInterpolate4","classMapInterpolate5","classMapInterpolate6","classMapInterpolate7","classMapInterpolate8","classMapInterpolateV","styleMapInterpolate1","styleMapInterpolate2","styleMapInterpolate3","styleMapInterpolate4","styleMapInterpolate5","styleMapInterpolate6","styleMapInterpolate7","styleMapInterpolate8","styleMapInterpolateV","stylePropInterpolate1","valueSuffix","stylePropInterpolate2","stylePropInterpolate3","stylePropInterpolate4","stylePropInterpolate5","stylePropInterpolate6","stylePropInterpolate7","stylePropInterpolate8","stylePropInterpolateV","hostProperty","syntheticHostProperty","LocaleDataIndex","u","localeEn","plural","Math","floor","abs","LOCALE_DATA","findLocaleData","locale","normalizedLocale","normalizeLocale","getLocaleData","parentLocale","getLocalePluralCase","LocaleDataIndex","PluralCase","common","locales","I18nCreateOpCode","pluralMapping","ELEMENT_MARKER","ICU_MARKER","LOCALE_ID","setLocaleId","localeId","tNodeInsertBeforeIndex","i18nParent","anchorRNode","addTNodeAndUpdateInsertBeforeIndex","previousTNodes","newTNode","existingTNode","isI18nText","isNewTNodeCreatedBefore","setInsertBeforeI

ndex","getTIcu","createTNodePlaceholder","getCurrentICUCaseIndex","tIcu","currentCase","currentCaseLViewInd
ex","getRefFromIcuCreateOpCode","mergedCode","changeMask","changeMaskCounter","applyUpdateOpCodes","
updateOpCodes","bindingsStartIndex","checkBit","skipCodes","sanitizeFn","tNodeOrTagName","rText","applyIcu
SwitchCase","applyIcuUpdateCase","activeCaseIndex","update","caseIndex","getCaseIndex","icuExpression","bind
ingValue","cases","resolvedCase","getPluralCase","parseInt","getLocaleId","applyIcuSwitchCaseRemove","remove
Codes","nodeOrIcuIndex","anchorIdx","applyMutableOpCodes","mutableOpCodes","rootRNode","rootIdx","textN
odeIndex","parentIdx","insertInFrontOf","refIdx","elementNodeIndex","commentValue","commentNodeIndex","lo
adIcuContainerVisitor","_removes","_stack","_index","enterIcu","icuContainerIteratorNext","removeOpCode","icu
ContainerIteratorStart","OpCodeParser","codes","hasMore","consumeNumber","consumeString","assertString","co
nsumeFunction","consumeNumberOrString","consumeNumberStringOrMarker","BINDING_REGEXP","ICU_RE
GEXP","NESTED_ICU","ICU_BLOCK_REGEXP","SUBTEMPLATE_REGEXP","PH_REGEXP","NGSP_UNIC
ODE_REGEXP","createTNodeAndAddOpCode","existingTNodes","createOpCodes","isICU","i18nNodeIdx","SHI
FT","APPEND_EAGERLY","COMMENT","ensureIcuContainerVisitorLoaded","loader","setTNodeInsertBeforeIn
dex","assertEqual","i18nStartFirstCreatePassProcessTextNode","hasBinding","generateBindingUpdateOpCodes","st
r","destinationNode","maskIndex","sizeIndex","textParts","textValue","toMaskBit","min","removeInnerTemplateTr
anslation","tagMatched","inTemplate","exec","MARKER","icuStart","bindingMask","addUpdateIcuSwitch","main
Binding","setTIcu","valueArr","nestedIcus","icuIndex","parseIcuCase","addUpdateIcuUpdate","parseICUBlock","p
attern","icuType","i18nParseTextIntoPartsAndICU","binding","pos","blocks","prevPos","braceStack","results","bra
ces","lastIndex","block","substring_1","caseName","unsafeCaseHtml","inertRootNode","walkIcuTree","sharedUpd
ateOpCodes","depth","currentNode","addCreateNodeAndAppend","lowerAttrName","addCreateAttribute","addRe
moveNode","isNestedIcu","addRemoveNestedIcu","appendToParentIdx","createAtIdx","icuCreateOpCode","PP_M
ULTI_VALUE_PLACEHOLDERS_REGEXP","PP_PLACEHOLDERS_REGEXP","PP_ICU_VARS_REGEXP","
PP_ICU_PLACEHOLDERS_REGEXP","PP_ICUS_REGEXP","PP_CLOSE_TEMPLATE_REGEXP","PP_TEMP
LATE_ID_REGEXP","i18nPostprocess","replacements","matches_1","templateIdsStack_1","phs","tmpl","placehol
ders","placeholder","templateId","isCloseTemplateTag","currentTemplateId","_type","_idx","i18nStart","messageIn
dex","subTemplateIndex","i18nStartFirstCreatePass","parentTNodeIndex","existingTNodeStack","msgParts","repla
ceNgsp","getTranslationForTemplate","isRootTemplateMessage","search","RegExp","part","isClosing","index_1","
Number","tI18n","applyCreateOpCodes","appendNow","i18nEnd","i18n","i18nAttributes","i18nAttributesFirstPass
","previousElementIndex","i18nExp","setMaskBit","hasChange","i18nApply","applyI18n","i18nPostprocess","resol
veProvider$1","lInjectablesBlueprint","providerFactory","beginIndex","existingFactoryIndex","registerDestroyHoo
ksIfSupported","existingProvidersFactoryIndex","existingViewProvidersFactoryIndex","doesViewProvidersFactory
Exist","multiFactory","f","componentProviders","multiFactoryAdd","multiViewProvidersFactoryResolver","multiP
rovidersFactoryResolver","contextIndex","indexInFactory","providerIsTypeProvider","isClassProvider","existingCa
llbacksIndex","isComponentProvider","lData","multiResolve","componentCount","multiProviders","ProvidersFeatu
re","processProvidersFn","ComponentRef","ComponentFactory","noComponentFactoryError","ERROR_COMPON
ENT","ComponentFactoryResolver","_NullComponentFactoryResolver","resolveComponentFactory","CodegenCo
mponentFactoryResolver","_ngModule","_factories","componentType","ComponentFactoryBoundToModule","proj
ectableNodes","rootSelectorOrNode","noop","injectElementRef","createElementRef","ElementRef","SWITCH_EL
EMENT_REF_FACTORY__POST_R3__","nativeElement","Renderer2","RendererFactory2","SWITCH_RENDE
RER2_FACTORY","Sanitizer","SWITCH_RENDERER2_FACTORY__POST_R3__","injectRenderer2","nodeAtI
ndex","getOrCreateRenderer2","Version","VERSION","full","major","minor","patch","DefaultIterableDifferFactor
y","supports","trackByFn","DefaultIterableDiffer","trackByIdentity","_linkedRecords","_unlinkedRecords","_previ
ousItHead","_itHead","_itTail","_additionsHead","_additionsTail","_movesHead","_movesTail","_removalsHead","
_removalsTail","_identityChangesHead","_identityChangesTail","_trackByFn","forEachItem","_next","forEachOpe
ration","nextIt","nextRemove","addRemoveOffset","moveOffsets","currentIndex","getPreviousIndex","adjPreviousI
ndex","_nextRemoved","previousIndex","localMovePreviousIndex","localCurrentIndex","offset","forEachPreviousI
tem","_nextPrevious","forEachAddedItem","_nextAdded","forEachMovedItem","_nextMoved","forEachRemovedIt
em","forEachIdentityChange","_nextIdentityChange","diff","collection","check","_reset","itemTrackBy","mayBeDi

rty","trackById","_verifyReinsertion","_addIdentityChange","_mismatch","iterateListLike","_truncate","isDirty","previousRecord","_prev","_remove","_moveAfter","_reinsertAfter","_addAfter","IterableChangeRecord_","reinsertRecord","_addToMoves","nextRecord","_addToRemovals","_unlink","prevRecord","_prevRemoved","_insertAfter","_DuplicateMap","put","toIndex","_prevDup","_nextDup","_DuplicateItemRecordList","_head","_tail","atOrAfterIndex","duplicates","recordList","moveOffset","DefaultKeyValueDifferFactory","DefaultKeyValueDiffer","_mapHead","_appendAfter","_previousMapHead","_changesHead","_changesTail","forEachChangedItem","_nextChanged","_forEach","_maybeAddToChanges","_getOrCreateRecordForKey","_insertBeforeOrAppend","record_1","KeyValueChangeRecord_","_addToAdditions","_addToChanges","IterableDiffers","copied","extend","find","iterable","getTypeNameForDebugging","KeyValueDiffers","kv","ViewRef","_cdRefInjectingView","_appRef","_viewContainerRef","collectNativeNodes","lNode","lViewInAContainer","lViewFirstChildTNode","nodesInSlot","detach","markForCheck","reattach","checkNoChanges","checkNoChangesInternal","attachToViewContainerRef","vcRef","detachFromAppRef","renderDetachView","attachToAppRef","appRef","RootViewRef","_view","checkNoChangesInRootView","SWITCH_CHANGE_DETECTOR_REF_FACTORY__POST_R3__","injectChangeDetectorRef","isPipe","createViewRef","TemplateRef","keyValDiff","iterableDiff","defaultIterableDiffers","defaultKeyValueDiffers","SWITCH_TEMPLATE_REF_FACTORY__POST_R3__","injectTemplateRef","R3TemplateRef","_declarationLView","_declarationTContainer","elementRef","createEmbeddedView","declarationViewLQueries","createTemplateRef","ViewContainerRef","NgModuleRef","NgModuleFactory","SWITCH_VIEW_CONTAINER_REF_FACTORY__POST_R3__","injectViewContainerRef","createContainerRef","R3ViewContainerRef","_lContainer","_hostTNode","_hostLView","viewRefs","getViewRefs","templateRef","viewRef","insert","createComponent","componentFactory","ngModuleRef","contextInjector","parentInjector","componentRef","viewAttachedToContainer","prevIdx","prevLContainer","prevVCRef","adjustedIdx","_adjustIndex","insertView","containerLength","trackMovedView","getBeforeNodeForView","viewIndexInContainer","nextViewIndex","firstTNodeOfView","getFirstNativeNode","elIcuContainerChild","rNodeOrLContainer","componentHost","firstProjectedTNode","addViewToContainer","parentNativeNode","getOrCreateViewRefs","move","viewRefsArr","detachedView","commentNode","nativeNextSibling","expressionChangedAfterItHasBeenCheckedError","currValue","isFirstCheck","viewDebugError","err","_addDebugContext","logError","viewDestroyedError","shiftInitState","priorInitState","newInitState","state","initState","initIndex","shouldCallLifecycleInitHook","asTextData","asElementData","asProviderData","asPureExpressionData","asQueryList","DebugContext","Services","setCurrentNode","createRootView","createComponentView","createNgModuleRef","overrideProvider","overrideComponentView","clearOverrides","checkAndUpdateView","checkNoChangesView","destroyView","resolveDep","createDebugContext","handleEvent","updateDirectives","updateRenderer","dirtyParentQueries","NOOP","_tokenKeyCache","tokenKey","_renderCompCount$1","checkBinding","bindingIdx","oldValues","checkAndUpdateBinding","checkBindingNoChanges","bindingName","markParentViewsForCheck","currView","viewContainerParent","markParentViewsForCheckProjectedViews","endView","dispatchEvent","event","root","declaredViewContainer","parentNodeDef","viewParentEl","renderNode","renderElement","renderText","isComponentView","isEmbeddedView","filterQueryId","queryId","splitMatchedQueriesDsl","matchedQueriesDsl","matchedQueries","matchedQueryIds","references","valueType","splitDepsDsl","sourceName","getParentRenderElement","renderHost","renderParent","componentRendererType","DEFINITION_CACHE","WeakMap","resolveDefinition","visitRootRenderNodes","lastRenderRootNode","visitSiblingRenderNodes","nodeDef","visitRenderNode","childCount","visitProjectedRenderNodes","ngContentIndex","compView","hostElDef","projectedNodes","execRenderNodeAction","ngContent","rn","bindingFlags","embeddedViews","viewContainer","_embeddedViews","NS_PREFIX_RE","splitNamespace","calcBindingFlags","_toStringWithNull","UNDEFINED_VALUE","InjectorRefTokenKey","INJECTORRefTokenKey","NgModuleRefTokenKey","resolveNgModuleDep","depDef","tokenKey_1","providerDef","_def","providersByKey","providerInstance","_createProviderInstance","targetsModule","moduleTransitivelyPresent","modules","injectable","_createClass","depValues","_callFactory","detachEmbeddedView","elementData","renderDetachView$1","renderAttachEmbeddedView","prevView","prevRenderNode","EMPTY_CONTEXT","getComponentViewDefinitionFactory","viewDefFactory","ComponentFactory_","_inputs","_outputs","inputsArr","templateName","outputsArr","viewDef","componentNodeIndex","componentProvider","ComponentRef_","ViewRef_","_viewRef","_component","_elDef","changeDetectorRef","Injector_","createViewContainerData","elDef","elData","

ViewContainerRef_","_data","ref","viewRef_","attachEmbeddedView","attachProjectedView","vcElementData","dvcElementData","projectedViews","_projectedViews","markNodeAsProjectedTemplate","nodeFlags","childFlags","moveEmbeddedView","oldViewIndex","newViewIndex","createChangeDetectorRef","rootRenderNodes","renderNodes","fs","disposables","createTemplateData","TemplateRef_","_parentView","createInjector$1","moduleType","bootstrapComponents","NgModuleRef_","_moduleType","_bootstrapComponents","_destroyListeners","initNgModule","provDef","injectFlags","callNgModuleLifecycle","lifecycles","Renderer2TokenKey","ElementRefTokenKey","ViewContainerRefTokenKey","TemplateRefTokenKey","ChangeDetectorRefTokenKey","InjectorRefTokenKey$1","INJECTORRefTokenKey$1","checkIndex","depDefs","outputIndex","directChildFlags","childMatchedQueries","query","createProviderInstance","_createProviderInstance$1","createPipeInstance","createClass","createDirectiveInstance","output","outputObservable","eventHandlerClosure","allowPrivateServices","callFactory","NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR","searchView","findCompView","providerDef_1","allProviders","publicProviders","providerData","updateProp","changes","nonMinifiedName","callLifecycleHooksChildrenFirst","callProviderLifecycles","callElementProvidersLifecycles","ComponentFactoryResolver$1","ComponentFactory$1","toRefArray","nonMinified","SCHEDULER","stringifyCSSSelectorList","selectorList","isBoundToModule","tElementNode","rootViewInjector","createChainedInjector","elementName","hostRNode","getNamespace$1","rootFlags","rootTView","extractAttrsAndClassesFromSelector","nodesforSlot","ComponentRef$1","_rootLView","assertSameOrNotExisting","incoming","registerNgModuleType","visited","recurse","imports_1","imports_1_1","getRegisteredNgModuleType","NgModuleRef$1","destroyCbs","componentFactoryResolver","ngLocaleIdDef","getNgLocaleIdDef","_r3Injector","NgModuleFactory$1","pureFunction0","slotOffset","pureFn","thisArg","pureFunction1","exp","pureFunction1Internal","pureFunction2","pureFunction2Internal","pureFunction3","pureFunction3Internal","pureFunction4","pureFunction4Internal","pureFunction5","exp5","pureFunction6","exp6","pureFunction7","exp7","pureFunction8","exp8","pureFunctionV","exps","pureFunctionVInternal","getPureFunctionReturnValue","returnValueIndex","lastReturnValue","bindingRoot","pipe","pipeName","getPipeDef$1","pipeFactory","pipeInstance","pipeBind1","unwrapValue$1","isPure","transform","pipeBind2","pipeBind3","pipeBind4","pipeBindV","EventEmitter","EventEmitter_","isAsync","__isAsync","emit","generatorOrNext","complete","schedulerFn","errorFn","completeFn","sink","Subscription","Subject","symbolIterator","_results","QueryList","symbol","filter","reduce","init","toArray","reset","resultsTree","last","notifyOnChanges","setDirty","LQuery_","queryList","clone","LQueries_","tQueries","noOfInheritedQueries","viewLQueries","tQuery","getByIndex","indexInDeclarationView","dirtyQueriesWithMatches","getTQuery","TQueryMetadata_","predicate","isStatic","read","TQueries_","queriesForTemplateRef","childQueryIndex","tqueryClone","track","tquery","TQuery_","crossesNgTemplate","_appliesToNextNode","_declarationNodeIndex","isApplyingToNode","matchTNode","addMatch","declarationNodeIdx","matchTNodeWithReadOption","getIdxOfMatchingSelector","nodeMatchIdx","directiveOrProviderIdx","matchIdx","createResultForNode","matchingIdx","createResultByTNodeType","createSpecialToken","materializeViewResults","queryIndex","lQuery","tQueryMatches","matchedNodeIdx","queryRefresh","collectQueryResults","lViewResults","i_1","embeddedLViews","i_2","staticViewQuery","descend","viewQueryInternal","viewQuery","createTQuery","createLQuery","contentQuery","contentQueryInternal","staticContentQuery","saveContentQueryAndDirectiveIndex","tViewContentQueries","loadQuery","loadQueryInternal","templateRefExtractor","injectPipeChangeDetectorRef","angularCoreEnv","jitOptions","EMPTY_ARRAY$5","moduleQueue","flushingModuleQueue","flushModuleScopingQueueAsMuchAsPossible","every","isResolvedDeclaration","setScopeOnDeclaredComponents","declaration","compileNgModule","compileNgModuleDefs","enqueueModuleForDelayedScoping","allowDuplicateDeclarationsInRoot","expandModuleWithProviders","compileInjector","transitiveScopes","transitiveScopesFor","patchComponentDefWithScope","ngSelectorScope","compilation","dir","pipe","isNgModule","scopes","exported","importedType","importedScope","entry","declared","exportedType","exportedScope","isModuleWithProviders","compilationDepth","compileComponent","ngComponentDef","maybeQueueResolutionOfComponentResources","addDirectiveFactoryDef","getJitOptions","preserveWhitespaces","defaultEncapsulation","directiveMetadata","typeSourceSpan","createParseSourceSpan","animations","interpolation","usesInheritance","addDirectiveDefToUndecoratedParents","hasSelectorScope","compileDirective","ngDirectiveDef","getDirectiveMetadata","sourceMapUrl","facade","ngFactoryDef","compileFactory","injectFn","Directive","extendsDirectlyFromObject","extractQueriesMetadata","isContentQuery","lifecycle","usesOnChanges","splitB

yComma","viewQueries","objPrototype","shouldAddAbstractDirective","isQueryAnn","queriesMeta","annotations_1","ann","isInputAnnotation","convertToR3QueryMetadata","propertyName","static","piece","LIFECYCLE_HOOKS","hookName","metadataName","compilePipe","ngPipeDef","getPipeMetadata","Pipe","SWITCH_COMPILE_DIRECTIVE","Component","c","SWITCH_COMPILE_COMPONENT","SWITCH_COMPILE_PIPE","Input","bindingPropertyName","Output","HostBinding","hostPropertyName","HostListener","SWITCH_COMPILE_COMPONENT__POST_R3__","SWITCH_COMPILE_DIRECTIVE__POST_R3__","SWITCH_COMPILE_PIPE__POST_R3__","NgModule","SWITCH_COMPILE_NGMODULE","SWITCH_COMPILE_NGMODULE__POST_R3__","preR3NgModuleCompile","APP_INITIALIZER","ApplicationInitStatus","appInits","reject","initialized","donePromise","rej","runInitializers","asyncInitPromises","initResult","catch","APP_ID","_appIdRandomProviderFactory","_randomChar","APP_ID_RANDOM_PROVIDER","fromCharCode","random","PLATFORM_INITIALIZER","PLATFORM_ID","APP_BOOTSTRAP_LISTENER","PACKAGE_ROOT_URL","Console","log","MissingTranslationStrategy","LOCALE_ID$1","DEFAULT_CURRENCY_CODE","TRANSLATIONS","TRANSLATIONS_FORMAT","ModuleWithComponentFactories","ngModuleFactory","componentFactories","_throwError","Compiler_compileModuleSync__POST_R3__","Compiler_compileModuleSync","Compiler_compileModuleAsync","Compiler_compileModuleAndAllComponentsSync__POST_R3__","Compiler_compileModuleAndAllComponentsSync","Compiler_compileModuleAndAllComponentsAsync","Compiler","compileModuleSync","compileModuleAsync","compileModuleAndAllComponentsSync","compileModuleAndAllComponentsAsync","clearCache","clearCacheFor","getModuleId","COMPILER_OPTIONS","CompilerFactory","scheduleMicroTask","Zone","NgZone","enableLongStackTrace","shouldCoalesceEventChangeDetection","hasPendingMacrotasks","hasPendingMicrotasks","isStable","onUnstable","onMicrotaskEmpty","onStable","onError","assertZonePatched","_nesting","_outer","_inner","fork","lastRequestAnimationFrameId","nativeRequestAnimationFrame","getNativeRequestAnimationFrame","nativeCancelAnimationFrame","unpatchedRequestAnimationFrame","__symbol__","unpatchedCancelAnimationFrame","forkInnerZoneWithAngularBehavior","zone","maybeDelayChangeDetection","delayChangeDetectionForEvents","fakeTopEventTask","scheduleEventTask","updateMicroTaskStatus","checkStable","invoke","properties","isAngularZone","onInvokeTask","delegate","task","applyThis","applyArgs","onEnter","invokeTask","onLeave","onInvoke","onHasTask","hasTaskState","hasTask","change","_hasPendingMicrotasks","microTask","macroTask","onHandleError","runOutsideAngular","isInAngularZone","assertInAngularZone","assertNotInAngularZone","run","runTask","EMPTY_PAYLOAD","cancelTask","runGuarded","NoopNgZone","Testability","_ngZone","_pendingCount","_isZoneStable","_didWork","_callbacks","taskTrackingZone","_watchAngularEvents","_runCallbacksIfReady","increasePendingRequestCount","decreasePendingRequestCount","cb","clearTimeout","timeoutId","doneCb","pending_1","getPendingTasks","updateCb","macroTasks","creationLocation","addCallback","timeout","whenStable","getPendingRequestCount","findProviders","using","exactMatch","TestabilityRegistry","_applications","_testabilityGetter","addToWindow","registerApplication","testability","unregisterApplication","unregisterAllApplications","getTestability","elem","getAllTestabilities","getAllRootElements","findTestabilityInTree","findInAncestors","_platform","_NoopGetTestability","_devMode","_runModeLocked","isDevMode","ALLOW_MULTIPLE_PLATFORMS","NgProbeToken","createPlatform","PlatformRef","inits","createPlatformFactory","parentPlatformFactory","desc","extraProviders","platform","getPlatform","injectedProviders","assertPlatform","requiredToken","_injector","_modules","bootstrapModuleFactory","moduleFactory","ngZone","getNgZone","ngZoneOption","ngZoneEventCoalescing","ngZoneInjector","moduleRef","exceptionHandler","_callAndReportToErrorHandler","initStatus","_moduleDoBootstrap","bootstrapModule","compilerOptions","optionsReducer","compileNgModuleFactory__PRE_R3__","createCompiler","compileNgModuleFactory","ApplicationRef","ngDoBootstrap","_zone","_exceptionHandler","_componentFactoryResolver","_initStatus","_bootstrapListeners","_views","_runningTick","_stable","componentTypes","_onMicrotaskEmptySubscription","tick","isCurrentlyStable","Observable","observer","stableSub","unstableSub","share","componentOrFactory","isBoundToModule__PRE_R3__","cf","compRef","testabilityRegistry","_loadComponent","_d","attachView","_lastDefined","NgModuleFactoryLoader","getModuleFactory__PRE_R3__","noModuleError","getModuleFactory","SystemJsNgModuleLoaderConfig","DEFAULT_CONFIG","factoryPathPrefix","factoryPathSuffix","SystemJsNgModuleLoader","_compiler","config","_config","loadFactory","loadAndCompile","exportName","System","import","checkNotEmpty","factoryClassSuffix","modulePath","ViewRef$1","EmbeddedViewRef","DebugEventListen

er","DebugNode__PRE_R3__","nativeNode","_debugContext","DebugElement__PRE_R3__","addChild","provider
Tokens","childNodes","childIndex","insertChildrenAfter","newChildren","siblingIndex","refChild","newChild","ref
Index","queryAll","_queryElementChildren","queryAllNodes","_queryNodeChildren","triggerEventHandler","event
Obj","DebugNode__POST_R3__","DebugElement__POST_R3__","getLocalRefs","discoverLocalRefs","getInjecti
onTokens","copyDomProperties","NodePrototype","descriptors","getOwnPropertyDescriptors","startsWith","isPrim
itiveValue","collectPropertyBindings","bindingIndexes","metadataParts","lowercaseTNodeAttrs","eAttrs","lowerca
seName","baseVal","getDebugNode__POST_R3__","_queryAllR3","invokedListeners","eventListeners","unwrapp
edListener","parentElement","elementsOnly","_queryNodeChildrenR3","_queryNativeNodeDescendants","rootNati
veNode","getNativeByTNodeOrNull","_addQueryMatchR3","nodeOrContainer","_queryNodeChildrenInContainer
R3","head","head_1","head_1_1","nextTNode","nextLView","childView","debugNode","getDebugNode$1","_nativ
eNodeToDebugNode","getDebugNode__PRE_R3__","getDebugNodeR2__PRE_R3__","getDebugNodeR2","index
DebugNode","DebugNode","DebugElement","platformCore","_iterableDiffersFactory","_keyValueDiffersFactory",
"_localeFactory","ViewAction","ApplicationModule","APPLICATION_MODULE_PROVIDERS","zoneScheduler
Factory","queue","selectorOrNode","ns","parentEl","listenToElementOutputs","handleEventClosure","renderEvent
HandlerClosure","listenTarget","listenerView","disposable","checkAndUpdateElementValue","setElementAttribute
$1","securityContext","renderValue","setElementClass","setElementStyle","unit","setElementProperty","queryIds",
"nodeMatchedQueries","tplDef","filterId","checkAndUpdateQuery","newValues","elementDef","calcQueryValues",
"notify","boundValue","bindingType","queryDef","getQueryValue","embeddedView","dvc","projectedView","quer
yValueType","appendNgContent","_pureExpressionDef","propertyNames","_addInterpolationPart","isNgContainer
","validateNode","nodeCount","parentEnd","anchorDef","createView","initView","createViewNodes","compRender
rer","outputCount","bindingCount","nodeData","compViewDef","execComponentViewsAction","CreateViewNode
s","execQueriesAction","markProjectedViewsForCheck","execEmbeddedViewsAction","CheckNoChanges","Chec
kAndUpdate","callInit","checkAndUpdateNode","argStyle","v8","v9","checkAndUpdateNodeInline","checkAndUp
dateElementInline","bindLen","changed","checkAndUpdateTextInline","checkAndUpdateDirectiveInline","checkA
ndUpdatePureExpressionInline","checkAndUpdateNodeDynamic","checkAndUpdateElementDynamic","checkAnd
UpdateTextDynamic","checkAndUpdateDirectiveDynamic","checkAndUpdatePureExpressionDynamic","checkNo
ChangesNode","checkNoChangesNodeInline","checkNoChangesNodeDynamic","checkNoChangesQuery","Destro
y","detachProjectedView","destroyViewNodes","callViewAction","viewState","execProjectedViewsAction","Chec
kNoChangesProjectedViews","CheckAndUpdateProjectedViews","queryFlags","staticDynamicQueryFlag","checkT
ype","initServicesIfNeeded","services","createDebugServices","debugSetCurrentNode","debugCreateRootView","d
ebugCreateEmbeddedView","debugCreateComponentView","debugCreateNgModuleRef","debugOverrideProvider"
,"debugOverrideComponentView","debugClearOverrides","debugCheckAndUpdateView","debugCheckNoChanges
View","debugDestroyView","DebugContext_","debugHandleEvent","debugUpdateDirectives","debugUpdateRende
rer","createProdServices","createProdRootView","prodCheckAndUpdateNode","prodCheckNoChangesNode","elInj
ector","createRootData","DebugRendererFactory2","defWithOverride","applyProviderOverridesToView","callWith
DebugContext","DebugAction","viewDefOverrides","applyProviderOverridesToNgModule","calcHasOverrides","h
asOverrides","hasDeprecatedOverrides","providerOverrides","override","deprecatedBehavior","providerOverrides
WithScope","applyProviderOverrides","moduleSet_1","_currentAction","_currentView","_currentNodeIndex","com
p","compFactory","hostViewDef","elementIndicesWithOverwrittenProviders","findElementIndicesWithOverwritten
Providers","elIndicesWithOverwrittenProviders","lastElementDef","applyProviderOverridesToElement","elIndex","
nextDirectiveWithBinding","debugCheckDirectivesFn","debugCheckAndUpdateNode","debugCheckNoChangesNo
de","nextRenderNodeWithBinding","debugCheckRenderNodeFn","givenValues","bindingValues","camelCaseToD
ashCase","elView","elOrCompView","childDef","collectReferences","findHostElement","logViewDef","logNodeIn
dex","renderNodeIndex","getRenderNodeIndex","currRenderNodeIndex","nodeLogger","refName","oldAction","ol
dView","oldNodeIndex","isViewDebugError","viewWrappedDebugError","getCurrentDebugContext","renderData"
,"DebugRenderer2","whenRenderingDone","debugContextFactory","removeDebugNodeFromIndex","debugCtx","d
ebugEl","debugChildEl","debugRefEl","oldChild","preserveContent","NgModuleFactory_","_ngModuleDefFactory
","cloneNgModuleDefinition","CUSTOM_ELEMENTS_SCHEMA","INJECTOR","NO_ERRORS_SCHEMA","as

NativeElements","debugEls","destroyPlatform","enableProdMode","getDebugNode","setTestabilityGetter","0","ALLOW_MULTIPLE_PLATFORMS","APP_ID_RANDOM_PROVIDER","CREATE_ATTRIBUTE_DECORATOR__POST_R3__","CREATE_ATTRIBUTE_DECORATOR__POST_R3__","CodegenComponentFactoryResolver","Compiler_compileModuleAndAllComponentsAsync__POST_R3__","Compiler_compileModuleAndAllComponentsSync__POST_R3__","Compiler_compileModuleAsync__POST_R3__","Compiler_compileModuleSync__POST_R3__","ComponentFactory","Console","DEFAULT_LOCALE_ID","EMPTY_ARRAY","EMPTY_MAP","INJECTOR_IMPL__POST_R3__","INJECTOR_IMPL__POST_R3__","INJECTOR_SCOPE","LifecycleHooksFeature","NG_COMP_DEF","NG_DIR_DEF","NG_ELEMENT_ID","NG_INJ_DEF","NG_MOD_DEF","NG_PIPE_DEF","NG_PROV_DEF","NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR","NO_CHANGE","NgModuleFactory","NoopNgZone","ReflectionCapabilities","Render3ComponentFactory","Render3ComponentRef","Render3NgModuleRef","SWITCH_CHANGE_DETECTOR_REF_FACTORY__POST_R3__","SWITCH_COMPILE_COMPONENT__POST_R3__","SWITCH_COMPILE_DIRECTIVE__POST_R3__","SWITCH_COMPILE_INJECTABLE__POST_R3__","compileInjectable","SWITCH_COMPILE_NGMODULE__POST_R3__","SWITCH_COMPILE_PIPE__POST_R3__","SWITCH_ELEMENT_REF_FACTORY__POST_R3__","SWITCH_IVY_ENABLED__POST_R3__","SWITCH_RENDERER2_FACTORY__POST_R3__","SWITCH_TEMPLATE_REF_FACTORY__POST_R3__","SWITCH_VIEW_CONTAINER_REF_FACTORY__POST_R3__","_sanitizeHtml","_sanitizeUrl","allowSanitizationBypassAndThrow","and","templateFactory","angular_packages_core_core_a","angular_packages_core_core_b","angular_packages_core_core_ba","angular_packages_core_core_bb","angular_packages_core_core_bc","angular_packages_core_core_bd","angular_packages_core_core_be","angular_packages_core_core_bf","angular_packages_core_core_bg","angular_packages_core_core_bi","angular_packages_core_core_bj","angular_packages_core_core_bk","angular_packages_core_core_bl","angular_packages_core_core_bm","angular_packages_core_core_bn","angular_packages_core_core_bo","angular_packages_core_core_bp","angular_packages_core_core_bq","angular_packages_core_core_br","angular_packages_core_core_bs","angular_packages_core_core_bu","angular_packages_core_core_bw","angular_packages_core_core_bx","angular_packages_core_core_by","angular_packages_core_core_bz","angular_packages_core_core_c","angular_packages_core_core_ca","angular_packages_core_core_d","angular_packages_core_core_e","angular_packages_core_core_f","angular_packages_core_core_g","angular_packages_core_core_h","angular_packages_core_core_i","angular_packages_core_core_j","angular_packages_core_core_k","angular_packages_core_core_l","angular_packages_core_core_m","angular_packages_core_core_n","angular_packages_core_core_o","angular_packages_core_core_p","angular_packages_core_core_q","angular_packages_core_core_r","angular_packages_core_core_s","angular_packages_core_core_t","angular_packages_core_core_u","angular_packages_core_core_v","angular_packages_core_core_w","angular_packages_core_core_x","angular_packages_core_core_y","angular_packages_core_core_z","bypassSanitizationTrustHtml","bypassSanitizationTrustHtml","trustedHtml","bypassSanitizationTrustResourceUrl","bypassSanitizationTrustResourceUrl","trustedResourceUrl","bypassSanitizationTrustScript","bypassSanitizationTrustScript","trustedScript","bypassSanitizationTrustStyle","bypassSanitizationTrustStyle","trustedStyle","bypassSanitizationTrustUrl","bypassSanitizationTrustUrl","trustedUrl","ccf","createComponentFactory","clearOverrides","clearResolutionOfComponentResourcesQueue","cmf","createNgModuleFactory","defFactory","compileComponent","compileDirective","compileNgModule","compileNgModuleDefs","compileNgModuleFactory__POST_R3__","compileNgModuleFactory__POST_R3__","ngJitMode","setJitOptions","isComponentResourceResolutionQueueEmpty","compilerProviders","_mergeArrays","resourceLoader","ResourceLoader","compilePipe","createInjector","crt","createRendererType2","defaultIterableDiffers","defaultKeyValueDiffers","detectChanges","devModeEqual","did","outputDefs","eld","namespaceAndName","fixedAttrs","bindingDefs","suffixOrSecurityContext","ns_1","name_1","_e","resolveRendererType2","isFilled","findLocaleData","flushModuleScopingQueueAsMuchAsPossible","getComponentViewDefinitionFactory","getDebugNodeR2","getDebugNode__POST_R3__","getDirectives","getHostElement","getInjectableDef","getLContext","getLocaleCurrencyCode","getLocaleCurrencyCode","CurrencyCode","getLocalePluralCase","getModuleFactory__POST_R3__","getModuleFactory__POST_R3__","getSanitizationBypassType","global","initServicesIfNeeded","inlineInterpolate","inlineInterpolate","valueCount","c0","a1","c1","a2","c2","a3","c3","a4","c4","a5","c5","a6","c6","a7","c7","a8","c8","a9","c9","interpolate","interpolate","constAndInterp","isBoundToModule__POST_R3__","isBoundToModule__POST_R3__","i

sDefaultChangeDetectionStrategy","isDefaultChangeDetectionStrategy","changeDetectionStrategy","isListLikeIterable","isObservable","isPromise","ivyEnabled","makeDecorator","markDirty","moduleDef","mpd","moduleProvideDef","ncd","ngContentDef","noSideEffects","nov","overrideComponentView","overrideProvider","pad","pureArrayDef","argCount","patchComponentDefWithScope","pid","pod","pureObjectDef","propToIndex","nbKeys","ppd","purePipeDef","prd","publishDefaultGlobalUtils","publishDefaultGlobalUtils","publishGlobalUtil","qud","registerLocaleData","registerLocaleData","extraData","LocaleId","ExtraData","registerModuleFactory","registerModuleFactory","registerNgModuleType","renderComponent","renderComponent$1","componentTag","resetCompiledComponents","resetCompiledComponents","resetJitOptions","resetJitOptions","resolveComponentResources","setClassMetadata","setClassMetadata","clazz","setCurrentInjector","setDocument","setDocument","setLocaleId","store","stringify","ted","textDef","staticText","transitiveScopesFor","unregisterLocaleData","unregisterAllLocaleData","unv","unwrapValue","nodeIdx","globalBindingIdx","unwrapSafeValue","vid","viewBindingCount","viewDisposableCount","viewNodeFlags","viewRootNodeFlags","viewMatchedQueries","currentParent","currentRenderParent","currentElementHasPublicProviders","currentElementHasPrivateProviders","newParent","rootNodeFlags","whenRendered","whenRendered"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GACI,iBAAZC,SAAiD,iBAAXC,OAAuBA,OAAOD,QAAUD,IAAmC,mBAAXG,QAAyBA,OAAOC,IAAMD,OAAOH,GAAmB,oBAATK,KAAuBA,KAAOA,MAAMC,KAAOL,IAAmB,oBAATM,KAAuBA,KAAOA,MAAMC,KAAOP,KAAUQ,KAAM,WAAc,aAAa,IAAIC,EAAgB,CAAEC,QAAS,CAAC,GAAIC,EAAaF,EAAgBC,QAAQ,IAAIE,EAAgBH,EAAgBC,QAAQ,IAAIG,EAAcJ,EAAgBC,QAAQ,IAAII,EAAcL,EAAgBC,QAAQ,IAAIK,EAAcN,EAAgBC,QAAQ,IAAIM,EAAcP,EAAgBC,QAAQ,IAAIO,EAAcR,EAAgBC,QAAQ,IAAIQ,EAAcT,EAAgBC,QAAQ,IAAIS,EAAcV,EAAgBC,QAAQ,IAAIU,EAAcX,EAAgBC,QAAQ,IAAIW,EAAcZ,EAAgBC,QAAQ,IAAIY,EAAcb,EAAgBC,QAAQ,IAAIa,EAAcd,EAAgBC,QAAQ,IAAIc,EAAcf,EAAgBC,QAAQ,IAAIe,EAAchB,EAAgBC,QAAQ,IAAIgB,EAAcjB,EAAgBC,QAAQ,IAAIiB,EAAclB,EAAgBC,QAAQ,IAAIkB,EAAcnB,EAAgBC,QAAQ,IAAImB,EAAcpB,EAAgBC,QAAQ,IAAIoB,EAAcrB,EAAgBC,QAAQ,IAAIqB,EAAcrB,EAAgBC,QAAQ,IAAIqB,EAAcrB,EAAgBC,QAAQ,IAAIq

CA,EAAYA,EAAsB,SAAI,GAAK,YAyFpCE,EAaRrE,EAAQqE,0BAA4BrE,EAAQqE,wBAA0B,KAN7CA,EAAgC,OAAI,GAAK,SAKjEA,EAAwBA,EAAiC,QAAI,GAAK,WAE3DC,EA+BRtE,EAAQqF,wBAA0BrF,EAAQqF,sBAAwB,KA1B5Cf,EAAgC,UAAI,GAAK,YAK9DA,EAAqBA,EAA8B,QAAI,GAAK,UAK5DA,EAAqBA,EAAkC,YAAI,GAAK,cAAKhEA,EAAqBA,EAA++B,SAAI,GAAK,UAAIA,EAAqBA,EAAgC,UAAI,GAAK,;;;;;;;;AAqBlE,SAAWgB,GASPA,EAAwBA,EAA4B,SAAI,GAAK,WAAIA,EAAwBA,EAAiC,cAAI,GAAK,gBAAIA,EAAwBA,EAAgC,aAAI,GAAK,eAAIA,EAAwBA,EAAgC,aAAI,GAAK,eAAIA,EAAwBA,EAAiC,cAAI,GAAK,gB

gBF,GACrB,OAAmD,IAA7B,EAAdA,EAAMzG,OAElB,SAAS4G,GAAe1E,GACpB,OAAwB,OAAjBA,EAAII;;;;;;;AAkIf,SAASuE,GAAcvJ,EAAM8I,GAKzB,OAJoB9I,EAAKrB,eAAeyF,GAIjBpE,EAAKoE,GAAkB;;;;;;;;;;;;;;oFAkBlD,IAAIoF,GAAgB,SAAUC,EAAGC,GAM7B,OALAF,GAAgBG,OAAOC,gBAAkB,CAAEC,UAAW,cAAgBC,OAAS,SAAUL,EAAGC,GAAKD,EAAEI,UAAYH,GAAMF,GAAcC,EAAGC,GAAI,cAAcK,GAAUN,EAAEO,UAAkB,OAAND,EAAaJ,OAAOM,OAAOF,IAAMN,EAAGO,UAAYD,EAAEC,UAAW,IAAIP,GAAK,cAAcS,GAAUC,KAAKC,YAAcZ,EAAGa,EAAGb,EAAGC,GAAIW,EAAGE,UAAkB,OAANb,EAAaJ,OAAOM,OAAOF,IAAMa,EAAGE,UAAYf,EAAEe,UAAW,IAAIF,GAAK,SAASG,GAAWC,EAAQC,EAAMC,GAAU,OAAOC,KAAKC,UAAUC,MAAMC,KAAKC,WAAY,SAASC,GAAiBC,EAAKC,EAAKC,EAAKC,EAAKC,EAAKC,EAAKC,GAAO,IAAIC,EAAOP,EAAIK,GAAKC,GAAQE,EAAQD,EAAKC,MAAS,MAAOC,GAAQ,YAAYC,EAAOD,GAAWD,EAAKG,KAAQC,QAAQL,GAASM,KAAKV,EAAOO,GAAS,SAASI,GAAkBC,GAAM,IAAIb,EAAOP,EAAIoB,GAAKC,EAAMd,EAAKc,IAAO,OAAOd,EAAKe,MAAQ,SAASL,EAAOD,GAAWK,EAAIE,KAAKhB,EAAOS,GAAS,SAASQ,GAAiBC,GAAM,OAAO,WAAY,IAAIC,EAAOC,KAAMC,EAAOlB,UAAWmB,EAAM,IAAIC,SAAQ,SAAUb,EAASD,GAAU,IAAIe,EAAMN,EAAGb,MAAMe,EAAMD,GAAO,SAASM,EAAMlB,GAAOiB,GAAmBC,EAAQhB,EAASD,EAAQkB,EAAOC,EAAQ,OAAQnB,GAAQ,SAASmB,EAAOnB,GAAOiB,GAAmBC,EAAQhB,EAASD,EAAQkB,EAAOC,EAAQ,QAASnB,GAAQkB,OAAM,OAAOH,EAAMA,EAAMA,EAAIK,KAAKH,EAAOA,GAAUA,KAAS,SAASI,GAAkBC,EAAUC,GAAe,KAAMD,aAAoBC,GAAgB,MAAM,IAAIC,UAAU,qCAAuC,SAASC,GAAkBC,EAAQC,GAAS,IAAK,IAAIC,EAAI,EAAGA,EAAID,EAAMb,OAAQc,IAAK,CAAE,IAAIC,EAAaF,EAAMC,GAAIC,EAAWC,WAAaD,EAAWC,aAAc,EAAOD,EAAWE,cAAe,EAAU,UAAWF,IAAYA,EAAWG,UAAW,GAAMC,OAAOC,eAAeR,EAAQG,EAAWM,IAAKN,IAAiB,SAASO,GAAaX,EAAaY,EAAYC,GAAyN,OAAtMD,GAAYV,GAAkBF,EAAYlB,UAAW8B,GAAiBC,GAAaX,GAAkBF,EAAaa,GAAcL,OAAOC,eAAeT,EAAa,YAAa,CAAEM,UAAU,IAAiBN,EAAa,SAASc,GAAgBC,GAAwJ,OAAnJD,GAAkBR,OAAOU,eAAiBV,OAAOW,eAAiB,SAAyBF,GAAK,OAAOA,EAAEG,WAAaZ,OAAOW,eAAeF,KAA8BA,GAAI,SAASI,GAAgBJ,EAAGK,GAAsG,OAAjGD,GAAkBb,OAAOU,gBAAkB,SAAyBD,EAAGK,GAAsB,OAAjBL,EAAEG,UAAYE,EAAUL,IAA4BA,EAAGK,GAAI,SAASC,KAA8B,GAAuB,qBAAZC,UAA4BA,QAAQC,UAAW,OAAO,EAAO,GAAID,QAAQC,UAAUC,KAAM,OAAO,EAAO,GAAqB,oBAAVC,MAAsB,OAAO,EAAM,IAAIC,QAAQ5C,UAAU6C,QAAQ3C,KAAKsC,QAAQC,UAAUG,QAAS,IAAIC,SAAQ,iBAAmB,EAAO,MAAOC,GAAK,OAAO,GAAS,SAASC,GAAWC,EAAQ1C,EAAM2C,GAA6I,OAAhID,GAAWP,KAAgCD,QAAQC,UAAYD,QAAQC,UAAUS,OAAS,SAAoBF,EAAQ1C,EAAM2C,GAAS,IAAIE,EAAI,CAAC,MAAOA,EAAEC,KAAKvC,MAAMsC,EAAG7C,GAAO,IAAI+C,EAAWC,SAASC,KAAK1C,MAAMkC,EAAQI,GAAIF,GAAS,OAAOG,IAAkBH,EAAMO,WAAWH,EAAUJ,EAAMO,UAAUH,GAAkBA,EAAWI,SAAS,SAASC,GAAiBC,GAAS,IAAIC,EAAwB,oBAARC,IAAqB,IAAIA,SAAQ,EAAQ,OAAOH,GAAmB,SAAyBC,GAAS,GAAIA,IAAUG,KAAKC,SAASC,SAASL,GAAQ,OAAOA,EAAQ,GAAqB,oBAAVA,EAAsB,MAAM,IAAIlB,UAAU,sDAAwD,GAAsB,qBAAXmB,EAAwB,CAAE,GAAIA,EAAOK,IAAIN,GAAQ,OAAOC,EAAOM,IAAIP,GAAQC,EAAOO,IAAIR,EAAOS,GAAY,SAASA,KAAY,OAAOlB,GAAWS,EAAOlD,UAAWqD,KAAKC,SAASC,SAASL,GAAQ,SAASS,GAAgBT,EAAOU,GAAS,OAAOD,GAAkBlC,OAAOU,eAAiBV,OAAOU,eAAeW,OAAS,SAAyBF,EAAOU,GAAS,OAAOV,EAAMb,UAAYuB,EAAUV,IAAmBA,EAAOU,GAAS,SAASC,GAAaC,GAAS,IAAIC,EAA4BC,KAA6B,OAAO,WAAY,IAAIC,EAAQC,GAAgBJ,GAAUK,EAAQ,GAAIJ,EAA2B,CAAE,IAAIK,EAAYF,GAAgBG,MAAMC,YAAaH,EAASvB,QAAQC,UAAUsB,EAAOvE,UAAWyE,QAAgBH,EAASC,EAAMrE,MAAMuE,KAAMzE,WAAc,OAAO2E,GAA2BF,KAAMH,IAAW,SAASK,GAA2BC,EAAMC,GAAQ,GAAIA,IAA2B,WAAlBC,GAAQD,IAAsC,oBAATA,GAAqB,OAAOA,EAAW,GAAkB,qBAAPA,EAAoB,MAAM,IAAIE,UAAU,4DAA+D,OAAOC,GAAuBJ,GAAS,SAASI,GAAuBJ,GAAQ,GAAIA,EAAKK,eAAe,6DAA+D,MAAM,IAAIC,eAAe,6EAA+E,OAAON,EAAS,SAASO,KAA8B,GAAuB,qBAAZ5B,UAA4BA,QAAQC,UAAW,OAAO,EAAO,GAAID,QAAQC,UAAUC,KAAM,OAAO,EAAO,GAAqB,oBAAVC,MAAsB,OAAO,EAAM,IAAIC,QAAQ5C,UAAU6C,QAAQ3C,KAAKsC,QAAQC,UAAUG,QAAS,IAAIC,SAAQ,iBAAmB,EAAO,MAAOC,GAAK,OAAO,GAAS,SAASuB,GAAgBC,GAAwJ,OAAnJD,GAAkBlD,OAAOU,eAAiBV,OAAOW,eAAiB,SAAyBwC,GAAK,OAAOA,EAAEvC,WAAaZ,OAAOW,eAAewC,KAA8BA,GAAI,SAASC,GAAgBD,EAAGE,GAAsG,OAAjGD,GAAkBpD,OAAOU,gBAAkB,SAAyByC,EAAGE,GAAsB,OAAjBF,EAAEvC,UAAYyC,EAAUF,IAA4BA,EAAGE,GAAI,SAASC,GAAaC,GAAS,IAAIC,EAA4BC,KAA6B,OAAO,WAAY,IAAIC,EAAQC,GAAgBJ,GAAUK,EAAQ,GAAIJ,EAA2B,CAAE,IAAIK,EAAYF,GAAgBG,MAAMC,YAAaH,EAASvB,QAAQC,UAAUsB,EAAOvE,UAAWyE,QAAgBH,EAASC,EAAMrE,MAAMuE,KAAMzE,WAAc,OAAO2E,GAA2BF,KAAMH,IAAW,SAASK,GAA2BC,EAAMC,GAAQ,GAAIA,IAA2B,WAAlBC,GAAQD,IAAsC,oBAATA,GAAqB,OAAOA,EAAW,GAAkB,qBAAPA,EAAoB,MAAM,IAAIE,UAAU,4DAA+D,OAAOC,GAAuBJ,GAAS,SAASI,GAAuBJ,GAAQ,GAAIA,EAAKK,eAAe,6DAA+D,MAAM,IAAIC,eAAe,6EAA+E,OAAON,EAAS,SAASO,KAA8B,GAAuB,qBAAZ5B,UAA4BA,QAAQC,UAAW,OAAO,EAAO,GAAID,QAAQC,UAAUC,KAAM,OAAO,EAAO,GAAqB,oBAAVC,MAAsB,OAAO,EAAM,IAAIC,QAAQ5C,UAAU6C,QAAQ3C,KAAKsC,QAAQC,UAAUG,QAAS,IAAIC,SAAQ,iBAAmB,EAAO,MAAOC,GAAK,OAAO,GAAS,SAASuB,GAAgBC,GAAwJ,OAAnJD,GAAkBlD,OAAOU,eAAiBV,OAAOW,eAAiB,SAAyBwC,GAAK,OAAOA,EAAEvC,WAAaZ,OAAOW,eAAewC,KAA8BA,GAAI,SAASC,GAAgBD,EAAGE,GAAsG,OAAjGD,GAAkBpD,OAAOU,gBAAkB,SAAyByC,EAAGE,GAAsB,OAAjBF,EAAEvC,UAAYyC,EAAUF,IAA4BA,EAAGE,GAAI,SAASC,GAAaC,GAAS,IAAIC,EAA4BC,KAA6B,OAAO,WAAY,IAAIC,EAAQC,GAAgBJ,GAAUK,EAAQ,GAAIJ,EAA2B,CAAE,IAAIK,EAAYF,GAAgBG,MAAMC,YAAaH,EAASvB,QAAQC,UAAUsB,EAAOvE,UAAWyE,QAAgBH,EAASC,EAAMrE,MAAMuE,KAAMzE,WAAc,OAAO2E,GAA2BF,KAAMH,IAAW,SAASK,GAA2BC,EAAMC,GAAQ,GAAIA,IAA2B,WAAlBC,GAAQD,IAAsC,oBAATA,GAAqB,OAAOA,EAAW,GAAkB,qBAAPA,EAAoB,MAAM,IAAIE,UAAU,4DAA+D,OAAOC,GAAuBJ,GAAS,SAASI,GAuBJ,gBAAgBC,EAAUC,GAAe,KAAMD,aAAoBC,GAAgB,MAAM,IAAIC,UAAU,qCAAuC,SAASC,GAAkBC,EAAQC,GAAS,IAAK,IAAIC,EAAI,EAAGA,EAAID,EAAMb,OAAQc,IAAK,CAAE,IAAIC,EAAaF,EAAMC,GAAIC,EAAWC,WAAaD,EAAWC,aAAc,EAAOD,EAAWE,cAAe,EAAU,UAAWF,IAAYA,EAAWG,UAAW,GAAMC,OAAOC,eAAeR,EAAQG,EAAWM,IAAKN,IAAiB,SAASO,GAAaX,EAAaY,EAAYC,GAAyN,OAAtMD,GAAYV,GAAkBF,EAAYlB,UAAW8B,GAAiBC,GAAaX,GAAkBF,EAAaa,GAAcL,OAAOC,eAAeT,EAAa,YAAa,CAAEM,UAAU,IAAiBN,EAAa,SAASc,GAAgBC,GAAwJ,OAAnJD,GAAkBR,OAAOU,eAAiBV,OAAOW,eAAiB,SAAyBF,GAAK,OAAOA,EAAEG,WAAaZ,OAAOW,eAAeF,KAA8BA,GAAI,SAASI,GAAgBJ,EAAGK,GAAsG,OAAjGD,GAAkBb,OAAOU,gBAAkB,SAAyBD,EAAGK,GAAsB,OAAjBL,EAAEG,UAAYE,EAAUL,IAA4BA,EAAGK,GAAI,SAASC,KAA8B,GAAuB,qBAAZC,UAA4BA,QAAQC,UAAW,OAAO,EAAO,GAAID,QAAQC,UAAUC,KAAM,OAAO,EAAO,GAAqB,oBAAVC,MAAsB,OAAO,EAAM,IAAIC,QAAQ5C,UAAU6C,QAAQ3C,KAAKsC,QAAQC,UAAUG,QAAS,IAAIC,SAAQ,iBAAmB,EAAO,MAAOC,GAAK,OAAO,GAAS,SAASC,GAAWC,EAAQ1C,EAAM2C,GAA6I,OAAhID,GAAWP,KAAgCD,QAAQC,UAAYD,QAAQC,UAAUS,OAAS,SAAoBF,EAAQ1C,EAAM2C,GAAS,IAAIE,EAAI,CAAC,MAAOA,EAAEC,KAAKvC,MAAMsC,EAAG7C,GAAO,IAAI+C,EAAWC,SAASC,KAAK1C,MAAMkC,EAAQI,GAAIF,GAAS,OAAOG,IAAkBH,EAAMO,WAAWH,EAAUJ,EAAMO,UAAUH,GAAkBA,EAAWI,SAAS,SAASC,GAAiBC,GAAS,IAAIC,EAAwB,oBAARC,IAAqB,IAAIA,SAAQ,EAAQ,OAAOH,GAAmB,SAAyBC,GAAS,GAAIA,IAAUG,KAAKC,SAASC,SAASL,GAAQ,OAAOA,EAAQ,GAAqB,oBAAVA,EAAsB,MAAM,IAAIlB,UAAU,sDAAwD,GAAsB,qBAAXmB,EAAwB,CAAE,GAAIA,EAAOK,IAAIN,GAAQ,OAAOC,EAAOM,IAAIP,GAAQC,EAAOO,IAAIR,EAAOS,GAAY,SAASA,KAAY,OAAOlB,GAAWS,EAAOlD,UAAWqD,KAAKC,SAASC,SAASL,GAAQ,SAASS,GAAgBT,EAAOU,GAAS,OAAOD,GAAkBlC,OAAOU,eAAiBV,OAAOU,eAAeW,OAAS,SAAyBF,EAAOU,GAAS,OAAOV,EAAMb,UAAYuB,EAAUV,IAAmBA,EAAOU,GAAS,SAASC,GAAaC,GAAS,IAAIC,EAA4BC,KAA6B,OAAO,WAAY,IAAIC,EAAQC,GAAgBJ,GAAUK,EAAQ,GAAIJ,EAA2B,CAAE,IAAIK,EAAYF,GAAgBG,MAAMC,YAAaH,EAASvB,QAAQC,UAAUsB,EAAOvE,UAAWyE,QAAgBH,EAASC,EAAMrE,MAAMuE,KAAMzE,WAAc,OAAO2E,GAA2BF,KAAMH,IAAW,SAASK,GAA2BC,EAAMC,GAAQ,GAAIA,IAA2B,WAAlBC,GAAQD,IAAsC,oBAATA,GAAqB,OAAOA,EAAW,GAAkB,qBAAPA,EAAoB,MAAM,IAAIE,UAAU,4DAA+D,OAAOC,GAAuBJ,GAAS,SAASI,GAAuBJ,GAAQ,GAAIA,EAAKK,eAAe,6DAA+D,MAAM,IAAIC,eAAe,6EAA+E,OAAON,EAAS,SAASO,KAA8B,GAAuB,qBAAZ5B,UAA4BA,QAAQC,UAAW,OAAO,EAAO,GAAID,QAAQC,UAAUC,KAAM,OAAO,EAAO,GAAqB,oBAAVC,MAAsB,OAAO,EAAM,IAAIC,QAAQ5C,UAAU6C,QAAQ3C,KAAKsC,QAAQC,UAAUG,QAAS,IAAIC,SAAQ,iBAAmB,EAAO,MAAOC,GAAK,OAAO,GAAS,SAASuB,GAAgBC,GAAwJ,OAAnJD,GAAkBlD,OAAOU,eAAiBV,OAAOW,eAAiB,SAAyBwC,GAAK,OAAOA,EAAEvC,WAAaZ,OAAOW,eAAewC,KAA8BA,GAAI,SAASC,GAAgBD,EAAGE,GAAsG,OAAjGD,GAAkBpD,OAAOU,gBAAkB,SAAyByC,EAAGE,GAAsB,OAAjBF,EAAEvC,UAAYyC,EAAUF,IAA4BA,EAAGE,GAAI,SAASC,GAAaC,GAAS,IAAIC,EAA4BC,KAA6B,OAAO,WAAY,IAAIC,EAAQC,GAAgBJ,GAAUK,EAAQ,GAAIJ,EAA2B,CAAE,IAAIK,EAAYF,GAAgBG,MAAMC,YAAaH,EAASvB,QAAQC,UAAUsB,EAAOvE,UAAWyE,QAAgBH,EAASC,EAAMrE,MAAMuE,KAAMzE,WAAc,OAAO2E,GAA2BF,KAAMH,IAAW,SAASK,GAA2BC,EAAMC,GAAQ,GAAIA,IAA2B,WAAlBC,GAAQD,IAAsC,oBAATA,GAAqB,OAAOA,EAAW,GAAkB,qBAAPA,EAAoB,MAAM,IAAIE,UAAU,4DAA+D,OAAOC,GAAuBJ,GAAS,SAASI,GAuBJ,

R,GAClC,OAA8C,MAAxB,IAAdA,EAr8BA,IA28BZ,SAASS,GAAYlK,EAAQoJ,GACzB,OAAIA,MAAAA,EAC
O,KAEJpJ,EAAOoJ,GAMlB,SAASe,GAAuBd,GAC5BA,EAr8BsB,IAq8BO,EASjC,SAASe,GAA4BC,EAAAC,
AC7CD,EA79BgC,IA69BaC,EAG7C,IAFA,IAAIC,EAAkBF,EAClBG,EAASH,EAj+BJ,GAk+BS,OAAXG,EAAkBA,EAAS,OAAXG,IACU,
IAAXF,,GAAmE,IAAnDC,EAj+BU,GAk+BS,OAAXC,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAl+BM,IAm+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAn+BM,IAo+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAp+BM,IAq+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAr+BM,IAs+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAt+BM,IAu+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAv+BM,IAw+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAx+BM,IAy+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAz+BM,IA0+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1+BM,IA2+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3+BM,IA4+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5+BM,IA6+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7+BM,IA8+BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9+BM,IA++BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/+BM,IAg/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAh/BM,IAi/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAj/BM,IAk/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAl/BM,IAm/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAn/BM,IAo/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAp/BM,IAq/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAr/BM,IAs/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAt/BM,IAu/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAv/BM,IAw/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAx/BM,IAy/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAz/BM,IA0/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1/BM,IA2/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3/BM,IA4/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5/BM,IA6/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7/BM,IA8/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9/BM,IA+/BS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA//BM,IAggCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhgCM,IAigCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjgCM,IAkgCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlgCM,IAmgCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAngCM,IAogCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApgCM,IAqgCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArgCM,IAsgCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtgCM,IAugCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvgCM,IAwgCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxgCM,IAygCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzgCM,IA0gCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1gCM,IA2gCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3gCM,IA4gCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5gCM,IA6gCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7gCM,IA8gCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9gCM,IA+gCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/gCM,IAghCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhhCM,IAihCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjhCM,IAkhCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlhCM,IAmhCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnhCM,IAohCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAphCM,IAqhCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArhCM,IAshCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAthCM,IAuhCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvhCM,IAwhCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxhCM,IAyhCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzhCM,IA0hCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1hCM,IA2hCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3hCM,IA4hCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5hCM,IA6hCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7hCM,IA8hCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9hCM,IA+hCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/hCM,IAgiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhiCM,IAiiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjiCM,IAkiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAliCM,IAmiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAniCM,IAoiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApiCM,IAqiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAriCM,IAsiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtiCM,IAuiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAviCM,IAwiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxiCM,IAyiCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAziCM,IA0iCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1iCM,IA2iCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3iCM,IA4iCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5iCM,IA6iCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7iCM,IA8iCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9iCM,IA+iCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/iCM,IAgjCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhjCM,IAijCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjjCM,IAkjCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAljCM,IAmjCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnjCM,IAojCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApjCM,IAqjCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArjCM,IAsjCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtjCM,IAujCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvjCM,IAwjCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxjCM,IAyjCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzjCM,IA0jCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1jCM,IA2jCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3jCM,IA4jCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5jCM,IA6jCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7jCM,IA8jCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9jCM,IA+jCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/jCM,IAgkCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhkCM,IAikCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjkCM,IAkkCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlkCM,IAmkCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnkCM,IAokCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApkCM,IAqkCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArkCM,IAskCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtkCM,IAukCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvkCM,IAwkCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxkCM,IAykCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzkCM,IA0kCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1kCM,IA2kCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3kCM,IA4kCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5kCM,IA6kCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7kCM,IA8kCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9kCM,IA+kCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/kCM,IAglCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhlCM,IAilCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjlCM,IAklCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAllCM,IAmlCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnlCM,IAolCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAplCM,IAqlCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArlCM,IAslCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtlCM,IAulCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvlCM,IAwlCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxlCM,IAylCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzlCM,IA0lCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1lCM,IA2lCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3lCM,IA4lCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5lCM,IA6lCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7lCM,IA8lCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9lCM,IA+lCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/lCM,IAgmCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhmCM,IAimCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjmCM,IAkmCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlmCM,IAmmCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnmCM,IAomCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApmCM,IAqmCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArmCM,IAsmCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtmCM,IAumCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvmCM,IAwmCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxmCM,IAymCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzmCM,IA0mCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1mCM,IA2mCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3mCM,IA4mCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5mCM,IA6mCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7mCM,IA8mCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9mCM,IA+mCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/mCM,IAgnCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhnCM,IAinCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjnCM,IAknCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlnCM,IAmnCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnnCM,IAonCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApnCM,IAqnCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArnCM,IAsnCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtnCM,IAunCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvnCM,IAwnCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxnCM,IAynCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAznCM,IA0nCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1nCM,IA2nCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3nCM,IA4nCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5nCM,IA6nCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7nCM,IA8nCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9nCM,IA+nCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/nCM,IAgoCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhoCM,IAioCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjoCM,IAkoCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAloCM,IAmoCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnoCM,IAooCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApoCM,IAqoCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAroCM,IAsoCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtoCM,IAuoCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvoCM,IAwoCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxoCM,IAyoCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzoCM,IA0oCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1oCM,IA2oCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3oCM,IA4oCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5oCM,IA6oCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7oCM,IA8oCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9oCM,IA+oCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/oCM,IAgpCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhpCM,IAipCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjpCM,IAkpCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlpCM,IAmpCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnpCM,IAopCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAppCM,IAqpCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArpCM,IAspCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtpCM,IAupCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvpCM,IAwpCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxpCM,IAypCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzpCM,IA0pCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1pCM,IA2pCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3pCM,IA4pCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5pCM,IA6pCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7pCM,IA8pCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9pCM,IA+pCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/pCM,IAgqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhqCM,IAiqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjqCM,IAkqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlqCM,IAmqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnqCM,IAoqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApqCM,IAqqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArqCM,IAsqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtqCM,IAuqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvqCM,IAwqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxqCM,IAyqCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzqCM,IA0qCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1qCM,IA2qCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3qCM,IA4qCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5qCM,IA6qCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7qCM,IA8qCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9qCM,IA+qCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/qCM,IAgrCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhrCM,IAirCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjrCM,IAkrCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlrCM,IAmrCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnrCM,IAorCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAprCM,IAqrCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArrCM,IAsrCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtrCM,IAurCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvrCM,IAwrCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxrCM,IAyrCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzrCM,IA0rCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1rCM,IA2rCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3rCM,IA4rCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5rCM,IA6rCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7rCM,IA8rCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9rCM,IA+rCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/rCM,IAgsCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhsCM,IAisCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjsCM,IAksCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlsCM,IAmsCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnsCM,IAosCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApsCM,IAqsCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArsCM,IAssCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtsCM,IAusCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvsCM,IAwsCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxsCM,IAysCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzsCM,IA0sCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1sCM,IA2sCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3sCM,IA4sCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5sCM,IA6sCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7sCM,IA8sCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9sCM,IA+sCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/sCM,IAgtCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhtCM,IAitCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjtCM,IAktCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAltCM,IAmtCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAntCM,IAotCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAptCM,IAqtCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArtCM,IAstCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAttCM,IAutCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvtCM,IAwtCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxtCM,IAytCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAztCM,IA0tCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1tCM,IA2tCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3tCM,IA4tCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5tCM,IA6tCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7tCM,IA8tCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9tCM,IA+tCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/tCM,IAguCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhuCM,IAiuCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjuCM,IAkuCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAluCM,IAmuCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnuCM,IAouCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApuCM,IAquCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAruCM,IAsuCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtuCM,IAuuCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvuCM,IAwuCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxuCM,IAyuCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzuCM,IA0uCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1uCM,IA2uCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3uCM,IA4uCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5uCM,IA6uCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7uCM,IA8uCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9uCM,IA+uCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/uCM,IAgvCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhvCM,IAivCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjvCM,IAkvCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlvCM,IAmvCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnvCM,IAovCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApvCM,IAqvCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArvCM,IAsvCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtvCM,IAuvCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvvCM,IAwvCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxvCM,IAyvCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzvCM,IA0vCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1vCM,IA2vCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3vCM,IA4vCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5vCM,IA6vCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7vCM,IA8vCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9vCM,IA+vCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/vCM,IAgwCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhwCM,IAiwCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjwCM,IAkwCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlwCM,IAmwCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnwCM,IAowCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApwCM,IAqwCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArwCM,IAswCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtwCM,IAuwCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvwCM,IAwwCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAxwCM,IAywCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAzwCM,IA0wCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA1wCM,IA2wCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA3wCM,IA4wCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA5wCM,IA6wCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA7wCM,IA8wCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA9wCM,IA+wCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EA/wCM,IAgxCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAhxCM,IAixCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAjxCM,IAkxCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAlxCM,IAmxCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAnxCM,IAoxCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EApxCM,IAqxCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EArxCM,IAsxCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAtxCM,IAuxCS,OAAXE,EAAkBA,EAAS,OAAXG,IAAmE,IAAnDF,EAvxCM,IAwxCS,

,KAAKuE,GAEIzK,KAAK4I,UACnC+L,EAAqBD,EAAeC,mBAAoBC,EAAwBF,EAAeE,sBAAuBC,EAAkBH,EAAeG,gBAAiBC,EAAqBJ,EAAeI,mBAAoBjM,EAAc6L,EAAe7L,YAC7P8L,IACCjO,EAAMqO,eAAiBrO,EAAMqO,aAAe,KAAK3J,MAAMX,EAAGkK,GAE3DC,KACClO,EAAMqO,eAAiBrO,EAAMqO,aAAe,KAAK3J,MAAMX,EAAGmK,IACzDlO,EAAMsO,oBAAsBtO,EAAMsO,kBAAoB,KAAK5J,MAAMX,EAAGmK,IAEpEC,EAAMuO,YAAcvO,EAAMuO,UAAY,KAAK7J,MAAMX,EAAGoK,GAErDC,KACCpO,EAAMuO,YAAcvO,EAAMuO,UAAY,KAAK7J,MAAMX,EAAGoK,IAEpDnO,EAAMwO,iBAAmBxO,EAAMwO,eAAiB,KAAK9J,MAAMX,EAAGqK,IAE9DC,EAAMyO,eAAiBzO,EAAMyO,aAAe,KAAK/J,MAAMX,EAAGsK,IAE1DC,EAAM2O,eAAiB3O,EAAM2O,aAAe,KAAKjK,MAAMX,EAAGuK,IAE1DC,EAAM6O,eAAiB7O,EAAM6O,aAAe,KAAKnK,MAAMX,EAAGwK,IAE1DC,EAAM+O,eAAiB/O,EAAM+O,aAAe,KAAKrK,MAAMX,EAAGyK,IAE1DC,EAAMiP,eAAiBjP,EAAMiP,aAAe,KAAKvK,MAAMX,EAAG0K,IAE1DC,EAAMmP,eAAiBnP,EAAMmP,aAAe,KAAKzK,MAAMX,EAAG2K,IAE1DC,EAAMqP,eAAiBrP,EAAMqP,aAAe,KAAK3K,MAAMX,EAAG4K,IAE1DC,EAAMuP,eAAiBvP,EAAMuP,aAAe,KAAK7K,MAAMX,EAAG6K,IAE1DC,EAAMyP,eAAiBzP,EAAMyP,aAAe,KAAK/K,MAAMX,EAAG8K,IAE1DC,EAAM2P,eAAiB3P,EAAM2P,aAAe,KAAKjL,MAAMX,EAAG+K,IAE1DC,EAAM6P,eAAiB7P,EAAM6P,aAAe,KAAKnL,MAAMX,EAAGgL,IAE1DC,EAAM+P,eAAiB/P,EAAM+P,aAAe,KAAKrL,MAAMX,EAAGiL,IAE1DC,EAAMiQ,eAAiBjQ,EAAMiQ,aAAe,KAAKvL,MAAMX,EAAGkL,IAE1DC,EAAMmQ,eAAiBnQ,EAAMmQ,aAAe,KAAKzL,MAAMX,EAAGmL,IAE1DC,EAAMqQ,eAAiBrQ,EAAMqQ,aAAe,KAAK3L,MAAMX,EAAGoL,IAE1DC,EAAMuQ,eAAiBvQ,EAAMuQ,aAAe,KAAK7L,MAAMX,EAAGqL,IAE1DC,EAAMyQ,eAAiBzQ,EAAMyQ,aAAe,KAAK/L,MAAMX,EAAGsL,IAE1DC,EAAM2Q,eAAiB3Q,EAAM2Q,aAAe,KAAKjM,MAAMX,EAAGuL,IAE1DC,EAAM6Q,eAAiB7Q,EAAM6Q,aAAe,KAAKnM,MAAMX,EAAGwL,IAE1DC,EAAM+Q,eAAiB/Q,EAAM+Q,aAAe,KAAKrM,MAAMX,EAAGyL,IAE1DC,EAAMiR,eAAiBjR,EAAMiR,aAAe,KAAKvM,MAAMX,EAAG0L,IAE1DC,EAAMmR,eAAiBnR,EAAMmR,aAAe,KAAKzM,MAAMX,EAAG2L,IAE1DC,EAAMqR,eAAiBrR,EAAMqR,aAAe,KAAK3M,MAAMX,EAAG4L,IAE1DC,EAAMuR,eAAiBvR,EAAMuR,aAAe,KAAK7M,MAAMX,EAAG6L,IAE1DC,EAAMyR,eAAiBzR,EAAMyR,aAAe,KAAK/M,MAAMX,EAAG8L,IAE1DC,EAAM2R,eAAiB3R,EAAM2R,aAAe,KAAKjN,MAAMX,EAAG+L,IAE1DC,EAAM6R,eAAiB7R,EAAM6R,aAAe,KAAKnN,MAAMX,EAAGgM,IAE1DC,EAAM+R,eAAiB/R,EAAM+R,aAAe,KAAKrN,MAAMX,EAAGiM,IAE1DC,EAAMiS,eAAiBjS,EAAMiS,aAAe,KAAKvN,MAAMX,EAAGkM,IAE1DC,EAAMmS,eAAiBnS,EAAMmS,aAAe,KAAKzN,MAAMX,EAAGmM,IAE1DC,EAAMqS,eAAiBrS,EAAMqS,aAAe,KAAK3N,MAAMX,EAAGoM,IAE1DC,EAAMuS,eAAiBvS,EAAMuS,aAAe,KAAK7N,MAAMX,EAAGqM,IAE1DC,EAAMyS,eAAiBzS,EAAMyS,aAAe,KAAK/N,MAAMX,EAAGsM,IAE1DC,EAAM2S,eAAiB3S,EAAM2S,aAAe,KAAKjO,MAAMX,EAAGuM,IAE1DC,EAAM6S,eAAiB7S,EAAM6S,aAAe,KAAKnO,MAAMX,EAAGwM,IAE1DC,EAAM+S,eAAiB/S,EAAM+S,aAAe,KAAKrO,MAAMX,EAAGyM,IAE1DC,EAAMiT,eAAiBjT,EAAMiT,aAAe,KAAKvO,MAAMX,EAAG0M,IAE1DC,EAAMmT,eAAiBnT,EAAMmT,aAAe,KAAKzO,MAAMX,EAAG2M,IAE1DC,EAAMqT,eAAiBrT,EAAMqT,aAAe,KAAK3O,MAAMX,EAAG4M,IAE1DC,EAAMuT,eAAiBvT,EAAMuT,aAAe,KAAK7O,MAAMX,EAAG6M,IAE1DC,EAAMyT,eAAiBzT,EAAMyT,aAAe,KAAK/O,MAAMX,EAAG8M,IAE1DC,EAAM2T,eAAiB3T,EAAM2T,aAAe,KAAKjP,MAAMX,EAAG+M,IAE1DC,EAAM6T,eAAiB7T,EAAM6T,aAAe,KAAKnP,MAAMX,EAAGgN,IAE1DC,EAAM+T,eAAiB/T,EAAM+T,aAAe,KAAKrP,MAAMX,EAAGiN,IAE1DC,EAAMiU,eAAiBjU,EAAMiU,aAAe,KAAKvP,MAAMX,EAAGkN,IAE1DC,EAAMmU,eAAiBnU,EAAMmU,aAAe,KAAKzP,MAAMX,EAAGmN,IAE1DC,EAAMqU,eAAiBrU,EAAMqU,aAAe,KAAK3P,MAAMX,EAAGoN,IAE1DC,EAAMuU,eAAiBvU,EAAMuU,aAAe,KAAK7P,MAAMX,EAAGqN,IAE1DC,EAAMyU,eAAiBzU,EAAMyU,aAAe,KAAK/P,MAAMX,EAAGsN,IAE1DC,EAAM2U,eAAiB3U,EAAM2U,aAAe,KAAKjQ,MAAMX,EAAGuN,IAE1DC,EAAM6U,eAAiB7U,EAAM6U,aAAe,KAAKnQ,MAAMX,EAAGwN,IAE1DC,EAAM+U,eAAiB/U,EAAM+U,aAAe,KAAKrQ,MAAMX,EAAGyN,IAE1DC,EAAMiV,eAAiBjV,EAAMiV,aAAe,KAAKvQ,MAAMX,EAAG0N,IAE1DC,EAAMmV,eAAiBnV,EAAMmV,aAAe,KAAKzQ,MAAMX,EAAG2N,IAE1DC,EAAMqV,eAAiBrV,EAAMqV,aAAe,KAAK3Q,MAAMX,EAAG4N,IAE1DC,EAAMuV,eAAiBvV,EAAMuV,aAAe,KAAK7Q,MAAMX,EAAG6N,IAE1DC,EAAMyV,eAAiBzV,EAAMyV,aAAe,KAAK/Q,MAAMX,EAAG8N,IAE1DC,EAAM2V,eAAiB3V,EAAM2V,aAAe,KAAKjR,MAAMX,EAAG+N,IAE1DC,EAAM6V,eAAiB7V,EAAM6V,aAAe,KAAKnR,MAAMX,EAAGgO,IAE1DC,EAAM+V,eAAiB/V,EAAM+V,aAAe,KAAKrR,MAAMX,EAAGiO,IAE1DC,EAAMiW,eAAiBjW,EAAMiW,aAAe,KAAKvR,MAAMX,EAAGkO,IAE1DC,EAAMmW,eAAiBnW,EAAMmW,aAAe,KAAKzR,MAAMX,EAAGmO,IAE1DC,EAAMqW,eAAiBrW,EAAMqW,aAAe,KAAK3R,MAAMX,EAAGoO,IAE1DC,EAAMuW,eAAiBvW,EAAMuW,aAAe,KAAK7R,MAAMX,EAAGqO,IAE1DC,EAAMyW,eAAiBzW,EAAMyW,aAAe,KAAK/R,MAAMX,EAAGsO,IAE1DC,EAAM2W,eAAiB3W,EAAM2W,aAAe,KAAKjS,MAAMX,EAAGuO,IAE1DC,EAAM6W,eAAiB7W,EAAM6W,aAAe,KAAKnS,MAAMX,EAAGwO,IAE1DC,EAAM+W,eAAiB/W,EAAM+W,aAAe,KAAKrS,MAAMX,EAAGyO,IAE1DC,EAAMiX,eAAiBjX,EAAMiX,aAAe,KAAKvS,MAAMX,EAAG0O,IAE1DC,EAAMmX,eAAiBnX,EAAMmX,aAAe,KAAKzS,MAAMX,EAAG2O,IAE1DC,EAAMqX,eAAiBrX,EAAMqX,aAAe,KAAK3S,MAAMX,EAAG4O,IAE1DC,EAAMuX,eAAiBvX,EAAMuX,aAAe,KAAK7S,MAAMX,EAAG6O,IAE1DC,EAAMyX,eAAiBzX,EAAMyX,aAAe,KAAK/S,MAAMX,EAAG8O,IAE1DC,EAAM2X,eAAiB3X,EAAM2X,aAAe,KAAKjT,MAAMX,EAAG+O,IAE1DC,EAAM6X,eAAiB7X,EAAM6X,aAAe,KAAKnT,MAAMX,EAAGgP,IAE1DC,EAAM+X,eAAiB/X,EAAM+X,aAAe,KAAKrT,MAAMX,EAAGiP,IAE1DC,EAAMiY,eAAiBjY,EAAMiY,aAAe,KAAKvT,MAAMX,EAAGkP,IAE1DC,EAAMmY,eAAiBnY,EAAMmY,aAAe,KAAKzT,MAAMX,EAAGmP,IAE1DC,EAAMqY,eAAiBrY,EAAMqY,aAAe,KAAK3T,MAAMX,EAAGoP,IAE1DC,EAAMuY,eAAiBvY,EAAMuY,aAAe,KAAK7T,MAAMX,EAAGqP,IAE1DC,EAAMyY,eAAiBzY,EAAMyY,aAAe,KAAK/T,MAAMX,EAAGsP,IAE1DC,EAAM2Y,eAAiB3Y,EAAM2Y,aAAe,KAAKjU,MAAMX,EAAGuP,IAE1DC,EAAM6Y,eAAiB7Y,EAAM6Y,aAAe,KAAKnU,MAAMX,EAAGwP,IAE1DC,EAAM+Y,eAAiB/Y,EAAM+Y,aAAe,KAAKrU,MAAMX,EAAGyP,IAE1DC,EAAMiZ,eAAiBjZ,EAAMiZ,aAAe,KAAKvU,MAAMX,EAAG0P,IAE1DC,EAAMmZ,eAAiBnZ,EAAMmZ,aAAe,KAAKzU,MAAMX,EAAG2P,IAE1DC,EAAMqZ,eAAiBrZ,EAAMqZ,aAAe,KAAK3U,MAAMX,EAAG4P,IAE1DC,EAAMuZ,eAAiBvZ,EAAMuZ,aAAe,KAAK7U,MAAMX,EAAG6P,IAE1DC,EAAMyZ,eAAiBzZ,EAAMyZ,aAAe,KAAK/U,MAAMX,EAAG8P,IAE1DC,EAAM2Z,eAAiB3Z,EAAM2Z,aAAe,KAAKjV,MAAMX,EAAG+P,IAE1DC,EAAM6Z,eAAiB7Z,EAAM6Z,aAAe,KAAKnV,MAAMX,EAAGgQ,IAE1DC,EAAM+Z,eAAiB/Z,EAAM+Z,aAAe,KAAKrV,MAAMX,EAAGiQ,IAE1DC,EAAMia,eAAiBja,EAAMia,aAAe,KAAKvV,MAAMX,EAAGkQ,IAE1DC,EAAMma,eAAiBna,EAAMma,aAAe,KAAKzV,MAAMX,EAAGmQ,IAE1DC,EAAMqa,eAAiBra,EAAMqa,aAAe,KAAK3V,MAAMX,EAAGoQ,IAE1DC,EAAMua,eAAiBva,EAAMua,aAAe,KAAK7V,MAAMX,EAAGqQ,IAE1DC,EAAMya,eAAiBza,EAAMya,aAAe,KAAK/V,MAAMX,EAAGsQ,IAE1DC,EAAM2a,eAAiB3a,EAAM2a,aAAe,KAAKjW,MAAMX,EAAGuQ,IAE1DC,EAAM6a,eAAiB7a,EAAM6a,aAAe,KAAKnW,MAAMX,EAAGwQ,IAE1DC,EAAM+a,eAAiB/a,EAAM+a,aAAe,KAAKrW,MAAMX,EAAGyQ,IAE1DC,EAAMib,eAAiBjb,EAAMib,aAAe,KAAKvW,MAAMX,EAAG0Q,IAE1DC,EAAMmb,eAAiBnb,EAAMmb,aAAe,KAAKzW,MAAMX,EAAG2Q,IAE1DC,EAAMqb,eAAiBrb,EAAMqb,aAAe,KAAK3W,MAAMX,EAAG4Q,IAE1DC,EAAMub,eAAiBvb,EAAMub,aAAe,KAAK7W,MAAMX,EAAG6Q,IAE1DC,EAAMyb,eAAiBzb,EAAMyb,aAAe,KAAK/W,MAAMX,EAAG8Q,IAE1DC,EAAM2b,eAAiB3b,EAAM2b,aAAe,KAAKjX,MAAMX,EAAG+Q,IAE1DC,EAAM6b,eAAiB7b,EAAM6b,aAAe,KAAKnX,MAAMX,EAAGgR,IAE1DC,EAAM+b,eAAiB/b,EAAM+b,aAAe,KAAKrX,MAAMX,EAAGiR,IAE1DC,EAAMic,eAAiBjc,EAAMic,aAAe,KAAKvX,MAAMX,EAAGkR,IAE1DC,EAAMmc,eAAiBnc,EAAMmc,aAAe,KAAKzX,MAAMX,EAAGmR,IAE1DC,EAAMqc,eAAiBrc,EAAMqc,aAAe,KAAK3X,MAAMX,EAAGoR,IAE1DC,EAAMuc,eAAiBvc,EAAMuc,aAAe,KAAK7X,MAAMX,EAAGqR,IAE1DC,EAAMyc,eAAiBzc,EAAMyc,aAAe,KAAK/X,MAAMX,EAAGsR,IAE1DC,EAAM2c,eAAiB3c,EAAM2c,aAAe,KAAKjY,MAAMX,EAAGuR,IAE1DC,EAAM6c,eAAiB7c,EAAM6c,aAAe,KAAKnY,MAAMX,EAAGwR,IAE1DC,EAAM+c,eAAiB/c,EAAM+c,aAAe,KAAKrY,MAAMX,EAAGyR,IAE1DC,EAAMid,eAAiBjd,EAAMid,aAAe,KAAKvY,MAAMX,EAAG0R,IAE1DC,EAAMmd,eAAiBnd,EAAMmd,aAAe,KAAKzY,MAAMX,EAAG2R,IAE1DC,EAAMqd,eAAiBrd,EAAMqd,aAAe,KAAK3Y,MAAMX,EAAG4R,IAE1DC,EAAMud,eAAiBvd,EAAMud,aAAe,KAAK7Y,MAAMX,EAAG6R,IAE1DC,EAAMyd,eAAiBzd,EAAMyd,aAAe,KAAK/Y,MAAMX,EAAG8R,IAE1DC,EAAM2d,eAAiB3d,EAAM2d,aAAe,KAAKjZ,MAAMX,EAAG+R,IAE1DC,EAAM6d,eAAiB7d,EAAM6d,aAAe,KAAKnZ,MAAMX,EAAGgS,IAE1DC,EAAM+d,eAAiB/d,EAAM+d,aAAe,KAAKrZ,MAAMX,EAAGiS,IAE1DC,EAAMie,eAAiBje,EAAMie,aAAe,KAAKvZ,MAAMX,EAAGkS,IAE1DC,EAAMme,eAAiBne,EAAMme,aAAe,KAAKzZ,MAAMX,EAAGmS,IAE1DC,EAAMqe,eAAiBre,EAAMqe,aAAe,KAAK3Z,MAAMX,EAAGoS,IAE1DC,EAAMue,eAAiBve,EAAMue,aAAe,KAAK7Z,MAAMX,EAAGqS,IAE1DC,EAAMye,eAAiBze,EAAMye,aAAe,KAAK/Z,MAAMX,EAAGsS,IAE1DC,EAAM2e,eAAiB3e,EAAM2e,aAAe,KAAKja,MAAMX,EAAGuS,IAE1DC,EAAM6e,eAAiB7e,EAAM6e,aAAe,KAAKna,MAAMX,EAAGwS,IAE1DC,EAAM+e,eAAiB/e,EAAM+e,aAAe,KAAKra,MAAMX,EAAGyS,IAE1DC,EAAMif,eAAiBjf,EAAMif,aAAe,KAAKva,MAAMX,EAAG0S,IAE1DC,EAAMmf,eAAiBnf,EAAMmf,aAAe,KAAKza,MAAMX,EAAG2S,IAE1DC,EAAMqf,eAAiBrf,EAAMqf,aAAe,KAAK3a,MAAMX,EAAG4S,IAE1DC,EAAMuf,eAAiBvf,EAAMuf,aAAe,KAAK7a,MAAMX,EAAG6S,IAE1DC,EAAMyf,eAAiBzf,EAAMyf,aAAe,KAAK/a,MAAMX,EAAG8S,IAE1DC,EAAM2f,eAAiB3f,EAAM2f,aAAe,KAAKjb,MAAMX,EAAG+S,IAE1DC,EAAM6f,eAAiB7f,EAAM6f,aAAe,KAAKnb,MAAMX,EAAGgT,IAE1DC,EAAM+f,eAAiB/f,EAAM+f,aAAe,KAAKrb,MAAMX,EAAGiT,IAE1DC,EAAMigB,eAAiBjgB,EAAMigB,aAAe,KAAKvb,MAAMX,EAAGkT,IAE1DC,EAAMmgB,eAAiBngB,EAAMmgB,aAAe,KAAKzb,MAAMX,EAAGmT,IAE1DC,EAAMqgB,eAAiBrgB,EAAMqgB,aAAe,KAAK3b,MAAMX,EAAGoT,IAE1DC,EAAMugB,eAAiBvgB,EAAMugB,aAAe,KAAK7b,MAAMX,EAAGqT,IAE1DC,EAAMygB,eAAiBzgB,EAAMygB,aAAe,KAAK/b,MAAMX,EAAGsT,IAE1DC,EAAM2gB,eAAiB3gB,EAAM2gB,aAAe,KAAKjc,MAAMX,EAAGuT,IAE1DC,EAAM6gB,eAAiB7gB,EAAM6gB,aAAe,KAAKnc,MAAMX,EAAGwT,IAE1DC,EAAM+gB,eAAiB/gB,EAAM+gB,aAAe,KAAKrc,MAAMX,EAAGyT,IAE1DC,EAAMihB,eAAiBjhB,EAAMihB,aAAe,KAAKvc,MAAMX,EAAG0T,IAE1DC,EAAMmhB,eAAiBnhB,EAAMmhB,aAAe,KAAKzc,MAAMX,EAAG2T,IAE1DC,EAAMqhB,eAAiBrhB,EAAMqhB,aAAe,KAAK3c,MAAMX,EAAG4T,IAE1DC,EAAMuhB,eAAiBvhB,EAAMuhB,aAAe,KAAK7c,MAAMX,EAAG6T,IAE1DC,EAAMyhB,eAAiBzhB,EAAMyhB,aAAe,KAAK/c,MAAMX,EAAG8T,IAE1DC,EAAM2hB,eAAiB3hB,EAAM2hB,aAAe,KAAKjd,MAAMX,EAAG+T,IAE1DC,EAAM6hB,eAAiB7hB,EAAM6hB,aAAe,KAAKnd,MAAMX,EAAGgU,IAE1DC,EAAM+hB,eAAiB/hB,EAAM+hB,aAAe,KAAKrd,MAAMX,EAAGiU,IAE1DC,EAAMiiB,eAAiBjiB,EAAMiiB,aAAe,KAAKvd,MAAMX,EAAGkU,IAE1DC,EAAMmiB,eAAiBniB,EAAMmiB,aAAe,KAAKzd,MAAMX,EAAGmU,IAE1DC,EAAMqiB,eAAiBriB,EAAMqiB,aAAe,KAAK3d,MAAMX,EAAGoU,IAE1DC,EAAMuiB,eAAiBviB,EAAMuiB,aAAe,KAAK7d,MAAMX,EAAGqU,IAE1DC,EAAMyiB,eAAiBziB,EAAMyiB,aAAe,KAAK/d,MAAMX,EAAGsU,IAE1DC,EAAM2iB,eAAiB3iB,EAAM2iB,aAAe,KAAKje,MAAMX,EAAGuU,IAE1DC,EAAM6iB,eAAiB7iB,EAAM6iB,aAAe,KAAKne,MAAMX,EAAGwU,IAE1DC,EAAM+iB,eAAiB/iB,EAAM+iB,aAAe,KAAKre,MAAMX,EAAGyU,IAE1DC,EAAMijB,eAAiBjjB,EAAMijB,aAAe,KAAKve,MAAMX,EAAG0U,IAE1DC,EAAMmjB,eAAiBnjB,EAAMmjB,aAAe,KAAKze,MAAMX,EAAG2U,IAE1DC,EAAMqjB,eAAiBrjB,EAAMqjB,aAAe,KAAK3e,MAAMX,EAAG4U,IAE1DC,EAAMujB,eAAiBvjB,EAAMujB,aAAe,KAAK7e,MAAMX,EAAG6U,IAE1DC,EAAMyjB,eAAiBzjB,EAAMyjB,aAAe,KAAK/e,MAAMX,EAAG8U,IAE1DC,EAAM2jB,eAAiB3jB,EAAM2jB,aAAe,KAAKjf,MAAMX,EAAG+U,IAE1DC,EAAM6jB,eAAiB7jB,EAAM6jB,aAAe,KAAKnf,MAAMX,EAAGgV,IAE1DC,EAAM+jB,eAAiB/jB,EAAM+jB,aAAe,KAAKrf,MAAMX,EAAGiV,IAE1DC,EAAMikB,eAAiBjkB,EAAMikB,aAAe,KAAKvf,MAAMX,EAAGkV,IAE1DC,EAAMmkB,eAAiBnkB,EAAMmkB,aAAe,KAAKzf,MAAMX,EAAGmV,IAE1DC,EAAMqkB,eAAiBrkB,EAAMqkB,aAAe,KAAK3f,MAAMX,EAAGoV,IAE1DC,EAAMukB,eAAiBvkB,EAAMukB,aAAe,KAAK7f,MAAMX,EAAGqV,IAE1DC,EAAMykB,eAAiBzkB,EAAMykB,aAAe,KAAK/f,MAAMX,EAAGsV,IAE1DC,EAAM2kB,eAAiB3kB,EAAM2kB,aAAe,KAAKjgB,MAAMX,EAAGuV,IAE1DC,EAAM6kB,eAAiB7kB,EAAM6kB,aAAe,KAAKngB,MAAMX,EAAGwV,IAE1DC,EAAM+kB,eAAiB/kB,EAAM+kB,aAAe,KAAKrgB,MAAMX,EAAGyV,IAE1DC,EAAMilB,eAAiBjlB,EAAMilB,aAAe,KAAKvgB,MAAMX,EAAG0V,IAE1DC,EAAMmlB,eAAiBnlB,EAAMmlB,aAAe,KAAKzgB,MAAMX,EAAG2V,IAE1DC,EAAMqlB,eAAiBrlB,EAAMqlB,aAAe,KAAK3gB,MAAMX,EAAG4V,IAE1DC,EAAMulB,eAAiBvlB,EAAMulB,aAAe,KAAK7gB,MAAMX,EAAG6V,IAE1DC,EAAMylB,eAAiBzlB,EAAMylB,aAAe,KAAK/gB,MAAMX,EAAG8V,IAE1DC,EAAM2lB,eAAiB3lB,EAAM2lB,aAAe,KAAKjhB,MAAMX,EAAG+V,IAE1DC,EAAM6lB,eAAiB7lB,EAAM6lB,aAAe,KAAKnhB,MAAMX,EAAGgW,IAE1DC,EAAM+lB,eAAiB/lB,EAAM+lB,aAAe,KAAKrhB,MAAMX,EAAGiW,IAE1DC,EAAMimB,eAAiBjmB,EAAMimB,aAAe,KAAKvhB,MAAMX,EAAGkW,IAE1DC,EAAMmmB,eAAiBnmB,EAAMmmB,aAAe,KAAKzhB,MAAMX,EAAGmW,IAE1DC,EAAMqmB,eAAiBrmB,EAAMqmB,aAAe,KAAK3hB,MAAMX,EAAGoW,IAE1DC,EAAMumB,eAAiBvmB,EAAMumB,aAAe,KAAK7hB,MAAMX,EAAGqW,IAE1DC,EAAMymB,eAAiBzmB,EAAMymB,aAAe,KAAK/hB,MAAMX,EAAGsW,IAE1DC,EAAM2mB,eAAiB3mB,EAAM2mB,aAAe,KAAKjiB,MAAMX,EAAGuW,IAE1DC,EAAM6mB,eAAiB7mB,EAAM6mB,aAAe,KAAKniB,MAAMX,EAAGwW,IAE1DC,EAAM+mB,eAAiB/mB,EAAM+mB,aAAe,KAAKriB,MAAMX,EAAGyW,IAE1DC,EAAMinB,eAAiBjnB,EAAMinB,aAAe,KAAKviB,MAAMX,EAAG0W,IAE1DC,EAAMmnB,eAAiBnnB,EAAMmnB,aAAe,KAAKziB,MAAMX,EAAG2W,IAE1DC,EAAMqnB,eAAiBrnB,EAAMqnB,aAAe,KAAK3iB,MAAMX,EAAG4W,IAE1DC,EAAMunB,eAAiBvnB,EAAMunB,aAAe,KAAK7iB,MAAMX,EAAG6W,IAE1DC,EAAMynB,eAAiBznB,EAAMynB,aAAe,KAAK/iB,MAAMX,EAAG8W,IAE1DC,EAAM2nB,eAAiB3nB,EAAM2nB,aAAe,KAAKjjB,MAAMX,EAAG+W,IAE1DC,EAAM6nB,eAAiB7nB,EAAM6nB,aAAe,KAAKnjB,MAAMX,EAAGgX,IAE1DC,EAAM+nB,eAAiB/nB,EAAM+nB,aAAe,KAAKrjB,MAAMX,EAAGiX,IAE1DC,EAAMioB,eAAiBjoB,EAAMioB,aAAe,KAAKvjB,MAAMX,EAAGkX,IAE1DC,EAAMmoB,eAAiBnoB,EAAMmoB,aAAe,KAAKzjB,MAAMX,EAAGmX,IAE1DC,EAAMqoB,eAAiBroB,EAAMqoB,aAAe,KAAK3jB,MAAMX,EAAGoX,IAE1DC,EAAMuoB,eAAiBvoB,EAAMuoB,aAAe,KAAK7jB,MAAMX,EAAGqX,IAE1DC,EAAMyoB,eAAiBzoB,EAAMyoB,aAAe,KAAK/jB,MAAMX,EAAGsX,IAE1DC,EAAM2oB,eAAiB3oB,EAAM2oB,aAAe,KAAKjkB,MAAMX,EAAGuX,IAE1DC,EAAM6oB,eAAiB7oB,EAAM6oB,aAAe,KAAKnkB,MAAMX,EAAGwX,IAE1DC,EAAM+oB,eAAiB/oB,EAAM+oB,aAAe,KAAKrkB,MAAMX,EAAGyX,IAE1DC,EAAMipB,eAAiBjpB,EAAMipB,aAAe,KAAKvkB,MAAMX,EAAG0X,IAE1DC,EAAMmpB,eAAiBnpB,EAAMmpB,aAAe,KAAKzkB,MAAMX,EAAG2X,IAE1DC,EAAMqpB,eAAiBrpB,EAAMqpB,aAAe,KAAK3kB,MAAMX,EAAG4X,IAE1DC,EAAMupB,eAAiBvpB,EAAMupB,aAAe,KAAK7kB,MAAMX,EAAG6X,IAE1DC,EAAMypB,eAAiBzpB,EAAMypB,aAAe,KAAK/kB,MAAMX,EAAG8X,IAE1DC,EAAM2pB,eAAiB3pB,EAAM2pB,aAAe,KAAKjlB,MAAMX,EAAG+X,IAE1DC,EAAM6pB,eAAiB7pB,EAAM6pB,aAAe,KAAKnlB,MAAMX,EAAGgY,IAE1DC,EAAM+pB,eAAiB/pB,EAAM+pB,aAAe,KAAKrlB,MAAMX,EAAGiY,IAE1DC,EAAMiqB,eAAiBjqB,EAAMiqB,aAAe,KAAKvlB,MAAMX,EAAGkY,IAE1DC,EAAMmqB,eAAiBnqB,EAAMmqB,aAAe,KAAKzlB,MAAMX,EAAGmY,IAE1DC,EAAMqqB,eAAiBrqB,EAAMqqB,aAAe,KAAK3lB,MAAMX,EAAGoY,IAE1DC,EAAMuqB,eAAiBvqB,EAAMuqB,aAAe,KAAK7lB,MAAMX,EAAGqY,IAE1DC,EAAMyqB,eAAiBzqB,EAAMyqB,aAAe,KAAK/lB,MAAMX,EAAGsY,IAE1DC,EAAM2qB,eAAiB3qB,EAAM2qB,aAAe,KAAKjmB,MAAMX,EAAGuY,IAE1DC,EAAM6qB,eAAiB7qB,EAAM6qB,aAAe,KAAKnmB,MAAMX,EAAGwY,IAE1DC,EAAM+qB,eAAiB/qB,EAAM+qB,aAAe,KAAKrmB,MAAMX,EAAGyY,IAE1DC,EAAMirB,eAAiBjrB,EAAMirB,aAAe,KAAKvmB,MAAMX,EAAG0Y,IAE1DC,EAAMmrB,eAAiBnrB,EAAMmrB,aAAe,KAAKzmB,MAAMX,EAAG2Y,IAE1DC,EAAMqrB,eAAiBrrB,EAAMqrB,aAAe,KAAK3mB,MAAMX,EAAG4Y,IAE1DC,EAAMurB,eAAiBvrB,EAAMurB,aAAe,KAAK7mB,MAAMX,EAAG6Y,IAE1DC,EAAMyrB,eAAiBzrB,EAAMyrB,aAAe,KAAK/mB,MAAMX,EAAG8Y,IAE1DC,EAAM2rB,eAAiB3rB,EAAM2rB,aAAe,KAAKjnB,MAAMX,EAAG+Y,IAE1DC,EAAM6rB,eAAiB7rB,EAAM6rB,aAAe,KAAKnnB,MAAMX,EAAGgZ,IAE1DC,EAAM+rB,eAAiB/rB,EAAM+rB,aAAe,KAAKrnB,MAAMX,EAAGiZ,IAE1DC,EAAMisB,eAAiBjsB,EAAMisB,aAAe,KAAKvnB,MAAMX,EAAGkZ,IAE1DC,EAAMmsB,eAAiBnsB,EAAMmsB,aAAe,KAAKznB,MAAMX,EAAGmZ,IAE1DC,EAAMqsB,eAAiBrsB,EAAMqsB,aAAe,KAAK3nB,MAAMX,EAAGoZ,IAE1DC,EAAMusB,eAAiBvsB,EAAMusB,aAAe,KAAK7nB,MAAMX,EAAGqZ,IAE1DC,EAAMysB,eAAiBzsB,EAAMysB,aAAe,KAAK/nB,MAAMX,EAAGsZ,IAE1DC,EAAM2sB,eAAiB3sB,EAAM2sB,aAAe,KAAKjoB,MAAMX,EAAGuZ,IAE1DC,EAAM6sB,eAAiB7sB,EAAM6sB,aAAe,KAAKnoB,MAAMX,EAAGwZ,IAE1DC,EAAM+sB,eAAiB/sB,EAAM+sB,aAAe,KAAKroB,MAAMX,EAAGyZ,IAE1DC,EAAMitB,eAAiBjtB,EAAMitB,aAAe,KAAKvoB,MAAMX,EAAG0Z,IAE1DC,EAAMmtB,eAAiBntB,EAAMmtB,aAAe,KAAKzoB,MAAMX,EAAG2Z,IAE1DC,EAAMqtB,eAAiBrtB,EAAMqtB,aAAe,KAAK3oB,MAAMX,EAAG4Z,IAE1DC,EAAMutB,eAAiBvtB,EAAMutB,aAAe,KAAK7oB,MAAMX,EAAG6Z,IAE1DC,EAAMytB,eAAiBztB,EAAMytB,aAAe,KAAK/oB,MAAMX,EAAG8Z,IAE1DC,EAAM2tB,eAAiB3tB,EAAM2tB,aAAe,KAAKjpB,MAAMX,EAAG+Z,IAE1DC,EAAM6tB,eAAiB7tB,EAAM6tB,aAAe,KAAKnpB,MAAMX,EAAGgaB,IAE1DC,EAAM+tB,eAAiB/tB,EAAM+tB,aAAe,KAAKrpB,MAAMX,EAAGiaB,IAE1DC,EAAMiuB,eAAiBjuB,EAAMiuB,aAAe,KAAKvpB,MAAMX,EAAGkaB,IAE1DC,EAAMmuB,eAAiBnuB,EAAMmuB,aAAe,KAAKzpB,MAAMX,EAAGmaB,IAE1DC,EAAMquB,eAAiBruB,EAAMquB,aAAe,KAAK3pB,MAAMX,EAAGoaB,IAE1DC,EAAMuuB,eAAiBvuB,EAAMuuB,aAAe,KAAK7pB,MAAMX,EAAGqaB,IAE1DC,EAAMyuB,eAAiBzuB,EAAMyuB,aAAe,KAAK/pB,MAAMX,EAAGsaB,IAE1DC,EAAM2uB,eAAiB3uB,EAAM2uB,aAAe,KAAKjqB,MAAMX,EAAGuaB,IAE1DC,EAAM6uB,eAAiB7uB,EAAM6uB,aAAe,KAAKnqB,MAAMX,EAAGwaB,IAE1DC,EAAM+uB,eAAiB/uB,EAAM+uB,aAAe,KAAKrqB,MAAMX,EAAGyaB,IAE1DC,EAAMivB,eAAiBjvB,EAAMivB,aAAe,KAAKvqB,MAAMX,EAAG0aB,IAE1DC,EAAMmvB,eAAiBnvB,EAAMmvB,aAAe,KAAKzqB,MAAMX,EAAG2aB,IAE1DC,EAAMqvB,eAAiBrvB,EAAMqvB,aAAe,KAAK3qB,MAAMX,EAAG4aB,IAE1DC,EAAMuvB,eAAiBvvB,EAAMuvB,aAAe,KAAK7qB,MAAMX,EAAG6aB,IAE1DC,EAAMyvB,eAAiBzvB,EAAMyvB,aAAe,KAAK/qB,MAAMX,EAAG8aB,IAE1DC,EAAM2vB,eAAiB3vB,EAAM2vB,aAAe,KAAKjrB,MAAMX,EAAG+aB,IAE1DC,EAAM6vB,eAAiB7vB,EAAM6vB,aAAe,KAAKnrB,MAAMX,EAAGgb,IAE1DC,EAAM+vB,eAAiB/vB,EAAM+vB,aAAe,KAAKrrB,MAAMX,EAAGib,IAE1DC,EAAMiwB,eAAiBjwB,EAAMiwB,aAAe,KAAKvrB,MAAMX,EAAGkb,IAE1DC,EAAMmwB,eAAiBnwB,EAAMmwB,aAAe,KAAKzrB,MAAMX,EAAGmb,IAE1DC,EAAMqwB,eAAiBrwB,EAAMqwB,aAAe,KAAK3rB,MAAMX,EAAGob,IAE1DC,EAAMuwB,eAAiBvwB,EAAMuwB,aAAe,KAAK7rB,MAAMX,EAAGqb,IAE1DC,EAAMywB,eAAiBzwB,EAAMywB,aAAe,KAAK/rB,MAAMX,EAAGsb,IAE1DC,EAAM2wB,eAAiB3wB,EAAM2wB,aAAe,KAAKjsB,MAAMX,EAAGub,IAE1DC,EAAM6wB,eAAiB7wB,EAAM6wB,aAAe,KAAKnsB,MAAMX,EAAGwb,IAE1DC,EAAM+wB,eAAiB/wB,EAAM+wB,aAAe,KAAKrsB,MAAMX,EAAGyb,IAE1DC,EAAMixB,eAAiBjxB,EAAMixB,aAAe,KAAKvsB,MAAMX,EAAG0b,IAE1DC,EAAMmxB,eAAiBnxB,EAAMmxB,aAAe,KAAKzsB,MAAMX,

;;;;OA8CX,IAAIC,IAAuB,EAC3B,SAASC,GAAwBC,GAC7B,IAAIC,EAAWH,GAEf,OADAA,GAAuBE,EAChBC,EAOX,IAGIC,GAAkB,EAoDtB,SAASC,GAA+BhQ,EAAOmF,GAC3C,IAAI8K,EAAWlQ,EAAOmF,GACpD,IAA+B,IAA3B8K,EAAWC,EAAOlQ,GAAgB,CAAE,IAAIoQ,EAAWpQ,EAAOmF,GAAQ,GAAIiL,IAAaF,EAAQ,CAAE,IAAIG,EAAWrQ,EAAOmF,EAAQ,GAAIkL,IAAaH,EAAQ,CAAE,IAAII,EAAWtQ,EAAOmF,EAAQ,GAAIoL,IAAaL,EAAQ,CAAE,IAAIM,EAAWxQ,EAAOmF,EAAQ,GAAIsL,IAAaP,EAAQ,CAAE,IAAIQ,EAAW1Q,EAAOmF,EAAQ,GAAIwL,IAAaT,EAAQ,CAAE,IAAIU,EAAW5Q,EAAOmF,EAAQ,GAAI0L,IAAaX,EAAQ,CAAE,IAAIY,EAAW9Q,EAAOmF,EAAQ,GAAI4L,IAAab,EAAQ,CAAE,IAAIc,EAAWhR,EAAOmF,EAAQ,GAAI8L,IAAaf,EAAQ,CAAE,IAAIgB,EAAWlR,EAAOmF,EAAQ,GAAIgM,IAAajB,EAAQ,CAAE,IAAIkB,EAAWpR,EAAOmF,EAAQ,GAAIkM,IAAanB,EAAQ,CAAE,IAAIoB,EAAWtR,EAAOmF,EAAQ,GAAIoM,IAAarB,EAAQ,CAAE,IAAIsB,EAAWxR,EAAOmF,EAAQ,GAAIsM,IAAavB,EAAQ,CAAE,IAAIwB,EAAW1R,EAAOmF,EAAQ,GAAIwM,IAAazB,EAAQ,CAAE,IAAI0B,EAAW5R,EAAOmF,EAAQ,GAAI0M,IAAa3B,EAAQ,CAAE,IAAI4B,EAAW9R,EAAOmF,EAAQ,GAAI4M,IAAa7B,EAAQ,CAAE,IAAI8B,EAAWhS,EAAOmF,EAAQ,GAAI8M,IAAa/B,EAAQ,CAAE,IAAIgC,EAAWlS,EAAOmF,EAAQ,GAAIgN,IAAajC,EAAQ,CAAE,IAAIkC,EAAWpS,EAAOmF,EAAQ,GAAIkN,IAAanC,EAAQ,CAAE,IAAIoC,EAAWtS,EAAOmF,EAAQ,GAAIoN,IAAarC,EAAQ,CAAE,IAAIsC,EAAWxS,EAAOmF,EAAQ,GAAIsN,IAAavC,EAAQ,CAAE,IAAIwC,EAAW1S,EAAOmF,EAAQ,GAAIwN,IAAazC,EAAQ,CAAE,IAAI0C,EAAW5S,EAAOmF,EAAQ,GAAI0N,IAAa3C,EAAQ,CAAE,IAAI4C,EAAW9S,EAAOmF,EAAQ,GAAI4N,IAAa7C,EAAQ,CAAE,IAAI8C,EAAWhT,EAAOmF,EAAQ,GAAI8N,IAAa/C,EAAQ,CAAE,IAAIgD,EAAWlT,EAAOmF,EAAQ,GAAIgO,IAAajD,EAAQ,CAAE,IAAIkD,EAAWpT,EAAOmF,EAAQ,GAAIkO,IAAanD,EAAQ,CAAE,IAAIoD,EAAWtT,EAAOmF,EAAQ,GAAIoO,IAAarD,EAAQ,CAAE,IAAIsD,EAAWxT,EAAOmF,EAAQ,GAAIsO,IAAavD,EAAQ,CAAE,IAAIwD,EAAW1T,EAAOmF,EAAQ,GAAIwO,IAAazD,EAAQ,CAAE,IAAI0D,EAAW5T,EAAOmF,EAAQ,GAAI0O,IAAa3D,EAAQ,CAAE,IAAI4D,EAAW9T,EAAOmF,EAAQ,GAAI4O,IAAa7D,EAAQ,CAAE,IAAI8D,EAAWhU,EAAOmF,EAAQ,GAAI8O,IAAa/D,EAAQ,CAAE,IAAIgE,EAAWlU,EAAOmF,EAAQ,GAAIgP,IAAajE,EAAQ,CAAE,IAAIkE,EAAWpU,EAAOmF,EAAQ,GAAIkP,IAAanE,EAAQ,CAAE,IAAIoE,EAAWtU,EAAOmF,EAAQ,GAAIoP,IAAarE,EAAQ,CAAE,IAAIsE,EAAWxU,EAAOmF,EAAQ,GAAIsP,IAAavE,EAAQ,CAAE,IAAIwE,EAAW1U,EAAOmF,EAAQ,GAAIwP,IAAazE,EAAQ,CAAE,IAAI0E,EAAW5U,EAAOmF,EAAQ,GAAI0P,IAAa3E,EAAQ,CAAE,IAAI4E,EAAW9U,EAAOmF,EAAQ,GAAI4P,IAAa7E,EAAQ,CAAE,IAAI8E,EAAWhV,EAAOmF,EAAQ,GAAI8P,IAAa/E,EAAQ,CAAE,IAAIgF,EAAWlV,EAAOmF,EAAQ,GAAIgQ,IAAajF,EAAQ,CAAE,IAAIkF,EAAWpV,EAAOmF,EAAQ,GAAIkQ,IAAanF,EAAQ,CAAE,IAAIoF,EAAWtV,EAAOmF,EAAQ,GAAIoQ,IAAarF,EAAQ,CAAE,IAAIsF,EAAWxV,EAAOmF,EAAQ,GAAIsQ,IAAavF,EAAQ,CAAE,IAAIwF,EAAW1V,EAAOmF,EAAQ,GAAIwQ,IAAazF,EAAQ,CAAE,IAAI0F,EAAW5V,EAAOmF,EAAQ,GAAI0Q,IAAa3F,EAAQ,CAAE,IAAI4F,EAAW9V,EAAOmF,EAAQ,GAAI4Q,IAAa7F,EAAQ,CAAE,IAAI8F,EAAWhW,EAAOmF,EAAQ,GAAI8Q,IAAa/F,EAAQ,CAAE,IAAIgG,EAAWlW,EAAOmF,EAAQ,GAAIgR,IAAajG,EAAQ,CAAE,IAAIkG,EAAWpW,EAAOmF,EAAQ,GAAIkR,IAAanG,EAAQ,CAAE,IAAIoG,EAAWtW,EAAOmF,EAAQ,GAAIoR,IAAarG,EAAQ,CAAE,IAAIsG,EAAWxW,EAAOmF,EAAQ,GAAIsR,IAAavG,EAAQ,CAAE,IAAIwG,EAAW1W,EAAOmF,EAAQ,GAAIwR,IAAazG,EAAQ,CAAE,IAAI0G,EAAW5W,EAAOmF,EAAQ,GAAI0R,IAAa3G,EAAQ,CAAE,IAAI4G,EAAW9W,EAAOmF,EAAQ,GAAI4R,IAAa7G,EAAQ,CAAE,IAAI8G,EAAWhX,EAAOmF,EAAQ,GAAI8R,IAAa/G,EAAQ,CAAE,IAAIgH,EAAWlX,EAAOmF,EAAQ,GAAIgS,IAAajH,EAAQ,CAAE,IAAIkH,EAAWpX,EAAOmF,EAAQ,GAAIkS,IAAanH,EAAQ,CAAE,IAAIoH,EAAWtX,EAAOmF,EAAQ,GAAIoS,IAAarH,EAAQ,CAAE,IAAIsH,EAAWxX,EAAOmF,EAAQ,GAAIsS,IAAavH,EAAQ,CAAE,IAAIwH,EAAW1X,EAAOmF,EAAQ,GAAIwS,IAAazH,EAAQ,CAAE,IAAI0H,EAAW5X,EAAOmF,EAAQ,GAAI0S,IAAa3H,EAAQ,CAAE,IAAI4H,EAAW9X,EAAOmF,EAAQ,GAAI4S,IAAa7H,EAAQ,CAAE,IAAI8H,EAAWhY,EAAOmF,EAAQ,GAAI8S,IAAa/H,EAAQ,CAAE,IAAIgI,EAAWlY,EAAOmF,EAAQ,GAAIgT,IAAajI,EAAQ,CAAE,IAAIkI,EAAWpY,EAAOmF,EAAQ,GAAIkT,IAAanI,EAAQ,CAAE,IAAIoI,EAAWtY,EAAOmF,EAAQ,GAAIoT,IAAarI,EAAQ,CAAE,IAAIsI,EAAWxY,EAAOmF,EAAQ,GAAIsT,IAAavI,EAAQ,CAAE,IAAIwI,EAAW1Y,EAAOmF,EAAQ,GAAIwT,IAAazI,EAAQ,CAAE,IAAI0I,EAAW5Y,EAAOmF,EAAQ,GAAI0T,IAAa3I,EAAQ,CAAE,IAAI4I,EAAW9Y,EAAOmF,EAAQ,GAAI4T,IAAa7I,EAAQ,CAAE,IAAI8I,EAAWhZ,EAAOmF,EAAQ,GAAI8T,IAAa/I,EAAQ,CAAE,IAAIgJ,EAAWlZ,EAAOmF,EAAQ,GAAIgU,IAAajJ,EAAQ,CAAE,IAAIkJ,EAAWpZ,EAAOmF,EAAQ,GAAIkU,IAAanJ,EAAQ,CAAE,IAAIoJ,EAAWtZ,EAAOmF,EAAQ,GAAIoU,IAAarJ,EAAQ,CAAE,IAAIsJ,EAAWxZ,EAAOmF,EAAQ,GAAIsU,IAAavJ,EAAQ,CAAE,IAAIwJ,EAAW1Z,EAAOmF,EAAQ,GAAIwU,IAAazJ,EAAQ,CAAE,IAAI0J,EAAW5Z,EAAOmF,EAAQ,GAAI0U,IAAa3J,EAAQ,CAAE,IAAI4J,EAAW9Z,EAAOmF,EAAQ,GAAI4U,IAAa7J,EAAQ,CAAE,IAAI8J,EAAWha,EAAOmF,EAAQ,GAAI8U,IAAa/J,EAAQ,CAAE,IAAIgK,EAAWla,EAAOmF,EAAQ,GAAIgV,IAAajK,EAAQ,CAAE,IAAIkK,EAAWpa,EAAOmF,EAAQ,GAAIkV,IAAanK,EAAQ,CAAE,IAAIoK,EAAWta,EAAOmF,EAAQ,GAAIoV,IAAarK,EAAQ,CAAE,IAAIsK,EAAWxa,EAAOmF,EAAQ,GAAIsV,IAAavK,EAAQ,CAAE,IAAIwK,EAAW1a,EAAOmF,EAAQ,GAAIwV,IAAazK,EAAQ,CAAE,IAAI0K,EAAW5a,EAAOmF,EAAQ,GAAI0V,IAAa3K,EAAQ,CAAE,IAAI4K,EAAW9a,EAAOmF,EAAQ,GAAI4V,IAAa7K,EAAQ,CAAE,IAAI8K,EAAWhb,EAAOmF,EAAQ,GAAI8V,IAAa/K,EAAQ,CAAE,IAAIgL,EAAWlb,EAAOmF,EAAQ,GAAIgW,IAAajL,EAAQ,CAAE,IAAIkL,EAAWpb,EAAOmF,EAAQ,GAAIkW,IAAanL,EAAQ,CAAE,IAAIoL,EAAWtb,EAAOmF,EAAQ,GAAIoW,IAAarL,EAAQ,CAAE,IAAIsL,EAAWxb,EAAOmF,EAAQ,GAAIsW,IAAavL,EAAQ,CAAE,IAAIwL,EAAW1b,EAAOmF,EAAQ,GAAIwW,IAAazL,EAAQ,CAAE,IAAI0L,EAAW5b,EAAOmF,EAAQ,GAAI0W,IAAa3L,EAAQ,CAAE,IAAI4L,EAAW9b,EAAOmF,EAAQ,GAAI4W,IAAa7L,EAAQ,CAAE,IAAI8L,EAAWhc,EAAOmF,EAAQ,GAAI8W,IAAa/L,EAAQ,CAAE,IAAIgM,EAAWlc,EAAOmF,EAAQ,GAAIgX,IAAajM,EAAQ,CAAE,IAAIkM,EAAWpc,EAAOmF,EAAQ,GAAIkX,IAAanM,EAAQ,CAAE,IAAIoM,EAAWtc,EAAOmF,EAAQ,GAAIoX,IAAarM,EAAQ,CAAE,IAAIsM,EAAWxc,EAAOmF,EAAQ,GAAIsX,IAAavM,EAAQ,CAAE,IAAIwM,EAAW1c,EAAOmF,EAAQ,GAAIwX,IAAazM,EAAQ,CAAE,IAAI0M,EAAW5c,EAAOmF,EAAQ,GAAI0X,IAAa3M,EAAQ,CAAE,IAAI4M,EAAW9c,EAAOmF,EAAQ,GAAI4X,IAAa7M,EAAQ,CAAE,IAAI8M,EAAWhd,EAAOmF,EAAQ,GAAI8X,IAAa/M,EAAQ,CAAE,IAAIgN,EAAWld,EAAOmF,EAAQ,GAAIgY,IAAajN,EAAQ,CAAE,IAAIkN,EAAWpd,EAAOmF,EAAQ,GAAIkY,IAAanN,EAAQ,CAAE,IAAIoN,EAAWtd,EAAOmF,EAAQ,GAAIoY,IAAarN,EAAQ,CAAE,IAAIsN,EAAWxd,EAAOmF,EAAQ,GAAIsY,IAAavN,EAAQ,CAAE,IAAIwN,EAAW1d,EAAOmF,EAAQ,GAAIwY,IAAazN,EAAQ,CAAE,IAAI0N,EAAW5d,EAAOmF,EAAQ,GAAI0Y,IAAa3N,EAAQ,CAAE,IAAI4N,EAAW9d,EAAOmF,EAAQ,GAAI4Y,IAAa7N,EAAQ,CAAE,IAAI8N,EAAWhe,EAAOmF,EAAQ,GAAI8Y,IAAa/N,EAAQ,CAAE,IAAIgO,EAAWle,EAAOmF,EAAQ,GAAIgZ,IAAajO,EAAQ,CAAE,IAAIkO,EAAWpe,EAAOmF,EAAQ,GAAIkZ,IAAanO,EAAQ,CAAE,IAAIoO,EAAWte,EAAOmF,EAAQ,GAAIoZ,IAAarO,EAAQ,CAAE,IAAIsO,EAAWxe,EAAOmF,EAAQ,GAAIsZ,IAAavO,EAAQ,CAAE,IAAIwO,EAAW1e,EAAOmF,EAAQ,GAAIwZ,IAAazO,EAAQ,CAAE,IAAI0O,EAAW5e,EAAOmF,EAAQ,GAAI0Z,IAAa3O,EAAQ,CAAE,IAAI4O,EAAW9e,EAAOmF,EAAQ,GAAI4Z,IAAa7O,EAAQ,CAAE,IAAI8O,EAAWhf,EAAOmF,EAAQ,GAAI8Z,IAAa/O,EAAQ,CAAE,IAAIgP,EAAWlf,EAAOmF,EAAQ,GAAIgb,IAAajP,EAAQ,CAAE,IAAIkP,EAAWpf,EAAOmF,EAAQ,GAAIkb,IAAanP,EAAQ,CAAE,IAAIoP,EAAWtf,EAAOmF,EAAQ,GAAIob,IAAarP,EAAQ,CAAE,IAAIsP,EAAWxf,EAAOmF,EAAQ,GAAIsb,IAAavP,EAAQ,CAAE,IAAIwP,EAAW1f,EAAOmF,EAAQ,GAAIwb,IAAazP,EAAQ,CAAE,IAAI0P,EAAW5f,EAAOmF,EAAQ,GAAI0b,IAAa3P,EAAQ,CAAE,IAAI4P,EAAW9f,EAAOmF,EAAQ,GAAI4b,IAAa7P,EAAQ,CAAE,IAAI8P,EAAWhgB,EAAOmF,EAAQ,GAAI8b,IAAa/P,EAAQ,CAAE,IAAIgQ,EAAWlgB,EAAOmF,EAAQ,GAAIgc,IAAajQ,EAAQ,CAAE,IAAIkQ,EAAWpgB,EAAOmF,EAAQ,GAAIkc,IAAanQ,EAAQ,CAAE,IAAIoQ,EAAWtgB,EAAOmF,EAAQ,GAAIoc,IAAarQ,EAAQ,CAAE,IAAIsQ,EAAWxgB,EAAOmF,EAAQ,GAAIsc,IAAavQ,EAAQ,CAAE,IAAIwQ,EAAW1gB,EAAOmF,EAAQ,GAAIwc,IAAazQ,EAAQ,CAAE,IAAI0Q,EAAW5gB,EAAOmF,EAAQ,GAAI0c,IAAa3Q,EAAQ,CAAE,IAAI4Q,EAAW9gB,EAAOmF,EAAQ,GAAI4c,IAAa7Q,EAAQ,CAAE,IAAI8Q,EAAWhhB,EAAOmF,EAAQ,GAAI8c,IAAa/Q,EAAQ,CAAE,IAAIgR,EAAWlhB,EAAOmF,EAAQ,GAAIgd,IAAajR,EAAQ,CAAE,IAAIkR,EAAWphB,EAAOmF,EAAQ,GAAIkd,IAAanR,EAAQ,CAAE,IAAIoR,EAAWthB,EAAOmF,EAAQ,GAAIod,IAAarR,EAAQ,CAAE,IAAIsR,EAAWxhB,EAAOmF,EAAQ,GAAIsd,IAAavR,EAAQ,CAAE,IAAIwR,EAAW1hB,EAAOmF,EAAQ,GAAIwd,IAAazR,EAAQ,CAAE,IAAI0R,EAAW5hB,EAAOmF,EAAQ,GAAI0d,IAAa3R,EAAQ,CAAE,IAAI4R,EAAW9hB,EAAOmF,EAAQ,GAAI4d,IAAa7R,EAAQ,CAAE,IAAI8R,EAAWhiB,EAAOmF,EAAQ,GAAI8d,IAAa/R,EAAQ,CAAE,IAAIgS,EAAWliB,EAAOmF,EAAQ,GAAIgf,IAAajS,EAAQ,CAAE,IAAIkS,EAAWpiB,EAAOmF,EAAQ,GAAIkf,IAAanS,EAAQ,CAAE,IAAIoS,EAAWtiB,EAAOmF,EAAQ,GAAIof,IAAarS,EAAQ,CAAE,IAAIsS,EAAWxiB,EAAOmF,EAAQ,GAAIsf,IAAavS,EAAQ,CAAE,IAAIwS,EAAW1iB,EAAOmF,EAAQ,GAAIwf,IAAazS,EAAQ,CAAE,IAAI0S,EAAW5iB,EAAOmF,EAAQ,GAAI0f,IAAa3S,EAAQ,CAAE,IAAI4S,EAAW9iB,EAAOmF,EAAQ,GAAI4f,IAAa7S,EAAQ,CAAE,IAAI8S,EAAWhjB,EAAOmF,EAAQ,GAAI8f,IAAa/S,EAAQ,CAAE,IAAIgT,EAAWljB,EAAOmF,EAAQ,GAAIggB,IAAajT,EAAQ,CAAE,IAAIkT,EAAWpjB,EAAOmF,EAAQ,GAAIkgB,IAAanT,EAAQ,CAAE,IAAIoT,EAAWtjB,EAAOmF,EAAQ,GAAIogB,IAAarT,EAAQ,CAAE,IAAIsT,EAAWxjB,EAAOmF,EAAQ,GAAIsgB,IAAavT,EAAQ,CAAE,IAAIwT,EAAW1jB,EAAOmF,EAAQ,GAAIwgB,IAAazT,EAAQ,CAAE,IAAI0T,EAAW5jB,EAAOmF,EAAQ,GAAI0gB,IAAa3T,EAAQ,CAAE,IAAI4T,EAAW9jB,EAAOmF,EAAQ,GAAI4gB,IAAa7T,EAAQ,CAAE,IAAI8T,EAAWhkB,EAAOmF,EAAQ,GAAI8gB,IAAa/T,EAAQ,CAAE,IAAIgU,EAAWlkB,EAAOmF,EAAQ,GAAIghB,IAAajU,EAAQ,CAAE,IAAIkU,EAAWpkB,EAAOmF,EAAQ,GAAIkhB,IAAanU,EAAQ,CAAE,IAAIoU,EAAWtkB,EAAOmF,EAAQ,GAAIohB,IAAarU,EAAQ,CAAE,IAAIsU,EAAWxkB,EAAOmF,EAAQ,GAAIshB,IAAavU,EAAQ,CAAE,IAAIwU,EAAW1kB,EAAOmF,EAAQ,GAAIwhB,IAAazU,EAAQ,CAAE,IAAI0U,EAAW5kB,EAAOmF,EAAQ,GAAI0hB,IAAa3U,EAAQ,CAAE,IAAI4U,EAAW9kB,EAAOmF,EAAQ,GAAI4hB,IAAa7U,EAAQ,CAAE,IAAI8U,EAAWhlB,EAAOmF,EAAQ,GAAI8hB,IAAa/U,EAAQ,CAAE,IAAIgV,EAAWllB,EAAOmF,EAAQ,GAAIgiB,IAAajV,EAAQ,CAAE,IAAIkV,EAAWplB,EAAOmF,EAAQ,GAAIkiB,IAAanV,EAAQ,CAAE,IAAIoV,EAAWtlB,EAAOmF,EAAQ,GAAIoiB,IAAarV,EAAQ,CAAE,IAAIsV,EAAWxlB,EAAOmF,EAAQ,GAAIsiB,IAAavV,EAAQ,CAAE,IAAIwV,EAAW1lB,EAAOmF,EAAQ,GAAIwiB,IAAazV,EAAQ,CAAE,IAAI0V,EAAW5lB,EAAOmF,EAAQ,GAAI0iB,IAAa3V,EAAQ,CAAE,IAAI4V,EAAW9lB,EAAOmF,EAAQ,GAAI4iB,IAAa7V,EAAQ,CAAE,IAAI8V,EAAWhmB,EAAOmF,EAAQ,GAAI8iB,IAAa/V,EAAQ,CAAE,IAAIgW,EAAWlmB,EAAOmF,EAAQ,GAAIgjB,IAAajW,EAAQ,CAAE,IAAIkW,EAAWpmB,EAAOmF,EAAQ,GAAIkjB,IAAanW,EAAQ,CAAE,IAAIoW,EAAWtmB,EAAOmF,EAAQ,GAAIojB,IAAarW,EAAQ,CAAE,IAAIsW,EAAWxmB,EAAOmF,EAAQ,GAAIsjB,IAAavW,EAAQ,CAAE,IAAIwW,EAAW1mB,EAAOmF,EAAQ,GAAIwjB,IAAazW,EAAQ,CAAE,IAAI0W,EAAW5mB,EAAOmF,EAAQ,GAAI0jB,IAAa3W,EAAQ,CAAE,IAAI4W,EAAW9mB,EAAOmF,EAAQ,GAAI4jB,IAAa7W,EAAQ,CAAE,IAAI8W,EAAWhnB,EAAOmF,EAAQ,GAAI8jB,IAAa/W,EAAQ,CAAE,IAAIgX,EAAWlnB,EAAOmF,EAAQ,GAAIgkB,IAAajX,EAAQ,CAAE,IAAIkX,EAAWpnB,EAAOmF,EAAQ,GAAIkkB,IAAanX,EAAQ,CAAE,IAAIoX,EAAWtnB,EAAOmF,EAAQ,GAAIokB,IAAarX,EAAQ,CAAE,IAAIsX,EAAWxnB,EAAOmF,EAAQ,GAAIskB,IAAavX,EAAQ,CAAE,IAAIwX,EAAW1nB,EAAOmF,EAAQ,GAAIwkB,IAAazX,EAAQ,CAAE,IAAI0X,EAAW5nB,EAAOmF,EAAQ,GAAI0kB,IAAa3X,EAAQ,CAAE,IAAI4X,EAAW9nB,EAAOmF,EAAQ,GAAI4kB,IAAa7X,EAAQ,CAAE,IAAI8X,EAAWhoB,EAAOmF,EAAQ,GAAI8kB,IAAa/X,EAAQ,CAAE,IAAIgY,EAAWloB,EAAOmF,EAAQ,GAAIglB,IAAajY,EAAQ,CAAE,IAAIkY,EAAWpoB,EAAOmF,EAAQ,GAAIklB,IAAanY,EAAQ,CAAE,IAAIoY,EAAWtoB,EAAOmF,EAAQ,GAAIolB,IAAarY,EAAQ,CAAE,IAAIsY,EAAWxoB,EAAOmF,EAAQ,GAAIslB,IAAavY,EAAQ,CAAE,IAAIwY,EAAW1oB,EAAOmF,EAAQ,GAAIwlB,IAAazY,EAAQ,CAAE,IAAI0Y,EAAW5oB,EAAOmF,EAAQ,GAAI0lB,IAAa3Y,EAAQ,CAAE,IAAI4Y,EAAW9oB,EAAOmF,EAAQ,GAAI4lB,IAAa7Y,EAAQ,CAAE,IAAI8Y,EAAWhpB,EAAOmF,EAAQ,GAAI8lB,IAAa/Y,EAAQ,CAAE,IAAIgZ,EAAWlpB,EAAOmF,EAAQ,GAAIgmB,IAAajZ,EAAQ,CAAE,IAAIkZ,EAAWppB,EAAOmF,EAAQ,GAAIkmB,IAAanZ,EAAQ,CAAE,IAAIoZ,EAAWtpB,EAAOmF,EAAQ,GAAIomB,IAAarZ,EAAQ,CAAE,IAAIsZ,EAAWxpB,EAAOmF,EAAQ,GAAIsmB,IAAavZ,EAAQ,CAAE,IAAIwZ,EAAW1pB,EAAOmF,EAAQ,GAAIwmB,IAAazZ,EAAQ,CAAE,IAAI0Z,EAAW5pB,EAAOmF,EAAQ,GAAI0mB,IAAa3Z,EAAQ,CAAE,IAAI4Z,EAAW9pB,EAAOmF,EAAQ,GAAI4mB,IAAa7Z,EAAQ,CAAE,IAAI8Z,EAAWhqB,EAAOmF,EAAQ,GAAI8mB,IAAa/Z,EAAQ,CAAE,IAAIga,EAAWlqB,EAAOmF,EAAQ,GAAIgnB,IAAaja,EAAQ,CAAE,IAAIka,EAAWpqB,EAAOmF,EAAQ,GAAIknB,IAAana,EAAQ,CAAE,IAAIoa,EAAWtqB,EAAOmF,EAAQ,GAAIonB,IAAara,EAAQ,CAAE,IAAIsa,EAAWxqB,EAAOmF,EAAQ,GAAIsnB,IAAava,EAAQ,CAAE,IAAIwa,EAAW1qB,EAAOmF,EAAQ,GAAIwnB,IAAaza,EAAQ,CAAE,IAAI0a,EAAW5qB,EAAOmF,EAAQ,GAAI0nB,IAAa3a,EAAQ,CAAE,IAAI4a,EAAW9qB,EAAOmF,EAAQ,GAAI4nB,IAAa7a,EAAQ,CAAE,IAAI8a,EAAWhrB,EAAOmF,EAAQ,GAAI8nB,IAAa/a,EAAQ,CAAE,IAAIgb,EAAWlrB,EAAOmF,EAAQ,GAAIgoB,IAAajb,EAAQ,CAAE,IAAIkb,EAAWprB,EAAOmF,EAAQ,GAAIkoB,IAAanb,EAAQ,CAAE,IAAIob,EAAWtrB,EAAOmF,EAAQ,GAAIooB,IAAarb,EAAQ,CAAE,IAAIsb,EAAWxrB,EAAOmF,EAAQ,GAAIsoB,IAAavb,EAAQ,CAAE,IAAIwb,EAAW1rB,EAAOmF,EAAQ,GAAIwoB,IAAazb,EAAQ,CAAE,IAAI0b,EAAW5rB,EAAOmF,EAAQ,GAAI0oB,IAAa3b,EAAQ,CAAE,IAAI4b,EAAW9rB,EAAOmF,EAAQ,GAAI4oB,IAAa7b,EAAQ,CAAE,IAAI8b,EAAWhsB,EAAOmF,EAAQ,GAAI8oB,IAAa/b,EAAQ,CAAE,IAAIgc,EAAWlsB,EAAOmF,EAAQ,GAAIgpB,IAAajc,EAAQ,CAAE,IAAIkc,EAAWpsB,EAAOmF,EAAQ,GAAIkpB,IAAanc,EAAQ,CAAE,IAAIoc,EAAWtsB,EAAOmF,EAAQ,GAAIopB,IAAarc,EAAQ,CAAE,IAAIsc,EAAWxsB,EAAOmF,EAAQ,GAAIspB,IAAavc,EAAQ,CAAE,IAAIwc,EAAW1sB,EAAOmF,EAAQ,GAAIwpB,IAAazc,EAAQ,CAAE,IAAI0c,EAAW5sB,EAAOmF,EAAQ,GAAI0pB,IAAa3c,EAAQ,CAAE,IAAI4c,EAAW9sB,EAAOmF,EAAQ,GAAI4pB,IAAa7c,EAAQ,CAAE,IAAI8c,EAAWhtB,EAAOmF,EAAQ,GAAI8pB,IAAa/c,EAAQ,CAAE,IAAIgd,EAAWltB,EAAOmF,EAAQ,GAAIgqB,IAAajd,EAAQ,CAAE,IAAIkd,EAAWptB,EAAOmF,EAAQ,GAAIkqB,IAAand,EAAQ,CAAE,IAAIod,EAAWttB,EAAOmF,EAAQ,GAAIoqB,IAAard,EAAQ,CAAE,IAAIsd,EAAWxtB,EAAOmF,EAAQ,GAAIsqB,IAAavd,EAAQ,CAAE,IAAIwd,EAAW1tB,EAAOmF,EAAQ,GAAIwqB,IAAazd,EAAQ,CAAE,IAAI0d,EAAW5tB,EAAOmF,EAAQ,GAAI0qB,IAAa3d,EAAQ,CAAE,IAAI4d,EAAW9tB,EAAOmF,EAAQ,GAAI4qB,IAAa7d,EAAQ,CAAE,IAAI8d,EAAWhuB,EAAOmF,EAAQ,GAAI8qB,IAAa/d,EAAQ,CAAE,IAAIge,EAAWluB,EAAOmF,EAAQ,GAAIgrB,IAAaje,EAAQ,CAAE,IAAIke,EAAWpuB,EAAOmF,EAAQ,GAAIkrB,IAAane,EAAQ,CAAE,IAAIoe,EAAWtuB,EAAOmF,EAAQ,GAAIorB,IAAare,EAAQ,CAAE,IAAIse,EAAWxuB,EAAOmF,EAAQ,GAAIsrB,IAAave,EAAQ,CAAE,IAAIwe,EAAW1uB,EAAOmF,EAAQ,GAAIwrB,IAAaze,EAAQ,CAAE,IAAI0e,EAAW5uB,EAAOmF,EAAQ,GAAI0rB,IAAa3e,EAAQ,CAAE,IAAI4e,EAAW9uB,EAAOmF,EAAQ,GAAI4rB,IAAa7e,EAAQ,CAAE,IAAI8e,EAAWhvB,EAAOmF,EAAQ,GAAI8rB,IAAa/e,EAAQ,CAAE,IAAIgf,EAAWlvB,EAAOmF,EAAQ,GAAIgsB,IAAajf,EAAQ,CAAE,IAAIkf,EAAWpvB,EAAOmF,EAAQ,GAAIksB,IAAanf,EAAQ,CAAE,IAAIof,EAAWtvB,EAAOmF,EAAQ,GAAIosB,IAAarf,EAAQ,CAAE,IAAIsf,EAAWxvB,EAAOmF,EAAQ,GAAIssB,IAAavf,EAAQ,CAAE,IAAIwf,EAAW1vB,EAAOmF,EAAQ,GAAIwsB,IAAazf,EAAQ,CAAE,IAAI0f,EAAW5vB,EAAOmF,EAAQ,GAAI0sB,IAAa3f,EAAQ,CAAE,IAAI4f,EAAW9vB,EAAOmF,EAAQ,GAAI4sB,IAAa7f,EAAQ,CAAE,IAAI8f,EAAWhwB,EAAOmF,EAAQ,GAAI8sB,IAAa/f,EAAQ,CAAE,IAAIggB,EAAWlwB,EAAOmF,EAAQ,GAAIgtB,IAAajgB,EAAQ,CAAE,IAAIkgB,EAAWpwB,EAAOmF,EAAQ,GAAIktB,IAAangB,EAAQ,CAAE,IAAIogB,EAAWtwB,EAAOmF,EAAQ,GAAIotB,IAAargB,EAAQ,CAAE,IAAIsgB,EAAWxwB,EAAOmF,EAAQ,GAAIstB,IAAavgB,EAAQ,CAAE,IAAIwgB,EAAW1wB,EAAOmF,EAAQ,GAAIwtB,IAAazgB,EAAQ,CAAE,IAAI0gB,EAAW5wB,EAAOmF,EAAQ,GAAI0tB,IAAa3gB,EAAQ,CAAE,IAAI4gB,EAAW9wB,EAAOmF,EAAQ,GAAI4tB,IAAa7gB,EAAQ,CAAE,IAAI8gB,EAAWhxB,EAAOmF,EAAQ,GAAI8tB,IAAa/gB,EAAQ,CAAE,IAAIghB,EAAWlxB,EAAOmF,EAAQ,GAAIguB,IAAajhB,EAAQ,CAAE,IAAIkhB,EAAWpxB,EAAOmF,EAAQ,GAAIkuB,IAAanhB,EAAQ,CAAE,IAAIohB,EAAWtxB,EAAOmF,EAAQ,GAAIouB,IAAarhB,EAAQ,CAAE,IAAIshB,EAAWxxB,EAAOmF,EAAQ,GAAIsuB,IAAavhB,EAAQ,CAAE,IAAIwhB,EAAW1xB,EAAOmF,EAAQ,GAAIwuB,IAAazhB,EAAQ,CAAE,IAAI0hB,EAAW5xB,EAAOmF,EAAQ,GAAI0uB,IAAa3hB,EAAQ,CAAE,IAAI4hB,EAAW9xB,EAAOmF,EAAQ,GAAI4uB,IAAa7hB,EAAQ,CAAE,IAAI8hB,EAAWhyB,EAAOmF,EAAQ,GAAI8uB,IAAa/hB,EAAQ,CAAE,IAAIgiB,EAAWlyB,EAAOmF,EAAQ,GAAIgvB,IAAajiB,EAAQ,CAAE,IAAIkiB,EAAWpyB,EAAOmF,EAAQ,GAAIkvB,IAAaniB,EAAQ,CAAE,IAAIoiB,EAAWtyB,EAAOmF,EAAQ,GAAIovB,IAAariB,EAAQ,CAAE,IAAIsiB,EAAWxyB,EAAOmF,EAAQ,GAAIsvB,IAAaviB,EAAQ,CAAE,IAAIwiB,EAAW1yB,EAAOmF,EAAQ,GAAIwvB,IAAaziB,EAAQ,CAAE,IAAI0iB,EAAW5yB,EAAOmF,EAAQ,GAAI0vB,IAAa3iB,EAAQ,CAAE,IAAI4iB,EAAW9yB,EAAOmF,EAAQ,GAAI4vB,IAAa7iB,EAAQ,CAAE,IAAI8iB,EAAWhzB,EAAOmF,EAAQ,GAAI8vB,IAAa/iB,EAAQ,CAAE,IAAIgjB,EAAWlzB,EAAOmF,EAAQ,GAAIgwB,IAAajjB,EAAQ,CAAE,IAAIkjB,EAAWpzB,EAAOmF,EAAQ,GAAIkwB,IAAanjB,EAAQ,CAAE,IAAIojB,EAAWtzB,EAAOmF,EAAQ,GAAIowB,IAAarjB,EAAQ,CAAE,IAAIsjB,EAAWxzB,EAAOmF,EAAQ,GAAIswB,IAAavjB,EAAQ,CAAE,IAAIwjB,EAAW1zB,EAAOmF,EAAQ,GAAIwwB,IAAazjB,EAAQ,CAAE,IAAI0jB,EAAW5zB,EAAOmF,EAAQ,GAAI0wB,IAAa3jB,EAAQ,CAAE,IAAI4jB,EAAW9zB,EAAOmF,EAAQ,GAAI4wB,IAAa7jB,EAAQ,CAAE,IAAI8jB,EAAWh0B,EAAOmF,EAAQ,GAAI8wB,IAAa/jB,EAAQ,CAAE,IAAIgkB,EAAWl0B,EAAOmF,EAAQ,GAAIgxB,IAAajkB,EAAQ,CAAE,IAAIkkB,EAAWp0B,EAAOmF,EAAQ,GAAIkxB,IAAankB,EAAQ,CAAE,IAAIokB,EAAWt0B,EAAOmF,EAAQ,GAAIoxB,IAAarkB,EAAQ,CAAE,IAAIskB,EAAWx0B,EAAOmF,EAAQ,GAAIsxB,IAAavkB,EAAQ,CAAE,IAAIwkB,EAAW10B,EAAOmF,EAAQ,GAAIwxB,IAAazkB,EAAQ,CAAE,IAAI0kB,EAAW50B,EAAOmF,EAAQ,GAAI0xB,IAAa3kB,EAAQ,CAAE,IAAI4kB,EAAW90B,EAAOmF,EAAQ,GAAI4xB,IAAa7kB,EAAQ,CAAE,IAAI8kB,EAAWh1B,EAAOmF,EAAQ,GAAI8xB,IAAa/kB,EAAQ,CAAE,IAAIglB,EAAWl1B,EAAOmF,EAAQ,GAAIgyB,IAAajlB,EAAQ,CAAE,IAAIklB,EAAWp1B,EAAOmF,EAAQ,GAAIkyB,IAAanlB,EAAQ,CAAE,IAAIolB,EAAWt1B,EAAOmF,EAAQ,GAAIoyB,IAAarlB,EAAQ,CAAE,IAAIslB,EAAWx1B,EAAOmF,EAAQ,GAAIsyB,

AAcP,EAAW9B,EAAe7S,EAAMR,MAAO,CAIrD,IAAIiH,EAAW0O,GAAuBtC,EAAejL,EAAOzP,EAAO4c,EA
Ae/Y,EAAOgZ,GACzF,GAAIvO,IAAa2O,GACb,OAAO3O,GAv3BN,KA03BTmL,EAAiBhK,EAAMiL,EAAgB,
KAEnCoC,GAAmBjZ,EAAO4L,EAtjFlC,GAsjF+CpI,KAAKqT,EAAgB,KAAmBmC,IAC/EE,GAAcP,EAAW9B,
EAAejL,IAGxCmN,EAAgB/U,EAChB6S,EAAgBhB,GAAuBD,GACvChK,EAAQkK,GAAsBF,EAAgBhK,IAM9
CiL,GAAiB,IAKjC,OAAOuB,GAA+BxM,EAAOzP,EAAO6D,EAAOD,GAE/D,IAAIqZ,GAAY,GAAChB,SAASN,
KACL,OAAO,IAAIO,GAAaxL,KAAmBL,MAE/C,SAAS2L,GAAuBtC,EAAejL,EAAOzP,EAAO4c,EAAe/Y,EA
AOgZ,GAC/E,IAAIM,EAAe1N,EA9kFX,GA+kFJnF,EAAQ6S,EAAa9V,KAAKqT,EAAgB,GAsB1C0C,EAAgBC
,GAA0B/S,EAAO6S,EAAOhB,GAAuBD,GAAmBhK,EAAQkK,GAAsBF,EAAgBhK,IAAUmL,EAAgBC,GAAmBjZ,EAAO4L,EAAOzP,EAAO4c,EAAe/Y,EAAOgZ,GAAiBM,EAAe1N,EAAOmN,GAAiBM,EAAe1N,EAAOmN,GAAiBM,EAAe1N,EAAOmN

iBL,GAChC,SAASM,IAEL,IADA,IAAIC,EAAO,GACFC,EAAK,EAAGA,EAAKhU,UAAUZ,OAAQ4U,IACpCD
,EAAKC,GAAMhU,UAAUgU,GAEzB,GAAIphB,gBAAgBkhB,EAEhB,OADAF,EAASzU,KAAK8U,MAAML,E
AAU7T,GAAS,CAACnN,MAAOmhB,IACxCnhB,KAEX,IAAIshB,EAAqB,IAAKJ,EAAiBK,KAAKF,MAAMH,
EAAkB/T,GAAS,MAAC,GAASgU,KAC/F,OAAO,SAASK,EAAcC,GAW1B,OAVIV,EAAMW,EAAQ,IAAIC,
EAAQlU,GAAS,CAACsU,MAAMC,EAAQ,IAAIC,EAAQ,IAAIC,EAAQ,IAAI

AAkBA,EAAwB,KAAI,GAAK,OACnDA,EAAkBA,EAA6B,UAAI,GAAK,YAJ5D,CAKGA,KAAsBA,GAAoB,K
AqC7C,IAAIsf,GAAOC,SACX,SASC,GAAOvJ,GACZ,MAAoB,mBAANA;;;;;;;OAwBlB,SASwJ,GAAQC,EA
AM/K,QACP5W,IAAR4W,IACAA,EAAM+K,GACV,IAAK,IAAIhY,EAAI,EAAGA,EAAIgY,EAAK9X,OAAQF
,IAAK,CAClC,IAAIqN,EAAO2K,EAAKhY,GACZ3L,MAAMC,QAAQ+Y,IAAWA,EAAOA,EAAK,GAAG/K,K,
EAAK7K,MAAM,EAAGnN,IAExB+X,GAAQ1K,EAAMJ,+K,GACb/K,KAAMM,EAAIA,EAAIA,EAAIA

vnB,KAAKonB,gBAAgBC,EAAYd,IAAe,GAErE,OADwBA,IAAe/a,OAASxL,KAAKsnB,YAAYf,GAAc,IACtDlZ,OAAOka,IAEpCzB,EAAuBrb,UAAU+c,iBAAmB,SAAUH,EAAYd,GAEtE,GAAIc,EAAWI,cACXJ,EAAWI,eAAiBlB,EAAWkB,aAAc,CACrD,IAAIA,EAAeJ,EAAWI,aAI9B,MAH4B,mBAAjBA,EAA8BA,EAAeA,EAAaA,eACnDA,EAAeA,EAAaA,cAAgBA,EAAeA,EAAaA,eACnE

EAAUE,aAAaL,MAAK,SAAUpkB,GACtEukB,EAAUvkB,SAAWA,MAG7B,IAAI0kB,EAAYH,EAAUG,UACtBpjB,EAASijB,EAAUjjB,SAAWijB,EAAUjjB,OAAS,IACjDqjB,EAAcJ,EAAUjjB,OAAOqE,OACnC+,GAAaA,EAAUziB,SAAQ,SAAU2iB,EAAUvb,GAC/C/H,EAAO8E,KAAKK,EAAUZ,eAASpE,KAAK2d,Ba,GAAUR,MAAK,SAASC,EAAUC,GAAY,OAAOD,EAAWC,KAAcC,KAAK,KAAK,SAAU

4L,GAAUojB,EAAezhB,GAIzByhB,EAAcvkB,UAAUskB,YAAc,WAClC,MAAO,SAEJC,EARuB,CAShCJ,IACEK,GAAgC,SAAU1hB,GAE1C,SAAS0hB,IACL,OAAkB,OAAX1hB,GAAmBA,EAAO8T,MAAMrhB,KAAMoN,YAAcpN,KAK/D,OAPA4L,GAAUqjB,EAAgB1hB,GAI1B0hB,EAAexkB,UAAUskB,YAAc,WACnC,MAAO,UAEJE,EARwB,CASjCJ,IACEM,GAAA6B,SAAS2B,EAAA,SAAS3B,EAAA,SAAS0B,EAAA,SAAS1B,EAAA,SAAS0B,EAAA,SAAS1B,EAAA,SAAS0B,EAAA,SAAS1

,WACbmf,GAAkB,EACfhlB,GAWH,GAVIA,EAAQoiB,WAAaC,KAAKC,aAC1B0C,EAAkB/zB,KAAKg0B,aA
AajlB,GAE/BA,EAAQoiB,WAAaC,KAAK6C,UAC/Bj0B,KAAKk0B,MAAMnlB,EAAQolB,WAInBn0B,KAAK4
zB,oBAAqB,EAE1BG,GAAmBhlB,EAAQ6F,WAC3B7F,EAAUA,EAAQ6F,gBAGtB,KAAO7F,GAAS,CAERA,E
AAQoiB,WAAaC,KAAKC,cAC1BrxB,KAAKo0B,WAAWrlB,GAEpB,IAAItC,EAAOzM,EAAQ0q0B,sBAAsBtlB
,EAASA,EAAQuiB,aACvD,GAAI7kB,EAAM,CACNsC,EAAUtC,EACV,MAEJsC,EAAU/O,KAAKq0B,sB
tlB,EAASA,EAAQulB,YAG9D,OAAOt0B,KAAK6zB,IAAI/yB,KAAK,KAUzB6yB,EAAyBlpB,,UAAUupB,aAAe
,SAAUO,GACxD,IAAIC,EAAUD,,EAAQE,,cAC/B,IAAKtB,KAAK,eAAeyB,eAAeg0B,GAE/B,OADAx0B,KA
AK4zB,oBAAqB,GAClBF,GAA4ClzB,eAAeg0B,GAEvEx0B,Ex0B,KAAK6zB,IAAI5mB,KAAK,KACdjN,KAAK6zB,I
AAI5mB,KAAKunB,GAEd,IADA,IAAIzD,EAAUwD,,EAAQvD,,WACb1kB,EAAI,EAAGA,,EAAIykB,,EAAQvkB,
OAAQF,IAAK,CACrC,IAAIqoB,EAAS5D,,EAAQpX,,KAAKrN,,GACtBuM,,EAAW8b,,EAAO3zB,,B4zB,EA
AQ/b,EAAS6b,cACrB,GAAKjB,GAAYjzB,eAAeo0B,GAEvEx0B,Ex0B,KAAK6zB,IAAI5mB,KAAK,KACdjN,KAAK6zB,I
AAIlyB,EAAQiyB,EAAOjyB,MAEf2wB,GAAUuB,KACVlyB,EAAQ+uB,GAAa/uB,IACrB4wB,GAAasB,KAAClyB,EAAQivB,GAAejvB,IAC3B1C,KAAK6zB,I
zB,IAAI5mB,KAAK,IAAK4L,EAAU,KAAMgc,GAAenyB,GAAQ,UATtD1C,KAAK4zB,oBAAqB,EAYlC,OAD
A5zB,KAAK6zB,IAAI5mB,KAAK,MACP,GAEX0mB,EAAyBlpB,UAAU2pB,WAAa,SAAUrlB,GAAQ,IAAIyl
B,EAAUzlB,EAAQ0lB,SASC,cAC3BtB,GAAe5yB,eAAeo0B,GAAKAa1B,GAAetyB,eAAeo0B,GAAKCxEx0B,KAA
K6zB,IAAI5mB,KAAK,MACdjN,KAAK6zB,IAAI5mB,KAAK,GAAGtB0B,GAAKdx0B,KAAK6zB,IAAI5mB,KAAK,OAG
tB0mB,EAAyBlpB,UAAUypB,MAAQ,SAAUC,GAAQ,IAAIC,EAAUD,,EAAQE,,cAC/B,IAAKtB,KAAK
EAAY6F,GAC/B,EAAIA9E,EAAmBhlB,EAAQ6F,WAC3B7F,EAAUA,EAAQ6F,gBAGtB,KAAO7F,GAAS,CAERA,E
AAQoiB,WAAaC,KAAKC,cAC1BrxB,KAAKo0B,WAAWrlB,GAEpB,IAAItC,EAAOzM,EAAQ0q0B,sBAAsBtlB
,EAASA,EAAQuiB,aACvD,GAAI7kB,EAAM,CACNsC,EAAUtC,EACV,MAEJsC,EAAU/O,KAAKq0B,sB
tlB,EAASA,EAAQulB,YAG9D,OAAOt0B,KAAK6zB,IAAI/yB,KAAK,KAUzB6yB,EAAyBlpB,,UAAUupB,aAAe
,SAAUO,GACxD,IAAIC,EAAUD,,EAAQE,,cAC/B,IAAKtB,KAAK,eAAeyB,eAAeg0B,GAE/B,OADAx0B,KA
AK4zB,oBAAqB,GAClBF,GAA4ClzB,eAAeg

AAQ4U,IACpCU,EAAOV,EAAK,GAAKhU,UAAUgU,GAE/BmW,EAAQrqB,MAAMmU,MAAMkW,EAASpqB
,GAAS2U;;;;;;;QAvQ/B+Q,GAORvzB,EAAQuzB,kBAAoBvzB,EAAQuzB,gBAAkB,KANrCA,GAAsB,KAAI,GA
AK,OAC/CA,GAAgBA,GAAsB,KAAI,GAAK,OAC/CA,GAAgBA,GAAuB,MAAI,GAAK,QAChDA,GAAgBA,G
AAwB,OAAI,GAAK,SACjDA,GAAgBA,GAAqB,IAAI,GAAK,MAC9CA,GAAgBA,GAA8B,aAAI,GAAK,eAoS
3D,IAAI2E,GAA8B,WAC9B,SAASA,IAILx3B,KAAKy3B,SAAWF,QAgCpB,OA9BAC,EAAAa/sB,UAAUitB,YA
Ac,SAAUxqB,GAC3C,IAAIyqB,EAAgB33B,KAAK43B,mBAAmB1qB,GACxC2gB,EAAU7tB,KAAK63B,aAAa
3qB,GAG5B4qB,EAvDZ,SAASC,EAAe7qB,GACpB,OAAOA,EAAkB,eAAKoqB,GAsDRS,CAAe7qB,GACjC4q
B,EAAY93B,KAAKy3B,SAAU,QASvqB,GAChCyqB,GACAG,EAAY93B,KAAKy3B,SAAU,iBAAkBE,GAE7
C9J,GACAiK,EAAY93B,KAAKy3B,SAAU,gBAAiB5J,IAIpD2J,EAAAa/sB,UAAUotB,aAAe,SAAU3qB,GC5C,
OAAIA,EACOkqB,GAAgBlqB,GAASkqB,GAAgBlqB,GAC5ClN,KAAK63B,aAAaR,GAAGnqB,EAAMAGX
sqB,EAAa/sB,UAAUmtB,mBAAqB,SAAU1qB,GAElD,IADA,IAAIH,EAAIsqB,GAAiBnqB,GAAClBH,KAAKsqB,
GAAiBtqB,IACzBA,EAAIsqB,GAAiBtqB,GAAEzB,OAAOA,GAEJyqB,EAArCsB,GA0E7BQ,GAAc;;;;;;;OAyBlB,S
AASC,GAAkBv1B,GACvB,OAAOA,EAAMsrB,QAAQgK,GAAzBC;;;;;;;OA8E1B,IAAIE,GAAoB,WAUxB,SAAS
C,GA2Bz1B,GAChC,IAEI,OAAgB,MAATA,EAAgBA,EAAQ,IAAIy1B,GAAWz1B,GAAO01B,WAAWuY,MAAM,EAAG,EAE3D,
MAAOqK,GACH,MAAO;;;;;;;OA+Bf,SAASqrB,GAAYC,GAAjBC,IAAI+3B,EAAAUznB,UAAGgnB,GAAgBA,EAAIA+3B,EAAAUznB,UAAGgnB,GAAgBA,GAAGA,EAAIA,GAAGA,EAAIA,GAAGA,EAAI

AC3B,OAAOG,OAOf,GAFwBjpB,GAtgLZ,GAsgLoDL,GA1hL1D,KA4hLgBmpB,EAGlB,OA3gLQ,GA8gLhB,OAAQ,EAgCZ,SAAST,GAAyBpoB,EAAWN,EAAOupB,GAChD,IAAI1uB,EAAQmF,EA1kLJ,GA0kLiBpI,KAAK0I,GAC1BkpB,EAAsB3uB,EAAMoL,eAChC,OAA2B,GAAvBujB,EACOr0B,IAENo3gBC,OAAOC,OAAOC,OAAO

,GAyhMHA,EAAoBjxB,GA6IpB+wB,CAAgBrtB,IAWxB,SAASwtB,GAAYp1B,EAAO4H,GACxB,KAAqB,IAA
fA,EAprME,IAorMmC,CAGvCA,EAvrMI,KAurMY,IAMhBA,EA7rMI,IA6rMY,IA0ExB,SAAS0tB,EAAkBt1B,E
AAO4H,GAC9B,IAAI6G,EACJ,GAAa,MAATzO,GAAwD,OAAtCyO,EAAezO,EAAMyO,cACvC,IAAK,IAAI1K
,EAAI,EAAGA,EAAI0K,EAAaxK,OAAQF,GAAK,EAAG,CAC7C,IAAIuhB,EAAU1d,EAAM6G,EAAIlB,C
AAMuhB,aAAmB9V,IAAsB,CAC3C,IAAI+lB,EAAS9mB,EAAa1K,EAAI,GAC9B,GAAI3L,MAAMC,QAA
Qk9B,GACd,IAAK,IAAI7T,EAAI,EAAGA,EAAI6T,EAAOtT,OAAQP,IAAK,CAAE,IAAIqT,EAAQQ,OAAQ
AG1d,KAAKshB,EAAQiQ,EAAO7T,UAAItC6T,EAAOvxB,KAAKshB,KAAvFxBgQ,CAAkBt1B,EAAO4H,GAuBj
C,SAAS4tB,EAAgBx1B,EAAO4H,GAAI6tB,EAAM01B,GAAS,EAAGC,GAAS,EAAGC,EAAQ,KAAM,IAAI
NguB,GAAqB,EACzB,GAAiB,OAAbH,EAAmB,EAAmB,CAAnB,IAAK,IAAI1xB,EAAI,EAAGA,EAAI0xB,EAASxB,O
AAS,EAAGF,GAAK,EAAC1C,GAA2B,iBAAhB0xB,EAAS1xB,GAAiB,CAAEjC,IAAI8xB,EAAoBJ,EAAS1xB,EA
AI,GACjChM,EAAsC,mBAAtB89B,EAAhBA,EAAkBjuB,GAAlBH,GAAyBH,EAAGG,EAAmBuB,IAAlBC,EAAWH,EA
SC,EAAoBH,EAAS1xB,EAAI,IAAIrDgyB,EAAqBN,EAAS1xB,EAAI,GAAIJ,kBAAvBgyB,EAAPh+B,+B,EAAOi+B,
oBAAoBP,EAAS1xB,GAAI+xB,EAAUC,GAAG9CA,GAAsB,EAAtBJ,EAASC,EAAoBG,KAAI7BJ,EAASC,GAAqB
G,GAAoBE,cAAG1DlyB,GAAK,MAAEJ,CAAED,IAAIuhB,EAAqQ,EAASC,EAAoBH,EAAS1xB,EAAI,IAAIrCxD0xB
,EAAS1xB,GAAGC,KAAKshB,GAAGzB,GAAiB,OAAbqQ,EACA,IAAS5xB,EAAI6xB,EAAoB,EAAoB,EAAG7xB,EAAI
4xB,EAAS1xB,OAAQF,KAAGrDmyB,EAFwBP,EAAS5xB,MAKzC6D,EA9vMM,GA8vMW,MApEjB4tB,CAAgB
x1B,EAAO4H,GAEG,IAAtBA,EAAlsMA,GAAksMatO,MAA8B6N,GAAqBS,EAAxrM7D,MA0rMHA,EA1rMG,IA0r
MauuB,UAEpB,IAAI/B,EAAuBxsB,EArrMN,IAurMrB,GAA6B,OAAzBwsB,GAAiC7xB,GAAqaqF,EAAtsM7C,IAs
sM6D,CAE1DwsB,IAAyBxsB,EAAxsM5B,IAysMGusB,GAAgBC,EAAsBxsB,GAG1C,IAAImtB,EAAWntB,EA3r
Mb,IA4rMe,OAAbmtB,GACA,EAASP,EAAWx0B,KA4FpC,SASo2B,GAAkBp2B,EAAOyC,EAAOmF,GAC
rC,OAAOyuB,GAAmBr2B,EAAOyC,EAAMsF,GAAMC,EAAOC,EAAOC,EAAOC,EAAOC,EAAOC,EAAOC,F,
GAItC,IAHA,IAAIkE,EAAcrJ,EAAGK,OAAhBqJ,GAAiC,MAAzBA,EAAUC,EAAGC,EAAOC,EAAOC,EAAOC,EAAOC,EAAOC,EAAO

C,EAAQxrB,EAAUksB,EAAgBqE,EAAc7E,QAEzE,GAAgB,GAAZ/iB,EAA0B,CAG/B,IAFA,IAAI6nB,EAAY5F,GAAoBvvB,EAAOmF,GACvCorB,OAAQ,EACLA,EAAQ4E,KACXjF,GAA0BC,EAAQxrB,EAAUksB,EAAgBN,EAAOF,GAEvEH,GA0BC,EAAQxrB,EAAUksB,EAAgBqE,EAAc7E,QAEzD,GAAZ/iB,EAACL8nB,GAAyBzwB,EAAUrF,EAAgBR,GAAyBC,EAAUrF,EAAgBR,GAAyBC,EAAUrF,EAAgBR,GAAyBC

QAAQ,GACtB,GAAIkL,GAAK,EAEL,IADAA,IACOA,EAAIoM,EAAMlM,QAAQ,CACrB,IAAI+1B,EAAO7pB,
EAAMpM,GAGjB,GAAoB,iBAATi2B,EACP,OAAQ,EACZ,GAAIA,IAASvhC,EACT,OAAOsL,EACXA,IAGR,
OAAQ,EAhDGg2B,CAAuB5pB,EAAO1X,GAG7C,SAASwhC,GAA2Bx3B,EAAOuY,EAAU8d,QACxB,IAArBA
,IAA+BA,GAAmB,GACtD,IAAK,IAAI/0B,EAAI,EAAGA,EAAIiX,EAAS/W,OAAQF,IACjCC,EAAIm1B,
z2B,EAAOuY,EAASjX,GAAI+0B,EAAO,EAAGA,EAAIiX,EAAS/W,OAAQF,IACjCC,EAAIm1B,
EAAkB,IAAK,IAAIp2B,EAAI,EAAGA,EAAIgY,EAAK9X,OAAQF,IAAK,CACpD,IAAIq2B,EAAOrd,
Y,GACjC,GAAIiX,EAAS/W,OAAQF,IAAK,CACpD,IAAIq2B,EAAOrd,EAAKhZ,WAAWA,GAAK,EAAG,
AS/W,OAAQyd,IACjC,GAAI1G,EAAS0G,KAAOA,EAAO1Y,EAAGA,EAAI1G,EAA

AEvD25B,EAAUh5B,KADA1E,EAAMR,KAAKuE,GACFzK,MACnBqkC,EAAUj5B,KAAKkD,EAAM7D,IAEz
B,MAAO,CACHkiB,KAAM8W,GAAO7sB,GACb5W,KAAMwW,GAAoBrN,EAAMnJ,MAChC4W,OAAQA,EA
CRitB,SAAUG,GAAa76B,EAAM+J,MAAO5E,GACpC81B,UAAWA,EACXC,UAAWA,EACXrZ,SAAUsZ,GAA
uBn7B,EAAOzC,EAAO4H,IAGvD,SASg2B,GAAuBn7B,EAAOzC,EAAO4H,GAE1C,IADA,IAAIi2B,EAAgB,
GACX95B,EAAItB,EAAMq7B,oBAAqB/5B,EAAItB,EAAMs7B,oBAAqBh6B,EAAItB,EAAMu7B,kBAAmBj6B,EAAE
AAchK,IAC1DvJ,EAAUkK,KAAK1E,EAAMR,KAAKuE,IAS9B,MAPwB,CACpBi6B,MAAOC,GAAQr2B,EAAMA,EA
OnF,EAAMoQ,eAC5BqrB,gBAAiBD,GAAQj+B,EAAMR,KAAMiD,EAAMoQ,eAC3CrY,UAAWA,EACXqjC,c
AAeA,EACfM,oBAAqBv2B,EAAMnF,EAAMq7B,oBAAqBh6B,EAAsB,IAU/D,SASM,GAAOzhB,EAAO0hB,EAAO
IlkC,EAAQwiB,EAAM0hB,GAAlB,GAAqBiBAAVlkC,EACP,MAAO,WAEX,IAAI6V,EAAO,WAAa7V,EAAM
xB,SAAS,GACvC,OAAOqX,EAAKlX,UAAUkX,EAAK/L,OAAS,GAAQxC,SAASg6B,GAAQthB,EAAO0hB,GA
CpB,OAAOD,GAAOzhB,EAAO0hB,EAAM,GAAK,IAAMD,GAAOzhB,EAAO0hB,EAAM,GAAK,IAAMD,GA
AOzhB,EAAO0hB,EAAM,GAAK,IAAMD,GAAOzhB,EAAO0hB,EAAM,GAAK,IAAMD,GAAOzhB,EAAO0hB
,EAAM,GAAK,IAAMD,GAAOzhB,EAAO0hB,EAAM,GAAK,IAAMD,GAAOzhB,EAAO0hB,EAAM,GAAK,IA
AMD,GAAOzhB,EAAO0hB,EAAM,IAAIjoBlN,WAClC,SASC,EAAMhlC,EAAMyZ,EAAMwrB,EAAUiiB,GAAUjiB,
/B,EAAWqM,EAAWnM,EAAMiL,EAAmB+zB,EAAmBC,EAAoB7rB,EAAiB8rB,EAAiBC,EAAmBC,EAAsB3n
B,EAAeC,EAAoB7I,EAAcC,EAAmBC,EAAWC,EAAgBC,EAAcinB,EAAS92B,EAAS+2B,EAAgBC,EAAY4N,EAAmB
C,EAAczyB,EAAYtM,EAASxB,EAAQwgC,EAAqBC,EAAQC,EAAC7bxnC,EAAK6B,EAAO,EAAC,EAAC,EAAK
b,UAAYA,EAAjBtB,KAAKjB,EAAMuC,EAAMvC,EAAMwC,EAAMxC,EAAMyC,EAAMzC,EAAM0C,EAAM1C,EAAM
H,KAAKkU,UAAYA,EAAjBlU,EAAMuC,EAAMvC,EAAMwC,EAAMxC,EAAMyC,EAAMzC,EAAM0C,EAAM1C,EAAM
oBA,EAAzBC,EAAMuC,EAAMvC,EAAMwC,EAAMxC,EAAMyC,EAAMzC,EAAM0C,EAAM1C,EAAM2C,EAAM3C,EAAM
oBA,EAAzBC,EAAMuC,EAAMvC,EAAMwC,EAAMxC,EAAMyC,EAAMzC,EAAM0C,EAAM1C,EAAM2C,EAAM3C,EAAM

AAeimB,EAAMl9B,UAAW,SAAU,CAC7CsS,IAAK,WACD,IAAIxY,EAAQ,GAiBZ,OAhBiB,GAAbvE,KAAKuE,OACLA,EAAM0I,KAAK,4BACE,EAAbjN,KAAKuE,OACLA,EAAM0I,KAAK,8BACE,GAAbjN,KAAKuE,OACLA,EAAM0I,KAAK,4BACE,IAAbjN,KAAKuE,OACLA,EAAM0I,KAAK,8BACE,EAAbjN,KAAKuE,OACLA,EAAM0I,KAAK,8BACE,EAAbjN,KAAKuE,OACLA,EAAM0I,KAAK,8BACE,GAAbjN,KAAKuE,OACLA,EAAM0I,KAAK,yBACE,EAAbjN,KAAKuE,OACLA,EAAM0I,KAAK,0BAR1I,EAAAMzD,KAAK,MAAEtB2mC,YAAY,EACZC,cAAc,IAAElBl8B,OAAAOkW,eAAAeimB,EAAAMl9B,UAAAW,YAAAa,CAAAhB,KAAAW,YAAAa,CAAAhB,KAAAW,YAAAa,CAAAhB,K

AOkW,eAAe8mB,EAAW/9B,UAAW,QAAS,CACjDsS,IAAK,WACD,OAAO/c,KAAKyoC,WA78PX,IA+8PLhB,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAe8mB,EAAW/9B,UAAW,QAAS,CACjDsS,IAAK,WACD,OAAO4oB,GAAa3lC,KAAKuI,MAAOvI,KAAKyoC,WA97P7B,GA87PwDzoC,KAAKuI,MAAMyK,oBAE/Ey0B,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAe8mB,EAAW/9B,UAAW,OAAQ,CAChDsS,IAAK,WACD,OAAO4oB,GAAa3lC,KAAKuI,MAAOvI,KAAKyoC,WAAYzoC,KAAKuI,MAAMyK,kBAAmBy0B,KAAKuI,MAAMw+B,oBAE9FU

AAO4H,EAAOk6B,EAAiBC,GACjD,GAAwB,IAApBD,EACA,OAAQ,EASZ,IADA,IAAIE,EAAWp6B,EAAM3D,OACZF,EAAI,EAAGA,EAAI+9B,EAAiB/9B,IACjC6D,EAAMlD,KAAKq9B,GACX/hC,EAAM+S,UAAUrO,KAAKq9B,GACrB/hC,EAAMR,KAAKkF,KAAK,MAEpB,OAAOs9B,EAAYSC,GAAWjiC,EAAMR,KAAKkF,KAAK,MAEpD0d,GAE9BpZ,EAAOk+B,GACV,IACI,IAAItI,EAAAYU,EAAAMV,EAAAU,EAAAC,EAAAC,EAAAC

U,gBACJV,EAAIU,eAAe,EAAgBgJ,EAAM+O,GAAiBA,IAQ1E,SAASmtB,GAA0B9jC,EAAO4H,EAAOnF,GA
CxC4G,OAgoBT,SAAS06B,EAAyB/jC,EAAO4H,EAAOnF,EAAOyN,GACnD,IAAI+M,EAAQxa,EAAMoL,eAC
dC,EAAMrL,EAAMsL,aACX/N,EAAM4S,iBACPH,GAA+BhQ,EAAOmF,GAE1C8oB,GAAgBxgB,EAAQtI,GA
ExB,IADA,IAAI83B,EAAgBj9B,EAAMi9B,cACjB37B,EAAIkZ,EAAOlZ,EAAI+J,EAAK/J,IAAK,CAC9B,IAI
7F,EAAM8B,EAAMR,KAAKuE,GACjBgvB,EAAcnwB,GAAe1E,GAC7B60B,GAEAiR,GAAkBp8B,EAAOnF,E
AAOvE,GAEpC,IAAIqR,EAAYkG,GAAkB7N,EAAO5H,EAAO+D,EAAGtB,GACnDiuB,GAAgBnhB,EAAW3H
,GACL,OAAlB83B,GACAuE,GAAmBr8B,EAAO7D,EAAIkZ,EAAO1N,EAAWrR,EAAKuE,EAAOi9B,GAE5D3
M,IACoB9qB,GAAyBxF,EAAMkF,MAAOC,GAAhtSxD,GAitSuB2H,IAppBjCw0B,CAAyB/jC,EAAO4H,EAAOn
F,EAAOoF,GAAiBpF,EAAOmF,IACpB,MAA/B,IAAdnF,EAAMzG,GAAupBf,SAASkoC,EAA6BlkC,EAAO4H,E
AAOnF,GAChD,IAAIwa,EAAQxa,EAAMoL,eACdC,EAAMrL,EAAMsL,aAEZo2B,IAAeC,EAAMkF,MACrB
yD,EAnjQR,SAASg5B,IACL,OAAOp7B,GAAiBC,OAAOmC,sBAkjQHg5B,IAC5B,OAAOp7B,GAAiB62B,GAAgBj
B,IAAK,IAAIE,EAAWpnB,EAAOonB,EAAWv2B,EAAKu2B,EAAIY,EAAMC,EAAMC,EAAMC,EAAMC,KA
AK6kC,GACjB90B,EAAY3H,EAAMy8B,GACtBl5B,EAAYk5B,GACA,OAArBnmC,EAAIO,cAAA0C,EAAIO,EAAIP,EAAIjC,EAAIkC,EAAIlC,EAAIqC,EAAIrC,EAAIsC,EAAItC,EAAIuC,EAAIvC,EAAIwC,EAAIxC,EAAIyC,EAAIzC,EAAI0C,EAAI1C,EAAI2C,EAAI3C,EAAI4C,EAAI5C,EAAI6C,EAAI7C,EAAI8C,EAAI9C,EAAI+C,EAAI/C,EAAIgD,EAAIhD,EAAIiD,EAAIjD,EAAIkD,EAAIlD,EAAImD,EAAInD,EAAIoD,EAAIpD,EAAIqD,EAAIrD,EAAIsD,EAAItD,EAAIuD,EAAIvD,EAAIwD,EAAIxD,EAAIyD,EAAIzD,EAAI0D,EAAI1D,EAAI2D,EAAI3D,EAAI4D,EAAI5D,EAAI6D,EAAI7D,EAAI8D,EAAI9D,EAAI+D,EAAI/D,EAAIgE,EAAIhE,EAAIiE,EAAIjE,EAAIkE,EAAIlE,EAAImE,EAAInE,EAAIoE,EAAIpE,EAAIqE,EAAIrE,EAAIsE,EAAItE,EAAIuE,EAAIvE,EAAIwE,EAAIxE,EAAIyE,EAAIzE,EAAI0E,EAAI1E,EAAI2E,EAAI3E,EAAI4E,EAAI5E,EAAI6E,EAAI7E,EAAI8E,EAAI9E,EAAI+E,EAAI/E,EAAIgF,EAAIhF,EAAIiF,EAAIjF,EAAIkF,EAAIlF,EAAImF,EAAInF,EAAIoF,EAAIpF,EAAIqF,EAAIrF,EAAIsF,EAAItF,EAAIuF,EAAIvF,EAAIwF,EAAIxF,EAAIyF,EAAIzF,EAAI0F,EAAI1F,EAAI2F,EAAI3F,EAAI4F,EAAI5F,EAAI6F,EAAI7F,EAAI8F,EAAI9F,EAAI+F,EAAI/F,EAAIgG,EAAIhG,EAAIiG,EAAIjG,EAAIkG,EAAIlG,EAAImG,EAAInG,EAAIoG,EAAIpG,EAAIqG,EAAIrG,EAAIsG,EAAItG,EAAIuG,EAAIvG,EAAIwG,EAAIxG,EAAIyG,EAAIzG,EAAI0G,EAAI1G,EAAI2G,EAAI3G,EAAI4G,EAAI5G,EAAI6G,EAAI7G,EAAI8G,EAAI9G,EAAI+G,EAAI/G,EAAIgH,EAAIhH,EAAIiH,EAAIjH,EAAIkH,EAAIlH,EAAImH,EAAInH,EAAIoH,EAAIpH,EAAIqH,EAAIrH,EAAIsH,EAAItH,EAAIuH,EAAIvH,EAAIwH,EAAIxH,EAAIyH,EAAIzH,EAAI0H,EAAI1H,EAAI2H,EAAI3H,EAAI4H,EAAI5H,EAAI6H,EAAI7H,EAAI8H,EAAI9H,EAAI+H,EAAI/H,EAAIgI,EAAIhI,EAAIiI,EAAIjI,EAAIkI,EAAIlI,EAAImI,EAAInI,EAAIoI,EAAIpI,EAAIqI,EAAIrI,EAAIsI,EAAItI,EAAIuI,EAAIvI,EAAIwI,EAAIxI,EAAIyI,EAAIzI,EAAI0I,EAAI1I,EAAI2I,EAAI3I,EAAI4I,EAAI5I,EAAI6I,EAAI7I,EAAI8I,EAAI9I,EAAI+I,EAAI/I,EAAIgJ,EAAIhJ,EAAIiJ,EAAIjJ,EAAIkJ,EAAIlJ,EAAImJ,EAAInJ,EAAIoJ,EAAIpJ,EAAIqJ,EAAIrJ,EAAIsJ,EAAItJ,EAAIuJ,EAAIvJ,EAAIwJ,EAAIxJ,EAAIyJ,EAAIzJ,EAAI0J,EAAI1J,EAAI2J,EAAI3J,EAAI4J,EAAI5J,EAAI6J,EAAI7J,EAAI8J,EAAI9J,EAAI+J,EAAI/J,EAAIgK,EAAIhK,EAAIiK,EAAIjK,EAAIkK,EAAIlK,EAAImK,EAAInK,EAAIoK,EAAIpK,EAAIqK,EAAIrK,EAAIsK,EAAItK,EAAIuK,EAAIvK,EAAIwK,EAAIxK,EAAIyK,EAAIzK,EAAI0K,EAAI1K,EAAI2K,EAAI3K,EAAI4K,EAAI5K,EAAI6K,EAAI7K,EAAI8K,EAAI9K,EAAI+K,EAAI/K,EAAIgL,EAAIhL,EAAIiL,EAAIjL,EAAIkL,EAAIlL,EAAImL,EAAInL,EAAIoL,EAAIpL,EAAIqL,EAAIrL,EAAIsL,EAAItL,EAAIuL,EAAIvL,EAAIwL,EAAIxL,EAAIyL,EAAIzL,EAAI0L,EAAI1L,EAAI2L,EAAI3L,EAAI4L,EAAI5L,EAAI6L,EAAI7L,EAAI8L,EAAI9L,EAAI+L,EAAI/L,EAAIgM,EAAIhM,EAAIiM,EAAIjM,EAAIkM,EAAIlM,EAAImM,EAAInM,EAAIoM,EAAIpM,EAAIqM,EAAIrM,EAAIsM,EAAItM,EAAIuM,EAAIvM,EAAIwM,EAAIxM,EAAIyM,EAAIzM,EAAI0M,EAAI1M,EAAI2M,EAAI3M,EAAI4M,EAAI5M,EAAI6M,EAAI7M,EAAI8M,EAAI9M,EAAI+M,EAAI/M,EAAIgN,EAAIhN,EAAIiN,EAAIjN,EAAIkN,EAAIlN,EAAImN,EAAInN,EAAIoN,EAAIpN,EAAIqN,EAAIrN,EAAIsN,EAAItN,EAAIuN,EAAIvN,EAAIwN,EAAIxN,EAAIyN,EAAIzN,EAAI0N,EAAI1N,EAAI2N,EAAI3N,EAAI4N,EAAI5N,EAAI6N,EAAI7N,EAAI8N,EAAI9N,EAAI+N,EAAI/N,EAAIgO,EAAIhO,EAAIiO,EAAIjO,EAAIkO,EAAIlO,EAAImO,EAAInO,EAAIoO,EAAIpO,EAAIqO,EAAIrO,EAAIsO,EAAItO,EAAIuO,EAAIvO,EAAIwO,EAAIxO,EAAIyO,EAAIzO,EAAI0O,EAAI1O,EAAI2O,EAAI3O,EAAI4O,EAAI5O,EAAI6O,EAAI7O,EAAI8O,EAAI9O,EAAI+O,EAAI/O,EAAIgP,EAAIhP,EAAIiP,EAAIjP,EAAIkP,EAAIlP,EAAImP,EAAInP,EAAIoP,EAAIpP,EAAIqP,EAAIrP,EAAIsP,EAAItP,EAAIuP,EAAIvP,EAAIwP,EAAIxP,EAAIyP,EAAIzP,EAAI0P,EAAI1P,EAAI2P,EAAI3P,EAAI4P,EAAI5P,EAAI6P,EAAI7P,EAAI8P,EAAI9P,EAAI+P,EAAI/P,EAAIgQ,EAAIhQ,EAAIiQ,EAAIjQ,EAAIkQ,EAAIlQ,EAAImQ,EAAInQ,EAAIoQ,EAAIpQ,EAAIqQ,EAAIrQ,EAAIsQ,EAAItQ,EAAIuQ,EAAIvQ,EAAIwQ,EAAIxQ,EAAIyQ,EAAIzQ,EAAI0Q,EAAI1Q,EAAI2Q,EAAI3Q,EAAI4Q,EAAI5Q,EAAI6Q,EAAI7Q,EAAI8Q,EAAI9Q,EAAI+Q,EAAI/Q,EAAIgR,EAAIhR,EAAIiR,EAAIjR,EAAIkR,EAAIlR,EAAImR,EAAInR,EAAIoR,EAAIpR,EAAIqR,EAAIrR,EAAIsR,EAAItR,EAAIuR,EAAIvR,EAAIwR,EAAIxR,EAAIyR,EAAIzR,EAAI0R,EAAI1R,EAAI2R,EAAI3R,EAAI4R,EAAI5R,EAAI6R,EAAI7R,EAAI8R,EAAI9R,EAAI+R,EAAI/R,EAAIgS,EAAIhS,EAAIiS,EAAIjS,EAAIkS,EAAIlS,EAAImS,EAAInS,EAAIoS,EAAIpS,EAAIqS,EAAIrS,EAAIsS,EAAItS,EAAIuS,EAAIvS,EAAIwS,EAAIxS,EAAIyS,EAAIzS,EAAI0S,EAAI1S,EAAI2S,EAAI3S,EAAI4S,EAAI5S,EAAI6S,EAAI7S,EAAI8S,EAAI9S,EAAI+S,EAAI/S,EAAIgT,EAAIhT,EAAIiT,EAAIjT,EAAIkT,EAAIlT,EAAImT,EAAInT,EAAIoT,EAAIpT,EAAIqT,EAAIrT,EAAIsT,EAAItT,EAAIuT,EAAIvT,EAAIwT,EAAIxT,EAAIyT,EAAIzT,EAAI0T,EAAI1T,EAAI2T,EAAI3T,EAAI4T,EAAI5T,EAAI6T,EAAI7T,EAAI8T,EAAI9T,EAAI+T,EAAI/T,EAAIgU,EAAIhU,EAAIiU,EAAIjU,EAAIkU,EAAIlU,EAAImU,EAAInU,EAAIoU,EAAIpU,EAAIqU,EAAIrU,EAAIsU,EAAItU,EAAIuU,EAAIvU,EAAIwU,EAAIxU,EAAIyU,EAAIzU,EAAI0U,EAAI1U,EAAI2U,EAAI3U,EAAI4U,EAAI5U,EAAI6U,EAAI7U,EAAI8U,EAAI9U,EAAI+U,EAAI/U,EAAIgV,EAAIhV,EAAIiV,EAAIjV,EAAIkV,EAAIlV,EAAImV,EAAInV,EAAIoV,EAAIpV,EAAIqV,EAAIrV,EAAIsV,EAAItV,EAAIuV,EAAIvV,EAAIwV,EAAIxV,EAAIyV,EAAIzV,EAAI0V,EAAI1V,EAAI2V,EAAI3V,EAAI4V,EAAI5V,EAAI6V,EAAI7V,EAAI8V,EAAI9V,EAAI+V,EAAI/V,EAAIgW,EAAIhW,EAAIiW,EAAIjW,EAAIkW,EAAIlW,EAAImW,EAAInW,EAAIoW,EAAIpW,EAAIqW,EAAIrW,EAAIsW,EAAItW,EAAIuW,EAAIvW,EAAIwW,EAAIxW,EAAIyW,EAAIzW,EAAI0W,EAAI1W,EAAI2W,EAAI3W,EAAI4W,EAAI5W,EAAI6W,EAAI7W,EAAI8W,EAAI9W,EAAI+W,EAAI/W,EAAIgX,EAAIhX,EAAIiX,EAAIjX,EAAIkX,EAAIlX,EAAImX,EAAInX,EAAIoX,EAAIpX,EAAIqX,EAAIrX,EAAIsX,EAAItX,EAAIuX,EAAIvX,EAAIwX,EAAIxX,EAAIyX,EAAIzX,EAAI0X,EAAI1X,EAAI2X,EAAI3X,EAAI4X,EAAI5X,EAAI6X,EAAI7X,EAAI8X,EAAI9X,EAAI+X,EAAI/X,EAAIgY,EAAIhY,EAAIiY,EAAIjY,EAAIkY,EAAIlY,EAAImY,EAAInY,EAAIoY,EAAIpY,EAAIqY,EAAIrY,EAAIsY,EAAItY,EAAIuY,EAAIvY,EAAIwY,EAAIxY,EAAIyY,EAAIzY,EAAI0Y,EAAI1Y,EAAI2Y,EAAI3Y,EAAI4Y,EAAI5Y,EAAI6Y,EAAI7Y,EAAI8Y,EAAI9Y,EAAI+Y,EAAI/Y,EAAIgZ,EAAIhZ,EAAIiZ,EAAIjZ,EAAIkZ,EAAIlZ,EAAImZ,EAAInZ,EAAIoZ,EAAIpZ,EAAIqZ,EAAIrZ,EAAIsZ,EAAItZ,EAAIuZ,EAAIvZ,EAAIwZ,EAAIxZ,EAAIyZ,EAAIzZ,EAAI0Z,EAAI1Z,EAAI2Z,EAAI3Z,EAAI4Z,EAAI5Z,EAAI6Z,EAAI7Z,EAAI8Z,EAAI9Z,EAAI+Z,EAAI/Z,EAAIga,EAAIha,EAAIia,EAAIja,EAAIka,EAAIla,EAAIma,EAAIna,EAAIoa,EAAIpa,EAAIqa,EAAIra,EAAIsa,EAAIta,EAAIua,EAAIva,EAAIwa,EAAIxa,EAAIya,EAAIza,EAAI0a,EAAI1a,EAAI2a,EAAI3a,EAAI4a,EAAI5a,EAAI6a,EAAI7a,EAAI8a,EAAI9a,EAAI+a,EAAI/a,EAAIgb,EAAIhb,EAAIib,EAAIjb,EAAIkb,EAAIlb,EAAImb,EAAInb,EAAIob,EAAIpb,EAAIqb,EAAIrb,EAAIsb,EAAItb,EAAIub,EAAIvb,EAAIwb,EAAIxb,EAAIyb,EAAIzb,EAAI0b,EAAI1b,EAAI2b,EAAI3b,EAAI4b,EAAI5b,EAAI6b,EAAI7b,EAAI8b,EAAI9b,EAAI+b,EAAI/b,EAAIgc,EAAIhc,EAAIic,EAAIjc,EAAIkc,EAAIlc,EAAImc,EAAInc,EAAIoc,EAAIpc,EAAIqc,EAAIrc,EAAIsc,EAAItc,EAAIuc,EAAIvc,EAAIwc,EAAIxc,EAAIyc,EAAIzc,EAAI0c,EAAI1c,EAAI2c,EAAI3c,EAAI4c,EAAI5c,EAAI6c,EAAI7c,EAAI8c,EAAI9c,EAAI+c,EAAI/c,EAAIgd,EAAIhd,EAAIid,EAAIjd,EAAIkd,EAAIld,EAAImd,EAAInd,EAAIod,EAAIpd,EAAIqd,EAAIrd,EAAIsd,EAAItd,EAAIud,EAAIvd,EAAIwd,EAAIxd,EAAIyd,EAAIzd,EAAI0d,EAAI1d,EAAI2d,EAAI3d,EAAI4d,EAAI5d,EAAI6d,EAAI7d,EAAI8d,EAAI9d,EAAI+d,EAAI/d,EAAIge,EAAIhe,EAAIie,EAAIje,EAAIke,EAAIle,EAAIme,EAAIne,EAAIoe,EAAIpe,EAAIqe,EAAIre,EAAIse,EAAIte,EAAIue,EAAIve,EAAIwe,EAAIxe,EAAIye,EAAIze,EAAI0e,EAAI1e,EAAI2e,EAAI3e,EAAI4e,EAAI5e,EAAI6e,EAAI7e,EAAI8e,EAAI9e,EAAI+e,EAAI/e,EAAIgf,EAAIhf,EAAIif,EAAIjf,EAAIkf,EAAIlf,EAAImf,EAAInf,EAAIof,EAAIpf,EAAIqf,EAAIrf,EAAIsf,EAAItf,EAAIuf,EAAIvf,EAAIwf,EAAIxf,EAAIyf,EAAIzf,EAAI0f,EAAI1f,EAAI2f,EAAI3f,EAAI4f,EAAI5f,EAAI6f,EAAI7f,EAAI8f,EAAI9f,EAAI+f,EAAI/f,EAAIgg,EAAIhg,EAAIig,EAAIjg,EAAIkg,EAAIlg,EAAImg,EAAIng,EAAIog,EAAIpg,EAAIqg,EAAIrg,EAAIsg,EAAItg,EAAIug,EAAIvg,EAAIwg,EAAIxg,EAAIyg,EAAIzg,EAAI0g,EAAI1g,EAAI2g,EAAI3g,EAAI4g,EAAI5g,EAAI6g,EAAI7g,EAAI8g,EAAI9g,EAAI+g,EAAI/g,EAAIgh,EAAIhh,EAAIih,EAAIjh,EAAIkh,EAAIlh,EAAImh,EAAInh,EAAIoh,EAAIph,EAAIqh,EAAIrh,EAAIsh,EAAIth,EAAIuh,EAAIvh,EAAIwh,EAAIxh,EAAIyh,EAAIzh,EAAI0h,EAAI1h,EAAI2h,EAAI3h,EAAI4h,EAAI5h,EAAI6h,EAAI7h,EAAI8h,EAAI9h,EAAI+h,EAAI/h,EAAIgi,EAAIhi,EAAIii,EAAIji,EAAIki,EAAIli,EAAImi,EAAIni,EAAIoi,EAAIpi,EAAIqi,EAAIri,EAAIsi,EAAIti,EAAIui,EAAIvi,EAAIwi,EAAIxi,EAAIyi,EAAIzi,EAAI0i,EAAI1i,EAAI2i,EAAI3i,EAAI4i,EAAI5i,EAAI6i,EAAI7i,EAAI8i,EAAI9i,EAAI+i,EAAI/i,EAAIgj,EAAIhj,EAAIij,EAAIjj,EAAIkj,EAAIlj,EAAImj,EAAInj,EAAIoj,EAAIpj,EAAIqj,EAAIrj,EAAIsj,EAAItj,EAAIuj,EAAIvj,EAAIwj,EAAIxj,EAAIyj,EAAIzj,EAAI0j,EAAI1j,EAAI2j,EAAI3j,EAAI4j,EAAI5j,EAAI6j,EAAI7j,EAAI8j,EAAI9j,EAAI+j,EAAI/j,EAAIgk,EAAIhk,EAAIik,EAAIjk,EAAIkk,EAAIlk,EAAImk,EAAInk,EAAIok,EAAIpk,EAAIqk,EAAIrk,EAAIsk,EAAItk,EAAIuk,EAAIvk,EAAIwk,EAAIxk,EAAIyk,EAAIzk,EAAI0k,EAAI1k,EAAI2k,EAAI3k,EAAI4k,EAAI5k,EAAI6k,EAAI7k,EAAI8k,EAAI9k,EAAI+k,EAAI/k,EAAIgl,EAAIhl,EAAIil,EAAIjl,EAAIkl,EAAIll,EAAIml,EAAInl,EAAIol,EAAIpl,EAAIql,EAAIrl,EAAIsl,EAAItl,EAAIul,EAAIvl,EAAIwl,EAAIxl,EAAIyl,EAAIzl,EAAI0l,EAAI1l,EAAI2l,EAAI3l,EAAI4l,EAAI5l,EAAI6l,EAAI7l,EAAI8l,EAAI9l,EAAI+l,EAAI/l,EAAIgm,EAAIhm,EAAIim,EAAIjm,EAAIkm,EAAIlm,EAAImm,EAAInm,EAAIom,EAAIpm,EAAIqm,EAAIrm,EAAIsm,EAAItm,EAAIum,EAAIvm,EAAIwm,EAAIxm,EAAIym,EAAIzm,EAAI0m,EAAI1m,EAAI2m,EAAI3m,EAAI4m,EAAI5m,EAAI6m,EAAI7m,EAAI8m,EAAI9m,EAAI+m,EAAI/m,EAAIgn,EAAIhn,EAAIin,EAAIjn,EAAIkn,EAAIln,EAAImn,EAAInn,EAAIon,EAAIpn,EAAIqn,EAAIrn,EAAIsn,EAAItn,EAAIun,EAAIvn,EAAIwn,EAAIxn,EAAIyn,EAAIzn,EAAI0n,EAAI1n,EAAI2n,EAAI3n,EAAI4n,EAAI5n,EAAI6n,EAAI7n,EAAI8n,EAAI9n,EAAI+n,EAAI/n,EAAIgo,EAAIho,EAAIio,EAAIjo,EAAIko,EAAIlo,EAAImo,EAAIno,EAAIoo,EAAIpo,EAAIqo,EAAIro,EAAIso,EAAIto,EAAIuo,EAAIvo,EAAIwo,EAAIxo,EAAIyo,EAAIzo,EAAI0o,EAAI1o,EAAI2o,EAAI3o,EAAI4o,EAAI5o,EAAI6o,EAAI7o,EAAI8o,EAAI9o,EAAI+o,EAAI/o,EAAIgp,EAAIhp,EAAIip,EAAIjp,EAAIkp,EAAIlp,EAAImp,EAAInp,EAAIop,EAAIpp,EAAIqp,EAAIrp,EAAIsp,EAAItp,EAAIup,EAAIvp,EAAIwp,EAAIxp,EAAIyp,EAAIzp,EAAI0p,EAAI1p,EAAI2p,EAAI3p,EAAI4p,EAAI5p,EAAI6p,EAAI7p,EAAI8p,EAAI9p,EAAI+p,EAAI/p,EAAIgq,EAAIhq,EAAIiq,EAAIjq,EAAIkq,EAAIlq,EAAImq,EAAInq,EAAIoq,EAAIpq,EAAIqq,EAAIrq,EAAIsq,EAAItq,EAAIuq,EAAIvq,EAAIwq,EAAIxq,EAAIyq,EAAIzq,EAAI0q,EAAI1q,EAAI2q,EAAI3q,EAAI4q,EAAI5q,EAAI6q,EAAI7q,EAAI8q,EAAI9q,EAAI+q,EAAI/q,EAAIgr,EAAIhr,EAAIir,EAAIjr,EAAIkr,EAAIlr,EAAImr,EAAInr,EAAIor,EAAIpr,EAAIqr,EAAIrr,EAAIsr,EAAItr,EAAIur,EAAIvr,EAAIwr,EAAIxr,EAAIyr,EAAIzr,EAAI0r,EAAI1r,EAAI2r,EAAI3r,EAAI4r,EAAI5r,EAAI6r,EAAI7r,EAAI8r,EAAI9r,EAAI+r,EAAI/r,EAAIgs,EAAIhs,EAAIis,EAAIjs,EAAIks,EAAIls,EAAIms,EAAIns,EAAIos,EAAIps,EAAIqs,EAAIrs,EAAIss,EAAIts,EAAIus,EAAIvs,EAAIws,EAAIxs,EAAIys,EAAIzs,EAAI0s,EAAI1s,EAAI2s,EAAI3s,EAAI4s,EAAI5s,EAAI6s,EAAI7s,EAAI8s,EAAI9s,EAAI+s,EAAI/s,EAAIgt,EAAIht,EAAIit,EAAIjt,EAAIkt,EAAIlt,EAAImt,EAAInt,EAAIot,EAAIpt,EAAIqt,EAAIrt,EAAIst,EAAIt,EAAIut,EAAIvt,EAAIwt,EAAIxt,EAAIyt,EAAIzt,EAAI0t,EAAI1t,EAAI2t,EAAI3t,EAAI4t,EAAI5t,EAAI6t,EAAI7t,EAAI8t,EAAI9t,EAAI+t,EAAI/t,EAAIgu,EAAIhu,EAAIiu,EAAIju,EAAIku,EAAIlu,EAAImu,EAAInu,EAAIou,EAAIpu,EAAIqu,EAAIru,EAAIsu,EAAItu,EAAIuu,EAAIvu,EAAIwu,EAAIxu,EAAIyu,EAAIzu,EAAI0u,EAAI1u,EAAI2u,EAAI3u,EAAI4u,EAAI5u,EAAI6u,EAAI7u,EAAI8u,EAAI9u,EAAI+u,EAAI/u,EAAIgv,EAAIhv,EAAIiv,EAAIjv,EAAIkv,EAAIlv,EAAImv,EAAInv,EAAIov,EAAIpv,EAAIqv,EAAIrv,EAAIsv,EAAItv,EAAIuv,EAAIvv,EAAIwv,EAAIxv,EAAIyv,EAAIzv,EAAI0v,EAAI1v,EAAI2v,EAAI3v,EAAI4v,EAAI5v,EAAI6v,EAAI7v,EAAI8v,EAAI9v,EAAI+v,EAAI/v,EAAIgw,EAAIhw,EAAIiw,EAAIjw,EAAIkw,EAAIlw,EAAImw,EAAInw,EAAIow,EAAIpw,EAAIqw,EAAIrw,EAAIsw,EAAItw,EAAIuw,EAAIvw,EAAIww,EAAIxw,EAAIyw,EAAIzw,EAAI0w,EAAI1w,EAAI2w,EAAI3w,EAAI4w,EAAI5w,EAAI6w,EAAI7w,EAAI8w,EAAI9w,EAAI+w,EAAI/w,EAAIgx,EAAIhx,EAAIix,EAAIjx,EAAIkx,EAAIlx,EAAImx,EAAInx,EAAIox,EAAIpx,EAAIqx,EAAIrx,EAAIsx,EAAItx,EAAIux,EAAIvx,EAAIwx,EAAIxx,EAAIyx,EAAIzx,EAAI0x,EAAI1x,EAAI2x,EAAI3x,EAAI4x,EAAI5x,EAAI6x,EAAI7x,EAAI8x,EAAI9x,EAAI+x,EAAI/x,EAAIgy,EAAIhy,EAAIiy,EAAIjy,EAAIky,EAAIly,EAAImy,EAAIny,EAAIoy,EAAIpy,EAAIqy,EAAIry,EAAIsy,EAAIty,EAAIuy,EAAIvy,EAAIwy,EAAIxy,EAAIyy,EAAIzy,EAAI0y,EAAI1y,EAAI2y,EAAI3y,EAAI4y,EAAI5y,EAAI6y,EAAI7y,EAAI8y,EAAI9y,EAAI+y,EAAI/y,EAAIgz,EAAIhz,EAAIiz,EAAIjz,EAAIkz,EAAIlz,EAAImz,EAAInz,EAAIoz,EAAIpz,EAAIqz,EAAIrz,EAAIsz,EAAItz,EAAIuz,EAAIvz,EAAIwz,EAAIxz,EAAIyz,EAAIzz,EAAI0z,EAAI1z,EAAI2z,EAAI3z,EAAI4z,EAAI5z,EAAI6z,EAAI7z,EAAI8z,EAAI9z,EAAI+z,EAAI/z,EAAIg0,EAAIh0,EAAIi0,EAAIj0,EAAIk0,EAAIl0,EAAIm0,EAAIn0,EAAIo0,EAAIp0,EAAIq0,EAAIr0,EAAIs0,EAAIt0,EAAIu0,EAAIv0,EAAIw0,EAAIx0,EAAIy0,EAAIz0,EAAI00,EAAI10,EAAI20,EAAI30,EAAI40,EAAI50,EAAI60,EAAI70,EAAI80,EAAI90,EAAI+0,EAAI/0,EAAIg1,EAAIh1,EAAIi1,EAAIj1,EAAIk1,EAAIl1,EAAIm1,EAAIn1,EAAIo1,EAAIp1,EAAIq1,EAAIr1,EAAIs1,EAAIt1,EAAIu1,EAAIv1,EAAIw1,EAAIx1,EAAIy1,EAAIz1,EAAI01,EAAI11,EAAI21,EAAI31,EAAI41,EAAI51,EAAI61,EAAI71,EAAI81,EAAI91,EAAI+1,EAAI/1,EAAIg2,EAAIh2,EAAIi2,EAAIj2,EAAIk2,EAAIl2,EAAIm2,EAAIn2,EAAIo2,EAAIp2,EAAIq2,EAAIr2,EAAIs2,EAAIt2,EAAIu2,EAAIv2,EAAIw2,EAAIx2,EAAIy2,EAAIz2,EAAI02,EAAI12,EAAI22,EAAI32,EAAI42,EAAI52,EAAI62,EAAI72,EAAI82,EAAI92,EAAI+2,EAAI/2,EAAIg3,EAAIh3,EAAIi3,EAAIj3,EAAIk3,EAAIl3,EAAIm3,EAAIn3,EAAIo3,EAAIp3,EAAIq3,EAAIr3,EAAIs3,EAAIt3,EAAIu3,EAAIv3,EAAIw3,EAAIx3,EAAIy3,EAAIz3,EAAI03,EAAI13,EAAI23,EAAI33,EAAI43,EAAI53,EAAI63,EAAI73,EAAI83,EAAI93,EAAI+3,EAAI/3,EAAIg4,EAAIh4,EAAIi4,EAAIj4,EAAIk4,EAAIl4,EAAIm4,EAAIn4,EAAIo4,EAAIp4,EAAIq4,EAAIr4,EAAIs4,EAAIt4,EAAIu4,EAAIv4,EAAIw4,EAAIx4,EAAIy4,EAAIz4,EAAI04,EAAI14,EAAI24,EAAI34,EAAI44,EAAI54,EAAI64,EAAI74,EAAI84,EAAI94,EAAI+4,EAAI/4,EAAIg5,EAAIh5,EAAIi5,EAAIj5,EAAIk5,EAAIl5,EAAIm5,EAAIn5,EAAIo5,EAAIp5,EAAIq5,EAAIr5,EAAIs5,EAAIt5,EAAIu5,EAAIv5,EAAIw5,EAAIx5,EAAIy5,EAAIz5,EAAI05,EAAI15,EAAI25,EAAI35,EAAI45,EAAI55,EAAI65,EAAI75,EAAI85,EAAI95,EAAI+5,EAAI/5,EAAIg6,EAAIh6,EAAIi6,EAAIj6,EAAIk6,EAAIl6,EAAIm6,EAAIn6,EAAIo6,EAAIp6,EAAIq6,EAAIr6,EAAIs6,EAAIt6,EAAIu6,EAAIv6,EAAIw6,EAAIx6,EAAIy6,EAAIz6,EAAI06,EAAI16,EAAI26,EAAI36,EAAI46,EAAI56,EAAI66,EAAI76,EAAI86,EAAI96,EAAI+6,EAAI/6,EAAIg7,EAAIh7,EAAIi7,EAAIj7,EAAIk7,EAAIl7,EAAIm7,EAAIn7,EAAIo7,EAAIp7,EAAIq7,EAAIr7,EAAIs7,EAAIt7,EAAIu7,EAAIv7,EAAIw7,EAAIx7,EAAIy7,EAAIz7,EAAI07,EAAI17,EAAI27,EAAI37,EAAI47,EAAI57,EAAI67,EAAI77,EAAI87,EAAI97,EAAI+7,EAAI/7,EAAIg8,EAAIh8,EAAIi8,EAAIj8,EAAIk8,EAAIl8,EAAIm8,EAAIn8,EAAIo8,EAAIp8,EAAIq8,EAAIr8,EAAIs8,EAAIt8,EAAIu8,EAAIv8,EAAIw8,EAAIx8,EAAIy8,EAAIz8,EAAI08,EAAI18,EAAI28,EAAI38,EAAI48,EAAI58,EAAI68,EAAI78,EAAI88,EAAI98,EAAI+8,EAAI/8,EAAIg9,EAAIh9,EAAIi9,EAAIj9,EAAIk9,EAAIl9,EAAIm9,EAAIn9,EAAIo9,EAAIp9,EAAIq9,EAAIr9,EAAIs9,EAAIt9,EAAIu9,EAAIv9,EAAIw9,EAAIx9,EAAIy9,EAAIz9,EAAI09,EAAI19,EAAI29,EAAI39,EAAI49,EAAI59,EAAI69,EAAI79,EAAI89,EAAI99,EAAI+9,EAAI/9,EAAIg+,EAAIh+,EAAIi+,EAAIj+,EAAIk+,EAAIl+,EAAIm+,EAAIn+,EAAIo+,EAAIp+,EAAIq+,EAAIr+,EAAIs+,EAAIt+,EAAIu+,EAAIv+,EAAIw+,EAAIx+,EAAIy+,EAAIz+,EAAI0+,EAAI1+,EAAI2+,EAAI3+,EAAI4+,EAAI5+,EAAI6+,EAAI7+,EAAI8+,EAAI9+,EAAI++,EAAI/+,EAAIg/,EAAIh/,EAAIi/,EAAIj/,EAAIk/,EAAIl/,EAAIm/,EAAIn/,EAAIo/,EAAIp/,EAAIq/,EAAIr/,EAAIs/,EAAIt/,EAAIu/,EAAIv/,EAAIw/,EAAIx/,EAAIy/,EAAIz/,EAAI0/,EAAI1/,EAAI2/,EAAI3/,EAAI4/,EAAI5/,EAAI6/,EAAI7/,EAAI8/,EAAI9/,EAAI+/,EAAI/,EAAIggB,EAAIhgB,EAAIigB,EAAIjgB,EAAIkgB,EAAIlgB,EAAImgB,EAAIngB,EAAIogB,EAAIpgB,EAAIqgB,EAAIrgB,EAAIsgB,EAAItgB,EAAIugB,EAAIvgB,EAAIwgB,EAAIxgB,EAAIygB,EAAIzgB,EAAI0gB,EAAI1gB,EAAI2gB,EAAI3gB,EAAI4gB,EAAI5gB,EAAI6gB,EAAI7gB,EAAI8gB,EAAI9gB,EAAI+gB,EAAI/gB,EAAIghB,EAAIhhB,EAAIihB,EAAIjhB,EAAIkhB,EAAIlhB,EAAImhB,EAAInhB,EAAIohB,EAAIphB,EAAIqhB,EAAIrhB,EAAIshB,EAAIthB,EAAIuhB,EAAIvhB,EAAIwhB,EAAIxhB,EAAIyhB,EAAIzhB,EAAI0hB,EAAI1hB,EAAI2hB,EAAI3hB,EAAI4hB,EAAI5hB,EAAI6hB,EAAI7hB,EAAI8hB,EAAI9hB,EAAI+hB,EAAI/hB,EAAIgiB,EAAIhiB,EAAIiiB,EAAIjiB,EAAIkiB,EAAIliB,EAAImiB,EAAIniB,EAAIoiB,EAAIpiB,EAAIqiB,EAAIriB,EAAIsiB,EAAItiB,EAAIuiB,EAAIviB,EAAIwiB,EAAIxiB,EAAIyiB,EAAIziB,EAAI0iB,EAAI1iB,EAAI2iB,EAAI3iB,EAAI4iB,EAAI5iB,EAAI6iB,EAAI7iB,EAAI8iB,EAAI9iB,EAAI+iB,EAAI/iB,EAAIgjB,EAAIhjB,EAAIijB,EAAIjjB,EAAIkjB,EAAIljB,EAAImjB,EAAInjB,EAAIojB,EAAIpjB,EAAIqjB,EAAIrjB,EAAIsjB,EAAItjB,EAAIujB,EAAIvjB,EAAIwjB,EAAIxjB,EAAIyjB,EAAIzjB,EAAI0jB,EAAI1jB,EAAI2jB,EAAI3jB,EAAI4jB,EAAI5jB,EAAI6jB,EAAI7jB,EAAI8jB,EAAI9jB,EAAI+jB,EAAI/jB,EAAIgkB,EAAIhkB,EAAIikB,EAAIjkB,EAAIkkB,EAAIlkB,EAAImkB,EAAInkB,EAAIokB,EAAIpkB,EAAIqkB,EAAIrkB,EAAIskB,EAAItkB,EAAIukB,EAAIvkB,EAAIwkB,EAAIxkB,EAAIykB,EAAIzkB,EAAI0kB,EAAI1kB,EAAI2kB,EAAI3kB,EAAI4kB,EAAI5kB,EAAI6kB,EAAI7kB,EAAI8kB,EAAI9kB,EAAI+kB,EAAI/kB,EAAIglB,EAAIhlB,EAAIilB,EAAIjlB,EAAIklB,EAAIllB,EAAImlB,EAAInlB,EAAIolB,EAAIplB,EAAIqlB,EAAIrlB,EAAIslB,EAAItlB,EAAIulB,EAAI

AS,GAAIqf,GAAYrf,EACxEgN,GAAqBC,GACrBA,EAASuJ,YAAYqb,EAASxS,EAAUrf,GAElCuW,GAAgB8I,
KACtBwS,EAAQrb,YAAcqb,EAAQrb,YAAY6I,EAAUrf,GAChD6xB,EAAQxS,GAAYrf,IA0HpC,SAASosC,GA
AkBvmC,EAAO4H,EAAOnF,EAAOouB,GAI5C,IAAI2V,GAAgB,EACpB,GAAIn9B,KAAAsB,CAACtB,IAAIlK,EA
0KZ,SAASsnC,EAAwBzmC,EAAOwkC,EAAU/hC,GAG9C,IAAIikC,EAAW1mC,EAAM6+B,kB8H,EAAU
,KACd,GAAID,EACA,IAAK,IAAI3iC,EAAI,EAAGA,EAAI2iC,EAASziC,OAAQF,IAAK,CACtC,IAAI7F,EAA
MwoC,EAAS3iC,GACfk2B,Bx3B,EAAOvE,EAAImB,WAAkC,KACxEsnC,IAAYA,EAA2C,IACvDnzB,GAAmBf,GAA+BhQ,EAAO+hC,EAAOwkC,EAAW9B,EAAO9B,EAAO,EAAG,GAAI,GAAI,GAAI

AAO1J,EAAIQ,SAAUk8B,IAAY18B,GAEzH,SAAS8lC,GAAkBp8B,EAAOsgC,EAAWhqC,GACzC,IAAIgS,EA
ASrI,GAAiBqgC,EAAWtgC,GACrC5H,EAAQ2kC,GAA0BzmC,GAGlCsjC,EAAkB55B,EAx2SH,IAy2Sf0gC,EA
AgBC,GAAc3gC,EAAO05B,GAAY15B,EAAO5H,EAAO,KAAM9B,EAAIc,OAAS,GAAiB,GAAsBkR,EAAQg4
B,EAAW1G,EAAiBA,EAAgBl6B,eAAe4I,EAAQhS,GAAOpN0J,EAAMsgC,EAAUvgC,OAAS2gC
,EAE7B,SAASE,GAAyB/lC,EAAOmF,EAAOnP,EAAM0B,EAAOozB,EAAW0G,GAAOpE,IAAIjI,EAAUnkB,GA
AiBpF,EAAOmF,GACtC6gC,GAAoB7gC,EAAr3ST,IAq3S0BokB,EAASiI,EAAWxxB,EAAMtI,MAAO1B,EAAM
0B,EAAOozB,GAAEvF,SASkb,GAAoBrhC,EAAU4kB,EAASiI,EAAWhI,EAASxzB,EAAM0B,EAAOozB,GAC7
E,GAAa,MAATpzB,EAAgBN,GAAqBC,GAAYA,EASshB,gBAAgBsD,EAASvzB,EAAMw7B,GAAEjI,EAAQ
tD,gBAAgBjwB,OAE3B,CAED,IAAIiwC,EAAwB,MAAbnb,EAAoBloB,GAAgBlL,GASozB,EAAUpzB,EAAO
8xB,GAAW,GAAIxzB,GACxF0O,GAAqBC,GAArBA,EASoJ,aAAawb,EASvzB,EAAMiwC,EAAUzU,GAG/
CA,EAAYjI,EAAQvb,eAAewjB,EAAWx7B,EAAMiwC,GAChD1c,EAAQxb,eAAa3C,SASz
E,GAAmBr8B,EAAO+lC,EAAgBlQ,EAAUvI,EAAKuE,EAAOkmC,GAArE,IAAIjJ,EAAgBiJ,EAAiBhyB,GAArC,
GAAsB,OAAlB+oB,EAAa,IADA,IAAI5/B,EAAW5B,EAAI4B,SACViE,EAAI,EAAGA,EAAI27B,EAAcz7B,QA
AS,CACvC,IAAItC,EAAa+9B,EAAc37B,KAC3B2C2B,EAAcg5B,EAAc37B,KAC5B5J,EAAQulC,EAAc37B,KACT
,OAAbjE,EACA5B,EAAI4B,SAAS2G,EAAUtM,EAAOwH,EAAY+E,GAG1CD,EAASC,GAAevM,EAAuBxC,SA
SytC,GAAsB/oC,EAAQsR,GAAnC,IAFA,IAAIy4B,EAAgB,KAAhB7kC,EAAI,EACDA,EAAIoM,EAAQ
AAQ,CACrB,IAAIqM,EAAWH,EAAMpM,GACrB,GAAiB,IAAbuM,EAAkC,GAAiB,IAAbA,EAAmB,CAAC,GAAiB
wB,iBAAbA,EACP,MACAzR,EAAO5G,eAAeqY,KACA,OAAlBs4B,IACAA,EAAgB,IACpBA,EAAclkC,KAAK4L
4L,EAAUzR,EAAOyR,GAAWH,EAAMpM,EAAI,KAE7DA,GAAK,OAXDA,GAAK,OALLA,GAAK,EAkBb,O
AAO6kC,EAAkBX,SASC,GAAiBC,EAAY17B,EAAa8C,EAAQzN,GAAiBvD,OAAQ,MAAO0wC,GAC
3D,GACA,EACA17B,EAAQ,KACA,EACA3K,EACAyN,EACA,KACA,MAAwDJ,SAASozB,GAAiBhB,GAAWyG
,GAEjC,IAAIT,EAAgBrgC,GAAyB8gC,EAAkBzG,GAAE/D,GAAI95B,GAA6B,GAA6B6B8/B,GAAAA,GAAAA,
EA/iThD,IAAijTGA,EAApjTmB,GAAojT4B,GAAYhE,SAASU,EAAyBphC,GAC9B,IAAK,IAAIgB,GAAIgS,EAAa
3qB,GAAuB,OAAfgB,EAAqBA,EAAa6pB,EAAa6pB,EAAa6pB,EAAa6pB,EAAa6pB,EAAa6pB,EAAa6pB,EAAa
W3E,OAAQF,IAAK,CAC9D,IAAI++B,EAAgBl6B,EAAQ7E,GAAGA,EAAI,EAAGA,EAAIoM,EAAQpM,IAAK,CAAC,GAAiB
CAC3D,IAAIC,EAAgBD,EAAgBE,EAAgBF,EAAgBG,EAAgBH,EAAgBI,EAAgBJ,EAAgBK,EAAgBL,EAAgBM,EAAgBN,EAAgBO,EAAgBP,EAAgBQ,EAAgBR,EAAgBS,EAAgBT,EAAgBU,EAAgBV,EAAgBW,EAAgBX,EAAgBY,EAAgBZ,EAAgBa,EAAgBb,EAAgBc,EAAgBd,EAAgBe,EAAgBf,EAAgBgB,EAAgBhB,EAAgBiB,EAAgBjB,EAAgBkB,EAAgBlB,EAAgBmB,EAAgBnB,EAAgBoB,EAAgBpB,EAAgBqB,EAAgBrB,EAAgBsB,EAAgBtB,EAAgBuB,EAAgBvB,EAAgBwB,EAAgBxB,EAAgByB,EAAgBzB,EAAgB0B,EAAgB1B,EAAgB2B,EAAgB3B,EAAgB4B,EAAgB5B,EAAgB6B,EAAgB7B,EAAgB8B,EAAgB9B,EAAgB+B,EAAgB/B,EAAgBgC,EAAgBhC,EAAgBiC,EAAgBjC,EAAgBkC,EAAgBlC,EAAgBmC,EAAgBnC,EAAgBoC,EAAgBpC,EAAgBqC,EAAgBrC,EAAgBsC,EAAgBtC,EAAgBuC,EAAgBvC,EAAgBwC,EAAgBxC,EAAgByC,EAAgBzC,EAAgB0C,EAAgB1C,EAAgB2C,EAAgB3C,EAAgB4C,EAAgB5C,EAAgB6C,EAAgB7C,EAAgB8C,EAAgB9C,EAAgB+C,EAAgB/C,EAAgBgD,EAAgBhD,EAAgBiD,EAAgBjD,EAAgBkD,EAAgBlD,EAAgBmD,EAAgBnD,EAAgBoD,EAAgBpD,EAAgBqD,EAAgBrD,EAAgBsD,EAAgBtD,EAAgBuD,EAAgBvD,EAAgBwD,EAAgBxD,EAAgByD,EAAgBzD,EAAgB0D,EAAgB1D,EAAgB2D,EAAgB3D,EAAgB4D,EAAgB5D,EAAgB6D,EAAgB7D,EAAgB8D,EAAgB9D,EAAgB+D,EAAgB/D,EAAgBgE,EAAgBhE,EAAgBiE,EAAgBjE,EAAgBkE,EAAgBlE,EAAgBmE,EAAgBnE,EAAgBoE,EAAgBpE,EAAgBqE,EAAgBrE,EAAgBsE,EAAgBtE,EAAgBuE,EAAgBvE,EAAgBwE,EAAgBxE,EAAgByE,EAAgBzE,EAAgB0E,EAAgB1E,EAAgB2E,EAAgB3E,EAAgB4E,EAAgB5E,EAAgB6E,EAAgB7E,EAAgB8E,EAAgB9E,EAAgB+E,EAAgB/E,EAAgBgF,EAAgBhF,EAAgBiF,EAAgBjF,EAAgBkF,EAAgBlF,EAAgBmF,EAAgBnF,EAAgBoF,EAAgBpF,EAAgBqF,EAAgBrF,EAAgBsF,EAAgBtF,EAAgBuF,EAAgBvF,EAAgBwF,EAAgBxF,EAAgByF,EAAgBzF,EAAgB0F,EAAgB1F,EAAgB2F,EAAgB3F,EAAgB4F,EAAgB5F,EAAgB6F,EAAgB7F,EAAgB8F,EAAgB9F,EAAgB+F,EAAgB/F,EAAgBgG,EAAgBhG,EAAgBiG,EAAgBjG,EAAgBkG,EAAgBlG,EAAgBmG,EAAgBnG,EAAgBoG,EAAgBpG,EAAgBqG,EAAgBrG,EAAgBsG,EAAgBtG,EAAgBuG,EAAgBvG,EAAgBwG,EAAgBxG,EAAgByG,EAAgBzG,EAAgB0G,EAAgB1G,EAAgB2G,EAAgB3G,EAAgB4G,EAAgB5G,EAAgB6G,EAAgB7G,EAAgB8G,EAAgB9G,EAAgB+G,EAAgB/G,EAAgBgH,EAAgBhH,EAAgBiH,EAAgBjH,EAAgBkH,EAAgBlH,EAAgBmH,EAAgBnH,EAAgBoH,EAAgBpH,EAAgBqH,EAAgBrH,EAAgBsH,EAAgBtH,EAAgBuH,EAAgBvH,EAAgBwH,EAAgBxH,EAAgByH,EAAgBzH,EAAgB0H,EAAgB1H,EAAgB2H,EAAgB3H,EAAgB4H,EAAgB5H,EAAgB6H,EAAgB7H,EAAgB8H,EAAgB9H,EAAgB+H,EAAgB/H,EAAgBgI,EAAgBhI,EAAgBiI,EAAgBjI,EAAgBkI,EAAgBlI,EAAgBmI,EAAgBnI,EAAgBoI,EAAgBpI,EAAgBqI,EAAgBrI,EAAgBsI,EAAgBtI,EAAgBuI,EAAgBvI,EAAgBwI,EAAgBxI,EAAgByI,EAAgBzI,EAAgB0I,EAAgB1I,EAAgB2I,EAAgB3I,EAAgB4I,EAAgB5I,EAAgB6I,EAAgB7I,EAAgB8I,EAAgB9I,EAAgB+I,EAAgB/I,EAAgBgJ,EAAgBhJ,EAAgBiJ,EAAgBjJ,EAAgBkJ,EAAgBlJ,EAAgBmJ,EAAgBnJ,EAAgBoJ,EAAgBpJ,EAAgBqJ,EAAgBrJ,EAAgBsJ,EAAgBtJ,EAAgBuJ,EAAgBvJ,EAAgBwJ,EAAgBxJ,EAAgByJ,EAAgBzJ,EAAgB0J,EAAgB1J,EAAgB2J,EAAgB3J,EAAgB4J,EAAgB5J,EAAgB6J,EAAgB7J,EAAgB8J,EAAgB9J,EAAgB+J,EAAgB/J,EAAgBgK,EAAgBhK,EAAgBiK,EAAgBjK,EAAgBkK,EAAgBlK,EAAgBmK,EAAgBnK,EAAgBoK,EAAgBpK,EAAgBqK,EAAgBrK,EAAgBsK,EAAgBtK,EAAgBuK,EAAgBvK,EAAgBwK,EAAgBxK,EAAgByK,EAAgBzK,EAAgB0K,EAAgB1K,EAAgB2K,EAAgB3K,EAAgB4K,EAAgB5K,EAAgB6K,EAAgB7K,EAAgB8K,EAAgB9K,EAAgB+K,EAAgB/K,EAAgBgL,EAAgBhL,EAAgBiL,EAAgBjL,EAAgBkL,EAAgBlL,EAAgBmL,EAAgBnL,EAAgBoL,EAAgBpL,EAAgBqL,EAAgBrL,EAAgBsL,EAAgBtL,EAAgBuL,EAAgBvL,EAAgBwL,EAAgBxL,EAAgByL,EAAgBzL,EAAgB0L,EAAgB1L,EAAgB2L,EAAgB3L,EAAgB4L,EAAgB5L,EAAgB6L,EAAgB7L,EAAgB8L,EAAgB9L,EAAgB+L,EAAgB/L,EAAgBgM,EAAgBhM,EAAgBiM,EAAgBjM,EAAgBkM,EAAgBlM,EAAgBmM,EAAgBnM,EAAgBoM,EAAgBpM,EAAgBqM,EAAgBrM,EAAgBsM,EAAgBtM,EAAgBuM,EAAgBvM,EAAgBwM,EAAgBxM,EAAgByM,EAAgBzM,EAAgB0M,EAAgB1M,EAAgB2M,EAAgB3M,EAAgB4M,EAAgB5M,EAAgB6M,EAAgB7M,EAAgB8M,EAAgB9M,EAAgB+M,EAAgB/M,EAAgBgN,EAAgBhN,EAAgBiN,EAAgBjN,EAAgBkN,EAAgBlN,EAAgBmN,EAAgBnN,EAAgBoN,EAAgBpN,EAAgBqN,EAAgBrN,EAAgBsN,EAAgBtN,EAAgBuN,EAAgBvN,EAAgBwN,EAAgBxN,EAAgByN,EAAgBzN,EAAgB0N,EAAgB1N,EAAgB2N,EAAgB3N,EAAgB4N,EAAgB5N,EAAgB6N,EAAgB7N,EAAgB8N,EAAgB9N,EAAgB+N,EAAgB/N,EAAgBgO,EAAgBhO,EAAgBiO,EAAgBjO,EAAgBkO,EAAgBlO,EAAgBmO,EAAgBnO,EAAgBoO,EAAgBpO,EAAgBqO,EAAgBrO,EAAgBsO,EAAgBtO,EAAgBuO,EAAgBvO,EAAgBwO,EAAgBxO,EAAgByO,EAAgBzO,EAAgB0O,EAAgB1O,EAAgB2O,EAAgB3O,EAAgB4O,EAAgB5O,EAAgB6O,EAAgB7O,EAAgB8O,EAAgB9O,EAAgB+O,EAAgB/O,EAAgBgP,EAAgBhP,EAAgBiP,EAAgBjP,EAAgBkP,EAAgBlP,EAAgBmP,EAAgBnP,EAAgBoP,EAAgBpP,EAAgBqP,EAAgBrP,EAAgBsP,EAAgBtP,EAAgBuP,EAAgBvP,EAAgBwP,EAAgBxP,EAAgByP,EAAgBzP,EAAgB0P,EAAgB1P,EAAgB2P,EAAgB3P,EAAgB4P,EAAgB5P,EAAgB6P,EAAgB7P,EAAgB8P,EAAgB9P,EAAgB+P,EAAgB/P,EAAgBgQ,EAAgBhQ,EAAgBiQ,EAAgBjQ,EAAgBkQ,EAAgBlQ,EAAgBmQ,EAAgBnQ,EAAgBoQ,EAAgBpQ,EAAgBqQ,EAAgBrQ,EAAgBsQ,EAAgBtQ,EAAgBuQ,EAAgBvQ,EAAgBwQ,EAAgBxQ,EAAgByQ,EAAgBzQ,EAAgB0Q,EAAgB1Q,EAAgB2Q,EAAgB3Q,EAAgB4Q,EAAgB5Q,EAAgB6Q,EAAgB7Q,EAAgB8Q,EAAgB9Q,EAAgB+Q,EAAgB/Q,EAAgBgR,EAAgBhR,EAAgBiR,EAAgBjR,EAAgBkR,EAAgBlR,EAAgBmR,EAAgBnR,EAAgBoR,EAAgBpR,EAAgBqR,EAAgBrR,EAAgBsR,EAAgBtR,EAAgBuR,EAAgBvR,EAAgBwR,EAAgBxR,EAAgByR,EAAgBzR,EAAgB0R,EAAgB1R,EAAgB2R,EAAgB3R,EAAgB4R,EAAgB5R,EAAgB6R,EAAgB7R,EAAgB8R,EAAgB9R,EAAgB+R,EAAgB/R,EAAgBgS,EAAgBhS,EAAgBiS,EAAgBjS,EAAgBkS,EAAgBlS,EAAgBmS,EAAgBnS,EAAgBoS,EAAgBpS,EAAgBqS,EAAgBrS,EAAgBsS,EAAgBtS,EAAgBuS,EAAgBvS,EAAgBwS,EAAgBxS,EAAgByS,EAAgBzS,EAAgB0S,EAAgB1S,EAAgB2S,EAAgB3S,EAAgB4S,EAAgB5S,EAAgB6S,EAAgB7S,EAAgB8S,EAAgB9S,EAAgB+S,EAAgB/S,EAAgBgT,EAAgBhT,EAAgBiT,EAAgBjT,EAAgBkT,EAAgBlT,EAAgBmT,EAAgBnT,EAAgBoT,EAAgBpT,EAAgBqT,EAAgBrT,EAAgBsT,EAAgBtT,EAAgBuT,EAAgBvT,EAAgBwT,EAAgBxT,EAAgByT,EAAgBzT,EAAgB0T,EAAgB1T,EAAgB2T,EAAgB3T,EAAgB4T,EAAgB5T,EAAgB6T,EAAgB7T,EAAgB8T,EAAgB9T,EAAgB+T,EAAgB/T,EAAgBgU,EAAgBhU,EAAgBiU,EAAgBjU,EAAgBkU,EAAgBlU,EAAgBmU,EAAgBnU,EAAgBoU,EAAgBpU,EAAgBqU,EAAgBrU,EAAgBsU,EAAgBtU,EAAgBuU,EAAgBvU,EAAgBwU,EAAgBxU,EAAgByU,EAAgBzU,EAAgB0U,EAAgB1U,EAAgB2U,EAAgB3U,EAAgB4U,EAAgB5U,EAAgB6U,EAAgB7U,EAAgB8U,EAAgB9U,EAAgB+U,EAAgB/U,EAAgBgV,EAAgBhV,EAAgBiV,EAAgBjV,EAAgBkV,EAAgBlV,EAAgBmV,EAAgBnV,EAAgBoV,EAAgBpV,EAAgBqV,EAAgBrV,EAAgBsV,EAAgBtV,EAAgBuV,EAAgBvV,EAAgBwV,EAAgBxV,EAAgByV,EAAgBzV,EAAgB0V,EAAgB1V,EAAgB2V,EAAgB3V,EAAgB4V,EAAgB5V,EAAgB6V,EAAgB7V,EAAgB8V,EAAgB9V,EAAgB+V,EAAgB/V,EAAgBgW,EAAgBhW,EAAgBiW,EAAgBjW,EAAgBkW,EAAgBlW,EAAgBmW,EAAgBnW,EAAgBoW,EAAgBpW,EAAgBqW,EAAgBrW,EAAgBsW,EAAgBtW,EAAgBuW,EAAgBvW,EAAgBwW,EAAgBxW,EAAgByW,EAAgBzW,EAAgB0W,EAAgB1W,EAAgB2W,EAAgB3W,EAAgB4W,EAAgB5W,EAAgB6W,EAAgB7W,EAAgB8W,EAAgB9W,EAAgB+W,EAAgB/W,EAAgBgX,EAAgBhX,EAAgBiX,EAAgBjX,EAAgBkX,EAAgBlX,EAAgBmX,EAAgBnX,EAAgBoX,EAAgBpX,EAAgBqX,EAAgBrX,EAAgBsX,EAAgBtX,EAAgBuX,EAAgBvX,EAAgBwX,EAAgBxX,EAAgByX,EAAgBzX,EAAgB0X,EAAgB1X,EAAgB2X,EAAgB3X,EAAgB4X,EAAgB5X,EAAgB6X,EAAgB7X,EAAgB8X,EAAgB9X,EAAgB+X,EAAgB/X,EAAgBgY,EAAgBhY,EAAgBiY,EAAgBjY,EAAgBkY,EAAgBlY,EAAgBmY,EAAgBnY,EAAgBoY,EAAgBpY,EAAgBqY,EAAgBrY,EAAgBsY,EAAgBtY,EAAgBuY,EAAgBvY,EAAgBwY,EAAgBxY,EAAgByY,EAAgBzY,EAAgB0Y,EAAgB1Y,EAAgB2Y,EAAgB3Y,EAAgB4Y,EAAgB5Y,EAAgB6Y,EAAgB7Y,EAAgB8Y,EAAgB9Y,EAAgB+Y,EAAgB/Y,EAAgBgZ,EAAgBhZ,EAAgBiZ,EAAgBjZ,EAAgBkZ,EAAgBlZ,EAAgBmZ,EAAgBnZ,EAAgBoZ,EAAgBpZ,EAAgBqZ,EAAgBrZ,EAAgBsZ,EAAgBtZ,EAAgBuZ,EAAgBvZ,EAAgBwZ,EAAgBxZ,EAAgByZ,EAAgBzZ,EAAgB0Z,EAAgB1Z,EAAgB2Z,EAAgB3Z,EAAgB4Z,EAAgB5Z,EAAgB6Z,EAAgB7Z,EAAgB8Z,EAAgB9Z,EAAgB+Z,EAAgB/Z,EAAgBga,EAAgBha,EAAgBia,EAAgBja,EAAgBka,EAAgBla,EAAgBma,EAAgBna,EAAgBoa,EAAgBpa,EAAgBqa,EAAgBra,EAAgBsa,EAAgBta,EAAgBua,EAAgBva,EAAgBwa,EAAgBxa,EAAgBya,EAAgBza,EAAgB0a,EAAgB1a,EAAgB2a,EAAgB3a,EAAgB4a,EAAgB5a,EAAgB6a,EAAgB7a,EAAgB8a,EAAgB9a,EAAgB+a,EAAgB/a,EAAgBgb,EAAgBhb,EAAgBib,EAAgBjb,EAAgBkb,EAAgBlb,EAAgBmb,EAAgBnb,EAAgBob,EAAgBpb,EAAgBqb,EAAgBrb,EAAgBsb,EAAgBtb,EAAgBub,EAAgBvb,EAAgBwb,EAAgBxb,EAAgByb,EAAgBzb,EAAgB0b,EAAgB1b,EAAgB2b,EAAgB3b,EAAgB4b,EAAgB5b,EAAgB6b,EAAgB7b,EAAgB8b,EAAgB9b,EAAgB+b,EAAgB/b,EAAgBgc,EAAgBhc,EAAgBic,EAAgBjc,EAAgBkc,EAAgBlc,EAAgBmc,EAAgBnc,EAAgBoc,EAAgBpc,EAAgBqc,EAAgBrc,EAAgBsc,EAAgBtc,EAAgBuc,EAAgBvc,EAAgBwc,EAAgBxc,EAAgByc,EAAgBzc,EAAgB0c,EAAgB1c,EAAgB2c,EAAgB3c,EAAgB4c,EAAgB5c,EAAgB6c,EAAgB7c,EAAgB8c,EAAgB9c,EAAgB+c,EAAgB/c,EAAgBgd,EAAgBhd,EAAgBid,EAAgBjd,EAAgBkd,EAAgBld,EAAgBmd,EAAgBnd,EAAgBod,EAAgBpd,EAAgBqd,EAAgBrd,EAAgBsd,EAAgBtd,EAAgBud,EAAgBvd,EAAgBwd,EAAgBxd,EAAgByd,EAAgBzd,EAAgB0d,EAAgB1d,EAAgB2d,EAAgB3d,EAAgB4d,EAAgB5d,EAAgB6d,EAAgB7d,EAAgB8d,EAAgB9d,EAAgB+d,EAAgB/d,EAAgBge,EAAgBhe,EAAgBie,EAAgBje,EAAgBke,EAAgBle,EAAgBme,EAAgBne,EAAgBoe,EAAgBpe,EAAgBqe,EAAgBre,EAAgBse,EAAgBte,EAAgBue,EAAgBve,EAAgBwe,EAAgBxe,EAAgBye,EAAgBze,EAAgB0e,EAAgB1e,EAAgB2e,EAAgB3e,EAAgB4e,EAAgB5e,EAAgB6e,EAAgB7e,EAAgB8e,EAAgB9e,EAAgB+e,EAAgB/e,EAAgBgf,EAAgBhf,EAAgBif,EAAgBjf,EAAgBkf,EAAgBlf,EAAgBmf,EAAgBnf,EAAgBof,EAAgBpf,EAAgBqf,EAAgBrf,EAAgBsf,EAAgBtf,EAAgBuf,EAAgBvf,EAAgBwf,EAAgBxf,EAAgByf,EAAgBzf,EAAgB0f,EAAgB1f,EAAgB2f,EAAgB3f,EAAgB4f,EAAgB5f,EAAgB6f,EAAgB7f,EAAgB8f,EAAgB9f,EAAgB+f,EAAgB/f,EAAgBgg,EAAgBhg,EAAgBig,EAAgBjg,EAAgBkg,EAAgBlg,EAAgBmg,EAAgBng,EAAgBog,EAAgBpg,EAAgBqg,EAAgBrg,EAAgBsg,EAAgBtg,EAAgBug,EAAgBvg,EAAgBwg,EAAgBxg,EAAgByg,EAAgBzg,EAAgB0g,EAAgB1g,EAAgB2g,EAAgB3g,EAAgB4g,EAAgB5g,EAAgB6g,EAAgB7g,EAAgB8g,EAAgB9g,EAAgB+g,EAAgB/g,EAAgBgh,EAAgBhh,EAAgBih,EAAgBjh,EAAgBkh,EAAgBlh,EAAgBmh,EAAgBnh,EAAgBoh,EAAgBph,EAAgBqh,EAAgBrh,EAAgBsh,EAAgBth,EAAgBuh,EAAgBvh,EAAgBwh,EAAgBxh,EAAgByh,EAAgBzh,EAAgB0h,EAAgB1h,EAAgB2h,EAAgB3h,EAAgB4h,EAAgB5h,EAAgB6h,EAAgB7h,EAAgB8h,EAAgB9h,EAAgB+h,EAAgB/h,EAAgBgi,EAAgBhi,EAAgBii,EAAgBji,EAAgBki,EAAgBli,EAAgBmi,EAAgBni,EAAgBoi,EAAgBpi,EAAgBqi,EAAgBri,EAAgBsi,EAAgBti,EAAgBui,EAAgBvi,EAAgBwi,EAAgBxi,EAAgByi,EAAgBzi,EAAgB0i,EAAgB1i,EAAgB2i,EAAgB3i,EAAgB4i,EAAgB5i,EAAgB6i,EAAgB7i,EAAgB8i,EAAgB9i,EAAgB+i,EAAgB/i,EAAgBgj,EAAgBhj,EAAgBij,EAAgBjj,EAAgBkj,EAAgBlj,EAAgBmj,EAAgBnj,EAAgBoj,EAAgBpj,EAAgBqj,EAAgBrj,EAAgBsj,EAAgBtj,EAAgBuj,EAAgBvj,EAAgBwj,EAAgBxj,EAAgByj,EAAgBzj,EAAgB0j,EAAgB1j,EAAgB2j,EAAgB3j,EAAgB4j,EAAgB5j,EAAgB6j,EAAgB7j,EAAgB8j,EAAgB9j,EAAgB+j,EAAgB/j,EAAgBgk,EAAgBhk,EAAgBik,EAAgBjk,EAAgBkk,EAAgBlk,EAAgBmk,EAAgBnk,EAAgBok,EAAgBpk,EAAgBqk,EAAgBrk,EAAgBsk,EAAgBtk,EAAgBuk,EAAgBvk,EAAgBwk,EAAgBxk,EAAgByk,EAAgBzk,EAAgB0k,EAAgB1k,EAAgB2k,EAAgB3k,EAAgB4k,EAAgB5k,EAAgB6k,EAAgB7k,EAAgB8k,EAAgB9k,EAAgB+k,EAAgB/k,EAAgBgl,EAAgBhl,EAAgBil,EAAgBjl,EAAgBkl,EAAgBll,EAAgBml,EAAgBnl,EAAgBol,EAAgBpl,EAAgBql,EAAgBrl,EAAgBsl,EAAgBtl,EAAgBul,EAAgBvl,EAAgBwl,EAAgBxl,EAAgByl,EAAgBzl,EAAgB0l,EAAgB1l,EAAgB2l,EAAgB3l,EAAgB4l,EAAgB5l,EAAgB6l,EAAgB7l,EAAgB8l,EAAgB9l,EAAgB+l,EAAgB/l,EAAgBgm,EAAgBhm,EAAgBim,EAAgBjm,EAAgBkm,EAAgBlm,EAAgBmm,EAAgBnm,EAAgBom,EAAgBpm,EAAgBqm,EAAgBrm,EAAgBsm,EAAgBtm,EAAgBum,EAAgBvm,EAAgBwm,EAAgBxm,EAAgBym,EAAgBzm,EAAgB0m,EAAgB1m,EAAgB2m,EAAgB3m,EAAgB4m,EAAgB5m,EAAgB6m,EAAgB7m,EAAgB8m,EAAgB9m,EAAgB+m,EAAgB/m,EAAgBgn,EAAgBhn,EAAgBin,EAAgBjn,EAAgBkn,EAAgBln,EAAgBmn,EAAgBnn,EAAgBon,EAAgBpn,EAAgBqn,EAAgBrn,EAAgBsn,EAAgBtn,EAAgBun,EAAgBvn,EAAgBwn,EAAgBxn,EAAgByn,EAAgBzn,EAAgB0n,EAAgB1n,EAAgB2n,EAAgB3n,EAAgB4n,EAAgB5n,EAAgB6n,EAAgB7n,EAAgB8n,EAAgB9n,EAAgB+n,EAAgB/n,EAAgBgo,EAAgBho,EAAgBio,EAAgBjo,EAAgBko,EAAgBlo,EAAgBmo,EAAgBno,EAAgBoo,EAAgBpo,EAAgBqo,EAAgBro,EAAgBso,EAAgBto,EAAgBuo,EAAgBvo,EAAgBwo,EAAgBxo,EAAgByo,EAAgBzo,EAAgB0o,EAAgB1o,EAAgB2o,EAAgB3o,EAAgB4o,EAAgB5o,EAAgB6o,EAAgB7o,EAAgB8o,EAAgB9o,EAAgB+o,EAAgB/o,EAAgBgp,EAAgBhp,EAAgBip,EAAgBjp,EAAgBkp,EAAgBlp,EAAgBmp,EAAgBnp,EAAgBop,EAAgBpp,EAAgBqp,EAAgBrp,EAAgBsp,EAAgBtp,EAAgBup,EAAgBvp,EAAgBwp,EAAgBxp,EAAgByp,EAAgBzp,EAAgB0p,EAAgB1p,EAAgB2p,EAAgB3p,EAAgB4p,EAAgB5p,EAAgB6p,EAAgB7p,EAAgB8p,EAAgB9p,EAAgB+p,EAAgB/p,EAAgBgq,EAAgBhq,EAAgBiq,EAAgBjq,EAAgBkq,EAAgBlq,EAAgBmq,EAAgBnq,EAAgBoq,EAAgBpq,EAAgBqq,EAAgBrq,EAAgBsq,EAAgBtq,EAAgBuq,EAAgBvq,EAAgBwq,EAAgBxq,EAAgByq,EAAgBzq,EAAgB0q,EAAgB1q,EAAgB2q,EAAgB3q,EAAgB4q,EAAgB5q,EAAgB6q,EAAgB7q,EAAgB8q,EAAgB9q,EAAgB+q,EAAgB/q,EAAgBgr,EAAgBhr,EAAgBir,EAAgBjr,EAAgBkr,EAAgBlr,EAAgBmr,EAAgBnr,EAAgBor,EAAgBpr,EAAgBqr,EAAgBrr,EAAgBsr,EAAgBtr,EAAgBur,EAAgBvr,EAAgBwr,EAAgBxr,EAAgByr,EAAgBzr,EAAgB0r,EAAgB1r,EAAgB2r,EAAgB3r,EAAgB4r,EAAgB5r,EAAgB6r,EAAgB7r,EAAgB8r,EAAgB9r,EAAgB+r,EAAgB/r,EAAgBgs,EAAgBhs,EAAgBis,EAAgBjs,EAAgBks,EAAgBls,EAAgBms,EAAgBns,EAAgBos,EAAgBps,EAAgBqs,EAAgBrs,EAAgBss,EAAgBts,EAAgBus,EAAgBvs,EAAgBws,EAAgBxs,EAAgBys,EAAgBzs,EAAgB0s,EAAgB1s,EAAgB2s,EAAgB3s,EAAgB4s,EAAgB5s,EAAgB6s,EAAgB7s,EAAgB8s,EAAgB9s,EAAgB+s,EAAgB/s,EAAgBgt,EAAgBht,EAAgBit,EAAgBjt,EAAgBkt,EAAgBlt,EAAgBmt,EAAgBnt,EAAgBot,EAAgBpt,EAAgBqt,EAAgBrt,EAAgBst,EAAgBtt,EAAgButEAAA

AhBA,EAt4BR,GAu4BC,OAAOA,EACXA,EAAQA,EA71BL,GA+1BP,OAAO,KAkgSK0vC,CAAYjiC,EAAMn
F,EAAMkF,SAE7BC,EAx1TI,IA21Tf,SAASunB,GAAYvnB,EAAOjD,GACxB,IAAI2f,EAAW1c,EA91TJ,GA+1T
PkiC,EAAexlB,EAAWA,EAAS9P,IAAIya,GAAc,MAAQ,KACjE6a,GAAgBA,EAAa3a,YAAYxqB,GAW7C,SAA
SuhC,GAAqBlmC,EAAO4H,EAAO/I,EAAQ8C,EAAYxH,GAC5D,IAAK,IAAI4J,EAAI,EAAGA,EAAIlF,EAAO
oF,QAAS,CAChC,IAAI0D,EAAQ9I,EAAOkF,KACf2C,EAAc7H,EAAOkF,KACrB0C,EAAWmB,EAAMD,GAEj
BzJ,EAAM8B,EAAMR,KAAKmI,GACA,OAAjBzJ,EAAI4B,SACJ5B,EAAI4B,SAAS2G,EAAUtM,EAAOwH,E
AAY+E,GAG1CD,EAASC,GAAevM,GAOpC,SAAS4vC,GAAIvC,EAAIwC,GAAIC,GAAIC,GAAIC,GAAIC,GAAIC,
tkB,GAAiBC,EAAOC,GAAEtC+rB,GAAAe/rB,EAj4TJ,IAi4TqBokB,EAAS7xB;;;;;;;OAqB7C,SAAS6vC,GAAqBvn
C,EAAO0N,EAAO85B,GAGxC,IAAIrqC,EAASqqC,EAAcxnC,EAAM7C,OAAS,KACtCqU,g2B,EAAcxn
C,EAAMwR,QAAU,KACxC3J,EAAO,EACX,GAAc,OAAV6F,EACA,IAAK,IAAIpM,EAAI,EAAGA,EAAIoM,EAAOpM,EAAIoM,IAAIoM,
EAAMlM,OAAQF,IAAK,CACnC,IAAI5J,EAAQgW,EAAMpM,GACG,iBAAV5J,EAAQmQ,EAAOnQ,EAEM,GA
ARmQ,EACL2J,EAAUlb,EAAuBkb,EAAS9Z,GAE7B,GAARmQ,IAGL1K,EAAS7G,EAAuB6G,EAFpBzF,EAEo
C,KAD/BgW,IAAQpM,GAC2C,MAIhFkmC,EAAcxnC,EAAM7C,OAAOSA,EAAS6C,EAAMm9B,kBAAoBhgC,E
AChEqqC,EAAcxnC,EAAMwR,QAAUA,EAAUxR,EAAMo9B,mBAAqB5rB;;;;;;;OAiBvE,SASi2B,GAAcrnB,
GACnB,IAAI7a,EAAO8oB,GAA2BjO,GAAGCtC0mB,GAAsBvhC,EA18Td,GA08T2BA,EAAM6a,SASsn
B,GAAUtnB,IA/QnB,SASunB,EAAaf,EAAartC,GAC/B,IAKQquC,EALqC,IAAtBhB,EAAYrtC,OACXtC,EAA
YiB,OAASpJ,KAGzCmI,EAAYrtC,OAASA,EAErBqtC,EAAYiB,MAAQ,IAAIjnB,SAAQ,SAAU9e,EAAS,GAAK
O8lC,EAAQ9lC,KAC9D8kC,EAAYkB,WAAU,WAKlB,GAJwB,EAApBlB,EAAYrtC,OAAQtC,EAAS,GAAK
S,EACrBotC,GAAgBC,IAEI,EAApBA,EAAYrtC,OAAQ,MAA8B,CAC1CqtC,EAAYrtC,OAAQ,EACrB,IAAIwuC,EAAgBnB,EAAYiB,MAAMG,KAAKpB,EAAYqB,MAAOrB,EAAYsB,KAAMtB,EAAYuB,
BnB,EAAYmB,cAC5BA,GACAA,EAAcC,EAAgBpB,EAAYiB,MAAMG,KAAKpB,EAAYqB,MAAOrB,EAAYsB,KAAMtB,EAAYuB,
8B,WAC9B,SAASA,KAAWT,EAAaU,oC,IAAI6nB,GAAa,IAAI9vB,EAAQ,IAAIC,EAAQ,IAAIC,EAAQ,IAAIC

0C,QAAQr0C,EAAO6zC,GAWnC,OANqBhwC,EAAQjF,EAAQmE,YAAYmZ,KAAsB42B,KAAdxzC,KAAKsR,QAM1CyL,IAAIrc,EAHxB4D,EAAiBC,EAAQjF,EAAQmE,YAAYgB,UAAaH,IAAkBgoB,GACxE,KACAhoB,GAGR,MAAOyI,GACH,GAAe,sBAAXA,EAAE/L,KAA8B,CAAhC,IAFW+L,EAAoB,gBAAIA,EAAoB,iBAAK,IACvD4V,QAAQliB,EAAUC,IACnBi0C,EAEA,MAAM5nC,EAAIN,OAAOwgB,GAAmBxgB,EAAGrM,EAAO,kBAAmBV,KAAKO,IhE,MAAMwM,EAAGd,QAEI6f,GAAmB+nB,yBAAAC,UAAAC,yBAAAC,UAAAC,yBAAAC,UAAAC

zB21C,CAAgC31C,GAG3C,MAAM,IAAIN,MAAM,eAoCpB,SAAS41C,GAAkB7B,EAAUyB,EAAc7yC,GAC/C,IAAI1D,OAAUsD,EACd,GAAIkzC,GAAe1B,GAAW,CAC1B,IAAIwC,EAAoB/0C,GAC1C,OAAO/oC,GAAcurC,IAAsB7B,GAAkC6B,GAG7E,GAAIZ,GAAgB5B,GAAChB90C,EAAU,WAAc,OAAOuC,EAAkBuyC,EASznB,gBAEzD,GAAoCb,GAAkBl0C,EAAvB,GAAIA,EAAUA,IAAsA,EAAmBm0C,YAArCZ,CAAkDvzC,GAAvB,CAAkB

lD,EAAO7xC,MAAQg1C,GACf,IACIG,EAAStD,EAAOsD,OAChB91C,EAAKwyC,EAAOxyC,GACZy2C,EAAajE,EAAOhrB,KACpBA,EAAOkuB,GACX,GAAIe,EAAWhsC,OAAQ,CACnB+c,EAAO,GACP,IAAKjd,EAAI,EAAGA,EAAIksC,EAAWhsC,OAAQF,IAAK,CACxC,IAAImsC,EAAWlsC,GAAGmsC,EAAWlsC,GAAGmsC,EAAWlsC,GAAGm

WL,GAyjWN6tB,EAFQ7tB,EA7jWJ,GA+jWa8tB,QACjB2b,EAAY,GAChB,GAAI5b,GAAYE,EACZ,IAAK,IAAI5xB,EAAI,EAAGA,EAAI0xB,EAASxxB,QAAS,CAClC,IAAIqtC,EAAa7b,EAAS1xB,KACtBwtC,EAAc9b,EAAS1xB,KAC3B,GAA0B,iBAAfutC,EAAyB,CAChC,IAAI74C,EAAO64C,EACX,IAAIl5C,EAAQ,EACZ,KAAOA,EAAQ,GAAKA,EAAQ,IAAMA,EAAQ,IAAMA,EAAQ,IAAM

EAASwE,GACnB5D,GAAWA,EAAQ2G,WACnB3G,EAAQ+F,GASR/F,IAAY6yC,KACZE,GAAsB,IAKtCD,EA
AYhwC,OAAO6U,eAAem7B,IAW1C,SAASc,EAAgCZ,GAIrC,IAHA,IAAIz0C,EAAAW,EACXC,EAAAY,KAEPoF,
EAAIovC,EAAAiBlvC,OAAS,EAAGF,GAAAK,EAAAGA,IAAAK,CACnD,IAAI7F,EAAAMi1C,EAAAiBpvC,GAE3B7F,
EAAIQ,SAAAYA,GAAAYR,EAAAIQ,SAEhCR,GAAAe7S,EAAAIS,UAAAWA,EAAAYoS,GAAAepS,EAAA
WT,EAAAIS,aAnBhFo1C,CAAAgCZ,GAsBpC,SAASG,GAAAiBn5C,GACtB,OAAIA,IAAU2C,EACH,GAEF3C,U4C,EACR,GAGA5C,EAGf,SAASw5C,GAAAYutC,GAAClC,IAAIO,EAAAgB9tC,EAAAW,EAAAgB9tC,EAAAW,EAAAgB9tC,EAAAW

C,GAAetuC,EADAiD,KACqB1Q,KACxBsP,KAEZ++B,GADYj7B,KACoB3F,EAAOnP,EAAM0B,EAAOozB,EA
AW0G,IAG5D0iB;;;;;;;OAsBX,SAASC,GAAehvC,EAAO2R,GAK3B,IAFA,IAAIs9B,GAAmB,EACnBlsC,EAAeD,KACV3G,EAAI,EAAGA,EAAIwV,EAAOtV,OAAQF,GAAK,EAEpC8yC,EAAmBX,GAAetuC,EAAO+C,IAAgB4O,EAAOxV,KAAO8yC,EAG3E,GADAjsC,GAAgBD,IACXksC,EACD,OAAOjc,GAGX,IAAIvN,EAAS,GAAGA,EAAS,EAAIA,IAAU,CACnC,IAAIwpB,EAAgBD,GAAetuC,EAAO+C,IAAgBgiB,GAC1D,GAAIwpB,EAAe,CACf,IAAIC,EAAcD,EAAcE,MAAM,KAAKC,KAAI,SAAUC,GACrD,OAAOC,SAASD,EAAG,OAEnBE,EAAcL,EAAY,GAC1BM,EAAcN,EAAY,GAC1BO,EAAcP,EAAY,GAC1BQ,EAAcR,EAAY,GAC1BS,EAAcT,EAAY,GAC1BU,EAAcV,EAAY,GAC1BW,EAAcX,EAAY,GAC1BY,EAAcZ,EAAY,GAC1Ba,EAAcb,EAAY,GAC1Bc,EAAcd,EAAY,GAC1Be,EAAcf,EAAY,GAC1BgB,EAAchB,EAAY,GAC1BiB,EAAcjB,EAAY,GAC1BkB,EAAclB,EAAY,GAC1BmB,EAAcnB,EAAY,GAC1BoB,EAAcpB,EAAY,GAC1BqB,EAAcrB,EAAY,GAC1BsB,EAActB,EAAY,GAC1BuB,EAAcvB,EAAY,GAC1BwB,EAAcxB,EAAY,GAC1ByB,EAAczB,EAAY,GAC1B0B,EAAc1B,EAAY,GAC1B2B,EAAc3B,EAAY,GAC1B4B,EAAc5B,EAAY,GAC1B6B,EAAc7B,EAAY,GAC1B8B,EAAc9B,EAAY,GAC1B+B,EAAc/B,EAAY,GAC1BgC,EAAchC,EAAY,GAC1BiC,EAAcjC,EAAY,GAC1BkC,EAAclC,EAAY,GAC1BmC,EAAcnC,EAAY,GAC1BoC,EAAcpC,EAAY,GAC1BqC,EAAcrC,EAAY,GAC1BsC,EAActC,EAAY,GAC1BuC,EAAcvC,EAAY,GAC1BwC,EAAcxC,EAAY,GAC1ByC,EAAczC,EAAY,GAC1B0C,EAAc1C,EAAY,GAC1B2C,EAAc3C,EAAY,GAC1B4C,EAAc5C,EAAY,GAC1B6C,EAAc7C,EAAY,GAC1B8C,EAAc9C,EAAY,GAC1B+C,EAAc/C,EAAY,GAC1BgD,EAAchD,EAAY,GAC1BiD,EAAcjD,EAAY,GAC1BkD,EAAclD,EAAY,GAC1BmD,EAAcnD,EAAY,GAC1BoD,EAAcpD,EAAY,GAC1BqD,EAAcrD,EAAY,GAC1BsD,EAActD,EAAY,GAC1BuD,EAAcvD,EAAY,GAC1BwD,EAAcxD,EAAY,GAC1ByD,EAAczD,EAAY,GAC1B0D,EAAc1D,EAAY,GAC1B2D,EAAc3D,EAAY,GAC1B4D,EAAc5D,EAAY,GAC1B6D,EAAc7D,EAAY,GAC1B8D,EAAc9D,EAAY,GAC1B+D,EAAc/D,EAAY,GAC1BgE,EAAchE,EAAY,GAC1BiE,EAAcjE,EAAY,GAC1BkE,EAAclE,EAAY,GAC1BmE,EAAcnE,EAAY,GAC1BoE,EAAcpE,EAAY,GAC1BqE,EAAcrE,EAAY,GAC1BsE,EAActE,EAAY,GAC1BuE,EAAcvE,EAAY,GAC1BwE,EAAcxE,EAAY,GAC1ByE,EAAczE,EAAY,GAC1B0E,EAAc1E,EAAY,GAC1B2E,EAAc3E,EAAY,GAC1B4E,EAAc5E,EAAY,GAC1B6E,EAAc7E,EAAY,GAC1B8E,EAAc9E,EAAY,GAC1B+E,EAAc/E,EAAY,GAC1BgF,EAAchF,EAAY,GAC1BiF,EAAcjF,EAAY,GAC1BkF,EAAclF,EAAY,GAC1BmF,EAAcnF,EAAY,GAC1BoF,EAAcpF,EAAY,GAC1BqF,EAAcrF,EAAY,GAC1BsF,EAActF,EAAY,GAC1BuF,EAAcvF,EAAY,GAC1BwF,EAAcxF,EAAY,GAC1ByF,EAAczF,EAAY,GAC1B0F,EAAc1F,EAAY,GAC1B2F,EAAc3F,EAAY,GAC1B4F,EAAc5F,EAAY,GAC1B6F,EAAc7F,EAAY,GAC1B8F,EAAc9F,EAAY,GAC1B+F,EAAc/F,EAAY,GAC1BgG,EAAchG,EAAY,GAC1BiG,EAAcjG,EAAY,GAC1BkG,EAAclG,EAAY,GAC1BmG,EAAcnG,EAAY,GAC1BoG,EAAcpG,EAAY,GAC1BqG,EAAcrG,EAAY,GAC1BsG,EAActG,EAAY,GAC1BuG,EAAcvG,EAAY,GAC1BwG,EAAcxG,EAAY,GAC1ByG,EAAczG,EAAY,GAC1B0G,EAAc1G,EAAY,GAC1B2G,EAAc3G,EAAY,GAC1B4G,EAAc5G,EAAY,GAC1B6G,EAAc7G,EAAY,GAC1B8G,EAAc9G,EAAY,GAC1B+G,EAAc/G,EAAY,GAC1BgH,EAAchH,EAAY,GAC1BiH,EAAcjH,EAAY,GAC1BkH,EAAclH,EAAY,GAC1BmH,EAAcnH,EAAY,GAC1BoH,EAAcpH,EAAY,GAC1BqH,EAAcrH,EAAY,GAC1BsH,EAActH,EAAY,GAC1BuH,EAAcvH,EAAY,GAC1BwH,EAAcxH,EAAY,GAC1ByH,EAAczH,EAAY,GAC1B0H,EAAc1H,EAAY,GAC1B2H,EAAc3H,EAAY,GAC1B4H,EAAc5H,EAAY,GAC1B6H,EAAc7H,EAAY,GAC1B8H,EAAc9H,EAAY,GAC1B+H,EAAc/H,EAAY,GAC1BgI,EAAchI,EAAY,GAC1BiI,EAAcjI,EAAY,GAC1BkI,EAAclI,EAAY,GAC1BmI,EAAcnI,EAAY,GAC1BoI,EAAcpI,EAAY,GAC1BqI,EAAcrI,EAAY,GAC1BsI,EAActI,EAAY,GAC1BuI,EAAcvI,EAAY,GAC1BwI,EAAcxI,EAAY,GAC1ByI,EAAczI,EAAY,GAC1B0I,EAAc1I,EAAY,GAC1B2I,EAAc3I,EAAY,GAC1B4I,EAAc5I,EAAY,GAC1B6I,EAAc7I,EAAY,GAC1B8I,EAAc9I,EAAY,GAC1B+I,EAAc/I,EAAY,GAC1BgJ,EAAchJ,EAAY,GAC1BiJ,EAAcjJ,EAAY,GAC1BkJ,EAAclJ,EAAY,GAC1BmJ,EAAcnJ,EAAY,GAC1BoJ,EAAcpJ,EAAY,GAC1BqJ,EAAcrJ,EAAY,GAC1BsJ,EAActJ,EAAY,GAC1BuJ,EAAcvJ,EAAY,GAC1BwJ,EAAcxJ,EAAY,GAC1ByJ,EAAczJ,EAAY,GAC1B0J,EAAc1J,EAAY,GAC1B2J,EAAc3J,EAAY,GAC1B4J,EAAc5J,EAAY,GAC1B6J,EAAc7J,EAAY,GAC1B8J,EAAc9J,EAAY,GAC1B+J,EAAc/J,EAAY,GAC1BgK,EAAchK,EAAY,GAC1BiK,EAAcjK,EAAY,GAC1BkK,EAAclK,EAAY,GAC1BmK,EAAcnK,EAAY,GAC1BoK,EAAcpK,EAAY,GAC1BqK,EAAcrK,EAAY,GAC1BsK,EAActK,EAAY,GAC1BuK,EAAcvK,EAAY,GAC1BwK,EAAcxK,EAAY,GAC1ByK,EAAczK,EAAY,GAC1B0K,EAAc1K,EAAY,GAC1B2K,EAAc3K,EAAY,GAC1B4K,EAAc5K,EAAY,GAC1B6K,EAAc7K,EAAY,GAC1B8K,EAAc9K,EAAY,GAC1B+K,EAAc/K,EAAY,GAC1BgL,EAAchL,EAAY,GAC1BiL,EAAcjL,EAAY,GAC1BkL,EAAclL,EAAY,GAC1BmL,EAAcnL,EAAY,GAC1BoL,EAAcpL,EAAY,GAC1BqL,EAAcrL,EAAY,GAC1BsL,EAActL,EAAY,GAC1BuL,EAAcvL,EAAY,GAC1BwL,EAAcxL,EAAY,GAC1ByL,EAAczL,EAAY,GAC1B0L,EAAc1L,EAAY,GAC1B2L,EAAc3L,EAAY,GAC1B4L,EAAc5L,EAAY,GAC1B6L,EAAc7L,EAAY,GAC1B8L,EAAc9L,EAAY,GAC1B+L,EAAc/L,EAAY,GAC1BgM,EAAchM,EAAY,GAC1BiM,EAAcjM,EAAY,GAC1BkM,EAAclM,EAAY,GAC1BmM,EAAcnM,EAAY,GAC1BoM,EAAcpM,EAAY,GAC1BqM,EAAcrM,EAAY,GAC1BsM,EAActM,EAAY,GAC1BuM,EAAcvM,EAAY,GAC1BwM,EAAcxM,EAAY,GAC1ByM,EAAczM,EAAY,GAC1B0M,EAAc1M,EAAY,GAC1B2M,EAAc3M,EAAY,GAC1B4M,EAAc5M,EAAY,GAC1B6M,EAAc7M,EAAY,GAC1B8M,EAAc9M,EAAY,GAC1B+M,EAAc/M,EAAY,GAC1BgN,EAAchN,EAAY,GAC1BiN,EAAcjN,EAAY,GAC1BkN,EAAclN,EAAY,GAC1BmN,EAAcnN,EAAY,GAC1BoN,EAAcpN,EAAY,GAC1BqN,EAAcrN,EAAY,GAC1BsN,EAActN,EAAY,GAC1BuN,EAAcvN,EAAY,GAC1BwN,EAAcxN,EAAY,GAC1ByN,EAAczN,EAAY,GAC1B0N,EAAc1N,EAAY,GAC1B2N,EAAc3N,EAAY,GAC1B4N,EAAc5N,EAAY,GAC1B6N,EAAc7N,EAAY,GAC1B8N,EAAc9N,EAAY,GAC1B+N,EAAc/N,EAAY,GAC1BgO,EAAchO,EAAY,GAC1BiO,EAAcjO,EAAY,GAC1BkO,EAAclO,EAAY,GAC1BmO,EAAcnO,EAAY,GAC1BoO,EAAcpO,EAAY,GAC1BqO,EAAcrO,EAAY,GAC1BsO,EAActO,EAAY,GAC1BuO,EAAcvO,EAAY,GAC1BwO,EAAcxO,EAAY,GAC1ByO,EAAczO,EAAY,GAC1B0O,EAAc1O,EAAY,GAC1B2O,EAAc3O,EAAY,GAC1B4O,EAAc5O,EAAY,GAC1B6O,EAAc7O,EAAY,GAC1B8O,EAAc9O,EAAY,GAC1B+O,EAAc/O,EAAY,GAC1BgP,EAAchP,EAAY,GAC1BiP,EAAcjP,EAAY,GAC1BkP,EAAclP,EAAY,GAC1BmP,EAAcnP,EAAY,GAC1BoP,EAAcpP,EAAY,GAC1BqP,EAAcrP,EAAY,GAC1BsP,EAActP,EAAY,GAC1BuP,EAAcvP,EAAY,GAC1BwP,EAAcxP,EAAY,GAC1ByP,EAAczP,EAAY,GAC1B0P,EAAc1P,EAAY,GAC1B2P,EAAc3P,EAAY,GAC1B4P,EAAc5P,EAAY,GAC1B6P,EAAc7P,EAAY,GAC1B8P,EAAc9P,EAAY,GAC1B+P,EAAc/P,EAAY,GAC1BgQ,EAAchQ,EAAY,GAC1BiQ,EAAcjQ,EAAY,GAC1BkQ,EAAclQ,EAAY,GAC1BmQ,EAAcnQ,EAAY,GAC1BoQ,EAAcpQ,EAAY,GAC1BqQ,EAAcrQ,EAAY,GAC1BsQ,EAActQ,EAAY,GAC1BuQ,EAAcvQ,EAAY,GAC1BwQ,EAAcxQ,EAAY,GAC1ByQ,EAAczQ,EAAY,GAC1B0Q,EAAc1Q,EAAY,GAC1B2Q,EAAc3Q,EAAY,GAC1B4Q,EAAc5Q,EAAY,GAC1B6Q,EAAc7Q,EAAY,GAC1B8Q,EAAc9Q,EAAY,GAC1B+Q,EAAc/Q,EAAY,GAC1BgR,EAAchR,EAAY,GAC1BiR,EAAcjR,EAAY,GAC1BkR,EAAclR,EAAY,GAC1BmR,EAAcnR,EAAY,GAC1BoR,EAAcpR,EAAY,GAC1BqR,EAAcrR,EAAY,GAC1BsR,EAActR,EAAY,GAC1BuR,EAAcvR,EAAY,GAC1BwR,EAAcxR,EAAY,GAC1ByR,EAAczR,EAAY,GAC1B0R,EAAc1R,EAAY,GAC1B2R,EAAc3R,EAAY,GAC1B4R,EAAc5R,EAAY,GAC1B6R,EAAc7R,EAAY,GAC1B8R,EAAc9R,EAAY,GAC1B+R,EAAc/R,EAAY,GAC1BgS,EAAchS,EAAY,GAC1BiS,EAAcjS,EAAY,GAC1BkS,EAAclS,EAAY,GAC1BmS,EAAcnS,EAAY,GAC1BoS,EAAcpS,EAAY,GAC1BqS,EAAcrS,EAAY,GAC1BsS,EAActS,EAAY,GAC1BuS,EAAcvS,EAAY,GAC1BwS,EAAcxS,EAAY,GAC1ByS,EAAczS,EAAY,GAC1B0S,EAAc1S,EAAY,GAC1B2S,EAAc3S,EAAY,GAC1B4S,EAAc5S,EAAY,GAC1B6S,EAAc7S,EAAY,GAC1B8S,EAAc9S,EAAY,GAC1B+S,EAAc/S,EAAY,GAC1BgT,EAAchT,EAAY,GAC1BiT,EAAcjT,EAAY,GAC1BkT,EAAclT,EAAY,GAC1BmT,EAAcnT,EAAY,GAC1BoT,EAAcpT,EAAY,GAC1BqT,EAAcrT,EAAY,GAC1BsT,EAActT,EAAY,GAC1BuT,EAAcvT,EAAY,GAC1BwT,EAAcxT,EAAY,GAC1ByT,EAAczT,EAAY,GAC1B0T,EAAc1T,EAAY,GAC1B2T,EAAc3T,EAAY,GAC1B4T,EAAc5T,EAAY,GAC1B6T,EAAc7T,EAAY,GAC1B8T,EAAc9T,EAAY,GAC1B+T,EAAc/T,EAAY,GAC1BgU,EAAchU,EAAY,GAC1BiU,EAAcjU,EAAY,GAC1BkU,EAAclU,EAAY,GAC1BmU,EAAcnU,EAAY,GAC1BoU,EAAcpU,EAAY,GAC1BqU,EAAcrU,EAAY,GAC1BsU,EAActU,EAAY,GAC1BuU,EAAcvU,EAAY,GAC1BwU,EAAcxU,EAAY,GAC1ByU,EAAczU,EAAY,GAC1B0U,EAAc1U,EAAY,GAC1B2U,EAAc3U,EAAY,GAC1B4U,EAAc5U,EAAY,GAC1B6U,EAAc7U,EAAY,GAC1B8U,EAAc9U,EAAY,GAC1B+U,EAAc/U,EAAY,GAC1BgV,EAAchV,EAAY,GAC1BiV,EAAcjV,EAAY,GAC1BkV,EAAclV,EAAY,GAC1BmV,EAAcnV,EAAY,GAC1BoV,EAAcpV,EAAY,GAC1BqV,EAAcrV,EAAY,GAC1BsV,EAActV,EAAY,GAC1BuV,EAAcvV,EAAY,GAC1BwV,EAAcxV,EAAY,GAC1ByV,EAAczV,EAAY,GAC1B0V,EAAc1V,EAAY,GAC1B2V,EAAc3V,EAAY,GAC1B4V,EAAc5V,EAAY,GAC1B6V,EAAc7V,EAAY,GAC1B8V,EAAc9V,EAAY,GAC1B+V,EAAc/V,EAAY,GAC1BgW,EAAchW,EAAY,GAC1BiW,EAAcjW,EAAY,GAC1BkW,EAAclW,EAAY,GAC1BmW,EAAcnW,EAAY,GAC1BoW,EAAcpW,EAAY,GAC1BqW,EAAcrW,EAAY,GAC1BsW,EAActW,EAAY,GAC1BuW,EAAcvW,EAAY,GAC1BwW,EAAcxW,EAAY,GAC1ByW,EAAczW,EAAY,GAC1B0W,EAAc1W,EAAY,GAC1B2W,EAAc3W,EAAY,GAC1B4W,EAAc5W,EAAY,GAC1B6W,EAAc7W,EAAY,GAC1B8W,EAAc9W,EAAY,GAC1B+W,EAAc/W,EAAY,GAC1BgX,EAAchX,EAAY,GAC1BiX,EAAcjX,EAAY,GAC1BkX,EAAclX,EAAY,GAC1BmX,EAAcnX,EAAY,GAC1BoX,EAAcpX,EAAY,GAC1BqX,EAAcrX,EAAY,GAC1BsX,EAActX,EAAY,GAC1BuX,EAAcvX,EAAY,GAC1BwX,EAAcxX,EAAY,GAC1ByX,EAAczX,EAAY,GAC1B0X,EAAc1X,EAAY,GAC1B2X,EAAc3X,EAAY,GAC1B4X,EAAc5X,EAAY,GAC1B6X,EAAc7X,EAAY,GAC1B8X,EAAc9X,EAAY,GAC1B+X,EAAc/X,EAAY,GAC1BgY,EAAchY,EAAY,GAC1BiY,EAAcjY,EAAY,GAC1BkY,EAAclY,EAAY,GAC1BmY,EAAcnY,EAAY,GAC1BoY,EAAcpY,EAAY,GAC1BqY,EAAcrY,EAAY,GAC1BsY,EAActY,EAAY,GAC1BuY,EAAcvY,EAAY,GAC1BwY,EAAcxY,EAAY,GAC1ByY,EAAczY,EAAY,GAC1B0Y,EAAc1Y,EAAY,GAC1B2Y,EAAc3Y,EAAY,GAC1B4Y,EAAc5Y,EAAY,GAC1B6Y,EAAc7Y,EAAY,GAC1B8Y,EAAc9Y,EAAY,GAC1B+Y,EAAc/Y,EAAY,GAC1BgZ,EAAchZ,EAAY,GAC1BiZ,EAAcjZ,EAAY,GAC1BkZ,EAAclZ,EAAY,GAC1BmZ,EAAcnZ,EAAY,GAC1BoZ,EAAcpZ,EAAY,GAC1BqZ,EAAcrZ,EAAY,GAC1BsZ,EAActZ,EAAY,GAC1BuZ,EAAcvZ,EAAY,GAC1BwZ,EAAcxZ,EAAY,GAC1ByZ,EAAczZ,EAAY,GAC1B0Z,EAAc1Z,EAAY,GAC1B2Z,EAAc3Z,EAAY,GAC1B4Z,EAAc5Z,EAAY,GAC1B6Z,EAAc7Z,EAAY,GAC1B8Z,EAAc9Z,EAAY,GAC1B+Z,EAAc/Z,EAAY,GAC1BgaC,EAAchaC,EAAY,GAC1BiaC,EAAcjaC,EAAY,GAC1BkaC,EAAclaC,EAAY,GAC1BmaC,EAAcnaC,EAAY,GAC1BoaC,EAAcpaC,EAAY,GAC1BqaC,EAAcraC,EAAY,GAC1BsaC,EAActaC,EAAY,GAC1BuaC,EAAcvaC,EAAY,GAC1BwaC,EAAcxaC,EAAY,GAC1BwaC,EAAcxaC,EAAY,GAC1BwaC,EAAcx

d,IAEtB4N,GADYj7B,KACoB3F,EAAO0I,EAAUkoC,EAAmBjrB,EAAW0G,GAI5E0kB,GAmCX,SAASC,GAA
wBtoC,EAAUymC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIZ,EAAQ1pB,E
AAW0G,GACtG,IAAIrsB,EAAQ4B,KACRgvC,EAAoBb,GAAe/vC,EAAOmvC,EAAQC,EAAIG,EAAIC,EAAIE,,
EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIZ,,GAO1F,OANIuB,IAAsB5d,IAEtB4N,GADYj7B,KACoB3F,EAA
O0I,EAAUkoC,EAAmBjrB,EAAW0G,GAI5E2kB,GAqCX,SASC,GAAwBvoC,EAAUymC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIf,,EAAQ1pB,EAAW0G,GAC9G,IAAIrsB,EAAQ4B,KACRgvC,EAAoBV,GAAWlwC,EAAOmvC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIf,,EAAQ1pB,EAAW0G,G

AArB+f,EAAKq0B,YA2BH8L,CAAsBngC,KAE3B+/B,EAAa1L,YAAcn1C,EAAkB8gB,EAAKq0B,cAE/C0L,EAGX,IACIK,GAAc7iD,EAAuB,CAAEwsB,QAAS5e,OAAQ6e,SADjDzsB,IAEP8iD,GAAgB,GACpB,SAASC,GAAAmCnhD,EAAMsyC,GAC9C,IAAKA,EAAU,CACXA,EAAWC,GAAIC,GAAIC,GAAI

AAuBj7B,iBAAiBpmB,EAAMqmB,IAE9Dk9B,EAAU36C,UAAU2d,OAAS,SAAUpnB,GACnC,OAAOhB,KAAAKkjD,uBAAuB96B,OAAOpnB,IAE9CokD,EAAU36C,UAAU4d,OAAS,SAAUrnB,GACnC,OAAOhB,KAAAKkjD,uBAAuB76B,OAAOrnB,IAE9CokD,EAAU36C,UAAU6d,OAAS,SAAUtnB,GACnC,OAAOhB,KAAAKkjD,uBAAuB56B,OAAOtnB,IAE9CokD,EAAU36C,UAAU8d,OAAS,UAAY,SAAU1nB,GACnC,OAAOhB,KAAAKkjD,uBAAuB36B,OAAO1nB,IAE9CokD,EAAU36C,UAAU+d,OAAS,SAAUxnB,GACnC,OAAOhB,KAAAKkjD,uBAAuB16B,OAAOxnB,IAE9CokD,EAAU36C,UAAUge,OAAS,SAAUznB,GACnC,OAAOhB,KAAAKkjD,uBAAuBz6B,OAAOznB,IAE9CokD,EAAU36C,UAAUie,OAAS,SAAU1nB,GACnC,OAAOhB,KAAAKkjD,uBAAuBx6B,OAAO1nB,IAE9CokD,EAAU36C,UAAUke,OAAS,SAAU3nB,GACnC,OAAOhB,KAAAKkjD,uBAAuBv6B,OAAO3nB,IAE9CokD,EAAU36C,UAAUme,OAAS,SAAU5nB,GACnC,OAAOhB,KAAAKkjD,uBAAuBt6B,OAAO5nB,IAE9CokD,EAAU36C,UAAUoe,OAAS,SAAU7nB,GACnC,OAAOhB,KAAAKkjD,uBAAuBr6B,OAAO7nB,IAE9CokD,EAAU36C,UAAUqe,OAAS,SAAU9nB,GACnC,OAAOhB,KAAAKkjD,uBAAuBp6B,OAAO8nB,GAAAA,IAAAA,IAAAA,I

mBC,iBAAmB,SAAUzkD,EAAWuO,GACvD,IAAIm2C,EAA8BF,EAAmB7d,QAAQ3mC,GAC7D,OAAOwkD,EAAmBG,sBAAsBD,EAA6Bn2C,IAyBjFi2C,EAAmBG,sBAAwB,SAAU3kD,EAAWuO,GAC5D,OAAO,IAAIq2C,GAAoB5kD,EAAWuO,GAAWs2C,GAAoB7kD,EAAWuO,GAAWu2C,GAAoB9kD,EAAWuO,GAAWw2C,GAAoB/kD,EAAWuO,GAAWy2C,GAAoBhlD,EAAWuO,GAAW02C,GAAoBjlD,EAAWuO,GAAW22C,GAAoBllD,EAAWuO,GAAW42C,GAAoBnlD,EAAWuO,GAAW62C,GAAoBplD,EAAWuO,GAAW82C,GAAoBrlD,EAAWuO,GAAW+2C,GAAoBtlD,EAAWuO,GAAWg3C,GAAoBvlD,EAAWuO,GAAWi3C,GAAoBxlD,EAAWuO,GAAWk3C,GAAoBzlD,EAAWuO,GAAWm3C,GAAoB1lD,EAAWuO,GAAWo3C,GAAoB3lD,EAAWuO,GAAWq3C,GAAoB5lD,EAAWuO,GAAWs3C,GAAoB7lD,EAAWuO,GAAWu3C,GAAoB9lD,EAAWuO,GAAWw3C,GAAoB/lD,EAAWuO,GAAWy3C,GAAoBhmD,EAAWuO,GAAW03C,GAAoBjmD,EAAWuO,GAAW23C,GAAoBlmD,EAAWuO,GAAW43C,GAAoBnmD,EAAWuO,GAAW63C,GAAoBpmD,EAAWuO,GAAW83C,GAAoBrmD,EAAWuO,GAAW+3C,GAAoBtmD,EAAWuO,GAAWg4C,GAAoBvmD,EAAWuO,GAAWi4C,GAAoBxmD,EAAWuO,GAAWk4C,GAAoBzmD,EAAWuO,GAAWm4C,GAAoB1mD,EAAWuO,GAAWo4C,GAAoB3mD,EAAWuO,GAAWq4C,GAAoB5mD,EAAWuO,GAAWs4C,GAAoB7mD,EAAWuO,GAAWu4C,GAAoB9mD,EAAWuO,GAAWw4C,GAAoB/mD,EAAWuO,GAAWy4C,GAAoBhnD,EAAWuO,GAAW04C,GAAoBjnD,EAAWuO,GAAW24C,GAAoBlnD,EAAWuO,GAAW44C,GAAoBnnD,EAAWuO,GAAW64C,GAAoBpnD,EAAWuO,GAAW84C,GAAoBrnD,EAAWuO,GAAW+4C,GAAoBtnD,EAAWuO,GAAWg5C,GAAoBvnD,EAAWuO,GAAWi5C,GAAoBxnD,EAAWuO,GAAWk5C,GAAoBznD,EAAWuO,GAAWm5C,GAAoB1nD,EAAWuO,GAAWo5C,GAAoB3nD,EAAWuO,GAAWq5C,GAAoB5nD,EAAWuO,GAAWs5C,GAAoB7nD,EAAWuO,GAAWu5C,GAAoB9nD,EAAWuO,GAAWw5C,GAAoB/nD,EAAWuO,GAAWy5C,GAAoBhoD,EAAWuO,GAAW05C,GAAoBjoD,EAAWuO,GAAW25C,GAAoBloD,EAAWuO,GAAW45C,GAAoBnoD,EAAWuO,GAAW65C,GAAoBpoD,EAAWuO,GAAW85C,GAAoBroD,EAAWuO,GAAW+5C,GAAoBtoD,EAAWuO,GAAWg6C,GAAoBvoD,EAAWuO,GAAWi6C,GAAoBxoD,EAAWuO,GAAWk6C,GAAoBzoD,EAAWuO,GAAWm6C,GAAoB1oD,EAAWuO,GAAWo6C,GAAoB3oD,EAAWuO,GAAWq6C,GAAoB5oD,EAAWuO,GAAWs6C,GAAoB7oD,EAAWuO,GAAWu6C,GAAoB9oD,EAAWuO,GAAWw6C,GAAoB/oD,EAAWuO,GAAWy6C,GAAoBhpD,EAAWuO,GAAW06C,GAAoBjpD,EAAWuO,GAAW26C,GAAoBlpD,EAAWuO,GAAW46C,GAAoBnpD,EAAWuO,GAAW66C,GAAoBppD,EAAWuO,GAAW86C,GAAoBrpD,EAAWuO,GAAW+6C,GAAoBtpD,EAAWuO,GAAWg7C,GAAoBvpD,EAAWuO,GAAWi7C,GAAoBxpD,EAAWuO,GAAWk7C,GAAoBzpD,EAAWuO,GAAWm7C,GAAoB1pD,EAAWuO,GAAWo7C,GAAoB3pD,EAAWuO,GAAWq7C,GAAoB5pD,EAAWuO,GAAWs7C,GAAoB7pD,EAAWuO,GAAWu7C,GAAoB9pD,EAAWuO,GAAWw7C,GAAoB/pD,EAAWuO,GAAWy7C,GAAoBhqD,EAAWuO,GAAW07C,GAAoBjqD,EAAWuO,GAAW27C,GAAoBlqD,EAAWuO,GAAW47C,GAAoBnqD,EAAWuO,GAAW67C,GAAoBpqD,EAAWuO,GAAW87C,GAAoBrqD,EAAWuO,GAAW+7C,GAAoBtqD,EAAWuO,GAAWg8C,GAAoBvqD,EAAWuO,GAAWi8C,GAAoBxqD,EAAWuO,GAAWk8C,GAAoBzqD,EAAWuO,GAAWm8C,GAAoB1qD,EAAWuO,GAAWo8C,GAAoB3qD,EAAWuO,GAAWq8C,GAAoB5qD,EAAWuO,GAAWs8C,GAAoB7qD,EAAWuO,GAAWu8C,GAAoB9qD,EAAWuO,GAAWw8C,GAAoB/qD,EAAWuO,GAAWy8C,GAAoBhrD,EAAWuO,GAAW08C,GAAoBjrD,EAAWuO,GAAW28C,GAAoBlrD,EAAWuO,GAAW48C,GAAoBnrD,EAAWuO,GAAW68C,GAAoBprD,EAAWuO,GAAW88C,GAAoBrrD,EAAWuO,GAAW+8C,GAAoBtrD,EAAWuO,GAAWg9C,GAAoBvrD,EAAWuO,GAAWi9C,GAAoBxrD,EAAWuO,GAAWk9C,GAAoBzrD,EAAWuO,GAAWm9C,GAAoB1rD,EAAWuO,GAAWo9C,GAAoB3rD,EAAWuO,GAAWq9C,GAAoB5rD,EAAWuO,GAAWs9C,GAAoB7rD,EAAWuO,GAAWu9C,GAAoB9rD,EAAWuO,GAAWw9C,GAAoB/rD,EAAWuO,GAAWy9C,GAAoBhsD,EAAWuO,GAAW09C,GAAoBjsD,EAAWuO,GAAW29C,GAAoBlsD,EAAWuO,GAAW49C,GAAoBnsD,EAAWuO,GAAW69C,GAAoBpsD,EAAWuO,GAAW89C,GAAoBrsD,EAAWuO,GAAW+9C,GAAoBtsD,EAAWuO,GAAWg+C,GAAoBvsD,EAAWuO,GAAWi+C,GAAoBxsD,EAAWuO,GAAWk+C,GAAoBzsD,EAAWuO,GAAWm+C,GAAoB1sD,EAAWuO,GAAWo+C,GAAoB3sD,EAAWuO,GAAWq+C,GAAoB5sD,EAAWuO,GAAWs+C,GAAoB7sD,EAAWuO,GAAWu+C,GAAoB9sD,EAAWuO,GAAWw+C,GAAoB/sD,EAAWuO,GAAWy+C,GAAoBhtD,EAAWuO,GAAW0+C,GAAoBjtD,EAAWuO,GAAW2+C,GAAoBltD,EAAWuO,GAAW4+C,GAAoBntD,EAAWuO,GAAW6+C,GAAoBptD,EAAWuO,GAAW8+C,GAAoBrtD,EAAWuO,GAAW++C,GAAoBttD,EAAWuO,GAAWg/C,GAAoBvtD,EAAWuO,GAAWi/C,GAAoBxtD,EAAWuO,GAAWk/C,GAAoBztD,EAAWuO,GAAWm/C,GAAoB1tD,EAAWuO,GAAWo/C,GAAoB3tD,EAAWuO,GAAWq/C,GAAoB5tD,EAAWuO,GAAWs/C,GAAoB7tD,EAAWuO,GAAWu/C,GAAoB9tD,EAAWuO,GAAWw/C,GAAoB/tD,EAAWuO,GAAWy/C,GAAoBhuD,EAAWuO,GAAW0/C,GAAoBjuD,EAAWuO,GAAW2/C,GAAoBluD,EAAWuO,GAAW4/C,GAAoBnuD,EAAWuO,GAAW6/C,GAAoBpuD,EAAWuO,GAAW8/C,GAAoBruD,EAAWuO,GAAW+/C,GAAoBtuD,EAAWuO,GAAWggD,GAAoBvuD,EAAWuO,GAAWigD,GAAoBxuD,EAAWuO,GAAWkgD,GAAoBzuD,EAAWuO,GAAWmgD,GAAoB1uD,EAAWuO,GAAWogD,GAAoB3uD,EAAWuO,GAAWqgD,GAAoB5uD,EAAWuO,GAAWsgD,GAAoB7uD,EAAWuO,GAAWugD,GAAoB9uD,EAAWuO,GAAWwgD,GAAoB/uD,EAAWuO,GAAWygD,GAAoBhvD,EAAWuO,GAAW0gD,GAAoBjvD,EAAWuO,GAAW2gD,GAAoBlvD,EAAWuO,GAAW4gD,GAAoBnvD,EAAWuO,GAAW6gD,GAAoBpvD,EAAWuO,GAAW8gD,GAAoBrvD,EAAWuO,GAAW+gD,GAAoBtvD,EAAWuO,GAAWghD,GAAoBvvD,EAAWuO,GAAWihD,GAAoBxvD,EAAWuO,GAAWkhD,GAAoBzvD,EAAWuO,GAAWmhD,GAAoB1vD,EAAWuO,GAAWohD,GAAoB3vD,EAAWuO,GAAWqhD,GAAoB5vD,EAAWuO,GAAWshD,GAAoB7vD,EAAWuO,GAAWuhD,GAAoB9vD,EAAWuO,GAAWwhD,GAAoB/vD,EAAWuO,GAAWyhD,GAAoBhwD,EAAWuO,GAAW0hD,GAAoBjwD,EAAWuO,GAAW2hD,GAAoBlwD,EAAWuO,GAAW4hD,GAAoBnwD,EAAWuO,GAAW6hD,GAAoBpwD,EAAWuO,GAAW8hD,GAAoBrwD,EAAWuO,GAAW+hD,GAAoBtwD,EAAWuO,GAAWgiD,GAAoBvwD,EAAWuO,GAAWiiD,GAAoBxwD,EAAWuO,GAAWkiD,GAAoBzwD,EAAWuO,GAAWmiD,GAAoB1wD,EAAWuO,GAAWoiD,GAAoB3wD,EAAWuO,GAAWqiD,GAAoB5wD,EAAWuO,GAAWsiD,GAAoB7wD,EAAWuO,GAAWuiD,GAAoB9wD,EAAWuO,GAAWwiD,GAAoB/wD,EAAWuO,GAAWyiD,GAAoBhxD,EAAWuO,GAAW0iD,GAAoBjxD,EAAWuO,GAAW2iD,GAAoBlxD,EAAWuO,GAAW4iD,GAAoBnxD,EAAWuO,GAAW6iD,GAAoBpxD,EAAWuO,GAAW8iD,GAAoBrxD,EAAWuO,GAAW+iD,GAAoBtxD,EAAWuO,GAAWgjD,GAAoBvxD,EAAWuO,GAAWijD,GAAoBxxD,EAAWuO,GAAWkjD,GAAoBzxD,EAAWuO,GAAWmjD,GAAoB1xD,EAAWuO,GAAWojD,GAAoB3xD,EAAWuO,GAAWqjD,GAAoB5xD,EAAWuO,GAAWsjD,GAAoB7xD,EAAWuO,GAAWujD,GAAoB9xD,EAAWuO,GAAWwjD,GAAoB/xD,EAAWuO,GAAWyjD,GAAoBhyD,EAAWuO,GAAW0jD,GAAoBjyD,EAAWuO,GAAW2jD,GAAoBlyD,EAAWuO,GAAW4jD,GAAoBnyD,EAAWuO,GAAW6jD,GAAoBpyD,EAAWuO,GAAW8jD,GAAoBryD,EAAWuO,GAAW+jD,GAAoBtyD,EAAWuO,GAAWgkD,GAAoBvyD,EAAWuO,GAAWikD,GAAoBxyD,EAAWuO,GAAWkkD,GAAoBzyD,EAAWuO,GAAWmkD,GAAoB1yD,EAAWuO,GAAWokD,GAAoB3yD,EAAWuO,GAAWqkD,GAAoB5yD,EAAWuO,GAAWskD,GAAoB7yD,EAAWuO,GAAWukD,GAAoB9yD,EAAWuO,GAAWwkD,GAAoB/yD,EAAWuO,GAAWykD,GAAoBhzD,EAAWuO,GAAW0kD,GAAoBjzD,EAAWuO,GAAW2kD,GAAoBlzD,EAAWuO,GAAW4kD,GAAoBnzD,EAAWuO,GAAW6kD,GAAoBpzD,EAAWuO,GAAW8kD,GAAoBrzD,EAAWuO,GAAW+kD,GAAoBtzD,EAAWuO,GAAWglD,GAAoBvzD,EAAWuO,GAAWilD,GAAoBxzD,EAAWuO,GAAWklD,GAAoBzzD,EAAWuO,GAAWmlD,GAAoB1zD,EAAWuO,GAAWolD,GAAoB3zD,EAAWuO,GAAWqlD,GAAoB5zD,EAAWuO,GAAWslD,GAAoB7zD,EAAWuO,GAAWulD,GAAoB9zD,EAAWuO,GAAWwlD,GAAoB/zD,EAAWuO,GAAWylD,GAAoBh0D,EAAWuO,GAAW0lD,GAAoBj0D,EAAWuO,GAAW2lD,GAAoBl0D,EAAWuO,GAAW4lD,GAAoBn0D,EAAWuO,GAAW6lD,GAAoBp0D,EAAWuO,GAAW8lD,GAAoBr0D,EAAWuO,GAAW+lD,GAAoBt0D,EAAWuO,GAAWgmD,GAAoBv0D,EAAWuO,GAAWimD,GAAoBx0D,EAAWuO,GAAWkmD,GAAoBz0D,EAAWuO,GAAWmmD,GAAoB10D,EAAWuO,GAAWomD,GAAoB30D,EAAWuO,GAAWqmD,GAAoB50D,EAAWuO,GAAWsmD,GAAoB70D,EAAWuO,GAAWumD,GAAoB90D,EAAWuO,GAAWwmD,GAAoB/0D,EAAWuO,GAAWymD,GAAoBh1D,EAAWuO,GAAW0mD,GAAoBj1D,EAAWuO,GAAW2mD,GAAoBl1D,EAAWuO,GAAW4mD,GAAoBn1D,EAAWuO,GAAW6mD,GAAoBp1D,EAAWuO,GAAW8mD,GAAoBr1D,EAAWuO,GAAW+mD,GAAoBt1D,EAAWuO,GAAWgnD,GAAoBv1D,EAAWuO,GAAWinD,GAAoBx1D,EAAWuO,GAAWknD,GAAoBz1D,EAAWuO,GAAWmnD,GAAoB11D,EAAWuO,GAAWonD,GAAoB31D,EAAWuO,GAAWqnD,GAAoB51D,EAAWuO,GAAWsnD,GAAoB71D,EAAWuO,GAAWunD,GAAoB91D,EAAWuO,GAAWwnD,GAAoB/1D,EAAWuO,GAAWynD,GAAoBh2D,EAAWuO,GAAW0nD,GAAoBj2D,EAAWuO,GAAW2nD,GAAoBl2D,EAAWuO,GAAW4nD,GAAoBn2D,EAAWuO,GAAW6nD,GAAoBp2D,EAAWuO,GAAW8nD,GAAoBr2D,EAAWuO,GAAW+nD,GAAoBt2D,EAAWuO,GAAWgoD,GAAoBv2D,EAAWuO,GAAWioD,GAAoBx2D,EAAWuO,GAAWkoD,GAAoBz2D,EAAWuO,GAAWmoD,GAAoB12D,EAAWuO,GAAWooD,GAAoB32D,EAAWuO,GAAWqoD,GAAoB52D,EAAWuO,GAAWsoD,GAAoB72D,EAAWuO,GAAWuoD,GAAoB92D,EAAWuO,GAAWwoD,GAAoB/2D,EAAWuO,GAAWyoD,GAAoBh3D,EAAWuO,GAAW0oD,GAAoBj3D,EAAWuO,GAAW2oD,GAAoBl3D,EAAWuO,GAAW4oD,GAAoBn3D,EAAWuO,GAAW6oD,GAAoBp3D,EAAWuO,GAAW8oD,GAAoBr3D,EAAWuO,GAAW+oD,GAAoBt3D,EAAWuO,GAAWgpD,GAAoBv3D,EAAWuO,GAAWipD,GAAoBx3D,EAAWuO,GAAWkpD,GAAoBz3D,EAAWuO,GAAWmpD,GAAoB13D,EAAWuO,GAAWopD,GAAoB33D,EAAWuO,GAAWqpD,GAAoB53D,EAAWuO,GAAWspD,GAAoB73D,EAAWuO,GAAWupD,GAAoB93D,EAAWuO,GAAWwpD,GAAoB/3D,EAAWuO,GAAWypD,GAAoBh4D,EAAWuO,GAAW0pD,GAAoBj4D,EAAWuO,GAAW2pD,GAAoBl4D,EAAWuO,GAAW4pD,GAAoBn4D,EAAWuO,GAAW6pD,GAAoBp4D,EAAWuO,GAAW8pD,GAAoBr4D,EAAWuO,GAAW+pD,GAAoBt4D,EAAWuO,GAAWgqD,GAAoBv4D,EAAWuO,GAAWiqD,GAAoBx4D,EAAWuO,GAAWkqD,GAAoBz4D,EAAWuO,GAAWmqD,GAAoB14D,EAAWuO,GAAWoqD,GAAoB34D,EAAWuO,GAAWqqD,GAAoB54D,EAAWuO,GAAWsqD,GAAoB74D,EAAWuO,GAAWuqD,GAAoB94D,EAAWuO,GAAWwqD,GAAoB/4D,EAAWuO,GAAWyqD,GAAoBh5D,EAAWuO,GAAW0qD,GAAoBj5D,EAAWuO,GAAW2qD,GAAoBl5D,EAAWuO,GAAW4qD,GAAoBn5D,EAAWuO,GAAW6qD,GAAoBp5D,EAAWuO,GAAW8qD,GAAoBr5D,EAAWuO,GAAW+qD,GAAoBt5D,EAAWuO,GAAWgrD,GAAoBv5D,EAAWuO,GAAWirD,GAAoBx5D,EAAWuO,GAAWkrD,GAAoBz5D,EAAWuO,GAAWmrD,GAAoB15D,EAAWuO,GAAWorD,GAAoB35D,EAAWuO,GAAWqrD,GAAoB55D,EAAWuO,GAAWsrD,GAAoB75D,EAAWuO,GAAWurD,GAAoB95D,EAAWuO,GAAWwrD,GAAoB/5D,EAAWuO,GAAWyrD,GAAoBh6D,EAAWuO,GAAW0rD,GAAoBj6D,EAAWuO,GAAW2rD,GAAoBl6D,EAAWuO,GAAW4rD,GAAoBn6D,EAAWuO,GAAW6rD,GAAoBp6D,EAAWuO,GAAW8rD,GAAoBr6D,EAAWuO,GAAW+rD,GAAoBt6D,EAAWuO,GAAWgsD,GAAoBv6D,EAAWuO,GAAWisD,GAAoBx6D,EAAWuO,GAAWksD,GAAoBz6D,EAAWuO,GAAWmsD,GAAoB16D,EAAWuO,GAAWosD,GAAoB36D,EAAWuO,GAAWqsD,GAAoB56D,EAAWuO,GAAWssD,GAAoB76D,EAAWuO,GAAWusD,GAAoB96D,EAAWuO,GAAWwsD,GAAoB/6D,EAAWuO,GAAWysD,GAAoBh7D,EAAWuO,GAAW0sD,GAAoBj7D,EAAWuO,GAAW2sD,GAAoBl7D,EAAWuO,GAAW4sD,GAAoBn7D,EAAWuO,GAAW6sD,GAAoBp7D,EAAWuO,GAAW8sD,GAAoBr7D,EAAWuO,GAAW+sD,GAAoBt7D,EAAWuO,GAAWgtD,GAAoBv7D,EAAWuO,GAAWitD,GAAoBx7D,EAAWuO,GAAWktD,GAAoBz7D,EAAWuO,GAAWmtD,GAAoB17D,EAAWuO,GAAWotD,GAAoB37D,EAAWuO,GAAWqtD,GAAoB57D,EAAWuO,GAAWstD,GAAoB77D,EAAWuO,GAAWutD,GAAoB97D,EAAWuO,GAAWwtD,GAAoB/7D,EAAWuO,GAAWytD,GAAoBh8D,EAAWuO,GAAW0tD,GAAoBj8D,EAAWuO,GAAW2tD,GAAoBl8D,EAAWuO,GAAW4tD,GAAoBn8D,EAAWuO,GAAW6tD,GAAoBp8D,EAAWuO,GAAW8tD,GAAoBr8D,EAAWuO,GAAW+tD,GAAoBt8D,EAAWuO,GAAWguD,GAAoBv8D,EAAWuO,GAAWiuD,GAAoBx8D,EAAWuO,GAAWkuD,GAAoBz8D,EAAWuO,GAAWmuD,GAAoB18D,EAAWuO,GAAWouD,GAAoB38D,EAAWuO,GAAWquD,GAAoB58D,EAAWuO,GAAWsuD,GAAoB78D,EAAWuO,GAAWuuD,GAAoB98D,EAAWuO,GAAWwuD,GAAoB/8D,EAAWuO,GAAWyuD,GAAoBh9D,EAAWuO,GAAW0uD,GAAoBj9D,EAAWuO,GAAW2uD,GAAoBl9D,EAAWuO,GAAW4uD,GAAoBn9D,EAAWuO,GAAW6uD,GAAoBp9D,EAAWuO,GAAW8uD,GAAoBr9D,EAAWuO,GAAW+uD,GAAoBt9D,EAAWuO,GAAWgvD,GAAoBv9D,EAAWuO,GAAWivD,GAAoBx9D,EAAWuO,GAAWkvD,GAAoBz9D,EAAWuO,GAAWmvD,GAAoB19D,EAAWuO,GAAWovD,GAAoB39D,EAAWuO,GAAWqvD,GAAoB59D,EAAWuO,GAAWsvD,GAAoB79D,EAAWuO,GAAWuvD,GAAoB99D,EAAWuO,GAAWwvD,GAAoB/9D,EAAWuO,GAAWyvD,GAAoBh+D,EAAWuO,GAAW0vD,GAAoBj+D,EAAWuO,GAAW2vD,GAAoBl+D,EAAWuO,GAAW4vD,GAAoBn+D,EAAWuO,GAAW6vD,GAAoBp+D,EAAWuO,GAAW8vD,GAAoBr+D,EAAWuO,GAAW+vD,GAAoBt+D,EAAWuO,GAAWgwD,GAAoBv+D,EAAWuO,GAAWiwD,GAAoBx+D,EAAWuO,GAAWkwD,GAAoBz+D,EAAWuO,GAAWmwD,GAAoB1+D,EAAWuO,GAAWowD,GAAoB3+D,EAAWuO,GAAWqwD,GAAoB5+D,EAAWuO,GAAWswD,GAAoB7+D,EAAWuO,GAAWuwD,GAAoB9+D,EAAWuO,GAAWwwD,GAAoB/+D,EAAWuO,GAAWywD,GAAoBh/D,EAAWuO,GAAW0wD,GAAoBj/D,EAAWuO,GAAW2wD,GAAoBl/D,EAAWuO,GAAW4wD,GAAoBn/D,EAAWuO,GAAW6wD,GAAoBp/D,EAAWuO,GAAW8wD,GAAoBr/D,EAAWuO,GAAW+wD,GAAoBt/D,EAAWuO,GAAWgxD,GAAoBv/D,EAAWuO,GAAWixD,GAAoBx/D,EAAWuO,GAAWkxD,GAAoBz/D,EAAWuO,GAAWmxD,GAAoB1/D,EAAWuO,GAAWoxD,GAAoB3/D,EAAWuO,GAAWqxD,GAAoB5/D,EAAWuO,GAAWsxD,GAAoB7/D,EAAWuO,GAAWuxD,GAAoB9/D,EAAWuO,GAAWwxD,GAAoB//D,EAAWuO,GAAWyxD,GAAoBhgE,EAAWuO,GAAW0xD,GAAoBjgE,EAAWuO,GAAW2xD,GAAoBlgE,EAAWuO,GAAW4xD,GAAoBngE,EAAWuO,GAAW6xD,GAAoBpgE,EAAWuO,GAAW8xD,GAAoBrgE,EAAWuO,GAAW+xD,GAAoBtgE,EAAWuO,GAAWgyD,GAAoBvgE,EAAWuO,GAAWiyD,GAAoBxgE,EAAWuO,GAAWkyD,GAAoBzgE,EAAWuO,GAAWmyD,GAAoB1gE,EAAWuO,GAAWoyD,GAAoB3gE,EAAWuO,GAAWqyD,GAAoB5gE,EAAWuO,GAAWsyD,GAAoB7gE,EAAWuO,GAAWuyD,GAAoB9gE,EAAWuO,GAAWwyD,GAAoB/gE,EAAWuO,GAAWyyD,GAAoBhhE,EAAWuO,GAAW0yD,GAAoBjhE,EAAWuO,GAAW2yD,GAAoBlhE,EAAWuO,GAAW4yD,GAAoBnhE,EAAWuO,GAAW6yD,GAAoBphE,EAAWuO,GAAW8yD,GAAoBrhE,EAAWuO,GAAW+yD,GAAoBthE,EAAWuO,GAAWgzD,GAAoBvhE,EAAWuO,GAAWizD,GAAoBxhE,EAAWuO,GAAWkzD,GAAoBzhE,EAAWuO,GAAWmzD,GAAoB1hE,EAAWuO,GAAWozD,GAAoB3hE,EAAWuO,GAAWqzD,GAAoB5hE,EAAWuO,GAAWszD,GAAoB7hE,EAAWuO,GAAWuzD,GAAoB9hE,EAAWuO,GAAWwzD,GAAoB/hE,EAAWuO,GAAWyzD,GAAoBhiE,EAAWuO,GAAW0zD,GAAoBjiE,EAAWuO,GAAW2zD,GAAoBliE,EAAWuO,GAAW4zD,GAAoBniE,EAAWuO,GAAW6zD,GAAoBpiE,EAAWuO,GAAW8zD,GAAoBriE,EAAWuO,GAAW+zD,GAAoBtiE,EAAWuO,GAAWg0D,GAAoBviE,EAAWuO,GAAWi0D,GAAoBxiE,EAAWuO,GAAWk0D,GAAoBziE,EAAWuO,GAAWm0D,GAAoB1iE,EAAWuO,GAAWo0D,GAAoB3iE,EAAWuO,GAAWq0D,GAAoB5iE,EAAWuO,GAAWs0D,GAAoB7iE,EAAWuO,GAAWu0D,GAAoB9iE,EAAWuO,GAAWw0D,GAAoB/iE,EAAWuO,GAAWy0D,GAAoBhjE,EAAWuO,GAAW00D,GAAoBjjE,EAAWuO,GAAW20D,GAAoBljE,EAAWuO,GAAW40D,GAAoBnjE,EAAWuO,GAAW60D,GAAoBpjE,EAAWuO,GAAW80D,GAAoBrjE,EAAWuO,GAAW+0D,GAAoBtjE,EAAWuO,GAAWg1D,GAAoBvjE,EAAWuO,GAAWi1D,GAAoBxjE,EAAWuO,GAAWk1D,GAAoBzjE,EAAWuO,GAAWm1D,GAAoB1jE,EAAWuO,GAAWo1D,GAAoB3jE,EAAWuO,GAAWq1D,GAAoB5jE,EAAWuO,GAAWs1D,GAAoB7jE,EAAWuO,GAAWu1D,GAAoB9jE,EAAWuO,GAAWw1D,GAAoB/jE,EAAWuO,GAAWy1D,GAAoBhkE,EAAWuO,GAAW01D,GAAoBjkE,EAAWuO,GAAW21D,GAAoBlkE,EAAWuO,GAAW41D,GAAoBnkE,EAAWuO,GAAW61D,GAAoBpkE,EAAWuO,GAAW81D,GAAoBrkE,EAAWuO,GAAW+1D,GAAoBtkE,EAAWuO,GAAWg2D,GAAoBvkE,EAAWuO,GAAWi2D,GAAoBxkE,EAAWuO,GAAWk2D,GAAoBzkE,EAAWuO,GAAWm2D,GAAoB1kE,EAAWuO,GAAWo2D,GAAoB3kE,EAAWuO,GAAWq2D,GAAoB5kE,EAAWuO,GAAWs2D,GAAoB7kE,EAAWuO,GAAWu2D,GAAoB9kE,EAAWuO,GAAWw2D,GAAoB/kE,EAAWuO,GAAWy2D,GAAoBhlE,EAAWuO,GAAW02D,GAAoBjlE,EAAWuO,GAAW22D,GAAoBllE,EAAWuO,GAAW42D,GAAoBnlE,EAAWuO,GAAW62D,GAAoBplE,EAAWuO,GAAW82D,GAAoBrlE,EAAWuO,GAAW+2D,GAAoBtlE,EAAWuO,GAAWg3D,GAAoBvlE,EAAWuO,GAAWi3D,GAAoBxlE,EAAWuO,GAAWk3D,GAAoBzlE,EAAWuO,GAAWm3D,GAAoB1lE,EAAWuO,GAAWo3D,GAAoB3lE,EAAWuO,GAAWq3D,GAAoB5lE,EAAWuO,GAAWs3D,GAAoB7lE,EAAWuO,GAAWu3D,GAAoB9lE,EAAWuO,GAAWw3D,GAAoB/lE,EAAWuO,GAAWy3D,GAAoBhmE,EAAWuO,GAAW03D,GAAoBjmE,EAAWuO,GAAW23D,GAAoBlmE,EAAWuO,GAAW43D,GAAoBnmE,EAAWuO,GAAW63D,GAAoBpmE,EAAWuO,GAAW83D,GAAoBrmE,EAAWuO,GAAW+3D,GAAoBtmE,EAAWuO,GAAWg4D,GAAoBvmE,EAAWuO,GAAWi4D,GAAoBxmE,EAAWuO,GAAWk4D,GAAoBzmE,EAAWuO,GAAWm4D,GAAoB1mE,EAAWuO,GAAWo4D,GAAoB3mE,EAAWuO,GAAWq4D,GAAoB5mE,EAAWuO,GAAWs4D,GAAoB7mE,EAAWuO,GAAWu4D,GAAoB9mE,EAAWuO,GAAWw4D,GAAoB/mE,EAAWuO,GAAWy4D,GAAoBhnE,EAAWuO,GAAW04D,GAAoBjnE,EAAWuO,GAAW24D,GAAoBlnE,EAAWuO,GAAW44D,GAAoBnnE,EAAWuO,GAAW64D,GAAoBpnE,EAAWuO,GAAW84D,GAAoBrnE,EAAWuO,GAAW+4D,GAAoBtnE,EAAWuO,GAAWg5D,GAAoBvnE,EAAWuO,GAAWi5D,GAAoBxnE,EAAWuO,GAAWk5D,GAAoBznE,EAAWuO,GAAWm5D,GAAoB1nE,EAAWuO,GAAWo5D,GAAoB3nE,EAAWuO,GAAWq5D,GAAoB5nE,EAAWuO,GAAWs5D,GAAoB7nE,EAAWuO,GAAWu5D,GAAoB9nE,EAAWuO,GAAWw5D,GAAoB/nE,EAAWuO,GAAWy5D,GAAoBhoE,EAAWuO,GAAW05D,GAAoBjoE,EAAWuO,GAAW25D,GAAoBloE,EAAWuO,GAAW45D,GAAoBnoE,EAAWuO,GAAW65D,GAAoBpoE,EAAWuO,GAAW85D,GAAoBroE,EAAWuO,GAAW+5D,GAAoBtoE,EAAWuO,GAAWg6D,GAAoBvoE,EAAWuO,GAAWi6D,GAAoBxoE,EAAWuO,GAAWk6D,GAAoBzoE,EAAWuO,GAAWm6D,GAAoB1oE,EAAWuO,GAAWo6D,GAAoB3oE,EAAWuO,GAAWq6D,GAAoB5oE,EAAWuO,GAAWs6D,GAAoB7oE,EAAWuO,GAAWu6D,GAAoB9oE,EAAWuO,GAAWw6D,GAAoB/oE,EAAWuO,GAAWy6D,GAAoBhpE,EAAWuO,GAAW06D,GAAoBjpE,EAAWuO,GAAW26D,GAAoBlpE,EAAWuO,GAAW46D,GAAoBnpE,EAAWuO,GAAW66D,GAAoBppE,EAAWuO,GAAW86D,GAAoBrpE,EAAWuO,GAAW+6D,GAAoBtpE,EAAWuO,GAAWg7D,GAAoBvpE,EAAWuO,GAAWi7D,GAAoBxpE,EAAWuO,GAAWk7D,GAAoBzpE,EAAWuO,GAAWm7D,GAAoB1pE,EAAWuO,GAAWo7D,GAAoB3pE,EAAWuO,GAAWq7D,GAAoB5pE,EAAWuO,GAAWs7D,GAAoB7pE,EAAWuO,GAAWu7D,GAAoB9pE,EAAWuO,GAAWw7D,GAAoB/pE,EAAWuO,GAAWy7D,GAAoBhqE,EAAWuO,GAAW07D,GAAoBjqE,EAAWuO,GAAW27D,GAAoBlqE,EAAWuO,GAAW47D,GAAoBnqE,EAAWuO,GAAW67D,GAAoBpqE,EAAWuO,GAAW87D,GAAoBrqE,EAAWuO,GAAW+7D,GAAoBtqE,EAAWuO,GAAWg8D,GAAoBvqE,EAAWuO,GAAWi8D,GAAoBxqE,EAAWuO,GAAWk8D,GAAoBzqE,EAAWuO,GAAWm8D,GAAoB1qE,EAAWuO,GAAWo8D,GAAoB3qE,EAAWuO,GAAWq8D,GAAoB5qE,EAAWuO,GAAWs8D,GAAoB7qE,EAAWuO,GAAWu8D,GAAoB9qE,EAAWuO,GAAWw8D,GAAoB/qE,EAAWuO,GAAWy8D,GAAoBhrE,EAAWuO,GAAW08D,GAAoBjrE,EAAWuO,GAAW28D,GAAoBlrE,EAAWuO,GAAW48D,GAAoBnrE,EAAWuO,GAAW68D,GAAoBprE,EAAWuO,GAAW88D,GAAoBrrE,EAAWuO,GAAW+8D,GAAoBtrE,EAAWuO,GAAWg9D,GAAoBvrE,EAAWuO,GAAWi9D,GAAoBxrE,EAAWuO,GAAWk9D,GAAoBzrE,EAAWuO,GAAWm9D,GAAoB1rE,EAAWuO,GAAWo9D,GAAoB3rE,EAAWuO,GAAWq9D,GAAoB5rE,EAAWuO,GAAWs9D,GAAoB7rE,EAAWuO,GAAWu9D,GAAoB9rE,EAAWuO,GAAWw9D,GAAoB/rE,EAAWuO,GAAWy9D,GAAoBhsE,EAAWuO,GAAW09D,GAAoBjsE,EAAWuO,GAAW29D,GAAoBlsE,EAAWuO,GAAW49D,GAAoBnsE,EAAWuO,GAAW69D,GAAoBpsE,EAAWuO,GAAW89D,GAAoBrsE,EAAWuO,GAAW+9D,GAAoBtsE,EAAWuO,GAAWg+D,GAAoBvsE,EAAWuO,GAAWi+D,GAAoBxsE,EAAWuO,GAAWk+D,GAAoBzsE,EAAWuO,GAAWm+D,GAAoB1sE,EAAWuO,GAAWo+D,GAAoB3sE,EAAWuO,GAAWq+D,GAAoB5sE,EAAWuO,GAAWs+D,GAAoB7sE,EAAWuO,GAAWu+D,GAAoB9sE,EAAWuO,GAAWw+D,GAAoB/sE,EAAWuO,GAAWy+D,GAAoBhtE,EAAWuO,GAAW0+D,GAAoBjtE,EAAWuO,GAAW2+D,GAAoBltE,EAAWuO,GAAW4+D,GAAoBntE,EAAWuO,GAAW6+D,GAAoBptE,EAAWuO,GAAW8+D,GAAoBrtE,EAAWuO,GAAW++D,GAAoBttE,EAAWuO,GAAWg/D,GAAoBvtE,EAAWuO,GAAWi/D,GAAoBxtE,EAAWuO,GAAWk/D,GAAoBztE,EAAWuO,GAAWm/D,GAAoB1tE,EAAWuO,GAAWo/D,GAAoB3tE,EAAWuO,GAAWq/D,GAAoB5tE,EAAWuO,GAAWs/D,GAAoB7tE,EAAWuO,GAAWu/D,GAAoB9tE,EAAWuO,GAAWw/D,GAAoB/tE,EAAWuO,GAAWy/D,GAAoBhuE,EAAWuO,GAAW0/D,GAAoBjuE,EAAWuO,GAAW2/D,GAAoBluE,EAAWuO,GAAW4/D,GAAoBnuE,EAAWuO,GAAW6/D,GAAoBpuE,EAAWuO,GAAW8/D,GAAoBruE,EAAWuO,GAAW+/D,GAAoBtuE,EAAWuO,GAAWggE,GAAoBvuE,EAAWuO,GAAWigE,GAAoBxuE,EAAWuO,GAAWkgE,GAAoBzuE,EAAWuO,GAAWmg

EAAIqL,GAAKvK,EAAG8qB,EAAS47B,mBAAmBn8C,IAE5C,OAAOrL;;;;;;;;;;;;;;;;;;;OAlBiB0oD,CAAc3pD,MAAM,SAAUuL,GAAK,MAAO,KAAOA,EAAEpL,IAAI0kD,YAAc,QAChF/jD,KAAK,MAC6C,MAE3D2mC,YAAY,EACZC,cAAc,IAElBigB,EAAoBl9C,UAAUvJ,SAAW,WACrC,OAAOlB,KAAK6kD,aAET8C,EAjK6B,GAAmMxC,SASiC,GAAkBlpD,EAAO6D,QAChB,IAAVA,IAAoBA,EAAQjF,EAAQmE,YAAYwZ,SACpD,IAAI9M,EAAQ4B,EAAQ5B,MAAO,EAAQ4B,EAAQ5B,MAAO,EAAQ4B,EAAQ5B,MAAO

AAWC,EAAWC,EAAYrR,EAAYsR,QAChC,IAAftR,IAAyBA,GAAa,GAC1C,IAAI/pC,EAAQ4B,KACRxJ,EAAQyJ,KACRhH,EAAQoH,KAEZ,OADAq5C,GAAAiBljD,EAAO4H,EAAOA,EAh9bpB,IAg9bqCnF,EAAOsgD,EAAAWC,EAAAYrR,EAAAYsR,GACnFH,GAuBX,SAASK,GAAWC,EAAAWC,EAAAYrR,EAAAYsR,QAAC7C,IAAAftR,IAAAyBA,GAAAa,GAAC1C,IAAAIlvC,EAAAQoH,KACRjC,EAAAQ4B,KAAAJ,EAAAQ4B,KAAAJ,EAAAQ4B,KAAAJ

AqB,KAAMiI,GAAS,MAE1E,OAA/B4nB,EAAgBG,aAChBH,EAAgBG,WAAaqtB,GAEjCn7C,KACsD,KAAzB,GAAxB2tB,EAAgB/7B,QA9tPzB,SAASwpD,EAAgBxlD,EAAO4H,EAAOmwB,GAKnCF,GAJejwB,EA1lNJ,IA8lNwB,EAAgBA,EAAOmwB,EAHxC3B,GAAkBp2B,EAAO+3B,uB,GAAiBnwB,EAAiBmwB,GAE3C+uB,QAAUnB,EAAjmNnC,GAkmN6CmwB,EAAiBnwB,EAIA4tPnE49C,CAAgBxlD,EAAO4H,EAAOmwB,GAAiCtC,SAAS0tB,GAAsBjsC,EAAUw9B,EAAiIzpB,GAAEzC,OADAm4B,GAAuBlsC,EAAU,GAAIw9B,EAAI,GAAIzpB,GACtCk4B,GA8BX,SASC,GAAuBlsC,EAAUu9B,EAAQC,EAAOC,EAAQ1pB,GAC1DC,GAAEvC,OAAOm4B,GAAuBlsC,EAAUu9B,EAAQC,EAAOC,EAAQ1pB,GAAI

ASG,GAAmBn3C,GACxB,OAAOA,EAAKlX,UAAUguD,GAAY3sD,MAAO2sD,GAAYG,UAkCzD,SAASG,GA
AmBp3C,EAAMrI,GAC9B,IAAImG,EAAMg5C,GAAYC,QACtB,OAAIj5C,IAAQnG,GACA,GAEZA,EAAQm/C
,GAAYE,OAmFxB,SAASK,EAAkBr3C,EAAMs3C,EAAYpxC,GACzC,KAAOoxC,EAAapxC,GAAYlG,EAAKc,
WAAWw2C,GAAc,IAC1DA,IAEJ,OAAOA,EAvFsBD,CAAkBr3C,EAAM82C,GAAYlvD,IAAM+P,EAAOmG,G
ACvEy5C,GAAkBv3C,EAAMrI,EAAOmG,IAmC1C,SAAS05C,GAAex3C,EAAMs3C,GAC1B,IAAIx5C,EAAMg
5C,GAAYC,QAClBp/C,EAAQm/C,GAAYlvD,IAAM2vD,GAAkBv3C,EAAMs3C,EAAYx5C,GAClE,OAAIA,IA
AQnG,GAEA,GAEZA,EAAQm/C,GAAYE,OAsDxB,SAASS,EAAgBz3C,EAAMs3C,EAAYpxC,GAEvC,IADA,I
AAIwxC,EACGJ,EAAapxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,KAC7C,GAAAA
NA,IAA8B,MAAqB,GAANA,IAA8B,IAC5EA,GAAM,IAAiBA,GAAM,KAClCJ,IAEJ,OAAOA,EA9DsBG,CAA
gBz3C,EAAMrI,EAAOmG,GAC1DnG,EAAQggD,GAAiB33C,EAAMrI,EAAOmG,GAAtCnG,EAAQm/C,GAAY
3sD,MAAQotD,GAAkBv3C,EAAMrI,EAAOmG,GAC3DnG,EAAQm/C,GAAYG,SAuFxB,SAASW,EAAkB53C,
EAAMs3C,EAAYpxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,KAAcJ,EAAapxC,GAAYlG,EAAKc,
WAAWw2C,KAAYyC,KAAPI,KAAcJ,EAAapxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,KAAcJ,EAAapxC,
GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,KAAcJ,EAAapxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,
KAAcJ,EAAapxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,KAAcJ,EAAapxC,GAAYlG,EAAKc,WAAWw2C,
KAAYyC,KAAPI,KAAcJ,EAAapxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,KAAcJ,EAAapxC,GAAYlG,
EAAKc,WAAWw2C,KAAYyC,KAAPI,KAAcJ,EAAapxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,KAAcJ,
EAAapxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,KAAPI,KAAcJ,EAAapxC,GAAYlG,EAAKc,WAAWw2C,KAAYyC,
KAAPI,KAAcJ,EAAap

AAW,EACXC,EAAS,EAAIJ,EAAiBvlD,OAASulD,EAAiB,GAAK,KAC7D7M,EAAS,EAAI8M,EAAiBxlD,OAASwlD,EAAiB,GAAK,KAC/C,OAAXG,GAA8B,OAAXjN,GAAiB,CAGvC,IAAIpqC,EAAWm3C,EAAWF,EAAiBvlD,OAASulD,EAAiBE,EAAW,QAAKtvD,EACjFg+B,EAAWuxB,EAAWF,EAAiBxlD,OAASwlD,EAAiBE,EAAW,QAAKvvD,EACjFyjF,EAAS,KACTj2B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZC,EAAY,EAAS,KACT/2B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZG,EAAY,EAAS,KACTl3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZI,EAAY,EAAS,KACTn3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZK,EAAY,EAAS,KACTp3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZM,EAAY,EAAS,KACTr3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZO,EAAY,EAAS,KACTt3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZQ,EAAY,EAAS,KACTv3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZS,EAAY,EAAS,KACTx3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZU,EAAY,EAAS,KACTz3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZW,EAAY,EAAS,KACT13B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZY,EAAY,EAAS,KACT33B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZa,EAAY,EAAS,KACT53B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZc,EAAY,EAAS,KACT73B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZe,EAAY,EAAS,KACT93B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgB,EAAY,EAAS,KACT/3B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiB,EAAY,EAAS,KACTh4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkB,EAAY,EAAS,KACTj4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmB,EAAY,EAAS,KACTl4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoB,EAAY,EAAS,KACTn4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqB,EAAY,EAAS,KACTp4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsB,EAAY,EAAS,KACTr4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuB,EAAY,EAAS,KACTt4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwB,EAAY,EAAS,KACTv4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyB,EAAY,EAAS,KACTx4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0B,EAAY,EAAS,KACTz4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2B,EAAY,EAAS,KACT14B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4B,EAAY,EAAS,KACT34B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6B,EAAY,EAAS,KACT44B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8B,EAAY,EAAS,KACT64B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+B,EAAY,EAAS,KACT84B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgC,EAAY,EAAS,KACT+4B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiC,EAAY,EAAS,KACTg5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkC,EAAY,EAAS,KACTi5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmC,EAAY,EAAS,KACTk5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoC,EAAY,EAAS,KACTm5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqC,EAAY,EAAS,KACTo5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsC,EAAY,EAAS,KACTq5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuC,EAAY,EAAS,KACTs5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwC,EAAY,EAAS,KACTu5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyC,EAAY,EAAS,KACTv5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0C,EAAY,EAAS,KACTw5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2C,EAAY,EAAS,KACTy5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4C,EAAY,EAAS,KACTz5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6C,EAAY,EAAS,KACT05B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8C,EAAY,EAAS,KACT25B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+C,EAAY,EAAS,KACT45B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgD,EAAY,EAAS,KACT65B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiD,EAAY,EAAS,KACT85B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkD,EAAY,EAAS,KACT+5B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmD,EAAY,EAAS,KACTg6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoD,EAAY,EAAS,KACTi6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqD,EAAY,EAAS,KACTk6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsD,EAAY,EAAS,KACTm6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuD,EAAY,EAAS,KACTo6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwD,EAAY,EAAS,KACTq6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyD,EAAY,EAAS,KACTs6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0D,EAAY,EAAS,KACTu6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2D,EAAY,EAAS,KACTv6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4D,EAAY,EAAS,KACTw6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6D,EAAY,EAAS,KACTy6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8D,EAAY,EAAS,KACT06B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+D,EAAY,EAAS,KACT26B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgE,EAAY,EAAS,KACT46B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiE,EAAY,EAAS,KACT66B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkE,EAAY,EAAS,KACT86B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmE,EAAY,EAAS,KACT+6B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoE,EAAY,EAAS,KACTg7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqE,EAAY,EAAS,KACTi7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsE,EAAY,EAAS,KACTk7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuE,EAAY,EAAS,KACTm7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwE,EAAY,EAAS,KACTo7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyE,EAAY,EAAS,KACTq7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0E,EAAY,EAAS,KACTs7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2E,EAAY,EAAS,KACTu7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4E,EAAY,EAAS,KACTw7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6E,EAAY,EAAS,KACTy7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8E,EAAY,EAAS,KACT07B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+E,EAAY,EAAS,KACT27B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgF,EAAY,EAAS,KACT47B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiF,EAAY,EAAS,KACT67B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkF,EAAY,EAAS,KACT87B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmF,EAAY,EAAS,KACT+7B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoF,EAAY,EAAS,KACTg8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqF,EAAY,EAAS,KACTi8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsF,EAAY,EAAS,KACTk8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuF,EAAY,EAAS,KACTm8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwF,EAAY,EAAS,KACTo8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyF,EAAY,EAAS,KACTq8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0F,EAAY,EAAS,KACTs8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2F,EAAY,EAAS,KACTu8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4F,EAAY,EAAS,KACTw8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6F,EAAY,EAAS,KACTy8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8F,EAAY,EAAS,KACT08B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+F,EAAY,EAAS,KACT28B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgG,EAAY,EAAS,KACT48B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiG,EAAY,EAAS,KACT68B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkG,EAAY,EAAS,KACT88B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmG,EAAY,EAAS,KACT+8B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoG,EAAY,EAAS,KACTg9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqG,EAAY,EAAS,KACTi9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsG,EAAY,EAAS,KACTk9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuG,EAAY,EAAS,KACTm9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwG,EAAY,EAAS,KACTo9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyG,EAAY,EAAS,KACTq9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0G,EAAY,EAAS,KACTs9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2G,EAAY,EAAS,KACTu9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4G,EAAY,EAAS,KACTw9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6G,EAAY,EAAS,KACTy9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8G,EAAY,EAAS,KACT09B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+G,EAAY,EAAS,KACT29B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgH,EAAY,EAAS,KACT49B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiH,EAAY,EAAS,KACT69B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkH,EAAY,EAAS,KACT89B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmH,EAAY,EAAS,KACT+9B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoH,EAAY,EAAS,KACTg+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqH,EAAY,EAAS,KACTi+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsH,EAAY,EAAS,KACTk+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuH,EAAY,EAAS,KACTm+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwH,EAAY,EAAS,KACTo+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyH,EAAY,EAAS,KACTq+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0H,EAAY,EAAS,KACTs+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2H,EAAY,EAAS,KACTu+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4H,EAAY,EAAS,KACTw+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6H,EAAY,EAAS,KACTy+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8H,EAAY,EAAS,KACT0+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+H,EAAY,EAAS,KACT2+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgI,EAAY,EAAS,KACT4+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiI,EAAY,EAAS,KACT6+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkI,EAAY,EAAS,KACT8+B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmI,EAAY,EAAS,KACT++B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoI,EAAY,EAAS,KACTg/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqI,EAAY,EAAS,KACTi/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsI,EAAY,EAAS,KACTk/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuI,EAAY,EAAS,KACTm/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwI,EAAY,EAAS,KACTo/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyI,EAAY,EAAS,KACTq/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0I,EAAY,EAAS,KACTs/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2I,EAAY,EAAS,KACTu/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4I,EAAY,EAAS,KACTw/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6I,EAAY,EAAS,KACTy/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8I,EAAY,EAAS,KACT0/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+I,EAAY,EAAS,KACT2/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgJ,EAAY,EAAS,KACT4/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiJ,EAAY,EAAS,KACT6/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkJ,EAAY,EAAS,KACT8/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmJ,EAAY,EAAS,KACT+/B,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoJ,EAAY,EAAS,KACTggC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqJ,EAAY,EAAS,KACTigC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsJ,EAAY,EAAS,KACTkgC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuJ,EAAY,EAAS,KACTmgC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwJ,EAAY,EAAS,KACTogC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyJ,EAAY,EAAS,KACTqgC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0J,EAAY,EAAS,KACTsgC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2J,EAAY,EAAS,KACTugC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4J,EAAY,EAAS,KACTwgC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6J,EAAY,EAAS,KACTygC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8J,EAAY,EAAS,KACT0gC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+J,EAAY,EAAS,KACT2gC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgK,EAAY,EAAS,KACT4gC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiK,EAAY,EAAS,KACT6gC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkK,EAAY,EAAS,KACT8gC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmK,EAAY,EAAS,KACT+gC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoK,EAAY,EAAS,KACTghC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqK,EAAY,EAAS,KACTihC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsK,EAAY,EAAS,KACTkhC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuK,EAAY,EAAS,KACTmhC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwK,EAAY,EAAS,KACTohC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyK,EAAY,EAAS,KACTqhC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0K,EAAY,EAAS,KACTshC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2K,EAAY,EAAS,KACTuhC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4K,EAAY,EAAS,KACTwhC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6K,EAAY,EAAS,KACTyhC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8K,EAAY,EAAS,KACT0hC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+K,EAAY,EAAS,KACT2hC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgL,EAAY,EAAS,KACT4hC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiL,EAAY,EAAS,KACT6hC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkL,EAAY,EAAS,KACT8hC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmL,EAAY,EAAS,KACT+hC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoL,EAAY,EAAS,KACTgiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqL,EAAY,EAAS,KACTiiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsL,EAAY,EAAS,KACTkiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuL,EAAY,EAAS,KACTmiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwL,EAAY,EAAS,KACTqiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyL,EAAY,EAAS,KACTsiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0L,EAAY,EAAS,KACTuiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2L,EAAY,EAAS,KACTwiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4L,EAAY,EAAS,KACTyiC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6L,EAAY,EAAS,KACT0iC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8L,EAAY,EAAS,KACT2iC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+L,EAAY,EAAS,KACT4iC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgM,EAAY,EAAS,KACT6iC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiM,EAAY,EAAS,KACT8iC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkM,EAAY,EAAS,KACT+iC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmM,EAAY,EAAS,KACTgjC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoM,EAAY,EAAS,KACTijC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqM,EAAY,EAAS,KACTkjC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsM,EAAY,EAAS,KACTmjC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuM,EAAY,EAAS,KACTojC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwM,EAAY,EAAS,KACTqjC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyM,EAAY,EAAS,KACTsjC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0M,EAAY,EAAS,KACTujC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2M,EAAY,EAAS,KACTwjC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4M,EAAY,EAAS,KACTyjC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6M,EAAY,EAAS,KACT0jC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8M,EAAY,EAAS,KACT2jC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+M,EAAY,EAAS,KACT4jC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgN,EAAY,EAAS,KACT6jC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiN,EAAY,EAAS,KACT8jC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkN,EAAY,EAAS,KACT+jC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmN,EAAY,EAAS,KACTgkC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoN,EAAY,EAAS,KACTikC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqN,EAAY,EAAS,KACTkkC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsN,EAAY,EAAS,KACTmkC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuN,EAAY,EAAS,KACTokC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwN,EAAY,EAAS,KACTqkC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyN,EAAY,EAAS,KACTskC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0N,EAAY,EAAS,KACTukC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2N,EAAY,EAAS,KACTwkC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4N,EAAY,EAAS,KACTykC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6N,EAAY,EAAS,KACT0kC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8N,EAAY,EAAS,KACT2kC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+N,EAAY,EAAS,KACT4kC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgO,EAAY,EAAS,KACT6kC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiO,EAAY,EAAS,KACT8kC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkO,EAAY,EAAS,KACT+kC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmO,EAAY,EAAS,KACTglC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoO,EAAY,EAAS,KACTilC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqO,EAAY,EAAS,KACTklC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsO,EAAY,EAAS,KACTmlC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuO,EAAY,EAAS,KACTolC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwO,EAAY,EAAS,KACTqlC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyO,EAAY,EAAS,KACTslC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0O,EAAY,EAAS,KACTulC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2O,EAAY,EAAS,KACTwlC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4O,EAAY,EAAS,KACTylC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6O,EAAY,EAAS,KACT0lC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8O,EAAY,EAAS,KACT2lC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+O,EAAY,EAAS,KACT4lC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgP,EAAY,EAAS,KACT6lC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiP,EAAY,EAAS,KACT8lC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkP,EAAY,EAAS,KACT+lC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZmP,EAAY,EAAS,KACTgmC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZoP,EAAY,EAAS,KACTimC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZqP,EAAY,EAAS,KACTkmC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZsP,EAAY,EAAS,KACTmmC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZuP,EAAY,EAAS,KACTomC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZwP,EAAY,EAAS,KACTqmC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZyP,EAAY,EAAS,KACTsmC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ0P,EAAY,EAAS,KACTumC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ2P,EAAY,EAAS,KACTwmC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ4P,EAAY,EAAS,KACTymC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ6P,EAAY,EAAS,KACT0mC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ8P,EAAY,EAAS,KACT2mC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZ+P,EAAY,EAAS,KACT4mC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZgQ,EAAY,EAAS,KACT6mC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZiQ,EAAY,EAAS,KACT8mC,WAAWx5B,x5B,EACXwvD,IAAWjN,GAEX+M,EAAY,EACZkQ,EAAY,EAAS,KACT+mC,WAAWx5B,x5B,EACXwvD,

oD,EAAO4jD,EAAa/6C,EAAO3D,EAAO4+C,GACtE,IAAI8D,EAAW9D,EAAiB9jD,EAAMg6B,gBAAkBh6B,EAAMi6B,eAC9C,MAAZ2tB,GAA6D,iBAAfhE,GAC9C5pC,GAAqB4tC,EAAUhE,IAAgB,IAE/C/C,6C,EAAM3D,EAAQ,GAAK+zB,GAA8BpwB,EAAM3D,EAAQ,KAxBnE0jD,CAA+B5oD,EAAO4jD,EAAOa/6C,EAAO3D,EAAO4+C,GACjEwE,EAAY9vB,GAAgB+vB,EAAUC,GAClC1E,EACA9jD,EAAMu5B,cAAgB+uB,EAAGtBtoD,EAAMw5B,cAAgB8uB,EAAkoBtBH,CAAsBt/C,EAAO4jD,EAAOa17C,EAAO3D,EAAO4+C,GAAIA,EAAvF,EAAMs2B,GAA6BpwB,EAAM3D,EAAQ,KAAGA

AIrvC,EAAQ4B,KACRyvC,EAAe5B,GAAezvC,EAAOmvC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIN,GA
IrE,OAHIgC,IAAiBre,IACjBmP,GAAoBniC,EAAOyF,KAAoB4rC,GAE5CkU,GAsBX,SAASC,GAAmBrW,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIT,GAC5D,IAAIrvC,EAAQ4B,KACRyvC,EAAezB,GAAe5vC,EAAOmvC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIT,GAC5D,IAAIrvC,EAAQ4B,KACRyvC,EAAe5B,GAAe5vC,EAAOmvC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIT,GAC5D,IAAIrvC,EAAQ4B,KACRyvC,EAAe3B,GAAe5vC,EAAOmvC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIT,GAC5D,IAAIrvC,EAAQ4B,KACRyvC,EAAe1B,GAAe5vC,EAAOmvC,EAAQC,EAAIG,EAAIC,EAAIE

uR,GADwB1Q,GADZtuC,KACkCutC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIf,IAuCtG,SAASwX,GAAuB1X,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIlB,GAGxFuR,GADwBvQ,GADZzuC,KACkCutC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIlB,IAyC9G,SAASyX,GAAuB3X,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIrB,GAGhuBuR,GADwBvQ,GADZ5uC,KACkCutC,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIrB,IA2BtH,SAAS0X,GAAuB5X,EAAQC,EAAIG,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIE,EAAIC,EAAIrB,;;;;;;;OAqClD,SASq1C,GAAwBrvC,EAAAMw3B,EAAAMw3B,EAAAMw3B

cAAc1G,QAAQ,KAAM;;;;;;;OAtFnB0qC,CAAgBF,GACnC9mC,EAAQinC,GAAcF,GAC1B,GAAI/mC,EACA,OAAOA,EAGX,IAAIknC,EAAeH,EAAiB5mC,MAAM,KAAK,GAE/C,GADAH,EAAQinC,GAAcC,GAAElB,OAAOlnC,EAEX,GAAqB,OAAjBknC,EACA,OAAOX,GAEX,MAAM,IAAI73D,MAAM,uCAA0Co4D,EAAS,MAuBvE,SAASK,GAAoBL,GAAEzB,OADWD,GAAeC,GAAEC,GAAEC,GAAE

J,KAAK,EACD,IAAIE,EAAQjrD,EAAMM,GACR,OAAV2qD,GAAkBl/B,GAAAe/rB,EAv1kBlD,IAu1kBmEirD,EAAO14D,GACzD,MACJ,KAAK,EACD24D,GAAmB9yD,EAAO4xD,GAAQ5xD,EAAOkI,GAAYN,EAAOzN,GAC5D,MACJ,KAAK,EACD44D,GAAmB/yD,EAAO4xD,GAAQ5xD,EAAOkI,GAAYsqD,EAAoB5qD,UAS7F,IADIq7B,EAASsvB,EAAcxuD,EAAI,IAClB,GAAwC,IAAzB,EAATk7B,D,GAAAq8uB,GAAAC,GAAAC,GAAAC

19D,KAAKsM,EAAI,EACTtM,KAAK09D,MAAQA,EAEjBD,EAAahzD,UAAUkzD,QAAU,WAC7B,OAAO39D,
KAAKsM,EAAItM,KAAK09D,MAAMlxD,QAE/BixD,EAAahzD,UAAUmzD,cAAgB,WACnC,IAAIl7D,EAAQ1
C,KAAK09D,MAAM19D,KAAKsM,KAE5B,OADAtK,EAAaU,EAAO,8BACbA,GAEX+6D,EAAahzD,UAAUoz
D,cAAgB,WACnC,IAAIn7D,EAAQ1C,KAAK09D,MAAM19D,KAAKsM,KAE5B,OAtnnBR,SAASwxD,EAAa7
7D,EAAQC,GACF,iBAAXD,GACTE,EAAWD,GAAOD,EAAkB,cAAgBA,EAAQ,SAAU,OAmnnBpE67
D,CAAap7D,EAAO,8BACbA,GAEX+6D,EAAahzD,UAAUszD,gBAAkB,WACrC,IAAIr7D,EAAQ1C,KAAK09
D,MAAM19D,KAAKsM,KAC5B,GAAc,OAAV5J,EAAgB,CAAE,IAAIs7D,EAAWt7D,EAAMu7D,aAAcC,EAAWx
,iBACjBC,GAAa,6CACbC,GAAa,UACbC,GAAmB,6CAEnBC,GAAqB,qBACrBC,GAAY,wBAAQZC,GAAAsB;;;;;;
;OAmG1B,SAASC,GAAwBl2D,EAAO4yC,EAAWujB,EAAgBvuD,EAAOwuD,EAAepmD,EAAMqmD,GAC3F,I
AAIC,EAAcz0B,GAAa7hC,EAAO4H,EAAO,EAAG,MAC5Cq7B,EAAqBA,GAAsB4F,GAAAe3F,GAAAiB4F,MACzCzqD,EA
Ac9B,KACd4oC,IAAc9mC,IAIdA,EAAc,MAEE,OAAhBA,IAKAm3B,GAAU0tB,GAAAiB6F,gBAAAuBqlC;;;;;;;OAioavBD,
CAAgChC,KAEpC0B,EAAc1xD,KAAKu+B,EAAiB,OAATjzB,EAAgB,EAAgB,GAAKA,GAAhD,IAAIvN,EAAQi/B,GA
AmB1hC,EAAOs2D,EAAaD,EAAQ,GAAe,EAAuB,OAATrmD,EAAuC,GAAMA,EAAM,MAC3IqhD,GAAmC8
E,EAAgB1zD,GAAnD,IAAIghD,EAAWhD,EAAMkF,MAAOrB,EAAOC,GAAhC,IAAIoB,EAAWpB,EAAOC,GAAhC,IAAIoB,EAAWpB,EAAOC,GAAhC,IAAIoB,EAAWp

B,iBAAVvnB,EAAoB,CAE3B,IAAIk+D,EAAWD,EAAW1zD,KAAKvK,GAAS,EAExCg+D,EAASz2C,GAAK,WAAe22C,EAAW,WAGhDN,EAAcO,GAAAat4D,EAAO+xD,EAAMnqD,EAAO2qD,EAAAe6B,EAAWhB,EAAcE,MAAMvvD,GAAAIo0D,EAAAS5/D,KAAKK,GAAAIk6D,EAAAS5/D,KAAKG,GAAAChHL,EAAEJA,GAAkNR,SAASQ,EAAAmBtF,EAAAQ8E,EAAAapwD,GAAC7CsrD,EAAAOvuD,KAAAKqzD,EAAAa,EAAAGpwD,GAAAS,EAAAoB,GAAlNrD4wD,CAAAmBhG,EAAAewF,EAAAajE,GAAUvD,SAAAS0E,GAAAcC,GAAiBnB,IAAhBA,IAAAInF,EAAAQ,GACR/5C,EAAAS,GACTm/C,EAAAU,EACVTEAAc,EAAWd1yC,EAAAQozC,GAAVZFEAAUA,EAAAQhzC,QAAAQqwC,IAAAkB,SAAAUmB,EAAAK2B,EAAAASt/D,GAAAQhE,OANIo/D,EADS,WAATp/D,GAACU,EAAAGA,EAAAEd2+D,EAAAcxE,EAAAmF,EAAAQvzC,OAAAO,GAAAI,IACnCC,OAIFwzC,EAAAM,EAAAGA,EAAAMtzC,EAAAMthB,QAAAS,EAAAIrM,EAAAM2tB,EAAAMsz

AAmBv2D,EAAQmmD,EAAU3vB,GAC1Cx2B,EAAOkB,KAAKilD,GAAY,EAAoB,EAAc3vB,EAAKvhC,KAAAMuhC,EAAK7/B;;;;;;;OAW9E,IACImgE,GAAqC,eACrCC,GAAyB,iCACzBC,GAAqB,4CACrBC,GAA6B,kBAC7BC,GAAiB,2BACjBC,GAA2B,OAC3BC,GAAwB,aAqB5B,SAASC,GAAgB31D,QACT,IAAjBA,A2BA,IAA2BA,EAAe,IAW9C,IAAIh9C,EAAS5Y,GAAcC,GAAcC,GAAcC

,EAAO80D,EAAMl5D,OAAQ4zB,EAHlBtrB,GAAmC,EAAnBA,EAAYxS,KAC9CsO,EAAMkE,EAAYnE,OAClB,MAEJqD,IAAe,GAQnB,SAAS6xD,KACL7xD,IAAe,GA4BnB,SAAS8xD,GAAOn1D,EAAOg0D,CFj/zD,GAAAY/zD,EAAOg0D,CFj/zD,GAAAY/zD,EAAOg0D,CFj/zD,GAAAY/zD

L,EAAO1D,EAAOnF,GACxD,IACIqb,EADA4f,EAAYjmC,KAAKi2C,MAErB,GAAIj2C,KAAKimE,gBAAiB,CACtB,IAAIqB,EAAiBtnE,KAAKimE,gBAAgBS,mBACtCa,EAAiBvpD,GAAkB7N,EAAOA,EAp0nB1C,GAo0nBwDnQ,KAAKimE,gBAAgB/1D,MAAOlF,GAIxFq8D,GAAAaphC,EAFb5f,EAASkhD,EAAAe9tD,MAAM,EAAG6tD,IAIjC,IAAK,IAAIh7D,GAAIg7D,IAAIf7D,EAAIg7D,Bh7D,EAAIi7D,EAAAe/6D,OAAQF,IACpD+Z,EAAOpZ,KAAKs6D,Zej7D,SAM/B+Z,6D,GAAAaphC,EAFb5f,EAASghD,EAAAeW5f,EAAIb,IAAIb,OAAOA,EAKX,SAASghD,EAAAeW5f,EAAIb,IAAIb,OAAOA,EA

iBA,EAASA,EAAOy2B,MACzDjpE,EAAGwyC,IAGXw1B,EAAsBt/D,UAAUwgE,iBAAmB,SAAUlpE,GAKzD,IAJA,IAAImpE,EAASlrE,KAAKoqE,QACde,EAAanrE,KAAK0qE,cAClBU,EAAkB,EACClBC,EAAc,KACXH,GAAUC,GAAAY,CAGzB,IAAI52B,GAAU42B,GACVD,GACC

iqE,eAAeltD,IAAI4vD,EAAaz8D,KAI3E1E,OAAOwyC,GAAGzJ,EAAO56B,KAAMA,IACxB3Z,KAAK+sE,mBAAmBx4B,EAAQ56B,GACpC3Z,KAAKutE,WAAWh5B,EAAQ64B,EAAgBl9D,IAKzB,QADfqkC,EAAmC,OAA1Bv0C,KAAKkqE,iBAA4B,KAAOlqE,KAAKkqE,iBAAiBntD,IAAI4vD,EAAa,QAI/EnhE,OAAOwyC,GAAGzJ,EAAO56B,KAAMA,IACxB3Z,KAAK+sE,mBAAmBx4B,EAAQ56B,GACpC3Z,KAAKwtE,eAAej5B,EAAQ64B,EAAgBl9D,IAI5CqkC,EACIv0C,KAAKytE,UAAU,IAAIC,GAAsB/zD,EAAmMgzD,GAAcS,EAAgBl9D,GAAlFqkC,GAA6BqnB,GAAcS,EAAgBl9D,IAAMA,GAAGlF,qkC,GA6BXw1B,EAAsBt/D,UAAUqiE,mBAAqB,SAAUv4B,EAAQ56B,GAAIA,IAAMA,GAAGlF,KAAKstE,WAAWx4B,EAAQ56B,GAAIlF,KAAKutE,WAAWz4B,EAAQ56B,GAAIlF,KAAKwtE,eAAe14B,EAAQ56B,GAAIlF,KAAKytE,UAAU34B,EAAQ56B,GAAIlF,KAAK0tE,WAAW54B,EAAQ56B,GAAIlF,KAAK2tE,WAAW74B,EAAQ56B,GAAIlF,KAAK4tE,WAAW94B,EAAQ56B,GAAIlF,KAAK6tE,WAAW/4B,EAAQ56B,GAAIlF,KAAK8tE,WAAWh5B,EAAQ56B,GAAIlF,KAAK+tE,WAAWj5B,EAAQ56B,GAAIlF,KAAKguE,WAAWl5B,EAAQ56B,GAAIlF,KAAKiuE,WAAWn5B,EAAQ56B,GAAIlF,KAAKkuE,WAAWp5B,EAAQ56B,GAAIlF,KAAKmuE,WAAWr5B,EAAQ56B,GAAIlF,KAAKouE,WAAWt5B,EAAQ56B,GAAIlF,KAAKquE,WAAWv5B,EAAQ56B,GAAIlF,KAAKsuE,WAAWx5B,EAAQ56B,GAAIlF,KAAKuuE,WAAWz5B,EAAQ56B,GAAIlF,KAAKwuE,WAAW15B,EAAQ56B,GAAIlF,KAAKyuE,WAAW35B,EAAQ56B,GAAIlF,KAAK0uE,WAAW55B,EAAQ56B,GAAIlF,KAAK2uE,WAAW75B,EAAQ56B,GAAIlF,KAAK4uE,WAAW95B,EAAQ56B,GAAIlF,KAAK6uE,WAAW/5B,EAAQ56B,GAAIlF,KAAK8uE,WAAWh6B,EAAQ56B,GAAIlF,KAAK+uE,WAAWj6B,EAAQ56B,GAAIlF,KAAKgvE,WAAWl6B,EAAQ56B,GAAIlF,KAAKivE,WAAWn6B,EAAQ56B,GAAIlF,KAAKkvE,WAAWp6B,EAAQ56B,GAAIlF,KAAKmvE,WAAWr6B,EAAQ56B,GAAIlF,KAAKovE,WAAWt6B,EAAQ56B,GAAIlF,KAAKqvE,WAAWv6B,EAAQ56B,GAAIlF,KAAKsvE,WAAWx6B,EAAQ56B,GAAIlF,KAAKuvE,WAAWz6B,EAAQ56B,GAAIlF,KAAKwvE,WAAW16B,EAAQ56B,GAAIlF,KAAKyvE,WAAW36B,EAAQ56B,GAAIlF,KAAK0vE,WAAW56B,EAAQ56B,GAAIlF,KAAK2vE,WAAW76B,EAAQ56B,GAAIlF,KAAK4vE,WAAW96B,EAAQ56B,GAAIlF,KAAK6vE,WAAW/6B,EAAQ56B,GAAIlF,KAAK8vE,WAAWh7B,EAAQ56B,GAAIlF,KAAK+vE,WAAWj7B,EAAQ56B,GAAIlF,KAAKgwE,WAAWl7B,EAAQ56B,GAAIlF,KAAKiwE,WAAWn7B,EAAQ56B,GAAIlF,KAAKkwE,WAAWp7B,EAAQ56B,GAAIlF,KAAKmwE,WAAWr7B,EAAQ56B,GAAIlF,KAAKowE,WAAWt7B,EAAQ56B,GAAIlF,KAAKqwE,WAAWv7B,EAAQ56B,GAAIlF,KAAKswE,WAAWx7B,EAAQ56B,GAAIlF,KAAKuwE,WAAWz7B,EAAQ56B,GAAIlF,KAAKwwE,WAAW17B,EAAQ56B,GAAIlF,KAAKywE,WAAW37B,EAAQ56B,GAAIlF,KAAK0wE,WAAW57B,EAAQ56B,GAAIlF,KAAK2wE,WAAW77B,EAAQ56B,GAAIlF,KAAK4wE,WAAW97B,EAAQ56B,GAAIlF,KAAK6wE,WAAW/7B,EAAQ56B,GAAIlF,KAAK8wE,WAAWh8B,EAAQ56B,GAAIlF,KAAK+wE,WAAWj8B,EAAQ56B,GAAIlF,KAAKgxE,WAAWl8B,EAAQ56B,GAAIlF,KAAKixE,WAAWn8B,EAAQ56B,GAAIlF,KAAKkxE,WAAWp8B,EAAQ56B,GAAIlF,KAAKmxE,WAAWr8B,EAAQ56B,GAAIlF,KAAKoxE,WAAWt8B,EAAQ56B,GAAIlF,KAAKqxE,WAAWv8B,EAAQ56B,GAAIlF,KAAKsxE,WAAWx8B,EAAQ56B,GAAIlF,KAAKuxE,WAAWz8B,EAAQ56B,GAAIlF,KAAKwxE,WAAW18B,EAAQ56B,GAAIlF,KAAKyxE,WAAW38B,EAAQ56B,GAAIlF,KAAK0xE,WAAW58B,EAAQ56B,GAAIlF,KAAK2xE,WAAW78B,EAAQ56B,GAAIlF,KAAK4xE,WAAW98B,EAAQ56B,GAAIlF,KAAK6xE,WAAW/8B,EAAQ56B,GAAIlF,KAAK8xE,WAAWh9B,EAAQ56B,GAAIlF,KAAK+xE,WAAWj9B,EAAQ56B,GAAIlF,KAAKgyE,WAAWl9B,EAAQ56B,GAAIlF,KAAKiyE,WAAWn9B,EAAQ56B,GAAIlF,KAAKkyE,WAAWp9B,EAAQ56B,GAAIlF,KAAKmyE,WAAWr9B,EAAQ56B,GAAIlF,KAAKoyE,WAAWt9B,EAAQ56B,GAAIlF,KAAKqyE,WAAWv9B,EAAQ56B,GAAIlF,KAAKsyE,WAAWx9B,EAAQ56B,GAAIlF,KAAKuyE,WAAWz9B,EAAQ56B,GAAIlF,KAAKwyE,WAAW19B,EAAQ56B,GAAIlF,KAAKyyE,WAAW39B,EAAQ56B,GAAIlF,KAAK0yE,WAAW59B,EAAQ56B,GAAIlF,KAAK2yE,WAAW79B,EAAQ56B,GAAIlF,KAAK4yE,WAAW99B,EAAQ56B,GAAIlF,KAAK6yE,WAAW/9B,EAAQ56B,GAAIlF,KAAK8yE,WAAWh+B,EAAQ56B,GAAIlF,KAAK+yE,WAAWj+B,EAAQ56B,GAAIlF,KAAKgzE,WAAWl+B,EAAQ56B,GAAIlF,KAAKizE,WAAWn+B,EAAQ56B,GAAIlF,KAAKkzE,WAAWp+B,EAAQ56B,GAAIlF,KAAKmzE,WAAWr+B,EAAQ56B,GAAIlF,KAAKozE,WAAWt+B,EAAQ56B,GAAIlF,KAAKqzE,WAAWv+B,EAAQ56B,GAAIlF,KAAKszE,WAAWx+B,EAAQ56B,GAAIlF,KAAKuzE,WAAWz+B,EAAQ56B,GAAIlF,KAAKwzE,WAAW1+B,EAAQ56B,GAAIlF,KAAKyzE,WAAW3+B,EAAQ56B,GAAIlF,KAAK0zE,WAAW5+B,EAAQ56B,GAAIlF,KAAK2zE,WAAW7+B,EAAQ56B,GAAIlF,KAAK4zE,WAAW9+B,EAAQ56B,GAAIlF,KAAK6zE,WAAW/+B,EAAQ56B,GAAIlF,KAAK8zE,WAAWh/B,EAAQ56B,GAAIlF,KAAK+zE,WAAWj/B,EAAQ56B,GAAIlF,KAAKg0E,WAAWl/B,EAAQ56B,GAAIlF,KAAKi0E,WAAWn/B,EAAQ56B,GAAIlF,KAAKk0E,WAAWp/B,EAAQ56B,GAAIlF,KAAKm0E,WAAWr/B,EAAQ56B,GAAIlF,KAAKo0E,WAAWt/B,EAAQ56B,GAAIlF,KAAKq0E,WAAWv/B,EAAQ56B,GAAIlF,KAAKs0E,WAAWx/B,EAAQ56B,GAAIlF,KAAKu0E,WAAWz/B,EAAQ56B,GAAIlF,KAAKw0E,WAAW1/B,EAAQ56B,GAAIlF,KAAKy0E,WAAW3/B,EAAQ56B,GAAIlF,KAAK00E,WAAW5/B,EAAQ56B,GAAIlF,KAAK20E,WAAW7/B,EAAQ56B,GAAIlF,KAAK40E,WAAW9/B,EAAQ56B,GAAIlF,KAAK60E,WAAW//B,EAAQ56B,GAAIlF,KAAK80E,WAAWhgC,EAAQ56B,GAAIlF,KAAK+0E,WAAWjgC,EAAQ56B,GAAIlF,KAAKg1E,WAAWlgC,EAAQ56B,GAAIlF,KAAKi1E,WAAWngC,EAAQ56B,GAAIlF,KAAKk1E,WAAWpgC,EAAQ56B,GAAIlF,KAAKm1E,WAAWrgC,EAAQ56B,GAAIlF,KAAKo1E,WAAWtgC,EAAQ56B,GAAIlF,KAAKq1E,WAAWvgC,EAAQ56B,GAAIlF,KAAKs1E,WAAWxgC,EAAQ56B,GAAIlF,KAAKu1E,WAAWzgC,EAAQ56B,GAAIlF,KAAKw1E,WAAW1gC,EAAQ56B,GAAIlF,KAAKy1E,WAAW3gC,EAAQ56B,GAAIlF,KAAK01E,WAAW5gC,EAAQ56B,GAAIlF,KAAK21E,WAAW7gC,EAAQ56B,GAAIlF,KAAK41E,WAAW9gC,EAAQ56B,GAAIlF,KAAK61E,WAAW/gC,EAAQ56B,GAAIlF,KAAK81E,WAAWhhC,EAAQ56B,GAAIlF,KAAK+1E,WAAWjhC,EAAQ56B,GAAIlF,KAAKg2E,WAAWlhC,EAAQ56B,GAAIlF,KAAKi2E,WAAWnhC,EAAQ56B,GAAIlF,KAAKk2E,WAAWphC,EAAQ56B,GAAIlF,KAAKm2E,WAAWrhC,EAAQ56B,GAAIlF,KAAKo2E,WAAWthC,EAAQ56B,GAAIlF,KAAKq2E,WAAWvhC,EAAQ56B,GAAIlF,KAAKs2E,WAAWxhC,EAAQ56B,GAAIlF,KAAKu2E,WAAWzhC,EAAQ56B,GAAIlF,KAAKw2E,WAAW1hC,EAAQ56B,GAAIlF,KAAKy2E,WAAW3hC,EAAQ56B,GAAIlF,KAAK02E,WAAW5hC,EAAQ56B,GAAIlF,KAAK22E,WAAW7hC,EAAQ56B,GAAIlF,KAAK42E,WAAW9hC,EAAQ56B,GAAIlF,KAAK62E,WAAW/hC,EAAQ56B,GAAIlF,KAAK82E,WAAWhiC,EAAQ56B,GAAIlF,KAAK+2E,WAAWjiC,EAAQ56B,GAAIlF,KAAKg3E,WAAWliC,EAAQ56B,GAAIlF,KAAKi3E,WAAWniC,EAAQ56B,GAAIlF,KAAKk3E,WAAWpiC,EAAQ56B,GAAIlF,KAAKm3E,WAAWriC,EAAQ56B,GAAIlF,KAAKo3E,WAAWtiC,EAAQ56B,GAAIlF,KAAKq3E,WAAWviC,EAAQ56B,GAAIlF,KAAKs3E,WAAWxiC,EAAQ56B,GAAIlF,KAAKu3E,WAAWziC,EAAQ56B,GAAIlF,KAAKw3E,WAAW1iC,EAAQ56B,GAAIlF,KAAKy3E,WAAW3iC,EAAQ56B,GAAIlF,KAAK03E,WAAW5iC,EAAQ56B,GAAIlF,KAAK23E,WAAW7iC,EAAQ56B,GAAIlF,KAAK43E,WAAW9iC,EAAQ56B,GAAIlF,KAAK63E,WAAW/iC,EAAQ56B,GAAIlF,KAAK83E,WAAWhjC,EAAQ56B,GAAIlF,KAAK+3E,WAAWjjC,EAAQ56B,GAAIlF,KAAKg4E,WAAWljC,EAAQ56B,GAAIlF,KAAKi4E,WAAWnjC,EAAQ56B,GAAIlF,KAAKk4E,WAAWpjC,EAAQ56B,GAAIlF,KAAKm4E,WAAWrjC,EAAQ56B,GAAIlF,KAAKo4E,WAAWtjC,EAAQ56B,GAAIlF,KAAKq4E,WAAWvjC,EAAQ56B,GAAIlF,KAAKs4E,WAAWxjC,EAAQ56B,GAAIlF,KAAKu4E,WAAWzjC,EAAQ56B,GAAIlF,KAAKw4E,WAAW1jC,EAAQ56B,GAAIlF,KAAKy4E,WAAW3jC,EAAQ56B,GAAIlF,KAAK04E,WAAW5jC,EAAQ56B,GAAIlF,KAAK24E,WAAW7jC,EAAQ56B,GAAIlF,KAAK44E,WAAW9jC,EAAQ56B,GAAIlF,KAAK64E,WAAW/jC,EAAQ56B,GAAIlF,KAAK84E,WAAWhkC,EAAQ56B,GAAIlF,KAAK+4E,WAAWjkC,EAAQ56B,GAAIlF,KAAKg5E,WAAWlkC,EAAQ56B,GAAIlF,KAAKi5E,WAAWnkC,EAAQ56B,GAAIlF,KAAKk5E,WAAWpkC,EAAQ56B,GAAIlF,KAAKm5E,WAAWrkC,EAAQ56B,GAAIlF,KAAKo5E,WAAWtkC,EAAQ56B,GAAIlF,KAAKq5E,WAAWvkC,EAAQ56B,GAAIlF,KAAKs5E,WAAWxkC,EAAQ56B,GAAIlF,KAAKu5E,WAAWzkC,EAAQ56B,GAAIlF,KAAKw5E,WAAW1kC,EAAQ56B,GAAIlF,KAAKy5E,WAAW3kC,EAAQ56B,GAAIlF,KAAK05E,WAAW5kC,EAAQ56B,GAAIlF,KAAK25E,WAAW7kC,EAAQ56B,GAAIlF,KAAK45E,WAAW9kC,EAAQ56B,GAAIlF,KAAK65E,WAAW/kC,EAAQ56B,GAAIlF,KAAK85E,WAAWhlC,EAAQ56B,GAAIlF,KAAK+5E,WAAWjlC,EAAQ56B,GAAIlF,KAAKg6E,WAAWllC,EAAQ56B,GAAIlF,KAAKi6E,WAAWnlC,EAAQ56B,GAAIlF,KAAKk6E,WAAWplC,EAAQ56B,GAAIlF,KAAKm6E,WAAWrlC,EAAQ56B,GAAIlF,KAAKo6E,WAAWtlC,EAAQ56B,GAAIlF,KAAKq6E,WAAWvlC,EAAQ56B,GAAIlF,KAAKs6E,WAAWxlC,EAAQ56B,GAAIlF,KAAKu6E,WAAWzlC,EAAQ56B,GAAIlF,KAAKw6E,WAAW1lC,EAAQ56B,GAAIlF,KAAKy6E,WAAW3lC,EAAQ56B,GAAIlF,KAAK06E,WAAW5lC,EAAQ56B,GAAIlF,KAAK26E,WAAW7lC,EAAQ56B,GAAIlF,KAAK46E,WAAW9lC,EAAQ56B,GAAIlF,KAAK66E,WAAW/lC,EAAQ56B,GAAIlF,KAAK86E,WAAWhmC,EAAQ56B,GAAIlF,KAAK+6E,WAAWjmC,EAAQ56B,GAAIlF,KAAKg7E,WAAWlmC,EAAQ56B,GAAIlF,KAAKi7E,WAAWnmC,EAAQ56B,GAAIlF,KAAKk7E,WAAWpmC,EAAQ56B,GAAIlF,KAAKm7E,WAAWrmC,EAAQ56B,GAAIlF,KAAKo7E,WAAWtmC,EAAQ56B,GAAIlF,KAAKq7E,WAAWvmC,EAAQ56B,GAAIlF,KAAKs7E,WAAWxmC,EAAQ56B,GAAIlF,KAAKu7E,WAAWzmC,EAAQ56B,GAAIlF,KAAKw7E,WAAW1mC,EAAQ56B,GAAIlF,KAAKy7E,WAAW3mC,EAAQ56B,GAAIlF,KAAK07E,WAAW5mC,EAAQ56B,GAAIlF,KAAK27E,WAAW7mC,EAAQ56B,GAAIlF,KAAK47E,WAAW9mC,EAAQ56B,GAAIlF,KAAK67E,WAAW/mC,EAAQ56B,GAAIlF,KAAK87E,WAAWhnC,EAAQ56B,GAAIlF,KAAK+7E,WAAWjnC,EAAQ56B,GAAIlF,KAAKg8E,WAAWlnC,EAAQ56B,GAAIlF,KAAKi8E,WAAWnnC,EAAQ56B,GAAIlF,KAAKk8E,WAAWpnC,EAAQ56B,GAAIlF,KAAKm8E,WAAWrnC,EAAQ56B,GAAIlF,KAAKo8E,WAAWtnC,EAAQ56B,GAAIlF,KAAKq8E,WAAWvnC,EAAQ56B,GAAIlF,KAAKs8E,WAAWxnC,EAAQ56B,GAAIlF,KAAKu8E,WAAWznC,EAAQ56B,GAAIlF,KAAKw8E,WAAW1nC,EAAQ56B,GAAIlF,KAAKy8E,WAAW3nC,EAAQ56B,GAAIlF,KAAK08E,WAAW5nC,EAAQ56B,GAAIlF,KAAK28E,WAAW7nC,EAAQ56B,GAAIlF,KAAK48E,WAAW9nC,EAAQ56B,GAAIlF,KAAK68E,WAAW/nC,EAAQ56B,GAAIlF,KAAK88E,WAAWhoC,EAAQ56B,GAAIlF,KAAK+8E,WAAWjoC,EAAQ56B,GAAIlF,KAAKg9E,WAAWloC,EAAQ56B,GAAIlF,KAAKi9E,WAAWnoC,EAAQ56B,GAAIlF,KAAKk9E,WAAWpoC,EAAQ56B,GAAIlF,KAAKm9E,WAAWroC,EAAQ56B,GAAIlF,KAAKo9E,WAAWtoC,EAAQ56B,GAAIlF,KAAKq9E,WAAWvoC,EAAQ56B,GAAIlF,KAAKs9E,WAAWxoC,EAAQ56B,GAAIlF,KAAKu9E,WAAWzoC,EAAQ56B,GAAIlF,KAAKw9E,WAAW1oC,EAAQ56B,GAAIlF,KAAKy9E,WAAW3oC,EAAQ56B,GAAIlF,KAAK09E,WAAW5oC,EAAQ56B,GAAIlF,KAAK29E,WAAW7oC,EAAQ56B,GAAIlF,KAAK49E,WAAW9oC,EAAQ56B,GAAIlF,KAAK69E,WAAW/oC,EAAQ56B,GAAIlF,KAAK89E,WAAWhpC,EAAQ56B,GAAIlF,KAAK+9E,WAAWjpC,EAAQ56B,GAAIlF,KAAKg+E,WAAWlpC,EAAQ56B,GAAIlF,KAAKi+E,WAAWnpC,EAAQ56B,GAAIlF,KAAKk+E,WAAWppC,EAAQ56B,GAAIlF,KAAKm+E,WAAWrpC,EAAQ56B,GAAIlF,KAAKo+E,WAAWtpC,EAAQ56B,GAAIlF,KAAKq+E,WAAWvpC,EAAQ56B,GAAIlF,KAAKs+E,WAAWxpC,EAAQ56B,GAAIlF,KAAKu+E,WAAWzpC,EAAQ56B,GAAIlF,KAAKw+E,WAAW1pC,EAAQ56B,GAAIlF,KAAKy+E,WAAW3pC,EAAQ56B,GAAIlF,KAAK0+E,WAAW5pC,EAAQ56B,GAAIlF,KAAK2+E,WAAW7pC,EAAQ56B,GAAIlF,KAAK4+E,WAAW9pC,EAAQ56B,GAAIlF,KAAK6+E,WAAW/pC,EAAQ56B,GAAIlF,KAAK8+E,WAAWhqC,EAAQ56B,GAAIlF,KAAK++E,WAAWjqC,EAAQ56B,GAAIlF,KAAKg/E,WAAWlqC,EAAQ56B,GAAIlF,KAAKi/E,WAAWnqC,EAAQ56B,GAAIlF,KAAKk/E,WAAWpqC,EAAQ56B,GAAIlF,KAAKm/E,WAAWrqC,EAAQ56B,GAAIlF,KAAKo/E,WAAWtqC,EAAQ56B,GAAIlF,KAAKq/E,WAAWvqC,EAAQ56B,GAAIlF,KAAKs/E,WAAWxqC,EAAQ56B,GAAIlF,KAAKu/E,WAAWzqC,EAAQ56B,GAAIlF,KAAKw/E,WAAW1qC,EAAQ56B,GAAIlF,KAAKy/E,WAAW3qC,EAAQ56B,GAAIlF,KAAK0/E,WAAW5qC,EAAQ56B,GAAIlF,KAAK2/E,WAAW7qC,EAAQ56B,GAAIlF,KAAK4/E,WAAW9qC,EAAQ56B,GAAIlF,KAAK6/E,WAAW/qC,EAAQ56B,GAAIlF,KAAK8/E,WAAWhrC,EAAQ56B,GAAIlF,KAAK+/E,WAAWjrC,EAAQ56B,GAAIlF,KAAKggF,WAAWlrC,EAAQ56B,GAAIlF,KAAKigF,WAAWnrC,EAAQ56B,GAAIlF,KAAKkgF,WAAWprC,EAAQ56B,GAAIlF,KAAKmgF,WAAWrrC,EAAQ56B,GAAIlF,KAAKogF,WAAWtrC,EAAQ56B,GAAIlF,KAAKqgF,WAAWvrC,EAAQ56B,GAAIlF,KAAKsgF,WAAWxrC,EAAQ56B,GAAIlF,KAAKugF,WAAWzrC,EAAQ56B,GAAIlF,KAAKwgF,WAAW1rC,EAAQ56B,GAAIlF,KAAKygF,WAAW3rC,EAAQ56B,GAAIlF,KAAK0gF,WAAW5rC,EAAQ56B,GAAIlF,KAAK2gF,WAAW7rC,EAAQ56B,GAAIlF,KAAK4gF,WAAW9rC,EAAQ56B,GAAIlF,KAAK6gF,WAAW/rC,EAAQ56B,GAAIlF,KAAK8gF,WAAWhsC,EAAQ56B,GAAIlF,KAAK+gF,WAAWjsC,EAAQ56B,GAAIlF,KAAKghF,WAAWlsC,EAAQ56B,GAAIlF,KAAKihF,WAAWnsC,EAAQ56B,GAAIlF,KAAKkhF,WAAWpsC,EAAQ56B,GAAIlF,KAAKmhF,WAAWrsC,EAAQ56B,GAAIlF,KAAKohF,WAAWtsC,EAAQ56B,GAAIlF,KAAKqhF,WAAWvsC,EAAQ56B,GAAIlF,KAAKshF,WAAWxsC,EAAQ56B,GAAIlF,KAAKuhF,WAAWzsC,EAAQ56B,GAAIlF,KAAKwhF,WAAW1sC,EAAQ56B,GAAIlF,KAAKyhF,WAAW3sC,EAAQ56B,GAAIlF,KAAK0hF,WAAW5sC,EAAQ56B,GAAIlF,KAAK2hF,WAAW7sC,EAAQ56B,GAAIlF,KAAK4hF,WAAW9sC,EAAQ56B,GAAIlF,KAAK6hF,WAAW/sC,EAAQ56B,GAAIlF,KAAK8hF,WAAWhtC,EAAQ56B,GAAIlF,KAAK+hF,WAAWjtC,EAAQ56B,GAAIlF,KAAKgiF,WAAWltC,EAAQ56B,GAAIlF,KAAKiiF,WAAWntC,EAAQ56B,GAAIlF,KAAKkiF,WAAWptC,EAAQ56B,GAAIlF,KAAKmiF,WAAWrtC,EAAQ56B,GAAIlF,KAAKoiF,WAAWttC,EAAQ56B,GAAIlF,KAAKqiF,WAAWvtC,EAAQ56B,GAAIlF,KAAKsiF,WAAWxtC,EAAQ56B,GAAIlF,KAAKuiF,WAAWztC,EAAQ56B,GAAIlF,KAAKwiF,WAAW1tC,EAAQ56B,GAAIlF,KAAKyiF,WAAW3tC,EAAQ56B,GAAIlF,KAAK0iF,WAAW5tC,EAAQ56B,GAAIlF,KAAK2iF,WAAW7tC,EAAQ56B,GAAIlF,KAAK4iF,WAAW9tC,EAAQ56B,GAAIlF,KAAK6iF,WAAW/tC,EAAQ56B,GAAIlF,KAAK8iF,WAAWhuC,EAAQ56B,GAAIlF,KAAK+iF,WAAWjuC,EAAQ56B,GAAIlF,KAAKgjF,WAAWluC,EAAQ56B,GAAIlF,KAAKijF,WAAWnuC,EAAQ56B,GAAIlF,KAAKkjF,WAAWpuC,EAAQ56B,GAAIlF,KAAKmjF,WAAWruC,EAAQ56B,GAAIlF,KAAKojF,WAAWtuC,EAAQ56B,GAAIlF,KAAKqjF,WAAWvuC,EAAQ56B,GAAIlF,KAAKsjF,WAAWxuC,EAAQ56B,GAAIlF,KAAKujF,WAAWzuC,EAAQ56B,GAAIlF,KAAKwjF,WAAW1uC,EAAQ56B,GAAIlF,KAAKyjF,WAAW3uC,EAAQ56B,GAAIlF,KAAK0jF,WAAW5uC,EAAQ56B,GAAIlF,KAAK2jF,WAAW7uC,EAAQ56B,GAAIlF,KAAK4jF,WAAW9uC,EAAQ56B,GAAIlF,KAAK6jF,WAAW/uC,EAAQ56B,GAAIlF,KAAK8jF,WAAWhvC,EAAQ56B,GAAIlF,KAAK+jF,WAAWjvC,EAAQ56B,GAAIlF,KAAKgkF,WAAWlvC,EAAQ56B,GAAIlF,KAAKikF,WAAWnvC,EAAQ56B,GAAIlF,KAAKkkF,WAAWpvC,EAAQ56B,GAAIlF,KAAKmkF,WAAWrvC,EAAQ56B,GAAIlF,KAAKokF,WAAWtvC,EAAQ56B,GAAIlF,KAAKqkF,WAAWvvC,EAAQ56B,GAAIlF,KAAKskF,WAAWxvC,EAAQ56B,GAAIlF,KAAKukF,WAAWzvC,EAAQ56B,GAAIlF,KAAKwkF,WAAW1vC,EAAQ56B,GAAIlF,KAAKykF,WAAW3vC,EAAQ56B,GAAIlF,KAAK0kF,WAAW5vC,EAAQ56B,GAAIlF,KAAK2kF,WAAW7vC,EAAQ56B,GAAIlF,KAAK4kF,WAAW9vC,EAAQ56B,GAAIlF,KAAK6kF,WAAW/vC,EAAQ56B,GAAIlF,KAAK8kF,WAAWhwC,EAAQ56B,GAAIlF,KAAK+kF,WAAWjwC,EAAQ56B,GAAIlF,KAAKglF,WAAWlwC,EAAQ56B,GAAIlF,KAAKilF,WAAWnwC,EAAQ56B,GAAIlF,KAAKklF,WAAWpwC,EAAQ56B,GAAIlF,KAAKmlF,WAAWrwC,EAAQ56B,GAAIlF,KAAKolF,WAAWtwC,EAAQ56B,GAAIlF,KAAKqlF,WAAWvwC,EAAQ56B,GAAIlF,KAAKslF,WAAWxwC,EAAQ56B,GAAIlF,KAAKulF,WAAWzwC,EAAQ56B,GAAIlF,KAAKwlF,WAAW1wC,EAAQ56B,GAAIlF,KAAKylF,WAAW3wC,EAAQ56B,GAAIlF,KAAK0lF,WAAW5wC,EAAQ56B,GAAIlF,KAAK2lF,WAAW7wC,EAAQ56B,GAAIlF,KAAK4lF,WAAW9wC,EAAQ56B,GAAIlF,KAAK6lF,WAAW/wC,EAAQ56B,GAAIlF,KAAK8lF,WAAWhxC,EAAQ56B,GAAIlF,KAAK+lF,WAAWjxC,EAAQ56B,GAAIlF,KAAKgmF,WAAWlxC,EAAQ56B,GAAIlF,KAAKimF,WAAWnxC,EAAQ56B,GAAIlF,KAAKkmF,WAAWpxC,EAAQ56B,GAAIlF,KAAKmmF,WAAWrxC,EAAQ56B,GAAIlF,KAAKomF,WAAWtxC,EAAQ56B,GAAIlF,KAAKqmF,WAAWvxC,EAAQ56B,GAAIlF,KAAKsmF,WAAWxxC,EAAQ56B,GAAIlF,KAAKumF,WAAWzxC,EAAQ56B,GAAIlF,KAAKwmF,WAAW1xC,EAAQ56B,GAAIlF,KAAKymF,WAAW3xC,EAAQ56B,GAAIlF,KAAK0mF,WAAW5xC,EAAQ56B,GAAIlF,KAAK2mF,WAAW7xC,EAAQ56B,GAAIlF,KAAK4mF,WAAW9xC,EAAQ56B,GAAIlF,KAAK6mF,WAAW/xC,EAAQ56B,GAAIlF,KAAK8mF,WAAWhyC,EAAQ56B,GAAIlF,KAAK+mF,WAAWjyC,EAAQ56B,GAAIlF,KAAKgnF,WAAWlyC,EAAQ56B,GAAIlF,KAAKinF,WAAWnyC,EAAQ56B,GAAIlF,KAAKknF,WAAWpyC,EAAQ56B,GAAIlF,KAAKmnF,WAAWryC,EAAQ56B,GAAIlF,KAAKonF,WAAWtyC,EAAQ56B,GAAIlF,KAAKqnF,WAAWvyC,EAAQ56B,GAAIlF,KAAKsnF,WAAWxyC,EAAQ56B,GAAIlF,KAAKunF,WAAWzyC,EAAQ56B,GAAIlF,KAAKwnF,WAAW1yC,EAAQ56B,GAAIlF,KAAKynF,WAAW3yC,EAAQ56B,GAAIlF,KAAK0nF,WAAW5yC,EAAQ56B,GAAIlF,KAAK2nF,WAAW7yC,EAAQ56B,GAAIlF,KAAK4nF,WAAW9yC,EAAQ56B,GAAIlF,KAAK6nF,WAAW/yC,EAAQ56B,GAAIlF,KAAK8nF,WAAWhzC,EAAQ56B,GAAIlF,KAAK+nF,WAAWjzC,EAAQ56B,GAAIlF,KAAKgoF,WAAWlzC,EAAQ56B,GAAIlF,KAAKioF,WAAWnzC,EAAQ56B,GAAIlF,KAAKkoF,WAAWpzC,EAAQ56B,GAAIlF,KAAKmoF,WAAWrzC,EAAQ56B,GAAIlF,KAAKooF,WAAWtzC,EAAQ56B,GAAIlF,KAAKqoF,WAAWvzC,EAAQ56B,GAAIlF,KAAKsoF,WAAWxzC,EAAQ56B,GAAIlF,KAAKuoF,WAAWzzC,EAAQ56B,GAAIlF,KAAKwoF,WAAW1zC,EAAQ56B,GAAIlF,KAAKyoF,WAAW3zC,EAAQ56B,GAAIlF,KAAK0oF,WAAW5zC,EAAQ56B,GAAIlF,KAAK2oF,WAAW7zC,EAAQ56B,GAAIlF,KAAK4oF,WAAW9zC,EAAQ56B,GAAIlF,KAAK6oF,WAAW/zC,EAAQ56B,GAAIlF,KAAK8oF,WAAWh0C,EAAQ56B,GAAIlF,KAAK+oF,WAAWj0C,EAAQ56B,GAAIlF,KAAKgpF,WAAWl0C,EAAQ56B,GAAIlF,KAAKipF,WAAWn0C,EAAQ56B,GAAIlF,KAAKkpF,WAAWp0C,EAAQ56B,GAAIlF,KAAKmpF,WAAWr0C,EAAQ56B,GAAIlF,KAAKopF,WAAWt0C,EAAQ56B,GAAIlF,KAAKqpF,WAAWv0C,EAAQ56B,GAAIlF,KAAKspF,WAAWx0C,EAAQ56B,GAAIlF,KAAKupF,WAAWz0C,EAAQ56B,GAAIlF,KAAKwpF,WAAW10C,EAAQ56B,GAAIlF,KAAKypF,WAAW30C,EAAQ56B,GAAIlF,KAAK0pF,WAAW50C,EAAQ56B,GAAIlF,KAAK2pF,WAAW70C,EAAQ56B,GAAIlF,KAAK4pF,WAAW90C,EAAQ56B,GAAIlF,KAAK6pF,WAAW/0C,EAAQ56B,GAAIlF,KAAK8pF,WAAWh1C,EAAQ56B,GAAIlF,KAAK+pF,WAAWj1C,EAAQ56B,GAAIlF,KAAKgqF,WAAWl1C,EAAQ56B,GAAIlF,KAAKiqF,WAAWn1C,EAAQ56B,GAAIlF,KAAKkqF,WAAWp1C,EAAQ56B,GAAIlF,KAAKmqF,WAAWr1C,EAAQ56B,GAAIlF,KAAKoqF,WAAWt1C,EAAQ56B,GAAIlF,KAAKqqF,WAAWv1C,EAAQ56B,GAAIlF,KAAKsqF,WAAWx1C,EAAQ56B,GAAIlF,KAAKuqF,WAAWz1C,EAAQ56B,GAAIlF,KAAKwqF,WAAW11C,EAAQ56B,GAAIlF,KAAKyqF,WAAW31C,EAAQ56B,GAAIlF,KAAK0qF,WAAW51C,EAAQ56B,GAAIlF,KAAK2qF,WAAW71C,EAAQ56B,GAAIlF,KAAK4qF,WAAW91C,EAAQ56B,GAAIlF,KAAK6qF,WAAW/1C,EAAQ56B,GAAIlF,KAAK8qF,WAAWh2C,EAAQ56B,GAAIlF,KAAK+qF,WAAWj2C,EAAQ56B,GAAIlF,KAAKgrF,WAAWl2C,EAAQ56B,GAAIlF,KAAKirF,WAAWn2C,EAAQ56B,GAAIlF,KAAKkrF,WAAWp2C,EAAQ56B,GAAIlF,KAAKmrF,WAAWr2C,EAAQ56B,GAAIlF,KAAKorF,WAAWt2C,EAAQ56B,GAAIlF,KAAKqrF,WAAWv2C,EAAQ56B,GAAIlF,KAAKsrF,WAAWx2C,EAAQ56B,GAAIlF,KAAKurF,WAAWz2C,EAAQ56B,GAAIlF,KAAKwrF,WAAW12C,EAAQ56B,GAAIlF,KAAKyrF,WAAW32C,EAAQ56B,GAAIlF,KAAK0rF,WAAW52C,EAAQ56B,GAAIlF,KAAK2rF,WAAW72C,EAAQ56B,GAAIlF,KAAK4rF,WAAW92C,EAAQ56B,GAAIlF,KAAK6rF,WAAW/2C,EAAQ56B,GAAIlF,KAAK8rF,WAAWh3C,EAAQ56B,GAAIlF,KAAK+rF,WAAWj3C,EAAQ56B,GAAIlF,KAAKgsF,WAAWl3C,EAAQ56B,GAAIlF,KAAKisF,WAAWn3C,EAAQ56B,GAAIlF,KAAKksF,WAAWp3C,EAAQ56B,GAAIlF,KAAKmsF,WAAWr3C,EAAQ56B,GAAIlF,KAAKosF,WAAWt3C,EAAQ56B,GAAIlF,KAAKqsF,WAAWv3C,EAAQ56B,GAAIlF,KAAKssF,WAAWx3C,EAAQ56B,GAAIlF,KAAKusF,WAAWz3C,EAAQ56B,GAAIlF,KAAKwsF,WAAW13C,EAAQ56B,GAAIlF,KAAKysF,WAAW33C,EAAQ56B,GAAIlF,KAAK0sF,WAAW53C,EAAQ56B,GAAIlF,KAAK2sF,WAAW73C,EAAQ56B,GAAIlF,KAAK4sF,WAAW93C,EAAQ56B,GAAIlF,KAAK6sF,WAAW/3C,EAAQ56B,GAAIlF,KAAK8sF,WAAWh4C,EAAQ56B,GAAIlF,KAAK+s

AK0uE,MAAQn6B,EAC1BA,EAAOg6B,SAAW,KAClBh6B,EAAO+5B,SAAW,OAMlBtuE,KAAK0uE,MAAM
H,SAAWh6B,EACtBA,EAAO+5B,SAAWtuE,KAAK0uE,MACvBn6B,EAAOg6B,SAAW,KAClBvuE,KAAK0uE,
MAAQn6B,IAKrBi6B,EAAyB/jE,UAAUsS,IAAM,SAAU8vD,EAAW8B,GAC1D,IAAIp6B,EACJ,IAAKA,EAAS
v0C,KAAKyuE,MAAkB,OAAXl6B,EAAiBA,EAAOg6B,SACvD,IAAwB,OAAnBI,GAA2BA,GAAkBp6
B,EAAO+2B,eACrD9/D,OAAOwyC,GAAGzJ,EAAOs4B,UAAWA,GAC5B,OAAOt4B,MAAOi6B,
EAAyB/jE,UAAU+pD,OAAS,SAAUjgB,GAASlD,GAASlD,KAAKq2B,SAASjwB,EAAOlD,GAAS,
SAalB,OAZa,OAAT9qC,EACAzjC,KAAKyuE,MAAQhiE,EAGbg3B,EAAK8qC,EAAW9hE,EAEP,OAATA,EAAgB,EAC
AzM,KAAK0uE,MAAQjrC,EAGbh3B,EAAK6hE,EAAW7qC,EAEE,OAAfzjC,KAAKyuE,OAETD,EAAtEkC,GAw
EzCL,GAA+B,WAC/B,SAASA,EACLnuE,KAAKa,IAAM,IAAI8pB,IA+CnB,OA7CAwjD,EAAc1jE,UAAU2jE,IA
AM,SAAU75B,GACpC,IAAIp0C,EAAMo0C,EAAOs4B,UACb+B,BvuE,KAAKa,IAAImrB,OAAO7rB,GAEbo0C,GAEX/oC,OAAOkW,eAAeysD,EAAc1jE,UAAW,UAAW,CACtD
sS,IAAK,WACD,OAAyB,IAAlB/c,KAAKa,IAAIgkB,MAEpB4iB,YAAY,EACZC,cAAc,IAElBymC,EAAc1jE,U
AAUiqC,MAAQ,WAC5B10C,KAAKa,IAAI6zC,SAENy5B,EAAjDuB,GAAmDlC,SAAS5C,GAAiB5xD,EAAMyxD,
EAAiBC,GAC7C,IAAIK,EAAgB/xD,EAAK+xD,cACzBC,GAAsB,OAAlBA,EAAEC,OAAOC,EAAcC,IAAIoD,EAA
a,EAAjBjB,OAAHzD,GAAeK,EAAgBL,EAAY7+D,OAAS,EAAG,GAAK,EAAG,GAAK,EAAG,GAAK,EAAG;;;;;;;
OAU7C,IAAIC,GAA8C,WAC9C,SAASA,EAAqBtkE,EAAMukE,EAAUC,EAAUC,EAAUC

,SAAUpuE,EAAQgzC,GACtE,GAAIhzC,EAAQ,CACR,IAAIkiC,EAAOliC,EAAO8rE,MAWlB,OAVA94B,EAAOy2B,MAAQzpE,EACfgzC,EAAO84B,MAAQ5pC,EACfliC,EAAO8rE,MAAQ94B,EACX9Q,IACAA,EAAKunC,MAAQz2B,GAEbhzC,IAAWvB,KAAKivE,WAChBjvE,KAAKivE,SAAW16B,EAAKkvE,aAAe3tE,EACbA,EAUX,OARIvB,KAAKkvE,cAAClvE,KAAKkvE,aAAalE,MAAQz2B,GAAQ94B,KAAKkvE,cAAclvE,KAAKkvE,aAAalE,MAAQz2B,EAAKkvE,cAAcr

f1wE,KAAK2wE,kBAAoB,KAkP7B,OAhPAnlE,OAAOkW,eAAe8uD,EAAQ/lE,UAAW,YAAa,CAClDsS,IAAK,WACD,IAAI5M,EAAQnQ,KAAK6f,OACbtX,EAAQ4H,EAl1qBZ,GAm1qBA,OApFZ,SASygE,EAAmBroE,EAAO4H,EAAOnF,EAAOqb,EAAQ4Z,EAAQ4Z,EAAQ4Z

1nE,UAAUqoE,mBAAqB,SAAUjlD,GACjD,IAAIyd,EAAgBtrC,KAAK4yE,uBAAuB1qC,OAC5CmD,EAAgBxB,GAAY7pC,KAAK2yE,kBAAmBrnC,EAAezd,EAAS,GAAsB,KAAMyd,EAAcp3B,UAAW,KAAM,KAAM,KAAM,MAGvJm3B,EAhvrBqB,IA8urBOrrC,KAAK2yE,kBAAK4yE,uBAAuB1iE,OAG/E,IAAI6iE,EAA0B/yE,KAAK2yE,kBAAK4yE,uBAAuB1iE,OAG/E,IAAI6iE,EAA0B/yE,KAAK/urBI,IACA1nC,EAjvrBE,IAivrBuB0nC,EAAwBD,mBxnC,IAExEd,GAAWc,EAAeD,EAAeC,GACClC,EAEtBuB,CADNA,IA8B5B,SAASM,KACL,OAAOO,GAAkB5gE,MAAMC,KAAMC,WAAaqgE,GAAkBvgE,MAAMC,KAAMC,WAAaogE,GAAkBrgE,MAAMC,KAAMC,WAAaigE,GAAkBlgE,MAAMC,KAAMC,WAAa+/D,GAAkBhgE,MAAMC,KAAMC,WAAa8/D,GAAkB//D,MAAMC,KAAMC,WAAa2/D,GAAkB5/D,MAAMC,KAAMC,WAAa0/D,GAAkB3/D,MAAMC,KAAMC,WAAay/D,GAAkB1/D,MAAMC,KAAMC,WAAaw/D,GAAkBz/D,MAAMC,KAAMC,WAAas/D,GAAkBv/D,MAAMC,KAAMC,WAAaq/D,GAAkBt/D,MAAMC,KAAMC,WAAam/D,GAAkBp/D,MAAMC,KAAMC,WAAaA,GAAkBF,MAAMC,KAAMC,WAAa,SAASA,KACl1B,OAAOA,GAAkBF,MAAMC,KAAMC,WAAa,SAASm/D,KACvD,OAAOA,GAAkBp/D,MAAMC,KAAMC,WAAa,SAASq/D,KACvD,OAAOA,GAAkBt/D,MAAMC,KAAMC,WAAa,SAASs/D,KACvD,OAAOA,GAAkBv/D,MAAMC,KAAMC,WAAa,SAASu/D,KACvD,OAAOA,GAAkBx/D,MAAMC,KAAMC,WAAa,SAASw/D,KACvD,OAAOA,GAAkBz/D,MAAMC,KAAMC,WAAa,SAASy/D,KACvD,OAAOA,GAAkB1/D,MAAMC,KAAMC,WAAa,SAAS0/D,KACvD,OAAOA,GAAkB3/D,MAAMC,KAAMC,WAAa,SAAS2/D,KACvD,OAAOA,GAAkB5/D,MAAMC,KAAMC,WAAa,SAAS4/D,KACvD,OAAOA,GAAkB7/D,MAAMC,KAAMC,WAAa,SAAS6/D,KACvD,OAAOA,GAAkB9/D,MAAMC,KAAMC,WAAa,SAAS8/D,KACvD,OAAOA,GAAkB//D,MAAMC,KAAMC,WAAa,SAAS+/D,KACvD,OAAOA,GAAkBhgE,MAAMC,KAAMC,WAAa,SAASigE,KACvD,OAAOA,GAAkBlgE,MAAMC,KAAMC,WAAa,SAASogE,KACvD,OAAOA,GAAkBrgE,MAAMC,KAAMC,WAAa,SAASqgE,KACvD,OAAOA,GAAkBtgE,MAAMC,KAAMC,WAAa,SAASsgE,KACvD,OAAOA,GAAkBvgE,MAAMC,KAAMC,WAAa,SAASugE,KACvD,OAAOA,GAAkBxgE,MAAMC,KAAMC,WAAa,SAASwgE,KACvD,OAAOA,GAAkBzgE,MAAMC,KAAMC,WAAa,SAASygE,KACvD,OAAOA,GAAkB1gE,MAAMC,KAAMC,WAAa,SAAS0gE,KACvD,OAAOA,GAAkB3gE,MAAMC,KAAMC,WAAa,SAAS2gE,KACvD,OAAOA,GAAkB5gE,MAAMC,KAAMC,WAAa,SAAS4gE,KACvD,OAAOA,GAAkB7gE,MAAMC,KAAMC,WAAa,SAAS6gE,KACvD,OAAOA,GAAkB9gE,MAAMC,KAAMC,WAAa,SAAS8gE,KACvD,OAAOA,GAAkB/gE,MAAMC,KAAMC,WAAa,SAAS+gE,KACvD,OAAOA,GAAkBhhE,MAAMC,KAAMC,WAAa,SAASghE,KACvD,OAAOA,GAAkBjhE,MAAMC,KAAMC,WAAa,SAASihE,KACvD,OAAOA,GAAkBlhE,MAAMC,KAAMC,WAAa,SAASkhE,KACvD,OAAOA,GAAkBnhE,MAAMC,KAAMC,WAAa,SAASmhE,KACvD,OAAOA,GAAkBphE,MAAMC,KAAMC,WAAa,SAASohE,KACvD,OAAOA,GAAkBrhE,MAAMC,KAAMC,WAAa,SAASqhE,KACvD,OAAOA,GAAkBthE,MAAMC,KAAMC,WAAa,SAASshE,KACvD,OAAOA,GAAkBvhE,MAAMC,KAAMC,WAAa,SAASuhE,KACvD,OAAOA,GAAkBxhE,MAAMC,KAAMC,WAAa,SAASwhE,KACvD,OAAOA,GAAkBzhE,MAAMC,KAAMC,WAAa,SAASyhE,KACvD,OAAOA,GAAkB1hE,MAAMC,KAAMC,WAAa,SAAS0hE,KACvD,OAAOA,GAAkB3hE,MAAMC,KAAMC,WAAa,SAAS2hE,KACvD,OAAOA,GAAkB5hE,MAAMC,KAAMC,WAAa,SAAS4hE,KACvD,OAAOA,GAAkB7hE,MAAMC,KAAMC,WAAa,SAAS6hE,KACvD,OAAOA,GAAkB9hE,MAAMC,KAAMC,WAAa,SAAS8hE,KACvD,OAAOA,GAAkB/hE,MAAMC,KAAMC,WAAa,SAAS+hE,KACvD,OAAOA,GAAkBhiE,MAAMC,KAAMC,WAAa,SAASgiE,KACvD,OAAOA,GAAkBjiE,MAAMC,KAAMC,WAAa,SAASiiE,KACvD,OAAOA,GAAkBliE,MAAMC,KAAMC,WAAa,SAASkiE,KACvD,OAAOA,GAAkBniE,MAAMC,KAAMC,WAAa,SAASmiE,KACvD,OAAOA,GAAkBpiE,MAAMC,KAAMC,WAAa,SAASoiE,KACvD,OAAOA,GAAkBriE,MAAMC,KAAMC,WAAa,SAASqiE,KACvD,OAAOA,GAAkBtiE,MAAMC,KAAMC,WAAa,SAASsiE,KACvD,OAAOA,GAAkBviE,MAAMC,KAAMC,WAAa,SAASuiE,KACvD,OAAOA,GAAkBxiE,MAAMC,KAAMC,WAAa,SAASwiE,KACvD,OAAOA,GAAkBziE,MAAMC,KAAMC,WAAa,SAASyiE,KACvD,OAAOA,GAAkB1iE,MAAMC,KAAMC,WAAa,SAAS0iE,KACvD,OAAOA,GAAkB3iE,MAAMC,KAAMC,WAAa,SAAS2iE,KACvD,OAAOA,GAAkB5iE,MAAMC,KAAMC,WAAa,SAAS4iE,KACvD,OAAOA,GAAkB7iE,MAAMC,KAAMC,WAAa,SAAS6iE,KACvD,OAAOA,GAAkB9iE,MAAMC,KAAMC,WAAa,SAAS8iE,KACvD,OAAOA,GAAkB/iE,MAAMC,KAAMC,WAAa,SAAS+iE,KACvD,OAAOA,GAAkBhjE,MAAMC,KAAMC,WAAa,SAASgjE,KACvD,OAAOA,GAAkBjjE,MAAMC,KAAMC,WAAa,SAASijE,KACvD,OAAOA,GAAkBljE,MAAMC,KAAMC,WAAa,SAASkjE,KACvD,OAAOA,GAAkBnjE,MAAMC,KAAMC,WAAa,SAASmjE,KACvD,OAAOA,GAAkBpjE,MAAMC,KAAMC,WAAa,SAASojE,KACvD,OAAOA,GAAkBrjE,MAAMC,KAAMC,WAAa,SAASqjE,KACvD,OAAOA,GAAkBtjE,MAAMC,KAAMC,WAAa,SAASsjE,KACvD,OAAOA,GAAkBvjE,MAAMC,KAAMC,WAAa,SAASujE,KACvD,OAAOA,GAAkBxjE,MAAMC,KAAMC,WAAa,SAASwjE,KACvD,OAAOA,GAAkBzjE,MAAMC,KAAMC,WAAa,SAASyjE,KACvD,OAAOA,GAAkB1jE,MAAMC,KAAMC,WAAa,SAAS0jE,KACvD,OAAOA,GAAkB3jE,MAAMC,KAAMC,WAAa,SAAS2jE,KACvD,OAAOA,GAAkB5jE,MAAMC,KAAMC,WAAa,SAAS4jE,KACvD,OAAOA,GAAkB7jE,MAAMC,KAAMC,WAAa,SAAS6jE,KACvD,OAAOA,GAAkB9jE,MAAMC,KAAMC,WAAa,SAAS8jE,KACvD,OAAOA,GAAkB/jE,MAAMC,KAAMC,WAAa,SAAS+jE,KACvD,OAAOA,GAAkBhkE,MAAMC,KAAMC,WAAa,SAASgkE,KACvD,OAAOA,GAAkBjkE,MAAMC,KAAMC,WAAa,SAASikE,KACvD,OAAOA,GAAkBlkE,MAAMC,KAAMC,WAAa,SAASkkE,KACvD,OAAOA,GAAkBnkE,MAAMC,KAAMC,WAAa,SAASmkE,KACvD,OAAOA,GAAkBpkE,MAAMC,KAAMC,WAAa,SAASokE,KACvD,OAAOA,GAAkBrkE,MAAMC,KAAMC,WAAa,SAASqkE,KACvD,OAAOA,GAAkBtkE,MAAMC,KAAMC,WAAa,SAASskE,KACvD,OAAOA,GAAkBvkE,MAAMC,KAAMC,WAAa,SAASukE,KACvD,OAAOA,GAAkBxkE,MAAMC,KAAMC,WAAa,SAASwkE,KACvD,OAAOA,GAAkBzkE,MAAMC,KAAMC,WAAa,SAASykE,KACvD,OAAOA,GAAkB1kE,MAAMC,KAAMC,WAAa,SAAS0kE,KACvD,OAAOA,GAAkB3kE,MAAMC,KAAMC,WAAa,SAAS2kE,KACvD,OAAOA,GAAkB5kE,MAAMC,KAAMC,WAAa,SAAS4kE,KACvD,OAAOA,GAAkB7kE,MAAMC,KAAMC,WAAa,SAAS6kE,KACvD,OAAOA,GAAkB9kE,MAAMC,KAAMC,WAAa,SAAS8kE,KACvD,OAAOA,GAAkB/kE,MAAMC,KAAMC,WAAa,SAAS+kE,KACvD,OAAOA,GAAkBhlE,MAAMC,KAAMC,WAAa,SAASglE,KACvD,OAAOA,GAAkBjlE,MAAMC,KAAMC,WAAa,SAASilE,KACvD,OAAOA,GAAkBllE,MAAMC,KAAMC,WAAa,SAASklE,KACvD,OAAOA,GAAkBnlE,MAAMC,KAAMC,WAAa,SAASmlE,KACvD,OAAOA,GAAkBplE,MAAMC,KAAMC,WAAa,SAASolE,KACvD,OAAOA,GAAkBrlE,MAAMC,KAAMC,WAAa,SAASqlE,KACvD,OAAOA,GAAkBtlE,MAAMC,KAAMC,WAAa,SAASslE,KACvD,OAAOA,GAAkBvlE,MAAMC,KAAMC,WAAa,SAASulE,KACvD,OAAOA,GAAkBxlE,MAAMC,KAAMC,WAAa,SAASwlE,KACvD,OAAOA,GAAkBzlE,MAAMC,KAAMC,WAAa,SAASylE,KACvD,OAAOA,GAAkB1lE,MAAMC,KAAMC,WAAa,SAAS0lE,KACvD,OAAOA,GAAkB3lE,MAAMC,KAAMC,WAAa,SAAS2lE,KACvD,OAAOA,GAAkB5lE,MAAMC,KAAMC,WAAa,SAAS4lE,KACvD,OAAOA,GAAkB7lE,MAAMC,KAAMC,WAAa,SAAS6lE,KACvD,OAAOA,GAAkB9lE,MAAMC,KAAMC,WAAa,SAAS8lE,KACvD,OAAOA,GAAkB/lE,MAAMC,KAAMC,WAAa,SAAS+lE,KACvD,OAAOA,GAAkBhmE,MAAMC,KAAMC,WAAa,SAASgmE,KACvD,OAAOA,GAAkBjmE,MAAMC,KAAMC,WAAa,SAASimE,KACvD,OAAOA,GAAkBlmE,MAAMC,KAAMC,WAAa,SAASkmE,KACvD,OAAOA,GAAkBnmE,MAAMC,KAAMC,WAAa,SAASmmE,KACvD,OAAOA,GAAkBpmE,MAAMC,KAAMC,WAAa,SAASomE,KACvD,OAAOA,GAAkBrmE,MAAMC,KAAMC,WAAa,SAASqmE,KACvD,OAAOA,GAAkBtmE,MAAMC,KAAMC,WAAa,SAASsmE,KACvD,OAAOA,GAAkBvmE,MAAMC,KAAMC,WAAa,SAASumE,KACvD,OAAOA,GAAkBxmE,MAAMC,KAAMC,WAAa,SAASwmE,KACvD,OAAOA,GAAkBzmE,MAAMC,KAAMC,WAAa,SAASymE,KACvD,OAAOA,GAAkB1mE,MAAMC,KAAMC,WAAa,SAAS0mE,KACvD,OAAOA,GAAkB3mE,MAAMC,KAAMC,WAAa,SAAS2mE,KACvD,OAAOA,GAAkB5mE,MAAMC,KAAMC,WAAa,SAAS4mE,KACvD,OAAOA,GAAkB7mE,MAAMC,KAAMC,WAAa,SAAS6mE,KACvD,OAAOA,GAAkB9mE,MAAMC,KAAMC,WAAa,SAAS8mE,KACvD,OAAOA,GAAkB/mE,MAAMC,KAAMC,WAAa,SAAS+mE,KACvD,OAAOA,GAAkBhnE,MAAMC,KAAMC,WAAa,SAASgnE,KACvD,OAAOA,GAAkBjnE,MAAMC,KAAMC,WAAa,SAASinE,KACvD,OAAOA,GAAkBlnE,MAAMC,KAAMC,WAAa,SAASknE,KACvD,OAAOA,GAAkBnnE,MAAMC,KAAMC,WAAa,SAASmnE,KACvD,OAAOA,GAAkBpnE,MAAMC,KAAMC,WAAa,SAASonE,KACvD,OAAOA,GAAkBrnE,MAAMC,KAAMC,WAAa,SAASqnE,KACvD,OAAOA,GAAkBtnE,MAAMC,KAAMC,WAAa,SAASsnE,KACvD,OAAOA,GAAkBvnE,MAAMC,KAAMC,WAAa,SAASunE,KACvD,OAAOA,GAAkBxnE,MAAMC,KAAMC,WAAa,SAASwnE,KACvD,OAAOA,GAAkBznE,MAAMC,KAAMC,WAAa,SAASynE,KACvD,OAAOA,GAAkB1nE,MAAMC,KAAMC,WAAa,SAAS0nE,KACvD,OAAOA,GAAkB3nE,MAAMC,KAAMC,WAAa,SAAS2nE,KACvD,OAAOA,GAAkB5nE,MAAMC,KAAMC,WAAa,SAAS4nE,KACvD,OAAOA,GAAkB7nE,MAAMC,KAAMC,WAAa,SAAS6nE,KACvD,OAAOA,GAAkB9nE,MAAMC,KAAMC,WAAa,SAAS8nE,KACvD,OAAOA,GAAkB/nE,MAAMC,KAAMC,WAAa,SAAS+nE,KACvD,OAAOA,GAAkBhoE,MAAMC,KAAMC,WAAa,SAASgoE,KACvD,OAAOA,GAAkBjoE,MAAMC,KAAMC,WAAa,SAASioE,KACvD,OAAOA,GAAkBloE,MAAMC,KAAMC,WAAa,SAASkoE,KACvD,OAAOA,GAAkBnoE,MAAMC,KAAMC,WAAa,SAASmoE,KACvD,OAAOA,GAAkBpoE,MAAMC,KAAMC,WAAa,SAASooE,KACvD,OAAOA,GAAkBroE,MAAMC,KAAMC,WAAa,SAASqoE,KACvD,OAAOA,GAAkBtoE,MAAMC,KAAMC,WAAa,SAASsoE,KACvD,OAAOA,GAAkBvoE,MAAMC,KAAMC,WAAa,SAASuoE,KACvD,OAAOA,GAAkBxoE,MAAMC,KAAMC,WAAa,SAASwoE,KACvD,OAAOA,GAAkBzoE,MAAMC,KAAMC,WAAa,SAASyoE,KACvD,OAAOA,GAAkB1oE,MAAMC,KAAMC,WAAa,SAAS0oE,KACvD,OAAOA,GAAkB3oE,MAAMC,KAAMC,WAAa,SAAS2oE,KACvD,OAAOA,GAAkB5oE,MAAMC,KAAMC,WAAa,SAAS4oE,KACvD,OAAOA,GAAkB7oE,MAAMC,KAAMC,WAAa,SAAS6oE,KACvD,OAAOA,GAAkB9oE,MAAMC,KAAMC,WAAa,SAAS8oE,KACvD,OAAOA,GAAkB/oE,MAAMC,KAAMC,WAAa,SAAS+oE,KACvD,OAAOA,GAAkBhpE,MAAMC,KAAMC,WAAa,SAASgpE,KACvD,OAAOA,GAAkBjpE,MAAMC,KAAMC,WAAa,SAASipE,KACvD,OAAOA,GAAkBlpE,MAAMC,KAAMC,WAAa,SAASkpE,KACvD,OAAOA,GAAkBnpE,MAAMC,KAAMC,WAAa,SAASmpE,KACvD,OAAOA,GAAkBppE,MAAMC,KAAMC,WAAa,SAASopE,KACvD,OAAOA,GAAkBrpE,MAAMC,KAAMC,WAAa,SAASqpE,KACvD,OAAOA,GAAkBtpE,MAAMC,KAAMC,WAAa,SAASspE,KACvD,OAAOA,GAAkBvpE,MAAMC,KAAMC,WAAa,SAASupE,KACvD,OAAOA,GAAkBxpE,MAAMC,KAAMC,WAAa,SAASwpE,KACvD,OAAOA,GAAkBzpE,MAAMC,KAAMC,WAAa,SAASypE,KACvD,OAAOA,GAAkB1pE,MAAMC,KAAMC,WAAa,SAAS0pE,KACvD,OAAOA,GAAkB3pE,MAAMC,KAAMC,WAAa,SAAS2pE,KACvD,OAAOA,GAAkB5pE,MAAMC,KAAMC,WAAa,SAAS4pE,KACvD,OAAOA,GAAkB7pE,MAAMC,KAAMC,WAAa,SAAS6pE,KACvD,OAAOA,GAAkB9pE,MAAMC,KAAMC,WAAa,SAAS8pE,KACvD,OAAOA,GAAkB/pE,MAAMC,KAAMC,WAAa,SAAS+pE,KACvD,OAAOA,GAAkBhqE,MAAMC,KAAMC,WAAa,SAASgqE,KACvD,OAAOA,GAAkBjqE,MAAMC,KAAMC,WAAa,SAASiqE,KACvD,OAAOA,GAAkBlqE,MAAMC,KAAMC,WAAa,SAASkqE,KACvD,OAAOA,GAAkBnqE,MAAMC,KAAMC,WAAa,SAASmqE,KACvD,OAAOA,GAAkBpqE,MAAMC,KAAMC,WAAa,SAASoqE,KACvD,OAAOA,GAAkBrqE,MAAMC,KAAMC,WAAa,SAASqqE,KACvD,OAAOA,GAAkBtqE,MAAMC,KAAMC,WAAa,SAASsqE,KACvD,OAAOA,GAAkBvqE,MAAMC,KAAMC,WAAa,SAASuqE,KACvD,OAAOA,GAAkBxqE,MAAMC,KAAMC,WAAa,SAASwqE,KACvD,OAAOA,GAAkBzqE,MAAMC,KAAMC,WAAa,SAASyqE,KACvD,OAAOA,GAAkB1qE,MAAMC,KAAMC,WAAa,SAAS0qE,KACvD,OAAOA,GAAkB3qE,MAAMC,KAAMC,WAAa,SAAS2qE,KACvD,OAAOA,GAAkB5qE,MAAMC,KAAMC,WAAa,SAAS4qE,KACvD,OAAOA,GAAkB7qE,MAAMC,KAAMC,WAAa,SAAS6qE,KACvD,OAAOA,GAAkB9qE,MAAMC,KAAMC,WAAa,SAAS8qE,KACvD,OAAOA,GAAkB/qE,MAAMC,KAAMC,WAAa,SAAS+qE,KACvD,OAAOA,GAAkBhrE,MAAMC,KAAMC,WAAa,SAASgrE,KACvD,OAAOA,GAAkBjrE,MAAMC,KAAMC,WAAa,SAASirE,KACvD,OAAOA,GAAkBlrE,MAAMC,KAAMC,WAAa,SAASkrE,KACvD,OAAOA,GAAkBnrE,MAAMC,KAAMC,WAAa,SAASmrE,KACvD,OAAOA,GAAkBprE,MAAMC,KAAMC,WAAa,SAASorE,KACvD,OAAOA,GAAkBrrE,MAAMC,KAAMC,WAAa,SAASqrE,KACvD,OAAOA,GAAkBtrE,MAAMC,KAAMC,WAAa,SAASsrE,KACvD,OAAOA,GAAkBvrE,MAAMC,KAAMC,WAAa,SAASurE,KACvD,OAAOA,GAAkBxrE,MAAMC,KAAMC,WAAa,SAASwrE,KACvD,OAAOA,GAAkBzrE,MAAMC,KAAMC,WAAa,SAASyrE,KACvD,OAAOA,GAAkB1rE,MAAMC,KAAMC,WAAa,SAAS0rE,KACvD,OAAOA,GAAkB3rE,MAAMC,KAAMC,WAAa,SAAS2rE,KACvD,OAAOA,GAAkB5rE,MAAMC,KAAMC,WAAa,SAAS4rE,KACvD,OAAOA,GAAkB7rE,MAAMC,KAAMC,WAAa,SAAS6rE,KACvD,OAAOA,GAAkB9rE,MAAMC,KAAMC,WAAa,SAAS8rE,KACvD,OAAOA,GAAkB/rE,MAAMC,KAAMC,WAAa,SAAS+rE,KACvD,OAAOA,GAAkBhsE,MAAMC,KAAMC,WAAa,SAASgsE,KACvD,OAAOA,GAAkBjsE,MAAMC,KAAMC,WAAa,SAASisE,KACvD,OAAOA,GAAkBlsE,MAAMC,KAAMC,WAAa,SAASksE,KACvD,OAAOA,GAAkBnsE,MAAMC,KAAMC,WAAa,SAASmsE,KACvD,OAAOA,GAAkBpsE,MAAMC,KAAMC,WAAa,SAASosE,KACvD,OAAOA,GAAkBrsE,MAAMC,KAAMC,WAAa,SAASqsE,KACvD,OAAOA,GAAkBtsE,MAAMC,KAAMC,WAAa,SAASssE,KACvD,OAAOA,GAAkBvsE,MAAMC,KAAMC,WAAa,SAASusE,KACvD,OAAOA,GAAkBxsE,MAAMC,KAAMC,WAAa,SAASwsE,KACvD,OAAOA,GAAkBzsE,MAAMC,KAAMC,WAAa,SAASysE,KACvD,OAAOA,GAAkB1sE,MAAMC,KAAMC,WAAa,SAAS0sE,KACvD,OAAOA,GAAkB3sE,MAAMC,KAAMC,WAAa,SAAS2sE,KACvD,OAAOA,GAAkB5sE,MAAMC,KAAMC,WAAa,SAAS4sE,KACvD,OAAOA,GAAkB7sE,MAAMC,KAAMC,WAAa,SAAS6sE,KACvD,OAAOA,GAAkB9sE,MAAMC,KAAMC,WAAa,SAAS8sE,KACvD,OAAOA,GAAkB/sE,MAAMC,KAAMC,WAAa,SAAS+sE,KACvD,OAAOA,GAAkBhtE,MAAMC,KAAMC,WAAa,SAASgtE,KACvD,OAAOA,GAAkBjtE,MAAMC,KAAMC,WAAa,SAASitE,KACvD,OAAOA,GAAkBltE,MAAMC,KAAMC,WAAa,SAASktE,KACvD,OAAOA,GAAkBntE,MAAMC,KAAMC,WAAa,SAASmtE,KACvD,OAAOA,GAAkBptE,MAAMC,KAAMC,WAAa,SAASotE,KACvD,OAAOA,GAAkBrtE,MAAMC,KAAMC,WAAa,SAASqtE,KACvD,OAAOA,GAAkBttE,MAAMC,KAAMC,WAAa,SAASstE,KACvD,OAAOA,GAAkBvtE,MAAMC,KAAMC,WAAa,SAASutE,KACvD,OAAOA,GAAkBxtE,MAAMC,KAAMC,WAAa,SAASwtE,KACvD,OAAOA,GAAkBztE,MAAMC,KAAMC,WAAa,SAASytE,KACvD,OAAOA,GAAkB1tE,MAAMC,KAAMC,WAAa,SAAS0tE,KACvD,OAAOA,GAAkB3tE,MAAMC,KAAMC,WAAa,SAAS2tE,KACvD,OAAOA,GAAkB5tE,MAAMC,KAAMC,WAAa,SAAS4tE,KACvD,OAAOA,GAAkB7tE,MAAMC,KAAMC,WAAa,SAAS6tE,KACvD,OAAOA,GAAkB9tE,MAAMC,KAAMC,WAAa,SAAS8tE,KACvD,OAAOA,GAAkB/tE,MAAMC,KAAMC,WAAa,SAAS+tE,KACvD,OAAOA,GAAkBhuE,MAAMC,KAAMC,WAAa,SAASguE,KACvD,OAAOA,GAAkBjuE,MAAMC,KAAMC,WAAa,SAASiuE,KACvD,OAAOA,GAAkBluE,MAAMC,KAAMC,WAAa,SAASkuE,KACvD,OAAOA,GAAkBnuE,MAAMC,KAAMC,WAAa,SAASmuE,KACvD,OAAOA,GAAkBpuE,MAAMC,KAAMC,WAAa,SAASouE,KACvD,OAAOA,GAAkBruE,MAAMC,KAAMC,WAAa,SAASquE,KACvD,OAAOA,GAAkBtuE,MAAMC,KAAMC,WAAa,SAASsuE,KACvD,OAAOA,GAAkBvuE,MAAMC,KAAMC,WAAa,SAASuuE,KACvD,OAAOA,GAAkBxuE,MAAMC,KAAMC,WAAa,SAASwuE,KACvD,OAAOA,GAAkBzuE,MAAMC,KAAMC,WAAa,SAASyuE,KACvD,OAAOA,GAAkB1uE,MAAMC,KAAMC,WAAa,SAAS0uE,KACvD,OAAOA,GAAkB3uE,MAAMC,KAAMC,WAAa,SAAS2uE,KACvD,OAAOA,GAAkB5uE,MAAMC,KAAMC,WAAa,SAAS4uE,KACvD,OAAOA,GAAkB7uE,MAAMC,KAAMC,WAAa,SAAS6uE,KACvD,OAAOA,GAAkB9uE,MAAMC,KAAMC,WAAa,SAAS8uE,KACvD,OAAOA,GAAkB/uE,MAAMC,KAAMC,WAAa,SAAS+uE,KACvD,OAAOA,GAAkBhvE,MAAMC,KAAMC,WAAa,SAASgvE,KACvD,OAAOA,GAAkBjvE,MAAMC,KAAMC,WAAa,SAASivE,KACvD,OAAOA,GAAkBlvE,MAAMC,KAAMC,WAAa,SAASkvE,KACvD,OAAOA,GAAkBnvE,MAAMC,KAAMC,WAAa,SAASmvE,KACvD,OAAOA,GAAkBpvE,MAAMC,KAAMC,WAAa,SAASovE,KACvD,OAAOA,GAAkBrvE,MAAMC,KAAMC,WAAa,SAASqvE,KACvD,OAAOA,GAAkBtvE,MAAMC,KAAMC,WAAa,SAASsvE,KACvD,OAAOA,GAAkBvvE,MAAMC,KAAMC,WAAa,SAASuvE,KACvD,OAAOA,GAAkBxvE,MAAMC,KAAMC,WAAa,SAASwvE,KACvD,OAAOA,GAAkBzvE,MAAMC,KAAMC,WAAa,SAASyvE,KACvD,OAAOA,GAAkB1vE,MAAMC,KAAMC,WAAa,SAAS0vE,KACvD,OAAOA,GAAkB3vE,MAAMC,KAAMC,WAAa,SAAS2vE,KACvD,OAAOA,GAAkB5vE,MAAMC,KAAMC,WAAa,SAAS4vE,KACvD,OAAOA,GAAkB7vE,MAAMC,KAAMC,WAAa,SAAS6vE,KACvD,OAAOA,GAAkB9vE,MAAMC,KAAMC,WAAa,SAAS8vE,KACvD,OAAOA,GAAkB/vE,MAAMC,KAAMC,WAAa,SAAS+vE,KACvD,OAAOA,GAAkBhwE,MAAMC,KAAMC,WAAa,SAASgwE,KACvD,OAAOA,GAAkBjwE,MAAMC,KAAMC,WAAa,SAASiwE,KACvD,OAAOA,GAAkBlwE,MAAMC,KAAMC,WAAa,SAASkwE,KACvD,OAAOA,GAAkBnwE,MAAMC,KAAMC,WAAa,SAASmwE,KACvD,OAAOA,GAAkBpwE,MAAMC,KAAMC,WAAa,SAASowE,KACvD,OAAOA,GAAkBrwE,MAAMC,KAAMC,WAAa,SAASqwE,KACvD,OAAOA,GAAkBtwE,MAAMC,KAAMC,WAAa,SAASswE,KACvD,OAAOA,GAAkBvwE,MAAMC,KAAMC,WAAa,SAASuwE,KACvD,OAAOA,GAAkBxwE,MAAMC,KAAMC,WAAa,SAASwwE,KACvD,OAAOA,GAAkBzwE,MAAMC,KAAMC,WAAa,SAASywE,KACvD,OAAOA,GAAkB1wE,MAAMC,KAAMC,WAAa,SAAS0wE,KACvD,OAAOA,GAAkB3wE,MAAMC,KAAMC,WAAa,SAAS2wE,KACvD,OAAOA,GAAkB5wE,MAAMC,KAAMC,WAAa,SAAS4wE,KACvD,OAAOA,GAAkB7wE,MAAMC,KAAMC,WAAa,SAAS6wE,KACvD,OAAOA,GAAkB9wE,MAAMC,KAAMC,WAAa,SAAS8wE,KACvD,OAAOA,GAAkB/wE,MAAMC,KAAMC,WAAa,SAAS+wE,KACvD,OAAOA,GAAkBhxE,MAAMC,KAAMC,WAAa,SAASgxE,KACvD,OAAOA,GAAkBjxE,MAAMC,KAAMC,WAAa,SAASixE,KACvD,OAAOA,GAAkBlxE,MAAMC,KAAMC,WAAa,SAASkxE,KACvD,OAAOA,GAAkBnxE,MAAMC,KAAMC,WAAa,SAASmxE,KACvD,OAAOA,GAAkBpxE,MAAMC,KAAMC,WAAa,SAASoxE,KACvD,OAAOA,GAAkBrxE,MAAMC,KAAMC,WAAa,SAASqxE,KACvD,OAAOA,GAAkBtxE,MAAMC,KAAMC,WAAa,SAASsxE,KACvD,OAAOA,GAAkBvxE,MAAMC,KAAMC,WAAa,SAASuxE,KACvD,OAAOA,GAAkBxxE,MAAMC,KAAMC,WAAa,SAASwxE,KACvD,OAAOA,GAAkBzxE,MAAMC,KAAMC,WAAa,SAASyxE,KACvD,OAAOA,GAAkB1xE,MAAMC,KAAMC,WAAa,SAAS0xE,KACvD,OAAOA,GAAkB3xE,MAAMC,KAAMC,WAAa,SAAS2xE,KACvD,OAAOA,GAAkB5xE,MAAMC,KAAMC,WAAa,SAAS4xE,KACvD,OAAOA,GAAkB7xE,MAAMC,KAAMC,WAAa,SAAS6xE,KACvD,OAAOA,GAAkB9xE,MAAMC,KAAMC,WAAa,SAAS8xE,KACvD,OAAOA,GAAkB/xE,MAAMC,KAAMC,WAAa,SAAS+xE,KACvD,OAAOA,GAAkBhyE,MAAMC,KAAMC,WAAa,SAASgyE,KACvD,OAAOA,GAAkBjyE,MAAMC,KAAMC,WAAa,SAASiyE,KACvD,OAAOA,GAAkBlyE,MAAMC,KAAMC,WAAa,SAASkyE,KACvD,OAAOA,GAAkBnyE,MAAMC,KAAMC,WAAa,SAASmyE,KACvD,OAAOA,GAAkBpyE,MAAMC,KAAMC,WAAa,SAASoyE,KACvD,OAAOA,GAAkBryE,MAAMC,KAAMC,WAAa,SAASqyE,KACvD,OAAOA,GAAkBtyE,MAAMC,KAAMC,WAAa,SAASsyE,KACvD,OAAOA,GAAkBvyE,MAAMC,KAAMC,WAAa,SAASuyE,KACvD,OAAOA,GAAkBxyE,MAAMC,KAAMC,WAAa,SAASwyE,KACvD,OAAOA,GAAkBzyE,MAAMC,KAAMC,WAAa,SAASyyE,KACvD,OAAOA,GAAkB1yE,MAAMC,KAAMC,WAAa,SAAS0yE,KACvD,OAAOA,GAAkB3yE,MAAMC,KAAMC,WAAa,SAAS2yE,KACvD,OAAOA,GAAkB5yE,MAAMC,KAAMC,WAAa,SAAS4yE,KACvD,OAAOA,GAAkB7yE,MAAMC,KAAMC,WAAa,SAAS6yE,KACvD,OAAOA,GAAkB9yE,MAAMC,KAAMC,WAAa,SAAS8yE,KACvD,OAAOA,GAAkB/yE,MAAMC,KAAMC,WAAa,SAAS+yE,KACvD,OAAOA,GAAkBhzE,MAAMC,KAAMC,WAAa,SAASgzE,KACvD,OAAOA,GAAkBjzE,MAAMC,KAAMC,WAAa,SAASizE,KACvD,OAAOA,GAAkBlzE,MAAMC,KAAMC,WAAa,SAASkzE,KACvD,OAAOA,GAAkBnzE,MAAMC,KAAMC,WAAa,SAASmzE,KACvD,OAAOA,GAAkBpzE,MAAMC,KAAMC,WAAa,SAASozE,KACvD,OAAOA,GAAkBrzE,MAAMC,KAAMC,WAAa,SAASqzE,KACvD,OAAOA,GAAkBtzE,MAAMC,KAAMC,WAAa,SAASszE,KACvD,OAAOA,GAAkBvzE,MAAMC,KAAMC,WAAa,SAASuzE,KACvD,OAAOA,GAAkBxzE,MAAMC,KAAMC,WAAa,SAASwzE,KACvD,OAAOA,GAAkBzzE,MAAMC,KAAMC,WAAa,SAASyzE,KACvD,OAAOA,GAAkB1zE,MAAMC,KAAMC,WAAa,SAAS0zE,KACvD,OAAOA,GAAkB3zE,MAAMC,KAAMC,WAAa,SAAS2zE,KACvD,OAAOA,GAAkB5zE,MAAMC,KAAMC,WAAa,SAAS4zE,KACvD,OAAOA,GAAkB7zE,MAAMC,KAAMC,WAAa,SAAS6zE,KACvD,OAAOA,GAAkB9zE,MAAMC,KAAMC,WAAa,SAAS8zE,KACvD,OAAOA,GAAkB/zE,MAAMC,KAAMC,WAAa,SAAS+zE,KACvD,OAAOA,GAAkBh0E,MAAMC,KAAMC,WAAa,SAASg0E,KACvD,OAAOA,GAAkBj0E,MAAMC,KAAMC,WAAa,SAASi0E,KACvD,OAAOA,GAAkBl0E,MAAMC,KAAMC,WAAa,SAASk0E,KACvD,OAAOA,GAAkBn0E,MAAMC,KAAMC,WAAa,SAASm0E,KACvD,OAAOA,GAAkBp0E,MAAMC,KAAMC,WAAa,SAASo0E,KACvD,OAAOA,GAAkBr0E,MAAMC,KAAMC,WAAa,SAASq0E,KACvD,OAAOA,GAAkBt0E,MAAMC,KAAMC,WAAa,SAASs0E,KACvD,OAAOA,GAAkBv0E,MAAMC,KAAMC,WAAa,SAASu0E,KACvD,OAAOA,GAAkBx0E,MAAMC,KAAMC,WAAa,SAASw0E,KACvD,OAAOA,GAAkBz0E,MAAMC,KAAMC,WAAa,SAASy0E,KACvD,OAAOA,GAAkB10E,MAAMC,KAAMC,WAAa,SAAS00E,KACvD,OAAOA,GAAkB30E,MAAMC,KAAMC,WAAa,SAAS20E,KACvD,OAAOA,GAAkB50E,MAAMC,KAAMC,WAAa,SAAS40E,KACvD,OAAOA,GAAkB70E,MAAMC,KAAMC,WAAa,SAAS60E,KACvD,OAAOA,GAAkB90E,MAAMC,KAAMC,WAAa,SAAS80E,KACvD,OAAOA,GAAkB/0E,MAAM

+J,MAChC,GAA4B,OAAxBqgE,EACA,OAAOD,EAAmBhlE,EAAOilE,GAGjC,IAAIC,EAAoBllE,EAAMnF,EAAMkF,OACpC,OAAIpF,GAAauqE,GACNN,GAAsB,EAAGM,GAGzBrlE,GAAYqlE,GAI1B,GAAgB,GAAAZ/8D,EAIL,OAHgBiiB,GAAoBvvB,EAAOmF,EAC/BgwB,IAEInwB,GAAYG,EAAMnF,EAAMkF,QAGxC,IAAI2gC,EAAgB1gC,EAAp/MC,IAq/MjBmlE,EAAgBzkC,EAAhNhB,EAAgNgB,GAAhNgB,EAAgNhB,EAAgNgB,EAAhNhB,EAAgNgB,EAAhNhB,EAAgNgB,EAAh

GAAanoE,EAAM9J,EAAKkyE,EAAYj2E,GAEzC,UAAkB,EAAb6N,EAAKomE,QACLnrE,OAAOwyC,GAFIztC
,EAAKqoE,UAEInyE,EAAIyM,aAAeylE,GAAaj2E,IAK7D,SAASm2E,GAAsBtoE,EAAM9J,EAAKkyE,EAAYj2
E,GAClD,QAAIg2E,GAAanoE,EAAM9J,EAAKkyE,EAAYj2E,KACpC6N,EAAKqoE,UAAUnyE,EAAIyM,aAAe
ylE,GAAcj2E,GACzC,GAIf,SAASo2E,GAAsBvoE,EAAM9J,EAAKkyE,EAAYj2E,GAClD,IAAIoY,EAAWvK,E
AAKqoE,UAAUnyE,EAAIyM,aAAeylE,GACjD,GAAkB,EAAAbpoE,EAAKomE,QAAAsCr5B,GAAAaxiC,EAAAUpY,
GAAQ,CAC3E,IAAIq2E,EAActyE,EAAI49B,SAASs0C,GAAY33E,,KAC3C,MAAMg1E,GA4CqB,mB
AAmB1nE,EAAM9J,EAAIgK,WAAYsoE,EAAc,KAAOj+D,EAAUi+D,EAAc,KAAOr2E,EAAmD,IAA9B,EAAb
6N,EAAKomE,QAAG7K,SAASqC,GAAwBzoE,GAAE7B,IADA,IAAI0oE,EAAW1oE,EACR0oE,GACsB,EAArBA,
EAASxyE,IAAIlC,QACb00E,EAAStC,OAAS,GAEtBsC,EAAWA,EAASC,qBAAuBD,EAAS3nE,OAG5D,SAAS6
nE,GAAsC5oE,,EAAM6oE,IADA,IAAIH,EAAW1oE,EACR0oE,GAAYA,,GAAC5BH,,EAAStC,OAAS,GAAClBsC,
EAAWA,EAASC,qBAAuBD,EAAS3nE,OAG5D,SAAS+nE,GAAc9oE,EAAM9J,EAAKkyE,EAAYj2E,GAAoB,IAAI
WguB,GAC/C,IAMI,OADAN,GAHgC,SADlBzoE,EAAK49B,SAASs0C,GAAY33E,,KAAK,IAAI2iC,MAAM34B,GACLlM,MAAMyM,EAAIgK,WAAYsoE,EAAc,KAAOr2E,EAAmD,IAA9B,EAAb
6N,EAAKomE,QAAG7K,SAASqC,GAAwBzoE,GAAE7B,IADA,IAAI0oE,EAAW1oE,EACR0oE,GACsB,EAArBA,
EAASxyE,IAAIlC,QACb00E,EAAStC,OAAS,GAEtBsC,

6qE,EAASjgD,EAAQ7G,EAAYhD,EAAahxB,GACrE,GAAoB,EAAhB86E,EAAQ72E,MACRg3E,GAA0BhrE,E
AAM6qE,EAAQS,UAAU3rE,MAAOirB,EAAQ7G,EAAYhD,EAAahxB,OAEzF,CACD,IAAIw7E,EAAKnC,GAA
WppE,EAAM6qE,GAe1B,GAde,IAAXjgD,GAAmD,SAAhBigD,EAAQ72E,OACnB,GAAvB62E,,cAEk
B,GAAvBX,EAAQW,cACRH,GAAqBrrE,EAAMurE,EAAI3gD,EAAQ7G,EAAYhD,EAAahxB,GAEzC,GAAvB8
6E,EAAQW,cAERH,GADe5E,GAAczmE,EAAM6qE,EAAQ3qE,WAAWogC,cACvBirC,EAAI3gD,EAAQ7G,EA
AYhD,EAAahxB,IAIxEs7E,GAAqBrrE,EAAMurE,EAAI3gD,EAAQ7G,EAAYhD,EAAahxB,GAEhD,SAAhB86E
,EAAQ72E,MAER,IADA,IAAIy3E,EAAgBhF,GAAczmE,EAAM6qE,EAAQ3qE,WAAWwrE,cAAcC,eAChEl4B,
EAAI,EAAGA,EAAIg4B,EAAcxvE,OAAQw3C,IACtCi3B,GAAqBe,EAAch4B,GAAI7oB,EAAQ7G,EAAYhD,E
AAahxB,GAG5D,EAAhB86E,EAAQ72E,QAAgC62E,EAAQ7mD,QAAQvzB,MACxDm6E,GAAwB5qE,EAAM4
qB,EAAQigD,EAAQ3qE,UAAY,EAAG2qE,EAAQ3qE,UAAY2qE,EAAQE,WAAYhnD,EAAYhD,EAAahxB,IAI
1I,SAASs7E,GAAqBrrE,EAAMopE,EAAYx+C,EAAQ7G,EAAYhD,EAAahxB,GAC7E,IAAIqP,EAAWY,EAAS
Z,SACpB,OAAQwrB,GACJ,KAAK,EACDxrB,EAAS4gB,YAAY+D,EAAYqlD,GACjC,MACJ,KAAK,EACDhqE
,EASovB,aAAazK,EAAYqlD,EAAYroD,GAC9C,MACJ,KAAK,EACD3hB,EASsgB,YAAYqE,EAAYqlD,GA
CjC,MACJ,KAAK,EACDr5E,EAAO2M,KAAK0sE,IAIxB,IAAIwC,GAAe,kBACnB,SASC,GAAep7E,GACpB,
GAAgB,MAAZA,EAAK,GAAY,CACjB,IAAI0wB,EAAQ1wB,EAAQ1wB,EAAK0wB,MAAMyqD,IACvB,MAAO,CAACzq
D,EAAM,GAAIA,EAAM,IAE5B,MAAO,CAAC,GAAI1wB,EAAK,GAAI,GAAI1wB,EAAK0wB,MAAM,GAAI,GAAI
,EAAQ,EACH+H,EAAI,EAAGA,EAAI+3B,EAAS73B,OAAQF,IAAK,CAClC,IAAIG,EAAQ43B,EAAS/3B,GAAII,
EAAS23B,EAAS/3B,EAAI,GAAIK,EAAM0vE,GAAGhwE,EAAOqI,EAAQ,EAAGA,EAAQ,GAAIA,GAAS,EAAG
B,OAAOA,EA2CX,SAAS+3E,GAAkBzhE,EAAOvwB,EAAMiyF,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC,
GAAkB,GAAIC,GAAkB,GAAIC,GAAkB,GAAIC,GAAkB,GAAIC,GAAkB,GAAIC,GAAkB,GAAIC,GAAkB,
SAASyJ,GAAmB50E,EAAM60E,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,EAAQC,
EAASF,EAAQ,GAAIG,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,
IAAIhE,EAAQ,GAAIiE,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ

ADA,IAAIi0D,EAAY,GACPlxE,EAAI,EAAGA,EAAIy7C,EAAKz7C,IACrBkxE,EAAUlxE,GAAKqwE,GAAAmBxnC,EAAU5rB,EAAKjd,IAErD,OAAOjN,EAAQgiB,WAAM,EAAQlU,GAASqwE,KAtDzBC,CAAatoC,EAAU2nC,EAAYp6E,MAAOo6E,EAAYvzD,MACnE,MACJ,KAAK,KACD+zD,EAAaX,GAAAmBxnC,EAAU2nC,EAAYvzD,MAAK,KAAK,IAC3D,MACJ,KAAK,IACD+zD,EAAaR,EAAYp6E,MAAWjC,OAAJI46E,IAAAef,IAAAkC,OAAAfe,GAA6C,iBAAAfA,GAC1C1C,OAApBR,EAAYv4E,OAAAqE,mBAAA3B+4E,EAAAW5yE,cACnEoyE,EAAYv4E,OAAAS,EAAAaAEH5B,IAAAf26E,EAAA2Bf,GAAAkBe,WAAAypD,GAAAC5C,EAAAsBf,GAAAkBe,WAAAypD,GAAAC5C,EAAAY,EACZ,OAAO,KAEX,IAAAIp+B,EAAAOyrE,EAAAErC,EAAAsBf,GAAAkBe,WAAAypD,GAAAC5C,EAAAsBf,GAAAkBe,WAAAypD,GAAAC5C,EAAAY,EACZ,OAAO,KAAEX,IAAAp+B,EAAAoB,KAAA

6xE,MAAO,OAEzEpqC,YAAY,EACZC,cAAc,IAElB43C,EAAkB70E,UAAUiqC,MAAQ,WAEhC,IADA,IACSpoC,EADCtM,KAAKk8E,eAAe1vE,OACX,EAAGF,GAAK,EAAGA,IAAK,CAC/B,IAAIiE,EAAOmtE,GAAmB19E,KAAKu/E,MAAOjzE,GAC1C+B,EAAQ,IAAIsB,EAAOvQ,KAAKk8E,eAAehsE,GAC/B,IAAIK,EAAM,CACNvQ,KAAKk8E,eAAehsE,GAAKK,EAAM,IAAIvQ,KAAKk8E,eAAehsE,GAAIK,GAC/D,IAAIvQ,KAAKk8E,eAAehsE,GAAGK,IAAIA,EAAM,IAAIvQ,KAAKk8E,eAAehsE,GAAIK,GACrE,IAAIA

,KAAK0wE,QAAQ3zC,WAAW/8B,MAEnBA,KAAK2wE,mBACV3wE,KAAK2wE,kBAAkBM,OAAOjxE,KAAK2wE,kBAAkBvvE,QAAQpB,OAEjEq3E,GAASU,YAAY/3E,KAAK6xE,QAE9BgN,EAASp0E,UAAU+mE,iBAAmB,WAClCxxE,KAAK0wE,QAAU,KACfkN,GAAmB59E,KAAK6xE,OACxBwF,GAASgB,mBAAmBr4E,KAAK6xE,QAErCgN,EAASp0E,UAAUinE,eAAiB,SAAUC,QAC1C,IAAIC,EAAQ,KAAK0wE,QAAQ,IAAIC,EAAQ,KAAK0wE,QAAQ,IAAIC,EAAQ,KAAK0wE,QAAQ

YA,EACZkB,gBAAiB,EACjBF,WAAYA,EACZj3C,SAAUA,EACV03C,aAAcM,GAAiBh4C,GAC/Bh9B,QAAS
A,EACTktB,QAAS,KACT4f,SAAU,CAAEzzC,MAAOA,EAAOgC,MAAOA,EAAO6mB,KAAM24D,GAC9C3pE
,KAAM,KACN+pE,MAAO,KACPzG,UAAW,MAGnB,SAAS0G,GAAuBhyE,EAAM9J,GAAClC,OAAO+7E,GAA
0BjyE,EAAM9J,GAE3C,SASg8E,GAAmBlyE,EAAM9J,GAG9B,IADA,IAAIg1E,EAAWlrE,EACRkrE,EAASn
qE,SAAWwoE,GAAgB2B,IACvCA,EAAWA,EASnqE,OAKxB,OAAOoxE,GAAYjH,EAASnqE,OAAQooE,GA
Aa+B,IAFtB,EAEuDh1E,EAAI0tC,SASzxC,MAAO+D,EAAI0tC,SAAS5qB,MAEvH,SASo5D,GAAwBpyE,E
AAM9J,GAEnC,IAEIuI,EAAW0zE,GAAYnyE,EAAM9J,EAAI6K,QAFG,MAAZ7K,EAAIlC,OAAiC,EAEEkC,E
AAI0tC,SASzxC,MAAO+D,EAAI0tC,SAAS5qB,MACpG,GAAI9iB,EAAIY,QAAQmF,OACZ,IAAK,IAAIF,EA
AI,EAAGA,EAAI7F,EAAIY,QAAQmF,OAAQF,IAAK,CACrBu2E,GACrBu2E,E,EAAmB7zE,,EAAS4zE,,UACvC,IAAIopC,GAAa03B,GAAKb,,MAAM,IAAIziF,MAAM,WAAawiF,,EA
AO7gE,SAAW,wBAA0B/S,EAASlD,YAAY9K,KAAO,MAJrG,IAAIyrD,EAAeo2B,,EAAiBz3B,UAAU03B,,GAA
oBvyE,EAAM9J,EAAI6K,OAAOb,UAAWmyE,EAAOt3B,YACrG/6C,EAAKmwE,,YAAYj6E,,EAAI07E,,YAAc71
E,GAAKmgD,EAAajuB,YAAYjd,KAAKkrC,GAAOlF,OAAOz9C,EAEX,SAAS8zE,GAAuBvyE,EAAAML,EAAAo7C,
C,GACtC,OAAO,SAAUguB,GAAS,GAAS,OAAD,GAAAc,,IAAmF3E,SAASkJ,GAA
0BjyE,EAAM9J,GAErC,IAAIs8E,,OAAOC,GAAKC,,EAAI0tC,SACtB,OAAOoxE,GAAYnyE,EAAM9J,EAAI6K,QAAQb,UAAWmyE,EAAOt3B,YACrG/6C,EAAKmwE,,YAAYj6E,,EAAI07E,,YAAc71
AoB,UAAZ1tC,EAAIlC,OACR,KAAK,IACD,OAAOm+E,GAAYnyE,EAAM9J,EAAI6K,QAAQyxE,EAAsBjG,E
AAYp6E,MAAOo6E,EAAYvzD,MAC9F,KAAK,KACD,OA0BZ,SAASy5D,GAAuBzyE,EAAM9J,GAAClC,OAAO+7E,GAA
0BjyE,EAAM9J,GAE3C,IAAIs8E,,OAAOC,GAAKC,,EAAI0tC,SACtB,OAAOoxE,GAAYnyE,EAAM9J,EAAI6K,QAAQb,UAAWmyE,EAAOt3B,YACrG/6C,EAAKmwE,,YAAYj6E,,EAAI07E,,YAAc71
AoB,UAAZ1tC,EAAIlC,OACR,KAAK,IACD,OAAOm+E,GAAYnyE,EAAM9J,EAAI6K,QAAQyxE,EAAsBjG,E
AAYp6E,MAAOo6E,EAAYvzD,MAC9F,KAAK,KACD,OA0BZ,SAASy5D,GAAuBzyE,EAAM9J,GAAClC,OAAO+7E,GA
0BjyE,EAAM9J,GAE3C,IAAIs8E,,OAAOC,GAAKC,,EAAI0tC,SACtB,OAAOoxE,GAAYnyE,EAAM9J,EAAI6K,QAAQb,UAAWmyE,EAAOt3B,YACrG/6C,EAAKmwE,,YAAYj6E,,EAAI07E,,YAAc71
AoB,UAAZ1tC,EAAIlC,OACR,KAAK,IACD,OAAOm+E,GAAYnyE,EAAM9J,EAAI6K,QAAQyxE,EAAsBjG,E
AAYp6E,MAAOo6E,EAAYvzD,MAC9F,KAAK,KACD,OA0BZ,SAASy5D,GAAuBzyE,EAAM9J,GAAClC,OAAO+7E,GA

AAuBjJ,GAAgBoJ,GACvC9D,EAAQ1F,GAAawJ,GACrBA,EAAaA,EAAW5xE,OACL,EAAfsrE,EAAOr4E,QAC
P2+E,EAAa,MAGrB,IAAIxgF,EAAQ6X,EAAUg/D,KAAK1sD,SAAS9P,IAAI6/D,EAAOl8E,MAAOuiF,IACtD,O
AAIvgF,IAAUugF,IACV3+E,IAAkB2+E,GAMXvgF,EAEJ6X,EAAUg/D,KAAKpkC,SAAStoB,SAAS9P,IAAI6/
D,EAAOl8E,MAAO4D,GAE9D,SAAS6+E,GAAa5yE,EAAM6uE,IAAIsH,EACAC
AtH,EAAWzE,GAAAczmE,EAAM6uE,EAAM3uE,WAAWogC,mBAIhD,IADA4qC,EAAWlrE,EACJkrE,EAASnq
E,SAAWwoE,GAAgB2B,IACvCA,EAAWA,EASnqE,OAG5B,OAAOmqE,EAEX,SAAS+H,GAAWjzE,EAAMg
zE,EAAc98E,EAAKkyE,EAAYj2E,EAAO+gF,GAC5D,BAAgB,MAAAZh9E,EAAIlC,MAA+B,CACnC,IAAIk3E,
AAWzE,GAAAczmE,EAAM9J,EAAI6K,OAAOb,WAAWogC,cAChC,EAASh1E,IAAIlC,QACbk3E,3E,E
AAS9E,OAAS,GAS1B,GADA4M,EAAav0E,SALCvI,EAAI49B,SASs0C,GACJ33E,MAIW0B,EAClB,OAAZ+
D,EAAIlC,MAAgC,CACpCk/E,EAAUA,GAAW,GAAAW,IrB,IAAI3oE,EAAWmjC,GAAAaG,OAAO7tC,EAAKqoE,U
AAUnyE,EAAIyM,aAAeylE,IAErE8K,EADgBh9E,EAAI49B,SASs0C,GACX+K,iBACd,IAAIx1E,GAAa4M,E
AAUpY,EAA6C,IAAxB,EAAb6N,EAAKomE,QAGhD,OADApmE,EAAKqoE,UAAUnyE,EAAIyM,aAAeylE,GA
Acj2E,EACzC+gF,EA6CX,SASE,GAAgCpzE,EAAMkxE,GAC3C,GAAMlxE,EAAK9J,IAAIw5E,IAAIw5w5E,IAAIw5E,IAAIw5E,IAAIw

Ync,EACZ/6B,GAAkBoN,EAAc2tB,EAAoBvoE,KAAK+6C,aAAa/yC,eACtEu0B,GAAkBwN,EAAgBl6B,eAAe,KAAM7P,KAAK+6C,cAAe0pC,EA1EvF,SAASE,EAAeF,GACpB,IAAIzjF,EAAOyjF,/vD,cACvB,MAAgB,QAAT1zB,EA9kuBS,6BA8kuBkC,SAATA,EA7kuBrB,iCA6kuB2D,KAwEiB2jF,CAAeF,IACvGG,EAAY5kF,EAAIC,EAAIC,EAAIC

AAY52C,IAAUwyE,IAAexyE,IAAUuyC,GAClDjzC,KAEJA,KAAK+lF,YAAYhpE,IAAIrc,EAAO4D,EAAei9E,IAEtDmE,EAAcj7E,UAAUi0B,QAAU,WAE9B,IAAI7R,EAAW7sB,KAAK+lF,aACnBl5D,EAASoc,WAAapc,EAAS6R,UAChCB+lF2lF,WAAW78E,SAAQ,G/1E,KAAK2lF,WAAWa,MAEtBD,EAAcj7E,UAAUD,UAAY,SAAUwvC,GAE1Ch6C,KAAK2lF,WAAW14E,KAAKsC,IAAIlB0rC,EAAtDuB,CAAuDhCxS,IACE8S,GAAmC,SAAUz4Uz4lE,EAAWa,KAAKvM,OAASA,KA6BjCvM,EAAQqzE,WAAaA,EAAYrzE,EAAQ+zE,WAAaA,EAAY/zE,EAAQ8zE,WAAaA,EAAY9zE,EAAQ6zE,WAAaA,EAAY7zE,EAAQ4zE,WAAaA,EAAY5zE,EAAQ2zE,WAAaA,EAAY3zE,EAAQ0zE,WAAaA,EAAY1zE,EAAQyzE,WAAaA,EAAYzzE,EAAQwzE,WAAaA,EAAYxzE,EAAQuzE,WAAaA,EAAYvzE,EAAQszE,WAAaA,EAAYtzE

zE,EAAUD,EAAO55E,KAAK65E,EAASznC,EAAMC,EAAMG,GAAQonC,EAAOxnC,EAAMC,EAAMG,IAC7
G0oC,GAA2Bt3E,EAAO+C,EAAAe,GAkBzD,SAAS2zE,GAAsB12E,EAAOy3E,EAAA1B,EAAYC,EAAQxnC,EA
AMC,EAAMG,EAAME,EAAMmnC,GAC3F,IAAIlzE,EAAe00E,EAAc1B,EACjC,OAAOlnC,GAAgB7uC,EAAO
+C,EAAcyrC,EAAMC,EAAMG,EAAME,GAC1DV,GAAcpuC,EAAO+C,EAAAe,EAAGkzE,EAAUD,EAAO55E,
KAAK65E,EAASznC,EAAMC,EAAMG,EAAME,GAAQknC,EAAOxnC,EAAMC,EAAMG,EAAME,IACzHwoC
,GAA2Bt3E,EAAO+C,EAAAe,GAiBzD,SAASs0E,GAAsBr3E,EAAOy3E,EAAA1B,EAAYC,EAAQoB,EAAMnB,G
AGzE,IAFA,IAAIlzE,EAAe00E,EAAc1B,EAAC7BrnC,GAAY,EACCPvyC,EAAI,EAAGA,EAAIi7E,EAAK/6E,OA
AQF,IAC7BmyC,GAAAetuC,EAAO+C,IAAgBq0E,EAAKj7E,MAAQuyC,GAAY,GAAEnE,OAAOA,EAAYN,GAA
cpuC,EAAO+C,EAAcizE,EAAO9kE,MAAM+kE,EAASmB,IACxEE,GAA2Bt3E,EAAO+C;;;;;;;OAmB1C,SAAS2
0E,GAAO33E,EAAO43E,GACnB,IACIx9E,EADA/B,EAAQyJ,GAAY1C,EAA3+wBJ,GA4+wBZ3H,
EAAM4S,iBACN7Q,EAkCR,SAASy9E,EAAa/mF,EAAMiuC,GACACiuC,EAAI,EAAGA,EAAIi7E,EAAK/6E,OA
ASziC,OAAS,EAAGF,GAAK,EAAGA,IAAK,CAC3C,IAAIhC,EAAU2kC,EAAS3iC,GACvB,GAAItL,IAASsJ
,EAAQtJ,KACjB,OAAOsJ,EAInB,MAAM,IAAIgD,GAAa,MAA4B,aAAetM,EAAO,yBA3C3D+mF,CAAaD,EAA
Uv/E,EAAM8+B,cACvC9+B,EAAMR,KAAK65C,GAAiBt3C,EAACxBA,EAAQE,YACPjC,EAAMyO,eAAiBzO,E
AAMyO,aAAe,KAAK/J,KAAK20C,EAAet3C,EAAQE,YAIlFF,EAAU/B,EAAMR,KAAK65C,GAAEzB,IAAIomC,
EAAc19E,EAAQjJ,L,UAAYiL,EAAQjJ,L,QAAU+L,GAAcd,EAAQzI,OAC1Eib,EAA+B5Y,EAAAwB0lD,IAC3D,IA
GI,IAAI5qC,EAA+BpE,IAAwB,GACvDqtE,EAAeD,IAGnB,OAFAptE,GAAwBoE,GACxB7P,GAAM5G,EAAO
wJ,KAAY6vC,EAAeqmC,GACjCA,EAEX,QAGI/jF,EAAwB4Y,IAkChC,SASorE,GAAYh4E,EAAOg2E,EAAY
vmC,GACpC,IAAIiC,EAAgB1xC,EAAvixBJ,GAwixBZC,EAAQ4B,KACRk2E,EAAe33E,GAAKH,EAAOyxC,GA
C/B,OAAOumC,GAAch4E,EAAOi4E,GAAOj4E,EAAOyxC,GACtC2kC,GAAsBp2E,EAAO2C,KAAkBozE,EAA
Y+B,EAAaI,UAAW1oC,EAAIsoC,GACvFA,EAAUG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GACxCx
mC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,
xC,GAC/B,OAAOumC,GAAch4E,EAAOi4E,GAAOj4E,EAAOyxC,GACtC2kC,GAAsBp2E,EAAO2C,KAAkBoz
E,EAAY+B,EAAaI,UAAW1oC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,
mC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,
xC,GAC/B,OAAOumC,GAAch4E,EAAOi4E,GAAOj4E,EAAOyxC,GACtC2kC,GAAsBp2E,EAAO2C,KAAkBo
E,EAAY+B,EAAaI,UAAW1oC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,
mC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,
xC,GAC/B,OAAOumC,GAAch4E,EAAOi4E,GAAOj4E,EAAOyxC,GACtC2kC,GAAsBp2E,EAAO2C,KAAkBoz
E,EAAY+B,EAAaI,UAAW1oC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,
mC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,
xC,GAC/B,OAAOumC,GAAch4E,EAAOi4E,GAAOj4E,EAAOyxC,GACtC2kC,GAAsBp2E,EAAO2C,KAAkBoz
E,EAAY+B,EAAaI,UAAW1oC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,
mC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,
xC,GAC/B,OAAOumC,GAAch4E,EAAOi4E,GAAOj4E,EAAOyxC,GACtC2kC,GAAsBp2E,EAO3D+mF,CAAaD,EA
Uv/E,EAAM8+B,cACvC9+B,EAAMR,KAAK65C,GAAiBt3C,EAACxBA,EAAQE,YACPjC,EAAMyO,eAAiBzO,E
AAMyO,aAAe,KAAK/J,KAAK20C,EAAet3C,EAAQE,YAIlFF,EAAU/B,EAAMR,KAAK65C,GAAEzB,IAAIomC,
EAAc19E,EAAQjJ,L,UAAYiL,EAAQjJ,L,QAAU+L,GAAcd,EAAQzI,OAC1Eib,EAA+B5Y,EAAAwB0lD,IAC3D,IA
GI,IAAI5qC,EAA+BpE,IAAwB,GACvDqtE,EAAeD,IAGnB,OAFAptE,GAAwBoE,GACxB7P,GAAM5G,EAAO
wJ,KAAY6vC,EAAeqmC,GACjCA,EAEX,QAGI/jF,EAAwB4Y,IAkChC,SASorE,GAAYh4E,EAAOg2E,EAAY
vmC,GACpC,IAAIiC,EAAgB1xC,EAAvixBJ,GAwixBZC,EAAQ4B,KACRk2E,EAAe33E,GAAKH,EAAOyxC,GA
C/B,OAAOumC,GAAch4E,EAAOi4E,GAAOj4E,EAAOyxC,GACtC2kC,GAAsBp2E,EAAO2C,KAAkBozE,EAA
Y+B,EAAaI,UAAW1oC,EAAIsoC,GACvFA,EAAUG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GACxCx
mC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,
xC,GAC/B,OAAOumC,GAAch4E,EAAOi4E,GAAOj4E,EAAOyxC,GACtC2kC,GAAsBp2E,EAAO2C,KAAkBoz
E,EAAY+B,EAAaI,UAAW1oC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,EAAYvmC,EAAIG,GAAGC,EAAOp4E,EAAOg2E,

EAAMkpE,OACtC,SAAUA,GACVlpE,EAAMkpE,KAGV4S,IACAG,EAAanpF,KAAK6oF,UAAY,WAC1B7uD,YAAW,WAAc,OAAOgvD,QAChC,WACAA,OAIZ,IAAII,EAAO77E,EAAO9C,UAAU2gD,UAAU7+C,KAAKAvM,KAAAMipF,EAAAaC,EAASC,GAIvE,OAHIJ,aAA2BjpF,EAAAKupF,cAAChCN,EAAAgBtzC,IAAAI2zC,GAAAEjBA,GAAAEJT,EA/DuB,CAAgEhC7oF,EAAAKwpF;;;;;;;;AAaP,SAASC,KACLIqsC,GAAA2B,WAAC3B,SAASA,IACLACLzpF,KAAAK+oC,OAAAQ,EACCb/oC,KAAAKwpF,SAAAW,GAAAA,SAAAA,EAAAA,EAAAA,E

0B,EAC/B7qF,KAAK2rF,mBAAoB,EAMzB3rF,KAAK4rF,oBAAqB,EAC1B5rF,KAAK6rF,sBAAwBp7E,EAgGjC,OA9FAi7E,EAAQjhF,UAAU2/C,aAAe,SAAU7hD,EAAOyC,GAC1ChL,KAAK8rF,iBAAiB9gF,IACtBhL,KAAK+rF,WAAWxjF,EAAOyC,IAG/B0gF,EAAQjhF,UAAUggD,WAAa,SAAUz/C,GACjChL,KAAK6rF,wBAA0B7gF,EAAMkkF,QACrClQ,KAAK4rF,oBAAqB,IAGlCF,EAAQjhF,UAAU5D,SAAW,SAAU0B,GAAgB,GAC/C,KAAKoqD,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6gC,cAAgB,SAAUl/B,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqhF,UAAY,SAAUlgF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUshF,UAAY,SAAUngF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUuhF,UAAY,SAAUpgF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwhF,UAAY,SAAUrgF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUyhF,UAAY,SAAUtgF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0hF,UAAY,SAAUvgF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2hF,UAAY,SAAUxgF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4hF,UAAY,SAAUzgF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6hF,UAAY,SAAU1gF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8hF,UAAY,SAAU3gF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+hF,UAAY,SAAU5gF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgiF,UAAY,SAAU7gF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUiiF,UAAY,SAAU9gF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkiF,UAAY,SAAU/gF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmiF,UAAY,SAAUhhF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUoiF,UAAY,SAAUjhF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqiF,UAAY,SAAUlhF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUsiF,UAAY,SAAUnhF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUuiF,UAAY,SAAUphF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwiF,UAAY,SAAUrhF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUyiF,UAAY,SAAUthF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0iF,UAAY,SAAUvhF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2iF,UAAY,SAAUxhF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4iF,UAAY,SAAUzhF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6iF,UAAY,SAAU1hF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8iF,UAAY,SAAU3hF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+iF,UAAY,SAAU5hF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgjF,UAAY,SAAU7hF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUijF,UAAY,SAAU9hF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkjF,UAAY,SAAU/hF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmjF,UAAY,SAAUhiF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUojF,UAAY,SAAUjiF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqjF,UAAY,SAAUliF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUsjF,UAAY,SAAUniF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUujF,UAAY,SAAUpiF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwjF,UAAY,SAAUriF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUyjF,UAAY,SAAUtiF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0jF,UAAY,SAAUviF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2jF,UAAY,SAAUxiF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4jF,UAAY,SAAUziF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6jF,UAAY,SAAU1iF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8jF,UAAY,SAAU3iF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+jF,UAAY,SAAU5iF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgkF,UAAY,SAAU7iF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUikF,UAAY,SAAU9iF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkkF,UAAY,SAAU/iF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmkF,UAAY,SAAUhjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUokF,UAAY,SAAUjjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqkF,UAAY,SAAUljF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUskF,UAAY,SAAUnjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUukF,UAAY,SAAUpjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwkF,UAAY,SAAUrjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUykF,UAAY,SAAUtjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0kF,UAAY,SAAUvjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2kF,UAAY,SAAUxjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4kF,UAAY,SAAUzjF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6kF,UAAY,SAAU1jF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8kF,UAAY,SAAU3jF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+kF,UAAY,SAAU5jF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUglF,UAAY,SAAU7jF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUilF,UAAY,SAAU9jF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUklF,UAAY,SAAU/jF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmlF,UAAY,SAAUhkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUolF,UAAY,SAAUjkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqlF,UAAY,SAAUlkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUslF,UAAY,SAAUnkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUulF,UAAY,SAAUpkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwlF,UAAY,SAAUrkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUylF,UAAY,SAAUtkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0lF,UAAY,SAAUvkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2lF,UAAY,SAAUxkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4lF,UAAY,SAAUzkF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6lF,UAAY,SAAU1kF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8lF,UAAY,SAAU3kF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+lF,UAAY,SAAU5kF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgmF,UAAY,SAAU7kF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUimF,UAAY,SAAU9kF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkmF,UAAY,SAAU/kF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmmF,UAAY,SAAUhlF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUomF,UAAY,SAAUjlF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqmF,UAAY,SAAUllF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUsmF,UAAY,SAAUnlF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUumF,UAAY,SAAUplF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwmF,UAAY,SAAUrlF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUymF,UAAY,SAAUtlF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0mF,UAAY,SAAUvlF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2mF,UAAY,SAAUxlF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4mF,UAAY,SAAUzlF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6mF,UAAY,SAAU1lF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8mF,UAAY,SAAU3lF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+mF,UAAY,SAAU5lF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgnF,UAAY,SAAU7lF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUinF,UAAY,SAAU9lF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUknF,UAAY,SAAU/lF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmnF,UAAY,SAAUhmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUonF,UAAY,SAAUjmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqnF,UAAY,SAAUlmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUsnF,UAAY,SAAUnmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUunF,UAAY,SAAUpmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwnF,UAAY,SAAUrmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUynF,UAAY,SAAUtmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0nF,UAAY,SAAUvmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2nF,UAAY,SAAUxmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4nF,UAAY,SAAUzmF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6nF,UAAY,SAAU1mF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8nF,UAAY,SAAU3mF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+nF,UAAY,SAAU5mF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgoF,UAAY,SAAU7mF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUioF,UAAY,SAAU9mF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkoF,UAAY,SAAU/mF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmoF,UAAY,SAAUhnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUooF,UAAY,SAAUjnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqoF,UAAY,SAAUlnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUsoF,UAAY,SAAUnnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUuoF,UAAY,SAAUpnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwoF,UAAY,SAAUrnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUyoF,UAAY,SAAUtnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0oF,UAAY,SAAUvnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2oF,UAAY,SAAUxnF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4oF,UAAY,SAAUznF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6oF,UAAY,SAAU1nF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8oF,UAAY,SAAU3nF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+oF,UAAY,SAAU5nF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgpF,UAAY,SAAU7nF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUipF,UAAY,SAAU9nF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkpF,UAAY,SAAU/nF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmpF,UAAY,SAAUhoF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUopF,UAAY,SAAUjoF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqpF,UAAY,SAAUloF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUspF,UAAY,SAAUnoF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUupF,UAAY,SAAUpoF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwpF,UAAY,SAAUroF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUypF,UAAY,SAAUtoF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0pF,UAAY,SAAUvoF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2pF,UAAY,SAAUxoF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4pF,UAAY,SAAUzoF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6pF,UAAY,SAAU1oF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8pF,UAAY,SAAU3oF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+pF,UAAY,SAAU5oF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgqF,UAAY,SAAU7oF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUiqF,UAAY,SAAU9oF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkqF,UAAY,SAAU/oF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmqF,UAAY,SAAUhpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUoqF,UAAY,SAAUjpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqqF,UAAY,SAAUlpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUsqF,UAAY,SAAUnpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUuqF,UAAY,SAAUppF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwqF,UAAY,SAAUrpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUyqF,UAAY,SAAUtpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0qF,UAAY,SAAUvpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2qF,UAAY,SAAUxpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4qF,UAAY,SAAUzpF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6qF,UAAY,SAAU1pF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8qF,UAAY,SAAU3pF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+qF,UAAY,SAAU5pF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgrF,UAAY,SAAU7pF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUirF,UAAY,SAAU9pF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkrF,UAAY,SAAU/pF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmrF,UAAY,SAAUhqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUorF,UAAY,SAAUjqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqrF,UAAY,SAAUlqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUsrF,UAAY,SAAUnqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUurF,UAAY,SAAUpqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwrF,UAAY,SAAUrqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUyrF,UAAY,SAAUtqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0rF,UAAY,SAAUvqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2rF,UAAY,SAAUxqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4rF,UAAY,SAAUzqF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6rF,UAAY,SAAU1qF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8rF,UAAY,SAAU3qF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+rF,UAAY,SAAU5qF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgsF,UAAY,SAAU7qF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUisF,UAAY,SAAU9qF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUksF,UAAY,SAAU/qF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmsF,UAAY,SAAUhrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUosF,UAAY,SAAUjrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqsF,UAAY,SAAUlrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUssF,UAAY,SAAUnrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUusF,UAAY,SAAUprF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwsF,UAAY,SAAUrrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUysF,UAAY,SAAUtrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0sF,UAAY,SAAUvrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2sF,UAAY,SAAUxrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4sF,UAAY,SAAUzrF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6sF,UAAY,SAAU1rF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8sF,UAAY,SAAU3rF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+sF,UAAY,SAAU5rF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUgtF,UAAY,SAAU7rF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUitF,UAAY,SAAU9rF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUktF,UAAY,SAAU/rF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmtF,UAAY,SAAUhsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUotF,UAAY,SAAUjsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUqtF,UAAY,SAAUlsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUstF,UAAY,SAAUnsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUutF,UAAY,SAAUpsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwtF,UAAY,SAAUrsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUytF,UAAY,SAAUtsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0tF,UAAY,SAAUvsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU2tF,UAAY,SAAUxsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU4tF,UAAY,SAAUzsF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU6tF,UAAY,SAAU1sF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU8tF,UAAY,SAAU3sF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU+tF,UAAY,SAAU5sF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUguF,UAAY,SAAU7sF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUiuF,UAAY,SAAU9sF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUkuF,UAAY,SAAU/sF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUmuF,UAAY,SAAUhtF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUouF,UAAY,SAAUjtF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUquF,UAAY,SAAUltF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUsuF,UAAY,SAAUntF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUuuF,UAAY,SAAUptF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUwuF,UAAY,SAAUrtF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAUyuF,UAAY,SAAUttF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF,UAAU0uF,UAAY,SAAUvtF,GAAgB,GAC/C,KAAK8+C,aAAa7hD,EAAOyC,IAE7B0gF,EAAQjhF

hiD,EACJ4hD,GADI5hD,EAAgB+hD,EAAeC,IAtvyB/C,GAuvyBsDhiD,EAAeigD,EAAiBjlE,KAM9F,OAAOA,EAuBK4mE,CAAoB1kF,EAAO4H,EAAOy8E,EAAY,IAC9CD,GAAAuBpkF,EAAO4H,EAAOw6E,EAAQiC,GACjDvC,EAAUN,MAAM1jE,GAChBgkE,EAAUH,kBAEd,OAAO,EAEX,OAAO,EAWX,SAASoD,GAAAkBrC,EAAAWsC,EAASpC,GAC3CqC,GAAAkBx7E,KAAAYD,,KAAAYk5E,EAAAWsC,EAASpC,GAAAM,GAAWxE,SAASsC,GAAAYxC,EAAAWsC,EAASpC,GACrCqC,GAAAkBx7E,KAAAYD,,KAAAYk5E,EAAAWsC,EAASpC,GAAAM,GAAExE,SASqC,GAAAkBjlF,EAAO4H,EAAO86E,EAAAWsC,EAASpC,GAAAM,GAAAD,GAC3D3iF,EAAM4S,kBACNuyE,GAAAanlF,EAAOA,IAAIyiF,GAAAgBC,EAAAWsC,EAASrC,EAAUC,IAAAQ,GAC1ED,IACA3iF,EAAM2+B,mBAAoBA,IAAGlCymD,GAAAaplF,EAAO4H,GAAcxB,SASAy9E,GAAAe1uE,EAAAgB+rE,EAAAWsC,EAASpC,GAAAM,GAAAxD0C,GAAAqB77E,KAAAYD,,KAAAYk5E,EAAAWsC,EAASpC,GAAAM,GAAAD,EAAO/4E,KAAAmB8M,GAAcrG,SAAS4uE,GAAAqB5uE,EAAAgB+rE,EAAAWsC,EAASpC,GAAAM,GAAA9C9D0C,GAAAqB77E,KAAAYD,,KAAAYk5E,EAAAWsC,EAASpC,GAAAM,GAAAD,EAAO/4E,KAAAmB8M,GAAAE/EpG,SAAS2uE,GAAAqBtlF,EAAO4H,EAAO86E,EAAAWsC,EAASpC,GAAAM,GAAAD,GAAAUlgF,EAAOkU,GAAC/E3W,EAAM4S,kBAAuBA,IAAGlCnuyE,GAAAanlF,EAAOA,IAAIyiF,GAAAgBC,EAAAWsC,EAASrC,EAAUC,IAAAQ,GAAAD,GAAAUlgF,EAAOkkF,GAAAMkF,EAAOkC3F,SAAS69E,EAAAkCxlF,EAAO2W,GAAC9C9I,EAAM8uE,EAAAsBzlF,EAAOMpB,EAAiBAmBoB,EAAOMpB,EAAeAAiB,IAAEtE+X,KAD0B8uE,EAAOoBxhF,OAASwhF,EAAOoBA,EAAOoBxhF,OAAS,IAAM,IAAE9GwhF,EAAOoB/gF,KAAAK1E,EAAOMu+B,GAAArCnD6

C,qBAAsBA,GACtBC,qBAAsBA,GACtBC,qBAAsBA,GACtBC,qBAAsBA,GACtBC,qBAAsBA,GACtBC,qBAA
sBA,GACtBC,qBAAsBA,GACtBqP,SAAUA,GACVC,mBAAoBA,GACpBG,YAAaA,GACbxB,cAAeA,GACfmB,
YAAaA,GACbQ,cAAeA,GACfE,oBAAqBA,GACrB7rC,kBAAmBA,GACnBG,oBAAqBA,GACrBC,gBAAiBA,G
ACjBpxB,sBAAuBA,EACvBS,qBAAsBA,EACtBmsB,iBAAkBA,GAClBK,kBAAmBA,GACnBM,wBAAyBA,G
ACzBG,mBAAoBA,GACpBN,gBAAiBA,GACjBc,6BAA8BA,GAC9BL,sBAAuBA,GACvBC,wBAAyBA,GACz
BC,6BAA8BA,IAS9Bs3D,GAAAa,KAuBbC,GAAgB,GAChBC,GAAAc,GAQdC,IAAAsB,EAM1B,SAASC,KACL,IA
AKD,GAAAqB,CACtBA,IAAAsB,EACtB,IACI,IAAK,IAAIniF,EAAIkiF,GAAAYhiF,OAAS,EAAGF,GAAK,EAAGA
,IAAK,CAC9C,IAAI8S,EAAKovE,GAAAYliF,GAAAIy0E,GAAAa3hE,EAAG2hE,WAAY5rC,EAAW/1B,EAAG+1B,
SAC/DA,EAAS3rC,cAAgB2rC,EAAS3rC,aAAamlF,MAAMC,MAErDJ,GAAAYv0E,OAAO3N,EAAG,GACtBuiF,
GAA6B9N,EAAY5rC,KAIrD,QACIs5C,IAAAsB,IASlC,SAASG,GAAAsE,BE,GAAC3B,GAAAuhF,MAAMC,QAAAkuF
,GACPA,,EAAYH,MAAMC,MAEpBhtF,EAAkBktF,GAO/B,SAASC,GAAAgBhO,EAAY5rC,OAAAqhB,EAAAu
BA,EAAW,IACtC65C,GAAAoBjO,EAAY5rC,GA7CpC,SAAS85C+O+BlO,EAAY5rC,OAAAqhB,EAAAu5C,GAAAYvhF,
KAAK,CAAE8zE,WAAYA,EAAY5rC,SAAUA,IAiDrD85C+O+BlO,EAAY5rC,GAAQ/C,SAAS65C,GAAAoBjO,
EAAY5rC,EAAU+5C,QACN,IAArCA,IA+CA,GAAmC,GAAtF,IAAI1lF,EAAAe6a,GAAAQ8wB,EAAAS3rC,cAAAg
B+kF,IAChD3kF,EAAc,KAClB4B,OAAOkW,eAAeq/D,EAAYl7E,EAAY,CAC1C6hC,cAAc,qB,IAAIC,WACd,W
A4BD,OA3BoB,OAAhBnT,KAAMAA,EAAcma,KAAoBgrE,gBAAgBV,GAAAgB,SAAWtN,EAAW//E,KAAO,WA
AiB,CAC5Ga,KAAMk/E,EACNx3E,UAAW8a,GAAQ8wB,EAAS5rC,WAAaglF,IAAe1tF,IAAIe,GAC5D4D4H,aAA
cA,EAAa3I,IAAIe,GAC/BoB,QAASqhB,GAAQ8wB,EAASnyC,SAAWurF,IAChC1tF,IAAIe,GACJf,IAAIsuF,IA
CT7vF,QAAS+kB,GAAQ8wB,EAAS71C,SAAWivF,IAChC1tF,IAAIe,GACJf,IAAIsuF,IACT7mF,QAAS6sC,EA
AS7sC,QAAU+b,GAAQ8wB,EAAS7sC,SAAW,KACxDJ,GAAAIitC,EAASjtC,IAAM,QAMNI,UAAbsB,EAAYtB,
QAAU,KAGvBsB,KAGf,IAAI5F,EAAgB,KACpBwH,OAAOkW,eAAeq/D,EAAYx9E,EAAY,CAC1C,WACD,GAAAsB,
WACD,GAAAsB,IAAIlB,Y/EAAwBlB,EAAAkB,EAAAlB,EAAAkB,EAAAlB,EAAAkB,EAAAlB,EAAAkB,EAAAlB,EAAAkB,
EAAAlB,EAAAkB,EAAAlB,EAAAkB,EAAAlB,EAAAkB,EAAAlB,EAAAkB,EAAAlB,EAAAkB,EAAAlB,EAAAkB,EAAAlB,
EAAAkB,EAAAlB,EAAAkB,EAAA

BA,EAEX,SAASV,GAA0BzsF,GAC/B,OAKJ,SAAS2tF,EAAsB3tF,GAC3B,YAA0BC,IAAnBD,EAAMyyC,SANTk7C,CAAsB3tF,GACfA,EAAMyyC,SAEVzyC,EAKX,SAASktF,GAAWltF,,GAChB,QAASmH,GAAenH;;;;;;;OAvJR,IAAIioB,IACD,IAAIA,IA6K3B,IAAI2lE,GAAmB,EAUvB,SASC,GAAiB1uF,EAAMslD,GAI5B,IAAIqpC,EAAiB,MAplsBzB,SASC,EAAyC5uF,EAAMslD,GAChDh7B,GAAyBg7B,IAAKttB,EAAMslD,EAAMslD,GAAI/wE,EAAMslD,EAAMslD,GAAI/wE,EAAMslD,EAAMslD,GAAI/wE

SAAS4lF,EAAyBC,EAAcH,GAC5C,MAAO,CACHG,aAAcA,EACd7H,WAN2B1nE,EAMUovE,EAAIpvE,SALl
B,iBAAbA,EAAwB6uE,GAAa7uE,GAAY3hB,EAAkB2hB,IAM7EI,YAAagvE,EAAIhvE,YACjBF,MAAOkvE,E
AAIlvE,MACX0nE,KAAMwH,EAAIxH,KAAOwH,EAAIxH,KAAO,KAC5B4H,SAAUJ,EAAII,QAVtB,IAAmCx
vE,EA2BEsvE,CAAyBxvF,EAAOsvF,UAKjE,IAAK,IAAItvF,KAASokB,EACd8tB,EAAQlyC,GAEZ,OAAOovF,
EAKX,SASR,GAAevvF,GACpB,IAAI1B,EAAO0B,EAAMif,eACjB,MAAgB,iBAAT3gB,GAAqBA,EAAO,GAAoB,oBAATA,EA
EtC,SAAS0iB,GAAYhhB,GACjB,IAAI1B,EAAO0B,EAAMif,eACjB,MAAgB,cAAT3gB,GAAsBA,EAAO,GAAoB,iBAATA,EAEn
C,SAAS4xF,GAAkBlwF,GACvB,MAAgC,UAAzBA,EAAMif,eAAjB,SAASywE,GAAa1vF,GAClB,OAAOA,
AMmvB,MAAM,KAAKhxB,KAAI,SAAUmyF,GAAS,OAAOA,EAAMlhE,UAAUhE,IAAImhE,GAAkB,CAClB,cA
Ae,WAAY,cAAAe,YAAAa,kBAAmB,qBAC1E,qBAAsB,yBAE1B,SAASV,GAA2B,WAAhC,GAAA2B,wF,EAAAM
,KACd,GAAI6pE,GAAgB/rC,MAAK,SAAUgsC,GAAgB,OAAOA,EAAaC,gBAAkBC,EAAMD,gBAAkBD,EAAaG
M6gB,GACvB,IAAI2wE,EAAY,KACZ1B,KAAKnnF,OAAOmnF,OAAOkW,eAAe7f,EAAMoE,EAAgB,CACxC8W,
IAAK,WACD,GAAIqB,EAAOjB,GAAO,IAAIxqC,EAAUuB,CAAIxB,EAAIyC,EAAIuY,EAAIwY,EAAIvY,EAAIwY,EAAIvY,EAAIwY,EAAIv

AAc,IAEhBH,EA5C+B,GA8C1CA,GAAsB1tE,WAAa,CAC/B,CAAEplB,KAAM4hD,KAEZkxC,GAAsB/tE,eAAiB,WAAc,MAAO,CACxD,CAAE/kB,KAAMlB,MAAOsmB,WAAY,CAAC,CAAEplB,KAAMsnB,GAAQhI,KAAAM,CAACuzE,KAAqB,CAAE7yF,KAAM4C;;;;;;;;AAqBpF,IAAI4wF,GAAAS,IAAIlyE,GAAAe,SAChC,SASmyE,KACL,MAAO,GAAKC,KAAgBA,KAAgBA,KAAMhD,IAAAIC,GAAAyB,CACzB/oE,QAAAS4oE,GACTx+C,WAAAYy+C,GACZ/rE,KAAAM,IAAEV,SAASgsE,KACL,OAAO1nF,OAAAO4nF,aAAAa,GAAAKt9B,KAAAKC,MAAAsB,GAAAhBD,KAAAKu9B,MAAAWMpD,IAAAIC,GAAAuB,IAAAIxyE,GAAAe,wBAAK1CyyE,GAAAc,IAAAIzyE,GAAAe,eAAWjC0yE,GAAAyB,IAAAI1yE,GAAAe,wBAAM5C2yE,GAAAmB,IAAAI3yE,GAAAe,iCAAStC4yE,GAAAyB,WACzB,SAASA,KAAWT,OAATAA,EAAAQtrF,UAAAUurF,IAAAM,SAAAUvoF,GAAAE9B8pB,QAAAQy+D,IAAAIvoF,IAAAGhBsoF,EAAAQtrF,UAAAUisC,KAAAO,SAAAUjpC,GAAAE/B8pB,QAAAQmf,KAAAKjpC,IAAAEVsoF,EAAAZiB,GAAc5BA,GAAAQ9uE,WAAAa,CAAAjB,CAAAEplB,KAAAM4hD;;;;;;;;AAgCZ,IAAuFWwyC,GAAAvFPC,GAAAc,IAAAI/yE,GAAAe,YAAuCjCgzE,GAAAwB,IAAAIhzE,GAAAe,uBAAyB3CizE,GAAAe,IAAAIjzE,GAAAe,gBAAsBlCkzE,GAAAsB,IAAAIlzE,GAAAe,uBAAClC8yE,GAAAIR32F,EAAAQ22F,F,EAAAQ22F,F,2BAA6BhBA,KAAhhDA,GAAAkC,MAAAI,GAAAK,QAAAtEA,GAAA2BA,GAAAoC,QAAAI,GAAAK,UAAAxEA,GAAA2BA,GAAAmC,OAAAI,GAAAK;;;;;;;;AAU3E,IAAgBIK,GACA,SAASA,GAA6BC,KAAAC,GAAAx2F,F,2BAAAA,GAAAy2F,KAAAC,GAAA12F,F,2BAAAA,GAAA22F,KAAAC,GAAA52F,F,2BAAAA,GAAA62F,KAAAC,GAAA92F,F,2BAAAA,GAAA+2F,KAAAC,GAAAh3F,F,2BAAAA,GAAAi3F,KAAAC,GAAAl3F,F,2BAAAA,GAAAm3F,KAAAC,GAAAp3F,F,2BAAAA,GAAAq3F,KAAAC,GAAAt3F,F,2BAAAA,GAAAu3F,KAAAC,GAAAx3F,F,2BAAAA,GAAAy3F,KAAAC,GAAA13F,F,2BAAAA,GAAA23F,KAAAC,GAAA53F,F,2BAAAA,GAAA63F,KAAAC,GAAA93F,F,2BAAAA,GAAA+3F,KAAAC,GAAAh4F,F,2BAAAA,GAAAi4F,KAAAC,GAAAl4F,F,2BAAAA,GAAAm4F,KAAAC,GAAAp4F,F,2BAAAA,GAAAq4F,KAAAC,GAAAt4F,F,2BAAAA,GAAAu4F,KAAAC,GAAAx4F,F,2BAAAA,GAAAy4F,KAAAC,GAAA14F,F,2BAAAA,GAAA24F,KAAAC,GAAA54F,F,2BAAAA,GAAA64F,KAAAC,GAAA94F,F,2BAAAA,GAAA+4F,KAAAC,GAAAh5F,F,2BAAAA,GAAAi5F,KAAAC,GAAAl5F,F,2BAAAA,GAAAm5F,KAAAC,GAAAp5F,F,2BAAAA,GAAAq5F,KAAAC,GAAAt5F,F,2BAAAA,GAAAu5F,KAAAC,GAAAx5F,F,2BAAAA,GAAAy5F,KAAAC,GAAA15F,F,2BAAAA,GAAA25F,KAAAC,GAAA55F,F,2BAAAA,GAAA65F,KAAAC,GAAA95F,F,2BAAAA,GAAA+5F,KAAAC,GAAAh6F,F,2BAAAA,GAAAi6F,KAAAC,GAAAl6F,F,2BAAAA,GAAAm6F,KAAAC,GAAAp6F,F,2BAAAA,GAAAq6F,KAAAC,GAAAt6F,F,2BAAAA,GAAAu6F,KAAAC,GAAAx6F,F,2BAAAA,GAAAy6F,KAAAC,GAAA16F,F,2BAAAA,GAAA26F,KAAAC,GAAA56F,F,2BAAAA,GAAA66F,KAAAC,GAAA96F,F,2BAAAA,GAAA+6F,KAAAC,GAAAh7F,F,2BAAAA,GAAAi7F,KAAAC,GAAAl7F,F,2BAAAA,GAAAm7F,KAAAC,GAAAp7F,F,2BAAAA,GAAAq7F,KAAAC,GAAAt7F,F,2BAAAA,GAAAu7F,KAAAC,GAAAx7F,F,2BAAAA,GAAAy7F,KAAAC,GAAA17F,F,2BAAAA,GAAA27F,KAAAC,GAAA57F,F,2BAAAA,GAAA67F,KAAAC,GAAA97F,F,2BAAAA,GAAA+7F,KAAAC,GAAAh8F,F,2BAAAA,GAAAi8F,KAAAC,GAAAl8F,F,2BAAAA,GAAAm8F,KAAAC,GAAAp8F,F,2BAAAA,GAAAq8F,KAAAC,GAAAt8F,F,2BAAAA,GAAAu8F,KAAAC,GAAAx8F,F,2BAAAA,GAAAy8F,KAAAC,GAAA18F,F,2BAAAA,GAAA28F,KAAAC,GAAA58F,F,2BAAAA,GAAA68F,KAAAC,GAAA98F,F,2BAAAA,GAAA+8F,KAAAC,GAAAh9F,F,2BAAAA,GAAAi9F,KAAAC,GAAAl9F,F,2BAAAA,GAAAm9F,KAAAC,GAAAp9F,F,2BAAAA,GAAAq9F,KAAAC,GAAAt9F,F,2BAAAA,GAAAu9F,KAAAC,GAAAx9F,F,2BAAAA,GAAAy9F,KAAAC,GAAA19F,F,2BAAAA,GAAA29F,KAAAC,GAAA59F,F,2BAAAA,GAAA69F,KAAAC,GAAA99F,F,2BAAAA,GAAA+9F,KAAAC,GAAAh+F,F,2BAAAA,GAAAi+F,KAAAC,GAAAl+F,F,2BAAAA,GAAAm+F,KAAAC,GAAAp+F,F,2BAAAA,GAAAq+F,KAAAC,GAAAt+F,F,2BAAAA,GAAAu+F,KAAAC,GAAAx+F,F,2BAAAA,GAAAy+F,KAAAC,GAAA1+F,F,2BAAAA,GAAA2+F,KAAAC,GAAA5+F,F,2BAAAA,GAAA6+F,KAAAC,GAAA9+F,F,2BAAAA,GAAA++F,KAAAC,GAAAh/F,F,2BAAAA,GAAAi/F,KAAAC,GAAAl/F,F,2BAAAA,GAAAm/F,KAAAC,GAAAp/F,F,2BAAAA,GAAAq/F,KAAAC,GAAAt/F,F,2BAAAA,GAAAu/F,KAAAC,GAAAx/F,F,2BAAAA,GAAAy/F,KAAAC,GAAA1/F,F,2BAAAA,GAAA2/F,KAAAC,GAAA5/F,F,2BAAAA,GAAA6/F,KAAAC,GAAA9/F,F,2BAAAA,GAAA+/F,KAAAC,GAAAhgG,F,2BAAAA,GAAAigG,KAAAC,GAAAlgG,F,2BAAAA,GAAAmgG,KAAAC,GAAApgG,F,2BAAAA,GAAAqgG,KAAAC,GAAAtgG,F,2BAAAA,GAAAugG,KAAAC,GAAAxgG,F,2BAAAA,GAAAygG,KAAAC,GAAA1gG,F,2BAAAA,GAAA2gG,KAAAC,GAAA5gG,F,2BAAAA,GAAA6gG,KAAAC,GAAA9gG,F,2BAAAA,GAAA+gG,KAAAC,GAAAhhG,F,2BAAAA,GAAAihG,KAAAC,GAAAlhG,F,2BAAAA,GAAAmhG,KAAAC,GAAAphG,F,2BAAAA,GAAAqhG,KAAAC,GAAAthG,F,2BAAAA,GAAAuhG,KAAAC,GAAAxhG,F,2BAAAA,GAAAyhG,KAAAC,GAAA1hG,F,2BAAAA,GAAA2hG,KAAAC,GAAA5hG,F,2BAAAA,GAAA6hG,KAAAC,GAAA9hG,F,2BAAAA,GAAA+hG,KAAAC,GAAAhiG,F,2BAAAA,GAAAiiG,KAAAC,GAAAliG,F,2BAAAA,GAAAmiG,KAAAC,GAAApiG,F,2BAAAA,GAAAqiG,KAAAC,GAAAtiG,F,2BAAAA,GAAAuiG,KAAAC,GAAAxiG,F,2BAAAA,GAAAyiG,KAAAC,GAAA1iG,F,2BAAAA,GAAA2iG,KAAAC,GAAA5iG,F,2BAAAA,GAAA6iG,KAAAC,GAAA9iG,F,2BAAAA,GAAA+iG,KAAAC,GAAAhjG,F,2BAAAA,GAAAijG,KAAAC,GAAAljG,F,2BAAAA,GAAAmjG,KAAAC,GAAApjG,F,2BAAAA,GAAAqjG,KAAAC,GAAAtjG,F,2BAAAA,GAAAujG,KAAAC,GAAAxjG,F,2BAAAA,GAAAyjG,KAAAC,GAAA1jG,F,2BAAAA,GAAA2jG,KAAAC,GAAA5jG,F,2BAAAA,GAAA6jG,KAAAC,GAAA9jG,F,2BAAAA,GAAA+jG,KAAAC,GAAAhkG,F,2BAAAA,GAAAikG,KAAAC,GAAAlkG,F,2BAAAA,GAAAmkG,KAAAC,GAAApkG,F,2BAAAA,GAAAqkG,KAAAC,GAAAtkG,F,2BAAAA,GAAAukG,KAAAC,GAAAxkG,F,2BAAAA,GAAAykG,KAAAC,GAAA1kG,F,2BAAAA,GAAA2kG,KAAAC,GAAA5kG,F,2BAAAA,GAAA6kG,KAAAC,GAAA9kG,F,2BAAAA,GAAA+kG,KAAAC,GAAAhlG,F,2BAAAA,GAAAilG,KAAAC,GAAAllG,F,2BAAAA,GAAAmlG,KAAAC,GAAAplG,F,2BAAAA,GAAAqlG,KAAAC,GAAAtlG,F,2BAAAA,GAAAulG,KAAAC,GAAAxlG,F,2BAAAA,GAAAylG,KAAAC,GAAA1lG,F,2BAAAA,GAAA2lG,KAAAC,GAAA5lG,F,2BAAAA,GAAA6lG,KAAAC,GAAA9lG,F,2BAAAA,GAAA+lG,KAAAC,GAAAhmG,F,2BAAAA,GAAAimG,KAAAC,GAAAlmG,F,2BAAAA,GAAAmmG,KAAAC,GAAApmG,F,2BAAAA,GAAAqmG,KAAAC,GAAAtmG,F,2BAAAA,GAAAumG,KAAAC,GAAAxmG,F,2BAAAA,GAAAymG,KAAAC,GAAA1mG,F,2BAAAA,GAAA2mG,KAAAC,GAAA5mG,F,2BAAAA,GAAA6mG,KAAAC,GAAA9mG,F,2BAAAA,GAAA+mG,KAAAC,GAAAhnG,F,2BAAAA,GAAAinG,KAAAC,GAAAlnG,F,2BAAAA,GAAAmnG,KAAAC,GAAApnG,F,2BAAAA,GAAAqnG,KAAAC,GAAAtnG,F,2BAAAA,GAAAunG,KAAAC,GAAAxnG,F,2BAAAA,GAAAynG,KAAAC,GAAA1nG,F,2BAAAA,GAAA2nG,KAAAC,GAAA5nG,F,2BAAAA,GAAA6nG,KAAAC,GAAA9nG,F,2BAAAA,GAAA+nG,KAAAC,GAAAhoG,F,2BAAAA,GAAAioG,KAAAC,GAAAloG,F,2BAAAA,GAAAmoG,KAAAC,GAAApoG,F,2BAAAA,GAAAqoG,KAAAC,GAAAtoG,F,2BAAAA,GAAAuoG,KAAAC,GAAAxoG,F,2BAAAA,GAAAyoG,KAAAC,GAAA1oG,F,2BAAAA,GAAA2oG,KAAAC,GAAA5oG,F,2BAAAA,GAAA6oG,KAAAC,GAAA9oG,F,2BAAAA,GAAA+oG,KAAAC,GAAAhpG,F,2BAAAA,GAAAipG,KAAAC,GAAAlpG,F,2BAAAA,GAAAmpG,KAAAC,GAAAppG,F,2BAAAA,GAAAqpG,KAAAC,GAAAtpG,F,2BAAAA,GAAAupG,KAAAC,GAAAxpG,F,2BAAAA,GAAAypG,KAAAC,GAAA1pG,F,2BAAAA,GAAA2pG,KAAAC,GAAA5pG,F,2BAAAA,GAAA6pG,KAAAC,GAAA9pG,F,2BAAAA,GAAA+pG,KAAAC,GAAAhqG,F,2BAAAA,GAAAiqG,KAAAC,GAAAlqG,F,2BAAAA,GAAAmqG,KAAAC,GAAApqG,F,2BAAAA,GAAAqqG,KAAAC,GAAAtqG,F,2BAAAA,GAAAuqG,KAAAC,GAAAxqG,F,2BAAAA,GAAAyqG,KAAAC,GAAA1qG,F,2BAAAA,GAAA2qG,KAAAC,GAAA5qG,F,2BAAAA,GAAA6qG,KAAAC,GAAA9qG,F,2BAAAA,GAAA+qG,KAAAC,GAAAhrG,F,2BAAAA,GAAAirG,KAAAC,GAAAlrG,F,2BAAAA,GAAAmrG,KAAAC,GAAAprG,F,2BAAAA,GAAAqrG,KAAAC,GAAAtrG,F,2BAAAA,GAAAurG,KAAAC,GAAAxrG,F,2BAAAA,GAAAyrG,KAAAC,GAAA1rG,F,2BAAAA,GAAA2rG,KAAAC,GAAA5rG,F,2BAAAA,GAAA6rG,KAAAC,GAAA9rG,F,2BAAAA,GAAA+rG,KAAAC,GAAAhsG,F,2BAAAA,GAAAisG,KAAAC,GAAAlsG,F,2BAAAA,GAAAmsG,KAAAC,GAAApsG,F,2BAAAA,GAAAqsG,KAAAC,GAAAtsG,F,2BAAAA,GAAAusG,KAAAC,GAAAxsG,F,2BAAAA,GAAAysG,KAAAC,GAAA1sG,F,2BAAAA,GAAA2sG,KAAAC,GAAA5sG,F,2BAAAA,GAAA6sG,KAAAC,GAAA9sG,F,2BAAAA,GAAA+sG,KAAAC,GAAAhtG,F,2BAAAA,GAAAitG,KAAAC,GAAAltG,F,2BAAAA,GAAAmtG,KAAAC,GAAAptG,F,2BAAAA,GAAAqtG,KAAAC,GAAAttG,F,2BAAAA,GAAAutG,KAAAC,GAAAxtG,F,2BAAAA,GAAAytG,KAAAC,GAAA1tG,F,2BAAAA,GAAA2tG,KAAAC,GAAA5tG,F,2BAAAA,GAAA6tG,KAAAC,GAAA9tG,F,2BAAAA,GAAA+tG,KAAAC,GAAAhuG,F,2BAAAA,GAAAiuG,KAAAC,GAAAluG,F,2BAAAA,GAAAmuG,KAAAC,GAAApuG,F,2BAAAA,GAAAquG,KAAAC,GAAAtuG,F,2BAAAA,GAAAuuG,KAAAC,GAAAxuG,F,2BAAAA,GAAAyuG,KAAAC,GAAA1uG,F,2BAAAA,GAAA2uG,KAAAC,GAAA5uG,F,2BAAAA,GAAA6uG,KAAAC,GAAA9uG,F,2BAAAA,GAAA+uG,KAAAC,GAAAhvG,F,2BAAAA,GAAAivG,KAAAC,GAAAlvG,F,2BAAAA,GAAAmvG,KAAAC,GAAApvG,F,2BAAAA,GAAAqvG,KAAAC,GAAAtvG,F,2BAAAA,GAAAuvG,KAAAC,GAAAxvG,F,2BAAAA,GAAAyvG,KAAAC,GAAA1vG,F,2BAAAA,GAAA2vG,KAAAC,GAAA5vG,F,2BAAAA,GAAA6vG,KAAAC,GAAA9vG,F,2BAAAA,GAAA+vG,KAAAC,GAAAhwG,F,2BAAAA,GAAAiwG,KAAAC,GAAAlwG,F,2BAAAA,GAAAmwG,KAAAC,GAAApwG,F,2BAAAA,GAAAqwG,KAAAC,GAAAtwG,F,2BAAAA,GAAAuwG,KAAAC,GAAAxwG,F,2BAAAA,GAAAywG,KAAAC,GAAA1wG,F,2BAAAA,GAAA2wG,KAAAC,GAAA5wG,F,2BAAAA,GAAA6wG,KAAAC,GAAA9wG,F,2BAAAA,GAAA+wG,KAAAC,GAAAhxG,F,2BAAAA,GAAAixG,KAAAC,GAAAlxG,F,2BAAAA,GAAAmxG,KAAAC,GAAApxG,F,2BAAAA,GAAAqxG,KAAAC,GAAAtxG,F,2BAAAA,GAAAuxG,KAAAC,GAAAxxG,F,2BAAAA,GAAAyxG,KAAAC,GAAA1xG,F,2BAAAA,GAAA2xG,KAAAC,GAAA5xG,F,2BAAAA,GAAA6xG,KAAAC,GAAA9xG,F,2BAAAA,GAAA+xG,KAAAC,GAAAhyG,F,2BAAAA,GAAAiyG,KAAAC,GAAAlyG,F,2BAAAA,GAAAmyG,KAAAC,GAAApyG,F,2BAAAA,GAAAqyG,KAAAC,GAAAtyG,F,2BAAAA,GAAAuyG,KAAAC,GAAAxyG,F,2BAAAA,GAAAyyG,KAAAC,GAAA1yG,F,2BAAAA,GAAA2yG,KAAAC,GAAA5yG,F,2BAAAA,GAAA6yG,KAAAC,GAAA9yG,F,2BAAAA,GAAA+yG,KAAAC,GAAAhzG,F,2BAAAA,GAAAizG,KAAAC,GAAAlzG,F,2BAAAA,GAAAmzG,KAAAC,GAAApzG,F,2BAAAA,GAAAqzG,KAAAC,GAAAtzG,F,2BAAAA,GAAAuzG,KAAAC,GAAAxzG,F,2BAAAA,GAAAyzG,KAAAC,GAAA1zG,F,2BAAAA,GAAA2zG,KAAAC,GAAA5zG,F,2BAAAA,GAAA6zG,KAAAC,GAAA9zG,F,2BAAAA,GAAA+zG,KAAAC,GAAAh0G,F,2BAAAA,GAAAi0G,KAAAC,GAAAl0G,F,2BAAAA,GAAAm0G,KAAAC,GAAAp0G,F,2BAAAA,GAAAq0G,KAAAC,GAAAt0G,F,2BAAAA,GAAAu0G,KAAAC,GAAAx0G,F,2BAAAA,GAAAy0G,KAAAC,GAAA10G,F,2BAAAA,GAAA20G,KAAAC,GAAA50G,F,2BAAAA,GAAA60G,KAAAC,GAAA90G,F,2BAAAA,GAAA+0G,KAAAC,GAAAh1G,F,2BAAAA,GAAAi1G,KAAAC,GAAAl1G,F,2BAAAA,GAAAm1G,KAAAC,GAAAp1G,F,2BAAAA,GAAAq1G,KAAAC,GAAAt1G,F,2BAAAA,GAAAu1G,KAAAC,GAAAx1G,F,2BAAAA,GAAAy1G,KAAAC,GAAA11G,F,2BAAAA,GAAA21G,KAAAC,GAAA51G,F,2BAAAA,GAAA61G,KAAAC,GAAA91G,F,2BAAAA,GAAA+1G,KAAAC,GAAAh2G,F,2BAAAA,GAAAi2G,KAAAC,GAAAl2G,F,2BAAAA,GAAAm2G,KAAAC,GAAAp2G,F,2BAAAA,GAAAq2G,KAAAC,GAAAt2G,F,2BAAAA,GAAAu2G,KAAAC,GAAAx2G,F,2BAAAA,GAAAy2G,KAAAC,GAAA12G,F,2BAAAA,GAAA22G,KAAAC,GAAA52G,F,2BAAAA,GAAA62G,KAAAC,GAAA92G,F,2BAAAA,GAAA+2G,KAAAC,GAAAh3G,F,2BAAAA,GAAAi3G,KAAAC,GAAAl3G,F,2BAAAA,GAAAm3G,KAAAC,GAAAp3G,F,2BAAAA,GAAAq3G,KAAAC,GAAAt3G,F,2BAAAA,GAAAu3G,KAAAC,GAAAx3G,F,2BAAAA,GAAAy3G,KAAAC,GAAA13G,F,2BAAAA,GAAA23G,KAAAC,GAAA53G,F,2BAAAA,GAAA63G,KAAAC,GAAA93G,F,2BAAAA,GAAA+3G,KAAAC,GAAAh4G,F,2BAAAA,GAAAi4G,KAAAC,GAAAl4G,F,2BAAAA,GAAAm4G,KAAAC,GAAAp4G,F,2BAAAA,GAAAq4G,KAAAC,GAAAt4G,F,2BAAAA,GAAAu4G,KAAAC,GAAAx4G,F,2BAAAA,GAAAy4G,KAAAC,GAAA14G,F,2BAAAA,GAAA24G,KAAAC,GAAA54G,F,2BAAAA,GAAA64G,KAAAC,GAAA94G,F,2BAAAA,GAAA+4G,KAAAC,GAAAh5G,F,2BAAAA,GAAAi5G,KAAAC,GAAAl5G,F,2BAAAA,GAAAm5G,KAAAC,GAAAp5G,F,2BAAAA,GAAAq5G,KAAAC,GAAAt5G,F,2BAAAA,GAAAu5G,KAAAC,GAAAx5G,F,2BAAAA,GAAAy5G,KAAAC,GAAA15G,F,2BAAAA,GAAA25G,KAAAC,GAAA55G,F,2BAAAA,GAAA65G,KAAAC,GAAA95G,F,2BAAAA,GAAA+5G,KAAAC,GAAAh6G,F,2BAAAA,GAAAi6G,KAAAC,GAAAl6G,F,2BAAAA,GAAAm6G,KAAAC,GAAAp6G,F,2BAAAA,GAAAq6G,KAAAC,GAAAt6G,F,2BAAAA,GAAAu6G,KAAAC,GAAAx6G,F,2BAAAA,GAAAy6G,KAAAC,GAAA16G,F,2BAAAA,GAAA26G,KAAAC,GAAA56G,F,2BAAAA,GAAA66G,KAAAC,GAAA96G,F,2BAAAA,GAAA+6G,KAAAC,GAAAh7G,F,2BAAAA,GAAAi7G,KAAAC,GAAAl7G,F,2BAAAA,GAAAm7G,KAAAC,GAAAp7G,F,2BAAAA,GAAAq7G,KAAAC,GAAAt7G,F,2BAAAA,GAAAu7G,KAAAC,GAAAx7G,F,2BAAAA,GAAAy7G,KAAAC,GAAA17G,F,2BAAAA,GAAA27G,KAAAC,GAAA57G,F,2BAAAA,GAAA67G,KAAAC,GAAA97G,F,2BAAAA,GAAA+7G,KAAAC,GAAAh8G,F,2BAAAA,GAAAi8G,KAAAC,GAAAl8G,F,2BAAAA,GAAAm8G,KAAAC,GAAAp8G,F,2BAAAA,GAAAq8G,KAAAC,GAAAt8G,F,2BAAAA,GAAAu8G,KAAAC,GAAAx8G,F,2BAAAA,GAAAy8G,KAAAC,GAAA18G,F,2BAAAA,GAAA28G,KAAAC,GAAA58G,F,2BAAAA,GAAA68G,KAAAC,GAAA98G,F,2BAAAA,GAAA+8G,KAAAC,GAAAh9G,F,2BAAAA,GAAAi9G,KAAAC,GAAAl9G,F,2BAAAA,GAAAm9G,KAAAC,GAAAp9G,F,2BAAAA,GAAAq9G,KAAAC,GAAAt9G,F,2BAAAA,GAAAu9G,KAAAC,GAAAx9G,F,2BAAAA,GAAAy9G,KAAAC,GAAA19G,F,2BAAAA,GAAA29G,KAAAC,GAAA59G,F,2BAAAA,GAAA69G,KAAAC,GAAA99G,F,2BAAAA,GAAA+9G,KAAAC,GAAAh+G,F,2BAAAA,GAAAi+G,KAAAC,GAAAl+G,F,2BAAAA,GAAAm+G,KAAAC,GAAAp+G,F,2BAAAA,GAAAq+G,KAAAC,GAAAt+G,F,2BAAAA,GAAAu+G,KAAAC,GAAAx+G,F,2BAAAA,GAAAy+G,KAAAC,GAAA1+G,F,2BAAAA,GAAA2+G,KAAAC,GAAA5+G,F,2BAAAA,GAAA6+G,KAAAC,GAAA9+G,F,2BAAAA,GAAA++G,KAAAC,GAAAh/G,F,2BAAAA,GAAAi/G,KAAAC,GAAAl/G,F,2BAAAA,GAAAm/G,KAAAC,GAAAp/G,F,2BAAAA,GAAAq/G,KAAAC,GAAAt/G,F,2BAAAA,GAAAu/G,KAAAC,GAAAx/G,F,2BAAAA,GAAAy/G,KAAAC,GAAA1/G,F,2BAAAA,GAAA2/G,KAAAC,GAAA5/G,F,2BAAAA,GAAA6/G,KAAAC,GAAA9/G,F,2BAAAA,GAAA+/G,KAAAC,GAAAhgH,F,2BAAAA,GAAAigH,KAAAC,GAAAlgH,F,2BAAAA,GAAAmgH,KAAAC,GAAApgH,F,2BAAAA,GAAAqgH,KAAAC,GAAAtgH,F,2BAAAA,GAAAugH,KAAAC,GAAAxgH,F,2BAAAA,GAAAygH,KAAAC,GAAA1gH,F,2BAAAA,GAAA2gH,KAAAC,GAAA5gH,F,2BAAAA,GAAA6gH,KAAAC,GAAA9gH,F,2BAAAA,GAAA+gH,KAAAC,GAAAhhH,F,2BAAAA,GAAAihH,KAAAC,GAAAlhH,F,2BAAAA,GAAAmhH,KAAAC,GAAAphH,F,2BAAAA,GAAAqhH,KAAAC,GAAAthH,F,2BAAAA,GAAAuhH,KAAAC,GAAAxhH,F,2BAAAA,GAAAyhH,KAAAC,GAAA1hH,F,2BAAAA,GAAA2hH,KAAAC,GAAA5hH,F,2BAAAA,GAAA6hH,KAAAC,GAAA9hH,F,2BAAAA,GAAA+hH,KAAAC,GAAAhiH,F,2BAAAA,GAAAiiH,KAAAC,GAAAliH,F,2BAAAA,GAAAmiH,KAAAC,GAAApiH,F,2BAAAA,GAAAqiH,KAAAC,GAAAtiH,F,2BAAAA,GAAAuiH,KAAAC,GAAAxiH,F,2BAAAA,GAAAyiH,KAAAC,GAAA1iH,F,2BAAAA,GAAA2iH,KAAAC,GAAA5iH,F,2BAAAA,GAAA6iH,KAAAC,GAAA9iH,F,2BAAAA,GAAA+iH,KAAAC,GAAAhjH,F,2BAAAA,GAAAijH,KAAAC,GAAAljH,F,2BAAAA,GAAAmjH,KAAAC,GAAApjH,F,2BAAAA,GAAAqjH,KAAAC,GAAAtjH,F,2BAAAA,GAAAujH,KAAAC,GAAAxjH,F,2BAAAA,GAAAyjH,KAAAC,GAAA1jH,F,2BAAAA,GAAA2jH,KAAAC,GAAA5jH,F,2BAAAA,GAAA6jH,KAAAC,GAAA9jH,F,2BAAAA,GAAA+jH,KAAAC,GAAAhkH,F,2BAAAA,GAAAikH,KAAAC,GAAAlkH,F,2BAAAA,GAAAmkH,KAAAC,GAAApkH,F,2BAAAA,GAAAqkH,KAAAC,GAAAtkH,F,2BAAAA,GAAAukH,KAAAC,GAAAxkH,F,2BAAAA,GAAAykH,KAAAC,GAAA1kH,F,2BAAAA,GAAA2kH,KAAAC,GAAA5kH,F,2BAAAA,GAAA6kH,KAAAC,GAAA9kH,F,2BAAAA,GAAA+kH,KAAAC,GAAAhlH,F,2BAAAA,GAAAilH,KAAAC,GAAAllH,F,2BAAAA,GAAAmlH,KAAAC,GAAAplH,F,2BAAAA,GAAAqlH,KAAAC,GAAAtlH,F,2BAAAA,GAAAulH,KAAAC,GAAAxlH,F,2BAAAA,GAAAylH,KAAAC,GAAA1lH,F,2BAAAA,GAAA2lH,KAAAC,GAAA5lH,F,2BAAAA,GAAA6lH,KAAAC,GAAA9lH,F,2BAAAA,GAAA+lH,KAAAC,GAAAhmH,F,2BAAAA,GAAAimH,KAAAC,GAAAlmH,F,2BAAAA,GAAAmmH,KAAAC,GAAApmH,F,2BAAAA,GAAAqmH,KAAAC,GAAAtmH,F,2BAAAA,GAAAumH,KAAAC,GAAAxmH,F,2BAAAA,GAAAymH,KAAAC,GAAA1mH,F,2BAAAA,GAAA2mH,KAAAC,GAAA5mH,F,2BAAAA,GAAA6mH,KAAAC,GAAA9mH,F,2BAAAA,GAAA+mH,KAAAC,GAAAhnH,F,2BAAAA,GAAAinH,KAAAC,GAAAlnH,F,2BAAAA,GAAAmnH,KAAAC,GAAApnH,F,2BAAAA,GAAAqnH,KAAAC,GAAAtnH,F,2BAAAA,GAAAunH,KAAAC,GAAAxnH,F,2BAAAA,GAAAynH,KAAAC,GAAA1nH,F,2BAAAA,GAAA2nH,KAAAC,GAAA5nH,F,2BAAAA,GAAA6nH,KAAAC,GAAA9nH,F,2BAAAA,GAAA+nH,KAAAC,GAAAhoH,F,2BAAAA,GAAAioH,KAAAC,GAAAloH,F,2BAAAA,GAAAmoH,KAAAC,GAAApoH,F,2BAAAA,GAAAqoH,KAAAC,GAAAtoH,F,2BAAAA,GAAAuoH,KAAAC,GAAAxoH,F,2BAAAA,GAAAyoH,KAAAC,GAAA1oH,F,2BAAAA,GAAA2oH,KAAAC,GAAA5oH,F,2BAAAA,GAAA6oH,KAAAC,GAAA9oH,F,2BAAAA,GAAA+oH,KAAAC,GAAAhpH,F,2BAAAA,GAAAipH,KAAAC,GAAAlpH,F,2BAAAA,GAAAmpH,KAAAC,GAAAppH,F,2BAAAA,GAAAqpH,KAAAC,GAAAtpH,F,2BAAAA,GAAAupH,KAAAC,GAAAxpH,F,2BAAAA,GAAAypH,KAAAC,GAAA1pH,F,2BAAAA,GAAA2pH,KAAAC,GAAA5pH,F,2BAAAA,GAAA6pH,KAAAC,GAAA9pH,F,2BAAAA,GAAA+pH,KAAAC,GAAAhqH,F,2BAAAA,GAAAiqH,KAAAC,GAAAlqH,F,2BAAAA,GAAAmqH,KAAAC,GAAApqH,F,2BAAAA,GAAAqqH,KAAAC,GAAAtqH,F,2BAAAA,GAAAuqH,KAAAC,GAAAxqH,F,2BAAAA,GAAAyqH,KAAAC,GAAA1qH,F,2BAAAA,GAAA2qH,KAAAC,GAAA5qH,F,2BAAAA,GAAA6qH,KAAAC,GAAA9qH,F,2BAAAA,GAAA+qH,KAAAC,GAAAhrH,F,2BAAAA,GAAAirH,KAAAC,GAAAlrH,F,2BAAAA,GAAAmrH,KAAAC,GAAAprH,F,2BAAAA,GAAAqrH,KAAAC,GAAAtrH,F,2BAAAA,GAAAurH,KAAAC,GAAAxrH,F,2BAAAA,GAAAyrH,KAAAC,GAAA1rH,F,2BAAAA,GAAA2rH,KAAAC,GAAA5rH,F,2BAAAA,GAAA6rH,KAAAC,GAAA9rH,F,2BAAAA,GAAA+rH,KAAAC,GAAAhsH,F,2BAAAA,GAAAisH,KAAAC,GAAAlsH,F,2BAAAA,GAAAmsH,KAAAC,GAAApsH,F,2BAAAA,GAAAqsH,KAAAC,GAAAtsH,F,2BAAAA,GAAAusH,KAAAC,GAAAxsH,F,2BAAAA,GAAAysH,KAAAC,GAAA1sH,F,2BAAAA,GAAA2sH,KAAAC,GAAA5sH,F,2BAAAA,GAAA6sH,KAAAC,GAAA9sH,F,2BAAAA,GAAA+sH,KAAAC,GAAAhtH,F,2BAAAA,GAAAitH,KAAAC,GAAAltH,F,2BAAAA,GAAAmtH,KAAAC,GAAAptH,F,2BAAAA,GAAAqtH,KAAAC,GAAAttH,F,2BAAAA,GAAAutH,KAAAC,GAAAxtH,F,2BAAAA,GAAAytH,KAAAC,GAAA1tH,F,2BAAAA,GAAA2tH,KAAAC,GAAA5tH,F,2BAAAA,GAAA6tH,KAAAC,GAAA9tH,F,2BAAAA,GAAA+tH,KAAAC,GAAAhuH,F,2BAAAA,GAAAiuH,KAAAC,GAAAluH,F,2BAAAA,GAAAmuH,KAAAC,GAAApuH,F,2BAAAA,GAAAquH,KAAAC,GAAAtuH,F,2BAAAA,GAAAuuH,KAAAC,GAAAxuH,F,2BAAAA,GAAAyuH,KAAAC,GAAA1uH,F,2BAAAA,GAAA2uH,KAAAC,GAAA5uH,F,2BAAAA,GAAA6uH,KAAAC,GAAA9uH,F,2BAAAA,GAAA+uH,KAAAC,GAAAhvH,F,2BAAAA,GAAAivH,KAAAC,GAAAlvH,F,2BAAAA,GAAAmvH,KAAAC,GAAApvH,F,2BAAAA,GAAAqvH,KAAAC,GAAAtvH,F,2BAAAA,GAAAuvH,KAAAC,GAAAxvH,F,2BAAAA,GAAAyvH,KAAAC,GAAA1vH,F,2BAAAA,GAAA2vH,KAAAC,GAAA5vH,F,2BAAAA,GAAA6vH,KAAAC,GAAA9vH,F,2BAAAA,GAAA+vH,KAAAC,GAAAhwH,F,2BAAAA,GAAAiwH,KAAAC,GAAAlwH,F,2BAAAA,GAAAmwH,KAAAC,GAAApwH,F,2BAAAA,GAAAqwH,KAAAC,GAAAtwH,F,2BAAAA,GAAAuwH,KAAAC,GAAAxwH,F,2BAAAA,GAAAywH,KAAAC,GAAA1wH,F,2BAAAA,GAAA2wH,KAAAC,GAAA5wH,F,2BAAAA,GAAA6wH,KAAAC,GAAA9wH,F,2BAAAA,GAAA+wH,KAAAC,GAAAhxH,F,2BAAAA,GAAAixH,KAAAC,GAAAlxH,F,2BAAAA,GAAAmxH,KAAAC,GAAApxH,F,2BAAAA,GAAAqxH,KAAAC,GAAAtxH,F,2BAAAA,GAAAuxH,KAAAC,GAAAxxH,F,2BAAAA,GAAAyxH,KAAAC,GAAA1xH,F,2BAAAA,GAAA2xH,KAAAC,GAAA5xH,F,2BAAAA,GAAA6xH,KAAAC,GAAA9xH,F,2BAAAA,GAAA+xH,KAAAC,GAAAhyH,F,2BAAAA,GAAAiyH,KAAAC,GAAAlyH,F,2BAAAA,GAAAmyH,KAAAC,GAAApyH,F,2BAAAA,GAAAqyH,KAAAC,GAAAtyH,F,2BAAAA,GAAAuyH,KAAAC,GAAAxyH,F,2BAAAA,GAAAyyH,KAAAC,GAAA1yH,F,2BAAAA,GAAA2yH,KAAAC,GAAA5yH,F,2BAAAA,GAAA6yH,KAAAC,GAAA9yH,F,2BAAAA,GAAA+yH,KAAAC,GAAAhzH,F,2BAAAA,GAAAizH,KAAAC,GAAAlzH,F,2BAAAA,GAAAmzH,KAAAC,GAA

M,GAAYN,IAEgB,aAAvBoB,EAAaE,SAClBtB,EAAKpB,qBAAuBwC,EAAaK,aAIrDC,cAAe,SAAUf,EAAU/qF,
EAASzO,EAAQ4M,GAGhD,OAFA4sF,EAASpiE,YAAYp3B,EAAQ4M,GAC7BisF,EAAK2B,mBAAkB,WAAc,
OAAO3B,EAAKd,QAAQvP,KAAK57E,OACvD,KA1KXgsF,CAZWl5F,MAuFf,OAzEA43F,EAAOmD,gBAAkB
,WCrB,OAA6C,IAAtCpD,KAAK5oF,QAAQgO,IAAI,kBAE5B66E,EAAOoD,oBAAsB,WCzB,IAAKpD,EAAO
mD,kBACR,MAAM,IAAI36F,MAAM,mDAGxBw3F,EAAOqD,uBAAyB,WC5B,GAAIrD,EAAOmD,kBACP,
MAAM,IAAI36F,MAAM,mDAExBw3F,EAAOsD,uBAAyB,WAAc,OAAOtD,EAAOuD,WAAWC,MAAMxD,EAAQ
yD,WAAc,IAAIyD,EAAOC,MAAMC,UAAUC,MAAMC,KAAKC,WAAY,OAAO,IAAIC,SAAQ,SAAUC,EAAS
EAAOC,MAAMC,UAAUC,MAAMC,KAAKC,WAAY,OAAO,IAAIC,SAAQ,SAAUC,EAASC,GAAU,IAAI

AAK87F,iBAClB,MAAM,IAAI17F,MAAM,8HAIpBJ,KAAK48F,YAAYN,EAAQO,EAASJ,GAClCz8F,KAAKg8F,wBAMTR,EAAY/wF,UAAUsyF,uBAAyB,WAC3C,OAAO/8F,KAAK07F,eAQhBF,EAAY/wF,UAAUuyF,cAAgB,SAAUC,EAAO9oD,EAAU+oD,GAE7D,MAAO,IAAEJ;;;;;;OAgKhCA,GAAAYv0E,WAAa,CACrB,CAAEplB,KAAM4hD,EAAAO,EAAAC,EAAAC,EAAAC

AK6sB,SAAU/pB,EAASi+E,GACjD91D,MAAK,SAAUs0E,GAAiB,OAAO7xF,EAAM4xF,uBAAuBC,EAAez8F,OAE5F27F,EAAYh0F,UAAUw1F,mBAAqB,SAAUJ,GACjD,IAAIluB,EAASkuB,EAAUhzE,SAAS9P,IAAIyjF,IACpC,GAAIX,EAAU1e,qBAAqB30E,OAAS,EACxCqzF,EAAU1e,qBAAqBr4E,SAAQ,SAAUq,GAAOA,EAAIyuB,SAAU29C,EAAU29C,GAAK,GAAK,OAAOkL,EAAOpoE,UAAUk9D,UAE7E,CAAA,IAAIo5B,EAAU7wF,SAASyxF,cAAIxB,EAAMAM,IAAIrG,MAAMcAgBK,EAAUo/F,SAAU7wF,SAC/ClD,aAAe,yIAJpB+zF,EAAU7wF,SASyxF,cAAc9uB,GAAOrC3xE,KAAKq/F,SASpyF,KAAK4yF,IAKvBpB,EAAYh0F,UAAUD,UAAY,SAAUwvC,GAChDxvC,Ch6C,KAAKohF,kBn0E,KAAK+sC,IAAEhCxuC,OAAOkW,eAAe+8D,EAAYh0F,UAAUW,WAAY,CAAKrDsS,IAAK,WACD,OAAO/c/c,KAAKrd,WACD,EAAMC,YAAY,EAAMC,cAAc,IAAQ,SAAUwvC,GAAQ,IAAIxvC,EAAWwvC,EAAKxvC,SAAUC,EAAcuvC,EAAKvvC,YAAaC,EAAesvC,EAAKtvC,aAAcC,EAAWqvC,EAAKrvC,SAAUC,EAAQovC,EAAKpvC,MAAOC,EAAcmvC,EAAKnvC,YAAaC,EAAiBkvC,EAAKlvC,eAAgBC,EAAcivC,EAAKjvC,YAAaC,EAAagvC,EAAKhvC,WAAYC,EAAa+uC,EAAK/uC,WAAYC,EAAU8uC,EAAK9uC,QAASC,EAAS6uC,EAAK7uC,OAAQC,EAAc4uC,EAAK5uC,YAAaC,EAAc2uC,EAAK3uC,YAAaC,EAAc0uC,EAAK1uC,YAAaC,EAAcyuC,EAAKzuC,YAAaC,EAAcwuC,EAAKxuC,YAAaC,EAAcuuC,EAAKvuC,YAAaC,EAAcsuC,EAAKtuC,YAAaC,EAAcquC,EAAKruC,YAAaC,EAAcouC,EAAKpuC,YAAaC,EAAcmuC,EAAKnuC,YAAaC,EAAckuC,EAAKluC,YAAaC,EAAciuC,EAAKjuC,YAAaC,EAAcguC,EAAKhuC,YAAaC,EAAc+tC,EAAK/tC,YAAaC,EAAc8tC,EAAK9tC,YAAaC,EAAc6tC,EAAK7tC,YAAaC,EAAc4tC,EAAK5tC,YAAaC,EAAc2tC,EAAK3tC,YAAaC,EAAc0tC,EAAK1tC,YAAaC,EAAcytC,EAAKztC,YAAaC,EAAcwtC,EAAKxtC,YAAaC,EAAcutC,EAAKvtC,YAAaC,EAAcstC,EAAKttC,YAAaC,EAAcqtC,EAAKrtC,YAAaC,EAAcotC,EAAKptC,YAAaC,EAAcmtC,EAAKntC,YAAaC,EAAckt,C,KAAKlt,YAAaC,EAAcit,C,KAAKjt,YAAaC,EAAcgt,C,KAAKht,YAAaC,EAAc+s,C,KAAK/s,YAAaC,EAAc8s,C,KAAK9s,YAAaC,EAAc6s,C,KAAK7s,YAAaC,EAAc4s,C,KAAK5s,YAAaC,EAAc2s,C,KAAK3s,YAAaC,EAAc0s,C,KAAK1s,YAAaC,EAAcys,C,KAAKzs,YAAaC,EAAcwsC,GAAOxsC,YAAaC,EAAcusC,GAAOvsC,YAAaC,EAAcssC,GAAOtsC,YAAaC,EAAcqsC,GAAOrsC,YAAaC,EAAcosC,GAAOpsC,YAAaC,EAAcmsC,GAAOnsC,YAAaC,EAAckrC,GAAOlrC,YAAaC,EAAcirC,GAAOjrC,YAAaC,EAAcgrC,GAAOhrC,YAAaC,EAAc+qC,GAAO/qC,YAAaC,EAAc8qC,GAAO9qC,YAAaC,EAAc6qC,GAAO7qC,YAAaC,EAAc4qC,GAAO5qC,YAAaC,EAAc2qC,GAAO3qC,YAAaC,EAAc0qC,GAAO1qC,YAAaC,EAAcyqC,GAAOzqC,YAAaC,EAAcwqC,GAAOxqC,YAAaC,EAAcuqC,GAAOvqC,YAAaC,EAAcsqC,GAAOtqC,YAAaC,EAAcqqC,GAAOrqC,YAAaC,EAAcoqC,GAAOpqC,YAAaC,EAAcmqC,GAAOnqC,YAAaC,EAAckqC,GAAOlqC,YAAaC,EAAciqC,GAAOjqC,YAAaC,EAAcgqC,GAAOhqC,YAAaC,EAAc+pC,GAAO/pC,YAAaC,EAAc8pC,GAAO9pC,YAAaC,EAAc6pC,GAAO7pC,YAAaC,EAAc4pC,GAAO5pC,YAAaC,EAAc2pC,GAAO3pC,YAAaC,EAAc0pC,GAAO1pC,YAAaC,EAAcypC,GAAOzpC,YAAaC,EAAcwpC,GAAOxpC,YAAaC,EAAcupC,GAAOvpC,YAAaC,EAAcspC,GAAOtpC,YAAaC,EAAcqpC,GAAOrpC,YAAaC,EAAcopC,GAAOppC,YAAaC,EAAcmpC,GAAOnpC,YAAaC,EAAckpC,GAAOlpC,YAAaC,EAAcipC,GAAOjpC,YAAaC,EAAcgpC,GAAOhpC,YAAaC,EAAc+oC,GAAO/oC,YAAaC,EAAc8oC,GAAO9oC,YAAaC,EAAc6oC,GAAO7oC,YAAaC,EAAc4oC,GAAO5oC,YAAaC,EAAc2oC,GAAO3oC,YAAaC,EAAc0oC,GAAO1oC,YAAaC,EAAcyoC,GAAOzoC,YAAaC,EAAcwoC,GAAOxoC,YAAaC,EAAcuoC,GAAOvoC,YAAaC,EAAcsoC,GAAOtoC,YAAaC,EAAcqoC,GAAOroC,YAAaC,EAAcooC,GAAOpoC,YAAaC,EAAcmoC,GAAOnoC,YAAaC,EAAckoC,GAAOloC,YAAaC,EAAciC,GAAOjoC,YAAaC,EAAcgoC,GAAOhoC,YAAaC,EAAc+nC,GAAO/nC,YAAaC,EAAc8nC,GAAO9nC,YAAaC,EAAc6nC,GAAO7nC,YAAaC,EAAc4nC,GAAO5nC,YAAaC,EAAc2nC,GAAO3nC,YAAaC,EAAc0nC,GAAO1nC,YAAaC,EAAcynC,GAAOznC,YAAaC,EAAcwnC,GAAOxnC,YAAaC,EAAcunC,GAAOvnC,YAAaC,EAAcsnC,GAAOtnC,YAAaC,EAAcqnC,GAAOrnC,YAAaC,EAAconC,GAAOpnC,YAAaC,EAAcmnC,GAAOnnC,YAAaC,EAAcknC,GAAOlnC,YAAaC,EAAcinC,GAAOjnC,YAAaC,EAAcgnC,GAAOhnC,YAAaC,EAAc+mC,GAAO/mC,YAAaC,EAAc8mC,GAAO9mC,YAAaC,EAAc6mC,GAAO7mC,YAAaC,EAAc4mC,GAAO5mC,YAAaC,EAAc2mC,GAAO3mC,YAAaC,EAAc0mC,GAAO1mC,YAAaC,EAAcymC,GAAOzmC,YAAaC,EAAcwmC,GAAOxmC,YAAaC,EAAcumC,GAAOvmC,YAAaC,EAAcsmC,GAAOtmC,YAAaC,EAAcqmC,GAAOrmC,YAAaC,EAAcomC,GAAOpmC,YAAaC,EAAcmmC,GAAOnmC,YAAaC,EAAckmC,GAAOlmC,YAAaC,EAAcimC,GAAOjmC,YAAaC,EAAcgmC,GAAOhmC,YAAaC,EAAc+lC,GAAO/lC,YAAaC,EAAc8lC,GAAO9lC,YAAaC,EAAc6lC,GAAO7lC,YAAaC,EAAc4lC,GAAO5lC,YAAaC,EAAc2lC,GAAO3lC,YAAaC,EAAc0lC,GAAO1lC,YAAaC,EAAcylC,GAAOzlC,YAAaC,EAAcwlC,GAAOxlC,YAAaC,EAAculC,GAAOvlC,YAAaC,EAAcslC,GAAOtlC,YAAaC,EAAcqlC,GAAOrlC,YAAaC,EAAcolC,GAAOplC,YAAaC,EAAcmlC,GAAOnlC,YAAaC,EAAckkC,GAAOlkC,YAAaC,EAAcikC,GAAOjkC,YAAaC,EAAcgkC,GAAOhkC,YAAaC,EAAc+jC,GAAO/jC,YAAaC,EAAc8jC,GAAO9jC,YAAaC,EAAc6jC,GAAO7jC,YAAaC,EAAc4jC,GAAO5jC,YAAaC,EAAc2jC,GAAO3jC,YAAaC,EAAc0jC,GAAO1jC,YAAaC,EAAcyjC,GAAOzjC,YAAaC,EAAcwjC,GAAOxjC,YAAaC,EAAcujC,GAAOvjC,YAAaC,EAAcsjC,GAAOtjC,YAAaC,EAAcqjC,GAAOrjC,YAAaC,EAAcojC,GAAOpjC,YAAaC,EAAcmjC,GAAOnjC,YAAaC,EAAckjC,GAAOljC,YAAaC,EAAciiC,GAAOjiC,YAAaC,EAAcgiC,GAAOhiC,YAAaC,EAAc+hC,GAAO/hC,YAAaC,EAAc8hC,GAAO9hC,YAAaC,EAAc6hC,GAAO7hC,YAAaC,EAAc4hC,GAAO5hC,YAAaC,EAAc2hC,GAAO3hC,YAAaC,EAAc0hC,GAAO1hC,YAAaC,EAAcyhC,GAAOzhC,YAAaC,EAAcwhC,GAAOxhC,YAAaC,EAAcuhC,GAAOvhC,YAAaC,EAAcshC,GAAOthC,YAAaC,EAAcqhC,GAAOrhC,YAAaC,EAAcohC,GAAOphC,YAAaC,EAAcmhC,GAAOnhC,YAAaC,EAAckhC,GAAOlhC,YAAaC,EAAcihC,GAAOjhC,YAAaC,EAAcghC,GAAOhhC,YAAaC,EAAc+gC,GAAO/gC,YAAaC,EAAc8gC,GAAO9gC,YAAaC,EAAc6gC,GAAO7gC,YAAaC,EAAc4gC,GAAO5gC,YAAaC,EAAc2gC,GAAO3gC,YAAaC,EAAc0gC,GAAO1gC,YAAaC,EAAcygC,GAAOzgC,YAAaC,EAAcwgC,GAAOxgC,YAAaC,EAAcugC,GAAOvgC,YAAaC,EAAcsgC,GAAOtgC,YAAaC,EAAcqgC,GAAOrgC,YAAaC,EAAcogC,GAAOpgC,YAAaC,EAAcmgC,GAAOngC,YAAaC,EAAckgC,GAAOlgC,YAAaC,EAAcigC,GAAOjgC,YAAaC,EAAcggC,GAAOhgC,YAAaC,EAAc+/B,GAAO//B,YAAaC,EAAc8/B,GAAO9/B,YAAaC,EAAc6/B,GAAO7/B,YAAaC,EAAc4/B,GAAO5/B,YAAaC,EAAc2/B,GAAO3/B,YAAaC,EAAc0/B,GAAO1/B,YAAaC,EAAcy/B,GAAOz/B,YAAaC,EAAcw/B,GAAOx/B,YAAaC,EAAcu/B,GAAOv/B,YAAaC,EAAcs/B,GAAOt/B,YAAaC,EAAcq/B,GAAOr/B,YAAaC,EAAco/B,GAAOp/B,YAAaC,EAAcm/B,GAAOn/B,YAAaC,EAAck/B,GAAOl/B,YAAaC,EAAci/B,GAAOj/B,YAAaC,EAAcg/B,GAAOh/B,YAAaC,EAAc+9B,GAAO/9B,YAAaC,EAAc89B,GAAO99B,YAAaC,EAAc69B,GAAO79B,YAAaC,EAAc49B,GAAO59B,YAAaC,EAAc29B,GAAO39B,YAAaC,EAAc09B,GAAO19B,YAAaC,EAAcy9B,GAAOz9B,YAAaC,EAAcw9B,GAAOx9B,YAAaC,EAAcu9B,GAAOv9B,YAAaC,EAAcs9B,GAAOt9B,YAAaC,EAAcq9B,GAAOr9B,YAAaC,EAAco9B,GAAOp9B,YAAaC,EAAcm9B,GAAOn9B,YAAaC,EAAck9B,GAAOl9B,YAAaC,EAAci9B,GAAOj9B,YAAaC,EAAcg9B,GAAOh9B,YAAaC,EAAc+8B,GAAO/8B,YAAaC,EAAc88B,GAAO98B,YAAaC,EAAc68B,GAAO78B,YAAaC,EAAc48B,GAAO58B,YAAaC,EAAc28B,GAAO38B,YAAaC,EAAc08B,GAAO18B,YAAaC,EAAcy8B,GAAOz8B,YAAaC,EAAcw8B,GAAOx8B,YAAaC,EAAcu8B,GAAOv8B,YAAaC,EAAcs8B,GAAOt8B,YAAaC,EAAcq8B,GAAOr8B,YAAaC,EAAco8B,GAAOp8B,YAAaC,EAAcm8B,GAAOn8B,YAAaC,EAAck8B,GAAOl8B,YAAaC,EAAci8B,GAAOj8B,YAAaC,EAAcg8B,GAAOh8B,YAAaC,EAAc+7B,GAAO/7B,YAAaC,EAAc87B,GAAO97B,YAAaC,EAAc67B,GAAO77B,YAAaC,EAAc47B,GAAO57B,YAAaC,EAAc27B,GAAO37B,YAAaC,EAAc07B,GAAO17B,YAAaC,EAAcy7B,GAAOz7B,YAAaC,EAAcw7B,GAAOx7B,YAAaC,EAAcu7B,GAAOv7B,YAAaC,EAAcs7B,GAAOt7B,YAAaC,EAAcq7B,GAAOr7B,YAAaC,EAAco7B,GAAOp7B,YAAaC,EAAcm7B,GAAOn7B,YAAaC,EAAck7B,GAAOl7B,YAAaC,EAAci7B,GAAOj7B,YAAaC,EAAcg7B,GAAOh7B,YAAaC,EAAc+6B,GAAO/6B,YAAaC,EAAc86B,GAAO96B,YAAaC,EAAc66B,GAAO76B,YAAaC,EAAc46B,GAAO56B,YAAaC,EAAc26B,GAAO36B,YAAaC,EAAc06B,GAAO16B,YAAaC,EAAcy6B,GAAOz6B,YAAaC,EAAcw6B,GAAOx6B,YAAaC,EAAcu6B,GAAOv6B,YAAaC,EAAcs6B,GAAOt6B,YAAaC,EAAcq6B,GAAOr6B,YAAaC,EAAco6B,GAAOp6B,YAAaC,EAAcm6B,GAAOn6B,YAAaC,EAAck6B,GAAOl6B,YAAaC,EAAci6B,GAAOj6B,YAAaC,EAAcg6B,GAAOh6B,YAAaC,EAAc+5B,GAAO/5B,YAAaC,EAAc85

AAOx0D,KAAK+gG,OAAQxwF,GACpBA,EAAKihE,oBAETgvB,EAAe/1F,UAAUu3F,eAAiB,SAAU3tB,GAChDr0E,KAAKkiG,WAAW7tB,EAAa3jE,UAC7B1Q,KAAKohG,OACLphG,KAAKw5B,WAAWvsB,KAAKonE,GAELr0E,KAAKo/F,UAAUriF,IAAI84E,GAAwB,IAAIxoF,OAAOrN,KAAK8gG,qBACjEh4F,SAAQ,SAAUu1B,GAAAY,OAAOA,EAASg2C,OAAG5DmsB,EAAe/1F,UAAUC,YAAc,WAAYC,KAAKC,UAAUnF,QAAQ3Q,SAAQ,SAAUyH,GAAAoJ

,KAAKikG,WAAWh3F,KAAK8H,GACrBA,EAAMzD,OAAStR,OAGvB8jG,EAAuBr5F,UAAUwlB,YAAc,SAAAUlb,GACrD,IAAImvF,EAAalkG,KAAKikG,WAAW7iG,QAAQ2T,IACrB,IAAhBmvF,IACAnvF,EAAMzD,OAAS,KACftR,KAAKikG,WAAWhqF,OAAOiqF,EAAY,KAG3CJ,EAAuBr5F,UAAU05F,oBAAsB,SAAUpvF,EAAOqvF,GACpE,IAAIhlF,EACA1R,EAAQ1R,EAAQ1N,KACRqkG,EAAerkG,KAAKikG,WAAW7iG,QAAQ2T,IACrB,IAAlBsvF,KACCjlF,EAAKpf,KAAKikG,YAAYhqF,OAAOoH,MAAMjC,EAAIjS,GAAS,GAAI,CAACk3F,EAAe,GAAI,GAAI,IAAIC,EAAE,EAAMzD,OAAS5D,EAAOqH,EAAuBr5F,UAAUs5F,oBAAsB,SAAUhvF,EAAOivF,GAAS,IAAIC,EAAIC,EAAIC,E

7DsS,IAAK,WACD,IACI,IAAI8Q,EAAUkrB,GAAa/4C,KAAK4jG,YAIhC,OAHY/1E,EAAQ1d,MAlx5BxB,GAmx5B6BpI,KACP8lB,EAAQpd,WACb/N,MAEjB,MAAOqK,GACH,OAAO/M,KAAK4jG,WAAWnvE,WAG/BgT,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAesjF,EAAwBv6F,UAAW,aAAc,CAAnEsS,IAAK,WACD,IAAI8Q,EAAUkrB,GAAa/4C,KAAK4jG,YAAY,EAAQ1d,MAAO,OAAO,IAAIzlE,EAAQ1d,MAAM,KAAK,GAAGA,MAAM,KAAK,GAAGA,MAAM,KAAK,GAAGA

Z/1E,EAEA24E,GADkB34E,EAAQ1d,MAn/5BtB,GAm/5BmCpI,KAAK8lB,EAAQpd,WAClBod,EAAQ1d,MAA
O86E,EAAW/7C,EAASq3D,EAAcD,EAAc1C,YAKjG6C,GAA4BH,EAAc1C,WAAY3Y,EAAW/7C,EAASq3D,G
AalF,SAASC,GAAqBx7F,EAAOmF,EAAO86E,EAAW/7C,EAASq3D,EAAcG,GAC1E,IAAIz0E,EAAK7S,EAEL
wkF,EA3n4BR,SAAS+C,EAAuB37F,EAAOmF,GACnC,IAAID,EAAkB,OAAVlF,GAAkB,EAAIA,EAAMkF,MA
CxC,OAAe,IAAXA,,EAEWF,,GAAYG,,EAAMD,,IAI1B,KAmn4BUy2F,,CAAuB37F,,EAAOmF,,GAE/C,GAAiB,GA
AbnF,EAAMnJ,KAAsD,CAG5D+kG,GAAiBhD,EAAY3Y,EAAW/7C,EAASq3D,EAAcG,GAC3Dz7F,GAAgBD,,
IAGZ6lC,EAAgBrgC,GAAyBxF,EAAMkF,,MAAOC,KACrC0gC,EAnh6BrB,GAmh6B0Cj8B,YACtC4xF,GAAqB
31D,EAph6BzB,GAoh6B8Cj8B,WAAYi8B,EAAeo6C,EAAW/7C,EAASq3D,EAAcG,IAAvG17F+J,OAEN
yxF,GAAqBx7F,EAAM+J,MAAO5E,EAAO86E,EAAW/7C,EAASq3D,EAAcG,,GAU/E9C,GAAc6C,GAA4B7C,E
AAY3Y,EAAW/7C,EAASq3D,IAI9E,IAAIM,EAAkB12F,EAAMnF,EAAMkF,,OAC9BpF,GAAa+7F,IACbC,GA
AgCD,EAAiB5b,EAAW/7C,EAASq3D,EAAcG,,QAGtF,GAAiB,EAAb17F,EAAMnJ,KAA0B,CAGrC,IAAIsF,EA
AahB,EAAMnF,EAAMkF,,OAC7B02F,,GAAiBz1F,,EA1k6BZ,GA0k6BgC85E,EAAW/7C,EAASq3D,EAAcG,,GA
EvEI,GAAgC31F,,EAAY85E,EAAW/7C,EAASq3D,EAAcG,,QAE7E,GAAiB,GAAb17F,EAAMnJ,KAA4B,CAGvC
C,IAAIgvC,EAAEAk2D,,GAFAl2D,,EAAgB1gC,,EAxi6BK,KAXpB,GAqj6BoBswB,WAAWz1B,,EAAAMy1B,,YAC1
C,GAAI9/B,MAAMC,QAAQmmG,GACd,IACI,IAAK,IAAIC,EAASh7F,,GAAS+6F,,GAAOE,,EAAAOE,,EAAAOv6F
,QAASw6F,,EAASv6F,,KAAAMu6F,,EAAAWD,,EAAAOv6F,,OAE1Fm6F,,GADmBK,,EASvkG,MACGuoF,,EAAW/7C,,
EAASq3D,EAAcG,,GAGzE,MAAOt0E,,GAASH,,EAAM,CAAEE,,kB,MAAOklB,,GAC/B,QACI,IACQ60D,,EAAQ
A,EAAI/kB,YAGhC,GAAI65F,,EAAM,CACCA,,EAAKC,,EAAMC,,EAAIC,,EAADC,,EAAIC,,EAAIC,,EAAI

,CAAC,CAAC,IAAIJ,GAAO+sE,IAAc,IAAIzxF,GAAAY,IAAI2P,MAEzD,CAAEqY,QAAS0pE,GAAAuBzpE,SA3k
Xd,QAslXxB,SAAS27E,GAAAqB7I,GAC1B,IAAI8I,EAAAQ,GAMZ,OALA9I,EAAOpH,SAAShtC,WAAU,WACtB,
KAAOk9C,EAAM97F,QACT87F,EAAM3jF,KAAN2jF,MAGD,SAAAUvmG,GACbumG,EAAMr7F,KAAKlL,IA8J
nB,SAASuuB,GAAc/f,EAAMoqE,EAAAYl0E,GACrC,IAGIqqB,EAHAsuD,EAAQ34E,EAAI8tB,QACZg0C,EAAAq
Bh4D,EAAKgpE,KAAKgvB,eAC/B54F,EAAAWY,EAAAKZ,SAEpB,GAAIY,EAAAKe,EAAAKe,EAAAMo+E,KACD2O,EAAAS2gB,cA8uD,EAAMp+E,KAAAMo+E,EAAAMopB,IAGzC74F,EAAAS2
sB,cAAc,IAEhC,IAAImsE,EAAW/tB,GAAAuBnqE,EAAMoqE,EAAAYl0E,GACpDgiG,GACA94F,EAAS4gB,YAA
Yk4E,EAAU33E,QAOnCA,EAAKnhB,EAAS+9B,kBAAkB66B,IAFP6W,EAAMvE,uBAC3BuE,EAAMvE,sBAA
sB7yE,gBAAkB1I,EAAQsF,kBAAkB+oC,WAGhF,GAAIyxC,EAAM1mE,MACN,IAAK,IAAIpM,EAAG8yE,EAAAI8
,EAAI8yE,EAAM1mE,MAAMlM,OAAQF,IAAK,CAAzC,IAAI8I8S,EAAAKxS,GAAAOwyE,EAAM1mE,MAAMpM,
GAAI,GAChCqD,EAASoJ,aAAa+X,EADiC1R,EAAG,GAAYA,EAAG,GAAhCA,EAAG,IAIpD,OAAO0R,EAEX
,SAAS43E,GAAAuBn4F,EAAMkrE,EAAUh1E,EAAKqqB,GACjD,IAAK,IAAIxkB,EAAIwkB,IxkB,EAAI,EAAGA,EAAI7F
Y,QAAQmF,OAAQF,IAAK,CAAzC,IAAIgJ8S,EAAIs2E,GAAAcrBq8F,EAAAqBC,GAA0Br4F,EAAAqBC,GA1Br4F,EA
AM9J,EAAIgK,WAAtO/BzP,EAAotO8E4hF,EAAAOt3B,WAAtO7FhrD,EAAotOuEsiF,EAAAOtiF,QAAntOxFA,EAAAS,IA
AMU,EAAAOA,IAAtO9B6nG,EAAAejmB,EAAAOtiF,OACtBwoG,EAAAev4F,EACG,cAAlBqyE,EAAAOtiF,SACPuoG,
EAAe,KACfC,EAAAertB,GAAEnB,IAAIstB,EAAAaD,EAAAan5F,SAAS28C,OAAOu8C,GAAAgB/3E,EAAAI8xD,EAAAOt
3B,UAAWq9C,GACpFp4F,EAAKmwE,YAAYj6E,EAAI07E,YAAc71E,GAAAKy8F,EA5tOhD,IA8BzoG,EAAAQ
U,EA+tOtC,SAAS4nG,GAA0Br4F,EAAAML,EAAAOo7C,GAAAuBn4F,GAAAS,OAAOD,SAAAuoG,EAAAtoG,OAAOD,
AAML,EAAAOo7C,EAAAWguB,IAAmC3E,SAAS0vB,GAA2Bz4F,EAAAM9J,EAAAKkyE,EAAAYj2E,GACvD,IAAAKm2
E,GAAAsBtoE,EAAAM9J,EAAAKkyE,EAAAYj2E,GAC9C,OAAO,EAAEX,IAAAIy+D,EAAAU16D,EAAAI49B,SAAS0s0C,G
ACvB0G,EAASrI,GAAAczmE,EAAAM9J,EAAAIgK,WAAjCkpE,EAAAOzF,cAAcpkE,EAAAa0F,EAAAOzF,cAAcpB54E,EAAAOmgE,EAAAQng
E,KAAnB,OAAAwB,GAAAhBmgE,EAAAQ58D,OACZ,KAAK,GAAmBb,SAAS0kG,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAY6uB,EAAAIxnG,EAAAM0B,GAAhE,IAAAIwmG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAASkzE,EAAAiBxmG,GAASA,EAC3FymG,EAAA6B,EAAAsB14F,EAAAMsoE,BA,EAAAYjoG,
WAAa,KAC7D,IAAIyO,EAAWY,EAACP,EAAMAATjN,EAACAiN,EAASoJ,aAAa4gE,EAAAY34E,EAAAMmoG,
EAAaX,GAAGrD74F,EAASshB,gBAAAgB0oD,EAAY34E,EAAMwnG,GA3BvCS,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAYxY,EAAQqnC,GAAIxnG,EAAM0B,GAAnCnE,MACJ,KAAK,GA4Bb2S,EAAAsB14F,EAAAM4wD,EAAAS
G9B2O,EAAS4kD,YAAYolB,EAAY34E,GAAjC7BooG,CAAAgB74F,EAAAMopE,EAAAY34E,EAAAM0B,GAACxC,MA
CJ,KAAK,GAAkCb,SAAS2mG,EAAAgB94F,EAAAM4wD,EAAAS
Y,EAAY34E,EAAAM0B,GAACtD,MAAMiB,EAAAIymG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAAS12B,EAAAI8xD,EAAAOt3B,WAAtO7FhrD,EAAotOuEsiF,EAAAOtiF,SAAAuoG,EAAAtoG,OAAOD,
AAML,EAAAOo7C,EAAAWguB,IAAmC3E,SAAS0vB,GAA2Bz4F,EAAAM9J,EAAAKkyE,EAAAYj2E,GACvD,IAAAKm2
E,GAAAsBtoE,EAAAM9J,EAAAKkyE,EAAAYj2E,GAC9C,OAAO,EAAEX,IAAAIy+D,EAAAU16D,EAAAI49B,SAAS0s0C,G
ACvB0G,EAASrI,GAAAczmE,EAAAM9J,EAAAIgK,WAAjCkpE,EAAAOzF,cAAcpkE,EAAAa0F,EAAAOzF,cAAcpB54E,EAAAOmgE,EAAAQng
E,KAAnB,OAAAwB,GAAAhBmgE,EAAAQ58D,OACZ,KAAK,GAAmBb,SAAS0kG,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAY6uB,EAAAIxnG,EAAAM0B,GAAhE,IAAAIwmG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAASkzE,EAAAiBxmG,GAASA,EAC3FymG,EAAA6B,EAAAsB14F,EAAAMsoE,BA,EAAAYjoG,
WAAa,KAC7D,IAAIyO,EAAWY,EAACP,EAAMAATjN,EAACAiN,EAASoJ,aAAa4gE,EAAAY34E,EAAAMmoG,
EAAaX,GAAGrD74F,EASshB,gBAAAgB0oD,EAAY34E,EAAMwnG,GA3BvCS,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAYxY,EAAQqnC,GAAIxnG,EAAM0B,GAAnCnE,MACJ,KAAK,GA4Bb2S,EAAAsB14F,EAAAM4wD,EAAAS
G9B2O,EAAS4kD,YAAYolB,EAAY34E,GAAjC7BooG,CAAAgB74F,EAAAMopE,EAAAY34E,EAAAM0B,GAACxC,MA
CJ,KAAK,GAAkCb,SAAS2mG,EAAAgB94F,EAAAM4wD,EAAAS
Y,EAAY34E,EAAAM0B,GAACtD,MAAMiB,EAAAIymG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAAS12B,EAAAI8xD,EAAAOt3B,WAAtO7FhrD,EAAotOuEsiF,EAAAOtiF,SAAAuoG,EAAAtoG,OAAOD,
AAML,EAAAOo7C,EAAAWguB,IAAmC3E,SAAS0vB,GAA2Bz4F,EAAAM9J,EAAAKkyE,EAAAYj2E,GACvD,IAAAKm2
E,GAAAsBtoE,EAAAM9J,EAAAKkyE,EAAAYj2E,GAC9C,OAAO,EAAEX,IAAAIy+D,EAAAU16D,EAAAI49B,SAAS0s0C,G
ACvB0G,EASrI,GAAAczmE,EAAAM9J,EAAAIgK,WAAjCkpE,EAAAOzF,cAAcpkE,EAAAa0F,EAAAOzF,cAAcpB54E,EAAAOmgE,EAAAQng
E,KAAnB,OAAAwB,GAAAhBmgE,EAAAQ58D,OACZ,KAAK,GAAmBb,SAAS0kG,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAY6uB,EAAAIxnG,EAAAM0B,GAAhE,IAAAIwmG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAASkzE,EAAAiBxmG,GAASA,EAC3FymG,EAAA6B,EAAAsB14F,EAAAMsoE,BA,EAAAYjoG,
WAAa,KAC7D,IAAIyO,EAAWY,EAACP,EAAMAATjN,EAACAiN,EASoJ,aAAa4gE,EAAAY34E,EAAAMmoG,
EAAaX,GAAGrD74F,EAASshB,gBAAAgB0oD,EAAY34E,EAAMwnG,GA3BvCS,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAYxY,EAAQqnC,GAAIxnG,EAAM0B,GAAnCnE,MACJ,KAAK,GA4Bb2S,EAAAsB14F,EAAAM4wD,EAAAS
G9B2O,EAAS4kD,YAAYolB,EAAY34E,GAAjC7BooG,CAAAgB74F,EAAAMopE,EAAAY34E,EAAAM0B,GAACxC,MA
CJ,KAAK,GAAkCb,SAAS2mG,EAAAgB94F,EAAAM4wD,EAAAS
Y,EAAY34E,EAAAM0B,GAACtD,MAAMiB,EAAAIymG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAAS12B,EAAAI8xD,EAAAOt3B,WAAtO7FhrD,EAAotOuEsiF,EAAAOtiF,SAAAuoG,EAAAtoG,OAAOD,
AAML,EAAAOo7C,EAAAWguB,IAAmC3E,SAAS0vB,GAA2Bz4F,EAAAM9J,EAAAKkyE,EAAAYj2E,GACvD,IAAAKm2
E,GAAAsBtoE,EAAAM9J,EAAAKkyE,EAAAYj2E,GAC9C,OAAO,EAAEX,IAAAIy+D,EAAAU16D,EAAAI49B,SAAS0s0C,G
ACvB0G,EASrI,GAAAczmE,EAAAM9J,EAAAIgK,WAAjCkpE,EAAAOzF,cAAcpkE,EAAAa0F,EAAAOzF,cAAcpB54E,EAAAOmgE,EAAAQng
E,KAAnB,OAAAwB,GAAAhBmgE,EAAAQ58D,OACZ,KAAK,GAAmBb,SAAS0kG,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAY6uB,EAAAIxnG,EAAAM0B,GAAhE,IAAAIwmG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAASkzE,EAAAiBxmG,GAASA,EAC3FymG,EAAA6B,EAAAsB14F,EAAAMsoE,BA,EAAAYjoG,
WAAa,KAC7D,IAAIyO,EAAWY,EAACP,EAAMAATjN,EAACAiN,EASoJ,aAAa4gE,EAAAY34E,EAAAMmoG,
EAAaX,GAAGrD74F,EASshB,gBAAAgB0oD,EAAY34E,EAAMwnG,GA3BvCS,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAYxY,EAAQqnC,GAAIxnG,EAAM0B,GAAnCnE,MACJ,KAAK,GA4Bb2S,EAAAsB14F,EAAAM4wD,EAAAS
G9B2O,EAAS4kD,YAAYolB,EAAY34E,GAAjC7BooG,CAAAgB74F,EAAAMopE,EAAAY34E,EAAAM0B,GAACxC,MA
CJ,KAAK,GAAkCb,SAAS2mG,EAAAgB94F,EAAAM4wD,EAAAS
Y,EAAY34E,EAAAM0B,GAACtD,MAAMiB,EAAAIymG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAAS12B,EAAAI8xD,EAAAOt3B,WAAtO7FhrD,EAAotOuEsiF,EAAAOtiF,SAAAuoG,EAAAtoG,OAAOD,
AAML,EAAAOo7C,EAAAWguB,IAAmC3E,SAAS0vB,GAA2Bz4F,EAAAM9J,EAAAKkyE,EAAAYj2E,GACvD,IAAAKm2
E,GAAAsBtoE,EAAAM9J,EAAAKkyE,EAAAYj2E,GAC9C,OAAO,EAAEX,IAAAIy+D,EAAAU16D,EAAAI49B,SAAS0s0C,G
ACvB0G,EASrI,GAAAczmE,EAAAM9J,EAAAIgK,WAAjCkpE,EAAAOzF,cAAcpkE,EAAAa0F,EAAAOzF,cAAcpB54E,EAAAOmgE,EAAAQng
E,KAAnB,OAAAwB,GAAAhBmgE,EAAAQ58D,OACZ,KAAK,GAAmBb,SAAS0kG,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAY6uB,EAAAIxnG,EAAAM0B,GAAhE,IAAAIwmG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAASkzE,EAAAiBxmG,GAASA,EAC3FymG,EAAA6B,EAAAsB14F,EAAAMsoE,BA,EAAAYjoG,
WAAa,KAC7D,IAAIyO,EAAWY,EAACP,EAAMAATjN,EAACAiN,EASoJ,aAAa4gE,EAAAY34E,EAAAMmoG,
EAAaX,GAAGrD74F,EASshB,gBAAAgB0oD,EAAY34E,EAAMwnG,GA3BvCS,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAYxY,EAAQqnC,GAAIxnG,EAAM0B,GAAnCnE,MACJ,KAAK,GA4Bb2S,EAAAsB14F,EAAAM4wD,EAAAS
G9B2O,EAAS4kD,YAAYolB,EAAY34E,GAAjC7BooG,CAAAgB74F,EAAAMopE,EAAAY34E,EAAAM0B,GAACxC,MA
CJ,KAAK,GAAkCb,SAAS2mG,EAAAgB94F,EAAAM4wD,EAAAS
Y,EAAY34E,EAAAM0B,GAACtD,MAAMiB,EAAAIymG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SAAS12B,EAAAI8xD,EAAAOt3B,WAAtO7FhrD,EAAotOuEsiF,EAAAOtiF,SAAAuoG,EAAAtoG,OAAOD,
AAML,EAAAOo7C,EAAAWguB,IAAmC3E,SAAS0vB,GAA2Bz4F,EAAAM9J,EAAAKkyE,EAAAYj2E,GACvD,IAAAKm2
E,GAAAsBtoE,EAAAM9J,EAAAKkyE,EAAAYj2E,GAC9C,OAAO,EAAEX,IAAAIy+D,EAAAU16D,EAAAI49B,SAAS0s0C,G
ACvB0G,EASrI,GAAAczmE,EAAAM9J,EAAAIgK,WAAjCkpE,EAAAOzF,cAAcpkE,EAAAa0F,EAAAOzF,cAAcpB54E,EAAAOmgE,EAAAQng
E,KAAnB,OAAAwB,GAAAhBmgE,EAAAQ58D,OACZ,KAAK,GAAmBb,SAAS0kG,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAY6uB,EAAAIxnG,EAAAM0B,GAAhE,IAAAIwmG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,SASkzE,EAAAiBxmG,GAASA,EAC3FymG,EAAA6B,EAAAsB14F,EAAAMsoE,BA,EAAAYjoG,
WAAa,KAC7D,IAAIyO,EAAWY,EAACP,EAAMAATjN,EAACAiN,EASoJ,aAAa4gE,EAAAY34E,EAAAMmoG,
EAAaX,GAAGrD74F,EASshB,gBAAAgB0oD,EAAY34E,EAAMwnG,GA3BvCS,EAAAsB14F,EAAAM4wD,EAAAS
Y,EAAYxY,EAAQqnC,GAAIxnG,EAAM0B,GAAnCnE,MACJ,KAAK,GA4Bb2S,EAAAsB14F,EAAAM4wD,EAAAS
G9B2O,EAAS4kD,YAAYolB,EAAY34E,GAAjC7BooG,CAAAgB74F,EAAAMopE,EAAAY34E,EAAAM0B,GAACxC,MA
CJ,KAAK,GAAkCb,SAAS2mG,EAAAgB94F,EAAAM4wD,EAAAS
Y,EAAY34E,EAAAM0B,GAACtD,MAAMiB,EAAAIymG,EAAAkB/nC,EAAAQ+nC,gBAC1BC,EAAAcD,EAAAkB34F,EA
AKgpE,KAAKzjD,UAAUE,S

AM6qE,GAC/B,IAAIiP,EAAYlT,GAAY5mE,EAAM6qE,EAAQ3qE,WAC1C,GAAK45E,EAAUthD,MAAf,CAG
A,IAAIrQ,EACAmxE,OAAYlnG,EAChB,GAAoB,SAAhBy4E,EAAQ72E,MAAyC,CACjD,IAAIulG,EAAa1uB,E
AAQ9pE,OAAOA,OAChCu4F,EAAYE,GAAgBx5F,EAAMu5F,EAAWr5F,UAAWq5F,EAAWr5F,UAAYq5F,EA
AWxuB,WAAYF,EAAQkH,MAAO,IACrH5pD,EAAoBu+C,GAAe1mE,EAAM6qE,EAAQ9pE,OAAOb,WAAWz
B,cAE9C,UAAhBosE,EAAQ72E,QACbslG,EAAYE,GAAgBx5F,EAAM,EAAGA,EAAK9J,IAAI2iC,MAAM58B,
OAAS,EAAG4uE,EAAQkH,MAAO,IAC/E5pD,EAAoBnoB,EAAK6a,WAE7Bi/D,MAAM8f,GAAhB,IA
FA,IAAIxlE,EAAW+2C,EAAQkH,MAAMj+C,SACzB2lE,GAAS,EACJ19F,EAAI,EAAGA,EAAI+3B,EAAS73B,
OAAQF,IAAK,CACtC,IAAI60D,EAAU98B,EAAS/3B,GAAGE,MAAM,EAAGH,GAAGI,MAAM,EAAGJ,GAAG
KAAK,EACDD,EAAa5f,EAAU5mE,MACvB,MACJ,KAAK,EACDwmF,EAAa5f,EACb2f,GAAS,EAGjBtxE,EA
AkByoC,EAAQp/C,UAAYkoF,EAEtCD,GACA3f,EAAUH,mBAGlB,SAAS6f,C,EAAYpxC,
EAAU0rF,EAAUroF,GAC3D,IAAK,IAAIxV,EAAIujD,EAAYvjD,GAAKmS,EAAUnS,IAAK,CACzC,IAAIo8uE,E
AAU7qE,EAAK9J,IAAI2iC,MAAM98B,GACzBiuE,EAAYa,EAAQhB,eAAe+vB,EAASjG,IAAIhD,GAHiB,MAA
bqyE,GACAz4D,EAAO7U,KAAKm9F,GAAc75F,EAAM6qE,EAASb,IAAEzB+vB,EAAQ72E,OAA+B62E,E
AAQ7mD,QAAQ1tB,WACtDu0E,EAAQ7mD,QAAQ1tB,SAAS4iG,mBAAqBU,EAASR,YACpDQ,EAASR,SAA
U,CACvB,IAAIhsB,EAAc3G,GAAczmE,EAAMjE,GAAOtC,IAJK8uE,EAAQiH,oBAAsB8nB,EAASR,YAAcQ,EA
ASR,WAC/DI,GAAgBx5F,EAAMjE,EAAI,EAAGA,EAAI8uE,EAAQE,WAAY6uB,EAAUroF,GAC/DxV,GAAK
8uE,EAAQE,YAEG,SAAhBF,EAAQ72E,MAER,IADA,IAAIy3E,EAAgB2B,EAAY1B,CAAcC,eACrCl4B,EAAI,
EAAGA,EAAIg4B,EAAcxuB,QAAQ3pD,SAAUmgD,EAAG,CAC9C,IAAIo4B,EAAaJ,EAAcxuB,QAAQxJ,GAAGngD,MAAM,
B,GAAsB6wB,GAC5BC,GAAOA,IAAQ3sB,GAAfosB,GAAgBM,EAAc,EAAGA,EAAa5jG,IAAI2iC,MAAM58
B,OAAS,EAAG29F,GAAIF,EAAUroF,GAAI1V,IAAIy3E,EAAQ72E,MAAM+3E,EAAQ,IAAIg4B,EAAcxuB,QAAQ
97B,EAAI,EAAGA,EAAI87B,EAAWtyB,QAAQ3pD,SAAUmgD,EAAG,CAC3C,IAAIq4B,EAAaP,EAAcxuB,QAAQtJ,GAAGrgD,MAAM,
,GAAgBQ,EAAe,EAAGA,EAAc9jG,IAAI2iC,MAAM58B,OAAS,EAAG29F,GAAIF,EAAUroF,GAAI1V,IAAIy3E,EAAQ72E,MAAM+3E,EAAQ,IAAIg4B,EAAcxuB,QAAQ
AAsB8nB,EAAgBR,YAAcQ,EAASR,WAAWI,GAAIF,EAAUroF,GAAI1V,IAAIy3E,EAAQ72E,MAAM+3E,EAAQ,IAAIg4B,EAAcxuB,QAAQ
75F,EAAM6qE,EAAUsovB,GAAgBC,GAAgBC,GAAgBC

+M,EAC9C,MAAM,IAAIlR,MAAM,wEAA0E00B,EAAKrkB,UAAY,KAGnH,GAAIqkB,EAAKwmD,WAAY,C
ACjB,IAAI0vB,EAAY15F,EAASA,EAAOb,UAAYa,EAAOgqE,WAAayvB,EAAY,EAC5E,GAAIj2E,EAAKrkB,
WAAau6F,GAAal2E,EAAKrkB,UAAYqkB,EAAKwmD,WAAa0vB,EAClE,MAAM,IAAI5qG,MAAM,uEAAyE0
0B,EAAKrkB,UAAY,MAItH,SAASqiE,GAAmBxhE,EAAQ25F,EAAWxsB,EAAS5wD,GAGpD,IAAItd,EAAO26
F,GAAW55F,EAAOioE,KAAMjoE,EAAO3B,SAAU2B,EAAQ25F,EAAWxsB,EAAS5wD,GAGvE,OAFA0sB,GAAS56F,,EA
AMe,EAAO8Z,UAAWyC,GACjCu9E,GAAgB76F,,GACTA,EAEX,SASgnE,GAAegC,EAAM9yE,EAAKonB,G
AC/B,IAAItd,EAAO26F,,GAAW3xB,EAAMA,EAAK5pE,SAAU,KAAM,KAAMlJ,GAGvD,OAFA0kG,GAAS56F
,EAAMsd,EAASA,GACxBu9E,GAAgB76F,,GACTA,EAEX,SASinE,GAAoB98D,EAAY0gE,EAASqD,EAAS3u
E,GACvD,IACIu7F,,EADAt7F,,EAAeqrE,EAAQ7mD,QAAQsmD,sBAQnC,OAFIwwB,EAJCt7F,,EAIc2K,EAAW6
+D,KAAKxvC,gBAAgBl6B,eAAeC,EAAaC,,GAH5D2K,EAAW6+D,KAAK5pE,SAK5Bu7F,,GAAWxwF,,EAAW6
+D,KAAM8xB,EAAc3wF,,EAAY0gE,EAAQ7mD,QAAQoqD,kBAAmBF,GAEpG,SASysB,GAAW3xB,,EAAM5
pE,EAAU2B,EAAQmoE,EAAehzE,GACvD,IAAI2iC,EAAQ,IAAIzoC,MAAM8F,EAAI2iC,EAAM58B,GAAQ,MAM58B,QAC5Bk
0E,EAAcj6E,EAAI6kG,YAAc,IAAI3qG,MAAM8F,EAAI6kG,aAAe,KAgBjE,MAfW,CACP7kG,kGA,IAAKA,,EACL6
K,OAAQA,,EACR4nE,oBAAqB,KCrBO,cAAeA,,EACf5rD,QAAS,KACTzC,UAAW,KACXge,MAAOut
C,MAAO,GACP4C,KAAMA,EACN5pE,SAAUA,EACVipE,UAAW,IAAIj4E,MAAM8F,EAAI8kG,cAAcB7qB,Y
AAaA,EACb7J,WAAY,GAIpB,SASs0B,GAAS56F,,EAAM6a,EAAWyC,GAC/Btd,,EAAK6a,UAAYA,EACjB,
EAAKsd,QAAUA,EAEnB,SASu9E,GAAgB76F,,GACrB,IAAIoqE,EACAb,IAAIoqE,EAAQ3pE,GAAQ,EAAMb,IAAIoqE,
EAAMzpE,GAAQ,EAAMX,IAAIoqE,EAAMxpE,GAAQ,EAAMZ,IAAIoqE,EAAMvpE,GAAQ,EAAMb,IAAIoqE,EAAMtpE,
,IACX2iC,EAAQ74B,EAAW,GAAIA,EAAW,GAAIA,EAAW,GAAIA

AAM9J,EAAK84C,EAAII,EAAIG,EAAIG,EAAIG,EAAIG,EAAIG,EAAIurD,EAAIC,GAChF,IAAIG,EAAU/lG,EAAI49B,SAAS73B,OACvBigG,GAAU,EAqBd,OApBID,EAAU,GAAKxD,GAA2Bz4F,EAAM9J,EAAK,EAAG84C,KACxDktD,GAAU,GACVD,EAAU,GAAKxD,GAA2Bz4F,EAAM9J,EAAK,EAAGk5C,KACxD8sD,GAAU,GACVD,EAAU,GAAKxD,GAA2Bz4F,EAAM9J,EAAK,EAAGq5C,KACxD2sD,GAAU,GACVD,EAAU,GAAKxD,GAA2Bz4F,EAAM9J,EAAK,EAAGw5C,KACxDwsD,GAAU,GACVD,EAAU,GAAKxD,GAA2Bz4F,EAAM9J,EAAK,EAAG25C,KACxDqsD,GAAU,GACVD,EAAU,GAAKxD,GAA2Bz4F,EAAM9J,EAAK,EAAG85C,KACxDksD,GAAU,GACVD,EAAU,GAAKxD,GAA2Bz4F,EAAM9J,EAAK,EAAGi6C,KACxD+rD+rD,GAAU,GACVD,EAAU,GAAKxD,GAA2Bz4F,EAAM9J,EAAK,EAAGo6C,KACxD4r

AAUpJ,YAAY+0E,GAET,MAAZh9E,EAAIlC,OACLuyE,GAA4BvmE,EAAM,IAAmC9J,EAAIgK,YACzEqH,EAAUuH,WAEE,OAAZ5Y,EAAIlC,OACJuT,EAAUwH,YAEPmtF,EA6oOQE,CAA8Bp8F,EAAM6qE,EAAS77B,EAAII,EAAIG,EAAIG,EAAIG,EAAIG,EAAIG,EAAIurD,EAAIC,GAC5F,KAAK,GACL,KAAK,GACL,KAAK,IACD,OArpBZ,SAASO,EAAmCr8F,EAAM9J,EAAK84C,EAAII,EAAIG,EAAIG,EAAIG,EAAIG,EAAIurD,EAAIC,GACvF,KAAK,GACL,KAAK,GACL,KAAK,GACL

yhE,EAAetM,GAAe1mE,EAAM9J,EAAIgK,WACxCqH,EAAYyrE,EAAav0E,SACzBy9F,GAAU,EACVhpB,OAAU9gF,EACL2J,EAAI,EAAGA,EAAIwV,EAAOtV,OAAQF,IAC3BosE,GAAanoE,EAAM9J,EAAK6F,EAAGwV,EAAOxV,MAClCmgG,GAAU,EACVhpB,EAAUD,GAAWjzE,EAAMgzE,EAAc98E,EAAK6F,EAAGwV,EAAOxV,GAAIm3E,IAapEiA,OAVIA,GACA3rE,EAAUpJ,YAAY+0E,GAETT,MAAZh9E,EAAIlC,OACLuyE,GAA4BvmE,EAAM,IAAmC9J,EAAIgK,YACzEqH,EAAUuH,WAEE,OAAZ5Y,EAAIlC,OACJuT,EAAUwH,YAEPmtF,EAAsoOQO,CAA+Bz8F,EAAM6qE,GACzD,KAAK,GACzD,KAAK,GACL,KAAK,IACD,OAAnjBZ,SAASmrF,EAAoC18F,EAAM9J,EAAKqb,GAAGpD,IAFA,IAAuiB,EAAW59B,EAAI49B,EAAI,EAAGA,EAAIwV,EAAOtV,OAAQF,IAC3BosE,GAAAsBtoE,EAAM9J,EAAK6F,EAAGwV,EAAOxV,GAAIm3E,IAAMC3CmgG,GAAU,GAAlB,GAAlB,GAAlB

V,IAAK,IAAI3zE,EAAI,EAAGA,EAAI7F,EAAI2iC,MAAM58B,OAAQF,IAAK,CACvC,IAAI8uE,EAAU30E,EA
AI2iC,MAAM98B,GACJ,SAAhB8uE,EAAQ72E,MAERkpG,GAAez2B,GAAczmE,EAAMjE,GAAGukC,cAAe1V
,GAEQ,IAAlC,SAArBigD,EAAQ8E,cAId5zE,GAAK8uE,EAAQE,aAIzB,SAASwwB,GAAwBv7F,EAAM4qB,GA
CnC,IAAI10B,EAAM8J,EAAK9J,IACf,GAAsB,SAAhBA,EAAIw5E,UAGV,IAAK,IAAI3zE,EAAI,EAAGA,EAAA
I7F,EAAI2iC,MAAM58B,OAAQF,IAAK,CACvC,IAAI8uE,EAAU30E,EAAI2iC,MAAM98B,GACxB,GAAoB,S
AAhB8uE,EAAQ72E,MAGR,IADA,IAAIy3E,GAAhBhF,GAAczmE,EAAMjE,GAAG2vE,cAAcC,eAChDl4B,EA
AI,EAAGA,EAAIg4B,EAAcxvE,OAAQw3C,IACtCypD,GAAezxB,EAAch4B,GAAI7oB,QAGwBi,SArBi
gD,EAAQ8E,cAId5zE,GAAK8uE,EAAQE,aAIzB,SAASmyB,GAAel9F,EAAM4qB,GAC1B,IAAIuyE,EAAAYn9F,
EAAMm4B,MAAC1B,GAAC1B,EAAC,KAAK+sE,GAAW6D,GAAC,KAAA/B,GAAZA,GAAC,KAAA/B,GAAZ+B,GAAC,
MACrB,IAGvC,MACJ,KAAK+sE,GAAW8D,GAAC,KAAA/B,GAAZA,GAAC,KAAA/B,GAAZ+B,GAAC,KAAA/B,GAAZ+B,GAAC71
B,GAAmBtnE,GAAEF,GAAAZm9F,GACLC,GAAAC,Bp9F,EAAM23F,GAAAW0F,GAAA,+BAGlD,MACJ,KAAK
F,6BAC8B,IAAAzB,IAAAzB,GAAAF,KACe,GAAAZA,EACA51B,GAAAmBvnE,GAAEF,GAAAZm9F,GACLC,GAAAC,B
p9F,EAAM4qB,IAGvC,MACJ,KAAK+sE,GAAW8D,GAAC,KAAA/B,GAAZA,GAAC,KAAA/B,GAAZ+B,GAAC71
B,GAAmBtnE,GAAEF,GAAAZm9F,GACLC,GAAAC,Bp9F,EAAM23F,GAAAW0F,GAAA,+BAGlD,MACJ,KAAK
F,6BAC8B,IAAAzB,IAAAzB,GAAAF,KACe,GAAAZA,EACA71B,GAAAmBtnE,GAAEF,GAAAZm9F,GACLC,GAAAC,B
p9F,EAAM4qB,IAGvC,MACJ,KAAK+sE,GAAW8D,GAAC,KAAA/B,GAAZA,GAAC,KAAA/B,GAAZ+B,GAAC,KAAA/B,GAAZ+B,GAAC71
B,GAAmBtnE,GAAEF,GAAAZm9F,GACLC,GAAAC,Bp9F,EAAM23F,GAAAW0F,GAAA,+BAGlD,MACJ,KAAK
F,6BAC8B,IAAAzB,IAAAzB,GAAAF,KACe,GAAAZA,EACA71B,GAAAmBtnE,GAAEF,GAAAZm9F,GACLC,GAAAC,B
p9F,EAAM4qB,IAGvC,MACJ,KAAK+sE,GAAW8D,GAAC,KAAA/B,GAAZA

AAkBC,EAAoB9hE,EAAK0uC,EAAUtnB,GAC1F,IAAIkc,EAAkBoL,EAAStoB,SAAS9P,IAAIgsD,IACxCwQ,EAAOi2B,GAAeD,EAAYp6D,EAAU,IAAIs6D,GAAsB1lE,GAAkBu+B,EAAkBC,GAC1GmnC,EAAkBC,GAA6BlpG,GACnD,OAAOmpG,GAAqBC,GAAY9jG,OAAQwrE,GAAgB,KAAM,CAACgC,EAAMm2B,EAAiB7hF,IAElG,SAAS2hF,GAAeD,EAAYp6D,EAAUpL,EAAiBu+B,EAAkBC,GAC7EmnC,EAAkBC,GAA6BlpG,GAAIwhE,IAAIgsD,IAAIxtH,OAAOwtH,IAAIvtH,KAAKutH,IAAIttH,KAAKstH,IAAIrtH,KAAKqtH,IAAIptH,KAAKotH,IAAIntH,KAAKmtH,IAAIltH,KAAKktH,IAAIjtH,KAAKitH,IAAIhtH,KAAKgtH,IAAI/sH,KAAK+sH,IAAI9sH,KAAK8sH,IAAI7sH,KAAK6sH,IAAI5sH,KAAK4sH,IAAI3sH,KAAK2sH,IAAI1sH,KAAK0sH,IAAIzsH,KAAKysH,IAAIxsH,KAAKwsH,IAAIvsH,KAAKusH,IAAItsH,KAAKssH,IAAIrsH,KAAKqsH,IAAIpsH,KAAKosH,IAAInsH,KAAKmsH,IAAIlsH,KAAKksH,IAAIjsH,KAAKisH,IAAIhsH,KAAKgsH,IAAI/rH,KAAK+rH,IAAI9rH,KAAK8rH,IAAI7rH,KAAK6rH,IAAI5rH,KAAK4rH,IAAI3rH,KAAK2rH,IAAI1rH,KAAK0rH,IAAIzrH,KAAKyrH,IAAIxrH,KAAKwrH,IAAIvrH,KAAKurH,IAAItrH,KAAKsrH,IAAIrrH,KAAKqrH,IAAIprH,KAAKorH,IAAInrH,KAAKmrH,IAAIlrH,KAAKkrH,IAAIjrH,KAAKirH,IAAIhrH,KAAKgrH,IAAI/qH,KAAK+qH,IAAI9qH,KAAK8qH,IAAI7qH,KAAK6qH,IAAI5qH,KAAK4qH,IAAI3qH,KAAK2qH,IAAI1qH,KAAK0qH,IAAIzqH,KAAKyqH,IAAIxqH,KAAKwqH,IAAIvqH,KAAKuqH,IAAItqH,KAAKsqH,IAAIrqH,KAAKqqH,IAAIpqH,KAAKoqH,IAAInqH,KAAKmqH,IAAIlqH,KAAKkqH,IAAIjqH,KAAKiqH,IAAIhqH,KAAKgqH,IAAI/pH,KAAK+pH,IAAI9pH,KAAK8pH,IAAI7pH,KAAK6pH,IAAI5pH,KAAK4pH,IAAI3pH,KAAK2pH,IAAI1pH,KAAK0pH,IAAIzpH,KAAKypH,IAAIxpH,KAAKwpH,IAAIvpH,KAAKupH,IAAItpH,KAAKspH,IAAIrpH,KAAKqpH,IAAIppH,KAAKopH,IAAInpH,KAAKmpH,IAAIlpH,KAAKkpH,IAAIjpH,KAAKipH,IAAIhpH,KAAKgpH,IAAI/oH,KAAK+oH,IAAI9oH,KAAK8oH,IAAI7oH,KAAK6oH,IAAI5oH,KAAK4oH,IAAI3oH,KAAK2oH,IAAI1oH,KAAK0oH,IAAIzoH,KAAKyoH,IAAIxoH,KAAKwoH,IAAIvoH,KAAKuoH,IAAItoH,KAAKsoH,IAAIroH,KAAKqoH,IAAIpoH,KAAKooH,IAAInoH,KAAKmoH,IAAIloH,KAAKkoH,IAAIjoH,KAAKioH,IAAIhoH,KAAKgoH,IAAI/nH,KAAK+nH,IAAI9nH,KAAK8nH,IAAI7nH,KAAK6nH,IAAI5nH,KAAK4nH,IAAI3nH,KAAK2nH,IAAI1nH,KAAK0nH,IAAIznH,KAAKynH,IAAIxnH,KAAKwnH,IAAIvnH,KAAKunH,IAAItnH,KAAKsnH,IAAIrnH,KAAKqnH,IAAIpnH,KAAKonH,IAAInnH,KAAKmnH,IAAIlnH,KAAKknH,IAAIjnH,KAAKinH,IAAIhnH,KAAKgnH,IAAI/mH,KAAK+mH,IAAI9mH,KAAK8mH,IAAI7mH,KAAK6mH,IAAI5mH,KAAK4mH,IAAI3mH,KAAK2mH,IAAI1mH,KAAK0mH,IAAIzmH,KAAKymH,IAAIxmH,KAAKwmH,IAAIvmH,KAAKumH,IAAItmH,KAAKsmH,IAAIrmH,KAAKqmH,IAAIpmH,KAAKomH,IAAInmH,KAAKmmH,IAAIlmH,KAAKkmH,IAAIjmH,KAAKimH,IAAIhmH,KAAKgmH,IAAI/lH,KAAK+lH,IAAI9lH,KAAK8lH,IAAI7lH,KAAK6lH,IAAI5lH,KAAK4lH,IAAI3lH,KAAK2lH,IAAI1lH,KAAK0lH,IAAIzlH,KAAKylH,IAAIxlH,KAAKwlH,IAAIvlH,KAAKulH,IAAItlH,KAAKslH,IAAIrlH,KAAKqlH,IAAIplH,KAAKolH,IAAInlH,KAAKmlH,IAAIllH,KAAKklH,IAAIjlH,KAAKilH,IAAIhlH,KAAKglH,IAAI/kH,KAAK+kH,IAAI9kH,KAAK8kH,IAAI7kH,KAAK6kH,IAAI5kH,KAAK4kH,IAAI3kH,KAAK2kH,IAAI1kH,KAAK0kH,IAAIzkH,KAAKykH,IAAIxkH,KAAKwkH,IAAIvkH,KAAKukH,IAAItkH,KAAKskH,IAAIrkH,KAAKqkH,IAAIpkH,KAAKokH,IAAInkH,KAAKmkH,IAAIlkH,KAAKkkH,IAAIjkH,KAAKikH,IAAIhkH,KAAKgkH,IAAI/jH,KAAK+jH,IAAI9jH,KAAK8jH,IAAI7jH,KAAK6jH,IAAI5jH,KAAK4jH,IAAI3jH,KAAK2jH,IAAI1jH,KAAK0jH,IAAIzjH,KAAKyjH,IAAIxjH,KAAKwjH,IAAIvjH,KAAKujH,IAAItjH,KAAKsjH,IAAIrjH,KAAKqjH,IAAIpjH,KAAKojH,IAAInjH,KAAKmjH,IAAIljH,KAAKkjH,IAAIjjH,KAAKijH,IAAIhjH,KAAKgjH,IAAI/iH,KAAK+iH,IAAI9iH,KAAK8iH,IAAI7iH,KAAK6iH,IAAI5iH,KAAK4iH,IAAI3iH,KAAK2iH,IAAI1iH,KAAK0iH,IAAIziH,KAAKyiH,IAAIxiH,KAAKwiH,IAAIviH,KAAKuiH,IAAIthH,KAAKshH,IAAIrhH,KAAKqhH,IAAIphH,KAAKohH,IAAInhH,KAAKmhH,IAAIlhH,KAAKkhH,IAAIjhH,KAAKihH,IAAIhhH,KAAKghH,IAAI/gH,KAAK+gH,IAAI9gH,KAAK8gH,IAAI7gH,KAAK6gH,IAAI5gH,KAAK4gH,IAAI3gH,KAAK2gH,IAAI1gH,KAAK0gH,IAAIzgH,KAAKygH,IAAIxgH,KAAKwgH,IAAIvgH,KAAKugH,IAAItgH,KAAKsgH,IAAIrgH,KAAKqgH,IAAIpgH,KAAKogH,IAAInfH,KAAKmfH,IAAIlfH,KAAKkfH,IAAIjfH,KAAKifH,IAAIhfH,KAAKgfH,IAAI/eH,KAAK+eH,IAAI9eH,KAAK8eH,IAAI7eH,KAAK6eH,IAAI5eH,KAAK4eH,IAAI3eH,KAAK2eH,IAAI1eH,KAAK0eH,IAAIzeH,KAAKyeH,IAAIxeH,KAAKweH,IAAIvdH,KAAKudH,IAAItdH,KAAKsdH,IAAIrdH,KAAKqdH,IAAIpdH,KAAKodH,IAAInd,KAAKmd,IAAIld,KAAKkd,IAAIjd,KAAKid,IAAIhd,KAAKgd,IAAI/cH,KAAK+cH,IAAI9cH,KAAK8cH,IAAI7cH,KAAK6cH,IAAI5cH,KAAK4cH,IAAI3cH,KAAK2cH,IAAI1cH,KAAK0cH,IAAIzcH,KAAKycH,IAAIxcH,KAAKwcH,IAAIvcH,KAAKucH,IAAItcH,KAAKscH,IAAIrcH,KAAKqcH,IAAIpcH,KAAKocH,IAAInbH,KAAKmbH,IAAIlbH,KAAKkbH,IAAIjbH,KAAKibH,IAAIhbH,KAAKgbH,IAAI/aH,KAAK+aH,IAAI9aH,KAAK8aH,IAAI7aH,KAAK6aH,IAAI5aH,KAAK4aH,IAAI3aH,KAAK2aH,IAAI1aH,KAAK0aH,IAAIzaH,KAAKyaH,IAAIxaH,KAAKwaH,IAAIvaH,KAAKuaH,IAAItaH,KAAKsaH,IAAIraH,KAAKqaH,IAAIpaH,KAAKoaH,IAAInaH,KAAKmaH,IAAIlaH,KAAKkaH,IAAIjaH,KAAKiaH,IAAIhaH,KAAKgaH,IAAI/ZH,KAAK+ZH,IAAI9ZH,KAAK8ZH,IAAI7ZH,KAAK6ZH,IAAI5ZH,KAAK4ZH,IAAI3ZH,KAAK2ZH,IAAI1ZH,KAAK0ZH,IAAIzZH,KAAKyZH,IAAIxZH,KAAKwZH,IAAIvZH,KAAKuZH,IAAItZH,KAAKsZH,IAAIrZH,KAAKqZH,IAAIpZH,KAAKoZH,IAAInZH,KAAKmZH,IAAIlZH,KAAKkZH,IAAIjZH,KAAKiZH,IAAIhZH,KAAKgZH,IAAI/YH,KAAK+YH,IAAI9YH,KAAK8YH,IAAI7YH,KAAK6YH,IAAI5YH,KAAK4YH,IAAI3YH,KAAK2YH,IAAI1YH,KAAK0YH,IAAIzYH,KAAKyYH,IAAIxYH,KAAKwYH,IAAIvYH,KAAKuYH,IAAItYH,KAAKsYH,IAAIrYH,KAAKqYH,IAAIpYH,KAAKoYH,IAAInYH,KAAKmYH,IAAIlYH,KAAKkYH,IAAIjYH,KAAKiYH,IAAIhYH,KAAKgYH,IAAI/XH,KAAK+XH,IAAI9XH,KAAK8XH,IAAI7XH,KAAK6XH,IAAI5XH,KAAK4XH,IAAI3XH,KAAK2XH,IAAI1XH,KAAK0XH,IAAIzXH,KAAKyXH,IAAIxXH,KAAKwXH,IAAIvXH,KAAKuXH,IAAItXH,KAAKsXH,IAAIrXH,KAAKqXH,IAAIpXH,KAAKoXH,IAAInXH,KAAKmXH,IAAIlXH,KAAKkXH,IAAIjXH,KAAKiXH,IAAIhXH,KAAKgXH,IAAI/WH,KAAK+WH,IAAI9WH,KAAK8WH,IAAI7WH,KAAK6WH,IAAI5WH,KAAK4WH,IAAI3WH,KAAK2WH,IAAI1WH,KAAK0WH,IAAIzWH,KAAKyWH,IAAIxWH,KAAKwWH,IAAIvWH,KAAKuWH,IAAItWH,KAAKsWH,IAAIrWH,KAAKqWH,IAAIpWH,KAAKoWH,IAAInWH,KAAKmWH,IAAIlWH,KAAKkWH,IAAIjWH,KAAKiWH,IAAIhWH,KAAKgWH,IAAI/VH,KAAK+VH,IAAI9VH,KAAK8VH,IAAI7VH,KAAK6VH,IAAI5VH,KAAK4VH,IAAI3VH,KAAK2VH,IAAI1VH,KAAK0VH,IAAIzVH,KAAKyVH,IAAIxVH,KAAKwVH,IAAIvVH,KAAKuVH,IAAItVH,KAAKsVH,IAAIrVH,KAAKqVH,IAAIpVH,KAAKoVH,IAAInVH,KAAKmVH,IAAIlVH,KAAKkVH,IAAIjVH,KAAKiVH,IAAIhVH,KAAKgVH,IAAI/UH,KAAK+UH,IAAI9UH,KAAK8UH,IAAI7UH,KAAK6UH,IAAI5UH,KAAK4UH,IAAI3UH,KAAK2UH,IAAI1UH,KAAK0UH,IAAIzUH,KAAKyUH,IAAIxUH,KAAKwUH,IAAIvUH,KAAKuUH,IAAItUH,KAAKsUH,IAAIrUH,KAAKqUH,IAAIpUH,KAAKoUH,IAAInUH,KAAKmUH,IAAIlUH,KAAKkUH,IAAIjUH,KAAKiUH,IAAIhUH,KAAKgUH,IAAI/TH,KAAK+TH,IAAI9TH,KAAK8TH,IAAI7TH,KAAK6TH,IAAI5TH,KAAK4TH,IAAI3TH,KAAK2TH,IAAI1TH,KAAK0TH,IAAIzTH,KAAKyTH,IAAIxTH,KAAKwTH,IAAIvTH,KAAKuTH,IAAItTH,KAAKsTH,IAAIrTH,KAAKqTH,IAAIpTH,KAAKoTH,IAAInTH,KAAKmTH,IAAIlTH,KAAKkTH,IAAIjTH,KAAKiTH,IAAIhTH,KAAKgTH,IAAI/SH,KAAK+SH,IAAI9SH,KAAK8SH,IAAI7SH,KAAK6SH,IAAI5SH,KAAK4SH,IAAI3SH,KAAK2SH,IAAI1SH,KAAK0SH,IAAIzSH,KAAKySH,IAAIxSH,KAAKwSH,IAAIvSH,KAAKuSH,IAAItSH,KAAKsSH,IAAIrSH,KAAKqSH,IAAIpSH,KAAKoSH,IAAInSH,KAAKmSH,IAAIlSH,KAAKkSH,IAAIjSH,KAAKiSH,IAAIhSH,KAAKgSH,IAAI/RH,KAAK+RH,IAAI9RH,KAAK8RH,IAAI7RH,KAAK6RH,IAAI5RH,KAAK4RH,IAAI3RH,KAAK2RH,IAAI1RH,KAAK0RH,IAAIzRH,KAAKyRH,IAAIxRH,KAAKwRH,IAAIvRH,KAAKuRH,IAAItRH,KAAKsRH,IAAIrRH,KAAKqRH,IAAIpRH,KAAKoRH,IAAInRH,KAAKmRH,IAAIlRH,KAAKkRH,IAAIjRH,KAAKiRH,IAAIhRH,KAAKgRH,IAAI/QH,KAAK+QH,IAAI9QH,KAAK8QH,IAAI7QH,KAAK6QH,IAAI5QH,KAAK4QH,IAAI3QH,KAAK2QH,IAAI1QH,KAAK0QH,IAAIzQH,KAAKyQH,IAAIxQH,KAAKwQH,IAAIvQH,KAAKuQH,IAAItQH,KAAKsQH,IAAIrQH,KAAKqQH,IAAIpQH,KAAKoQH,IAAInQH,KAAKmQH,IAAIlQH,KAAKkQH,IAAIjQH,KAAKiQH,IAAIhQH,KAAKgQH,IAAI/PH,KAAK+PH,IAAI9PH,KAAK8PH,IAAI7PH,KAAK6PH,IAAI5PH,KAAK4PH,IAAI3PH,KAAK2PH,IAAI1PH,KAAK0PH,IAAIzPH,KAAKyPH,IAAIxPH,KAAKwPH,IAAIvPH,KAAKuPH,IAAItPH,KAAKsPH,IAAIrPH,KAAKqPH,IAAIpPH,KAAKoPH,IAAInPH,KAAKmPH,IAAIlPH,KAAKkPH,IAAIjPH,KAAKiPH,IAAIhPH,KAAKgPH,IAAI/OH,KAAK+OH,IAAI9OH,KAAK8OH,IAAI7OH,KAAK6OH,IAAI5OH,KAAK4OH,IAAI3OH,KAAK2OH,IAAI1OH,KAAK0OH,IAAIzOH,KAAKyOH,IAAIxOH,KAAKwOH,IAAIvOH,KAAKuOH,IAAItOH,KAAKsOH,IAAIrOH,KAAKqOH,IAAIpOH,KAAKoOH,IAAInOH,KAAKmOH,IAAIlOH,KAAKkOH,IAAIjOH,KAAKiOH,IAAIhOH,KAAKgOH,IAAI/NH,KAAK+NH,IAAI9NH,KAAK8NH,IAAI7NH,KAAK6NH,IAAI5NH,KAAK4NH,IAAI3NH,KAAK2NH,IAAI1NH,KAAK0NH,IAAIzNH,KAAKyNH,IAAIxNH,KAAKwNH,IAAIvNH,KAAKuNH,IAAItNH,KAAKsNH,IAAIrNH,KAAKqNH,IAAIpNH,KAAKoNH,IAAInNH,KAAKmNH,IAAIlNH,KAAKkNH,IAAIjNH,KAAKiNH,IAAIhNH,KAAKgNH,IAAI/MH,KAAK+MH,IAAI9MH,KAAK8MH,IAAI7MH,KAAK6MH,IAAI5MH,KAAK4MH,IAAI3MH,KAAK2MH,IAAI1MH,KAAK0MH,IAAIzMH,KAAKyMH,IAAIxMH,KAAKwMH,IAAIvMH,KAAKuMH,IAAItMH,KAAKsMH,IAAIrMH,KAAKqMH,IAAIpMH,KAAKoMH,IAAInMH,KAAKmMH,IAAIlMH,KAAKkMH,IAAIjMH,KAAKiMH,IAAIhMH,KAAKgMH,IAAI/LH,KAAK+LH,IAAI9LH,KAAK8LH,IAAI7LH,KAAK6LH,IAAI5LH,KAAK4LH,IAAI3LH,KAAK2LH,IAAI1LH,KAAK0LH,IAAIzLH,KAAKyLH,IAAIxLH,KAAKwLH,IAAIvLH,KAAKuLH,IAAItLH,KAAKsLH,IAAIrLH,KAAKqLH,IAAIpLH,KAAKoLH,IAAInLH,KAAKmLH,IAAIlLH,KAAKkLH,IAAIjLH,KAAKiLH,IAAIhLH,KAAKgLH,IAAI/KH,KAAK+KH,IAAI9KH,KAAK8KH,IAAI7KH,KAAK6KH,IAAI5KH,KAAK4KH,IAAI3KH,KAAK2KH,IAAI1KH,KAAK0KH,IAAIzKH,KAAKyKH,IAAIxKH,KAAKwKH,IAAIvKH,KAAKuKH,IAAItKH,KAAKsKH,IAAIrKH,KAAKqKH,IAAIpKH,KAAKoKH,IAAInKH,KAAKmKH,IAAIlKH,KAAKkKH,IAAIjKH,KAAKiKH,IAAIhKH,KAAKgKH,IAAI/JH,KAAK+JH,IAAI9JH,KAAK8JH,IAAI7JH,KAAK6JH,IAAI5JH,KAAK4JH,IAAI3JH,KAAK2JH,IAAI1JH,KAAK0JH,IAAIzJH,KAAKyJH,IAAIxJH,KAAKwJH,IAAIvJH,KAAKuJH,IAAItJH,KAAKsJH,IAAIrJH,KAAKqJH,IAAIpJH,KAAKoJH,IAAInJH,KAAKmJH,IAAIlJH,KAAKkJH,IAAIjJH,KAAKiJH,IAAIhJH,KAAKgJH,IAAI/IH,KAAK+IH,IAAI9IH,KAAK8IH,IAAI7IH,KAAK6IH,IAAI5IH,KAAK4IH,IAAI3IH,KAAK2IH,IAAI1IH,KAAK0IH,IAAIzIH,KAAKyIH,IAAIxIH,KAAKwIH,IAAIvIH,KAAKuIH,IAAItIH,KAAKsIH,IAAIrIH,KAAKqIH,IAAIpIH,KAAKoIH,IAAInIH,KAAKmIH,IAAIlIH,KAAKkIH,IAAIjIH,KAAKiIH,IAAIhIH,KAAKgIH,IAAI/HH,KAAK+HH,IAAI9HH,KAAK8HH,IAAI7HH,KAAK6HH,IAAI5HH,KAAK4HH,IAAI3HH,KAAK2HH,IAAI1HH,KAAK0HH,IAAIzHH,KAAKyHH,IAAIxHH,KAAKwHH,IAAIvHH,KAAKuHH,IAAItHH,KAAKsHH,IAAIrHH,KAAKqHH,IAAIpHH,KAAKoHH,IAAInHH,KAAKmHH,IAAIlHH,KAAKkHH,IAAIjHH,KAAKiHH,IAAIhHH,KAAKgHH,IAAI/GH,KAAK+GH,IAAI9GH,KAAK8GH,IAAI7GH,KAAK6GH,IAAI5GH,KAAK4GH,IAAI3GH,KAAK2GH,IAAI1GH,KAAK0GH,IAAIzGH,KAAKyGH,IAAIxGH,KAAKwGH,IAAIvGH,KAAKuGH,IAAItGH,KAAKsGH,IAAIrGH,KAAKqGH,IAAIpGH,KAAKoGH,IAAInGH,KAAKmGH,IAAIlGH,KAAKkGH,IAAIjGH,KAAKiGH,IAAIhGH,KAAKgGH,IAAI/FH,KAAK+FH,IAAI9FH,KAAK8FH,IAAI7FH,KAAK6FH,IAAI5FH,KAAK4FH,IAAI3FH,KAAK2FH,IAAI1FH,KAAK0FH,IAAIzFH,KAAKyFH,IAAIxFH,KAAKwFH,IAAIvFH,KAAKuFH,IAAItFH,KAAKsFH,IAAIrFH,KAAKqFH,IAAIpFH,KAAKoFH,IAAInFH,KAAKmFH,IAAIlFH,KAAKkFH,IAAIjFH,KAAKiFH,IAAIhFH,KAAKgFH,IAAI/EH,KAAK+EH,IAAI9EH,KAAK8EH,IAAI7EH,KAAK6EH,IAAI5EH,KAAK4EH,IAAI3EH,KAAK2EH,IAAI1EH,KAAK0EH,IAAIzEH,KAAKyEH,IAAIxEH,KAAKwEH,IAAIvEH,KAAKuEH,IAAItEH,KAAKsEH,IAAIrEH,KAAKqEH,IAAIpEH,KAAKoEH,IAAInEH,KAAKmEH,IAAIlEH,KAAKkEH,IAAIjEH,KAAKiEH,IAAIhEH,KAAKgEH,IAAI/DH,KAAK+DH,IAAI9DH,KAAK8DH,IAAI7DH,KAAK6DH,IAAI5DH,KAAK4DH,IAAI3DH,KAAK2DH,IAAI1DH,KAAK0DH,IAAIzDH,KAAKyDH,IAAIxDH,KAAKwDH,IAAIvDH,KAAKuDH,IAAItDH,KAAKsDH,IAAIrDH,KAAKqDH,IAAIpDH,KAAKoDH,IAAInDH,KAAKmDH,IAAIlDH,KAAKkDH,IAAIjDH,KAAKiDH,IAAIhDH,KAAKgDH,IAAI/CH,KAAK+CH,IAAI9CH,KAAK8CH,IAAI7CH,KAAK6CH,IAAI5CH,KAAK4CH,IAAI3CH,KAAK2CH,IAAI1CH,KAAK0CH,IAAIzCH,KAAKyCH,IAAIxCH,KAAKwCH,IAAIvCH,KAAKuCH,IAAItCH,KAAKsCH,IAAIrCH,KAAKqCH,IAAIpCH,KAAKoCH,IAAInCH,KAAKmCH,IAAIlCH,KAAKkCH,IAAIjCH,KAAKiCH,IAAIhCH,KAAKgCH,IAAI/BH,KAAK+BH,IAAI9BH,KAAK8BH,IAAI7BH,KAAK6BH,IAAI5BH,KAAK4BH,IAAI3BH,KAAK2BH,IAAI1BH,KAAK0BH,IAAIzBH,KAAKyBH,IAAIxBH,KAAKwBH,IAAIvBH,KAAKuBH,IAAItBH,KAAKsBH,IAAIrBH,KAAKqBH,IAAIpBH,KAAKoBH,IAAInBH,KAAKmBH,IAAIlBH,KAAKkBH,IAAIjBH,KAAKiBH,IAAIhBH,KAAKgBH,IAAI/AH,KAAK+AH,IAAI9AH,KAAK8AH,IAAI7AH,KAAK6AH,IAAI5AH,KAAK4AH,IAAI3AH,KAAK2AH,IAAI1AH,KAAK0AH,IAAIzAH,KAAKyAH,IAAIxAH,KAAKwAH,IAAIvAH,KAAKuAH,IAAItAH,KAAKsAH,IAAIrAH,KAAKqAH,IAAIpAH,KAAKoAH,IAAInAH,KAAKmAH,IAAIlAH,KAAKkAH,IAAIjAH,KAAKiAH,IAAIhAH,KAAKgAH,IAAI/ZH,KAAK+ZH,IAAI9ZH,KAAK8ZH,IAAI7ZH,KAAK6ZH,IAAI5ZH,KAAK4ZH,IAAI3ZH,KAAK2ZH,IAAI1ZH,KAAK0ZH,IAAIzZH,KAAKyZH,IAAIxZH,KAAKwZH,IAAIvZH,KAAKuZH,IAAItZH,KAAKsZH,IAAIrZH,KAAKqZH,IAAIpZH,KAAKoZH,IAAInZH,KAAKmZH,IAAIlZH,KAAKkZH,IAAIjZH,KAAKiZH,IAAIhZH,KAAKgZH,IAAI/YH,KAAK+YH,IAAI9YH,KAAK8YH,IAAI7YH,KAAK6YH,IAAI5YH,KAAK4YH,IAAI3YH,KAAK2YH,IAAI1YH,KAAK0YH,IAAIzYH,KAAKyYH,IAAIxYH,KAAKwYH,IAAIvYH,KAAKuYH,IAAItYH,KAAKsYH,IAAIrYH,KAAKqYH,IAAIpYH,KAAKoYH,IAAInYH,KAAKmYH,IAAIlYH,KAAKkYH,IAAIjYH,KAAKiYH,IAAIhYH,KAAKgYH,IAAI/XH,KAAK+XH,IAAI9XH,KAAK8XH,IAAI7XH,KAAK6XH,IAAI5XH,KAAK4XH,IAAI3XH,KAAK2XH,IAAI1XH,KAAK0XH,IAAIzXH,KAAKyXH,IAAIxXH,KAAKwXH,IAAIvXH,KAAKuXH,IAAItXH,KAAKsXH,IAAIrXH,KAAKqXH,IAAIpXH,KAAKoXH,IAAInXH,KAAKmXH,IAAIlXH,KAAKkXH,IAAIjXH,KAAKiXH,IAAIhXH,KAAKgXH,IAAI/WH,KAAK+WH,IAAI9WH,KAAK8WH,IAAI7WH,KAAK6WH,IAAI5WH,KAAK4WH,IAAI3WH,KAAK2WH,IAAI1WH,KAAK0WH,IAAIzWH,KAAKyWH,IAAIxWH,KAAKwWH,IAAIvWH,KAAKuWH,IAAItWH,KAAKsWH,IAAIrWH,KAAKqWH,IAAIpWH,KAAKoWH,IAAInWH,KAAKmWH,IAAIlWH,KAAKkWH,IAAIjWH,KAAKiWH,IAAIhWH,KAAKgWH,IAAI/VH,KAAK+VH,IAAI9VH,KAAK8VH,IAAI7VH,KAAK6VH,IAAI5VH,KAAK4VH,IAAI3VH,KAAK2VH,IAAI1VH,KAAK0VH,IAAIzVH,KAAKyVH,IAAIxVH,KAAKwVH,IAAIvVH,KAAKuVH,IAAItVH,KAAKsVH,IAAIrVH,KAAKqVH,IAAIpVH,KAAKoVH,IAAInVH,KAAKmVH,IAAIlVH,KAAKkVH,IAAIjVH,KAAKiVH,IAAIhVH,KAAKgVH,IAAI/UH,KAAK+UH,IAAI9UH,KAAK8UH,IAAI7UH,KAAK6UH,IAAI5UH,KAAK4UH,IAAI3UH,KAAK2UH,IAAI1UH,KAAK0UH,IAAIzUH,KAAKyUH,IAAIxUH,KAAKwUH,IAAIvUH,KAAKuUH,IAAItUH,KAAKsUH,IAAIrUH,KAAKqUH,IAAIpUH,KAAKoUH,IAAInUH,KAAKmUH,IAAIlUH,KAAKkUH,IAAIjUH,KAAKiUH,IAAIhUH,KAAKgUH,IAAI/TH,KAAK+TH,IAAI9TH,KAAK8TH,IAAI7TH,KAAK6TH,IAAI5TH,KAAK4TH,IAAI3TH,KAAK2TH,IAAI1TH,KAAK0TH,IAAIzTH,KAAKyTH,IAAIxTH,KAAKwTH,IAAIvTH,KAAKuTH,IAAItTH,KAAKsTH,IAAIrTH,KAAKqTH,IAAIpTH,KAAKoTH,IAAInTH,KAAKmTH,IAAIlTH,KAAKkTH,IAAIjTH,KAAKiTH,IAAIhTH,KAAKgTH,IAAI/SH,KAAK+SH,IAAI9SH,KAAK8SH,IAAI7SH,KAAK6SH,IAAI5SH,KAAK4SH,IAAI3SH,KAAK2SH,IAAI1SH,KAAK0SH,IAAIzSH,KAAKySH,IAAIxSH,KAAKwSH,IAAIvSH,KAAKuSH,IAAItSH,KAAKsSH,IAAIrSH,KAAKqSH,IAAIpSH,KAAKoSH,IAAInSH,KAAKmSH,IAAIlSH,KAAKkSH,IAAIjSH,KAAKiSH,IAAIhSH,KAAKgSH,IAAI/RH,KAAK+RH,IAAI9RH,KAAK8RH,IAAI7RH,KAAK6RH,IAAI5RH,KAAK4RH,IAAI3RH,KAAK2RH,IAAI1RH,KAAK0RH,IAAIzRH,KAAKyRH,IAAIxRH,KAAKwRH,IAAIvRH,KAAKuRH,IAAItRH,KAAKsRH,IAAIrRH,KAAKqRH,IAAIpRH,KAAKoRH,IAAInRH,KAAKmRH,IAAIlRH,KAAKkRH,IAAIjRH,KAAKiRH,IAAIhRH,KAAKgRH,IAAI/QH,KAAK+QH,IAAI9QH,KAAK8QH,IAAI7QH,KAAK6QH,IAAI5QH,KAAK4QH,IAAI3QH,KAAK2QH,IAAI1QH,KAAK0QH,IAAIzQH,KAAKyQH,IAAIxQH,KAAKwQH,IAAIvQH,KAAKuQH,IAAItQH,KAAKsQH,IAAIrQH,KAAKqQH,IAAIpQH,KAAKoQH,IAAInQH,KAAKmQH,IAAIlQH,KAAKkQH,IAAIjQH,KAAKiQH,IAAIhQH,KAAKgQH,IAAI/PH,KAAK+PH,IAAI9PH,KAAK8PH,IAAI7PH,KAAK6PH,IAAI5PH,KAAK4PH,IAAI3PH,KAAK2PH,IAAI1PH,KAAK0PH,IAAIzPH,KAAKyPH,IAAIxPH,KAAKwPH,IAAIvPH,KAAKuPH,IAAItPH,KAAKsPH,IAAIrPH,KAAKqPH,IAAIpPH,KAAKoPH,IAAInPH,KAAKmPH,IAAIlPH,KAAKkPH,IAAIjPH,KAAKiPH,IAAIhPH,KAAKgPH,IAAI/OH,KAAK+OH,IAAI9OH,KAAK8OH,IAAI7OH,KAAK6OH,IAAI5OH,KAAK4OH,IAAI3OH,KAAK2OH,IAAI1OH,KAAK0OH,IAAIzOH,KAAKyOH,IAAIxOH,KAAKwOH,IAAIvOH,KAAKuOH,IAAItOH,KAAKsOH,IAAIrOH,KAAKqOH,IAAIpOH,KAAKoOH,IAAInOH,KAAKmOH,IAAIlOH,KAAKkOH,IAAIjOH,KAAKiOH,IAAIhOH,KAAKgOH,IAAI/NH,KAAK+NH,IAAI9NH,KAAK8NH,IAAI7NH,KAAK6NH,IAAI5NH,KAAK4NH,IAAI3NH,KAAK2NH,IAAI1NH,KAAK0NH,IAAIzNH,KAAKyNH,IAAIxNH,KAAKwNH,IAAIvNH,KAAKuNH,IAAItNH,KAAKsNH,IAAIrNH,KAAKqNH,IAAIpNH,KAAKoNH,IAAInNH,KAAKmNH,IAAIlNH,KAAKkNH,IAAIjNH,KAAKiNH,IAAIhNH,KAAKgNH,IAAI/MH,KAAK+MH,IAAI9MH,KAAK8MH,IAAI7MH,KAAK6MH,IAAI5MH,KAAK4MH,IAAI3MH,KAAK2MH,IAAI1MH,KAAK0MH,IAAIzMH,KAAKyMH,IAAIxMH,KAAKwMH,IAAIvMH,KAAKuMH,IAAItMH,KAAKsMH,IAAIrMH,KAAKqMH,IAAIpMH,KAAKoMH,IAAInMH,KAAKmMH,IAAIlMH,KAAKkMH,IAAIjMH,KAAKiMH,IAAIhMH,KAAKgMH,IAAI/LH,KAAK+LH,IAAI9LH,KAAK8LH,IAAI7LH,KAAK6LH,IAAI5LH,KAAK4LH,IAAI3LH,KAAK2LH,IAAI1LH,KAAK0LH,IAAIzLH,KAAKyLH,IAAIxLH,KAAKwLH,IAAIvLH,KAAKuLH,IAAItLH,KAAKsLH,IAAIrLH,KAAKqLH,IAAIpLH,KAAKoLH,IAAInLH,KAAKmLH,IAAIlLH,KAAKkLH,IAAIjLH,KAAKiLH,IAAIhLH,KAAKgLH,IAAI/KH,KAAK+KH,IAAI9KH,KAAK8KH,IAAI7KH,KAAK6KH,IAAI5KH,KAAK4KH,IAAI3KH,KAAK2KH,IAAI1KH,KAAK0KH,IAAIzKH,KAAKyKH,IAAIxKH,KAAKwKH,IAAIvKH,KAAKuKH,IAAItKH,KAAKsKH,IAAIrKH,KAAKqKH,IAAIpKH,KAAKoKH,IAAInKH,KAAKmKH,IAAIlKH,KAAKkKH,IAAIjKH,KAAKiKH,IAAIhKH,KAAKgKH,IAAI/JH,KAAK+JH,IAAI9JH,KAAK8JH,IAAI7JH,KAAK6JH,IAAI5JH,KAAK4JH,IAAI3JH,KAAK2JH,IAAI1JH,KAAK0JH,IAAIzJH,KAAKyJH,IAAIxJH,KAAKwJH,IAAIvJH,KAAKuJH,IAAItJH,KAAKsJH,IAAIrJH,KAAKqJH,IAAIpJH,KAAKoJH,IAAInJH,KAAKmJH,IAAIlJH,KAAKkJH,IAAIjJH,KAAKiJH,IAAIhJH,KAAKgJH,IAAI/IH,KAAK+IH,IAAI9IH,KAAK8IH,IAAI7IH,KAAK6IH,IAAI5IH,KAAK4IH,IAAI3IH,KAAK2IH,IAAI1IH,KAAK0IH,IAAIzIH,KAAKyIH,IAAIxIH,KAAKwIH,IAAIvIH,KAAKuIH,IAAItIH,KAAKsIH,IAAIrIH,KAAKqIH,IAAIpIH,KAAKoIH,IAAInIH,KAAKmIH,IAAIlIH,KAAKkIH,IAAIjIH,KAAKiIH,IAAIhIH,KAAKgIH,IAAI/HH,KAAK+HH,IAAI9HH,KAAK8HH,IAAI7HH,KAAK6HH,IAAI5HH,KAAK4HH,IAAI3HH,KAAK2HH,IAAI1HH,KAAK0HH,IAAIzHH,KAAKyHH,IAAIxHH,KAAKwHH,IAAIvHH,KAAKuHH,IAAItHH,KAAKsHH,IAAIrHH,KAAKqHH,IAAIpHH,KAAKoHH,IAAInHH,KAAKmHH,IAAIlHH,KAAKkHH,IAAIjHH,KAAKiHH,IAAIhHH,KAAKgHH,IAAI/GH,KAAK+GH,IAAI9GH,KAAK8GH,IAAI7GH,KAAK6GH,IAAI5GH,KAAK4GH,IAAI3GH,KAAK2GH,IAAI1GH,KAAK0GH,IAAIzGH,KAAKyGH,IAAIxGH,KAAKwGH,IAAIvGH,KAAKuGH,IAAItGH,KAAKsGH,IAAIrGH,KAAKqGH,IAAIpGH,KAAKoGH,IAAInGH,KAAKmGH,IAAIlGH,KAAKkGH,IAAIjGH,KAAKiGH,IAAIhGH,KAAKgGH,IAAI/FH,KAAK+FH,IAAI9FH,KAAK8FH,IAAI7FH,KAAK6FH,IAAI5FH,KAAK4FH,IAAI3FH,KAAK2FH,IAA

G,EAAIG,EAAIurD,EAAIC,GAC5F,IAAIjxB,EAAU7qE,EAAK9J,IAAI2iC,MAAM64C,GAE7B,OADAiqB,GAA
mB37F,EAAM6qE,EAAS+wB,EAAU5sD,EAAII,EAAIG,EAAIG,EAAIG,EAAIG,EAAIG,EAAIurD,EA
AIC,GACxD,IAAhBjxB,EAAQ72E,MACZ2yE,GAAqB3mE,EAAM0xE,GAAYv/E,WACvCC,EAER,SAAS2sG,
GAAuB/+F,EAAM0xE,EAAYkqB,EAAU5sD,EAAII,EAAIG,EAAIG,EAAIG,EAAIG,EAAIurD,
EAAIC,GAC5F,IAAIjxB,EAAU7qE,EAAK9J,IAAI2iC,MAAM64C,GAE7B,OADAirB,GAAmB38F,EAAM6qE,E
AAS+wB,EAAU5sD,EAAII,EAAIG,EAAIG,EAAIG,EAAIG,EAAIurD,EAAIC,GACxD,IAAhBjx
B,EAAQ72E,MACZ2yE,GAAqB3mE,EAAM0xE,GAAYv/E,WACvCC,EAER,SAASisG,GAAwBr+F,+F,GAC7B,O
AAOq/F,GAAqBC,GAAYp9D,cAAeolC,GAAoB,KAAM,CAACtnE,IAEtF,SAASs+F,GAAwBt+F,G,GAAwB,O
AAOq/F,GAAqBC,GAAYz+E,+B,eAAgB0G,GAAoB,KAAM,CAACvnE,IAEvF,SAASu+F,GAAwBv+F,G,GAAwB,O
AAOq/F,GAAqBC,GAAYnnxE,QAASq5C,GAAoa,KAAM,CAACxnE,IAAzF,SAAS69F,GAAwB79

YAAI,GAAK,cALlD,CAMGA,KAAgBA,GAAc,KAwHjC,IAAId,GAA+B,WAC/B,SAASA,EAAcx+F,EAAME,G
ACzBzQ,KAAKuQ,KAAOA,EACZvQ,KAAKyQ,UAAYA,EACA,MAAbA,IACAzQ,KAAKyQ,UAAYA,EAAY,
GAEjCzQ,KAAKo7E,QAAU7qE,EAAK9J,IAAI2iC,MAAM34B,GAG9B,IAFA,IAAI2uE,EAAQp/E,KAAKo7E,Q
ACb02B,EAASvhG,EACN6uE,GAAiD,IAAzB,EAAdA,EAAM76E,QACnB66E,EAAQA,EAAM9tE,OAElB,IAA
K8tE,EACD,MAAQA,GAAS0yB,GACb1yB,EAAQ1F,GAAao4B,GACrBA,EAASA,EAAOxgG,OAGxBtR,KAA
Ko/E,MAAQA,EACbp/E,KAAK8xG,OAASA,EAqHlB,OAnHAtmG,OAAOkW,eAAeqtF,EAActkG,UAAW,eAAg
B,CAC3DsS,IAAK,WAED,OAAOi6D,GAAch3E,KAAK8xG,OAAQ9xG,KAAKo/E,MAAM3uE,WAAWogC,eA
AiB7wC,KAAKuQ,MAElFk3B,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAeqtF,EAActkG,UAAW,WAAY,
CACvDsS,IAAK,WACD,OAAO+jE,GAAiB9gF,KAAK8xG,OAAQ9xG,KAAKo/E,QAE9C33C,YAAY,EACZC,c
AAc,IAElBl8B,OAAOkW,eAAeqtF,EAActkG,UAAW,YAAa,CACxDsS,IAAK,WACD,OAAO/c,KAAK8xG,
a3mF,WAE7Bqc,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAeqtF,EAActkG,UAAW,UAAW,CACtDsS,IAA
K,WACD,OAAO/c,KAAK8xG,aAAalkF,SAE7B4Z,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAeqtF,EAActk
G,UAAW,iBAAkB,CAC7DsS,IAAK,WACD,IAAIi4B,EAAS,GACb,IAAIh1C,KAAKo/E,MAAM3uE,UAAY,
,EAAItM,KAAKo/E,MAAM3uE,UAAYzQ,KAAKo/E,MAAM3uE,UAAYzQ,KAAKo/E,MAA
M9D,WAAYhvE,IAAK,CAC3F,IAAI0lG,EAAWhyG,KAAK8xG,OAAOrG,IAAI2iC,MAAM98B,GAChB,MAAjB0lG,EAASztG,OACTywC,EAAO/nC,KAAK+kG,EAAS79D,SAASzC,OAElC4C,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAeqtF,EAActkG,UAAW,aAAc,CACzDsS,IAAK,WACD,OAAO/c,KAAK8xG,
,OAAOtmC,GAEXvN,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAeqtF,EAActkG,UAAW,aAAc,CACzDsS,IAAK,WACD,IAAIu9D,EAAQ,GACZ,IAAIt6E,KAAKo/E,MAAM3uE,UAAY,
,EAAIu6E,EAAMt6E,KAAK1F,KAAKo/E,MAAM3uE,UAAYzQ,KAAKo/E,MAAM3uE,UAAYzQ,KAAKo/E,MAAM
M9D,WAAYhvE,IAAK,CAC3F,IAAI0lG,EAAWhyG,KAAK8xG,OAAOrG,IAAI2iC,MAAM98B,GAChB,MAAjB0lG,EAASztG,OACTywC,EAAO/nC,KAAK+kG,EAAS79D,SAASzC,OAElC4C,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAeqtF,EAActkG,UAAW,QAAS,CACpDsS,IAAK,WACD,OAAO/c,KAAK8xG,OAAOrG,IAAI2iC,MAAM98B,GAAGzQ,OAAS,GAE7C4C,YAAY,EACZC,cAAc,IAElBl8B,OAAOkW,eAAeqtF,EAActkG,UAAW,SAAU,CACr

CdjsC,KAAK85F,SAAS7tD,SAGtBwjE,EAAsBhlG,UAAU4L,IAAM,WAC9BrW,KAAK85F,SAASzjF,KACdrW,KAAK85F,SAASzjF,OAGtBo5F,EAAsBhlG,UAAUyoG,kBAAoB,WAChD,OAAIlzG,KAAK85F,SAASoZ,kBACPlzG,KAAK85F,SAASoZ,oBAElBtnF,QAAQ8d,QAAQ,OAEpB+lE,EAvB+B,GAAyBtCwD,GAAgC,WAChC,SAASA,EAAAenZ,GACpB95F,KAAK85F,SAAWA,EAAU95F,KAAKkzG,kBAAoB,IAAIC,EAAAnzG,KAAK85F,SAAS/5F,OAAOC,KAAKozG,kBAAoB,IAAIC,EAAArzG,KAAK85F,SAAS/5F,OAAOC,KAAKszG,kBAAoB,IAAIC,EAAAvzG,KAAK85F,SAAS/5F,OAAOC,KAAKwzG,kBAAoB,IAAIC,EAAAzzG,KAAK85F,SAAS/5F,OAAOC,KAAK0zG,kBAAoB,IAAIC,EAAA3zG,KAAK85F,SAAS/5F,OAAOC,KAAK4zG,kBAAoB,IAAIC,EAAA7zG,KAAK85F,SAAS/5F,OAAOC,KAAK8zG,kBAAoB,IAAIC,EAAA/zG,KAAK85F,SAAS/5F,OAAOC,KAAKg0G,kBAAoB,IAAIC,EAAAj0G,KAAK85F,SAAS/5F,OAAOC,KAAKk0G,kBAAoB,IAAIC,EAAAn0G,KAAK85F,SAAS/5F,OAAOC,KAAKo0G,kBAAoB,IAAIC,EAAAr0G,KAAK85F,SAAS/5F,OAAOC,KAAKs0G,kBAAoB,IAAIC,EAAAv0G,KAAK85F,SAAS/5F,OAAOC,KAAKw0G,kBAAoB,IAAIC,EAAAz0G,KAAK85F,SAAS/5F,OAAOC,KAAK00G,kBAAoB,IAAIC,EAAA30G,KAAK85F,SAAS/5F,OAAOC,KAAK40G,kBAAoB,IAAIC,EAAA70G,KAAK85F,SAAS/5F,OAAOC,KAAK80G,kBAAoB,IAAIC,EAAA/0G,KAAK85F,SAAS/5F,OAAOC,KAAKg1G,kBAAoB,IAAIC,EAAAj1G,KAAK85F,SAAS/5F,OAAOC,KAAKk1G,kBAAoB,IAAIC,EAAAn1G,KAAK85F,SAAS/5F,OAAOC,KAAKo1G,kBAAoB,IAAIC,EAAAr1G,KAAK85F,SAAS/5F,OAAOC,KAAKs1G,kBAAoB,IAAIC,EAAAv1G,KAAK85F,SAAS/5F,OAAOC,KAAKw1G,kBAAoB,IAAIC,EAAAz1G,KAAK85F,SAAS/5F,OAAOC,KAAK01G,kBAAoB,IAAIC,EAAA31G,KAAK85F,SAAS/5F,OAAOC,KAAK41G,kBAAoB,IAAIC,EAAA71G,KAAK85F,SAAS/5F,OAAOC,KAAK81G,kBAAoB,IAAIC,EAAA/1G,KAAK85F,SAAS/5F,OAAOC,KAAKg2G,kBAAoB,IAAIC,EAAAj2G,KAAK85F,SAAS/5F,OAAOC,KAAKk2G,kBAAoB,IAAIC,EAAAn2G,KAAK85F,SAAS/5F,OAAOC,KAAKo2G,kBAAoB,IAAIC,EAAAr2G,KAAK85F,SAAS/5F,OAAOC,KAAKs2G,kBAAoB,IAAIC,EAAAv2G,KAAK85F,SAAS/5F,OAAOC,KAAKw2G,kBAAoB,IAAIC,EAAAz2G,KAAK85F,SAAS/5F,OAAOC,KAAK02G,kBAAoB,IAAIC,EAAA32G,KAAK85F,SAAS/5F,OAAOC,KAAK42G,kBAAoB,IAAIC,EAAA72G,KAAK85F,SAAS/5F,OAAOC,KAAK82G,kBAAoB,IAAIC,EAAA/2G,KAAK85F,SAAS/5F,OAAOC,KAAKg3G,kBAAoB,IAAIC,EAAAj3G,KAAK85F,SAAS/5F,OAAOC,KAAKk3G,kBAAoB,IAAIC,EAAAn3G,KAAK85F,SAAS/5F,OAAOC,KAAKo3G,kBAAoB,IAAIC,EAAAr3G,KAAK85F,SAAS/5F,OAAOC,KAAKs3G,kBAAoB,IAAIC,EAAAv3G,KAAK85F,SAAS/5F,OAAOC,KAAKw3G,kBAAoB,IAAIC,EAAAz3G,KAAK85F,SAAS/5F,OAAOC,KAAK03G,kBAAoB,IAAIC,EAAA33G,KAAK85F,SAAS/5F,OAAOC,KAAK43G,kBAAoB,IAAIC,EAAA73G,KAAK85F,SAAS/5F,OAAOC,KAAK83G,kBAAoB,IAAIC,EAAA/3G,KAAK85F,SAAS/5F,OAAOC,KAAKg4G,kBAAoB,IAAIC,EAAAj4G,KAAK85F,SAAS/5F,OAAOC,KAAKk4G,kBAAoB,IAAIC,EAAAn4G,KAAK85F,SAAS/5F,OAAOC,KAAKo4G,kBAAoB,IAAIC,EAAAr4G,KAAK85F,SAAS/5F,OAAOC,KAAKs4G,kBAAoB,IAAIC,EAAAv4G,KAAK85F,SAAS/5F,OAAOC,KAAKw4G,kBAAoB,IAAIC,EAAAz4G,KAAK85F,SAAS/5F,OAAOC,KAAK04G,kBAAoB,IAAIC,EAAA34G,KAAK85F,SAAS/5F,OAAOC,KAAK44G,kBAAoB,IAAIC,EAAA74G,KAAK85F,SAAS/5F,OAAOC,KAAK84G,kBAAoB,IAAIC,EAAA/4G,KAAK85F,SAAS/5F,OAAOC,KAAKg5G,kBAAoB,IAAIC,EAAAj5G,KAAK85F,SAAS/5F,OAAOC,KAAKk5G,kBAAoB,IAAIC,EAAAn5G,KAAK85F,SAAS/5F,OAAOC,KAAKo5G,kBAAoB,IAAIC,EAAAr5G,KAAK85F,SAAS/5F,OAAOC,KAAKs5G,kBAAoB,IAAIC,EAAAv5G,KAAK85F,SAAS/5F,OAAOC,KAAKw5G,kBAAoB,IAAIC,EAAAz5G,KAAK85F,SAAS/5F,OAAOC,KAAK05G,kBAAoB,IAAIC,EAAA35G,KAAK85F,SAAS/5F,OAAOC,KAAK45G,kBAAoB,IAAIC,EAAA75G,KAAK85F,SAAS/5F,OAAOC,KAAK85G,kBAAoB,IAAIC,EAAA/5G,KAAK85F,SAAS/5F,OAAOC,KAAKg6G,kBAAoB,IAAIC,EAAAj6G,KAAK85F,SAAS/5F,OAAOC,KAAKk6G,kBAAoB,IAAIC,EAAAn6G,KAAK85F,SAAS/5F,OAAOC,KAAKo6G,kBAAoB,IAAIC,EAAAr6G,KAAK85F,SAAS/5F,OAAOC,KAAKs6G,kBAAoB,IAAIC,EAAAv6G,KAAK85F,SAAS/5F,OAAOC,KAAKw6G,kBAAoB,IAAIC,EAAAz6G,KAAK85F,SAAS/5F,OAAOC,KAAK06G,kBAAoB,IAAIC,EAAA36G,KAAK85F,SAAS/5F,OAAOC,KAAK46G,kBAAoB,IAAIC,EAAA76G,KAAK85F,SAAS/5F,OAAOC,KAAK86G,kBAAoB,IAAIC,EAAA/6G,KAAK85F,SAAS/5F,OAAOC,KAAKg7G,kBAAoB,IAAIC,EAAAj7G,KAAK85F,SAAS/5F,OAAOC,KAAKk7G,kBAAoB,IAAIC,EAAAn7G,KAAK85F,SAAS/5F,OAAOC,KAAKo7G,kBAAoB,IAAIC,EAAAr7G,KAAK85F,SAAS/5F,OAAOC,KAAKs7G,kBAAoB,IAAIC,EAAAv7G,KAAK85F,SAAS/5F,OAAOC,KAAKw7G,kBAAoB,IAAIC,EAAAz7G,KAAK85F,SAAS/5F,OAAOC,KAAK07G,kBAAoB,IAAIC,EAAA37G,KAAK85F,SAAS/5F,OAAOC,KAAK47G,kBAAoB,IAAIC,EAAA77G,KAAK85F,SAAS/5F,OAAOC,KAAK87G,kBAAoB,IAAIC,EAAA/7G,KAAK85F,SAAS/5F,OAAOC,KAAKg8G,kBAAoB,IAAIC,EAAAj8G,KAAK85F,SAAS/5F,OAAOC,KAAKk8G,kBAAoB,IAAIC,EAAAn8G,KAAK85F,SAAS/5F,OAAOC,KAAKo8G,kBAAoB,IAAIC,EAAAr8G,KAAK85F,SAAS/5F,OAAOC,KAAKs8G,kBAAoB,IAAIC,EAAAv8G,KAAK85F,SAAS/5F,OAAOC,KAAKw8G,kBAAoB,IAAIC,EAAAz8G,KAAK85F,SAAS/5F,OAAOC,KAAK08G,kBAAoB,IAAIC,EAAA38G,KAAK85F,SAAS/5F,OAAOC,KAAK48G,kBAAoB,IAAIC,EAAA78G,KAAK85F,SAAS/5F,OAAOC,KAAK88G,kBAAoB,IAAIC,EAAA/8G,KAAK85F,SAAS/5F,OAAOC,KAAKg9G,kBAAoB,IAAIC,EAAAj9G,KAAK85F,SAAS/5F,OAAOC,KAAKk9G,kBAAoB,IAAIC,EAAAn9G,KAAK85F,SAAS/5F,OAAOC,KAAKo9G,kBAAoB,IAAIC,EAAAr9G,KAAK85F,SAAS/5F,OAAOC,KAAKs9G,kBAAoB,IAAIC,EAAAv9G,KAAK85F,SAAS/5F,OAAOC,KAAKw9G,kBAAoB,IAAIC,EAAAz9G,KAAK85F,SAAS/5F,OAAOC,KAAK09G,kBAAoB,IAAIC,EAAA39G,KAAK85F,SAAS/5F,OAAOC,KAAK49G,kBAAoB,IAAIC,EAAA79G,KAAK85F,SAAS/5F,OAAOC,KAAK89G,kBAAoB,IAAIC,EAAA/9G,KAAK85F,SAAS/5F,OAAOC,KAAKg+G,kBAAoB,IAAIC,EAAAj+G,KAAK85F,SAAS/5F,OAAOC,KAAKk+G,kBAAoB,IAAIC,EAAAn+G,KAAK85F,SAAS/5F,OAAOC,KAAKo+G,kBAAoB,IAAIC,EAAAr+G,KAAK85F,SAAS/5F,OAAOC,KAAKs+G,kBAAoB,IAAIC,EAAAv+G,KAAK85F,SAAS/5F,OAAOC,KAAKw+G,kBAAoB,IAAIC,EAAAz+G,KAAK85F,SAAS/5F,OAAOC,KAAK0+G,kBAAoB,IAAIC,EAAA3+G,KAAK85F,SAAS/5F,OAAOC,KAAK4+G,kBAAoB,IAAIC,EAAA7+G,KAAK85F,SAAS/5F,OAAOC,KAAK8+G,kBAAoB,IAAIC,EAAA/+G,KAAK85F,SAAS/5F,OAAOC,KAAKg/G,kBAAoB,IAAIC,EAAAj/G,KAAK85F,SAAS/5F,OAAOC,KAAKk/G,kBAAoB,IAAIC,EAAAn/G,KAAK85F,SAAS/5F,OAAOC,KAAKo/G,kBAAoB,IAAIC,EAAAr/G,KAAK85F,SAAS/5F,OAAOC,KAAKs/G,kBAAoB,IAAIC,EAAAv/G,KAAK85F,SAAS/5F,OAAOC,KAAKw/G,kBAAoB,IAAIC,EAAAz/G,KAAK85F,SAAS/5F,OAAOC,KAAK0/G,kBAAoB,IAAIC,EAAA3/G,KAAK85F,SAAS/5F,OAAOC,KAAK4/G,kBAAoB,IAAIC,EAAA7/G,KAAK85F,SAAS/5F,OAAOC,KAAK8/G,kBAAoB,IAAIC,EAAA/gH,KAAK85F,SAAS/5F,OAAOC,KAAKghH,kBAAoB,IAAIC,EAAAjhH,KAAK85F,SAAS/5F,OAAOC,KAAKkhH,kBAAoB,IAAIC,EAAAnhH,KAAK85F,SAAS/5F,OAAOC,KAAKohH,kBAAoB,IAAIC,EAAArhH,KAAK85F,SAAS/5F,OAAOC,KAAKshH,kBAAoB,IAAIC,EAAAvhH,KAAK85F,SAAS/5F,OAAOC,KAAKwhH,kBAAoB,IAAIC,EAAAzhH,KAAK85F,SAAS/5F,OAAOC,KAAK0hH,kBAAoB,IAAIC,EAAA3hH,KAAK85F,SAAS/5F,OAAOC,KAAK4hH,kBAAoB,IAAIC,EAAA7hH,KAAK85F,SAAS/5F,OAAOC,KAAK8hH,kBAAoB,IAAIC,EAAA/hH,KAAK85F,SAAS/5F,OAAOC,KAAKgiH,kBAAoB,IAAIC,EAAAjiH,KAAK85F,SAAS/5F,OAAOC,KAAKkiH,kBAAoB,IAAIC,EAAAniH,KAAK85F,SAAS/5F,OAAOC,KAAKoiH,kBAAoB,IAAIC,EAAAriH,KAAK85F,SAAS/5F,OAAOC,KAAKsiH,kBAAoB,IAAIC,EAAAviH,KAAK85F,SAAS/5F,OAAOC,KAAKwiH,kBAAoB,IAAIC,EAAAziH,KAAK85F,SAAS/5F,OAAOC,KAAK0iH,kBAAoB,IAAIC,EAAA3iH,KAAK85F,SAAS/5F,OAAOC,KAAK4iH,kBAAoB,IAAIC,EAAA7iH,KAAK85F,SAAS/5F,OAAOC,KAAK8iH,kBAAoB,IAAIC,EAAA/iH,KAAK85F,SAAS/5F,OAAOC,KAAKgjH,kBAAoB,IAAIC,EAAAjjH,KAAK85F,SAAS/5F,OAAOC,KAAKkjH,kBAAoB,IAAIC,EAAAnjH,KAAK85F,SAAS/5F,OAAOC,KAAKojH,kBAAoB,IAAIC,EAAArjH,KAAK85F,SAAS/5F,OAAOC,KAAKsjH,kBAAoB,IAAIC,EAAAvjH,KAAK85F,SAAS/5F,OAAOC,KAAKwjH,kBAAoB,IAAIC,EAAAzjH,KAAK85F,SAAS/5F,OAAOC,KAAK0jH,kBAAoB,IAAIC,EAAA3jH,KAAK85F,SAAS/5F,OAAOC,KAAK4jH,kBAAoB,IAAIC,EAAA7jH,KAAK85F,SAAS/5F,OAAOC,KAAK8jH,kBAAoB,IAAIC,EAAA/jH,KAAK85F,SAAS/5F,OAAOC,KAAKgkH,kBAAoB,IAAIC,EAAAjkH,KAAK85F,SAAS/5F,OAAOC,KAAKkkH,kBAAoB,IAAIC,EAAAnkH,KAAK85F,SAAS/5F,OAAOC,KAAKokH,kBAAoB,IAAIC,EAAArkH,KAAK85F,SAAS/5F,OAAOC,KAAKskH,kBAAoB,IAAIC,EAAAvkH,KAAK85F,SAAS/5F,OAAOC,KAAKwkH,kBAAoB,IAAIC,EAAAzkH,KAAK85F,SAAS/5F,OAAOC,KAAK0kH,kBAAoB,IAAIC,EAAA3kH,KAAK85F,SAAS/5F,OAAOC,KAAK4kH,kBAAoB,IAAIC,EAAA7kH,KAAK85F,SAAS/5F,OAAOC,KAAK8kH,kBAAoB,IAAIC,EAAA/kH,KAAK85F,SAAS/5F,OAAOC,KAAKglH,kBAAoB,IAAIC,EAAAjlH,KAAK85F,SAAS/5F,OAAOC,KAAKklH,kBAAoB,IAAIC,EAAAnlH,KAAK85F,SAAS/5F,OAAOC,KAAKolH,kBAAoB,IAAIC,EAAArlH,KAAK85F,SAAS/5F,OAAOC,KAAKslH,kBAAoB,IAAIC,EAAAvlH,KAAK85F,SAAS/5F,OAAOC,KAAKwlH,kBAAoB,IAAIC,EAAAzlH,KAAK85F,SAAS/5F,OAAOC,KAAK0lH,kBAAoB,IAAIC,EAAA3lH,KAAK85F,SAAS/5F,OAAOC,KAAK4lH,kBAAoB,IAAIC,EAAA7lH,KAAK85F,SAAS/5F,OAAOC,KAAK8lH,kBAAoB,IAAIC,EAAA/lH,KAAK85F,SAAS/5F,OAAOC,KAAKgmH,kBAAoB,IAAIC,EAAAjmH,KAAK85F,SAAS/5F,OAAOC,KAAKkmH,kBAAoB,IAAIC,EAAAnmH,KAAK85F,SAAS/5F,OAAOC,KAAKomH,kBAAoB,IAAIC,EAAArmH,KAAK85F,SAAS/5F,OAAOC,KAAKsmH,kBAAoB,IAAIC,EAAAvmH,KAAK85F,SAAS/5F,OAAOC,KAAKwmH,kBAAoB,IAAIC,EAAAzmH,KAAK85F,SAAS/5F,OAAOC,KAAK0mH,kBAAoB,IAAIC,EAAA3mH,KAAK85F,SAAS/5F,OAAOC,KAAK4mH,kBAAoB,IAAIC,EAAA7mH,KAAK85F,SAAS/5F,OAAOC,KAAK8mH,kBAAoB,IAAIC,EAAA/mH,KAAK85F,SAAS/5F,OAAOC,KAAKgnH,kBAAoB,IAAIC,EAAAjnH,KAAK85F,SAAS/5F,OAAOC,KAAKknH,kBAAoB,IAAIC,EAAAnnH,KAAK85F,SAAS/5F,OAAOC,KAAKonH,kBAAoB,IAAIC,EAAArnH,KAAK85F,SAAS/5F,OAAOC,KAAKsnH,kBAAoB,IAAIC,EAAAvnH,KAAK85F,SAAS/5F,OAAOC,KAAKwnH,kBAAoB,IAAIC,EAAAznH,KAAK85F,SAAS/5F,OAAOC,KAAK0nH,kBAAoB,IAAIC,EAAA3nH,KAAK85F,SAAS/5F,OAAOC,KAAK4nH,kBAAoB,IAAIC,EAAA7nH,KAAK85F,SAAS/5F,OAAOC,KAAK8nH,kBAAoB,IAAIC,EAAA/nH,KAAK85F,SAAS/5F,OAAOC,KAAKgoH,kBAAoB,IAAIC,EAAAjoH,KAAK85F,SAAS/5F,OAAOC,KAAKkoH,kBAAoB,IAAIC,EAAAnoH,KAAK85F,SAAS/5F,OAAOC,KAAKooH,kBAAoB,IAAIC,EAAAroH,KAAK85F,SAAS/5F,OAAOC,KAAKsoH,kBAAoB,IAAIC,EAAAvoH,KAAK85F,SAAS/5F,OAAOC,KAAKwoH,kBAAoB,IAAIC,EAAAzoH,KAAK85F,SAAS/5F,OAAOC,KAAK0oH,kBAAoB,IAAIC,EAAA3oH,KAAK85F,SAAS/5F,OAAOC,KAAK4oH,kBAAoB,IAAIC,EAAA7oH,KAAK85F,SAAS/5F,OAAOC,KAAK8oH,kBAAoB,IAAIC,EAAA/oH,KAAK85F,SAAS/5F,OAAOC,KAAKgpH,kBAAoB,IAAIC,EAAAjpH,KAAK85F,SAAS/5F,OAAOC,KAAKkpH,kBAAoB,IAAIC,EAAAnpH,KAAK85F,SAAS/5F,OAAOC,KAAKopH,kBAAoB,IAAIC,EAAArpH,KAAK85F,SAAS/5F,OAAOC,KAAKspH,kBAAoB,IAAIC,EAAAvpH,KAAK85F,SAAS/5F,OAAOC,KAAKwpH,kBAAoB,IAAIC,EAAAzpH,KAAK85F,SAAS/5F,OAAOC,KAAK0pH,kBAAoB,IAAIC,EAAA3pH,KAAK85F,SAAS/5F,OAAOC,KAAK4pH,kBAAoB,IAAIC,EAAA7pH,KAAK85F,SAAS/5F,OAAOC,KAAK8pH,kBAAoB,IAAIC,EAAA/pH,KAAK85F,SAAS/5F,OAAOC,KAAKgqH,kBAAoB,IAAIC,EAAAjqH,KAAK85F,SAAS/5F,OAAOC,KAAKkqH,kBAAoB,IAAIC,EAAAnqH,KAAK85F,SAAS/5F,OAAOC,KAAKoqH,kBAAoB,IAAIC,EAAArqH,KAAK85F,SAAS/5F,OAAOC,KAAKsqH,kBAAoB,IAAIC,EAAAvqH,KAAK85F,SAAS/5F,OAAOC,KAAKwqH,kBAAoB,IAAIC,EAAAzqH,KAAK85F,SAAS/5F,OAAOC,KAAK0qH,kBAAoB,IAAIC,EAAA3qH,KAAK85F,SAAS/5F,OAAOC,KAAK4qH,kBAAoB,IAAIC,EAAA7qH,KAAK85F,SAAS/5F,OAAOC,KAAK8qH,kBAAoB,IAAIC,EAAA/qH,KAAK85F,SAAS/5F,OAAOC,KAAKgrH,kBAAoB,IAAIC,EAAAjrH,KAAK85F,SAAS/5F,OAAOC,KAAKkrH,kBAAoB,IAAIC,EAAAnrH,KAAK85F,SAAS/5F,OAAOC,KAAKorH,kBAAoB,IAAIC,EAAArrH,KAAK85F,SAAS/5F,OAAOC,KAAKsrH,kBAAoB,IAAIC,EAAAvrH,KAAK85F,SAAS/5F,OAAOC,KAAKwrH,kBAAoB,IAAIC,EAAAzrH,KAAK85F,SAAS/5F,OAAOC,KAAK0rH,kBAAoB,IAAIC,EAAA3rH,KAAK85F,SAAS/5F,OAAOC,KAAK4rH,kBAAoB,IAAIC,EAAA7rH,KAAK85F,SAAS/5F,OAAOC,KAAK8rH,kBAAoB,IAAIC,EAAA/rH,KAAK85F,SAAS/5F,OAAOC,KAAKgsH,kBAAoB,IAAIC,EAAAjsH,KAAK85F,SAAS/5F,OAAOC,KAAKksH,kBAAoB,IAAIC,EAAAnsH,KAAK85F,SAAS/5F,OAAOC,KAAKosH,kBAAoB,IAAIC,EAAArsH,KAAK85F,SAAS/5F,OAAOC,KAAKssH,kBAAoB,IAAIC,EAAAvsH,KAAK85F,SAAS/5F,OAAOC,KAAKwsH,kBAAoB,IAAIC,EAAAzsH,KAAK85F,SAAS/5F,OAAOC,KAAK0sH,kBAAoB,IAAIC,EAAA3sH,KAAK85F,SAAS/5F,OAAOC,KAAK4sH,kBAAoB,IAAIC,EAAA7sH,KAAK85F,SAAS/5F,OAAOC,KAAK8sH,kBAAoB,IAAIC,EAAA/sH,KAAK85F,SAAS/5F,OAAOC,KAAKgtH,kBAAoB,IAAIC,EAAAjtH,KAAK85F,SAAS/5F,OAAOC,KAAKktH,kBAAoB,IAAIC,EAAAntH,KAAK85F,SAAS/5F,OAAOC,KAAKotH,kBAAoB,IAAIC,EAAArtH,KAAK85F,SAAS/5F,OAAOC,KAAKstH,kBAAoB,IAAIC,EAAAvtH,KAAK85F,SAAS/5F,OAAOC,KAAKwtH,kBAAoB,IAAIC,EAAAztH,KAAK85F,SAAS/5F,OAAOC,KAAK0tH,kBAAoB,IAAIC,EAAA3tH,KAAK85F,SAAS/5F,OAAOC,KAAK4tH,kBAAoB,IAAIC,EAAA7tH,KAAK85F,SAAS/5F,OAAOC,KAAK8tH,kBAAoB,IAAIC,EAAA/tH,KAAK85F,SAAS/5F,OAAOC,KAAKguH,kBAAoB,IAAIC,EAAAjuH,KAAK85F,SAAS/5F,OAAOC,KAAKkuH,kBAAoB,IAAIC,EAAAnuH,KAAK85F,SAAS/5F,OAAOC,KAAKouH,kBAAoB,IAAIC,EAAAruH,KAAK85F,SAAS/5F,OAAOC,KAAKsuH,kBAAoB,IAAIC,EAAAvuH,KAAK85F,SAAS/5F,OAAOC,KAAKwuH,kBAAoB,IAAIC,EAAAzuH,KAAK85F,SAAS/5F,OAAOC,KAAK0uH,kBAAoB,IAAIC,EAAA3uH,KAAK85F,SAAS/5F,OAAOC,KAAK4uH,kBAAoB,IAAIC,EAAA7uH,KAAK85F,SAAS/5F,OAAOC,KAAK8uH,kBAAoB,IAAIC,EAAA/uH,KAAK85F,SAAS/5F,OAAOC,KAAKgvH,kBAAoB,IAAIC,EAAAjvH,KAAK85F,SAAS/5F,OAAOC,KAAKkvH,kBAAoB,IAAIC,EAAAnvH,KAAK85F,SAAS/5F,OAAOC,KAAKovH,kBAAoB,IAAIC,EAAArvH,KAAK85F,SAAS/5F,OAAOC,KAAKsvH,kBAAoB,IAAIC,EAAAvvH,KAAK85F,SAAS/5F,OAAOC,KAAKwvH,kBAAoB,IAAIC,EAAAzvH,KAAK85F,SAAS/5F,OAAOC,KAAK0vH,kBAAoB,IAAIC,EAAA3vH,KAAK85F,SAAS/5F,OAAOC,KAAK4vH,kBAAoB,IAAIC,EAAA7vH,KAAK85F,SAAS/5F,OAAOC,KAAK8vH,kBAAoB,IAAIC,EAAA/vH,KAAK85F,SAAS/5F,OAAOC,KAAKgwH,kBAAoB,IAAIC,EAAAjwH,KAAK85F,SAAS/5F,OAAOC,KAAKkwH,kBAAoB,IAAIC,EAAAnwH,KAAK85F,SAAS/5F,OAAOC,KAAKowH,kBAAoB,IAAIC,EAAArwH,KAAK85F,SAAS/5F,OAAOC,KAAKswH,kBAAoB,IAAIC,EAAAvwH,KAAK85F,SAAS/5F,OAAOC,KAAKwwH,kBAAoB,IAAIC,EAAAzwH,KAAK85F,SAAS/5F,OAAOC,KAAK0wH,kBAAoB,IAAIC,EAAA3wH,KAAK85F,SAAS/5F,OAAOC,KAAK4wH,kBAAoB,IAAIC,EAAA7wH,KAAK85F,SAAS/5F,OAAOC,KAAK8wH,kBAAoB,IAAIC,EAAA/wH,KAAK85F,SAAS/5F,OAAOC,KAAKgxH,kBAAoB,IAAIC,EAAAjxH,KAAK85F,SAAS/5F,OAAOC,KAAKkxH,kBAAoB,IAAIC,EAAAnxH,KAAK85F,SAAS/5F,OAAOC,KAAKoxH,kBAAoB,IAAIC,EAAArxH,KAAK85F,SAAS/5F,OAAOC,KAAKsxH,kBAAoB,IAAIC,EAAAvxH,KAAK85F,SAAS/5F,OAAOC,KAAKwxH,kBAAoB,IAAIC,EAAAzxH,KAAK85F,SAAS/5F,OAAOC,KAAK0xH,kBAAoB,IAAIC,EAAA3xH,KAAK85F,SAAS/5F,OAAOC,KAAK4xH,kBAAoB,IAAIC,EAAA7xH,KAAK85F,SAAS/5F,OAAOC,KAAK8xH,kBAAoB,IAAIC,EAAA/xH,KAAK85F,SAAS/5F,OAAOC,KAAKgyH,kBAAoB,IAAIC,EAAAjyH,KAAK85F,SAAS/5F,OAAOC,KAAKkyH,kBAAoB,IAAIC,EAAAnyH,KAAK85F,SAAS/5F,OAAOC,KAAKoyH,kBAAoB,IAAIC,EAAAryH,KAAK85F,SAAS/5F,OAAOC,KAAKsyH,kBAAoB,IAAIC,EAAAvyH,KAAK85F,SAAS/5F,OAAOC,KAAKwyH,kBAAoB,IAAIC,EAAAzyH,KAAK85F,SAAS/5F,OAAOC,KAAK0yH,kBAAoB,IAAIC,EAAA3yH,KAAK85F,SAAS/5F,OAAOC,KAAK4yH,kBAAoB,IAAIC,EAAA7yH,KAAK85F,SAAS/5F,OAAOC,KAAK8yH,kBAAoB,IAAIC,EAAA/yH,KAAK85F,SAAS/5F,OAAOC,KAAKgzH,kBAAoB,IAAIC,EAAAjzH,KAAK85F,SAAS/5F,OAAOC,KAAKkzH,kBAAoB,IAAIC,EAAAnzH,KAAK85F,SAAS/5F,OAAOC,KAAKozH,kBAAoB,IAAIC,EAAArzH,KAAK85F,SAAS/5F,OAAOC,KAAKszH,kBAAoB,IAAIC,EAAAvzH,KAAK85F,SAAS/5F,OAAOC,KAAKwzH,kBAAoB,IAAIC,EAAAzzH,KAAK85F,SAAS/5F,OAAOC,KAAK0zH,kBAAoB,IAAIC,EAAA3zH,KAAK85F,SAAS/5F,OAAOC,KAAK4zH,kBAAoB,IAAIC,EAAA7zH,KAAK85F,SAAS/5F,OAAOC,KAAK8zH,kBAAoB,IAAIC,EAAA/zH,KAAK85F,SAAS/5F,OAAOC,KAAKg0H,kBAAoB,IAAIC,EAAAj0H,KAAK85F,SAAS/5F,OAAOC,KAAKk0H,kBAAoB,IAAIC,EAAAn0H,KAAK85F,SAAS/5F,OAAOC,KAAKo0H,kBAAoB,IAAIC,EAAAr0H,KAAK85F,SAAS/5F,OAAOC,KAAKs0H,kBAAoB,IAAIC,EAAAv0H,KAAK85F,SAAS/5F,OAAOC,KAAKw0H,kBAAoB,IAAIC,EAAAz0H,KAAK85F,SAAS/5F,OAAOC,KAAK00H,kBAAoB,IAAIC,EAAA30H,KAAK85F,SAAS/5F,OAAOC,KAAK40H,kBAAoB,IAAIC,EAAA70H,KAAK85F,SAAS/5F,OAAOC,KAAK80H,kBAAoB,IAAIC,EAAA/0H,KAAK85F,SAAS/5F,OAAOC,KAAKg1H,kBAAoB,IAAIC,EAAAj1H,KAAK85F,SAAS/5F,OAAOC,KAAKk1H,kBAAoB,IAAIC,EAAAn1H,KAAK85F,SAAS/5F,OAAOC,KAAKo1H,kBAAoB,IAAIC,EAAAr1H,KAAK85F,SAAS/5F,OAAOC,KAAKs1H,kBAAoB,IAAIC,EAAAv1H,KAAK85F,SAAS/5F,OAAOC,KAAKw1H,kBAAoB,IAAIC,EAAAz1H,KAAK85F,SAAS/5F,OAAOC,KAAK01H,kBAAoB,IAAIC,EAAA31H,KAAK85F,SAAS/5F,OAAOC,KAAK41H,kBAAoB,IAAIC,EAAA71H,KAAK85F,SAAS/5F,OAAOC,KAAK81H,kBAAoB,IAAIC,EAAA/1H,KAAK85F,SAAS/5F,OAAOC,KAAKg2H,kBAAoB,IAAIC,EAAAj2H,KAAK85F,SAAS/5F,OAAOC,KAAKk2H,kBAAoB,IAAIC,EAAAn2H,KAAK85F,SAAS/5F,OAAOC,KAAKo2H,kBAAoB,IAAIC,EAAAr2H,KAAK85F,SAAS/5F,OAAOC,KAAKs2H,kBAAoB,IAAIC,EAAAv2H,KAAK85F,SAAS/5F,OAAOC,KAAKw2H,kBAAoB,IAAIC,EAAAz2H,KAAK85F,SAAS/5F,OAAOC,KAAK02H,kBAAoB,IAAIC,EAAA32H,KAAK85F,SAAS/5F,OAAOC,KAAK42H,kBAAoB,IAAIC,EAAA72H,KAAK85F,SAAS/5F,OAAOC,KAAK82H,kBAAoB,IAAIC,EAAA/2H,KAAK85F,SAAS/5F,OAAOC,KAAKg3H,kBAAoB,IAAIC,EAAAj3H,KAAK85F,SAAS/5F,OAAOC,KAAKk3H,kBAAoB,IAAIC,EAAAn3H,KAAK85F,SAAS/5F,OAAOC,KAAKo3H,kBAAoB,IAAIC,EAAAr3H,KAAK85F,SAAS/5F,OAAOC,KAAKs3H,kBAAoB,IAAIC,EAAAv3H,KAAK85F,SAAS/5F,OAAOC,KAAKw3H,kBAAoB,IAAIC,EAAAz3H,KAAK85F,SAAS/5F,OAAOC,KAAK03H,kBAAoB,IAAIC,EAAA33H,KAAK85F,SAAS/5F,OAAOC,KAAK43H,kBAAoB,IAAIC,EAAA73H,KAAK85F,SAAS/5F,OAAOC,KAAK83H,kBAAoB,IAAIC,EAAA/3H,KAAK85F,SAAS/5F,OAAOC,KAAKg4H,kBAAoB,IAAIC,EAAAj4H,KAAK85F,SAAS/5F,OAAOC,KAAKk4H,kBAAoB,IAAIC,EAAAn4H,KAAK85F,SAAS/5F,OAAOC,KAAKo4H,kBAAoB,IAAIC,EAAAr4H,KAAK85F,SAAS/5F,OAAOC,KAAKs4H,kBAAoB,IAAIC,EAAAv4H,KAAK85F,SAAS/5F,OAAOC,KAAKw4H,kBAAoB,IAAIC,EAAAz4H,KAAK85F,SAAS/5F,OAAOC,KAAK04H,kBAAoB,IAAIC,EAAA34H,KAAK85F,SAAS/5F,OAAOC,KAAK44H,kBAAoB,IAAIC,EAAA74H,KAAK85F,SAAS/5F,OAAOC,KAAK84H,kBAAoB,IAAIC,EAAA/4H,KAAK85F,SAAS/5F,OAAOC,KAAKg5H,kBAAoB,IAAIC,EAAAj5H,KAAK85F,SAAS/5F,OAAOC,KAAKk5H,kBAAoB,IAAIC,EAAAn5H,KAAK85F,SAAS/5F,OAAOC,KAAKo5H,kBAAoB,IAAIC,EAAAr5H,KAAK85F,SAAS/5F,OAAOC,KAAKs5H,kBAAoB,IAAIC,EAAAv5H,KAAK85F,SAAS/5F,OAAOC,KAAKw5H,kBAAoB,IAAIC,EAAAz5H,KAAK85F,SAAS/5F,OAAOC,KAAK05H,kBAAoB,IAAIC,EAAA35H,KAAK85F,SAAS/5F,OAAOC,KAAK45H,kBAAoB,IAAIC,EAAA75H,KAAK85F,SAAS/5F,OAAOC,KAAK85H,kBAAoB,IAAIC,EAAA/5H,KAAK85F,SAAS/5F,OAAOC,KAAKg6H,kBAAoB,IAAIC,EAAAj6H,KAAK85F,SAAS/5F,OAAOC,KAAKk6H,kBAAoB,IAAIC,EAAAn6H,KAAK85F,SAAS/5F,OAAOC,KAAKo6H,kBAAoB,IAAIC,EAAAr6H,KAAK85F,SAAS/5F,OAAOC,KAAKs6H,kBAAoB,IAAIC,EAAAv6H,KAAK85F,SAAS/5F,OAAOC,KAAKw6H,kBAAoB,IAAIC,EAAAz6H,KAAK85F,SAAS/5F,OAAOC,KAAK06H,kBAAoB,IAAIC,EAAA36H,KAAK85F,SAAS/5F,OAAOC,KAAK46H,kBAAoB,IAAIC,EAAA76H,KAAK85F,SAAS/5F,OAAOC,KAAK86H,kBAAoB,IAAIC,EAAA/6H,KAAK85F,SAAS/5F,OAAOC,KAAKg7H,kBAAoB,IAAIC,EAAAj7H,KAAK85F,SAAS/5F,OAAOC,KAAKk7H,kBAAoB,IAAIC,EAAAn7H,KAAK85F,SAAS/5F,OAAOC,KAAKo7H,kBAAoB,IAAIC,EAAAr7H,KAAK85F,SAAS/5F,OAAOC,KAAKs7H,kBAAoB,IAAIC,EAAAv7H,KAAK85F,SAAS/5F,OAAOC,KAAKw7H,kBAAoB,IAAIC,EAAAz7H,KAAK85F,SAAS/5F,OAAOC,KAAK07H,kBAAoB,IAAIC,EAAA37H,KAAK85F,SAAS/5F,OAAOC,KAAK47H,k

ASrH,EAAMpyB,IAEjCuwG,EA9JwB,GAiM/BU,GAAkC,SAAUpmG,GAE5C,SAASomG,EAAiB5yB,EAAYI,EAAsByyB,GACxD,IAAIlmG,EAGJH,EAAOhB,KAAKvM,OAASA,KAIrB,OAHA0N,EAAMqzE,WAAaA,EACnBrzE,EAAMyzE,qBAAuBA,EAC7BzzE,EAAMkmG,oBAAsBA,EAC5BlmG,EAAMqmG,oBAAsBA,EAC5BrmG,EAAMsmG,oBAAsBA,EAC5BtmG,EAAMumG,oBAAsBA,EAC5BvmG,EAAMwmG,oBAAsBA,EAC5BxmG,EAAMymG,oBAAsBA,EAC5BzmG,EAAM0mG,oBAAsBA,EAC5B1mG,EAAM2mG,oBAAsBA,EAC5B3mG,EAAM4mG,oBAAsBA,EAC5B5mG,EAAM6mG,oBAAsBA,EAC5B7mG,EAAM8mG,oBAAsBA,EAC5B9mG,EAAM+mG,oBAAsBA,EAC5B/mG,EAAMgnG,oBAAsBA,EAC5BhnG,EAAMinG,oBAAsBA,EAC5BjnG,EAAMknG,oBAAsBA,EAC5BlnG,EAAMmnG,oBAAsBA,EAC5BnnG,EAAMonG,oBAAsBA,EAC5BpnG,EAAMqnG,oBAAsBA,EAC5BrnG,EAAMsnG,oBAAsBA,EAC5BtnG,EAAMunG,oBAAsBA,EAC5BvnG,EAAMwnG,oBAAsBA,EAC5BxnG,EAAMynG,oBAAsBA,EAC5BznG,EAAM0nG,oBAAsBA,EAC5B1nG,EAAM2nG,oBAAsBA,EAC5B3nG,EAAM4nG,oBAAsBA,EAC5B5nG,EAAM6nG,oBAAsBA,EAC5B7nG,EAAM8nG,oBAAsBA,EAC5B9nG,EAAM+nG,oBAAsBA,EAC5B/nG,EAAMgoG,oBAAsBA,EAC5BhoG,EAAMioG,oBAAsBA,EAC5BjoG,EAAMkoG,oBAAsBA,EAC5BloG,EAAMmoG,oBAAsBA,EAC5BnoG,EAAMooG,oBAAsBA,EAC5BpoG,EAAMqoG,oBAAsBA,EAC5BroG,EAAMsoG,oBAAsBA,EAC5BtoG,EAAMuoG,oBAAsBA,EAC5BvoG,EAAMwoG,oBAAsBA,EAC5BxoG,EAAMyoG,oBAAsBA,EAC5BzoG,EAAM0oG,oBAAsBA,EAC5B1oG,EAAM2oG,oBAAsBA,EAC5B3oG,EAAM4oG,oBAAsBA,EAC5B5oG,EAAM6oG,oBAAsBA,EAC5B7oG,EAAM8oG,oBAAsBA,EAC5B9oG,EAAM+oG,oBAAsBA,EAC5B/oG,EAAMgpG,oBAAsBA,EAC5BhpG,EAAMipG,oBAAsBA,EAC5BjpG,EAAMkpG,oBAAsBA,EAC5BlpG,EAAMmpG,oBAAsBA,EAC5BnpG,EAAMopG,oBAAsBA,EAC5BppG,EAAMqpG,oBAAsBA,EAC5BrpG,EAAMspG,oBAAsBA,EAC5BtpG,EAAMupG,oBAAsBA,EAC5BvpG,EAAMwpG,oBAAsBA,EAC5BxpG,EAAMypG,oBAAsBA,EAC5BzpG,EAAM0pG,oBAAsBA,EAC5B1pG,EAAM2pG,oBAAsBA,EAC5B3pG,EAAM4pG,oBAAsBA,EAC5B5pG,EAAM6pG,oBAAsBA,EAC5B7pG,EAAM8pG,oBAAsBA,EAC5B9pG,EAAM+pG,oBAAsBA,EAC5B/pG,EAAMgqG,oBAAsBA,EAC5BhqG,EAAMiqG,oBAAsBA,EAC5BjqG,EAAMkqG,oBAAsBA,EAC5BlqG,EAAMmqG,oBAAsBA,EAC5BnqG,EAAMoqG,oBAAsBA,EAC5BpqG,EAAMqqG,oBAAsBA,EAC5BrqG,EAAMsqG,oBAAsBA,EAC5BtqG,EAAMuqG,oBAAsBA,EAC5BvqG,EAAMwqG,oBAAsBA,EAC5BxqG,EAAMyqG,oBAAsBA,EAC5BzqG,EAAM0qG,oBAAsBA,EAC5B1qG,EAAM2qG,oBAAsBA,EAC5B3qG,EAAM4qG,oBAAsBA,EAC5B5qG,EAAM6qG,oBAAsBA,EAC5B7qG,EAAM8qG,oBAAsBA,EAC5B9qG,EAAM+qG,oBAAsBA,EAC5B/qG,EAAMgrG,oBAAsBA,EAC5BhrG,EAAMirG,oBAAsBA,EAC5BjrG,EAAMkrG,oBAAsBA,EAC5BlrG,EAAMmrG,oBAAsBA,EAC5BnrG,EAAMorG,oBAAsBA,EAC5BprG,EAAMqrG,oBAAsBA,EAC5BrrG,EAAMsrG,oBAAsBA,EAC5BtrG,EAAMurG,oBAAsBA,EAC5BvrG,EAAMwrG,oBAAsBA,EAC5BxrG,EAAMyrG,oBAAsBA,EAC5BzrG,EAAM0rG,oBAAsBA,EAC5B1rG,EAAM2rG,oBAAsBA,EAC5B3rG,EAAM4rG,oBAAsBA,EAC5B5rG,EAAM6rG,oBAAsBA,EAC5B7rG,EAAM8rG,oBAAsBA,EAC5B9rG,EAAM+rG,oBAAsBA,EAC5B/rG,EAAMgsG,oBAAsBA,EAC5BhsG,EAAMisG,oBAAsBA,EAC5BjsG,EAAMksG,oBAAsBA,EAC5BlsG,EAAMmsG,oBAAsBA,EAC5BnsG,EAAMosG,oBAAsBA,EAC5BpsG,EAAMqsG,oBAAsBA,EAC5BrsG,EAAMssG,oBAAsBA,EAC5BtsG,EAAMusG,oBAAsBA,EAC5BvsG,EAAMwsG,oBAAsBA,EAC5BxsG,EAAMysG,oBAAsBA,EAC5BzsG,EAAM0sG,oBAAsBA,EAC5B1sG,EAAM2sG,oBAAsBA,EAC5B3sG,EAAM4sG,oBAAsBA,EAC5B5sG,EAAM6sG,oBAAsBA,EAC5B7sG,EAAM8sG,oBAAsBA,EAC5B9sG,EAAM+sG,oBAAsBA,EAC5B/sG,EAAMgtG,oBAAsBA,EAC5BhtG,EAAMitG,oBAAsBA,EAC5BjtG,EAAMktG,oBAAsBA,EAC5BltG,EAAMmtG,oBAAsBA,EAC5BntG,EAAMotG,oBAAsBA,EAC5BptG,EAAMqtG,oBAAsBA,EAC5BrtG,EAAMstG,oBAAsBA,EAC5BttG,EAAMutG,oBAAsBA,EAC5BvtG,EAAMwtG,oBAAsBA,EAC5BxtG,EAAMytG,oBAAsBA,EAC5BztG,EAAM0tG,oBAAsBA,EAC5B1tG,EAAM2tG,oBAAsBA,EAC5B3tG,EAAM4tG,oBAAsBA,EAC5B5tG,EAAM6tG,oBAAsBA,EAC5B7tG,EAAM8tG,oBAAsBA,EAC5B9tG,EAAM+tG,oBAAsBA,EAC5B/tG,EAAMguG,oBAAsBA,EAC5BhuG,EAAMiuG,oBAAsBA,EAC5BjuG,EAAMkuG,oBAAsBA,EAC5BluG,EAAMmuG,oBAAsBA,EAC5BnuG,EAAMouG,oBAAsBA,EAC5BpuG,EAAMquG,oBAAsBA,EAC5BruG,EAAMsuG,oBAAsBA,EAC5BtuG,EAAMuuG,oBAAsBA,EAC5BvuG,EAAMwuG,oBAAsBA,EAC5BxuG,EAAMyuG,oBAAsBA,EAC5BzuG,EAAM0uG,oBAAsBA,EAC5B1uG,EAAM2uG,oBAAsBA,EAC5B3uG,EAAM4uG,oBAAsBA,EAC5B5uG,EAAM6uG,oBAAsBA,EAC5B7uG,EAAM8uG,oBAAsBA,EAC5B9uG,EAAM+uG,oBAAsBA,EAC5B/uG,EAAMgvG,oBAAsBA,EAC5BhvG,EAAMivG,oBAAsBA,EAC5BjvG,EAAMkvG,oBAAsBA,EAC5BlvG,EAAMmvG,oBAAsBA,EAC5BnvG,EAAMovG,oBAAsBA,EAC5BpvG,EAAMqvG,oBAAsBA,EAC5BrvG,EAAMsvG,oBAAsBA,EAC5BtvG,EAAMuvG,oBAAsBA,EAC5BvvG,EAAMwvG,oBAAsBA,EAC5BxvG,EAAMyvG,oBAAsBA,EAC5BzvG,EAAM0vG,oBAAsBA,EAC5B1vG,EAAM2vG,oBAAsBA,EAC5B3vG,EAAM4vG,oBAAsBA,EAC5B5vG,EAAM6vG,oBAAsBA,EAC5B7vG,EAAM8vG,oBAAsBA,EAC5B9vG,EAAM+vG,oBAAsBA,EAC5B/vG,EAAMgwG,oBAAsBA,EAC5BhwG,EAAMiwG,oBAAsBA,EAC5BjwG,EAAMkwG,oBAAsBA,EAC5BlwG,EAAMmwG,oBAAsBA,EAC5BnwG,EAAMowG,oBAAsBA,EAC5BpwG,EAAMqwG,oBAAsBA,EAC5BrwG,EAAMswG,oBAAsBA,EAC5BtwG,EAAMuwG,oBAAsBA,EAC5BvwG,EAAMwwG,oBAAsBA,EAC5BxwG,EAAMywG,oBAAsBA,EAC5BzwG,EAAM0wG,oBAAsBA,EAC5B1wG,EAAM2wG,oBAAsBA,EAC5B3wG,EAAM4wG,oBAAsBA,EAC5B5wG,EAAM6wG,oBAAsBA,EAC5B7wG,EAAM8wG,oBAAsBA,EAC5B9wG,EAAM+wG,oBAAsBA,EAC5B/wG,EAAMgxG,oBAAsBA,EAC5BhxG,EAAMixG,oBAAsBA,EAC5BjxG,EAAMkxG,oBAAsBA,EAC5BlxG,EAAMmxG,oBAAsBA,EAC5BnxG,EAAMoxG,oBAAsBA,EAC5BpxG,EAAMqxG,oBAAsBA,EAC5BrxG,EAAMsxG,oBAAsBA,EAC5BtxG,EAAMuxG,oBAAsBA,EAC5BvxG,EAAMwxG,oBAAsBA,EAC5BxxG,EAAMyxG,oBAAsBA,EAC5BzxG,EAAM0xG,oBAAsBA,EAC5B1xG,EAAM2xG,oBAAsBA,EAC5B3xG,EAAM4xG,oBAAsBA,EAC5B5xG,EAAM6xG,oBAAsBA,EAC5B7xG,EAAM8xG,oBAAsBA,EAC5B9xG,EAAM+xG,oBAAsBA,EAC5B/xG,EAAMgyG,oBAAsBA,EAC5BhyG,EAAMiyG,oBAAsBA,EAC5BjyG,EAAMkyG,oBAAsBA,EAC5BlyG,EAAMmyG,oBAAsBA,EAC5BnyG,EAAMoyG,oBAAsBA,EAC5BpyG,EAAMqyG,oBAAsBA,EAC5BryG,EAAMsyG,oBAAsBA,EAC5BtyG,EAAMuyG,oBAAsBA,EAC5BvyG,EAAMwyG,oBAAsBA,EAC5BxyG,EAAMyyG,oBAAsBA,EAC5BzyG,EAAM0yG,oBAAsBA,EAC5B1yG,EAAM2yG,oBAAsBA,EAC5B3yG,EAAM4yG,oBAAsBA,EAC5B5yG,EAAM6yG,oBAAsBA,EAC5B7yG,EAAM8yG,oBAAsBA,EAC5B9yG,EAAM+yG,oBAAsBA,EAC5B/yG,EAAMgzG,oBAAsBA,EAC5BhzG,EAAMizG,oBAAsBA,EAC5BjzG,EAAMkzG,oBAAsBA,EAC5BlzG,EAAMmzG,oBAAsBA,EAC5BnzG,EAAMozG,oBAAsBA,EAC5BpzG,EAAMqzG,oBAAsBA,EAC5BrzG,EAAMszG,oBAAsBA,EAC5BtzG,EAAMuzG,oBAAsBA,EAC5BvzG,EAAMwzG,oBAAsBA,EAC5BxzG,EAAMyzG,oBAAsBA,EAC5BzzG,EAAM0zG,oBAAsBA,EAC5B1zG,EAAM2zG,oBAAsBA,EAC5B3zG,EAAM4zG,oBAAsBA,EAC5B5zG,EAAM6zG,oBAAsBA,EAC5B7zG,EAAM8zG,oBAAsBA,EAC5B9zG,EAAM+zG,oBAAsBA,EAC5B/zG,EAAMg0G,oBAAsBA,EAC5Bh0G,EAAMi0G,oBAAsBA,EAC5Bj0G,EAAMk0G,oBAAsBA,EAC5Bl0G,EAAMm0G,oBAAsBA,EAC5Bn0G,EAAMo0G,oBAAsBA,EAC5Bp0G,EAAMq0G,oBAAsBA,EAC5Br0G,EAAMs0G,oBAAsBA,EAC5Bt0G,EAAMu0G,oBAAsBA,EAC5Bv0G,EAAMw0G,oBAAsBA,EAC5Bx0G,EAAMy0G,oBAAsBA,EAC5Bz0G,EAAM00G,oBAAsBA,EAC5B10G,EAAM20G,oBAAsBA,EAC5B30G,EAAM40G,oBAAsBA,EAC5B50G,EAAM60G,oBAAsBA,EAC5B70G,EAAM80G,oBAAsBA,EAC5B90G,EAAM+0G,oBAAsBA,EAC5B/0G,EAAMg1G,oBAAsBA,EAC5Bh1G,EAAMi1G,oBAAsBA,EAC5Bj1G,EAAMk1G,oBAAsBA,EAC5Bl1G,EAAMm1G,oBAAsBA,EAC5Bn1G,EAAMo1G,oBAAsBA,EAC5Bp1G,EAAMq1G,oBAAsBA,EAC5Br1G,EAAMs1G,oBAAsBA,EAC5Bt1G,EAAMu1G,oBAAsBA,EAC5Bv1G,EAAMw1G,oBAAsBA,EAC5Bx1G,EAAMy1G,oBAAsBA,EAC5Bz1G,EAAM01G,oBAAsBA,EAC5B11G,EAAM21G,oBAAsBA,EAC5B31G,EAAM41G,oBAAsBA,EAC5B51G,EAAM61G,oBAAsBA,EAC5B71G,EAAM81G,oBAAsBA,EAC5B91G,EAAM+1G,oBAAsBA,EAC5B/1G,EAAMg2G,oBAAsBA,EAC5Bh2G,EAAMi2G,oBAAsBA,EAC5Bj2G,EAAMk2G,oBAAsBA,EAC5Bl2G,EAAMm2G,oBAAsBA,EAC5Bn2G,EAAMo2G,oBAAsBA,EAC5Bp2G,EAAMq2G,oBAAsBA,EAC5Br2G,EAAMs2G,oBAAsBA,EAC5Bt2G,EAAMu2G,oBAAsBA,EAC5Bv2G,EAAMw2G,oBAAsBA,EAC5Bx2G,EAAMy2G,oBAAsBA,EAC5Bz2G,EAAM02G,oBAAsBA,EAC5B12G,EAAM22G,oBAAsBA,EAC5B32G,EAAM42G,oBAAsBA,EAC5B52G,EAAM62G,oBAAsBA,EAC5B72G,EAAM82G,oBAAsBA,EAC5B92G,EAAM+2G,oBAAsBA,EAC5B/2G,EAAMg3G,oBAAsBA,EAC5Bh3G,EAAMi3G,oBAAsBA,EAC5Bj3G,EAAMk3G,oBAAsBA,EAC5Bl3G,EAAMm3G,oBAAsBA,EAC5Bn3G,EAAMo3G,oBAAsBA,EAC5Bp3G,EAAMq3G,oBAAsBA,EAC5Br3G,EAAMs3G,oBAAsBA,EAC5Bt3G,EAAMu3G,oBAAsBA,EAC5Bv3G,EAAMw3G,oBAAsBA,EAC5Bx3G,EAAMy3G,oBAAsBA,EAC5Bz3G,EAAM03G,oBAAsBA,EAC5B13G,EAAM23G,oBAAsBA,EAC5B33G,EAAM43G,oBAAsBA,EAC5B53G,EAAM63G,oBAAsBA,EAC5B73G,EAAM83G,oBAAsBA,EAC5B93G,EAAM+3G,oBAAsBA,EAC5B/3G,EAAMg4G,oBAAsBA,EAC5Bh4G,EAAMi4G,oBAAsBA,EAC5Bj4G,EAAMk4G,oBAAsBA,EAC5Bl4G,EAAMm4G,oBAAsBA,EAC5Bn4G,EAAMo4G,oBAAsBA,EAC5Bp4G,EAAMq4G,oBAAsBA,EAC5Br4G,EAAMs4G,oBAAsBA,EAC5Bt4G,EAAMu4G,oBAAsBA,EAC5Bv4G,EAAMw4G,oBAAsBA,EAC5Bx4G,EAAMy4G,oBAAsBA,EAC5Bz4G,EAAM04G,oBAAsBA,EAC5B14G,EAAM24G,oBAAsBA,EAC5B34G,EAAM44G,oBAAsBA,EAC5B54G,EAAM64G,oBAAsBA,EAC5B74G,EAAM84G,oBAAsBA,EAC5B94G,EAAM+4G,oBAAsBA,EAC5B/4G,EAAMg5G,oBAAsBA,EAC5Bh5G,EAAMi5G,oBAAsBA,EAC5Bj5G,EAAMk5G,oBAAsBA,EAC5Bl5G,EAAMm5G,oBAAsBA,EAC5Bn5G,EAAMo5G,oBAAsBA,EAC5Bp5G,EAAMq5G,oBAAsBA,EAC5Br5G,EAAMs5G,oBAAsBA,EAC5Bt5G,EAAMu5G,oBAAsBA,EAC5Bv5G,EAAMw5G,oBAAsBA,EAC5Bx5G,EAAMy5G,oBAAsBA,EAC5Bz5G,EAAM05G,oBAAsBA,EAC5B15G,EAAM25G,oBAAsBA,EAC5B35G,EAAM45G,oBAAsBA,EAC5B55G,EAAM65G,oBAAsBA,EAC5B75G,EAAM85G,oBAAsBA,EAC5B95G,EAAM+5G,oBAAsBA,EAC5B/5G,EAAMg6G,oBAAsBA,EAC5Bh6G,EAAMi6G,oBAAsBA,EAC5Bj6G,EAAMk6G,oBAAsBA,EAC5Bl6G,EAAMm6G,oBAAsBA,EAC5Bn6G,EAAMo6G,oBAAsBA,EAC5Bp6G,EAAMq6G,oBAAsBA,EAC5Br6G,EAAMs6G,oBAAsBA,EAC5Bt6G,EAAMu6G,oBAAsBA,EAC5Bv6G,EAAMw6G,oBAAsBA,EAC5Bx6G,EAAMy6G,oBAAsBA,EAC5Bz6G,EAAM06G,oBAAsBA,EAC5B16G,EAAM26G,oBAAsBA,EAC5B36G,EAAM46G,oBAAsBA,EAC5B56G,EAAM66G,oBAAsBA,EAC5B76G,EAAM86G,oBAAsBA,EAC5B96G,EAAM+6G,oBAAsBA,EAC5B/6G,EAAMg7G,oBAAsBA,EAC5Bh7G,EAAMi7G,oBAAsBA,EAC5Bj7G,EAAMk7G,oBAAsBA,EAC5Bl7G,EAAMm7G,oBAAsBA,EAC5Bn7G,EAAMo7G,oBAAsBA,EAC5Bp7G,EAAMq7G,oBAAsBA,EAC5Br7G,EAAMs7G,oBAAsBA,EAC5Bt7G,EAAMu7G,oBAAsBA,EAC5Bv7G,EAAMw7G,oBAAsBA,EAC5Bx7G,EAAMy7G,oBAAsBA,EAC5Bz7G,EAAM07G,oBAAsBA,EAC5B17G,EAAM27G,oBAAsBA,EAC5B37G,EAAM47G,oBAAsBA,EAC5B57G,EAAM67G,oBAAsBA,EAC5B77G,EAAM87G,oBAAsBA,EAC5B97G,EAAM+7G,oBAAsBA,EAC5B/7G,EAAMg8G,oBAAsBA,EAC5Bh8G,EAAMi8G,oBAAsBA,EAC5Bj8G,EAAMk8G,oBAAsBA,EAC5Bl8G,EAAMm8G,oBAAsBA,EAC5Bn8G,EAAMo8G,oBAAsBA,EAC5Bp8G,EAAMq8G,oBAAsBA,EAC5Br8G,EAAMs8G,oBAAsBA,EAC5Bt8G,EAAMu8G,oBAAsBA,EAC5Bv8G,EAAMw8G,oBAAsBA,EAC5Bx8G,EAAMy8G,oBAAsBA,EAC5Bz8G,EAAM08G,oBAAsBA,EAC5B18G,EAAM28G,oBAAsBA,EAC5B38G,EAAM48G,oBAAsBA,EAC5B58G,EAAM68G,oBAAsBA,EAC5B78G,EAAM88G,oBAAsBA,EAC5B98G,EAAM+8G,oBAAsBA,EAC5B/8G,EAAMg9G,oBAAsBA,EAC5Bh9G,EAAMi9G,oBAAsBA,EAC5Bj9G,EAAMk9G,oBAAsBA,EAC5Bl9G,EAAMm9G,oBAAsBA,EAC5Bn9G,EAAMo9G,oBAAsBA,EAC5Bp9G,EAAMq9G,oBAAsBA,EAC5Br9G,EAAMs9G,oBAAsBA,EAC5Bt9G,EAAMu9G,oBAAsBA,EAC5Bv9G,EAAMw9G,oBAAsBA,EAC5Bx9G,EAAMy9G,oBAAsBA,EAC5Bz9G,EAAM09G,oBAAsBA,EAC5B19G,EAAM29G,oBAAsBA,EAC5B39G,EAAM49G,oBAAsBA,EAC5B59G,EAAM69G,oBAAsBA,EAC5B79G,EAAM89G,oBAAsBA,EAC5B99G,EAAM+9G,oBAAsBA,EAC5B/9G,EAAMg+G,oBAAsBA,EAC5Bh+G,EAAMi+G,oBAAsBA,EAC5Bj+G,EAAMk+G,oBAAsBA,EAC5Bl+G,EAAMm+G,oBAAsBA,EAC5Bn+G,EAAMo+G,oBAAsBA,EAC5Bp+G,EAAMq+G,oBAAsBA,EAC5Br+G,EAAMs+G,oBAAsBA,EAC5Bt+G,EAAMu+G,oBAAsBA,EAC5Bv+G,EAAMw+G,oBAAsBA,EAC5Bx+G,EAAMy+G,oBAAsBA,EAC5Bz+G,EAAM0+G,oBAAsBA,EAC5B1+G,EAAM2+G,oBAAsBA,EAC5B3+G,EAAM4+G,oBAAsBA,EAC5B5+G,EAAM6+G,oBAAsBA,EAC5B7+G,EAAM8+G,oBAAsBA,EAC5B9+G,EAAM++G,oBAAsBA,EAC5B/+G,EAAMg/G,oBAAsBA,EAC5Bh/G,EAAMi/G,oBAAsBA,EAC5Bj/G,EAAMk/G,oBAAsBA,EAC5Bl/G,EAAMm/G,oBAAsBA,EAC5Bn/G,EAAMo/G,oBAAsBA,EAC5Bp/G,EAAMq/G,oBAAsBA,EAC5Br/G,EAAMs/G,oBAAsBA,EAC5Bt/G,EAAMu/G,oBAAsBA,EAC5Bv/G,EAAMw/G,oBAAsBA,EAC5Bx/G,EAAMy/G,oBAAsBA,EAC5Bz/G,EAAM0/G,oBAAsBA,EAC5B1/G,EAAM2/G,oBAAsBA,EAC5B3/G,EAAM4/G,oBAAsBA,EAC5B5/G,EAAM6/G,oBAAsBA,EAC5B7/G,EAAM8/G,oBAAsBA,EAC5B9/G,EAAM+/G,oBAAsBA,EAC5B//G,EAAMggH,oBAAsBA,EAC5BhgH,EAAMigH,oBAAsBA,EAC5BjgH,EAAMkgH,oBAAsBA,EAC5BlgH,EAAMmgH,oBAAsBA,EAC5BngH,EAAMogH,oBAAsBA,EAC5BpgH,EAAMqgH,oBAAsBA,EAC5BrgH,EAAMsgH,oBAAsBA,EAC5BtgH,EAAMugH,oBAAsBA,EAC5BvgH,EAAMwgH,oBAAsBA,EAC5BxgH,EAAMygH,oBAAsBA,EAC5BzgH,EAAM0gH,oBAAsBA,EAC5B1gH,EAAM2gH,oBAAsBA,EAC5B3gH,EAAM4gH,oBAAsBA,EAC5B5gH,EAAM6gH,oBAAsBA,EAC5B7gH,EAAM8gH,oBAAsBA,EAC5B9gH,EAAM+gH,oBAAsBA,EAC5B/gH,EAAMghH,oBAAsBA,EAC5BhhH,EAAMihH,oBAAsBA,EAC5BjhH,EAAMkhH,oBAAsBA,EAC5BlhH,EAAMmhH,oBAAsBA,EAC5BnhH,EAAMohH,oBAAsBA,EAC5BphH,EAAMqhH,oBAAsBA,EAC5BrhH,EAAMshH,oBAAsBA,EAC5BthH,EAAMuhH,oBAAsBA,EAC5BvhH,EAAMwhH,oBAAsBA,EAC5BxhH,EAAMyhH,oBAAsBA,EAC5BzhH,EAAM0hH,oBAAsBA,EAC5B1hH,EAAM2hH,oBAAsBA,EAC5B3hH,EAAM4hH,oBAAsBA,EAC5B5hH,EAAM6hH,oBAAsBA,EAC5B7hH,EAAM8hH,oBAAsBA,EAC5B9hH,EAAM+hH,oBAAsBA,EAC5B/hH,EAAMgiH,oBAAsBA,EAC5BhiH,EAAMiiH,oBAAsBA,EAC5BjiH,EAAMkiH,oBAAsBA,EAC5BliH,EAAMmiH,oBAAsBA,EAC5BniH,EAAMoiH,oBAAsBA,EAC5BpiH,EAAMqiH,oBAAsBA,EAC5BriH,EAAMsiH,oBAAsBA,EAC5BtiH,EAAMuiH,oBAAsBA,EAC5BviH,EAAMwiH,oBAAsBA,EAC5BxiH,EAAMyiH,oBAAsBA,EAC5BziH,EAAM0iH,oBAAsBA,EAC5B1iH,EAAM2iH,oBAAsBA,EAC5B3iH,EAAM4iH,oBAAsBA,EAC5B5iH,EAAM6iH,oBAAsBA,EAC5B7iH,EAAM8iH,oBAAsBA,EAC5B9iH,EAAM+iH,oBAAsBA,EAC5B/iH,EAAMgjH,oBAAsBA,EAC5BhjH,EAAMijH,oBAAsBA,EAC5BjjH,EAAMkjH,oBAAsBA,EAC5BljH,EAAMmjH,oBAAsBA,EAC5BnjH,EAAMojH,oBAAsBA,EAC5BpjH,EAAMqjH,oBAAsBA,EAC5BrjH,EAAMsjH,oBAAsBA,EAC5BtjH,EAAMujH,oBAAsBA,EAC5BvjH,EAAMwjH,oBAAsBA,EAC5BxjH,EAAMyjH,oBAAsBA,EAC5BzjH,EAAM0jH,oBAAsBA,EAC5B1jH,EAAM2jH,oBAAsBA,EAC5B3jH,EAAM4jH,oBAAsBA,EAC5B5jH,EAAM6jH,oBAAsBA,EAC5B7jH,EAAM8jH,oBAAsBA,EAC5B9jH,EAAM+jH,oBAAsBA,EAC5B/jH,EAAMgkH,oBAAsBA,EAC5BhkH,EAAMikH,oBAAsBA,EAC5BjkH,EAAMkkH,oBAAsBA,EAC5BlkH,EAAMmkH,oBAAsBA,EAC5BnkH,EAAMokH,oBAAsBA,EAC5BpkH,EAAMqkH,oBAAsBA,EAC5BrkH,EAAMskH,oBAAsBA,EAC5BtkH,EAAMukH,oBAAsBA,EAC5BvkH,EAAMwkH,oBAAsBA,EAC5BxkH,EAAMykH,oBAAsBA,EAC5BzkH,EAAM0kH,oBAAsBA,EAC5B1kH,EAAM2kH,oBAAsBA,EAC5B3kH,EAAM4kH,oBAAsBA,EAC5B5kH,EAAM6kH,oBAAsBA,EAC5B7kH,EAAM8kH,oBAAsBA,EAC5B9kH,EAAM+kH,oBAAsBA,EAC5B/kH,EAAMglH,oBAAsBA,EAC5BhlH,EAAMilH,oBAAsBA,EAC5BjlH,EAAMklH,oBAAsBA,EAC5BllH,EAAMmlH,oBAAsBA,EAC5BnlH,EAAMolH,oBAAsBA,EAC5BplH,EAAMqlH,oBAAsBA,EAC5BrlH,EAAMslH,oBAAsBA,EAC5BtlH,EAAMulH,oBAAsBA,EAC5BvlH,EAAMwlH,oBAAsBA,EAC5BxlH,EAAMylH,oBAAsBA,EAC5BzlH,EAAM0lH,oBAAsBA,EAC5B1lH,EAAM2lH,oBAAsBA,EAC5B3lH,EAAM4lH,oBAAsBA,EAC5B5lH,EAAM6lH,oBAAsBA,EAC5B7lH,EAAM8lH,oBAAsBA,EAC5B9lH,EAAM+lH,oBAAsBA,EAC5B/lH,EAAMgmH,oBAAsBA,EAC5BhmH,EAAMimH,oBAAsBA,EAC5BjmH,EAAMkmH,oBAAsBA,EAC5BlmH,EAAMmmH,oBAAsBA,EAC5BnmH,EAAMomH,oBAAsBA,EAC5BpmH,EAAMqmH,oBAAsBA,EAC5BrmH,EAAMsmH,oBAAsBA,EAC5BtmH,EAAMumH,oBAAsBA,EAC5BvmH,EAAMwmH,oBAAsBA,EAC5BxmH,EAAMymH,oBAAsBA,EAC5BzmH,EAAM0mH,oBAAsBA,EAC5B1mH,EAAM2mH,oBAAsBA,EAC5B3mH,EAAM4mH,oBAAsBA,EAC5B5mH,EAAM6mH,oBAAsBA,EAC5B7mH,EAAM8mH,oBAAsBA,EAC5B9mH,EAAM+mH,oBAAsBA,EAC5B/mH,EAAMgnH,oBAAsBA,EAC5BhnH,EAAMinH,oBAAsBA,EAC5BjnH,EAAMknH,oBAAsBA,EAC5BlnH,EAAMmnH,oBAAsBA,EAC5BnnH,EAAMonH,oBAAsBA,EAC5BpnH,EAAMqnH,oBAAsBA,EAC5BrnH,EAAMsnH,oBAAsBA,EAC5BtnH,EAAMunH,oBAAsBA,EAC5BvnH,EAAMwnH,oBAAsBA,EAC5BxnH,EAAMynH,oBAAsBA,EAC5BznH,EAAM0nH,oBAAsBA,EAC5B1nH,EAAM2nH,oBAAsBA,EAC5B3nH,EAAM4nH,oBAAsBA,EAC5B5nH,EAAM6nH,oBAAsBA,EAC5B7nH,EAAM8nH,oBAAsBA,EAC5B9nH,EAAM+nH,oBAAsBA,EAC5B/nH,EAAMgoH,oBAAsBA,EAC5BhoH,EAAMioH,oBAAsBA,EAC5BjoH,EAAMkoH,oBAAsBA,EAC5BloH,EAAMmoH,oBAAsBA,EAC5BnoH,EAAMooH,oBAAsBA,EAC5BpoH,EAAMqoH,oBAAsBA,EAC5BroH,EAAMsoH,oBAAsBA,EAC5BtoH,EAAMuoH,oBAAsBA,EAC5BvoH,EAAMwoH,oBAAsBA,EAC5BxoH,EAAMyoH,oBAAsBA,EAC5BzoH,EAAM0oH,oBAAsBA,EAC5B1oH,EAAM2oH,oBAAsBA,EAC5B3oH,EAAM4oH,oBAAsBA,EAC5B5oH,EAAM6oH,oBAAsBA,EAC5B7oH,EAAM8oH,oBAAsBA,EAC5B9oH,EAAM+oH,oBAAsBA,EAC5B/oH,EAAMgpH,oBAAsBA,EAC5BhpH,EAAMipH,oBAAsBA,EAC5BjpH,EAAMkpH,oBAAsBA,EAC5BlpH,EAAMmpH,oBAAsBA,EAC5BnpH,EAAMopH,oBAAsBA,EAC5BppH,EAAMqpH,oBAAsBA,EAC5BrpH,EAAMspH,oBAAsBA,EAC5BtpH,EAAMupH,oBAAsBA,EAC5BvpH,EAAMwpH,oBAAsBA,EAC5BxpH,EAAMypH,oBAAsBA,EAC5BzpH,EAAM0pH,oBAAsBA,EAC5B1pH,EAAM2pH,oBAAsBA,EAC5B3pH,EAAM4pH,oBAAsBA,EAC5B5pH,EAAM6pH,oBAAsBA,EAC5B7pH,EAAM8pH,oBAAsBA,EAC5B9pH,EAAM+pH,oBAAsBA,EAC5B/pH,EAAMgqH,oBAAsBA,EAC5BhqH,EAAMiqH,oBAAsBA,EAC5BjqH,EAAMkqH,oBAAsBA,EAC5BlqH,EAAMmqH,oBAAsBA,EAC5BnqH,EAAMoqH,oBAAsBA,EAC5BpqH,EAAMqqH,oBAAsBA,EAC5BrqH,EAAMsqH,oBAAsBA,EAC5BtqH,EAAMuqH,oBAAsBA,EAC5BvqH,EAAMwqH,oBAAsBA,EAC5BxqH,EAAMyqH,oBAAsBA,EAC5BzqH,EAAM0qH,oBAAsBA,EAC5B1qH,EAAM2qH,oBAAsBA,EAC5B3qH,EAAM4qH,oBAAsBA,EAC5B5qH,EAAM6qH,oBAAsBA,EAC5B7qH,EAAM8qH,oBAAsBA,EAC5B9qH,EAAM+qH,oBAAsBA,EAC5B/qH,EAAMgrH,oBAAsBA,EAC5BhrH,EAAMirH,oBAAsBA,EAC5BjrH,EAAMkrH,oBAAsBA,EAC5BlrH,EAAMmrH,oBAAsBA,EAC5BnrH,EAAMorH,oBAAsBA,EAC5BprH,EAAMqrH,oBAAsBA,EAC5BrrH,EAAMsrH,oBAAsBA,EAC5BtrH,EAAMurH,oBAAsBA,EAC5BvrH,EAAMwrH,oBAAsBA,EAC5BxrH,EAAMyrH,oBAAsBA,EAC5BzrH,EAAM0rH,oBAAsBA,EAC5B1rH,EAAM2rH,oBAAsBA,EAC5B3rH,EAAM4rH,oBAAsBA,EAC5B5rH,EAAM6rH,oBAAsBA,EAC5B7rH,EAAM8rH,oBAAsBA,EAC5B9rH,EAAM+rH,oBAAsBA,EAC5B/rH,EAAMgsH,oBAAsBA,EAC5BhsH,EAAMisH,oBAAsBA,EAC5BjsH,EAAMksH,oBAAsBA,EAC5BlsH,EAAMmsH,oBAAsBA,EAC5BnsH,EAAMosH,oBAAsBA,EAC5BpsH,EAAMqsH,oBAAsBA,EAC5BrsH,EAAMssH,oBAAsBA,EAC5BtsH,EAAMusH,oBAAsBA,EAC5BvsH,EAAMwsH,oBAAsBA,EAC5BxsH,EAAMysH,oBAAsBA,EAC5BzsH,EAAM0sH,oBAAsBA,EAC5B1sH,EAAM2sH,oBAAsBA,EAC5B3sH,EAAM4sH,oBAAsBA,EAC5B5sH,EAAM6sH,oBAAsBA,EAC5B7sH,EAAM8sH,oBAAsBA,EAC5B9sH,EAAM+sH,oBAAsBA,EAC5B/sH,EAAMgtH,oBAAsBA,EAC5BhtH,EAAMitH,oBAAsBA,EAC5BjtH,EAAMktH,oBAAsBA,EAC5BltH,EAAMmtH,oBAAsBA,EAC5BntH,EAAMotH,oBAAsBA,EAC5BptH,EAAMqtH,oBAAsBA,EAC5BrtH,EAAMstH,oBAAsBA,EAC5BttH,EAAMutH,oBAAsBA,EAC5BvtH,EAAMwtH,oBAAsBA,EAC5BxtH,EAAMytH,oBAAsBA,EAC5BztH,EAAM0tH,oBAAsBA,EAC5B1tH,EAAM2tH,oBAAsBA,EAC5B3tH,EAAM4tH,oBAAsBA,EAC5B5tH,EAAM6tH,oBAAsBA,EAC5B7tH,EAAM8tH,oBAAsBA,EAC5B9tH,EAAM+tH,oBAAsBA,EAC5B/tH,EAAMguH,oBAAsBA,EAC5BhuH,EAAM

2G,0BA5zqBR,SAASC,GAAyBxyG,EAAWuO,EAAQtQ,GACjD,OAAOyyC,GAAe,CAAEzyC,KAAMA,GAAQs
Q,EAAQvO,EAAW/B,IA4zqB7D1B,EAAQk2G,gBAAkBriE,GAC1B7zC,EAAQm2G,uBAAyBp6D,GACjC/7C,E
AAQo2G,aAAenwG,EACvBjG,EAAQq2G,YAAclwG,EACtBnG,EAAQs2G,eAAiBzvG,EACzB7G,EAAQu2G,Y
AActyG,EACtBjE,EAAQw2G,YAAcjwG,EACtBvG,EAAQy2G,aAAepwG,EACvBrG,EAAQ02G,aAAe7yG,EAC
vB7D,EAAQ22G,uCAAyChzB,GACjD3jF,EAAQ42G,WAAa/yE,GACrB7jC,EAAQ62G,iBAAmBnwB,GAC3B1
mF,EAAQ82G,YAAc7a,GACtBj8F,EAAQ+2G,wBAA0BvwF,GAClCxmB,EAAQg3G,yBAA2BvyB,GACnCzkF,
EAAQi3G,qBAAuBvxB,GAC/B1lF,EAAQk3G,oBAAsB9wB,GAC9BpmF,EAAQm3G,+CAAiD1kC,GACzDzyE,
EAAQo3G,qCAAuCviB,GAC/C70F,EAAQq3G,qCAAuCviB,GAC/C90F,EAAQs3G,sCAjzmBR,SAASC,GAAkB
h1G,EAAM2gD,GAC7B,IAAIz+C,KAClB4tF,EAAe,KAEd9vF,EAAKrB,eAAe2C,IACrBqI,OAAOkW,e
AAe7f,EAAMsB,EAAa,CACrC4Z,IAAK,WAID,OAHwB,OAApBhZ,IACAA,EAAkBggB,KAAoB8yF,kBAAkB3
0D,GAAkB,SAAWrgD,EAAKb,KAAO,YAAkBuhD,GAAsB1gD,EAAM2gD,KAE5Iz+C,KAKdlC,EAAKrB,eAA
eyF,IACrBuF,OAAOkW,eAAe7f,EAAMoE,EAAgB,CACxC8W,IAAK,WACD,GAAqB,OAAjB40E,EAAuB,E
AAuB,CACvB,IAAIxqC,EAAW5E,GAAsB1gD,EAAM2gD,GACvCh5B,EAAWzF,KACf4tE,EAAenoE,EAASooE,eAAe1vC,
GAAkB,SAAWrgD,EAAKb,KAAO,WAAiB,CAC7FA,KAAMmmD,EAASnmD,KACfa,MAAOslD,EAASslD,SlD,KA
Cf6gD,kBAAmByE,EAASzE,kBAC5Bn5B,KAAMF,GAAoBxnB,GAC1BgwF,SACVvxF,OAAQkpB,EAA
S3G,gBAAgB4gC,aAGzC,OAAOkuC,GAGXjqD,cAAc,KAixmB1BpoC,EAAQw3G,oCAAsB,GAC9Cl1F,EAA
Qy3G,gCAAkC1iB,GAC1C/0F,EAAQ03G,uCAAyCvjB,GACjDtpE,EAAQ23G,gCA5gK4B,EA6gKpC33G,EAA
Q43G,qCAAuChuC,GAC/C5pE,EAAQ63G,wCAA0C3kC,GAClDlzE,EAAQ83G,8CAAgDhkC,GACxD9zE,EAA
Q+3G,eAAiBhiF,GACzB/1B,EAAQg4G,cAAgBnyB,EAAQi4G,iCAAmCloF,GAC3C/vB,EAAQk4G,
KAt9ER,SAASvM,GAAU1mG,EAAO41E,EAAmBqB,EAAgBF,EAAYpD,EAAau/B,GAClFlzG,EAAS,EACT,IA
AI6a,EAAK86D,GAAuBC,GAEhC,MAAO,CAEH1pE,EAAWY,EAAQa,EAAKQ,EAAcpB,EAAc,KAAM,KAAM,KAAM

AAQC,EAASN,GACtF,OAAO,IAAIo3E,GAAkB56D,EAAU6kD,EAAe8V,EAAgB92E,EAAQC,EAASN,IAuhS3FzH,EAAQu8G,gBAlUR,SAASjkC,KAEL,OADAq2B,KACO52B,GAASO,kBAiUpBt4E,EAAQw8G,0CAA4C7vF,GACpD3sB,EAAQy8G,KA9TR,SAASC,GAAsBC,EAAcC,GAAsBC,EAAcC,GAAsBC,EAAc

CZa,OAAQ,KACRspE,aAAc,KACd1nE,cAAe,EACfivE,aAAc,EAEdF,WAAYA,EACZ19E,MAVJA,GAAS,EAWL27E,WAAY,EACZkC,iBAAkB,EAClBC,oBAAqB,EACrBjI,eAAgBA,EAChBC,gBAAiBA,EACjBC,WAAYA,EACZkB,eAAgBA,EAChBF,WAAYA,EACZj3C,SAAUu5E,EACV7hC,aAAcM,GAAiBuhC,GAC/Bv2G,QAASm2GTjpF,QAAS,CACLi0E,GAAIA,EACJxnG,KAAMA,MAAO,EACN0X,MAAO,EAAOA,EACP0X,MAAO,EAAOA,EACP0X,MAAO,EAAOA,EACP

U,KACV57B,KAAM,KACN+pE,MAAO,KACPzG,UAAW,CAAE3rE,MAAOA,KA2kE5B5Q,EAAQwiH,eAAiBp9G,EACzBpF,EAAQyiH,KA7uRR,SAAS5tF,GAAU5jB,EAAML,GACrB,IAAIzJ,EAAM8J,EAAK9J,IAAI2iC,MAAMl5B,GACzB,GAAgB,EAAAZzJ,EAAIlC,MAA6B,CACjC,IAAI86E,EAAgB,EAAAmzE,EAAM9J,EAAIgK,WACrC,OAAOhK,EAAI8tB,QAAQ1tB,SAAWw4E,EAAAOx4E,SAAWw4E,EAAAOzF,cAEtD,GAAgB,EAAAZznE,IAAlC,EAAAllC,MACT,OAAOwyE,GAAWxmE,EAAM9J,EAAIgK,WAAWopE,WAEtC,GAAgB,MAAAZzpE,IAAlC,EAAAllC,MACT,OAAO0yE,GAAe1mE,EAAM9J,EAAIgK,WAAWzB,SAE/C,MAAM,IAAI5O,MAAM,gDAAkDIAkuRtE5Q,EAAQ0iH,uBArXrC,SAASrqC,GAAU,EAAAsqC,EAAAC,EAAAC,EAAA

jS,GAAS8Z,IAGhDm9F,EAAMn9F,WAAaA,GAGJ,OAAnBL,IAIAw9F,EAAMx9F,eAAiBA,GAEJ,OAAnBc,IAMI08F,EAAM18F,eADN08F,EAAM5jH,eAAe,wBAA8CmC,IAAzByhH,EAAM18F,eACzBlc,OAAOgY,OAAOhY,OAAOgY,OAAO,GAAI4gG,EAAM18F,gBAAiBA,GAAvDA,+9PvCpoB,EAAQ+kH,oBAAsBz3F,GAC9BttB,EAAQglH,aAvt+BR,SAASC,GAAAY90+BfnQ,EAAQklH,aAAejrD,GACvBj6D,EAAQmlH,OAASt1G,GACjB7P,EAAQolH,WAAajkH,EACrBnB,EAAQqlH,KA/3DR,SAASC,GAAQ3iC,EAAYzC,EAAYqlC,EAAQ,EAAGC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAI

AClChiD,EAAQiiD,wBAA0BA,GAClCjiD,EAAQ8xD,WAAaA,GACrB9xD,EAAQ22D,uBAAyBA,GACjC32D,EAAQ42D,uBAAyBA,GACjC52D,EAAQ62D,uBAAyBA,GACjC72D,EAAQ82D,uBAAyBA,GACjC92D,EAAQ+2D,uBAAyBA,GACjC/2D,EAAQg3D,uBAAyBA,GACjCh3D,EAAQi3D,uBAAyBA,GACjCj3D,EAAQk3D,uBAAyBA,GACjCl3D,EAAQm3D,uBAAyBA,GACjCn3D,EAAQwxD,YAAcA,GACtBxxD,EAAQsuF,eAAiBA,GACzBtuF,EAAQgH,kBAAoBA,EAC5BhH,EAAQ8K,kBAAoBA,GAC5B9K,EAAQiD,mBAAqBA,EAC7BjD,EAAQuD,iBAAmBA,EAC3BvD,EAAQgK,iBAAmBA,EAC3BhK,EAAQ+K,aAAeA,GACvB/K,EAAQsqD,kBAAoBA,GAC5BtqD,EAAQwS,kBAAoBA,GAC5BxS,EAAQsrD,UAAYA,GACpBtrD,EAAQ0rD,mBAAqBA,GAC7B1rD,EAAQyrD,sBAAwBA,GAChCzrD,EAAQurD,wBAA0BA,GAClCvrD,EAAQirD,aAAeA,GACvBjrD,EAAQ2qD,eAAiBA,GACzB3qD,EAAQuS,iBAAmBA,GAC3BvS,EAAQ2rD,iBAAmBA,GAC3BrD,EAAQwgB,eAAiBA,GACzBxgB,EAAQ2gB,sBAAwBA,GAChC3gB,EAAQ4gB,sBAAwBA,GAChC5gB,EAAQ6gB,eAAiBA,GACzB7gB,EAAQ4D,OAAOA,GACf5D,EAAQ+D,OAAOA,GACf/D,EAAQ8D,OAAOA,GACf9D,EAAQ6D,OAAOA,GACf7D,EAAQ2D,OAAOA,GACf3D,EAAQ0D,OAAOA,GACf1D,EAAQyD,OAAOA,GACfzD,EAAQwD,OAAOA,GACfxD,EAAQuuD,aAAeA,GACvBvuD,EAAQiuD,mBAAqBA,GAC7BjuD,EAAQqqD,UAAYA,GACpBrqD,EAAQ0uD,sBAAwBA,GAChC1uD,EAAQ2uD,UAAYA,GACpB3uD,EAAQ4uD,UAAYA,GACpB5uD,EAAQ6uD,UAAYA,GACpB7uD,EAAQ8uD,UAAYA,GACpB9uD,EAAQ+uD,UAAYA,GACpB/uD,EAAQgvD,UAAYA,GACpBhvD,EAAQivD,UAAYA,GACpBjvD,EAAQkvD,UAAYA,GACpBlvD,EAAQmvD,UAAYA,GACpBnvD,EAAQovD,UAAYA,GACpBpvD,EAAQqvD,UAAYA,GACpBrvD,EAAQsvD,UAAYA,GACpBtvD,EAAQuvD,UAAYA,GACpBvvD,EAAQwvD,UAAYA,GACpBxvD,EAAQyvD,UAAYA,GACpBzvD,EAAQ0vD,UAAYA,GACpB1vD,EAAQ2vD,UAAYA,GACpB3vD,EAAQ4vD,UAAYA,GACpB5vD,EAAQ6vD,UAAYA,GACpB7vD,EAAQ8vD,UAAYA,GACpB9vD,EAAQ+vD,UAAYA,GACpB/vD,EAAQgwD,UAAYA,GACpBhwD,EAAQiwD,UAAYA,GACpBjwD,EAAQkwD,UAAYA,GACpBlwD,EAAQmwD,UAAYA,GACpBnwD,EAAQowD,UAAYA,GACpBpwD,EAAQqwD,UAAYA,GACpBrwD,EAAQswD,UAAYA,GACpBtwD,EAAQuwD,UAAYA,GACpBvwD,EAAQwwD,UAAYA,GACpBxwD,EAAQywD,UAAYA,GACpBzwD,EAAQ0wD,UAAYA,GACpB1wD,EAAQ2wD,UAAYA,GACpB3wD,EAAQ4wD,UAAYA,GACpB5wD,EAAQ6wD,UAAYA,GACpB7wD,EAAQ8wD,UAAYA,GACpB9wD,EAAQ+wD,UAAYA,GACpB/wD,EAAQgxD,UAAYA,GACpBhxD,EAAQixD,UAAYA,GACpBjxD,EAAQkxD,UAAYA,GACpBlxD,EAAQmxD,UAAYA,GACpBnxD,EAAQoxD,UAAYA,GACpBpxD,EAAQqxD,UAAYA,GACpBrxD,EAAQsxD,UAAYA,GACpBtxD,EAAQuxD,UAAYA,GACpBvxD,EAAQwxD,UAAYA,GACpBxxD,EAAQyxD,UAAYA,GACpBzxD,EAAQ0xD,UAAYA,GACpB1xD,EAAQ2xD,UAAYA,GACpB3xD,EAAQ4xD,UAAYA,GACpB5xD,EAAQ6xD,UAAYA,GACpB7xD,EAAQ8xD,UAAYA,GACpB9xD,EAAQ+xD,UAAYA,GACpB/xD,EAAQgyD,UAAYA,GACpBhyD,EAAQiyD,UAAYA,GACpBjyD,EAAQkyD,UAAYA,GACpBlyD,EAAQmyD,UAAYA,GACpBnyD,EAAQoyD,UAAYA,GACpBpyD,EAAQqyD,UAAYA,GACpBryD,EAAQsyD,UAAYA,GACpBtyD,EAAQuyD,UAAYA,GACpBvyD,EAAQwyD,UAAYA,GACpBxyD,EAAQyyD,UAAYA,GACpBzyD,EAAQ0yD,UAAYA,GACpB1yD,EAAQ2yD,UAAYA,GACpB3yD,EAAQ4yD,UAAYA,GACpB5yD,EAAQ6yD,UAAYA,GACpB7yD,EAAQ8yD,UAAYA,GACpB9yD,EAAQ+yD,UAAYA,GACpB/yD,EAAQgzD,UAAYA,GACpBhzD,EAAQizD,UAAYA,GACpBjzD,EAAQkzD,UAAYA,GACpBlzD,EAAQmzD,UAAYA,GACpBnzD,EAAQozD,UAAYA,GACpBpzD,EAAQqzD,UAAYA,GACpBrzD,EAAQszD,UAAYA,GACpBtzD,EAAQuzD,UAAYA,GACpBvzD,EAAQwzD,UAAYA,GACpBxzD,EAAQyzD,UAAYA,GACpBzzD,EAAQ0zD,UAAYA,GACpB1zD,EAAQ2zD,UAAYA,GACpB3zD,EAAQ4zD,UAAYA,GACpB5zD,EAAQ6zD,UAAYA,GACpB7zD,EAAQ8zD,UAAYA,GACpB9zD,EAAQ+zD,UAAYA,GACpB/zD,EAAQg0D,UAAYA,GACpBh0D,EAAQi0D,UAAYA,GACpBj0D,EAAQk0D,UAAYA,GACpBl0D,EAAQm0D,UAAYA,GACpBn0D,EAAQo0D,UAAYA,GACpBp0D,EAAQq0D,UAAYA,GACpBr0D,EAAQs0D,UAAYA,GACpBt0D,EAAQu0D,UAAYA,GACpBv0D,EAAQw0D,UAAYA,GACpBx0D,EAAQy0D,UAAYA,GACpBz0D,EAAQ00D,UAAYA,GACpB10D,EAAQ20D,UAAYA,GACpB30D,EAAQ40D,UAAYA,GACpB50D,EAAQ60D,UAAYA,GACpB70D,EAAQ80D,UAAYA,GACpB90D,EAAQ+0D,UAAYA,GACpB/0D,EAAQg1D,UAAYA,GACpBh1D,EAAQi1D,UAAYA,GACpBj1D,EAAQk1D,UAAYA,GACpBl1D,EAAQm1D,UAAYA,GACpBn1D,EAAQo1D,UAAYA,GACpBp1D,EAAQq1D,UAAYA,GACpBr1D,EAAQs1D,UAAYA,GACpBt1D,EAAQu1D,UAAYA,GACpBv1D,EAAQw1D,UAAYA,GACpBx1D,EAAQy1D,UAAYA,GACpBz1D,EAAQ01D,UAAYA,GACpB11D,EAAQ21D,UAAYA,GACpB31D,EAAQ41D,UAAYA,GACpB51D,EAAQ61D,UAAYA,GACpB71D,EAAQ81D,UAAYA,GACpB91D,EAAQ+1D,UAAYA,GACpB/1D,EAAQg2D,UAAYA,GACpBh2D,EAAQi2D,UAAYA,GACpBj2D,EAAQk2D,UAAYA,GACpBl2D,EAAQm2D,UAAYA,GACpBn2D,EAAQo2D,UAAYA,GACpBp2D,EAAQq2D,UAAYA,GACpBr2D,EAAQs2D,UAAYA,GACpBt2D,EAAQu2D,UAAYA,GACpBv2D,EAAQw2D,UAAYA,GACpBx2D,EAAQy2D,UAAYA,GACpBz2D,EAAQ02D,UAAYA,GACpB12D,EAAQ22D,UAAYA,GACpB32D,EAAQ42D,UAAYA,GACpB52D,EAAQ62D,UAAYA,GACpB72D,EAAQ82D,UAAYA,GACpB92D,EAAQ+2D,UAAYA,GACpB/2D,EAAQg3D,UAAYA,GACpBh3D,EAAQi3D,UAAYA,GACpBj3D,EAAQk3D,UAAYA,GACpBl3D,EAAQm3D,UAAYA,GACpB

```
governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function
getClosureSafeProperty(objWithPropertyToExtract) {\n for (var key in objWithPropertyToExtract) {\n if (objWithPropertyToExtract[key] === getClosureSafeProperty) {\n return key;\n }\n }\n throw Error('Could not find renamed property on target object.');\n }\n /**\n * Sets properties on a target object from a source object, but only if\n * the property doesn't already exist on the target object.\n * @param target The target to set properties on\n * @param source The source of the property keys and values to set\n */\n function fillProperties(target, source) {\n for (var key in source) {\n if (source.hasOwnProperty(key) && !target.hasOwnProperty(key)) {\n target[key] = source[key];\n }\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that
can be\n * found in the LICENSE file at https://angular.io/license\n */\n function stringify(token) {\n if (typeof token === 'string') {\n return token;\n }\n if (Array.isArray(token)) {\n return '[' + token.map(stringify).join(', ') + ']';\n }\n if (token == null) {\n return '' + token;\n }\n if (token.overriddenName) {\n return \"\" + token.overriddenName;\n }\n if (token.name) {\n return \"\" + token.name;\n }\n var res = token.toString();\n if (res == null) {\n return '' + res;\n }\n var newLineIndex = res.indexOf('\\n');\n return newLineIndex === -1 ? res : res.substring(0, newLineIndex);\n }\n /**\n * Concatenates two strings with separator, allocating new strings only when necessary.\n *\n * @param before before string.\n * @param separator separator string.\n * @param after after string.\n * @returns concatenated string.\n */\n function concatStringsWithSpace(before, after) {\n return (before == null || before === '') ?\n (after === null ? '' : after) :\n ((after == null || after === '') ? before : before + ' ' + after);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var __forward_ref__ = getClosureSafeProperty({ __forward_ref__: getClosureSafeProperty });\n /**\n * Allows to refer to references which are not yet defined.\n *\n * For instance, `forwardRef` is used when the `token` which we need to refer to for the purposes of\n * DI is declared, but not yet defined. It is also used when the `token` which we use when creating\n * a query is not yet defined.\n *\n * @usageNotes\n
* ### Example\n * {@example core/di/ts/forward_ref/forward_ref_spec.ts region='forward_ref'}\n * @publicApi\n */\n function forwardRef(forwardRefFn) {\n forwardRefFn.__forward_ref__ = forwardRef;\n forwardRefFn.toString = function () {\n return stringify(this());\n };\n return forwardRefFn;\n }\n /**\n * Lazily retrieves the reference value from a forwardRef.\n *\n * Acts as the identity function when given a non-forward-ref value.\n *\n * @usageNotes\n * ### Example\n *\n * {@example core/di/ts/forward_ref/forward_ref_spec.ts region='resolve_forward_ref'}\n *\n * @see `forwardRef`\n * @publicApi\n */\n function resolveForwardRef(type) {\n return isForwardRef(type) ? type() : type;\n }\n /** Checks whether a function is wrapped by a `forwardRef`. */\n function isForwardRef(fn) {\n return typeof fn === 'function' && fn.hasOwnProperty(__forward_ref__) &&\n fn.__forward_ref__ === forwardRef;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function assertNumber(actual, msg) {\n if (!(typeof actual === 'number')) {\n throwError(msg, typeof actual, 'number', '===');\n }\n }\n function assertNumberInRange(actual, minInclusive, maxInclusive) {\n assertNumber(actual, 'Expected a number');\n assertLessThanOrEqual(actual, maxInclusive, 'Expected number to be less than or equal to');\n assertGreaterThanOrEqual(actual, minInclusive, 'Expected number to be greater than or equal to');\n }\n function assertString(actual, msg) {\n if (!(typeof actual === 'string')) {\n throwError(msg, actual === null ? 'null' : typeof actual, 'string', '===');\n }\n }\n
function assertFunction(actual, msg) {\n if (!(typeof actual === 'function')) {\n throwError(msg, actual === null ? 'null' : typeof actual, 'function', '===');\n }\n }\n function assertEqual(actual, expected, msg) {\n
```

if (!(actual == expected)) {\n throwError(msg, actual, expected, '==');\n }\n }\n function assertNotEqual(actual, expected, msg) {\n if (!(actual != expected)) {\n throwError(msg, actual, expected, '!=');\n }\n }\n function assertSame(actual, expected, msg) {\n if (!(actual === expected)) {\n throwError(msg, actual, expected, '===');\n }\n }\n function assertNotSame(actual, expected, msg) {\n if (!(actual !== expected)) {\n throwError(msg, actual, expected, '!==');\n }\n }\n function assertLessThan(actual, expected, msg) {\n if (!(actual < expected)) {\n throwError(msg, actual, expected, '<');\n\n }\n }\n function assertLessThanOrEqual(actual, expected, msg) {\n if (!(actual <= expected)) {\n throwError(msg, actual, expected, '<=');\n }\n }\n function assertGreaterThan(actual, expected, msg) {\n if (!(actual > expected)) {\n throwError(msg, actual, expected, '>');\n }\n }\n function assertGreaterThanOrEqual(actual, expected, msg) {\n if (!(actual >= expected)) {\n throwError(msg, actual, expected, '>=');\n }\n }\n function assertNotDefined(actual, msg) {\n if (actual != null) {\n throwError(msg, actual, null, '==');\n }\n }\n function assertDefined(actual, msg) {\n if (actual == null) {\n throwError(msg, actual, null, '!=');\n }\n }\n function throwError(msg, actual, expected, comparison) {\n throw new Error(\"ASSERTION ERROR: \" + msg +\n (comparison == null ? " : \" [Expected=> \" + expected + \" \"\n + comparison + \" \" + actual + \" <=Actual]\"));\n }\n function assertDomNode(node) {\n // If we're in a worker, `Node` will not be defined.\n if (!(typeof Node !== 'undefined' && node instanceof Node) &&\n !(typeof node === 'object' && node != null &&\n node.constructor.name === 'WebWorkerRenderNode')) {\n throwError(\"The provided value must be an instance of a DOM Node but got \" + stringify(node));\n }\n }\n function assertIndexInRange(arr, index) {\n assertDefined(arr, 'Array must be defined.');\n var maxLen = arr.length;\n if (index < 0 || index >= maxLen) {\n throwError(\"Index expected to be less than \" + maxLen + \" but got \" + index);\n }\n }\n function assertOneOf(value) {\n var validValues = [];\n for (var _i = 1; _i < arguments.length; _i++) {\n validValues[_i - 1] = arguments[_i];\n }\n if (validValues.indexOf(value)\n !== -1)\n return true;\n throwError(\"Expected value to be one of \" + JSON.stringify(validValues) + \" but was \" + JSON.stringify(value) + \".\");\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Construct an `InjectableDef` which defines how a token will be constructed by the DI system, and\n * in which injectors (if any) it will be available.\n *\n * This should be assigned to a static `prov` field on a type, which will then be an\n * `InjectableType`.\n *\n * Options:\n * * `providedIn` determines which injectors will include the injectable, by either associating it\n * with an `@NgModule` or other `InjectorType`, or by specifying that this injectable should be\n * provided in the ``root'' injector, which will
be the application-level injector in most apps.\n * * `factory` gives the zero argument function which will create an instance of the injectable.\n * The factory can call `inject` to access the `Injector` and request injection of dependencies.\n *\n * @codeGenApi\n * @publicApi This instruction has been emitted by ViewEngine for some time and is deployed to npm.\n */\n function defineInjectable(opts) {\n return {\n token: opts.token,\n providedIn: opts.providedIn || null,\n factory: opts.factory,\n value: undefined,\n };\n }\n /**\n * @deprecated in v8, delete after v10. This API should be used only by generated code, and that\n * code should now use defineInjectable instead.\n * @publicApi\n */\n var defineInjectable = defineInjectable;\n /**\n * Construct an `InjectorDef` which configures an injector.\n *\n * This should be assigned to a static injector
def (`inj`) field on a type, which will then be an\n * `InjectorType`.\n *\n * Options:\n *\n * * `factory`: an `InjectorType` is an instantiable type, so a zero argument `factory` function to\n * create the type must be provided. If that factory function needs to inject arguments, it can\n * use the `inject` function.\n * * `providers`: an optional array of providers to add to the injector. Each provider must\n * either have a factory or point to a type which has a `prov` static property (the\n * type must be an `InjectableType`).\n * * `imports`:

an optional array of imports of other `InjectorType`s or `InjectorTypeWithModule`s\n * whose providers will also be added to the injector. Locally provided types will override\n * providers from imports.\n *\n * @codeGenApi\n */\n function defineInjector(options) {\n return {\n factory: options.factory,\n providers: options.providers
|| [],\n imports: options.imports || [],\n };\n }\n /**\n * Read the injectable def (`prov`) for `type` in a way which is immune to accidentally reading\n * inherited value.\n *\n * @param type A type which may have its own (non-inherited) `prov`.\n */\n function getInjectableDef(type) {\n return getOwnDefinition(type, NG_PROV_DEF) || getOwnDefinition(type, NG_INJECTABLE_DEF);\n }\n /**\n * Return definition only if it is defined directly on `type` and is not inherited from a base\n * class of `type`.\n */\n function getOwnDefinition(type, field) {\n return type.hasOwnProperty(field) ? type[field] : null;\n }\n /**\n * Read the injectable def (`prov`) for `type` or read the `prov` from one of its ancestors.\n *\n * @param type A type which may have `prov`, via inheritance.\n *\n * @deprecated Will be removed in a future version of Angular, where an error will occur in the\n * scenario if we find the `prov` on an ancestor only.\n */\n function getInheritedInjectableDef(type) {\n var def = type && (type[NG_PROV_DEF] || type[NG_INJECTABLE_DEF]);\n if (def) {\n var typeName = getTypeName(type);\n // TODO(FW-1307): Re-add ngDevMode when closure can handle it\n // ngDevMode &&\n console.warn(\"DEPRECATED: DI is instantiating a token \\\"\" + typeName + \"\\\" that inherits its @Injectable decorator but does not provide one itself.\\n\" +\n (\"This will become an error in a future version of Angular. Please add @Injectable() to the \\\"\" + typeName + \"\\\" class.\"));\n return def;\n }\n else {\n return null;\n }\n }\n /** Gets the name of a type, accounting for some cross-browser differences. */\n function getTypeName(type) {\n // `Function.prototype.name` behaves differently between IE and other browsers. In most browsers\n // it'll always return the name of the function itself, no matter how many other functions it\n // inherits from. On IE the function doesn't have its own `name` property, but it takes it from\n // the lowest level in the prototype chain. E.g. if we have `class Foo extends Parent` most\n // browsers will evaluate `Foo.name` to `Foo` while IE will return `Parent`. We work around\n // the issue by converting the function to a string and parsing its name out that way via a regex.\n if (type.hasOwnProperty('name')) {\n return type.name;\n }\n var match = ('' + type).match(/^function\\s*([^\\s(]+)/);\n return match === null ? '' : match[1];\n }\n /**\n * Read the injector def type in a way which is immune to accidentally reading inherited value.\n *\n * @param type type which may have an injector def (`inj`)\n */\n function getInjectorDef(type) {\n return type && (type.hasOwnProperty(NG_INJ_DEF)
|| type.hasOwnProperty(NG_INJECTOR_DEF)) ?\n type[NG_INJ_DEF] :\n null;\n }\n var NG_PROV_DEF = getClosureSafeProperty({ prov: getClosureSafeProperty });\n var NG_INJ_DEF = getClosureSafeProperty({ inj: getClosureSafeProperty });\n // We need to keep these around so we can read off old defs if new defs are unavailable\n var NG_INJECTABLE_DEF = getClosureSafeProperty({ ngInjectableDef: getClosureSafeProperty });\n var NG_INJECTOR_DEF = getClosureSafeProperty({ ngInjectorDef: getClosureSafeProperty });\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n (function (InjectFlags) {\n // TODO(alxhub): make this 'const' when ngc no longer writes exports of it into ngfactory files.\n /** Check self and check parent injector if needed */\n InjectFlags[InjectFlags[\"Default\"] = 0] = \"Default\";\n /**\n * Specifies that an injector should retrieve a dependency from any injector until reaching the\n * host element of the current component. (Only used with Element Injector)\n */\n InjectFlags[InjectFlags[\"Host\"] = 1] = \"Host\";\n /** Don't ascend to ancestors of the node requesting injection. */\n InjectFlags[InjectFlags[\"Self\"] = 2] = \"Self\";\n /** Skip the node that is requesting injection. */\n InjectFlags[InjectFlags[\"SkipSelf\"] = 4] = \"SkipSelf\";\n /** Inject `defaultValue` instead if token not found. */\n InjectFlags[InjectFlags[\"Optional\"] = 8] = \"Optional\";\n })(exports.InjectFlags || (exports.InjectFlags = {}));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source

code is governed by an MIT-style license that can be\n * found in the
LICENSE file at https://angular.io/license\n */\n /**\n * Current implementation of inject.\n *\n * By default, it is `injectInjectorOnly`, which makes it `Injector`-only aware. It can be changed\n * to `directiveInject`, which brings in the `NodeInjector` system of ivy. It is designed this\n * way for two reasons:\n * 1. `Injector` should not depend on ivy logic.\n * 2. To maintain tree shake-ability we don't want to bring in unnecessary code.\n */\n var _injectImplementation;\n function getInjectImplementation() {\n return _injectImplementation;\n }\n /**\n * Sets the current inject implementation.\n */\n function setInjectImplementation(impl) {\n var previous = _injectImplementation;\n _injectImplementation = impl;\n return previous;\n }\n /**\n * Injects `root` tokens in limp mode.\n *\n * If no injector exists, we can still inject tree-shakable providers which have `providedIn`
set to\n * `\"root\"`. This is known as the limp mode injection. In such case the value is stored in the\n * `InjectableDef`.\n */\n function injectRootLimpMode(token, notFoundValue, flags) {\n var injectableDef = getInjectableDef(token);\n if (injectableDef && injectableDef.providedIn == 'root') {\n return injectableDef.value === undefined ? injectableDef.value = injectableDef.factory() :\n injectableDef.value;\n }\n if (flags & exports.InjectFlags.Optional)\n return null;\n if (notFoundValue !== undefined)\n return notFoundValue;\n throw new Error(\"Injector: NOT_FOUND [\" + stringify(token) + \"]\");\n }\n /**\n * Assert that `_injectImplementation` is not `fn`.\n *\n * This is useful, to prevent infinite recursion.\n *\n * @param fn Function which it should not equal to\n */\n function assertInjectImplementationNotEqual(fn) {\n ngDevMode
&&\n assertNotEqual(_injectImplementation, fn, 'Calling inject would cause infinite recursion');\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Convince closure compiler that the wrapped function has no side-effects.\n *\n * Closure compiler always assumes that `toString` has no side-effects. We use this quirk to\n * allow us to execute a function but have closure compiler mark the call as no-side-effects.\n * It is important that the return value for the `noSideEffects` function be assigned\n * to something which is retained otherwise the call to `noSideEffects` will be removed by closure\n * compiler.\n */\n function noSideEffects(fn) {\n return { toString: fn }.toString();\n }\n\n /**\n * @license\n *
Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n (function (ChangeDetectionStrategy) {\n /**\n * Use the `CheckOnce` strategy, meaning that automatic change detection is deactivated\n * until reactivated by setting the strategy to `Default` (`CheckAlways`).\n * Change detection can still be explicitly invoked.\n * This strategy applies to all child directives and cannot be overridden.\n */\n ChangeDetectionStrategy[ChangeDetectionStrategy[\"OnPush\"] = 0] = \"OnPush\";\n /**\n * Use the default `CheckAlways` strategy, in which change detection is automatic until\n * explicitly deactivated.\n */\n ChangeDetectionStrategy[ChangeDetectionStrategy[\"Default\"] = 1] = \"Default\";\n })(exports.ChangeDetectionStrategy || (exports.ChangeDetectionStrategy
= {}));\n (function (ChangeDetectorStatus) {\n /**\n * A state in which, after calling `detectChanges()`, the change detector\n * state becomes `Checked`, and must be explicitly invoked or reactivated.\n */\n ChangeDetectorStatus[ChangeDetectorStatus[\"CheckOnce\"] = 0] = \"CheckOnce\";\n /**\n * A state in which change detection is skipped until the change detector mode\n * becomes `CheckOnce`.\n */\n ChangeDetectorStatus[ChangeDetectorStatus[\"Checked\"] = 1] = \"Checked\";\n /**\n * A state in which change detection continues automatically until explicitly\n * deactivated.\n */\n ChangeDetectorStatus[ChangeDetectorStatus[\"CheckAlways\"] = 2] = \"CheckAlways\";\n /**\n * A state in which a change detector sub tree is not a part of the main tree and\n * should be skipped.\n */\n ChangeDetectorStatus[ChangeDetectorStatus[\"Detached\"]
= 3] = \"Detached\";\n /**\n * Indicates that the change detector encountered an error checking a binding\n * or calling a directive lifecycle method and is now in an inconsistent state. Change\n * detectors in this

state do not detect changes.\n */\n ChangeDetectorStatus[ChangeDetectorStatus[\"Errored\"] = 4] = \"Errored\";\n /**\n * Indicates that the change detector has been destroyed.\n */\n ChangeDetectorStatus[ChangeDetectorStatus[\"Destroyed\"] = 5] = \"Destroyed\";\n })(exports.ChangeDetectorStatus || (exports.ChangeDetectorStatus = {}));\n /**\n * Reports whether a given strategy is currently the default for change detection.\n * @param changeDetectionStrategy The strategy to check.\n * @returns True if the given strategy is the current default, false otherwise.\n * @see `ChangeDetectorStatus`\n * @see `ChangeDetectorRef`\n */\n function isDefaultChangeDetectionStrategy(changeDetectionStrategy)
{\n return changeDetectionStrategy == null ||\n changeDetectionStrategy === exports.ChangeDetectionStrategy.Default;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n (function (ViewEncapsulation) {\n /**\n * Emulate `Native` scoping of styles by adding an attribute containing surrogate id to the Host\n * Element and pre-processing the style rules provided via {@link Component#styles styles} or\n * {@link Component#styleUrls styleUrls}, and adding the new Host Element attribute to all\n * selectors.\n *\n * This is the default option.\n */\n ViewEncapsulation[ViewEncapsulation[\"Emulated\"] = 0] = \"Emulated\";\n // Historically the 1 value was for `Native`
encapsulation which has been removed as of v11.\n /**\n * Don't provide any template or style encapsulation.\n */\n ViewEncapsulation[ViewEncapsulation[\"None\"] = 2] = \"None\";\n /**\n * Use Shadow DOM to encapsulate styles.\n *\n * For the DOM this means using modern [Shadow\n * DOM](https://w3c.github.io/webcomponents/spec/shadow/) and\n * creating a ShadowRoot for Component's Host Element.\n */\n ViewEncapsulation[ViewEncapsulation[\"ShadowDom\"] = 3] = \"ShadowDom\";\n })(exports.ViewEncapsulation || (exports.ViewEncapsulation = {}));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var __globalThis = typeof globalThis !== 'undefined' && globalThis;\n var __window = typeof window !== 'undefined'
&& window;\n var __self = typeof self !== 'undefined' && typeof WorkerGlobalScope !== 'undefined' &&\n self instanceof WorkerGlobalScope && self;\n var __global = typeof global !== 'undefined' && global;\n // Always use __globalThis if available, which is the spec-defined global variable across all\n // environments, then fallback to __global first, because in Node tests both __global and\n // __window may be defined and _global should be __global in that case.\n var _global = __globalThis || __global || __window || __self;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function ngDevModeResetPerfCounters() {\n var locationString = typeof location !== 'undefined' ? location.toString() : '';\n var newCounters = {\n namedConstructors: locationString.indexOf('ngDevMode=namedConstructors')
!= -1,\n firstCreatePass: 0,\n tNode: 0,\n tView: 0,\n rendererCreateTextNode: 0,\n rendererSetText: 0,\n rendererCreateElement: 0,\n rendererAddEventListener: 0,\n rendererSetAttribute: 0,\n rendererRemoveAttribute: 0,\n rendererSetProperty: 0,\n rendererSetClassName: 0,\n rendererAddClass: 0,\n rendererRemoveClass: 0,\n rendererSetStyle: 0,\n rendererRemoveStyle: 0,\n rendererDestroy: 0,\n rendererDestroyNode: 0,\n rendererMoveNode: 0,\n rendererRemoveNode: 0,\n rendererAppendChild: 0,\n rendererInsertBefore: 0,\n rendererCreateComment: 0,\n };\n // Make sure to refer to ngDevMode as ['ngDevMode'] for closure.\n var allowNgDevModeTrue = locationString.indexOf('ngDevMode=false')
=== -1;\n _global['ngDevMode'] = allowNgDevModeTrue && newCounters;\n return newCounters;\n }\n /**\n * This function checks to see if the `ngDevMode` has been set. If yes,\n * then we honor it, otherwise we default to dev mode with additional checks.\n *\n * The idea is that unless we are doing production build where we explicitly\n * set `ngDevMode == false` we should be helping the developer by

providing\n * as much early warning and errors as possible.\n *\n * `defineComponent` is guaranteed to have been called before any component template functions\n * (and thus Ivy instructions), so a single initialization there is sufficient to ensure ngDevMode\n * is defined for the entire instruction set.\n *\n * When checking `ngDevMode` on toplevel, always init it before referencing it\n * (e.g. `((typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode())`), otherwise you can\n * get a `ReferenceError` like in https://github.com/angular/angular/issues/31595.\n *\n * Details on possible values for `ngDevMode` can be found on its docstring.\n *\n * NOTE:\n * - changes to the `ngDevMode` name must be synced with `compiler-cli/src/tooling.ts`.\n */\n function initNgDevMode() {\n // The below checks are to ensure that calling `initNgDevMode` multiple times does not\n // reset the counters.\n // If the `ngDevMode` is not an object, then it means we have not created the perf counters\n // yet.\n if (typeof ngDevMode === 'undefined' || ngDevMode) {\n if (typeof ngDevMode !== 'object') {\n ngDevModeResetPerfCounters();\n }\n return typeof ngDevMode !== 'undefined' && !!ngDevMode;\n }\n return false;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * This file contains reuseable \"empty\" symbols that can be used as default return values\n * in different parts of the rendering code. Because the same symbols are returned, this\n * allows for identity checks against these values to be consistently used by the framework\n * code.\n */\n var EMPTY_OBJ = {};\n var EMPTY_ARRAY = [];\n // freezing the values prevents any code from accidentally inserting new values in\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode()) {\n // These property accesses can be ignored because ngDevMode will be set to false\n // when optimizing code and the whole if statement will be dropped.\n // tslint:disable-next-line:no-toplevel-property-access\n Object.freeze(EMPTY_OBJ);\n // tslint:disable-next-line:no-toplevel-property-access\n Object.freeze(EMPTY_ARRAY);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var NG_COMP_DEF = getClosureSafeProperty({ cmp: getClosureSafeProperty });\n var NG_DIR_DEF = getClosureSafeProperty({ dir: getClosureSafeProperty });\n var NG_PIPE_DEF = getClosureSafeProperty({ pipe: getClosureSafeProperty });\n var NG_MOD_DEF = getClosureSafeProperty({ mod: getClosureSafeProperty });\n var NG_LOC_ID_DEF = getClosureSafeProperty({ loc: getClosureSafeProperty });\n var NG_FACTORY_DEF = getClosureSafeProperty({ fac: getClosureSafeProperty });\n /**\n * If a directive is diPublic, bloomAdd sets a property on the type with this constant as\n * the key and the directive's unique ID as the value. This allows us to map directives to their\n * bloom filter bit for DI.\n */\n // TODO(misko): This is wrong. The NG_ELEMENT_ID should never be minified.\n var NG_ELEMENT_ID = getClosureSafeProperty({ __NG_ELEMENT_ID__: getClosureSafeProperty });\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var _renderCompCount = 0;\n /**\n * Create a component definition object.\n *\n *\n * # Example\n * ```\n * class MyDirective {\n * // Generated by Angular Template Compiler\n * // [Symbol] syntax will not be supported by TypeScript until v2.7\n * static cmp = defineComponent({\n * ...\n * });\n * }\n * ```\n * @codeGenApi\n */\n function defineComponent(componentDefinition) {\n return noSideEffects(function () {\n // Initialize ngDevMode. This must be the first statement in defineComponent.\n // See the `initNgDevMode` docstring for more information.\n (typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode();\n var type = componentDefinition.type;\n var typePrototype = type.prototype;\n var declaredInputs = {};\n var def = {\n type: type,\n providersResolver: null,\n decls: componentDefinition.decls,\n vars: componentDefinition.vars,\n factory: null,\n template: componentDefinition.template || null,\n consts: componentDefinition.consts || null,\n ngContentSelectors: componentDefinition.ngContentSelectors,\n hostBindings: componentDefinition.hostBindings || null,\n hostVars: componentDefinition.hostVars ||

```
0,\n            hostAttrs: componentDefinition.hostAttrs || null,\n            contentQueries:
componentDefinition.contentQueries || null,\n
    declaredInputs: declaredInputs,\n            inputs: null,\n            outputs: null,\n            exportAs:
componentDefinition.exportAs || null,\n            onPush: componentDefinition.changeDetection ===
exports.ChangeDetectionStrategy.OnPush,\n            directiveDefs: null,\n            pipeDefs: null,\n
selectors: componentDefinition.selectors || EMPTY_ARRAY,\n            viewQuery:
componentDefinition.viewQuery || null,\n            features: componentDefinition.features || null,\n            data:
componentDefinition.data || {},\n            // TODO(misko): convert ViewEncapsulation into const enum so that it
can be used\n            // directly in the next line. Also `None` should be 0 not 2.\n            encapsulation:
componentDefinition.encapsulation || exports.ViewEncapsulation.Emulated,\n            id: 'c',\n            styles:
componentDefinition.styles || EMPTY_ARRAY,\n            _: null,\n
            setInput: null,\n            schemas: componentDefinition.schemas || null,\n            tView: null,\n
};\n        var directiveTypes = componentDefinition.directives;\n        var feature =
componentDefinition.features;\n        var pipeTypes = componentDefinition.pipes;\n        def.id +=
_renderCompCount++;\n        def.inputs = invertObject(componentDefinition.inputs, declaredInputs),\n
def.outputs = invertObject(componentDefinition.outputs),\n            feature && feature.forEach(function (fn) {
return fn(def); });\n        def.directiveDefs = directiveTypes ?\n            function () { return (typeof
directiveTypes === 'function' ? directiveTypes() : directiveTypes)\n                .map(extractDirectiveDef); } :\n
    null;\n        def.pipeDefs = pipeTypes ?\n            function () { return (typeof pipeTypes === 'function' ?
pipeTypes() : pipeTypes).map(extractPipeDef);
} :\n            null;\n        return def;\n    });\n}\n/**\n * Generated next to NgModules to monkey-
patch directive and pipe references onto a component's\n * definition, when generating a direct reference in the
component file would otherwise create an\n * import cycle.\n *\n * See [this
explanation](https://hackmd.io/Odw80D0pR6yfsOjg_7XCJg?view) for more details.\n *\n * @codeGenApi\n
*/\nfunction setComponentScope(type, directives, pipes) {\n    var def = type.cmp;\n    def.directiveDefs =
function () { return directives.map(extractDirectiveDef); };\n    def.pipeDefs = function () { return
pipes.map(extractPipeDef); };\n}\nfunction extractDirectiveDef(type) {\n    var def =
getComponentDef(type) || getDirectiveDef(type);\n    if (ngDevMode && !def) {\n        throw new Error(\"\"\" +
type.name + \"' is neither 'ComponentType' or 'DirectiveType'.\");\n    }\n    return def;\n}\n
function extractPipeDef(type) {\n    var def = getPipeDef(type);\n    if (ngDevMode && !def) {\n
throw new Error(\"\"\" + type.name + \"' is not a 'PipeType'.\");\n    }\n    return def;\n}\nvar
autoRegisterModuleById = {};\n/**\n * @codeGenApi\n */\nfunction defineNgModule(def) {\n    var
res = {\n        type: def.type,\n        bootstrap: def.bootstrap || EMPTY_ARRAY,\n        declarations:
def.declarations || EMPTY_ARRAY,\n        imports: def.imports || EMPTY_ARRAY,\n        exports:
def.exports || EMPTY_ARRAY,\n        transitiveCompileScopes: null,\n        schemas: def.schemas || null,\n
    id: def.id || null,\n    };\n    if (def.id != null) {\n        noSideEffects(function () {\n
autoRegisterModuleById[def.id] = def.type;\n        });\n    }\n    return res;\n}\n/**\n * Adds the
module metadata that is necessary to compute the module's
 transitive scope to an\n * existing module definition.\n *\n * Scope metadata of modules is not used in
production builds, so calls to this function can be\n * marked pure to tree-shake it from the bundle, allowing for
all referenced declarations\n * to become eligible for tree-shaking as well.\n *\n * @codeGenApi\n */\n
function setNgModuleScope(type, scope) {\n    return noSideEffects(function () {\n        var ngModuleDef =
getNgModuleDef(type, true);\n        ngModuleDef.declarations = scope.declarations || EMPTY_ARRAY;\n
ngModuleDef.imports = scope.imports || EMPTY_ARRAY;\n        ngModuleDef.exports = scope.exports ||
EMPTY_ARRAY;\n    });\n}\n/**\n * Inverts an inputs or outputs lookup such that the keys, which were
the\n * minified keys, are part of the values, and the values are parsed so that\n * the publicName of the
property is the new key\n *\n * e.g. for\n *\n * ```\n
```

```
 * class Comp {\n  *  @Input()\n  *  propName1: string;\n  *\n  *  @Input('publicName2')\n  *
declaredPropName2: number;\n  * }\n  * ```\n  *\n  * will be serialized as\n  *\n  * ```\n  * {\n  *
propName1: 'propName1',\n  *  declaredPropName2: ['publicName2', 'declaredPropName2'],\n  * }\n  * ```\n
 *\n  * which is than translated by the minifier as:\n  *\n  * ```\n  * {\n  *  minifiedPropName1:
'propName1',\n  *  minifiedPropName2: ['publicName2', 'declaredPropName2'],\n  * }\n  * ```\n  *\n  *
becomes: (public name => minifiedName)\n  *\n  * ```\n  * {\n  *  'propName1': 'minifiedPropName1',\n  *
'publicName2': 'minifiedPropName2',\n  * }\n  * ```\n  *\n  * Optionally the function can take `secondary`
which will result in: (public name => declared name)\n  *\n  * ```\n  * {\n  *  'propName1': 'propName1',\n
*  'publicName2': 'declaredPropName2',\n
  * }\n  * ```\n  *\n\n  */\n  function invertObject(obj, secondary) {\n  if (obj == null)\n  return
EMPTY_OBJ;\n  var newLookup = {};\n  for (var minifiedKey in obj) {\n  if
(obj.hasOwnProperty(minifiedKey)) {\n  var publicName = obj[minifiedKey];\n  var
declaredName = publicName;\n  if (Array.isArray(publicName)) {\n  declaredName =
publicName[1];\n  publicName = publicName[0];\n  }\n  newLookup[publicName] =
minifiedKey;\n  if (secondary) {\n  (secondary[publicName] = declaredName);\n  }\n
  }\n  }\n  return newLookup;\n  }\n  /**\n  * Create a directive definition object.\n  *\n  * #
Example\n  * ```ts\n  * class MyDirective {\n  *  // Generated by Angular Template Compiler\n  *  //
[Symbol] syntax will not be supported by TypeScript
 until v2.7\n  *  static dir = defineDirective({\n  *  ...\n  *  });\n  * }\n  * ```\n  *\n  *
@codeGenApi\n  */\n  var defineDirective = defineComponent;\n  /**\n  * Create a pipe definition object.\n
*\n  * # Example\n  * ```\n  * class MyPipe implements PipeTransform {\n  *  // Generated by Angular
Template Compiler\n  *  static pipe = definePipe({\n  *  ...\n  *  });\n  * }\n  * ```\n  * @param
pipeDef Pipe definition generated by the compiler\n  *\n  * @codeGenApi\n  */\n  function
definePipe(pipeDef) {\n  return {\n  type: pipeDef.type,\n  name: pipeDef.name,\n  factory:
null,\n  pure: pipeDef.pure !== false,\n  onDestroy: pipeDef.type.prototype.ngOnDestroy || null\n
};\n  }\n  /**\n  * The following getter methods retrieve the definition from the type. Currently the retrieval\n
* honors inheritance, but in the
 future we may change the rule to require that definitions are\n  * explicit. This would require some sort of
migration strategy.\n  */\n  function getComponentDef(type) {\n  return type[NG_COMP_DEF] || null;\n
}\n  function getDirectiveDef(type) {\n  return type[NG_DIR_DEF] || null;\n  }\n  function getPipeDef(type)
{\n  return type[NG_PIPE_DEF] || null;\n  }\n  function getNgModuleDef(type, throwNotFound) {\n  var
ngModuleDef = type[NG_MOD_DEF] || null;\n  if (!ngModuleDef && throwNotFound === true) {\n
throw new Error(\"Type \" + stringify(type) + \" does not have '\\u0275mod' property.\");\n  }\n  return
ngModuleDef;\n  }\n  function getNgLocaleIdDef(type) {\n  return type[NG_LOC_ID_DEF] || null;\n  }\n\n
 /**\n  * Special location which allows easy identification of type. If we have an array which was\n  *
retrieved from the `LView` and that array has `true` at `TYPE` location, we know it
 is\n  * `LContainer`.\n  */\n  var TYPE = 1;\n  /**\n  * Below are constants for LContainer indices to help
us look up LContainer members\n  * without having to remember the specific indices.\n  * Uglify will inline
these when minifying so there shouldn't be a cost.\n  */\n  /**\n  * Flag to signify that this `LContainer` may
have transplanted views which need to be change\n  * detected. (see:
`LView[DECLARATION_COMPONENT_VIEW])`.\n  *\n  * This flag, once set, is never unset for the
`LContainer`. This means that when unset we can skip\n  * a lot of work in `refreshEmbeddedViews`. But when
set we still need to verify\n  * that the `MOVED_VIEWS` are transplanted and on-push.\n  */\n  var
HAS_TRANSPLANTED_VIEWS = 2;\n  // PARENT, NEXT, TRANSPLANTED_VIEWS_TO_REFRESH are
indices 3, 4, and 5\n  // As we already have these constants in LView, we don't need to re-create them.\n  //
T_HOST is index 6\n  // We already have this constants in
 LView, we don't need to re-create it.\n  var NATIVE = 7;\n  var VIEW_REFS = 8;\n  var MOVED_VIEWS =
9;\n  /**\n  * Size of LContainer's header. Represents the index after which all views in the\n  * container will
```

be inserted. We need to keep a record of current views so we know\n * which views are already in the DOM (and don't need to be re-added) and so we can\n * remove views from the DOM when they are no longer required.\n */\n var CONTAINER_HEADER_OFFSET = 10;\n // Note: This hack is necessary so we don't erroneously get a circular dependency\n // failure based on types.\n var unusedValueExportToPlacateAjd = 1;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // Below are constants for LView indices to help us look up LView members\n // without having to remember the specific indices.\n // Uglify will inline these when minifying so there shouldn't be a cost.\n var HOST = 0;\n var TVIEW = 1;\n var FLAGS = 2;\n var PARENT = 3;\n var NEXT = 4;\n var TRANSPLANTED_VIEWS_TO_REFRESH = 5;\n var T_HOST = 6;\n var CLEANUP = 7;\n var CONTEXT = 8;\n var INJECTOR = 9;\n var RENDERER_FACTORY = 10;\n var RENDERER = 11;\n var SANITIZER = 12;\n var CHILD_HEAD = 13;\n var CHILD_TAIL = 14;\n // FIXME(misko): Investigate if the three declarations aren't all same thing.\n var DECLARATION_VIEW = 15;\n var DECLARATION_COMPONENT_VIEW = 16;\n var DECLARATION_LCONTAINER = 17;\n var PREORDER_HOOK_FLAGS = 18;\n var QUERIES = 19;\n /**\n * Size of LView's header. Necessary to adjust for it when setting slots.\n *\n * IMPORTANT: `HEADER_OFFSET` should only be referred to the in the `*` instructions to translate\n * instruction index into `LView` index. All other indexes should be in the `LView` index space and\n * there should be no need to refer to `HEADER_OFFSET` anywhere else.\n */\n var HEADER_OFFSET = 20;\n /**\n * Converts `TViewType` into human readable text.\n * Make sure this matches with `TViewType`\n */\n var TViewTypeAsString = [\n 'Root',\n 'Component',\n 'Embedded',\n ];\n // Note: This hack is necessary so we don't erroneously get a circular dependency\n // failure based on types.\n var unusedValueExportToPlacateAjd$1 = 1;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * True if `value` is `LView`.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\n function isLView(value) {\n return Array.isArray(value) && typeof value[TYPE] === 'object';\n }\n /**\n * True if `value` is `LContainer`.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\n function isLContainer(value) {\n return Array.isArray(value) && value[TYPE] === true;\n }\n function isContentQueryHost(tNode) {\n return (tNode.flags & 8 /* hasContentQuery */) !== 0;\n }\n function isComponentHost(tNode) {\n return (tNode.flags & 2 /* isComponentHost */) === 2 /* isComponentHost */;\n }\n function isDirectiveHost(tNode) {\n return (tNode.flags & 1 /* isDirectiveHost */) === 1 /* isDirectiveHost */;\n }\n function isComponentDef(def) {\n return def.template !== null;\n }\n function isRootView(target) {\n return (target[FLAGS] & 512 /* IsRoot */) !== 0;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // [Assert functions do not constraint type when they are guarded by a truthy\n // expression.](https://github.com/microsoft/TypeScript/issues/37295)\n function assertTNodeForLView(tNode, lView) {\n assertTNodeForTView(tNode, lView[TVIEW]);\n }\n function assertTNodeForTView(tNode, tView) {\n assertTNode(tNode);\n tNode.hasOwnProperty('tView_') &&\n assertEqual(tNode.tView_, tView, 'This TNode does not belong to this TView.');\n }\n function assertTNode(tNode) {\n assertDefined(tNode, 'TNode must be defined');\n if (!(tNode && typeof tNode === 'object' && tNode.hasOwnProperty('directiveStylingLast'))) {\n throwError('Not of type TNode, got: ' + tNode);\n }\n }\n function assertTIcu(tIcu) {\n assertDefined(tIcu, 'Expected TIcu to be defined');\n if (!(typeof tIcu.currentCaseLViewIndex === 'number')) {\n throwError('Object is not of TIcu type.');\n }\n }\n function assertComponentType(actual, msg) {\n if (msg === void 0) { msg = 'Type passed in is not ComponentType, it does not have \\'cmp\\' property.'; }\n if (!getComponentDef(actual)) {\n throwError(msg);\n }\n }\n function assertNgModuleType(actual, msg) {\n if (msg === void 0) { msg = 'Type passed in is not NgModuleType, it does not have \\'mod\\' property.'; }\n if

(!getNgModuleDef(actual)) {\n throwError(msg);\n }\n }\n function assertCurrentTNodeIsParent(isParent) {\n assertEqual(isParent, true, 'currentTNode should be a parent');\n }\n function assertHasParent(tNode) {\n assertDefined(tNode, 'currentTNode should exist!');\n assertDefined(tNode.parent, 'currentTNode should have a parent');\n }\n function assertDataNext(lView, index, arr) {\n if (arr == null)\n arr = lView;\n assertEqual(arr.length, index, \"index \" + index + \" expected to be at the end of arr (length \" + arr.length + \")\");\n }\n function assertLContainer(value) {\n assertDefined(value, 'LContainer must be defined');\n assertEqual(isLContainer(value), true, 'Expecting LContainer');\n }\n function assertLViewOrUndefined(value) {\n value && assertEqual(isLView(value), true, 'Expecting LView or undefined or null');\n }\n function assertLView(value) {\n assertDefined(value, 'LView must be defined');\n assertEqual(isLView(value), true, 'Expecting LView');\n }\n function assertFirstCreatePass(tView, errMessage) {\n assertEqual(tView.firstCreatePass, true, errMessage || 'Should only be called in first create pass.');\n }\n function assertFirstUpdatePass(tView, errMessage) {\n assertEqual(tView.firstUpdatePass, true, errMessage || 'Should only be called in first update pass.');\n }\n /**\n * This is a basic sanity check that an object is probably a directive def. DirectiveDef is\n * an interface, so we can't do a direct instanceof check.\n */\n function assertDirectiveDef(obj) {\n if (obj.type === undefined || obj.selectors == undefined || obj.inputs === undefined) {\n throwError(\"Expected a DirectiveDef/ComponentDef and this object does not seem to have the expected shape.\");\n }\n }\n function assertIndexInDeclRange(lView, index) {\n var tView = lView[1];\n assertBetween(HEADER_OFFSET, tView.bindingStartIndex, index);\n }\n function assertIndexInVarsRange(lView, index) {\n var tView = lView[1];\n assertBetween(tView.bindingStartIndex, tView.expandoStartIndex, index);\n }\n function assertIndexInExpandoRange(lView, index) {\n var tView = lView[1];\n assertBetween(tView.expandoStartIndex, lView.length, index);\n }\n function assertBetween(lower, upper, index) {\n if (!(lower <= index && index < upper)) {\n throwError(\"Index out of range (expecting \" + lower + \" <= \" + index + \" < \" + upper + \")\");\n }\n }\n /**\n * This is a basic sanity check that the `injectorIndex` seems to point to what looks like a\n * NodeInjector data structure.\n *\n * @param lView `LView` which should be checked.\n * @param injectorIndex index into the `LView` where the `NodeInjector` is expected.\n */\n function assertNodeInjector(lView, injectorIndex) {\n assertIndexInExpandoRange(lView, injectorIndex);\n assertIndexInExpandoRange(lView, injectorIndex + 8 /* PARENT */);\n assertNumber(lView[injectorIndex + 0], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 1], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 2], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 3], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 4], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 5], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 6], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 7], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 8 /* PARENT */], 'injectorIndex should point to parent injector');\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function getFactoryDef(type, throwNotFound) {\n var hasFactoryDef = type.hasOwnProperty(NG_FACTORY_DEF);\n if (!hasFactoryDef && throwNotFound === true && ngDevMode) {\n throw new Error(\"Type \" + stringify(type) + \" does not have '\\u0275fac' property.\");\n }\n return hasFactoryDef ? type[NG_FACTORY_DEF] : null;\n }\n\n /*! *****************************************************************************\nCopyright (c) Microsoft Corporation.\n\n Permission to use, copy, modify, and/or distribute this software for any\n purpose with or without fee is hereby granted.\n\n THE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\n REGARD TO THIS SOFTWARE INCLUDING ALL

IMPLIED WARRANTIES OF MERCHANTABILITY\n AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\n INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\n LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\n OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\n PERFORMANCE OF THIS SOFTWARE.\n ***************************************************************************** */\n /* global Reflect, Promise */\n var extendStatics = function (d, b) {\n extendStatics = Object.setPrototypeOf ||\n ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\n function (d, b) { for (var p in b)\n if (b.hasOwnProperty(p))\n d[p] = b[p]; };\n return extendStatics(d, b);\n };\n function __extends(d, b) {\n extendStatics(d, b);\n function __() { this.constructor = d; }\n d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\n }\n var __assign = function () {\n __assign = Object.assign || function __assign(t) {\n for (var s, i = 1, n = arguments.length; i < n; i++) {\n s = arguments[i];\n for (var p in s)\n if (Object.prototype.hasOwnProperty.call(s, p))\n t[p] = s[p];\n }\n return t;\n };\n return __assign.apply(this, arguments);\n };\n function __rest(s, e) {\n var t = {};\n for (var p in s)\n if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\n t[p] = s[p];\n if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\n for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\n if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\n t[p[i]] = s[p[i]];\n }\n return t;\n }\n function __decorate(decorators, target, key, desc) {\n var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\n if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\")\n r = Reflect.decorate(decorators, target, key, desc);\n else\n for (var i = decorators.length - 1; i >= 0; i--)\n if (d = decorators[i])\n r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\n return c > 3 && r && Object.defineProperty(target, key, r), r;\n }\n function __param(paramIndex, decorator) {\n return function (target, key) { decorator(target, key, paramIndex); };\n }\n function __metadata(metadataKey, metadataValue) {\n if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n return Reflect.metadata(metadataKey, metadataValue);\n }\n function __awaiter(thisArg, _arguments, P, generator) {\n function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\n return new (P || (P = Promise))(function (resolve, reject) {\n function fulfilled(value) { try {\n step(generator.next(value));\n }\n catch (e) {\n reject(e);\n } }\n function rejected(value) { try {\n step(generator[\"throw\"](value));\n }\n catch (e) {\n reject(e);\n } }\n function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\n step((generator = generator.apply(thisArg, _arguments || [])).next());\n });\n }\n function __generator(thisArg, body) {\n var _ = { label: 0, sent: function () { if (t[0] & 1)\n throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function () { return this; }), g;\n function verb(n) { return function (v) { return step([n, v]); }; }\n function step(op) {\n if (f)\n throw new TypeError(\"Generator is already executing.\");\n while (_)\n try {\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n return t;\n if (y = 0, t)\n op = [op[0] & 2, t.value];\n switch (op[0]) {\n case 0:\n case 1:\n t = op;\n break;\n case 4:\n _.label++;\n return { value: op[1], done: false };\n case 5:\n _.label++;\n y = op[1];\n op = [0];\n continue;\n case 7:\n op = _.ops.pop();\n _.trys.pop();\n continue;\n default:\n

```
if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) {\n
_ = 0;\n continue;\n }\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n
_.label = op[1];\n break;\n }\n if (op[0] === 6 && _.label < t[1]) {\n
_.label = t[1];\n t = op;\n break;\n }\n if (t && _.label < t[2]) {\n
_.label = t[2];\n _.ops.push(op);\n break;\n }\n if (t[2])\n
_.ops.pop();\n _.trys.pop();\n continue;\n }\n op = body.call(thisArg, _);\n
}\n catch (e) {\n op = [6, e];\n y = 0;\n }\n finally {\n f = t = 0;\n }\n
if (op[0] & 5)\n throw op[1];\n return { value: op[0] ? op[1] : void 0, done: true };\n
}\n }\n var __createBinding = Object.create ? (function (o, m, k, k2) {\n
if (k2 === undefined)\n k2 = k;\n Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n
}) : (function (o, m, k, k2) {\n if (k2 === undefined)\n k2 = k;\n o[k2] = m[k];\n });\n
function __exportStar(m, exports) {\n for (var p in m)\n if (p !== \"default\" &&
!exports.hasOwnProperty(p))\n __createBinding(exports, m,
p);\n }\n function __values(o) {\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n
if (m)\n return m.call(o);\n if (o && typeof o.length === \"number\")\n return {\n
next: function () {\n if (o && i >= o.length)\n o = void 0;\n return { value: o && o[i++], done: !o };\n
}\n };\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n
}\n function __read(o, n) {\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n
if (!m)\n return o;\n var i = m.call(o), r, ar = [], e;\n try {\n
while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n ar.push(r.value);\n }\n
catch (error) {\n e = { error: error };\n }\n finally {\n try {\n
if (r && !r.done && (m = i[\"return\"]))\n m.call(i);\n }\n finally {\n
if (e)\n throw e.error;\n }\n }\n return ar;\n }\n function __spread() {\n
for (var ar = [], i = 0; i < arguments.length; i++)\n ar = ar.concat(__read(arguments[i]));\n
return ar;\n }\n function __spreadArrays() {\n for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n
s += arguments[i].length;\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\n
for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n r[k] = a[j];\n
return r;\n }\n ;\n function __await(v) {\n return this instanceof __await ? (this.v = v, this) : new __await(v);\n
}\n function __asyncGenerator(thisArg, _arguments, generator) {\n if (!Symbol.asyncIterator)\n
throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\n
return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\n
function verb(n) { if (g[n])\n i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n
function resume(n, v) { try {\n step(g[n](v));\n }\n catch (e) {\n settle(q[0][3], e);\n } }\n
function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n
function fulfill(value) { resume(\"next\", value); }\n function reject(value) { resume(\"throw\", value); }\n
function settle(f, v) { if (f(v), q.shift(), q.length)\n resume(q[0][0], q[0][1]); }\n }\n function __asyncDelegator(o) {\n
var i, p;\n return i = {}, verb(\"next\"),
verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n
function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n
}\n function __asyncValues(o) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n
var m = o[Symbol.asyncIterator], i;\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"),
verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n
function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n
function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) {
```

```
resolve({ value: v, done: d }); }, reject);
 }\n    }\n    function __makeTemplateObject(cooked, raw) {\n        if (Object.defineProperty) {\n
Object.defineProperty(cooked, \"raw\", { value: raw });\n        }\n        else {\n            cooked.raw = raw;\n        }\n
  return cooked;\n    }\n    ;\n    var __setModuleDefault = Object.create ? (function (o, v) {\n
Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n    }) : function (o, v) {\n        o[\"default\"] =
v;\n    };\n    function __importStar(mod) {\n        if (mod && mod.__esModule)\n            return mod;\n        var
result = {};\n        if (mod != null)\n            for (var k in mod)\n                if (Object.hasOwnProperty.call(mod, k))\n
                __createBinding(result, mod, k);\n        __setModuleDefault(result, mod);\n        return result;\n    }\n
function __importDefault(mod) {\n        return (mod && mod.__esModule) ? mod : { default: mod };\n    }\n
function __classPrivateFieldGet(receiver,
 privateMap) {\n        if (!privateMap.has(receiver)) {\n            throw new TypeError(\"attempted to get private field
on non-instance\");\n        }\n        return privateMap.get(receiver);\n    }\n    function
__classPrivateFieldSet(receiver, privateMap, value) {\n        if (!privateMap.has(receiver)) {\n            throw new
TypeError(\"attempted to set private field on non-instance\");\n        }\n        privateMap.set(receiver, value);\n
return value;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of
this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    var RuntimeError = /** @class */ (function (_super) {\n
__extends(RuntimeError, _super);\n        function RuntimeError(code, message) {\n            var _this =
_super.call(this, formatRuntimeError(code, message)) || this;\n            _this.code = code;\n
            return _this;\n        }\n        return RuntimeError;\n    }(Error));\n    /** Called to format a runtime error */\n
function formatRuntimeError(code, message) {\n        var fullCode = code ? \"NG0\" + code + \": \" : \";\n        return
\"\" + fullCode + message;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n
*\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    /**\n     * Used for stringify render output in Ivy.\n     * Important! This function
is very performance-sensitive and we should\n     * be extra careful not to introduce megamorphic reads in it.\n     *
Check `core/test/render3/perf/render_stringify` for benchmarks and alternate implementations.\n     */\n    function
renderStringify(value) {\n        if (typeof value === 'string')\n            return value;\n        if (value == null)\n
return '';\n
        // Use `String` so that it invokes the `toString` method of the value. Note that this\n        // appears to be faster
than calling `value.toString` (see `render_stringify` benchmark).\n        return String(value);\n    }\n    /**\n     *
Used to stringify a value so that it can be displayed in an error message.\n     * Important! This function contains a
megamorphic read and should only be\n     * used for error messages.\n     */\n    function stringifyForError(value)
{\n        if (typeof value === 'function')\n            return value.name || value.toString();\n        if (typeof value ===
'object' && value != null && typeof value.type === 'function') {\n            return value.type.name ||
value.type.toString();\n        }\n        return renderStringify(value);\n    }\n\n    /** Called when directives inject each
other (creating a circular dependency) */\n    function throwCyclicDependencyError(token, path) {\n        var
depPath = path ? \". Dependency path: \" + path.join('
 > ') + \" > \" + token : \";\n        throw new RuntimeError(\"200\" /* CYCLIC_DI_DEPENDENCY */, \"Circular
dependency in DI detected for \" + token + depPath);\n    }\n    function throwMixedMultiProviderError() {\n
throw new Error(\"Cannot mix multi providers and regular providers\");\n    }\n    function
throwInvalidProviderError(ngModuleType, providers, provider) {\n        var ngModuleDetail = '';\n        if
(ngModuleType && providers) {\n            var providerDetail = providers.map(function (v) { return v == provider ?
'?' + provider + '?' : '...'; });\n            ngModuleDetail =\n                \" - only instances of Provider and Type are
allowed, got: [\" + providerDetail.join(', ') + \"]\";\n        }\n        throw new Error(\"Invalid provider for the
NgModule '\" + stringify(ngModuleType) + \"'\" + ngModuleDetail);\n    }\n    /** Throws an error when a token is
not found in DI. */\n    function throwProviderNotFoundError(token, injectorName) {\n        var
 injectorDetails = injectorName ? \" in \" + injectorName : '';\n        throw new RuntimeError(\"201\" /*
PROVIDER_NOT_FOUND */, \"No provider for \" + stringifyForError(token) + \" found\" + injectorDetails);\n
```

```
}\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Represents a basic change from a previous to a new value for a single\n     * property on a directive instance. Passed as a value in a\n     * {@link SimpleChanges} object to the `ngOnChanges` hook.\n     *\n     * @see `OnChanges`\n     *\n     * @publicApi\n     */\n    var SimpleChange = /** @class */ (function () {\n        function SimpleChange(previousValue, currentValue, firstChange) {\n            this.previousValue = previousValue;\n            this.currentValue = currentValue;\n            this.firstChange = firstChange;\n        }\n        /**\n         * Check whether the new value is the first value assigned.\n         */\n        SimpleChange.prototype.isFirstChange = function () {\n            return this.firstChange;\n        };\n        return SimpleChange;\n    }());\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * The NgOnChangesFeature decorates a component with support for the ngOnChanges\n     * lifecycle hook, so it should be included in any component that implements\n     * that hook.\n     *\n     * If the component or directive uses inheritance, the NgOnChangesFeature MUST\n     * be included as a feature AFTER {@link InheritDefinitionFeature}, otherwise\n     * inherited properties will not be propagated to the ngOnChanges lifecycle\n     * hook.\n     *\n     * Example usage:\n     *\n     * ```\n     * static cmp = defineComponent({\n     *   ...\n     *   inputs: {name: 'publicName'},\n     *   features: [NgOnChangesFeature]\n     * });\n     * ```\n     *\n     * @codeGenApi\n     */\n    function NgOnChangesFeature() {\n        return NgOnChangesFeatureImpl;\n    }\n    function NgOnChangesFeatureImpl(definition) {\n        if (definition.type.prototype.ngOnChanges) {\n            definition.setInput = ngOnChangesSetInput;\n        }\n        return rememberChangeHistoryAndInvokeOnChangesHook;\n    }\n    // This option ensures that the ngOnChanges lifecycle hook will be inherited\n    // from superclasses (in InheritDefinitionFeature).\n    /** @nocollapse */\n    // tslint:disable-next-line:no-toplevel-property-access\n    NgOnChangesFeature.ngInherit = true;\n    /**\n     * This is a synthetic lifecycle hook which gets inserted into `TView.preOrderHooks` to simulate\n     * `ngOnChanges`.\n     *\n     * The hook reads the `NgSimpleChangesStore` data from the component instance and if changes are\n     * found it invokes `ngOnChanges` on the component instance.\n     *\n     * @param this Component instance. Because this function gets inserted into `TView.preOrderHooks`,\n     *     it is guaranteed to be called with component instance.\n     */\n    function rememberChangeHistoryAndInvokeOnChangesHook() {\n        var simpleChangesStore = getSimpleChangesStore(this);\n        var current = simpleChangesStore === null || simpleChangesStore === void 0 ? void 0 : simpleChangesStore.current;\n        if (current) {\n            var previous = simpleChangesStore.previous;\n            if (previous === EMPTY_OBJ) {\n                simpleChangesStore.previous = current;\n            }\n            else {\n                // New changes are copied to the previous store, so that we don't lose history for inputs\n                // which were not changed this time\n                for (var key in current) {\n                    previous[key] = current[key];\n                }\n            }\n            simpleChangesStore.current = null;\n            this.ngOnChanges(current);\n        }\n    }\n    function ngOnChangesSetInput(instance, value, publicName, privateName) {\n        var simpleChangesStore = getSimpleChangesStore(instance) ||\n            setSimpleChangesStore(instance, { previous: EMPTY_OBJ, current: null });\n        var current = simpleChangesStore.current || (simpleChangesStore.current = {});\n        var previous = simpleChangesStore.previous;\n        var declaredName = this.declaredInputs[publicName];\n        var previousChange = previous[declaredName];\n        current[declaredName] = new SimpleChange(previousChange && previousChange.currentValue, value, previous === EMPTY_OBJ);\n        instance[privateName] = value;\n    }\n    var SIMPLE_CHANGES_STORE = '__ngSimpleChanges__';\n    function getSimpleChangesStore(instance) {\n        return instance[SIMPLE_CHANGES_STORE] || null;\n    }\n    function setSimpleChangesStore(instance, store) {\n        return instance[SIMPLE_CHANGES_STORE] = store;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
```

https://angular.io/license\n */\n var SVG_NAMESPACE = 'http://www.w3.org/2000/svg';\n var MATH_ML_NAMESPACE = 'http://www.w3.org/1998/MathML/';\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * This property will be monkey-patched on elements, components and directives\n */\n var MONKEY_PATCH_KEY_NAME = '__ngContext__';\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed
by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Most of the use of `document` in Angular is from within the DI system so it is possible to simply\n * inject the `DOCUMENT` token and are done.\n *\n * Ivy is special because it does not rely upon the DI and must get hold of the document some other\n * way.\n *\n * The solution is to define `getDocument()` and `setDocument()` top-level functions for ivy.\n * Wherever ivy needs the global document, it calls `getDocument()` instead.\n *\n * When running ivy outside of a browser environment, it is necessary to call `setDocument()` to\n * tell ivy what the global `document` is.\n *\n * Angular does this for us in each of the standard platforms (`Browser`, `Server`, and `WebWorker`)\n * by calling `setDocument()` when providing the `DOCUMENT` token.\n */\n var DOCUMENT = undefined;\n /**\n * Tell ivy what
the `document` is for this platform.\n *\n * It is only necessary to call this if the current platform is not a browser.\n *\n * @param document The object representing the global `document` in this environment.\n */\n function setDocument(document) {\n DOCUMENT = document;\n }\n /**\n * Access the object that represents the `document` for this platform.\n *\n * Ivy calls this whenever it needs to access the `document` object.\n * For example to create the renderer or to do sanitization.\n */\n function getDocument() {\n if (DOCUMENT !== undefined) {\n return DOCUMENT;\n }\n else if (typeof document !== 'undefined') {\n return document;\n }\n // No \"document\" can be found. This should only happen if we are running ivy outside Angular and\n // the current platform is not a browser. Since this is not a supported scenario at the moment\n // this should not
happen in Angular apps.\n // Once we support running ivy outside of Angular we will need to publish `setDocument()` as a\n // public API. Meanwhile we just return `undefined` and let the application fail.\n return undefined;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // TODO: cleanup once the code is merged in angular/angular\n var RendererStyleFlags3;\n (function (RendererStyleFlags3) {\n RendererStyleFlags3[RendererStyleFlags3[\"Important\"] = 1] = \"Important\";\n RendererStyleFlags3[RendererStyleFlags3[\"DashCase\"] = 2] = \"DashCase\";\n })(RendererStyleFlags3 || (RendererStyleFlags3 = {}));\n /** Returns whether the `renderer` is a `ProceduralRenderer3` */\n function isProceduralRenderer(renderer) {\n return !!(renderer.listen);\n }\n var 0 = function (hostElement, rendererType) {\n return getDocument();\n };\n var domRendererFactory3 = {\n createRenderer: 0\n };\n // Note: This hack is necessary so we don't erroneously get a circular dependency\n // failure based on types.\n var unusedValueExportToPlacateAjd$2 = 1;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * For efficiency reasons we often put several different data types (`RNode`, `LView`, `LContainer`)\n * in same location in `LView`. This is because we don't want to pre-allocate space for it\n * because the storage is sparse. This file contains utilities for dealing with such data types.\n *\n * How do we know what is stored at a given location in `LView`.\n * - `Array.isArray(value)
=== false` => `RNode` (The normal storage value)\n * - `Array.isArray(value) === true` => then the `value[0]` represents the wrapped value.\n * - `typeof value[TYPE] === 'object'` => `LView`\n * - This happens when we have a component at a given location\n * - `typeof value[TYPE] === true` => `LContainer`\n * - This happens when we have `LContainer` binding at a given location.\n *\n *\n * NOTE: it is assumed that

`Array.isArray` and `typeof` operations are very efficient.\n */\n /**\n * Returns `RNode`.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\n function unwrapRNode(value) {\n while (Array.isArray(value)) {\n value = value[HOST];\n }\n return value;\n }\n /**\n * Returns `LView` or `null` if not found.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\n function unwrapLView(value) {\n while (Array.isArray(value))
{\n // This check is same as `isLView()` but we don't call at as we don't want to call\n // `Array.isArray()` twice and give JITer more work for inlining.\n if (typeof value[TYPE] === 'object')\n return value;\n value = value[HOST];\n }\n return null;\n }\n /**\n * Returns `LContainer` or `null` if not found.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\n function unwrapLContainer(value) {\n while (Array.isArray(value)) {\n // This check is same as `isLContainer()` but we don't call at as we don't want to call\n // `Array.isArray()` twice and give JITer more work for inlining.\n if (value[TYPE] === true)\n return value;\n value = value[HOST];\n }\n return null;\n }\n /**\n * Retrieves an element value from the provided `viewData`, by unwrapping\n * from any containers,
component views, or style contexts.\n */\n function getNativeByIndex(index, lView) {\n ngDevMode && assertIndexInRange(lView, index);\n ngDevMode && assertGreaterThanOrEqual(index, HEADER_OFFSET, 'Expected to be past HEADER_OFFSET');\n return unwrapRNode(lView[index]);\n }\n /**\n * Retrieve an `RNode` for a given `TNode` and `LView`.\n *\n * This function guarantees in dev mode to retrieve a non-null `RNode`.\n *\n * @param tNode\n * @param lView\n */\n function getNativeByTNode(tNode, lView) {\n ngDevMode && assertTNodeForLView(tNode, lView);\n ngDevMode && assertIndexInRange(lView, tNode.index);\n var node = unwrapRNode(lView[tNode.index]);\n ngDevMode && !isProceduralRenderer(lView[RENDERER]) && assertDomNode(node);\n return node;\n }\n /**\n * Retrieve an `RNode` or `null` for a given `TNode` and `LView`.\n *\n * Some `TNode`s don't have associated `RNode`s. For
example `Projection`\n *\n * @param tNode\n * @param lView\n */\n function getNativeByTNodeOrNull(tNode, lView) {\n var index = tNode === null ? -1 : tNode.index;\n if (index !== -1) {\n ngDevMode && assertTNodeForLView(tNode, lView);\n var node = unwrapRNode(lView[index]);\n ngDevMode && node !== null && !isProceduralRenderer(lView[RENDERER]) && assertDomNode(node);\n return node;\n }\n return null;\n }\n // fixme(misko): The return Type should be `TNode|null`\n function getTNode(tView, index) {\n ngDevMode && assertGreaterThan(index, -1, 'wrong index for TNode');\n ngDevMode && assertLessThan(index, tView.data.length, 'wrong index for TNode');\n var tNode = tView.data[index];\n ngDevMode && tNode !== null && assertTNode(tNode);\n return tNode;\n }\n /** Retrieves a value from any `LView` or `TData`. */\n function load(view, index) {\n
ngDevMode && assertIndexInRange(view, index);\n return view[index];\n }\n function getComponentLViewByIndex(nodeIndex, hostView) {\n // Could be an LView or an LContainer. If LContainer, unwrap to find LView.\n ngDevMode && assertIndexInRange(hostView, nodeIndex);\n var slotValue = hostView[nodeIndex];\n var lView = isLView(slotValue) ? slotValue : slotValue[HOST];\n return lView;\n }\n /**\n * Returns the monkey-patch value data present on the target (which could be\n * a component, directive or a DOM node).\n */\n function readPatchedData(target) {\n ngDevMode && assertDefined(target, 'Target expected');\n return target[MONKEY_PATCH_KEY_NAME] || null;\n }\n function readPatchedLView(target) {\n var value = readPatchedData(target);\n if (value) {\n return Array.isArray(value) ? value : value.lView;\n }\n return null;\n }\n /** Checks whether a given view
is in creation mode */\n function isCreationMode(view) {\n return (view[FLAGS] & 4 /* CreationMode */) === 4 /* CreationMode */;\n }\n /**\n * Returns a boolean for whether the view is attached to the change detection tree.\n *\n * Note: This determines whether a view should be checked, not whether it's inserted\n * into a container. For that, you'll want `viewAttachedToContainer` below.\n */\n function viewAttachedToChangeDetector(view) {\n return (view[FLAGS] & 128 /* Attached */) === 128 /* Attached

```
*/;\n    }\n    /** Returns a boolean for whether the view is attached to a container. */\n    function viewAttachedToContainer(view) {\n        return isLContainer(view[PARENT]);\n    }\n    function getConstant(consts, index) {\n        if (index === null || index === undefined)\n            return null;\n        ngDevMode && assertIndexInRange(consts, index);\n        return consts[index];\n    }\n    /**\n     * Resets the pre-order hook
 flags of the view.\n     * @param lView the LView on which the flags are reset\n     */\n    function resetPreOrderHookFlags(lView) {\n        lView[PREORDER_HOOK_FLAGS] = 0;\n    }\n    /**\n     * Updates the `TRANSPLANTED_VIEWS_TO_REFRESH` counter on the `LContainer` as well as the parents\n     * whose\n     *  1. counter goes from 0 to 1, indicating that there is a new child that has a view to refresh\n     *  or\n     *  2. counter goes from 1 to 0, indicating there are no more descendant views to refresh\n     */\n    function updateTransplantedViewCount(lContainer, amount) {\n        lContainer[TRANSPLANTED_VIEWS_TO_REFRESH] += amount;\n        var viewOrContainer = lContainer;\n        var parent = lContainer[PARENT];\n        while (parent !== null &&\n            ((amount === 1 &&
 viewOrContainer[TRANSPLANTED_VIEWS_TO_REFRESH] === 1) ||\n                (amount === -1 &&
 viewOrContainer[TRANSPLANTED_VIEWS_TO_REFRESH] === 0))) {\n            parent[TRANSPLANTED_VIEWS_TO_REFRESH]
 += amount;\n            viewOrContainer = parent;\n            parent = parent[PARENT];\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var instructionState = {\n        lFrame: createLFrame(null),\n        bindingsEnabled: true,\n        isInCheckNoChangesMode: false,\n    };\n    /**\n     * Returns true if the instruction state stack is empty.\n     *\n     * Intended to be called from tests only (tree shaken otherwise).\n     */\n    function specOnlyIsInstructionStateEmpty() {\n        return instructionState.lFrame.parent === null;\n    }\n    function getElementDepthCount() {\n        return instructionState.lFrame.elementDepthCount;\n    }\n    function increaseElementDepthCount() {\n        instructionState.lFrame.elementDepthCount++;\n    }\n    function decreaseElementDepthCount()
 {\n        instructionState.lFrame.elementDepthCount--;\n    }\n    function getBindingsEnabled() {\n        return instructionState.bindingsEnabled;\n    }\n    /**\n     * Enables directive matching on elements.\n     *\n     *  * Example:\n     * ```\n     * <my-comp my-directive>\n     *   Should match component / directive.\n     * </my-comp>\n     * <div ngNonBindable>\n     *   <!-- disableBindings() -->\n     *   <my-comp my-directive>\n     *   Should not match component / directive because we are in ngNonBindable.\n     *   </my-comp>\n     *   <!-- enableBindings() -->\n     * </div>\n     * ```\n     *\n     * @codeGenApi\n     */\n    function enableBindings() {\n        instructionState.bindingsEnabled = true;\n    }\n    /**\n     * Disables directive matching on element.\n     *\n     *  * Example:\n     * ```\n     * <my-comp my-directive>\n     *   Should match component / directive.\n     * </my-comp>\n     * <div ngNonBindable>\n
 *   <!-- disableBindings() -->\n     *   <my-comp my-directive>\n     *   Should not match component / directive because we are in ngNonBindable.\n     *   </my-comp>\n     *   <!-- enableBindings() -->\n     * </div>\n     * ```\n     *\n     * @codeGenApi\n     */\n    function disableBindings() {\n        instructionState.bindingsEnabled = false;\n    }\n    /**\n     * Return the current `LView`.\n     */\n    function getLView() {\n        return instructionState.lFrame.lView;\n    }\n    /**\n     * Return the current `TView`.\n     */\n    function getTView() {\n        return instructionState.lFrame.tView;\n    }\n    /**\n     * Restores `contextViewData` to the given OpaqueViewState instance.\n     *\n     * Used in conjunction with the getCurrentView() instruction to save a snapshot\n     * of the current view and restore it when listeners are invoked. This allows\n     * walking the declaration view tree in listeners to get vars from parent views.\n     *\n     * @param
 viewToRestore The OpaqueViewState instance to restore.\n     *\n     * @codeGenApi\n     */\n    function restoreView(viewToRestore) {\n        instructionState.lFrame.contextLView = viewToRestore;\n    }\n    function getCurrentTNode() {\n        var currentTNode = getCurrentTNodePlaceholderOk();\n        while (currentTNode !== null && currentTNode.type === 64 /* Placeholder */) {\n            currentTNode = currentTNode.parent;\n        }\n
```

```
 return currentTNode;\n    }\n    function getCurrentTNodePlaceholderOk() {\n        return
instructionState.lFrame.currentTNode;\n    }\n    function getCurrentParentTNode() {\n        var lFrame =
instructionState.lFrame;\n        var currentTNode = lFrame.currentTNode;\n        return lFrame.isParent ?
currentTNode : currentTNode.parent;\n    }\n    function setCurrentTNode(tNode, isParent) {\n        ngDevMode &&
tNode && assertTNodeForTView(tNode, instructionState.lFrame.tView);\n        var lFrame =
instructionState.lFrame;\n
     lFrame.currentTNode = tNode;\n        lFrame.isParent = isParent;\n    }\n    function isCurrentTNodeParent() {\n
    return instructionState.lFrame.isParent;\n    }\n    function setCurrentTNodeAsNotParent() {\n
instructionState.lFrame.isParent = false;\n    }\n    function setCurrentTNodeAsParent() {\n
instructionState.lFrame.isParent = true;\n    }\n    function getContextLView() {\n        return
instructionState.lFrame.contextLView;\n    }\n    function isInCheckNoChangesMode() {\n        // TODO(misko):
remove this from the LView since it is ngDevMode=true mode only.\n        return
instructionState.isInCheckNoChangesMode;\n    }\n    function setIsInCheckNoChangesMode(mode) {\n
instructionState.isInCheckNoChangesMode = mode;\n    }\n    // top level variables should not be exported for
performance reasons (PERF_NOTES.md)\n    function getBindingRoot() {\n        var lFrame =
instructionState.lFrame;\n        var index = lFrame.bindingRootIndex;\n
    if (index === -1) {\n            index = lFrame.bindingRootIndex = lFrame.tView.bindingStartIndex;\n        }\n
return index;\n    }\n    function getBindingIndex() {\n        return instructionState.lFrame.bindingIndex;\n    }\n
function setBindingIndex(value) {\n        return instructionState.lFrame.bindingIndex = value;\n    }\n    function
nextBindingIndex() {\n        return instructionState.lFrame.bindingIndex++;\n    }\n    function
incrementBindingIndex(count) {\n        var lFrame = instructionState.lFrame;\n        var index =
lFrame.bindingIndex;\n        lFrame.bindingIndex = lFrame.bindingIndex + count;\n        return index;\n    }\n
function isInI18nBlock() {\n        return instructionState.lFrame.inI18n;\n    }\n    function
setInI18nBlock(isInI18nBlock) {\n        instructionState.lFrame.inI18n = isInI18nBlock;\n    }\n    /**\n     * Set a
new binding root index so that host template functions can execute.\n     *\n     * Bindings inside the host template
 are 0 index. But because we don't know ahead of time\n     * how many host bindings we have we can't pre-compute
them. For this reason they are all\n     * 0 index and we just shift the root so that they match next available location
in the LView.\n     *\n     * @param bindingRootIndex Root index for `hostBindings`\n     * @param
currentDirectiveIndex `TData[currentDirectiveIndex]` will point to the current directive\n     *        whose
`hostBindings` are being processed.\n     */\n    function setBindingRootForHostBindings(bindingRootIndex,
currentDirectiveIndex) {\n        var lFrame = instructionState.lFrame;\n        lFrame.bindingIndex =
lFrame.bindingRootIndex = bindingRootIndex;\n        setCurrentDirectiveIndex(currentDirectiveIndex);\n    }\n
/**\n     * When host binding is executing this points to the directive index.\n     *
`TView.data[getCurrentDirectiveIndex()]` is `DirectiveDef`\n     * `LView[getCurrentDirectiveIndex()]` is directive
instance.\n     */\n
  function getCurrentDirectiveIndex() {\n        return instructionState.lFrame.currentDirectiveIndex;\n    }\n    /**\n
 * Sets an index of a directive whose `hostBindings` are being processed.\n     *\n     * @param
currentDirectiveIndex `TData` index where current directive instance can be found.\n     */\n    function
setCurrentDirectiveIndex(currentDirectiveIndex) {\n        instructionState.lFrame.currentDirectiveIndex =
currentDirectiveIndex;\n    }\n    /**\n     * Retrieve the current `DirectiveDef` which is active when `hostBindings`
instruction is being\n     * executed.\n     *\n     * @param tData Current `TData` where the `DirectiveDef` will be
looked up at.\n     */\n    function getCurrentDirectiveDef(tData) {\n        var currentDirectiveIndex =
instructionState.lFrame.currentDirectiveIndex;\n        return currentDirectiveIndex === -1 ? null :
tData[currentDirectiveIndex];\n    }\n    function getCurrentQueryIndex() {\n        return
instructionState.lFrame.currentQueryIndex;\n
   }\n    function setCurrentQueryIndex(value) {\n        instructionState.lFrame.currentQueryIndex = value;\n    }\n
/**\n     * Returns a `TNode` of the location where the current `LView` is declared at.\n     *\n     * @param lView
an `LView` that we want to find parent `TNode` for.\n     */\n    function getDeclarationTNode(lView) {\n        var
```

```
tView = lView[TVIEW];\n        // Return the declaration parent for embedded views\n        if (tView.type === 2 /* Embedded */) {\n            ngDevMode && assertDefined(tView.declTNode, 'Embedded TNodes should have declaration parents.');\n            return tView.declTNode;\n        }\n        // Components don't have `TView.declTNode` because each instance of component could be\n        // inserted in different location, hence `TView.declTNode` is meaningless.\n        // Falling back to `T_HOST` in case we cross component boundary.\n        if (tView.type === 1 /* Component */) {\n            return lView[T_HOST];\n        }\n        // Remaining TNode type is `TViewType.Root` which doesn't have a parent TNode.\n        return null;\n    }\n    /**\n     * This is a light weight version of the `enterView` which is needed by the DI system.\n     *\n     * @param lView `LView` location of the DI context.\n     * @param tNode `TNode` for DI context\n     * @param flags DI context flags. if `SkipSelf` flag is set than we walk up the declaration\n     *     tree from `tNode` until we find parent declared `TElementNode`.\n     * @returns `true` if we have successfully entered DI associated with `tNode` (or with declared\n     *     `TNode` if `flags` has  `SkipSelf`). Failing to enter DI implies that no associated\n     *     `NodeInjector` can be found and we should instead use `ModuleInjector`.\n     *     - If `true` than this call must be fallowed by `leaveDI`\n     *     - If `false` than this call failed and we should NOT call `leaveDI`\n     */\n    function enterDI(lView, tNode, flags) {\n        ngDevMode && assertLViewOrUndefined(lView);\n        if (flags & exports.InjectFlags.SkipSelf) {\n            ngDevMode && assertTNodeForTView(tNode, lView[TVIEW]);\n            var parentTNode = tNode;\n            var parentLView = lView;\n            while (true) {\n                ngDevMode && assertDefined(parentTNode, 'Parent TNode should be defined');\n                parentTNode = parentTNode.parent;\n                if (parentTNode === null && !(flags & exports.InjectFlags.Host)) {\n                    parentTNode = getDeclarationTNode(parentLView);\n                    if (parentTNode === null)\n                        break;\n                    // In this case, a parent exists and is definitely an element. So it will definitely\n                    // have an existing lView as the declaration view, which is why we can assume it's defined.\n                    ngDevMode && assertDefined(parentLView, 'Parent LView should be defined');\n                    parentLView = parentLView[DECLARATION_VIEW];\n                    // In Ivy there are Comment nodes that correspond to ngIf and NgFor embedded directives\n                    // We want to skip those and look only at Elements and ElementContainers to ensure\n                    // we're looking at true parent nodes, and not content or other types.\n                    if (parentTNode.type & (2 /* Element */ | 8 /* ElementContainer */)) {\n                        break;\n                    }\n                }\n                else {\n                    break;\n                }\n            }\n            if (parentTNode === null) {\n                // If we failed to find a parent TNode this means that we should use module injector.\n                return false;\n            }\n            else {\n                tNode = parentTNode;\n                lView = parentLView;\n            }\n        }\n        ngDevMode && assertTNodeForLView(tNode, lView);\n        var lFrame = instructionState.lFrame = allocLFrame();\n        lFrame.currentTNode = tNode;\n        lFrame.lView = lView;\n        return true;\n    }\n    /**\n     * Swap the current lView with a new lView.\n     *\n     * For performance reasons we store the lView in the top level of the module.\n     * This way we minimize the number of properties to read. Whenever a new view\n     * is entered we have to store the lView for later, and when the view is\n     * exited the state has to be restored\n     *\n     * @param newView New lView to become active\n     * @returns the previously active lView;\n     */\n    function enterView(newView) {\n        ngDevMode && assertNotEqual(newView[0], newView[1], '????');\n        ngDevMode && assertLViewOrUndefined(newView);\n        var newLFrame = allocLFrame();\n        if (ngDevMode) {\n            assertEqual(newLFrame.isParent, true, 'Expected clean LFrame');\n            assertEqual(newLFrame.lView, null, 'Expected clean LFrame');\n            assertEqual(newLFrame.tView, null, 'Expected clean LFrame');\n            assertEqual(newLFrame.selectedIndex, -1, 'Expected clean LFrame');\n            assertEqual(newLFrame.elementDepthCount, 0, 'Expected clean LFrame');\n            assertEqual(newLFrame.currentDirectiveIndex, -1, 'Expected clean LFrame');\n            assertEqual(newLFrame.currentNamespace, null, 'Expected clean LFrame');\n            assertEqual(newLFrame.bindingRootIndex, -1, 'Expected clean LFrame');\n            assertEqual(newLFrame.currentQueryIndex, 0, 'Expected clean LFrame');\n        }\n        var tView = newView[TVIEW];\n        instructionState.lFrame = newLFrame;\n        ngDevMode && tView.firstChild &&
```

assertTNodeForTView(tView.firstChild, tView);\n newLFrame.currentTNode = tView.firstChild;\n newLFrame.lView = newView;\n newLFrame.tView = tView;\n newLFrame.contextLView = newView;\n newLFrame.bindingIndex = tView.bindingStartIndex;\n newLFrame.inI18n = false;\n }\n /**\n * Allocates
next free LFrame. This function tries to reuse the `LFrame`s to lower memory pressure.\n */\n function allocLFrame() {\n var currentLFrame = instructionState.lFrame;\n var childLFrame = currentLFrame === null ? null : currentLFrame.child;\n var newLFrame = childLFrame === null ? createLFrame(currentLFrame) : childLFrame;\n return newLFrame;\n }\n function createLFrame(parent) {\n var lFrame = {\n currentTNode: null,\n isParent: true,\n lView: null,\n tView: null,\n selectedIndex: -1,\n contextLView: null,\n elementDepthCount: 0,\n currentNamespace: null,\n currentDirectiveIndex: -1,\n bindingRootIndex: -1,\n bindingIndex: -1,\n currentQueryIndex: 0,\n parent: parent,\n child: null,\n inI18n: false,\n };\n parent !== null && (parent.child = lFrame); // link
the new LFrame for reuse.\n return lFrame;\n }\n /**\n * A lightweight version of leave which is used with DI.\n *\n * This function only resets `currentTNode` and `LView` as those are the only properties\n * used with DI (`enterDI()`).\n *\n * NOTE: This function is reexported as `leaveDI`. However `leaveDI` has return type of `void` where\n * as `leaveViewLight` has `LFrame`. This is so that `leaveViewLight` can be used in `leaveView`.\n */\n function leaveViewLight() {\n var oldLFrame = instructionState.lFrame;\n instructionState.lFrame = oldLFrame.parent;\n oldLFrame.currentTNode = null;\n oldLFrame.lView = null;\n return oldLFrame;\n }\n /**\n * This is a lightweight version of the `leaveView` which is needed by the DI system.\n *\n * NOTE: this function is an alias so that we can change the type of the function to have `void`\n * return type.\n */\n var leaveDI = leaveViewLight;\n
/**\n * Leave the current `LView`\n *\n * This pops the `LFrame` with the associated `LView` from the stack.\n *\n * IMPORTANT: We must zero out the `LFrame` values here otherwise they will be retained. This is\n * because for performance reasons we don't release `LFrame` but rather keep it for next use.\n */\n function leaveView() {\n var oldLFrame = leaveViewLight();\n oldLFrame.isParent = true;\n oldLFrame.tView = null;\n oldLFrame.selectedIndex = -1;\n oldLFrame.contextLView = null;\n oldLFrame.elementDepthCount = 0;\n oldLFrame.currentDirectiveIndex = -1;\n oldLFrame.currentNamespace = null;\n oldLFrame.bindingRootIndex = -1;\n oldLFrame.bindingIndex = -1;\n oldLFrame.currentQueryIndex = 0;\n }\n function nextContextImpl(level) {\n var contextLView = instructionState.lFrame.contextLView =\n walkUpViews(level, instructionState.lFrame.contextLView);\n return contextLView[CONTEXT];\n }\n function walkUpViews(nestingLevel, currentView) {\n while (nestingLevel > 0) {\n ngDevMode &&\n assertDefined(currentView[DECLARATION_VIEW], 'Declaration view should be defined if nesting level is greater than 0.');\n currentView = currentView[DECLARATION_VIEW];\n nestingLevel--;\n }\n return currentView;\n }\n /**\n * Gets the currently selected element index.\n *\n * Used with {@link property} instruction (and more in the future) to identify the index in the\n * current `LView` to act on.\n */\n function getSelectedIndex() {\n return instructionState.lFrame.selectedIndex;\n }\n /**\n * Sets the most recent index passed to {@link select}\n *\n * Used with {@link property} instruction (and more in the future) to identify the index in the\n * current `LView` to act on.\n *\n * (Note that if
an \"exit function\" was set earlier (via `setElementExitFn()`) then that will be\n * run if and when the provided `index` value is different from the current selected index value.)\n */\n function setSelectedIndex(index) {\n ngDevMode && index !== -1 &&\n assertGreaterThanOrEqual(index, HEADER_OFFSET, 'Index must be past HEADER_OFFSET (or -1).');\n ngDevMode &&\n assertLessThan(index, instructionState.lFrame.lView.length, 'Can\\'t set index passed end of LView');\n instructionState.lFrame.selectedIndex = index;\n }\n /**\n * Gets the `tNode` that represents currently selected element.\n */\n function getSelectedTNode() {\n var lFrame = instructionState.lFrame;\n return getTNode(lFrame.tView, lFrame.selectedIndex);\n }\n /**\n * Sets the namespace used to create

elements to `'http://www.w3.org/2000/svg'` in global state.\n *\n * @codeGenApi\n */\n function namespaceSVG() {\n instructionState.lFrame.currentNamespace = SVG_NAMESPACE;\n }\n /**\n * Sets the namespace used to create elements to `'http://www.w3.org/1998/MathML/'` in global state.\n *\n * @codeGenApi\n */\n function namespaceMathML() {\n instructionState.lFrame.currentNamespace = MATH_ML_NAMESPACE;\n }\n /**\n * Sets the namespace used to create elements to `null`, which forces element creation to use\n * `createElement` rather than `createElementNS`.\n *\n * @codeGenApi\n */\n function namespaceHTML() {\n namespaceHTMLInternal();\n }\n /**\n * Sets the namespace used to create elements to `null`, which forces element creation to use\n * `createElement` rather than `createElementNS`.\n */\n function namespaceHTMLInternal() {\n instructionState.lFrame.currentNamespace = null;\n }\n function getNamespace() {\n return instructionState.lFrame.currentNamespace;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Adds all directive lifecycle hooks from the given `DirectiveDef` to the given `TView`.\n *\n * Must be run *only* on the first template pass.\n *\n * Sets up the pre-order hooks on the provided `tView`,\n * see {@link HookData} for details about the data structure.\n *\n * @param directiveIndex The index of the directive in LView\n * @param directiveDef The definition containing the hooks to setup in tView\n * @param tView The current TView\n */\n function registerPreOrderHooks(directiveIndex, directiveDef, tView) {\n ngDevMode && assertFirstCreatePass(tView);\n var _a = directiveDef.type.prototype, ngOnChanges = _a.ngOnChanges, ngOnInit = _a.ngOnInit, ngDoCheck = _a.ngDoCheck;\n if (ngOnChanges) {\n var wrappedOnChanges = NgOnChangesFeatureImpl(directiveDef);\n (tView.preOrderHooks || (tView.preOrderHooks = [])).push(directiveIndex, wrappedOnChanges);\n (tView.preOrderCheckHooks || (tView.preOrderCheckHooks = []))\n .push(directiveIndex, wrappedOnChanges);\n }\n if (ngOnInit) {\n (tView.preOrderHooks || (tView.preOrderHooks = [])).push(0 - directiveIndex, ngOnInit);\n }\n if (ngDoCheck) {\n (tView.preOrderHooks || (tView.preOrderHooks = [])).push(directiveIndex, ngDoCheck);\n (tView.preOrderCheckHooks || (tView.preOrderCheckHooks = [])).push(directiveIndex, ngDoCheck);\n }\n }\n /**\n *\n * Loops through the directives on the provided `tNode` and queues hooks to be\n * run that are not initialization hooks.\n *\n * Should be executed during `elementEnd()` and similar to\n * preserve hook execution order. Content, view, and destroy hooks for projected\n * components and directives must be called *before* their hosts.\n *\n * Sets up the content, view, and destroy hooks on the provided `tView`,\n * see {@link HookData} for details about the data structure.\n *\n * NOTE: This does not set up `onChanges`, `onInit` or `doCheck`, those are set up\n * separately at `elementStart`.\n *\n * @param tView The current TView\n * @param tNode The TNode whose directives are to be searched for hooks to queue\n */\n function registerPostOrderHooks(tView, tNode) {\n ngDevMode && assertFirstCreatePass(tView);\n // It's necessary to loop through the directives at elementEnd() (rather than processing in\n // directiveCreate) so we can preserve the current hook order. Content, view, and destroy\n // hooks for projected components and directives must be called *before* their hosts.\n for (var i = tNode.directiveStart, end = tNode.directiveEnd; i < end; i++) {\n var directiveDef = tView.data[i];\n ngDevMode && assertDefined(directiveDef, 'Expecting DirectiveDef');\n var lifecycleHooks = directiveDef.type.prototype;\n var ngAfterContentInit = lifecycleHooks.ngAfterContentInit, ngAfterContentChecked = lifecycleHooks.ngAfterContentChecked, ngAfterViewInit = lifecycleHooks.ngAfterViewInit, ngAfterViewChecked = lifecycleHooks.ngAfterViewChecked, ngOnDestroy = lifecycleHooks.ngOnDestroy;\n if (ngAfterContentInit) {\n (tView.contentHooks || (tView.contentHooks = [])).push(-i, ngAfterContentInit);\n }\n if (ngAfterContentChecked) {\n (tView.contentHooks || (tView.contentHooks = [])).push(i, ngAfterContentChecked);\n (tView.contentCheckHooks || (tView.contentCheckHooks = [])).push(i, ngAfterContentChecked);\n }\n if (ngAfterViewInit) {\n

(tView.viewHooks || (tView.viewHooks = [])).push(-i, ngAfterViewInit);\n }\n if (ngAfterViewChecked) {\n (tView.viewHooks || (tView.viewHooks = [])).push(i, ngAfterViewChecked);\n (tView.viewCheckHooks || (tView.viewCheckHooks = [])).push(i, ngAfterViewChecked);\n }\n if (ngOnDestroy != null) {\n (tView.destroyHooks || (tView.destroyHooks = [])).push(i, ngOnDestroy);\n }\n }\n }\n /**\n * Executing hooks requires complex logic as we need to deal with 2 constraints.\n *\n * 1. Init hooks (ngOnInit, ngAfterContentInit, ngAfterViewInit) must all be executed once and only\n * once, across many change detection cycles. This must be true even if some hooks throw, or if\n * some recursively trigger a change detection cycle.\n * To solve that, it is required to track the state of the execution of these init hooks.\n * This is done by storing and maintaining flags in the view: the {@link InitPhaseState},\n * and the index within that phase. They can be seen as a cursor in the following structure:\n * [[onInit1, onInit2], [afterContentInit1], [afterViewInit1, afterViewInit2, afterViewInit3]]\n * They are are stored as flags in LView[FLAGS].\n *\n * 2. Pre-order hooks can be executed in batches, because of the select instruction.\n * To be able to pause and resume their execution, we also need some state about the hook's array\n * that is being processed:\n * - the index of the next hook to be executed\n * - the number of init hooks already found in the processed part of the array\n * They are are stored as flags in LView[PREORDER_HOOK_FLAGS].\n */\n/**\n * Executes pre-order check hooks ( OnChanges, DoChanges) given a view where all the init hooks were\n * executed once. This is a light version of executeInitAndCheckPreOrderHooks where we can skip read\n * / write of the init-hooks related flags.\n * @param lView The LView where hooks are defined\n * @param hooks Hooks to be run\n * @param nodeIndex 3 cases depending on the value:\n * - undefined: all hooks from the array should be executed (post-order case)\n * - null: execute hooks only from the saved index until the end of the array (pre-order case, when\n * flushing the remaining hooks)\n * - number: execute hooks only from the saved index until that node index exclusive (pre-order\n * case, when executing select(number))\n */\nfunction executeCheckHooks(lView, hooks, nodeIndex) {\n callHooks(lView, hooks, 3 /* InitPhaseCompleted */, nodeIndex);\n}\n/**\n * Executes post-order init and check hooks (one of AfterContentInit, AfterContentChecked,\n * AfterViewInit, AfterViewChecked) given a view where there are pending init hooks to be executed.\n * @param lView The LView where hooks are defined\n * @param hooks Hooks to be run\n * @param initPhase A phase for which hooks\n * should be run\n * @param nodeIndex 3 cases depending on the value:\n * - undefined: all hooks from the array should be executed (post-order case)\n * - null: execute hooks only from the saved index until the end of the array (pre-order case, when\n * flushing the remaining hooks)\n * - number: execute hooks only from the saved index until that node index exclusive (pre-order\n * case, when executing select(number))\n */\nfunction executeInitAndCheckHooks(lView, hooks, initPhase, nodeIndex) {\n ngDevMode &&\n assertNotEqual(initPhase, 3 /* InitPhaseCompleted */, 'Init pre-order hooks should not be called more than once');\n if ((lView[FLAGS] & 3 /* InitPhaseStateMask */) === initPhase) {\n callHooks(lView, hooks, initPhase, nodeIndex);\n }\n}\nfunction incrementInitPhaseFlags(lView, initPhase) {\n ngDevMode &&\n assertNotEqual(initPhase, 3 /* InitPhaseCompleted */, 'Init hooks phase should\n not be incremented after all init hooks have been run.');\n var flags = lView[FLAGS];\n if ((flags & 3 /* InitPhaseStateMask */) === initPhase) {\n flags &= 2047 /* IndexWithinInitPhaseReset */;\n flags += 1 /* InitPhaseStateIncrementer */;\n lView[FLAGS] = flags;\n }\n}\n/**\n * Calls lifecycle hooks with their contexts, skipping init hooks if it's not\n * the first LView pass\n *\n * @param currentView The current view\n * @param arr The array in which the hooks are found\n * @param initPhaseState the current state of the init phase\n * @param currentNodeIndex 3 cases depending on the value:\n * - undefined: all hooks from the array should be executed (post-order case)\n * - null: execute hooks only from the saved index until the end of the array (pre-order case, when\n * flushing the remaining hooks)\n * - number: execute hooks only from the saved index until that node index

```
 exclusive (pre-order\n     * case, when executing select(number))\n     */\n    function callHooks(currentView, arr, initPhase, currentNodeIndex) {\n        ngDevMode &&\n            assertEqual(isInCheckNoChangesMode(), false, 'Hooks should never be run when in check no changes mode.');\n        var startIndex = currentNodeIndex !== undefined ?\n            (currentView[PREORDER_HOOK_FLAGS] & 65535 /* IndexOfTheNextPreOrderHookMaskMask */) :\n            0;\n        var nodeIndexLimit = currentNodeIndex != null ? currentNodeIndex : -1;\n        var lastNodeIndexFound = 0;\n        for (var i = startIndex; i < arr.length; i++) {\n          var hook = arr[i + 1];\n            if (typeof hook === 'number') {\n                lastNodeIndexFound = arr[i];\n                if (currentNodeIndex != null && lastNodeIndexFound >= currentNodeIndex) {\n                    break;\n                }\n            }\n            else {\n                var isInitHook = arr[i] < 0;\n                if (isInitHook)\n                    currentView[PREORDER_HOOK_FLAGS] += 65536 /* NumberOfInitHooksCalledIncrementer */;\n                if (lastNodeIndexFound < nodeIndexLimit || nodeIndexLimit == -1) {\n                    callHook(currentView, initPhase, arr, i);\n                    currentView[PREORDER_HOOK_FLAGS] =\n                        (currentView[PREORDER_HOOK_FLAGS] & 4294901760 /* NumberOfInitHooksCalledMask */) + i +\n                            2;\n                }\n                i++;\n            }\n        }\n    }\n    /**\n     * Execute one hook against the current `LView`.\n     *\n     * @param currentView The current view\n     * @param initPhaseState the current state of the init phase\n     * @param arr The array in which the hooks are found\n     * @param i The current index within the hook data array\n     */\n    function callHook(currentView, initPhase, arr, i) {\n        var isInitHook = arr[i] < 0;\n        var hook = arr[i + 1];\n        var directiveIndex\n         = isInitHook ? -arr[i] : arr[i];\n        var directive = currentView[directiveIndex];\n        if (isInitHook) {\n            var indexWithintInitPhase = currentView[FLAGS] >> 11 /* IndexWithinInitPhaseShift */;\n            // The init phase state must be always checked here as it may have been recursively\n            // updated\n            if (indexWithintInitPhase <\n                (currentView[PREORDER_HOOK_FLAGS] >> 16 /* NumberOfInitHooksCalledShift */) &&\n                (currentView[FLAGS] & 3 /* InitPhaseStateMask */) === initPhase) {\n                currentView[FLAGS] += 2048 /* IndexWithinInitPhaseIncrementer */;\n                hook.call(directive);\n            }\n        }\n        else {\n            hook.call(directive);\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var NO_PARENT_INJECTOR = -1;\n    /**\n     * Each injector is saved in 9 contiguous slots in `LView` and 9 contiguous slots in\n     * `TView.data`. This allows us to store information about the current node's tokens (which\n     * can be shared in `TView`) as well as the tokens of its ancestor nodes (which cannot be\n     * shared, so they live in `LView`).\n     *\n     * Each of these slots (aside from the last slot) contains a bloom filter. This bloom filter\n     * determines whether a directive is available on the associated node or not. This prevents us\n     * from searching the directives array at this level unless it's probable the directive is in it.\n     *\n     * See: https://en.wikipedia.org/wiki/Bloom_filter for more about bloom filters.\n     *\n     * Because all injectors have been flattened into `LView` and `TViewData`, they cannot typed\n     * using interfaces as they were previously. The start index of each `LInjector` and `TInjector`\n     * will differ based on where it is flattened into the main array, so it's not possible to know\n     * the indices ahead of time and save their types here. The interfaces are still included here\n     * for documentation purposes.\n     *\n     * export interface LInjector extends Array<any> {\n     *\n     *   // Cumulative bloom for directive IDs 0-31  (IDs are % BLOOM_SIZE)\n     *   [0]: number;\n     *\n     *   // Cumulative bloom for directive IDs 32-63\n     *   [1]: number;\n     *\n     *   // Cumulative bloom for directive IDs 64-95\n     *   [2]: number;\n     *\n     *   // Cumulative bloom for directive IDs 96-127\n     *   [3]: number;\n     *\n     *   // Cumulative bloom for directive IDs 128-159\n     *   [4]: number;\n     *\n     *   // Cumulative bloom for directive IDs 160 - 191\n     *   [5]: number;\n     *\n     *   // Cumulative bloom for directive IDs 192 - 223\n     *   [6]: number;\n     *\n     *   // Cumulative bloom for directive IDs 224
 - 255\n     *   [7]: number;\n     *\n     *   // We need to store a reference to the injector's parent so DI can keep looking up\n     *   // the injector tree until it finds the dependency it's looking for.\n     *   [PARENT_INJECTOR]:
```

number;\n * }\n *\n * export interface TInjector extends Array<any> {\n *\n * // Shared node bloom for directive IDs 0-31 (IDs are % BLOOM_SIZE)\n * [0]: number;\n *\n * // Shared node bloom for directive IDs 32-63\n * [1]: number;\n *\n * // Shared node bloom for directive IDs 64-95\n * [2]: number;\n *\n * // Shared node bloom for directive IDs 96-127\n * [3]: number;\n *\n * // Shared node bloom for directive IDs 128-159\n * [4]: number;\n *\n * // Shared node bloom for directive IDs 160 - 191\n * [5]: number;\n *\n * // Shared node bloom for directive IDs 192 - 223\n * [6]: number;\n *\n * // Shared
node bloom for directive IDs 224 - 255\n * [7]: number;\n *\n * // Necessary to find directive indices for a particular node.\n * [TNODE]: TElementNode|TElementContainerNode|TContainerNode;\n * }\n */\n /**\n * Factory for creating instances of injectors in the NodeInjector.\n *\n * This factory is complicated by the fact that it can resolve `multi` factories as well.\n *\n * NOTE: Some of the fields are optional which means that this class has two hidden classes.\n * - One without `multi` support (most common)\n * - One with `multi` values, (rare).\n *\n * Since VMs can cache up to 4 inline hidden classes this is OK.\n *\n * - Single factory: Only `resolving` and `factory` is defined.\n * - `providers` factory: `componentProviders` is a number and `index = -1`.\n * - `viewProviders` factory: `componentProviders` is a number and `index` points to `providers`.\n */\n var NodeInjectorFactory
= /** @class */ (function () {\n function NodeInjectorFactory(\n /**\n * Factory to invoke in order to create a new instance.\n */\n factory, \n /**\n * Set to `true` if the token is declared in `viewProviders` (or if it is component).\n */\n isViewProvider, injectImplementation) {\n this.factory = factory;\n /**\n * Marker set to true during factory invocation to see if we get into recursive loop.\n * Recursive loop causes an error to be displayed.\n */\n this.resolving = false;\n ngDevMode && assertDefined(factory, 'Factory not specified');\n ngDevMode && assertEqual(typeof factory, 'function', 'Expected factory function.');\n this.canSeeViewProviders = isViewProvider;\n this.injectImpl = injectImplementation;\n }\n return NodeInjectorFactory;\n }());\n function isFactory(obj) {\n return obj instanceof NodeInjectorFactory;\n }\n // Note: This hack is necessary so we don't erroneously get a circular dependency\n // failure based on types.\n var unusedValueExportToPlacateAjd$3 = 1;\n\n /**\n * Converts `TNodeType` into human readable text.\n * Make sure this matches with `TNodeType`\n */\n function toTNodeTypeAsString(tNodeType) {\n var text = '';\n (tNodeType & 1 /* Text */) && (text += '|Text');\n (tNodeType & 2 /* Element */) && (text += '|Element');\n (tNodeType & 4 /* Container */) && (text += '|Container');\n (tNodeType & 8 /* ElementContainer */) && (text += '|ElementContainer');\n (tNodeType & 16 /* Projection */) && (text += '|Projection');\n (tNodeType & 32 /* Icu */) && (text += '|IcuContainer');\n (tNodeType & 64 /* Placeholder */) && (text += '|Placeholder');\n return text.length > 0 ? text.substring(1) : text;\n }\n // Note: This hack is necessary
so we don't erroneously get a circular dependency\n // failure based on types.\n var unusedValueExportToPlacateAjd$4 = 1;\n /**\n * Returns `true` if the `TNode` has a directive which has `@Input()` for `class` binding.\n *\n * ```\n * <div my-dir [class]=\"exp\"></div>\n * ```\n * and\n * ```\n * @Directive({\n * })\n * class MyDirective {\n * @Input()\n * class: string;\n * }\n * ```\n *\n * In the above case it is necessary to write the reconciled styling information into the\n * directive's input.\n *\n * @param tNode\n */\n function hasClassInput(tNode) {\n return (tNode.flags & 16 /* hasClassInput */) !== 0;\n }\n /**\n * Returns `true` if the `TNode` has a directive which has `@Input()` for `style` binding.\n *\n * ```\n * <div my-dir [style]=\"exp\"></div>\n * ```\n * and\n * ```\n * @Directive({\n * })\n * class MyDirective {\n
* @Input()\n * class: string;\n * }\n * ```\n *\n * In the above case it is necessary to write the reconciled styling information into the\n * directive's input.\n *\n * @param tNode\n */\n function hasStyleInput(tNode) {\n return (tNode.flags & 32 /* hasStyleInput */) !== 0;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function

```
assertTNodeType(tNode, expectedTypes, message) {\n        assertDefined(tNode, 'should be called with a TNode');\n        if ((tNode.type & expectedTypes) === 0) {\n            throwError(message ||\n                \"Expected [\" + toTNodeTypeAsString(expectedTypes) + \"] but got \" + toTNodeTypeAsString(tNode.type) + \".\");\n        }\n    }\n    function assertPureTNodeType(type) {\n        if (!(type ===
 2 /* Element */ || //\n            type === 1 /* Text */ || //\n            type === 4 /* Container */ || //\n            type === 8 /* ElementContainer */ || //\n            type === 32 /* Icu */ || //\n            type === 16 /* Projection */ || //\n            type === 64 /* Placeholder */)) {\n            throwError(\"Expected TNodeType to have only a single type selected, but got \" + toTNodeTypeAsString(type) + \".\");\n        }\n    }\n\n    /**\n     * Assigns all attribute values to the provided element via the inferred renderer.\n     *\n     * This function accepts two forms of attribute entries:\n     *\n     * default: (key, value):\n     *  attrs = [key1, value1, key2, value2]\n     *\n     * namespaced: (NAMESPACE_MARKER, uri, name, value)\n     *  attrs = [NAMESPACE_MARKER, uri, name, value, NAMESPACE_MARKER, uri, name, value]\n     *\n     * The `attrs` array can contain a mix of both the default and namespaced entries.\n     * The \"default\" values are set without
 a marker, but if the function comes across\n     * a marker value then it will attempt to set a namespaced value. If the marker is\n     * not of a namespaced value then the function will quit and return the index value\n     * where it stopped during the iteration of the attrs array.\n     *\n     * See [AttributeMarker] to understand what the namespace marker value is.\n     *\n     * Note that this instruction does not support assigning style and class values to\n     * an element. See `elementStart` and `elementHostAttrs` to learn how styling values\n     * are applied to an element.\n     * @param renderer The renderer to be used\n     * @param native The element that the attributes will be assigned to\n     * @param attrs The attribute array of values that will be assigned to the element\n     * @returns the index value that was last accessed in the attributes array\n     */\n    function setUpAttributes(renderer, native, attrs) {\n        var isProc = isProceduralRenderer(renderer);\n
        var i = 0;\n        while (i < attrs.length) {\n            var value = attrs[i];\n            if (typeof value === 'number') {\n                // only namespaces are supported. Other value types (such as style/class\n                // entries) are not supported in this function.\n                if (value !== 0 /* NamespaceURI */) {\n                    break;\n                }\n
        // we just landed on the marker value ... therefore\n                // we should skip to the next entry\n                i++;\n                var namespaceURI = attrs[i++];\n                var attrName = attrs[i++];\n                var attrVal = attrs[i++];\n                ngDevMode && ngDevMode.rendererSetAttribute++;\n                isProc ?\n                    renderer.setAttribute(native, attrName, attrVal, namespaceURI) :\n                    native.setAttributeNS(namespaceURI, attrName, attrVal);\n            }\n            else {\n                // attrName is string;\n
                var attrName = value;\n                var attrVal = attrs[++i];\n                // Standard attributes\n                ngDevMode && ngDevMode.rendererSetAttribute++;\n                if (isAnimationProp(attrName)) {\n                    if (isProc) {\n                        renderer.setProperty(native, attrName, attrVal);\n                    }\n                }\n                else {\n                    isProc ?\n                        renderer.setAttribute(native, attrName, attrVal) :\n                        native.setAttribute(attrName, attrVal);\n                }\n                i++;\n            }\n        }\n        // another piece of code may iterate over the same attributes array. Therefore\n        // it may be helpful to return the exact spot where the attributes array exited\n        // whether by running into an unsupported marker or if all the static values were\n        // iterated over.\n        return i;\n    }\n    /**\n     * Test whether
 the given value is a marker that indicates that the following\n     * attribute values in a `TAttributes` array are only the names of attributes,\n     * and not name-value pairs.\n     * @param marker The attribute marker to test.\n     * @returns true if the marker is a \"name-only\" marker (e.g. `Bindings`, `Template` or `I18n`).\n     */\n    function isNameOnlyAttributeMarker(marker) {\n        return marker === 3 /* Bindings */ || marker === 4 /* Template */ ||\n
            marker === 6 /* I18n */;\n    }\n    function isAnimationProp(name) {\n        // Perf note: accessing charCodeAt to check for the first character of a string is faster as\n        // compared to accessing a character at index 0 (ex. name[0]). The main reason for this is that\n        // charCodeAt doesn't allocate memory to return a substring.\n        return name.charCodeAt(0) === 64 /* AT_SIGN */;\n    }\n    /**\n     * Merges `src` `TAttributes` into `dst` `TAttributes` removing any duplicates in the
```

process.\n *\n * This merge function keeps the order of attrs same.\n *\n * @param dst Location of where the merged `TAttributes` should end up.\n * @param src `TAttributes` which should be appended to `dst`\n */\n function mergeHostAttrs(dst, src) {\n if (src === null || src.length === 0) {\n // do nothing\n }\n else if (dst === null || dst.length === 0) {\n // We have source, but dst is empty, just make a copy.\n dst = src.slice();\n }\n else {\n var srcMarker = -1 /* ImplicitAttributes */;\n for (var i = 0; i < src.length; i++) {\n var item = src[i];\n if (typeof item === 'number') {\n srcMarker = item;\n }\n else {\n if (srcMarker === 0 /* NamespaceURI */) {\n // Case where we need to consume `key1`, `key2`, `value` items.\n }\n else if (srcMarker === -1 /* ImplicitAttributes */ ||\n srcMarker === 2 /* Styles */) {\n // Case where we have to consume `key1` and `value` only.\n mergeHostAttribute(dst, srcMarker, item, null, src[++i]);\n }\n else {\n // Case where we have to consume `key1` only.\n mergeHostAttribute(dst, srcMarker, item, null, null);\n }\n }\n }\n }\n return dst;\n }\n /**\n * Append `key`/`value` to existing `TAttributes` taking region marker and duplicates into account.\n *\n * @param dst `TAttributes` to append to.\n * @param marker Region where the `key`/`value` should be added.\n * @param key1 Key to add to `TAttributes`\n * @param key2 Key to add to `TAttributes` (in case of `AttributeMarker.NamespaceURI`)\n * @param value Value
to add or to overwrite to `TAttributes` Only used if `marker` is not Class.\n */\n function mergeHostAttribute(dst, marker, key1, key2, value) {\n var i = 0;\n // Assume that new markers will be inserted at the end.\n var markerInsertPosition = dst.length;\n // scan until correct type.\n if (marker === -1 /* ImplicitAttributes */) {\n markerInsertPosition = -1;\n }\n else {\n while (i < dst.length) {\n var dstValue = dst[i++];\n if (typeof dstValue === 'number') {\n if (dstValue === marker) {\n markerInsertPosition = -1;\n break;\n }\n else if (dstValue > marker) {\n // We need to save this as we want the markers to be inserted in specific order.\n markerInsertPosition = i - 1;\n break;\n }\n }\n else {\n // search until you find place of insertion\n while (i < dst.length) {\n var item = dst[i];\n if (typeof item === 'number') {\n // since `i` started as the index after the marker, we did not find it if we are at the next\n // marker\n break;\n }\n else if (item === key1) {\n // We already have same token\n if (key2 === null) {\n if (value !== null) {\n dst[i + 1] = value;\n }\n return;\n }\n else if (key2 === dst[i + 1]) {\n dst[i + 2] = value;\n return;\n }\n }\n // Increment counter.\n i++;\n if (key2 !== null)\n i++;\n if (value !== null)\n i++;\n }\n
// insert at location.\n if (markerInsertPosition !== -1) {\n dst.splice(markerInsertPosition, 0, marker);\n i = markerInsertPosition + 1;\n }\n dst.splice(i++, 0, key1);\n if (key2 !== null) {\n dst.splice(i++, 0, key2);\n }\n if (value !== null) {\n dst.splice(i++, 0, value);\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /// Parent Injector Utils ////////////////////////////////////////////////////////////////\n function hasParentInjector(parentLocation) {\n return parentLocation !== NO_PARENT_INJECTOR;\n }\n function getParentInjectorIndex(parentLocation) {\n ngDevMode && assertNumber(parentLocation, 'Number expected');\n ngDevMode && assertNotEqual(parentLocation,
-1, 'Not a valid state.');\n var parentInjectorIndex = parentLocation & 32767 /* InjectorIndexMask */;\n ngDevMode &&\n assertGreaterThan(parentInjectorIndex, HEADER_OFFSET, 'Parent injector must be pointing past HEADER_OFFSET.');\n return parentLocation & 32767 /* InjectorIndexMask */;\n }\n function getParentInjectorViewOffset(parentLocation) {\n return parentLocation >> 16 /* ViewOffsetShift */;\n }\n /**\n * Unwraps a parent injector location number to find the view offset from the current injector,\n * then walks up the declaration view tree until the view is found that contains the parent\n * injector.\n *\n *

@param location The location of the parent injector, which contains the view offset\n * @param startView The LView instance from which to start walking up the view tree\n * @returns The LView instance that contains the parent injector\n */\n function getParentInjectorView(location, startView) {\n var viewOffset = getParentInjectorViewOffset(location);\n var parentView = startView;\n // For most cases, the parent injector can be found on the host node (e.g. for component\n // or container), but we must keep the loop here to support the rarer case of deeply nested\n // <ng-template> tags or inline views, where the parent injector might live many views\n // above the child injector.\n while (viewOffset > 0) {\n parentView = parentView[DECLARATION_VIEW];\n viewOffset--;\n }\n return parentView;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Defines if the call to `inject` should include `viewProviders` in its resolution.\n *\n * This is set to true when we try to instantiate a component. This value is reset in\n * `getNodeInjectable` to a value which matches the declaration location of the token about to be\n * instantiated. This is done so that if we are injecting a token which was declared outside of\n * `viewProviders` we don't accidentally pull `viewProviders` in.\n *\n * Example:\n *\n * ```\n * @Injectable()\n * class MyService {\n * constructor(public value: String) {}\n * }\n *\n * @Component({\n * providers: [\n * MyService,\n * {provide: String, value: 'providers' }\n * ]\n * viewProviders: [\n * {provide: String, value: 'viewProviders'}\n * ]\n * })\n * class MyComponent {\n * constructor(myService: MyService, value: String) {\n * // We expect that Component can see into `viewProviders`.\n * expect(value).toEqual('viewProviders');\n * // `MyService` was not declared in `viewProviders` hence it can't see it.\n * expect(myService.value).toEqual('providers');\n * }\n * }\n *\n * ```\n */\n var includeViewProviders = true;\n function setIncludeViewProviders(v) {\n var oldValue = includeViewProviders;\n includeViewProviders = v;\n return oldValue;\n }\n /**\n * The number of slots in each bloom filter (used by DI). The larger this number, the fewer\n * directives that will share slots, and thus, the fewer false positives when checking for\n * the existence of a directive.\n */\n var BLOOM_SIZE = 256;\n var BLOOM_MASK = BLOOM_SIZE - 1;\n /** Counter used to generate unique IDs for directives. */\n var nextNgElementId = 0;\n /**\n * Registers this directive as present in its node's injector by flipping the directive's\n * corresponding bit in the injector's bloom filter.\n *\n * @param injectorIndex The index of the node injector where this token should be registered\n * @param tView The TView for the injector's bloom filters\n * @param type The directive token to register\n */\n function bloomAdd(injectorIndex, tView, type) {\n ngDevMode && assertEqual(tView.firstCreatePass, true, 'expected firstCreatePass to be true');\n var id;\n if (typeof type === 'string') {\n id = type.charCodeAt(0) || 0;\n }\n else if (type.hasOwnProperty(NG_ELEMENT_ID)) {\n id = type[NG_ELEMENT_ID];\n }\n // Set a unique ID on the directive type, so if something tries to inject the directive,\n // we can easily retrieve the ID and hash it into the bloom bit that should be checked.\n if (id == null) {\n id = type[NG_ELEMENT_ID] = nextNgElementId++;\n }\n // We only have BLOOM_SIZE (256) slots in our bloom filter (8 buckets * 32 bits each),\n // so all unique IDs must be modulo-ed into a number from 0 - 255 to fit into the filter.\n var bloomBit = id & BLOOM_MASK;\n // Create a mask that targets the specific bit associated with the directive.\n // JS bit operations are 32 bits, so this will be a number between 2^0 and 2^31, corresponding\n // to bit positions 0 - 31 in a 32 bit integer.\n var mask = 1 << bloomBit;\n // Use the raw bloomBit number to determine which bloom filter bucket we should check\n // e.g: bf0 = [0 - 31], bf1 = [32 - 63], bf2 = [64 - 95], bf3 = [96 - 127], etc\n var b7 = bloomBit & 0x80;\n var b6 = bloomBit & 0x40;\n var b5 = bloomBit & 0x20;\n var tData = tView.data;\n if (b7) {\n b6 ? (b5 ? (tData[injectorIndex + 7] |= mask) : (tData[injectorIndex + 6] |= mask)) :\n (b5 ? (tData[injectorIndex + 5] |= mask) : (tData[injectorIndex + 4] |= mask));\n }\n else {\n b6 ? (b5 ? (tData[injectorIndex + 3] |= mask) : (tData[injectorIndex + 2] |= mask)) :\n (b5 ? (tData[injectorIndex

```
 + 1] |= mask) : (tData[injectorIndex] |= mask));\n        }\n    }\n    /**\n     * Creates (or gets an existing) injector for a given element or container.\n     *\n     * @param tNode for which an injector should be retrieved / created.\n     * @param lView View where the node is stored\n     * @returns Node injector\n     */\n    function getOrCreateNodeInjectorForNode(tNode, lView) {\n        var existingInjectorIndex = getInjectorIndex(tNode, lView);\n        if (existingInjectorIndex !== -1) {\n            return existingInjectorIndex;\n        }\n        var tView = lView[TVIEW];\n        if (tView.firstCreatePass) {\n            tNode.injectorIndex = lView.length;\n            insertBloom(tView.data, tNode); // foundation for node bloom\n            insertBloom(lView, null); // foundation for cumulative bloom\n            insertBloom(tView.blueprint, null);\n        }\n        var parentLoc = getParentInjectorLocation(tNode, lView);\n        var injectorIndex = tNode.injectorIndex;\n        // If a parent injector can't be found, its location is set to -1.\n        // In that case, we don't need to set up a cumulative bloom\n        if (hasParentInjector(parentLoc)) {\n            var parentIndex = getParentInjectorIndex(parentLoc);\n            var parentLView = getParentInjectorView(parentLoc, lView);\n            var parentData = parentLView[TVIEW].data;\n            // Creates a cumulative bloom filter that merges the parent's bloom filter\n            // and its own cumulative bloom (which contains tokens for all ancestors)\n            for (var i = 0; i < 8 /* BLOOM_SIZE */; i++) {\n                lView[injectorIndex + i] = parentLView[parentIndex + i] | parentData[parentIndex + i];\n            }\n        }\n        lView[injectorIndex + 8 /* PARENT */] = parentLoc;\n        return injectorIndex;\n    }\n    function insertBloom(arr, footer) {\n        arr.push(0, 0, 0, 0, 0, 0, 0, 0, footer);\n    }\n    function getInjectorIndex(tNode,
 lView) {\n        if (tNode.injectorIndex === -1 ||\n            // If the injector index is the same as its parent's injector index, then the index has been\n            // copied down from the parent node. No injector has been created yet on this node.\n            (tNode.parent && tNode.parent.injectorIndex === tNode.injectorIndex) ||\n            // After the first template pass, the injector index might exist but the parent values\n            // might not have been calculated yet for this instance\n            lView[tNode.injectorIndex + 8 /* PARENT */] === null) {\n            return -1;\n        }\n        else {\n            ngDevMode && assertIndexInRange(lView, tNode.injectorIndex);\n            return tNode.injectorIndex;\n        }\n    }\n    /**\n     * Finds the index of the parent injector, with a view offset if applicable. Used to set the\n     * parent injector initially.\n     *\n     * @returns Returns a number that is the combination of the number of LViews that
 we have to go up\n     * to find the LView containing the parent inject AND the index of the injector within that LView.\n     */\n    function getParentInjectorLocation(tNode, lView) {\n        if (tNode.parent && tNode.parent.injectorIndex !== -1) {\n            // If we have a parent `TNode` and there is an injector associated with it we are done, because\n            // the parent injector is within the current `LView`.\n            return tNode.parent.injectorIndex; // ViewOffset is 0\n        }\n        // When parent injector location is computed it may be outside of the current view. (ie it could\n        // be pointing to a declared parent location). This variable stores number of declaration parents\n        // we need to walk up in order to find the parent injector location.\n        var declarationViewOffset = 0;\n        var parentTNode = null;\n        var lViewCursor = lView;\n        // The parent injector is not in the current `LView`. We will have to walk the declared
 parent\n        // `LView` hierarchy and look for it. If we walk of the top, that means that there is no parent\n        // `NodeInjector`.\n        while (lViewCursor !== null) {\n            // First determine the `parentTNode` location. The parent pointer differs based on `TView.type`.\n            var tView = lViewCursor[TVIEW];\n            var tViewType = tView.type;\n            if (tViewType === 2 /* Embedded */) {\n                ngDevMode &&\n                    assertDefined(tView.declTNode, 'Embedded TNodes should have declaration parents.');\n                parentTNode = tView.declTNode;\n            }\n            else if (tViewType === 1 /* Component */) {\n                // Components don't have `TView.declTNode` because each instance of component could be\n                // inserted in different location, hence `TView.declTNode` is meaningless.\n                parentTNode = lViewCursor[T_HOST];\n            }\n            else {\n                ngDevMode && assertEqual(tView.type,
 0 /* Root */, 'Root type expected');\n                parentTNode = null;\n            }\n            if (parentTNode === null) {\n                // If we have no parent, than we are done.\n                return NO_PARENT_INJECTOR;\n            }\n            ngDevMode && parentTNode && assertTNodeForLView(parentTNode,
```

```
lViewCursor[DECLARATION_VIEW]);\n            // Every iteration of the loop requires that we go to the declared
parent.\n            declarationViewOffset++;\n            lViewCursor = lViewCursor[DECLARATION_VIEW];\n
if (parentTNode.injectorIndex !== -1) {\n            // We found a NodeInjector which points to something.\n
return (parentTNode.injectorIndex |\n                (declarationViewOffset << 16 /* ViewOffsetShift */));\n
}\n        }\n        return NO_PARENT_INJECTOR;\n    }\n    /**\n     * Makes a type or an injection token public to
the DI system by adding it to an\n     * injector's bloom
filter.\n     *\n     * @param di The node injector in which a directive will be added\n     * @param token The type
or the injection token to be made public\n     */\n    function diPublicInInjector(injectorIndex, tView, token) {\n
bloomAdd(injectorIndex, tView, token);\n    }\n    /**\n     * Inject static attribute value into directive constructor.\n
*\n     * This method is used with `factory` functions which are generated as part of\n     * `defineDirective` or
`defineComponent`. The method retrieves the static value\n     * of an attribute. (Dynamic attributes are not
supported since they are not resolved\n     *  at the time of injection and can change over time.)\n     *\n     * #
Example\n     * Given:\n     * ```\n     * @Component(...)\n     * class MyComponent {\n     *
constructor(@Attribute('title') title: string) { ... }\n     * }\n     * ```\n     * When instantiated with\n     * ```\n     *
<my-component title=\"Hello\"></my-component>\n     * ```\n     *\n
    * Then factory method generated is:\n     * ```\n     * MyComponent.cmp = defineComponent({\n     *   factory: ()
=> new MyComponent(injectAttribute('title'))\n     *   ...\n     * })\n     * ```\n     *\n     * @publicApi\n     */\n
function injectAttributeImpl(tNode, attrNameToInject) {\n        ngDevMode && assertTNodeType(tNode, 12 /*
AnyContainer */ | 3 /* AnyRNode */);\n        ngDevMode && assertDefined(tNode, 'expecting tNode');\n        if
(attrNameToInject === 'class') {\n            return tNode.classes;\n        }\n        if (attrNameToInject === 'style') {\n
    return tNode.styles;\n        }\n        var attrs = tNode.attrs;\n        if (attrs) {\n            var attrsLength =
attrs.length;\n            var i = 0;\n            while (i < attrsLength) {\n                var value = attrs[i];\n                // If we
hit a `Bindings` or `Template` marker then we are done.\n                if (isNameOnlyAttributeMarker(value))\n
    break;\n
                // Skip namespaced attributes\n                if (value === 0 /* NamespaceURI */) {\n                    // we skip
the next two values\n                    // as namespaced attributes looks like\n                    // [...,
AttributeMarker.NamespaceURI, 'http://someuri.com/test', 'test:exist',\n                    // 'existValue', ...]\n                    i
= i + 2;\n                }\n                else if (typeof value === 'number') {\n                    // Skip to the first value of the
marked attribute.\n                    i++;\n                    while (i < attrsLength && typeof attrs[i] === 'string') {\n
    i++;\n                    }\n                }\n                else if (value === attrNameToInject) {\n                    return attrs[i
+ 1];\n                }\n                else {\n                    i = i + 2;\n                }\n            }\n        }\n        return null;\n    }\n
function notFoundValueOrThrow(notFoundValue,
token, flags) {\n        if (flags & exports.InjectFlags.Optional) {\n            return notFoundValue;\n        }\n        else
{\n            throwProviderNotFoundError(token, 'NodeInjector');\n        }\n    }\n    /**\n     * Returns the value
associated to the given token from the ModuleInjector or throws exception\n     *\n     * @param lView The
`LView` that contains the `tNode`\n     * @param token The token to look for\n     * @param flags Injection flags\n
* @param notFoundValue The value to return when the injection flags is `InjectFlags.Optional`\n     * @returns the
value from the injector or throws an exception\n     */\n    function lookupTokenUsingModuleInjector(lView, token,
flags, notFoundValue) {\n        if (flags & exports.InjectFlags.Optional && notFoundValue === undefined) {\n
  // This must be set or the NullInjector will throw for optional deps\n            notFoundValue = null;\n        }\n        if
((flags & (exports.InjectFlags.Self
| exports.InjectFlags.Host)) === 0) {\n            var moduleInjector = lView[INJECTOR];\n            // switch to
`injectInjectorOnly` implementation for module injector, since module injector\n            // should not have access to
Component/Directive DI scope (that may happen through\n            // `directiveInject` implementation)\n            var
previousInjectImplementation = setInjectImplementation(undefined);\n            try {\n                if (moduleInjector)
{\n                    return moduleInjector.get(token, notFoundValue, flags & exports.InjectFlags.Optional);\n
}\n                else {\n                    return injectRootLimpMode(token, notFoundValue, flags &
exports.InjectFlags.Optional);\n                }\n            }\n            finally {\n
```

```
setInjectImplementation(previousInjectImplementation);\n            }\n        }\n        return
notFoundValueOrThrow(notFoundValue, token, flags);\n    }\n    /**\n     * Returns the
 value associated to the given token from the NodeInjectors => ModuleInjector.\n     *\n     * Look for the injector
providing the token by walking up the node injector tree and then\n     * the module injector tree.\n     *\n     * This
function patches `token` with `__NG_ELEMENT_ID__` which contains the id for the bloom\n     * filter. `-1` is
reserved for injecting `Injector` (implemented by `NodeInjector`)\n     *\n     * @param tNode The Node where the
search for the injector should start\n     * @param lView The `LView` that contains the `tNode`\n     * @param
token The token to look for\n     * @param flags Injection flags\n     * @param notFoundValue The value to return
when the injection flags is `InjectFlags.Optional`\n     * @returns the value from the injector, `null` when not found,
or `notFoundValue` if provided\n     */\n    function getOrCreateInjectable(tNode, lView, token, flags,
notFoundValue) {\n        if (flags === void 0) { flags = exports.InjectFlags.Default; }\n
        if (tNode !== null) {\n            var bloomHash = bloomHashBitOrFactory(token);\n            // If the ID stored
here is a function, this is a special object like ElementRef or TemplateRef\n            // so just call the factory function
to create it.\n            if (typeof bloomHash === 'function') {\n                if (!enterDI(lView, tNode, flags)) {\n
    // Failed to enter DI, try module injector instead. If a token is injected with the @Host\n                    // flag, the
module injector is not searched for that token in Ivy.\n                    return (flags & exports.InjectFlags.Host) ?\n
            notFoundValueOrThrow(notFoundValue, token, flags) :\n
lookupTokenUsingModuleInjector(lView, token, flags, notFoundValue);\n                }\n                try {\n
var value = bloomHash();\n                    if (value == null && !(flags & exports.InjectFlags.Optional)) {\n

  throwProviderNotFoundError(token);\n                }\n                else {\n                    return value;\n
  }\n            }\n            finally {\n                leaveDI();\n            }\n        }\n        else if (typeof
bloomHash === 'number') {\n            // A reference to the previous injector TView that was found while climbing
the element\n            // injector tree. This is used to know if viewProviders can be accessed on the current\n
  // injector.\n            var previousTView = null;\n            var injectorIndex = getInjectorIndex(tNode, lView);\n
            var parentLocation = NO_PARENT_INJECTOR;\n            var hostTElementNode = flags &
exports.InjectFlags.Host ? lView[DECLARATION_COMPONENT_VIEW][T_HOST] : null;\n            // If we
should skip this injector, or if there is no injector on this node, start by\n            // searching the parent injector.\n
            if (injectorIndex === -1 || flags & exports.InjectFlags.SkipSelf) {\n                parentLocation =
injectorIndex === -1 ? getParentInjectorLocation(tNode, lView) :\n                    lView[injectorIndex + 8 /*
PARENT */];\n                if (parentLocation === NO_PARENT_INJECTOR || !shouldSearchParent(flags, false))
{\n                    injectorIndex = -1;\n                }\n                else {\n                    previousTView =
lView[TVIEW];\n                    injectorIndex = getParentInjectorIndex(parentLocation);\n                    lView =
getParentInjectorView(parentLocation, lView);\n                }\n            }\n            // Traverse up the injector
tree until we find a potential match or until we know there\n            // *isn't* a match.\n            while
(injectorIndex !== -1) {\n                ngDevMode && assertNodeInjector(lView, injectorIndex);\n                //
 Check the current injector. If it matches, see if it contains token.\n                var tView = lView[TVIEW];\n
        ngDevMode &&\n                    assertTNodeForLView(tView.data[injectorIndex + 8 /* TNODE */],
lView);\n                if (bloomHasToken(bloomHash, injectorIndex, tView.data)) {\n                    // At this point,
we have an injector which *may* contain the token, so we step through\n                    // the providers and
directives associated with the injector's corresponding node to get\n                    // the instance.\n
var instance = searchTokensOnInjector(injectorIndex, lView, token, previousTView, flags, hostTElementNode);\n
                if (instance !== NOT_FOUND) {\n                    return instance;\n                }\n                }\n
            parentLocation = lView[injectorIndex + 8 /* PARENT */];\n                if (parentLocation !==
 NO_PARENT_INJECTOR &&\n                    shouldSearchParent(flags, lView[TVIEW].data[injectorIndex + 8
/* TNODE */] === hostTElementNode) &&\n                    bloomHasToken(bloomHash, injectorIndex, lView))
{\n                    // The def wasn't found anywhere on this node, so it was a false positive.\n                    //
Traverse up the tree and continue searching.\n                    previousTView = tView;\n                    injectorIndex
```

= getParentInjectorIndex(parentLocation);\n lView = getParentInjectorView(parentLocation, lView);\n }\n else {\n // If we should not search parent OR If the ancestor bloom filter value does not have the\n // bit corresponding to the directive we can give up on traversing up to find the specific\n // injector.\n injectorIndex = -1;\n }\n }\n }\n }\n return lookupTokenUsingModuleInjector(lView, token, flags, notFoundValue);\n }\n var NOT_FOUND = {};\n function createNodeInjector() {\n return new NodeInjector(getCurrentTNode(), getLView());\n }\n function searchTokensOnInjector(injectorIndex, lView, token, previousTView, flags, hostTElementNode) {\n var currentTView = lView[TVIEW];\n var tNode = currentTView.data[injectorIndex + 8 /* TNODE */];\n // First, we need to determine if view providers can be accessed by the starting element.\n // There are two possibilities\n var canAccessViewProviders = previousTView == null ?\n // 1) This is the first invocation `previousTView == null` which means that we are at the\n // `TNode` of where injector is starting to look. In such a case the only time we are allowed\n // to look into the ViewProviders is if:\n // - we are on a component\n // - AND the injector set `includeViewProviders` to true (implying that the token can see\n // ViewProviders because it is the Component or a Service which itself was declared in\n // ViewProviders)\n (isComponentHost(tNode) && includeViewProviders) :\n // 2) `previousTView != null` which means that we are now walking across the parent nodes.\n // In such a case we are only allowed to look into the ViewProviders if:\n // - We just crossed from child View to Parent View `previousTView != currentTView`\n // - AND the parent TNode is an Element.\n // This means that we just came from the Component's View and therefore are allowed to see\n // into the ViewProviders.\n (previousTView != currentTView && ((tNode.type & 3 /* AnyRNode */) !== 0));\n // This special case happens when there is a @host on the inject and when we are searching\n // on the host element node.\n var isHostSpecialCase = (flags & exports.InjectFlags.Host) && hostTElementNode === tNode;\n var injectableIdx = locateDirectiveOrProvider(tNode, currentTView, token, canAccessViewProviders, isHostSpecialCase);\n if (injectableIdx !== null) {\n return getNodeInjectable(lView, currentTView, injectableIdx, tNode);\n }\n else {\n return NOT_FOUND;\n }\n }\n /**\n * Searches for the given token among the node's directives and providers.\n *\n * @param tNode TNode on which directives are present.\n * @param tView The tView we are currently processing\n * @param token Provider token or type of a directive to look for.\n * @param canAccessViewProviders Whether view providers should be considered.\n * @param isHostSpecialCase Whether the host special case applies.\n * @returns Index of a found directive or provider, or null when none found.\n */\n function locateDirectiveOrProvider(tNode, tView, token, canAccessViewProviders, isHostSpecialCase) {\n var nodeProviderIndexes = tNode.providerIndexes;\n var tInjectables = tView.data;\n var injectablesStart = nodeProviderIndexes & 1048575 /* ProvidersStartIndexMask */;\n var directivesStart = tNode.directiveStart;\n var directiveEnd = tNode.directiveEnd;\n var cptViewProvidersCount = nodeProviderIndexes >> 20 /* CptViewProvidersCountShift */;\n var startingIndex = canAccessViewProviders ? injectablesStart : injectablesStart + cptViewProvidersCount;\n // When the host special case applies, only the viewProviders and the component are visible\n var endIndex = isHostSpecialCase ? injectablesStart + cptViewProvidersCount : directiveEnd;\n for (var i = startingIndex; i < endIndex; i++) {\n var providerTokenOrDef = tInjectables[i];\n if (i < directivesStart && token === providerTokenOrDef ||\n i >= directivesStart && providerTokenOrDef.type\n === token) {\n return i;\n }\n }\n if (isHostSpecialCase) {\n var dirDef = tInjectables[directivesStart];\n if (dirDef && isComponentDef(dirDef) && dirDef.type === token) {\n return directivesStart;\n }\n }\n return null;\n }\n /**\n * Retrieve or instantiate the injectable from the `LView` at particular `index`.\n *\n * This function checks to see if the value has already been instantiated and if so returns the\n * cached `injectable`. Otherwise if it detects that the value is still a factory it\n * instantiates the `injectable` and caches the value.\n */\n function getNodeInjectable(lView, tView, index, tNode) {\n var value = lView[index];\n var tData = tView.data;\n if (isFactory(value)) {\n var

factory = value;\n if (factory.resolving) {\n throwCyclicDependencyError(stringifyForError(tData[index]));\n }\n var previousIncludeViewProviders = setIncludeViewProviders(factory.canSeeViewProviders);\n factory.resolving = true;\n var previousInjectImplementation = factory.injectImpl ? setInjectImplementation(factory.injectImpl) : null;\n var success = enterDI(lView, tNode, exports.InjectFlags.Default);\n ngDevMode &&\n assertEqual(success, true, 'Because flags do not contain \\`SkipSelf\\' we expect this to always succeed.');\n try {\n value = lView[index] = factory.factory(undefined, tData, lView, tNode);\n // This code path is hit for both directives and providers.\n // For perf reasons, we want to avoid searching for hooks on providers.\n // It does no harm to try (the hooks just won't exist), but the extra\n // checks are unnecessary and this is a hot path. So we check to see\n //
if the index of the dependency is in the directive range for this\n // tNode. If it's not, we know it's a provider and skip hook registration.\n if (tView.firstCreatePass && index >= tNode.directiveStart) {\n ngDevMode && assertDirectiveDef(tData[index]);\n registerPreOrderHooks(index, tData[index], tView);\n }\n }\n finally {\n previousInjectImplementation !== null &&\n setInjectImplementation(previousInjectImplementation);\n setIncludeViewProviders(previousIncludeViewProviders);\n factory.resolving = false;\n leaveDI();\n }\n }\n return value;\n }\n /**\n * Returns the bit in an injector's bloom filter that should be used to determine whether or not\n * the directive might be provided by the injector.\n *\n * When a directive is public, it is added to the
bloom filter and given a unique ID that can be\n * retrieved on the Type. When the directive isn't public or the token is not a directive `null`\n * is returned as the node injector can not possibly provide that token.\n *\n * @param token the injection token\n * @returns the matching bit to check in the bloom filter or `null` if the token is not known.\n * When the returned value is negative then it represents special values such as `Injector`.\n */\n function bloomHashBitOrFactory(token) {\n ngDevMode && assertDefined(token, 'token must be defined');\n if (typeof token === 'string') {\n return token.charCodeAt(0) || 0;\n }\n var tokenId = \n // First check with `hasOwnProperty` so we don't get an inherited ID.\n token.hasOwnProperty(NG_ELEMENT_ID) ? token[NG_ELEMENT_ID] : undefined;\n // Negative token IDs are used for special objects such as `Injector`\n if (typeof tokenId === 'number')
{\n if (tokenId >= 0) {\n return tokenId & BLOOM_MASK;\n }\n else {\n ngDevMode &&\n assertEqual(tokenId, -1 /* Injector */, 'Expecting to get Special Injector Id');\n return createNodeInjector;\n }\n }\n else {\n return tokenId;\n }\n }\n function bloomHasToken(bloomHash, injectorIndex, injectorView) {\n // Create a mask that targets the specific bit associated with the directive we're looking for.\n // JS bit operations are 32 bits, so this will be a number between 2^0 and 2^31, corresponding\n // to bit positions 0 - 31 in a 32 bit integer.\n var mask = 1 << bloomHash;\n var b7 = bloomHash & 0x80;\n var b6 = bloomHash & 0x40;\n var b5 = bloomHash & 0x20;\n // Our bloom filter size is 256 bits, which is eight 32-bit bloom filter buckets:\n // bf0 = [0 - 31], bf1 = [32 - 63],
bf2 = [64 - 95], bf3 = [96 - 127], etc.\n // Get the bloom filter value from the appropriate bucket based on the directive's bloomBit.\n var value;\n if (b7) {\n value = b6 ? (b5 ? injectorView[injectorIndex + 7] : injectorView[injectorIndex + 6]) :\n (b5 ? injectorView[injectorIndex + 5] : injectorView[injectorIndex + 4]);\n }\n else {\n value = b6 ? (b5 ? injectorView[injectorIndex + 3] : injectorView[injectorIndex + 2]) :\n (b5 ? injectorView[injectorIndex + 1] : injectorView[injectorIndex]);\n }\n // If the bloom filter value has the bit corresponding to the directive's bloomBit flipped on,\n // this injector is a potential match.\n return !!(value & mask);\n }\n /** Returns true if flags prevent parent injector from being searched for tokens */\n function shouldSearchParent(flags, isFirstHostTNode) {\n return !(flags & exports.InjectFlags.Self) && !(flags

```
& exports.InjectFlags.Host && isFirstHostTNode);\n    }\n    var NodeInjector = /** @class */ (function () {\n function NodeInjector(_tNode, _lView) {\n            this._tNode = _tNode;\n            this._lView = _lView;\n        }\n    NodeInjector.prototype.get = function (token, notFoundValue) {\n            return getOrCreateInjectable(this._tNode, this._lView, token, undefined, notFoundValue);\n        };\n        return NodeInjector;\n    }());\n    /**\n     * @codeGenApi\n     */\n    function getFactoryOf(type) {\n        var typeAny = type;\n        if (isForwardRef(type)) {\n            return (function () {\n                var factory = getFactoryOf(resolveForwardRef(typeAny));\n                return factory ? factory() : null;\n            });\n        }\n        var factory = getFactoryDef(typeAny);\n        if (factory === null) {\n            var injectorDef = getInjectorDef(typeAny);\n            factory = injectorDef && injectorDef.factory;\n        }\n        return factory || null;\n    }\n    /**\n     * @codeGenApi\n     */\n    function getInheritedFactory(type) {\n        return noSideEffects(function () {\n            var ownConstructor = type.prototype.constructor;\n            var ownFactory = ownConstructor[NG_FACTORY_DEF] || getFactoryOf(ownConstructor);\n            var objectPrototype = Object.prototype;\n            var parent = Object.getPrototypeOf(type.prototype).constructor;\n            // Go up the prototype until we hit `Object`.\n            while (parent && parent !== objectPrototype) {\n                var factory = parent[NG_FACTORY_DEF] || getFactoryOf(parent);\n                // If we hit something that has a factory and the factory isn't the same as the type,\n                // we've found the inherited factory. Note the check that the factory isn't the type's\n                // own factory is redundant in most cases, but if the user has custom decorators on the\n                // class, this lookup will start one level down in the prototype chain, causing us to\n                // find the own factory first and potentially triggering an infinite loop downstream.\n                if (factory && factory !== ownFactory) {\n                    return factory;\n                }\n                parent = Object.getPrototypeOf(parent);\n            }\n            // There is no factory defined. Either this was improper usage of inheritance\n            // (no Angular decorator on the superclass) or there is no constructor at all\n            // in the inheritance chain. Since the two cases cannot be distinguished, the\n            // latter has to be assumed.\n            return function (t) { return new t(); };\n        });\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Facade for the attribute injection from DI.\n     *\n     * @codeGenApi\n     */\n    function injectAttribute(attrNameToInject) {\n        return injectAttributeImpl(getCurrentTNode(), attrNameToInject);\n    }\n\n    var ANNOTATIONS = '__annotations__';\n    var PARAMETERS = '__parameters__';\n    var PROP_METADATA = '__prop__metadata__';\n    /**\n     * @suppress {globalThis}\n     */\n    function makeDecorator(name, props, parentClass, additionalProcessing, typeFn) {\n        return noSideEffects(function () {\n            var metaCtor = makeMetadataCtor(props);\n            function DecoratorFactory() {\n                var args = [];\n                for (var _i = 0; _i < arguments.length; _i++) {\n                    args[_i] = arguments[_i];\n                }\n                if (this instanceof DecoratorFactory) {\n                    metaCtor.call.apply(metaCtor, __spread([this], args));\n                    return this;\n                }\n                var annotationInstance = new (DecoratorFactory.bind.apply(DecoratorFactory, __spread([void 0], args)))();\n                return function TypeDecorator(cls) {\n                    if (typeFn)\n                        typeFn.apply(void 0, __spread([cls], args));\n                    // Use of Object.defineProperty is important since it creates non-enumerable property which\n                    // prevents the property is copied during subclassing.\n                    var annotations = cls.hasOwnProperty(ANNOTATIONS) ?\n                        cls[ANNOTATIONS] :\n                        Object.defineProperty(cls, ANNOTATIONS, { value: [] })[ANNOTATIONS];\n                    annotations.push(annotationInstance);\n                    if (additionalProcessing)\n                        additionalProcessing(cls);\n                    return cls;\n                };\n            }\n            if (parentClass) {\n                DecoratorFactory.prototype = Object.create(parentClass.prototype);\n            }\n            DecoratorFactory.prototype.ngMetadataName = name;\n            DecoratorFactory.annotationCls = DecoratorFactory;\n            return DecoratorFactory;\n        });\n    }\n    function makeMetadataCtor(props) {\n        return function ctor() {\n            var args = [];\n            for (var _i = 0; _i < arguments.length; _i++) {\n                args[_i] = arguments[_i];\n            }\n            if (props) {\n                var values = props.apply(void 0,
```

```
__spread(args));\n            for (var propName in values) {\n                this[propName] = values[propName];\n        }\n        }\n    };\n    }\n    function makeParamDecorator(name, props, parentClass) {\n        return noSideEffects(function () {\n            var metaCtor = makeMetadataCtor(props);\n            function ParamDecoratorFactory() {\n                var args = [];\n                for (var _i = 0; _i < arguments.length; _i++) {\n                    args[_i] = arguments[_i];\n                }\n                if (this instanceof ParamDecoratorFactory) {\n                    metaCtor.apply(this, args);\n                    return this;\n                }\n                var annotationInstance = new (ParamDecoratorFactory.bind.apply(ParamDecoratorFactory, __spread([void 0], args)))();\n                ParamDecorator.annotation = annotationInstance;\n                return ParamDecorator;\n                function ParamDecorator(cls, unusedKey, index) {\n                    // Use of Object.defineProperty is important since it creates non-enumerable property which\n                    // prevents the property is copied during subclassing.\n                    var parameters = cls.hasOwnProperty(PARAMETERS) ?\n                        cls[PARAMETERS] :\n                        Object.defineProperty(cls, PARAMETERS, { value: [] })[PARAMETERS];\n                    // there might be gaps if some in between parameters do not have annotations.\n                    // we pad with nulls.\n                    while (parameters.length <= index) {\n                        parameters.push(null);\n                    }\n                    (parameters[index] = parameters[index] || []).push(annotationInstance);\n                    return cls;\n                }\n            }\n            if (parentClass) {\n                ParamDecoratorFactory.prototype = Object.create(parentClass.prototype);\n            }\n            ParamDecoratorFactory.prototype.ngMetadataName = name;\n            ParamDecoratorFactory.annotationCls = ParamDecoratorFactory;\n            return ParamDecoratorFactory;\n        });\n    }\n    function makePropDecorator(name, props, parentClass, additionalProcessing) {\n        return noSideEffects(function () {\n            var metaCtor = makeMetadataCtor(props);\n            function PropDecoratorFactory() {\n                var args = [];\n                for (var _i = 0; _i < arguments.length; _i++) {\n                    args[_i] = arguments[_i];\n                }\n                if (this instanceof PropDecoratorFactory) {\n                    metaCtor.apply(this, args);\n                    return this;\n                }\n                var decoratorInstance = new (PropDecoratorFactory.bind.apply(PropDecoratorFactory, __spread([void 0], args)))();\n                function PropDecorator(target, name) {\n                    var constructor = target.constructor;\n                    // Use of Object.defineProperty is important because it creates a non-enumerable property\n                    // which prevents the property from being copied during subclassing.\n                    var meta = constructor.hasOwnProperty(PROP_METADATA) ?\n                        constructor[PROP_METADATA] :\n                        Object.defineProperty(constructor, PROP_METADATA, { value: {} })[PROP_METADATA];\n                    meta[name] = meta.hasOwnProperty(name) && meta[name] || [];\n                    meta[name].unshift(decoratorInstance);\n                    if (additionalProcessing)\n                        additionalProcessing.apply(void 0, __spread([target, name], args));\n                }\n                return PropDecorator;\n            }\n            if (parentClass) {\n                PropDecoratorFactory.prototype = Object.create(parentClass.prototype);\n            }\n            PropDecoratorFactory.prototype.ngMetadataName = name;\n            PropDecoratorFactory.annotationCls = PropDecoratorFactory;\n            return PropDecoratorFactory;\n        });\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    function CREATE_ATTRIBUTE_DECORATOR__PRE_R3__() {\n        return makeParamDecorator('Attribute', function (attributeName) { return ({ attributeName: attributeName }); });\n    }\n    function CREATE_ATTRIBUTE_DECORATOR__POST_R3__() {\n        return makeParamDecorator('Attribute', function (attributeName) { return ({ attributeName: attributeName, __NG_ELEMENT_ID__: function () { return injectAttribute(attributeName); } }); });\n    }\n    var CREATE_ATTRIBUTE_DECORATOR_IMPL = CREATE_ATTRIBUTE_DECORATOR__PRE_R3__;\n    /**\n     * Attribute decorator and metadata.\n     *\n     * @Annotation\n     * @publicApi\n     */\n    var Attribute = CREATE_ATTRIBUTE_DECORATOR_IMPL();\n\n    /**\n     * @license\n     * Copyright Google LLC All
```

Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Creates a token that can be used in a DI Provider.\n *\n * Use an `InjectionToken` whenever the type you are injecting is not reified (does not have a\n * runtime representation) such as when injecting an interface, callable type, array or\n * parameterized type.\n *\n * `InjectionToken` is parameterized on `T` which is the type of object which will be returned by\n * the `Injector`. This provides additional level of type safety.\n *\n * ```\n * interface MyInterface {...}\n * var myInterface = injector.get(new InjectionToken<MyInterface>('SomeToken'));\n * // myInterface is inferred to be MyInterface.\n * ```\n *\n * When creating an `InjectionToken`, you can optionally specify a factory function which returns\n * (possibly by creating) a default value of the parameterized type `T`. This sets up the\n * `InjectionToken` using this factory as a provider as if it was defined explicitly in the\n * application's root injector. If the factory function, which takes zero arguments, needs to inject\n * dependencies, it can do so using the `inject` function. See below for an example.\n *\n * Additionally, if a `factory` is specified you can also specify the `providedIn` option, which\n * overrides the above behavior and marks the token as belonging to a particular `@NgModule`. As\n * mentioned above, `'root'` is the default value for `providedIn`.\n *\n * @usageNotes\n * ### Basic Example\n *\n * ### Plain InjectionToken\n *\n * {@example core/di/ts/injector_spec.ts region='InjectionToken'}\n *\n * ### Tree-shakable InjectionToken\n *\n * {@example core/di/ts/injector_spec.ts region='ShakableInjectionToken'}\n *\n *\n * @publicApi\n */\n var InjectionToken = /** @class */ (function () {\n function InjectionToken(_desc, options) {\n this._desc = _desc;\n /** @internal */\n this.ngMetadataName = 'InjectionToken';\n this.prov = undefined;\n if (typeof options == 'number') {\n (typeof ngDevMode === 'undefined' || ngDevMode) &&\n assertLessThan(options, 0, 'Only negative numbers are supported here');\n // This is a special hack to assign __NG_ELEMENT_ID__ to this instance.\n // See `InjectorMarkers`\n this.__NG_ELEMENT_ID__ = options;\n }\n else if (options !== undefined) {\n this.prov = defineInjectable({\n token: this,\n providedIn: options.providedIn || 'root',\n factory: options.factory,\n });\n }\n }\n InjectionToken.prototype.toString = function () {\n return \"InjectionToken \" + this._desc;\n };\n return InjectionToken;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A DI token that you can use to create a virtual [provider](guide/glossary#provider)\n * that will populate the `entryComponents` field of components and NgModules\n * based on its `useValue` property value.\n * All components that are referenced in the `useValue` value (either directly\n * or in a nested array or map) are added to the `entryComponents` property.\n *\n * @usageNotes\n *\n * The following example shows how the router can populate the `entryComponents`\n * field of an NgModule based on a router configuration that refers\n * to components.\n *\n * ```typescript\n * // helper function inside the router\n * function provideRoutes(routes) {\n * return [\n * {provide: ROUTES, useValue: routes},\n * {provide: ANALYZE_FOR_ENTRY_COMPONENTS, useValue: routes, multi: true}\n * ];\n * }\n *\n * // user code\n * let routes = [\n * {path: '/root', component: RootComp},\n * {path: '/teams', component: TeamsComp}\n * ];\n *\n * @NgModule({\n * providers: [provideRoutes(routes)]\n * })\n * class ModuleWithRoutes {}\n * ```\n *\n * @publicApi\n * @deprecated Since 9.0.0. With Ivy, this property is no longer necessary.\n */\n var ANALYZE_FOR_ENTRY_COMPONENTS = new InjectionToken('AnalyzeForEntryComponents');\n /**\n * Base class for query metadata.\n *\n * @see `ContentChildren`.\n * @see `ContentChild`.\n * @see `ViewChildren`.\n * @see `ViewChild`.\n *\n * @publicApi\n */\n var Query = /** @class */ (function () {\n function Query() {\n }\n return Query;\n }());\n var 0$1 = function (selector, data) {\n if (data === void 0) { data = {}; }\n return (Object.assign({ selector: selector, first: false, isViewQuery: false, descendants: false }, data));\n };\n /**\n *

ContentChildren decorator and metadata.\n *\n *\n * @Annotation\n * @publicApi\n */\n var ContentChildren = makePropDecorator('ContentChildren', 0$1, Query);\n var 1 = function (selector, data) {\n if (data === void 0) { data = {}; }\n return (Object.assign({ selector: selector, first: true, isViewQuery: false, descendants: true }, data));\n };\n /**\n * ContentChild decorator and metadata.\n *\n *\n * @Annotation\n *\n * @publicApi\n */\n var ContentChild = makePropDecorator('ContentChild', 1, Query);\n var 2 = function (selector, data) {\n if (data === void 0) { data = {}; }\n return (Object.assign({ selector: selector, first: false, isViewQuery: true, descendants: true }, data));\n };\n /**\n * ViewChildren decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\n var ViewChildren = makePropDecorator('ViewChildren', 2, Query);\n var 3 = function (selector, data) { return (Object.assign({ selector: selector, first: true, isViewQuery:
true, descendants: true }, data)); };\n /**\n * ViewChild decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\n var ViewChild = makePropDecorator('ViewChild', 3, Query);\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var R3ResolvedDependencyType;\n (function (R3ResolvedDependencyType) {\n R3ResolvedDependencyType[R3ResolvedDependencyType[\"Token\"] = 0] = \"Token\";\n R3ResolvedDependencyType[R3ResolvedDependencyType[\"Attribute\"] = 1] = \"Attribute\";\n R3ResolvedDependencyType[R3ResolvedDependencyType[\"ChangeDetectorRef\"] = 2] = \"ChangeDetectorRef\";\n R3ResolvedDependencyType[R3ResolvedDependencyType[\"Invalid\"] = 3] = \"Invalid\";\n })(R3ResolvedDependencyType || (R3ResolvedDependencyType = {}));\n var R3FactoryTarget;\n (function (R3FactoryTarget) {\n R3FactoryTarget[R3FactoryTarget[\"Directive\"] = 0] = \"Directive\";\n R3FactoryTarget[R3FactoryTarget[\"Component\"] = 1] = \"Component\";\n R3FactoryTarget[R3FactoryTarget[\"Injectable\"] = 2] = \"Injectable\";\n R3FactoryTarget[R3FactoryTarget[\"Pipe\"] = 3] = \"Pipe\";\n R3FactoryTarget[R3FactoryTarget[\"NgModule\"] = 4] = \"NgModule\";\n })(R3FactoryTarget || (R3FactoryTarget = {}));\n var ViewEncapsulation;\n (function (ViewEncapsulation) {\n ViewEncapsulation[ViewEncapsulation[\"Emulated\"] = 0] = \"Emulated\";\n // Historically the 1 value was for `Native` encapsulation which has been removed as of v11.\n ViewEncapsulation[ViewEncapsulation[\"None\"] = 2] = \"None\";\n ViewEncapsulation[ViewEncapsulation[\"ShadowDom\"] = 3] = \"ShadowDom\";\n })(ViewEncapsulation || (ViewEncapsulation = {}));\n\n /**\n * @license\n * Copyright Google LLC All Rights
Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function getCompilerFacade() {\n var globalNg = _global['ng'];\n if (!globalNg || !globalNg.compilerFacade) {\n throw new Error(\"Angular JIT compilation failed: '@angular/compiler' not loaded!\\n\" +\n \" - JIT compilation is discouraged for production use-cases! Consider AOT mode instead.\\n\" +\n \" - Did you bootstrap using '@angular/platform-browser-dynamic' or '@angular/platform-server'?\\n\" +\n \" - Alternatively provide the compiler with 'import \\\"@angular/compiler\\\";' before bootstrapping.\");\n }\n return globalNg.compilerFacade;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n *
found in the LICENSE file at https://angular.io/license\n */\n /**\n * @description\n *\n * Represents a type that a Component or other object is instances of.\n *\n * An example of a `Type` is `MyCustomComponent` class, which in JavaScript is represented by\n * the `MyCustomComponent` constructor function.\n *\n * @publicApi\n */\n var Type = Function;\n function isType(v) {\n return typeof v === 'function';\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Equivalent to ES6 spread, add each item to an array.\n *\n * @param items The items to add\n * @param arr The array to which you want to add the items\n */\n function

```
addAllToArray(items, arr) {\n        for (var i = 0; i < items.length; i++) {\n
        arr.push(items[i]);\n        }\n    }\n    /**\n     * Flattens an array.\n     */\n    function flatten(list, dst) {\n        if
(dst === undefined)\n            dst = list;\n        for (var i = 0; i < list.length; i++) {\n            var item = list[i];\n
if (Array.isArray(item)) {\n                // we need to inline it.\n                if (dst === list) {\n                    // Our
assumption that the list was already flat was wrong and\n                    // we need to clone flat since we need to write
to it.\n                    dst = list.slice(0, i);\n                }\n                flatten(item, dst);\n            }\n            else if (dst !==
list) {\n                dst.push(item);\n            }\n        }\n        return dst;\n    }\n    function deepForEach(input, fn) {\n
  input.forEach(function (value) { return Array.isArray(value) ? deepForEach(value, fn) : fn(value); });\n    }\n
function addToArray(arr, index, value) {\n
 // perf: array.push is faster than array.splice!\n        if (index >= arr.length) {\n            arr.push(value);\n        }\n
else {\n            arr.splice(index, 0, value);\n        }\n    }\n    function removeFromArray(arr, index) {\n        // perf:
array.pop is faster than array.splice!\n        if (index >= arr.length - 1) {\n            return arr.pop();\n        }\n        else
{\n            return arr.splice(index, 1)[0];\n        }\n    }\n    function newArray(size, value) {\n        var list = [];\n
for (var i = 0; i < size; i++) {\n            list.push(value);\n        }\n        return list;\n    }\n    /**\n     * Remove item
from array (Same as `Array.splice()` but faster.)\n     *\n     * `Array.splice()` is not as fast because it has to allocate
an array for the elements which were\n     * removed. This causes memory pressure and slows down code when
most of the time we don't\n     * care about the deleted items array.\n     *\n     * https://jsperf.com/fast-array-splice
 (About 20x faster)\n     *\n     * @param array Array to splice\n     * @param index Index of element in array to
remove.\n     * @param count Number of items to remove.\n     */\n    function arraySplice(array, index, count) {\n
  var length = array.length - count;\n        while (index < length) {\n            array[index] = array[index + count];\n
    index++;\n        }\n        while (count--) {\n            array.pop(); // shrink the array\n        }\n    }\n    /**\n     *
Same as `Array.splice(index, 0, value)` but faster.\n     *\n     * `Array.splice()` is not fast because it has to allocate
an array for the elements which were\n     * removed. This causes memory pressure and slows down code when
most of the time we don't\n     * care about the deleted items array.\n     *\n     * @param array Array to splice.\n     *
@param index Index in array where the `value` should be added.\n     * @param value Value to add to array.\n
*/\n    function
 arrayInsert(array, index, value) {\n        ngDevMode && assertLessThanOrEqual(index, array.length, 'Can\\'t insert
past array end.');\n        var end = array.length;\n        while (end > index) {\n            var previousEnd = end - 1;\n
    array[end] = array[previousEnd];\n            end = previousEnd;\n        }\n        array[index] = value;\n    }\n    /**\n
  * Same as `Array.splice2(index, 0, value1, value2)` but faster.\n     *\n     * `Array.splice()` is not fast because it
has to allocate an array for the elements which were\n     * removed. This causes memory pressure and slows down
code when most of the time we don't\n     * care about the deleted items array.\n     *\n     * @param array Array to
splice.\n     * @param index Index in array where the `value` should be added.\n     * @param value1 Value to add
to array.\n     * @param value2 Value to add to array.\n     */\n    function arrayInsert2(array, index, value1, value2)
{\n        ngDevMode && assertLessThanOrEqual(index,
 array.length, 'Can\\'t insert past array end.');\n        var end = array.length;\n        if (end == index) {\n            //
inserting at the end.\n            array.push(value1, value2);\n        }\n        else if (end === 1) {\n            // corner case
when we have less items in array than we have items to insert.\n            array.push(value2, array[0]);\n
array[0] = value1;\n        }\n        else {\n            end--;\n            array.push(array[end - 1], array[end]);\n            while
(end > index) {\n                var previousEnd = end - 2;\n                array[end] = array[previousEnd];\n                end--
;\n            }\n            array[index] = value1;\n            array[index + 1] = value2;\n        }\n    }\n    /**\n     * Insert a
`value` into an `array` so that the array remains sorted.\n     *\n     * NOTE:\n     * - Duplicates are not allowed, and
are ignored.\n     * - This uses binary search algorithm for fast inserts.\n
    *\n     * @param array A sorted array to insert into.\n     * @param value The value to insert.\n     * @returns
index of the inserted value.\n     */\n    function arrayInsertSorted(array, value) {\n        var index =
arrayIndexOfSorted(array, value);\n        if (index < 0) {\n            // if we did not find it insert it.\n            index =
~index;\n            arrayInsert(array, index, value);\n        }\n        return index;\n    }\n    /**\n     * Remove `value`
from a sorted `array`.\n     *\n     * NOTE:\n     * - This uses binary search algorithm for fast removals.\n     *\n     *
```

@param array A sorted array to remove from.\n * @param value The value to remove.\n * @returns index of the removed value.\n * - positive index if value found and removed.\n * - negative index if value not found. (`~index` to get the value where it should have been\n * inserted)\n */\n function arrayRemoveSorted(array, value) {\n var index = arrayIndexOfSorted(array, value);\n if (index >= 0) {\n arraySplice(array, index, 1);\n }\n return index;\n }\n /**\n * Get an index of an `value` in a sorted `array`.\n *\n * NOTE:\n * - This uses binary search algorithm for fast removals.\n *\n * @param array A sorted array to binary search.\n * @param value The value to look for.\n * @returns index of the value.\n * - positive index if value found.\n * - negative index if value not found. (`~index` to get the value where it should have been\n * located)\n */\n function arrayIndexOfSorted(array, value) {\n return _arrayIndexOfSorted(array, value, 0);\n }\n /**\n * Set a `value` for a `key`.\n *\n * @param keyValueArray to modify.\n * @param key The key to locate or create.\n * @param value The value to set for a `key`.\n * @returns index (always even) of where the value vas set.\n */\n function keyValueArraySet(keyValueArray, key, value) {\n var index = keyValueArrayIndexOf(keyValueArray, key);\n if (index >= 0) {\n // if we found it set it.\n keyValueArray[index | 1] = value;\n }\n else {\n index = ~index;\n arrayInsert2(keyValueArray, index, key, value);\n }\n return index;\n }\n /**\n * Retrieve a `value` for a `key` (on `undefined` if not found.)\n *\n * @param keyValueArray to search.\n * @param key The key to locate.\n * @return The `value` stored at the `key` location or `undefined if not found.\n */\n function keyValueArrayGet(keyValueArray, key) {\n var index = keyValueArrayIndexOf(keyValueArray, key);\n if (index >= 0) {\n // if we found it retrieve it.\n return keyValueArray[index | 1];\n }\n return undefined;\n }\n /**\n * Retrieve a `key` index value in the array or `-1` if not found.\n *\n * @param keyValueArray to search.\n * @param key The key to locate.\n * @returns index of where the key is (or should have been.)\n * - positive (even) index if key found.\n * - negative index if key not found. (`~index` (even) to get the index where it should have\n * been inserted.)\n */\n function keyValueArrayIndexOf(keyValueArray, key) {\n return _arrayIndexOfSorted(keyValueArray, key, 1);\n }\n /**\n * Delete a `key` (and `value`) from the `KeyValueArray`.\n *\n * @param keyValueArray to modify.\n * @param key The key to locate or delete (if exist).\n * @returns index of where the key was (or should have been.)\n * - positive (even) index if key found and deleted.\n * - negative index if key not found. (`~index` (even) to get the index where it should have\n * been.)\n */\n function keyValueArrayDelete(keyValueArray, key) {\n var index = keyValueArrayIndexOf(keyValueArray, key);\n if (index >= 0) {\n // if we found it remove it.\n arraySplice(keyValueArray, index, 2);\n }\n return index;\n }\n /**\n * INTERNAL: Get an index of an `value` in a sorted `array` by grouping search by `shift`.\n *\n * NOTE:\n * - This uses binary search algorithm for fast removals.\n *\n * @param array A sorted array to binary search.\n * @param value The value to look for.\n * @param shift grouping shift.\n * - `0` means look at every location\n * - `1` means only look at every other (even) location (the odd locations are to be ignored as\n * they are values.)\n * @returns index of the value.\n * - positive index if value found.\n * - negative index if value not found. (`~index` to get the value where it should have been\n * inserted)\n */\n function _arrayIndexOfSorted(array, value, shift) {\n ngDevMode && assertEqual(Array.isArray(array), true, 'Expecting an array');\n var start = 0;\n var end = array.length >> shift;\n while (end !== start) {\n var middle = start + ((end - start) >> 1); // find the middle.\n var current = array[middle << shift];\n if (value === current) {\n return (middle << shift);\n }\n else if (current > value) {\n end = middle;\n }\n else {\n start = middle + 1; // We already searched middle so make it non-inclusive by adding 1\n }\n }\n return ~(end << shift);\n }\n\n /*\n * ###########################\n * Attention: These Regular expressions have to hold even if the code is minified!\n * ###########################\n */\n /**\n * Regular expression that detects pass-through constructors for ES5 output. This Regex\n * intends to capture the common delegation pattern emitted by

TypeScript and Babel.
Also\n * it intends to capture the pattern where existing constructors have been downleveled from\n * ES2015 to ES5 using TypeScript w/ downlevel iteration. e.g.\n *\n * ```\n * function MyClass() {\n * var _this = _super.apply(this, arguments) || this;\n * ```\n *\n * ```\n * function MyClass() {\n * var _this = _super.apply(this, __spread(arguments)) || this;\n * ```\n *\n * More details can be found in: https://github.com/angular/angular/issues/38453.\n */\n var ES5_DELEGATE_CTOR = /^function\\s+\\S+\\(\\)\\s*{[\\s\\S]+\\.apply\\(this,\\s*(arguments|[^()]+\\(arguments\\))\\)/;\n /** Regular expression that detects ES2015 classes which extend from other classes. */\n var ES2015_INHERITED_CLASS = /^class\\s+[A-Za-z\\d$_]*\\s*extends\\s+[^{]+{/;\n /**\n * Regular expression that detects ES2015 classes which extend from other classes and\n * have an explicit constructor defined.\n */\n var ES2015_INHERITED_CLASS_WITH_CTOR = /^class\\s+[A-Za-z\\d$_]*\\s*extends\\s+[^{]+{[\\s\\S]*constructor\\s*\\(/;\n /**\n * Regular expression that detects ES2015 classes which extend from other classes\n * and inherit a constructor.\n */\n var ES2015_INHERITED_CLASS_WITH_DELEGATE_CTOR = /^class\\s+[A-Za-z\\d$_]*\\s*extends\\s+[^{]+{[\\s\\S]*constructor\\s*\\(\\)\\s*{\\s*super\\(\\.\\.\\.arguments\\)/;\n /**\n * Determine whether a stringified type is a class which delegates its constructor\n * to its parent.\n *\n * This is not trivial since compiled code can actually contain a constructor function\n * even if the original source code did not. For instance, when the child class contains\n * an initialized instance property.\n */\n function isDelegateCtor(typeStr) {\n return ES5_DELEGATE_CTOR.test(typeStr) ||\n ES2015_INHERITED_CLASS_WITH_DELEGATE_CTOR.test(typeStr) ||\n (ES2015_INHERITED_CLASS.test(typeStr)\n && !ES2015_INHERITED_CLASS_WITH_CTOR.test(typeStr));\n }\n var ReflectionCapabilities = /**\n @class */ (function () {\n function ReflectionCapabilities(reflect) {\n this._reflect = reflect || _global['Reflect'];\n }\n ReflectionCapabilities.prototype.isReflectionEnabled = function () {\n return true;\n };\n ReflectionCapabilities.prototype.factory = function (t) {\n return function () {\n var args = [];\n for (var _i = 0; _i < arguments.length; _i++) {\n args[_i] = arguments[_i];\n }\n return new (t.bind.apply(t, __spread([void 0], args)))();\n };\n };\n /** @internal */\n ReflectionCapabilities.prototype._zipTypesAndAnnotations = function (paramTypes, paramAnnotations) {\n var result;\n if (typeof paramTypes === 'undefined') {\n result = newArray(paramAnnotations.length);\n }\n else {\n result = newArray(paramTypes.length);\n }\n for (var i = 0; i < result.length; i++) {\n // TS outputs Object for parameters without types, while Traceur omits\n // the annotations. For now we preserve the Traceur behavior to aid\n // migration, but this can be revisited.\n if (typeof paramTypes === 'undefined') {\n result[i] = [];\n }\n else if (paramTypes[i] && paramTypes[i] != Object) {\n result[i] = [paramTypes[i]];\n }\n else {\n result[i] = [];\n }\n if (paramAnnotations && paramAnnotations[i] != null) {\n result[i] = result[i].concat(paramAnnotations[i]);\n }\n }\n return result;\n };\n ReflectionCapabilities.prototype._ownParameters = function (type, parentCtor) {\n var typeStr = type.toString();\n // If we have no decorators, we only have function.length as metadata.\n // In that case, to detect whether a child class declared an own constructor or not,\n // we need to look inside of that constructor to check whether it is\n // just calling the parent.\n // This also helps to work around for https://github.com/Microsoft/TypeScript/issues/12439\n // that sets 'design:paramtypes' to []\n // if a class inherits from another class but has no ctor declared itself.\n if (isDelegateCtor(typeStr)) {\n return null;\n }\n // Prefer the direct API.\n if (type.parameters && type.parameters !== parentCtor.parameters) {\n return type.parameters;\n }\n // API of tsickle for lowering decorators to properties on the class.\n var tsickleCtorParams = type.ctorParameters;\n if (tsickleCtorParams && tsickleCtorParams !== parentCtor.ctorParameters) {\n // Newer tsickle uses a function closure\n // Retain the non-

function case for compatibility with older tsickle\n var ctorParameters = typeof tsickleCtorParams === 'function' ? tsickleCtorParams() : tsickleCtorParams;\n var paramTypes_1 = ctorParameters.map(function (ctorParam) { return ctorParam && ctorParam.type; });\n var paramAnnotations_1 = ctorParameters.map(function (ctorParam) { return ctorParam && convertTsickleDecoratorIntoMetadata(ctorParam.decorators); });\n return this._zipTypesAndAnnotations(paramTypes_1, paramAnnotations_1);\n }\n // API for metadata created by invoking the decorators.\n var paramAnnotations = type.hasOwnProperty(PARAMETERS) && type[PARAMETERS];\n var paramTypes = this._reflect && this._reflect.getOwnMetadata &&\n this._reflect.getOwnMetadata('design:paramtypes', type);\n if (paramTypes || paramAnnotations) {\n return this._zipTypesAndAnnotations(paramTypes, paramAnnotations);\n }\n // If a class has no decorators, at least create metadata\n // based on function.length.\n // Note: We know that this is a real constructor as we checked\n // the content of the constructor above.\n return newArray(type.length);\n };\n ReflectionCapabilities.prototype.parameters = function (type) {\n // Note: only report metadata if we have at least one class decorator\n // to stay in sync with the static reflector.\n if (!isType(type)) {\n return [];\n }\n var parentCtor = getParentCtor(type);\n var parameters = this._ownParameters(type, parentCtor);\n if (!parameters && parentCtor !== Object) {\n parameters = this.parameters(parentCtor);\n }\n return parameters || [];\n };\n ReflectionCapabilities.prototype._ownAnnotations = function (typeOrFunc, parentCtor) {\n // Prefer the direct API.\n if (typeOrFunc.annotations && typeOrFunc.annotations !== parentCtor.annotations) {\n var annotations = typeOrFunc.annotations;\n if (typeof annotations === 'function' && annotations.annotations) {\n annotations = annotations.annotations;\n }\n return annotations;\n }\n // API of tsickle for lowering decorators to properties on the class.\n if (typeOrFunc.decorators && typeOrFunc.decorators !== parentCtor.decorators) {\n return convertTsickleDecoratorIntoMetadata(typeOrFunc.decorators);\n }\n // API for metadata created by invoking the decorators.\n if (typeOrFunc.hasOwnProperty(ANNOTATIONS)) {\n return typeOrFunc[ANNOTATIONS];\n }\n return null;\n };\n ReflectionCapabilities.prototype.annotations = function (typeOrFunc) {\n if (!isType(typeOrFunc)) {\n return [];\n }\n var parentCtor = getParentCtor(typeOrFunc);\n var ownAnnotations = this._ownAnnotations(typeOrFunc, parentCtor) || [];\n var parentAnnotations = parentCtor !== Object ? this.annotations(parentCtor) : [];\n return parentAnnotations.concat(ownAnnotations);\n };\n ReflectionCapabilities.prototype._ownPropMetadata = function (typeOrFunc, parentCtor) {\n // Prefer the direct API.\n if (typeOrFunc.propMetadata &&\n typeOrFunc.propMetadata !== parentCtor.propMetadata) {\n var propMetadata = typeOrFunc.propMetadata;\n if (typeof propMetadata === 'function' && propMetadata.propMetadata) {\n propMetadata = propMetadata.propMetadata;\n }\n return propMetadata;\n }\n // API of tsickle for lowering decorators to properties on the class.\n if (typeOrFunc.propDecorators &&\n typeOrFunc.propDecorators !== parentCtor.propDecorators) {\n var propDecorators_1 = typeOrFunc.propDecorators;\n var propMetadata_1 = {};\n Object.keys(propDecorators_1).forEach(function (prop) {\n propMetadata_1[prop] = convertTsickleDecoratorIntoMetadata(propDecorators_1[prop]);\n });\n return propMetadata_1;\n }\n // API for metadata created by invoking the decorators.\n if (typeOrFunc.hasOwnProperty(PROP_METADATA)) {\n return typeOrFunc[PROP_METADATA];\n }\n return null;\n };\n ReflectionCapabilities.prototype.propMetadata = function (typeOrFunc) {\n if (!isType(typeOrFunc)) {\n return {};\n }\n var parentCtor = getParentCtor(typeOrFunc);\n var propMetadata = {};\n if (parentCtor !== Object) {\n var parentPropMetadata_1 = this.propMetadata(parentCtor);\n Object.keys(parentPropMetadata_1).forEach(function (propName) {\n propMetadata[propName] =

```
parentPropMetadata_1[propName];\n            });\n        }\n        var ownPropMetadata =
this._ownPropMetadata(typeOrFunc, parentCtor);\n        if (ownPropMetadata) {\n
Object.keys(ownPropMetadata).forEach(function (propName) {\n            var decorators = [];\n            if
(propMetadata.hasOwnProperty(propName)) {\n                decorators.push.apply(decorators,
__spread(propMetadata[propName]));\n            }\n            decorators.push.apply(decorators,
 __spread(ownPropMetadata[propName]));\n            propMetadata[propName] = decorators;\n        });\n
    }\n        return propMetadata;\n    };\n    ReflectionCapabilities.prototype.ownPropMetadata = function
(typeOrFunc) {\n        if (!isType(typeOrFunc)) {\n            return {};\n        }\n        return
this._ownPropMetadata(typeOrFunc, getParentCtor(typeOrFunc)) || {};\n    };\n
ReflectionCapabilities.prototype.hasLifecycleHook = function (type, lcProperty) {\n        return type instanceof
Type && lcProperty in type.prototype;\n    };\n    ReflectionCapabilities.prototype.guards = function (type) {\n
        return {};\n    };\n    ReflectionCapabilities.prototype.getter = function (name) {\n        return new
Function('o', 'return o.' + name + ';');\n    };\n    ReflectionCapabilities.prototype.setter = function (name) {\n
    return new Function('o', 'v', 'return o.'
 + name + ' = v;');\n    };\n    ReflectionCapabilities.prototype.method = function (name) {\n        var
functionBody = \"if (!o.\" + name + \") throw new Error('\\\"\" + name + \"\\\" is undefined');\\n        return o.\" +
name + \".apply(o, args);\";\n        return new Function('o', 'args', functionBody);\n    };\n    // There is not a
concept of import uri in Js, but this is useful in developing Dart applications.\n
ReflectionCapabilities.prototype.importUri = function (type) {\n        // StaticSymbol\n        if (typeof type ===
'object' && type['filePath']) {\n            return type['filePath'];\n        }\n        // Runtime type\n        return
\"./\" + stringify(type);\n    };\n    ReflectionCapabilities.prototype.resourceUri = function (type) {\n
return \"./\" + stringify(type);\n    };\n    ReflectionCapabilities.prototype.resolveIdentifier = function (name,
moduleUrl, members, runtime) {\n
        return runtime;\n    };\n    ReflectionCapabilities.prototype.resolveEnum = function (enumIdentifier,
name) {\n        return enumIdentifier[name];\n    };\n    return ReflectionCapabilities;\n}());\n    function
convertTsickleDecoratorIntoMetadata(decoratorInvocations) {\n    if (!decoratorInvocations) {\n        return
[];\n    }\n    return decoratorInvocations.map(function (decoratorInvocation) {\n        var decoratorType =
decoratorInvocation.type;\n        var annotationCls = decoratorType.annotationCls;\n        var annotationArgs =
decoratorInvocation.args ? decoratorInvocation.args : [];\n        return new
(annotationCls.bind.apply(annotationCls, __spread([void 0], annotationArgs)))();\n    });\n}\n    function
getParentCtor(ctor) {\n    var parentProto = ctor.prototype ? Object.getPrototypeOf(ctor.prototype) : null;\n
var parentCtor = parentProto ? parentProto.constructor : null;\n
 // Note: We always use `Object` as the null value\n    // to simplify checking later on.\n    return parentCtor ||
Object;\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this
source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n var 0$2 = function (token) { return ({ token: token }); };\n /**\n * Inject
decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\n var Inject =
makeParamDecorator('Inject', 0$2);\n /**\n * Optional decorator and metadata.\n *\n * @Annotation\n *
@publicApi\n */\n var Optional = makeParamDecorator('Optional');\n /**\n * Self decorator and
metadata.\n *\n * @Annotation\n * @publicApi\n */\n var Self = makeParamDecorator('Self');\n /**\n
 * `SkipSelf` decorator and metadata.\n *\n * @Annotation\n * @publicApi\n
   */\n var SkipSelf = makeParamDecorator('SkipSelf');\n /**\n * Host decorator and metadata.\n *\n *
@Annotation\n * @publicApi\n */\n var Host = makeParamDecorator('Host');\n\n /**\n * @license\n
* Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var _reflect = null;\n
function getReflect() {\n    return (_reflect = _reflect || new ReflectionCapabilities());\n}\n    function
reflectDependencies(type) {\n    return convertDependencies(getReflect().parameters(type));\n}\n    function
convertDependencies(deps) {\n    var compiler = getCompilerFacade();\n    return deps.map(function (dep) {
```

return reflectDependency(compiler, dep); });\n }\n function reflectDependency(compiler, dep) {\n var meta = {\n token: null,\n host: false,\n optional: false,\n resolved: compiler.R3ResolvedDependencyType.Token,\n self: false,\n skipSelf: false,\n };\n function setTokenAndResolvedType(token) {\n meta.resolved = compiler.R3ResolvedDependencyType.Token;\n meta.token = token;\n }\n if (Array.isArray(dep) && dep.length > 0) {\n for (var j = 0; j < dep.length; j++) {\n var param = dep[j];\n if (param === undefined) {\n // param may be undefined if type of dep is not set by ngtsc\n continue;\n }\n var proto = Object.getPrototypeOf(param);\n if (param instanceof Optional || proto.ngMetadataName === 'Optional') {\n meta.optional = true;\n }\n else if (param instanceof SkipSelf || proto.ngMetadataName === 'SkipSelf') {\n meta.skipSelf = true;\n }\n else if (param instanceof Self || proto.ngMetadataName === 'Self') {\n meta.self = true;\n }\n else if (param instanceof Host || proto.ngMetadataName === 'Host') {\n meta.host = true;\n }\n else if (param instanceof Inject) {\n meta.token = param.token;\n }\n else if (param instanceof Attribute) {\n if (param.attributeName === undefined) {\n throw new Error(\"Attribute name must be defined.\");\n }\n meta.token = param.attributeName;\n meta.resolved = compiler.R3ResolvedDependencyType.Attribute;\n }\n else if (param.__ChangeDetectorRef__ === true) {\n meta.token = param;\n meta.resolved = compiler.R3ResolvedDependencyType.ChangeDetectorRef;\n }\n else {\n setTokenAndResolvedType(param);\n }\n }\n }\n else if (dep === undefined || (Array.isArray(dep) && dep.length === 0)) {\n meta.token = undefined;\n meta.resolved = R3ResolvedDependencyType.Invalid;\n }\n else {\n setTokenAndResolvedType(dep);\n }\n return meta;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Used to resolve resource URLs on `@Component` when used with JIT compilation.\n *\n * Example:\n * ```\n * @Component({\n * selector: 'my-comp',\n * templateUrl: 'my-comp.html', // This requires asynchronous resolution\n * })\n * class MyComponent{\n * }\n *\n * // Calling `renderComponent` will fail because `renderComponent` is a synchronous process\n * // and `MyComponent`'s `@Component.templateUrl` needs to be resolved asynchronously.\n *\n * // Calling `resolveComponentResources()` will resolve `@Component.templateUrl` into\n * // `@Component.template`, which allows `renderComponent` to proceed in a synchronous manner.\n *\n * // Use browser's `fetch()` function as the default resource resolution strategy.\n * resolveComponentResources(fetch).then(() => {\n * // After resolution all URLs have been converted into `template` strings.\n * renderComponent(MyComponent);\n * });\n *\n * ```\n *\n * NOTE: In AOT the resolution happens during compilation, and so there should be no need\n * to call this method outside JIT mode.\n *\n * @param resourceResolver a function which is responsible for returning a `Promise` to the\n * contents of the resolved URL. Browser's `fetch()` method is a good default implementation.\n */\n function resolveComponentResources(resourceResolver) {\n // Store all promises which are fetching the resources.\n var componentResolved = [];\n // Cache so that we don't fetch the same resource more than once.\n var urlMap = new Map();\n function cachedResourceResolve(url) {\n var promise = urlMap.get(url);\n if (!promise) {\n var resp = resourceResolver(url);\n urlMap.set(url, promise = resp.then(unwrapResponse));\n }\n return promise;\n }\n componentResourceResolutionQueue.forEach(function (component, type) {\n var promises = [];\n if (component.templateUrl) {\n promises.push(cachedResourceResolve(component.templateUrl).then(function (template) {\n component.template = template;\n }));\n }\n var styleUrls = component.styleUrls;\n var styles = component.styles || (component.styles = []);\n var styleOffset = component.styles.length;\n styleUrls && styleUrls.forEach(function (styleUrl, index) {\n

styles.push(''); // pre-allocate array.\n promises.push(cachedResourceResolve(styleUrl).then(function (style) {\n styles[styleOffset + index] = style;\n styleUrls.splice(styleUrls.indexOf(styleUrl), 1);\n if (styleUrls.length == 0) {\n component.styleUrls = undefined;\n }\n }));\n });\n var fullyResolved = Promise.all(promises).then(function () { return componentDefResolved(type); });\n componentResolved.push(fullyResolved);\n });\n clearResolutionOfComponentResourcesQueue();\n return Promise.all(componentResolved).then(function () { return undefined; });\n }\n var componentResourceResolutionQueue = new Map();\n // Track when existing cmp for a Type is waiting on resources.\n var componentDefPendingResolution = new Set();\n function maybeQueueResolutionOfComponentResources(type, metadata) {\n if (componentNeedsResolution(metadata)) {\n componentResourceResolutionQueue.set(type, metadata);\n componentDefPendingResolution.add(type);\n }\n }\n function isComponentDefPendingResolution(type) {\n return componentDefPendingResolution.has(type);\n }\n function componentNeedsResolution(component) {\n return !!((component.templateUrl && !component.hasOwnProperty('template')) ||\n component.styleUrls && component.styleUrls.length);\n }\n function clearResolutionOfComponentResourcesQueue() {\n var old = componentResourceResolutionQueue;\n componentResourceResolutionQueue = new Map();\n return old;\n }\n function restoreComponentResolutionQueue(queue) {\n componentDefPendingResolution.clear();\n queue.forEach(function (_, type) { return componentDefPendingResolution.add(type); });\n componentResourceResolutionQueue = queue;\n }\n function isComponentResourceResolutionQueueEmpty() {\n return componentResourceResolutionQueue.size === 0;\n }\n function unwrapResponse(response) {\n return typeof response == 'string' ? response : response.text();\n }\n function componentDefResolved(type) {\n componentDefPendingResolution.delete(type);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var _THROW_IF_NOT_FOUND = {};\n var THROW_IF_NOT_FOUND = _THROW_IF_NOT_FOUND;\n var NG_TEMP_TOKEN_PATH = 'ngTempTokenPath';\n var NG_TOKEN_PATH = 'ngTokenPath';\n var NEW_LINE = /\\n/gm;\n var NO_NEW_LINE = '';\n var SOURCE = '__source';\n var 0$3 = getClosureSafeProperty;\n var USE_VALUE = getClosureSafeProperty({ provide: String, useValue: 0$3 });\n /**\n * Current injector value used by `inject`.\n * - `undefined`: it is an error to call `inject`\n * - `null`: `inject` can be called but there is no injector (limp-mode).\n * - Injector instance: Use the injector for resolution.\n */\n var _currentInjector = undefined;\n function setCurrentInjector(injector) {\n var former = _currentInjector;\n _currentInjector = injector;\n return former;\n }\n function injectInjectorOnly(token, flags) {\n if (flags === void 0) { flags = exports.InjectFlags.Default; }\n if (_currentInjector === undefined) {\n throw new Error(\"inject() must be called from an injection context\");\n }\n else if (_currentInjector === null) {\n return injectRootLimpMode(token, undefined, flags);\n }\n else {\n return _currentInjector.get(token, flags & exports.InjectFlags.Optional ? null : undefined, flags);\n }\n }\n function inject(token, flags) {\n if (flags === void 0) { flags = exports.InjectFlags.Default; }\n return (getInjectImplementation() || injectInjectorOnly)(resolveForwardRef(token), flags);\n }\n /**\n * Throws an error indicating that a factory function could not be generated by the compiler for a\n * particular class.\n *\n * This instruction allows the actual error message to be optimized away when ngDevMode is turned\n * off, saving bytes of generated code while still providing a good experience in dev mode.\n *\n * The name of the class is not mentioned here, but will be in the generated factory function name\n * and thus in the stack trace.\n *\n * @codeGenApi\n */\n function invalidFactoryDep(index) {\n var msg = ngDevMode ?\n \"This constructor is not compatible with Angular Dependency Injection because its dependency at index \" + index + \" of the parameter list is invalid.\\nThis can happen if the dependency type is a primitive like a string or if an ancestor of this class is missing an Angular decorator.\\n\\nPlease check that 1) the type for the parameter at

```
index \" + index + \" is correct and 2) the correct Angular decorators are defined for this class and its ancestors.\" :\n
        'invalid';\n        throw new Error(msg);\n    }\n    /**\n     * Injects a token from the currently active injector.\n
     *\n     * Must be used in the context of a factory function such as one defined for an\n     * `InjectionToken`.
    Throws an error if not called from such a context.\n     *\n     * Within such a factory function, using this function to
    request injection of a dependency\n     * is faster and more type-safe than providing an additional array of
    dependencies\n     * (as has been common with `useFactory`
     providers).\n     *\n     * @param token The injection token for the dependency to be injected.\n     * @param flags
    Optional flags that control how injection is executed.\n     * The flags correspond to injection strategies that can be
    specified with\n     * parameter decorators `@Host`, `@Self`, `@SkipSef`, and `@Optional`.\n     * @returns True if
    injection is successful, null otherwise.\n     *\n     * @usageNotes\n     *\n     * ### Example\n     *\n     * {@example
    core/di/ts/injector_spec.ts region='ShakableInjectionToken'}\n     *\n     * @publicApi\n     */\n    var inject =
    inject;\n    function injectArgs(types) {\n        var args = [];\n        for (var i = 0; i < types.length; i++) {\n            var
    arg = resolveForwardRef(types[i]);\n            if (Array.isArray(arg)) {\n                if (arg.length === 0) {\n
    throw new Error('Arguments array must have arguments.');\n                }\n                var type = undefined;\n
      var flags = exports.InjectFlags.Default;\n                for (var j = 0; j < arg.length; j++) {\n                    var meta =
    arg[j];\n                    if (meta instanceof Optional || meta.ngMetadataName === 'Optional' || meta === Optional) {\n
                    flags |= exports.InjectFlags.Optional;\n                    }\n                    else if (meta instanceof SkipSelf ||
    meta.ngMetadataName === 'SkipSelf' || meta === SkipSelf) {\n                        flags |=
    exports.InjectFlags.SkipSelf;\n                    }\n                    else if (meta instanceof Self || meta.ngMetadataName
    === 'Self' || meta === Self) {\n                        flags |= exports.InjectFlags.Self;\n                    }\n                    else if
    (meta instanceof Inject || meta === Inject) {\n                        type = meta.token;\n                    }\n                    else
    {\n                        type = meta;\n                    }\n                }\n                args.push(inject(type,
     flags));\n            }\n            else {\n                args.push(inject(arg));\n            }\n        }\n        return args;\n    }\n
    function catchInjectorError(e, token, injectorErrorName, source) {\n        var tokenPath =
    e[NG_TEMP_TOKEN_PATH];\n        if (token[SOURCE]) {\n            tokenPath.unshift(token[SOURCE]);\n
    }\n        e.message = formatError('\\n' + e.message, tokenPath, injectorErrorName, source);\n
    e[NG_TOKEN_PATH] = tokenPath;\n        e[NG_TEMP_TOKEN_PATH] = null;\n        throw e;\n    }\n    function
    formatError(text, obj, injectorErrorName, source) {\n        if (source === void 0) { source = null; }\n        text = text
    && text.charAt(0) === '\\n' && text.charAt(1) == NO_NEW_LINE ? text.substr(2) : text;\n        var context =
    stringify(obj);\n        if (Array.isArray(obj)) {\n            context = obj.map(stringify).join(' -> ');\n        }\n        else if
    (typeof obj === 'object') {\n            var parts =
     [];\n            for (var key in obj) {\n                if (obj.hasOwnProperty(key)) {\n                    var value = obj[key];\n
                parts.push(key + ':' + (typeof value === 'string' ? JSON.stringify(value) : stringify(value)));\n                }\n
          }\n            context = \"{\" + parts.join(', ') + \"}\";\n        }\n        return \"\" + injectorErrorName + (source ? '(' +
    source + ')' : '') + \"[\" + context + \"]: \" + text.replace(NEW_LINE, '\\n  ');\n    }\n\n    /**\n     * The Trusted Types
    policy, or null if Trusted Types are not\n     * enabled/supported, or undefined if the policy has not been created
    yet.\n     */\n    var policy;\n    /**\n     * Returns the Trusted Types policy, or null if Trusted Types are not\n     *
    enabled/supported. The first call to this function will create the policy.\n     */\n    function getPolicy() {\n        if
    (policy === undefined) {\n            policy = null;\n            if (_global.trustedTypes) {\n
            try {\n                    policy = _global.trustedTypes.createPolicy('angular', {\n                        createHTML:
    function (s) { return s; },\n                        createScript: function (s) { return s; },\n                        createScriptURL:
    function (s) { return s; },\n                    });\n                }\n                catch (_a) {\n                    //
    trustedTypes.createPolicy throws if called with a name that is\n                    // already registered, even in report-only
    mode. Until the API changes,\n                    // catch the error not to break the applications functionally. In such\n
              // cases, the code will fall back to using strings.\n                }\n            }\n        }\n        return policy;\n    }\n
    /**\n     * Unsafely promote a string to a TrustedHTML, falling back to strings when\n     * Trusted Types are not
    available.\n     * @security This is a security-sensitive function; any use of this function\n
```

```
 * must go through security review. In particular, it must be assured that the\n     * provided string will never cause an XSS vulnerability if used in a context\n     * that will be interpreted as HTML by a browser, e.g. when assigning to\n     * element.innerHTML.\n     */\n    function trustedHTMLFromString(html) {\n        var _a;\n return ((_a = getPolicy()) === null || _a === void 0 ? void 0 : _a.createHTML(html)) || html;\n    }\n    /**\n     * Unsafely promote a string to a TrustedScript, falling back to strings when\n     * Trusted Types are not available.\n     * @security In particular, it must be assured that the provided string will\n     * never cause an XSS vulnerability if used in a context that will be\n     * interpreted and executed as a script by a browser, e.g. when calling eval.\n     */\n    function trustedScriptFromString(script) {\n        var _a;\n        return ((_a = getPolicy()) === null || _a === void 0 ? void 0 : _a.createScript(script)) ||
 script;\n    }\n    /**\n     * Unsafely promote a string to a TrustedScriptURL, falling back to strings\n     * when Trusted Types are not available.\n     * @security This is a security-sensitive function; any use of this function\n     * must go through security review. In particular, it must be assured that the\n     * provided string will never cause an XSS vulnerability if used in a context\n     * that will cause a browser to load and execute a resource, e.g. when\n     * assigning to script.src.\n     */\n    function trustedScriptURLFromString(url) {\n        var _a;\n        return ((_a = getPolicy()) === null || _a === void 0 ? void 0 : _a.createScriptURL(url)) || url;\n    }\n    /**\n     * Unsafely call the Function constructor with the given string arguments. It\n     * is only available in development mode, and should be stripped out of\n     * production code.\n     * @security This is a security-sensitive function; any use of this function\n     * must go through security
 review. In particular, it must be assured that it\n     * is only called from development code, as use in production code can lead to\n     * XSS vulnerabilities.\n     */\n    function newTrustedFunctionForDev() {\n        var args = [];\n        for (var _i = 0; _i < arguments.length; _i++) {\n            args[_i] = arguments[_i];\n        }\n        if (typeof ngDevMode === 'undefined') {\n            throw new Error('newTrustedFunctionForDev should never be called in production');\n        }\n        if (!_global.trustedTypes) {\n            // In environments that don't support Trusted Types, fall back to the most\n            // straightforward implementation:\n            return new (Function.bind.apply(Function, __spread([void 0], args)))();\n        }\n        // Chrome currently does not support passing TrustedScript to the Function\n        // constructor. The following implements the workaround proposed on the page\n        // below, where the Chromium bug is also referenced:\n
        // https://github.com/w3c/webappsec-trusted-types/wiki/Trusted-Types-for-function-constructor\n        var fnArgs = args.slice(0, -1).join(',');\n        var fnBody = args.pop().toString();\n        var body = \"(function anonymous(\" + fnArgs + \"\\n) { \" + fnBody + \"\\n})\";\n        // Using eval directly confuses the compiler and prevents this module from\n        // being stripped out of JS binaries even if not used. The global['eval']\n        // indirection fixes that.\n        var fn = _global['eval'](trustedScriptFromString(body));\n        // To completely mimic the behavior of calling \"new Function\", two more\n        // things need to happen:\n        // 1. Stringifying the resulting function should return its source code\n        fn.toString = function () { return body; };\n        // 2. When calling the resulting function, `this` should refer to `global`\n        return fn.bind(_global);\n        // When Trusted Types support in Function constructors
 is widely available,\n        // the implementation of this function can be simplified to:\n        // return new Function(...args.map(a => trustedScriptFromString(a)));\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var SafeValueImpl = /** @class */ (function () {\n        function SafeValueImpl(changingThisBreaksApplicationSecurity) {\n            this.changingThisBreaksApplicationSecurity = changingThisBreaksApplicationSecurity;\n        }\n        SafeValueImpl.prototype.toString = function () {\n            return \"SafeValue must use [property]=binding: \" +
            this.changingThisBreaksApplicationSecurity +\n                \" (see https://g.co/ng/security#xss)\";\n        };\n        return SafeValueImpl;\n    }());\n    var SafeHtmlImpl = /** @class */ (function (_super) {\n
        __extends(SafeHtmlImpl, _super);\n        function SafeHtmlImpl() {\n            return _super !== null && _super.apply(this, arguments) || this;\n        }\n        SafeHtmlImpl.prototype.getTypeName = function () {\n            return \"HTML\" /* Html */;\n        };\n        return SafeHtmlImpl;\n    }(SafeValueImpl));\n    var SafeStyleImpl =
```

```
/** @class */ (function (_super) {\n        __extends(SafeStyleImpl, _super);\n        function SafeStyleImpl() {\n            return _super !== null && _super.apply(this, arguments) || this;\n        }\n        SafeStyleImpl.prototype.getTypeName = function () {\n            return \"Style\" /* Style */;\n        };\n        return SafeStyleImpl;\n    }(SafeValueImpl));\n    var SafeScriptImpl = /** @class */ (function (_super) {\n        __extends(SafeScriptImpl, _super);\n        function SafeScriptImpl() {\n            return _super !== null && _super.apply(this, arguments) || this;\n        }\n        SafeScriptImpl.prototype.getTypeName = function () {\n            return \"Script\" /* Script */;\n        };\n        return SafeScriptImpl;\n    }(SafeValueImpl));\n    var SafeUrlImpl = /** @class */ (function (_super) {\n        __extends(SafeUrlImpl, _super);\n        function SafeUrlImpl() {\n            return _super !== null && _super.apply(this, arguments) || this;\n        }\n        SafeUrlImpl.prototype.getTypeName = function () {\n            return \"URL\" /* Url */;\n        };\n        return SafeUrlImpl;\n    }(SafeValueImpl));\n    var SafeResourceUrlImpl = /** @class */ (function (_super) {\n        __extends(SafeResourceUrlImpl, _super);\n        function SafeResourceUrlImpl() {\n            return _super !== null && _super.apply(this, arguments) || this;\n        }\n        SafeResourceUrlImpl.prototype.getTypeName = function () {\n            return \"ResourceURL\" /* ResourceUrl */;\n        };\n        return SafeResourceUrlImpl;\n    }(SafeValueImpl));\n    function unwrapSafeValue(value) {\n        return value instanceof SafeValueImpl ? value.changingThisBreaksApplicationSecurity :\n            value;\n    }\n    function allowSanitizationBypassAndThrow(value, type) {\n        var actualType = getSanitizationBypassType(value);\n        if (actualType != null && actualType !== type) {\n            // Allow ResourceURLs in URL contexts, they are strictly more trusted.\n            if (actualType === \"ResourceURL\" /* ResourceUrl */ && type === \"URL\" /* Url */)\n                return true;\n            throw new Error(\"Required a safe \" + type + \", got a \" + actualType + \" (see https://g.co/ng/security#xss)\");\n        }\n        return actualType === type;\n    }\n    function getSanitizationBypassType(value) {\n        return value instanceof SafeValueImpl && value.getTypeName() || null;\n    }\n    /**\n     * Mark `html` string as trusted.\n     *\n     * This function wraps the trusted string in `String` and brands it in a way which makes it\n     * recognizable to {@link htmlSanitizer} to be trusted implicitly.\n     *\n     * @param trustedHtml `html` string which needs to be implicitly trusted.\n     * @returns a `html` which has been branded to be implicitly trusted.\n     */\n    function bypassSanitizationTrustHtml(trustedHtml) {\n        return new SafeHtmlImpl(trustedHtml);\n    }\n    /**\n     * Mark `style` string as trusted.\n     *\n     * This function wraps the trusted string in `String` and brands it in a way which makes it\n     * recognizable to {@link styleSanitizer} to be trusted implicitly.\n     *\n     * @param trustedStyle `style` string which needs to be implicitly trusted.\n     * @returns a `style` hich has been branded to be implicitly trusted.\n     */\n    function bypassSanitizationTrustStyle(trustedStyle) {\n        return new SafeStyleImpl(trustedStyle);\n    }\n    /**\n     * Mark `script` string as trusted.\n     *\n     * This function wraps the trusted string in `String` and brands it in a way which makes\n     it\n     * recognizable to {@link scriptSanitizer} to be trusted implicitly.\n     *\n     * @param trustedScript `script` string which needs to be implicitly trusted.\n     * @returns a `script` which has been branded to be implicitly trusted.\n     */\n    function bypassSanitizationTrustScript(trustedScript) {\n        return new SafeScriptImpl(trustedScript);\n    }\n    /**\n     * Mark `url` string as trusted.\n     *\n     * This function wraps the trusted string in `String` and brands it in a way which makes it\n     * recognizable to {@link urlSanitizer} to be trusted implicitly.\n     *\n     * @param trustedUrl `url` string which needs to be implicitly trusted.\n     * @returns a `url`  which has been branded to be implicitly trusted.\n     */\n    function bypassSanitizationTrustUrl(trustedUrl) {\n        return new SafeUrlImpl(trustedUrl);\n    }\n    /**\n     * Mark `url` string as trusted.\n     *\n     * This function wraps the trusted string in `String` and brands it\n     in a way which makes it\n     * recognizable to {@link resourceUrlSanitizer} to be trusted implicitly.\n     *\n     * @param trustedResourceUrl `url` string which needs to be implicitly trusted.\n     * @returns a `url` which has been branded to be implicitly trusted.\n     */\n    function bypassSanitizationTrustResourceUrl(trustedResourceUrl) {\n        return new SafeResourceUrlImpl(trustedResourceUrl);\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * This helper is used to get hold of an
```

```
inert tree of DOM elements containing dirty HTML\n     * that needs sanitizing.\n     * Depending upon browser support we use one of two strategies for doing this.\n     * Default: DOMParser strategy\n     * Fallback: InertDocument strategy\n     */\n    function getInertBodyHelper(defaultDoc)
 {\n        return isDOMParserAvailable() ? new DOMParserHelper() : new InertDocumentHelper(defaultDoc);\n }\n    /**\n     * Uses DOMParser to create and fill an inert body element.\n     * This is the default strategy used in browsers that support it.\n     */\n    var DOMParserHelper = /** @class */ (function () {\n        function DOMParserHelper() {\n        }\n        DOMParserHelper.prototype.getInertBodyElement = function (html) {\n // We add these extra elements to ensure that the rest of the content is parsed as expected\n            // e.g. leading whitespace is maintained and tags like `<meta>` do not get hoisted to the\n            // `<head>` tag. Note that the `<body>` tag is closed implicitly to prevent unclosed tags\n            // in `html` from consuming the otherwise explicit `</body>` tag.\n            html = '<body><remove></remove>' + html;\n            try {\n                var body = new window.DOMParser()\n                    .parseFromString(trustedHTMLFromString(html), 'text/html')\n                    .body;\n                body.removeChild(body.firstChild);\n                return body;\n            }\n            catch (_a) {\n                return null;\n            }\n        };\n        return DOMParserHelper;\n    }());\n    /**\n     * Use an HTML5 `template` element, if supported, or an inert body element created via\n     * `createHtmlDocument` to create and fill an inert DOM element.\n     * This is the fallback strategy if the browser does not support DOMParser.\n     */\n    var InertDocumentHelper = /** @class */ (function () {\n        function InertDocumentHelper(defaultDoc) {\n            this.defaultDoc = defaultDoc;\n            this.inertDocument = this.defaultDoc.implementation.createHTMLDocument('sanitization-inert');\n            if (this.inertDocument.body == null) {\n                // usually there should be only one body element in the document, but IE doesn't have any, so\n

  // we need to create one.\n                var inertHtml = this.inertDocument.createElement('html');\n                this.inertDocument.appendChild(inertHtml);\n                var inertBodyElement = this.inertDocument.createElement('body');\n                inertHtml.appendChild(inertBodyElement);\n            }\n        }\n        InertDocumentHelper.prototype.getInertBodyElement = function (html) {\n            // Prefer using <template> element if supported.\n            var templateEl = this.inertDocument.createElement('template');\n            if ('content' in templateEl) {\n                templateEl.innerHTML = trustedHTMLFromString(html);\n                return templateEl;\n            }\n            // Note that previously we used to do something like `this.inertDocument.body.innerHTML = html`\n            // and we returned the inert `body` node. This was changed, because IE seems to treat setting\n            // `innerHTML` on an inserted element differently, compared to one that hasn't been inserted\n            // yet. In particular, IE appears to split some of the text into multiple text nodes rather\n            // than keeping them in a single one which ends up messing with Ivy's i18n parsing further\n            // down the line. This has been worked around by creating a new inert `body` and using it as\n            // the root node in which we insert the HTML.\n            var inertBody = this.inertDocument.createElement('body');\n            inertBody.innerHTML = trustedHTMLFromString(html);\n            // Support: IE 11 only\n            // strip custom-namespaced attributes on IE<=11\n            if (this.defaultDoc.documentMode) {\n                this.stripCustomNsAttrs(inertBody);\n            }\n            return inertBody;\n        };\n        /**\n         * When IE11 comes across an unknown namespaced attribute e.g. 'xlink:foo' it adds 'xmlns:ns1'\n         * attribute to declare ns1 namespace and prefixes the attribute with 'ns1' (e.g.\n         * 'ns1:xlink:foo').\n         *\n         * This is undesirable since we don't want to allow any of these custom attributes. This method\n         * strips them all.\n         */\n        InertDocumentHelper.prototype.stripCustomNsAttrs = function (el) {\n            var elAttrs = el.attributes;\n            // loop backwards so that we can support removals.\n            for (var i = elAttrs.length - 1; 0 < i; i--) {\n                var attrib = elAttrs.item(i);\n                var attrName = attrib.name;\n                if (attrName === 'xmlns:ns1' || attrName.indexOf('ns1:') === 0) {\n                    el.removeAttribute(attrName);\n                }\n            }\n            var childNode = el.firstChild;\n            while (childNode) {\n                if (childNode.nodeType === Node.ELEMENT_NODE)\n                    this.stripCustomNsAttrs(childNode);\n                childNode = childNode.nextSibling;\n            }\n        };\n        return InertDocumentHelper;\n
```

```
}());\n    /**\n     * We need to determine whether the DOMParser exists in the global context and\n     * supports parsing HTML; HTML parsing support is not as wide as other formats, see\n     * https://developer.mozilla.org/en-US/docs/Web/API/DOMParser#Browser_compatibility.\n     *\n     * @suppress {uselessCode}\n     */\n    function isDOMParserAvailable() {\n        try {\n            return !!new window.DOMParser().parseFromString(trustedHTMLFromString(''), 'text/html');\n        }\n        catch (_a) {\n            return false;\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * A pattern that recognizes a commonly useful subset of URLs that are safe.\n     *\n     * This regular expression matches a subset of URLs that will not cause script\n     * execution if used in URL context within a HTML document. Specifically, this\n     * regular expression matches if (comment from here on and regex copied from\n     * Soy's EscapingConventions):\n     * (1) Either an allowed protocol (http, https, mailto or ftp).\n     * (2) or no protocol.  A protocol must be followed by a colon. The below\n     *     allows that by allowing colons only after one of the characters [/?#].\n     *     A colon after a hash (#) must be in the fragment.\n     *     Otherwise, a colon after a (?) must be in a query.\n     *     Otherwise, a colon after a single solidus (/) must be in a path.\n     *     Otherwise, a colon after a double solidus (//) must be in the authority\n     *     (before port).\n     *\n     * The pattern disallows &, used in HTML entity declarations before\n     * one of the characters in [/?#]. This disallows HTML entities used in the\n     * protocol name, which should never happen, e.g. \"h&#116;tp\" for \"http\".\n     * It
    also disallows HTML entities in the first path part of a relative path,\n     * e.g. \"foo&lt;bar/baz\".  Our existing escaping functions should not produce\n     * that. More importantly, it disallows masking of a colon,\n     * e.g. \"javascript&#58;...\".\n     *\n     * This regular expression was taken from the Closure sanitization library.\n     */\n    var SAFE_URL_PATTERN = /^(?:(?:https?|mailto|ftp|tel|file|sms):|[^&:/?#]*(?:[/?#]|$))/gi;\n    /* A pattern that matches safe srcset values */\n    var SAFE_SRCSET_PATTERN = /^(?:(?:https?|file):|[^&:/?#]*(?:[/?#]|$))/gi;\n    /** A pattern that matches safe data URLs. Only matches image, video and audio types. */\n    var DATA_URL_PATTERN = /^data:(?:image\\/(?:bmp|gif|jpeg|jpg|png|tiff|webp)|video\\/(?:mpeg|mp4|ogg|webm)|audio\\/(?:mp3|oga|ogg|opus))base64,[a-z0-9+\\/]+=*$/i;\n    function _sanitizeUrl(url) {\n        url = String(url);\n        if (url.match(SAFE_URL_PATTERN) || url.match(DATA_URL_PATTERN))\n            return url;\n        if (typeof ngDevMode === 'undefined' || ngDevMode) {\n            console.warn(\"WARNING: sanitizing unsafe URL value \" + url + \" (see https://g.co/ng/security#xss)\");\n        }\n        return 'unsafe:' + url;\n    }\n    function sanitizeSrcset(srcset) {\n        srcset = String(srcset);\n        return srcset.split(',').map(function (srcset) { return _sanitizeUrl(srcset.trim()); }).join(', ');\n    }\n\n    function tagSet(tags) {\n        var e_1, _a;\n        var res = {};\n        try {\n            for (var _b = __values(tags.split(',')), _c = _b.next(); !_c.done; _c = _b.next()) {\n                var t = _c.value;\n                res[t] = true;\n            }\n        }\n        catch (e_1_1) { e_1 = { error: e_1_1 }; }\n        finally {\n            try {\n                if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n            }\n            finally { if (e_1) throw e_1.error; }\n        }\n        return res;\n    }\n    function merge() {\n        var e_2, _a;\n        var sets = [];\n        for (var _i = 0; _i < arguments.length; _i++) {\n            sets[_i] = arguments[_i];\n        }\n        var res = {};\n        try {\n            for (var sets_1 = __values(sets), sets_1_1 = sets_1.next(); !sets_1_1.done; sets_1_1 = sets_1.next()) {\n                var s = sets_1_1.value;\n                for (var v in s) {\n                    if (s.hasOwnProperty(v))\n                        res[v] = true;\n                }\n            }\n        }\n        catch (e_2_1) { e_2 = { error: e_2_1 }; }\n        finally {\n            try {\n                if (sets_1_1 && !sets_1_1.done && (_a = sets_1.return)) _a.call(sets_1);\n            }\n            finally { if (e_2) throw e_2.error; }\n        }\n        return res;\n    }\n    // Good source of info about elements and attributes\n    // https://html.spec.whatwg.org/#semantics\n    // https://simon.html5.org/html-elements\n    // Safe Void Elements - HTML5\n    // https://html.spec.whatwg.org/#void-elements\n
    var VOID_ELEMENTS = tagSet('area,br,col,hr,img,wbr');\n    // Elements that you can, intentionally, leave open (and which close themselves)\n    // https://html.spec.whatwg.org/#optional-tags\n    var OPTIONAL_END_TAG_BLOCK_ELEMENTS = tagSet('colgroup,dd,dt,li,p,tbody,td,tfoot,th,thead,tr');\n    var
```

```
OPTIONAL_END_TAG_INLINE_ELEMENTS = tagSet('rp,rt');\n    var OPTIONAL_END_TAG_ELEMENTS =
merge(OPTIONAL_END_TAG_INLINE_ELEMENTS, OPTIONAL_END_TAG_BLOCK_ELEMENTS);\n    //
Safe Block Elements - HTML5\n    var BLOCK_ELEMENTS =
merge(OPTIONAL_END_TAG_BLOCK_ELEMENTS, tagSet('address,article,' +\n
'aside,blockquote,caption,center,del,details,dialog,dir,div,dl,figure,figcaption,footer,h1,h2,h3,h4,h5,' +\n
'h6,header,hgroup,hr,ins,main,map,menu,nav,ol,pre,section,summary,table,ul'));\n    // Inline Elements - HTML5\n
var INLINE_ELEMENTS = merge(OPTIONAL_END_TAG_INLINE_ELEMENTS,
tagSet('a,abbr,acronym,audio,b,' +\n
'bdi,bdo,big,br,cite,code,del,dfn,em,font,i,img,ins,kbd,label,map,mark,picture,q,ruby,rp,rt,s,'
 +\n        'samp,small,source,span,strike,strong,sub,sup,time,track,tt,u,var,video'));\n    var VALID_ELEMENTS =
merge(VOID_ELEMENTS, BLOCK_ELEMENTS, INLINE_ELEMENTS,
OPTIONAL_END_TAG_ELEMENTS);\n    // Attributes that have href and hence need to be sanitized\n    var
URI_ATTRS = tagSet('background,cite,href,itemtype,longdesc,poster,src,xlink:href');\n    // Attributes that have
special href set hence need to be sanitized\n    var SRCSET_ATTRS = tagSet('srcset');\n    var HTML_ATTRS =
tagSet('abbr,accesskey,align,alt,autoplay,axis,bgcolor,border,cellpadding,cellspacing,class,clear,color,cols,colspan,'
 +\n        'compact,controls,coords,datetime,default,dir,download,face,headers,height,hidden,hreflang,hspace,' +\n
'ismap,itemscope,itemprop,kind,label,lang,language,loop,media,muted,nohref,nowrap,open,preload,rel,rev,role,rows
,rowspan,rules,' +\n
'scope,scrolling,shape,size,sizes,span,srclang,start,summary,tabindex,target,title,translate,type,usemap,'
 +\n        'valign,value,vspace,width');\n    // Accessibility attributes as per WAI-ARIA 1.1 (W3C Working Draft 14
December 2018)\n    var ARIA_ATTRS = tagSet('aria-activedescendant,aria-atomic,aria-autocomplete,aria-
busy,aria-checked,aria-colcount,aria-colindex,' +\n        'aria-colspan,aria-controls,aria-current,aria-describedby,aria-
details,aria-disabled,aria-dropeffect,' +\n        'aria-errormessage,aria-expanded,aria-flowto,aria-grabbed,aria-
haspopup,aria-hidden,aria-invalid,' +\n        'aria-keyshortcuts,aria-label,aria-labelledby,aria-level,aria-live,aria-
modal,aria-multiline,' +\n        'aria-multiselectable,aria-orientation,aria-owns,aria-placeholder,aria-posinset,aria-
pressed,aria-readonly,' +\n        'aria-relevant,aria-required,aria-roledescription,aria-rowcount,aria-rowindex,aria-
rowspan,aria-selected,' +\n        'aria-setsize,aria-sort,aria-valuemax,aria-valuemin,aria-valuenow,aria-valuetext');\n
// NB: This
 currently consciously doesn't support SVG. SVG sanitization has had several security\n    // issues in the past, so it
seems safer to leave it out if possible. If support for binding SVG via\n    // innerHTML is required, SVG attributes
should be added here.\n    // NB: Sanitization does not allow <form> elements or other active elements (<button>
etc). Those\n    // can be sanitized, but they increase security surface area without a legitimate use case, so they\n    //
are left out here.\n    var VALID_ATTRS = merge(URI_ATTRS, SRCSET_ATTRS, HTML_ATTRS,
ARIA_ATTRS);\n    // Elements whose content should not be traversed/preserved, if the elements themselves are
invalid.\n    //\n    // Typically, `<invalid>Some content</invalid>` would traverse (and in this case preserve)\n    //
`Some content`, but strip `invalid-element` opening/closing tags. For some elements, though, we\n    // don't want to
preserve the content, if the elements themselves are going to be removed.\n    var
SKIP_TRAVERSING_CONTENT_IF_INVALID_ELEMENTS
 = tagSet('script,style,template');\n    /**\n     * SanitizingHtmlSerializer serializes a DOM fragment, stripping out
any unsafe elements and unsafe\n     * attributes.\n     */\n    var SanitizingHtmlSerializer = /** @class */ (function ()
{\n        function SanitizingHtmlSerializer() {\n            // Explicitly track if something was stripped, to avoid
accidentally warning of sanitization just\n            // because characters were re-encoded.\n
this.sanitizedSomething = false;\n            this.buf = [];\n        }\n
SanitizingHtmlSerializer.prototype.sanitizeChildren = function (el) {\n            // This cannot use a TreeWalker, as it
has to run on Angular's various DOM adapters.\n            // However this code never accesses properties off of
`document` before deleting its contents\n            // again, so it shouldn't be vulnerable to DOM clobbering.\n
var current = el.firstChild;\n            var traverseContent
```

```
 = true;\n          while (current) {\n              if (current.nodeType === Node.ELEMENT_NODE) {\n
traverseContent = this.startElement(current);\n              }\n              else if (current.nodeType ===
Node.TEXT_NODE) {\n                  this.chars(current.nodeValue);\n              }\n              else {\n                  //
Strip non-element, non-text nodes.\n                  this.sanitizedSomething = true;\n              }\n              if
(traverseContent && current.firstChild) {\n                  current = current.firstChild;\n                  continue;\n
  }\n              while (current) {\n                  // Leaving the element. Walk up and to the right, closing tags as we
go.\n                  if (current.nodeType === Node.ELEMENT_NODE) {\n                      this.endElement(current);\n
              }\n                  var next = this.checkClobberedElement(current, current.nextSibling);\n
                  if (next) {\n                      current = next;\n                      break;\n                  }\n                  current =
this.checkClobberedElement(current, current.parentNode);\n              }\n          }\n          return this.buf.join('');\n
    };\n      /**\n       * Sanitizes an opening element tag (if valid) and returns whether the element's contents
should\n       * be traversed. Element content must always be traversed (even if the element itself is not\n       *
valid/safe), unless the element is one of `SKIP_TRAVERSING_CONTENT_IF_INVALID_ELEMENTS`.\n
*\n       * @param element The element to sanitize.\n       * @return True if the element's contents should be
traversed.\n       */\n      SanitizingHtmlSerializer.prototype.startElement = function (element) {\n          var
tagName = element.nodeName.toLowerCase();\n          if (!VALID_ELEMENTS.hasOwnProperty(tagName)) {\n
          this.sanitizedSomething
 = true;\n              return
!SKIP_TRAVERSING_CONTENT_IF_INVALID_ELEMENTS.hasOwnProperty(tagName);\n          }\n
this.buf.push('<');\n          this.buf.push(tagName);\n          var elAttrs = element.attributes;\n          for (var i = 0; i
< elAttrs.length; i++) {\n              var elAttr = elAttrs.item(i);\n              var attrName = elAttr.name;\n
var lower = attrName.toLowerCase();\n              if (!VALID_ATTRS.hasOwnProperty(lower)) {\n
this.sanitizedSomething = true;\n                  continue;\n              }\n              var value = elAttr.value;\n
// TODO(martinprobst): Special case image URIs for data:image/...\n              if (URI_ATTRS[lower])\n
 value = _sanitizeUrl(value);\n              if (SRCSET_ATTRS[lower])\n                  value = sanitizeSrcset(value);\n
          this.buf.push(' ', attrName, '=\"', encodeEntities(value),
 '\"');\n          }\n          this.buf.push('>');\n          return true;\n      };\n
SanitizingHtmlSerializer.prototype.endElement = function (current) {\n          var tagName =
current.nodeName.toLowerCase();\n          if (VALID_ELEMENTS.hasOwnProperty(tagName) &&
!VOID_ELEMENTS.hasOwnProperty(tagName)) {\n              this.buf.push('</');\n
this.buf.push(tagName);\n              this.buf.push('>');\n          }\n      };\n
SanitizingHtmlSerializer.prototype.chars = function (chars) {\n          this.buf.push(encodeEntities(chars));\n
};\n      SanitizingHtmlSerializer.prototype.checkClobberedElement = function (node, nextNode) {\n          if
(nextNode &&\n              (node.compareDocumentPosition(nextNode) &\n
Node.DOCUMENT_POSITION_CONTAINED_BY) === Node.DOCUMENT_POSITION_CONTAINED_BY)
{\n              throw new Error(\"Failed to sanitize html because the element is clobbered: \" + node.outerHTML);\n
          }\n          return nextNode;\n      };\n      return SanitizingHtmlSerializer;\n  }());\n  // Regular
Expressions for parsing tags and attributes\n  var SURROGATE_PAIR_REGEXP = /[\\uD800-\\uDBFF][\\uDC00-
\\uDFFF]/g;\n  // ! to ~ is the ASCII range.\n  var NON_ALPHANUMERIC_REGEXP = /([^\\#-~ |!])/g;\n  /**\n
 * Escapes all potentially dangerous characters, so that the\n   * resulting string can be safely inserted into
attribute or\n   * element text.\n   * @param value\n   */\n  function encodeEntities(value) {\n      return
value.replace(/&/g, '&amp;')\n          .replace(SURROGATE_PAIR_REGEXP, function (match) {\n          var hi =
match.charCodeAt(0);\n          var low = match.charCodeAt(1);\n          return '&#' + (((hi - 0xD800) * 0x400) +
(low - 0xDC00) + 0x10000) + ';';\n      })\n          .replace(NON_ALPHANUMERIC_REGEXP, function (match)
{\n          return '&#' + match.charCodeAt(0) + ';';\n      })\n
      .replace(/</g, '&lt;')\n          .replace(/>/g, '&gt;');\n  }\n  var inertBodyHelper;\n  /**\n   * Sanitizes the
given unsafe, untrusted HTML fragment, and returns HTML text that is safe to add to\n   * the DOM in a browser
environment.\n   */\n  function _sanitizeHtml(defaultDoc, unsafeHtmlInput) {\n      var inertBodyElement =
```

```
null;\n try {\n inertBodyHelper = inertBodyHelper || getInertBodyHelper(defaultDoc);\n // Make sure unsafeHtml is actually a string (TypeScript types are not enforced at runtime).\n var unsafeHtml = unsafeHtmlInput ? String(unsafeHtmlInput) : '';\n inertBodyElement = inertBodyHelper.getInertBodyElement(unsafeHtml);\n // mXSS protection. Repeatedly parse the document to make sure it stabilizes, so that a browser\n // trying to auto-correct incorrect HTML cannot cause formerly inert HTML to become dangerous.\n var mXSSAttempts = 5;\n var parsedHtml = unsafeHtml;\n do {\n if (mXSSAttempts === 0) {\n throw new Error('Failed to sanitize html because the input is unstable');\n }\n mXSSAttempts--;\n unsafeHtml = parsedHtml;\n parsedHtml = inertBodyElement.innerHTML;\n inertBodyElement = inertBodyHelper.getInertBodyElement(unsafeHtml);\n } while (unsafeHtml !== parsedHtml);\n var sanitizer = new SanitizingHtmlSerializer();\n var safeHtml = sanitizer.sanitizeChildren(getTemplateContent(inertBodyElement) || inertBodyElement);\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && sanitizer.sanitizedSomething) {\n console.warn('WARNING: sanitizing HTML stripped some content, see https://g.co/ng/security#xss');\n }\n return safeHtml;\n }\n finally {\n // In case anything goes wrong, clear out inertElement to reset the entire DOM structure.\n if (inertBodyElement) {\n var parent = getTemplateContent(inertBodyElement) || inertBodyElement;\n while (parent.firstChild) {\n parent.removeChild(parent.firstChild);\n }\n }\n }\n }\n function getTemplateContent(el) {\n return 'content' in el /** Microsoft/TypeScript#21517 */ && isTemplateElement(el) ?\n el.content :\n null;\n }\n function isTemplateElement(el) {\n return el.nodeType === Node.ELEMENT_NODE && el.nodeName === 'TEMPLATE';\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n (function (SecurityContext) {\n SecurityContext[SecurityContext[\"NONE\"] = 0] = \"NONE\";\n SecurityContext[SecurityContext[\"HTML\"] = 1] = \"HTML\";\n SecurityContext[SecurityContext[\"STYLE\"] = 2] = \"STYLE\";\n SecurityContext[SecurityContext[\"SCRIPT\"] = 3] = \"SCRIPT\";\n SecurityContext[SecurityContext[\"URL\"] = 4] = \"URL\";\n SecurityContext[SecurityContext[\"RESOURCE_URL\"] = 5] = \"RESOURCE_URL\";\n })(exports.SecurityContext || (exports.SecurityContext = {}));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * An `html` sanitizer which converts untrusted `html` **string** into trusted string by removing\n * dangerous content.\n *\n * This method parses the `html` and locates potentially dangerous content (such as urls and\n * javascript) and removes it.\n *\n * It is possible to mark a string as trusted by calling {@link bypassSanitizationTrustHtml}.\n *\n * @param unsafeHtml untrusted `html`, typically from the user.\n * @returns `html` string which is safe to display to user, because all of the dangerous javascript\n * and urls have been removed.\n *\n * @codeGenApi\n */\n function sanitizeHtml(unsafeHtml) {\n var sanitizer = getSanitizer();\n if (sanitizer) {\n return sanitizer.sanitize(exports.SecurityContext.HTML, unsafeHtml) || '';\n }\n if (allowSanitizationBypassAndThrow(unsafeHtml, \"HTML\" /* Html */)) {\n return unwrapSafeValue(unsafeHtml);\n }\n return _sanitizeHtml(getDocument(), renderStringify(unsafeHtml));\n }\n /**\n * A `style` sanitizer which converts untrusted `style` **string** into trusted string by removing\n * dangerous content.\n *\n * It is possible to mark a string as trusted by calling {@link bypassSanitizationTrustStyle}.\n *\n * @param unsafeStyle untrusted `style`, typically from the user.\n * @returns `style` string which is safe to bind to the `style` properties.\n *\n * @codeGenApi\n */\n function sanitizeStyle(unsafeStyle) {\n var sanitizer = getSanitizer();\n if (sanitizer) {\n return sanitizer.sanitize(exports.SecurityContext.STYLE, unsafeStyle) || '';\n }\n if (allowSanitizationBypassAndThrow(unsafeStyle, \"Style\" /* Style */)) {\n return unwrapSafeValue(unsafeStyle);\n }\n return renderStringify(unsafeStyle);\n }\n /**\n * A `url`
```

```
sanitizer which converts untrusted `url` **string** into trusted string by removing\n     * dangerous\n     * content.\n     *\n     * This method parses the `url` and locates potentially dangerous content (such as javascript) and\n     * removes it.\n     *\n     * It is possible to mark a string as trusted by calling {@link bypassSanitizationTrustUrl}.\n     *\n     * @param unsafeUrl untrusted `url`, typically
 from the user.\n     * @returns `url` string which is safe to bind to the `src` properties such as `<img src>`, because\n     * all of the dangerous javascript has been removed.\n     *\n     * @codeGenApi\n     */\n    function sanitizeUrl(unsafeUrl) {\n        var sanitizer = getSanitizer();\n        if (sanitizer) {\n            return sanitizer.sanitize(exports.SecurityContext.URL, unsafeUrl) || '';\n        }\n        if (allowSanitizationBypassAndThrow(unsafeUrl, \"URL\" /* Url */)) {\n            return unwrapSafeValue(unsafeUrl);\n        }\n        return _sanitizeUrl(renderStringify(unsafeUrl));\n    }\n    /**\n     * A `url` sanitizer which only lets trusted `url`s through.\n     *\n     * This passes only `url`s marked trusted by calling {@link bypassSanitizationTrustResourceUrl}.\n     *\n     * @param unsafeResourceUrl untrusted `url`, typically from the user.\n     * @returns `url` string which is safe to bind to the `src` properties such as `<img src>`, because\n     * only trusted `url`s have been allowed to pass.\n     *\n     * @codeGenApi\n     */\n    function sanitizeResourceUrl(unsafeResourceUrl) {\n        var sanitizer = getSanitizer();\n        if (sanitizer) {\n            return sanitizer.sanitize(exports.SecurityContext.RESOURCE_URL, unsafeResourceUrl) || '';\n        }\n        if (allowSanitizationBypassAndThrow(unsafeResourceUrl, \"ResourceURL\" /* ResourceUrl */)) {\n            return unwrapSafeValue(unsafeResourceUrl);\n        }\n        throw new Error('unsafe value used in a resource URL context (see https://g.co/ng/security#xss)');\n    }\n    /**\n     * A `script` sanitizer which only lets trusted javascript through.\n     *\n     * This passes only `script`s marked trusted by calling {@link\n     * bypassSanitizationTrustScript}.\n     *\n     * @param unsafeScript untrusted `script`, typically from the user.\n     * @returns `url` string which is safe to bind to the `<script>` element such as `<img src>`,\n     * because only trusted `scripts` have been allowed to pass.\n     *\n     * @codeGenApi\n     */\n    function sanitizeScript(unsafeScript) {\n        var sanitizer = getSanitizer();\n        if (sanitizer) {\n            return sanitizer.sanitize(exports.SecurityContext.SCRIPT, unsafeScript) || '';\n        }\n        if (allowSanitizationBypassAndThrow(unsafeScript, \"Script\" /* Script */)) {\n            return unwrapSafeValue(unsafeScript);\n        }\n        throw new Error('unsafe value used in a script context');\n    }\n    /**\n     * Promotes the given constant string to a TrustedHTML.\n     * @param html constant string containing trusted HTML.\n     * @returns TrustedHTML wrapping `html`.\n     *\n     * @security This is a security-sensitive function and should only be used to\n     * convert constant values of attributes and properties found in\n     * application-provided Angular templates to TrustedHTML.\n     *\n     * @codeGenApi\n     */\n    function trustConstantHtml(html)
 {\n        return trustedHTMLFromString(html);\n    }\n    /**\n     * Promotes the given constant string to a TrustedScript.\n     * @param script constant string containing a trusted script.\n     * @returns TrustedScript wrapping `script`.\n     *\n     * @security This is a security-sensitive function and should only be used to\n     * convert constant values of attributes and properties found in\n     * application-provided Angular templates to TrustedScript.\n     *\n     * @codeGenApi\n     */\n    function trustConstantScript(script) {\n        return trustedScriptFromString(script);\n    }\n    /**\n     * Promotes the given constant string to a TrustedScriptURL.\n     * @param url constant string containing a trusted script URL.\n     * @returns TrustedScriptURL wrapping `url`.\n     *\n     * @security This is a security-sensitive function and should only be used to\n     * convert constant values of attributes and properties found in\n     * application-provided
 Angular templates to TrustedScriptURL.\n     *\n     * @codeGenApi\n     */\n    function trustConstantResourceUrl(url) {\n        return trustedScriptURLFromString(url);\n    }\n    /**\n     * Detects which sanitizer to use for URL property, based on tag name and prop name.\n     *\n     * The rules are based on the RESOURCE_URL context config from\n     * `packages/compiler/src/schema/dom_security_schema.ts`.\n     * If tag and prop names don't match Resource URL schema, use URL sanitizer.\n     */\n    function getUrlSanitizer(tag, prop) {\n        if ((prop === 'src' &&\n            (tag === 'embed' || tag === 'frame' || tag === 'iframe' || tag === 'media' ||\n                tag === 'script')) ||\n            (prop === 'href' && (tag === 'base' || tag === 'link'))) {\n            return
```

```
sanitizeResourceUrl;\n        }\n        return sanitizeUrl;\n    }\n    /**\n     * Sanitizes URL, selecting sanitizer function based on tag and property names.\n     *\n     * This function is used in case we can't define security context at compile time, when only prop\n     * name is available. This happens when we generate host bindings for Directives/Components. The\n     * host element is unknown at compile time, so we defer calculation of specific sanitizer to\n     * runtime.\n     *\n     * @param unsafeUrl untrusted `url`, typically from the user.\n     * @param tag target element tag name.\n     * @param prop name of the property that contains the value.\n     * @returns `url` string which is safe to bind.\n     *\n     * @codeGenApi\n     */\n    function sanitizeUrlOrResourceUrl(unsafeUrl, tag, prop) {\n        return getUrlSanitizer(tag, prop)(unsafeUrl);\n    }\n    function validateAgainstEventProperties(name) {\n        if (name.toLowerCase().startsWith('on')) {\n            var msg = \"Binding to event property '\" + name + \"' is disallowed for security reasons, \" +\n                (\"please use (\" + name.slice(2) + \")=...\") +\n                (\"\\nIf '\" + name + \"' is a directive input, make sure the directive is imported by the\") +\n                \" current module.\";\n            throw new Error(msg);\n        }\n    }\n    function validateAgainstEventAttributes(name) {\n        if (name.toLowerCase().startsWith('on')) {\n            var msg = \"Binding to event attribute '\" + name + \"' is disallowed for security reasons, \" +\n                (\"please use (\" + name.slice(2) + \")=...\");\n            throw new Error(msg);\n        }\n    }\n    function getSanitizer() {\n        var lView = getLView();\n        return lView && lView[SANITIZER];\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var ERROR_TYPE = 'ngType';\n    var ERROR_DEBUG_CONTEXT = 'ngDebugContext';\n    var ERROR_ORIGINAL_ERROR = 'ngOriginalError';\n    var ERROR_LOGGER = 'ngErrorLogger';\n    function wrappedError(message, originalError) {\n        var msg = message + \" caused by: \" + (originalError instanceof Error ? originalError.message : originalError);\n        var error = Error(msg);\n        error[ERROR_ORIGINAL_ERROR] = originalError;\n        return error;\n    }\n\n    function getType(error) {\n        return error[ERROR_TYPE];\n    }\n    function getDebugContext(error) {\n        return error[ERROR_DEBUG_CONTEXT];\n    }\n    function getOriginalError(error) {\n        return error[ERROR_ORIGINAL_ERROR];\n    }\n    function getErrorLogger(error) {\n        return error[ERROR_LOGGER] || defaultErrorLogger;\n    }\n    function defaultErrorLogger(console) {\n        var values = [];\n        for (var _i = 1; _i < arguments.length; _i++) {\n            values[_i - 1] = arguments[_i];\n        }\n        console.error.apply(console, __spread(values));\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Provides a hook for centralized exception handling.\n     *\n     * The default implementation of `ErrorHandler` prints error messages to the `console`. To\n     * intercept error handling, write a custom exception handler that replaces this default as\n     * appropriate for your app.\n     *\n     * @usageNotes\n     * ### Example\n     *\n     * ```\n     * class MyErrorHandler implements ErrorHandler {\n     *   handleError(error) {\n     *     // do something with the exception\n     *   }\n     * }\n     *\n     * @NgModule({\n     *   providers: [{provide: ErrorHandler, useClass: MyErrorHandler}]\n     * })\n     * class MyModule {}\n     * ```\n     *\n     * @publicApi\n     */\n    var ErrorHandler = /** @class */ (function () {\n        function ErrorHandler() {\n            /**\n             * @internal\n             */\n            this._console = console;\n        }\n        ErrorHandler.prototype.handleError = function (error) {\n            var originalError = this._findOriginalError(error);\n            var context = this._findContext(error);\n            // Note: Browser consoles show the place from where console.error was called.\n            // We can use this to give users additional information about the error.\n            var errorLogger = getErrorLogger(error);\n            errorLogger(this._console, \"ERROR\", error);\n            if (originalError) {\n                errorLogger(this._console, \"ORIGINAL ERROR\", originalError);\n            }\n            if (context) {\n                errorLogger(this._console, 'ERROR CONTEXT', context);\n            }\n        };\n        /** @internal */\n        ErrorHandler.prototype._findContext = function (error) {\n            if (error) {\n                return getDebugContext(error) ? getDebugContext(error)
```

:\n this._findContext(getOriginalError(error));\n }\n return null;\n };\n /** @internal */\n ErrorHandler.prototype._findOriginalError = function (error) {\n var e = getOriginalError(error);\n while (e && getOriginalError(e)) {\n e = getOriginalError(e);\n }\n return e;\n };\n return ErrorHandler;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Defines a schema that allows an NgModule to contain the following:\n * - Non-Angular elements named with dash case (`-`).\n * - Element properties named with dash case (`-`).\n * Dash case is the naming convention for custom elements.\n *\n * @publicApi\n */\n var CUSTOM_ELEMENTS_SCHEMA = {\n name: 'custom-elements'\n };\n /**\n * Defines a schema that allows any property on any element.\n *\n * @publicApi\n */\n var NO_ERRORS_SCHEMA = {\n name: 'no-errors-schema'\n };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var END_COMMENT = /-->/g;\n var END_COMMENT_ESCAPED = '-\\u200B-\\u200B>';\n /**\n * Escape the content of the strings so that it can be safely inserted into a comment node.\n *\n * The issue is that HTML does not specify any way to escape comment end text inside the comment.\n * `<!-- The way you close a comment is with \"-->\". -->`. Above the `\"-->\"` is meant to be text not\n * an end to the comment. This can be created programmatically through DOM APIs.\n\n *\n * ```\n * div.innerHTML = div.innerHTML\n * ```\n *\n * One would expect that the above code would be safe to do, but it turns out that because comment\n * text is not escaped, the comment may contain text which will prematurely close the comment\n * opening up the application for XSS attack. (In SSR we programmatically create comment nodes which\n * may contain such text and expect them to be safe.)\n *\n * This function escapes the comment text by looking for the closing char sequence `-->` and replace\n * it with `-_-_>` where the `_` is a zero width space `\\u200B`. The result is that if a comment\n * contains `-->` text it will render normally but it will not cause the HTML parser to close the\n * comment.\n *\n * @param value text to make safe for comment node by escaping the comment close character sequence\n */\n function escapeCommentText(value) {\n return value.replace(END_COMMENT, END_COMMENT_ESCAPED);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * THIS FILE CONTAINS CODE WHICH SHOULD BE TREE SHAKEN AND NEVER CALLED FROM PRODUCTION CODE!!!\n */\n /**\n * Creates an `Array` construction with a given name. This is useful when\n * looking for memory consumption to see what time of array it is.\n *\n *\n * @param name Name to give to the constructor\n * @returns A subclass of `Array` if possible. This can only be done in\n * environments which support `class` construct.\n */\n function createNamedArrayType(name) {\n // This should never be called in prod mode, so let's verify that is the case.\n if (ngDevMode) {\n try {\n // If this function were compromised the following could lead to arbitrary\n // script execution. We bless it with Trusted Types anyway since this\n // function is stripped out of production binaries.\n return (newTrustedFunctionForDev('Array', \"return class \" + name + \" extends Array{}\"))(Array);\n }\n catch (e) {\n // If it does not work just give up and fall back to regular Array.\n return Array;\n }\n }\n else {\n throw new Error('Looks like we are in \\'prod mode\\', but we are creating a named Array type, which is wrong! Check your code');\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function normalizeDebugBindingName(name) {\n // Attribute names with `$` (eg `x-y$`) are valid per spec, but unsupported by some browsers\n name = camelCaseToDashCase(name.replace(/[$@]/g, '_'));\n return \"ng-reflect-\" + name;\n }\n var CAMEL_CASE_REGEXP = /([A-Z])/g;\n function

```
camelCaseToDashCase(input) {\n return input.replace(CAMEL_CASE_REGEXP, function () {\n var m = [];\n for (var _i = 0; _i < arguments.length; _i++) {\n m[_i] = arguments[_i];\n }\n return '-' + m[1].toLowerCase();\n });\n }\n function normalizeDebugBindingValue(value) {\n try {\n // Limit the size of the value as otherwise the DOM just gets polluted.\n return value != null ? value.toString().slice(0, 30) : value;\n }\n catch (e) {\n return '[ERROR] Exception while trying to serialize the value';\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Returns the matching `LContext` data for a given DOM node, directive or component instance.\n *\n * This function will examine the provided DOM element, component, or directive instance\\'s\n * monkey-patched property to derive the `LContext` data. Once called then the monkey-patched\n * value will be that of the newly created `LContext`.\n *\n * If the monkey-patched value is the `LView` instance then the context value for that\n * target will be created and the monkey-patch reference will be updated. Therefore when this\n * function is called it may mutate the provided element\\'s, component\\'s or any of the associated\n * directive\\'s monkey-patch values.\n *\n * If the monkey-patch value is not detected then the code will walk up the DOM until an element\n * is found which contains a monkey-patch reference. When that occurs then the provided element\n * will be updated with a new context (which is then returned). If the monkey-patch value is not\n * detected for a component/directive instance then it will throw an error (all components and\n * directives should be automatically monkey-patched by ivy).\n *\n * @param target Component, Directive or DOM Node.\n */\n function getLContext(target) {\n var mpValue = readPatchedData(target);\n if (mpValue) {\n // only when it's an array is it considered an LView instance\n // ... otherwise it's an already constructed LContext instance\n if (Array.isArray(mpValue)) {\n var lView = mpValue;\n var nodeIndex = void 0;\n var component = undefined;\n var directives = undefined;\n if (isComponentInstance(target)) {\n nodeIndex = findViaComponent(lView, target);\n if (nodeIndex == -1) {\n throw new Error('The provided component was not found in the application');\n }\n component = target;\n }\n else if (isDirectiveInstance(target)) {\n nodeIndex = findViaDirective(lView, target);\n if (nodeIndex == -1) {\n throw new Error('The provided directive was not found in the application');\n }\n directives = getDirectivesAtNodeIndex(nodeIndex, lView, false);\n }\n else {\n nodeIndex = findViaNativeElement(lView, target);\n if (nodeIndex == -1) {\n return null;\n }\n }\n // the goal is not to fill the entire context full of data because the lookups\n // are expensive. Instead, only the target data (the element, component, container, ICU\n // expression or directive details) are filled into the context. If called multiple times\n // with different target values then the missing target data will be filled in.\n var native = unwrapRNode(lView[nodeIndex]);\n var existingCtx = readPatchedData(native);\n var context = (existingCtx && !Array.isArray(existingCtx)) ?\n existingCtx :\n createLContext(lView, nodeIndex, native);\n // only when the component has been discovered then update the monkey-patch\n if (component && context.component === undefined) {\n context.component = component;\n attachPatchData(context.component, context);\n }\n // only when the directives have been discovered then update the monkey-patch\n if (directives && context.directives === undefined) {\n context.directives = directives;\n for (var i = 0; i < directives.length; i++) {\n attachPatchData(directives[i], context);\n }\n }\n attachPatchData(context.native, context);\n mpValue = context;\n }\n }\n else {\n var rElement = target;\n ngDevMode && assertDomNode(rElement);\n // if the context is not found then we need to traverse upwards up the DOM\n // to find the nearest element that has already been monkey patched with data\n var parent = rElement;\n while (parent = parent.parentNode) {\n var parentContext = readPatchedData(parent);\n if
```

(parentContext) {\n var lView = void 0;\n if (Array.isArray(parentContext)) {\n lView = parentContext;\n }\n else {\n lView = parentContext.lView;\n }\n // the edge of the app was also reached here through another means\n // (maybe because the DOM was changed manually).\n if (!lView) {\n return null;\n }\n var index = findViaNativeElement(lView, rElement);\n if (index >= 0) {\n var native = unwrapRNode(lView[index]);\n var context = createLContext(lView, index, native);\n attachPatchData(native, context);\n mpValue = context;\n break;\n }\n }\n }\n return mpValue || null;\n }\n /**\n * Creates an empty instance of a `LContext` context\n */\n function createLContext(lView, nodeIndex, native) {\n return {\n lView: lView,\n nodeIndex: nodeIndex,\n native: native,\n component: undefined,\n directives: undefined,\n localRefs: undefined,\n };\n }\n /**\n * Takes a component instance and returns the view for that component.\n *\n * @param componentInstance\n * @returns The component's view\n */\n function getComponentViewByInstance(componentInstance) {\n var lView = readPatchedData(componentInstance);\n var view;\n if (Array.isArray(lView)) {\n var nodeIndex = findViaComponent(lView, componentInstance);\n view = getComponentLViewByIndex(nodeIndex, lView);\n var context = createLContext(lView, nodeIndex, view[HOST]);\n context.component = componentInstance;\n attachPatchData(componentInstance, context);\n attachPatchData(context.native, context);\n }\n else {\n var context = lView;\n view = getComponentLViewByIndex(context.nodeIndex, context.lView);\n }\n return view;\n }\n /**\n * Assigns the given data to the given target (which could be a component,\n * directive or DOM node instance) using monkey-patching.\n */\n function attachPatchData(target, data) {\n target[MONKEY_PATCH_KEY_NAME] = data;\n }\n function isComponentInstance(instance) {\n return instance && instance.constructor && instance.constructor.cmp;\n }\n function isDirectiveInstance(instance) {\n return instance && instance.constructor && instance.constructor.dir;\n }\n /**\n * Locates the element within the given LView and returns the matching index\n */\n function findViaNativeElement(lView, target) {\n var tView = lView[TVIEW];\n for (var i = HEADER_OFFSET; i < tView.bindingStartIndex; i++) {\n if (unwrapRNode(lView[i]) === target) {\n return i;\n }\n }\n return -1;\n }\n /**\n * Locates the next tNode (child, sibling or parent).\n */\n function traverseNextElement(tNode) {\n if (tNode.child) {\n return tNode.child;\n }\n else if (tNode.next) {\n return tNode.next;\n }\n else {\n // Let's take the following template: text <component/>\n // After checking the text node, we need to find the next parent that has a \"next\" TNode,\n // in this case the parent `div`, so that we can find the component.\n while (tNode.parent && !tNode.parent.next) {\n tNode = tNode.parent;\n }\n return tNode.parent && tNode.parent.next;\n }\n }\n /**\n * Locates the component within the given LView and returns the matching index\n */\n function findViaComponent(lView, componentInstance) {\n var componentIndices = lView[TVIEW].components;\n if (componentIndices) {\n for (var i = 0; i < componentIndices.length; i++) {\n var elementComponentIndex = componentIndices[i];\n var componentView = getComponentLViewByIndex(elementComponentIndex, lView);\n if (componentView[CONTEXT] === componentInstance) {\n return elementComponentIndex;\n }\n }\n }\n else {\n var rootComponentView = getComponentLViewByIndex(HEADER_OFFSET, lView);\n var rootComponent = rootComponentView[CONTEXT];\n if (rootComponent === componentInstance) {\n // we are dealing with the root element here therefore we know that the\n // element is the very first element after the HEADER data in the lView\n return HEADER_OFFSET;\n }\n }\n return -1;\n }\n /**\n * Locates the directive within the given LView and returns the matching index\n */\n function findViaDirective(lView,

directiveInstance) {\n // if a directive is monkey patched then it will (by default)\n // have a reference to the LView of the current view. The\n // element bound to the directive being search lives somewhere\n // in the view data. We loop through the nodes and check their\n // list of directives for the instance.\n var tNode = lView[TVIEW].firstChild;\n while (tNode) {\n var directiveIndexStart = tNode.directiveStart;\n var directiveIndexEnd = tNode.directiveEnd;\n for (var i = directiveIndexStart; i < directiveIndexEnd; i++) {\n if (lView[i] === directiveInstance) {\n return tNode.index;\n }\n }\n tNode = traverseNextElement(tNode);\n }\n return -1;\n }\n /**\n * Returns a list of directives extracted from the given view based on the\n * provided list of directive index values.\n *\n * @param nodeIndex The node index\n * @param lView The target view data\n * @param includeComponents Whether or not to include components in returned directives\n */\n function getDirectivesAtNodeIndex(nodeIndex, lView, includeComponents) {\n var tNode = lView[TVIEW].data[nodeIndex];\n var directiveStartIndex = tNode.directiveStart;\n if (directiveStartIndex == 0)\n return EMPTY_ARRAY;\n var directiveEndIndex = tNode.directiveEnd;\n if (!includeComponents && tNode.flags & 2 /* isComponentHost */)\n directiveStartIndex++;\n return lView.slice(directiveStartIndex, directiveEndIndex);\n }\n function getComponentAtNodeIndex(nodeIndex, lView) {\n var tNode = lView[TVIEW].data[nodeIndex];\n var directiveStartIndex = tNode.directiveStart;\n return tNode.flags & 2 /* isComponentHost */ ? lView[directiveStartIndex] : null;\n }\n /**\n * Returns a map of local references (local reference name => element or directive instance) that\n * exist on a given element.\n */\n function discoverLocalRefs(lView, nodeIndex) {\n var tNode = lView[TVIEW].data[nodeIndex];\n if (tNode && tNode.localNames) {\n var result = {};\n var localIndex = tNode.index + 1;\n for (var i = 0; i < tNode.localNames.length; i += 2) {\n result[tNode.localNames[i]] = lView[localIndex];\n localIndex++;\n }\n return result;\n }\n return null;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var 0$4 = function () {\n return (typeof requestAnimationFrame !== 'undefined' &&\n requestAnimationFrame || // browser only\n setTimeout // everything else\n )\n .bind(_global);\n };\n var defaultScheduler = (0$4)();\n /**\n *\n * @codeGenApi\n */\n function resolveWindow(element) {\n return { name: 'window', target: element.ownerDocument.defaultView };\n }\n /**\n *\n * @codeGenApi\n */\n function resolveDocument(element) {\n return { name: 'document', target: element.ownerDocument };\n }\n /**\n *\n * @codeGenApi\n */\n function resolveBody(element) {\n return { name: 'body', target: element.ownerDocument.body };\n }\n /**\n * The special delimiter we use to separate property names, prefixes, and suffixes\n * in property binding metadata. See storeBindingMetadata().\n *\n * We intentionally use the Unicode \"REPLACEMENT CHARACTER\" (U+FFFD) as a delimiter\n * because it is a very uncommon character that is unlikely to be part of a user's\n * property names or interpolation strings. If it is in fact used in a property\n * binding, DebugElement.properties will not return the correct value for that\n * binding. However, there should be no runtime effect for real applications.\n *\n * This character is typically rendered as a question mark inside of a diamond.\n * See https://en.wikipedia.org/wiki/Specials_(Unicode_block)\n *\n */\n var INTERPOLATION_DELIMITER = \"\\uFFFD\";\n /**\n * Unwrap a value which might be behind a closure (for forward declaration reasons).\n */\n function maybeUnwrapFn(value) {\n if (value instanceof Function) {\n return value();\n }\n else {\n return value;\n }\n }\n\n /** Called when there are multiple component selectors that match a given node */\n function throwMultipleComponentError(tNode) {\n throw new RuntimeError(\"300\" /* MULTIPLE_COMPONENTS_MATCH */, \"Multiple components match node with tagname \" + tNode.value);\n }\n /** Throws an ExpressionChangedAfterChecked error if checkNoChanges mode is on. */\n function throwErrorIfNoChangesMode(creationMode, oldValue, currValue, propName) {\n var field = propName ? \" for '\" + propName + \"'\" : \";\n var msg = \"ExpressionChangedAfterItHasBeenCheckedError: Expression has changed after it was checked. Previous value\"

+ field + \": '\" + oldValue + \"'. Current value: '\" + currValue + \"'.\";\n if (creationMode) {\n msg +=\n \" It seems like the view has been created after its parent and its children have been dirty checked.\" +\n \" Has it been created in a change detection hook?\";\n }\n // TODO: include debug context, see `viewDebugError` function in\n // `packages/core/src/view/errors.ts` for reference.\n throw new RuntimeError(\"100\" /* EXPRESSION_CHANGED_AFTER_CHECKED */, msg);\n }\n function constructDetailsForInterpolation(lView, rootIndex, expressionIndex, meta, changedValue) {\n var _a = __read(meta.split(INTERPOLATION_DELIMITER)), propName = _a[0], prefix = _a[1], chunks = _a.slice(2);\n var oldValue = prefix, newValue = prefix;\n for (var i = 0; i < chunks.length; i++) {\n var slotIdx = rootIndex + i;\n oldValue += \"\" + lView[slotIdx] + chunks[i];\n newValue += \"\" + (slotIdx === expressionIndex ? changedValue : lView[slotIdx]) + chunks[i];\n }\n return { propName: propName, oldValue: oldValue, newValue: newValue };\n }\n /**\n * Constructs an object that contains details for the ExpressionChangedAfterItHasBeenCheckedError:\n * - property name (for property bindings or interpolations)\n * - old and new values, enriched using information from metadata\n *\n * More information on the metadata storage format can be found in `storePropertyBindingMetadata`\n * function description.\n */\n function getExpressionChangedErrorDetails(lView, bindingIndex, oldValue, newValue) {\n var tData = lView[TVIEW].data;\n var metadata = tData[bindingIndex];\n if (typeof metadata === 'string') {\n // metadata for property interpolation\n if (metadata.indexOf(INTERPOLATION_DELIMITER) > -1) {\n return constructDetailsForInterpolation(lView, bindingIndex, bindingIndex, metadata, newValue);\n }\n // metadata for property binding\n return { propName: metadata, oldValue: oldValue, newValue: newValue };\n }\n // metadata is not available for this expression, check if this expression is a part of the\n // property interpolation by going from the current binding index left and look for a string that\n // contains INTERPOLATION_DELIMITER, the layout in tView.data for this case will look like this:\n // [..., 'idPrefix and suffix', null, null, null, ...]\n if (metadata === null) {\n var idx = bindingIndex - 1;\n while (typeof tData[idx] !== 'string' && tData[idx + 1] === null) {\n idx--;\n }\n var meta = tData[idx];\n if (typeof meta === 'string') {\n var matches = meta.match(new RegExp(INTERPOLATION_DELIMITER, 'g'));\n // first interpolation delimiter separates property name from interpolation parts (in case of\n // property interpolations), so we subtract one from total number of found delimiters\n if (matches && (matches.length - 1) > bindingIndex - idx) {\n return constructDetailsForInterpolation(lView, idx, bindingIndex, meta, newValue);\n }\n }\n }\n return { propName: undefined, oldValue: oldValue, newValue: newValue };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n (function (RendererStyleFlags2) {\n // TODO(misko): This needs to be refactored into a separate file so that it can be imported from\n // `node_manipulation.ts` Currently doing the import cause resolution order to change and fails\n // the tests. The work around is to have hard coded value in `node_manipulation.ts` for now.\n /**\n * Marks a style as important.\n */\n RendererStyleFlags2[RendererStyleFlags2[\"Important\"] = 1] = \"Important\";\n /**\n * Marks a style as using dash case naming (this-is-dash-case).\n */\n RendererStyleFlags2[RendererStyleFlags2[\"DashCase\"] = 2] = \"DashCase\";\n })(exports.RendererStyleFlags2 || (exports.RendererStyleFlags2 = {}));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var _icuContainerIterate;\n /**\n * Iterator which provides ability to visit all of the `TIcuContainerNode` root `RNode`s.\n */\n function icuContainerIterate(tIcuContainerNode, lView) {\n return _icuContainerIterate(tIcuContainerNode, lView);\n }\n /**\n * Ensures that `IcuContainerVisitor`'s implementation is present.\n *\n * This function is invoked when i18n instruction comes across an ICU. The purpose is to allow the\n * bundler to tree shake ICU logic and only load it if ICU

instruction is executed.\n */\n function ensureIcuContainerVisitorLoaded(loader) {\n if (_icuContainerIterate === undefined) {\n // Do not inline this function. We want to keep `ensureIcuContainerVisitorLoaded` light, so it\n // can be inlined into call-site.\n _icuContainerIterate = loader();\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // Note: This hack is necessary so we don't erroneously get a circular dependency\n // failure based on types.\n var unusedValueExportToPlacateAjd$5 = 1;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Gets the parent LView of the passed LView, if the PARENT is an LContainer, will get the parent of\n * that LContainer, which is an LView\n * @param lView the lView whose parent to get\n */\n function getLViewParent(lView) {\n ngDevMode && assertLView(lView);\n var parent = lView[PARENT];\n return isLContainer(parent) ? parent[PARENT] : parent;\n }\n /**\n * Retrieve the root view from any component or `LView` by walking the parent `LView` until\n * reaching the root `LView`.\n *\n * @param componentOrLView any component or `LView`\n */\n function getRootView(componentOrLView) {\n ngDevMode && assertDefined(componentOrLView, 'component');\n var lView = isLView(componentOrLView) ? componentOrLView : readPatchedLView(componentOrLView);\n while (lView && !(lView[FLAGS] & 512 /* IsRoot */)) {\n lView = getLViewParent(lView);\n }\n ngDevMode && assertLView(lView);\n return lView;\n }\n /**\n * Returns the `RootContext` instance that is associated with\n * the application where the target is situated. It does this by walking the parent views until it\n * gets to the root view, then getting the context off of that.\n *\n * @param viewOrComponent the `LView` or component to get the root context for.\n */\n function getRootContext(viewOrComponent) {\n var rootView = getRootView(viewOrComponent);\n ngDevMode &&\n assertDefined(rootView[CONTEXT], 'RootView has no context. Perhaps it is disconnected?');\n return rootView[CONTEXT];\n }\n /**\n * Gets the first `LContainer` in the LView or `null` if none exists.\n */\n function getFirstLContainer(lView) {\n return getNearestLContainer(lView[CHILD_HEAD]);\n }\n /**\n * Gets the next `LContainer` that is a sibling of the given container.\n */\n function getNextLContainer(container) {\n return getNearestLContainer(container[NEXT]);\n }\n function getNearestLContainer(viewOrContainer) {\n while (viewOrContainer !== null && !isLContainer(viewOrContainer)) {\n viewOrContainer = viewOrContainer[NEXT];\n }\n return viewOrContainer;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an\n MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var unusedValueToPlacateAjd = unusedValueExportToPlacateAjd + unusedValueExportToPlacateAjd$4 + unusedValueExportToPlacateAjd$5 + unusedValueExportToPlacateAjd$2 + unusedValueExportToPlacateAjd$1;\n /**\n * NOTE: for performance reasons, the possible actions are inlined within the function instead of\n * being passed as an argument.\n */\n function applyToElementOrContainer(action, renderer, parent, lNodeToHandle, beforeNode) {\n // If this slot was allocated for a text node dynamically created by i18n, the text node itself\n // won't be created until i18nApply() in the update block, so this node should be skipped.\n // For more info, see \"ICU expressions should work inside an ngTemplateOutlet inside an ngFor\"\n // in `i18n_spec.ts`.\n if (lNodeToHandle != null) {\n var lContainer = void 0;\n var isComponent = false;\n // We are expecting an RNode, but in the case of a component or LContainer the `RNode` is\n // wrapped in an array which needs to be unwrapped. We need to know if it is a component and if\n // it has LContainer so that we can process all of those cases appropriately.\n if (isLContainer(lNodeToHandle)) {\n lContainer = lNodeToHandle;\n }\n else if (isLView(lNodeToHandle)) {\n isComponent = true;\n ngDevMode && assertDefined(lNodeToHandle[HOST], 'HOST must be defined for a component LView');\n lNodeToHandle = lNodeToHandle[HOST];\n }\n var rNode = unwrapRNode(lNodeToHandle);\n ngDevMode && !isProceduralRenderer(renderer) &&

assertDomNode(rNode);\n if (action === 0 /* Create */ && parent !== null) {\n if (beforeNode == null) {\n nativeAppendChild(renderer, parent, rNode);\n }\n else {\n nativeInsertBefore(renderer, parent, rNode, beforeNode || null, true);\n }\n }\n else if (action === 1 /* Insert */ && parent !== null) {\n nativeInsertBefore(renderer, parent, rNode, beforeNode || null, true);\n }\n else if (action === 2 /* Detach */) {\n nativeRemoveNode(renderer, rNode, isComponent);\n }\n else if (action === 3 /* Destroy */) {\n ngDevMode && ngDevMode.rendererDestroyNode++;\n renderer.destroyNode(rNode);\n }\n if (lContainer != null) {\n applyContainer(renderer, action, lContainer, parent, beforeNode);\n }\n }\n }\n function createTextNode(renderer, value) {\n ngDevMode && ngDevMode.rendererCreateTextNode++;\n ngDevMode && ngDevMode.rendererSetText++;\n return isProceduralRenderer(renderer)\n ? renderer.createText(value) :\n renderer.createTextNode(value);\n }\n function updateTextNode(renderer, rNode, value) {\n ngDevMode && ngDevMode.rendererSetText++;\n isProceduralRenderer(renderer) ? renderer.setValue(rNode, value) : rNode.textContent = value;\n }\n function createCommentNode(renderer, value) {\n ngDevMode && ngDevMode.rendererCreateComment++;\n // isProceduralRenderer check is not needed because both `Renderer2` and `Renderer3` have the same\n // method name.\n return renderer.createComment(escapeCommentText(value));\n }\n /**\n * Creates a native element from a tag name, using a renderer.\n * @param renderer A renderer to use\n * @param name the tag name\n * @param namespace Optional namespace for element.\n * @returns the element created\n */\n function createElementNode(renderer, name, namespace) {\n ngDevMode && ngDevMode.rendererCreateElement++;\n if (isProceduralRenderer(renderer)) {\n return renderer.createElement(name, namespace);\n }\n else {\n return namespace === null ? renderer.createElement(name) :\n renderer.createElementNS(namespace, name);\n }\n }\n /**\n * Removes all DOM elements associated with a view.\n *\n * Because some root nodes of the view may be containers, we sometimes need\n * to propagate deeply into the nested containers to remove all elements in the\n * views beneath it.\n *\n * @param tView The `TView' of the `LView` from which elements should be added or removed\n * @param lView The view from which elements should be added or removed\n */\n function removeViewFromContainer(tView, lView) {\n var renderer = lView[RENDERER];\n applyView(tView, lView, renderer, 2 /* Detach */, null, null);\n lView[HOST] = null;\n lView[T_HOST] = null;\n }\n /**\n * Adds all DOM elements\n associated with a view.\n *\n * Because some root nodes of the view may be containers, we sometimes need\n * to propagate deeply into the nested containers to add all elements in the\n * views beneath it.\n *\n * @param tView The `TView' of the `LView` from which elements should be added or removed\n * @param parentTNode The `TNode` where the `LView` should be attached to.\n * @param renderer Current renderer to use for DOM manipulations.\n * @param lView The view from which elements should be added or removed\n * @param parentNativeNode The parent `RElement` where it should be inserted into.\n * @param beforeNode The node before which elements should be added, if insert mode\n */\n function addViewToContainer(tView, parentTNode, renderer, lView, parentNativeNode, beforeNode) {\n lView[HOST] = parentNativeNode;\n lView[T_HOST] = parentTNode;\n applyView(tView, lView, renderer, 1 /* Insert */, parentNativeNode, beforeNode);\n }\n /**\n * Detach a `LView` from the DOM by detaching its nodes.\n *\n * @param tView The `TView' of the `LView` to be detached\n * @param lView the `LView` to be detached.\n */\n function renderDetachView(tView, lView) {\n applyView(tView, lView, lView[RENDERER], 2 /* Detach */, null, null);\n }\n /**\n * Traverses down and up the tree of views and containers to remove listeners and\n * call onDestroy callbacks.\n *\n * Notes:\n * - Because it's used for onDestroy calls, it needs to be bottom-up.\n * - Must process containers instead of their views to avoid splicing\n * when views are destroyed and re-added.\n * - Using a while loop because it's faster than recursion\n * - Destroy only called on movement to sibling or movement to parent (laterally or up)\n *\n * @param rootView The view to destroy\n */\n

```
function destroyViewTree(rootView) {\n // If the view has
 no children, we can clean it up and return early.\n var lViewOrLContainer = rootView[CHILD_HEAD];\n
if (!lViewOrLContainer) {\n return cleanUpView(rootView[TVIEW], rootView);\n }\n while
(lViewOrLContainer) {\n var next = null;\n if (isLView(lViewOrLContainer)) {\n // If
LView, traverse down to child.\n next = lViewOrLContainer[CHILD_HEAD];\n }\n else {\n
ngDevMode && assertLContainer(lViewOrLContainer);\n // If container, traverse down to its first
LView.\n var firstView = lViewOrLContainer[CONTAINER_HEADER_OFFSET];\n if
(firstView)\n next = firstView;\n }\n if (!next) {\n // Only clean up view when
moving to the side or up, as destroy hooks\n // should be called in order from the bottom up.\n
while (lViewOrLContainer && !lViewOrLContainer[NEXT]
 && lViewOrLContainer !== rootView) {\n if (isLView(lViewOrLContainer)) {\n
cleanUpView(lViewOrLContainer[TVIEW], lViewOrLContainer);\n }\n
lViewOrLContainer = lViewOrLContainer[PARENT];\n }\n if (lViewOrLContainer === null)\n
lViewOrLContainer = rootView;\n if (isLView(lViewOrLContainer)) {\n
cleanUpView(lViewOrLContainer[TVIEW], lViewOrLContainer);\n }\n next =
lViewOrLContainer && lViewOrLContainer[NEXT];\n }\n lViewOrLContainer = next;\n }\n
}\n /**\n * Inserts a view into a container.\n *\n * This adds the view to the container's array of active
views in the correct\n * position. It also adds the view's elements to the DOM if the container isn't a\n * root
node of another view (in that case, the view's elements will be added
 when\n * the container's parent view is added later).\n *\n * @param tView The `TView' of the `LView` to
insert\n * @param lView The view to insert\n * @param lContainer The container into which the view should
be inserted\n * @param index Which index in the container to insert the child view into\n */\n function
insertView(tView, lView, lContainer, index) {\n ngDevMode && assertLView(lView);\n ngDevMode &&
assertLContainer(lContainer);\n var indexInContainer = CONTAINER_HEADER_OFFSET + index;\n var
containerLength = lContainer.length;\n if (index > 0) {\n // This is a new view, we need to add it to the
children.\n lContainer[indexInContainer - 1][NEXT] = lView;\n }\n if (index < containerLength -
CONTAINER_HEADER_OFFSET) {\n lView[NEXT] = lContainer[indexInContainer];\n
addToArray(lContainer, CONTAINER_HEADER_OFFSET + index, lView);\n }\n else {\n
lContainer.push(lView);\n lView[NEXT] = null;\n }\n lView[PARENT] = lContainer;\n
// track views where declaration and insertion points are different\n var declarationLContainer =
lView[DECLARATION_LCONTAINER];\n if (declarationLContainer !== null && lContainer !==
declarationLContainer) {\n trackMovedView(declarationLContainer, lView);\n }\n // notify query
that a new view has been added\n var lQueries = lView[QUERIES];\n if (lQueries !== null) {\n
lQueries.insertView(tView);\n }\n // Sets the attached flag\n lView[FLAGS] |= 128 /* Attached */;\n
}\n /**\n * Track views created from the declaration container (TemplateRef) and inserted into a\n * different
LContainer.\n */\n function trackMovedView(declarationContainer, lView) {\n ngDevMode &&
assertDefined(lView, 'LView required');\n ngDevMode && assertLContainer(declarationContainer);\n
var movedViews = declarationContainer[MOVED_VIEWS];\n var insertedLContainer =
lView[PARENT];\n ngDevMode && assertLContainer(insertedLContainer);\n var
insertedComponentLView = insertedLContainer[PARENT][DECLARATION_COMPONENT_VIEW];\n
ngDevMode && assertDefined(insertedComponentLView, 'Missing insertedComponentLView');\n var
declaredComponentLView = lView[DECLARATION_COMPONENT_VIEW];\n ngDevMode &&
assertDefined(declaredComponentLView, 'Missing declaredComponentLView');\n if
(declaredComponentLView !== insertedComponentLView) {\n // At this point the declaration-component is
not same as insertion-component; this means that\n // this is a transplanted view. Mark the declared lView as
having transplanted views so that\n // those views can participate in CD.\n
declarationContainer[HAS_TRANSPLANTED_VIEWS] = true;\n }\n if (movedViews === null) {\n
declarationContainer[MOVED_VIEWS]
```

= [lView];\n }\n else {\n movedViews.push(lView);\n }\n }\n function detachMovedView(declarationContainer, lView) {\n ngDevMode && assertLContainer(declarationContainer);\n ngDevMode &&\n assertDefined(declarationContainer[MOVED_VIEWS], 'A projected view should belong to a non-empty projected views collection');\n var movedViews = declarationContainer[MOVED_VIEWS];\n var declarationViewIndex = movedViews.indexOf(lView);\n var insertionLContainer = lView[PARENT];\n ngDevMode && assertLContainer(insertionLContainer);\n // If the view was marked for refresh but then detached before it was checked (where the flag\n // would be cleared and the counter decremented), we need to decrement the view counter here\n // instead.\n if (lView[FLAGS] & 1024 /* RefreshTransplantedView */) {\n lView[FLAGS] &= ~1024 /* RefreshTransplantedView */;\n updateTransplantedViewCount(insertionLContainer, -1);\n }\n movedViews.splice(declarationViewIndex, 1);\n }\n /**\n * Detaches a view from a container.\n *\n * This method removes the view from the container's array of active views. It also\n * removes the view's elements from the DOM.\n *\n * @param lContainer The container from which to detach a view\n * @param removeIndex The index of the view to detach\n * @returns Detached LView instance.\n */\n function detachView(lContainer, removeIndex) {\n if (lContainer.length <= CONTAINER_HEADER_OFFSET)\n return;\n var indexInContainer = CONTAINER_HEADER_OFFSET + removeIndex;\n var viewToDetach = lContainer[indexInContainer];\n if (viewToDetach) {\n var declarationLContainer = viewToDetach[DECLARATION_LCONTAINER];\n if (declarationLContainer !== null && declarationLContainer !== lContainer) {\n detachMovedView(declarationLContainer, viewToDetach);\n }\n if (removeIndex > 0) {\n lContainer[indexInContainer - 1][NEXT] = viewToDetach[NEXT];\n }\n var removedLView = removeFromArray(lContainer, CONTAINER_HEADER_OFFSET + removeIndex);\n removeViewFromContainer(viewToDetach[TVIEW], viewToDetach);\n // notify query that a view has been removed\n var lQueries = removedLView[QUERIES];\n if (lQueries !== null) {\n lQueries.detachView(removedLView[TVIEW]);\n }\n viewToDetach[PARENT] = null;\n viewToDetach[NEXT] = null;\n // Unsets the attached flag\n viewToDetach[FLAGS] &= ~128 /* Attached */;\n }\n return viewToDetach;\n }\n /**\n * A standalone function which destroys an LView,\n * conducting clean up (e.g. removing listeners, calling onDestroys).\n *\n * @param tView The `TView'
of the `LView` to be destroyed\n * @param lView The view to be destroyed.\n */\n function destroyLView(tView, lView) {\n if (!(lView[FLAGS] & 256 /* Destroyed */)) {\n var renderer = lView[RENDERER];\n if (isProceduralRenderer(renderer) && renderer.destroyNode) {\n applyView(tView, lView, renderer, 3 /* Destroy */, null, null);\n }\n destroyViewTree(lView);\n }\n }\n /**\n * Calls onDestroys hooks for all directives and pipes in a given view and then removes all\n * listeners. Listeners are removed as the last step so events delivered in the onDestroys hooks\n * can be propagated to @Output listeners.\n *\n * @param tView `TView` for the `LView` to clean up.\n * @param lView The LView to clean up\n */\n function cleanUpView(tView, lView) {\n if (!(lView[FLAGS] & 256 /* Destroyed */)) {\n // Usually the Attached flag is removed when the view is detached
from its parent, however\n // if it's a root view, the flag won't be unset hence why we're also removing on destroy.\n lView[FLAGS] &= ~128 /* Attached */;\n // Mark the LView as destroyed *before* executing the onDestroy hooks. An onDestroy hook\n // runs arbitrary user code, which could include its own `viewRef.destroy()` (or similar). If\n // We don't flag the view as destroyed before the hooks, this could lead to an infinite loop.\n // This also aligns with the ViewEngine behavior. It also means that the onDestroy hook is\n // really more of an \"afterDestroy\" hook if you think about it.\n lView[FLAGS] |= 256 /* Destroyed */;\n executeOnDestroys(tView, lView);\n processCleanups(tView, lView);\n // For component views only, the local renderer is destroyed at clean up time.\n if (lView[TVIEW].type === 1 /* Component */ && isProceduralRenderer(lView[RENDERER]))

{\n ngDevMode && ngDevMode.rendererDestroy++;\n lView[RENDERER].destroy();\n }\n var declarationContainer = lView[DECLARATION_LCONTAINER];\n // we are dealing with an embedded view that is still inserted into a container\n if (declarationContainer !== null && isLContainer(lView[PARENT])) {\n // and this is a projected view\n if (declarationContainer !== lView[PARENT]) {\n detachMovedView(declarationContainer, lView);\n }\n // For embedded views still attached to a container: remove query result from this view.\n var lQueries = lView[QUERIES];\n if (lQueries !== null) {\n lQueries.detachView(tView);\n }\n }\n }\n }\n /** Removes listeners and unsubscribes from output subscriptions */\n function processCleanups(tView, lView) {\n var tCleanup = tView.cleanup;\n var lCleanup = lView[CLEANUP];\n // `LCleanup` contains both share information with `TCleanup` as well as instance specific\n // information appended at the end. We need to know where the end of the `TCleanup` information\n // is, and we track this with `lastLCleanupIndex`.\n var lastLCleanupIndex = -1;\n if (tCleanup !== null) {\n for (var i = 0; i < tCleanup.length - 1; i += 2) {\n if (typeof tCleanup[i] === 'string') {\n // This is a native DOM listener\n var idxOrTargetGetter = tCleanup[i + 1];\n var target = typeof idxOrTargetGetter === 'function' ?\n idxOrTargetGetter(lView) :\n unwrapRNode(lView[idxOrTargetGetter]);\n var listener = lCleanup[lastLCleanupIndex = tCleanup[i + 2]];\n var useCaptureOrSubIdx = tCleanup[i + 3];\n if (typeof useCaptureOrSubIdx === 'boolean') {\n // native DOM listener registered with Renderer3\n target.removeEventListener(tCleanup[i], listener, useCaptureOrSubIdx);\n }\n else {\n if (useCaptureOrSubIdx >= 0) {\n // unregister\n lCleanup[lastLCleanupIndex = useCaptureOrSubIdx]();\n }\n else {\n // Subscription\n lCleanup[lastLCleanupIndex = -useCaptureOrSubIdx].unsubscribe();\n }\n }\n i += 2;\n }\n else {\n // This is a cleanup function that is grouped with the index of its context\n var context = lCleanup[lastLCleanupIndex = tCleanup[i + 1]];\n tCleanup[i].call(context);\n }\n }\n if (lCleanup !== null) {\n for (var i = lastLCleanupIndex + 1; i < lCleanup.length; i++) {\n var instanceCleanupFn = lCleanup[i];\n ngDevMode && assertFunction(instanceCleanupFn, 'Expecting instance cleanup function.');\n instanceCleanupFn();\n }\n }\n lView[CLEANUP] = null;\n }\n }\n /** Calls onDestroy hooks for this view */\n function executeOnDestroys(tView, lView) {\n var destroyHooks;\n if (tView != null && (destroyHooks = tView.destroyHooks) != null) {\n for (var i = 0; i < destroyHooks.length; i += 2) {\n var context = lView[destroyHooks[i]];\n // Only call the destroy hook if the context has been requested.\n if (!(context instanceof NodeInjectorFactory)) {\n var toCall = destroyHooks[i + 1];\n if (Array.isArray(toCall))
{\n for (var j = 0; j < toCall.length; j += 2) {\n toCall[j + 1].call(context[toCall[j]]);\n }\n }\n else {\n toCall.call(context);\n }\n }\n }\n }\n /**\n * Returns a native element if a node can be inserted into the given parent.\n *\n * There are two reasons why we may not be able to insert a element immediately.\n * - Projection: When creating a child content element of a component, we have to skip the\n * insertion because the content of a component will be projected.\n * `<component><content>delayed due to projection</content></component>`\n * - Parent container is disconnected: This can happen when we are inserting a view into\n * parent container, which itself is disconnected. For example the parent container is part\n * of
a View which has not be inserted or is made for projection but has not been inserted\n * into destination.\n *\n * @param tView: Current `TView`.\n * @param tNode: `TNode` for which we wish to retrieve render parent.\n * @param lView: Current `LView`.\n */\n function getParentRElement(tView, tNode, lView) {\n return getClosestRElement(tView, tNode.parent, lView);\n }\n /**\n * Get closest `RElement` or `null` if it

can't be found.\n *\n * If `TNode` is `TNodeType.Element` => return `RElement` at `LView[tNode.index]` location.\n * If `TNode` is `TNodeType.ElementContainer|IcuContain` => return the parent (recursively).\n * If `TNode` is `null` then return host `RElement`:\n * - return `null` if projection\n * - return `null` if parent container is disconnected (we have no parent.)\n *\n * @param tView: Current `TView`.\n * @param tNode: `TNode` for which we wish to retrieve `RElement` (or `null` if host element is\n * needed).\n * @param lView: Current `LView`.\n * @returns `null` if the `RElement` can't be determined at this time (no parent / projection)\n */\n function getClosestRElement(tView, tNode, lView) {\n var parentTNode = tNode;\n // Skip over element and ICU containers as those are represented by a comment node and\n // can't be used as a render parent.\n while (parentTNode !== null &&\n (parentTNode.type & (8 /* ElementContainer */ | 32 /* Icu */))) {\n tNode = parentTNode;\n parentTNode = tNode.parent;\n }\n // If the parent tNode is null, then we are inserting across views: either into an embedded view\n // or a component view.\n if (parentTNode === null) {\n // We are inserting a root element of the component view into the component host element and\n // it should always be eager.\n return lView[HOST];\n }\n else {\n ngDevMode && assertTNodeType(parentTNode, 3 /* AnyRNode */ | 4 /* Container */);\n if (parentTNode.flags & 2 /* isComponentHost */) {\n ngDevMode && assertTNodeForLView(parentTNode, lView);\n var encapsulation = tView.data[parentTNode.directiveStart].encapsulation;\n // We've got a parent which is an element in the current view. We just need to verify if the\n // parent element is not a component. Component's content nodes are not inserted immediately\n // because they will be projected, and so doing insert at this point would be wasteful.\n // Since the projection would then move it to its final destination. Note that we can't\n // make this assumption when using the Shadow DOM, because the native projection placeholders\n // (<content> or <slot>) have to be in place as elements are being inserted.\n if (encapsulation === exports.ViewEncapsulation.None ||\n encapsulation === exports.ViewEncapsulation.Emulated) {\n return null;\n }\n }\n return getNativeByTNode(parentTNode, lView);\n }\n }\n /**\n * Inserts a native node before another native node for a given parent using {@link Renderer3}.\n * This is a utility function that can be used when native nodes were determined - it abstracts an\n * actual renderer being used.\n */\n function nativeInsertBefore(renderer, parent, child, beforeNode, isMove) {\n ngDevMode && ngDevMode.rendererInsertBefore++;\n if (isProceduralRenderer(renderer)) {\n renderer.insertBefore(parent, child, beforeNode, isMove);\n }\n else {\n parent.insertBefore(child, beforeNode, isMove);\n }\n }\n function nativeAppendChild(renderer, parent, child) {\n ngDevMode && ngDevMode.rendererAppendChild++;\n ngDevMode && assertDefined(parent, 'parent node must be defined');\n if (isProceduralRenderer(renderer)) {\n renderer.appendChild(parent, child);\n }\n else {\n parent.appendChild(child);\n }\n }\n function nativeAppendOrInsertBefore(renderer, parent, child, beforeNode, isMove) {\n if (beforeNode !== null) {\n nativeInsertBefore(renderer, parent, child, beforeNode, isMove);\n }\n else {\n nativeAppendChild(renderer, parent, child);\n }\n }\n /** Removes a node from the DOM given its native parent. */\n function nativeRemoveChild(renderer, parent, child, isHostElement) {\n if (isProceduralRenderer(renderer)) {\n renderer.removeChild(parent, child, isHostElement);\n }\n else {\n parent.removeChild(child);\n }\n }\n /**\n * Returns a native parent of a given native node.\n */\n function nativeParentNode(renderer, node) {\n return (isProceduralRenderer(renderer) ? renderer.parentNode(node) : node.parentNode);\n }\n /**\n * Returns a native sibling of a given native node.\n */\n function nativeNextSibling(renderer, node) {\n return isProceduralRenderer(renderer) ? renderer.nextSibling(node) : node.nextSibling;\n }\n /**\n * Find a node in front of which `currentTNode` should be inserted.\n *\n * This method determines the `RNode` in front of which we should insert the `currentRNode`. This\n * takes `TNode.insertBeforeIndex` into account if i18n code has been invoked.\n *\n * @param parentTNode parent `TNode`\n * @param currentTNode current

`TNode` (The node which we would like to insert into the DOM)\n * @param lView current `LView`\n */\n function getInsertInFrontOfRNode(parentTNode, currentTNode, lView) {\n return _getInsertInFrontOfRNodeWithI18n(parentTNode, currentTNode, lView);\n }\n /**\n * Find a node in front of which `currentTNode` should be inserted. (Does not take i18n into\n * account)\n *\n * This method determines the `RNode` in front of which we should insert the `currentRNode`. This\n * does not take `TNode.insertBeforeIndex` into account.\n *\n * @param parentTNode parent `TNode`\n * @param currentTNode current `TNode` (The node which we would like to insert into the DOM)\n * @param lView current `LView`\n */\n function getInsertInFrontOfRNodeWithNoI18n(parentTNode, currentTNode, lView) {\n if (parentTNode.type & (8 /* ElementContainer */ | 32 /* Icu */)) {\n return getNativeByTNode(parentTNode, lView);\n }\n return null;\n }\n /**\n * Tree shakable boundary for `getInsertInFrontOfRNodeWithI18n` function.\n *\n * This function will only be set if i18n code runs.\n */\n var _getInsertInFrontOfRNodeWithI18n = getInsertInFrontOfRNodeWithNoI18n;\n /**\n * Tree shakable boundary for `processI18nInsertBefore` function.\n *\n * This function will only be set if i18n code runs.\n */\n var _processI18nInsertBefore;\n function setI18nHandling(getInsertInFrontOfRNodeWithI18n, processI18nInsertBefore) {\n _getInsertInFrontOfRNodeWithI18n = getInsertInFrontOfRNodeWithI18n;\n _processI18nInsertBefore = processI18nInsertBefore;\n }\n /**\n * Appends the `child` native node (or a collection of nodes) to the `parent`.\n *\n * @param tView The `TView' to be appended\n * @param lView The current LView\n * @param childRNode The native child (or children) that should be appended\n * @param childTNode The TNode of the child element\n */\n function appendChild(tView, lView, childRNode, childTNode) {\n var parentRNode = getParentRElement(tView, childTNode, lView);\n var renderer = lView[RENDERER];\n var parentTNode = childTNode.parent || lView[T_HOST];\n var anchorNode = getInsertInFrontOfRNode(parentTNode, childTNode, lView);\n if (parentRNode != null) {\n if (Array.isArray(childRNode)) {\n for (var i = 0; i < childRNode.length; i++) {\n nativeAppendOrInsertBefore(renderer, parentRNode, childRNode[i], anchorNode, false);\n }\n }\n else {\n nativeAppendOrInsertBefore(renderer, parentRNode, childRNode, anchorNode, false);\n }\n }\n _processI18nInsertBefore !== undefined &&\n _processI18nInsertBefore(renderer, childTNode, lView, childRNode, parentRNode);\n }\n /**\n * Returns the first native node for a given LView, starting from the provided TNode.\n *\n * Native nodes are returned in the order in which those appear in the native tree (DOM).\n */\n function getFirstNativeNode(lView, tNode) {\n if (tNode !== null) {\n ngDevMode &&\n assertTNodeType(tNode, 3 /* AnyRNode */ | 12 /* AnyContainer */ | 32 /* Icu */ | 16 /* Projection */);\n var tNodeType = tNode.type;\n if (tNodeType & 3 /* AnyRNode */) {\n return getNativeByTNode(tNode, lView);\n }\n else if (tNodeType & 4 /* Container */) {\n return getBeforeNodeForView(-1, lView[tNode.index]);\n }\n else if (tNodeType & 8 /* ElementContainer */) {\n var elIcuContainerChild = tNode.child;\n if (elIcuContainerChild !== null) {\n return getFirstNativeNode(lView, elIcuContainerChild);\n }\n else {\n var rNodeOrLContainer = lView[tNode.index];\n if (isLContainer(rNodeOrLContainer)) {\n return getBeforeNodeForView(-1, rNodeOrLContainer);\n }\n else {\n return unwrapRNode(rNodeOrLContainer);\n }\n }\n }\n else if (tNodeType & 32 /* Icu */) {\n var nextRNode = icuContainerIterate(tNode, lView);\n var rNode = nextRNode();\n // If the ICU container has no nodes, than we use the ICU anchor as the node.\n return rNode || unwrapRNode(lView[tNode.index]);\n }\n else {\n var componentView = lView[DECLARATION_COMPONENT_VIEW];\n var componentHost = componentView[T_HOST];\n var parentView = getLViewParent(componentView);\n var firstProjectedTNode = componentHost.projection[tNode.projection];\n if (firstProjectedTNode != null) {\n return getFirstNativeNode(parentView, firstProjectedTNode);\n }\n else {\n return

getFirstNativeNode(lView, tNode.next);\n }\n }\n }\n return null;\n }\n function getBeforeNodeForView(viewIndexInContainer, lContainer) {\n var nextViewIndex = CONTAINER_HEADER_OFFSET + viewIndexInContainer + 1;\n if (nextViewIndex < lContainer.length) {\n var lView = lContainer[nextViewIndex];\n var firstTNodeOfView = lView[TVIEW].firstChild;\n if (firstTNodeOfView !== null) {\n return getFirstNativeNode(lView, firstTNodeOfView);\n }\n }\n return lContainer[NATIVE];\n }\n /**\n * Removes a native node itself using a given renderer. To remove the node we are looking up its\n * parent from the native tree as not all platforms / browsers support the equivalent of\n * node.remove().\n *\n * @param renderer A renderer to be used\n * @param rNode The native node that should be removed\n * @param isHostElement A flag indicating if a node to be removed is a host of a component.\n */\n function nativeRemoveNode(renderer, rNode, isHostElement) {\n ngDevMode && ngDevMode.rendererRemoveNode++;\n var nativeParent = nativeParentNode(renderer, rNode);\n if (nativeParent) {\n nativeRemoveChild(renderer, nativeParent, rNode, isHostElement);\n }\n }\n /**\n * Performs the operation of `action` on the node. Typically this involves inserting or removing\n * nodes on the LView or projection boundary.\n */\n function applyNodes(renderer, action, tNode, lView, parentRElement, beforeNode, isProjection) {\n while (tNode != null) {\n ngDevMode && assertTNodeForLView(tNode, lView);\n ngDevMode &&\n assertTNodeType(tNode, 3 /* AnyRNode */ | 12 /* AnyContainer */ | 16 /* Projection */ | 32 /* Icu */);\n var rawSlotValue = lView[tNode.index];\n var tNodeType = tNode.type;\n if (isProjection) {\n if (action === 0 /* Create */) {\n rawSlotValue && attachPatchData(unwrapRNode(rawSlotValue), lView);\n tNode.flags |= 4 /* isProjected */;\n }\n }\n if ((tNode.flags & 64 /* isDetached */) !== 64 /* isDetached */) {\n if (tNodeType & 8 /* ElementContainer */) {\n applyNodes(renderer, action, tNode.child, lView, parentRElement, beforeNode, false);\n applyToElementOrContainer(action, renderer, parentRElement, rawSlotValue, beforeNode);\n }\n else if (tNodeType & 32 /* Icu */) {\n var nextRNode = icuContainerIterate(tNode, lView);\n var rNode = void 0;\n while (rNode = nextRNode()) {\n applyToElementOrContainer(action, renderer, parentRElement, rNode, beforeNode);\n }\n applyToElementOrContainer(action, renderer, parentRElement, rawSlotValue, beforeNode);\n }\n else if (tNodeType & 16 /* Projection */) {\n applyProjectionRecursive(renderer, action, lView, tNode, parentRElement, beforeNode);\n }\n else {\n ngDevMode && assertTNodeType(tNode, 3 /* AnyRNode */ | 4 /* Container */);\n applyToElementOrContainer(action, renderer, parentRElement, rawSlotValue, beforeNode);\n }\n }\n tNode = isProjection ? tNode.projectionNext : tNode.next;\n }\n }\n function applyView(tView, lView, renderer, action, parentRElement, beforeNode) {\n applyNodes(renderer, action, tView.firstChild, lView, parentRElement, beforeNode, false);\n }\n /**\n * `applyProjection` performs operation on the projection.\n *\n * Inserting a projection requires us to locate the projected nodes from the parent component. The\n * complication is that those nodes themselves could be re-projected from their parent component.\n *\n * @param tView The `TView` of `LView` which needs to be inserted, detached, destroyed\n * @param lView The `LView` which needs to be inserted, detached, destroyed.\n * @param tProjectionNode node to project\n */\n function applyProjection(tView, lView, tProjectionNode) {\n var renderer = lView[RENDERER];\n var parentRNode = getParentRElement(tView, tProjectionNode, lView);\n var parentTNode = tProjectionNode.parent || lView[T_HOST];\n var beforeNode = getInsertInFrontOfRNode(parentTNode, tProjectionNode, lView);\n applyProjectionRecursive(renderer, 0 /* Create */, lView, tProjectionNode, parentRNode, beforeNode);\n }\n /**\n * `applyProjectionRecursive` performs operation on the projection specified by `action` (insert,\n * detach, destroy)\n *\n * Inserting a projection requires us to locate the projected nodes from the parent component. The\n * complication is that those nodes themselves could be re-projected from their

```
 parent component.\n     *\n     * @param renderer Render to use\n     * @param action action to perform (insert, detach, destroy)\n     * @param lView The LView which needs to be inserted, detached, destroyed.\n     * @param tProjectionNode node to project\n     * @param parentRElement parent DOM element for insertion/removal.\n     * @param beforeNode Before which node the insertions should happen.\n     */\n    function applyProjectionRecursive(renderer, action, lView, tProjectionNode, parentRElement, beforeNode) {\n        var componentLView = lView[DECLARATION_COMPONENT_VIEW];\n        var componentNode = componentLView[T_HOST];\n        ngDevMode &&\n            assertEqual(typeof tProjectionNode.projection, 'number', 'expecting projection index');\n        var nodeToProjectOrRNodes = componentNode.projection[tProjectionNode.projection];\n        if (Array.isArray(nodeToProjectOrRNodes)) {\n            // This should not exist, it is a bit of a hack. When we bootstrap a top level node and we\n            // need to support passing projectable nodes, so we cheat and put them in the TNode\n            // of the Host TView. (Yes we put instance info at the T Level). We can get away with it\n            // because we know that that TView is not shared and therefore it will not be a problem.\n            // This should be refactored and cleaned up.\n            for (var i = 0; i < nodeToProjectOrRNodes.length; i++) {\n                var rNode = nodeToProjectOrRNodes[i];\n                applyToElementOrContainer(action, renderer, parentRElement, rNode, beforeNode);\n            }\n        }\n        else {\n            var nodeToProject = nodeToProjectOrRNodes;\n            var projectedComponentLView = componentLView[PARENT];\n            applyNodes(renderer, action, nodeToProject, projectedComponentLView, parentRElement, beforeNode, true);\n        }\n    }\n    /**\n     * `applyContainer` performs an operation on the container and its views as specified by\n     * `action` (insert, detach, destroy)\n     *\n     * Inserting a Container is complicated by the fact that the container may have Views which\n     * themselves have containers or projections.\n     *\n     * @param renderer Renderer to use\n     * @param action action to perform (insert, detach, destroy)\n     * @param lContainer The LContainer which needs to be inserted, detached, destroyed.\n     * @param parentRElement parent DOM element for insertion/removal.\n     * @param beforeNode Before which node the insertions should happen.\n     */\n    function applyContainer(renderer, action, lContainer, parentRElement, beforeNode) {\n        ngDevMode && assertLContainer(lContainer);\n        var anchor = lContainer[NATIVE]; // LContainer has its own before node.\n        var native = unwrapRNode(lContainer);\n        // An LContainer can be created dynamically on any node by injecting ViewContainerRef.\n        // Asking for a ViewContainerRef on an element will result in a creation of a separate anchor\n        // node (comment in the DOM) that will be different from the LContainer's host node. In this\n        // particular case we need to execute action on 2 nodes:\n        // - container's host node (this is done in the executeActionOnElementOrContainer)\n        // - container's host node (this is done here)\n        if (anchor !== native) {\n            // This is very strange to me (Misko). I would expect that the native is same as anchor. I\n            // don't see a reason why they should be different, but they are.\n            //\n            // If they are we need to process the second anchor as well.\n            applyToElementOrContainer(action, renderer, parentRElement, anchor, beforeNode);\n        }\n        for (var i = CONTAINER_HEADER_OFFSET; i < lContainer.length; i++) {\n            var lView = lContainer[i];\n            applyView(lView[TVIEW], lView, renderer, action, parentRElement, anchor);\n        }\n    }\n    /**\n     * Writes class/style to element.\n     *\n     * @param renderer Renderer to use.\n     * @param isClassBased `true` if it should be written to `class` (`false` to write to `style`)\n     * @param rNode The Node to write to.\n     * @param prop Property to write to. This would be the class/style name.\n     * @param value Value to write. If `null`/`undefined`/`false` this is considered a remove (set/add\n     *        otherwise).\n     */\n    function applyStyling(renderer, isClassBased, rNode, prop, value) {\n        var isProcedural = isProceduralRenderer(renderer);\n        if (isClassBased) {\n            // We actually want JS true/false here because any truthy value should add the class\n            if (!value) {\n                ngDevMode &&\n                    ngDevMode.rendererRemoveClass++;\n                if (isProcedural) {\n                    renderer.removeClass(rNode, prop);\n                }\n                else {\n                    rNode.classList.remove(prop);\n                }\n            }\n            else {\n                ngDevMode && ngDevMode.rendererAddClass++;\n                if (isProcedural) {\n                    renderer.addClass(rNode, prop);\n                }\n                else {\n                    ngDevMode &&
```

```
assertDefined(rNode.classList, 'HTMLElement expected');\n rNode.classList.add(prop);\n }\n }\n }\n else {\n var flags = prop.indexOf('-') === -1 ? undefined : exports.RendererStyleFlags2.DashCase;\n if (value == null /** || value === undefined */) {\n ngDevMode && ngDevMode.rendererRemoveStyle++;\n if (isProcedural) {\n renderer.removeStyle(rNode, prop, flags);\n }\n else {\n rNode.style.removeProperty(prop);\n }\n }\n else {\n // A value is important if it ends with `!important`. The style\n // parser strips any semicolons at the end of the value.\n var isImportant = typeof value === 'string' ? value.endsWith('!important') : false;\n if (isImportant) {\n // !important has to be stripped from the value for it to be valid.\n value = value.slice(0, -10);\n flags |= exports.RendererStyleFlags2.Important;\n }\n ngDevMode && ngDevMode.rendererSetStyle++;\n if (isProcedural) {\n renderer.setStyle(rNode, prop, value, flags);\n }\n else {\n ngDevMode && assertDefined(rNode.style, 'HTMLElement expected');\n rNode.style.setProperty(prop, value, isImportant ? 'important' : '');\n }\n }\n }\n }\n /**\n * Write `cssText` to `RElement`.\n *\n * This function does direct write without any reconciliation. Used for writing initial values, so\n * that static styling values do not pull in the style parser.\n *\n * @param renderer Renderer to use\n * @param element The element which needs to be updated.\n * @param newValue The new class list to write.\n */\n function writeDirectStyle(renderer, element, newValue) {\n ngDevMode && assertString(newValue, '\\'newValue\\' should be a string');\n if (isProceduralRenderer(renderer)) {\n renderer.setAttribute(element, 'style', newValue);\n }\n else {\n element.style.cssText = newValue;\n }\n ngDevMode && ngDevMode.rendererSetStyle++;\n }\n /**\n * Write `className` to `RElement`.\n *\n * This function does direct write without any reconciliation. Used for writing initial values, so\n * that static styling values do not pull in the style parser.\n *\n * @param renderer Renderer to use\n * @param element The element which needs to be updated.\n * @param newValue The new class list to write.\n */\n function writeDirectClass(renderer, element, newValue) {\n ngDevMode && assertString(newValue, '\\'newValue\\' should be a string');\n if (isProceduralRenderer(renderer)) {\n if (newValue === '') {\n // There are tests in `google3` which expect `element.getAttribute('class')` to be `null`.\n renderer.removeAttribute(element, 'class');\n }\n else {\n renderer.setAttribute(element, 'class', newValue);\n }\n }\n else {\n element.className = newValue;\n }\n ngDevMode && ngDevMode.rendererSetClassName++;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Returns an index of `classToSearch` in `className` taking token boundaries into account.\n *\n * `classIndexOf('AB A', 'A', 0)` will be 3 (not 0 since `AB!==A`)\n *\n * @param className A string containing classes (whitespace separated)\n * @param classToSearch A class name to locate\n * @param startingIndex Starting location of search\n * @returns an index of the located class (or -1 if not found)\n */\n function classIndexOf(className, classToSearch, startingIndex) {\n ngDevMode && assertNotEqual(classToSearch, '', 'can not look for \"\" string.');\n var end = className.length;\n while (true) {\n var foundIndex = className.indexOf(classToSearch, startingIndex);\n if (foundIndex === -1)\n return foundIndex;\n if (foundIndex === 0 || className.charCodeAt(foundIndex - 1) <= 32 /* SPACE */) {\n // Ensure that it has leading whitespace\n var length = classToSearch.length;\n if (foundIndex + length === end ||\n className.charCodeAt(foundIndex + length) <= 32 /* SPACE */) {\n // Ensure that it has trailing whitespace\n return foundIndex;\n }\n }\n // False positive, keep searching from where we left off.\n startingIndex = foundIndex + 1;\n }\n}\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
```

```
*/\n    var unusedValueToPlacateAjd$1 = unusedValueExportToPlacateAjd$4 +
unusedValueExportToPlacateAjd$5;\n    var NG_TEMPLATE_SELECTOR = 'ng-template';\n    /**\n     * Search
the `TAttributes` to see if it contains `cssClassToMatch` (case insensitive)\n     *\n     * @param attrs `TAttributes`
to search through.\n     * @param cssClassToMatch class to match (lowercase)\n
     * @param isProjectionMode Whether or not class matching should look into the attribute `class` in\n     *
addition to the `AttributeMarker.Classes`.\n     */\n    function isCssClassMatching(attrs, cssClassToMatch,
isProjectionMode) {\n        // TODO(misko): The fact that this function needs to know about `isProjectionMode`
seems suspect.\n        // It is strange to me that sometimes the class information comes in form of `class` attribute\n
  // and sometimes in form of `AttributeMarker.Classes`. Some investigation is needed to determine\n        // if that
is the right behavior.\n        ngDevMode &&\n            assertEqual(cssClassToMatch,
cssClassToMatch.toLowerCase(), 'Class name expected to be lowercase.');\n        var i = 0;\n        while (i <
attrs.length) {\n            var item = attrs[i++];\n            if (isProjectionMode && item === 'class') {\n                item =
attrs[i];\n                if (classIndexOf(item.toLowerCase(), cssClassToMatch, 0)
 !== -1) {\n                    return true;\n                }\n            }\n            else if (item === 1 /* Classes */) {\n                //
We found the classes section. Start searching for the class.\n                while (i < attrs.length && typeof (item =
attrs[i++]) == 'string') {\n                    // while we have strings\n                    if (item.toLowerCase() ===
cssClassToMatch)\n                        return true;\n                }\n                return false;\n            }\n        }\n        return
false;\n    }\n    /**\n     * Checks whether the `tNode` represents an inline template (e.g. `*ngFor`).\n     *\n     *
@param tNode current TNode\n     */\n    function isInlineTemplate(tNode) {\n        return tNode.type === 4 /*
Container */ && tNode.value !== NG_TEMPLATE_SELECTOR;\n    }\n    /**\n     * Function that checks whether
a given tNode matches tag-based selector and has a valid type.\n     *\n     * Matching can be performed in 2 modes:
projection
 mode (when we project nodes) and regular\n     * directive matching mode:\n     * - in the \"directive matching\"
mode we do _not_ take TContainer's tagName into account if it is\n     * different from
NG_TEMPLATE_SELECTOR (value different from NG_TEMPLATE_SELECTOR indicates that a\n     * tag
name was extracted from * syntax so we would match the same directive twice);\n     * - in the \"projection\" mode,
we use a tag name potentially extracted from the * syntax processing\n     * (applicable to TNodeType.Container
only).\n     */\n    function hasTagAndTypeMatch(tNode, currentSelector, isProjectionMode) {\n        var
tagNameToCompare = tNode.type === 4 /* Container */ && !isProjectionMode ? NG_TEMPLATE_SELECTOR :
tNode.value;\n        return currentSelector === tagNameToCompare;\n    }\n    /**\n     * A utility function to match
an Ivy node static data against a simple CSS selector\n     *\n     * @param node static data of the node to match\n
* @param selector The selector
 to try matching against the node.\n     * @param isProjectionMode if `true` we are matching for content projection,
otherwise we are doing\n     * directive matching.\n     * @returns true if node matches the selector.\n     */\n
function isNodeMatchingSelector(tNode, selector, isProjectionMode) {\n        ngDevMode &&
assertDefined(selector[0], 'Selector should have a tag name');\n        var mode = 4 /* ELEMENT */;\n        var
nodeAttrs = tNode.attrs || [];\n        // Find the index of first attribute that has no value, only a name.\n        var
nameOnlyMarkerIdx = getNameOnlyMarkerIndex(nodeAttrs);\n        // When processing \":not\" selectors, we skip
to the next \":not\" if the\n        // current one doesn't match\n        var skipToNextSelector = false;\n        for (var i =
0; i < selector.length; i++) {\n            var current = selector[i];\n            if (typeof current === 'number') {\n
// If we finish processing a :not selector and it hasn't failed,
 return false\n                if (!skipToNextSelector && !isPositive(mode) && !isPositive(current)) {\n
return false;\n                }\n                // If we are skipping to the next :not() and this mode flag is positive,\n
// it's a part of the current :not() selector, and we should keep skipping\n                if (skipToNextSelector &&
isPositive(current))\n                    continue;\n                skipToNextSelector = false;\n                mode = current |
(mode & 1 /* NOT */);\n                continue;\n            }\n            if (skipToNextSelector)\n                continue;\n
  if (mode & 4 /* ELEMENT */) {\n                mode = 2 /* ATTRIBUTE */ | mode & 1 /* NOT */;\n                if
(current !== '' && !hasTagAndTypeMatch(tNode, current, isProjectionMode) ||\n                    current === '' &&
```

selector.length === 1) {\n if (isPositive(mode))\n return false;\n skipToNextSelector = true;\n }\n }\n else {\n var selectorAttrValue = mode & 8 /* CLASS */ ? current : selector[++i];\n // special case for matching against classes when a tNode has been instantiated with\n // class and style values as separate attribute values (e.g. ['title', CLASS, 'foo'])\n if ((mode & 8 /* CLASS */) && tNode.attrs !== null) {\n if (!isCssClassMatching(tNode.attrs, selectorAttrValue, isProjectionMode)) {\n if (isPositive(mode))\n return false;\n skipToNextSelector = true;\n }\n continue;\n }\n var attrName = (mode & 8 /* CLASS */) ? 'class' : current;\n var attrIndexInNode = findAttrIndexInNode(attrName, nodeAttrs, isInlineTemplate(tNode), isProjectionMode);\n if (attrIndexInNode === -1) {\n if (isPositive(mode))\n return false;\n skipToNextSelector = true;\n continue;\n }\n if (selectorAttrValue !== '') {\n var nodeAttrValue = void 0;\n if (attrIndexInNode > nameOnlyMarkerIdx) {\n nodeAttrValue = '';\n }\n else {\n ngDevMode &&\n assertNotEqual(nodeAttrs[attrIndexInNode], 0 /* NamespaceURI */, 'We do not match directives on namespaced attributes');\n // we lowercase the attribute value to be able to match\n // selectors without case-sensitivity\n // (selectors are already in lowercase when generated)\n nodeAttrValue = nodeAttrs[attrIndexInNode + 1].toLowerCase();\n }\n var compareAgainstClassName = mode & 8 /* CLASS */ ? nodeAttrValue : null;\n if (compareAgainstClassName &&\n classIndexOf(compareAgainstClassName, selectorAttrValue, 0) !== -1 ||\n mode & 2 /* ATTRIBUTE */ && selectorAttrValue !== nodeAttrValue) {\n if (isPositive(mode))\n return false;\n skipToNextSelector = true;\n }\n }\n }\n }\n return isPositive(mode) || skipToNextSelector;\n }\n function isPositive(mode) {\n return (mode & 1 /* NOT */) === 0;\n }\n /**\n * Examines the attribute's definition array for a node to find the index of the\n * attribute that matches the given `name`.\n *\n * NOTE: This will not match namespaced attributes.\n *\n * Attribute matching depends upon `isInlineTemplate` and `isProjectionMode`.\n * The following table summarizes
which types of attributes we attempt to match:\n *\n *
==========\n * Modes | Normal Attributes | Bindings Attributes | Template Attributes | I18n\n * Attributes\n *
==========\n * Inline + Projection | YES | YES | NO | YES\n * ----------\n * Inline + Directive | NO | NO | YES | NO\n * ----------\n * Non-inline + Projection | YES | YES | NO | YES\n * ----------\n * Non-inline + Directive | YES | YES | NO | YES\n *
==========\n *\n * @param name the name of the attribute to find\n * @param attrs the attribute array to examine\n * @param isInlineTemplate true if the node being matched is an inline template (e.g. `*ngFor`)\n * rather than a manually expanded template node (e.g `<ng-template>`).\n * @param isProjectionMode true if we are matching against content projection otherwise we are\n * matching against directives.\n */\n function findAttrIndexInNode(name, attrs, isInlineTemplate, isProjectionMode) {\n if (attrs === null)\n return -1;\n var i = 0;\n if (isProjectionMode || !isInlineTemplate) {\n var bindingsMode = false;\n while (i < attrs.length) {\n var maybeAttrName = attrs[i];\n if (maybeAttrName === name) {\n return i;\n }\n else if (maybeAttrName === 3 /* Bindings */ || maybeAttrName === 6 /* I18n */) {\n bindingsMode = true;\n }\n else if (maybeAttrName === 1 /* Classes */ ||

```
maybeAttrName === 2 /* Styles */) {\n                var value = attrs[++i];\n                // We should skip classes here because we have a separate mechanism for\n                // matching classes in projection mode.\n                while (typeof value === 'string') {\n                    value = attrs[++i];\n                }\n                continue;\n            }\n            else if (maybeAttrName === 4 /* Template */) {\n                // We do not care about Template attributes in this scenario.\n                break;\n            }\n        else if (maybeAttrName === 0 /* NamespaceURI */) {\n                // Skip the whole namespaced attribute and value. This is by design.\n                i += 4;\n                continue;\n            }\n            // In binding mode there are only names, rather than name-value pairs.\n            i += bindingsMode ? 1 : 2;\n        }\n        // We did not match the attribute\n        return -1;\n    }\n    else {\n        return matchTemplateAttribute(attrs, name);\n    }\n}\nfunction isNodeMatchingSelectorList(tNode, selector, isProjectionMode) {\n    if (isProjectionMode === void 0) { isProjectionMode = false; }\n    for (var i = 0; i < selector.length; i++) {\n        if (isNodeMatchingSelector(tNode, selector[i], isProjectionMode)) {\n            return true;\n        }\n    }\n    return false;\n}\nfunction getProjectAsAttrValue(tNode) {\n    var nodeAttrs = tNode.attrs;\n    if (nodeAttrs != null) {\n        var ngProjectAsAttrIdx = nodeAttrs.indexOf(5 /* ProjectAs */);\n        // only check for ngProjectAs in attribute names, don't accidentally match attribute's value\n        // (attribute names are stored at even indexes)\n        if ((ngProjectAsAttrIdx & 1) === 0) {\n            return nodeAttrs[ngProjectAsAttrIdx + 1];\n        }\n    }\n    return null;\n}\nfunction getNameOnlyMarkerIndex(nodeAttrs) {\n    for (var i = 0; i < nodeAttrs.length; i++) {\n        var nodeAttr = nodeAttrs[i];\n        if (isNameOnlyAttributeMarker(nodeAttr)) {\n            return i;\n        }\n    }\n    return nodeAttrs.length;\n}\nfunction matchTemplateAttribute(attrs, name) {\n    var i = attrs.indexOf(4 /* Template */);\n    if (i > -1) {\n        i++;\n        while (i < attrs.length) {\n            var attr = attrs[i];\n            // Return in case we checked all template attrs and are switching to the next section in the\n            // attrs array (that starts with a number that represents an attribute marker).\n            if (typeof attr === 'number')\n                return -1;\n            if (attr === name)\n                return i;\n            i++;\n        }\n    }\n    return -1;\n}\n/**\n * Checks whether a selector is inside a CssSelectorList\n * @param selector Selector to be checked.\n * @param list List in which to look for the selector.\n */\nfunction isSelectorInSelectorList(selector, list) {\n    selectorListLoop: for (var i = 0; i < list.length; i++) {\n        var currentSelectorInList = list[i];\n        if (selector.length !== currentSelectorInList.length) {\n            continue;\n        }\n        for (var j = 0; j < selector.length; j++) {\n            if (selector[j] !== currentSelectorInList[j]) {\n                continue selectorListLoop;\n            }\n        }\n        return true;\n    }\n    return false;\n}\nfunction maybeWrapInNotSelector(isNegativeMode, chunk) {\n    return isNegativeMode ? ':not(' + chunk.trim() + ')' : chunk;\n}\nfunction stringifyCSSSelector(selector) {\n    var result = selector[0];\n    var i = 1;\n    var mode = 2 /* ATTRIBUTE */;\n    var currentChunk = '';\n    var isNegativeMode = false;\n    while (i < selector.length) {\n        var valueOrMarker = selector[i];\n        if (typeof valueOrMarker === 'string') {\n            if (mode & 2 /* ATTRIBUTE */) {\n                var attrValue = selector[++i];\n                currentChunk +=\n                    '[' + valueOrMarker + (attrValue.length > 0 ? '=\"' + attrValue + '\"' : '') + ']';\n            }\n            else if (mode & 8 /* CLASS */) {\n                currentChunk += '.' + valueOrMarker;\n            }\n            else if (mode & 4 /* ELEMENT */) {\n                currentChunk += ' ' + valueOrMarker;\n            }\n        }\n        else {\n            //\n            // Append current chunk to the final result in case we come across SelectorFlag, which\n            // indicates that the previous section of a selector is over. We need to accumulate content\n            // between flags to make sure we wrap the chunk later in :not() selector if needed, e.g.\n            // ```\n            //  ['', Flags.CLASS, '.classA', Flags.CLASS | Flags.NOT, '.classB', '.classC']\n            // ```\n            // should be transformed to `.classA :not(.classB .classC)`.\n            //\n            // Note: for negative selector part, we accumulate content between flags until we find the\n            // next negative flag. This is needed to support a case where `:not()` rule contains more than\n            // one
```

```
 chunk, e.g. the following selector:\n             // ```\n             //  ['', Flags.ELEMENT | Flags.NOT, 'p',
Flags.CLASS, 'foo', Flags.CLASS | Flags.NOT, 'bar']\n             // ```\n             // should be stringified to
`:not(p.foo) :not(.bar)`\n             //\n             if (currentChunk !== '' && !isPositive(valueOrMarker)) {\n
  result += maybeWrapInNotSelector(isNegativeMode, currentChunk);\n             currentChunk = '';\n
}\n             mode = valueOrMarker;\n             // According to CssSelector spec, once we come across
`SelectorFlags.NOT` flag, the negative\n             // mode is maintained for remaining chunks of a selector.\n
  isNegativeMode = isNegativeMode || !isPositive(mode);\n         }\n         i++;\n       }\n       if (currentChunk
!== '') {\n         result += maybeWrapInNotSelector(isNegativeMode, currentChunk);\n       }\n       return result;\n
  }\n
    /**\n     * Generates string representation of CSS selector in parsed form.\n     *\n     * ComponentDef and
DirectiveDef are generated with the selector in parsed form to avoid doing\n     * additional parsing at runtime (for
example, for directive matching). However in some cases (for\n     * example, while bootstrapping a component), a
string version of the selector is required to query\n     * for the host element on the page. This function takes the
parsed form of a selector and returns\n     * its string representation.\n     *\n     * @param selectorList selector in
parsed form\n     * @returns string representation of a given selector\n     */\n    function
stringifyCSSSelectorList(selectorList) {\n       return selectorList.map(stringifyCSSSelector).join(',');\n    }\n    /**\n
   * Extracts attributes and classes information from a given CSS selector.\n     *\n     * This function is used while
creating a component dynamically. In this case, the host element\n     * (that
 is created dynamically) should contain attributes and classes specified in component's CSS\n     * selector.\n     *\n
* @param selector CSS selector in parsed form (in a form of array)\n     * @returns object with `attrs` and `classes`
fields that contain extracted information\n     */\n    function extractAttrsAndClassesFromSelector(selector) {\n
var attrs = [];\n       var classes = [];\n       var i = 1;\n       var mode = 2 /* ATTRIBUTE */;\n       while (i <
selector.length) {\n         var valueOrMarker = selector[i];\n         if (typeof valueOrMarker === 'string') {\n
    if (mode === 2 /* ATTRIBUTE */) {\n             if (valueOrMarker !== '') {\n
attrs.push(valueOrMarker, selector[++i]);\n             }\n           }\n           else if (mode === 8 /* CLASS */)
{\n             classes.push(valueOrMarker);\n           }\n         }\n         else {\n           // According
 to CssSelector spec, once we come across `SelectorFlags.NOT` flag, the negative\n           // mode is maintained
for remaining chunks of a selector. Since attributes and classes are\n           // extracted only for \"positive\" part
of the selector, we can stop here.\n           if (!isPositive(mode))\n             break;\n           mode =
valueOrMarker;\n         }\n         i++;\n       }\n       return { attrs: attrs, classes: classes };\n    }\n\n    /**\n     *
@license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an
MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /** A special
value which designates that a value has not changed. */\n    var NO_CHANGE = (typeof ngDevMode ===
'undefined' || ngDevMode) ? { __brand__: 'NO_CHANGE' } : {};\n\n    /**\n     * @license\n     * Copyright Google
LLC All Rights Reserved.\n     *\n
 * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    /**\n     * Advances to an element for later binding instructions.\n     *\n     *
Used in conjunction with instructions like {@link property} to act on elements with specified\n     * indices, for
example those created with {@link element} or {@link elementStart}.\n     *\n     * ```ts\n     * (rf: RenderFlags, ctx:
any) => {\n     *   if (rf & 1) {\n     *     text(0, 'Hello');\n     *     text(1, 'Goodbye')\n     *     element(2, 'div');\n     *
}\n     *   if (rf & 2) {\n     *     advance(2); // Advance twice to the <div>.\n     *     property('title', 'test');\n     *   }\n
 *  }\n     * ```\n     * @param delta Number of elements to advance forwards by.\n     *\n     * @codeGenApi\n
*/\n    function advance(delta) {\n       ngDevMode && assertGreaterThan(delta, 0, 'Can only advance forward');\n
  selectIndexInternal(getTView(),
 getLView(), getSelectedIndex() + delta, isInCheckNoChangesMode());\n    }\n    function
selectIndexInternal(tView, lView, index, checkNoChangesMode) {\n       ngDevMode &&
assertIndexInDeclRange(lView, index);\n       // Flush the initial hooks for elements in the view that have been
added up to this point.\n       // PERF WARNING: do NOT extract this to a separate function without running
```

benchmarks\n if (!checkNoChangesMode) {\n var hooksInitPhaseCompleted = (lView[FLAGS] & 3 /* InitPhaseStateMask */) === 3 /* InitPhaseCompleted */;\n if (hooksInitPhaseCompleted) {\n var preOrderCheckHooks = tView.preOrderCheckHooks;\n if (preOrderCheckHooks !== null) {\n executeCheckHooks(lView, preOrderCheckHooks, index);\n }\n }\n else {\n var preOrderHooks = tView.preOrderHooks;\n if (preOrderHooks !== null) {\n executeInitAndCheckHooks(lView, preOrderHooks, 0 /* OnInitHooksToBeRun */, index);\n }\n }\n }\n // We must set the selected index *after* running the hooks, because hooks may have side-effects\n // that cause other template functions to run, thus updating the selected index, which is global\n // state. If we run `setSelectedIndex` *before* we run the hooks, in some cases the selected index\n // will be altered by the time we leave the `advance` instruction.\n setSelectedIndex(index);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function toTStylingRange(prev, next) {\n ngDevMode && assertNumberInRange(prev, 0, 32767 /* UNSIGNED_MASK */);\n ngDevMode && assertNumberInRange(next, 0, 32767 /* UNSIGNED_MASK */);\n return (prev << 17 /* PREV_SHIFT */ | next << 2 /* NEXT_SHIFT */);\n }\n function getTStylingRangePrev(tStylingRange) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n return (tStylingRange >> 17 /* PREV_SHIFT */) & 32767 /* UNSIGNED_MASK */;\n }\n function getTStylingRangePrevDuplicate(tStylingRange) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n return (tStylingRange & 2 /* PREV_DUPLICATE */) ==\n 2 /* PREV_DUPLICATE */;\n }\n function setTStylingRangePrev(tStylingRange, previous) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n ngDevMode && assertNumberInRange(previous, 0, 32767 /* UNSIGNED_MASK */);\n return ((tStylingRange & ~4294836224 /* PREV_MASK */) |\n (previous << 17 /* PREV_SHIFT */));\n }\n function setTStylingRangePrevDuplicate(tStylingRange) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n return (tStylingRange | 2 /* PREV_DUPLICATE */);\n }\n function getTStylingRangeNext(tStylingRange) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n return (tStylingRange & 131068 /* NEXT_MASK */) >> 2 /* NEXT_SHIFT */;\n }\n function setTStylingRangeNext(tStylingRange, next) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n ngDevMode && assertNumberInRange(next, 0, 32767 /* UNSIGNED_MASK */);\n return ((tStylingRange & ~131068 /* NEXT_MASK */) | //\n next << 2 /* NEXT_SHIFT */);\n }\n function getTStylingRangeNextDuplicate(tStylingRange) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n return (tStylingRange & 1 /* NEXT_DUPLICATE */) ===\n 1 /* NEXT_DUPLICATE */;\n }\n function setTStylingRangeNextDuplicate(tStylingRange) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n return (tStylingRange | 1 /* NEXT_DUPLICATE */);\n }\n function getTStylingRangeTail(tStylingRange) {\n ngDevMode && assertNumber(tStylingRange, 'expected number');\n var next = getTStylingRangeNext(tStylingRange);\n return next === 0 ? getTStylingRangePrev(tStylingRange) : next;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Patch a `debug` property on top of the existing object.\n *\n * NOTE: always call this method with `ngDevMode && attachDebugObject(...)`\n *\n * @param obj Object to patch\n * @param debug Value to patch\n */\n function attachDebugObject(obj, debug) {\n if (ngDevMode) {\n Object.defineProperty(obj, 'debug', { value: debug, enumerable: false });\n }\n else {\n throw new Error('This method should be guarded with `ngDevMode` so that it can be tree shaken in production!');\n }\n }\n /**\n * Patch a `debug` property getter on top of the existing object.\n *\n * NOTE: always call this method with `ngDevMode && attachDebugObject(...)`\n *\n * @param obj Object to patch\n * @param debugGetter Getter returning a value to patch\n */\n function attachDebugGetter(obj, debugGetter) {\n if (ngDevMode)

{\n Object.defineProperty(obj, 'debug', { get: debugGetter, enumerable: false });\n }\n else {\n throw new Error('This method should be guarded with `ngDevMode` so that it can be tree shaken in production!');\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var NG_DEV_MODE = ((typeof ngDevMode === 'undefined' || !!ngDevMode) && initNgDevMode());\n /*\n * This file contains conditionally attached classes which provide human readable (debug) level\n * information for `LView`, `LContainer` and other internal data structures. These data structures\n * are stored internally as array which makes it very difficult during debugging to reason about the\n * current state of the system.\n *\n * Patching the array with extra property does change the array's hidden class' but it does not\n * change the cost of access, therefore this patching should not have significant if any impact in\n * `ngDevMode` mode. (see: https://jsperf.com/array-vs-monkey-patch-array)\n *\n * So instead of seeing:\n * ```\n * Array(30) [Object, 659, null, …]\n * ```\n *\n * You get to see:\n * ```\n * LViewDebug {\n * views: [...],\n * flags: {attached: true, ...}\n * nodes: [\n * {html: '<div id=\"123\">', ...,
nodes: [\n * {html: '', ..., nodes: null}\n * ]}\n * ]\n * }\n * ```\n */\n var LVIEW_COMPONENT_CACHE;\n var LVIEW_EMBEDDED_CACHE;\n var LVIEW_ROOT;\n /**\n * This function clones a blueprint and creates LView.\n *\n * Simple slice will keep the same type, and we need it to be LView\n */\n function cloneToLViewFromTViewBlueprint(tView) {\n var debugTView = tView;\n var lView = getLViewToClone(debugTView.type, tView.template && tView.template.name);\n return lView.concat(tView.blueprint);\n }\n function getLViewToClone(type, name) {\n switch (type) {\n case 0 /* Root */:\n if (LVIEW_ROOT === undefined)\n LVIEW_ROOT = new (createNamedArrayType('LRootView'))();\n return LVIEW_ROOT;\n case 1 /* Component */:\n if (LVIEW_COMPONENT_CACHE === undefined)\n LVIEW_COMPONENT_CACHE = new Map();\n var componentArray = LVIEW_COMPONENT_CACHE.get(name);\n if (componentArray === undefined) {\n componentArray = new (createNamedArrayType('LComponentView' + nameSuffix(name)))();\n LVIEW_COMPONENT_CACHE.set(name, componentArray);\n }\n return componentArray;\n case 2 /* Embedded */:\n if (LVIEW_EMBEDDED_CACHE === undefined)\n LVIEW_EMBEDDED_CACHE = new Map();\n var embeddedArray = LVIEW_EMBEDDED_CACHE.get(name);\n if (embeddedArray === undefined) {\n embeddedArray = new (createNamedArrayType('LEmbeddedView' + nameSuffix(name)))();\n LVIEW_EMBEDDED_CACHE.set(name, embeddedArray);\n }\n return embeddedArray;\n }\n throw new Error('unreachable code');\n }\n function nameSuffix(text) {\n if (text == null)\n return '';\n var index = text.lastIndexOf('_Template');\n return '_' + (index === -1 ? text : text.substr(0, index));\n }\n /**\n * This class is a debug version of Object literal so that we can have constructor name show up\n * in\n * debug tools in ngDevMode.\n */\n var TViewConstructor = /** @class */ (function () {\n function TView(type, blueprint, template, queries, viewQuery, declTNode, data, bindingStartIndex, expandoStartIndex, hostBindingOpCodes, firstCreatePass, firstUpdatePass, staticViewQueries, staticContentQueries, preOrderHooks, preOrderCheckHooks, contentHooks, contentCheckHooks, viewHooks, viewCheckHooks, destroyHooks, cleanup, contentQueries, components, directiveRegistry, pipeRegistry, firstChild, schemas, consts, incompleteFirstPass, _decls, _vars) {\n this.type = type;\n this.blueprint = blueprint;\n this.template = template;\n this.queries = queries;\n this.viewQuery = viewQuery;\n this.declTNode = declTNode;\n this.data = data;\n this.bindingStartIndex = bindingStartIndex;\n this.expandoStartIndex = expandoStartIndex;\n this.hostBindingOpCodes = hostBindingOpCodes;\n this.firstCreatePass = firstCreatePass;\n this.firstUpdatePass = firstUpdatePass;\n this.staticViewQueries = staticViewQueries;\n this.staticContentQueries = staticContentQueries;\n this.preOrderHooks = preOrderHooks;\n this.preOrderCheckHooks = preOrderCheckHooks;\n this.contentHooks = contentHooks;\n this.contentCheckHooks =

```
contentCheckHooks;\n this.viewHooks = viewHooks;\n this.viewCheckHooks = viewCheckHooks;\n this.destroyHooks = destroyHooks;\n this.cleanup = cleanup;\n this.contentQueries = contentQueries;\n this.components = components;\n this.directiveRegistry = directiveRegistry;\n this.pipeRegistry = pipeRegistry;\n this.firstChild = firstChild;\n this.schemas = schemas;\n this.consts = consts;\n this.incompleteFirstPass = incompleteFirstPass;\n this._decls = _decls;\n this._vars = _vars;\n }\n Object.defineProperty(TView.prototype, \"template_\", {\n get: function () {\n var buf = [];\n processTNodeChildren(this.firstChild, buf);\n return buf.join('');\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(TView.prototype, \"type_\", {\n get: function () {\n return TViewTypeAsString[this.type] || \"TViewType.?\" + this.type + \"?\";\n },\n enumerable: false,\n configurable: true\n });\n return TView;\n }());\n var TNode = /** @class */ (function () {\n function TNode(tView_, //\n type, //\n index, //\n insertBeforeIndex, //\n injectorIndex, //\n directiveStart, //\n directiveEnd, //\n directiveStylingLast, //\n propertyBindings, //\n flags, //\n providerIndexes, //\n value, //\n attrs, //\n mergedAttrs, //\n localNames, //\n initialInputs, //\n inputs, //\n outputs, //\n tViews, //\n next, //\n projectionNext, //\n child, //\n parent, //\n projection, //\n styles, //\n stylesWithoutHost, //\n residualStyles, //\n classes, //\n classesWithoutHost, //\n residualClasses, //\n classBindings, //\n styleBindings) {\n this.tView_ = tView_;\n this.type = type;\n this.index = index;\n this.insertBeforeIndex = insertBeforeIndex;\n this.injectorIndex = injectorIndex;\n this.directiveStart = directiveStart;\n this.directiveEnd = directiveEnd;\n this.directiveStylingLast = directiveStylingLast;\n this.propertyBindings = propertyBindings;\n this.flags = flags;\n this.providerIndexes = providerIndexes;\n this.value = value;\n this.attrs = attrs;\n this.mergedAttrs = mergedAttrs;\n this.localNames = localNames;\n this.initialInputs = initialInputs;\n this.inputs = inputs;\n this.outputs = outputs;\n this.tViews = tViews;\n this.next = next;\n this.projectionNext = projectionNext;\n this.child = child;\n this.parent = parent;\n this.projection = projection;\n this.styles = styles;\n this.stylesWithoutHost = stylesWithoutHost;\n this.residualStyles = residualStyles;\n this.classes = classes;\n this.classesWithoutHost = classesWithoutHost;\n this.residualClasses = residualClasses;\n this.classBindings = classBindings;\n this.styleBindings = styleBindings;\n }\n /**\n * Return a human debug version of the set of `NodeInjector`s which will be consulted when\n * resolving tokens from this `TNode`.\n *\n * When debugging applications, it is often difficult to determine which `NodeInjector`s will be\n * consulted. This method shows a list of `DebugNode`s representing the `TNode`s which will be\n * consulted in order when resolving a token starting at this `TNode`.\n *\n * The original data is stored in `LView` and `TView` with a lot of offset indexes, and so it is\n * difficult to reason about.\n *\n * @param lView The `LView` instance for this `TNode`.\n */\n TNode.prototype.debugNodeInjectorPath = function (lView) {\n var path = [];\n var injectorIndex = getInjectorIndex(this, lView);\n ngDevMode && assertNodeInjector(lView, injectorIndex);\n while (injectorIndex !== -1) {\n var tNode = lView[TVIEW].data[injectorIndex + 8 /* TNODE */];\n path.push(buildDebugNode(tNode, lView));\n var parentLocation = lView[injectorIndex + 8 /* PARENT */];\n if (parentLocation === NO_PARENT_INJECTOR) {\n injectorIndex = -1;\n }\n else {\n injectorIndex = getParentInjectorIndex(parentLocation);\n lView = getParentInjectorView(parentLocation, lView);\n }\n }\n return path;\n };\n Object.defineProperty(TNode.prototype, \"type_\", {\n get: function () {\n return toTNodeTypeAsString(this.type) || \"TNodeType.?\" + this.type + \"?\";\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(TNode.prototype, \"flags_\", {\n get: function () {\n var flags = [];\n if (this.flags & 16 /* hasClassInput */)\n flags.push('TNodeFlags.hasClassInput');\n if (this.flags & 8 /* hasContentQuery */)\n
```

```
flags.push('TNodeFlags.hasContentQuery');\n            if (this.flags & 32 /* hasStyleInput */)\n
flags.push('TNodeFlags.hasStyleInput');\n            if (this.flags & 128 /* hasHostBindings */)\n
flags.push('TNodeFlags.hasHostBindings');\n            if (this.flags & 2 /* isComponentHost */)\n
flags.push('TNodeFlags.isComponentHost');\n            if (this.flags & 1 /* isDirectiveHost */)\n
flags.push('TNodeFlags.isDirectiveHost');\n            if (this.flags & 64 /* isDetached */)\n
flags.push('TNodeFlags.isDetached');\n
            if (this.flags & 4 /* isProjected */)\n                flags.push('TNodeFlags.isProjected');\n            return
flags.join('|');\n        },\n        enumerable: false,\n        configurable: true\n    });\n
Object.defineProperty(TNode.prototype, \"template_\", {\n        get: function () {\n            if (this.type & 1 /*
Text */)\n                return this.value;\n            var buf = [];\n            var tagName = typeof this.value ===
'string' && this.value || this.type_;\n            buf.push('<', tagName);\n            if (this.flags) {\n
buf.push(' ', this.flags_);\n            }\n            if (this.attrs) {\n                for (var i = 0; i < this.attrs.length;) {\n
                var attrName = this.attrs[i++];\n                if (typeof attrName == 'number') {\n
break;\n
  }\n                var attrValue = this.attrs[i++];\n                buf.push(' ', attrName, '=\"', attrValue, '\"');\n
    }\n            }\n            buf.push('>');\n            processTNodeChildren(this.child, buf);\n
buf.push('</', tagName, '>');\n            return buf.join('');\n        },\n        enumerable: false,\n
configurable: true\n    });\n    Object.defineProperty(TNode.prototype, \"styleBindings_\", {\n        get:
function () {\n            return toDebugStyleBinding(this, false);\n        },\n        enumerable: false,\n
configurable: true\n    });\n    Object.defineProperty(TNode.prototype, \"classBindings_\", {\n        get:
function () {\n            return toDebugStyleBinding(this, true);\n        },\n        enumerable: false,\n
configurable: true\n    });\n    Object.defineProperty(TNode.prototype, \"providerIndexStart_\",
 {\n        get: function () {\n            return this.providerIndexes & 1048575 /* ProvidersStartIndexMask */;\n
  },\n        enumerable: false,\n        configurable: true\n    });\n    Object.defineProperty(TNode.prototype,
\"providerIndexEnd_\", {\n        get: function () {\n            return this.providerIndexStart_ +\n
(this.providerIndexes >>> 20 /* CptViewProvidersCountShift */);\n        },\n        enumerable: false,\n
configurable: true\n    });\n    return TNode;\n}());\nvar TNodeDebug = TNode;\nfunction
toDebugStyleBinding(tNode, isClassBased) {\n    var tData = tNode.tView_.data;\n    var bindings = [];\n
var range = isClassBased ? tNode.classBindings : tNode.styleBindings;\n    var prev =
getTStylingRangePrev(range);\n    var next = getTStylingRangeNext(range);\n    var isTemplate = next !==
0;\n    var cursor = isTemplate
 ? next : prev;\n    while (cursor !== 0) {\n        var itemKey = tData[cursor];\n        var itemRange =
tData[cursor + 1];\n        bindings.unshift({\n            key: itemKey,\n            index: cursor,\n
isTemplate: isTemplate,\n            prevDuplicate: getTStylingRangePrevDuplicate(itemRange),\n
nextDuplicate: getTStylingRangeNextDuplicate(itemRange),\n            nextIndex:
getTStylingRangeNext(itemRange),\n            prevIndex: getTStylingRangePrev(itemRange),\n        });\n
if (cursor === prev)\n            isTemplate = false;\n        cursor = getTStylingRangePrev(itemRange);\n    }\n
  bindings.push((isClassBased ? tNode.residualClasses : tNode.residualStyles) || null);\n    return bindings;\n
}\nfunction processTNodeChildren(tNode, buf) {\n    while (tNode) {\n        buf.push(tNode.template_);\n
    tNode = tNode.next;\n    }\n}\n
var TViewData = NG_DEV_MODE && createNamedArrayType('TViewData') || null;\nvar
TVIEWDATA_EMPTY; // can't initialize here or it will not be tree shaken, because\n// `LView` constructor
could have side-effects.\n/**\n * This function clones a blueprint and creates TData.\n *\n * Simple slice
will keep the same type, and we need it to be TData\n */\nfunction cloneToTViewData(list) {\n    if
(TVIEWDATA_EMPTY === undefined)\n        TVIEWDATA_EMPTY = new TViewData();\n    return
TVIEWDATA_EMPTY.concat(list);\n}\nvar LViewBlueprint = NG_DEV_MODE &&
createNamedArrayType('LViewBlueprint') || null;\nvar MatchesArray = NG_DEV_MODE &&
createNamedArrayType('MatchesArray') || null;\nvar TViewComponents = NG_DEV_MODE &&
```

createNamedArrayType('TViewComponents') || null;\n var TNodeLocalNames = NG_DEV_MODE && createNamedArrayType('TNodeLocalNames') || null;\n var TNodeInitialInputs = NG_DEV_MODE && createNamedArrayType('TNodeInitialInputs') || null;\n var TNodeInitialData = NG_DEV_MODE && createNamedArrayType('TNodeInitialData') || null;\n var LCleanup = NG_DEV_MODE && createNamedArrayType('LCleanup') || null;\n var TCleanup = NG_DEV_MODE && createNamedArrayType('TCleanup') || null;\n function attachLViewDebug(lView) {\n attachDebugObject(lView, new LViewDebug(lView));\n }\n function attachLContainerDebug(lContainer) {\n attachDebugObject(lContainer, new LContainerDebug(lContainer));\n }\n function toDebug(obj) {\n if (obj) {\n var debug = obj.debug;\n assertDefined(debug, 'Object does not have a debug representation.');\n return debug;\n }\n else {\n return obj;\n }\n }\n /**\n * Use this method to unwrap a native element in `LView` and convert it into HTML for easier\n * reading.\n *\n * @param value possibly wrapped native DOM node.\n * @param includeChildren If `true` then the serialized HTML form will include child elements\n * (same\n * as `outerHTML`). If `false` then the serialized HTML form will only contain the element\n * itself\n * (will not serialize child elements).\n */\n function toHtml(value, includeChildren) {\n if (includeChildren === void 0) { includeChildren = false; }\n var node = unwrapRNode(value);\n if (node) {\n switch (node.nodeType) {\n case Node.TEXT_NODE:\n return node.textContent;\n case Node.COMMENT_NODE:\n return \"<!--\" + node.textContent + \"-->\";\n case Node.ELEMENT_NODE:\n var outerHTML = node.outerHTML;\n if (includeChildren) {\n return outerHTML;\n }\n else {\n var innerHTML = '>' + node.innerHTML + '<';\n return (outerHTML.split(innerHTML)[0]) + '>';\n }\n }\n }\n return null;\n }\n var LViewDebug = /** @class */ (function () {\n function LViewDebug(_raw_lView) {\n this._raw_lView = _raw_lView;\n }\n Object.defineProperty(LViewDebug.prototype, \"flags\", {\n /**\n * Flags associated with the `LView` unpacked into a more readable state.\n */\n get: function () {\n var flags = this._raw_lView[FLAGS];\n return {\n __raw__flags__: flags,\n initPhaseState: flags & 3 /* InitPhaseStateMask */,\n creationMode: !!(flags & 4 /* CreationMode */),\n firstViewPass: !!(flags & 8 /* FirstLViewPass */),\n checkAlways: !!(flags & 16 /* CheckAlways */),\n dirty: !!(flags & 64 /* Dirty */),\n attached: !!(flags & 128 /* Attached */),\n destroyed: !!(flags & 256 /* Destroyed */),\n isRoot: !!(flags & 512 /* IsRoot */),\n indexWithinInitPhase: flags >> 11 /* IndexWithinInitPhaseShift */,\n };\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"parent\", {\n get: function () {\n return toDebug(this._raw_lView[PARENT]);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"hostHTML\", {\n get: function () {\n return toHtml(this._raw_lView[HOST], true);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"html\", {\n get: function () {\n return (this.nodes || []).map(mapToHTML).join('');\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"context\", {\n get: function () {\n return this._raw_lView[CONTEXT];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"nodes\", {\n /**\n * The tree of nodes associated with the current `LView`. The nodes have been normalized into\n * a tree structure with relevant details pulled out for readability.\n */\n get: function () {\n var lView = this._raw_lView;\n var tNode = lView[TVIEW].firstChild;\n return toDebugNodes(tNode, lView);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"template\", {\n get: function () {\n return this.tView.template_;\n

```
},\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"tView\", {\n get: function () {\n return this._raw_lView[TVIEW];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"cleanup\", {\n get: function () {\n return this._raw_lView[CLEANUP];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"injector\", {\n get: function () {\n return this._raw_lView[INJECTOR];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"rendererFactory\", {\n get: function () {\n return this._raw_lView[RENDERER_FACTORY];\n\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"renderer\", {\n get: function () {\n return this._raw_lView[RENDERER];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"sanitizer\", {\n get: function () {\n return this._raw_lView[SANITIZER];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"childHead\", {\n get: function () {\n return toDebug(this._raw_lView[CHILD_HEAD]);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"next\", {\n get: function () {\n return toDebug(this._raw_lView[NEXT]);\n\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"childTail\", {\n get: function () {\n return toDebug(this._raw_lView[CHILD_TAIL]);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"declarationView\", {\n get: function () {\n return toDebug(this._raw_lView[DECLARATION_VIEW]);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"queries\", {\n get: function () {\n return this._raw_lView[QUERIES];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"tHost\", {\n get: function () {\n return this._raw_lView[T_HOST];\n\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"decls\", {\n get: function () {\n return toLViewRange(this.tView, this._raw_lView, HEADER_OFFSET, this.tView.bindingStartIndex);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"vars\", {\n get: function () {\n return toLViewRange(this.tView, this._raw_lView, this.tView.bindingStartIndex, this.tView.expandoStartIndex);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"expando\", {\n get: function () {\n return toLViewRange(this.tView, this._raw_lView, this.tView.expandoStartIndex, this._raw_lView.length);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LViewDebug.prototype, \"childViews\", {\n /**\n * Normalized view of child views (and containers) attached at this location.\n */\n get: function () {\n var childViews = [];\n var child = this.childHead;\n while (child) {\n childViews.push(child);\n child = child.next;\n }\n return childViews;\n },\n enumerable: false,\n configurable: true\n });\n return LViewDebug;\n }());\n function mapToHTML(node) {\n if (node.type === 'ElementContainer') {\n return (node.children || []).map(mapToHTML).join('');\n }\n else if (node.type === 'IcuContainer') {\n throw new Error('Not implemented');\n }\n else {\n return toHtml(node.native, true) || '';\n }\n }\n function toLViewRange(tView, lView, start, end) {\n var content = [];\n for (var index = start; index < end; index++) {\n content.push({ index: index, t: tView.data[index], l: lView[index] });\n }\n return { start: start, end: end, length: end - start, content: content };\n }\n /**\n * Turns a flat list of nodes into a tree by walking the associated `TNode` tree.\n *\n * @param tNode\n * @param lView\n */\n function
```

toDebugNodes(tNode, lView) {\n if (tNode) {\n var debugNodes = [];\n var tNodeCursor = tNode;\n while (tNodeCursor) {\n debugNodes.push(buildDebugNode(tNodeCursor, lView));\n tNodeCursor = tNodeCursor.next;\n }\n return debugNodes;\n }\n else {\n return [];\n }\n }\n function buildDebugNode(tNode, lView) {\n var rawValue = lView[tNode.index];\n var native
= unwrapRNode(rawValue);\n var factories = [];\n var instances = [];\n var tView = lView[TVIEW];\n for (var i = tNode.directiveStart; i < tNode.directiveEnd; i++) {\n var def = tView.data[i];\n factories.push(def.type);\n instances.push(lView[i]);\n }\n return {\n html: toHtml(native),\n type: toTNodeTypeAsString(tNode.type),\n native: native,\n children: toDebugNodes(tNode.child, lView),\n factories: factories,\n instances: instances,\n injector: buildNodeInjectorDebug(tNode, tView, lView)\n };\n }\n function buildNodeInjectorDebug(tNode, tView, lView) {\n var viewProviders = [];\n for (var i = tNode.providerIndexStart_; i < tNode.providerIndexEnd_; i++) {\n viewProviders.push(tView.data[i]);\n }\n var providers = [];\n for (var i = tNode.providerIndexEnd_; i < tNode.directiveEnd;
i++) {\n providers.push(tView.data[i]);\n }\n var nodeInjectorDebug = {\n bloom: toBloom(lView, tNode.injectorIndex),\n cumulativeBloom: toBloom(tView.data, tNode.injectorIndex),\n providers: providers,\n viewProviders: viewProviders,\n parentInjectorIndex: lView[tNode.providerIndexStart_ - 1],\n };\n return nodeInjectorDebug;\n }\n /**\n * Convert a number at `idx` location in `array` into binary representation.\n *\n * @param array\n * @param idx\n */\n function binary(array, idx) {\n var value = array[idx];\n // If not a number we print 8 `?` to retain alignment but let user know that it was called on\n // wrong type.\n if (typeof value !== 'number')\n return '????????';\n // We prefix 0s so that we have constant length number\n var text = '00000000' + value.toString(2);\n return text.substring(text.length
- 8);\n }\n /**\n * Convert a bloom filter at location `idx` in `array` into binary representation.\n *\n * @param array\n * @param idx\n */\n function toBloom(array, idx) {\n return binary(array, idx + 7) + \"_\" + binary(array, idx + 6) + \"_\" + binary(array, idx + 5) + \"_\" + binary(array, idx + 4) + \"_\" + binary(array, idx + 3) + \"_\" + binary(array, idx + 2) + \"_\" + binary(array, idx + 1) + \"_\" + binary(array, idx + 0);\n }\n var LContainerDebug = /** @class */ (function () {\n function LContainerDebug(_raw_lContainer) {\n this._raw_lContainer = _raw_lContainer;\n }\n Object.defineProperty(LContainerDebug.prototype, \"hasTransplantedViews\", {\n get: function () {\n return this._raw_lContainer[HAS_TRANSPLANTED_VIEWS];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LContainerDebug.prototype,
\"views\", {\n get: function () {\n return this._raw_lContainer.slice(CONTAINER_HEADER_OFFSET)\n .map(toDebug);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LContainerDebug.prototype, \"parent\", {\n get: function () {\n return toDebug(this._raw_lContainer[PARENT]);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LContainerDebug.prototype, \"movedViews\", {\n get: function () {\n return this._raw_lContainer[MOVED_VIEWS];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LContainerDebug.prototype, \"host\", {\n get: function () {\n return this._raw_lContainer[HOST];\n },\n enumerable: false,\n configurable:
true\n });\n Object.defineProperty(LContainerDebug.prototype, \"native\", {\n get: function () {\n return this._raw_lContainer[NATIVE];\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(LContainerDebug.prototype, \"next\", {\n get: function () {\n return toDebug(this._raw_lContainer[NEXT]);\n },\n enumerable: false,\n configurable: true\n });\n return LContainerDebug;\n }());\n\n var 0$5 = function () { return Promise.resolve(null); };\n /**\n * A permanent marker promise which signifies that the current CD tree is\n * clean.\n */\n var _CLEAN_PROMISE = (0$5)();\n /**\n * Invoke `HostBindingsFunction`s for view.\n *\n * This methods

executes `TView.hostBindingOpCodes`. It is used to execute the\n * `HostBindingsFunction`s associated with the current `LView`.\n *\n * @param tView Current `TView`.\n * @param lView Current `LView`.\n */\n function processHostBindingOpCodes(tView, lView) {\n var hostBindingOpCodes = tView.hostBindingOpCodes;\n if (hostBindingOpCodes === null)\n return;\n try {\n for (var i = 0; i < hostBindingOpCodes.length; i++) {\n var opCode = hostBindingOpCodes[i];\n if (opCode < 0) {\n // Negative numbers are element indexes.\n setSelectedIndex(~opCode);\n }\n else {\n // Positive numbers are NumberTuple which store bindingRootIndex and directiveIndex.\n var directiveIdx = opCode;\n var bindingRootIndx = hostBindingOpCodes[++i];\n var hostBindingFn = hostBindingOpCodes[++i];\n setBindingRootForHostBindings(bindingRootIndx, directiveIdx);\n var context = lView[directiveIdx];\n hostBindingFn(2 /* Update */, context);\n }\n }\n }\n finally {\n setSelectedIndex(-1);\n }\n }\n /** Refreshes all content queries declared by directives in a given view */\n function refreshContentQueries(tView, lView) {\n var contentQueries = tView.contentQueries;\n if (contentQueries !== null) {\n for (var i = 0; i < contentQueries.length; i += 2) {\n var queryStartIdx = contentQueries[i];\n var directiveDefIdx = contentQueries[i + 1];\n if (directiveDefIdx !== -1) {\n var directiveDef = tView.data[directiveDefIdx];\n ngDevMode && assertDefined(directiveDef, 'DirectiveDef not found.');\n ngDevMode &&\n assertDefined(directiveDef.contentQueries, 'contentQueries function should be defined');\n setCurrentQueryIndex(queryStartIdx);\n directiveDef.contentQueries(2 /* Update */, lView[directiveDefIdx], directiveDefIdx);\n }\n }\n }\n }\n /** Refreshes child components in the current view (update mode). */\n function refreshChildComponents(hostLView, components) {\n for (var i = 0; i < components.length; i++) {\n refreshComponent(hostLView, components[i]);\n }\n }\n /** Renders child components in the current view (creation mode). */\n function renderChildComponents(hostLView, components) {\n for (var i = 0; i < components.length; i++) {\n renderComponent(hostLView, components[i]);\n }\n }\n function createLView(parentLView, tView, context, flags, host, tHostNode, rendererFactory, renderer, sanitizer, injector) {\n var lView = ngDevMode ? cloneToLViewFromTViewBlueprint(tView) : tView.blueprint.slice();\n lView[HOST] = host;\n lView[FLAGS] = flags | 4 /* CreationMode */ | 128 /* Attached */ | 8 /* FirstLViewPass */;\n resetPreOrderHookFlags(lView);\n ngDevMode && tView.declTNode && parentLView && assertTNodeForLView(tView.declTNode, parentLView);\n lView[PARENT] = lView[DECLARATION_VIEW] = parentLView;\n lView[CONTEXT] = context;\n lView[RENDERER_FACTORY] = (rendererFactory || parentLView && parentLView[RENDERER_FACTORY]);\n ngDevMode && assertDefined(lView[RENDERER_FACTORY], 'RendererFactory is required');\n lView[RENDERER] = (renderer || parentLView && parentLView[RENDERER]);\n ngDevMode && assertDefined(lView[RENDERER], 'Renderer is required');\n lView[SANITIZER] = sanitizer || parentLView && parentLView[SANITIZER] || null;\n lView[INJECTOR] = injector || parentLView && parentLView[INJECTOR] || null;\n lView[T_HOST] = tHostNode;\n ngDevMode &&\n assertEqual(tView.type == 2 /* Embedded */ ? parentLView !== null : true, true, 'Embedded views must have parentLView');\n lView[DECLARATION_COMPONENT_VIEW] =\n tView.type == 2 /* Embedded */ ? parentLView[DECLARATION_COMPONENT_VIEW] : lView;\n ngDevMode && attachLViewDebug(lView);\n return lView;\n }\n function getOrCreateTNode(tView, index, type, name, attrs) {\n ngDevMode && index !== 0 && // 0 are bogus nodes and they are OK. See `createContainerRef` in\n // `view_engine_compatibility` for additional context.\n assertGreaterThanOrEqual(index, HEADER_OFFSET, 'TNodes can\\'t be in the LView header.');\n // Keep this function short, so that the VM will inline it.\n ngDevMode && assertPureTNodeType(type);\n var tNode = tView.data[index];\n if (tNode === null) {\n tNode = createTNodeAtIndex(tView, index, type, name, attrs);\n if

(isInI18nBlock()) {\n // If we are in i18n block then all elements should be pre declared through `Placeholder`\n // See `TNodeType.Placeholder` and `LFrame.inI18n` for more context.\n // If the `TNode` was not pre-declared than it means it was not mentioned which means it was\n // removed, so we mark it as detached.\n tNode.flags |= 64 /* isDetached */;\n }\n }\n else if (tNode.type & 64 /* Placeholder */) {\n tNode.type = type;\n tNode.value = name;\n tNode.attrs = attrs;\n var parent = getCurrentParentTNode();\n tNode.injectorIndex = parent === null ? -1 : parent.injectorIndex;\n ngDevMode && assertTNodeForTView(tNode, tView);\n ngDevMode && assertEqual(index, tNode.index, 'Expecting same index');\n }\n setCurrentTNode(tNode, true);\n return tNode;\n }\n function createTNodeAtIndex(tView, index, type, name, attrs) {\n var currentTNode = getCurrentTNodePlaceholderOk();\n var isParent = isCurrentTNodeParent();\n var parent = isParent ? currentTNode : currentTNode && currentTNode.parent;\n // Parents cannot cross component boundaries because components will be used in multiple places.\n var tNode = tView.data[index] =\n createTNode(tView, parent, type, index, name, attrs);\n // Assign a pointer to the first child node of a given view. The first node is not always the one\n // at index 0, in case of i18n, index 0 can be the instruction `i18nStart` and the first node has\n // the index 1 or more, so we can't just check node index.\n if (tView.firstChild === null) {\n tView.firstChild = tNode;\n }\n if (currentTNode !== null) {\n if (isParent) {\n // FIXME(misko): This logic looks unnecessarily complicated. Could we simplify?\n if (currentTNode.child == null && tNode.parent !== null) {\n // We are in the same view, which means we are adding content node to the parent view.\n currentTNode.child = tNode;\n }\n }\n else {\n if (currentTNode.next === null) {\n // In the case of i18n the `currentTNode` may already be linked, in which case we don't want\n // to break the links which i18n created.\n currentTNode.next = tNode;\n }\n }\n }\n return tNode;\n }\n /**\n * When elements are created dynamically after a view blueprint is created (e.g. through\n * i18nApply()), we need to adjust the blueprint for future\n * template passes.\n *\n * @param tView `TView` associated with `LView`\n * @param lView The `LView` containing the blueprint to adjust\n * @param numSlotsToAlloc The number of slots to alloc in the LView, should be >0\n * @param initialValue Initial value to store in blueprint\n */\n function allocExpando(tView, lView, numSlotsToAlloc, initialValue) {\n if (numSlotsToAlloc === 0)\n return -1;\n if (ngDevMode) {\n assertFirstCreatePass(tView);\n assertSame(tView, lView[TVIEW], '`LView` must be associated with `TView`!');\n assertEqual(tView.data.length, lView.length, 'Expecting LView to be same size as TView');\n assertEqual(tView.data.length, tView.blueprint.length, 'Expecting Blueprint to be same size as TView');\n assertFirstUpdatePass(tView);\n }\n var allocIdx = lView.length;\n for (var i = 0; i < numSlotsToAlloc; i++) {\n lView.push(initialValue);\n tView.blueprint.push(initialValue);\n tView.data.push(null);\n }\n return allocIdx;\n }\n //////////////////////////\n //// Render\n //////////////////////////\n /**\n * Processes a view in the creation mode. This includes a number of steps in a specific order:\n * - creating view query functions (if any);\n * - executing a template function in the creation mode;\n * - updating static queries (if any);\n * - creating child components defined in a given view.\n */\n function renderView(tView, lView, context) {\n ngDevMode && assertEqual(isCreationMode(lView), true, 'Should be run in creation mode');\n enterView(lView);\n try {\n var viewQuery = tView.viewQuery;\n if (viewQuery !== null) {\n executeViewQueryFn(1 /* Create */, viewQuery, context);\n }\n // Execute a template associated with this view, if it exists. A template function might not be\n // defined for the root component views.\n var templateFn = tView.template;\n if (templateFn !== null) {\n executeTemplate(tView, lView, templateFn, 1 /* Create */, context);\n }\n // This needs to be set before children are processed to support

```
recursive components.\n            // This must be set to false immediately after the first creation run because in an\n
    // ngFor loop, all the views will be created together before update mode runs and turns\n            // off
firstCreatePass. If we don't set it here, instances will perform directive\n            // matching, etc again and again.\n
    if (tView.firstCreatePass) {\n                tView.firstCreatePass = false;\n            }\n            // We resolve content
queries specifically marked as `static` in creation mode. Dynamic\n            // content queries are resolved during
change detection (i.e. update mode), after embedded\n            // views are refreshed (see block above).\n            if
(tView.staticContentQueries) {\n                refreshContentQueries(tView, lView);\n            }\n            // We must
materialize query results before child components are processed\n            // in case a child component has projected
a container.
 The LContainer needs\n            // to exist so the embedded views are properly attached by the container.\n            if
(tView.staticViewQueries) {\n                executeViewQueryFn(2 /* Update */, tView.viewQuery, context);\n
}\n            // Render child component views.\n            var components = tView.components;\n            if (components
!== null) {\n                renderChildComponents(lView, components);\n            }\n        }\n        catch (error) {\n
 // If we didn't manage to get past the first template pass due to\n            // an error, mark the view as corrupted so we
can try to recover.\n            if (tView.firstCreatePass) {\n                tView.incompleteFirstPass = true;\n            }\n
    throw error;\n        }\n        finally {\n            lView[FLAGS] &= ~4 /* CreationMode */;\n            leaveView();\n
    }\n    }\n    /**\n     * Processes a view in update mode. This includes a number of steps in a specific
 order:\n     * - executing a template function in update mode;\n     * - executing hooks;\n     * - refreshing queries;\n
  * - setting host bindings;\n     * - refreshing child (embedded and component) views.\n     */\n    function
refreshView(tView, lView, templateFn, context) {\n        ngDevMode && assertEqual(isCreationMode(lView),
false, 'Should be run in update mode');\n        var flags = lView[FLAGS];\n        if ((flags & 256 /* Destroyed */)
=== 256 /* Destroyed */)\n            return;\n        enterView(lView);\n        // Check no changes mode is a dev only
mode used to verify that bindings have not changed\n        // since they were assigned. We do not want to execute
lifecycle hooks in that mode.\n        var isInCheckNoChangesPass = isInCheckNoChangesMode();\n        try {\n
  resetPreOrderHookFlags(lView);\n            setBindingIndex(tView.bindingStartIndex);\n            if (templateFn !==
null) {\n                executeTemplate(tView, lView, templateFn,
 2 /* Update */, context);\n            }\n            var hooksInitPhaseCompleted = (flags & 3 /* InitPhaseStateMask */)
=== 3 /* InitPhaseCompleted */;\n            // execute pre-order hooks (OnInit, OnChanges, DoCheck)\n            //
PERF WARNING: do NOT extract this to a separate function without running benchmarks\n            if
(!isInCheckNoChangesPass) {\n                if (hooksInitPhaseCompleted) {\n                    var preOrderCheckHooks =
tView.preOrderCheckHooks;\n                    if (preOrderCheckHooks !== null) {\n
executeCheckHooks(lView, preOrderCheckHooks, null);\n                    }\n                }\n                else {\n
var preOrderHooks = tView.preOrderHooks;\n                    if (preOrderHooks !== null) {\n
executeInitAndCheckHooks(lView, preOrderHooks, 0 /* OnInitHooksToBeRun */, null);\n                    }\n
  incrementInitPhaseFlags(lView, 0 /* OnInitHooksToBeRun
 */);\n                }\n            }\n            // First mark transplanted views that are declared in this lView as needing a
refresh at their\n            // insertion points. This is needed to avoid the situation where the template is defined in
this\n            // `LView` but its declaration appears after the insertion component.\n
markTransplantedViewsForRefresh(lView);\n            refreshEmbeddedViews(lView);\n            // Content query
results must be refreshed before content hooks are called.\n            if (tView.contentQueries !== null) {\n
refreshContentQueries(tView, lView);\n            }\n            // execute content hooks (AfterContentInit,
AfterContentChecked)\n            // PERF WARNING: do NOT extract this to a separate function without running
benchmarks\n            if (!isInCheckNoChangesPass) {\n                if (hooksInitPhaseCompleted) {\n                    var
contentCheckHooks = tView.contentCheckHooks;\n
                    if (contentCheckHooks !== null) {\n                        executeCheckHooks(lView, contentCheckHooks);\n
                }\n                }\n                else {\n                    var contentHooks = tView.contentHooks;\n                    if
(contentHooks !== null) {\n                        executeInitAndCheckHooks(lView, contentHooks, 1 /*
AfterContentInitHooksToBeRun */);\n                    }\n                    incrementInitPhaseFlags(lView, 1 /*
```

```
AfterContentInitHooksToBeRun */);\n            }\n        }\n        processHostBindingOpCodes(tView,
lView);\n        // Refresh child component views.\n        var components = tView.components;\n        if
(components !== null) {\n            refreshChildComponents(lView, components);\n        }\n        // View
queries must execute after refreshing child components because a template in this view\n        // could be inserted
in a child component. If the view query
 executes before child component\n        // refresh, the template might not yet be inserted.\n        var viewQuery
= tView.viewQuery;\n        if (viewQuery !== null) {\n            executeViewQueryFn(2 /* Update */,
viewQuery, context);\n        }\n        // execute view hooks (AfterViewInit, AfterViewChecked)\n        //
PERF WARNING: do NOT extract this to a separate function without running benchmarks\n        if
(!isInCheckNoChangesPass) {\n            if (hooksInitPhaseCompleted) {\n                var viewCheckHooks =
tView.viewCheckHooks;\n                if (viewCheckHooks !== null) {\n                    executeCheckHooks(lView,
viewCheckHooks);\n                }\n            }\n            else {\n                var viewHooks =
tView.viewHooks;\n                if (viewHooks !== null) {\n                    executeInitAndCheckHooks(lView,
viewHooks, 2 /* AfterViewInitHooksToBeRun */);\n
        }\n                incrementInitPhaseFlags(lView, 2 /* AfterViewInitHooksToBeRun */);\n            }\n
}\n        if (tView.firstUpdatePass === true) {\n            // We need to make sure that we only flip the flag on
successful `refreshView` only\n            // Don't do this in `finally` block.\n            // If we did this in `finally`
block then an exception could block the execution of styling\n            // instructions which in turn would be
unable to insert themselves into the styling linked\n            // list. The result of this would be that if the exception
would not be throw on subsequent CD\n            // the styling would be unable to process it data and reflect to the
DOM.\n            tView.firstUpdatePass = false;\n        }\n        // Do not reset the dirty state when running in
check no changes mode. We don't want components\n        // to behave differently depending on whether check no
changes
 is enabled or not. For example:\n        // Marking an OnPush component as dirty from within the
`ngAfterViewInit` hook in order to\n        // refresh a `NgClass` binding should work. If we would reset the dirty
state in the check\n        // no changes cycle, the component would be not be dirty for the next update pass. This
would\n        // be different in production mode where the component dirty state is not reset.\n        if
(!isInCheckNoChangesPass) {\n            lView[FLAGS] &= ~(64 /* Dirty */ | 8 /* FirstLViewPass */);\n
}\n        if (lView[FLAGS] & 1024 /* RefreshTransplantedView */) {\n            lView[FLAGS] &= ~1024 /*
RefreshTransplantedView */;\n            updateTransplantedViewCount(lView[PARENT], -1);\n        }\n    }\n
    finally {\n        leaveView();\n    }\n}\nfunction renderComponentOrTemplate(tView, lView,
templateFn, context) {\n    var rendererFactory = lView[RENDERER_FACTORY];\n
    var normalExecutionPath = !isInCheckNoChangesMode();\n    var creationModeIsActive =
isCreationMode(lView);\n    try {\n        if (normalExecutionPath && !creationModeIsActive &&
rendererFactory.begin) {\n            rendererFactory.begin();\n        }\n        if (creationModeIsActive) {\n
    renderView(tView, lView, context);\n        }\n        refreshView(tView, lView, templateFn, context);\n
}\n    finally {\n        if (normalExecutionPath && !creationModeIsActive && rendererFactory.end) {\n
rendererFactory.end();\n        }\n    }\n}\nfunction executeTemplate(tView, lView, templateFn, rf,
context) {\n    var prevSelectedIndex = getSelectedIndex();\n    try {\n        setSelectedIndex(-1);\n        if
(rf & 2 /* Update */ && lView.length > HEADER_OFFSET) {\n            // When we're updating, inherently select
0 so we don't\n            // have to generate
 that instruction for most update blocks.\n            selectIndexInternal(tView, lView, HEADER_OFFSET,
isInCheckNoChangesMode());\n        }\n        templateFn(rf, context);\n    }\n    finally {\n
setSelectedIndex(prevSelectedIndex);\n    }\n}\n////////////////////////\n//// Element\n////////////////////////\n
function executeContentQueries(tView, tNode, lView) {\n    if (isContentQueryHost(tNode)) {\n        var start
= tNode.directiveStart;\n        var end = tNode.directiveEnd;\n        for (var directiveIndex = start;
directiveIndex < end; directiveIndex++) {\n            var def = tView.data[directiveIndex];\n            if
(def.contentQueries) {\n                def.contentQueries(1 /* Create */, lView[directiveIndex], directiveIndex);\n
```

```
}\n }\n }\n }\n /**\n * Creates directive instances.\n */\n function createDirectivesInstances(tView,
lView, tNode) {\n if (!getBindingsEnabled())\n return;\n instantiateAllDirectives(tView, lView,
tNode, getNativeByTNode(tNode, lView));\n if ((tNode.flags & 128 /* hasHostBindings */) === 128 /*
hasHostBindings */) {\n invokeDirectivesHostBindings(tView, lView, tNode);\n }\n }\n /**\n *
Takes a list of local names and indices and pushes the resolved local variable values\n * to LView in the same
order as they are loaded in the template with load().\n */\n function saveResolvedLocalsInData(viewData,
tNode, localRefExtractor) {\n if (localRefExtractor === void 0) { localRefExtractor = getNativeByTNode; }\n
var localNames = tNode.localNames;\n if (localNames !== null) {\n var localIndex = tNode.index +
1;\n for (var i = 0; i < localNames.length; i += 2) {\n var index = localNames[i + 1];\n var
value = index === -1 ?\n localRefExtractor(tNode,
viewData) :\n viewData[index];\n viewData[localIndex++] = value;\n }\n }\n }\n
/**\n * Gets TView from a template function or creates a new TView\n * if it doesn't already exist.\n *\n
* @param def ComponentDef\n * @returns TView\n */\n function getOrCreateTComponentView(def) {\n
var tView = def.tView;\n // Create a TView if there isn't one, or recreate it if the first create pass didn't\n //
complete successfully since we can't know for sure whether it's in a usable shape.\n if (tView === null ||
tView.incompleteFirstPass) {\n // Declaration node here is null since this function is called when we
dynamically create a\n // component and hence there is no declaration.\n var declTNode = null;\n
return def.tView = createTView(1 /* Component */, declTNode, def.template, def.decls, def.vars, def.directiveDefs,
def.pipeDefs,
def.viewQuery, def.schemas, def.consts);\n }\n return tView;\n }\n /**\n * Creates a TView
instance\n *\n * @param type Type of `TView`.\n * @param declTNode Declaration location of this
`TView`.\n * @param templateFn Template function\n * @param decls The number of nodes, local refs, and
pipes in this template\n * @param directives Registry of directives for this view\n * @param pipes Registry of
pipes for this view\n * @param viewQuery View queries for this view\n * @param schemas Schemas for this
view\n * @param consts Constants for this view\n */\n function createTView(type, declTNode, templateFn,
decls, vars, directives, pipes, viewQuery, schemas, constsOrFactory) {\n ngDevMode &&
ngDevMode.tView++;\n var bindingStartIndex = HEADER_OFFSET + decls;\n // This length does not yet
contain host bindings from child directives because at this point,\n // we don't know which directives
are active on this template. As soon as a directive is matched\n // that has a host binding, we will update the
blueprint with that def's hostVars count.\n var initialViewLength = bindingStartIndex + vars;\n var
blueprint = createViewBlueprint(bindingStartIndex, initialViewLength);\n var consts = typeof constsOrFactory
=== 'function' ? constsOrFactory() : constsOrFactory;\n var tView = blueprint[TVIEW] = ngDevMode ?\n
new TViewConstructor(type, // type: TViewType,\n blueprint, // blueprint: LView,\n templateFn, //
template: ComponentTemplate<{}>|null,\n null, // queries: TQueries|null\n viewQuery, // viewQuery:
ViewQueriesFunction<{}>|null,\n declTNode, // declTNode: TNode|null,\n
cloneToTViewData(blueprint).fill(null, bindingStartIndex), // data: TData,\n bindingStartIndex, //
bindingStartIndex: number,\n initialViewLength, // expandoStartIndex: number,\n
null, // hostBindingOpCodes: HostBindingOpCodes,\n true, // firstCreatePass: boolean,\n true,
// firstUpdatePass: boolean,\n false, // staticViewQueries: boolean,\n false, // staticContentQueries:
boolean,\n null, // preOrderHooks: HookData|null,\n null, // preOrderCheckHooks: HookData|null,\n
null, // contentHooks: HookData|null,\n null, // contentCheckHooks: HookData|null,\n null, //
viewHooks: HookData|null,\n null, // viewCheckHooks: HookData|null,\n null, // destroyHooks:
DestroyHookData|null,\n null, // cleanup: any[]|null,\n null, // contentQueries: number[]|null,\n
null, // components: number[]|null,\n typeof directives === 'function' ? //\n directives() : //\n
directives, // directiveRegistry: DirectiveDefList|null,\n typeof pipes === 'function' ? pipes() : pipes,
// pipeRegistry: PipeDefList|null,\n null, // firstChild: TNode|null,\n schemas, // schemas:
SchemaMetadata[]|null,\n consts, // consts: TConstants|null\n false, // incompleteFirstPass: boolean\n
```

```
decls, // ngDevMode only: decls\n vars) :\n {\n type: type,\n blueprint: blueprint,\n template: templateFn,\n queries: null,\n viewQuery: viewQuery,\n declTNode: declTNode,\n data: blueprint.slice().fill(null, bindingStartIndex),\n bindingStartIndex: bindingStartIndex,\n expandoStartIndex: initialViewLength,\n hostBindingOpCodes: null,\n firstCreatePass: true,\n firstUpdatePass: true,\n staticViewQueries: false,\n staticContentQueries: false,\n preOrderHooks: null,\n preOrderCheckHooks:
null,\n contentHooks: null,\n contentCheckHooks: null,\n viewHooks: null,\n viewCheckHooks: null,\n destroyHooks: null,\n cleanup: null,\n contentQueries: null,\n components: null,\n directiveRegistry: typeof directives === 'function' ? directives() : directives,\n pipeRegistry: typeof pipes === 'function' ? pipes() : pipes,\n firstChild: null,\n schemas: schemas,\n consts: consts,\n incompleteFirstPass: false\n };\n if (ngDevMode) {\n // For performance reasons it is important that the tView retains the same shape during runtime.\n // (To make sure that all of the code is monomorphic.) For this reason we seal the object to\n // prevent class transitions.\n Object.seal(tView);\n }\n return tView;\n }\n function createViewBlueprint(bindingStartIndex, initialViewLength) {\n var blueprint = ngDevMode ? new LViewBlueprint() : [];\n for (var i = 0; i < initialViewLength; i++) {\n blueprint.push(i < bindingStartIndex ? null : NO_CHANGE);\n }\n return blueprint;\n }\n function createError(text, token) {\n return new Error(\"Renderer: \" + text + \" [\" + stringifyForError(token) + \"]\");\n }\n function assertHostNodeExists(rElement, elementOrSelector) {\n if (!rElement) {\n if (typeof elementOrSelector === 'string') {\n throw createError('Host node with selector not found:', elementOrSelector);\n }\n else {\n throw createError('Host node is required:', elementOrSelector);\n }\n }\n }\n /**\n * Locates the host native element, used for bootstrapping existing nodes into rendering pipeline.\n *\n * @param rendererFactory
Factory function to create renderer instance.\n * @param elementOrSelector Render element or CSS selector to locate the element.\n * @param encapsulation View Encapsulation defined for component that requests host element.\n */\n function locateHostElement(renderer, elementOrSelector, encapsulation) {\n if (isProceduralRenderer(renderer)) {\n // When using native Shadow DOM, do not clear host element to allow native slot projection\n var preserveContent = encapsulation === exports.ViewEncapsulation.ShadowDom;\n return renderer.selectRootElement(elementOrSelector, preserveContent);\n }\n var rElement = typeof elementOrSelector === 'string' ?\n renderer.querySelector(elementOrSelector) :\n elementOrSelector;\n ngDevMode && assertHostNodeExists(rElement, elementOrSelector);\n // Always clear host element's content when Renderer3 is in use. For procedural renderer case we\n //
make it depend on whether ShadowDom encapsulation is used (in which case the content should be\n // preserved to allow native slot projection). ShadowDom encapsulation requires procedural\n // renderer, and procedural renderer case is handled above.\n rElement.textContent = '';\n return rElement;\n }\n /**\n * Saves context for this cleanup function in LView.cleanupInstances.\n *\n * On the first template pass, saves in TView:\n * - Cleanup function\n * - Index of context we just saved in LView.cleanupInstances\n *\n * This function can also be used to store instance specific cleanup fns. In that case the `context`\n * is `null` and the function is store in `LView` (rather than it `TView`).\n */\n function storeCleanupWithContext(tView, lView, context, cleanupFn) {\n var lCleanup = getLCleanup(lView);\n if (context === null) {\n // If context is null that this is instance specific callback.
These callbacks can only be\n // inserted after template shared instances. For this reason in ngDevMode we freeze the TView.\n if (ngDevMode) {\n Object.freeze(getTViewCleanup(tView));\n }\n lCleanup.push(cleanupFn);\n }\n else {\n lCleanup.push(context);\n if (tView.firstCreatePass) {\n getTViewCleanup(tView).push(cleanupFn, lCleanup.length - 1);\n }\n }\n }\n function createTNode(tView, tParent, type, index, value, attrs) {\n ngDevMode && index !== 0 && // 0 are bogus nodes and they are OK. See `createContainerRef` in\n // `view_engine_compatibility` for
```

```
additional context.\n            assertGreaterThanOrEqual(index, HEADER_OFFSET, 'TNodes can\\'t be in the LView
header.');\n        ngDevMode && assertNotSame(attrs, undefined, '\\'undefined\\' is not valid value for \\'attrs\\'");\n
  ngDevMode && ngDevMode.tNode++;\n
 ngDevMode && tParent && assertTNodeForTView(tParent, tView);\n        var injectorIndex = tParent ?
tParent.injectorIndex : -1;\n        var tNode = ngDevMode ?\n            new TNodeDebug(tView, // tView_: TView\n
        type, // type: TNodeType\n            index, // index: number\n            null, // insertBeforeIndex: null|-
1|number|number[]\n            injectorIndex, // injectorIndex: number\n            -1, // directiveStart: number\n            -1,
// directiveEnd: number\n            -1, // directiveStylingLast: number\n            null, // propertyBindings:
number[]|null\n            0, // flags: TNodeFlags\n            0, // providerIndexes: TNodeProviderIndexes\n            value,
// value: string|null\n            attrs, // attrs: (string|AttributeMarker|(string|SelectorFlags)[])[]|null\n            null, //
mergedAttrs\n            null, // localNames: (string|number)[]|null\n            undefined, // initialInputs:
(string[]|null)[]|null|undefined\n            null,
 // inputs: PropertyAliases|null\n            null, // outputs: PropertyAliases|null\n            null, // tViews:
ITView|ITView[]|null\n            null, // next: ITNode|null\n            null, // projectionNext: ITNode|null\n            null,
// child: ITNode|null\n            tParent, // parent: TElementNode|TContainerNode|null\n            null, // projection:
number|(ITNode|RNode[])[]|null\n            null, // styles: string|null\n            null, // stylesWithoutHost: string|null\n
        undefined, // residualStyles: string|null\n            null, // classes: string|null\n            null, // classesWithoutHost:
string|null\n            undefined, // residualClasses: string|null\n            0, // classBindings: TStylingRange;\n            0)
:\n            {\n                type: type,\n                index: index,\n                insertBeforeIndex: null,\n
injectorIndex: injectorIndex,\n                directiveStart: -1,\n                directiveEnd:
 -1,\n                directiveStylingLast: -1,\n                propertyBindings: null,\n                flags: 0,\n
providerIndexes: 0,\n                value: value,\n                attrs: attrs,\n                mergedAttrs: null,\n
localNames: null,\n                initialInputs: undefined,\n                inputs: null,\n                outputs: null,\n
tViews: null,\n                next: null,\n                projectionNext: null,\n                child: null,\n                parent:
tParent,\n                projection: null,\n                styles: null,\n                stylesWithoutHost: null,\n
residualStyles: undefined,\n                classes: null,\n                classesWithoutHost: null,\n                residualClasses:
undefined,\n                classBindings: 0,\n                styleBindings: 0,\n            };\n        if (ngDevMode) {\n            //
For performance reasons it is important that the
 tNode retains the same shape during runtime.\n            // (To make sure that all of the code is monomorphic.) For
this reason we seal the object to\n            // prevent class transitions.\n            Object.seal(tNode);\n        }\n
return tNode;\n    }\n    function generatePropertyAliases(inputAliasMap, directiveDefIdx, propStore) {\n        for
(var publicName in inputAliasMap) {\n            if (inputAliasMap.hasOwnProperty(publicName)) {\n
propStore = propStore === null ? {} : propStore;\n                var internalName = inputAliasMap[publicName];\n
        if (propStore.hasOwnProperty(publicName)) {\n                    propStore[publicName].push(directiveDefIdx,
internalName);\n                }\n                else {\n                    (propStore[publicName] = [directiveDefIdx,
internalName]);\n                }\n            }\n        }\n        return propStore;\n    }\n    /**\n     * Initializes data
structures required to work with
 directive inputs and outputs.\n     * Initialization is done for all directives matched on a given TNode.\n     */\n
function initializeInputAndOutputAliases(tView, tNode) {\n        ngDevMode && assertFirstCreatePass(tView);\n
   var start = tNode.directiveStart;\n        var end = tNode.directiveEnd;\n        var tViewData = tView.data;\n        var
tNodeAttrs = tNode.attrs;\n        var inputsFromAttrs = ngDevMode ? new TNodeInitialInputs() : [];\n        var
inputsStore = null;\n        var outputsStore = null;\n        for (var i = start; i < end; i++) {\n            var directiveDef =
tViewData[i];\n            var directiveInputs = directiveDef.inputs;\n            // Do not use unbound attributes as inputs
to structural directives, since structural\n            // directive inputs can only be set using microsyntax (e.g. `<div
*dir=\"exp\">`).\n            // TODO(FW-1930): microsyntax expressions may also contain unbound/static attributes,
which\n            // should
 be set for inline templates.\n            var initialInputs = (tNodeAttrs !== null && !isInlineTemplate(tNode)) ?\n
    generateInitialInputs(directiveInputs, tNodeAttrs) :\n                null;\n
```

inputsFromAttrs.push(initialInputs);\n inputsStore = generatePropertyAliases(directiveInputs, i, inputsStore);\n outputsStore = generatePropertyAliases(directiveDef.outputs, i, outputsStore);\n }\n if (inputsStore !== null) {\n if (inputsStore.hasOwnProperty('class')) {\n tNode.flags |= 16 /* hasClassInput */;\n }\n if (inputsStore.hasOwnProperty('style')) {\n tNode.flags |= 32 /* hasStyleInput */;\n }\n }\n tNode.initialInputs = inputsFromAttrs;\n tNode.inputs = inputsStore;\n tNode.outputs = outputsStore;\n }\n /**\n * Mapping between attributes names that don't correspond to their element property names.\n *\n *
Performance note: this function is written as a series of if checks (instead of, say, a property\n * object lookup) for performance reasons - the series of `if` checks seems to be the fastest way of\n * mapping property names. Do NOT change without benchmarking.\n *\n * Note: this mapping has to be kept in sync with the equally named mapping in the template\n * type-checking machinery of ngtsc.\n */\n function mapPropName(name) {\n if (name === 'class')\n return 'className';\n if (name === 'for')\n return 'htmlFor';\n if (name === 'formaction')\n return 'formAction';\n if (name === 'innerHtml')\n return 'innerHTML';\n if (name === 'readonly')\n return 'readOnly';\n if (name === 'tabindex')\n return 'tabIndex';\n return name;\n }\n function elementPropertyInternal(tView, tNode, lView, propName, value, renderer, sanitizer, nativeOnly) {\n
ngDevMode && assertNotSame(value, NO_CHANGE, 'Incoming value should never be NO_CHANGE.');\n var element = getNativeByTNode(tNode, lView);\n var inputData = tNode.inputs;\n var dataValue;\n if (!nativeOnly && inputData != null && (dataValue = inputData[propName])) {\n setInputsForProperty(tView, lView, dataValue, propName, value);\n if (isComponentHost(tNode))\n markDirtyIfOnPush(lView, tNode.index);\n if (ngDevMode) {\n setNgReflectProperties(lView, element, tNode.type, dataValue, value);\n }\n }\n else if (tNode.type & 3 /* AnyRNode */) {\n propName = mapPropName(propName);\n if (ngDevMode) {\n validateAgainstEventProperties(propName);\n if (!validateProperty(tView, element, propName, tNode)) {\n // Return here since we only log warnings for unknown properties.\n logUnknownPropertyError(propName,
tNode);\n return;\n }\n ngDevMode.rendererSetProperty++;\n }\n // It is assumed that the sanitizer is only added when the compiler determines that the\n // property is risky, so sanitization can be done without further checks.\n value = sanitizer != null ? sanitizer(value, tNode.value || '', propName) : value;\n if (isProceduralRenderer(renderer)) {\n renderer.setProperty(element, propName, value);\n }\n else if (!isAnimationProp(propName)) {\n element.setProperty ? element.setProperty(propName, value) :\n element[propName] = value;\n }\n }\n else if (tNode.type & 12 /* AnyContainer */) {\n // If the node is a container and the property didn't\n // match any of the inputs or schemas we should throw.\n if (ngDevMode && !matchingSchemas(tView, tNode.value)) {\n logUnknownPropertyError(propName, tNode);\n }\n }\n }\n /** If node is an OnPush component, marks its LView dirty. */\n function markDirtyIfOnPush(lView, viewIndex) {\n ngDevMode && assertLView(lView);\n var childComponentLView = getComponentLViewByIndex(viewIndex, lView);\n if (!(childComponentLView[FLAGS] & 16 /* CheckAlways */)) {\n childComponentLView[FLAGS] |= 64 /* Dirty */;\n }\n }\n function setNgReflectProperty(lView, element, type, attrName, value) {\n var _a;\n var renderer = lView[RENDERER];\n attrName = normalizeDebugBindingName(attrName);\n var debugValue = normalizeDebugBindingValue(value);\n if (type & 3 /* AnyRNode */) {\n if (value == null) {\n isProceduralRenderer(renderer) ? renderer.removeAttribute(element, attrName) :\n element.removeAttribute(attrName);\n }\n
else {\n isProceduralRenderer(renderer) ?\n renderer.setAttribute(element, attrName, debugValue) :\n element.setAttribute(attrName, debugValue);\n }\n }\n else {\n var textContent = escapeCommentText(\"bindings=\" + JSON.stringify((_a = {}, _a[attrName] = debugValue, _a), null, 2));\n if (isProceduralRenderer(renderer)) {\n renderer.setValue(element, textContent);\n

}\n else {\n element.textContent = textContent;\n }\n }\n }\n function setNgReflectProperties(lView, element, type, dataValue, value) {\n if (type & (3 /* AnyRNode */ | 4 /* Container */)) {\n /**\n * dataValue is an array containing runtime input or output names for the directives:\n * i+0: directive instance index\n * i+1: privateName\n *\n * e.g. [0, 'change', 'change-minified']\n * we want to set the reflected property with the privateName: dataValue[i+1]\n */\n for (var i = 0; i < dataValue.length; i += 2) {\n setNgReflectProperty(lView, element, type, dataValue[i + 1], value);\n }\n }\n }\n function validateProperty(tView, element, propName, tNode) {\n // If `schemas` is set to `null`, that's an indication that this Component was compiled in AOT\n // mode where this check happens at compile time. In JIT mode, `schemas` is always present and\n // defined as an array (as an empty array in case `schemas` field is not defined) and we should\n // execute the check below.\n if (tView.schemas === null)\n return true;\n // The property is considered valid if the element matches the schema, it exists on the element\n // or it is synthetic, and we are in a browser context (web worker nodes should be skipped).\n if (matchingSchemas(tView, tNode.value) || propName in element || isAnimationProp(propName)) {\n return true;\n }\n // Note: `typeof Node` returns 'function' in most browsers, but on IE it is 'object' so we\n // need to account for both here, while being careful for `typeof null` also returning 'object'.\n return typeof Node === 'undefined' || Node === null || !(element instanceof Node);\n }\n function matchingSchemas(tView, tagName) {\n var schemas = tView.schemas;\n if (schemas !== null) {\n for (var i = 0; i < schemas.length; i++) {\n var schema = schemas[i];\n if (schema === NO_ERRORS_SCHEMA ||\n schema === CUSTOM_ELEMENTS_SCHEMA && tagName && tagName.indexOf('-') > -1) {\n return true;\n }\n }\n }\n return false;\n }\n /**\n * Logs an error that a property is not supported on an element.\n * @param propName Name of the invalid property.\n * @param tNode Node on which we encountered the property.\n */\n function logUnknownPropertyError(propName, tNode) {\n var message = \"Can't bind to '\" + propName + \"' since it isn't a known property of '\" + tNode.value + \"'.\";\n console.error(formatRuntimeError(\"303\" /* UNKNOWN_BINDING */, message));\n }\n /**\n * Instantiate a root component.\n */\n function instantiateRootComponent(tView, lView, def) {\n var rootTNode = getCurrentTNode();\n if (tView.firstCreatePass) {\n if (def.providersResolver)\n def.providersResolver(def);\n var directiveIndex = allocExpando(tView, lView, 1, null);\n ngDevMode &&\n assertEqual(directiveIndex, rootTNode.directiveStart, 'Because this is a root component the allocated expando should match the TNode component.');\n configureViewWithDirective(tView, rootTNode, lView, directiveIndex, def);\n }\n var directive = getNodeInjectable(lView, tView, rootTNode.directiveStart, rootTNode);\n attachPatchData(directive, lView);\n var native = getNativeByTNode(rootTNode, lView);\n if (native) {\n attachPatchData(native, lView);\n }\n return directive;\n }\n /**\n * Resolve the matched directives on a node.\n */\n function resolveDirectives(tView, lView, tNode, localRefs) {\n // Please make sure to have explicit type for `exportsMap`. Inferred type triggers bug in\n // tsickle.\n ngDevMode && assertFirstCreatePass(tView);\n var hasDirectives = false;\n if (getBindingsEnabled()) {\n var directiveDefs = findDirectiveDefMatches(tView, lView, tNode);\n var exportsMap = localRefs === null ? null : { '': -1 };\n if (directiveDefs !== null) {\n hasDirectives = true;\n initTNodeFlags(tNode, tView.data.length, directiveDefs.length);\n // When the same token is provided by several directives on the same node, some rules apply in\n // the viewEngine:\n // - viewProviders have priority over providers\n // - the last directive in NgModule.declarations has priority over the previous one\n // So to match these rules, the order in which providers are added in the arrays is very\n // important.\n for (var i = 0; i < directiveDefs.length; i++) {\n var def = directiveDefs[i];\n if (def.providersResolver)\n def.providersResolver(def);\n }\n var preOrderHooksFound = false;\n var

```
preOrderCheckHooksFound = false;\n var directiveIdx = allocExpando(tView, lView, directiveDefs.length, null);\n ngDevMode &&\n assertSame(directiveIdx, tNode.directiveStart, 'TNode.directiveStart should point to just allocated space');\n for (var i = 0; i < directiveDefs.length; i++) {\n var def = directiveDefs[i];\n // Merge the attrs in the order of matches. This assumes that the first directive is the\n // component itself, so that the component has the least priority.\n tNode.mergedAttrs = mergeHostAttrs(tNode.mergedAttrs, def.hostAttrs);\n configureViewWithDirective(tView, tNode, lView, directiveIdx, def);\n saveNameToExportMap(directiveIdx, def, exportsMap);\n if (def.contentQueries !== null)\n tNode.flags |= 8 /* hasContentQuery */;\n if (def.hostBindings !== null || def.hostAttrs !== null || def.hostVars !== 0)\n tNode.flags |= 128 /* hasHostBindings */;\n var lifeCycleHooks = def.type.prototype;\n // Only push a node index into the preOrderHooks array if this is the first\n // pre-order hook found on this node.\n if (!preOrderHooksFound &&\n (lifeCycleHooks.ngOnChanges || lifeCycleHooks.ngOnInit || lifeCycleHooks.ngDoCheck)) {\n // We will push the actual hook function into this array later during dir instantiation.\n // We cannot do it now because we must ensure hooks are registered in the same\n // order that directives are created (i.e. injection order).\n (tView.preOrderHooks || (tView.preOrderHooks = [])).push(tNode.index);\n preOrderHooksFound = true;\n }\n if (!preOrderCheckHooksFound && (lifeCycleHooks.ngOnChanges || lifeCycleHooks.ngDoCheck)) {\n (tView.preOrderCheckHooks || (tView.preOrderCheckHooks = [])).push(tNode.index);\n preOrderCheckHooksFound = true;\n }\n directiveIdx++;\n }\n initializeInputAndOutputAliases(tView, tNode);\n }\n if (exportsMap)\n cacheMatchingLocalNames(tNode, localRefs, exportsMap);\n }\n // Merge the template attrs last so that they have the highest priority.\n tNode.mergedAttrs = mergeHostAttrs(tNode.mergedAttrs, tNode.attrs);\n return hasDirectives;\n }\n /**\n * Add `hostBindings` to the `TView.hostBindingOpCodes`.\n *\n * @param tView `TView` to which the `hostBindings` should be added.\n * @param tNode `TNode` the element which contains the directive\n * @param lView `LView` current `LView`\n * @param directiveIdx Directive index in view.\n * @param directiveVarsIdx Where will the directive's vars be stored\n * @param def `ComponentDef`/`DirectiveDef`, which contains the `hostVars`/`hostBindings` to add.\n */\n function registerHostBindingOpCodes(tView, tNode, lView, directiveIdx, directiveVarsIdx, def) {\n ngDevMode && assertFirstCreatePass(tView);\n var hostBindings = def.hostBindings;\n if (hostBindings) {\n var hostBindingOpCodes = tView.hostBindingOpCodes;\n if (hostBindingOpCodes === null) {\n hostBindingOpCodes = tView.hostBindingOpCodes = [];\n }\n var elementIndx = ~tNode.index;\n if (lastSelectedElementIdx(hostBindingOpCodes) != elementIndx) {\n // Conditionally add select element so that we are more efficient in execution.\n // NOTE: this is strictly not necessary and it trades code size for runtime perf.\n // (We could just always add it.)\n hostBindingOpCodes.push(elementIndx);\n }\n hostBindingOpCodes.push(directiveIdx, directiveVarsIdx, hostBindings);\n }\n }\n /**\n * Returns the last selected element index in the `HostBindingOpCodes`\n *\n * For perf reasons we don't need to update the selected element index in `HostBindingOpCodes` only\n * if it changes. This method returns the last index (or '0' if not found.)\n *\n * Selected element index are only the ones which are negative.\n */\n function lastSelectedElementIdx(hostBindingOpCodes) {\n var i = hostBindingOpCodes.length;\n while (i > 0) {\n var value = hostBindingOpCodes[--i];\n if (typeof value === 'number' && value < 0) {\n return value;\n }\n }\n return 0;\n }\n /**\n * Instantiate all the directives that were previously resolved on the current node.\n */\n function instantiateAllDirectives(tView, lView, tNode, native) {\n var start = tNode.directiveStart;\n var end = tNode.directiveEnd;\n if (!tView.firstCreatePass) {\n getOrCreateNodeInjectorForNode(tNode,
```

```
lView);\n        }\n        attachPatchData(native, lView);\n        var initialInputs = tNode.initialInputs;\n        for (var i
= start; i < end; i++) {\n            var def = tView.data[i];\n            var isComponent = isComponentDef(def);\n
if (isComponent) {\n                ngDevMode && assertTNodeType(tNode, 3 /* AnyRNode */);\n
addComponentLogic(lView, tNode, def);\n            }\n            var directive = getNodeInjectable(lView, tView, i,
tNode);\n            attachPatchData(directive, lView);\n            if (initialInputs !== null) {\n
setInputsFromAttrs(lView, i - start, directive, def, tNode, initialInputs);\n            }\n            if (isComponent) {\n
        var componentView = getComponentLViewByIndex(tNode.index, lView);\n
componentView[CONTEXT] = directive;\n            }\n        }\n    }\n    function
invokeDirectivesHostBindings(tView, lView, tNode) {\n        var start
= tNode.directiveStart;\n        var end = tNode.directiveEnd;\n        var firstCreatePass = tView.firstCreatePass;\n
var elementIndex = tNode.index;\n        var currentDirectiveIndex = getCurrentDirectiveIndex();\n        try {\n
setSelectedIndex(elementIndex);\n            for (var dirIndex = start; dirIndex < end; dirIndex++) {\n                var def
= tView.data[dirIndex];\n                var directive = lView[dirIndex];\n
setCurrentDirectiveIndex(dirIndex);\n                if (def.hostBindings !== null || def.hostVars !== 0 || def.hostAttrs
!== null) {\n                    invokeHostBindingsInCreationMode(def, directive);\n                }\n            }\n        }\n
finally {\n            setSelectedIndex(-1);\n            setCurrentDirectiveIndex(currentDirectiveIndex);\n        }\n    }\n
/**\n     * Invoke the host bindings in creation mode.\n     *\n     * @param def `DirectiveDef` which may contain
the `hostBindings` function.\n
    * @param directive Instance of directive.\n     */\n    function invokeHostBindingsInCreationMode(def, directive)
{\n        if (def.hostBindings !== null) {\n            def.hostBindings(1 /* Create */, directive);\n        }\n    }\n    /**\n
 * Matches the current node against all available selectors.\n     * If a component is matched (at most one), it is
returned in first position in the array.\n     */\n    function findDirectiveDefMatches(tView, viewData, tNode) {\n
ngDevMode && assertFirstCreatePass(tView);\n        ngDevMode && assertTNodeType(tNode, 3 /* AnyRNode */
| 12 /* AnyContainer */);\n        var registry = tView.directiveRegistry;\n        var matches = null;\n        if (registry)
{\n            for (var i = 0; i < registry.length; i++) {\n                var def = registry[i];\n                if
(isNodeMatchingSelectorList(tNode, def.selectors, /* isProjectionMode */ false)) {\n                    matches ||
(matches = ngDevMode ? new MatchesArray()
 : []);\n                    diPublicInInjector(getOrCreateNodeInjectorForNode(tNode, viewData), tView, def.type);\n
        if (isComponentDef(def)) {\n                        if (ngDevMode) {\n                            assertTNodeType(tNode, 2
/* Element */, \"\\\"\" + tNode.value + \"\\\" tags cannot be used as component hosts. \" +\n
(\"Please use a different tag to activate the \" + stringify(def.type) + \" component.\"));\n                        if
(tNode.flags & 2 /* isComponentHost */)\n                            throwMultipleComponentError(tNode);\n
    }\n                        markAsComponentHost(tView, tNode);\n                        // The component is always stored first
with directives after.\n                        matches.unshift(def);\n                    }\n                    else {\n
matches.push(def);\n                    }\n                }\n            }\n
    }\n        return matches;\n    }\n    /**\n     * Marks a given TNode as a component's host. This consists of:\n     * -
setting appropriate TNode flags;\n     * - storing index of component's host element so it will be queued for view
refresh during CD.\n     */\n    function markAsComponentHost(tView, hostTNode) {\n        ngDevMode &&
assertFirstCreatePass(tView);\n        hostTNode.flags |= 2 /* isComponentHost */;\n        (tView.components ||
(tView.components = ngDevMode ? new TViewComponents() : []))\n            .push(hostTNode.index);\n    }\n    /**
Caches local names and their matching directive indices for query and template lookups. */\n    function
cacheMatchingLocalNames(tNode, localRefs, exportsMap) {\n        if (localRefs) {\n            var localNames =
tNode.localNames = ngDevMode ? new TNodeLocalNames() : [];\n            // Local names must be stored in tNode
in the same order that localRefs are defined\n            // in the template to ensure the data is loaded
 in the same slots as their refs\n            // in the template (for template queries).\n            for (var i = 0; i <
localRefs.length; i += 2) {\n                var index = exportsMap[localRefs[i + 1]];\n                if (index == null)\n
        throw new RuntimeError(\"301\" /* EXPORT_NOT_FOUND */, \"Export of name '\" + localRefs[i + 1] + \"'
not found!\");\n                localNames.push(localRefs[i], index);\n            }\n        }\n    }\n    /**\n     * Builds up an
```

export map as directives are created, so local refs can be quickly mapped\n * to their directive instances.\n */\n function saveNameToExportMap(directiveIdx, def, exportsMap) {\n if (exportsMap) {\n if (def.exportAs) {\n for (var i = 0; i < def.exportAs.length; i++) {\n exportsMap[def.exportAs[i]] = directiveIdx;\n }\n }\n if (isComponentDef(def))\n exportsMap[''] = directiveIdx;\n }\n }\n /**\n * Initializes the flags on the current node, setting all indices to the initial index,\n * the directive count to 0, and adding the isComponent flag.\n * @param index the initial index\n */\n function initTNodeFlags(tNode, index, numberOfDirectives) {\n ngDevMode &&\n assertNotEqual(numberOfDirectives, tNode.directiveEnd - tNode.directiveStart, 'Reached the max number of directives');\n tNode.flags |= 1 /* isDirectiveHost */;\n // When the first directive is created on a node, save the index\n tNode.directiveStart = index;\n tNode.directiveEnd = index + numberOfDirectives;\n tNode.providerIndexes = index;\n }\n /**\n * Setup directive for instantiation.\n *\n * We need to create a `NodeInjectorFactory` which is then inserted in both the `Blueprint` as well\n * as `LView`. `TView` gets the `DirectiveDef`.\n *\n * @param tView `TView`\n * @param tNode `TNode`\n * @param lView `LView`\n * @param directiveIndex Index where the directive will be stored in the Expando.\n * @param def `DirectiveDef`\n */\n function configureViewWithDirective(tView, tNode, lView, directiveIndex, def) {\n ngDevMode &&\n assertGreaterThanOrEqual(directiveIndex, HEADER_OFFSET, 'Must be in Expando section');\n tView.data[directiveIndex] = def;\n var directiveFactory = def.factory || (def.factory = getFactoryDef(def.type, true));\n var nodeInjectorFactory = new NodeInjectorFactory(directiveFactory, isComponentDef(def), null);\n tView.blueprint[directiveIndex] = nodeInjectorFactory;\n lView[directiveIndex] = nodeInjectorFactory;\n registerHostBindingOpCodes(tView, tNode, lView, directiveIndex, allocExpando(tView, lView, def.hostVars, NO_CHANGE), def);\n }\n function addComponentLogic(lView, hostTNode, def) {\n var native = getNativeByTNode(hostTNode, lView);\n var tView = getOrCreateTComponentView(def);\n // Only component views should be added to the view tree directly. Embedded views are\n // accessed through their containers because they may be removed / re-added later.\n var rendererFactory = lView[RENDERER_FACTORY];\n var componentView = addToViewTree(lView, createLView(lView, tView, null, def.onPush ? 64 /* Dirty */ : 16 /* CheckAlways */, native, hostTNode, rendererFactory, rendererFactory.createRenderer(native, def), null, null));\n // Component view will always be created before any injected LContainers,\n // so this is a regular element, wrap it with the component view\n lView[hostTNode.index] = componentView;\n }\n function elementAttributeInternal(tNode, lView, name, value, sanitizer, namespace) {\n if (ngDevMode) {\n assertNotSame(value, NO_CHANGE, 'Incoming value should never be NO_CHANGE.');\n validateAgainstEventAttributes(name);\n assertTNodeType(tNode, 2 /* Element */, \"Attempted to set attribute `\" + name + \"` on a container node. \" +\n \"Host bindings are not valid on ng-container or ng-template.\");\n }\n var element = getNativeByTNode(tNode, lView);\n setElementAttribute(lView[RENDERER], element, namespace, tNode.value, name, value, sanitizer);\n }\n function setElementAttribute(renderer, element, namespace, tagName, name, value, sanitizer) {\n if (value == null) {\n ngDevMode && ngDevMode.rendererRemoveAttribute++;\n isProceduralRenderer(renderer) ? renderer.removeAttribute(element, name, namespace) :\n element.removeAttribute(name);\n }\n else {\n ngDevMode && ngDevMode.rendererSetAttribute++;\n var strValue = sanitizer == null ? renderStringify(value) : sanitizer(value, tagName || '', name);\n if (isProceduralRenderer(renderer)) {\n renderer.setAttribute(element, name, strValue, namespace);\n }\n else {\n namespace ? element.setAttributeNS(namespace, name, strValue) :\n element.setAttribute(name, strValue);\n }\n }\n }\n /**\n * Sets initial input properties on directive instances from attribute data\n *\n * @param lView Current LView that is being processed.\n * @param directiveIndex Index of the directive in directives array\n * @param instance

Instance of the directive on which to set the initial inputs\n * @param def The directive def that contains the list of inputs\n * @param tNode The static data for this node\n */\n function setInputsFromAttrs(lView, directiveIndex, instance, def, tNode, initialInputData) {\n var initialInputs = initialInputData[directiveIndex];\n if (initialInputs !== null) {\n var setInput = def.setInput;\n for (var i = 0; i < initialInputs.length;) {\n

var publicName = initialInputs[i++];\n var privateName = initialInputs[i++];\n var value = initialInputs[i++];\n if (setInput !== null) {\n def.setInput(instance, value, publicName, privateName);\n }\n else {\n instance[privateName] = value;\n }\n if (ngDevMode) {\n var nativeElement = getNativeByTNode(tNode, lView);\n setNgReflectProperty(lView, nativeElement, tNode.type, privateName, value);\n }\n }\n }\n }\n /**\n * Generates initialInputData for a node and stores it in the template's static storage\n * so subsequent template invocations don't have to recalculate it.\n *\n * initialInputData is an array containing values that need to be set as input properties\n * for directives on this node, but only once on creation. We need this array to support\n

* the case where you set an @Input property of a directive using attribute-like syntax.\n * e.g. if you have a `name` @Input, you can set it once like this:\n *\n * <my-component name=\"Bess\"></my-component>\n *\n * @param inputs The list of inputs from the directive def\n * @param attrs The static attrs on this node\n */\n function generateInitialInputs(inputs, attrs) {\n var inputsToStore = null;\n var i = 0;\n while (i < attrs.length) {\n var attrName = attrs[i];\n if (attrName === 0 /* NamespaceURI */) {\n // We do not allow inputs on namespaced attributes.\n i += 4;\n continue;\n }\n else if (attrName === 5 /* ProjectAs */) {\n // Skip over the `ngProjectAs` value.\n i += 2;\n continue;\n }\n // If we hit any other attribute markers, we're done anyway. None of those are valid inputs.\n if (typeof attrName === 'number')\n break;\n if (inputs.hasOwnProperty(attrName)) {\n if (inputsToStore === null)\n inputsToStore = [];\n inputsToStore.push(attrName, inputs[attrName], attrs[i + 1]);\n }\n i += 2;\n }\n return inputsToStore;\n }\n //////////////////////////\n //// ViewContainer & View\n //////////////////////////\n // Not sure why I need to do `any` here but TS complains later.\n var LContainerArray = ((typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode()) &&\n createNamedArrayType('LContainer');\n /**\n * Creates a LContainer, either from a container instruction, or for a ViewContainerRef.\n *\n * @param hostNative The host element for the LContainer\n * @param hostTNode The host TNode for the LContainer\n * @param currentView The parent view of the LContainer\n

* @param native The native comment element\n * @param isForViewContainerRef Optional a flag indicating the ViewContainerRef case\n * @returns LContainer\n */\n function createLContainer(hostNative, currentView, native, tNode) {\n ngDevMode && assertLView(currentView);\n ngDevMode && !isProceduralRenderer(currentView[RENDERER]) && assertDomNode(native);\n // https://jsperf.com/array-literal-vs-new-array-really\n var lContainer = new (ngDevMode ? LContainerArray : Array)(hostNative, // host native\n true, // Boolean `true` in this position signifies that this is an `LContainer`\n false, // has transplanted views\n currentView, // parent\n null, // next\n 0, // transplanted views to refresh count\n tNode, // t_host\n native, // native,\n null, // view refs\n null);\n ngDevMode &&\n assertEqual(lContainer.length, CONTAINER_HEADER_OFFSET, 'Should allocate correct number of slots for LContainer header.');\n ngDevMode && attachLContainerDebug(lContainer);\n return lContainer;\n }\n /**\n * Goes over embedded views (ones created through ViewContainerRef APIs) and refreshes\n * them by executing an associated template function.\n */\n function refreshEmbeddedViews(lView) {\n for (var lContainer = getFirstLContainer(lView); lContainer !== null; lContainer = getNextLContainer(lContainer)) {\n for (var i = CONTAINER_HEADER_OFFSET; i < lContainer.length; i++) {\n var embeddedLView = lContainer[i];\n var embeddedTView = embeddedLView[TVIEW];\n ngDevMode && assertDefined(embeddedTView, 'TView must be allocated');\n if (viewAttachedToChangeDetector(embeddedLView)) {\n

```
refreshView(embeddedTView, embeddedLView, embeddedTView.template, embeddedLView[CONTEXT]);\n
    }\n        }\n      }\n    }\n    /**\n     * Mark
 transplanted views as needing to be refreshed at their insertion points.\n     *\n     * @param lView The `LView`
that may have transplanted views.\n     */\n    function markTransplantedViewsForRefresh(lView) {\n      for (var
lContainer = getFirstLContainer(lView); lContainer !== null; lContainer = getNextLContainer(lContainer)) {\n
 if (!lContainer[HAS_TRANSPLANTED_VIEWS])\n            continue;\n          var movedViews =
lContainer[MOVED_VIEWS];\n          ngDevMode && assertDefined(movedViews, 'Transplanted View flags set
but missing MOVED_VIEWS');\n          for (var i = 0; i < movedViews.length; i++) {\n            var movedLView
= movedViews[i];\n            var insertionLContainer = movedLView[PARENT];\n            ngDevMode &&
assertLContainer(insertionLContainer);\n            // We don't want to increment the counter if the moved LView
was already marked for\n            // refresh.\n            if ((movedLView[FLAGS] & 1024
 /* RefreshTransplantedView */) === 0) {\n              updateTransplantedViewCount(insertionLContainer, 1);\n
      }\n            // Note, it is possible that the `movedViews` is tracking views that are transplanted *and*\n
    // those that aren't (declaration component === insertion component). In the latter case,\n            // it's fine to
add the flag, as we will clear it immediately in\n            // `refreshEmbeddedViews` for the view currently being
refreshed.\n            movedLView[FLAGS] |= 1024 /* RefreshTransplantedView */;\n          }\n      }\n    }\n
////////////\n    /**\n     * Refreshes components by entering the component view and processing its bindings, queries,
etc.\n     *\n     * @param componentHostIdx  Element index in LView[] (adjusted for HEADER_OFFSET)\n     */\n
 function refreshComponent(hostLView, componentHostIdx) {\n      ngDevMode &&
assertEqual(isCreationMode(hostLView), false, 'Should be run
 in update mode');\n      var componentView = getComponentLViewByIndex(componentHostIdx, hostLView);\n
 // Only attached components that are CheckAlways or OnPush and dirty should be refreshed\n      if
(viewAttachedToChangeDetector(componentView)) {\n        var tView = componentView[TVIEW];\n        if
(componentView[FLAGS] & (16 /* CheckAlways */ | 64 /* Dirty */)) {\n          refreshView(tView,
componentView, tView.template, componentView[CONTEXT]);\n        }\n        else if
(componentView[TRANSPLANTED_VIEWS_TO_REFRESH] > 0) {\n          // Only attached components that
are CheckAlways or OnPush and dirty should be refreshed\n
refreshContainsDirtyView(componentView);\n        }\n      }\n    }\n    /**\n     * Refreshes all transplanted views
marked with `LViewFlags.RefreshTransplantedView` that are\n     * children or descendants of the given lView.\n
*\n     * @param lView The lView which contains descendant transplanted
 views that need to be refreshed.\n     */\n    function refreshContainsDirtyView(lView) {\n      for (var lContainer =
getFirstLContainer(lView); lContainer !== null; lContainer = getNextLContainer(lContainer)) {\n        for (var i =
CONTAINER_HEADER_OFFSET; i < lContainer.length; i++) {\n          var embeddedLView = lContainer[i];\n
      if (embeddedLView[FLAGS] & 1024 /* RefreshTransplantedView */) {\n            var embeddedTView
= embeddedLView[TVIEW];\n            ngDevMode && assertDefined(embeddedTView, 'TView must be
allocated');\n            refreshView(embeddedTView, embeddedLView, embeddedTView.template,
embeddedLView[CONTEXT]);\n          }\n          else if
(embeddedLView[TRANSPLANTED_VIEWS_TO_REFRESH] > 0) {\n
refreshContainsDirtyView(embeddedLView);\n          }\n        }\n      }\n      var tView = lView[TVIEW];\n
    // Refresh child component views.\n      var components
 = tView.components;\n      if (components !== null) {\n        for (var i = 0; i < components.length; i++) {\n
    var componentView = getComponentLViewByIndex(components[i], lView);\n          // Only attached
components that are CheckAlways or OnPush and dirty should be refreshed\n          if
(viewAttachedToChangeDetector(componentView) &&\n
componentView[TRANSPLANTED_VIEWS_TO_REFRESH] > 0) {\n
refreshContainsDirtyView(componentView);\n          }\n        }\n      }\n    }\n    function
renderComponent(hostLView, componentHostIdx) {\n      ngDevMode &&
assertEqual(isCreationMode(hostLView), true, 'Should be run in creation mode');\n      var componentView =
```

```
getComponentLViewByIndex(componentHostIdx, hostLView);\n        var componentTView =
componentView[TVIEW];\n        syncViewWithBlueprint(componentTView, componentView);\n
renderView(componentTView, componentView, componentView[CONTEXT]);\n
    }\n    /**\n     * Syncs an LView instance with its blueprint if they have gotten out of sync.\n     *\n     * Typically,
blueprints and their view instances should always be in sync, so the loop here\n     * will be skipped. However,
consider this case of two components side-by-side:\n     *\n     * App template:\n     * ```\n     * <comp></comp>\n
* <comp></comp>\n     * ```\n     *\n     * The following will happen:\n     * 1. App template begins processing.\n
* 2. First <comp> is matched as a component and its LView is created.\n     * 3. Second <comp> is matched as a
component and its LView is created.\n     * 4. App template completes processing, so it's time to check child
templates.\n     * 5. First <comp> template is checked. It has a directive, so its def is pushed to blueprint.\n     * 6.
Second <comp> template is checked. Its blueprint has been updated by the first\n     * <comp> template, but its
LView was created before this update, so it is out of sync.\n
     *\n     * Note that embedded views inside ngFor loops will never be out of sync because these views\n     * are
processed as soon as they are created.\n     *\n     * @param tView The `TView` that contains the blueprint for
syncing\n     * @param lView The view to sync\n     */\n    function syncViewWithBlueprint(tView, lView) {\n
for (var i = lView.length; i < tView.blueprint.length; i++) {\n            lView.push(tView.blueprint[i]);\n        }\n    }\n
    /**\n     * Adds LView or LContainer to the end of the current view tree.\n     *\n     * This structure will be used to
traverse through nested views to remove listeners\n     * and call onDestroy callbacks.\n     *\n     * @param lView
The view where LView or LContainer should be added\n     * @param adjustedHostIndex Index of the view's host
node in LView[], adjusted for header\n     * @param lViewOrLContainer The LView or LContainer to add to the
view tree\n     * @returns The state passed in\n     */\n    function
    addToViewTree(lView, lViewOrLContainer) {\n        // TODO(benlesh/misko): This implementation is incorrect,
because it always adds the LContainer\n        // to the end of the queue, which means if the developer retrieves the
LContainers from RNodes out\n        // of order, the change detection will run out of order, as the act of retrieving
the the\n        // LContainer from the RNode is what adds it to the queue.\n        if (lView[CHILD_HEAD]) {\n
lView[CHILD_TAIL][NEXT] = lViewOrLContainer;\n        }\n        else {\n            lView[CHILD_HEAD] =
lViewOrLContainer;\n        }\n        lView[CHILD_TAIL] = lViewOrLContainer;\n        return
lViewOrLContainer;\n    }\n    //////////////////////////////\n    //// Change detection\n    //////////////////////////////\n    /**\n
* Marks current view and all ancestors dirty.\n     *\n     * Returns the root view because it is found as a byproduct of
marking the view tree\n     * dirty, and can be used by methods
    that consume markViewDirty() to easily schedule\n     * change detection. Otherwise, such methods would need to
traverse up the view tree\n     * an additional time to get the root view and schedule a tick on it.\n     *\n     * @param
lView The starting LView to mark dirty\n     * @returns the root LView\n     */\n    function markViewDirty(lView)
{\n        while (lView) {\n            lView[FLAGS] |= 64 /* Dirty */;\n            var parent = getLViewParent(lView);\n
        // Stop traversing up as soon as you find a root view that wasn't attached to any container\n            if
(isRootView(lView) && !parent) {\n                return lView;\n            }\n            // continue otherwise\n
lView = parent;\n        }\n        return null;\n    }\n    /**\n     * Used to schedule change detection on the whole
application.\n     *\n     * Unlike `tick`, `scheduleTick` coalesces multiple calls into one change detection run.\n     *
It is usually called indirectly by calling
    `markDirty` when the view needs to be\n     * re-rendered.\n     *\n     * Typically `scheduleTick` uses
`requestAnimationFrame` to coalesce multiple\n     * `scheduleTick` requests. The scheduling function can be
overridden in\n     * `renderComponent`'s `scheduler` option.\n     */\n    function scheduleTick(rootContext, flags)
{\n        var nothingScheduled = rootContext.flags === 0 /* Empty */;\n        if (nothingScheduled &&
rootContext.clean == _CLEAN_PROMISE) {\n            // https://github.com/angular/angular/issues/39296\n            //
should only attach the flags when really scheduling a tick\n            rootContext.flags |= flags;\n            var res_1;\n
    rootContext.clean = new Promise(function (r) { return res_1 = r; });\n            rootContext.scheduler(function ()
{\n                if (rootContext.flags & 1 /* DetectChanges */) {\n                    rootContext.flags &= ~1 /*
DetectChanges */;\n                    tickRootContext(rootContext);\n
```

}\n if (rootContext.flags & 2 /* FlushPlayers */) {\n rootContext.flags &= ~2 /* FlushPlayers */;\n var playerHandler = rootContext.playerHandler;\n if (playerHandler) {\n playerHandler.flushPlayers();\n }\n }\n rootContext.clean = _CLEAN_PROMISE;\n res_1(null);\n });\n }\n }\n function tickRootContext(rootContext) {\n for (var i = 0; i < rootContext.components.length; i++) {\n var rootComponent = rootContext.components[i];\n var lView = readPatchedLView(rootComponent);\n var tView = lView[TVIEW];\n renderComponentOrTemplate(tView, lView, tView.template, rootComponent);\n }\n }\n function detectChangesInternal(tView, lView, context) {\n var rendererFactory = lView[RENDERER_FACTORY];\n if (rendererFactory.begin)\n rendererFactory.begin();\n try {\n refreshView(tView, lView, tView.template, context);\n }\n catch (error) {\n handleError(lView, error);\n throw error;\n }\n finally {\n if (rendererFactory.end)\n rendererFactory.end();\n }\n }\n /**\n * Synchronously perform change detection on a root view and its components.\n *\n * @param lView The view which the change detection should be performed on.\n */\n function detectChangesInRootView(lView) {\n tickRootContext(lView[CONTEXT]);\n }\n function checkNoChangesInternal(tView, view, context) {\n setIsInCheckNoChangesMode(true);\n try {\n detectChangesInternal(tView, view, context);\n }\n finally {\n setIsInCheckNoChangesMode(false);\n }\n }\n /**\n * Checks the change detector on a root view and its components, and throws if any changes\n are\n * detected.\n *\n * This is used in development mode to verify that running change detection doesn't\n * introduce other changes.\n *\n * @param lView The view which the change detection should be checked on.\n */\n function checkNoChangesInRootView(lView) {\n setIsInCheckNoChangesMode(true);\n try {\n detectChangesInRootView(lView);\n }\n finally {\n setIsInCheckNoChangesMode(false);\n }\n }\n function executeViewQueryFn(flags, viewQueryFn, component) {\n ngDevMode && assertDefined(viewQueryFn, 'View queries function to execute must be defined.');\n setCurrentQueryIndex(0);\n viewQueryFn(flags, component);\n }\n ////////////////////////////////\n //// Bindings & interpolations\n ////////////////////////////////\n /**\n * Stores meta-data for a property binding to be used by TestBed's `DebugElement.properties`.\n *\n * In order to support\n TestBed's `DebugElement.properties` we need to save, for each binding:\n * - a bound property name;\n * - a static parts of interpolated strings;\n *\n * A given property metadata is saved at the binding's index in the `TView.data` (in other words, a\n * property binding metadata will be stored in `TView.data` at the same index as a bound value in\n * `LView`). Metadata are represented as `INTERPOLATION_DELIMITER`-delimited string with the\n * following format:\n * - `propertyName` for bound properties;\n * - `propertyNameprefixinterpolation_static_part1..interpolation_static_partNsuffix` for\n * interpolated properties.\n *\n * @param tData `TData` where meta-data will be saved;\n * @param tNode `TNode` that is a target of the binding;\n * @param propertyName bound property name;\n * @param bindingIndex binding index in `LView`\n * @param interpolationParts static interpolation parts (for property interpolations)\n */\n function storePropertyBindingMetadata(tData, tNode, propertyName, bindingIndex) {\n var interpolationParts = [];\n for (var _i = 4; _i < arguments.length; _i++) {\n interpolationParts[_i - 4] = arguments[_i];\n }\n // Binding meta-data are stored only the first time a given property instruction is processed.\n // Since we don't have a concept of the \"first update pass\" we need to check for presence of the\n // binding meta-data to decide if one should be stored (or if was stored already).\n if (tData[bindingIndex] === null) {\n if (tNode.inputs == null || !tNode.inputs[propertyName]) {\n var propBindingIdxs = tNode.propertyBindings || (tNode.propertyBindings = []);\n propBindingIdxs.push(bindingIndex);\n var bindingMetadata = propertyName;\n if (interpolationParts.length > 0) {\n bindingMetadata +=\n INTERPOLATION_DELIMITER + interpolationParts.join(INTERPOLATION_DELIMITER);\n }\n tData[bindingIndex] = bindingMetadata;\n }\n }\n }\n var CLEAN_PROMISE = _CLEAN_PROMISE;\n function getLCleanup(view) {\n // top level variables should not be exported for

performance reasons (PERF_NOTES.md)\n return view[CLEANUP] || (view[CLEANUP] = ngDevMode ? new LCleanup() : []);\n }\n function getTViewCleanup(tView) {\n return tView.cleanup || (tView.cleanup = ngDevMode ? new TCleanup() : []);\n }\n /**\n * There are cases where the sub component's renderer needs to be included\n * instead of the current renderer (see the componentSyntheticHost* instructions).\n */\n function loadComponentRenderer(currentDef, tNode, lView) {\n // TODO(FW-2043): the `currentDef` is null when host bindings are invoked while creating root\n // component (see packages/core/src/render3/component.ts). This is not consistent with the process\n // of creating inner components, when current directive index is available in the state. In order\n // to avoid relying on current def being `null` (thus special-casing root component creation), the\n // process of creating root component should be unified with the process of creating inner\n // components.\n if (currentDef === null || isComponentDef(currentDef)) {\n lView = unwrapLView(lView[tNode.index]);\n }\n return lView[RENDERER];\n }\n /** Handles an error thrown in an LView. */\n function handleError(lView, error) {\n var injector = lView[INJECTOR];\n var errorHandler = injector ? injector.get(ErrorHandler, null) : null;\n errorHandler && errorHandler.handleError(error);\n }\n /**\n * Set the inputs of directives at the current node to corresponding value.\n *\n * @param tView The current TView\n * @param lView the `LView` which contains the directives.\n * @param inputs mapping between the public \"input\" name and privately-known,\n * possibly minified, property names to write to.\n * @param value Value to set.\n */\n function setInputsForProperty(tView, lView, inputs, publicName, value) {\n for (var i = 0; i < inputs.length;) {\n var index = inputs[i++];\n var privateName = inputs[i++];\n var instance = lView[index];\n ngDevMode && assertIndexInRange(lView, index);\n var def = tView.data[index];\n if (def.setInput !== null) {\n def.setInput(instance, value, publicName, privateName);\n }\n else {\n instance[privateName] = value;\n }\n }\n }\n /**\n * Updates a text binding at a given index in a given LView.\n */\n function textBindingInternal(lView, index, value) {\n ngDevMode && assertString(value, 'Value should be a string');\n ngDevMode && assertNotSame(value, NO_CHANGE, 'value should not be NO_CHANGE');\n ngDevMode && assertIndexInRange(lView, index);\n var element = getNativeByIndex(index, lView);\n ngDevMode && assertDefined(element, 'native element should exist');\n updateTextNode(lView[RENDERER], element, value);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Compute the static styling (class/style) from `TAttributes`.\n *\n * This function should be called during `firstCreatePass` only.\n *\n * @param tNode The `TNode` into which the styling information should be loaded.\n * @param attrs `TAttributes` containing the styling information.\n * @param writeToHost Where should the resulting static styles be written?\n *\n - `false` Write to `TNode.stylesWithoutHost` / `TNode.classesWithoutHost`\n * - `true` Write to `TNode.styles` / `TNode.classes`\n */\n function computeStaticStyling(tNode, attrs, writeToHost) {\n ngDevMode &&\n assertFirstCreatePass(getTView(), 'Expecting to be called in first template pass only');\n var styles = writeToHost ? tNode.styles : null;\n var classes = writeToHost ? tNode.classes : null;\n var mode = 0;\n if (attrs !== null) {\n for (var i = 0; i < attrs.length; i++) {\n var value = attrs[i];\n if (typeof value === 'number') {\n mode = value;\n }\n else if (mode == 1 /* Classes */) {\n classes = concatStringsWithSpace(classes, value);\n }\n else if (mode == 2 /* Styles */) {\n var style = value;\n var styleValue = attrs[++i];\n styles = concatStringsWithSpace(styles, style + ': ' + styleValue + ';');\n }\n }\n }\n writeToHost ? tNode.styles = styles : tNode.stylesWithoutHost = styles;\n writeToHost ? tNode.classes = classes : tNode.classesWithoutHost = classes;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Synchronously perform change detection on a

component (and possibly its sub-components).\n *\n * This function triggers change detection in a synchronous way on a component.\n *\n * @param component The component which the change detection should be performed on.\n */\n function detectChanges(component) {\n var view = getComponentViewByInstance(component);\n detectChangesInternal(view[TVIEW], view, component);\n }\n /**\n * Marks the component as dirty (needing change detection). Marking a component dirty will\n * schedule a change detection on it at some point in the future.\n *\n * Marking an already dirty component as dirty won't do anything. Only one outstanding change\n * detection can be scheduled per component tree.\n *\n * @param component Component to mark as dirty.\n */\n function markDirty(component) {\n ngDevMode && assertDefined(component, 'component');\n var rootView = markViewDirty(getComponentViewByInstance(component));\n ngDevMode && assertDefined(rootView[CONTEXT], 'rootContext should be defined');\n scheduleTick(rootView[CONTEXT], 1 /* DetectChanges */);\n }\n /**\n * Used to perform change detection on the whole application.\n *\n * This is equivalent to `detectChanges`, but invoked on root component. Additionally, `tick`\n * executes lifecycle hooks and conditionally checks components
based on their\n * `ChangeDetectionStrategy` and dirtiness.\n *\n * The preferred way to trigger change detection is to call `markDirty`. `markDirty` internally\n * schedules `tick` using a scheduler in order to coalesce multiple `markDirty` calls into a\n * single change detection run. By default, the scheduler is `requestAnimationFrame`, but can\n * be changed when calling `renderComponent` and providing the `scheduler` option.\n */\n function tick(component) {\n var rootView = getRootView(component);\n var rootContext = rootView[CONTEXT];\n tickRootContext(rootContext);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * An InjectionToken that gets the current `Injector` for `createInjector()`-style injectors.\n *\n * Requesting this token instead of `Injector` allows `StaticInjector` to be tree-shaken from a\n * project.\n *\n * @publicApi\n */\n var INJECTOR$1 = new InjectionToken('INJECTOR', \n // Dissable tslint because this is const enum which gets inlined not top level prop access.\n // tslint:disable-next-line: no-toplevel-property-access\n -1 /* Injector */);\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var NullInjector = /** @class */ (function () {\n function NullInjector() {\n }\n NullInjector.prototype.get = function (token, notFoundValue) {\n if (notFoundValue === void 0) { notFoundValue = THROW_IF_NOT_FOUND; }\n if (notFoundValue === THROW_IF_NOT_FOUND) {\n var error = new Error(\"NullInjectorError: No provider for \" + stringify(token) + \"!\");\n error.name = 'NullInjectorError';\n throw error;\n }\n return notFoundValue;\n };\n return NullInjector;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * An internal token whose presence in an injector indicates that the injector should treat itself\n * as a root scoped injector when processing requests for unknown tokens which may indicate\n * they are provided in the root scope.\n */\n var INJECTOR_SCOPE = new InjectionToken('Set Injector scope.');\n\n /**\n * Marker which indicates that a value has not yet been created from the factory function.\n */\n var NOT_YET = {};\n /**\n * Marker which indicates that the factory function for a token is in the process of being called.\n *\n * If the injector is asked to inject a token with its value set to CIRCULAR, that indicates\n * injection of a dependency has recursively attempted to inject the original token, and there is\n * a circular dependency among the providers.\n */\n var CIRCULAR = {};\n var EMPTY_ARRAY$1 = [];\n /**\n * A lazily initialized NullInjector.\n */\n var NULL_INJECTOR = undefined;\n function getNullInjector() {\n if (NULL_INJECTOR === undefined) {\n NULL_INJECTOR = new NullInjector();\n }\n return NULL_INJECTOR;\n }\n /**\n * Create a new `Injector` which is configured using a `defType` of `InjectorType<any>`s.\n *\n * @publicApi\n */\n

```
function createInjector(defType, parent, additionalProviders, name) {\n        if (parent === void 0) { parent = null; }\n        if (additionalProviders === void 0) { additionalProviders = null; }\n
        var injector = createInjectorWithoutInjectorInstances(defType, parent, additionalProviders, name);\n injector._resolveInjectorDefTypes();\n        return injector;\n    }\n    /**\n     * Creates a new injector without eagerly resolving its injector types. Can be used in places\n     * where resolving the injector types immediately can lead to an infinite loop. The injector types\n     * should be resolved at a later point by calling `_resolveInjectorDefTypes`.\n     */\n    function createInjectorWithoutInjectorInstances(defType, parent, additionalProviders, name) {\n        if (parent === void 0) { parent = null; }\n        if (additionalProviders === void 0) { additionalProviders = null; }\n        return new R3Injector(defType, additionalProviders, parent || getNullInjector(), name);\n    }\n    var R3Injector = /** @class */ (function () {\n        function R3Injector(def, additionalProviders, parent, source) {\n            var _this = this;\n            if (source === void 0) { source = null; }\n            this.parent = parent;\n            /**\n             * Map of tokens to records which contain the instances of those tokens.\n             * - `null` value implies that we don't have the record. Used by tree-shakable injectors\n             * to prevent further searches.\n             */\n            this.records = new Map();\n            /**\n             * The transitive set of `InjectorType`s which define this injector.\n             */\n            this.injectorDefTypes = new Set();\n            /**\n             * Set of values instantiated by this injector which contain `ngOnDestroy` lifecycle hooks.\n             */\n            this.onDestroy = new Set();\n            this._destroyed = false;\n
            var dedupStack = [];\n            // Start off by creating Records for every provider declared in every InjectorType\n            // included transitively in additional providers then do the same for `def`. This order is\n            // important because `def` may include providers that override ones in additionalProviders.\n            additionalProviders &&\n                deepForEach(additionalProviders, function (provider) { return _this.processProvider(provider, def, additionalProviders); });\n            deepForEach([def], function (injectorDef) { return _this.processInjectorType(injectorDef, [], dedupStack); });\n            // Make sure the INJECTOR token provides this injector.\n            this.records.set(INJECTOR$1, makeRecord(undefined, this));\n            // Detect whether this injector has the APP_ROOT_SCOPE token and thus should provide\n            // any injectable scoped to APP_ROOT_SCOPE.\n            var record = this.records.get(INJECTOR_SCOPE);\n            this.scope = record != null ? record.value : null;\n            // Source name, used for debugging\n            this.source = source || (typeof def === 'object' ? null : stringify(def));\n        }\n        Object.defineProperty(R3Injector.prototype, \"destroyed\", {\n            /**\n             * Flag indicating that this injector was previously destroyed.\n             */\n            get: function () {\n                return this._destroyed;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        /**\n         * Destroy the injector and release references to every instance or provider associated with it.\n         *\n         * Also calls the `OnDestroy` lifecycle hooks of every instance that was created for which a\n         * hook was found.\n         */\n        R3Injector.prototype.destroy = function () {\n            this.assertNotDestroyed();\n            // Set destroyed = true first, in case lifecycle hooks re-enter destroy().\n            this._destroyed = true;\n            try {\n                // Call all the lifecycle hooks.\n                this.onDestroy.forEach(function (service) { return service.ngOnDestroy(); });\n            }\n            finally {\n                // Release all references.\n                this.records.clear();\n                this.onDestroy.clear();\n                this.injectorDefTypes.clear();\n            }\n        };\n        R3Injector.prototype.get = function (token, notFoundValue, flags) {\n            if (notFoundValue === void 0) { notFoundValue = THROW_IF_NOT_FOUND; }\n            if (flags === void 0) { flags = exports.InjectFlags.Default; }\n            this.assertNotDestroyed();\n            // Set the injection context.\n            var previousInjector = setCurrentInjector(this);\n            try {\n                // Check for the SkipSelf flag.\n                if (!(flags & exports.InjectFlags.SkipSelf)) {\n                    // SkipSelf isn't set, check if the record belongs to this injector.\n                    var record = this.records.get(token);\n                    if (record === undefined) {\n                        // No record, but maybe the token is scoped to this injector. Look for an injectable\n                        // def with a scope matching this injector.\n                        var def = couldBeInjectableType(token) && getInjectableDef(token);\n                        if (def && this.injectableDefInScope(def)) {\n                            // Found an injectable def and it's scoped to this injector. Pretend as if it was here\n                            // all along.\n                            record =
```

```
makeRecord(injectableDefOrInjectorDefFactory(token), NOT_YET);\n                }\n                else {\n                    record = null;\n                }\n                this.records.set(token, record);\n            }\n            // If a record was found, get the instance for it and return it.\n            if (record != null /* NOT null || undefined */) {\n                return this.hydrate(token, record);\n            }\n        }\n        // Select the next injector based on the Self flag - if self is set, the next injector is\n        // the NullInjector, otherwise it's the parent.\n        var nextInjector = !(flags & exports.InjectFlags.Self) ? this.parent : getNullInjector();\n        // Set the notFoundValue based on the Optional flag - if optional is set and notFoundValue\n        // is undefined, the value is null, otherwise it's the notFoundValue.\n        notFoundValue = (flags & exports.InjectFlags.Optional) && notFoundValue === THROW_IF_NOT_FOUND ?\n            null :\n            notFoundValue;\n        return nextInjector.get(token, notFoundValue);\n    }\n    catch (e) {\n        if (e.name === 'NullInjectorError') {\n            var path = e[NG_TEMP_TOKEN_PATH] = e[NG_TEMP_TOKEN_PATH] || [];\n            path.unshift(stringify(token));\n            if (previousInjector) {\n                // We still have a parent injector, keep throwing\n                throw e;\n            }\n            else {\n                // Format & throw the final error message when we don't have any previous injector\n                return catchInjectorError(e, token, 'R3InjectorError', this.source);\n            }\n        }\n        else {\n            throw e;\n        }\n    }\n    finally {\n        // Lastly, clean up the state by restoring the previous injector.\n        setCurrentInjector(previousInjector);\n    }\n};\n/** @internal */\nR3Injector.prototype._resolveInjectorDefTypes = function () {\n    var _this = this;\n    this.injectorDefTypes.forEach(function (defType) { return _this.get(defType); });\n};\nR3Injector.prototype.toString = function () {\n    var tokens = [], records = this.records;\n    records.forEach(function (v, token) { return tokens.push(stringify(token)); });\n    return \"R3Injector[\" + tokens.join(', ') + \"]\";\n};\nR3Injector.prototype.assertNotDestroyed = function () {\n    if (this._destroyed) {\n        throw new Error('Injector has already been destroyed.');\n    }\n};\n/**\n * Add an `InjectorType` or `InjectorTypeWithProviders` and all of its transitive providers\n * to this injector.\n *\n * If an `InjectorTypeWithProviders` that declares providers besides the type is specified,\n * the function will return \"true\" to indicate that the providers of the type definition need\n * to be processed. This allows us to process providers of injector types after all imports of\n * an injector definition are processed. (following View Engine semantics: see FW-1349)\n */\nR3Injector.prototype.processInjectorType\n = function (defOrWrappedDef, parents, dedupStack) {\n    var _this = this;\n    defOrWrappedDef = resolveForwardRef(defOrWrappedDef);\n    if (!defOrWrappedDef)\n        return false;\n    // Either the defOrWrappedDef is an InjectorType (with injector def) or an\n    // InjectorDefTypeWithProviders (aka ModuleWithProviders). Detecting either is a megamorphic\n    // read, so care is taken to only do the read once.\n    // First attempt to read the injector def (`inj`).\n    var def = getInjectorDef(defOrWrappedDef);\n    // If that's not present, then attempt to read ngModule from the InjectorDefTypeWithProviders.\n    var ngModule = (def == null) && defOrWrappedDef.ngModule || undefined;\n    // Determine the InjectorType. In the case where `defOrWrappedDef` is an `InjectorType`,\n    // then this is easy. In the case of an InjectorDefTypeWithProviders, then the definition type\n    // is the `ngModule`.\n    var defType = (ngModule === undefined) ? defOrWrappedDef : ngModule;\n    // Check for circular dependencies.\n    if (ngDevMode && parents.indexOf(defType) !== -1) {\n        var defName = stringify(defType);\n        var path = parents.map(stringify);\n        throwCyclicDependencyError(defName, path);\n    }\n    // Check for multiple imports of the same module\n    var isDuplicate = dedupStack.indexOf(defType) !== -1;\n    // Finally, if defOrWrappedType was an `InjectorDefTypeWithProviders`, then the actual\n    // `InjectorDef` is on its `ngModule`.\n    if (ngModule !== undefined) {\n        def = getInjectorDef(ngModule);\n    }\n    // If no definition was found, it might be from exports. Remove it.\n    if (def == null) {\n        return false;\n    }\n    // Add providers in the same way
```

```
 that @NgModule resolution did:\n            // First, include providers from any imports.\n            if (def.imports !=
null && !isDuplicate) {\n                // Before processing defType's imports, add it to the set of parents. This way, if it
ends\n                // up deeply importing itself, this can be detected.\n                ngDevMode &&
parents.push(defType);\n                // Add it to the set of dedups. This way we can detect multiple imports of the
same module\n                dedupStack.push(defType);\n                var importTypesWithProviders_1;\n                try
{\n                    deepForEach(def.imports, function (imported) {\n                        if
(_this.processInjectorType(imported, parents, dedupStack)) {\n                            if (importTypesWithProviders_1
=== undefined)\n                                importTypesWithProviders_1 = [];\n                            // If the processed
import is an injector type with providers, we store
 it in the\n                            // list of import types with providers, so that we can process those afterwards.\n
            importTypesWithProviders_1.push(imported);\n                        }\n                    });\n                }\n
finally {\n                    // Remove it from the parents set when finished.\n                    ngDevMode &&
parents.pop();\n                }\n                // Imports which are declared with providers (TypeWithProviders) need to be
processed\n                // after all imported modules are processed. This is similar to how View Engine\n                //
processes/merges module imports in the metadata resolver. See: FW-1349.\n                if
(importTypesWithProviders_1 !== undefined) {\n                    var _loop_1 = function (i) {\n                        var _a =
importTypesWithProviders_1[i], ngModule_1 = _a.ngModule, providers = _a.providers;\n
deepForEach(providers,
 function (provider) { return _this.processProvider(provider, ngModule_1, providers || EMPTY_ARRAY$1); });\n
                    };\n                    for (var i = 0; i < importTypesWithProviders_1.length; i++) {\n                        _loop_1(i);\n
                    }\n                }\n            }\n            // Track the InjectorType and add a provider for it. It's important that
this is done after the\n            // def's imports.\n            this.injectorDefTypes.add(defType);\n
this.records.set(defType, makeRecord(def.factory, NOT_YET));\n            // Next, include providers listed on the
definition itself.\n            var defProviders = def.providers;\n            if (defProviders != null && !isDuplicate) {\n
            var injectorType_1 = defOrWrappedDef;\n                deepForEach(defProviders, function (provider) { return
_this.processProvider(provider, injectorType_1, defProviders); });\n            }\n            return (ngModule !==
undefined
 &&\n                defOrWrappedDef.providers !== undefined);\n        };\n        /**\n         * Process a `SingleProvider`
and add it.\n         */\n        R3Injector.prototype.processProvider = function (provider, ngModuleType, providers)
{\n            // Determine the token from the provider. Either it's its own token, or has a {provide: ...}\n            //
property.\n            provider = resolveForwardRef(provider);\n            var token = isTypeProvider(provider) ?
provider : resolveForwardRef(provider && provider.provide);\n            // Construct a `Record` for the provider.\n
    var record = providerToRecord(provider, ngModuleType, providers);\n            if (!isTypeProvider(provider) &&
provider.multi === true) {\n                // If the provider indicates that it's a multi-provider, process it specially.\n
    // First check whether it's been defined already.\n                var multiRecord_1 = this.records.get(token);\n
  if (multiRecord_1)
 {\n                    // It has. Throw a nice error if\n                    if (ngDevMode && multiRecord_1.multi ===
undefined) {\n                        throwMixedMultiProviderError();\n                    }\n                }\n                else {\n
            multiRecord_1 = makeRecord(undefined, NOT_YET, true);\n                    multiRecord_1.factory = function
() { return injectArgs(multiRecord_1.multi); };\n                    this.records.set(token, multiRecord_1);\n                }\n
            token = provider;\n                multiRecord_1.multi.push(provider);\n            }\n            else {\n                var
existing = this.records.get(token);\n                if (ngDevMode && existing && existing.multi !== undefined) {\n
            throwMixedMultiProviderError();\n                }\n            }\n            this.records.set(token, record);\n        };\n
    R3Injector.prototype.hydrate = function (token, record) {\n
     if (ngDevMode && record.value === CIRCULAR) {\n
throwCyclicDependencyError(stringify(token));\n            }\n            else if (record.value === NOT_YET) {\n
  record.value = CIRCULAR;\n                record.value = record.factory();\n            }\n            if (typeof record.value
=== 'object' && record.value && hasOnDestroy(record.value)) {\n                this.onDestroy.add(record.value);\n
```

```
}\n            return record.value;\n        };\n        R3Injector.prototype.injectableDefInScope = function (def) {\n
if (!def.providedIn) {\n                return false;\n            }\n            else if (typeof def.providedIn === 'string') {\n
        return def.providedIn === 'any' || (def.providedIn === this.scope);\n            }\n            else {\n                return
this.injectorDefTypes.has(def.providedIn);\n            }\n        };\n        return R3Injector;\n    }());\n    function
injectableDefOrInjectorDefFactory(token)
{\n        // Most tokens will have an injectable def directly on them, which specifies a factory directly.\n        var
injectableDef = getInjectableDef(token);\n        var factory = injectableDef !== null ? injectableDef.factory :
getFactoryDef(token);\n        if (factory !== null) {\n            return factory;\n        }\n        // If the token is an
NgModule, it's also injectable but the factory is on its injector def\n        // (`inj`)\n        var injectorDef =
getInjectorDef(token);\n        if (injectorDef !== null) {\n            return injectorDef.factory;\n        }\n        //
InjectionTokens should have an injectable def (prov) and thus should be handled above.\n        // If it's missing that,
it's an error.\n        if (token instanceof InjectionToken) {\n            throw new Error(\"Token \" + stringify(token) + \"
is missing a \\u0275prov definition.\");\n        }\n        // Undecorated types can sometimes be created if they have no
constructor
 arguments.\n        if (token instanceof Function) {\n            return getUndecoratedInjectableFactory(token);\n
}\n        // There was no way to resolve a factory for this token.\n        throw new Error('unreachable');\n    }\n
function getUndecoratedInjectableFactory(token) {\n        // If the token has parameters then it has dependencies that
we cannot resolve implicitly.\n        var paramLength = token.length;\n        if (paramLength > 0) {\n            var args
= newArray(paramLength, '?');\n            throw new Error(\"Can't resolve all parameters for \" + stringify(token) + \":
(\" + args.join(', ') + \").\");\n        }\n        // The constructor function appears to have no parameters.\n        // This
might be because it inherits from a super-class. In which case, use an injectable\n        // def from an ancestor if there
is one.\n        // Otherwise this really is a simple class with no dependencies, so return a factory that\n        // just
instantiates
 the zero-arg constructor.\n        var inheritedInjectableDef = getInheritedInjectableDef(token);\n        if
(inheritedInjectableDef !== null) {\n            return function () { return inheritedInjectableDef.factory(token); };\n
}\n        else {\n            return function () { return new token(); };\n        }\n    }\n    function
providerToRecord(provider, ngModuleType, providers) {\n        if (isValueProvider(provider)) {\n            return
makeRecord(undefined, provider.useValue);\n        }\n        else {\n            var factory =
providerToFactory(provider, ngModuleType, providers);\n            return makeRecord(factory, NOT_YET);\n
}\n    }\n    /**\n     * Converts a `SingleProvider` into a factory function.\n     *\n     * @param provider provider to
convert to factory\n     */\n    function providerToFactory(provider, ngModuleType, providers) {\n        var factory =
undefined;\n        if (isTypeProvider(provider)) {\n            var unwrappedProvider
 = resolveForwardRef(provider);\n            return getFactoryDef(unwrappedProvider) ||
injectableDefOrInjectorDefFactory(unwrappedProvider);\n        }\n        else {\n            if
(isValueProvider(provider)) {\n                factory = function () { return resolveForwardRef(provider.useValue); };\n
        }\n            else if (isFactoryProvider(provider)) {\n                factory = function () { return
provider.useFactory.apply(provider, __spread(injectArgs(provider.deps || []))); };\n            }\n            else if
(isExistingProvider(provider)) {\n                factory = function () { return
inject(resolveForwardRef(provider.useExisting)); };\n            }\n            else {\n                var classRef_1 =
resolveForwardRef(provider &&\n                    (provider.useClass || provider.provide));\n                if (ngDevMode
&& !classRef_1) {\n                    throwInvalidProviderError(ngModuleType, providers, provider);\n                }\n

        if (hasDeps(provider)) {\n                    factory = function () { return new ((classRef_1).bind.apply((classRef_1),
__spread([void 0], injectArgs(provider.deps))))(); };\n                }\n                else {\n                    return
getFactoryDef(classRef_1) || injectableDefOrInjectorDefFactory(classRef_1);\n                }\n            }\n        }\n
return factory;\n    }\n    function makeRecord(factory, value, multi) {\n        if (multi === void 0) { multi = false;
}\n        return {\n            factory: factory,\n            value: value,\n            multi: multi ? [] : undefined,\n        };\n
}\n    function isValueProvider(value) {\n        return value !== null && typeof value == 'object' && USE_VALUE
```

in value;\n }\n function isExistingProvider(value) {\n return !!(value && value.useExisting);\n }\n function isFactoryProvider(value) {\n return !!(value && value.useFactory);\n }\n function isTypeProvider(value) {\n return typeof value === 'function';\n }\n function isClassProvider(value) {\n return !!value.useClass;\n }\n function hasDeps(value) {\n return !!value.deps;\n }\n function hasOnDestroy(value) {\n return value !== null && typeof value === 'object' &&\n typeof value.ngOnDestroy === 'function';\n }\n function couldBeInjectableType(value) {\n return (typeof value === 'function') ||\n (typeof value === 'object' && value instanceof InjectionToken);\n }\n\n function INJECTOR_IMPL__PRE_R3__(providers, parent, name) {\n return new StaticInjector(providers, parent, name);\n }\n function INJECTOR_IMPL__POST_R3__(providers, parent, name) {\n return createInjector({ name: name }, parent, providers, name);\n }\n var INJECTOR_IMPL = INJECTOR_IMPL__PRE_R3__;\n /**\n * Concrete injectors implement this interface. Injectors are configured\n * with [providers](guide/glossary#provider) that associate\n * dependencies of various types with [injection tokens](guide/glossary#di-token).\n *\n * @see [\"DI Providers\"](guide/dependency-injection-providers).\n * @see `StaticProvider`\n *\n * @usageNotes\n *\n * The following example creates a service injector instance.\n *\n * {@example core/di/ts/provider_spec.ts region='ConstructorProvider'}\n *\n * ### Usage example\n *\n * {@example core/di/ts/injector_spec.ts region='Injector'}\n *\n * `Injector` returns itself when given `Injector` as a token:\n *\n * {@example core/di/ts/injector_spec.ts region='injectInjector'}\n *\n * @publicApi\n */\n var Injector = /** @class */ (function () {\n function Injector() {\n }\n Injector.create = function (options, parent) {\n if (Array.isArray(options)) {\n return INJECTOR_IMPL(options, parent, '');\n }\n else {\n return INJECTOR_IMPL(options.providers, options.parent, options.name || '');\n }\n };\n return Injector;\n }());\n Injector.THROW_IF_NOT_FOUND = THROW_IF_NOT_FOUND;\n Injector.NULL = new NullInjector();\n /** @nocollapse */\n Injector.prov = defineInjectable({\n token: Injector,\n providedIn: 'any',\n factory: function () { return inject(INJECTOR$1); },\n });\n /**\n * @internal\n * @nocollapse\n */\n Injector.__NG_ELEMENT_ID__ = -1 /* Injector */;\n var IDENT = function (value) {\n return value;\n };\n var 0$6 = IDENT;\n var EMPTY = [];\n var CIRCULAR$1 = IDENT;\n var MULTI_PROVIDER_FN = function () {\n return Array.prototype.slice.call(arguments);\n };\n var 1$1 = MULTI_PROVIDER_FN;\n var NO_NEW_LINE$1 = '';\n var StaticInjector = /** @class */ (function () {\n function StaticInjector(providers, parent, source) {\n if (parent === void 0) { parent = Injector.NULL; }\n if (source === void 0) { source = null; }\n this.parent = parent;\n this.source = source;\n var records = this._records = new Map();\n records.set(Injector, { token: Injector, fn: IDENT, deps: EMPTY, value: this, useNew: false });\n records.set(INJECTOR$1, { token: INJECTOR$1, fn: IDENT, deps: EMPTY, value: this, useNew: false });\n this.scope = recursivelyProcessProviders(records, providers);\n }\n StaticInjector.prototype.get = function (token, notFoundValue, flags) {\n if (flags === void 0) { flags = exports.InjectFlags.Default; }\n var records = this._records;\n var record = records.get(token);\n if (record === undefined) {\n // This means we have never seen this record, see if it is tree shakable provider.\n var injectableDef = getInjectableDef(token);\n if (injectableDef) {\n var providedIn = injectableDef && injectableDef.providedIn;\n if (providedIn === 'any' || providedIn != null && providedIn === this.scope) {\n records.set(token, record = resolveProvider({ provide: token, useFactory: injectableDef.factory, deps: EMPTY }));\n }\n }\n if (record === undefined) {\n // Set record to null to make sure that we don't go through expensive lookup above again.\n records.set(token, null);\n }\n }\n var lastInjector = setCurrentInjector(this);\n try {\n return tryResolveToken(token, record, records, this.parent, notFoundValue, flags);\n }\n catch (e) {\n return catchInjectorError(e, token, 'StaticInjectorError', this.source);\n }\n finally {\n setCurrentInjector(lastInjector);\n

```
}\n };\n StaticInjector.prototype.toString = function () {\n var tokens = [], records =
this._records;\n records.forEach(function (v, token) { return tokens.push(stringify(token)); });\n return
\"StaticInjector[\" + tokens.join(', ') + \"]\";\n };\n return StaticInjector;\n }());\n function
resolveProvider(provider) {\n var deps = computeDeps(provider);\n var fn = IDENT;\n var value =
EMPTY;\n var useNew = false;\n var provide = resolveForwardRef(provider.provide);\n if
(USE_VALUE in provider) {\n // We need to use USE_VALUE in provider since provider.useValue could
be defined as undefined.\n value = provider.useValue;\n }\n else if (provider.useFactory) {\n
fn = provider.useFactory;\n }\n else if (provider.useExisting) {\n // Just use IDENT\n }\n
else if (provider.useClass)
{\n useNew = true;\n fn = resolveForwardRef(provider.useClass);\n }\n else if (typeof
provide == 'function') {\n useNew = true;\n fn = provide;\n }\n else {\n throw
staticError('StaticProvider does not have [useValue|useFactory|useExisting|useClass] or [provide] is not newable',
provider);\n }\n return { deps: deps, fn: fn, useNew: useNew, value: value };\n }\n function
multiProviderMixError(token) {\n return staticError('Cannot mix multi providers and regular providers',
token);\n }\n function recursivelyProcessProviders(records, provider) {\n var scope = null;\n if
(provider) {\n provider = resolveForwardRef(provider);\n if (Array.isArray(provider)) {\n //
if we have an array recurse into the array\n for (var i = 0; i < provider.length; i++) {\n scope =
recursivelyProcessProviders(records,
provider[i]) || scope;\n }\n }\n else if (typeof provider === 'function') {\n //
Functions were supported in ReflectiveInjector, but are not here. For safety give useful\n // error
messages\n throw staticError('Function/Class not supported', provider);\n }\n else if (provider
&& typeof provider === 'object' && provider.provide) {\n // At this point we have what looks like a
provider: {provide: ?, ....}\n var token = resolveForwardRef(provider.provide);\n var
resolvedProvider = resolveProvider(provider);\n if (provider.multi === true) {\n // This is a
multi provider.\n var multiProvider = records.get(token);\n if (multiProvider) {\n
if (multiProvider.fn !== MULTI_PROVIDER_FN) {\n throw multiProviderMixError(token);\n
}\n }\n else {\n // Create a placeholder factory which will look
up the constituents of the multi provider.\n records.set(token, multiProvider = {\n
token: provider.provide,\n deps: [],\n useNew: false,\n fn:
MULTI_PROVIDER_FN,\n value: EMPTY\n });\n }\n //
Treat the provider as the token.\n token = provider;\n multiProvider.deps.push({ token:
token, options: 6 /* Default */ });\n }\n var record = records.get(token);\n if (record &&
record.fn == MULTI_PROVIDER_FN) {\n throw multiProviderMixError(token);\n }\n
if (token === INJECTOR_SCOPE) {\n
scope = resolvedProvider.value;\n }\n records.set(token, resolvedProvider);\n }\n
else {\n throw staticError('Unexpected provider', provider);\n }\n }\n return scope;\n }\n
function tryResolveToken(token, record, records, parent, notFoundValue, flags) {\n try {\n return
resolveToken(token, record, records, parent, notFoundValue, flags);\n }\n catch (e) {\n // ensure that
'e' is of type Error.\n if (!(e instanceof Error)) {\n e = new Error(e);\n }\n var path =
e[NG_TEMP_TOKEN_PATH] = e[NG_TEMP_TOKEN_PATH] || [];\n path.unshift(token);\n if
(record && record.value == CIRCULAR$1) {\n // Reset the Circular flag.\n record.value =
EMPTY;\n }\n throw e;\n }\n }\n function resolveToken(token, record, records, parent,
notFoundValue, flags) {\n var value;\n if (record && !(flags & exports.InjectFlags.SkipSelf)) {\n //
If we don't have a record, this implies that we don't own the provider hence don't know how\n // to resolve
it.\n value = record.value;\n if (value == CIRCULAR$1) {\n throw Error(NO_NEW_LINE$1
+ 'Circular dependency');\n }\n else if (value === EMPTY) {\n record.value =
CIRCULAR$1;\n var obj = undefined;\n var useNew = record.useNew;\n var fn =
record.fn;\n var depRecords = record.deps;\n var deps = EMPTY;\n if
```

```
(depRecords.length) {\n                deps = [];\n                for (var i = 0; i < depRecords.length; i++) {\n
    var depRecord = depRecords[i];\n                var options = depRecord.options;\n                var
childRecord = options
 & 2 /* CheckSelf */ ? records.get(depRecord.token) : undefined;\n                deps.push(tryResolveToken(\n
            // Current Token to resolve\n                depRecord.token, \n                // A record which describes
how to resolve the token.\n                // If undefined, this means we don't have such a record\n
childRecord, \n                // Other records we know about.\n                records, \n                // If we
don't know how to resolve dependency and we should not check parent for it,\n                // than pass in Null
injector.\n                !childRecord && !(options & 4 /* CheckParent */) ? Injector.NULL : parent, options & 1
/* Optional */ ? null : Injector.THROW_IF_NOT_FOUND, exports.InjectFlags.Default));\n                }\n
}\n            record.value = value = useNew ? new (fn.bind.apply(fn, __spread([void 0], deps)))()
 : fn.apply(obj, deps);\n        }\n    }\n    else if (!(flags & exports.InjectFlags.Self)) {\n        value =
parent.get(token, notFoundValue, exports.InjectFlags.Default);\n    }\n    else if (!(flags &
exports.InjectFlags.Optional)) {\n        value = Injector.NULL.get(token, notFoundValue);\n    }\n    else {\n
        value = Injector.NULL.get(token, typeof notFoundValue !== 'undefined' ? notFoundValue : null);\n    }\n
return value;\n}\nfunction computeDeps(provider) {\n    var deps = EMPTY;\n    var providerDeps =
provider.deps;\n    if (providerDeps && providerDeps.length) {\n        deps = [];\n        for (var i = 0; i <
providerDeps.length; i++) {\n            var options = 6 /* Default */;\n            var token =
resolveForwardRef(providerDeps[i]);\n            if (Array.isArray(token)) {\n                for (var j = 0, annotations
= token; j < annotations.length; j++) {\n
                var annotation = annotations[j];\n                if (annotation instanceof Optional || annotation ==
Optional) {\n                    options = options | 1 /* Optional */;\n                }\n                else if
(annotation instanceof SkipSelf || annotation == SkipSelf) {\n                    options = options & ~2 /* CheckSelf
*/;\n                }\n                else if (annotation instanceof Self || annotation == Self) {\n
options = options & ~4 /* CheckParent */;\n                }\n                else if (annotation instanceof Inject)
{\n                    token = annotation.token;\n                }\n                else {\n                    token =
resolveForwardRef(annotation);\n                }\n            }\n            deps.push({ token: token,
options: options });\n
        }\n    }\n    else if (provider.useExisting) {\n        var token =
resolveForwardRef(provider.useExisting);\n        deps = [{ token: token, options: 6 /* Default */ }];\n    }\n
else if (!providerDeps && !(USE_VALUE in provider)) {\n        // useValue & useExisting are the only ones
which are exempt from deps all others need it.\n        throw staticError('\\'deps\\' required', provider);\n    }\n
return deps;\n}\nfunction staticError(text, obj) {\n    return new Error(formatError(text, obj,
'StaticInjectorError'));\n}\n\n/**\n * Retrieves the component instance associated with a given DOM
element.\n *\n * @usageNotes\n * Given the following DOM structure:\n * ```html\n * <my-app>\n *
  <div>\n *   <child-comp></child-comp>\n *   </div>\n * </my-app>\n * ```\n * Calling
`getComponent` on `<child-comp>` will return the instance of `ChildComponent`\n * associated
 with this DOM element.\n *\n * Calling the function on `<my-app>` will return the `MyApp` instance.\n *\n
 *\n * @param element DOM element from which the component should be retrieved.\n * @returns
Component instance associated with the element or `null` if there\n *  is no component associated with it.\n
*\n * @publicApi\n * @globalApi ng\n */\nfunction getComponent(element) {\n
assertDomElement(element);\n    var context = loadLContext(element, false);\n    if (context === null)\n
return null;\n    if (context.component === undefined) {\n        context.component =
getComponentAtNodeIndex(context.nodeIndex, context.lView);\n    }\n    return context.component;\n}\n
/**\n * If inside an embedded view (e.g. `*ngIf` or `*ngFor`), retrieves the context of the embedded\n * view
that the element is part of. Otherwise retrieves the instance of the component whose view\n * owns
 the element (in this case, the result is the same as calling `getOwningComponent`).\n *\n * @param element
Element for which to get the surrounding component instance.\n * @returns Instance of the component that is
```

around the element or null if the element isn't\n * inside any component.\n *\n * @publicApi\n * @globalApi ng\n */\n function getContext(element) {\n assertDomElement(element);\n var context = loadLContext(element, false);\n return context === null ? null : context.lView[CONTEXT];\n }\n /**\n * Retrieves the component instance whose view contains the DOM element.\n *\n * For example, if `<child-comp>` is used in the template of `<app-comp>`\n * (i.e. a `ViewChild` of `<app-comp>`), calling `getOwningComponent` on `<child-comp>`\n * would return `<app-comp>`.\n *\n * @param elementOrDir DOM element, component or directive instance\n * for which to retrieve the root components.\n

* @returns Component instance whose view owns the DOM element or null if the element is not\n * part of a component view.\n *\n * @publicApi\n * @globalApi ng\n */\n function getOwningComponent(elementOrDir) {\n var context = loadLContext(elementOrDir, false);\n if (context === null)\n return null;\n var lView = context.lView;\n var parent;\n ngDevMode && assertLView(lView);\n while (lView[TVIEW].type === 2 /* Embedded */ && (parent = getLViewParent(lView))) {\n lView = parent;\n }\n return lView[FLAGS] & 512 /* IsRoot */ ? null : lView[CONTEXT];\n }\n /**\n * Retrieves all root components associated with a DOM element, directive or component instance.\n * Root components are those which have been bootstrapped by Angular.\n *\n * @param elementOrDir DOM element, component or directive instance\n * for which to retrieve the root components.\n

* @returns Root components associated with the target object.\n *\n * @publicApi\n * @globalApi ng\n */\n function getRootComponents(elementOrDir) {\n return __spread(getRootContext(elementOrDir).components);\n }\n /**\n * Retrieves an `Injector` associated with an element, component or directive instance.\n *\n * @param elementOrDir DOM element, component or directive instance for which to\n * retrieve the injector.\n * @returns Injector associated with the element, component or directive instance.\n *\n * @publicApi\n * @globalApi ng\n */\n function getInjector(elementOrDir) {\n var context = loadLContext(elementOrDir, false);\n if (context === null)\n return Injector.NULL;\n var tNode = context.lView[TVIEW].data[context.nodeIndex];\n return new NodeInjector(tNode, context.lView);\n }\n /**\n * Retrieve a set of injection tokens at a given DOM node.\n *\n

* @param element Element for which the injection tokens should be retrieved.\n */\n function getInjectionTokens(element) {\n var context = loadLContext(element, false);\n if (context === null)\n return [];\n var lView = context.lView;\n var tView = lView[TVIEW];\n var tNode = tView.data[context.nodeIndex];\n var providerTokens = [];\n var startIndex = tNode.providerIndexes & 1048575 /* ProvidersStartIndexMask */;\n var endIndex = tNode.directiveEnd;\n for (var i = startIndex; i < endIndex; i++) {\n var value = tView.data[i];\n if (isDirectiveDefHack(value)) {\n // The fact that we sometimes store Type and sometimes DirectiveDef in this location is a\n // design flaw. We should always store same type so that we can be monomorphic. The issue\n // is that for Components/Directives we store the def instead the type. The correct behavior\n // is that we should always be storing injectable type in this location.\n value = value.type;\n }\n providerTokens.push(value);\n }\n return providerTokens;\n }\n /**\n * Retrieves directive instances associated with a given DOM element. Does not include\n * component instances.\n *\n * @usageNotes\n * Given the following DOM structure:\n * ```\n * <my-app>\n * <button my-button></button>\n * <my-comp></my-comp>\n * </my-app>\n * ```\n * Calling `getDirectives` on `<button>` will return an array with an instance of the `MyButton`\n * directive that is associated with the DOM element.\n *\n * Calling `getDirectives` on `<my-comp>` will return an empty array.\n *\n * @param element DOM element for which to get the directives.\n * @returns Array of directives associated with the element.\n *\n * @publicApi\n * @globalApi ng\n */\n function getDirectives(element) {\n var context = loadLContext(element);\n if (context.directives === undefined) {\n context.directives = getDirectivesAtNodeIndex(context.nodeIndex, context.lView, false);\n }\n // The `directives` in this case are a named array called `LComponentView`. Clone the\n // result so we

don't expose an internal data structure in the user's console.\n return context.directives === null ? [] : __spread(context.directives);\n }\n function loadLContext(target, throwOnNotFound) {\n if (throwOnNotFound === void 0) { throwOnNotFound = true; }\n var context = getLContext(target);\n if (!context && throwOnNotFound) {\n throw new Error(ngDevMode ? \"Unable to find context associated with \" + stringifyForError(target) :\n 'Invalid ng target');\n }\n return context;\n }\n /**\n * Retrieve map of local references.\n *\n * The references
are retrieved as a map of local reference name to element or directive instance.\n *\n * @param target DOM element, component or directive instance for which to retrieve\n * the local references.\n */\n function getLocalRefs(target) {\n var context = loadLContext(target, false);\n if (context === null)\n return {};\n if (context.localRefs === undefined) {\n context.localRefs = discoverLocalRefs(context.lView, context.nodeIndex);\n }\n return context.localRefs || {};\n }\n /**\n * Retrieves the host element of a component or directive instance.\n * The host element is the DOM element that matched the selector of the directive.\n *\n * @param componentOrDirective Component or directive instance for which the host\n * element should be retrieved.\n * @returns Host element of the target.\n *\n * @publicApi\n * @globalApi ng\n */\n function getHostElement(componentOrDirective)
{\n return getLContext(componentOrDirective).native;\n }\n /**\n * Retrieves the rendered text for a given component.\n *\n * This function retrieves the host element of a component and\n * and then returns the `textContent` for that element. This implies\n * that the text returned will include re-projected content of\n * the component as well.\n *\n * @param component The component to return the content text for.\n */\n function getRenderedText(component) {\n var hostElement = getHostElement(component);\n return hostElement.textContent || '';\n }\n function loadLContextFromNode(node) {\n if (!(node instanceof Node))\n throw new Error('Expecting instance of DOM Element');\n return loadLContext(node);\n }\n /**\n * Retrieves a list of event listeners associated with a DOM element. The list does include host\n * listeners, but it does not include event listeners
defined outside of the Angular context\n * (e.g. through `addEventListener`).\n *\n * @usageNotes\n * Given the following DOM structure:\n * ```\n * <my-app>\n * <div (click)=\"doSomething()\"></div>\n * </my-app>\n *\n * ```\n * Calling `getListeners` on `<div>` will return an object that looks as follows:\n * ```\n * {\n * name: 'click',\n * element: <div>,\n * callback: () => doSomething(),\n * useCapture: false\n * }\n * ```\n *\n * @param element Element for which the DOM listeners should be retrieved.\n * @returns Array of event listeners on the DOM element.\n *\n * @publicApi\n * @globalApi ng\n */\n function getListeners(element) {\n assertDomElement(element);\n var lContext = loadLContext(element, false);\n if (lContext === null)\n return [];\n var lView = lContext.lView;\n var tView = lView[TVIEW];\n
var lCleanup = lView[CLEANUP];\n var tCleanup = tView.cleanup;\n var listeners = [];\n if (tCleanup && lCleanup) {\n for (var i = 0; i < tCleanup.length;) {\n var firstParam = tCleanup[i++];\n var secondParam = tCleanup[i++];\n if (typeof firstParam === 'string') {\n var name = firstParam;\n var listenerElement = unwrapRNode(lView[secondParam]);\n var callback = lCleanup[tCleanup[i++]];\n var useCaptureOrIndx = tCleanup[i++];\n // if useCaptureOrIndx is boolean then report it as is.\n // if useCaptureOrIndx is positive number then it in unsubscribe method\n // if useCaptureOrIndx is negative number then it is a Subscription\n var type = (typeof useCaptureOrIndx === 'boolean' || useCaptureOrIndx >= 0) ? 'dom' : 'output';\n var useCapture = typeof
useCaptureOrIndx === 'boolean' ? useCaptureOrIndx : false;\n if (element == listenerElement) {\n listeners.push({ element: element, name: name, callback: callback, useCapture: useCapture, type: type });\n }\n }\n }\n }\n listeners.sort(sortListeners);\n return listeners;\n }\n function sortListeners(a, b) {\n if (a.name == b.name)\n return 0;\n return a.name < b.name ? -1 : 1;\n }\n /**\n * This function should not exist because it is megamorphic and only mostly correct.\n *\n * See call site for more info.\n */\n function isDirectiveDefHack(obj) {\n return obj.type !== undefined &&

obj.template !== undefined && obj.declaredInputs !== undefined;\n }\n /**\n * Returns the attached `DebugNode` instance for an element in the DOM.\n *\n * @param element DOM element which is owned by an existing component's
view.\n */\n function getDebugNode(element) {\n var debugNode = null;\n var lContext = loadLContextFromNode(element);\n var lView = lContext.lView;\n var nodeIndex = lContext.nodeIndex;\n if (nodeIndex !== -1) {\n var valueInLView = lView[nodeIndex];\n // this means that value in the lView is a component with its own\n // data. In this situation the TNode is not accessed at the same spot.\n var tNode = isLView(valueInLView) ? valueInLView[T_HOST] : getTNode(lView[TVIEW], nodeIndex);\n ngDevMode &&\n assertEqual(tNode.index, nodeIndex, 'Expecting that TNode at index is same as index');\n debugNode = buildDebugNode(tNode, lView);\n }\n return debugNode;\n }\n /**\n * Retrieve the component `LView` from component/element.\n *\n * NOTE: `LView` is a private and should not be leaked outside.\n * Don't export this method
to `ng.*` on window.\n *\n * @param target DOM element or component instance for which to retrieve the LView.\n */\n function getComponentLView(target) {\n var lContext = loadLContext(target);\n var nodeIndx = lContext.nodeIndex;\n var lView = lContext.lView;\n var componentLView = lView[nodeIndx];\n ngDevMode && assertLView(componentLView);\n return componentLView;\n }\n /** Asserts that a value is a DOM Element. */\n function assertDomElement(value) {\n if (typeof Element !== 'undefined' && !(value instanceof Element)) {\n throw new Error('Expecting instance of DOM Element');\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Marks a component for check (in case of OnPush components) and synchronously\n * performs change detection on the application this component belongs to.\n *\n * @param component Component to {@link ChangeDetectorRef#markForCheck mark for check}.\n *\n * @publicApi\n * @globalApi ng\n */\n function applyChanges(component) {\n markDirty(component);\n getRootComponents(component).forEach(function (rootComponent) { return detectChanges(rootComponent); });\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * This file introduces series of globally accessible debug tools\n * to allow for the Angular debugging story to function.\n *\n * To see this in action run the following command:\n *\n * bazel run --config=ivy\n * //packages/core/test/bundling/todo:devserver\n *\n * Then load `localhost:5432` and start using the console tools.\n */\n /**\n * This value reflects the property on the window where the dev\n * tools are patched (window.ng).\n * */\n var GLOBAL_PUBLISH_EXPANDO_KEY = 'ng';\n var _published = false;\n /**\n * Publishes a collection of default debug tools onto`window.ng`.\n *\n * These functions are available globally when Angular is in development\n * mode and are automatically stripped away from prod mode is on.\n */\n function publishDefaultGlobalUtils() {\n if (!_published) {\n _published = true;\n publishGlobalUtil('getComponent', getComponent);\n publishGlobalUtil('getContext', getContext);\n publishGlobalUtil('getListeners', getListeners);\n publishGlobalUtil('getOwningComponent', getOwningComponent);\n publishGlobalUtil('getHostElement', getHostElement);\n publishGlobalUtil('getInjector',
getInjector);\n publishGlobalUtil('getRootComponents', getRootComponents);\n publishGlobalUtil('getDirectives', getDirectives);\n publishGlobalUtil('applyChanges', applyChanges);\n }\n }\n /**\n * Publishes the given function to `window.ng` so that it can be\n * used from the browser console when an application is not in production.\n */\n function publishGlobalUtil(name, fn) {\n if (typeof COMPILED === 'undefined' || !COMPILED) {\n // Note: we can't export `ng` when using closure enhanced optimization as:\n // - closure declares globals itself for minified names, which sometimes clobber our `ng` global\n // - we can't declare a closure extern as the namespace `ng` is already used within Google\n // for typings for AngularJS (via `goog.provide('ng....')`).\n var w = _global;\n ngDevMode &&

```
assertDefined(fn, 'function not defined');\n            if (w)
 {\n                var container = w[GLOBAL_PUBLISH_EXPANDO_KEY];\n                if (!container) {\n
container = w[GLOBAL_PUBLISH_EXPANDO_KEY] = {};\n                }\n                container[name] = fn;\n
 }\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of
this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    var 0$7 = function (token, notFoundValue) {\n
throwProviderNotFoundError(token, 'NullInjector');\n    };\n    // TODO: A hack to not pull in the NullInjector from
@angular/core.\n    var NULL_INJECTOR$1 = {\n        get: 0$7\n    };\n    /**\n     * Bootstraps a Component into
an existing host element and returns an instance\n     * of the component.\n     *\n     * Use this function to bootstrap
a component into the DOM tree. Each invocation\n     * of this function will create a
 separate tree of components, injectors and\n     * change detection cycles and lifetimes. To dynamically insert a new
component\n     * into an existing tree such that it shares the same injection, change detection\n     * and object
lifetime, use {@link ViewContainer#createComponent}.\n     *\n     * @param componentType Component to
bootstrap\n     * @param options Optional parameters which control bootstrapping\n     */\n    function
renderComponent$1(componentType /* Type as workaround for: Microsoft/TypeScript/issues/4881 */, opts) {\n
if (opts === void 0) { opts = {}; }\n        ngDevMode && publishDefaultGlobalUtils();\n        ngDevMode &&
assertComponentType(componentType);\n        var rendererFactory = opts.rendererFactory ||
domRendererFactory3;\n        var sanitizer = opts.sanitizer || null;\n        var componentDef =
getComponentDef(componentType);\n        if (componentDef.type != componentType)\n            componentDef.type
= componentType;\n        // The first
 index of the first selector is the tag name.\n        var componentTag = componentDef.selectors[0][0];\n        var
hostRenderer = rendererFactory.createRenderer(null, null);\n        var hostRNode =
locateHostElement(hostRenderer, opts.host || componentTag, componentDef.encapsulation);\n        var rootFlags =
componentDef.onPush ? 64 /* Dirty */ | 512 /* IsRoot */ :\n            16 /* CheckAlways */ | 512 /* IsRoot */;\n
var rootContext = createRootContext(opts.scheduler, opts.playerHandler);\n        var renderer =
rendererFactory.createRenderer(hostRNode, componentDef);\n        var rootTView = createTView(0 /* Root */,
null, null, 1, 0, null, null, null, null, null);\n        var rootView = createLView(null, rootTView, rootContext,
rootFlags, null, null, rendererFactory, renderer, null, opts.injector || null);\n        enterView(rootView);\n        var
component;\n        try {\n            if (rendererFactory.begin)\n                rendererFactory.begin();\n
 var componentView = createRootComponentView(hostRNode, componentDef, rootView, rendererFactory,
renderer, sanitizer);\n            component = createRootComponent(componentView, componentDef, rootView,
rootContext, opts.hostFeatures || null);\n            // create mode pass\n            renderView(rootTView, rootView,
null);\n            // update mode pass\n            refreshView(rootTView, rootView, null, null);\n        }\n        finally {\n
            leaveView();\n            if (rendererFactory.end)\n                rendererFactory.end();\n        }\n        return
component;\n    }\n    /**\n     * Creates the root component view and the root component node.\n     *\n     *
@param rNode Render host element.\n     * @param def ComponentDef\n     * @param rootView The parent view
where the host node is stored\n     * @param rendererFactory Factory to be used for creating child renderers.\n     *
@param hostRenderer The current renderer\n     * @param sanitizer The sanitizer, if
 provided\n     *\n     * @returns Component view created\n     */\n    function createRootComponentView(rNode,
def, rootView, rendererFactory, hostRenderer, sanitizer) {\n        var tView = rootView[TVIEW];\n        var index =
HEADER_OFFSET;\n        ngDevMode && assertIndexInRange(rootView, index);\n        rootView[index] =
rNode;\n        // '#host' is added here as we don't know the real host DOM name (we don't want to read it) and at\n
 // the same time we want to communicate the the debug `TNode` that this is a special `TNode`\n        // representing
a host element.\n        var tNode = getOrCreateTNode(tView, index, 2 /* Element */, '#host', null);\n        var
mergedAttrs = tNode.mergedAttrs = def.hostAttrs;\n        if (mergedAttrs !== null) {\n
computeStaticStyling(tNode, mergedAttrs, true);\n            if (rNode !== null) {\n
setUpAttributes(hostRenderer, rNode, mergedAttrs);\n                if (tNode.classes !== null) {\n
```

writeDirectClass(hostRenderer, rNode, tNode.classes);\n }\n if (tNode.styles !== null) {\n writeDirectStyle(hostRenderer, rNode, tNode.styles);\n }\n }\n }\n var viewRenderer = rendererFactory.createRenderer(rNode, def);\n var componentView = createLView(rootView, getOrCreateTComponentView(def), null, def.onPush ? 64 /* Dirty */ : 16 /* CheckAlways */, rootView[index], tNode, rendererFactory, viewRenderer, sanitizer || null, null);\n if (tView.firstCreatePass) {\n diPublicInInjector(getOrCreateNodeInjectorForNode(tNode, rootView), tView, def.type);\n markAsComponentHost(tView, tNode);\n initTNodeFlags(tNode, rootView.length, 1);\n }\n addToViewTree(rootView, componentView);\n // Store component view at node index, with node as the HOST\n return rootView[index] = componentView;\n }\n /**\n * Creates a root component and sets it up with features and host bindings. Shared by\n * renderComponent() and ViewContainerRef.createComponent().\n */\n function createRootComponent(componentView, componentDef, rootLView, rootContext, hostFeatures) {\n var tView = rootLView[TVIEW];\n // Create directive instance with factory() and store at next index in viewData\n var component = instantiateRootComponent(tView, rootLView, componentDef);\n rootContext.components.push(component);\n componentView[CONTEXT] = component;\n hostFeatures && hostFeatures.forEach(function (feature) { return feature(component, componentDef); });\n // We want to generate an empty QueryList for root content queries for backwards\n // compatibility with ViewEngine.\n if (componentDef.contentQueries) {\n var tNode = getCurrentTNode();\n ngDevMode && assertDefined(tNode, 'TNode expected');\n componentDef.contentQueries(1 /* Create */, component, tNode.directiveStart);\n }\n var rootTNode = getCurrentTNode();\n ngDevMode && assertDefined(rootTNode, 'tNode should have been already created');\n if (tView.firstCreatePass &&\n (componentDef.hostBindings !== null || componentDef.hostAttrs !== null)) {\n setSelectedIndex(rootTNode.index);\n var rootTView = rootLView[TVIEW];\n registerHostBindingOpCodes(rootTView, rootTNode, rootLView, rootTNode.directiveStart, rootTNode.directiveEnd, componentDef);\n invokeHostBindingsInCreationMode(componentDef, component);\n }\n return component;\n }\n function createRootContext(scheduler, playerHandler) {\n return {\n components: [],\n scheduler: scheduler || defaultScheduler,\n clean: CLEAN_PROMISE,\n playerHandler: playerHandler || null,\n flags: 0 /* Empty */\n };\n }\n /**\n * Used to enable lifecycle hooks on the root component.\n *\n * Include this feature when calling `renderComponent` if the root component\n * you are rendering has lifecycle hooks defined. Otherwise, the hooks won't\n * be called properly.\n *\n * Example:\n *\n * ```\n * renderComponent(AppComponent, {hostFeatures: [LifecycleHooksFeature]});\n * ```\n */\n function LifecycleHooksFeature(component, def) {\n var lView = readPatchedLView(component);\n ngDevMode && assertDefined(lView, 'LView is required');\n var tView = lView[TVIEW];\n var tNode = getCurrentTNode();\n ngDevMode && assertDefined(tNode, 'TNode is required');\n registerPostOrderHooks(tView, tNode);\n }\n /**\n * Wait on component until it is rendered.\n *\n * This function returns a `Promise` which is resolved when the component's\n * change detection is executed. This is determined by finding the scheduler\n * associated with the `component`'s render tree and waiting until the scheduler\n * flushes. If nothing is scheduled, the function returns a resolved promise.\n *\n * Example:\n * ```\n * await whenRendered(myComponent);\n * ```\n *\n * @param component Component to wait upon\n * @returns Promise which resolves when the component is rendered.\n */\n function whenRendered(component) {\n return getRootContext(component).clean;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function getSuperType(type) {\n return Object.getPrototypeOf(type.prototype).constructor;\n }\n /**\n * Merges the definition from a super class to a sub class.\n * @param definition The definition that is a SubClass of another directive of component\n *\n * @codeGenApi\n

```
*/\n    function InheritDefinitionFeature(definition) {\n        var superType = getSuperType(definition.type);\n
var shouldInheritFields = true;\n        var inheritanceChain = [definition];\n        while (superType) {\n            var
superDef = undefined;\n            if (isComponentDef(definition)) {\n                // Don't use
getComponentDef/getDirectiveDef. This logic relies on inheritance.\n                superDef = superType.cmp ||
superType.dir;\n            }\n            else {\n                if (superType.cmp) {\n                    throw new Error('Directives
cannot inherit Components');\n                }\n                // Don't use getComponentDef/getDirectiveDef. This logic
relies on inheritance.\n                superDef = superType.dir;\n            }\n            if (superDef) {\n                if
(shouldInheritFields) {\n                    inheritanceChain.push(superDef);\n                    // Some fields in the definition
may be
 empty, if there were no values to put in them that\n                    // would've justified object creation. Unwrap them if
necessary.\n                    var writeableDef = definition;\n                    writeableDef.inputs =
maybeUnwrapEmpty(definition.inputs);\n                    writeableDef.declaredInputs =
maybeUnwrapEmpty(definition.declaredInputs);\n                    writeableDef.outputs =
maybeUnwrapEmpty(definition.outputs);\n                    // Merge hostBindings\n                    var superHostBindings
= superDef.hostBindings;\n                    superHostBindings && inheritHostBindings(definition,
superHostBindings);\n                    // Merge queries\n                    var superViewQuery = superDef.viewQuery;\n
                    var superContentQueries = superDef.contentQueries;\n                    superViewQuery &&
inheritViewQuery(definition, superViewQuery);\n                    superContentQueries &&
inheritContentQueries(definition, superContentQueries);\n
                    // Merge inputs and outputs\n                    fillProperties(definition.inputs, superDef.inputs);\n
fillProperties(definition.declaredInputs, superDef.declaredInputs);\n                    fillProperties(definition.outputs,
superDef.outputs);\n                    // Merge animations metadata.\n                    // If `superDef` is a Component, the
`data` field is present (defaults to an empty object).\n                    if (isComponentDef(superDef) &&
superDef.data.animation) {\n                        // If super def is a Component, the `definition` is also a Component,
since Directives can\n                        // not inherit Components (we throw an error above and cannot reach this
code).\n                        var defData = definition.data;\n                        defData.animation = (defData.animation ||
[]).concat(superDef.data.animation);\n                    }\n                }\n                // Run parent features\n
                    var features = superDef.features;\n                    if (features) {\n                        for (var i = 0; i < features.length;
i++) {\n                            var feature = features[i];\n                            if (feature && feature.ngInherit) {\n
 feature(definition);\n                            }\n                            // If `InheritDefinitionFeature` is a part of the current
`superDef`, it means that this\n                            // def already has all the necessary information inherited from its super
class(es), so we\n                            // can stop merging fields from super classes. However we need to iterate through
the\n                            // prototype chain to look for classes that might contain other \"features\" (like\n                            //
NgOnChanges), which we should invoke for the original `definition`. We set the\n                            //
`shouldInheritFields` flag to indicate that, essentially skipping fields inheritance\n
                            // logic and only invoking functions from the \"features\" list.\n                            if (feature ===
InheritDefinitionFeature) {\n                                shouldInheritFields = false;\n                            }\n                        }\n
  }\n            }\n            superType = Object.getPrototypeOf(superType);\n        }\n
mergeHostAttrsAcrossInheritance(inheritanceChain);\n    }\n    /**\n     * Merge the `hostAttrs` and `hostVars` from
the inherited parent to the base class.\n     *\n     * @param inheritanceChain A list of `WritableDefs` starting at the
top most type and listing\n     * sub-types in order. For each type take the `hostAttrs` and `hostVars` and merge it
with the child\n     * type.\n     */\n    function mergeHostAttrsAcrossInheritance(inheritanceChain) {\n        var
hostVars = 0;\n        var hostAttrs = null;\n        // We process the inheritance order from the base to the leaves
here.\n        for
 (var i = inheritanceChain.length - 1; i >= 0; i--) {\n            var def = inheritanceChain[i];\n            // For each
`hostVars`, we need to add the superclass amount.\n            def.hostVars = (hostVars += def.hostVars);\n            //
for each `hostAttrs` we need to merge it with superclass.\n            def.hostAttrs =\n
mergeHostAttrs(def.hostAttrs, hostAttrs = mergeHostAttrs(hostAttrs, def.hostAttrs));\n        }\n    }\n    function
```

```
maybeUnwrapEmpty(value) {\n        if (value === EMPTY_OBJ) {\n            return {};\n        }\n        else if (value
=== EMPTY_ARRAY) {\n            return [];\n        }\n        else {\n            return value;\n        }\n    }\n    function
inheritViewQuery(definition, superViewQuery) {\n        var prevViewQuery = definition.viewQuery;\n        if
(prevViewQuery) {\n            definition.viewQuery = function (rf, ctx) {\n                superViewQuery(rf, ctx);\n
    prevViewQuery(rf, ctx);\n            };\n
        }\n        else {\n            definition.viewQuery = superViewQuery;\n        }\n    }\n    function
inheritContentQueries(definition, superContentQueries) {\n        var prevContentQueries =
definition.contentQueries;\n        if (prevContentQueries) {\n            definition.contentQueries = function (rf, ctx,
directiveIndex) {\n                superContentQueries(rf, ctx, directiveIndex);\n                prevContentQueries(rf, ctx,
directiveIndex);\n            };\n        }\n        else {\n            definition.contentQueries = superContentQueries;\n
}\n    }\n    function inheritHostBindings(definition, superHostBindings) {\n        var prevHostBindings =
definition.hostBindings;\n        if (prevHostBindings) {\n            definition.hostBindings = function (rf, ctx) {\n
    superHostBindings(rf, ctx);\n                prevHostBindings(rf, ctx);\n            };\n        }\n        else {\n
definition.hostBindings = superHostBindings;\n
    }\n    }\n\n    /**\n     * Fields which exist on either directive or component definitions, and need to be copied
from\n     * parent to child classes by the `CopyDefinitionFeature`.\n     */\n    var COPY_DIRECTIVE_FIELDS =
[\n        // The child class should use the providers of its parent.\n        'providersResolver',\n    ];\n    /**\n     * Fields
which exist only on component definitions, and need to be copied from parent to child\n     * classes by the
`CopyDefinitionFeature`.\n     *\n     * The type here allows any field of `ComponentDef` which is not also a
property of `DirectiveDef`,\n     * since those should go in `COPY_DIRECTIVE_FIELDS` above.\n     */\n    var
COPY_COMPONENT_FIELDS = [\n        // The child class should use the template function of its parent,
including all template\n        // semantics.\n        'template',\n        'decls',\n        'consts',\n        'vars',\n
'onPush',\n        'ngContentSelectors',\n        // The child class should
 use the CSS styles of its parent, including all styling semantics.\n        'styles',\n        'encapsulation',\n        // The
child class should be checked by the runtime in the same way as its parent.\n        'schemas',\n    ];\n    /**\n     *
Copies the fields not handled by the `InheritDefinitionFeature` from the supertype of a\n     * definition.\n     *\n     *
This exists primarily to support ngcc migration of an existing View Engine pattern, where an\n     * entire decorator
is inherited from a parent to a child class. When ngcc detects this case, it\n     * generates a skeleton definition on the
child class, and applies this feature.\n     *\n     * The `CopyDefinitionFeature` then copies any needed fields from
the parent class' definition,\n     * including things like the component template function.\n     *\n     * @param
definition The definition of a child class which inherits from a parent class with its\n     * own definition.\n     *\n
* @codeGenApi\n
    */\n    function CopyDefinitionFeature(definition) {\n        var e_1, _a, e_2, _b;\n        var superType =
getSuperType(definition.type);\n        var superDef = undefined;\n        if (isComponentDef(definition)) {\n            //
Don't use getComponentDef/getDirectiveDef. This logic relies on inheritance.\n            superDef =
superType.cmp;\n        }\n        else {\n            // Don't use getComponentDef/getDirectiveDef. This logic relies on
inheritance.\n            superDef = superType.dir;\n        }\n        // Needed because `definition` fields are readonly.\n
   var defAny = definition;\n        try {\n            // Copy over any fields that apply to either directives or
components.\n            for (var COPY_DIRECTIVE_FIELDS_1 = __values(COPY_DIRECTIVE_FIELDS),
COPY_DIRECTIVE_FIELDS_1_1 = COPY_DIRECTIVE_FIELDS_1.next();
!COPY_DIRECTIVE_FIELDS_1_1.done; COPY_DIRECTIVE_FIELDS_1_1 =
COPY_DIRECTIVE_FIELDS_1.next()) {\n                var field = COPY_DIRECTIVE_FIELDS_1_1.value;\n
            defAny[field] = superDef[field];\n            }\n        }\n        catch (e_1_1) { e_1 = { error: e_1_1 }; }\n
finally {\n            try {\n                if (COPY_DIRECTIVE_FIELDS_1_1 &&
!COPY_DIRECTIVE_FIELDS_1_1.done && (_a = COPY_DIRECTIVE_FIELDS_1.return))
_a.call(COPY_DIRECTIVE_FIELDS_1);\n            }\n            finally { if (e_1) throw e_1.error; }\n        }\n        if
(isComponentDef(superDef)) {\n            try {\n                // Copy over any component-specific fields.\n                for
(var COPY_COMPONENT_FIELDS_1 = __values(COPY_COMPONENT_FIELDS),
```

```
COPY_COMPONENT_FIELDS_1_1 = COPY_COMPONENT_FIELDS_1.next();
!COPY_COMPONENT_FIELDS_1_1.done; COPY_COMPONENT_FIELDS_1_1 =
COPY_COMPONENT_FIELDS_1.next()) {\n                var field =
COPY_COMPONENT_FIELDS_1_1.value;\n                defAny[field] = superDef[field];\n            }\n
}\n        catch (e_2_1) { e_2 = { error: e_2_1 }; }\n
  finally {\n            try {\n                if (COPY_COMPONENT_FIELDS_1_1 &&
!COPY_COMPONENT_FIELDS_1_1.done && (_b = COPY_COMPONENT_FIELDS_1.return))
_b.call(COPY_COMPONENT_FIELDS_1);\n            }\n            finally { if (e_2) throw e_2.error; }\n
}\n    }\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this
source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\nvar _symbolIterator = null;\nfunction getSymbolIterator() {\n    if
(!_symbolIterator) {\n        var Symbol = _global['Symbol'];\n        if (Symbol && Symbol.iterator) {\n
_symbolIterator = Symbol.iterator;\n        }\n        else {\n            // es6-shim specific logic\n            var
keys = Object.getOwnPropertyNames(Map.prototype);\n            for (var i = 0; i < keys.length; ++i) {\n
            var key = keys[i];\n                if (key !== 'entries' && key !== 'size' &&\n
Map.prototype[key] === Map.prototype['entries']) {\n                    _symbolIterator = key;\n                }\n
  }\n        }\n    }\n    return _symbolIterator;\n}\n\n/**\n * @license\n * Copyright Google LLC
All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n *
found in the LICENSE file at https://angular.io/license\n */\nfunction devModeEqual(a, b) {\n    var
isListLikeIterableA = isListLikeIterable(a);\n    var isListLikeIterableB = isListLikeIterable(b);\n    if
(isListLikeIterableA && isListLikeIterableB) {\n        return areIterablesEqual(a, b, devModeEqual);\n    }\n
else {\n        var isAObject = a && (typeof a === 'object' || typeof a === 'function');\n        var isBObject = b
&& (typeof b ===
'object' || typeof b === 'function');\n        if (!isListLikeIterableA && isAObject && !isListLikeIterableB &&
isBObject) {\n            return true;\n        }\n        else {\n            return Object.is(a, b);\n        }\n    }\n
}\n/**\n * Indicates that the result of a {@link Pipe} transformation has changed even though the\n *
reference has not changed.\n *\n * Wrapped values are unwrapped automatically during the change detection,
and the unwrapped value\n * is stored.\n *\n * Example:\n *\n * ```\n * if (this._latestValue ===
this._latestReturnedValue) {\n *    return this._latestReturnedValue;\n *  } else {\n *
this._latestReturnedValue = this._latestValue;\n *    return WrappedValue.wrap(this._latestValue); // this will
force update\n *  }\n * ```\n *\n * @publicApi\n * @deprecated from v10 stop using. (No replacement,
deemed unnecessary.)\n */\nvar WrappedValue
= /** @class */ (function () {\n    function WrappedValue(value) {\n        this.wrapped = value;\n    }\n
/** Creates a wrapped value. */\n    WrappedValue.wrap = function (value) {\n        return new
WrappedValue(value);\n    };\n    /**\n     * Returns the underlying value of a wrapped value.\n     *
Returns the given `value` when it is not wrapped.\n     **/\n    WrappedValue.unwrap = function (value) {\n
  return WrappedValue.isWrapped(value) ? value.wrapped : value;\n    };\n    /** Returns true if `value` is a
wrapped value. */\n    WrappedValue.isWrapped = function (value) {\n        return value instanceof
WrappedValue;\n    };\n    return WrappedValue;\n}());\nfunction isListLikeIterable(obj) {\n    if
(!isJsObject(obj))\n        return false;\n    return Array.isArray(obj) ||\n        (!(obj instanceof Map) && // JS
Map are iterables but return entries as [k,
v]\n        getSymbolIterator() in obj); // JS Iterable have a Symbol.iterator prop\n}\nfunction
areIterablesEqual(a, b, comparator) {\n    var iterator1 = a[getSymbolIterator()]();\n    var iterator2 =
b[getSymbolIterator()]();\n    while (true) {\n        var item1 = iterator1.next();\n        var item2 =
iterator2.next();\n        if (item1.done && item2.done)\n            return true;\n        if (item1.done ||
item2.done)\n            return false;\n        if (!comparator(item1.value, item2.value))\n            return false;\n
}\n}\nfunction iterateListLike(obj, fn) {\n    if (Array.isArray(obj)) {\n        for (var i = 0; i < obj.length;
i++) {\n            fn(obj[i]);\n        }\n    }\n    else {\n        var iterator = obj[getSymbolIterator()]();\n
```

```
var item = void 0;\n while (!((item = iterator.next()).done)) {\n fn(item.value);\n }\n }\n }\n function isJsObject(o) {\n return o !== null && (typeof o === 'function' || typeof o === 'object');\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // TODO(misko): consider inlining\n /** Updates binding and returns the value. */\n function updateBinding(lView, bindingIndex, value) {\n return lView[bindingIndex] = value;\n }\n /** Gets the current binding value. */\n function getBinding(lView, bindingIndex) {\n ngDevMode && assertIndexInRange(lView, bindingIndex);\n ngDevMode &&\n assertNotSame(lView[bindingIndex], NO_CHANGE, 'Stored value should never be NO_CHANGE.');\n return lView[bindingIndex];\n }\n /**\n * Updates binding if changed, then returns whether it was updated.\n *\n * This function also checks the `CheckNoChangesMode` and throws if changes are made.\n * Some changes (Objects/iterables) during `CheckNoChangesMode` are exempt to comply with VE\n * behavior.\n *\n * @param lView current `LView`\n * @param bindingIndex The binding in the `LView` to check\n * @param value New value to check against `lView[bindingIndex]`\n * @returns `true` if the bindings has changed. (Throws if binding has changed during\n * `CheckNoChangesMode`)\n */\n function bindingUpdated(lView, bindingIndex, value) {\n ngDevMode && assertNotSame(value, NO_CHANGE, 'Incoming value should never be NO_CHANGE.');\n ngDevMode &&\n assertLessThan(bindingIndex, lView.length, \"Slot should have been initialized to NO_CHANGE\");\n var oldValue = lView[bindingIndex];\n if (Object.is(oldValue, value)) {\n return false;\n }\n else {\n if (ngDevMode && isInCheckNoChangesMode()) {\n // View engine didn't report undefined values as changed on the first checkNoChanges pass\n // (before the change detection was run).\n var oldValueToCompare = oldValue !== NO_CHANGE ? oldValue : undefined;\n if (!devModeEqual(oldValueToCompare, value)) {\n var details = getExpressionChangedErrorDetails(lView, bindingIndex, oldValueToCompare, value);\n throwErrorIfNoChangesMode(oldValue === NO_CHANGE, details.oldValue, details.newValue, details.propName);\n }\n // There was a change, but the `devModeEqual` decided that the change is exempt from an error.\n // For this reason we exit as if no change. The early exit is needed to prevent the changed\n // value to be written into `LView` (If we would write the new value that we would not see it\n // as change on next CD.)\n return false;\n }\n lView[bindingIndex] = value;\n return true;\n }\n }\n /** Updates 2 bindings if changed, then returns whether either was updated. */\n function bindingUpdated2(lView, bindingIndex, exp1, exp2) {\n var different = bindingUpdated(lView, bindingIndex, exp1);\n return bindingUpdated(lView, bindingIndex + 1, exp2) || different;\n }\n /** Updates 3 bindings if changed, then returns whether any was updated. */\n function bindingUpdated3(lView, bindingIndex, exp1, exp2, exp3) {\n var different = bindingUpdated2(lView, bindingIndex, exp1, exp2);\n return bindingUpdated(lView, bindingIndex + 2, exp3) || different;\n }\n /** Updates 4 bindings if changed, then returns whether any was updated. */\n function bindingUpdated4(lView, bindingIndex, exp1, exp2, exp3, exp4) {\n var different = bindingUpdated2(lView, bindingIndex, exp1, exp2);\n return bindingUpdated2(lView, bindingIndex + 2, exp3, exp4) || different;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Updates the value of or removes a bound attribute on an Element.\n *\n * Used in the case of `[attr.title]=\"value\"`\n *\n * @param name name The name of the attribute.\n * @param value value The attribute is removed when value is `null` or `undefined`.\n * Otherwise the attribute value is set to the stringified value.\n * @param sanitizer An optional function used to sanitize the value.\n * @param namespace Optional namespace to use when setting the attribute.\n *\n * @codeGenApi\n */\n function attribute(name, value, sanitizer, namespace) {\n var lView = getLView();\n var bindingIndex = nextBindingIndex();\n if (bindingUpdated(lView, bindingIndex, value)) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, name, value, sanitizer, namespace);\n ngDevMode &&
```

```
storePropertyBindingMetadata(tView.data, tNode, 'attr.' + name, bindingIndex);\n    }\n    return attribute;\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n/**\n * Create interpolation bindings with a variable number of expressions.\n *\n * If there are 1 to 8 expressions `interpolation1()` to `interpolation8()` should be used instead.\n * Those are faster because there is no need to create an array of expressions and iterate over it.\n *\n * `values`:\n * - has static text at even indexes,\n * - has evaluated
 expressions at odd indexes.\n *\n * Returns the concatenated string when any of the arguments changes, `NO_CHANGE` otherwise.\n */\nfunction interpolationV(lView, values) {\n    ngDevMode && assertLessThan(2, values.length, 'should have at least 3 values');\n    ngDevMode && assertEqual(values.length % 2, 1, 'should have an odd number of values');\n    var isBindingUpdated = false;\n    var bindingIndex = getBindingIndex();\n    for (var i = 1; i < values.length; i += 2) {\n        // Check if bindings (odd indexes) have changed\n        isBindingUpdated = bindingUpdated(lView, bindingIndex++, values[i]) || isBindingUpdated;\n    }\n    setBindingIndex(bindingIndex);\n    if (!isBindingUpdated) {\n        return NO_CHANGE;\n    }\n
 // Build the updated content\n    var content = values[0];\n    for (var i = 1; i < values.length; i += 2) {\n        content += renderStringify(values[i]) + values[i + 1];\n
    }\n    return content;\n}\n/**\n * Creates an interpolation binding with 1 expression.\n *\n * @param prefix static value used for concatenation only.\n * @param v0 value checked for change.\n * @param suffix static value used for concatenation only.\n */\nfunction interpolation1(lView, prefix, v0, suffix) {\n    var different = bindingUpdated(lView, nextBindingIndex(), v0);\n    return different ? prefix + renderStringify(v0) + suffix : NO_CHANGE;\n}\n/**\n * Creates an interpolation binding with 2 expressions.\n */\nfunction interpolation2(lView, prefix, v0, i0, v1, suffix) {\n    var bindingIndex = getBindingIndex();\n    var different = bindingUpdated2(lView, bindingIndex, v0, v1);\n    incrementBindingIndex(2);\n    return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + suffix : NO_CHANGE;\n}\n/**\n * Creates an interpolation binding with 3 expressions.\n
 */\nfunction interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix) {\n    var bindingIndex = getBindingIndex();\n    var different = bindingUpdated3(lView, bindingIndex, v0, v1, v2);\n    incrementBindingIndex(3);\n    return different ?\n        prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 + renderStringify(v2) + suffix :\n        NO_CHANGE;\n}\n/**\n * Create an interpolation binding with 4 expressions.\n */\nfunction interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix) {\n    var bindingIndex = getBindingIndex();\n    var different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n
  incrementBindingIndex(4);\n    return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 +\n        renderStringify(v2) + i2 + renderStringify(v3) + suffix :\n        NO_CHANGE;\n}\n/**\n * Creates an interpolation binding with 5 expressions.\n */\n
 function interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix) {\n    var bindingIndex = getBindingIndex();\n    var different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n    different = bindingUpdated(lView, bindingIndex + 4, v4) || different;\n    incrementBindingIndex(5);\n    return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 +\n        renderStringify(v2) + i2 + renderStringify(v3) + i3 + renderStringify(v4) + suffix :\n        NO_CHANGE;\n}\n/**\n * Creates an interpolation binding with 6 expressions.\n */\nfunction interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix) {\n    var bindingIndex = getBindingIndex();\n    var different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n    different = bindingUpdated2(lView, bindingIndex + 4, v4, v5) || different;\n    incrementBindingIndex(6);\n    return different ?\n
    prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 + renderStringify(v2) + i2 +\n        renderStringify(v3) + i3 + renderStringify(v4) + i4 + renderStringify(v5) + suffix :\n        NO_CHANGE;\n}\n/**\n * Creates an interpolation binding with 7 expressions.\n */\nfunction interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix) {\n    var bindingIndex = getBindingIndex();\n    var different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n    different = bindingUpdated3(lView, bindingIndex +
```

```
4, v4, v5, v6) || different;\n incrementBindingIndex(7);\n return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 +\n renderStringify(v2) + i2 + renderStringify(v3) + i3 + renderStringify(v4) + i4 +\n renderStringify(v5) + i5 + renderStringify(v6) + suffix :\n NO_CHANGE;\n }\n /**\n * Creates an interpolation binding
 with 8 expressions.\n */\n function interpolation8(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix) {\n var bindingIndex = getBindingIndex();\n var different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n different = bindingUpdated4(lView, bindingIndex + 4, v4, v5, v6, v7) || different;\n incrementBindingIndex(8);\n return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 +\n renderStringify(v2) + i2 + renderStringify(v3) + i3 + renderStringify(v4) + i4 +\n renderStringify(v5) + i5 + renderStringify(v6) + i6 + renderStringify(v7) + suffix :\n NO_CHANGE;\n }\n\n /**\n *\n * Update an interpolated attribute on an element with single bound value surrounded by text.\n *\n * Used when the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}suffix\"></div>\n
 * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate1('title', 'prefix', v0, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolate1(attrName, prefix, v0, suffix, sanitizer, namespace) {\n var lView = getLView();\n var interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(getTView().data,
 tNode, 'attr.' + attrName, getBindingIndex() - 1, prefix, suffix);\n }\n return attributeInterpolate1;\n }\n /**\n *\n * Update an interpolated attribute on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate2('title', 'prefix', v0, '-', v1, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n
 * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolate2(attrName, prefix, v0, i0, v1, suffix, sanitizer, namespace) {\n var lView = getLView();\n var interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 2, prefix, i0, suffix);\n }\n return attributeInterpolate2;\n }\n /**\n *\n * Update an interpolated attribute on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to a property has 3 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}suffix\"></div>\n
 * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate3(\n * 'title', 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolate3(attrName, prefix, v0, i0, v1, i1, v2, suffix, sanitizer, namespace) {\n var lView = getLView();\n var interpolatedValue =
```

interpolation3(lView, prefix, v0, i0, v1,
i1, v2, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 3, prefix, i0, i1, suffix);\n }\n return attributeInterpolate3;\n }\n /**\n *\n * Update an interpolated attribute on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate4(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n
* @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolate4(attrName, prefix, v0, i0, v1, i1, v2, i2, v3, suffix, sanitizer, namespace) {\n var lView = getLView();\n var interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode,
lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 4, prefix, i0, i1, i2, suffix);\n }\n return attributeInterpolate4;\n }\n /**\n *\n * Update an interpolated attribute on an element with 5 bound values surrounded by text.\n *\n * Used when the value passed to a property has 5 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate5(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param
i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolate5(attrName, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix, sanitizer, namespace) {\n var lView = getLView();\n var interpolatedValue = interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode,
lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 5, prefix, i0, i1, i2, i3, suffix);\n }\n return attributeInterpolate5;\n }\n /**\n *\n * Update an interpolated attribute on an element with 6 bound values surrounded by text.\n *\n * Used when the value passed to a property has 6 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate6(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for
change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param

i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolate6(attrName, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix, sanitizer, namespace) {\n var lView = getLView();\n var interpolatedValue = interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5,
suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 6, prefix, i0, i1, i2, i3, i4, suffix);\n }\n return attributeInterpolate6;\n }\n /**\n *\n * Update an interpolated attribute on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate7(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n *\n
* @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolate7(attrName, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix, sanitizer, namespace) {\n var lView = getLView();\n var interpolatedValue = interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 7, prefix, i0, i1, i2, i3, i4, i5, suffix);\n }\n return attributeInterpolate7;\n }\n /**\n *\n * Update an interpolated attribute on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix\"> \n
* ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate8(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolate8(attrName, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix, sanitizer, namespace) {\n var lView = getLView();\n var interpolatedValue = interpolation8(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n

```
if (interpolatedValue !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 8, prefix, i0, i1, i2, i3, i4, i5, i6, suffix);\n }\n return attributeInterpolate8;\n }\n /**\n * Update an interpolated attribute on an element with 9 or more bound values surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n * title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolateV(\n * 'title', ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n * 'suffix']);\n * ```\n *\n * @param attrName The name of the attribute to update.\n * @param values The collection of values and the strings in-between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function attributeInterpolateV(attrName, values, sanitizer, namespace) {\n var lView = getLView();\n var interpolated = interpolationV(lView, values);\n if (interpolated !== NO_CHANGE) {\n var tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolated, sanitizer, namespace);\n if (ngDevMode) {\n var interpolationInBetween = [values[0]]; // prefix\n for (var i = 2; i < values.length; i += 2) {\n interpolationInBetween.push(values[i]);\n }\n storePropertyBindingMetadata.apply(void 0, __spread([getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - interpolationInBetween.length + 1], interpolationInBetween));\n }\n }\n return attributeInterpolateV;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function templateFirstCreatePass(index, tView, lView, templateFn, decls, vars, tagName, attrsIndex, localRefsIndex) {\n ngDevMode && assertFirstCreatePass(tView);\n ngDevMode && ngDevMode.firstCreatePass++;\n var tViewConsts = tView.consts;\n // TODO(pk): refactor getOrCreateTNode to have the \"create\" only version\n var tNode = getOrCreateTNode(tView, index, 4 /* Container */, tagName || null, getConstant(tViewConsts, attrsIndex));\n resolveDirectives(tView, lView, tNode, getConstant(tViewConsts, localRefsIndex));\n registerPostOrderHooks(tView, tNode);\n var embeddedTView = tNode.tViews = createTView(2 /* Embedded */, tNode, templateFn, decls, vars, tView.directiveRegistry, tView.pipeRegistry, null, tView.schemas, tViewConsts);\n if (tView.queries !== null) {\n tView.queries.template(tView, tNode);\n embeddedTView.queries = tView.queries.embeddedTView(tNode);\n }\n return tNode;\n }\n /**\n * Creates an LContainer for an ng-template (dynamically-inserted view), e.g.\n *\n * <ng-template #foo>\n * <div></div>\n * </ng-template>\n *\n * @param index The index of the container in the data array\n * @param templateFn Inline template\n * @param decls The number of nodes, local refs, and pipes for this template\n * @param vars The number of bindings for this template\n * @param tagName The name of the container element, if applicable\n * @param attrsIndex Index of template attributes in the `consts` array.\n * @param localRefs Index of the local references in the `consts` array.\n * @param localRefExtractor A function which extracts local-refs values from the template.\n * Defaults to the current element associated with the local-ref.\n *\n * @codeGenApi\n */\n function template(index, templateFn, decls, vars, tagName, attrsIndex, localRefsIndex, localRefExtractor) {\n var lView = getLView();\n var tView = getTView();\n var adjustedIndex = index + HEADER_OFFSET;\n var tNode = tView.firstCreatePass ? templateFirstCreatePass(adjustedIndex, tView, lView, templateFn, decls, vars, tagName, attrsIndex, localRefsIndex) :\n tView.data[adjustedIndex];\n setCurrentTNode(tNode, false);\n var comment = lView[RENDERER].createComment(ngDevMode ? 'container' : '');\n appendChild(tView, lView, comment, tNode);\n attachPatchData(comment, lView);\n addToViewTree(lView, lView[adjustedIndex] =
```

createLContainer(comment, lView, comment, tNode));\n if (isDirectiveHost(tNode)) {\n createDirectivesInstances(tView,
lView, tNode);\n }\n if (localRefsIndex != null) {\n saveResolvedLocalsInData(lView, tNode, localRefExtractor);\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /** Store a value in the `data` at a given `index`. */\n function store(tView, lView, index, value) {\n // We don't store any static data for local variables, so the first time\n // we see the template, we should store as null to avoid a sparse array\n if (index >= tView.data.length) {\n tView.data[index] = null;\n tView.blueprint[index] = null;\n }\n lView[index] = value;\n }\n /**\n * Retrieves a local reference from the current contextViewData.\n *\n * If the reference to retrieve is in a parent view, this
instruction is used in conjunction\n * with a nextContext() call, which walks up the tree and updates the contextViewData instance.\n *\n * @param index The index of the local ref in contextViewData.\n *\n * @codeGenApi\n */\n function reference(index) {\n var contextLView = getContextLView();\n return load(contextLView, HEADER_OFFSET + index);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A mapping of the @angular/core API surface used in generated expressions to the actual symbols.\n *\n * This should be kept up to date with the public exports of @angular/core.\n */\n var angularCoreDiEnv = {\n 'defineInjectable': defineInjectable,\n 'defineInjector': defineInjector,\n 'inject': inject,\n 'getFactoryOf': getFactoryOf,\n 'invalidFactoryDep': invalidFactoryDep,\n };\n function getFactoryOf(type) {\n var typeAny = type;\n if (isForwardRef(type)) {\n return (function () {\n var factory = getFactoryOf(resolveForwardRef(typeAny));\n return factory ? factory() : null;\n });\n }\n var def = getInjectableDef(typeAny) || getInjectorDef(typeAny);\n if (!def || def.factory === undefined) {\n return null;\n }\n return def.factory;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Compile an Angular injectable according to its `Injectable` metadata, and patch the resulting\n * injectable def (`prov`) onto the injectable type.\n */\n function compileInjectable(type, srcMeta) {\n var ngInjectableDef = null;\n var ngFactoryDef = null;\n // if NG_PROV_DEF is already defined on this class then don't overwrite it\n if (!type.hasOwnProperty(NG_PROV_DEF)) {\n Object.defineProperty(type, NG_PROV_DEF, {\n get: function () {\n if (ngInjectableDef === null) {\n ngInjectableDef = getCompilerFacade().compileInjectable(angularCoreDiEnv, \"ng:///\" + type.name + \"/\\u0275prov.js\", getInjectableMetadata(type, srcMeta));\n }\n return ngInjectableDef;\n },\n });\n }\n // if NG_FACTORY_DEF is already defined on this class then don't overwrite it\n if (!type.hasOwnProperty(NG_FACTORY_DEF)) {\n Object.defineProperty(type, NG_FACTORY_DEF, {\n get: function () {\n if (ngFactoryDef === null) {\n var metadata = getInjectableMetadata(type, srcMeta);\n var compiler = getCompilerFacade();\n ngFactoryDef = compiler.compileFactory(angularCoreDiEnv, \"ng:///\" + type.name + \"/\\u0275fac.js\", {\n name: metadata.name,\n type: metadata.type,\n typeArgumentCount: metadata.typeArgumentCount,\n deps: reflectDependencies(type),\n injectFn: 'inject',\n target: compiler.R3FactoryTarget.Injectable\n });\n }\n return ngFactoryDef;\n },\n // Leave this configurable so that the factories from directives or pipes can take precedence.\n configurable: true\n });\n }\n }\n var 0$8 = getClosureSafeProperty;\n var USE_VALUE$1 = getClosureSafeProperty({
provide: String, useValue: 0$8 });\n function isUseClassProvider(meta) {\n return meta.useClass !== undefined;\n }\n function isUseValueProvider(meta) {\n return USE_VALUE$1 in meta;\n }\n function

```
isUseFactoryProvider(meta) {\n        return meta.useFactory !== undefined;\n    }\n    function
isUseExistingProvider(meta) {\n        return meta.useExisting !== undefined;\n    }\n    function
getInjectableMetadata(type, srcMeta) {\n        // Allow the compilation of a class with a `@Injectable()` decorator
without parameters\n        var meta = srcMeta || { providedIn: null };\n        var compilerMeta = {\n            name:
type.name,\n            type: type,\n            typeArgumentCount: 0,\n            providedIn: meta.providedIn,\n
userDeps: undefined,\n        };\n        if ((isUseClassProvider(meta) || isUseFactoryProvider(meta)) && meta.deps
!== undefined) {\n            compilerMeta.userDeps = convertDependencies(meta.deps);\n
    }\n        if (isUseClassProvider(meta)) {\n            // The user explicitly specified useClass, and may or may not
have provided deps.\n            compilerMeta.useClass = resolveForwardRef(meta.useClass);\n        }\n        else if
(isUseValueProvider(meta)) {\n            // The user explicitly specified useValue.\n            compilerMeta.useValue =
resolveForwardRef(meta.useValue);\n        }\n        else if (isUseFactoryProvider(meta)) {\n            // The user
explicitly specified useFactory.\n            compilerMeta.useFactory = meta.useFactory;\n        }\n        else if
(isUseExistingProvider(meta)) {\n            // The user explicitly specified useExisting.\n
compilerMeta.useExisting = resolveForwardRef(meta.useExisting);\n        }\n        return compilerMeta;\n    }\n\n
var 0$9 = getClosureSafeProperty;\n    var USE_VALUE$2 = getClosureSafeProperty({ provide: String, useValue:
0$9 });\n    var EMPTY_ARRAY$2 = [];\n    function convertInjectableProviderToFactory(type,
 provider) {\n        if (!provider) {\n            var reflectionCapabilities = new ReflectionCapabilities();\n            var
deps_1 = reflectionCapabilities.parameters(type);\n            // TODO - convert to flags.\n            return function () {
return new (type.bind.apply(type, __spread([void 0], injectArgs(deps_1))))(); };\n        }\n        if (USE_VALUE$2
in provider) {\n            var valueProvider_1 = provider;\n            return function () { return
valueProvider_1.useValue; };\n        }\n        else if (provider.useExisting) {\n            var existingProvider_1 =
provider;\n            return function () { return inject(resolveForwardRef(existingProvider_1.useExisting)); };\n
    }\n        else if (provider.useFactory) {\n            var factoryProvider_1 = provider;\n            return function () { return
factoryProvider_1.useFactory.apply(factoryProvider_1, __spread(injectArgs(factoryProvider_1.deps ||
EMPTY_ARRAY$2))); };\n
  }\n        else if (provider.useClass) {\n            var classProvider_1 = provider;\n            var deps_2 =
provider.deps;\n            if (!deps_2) {\n                var reflectionCapabilities = new ReflectionCapabilities();\n
 deps_2 = reflectionCapabilities.parameters(type);\n            }\n            return function () {\n                var _a;\n
   return new ((_a = (resolveForwardRef(classProvider_1.useClass))).bind.apply(_a, __spread([void 0],
injectArgs(deps_2))))();\n            };\n        }\n        else {\n            var deps_3 = provider.deps;\n            if (!deps_3)
{\n                var reflectionCapabilities = new ReflectionCapabilities();\n                deps_3 =
reflectionCapabilities.parameters(type);\n            }\n            return function () { return new (type.bind.apply(type,
__spread([void 0], injectArgs(deps_3))))(); };\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC
All Rights Reserved.\n
  *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file
at https://angular.io/license\n     */\n    var 0$a = function (type, meta) { return
SWITCH_COMPILE_INJECTABLE(type, meta); };\n    /**\n     * Injectable decorator and metadata.\n     *\n     *
@Annotation\n     * @publicApi\n     */\n    var Injectable = makeDecorator('Injectable', undefined, undefined,
undefined, 0$a);\n    /**\n     * Supports @Injectable() in JIT mode for Render2.\n     */\n    function
render2CompileInjectable(injectableType, options) {\n        if (options && options.providedIn !== undefined &&
!getInjectableDef(injectableType)) {\n            injectableType.prov = defineInjectable({\n                token:
injectableType,\n                providedIn: options.providedIn,\n                factory:
convertInjectableProviderToFactory(injectableType, options),\n            });\n        }\n    }\n    var
SWITCH_COMPILE_INJECTABLE__POST_R3__ = compileInjectable;\n
   var SWITCH_COMPILE_INJECTABLE__PRE_R3__ = render2CompileInjectable;\n    var
SWITCH_COMPILE_INJECTABLE = SWITCH_COMPILE_INJECTABLE__PRE_R3__;\n\n    /**\n     *
@license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an
MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    function
```

findFirstClosedCycle(keys) {\n var res = [];\n for (var i = 0; i < keys.length; ++i) {\n if (res.indexOf(keys[i]) > -1) {\n res.push(keys[i]);\n return res;\n }\n res.push(keys[i]);\n }\n return res;\n }\n function constructResolvingPath(keys) {\n if (keys.length > 1) {\n var reversed = findFirstClosedCycle(keys.slice().reverse());\n var tokenStrs = reversed.map(function (k) { return stringify(k.token); });\n return ' (' + tokenStrs.join(' -> ') + ')';\n }\n return '';\n }\n function injectionError(injector, key, constructResolvingMessage, originalError) {\n var keys = [key];\n var errMsg = constructResolvingMessage(keys);\n var error = (originalError ? wrappedError(errMsg, originalError) : Error(errMsg));\n error.addKey = addKey;\n error.keys = keys;\n error.injectors = [injector];\n error.constructResolvingMessage = constructResolvingMessage;\n error[ERROR_ORIGINAL_ERROR] = originalError;\n return error;\n }\n function addKey(injector, key) {\n this.injectors.push(injector);\n this.keys.push(key);\n // Note: This updated message won't be reflected in the `.stack` property\n this.message = this.constructResolvingMessage(this.keys);\n }\n /**\n * Thrown when trying to retrieve a dependency by key from {@link Injector}, but the\n * {@link Injector} does not have a {@link Provider} for the given key.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class A {\n * constructor(b:B) {}\n * }\n *\n * expect(() => Injector.resolveAndCreate([A])).toThrowError();\n * ```\n */\n function noProviderError(injector, key) {\n return injectionError(injector, key, function (keys) {\n var first = stringify(keys[0].token);\n return \"No provider for \" + first + \"!\" + constructResolvingPath(keys);\n });\n }\n /**\n * Thrown when dependencies form a cycle.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * var injector = Injector.resolveAndCreate([\n * {provide: \"one\", useFactory: (two) => \"two\", deps: [[new Inject(\"two\")]]},\n * {provide: \"two\", useFactory: (one) => \"one\", deps: [[new Inject(\"one\")]]}\n * ]);\n *\n * expect(() => injector.get(\"one\")).toThrowError();\n * ```\n *\n * Retrieving `A` or `B` throws a `CyclicDependencyError` as the graph above cannot be constructed.\n */\n function cyclicDependencyError(injector, key) {\n return injectionError(injector, key, function (keys) {\n return \"Cannot instantiate cyclic dependency!\" + constructResolvingPath(keys);\n });\n }\n /**\n * Thrown when a constructing type returns with an Error.\n *\n * The `InstantiationError` class contains the original error plus the dependency graph which caused\n * this object to be instantiated.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class A {\n * constructor() {\n * throw new Error('message');\n * }\n * }\n *\n * var injector = Injector.resolveAndCreate([A]);\n\n * try {\n * injector.get(A);\n * } catch (e) {\n * expect(e instanceof InstantiationError).toBe(true);\n * expect(e.originalException.message).toEqual(\"message\");\n * expect(e.originalStack).toBeDefined();\n * }\n * ```\n */\n function instantiationError(injector, originalException, originalStack, key) {\n return injectionError(injector, key, function (keys) {\n var first = stringify(keys[0].token);\n return originalException.message + \": Error during instantiation of \" + first + \"!\" + constructResolvingPath(keys) + \".\";\n }, originalException);\n }\n /**\n * Thrown when an object other then {@link Provider} (or `Type`) is passed to {@link Injector}\n * creation.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * expect(() => Injector.resolveAndCreate([\"not a type\"])).toThrowError();\n * ```\n */\n function invalidProviderError(provider) {\n return Error(\"Invalid provider - only instances of Provider and Type are allowed, got: \" + provider);\n }\n /**\n * Thrown when the class has no annotation information.\n *\n * Lack of annotation information prevents the {@link Injector} from determining which dependencies\n * need to be injected into the constructor.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class A {\n * constructor(b) {}\n * }\n *\n * expect(() => Injector.resolveAndCreate([A])).toThrowError();\n * ```\n *\n * This error is also thrown when the class not marked with {@link Injectable} has parameter types.\n *\n * ```typescript\n * class B {}\n *\n * class A {\n * constructor(b:B) {} // no information about the parameter types of A is available at runtime.\n * }\n *\n * expect(() => Injector.resolveAndCreate([A,B])).toThrowError();\n * ```\n *\n */\n function

noAnnotationError(typeOrFunc, params) {\n var signature = [];\n for (var i = 0, ii = params.length; i < ii; i++) {\n var parameter = params[i];\n if (!parameter || parameter.length == 0) {\n signature.push('?');\n }\n else {\n signature.push(parameter.map(stringify).join(' '));\n }\n }\n return Error('Cannot resolve all parameters for \\'' + stringify(typeOrFunc) + '\\'(' +\n signature.join(', ') + '). ' +\n 'Make sure that all the parameters are decorated with Inject or have valid type annotations and that \\'' +\n stringify(typeOrFunc) + '\\' is decorated with Injectable.');\n }\n /**\n * Thrown when getting an object by index.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class A {}\n *\n * var injector = Injector.resolveAndCreate([A]);\n *\n * expect(() => injector.getAt(100)).toThrowError();\n * ```\n *\n */\n function outOfBoundsError(index) {\n return Error(\"Index \" + index + \" is out-of-bounds.\");\n }\n // TODO: add a working example after alpha38 is released\n /**\n * Thrown when a multi provider and a regular provider are bound to the same token.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * expect(() => Injector.resolveAndCreate([\n * { provide: \"Strings\", useValue: \"string1\", multi: true},\n * { provide: \"Strings\", useValue: \"string2\", multi: false}\n * ])).toThrowError();\n * ```\n */\n function mixingMultiProvidersWithRegularProvidersError(provider1, provider2) {\n return Error(\"Cannot mix multi providers and regular providers, got: \" + provider1 + \" \" + provider2);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A unique object used for retrieving items from the {@link ReflectiveInjector}.\n *\n * Keys have:\n * - a system-wide unique `id`.\n * - a `token`.\n *\n * `Key` is used internally by {@link ReflectiveInjector} because its system-wide unique `id` allows\n * the\n * injector to store created objects in a more efficient way.\n *\n * `Key` should not be created directly. {@link ReflectiveInjector} creates keys automatically when\n * resolving\n * providers.\n *\n * @deprecated No replacement\n * @publicApi\n */\n var ReflectiveKey = /** @class */ (function () {\n /**\n * Private\n */\n function ReflectiveKey(token, id) {\n this.token = token;\n this.id = id;\n if (!token) {\n throw new Error('Token must be defined!');\n }\n this.displayName = stringify(this.token);\n }\n /**\n * Retrieves a `Key` for a token.\n */\n ReflectiveKey.get = function (token) {\n return _globalKeyRegistry.get(resolveForwardRef(token));\n };\n Object.defineProperty(ReflectiveKey, \"numberOfKeys\", {\n /**\n * @returns the number of keys registered in the system.\n */\n get: function () {\n return _globalKeyRegistry.numberOfKeys;\n },\n enumerable: false,\n configurable: true\n });\n return ReflectiveKey;\n }());\n var KeyRegistry = /** @class */ (function () {\n function KeyRegistry() {\n this._allKeys = new Map();\n }\n KeyRegistry.prototype.get = function (token) {\n if (token instanceof ReflectiveKey)\n return token;\n if (this._allKeys.has(token)) {\n return this._allKeys.get(token);\n }\n var newKey = new ReflectiveKey(token, ReflectiveKey.numberOfKeys);\n this._allKeys.set(token, newKey);\n return newKey;\n };\n Object.defineProperty(KeyRegistry.prototype, \"numberOfKeys\", {\n get: function () {\n return this._allKeys.size;\n },\n enumerable: false,\n configurable: true\n });\n return KeyRegistry;\n }());\n var _globalKeyRegistry = new KeyRegistry();\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Provides access to reflection data about symbols. Used internally by Angular\n * to power dependency injection and compilation.\n */\n var Reflector = /** @class */ (function () {\n function Reflector(reflectionCapabilities) {\n this.reflectionCapabilities = reflectionCapabilities;\n }\n Reflector.prototype.updateCapabilities = function (caps) {\n this.reflectionCapabilities = caps;\n };\n Reflector.prototype.factory = function (type) {\n return this.reflectionCapabilities.factory(type);\n };\n Reflector.prototype.parameters = function (typeOrFunc) {\n

```
return this.reflectionCapabilities.parameters(typeOrFunc);\n    };\n    Reflector.prototype.annotations =
function (typeOrFunc) {\n        return this.reflectionCapabilities.annotations(typeOrFunc);\n    };\n
Reflector.prototype.propMetadata = function (typeOrFunc) {\n        return
this.reflectionCapabilities.propMetadata(typeOrFunc);\n    };\n    Reflector.prototype.hasLifecycleHook =
function (type, lcProperty) {\n        return this.reflectionCapabilities.hasLifecycleHook(type, lcProperty);\n
};\n    Reflector.prototype.getter = function (name) {\n        return this.reflectionCapabilities.getter(name);\n
};\n    Reflector.prototype.setter = function (name) {\n
  return this.reflectionCapabilities.setter(name);\n    };\n    Reflector.prototype.method = function (name) {\n
    return this.reflectionCapabilities.method(name);\n    };\n    Reflector.prototype.importUri = function (type)
{\n        return this.reflectionCapabilities.importUri(type);\n    };\n    Reflector.prototype.resourceUri =
function (type) {\n        return this.reflectionCapabilities.resourceUri(type);\n    };\n
Reflector.prototype.resolveIdentifier = function (name, moduleUrl, members, runtime) {\n        return
this.reflectionCapabilities.resolveIdentifier(name, moduleUrl, members, runtime);\n    };\n
Reflector.prototype.resolveEnum = function (identifier, name) {\n        return
this.reflectionCapabilities.resolveEnum(identifier, name);\n    };\n    return Reflector;\n}());\n\n  /**\n   *
@license\n   * Copyright Google LLC All Rights Reserved.\n   *\n   * Use of this source code is
 governed by an MIT-style license that can be\n   * found in the LICENSE file at https://angular.io/license\n   */\n
  /**\n   * The {@link Reflector} used internally in Angular to access metadata\n   * about symbols.\n   */\n
var reflector = new Reflector(new ReflectionCapabilities());\n\n  /**\n   * @license\n   * Copyright Google LLC
All Rights Reserved.\n   *\n   * Use of this source code is governed by an MIT-style license that can be\n   *
found in the LICENSE file at https://angular.io/license\n   */\n  /**\n   * `Dependency` is used by the framework
to extend DI.\n   * This is internal to Angular and should not be used directly.\n   */\n  var ReflectiveDependency
= /** @class */ (function () {\n      function ReflectiveDependency(key, optional, visibility) {\n          this.key =
key;\n          this.optional = optional;\n          this.visibility = visibility;\n      }\n
ReflectiveDependency.fromKey = function (key) {\n
      return new ReflectiveDependency(key, false, null);\n    };\n    return ReflectiveDependency;\n}());\n
var _EMPTY_LIST = [];\n  var ResolvedReflectiveProvider_ = /** @class */ (function () {\n      function
ResolvedReflectiveProvider_(key, resolvedFactories, multiProvider) {\n          this.key = key;\n
this.resolvedFactories = resolvedFactories;\n          this.multiProvider = multiProvider;\n
this.resolvedFactory = this.resolvedFactories[0];\n      }\n      return ResolvedReflectiveProvider_;\n  }());\n
  /**\n   * An internal resolved representation of a factory function created by resolving `Provider`.\n   *
@publicApi\n   */\n  var ResolvedReflectiveFactory = /** @class */ (function () {\n      function
ResolvedReflectiveFactory(\n      /**\n       * Factory function which can return an instance of an object
represented by a key.\n       */\n      factory, \n      /**\n       * Arguments (dependencies)
 to the `factory` function.\n       */\n      dependencies) {\n          this.factory = factory;\n          this.dependencies
= dependencies;\n      }\n      return ResolvedReflectiveFactory;\n  }());\n  /**\n   * Resolve a single
provider.\n   */\n  function resolveReflectiveFactory(provider) {\n      var factoryFn;\n      var resolvedDeps;\n
  if (provider.useClass) {\n          var useClass = resolveForwardRef(provider.useClass);\n          factoryFn =
reflector.factory(useClass);\n          resolvedDeps = _dependenciesFor(useClass);\n      }\n      else if
(provider.useExisting) {\n          factoryFn = function (aliasInstance) { return aliasInstance; };\n
resolvedDeps = [ReflectiveDependency.fromKey(ReflectiveKey.get(provider.useExisting))];\n      }\n      else if
(provider.useFactory) {\n          factoryFn = provider.useFactory;\n          resolvedDeps =
constructDependencies(provider.useFactory, provider.deps);\n
      }\n      else {\n          factoryFn = function () { return provider.useValue; };\n          resolvedDeps =
_EMPTY_LIST;\n      }\n      return new ResolvedReflectiveFactory(factoryFn, resolvedDeps);\n  }\n  /**\n
* Converts the `Provider` into `ResolvedProvider`.\n   *\n   * `Injector` internally only uses `ResolvedProvider`,
`Provider` contains convenience provider\n   * syntax.\n   */\n  function resolveReflectiveProvider(provider) {\n
    return new ResolvedReflectiveProvider_(ReflectiveKey.get(provider.provide),
```

[resolveReflectiveFactory(provider)], provider.multi || false);\n }\n /**\n * Resolve a list of Providers.\n */\n function resolveReflectiveProviders(providers) {\n var normalized = _normalizeProviders(providers, []);\n var resolved = normalized.map(resolveReflectiveProvider);\n var resolvedProviderMap = mergeResolvedReflectiveProviders(resolved, new Map());\n return Array.from(resolvedProviderMap.values());\n }\n /**\n * Merges a list of ResolvedProviders into a list where each key is contained exactly once and\n * multi providers have been merged.\n */\n function mergeResolvedReflectiveProviders(providers, normalizedProvidersMap) {\n for (var i = 0; i < providers.length; i++) {\n var provider = providers[i];\n var existing = normalizedProvidersMap.get(provider.key.id);\n if (existing) {\n if (provider.multiProvider !== existing.multiProvider) {\n throw mixingMultiProvidersWithRegularProvidersError(existing, provider);\n }\n if (provider.multiProvider) {\n for (var j = 0; j < provider.resolvedFactories.length; j++) {\n existing.resolvedFactories.push(provider.resolvedFactories[j]);\n }\n }\n else {\n normalizedProvidersMap.set(provider.key.id, provider);\n }\n }\n else {\n var resolvedProvider = void 0;\n if (provider.multiProvider) {\n resolvedProvider = new ResolvedReflectiveProvider_(provider.key, provider.resolvedFactories.slice(), provider.multiProvider);\n }\n else {\n resolvedProvider = provider;\n }\n normalizedProvidersMap.set(provider.key.id, resolvedProvider);\n }\n }\n return normalizedProvidersMap;\n }\n function _normalizeProviders(providers, res) {\n providers.forEach(function (b) {\n if (b instanceof Type) {\n res.push({ provide: b, useClass: b });\n }\n else if (b && typeof b == 'object' && b.provide !== undefined) {\n res.push(b);\n }\n else if (Array.isArray(b)) {\n _normalizeProviders(b, res);\n }\n else {\n throw invalidProviderError(b);\n }\n });\n return res;\n }\n function constructDependencies(typeOrFunc, dependencies) {\n if (!dependencies) {\n return _dependenciesFor(typeOrFunc);\n }\n else {\n var params_1 = dependencies.map(function (t) { return [t]; });\n return dependencies.map(function (t) { return _extractToken(typeOrFunc, t, params_1); });\n }\n }\n function _dependenciesFor(typeOrFunc) {\n var params = reflector.parameters(typeOrFunc);\n if (!params)\n return [];\n if (params.some(function (p) { return p == null; })) {\n throw noAnnotationError(typeOrFunc, params);\n }\n return params.map(function (p) { return _extractToken(typeOrFunc, p, params); });\n }\n function _extractToken(typeOrFunc, metadata, params) {\n var token = null;\n var optional = false;\n if (!Array.isArray(metadata)) {\n if (metadata instanceof Inject) {\n return _createDependency(metadata.token, optional, null);\n }\n else {\n return _createDependency(metadata, optional, null);\n }\n }\n var visibility = null;\n for (var i = 0; i < metadata.length; ++i) {\n var paramMetadata = metadata[i];\n if (paramMetadata instanceof Type) {\n token = paramMetadata;\n }\n else if (paramMetadata instanceof Inject) {\n token = paramMetadata.token;\n }\n else if (paramMetadata instanceof Optional) {\n optional = true;\n }\n else if (paramMetadata instanceof Self || paramMetadata instanceof SkipSelf) {\n visibility = paramMetadata;\n }\n else if (paramMetadata instanceof InjectionToken) {\n token = paramMetadata;\n }\n }\n token = resolveForwardRef(token);\n if (token != null) {\n return _createDependency(token, optional, visibility);\n }\n else {\n throw noAnnotationError(typeOrFunc, params);\n }\n }\n function _createDependency(token, optional, visibility) {\n return new ReflectiveDependency(ReflectiveKey.get(token), optional, visibility);\n }\n\n // Threshold for the dynamic version\n var UNDEFINED = {};\n /**\n * A ReflectiveDependency injection container used for instantiating objects and resolving\n * dependencies.\n *\n * An `Injector` is a replacement for a `new` operator, which can automatically resolve the\n * constructor dependencies.\n *\n * In typical use, application code asks for

the dependencies in the constructor and they are\n * resolved by the `Injector`.\n *\n * @usageNotes\n * ### Example\n *\n * The following example creates
an `Injector` configured to create `Engine` and `Car`.\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var injector = ReflectiveInjector.resolveAndCreate([Car, Engine]);\n * var car = injector.get(Car);\n * expect(car instanceof Car).toBe(true);\n * expect(car.engine instanceof Engine).toBe(true);\n * ```\n *\n * Notice, we don't use the `new` operator because we explicitly want to have the `Injector`\n * resolve all of the object's dependencies automatically.\n *\n * @deprecated from v5 - slow and brings in a lot of code, Use `Injector.create` instead.\n * @publicApi\n */\n var ReflectiveInjector = /** @class */ (function () {\n function ReflectiveInjector() {\n }\n /**\n * Turns an array of provider definitions into an array of resolved providers.\n
*\n * A resolution is a process of flattening multiple nested arrays and converting individual\n * providers into an array of `ResolvedReflectiveProvider`s.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var providers = ReflectiveInjector.resolve([Car, [[Engine]]]);\n *\n * expect(providers.length).toEqual(2);\n *\n * expect(providers[0] instanceof ResolvedReflectiveProvider).toBe(true);\n * expect(providers[0].key.displayName).toBe(\"Car\");\n * expect(providers[0].dependencies.length).toEqual(1);\n * expect(providers[0].factory).toBeDefined();\n *\n * expect(providers[1].key.displayName).toBe(\"Engine\");\n * });\n
* ```\n *\n */\n ReflectiveInjector.resolve = function (providers) {\n return resolveReflectiveProviders(providers);\n };\n /**\n * Resolves an array of providers and creates an injector from those providers.\n *\n * The passed-in providers can be an array of `Type`, `Provider`,\n * or a recursive array of more providers.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var injector = ReflectiveInjector.resolveAndCreate([Car, Engine]);\n * expect(injector.get(Car) instanceof Car).toBe(true);\n * ```\n */\n ReflectiveInjector.resolveAndCreate = function (providers, parent) {\n var ResolvedReflectiveProviders
= ReflectiveInjector.resolve(providers);\n return ReflectiveInjector.fromResolvedProviders(ResolvedReflectiveProviders, parent);\n };\n /**\n * Creates an injector from previously resolved providers.\n *\n * This API is the recommended way to construct injectors in performance-sensitive parts.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var providers = ReflectiveInjector.resolve([Car, Engine]);\n * var injector = ReflectiveInjector.fromResolvedProviders(providers);\n * expect(injector.get(Car) instanceof Car).toBe(true);\n * ```\n */\n ReflectiveInjector.fromResolvedProviders = function (providers, parent) {\n
return new ReflectiveInjector_(providers, parent);\n };\n return ReflectiveInjector;\n }());\n var ReflectiveInjector_ = /** @class */ (function () {\n /**\n * Private\n */\n function ReflectiveInjector_(_providers, _parent) {\n /** @internal */\n this._constructionCounter = 0;\n this._providers = _providers;\n this.parent = _parent || null;\n var len = _providers.length;\n this.keyIds = [];\n this.objs = [];\n for (var i = 0; i < len; i++) {\n this.keyIds[i] = _providers[i].key.id;\n this.objs[i] = UNDEFINED;\n }\n }\n ReflectiveInjector_.prototype.get = function (token, notFoundValue) {\n if (notFoundValue === void 0) { notFoundValue = THROW_IF_NOT_FOUND; }\n return this._getByKey(ReflectiveKey.get(token), null, notFoundValue);\n };\n ReflectiveInjector_.prototype.resolveAndCreateChild

```
 = function (providers) {\n            var ResolvedReflectiveProviders = ReflectiveInjector.resolve(providers);\n
return this.createChildFromResolved(ResolvedReflectiveProviders);\n        };\n
ReflectiveInjector_.prototype.createChildFromResolved = function (providers) {\n            var inj = new
ReflectiveInjector_(providers);\n            inj.parent = this;\n            return inj;\n        };\n
ReflectiveInjector_.prototype.resolveAndInstantiate = function (provider) {\n            return
this.instantiateResolved(ReflectiveInjector.resolve([provider])[0]);\n        };\n
ReflectiveInjector_.prototype.instantiateResolved = function (provider) {\n            return
this._instantiateProvider(provider);\n        };\n        ReflectiveInjector_.prototype.getProviderAtIndex = function
(index) {\n            if (index < 0 || index >= this._providers.length) {\n                throw outOfBoundsError(index);\n
        }\n
            return this._providers[index];\n        };\n        /** @internal */\n        ReflectiveInjector_.prototype._new =
function (provider) {\n            if (this._constructionCounter++ > this._getMaxNumberOfObjects()) {\n
throw cyclicDependencyError(this, provider.key);\n            }\n            return this._instantiateProvider(provider);\n
    };\n        ReflectiveInjector_.prototype._getMaxNumberOfObjects = function () {\n            return this.objs.length;\n
        };\n        ReflectiveInjector_.prototype._instantiateProvider = function (provider) {\n            if
(provider.multiProvider) {\n                var res = [];\n                for (var i = 0; i < provider.resolvedFactories.length;
++i) {\n                    res[i] = this._instantiate(provider, provider.resolvedFactories[i]);\n                }\n                return
res;\n            }\n            else {\n                return this._instantiate(provider, provider.resolvedFactories[0]);\n
            }\n        };\n        ReflectiveInjector_.prototype._instantiate = function (provider, ResolvedReflectiveFactory)
{\n            var _this = this;\n            var factory = ResolvedReflectiveFactory.factory;\n            var deps;\n            try
{\n                deps =\n                    ResolvedReflectiveFactory.dependencies.map(function (dep) { return
_this._getByReflectiveDependency(dep); });\n            }\n            catch (e) {\n                if (e.addKey) {\n
e.addKey(this, provider.key);\n                }\n                throw e;\n            }\n            var obj;\n            try {\n
obj = factory.apply(void 0, __spread(deps));\n            }\n            catch (e) {\n                throw instantiationError(this,
e, e.stack, provider.key);\n            }\n            return obj;\n        };\n
ReflectiveInjector_.prototype._getByReflectiveDependency = function (dep) {\n            return
this._getByKey(dep.key,
 dep.visibility, dep.optional ? null : THROW_IF_NOT_FOUND);\n        };\n
ReflectiveInjector_.prototype._getByKey = function (key, visibility, notFoundValue) {\n            if (key ===
ReflectiveInjector_.INJECTOR_KEY) {\n                return this;\n            }\n            if (visibility instanceof Self) {\n
                return this._getByKeySelf(key, notFoundValue);\n            }\n            else {\n                return
this._getByKeyDefault(key, notFoundValue, visibility);\n            }\n        };\n
ReflectiveInjector_.prototype._getObjByKeyId = function (keyId) {\n            for (var i = 0; i < this.keyIds.length;
i++) {\n                if (this.keyIds[i] === keyId) {\n                    if (this.objs[i] === UNDEFINED) {\n
this.objs[i] = this._new(this._providers[i]);\n                    }\n                    return this.objs[i];\n                }\n            }\n
            return UNDEFINED;\n        };\n        /** @internal */\n
        ReflectiveInjector_.prototype._throwOrNull = function (key, notFoundValue) {\n            if (notFoundValue
!== THROW_IF_NOT_FOUND) {\n                return notFoundValue;\n            }\n            else {\n                throw
noProviderError(this, key);\n            }\n        };\n        /** @internal */\n
ReflectiveInjector_.prototype._getByKeySelf = function (key, notFoundValue) {\n            var obj =
this._getObjByKeyId(key.id);\n            return (obj !== UNDEFINED) ? obj : this._throwOrNull(key,
notFoundValue);\n        };\n        /** @internal */\n        ReflectiveInjector_.prototype._getByKeyDefault = function
(key, notFoundValue, visibility) {\n            var inj;\n            if (visibility instanceof SkipSelf) {\n                inj =
this.parent;\n            }\n            else {\n                inj = this;\n            }\n            while (inj instanceof
ReflectiveInjector_) {\n                var inj_ = inj;\n                var obj = inj_._getObjByKeyId(key.id);\n
                if (obj !== UNDEFINED)\n                    return obj;\n                inj = inj_.parent;\n            }\n            if (inj
!== null) {\n                return inj.get(key.token, notFoundValue);\n            }\n            else {\n                return
this._throwOrNull(key, notFoundValue);\n            }\n        };\n
```

```
Object.defineProperty(ReflectiveInjector_.prototype, \"displayName\", {\n get: function () {\n var providers = _mapProviders(this, function (b) { return ' \"' + b.key.displayName + '\" '; })\n .join(', ');\n return \"ReflectiveInjector(providers: [\" + providers + \"])\";\n },\n enumerable: false,\n configurable: true\n });\n ReflectiveInjector_.prototype.toString = function () {\n return this.displayName;\n };\n return ReflectiveInjector_;\n }());\n ReflectiveInjector_.INJECTOR_KEY = ReflectiveKey.get(Injector);\n function _mapProviders(injector, fn) {\n var res = [];\n for (var i = 0; i < injector._providers.length; ++i) {\n res[i] = fn(injector.getProviderAtIndex(i));\n }\n return res;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function directiveInject(token,\n flags) {\n if (flags === void 0) { flags = exports.InjectFlags.Default; }\n var lView = getLView();\n // Fall back to inject() if view hasn't been created. This situation can happen in tests\n // if inject utilities are used before bootstrapping.\n if (lView === null) {\n // Verify that we will not get into infinite loop.\n ngDevMode && assertInjectImplementationNotEqual(directiveInject);\n return inject(token, flags);\n }\n var tNode = getCurrentTNode();\n return getOrCreateInjectable(tNode, lView, resolveForwardRef(token), flags);\n }\n /**\n * Throws an error indicating that a factory function could not be generated by the compiler for a\n * particular class.\n *\n * This instruction allows the actual error message to be optimized away when ngDevMode is turned\n * off, saving bytes of generated code while still providing a good experience in dev mode.\n *\n * The name of the class is not mentioned here, but will be in the generated factory function name\n * and thus in the stack trace.\n *\n * @codeGenApi\n */\n function invalidFactory() {\n var msg = ngDevMode ? \"This constructor was not compatible with Dependency Injection.\" : 'invalid';\n throw new Error(msg);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Update a property on a selected element.\n *\n * Operates on the element selected by index via the {@link select} instruction.\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled\n *\n * @param propName Name of property. Because it is going to DOM, this is not subject to\n * renaming as part of minification.\n * @param value New value to write.\n * @param sanitizer An optional function used to sanitize the value.\n * @returns This function returns itself so that it may be chained\n * (e.g. `property('name', ctx.name)('title', ctx.title)`)\n *\n * @codeGenApi\n */\n function property(propName, value, sanitizer) {\n var lView = getLView();\n var bindingIndex = nextBindingIndex();\n if (bindingUpdated(lView, bindingIndex, value)) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n elementPropertyInternal(tView, tNode, lView, propName, value, lView[RENDERER], sanitizer, false);\n ngDevMode && storePropertyBindingMetadata(tView.data, tNode, propName, bindingIndex);\n }\n return property;\n }\n /**\n * Given `<div style=\"...\" my-dir>` and `MyDir` with `@Input('style')` we need to write to\n * directive input.\n */\n function setDirectiveInputsWhichShadowsStyling(tView, tNode, lView, value, isClassBased) {\n var inputs = tNode.inputs;\n var property = isClassBased ? 'class' : 'style';\n // We support both 'class' and `className` hence the fallback.\n setInputsForProperty(tView, lView, inputs[property], property, value);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function elementStartFirstCreatePass(index, tView, lView,
```

native, name, attrsIndex, localRefsIndex) {\n ngDevMode && assertFirstCreatePass(tView);\n ngDevMode && ngDevMode.firstCreatePass++;\n var tViewConsts = tView.consts;\n var attrs = getConstant(tViewConsts, attrsIndex);\n var tNode = getOrCreateTNode(tView, index, 2 /* Element */, name, attrs);\n var hasDirectives = resolveDirectives(tView, lView, tNode, getConstant(tViewConsts, localRefsIndex));\n ngDevMode && logUnknownElementError(tView, native, tNode, hasDirectives);\n if (tNode.attrs !== null) {\n computeStaticStyling(tNode, tNode.attrs, false);\n }\n if (tNode.mergedAttrs !== null) {\n computeStaticStyling(tNode, tNode.mergedAttrs, true);\n }\n if (tView.queries !== null) {\n tView.queries.elementStart(tView, tNode);\n }\n return tNode;\n }\n /**\n * Create DOM element. The instruction must later be followed by `elementEnd()` call.\n *\n * @param index Index of the element in the LView array\n * @param name Name of the DOM Node\n * @param attrsIndex Index of the element's attributes in the `consts` array.\n * @param localRefsIndex Index of the element's local references in the `consts` array.\n *\n * Attributes and localRefs are passed as an array of strings where elements with an even index\n * hold an attribute name and elements with an odd index hold an attribute value, ex.:\n * ['id', 'warning5', 'class', 'alert']\n *\n * @codeGenApi\n */\n function elementStart(index, name, attrsIndex, localRefsIndex) {\n var lView = getLView();\n var tView = getTView();\n var adjustedIndex = HEADER_OFFSET + index;\n ngDevMode &&\n assertEqual(getBindingIndex(), tView.bindingStartIndex, 'elements should be created before any bindings');\n ngDevMode && assertIndexInRange(lView, adjustedIndex);\n var renderer = lView[RENDERER];\n var native = lView[adjustedIndex] = createElementNode(renderer, name, getNamespace());\n var tNode = tView.firstCreatePass ?\n elementStartFirstCreatePass(adjustedIndex, tView, lView, native, name, attrsIndex, localRefsIndex) :\n tView.data[adjustedIndex];\n setCurrentTNode(tNode, true);\n var mergedAttrs = tNode.mergedAttrs;\n if (mergedAttrs !== null) {\n setUpAttributes(renderer, native, mergedAttrs);\n }\n var classes = tNode.classes;\n if (classes !== null) {\n writeDirectClass(renderer, native, classes);\n }\n var styles = tNode.styles;\n if (styles !== null) {\n writeDirectStyle(renderer, native, styles);\n }\n if ((tNode.flags & 64 /* isDetached */) !== 64 /* isDetached */) {\n // In the i18n case, the translation may have removed this element, so only add it if it is not\n // detached. See `TNodeType.Placeholder` and `LFrame.inI18n` for more context.\n appendChild(tView, lView, native, tNode);\n }\n // any immediate children of a component or template container\n // must be pre-emptively\n // monkey-patched with the component view data so that the element can be inspected\n // later on using any element discovery utility methods (see `element_discovery.ts`)\n if (getElementDepthCount() === 0) {\n attachPatchData(native, lView);\n }\n increaseElementDepthCount();\n if (isDirectiveHost(tNode)) {\n createDirectivesInstances(tView, lView, tNode);\n executeContentQueries(tView, tNode, lView);\n }\n if (localRefsIndex !== null) {\n saveResolvedLocalsInData(lView, tNode);\n }\n }\n /**\n * Mark the end of the element.\n *\n * @codeGenApi\n */\n function elementEnd() {\n var currentTNode = getCurrentTNode();\n ngDevMode && assertDefined(currentTNode, 'No parent node to close.');\n if (isCurrentTNodeParent()) {\n setCurrentTNodeAsNotParent();\n }\n else {\n ngDevMode && assertHasParent(getCurrentTNode());\n currentTNode = currentTNode.parent;\n setCurrentTNode(currentTNode, false);\n }\n var tNode = currentTNode;\n ngDevMode && assertTNodeType(tNode, 3 /* AnyRNode */);\n decreaseElementDepthCount();\n var tView = getTView();\n if (tView.firstCreatePass) {\n registerPostOrderHooks(tView, currentTNode);\n if (isContentQueryHost(currentTNode)) {\n tView.queries.elementEnd(currentTNode);\n }\n }\n if (tNode.classesWithoutHost != null && hasClassInput(tNode)) {\n setDirectiveInputsWhichShadowsStyling(tView, tNode, getLView(), tNode.classesWithoutHost, true);\n }\n if (tNode.stylesWithoutHost != null && hasStyleInput(tNode)) {\n setDirectiveInputsWhichShadowsStyling(tView, tNode, getLView(), tNode.stylesWithoutHost, false);\n }\n }\n /**\n * Creates an empty element using {@link

elementStart} and {@link elementEnd}\n *\n * @param index Index of the element in the data array\n * @param name Name of the DOM Node\n * @param attrsIndex Index of the element's attributes in the `consts` array.\n * @param localRefsIndex Index of the element's local references in the `consts` array.\n *\n * @codeGenApi\n */\n function element(index, name, attrsIndex, localRefsIndex) {\n elementStart(index, name, attrsIndex, localRefsIndex);\n elementEnd();\n }\n function logUnknownElementError(tView, element, tNode, hasDirectives) {\n var schemas = tView.schemas;\n // If `schemas` is set to `null`, that's an indication that this Component was compiled in AOT\n // mode where this check happens at compile time. In JIT mode, `schemas` is always present and\n // defined as an array (as an empty array in case `schemas` field is not defined) and we should\n // execute the check below.\n if (schemas === null)\n return;\n var tagName = tNode.value;\n // If the element matches any directive, it's considered as valid.\n if (!hasDirectives && tagName !== null) {\n // The element is unknown if it's an instance of HTMLUnknownElement or it isn't registered\n // as a custom element. Note that unknown elements with a dash in their name won't be instances\n // of HTMLUnknownElement in browsers that support web components.\n var isUnknown = \n // Note that we can't check for `typeof HTMLUnknownElement === 'function'`,\n // because while most browsers return 'function', IE returns 'object'.\n (typeof HTMLUnknownElement !== 'undefined' && HTMLUnknownElement &&\n element instanceof HTMLUnknownElement) ||\n (typeof customElements !== 'undefined' && tagName.indexOf('-') > -1 &&\n !customElements.get(tagName));\n if (isUnknown && !matchingSchemas(tView, tagName)) {\n var message = \"'\" + tagName + \"' is not a known element:\\n\";\n message += \"1. If '\" + tagName + \"' is an Angular component, then verify that it is part of this module.\\n\";\n if (tagName && tagName.indexOf('-') > -1) {\n message += \"2. If '\" + tagName + \"' is a Web Component then add 'CUSTOM_ELEMENTS_SCHEMA' to the '@NgModule.schemas' of this component to suppress this message.\";\n }\n else {\n message +=\n \"2. To allow any element add 'NO_ERRORS_SCHEMA' to the '@NgModule.schemas' of this component.\";\n }\n console.error(formatRuntimeError(\"304\" /* UNKNOWN_ELEMENT */, message));\n }\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function elementContainerStartFirstCreatePass(index, tView, lView, attrsIndex, localRefsIndex) {\n ngDevMode && ngDevMode.firstCreatePass++;\n var tViewConsts = tView.consts;\n var attrs = getConstant(tViewConsts, attrsIndex);\n var tNode = getOrCreateTNode(tView, index, 8 /* ElementContainer */, 'ng-container', attrs);\n // While ng-container doesn't necessarily support styling, we use the style context to identify\n // and execute directives on the ng-container.\n if (attrs !== null) {\n computeStaticStyling(tNode, attrs, true);\n }\n var localRefs = getConstant(tViewConsts, localRefsIndex);\n resolveDirectives(tView, lView, tNode, localRefs);\n if (tView.queries !== null) {\n tView.queries.elementStart(tView, tNode);\n }\n return tNode;\n }\n /**\n * Creates a logical
container for other nodes (<ng-container>) backed by a comment node in the DOM.\n * The instruction must later be followed by `elementContainerEnd()` call.\n *\n * @param index Index of the element in the LView array\n * @param attrsIndex Index of the container attributes in the `consts` array.\n * @param localRefsIndex Index of the container's local references in the `consts` array.\n *\n * Even if this instruction accepts a set of attributes no actual attribute values are propagated to\n * the DOM (as a comment node can't have attributes). Attributes are here only for directive\n * matching purposes and setting initial inputs of directives.\n *\n * @codeGenApi\n */\n function elementContainerStart(index, attrsIndex, localRefsIndex) {\n var lView = getLView();\n var tView = getTView();\n var adjustedIndex = index + HEADER_OFFSET;\n ngDevMode && assertIndexInRange(lView, adjustedIndex);\n ngDevMode &&\n assertEqual(getBindingIndex(), tView.bindingStartIndex, 'element containers should be created before any bindings');\n var tNode = tView.firstCreatePass ?\n elementContainerStartFirstCreatePass(adjustedIndex, tView, lView, attrsIndex, localRefsIndex) :\n

tView.data[adjustedIndex];\n setCurrentTNode(tNode, true);\n ngDevMode && ngDevMode.rendererCreateComment++;\n var native = lView[adjustedIndex] =\n lView[RENDERER].createComment(ngDevMode ? 'ng-container' : '');\n appendChild(tView, lView, native, tNode);\n attachPatchData(native, lView);\n if (isDirectiveHost(tNode)) {\n createDirectivesInstances(tView, lView, tNode);\n executeContentQueries(tView, tNode, lView);\n }\n if (localRefsIndex != null) {\n saveResolvedLocalsInData(lView, tNode);\n }\n }\n /**\n * Mark the end of the <ng-container>.\n *\n * @codeGenApi\n */\n function elementContainerEnd() {\n var currentTNode = getCurrentTNode();\n var tView = getTView();\n if (isCurrentTNodeParent()) {\n setCurrentTNodeAsNotParent();\n }\n else {\n ngDevMode && assertHasParent(currentTNode);\n currentTNode = currentTNode.parent;\n setCurrentTNode(currentTNode, false);\n }\n ngDevMode && assertTNodeType(currentTNode, 8 /* ElementContainer */);\n if (tView.firstCreatePass) {\n registerPostOrderHooks(tView, currentTNode);\n if (isContentQueryHost(currentTNode)) {\n tView.queries.elementEnd(currentTNode);\n }\n }\n }\n /**\n * Creates an empty logical container using {@link elementContainerStart}\n * and {@link elementContainerEnd}\n *\n * @param index Index of the element in the LView array\n * @param attrsIndex Index of the container attributes in the `consts` array.\n * @param localRefsIndex Index of the container's local references in the `consts` array.\n *\n * @codeGenApi\n */\n function elementContainer(index, attrsIndex, localRefsIndex) {\n elementContainerStart(index, attrsIndex, localRefsIndex);\n elementContainerEnd();\n }\n\n /**\n * Returns the current OpaqueViewState instance.\n *\n * Used in conjunction with the restoreView() instruction to save a snapshot\n * of the current view and restore it when listeners are invoked. This allows\n * walking the declaration view tree in listeners to get vars from parent views.\n *\n * @codeGenApi\n */\n function getCurrentView() {\n return getLView();\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n *
Determine if the argument is shaped like a Promise\n */\n function isPromise(obj) {\n // allow any Promise/A+ compliant thenable.\n // It's up to the caller to ensure that obj.then conforms to the spec\n return !!obj && typeof obj.then === 'function';\n }\n /**\n * Determine if the argument is an Observable\n *\n * Strictly this tests that the `obj` is `Subscribable`, since `Observable`\n * types need additional methods, such as `lift()`. But it is adequate for our\n * needs since within the Angular framework code we only ever need to use the\n * `subscribe()` method, and RxJS has mechanisms to wrap `Subscribable` objects\n * into `Observable` as needed.\n */\n function isObservable(obj) {\n return !!obj && typeof obj.subscribe === 'function';\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can
be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Adds an event listener to the current node.\n *\n * If an output exists on one of the node's directives, it also subscribes to the output\n * and saves the subscription for later cleanup.\n *\n * @param eventName Name of the event\n * @param listenerFn The function to be called when event emits\n * @param useCapture Whether or not to use capture in event listener\n * @param eventTargetResolver Function that returns global target information in case this listener\n * should be attached to a global object like window, document or body\n *\n * @codeGenApi\n */\n function listener(eventName, listenerFn, useCapture, eventTargetResolver) {\n if (useCapture === void 0) { useCapture = false; }\n var lView = getLView();\n var tView = getTView();\n var tNode = getCurrentTNode();\n listenerInternal(tView, lView, lView[RENDERER],
tNode, eventName, listenerFn, useCapture, eventTargetResolver);\n return listener;\n }\n /**\n * Registers a synthetic host listener (e.g. `(@foo.start)`) on a component or directive.\n *\n * This instruction is for compatibility purposes and is designed to ensure that a\n * synthetic host listener (e.g. `@HostListener('@foo.start')`) properly gets rendered\n * in the component's renderer. Normally all host listeners are evaluated with the\n * parent component's renderer, but, in the case of animation @triggers, they need\n *

to be evaluated with the sub component's renderer (because that's where the\n * animation triggers are defined).\n *\n * Do not use this instruction as a replacement for `listener`. This instruction\n * only exists to ensure compatibility with the ViewEngine's host binding behavior.\n *\n * @param eventName Name of the event\n * @param listenerFn The function to be called when event emits\n * @param useCapture Whether or not to use capture in event listener\n * @param eventTargetResolver Function that returns global target information in case this listener\n * should be attached to a global object like window, document or body\n *\n * @codeGenApi\n */\n function syntheticHostListener(eventName, listenerFn, useCapture, eventTargetResolver) {\n if (useCapture === void 0) { useCapture = false; }\n var tNode = getCurrentTNode();\n var lView = getLView();\n var tView = getTView();\n var currentDef = getCurrentDirectiveDef(tView.data);\n var renderer = loadComponentRenderer(currentDef, tNode, lView);\n listenerInternal(tView, lView, renderer, tNode, eventName, listenerFn, useCapture, eventTargetResolver);\n return syntheticHostListener;\n }\n /**\n * A utility function that checks if a given element has already an event handler registered for an\n * event with a specified name. The TView.cleanup data structure is used to find out which events\n * are registered for a given element.\n */\n function findExistingListener(tView, lView, eventName, tNodeIdx) {\n var tCleanup = tView.cleanup;\n if (tCleanup != null) {\n for (var i = 0; i < tCleanup.length - 1; i += 2) {\n var cleanupEventName = tCleanup[i];\n if (cleanupEventName === eventName && tCleanup[i + 1] === tNodeIdx) {\n // We have found a matching event name on the same node but it might not have been\n // registered yet, so we must explicitly verify entries in the LView cleanup data\n // structures.\n var lCleanup = lView[CLEANUP];\n var listenerIdxInLCleanup = tCleanup[i + 2];\n return lCleanup.length > listenerIdxInLCleanup ? lCleanup[listenerIdxInLCleanup] : null;\n }\n // TView.cleanup can have a mix of 4-elements entries (for event handler cleanups) or\n // 2-element entries (for directive and queries destroy hooks). As such we can encounter\n // blocks of 4 or 2 items in the tView.cleanup and this is why we iterate over 2 elements\n // first and jump another 2 elements if we detect listeners cleanup (4 elements). Also check\n // documentation of TView.cleanup for more details of this data structure layout.\n if (typeof cleanupEventName === 'string') {\n i += 2;\n }\n }\n }\n return null;\n }\n function listenerInternal(tView, lView, renderer, tNode, eventName, listenerFn, useCapture, eventTargetResolver) {\n if (useCapture === void 0) { useCapture = false; }\n var isTNodeDirectiveHost = isDirectiveHost(tNode);\n var firstCreatePass = tView.firstCreatePass;\n var tCleanup = firstCreatePass && getTViewCleanup(tView);\n // When the listener instruction was generated and is executed we know that there is either a\n // native listener or a directive output on this element. As such we we know that we will have to\n // register a listener and store its cleanup function on LView.\n var lCleanup = getLCleanup(lView);\n ngDevMode && assertTNodeType(tNode, 3 /* AnyRNode */ | 12 /* AnyContainer */);\n var processOutputs = true;\n // add native event listener - applicable to elements only\n if (tNode.type & 3 /* AnyRNode */) {\n var native = getNativeByTNode(tNode, lView);\n var resolved = eventTargetResolver ? eventTargetResolver(native) : EMPTY_OBJ;\n var target = resolved.target || native;\n var lCleanupIndex = lCleanup.length;\n var idxOrTargetGetter = eventTargetResolver ?\n function (_lView) { return eventTargetResolver(unwrapRNode(_lView[tNode.index])).target; }\n :\n tNode.index;\n // In order to match current behavior, native DOM event listeners must be added for all\n // events (including outputs).\n if (isProceduralRenderer(renderer)) {\n // There might be cases where multiple directives on the same element try to register an event\n // handler function for the same event. In this situation we want to avoid registration of\n // several native listeners as each registration would be intercepted by NgZone and\n // trigger change detection. This would mean that a single user action would result in several\n // change detections being invoked. To avoid this situation we want to have only one call to\n // native handler registration (for the same element and same type of

```
event).\n            //\n            // In order to have just one native event handler in presence of multiple handler functions,\n
            // we just register a first handler function as a native event listener and then chain\n            // (coalesce) other handler functions on top of the first native handler function.\n            var existingListener = null;\n
// Please note that the coalescing described here doesn't happen for events specifying an\n            // alternative target (ex. (document:click)) - this is to keep backward compatibility with the\n            // view engine.\n
// Also, we don't have to search for existing listeners is there are no directives\n            // matching on a given node as we can't register multiple event handlers for the same event in\n            // a template (this would mean having duplicate attributes).\n            if (!eventTargetResolver && isTNodeDirectiveHost) {\n
existingListener = findExistingListener(tView, lView, eventName, tNode.index);\n            }\n            if (existingListener
 !== null) {\n                // Attach a new listener to coalesced listeners list, maintaining the order in which\n
    // listeners are registered. For performance reasons, we keep a reference to the last\n                // listener in that list (in `__ngLastListenerFn__` field), so we can avoid going through\n                // the entire set each time we need to add a new listener.\n                var lastListenerFn = existingListener.__ngLastListenerFn__ || existingListener;\n                lastListenerFn.__ngNextListenerFn__ = listenerFn;\n
existingListener.__ngLastListenerFn__ = listenerFn;\n                processOutputs = false;\n            }\n
else {\n                // The first argument of `listen` function in Procedural Renderer is:\n                // - either a target name (as a string) in case of global target (window, document, body)\n                // - or element
 reference (in all other cases)\n                listenerFn = wrapListener(tNode, lView, listenerFn, false /** preventDefault */);\n                var cleanupFn = renderer.listen(resolved.name || target, eventName, listenerFn);\n
            ngDevMode && ngDevMode.rendererAddEventListener++;\n                lCleanup.push(listenerFn, cleanupFn);\n                tCleanup && tCleanup.push(eventName, idxOrTargetGetter, lCleanupIndex, lCleanupIndex + 1);\n            }\n        }\n        else {\n            listenerFn = wrapListener(tNode, lView, listenerFn, true /** preventDefault */);\n            target.addEventListener(eventName, listenerFn, useCapture);\n
        ngDevMode && ngDevMode.rendererAddEventListener++;\n            lCleanup.push(listenerFn);\n
tCleanup && tCleanup.push(eventName, idxOrTargetGetter, lCleanupIndex, useCapture);\n        }\n    }\n
else {\n        // Even if there is no
 native listener to add, we still need to wrap the listener so that OnPush\n        // ancestors are marked dirty when an event occurs.\n        listenerFn = wrapListener(tNode, lView, listenerFn, false /** preventDefault */);\n    }\n
    // subscribe to directive outputs\n    var outputs = tNode.outputs;\n    var props;\n    if (processOutputs
&& outputs !== null && (props = outputs[eventName])) {\n        var propsLength = props.length;\n        if (propsLength) {\n            for (var i = 0; i < propsLength; i += 2) {\n                var index = props[i];\n
ngDevMode && assertIndexInRange(lView, index);\n                var minifiedName = props[i + 1];\n
var directiveInstance = lView[index];\n                var output = directiveInstance[minifiedName];\n                if (ngDevMode && !isObservable(output)) {\n                    throw new Error(\"@Output \" + minifiedName + \" not
 initialized in '\" + directiveInstance.constructor.name + \"'.\");\n                }\n                var subscription =
output.subscribe(listenerFn);\n                var idx = lCleanup.length;\n                lCleanup.push(listenerFn, subscription);\n                tCleanup && tCleanup.push(eventName, tNode.index, idx, -(idx + 1));\n            }\n
    }\n    }\n}\n    function executeListenerWithErrorHandling(lView, listenerFn, e) {\n    try {\n        //
Only explicitly returning false from a listener should preventDefault\n        return listenerFn(e) !== false;\n
}\n    catch (error) {\n        handleError(lView, error);\n        return false;\n    }\n}\n    /**\n     * Wraps
an event listener with a function that marks ancestors dirty and prevents default behavior,\n     * if applicable.\n
*\n     * @param tNode The TNode associated with this listener\n     * @param lView The LView that contains
 this listener\n     * @param listenerFn The listener function to call\n     * @param wrapWithPreventDefault
Whether or not to prevent default behavior\n     * (the procedural renderer does this already, so in those cases, we
should skip)\n     */\n    function wrapListener(tNode, lView, listenerFn, wrapWithPreventDefault) {\n    // Note:
we are performing most of the work in the listener function itself\n    // to optimize listener registration.\n
```

return function wrapListenerIn_markDirtyAndPreventDefault(e) {\n // Ivy uses `Function` as a special token that allows us to unwrap the function\n // so that it can be invoked programmatically by `DebugNode.triggerEventHandler`.\n if (e === Function) {\n return listenerFn;\n }\n // In order to be backwards compatible with View Engine, events on component host nodes\n // must also mark the component view itself dirty (i.e. the view that it owns).\n var startView = tNode.flags & 2 /* isComponentHost */ ?\n getComponentLViewByIndex(tNode.index, lView) :\n lView;\n // See interfaces/view.ts for more on LViewFlags.ManualOnPush\n if ((lView[FLAGS] & 32 /* ManualOnPush */) === 0) {\n markViewDirty(startView);\n }\n var result = executeListenerWithErrorHandling(lView, listenerFn, e);\n // A just-invoked listener function might have coalesced listeners so we need to check for\n // their presence and invoke as needed.\n var nextListenerFn = wrapListenerIn_markDirtyAndPreventDefault.__ngNextListenerFn__;\n while (nextListenerFn) {\n // We should prevent default if any of the listeners explicitly return false\n result = executeListenerWithErrorHandling(lView, nextListenerFn, e) && result;\n nextListenerFn = nextListenerFn.__ngNextListenerFn__;\n }\n if (wrapWithPreventDefault && result === false) {\n e.preventDefault();\n // Necessary for legacy browsers that don't support preventDefault (e.g. IE)\n e.returnValue = false;\n }\n return result;\n };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Retrieves a context at the level specified and saves it as the global, contextViewData.\n * Will get the next level up if level is not specified.\n *\n * This is used to save contexts of parent
views so they can be bound in embedded views, or\n * in conjunction with reference() to bind a ref from a parent view.\n *\n * @param level The relative level of the view from which to grab context compared to contextVewData\n * @returns context\n *\n * @codeGenApi\n */\n function nextContext(level) {\n if (level === void 0) { level = 1; }\n return nextContextImpl(level);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Checks a given node against matching projection slots and returns the\n * determined slot index. Returns \"null\" if no slot matched the given node.\n *\n * This function takes into account the parsed ngProjectAs selector from the\n * node's attributes. If present, it will check whether the ngProjectAs
selector\n * matches any of the projection slot selectors.\n */\n function matchingProjectionSlotIndex(tNode, projectionSlots) {\n var wildcardNgContentIndex = null;\n var ngProjectAsAttrVal = getProjectAsAttrValue(tNode);\n for (var i = 0; i < projectionSlots.length; i++) {\n var slotValue = projectionSlots[i];\n // The last wildcard projection slot should match all nodes which aren't matching\n // any selector. This is necessary to be backwards compatible with view engine.\n if (slotValue === '*') {\n wildcardNgContentIndex = i;\n continue;\n }\n // If we ran into an `ngProjectAs` attribute, we should match its parsed selector\n // to the list of selectors, otherwise we fall back to matching against the node.\n if (ngProjectAsAttrVal === null ?\n isNodeMatchingSelectorList(tNode, slotValue, /* isProjectionMode */ true)
:\n isSelectorInSelectorList(ngProjectAsAttrVal, slotValue)) {\n return i; // first matching selector \"captures\" a given node\n }\n }\n return wildcardNgContentIndex;\n }\n /**\n * Instruction to distribute projectable nodes among <ng-content> occurrences in a given template.\n * It takes all the selectors from the entire component's template and decides where\n * each projected node belongs (it re-distributes nodes among \"buckets\" where each \"bucket\" is\n * backed by a selector).\n *\n * This function requires CSS selectors to be provided in 2 forms: parsed (by a compiler) and text,\n * un-parsed form.\n *\n

```
* The parsed form is needed for efficient matching of a node against a given CSS selector.\n     * The un-parsed, textual form is needed for support of the ngProjectAs attribute.\n     *\n     * Having a CSS selector in 2 different formats is not ideal, but alternatives have
 even more\n     * drawbacks:\n     * - having only a textual form would require runtime parsing of CSS selectors;\n     * - we can't have only a parsed as we can't re-construct textual form from it (as entered by a\n     * template author).\n     *\n     * @param projectionSlots? A collection of projection slots. A projection slot can be based\n     *     on a parsed CSS selectors or set to the wildcard selector (\"*\") in order to match\n     *         all nodes which do not match any selector. If not specified, a single wildcard\n     *         selector projection slot will be defined.\n     *\n     * @codeGenApi\n     */\n    function projectionDef(projectionSlots) {\n        var componentNode = getLView()[DECLARATION_COMPONENT_VIEW][T_HOST];\n        if (!componentNode.projection) {\n            // If no explicit projection slots are defined, fall back to a single\n            // projection slot with the wildcard selector.\n            var numProjectionSlots = projectionSlots ?
 projectionSlots.length : 1;\n            var projectionHeads = componentNode.projection =\n                newArray(numProjectionSlots, null);\n            var tails = projectionHeads.slice();\n            var componentChild = componentNode.child;\n            while (componentChild !== null) {\n                var slotIndex = projectionSlots ? matchingProjectionSlotIndex(componentChild, projectionSlots) : 0;\n                if (slotIndex !== null) {\n                    if (tails[slotIndex]) {\n                        tails[slotIndex].projectionNext = componentChild;\n                    }\n                    else {\n                        projectionHeads[slotIndex] = componentChild;\n                    }\n                    tails[slotIndex] = componentChild;\n                }\n                componentChild = componentChild.next;\n            }\n        }\n    }\n    /**\n     * Inserts previously re-distributed projected nodes. This instruction must be preceded by a call\n     * to the projectionDef instruction.\n     *\n     * @param nodeIndex\n     * @param selectorIndex:\n     *        - 0 when the selector is `*` (or unspecified as this is the default value),\n     *        - 1 based index of the selector from the {@link projectionDef}\n     *\n     * @codeGenApi\n     */\n    function projection(nodeIndex, selectorIndex, attrs) {\n        if (selectorIndex === void 0) { selectorIndex = 0; }\n        var lView = getLView();\n        var tView = getTView();\n        var tProjectionNode = getOrCreateTNode(tView, HEADER_OFFSET + nodeIndex, 16 /* Projection */, null, attrs || null);\n        // We can't use viewData[HOST_NODE] because projection nodes can be nested in embedded views.\n        if (tProjectionNode.projection === null)\n            tProjectionNode.projection = selectorIndex;\n        // `<ng-content>` has no content\n        setCurrentTNodeAsNotParent();\n        if ((tProjectionNode.flags & 64 /* isDetached */) !== 64 /* isDetached */) {\n            // re-distribution of projectable nodes is stored on a component's view level\n            applyProjection(tView, lView, tProjectionNode);\n        }\n    }\n\n    /**\n     *\n     * Update an interpolated property on an element with a lone bound value\n     *\n     * Used when the value passed to a property has 1 interpolated value in it, an no additional text\n     * surrounds that interpolated value:\n     *\n     * ```html\n     * <div title=\"{{v0}}\"></div>\n     * ```\n     *\n     * Its compiled representation is::\n     *\n     * ```ts\n     * propertyInterpolate('title', v0);\n     * ```\n     *\n     * If the property name also exists as an input property on one of the element's directives,\n     * the component property will be set instead of the element property. This check must\n     * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n     *\n     * @param propName The name of the property to update\n     * @param
 prefix Static value used for concatenation only.\n     * @param v0 Value checked for change.\n     * @param suffix Static value used for concatenation only.\n     * @param sanitizer An optional sanitizer function\n     * @returns itself, so that it may be chained.\n     * @codeGenApi\n     */\n    function propertyInterpolate(propName, v0, sanitizer) {\n        propertyInterpolate1(propName, '', v0, '', sanitizer);\n        return propertyInterpolate;\n    }\n    /**\n     *\n     * Update an interpolated property on an element with single bound value surrounded by text.\n     *\n     * Used when the value passed to a property has 1 interpolated value in it:\n     *\n     * ```html\n     * <div title=\"prefix{{v0}}suffix\"></div>\n     * ```\n     *\n     * Its compiled representation is::\n     *\n     * ```ts\n     * propertyInterpolate1('title', 'prefix', v0, 'suffix');\n     * ```\n     *\n     * If the property name also exists as an input property on one of the element's
```

directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function propertyInterpolate1(propName, prefix, v0, suffix, sanitizer) {\n var lView = getLView();\n var interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n ngDevMode &&\n storePropertyBindingMetadata(tView.data, tNode, propName, getBindingIndex() - 1, prefix, suffix);\n }\n return propertyInterpolate1;\n }\n /**\n *\n * Update an interpolated property on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-{{v1}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate2('title', 'prefix', v0, '-', v1, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function propertyInterpolate2(propName, prefix, v0, i0, v1, suffix, sanitizer) {\n var lView = getLView();\n var interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n ngDevMode &&\n storePropertyBindingMetadata(tView.data, tNode, propName, getBindingIndex() - 2, prefix, i0, suffix);\n }\n return propertyInterpolate2;\n }\n /**\n *\n * Update an interpolated property on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to a property has 3 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate3(\n * 'title', 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function propertyInterpolate3(propName, prefix, v0, i0, v1, i1, v2, suffix, sanitizer) {\n var lView = getLView();\n var interpolatedValue = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n ngDevMode &&\n storePropertyBindingMetadata(tView.data, tNode, propName, getBindingIndex() - 3, prefix, i0, i1, suffix);\n }\n return propertyInterpolate3;\n }\n /**\n *\n * Update an interpolated property on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in

```
it:\n     *\n     * ```html\n     * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix\"></div>\n     * ```\n     *\n
* Its compiled representation is::\n     *\n     * ```ts\n     * propertyInterpolate4(\n     * 'title', 'prefix', v0, '-', v1, '-', v2,
'-', v3, 'suffix');\n     * ```\n     *\n     * If the property name also exists as an input property on one of the element's
directives,\n     * the component property will be set instead of the element property. This check must\n     * be
conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n     *\n     *
@param propName The name
 of the property to update\n     * @param prefix Static value used for concatenation only.\n     * @param v0 Value
checked for change.\n     * @param i0 Static value used for concatenation only.\n     * @param v1 Value checked
for change.\n     * @param i1 Static value used for concatenation only.\n     * @param v2 Value checked for
change.\n     * @param i2 Static value used for concatenation only.\n     * @param v3 Value checked for change.\n
* @param suffix Static value used for concatenation only.\n     * @param sanitizer An optional sanitizer function\n
 * @returns itself, so that it may be chained.\n     * @codeGenApi\n     */\n     function
propertyInterpolate4(propName, prefix, v0, i0, v1, i1, v2, i2, v3, suffix, sanitizer) {\n         var lView =
getLView();\n         var interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n         if
(interpolatedValue !== NO_CHANGE) {\n             var tView = getTView();\n             var tNode =
getSelectedTNode();\n
             elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer,
false);\n             ngDevMode &&\n                 storePropertyBindingMetadata(tView.data, tNode, propName,
getBindingIndex() - 4, prefix, i0, i1, i2, suffix);\n         }\n         return propertyInterpolate4;\n     }\n     /**\n     *\n     *
Update an interpolated property on an element with 5 bound values surrounded by text.\n     *\n     * Used when the
value passed to a property has 5 interpolated values in it:\n     *\n     * ```html\n     * <div title=\"prefix{{v0}}-
{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix\"></div>\n     * ```\n     *\n     * Its compiled representation is::\n     *\n     *
```ts\n     * propertyInterpolate5(\n     * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n     * ```\n     *\n     * If
the property name also exists as an input property on one of the element's directives,\n     * the component property
will be
 set instead of the element property. This check must\n     * be conducted at runtime so child components that add
new `@Inputs` don't have to be re-compiled.\n     *\n     * @param propName The name of the property to update\n
 * @param prefix Static value used for concatenation only.\n     * @param v0 Value checked for change.\n     *
@param i0 Static value used for concatenation only.\n     * @param v1 Value checked for change.\n     * @param i1
Static value used for concatenation only.\n     * @param v2 Value checked for change.\n     * @param i2 Static
value used for concatenation only.\n     * @param v3 Value checked for change.\n     * @param i3 Static value used
for concatenation only.\n     * @param v4 Value checked for change.\n     * @param suffix Static value used for
concatenation only.\n     * @param sanitizer An optional sanitizer function\n     * @returns itself, so that it may be
chained.\n     * @codeGenApi\n     */\n     function propertyInterpolate5(propName, prefix,
 v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix, sanitizer) {\n         var lView = getLView();\n         var interpolatedValue =
interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n         if (interpolatedValue !==
NO_CHANGE) {\n             var tView = getTView();\n             var tNode = getSelectedTNode();\n
elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer,
false);\n             ngDevMode &&\n                 storePropertyBindingMetadata(tView.data, tNode, propName,
getBindingIndex() - 5, prefix, i0, i1, i2, i3, suffix);\n         }\n         return propertyInterpolate5;\n     }\n     /**\n     *\n
* Update an interpolated property on an element with 6 bound values surrounded by text.\n     *\n     * Used when
the value passed to a property has 6 interpolated values in it:\n     *\n     * ```html\n     * <div title=\"prefix{{v0}}-
{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix\"></div>\n     * ```\n
 *\n     * Its compiled representation is::\n     *\n     * ```ts\n     * propertyInterpolate6(\n     *     'title', 'prefix', v0, '-',
v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n     * ```\n     *\n     * If the property name also exists as an input property on
one of the element's directives,\n     * the component property will be set instead of the element property. This check
must\n     * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n
*\n     * @param propName The name of the property to update\n     * @param prefix Static value used for
```
```

```
concatenation only.\n     * @param v0 Value checked for change.\n     * @param i0 Static value used for
concatenation only.\n     * @param v1 Value checked for change.\n     * @param i1 Static value used for
concatenation only.\n     * @param v2 Value checked for change.\n     * @param i2 Static value used for
concatenation only.\n     * @param v3 Value checked for change.\n     * @param
 i3 Static value used for concatenation only.\n     * @param v4 Value checked for change.\n     * @param i4 Static
value used for concatenation only.\n     * @param v5 Value checked for change.\n     * @param suffix Static value
used for concatenation only.\n     * @param sanitizer An optional sanitizer function\n     * @returns itself, so that it
may be chained.\n     * @codeGenApi\n     */\n    function propertyInterpolate6(propName, prefix, v0, i0, v1, i1, v2,
i2, v3, i3, v4, i4, v5, suffix, sanitizer) {\n        var lView = getLView();\n        var interpolatedValue =
interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n        if (interpolatedValue !==
NO_CHANGE) {\n            var tView = getTView();\n            var tNode = getSelectedTNode();\n
elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer,
false);\n            ngDevMode &&\n                storePropertyBindingMetadata(tView.data,
 tNode, propName, getBindingIndex() - 6, prefix, i0, i1, i2, i3, i4, suffix);\n        }\n        return
propertyInterpolate6;\n    }\n    /**\n     *\n     * Update an interpolated property on an element with 7 bound values
surrounded by text.\n     *\n     * Used when the value passed to a property has 7 interpolated values in it:\n     *\n
* ```html\n     * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix\"></div>\n     *
```\n     *\n     * Its compiled representation is::\n     *\n     * ```ts\n     * propertyInterpolate7(\n     *
'title', 'prefix',
v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n     * ```\n     *\n     * If the property name also exists as an
input property on one of the element's directives,\n     * the component property will be set instead of the element
property. This check must\n     * be conducted at runtime so child components that add new `@Inputs` don't have to
be re-compiled.\n     *\n     *
 @param propName The name of the property to update\n     * @param prefix Static value used for concatenation
only.\n     * @param v0 Value checked for change.\n     * @param i0 Static value used for concatenation only.\n     *
@param v1 Value checked for change.\n     * @param i1 Static value used for concatenation only.\n     * @param v2
Value checked for change.\n     * @param i2 Static value used for concatenation only.\n     * @param v3 Value
checked for change.\n     * @param i3 Static value used for concatenation only.\n     * @param v4 Value checked
for change.\n     * @param i4 Static value used for concatenation only.\n     * @param v5 Value checked for
change.\n     * @param i5 Static value used for concatenation only.\n     * @param v6 Value checked for change.\n
* @param suffix Static value used for concatenation only.\n     * @param sanitizer An optional sanitizer function\n
 * @returns itself, so that it may be chained.\n     * @codeGenApi\n     */\n    function
propertyInterpolate7(propName,
 prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix, sanitizer) {\n        var lView = getLView();\n        var
interpolatedValue = interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n        if
(interpolatedValue !== NO_CHANGE) {\n            var tView = getTView();\n            var tNode =
getSelectedTNode();\n            elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue,
lView[RENDERER], sanitizer, false);\n            ngDevMode &&\n
storePropertyBindingMetadata(tView.data, tNode, propName, getBindingIndex() - 7, prefix, i0, i1, i2, i3, i4, i5,
suffix);\n        }\n        return propertyInterpolate7;\n    }\n    /**\n     *\n     * Update an interpolated property on an
element with 8 bound values surrounded by text.\n     *\n     * Used when the value passed to a property has 8
interpolated values in it:\n     *\n     * ```html\n     * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-
{{v5}}-{{v6}}-{{v7}}suffix\"></div>\n
     * ```\n     *\n     * Its compiled representation is::\n     *\n     * ```ts\n     * propertyInterpolate8(\n     *
'title',
'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, 'suffix');\n     * ```\n     *\n     * If the property name also
exists as an input property on one of the element's directives,\n     * the component property will be set instead of the
element property. This check must\n     * be conducted at runtime so child components that add new `@Inputs` don't
have to be re-compiled.\n     *\n     * @param propName The name of the property to update\n     * @param prefix
Static value used for concatenation only.\n     * @param v0 Value checked for change.\n     * @param i0 Static
```
```

value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function propertyInterpolate8(propName, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix, sanitizer) {\n var lView = getLView();\n var interpolatedValue = interpolation8(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n ngDevMode &&\n storePropertyBindingMetadata(tView.data, tNode, propName, getBindingIndex() - 8, prefix, i0, i1, i2, i3, i4, i5, i6, suffix);\n }\n return propertyInterpolate8;\n }\n /**\n * Update an interpolated property on an element with 9 or more bound values surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n * title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolateV(\n * 'title', ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n * 'suffix']);\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update.\n * @param values The collection of values and the strings inbetween those values, beginning with a\n * string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function propertyInterpolateV(propName, values, sanitizer) {\n var lView = getLView();\n var interpolatedValue = interpolationV(lView, values);\n if (interpolatedValue !== NO_CHANGE) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n elementPropertyInternal(tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n if (ngDevMode) {\n var interpolationInBetween = [values[0]]; // prefix\n for (var i = 2; i < values.length; i += 2) {\n interpolationInBetween.push(values[i]);\n }\n storePropertyBindingMetadata.apply(void 0, __spread([tView.data, tNode, propName, getBindingIndex() - interpolationInBetween.length + 1], interpolationInBetween));\n }\n }\n return propertyInterpolateV;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * This file contains reuseable \"empty\" symbols that can be used as default return values\n * in different parts of the rendering code. Because the same symbols are returned, this\n * allows for identity checks against these values to be consistently used by the framework\n * code.\n */\n var EMPTY_OBJ$1 = {};\n var EMPTY_ARRAY$3 = [];\n // freezing the values prevents any code from accidentally inserting new values in\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode()) {\n // These property accesses can be ignored because ngDevMode will be set to false\n // when optimizing code and the whole if statement will be dropped.\n // tslint:disable-next-line:no-toplevel-property-access\n Object.freeze(EMPTY_OBJ$1);\n // tslint:disable-next-line:no-toplevel-property-access\n Object.freeze(EMPTY_ARRAY$3);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this

source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * NOTE: The word `styling` is used interchangeably as style or class styling.\n *\n * This file contains code to link styling instructions together so that they can be replayed in\n * priority order. The file exists because Ivy styling instruction execution order does not match\n * that of the priority order. The purpose of this code is to create a linked list so that the\n * instructions can be traversed in priority order when computing the styles.\n *\n * Assume we are dealing with the following code:\n * ```\n * @Component({\n * template: `\n * <my-cmp [style]=\" {color: '#001'} \"\n * [style.color]=\" #002 \"\n * dir-style-color-1\n * dir-style-color-2> `\n * })\n * class ExampleComponent {\n * static ngComp = ... {\n *
...\n * // Compiler ensures that `styleProp` is after `styleMap`\n * styleMap({color: '#001'});\n * styleProp('color', '#002');\n * ...\n * }\n * }\n *\n * @Directive({\n * selector: `[dir-style-color-1]',\n * })\n * class Style1Directive {\n * @HostBinding('style') style = {color: '#005'};\n * @HostBinding('style.color') color = '#006';\n *\n * static ngDir = ... {\n * ...\n * // Compiler ensures that `styleProp` is after `styleMap`\n * styleMap({color: '#005'});\n * styleProp('color', '#006');\n * ...\n * }\n * }\n *\n * @Directive({\n * selector: `[dir-style-color-2]',\n * })\n * class Style2Directive {\n * @HostBinding('style') style = {color: '#007'};\n * @HostBinding('style.color') color = '#008';\n *\n * static ngDir = ... {\n * ...\n * // Compiler ensures that `styleProp` is after `styleMap`\n * styleMap({color: '#007'});\n * styleProp('color', '#008');\n * ...\n * }\n * }\n *\n * @Directive({\n * selector: `my-cmp',\n * })\n * class MyComponent {\n * @HostBinding('style') style = {color: '#003'};\n * @HostBinding('style.color') color = '#004';\n *\n * static ngComp = ... {\n * ...\n * // Compiler ensures that `styleProp` is after `styleMap`\n * styleMap({color: '#003'});\n * styleProp('color', '#004');\n * ...\n * }\n * }\n * ```\n *\n * The Order of instruction execution is:\n *\n * NOTE: the comment binding location is for illustrative purposes only.\n *\n * ```\n * // Template: (ExampleComponent)\n * styleMap({color: '#001'}); // Binding index: 10\n * styleProp('color', '#002'); // Binding index: 12\n * // MyComponent\n * styleMap({color: '#003'}); // Binding index: 20\n * styleProp('color', '#004'); // Binding index: 22\n * // Style1Directive\n * styleMap({color: '#005'}); // Binding index: 24\n * styleProp('color', '#006'); // Binding index: 26\n * // Style2Directive\n * styleMap({color: '#007'}); // Binding index: 28\n * styleProp('color', '#008'); // Binding index: 30\n * ```\n *\n * The correct priority order of concatenation is:\n *\n * ```\n * // MyComponent\n * styleMap({color: '#003'}); // Binding index: 20\n * styleProp('color', '#004'); // Binding index: 22\n * // Style1Directive\n * styleMap({color: '#005'}); // Binding index: 24\n * styleProp('color', '#006'); // Binding index: 26\n * // Style2Directive\n * styleMap({color: '#007'}); // Binding index: 28\n * styleProp('color', '#008'); // Binding index: 30\n * // Template: (ExampleComponent)\n
* styleMap({color: '#001'}); // Binding index: 10\n * styleProp('color', '#002'); // Binding index: 12\n * ```\n *\n * What color should be rendered?\n *\n * Once the items are correctly sorted in the list, the answer is simply the last item in the\n * concatenation list which is `#002`.\n *\n * To do so we keep a linked list of all of the bindings which pertain to this element.\n * Notice that the bindings are inserted in the order of execution, but the `TView.data` allows\n * us to traverse them in the order of priority.\n *\n * |Idx|`TView.data`|`LView` | Notes\n * |---|------------|-----------------|--------------\n * |...| | |\n * |10 |`null` |`{color: '#001'}`| `styleMap('color', {color: '#001'})`\n * |11 |`30 | 12` | ... |\n * |12 |`color` |`'#002'` | `styleProp('color', '#002')`\n * |13 |`10 | 0` | ... |\n * |...| | |\n * |20 |`null` |`{color: '#003'}`| `styleMap('color', {color: '#003'})`\n * |21 |`0 | 22` | ... |\n * |22 |`color` |`'#004'` | `styleProp('color', '#004')`\n * |23 |`20 | 24` | ... |\n * |24 |`null` |`{color: '#005'}`| `styleMap('color', {color: '#005'})`\n * |25 |`22 | 26` | ... |\n * |26 |`color` |`'#006'` | `styleProp('color', '#006')`\n * |27 |`24 | 28` | ... |\n * |28 |`null` |`{color: '#007'}`| `styleMap('color', {color: '#007'})`\n * |29 |`26 | 30` | ... |\n * |30 |`color` |`'#008'` | `styleProp('color', '#008')`\n * |31 |`28 | 10` | ... |\n *\n * The above data structure allows us to re-

concatenate the styling no matter which data binding\n * changes.\n *\n * NOTE: in addition to keeping track of next/previous
index the `TView.data` also stores prev/next\n * duplicate bit. The duplicate bit if true says there either is a binding with the same name or\n * there is a map (which may contain the name). This information is useful in knowing if other\n * styles with higher priority need to be searched for overwrites.\n *\n * NOTE: See `should support example in 'tnode_linked_list.ts' documentation` in\n * `tnode_linked_list_spec.ts` for working example.\n */\n var __unused_const_as_closure_does_not_like_standalone_comment_blocks__;\n /**\n * Insert new `tStyleValue` at `TData` and link existing style bindings such that we maintain linked\n * list of styles and compute the duplicate flag.\n *\n * Note: this function is executed during `firstUpdatePass` only to populate the `TView.data`.\n *\n * The function works by keeping track of `tStylingRange` which contains two pointers pointing to\n * the head/tail of the template portion
of the styles.\n * - if `isHost === false` (we are template) then insertion is at tail of `TStylingRange`\n * - if `isHost === true` (we are host binding) then insertion is at head of `TStylingRange`\n *\n * @param tData The `TData` to insert into.\n * @param tNode `TNode` associated with the styling element.\n * @param tStylingKey See `TStylingKey`.\n * @param index location of where `tStyleValue` should be stored (and linked into list.)\n * @param isHostBinding `true` if the insertion is for a `hostBinding`. (insertion is in front of\n * template.)\n * @param isClassBinding True if the associated `tStylingKey` as a `class` styling.\n * `tNode.classBindings` should be used (or `tNode.styleBindings` otherwise.)\n */\n function insertTStylingBinding(tData, tNode, tStylingKeyWithStatic, index, isHostBinding, isClassBinding) {\n ngDevMode && assertFirstUpdatePass(getTView());\n var tBindings
= isClassBinding ? tNode.classBindings : tNode.styleBindings;\n var tmplHead = getTStylingRangePrev(tBindings);\n var tmplTail = getTStylingRangeNext(tBindings);\n tData[index] = tStylingKeyWithStatic;\n var isKeyDuplicateOfStatic = false;\n var tStylingKey;\n if (Array.isArray(tStylingKeyWithStatic)) {\n // We are case when the `TStylingKey` contains static fields as well.\n var staticKeyValueArray = tStylingKeyWithStatic;\n tStylingKey = staticKeyValueArray[1]; // unwrap.\n // We need to check if our key is present in the static so that we can mark it as duplicate.\n if (tStylingKey === null ||\n keyValueArrayIndexOf(staticKeyValueArray, tStylingKey) > 0) {\n // tStylingKey is present in the statics, need to mark it as duplicate.\n isKeyDuplicateOfStatic = true;\n }\n }\n else {\n tStylingKey = tStylingKeyWithStatic;\n }\n if (isHostBinding) {\n // We are inserting host bindings\n // If we don't have template bindings then `tail` is 0.\n var hasTemplateBindings = tmplTail !== 0;\n // This is important to know because that means that the `head` can't point to the first\n // template bindings (there are none.) Instead the head points to the tail of the template.\n if (hasTemplateBindings) {\n // template head's \"prev\" will point to last host binding or to 0 if no host bindings yet\n var previousNode = getTStylingRangePrev(tData[tmplHead + 1]);\n tData[index + 1] = toTStylingRange(previousNode, tmplHead);\n // if a host binding has already been registered, we need to update the next of that host\n // binding to point to this one\n if (previousNode !== 0) {\n // We need to update the template-tail value
to point to us.\n tData[previousNode + 1] =\n setTStylingRangeNext(tData[previousNode + 1], index);\n }\n // The \"previous\" of the template binding head should point to this host binding\n tData[tmplHead + 1] = setTStylingRangePrev(tData[tmplHead + 1], index);\n }\n else {\n tData[index + 1] = toTStylingRange(tmplHead, 0);\n // if a host binding has already been registered, we need to update the next of that host\n // binding to point to this one\n if (tmplHead !== 0) {\n // We need to update the template-tail value to point to us.\n tData[tmplHead + 1] = setTStylingRangeNext(tData[tmplHead + 1], index);\n }\n // if we don't have template, the head points to template-tail, and needs to be advanced.\n tmplHead = index;\n }\n }\n else {\n // We are inserting in template section.\n // We need to set this binding's \"previous\" to the current template tail\n tData[index + 1] = toTStylingRange(tmplTail, 0);\n

```
ngDevMode &&\n assertEqual(tmplHead !== 0 && tmplTail === 0, false, 'Adding template bindings after hostBindings is not allowed.');\n if (tmplHead === 0) {\n tmplHead = index;\n }\n else {\n // We need to update the previous value \"next\" to point to this binding\n tData[tmplTail + 1] = setTStylingRangeNext(tData[tmplTail + 1], index);\n }\n tmplTail = index;\n }\n // Now we need to update / compute the duplicates.\n // Starting with our location search towards head (least priority)\n if (isKeyDuplicateOfStatic) {\n tData[index + 1] = setTStylingRangePrevDuplicate(tData[index + 1]);\n }\n
    markDuplicates(tData, tStylingKey, index, true, isClassBinding);\n markDuplicates(tData, tStylingKey, index, false, isClassBinding);\n markDuplicateOfResidualStyling(tNode, tStylingKey, tData, index, isClassBinding);\n tBindings = toTStylingRange(tmplHead, tmplTail);\n if (isClassBinding) {\n tNode.classBindings = tBindings;\n }\n else {\n tNode.styleBindings = tBindings;\n }\n }\n /**\n * Look into the residual styling to see if the current `tStylingKey` is duplicate of residual.\n *\n * @param tNode `TNode` where the residual is stored.\n * @param tStylingKey `TStylingKey` to store.\n * @param tData `TData` associated with the current `LView`.\n * @param index location of where `tStyleValue` should be stored (and linked into list.)\n * @param isClassBinding True if the associated `tStylingKey` as a `class` styling.\n * `tNode.classBindings` should
 be used (or `tNode.styleBindings` otherwise.)\n */\n function markDuplicateOfResidualStyling(tNode, tStylingKey, tData, index, isClassBinding) {\n var residual = isClassBinding ? tNode.residualClasses : tNode.residualStyles;\n if (residual != null /* or undefined */ && typeof tStylingKey == 'string' &&\n keyValueArrayIndexOf(residual, tStylingKey) >= 0) {\n // We have duplicate in the residual so mark ourselves as duplicate.\n tData[index + 1] = setTStylingRangeNextDuplicate(tData[index + 1]);\n }\n }\n /**\n * Marks `TStyleValue`s as duplicates if another style binding in the list has the same\n * `TStyleValue`.\n *\n * NOTE: this function is intended to be called twice once with `isPrevDir` set to `true` and once\n * with it set to `false` to search both the previous as well as next items in the list.\n *\n * No duplicate case\n * ```\n * [style.color]\n * [style.width.px]
 <<- index\n * [style.height.px]\n * ```\n *\n * In the above case adding `[style.width.px]` to the existing `[style.color]` produces no\n * duplicates because `width` is not found in any other part of the linked list.\n *\n
 * Duplicate case\n * ```\n * [style.color]\n * [style.width.em]\n * [style.width.px] <<- index\n * ```\n * In the above case adding `[style.width.px]` will produce a duplicate with `[style.width.em]`\n * because `width` is found in the chain.\n *\n * Map case 1\n * ```\n * [style.width.px]\n * [style.color]\n * [style] <<- index\n * ```\n * In the above case adding `[style]` will produce a duplicate with any other bindings because\n * `[style]` is a Map and as such is fully dynamic and could produce `color` or `width`.\n *\n * Map case 2\n * ```\n * [style]\n * [style.width.px]\n * [style.color] <<- index\n * ```\n * In the
 above case adding `[style.color]` will produce a duplicate because there is already a\n * `[style]` binding which is a Map and as such is fully dynamic and could produce `color` or\n * `width`.\n *\n * NOTE: Once `[style]` (Map) is added into the system all things are mapped as duplicates.\n * NOTE: We use `style` as example, but same logic is applied to `class`es as well.\n *\n * @param tData `TData` where the linked list is stored.\n * @param tStylingKey `TStylingKeyPrimitive` which contains the value to compare to other keys in\n * the linked list.\n * @param index Starting location in the linked list to search from\n * @param isPrevDir Direction.\n * - `true` for previous (lower priority);\n * - `false` for next (higher priority).\n */\n function markDuplicates(tData, tStylingKey, index, isPrevDir, isClassBinding) {\n var tStylingAtIndex = tData[index + 1];\n var isMap = tStylingKey ===
 null;\n var cursor = isPrevDir ? getTStylingRangePrev(tStylingAtIndex) : getTStylingRangeNext(tStylingAtIndex);\n var foundDuplicate = false;\n // We keep iterating as long as we have a cursor\n // AND either:\n // - we found what we are looking for, OR\n // - we are a map in which case we have to continue searching even after we find what we were\n // looking for since we are a wild card and everything needs to be flipped to duplicate.\n while (cursor !== 0 && (foundDuplicate === false || isMap)) {\n ngDevMode && assertIndexInRange(tData, cursor);\n var tStylingValueAtCursor =
```

```
tData[cursor];\n            var tStyleRangeAtCursor = tData[cursor + 1];\n            if (isStylingMatch(tStylingValueAtCursor, tStylingKey)) {\n                foundDuplicate = true;\n                tData[cursor + 1] = isPrevDir ? setTStylingRangeNextDuplicate(tStyleRangeAtCursor) :\n setTStylingRangePrevDuplicate(tStyleRangeAtCursor);\n            }\n            cursor = isPrevDir ? getTStylingRangePrev(tStyleRangeAtCursor) :\n getTStylingRangeNext(tStyleRangeAtCursor);\n        }\n        if (foundDuplicate) {\n            // if we found a duplicate, than mark ourselves.\n            tData[index + 1] = isPrevDir ? setTStylingRangePrevDuplicate(tStylingAtIndex) :\n                setTStylingRangeNextDuplicate(tStylingAtIndex);\n        }\n    }\n    /**\n     * Determines if two `TStylingKey`s are a match.\n     *\n     * When computing whether a binding contains a duplicate, we need to compare if the instruction\n     * `TStylingKey` has a match.\n     *\n     * Here are examples of `TStylingKey`s which match given `tStylingKeyCursor` is:\n     * - `color`\n     *    - `color` // Match another color\n     *    - `null`  // That means that `tStylingKey` is a `classMap`/`styleMap` instruction\n     *    - `['', 'color', 'other', true]` // wrapped `color` so match\n     *    - `['', null, 'other', true]`    // wrapped `null` so match\n     *    - `['', 'width', 'color', 'value']` // wrapped static value contains a match on `'color'`\n     * - `null`    // `tStylingKeyCursor` always match as it is `classMap`/`styleMap` instruction\n     *\n     * @param tStylingKeyCursor\n     * @param tStylingKey\n     */\n    function isStylingMatch(tStylingKeyCursor, tStylingKey) {\n        ngDevMode &&\n assertNotEqual(Array.isArray(tStylingKey), true, 'Expected that \\'tStylingKey\\' has been unwrapped');\n        if (tStylingKeyCursor === null || // If the cursor is `null` it means that we have map at that\n            // location so we must assume that we have a match.\n            tStylingKey == null || // If `tStylingKey` is `null` then it is a map therefor assume that it\n            // contains a match.\n            (Array.isArray(tStylingKeyCursor) ? tStylingKeyCursor[1] : tStylingKeyCursor) ===\n                tStylingKey // If the keys match explicitly than we are a match.\n        ) {\n            return true;\n        }\n        else if (Array.isArray(tStylingKeyCursor) && typeof tStylingKey === 'string') {\n            // if we did not find a match, but `tStylingKeyCursor` is `KeyValueArray` that means cursor has\n            // statics and we need to check those as well.\n            return keyValueArrayIndexOf(tStylingKeyCursor, tStylingKey) >=\n                0; // see if we are matching the key\n        }\n        return false;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    // Global state of the parser. (This makes parser non-reentrant, but that is not an issue)\n    var parserState = {\n        textEnd: 0,\n        key: 0,\n        keyEnd: 0,\n        value: 0,\n        valueEnd: 0,\n    };\n    /**\n     * Retrieves the last parsed `key` of style.\n     * @param text the text to substring the key from.\n     */\n    function getLastParsedKey(text) {\n        return text.substring(parserState.key, parserState.keyEnd);\n    }\n    /**\n     * Retrieves the last parsed `value` of style.\n     * @param text the text to substring the key from.\n     */\n    function getLastParsedValue(text) {\n        return text.substring(parserState.value, parserState.valueEnd);\n    }\n    /**\n     * Initializes `className` string for parsing and parses the first token.\n     *\n     * This function is intended to be used in this format:\n     * ```\n     * for (let i = parseClassName(text); i >= 0; i = parseClassNameNext(text, i)) {\n     *   const key = getLastParsedKey();\n     *   ...\n     * }\n     * ```\n     * @param text `className` to parse\n     * @returns index where the next invocation of `parseClassNameNext` should resume.\n     */\n    function parseClassName(text) {\n        resetParserState(text);\n        return parseClassNameNext(text, consumeWhitespace(text, 0, parserState.textEnd));\n    }\n    /**\n     * Parses next `className` token.\n     *\n     * This function is intended to be used in this format:\n     * ```\n     * for (let i = parseClassName(text); i >= 0; i = parseClassNameNext(text, i)) {\n     *   const key = getLastParsedKey();\n     *   ...\n     * }\n     * ```\n     *\n     * @param text `className` to parse\n     * @param index where the parsing should resume.\n     * @returns index where the next invocation of `parseClassNameNext` should resume.\n     */\n    function parseClassNameNext(text, index) {\n        var end = parserState.textEnd;\n        if (end === index) {\n            return -1;\n        }\n        index = parserState.keyEnd = consumeClassToken(text, parserState.key = index, end);\n        return consumeWhitespace(text, index, end);\n    }\n    /**\n     * Initializes `cssText` string for parsing and parses
```

```
the first key/values.\n
   *\n     * This function is intended to be used in this format:\n     * ```\n     * for (let i = parseStyle(text); i >= 0; i = parseStyleNext(text, i))) {\n     *   const key = getLastParsedKey();\n     *   const value = getLastParsedValue();\n     *   ...\n     * }\n     * ```\n     * @param text `cssText` to parse\n     * @returns index where the next invocation of `parseStyleNext` should resume.\n     */\n    function parseStyle(text) {\n        resetParserState(text);\n        return parseStyleNext(text, consumeWhitespace(text, 0, parserState.textEnd));\n    }\n    /**\n     * Parses the next `cssText` key/values.\n     *\n     * This function is intended to be used in this format:\n     * ```\n     * for (let i = parseStyle(text); i >= 0; i = parseStyleNext(text, i))) {\n     *   const key = getLastParsedKey();\n     *   const value = getLastParsedValue();\n     *   ...\n     * }\n     *\n     * @param text `cssText` to parse\n     * @param index where the parsing should resume.\n
     * @returns index where the next invocation of `parseStyleNext` should resume.\n     */\n    function parseStyleNext(text, startIndex) {\n        var end = parserState.textEnd;\n        var index = parserState.key = consumeWhitespace(text, startIndex, end);\n        if (end === index) {\n            // we reached an end so just quit\n
      return -1;\n        }\n        index = parserState.keyEnd = consumeStyleKey(text, index, end);\n        index = consumeSeparator(text, index, end, 58 /* COLON */);\n        index = parserState.value = consumeWhitespace(text, index, end);\n        index = parserState.valueEnd = consumeStyleValue(text, index, end);\n        return consumeSeparator(text, index, end, 59 /* SEMI_COLON */);\n    }\n    /**\n     * Reset the global state of the styling parser.\n     * @param text The styling text to parse.\n     */\n    function resetParserState(text) {\n        parserState.key = 0;\n        parserState.keyEnd = 0;\n        parserState.value = 0;\n
        parserState.valueEnd = 0;\n        parserState.textEnd = text.length;\n    }\n    /**\n     * Returns index of next non-whitespace character.\n     *\n     * @param text Text to scan\n     * @param startIndex Starting index of character where the scan should start.\n     * @param endIndex Ending index of character where the scan should end.\n     * @returns Index of next non-whitespace character (May be the same as `start` if no whitespace at\n     *
    that location.)\n     */\n    function consumeWhitespace(text, startIndex, endIndex) {\n        while (startIndex < endIndex && text.charCodeAt(startIndex) <= 32 /* SPACE */) {\n            startIndex++;\n        }\n        return startIndex;\n    }\n    /**\n     * Returns index of last char in class token.\n     *\n     * @param text Text to scan\n     * @param startIndex Starting index of character where the scan should start.\n     * @param endIndex Ending index of character where the scan should end.\n     * @returns
 Index after last char in class token.\n     */\n    function consumeClassToken(text, startIndex, endIndex) {\n        while (startIndex < endIndex && text.charCodeAt(startIndex) > 32 /* SPACE */) {\n            startIndex++;\n        }\n
      return startIndex;\n    }\n    /**\n     * Consumes all of the characters belonging to style key and token.\n     *\n     * @param text Text to scan\n     * @param startIndex Starting index of character where the scan should start.\n     * @param endIndex Ending index of character where the scan should end.\n     * @returns Index after last style key character.\n     */\n    function consumeStyleKey(text, startIndex, endIndex) {\n        var ch;\n        while (startIndex < endIndex &&\n            ((ch = text.charCodeAt(startIndex)) === 45 /* DASH */ || ch === 95 /* UNDERSCORE */ ||\n            ((ch & -33 /* UPPER_CASE */) >= 65 /* A */ && (ch & -33 /* UPPER_CASE */) <= 90 /* Z */) ||\n
        (ch >= 48 /* ZERO */ && ch <= 57 /*
 NINE */))) {\n            startIndex++;\n        }\n        return startIndex;\n    }\n    /**\n     * Consumes all whitespace and the separator `:` after the style key.\n     *\n     * @param text Text to scan\n     * @param startIndex Starting index of character where the scan should start.\n     * @param endIndex Ending index of character where the scan should end.\n     * @returns Index after separator and surrounding whitespace.\n     */\n    function consumeSeparator(text, startIndex, endIndex, separator) {\n        startIndex = consumeWhitespace(text, startIndex, endIndex);\n        if (startIndex < endIndex) {\n            if (ngDevMode && text.charCodeAt(startIndex) !== separator) {\n                malformedStyleError(text, String.fromCharCode(separator), startIndex);\n            }\n
startIndex++;\n        }\n        return startIndex;\n    }\n    /**\n     * Consumes style value honoring `url()` and `\"\"` text.\n     *\n     * @param text Text to scan\n     * @param
 startIndex Starting index of character where the scan should start.\n     * @param endIndex Ending index of character where the scan should end.\n     * @returns Index after last style value character.\n     */\n    function
```

```
consumeStyleValue(text, startIndex, endIndex) {\n        var ch1 = -1; // 1st previous character\n        var ch2 = -1; // 2nd previous character\n        var ch3 = -1; // 3rd previous character\n        var i = startIndex;\n        var lastChIndex = i;\n        while (i < endIndex) {\n            var ch = text.charCodeAt(i++);\n            if (ch === 59 /* SEMI_COLON */) {\n                return lastChIndex;\n            }\n            else if (ch === 34 /* DOUBLE_QUOTE */ || ch === 39 /* SINGLE_QUOTE */) {\n                lastChIndex = i = consumeQuotedText(text, ch, i, endIndex);\n            }\n            else if (startIndex ===\n                i - 4 && // We have seen only 4 characters so far \"URL(\" (Ignore \"foo_URL()\")\n                ch3 === 85
 /* U */ &&\n                ch2 === 82 /* R */ && ch1 === 76 /* L */ && ch === 40 /* OPEN_PAREN */) {\n
 lastChIndex = i = consumeQuotedText(text, 41 /* CLOSE_PAREN */, i, endIndex);\n            }\n            else if (ch > 32 /* SPACE */) {\n                // if we have a non-whitespace character then capture its location\n                lastChIndex = i;\n            }\n            ch3 = ch2;\n            ch2 = ch1;\n            ch1 = ch & -33 /* UPPER_CASE */;\n        }\n        return lastChIndex;\n    }\n    /**\n     * Consumes all of the quoted characters.\n     *\n     * @param text Text to scan\n     * @param quoteCharCode CharCode of either `\"` or `'` quote or `)` for `url(...)`.\n     * @param startIndex Starting index of character where the scan should start.\n     * @param endIndex Ending index of character where the scan should end.\n     * @returns Index after quoted characters.\n     */\n    function consumeQuotedText(text, quoteCharCode, startIndex,
 endIndex) {\n        var ch1 = -1; // 1st previous character\n        var index = startIndex;\n        while (index < endIndex) {\n            var ch = text.charCodeAt(index++);\n            if (ch == quoteCharCode && ch1 !== 92 /* BACK_SLASH */) {\n                return index;\n            }\n            if (ch == 92 /* BACK_SLASH */ && ch1 === 92 /* BACK_SLASH */) {\n                // two back slashes cancel each other out. For example `\"\\\\\"` should properly end the\n                // quotation. (It should not assume that the last `\"` is escaped.)\n                ch1 = 0;\n            }\n            else {\n                ch1 = ch;\n            }\n        }\n        throw ngDevMode ? malformedStyleError(text, String.fromCharCode(quoteCharCode), endIndex) :\n            new Error();\n    }\n    function malformedStyleError(text, expecting, index) {\n        ngDevMode && assertEqual(typeof text === 'string', true, 'String expected here');\n        throw throwError(\"Malformed
 style at location \" + index + \" in string '\" + text.substring(0, index) + '[>>' +\n            text.substring(index, index + 1) + '<<]' + text.substr(index + 1) +\n            (\"'. Expecting '\" + expecting + \"'.\"));\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Update a style binding on an element with the provided value.\n     *\n     * If the style value is falsy then it will be removed from the element\n     * (or assigned a different value depending if there are any styles placed\n     * on the element with `styleMap` or any static styles that are\n     * present from when the element was created with `styling`).\n     *\n     * Note that the styling element is updated as part of `stylingApply`.\n     *\n     * @param prop A valid CSS property.\n     * @param value
 New value to write (`null` or an empty string to remove).\n     * @param suffix Optional suffix. Used with scalar values to add unit such as `px`.\n     *\n     * Note that this will apply the provided style value to the host element if this function is called\n     * within a host binding function.\n     *\n     * @codeGenApi\n     */\n    function styleProp(prop, value, suffix) {\n        checkStylingProperty(prop, value, suffix, false);\n        return styleProp;\n    }\n    /**\n     * Update a class binding on an element with the provided value.\n     *\n     * This instruction is meant to handle the `[class.foo]=\"exp\"` case and,\n     * therefore, the class binding itself must already be allocated using\n     * `styling` within the creation block.\n     *\n     * @param prop A valid CSS class (only one).\n     * @param value A true/false value which will turn the class on or off.\n     *\n     * Note that this will apply the provided class value to the host element if
 this function\n     * is called within a host binding function.\n     *\n     * @codeGenApi\n     */\n    function classProp(className, value) {\n        checkStylingProperty(className, value, null, true);\n        return classProp;\n    }\n    /**\n     * Update style bindings using an object literal on an element.\n     *\n     * This instruction is meant to apply styling via the `[style]=\"exp\"` template bindings.\n     * When styles are applied to the element they will then be updated with respect to\n     * any styles/classes set via `styleProp`. If any styles are set to falsy\n     * then they
```

will be removed from the element.\n *\n * Note that the styling instruction will not be applied until `stylingApply` is called.\n *\n * @param styles A key/value style map of the styles that will be applied to the given element.\n * Any missing styles (that have already been applied to the element beforehand) will be\n * removed (unset) from the element's
styling.\n *\n * Note that this will apply the provided styleMap value to the host element if this function\n * is called within a host binding.\n *\n * @codeGenApi\n */\n function styleMap(styles) {\n checkStylingMap(styleKeyValueArraySet, styleStringParser, styles, false);\n }\n /**\n * Parse text as style and add values to KeyValueArray.\n *\n * This code is pulled out to a separate function so that it can be tree shaken away if it is not\n * needed. It is only referenced from `styleMap`.\n *\n * @param keyValueArray KeyValueArray to add parsed values to.\n * @param text text to parse.\n */\n function styleStringParser(keyValueArray, text) {\n for (var i = parseStyle(text); i >= 0; i = parseStyleNext(text, i)) {\n styleKeyValueArraySet(keyValueArray, getLastParsedKey(text), getLastParsedValue(text));\n }\n }\n /**\n * Update class bindings using an object literal
or class-string on an element.\n *\n * This instruction is meant to apply styling via the `[class]=\"exp\"` template bindings.\n * When classes are applied to the element they will then be updated with\n * respect to any styles/classes set via `classProp`. If any\n * classes are set to falsy then they will be removed from the element.\n *\n * Note that the styling instruction will not be applied until `stylingApply` is called.\n * Note that this will the provided classMap value to the host element if this function is called\n * within a host binding.\n *\n * @param classes A key/value map or string of CSS classes that will be added to the\n * given element. Any missing classes (that have already been applied to the element\n * beforehand) will be removed (unset) from the element's list of CSS classes.\n *\n * @codeGenApi\n */\n function classMap(classes) {\n checkStylingMap(keyValueArraySet, classStringParser,
classes, true);\n }\n /**\n * Parse text as class and add values to KeyValueArray.\n *\n * This code is pulled out to a separate function so that it can be tree shaken away if it is not\n * needed. It is only referenced from `classMap`.\n *\n * @param keyValueArray KeyValueArray to add parsed values to.\n * @param text text to parse.\n */\n function classStringParser(keyValueArray, text) {\n for (var i = parseClassName(text); i >= 0; i = parseClassNameNext(text, i)) {\n keyValueArraySet(keyValueArray, getLastParsedKey(text), true);\n }\n }\n /**\n * Common code between `classProp` and `styleProp`.\n *\n * @param prop property name.\n * @param value binding value.\n * @param suffix suffix for the property (e.g. `em` or `px`)\n * @param isClassBased `true` if `class` change (`false` if `style`)\n */\n function checkStylingProperty(prop, value, suffix, isClassBased)
{\n var lView = getLView();\n var tView = getTView();\n // Styling instructions use 2 slots per binding.\n // 1. one for the value / TStylingKey\n // 2. one for the intermittent-value / TStylingRange\n var bindingIndex = incrementBindingIndex(2);\n if (tView.firstUpdatePass) {\n stylingFirstUpdatePass(tView, prop, bindingIndex, isClassBased);\n }\n if (value !== NO_CHANGE && bindingUpdated(lView, bindingIndex, value)) {\n var tNode = tView.data[getSelectedIndex()];\n updateStyling(tView, tNode, lView, lView[RENDERER], prop, lView[bindingIndex + 1] = normalizeSuffix(value, suffix), isClassBased, bindingIndex);\n }\n }\n /**\n * Common code between `classMap` and `styleMap`.\n *\n * @param keyValueArraySet (See `keyValueArraySet` in \"util/array_utils\") Gets passed in as a\n * function so that `style` can be processed. This is done for tree shaking purposes.\n * @param stringParser Parser used to parse `value` if `string`. (Passed in as `style` and `class`\n * have different parsers.)\n * @param value bound value from application\n * @param isClassBased `true` if `class` change (`false` if `style`)\n */\n function checkStylingMap(keyValueArraySet, stringParser, value, isClassBased) {\n var tView = getTView();\n var bindingIndex = incrementBindingIndex(2);\n if (tView.firstUpdatePass) {\n stylingFirstUpdatePass(tView, null, bindingIndex, isClassBased);\n }\n var lView = getLView();\n if (value !== NO_CHANGE && bindingUpdated(lView, bindingIndex, value)) {\n // `getSelectedIndex()` should be here (rather than in instruction) so that it is guarded by the\n // if so as not to read unnecessarily.\n var tNode = tView.data[getSelectedIndex()];\n if

(hasStylingInputShadow(tNode, isClassBased) && !isInHostBindings(tView,
bindingIndex)) {\n if (ngDevMode) {\n // verify that if we are shadowing then `TData` is appropriately marked so that we skip\n // processing this binding in styling resolution.\n var tStylingKey = tView.data[bindingIndex];\n assertEqual(Array.isArray(tStylingKey) ? tStylingKey[1] : tStylingKey, false, 'Styling linked list shadow input should be marked as \\'false\\'');\n }\n // VE does not concatenate the static portion like we are doing here.\n // Instead VE just ignores the static completely if dynamic binding is present.\n // Because of locality we have already set the static portion because we don't know if there\n // is a dynamic portion until later. If we would ignore the static portion it would look like\n // the binding has removed it. This would confuse `[ngStyle]`/`[ngClass]` to do the wrong\n
// thing as it would think that the static portion was removed. For this reason we\n // concatenate it so that `[ngStyle]`/`[ngClass]` can continue to work on changed.\n var staticPrefix = isClassBased ? tNode.classesWithoutHost : tNode.stylesWithoutHost;\n ngDevMode && isClassBased === false && staticPrefix !== null &&\n assertEqual(staticPrefix.endsWith(';'), true, 'Expecting static portion to end with \\';\\'');\n if (staticPrefix !== null) {\n // We want to make sure that falsy values of `value` become empty strings.\n value = concatStringsWithSpace(staticPrefix, value ? value : '');\n }\n
// Given `<div [style] my-dir>` such that `my-dir` has `@Input('style')`.\n // This takes over the `[style]` binding. (Same for `[class]`)\n setDirectiveInputsWhichShadowsStyling(tView, tNode, lView, value,
isClassBased);\n }\n else {\n updateStylingMap(tView, tNode, lView, lView[RENDERER], lView[bindingIndex + 1], lView[bindingIndex + 1] = toStylingKeyValueArray(keyValueArraySet, stringParser, value), isClassBased, bindingIndex);\n }\n }\n }\n /**\n * Determines when the binding is in `hostBindings` section\n *\n * @param tView Current `TView`\n * @param bindingIndex index of binding which we would like if it is in `hostBindings`\n */\n function isInHostBindings(tView, bindingIndex) {\n // All host bindings are placed after the expando section.\n return bindingIndex >= tView.expandoStartIndex;\n }\n /**\n * Collects the necessary information to insert the binding into a linked list of style bindings\n * using `insertTStylingBinding`.\n *\n * @param tView `TView` where the binding linked list will be stored.\n * @param tStylingKey Property/key of the binding.\n
* @param bindingIndex Index of binding associated with the `prop`\n * @param isClassBased `true` if `class` change (`false` if `style`)\n */\n function stylingFirstUpdatePass(tView, tStylingKey, bindingIndex, isClassBased) {\n ngDevMode && assertFirstUpdatePass(tView);\n var tData = tView.data;\n if (tData[bindingIndex + 1] === null) {\n // The above check is necessary because we don't clear first update pass until first successful\n // (no exception) template execution. This prevents the styling instruction from double adding\n // itself to the list.\n // `getSelectedIndex()` should be here (rather than in instruction) so that it is guarded by the\n // if so as not to read unnecessarily.\n var tNode = tData[getSelectedIndex()];\n ngDevMode && assertDefined(tNode, 'TNode expected');\n var isHostBindings = isInHostBindings(tView, bindingIndex);\n if (hasStylingInputShadow(tNode,
isClassBased) && tStylingKey === null && !isHostBindings) {\n // `tStylingKey === null` implies that we are either `[style]` or `[class]` binding.\n // If there is a directive which uses `@Input('style')` or `@Input('class')` than\n // we need to neutralize this binding since that directive is shadowing it.\n // We turn this into a noop by setting the key to `false`\n tStylingKey = false;\n }\n tStylingKey = wrapInStaticStylingKey(tData, tNode, tStylingKey, isClassBased);\n insertTStylingBinding(tData, tNode, tStylingKey, bindingIndex, isHostBindings, isClassBased);\n }\n }\n /**\n * Adds static styling information to the binding if applicable.\n *\n * The linked list of styles not only stores the list and keys, but also stores static styling\n * information on some of the keys. This function determines if the key should contain
the styling\n * information and computes it.\n *\n * See `TStylingStatic` for more details.\n *\n * @param tData `TData` where the linked list is stored.\n * @param tNode `TNode` for which the styling is being

computed.\n * @param stylingKey `TStylingKeyPrimitive` which may need to be wrapped into `TStylingKey`\n * @param isClassBased `true` if `class` (`false` if `style`)\n */\n function wrapInStaticStylingKey(tData, tNode, stylingKey, isClassBased) {\n var hostDirectiveDef = getCurrentDirectiveDef(tData);\n var residual = isClassBased ? tNode.residualClasses : tNode.residualStyles;\n if (hostDirectiveDef === null) {\n // We are in template node.\n // If template node already had styling instruction then it has already collected the static\n // styling and there is no need to collect them again. We know that we are the first styling\n // instruction because the `TNode.*Bindings` points to 0 (nothing has been inserted yet).\n var isFirstStylingInstructionInTemplate = (isClassBased ? tNode.classBindings : tNode.styleBindings) === 0;\n if (isFirstStylingInstructionInTemplate) {\n // It would be nice to be able to get the statics from `mergeAttrs`, however, at this point\n // they are already merged and it would not be possible to figure which property belongs where\n // in the priority.\n stylingKey = collectStylingFromDirectives(null, tData, tNode, stylingKey, isClassBased);\n stylingKey = collectStylingFromTAttrs(stylingKey, tNode.attrs, isClassBased);\n // We know that if we have styling binding in template we can't have residual.\n residual = null;\n }\n }\n else {\n // We are in host binding node and there was no binding instruction in template node.\n // This means that we need to compute the residual.\n var directiveStylingLast = tNode.directiveStylingLast;\n var isFirstStylingInstructionInHostBinding = directiveStylingLast === -1 || tData[directiveStylingLast] !== hostDirectiveDef;\n if (isFirstStylingInstructionInHostBinding) {\n stylingKey =\n collectStylingFromDirectives(hostDirectiveDef, tData, tNode, stylingKey, isClassBased);\n if (residual === null) {\n // - If `null` than either:\n // - Template styling instruction already ran and it has consumed the static\n // styling into its `TStylingKey` and so there is no need to update residual. Instead\n // we need to update the `TStylingKey` associated with the first template node\n // instruction. OR\n // - Some other styling instruction ran and determined that there are no residuals\n
  var templateStylingKey = getTemplateHeadTStylingKey(tData, tNode, isClassBased);\n if (templateStylingKey !== undefined && Array.isArray(templateStylingKey)) {\n // Only recompute if `templateStylingKey` had static values. (If no static value found\n // then there is nothing to do since this operation can only produce less static keys, not\n // more.)\n templateStylingKey = collectStylingFromDirectives(null, tData, tNode, templateStylingKey[1] /* unwrap previous statics */, isClassBased);\n templateStylingKey =\n collectStylingFromTAttrs(templateStylingKey, tNode.attrs, isClassBased);\n setTemplateHeadTStylingKey(tData, tNode, isClassBased, templateStylingKey);\n }\n }\n else {\n // We only need to recompute residual if it is not `null`.\n // - If existing residual (implies there was no template styling). This means that some of\n // the statics may have moved from the residual to the `stylingKey` and so we have to\n // recompute.\n // - If `undefined` this is the first time we are running.\n residual = collectResidual(tData, tNode, isClassBased);\n }\n }\n }\n if (residual !== undefined) {\n isClassBased ? (tNode.residualClasses = residual) : (tNode.residualStyles = residual);\n }\n return stylingKey;\n }\n /**\n * Retrieve the `TStylingKey` for the template styling instruction.\n *\n * This is needed since `hostBinding` styling instructions are inserted after the template\n * instruction. While the template instruction needs to update the residual in `TNode` the\n * `hostBinding` instructions need to update the `TStylingKey` of the template instruction because\n * the template instruction is downstream from the `hostBindings` instructions.\n *\n * @param tData `TData` where the linked list is stored.\n * @param tNode `TNode` for which the styling is being computed.\n * @param isClassBased `true` if `class` (`false` if `style`)\n * @return `TStylingKey` if found or `undefined` if not found.\n */\n function getTemplateHeadTStylingKey(tData, tNode, isClassBased) {\n var bindings = isClassBased ? tNode.classBindings : tNode.styleBindings;\n if (getTStylingRangeNext(bindings) === 0) {\n // There does not seem to be a styling instruction in the

```
`template`.\n            return undefined;\n        }\n        return tData[getTStylingRangePrev(bindings)];\n    }\n    /**\n
 * Update the `TStylingKey` of the first template instruction in `TNode`.\n     *\n     * Logically `hostBindings`
styling instructions are of lower priority than that of the template.\n
 * However, they execute after the template styling instructions. This means that they get inserted\n     * in front of
the template styling instructions.\n     *\n     * If we have a template styling instruction and a new `hostBindings`
styling instruction is\n     * executed it means that it may need to steal static fields from the template instruction.
This\n     * method allows us to update the first template instruction `TStylingKey` with a new value.\n     *\n     *
Assume:\n     * ```\n     * <div my-dir style=\"color: red\" [style.color]=\"tmplExp\"></div>\n     *\n     *
@Directive({\n     *   host: {\n     *     'style': 'width: 100px',\n     *     '[style.color]': 'dirExp',\n     *   }\n     * })\n     *
class MyDir {}\n     * ```\n     *\n     * when `[style.color]=\"tmplExp\"` executes it creates this data structure.\n     *
```\n     *  ['', 'color', 'color', 'red', 'width', '100px'],\n     * ```\n     *\n     * The reason for this is that the template
instruction does not
 know if there are styling\n     * instructions and must assume that there are none and must collect all of the static
styling.\n     * (both\n     * `color' and 'width`)\n     *\n     * When `'[style.color]': 'dirExp',` executes we need to insert
a new data into the linked list.\n     * ```\n     *  ['', 'color', 'width', '100px'],  // newly inserted\n     *  ['', 'color', 'color',
'red', 'width', '100px'], // this is wrong\n     * ```\n     *\n     * Notice that the template statics is now wrong as it
incorrectly contains `width` so we need to\n     * update it like so:\n     * ```\n     *  ['', 'color', 'width', '100px'],\n     *
['', 'color', 'color', 'red'],    // UPDATE\n     * ```\n     *\n     * @param tData `TData` where the linked list is stored.\n
  * @param tNode `TNode` for which the styling is being computed.\n     * @param isClassBased `true` if `class`
(`false` if `style`)\n     * @param tStylingKey New `TStylingKey` which is replacing the old one.\n     */\n
function
 setTemplateHeadTStylingKey(tData, tNode, isClassBased, tStylingKey) {\n        var bindings = isClassBased ?
tNode.classBindings : tNode.styleBindings;\n        ngDevMode &&\n
assertNotEqual(getTStylingRangeNext(bindings), 0, 'Expecting to have at least one template styling binding.');\n
tData[getTStylingRangePrev(bindings)] = tStylingKey;\n    }\n    /**\n     * Collect all static values after the current
`TNode.directiveStylingLast` index.\n     *\n     * Collect the remaining styling information which has not yet been
collected by an existing\n     * styling instruction.\n     *\n     * @param tData `TData` where the `DirectiveDefs` are
stored.\n     * @param tNode `TNode` which contains the directive range.\n     * @param isClassBased `true` if
`class` (`false` if `style`)\n     */\n    function collectResidual(tData, tNode, isClassBased) {\n        var residual =
undefined;\n        var directiveEnd = tNode.directiveEnd;\n        ngDevMode &&\n
assertNotEqual(tNode.directiveStylingLast,
 -1, 'By the time this function gets called at least one hostBindings-node styling instruction must have executed.');\n
    // We add `1 + tNode.directiveStart` because we need to skip the current directive (as we are\n        // collecting
things after the last `hostBindings` directive which had a styling instruction.)\n        for (var i = 1 +
tNode.directiveStylingLast; i < directiveEnd; i++) {\n            var attrs = tData[i].hostAttrs;\n            residual =
collectStylingFromTAttrs(residual, attrs, isClassBased);\n        }\n        return collectStylingFromTAttrs(residual,
tNode.attrs, isClassBased);\n    }\n    /**\n     * Collect the static styling information with lower priority than
`hostDirectiveDef`.\n     *\n     * (This is opposite of residual styling.)\n     *\n     * @param hostDirectiveDef
`DirectiveDef` for which we want to collect lower priority static\n     *        styling. (Or `null` if template styling)\n
* @param
 tData `TData` where the linked list is stored.\n     * @param tNode `TNode` for which the styling is being
computed.\n     * @param stylingKey Existing `TStylingKey` to update or wrap.\n     * @param isClassBased `true`
if `class` (`false` if `style`)\n     */\n    function collectStylingFromDirectives(hostDirectiveDef, tData, tNode,
stylingKey, isClassBased) {\n        // We need to loop because there can be directives which have `hostAttrs` but
don't have\n        // `hostBindings` so this loop catches up to the current directive..\n        var currentDirective =
null;\n        var directiveEnd = tNode.directiveEnd;\n        var directiveStylingLast = tNode.directiveStylingLast;\n
  if (directiveStylingLast === -1) {\n            directiveStylingLast = tNode.directiveStart;\n        }\n        else {\n
 directiveStylingLast++;\n        }\n        while (directiveStylingLast < directiveEnd) {\n            currentDirective =
```
```

tData[directiveStylingLast];\n ngDevMode
&& assertDefined(currentDirective, 'expected to be defined');\n stylingKey =
collectStylingFromTAttrs(stylingKey, currentDirective.hostAttrs, isClassBased);\n if (currentDirective ===
hostDirectiveDef)\n break;\n directiveStylingLast++;\n }\n if (hostDirectiveDef !== null)
{\n // we only advance the styling cursor if we are collecting data from host bindings.\n // Template
executes before host bindings and so if we would update the index,\n // host bindings would not get their
statics.\n tNode.directiveStylingLast = directiveStylingLast;\n }\n return stylingKey;\n }\n /**\n
* Convert `TAttrs` into `TStylingStatic`.\n *\n * @param stylingKey existing `TStylingKey` to update or
wrap.\n * @param attrs `TAttributes` to process.\n * @param isClassBased `true` if `class` (`false` if `style`)\n
*/\n function collectStylingFromTAttrs(stylingKey,
attrs, isClassBased) {\n var desiredMarker = isClassBased ? 1 /* Classes */ : 2 /* Styles */;\n var
currentMarker = -1 /* ImplicitAttributes */;\n if (attrs !== null) {\n for (var i = 0; i < attrs.length; i++) {\n
var item = attrs[i];\n if (typeof item === 'number') {\n currentMarker = item;\n
}\n else {\n if (currentMarker === desiredMarker) {\n if
(!Array.isArray(stylingKey)) {\n stylingKey = stylingKey === undefined ? [] : ['', stylingKey];\n
}\n keyValueArraySet(stylingKey, item, isClassBased ? true : attrs[++i]);\n }\n
}\n }\n }\n return stylingKey === undefined ? null : stylingKey;\n }\n /**\n * Convert
user input to `KeyValueArray`.\n *\n * This function takes user input
which could be `string`, Object literal, or iterable and converts\n * it into a consistent representation. The output
of this is `KeyValueArray` (which is an array\n * where\n * even indexes contain keys and odd indexes contain
values for those keys).\n *\n * The advantage of converting to `KeyValueArray` is that we can perform diff in
an input\n * independent\n * way.\n * (ie we can compare `foo bar` to `['bar', 'baz'] and determine a set of
changes which need to be\n * applied)\n *\n * The fact that `KeyValueArray` is sorted is very important
because it allows us to compute the\n * difference in linear fashion without the need to allocate any additional
data.\n *\n * For example if we kept this as a `Map` we would have to iterate over previous `Map` to
determine\n * which values need to be deleted, over the new `Map` to determine additions, and we would have
to\n * keep additional `Map` to keep track of duplicates or items
which have not yet been visited.\n *\n * @param keyValueArraySet (See `keyValueArraySet` in
\"util/array_utils\") Gets passed in as a\n * function so that `style` can be processed. This is done\n *
for tree shaking purposes.\n * @param stringParser The parser is passed in so that it will be tree shakable. See\n
* `styleStringParser` and `classStringParser`\n * @param value The value to parse/convert to
`KeyValueArray`\n */\n function toStylingKeyValueArray(keyValueArraySet, stringParser, value) {\n if
(value == null /*|| value === undefined */ || value === '')\n return EMPTY_ARRAY$3;\n var
styleKeyValueArray = [];\n var unwrappedValue = unwrapSafeValue(value);\n if
(Array.isArray(unwrappedValue)) {\n for (var i = 0; i < unwrappedValue.length; i++) {\n
keyValueArraySet(styleKeyValueArray, unwrappedValue[i], true);\n }\n }\n else if (typeof
unwrappedValue === 'object') {\n for (var key in unwrappedValue) {\n if
(unwrappedValue.hasOwnProperty(key)) {\n keyValueArraySet(styleKeyValueArray, key,
unwrappedValue[key]);\n }\n }\n }\n else if (typeof unwrappedValue === 'string') {\n
stringParser(styleKeyValueArray, unwrappedValue);\n }\n else {\n ngDevMode &&\n
throwError('Unsupported styling type ' + typeof unwrappedValue + ': ' + unwrappedValue);\n }\n return
styleKeyValueArray;\n }\n /**\n * Set a `value` for a `key`.\n *\n * See: `keyValueArraySet` for
details\n *\n * @param keyValueArray KeyValueArray to add to.\n * @param key Style key to add.\n *
@param value The value to set.\n */\n function styleKeyValueArraySet(keyValueArray, key, value) {\n
keyValueArraySet(keyValueArray, key, unwrapSafeValue(value));\n }\n /**\n
* Update map based styling.\n *\n * Map based styling could be anything which contains more than one
binding. For example `string`,\n * or object literal. Dealing with all of these types would complicate the logic so\n
* instead this function expects that the complex input is first converted into normalized\n * `KeyValueArray`.

The advantage of normalization is that we get the values sorted, which makes it\n * very cheap to compute deltas between the previous and current value.\n *\n * @param tView Associated `TView.data` contains the linked list of binding priorities.\n * @param tNode `TNode` where the binding is located.\n * @param lView `LView` contains the values associated with other styling binding at this `TNode`.\n * @param renderer Renderer to use if any updates.\n * @param oldKeyValueArray Previous value represented as `KeyValueArray`\n * @param newKeyValueArray Current value represented as `KeyValueArray`\n * @param isClassBased `true` if `class` (`false` if `style`)\n * @param bindingIndex Binding index of the binding.\n */\n function updateStylingMap(tView, tNode, lView, renderer, oldKeyValueArray, newKeyValueArray, isClassBased, bindingIndex) {\n if (oldKeyValueArray === NO_CHANGE) {\n // On first execution the oldKeyValueArray is NO_CHANGE => treat it as empty KeyValueArray.\n oldKeyValueArray = EMPTY_ARRAY$3;\n }\n var oldIndex = 0;\n var newIndex = 0;\n var oldKey = 0 < oldKeyValueArray.length ? oldKeyValueArray[0] : null;\n var newKey = 0 < newKeyValueArray.length ? newKeyValueArray[0] : null;\n while (oldKey !== null || newKey !== null) {\n ngDevMode && assertLessThan(oldIndex, 999, 'Are we stuck in infinite loop?');\n ngDevMode && assertLessThan(newIndex, 999, 'Are we stuck in infinite loop?');\n var oldValue = oldIndex < oldKeyValueArray.length ? oldKeyValueArray[oldIndex + 1] : undefined;\n var newValue = newIndex < newKeyValueArray.length ? newKeyValueArray[newIndex + 1] : undefined;\n var setKey = null;\n var setValue = undefined;\n if (oldKey === newKey) {\n // UPDATE: Keys are equal => new value is overwriting old value.\n oldIndex += 2;\n newIndex += 2;\n if (oldValue !== newValue) {\n setKey = newKey;\n setValue = newValue;\n }\n }\n else if (newKey === null || oldKey !== null && oldKey < newKey) {\n // DELETE: oldKey key is missing or we did not find the oldKey in the newValue\n // (because the keyValueArray is sorted and `newKey` is found later alphabetically).\n // `\"background\" < \"color\"` so we need to delete `\"background\"` because it is not found in the\n // new array.\n oldIndex += 2;\n setKey = oldKey;\n }\n else {\n // CREATE: newKey's is earlier alphabetically than oldKey's (or no oldKey) => we have new key.\n // `\"color\" > \"background\"` so we need to add `color` because it is in new array but not in\n // old array.\n ngDevMode && assertDefined(newKey, 'Expecting to have a valid key');\n newIndex += 2;\n setKey = newKey;\n setValue = newValue;\n }\n if (setKey !== null) {\n updateStyling(tView, tNode, lView, renderer, setKey, setValue, isClassBased, bindingIndex);\n }\n oldKey = oldIndex < oldKeyValueArray.length ? oldKeyValueArray[oldIndex] : null;\n newKey = newIndex < newKeyValueArray.length ? newKeyValueArray[newIndex] : null;\n }\n }\n /**\n * Update a simple (property name) styling.\n *\n * This function takes `prop` and updates the DOM to that value. The function takes the binding\n * value as well as binding priority into consideration to determine which value should be written\n * to DOM. (For example it may be determined that there is a higher priority overwrite which blocks\n * the DOM write, or if the value goes to `undefined` a lower priority overwrite may be consulted.)\n *\n * @param tView Associated `TView.data` contains the linked list of binding priorities.\n * @param tNode `TNode` where the binding is located.\n * @param lView `LView` contains the values associated with other styling binding at this `TNode`.\n * @param renderer Renderer to use if any updates.\n * @param prop Either style property name or a class name.\n * @param value Either style value for `prop` or `true`/`false` if `prop` is class.\n * @param isClassBased `true` if `class` (`false` if `style`)\n * @param bindingIndex Binding index of the binding.\n */\n function updateStyling(tView, tNode, lView, renderer, prop, value, isClassBased, bindingIndex) {\n if (!(tNode.type & 3 /* AnyRNode */)) {\n // It is possible to have styling on non-elements (such as ng-container).\n // This is rare, but it does happen. In such a case, just ignore the binding.\n return;\n }\n var tData = tView.data;\n var tRange = tData[bindingIndex + 1];\n var higherPriorityValue = getTStylingRangeNextDuplicate(tRange) ?\n findStylingValue(tData, tNode, lView, prop, getTStylingRangeNext(tRange), isClassBased) :\n

```
undefined;\n        if (!isStylingValuePresent(higherPriorityValue)) {\n            // We don't have a next duplicate, or we did not find a duplicate value.\n            if (!isStylingValuePresent(value)) {\n                // We should delete current value or restore to lower priority value.\n                if (getTStylingRangePrevDuplicate(tRange)) {\n                    // We have a
 possible prev duplicate, let's retrieve it.\n                    value = findStylingValue(tData, null, lView, prop, bindingIndex, isClassBased);\n                }\n            }\n            var rNode = getNativeByIndex(getSelectedIndex(), lView);\n            applyStyling(renderer, isClassBased, rNode, prop, value);\n        }\n    }\n    /**\n     * Search for styling value with higher priority which is overwriting current value, or a\n     * value of lower priority to which we should fall back if the value is `undefined`.\n     *\n     * When value is being applied at a location, related values need to be consulted.\n     * - If there is a higher priority binding, we should be using that one instead.\n     *   For example `<div  [style]=\"{color:exp1}\" [style.color]=\"exp2\">` change to `exp1`\n     *   requires that we check `exp2` to see if it is set to value other than `undefined`.\n     * - If there is a lower priority binding and we are changing to `undefined`\n     *   For
 example `<div  [style]=\"{color:exp1}\" [style.color]=\"exp2\">` change to `exp2` to\n     *   `undefined` requires that we check `exp1` (and static values) and use that as new value.\n     *\n     * NOTE: The styling stores two values.\n     * 1. The raw value which came from the application is stored at `index + 0` location. (This value\n     * is used for dirty checking).\n     * 2. The normalized value is stored at `index + 1`.\n     *\n     * @param tData `TData` used for traversing the priority.\n     * @param tNode `TNode` to use for resolving static styling. Also controls search direction.\n     *   - `TNode` search next and quit as soon as `isStylingValuePresent(value)` is true.\n     *      If no value found consult `tNode.residualStyle`/`tNode.residualClass` for default value.\n     *   - `null` search prev and go all the way to end. Return last value where\n     *     `isStylingValuePresent(value)` is true.\n     * @param lView `LView` used for retrieving the actual values.\n
     * @param prop Property which we are interested in.\n     * @param index Starting index in the linked list of styling bindings where the search should start.\n     * @param isClassBased `true` if `class` (`false` if `style`)\n     */\n    function findStylingValue(tData, tNode, lView, prop, index, isClassBased) {\n        // `TNode` to use for resolving static styling. Also controls search direction.\n        //   - `TNode` search next and quit as soon as `isStylingValuePresent(value)` is true.\n        //      If no value found consult `tNode.residualStyle`/`tNode.residualClass` for default value.\n        //   - `null` search prev and go all the way to end. Return last value where\n        //     `isStylingValuePresent(value)` is true.\n        var isPrevDirection = tNode === null;\n        var value = undefined;\n        while (index > 0) {\n            var rawKey = tData[index];\n            var containsStatics = Array.isArray(rawKey);\n            // Unwrap the key if we
 contain static values.\n            var key = containsStatics ? rawKey[1] : rawKey;\n            var isStylingMap = key === null;\n            var valueAtLViewIndex = lView[index + 1];\n            if (valueAtLViewIndex === NO_CHANGE) {\n                // In firstUpdatePass the styling instructions create a linked list of styling.\n                // On subsequent passes it is possible for a styling instruction to try to read a binding\n                // which\n                // has not yet executed. In that case we will find `NO_CHANGE` and we should assume that\n                // we have `undefined` (or empty array in case of styling-map instruction) instead. This\n                // allows the resolution to apply the value (which may later be overwritten when the\n                // binding actually executes.)\n                valueAtLViewIndex = isStylingMap ? EMPTY_ARRAY$3 : undefined;\n            }\n            var currentValue = isStylingMap ? keyValueArrayGet(valueAtLViewIndex,
 prop) :\n                key === prop ? valueAtLViewIndex : undefined;\n            if (containsStatics && !isStylingValuePresent(currentValue)) {\n                currentValue = keyValueArrayGet(rawKey, prop);\n            }\n            if (isStylingValuePresent(currentValue)) {\n                value = currentValue;\n                if (isPrevDirection) {\n                    return value;\n                }\n            }\n            var tRange = tData[index + 1];\n            index = isPrevDirection ? getTStylingRangePrev(tRange) : getTStylingRangeNext(tRange);\n        }\n        if (tNode !== null) {\n            // in case where we are going in next direction AND we did not find anything, we need to\n            // consult residual styling\n            var residual = isClassBased ? tNode.residualClasses : tNode.residualStyles;\n            if (residual != null /** OR residual !== undefined */) {\n                value = keyValueArrayGet(residual, prop);\n
```

```
}\n
    }\n    return value;\n  }\n  /**\n   * Determines if the binding value should be used (or if the value is 'undefined' and hence priority\n   * resolution should be used.)\n   *\n   * @param value Binding style value.\n   */\n  function isStylingValuePresent(value) {\n    // Currently only `undefined` value is considered non-binding. That is `undefined` says I don't\n    // have an opinion as to what this binding should be and you should consult other bindings by\n    // priority to determine the valid value.\n    // This is extracted into a single function so that we have a single place to control this.\n    return value !== undefined;\n  }\n  /**\n   * Normalizes and/or adds a suffix to the value.\n   *\n   * If value is `null`/`undefined` no suffix is added\n   * @param value\n   * @param suffix\n   */\n  function normalizeSuffix(value, suffix) {\n    if (value == null /** || value === undefined */) {\n
  // do nothing\n    }\n    else if (typeof suffix === 'string') {\n      value = value + suffix;\n    }\n    else if (typeof value === 'object') {\n      value = stringify(unwrapSafeValue(value));\n    }\n    return value;\n  }\n  /**\n   * Tests if the `TNode` has input shadow.\n   *\n   * An input shadow is when a directive steals (shadows) the input by using `@Input('style')` or\n   * `@Input('class')` as input.\n   *\n   * @param tNode `TNode` which we would like to see if it has shadow.\n   * @param isClassBased `true` if `class` (`false` if `style`)\n   */\n  function hasStylingInputShadow(tNode, isClassBased) {\n    return (tNode.flags & (isClassBased ? 16 /* hasClassInput */ : 32 /* hasStyleInput */)) !== 0;\n  }\n\n  /**\n   * @license\n   * Copyright Google LLC All Rights Reserved.\n   *\n   * Use of this source code is governed by an MIT-style license that can be\n   * found in the LICENSE file at https://angular.io/license\n
  */\n  /**\n   * Create static text node\n   *\n   * @param index Index of the node in the data array\n   * @param value Static string value to write.\n   *\n   * @codeGenApi\n   */\n  function text(index, value) {\n    if (value === void 0) { value = ''; }\n    var lView = getLView();\n    var tView = getTView();\n    var adjustedIndex = index + HEADER_OFFSET;\n    ngDevMode &&\n      assertEqual(getBindingIndex(), tView.bindingStartIndex, 'text nodes should be created before any bindings');\n    ngDevMode && assertIndexInRange(lView, adjustedIndex);\n    var tNode = tView.firstCreatePass ?\n      getOrCreateTNode(tView, adjustedIndex, 1 /* Text */, value, null) :\n      tView.data[adjustedIndex];\n    var textNative = lView[adjustedIndex] = createTextNode(lView[RENDERER], value);\n    appendChild(tView, lView, textNative, tNode);\n    // Text nodes are self closing.\n    setCurrentTNode(tNode, false);\n  }\n\n  /**\n   * @license\n   * Copyright Google LLC All Rights Reserved.\n   *\n   * Use of this source code is governed by an MIT-style license that can be\n   * found in the LICENSE file at https://angular.io/license\n   */\n  /**\n   *\n   * Update text content with a lone bound value\n   *\n   * Used when a text node has 1 interpolated value in it, an no additional text\n   * surrounds that interpolated value:\n   *\n   * ```html\n   * <div>{{v0}}</div>\n   * ```\n   *\n   * Its compiled representation is:\n   *\n   * ```ts\n   * textInterpolate(v0);\n   * ```\n   * @returns itself, so that it may be chained.\n   * @see textInterpolateV\n   * @codeGenApi\n   */\n  function textInterpolate(v0) {\n    textInterpolate1('', v0, '');\n    return textInterpolate;\n  }\n  /**\n   *\n   * Update text content with single bound value surrounded by other text.\n   *\n   * Used
  when a text node has 1 interpolated value in it:\n   *\n   * ```html\n   * <div>prefix{{v0}}suffix</div>\n   * ```\n   *\n   * Its compiled representation is:\n   *\n   * ```ts\n   * textInterpolate1('prefix', v0, 'suffix');\n   * ```\n   * @returns itself, so that it may be chained.\n   * @see textInterpolateV\n   * @codeGenApi\n   */\n  function textInterpolate1(prefix, v0, suffix) {\n    var lView = getLView();\n    var interpolated = interpolation1(lView, prefix, v0, suffix);\n    if (interpolated !== NO_CHANGE) {\n      textBindingInternal(lView, getSelectedIndex(), interpolated);\n    }\n    return textInterpolate1;\n  }\n  /**\n   *\n   * Update text content with 2 bound values surrounded by other text.\n   *\n   * Used when a text node has 2 interpolated values in it:\n   *\n   * ```html\n   * <div>prefix{{v0}}-{{v1}}suffix</div>\n   * ```\n   *\n   * Its compiled representation is:\n   *\n
   * ```ts\n   * textInterpolate2('prefix', v0, '-', v1, 'suffix');\n   * ```\n   * @returns itself, so that it may be chained.\n   * @see textInterpolateV\n   * @codeGenApi\n   */\n  function textInterpolate2(prefix, v0, i0, v1,
```

suffix) {\n var lView = getLView();\n var interpolated = interpolation2(lView, prefix, v0, i0, v1, suffix);\n if (interpolated !== NO_CHANGE) {\n textBindingInternal(lView, getSelectedIndex(), interpolated);\n }\n return textInterpolate2;\n }\n /**\n *\n * Update text content with 3 bound values surrounded by other text.\n *\n * Used when a text node has 3 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate3(\n * 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\n function textInterpolate3(prefix, v0, i0, v1, i1, v2, suffix) {\n var lView = getLView();\n var interpolated = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n if (interpolated !== NO_CHANGE) {\n textBindingInternal(lView, getSelectedIndex(), interpolated);\n }\n return textInterpolate3;\n }\n /**\n *\n * Update text content with 4 bound values surrounded by other text.\n *\n * Used when a text node has 4 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate4(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\n function textInterpolate4(prefix,
v0, i0, v1, i1, v2, i2, v3, suffix) {\n var lView = getLView();\n var interpolated = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n if (interpolated !== NO_CHANGE) {\n textBindingInternal(lView, getSelectedIndex(), interpolated);\n }\n return textInterpolate4;\n }\n /**\n *\n * Update text content with 5 bound values surrounded by other text.\n *\n * Used when a text node has 5 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate5(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\n function textInterpolate5(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix) {\n var
lView = getLView();\n var interpolated = interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n if (interpolated !== NO_CHANGE) {\n textBindingInternal(lView, getSelectedIndex(), interpolated);\n }\n return textInterpolate5;\n }\n /**\n *\n * Update text content with 6 bound values surrounded by other text.\n *\n * Used when a text node has 6 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate6(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change. @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\n function textInterpolate6(prefix,
v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix) {\n var lView = getLView();\n var interpolated = interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n if (interpolated !== NO_CHANGE) {\n textBindingInternal(lView, getSelectedIndex(), interpolated);\n }\n return textInterpolate6;\n }\n /**\n *\n * Update text content with 7 bound values surrounded by other text.\n *\n * Used when a text node has 7 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate7(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\n function textInterpolate7(prefix,
v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix) {\n var lView = getLView();\n var interpolated = interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n if (interpolated !== NO_CHANGE) {\n textBindingInternal(lView, getSelectedIndex(), interpolated);\n }\n return textInterpolate7;\n }\n /**\n *\n * Update text content with 8 bound values surrounded by other text.\n *\n * Used when a text node has 8 interpolated values in it:\n *\n * ```html\n * prefix{{v0}}-

{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix \n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate8(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n
*/\n function textInterpolate8(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix) {\n var lView = getLView();\n var interpolated = interpolation8(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n if (interpolated !== NO_CHANGE) {\n textBindingInternal(lView, getSelectedIndex(), interpolated);\n }\n return textInterpolate8;\n }\n /**\n * Update text content with 9 or more bound values other surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolateV(\n * ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n * 'suffix']);\n * ```\n *.\n * @param values
The collection of values and the strings in between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n *\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function textInterpolateV(values) {\n var lView = getLView();\n var interpolated = interpolationV(lView, values);\n if (interpolated !== NO_CHANGE) {\n textBindingInternal(lView, getSelectedIndex(), interpolated);\n }\n return textInterpolateV;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n *\n * Update an interpolated class on an element with single bound value surrounded by text.\n *\n * Used when
the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate1('prefix', v0, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function classMapInterpolate1(prefix, v0, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n /**\n *\n * Update an interpolated class on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}suffix\"> \n
* ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate2('prefix', v0, '-', v1, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function classMapInterpolate2(prefix, v0, i0, v1, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n /**\n *\n * Update an interpolated class on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to a property has 3 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}suffix\"> \n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate3(\n * 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function classMapInterpolate3(prefix, v0, i0, v1, i1, v2, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n /**\n *\n * Update an interpolated

```
class on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate4(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function classMapInterpolate4(prefix, v0, i0, v1, i1, v2, i2, v3, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n /**\n *\n * Update an interpolated class on an element with 5 bound values surrounded by text.\n *\n * Used when the value passed to a property has 5 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate5(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function classMapInterpolate5(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n /**\n *\n * Update an interpolated class on an element with 6 bound values surrounded by text.\n *\n * Used when the value passed to a property has 6 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate6(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function classMapInterpolate6(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n /**\n *\n * Update an interpolated class on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate7(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value
```

checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function classMapInterpolate7(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n /**\n *\n * Update an interpolated class on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate8(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n
* @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function classMapInterpolate8(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation8(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n /**\n * Update an interpolated class on an element with 9 or more bound values surrounded by text.\n *\n
* Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n * class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolateV(\n * ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n * 'suffix']);\n * ```\n *.\n * @param values The collection of values and the strings in-between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n * @codeGenApi\n */\n
function classMapInterpolateV(values) {\n var lView = getLView();\n var interpolatedValue = interpolationV(lView, values);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n }\n\n /**\n * @license\n
* Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n *\n * Update an interpolated style on an element with single bound value surrounded by text.\n *\n * Used when the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div style=\"key: {{v0}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate1('key: ', v0, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n
* @codeGenApi\n */\n function styleMapInterpolate1(prefix, v0, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n styleMap(interpolatedValue);\n }\n /**\n *\n * Update an interpolated style on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate2('key: ', v0, '; key1: ', v1, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n

```
* @param suffix Static value used for concatenation only.\n     * @codeGenApi\n     */\n     function
styleMapInterpolate2(prefix, v0, i0, v1, suffix) {\n         var lView = getLView();\n         var interpolatedValue =
interpolation2(lView, prefix, v0, i0, v1, suffix);\n
         styleMap(interpolatedValue);\n     }\n     /**\n     *\n     * Update an interpolated style on an element with 3
bound values surrounded by text.\n     *\n     * Used when the value passed to a property has 3 interpolated values in
it:\n     *\n     * ```html\n     * <div style=\"key: {{v0}}; key2: {{v1}}; key2: {{v2}}suffix\"></div>\n     * ```\n
*\n     * Its compiled representation is:\n     *\n     * ```ts\n     * styleMapInterpolate3(\n     *     'key: ', v0, '; key1: ',
v1, '; key2: ', v2, 'suffix');\n     * ```\n     *\n     * @param prefix Static value used for concatenation only.\n     *
@param v0 Value checked for change.\n     * @param i0 Static value used for concatenation only.\n     * @param v1
Value checked for change.\n     * @param i1 Static value used for concatenation only.\n     * @param v2 Value
checked for change.\n     * @param suffix Static value used for concatenation only.\n     * @codeGenApi\n     */\n
function styleMapInterpolate3(prefix,
 v0, i0, v1, i1, v2, suffix) {\n         var lView = getLView();\n         var interpolatedValue = interpolation3(lView,
prefix, v0, i0, v1, i1, v2, suffix);\n         styleMap(interpolatedValue);\n     }\n     /**\n     *\n     * Update an
interpolated style on an element with 4 bound values surrounded by text.\n     *\n     * Used when the value passed to
a property has 4 interpolated values in it:\n     *\n     * ```html\n     * <div style=\"key: {{v0}}; key1: {{v1}}; key2:
{{v2}}; key3: {{v3}}suffix\"></div>\n     * ```\n     *\n     * Its compiled representation is:\n     *\n     * ```ts\n     *
styleMapInterpolate4(\n     *     'key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, 'suffix');\n     * ```\n     *\n     *
@param prefix Static value used for concatenation only.\n     * @param v0 Value checked for change.\n     *
@param i0 Static value used for concatenation only.\n     * @param v1 Value checked for change.\n     * @param i1
Static value used for concatenation only.\n
     * @param v2 Value checked for change.\n     * @param i2 Static value used for concatenation only.\n     *
@param v3 Value checked for change.\n     * @param suffix Static value used for concatenation only.\n     *
@codeGenApi\n     */\n     function styleMapInterpolate4(prefix, v0, i0, v1, i1, v2, i2, v3, suffix) {\n         var lView =
getLView();\n         var interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n
styleMap(interpolatedValue);\n     }\n     /**\n     *\n     * Update an interpolated style on an element with 5 bound
values surrounded by text.\n     *\n     * Used when the value passed to a property has 5 interpolated values in it:\n
*\n     * ```html\n     * <div style=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4:
{{v4}}suffix\"></div>\n     * ```\n     *\n     * Its compiled representation is:\n     *\n     * ```ts\n     *
styleMapInterpolate5(\n     *     'key: ', v0, '; key1: ', v1, '; key2: ',
 v2, '; key3: ', v3, '; key4: ', v4, 'suffix');\n     * ```\n     *\n     * @param prefix Static value used for concatenation
only.\n     * @param v0 Value checked for change.\n     * @param i0 Static value used for concatenation only.\n     *
@param v1 Value checked for change.\n     * @param i1 Static value used for concatenation only.\n     * @param v2
Value checked for change.\n     * @param i2 Static value used for concatenation only.\n     * @param v3 Value
checked for change.\n     * @param i3 Static value used for concatenation only.\n     * @param v4 Value checked
for change.\n     * @param suffix Static value used for concatenation only.\n     * @codeGenApi\n     */\n     function
styleMapInterpolate5(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix) {\n         var lView = getLView();\n         var
interpolatedValue = interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n
styleMap(interpolatedValue);\n     }\n     /**\n     *\n     * Update an
 interpolated style on an element with 6 bound values surrounded by text.\n     *\n     * Used when the value passed
to a property has 6 interpolated values in it:\n     *\n     * ```html\n     * <div style=\"key: {{v0}}; key1: {{v1}};
key2: {{v2}}; key3: {{v3}}; key4: {{v4}};\n     *             key5: {{v5}}suffix\"></div>\n     * ```\n     *\n     * Its
compiled representation is:\n     *\n     * ```ts\n     * styleMapInterpolate6(\n     *     'key: ', v0, '; key1: ', v1, '; key2: ',
v2, '; key3: ', v3, '; key4: ', v4, '; key5: ', v5,\n     *     'suffix');\n     * ```\n     *\n     * @param prefix Static value used
for concatenation only.\n     * @param v0 Value checked for change.\n     * @param i0 Static value used for
concatenation only.\n     * @param v1 Value checked for change.\n     * @param i1 Static value used for
concatenation only.\n     * @param v2 Value checked for change.\n     * @param i2 Static value used for
concatenation only.\n     * @param v3 Value checked for change.\n
```

```
 * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function styleMapInterpolate6(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n styleMap(interpolatedValue);\n }\n /**\n *\n * Update an interpolated style on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4: {{v4}}; key5: {{v5}};\n *            key6: {{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate7(\n *  'key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, '; key4: ', v4, '; key5: ', v5,\n *  '; key6: ', v6, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function styleMapInterpolate7(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n styleMap(interpolatedValue);\n }\n /**\n *\n * Update an interpolated style on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4: {{v4}}; key5: {{v5}};\n *            key6: {{v6}}; key7: {{v7}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate8(\n *  'key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, '; key4: ', v4, '; key5: ', v5,\n *
  '; key6: ', v6, '; key7: ', v7, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\n function styleMapInterpolate8(prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix) {\n var lView = getLView();\n var interpolatedValue = interpolation8(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n styleMap(interpolatedValue);\n }\n /**\n * Update an interpolated style on an element with 9 or more bound values surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n *  class=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4: {{v4}}; key5: {{v5}};\n *            key6: {{v6}}; key7: {{v7}}; key8: {{v8}}; key9: {{v9}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolateV(\n *  ['key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, '; key4: ', v4, '; key5: ', v5,\n *  '; key6: ', v6, '; key7: ', v7, '; key8: ', v8, '; key9: ', v9, 'suffix']);\n * ```\n *.\n * @param values The collection of values and the strings in-between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '; key2: ', value1, '; key2: ', value2, ..., value99, 'suffix']`)\n * @codeGenApi\n */\n function styleMapInterpolateV(values) {\n var lView = getLView();\n var interpolatedValue =
```

interpolationV(lView, values);\n styleMap(interpolatedValue);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n *\n * Update an interpolated style property on an element with single bound value surrounded by text.\n *\n * Used when the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate1(0, 'prefix', v0, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolate1(prop, prefix, v0, suffix, valueSuffix) {\n var lView = getLView();\n var interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n checkStylingProperty(prop, interpolatedValue,
valueSuffix, false);\n return stylePropInterpolate1;\n }\n /**\n *\n * Update an interpolated style property on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate2(0, 'prefix', v0, '-', v1, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation
only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolate2(prop, prefix, v0, i0, v1, suffix, valueSuffix) {\n var lView = getLView();\n var interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate2;\n }\n /**\n *\n * Update an interpolated style property on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to a property has 3 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate3(0, 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n *\n * @param
styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolate3(prop, prefix, v0, i0, v1, i1, v2, suffix, valueSuffix) {\n var lView = getLView();\n var interpolatedValue = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n checkStylingProperty(prop, interpolatedValue,
valueSuffix, false);\n return stylePropInterpolate3;\n }\n /**\n *\n * Update an interpolated style property on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate4(0, 'prefix', v0, '-', v1, '-', v2, '-', v3, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value

checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static
value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolate4(prop, prefix, v0, i0, v1, i1, v2, i2, v3, suffix, valueSuffix) {\n var lView = getLView();\n var interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate4;\n }\n /**\n *\n * Update an interpolated style property on an element with 5 bound values surrounded by text.\n *\n * Used when the value passed to a property has 5 interpolated values in it:\n
*\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate5(0, 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked
for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolate5(prop, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix, valueSuffix) {\n var lView = getLView();\n var interpolatedValue = interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate5;\n }\n /**\n *\n * Update an interpolated style property on an element with 6 bound values surrounded by text.\n *\n * Used when the value passed to a property has 6 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix\"></div>\n * ```\n *\n * Its compiled representation
is:\n *\n * ```ts\n * stylePropInterpolate6(0, 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix
Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolate6(prop, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix, valueSuffix) {\n var lView = getLView();\n var interpolatedValue = interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate6;\n }\n /**\n *\n * Update an interpolated style property on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n

*\n * ```ts\n * stylePropInterpolate7(\n * 0, 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolate7(prop, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix, valueSuffix) {\n var lView = getLView();\n var interpolatedValue = interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate7;\n }\n /**\n *\n * Update an interpolated style property on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate8(0, 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6,\n * '-', v7, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolate8(prop, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix, valueSuffix) {\n var lView = getLView();\n var interpolatedValue = interpolation8(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate8;\n }\n /**\n * Update an interpolated style property on an element with 9 or more bound values surrounded by\n * text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n * style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix\">\n * </div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolateV(\n * 0, ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n * 'suffix']);\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`..\n * @param values The collection of values and the strings in-between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\n function stylePropInterpolateV(prop, values, valueSuffix) {\n var lView = getLView();\n var interpolatedValue =

interpolationV(lView, values);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolateV;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Update a property on a host element. Only applies to native node properties, not inputs.\n *\n * Operates on the element selected by index via the {@link select} instruction.\n *\n * @param propName Name of property. Because
it is going to DOM, this is not subject to\n * renaming as part of minification.\n * @param value New value to write.\n * @param sanitizer An optional function used to sanitize the value.\n * @returns This function returns itself so that it may be chained\n * (e.g. `property('name', ctx.name)('title', ctx.title)`)\n *\n * @codeGenApi\n */\n function hostProperty(propName, value, sanitizer) {\n var lView = getLView();\n var bindingIndex = nextBindingIndex();\n if (bindingUpdated(lView, bindingIndex, value)) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n elementPropertyInternal(tView, tNode, lView, propName, value, lView[RENDERER], sanitizer, true);\n ngDevMode && storePropertyBindingMetadata(tView.data, tNode, propName, bindingIndex);\n }\n return hostProperty;\n }\n /**\n * Updates a synthetic host binding (e.g. `[@foo]`) on a component
or directive.\n *\n * This instruction is for compatibility purposes and is designed to ensure that a\n * synthetic host binding (e.g. `@HostBinding('@foo')`) properly gets rendered in\n * the component's renderer. Normally all host bindings are evaluated with the parent\n * component's renderer, but, in the case of animation @triggers, they need to be\n * evaluated with the sub component's renderer (because that's where the animation\n * triggers are defined).\n *\n * Do not use this instruction as a replacement for `elementProperty`. This instruction\n * only exists to ensure compatibility with the ViewEngine's host binding behavior.\n *\n * @param index The index of the element to update in the data array\n * @param propName Name of property. Because it is going to DOM, this is not subject to\n * renaming as part of minification.\n * @param value New value to write.\n * @param sanitizer An optional function
used to sanitize the value.\n *\n * @codeGenApi\n */\n function syntheticHostProperty(propName, value, sanitizer) {\n var lView = getLView();\n var bindingIndex = nextBindingIndex();\n if (bindingUpdated(lView, bindingIndex, value)) {\n var tView = getTView();\n var tNode = getSelectedTNode();\n var currentDef = getCurrentDirectiveDef(tView.data);\n var renderer = loadComponentRenderer(currentDef, tNode, lView);\n elementPropertyInternal(tView, tNode, lView, propName, value, renderer, sanitizer, true);\n ngDevMode && storePropertyBindingMetadata(tView.data, tNode, propName, bindingIndex);\n }\n return syntheticHostProperty;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n
/**\n * NOTE: changes to the `ngI18nClosureMode` name must be synced with `compiler-cli/src/tooling.ts`.\n */\n if (typeof ngI18nClosureMode === 'undefined') {\n // These property accesses can be ignored because ngI18nClosureMode will be set to false\n // when optimizing code and the whole if statement will be dropped.\n
// Make sure to refer to ngI18nClosureMode as ['ngI18nClosureMode'] for closure.\n // NOTE: we need to have it in IIFE so that the tree-shaker is happy.\n (function () {\n // tslint:disable-next-line:no-toplevel-property-access\n _global['ngI18nClosureMode'] =\n // TODO(FW-1250): validate that this actually, you know, works.\n // tslint:disable-next-line:no-toplevel-property-access\n typeof goog !== 'undefined' && typeof goog.getMsg === 'function';\n })();\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n
* Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // THIS CODE IS GENERATED - DO NOT MODIFY\n // See angular/tools/gulp-tasks/cldr/extract.js\n var u = undefined;\n function plural(n) {\n var i = Math.floor(Math.abs(n)), v = n.toString().replace(/^[^.]*\\.?/, '').length;\n if (i === 1 && v === 0)\n return 1;\n return 5;\n }\n var localeEn = [\n 'en',\n [['a', 'p'], ['AM', 'PM'], u],\n [['AM', 'PM'], u, u],\n [\n ['S', 'M', 'T', 'W', 'T', 'F', 'S'], ['Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat'],\n ['Sunday',

```
'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday'],\n ['Su', 'Mo', 'Tu', 'We', 'Th', 'Fr', 'Sa']\n ],\n u,\n [\n ['J', 'F', 'M', 'A', 'M', 'J', 'J', 'A', 'S', 'O', 'N', 'D'],\n ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec'],\n [\n 'January', 'February', 'March', 'April', 'May', 'June', 'July', 'August', 'September',\n 'October', 'November', 'December'\n ]\n ],\n u,\n [['B', 'A'], ['BC', 'AD'], ['Before Christ', 'Anno Domini']],\n 0,\n [6, 0],\n ['M/d/yy', 'MMM d, y', 'MMMM d, y', 'EEEE, MMMM d, y'],\n ['h:mm a', 'h:mm:ss a', 'h:mm:ss a z', 'h:mm:ss a zzzz'],\n ['{1}, {0}', u, '{1} \\'at\\' {0}', u],\n ['.', ',', ';', '%', '+', '-', 'E', '×', '‰', '', 'NaN', ':'],\n ['#,##0.###', '#,##0%', '¤#,##0.00', '#E0'],\n 'USD',\n '$',\n 'US Dollar',\n {},\n 'ltr',\n plural\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * This const is used to store the locale data registered with `registerLocaleData`\n */\n var LOCALE_DATA = {};\n /**\n * Register locale data to be used internally by Angular. See the\n * ["I18n guide"](guide/i18n#i18n-pipes) to know how to import additional locale data.\n *\n * The signature `registerLocaleData(data: any, extraData?: any)` is deprecated since v5.1\n */\n function registerLocaleData(data, localeId, extraData) {\n if (typeof localeId !== 'string') {\n extraData = localeId;\n localeId = data[exports.LocaleDataIndex.LocaleId];\n }\n localeId = localeId.toLowerCase().replace(/_/g, '-');\n LOCALE_DATA[localeId] = data;\n if (extraData) {\n LOCALE_DATA[localeId][exports.LocaleDataIndex.ExtraData] = extraData;\n }\n }\n /**\n * Finds the locale data for a given locale.\n *\n * @param locale The locale code.\n *
 @returns The locale data.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n */\n function findLocaleData(locale) {\n var normalizedLocale = normalizeLocale(locale);\n var match = getLocaleData(normalizedLocale);\n if (match) {\n return match;\n }\n // let's try to find a parent locale\n var parentLocale = normalizedLocale.split('-')[0];\n match = getLocaleData(parentLocale);\n if (match) {\n return match;\n }\n if (parentLocale === 'en') {\n return localeEn;\n }\n throw new Error("Missing locale data for the locale \\"" + locale + "\\".");\n }\n /**\n * Retrieves the default currency code for the given locale.\n *\n * The default is defined as the first currency which is still in use.\n *\n * @param locale The code of the locale whose currency code we want.\n * @returns The code of the default currency
 for the given locale.\n *\n */\n function getLocaleCurrencyCode(locale) {\n var data = findLocaleData(locale);\n return data[exports.LocaleDataIndex.CurrencyCode] || null;\n }\n /**\n * Retrieves the plural function used by ICU expressions to determine the plural case to use\n * for a given locale.\n * @param locale A locale code for the locale format rules to use.\n * @returns The plural function for the locale.\n * @see `NgPlural`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n */\n function getLocalePluralCase(locale) {\n var data = findLocaleData(locale);\n return data[exports.LocaleDataIndex.PluralCase];\n }\n /**\n * Helper function to get the given `normalizedLocale` from `LOCALE_DATA`\n * or from the global `ng.common.locale`.\n */\n function getLocaleData(normalizedLocale) {\n if (!(normalizedLocale in LOCALE_DATA)) {\n LOCALE_DATA[normalizedLocale]
 = _global.ng && _global.ng.common && _global.ng.common.locales &&\n _global.ng.common.locales[normalizedLocale];\n }\n return LOCALE_DATA[normalizedLocale];\n }\n /**\n * Helper function to remove all the locale data from `LOCALE_DATA`.\n */\n function unregisterAllLocaleData() {\n LOCALE_DATA = {};\n }\n (function (LocaleDataIndex) {\n LocaleDataIndex[LocaleDataIndex[\"LocaleId\"] = 0] = \"LocaleId\";\n LocaleDataIndex[LocaleDataIndex[\"DayPeriodsFormat\"] = 1] = \"DayPeriodsFormat\";\n LocaleDataIndex[LocaleDataIndex[\"DayPeriodsStandalone\"] = 2] = \"DayPeriodsStandalone\";\n LocaleDataIndex[LocaleDataIndex[\"DaysFormat\"] = 3] = \"DaysFormat\";\n LocaleDataIndex[LocaleDataIndex[\"DaysStandalone\"] = 4] = \"DaysStandalone\";\n LocaleDataIndex[LocaleDataIndex[\"MonthsFormat\"] = 5] = \"MonthsFormat\";\n
```

```
LocaleDataIndex[LocaleDataIndex[\"MonthsStandalone\"]
 = 6] = \"MonthsStandalone\";\n        LocaleDataIndex[LocaleDataIndex[\"Eras\"] = 7] = \"Eras\";\n
LocaleDataIndex[LocaleDataIndex[\"FirstDayOfWeek\"] = 8] = \"FirstDayOfWeek\";\n
LocaleDataIndex[LocaleDataIndex[\"WeekendRange\"] = 9] = \"WeekendRange\";\n
LocaleDataIndex[LocaleDataIndex[\"DateFormat\"] = 10] = \"DateFormat\";\n
LocaleDataIndex[LocaleDataIndex[\"TimeFormat\"] = 11] = \"TimeFormat\";\n
LocaleDataIndex[LocaleDataIndex[\"DateTimeFormat\"] = 12] = \"DateTimeFormat\";\n
LocaleDataIndex[LocaleDataIndex[\"NumberSymbols\"] = 13] = \"NumberSymbols\";\n
LocaleDataIndex[LocaleDataIndex[\"NumberFormats\"] = 14] = \"NumberFormats\";\n
LocaleDataIndex[LocaleDataIndex[\"CurrencyCode\"] = 15] = \"CurrencyCode\";\n
LocaleDataIndex[LocaleDataIndex[\"CurrencySymbol\"] = 16] = \"CurrencySymbol\";\n
LocaleDataIndex[LocaleDataIndex[\"CurrencyName\"] = 17] = \"CurrencyName\";\n
LocaleDataIndex[LocaleDataIndex[\"Currencies\"]
 = 18] = \"Currencies\";\n        LocaleDataIndex[LocaleDataIndex[\"Directionality\"] = 19] = \"Directionality\";\n
 LocaleDataIndex[LocaleDataIndex[\"PluralCase\"] = 20] = \"PluralCase\";\n
LocaleDataIndex[LocaleDataIndex[\"ExtraData\"] = 21] = \"ExtraData\";\n    })(exports.LocaleDataIndex ||
(exports.LocaleDataIndex = {}));\n    /**\n     * Returns the canonical form of a locale name - lowercase with `_`
replaced with `-`.\n     */\n    function normalizeLocale(locale) {\n        return locale.toLowerCase().replace(/_/g, '-
');\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source
code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n
 */\n    var pluralMapping = ['zero', 'one', 'two', 'few', 'many'];\n    /**\n     * Returns the plural case based on the
locale\n     */\n    function getPluralCase(value, locale) {\n        var
 plural = getLocalePluralCase(locale)(parseInt(value, 10));\n        var result = pluralMapping[plural];\n        return
(result !== undefined) ? result : 'other';\n    }\n    /**\n     * The locale id that the application is using by default (for
translations and ICU expressions).\n     */\n    var DEFAULT_LOCALE_ID = 'en-US';\n    /**\n     * USD currency
code that the application uses by default for CurrencyPipe when no\n     * DEFAULT_CURRENCY_CODE is
provided.\n     */\n    var USD_CURRENCY_CODE = 'USD';\n\n    /**\n     * @license\n     * Copyright Google
LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Marks that the next string is an
element name.\n     *\n     * See `I18nMutateOpCodes` documentation.\n     */\n    var ELEMENT_MARKER = {\n
    marker: 'element'\n    };\n    /**\n     * Marks that the next string is comment
 text need for ICU.\n     *\n     * See `I18nMutateOpCodes` documentation.\n     */\n    var ICU_MARKER = {\n
marker: 'ICU'\n    };\n    /**\n     * See `I18nCreateOpCodes`\n     */\n    var I18nCreateOpCode;\n    (function
(I18nCreateOpCode) {\n        /**\n         * Number of bits to shift index so that it can be combined with the
`APPEND_EAGERLY` and\n         * `COMMENT`.\n         */\n
I18nCreateOpCode[I18nCreateOpCode[\"SHIFT\"] = 2] = \"SHIFT\";\n        /**\n         * Should the node be
appended to parent imedditatly after creation.\n         */\n
I18nCreateOpCode[I18nCreateOpCode[\"APPEND_EAGERLY\"] = 1] = \"APPEND_EAGERLY\";\n        /**\n
 * If set the node should be comment (rather than a text) node.\n         */\n
I18nCreateOpCode[I18nCreateOpCode[\"COMMENT\"] = 2] = \"COMMENT\";\n    })(I18nCreateOpCode ||
(I18nCreateOpCode = {}));\n    // Note: This hack is necessary so we don't erroneously get a circular dependency\n
// failure based
 on types.\n    var unusedValueExportToPlacateAjd$6 = 1;\n\n    /**\n     * @license\n     * Copyright Google LLC
All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     *
found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * The locale id that the application is
currently using (for translations and ICU expressions).\n     * This is the ivy version of `LOCALE_ID` that was
defined as an injection token for the view engine\n     * but is now defined as a global value.\n     */\n    var
LOCALE_ID = DEFAULT_LOCALE_ID;\n    /**\n     * Sets the locale id that will be used for translations and
```

ICU expressions.\n * This is the ivy version of `LOCALE_ID` that was defined as an injection token for the view engine\n * but is now defined as a global value.\n *\n * @param localeId\n */\n function setLocaleId(localeId) {\n assertDefined(localeId, \"Expected localeId to be defined\");\n if (typeof localeId === 'string') {\n LOCALE_ID = localeId.toLowerCase().replace(/_/g, '-');\n }\n }\n /**\n * Gets the locale id that will be used for translations and ICU expressions.\n * This is the ivy version of `LOCALE_ID` that was defined as an injection token for the view engine\n * but is now defined as a global value.\n */\n function getLocaleId() {\n return LOCALE_ID;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Find a node in front of which `currentTNode` should be inserted (takes i18n into account).\n *\n * This method determines the `RNode` in front of which we should insert the `currentRNode`. This\n * takes `TNode.insertBeforeIndex` into account.\n *\n * @param parentTNode
parent `TNode`\n * @param currentTNode current `TNode` (The node which we would like to insert into the DOM)\n * @param lView current `LView`\n */\n function getInsertInFrontOfRNodeWithI18n(parentTNode, currentTNode, lView) {\n var tNodeInsertBeforeIndex = currentTNode.insertBeforeIndex;\n var insertBeforeIndex = Array.isArray(tNodeInsertBeforeIndex) ? tNodeInsertBeforeIndex[0] : tNodeInsertBeforeIndex;\n if (insertBeforeIndex === null) {\n return getInsertInFrontOfRNodeWithNoI18n(parentTNode, currentTNode, lView);\n }\n else {\n ngDevMode && assertIndexInRange(lView, insertBeforeIndex);\n return unwrapRNode(lView[insertBeforeIndex]);\n }\n }\n /**\n * Process `TNode.insertBeforeIndex` by adding i18n text nodes.\n *\n * See `TNode.insertBeforeIndex`\n */\n function processI18nInsertBefore(renderer, childTNode, lView, childRNode, parentRElement) {\n var tNodeInsertBeforeIndex
= childTNode.insertBeforeIndex;\n if (Array.isArray(tNodeInsertBeforeIndex)) {\n // An array indicates that there are i18n nodes that need to be added as children of this\n // `childRNode`. These i18n nodes were created before this `childRNode` was available and so\n // only now can be added. The first element of the array is the normal index where we should\n // insert the `childRNode`. Additional elements are the extra nodes to be added as children of\n // `childRNode`.\n ngDevMode && assertDomNode(childRNode);\n var i18nParent = childRNode;\n var anchorRNode = null;\n if (!(childTNode.type & 3 /* AnyRNode */)) {\n anchorRNode = i18nParent;\n i18nParent = parentRElement;\n }\n if (i18nParent !== null && (childTNode.flags & 2 /* isComponentHost */) === 0) {\n for (var i = 1; i < tNodeInsertBeforeIndex.length;
i++) {\n // No need to `unwrapRNode` because all of the indexes point to i18n text nodes.\n // see `assertDomNode` below.\n var i18nChild = lView[tNodeInsertBeforeIndex[i]];\n nativeInsertBefore(renderer, i18nParent, i18nChild, anchorRNode, false);\n }\n }\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Add `tNode` to `previousTNodes` list and update relevant `TNode`s in `previousTNodes` list\n * `tNode.insertBeforeIndex`.\n *\n * Things to keep in mind:\n * 1. All i18n text nodes are encoded as `TNodeType.Element` and are created eagerly by the\n * `i18nStart` instruction.\n * 2. All `TNodeType.Placeholder` `TNodes` are elements
which will be created later by\n * `elementStart` instruction.\n * 3. `elementStart` instruction will create `TNode`s in the ascending `TNode.index` order. (So a\n * smaller index `TNode` is guaranteed to be created before a larger one)\n *\n * We use the above three invariants to determine `TNode.insertBeforeIndex`.\n *\n * In an ideal world `TNode.insertBeforeIndex` would always be `TNode.next.index`. However,\n * this will not work because `TNode.next.index` may be larger than `TNode.index` which means that\n * the next node is not yet created and therefore we can't insert in front of it.\n *\n * Rule1: `TNode.insertBeforeIndex = null` if `TNode.next === null` (Initial condition, as we don't\n * know if there will be further `TNode`s inserted

```
after.)\n     * Rule2: If `previousTNode` is created after the `tNode` being inserted, then\n     *
`previousTNode.insertBeforeNode = tNode.index` (So when a new `tNode` is
 added we check\n     *        previous to see if we can update its `insertBeforeTNode`)\n     *\n     * See
`TNode.insertBeforeIndex` for more context.\n     *\n     * @param previousTNodes A list of previous TNodes so
that we can easily traverse `TNode`s in\n     *     reverse order. (If `TNode` would have `previous` this would not be
necessary.)\n     * @param newTNode A TNode to add to the `previousTNodes` list.\n     */\n    function
addTNodeAndUpdateInsertBeforeIndex(previousTNodes, newTNode) {\n        // Start with Rule1\n
ngDevMode &&\n            assertEqual(newTNode.insertBeforeIndex, null, 'We expect that insertBeforeIndex is not
set');\n        previousTNodes.push(newTNode);\n        if (previousTNodes.length > 1) {\n            for (var i =
previousTNodes.length - 2; i >= 0; i--) {\n                var existingTNode = previousTNodes[i];\n                // Text
nodes are created eagerly and so they don't need their `indexBeforeIndex` updated.\n                // It
 is safe to ignore them.\n                if (!isI18nText(existingTNode)) {\n                    if
(isNewTNodeCreatedBefore(existingTNode, newTNode) &&\n                        getInsertBeforeIndex(existingTNode)
=== null) {\n                        // If it was created before us in time, (and it does not yet have `insertBeforeIndex`)\n
                // then add the `insertBeforeIndex`.\n                        setInsertBeforeIndex(existingTNode,
newTNode.index);\n                    }\n                }\n            }\n        }\n    }\n    function isI18nText(tNode) {\n
return !(tNode.type & 64 /* Placeholder */);\n    }\n    function isNewTNodeCreatedBefore(existingTNode,
newTNode) {\n        return isI18nText(newTNode) || existingTNode.index > newTNode.index;\n    }\n    function
getInsertBeforeIndex(tNode) {\n        var index = tNode.insertBeforeIndex;\n        return Array.isArray(index) ?
index[0] : index;\n    }\n    function setInsertBeforeIndex(tNode, value)
 {\n        var index = tNode.insertBeforeIndex;\n        if (Array.isArray(index)) {\n            // Array is stored if we
have to insert child nodes. See `TNode.insertBeforeIndex`\n            index[0] = value;\n        }\n        else {\n
setI18nHandling(getInsertInFrontOfRNodeWithI18n, processI18nInsertBefore);\n            tNode.insertBeforeIndex =
value;\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use
of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    /**\n     * Retrieve `TIcu` at a given `index`.\n     *\n     * The `TIcu` can be
stored either directly (if it is nested ICU) OR\n     * it is stored inside tho `TIcuContainer` if it is top level ICU.\n
*\n     * The reason for this is that the top level ICU need a `TNode` so that they are part of the render\n     * tree, but
nested ICU's have no TNode, because
 we don't know ahead of time if the nested ICU is\n     * expressed (parent ICU may have selected a case which does
not contain it.)\n     *\n     * @param tView Current `TView`.\n     * @param index Index where the value should be
read from.\n     */\n    function getTIcu(tView, index) {\n        var value = tView.data[index];\n        if (value ===
null || typeof value === 'string')\n            return null;\n        if (ngDevMode &&\n
!(value.hasOwnProperty('tViews') || value.hasOwnProperty('currentCaseLViewIndex'))) {\n            throwError('We
expect to get \\'null\\'|\\'TIcu\\'|\\'TIcuContainer\\', but got: ' + value);\n        }\n        // Here the
`value.hasOwnProperty('currentCaseLViewIndex')` is a polymorphic read as it can be\n        // either TIcu or
TIcuContainerNode. This is not ideal, but we still think it is OK because it\n        // will be just two cases which fits
into the browser inline cache (inline cache can take up to\n        // 4)\n        var
 tIcu = value.hasOwnProperty('currentCaseLViewIndex') ? value :\n            value.value;\n        ngDevMode &&
assertTIcu(tIcu);\n        return tIcu;\n    }\n    /**\n     * Store `TIcu` at a give `index`.\n     *\n     * The `TIcu` can be
stored either directly (if it is nested ICU) OR\n     * it is stored inside tho `TIcuContainer` if it is top level ICU.\n
*\n     * The reason for this is that the top level ICU need a `TNode` so that they are part of the render\n     * tree, but
nested ICU's have no TNode, because we don't know ahead of time if the nested ICU is\n     * expressed (parent ICU
may have selected a case which does not contain it.)\n     *\n     * @param tView Current `TView`.\n     * @param
index Index where the value should be stored at in `Tview.data`\n     * @param tIcu The TIcu to store.\n     */\n
function setTIcu(tView, index, tIcu) {\n        var tNode = tView.data[index];\n        ngDevMode &&\n
assertEqual(tNode === null || tNode.hasOwnProperty('tViews'),
```

```
true, 'We expect to get \\'null\\'|\\'TIcuContainer\\'');\n        if (tNode === null) {\n            tView.data[index] = tIcu;\n        }\n        else {\n            ngDevMode && assertTNodeType(tNode, 32 /* Icu */);\n            tNode.value = tIcu;\n        }\n    }\n    /**\n     * Set `TNode.insertBeforeIndex` taking the `Array` into account.\n     *\n     * See `TNode.insertBeforeIndex`\n     */\n    function setTNodeInsertBeforeIndex(tNode, index) {\n        ngDevMode && assertTNode(tNode);\n        var insertBeforeIndex = tNode.insertBeforeIndex;\n        if (insertBeforeIndex === null) {\n            setI18nHandling(getInsertInFrontOfRNodeWithI18n, processI18nInsertBefore);\n            insertBeforeIndex = tNode.insertBeforeIndex =\n                [null /* may be updated to number later */, index];\n        }\n        else {\n            assertEqual(Array.isArray(insertBeforeIndex), true, 'Expecting array here');\n            insertBeforeIndex.push(index);\n        }\n    }\n    /**\n     * Create `TNode.type=TNodeType.Placeholder` node.\n     *\n     * See `TNodeType.Placeholder` for more information.\n     */\n    function createTNodePlaceholder(tView, previousTNodes, index) {\n        var tNode = createTNodeAtIndex(tView, index, 64 /* Placeholder */, null, null);\n        addTNodeAndUpdateInsertBeforeIndex(previousTNodes, tNode);\n        return tNode;\n    }\n    /**\n     * Returns current ICU case.\n     *\n     * ICU cases are stored as index into the `TIcu.cases`.\n     * At times it is necessary to communicate that the ICU case just switched and that next ICU update\n     * should update all bindings regardless of the mask. In such a case the we store negative numbers\n     * for cases which have just been switched. This function removes the negative flag.\n     */\n    function getCurrentICUCaseIndex(tIcu, lView) {\n        var currentCase = lView[tIcu.currentCaseLViewIndex];\n        return currentCase === null ? currentCase : (currentCase\n            < 0 ? ~currentCase : currentCase);\n    }\n    function getParentFromIcuCreateOpCode(mergedCode) {\n        return mergedCode >>> 17 /* SHIFT_PARENT */;\n    }\n    function getRefFromIcuCreateOpCode(mergedCode) {\n        return (mergedCode & 131070 /* MASK_REF */) >>> 1 /* SHIFT_REF */;\n    }\n    function getInstructionFromIcuCreateOpCode(mergedCode) {\n        return mergedCode & 1 /* MASK_INSTRUCTION */;\n    }\n    function icuCreateOpCode(opCode, parentIdx, refIdx) {\n        ngDevMode && assertGreaterThanOrEqual(parentIdx, 0, 'Missing parent index');\n        ngDevMode && assertGreaterThan(refIdx, 0, 'Missing ref index');\n        return opCode | parentIdx << 17 /* SHIFT_PARENT */ | refIdx << 1 /* SHIFT_REF */;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Keep track of which input bindings in `i18nExp` have changed.\n     *\n     * This is used to efficiently update expressions in i18n only when the corresponding input has\n     * changed.\n     *\n     * 1) Each bit represents which of the `i18nExp` has changed.\n     * 2) There are 32 bits allowed in JS.\n     * 3) Bit 32 is special as it is shared for all changes past 32. (In other words if you have more\n     * than 32 `i18nExp` then all changes past 32nd `i18nExp` will be mapped to same bit. This means\n     * that we may end up changing more than we need to. But i18n expressions with 32 bindings is rare\n     * so in practice it should not be an issue.)\n     */\n    var changeMask = 0;\n    /**\n     * Keeps track of which bit needs to be updated in `changeMask`\n     *\n     * This value gets incremented on every call to `i18nExp`\n     */\n    var changeMaskCounter = 0;\n    /**\n     * Keep track of which input bindings in `i18nExp` have changed.\n     *\n     *\n     `setMaskBit` gets invoked by each call to `i18nExp`.\n     *\n     * @param hasChange did `i18nExp` detect a change.\n     */\n    function setMaskBit(hasChange) {\n        if (hasChange) {\n            changeMask = changeMask | (1 << Math.min(changeMaskCounter, 31));\n        }\n        changeMaskCounter++;\n    }\n    function applyI18n(tView, lView, index) {\n        if (changeMaskCounter > 0) {\n            ngDevMode && assertDefined(tView, \"tView should be defined\");\n            var tI18n = tView.data[index];\n            // When `index` points to an `i18nAttributes` then we have an array otherwise `TI18n`\n            var updateOpCodes = Array.isArray(tI18n) ? tI18n : tI18n.update;\n            var bindingsStartIndex = getBindingIndex() - changeMaskCounter - 1;\n            applyUpdateOpCodes(tView, lView, updateOpCodes, bindingsStartIndex, changeMask);\n        }\n        // Reset changeMask & maskBit to default for the next update cycle\n        changeMask = 0;\n
```

```
changeMaskCounter = 0;\n    }\n    /**\n     * Apply `I18nCreateOpCodes` op-codes as stored in `TI18n.create`.\n     *\n     * Creates text (and comment) nodes which are internationalized.\n     *\n     * @param lView Current lView\n     * @param createOpCodes Set of op-codes to apply\n     * @param parentRNode Parent node (so that direct children can be added eagerly) or `null` if it is\n     *     a root node.\n     * @param insertInFrontOf DOM node that should be used as an anchor.\n     */\n    function applyCreateOpCodes(lView, createOpCodes, parentRNode, insertInFrontOf) {\n        var renderer = lView[RENDERER];\n        for (var i = 0; i < createOpCodes.length; i++) {\n            var opCode = createOpCodes[i++];\n            var text = createOpCodes[i];\n            var isComment = (opCode & I18nCreateOpCode.COMMENT) === I18nCreateOpCode.COMMENT;\n            var appendNow = (opCode & I18nCreateOpCode.APPEND_EAGERLY) === I18nCreateOpCode.APPEND_EAGERLY;\n            var index = opCode >>> I18nCreateOpCode.SHIFT;\n            var rNode = lView[index];\n            if (rNode === null) {\n                // We only create new DOM nodes if they don't already exist: If ICU switches case back to a\n                // case which was already instantiated, no need to create new DOM nodes.\n                rNode = lView[index] =\n                    isComment ? renderer.createComment(text) : createTextNode(renderer, text);\n                if (appendNow && parentRNode !== null) {\n                    nativeInsertBefore(renderer, parentRNode, rNode, insertInFrontOf, false);\n                }\n            }\n        }\n    }\n    /**\n     * Apply `I18nMutateOpCodes` OpCodes.\n     *\n     * @param tView Current `TView`\n     * @param mutableOpCodes Mutable OpCodes to process\n     * @param lView Current `LView`\n     * @param anchorRNode place where the i18n node should be inserted.\n     */\n    function applyMutableOpCodes(tView, mutableOpCodes, lView, anchorRNode) {\n        ngDevMode && assertDomNode(anchorRNode);\n        var renderer = lView[RENDERER];\n        // `rootIdx` represents the node into which all inserts happen.\n        var rootIdx = null;\n        // `rootRNode` represents the real node into which we insert. This can be different from\n        // `lView[rootIdx]` if we have projection.\n        //  - null we don't have a parent (as can be the case in when we are inserting into a root of\n        //    LView which has no parent.)\n        //  - `RElement` The element representing the root after taking projection into account.\n        var rootRNode;\n        for (var i = 0; i < mutableOpCodes.length; i++) {\n            var opCode = mutableOpCodes[i];\n            if (typeof opCode == 'string') {\n                var textNodeIndex = mutableOpCodes[++i];\n                if (lView[textNodeIndex] === null) {\n                    ngDevMode && ngDevMode.rendererCreateTextNode++;\n                    ngDevMode && assertIndexInRange(lView, textNodeIndex);\n                    lView[textNodeIndex] = createTextNode(renderer, opCode);\n                }\n            }\n            else if (typeof opCode == 'number') {\n                switch (opCode & 1 /* MASK_INSTRUCTION */) {\n                    case 0 /* AppendChild */:\n                        var parentIdx = getParentFromIcuCreateOpCode(opCode);\n                        if (rootIdx === null) {\n                            // The first operation should save the `rootIdx` because the first operation\n                            // must insert into the root. (Only subsequent operations can insert into a dynamic\n                            // parent)\n                            rootIdx = parentIdx;\n                            rootRNode = nativeParentNode(renderer, anchorRNode);\n                        }\n                        var insertInFrontOf = void 0;\n                        var parentRNode = void 0;\n                        if (parentIdx === rootIdx) {\n                            insertInFrontOf = anchorRNode;\n                            parentRNode = rootRNode;\n                        }\n                        else {\n                            insertInFrontOf = null;\n                            parentRNode = unwrapRNode(lView[parentIdx]);\n                        }\n                        // FIXME(misko): Refactor with `processI18nText`\n                        if (parentRNode !== null) {\n                            // This can happen if the `LView` we are adding to is not attached to a parent `LView`.\n                            // In such a case there is no \"root\" we can attach to. This is fine, as we still need to\n                            // create the elements. When the `LView` gets later added to a parent these \"root\" nodes\n                            // get picked up and added.\n                            ngDevMode && assertDomNode(parentRNode);\n                            var refIdx = getRefFromIcuCreateOpCode(opCode);\n                            ngDevMode && assertGreaterThan(refIdx, HEADER_OFFSET, 'Missing ref');\n                            // `unwrapRNode` is not needed here as all of these point to RNodes as part of the i18n\n                            // which can't have components.\n                            var child = lView[refIdx];\n                            ngDevMode && assertDomNode(child);\n                            nativeInsertBefore(renderer, parentRNode, child, insertInFrontOf,
```

```
false);\n                    var tIcu = getTIcu(tView, refIdx);\n                    if (tIcu !== null && typeof tIcu ===
'object') {\n                        // If we just added a comment node which has ICU then that ICU may have already
been\n                        // rendered and therefore we need to re-add it here.\n                        ngDevMode &&
assertTIcu(tIcu);\n                        var caseIndex = getCurrentICUCaseIndex(tIcu, lView);\n
                    if (caseIndex !== null) {\n                            applyMutableOpCodes(tView,
tIcu.create[caseIndex], lView, lView[tIcu.anchorIdx]);\n                        }\n                    }\n
}\n                    break;\n                    case 1 /* Attr */:\n                        var elementNodeIndex = opCode >>> 1 /*
SHIFT_REF */;\n                        var attrName = mutableOpCodes[++i];\n                        var attrValue =
mutableOpCodes[++i];\n                        // This code is used for ICU expressions only, since we don't support\n
            // directives/components in ICUs, we don't need to worry about inputs here\n
setElementAttribute(renderer, getNativeByIndex(elementNodeIndex, lView), null, null, attrName, attrValue, null);\n
                    break;\n                    default:\n                        throw new Error(\"Unable to determine
 the type of mutate operation for \\\"\" + opCode + \"\\\"\");\n                }\n            }\n            else {\n                switch
(opCode) {\n                    case ICU_MARKER:\n                        var commentValue = mutableOpCodes[++i];\n
            var commentNodeIndex = mutableOpCodes[++i];\n                        if (lView[commentNodeIndex] ===
null) {\n                            ngDevMode &&\n                                assertEqual(typeof commentValue, 'string',
\"Expected \\\"\" + commentValue + \"\\\" to be a comment node value\");\n                            ngDevMode &&
ngDevMode.rendererCreateComment++;\n                            ngDevMode && assertIndexInExpandoRange(lView,
commentNodeIndex);\n                            var commentRNode = lView[commentNodeIndex] =\n
createCommentNode(renderer, commentValue);\n                            // FIXME(misko): Attaching patch data is only
needed for the root (Also
 add tests)\n                            attachPatchData(commentRNode, lView);\n                        }\n                        break;\n
                case ELEMENT_MARKER:\n                        var tagName = mutableOpCodes[++i];\n                        var
elementNodeIndex = mutableOpCodes[++i];\n                        if (lView[elementNodeIndex] === null) {\n
            ngDevMode &&\n                                assertEqual(typeof tagName, 'string', \"Expected \\\"\" + tagName +
\"\\\" to be an element node tag name\");\n                            ngDevMode &&
ngDevMode.rendererCreateElement++;\n                            ngDevMode && assertIndexInExpandoRange(lView,
elementNodeIndex);\n                            var elementRNode = lView[elementNodeIndex] =\n
createElementNode(renderer, tagName, null);\n                            // FIXME(misko): Attaching patch data is only
needed for the root (Also add tests)\n
                    attachPatchData(elementRNode, lView);\n                        }\n                        break;\n
                default:\n                        ngDevMode &&\n                            throwError(\"Unable to determine the type of mutate
operation for \\\"\" + opCode + \"\\\"\");\n                }\n            }\n        }\n    }\n    /**\n     * Apply
`I18nUpdateOpCodes` OpCodes\n     *\n     * @param tView Current `TView`\n     * @param lView Current
`LView`\n     * @param updateOpCodes OpCodes to process\n     * @param bindingsStartIndex Location of the
first `i18nApply`\n     * @param changeMask Each bit corresponds to a `i18nExp` (Counting backwards from\n     *
 `bindingsStartIndex`)\n     */\n    function applyUpdateOpCodes(tView, lView, updateOpCodes,
bindingsStartIndex, changeMask) {\n        for (var i = 0; i < updateOpCodes.length; i++) {\n            // bit code to
check if we should apply the next update\n            var checkBit =
 updateOpCodes[i];\n            // Number of opCodes to skip until next set of update codes\n            var skipCodes =
updateOpCodes[++i];\n            if (checkBit & changeMask) {\n                // The value has been updated since last
checked\n                var value = '';\n                for (var j = i + 1; j <= (i + skipCodes); j++) {\n                    var opCode
= updateOpCodes[j];\n                    if (typeof opCode == 'string') {\n                        value += opCode;\n
}\n                    else if (typeof opCode == 'number') {\n                        if (opCode < 0) {\n                            //
Negative opCode represent `i18nExp` values offset.\n                            value +=
renderStringify(lView[bindingsStartIndex - opCode]);\n                        }\n                        else {\n
var nodeIndex = (opCode >>> 2 /* SHIFT_REF */);\n                            switch (opCode & 3 /* MASK_OPCODE
*/) {\n
```

```
                case 1 /* Attr */:\n                    var propName = updateOpCodes[++j];\n
        var sanitizeFn = updateOpCodes[++j];\n                    var tNodeOrTagName =
tView.data[nodeIndex];\n                    ngDevMode && assertDefined(tNodeOrTagName, 'Experting
TNode or string');\n                    if (typeof tNodeOrTagName === 'string') {\n                        // IF
we don't have a `TNode`, then we are an element in ICU (as ICU content does\n                        // not have
TNode), in which case we know that there are no directives, and hence\n                        // we use attribute
setting.\n                        setElementAttribute(lView[RENDERER], lView[nodeIndex], null,
tNodeOrTagName, propName, value, sanitizeFn);\n                    }\n
        else {\n                        elementPropertyInternal(tView, tNodeOrTagName, lView, propName, value,
lView[RENDERER], sanitizeFn, false);\n                    }\n                    break;\n
 case 0 /* Text */:\n                    var rText = lView[nodeIndex];\n                    rText !== null &&
updateTextNode(lView[RENDERER], rText, value);\n                    break;\n                case 2 /*
IcuSwitch */:\n                    applyIcuSwitchCase(tView, getTIcu(tView, nodeIndex), lView, value);\n
                break;\n                case 3 /* IcuUpdate */:\n
applyIcuUpdateCase(tView, getTIcu(tView, nodeIndex), bindingsStartIndex, lView);\n
break;\n                }\n            }\n
            }\n        }\n        else {\n            var opCode = updateOpCodes[i + 1];\n            if
(opCode > 0 && (opCode & 3 /* MASK_OPCODE */) === 3 /* IcuUpdate */) {\n                // Special case for
the `icuUpdateCase`. It could be that the mask did not match, but\n                // we still need to execute
`icuUpdateCase` because the case has changed recently due to\n                // previous `icuSwitchCase` instruction.
(`icuSwitchCase` and `icuUpdateCase` always come in\n                // pairs.)\n                var nodeIndex =
(opCode >>> 2 /* SHIFT_REF */);\n                var tIcu = getTIcu(tView, nodeIndex);\n                var
currentIndex = lView[tIcu.currentCaseLViewIndex];\n                if (currentIndex < 0) {\n
applyIcuUpdateCase(tView, tIcu, bindingsStartIndex, lView);\n                }\n            }\n        }\n        i +=
skipCodes;\n
    }\n}\n/**\n * Apply OpCodes associated with updating an existing ICU.\n *\n * @param tView
Current `TView`\n * @param tIcu Current `TIcu`\n * @param bindingsStartIndex Location of the first
`i18nApply`\n * @param lView Current `LView`\n */\nfunction applyIcuUpdateCase(tView, tIcu,
bindingsStartIndex, lView) {\n    ngDevMode && assertIndexInRange(lView, tIcu.currentCaseLViewIndex);\n
 var activeCaseIndex = lView[tIcu.currentCaseLViewIndex];\n    if (activeCaseIndex !== null) {\n        var
mask = changeMask;\n        if (activeCaseIndex < 0) {\n            // Clear the flag.\n            // Negative number
means that the ICU was freshly created and we need to force the update.\n            activeCaseIndex =
lView[tIcu.currentCaseLViewIndex] = ~activeCaseIndex;\n            // -1 is same as all bits on, which simulates
creation since it marks all bits dirty\n            mask = -1;\n        }\n
        applyUpdateOpCodes(tView, lView, tIcu.update[activeCaseIndex], bindingsStartIndex, mask);\n    }\n
}\n/**\n * Apply OpCodes associated with switching a case on ICU.\n *\n * This involves tearing down
existing case and than building up a new case.\n *\n * @param tView Current `TView`\n * @param tIcu
Current `TIcu`\n * @param lView Current `LView`\n * @param value Value of the case to update to.\n */\n
function applyIcuSwitchCase(tView, tIcu, lView, value) {\n    // Rebuild a new case for this ICU\n    var
caseIndex = getCaseIndex(tIcu, value);\n    var activeCaseIndex = getCurrentICUCaseIndex(tIcu, lView);\n    if
(activeCaseIndex !== caseIndex) {\n        applyIcuSwitchCaseRemove(tView, tIcu, lView);\n
lView[tIcu.currentCaseLViewIndex] = caseIndex === null ? null : ~caseIndex;\n        if (caseIndex !== null) {\n
        // Add the nodes for the new case\n            var anchorRNode
 = lView[tIcu.anchorIdx];\n            if (anchorRNode) {\n                ngDevMode &&
assertDomNode(anchorRNode);\n                applyMutableOpCodes(tView, tIcu.create[caseIndex], lView,
anchorRNode);\n            }\n        }\n    }\n/**\n * Apply OpCodes associated with tearing ICU
case.\n *\n * This involves tearing down existing case and than building up a new case.\n *\n * @param
tView Current `TView`\n * @param tIcu Current `TIcu`\n * @param lView Current `LView`\n */\n
```

```
function applyIcuSwitchCaseRemove(tView, tIcu, lView) {\n        var activeCaseIndex =
getCurrentICUCaseIndex(tIcu, lView);\n        if (activeCaseIndex !== null) {\n            var removeCodes =
tIcu.remove[activeCaseIndex];\n            for (var i = 0; i < removeCodes.length; i++) {\n                var
nodeOrIcuIndex = removeCodes[i];\n                if (nodeOrIcuIndex > 0) {\n                    // Positive numbers are
`RNode`s.\n
                var rNode = getNativeByIndex(nodeOrIcuIndex, lView);\n                    rNode !== null &&
nativeRemoveNode(lView[RENDERER], rNode);\n                }\n                else {\n                    // Negative numbers
are ICUs\n                    applyIcuSwitchCaseRemove(tView, getTIcu(tView, ~nodeOrIcuIndex), lView);\n
}\n            }\n        }\n    }\n    /**\n     * Returns the index of the current case of an ICU expression depending on the
main binding value\n     *\n     * @param icuExpression\n     * @param bindingValue The value of the main binding
used by this ICU expression\n     */\n    function getCaseIndex(icuExpression, bindingValue) {\n        var index =
icuExpression.cases.indexOf(bindingValue);\n        if (index === -1) {\n            switch (icuExpression.type) {\n
    case 1 /* plural */: {\n                    var resolvedCase = getPluralCase(bindingValue, getLocaleId());\n
index = icuExpression.cases.indexOf(resolvedCase);\n
                if (index === -1 && resolvedCase !== 'other') {\n                    index =
icuExpression.cases.indexOf('other');\n                }\n                break;\n            }\n            case 0 /* select
*/: {\n                index = icuExpression.cases.indexOf('other');\n                break;\n            }\n        }\n
}\n        return index === -1 ? null : index;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights
Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the
LICENSE file at https://angular.io/license\n     */\n    function loadIcuContainerVisitor() {\n        var _stack = [];\n
    var _index = -1;\n        var _lView;\n        var _removes;\n        /**\n         * Retrieves a set of root nodes from
`TIcu.remove`. Used by `TNodeType.ICUContainer`\n         * to determine which root belong to the ICU.\n
*\n         * Example of usage.\n         * ```\n         * const nextRNode =
icuContainerIteratorStart(tIcuContainerNode, lView);\n         * let rNode: RNode|null;\n         * while(rNode =
nextRNode()) {\n         *   console.log(rNode);\n         * }\n         * ```\n         *\n         * @param tIcuContainerNode
Current `TIcuContainerNode`\n         * @param lView `LView` where the `RNode`s should be looked up.\n
*/\n        function icuContainerIteratorStart(tIcuContainerNode, lView) {\n            _lView = lView;\n            while
(_stack.length)\n                _stack.pop();\n            ngDevMode && assertTNodeForLView(tIcuContainerNode,
lView);\n            enterIcu(tIcuContainerNode.value, lView);\n            return icuContainerIteratorNext;\n        }\n
function enterIcu(tIcu, lView) {\n            _index = 0;\n            var currentCase = getCurrentICUCaseIndex(tIcu,
lView);\n            if (currentCase !== null) {\n                ngDevMode
 && assertNumberInRange(currentCase, 0, tIcu.cases.length - 1);\n                _removes =
tIcu.remove[currentCase];\n            }\n            else {\n                _removes = EMPTY_ARRAY;\n            }\n        }\n
    function icuContainerIteratorNext() {\n            if (_index < _removes.length) {\n                var removeOpCode =
_removes[_index++];\n                ngDevMode && assertNumber(removeOpCode, 'Expecting OpCode number');\n
            if (removeOpCode > 0) {\n                    var rNode = _lView[removeOpCode];\n                    ngDevMode &&
assertDomNode(rNode);\n                    return rNode;\n                }\n                else {\n
_stack.push(_index, _removes);\n                    // ICUs are represented by negative indices\n                    var
tIcuIndex = ~removeOpCode;\n                    var tIcu = _lView[TVIEW].data[tIcuIndex];\n                    ngDevMode
&& assertTIcu(tIcu);\n                    enterIcu(tIcu,
 _lView);\n                    return icuContainerIteratorNext();\n                }\n            }\n            else {\n                if
(_stack.length === 0) {\n                    return null;\n                }\n                else {\n                    _removes =
_stack.pop();\n                    _index = _stack.pop();\n                    return icuContainerIteratorNext();\n                }\n
    }\n        }\n        return icuContainerIteratorStart;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC
All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     *
found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Converts `I18nCreateOpCodes` array
into a human readable format.\n     *\n     * This function is attached to the `I18nCreateOpCodes.debug` property if
`ngDevMode` is enabled.\n     * This function provides a human readable view of the opcodes. This is useful
```

```
when debugging the\n     * application as well as writing more readable tests.\n     *\n     * @param this
`I18nCreateOpCodes` if attached as a method.\n     * @param opcodes `I18nCreateOpCodes` if invoked as a
function.\n     */\n    function i18nCreateOpCodesToString(opcodes) {\n        var createOpCodes = opcodes ||
(Array.isArray(this) ? this : []);\n        var lines = [];\n        for (var i = 0; i < createOpCodes.length; i++) {\n
var opCode = createOpCodes[i++];\n            var text = createOpCodes[i];\n            var isComment = (opCode &
I18nCreateOpCode.COMMENT) === I18nCreateOpCode.COMMENT;\n            var appendNow = (opCode &
I18nCreateOpCode.APPEND_EAGERLY) === I18nCreateOpCode.APPEND_EAGERLY;\n            var index =
opCode >>> I18nCreateOpCode.SHIFT;\n            lines.push(\"lView[\" + index + \"] = document.\" + (isComment ?
'createComment' : 'createText') + \"(\" + JSON.stringify(text) + \");\");\n            if (appendNow) {\n
lines.push(\"parent.appendChild(lView[\"
 + index + \"]);\");\n            }\n        }\n        return lines;\n    }\n    /**\n     * Converts `I18nUpdateOpCodes` array
into a human readable format.\n     *\n     * This function is attached to the `I18nUpdateOpCodes.debug` property if
`ngDevMode` is enabled.\n     * This function provides a human readable view of the opcodes. This is useful when
debugging the\n     * application as well as writing more readable tests.\n     *\n     * @param this
`I18nUpdateOpCodes` if attached as a method.\n     * @param opcodes `I18nUpdateOpCodes` if invoked as a
function.\n     */\n    function i18nUpdateOpCodesToString(opcodes) {\n        var parser = new
OpCodeParser(opcodes || (Array.isArray(this) ? this : []));\n        var lines = [];\n        function
consumeOpCode(value) {\n            var ref = value >>> 2 /* SHIFT_REF */;\n            var opCode = value & 3 /*
MASK_OPCODE */;\n            switch (opCode) {\n                case 0 /* Text */:\n
                return \"(lView[\" + ref + \"] as Text).textContent = $$$\";\n                case 1 /* Attr */:\n                    var
attrName = parser.consumeString();\n                    var sanitizationFn = parser.consumeFunction();\n                    var
value_1 = sanitizationFn ? \"(\" + sanitizationFn + \")($$$)\" : '$$$';\n                    return \"(lView[\" + ref + \"] as
Element).setAttribute('\" + attrName + \"', \" + value_1 + \")\";\n                case 2 /* IcuSwitch */:\n
return \"icuSwitchCase(\" + ref + \", $$$)\";\n                case 3 /* IcuUpdate */:\n                    return
\"icuUpdateCase(\" + ref + \")\";\n            }\n            throw new Error('unexpected OpCode');\n        }\n        while
(parser.hasMore()) {\n            var mask = parser.consumeNumber();\n            var size = parser.consumeNumber();\n
        var end = parser.i + size;\n            var statements = [];\n            var statement = '';\n            while
 (parser.i < end) {\n                var value = parser.consumeNumberOrString();\n                if (typeof value === 'string')
{\n                    statement += value;\n                }\n                else if (value < 0) {\n                    // Negative numbers
are ref indexes\n                    // Here `i` refers to current binding index. It is to signify that the value is relative,\n
        // rather than absolute.\n                    statement += '${lView[i' + value + ']}';\n                }\n                else {\n
            // Positive numbers are operations.\n                    var opCodeText = consumeOpCode(value);\n
statements.push(opCodeText.replace('$$$', '`' + statement + '`') + ';');\n                    statement = '';\n                }\n
  }\n            lines.push(\"if (mask & 0b\" + mask.toString(2) + \") { \" + statements.join(' ') + \" }\");\n        }\n
return lines;\n    }\n    /**\n     * Converts
 `I18nCreateOpCodes` array into a human readable format.\n     *\n     * This function is attached to the
`I18nCreateOpCodes.debug` if `ngDevMode` is enabled. This\n     * function provides a human readable view of the
opcodes. This is useful when debugging the\n     * application as well as writing more readable tests.\n     *\n     *
@param this `I18nCreateOpCodes` if attached as a method.\n     * @param opcodes `I18nCreateOpCodes` if
invoked as a function.\n     */\n    function icuCreateOpCodesToString(opcodes) {\n        var parser = new
OpCodeParser(opcodes || (Array.isArray(this) ? this : []));\n        var lines = [];\n        function
consumeOpCode(opCode) {\n            var parent = getParentFromIcuCreateOpCode(opCode);\n            var ref =
getRefFromIcuCreateOpCode(opCode);\n            switch (getInstructionFromIcuCreateOpCode(opCode)) {\n
  case 0 /* AppendChild */:\n                    return \"(lView[\" + parent + \"] as Element).appendChild(lView[\"
 + lastRef + \"])\";\n                case 1 /* Attr */:\n                    return \"(lView[\" + ref + \"] as
Element).setAttribute(\\\"\" + parser.consumeString() + \"\\\", \\\"\" + parser.consumeString() + \"\\\")\";\n            }\n
        throw new Error('Unexpected OpCode: ' + getInstructionFromIcuCreateOpCode(opCode));\n        }\n        var
lastRef = -1;\n        while (parser.hasMore()) {\n            var value = parser.consumeNumberStringOrMarker();\n
```

```
 if (value === ICU_MARKER) {\n                var text = parser.consumeString();\n                lastRef =
parser.consumeNumber();\n                lines.push(\"lView[\" + lastRef + \"] = document.createComment(\\\"\" + text
+ \"\\\")\");\n            }\n            else if (value === ELEMENT_MARKER) {\n                var text =
parser.consumeString();\n                lastRef = parser.consumeNumber();\n                lines.push(\"lView[\" + lastRef +
\"] = document.createElement(\\\"\" + text + \"\\\")\");\n
            }\n            else if (typeof value === 'string') {\n                lastRef = parser.consumeNumber();\n
lines.push(\"lView[\" + lastRef + \"] = document.createTextNode(\\\"\" + value + \"\\\")\");\n            }\n            else if
(typeof value === 'number') {\n                var line = consumeOpCode(value);\n                line && lines.push(line);\n
            }\n            else {\n                throw new Error('Unexpected value');\n            }\n        }\n        return lines;\n
}\n    /**\n     * Converts `I18nRemoveOpCodes` array into a human readable format.\n     *\n     * This function is
attached to the `I18nRemoveOpCodes.debug` if `ngDevMode` is enabled. This\n     * function provides a human
readable view of the opcodes. This is useful when debugging the\n     * application as well as writing more readable
tests.\n     *\n     * @param this `I18nRemoveOpCodes` if attached as a method.\n     * @param opcodes
`I18nRemoveOpCodes` if invoked
 as a function.\n     */\n    function i18nRemoveOpCodesToString(opcodes) {\n        var removeCodes = opcodes ||
(Array.isArray(this) ? this : []);\n        var lines = [];\n        for (var i = 0; i < removeCodes.length; i++) {\n            var
nodeOrIcuIndex = removeCodes[i];\n            if (nodeOrIcuIndex > 0) {\n                // Positive numbers are
`RNode`s.\n                lines.push(\"remove(lView[\" + nodeOrIcuIndex + \"])\");\n            }\n            else {\n
// Negative numbers are ICUs\n                lines.push(\"removeNestedICU(\" + ~nodeOrIcuIndex + \")\");\n
}\n        }\n        return lines;\n    }\n    var OpCodeParser = /** @class */ (function () {\n        function
OpCodeParser(codes) {\n            this.i = 0;\n            this.codes = codes;\n        }\n
OpCodeParser.prototype.hasMore = function () {\n            return this.i < this.codes.length;\n        };\n
OpCodeParser.prototype.consumeNumber = function () {\n
            var value = this.codes[this.i++];\n            assertNumber(value, 'expecting number in OpCode');\n
return value;\n        };\n        OpCodeParser.prototype.consumeString = function () {\n            var value =
this.codes[this.i++];\n            assertString(value, 'expecting string in OpCode');\n            return value;\n        };\n
OpCodeParser.prototype.consumeFunction = function () {\n            var value = this.codes[this.i++];\n            if
(value === null || typeof value === 'function') {\n                return value;\n            }\n            throw new
Error('expecting function in OpCode');\n        };\n        OpCodeParser.prototype.consumeNumberOrString = function
() {\n            var value = this.codes[this.i++];\n            if (typeof value === 'string') {\n                return value;\n
}\n            assertNumber(value, 'expecting number or string in OpCode');\n            return value;\n        };\n
OpCodeParser.prototype.consumeNumberStringOrMarker
 = function () {\n            var value = this.codes[this.i++];\n            if (typeof value === 'string' || typeof value ===
'number' || value == ICU_MARKER ||\n                value == ELEMENT_MARKER) {\n                return value;\n
  }\n            assertNumber(value, 'expecting number, string, ICU_MARKER or ELEMENT_MARKER in
OpCode');\n            return value;\n        };\n        return OpCodeParser;\n    }());\n\n    /**\n     * @license\n     *
Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style
license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var BINDING_REGEXP
= /(\\d+):?\\d*/gi;\n    var ICU_REGEXP = /({\\s*\\d+:?\\d*\\s*,\\s*\\S{6}\\s*,[\\s\\S]*})/gi;\n    var NESTED_ICU
= /(\\d+)/;\n    var ICU_BLOCK_REGEXP = /^\\s*(\\d+:?\\d*)\\s*,\\s*(select|plural)\\s*,/;\n    var MARKER =
\"\\uFFFD\";\n    var SUBTEMPLATE_REGEXP
 = /\\/?\\*(\\d+:\\d+)/gi;\n    var PH_REGEXP = /(\\/?[#*]\\d+):?\\d*/gi;\n    /**\n     * Angular Dart introduced
&ngsp; as a placeholder for non-removable space, see:\n     * https://github.com/dart-
lang/angular/blob/0bb611387d29d65b5af7f9d2515ab571fd3fbee4/_tests/test/compiler/preserve_whitespace_test.dart
#L25-L32\n     * In Angular Dart &ngsp; is converted to the 0xE500 PUA (Private Use Areas) unicode character\n
* and later on replaced by a space. We are re-implementing the same idea here, since translations\n     * might
contain this special character.\n     */\n    var NGSP_UNICODE_REGEXP = /\\uE500/g;\n    function
replaceNgsp(value) {\n        return value.replace(NGSP_UNICODE_REGEXP, ' ');\n    }\n    /**\n     * Create
```

dynamic nodes from i18n translation block.\n *\n * - Text nodes are created synchronously\n * - TNodes are linked into tree lazily\n *\n * @param tView Current `TView`\n * @parentTNodeIndex index to the parent TNode of this
i18n block\n * @param lView Current `LView`\n * @param index Index of `i18nStart` instruction.\n * @param message Message to translate.\n * @param subTemplateIndex Index into the sub template of message translation. (ie in case of\n * `ngIf`) (-1 otherwise)\n */\n function i18nStartFirstCreatePass(tView, parentTNodeIndex, lView, index, message, subTemplateIndex) {\n var rootTNode = getCurrentParentTNode();\n var createOpCodes = [];\n var updateOpCodes = [];\n var existingTNodeStack = [[]];\n if (ngDevMode) {\n attachDebugGetter(createOpCodes, i18nCreateOpCodesToString);\n attachDebugGetter(updateOpCodes, i18nUpdateOpCodesToString);\n }\n message = getTranslationForTemplate(message, subTemplateIndex);\n var msgParts = replaceNgsp(message).split(PH_REGEXP);\n for (var i = 0; i < msgParts.length; i++) {\n var value = msgParts[i];\n if ((i & 1) ===
0) {\n // Even indexes are text (including bindings & ICU expressions)\n var parts = i18nParseTextIntoPartsAndICU(value);\n for (var j = 0; j < parts.length; j++) {\n var part = parts[j];\n if ((j & 1) === 0) {\n // `j` is odd therefore `part` is string\n var text = part;\n ngDevMode && assertString(text, 'Parsed ICU part should be string');\n if (text !== '') {\n i18nStartFirstCreatePassProcessTextNode(tView, rootTNode, existingTNodeStack[0], createOpCodes, updateOpCodes, lView, text);\n }\n }\n else {\n // `j` is Even therefor `part` is an `ICUExpression`\n var icuExpression = part;\n // Verify that ICU expression has the right shape. Translations might contain
invalid\n // constructions (while original messages were correct), so ICU parsing at runtime may\n // not succeed (thus `icuExpression` remains a string).\n // Note: we intentionally retain the error here by not using `ngDevMode`, because\n // the value can change based on the locale and users aren't guaranteed to hit\n // an invalid string while they're developing.\n if (typeof icuExpression !== 'object') {\n throw new Error(\"Unable to parse ICU expression in \\\"\" + message + \"\\\" message.\");\n }\n var icuContainerTNode = createTNodeAndAddOpCode(tView, rootTNode, existingTNodeStack[0], lView, createOpCodes, ngDevMode ? \"ICU \" + index + \":\" + icuExpression.mainBinding : '', true);\n var icuNodeIndex = icuContainerTNode.index;\n ngDevMode &&\n assertGreaterThanOrEqual(icuNodeIndex, HEADER_OFFSET, 'Index must be in absolute LView offset');\n icuStart(tView, lView, updateOpCodes, parentTNodeIndex, icuExpression, icuNodeIndex);\n }\n }\n }\n else {\n // Odd indexes are placeholders (elements and sub-templates)\n // At this point value is something like: '/#1:2' (originally coming from '/#1:2')\n var isClosing = value.charCodeAt(0) === 47 /* SLASH */;\n var type = value.charCodeAt(isClosing ? 1 : 0);\n ngDevMode && assertOneOf(type, 42 /* STAR */, 35 /* HASH */);\n var index_1 = HEADER_OFFSET + Number.parseInt(value.substring((isClosing ? 2 : 1)));\n if (isClosing) {\n existingTNodeStack.shift();\n setCurrentTNode(getCurrentParentTNode(), false);\n }\n else {\n var tNode = createTNodePlaceholder(tView, existingTNodeStack[0], index_1);\n existingTNodeStack.unshift([]);\n setCurrentTNode(tNode, true);\n }\n }\n }\n tView.data[index] = {\n create: createOpCodes,\n update: updateOpCodes,\n };\n }\n /**\n * Allocate space in i18n Range add create OpCode instruction to crete a text or comment node.\n *\n * @param tView Current `TView` needed to allocate space in i18n range.\n * @param rootTNode Root `TNode` of the i18n block. This node determines if the new TNode will be\n * added as part of the `i18nStart` instruction or as part of the `TNode.insertBeforeIndex`.\n * @param existingTNodes internal state for `addTNodeAndUpdateInsertBeforeIndex`.\n * @param lView Current `LView` needed to allocate space in i18n range.\n * @param createOpCodes Array storing

`I18nCreateOpCodes` where new opCodes will be added.\n * @param text Text to be added when the `Text` or `Comment` node will be created.\n * @param isICU true if a `Comment` node for ICU (instead of `Text`) node should be created.\n */\n function createTNodeAndAddOpCode(tView, rootTNode, existingTNodes, lView, createOpCodes, text, isICU) {\n var i18nNodeIdx = allocExpando(tView, lView, 1, null);\n var opCode = i18nNodeIdx << I18nCreateOpCode.SHIFT;\n var parentTNode = getCurrentParentTNode();\n if (rootTNode === parentTNode) {\n // FIXME(misko): A null `parentTNode` should represent when we fall of the `LView` boundary.\n // (there is no parent), but in some circumstances (because we are inconsistent about how we set\n // `previousOrParentTNode`) it could point to `rootTNode` So this is a work around.\n parentTNode = null;\n }\n if (parentTNode === null) {\n // If we don't have a parent that means that we can eagerly add nodes.\n // If we have a parent than these nodes can't be added now (as the parent has not been created\n // yet) and instead the `parentTNode` is responsible for adding it. See\n // `TNode.insertBeforeIndex`\n opCode |= I18nCreateOpCode.APPEND_EAGERLY;\n }\n if (isICU) {\n opCode |= I18nCreateOpCode.COMMENT;\n ensureIcuContainerVisitorLoaded(loadIcuContainerVisitor);\n }\n createOpCodes.push(opCode, text === null ? '' : text);\n // We store `{{?}}` so that when looking at debug `TNodeType.template` we can see where the\n // bindings are.\n var tNode = createTNodeAtIndex(tView, i18nNodeIdx, isICU ? 32 /* Icu */ : 1 /* Text */, text === null ? (ngDevMode ? '{{?}}' : '') : text, null);\n addTNodeAndUpdateInsertBeforeIndex(existingTNodes, tNode);\n var tNodeIdx = tNode.index;\n setCurrentTNode(tNode, false /* Text nodes are self closing */);\n if (parentTNode !== null && rootTNode !== parentTNode) {\n // We are a child of deeper node (rather than a direct child of `i18nStart` instruction.)\n // We have to make sure to add ourselves to the parent.\n setTNodeInsertBeforeIndex(parentTNode, tNodeIdx);\n }\n return tNode;\n }\n /**\n * Processes text node in i18n block.\n *\n * Text nodes can have:\n * - Create instruction in `createOpCodes` for creating the text node.\n * - Allocate spec for text node in i18n range of `LView`\n * - If contains binding:\n * - bindings => allocate space in i18n range of `LView` to store the binding value.\n * - populate `updateOpCodes` with update instructions.\n *\n * @param tView Current `TView`\n * @param rootTNode Root `TNode` of the i18n block. This node determines if the new TNode will\n * be added as part of the `i18nStart` instruction or as part of the\n * `TNode.insertBeforeIndex`.\n * @param existingTNodes internal state for `addTNodeAndUpdateInsertBeforeIndex`.\n * @param createOpCodes Location where the creation OpCodes will be stored.\n * @param lView Current `LView`\n * @param text The translated text (which may contain binding)\n */\n function i18nStartFirstCreatePassProcessTextNode(tView, rootTNode, existingTNodes, createOpCodes, updateOpCodes, lView, text) {\n var hasBinding = text.match(BINDING_REGEXP);\n var tNode = createTNodeAndAddOpCode(tView, rootTNode, existingTNodes, lView, createOpCodes, hasBinding ? null : text, false);\n if (hasBinding) {\n generateBindingUpdateOpCodes(updateOpCodes, text, tNode.index);\n }\n }\n /**\n * See `i18nAttributes` above.\n */\n function i18nAttributesFirstPass(tView, index, values) {\n var previousElement = getCurrentTNode();\n var previousElementIndex = previousElement.index;\n var updateOpCodes = [];\n if (ngDevMode) {\n attachDebugGetter(updateOpCodes, i18nUpdateOpCodesToString);\n }\n if (tView.firstCreatePass && tView.data[index] === null) {\n for (var i = 0; i < values.length; i += 2) {\n var attrName = values[i];\n var message = values[i + 1];\n if (message !== '') {\n // Check if attribute value contains an ICU and throw an error if that's the case.\n // ICUs in element attributes are not supported.\n // Note: we intentionally retain the error here by not using `ngDevMode`, because\n // the `value` can change based on the locale and users aren't guaranteed to hit\n // an invalid string while they're developing.\n if (ICU_REGEXP.test(message)) {\n throw new Error(\"ICU expressions are not supported in attributes. Message:

```
\\\"\" + message + \"\\\".\");\n                }\n                // i18n attributes that hit this code path are guaranteed to have bindings, because\n                // the compiler treats static i18n attributes as regular attribute bindings.\n                generateBindingUpdateOpCodes(updateOpCodes, message, previousElementIndex, attrName);\n            }\n        }\n        tView.data[index] = updateOpCodes;\n    }\n}\n/**\n * Generate the OpCodes to update the bindings of a string.\n *\n * @param updateOpCodes Place where the update opcodes will be stored.\n * @param str The string containing the bindings.\n * @param destinationNode Index of the destination node which will receive the binding.\n * @param attrName Name of the attribute, if the string belongs to an attribute.\n * @param sanitizeFn Sanitization function used to sanitize the string after update, if necessary.\n */\nfunction generateBindingUpdateOpCodes(updateOpCodes,
 str, destinationNode, attrName, sanitizeFn) {\n    if (sanitizeFn === void 0) { sanitizeFn = null; }\n    ngDevMode &&\n        assertGreaterThanOrEqual(destinationNode, HEADER_OFFSET, 'Index must be in absolute LView offset');\n    var maskIndex = updateOpCodes.length; // Location of mask\n    var sizeIndex = maskIndex + 1; // location of size for skipping\n    updateOpCodes.push(null, null); // Alloc space for mask and size\n    var startIndex = maskIndex + 2; // location of first allocation.\n    if (ngDevMode) {\n        attachDebugGetter(updateOpCodes, i18nUpdateOpCodesToString);\n    }\n    var textParts = str.split(BINDING_REGEXP);\n    var mask = 0;\n    for (var j = 0; j < textParts.length; j++) {\n        var textValue = textParts[j];\n        if (j & 1) {\n            // Odd indexes are bindings\n            var bindingIndex = parseInt(textValue, 10);\n            updateOpCodes.push(-1
 - bindingIndex);\n            mask = mask | toMaskBit(bindingIndex);\n        }\n        else if (textValue !== '') {\n            // Even indexes are text\n            updateOpCodes.push(textValue);\n        }\n    }\n    updateOpCodes.push(destinationNode << 2 /* SHIFT_REF */ |\n        (attrName ? 1 /* Attr */ : 0 /* Text */));\n    if (attrName) {\n        updateOpCodes.push(attrName, sanitizeFn);\n    }\n    updateOpCodes[maskIndex] = mask;\n    updateOpCodes[sizeIndex] = updateOpCodes.length - startIndex;\n    return mask;\n}\n/**\n * Convert binding index to mask bit.\n *\n * Each index represents a single bit on the bit-mask. Because bit-mask only has 32 bits, we make\n * the 32nd bit share all masks for all bindings higher than 32. Since it is extremely rare to\n * have more than 32 bindings this will be hit very rarely. The downside of hitting this corner\n * case is that
 we will execute binding code more often than necessary. (penalty of performance)\n */\nfunction toMaskBit(bindingIndex) {\n    return 1 << Math.min(bindingIndex, 31);\n}\nfunction isRootTemplateMessage(subTemplateIndex) {\n    return subTemplateIndex === -1;\n}\n/**\n * Removes everything inside the sub-templates of a message.\n */\nfunction removeInnerTemplateTranslation(message) {\n    var match;\n    var res = '';\n    var index = 0;\n    var inTemplate = false;\n    var tagMatched;\n    while ((match = SUBTEMPLATE_REGEXP.exec(message)) !== null) {\n        if (!inTemplate) {\n            res += message.substring(index, match.index + match[0].length);\n            tagMatched = match[1];\n            inTemplate = true;\n        }\n        else {\n            if (match[0] === MARKER + \"/*\" + tagMatched + MARKER) {\n                index = match.index;\n                inTemplate
 = false;\n            }\n        }\n    }\n    ngDevMode &&\n        assertEqual(inTemplate, false, \"Tag mismatch: unable to find the end of the sub-template in the translation \\\"\" + message + \"\\\"\");\n    res += message.substr(index);\n    return res;\n}\n/**\n * Extracts a part of a message and removes the rest.\n *\n * This method is used for extracting a part of the message associated with a template. A\n * translated message can span multiple templates.\n *\n * Example:\n * ```\n * <div i18n>Translate <span *ngIf>me</span>!</div>\n * ```\n *\n * @param message The message to crop\n * @param subTemplateIndex Index of the sub-template to extract. If undefined it returns the\n * external template and removes all sub-templates.\n */\nfunction getTranslationForTemplate(message, subTemplateIndex) {\n    if (isRootTemplateMessage(subTemplateIndex)) {\n        // We want the root
 template message, ignore all sub-templates\n        return removeInnerTemplateTranslation(message);\n    }\n    else {\n        // We want a specific sub-template\n        var start = message.indexOf(\":\" + subTemplateIndex + MARKER) + 2 + subTemplateIndex.toString().length;\n        var end = message.search(new RegExp(MARKER +
```

```
\"\\\\/\\\\*\\\\d+:\" + subTemplateIndex + MARKER));\n            return
removeInnerTemplateTranslation(message.substring(start, end));\n        }\n    }\n    /**\n     * Generate the OpCodes
for ICU expressions.\n     *\n     * @param icuExpression\n     * @param index Index where the anchor is stored and
an optional `TIcuContainerNode`\n     *   - `lView[anchorIdx]` points to a `Comment` node representing the anchor
for the ICU.\n     *   - `tView.data[anchorIdx]` points to the `TIcuContainerNode` if ICU is root (`null` otherwise)\n
 */\n    function icuStart(tView, lView, updateOpCodes, parentIdx, icuExpression, anchorIdx) {\n
ngDevMode && assertDefined(icuExpression, 'ICU expression must be defined');\n        var bindingMask =
0;\n        var tIcu = {\n            type: icuExpression.type,\n            currentCaseLViewIndex: allocExpando(tView,
lView, 1, null),\n            anchorIdx: anchorIdx,\n            cases: [],\n            create: [],\n            remove: [],\n
update: []\n        };\n        addUpdateIcuSwitch(updateOpCodes, icuExpression, anchorIdx);\n        setTIcu(tView,
anchorIdx, tIcu);\n        var values = icuExpression.values;\n        for (var i = 0; i < values.length; i++) {\n            //
Each value is an array of strings & other ICU expressions\n            var valueArr = values[i];\n            var nestedIcus
= [];\n            for (var j = 0; j < valueArr.length; j++) {\n                var value = valueArr[j];\n                if (typeof
value !== 'string') {\n                    // It is an nested ICU expression\n                    var icuIndex =
nestedIcus.push(value)
 - 1;\n                    // Replace nested ICU expression by a comment node\n                    valueArr[j] = \"<!--\\uFFFD\"
+ icuIndex + \"\\uFFFD-->\";\n                }\n            }\n            bindingMask = parseIcuCase(tView, tIcu, lView,
updateOpCodes, parentIdx, icuExpression.cases[i], valueArr.join(''), nestedIcus) |\n                bindingMask;\n
}\n        if (bindingMask) {\n            addUpdateIcuUpdate(updateOpCodes, bindingMask, anchorIdx);\n        }\n
}\n    /**\n     * Parses text containing an ICU expression and produces a JSON object for it.\n     * Original code
from closure library, modified for Angular.\n     *\n     * @param pattern Text containing an ICU expression that
needs to be parsed.\n     *\n     */\n    function parseICUBlock(pattern) {\n        var cases = [];\n        var values = [];\n
    var icuType = 1 /* plural */;\n        var mainBinding = 0;\n        pattern =
pattern.replace(ICU_BLOCK_REGEXP, function (str, binding,
 type) {\n            if (type === 'select') {\n                icuType = 0 /* select */;\n            }\n            else {\n
icuType = 1 /* plural */;\n            }\n            mainBinding = parseInt(binding.substr(1), 10);\n            return '';\n
});\n        var parts = i18nParseTextIntoPartsAndICU(pattern);\n        // Looking for (key block)+ sequence. One of
the keys has to be \"other\".\n        for (var pos = 0; pos < parts.length;) {\n            var key = parts[pos++].trim();\n
    if (icuType === 1 /* plural */) {\n                // Key can be \"=x\", we just want \"x\"\n                key =
key.replace(/\\s*(?:=)?(\\w+)\\s*/, '$1');\n            }\n            if (key.length) {\n                cases.push(key);\n            }\n
        var blocks = i18nParseTextIntoPartsAndICU(parts[pos++]);\n            if (cases.length > values.length) {\n
    values.push(blocks);\n            }\n        }\n        // TODO(ocombe): support
 ICU expressions in attributes, see #21615\n        return { type: icuType, mainBinding: mainBinding, cases: cases,
values: values };\n    }\n    /**\n     * Breaks pattern into strings and top level {...} blocks.\n     * Can be used to
break a message into text and ICU expressions, or to break an ICU expression\n     * into keys and cases. Original
code from closure library, modified for Angular.\n     *\n     * @param pattern (sub)Pattern to be broken.\n     *
@returns An `Array<string|IcuExpression>` where:\n     *   - odd positions: `string` => text between ICU
expressions\n     *   - even positions: `ICUExpression` => ICU expression parsed into `ICUExpression` record.\n
*/\n    function i18nParseTextIntoPartsAndICU(pattern) {\n        if (!pattern) {\n            return [];\n        }\n        var
prevPos = 0;\n        var braceStack = [];\n        var results = [];\n        var braces = /[{}]/g;\n        // lastIndex doesn't
get set to 0 so we have to.\n        braces.lastIndex
 = 0;\n        var match;\n        while (match = braces.exec(pattern)) {\n            var pos = match.index;\n            if
(match[0] == '}') {\n                braceStack.pop();\n                if (braceStack.length == 0) {\n                    // End of the
block.\n                    var block = pattern.substring(prevPos, pos);\n                    if
(ICU_BLOCK_REGEXP.test(block)) {\n                        results.push(parseICUBlock(block));\n                    }\n
        else {\n                        results.push(block);\n                    }\n                    prevPos = pos + 1;\n                }\n
  }\n            else {\n                if (braceStack.length == 0) {\n                    var substring_1 =
pattern.substring(prevPos, pos);\n                    results.push(substring_1);\n                    prevPos = pos + 1;\n
```

```
}\n braceStack.push('{');\n }\n }\n var substring = pattern.substring(prevPos);\n
results.push(substring);\n return results;\n }\n /**\n * Parses a node, its children and its siblings, and
generates the mutate & update OpCodes.\n *\n */\n function parseIcuCase(tView, tIcu, lView,
updateOpCodes, parentIdx, caseName, unsafeCaseHtml, nestedIcus) {\n var create = [];\n var remove =
[];\n var update = [];\n if (ngDevMode) {\n attachDebugGetter(create,
icuCreateOpCodesToString);\n attachDebugGetter(remove, i18nRemoveOpCodesToString);\n
attachDebugGetter(update, i18nUpdateOpCodesToString);\n }\n tIcu.cases.push(caseName);\n
tIcu.create.push(create);\n tIcu.remove.push(remove);\n tIcu.update.push(update);\n var
inertBodyHelper = getInertBodyHelper(getDocument());\n var inertBodyElement =
inertBodyHelper.getInertBodyElement(unsafeCaseHtml);\n ngDevMode && assertDefined(inertBodyElement,
'Unable to generate
inert body element');\n var inertRootNode = getTemplateContent(inertBodyElement) || inertBodyElement;\n
if (inertRootNode) {\n return walkIcuTree(tView, tIcu, lView, updateOpCodes, create, remove, update,
inertRootNode, parentIdx, nestedIcus, 0);\n }\n else {\n return 0;\n }\n }\n function
walkIcuTree(tView, tIcu, lView, sharedUpdateOpCodes, create, remove, update, parentNode, parentIdx, nestedIcus,
depth) {\n var bindingMask = 0;\n var currentNode = parentNode.firstChild;\n while (currentNode) {\n
var newIndex = allocExpando(tView, lView, 1, null);\n switch (currentNode.nodeType) {\n
case Node.ELEMENT_NODE:\n var element = currentNode;\n var tagName =
element.tagName.toLowerCase();\n if (VALID_ELEMENTS.hasOwnProperty(tagName)) {\n
addCreateNodeAndAppend(create, ELEMENT_MARKER, tagName,
parentIdx, newIndex);\n tView.data[newIndex] = tagName;\n var elAttrs =
element.attributes;\n for (var i = 0; i < elAttrs.length; i++) {\n var attr =
elAttrs.item(i);\n var lowerAttrName = attr.name.toLowerCase();\n var
hasBinding_1 = !!attr.value.match(BINDING_REGEXP);\n // we assume the input string is safe,
unless it's using a binding\n if (hasBinding_1) {\n if
(VALID_ATTRS.hasOwnProperty(lowerAttrName)) {\n if (URI_ATTRS[lowerAttrName])
{\n generateBindingUpdateOpCodes(update, attr.value, newIndex, attr.name,
_sanitizeUrl);\n }\n else if (SRCSET_ATTRS[lowerAttrName]) {\n

generateBindingUpdateOpCodes(update, attr.value, newIndex, attr.name, sanitizeSrcset);\n
}\n else {\n generateBindingUpdateOpCodes(update, attr.value,
newIndex, attr.name);\n }\n }\n else {\n
ngDevMode &&\n console.warn(\"WARNING: ignoring unsafe attribute value \" +\n
(lowerAttrName + \" on element \" + tagName + \" \") +\n \"(see
https://g.co/ng/security#xss)\");\n }\n }\n else {\n
addCreateAttribute(create, newIndex, attr);\n }\n }\n // Parse
the children of this node (if any)\n bindingMask = walkIcuTree(tView, tIcu, lView,
sharedUpdateOpCodes, create, remove, update, currentNode, newIndex, nestedIcus, depth + 1) |\n
bindingMask;\n addRemoveNode(remove, newIndex, depth);\n }\n break;\n
case Node.TEXT_NODE:\n var value = currentNode.textContent || '';\n var
hasBinding = value.match(BINDING_REGEXP);\n addCreateNodeAndAppend(create, null, hasBinding
? '' : value, parentIdx, newIndex);\n addRemoveNode(remove, newIndex, depth);\n if
(hasBinding) {\n bindingMask = generateBindingUpdateOpCodes(update, value, newIndex) |
bindingMask;\n }\n break;\n case Node.COMMENT_NODE:\n //
Check if the comment node is a placeholder
for a nested ICU\n var isNestedIcu = NESTED_ICU.exec(currentNode.textContent || '');\n if
(isNestedIcu) {\n var nestedIcuIndex = parseInt(isNestedIcu[1], 10);\n var
icuExpression = nestedIcus[nestedIcuIndex];\n // Create the comment node that will anchor the ICU
```

expression\n addCreateNodeAndAppend(create, ICU_MARKER, ngDevMode ? \"nested ICU \" + nestedIcuIndex : '', parentIdx, newIndex);\n icuStart(tView, lView, sharedUpdateOpCodes, parentIdx, icuExpression, newIndex);\n addRemoveNestedIcu(remove, newIndex, depth);\n }\n break;\n }\n currentNode = currentNode.nextSibling;\n }\n return bindingMask;\n }\n function addRemoveNode(remove, index, depth) {\n if (depth === 0) {\n remove.push(index);\n }\n }\n function addRemoveNestedIcu(remove, index, depth) {\n if (depth === 0) {\n remove.push(~index); // remove ICU at `index`\n remove.push(index); // remove ICU comment at `index`\n }\n }\n function addUpdateIcuSwitch(update, icuExpression, index) {\n update.push(toMaskBit(icuExpression.mainBinding), 2, -1 - icuExpression.mainBinding, index << 2 /* SHIFT_REF */ | 2 /* IcuSwitch */);\n }\n function addUpdateIcuUpdate(update, bindingMask, index) {\n update.push(bindingMask, 1, index << 2 /* SHIFT_REF */ | 3 /* IcuUpdate */);\n }\n function addCreateNodeAndAppend(create, marker, text, appendToParentIdx, createAtIdx) {\n if (marker !== null) {\n create.push(marker);\n }\n create.push(text, createAtIdx, icuCreateOpCode(0 /* AppendChild */, appendToParentIdx, createAtIdx));\n }\n function addCreateAttribute(create, newIndex, attr) {\n create.push(newIndex << 1 /* SHIFT_REF */ | 1 /* Attr */, attr.name, attr.value);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // i18nPostprocess consts\n var ROOT_TEMPLATE_ID = 0;\n var PP_MULTI_VALUE_PLACEHOLDERS_REGEXP = /\\[(.+??)\\]/;\n var PP_PLACEHOLDERS_REGEXP = /\\[(.+??)\\]|(\\/?*\\d+:\\d+)/g;\n var PP_ICU_VARS_REGEXP = /({\\s*)(VAR_(PLURAL|SELECT)(_\\d+)?)(\\s*,)/g;\n var PP_ICU_PLACEHOLDERS_REGEXP = /{([A-Z0-9_]+)}/g;\n var PP_ICUS_REGEXP = /I18N_EXP_(ICU(_\\d+)?)/g;\n var PP_CLOSE_TEMPLATE_REGEXP = /\\/*/;\n var PP_TEMPLATE_ID_REGEXP = /\\d+\\:(\\d+)/;\n /**\n * Handles message string post-processing for internationalization.\n *\n * Handles message string post-processing by transforming it from intermediate\n * format (that might contain some markers that we need to replace) to the final\n * form, consumable by i18nStart instruction. Post processing steps include:\n *\n * 1. Resolve all multi-value cases (like [*1:1#2:1|#4:1|5])\n * 2. Replace all ICU vars (like \"VAR_PLURAL\")\n * 3. Replace all placeholders used inside ICUs in a form of {PLACEHOLDER}\n * 4. Replace all ICU references with corresponding values (like ICU_EXP_ICU_1)\n * in case multiple ICUs have the same placeholder name\n *\n * @param message Raw translation string for post processing\n * @param replacements Set of replacements that should be applied\n *\n * @returns Transformed string that can be consumed by i18nStart instruction\n *\n * @codeGenApi\n */\n function i18nPostprocess(message, replacements) {\n if (replacements === void 0) { replacements = {}; }\n /**\n * Step 1: resolve all multi-value placeholders like [#5|*1:1#2:1|#4:1]\n *\n * Note: due to the way we process nested templates (BFS), multi-value placeholders are typically\n * grouped by templates, for example: [#5|#6|#1:1|#3:2] where #5 and #6 belong to root\n * template, #1:1 belong to nested template with index 1 and #1:2 - nested template with index\n * 3. However in real templates the order might be different: i.e. #1:1 and/or #3:2 may go in\n * front of #6. The post processing step restores the right order by keeping track of the\n * template id stack and looks for placeholders that belong to the currently active template.\n */\n var result = message;\n if (PP_MULTI_VALUE_PLACEHOLDERS_REGEXP.test(message)) {\n var matches_1 = {};\n var templateIdsStack_1 = [ROOT_TEMPLATE_ID];\n result = result.replace(PP_PLACEHOLDERS_REGEXP, function (m, phs, tmpl) {\n var content = phs || tmpl;\n var placeholders = matches_1[content] || [];\n if (!placeholders.length) {\n content.split('|').forEach(function (placeholder) {\n var match = placeholder.match(PP_TEMPLATE_ID_REGEXP);\n var templateId = match ? parseInt(match[1], 10) : ROOT_TEMPLATE_ID;\n var isCloseTemplateTag = PP_CLOSE_TEMPLATE_REGEXP.test(placeholder);\n placeholders.push([templateId, isCloseTemplateTag, placeholder]);\n });\n matches_1[content] = placeholders;\n

}\n if (!placeholders.length) {\n throw new Error(\"i18n postprocess: unmatched placeholder - \" + content);\n }\n var currentTemplateId = templateIdsStack_1[templateIdsStack_1.length - 1];\n var idx = 0;\n // find placeholder index that matches current template id\n for (var i = 0; i < placeholders.length; i++)
{\n if (placeholders[i][0] === currentTemplateId) {\n idx = i;\n break;\n }\n }\n // update template id stack based on the current tag extracted\n var _a = __read(placeholders[idx], 3), templateId = _a[0], isCloseTemplateTag = _a[1], placeholder = _a[2];\n if (isCloseTemplateTag) {\n templateIdsStack_1.pop();\n }\n else if (currentTemplateId !== templateId) {\n templateIdsStack_1.push(templateId);\n }\n // remove processed tag from the list\n placeholders.splice(idx, 1);\n return placeholder;\n });\n }\n // return current result if no replacements specified\n if (!Object.keys(replacements).length) {\n return result;\n }\n /**\n * Step 2: replace all ICU vars
(like \"VAR_PLURAL\")\n */\n result = result.replace(PP_ICU_VARS_REGEXP, function (match, start, key, _type, _idx, end) {\n return replacements.hasOwnProperty(key) ? \"\\" + start + replacements[key] + end : match;\n });\n /**\n * Step 3: replace all placeholders used inside ICUs in a form of {PLACEHOLDER}\n */\n result = result.replace(PP_ICU_PLACEHOLDERS_REGEXP, function (match, key) {\n return replacements.hasOwnProperty(key) ? replacements[key] : match;\n });\n /**\n * Step 4: replace all ICU references with corresponding values (like ICU_EXP_ICU_1) in case\n * multiple ICUs have the same placeholder name\n */\n result = result.replace(PP_ICUS_REGEXP, function (match, key) {\n if (replacements.hasOwnProperty(key)) {\n var list = replacements[key];\n if (!list.length) {\n throw new Error(\"i18n postprocess:
unmatched ICU - \" + match + \" with key: \" + key);\n }\n return list.shift();\n }\n return match;\n });\n return result;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Marks a block of text as translatable.\n *\n * The instructions `i18nStart` and `i18nEnd` mark the translation block in the template.\n * The translation `message` is the value which is locale specific. The translation string may\n * contain placeholders which associate inner elements and sub-templates within the translation.\n *\n * The translation `message` placeholders are:\n * - `{index}(:{block})`: *Binding Placeholder*: Marks a location where an expression will be\n * interpolated into. The placeholder
`index` points to the expression binding index. An optional\n * `block` that matches the sub-template in which it was declared.\n * - `#{index}(:{block})`/`/#{index}(:{block})`: *Element Placeholder*: Marks the beginning\n * and end of DOM element that were embedded in the original translation block. The placeholder\n * `index` points to the element index in the template instructions set. An optional `block` that\n * matches the sub-template in which it was declared.\n * - `*{index}:{block}`/`/*{index}:{block}`: *Sub-template Placeholder*: Sub-templates must be\n * split up and translated separately in each angular template function. The `index` points to the\n * `template` instruction index. A `block` that matches the sub-template in which it was declared.\n *\n * @param index A unique index of the translation in the static block.\n * @param messageIndex An index of the translation message from the `def.consts` array.\n
* @param subTemplateIndex Optional sub-template index in the `message`.\n *\n * @codeGenApi\n */\n
function i18nStart(index, messageIndex, subTemplateIndex) {\n if (subTemplateIndex === void 0) { subTemplateIndex = -1; }\n var tView = getTView();\n var lView = getLView();\n var adjustedIndex = HEADER_OFFSET + index;\n ngDevMode && assertDefined(tView, \"tView should be defined\");\n var message = getConstant(tView.consts, messageIndex);\n var parentTNode = getCurrentParentTNode();\n if (tView.firstCreatePass) {\n i18nStartFirstCreatePass(tView, parentTNode === null ? 0 : parentTNode.index, lView, adjustedIndex, message, subTemplateIndex);\n }\n var tI18n = tView.data[adjustedIndex];\n var sameViewParentTNode = parentTNode === lView[T_HOST] ? null : parentTNode;\n var parentRNode = getClosestRElement(tView, sameViewParentTNode, lView);\n // If `parentTNode`

is an `ElementContainer` than it has `<!--ng-container--->`.\n // When we do inserts we have to make sure to insert in front of `<!--ng-container--->`.\n var insertInFrontOf = parentTNode && (parentTNode.type & 8 /* ElementContainer */) ?\n lView[parentTNode.index] :\n null;\n applyCreateOpCodes(lView, tI18n.create, parentRNode, insertInFrontOf);\n setInI18nBlock(true);\n }\n /**\n * Translates a translation block marked by `i18nStart` and `i18nEnd`. It inserts the text/ICU nodes\n * into the render tree, moves the placeholder nodes and removes the deleted nodes.\n *\n * @codeGenApi\n */\n function i18nEnd() {\n setInI18nBlock(false);\n }\n /**\n *\n * Use this instruction to create a translation block that doesn't contain any placeholder.\n * It calls both {@link i18nStart} and {@link i18nEnd} in one instruction.\n *\n * The translation `message` is the value which is locale
specific. The translation string may\n * contain placeholders which associate inner elements and sub-templates within the translation.\n *\n * The translation `message` placeholders are:\n * - `{index}(:{block})`: *Binding Placeholder*: Marks a location where an expression will be\n * interpolated into. The placeholder `index` points to the expression binding index. An optional\n * `block` that matches the sub-template in which it was declared.\n * - `#{index}(:{block})`/`/#{index}(:{block})`: *Element Placeholder*: Marks the beginning\n * and end of DOM element that were embedded in the original translation block. The placeholder\n * `index` points to the element index in the template instructions set. An optional `block` that\n * matches the sub-template in which it was declared.\n * - `*{index}:{block}`/`/*{index}:{block}`: *Sub-template Placeholder*: Sub-templates must be\n * split up and translated separately
in each angular template function. The `index` points to the\n * `template` instruction index. A `block` that matches the sub-template in which it was declared.\n *\n * @param index A unique index of the translation in the static block.\n * @param messageIndex An index of the translation message from the `def.consts` array.\n * @param subTemplateIndex Optional sub-template index in the `message`.\n *\n * @codeGenApi\n */\n function i18n(index, messageIndex, subTemplateIndex) {\n i18nStart(index, messageIndex, subTemplateIndex);\n i18nEnd();\n }\n /**\n * Marks a list of attributes as translatable.\n *\n * @param index A unique index in the static block\n * @param values\n *\n * @codeGenApi\n */\n function i18nAttributes(index, attrsIndex) {\n var tView = getTView();\n ngDevMode && assertDefined(tView, \"tView should be defined\");\n var attrs = getConstant(tView.consts, attrsIndex);\n i18nAttributesFirstPass(tView, index + HEADER_OFFSET, attrs);\n }\n /**\n * Stores the values of the bindings during each update cycle in order to determine if we need to\n * update the translated nodes.\n *\n * @param value The binding's value\n * @returns This function returns itself so that it may be chained\n * (e.g. `i18nExp(ctx.name)(ctx.title)`)\n *\n * @codeGenApi\n */\n function i18nExp(value) {\n var lView = getLView();\n setMaskBit(bindingUpdated(lView, nextBindingIndex(), value));\n return i18nExp;\n }\n /**\n * Updates a translation block or an i18n attribute when the bindings have changed.\n *\n * @param index Index of either {@link i18nStart} (translation block) or {@link i18nAttributes}\n * (i18n attribute) on which it should update the content.\n *\n * @codeGenApi\n */\n function i18nApply(index) {\n applyI18n(getTView(), getLView(), index + HEADER_OFFSET);\n }\n /**\n * Handles message string post-processing for internationalization.\n *\n * Handles message string post-processing by transforming it from intermediate\n * format (that might contain some markers that we need to replace) to the final\n * form, consumable by i18nStart instruction. Post processing steps include:\n *\n * 1. Resolve all multi-value cases (like [*1:1#2:1|#4:1|5])\n * 2. Replace all ICU vars (like \"VAR_PLURAL\")\n * 3. Replace all placeholders used inside ICUs in a form of {PLACEHOLDER}\n * 4. Replace all ICU references with corresponding values (like ICU_EXP_ICU_1)\n * in case multiple ICUs have the same placeholder name\n *\n * @param message Raw translation string for post processing\n * @param replacements Set of replacements that should be applied\n *\n * @returns Transformed string that can be consumed by i18nStart instruction\n *\n * @codeGenApi\n */\n function i18nPostprocess(message, replacements) {\n if (replacements === void 0) { replacements = {}; }\n return i18nPostprocess(message, replacements);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n

* found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Resolves the providers which are defined in the DirectiveDef.\n *\n * When inserting the tokens and the factories in their respective arrays, we can assume that\n * this method is called first for the component (if any), and then for other directives on the same\n * node.\n * As a consequence,the providers are always processed in that order:\n * 1) The view providers of the component\n * 2) The providers of the component\n * 3) The providers of the other directives\n * This matches the structure of the injectables arrays of a view (for each node).\n * So the tokens and the factories can be pushed at the end of the arrays, except\n * in one case for multi providers.\n *\n * @param def the directive definition\n * @param providers: Array of `providers`.\n * @param viewProviders: Array of `viewProviders`.\n */\n function providersResolver(def, providers, viewProviders) {\n var tView = getTView();\n if (tView.firstCreatePass) {\n var isComponent = isComponentDef(def);\n // The list of view providers is processed first, and the flags are updated\n resolveProvider$1(viewProviders, tView.data, tView.blueprint, isComponent, true);\n // Then, the list of providers is processed, and the flags are updated\n resolveProvider$1(providers, tView.data, tView.blueprint, isComponent, false);\n }\n }\n /**\n * Resolves a provider and publishes it to the DI system.\n */\n function resolveProvider$1(provider, tInjectables, lInjectablesBlueprint, isComponent, isViewProvider) {\n provider = resolveForwardRef(provider);\n if (Array.isArray(provider)) {\n // Recursively call `resolveProvider`\n // Recursion is OK in this case because this code will not be in hot-path once we implement\n // cloning of the initial state.\n for (var i = 0; i < provider.length; i++) {\n resolveProvider$1(provider[i], tInjectables, lInjectablesBlueprint, isComponent, isViewProvider);\n }\n }\n else {\n var tView = getTView();\n var lView = getLView();\n var token = isTypeProvider(provider) ? provider : resolveForwardRef(provider.provide);\n var providerFactory = providerToFactory(provider);\n var tNode = getCurrentTNode();\n var beginIndex = tNode.providerIndexes & 1048575 /* ProvidersStartIndexMask */;\n var endIndex = tNode.directiveStart;\n var cptViewProvidersCount = tNode.providerIndexes >> 20 /* CptViewProvidersCountShift */;\n if (isTypeProvider(provider) || !provider.multi) {\n // Single provider case: the factory is created and pushed immediately\n var factory = new NodeInjectorFactory(providerFactory, isViewProvider, directiveInject);\n var existingFactoryIndex = indexOf(token, tInjectables, isViewProvider ? beginIndex : beginIndex + cptViewProvidersCount, endIndex);\n if (existingFactoryIndex === -1) {\n diPublicInInjector(getOrCreateNodeInjectorForNode(tNode, lView), tView, token);\n registerDestroyHooksIfSupported(tView, provider, tInjectables.length);\n tInjectables.push(token);\n tNode.directiveStart++;\n tNode.directiveEnd++;\n if (isViewProvider) {\n tNode.providerIndexes += 1048576 /* CptViewProvidersCountShifter */;\n }\n lInjectablesBlueprint.push(factory);\n lView.push(factory);\n }\n else {\n lInjectablesBlueprint[existingFactoryIndex] = factory;\n lView[existingFactoryIndex] = factory;\n }\n }\n else {\n // Multi provider case:\n // We create a multi factory which is going to aggregate all the values.\n // Since the output of such a factory depends on content or view injection,\n // we create two of them, which are linked together.\n //\n // The first one (for view providers) is always in the first block of the injectables array,\n // and the second one (for providers) is always in the second block.\n // This is important because view providers have higher priority. When a multi token\n // is being looked up, the view providers should be found first.\n // Note that it is not possible to have a multi factory in the third block (directive block).\n //\n // The algorithm to process multi providers is as follows:\n // 1) If the multi provider comes from the `viewProviders` of the component:\n // a) If the special view providers factory doesn't exist, it is created and pushed.\n // b) Else, the multi provider is added to the existing multi factory.\n // 2) If the multi provider comes

from the `providers` of the component or of another\n // directive:\n // a) If the multi factory doesn't exist, it is created and provider pushed into it.\n // It is also linked to the multi factory for view providers, if it exists.\n // b) Else, the multi provider is added to the existing multi factory.\n var existingProvidersFactoryIndex = indexOf(token, tInjectables, beginIndex + cptViewProvidersCount, endIndex);\n var existingViewProvidersFactoryIndex = indexOf(token, tInjectables, beginIndex, beginIndex + cptViewProvidersCount);\n var doesProvidersFactoryExist = existingProvidersFactoryIndex >= 0 &&\n lInjectablesBlueprint[existingProvidersFactoryIndex];\n var doesViewProvidersFactoryExist = existingViewProvidersFactoryIndex >= 0 &&\n lInjectablesBlueprint[existingViewProvidersFactoryIndex];\n if (isViewProvider && !doesViewProvidersFactoryExist ||\n !isViewProvider && !doesProvidersFactoryExist) {\n // Cases 1.a and 2.a\n diPublicInInjector(getOrCreateNodeInjectorForNode(tNode, lView), tView, token);\n var factory = multiFactory(isViewProvider ? multiViewProvidersFactoryResolver : multiProvidersFactoryResolver, lInjectablesBlueprint.length, isViewProvider, isComponent, providerFactory);\n if (!isViewProvider && doesViewProvidersFactoryExist) {\n lInjectablesBlueprint[existingViewProvidersFactoryIndex].providerFactory = factory;\n }\n registerDestroyHooksIfSupported(tView, provider, tInjectables.length, 0);\n tInjectables.push(token);\n tNode.directiveStart++;\n tNode.directiveEnd++;\n if (isViewProvider) {\n tNode.providerIndexes += 1048576 /* CptViewProvidersCountShifter */;\n }\n lInjectablesBlueprint.push(factory);\n lView.push(factory);\n }\n else {\n // Cases 1.b and 2.b\n var indexInFactory = multiFactoryAdd(lInjectablesBlueprint[isViewProvider ? existingViewProvidersFactoryIndex :\n existingProvidersFactoryIndex], providerFactory, !isViewProvider && isComponent);\n registerDestroyHooksIfSupported(tView, provider, existingProvidersFactoryIndex > -1 ? existingProvidersFactoryIndex :\n existingViewProvidersFactoryIndex, indexInFactory);\n }\n if (!isViewProvider && isComponent && doesViewProvidersFactoryExist) {\n lInjectablesBlueprint[existingViewProvidersFactoryIndex].componentProviders++;\n }\n }\n }\n }\n /**\n * Registers the `ngOnDestroy` hook of a provider, if the provider supports destroy hooks.\n * @param tView `TView` in which to register the hook.\n * @param provider Provider whose hook should be registered.\n * @param contextIndex Index under which to find the context for the hook when it's being invoked.\n * @param indexInFactory Only required for `multi` providers. Index of the provider in the multi\n * provider factory.\n */\n function registerDestroyHooksIfSupported(tView, provider, contextIndex, indexInFactory) {\n var providerIsTypeProvider = isTypeProvider(provider);\n if (providerIsTypeProvider || isClassProvider(provider)) {\n var prototype = (provider.useClass || provider).prototype;\n var ngOnDestroy = prototype.ngOnDestroy;\n if (ngOnDestroy) {\n var hooks = tView.destroyHooks || (tView.destroyHooks = []);\n if (!providerIsTypeProvider && provider.multi) {\n ngDevMode &&\n assertDefined(indexInFactory, 'indexInFactory when registering multi factory destroy hook');\n var existingCallbacksIndex = hooks.indexOf(contextIndex);\n if (existingCallbacksIndex === -1) {\n hooks.push(contextIndex, [indexInFactory, ngOnDestroy]);\n }\n else {\n hooks[existingCallbacksIndex + 1].push(indexInFactory, ngOnDestroy);\n }\n }\n else {\n hooks.push(contextIndex, ngOnDestroy);\n }\n }\n }\n /**\n * Add a factory in a multi factory.\n * @returns Index at which the factory was inserted.\n */\n function multiFactoryAdd(multiFactory, factory, isComponentProvider) {\n if (isComponentProvider) {\n multiFactory.componentProviders++;\n }\n return multiFactory.multi.push(factory) - 1;\n }\n /**\n * Returns the index of item in the array, but only in the begin to end range.\n */\n function indexOf(item, arr, begin, end) {\n for (var i = begin; i < end; i++) {\n if (arr[i] === item)\n return i;\n }\n return -1;\n }\n /**\n * Use this with `multi` `providers`.\n */\n

```
function multiProvidersFactoryResolver(_, tData, lData, tNode) {\n        return multiResolve(this.multi, []);\n    }\n    /**\n     * Use this with `multi` `viewProviders`.\n     *\n     * This factory knows how to concatenate itself with the existing `multi` `providers`.\n     */\n    function multiViewProvidersFactoryResolver(_, tData, lView, tNode) {\n        var factories = this.multi;\n        var result;\n        if (this.providerFactory) {\n            var componentCount = this.providerFactory.componentProviders;\n            var multiProviders = getNodeInjectable(lView, lView[TVIEW], this.providerFactory.index, tNode);\n            // Copy the section of the array which contains `multi` `providers` from the component\n            result = multiProviders.slice(0, componentCount);\n            // Insert the `viewProvider` instances.\n            multiResolve(factories, result);\n            // Copy the section of the array which contains `multi` `providers` from other directives\n            for (var i = componentCount; i < multiProviders.length; i++) {\n                result.push(multiProviders[i]);\n            }\n        }\n        else {\n            result = [];\n            // Insert the `viewProvider` instances.\n            multiResolve(factories, result);\n        }\n        return result;\n    }\n    /**\n     * Maps an array of factories into an array of values.\n     */\n    function multiResolve(factories, result) {\n        for (var i = 0; i < factories.length; i++) {\n            var factory = factories[i];\n            result.push(factory());\n        }\n        return result;\n    }\n    /**\n     * Creates a multi factory.\n     */\n    function multiFactory(factoryFn, index, isViewProvider,\n    isComponent, f) {\n        var factory = new NodeInjectorFactory(factoryFn, isViewProvider, directiveInject);\n        factory.multi = [];\n        factory.index = index;\n        factory.componentProviders = 0;\n        multiFactoryAdd(factory, f, isComponent && !isViewProvider);\n        return factory;\n    }\n\n    /**\n     * This feature resolves the providers of a directive (or component),\n     * and publish them into the DI system, making it visible to others for injection.\n     *\n     * For example:\n     * ```ts\n     * class ComponentWithProviders {\n     *   constructor(private greeter: GreeterDE) {}\n     *\n     *   static cmp = defineComponent({\n     *     type: ComponentWithProviders,\n     *     selectors: [['component-with-providers']],\n     *     factory: () => new ComponentWithProviders(directiveInject(GreeterDE as any)),\n     *     decls: 1,\n     *     vars: 1,\n     *     template: function(fs: RenderFlags, ctx: ComponentWithProviders) {\n     *       if (fs & RenderFlags.Create) {\n     *         text(0);\n     *       }\n     *       if (fs & RenderFlags.Update) {\n     *         textInterpolate(ctx.greeter.greet());\n     *       }\n     *     },\n     *     features: [ProvidersFeature([GreeterDE])]\n     *   });\n     * }\n     * ```\n     *\n     * @param definition\n     *\n     * @codeGenApi\n     */\n    function ProvidersFeature(providers, viewProviders) {\n        if (viewProviders === void 0) { viewProviders = []; }\n        return function (definition) {\n            definition.providersResolver =\n                function (def, processProvidersFn) {\n                    return providersResolver(def, //\n                    processProvidersFn ? processProvidersFn(providers) : providers, //\n                    viewProviders);\n                };\n        };\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Represents a component created by a `ComponentFactory`.\n     * Provides access to the component instance and related objects,\n     * and provides the means of destroying the instance.\n     *\n     * @publicApi\n     */\n    var ComponentRef = /** @class */ (function () {\n        function ComponentRef() {\n        }\n        return ComponentRef;\n    }());\n    /**\n     * Base class for a factory that can create a component dynamically.\n     * Instantiate a factory for a given type of component with `resolveComponentFactory()`.\n     * Use the resulting `ComponentFactory.create()` method to create a component of that type.\n     *\n     * @see [Dynamic Components](guide/dynamic-component-loader)\n     *\n     * @publicApi\n     */\n    var ComponentFactory = /** @class */ (function () {\n        function ComponentFactory() {\n        }\n        return ComponentFactory;\n    }());\n\n    function noComponentFactoryError(component) {\n        var error = Error(\"No component factory found for \" + stringify(component) + \". Did you add it to @NgModule.entryComponents?\");\n        error[ERROR_COMPONENT] = component;\n        return error;\n    }\n    var ERROR_COMPONENT = 'ngComponent';\n    function getComponent$1(error) {\n        return error[ERROR_COMPONENT];\n    }\n    var _NullComponentFactoryResolver = /** @class */ (function () {\n        function _NullComponentFactoryResolver() {\n        }\n        _NullComponentFactoryResolver.prototype.resolveComponentFactory = function (component) {\n
```

```
        throw noComponentFactoryError(component);\n        };\n        return _NullComponentFactoryResolver;\n    }());\n    /**\n     * A simple registry that maps `Components` to generated `ComponentFactory` classes\n     * that can be used to create instances of components.\n     * Use to obtain the factory for a given component type,\n     * then use the factory's `create()`
 method to create a component of that type.\n     *\n     * @see [Dynamic Components](guide/dynamic-component-loader)\n     * @publicApi\n     */\n    var ComponentFactoryResolver = /** @class */ (function () {\n        function ComponentFactoryResolver() {\n        }\n        return ComponentFactoryResolver;\n    }());\n    ComponentFactoryResolver.NULL = new _NullComponentFactoryResolver();\n    var CodegenComponentFactoryResolver = /** @class */ (function () {\n        function CodegenComponentFactoryResolver(factories, _parent, _ngModule) {\n            this._parent = _parent;\n            this._ngModule = _ngModule;\n            this._factories = new Map();\n            for (var i = 0; i < factories.length; i++) {\n                var factory = factories[i];\n                this._factories.set(factory.componentType, factory);\n            }\n        }\n        CodegenComponentFactoryResolver.prototype.resolveComponentFactory = function (component) {\n            var factory
 = this._factories.get(component);\n            if (!factory && this._parent) {\n                factory = this._parent.resolveComponentFactory(component);\n            }\n            if (!factory) {\n                throw noComponentFactoryError(component);\n            }\n            return new ComponentFactoryBoundToModule(factory, this._ngModule);\n        };\n        return CodegenComponentFactoryResolver;\n    }());\n    var ComponentFactoryBoundToModule = /** @class */ (function (_super) {\n        __extends(ComponentFactoryBoundToModule, _super);\n        function ComponentFactoryBoundToModule(factory, ngModule) {\n            var _this = _super.call(this) || this;\n            _this.factory = factory;\n            _this.ngModule = ngModule;\n            _this.selector = factory.selector;\n            _this.componentType = factory.componentType;\n            _this.ngContentSelectors = factory.ngContentSelectors;\n            _this.inputs = factory.inputs;\n            _this.outputs
 = factory.outputs;\n            return _this;\n        }\n        ComponentFactoryBoundToModule.prototype.create = function (injector, projectableNodes, rootSelectorOrNode, ngModule) {\n            return this.factory.create(injector, projectableNodes, rootSelectorOrNode, ngModule || this.ngModule);\n        };\n        return ComponentFactoryBoundToModule;\n    }(ComponentFactory));\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    function noop() {\n        var args = [];\n        for (var _i = 0; _i < arguments.length; _i++) {\n            args[_i] = arguments[_i];\n        }\n        // Do nothing.\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in
 the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Creates an ElementRef from the most recent node.\n     *\n     * @returns The ElementRef instance to use\n     */\n    function injectElementRef() {\n        return createElementRef(getCurrentTNode(), getLView());\n    }\n    /**\n     * Creates an ElementRef given a node.\n     *\n     * @param tNode The node for which you'd like an ElementRef\n     * @param lView The view to which the node belongs\n     * @returns The ElementRef instance to use\n     */\n    function createElementRef(tNode, lView) {\n        return new ElementRef(getNativeByTNode(tNode, lView));\n    }\n    var SWITCH_ELEMENT_REF_FACTORY__POST_R3__ = injectElementRef;\n    var SWITCH_ELEMENT_REF_FACTORY__PRE_R3__ = noop;\n    var SWITCH_ELEMENT_REF_FACTORY = SWITCH_ELEMENT_REF_FACTORY__PRE_R3__;\n    /**\n     * A wrapper around a native element inside of a View.\n     *\n     * An `ElementRef` is backed by a render-specific element. In the browser,
 this is usually a DOM\n     * element.\n     *\n     * @security Permitting direct access to the DOM can make your application more vulnerable to\n     * XSS attacks. Carefully review any use of `ElementRef` in your code. For more detail, see the\n     * [Security Guide](https://g.co/ng/security).\n     *\n     * @publicApi\n     */\n    // Note: We don't expose things like `Injector`, `ViewContainer`, ... here,\n    // i.e. users have to ask for what they need. With that, we can build better analysis tools\n    // and could do better codegen in the future.\n    var ElementRef = /** @class */
```

(function () {\n function ElementRef(nativeElement) {\n this.nativeElement = nativeElement;\n }\n return ElementRef;\n }());\n /**\n * @internal\n * @nocollapse\n */\n ElementRef.__NG_ELEMENT_ID__ = SWITCH_ELEMENT_REF_FACTORY;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var Renderer2Interceptor = new InjectionToken('Renderer2Interceptor');\n /**\n * Creates and initializes a custom renderer that implements the `Renderer2` base class.\n *\n * @publicApi\n */\n var RendererFactory2 = /** @class */ (function () {\n function RendererFactory2() {\n }\n return RendererFactory2;\n }());\n /**\n * Extend this base class to implement custom rendering. By default, Angular\n * renders a template into DOM. You can use custom rendering to intercept\n * rendering calls, or to render to something other than DOM.\n *\n * Create your custom renderer using `RendererFactory2`.\n *\n * Use a custom renderer to bypass Angular's templating and\n * make custom UI changes that can't be expressed declaratively.\n * For example if you need to set a property or an attribute whose name is\n * not statically known, use the `setProperty()` or\n * `setAttribute()` method.\n *\n * @publicApi\n */\n var Renderer2 = /** @class */ (function () {\n function Renderer2() {\n }\n return Renderer2;\n }());\n /**\n * @internal\n * @nocollapse\n */\n Renderer2.__NG_ELEMENT_ID__ = function () { return SWITCH_RENDERER2_FACTORY(); };\n var SWITCH_RENDERER2_FACTORY__POST_R3__ = injectRenderer2;\n var SWITCH_RENDERER2_FACTORY__PRE_R3__ = noop;\n var SWITCH_RENDERER2_FACTORY = SWITCH_RENDERER2_FACTORY__PRE_R3__;\n /** Returns a Renderer2 (or throws when application was bootstrapped with Renderer3) */\n function getOrCreateRenderer2(lView) {\n var renderer = lView[RENDERER];\n if (ngDevMode && !isProceduralRenderer(renderer)) {\n throw new Error('Cannot inject Renderer2 when the application uses Renderer3!');\n }\n return renderer;\n }\n /** Injects a Renderer2 for the current component. */\n function injectRenderer2() {\n // We need the Renderer to be based on the component that it's being injected into, however since\n // DI happens before we've entered its view, `getLView` will return the parent view instead.\n var lView = getLView();\n var tNode = getCurrentTNode();\n var nodeAtIndex = getComponentLViewByIndex(tNode.index, lView);\n return getOrCreateRenderer2(isLView(nodeAtIndex) ? nodeAtIndex : lView);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Sanitizer is used by the views to sanitize potentially dangerous values.\n *\n * @publicApi\n */\n var Sanitizer = /** @class */ (function () {\n function Sanitizer() {\n }\n return Sanitizer;\n }());\n /** @nocollapse */\n Sanitizer.prov = defineInjectable({\n token: Sanitizer,\n providedIn: 'root',\n factory: function () { return null; },\n });\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @description Represents the version of Angular\n *\n * @publicApi\n */\n var Version = /** @class */ (function () {\n function Version(full) {\n this.full = full;\n this.major = full.split('.')[0];\n this.minor = full.split('.')[1];\n this.patch = full.split('.').slice(2).join('.');\n }\n return Version;\n }());\n /**\n * @publicApi\n */\n var VERSION = new Version('11.0.5');\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var DefaultIterableDifferFactory = /** @class */ (function () {\n function DefaultIterableDifferFactory() {\n }\n DefaultIterableDifferFactory.prototype.supports = function (obj) {\n return isListLikeIterable(obj);\n };\n DefaultIterableDifferFactory.prototype.create = function (trackByFn) {\n return new DefaultIterableDiffer(trackByFn);\n };\n return DefaultIterableDifferFactory;\n }());\n var trackByIdentity = function (index, item) { return item; };\n var 0$b = trackByIdentity;\n /**\n * @deprecated v4.0.0 - Should not be part of public API.\n * @publicApi\n */\n

```
var DefaultIterableDiffer = /** @class */ (function () {\n function DefaultIterableDiffer(trackByFn) {\n this.length = 0;\n // Keeps track of the used records at any point in time (during & across `_check()` calls)\n this._linkedRecords = null;\n // Keeps track of the removed records at any point in time during `_check()` calls.\n this._unlinkedRecords = null;\n this._previousItHead = null;\n this._itHead = null;\n this._itTail = null;\n this._additionsHead = null;\n this._additionsTail = null;\n this._movesHead = null;\n this._movesTail = null;\n this._removalsHead = null;\n this._removalsTail = null;\n // Keeps track of records where custom track by is the same, but item identity has changed\n this._identityChangesHead = null;\n this._identityChangesTail = null;\n this._trackByFn = trackByFn || trackByIdentity;\n }\n DefaultIterableDiffer.prototype.forEachItem = function (fn) {\n var record;\n for (record = this._itHead; record !== null; record = record._next) {\n fn(record);\n }\n };\n DefaultIterableDiffer.prototype.forEachOperation = function (fn) {\n var nextIt = this._itHead;\n var nextRemove = this._removalsHead;\n var addRemoveOffset = 0;\n var moveOffsets = null;\n while (nextIt || nextRemove) {\n // Figure out which is the next record to process\n // Order: remove, add, move\n var record = !nextRemove ||\n nextIt &&\n nextIt.currentIndex <\n getPreviousIndex(nextRemove, addRemoveOffset, moveOffsets) ?\n nextIt :\n nextRemove;\n var adjPreviousIndex = getPreviousIndex(record, addRemoveOffset, moveOffsets);\n var currentIndex = record.currentIndex;\n // consume the item, and adjust\n the addRemoveOffset and update moveDistance if necessary\n if (record === nextRemove) {\n addRemoveOffset--;\n nextRemove = nextRemove._nextRemoved;\n }\n else {\n nextIt = nextIt._next;\n if (record.previousIndex == null) {\n addRemoveOffset++;\n }\n else {\n // INVARIANT:  currentIndex < previousIndex\n if (!moveOffsets)\n moveOffsets = [];\n var localMovePreviousIndex = adjPreviousIndex - addRemoveOffset;\n var localCurrentIndex = currentIndex - addRemoveOffset;\n if (localMovePreviousIndex != localCurrentIndex) {\n for (var i = 0; i < localMovePreviousIndex; i++) {\n var offset = i < moveOffsets.length ? moveOffsets[i]\n : (moveOffsets[i] = 0);\n var index = offset + i;\n if (localCurrentIndex <= index && index < localMovePreviousIndex) {\n moveOffsets[i] = offset + 1;\n }\n }\n var previousIndex = record.previousIndex;\n moveOffsets[previousIndex] = localCurrentIndex - localMovePreviousIndex;\n }\n }\n }\n if (adjPreviousIndex !== currentIndex) {\n fn(record, adjPreviousIndex, currentIndex);\n }\n }\n };\n DefaultIterableDiffer.prototype.forEachPreviousItem = function (fn) {\n var record;\n for (record = this._previousItHead; record !== null; record = record._nextPrevious) {\n fn(record);\n }\n };\n DefaultIterableDiffer.prototype.forEachAddedItem = function (fn) {\n var record;\n for (record = this._additionsHead; record !== null; record = record._nextAdded) {\n fn(record);\n }\n };\n DefaultIterableDiffer.prototype.forEachMovedItem = function (fn) {\n var record;\n for (record = this._movesHead; record !== null; record = record._nextMoved) {\n fn(record);\n }\n };\n DefaultIterableDiffer.prototype.forEachRemovedItem = function (fn) {\n var record;\n for (record = this._removalsHead; record !== null; record = record._nextRemoved) {\n fn(record);\n }\n };\n DefaultIterableDiffer.prototype.forEachIdentityChange = function (fn) {\n var record;\n for (record = this._identityChangesHead; record !== null; record = record._nextIdentityChange) {\n fn(record);\n }\n };\n DefaultIterableDiffer.prototype.diff = function (collection) {\n if (collection == null)\n collection = [];\n if (!isListLikeIterable(collection)) {\n throw new Error(\"Error trying to diff '\" + stringify(collection) + \"'. Only arrays and iterables are allowed\");\n }\n if
```

(this.check(collection)) {\n return this;\n }\n else {\n return null;\n }\n };\n DefaultIterableDiffer.prototype.onDestroy = function () { };\n DefaultIterableDiffer.prototype.check = function (collection) {\n var _this = this;\n this._reset();\n var record = this._itHead;\n var mayBeDirty = false;\n var index;\n var item;\n var itemTrackBy;\n if (Array.isArray(collection)) {\n this.length = collection.length;\n for (var index_1 = 0; index_1 < this.length; index_1++) {\n item = collection[index_1];\n itemTrackBy = this._trackByFn(index_1, item);\n if (record === null || !Object.is(record.trackById, itemTrackBy)) {\n record = this._mismatch(record, item, itemTrackBy, index_1);\n mayBeDirty = true;\n }\n else {\n if (mayBeDirty) {\n // TODO(misko): can we limit this to duplicates only?\n record = this._verifyReinsertion(record, item, itemTrackBy, index_1);\n }\n if (!Object.is(record.item, item))\n this._addIdentityChange(record, item);\n }\n record = record._next;\n }\n }\n else {\n index = 0;\n iterateListLike(collection, function (item) {\n itemTrackBy = _this._trackByFn(index, item);\n if (record === null || !Object.is(record.trackById, itemTrackBy)) {\n record = _this._mismatch(record, item, itemTrackBy, index);\n mayBeDirty = true;\n }\n else {\n if (mayBeDirty) {\n // TODO(misko): can we limit this to duplicates only?\n record = _this._verifyReinsertion(record, item, itemTrackBy, index);\n }\n if (!Object.is(record.item, item))\n _this._addIdentityChange(record, item);\n }\n record = record._next;\n index++;\n });\n this.length = index;\n }\n this._truncate(record);\n this.collection = collection;\n return this.isDirty;\n };\n Object.defineProperty(DefaultIterableDiffer.prototype, \"isDirty\", {\n /* CollectionChanges is considered dirty if it has any additions, moves, removals, or identity\n * changes.\n */\n get: function () {\n return this._additionsHead !== null || this._movesHead !== null ||\n this._removalsHead !== null || this._identityChangesHead !== null;\n },\n enumerable: false,\n configurable: true\n });\n /**\n * Reset the state of the change objects to show no changes. This means set previousKey to\n * currentKey, and clear all of the queues (additions, moves, removals).\n * Set the previousIndexes of moved and added items to their currentIndexes\n * Reset the list of additions, moves and removals\n *\n * @internal\n */\n DefaultIterableDiffer.prototype._reset = function () {\n if (this.isDirty) {\n var record = void 0;\n for (record = this._previousItHead = this._itHead; record !== null; record = record._next) {\n record._nextPrevious = record._next;\n }\n for (record = this._additionsHead; record !== null; record = record._nextAdded) {\n record.previousIndex = record.currentIndex;\n }\n this._additionsHead = this._additionsTail = null;\n for (record = this._movesHead; record !== null; record = record._nextMoved) {\n record.previousIndex = record.currentIndex;\n }\n this._movesHead = this._movesTail = null;\n this._removalsHead = this._removalsTail = null;\n this._identityChangesHead = this._identityChangesTail = null;\n // TODO(vicb): when assert gets supported\n // assert(!this.isDirty);\n }\n };\n /**\n * This is the core function which handles differences between collections.\n *\n * - `record` is the record which we saw at this position last time. If null then it is a new\n * item.\n * - `item` is the current item in the collection\n * - `index` is the position of the item in the collection\n *\n * @internal\n */\n DefaultIterableDiffer.prototype._mismatch = function (record, item, itemTrackBy, index) {\n // The previous record after which we will append the current one.\n var previousRecord;\n if (record === null) {\n previousRecord = this._itTail;\n }\n else {\n previousRecord = record._prev;\n // Remove the record from the collection since we know it does not match the item.\n this._remove(record);\n }\n // Attempt to see if we have seen the item before.\n record = this._linkedRecords === null ? null : this._linkedRecords.get(itemTrackBy, index);\n if (record !== null) {\n // We have seen this before,

we need to move it forward in the collection.\n // But first we need to check if identity changed, so we can update in view if necessary\n if (!Object.is(record.item, item))\n this._addIdentityChange(record, item);\n this._moveAfter(record, previousRecord, index);\n }\n else {\n // Never seen it, check evicted list.\n record = this._unlinkedRecords === null ? null : this._unlinkedRecords.get(itemTrackBy, null);\n if (record !== null) {\n // It is an item which we have evicted earlier: reinsert it back into the list.\n // But first we need to check if identity changed, so we can update in\n view if necessary\n if (!Object.is(record.item, item))\n this._addIdentityChange(record, item);\n this._reinsertAfter(record, previousRecord, index);\n }\n else {\n // It is a new item: add it.\n record =\n this._addAfter(new IterableChangeRecord_(item, itemTrackBy), previousRecord, index);\n }\n }\n return record;\n };\n /**\n * This check is only needed if an array contains duplicates. (Short circuit of nothing dirty)\n *\n * Use case: `[a, a]` => `[b, a, a]`\n *\n * If we did not have this check then the insertion of `b` would:\n * 1) evict first `a`\n * 2) insert `b` at `0` index.\n * 3) leave `a` at index `1` as is. <-- this is wrong!\n * 3) reinsert `a` at index 2. <-- this is wrong!\n *\n * The correct behavior is:\n * 1) evict first `a`\n * 2) insert `b` at `0` index.\n * 3) reinsert `a` at index 1.\n * 3) move `a` at from `1` to `2`.\n *\n *\n * Double check that we have not evicted a duplicate item. We need to check if the item type may\n * have already been removed:\n * The insertion of b will evict the first 'a'. If we don't reinsert it now it will be reinserted\n * at the end. Which will show up as the two 'a's switching position. This is incorrect, since a\n * better way to think of it is as insert of 'b' rather then switch 'a' with 'b' and then add 'a'\n * at the end.\n *\n * @internal\n */\n DefaultIterableDiffer.prototype._verifyReinsertion = function (record, item, itemTrackBy, index) {\n var reinsertRecord = this._unlinkedRecords === null ? null : this._unlinkedRecords.get(itemTrackBy, null);\n if (reinsertRecord\n !== null) {\n record = this._reinsertAfter(reinsertRecord, record._prev, index);\n }\n else if (record.currentIndex != index) {\n record.currentIndex = index;\n this._addToMoves(record, index);\n }\n return record;\n };\n /**\n * Get rid of any excess {@link IterableChangeRecord_}s from the previous collection\n *\n * - `record` The first excess {@link IterableChangeRecord_}.\n *\n * @internal\n */\n DefaultIterableDiffer.prototype._truncate = function (record) {\n // Anything after that needs to be removed;\n while (record !== null) {\n var nextRecord = record._next;\n this._addToRemovals(this._unlink(record));\n record = nextRecord;\n }\n if (this._unlinkedRecords !== null) {\n this._unlinkedRecords.clear();\n }\n if (this._additionsTail !== null) {\n this._additionsTail._nextAdded = null;\n }\n if (this._movesTail !== null) {\n this._movesTail._nextMoved = null;\n }\n if (this._itTail !== null) {\n this._itTail._next = null;\n }\n if (this._removalsTail !== null) {\n this._removalsTail._nextRemoved = null;\n }\n if (this._identityChangesTail !== null) {\n this._identityChangesTail._nextIdentityChange = null;\n }\n };\n /** @internal */\n DefaultIterableDiffer.prototype._reinsertAfter = function (record, prevRecord, index) {\n if (this._unlinkedRecords !== null) {\n this._unlinkedRecords.remove(record);\n }\n var prev = record._prevRemoved;\n var next = record._nextRemoved;\n if (prev === null) {\n this._removalsHead = next;\n }\n else {\n prev._nextRemoved = next;\n }\n if (next === null) {\n this._removalsTail = prev;\n }\n else {\n next._prevRemoved = prev;\n }\n this._insertAfter(record, prevRecord, index);\n this._addToMoves(record, index);\n return record;\n };\n /** @internal */\n DefaultIterableDiffer.prototype._moveAfter = function (record, prevRecord, index) {\n this._unlink(record);\n this._insertAfter(record, prevRecord, index);\n this._addToMoves(record, index);\n return record;\n };\n /** @internal */\n DefaultIterableDiffer.prototype._addAfter = function (record, prevRecord, index) {\n this._insertAfter(record, prevRecord, index);\n if (this._additionsTail === null) {\n //

TODO(vicb):\n // assert(this._additionsHead === null);\n this._additionsTail = this._additionsHead = record;\n }\n else {\n // TODO(vicb):\n // assert(_additionsTail._nextAdded === null);\n // assert(record._nextAdded === null);\n this._additionsTail = this._additionsTail._nextAdded = record;\n }\n return record;\n };\n /** @internal */\n DefaultIterableDiffer.prototype._insertAfter = function (record, prevRecord, index) {\n // TODO(vicb):\n // assert(record != prevRecord);\n // assert(record._next === null);\n // assert(record._prev === null);\n var next = prevRecord === null ? this._itHead : prevRecord._next;\n // TODO(vicb):\n // assert(next != record);\n // assert(prevRecord != record);\n record._next = next;\n record._prev = prevRecord;\n if (next === null) {\n this._itTail = record;\n }\n else {\n next._prev = record;\n }\n if (prevRecord === null) {\n this._itHead = record;\n }\n else {\n prevRecord._next = record;\n }\n if (this._linkedRecords === null) {\n this._linkedRecords = new _DuplicateMap();\n }\n this._linkedRecords.put(record);\n record.currentIndex = index;\n return record;\n };\n /** @internal */\n DefaultIterableDiffer.prototype._remove = function (record) {\n return this._addToRemovals(this._unlink(record));\n };\n /** @internal */\n DefaultIterableDiffer.prototype._unlink = function (record) {\n if (this._linkedRecords !== null) {\n this._linkedRecords.remove(record);\n }\n var prev = record._prev;\n var next = record._next;\n // TODO(vicb):\n // assert((record._prev = null) === null);\n // assert((record._next = null) === null);\n if (prev === null) {\n this._itHead = next;\n }\n else {\n prev._next = next;\n }\n if (next === null) {\n this._itTail = prev;\n }\n else {\n next._prev = prev;\n }\n return record;\n };\n /** @internal */\n DefaultIterableDiffer.prototype._addToMoves = function (record, toIndex) {\n // TODO(vicb):\n // assert(record._nextMoved === null);\n if (record.previousIndex === toIndex) {\n return record;\n }\n if (this._movesTail === null) {\n // TODO(vicb):\n // assert(_movesHead === null);\n this._movesTail = this._movesHead = record;\n }\n else {\n // TODO(vicb):\n // assert(_movesTail._nextMoved === null);\n this._movesTail = this._movesTail._nextMoved = record;\n }\n return record;\n };\n DefaultIterableDiffer.prototype._addToRemovals = function (record) {\n if (this._unlinkedRecords === null) {\n this._unlinkedRecords = new _DuplicateMap();\n }\n this._unlinkedRecords.put(record);\n record.currentIndex = null;\n record._nextRemoved = null;\n if (this._removalsTail === null) {\n // TODO(vicb):\n // assert(_removalsHead === null);\n this._removalsTail = this._removalsHead = record;\n record._prevRemoved = null;\n }\n else {\n // TODO(vicb):\n // assert(_removalsTail._nextRemoved === null);\n // assert(record._nextRemoved === null);\n record._prevRemoved = this._removalsTail;\n this._removalsTail = this._removalsTail._nextRemoved = record;\n }\n return record;\n };\n /** @internal */\n DefaultIterableDiffer.prototype._addIdentityChange = function (record, item) {\n record.item = item;\n if (this._identityChangesTail === null) {\n this._identityChangesTail = this._identityChangesHead = record;\n }\n else {\n this._identityChangesTail = this._identityChangesTail._nextIdentityChange = record;\n }\n return record;\n };\n return DefaultIterableDiffer;\n }());\n var IterableChangeRecord_ = /** @class */ (function () {\n function IterableChangeRecord_(item, trackById) {\n this.item = item;\n this.trackById = trackById;\n this.currentIndex = null;\n this.previousIndex = null;\n /** @internal */\n this._nextPrevious = null;\n /** @internal */\n this._prev = null;\n /** @internal */\n this._next = null;\n /** @internal */\n this._prevDup = null;\n /** @internal */\n this._nextDup = null;\n /** @internal */\n this._prevRemoved = null;\n /** @internal */\n this._nextRemoved = null;\n /** @internal */\n this._nextAdded = null;\n /** @internal */\n this._nextMoved = null;\n /** @internal */\n

```
this._nextIdentityChange = null;\n    }\n    return IterableChangeRecord_;\n}());\n// A linked list of IterableChangeRecords with the same IterableChangeRecord_.item\nvar _DuplicateItemRecordList = /** @class */ (function () {\n    function _DuplicateItemRecordList() {\n        /** @internal */\n        this._head = null;\n        /** @internal */\n        this._tail = null;\n    }\n    /**\n     * Append the record to the list of duplicates.\n     *\n     * Note: by design all records in the list of duplicates hold the same value in record.item.\n     */\n    _DuplicateItemRecordList.prototype.add = function (record) {\n        if (this._head === null) {\n            this._head = this._tail = record;\n            record._nextDup = null;\n            record._prevDup = null;\n        }\n        else {\n            // TODO(vicb):\n            // assert(record.item ==  _head.item ||\n            //       record.item is num && record.item.isNaN && _head.item is num && _head.item.isNaN);\n            this._tail._nextDup = record;\n            record._prevDup = this._tail;\n            record._nextDup = null;\n            this._tail = record;\n        }\n    };\n    // Returns a IterableChangeRecord_ having IterableChangeRecord_.trackById == trackById and\n    // IterableChangeRecord_.currentIndex >= atOrAfterIndex\n    _DuplicateItemRecordList.prototype.get = function (trackById, atOrAfterIndex) {\n        var record;\n        for (record = this._head; record !== null; record = record._nextDup) {\n            if ((atOrAfterIndex === null || atOrAfterIndex <= record.currentIndex) &&\n                Object.is(record.trackById, trackById)) {\n                return record;\n            }\n        }\n        return null;\n    };\n    /**\n     * Remove one {@link IterableChangeRecord_} from the list of duplicates.\n     *\n     * Returns whether the list of duplicates is empty.\n     */\n    _DuplicateItemRecordList.prototype.remove = function (record) {\n        // TODO(vicb):\n        // assert(() {\n        //  // verify that the record being removed is in the list.\n        //\n        //  for (IterableChangeRecord_ cursor = _head; cursor != null; cursor = cursor._nextDup) {\n        //    if (identical(cursor, record)) return true;\n        //  }\n        //  return false;\n        //});\n        var prev = record._prevDup;\n        var next = record._nextDup;\n        if (prev === null) {\n            this._head = next;\n        }\n        else {\n            prev._nextDup = next;\n        }\n        if (next === null) {\n            this._tail = prev;\n        }\n        else {\n            next._prevDup = prev;\n        }\n        return this._head === null;\n    };\n    return _DuplicateItemRecordList;\n}());\nvar _DuplicateMap = /** @class */ (function () {\n    function _DuplicateMap() {\n        this.map = new Map();\n    }\n    _DuplicateMap.prototype.put = function (record) {\n        var key = record.trackById;\n        var duplicates = this.map.get(key);\n        if (!duplicates) {\n            duplicates = new _DuplicateItemRecordList();\n            this.map.set(key, duplicates);\n        }\n        duplicates.add(record);\n    };\n    /**\n     * Retrieve the `value` using key. Because the IterableChangeRecord_ value may be one which we\n     * have already iterated over, we use the `atOrAfterIndex` to pretend it is not there.\n     *\n     * Use case: `[a, b, c, a, a]` if we are at index `3` which is the second `a` then asking if we\n     * have any more `a`s needs to return the second `a`.\n     */\n    _DuplicateMap.prototype.get = function (trackById, atOrAfterIndex) {\n        var key = trackById;\n        var recordList = this.map.get(key);\n        return recordList ? recordList.get(trackById, atOrAfterIndex) : null;\n    };\n    /**\n     * Removes a {@link IterableChangeRecord_} from the list of duplicates.\n     *\n     * The list of duplicates also is removed from the map if it gets empty.\n     */\n    _DuplicateMap.prototype.remove = function (record) {\n        var key = record.trackById;\n        var recordList = this.map.get(key);\n        // Remove the list of duplicates when it gets empty\n        if (recordList.remove(record)) {\n            this.map.delete(key);\n        }\n        return record;\n    };\n    Object.defineProperty(_DuplicateMap.prototype, \"isEmpty\", {\n        get: function () {\n            return this.map.size === 0;\n        },\n        enumerable: false,\n        configurable: true\n    });\n    _DuplicateMap.prototype.clear = function () {\n        this.map.clear();\n    };\n    return _DuplicateMap;\n}());\nfunction getPreviousIndex(item, addRemoveOffset, moveOffsets) {\n    var previousIndex = item.previousIndex;\n    if (previousIndex === null)\n        return previousIndex;\n    var moveOffset = 0;\n    if (moveOffsets && previousIndex < moveOffsets.length) {\n        moveOffset = moveOffsets[previousIndex];\n    }\n    return previousIndex + addRemoveOffset + moveOffset;\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is
```

governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var DefaultKeyValueDifferFactory = /** @class */ (function () {\n function DefaultKeyValueDifferFactory() {\n }\n DefaultKeyValueDifferFactory.prototype.supports = function (obj) {\n return obj instanceof Map || isJsObject(obj);\n };\n DefaultKeyValueDifferFactory.prototype.create = function () {\n return new DefaultKeyValueDiffer();\n };\n return DefaultKeyValueDifferFactory;\n }());\n var DefaultKeyValueDiffer = /** @class */ (function () {\n function DefaultKeyValueDiffer() {\n this._records = new Map();\n this._mapHead = null;\n // _appendAfter is used in the check loop\n this._appendAfter = null;\n this._previousMapHead = null;\n this._changesHead = null;\n this._changesTail = null;\n this._additionsHead = null;\n this._additionsTail = null;\n this._removalsHead = null;\n this._removalsTail = null;\n }\n Object.defineProperty(DefaultKeyValueDiffer.prototype, \"isDirty\", {\n get: function () {\n return this._additionsHead !== null || this._changesHead !== null ||\n this._removalsHead !== null;\n },\n enumerable: false,\n configurable: true\n });\n DefaultKeyValueDiffer.prototype.forEachItem = function (fn) {\n var record;\n for (record = this._mapHead; record !==\n null; record = record._next) {\n fn(record);\n }\n };\n DefaultKeyValueDiffer.prototype.forEachPreviousItem = function (fn) {\n var record;\n for (record = this._previousMapHead; record !== null; record = record._nextPrevious) {\n fn(record);\n }\n };\n DefaultKeyValueDiffer.prototype.forEachChangedItem = function (fn) {\n var record;\n for (record = this._changesHead; record !== null; record = record._nextChanged) {\n fn(record);\n }\n };\n DefaultKeyValueDiffer.prototype.forEachAddedItem = function (fn) {\n var record;\n for (record = this._additionsHead; record !== null; record = record._nextAdded) {\n fn(record);\n }\n };\n DefaultKeyValueDiffer.prototype.forEachRemovedItem = function (fn) {\n var record;\n for (record = this._removalsHead;\n record !== null; record = record._nextRemoved) {\n fn(record);\n }\n };\n DefaultKeyValueDiffer.prototype.diff = function (map) {\n if (!map) {\n map = new Map();\n }\n else if (!(map instanceof Map || isJsObject(map))) {\n throw new Error(\"Error trying to diff '\" + stringify(map) + \"'. Only maps and objects are allowed\");\n }\n return this.check(map) ? this : null;\n };\n DefaultKeyValueDiffer.prototype.onDestroy = function () { };\n /**\n * Check the current state of the map vs the previous.\n * The algorithm is optimised for when the keys do no change.\n */\n DefaultKeyValueDiffer.prototype.check = function (map) {\n var _this = this;\n this._reset();\n var insertBefore = this._mapHead;\n this._appendAfter = null;\n this._forEach(map, function (value, key) {\n if (insertBefore && insertBefore.key === key) {\n _this._maybeAddToChanges(insertBefore, value);\n _this._appendAfter = insertBefore;\n insertBefore = insertBefore._next;\n }\n else {\n var record = _this._getOrCreateRecordForKey(key, value);\n insertBefore = _this._insertBeforeOrAppend(insertBefore, record);\n }\n });\n // Items remaining at the end of the list have been deleted\n if (insertBefore) {\n if (insertBefore._prev) {\n insertBefore._prev._next = null;\n }\n this._removalsHead = insertBefore;\n for (var record = insertBefore; record !== null; record = record._nextRemoved) {\n if (record === this._mapHead) {\n this._mapHead = null;\n }\n this._records.delete(record.key);\n record._nextRemoved = record._next;\n record.previousValue = record.currentValue;\n record.currentValue = null;\n record._prev = null;\n record._next = null;\n }\n }\n // Make sure tails have no next records from previous runs\n if (this._changesTail)\n this._changesTail._nextChanged = null;\n if (this._additionsTail)\n this._additionsTail._nextAdded = null;\n return this.isDirty;\n };\n /**\n * Inserts a record before `before` or append at the end of the list when `before` is null.\n *\n * Notes:\n * - This method appends at `this._appendAfter`,\n * - This method updates `this._appendAfter`,\n

```
     * - The return value is the new value for the insertion pointer.\n         */\n
  DefaultKeyValueDiffer.prototype._insertBeforeOrAppend = function (before, record) {\n          if (before) {\n
      var prev = before._prev;\n              record._next = before;\n              record._prev = prev;\n
before._prev = record;\n              if (prev) {\n                  prev._next = record;\n              }\n              if (before
=== this._mapHead) {\n                  this._mapHead = record;\n              }\n              this._appendAfter = before;\n
            return before;\n          }\n          if (this._appendAfter) {\n              this._appendAfter._next = record;\n
         record._prev = this._appendAfter;\n          }\n          else {\n              this._mapHead = record;\n          }\n
       this._appendAfter = record;\n          return null;\n      };\n
DefaultKeyValueDiffer.prototype._getOrCreateRecordForKey = function (key, value) {\n          if
(this._records.has(key))
  {\n              var record_1 = this._records.get(key);\n              this._maybeAddToChanges(record_1, value);\n
     var prev = record_1._prev;\n              var next = record_1._next;\n              if (prev) {\n                  prev._next
= next;\n              }\n              if (next) {\n                  next._prev = prev;\n              }\n              record_1._next
= null;\n              record_1._prev = null;\n              return record_1;\n          }\n          var record = new
KeyValueChangeRecord_(key);\n          this._records.set(key, record);\n          record.currentValue = value;\n
  this._addToAdditions(record);\n          return record;\n      };\n      /** @internal */\n
DefaultKeyValueDiffer.prototype._reset = function () {\n          if (this.isDirty) {\n              var record = void 0;\n
          // let `_previousMapHead` contain the state of the map before the changes\n
             this._previousMapHead = this._mapHead;\n              for (record = this._previousMapHead; record !==
null; record = record._next) {\n                  record._nextPrevious = record._next;\n              }\n              // Update
`record.previousValue` with the value of the item before the changes\n              // We need to update all changed
items (that's those which have been added and changed)\n              for (record = this._changesHead; record !==
null; record = record._nextChanged) {\n                  record.previousValue = record.currentValue;\n              }\n
       for (record = this._additionsHead; record != null; record = record._nextAdded) {\n
record.previousValue = record.currentValue;\n              }\n              this._changesHead = this._changesTail =
null;\n              this._additionsHead = this._additionsTail = null;\n              this._removalsHead = null;\n          }\n
     };\n
     // Add the record or a given key to the list of changes only when the value has actually changed\n
DefaultKeyValueDiffer.prototype._maybeAddToChanges = function (record, newValue) {\n          if
(!Object.is(newValue, record.currentValue)) {\n              record.previousValue = record.currentValue;\n
record.currentValue = newValue;\n              this._addToChanges(record);\n          }\n      };\n
DefaultKeyValueDiffer.prototype._addToAdditions = function (record) {\n          if (this._additionsHead === null)
{\n              this._additionsHead = this._additionsTail = record;\n          }\n          else {\n
this._additionsTail._nextAdded = record;\n              this._additionsTail = record;\n          }\n      };\n
DefaultKeyValueDiffer.prototype._addToChanges = function (record) {\n          if (this._changesHead === null)
{\n              this._changesHead = this._changesTail = record;\n
    }\n          else {\n              this._changesTail._nextChanged = record;\n              this._changesTail = record;\n
      }\n      };\n      /** @internal */\n      DefaultKeyValueDiffer.prototype._forEach = function (obj, fn) {\n
  if (obj instanceof Map) {\n              obj.forEach(fn);\n          }\n          else {\n
Object.keys(obj).forEach(function (k) { return fn(obj[k], k); });\n          }\n      };\n      return
DefaultKeyValueDiffer;\n  }());\n  var KeyValueChangeRecord_ = /** @class */ (function () {\n      function
KeyValueChangeRecord_(key) {\n          this.key = key;\n          this.previousValue = null;\n
this.currentValue = null;\n          /** @internal */\n          this._nextPrevious = null;\n          /** @internal */\n
    this._next = null;\n          /** @internal */\n          this._prev = null;\n          /** @internal */\n
this._nextAdded = null;\n
          /** @internal */\n          this._nextRemoved = null;\n          /** @internal */\n          this._nextChanged =
null;\n      }\n      return KeyValueChangeRecord_;\n  }());\n\n  /**\n   * @license\n   * Copyright Google
LLC All Rights Reserved.\n   *\n   * Use of this source code is governed by an MIT-style license that can be\n
```

```
* found in the LICENSE file at https://angular.io/license\n */\n /**\n * A repository of different iterable diffing strategies used by NgFor, NgClass, and others.\n *\n * @publicApi\n */\n var IterableDiffers = /** @class */ (function () {\n function IterableDiffers(factories) {\n this.factories = factories;\n }\n IterableDiffers.create = function (factories, parent) {\n if (parent != null) {\n var copied = parent.factories.slice();\n factories = factories.concat(copied);\n }\n return new IterableDiffers(factories);\n };\n /**\n * Takes an array of {@link IterableDifferFactory} and returns a provider used to extend the\n * inherited {@link IterableDiffers} instance with the provided factories and return a new\n * {@link IterableDiffers} instance.\n *\n * @usageNotes\n * ### Example\n *\n * The following example shows how to extend an existing list of factories,\n * which will only be applied to the injector for this component and its children.\n * This step is all that's required to make a new {@link IterableDiffer} available.\n *\n * ```\n * @Component({\n * viewProviders: [\n * IterableDiffers.extend([new ImmutableListDiffer()])\n * ]\n * })\n * ```\n */\n IterableDiffers.extend = function (factories) {\n return {\n provide: IterableDiffers,\n useFactory: function
 (parent) {\n if (!parent) {\n // Typically would occur when calling IterableDiffers.extend inside of dependencies passed\n // to\n // bootstrap(), which would override default pipes instead of extending them.\n throw new Error('Cannot extend IterableDiffers without a parent injector');\n }\n return IterableDiffers.create(factories, parent);\n },\n // Dependency technically isn't optional, but we can provide a better error message this way.\n deps: [[IterableDiffers, new SkipSelf(), new Optional()]]\n };\n };\n IterableDiffers.prototype.find = function (iterable) {\n var factory = this.factories.find(function (f) { return f.supports(iterable); });\n if (factory != null) {\n return factory;\n }\n else {\n throw new Error(\"Cannot find a differ supporting object '\" + iterable + \"' of type '\" + getTypeNameForDebugging(iterable) + \"'\");\n }\n };\n return IterableDiffers;\n }());\n /** @nocollapse */\n IterableDiffers.prov = defineInjectable({\n token: IterableDiffers,\n providedIn: 'root',\n factory: function () { return new IterableDiffers([new DefaultIterableDifferFactory()]); }\n });\n function getTypeNameForDebugging(type) {\n return type['name'] || typeof type;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A repository of different Map diffing strategies used by NgClass, NgStyle, and others.\n *\n * @publicApi\n */\n var KeyValueDiffers = /** @class */ (function () {\n function KeyValueDiffers(factories) {\n this.factories = factories;\n }\n KeyValueDiffers.create = function (factories, parent) {\n if (parent) {\n var copied = parent.factories.slice();\n factories = factories.concat(copied);\n }\n return new KeyValueDiffers(factories);\n };\n /**\n * Takes an array of {@link KeyValueDifferFactory} and returns a provider used to extend the\n * inherited {@link KeyValueDiffers} instance with the provided factories and return a new\n * {@link KeyValueDiffers} instance.\n *\n * @usageNotes\n * ### Example\n *\n * The following example shows how to extend an existing list of factories,\n * which will only be applied to the injector for this component and its children.\n * This step is all that's required to make a new {@link KeyValueDiffer} available.\n *\n *
 ```\n * @Component({\n * viewProviders: [\n * KeyValueDiffers.extend([new ImmutableMapDiffer()])\n * ]\n * })\n * ```\n */\n KeyValueDiffers.extend = function (factories) {\n return {\n provide: KeyValueDiffers,\n useFactory: function (parent) {\n if (!parent) {\n // Typically would occur when calling KeyValueDiffers.extend inside of dependencies passed\n // to bootstrap(), which would override default pipes instead of extending them.\n throw new Error('Cannot extend KeyValueDiffers without a parent injector');\n }\n return KeyValueDiffers.create(factories, parent);\n },\n // Dependency technically
```
```

isn't optional, but we can provide a better error message this way.\n deps: [[KeyValueDiffers, new SkipSelf(),
new Optional()]]\n };\n };\n KeyValueDiffers.prototype.find = function (kv) {\n var factory = this.factories.find(function (f) { return f.supports(kv); });\n if (factory) {\n return factory;\n }\n throw new Error(\"Cannot find a differ supporting object '\" + kv + \"'\");\n };\n return KeyValueDiffers;\n }());\n /** @nocollapse */\n KeyValueDiffers.prov = defineInjectable({\n token: KeyValueDiffers,\n providedIn: 'root',\n factory: function () { return new KeyValueDiffers([new DefaultKeyValueDifferFactory()]); }\n });\n\n function collectNativeNodes(tView, lView, tNode, result, isProjection) {\n if (isProjection === void 0) { isProjection = false; }\n while (tNode !== null) {\n ngDevMode &&\n assertTNodeType(tNode, 3 /* AnyRNode */ | 12 /* AnyContainer */ | 16 /* Projection */ | 32 /* Icu */);\n var
lNode = lView[tNode.index];\n if (lNode !== null) {\n result.push(unwrapRNode(lNode));\n }\n // A given lNode can represent either a native node or a LContainer (when it is a host of a\n // ViewContainerRef). When we find a LContainer we need to descend into it to collect root nodes\n // from the views in this container.\n if (isLContainer(lNode)) {\n for (var i = CONTAINER_HEADER_OFFSET; i < lNode.length; i++) {\n var lViewInAContainer = lNode[i];\n var lViewFirstChildTNode = lViewInAContainer[TVIEW].firstChild;\n if (lViewFirstChildTNode !== null) {\n collectNativeNodes(lViewInAContainer[TVIEW], lViewInAContainer, lViewFirstChildTNode, result);\n }\n }\n }\n var tNodeType = tNode.type;\n if (tNodeType & 8 /* ElementContainer */) {\n collectNativeNodes(tView, lView, tNode.child, result);\n }\n else if (tNodeType & 32 /* Icu */) {\n var nextRNode = icuContainerIterate(tNode, lView);\n var rNode = void 0;\n while (rNode = nextRNode()) {\n result.push(rNode);\n }\n }\n else if (tNodeType & 16 /* Projection */) {\n var componentView = lView[DECLARATION_COMPONENT_VIEW];\n var componentHost = componentView[T_HOST];\n var slotIdx = tNode.projection;\n ngDevMode &&\n assertDefined(componentHost.projection, 'Components with projection nodes (<ng-content>) must have projection slots defined.');\n var nodesInSlot = componentHost.projection[slotIdx];\n if (Array.isArray(nodesInSlot)) {\n result.push.apply(result, __spread(nodesInSlot));\n }\n else
{\n var parentView = getLViewParent(componentView);\n ngDevMode &&\n assertDefined(parentView, 'Component views should always have a parent view (component\\'s host view)');\n collectNativeNodes(parentView[TVIEW], parentView, nodesInSlot, result, true);\n }\n }\n tNode = isProjection ? tNode.projectionNext : tNode.next;\n }\n return result;\n }\n\n var ViewRef = /** @class */ (function () {\n function ViewRef(\n /**\n * This represents `LView` associated with the component when ViewRef is a ChangeDetectorRef.\n *\n * When ViewRef is created for a dynamic component, this also represents the `LView` for the\n * component.\n *\n * For a \"regular\" ViewRef created for an embedded view, this is the `LView` for the embedded\n * view.\n *\n * @internal\n */\n _lView, \n /**\n * This represents the `LView` associated with the point where `ChangeDetectorRef` was\n * requested.\n *\n * This may be different from `_lView` if the `_cdRefInjectingView` is an embedded view.\n */\n _cdRefInjectingView) {\n this._lView = _lView;\n this._cdRefInjectingView = _cdRefInjectingView;\n this._appRef = null;\n this._viewContainerRef = null;\n }\n Object.defineProperty(ViewRef.prototype, \"rootNodes\", {\n get: function () {\n var lView = this._lView;\n var tView = lView[TVIEW];\n return collectNativeNodes(tView, lView, tView.firstChild, []);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ViewRef.prototype, \"context\", {\n get: function () {\n return this._lView[CONTEXT];\n },\n

```
enumerable: false,\n configurable: true\n });\n Object.defineProperty(ViewRef.prototype, \"destroyed\", {\n get: function () {\n return (this._lView[FLAGS] & 256 /* Destroyed */) === 256 /* Destroyed */;\n },\n enumerable: false,\n configurable: true\n });\n ViewRef.prototype.destroy = function () {\n if (this._appRef) {\n this._appRef.detachView(this);\n }\n else if (this._viewContainerRef) {\n var index = this._viewContainerRef.indexOf(this);\n if (index > -1) {\n this._viewContainerRef.detach(index);\n }\n this._viewContainerRef = null;\n }\n destroyLView(this._lView[TVIEW], this._lView);\n };\n ViewRef.prototype.onDestroy = function (callback) {\n storeCleanupWithContext(this._lView[TVIEW], this._lView,
null, callback);\n };\n /**\n * Marks a view and all of its ancestors dirty.\n *\n * It also triggers change detection by calling `scheduleTick` internally, which coalesces\n * multiple `markForCheck` calls to into one change detection run.\n *\n * This can be used to ensure an {@link ChangeDetectionStrategy#OnPush OnPush} component is\n * checked when it needs to be re-rendered but the two normal triggers haven't marked it\n * dirty (i.e. inputs haven't changed and events haven't fired in the view).\n *\n * <!-- TODO: Add a link to a chapter on OnPush components -->\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * @Component({\n * selector: 'my-app',\n * template: `Number of ticks: {{numberOfTicks}}`\n * changeDetection: ChangeDetectionStrategy.OnPush,\n * })\n * class AppComponent {\n * numberOfTicks = 0;\n *\n * constructor(private ref: ChangeDetectorRef) {\n * setInterval(() => {\n * this.numberOfTicks++;\n * // the following is required, otherwise the view will not be updated\n * this.ref.markForCheck();\n * }, 1000);\n * }\n * }\n * ```\n */\n ViewRef.prototype.markForCheck = function () {\n markViewDirty(this._cdRefInjectingView || this._lView);\n };\n /**\n * Detaches the view from the change detection tree.\n *\n * Detached views will not be checked during change detection runs until they are\n * re-attached, even if they are dirty. `detach` can be used in combination with\n * {@link ChangeDetectorRef#detectChanges detectChanges} to implement local change\n * detection checks.\n *\n * <!-- TODO: Add a link to a chapter on detach/reattach/local
digest -->\n * <!-- TODO: Add a live demo once ref.detectChanges is merged into master -->\n *\n * @usageNotes\n * ### Example\n *\n * The following example defines a component with a large list of readonly data.\n * Imagine the data changes constantly, many times per second. For performance reasons,\n * we want to check and update the list every five seconds. We can do that by detaching\n * the component's change detector and doing a local check every five seconds.\n *\n * ```typescript\n * class DataProvider {\n * // in a real application the returned data will be different every time\n * get data() {\n * return [1,2,3,4,5];\n * }\n * }\n *\n * @Component({\n * selector: 'giant-list',\n * template: `\n * <li *ngFor=\"let d of dataProvider.data\">Data {{d}}</li>\n * `,\n * })\n * class GiantList {\n * constructor(private ref: ChangeDetectorRef, private dataProvider: DataProvider) {\n * ref.detach();\n * setInterval(() => {\n * this.ref.detectChanges();\n * }, 5000);\n * }\n * }\n *\n * @Component({\n * selector: 'app',\n * providers: [DataProvider],\n * template: `\n * <giant-list><giant-list>\n * `,\n * })\n * class App {\n * }\n * ```\n */\n ViewRef.prototype.detach = function () {\n this._lView[FLAGS] &= ~128 /* Attached */;\n };\n /**\n * Re-attaches a view to the change detection tree.\n *\n * This can be used to re-attach views that were previously detached from the tree\n * using {@link ChangeDetectorRef#detach detach}. Views are attached to the tree by default.\n *\n * <!-- TODO: Add a link to a chapter on detach/reattach/local digest -->\n *\n * @usageNotes\n * ### Example\n *\n * The following example creates a component displaying `live` data. The component will detach\n * its change detector from the main change detector tree when the component's live property\n * is set to false.\n *\n * ```typescript\n * class DataProvider {\n * data = 1;\n *\n * constructor() {\n * setInterval(() => {\n * this.data = this.data * 2;\n * }, 500);\n * }\n * }\n *\n
```

```
 * @Component({\n * selector: 'live-data',\n * inputs: ['live'],\n * template: 'Data: {{dataProvider.data}}'\n * })\n * class LiveData {\n * constructor(private ref: ChangeDetectorRef, private dataProvider: DataProvider) {}\n *\n * set live(value) {\n * if (value) {\n * this.ref.reattach();\n * } else {\n * this.ref.detach();\n * }\n * }\n * }\n *\n * @Component({\n * selector: 'my-app',\n * providers: [DataProvider],\n * template: `\n * Live Update: <input type=\"checkbox\" [(ngModel)]=\"live\">\n * <live-data [live]=\"live\"><live-data>\n * `,\n * })\n * class AppComponent {\n * live = true;\n * }\n * ```\n */\n ViewRef.prototype.reattach = function () {\n this._lView[FLAGS] |= 128 /* Attached */;\n };\n /**\n * Checks the view and its children.\n *\n * This can also be used in combination with {@link ChangeDetectorRef#detach detach} to implement\n * local change detection checks.\n *\n * <!-- TODO: Add a link to a chapter on detach/reattach/local digest -->\n * <!-- TODO: Add a live demo once ref.detectChanges is merged into master -->\n *\n * @usageNotes\n * ### Example\n *\n * The following example defines a component with a large list of readonly data.\n * Imagine, the data changes constantly, many times per second. For performance reasons,\n * we want to check and update the list every five seconds.\n *\n * We can do that by detaching the component's change detector and doing a local change detection\n * check every five seconds.\n *\n * See {@link ChangeDetectorRef#detach detach} for more information.\n */\n ViewRef.prototype.detectChanges = function () {\n detectChangesInternal(this._lView[TVIEW], this._lView, this.context);\n };\n /**\n * Checks the change detector and its children, and throws if any changes are detected.\n *\n * This is used in development mode to verify that running change detection doesn't\n * introduce other changes.\n */\n ViewRef.prototype.checkNoChanges = function () {\n checkNoChangesInternal(this._lView[TVIEW], this._lView, this.context);\n };\n ViewRef.prototype.attachToViewContainerRef = function (vcRef) {\n if (this._appRef) {\n throw new Error('This view is already attached directly to the ApplicationRef!');\n }\n this._viewContainerRef = vcRef;\n };\n ViewRef.prototype.detachFromAppRef = function () {\n this._appRef = null;\n renderDetachView(this._lView[TVIEW], this._lView);\n };\n ViewRef.prototype.attachToAppRef = function (appRef) {\n if (this._viewContainerRef) {\n throw new Error('This view is already attached to a ViewContainer!');\n }\n this._appRef = appRef;\n };\n return ViewRef;\n }());\n /** @internal */\n var RootViewRef = /** @class */ (function (_super) {\n __extends(RootViewRef, _super);\n function RootViewRef(_view) {\n var _this = _super.call(this, _view) || this;\n _this._view = _view;\n return _this;\n }\n RootViewRef.prototype.detectChanges = function () {\n detectChangesInRootView(this._view);\n };\n RootViewRef.prototype.checkNoChanges = function () {\n checkNoChangesInRootView(this._view);\n };\n Object.defineProperty(RootViewRef.prototype, \"context\", {\n get: function () {\n return null;\n },\n enumerable: false,\n configurable: true\n });\n return RootViewRef;\n }(ViewRef));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var SWITCH_CHANGE_DETECTOR_REF_FACTORY__POST_R3__ = injectChangeDetectorRef;\n var SWITCH_CHANGE_DETECTOR_REF_FACTORY__PRE_R3__ = noop;\n var SWITCH_CHANGE_DETECTOR_REF_FACTORY = SWITCH_CHANGE_DETECTOR_REF_FACTORY__PRE_R3__;\n /**\n * Base class that provides change detection functionality.\n * A change-detection tree collects all views that are to be checked for changes.\n * Use the methods to add and remove views from the tree, initiate change-detection,\n * and explicitly mark views as _dirty_, meaning that they have changed and need to be re-rendered.\n *\n * @see [Using change detection hooks](guide/lifecycle-hooks#using-change-detection-hooks)\n * @see [Defining custom change detection](guide/lifecycle-hooks#defining-custom-change-detection)\n *\n * @usageNotes\n *\n * The following examples demonstrate how to modify default change-detection behavior\n * to perform explicit
```

detection
when needed.\n *\n * ### Use `markForCheck()` with `CheckOnce` strategy\n *\n * The following example sets the `OnPush` change-detection strategy for a component\n * (`CheckOnce`, rather than the default `CheckAlways`), then forces a second check\n * after an interval. See [live demo](https://plnkr.co/edit/GC512b?p=preview).\n *\n * <code-example path=\"core/ts/change_detect/change-detection.ts\"\n * region=\"mark-for-check\"></code-example>\n *\n * ### Detach change detector to limit how often check occurs\n *\n * The following example defines a component with a large list of read-only data\n * that is expected to change constantly, many times per second.\n * To improve performance, we want to check and update the list\n * less often than the changes actually occur. To do that, we detach\n * the component's change detector and perform an explicit local check every five seconds.\n *\n * <code-example path=\"core/ts/change_detect/change-detection.ts\"
region=\"detach\"></code-example>\n *\n *\n * ### Reattaching a detached component\n *\n * The following example creates a component displaying live data.\n * The component detaches its change detector from the main change detector tree\n * when the `live` property is set to false, and reattaches it when the property\n * becomes true.\n *\n * <code-example path=\"core/ts/change_detect/change-detection.ts\" region=\"reattach\"></code-example>\n *\n * @publicApi\n */\n var ChangeDetectorRef = /** @class */ (function () {\n function ChangeDetectorRef() {\n }\n return ChangeDetectorRef;\n }());\n /**\n * @internal\n * @nocollapse\n */\n ChangeDetectorRef.__NG_ELEMENT_ID__ = SWITCH_CHANGE_DETECTOR_REF_FACTORY;\n /**\n * This marker is need so that the JIT compiler can correctly identify this class as special.\n *\n * @internal\n
* @nocollapse\n */\n ChangeDetectorRef.__ChangeDetectorRef__ = true;\n /** Returns a ChangeDetectorRef (a.k.a. a ViewRef) */\n function injectChangeDetectorRef(isPipe) {\n if (isPipe === void 0) { isPipe = false; }\n return createViewRef(getCurrentTNode(), getLView(), isPipe);\n }\n /**\n * Creates a ViewRef and stores it on the injector as ChangeDetectorRef (public alias).\n *\n * @param tNode The node that is requesting a ChangeDetectorRef\n * @param lView The view to which the node belongs\n * @param isPipe Whether the view is being injected into a pipe.\n * @returns The ChangeDetectorRef to use\n */\n function createViewRef(tNode, lView, isPipe) {\n // `isComponentView` will be true for Component and Directives (but not for Pipes).\n // See https://github.com/angular/angular/pull/33072 for proper fix\n var isComponentView = !isPipe && isComponentHost(tNode);\n if (isComponentView) {\n // The LView represents the location where the component is declared.\n // Instead we want the LView for the component View and so we need to look it up.\n var componentView = getComponentLViewByIndex(tNode.index, lView); // look down\n return new ViewRef(componentView, componentView);\n }\n else if (tNode.type & (3 /* AnyRNode */ | 12 /* AnyContainer */ | 32 /* Icu */)) {\n // The LView represents the location where the injection is requested from.\n // We need to locate the containing LView (in case where the `lView` is an embedded view)\n var hostComponentView = lView[DECLARATION_COMPONENT_VIEW]; // look up\n return new ViewRef(hostComponentView, lView);\n }\n return null;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file
at https://angular.io/license\n */\n /**\n * Structural diffing for `Object`s and `Map`s.\n */\n var keyValDiff = [new DefaultKeyValueDifferFactory()];\n /**\n * Structural diffing for `Iterable` types such as `Array`s.\n */\n var iterableDiff = [new DefaultIterableDifferFactory()];\n var defaultIterableDiffers = new IterableDiffers(iterableDiff);\n var defaultKeyValueDiffers = new KeyValueDiffers(keyValDiff);\n\n var SWITCH_TEMPLATE_REF_FACTORY__POST_R3__ = injectTemplateRef;\n var SWITCH_TEMPLATE_REF_FACTORY__PRE_R3__ = noop;\n var SWITCH_TEMPLATE_REF_FACTORY = SWITCH_TEMPLATE_REF_FACTORY__PRE_R3__;\n /**\n * Represents an embedded template that can be used to instantiate embedded views.\n * To instantiate embedded views based on a template, use the `ViewContainerRef`\n * method `createEmbeddedView()`.\n *\n * Access a `TemplateRef` instance by

placing a directive on an `<ng-template>`\n * element (or directive prefixed with `*`). The `TemplateRef` for the embedded view\n * is injected into the constructor of the directive,\n * using the `TemplateRef` token.\n *\n * You can also use a `Query` to find a `TemplateRef` associated with\n * a component or a directive.\n *\n * @see `ViewContainerRef`\n * @see [Navigate the Component Tree with DI](guide/dependency-injection-navtree)\n *\n * @publicApi\n */\n var TemplateRef = /** @class */ (function () {\n function TemplateRef() {\n }\n return TemplateRef;\n }());\n /**\n * @internal\n * @nocollapse\n */\n TemplateRef.__NG_ELEMENT_ID__ = SWITCH_TEMPLATE_REF_FACTORY;\n var ViewEngineTemplateRef = TemplateRef;\n var R3TemplateRef = /** @class */ (function (_super) {\n __extends(TemplateRef, _super);\n function TemplateRef(_declarationLView, _declarationTContainer, elementRef) {\n var _this = _super.call(this) || this;\n _this._declarationLView = _declarationLView;\n _this._declarationTContainer = _declarationTContainer;\n _this.elementRef = elementRef;\n return _this;\n }\n TemplateRef.prototype.createEmbeddedView = function (context) {\n var embeddedTView = this._declarationTContainer.tViews;\n var embeddedLView = createLView(this._declarationLView, embeddedTView, context, 16 /* CheckAlways */, null, embeddedTView.declTNode, null, null, null, null);\n var declarationLContainer = this._declarationLView[this._declarationTContainer.index];\n ngDevMode && assertLContainer(declarationLContainer);\n embeddedLView[DECLARATION_LCONTAINER] = declarationLContainer;\n var declarationViewLQueries = this._declarationLView[QUERIES];\n if (declarationViewLQueries !== null) {\n embeddedLView[QUERIES] = declarationViewLQueries.createEmbeddedView(embeddedTView);\n }\n renderView(embeddedTView, embeddedLView, context);\n return new ViewRef(embeddedLView);\n };\n return TemplateRef;\n }(ViewEngineTemplateRef));\n /**\n * Creates a TemplateRef given a node.\n *\n * @returns The TemplateRef instance to use\n */\n function injectTemplateRef() {\n return createTemplateRef(getCurrentTNode(), getLView());\n }\n /**\n * Creates a TemplateRef and stores it on the injector.\n *\n * @param hostTNode The node on which a TemplateRef is requested\n * @param hostLView The `LView` to which the node belongs\n * @returns The TemplateRef instance or null if we can't create a TemplateRef on a given node type\n */\n function createTemplateRef(hostTNode, hostLView) {\n if (hostTNode.type & 4 /* Container */) {\n ngDevMode && assertDefined(hostTNode.tViews, 'TView must be allocated');\n return new R3TemplateRef(hostLView, hostTNode, createElementRef(hostTNode, hostLView));\n }\n return null;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Represents an instance of an `NgModule` created by an `NgModuleFactory`.\n * Provides access to the `NgModule` instance and related objects.\n *\n * @publicApi\n */\n var NgModuleRef = /** @class */ (function () {\n function NgModuleRef() {\n }\n return NgModuleRef;\n }());\n /**\n * @publicApi\n */\n var NgModuleFactory = /** @class */ (function () {\n function NgModuleFactory() {\n }\n return NgModuleFactory;\n }());\n\n var SWITCH_VIEW_CONTAINER_REF_FACTORY__POST_R3__ = injectViewContainerRef;\n var SWITCH_VIEW_CONTAINER_REF_FACTORY__PRE_R3__ = noop;\n var SWITCH_VIEW_CONTAINER_REF_FACTORY = SWITCH_VIEW_CONTAINER_REF_FACTORY__PRE_R3__;\n /**\n * Represents a container where one or more views can be attached to a component.\n *\n * Can contain *host views* (created by instantiating a\n * component with the `createComponent()` method), and *embedded views*\n * (created by instantiating a `TemplateRef` with the `createEmbeddedView()` method).\n *\n * A view container instance can contain other view containers,\n * creating a [view hierarchy](guide/glossary#view-tree).\n *\n * @see `ComponentRef`\n * @see `EmbeddedViewRef`\n *\n * @publicApi\n */\n var ViewContainerRef = /** @class */ (function () {\n function ViewContainerRef() {\n }\n return ViewContainerRef;\n }());\n /**\n *

@internal\n * @nocollapse\n */\n ViewContainerRef.__NG_ELEMENT_ID__ = SWITCH_VIEW_CONTAINER_REF_FACTORY;\n /**\n * Creates a ViewContainerRef and stores it on the injector. Or,
if the ViewContainerRef\n * already exists, retrieves the existing ViewContainerRef.\n *\n * @returns The ViewContainerRef instance to use\n */\n function injectViewContainerRef() {\n var previousTNode = getCurrentTNode();\n return createContainerRef(previousTNode, getLView());\n }\n var VE_ViewContainerRef = ViewContainerRef;\n var R3ViewContainerRef = /** @class */ (function (_super) {\n __extends(ViewContainerRef, _super);\n function ViewContainerRef(_lContainer, _hostTNode, _hostLView) {\n var _this = _super.call(this) || this;\n _this._lContainer = _lContainer;\n _this._hostTNode = _hostTNode;\n _this._hostLView = _hostLView;\n return _this;\n }\n Object.defineProperty(ViewContainerRef.prototype, \"element\", {\n get: function () {\n return createElementRef(this._hostTNode, this._hostLView);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ViewContainerRef.prototype, \"injector\", {\n get: function () {\n return new NodeInjector(this._hostTNode, this._hostLView);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ViewContainerRef.prototype, \"parentInjector\", {\n /** @deprecated No replacement */\n get: function () {\n var parentLocation = getParentInjectorLocation(this._hostTNode, this._hostLView);\n if (hasParentInjector(parentLocation)) {\n var parentView = getParentInjectorView(parentLocation, this._hostLView);\n var injectorIndex = getParentInjectorIndex(parentLocation);\n ngDevMode && assertNodeInjector(parentView, injectorIndex);\n var parentTNode = parentView[TVIEW].data[injectorIndex + 8 /* TNODE */];\n return new NodeInjector(parentTNode, parentView);\n }\n else {\n return new NodeInjector(null, this._hostLView);\n }\n },\n enumerable: false,\n configurable: true\n });\n ViewContainerRef.prototype.clear = function () {\n while (this.length > 0) {\n this.remove(this.length - 1);\n }\n };\n ViewContainerRef.prototype.get = function (index) {\n var viewRefs = getViewRefs(this._lContainer);\n return viewRefs !== null && viewRefs[index] || null;\n };\n Object.defineProperty(ViewContainerRef.prototype, \"length\", {\n get: function () {\n return this._lContainer.length - CONTAINER_HEADER_OFFSET;\n },\n enumerable: false,\n configurable: true\n });\n ViewContainerRef.prototype.createEmbeddedView = function (templateRef, context, index) {\n var viewRef = templateRef.createEmbeddedView(context || {});\n this.insert(viewRef, index);\n return viewRef;\n };\n ViewContainerRef.prototype.createComponent = function (componentFactory, index, injector, projectableNodes, ngModuleRef) {\n var contextInjector = injector || this.parentInjector;\n if (!ngModuleRef && componentFactory.ngModule == null && contextInjector) {\n // DO NOT REFACTOR. The code here used to have a `value || undefined` expression\n // which seems to cause internal google apps to fail. This is documented in the\n // following internal bug issue: go/b/142967802\n var result = contextInjector.get(NgModuleRef, null);\n if (result) {\n ngModuleRef = result;\n }\n }\n var componentRef = componentFactory.create(contextInjector, projectableNodes, undefined, ngModuleRef);\n this.insert(componentRef.hostView, index);\n return componentRef;\n };\n ViewContainerRef.prototype.insert = function (viewRef, index) {\n var lView = viewRef._lView;\n var tView = lView[TVIEW];\n if (ngDevMode && viewRef.destroyed) {\n throw new Error('Cannot insert a destroyed View in a ViewContainer!');\n }\n if (viewAttachedToContainer(lView)) {\n // If view is already attached, detach it first so we clean up references appropriately.\n var prevIdx = this.indexOf(viewRef);\n // A view might be attached either to this or a different container. The `prevIdx` for\n // those cases will be:\n // equal to -1 for views attached to this ViewContainerRef\n // >= 0 for views attached to a different ViewContainerRef\n if (prevIdx !== -1) {\n

this.detach(prevIdx);\n }\n else {\n var prevLContainer = lView[PARENT];\n ngDevMode &&\n assertEqual(isLContainer(prevLContainer), true, 'An attached view should have its PARENT point to a container.');\n // We need to re-create a R3ViewContainerRef instance since those are not stored on\n // LView (nor anywhere else).\n var prevVCRef = new R3ViewContainerRef(prevLContainer, prevLContainer[T_HOST], prevLContainer[PARENT]);\n prevVCRef.detach(prevVCRef.indexOf(viewRef));\n }\n }\n // Logical operation of adding `LView` to `LContainer`\n var adjustedIdx = this._adjustIndex(index);\n var lContainer = this._lContainer;\n insertView(tView, lView, lContainer, adjustedIdx);\n // Physical operation of adding the DOM nodes.\n var beforeNode = getBeforeNodeForView(adjustedIdx, lContainer);\n var renderer = lView[RENDERER];\n var parentRNode = nativeParentNode(renderer, lContainer[NATIVE]);\n if (parentRNode !== null) {\n addViewToContainer(tView, lContainer[T_HOST], renderer, lView, parentRNode, beforeNode);\n }\n viewRef.attachToViewContainerRef(this);\n addToArray(getOrCreateViewRefs(lContainer), adjustedIdx, viewRef);\n return viewRef;\n };\n ViewContainerRef.prototype.move = function (viewRef, newIndex) {\n if (ngDevMode && viewRef.destroyed) {\n throw new Error('Cannot move a destroyed View in a ViewContainer!');\n }\n return this.insert(viewRef, newIndex);\n };\n ViewContainerRef.prototype.indexOf = function (viewRef) {\n var viewRefsArr = getViewRefs(this._lContainer);\n return viewRefsArr !== null ? viewRefsArr.indexOf(viewRef) : -1;\n };\n ViewContainerRef.prototype.remove = function (index) {\n var adjustedIdx = this._adjustIndex(index, -1);\n var detachedView = detachView(this._lContainer, adjustedIdx);\n if (detachedView) {\n // Before destroying the view, remove it from the container's array of `ViewRef`s.\n // This ensures the view container length is updated before calling\n // `destroyLView`, which could recursively call view container methods that\n // rely on an accurate container length.\n // (e.g. a method on this view container being called by a child directive's OnDestroy\n // lifecycle hook)\n removeFromArray(getOrCreateViewRefs(this._lContainer), adjustedIdx);\n destroyLView(detachedView[TVIEW], detachedView);\n }\n };\n ViewContainerRef.prototype.detach = function (index) {\n var adjustedIdx = this._adjustIndex(index, -1);\n var view = detachView(this._lContainer, adjustedIdx);\n var wasDetached = view && removeFromArray(getOrCreateViewRefs(this._lContainer), adjustedIdx) != null;\n return wasDetached ? new ViewRef(view) : null;\n };\n ViewContainerRef.prototype._adjustIndex = function (index, shift) {\n if (shift === void 0) { shift = 0; }\n if (index == null) {\n return this.length + shift;\n }\n if (ngDevMode) {\n assertGreaterThan(index, -1, \"ViewRef index must be positive, got \" + index);\n // +1 because it's legal to insert at the end.\n assertLessThan(index, this.length + 1 + shift, 'index');\n }\n return index;\n };\n return ViewContainerRef;\n }(VE_ViewContainerRef));\n function getViewRefs(lContainer) {\n return lContainer[VIEW_REFS];\n }\n function getOrCreateViewRefs(lContainer) {\n return (lContainer[VIEW_REFS] || (lContainer[VIEW_REFS] = []));\n }\n /**\n * Creates a ViewContainerRef and stores it on the injector.\n *\n * @param ViewContainerRefToken The ViewContainerRef type\n * @param ElementRefToken The ElementRef type\n * @param hostTNode The node that is requesting a ViewContainerRef\n * @param hostLView The view to which the node belongs\n * @returns The ViewContainerRef instance to use\n */\n function createContainerRef(hostTNode, hostLView) {\n ngDevMode && assertTNodeType(hostTNode, 12 /* AnyContainer */ | 3 /* AnyRNode */);\n var lContainer;\n var slotValue = hostLView[hostTNode.index];\n if (isLContainer(slotValue)) {\n // If the host is a container, we don't need to create a new LContainer\n lContainer = slotValue;\n }\n else {\n var commentNode = void 0;\n // If the host is an element container, the native host element is guaranteed to be a\n // comment and we can reuse that comment as anchor element for the new LContainer.\n // The comment node in question is already part of the DOM

structure so we don't need to append\n // it again.\n if (hostTNode.type & 8 /* ElementContainer */) {\n commentNode = unwrapRNode(slotValue);\n }\n else {\n // If the host is a regular element, we have to insert a comment node manually which will\n // be used as an anchor when inserting elements. In this specific case we use low-level DOM\n // manipulation to insert it.\n var renderer = hostLView[RENDERER];\n ngDevMode && ngDevMode.rendererCreateComment++;\n commentNode = renderer.createComment(ngDevMode ? 'container' : '');\n var hostNative = getNativeByTNode(hostTNode, hostLView);\n var parentOfHostNative = nativeParentNode(renderer, hostNative);\n nativeInsertBefore(renderer, parentOfHostNative, commentNode, nativeNextSibling(renderer, hostNative), false);\n }\n hostLView[hostTNode.index] = lContainer =\n createLContainer(slotValue, hostLView, commentNode, hostTNode);\n addToViewTree(hostLView, lContainer);\n }\n return new R3ViewContainerRef(lContainer, hostTNode, hostLView);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function expressionChangedAfterItHasBeenCheckedError(context, oldValue, currValue, isFirstCheck) {\n var msg = \"ExpressionChangedAfterItHasBeenCheckedError: Expression has changed after it was checked. Previous value: '\" + oldValue + \"'. Current value: '\"
+ currValue + \"'.\";\n if (isFirstCheck) {\n msg +=\n \" It seems like the view has been created after its parent and its children have been dirty checked.\" +\n \" Has it been created in a change detection hook ?\";\n }\n return viewDebugError(msg, context);\n }\n function viewWrappedDebugError(err, context) {\n if (!(err instanceof Error)) {\n // errors that are not Error instances don't have a stack,\n // so it is ok to wrap them into a new Error object...\n err = new Error(err.toString());\n }\n _addDebugContext(err, context);\n return err;\n }\n function viewDebugError(msg, context) {\n var err = new Error(msg);\n _addDebugContext(err, context);\n return err;\n }\n function _addDebugContext(err, context) {\n err[ERROR_DEBUG_CONTEXT] = context;\n err[ERROR_LOGGER] = context.logError.bind(context);\n }\n function isViewDebugError(err) {\n return !!getDebugContext(err);\n }\n function viewDestroyedError(action) {\n return new Error(\"ViewDestroyedError: Attempt to use a destroyed view: \" + action);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // Called before each cycle of a view's check to detect whether this is in the\n // initState for which we need to call ngOnInit, ngAfterContentInit or ngAfterViewInit\n // lifecycle methods. Returns true if this check cycle should call lifecycle\n // methods.\n function shiftInitState(view, priorInitState, newInitState) {\n // Only update the InitState if we are currently in the prior state.\n // For example, only move into CallingInit if we are in BeforeInit. Only\n // move into CallingContentInit
if we are in CallingInit. Normally this will\n // always be true because of how checkCycle is called in checkAndUpdateView.\n // However, if checkAndUpdateView is called recursively or if an exception is\n // thrown while checkAndUpdateView is running, checkAndUpdateView starts over\n // from the beginning. This ensures the state is monotonically increasing,\n // terminating in the AfterInit state, which ensures the Init methods are called\n // at least once and only once.\n var state = view.state;\n var initState = state & 1792 /* InitState_Mask */;\n if (initState === priorInitState) {\n view.state = (state & ~1792 /* InitState_Mask */) | newInitState;\n view.initIndex = -1;\n return true;\n }\n return initState === newInitState;\n }\n // Returns true if the lifecycle init method should be called for the node with\n // the given init index.\n function
shouldCallLifecycleInitHook(view, initState, index) {\n if ((view.state & 1792 /* InitState_Mask */) === initState && view.initIndex <= index) {\n view.initIndex = index + 1;\n return true;\n }\n return false;\n }\n /**\n * Node instance data.\n *\n * We have a separate type per NodeType to save memory\n * (TextData | ElementData | ProviderData | PureExpressionData | QueryList<any>)\n *\n * To

keep our code monomorphic,\n * we prohibit using `NodeData` directly but enforce the use of accessors (`asElementData`, ...).\n * This way, no usage site can get a `NodeData` from view.nodes and then use it for different\n * purposes.\n */\n var NodeData = /** @class */ (function () {\n function NodeData() {\n }\n return NodeData;\n }());\n /**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\n function asTextData(view, index) {\n return view.nodes[index];\n }\n /**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\n function asElementData(view, index) {\n return view.nodes[index];\n }\n /**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\n function asProviderData(view, index) {\n return view.nodes[index];\n }\n /**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\n function asPureExpressionData(view, index) {\n return view.nodes[index];\n }\n /**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\n function asQueryList(view, index) {\n return view.nodes[index];\n }\n var DebugContext = /** @class */ (function () {\n function DebugContext() {\n }\n return DebugContext;\n }());\n /**\n * This object is used to prevent cycles in the source files and to have a place where\n * debug mode can hook it. It is lazily filled when `isDevMode` is known.\n */\n var Services = {\n setCurrentNode: undefined,\n createRootView: undefined,\n createEmbeddedView: undefined,\n createComponentView: undefined,\n createNgModuleRef: undefined,\n overrideProvider: undefined,\n overrideComponentView: undefined,\n clearOverrides: undefined,\n checkAndUpdateView: undefined,\n checkNoChangesView: undefined,\n destroyView: undefined,\n resolveDep: undefined,\n createDebugContext: undefined,\n handleEvent: undefined,\n updateDirectives: undefined,\n updateRenderer: undefined,\n dirtyParentQueries: undefined,\n };\n\n var NOOP = function () { };\n var _tokenKeyCache = new Map();\n function tokenKey(token) {\n var key = _tokenKeyCache.get(token);\n if (!key) {\n key = stringify(token) + '_' + _tokenKeyCache.size;\n _tokenKeyCache.set(token, key);\n }\n return key;\n }\n function unwrapValue(view, nodeIdx, bindingIdx, value) {\n if (WrappedValue.isWrapped(value)) {\n value = WrappedValue.unwrap(value);\n var globalBindingIdx = view.def.nodes[nodeIdx].bindingIndex + bindingIdx;\n var oldValue = WrappedValue.unwrap(view.oldValues[globalBindingIdx]);\n view.oldValues[globalBindingIdx] = new WrappedValue(oldValue);\n }\n return value;\n }\n var UNDEFINED_RENDERER_TYPE_ID = '$$undefined';\n var EMPTY_RENDERER_TYPE_ID = '$$empty';\n // Attention: this function is called as top level function.\n // Putting any logic in here will destroy closure tree shaking!\n function createRendererType2(values) {\n return {\n id: UNDEFINED_RENDERER_TYPE_ID,\n styles: values.styles,\n encapsulation: values.encapsulation,\n data: values.data\n };\n }\n var _renderCompCount$1 = 0;\n function resolveRendererType2(type) {\n if (type && type.id === UNDEFINED_RENDERER_TYPE_ID) {\n // first time we see this RendererType2. Initialize it...\n var isFilled = ((type.encapsulation != null && type.encapsulation !== exports.ViewEncapsulation.None) ||\n type.styles.length || Object.keys(type.data).length);\n if (isFilled) {\n type.id = \"c\" + _renderCompCount$1++;\n }\n else {\n type.id = EMPTY_RENDERER_TYPE_ID;\n }\n }\n if (type && type.id === EMPTY_RENDERER_TYPE_ID) {\n type = null;\n }\n return type || null;\n }\n function checkBinding(view, def, bindingIdx, value) {\n var oldValues = view.oldValues;\n if ((view.state & 2 /* FirstCheck */) ||\n !Object.is(oldValues[def.bindingIndex + bindingIdx], value)) {\n return true;\n }\n return false;\n }\n function checkAndUpdateBinding(view, def, bindingIdx, value) {\n if (checkBinding(view, def, bindingIdx, value)) {\n view.oldValues[def.bindingIndex + bindingIdx] = value;\n return true;\n }\n return false;\n }\n function checkBindingNoChanges(view, def, bindingIdx, value) {\n var oldValue = view.oldValues[def.bindingIndex + bindingIdx];\n if ((view.state & 1 /* BeforeFirstCheck */) || !devModeEqual(oldValue, value)) {\n var bindingName = def.bindings[bindingIdx].name;\n throw

```
expressionChangedAfterItHasBeenCheckedError(Services.createDebugContext(view, def.nodeIndex), bindingName + \": \" + oldValue, bindingName + \": \" + value, (view.state & 1 /* BeforeFirstCheck */) !== 0);\n        }\n    }\n function markParentViewsForCheck(view) {\n        var currView = view;\n        while (currView) {\n            if (currView.def.flags & 2 /* OnPush
 */) {\n                currView.state |= 8 /* ChecksEnabled */;\n            }\n            currView = currView.viewContainerParent || currView.parent;\n        }\n    }\n    function markParentViewsForCheckProjectedViews(view, endView) {\n        var currView = view;\n        while (currView && currView !== endView) {\n            currView.state |= 64 /* CheckProjectedViews */;\n            currView = currView.viewContainerParent || currView.parent;\n        }\n    }\n    function dispatchEvent(view, nodeIndex, eventName, event) {\n        try {\n            var nodeDef = view.def.nodes[nodeIndex];\n            var startView = nodeDef.flags & 33554432 /* ComponentView */ ?\n                asElementData(view, nodeIndex).componentView :\n                view;\n            markParentViewsForCheck(startView);\n            return Services.handleEvent(view, nodeIndex, eventName, event);\n        }\n        catch (e) {\n            // Attention: Don't rethrow, as it would cancel Observable
 subscriptions!\n            view.root.errorHandler.handleError(e);\n        }\n    }\n    function declaredViewContainer(view) {\n        if (view.parent) {\n            var parentView = view.parent;\n            return asElementData(parentView, view.parentNodeDef.nodeIndex);\n        }\n        return null;\n    }\n    /**\n     * for component views, this is the host element.\n     * for embedded views, this is the index of the parent node\n     * that contains the view container.\n     */\n    function viewParentEl(view) {\n        var parentView = view.parent;\n        if (parentView) {\n            return view.parentNodeDef.parent;\n        }\n        else {\n            return null;\n        }\n    }\n    function renderNode(view, def) {\n        switch (def.flags & 201347067 /* Types */) {\n            case 1 /* TypeElement */:\n                return asElementData(view, def.nodeIndex).renderElement;\n            case 2 /* TypeText */:\n                return asTextData(view, def.nodeIndex).renderText;\n        }\n    }\n    function elementEventFullName(target, name) {\n        return target ? target + \":\" + name : name;\n    }\n    function isComponentView(view) {\n        return !!view.parent && !!(view.parentNodeDef.flags & 32768 /* Component */);\n    }\n    function isEmbeddedView(view) {\n        return !!view.parent && !(view.parentNodeDef.flags & 32768 /* Component */);\n    }\n    function filterQueryId(queryId) {\n        return 1 << (queryId % 32);\n    }\n    function splitMatchedQueriesDsl(matchedQueriesDsl) {\n        var matchedQueries = {};\n        var matchedQueryIds = 0;\n        var references = {};\n        if (matchedQueriesDsl) {\n            matchedQueriesDsl.forEach(function (_a) {\n                var _b = __read(_a, 2), queryId = _b[0], valueType = _b[1];\n                if (typeof queryId === 'number') {\n                    matchedQueries[queryId] = valueType;\n                    matchedQueryIds |= filterQueryId(queryId);\n                }\n                else {\n                    references[queryId] = valueType;\n                }\n            });\n        }\n        return { matchedQueries: matchedQueries, references: references, matchedQueryIds: matchedQueryIds };\n    }\n    function splitDepsDsl(deps, sourceName) {\n        return deps.map(function (value) {\n            var _a;\n            var token;\n            var flags;\n            if (Array.isArray(value)) {\n                _a = __read(value, 2), flags = _a[0], token = _a[1];\n            }\n            else {\n                flags = 0 /* None */;\n                token = value;\n            }\n            if (token && (typeof token === 'function' || typeof token === 'object') && sourceName) {\n                Object.defineProperty(token, SOURCE, { value: sourceName, configurable: true });\n            }\n            return { flags: flags, token: token, tokenKey: tokenKey(token) };\n        });\n    }\n    function getParentRenderElement(view, renderHost, def) {\n        var renderParent = def.renderParent;\n        if (renderParent) {\n            if ((renderParent.flags & 1 /* TypeElement */) === 0 ||\n                (renderParent.flags & 33554432 /* ComponentView */) === 0 ||\n                (renderParent.element.componentRendererType &&\n                    (renderParent.element.componentRendererType.encapsulation ===\n                        exports.ViewEncapsulation.ShadowDom ||\n                        // TODO(FW-2290): remove the `encapsulation === 1` fallback logic in v12.\n                        renderParent.element.componentRendererType.encapsulation === 1))) {\n                // only children of non components, or children of components with native encapsulation should\n                // be attached.\n                return asElementData(view, def.renderParent.nodeIndex).renderElement;\n            }\n
```

}\n else {\n return renderHost;\n }\n }\n var DEFINITION_CACHE
= new WeakMap();\n function resolveDefinition(factory) {\n var value =
DEFINITION_CACHE.get(factory);\n if (!value) {\n value = factory(function () { return NOOP; });\n
value.factory = factory;\n DEFINITION_CACHE.set(factory, value);\n }\n return value;\n }\n
function rootRenderNodes(view) {\n var renderNodes = [];\n visitRootRenderNodes(view, 0 /* Collect */,
undefined, undefined, renderNodes);\n return renderNodes;\n }\n function visitRootRenderNodes(view,
action, parentNode, nextSibling, target) {\n // We need to re-compute the parent node in case the nodes have
been moved around manually\n if (action === 3 /* RemoveChild */) {\n parentNode =
view.renderer.parentNode(renderNode(view, view.def.lastRenderRootNode));\n }\n
visitSiblingRenderNodes(view, action, 0, view.def.nodes.length - 1, parentNode, nextSibling, target);\n }\n
function visitSiblingRenderNodes(view,
action, startIndex, endIndex, parentNode, nextSibling, target) {\n for (var i = startIndex; i <= endIndex; i++)
{\n var nodeDef = view.def.nodes[i];\n if (nodeDef.flags & (1 /* TypeElement */ | 2 /* TypeText */ | 8
/* TypeNgContent */)) {\n visitRenderNode(view, nodeDef, action, parentNode, nextSibling, target);\n
}\n // jump to next sibling\n i += nodeDef.childCount;\n }\n }\n function
visitProjectedRenderNodes(view, ngContentIndex, action, parentNode, nextSibling, target) {\n var compView =
view;\n while (compView && !isComponentView(compView)) {\n compView = compView.parent;\n
}\n var hostView = compView.parent;\n var hostElDef = viewParentEl(compView);\n var startIndex
= hostElDef.nodeIndex + 1;\n var endIndex = hostElDef.nodeIndex + hostElDef.childCount;\n for (var i =
startIndex; i <= endIndex; i++)
{\n var nodeDef = hostView.def.nodes[i];\n if (nodeDef.ngContentIndex === ngContentIndex) {\n
visitRenderNode(hostView, nodeDef, action, parentNode, nextSibling, target);\n }\n // jump to
next sibling\n i += nodeDef.childCount;\n }\n if (!hostView.parent) {\n // a root view\n
var projectedNodes = view.root.projectableNodes[ngContentIndex];\n if (projectedNodes) {\n for
(var i = 0; i < projectedNodes.length; i++) {\n execRenderNodeAction(view, projectedNodes[i], action,
parentNode, nextSibling, target);\n }\n }\n }\n }\n function visitRenderNode(view,
nodeDef, action, parentNode, nextSibling, target) {\n if (nodeDef.flags & 8 /* TypeNgContent */) {\n
visitProjectedRenderNodes(view, nodeDef.ngContent.index, action, parentNode, nextSibling, target);\n }\n
else {\n
var rn = renderNode(view, nodeDef);\n if (action === 3 /* RemoveChild */ && (nodeDef.flags &
33554432 /* ComponentView */) &&\n (nodeDef.bindingFlags & 48 /* CatSyntheticProperty */)) {\n
// Note: we might need to do both actions.\n if (nodeDef.bindingFlags & (16 /* SyntheticProperty */))
{\n execRenderNodeAction(view, rn, action, parentNode, nextSibling, target);\n }\n if
(nodeDef.bindingFlags & (32 /* SyntheticHostProperty */)) {\n var compView = asElementData(view,
nodeDef.nodeIndex).componentView;\n execRenderNodeAction(compView, rn, action, parentNode,
nextSibling, target);\n }\n }\n else {\n execRenderNodeAction(view, rn, action,
parentNode, nextSibling, target);\n }\n if (nodeDef.flags & 16777216 /* EmbeddedViews */) {\n
var embeddedViews = asElementData(view,
nodeDef.nodeIndex).viewContainer._embeddedViews;\n for (var k = 0; k < embeddedViews.length; k++)
{\n visitRootRenderNodes(embeddedViews[k], action, parentNode, nextSibling, target);\n }\n
}\n if (nodeDef.flags & 1 /* TypeElement */ && !nodeDef.element.name) {\n
visitSiblingRenderNodes(view, action, nodeDef.nodeIndex + 1, nodeDef.nodeIndex + nodeDef.childCount,
parentNode, nextSibling, target);\n }\n }\n }\n function execRenderNodeAction(view, renderNode,
action, parentNode, nextSibling, target) {\n var renderer = view.renderer;\n switch (action) {\n case 1
/* AppendChild */:\n renderer.appendChild(parentNode, renderNode);\n break;\n case 2 /*
InsertBefore */:\n renderer.insertBefore(parentNode, renderNode, nextSibling);\n break;\n
case 3 /* RemoveChild */:\n

```
renderer.removeChild(parentNode, renderNode);\n break;\n case 0 /* Collect */:\n target.push(renderNode);\n break;\n }\n }\n var NS_PREFIX_RE = /^:([^:]+):(.+)$/;\n function splitNamespace(name) {\n if (name[0] === ':') {\n var match = name.match(NS_PREFIX_RE);\n return [match[1], match[2]];\n }\n return ['', name];\n }\n function calcBindingFlags(bindings) {\n var flags = 0;\n for (var i = 0; i < bindings.length; i++) {\n flags |= bindings[i].flags;\n }\n return flags;\n }\n function interpolate(valueCount, constAndInterp) {\n var result = '';\n for (var i = 0; i < valueCount * 2; i = i + 2) {\n result = result + constAndInterp[i] + _toStringWithNull(constAndInterp[i + 1]);\n }\n return result + constAndInterp[valueCount * 2];\n }\n function inlineInterpolate(valueCount, c0, a1, c1, a2, c2, a3, c3, a4, c4, a5, c5, a6, c6, a7, c7, a8, c8, a9, c9) {\n switch (valueCount) {\n case 1:\n return c0 + _toStringWithNull(a1) + c1;\n case 2:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2;\n case 3:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3;\n case 4:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4;\n case 5:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5;\n case 6:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5 + _toStringWithNull(a6) + c6;\n case 7:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5 + _toStringWithNull(a6) +\n c6 + _toStringWithNull(a7) + c7;\n case 8:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5 + _toStringWithNull(a6) +\n c6 + _toStringWithNull(a7) + c7 + _toStringWithNull(a8) + c8;\n case 9:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5 + _toStringWithNull(a6) +\n c6 + _toStringWithNull(a7) + c7 + _toStringWithNull(a8) + c8 + _toStringWithNull(a9) + c9;\n default:\n throw new Error(\"Does not support more than 9 expressions\");\n }\n }\n function _toStringWithNull(v) {\n return v != null ? v.toString() : '';\n }\n var EMPTY_ARRAY$4 = [];\n var EMPTY_MAP = {};\n\n var UNDEFINED_VALUE = {};\n var InjectorRefTokenKey = tokenKey(Injector);\n var INJECTORRefTokenKey = tokenKey(INJECTOR$1);\n var NgModuleRefTokenKey = tokenKey(NgModuleRef);\n function moduleProvideDef(flags, token, value, deps) {\n // Need to resolve forwardRefs as e.g. for `useValue` we\n // lowered the expression and then stopped evaluating it,\n // i.e. also didn't unwrap it.\n value = resolveForwardRef(value);\n var depDefs = splitDepsDsl(deps, stringify(token));\n return {\n // will bet set by the module definition\n index: -1,\n deps: depDefs,\n flags: flags,\n token: token,\n value: value\n };\n }\n function moduleDef(providers) {\n var providersByKey = {};\n var modules = [];\n var scope = null;\n for (var i = 0; i < providers.length; i++) {\n var provider = providers[i];\n if (provider.token === INJECTOR_SCOPE) {\n scope = provider.value;\n }\n if (provider.flags & 1073741824 /* TypeNgModule */) {\n modules.push(provider.token);\n }\n provider.index = i;\n providersByKey[tokenKey(provider.token)] = provider;\n }\n return {\n // Will be filled later...\n factory: null,\n providersByKey: providersByKey,\n providers: providers,\n modules: modules,\n scope: scope,\n };\n }\n function initNgModule(data) {\n var def = data._def;\n var providers = data._providers\n = newArray(def.providers.length);\n for (var i = 0; i < def.providers.length; i++) {\n var provDef = def.providers[i];\n if (!(provDef.flags & 4096 /* LazyProvider */)) {\n // Make sure the provider has not been already initialized outside this loop.\n if (providers[i] === undefined) {\n providers[i] = _createProviderInstance(data, provDef);\n }\n }\n }\n }\n function
```

```
resolveNgModuleDep(data, depDef, notFoundValue) {\n        if (notFoundValue === void 0) { notFoundValue =
Injector.THROW_IF_NOT_FOUND; }\n        var former = setCurrentInjector(data);\n        try {\n            if
(depDef.flags & 8 /* Value */) {\n                return depDef.token;\n            }\n            if (depDef.flags & 2 /*
Optional */) {\n                notFoundValue = null;\n            }\n            if (depDef.flags & 1 /* SkipSelf */) {\n
return data._parent.get(depDef.token,
 notFoundValue);\n            }\n            var tokenKey_1 = depDef.tokenKey;\n            switch (tokenKey_1) {\n
 case InjectorRefTokenKey:\n                case INJECTORRefTokenKey:\n                case NgModuleRefTokenKey:\n
                return data;\n            }\n            var providerDef = data._def.providersByKey[tokenKey_1];\n            var
injectableDef = void 0;\n            if (providerDef) {\n                var providerInstance =
data._providers[providerDef.index];\n                if (providerInstance === undefined) {\n
providerInstance = data._providers[providerDef.index] =\n                    _createProviderInstance(data,
providerDef);\n                }\n                return providerInstance === UNDEFINED_VALUE ? undefined :
providerInstance;\n            }\n            else if ((injectableDef = getInjectableDef(depDef.token)) &&
targetsModule(data, injectableDef)) {\n                var index = data._providers.length;\n
                data._def.providers[index] = data._def.providersByKey[depDef.tokenKey] = {\n                    flags: 1024 /*
TypeFactoryProvider */ | 4096 /* LazyProvider */,\n                    value: injectableDef.factory,\n                    deps:
[],\n                    index: index,\n                    token: depDef.token,\n                };\n                data._providers[index] =
UNDEFINED_VALUE;\n                return (data._providers[index] =\n                    _createProviderInstance(data,
data._def.providersByKey[depDef.tokenKey]));\n            }\n            else if (depDef.flags & 4 /* Self */) {\n
return notFoundValue;\n            }\n            return data._parent.get(depDef.token, notFoundValue);\n        }\n
finally {\n            setCurrentInjector(former);\n        }\n    }\n    function moduleTransitivelyPresent(ngModule,
scope) {\n        return ngModule._def.modules.indexOf(scope) > -1;\n    }\n    function targetsModule(ngModule,
 def) {\n        var providedIn = def.providedIn;\n        return providedIn != null &&\n            (providedIn === 'any' ||
providedIn === ngModule._def.scope ||\n                moduleTransitivelyPresent(ngModule, providedIn));\n    }\n
function _createProviderInstance(ngModule, providerDef) {\n        var injectable;\n        switch (providerDef.flags &
201347067 /* Types */) {\n            case 512 /* TypeClassProvider */:\n                injectable =
_createClass(ngModule, providerDef.value, providerDef.deps);\n                break;\n            case 1024 /*
TypeFactoryProvider */:\n                injectable = _callFactory(ngModule, providerDef.value, providerDef.deps);\n
            break;\n            case 2048 /* TypeUseExistingProvider */:\n                injectable =
resolveNgModuleDep(ngModule, providerDef.deps[0]);\n                break;\n            case 256 /* TypeValueProvider
*/:\n                injectable = providerDef.value;\n
        break;\n        }\n        // The read of `ngOnDestroy` here is slightly expensive as it's megamorphic, so it should
be\n        // avoided if possible. The sequence of checks here determines whether ngOnDestroy needs to be\n        //
checked. It might not if the `injectable` isn't an object or if NodeFlags.OnDestroy is already\n        // set
(ngOnDestroy was detected statically).\n        if (injectable !== UNDEFINED_VALUE && injectable !== null &&
typeof injectable === 'object' &&\n            !(providerDef.flags & 131072 /* OnDestroy */) && typeof
injectable.ngOnDestroy === 'function') {\n            providerDef.flags |= 131072 /* OnDestroy */;\n        }\n
return injectable === undefined ? UNDEFINED_VALUE : injectable;\n    }\n    function _createClass(ngModule,
ctor, deps) {\n        var len = deps.length;\n        switch (len) {\n            case 0:\n                return new ctor();\n
case 1:\n                return new ctor(resolveNgModuleDep(ngModule,
 deps[0]));\n            case 2:\n                return new ctor(resolveNgModuleDep(ngModule, deps[0]),
resolveNgModuleDep(ngModule, deps[1]));\n            case 3:\n                return new
ctor(resolveNgModuleDep(ngModule, deps[0]), resolveNgModuleDep(ngModule, deps[1]),
resolveNgModuleDep(ngModule, deps[2]));\n            default:\n                var depValues = [];\n                for (var i =
0; i < len; i++) {\n                    depValues[i] = resolveNgModuleDep(ngModule, deps[i]);\n                }\n
return new (ctor.bind.apply(ctor, __spread([void 0], depValues)))();\n        }\n    }\n    function
_callFactory(ngModule, factory, deps) {\n        var len = deps.length;\n        switch (len) {\n            case 0:\n
return factory();\n            case 1:\n                return factory(resolveNgModuleDep(ngModule, deps[0]));\n            case
```

```
2:\n                return factory(resolveNgModuleDep(ngModule, deps[0]), resolveNgModuleDep(ngModule,
 deps[1]));\n            case 3:\n                return factory(resolveNgModuleDep(ngModule, deps[0]),
resolveNgModuleDep(ngModule, deps[1]), resolveNgModuleDep(ngModule, deps[2]));\n            default:\n
var depValues = [];\n                for (var i = 0; i < len; i++) {\n                    depValues[i] =
resolveNgModuleDep(ngModule, deps[i]);\n                }\n                return factory.apply(void 0,
__spread(depValues));\n        }\n    }\n    function callNgModuleLifecycle(ngModule, lifecycles) {\n        var def =
ngModule._def;\n        var destroyed = new Set();\n        for (var i = 0; i < def.providers.length; i++) {\n            var
provDef = def.providers[i];\n            if (provDef.flags & 131072 /* OnDestroy */) {\n                var instance =
ngModule._providers[i];\n                if (instance && instance !== UNDEFINED_VALUE) {\n                    var
onDestroy = instance.ngOnDestroy;\n                    if (typeof onDestroy === 'function'
 && !destroyed.has(instance)) {\n                        onDestroy.apply(instance);\n
destroyed.add(instance);\n                    }\n                }\n            }\n        }\n    }\n\n    /**\n     * @license\n     *
Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style
license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    function
attachEmbeddedView(parentView, elementData, viewIndex, view) {\n        var embeddedViews =
elementData.viewContainer._embeddedViews;\n        if (viewIndex === null || viewIndex === undefined) {\n
viewIndex = embeddedViews.length;\n        }\n        view.viewContainerParent = parentView;\n
addToArray(embeddedViews, viewIndex, view);\n        attachProjectedView(elementData, view);\n
Services.dirtyParentQueries(view);\n        var prevView = viewIndex > 0 ? embeddedViews[viewIndex - 1] : null;\n

 renderAttachEmbeddedView(elementData, prevView, view);\n    }\n    function
attachProjectedView(vcElementData, view) {\n        var dvcElementData = declaredViewContainer(view);\n        if
(!dvcElementData || dvcElementData === vcElementData ||\n            view.state & 16 /* IsProjectedView */) {\n
  return;\n        }\n        // Note: For performance reasons, we\n        // - add a view to template._projectedViews only
1x throughout its lifetime,\n        //   and remove it not until the view is destroyed.\n        //   (hard, as when a parent
view is attached/detached we would need to attach/detach all\n        //    nested projected views as well, even across
component boundaries).\n        // - don't track the insertion order of views in the projected views array\n        //
(hard, as when the views of the same template are inserted different view containers)\n        view.state |= 16 /*
IsProjectedView */;\n        var projectedViews = dvcElementData.template._projectedViews;\n
        if (!projectedViews) {\n            projectedViews = dvcElementData.template._projectedViews = [];\n        }\n
 projectedViews.push(view);\n        // Note: we are changing the NodeDef here as we cannot calculate\n        // the
fact whether a template is used for projection during compilation.\n
markNodeAsProjectedTemplate(view.parent.def, view.parentNodeDef);\n    }\n    function
markNodeAsProjectedTemplate(viewDef, nodeDef) {\n        if (nodeDef.flags & 4 /* ProjectedTemplate */) {\n
  return;\n        }\n        viewDef.nodeFlags |= 4 /* ProjectedTemplate */;\n        nodeDef.flags |= 4 /*
ProjectedTemplate */;\n        var parentNodeDef = nodeDef.parent;\n        while (parentNodeDef) {\n
parentNodeDef.childFlags |= 4 /* ProjectedTemplate */;\n            parentNodeDef = parentNodeDef.parent;\n        }\n
  }\n    function detachEmbeddedView(elementData, viewIndex) {\n        var embeddedViews =
elementData.viewContainer._embeddedViews;\n
        if (viewIndex == null || viewIndex >= embeddedViews.length) {\n            viewIndex = embeddedViews.length
- 1;\n        }\n        if (viewIndex < 0) {\n            return null;\n        }\n        var view =
embeddedViews[viewIndex];\n        view.viewContainerParent = null;\n        removeFromArray(embeddedViews,
viewIndex);\n        // See attachProjectedView for why we don't update projectedViews here.\n
Services.dirtyParentQueries(view);\n        renderDetachView$1(view);\n        return view;\n    }\n    function
detachProjectedView(view) {\n        if (!(view.state & 16 /* IsProjectedView */)) {\n            return;\n        }\n
var dvcElementData = declaredViewContainer(view);\n        if (dvcElementData) {\n            var projectedViews =
dvcElementData.template._projectedViews;\n            if (projectedViews) {\n
removeFromArray(projectedViews, projectedViews.indexOf(view));\n
```

Services.dirtyParentQueries(view);\n
}\n }\n }\n function moveEmbeddedView(elementData, oldViewIndex, newViewIndex) {\n var embeddedViews = elementData.viewContainer._embeddedViews;\n var view = embeddedViews[oldViewIndex];\n removeFromArray(embeddedViews, oldViewIndex);\n if (newViewIndex == null) {\n newViewIndex = embeddedViews.length;\n }\n addToArray(embeddedViews, newViewIndex, view);\n // Note: Don't need to change projectedViews as the order in there\n // as always invalid...\n Services.dirtyParentQueries(view);\n renderDetachView$1(view);\n var prevView = newViewIndex > 0 ? embeddedViews[newViewIndex - 1] : null;\n renderAttachEmbeddedView(elementData, prevView, view);\n return view;\n }\n function renderAttachEmbeddedView(elementData, prevView, view) {\n var prevRenderNode = prevView ? renderNode(prevView, prevView.def.lastRenderRootNode) : elementData.renderElement;\n var parentNode = view.renderer.parentNode(prevRenderNode);\n var nextSibling = view.renderer.nextSibling(prevRenderNode);\n // Note: We can't check if `nextSibling` is present, as on WebWorkers it will always be!\n // However, browsers automatically do `appendChild` when there is no `nextSibling`.\n visitRootRenderNodes(view, 2 /* InsertBefore */, parentNode, nextSibling, undefined);\n }\n function renderDetachView$1(view) {\n visitRootRenderNodes(view, 3 /* RemoveChild */, null, null, undefined);\n }\n\n var EMPTY_CONTEXT = {};\n // Attention: this function is called as top level function.\n // Putting any logic in here will destroy closure tree shaking!\n function createComponentFactory(selector, componentType, viewDefFactory, inputs, outputs, ngContentSelectors) {\n return new ComponentFactory_(selector, componentType, viewDefFactory, inputs, outputs, ngContentSelectors);\n }\n function getComponentViewDefinitionFactory(componentFactory)\n {\n return componentFactory.viewDefFactory;\n }\n var ComponentFactory_ = /** @class */ (function (_super) {\n __extends(ComponentFactory_, _super);\n function ComponentFactory_(selector, componentType, viewDefFactory, _inputs, _outputs, ngContentSelectors) {\n var _this = \n // Attention: this ctor is called as top level function.\n // Putting any logic in here will destroy closure tree shaking!\n _super.call(this) || this;\n _this.selector = selector;\n _this.componentType = componentType;\n _this._inputs = _inputs;\n _this._outputs = _outputs;\n _this.ngContentSelectors = ngContentSelectors;\n _this.viewDefFactory = viewDefFactory;\n return _this;\n }\n Object.defineProperty(ComponentFactory_.prototype, \"inputs\", {\n get: function () {\n var inputsArr = [];\n var inputs = this._inputs;\n for (var propName in inputs) {\n var templateName = inputs[propName];\n inputsArr.push({ propName: propName, templateName: templateName });\n }\n return inputsArr;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ComponentFactory_.prototype, \"outputs\", {\n get: function () {\n var outputsArr = [];\n for (var propName in this._outputs) {\n var templateName = this._outputs[propName];\n outputsArr.push({ propName: propName, templateName: templateName });\n }\n return outputsArr;\n },\n enumerable: false,\n configurable: true\n });\n /**\n * Creates a new component.\n */\n ComponentFactory_.prototype.create = function (injector,\n projectableNodes, rootSelectorOrNode, ngModule) {\n if (!ngModule) {\n throw new Error('ngModule should be provided');\n }\n var viewDef = resolveDefinition(this.viewDefFactory);\n var componentNodeIndex = viewDef.nodes[0].element.componentProvider.nodeIndex;\n var view = Services.createRootView(injector, projectableNodes || [], rootSelectorOrNode, viewDef, ngModule, EMPTY_CONTEXT);\n var component = asProviderData(view, componentNodeIndex).instance;\n if (rootSelectorOrNode) {\n view.renderer.setAttribute(asElementData(view, 0).renderElement, 'ng-version', VERSION.full);\n }\n return new ComponentRef_(view, new ViewRef_(view), component);\n };\n return ComponentFactory_;\n }(ComponentFactory));\n var ComponentRef_ = /** @class */ (function (_super) {\n __extends(ComponentRef_, _super);\n function ComponentRef_(_view,

```
 _viewRef, _component) {\n            var _this = _super.call(this) || this;\n            _this._view = _view;\n
_this._viewRef = _viewRef;\n            _this._component = _component;\n            _this._elDef =
_this._view.def.nodes[0];\n            _this.hostView = _viewRef;\n            _this.changeDetectorRef = _viewRef;\n
  _this.instance = _component;\n            return _this;\n        }\n
Object.defineProperty(ComponentRef_.prototype, \"location\", {\n            get: function () {\n                return new
ElementRef(asElementData(this._view, this._elDef.nodeIndex).renderElement);\n            },\n            enumerable:
false,\n            configurable: true\n        });\n        Object.defineProperty(ComponentRef_.prototype, \"injector\", {\n
        get: function () {\n                return new Injector_(this._view, this._elDef);\n            },\n            enumerable:
false,\n            configurable: true\n        });\n        Object.defineProperty(ComponentRef_.prototype,
 \"componentType\", {\n            get: function () {\n                return this._component.constructor;\n            },\n
enumerable: false,\n            configurable: true\n        });\n        ComponentRef_.prototype.destroy = function () {\n
     this._viewRef.destroy();\n        };\n        ComponentRef_.prototype.onDestroy = function (callback) {\n
this._viewRef.onDestroy(callback);\n        };\n        return ComponentRef_;\n    }(ComponentRef));\n    function
createViewContainerData(view, elDef, elData) {\n        return new ViewContainerRef_(view, elDef, elData);\n    }\n
  var ViewContainerRef_ = /** @class */ (function () {\n        function ViewContainerRef_(_view, _elDef, _data)
{\n            this._view = _view;\n            this._elDef = _elDef;\n            this._data = _data;\n            /**\n             *
@internal\n             */\n            this._embeddedViews = [];\n        }\n
Object.defineProperty(ViewContainerRef_.prototype,
 \"element\", {\n            get: function () {\n                return new ElementRef(this._data.renderElement);\n            },\n
        enumerable: false,\n            configurable: true\n        });\n
Object.defineProperty(ViewContainerRef_.prototype, \"injector\", {\n            get: function () {\n                return
new Injector_(this._view, this._elDef);\n            },\n            enumerable: false,\n            configurable: true\n        });\n
     Object.defineProperty(ViewContainerRef_.prototype, \"parentInjector\", {\n            /** @deprecated No
replacement */\n            get: function () {\n                var view = this._view;\n                var elDef =
this._elDef.parent;\n                while (!elDef && view) {\n                    elDef = viewParentEl(view);\n
view = view.parent;\n                }\n                return view ? new Injector_(view, elDef) : new Injector_(this._view,
null);\n
            },\n            enumerable: false,\n            configurable: true\n        });\n        ViewContainerRef_.prototype.clear
= function () {\n            var len = this._embeddedViews.length;\n            for (var i = len - 1; i >= 0; i--) {\n
var view = detachEmbeddedView(this._data, i);\n                Services.destroyView(view);\n            }\n        };\n
ViewContainerRef_.prototype.get = function (index) {\n            var view = this._embeddedViews[index];\n            if
(view) {\n                var ref = new ViewRef_(view);\n                ref.attachToViewContainerRef(this);\n
return ref;\n            }\n            return null;\n        };\n        Object.defineProperty(ViewContainerRef_.prototype,
 \"length\", {\n            get: function () {\n                return this._embeddedViews.length;\n            },\n
enumerable: false,\n            configurable: true\n        });\n        ViewContainerRef_.prototype.createEmbeddedView
 = function (templateRef, context, index) {\n            var viewRef = templateRef.createEmbeddedView(context ||
{});\n            this.insert(viewRef, index);\n            return viewRef;\n        };\n
ViewContainerRef_.prototype.createComponent = function (componentFactory, index, injector, projectableNodes,
ngModuleRef) {\n            var contextInjector = injector || this.parentInjector;\n            if (!ngModuleRef &&
!(componentFactory instanceof ComponentFactoryBoundToModule)) {\n                ngModuleRef =
contextInjector.get(NgModuleRef);\n            }\n            var componentRef =
componentFactory.create(contextInjector, projectableNodes, undefined, ngModuleRef);\n
this.insert(componentRef.hostView, index);\n            return componentRef;\n        };\n
ViewContainerRef_.prototype.insert = function (viewRef, index) {\n            if (viewRef.destroyed) {\n
throw new Error('Cannot insert a destroyed View in a
 ViewContainer!');\n            }\n            var viewRef_ = viewRef;\n            var viewData = viewRef_._view;\n
attachEmbeddedView(this._view, this._data, index, viewData);\n
viewRef_.attachToViewContainerRef(this);\n            return viewRef;\n        };\n
```

```
ViewContainerRef_.prototype.move = function (viewRef, currentIndex) {\n            if (viewRef.destroyed) {\n
  throw new Error('Cannot move a destroyed View in a ViewContainer!');\n            }\n            var previousIndex =
this._embeddedViews.indexOf(viewRef._view);\n            moveEmbeddedView(this._data, previousIndex,
currentIndex);\n            return viewRef;\n        };\n        ViewContainerRef_.prototype.indexOf = function (viewRef)
{\n            return this._embeddedViews.indexOf(viewRef._view);\n        };\n
ViewContainerRef_.prototype.remove = function (index) {\n            var viewData =
detachEmbeddedView(this._data, index);\n            if (viewData) {\n
            Services.destroyView(viewData);\n            }\n        };\n        ViewContainerRef_.prototype.detach =
function (index) {\n            var view = detachEmbeddedView(this._data, index);\n            return view ? new
ViewRef_(view) : null;\n        };\n        return ViewContainerRef_;\n    }());\n    function
createChangeDetectorRef(view) {\n        return new ViewRef_(view);\n    }\n    var ViewRef_ = /** @class */
(function () {\n        function ViewRef_(_view) {\n            this._view = _view;\n            this._viewContainerRef =
null;\n            this._appRef = null;\n        }\n        Object.defineProperty(ViewRef_.prototype, \"rootNodes\", {\n
  get: function () {\n                return rootRenderNodes(this._view);\n            },\n            enumerable: false,\n
configurable: true\n        });\n        Object.defineProperty(ViewRef_.prototype, \"context\", {\n            get: function ()
{\n                return this._view.context;\n
        },\n            enumerable: false,\n            configurable: true\n        });\n
Object.defineProperty(ViewRef_.prototype, \"destroyed\", {\n            get: function () {\n                return
(this._view.state & 128 /* Destroyed */) !== 0;\n            },\n            enumerable: false,\n            configurable: true\n
  });\n        ViewRef_.prototype.markForCheck = function () {\n            markParentViewsForCheck(this._view);\n
  };\n        ViewRef_.prototype.detach = function () {\n            this._view.state &= ~4 /* Attached */;\n        };\n
ViewRef_.prototype.detectChanges = function () {\n            var fs = this._view.root.rendererFactory;\n            if
(fs.begin) {\n                fs.begin();\n            }\n            try {\n                Services.checkAndUpdateView(this._view);\n
        }\n            finally {\n                if (fs.end) {\n                    fs.end();\n                }\n            }\n        };\n
    ViewRef_.prototype.checkNoChanges = function () {\n            Services.checkNoChangesView(this._view);\n
  };\n        ViewRef_.prototype.reattach = function () {\n            this._view.state |= 4 /* Attached */;\n        };\n
ViewRef_.prototype.onDestroy = function (callback) {\n            if (!this._view.disposables) {\n
this._view.disposables = [];\n            }\n            this._view.disposables.push(callback);\n        };\n
ViewRef_.prototype.destroy = function () {\n            if (this._appRef) {\n                this._appRef.detachView(this);\n
        }\n            else if (this._viewContainerRef) {\n
this._viewContainerRef.detach(this._viewContainerRef.indexOf(this));\n            }\n
Services.destroyView(this._view);\n        };\n        ViewRef_.prototype.detachFromAppRef = function () {\n
this._appRef = null;\n            renderDetachView$1(this._view);\n            Services.dirtyParentQueries(this._view);\n
        };\n        ViewRef_.prototype.attachToAppRef = function (appRef) {\n            if (this._viewContainerRef) {\n
            throw new Error('This view is already attached to a ViewContainer!');\n            }\n            this._appRef =
appRef;\n        };\n        ViewRef_.prototype.attachToViewContainerRef = function (vcRef) {\n            if
(this._appRef) {\n                throw new Error('This view is already attached directly to the ApplicationRef!');\n
}\n            this._viewContainerRef = vcRef;\n        };\n        return ViewRef_;\n    }());\n    function
createTemplateData(view, def) {\n        return new TemplateRef_(view, def);\n    }\n    var TemplateRef_ = /**
@class */ (function (_super) {\n        __extends(TemplateRef_, _super);\n        function TemplateRef_(_parentView,
_def) {\n            var _this = _super.call(this) || this;\n            _this._parentView = _parentView;\n            _this._def =
_def;\n            return
 _this;\n        }\n        TemplateRef_.prototype.createEmbeddedView = function (context) {\n            return new
ViewRef_(Services.createEmbeddedView(this._parentView, this._def, this._def.element.template, context));\n
};\n        Object.defineProperty(TemplateRef_.prototype, \"elementRef\", {\n            get: function () {\n
return new ElementRef(asElementData(this._parentView, this._def.nodeIndex).renderElement);\n            },\n
enumerable: false,\n            configurable: true\n        });\n        return TemplateRef_;\n    }(TemplateRef));\n
function createInjector$1(view, elDef) {\n        return new Injector_(view, elDef);\n    }\n    var Injector_ = /**
```

```
@class */ (function () {\n function Injector_(view, elDef) {\n this.view = view;\n this.elDef = elDef;\n }\n Injector_.prototype.get = function (token, notFoundValue) {\n if (notFoundValue === void 0) { notFoundValue = Injector.THROW_IF_NOT_FOUND;
 }\n var allowPrivateServices = this.elDef ? (this.elDef.flags & 33554432 /* ComponentView */) !== 0 : false;\n return Services.resolveDep(this.view, this.elDef, allowPrivateServices, { flags: 0 /* None */, token: token, tokenKey: tokenKey(token) }, notFoundValue);\n };\n return Injector_;\n }());\n function nodeValue(view, index) {\n var def = view.def.nodes[index];\n if (def.flags & 1 /* TypeElement */) {\n var elData = asElementData(view, def.nodeIndex);\n return def.element.template ? elData.template : elData.renderElement;\n }\n else if (def.flags & 2 /* TypeText */) {\n return asTextData(view, def.nodeIndex).renderText;\n }\n else if (def.flags & (20224 /* CatProvider */ | 16 /* TypePipe */)) {\n return asProviderData(view, def.nodeIndex).instance;\n }\n throw new Error(\"Illegal state: read nodeValue for node index \" +
 index);\n }\n function createNgModuleRef(moduleType, parent, bootstrapComponents, def) {\n return new NgModuleRef_(moduleType, parent, bootstrapComponents, def);\n }\n var NgModuleRef_ = /** @class */ (function () {\n function NgModuleRef_(_moduleType, _parent, _bootstrapComponents, _def) {\n this._moduleType = _moduleType;\n this._parent = _parent;\n this._bootstrapComponents = _bootstrapComponents;\n this._def = _def;\n this._destroyListeners = [];\n this._destroyed = false;\n this.injector = this;\n initNgModule(this);\n }\n NgModuleRef_.prototype.get = function (token, notFoundValue, injectFlags) {\n if (notFoundValue === void 0) { notFoundValue = Injector.THROW_IF_NOT_FOUND; }\n if (injectFlags === void 0) { injectFlags = exports.InjectFlags.Default; }\n var flags = 0 /* None */;\n if (injectFlags & exports.InjectFlags.SkipSelf)
 {\n flags |= 1 /* SkipSelf */;\n }\n else if (injectFlags & exports.InjectFlags.Self) {\n flags |= 4 /* Self */;\n }\n return resolveNgModuleDep(this, { token: token, tokenKey: tokenKey(token), flags: flags }, notFoundValue);\n };\n Object.defineProperty(NgModuleRef_.prototype, \"instance\", {\n get: function () {\n return this.get(this._moduleType);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(NgModuleRef_.prototype, \"componentFactoryResolver\", {\n get: function () {\n return this.get(ComponentFactoryResolver);\n },\n enumerable: false,\n configurable: true\n });\n
    NgModuleRef_.prototype.destroy = function () {\n if (this._destroyed) {\n throw new Error(\"The ng module \" + stringify(this.instance.constructor)
 + \" has already been destroyed.\");\n }\n this._destroyed = true;\n callNgModuleLifecycle(this, 131072 /* OnDestroy */);\n this._destroyListeners.forEach(function (listener) { return listener(); });\n };\n NgModuleRef_.prototype.onDestroy = function (callback) {\n this._destroyListeners.push(callback);\n };\n return NgModuleRef_;\n }());\n\n var Renderer2TokenKey = tokenKey(Renderer2);\n var ElementRefTokenKey = tokenKey(ElementRef);\n var ViewContainerRefTokenKey = tokenKey(ViewContainerRef);\n var TemplateRefTokenKey = tokenKey(TemplateRef);\n var ChangeDetectorRefTokenKey = tokenKey(ChangeDetectorRef);\n var InjectorRefTokenKey$1 = tokenKey(Injector);\n var INJECTORRefTokenKey$1 = tokenKey(INJECTOR$1);\n function directiveDef(checkIndex, flags, matchedQueries, childCount, ctor, deps, props, outputs) {\n var bindings = [];\n if
 (props) {\n for (var prop in props) {\n var _a = __read(props[prop], 2), bindingIndex = _a[0], nonMinifiedName = _a[1];\n bindings[bindingIndex] = {\n flags: 8 /* TypeProperty */,\n name: prop,\n nonMinifiedName: nonMinifiedName,\n ns: null,\n securityContext: null,\n suffix: null\n };\n }\n }\n var outputDefs = [];\n if (outputs) {\n for (var propName in outputs) {\n outputDefs.push({ type: 1 /* DirectiveOutput */, propName: propName, target: null, eventName: outputs[propName] });\n }\n }\n flags |= 16384 /* TypeDirective */;\n return _def(checkIndex, flags, matchedQueries, childCount, ctor, ctor, deps, bindings,
```

outputDefs);\n }\n function pipeDef(flags, ctor, deps) {\n flags |= 16 /* TypePipe */;\n return _def(-1, flags, null, 0, ctor, ctor, deps);\n }\n function providerDef(flags, matchedQueries, token, value, deps) {\n return _def(-1, flags, matchedQueries, 0, token, value, deps);\n }\n function _def(checkIndex, flags, matchedQueriesDsl, childCount, token, value, deps, bindings, outputs) {\n var _a = splitMatchedQueriesDsl(matchedQueriesDsl), matchedQueries = _a.matchedQueries, references = _a.references, matchedQueryIds = _a.matchedQueryIds;\n if (!outputs) {\n outputs = [];\n }\n if (!bindings) {\n bindings = [];\n }\n // Need to resolve forwardRefs as e.g. for `useValue` we\n // lowered the expression and then stopped evaluating it,\n // i.e. also didn't unwrap it.\n value = resolveForwardRef(value);\n var depDefs = splitDepsDsl(deps, stringify(token));\n return {\n // will bet set by the view definition\n nodeIndex: -1,\n parent: null,\n renderParent: null,\n bindingIndex: -1,\n outputIndex: -1,\n // regular values\n checkIndex: checkIndex,\n flags: flags,\n childFlags: 0,\n directChildFlags: 0,\n childMatchedQueries: 0,\n matchedQueries: matchedQueries,\n matchedQueryIds: matchedQueryIds,\n references: references,\n ngContentIndex: -1,\n childCount: childCount,\n bindings: bindings,\n bindingFlags: calcBindingFlags(bindings),\n outputs: outputs,\n element: null,\n provider: { token: token, value: value, deps: depDefs },\n text: null,\n query: null,\n ngContent: null\n };\n }\n function createProviderInstance(view, def) {\n return _createProviderInstance$1(view, def);\n }\n function createPipeInstance(view, def) {\n // deps are looked up from component.\n var compView = view;\n while (compView.parent && !isComponentView(compView)) {\n compView = compView.parent;\n }\n // pipes can see the private services of the component\n var allowPrivateServices = true;\n // pipes are always eager and classes!\n return createClass(compView.parent, viewParentEl(compView), allowPrivateServices, def.provider.value, def.provider.deps);\n }\n function createDirectiveInstance(view, def) {\n // components can see other private services, other directives can't.\n var allowPrivateServices = (def.flags & 32768 /* Component */) > 0;\n // directives are always eager and classes!\n var instance = createClass(view, def.parent, allowPrivateServices, def.provider.value, def.provider.deps);\n if (def.outputs.length) {\n for (var i = 0; i < def.outputs.length; i++) {\n var output = def.outputs[i];\n var outputObservable = instance[output.propName];\n if (isObservable(outputObservable)) {\n var subscription = outputObservable.subscribe(eventHandlerClosure(view, def.parent.nodeIndex, output.eventName));\n view.disposables[def.outputIndex + i] = subscription.unsubscribe.bind(subscription);\n }\n else {\n throw new Error(\"@Output \" + output.propName + \" not initialized in '\" + instance.constructor.name + \"'.\");\n }\n }\n }\n return instance;\n }\n function eventHandlerClosure(view, index, eventName) {\n return function (event) { return dispatchEvent(view, index, eventName, event); };\n }\n function checkAndUpdateDirectiveInline(view, def, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n var providerData = asProviderData(view, def.nodeIndex);\n var directive = providerData.instance;\n var changed = false;\n var changes = undefined;\n var bindLen = def.bindings.length;\n if (bindLen > 0 && checkBinding(view, def, 0, v0)) {\n changed = true;\n changes = updateProp(view, providerData, def, 0, v0, changes);\n }\n if (bindLen > 1 && checkBinding(view, def, 1, v1)) {\n changed = true;\n changes = updateProp(view, providerData, def, 1, v1, changes);\n }\n if (bindLen > 2 && checkBinding(view, def, 2, v2)) {\n changed = true;\n changes = updateProp(view, providerData, def, 2, v2, changes);\n }\n if (bindLen > 3 && checkBinding(view, def, 3, v3)) {\n changed = true;\n changes = updateProp(view, providerData, def, 3, v3, changes);\n }\n if (bindLen > 4 && checkBinding(view, def, 4, v4)) {\n changed = true;\n changes = updateProp(view, providerData, def, 4, v4, changes);\n }\n if (bindLen > 5 && checkBinding(view, def, 5, v5)) {\n changed = true;\n changes = updateProp(view, providerData, def, 5, v5, changes);\n }\n if (bindLen > 6 && checkBinding(view, def, 6, v6)) {\n changed = true;\n changes =

updateProp(view, providerData, def, 6, v6, changes);\n }\n if (bindLen > 7 && checkBinding(view, def, 7, v7)) {\n changed = true;\n changes = updateProp(view, providerData, def, 7, v7, changes);\n }\n if (bindLen > 8 && checkBinding(view, def, 8, v8)) {\n changed = true;\n changes = updateProp(view, providerData, def, 8, v8, changes);\n }\n if (bindLen > 9 && checkBinding(view, def, 9, v9)) {\n changed = true;\n changes = updateProp(view, providerData, def, 9, v9, changes);\n }\n if (changes) {\n directive.ngOnChanges(changes);\n }\n if ((def.flags & 65536 /* OnInit */) &&\n shouldCallLifecycleInitHook(view,
256 /* InitState_CallingOnInit */, def.nodeIndex)) {\n directive.ngOnInit();\n }\n if (def.flags & 262144 /* DoCheck */) {\n directive.ngDoCheck();\n }\n return changed;\n }\n function checkAndUpdateDirectiveDynamic(view, def, values) {\n var providerData = asProviderData(view, def.nodeIndex);\n var directive = providerData.instance;\n var changed = false;\n var changes = undefined;\n for (var i = 0; i < values.length; i++) {\n if (checkBinding(view, def, i, values[i])) {\n changed = true;\n changes = updateProp(view, providerData, def, i, values[i], changes);\n }\n }\n if (changes) {\n directive.ngOnChanges(changes);\n }\n if ((def.flags & 65536 /* OnInit */) &&\n shouldCallLifecycleInitHook(view, 256 /* InitState_CallingOnInit */, def.nodeIndex)) {\n directive.ngOnInit();\n }\n if (def.flags & 262144 /* DoCheck */) {\n directive.ngDoCheck();\n }\n return changed;\n }\n function _createProviderInstance$1(view, def) {\n // private services can see other private services\n var allowPrivateServices = (def.flags & 8192 /* PrivateProvider */) > 0;\n var providerDef = def.provider;\n switch (def.flags & 201347067 /* Types */) {\n case 512 /* TypeClassProvider */:\n return createClass(view, def.parent, allowPrivateServices, providerDef.value, providerDef.deps);\n case 1024 /* TypeFactoryProvider */:\n return callFactory(view, def.parent, allowPrivateServices, providerDef.value, providerDef.deps);\n case 2048 /* TypeUseExistingProvider */:\n return resolveDep(view, def.parent, allowPrivateServices, providerDef.deps[0]);\n case 256 /* TypeValueProvider */:\n return providerDef.value;\n }\n }\n function createClass(view, elDef, allowPrivateServices, ctor, deps) {\n var len = deps.length;\n switch (len) {\n case 0:\n return new ctor();\n case 1:\n return new ctor(resolveDep(view, elDef, allowPrivateServices, deps[0]));\n case 2:\n return new ctor(resolveDep(view, elDef, allowPrivateServices, deps[0]), resolveDep(view, elDef, allowPrivateServices, deps[1]));\n case 3:\n return new ctor(resolveDep(view, elDef, allowPrivateServices, deps[0]), resolveDep(view, elDef, allowPrivateServices, deps[1]), resolveDep(view, elDef, allowPrivateServices, deps[2]));\n default:\n var depValues = [];\n for (var i = 0; i < len; i++) {\n depValues.push(resolveDep(view, elDef, allowPrivateServices, deps[i]));\n }\n return new (ctor.bind.apply(ctor, __spread([void 0], depValues)))();\n }\n }\n function callFactory(view, elDef, allowPrivateServices, factory, deps) {\n var len = deps.length;\n switch (len) {\n case 0:\n return factory();\n case 1:\n return factory(resolveDep(view, elDef, allowPrivateServices, deps[0]));\n case 2:\n return factory(resolveDep(view, elDef, allowPrivateServices, deps[0]), resolveDep(view, elDef, allowPrivateServices, deps[1]));\n case 3:\n return factory(resolveDep(view, elDef, allowPrivateServices, deps[0]), resolveDep(view, elDef, allowPrivateServices, deps[1]), resolveDep(view, elDef, allowPrivateServices, deps[2]));\n default:\n var depValues = [];\n for (var i = 0; i < len; i++) {\n depValues.push(resolveDep(view, elDef, allowPrivateServices, deps[i]));\n }\n return factory.apply(void 0, __spread(depValues));\n }\n }\n // This default value is when checking the hierarchy for a token.\n //\n // It means both:\n // - the token is not provided by the current injector,\n // - only the element injectors should be checked (ie do not check module injectors\n //\n // mod1\n // /\n // el1 mod2\n // \\ /\n // el2\n //\n // When requesting el2.injector.get(token), we should check in the following order and return the\n // first found value:\n // - el2.injector.get(token, default)\n // - el1.injector.get(token,

```
NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR) -> do not check the module\n    // -
mod2.injector.get(token, default)\n    var NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR = {};\n
function resolveDep(view, elDef, allowPrivateServices, depDef, notFoundValue) {\n        if (notFoundValue ===
void 0) { notFoundValue = Injector.THROW_IF_NOT_FOUND; }\n        if (depDef.flags & 8 /* Value */) {\n
  return depDef.token;\n        }\n        var startView = view;\n        if (depDef.flags & 2 /* Optional */) {\n
notFoundValue = null;\n        }\n        var tokenKey = depDef.tokenKey;\n        if (tokenKey ===
ChangeDetectorRefTokenKey) {\n            // directives on the same element as a component should be able to control
the change detector\n            // of that component as well.\n            allowPrivateServices = !!(elDef &&
elDef.element.componentView);\n        }\n        if (elDef && (depDef.flags & 1 /* SkipSelf */)) {\n
allowPrivateServices = false;\n            elDef = elDef.parent;\n        }\n        var searchView = view;\n        while
(searchView) {\n            if (elDef) {\n                switch (tokenKey) {\n                    case Renderer2TokenKey: {\n
                var compView = findCompView(searchView, elDef, allowPrivateServices);\n                        return
compView.renderer;\n                    }\n
    case ElementRefTokenKey:\n                        return new ElementRef(asElementData(searchView,
elDef.nodeIndex).renderElement);\n                    case ViewContainerRefTokenKey:\n                        return
asElementData(searchView, elDef.nodeIndex).viewContainer;\n                    case TemplateRefTokenKey: {\n
            if (elDef.element.template) {\n                            return asElementData(searchView,
elDef.nodeIndex).template;\n                        }\n                        break;\n                    }\n                    case
ChangeDetectorRefTokenKey: {\n                        var cdView = findCompView(searchView, elDef,
allowPrivateServices);\n                        return createChangeDetectorRef(cdView);\n                    }\n                    case
InjectorRefTokenKey$1:\n                    case INJECTORRefTokenKey$1:\n                        return
createInjector$1(searchView, elDef);\n                    default:\n
            var providerDef_1 = (allowPrivateServices ? elDef.element.allProviders :\n
elDef.element.publicProviders)[tokenKey];\n                        if (providerDef_1) {\n                            var
providerData = asProviderData(searchView, providerDef_1.nodeIndex);\n                            if (!providerData) {\n
                    providerData = { instance: _createProviderInstance$1(searchView, providerDef_1) };\n
            searchView.nodes[providerDef_1.nodeIndex] = providerData;\n                            }\n                            return
providerData.instance;\n                        }\n                    }\n                }\n                allowPrivateServices =
isComponentView(searchView);\n                elDef = viewParentEl(searchView);\n                searchView =
searchView.parent;\n                if (depDef.flags & 4 /* Self */) {\n                    searchView = null;\n                }\n            }\n
 var value = startView.root.injector.get(depDef.token,
 NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR);\n        if (value !==
NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR ||\n            notFoundValue ===
NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR) {\n            // Return the value from the root element
injector when\n            // - it provides it\n            //   (value !==
NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n            // - the module injector should not be checked\n
            //   (notFoundValue === NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n            return value;\n
    }\n        return startView.root.ngModule.injector.get(depDef.token, notFoundValue);\n    }\n    function
findCompView(view, elDef, allowPrivateServices) {\n        var compView;\n        if (allowPrivateServices) {\n
 compView = asElementData(view, elDef.nodeIndex).componentView;\n        }\n        else {\n            compView =
view;\n            while (compView.parent && !isComponentView(compView)) {\n                compView
 = compView.parent;\n            }\n        }\n        return compView;\n    }\n    function updateProp(view, providerData,
def, bindingIdx, value, changes) {\n        if (def.flags & 32768 /* Component */) {\n            var compView =
asElementData(view, def.parent.nodeIndex).componentView;\n            if (compView.def.flags & 2 /* OnPush */)
{\n                compView.state |= 8 /* ChecksEnabled */;\n            }\n        }\n        var binding =
def.bindings[bindingIdx];\n        var propName = binding.name;\n        // Note: This is still safe with Closure
Compiler as\n        // the user passed in the property name as an object has to `providerDef`,\n        // so Closure
Compiler will have renamed the property correctly already.\n        providerData.instance[propName] = value;\n
```

```
if (def.flags & 524288 /* OnChanges */) {\n            changes = changes || {};\n            var oldValue =
WrappedValue.unwrap(view.oldValues[def.bindingIndex + bindingIdx]);\n            var
 binding_1 = def.bindings[bindingIdx];\n            changes[binding_1.nonMinifiedName] =\n                new
SimpleChange(oldValue, value, (view.state & 2 /* FirstCheck */) !== 0);\n        }\n
view.oldValues[def.bindingIndex + bindingIdx] = value;\n        return changes;\n    }\n    // This function calls the
ngAfterContentCheck, ngAfterContentInit,\n    // ngAfterViewCheck, and ngAfterViewInit lifecycle hooks
(depending on the node\n    // flags in lifecycle). Unlike ngDoCheck, ngOnChanges and ngOnInit, which are\n    //
called during a pre-order traversal of the view tree (that is calling the\n    // parent hooks before the child hooks)
these events are sent in using a\n    // post-order traversal of the tree (children before parents). This changes the\n    //
meaning of initIndex in the view state. For ngOnInit, initIndex tracks the\n    // expected nodeIndex which a
ngOnInit should be called. When sending\n    // ngAfterContentInit and ngAfterViewInit it is the expected count
 of\n    // ngAfterContentInit or ngAfterViewInit methods that have been called. This\n    // ensure that despite being
called recursively or after picking up after an\n    // exception, the ngAfterContentInit or ngAfterViewInit will be
called on the\n    // correct nodes. Consider for example, the following (where E is an element\n    // and D is a
directive)\n    //  Tree:       pre-order index  post-order index\n    //    E1        0                6\n    //      E2      1
1\n    //       D3     2                0\n    //      E4      3                5\n    //       E5     4                4\n    //        E6    5
2\n    //        E7    6                3\n    // As can be seen, the post-order index has an unclear relationship to the\n    // pre-
order index (postOrderIndex === preOrderIndex - parentCount +\n    // childCount). Since number of calls to
ngAfterContentInit and ngAfterViewInit\n    // are stable (will be the same for the same view regardless
 of exceptions or\n    // recursion) we just need to count them which will roughly correspond to the\n    // post-order
index (it skips elements and directives that do not have\n    // lifecycle hooks).\n    //\n    // For example, if an
exception is raised in the E6.onAfterViewInit() the\n    // initIndex is left at 3 (by shouldCallLifecycleInitHook()
which set it to\n    // initIndex + 1). When checkAndUpdateView() is called again D3, E2 and E6 will\n    // not have
their ngAfterViewInit() called but, starting with E7, the rest of\n    // the view will begin getting ngAfterViewInit()
called until a check and\n    // pass is complete.\n    //\n    // This algorthim also handles recursion. Consider if E4's
ngAfterViewInit()\n    // indirectly calls E1's ChangeDetectorRef.detectChanges(). The expected\n    // initIndex is
set to 6, the recusive checkAndUpdateView() starts walk again.\n    // D3, E2, E6, E7, E5 and E4 are skipped,
ngAfterViewInit() is called on E1.\n    // When the
 recursion returns the initIndex will be 7 so E1 is skipped as it\n    // has already been called in the recursively called
checkAnUpdateView().\n    function callLifecycleHooksChildrenFirst(view, lifecycles) {\n        if
(!(view.def.nodeFlags & lifecycles)) {\n            return;\n        }\n        var nodes = view.def.nodes;\n        var
initIndex = 0;\n        for (var i = 0; i < nodes.length; i++) {\n            var nodeDef = nodes[i];\n            var parent =
nodeDef.parent;\n            if (!parent && nodeDef.flags & lifecycles) {\n                // matching root node (e.g. a
pipe)\n                callProviderLifecycles(view, i, nodeDef.flags & lifecycles, initIndex++);\n            }\n            if
((nodeDef.childFlags & lifecycles) === 0) {\n                // no child matches one of the lifecycles\n                i +=
nodeDef.childCount;\n            }\n            while (parent && (parent.flags & 1 /* TypeElement */) &&\n                i
=== parent.nodeIndex + parent.childCount)
 {\n                // last child of an element\n                if (parent.directChildFlags & lifecycles) {\n                    initIndex
= callElementProvidersLifecycles(view, parent, lifecycles, initIndex);\n                }\n                parent =
parent.parent;\n            }\n        }\n    }\n    function callElementProvidersLifecycles(view, elDef, lifecycles,
initIndex) {\n        for (var i = elDef.nodeIndex + 1; i <= elDef.nodeIndex + elDef.childCount; i++) {\n            var
nodeDef = view.def.nodes[i];\n            if (nodeDef.flags & lifecycles) {\n                callProviderLifecycles(view, i,
nodeDef.flags & lifecycles, initIndex++);\n            }\n            // only visit direct children\n            i +=
nodeDef.childCount;\n        }\n        return initIndex;\n    }\n    function callProviderLifecycles(view, index,
lifecycles, initIndex) {\n        var providerData = asProviderData(view, index);\n        if (!providerData) {\n
return;\n
    }\n        var provider = providerData.instance;\n        if (!provider) {\n            return;\n        }\n
Services.setCurrentNode(view, index);\n        if (lifecycles & 1048576 /* AfterContentInit */ &&\n
```

```
shouldCallLifecycleInitHook(view, 512 /* InitState_CallingAfterContentInit */, initIndex)) {\n
provider.ngAfterContentInit();\n        }\n        if (lifecycles & 2097152 /* AfterContentChecked */) {\n
provider.ngAfterContentChecked();\n        }\n        if (lifecycles & 4194304 /* AfterViewInit */ &&\n
shouldCallLifecycleInitHook(view, 768 /* InitState_CallingAfterViewInit */, initIndex)) {\n
provider.ngAfterViewInit();\n        }\n        if (lifecycles & 8388608 /* AfterViewChecked */) {\n
provider.ngAfterViewChecked();\n        }\n        if (lifecycles & 131072 /* OnDestroy */) {\n
provider.ngOnDestroy();\n        }\n    }\n\n    var ComponentFactoryResolver$1 = /** @class */ (function
 (_super) {\n        __extends(ComponentFactoryResolver, _super);\n        /**\n         * @param ngModule The
NgModuleRef to which all resolved factories are bound.\n         */\n        function
ComponentFactoryResolver(ngModule) {\n            var _this = _super.call(this) || this;\n            _this.ngModule =
ngModule;\n            return _this;\n        }\n        ComponentFactoryResolver.prototype.resolveComponentFactory =
function (component) {\n            ngDevMode && assertComponentType(component);\n            var componentDef =
getComponentDef(component);\n            return new ComponentFactory$1(componentDef, this.ngModule);\n
};\n        return ComponentFactoryResolver;\n    }(ComponentFactoryResolver));\n    function toRefArray(map) {\n
    var array = [];\n        for (var nonMinified in map) {\n            if (map.hasOwnProperty(nonMinified)) {\n
var minified = map[nonMinified];\n                array.push({ propName: minified, templateName: nonMinified
});\n            }\n        }\n        return array;\n    }\n    function getNamespace$1(elementName) {\n        var name =
elementName.toLowerCase();\n        return name === 'svg' ? SVG_NAMESPACE : (name === 'math' ?
MATH_ML_NAMESPACE : null);\n    }\n    /**\n     * A change detection scheduler token for {@link
RootContext}. This token is the default value used\n     * for the default `RootContext` found in the {@link
ROOT_CONTEXT} token.\n     */\n    var SCHEDULER = new InjectionToken('SCHEDULER_TOKEN', {\n
providedIn: 'root',\n        factory: function () { return defaultScheduler; },\n    });\n    function
createChainedInjector(rootViewInjector, moduleInjector) {\n        return {\n            get: function (token,
notFoundValue, flags) {\n                var value = rootViewInjector.get(token,
NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR, flags);\n                if (value !==
NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR ||\n                    notFoundValue ===
NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)
 {\n                    // Return the value from the root element injector when\n                    // - it provides it\n
//   (value !== NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n                    // - the module injector
should not be checked\n                    //   (notFoundValue ===
NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n                    return value;\n                }\n
return moduleInjector.get(token, notFoundValue, flags);\n            }\n        };\n    }\n    /**\n     * Render3
implementation of {@link viewEngine_ComponentFactory}.\n     */\n    var ComponentFactory$1 = /** @class */
(function (_super) {\n        __extends(ComponentFactory, _super);\n        /**\n         * @param componentDef The
component definition.\n         * @param ngModule The NgModuleRef to which the factory is bound.\n         */\n
function ComponentFactory(componentDef, ngModule) {\n            var _this = _super.call(this)
 || this;\n            _this.componentDef = componentDef;\n            _this.ngModule = ngModule;\n
_this.componentType = componentDef.type;\n            _this.selector =
stringifyCSSSelectorList(componentDef.selectors);\n            _this.ngContentSelectors =\n
componentDef.ngContentSelectors ? componentDef.ngContentSelectors : [];\n            _this.isBoundToModule =
!!ngModule;\n            return _this;\n        }\n        Object.defineProperty(ComponentFactory.prototype, \"inputs\",
{\n            get: function () {\n                return toRefArray(this.componentDef.inputs);\n            },\n
enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(ComponentFactory.prototype,
\"outputs\", {\n            get: function () {\n                return toRefArray(this.componentDef.outputs);\n            },\n
   enumerable: false,\n            configurable: true\n        });\n        ComponentFactory.prototype.create
 = function (injector, projectableNodes, rootSelectorOrNode, ngModule) {\n            ngModule = ngModule ||
this.ngModule;\n            var rootViewInjector = ngModule ? createChainedInjector(injector, ngModule.injector) :
injector;\n            var rendererFactory = rootViewInjector.get(RendererFactory2, domRendererFactory3);\n
```

var sanitizer = rootViewInjector.get(Sanitizer, null);\n var hostRenderer = rendererFactory.createRenderer(null, this.componentDef);\n // Determine a tag name used for creating host elements when this component is created\n // dynamically. Default to 'div' if this component did not specify any tag name in its selector.\n var elementName = this.componentDef.selectors[0][0] || 'div';\n var hostRNode = rootSelectorOrNode ?\n locateHostElement(hostRenderer, rootSelectorOrNode, this.componentDef.encapsulation) :\n createElementNode(rendererFactory.createRenderer(null, this.componentDef), elementName, getNamespace$1(elementName));\n var rootFlags = this.componentDef.onPush ? 64 /* Dirty */ | 512 /* IsRoot */ :\n 16 /* CheckAlways */ | 512 /* IsRoot */;\n var rootContext = createRootContext();\n // Create the root view. Uses empty TView and ContentTemplate.\n var rootTView = createTView(0 /* Root */, null, null, 1, 0, null, null, null, null, null);\n var rootLView = createLView(null, rootTView, rootContext, rootFlags, null, null, rendererFactory, hostRenderer, sanitizer, rootViewInjector);\n // rootView is the parent when bootstrapping\n // TODO(misko): it looks like we are entering view here but we don't really need to as\n // `renderView` does that. However as the code is written it is needed because\n // `createRootComponentView` and `createRootComponent` both read global state. Fixing those\n // issues would allow us to drop this.\n enterView(rootLView);\n var component;\n var tElementNode;\n try {\n var componentView = createRootComponentView(hostRNode, this.componentDef, rootLView, rendererFactory, hostRenderer);\n if (hostRNode) {\n if (rootSelectorOrNode) {\n setUpAttributes(hostRenderer, hostRNode, ['ng-version', VERSION.full]);\n }\n else {\n // If host element is created as a part of this function call (i.e. `rootSelectorOrNode`\n // is not defined), also apply attributes and classes extracted from component selector.\n // Extract attributes and classes from the first selector only to match VE behavior.\n var _a = extractAttrsAndClassesFromSelector(this.componentDef.selectors[0]), attrs = _a.attrs, classes = _a.classes;\n if (attrs) {\n setUpAttributes(hostRenderer, hostRNode, attrs);\n }\n if (classes && classes.length > 0) {\n writeDirectClass(hostRenderer, hostRNode, classes.join(' '));\n }\n }\n }\n tElementNode = getTNode(rootTView, HEADER_OFFSET);\n if (projectableNodes !== undefined) {\n var projection = tElementNode.projection = [];\n for (var i = 0; i < this.ngContentSelectors.length; i++) {\n var nodesforSlot = projectableNodes[i];\n // Projectable nodes can be passed as array of arrays or an array of iterables (ngUpgrade\n // case). Here we do normalize passed data structure to be an array of arrays to avoid\n // complex checks down the line.\n // We also normalize the length of the passed in projectable nodes (to match the number of\n // <ng-container> slots defined by a component).\n projection.push(nodesforSlot != null ? Array.from(nodesforSlot) : null);\n }\n }\n // TODO: should LifecycleHooksFeature and other host features be generated by the compiler and\n // executed here?\n // Angular 5 reference: https://stackblitz.com/edit/lifecycle-hooks-vcref\n component = createRootComponent(componentView, this.componentDef, rootLView, rootContext, [LifecycleHooksFeature]);\n renderView(rootTView, rootLView, null);\n }\n finally {\n leaveView();\n }\n return new ComponentRef$1(this.componentType, component, createElementRef(tElementNode, rootLView), rootLView, tElementNode);\n };\n return ComponentFactory;\n }(ComponentFactory));\n var componentFactoryResolver = new ComponentFactoryResolver$1();\n /**\n * Creates a ComponentFactoryResolver and stores it on the injector. Or, if the\n * ComponentFactoryResolver\n * already exists, retrieves the existing ComponentFactoryResolver.\n *\n * @returns The ComponentFactoryResolver instance to use\n */\n function injectComponentFactoryResolver() {\n return componentFactoryResolver;\n }\n /**\n * Represents an instance of a Component created via a {@link ComponentFactory}.\n *\n * `ComponentRef` provides access to the Component Instance as well other objects related to this\n * Component Instance and allows you to destroy the Component Instance via the {@link #destroy}\n * method.\n *\n */\n

```
var ComponentRef$1 = /** @class */ (function (_super) {\n __extends(ComponentRef, _super);\n function ComponentRef(componentType, instance, location, _rootLView, _tNode) {\n var _this = _super.call(this) || this;\n _this.location = location;\n _this._rootLView = _rootLView;\n _this._tNode = _tNode;\n _this.instance = instance;\n _this.hostView = _this.changeDetectorRef = new RootViewRef(_rootLView);\n _this.componentType = componentType;\n return _this;\n }\n Object.defineProperty(ComponentRef.prototype, \"injector\", {\n get: function () {\n return new NodeInjector(this._tNode, this._rootLView);\n },\n enumerable: false,\n configurable: true\n });\n ComponentRef.prototype.destroy = function () {\n this.hostView.destroy();\n };\n ComponentRef.prototype.onDestroy = function (callback) {\n this.hostView.onDestroy(callback);\n };\n return ComponentRef;\n }(ComponentRef));\n\n /**\n * Adds decorator, constructor, and property metadata to
 a given type via static metadata fields\n * on the type.\n *\n * These metadata fields can later be read with Angular's `ReflectionCapabilities` API.\n *\n * Calls to `setClassMetadata` can be marked as pure, resulting in the metadata assignments being\n * tree-shaken away during production builds.\n */\n function setClassMetadata(type, decorators, ctorParameters, propDecorators) {\n return noSideEffects(function () {\n var _a;\n var clazz = type;\n if (decorators !== null) {\n if (clazz.hasOwnProperty('decorators') && clazz.decorators !== undefined) {\n (_a = clazz.decorators).push.apply(_a, __spread(decorators));\n }\n else {\n clazz.decorators = decorators;\n }\n }\n if (ctorParameters !== null) {\n // Rather than merging, clobber the existing parameters. If other projects exist which\n // use tsickle-style annotations and reflect over them in the same way, this could\n // cause issues, but that is vanishingly unlikely.\n clazz.ctorParameters = ctorParameters;\n }\n if (propDecorators !== null) {\n // The property decorator objects are merged as it is possible different fields have\n // different decorator types. Decorators on individual fields are not merged, as it's\n // also incredibly unlikely that a field will be decorated both with an Angular\n // decorator and a non-Angular decorator that's also been downleveled.\n if (clazz.hasOwnProperty('propDecorators') && clazz.propDecorators !== undefined) {\n clazz.propDecorators = Object.assign(Object.assign({}, clazz.propDecorators), propDecorators);\n }\n else {\n clazz.propDecorators = propDecorators;\n }\n }\n });\n }\n\n /**\n * Map of module-id to the corresponding NgModule.\n * - In pre Ivy we track NgModuleFactory,\n * - In post Ivy we track the NgModuleType\n */\n var modules = new Map();\n /**\n * Registers a loaded module. Should only be called from generated NgModuleFactory code.\n * @publicApi\n */\n function registerModuleFactory(id, factory) {\n var existing = modules.get(id);\n assertSameOrNotExisting(id, existing && existing.moduleType, factory.moduleType);\n modules.set(id, factory);\n }\n function assertSameOrNotExisting(id, type, incoming) {\n if (type && type !== incoming) {\n throw new Error(\"Duplicate module registered for \" + id + \" - \" + stringify(type) + \" vs \" + stringify(type.name));\n }\n }\n function registerNgModuleType(ngModuleType) {\n var visited = new Set();\n recurse(ngModuleType);\n function recurse(ngModuleType)
 {\n var e_1, _a;\n // The imports array of an NgModule must refer to other NgModules,\n // so an error is thrown if no module definition is available.\n var def = getNgModuleDef(ngModuleType, /* throwNotFound */ true);\n var id = def.id;\n if (id !== null) {\n var existing = modules.get(id);\n assertSameOrNotExisting(id, existing, ngModuleType);\n modules.set(id, ngModuleType);\n }\n var imports = maybeUnwrapFn(def.imports);\n try {\n for (var imports_1 = __values(imports), imports_1_1 = imports_1.next(); !imports_1_1.done; imports_1_1 = imports_1.next()) {\n var i = imports_1_1.value;\n if (!visited.has(i)) {\n visited.add(i);\n recurse(i);\n }\n }\n }\n catch (e_1_1) {
 e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (imports_1_1 && !imports_1_1.done && (_a = imports_1.return)) _a.call(imports_1);\n }\n finally { if (e_1) throw e_1.error; }\n
```

}\n }\n }\n function clearModulesForTest() {\n modules.clear();\n }\n function getRegisteredNgModuleType(id) {\n return modules.get(id) || autoRegisterModuleById[id];\n }\n\n var NgModuleRef$1 = /** @class */ (function (_super) {\n __extends(NgModuleRef$1, _super);\n function NgModuleRef$1(ngModuleType, _parent) {\n var _this = _super.call(this) || this;\n _this._parent = _parent;\n // tslint:disable-next-line:require-internal-with-underscore\n _this._bootstrapComponents = [];\n _this.injector = _this;\n _this.destroyCbs = [];\n // When bootstrapping a module we have a dependency graph that looks like
this:\n // ApplicationRef -> ComponentFactoryResolver -> NgModuleRef. The problem is that if the\n // module being resolved tries to inject the ComponentFactoryResolver, it'll create a\n // circular dependency which will result in a runtime error, because the injector doesn't\n // exist yet. We work around the issue by creating the ComponentFactoryResolver ourselves\n // and providing it, rather than letting the injector resolve it.\n _this.componentFactoryResolver = new ComponentFactoryResolver$1(_this);\n var ngModuleDef = getNgModuleDef(ngModuleType);\n ngDevMode &&\n assertDefined(ngModuleDef, \"'NgModule '\" + stringify(ngModuleType) + \"' is not a subtype of 'NgModuleType'.\");\n var ngLocaleIdDef = getNgLocaleIdDef(ngModuleType);\n ngLocaleIdDef && setLocaleId(ngLocaleIdDef);\n _this._bootstrapComponents = maybeUnwrapFn(ngModuleDef.bootstrap);\n _this._r3Injector = createInjectorWithoutInjectorInstances(ngModuleType, _parent, [\n { provide: NgModuleRef, useValue: _this }, {\n provide: ComponentFactoryResolver,\n useValue: _this.componentFactoryResolver\n }\n ], stringify(ngModuleType));\n // We need to resolve the injector types separately from the injector creation, because\n // the module might be trying to use this ref in its contructor for DI which will cause a\n // circular error that will eventually error out, because the injector isn't created yet.\n _this._r3Injector._resolveInjectorDefTypes();\n _this.instance = _this.get(ngModuleType);\n return _this;\n }\n NgModuleRef$1.prototype.get = function (token, notFoundValue, injectFlags) {\n if (notFoundValue === void 0) { notFoundValue = Injector.THROW_IF_NOT_FOUND; }\n if (injectFlags === void 0) { injectFlags = exports.InjectFlags.Default; }\n if (token === Injector || token === NgModuleRef || token === INJECTOR$1) {\n return this;\n }\n return this._r3Injector.get(token, notFoundValue, injectFlags);\n };\n NgModuleRef$1.prototype.destroy = function () {\n ngDevMode && assertDefined(this.destroyCbs, 'NgModule already destroyed');\n var injector = this._r3Injector;\n !injector.destroyed && injector.destroy();\n this.destroyCbs.forEach(function (fn) { return fn(); });\n this.destroyCbs = null;\n };\n NgModuleRef$1.prototype.onDestroy = function (callback) {\n ngDevMode && assertDefined(this.destroyCbs, 'NgModule already destroyed');\n this.destroyCbs.push(callback);\n };\n return NgModuleRef$1;\n }(NgModuleRef));\n var NgModuleFactory$1 = /** @class */ (function (_super) {\n __extends(NgModuleFactory, _super);\n function NgModuleFactory(moduleType) {\n var _this = _super.call(this) || this;\n _this.moduleType = moduleType;\n var ngModuleDef = getNgModuleDef(moduleType);\n if (ngModuleDef !== null) {\n // Register the NgModule with Angular's module registry. The location (and hence timing) of\n // this call is critical to ensure this works correctly (modules get registered when expected)\n // without bloating bundles (modules are registered when otherwise not referenced).\n //\n // In View Engine, registration occurs in the .ngfactory.js file as a side effect. This has\n // several practical consequences:\n //\n // - If an .ngfactory file is not imported from, the module won't be registered (and can be\n // tree shaken).\n // - If an .ngfactory file is imported from, the module will be registered even if an instance\n // is not actually created (via `create` below).\n // - Since an .ngfactory file in View Engine references the .ngfactory files of the NgModule's\n // imports,\n //\n // In Ivy, things are a bit different. .ngfactory files still exist for compatibility, but are\n // not a required API to use - there are other ways to obtain an NgModuleFactory for a given\n

```
 // NgModule. Thus, relying on a side effect in the .ngfactory file is not sufficient. Instead,\n            // the side effect of registration is added here, in the constructor of NgModuleFactory,\n            // ensuring no matter how a factory is created, the module is registered correctly.\n            //\n            // An alternative would be to include the registration side effect inline following the actual\n            // NgModule definition. This also has the correct timing, but breaks tree-shaking - modules\n            // will be registered and retained even if they're otherwise never referenced.\n            registerNgModuleType(moduleType);\n        }\n        return _this;\n    }\n    NgModuleFactory.prototype.create = function (parentInjector) {\n        return new NgModuleRef$1(this.moduleType, parentInjector);\n    };\n    return NgModuleFactory;\n}(NgModuleFactory));\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n/**\n * Bindings for pure functions are stored after regular bindings.\n *\n * |-------decls------|---------vars---------|            |----- hostVars (dir1) ------|\n * ------------------------------------------------------------------------------------\n *  | nodes/refs/pipes | bindings | fn slots  | injector | dir1 | host bindings | host slots |\n * ------------------------------------------------------------------------------------\n *                    ^                    ^\n *  TView.bindingStartIndex      TView.expandoStartIndex\n *\n * Pure function instructions are given an offset from the binding root. Adding the offset to the\n * binding root gives the first index where the bindings are stored. In component views, the binding\n * root is the bindingStartIndex. In host bindings, the binding root is the expandoStartIndex +\n * any directive instances + any hostVars in directives evaluated before it.\n *\n * See VIEW_DATA.md for more information about host binding resolution.\n */\n/**\n * If the value hasn't been saved, calls the pure function to store and return the\n * value. If it has been saved, returns the saved value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn Function that returns a value\n * @param thisArg Optional calling context of pureFn\n * @returns value\n *\n * @codeGenApi\n */\nfunction pureFunction0(slotOffset, pureFn, thisArg) {\n    var bindingIndex = getBindingRoot() + slotOffset;\n    var lView = getLView();\n    return lView[bindingIndex] === NO_CHANGE ?\n        updateBinding(lView, bindingIndex, thisArg ? pureFn.call(thisArg) : pureFn()) :\n        getBinding(lView, bindingIndex);\n}\n/**\n * If the value of the provided exp has changed, calls the pure function to return\n * an updated value. Or if the value has not changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn Function that returns an updated value\n * @param exp Updated expression value\n * @param thisArg Optional calling context of pureFn\n *\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nfunction pureFunction1(slotOffset, pureFn, exp, thisArg) {\n    return pureFunction1Internal(getLView(), getBindingRoot(), slotOffset, pureFn, exp, thisArg);\n}\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nfunction pureFunction2(slotOffset, pureFn, exp1, exp2, thisArg) {\n    return pureFunction2Internal(getLView(), getBindingRoot(), slotOffset, pureFn, exp1, exp2, thisArg);\n}\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nfunction pureFunction3(slotOffset, pureFn, exp1, exp2, exp3, thisArg) {\n    return pureFunction3Internal(getLView(), getBindingRoot(), slotOffset, pureFn, exp1, exp2, exp3, thisArg);\n}\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param
```

```
exp4\n     * @param thisArg Optional calling context of pureFn\n
     * @returns Updated or cached value\n     *\n     * @codeGenApi\n     */\n    function pureFunction4(slotOffset,
pureFn, exp1, exp2, exp3, exp4, thisArg) {\n        return pureFunction4Internal(getLView(), getBindingRoot(),
slotOffset, pureFn, exp1, exp2, exp3, exp4, thisArg);\n    }\n    /**\n     * If the value of any provided exp has
changed, calls the pure function to return\n     * an updated value. Or if no values have changed, returns cached
value.\n     *\n     * @param slotOffset the offset from binding root to the reserved slot\n     * @param pureFn\n     *
@param exp1\n     * @param exp2\n     * @param exp3\n     * @param exp4\n     * @param exp5\n     * @param
thisArg Optional calling context of pureFn\n     * @returns Updated or cached value\n     *\n     * @codeGenApi\n
*/\n    function pureFunction5(slotOffset, pureFn, exp1, exp2, exp3, exp4, exp5, thisArg) {\n        var bindingIndex
= getBindingRoot() + slotOffset;\n        var lView = getLView();\n
    var different = bindingUpdated4(lView, bindingIndex, exp1, exp2, exp3, exp4);\n        return
bindingUpdated(lView, bindingIndex + 4, exp5) || different ?\n            updateBinding(lView, bindingIndex + 5,
thisArg ? pureFn.call(thisArg, exp1, exp2, exp3, exp4, exp5) :\n                pureFn(exp1, exp2, exp3, exp4, exp5)) :\n
        getBinding(lView, bindingIndex + 5);\n    }\n    /**\n     * If the value of any provided exp has changed, calls
the pure function to return\n     * an updated value. Or if no values have changed, returns cached value.\n     *\n     *
@param slotOffset the offset from binding root to the reserved slot\n     * @param pureFn\n     * @param exp1\n
* @param exp2\n     * @param exp3\n     * @param exp4\n     * @param exp5\n     * @param exp6\n     * @param
thisArg Optional calling context of pureFn\n     * @returns Updated or cached value\n     *\n     * @codeGenApi\n
*/\n    function pureFunction6(slotOffset, pureFn, exp1, exp2, exp3, exp4, exp5,
 exp6, thisArg) {\n        var bindingIndex = getBindingRoot() + slotOffset;\n        var lView = getLView();\n        var
different = bindingUpdated4(lView, bindingIndex, exp1, exp2, exp3, exp4);\n        return bindingUpdated2(lView,
bindingIndex + 4, exp5, exp6) || different ?\n            updateBinding(lView, bindingIndex + 6, thisArg ?
pureFn.call(thisArg, exp1, exp2, exp3, exp4, exp5, exp6) :\n                pureFn(exp1, exp2, exp3, exp4, exp5, exp6))
:\n            getBinding(lView, bindingIndex + 6);\n    }\n    /**\n     * If the value of any provided exp has changed,
calls the pure function to return\n     * an updated value. Or if no values have changed, returns cached value.\n     *\n
   * @param slotOffset the offset from binding root to the reserved slot\n     * @param pureFn\n     * @param exp1\n
   * @param exp2\n     * @param exp3\n     * @param exp4\n     * @param exp5\n     * @param exp6\n     *
@param exp7\n     * @param thisArg Optional calling context of pureFn\n
     * @returns Updated or cached value\n     *\n     * @codeGenApi\n     */\n    function pureFunction7(slotOffset,
pureFn, exp1, exp2, exp3, exp4, exp5, exp6, exp7, thisArg) {\n        var bindingIndex = getBindingRoot() +
slotOffset;\n        var lView = getLView();\n        var different = bindingUpdated4(lView, bindingIndex, exp1, exp2,
exp3, exp4);\n        return bindingUpdated3(lView, bindingIndex + 4, exp5, exp6, exp7) || different ?\n
updateBinding(lView, bindingIndex + 7, thisArg ? pureFn.call(thisArg, exp1, exp2, exp3, exp4, exp5, exp6, exp7)
:\n                pureFn(exp1, exp2, exp3, exp4, exp5, exp6, exp7)) :\n            getBinding(lView, bindingIndex + 7);\n
}\n    /**\n     * If the value of any provided exp has changed, calls the pure function to return\n     * an updated
value. Or if no values have changed, returns cached value.\n     *\n     * @param slotOffset the offset from binding
root to the reserved slot\n     * @param pureFn\n     * @param
 exp1\n     * @param exp2\n     * @param exp3\n     * @param exp4\n     * @param exp5\n     * @param exp6\n     *
@param exp7\n     * @param exp8\n     * @param thisArg Optional calling context of pureFn\n     * @returns
Updated or cached value\n     *\n     * @codeGenApi\n     */\n    function pureFunction8(slotOffset, pureFn, exp1,
exp2, exp3, exp4, exp5, exp6, exp7, exp8, thisArg) {\n        var bindingIndex = getBindingRoot() + slotOffset;\n
var lView = getLView();\n        var different = bindingUpdated4(lView, bindingIndex, exp1, exp2, exp3, exp4);\n
 return bindingUpdated4(lView, bindingIndex + 4, exp5, exp6, exp7, exp8) || different ?\n
updateBinding(lView, bindingIndex + 8, thisArg ? pureFn.call(thisArg, exp1, exp2, exp3, exp4, exp5, exp6, exp7,
exp8) :\n                pureFn(exp1, exp2, exp3, exp4, exp5, exp6, exp7, exp8)) :\n            getBinding(lView,
bindingIndex + 8);\n    }\n    /**\n     * pureFunction instruction that can support any number
 of bindings.\n     *\n     * If the value of any provided exp has changed, calls the pure function to return\n     * an
updated value. Or if no values have changed, returns cached value.\n     *\n     * @param slotOffset the offset from
```

binding root to the reserved slot\n * @param pureFn A pure function that takes binding values and builds an object or array\n * containing those values.\n * @param exps An array of binding values\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\n function pureFunctionV(slotOffset, pureFn, exps, thisArg) {\n return pureFunctionVInternal(getLView(), getBindingRoot(), slotOffset, pureFn, exps, thisArg);\n }\n /**\n * Results of a pure function invocation are stored in LView in a dedicated slot that is initialized\n * to NO_CHANGE. In rare situations a pure pipe might throw an exception on the very first\n * invocation and not
produce any valid results. In this case LView would keep holding the NO_CHANGE\n * value. The NO_CHANGE is not something that we can use in expressions / bindings thus we convert\n * it to `undefined`.\n */\n function getPureFunctionReturnValue(lView, returnValueIndex) {\n ngDevMode && assertIndexInRange(lView, returnValueIndex);\n var lastReturnValue = lView[returnValueIndex];\n return lastReturnValue === NO_CHANGE ? undefined : lastReturnValue;\n }\n /**\n * If the value of the provided exp has changed, calls the pure function to return\n * an updated value. Or if the value has not changed, returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn Function that returns an updated value\n * @param exp Updated expression value\n * @param thisArg Optional
calling context of pureFn\n * @returns Updated or cached value\n */\n function pureFunction1Internal(lView, bindingRoot, slotOffset, pureFn, exp, thisArg) {\n var bindingIndex = bindingRoot + slotOffset;\n return bindingUpdated(lView, bindingIndex, exp) ?\n updateBinding(lView, bindingIndex + 1, thisArg ? pureFn.call(thisArg, exp) : pureFn(exp)) :\n getPureFunctionReturnValue(lView, bindingIndex + 1);\n }\n /**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n */\n function pureFunction2Internal(lView, bindingRoot, slotOffset, pureFn, exp1, exp2, thisArg) {\n var bindingIndex = bindingRoot + slotOffset;\n return bindingUpdated2(lView, bindingIndex, exp1, exp2) ?\n updateBinding(lView, bindingIndex + 2, thisArg ? pureFn.call(thisArg, exp1, exp2) : pureFn(exp1, exp2)) :\n getPureFunctionReturnValue(lView, bindingIndex + 2);\n }\n /**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n */\n function pureFunction3Internal(lView, bindingRoot, slotOffset, pureFn, exp1, exp2, exp3, thisArg) {\n var bindingIndex = bindingRoot + slotOffset;\n return bindingUpdated3(lView, bindingIndex, exp1, exp2, exp3) ?\n updateBinding(lView, bindingIndex + 3, thisArg ? pureFn.call(thisArg, exp1, exp2, exp3) : pureFn(exp1, exp2, exp3)) :\n getPureFunctionReturnValue(lView, bindingIndex + 3);\n }\n /**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param exp4\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n */\n function pureFunction4Internal(lView, bindingRoot, slotOffset, pureFn, exp1, exp2, exp3, exp4, thisArg) {\n var bindingIndex = bindingRoot + slotOffset;\n return bindingUpdated4(lView, bindingIndex, exp1, exp2, exp3, exp4) ?\n updateBinding(lView, bindingIndex + 4, thisArg ? pureFn.call(thisArg, exp1, exp2, exp3, exp4) : pureFn(exp1, exp2, exp3, exp4)) :\n getPureFunctionReturnValue(lView, bindingIndex +

4);\n }\n /**\n * pureFunction instruction that can support any number of bindings.\n *\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn A pure function that takes binding values and builds
an object or array\n * containing those values.\n * @param exps An array of binding values\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n */\n function pureFunctionVInternal(lView, bindingRoot, slotOffset, pureFn, exps, thisArg) {\n var bindingIndex = bindingRoot + slotOffset;\n var different = false;\n for (var i = 0; i < exps.length; i++) {\n bindingUpdated(lView, bindingIndex++, exps[i]) && (different = true);\n }\n return different ? updateBinding(lView, bindingIndex, pureFn.apply(thisArg, exps)) :\n getPureFunctionReturnValue(lView, bindingIndex);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Create a pipe.\n *\n * @param index Pipe
index where the pipe will be stored.\n * @param pipeName The name of the pipe\n * @returns T the instance of the pipe.\n *\n * @codeGenApi\n */\n function pipe(index, pipeName) {\n var tView = getTView();\n var pipeDef;\n var adjustedIndex = index + HEADER_OFFSET;\n if (tView.firstCreatePass) {\n pipeDef = getPipeDef$1(pipeName, tView.pipeRegistry);\n tView.data[adjustedIndex] = pipeDef;\n if (pipeDef.onDestroy) {\n (tView.destroyHooks || (tView.destroyHooks = [])).push(adjustedIndex, pipeDef.onDestroy);\n }\n }\n else {\n pipeDef = tView.data[adjustedIndex];\n }\n var pipeFactory = pipeDef.factory || (pipeDef.factory = getFactoryDef(pipeDef.type, true));\n var previousInjectImplementation = setInjectImplementation(directiveInject);\n try {\n // DI for pipes is supposed to behave like directives when placed
on a component\n // host node, which means that we have to disable access to `viewProviders`.\n var previousIncludeViewProviders = setIncludeViewProviders(false);\n var pipeInstance = pipeFactory();\n setIncludeViewProviders(previousIncludeViewProviders);\n store(tView, getLView(), adjustedIndex, pipeInstance);\n return pipeInstance;\n }\n finally {\n // we have to restore the injector implementation in finally, just in case the creation of the\n // pipe throws an error.\n setInjectImplementation(previousInjectImplementation);\n }\n }\n /**\n * Searches the pipe registry for a pipe with the given name. If one is found,\n * returns the pipe. Otherwise, an error is thrown because the pipe cannot be resolved.\n *\n * @param name Name of pipe to resolve\n * @param registry Full list of available pipes\n * @returns Matching PipeDef\n */\n function getPipeDef$1(name, registry) {\n if (registry) {\n for (var i = registry.length - 1; i >= 0; i--) {\n var pipeDef = registry[i];\n if (name === pipeDef.name) {\n return pipeDef;\n }\n }\n }\n throw new RuntimeError(\"302\" /* PIPE_NOT_FOUND */, \"The pipe '\" + name + \"' could not be found!\");\n }\n /**\n * Invokes a pipe with 1 arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved slot space\n * @param v1 1st argument to {@link PipeTransform#transform}.\n *\n * @codeGenApi\n */\n function pipeBind1(index, slotOffset, v1) {\n var adjustedIndex = index + HEADER_OFFSET;\n var lView = getLView();\n var pipeInstance = load(lView, adjustedIndex);\n return unwrapValue$1(lView, isPure(lView, adjustedIndex) ?\n pureFunction1Internal(lView, getBindingRoot(), slotOffset, pipeInstance.transform, v1, pipeInstance) :\n pipeInstance.transform(v1));\n }\n /**\n * Invokes a pipe with 2 arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved slot space\n * @param v1 1st argument to {@link

PipeTransform#transform}.\n * @param v2 2nd argument to {@link PipeTransform#transform}.\n *\n * @codeGenApi\n */\n function pipeBind2(index, slotOffset, v1, v2) {\n var adjustedIndex = index + HEADER_OFFSET;\n var lView = getLView();\n var pipeInstance = load(lView, adjustedIndex);\n return unwrapValue$1(lView, isPure(lView, adjustedIndex) ?\n pureFunction2Internal(lView, getBindingRoot(), slotOffset, pipeInstance.transform, v1, v2, pipeInstance) :\n pipeInstance.transform(v1, v2));\n }\n /**\n * Invokes a pipe with 3 arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved slot space\n * @param v1 1st argument to {@link PipeTransform#transform}.\n * @param v2 2nd argument to {@link PipeTransform#transform}.\n * @param v3 4rd argument to {@link PipeTransform#transform}.\n *\n * @codeGenApi\n */\n function pipeBind3(index, slotOffset, v1, v2, v3) {\n var adjustedIndex = index + HEADER_OFFSET;\n var lView = getLView();\n var pipeInstance = load(lView, adjustedIndex);\n return unwrapValue$1(lView, isPure(lView, adjustedIndex) ? pureFunction3Internal(lView, getBindingRoot(), slotOffset, pipeInstance.transform, v1, v2, v3, pipeInstance) :\n pipeInstance.transform(v1, v2, v3));\n }\n /**\n * Invokes a pipe with 4 arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved slot space\n * @param v1 1st argument to {@link PipeTransform#transform}.\n * @param v2 2nd argument to {@link PipeTransform#transform}.\n * @param v3 3rd argument to {@link PipeTransform#transform}.\n * @param v4 4th argument to {@link PipeTransform#transform}.\n *\n * @codeGenApi\n */\n function pipeBind4(index, slotOffset, v1, v2, v3, v4) {\n var adjustedIndex = index + HEADER_OFFSET;\n var lView = getLView();\n var pipeInstance = load(lView, adjustedIndex);\n return unwrapValue$1(lView, isPure(lView, adjustedIndex) ? pureFunction4Internal(lView, getBindingRoot(), slotOffset, pipeInstance.transform, v1, v2, v3, v4, pipeInstance) :\n pipeInstance.transform(v1, v2, v3, v4));\n }\n /**\n * Invokes a pipe with variable number of arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved slot space\n * @param values Array of arguments to pass to {@link PipeTransform#transform} method.\n *\n * @codeGenApi\n */\n function pipeBindV(index, slotOffset, values) {\n var adjustedIndex = index + HEADER_OFFSET;\n var lView = getLView();\n var pipeInstance = load(lView, adjustedIndex);\n return unwrapValue$1(lView, isPure(lView, adjustedIndex) ?\n pureFunctionVInternal(lView, getBindingRoot(), slotOffset, pipeInstance.transform, values, pipeInstance) :\n pipeInstance.transform.apply(pipeInstance, values));\n }\n function isPure(lView, index) {\n return lView[TVIEW].data[index].pure;\n }\n /**\n * Unwrap the output of a pipe transformation.\n * In order to trick change detection into considering that the new value is always different from\n * the old one, the old value is overwritten by NO_CHANGE.\n *\n * @param newValue the pipe transformation output.\n */\n function unwrapValue$1(lView, newValue) {\n if (WrappedValue.isWrapped(newValue)) {\n newValue = WrappedValue.unwrap(newValue);\n // The NO_CHANGE value needs to be written at the index where the impacted binding value is\n // stored\n var bindingToInvalidateIdx = getBindingIndex();\n lView[bindingToInvalidateIdx] = NO_CHANGE;\n }\n return newValue;\n }\n\n var EventEmitter_ = /** @class */ (function (_super) {\n __extends(EventEmitter_, _super);\n function EventEmitter_(isAsync) {\n if (isAsync === void 0) { isAsync = false; }\n var _this = _super.call(this) || this;\n _this.__isAsync = isAsync;\n return _this;\n }\n EventEmitter_.prototype.emit = function (value) {\n _super.prototype.next.call(this, value);\n };\n EventEmitter_.prototype.subscribe = function (generatorOrNext, error, complete) {\n var schedulerFn;\n var errorFn = function (err) { return null; };\n var completeFn = function () { return null; };\n if (generatorOrNext && typeof generatorOrNext === 'object') {\n schedulerFn = this.__isAsync ? function (value) {\n

```
    setTimeout(function () { return generatorOrNext.next(value); });\n            } : function (value) {\n generatorOrNext.next(value);\n            };\n            if (generatorOrNext.error) {\n                errorFn = this.__isAsync ? function (err) {\n                    setTimeout(function () { return generatorOrNext.error(err); });\n            } : function (err) {\n                generatorOrNext.error(err);\n            };\n        }\n        if (generatorOrNext.complete) {\n            completeFn = this.__isAsync ? function () {\n setTimeout(function () { return generatorOrNext.complete(); });\n            } : function () {\n generatorOrNext.complete();\n            };\n        }\n    }\n    else {\n        schedulerFn = this.__isAsync ? function (value) {\n            setTimeout(function ()
 { return generatorOrNext(value); });\n        } : function (value) {\n            generatorOrNext(value);\n    };\n        if (error) {\n            errorFn = this.__isAsync ? function (err) {\n setTimeout(function () { return error(err); });\n            } : function (err) {\n                error(err);\n  };\n        }\n        if (complete) {\n            completeFn = this.__isAsync ? function () {\n  setTimeout(function () { return complete(); });\n            } : function () {\n                complete();\n    };\n        }\n    }\n    var sink = _super.prototype.subscribe.call(this, schedulerFn, errorFn, completeFn);\n    if (generatorOrNext instanceof rxjs.Subscription) {\n        generatorOrNext.add(sink);\n    }\n    return sink;\n};\n
    return EventEmitter_;\n}(rxjs.Subject));\n/**\n * @publicApi\n */\nvar EventEmitter = EventEmitter_;\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nfunction symbolIterator() {\n    return this._results[getSymbolIterator()]();\n}\n/**\n * An unmodifiable list of items that Angular keeps up to date when the state\n * of the application changes.\n *\n * The type of object that {@link ViewChildren}, {@link ContentChildren}, and {@link QueryList}\n * provide.\n *\n * Implements an iterable interface, therefore it can be used in both ES6\n * javascript `for (var i of items)` loops as well as in Angular templates with\n * `*ngFor=\"let i of myList\"`.\n *\n * Changes can be observed by subscribing to the changes `Observable`.\n
    *\n * NOTE: In the future this class will implement an `Observable` interface.\n *\n * @usageNotes\n * ### Example\n * ```typescript\n * @Component({...})\n * class Container {\n *  @ViewChildren(Item) items:QueryList<Item>;\n * }\n * ```\n *\n * @publicApi\n */\nvar QueryList = /** @class */ (function () {\n    function QueryList() {\n        this.dirty = true;\n        this._results = [];\n        this.changes = new EventEmitter();\n        this.length = 0;\n        // This function should be declared on the prototype, but doing so there will cause the class\n        // declaration to have side-effects and become not tree-shakable. For this reason we do it in\n        // the constructor.\n        // [getSymbolIterator()](): Iterator<T> { ... }\n        var symbol = getSymbolIterator();\n        var proto = QueryList.prototype;\n        if (!proto[symbol])\n    proto[symbol] = symbolIterator;\n    }\n    /**\n     * See\n     * [Array.map](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/map)\n     */\n    QueryList.prototype.map = function (fn) {\n        return this._results.map(fn);\n    };\n    /**\n     * See\n     * [Array.filter](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/filter)\n     */\n    QueryList.prototype.filter = function (fn) {\n        return this._results.filter(fn);\n    };\n    /**\n     * See\n     * [Array.find](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/find)\n     */\n    QueryList.prototype.find = function (fn) {\n        return this._results.find(fn);\n    };\n    /**\n     * See\n     * [Array.reduce](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/reduce)\n
     */\n    QueryList.prototype.reduce = function (fn, init) {\n        return this._results.reduce(fn, init);\n};\n    /**\n     * See\n     * [Array.forEach](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/forEach)\n     */\n    QueryList.prototype.forEach = function (fn) {\n        this._results.forEach(fn);\n    };\n    /**\n     * See\n     * [Array.some](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/some)\n
```

```
 */\n        QueryList.prototype.some = function (fn) {\n            return this._results.some(fn);\n        };\n        /**\n
 * Returns a copy of the internal results list as an Array.\n         */\n        QueryList.prototype.toArray = function ()
{\n            return this._results.slice();\n        };\n        QueryList.prototype.toString = function () {\n            return
this._results.toString();\n        };\n
        /**\n         * Updates the stored data of the query list, and resets the `dirty` flag to `false`, so that\n         * on
change detection, it will not notify of changes to the queries, unless a new change\n         * occurs.\n         *\n         *
@param resultsTree The query results to store\n         */\n        QueryList.prototype.reset = function (resultsTree) {\n
            this._results = flatten(resultsTree);\n            this.dirty = false;\n            this.length = this._results.length;\n
 this.last = this._results[this.length - 1];\n            this.first = this._results[0];\n        };\n        /**\n         * Triggers a
change event by emitting on the `changes` {@link EventEmitter}.\n         */\n
QueryList.prototype.notifyOnChanges = function () {\n            this.changes.emit(this);\n        };\n        /** internal
*/\n        QueryList.prototype.setDirty = function () {\n            this.dirty = true;\n        };\n        /** internal */\n
        QueryList.prototype.destroy = function () {\n            this.changes.complete();\n
this.changes.unsubscribe();\n        };\n        return QueryList;\n    }());\n\n    /**\n     * @license\n     * Copyright
Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can
be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    // Note: This hack is necessary so we
don't erroneously get a circular dependency\n    // failure based on types.\n    var unusedValueExportToPlacateAjd$7
= 1;\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source
code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n
 */\n    // Note: This hack is necessary so we don't erroneously get a circular dependency\n    // failure based on
types.\n    var unusedValueExportToPlacateAjd$8 = 1;\n\n    /**\n
     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed
by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var
unusedValueToPlacateAjd$2 = unusedValueExportToPlacateAjd$7 + unusedValueExportToPlacateAjd$3 +
unusedValueExportToPlacateAjd$4 + unusedValueExportToPlacateAjd$8;\n    var LQuery_ = /** @class */
(function () {\n        function LQuery_(queryList) {\n            this.queryList = queryList;\n            this.matches =
null;\n        }\n        LQuery_.prototype.clone = function () {\n            return new LQuery_(this.queryList);\n        };\n
    LQuery_.prototype.setDirty = function () {\n            this.queryList.setDirty();\n        };\n        return LQuery_;\n
}());\n    var LQueries_ = /** @class */ (function () {\n        function LQueries_(queries) {\n            if (queries ===
void 0) { queries = []; }\n            this.queries = queries;\n
        }\n        LQueries_.prototype.createEmbeddedView = function (tView) {\n            var tQueries =
tView.queries;\n            if (tQueries !== null) {\n                var noOfInheritedQueries = tView.contentQueries !==
null ? tView.contentQueries[0] : tQueries.length;\n                var viewLQueries = [];\n                // An embedded
view has queries propagated from a declaration view at the beginning of the\n                // TQueries collection and
up until a first content query declared in the embedded view. Only\n                // propagated LQueries are created at
this point (LQuery corresponding to declared content\n                // queries will be instantiated from the content
query instructions for each directive).\n                for (var i = 0; i < noOfInheritedQueries; i++) {\n                    var
tQuery = tQueries.getByIndex(i);\n                    var parentLQuery = this.queries[tQuery.indexInDeclarationView];\n
                    viewLQueries.push(parentLQuery.clone());\n
                }\n                return new LQueries_(viewLQueries);\n            }\n            return null;\n        };\n
LQueries_.prototype.insertView = function (tView) {\n            this.dirtyQueriesWithMatches(tView);\n        };\n
LQueries_.prototype.detachView = function (tView) {\n            this.dirtyQueriesWithMatches(tView);\n        };\n
 LQueries_.prototype.dirtyQueriesWithMatches = function (tView) {\n            for (var i = 0; i < this.queries.length;
i++) {\n                if (getTQuery(tView, i).matches !== null) {\n                    this.queries[i].setDirty();\n                }\n
        }\n        };\n        return LQueries_;\n    }());\n    var TQueryMetadata_ = /** @class */ (function () {\n
function TQueryMetadata_(predicate, descendants, isStatic, read) {\n            if (read === void 0) { read = null; }\n
        this.predicate = predicate;\n            this.descendants = descendants;\n
```

```
this.isStatic = isStatic;\n this.read = read;\n }\n return TQueryMetadata_;\n }());\n var TQueries_ = /** @class */ (function () {\n function TQueries_(queries) {\n if (queries === void 0) { queries = []; }\n this.queries = queries;\n }\n TQueries_.prototype.elementStart = function (tView, tNode) {\n ngDevMode &&\n assertFirstCreatePass(tView, 'Queries should collect results on the first template pass only');\n for (var i = 0; i < this.queries.length; i++) {\n this.queries[i].elementStart(tView, tNode);\n }\n };\n TQueries_.prototype.elementEnd = function (tNode) {\n for (var i = 0; i < this.queries.length; i++) {\n this.queries[i].elementEnd(tNode);\n }\n };\n TQueries_.prototype.embeddedTView = function (tNode) {\n var queriesForTemplateRef = null;\n for
(var i = 0; i < this.length; i++) {\n var childQueryIndex = queriesForTemplateRef !== null ? queriesForTemplateRef.length : 0;\n var tqueryClone = this.getByIndex(i).embeddedTView(tNode, childQueryIndex);\n if (tqueryClone) {\n tqueryClone.indexInDeclarationView = i;\n if (queriesForTemplateRef !== null) {\n queriesForTemplateRef.push(tqueryClone);\n }\n else {\n queriesForTemplateRef = [tqueryClone];\n }\n }\n }\n return queriesForTemplateRef !== null ? new TQueries_(queriesForTemplateRef) : null;\n };\n TQueries_.prototype.template = function (tView, tNode) {\n ngDevMode &&\n assertFirstCreatePass(tView, 'Queries should collect results on the first template pass only');\n for (var i = 0; i < this.queries.length; i++)
{\n this.queries[i].template(tView, tNode);\n }\n };\n TQueries_.prototype.getByIndex = function (index) {\n ngDevMode && assertIndexInRange(this.queries, index);\n return this.queries[index];\n };\n Object.defineProperty(TQueries_.prototype, \"length\", {\n get: function () {\n return this.queries.length;\n },\n enumerable: false,\n configurable: true\n });\n TQueries_.prototype.track = function (tquery) {\n this.queries.push(tquery);\n };\n return TQueries_;\n }());\n var TQuery_ = /** @class */ (function () {\n function TQuery_(metadata, nodeIndex) {\n if (nodeIndex === void 0) { nodeIndex = -1; }\n this.metadata = metadata;\n this.matches = null;\n this.indexInDeclarationView = -1;\n this.crossesNgTemplate = false;\n /**\n * A flag indicating if a given query still applies to nodes it is crossing. We use this flag\n * (alongside with _declarationNodeIndex) to know when to stop applying content queries to\n * elements in a template.\n */\n this._appliesToNextNode = true;\n this._declarationNodeIndex = nodeIndex;\n }\n TQuery_.prototype.elementStart = function (tView, tNode) {\n if (this.isApplyingToNode(tNode)) {\n this.matchTNode(tView, tNode);\n }\n };\n TQuery_.prototype.elementEnd = function (tNode) {\n if (this._declarationNodeIndex === tNode.index) {\n this._appliesToNextNode = false;\n }\n };\n TQuery_.prototype.template = function (tView, tNode) {\n this.elementStart(tView, tNode);\n };\n TQuery_.prototype.embeddedTView = function (tNode, childQueryIndex) {\n if
(this.isApplyingToNode(tNode))
{\n this.crossesNgTemplate = true;\n // A marker indicating a `<ng-template>` element (a placeholder for query results from\n // embedded views created based on this `<ng-template>`).\n this.addMatch(-tNode.index, childQueryIndex);\n return new TQuery_(this.metadata);\n }\n return null;\n };\n TQuery_.prototype.isApplyingToNode = function (tNode) {\n if (this._appliesToNextNode && this.metadata.descendants === false) {\n var declarationNodeIdx = this._declarationNodeIndex;\n var parent = tNode.parent;\n // Determine if a given TNode is a \"direct\" child of a node on which a content query was\n // declared (only direct children of query's host node can match with the descendants: false\n // option). There are 3 main use-case / conditions to consider here:\n // - <needs-target><i
#target></i></needs-target>: here <i #target> parent node is a query\n // host node;\n // - <needs-target><ng-template [ngIf]=\"true\"><i #target></i></ng-template></needs-target>:\n // here <i #target> parent node is null;\n // - <needs-target><ng-container><i #target></i></ng-container></needs-target>: here we need\n // to go past `<ng-container>` to determine <i #target> parent node (but we shouldn't
```

```
traverse\n            // up past the query's host node!).\n            while (parent !== null && (parent.type & 8 /* ElementContainer */) &&\n                parent.index !== declarationNodeIdx) {\n                parent = parent.parent;\n            }\n            return declarationNodeIdx === (parent !== null ? parent.index : -1);\n        }\n        return this._appliesToNextNode;\n    };\n    TQuery_.prototype.matchTNode = function (tView, tNode) {\n
  var predicate = this.metadata.predicate;\n        if (Array.isArray(predicate)) {\n            for (var i = 0; i < predicate.length; i++) {\n                var name = predicate[i];\n
this.matchTNodeWithReadOption(tView, tNode, getIdxOfMatchingSelector(tNode, name));\n                // Also try matching the name to a provider since strings can be used as DI tokens too.\n
this.matchTNodeWithReadOption(tView, tNode, locateDirectiveOrProvider(tNode, tView, name, false, false));\n
    }\n        }\n        else {\n            if (predicate === TemplateRef) {\n                if (tNode.type & 4 /* Container */) {\n                    this.matchTNodeWithReadOption(tView, tNode, -1);\n                }\n            }\n
        else {\n                this.matchTNodeWithReadOption(tView, tNode, locateDirectiveOrProvider(tNode, tView, predicate, false, false));\n            }\n
  }\n    };\n    TQuery_.prototype.matchTNodeWithReadOption = function (tView, tNode, nodeMatchIdx) {\n
    if (nodeMatchIdx !== null) {\n            var read = this.metadata.read;\n            if (read !== null) {\n
   if (read === ElementRef || read === ViewContainerRef ||\n                read === TemplateRef && (tNode.type & 4 /* Container */)) {\n                this.addMatch(tNode.index, -2);\n            }\n
else {\n                var directiveOrProviderIdx = locateDirectiveOrProvider(tNode, tView, read, false, false);\n
            if (directiveOrProviderIdx !== null) {\n                    this.addMatch(tNode.index, directiveOrProviderIdx);\n                }\n            }\n        }\n        else {\n
this.addMatch(tNode.index, nodeMatchIdx);\n            }\n        }\n    };\n    TQuery_.prototype.addMatch = function (tNodeIdx, matchIdx) {\n        if (this.matches === null) {\n            this.matches = [tNodeIdx, matchIdx];\n        }\n        else {\n            this.matches.push(tNodeIdx, matchIdx);\n        }\n    };\n
return TQuery_;\n}());\n/**\n * Iterates over local names for a given node and returns directive index\n * (or -1 if a local name points to an element).\n *\n * @param tNode static data of a node to check\n * @param selector selector to match\n * @returns directive index, -1 or null if a selector didn't match any of the local names\n */\nfunction getIdxOfMatchingSelector(tNode, selector) {\n    var localNames = tNode.localNames;\n    if (localNames !== null) {\n        for (var i = 0; i < localNames.length; i += 2) {\n
  if (localNames[i] === selector) {\n                return localNames[i + 1];\n            }\n        }\n    }\n
return null;\n
}\nfunction createResultByTNodeType(tNode, currentView) {\n    if (tNode.type & (3 /* AnyRNode */ | 8 /* ElementContainer */)) {\n        return createElementRef(tNode, currentView);\n    }\n    else if (tNode.type & 4 /* Container */) {\n        return createTemplateRef(tNode, currentView);\n    }\n    return null;\n}\n
function createResultForNode(lView, tNode, matchingIdx, read) {\n    if (matchingIdx === -1) {\n        // if read token and / or strategy is not specified, detect it using appropriate tNode type\n
return createResultByTNodeType(tNode, lView);\n    }\n    else if (matchingIdx === -2) {\n        // read a special token from a node injector\n        return createSpecialToken(lView, tNode, read);\n    }\n    else {\n        // read a token\n        return getNodeInjectable(lView, lView[TVIEW], matchingIdx, tNode);\n    }\n}\n
function createSpecialToken(lView, tNode,
 read) {\n    if (read === ElementRef) {\n        return createElementRef(tNode, lView);\n    }\n    else if (read === TemplateRef) {\n        return createTemplateRef(tNode, lView);\n    }\n    else if (read === ViewContainerRef) {\n        ngDevMode && assertTNodeType(tNode, 3 /* AnyRNode */ | 12 /* AnyContainer */);\n        return createContainerRef(tNode, lView);\n    }\n    else {\n        ngDevMode &&\n
throwError(\"Special token to read should be one of ElementRef, TemplateRef or ViewContainerRef but got \" + stringify(read) + \".\");\n    }\n}\n/**\n * A helper function that creates query results for a given view. This function is meant to do the\n * processing once and only once for a given view instance (a set of results for a given view\n * doesn't change).\n */\nfunction materializeViewResults(tView, lView, tQuery, queryIndex)
```

```
{\n var lQuery = lView[QUERIES].queries[queryIndex];\n
if (lQuery.matches === null) {\n var tViewData = tView.data;\n var tQueryMatches =
tQuery.matches;\n var result = [];\n for (var i = 0; i < tQueryMatches.length; i += 2) {\n var
matchedNodeIdx = tQueryMatches[i];\n if (matchedNodeIdx < 0) {\n // we at the <ng-
template> marker which might have results in views created based on this\n // <ng-template> - those
results will be in separate views though, so here we just leave\n // null as a placeholder\n
result.push(null);\n }\n else {\n ngDevMode && assertIndexInRange(tViewData,
matchedNodeIdx);\n var tNode = tViewData[matchedNodeIdx];\n
result.push(createResultForNode(lView, tNode, tQueryMatches[i + 1], tQuery.metadata.read));\n }\n
}\n lQuery.matches
= result;\n }\n return lQuery.matches;\n }\n /**\n * A helper function that collects (already
materialized) query results from a tree of views,\n * starting with a provided LView.\n */\n function
collectQueryResults(tView, lView, queryIndex, result) {\n var tQuery =
tView.queries.getByIndex(queryIndex);\n var tQueryMatches = tQuery.matches;\n if (tQueryMatches !==
null) {\n var lViewResults = materializeViewResults(tView, lView, tQuery, queryIndex);\n for (var i =
0; i < tQueryMatches.length; i += 2) {\n var tNodeIdx = tQueryMatches[i];\n if (tNodeIdx > 0)
{\n result.push(lViewResults[i / 2]);\n }\n else {\n var childQueryIndex =
tQueryMatches[i + 1];\n var declarationLContainer = lView[-tNodeIdx];\n ngDevMode &&
assertLContainer(declarationLContainer);\n //
collect matches for views inserted in this container\n for (var i_1 = CONTAINER_HEADER_OFFSET;
i_1 < declarationLContainer.length; i_1++) {\n var embeddedLView = declarationLContainer[i_1];\n
if (embeddedLView[DECLARATION_LCONTAINER] === embeddedLView[PARENT]) {\n
collectQueryResults(embeddedLView[TVIEW], embeddedLView, childQueryIndex, result);\n
}\n }\n // collect matches for views created from this declaration container and inserted
into\n // different containers\n if (declarationLContainer[MOVED_VIEWS] !== null) {\n
var embeddedLViews = declarationLContainer[MOVED_VIEWS];\n for (var i_2 = 0; i_2 <
embeddedLViews.length; i_2++) {\n var embeddedLView = embeddedLViews[i_2];\n
collectQueryResults(embeddedLView[TVIEW],
embeddedLView, childQueryIndex, result);\n }\n }\n }\n }\n }\n
return result;\n }\n /**\n * Refreshes a query by combining matches from all active views and removing
matches from deleted\n * views.\n *\n * @returns `true` if a query got dirty during change detection or if this
is a static query\n * resolving in creation mode, `false` otherwise.\n *\n * @codeGenApi\n */\n function
queryRefresh(queryList) {\n var lView = getLView();\n var tView = getTView();\n var queryIndex =
getCurrentQueryIndex();\n setCurrentQueryIndex(queryIndex + 1);\n var tQuery = getTQuery(tView,
queryIndex);\n if (queryList.dirty && (isCreationMode(lView) === tQuery.metadata.isStatic)) {\n if
(tQuery.matches === null) {\n queryList.reset([]);\n }\n else {\n var result
= tQuery.crossesNgTemplate ?\n collectQueryResults(tView, lView, queryIndex, []) :\n
materializeViewResults(tView, lView, tQuery, queryIndex);\n queryList.reset(result);\n
queryList.notifyOnChanges();\n }\n return true;\n }\n return false;\n }\n /**\n * Creates
new QueryList for a static view query.\n *\n * @param predicate The type for which the query will search\n
* @param descend Whether or not to descend into children\n * @param read What to save in the query\n *\n
* @codeGenApi\n */\n function staticViewQuery(predicate, descend, read) {\n
viewQueryInternal(getTView(), getLView(), predicate, descend, read, true);\n }\n /**\n * Creates new
QueryList, stores the reference in LView and returns QueryList.\n *\n * @param predicate The type for which
the query will search\n * @param descend Whether or not to descend
into children\n * @param read What to save in the query\n *\n * @codeGenApi\n */\n function
viewQuery(predicate, descend, read) {\n viewQueryInternal(getTView(), getLView(), predicate, descend, read,
false);\n }\n function viewQueryInternal(tView, lView, predicate, descend, read, isStatic) {\n if
```

(tView.firstCreatePass) {\n createTQuery(tView, new TQueryMetadata_(predicate, descend, isStatic, read), -1);\n if (isStatic) {\n tView.staticViewQueries = true;\n }\n }\n createLQuery(tView, lView);\n }\n /**\n * Registers a QueryList, associated with a content query, for later refresh (part of a view\n * refresh).\n *\n * @param directiveIndex Current directive index\n * @param predicate The type for which the query will search\n * @param descend Whether or not to descend into children\n * @param read What to save in the query\n * @returns QueryList<T>\n *\n * @codeGenApi\n */\n function contentQuery(directiveIndex, predicate, descend, read) {\n contentQueryInternal(getTView(), getLView(), predicate, descend, read, false, getCurrentTNode(), directiveIndex);\n }\n /**\n * Registers a QueryList, associated with a static content query, for later refresh\n * (part of a view refresh).\n *\n * @param directiveIndex Current directive index\n * @param predicate The type for which the query will search\n * @param descend Whether or not to descend into children\n * @param read What to save in the query\n * @returns QueryList<T>\n *\n * @codeGenApi\n */\n function staticContentQuery(directiveIndex, predicate, descend, read) {\n contentQueryInternal(getTView(), getLView(), predicate, descend, read, true, getCurrentTNode(), directiveIndex);\n }\n function contentQueryInternal(tView, lView, predicate, descend, read, isStatic, tNode, directiveIndex) {\n if (tView.firstCreatePass) {\n createTQuery(tView, new TQueryMetadata_(predicate, descend, isStatic, read), tNode.index);\n saveContentQueryAndDirectiveIndex(tView, directiveIndex);\n if (isStatic) {\n tView.staticContentQueries = true;\n }\n }\n createLQuery(tView, lView);\n }\n /**\n * Loads a QueryList corresponding to the current view or content query.\n *\n * @codeGenApi\n */\n function loadQuery() {\n return loadQueryInternal(getLView(), getCurrentQueryIndex());\n }\n function loadQueryInternal(lView, queryIndex) {\n ngDevMode &&\n assertDefined(lView[QUERIES], 'LQueries should be defined when trying to load a query');\n ngDevMode && assertIndexInRange(lView[QUERIES].queries, queryIndex);\n return lView[QUERIES].queries[queryIndex].queryList;\n }\n function createLQuery(tView, lView) {\n var queryList = new QueryList();\n storeCleanupWithContext(tView, lView, queryList, queryList.destroy);\n if (lView[QUERIES] === null)\n lView[QUERIES] = new LQueries_();\n lView[QUERIES].queries.push(new LQuery_(queryList));\n }\n function createTQuery(tView, metadata, nodeIndex) {\n if (tView.queries === null)\n tView.queries = new TQueries_();\n tView.queries.track(new TQuery_(metadata, nodeIndex));\n }\n function saveContentQueryAndDirectiveIndex(tView, directiveIndex) {\n var tViewContentQueries = tView.contentQueries || (tView.contentQueries = []);\n var lastSavedDirectiveIndex = tViewContentQueries.length ? tViewContentQueries[tViewContentQueries.length - 1] : -1;\n if (directiveIndex !== lastSavedDirectiveIndex) {\n tViewContentQueries.push(tView.queries.length - 1, directiveIndex);\n }\n }\n function getTQuery(tView, index) {\n ngDevMode && assertDefined(tView.queries, 'TQueries must be defined to retrieve a TQuery');\n return tView.queries.getByIndex(index);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Retrieves `TemplateRef` instance from `Injector` when a local reference is placed on the\n * `<ng-template>` element.\n *\n * @codeGenApi\n */\n function templateRefExtractor(tNode, lView) {\n return createTemplateRef(tNode, lView);\n }\n /**\n * Returns the appropriate `ChangeDetectorRef` for a pipe.\n *\n * @codeGenApi\n */\n function injectPipeChangeDetectorRef(flags) {\n if (flags === void 0) { flags = exports.InjectFlags.Default; }\n var value = injectChangeDetectorRef(true);\n if (value == null && !(flags & exports.InjectFlags.Optional)) {\n throwProviderNotFoundError('ChangeDetectorRef');\n }\n else {\n return value;\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found

in the LICENSE file at https://angular.io/license\n */\n var 0$c = function () { return ({\n 'attribute': attribute,\n 'attributeInterpolate1': attributeInterpolate1,\n 'attributeInterpolate2': attributeInterpolate2,\n 'attributeInterpolate3': attributeInterpolate3,\n 'attributeInterpolate4': attributeInterpolate4,\n 'attributeInterpolate5': attributeInterpolate5,\n 'attributeInterpolate6': attributeInterpolate6,\n 'attributeInterpolate7': attributeInterpolate7,\n 'attributeInterpolate8': attributeInterpolate8,\n 'attributeInterpolateV': attributeInterpolateV,\n 'defineComponent': defineComponent,\n 'defineDirective': defineDirective,\n 'defineInjectable': defineInjectable,\n 'defineInjector': defineInjector,\n 'defineNgModule': defineNgModule,\n 'definePipe': definePipe,\n 'directiveInject': directiveInject,\n 'getFactoryOf': getFactoryOf,\n 'getInheritedFactory': getInheritedFactory,\n 'inject': inject,\n 'injectAttribute': injectAttribute,\n 'invalidFactory': invalidFactory,\n 'invalidFactoryDep': invalidFactoryDep,\n 'injectPipeChangeDetectorRef': injectPipeChangeDetectorRef,\n 'templateRefExtractor': templateRefExtractor,\n 'NgOnChangesFeature': NgOnChangesFeature,\n 'ProvidersFeature': ProvidersFeature,\n 'CopyDefinitionFeature': CopyDefinitionFeature,\n 'InheritDefinitionFeature': InheritDefinitionFeature,\n 'nextContext': nextContext,\n 'namespaceHTML': namespaceHTML,\n 'namespaceMathML': namespaceMathML,\n 'namespaceSVG': namespaceSVG,\n 'enableBindings': enableBindings,\n 'disableBindings': disableBindings,\n 'elementStart': elementStart,\n 'elementEnd': elementEnd,\n 'element': element,\n 'elementContainerStart': elementContainerStart,\n 'elementContainerEnd': elementContainerEnd,\n 'elementContainer': elementContainer,\n 'pureFunction0': pureFunction0,\n 'pureFunction1': pureFunction1,\n 'pureFunction2': pureFunction2,\n 'pureFunction3': pureFunction3,\n 'pureFunction4': pureFunction4,\n 'pureFunction5': pureFunction5,\n 'pureFunction6': pureFunction6,\n 'pureFunction7': pureFunction7,\n 'pureFunction8': pureFunction8,\n 'pureFunctionV': pureFunctionV,\n 'getCurrentView': getCurrentView,\n 'restoreView': restoreView,\n 'listener': listener,\n 'projection': projection,\n 'syntheticHostProperty': syntheticHostProperty,\n 'syntheticHostListener': syntheticHostListener,\n 'pipeBind1': pipeBind1,\n 'pipeBind2': pipeBind2,\n 'pipeBind3': pipeBind3,\n 'pipeBind4': pipeBind4,\n 'pipeBindV': pipeBindV,\n 'projectionDef': projectionDef,\n 'hostProperty': hostProperty,\n 'property': property,\n 'propertyInterpolate': propertyInterpolate,\n 'propertyInterpolate1': propertyInterpolate1,\n 'propertyInterpolate2': propertyInterpolate2,\n 'propertyInterpolate3': propertyInterpolate3,\n 'propertyInterpolate4': propertyInterpolate4,\n 'propertyInterpolate5': propertyInterpolate5,\n 'propertyInterpolate6': propertyInterpolate6,\n 'propertyInterpolate7': propertyInterpolate7,\n 'propertyInterpolate8': propertyInterpolate8,\n 'propertyInterpolateV': propertyInterpolateV,\n 'pipe': pipe,\n 'queryRefresh': queryRefresh,\n 'viewQuery': viewQuery,\n 'staticViewQuery': staticViewQuery,\n 'staticContentQuery': staticContentQuery,\n 'loadQuery': loadQuery,\n 'contentQuery': contentQuery,\n 'reference': reference,\n 'classMap': classMap,\n 'classMapInterpolate1': classMapInterpolate1,\n 'classMapInterpolate2': classMapInterpolate2,\n 'classMapInterpolate3': classMapInterpolate3,\n 'classMapInterpolate4': classMapInterpolate4,\n 'classMapInterpolate5': classMapInterpolate5,\n 'classMapInterpolate6': classMapInterpolate6,\n 'classMapInterpolate7': classMapInterpolate7,\n 'classMapInterpolate8': classMapInterpolate8,\n 'classMapInterpolateV': classMapInterpolateV,\n 'styleMap': styleMap,\n 'styleMapInterpolate1': styleMapInterpolate1,\n 'styleMapInterpolate2': styleMapInterpolate2,\n 'styleMapInterpolate3': styleMapInterpolate3,\n 'styleMapInterpolate4': styleMapInterpolate4,\n 'styleMapInterpolate5': styleMapInterpolate5,\n 'styleMapInterpolate6': styleMapInterpolate6,\n 'styleMapInterpolate7': styleMapInterpolate7,\n 'styleMapInterpolate8': styleMapInterpolate8,\n 'styleMapInterpolateV': styleMapInterpolateV,\n 'styleProp': styleProp,\n 'stylePropInterpolate1': stylePropInterpolate1,\n 'stylePropInterpolate2': stylePropInterpolate2,\n 'stylePropInterpolate3': stylePropInterpolate3,\n 'stylePropInterpolate4': stylePropInterpolate4,\n 'stylePropInterpolate5': stylePropInterpolate5,\n 'stylePropInterpolate6': stylePropInterpolate6,\n

'stylePropInterpolate7': stylePropInterpolate7,\n 'stylePropInterpolate8': stylePropInterpolate8,\n 'stylePropInterpolateV': stylePropInterpolateV,\n 'classProp': classProp,\n 'advance': advance,\n 'template': template,\n 'text': text,\n 'textInterpolate': textInterpolate,\n 'textInterpolate1': textInterpolate1,\n 'textInterpolate2': textInterpolate2,\n 'textInterpolate3': textInterpolate3,\n 'textInterpolate4': textInterpolate4,\n 'textInterpolate5': textInterpolate5,\n 'textInterpolate6': textInterpolate6,\n 'textInterpolate7': textInterpolate7,\n 'textInterpolate8': textInterpolate8,\n 'textInterpolateV': textInterpolateV,\n 'i18n': i18n,\n 'i18nAttributes': i18nAttributes,\n 'i18nExp': i18nExp,\n 'i18nStart': i18nStart,\n 'i18nEnd': i18nEnd,\n 'i18nApply': i18nApply,\n 'i18nPostprocess': i18nPostprocess,\n 'resolveWindow': resolveWindow,\n 'resolveDocument': resolveDocument,\n 'resolveBody': resolveBody,\n 'setComponentScope': setComponentScope,\n 'setNgModuleScope': setNgModuleScope,\n 'sanitizeHtml': sanitizeHtml,\n 'sanitizeStyle': sanitizeStyle,\n 'sanitizeResourceUrl': sanitizeResourceUrl,\n 'sanitizeScript': sanitizeScript,\n 'sanitizeUrl': sanitizeUrl,\n 'sanitizeUrlOrResourceUrl': sanitizeUrlOrResourceUrl,\n 'trustConstantHtml': trustConstantHtml,\n 'trustConstantScript': trustConstantScript,\n 'trustConstantResourceUrl': trustConstantResourceUrl,\n }); };\n /**\n * A mapping of the @angular/core API surface used in generated expressions to the actual symbols.\n *\n * This should be kept up to date with the public exports of @angular/core.\n */\n var angularCoreEnv = (0$c)();\n\n var jitOptions = null;\n function setJitOptions(options) {\n if (jitOptions !== null) {\n if (options.defaultEncapsulation !== jitOptions.defaultEncapsulation) {\n ngDevMode &&\n console.error('Provided value for `defaultEncapsulation` can not be changed once it has been set.');\n return;\n }\n if (options.preserveWhitespaces !== jitOptions.preserveWhitespaces) {\n ngDevMode &&\n console.error('Provided value for `preserveWhitespaces` can not be changed once it has been set.');\n return;\n }\n }\n jitOptions = options;\n }\n function getJitOptions() {\n return jitOptions;\n }\n function resetJitOptions() {\n jitOptions = null;\n }\n\n var EMPTY_ARRAY$5 = [];\n var moduleQueue = [];\n /**\n * Enqueues moduleDef to be checked later to see if scope can be set on its\n * component declarations.\n */\n function enqueueModuleForDelayedScoping(moduleType, ngModule) {\n moduleQueue.push({ moduleType: moduleType, ngModule: ngModule });\n }\n var flushingModuleQueue = false;\n /**\n * Loops over queued module definitions, if a given module definition has all of its\n * declarations resolved, it dequeues that module definition and sets the scope on\n * its declarations.\n */\n function flushModuleScopingQueueAsMuchAsPossible() {\n if (!flushingModuleQueue) {\n flushingModuleQueue = true;\n try {\n for (var i = moduleQueue.length - 1; i >= 0; i--) {\n var _a = moduleQueue[i],\n moduleType = _a.moduleType, ngModule = _a.ngModule;\n if (ngModule.declarations && ngModule.declarations.every(isResolvedDeclaration)) {\n // dequeue\n moduleQueue.splice(i, 1);\n setScopeOnDeclaredComponents(moduleType, ngModule);\n }\n }\n }\n finally {\n flushingModuleQueue = false;\n }\n }\n }\n /**\n * Returns truthy if a declaration has resolved. If the declaration happens to be\n * an array of declarations, it will recurse to check each declaration in that array\n * (which may also be arrays).\n */\n function isResolvedDeclaration(declaration) {\n if (Array.isArray(declaration)) {\n return declaration.every(isResolvedDeclaration);\n }\n return !!resolveForwardRef(declaration);\n }\n /**\n * Compiles a module in JIT mode.\n *\n * This function automatically gets called when a class has a `@NgModule` decorator.\n */\n function compileNgModule(moduleType, ngModule) {\n if (ngModule === void 0) { ngModule = {}; }\n compileNgModuleDefs(moduleType, ngModule);\n // Because we don't know if all declarations have resolved yet at the moment the\n // NgModule decorator is executing, we're enqueueing the setting of module scope\n // on its declarations to be run at a later time when all declarations for the module,\n // including forward refs, have resolved.\n enqueueModuleForDelayedScoping(moduleType, ngModule);\n }\n /**\n * Compiles

```
and adds the `mod` and `inj` properties to the module class.\n     *\n     * It's possible to compile a module via this API which will allow duplicate declarations in its\n     * root.\n     */\n    function compileNgModuleDefs(moduleType, ngModule, allowDuplicateDeclarationsInRoot) {\n        if (allowDuplicateDeclarationsInRoot
 === void 0) { allowDuplicateDeclarationsInRoot = false; }\n        ngDevMode && assertDefined(moduleType, 'Required value moduleType');\n        ngDevMode && assertDefined(ngModule, 'Required value ngModule');\n        var declarations = flatten(ngModule.declarations || EMPTY_ARRAY$5);\n        var ngModuleDef = null;\n        Object.defineProperty(moduleType, NG_MOD_DEF, {\n            configurable: true,\n            get: function () {\n                if (ngModuleDef === null) {\n                    if (ngDevMode && ngModule.imports &&
ngModule.imports.indexOf(moduleType) > -1) {\n                        // We need to assert this immediately, because allowing it to continue will cause it to\n                        // go into an infinite loop before we've reached the point where we throw all the errors.\n                        throw new Error(\"'\" + stringifyForError(moduleType) + \"' module can't import itself\");\n                    }\n                    ngModuleDef
 = getCompilerFacade().compileNgModule(angularCoreEnv, \"ng:///\" + moduleType.name + \"/\\u0275mod.js\", {\n                        type: moduleType,\n                        bootstrap: flatten(ngModule.bootstrap || EMPTY_ARRAY$5).map(resolveForwardRef),\n                        declarations:
declarations.map(resolveForwardRef),\n                        imports: flatten(ngModule.imports || EMPTY_ARRAY$5)\n                            .map(resolveForwardRef)\n                            .map(expandModuleWithProviders),\n                        exports: flatten(ngModule.exports || EMPTY_ARRAY$5)\n                            .map(resolveForwardRef)\n                            .map(expandModuleWithProviders),\n                        schemas: ngModule.schemas ?
flatten(ngModule.schemas) : null,\n                        id: ngModule.id || null,\n                    });\n                    // Set `schemas` on ngModuleDef to an empty array in JIT mode to indicate that runtime\n                    // should verify that there are no unknown elements in a template. In AOT mode, that check\n                    // happens at compile time and `schemas` information is not present on Component and Module\n                    // defs after compilation (so the check doesn't happen the second time at runtime).\n                    if (!ngModuleDef.schemas) {\n                        ngModuleDef.schemas = [];\n                    }\n                }\n                return ngModuleDef;\n            }\n        });\n        var ngInjectorDef = null;\n        Object.defineProperty(moduleType, NG_INJ_DEF, {\n            get: function () {\n                if (ngInjectorDef === null) {\n                    ngDevMode &&\n                        verifySemanticsOfNgModuleDef(moduleType, allowDuplicateDeclarationsInRoot);\n                    var meta = {\n                        name: moduleType.name,\n                        type: moduleType,\n                        deps: reflectDependencies(moduleType),\n                        providers: ngModule.providers || EMPTY_ARRAY$5,\n                        imports: [\n                            (ngModule.imports || EMPTY_ARRAY$5).map(resolveForwardRef),\n                            (ngModule.exports || EMPTY_ARRAY$5).map(resolveForwardRef),\n                        ],\n                    };\n                    ngInjectorDef = getCompilerFacade().compileInjector(angularCoreEnv, \"ng:///\" + moduleType.name + \"/\\u0275inj.js\", meta);\n                }\n                return ngInjectorDef;\n            },\n            // Make the property configurable in dev mode to allow overriding in tests\n            configurable: !!ngDevMode,\n        });\n    }\n    function verifySemanticsOfNgModuleDef(moduleType, allowDuplicateDeclarationsInRoot, importingModule) {\n        if (verifiedNgModule.get(moduleType))\n            return;\n        verifiedNgModule.set(moduleType, true);\n        moduleType = resolveForwardRef(moduleType);\n        var ngModuleDef;\n        if (importingModule) {\n            ngModuleDef = getNgModuleDef(moduleType);\n            if (!ngModuleDef) {\n                throw new Error(\"Unexpected value '\" + moduleType.name + \"' imported by the module '\" + importingModule.name + \"'. Please add an @NgModule annotation.\");\n            }\n        }\n        else {\n            ngModuleDef = getNgModuleDef(moduleType, true);\n        }\n        var errors = [];\n        var declarations = maybeUnwrapFn(ngModuleDef.declarations);\n        var imports = maybeUnwrapFn(ngModuleDef.imports);\n        flatten(imports).map(unwrapModuleWithProvidersImports).forEach(function (mod) {\n            verifySemanticsOfNgModuleImport(mod, moduleType);\n            verifySemanticsOfNgModuleDef(mod, false,
```

```
moduleType);\n        });\n        var exports = maybeUnwrapFn(ngModuleDef.exports);\n
declarations.forEach(verifyDeclarationsHaveDefinitions);\n
declarations.forEach(verifyDirectivesHaveSelector);\n
        var combinedDeclarations = __spread(declarations.map(resolveForwardRef),
flatten(imports.map(computeCombinedExports)).map(resolveForwardRef));\n
exports.forEach(verifyExportsAreDeclaredOrReExported);\n        declarations.forEach(function (decl) { return
verifyDeclarationIsUnique(decl, allowDuplicateDeclarationsInRoot); });\n
declarations.forEach(verifyComponentEntryComponentsIsPartOfNgModule);\n        var ngModule =
getAnnotation(moduleType, 'NgModule');\n        if (ngModule) {\n            ngModule.imports &&\n
flatten(ngModule.imports).map(unwrapModuleWithProvidersImports).forEach(function (mod) {\n
verifySemanticsOfNgModuleImport(mod, moduleType);\n                verifySemanticsOfNgModuleDef(mod, false,
moduleType);\n            });\n            ngModule.bootstrap && deepForEach(ngModule.bootstrap,
verifyCorrectBootstrapType);\n            ngModule.bootstrap && deepForEach(ngModule.bootstrap,
verifyComponentIsPartOfNgModule);\n
            ngModule.entryComponents &&\n                deepForEach(ngModule.entryComponents,
verifyComponentIsPartOfNgModule);\n        }\n        // Throw Error if any errors were detected.\n        if
(errors.length) {\n            throw new Error(errors.join('\\n'));\n        }\n
////////////////////////////////////////////////////////////////////////////////////////////\n        function
verifyDeclarationsHaveDefinitions(type) {\n            type = resolveForwardRef(type);\n            var def =
getComponentDef(type) || getDirectiveDef(type) || getPipeDef(type);\n            if (!def) {\n
errors.push(\"Unexpected value '\" + stringifyForError(type) + \"' declared by the module '\" +
stringifyForError(moduleType) + \"'. Please add a @Pipe/@Directive/@Component annotation.\");\n            }\n
}\n        function verifyDirectivesHaveSelector(type) {\n            type = resolveForwardRef(type);\n            var def =
getDirectiveDef(type);\n
            if (!getComponentDef(type) && def && def.selectors.length == 0) {\n                errors.push(\"Directive \" +
stringifyForError(type) + \" has no selector, please add it!\");\n            }\n        }\n        function
verifyExportsAreDeclaredOrReExported(type) {\n            type = resolveForwardRef(type);\n            var kind =
getComponentDef(type) && 'component' || getDirectiveDef(type) && 'directive' ||\n                getPipeDef(type) &&
'pipe';\n            if (kind) {\n                // only checked if we are declared as Component, Directive, or Pipe\n
// Modules don't need to be declared or imported.\n                if (combinedDeclarations.lastIndexOf(type) === -1)
{\n                    // We are exporting something which we don't explicitly declare or import.\n
errors.push(\"Can't export \" + kind + \" \" + stringifyForError(type) + \" from \" + stringifyForError(moduleType) +
\" as it was neither declared
 nor imported!\");\n                }\n            }\n        }\n        function verifyDeclarationIsUnique(type, suppressErrors)
{\n            type = resolveForwardRef(type);\n            var existingModule = ownerNgModule.get(type);\n            if
(existingModule && existingModule !== moduleType) {\n                if (!suppressErrors) {\n                    var
modules = [existingModule, moduleType].map(stringifyForError).sort();\n                    errors.push(\"Type \" +
stringifyForError(type) + \" is part of the declarations of 2 modules: \" + modules[0] + \" and \" + modules[1] + \"! \" +\n                        (\"Please consider moving \" + stringifyForError(type) + \" to a higher module that imports \" +
modules[0] + \" and \" + modules[1] + \". \") +\n                        (\"You can also create a new NgModule that exports
and includes \" + stringifyForError(type) + \" then import that NgModule in \" + modules[0] + \" and \" +
modules[1] + \".\"));\n
    }\n            }\n            else {\n                // Mark type as having owner.\n                ownerNgModule.set(type,
moduleType);\n            }\n        }\n        function verifyComponentIsPartOfNgModule(type) {\n            type =
resolveForwardRef(type);\n            var existingModule = ownerNgModule.get(type);\n            if (!existingModule)
{\n                errors.push(\"Component \" + stringifyForError(type) + \" is not part of any NgModule or the module
has not been imported into your module.\");\n            }\n        }\n        function verifyCorrectBootstrapType(type) {\n
            type = resolveForwardRef(type);\n            if (!getComponentDef(type)) {\n
```

errors.push(stringifyForError(type) + \" cannot be used as an entry component.\");\n }\n }\n function verifyComponentEntryComponentsIsPartOfNgModule(type) {\n type = resolveForwardRef(type);\n if (getComponentDef(type)) {\n // We know we are component\n var component = getAnnotation(type, 'Component');\n if (component && component.entryComponents) {\n deepForEach(component.entryComponents, verifyComponentIsPartOfNgModule);\n }\n }\n }\n function verifySemanticsOfNgModuleImport(type, importingModule) {\n type = resolveForwardRef(type);\n if (getComponentDef(type) || getDirectiveDef(type)) {\n throw new Error(\"Unexpected directive '\" + type.name + \"' imported by the module '\" + importingModule.name + \"'. Please add an @NgModule annotation.\");\n }\n if (getPipeDef(type)) {\n throw new Error(\"Unexpected pipe '\" + type.name + \"' imported by the module '\" + importingModule.name + \"'. Please add an @NgModule annotation.\");\n }\n }\n }\n function unwrapModuleWithProvidersImports(typeOrWithProviders) {\n typeOrWithProviders = resolveForwardRef(typeOrWithProviders);\n return typeOrWithProviders.ngModule || typeOrWithProviders;\n }\n function getAnnotation(type, name) {\n var annotation = null;\n collect(type.__annotations__);\n collect(type.decorators);\n return annotation;\n function collect(annotations) {\n if (annotations) {\n annotations.forEach(readAnnotation);\n }\n }\n function readAnnotation(decorator) {\n if (!annotation) {\n var proto = Object.getPrototypeOf(decorator);\n if (proto.ngMetadataName == name) {\n annotation = decorator;\n }\n else if (decorator.type) {\n var proto_1 = Object.getPrototypeOf(decorator.type);\n if (proto_1.ngMetadataName == name) {\n annotation = decorator.args[0];\n }\n }\n }\n }\n }\n /**\n * Keep track of compiled components. This is needed because in tests we often want to compile the\n * same component with more than one NgModule. This would cause an error unless we reset which\n * NgModule the component belongs to. We keep the list of compiled components here so that the\n * TestBed can reset it later.\n */\n var ownerNgModule = new Map();\n var verifiedNgModule = new Map();\n function resetCompiledComponents() {\n ownerNgModule = new Map();\n verifiedNgModule = new Map();\n moduleQueue.length = 0;\n }\n /**\n * Computes the combined declarations of explicit declarations, as well as declarations inherited by\n * traversing the exports of imported modules.\n * @param type\n */\n function computeCombinedExports(type) {\n type = resolveForwardRef(type);\n var ngModuleDef = getNgModuleDef(type, true);\n return __spread(flatten(maybeUnwrapFn(ngModuleDef.exports).map(function (type) {\n var ngModuleDef = getNgModuleDef(type);\n if (ngModuleDef) {\n verifySemanticsOfNgModuleDef(type, false);\n return computeCombinedExports(type);\n }\n else {\n return type;\n }\n })));\n }\n /**\n * Some declared components may be compiled asynchronously, and thus may not have their\n * cmp set yet. If this is the case, then a reference to the module is written into\n * the `ngSelectorScope` property of the declared type.\n */\n function setScopeOnDeclaredComponents(moduleType, ngModule) {\n var declarations = flatten(ngModule.declarations || EMPTY_ARRAY$5);\n var transitiveScopes = transitiveScopesFor(moduleType);\n declarations.forEach(function (declaration) {\n if (declaration.hasOwnProperty(NG_COMP_DEF)) {\n // A `cmp` field exists - go ahead and patch the component directly.\n var component = declaration;\n var componentDef = getComponentDef(component);\n patchComponentDefWithScope(componentDef, transitiveScopes);\n }\n else if (!declaration.hasOwnProperty(NG_DIR_DEF) && !declaration.hasOwnProperty(NG_PIPE_DEF)) {\n // Set `ngSelectorScope` for future reference when the component compilation finishes.\n declaration.ngSelectorScope = moduleType;\n }\n });\n }\n /**\n * Patch the definition of a component with directives and pipes from the compilation scope of\n * a given module.\n */\n function patchComponentDefWithScope(componentDef, transitiveScopes) {\n

componentDef.directiveDefs = function () { return Array.from(transitiveScopes.compilation.directives)\n .map(function (dir) { return dir.hasOwnProperty(NG_COMP_DEF) ? getComponentDef(dir) : getDirectiveDef(dir); })\n .filter(function (def) { return !!def; }); };\n componentDef.pipeDefs = function () { return Array.from(transitiveScopes.compilation.pipes).map(function (pipe) { return getPipeDef(pipe); }); };\n componentDef.schemas = transitiveScopes.schemas;\n // Since we avoid Components/Directives/Pipes recompiling in case there are no overrides, we\n // may face a problem where previously compiled defs available to a given Component/Directive\n // are cached in TView and may become stale (in case any of these defs gets recompiled). In\n // order to avoid this problem, we force fresh TView to be created.\n componentDef.tView = null;\n }\n /**\n * Compute the pair of transitive scopes (compilation scope and exported scope) for a given module.\n *\n * This operation is memoized and the result is cached on the module's definition. This function can\n * be called on modules with components that have not fully compiled yet, but the result should not\n * be used until they have.\n *\n * @param moduleType module that transitive scope should be calculated for.\n */\n function transitiveScopesFor(moduleType) {\n if (!isNgModule(moduleType)) {\n throw new Error(moduleType.name + \" does not have a module def (\\u0275mod property)\");\n }\n var def = getNgModuleDef(moduleType);\n if (def.transitiveCompileScopes !== null) {\n return def.transitiveCompileScopes;\n }\n var scopes = {\n schemas: def.schemas || null,\n compilation: {\n directives: new Set(),\n pipes: new Set(),\n },\n exported: {\n directives: new Set(),\n pipes: new Set(),\n },\n };\n maybeUnwrapFn(def.imports).forEach(function (imported) {\n var importedType = imported;\n if (!isNgModule(importedType)) {\n throw new Error(\"Importing \" + importedType.name + \" which does not have a \\u0275mod property\");\n }\n // When this module imports another, the imported module's exported directives and pipes are\n // added to the compilation scope of this module.\n var importedScope = transitiveScopesFor(importedType);\n importedScope.exported.directives.forEach(function (entry) { return scopes.compilation.directives.add(entry); });\n importedScope.exported.pipes.forEach(function (entry) { return scopes.compilation.pipes.add(entry); });\n });\n maybeUnwrapFn(def.declarations).forEach(function (declared) {\n var declaredWithDefs = declared;\n if (getPipeDef(declaredWithDefs)) {\n scopes.compilation.pipes.add(declared);\n }\n else {\n // Either declared has a cmp or dir, or it's a component which hasn't\n // had its template compiled yet. In either case, it gets added to the compilation's\n // directives.\n scopes.compilation.directives.add(declared);\n }\n });\n maybeUnwrapFn(def.exports).forEach(function (exported) {\n var exportedType = exported;\n // Either the type is a module, a pipe, or a component/directive (which may not have a\n // cmp as it might be compiled asynchronously).\n if (isNgModule(exportedType)) {\n // When this module exports another, the exported module's exported directives and pipes are\n // added to both the compilation and exported scopes of this module.\n var exportedScope = transitiveScopesFor(exportedType);\n exportedScope.exported.directives.forEach(function (entry) {\n scopes.compilation.directives.add(entry);\n scopes.exported.directives.add(entry);\n });\n exportedScope.exported.pipes.forEach(function (entry) {\n scopes.compilation.pipes.add(entry);\n scopes.exported.pipes.add(entry);\n });\n }\n else if (getPipeDef(exportedType)) {\n scopes.exported.pipes.add(exportedType);\n }\n else {\n scopes.exported.directives.add(exportedType);\n }\n });\n def.transitiveCompileScopes = scopes;\n return scopes;\n }\n function expandModuleWithProviders(value) {\n if (isModuleWithProviders(value)) {\n return value.ngModule;\n }\n return value;\n }\n function isModuleWithProviders(value) {\n return value.ngModule !== undefined;\n }\n function isNgModule(value) {\n return

!!getNgModuleDef(value);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Keep track of the compilation depth to avoid reentrancy issues during JIT compilation. This\n * matters in the following scenario:\n *\n * Consider a component 'A' that extends component 'B', both declared in module 'M'. During\n * the compilation of 'A' the definition of 'B' is requested to capture the inheritance chain,\n * potentially triggering compilation of 'B'. If this nested compilation were to trigger\n * `flushModuleScopingQueueAsMuchAsPossible` it may happen that module 'M' is still pending in the\n * queue, resulting in 'A' and 'B' to be patched with the NgModule scope. As the compilation of\n * 'A' is still in progress, this would introduce a circular dependency on its compilation. To avoid\n * this issue, the module scope queue is only flushed for compilations at the depth 0, to ensure\n * all compilations have finished.\n */\n var compilationDepth = 0;\n /**\n * Compile an Angular component according to its decorator metadata, and patch the resulting\n * component def (cmp) onto the component type.\n *\n * Compilation may be asynchronous (due to the need to resolve URLs for the component template or\n * other resources, for example). In the event that compilation is not immediate, `compileComponent`\n * will enqueue resource resolution into a global queue and will fail to return the `cmp`\n * until the global queue has been resolved with a call to `resolveComponentResources`.\n */\n function compileComponent(type, metadata) {\n // Initialize ngDevMode. This must be the first statement in compileComponent.\n // See the `initNgDevMode` docstring for more information.\n (typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode();\n var ngComponentDef = null;\n // Metadata may have resources which need to be resolved.\n maybeQueueResolutionOfComponentResources(type, metadata);\n // Note that we're using the same function as `Directive`, because that's only subset of metadata\n // that we need to create the ngFactoryDef. We're avoiding using the component metadata\n // because we'd have to resolve the asynchronous templates.\n addDirectiveFactoryDef(type, metadata);\n Object.defineProperty(type, NG_COMP_DEF, {\n get: function () {\n if (ngComponentDef === null) {\n var compiler = getCompilerFacade();\n if (componentNeedsResolution(metadata)) {\n var error = [\"Component '\" + type.name + \"' is not resolved:\"];\n if (metadata.templateUrl) {\n error.push(\" - templateUrl: \" + metadata.templateUrl);\n }\n if (metadata.styleUrls && metadata.styleUrls.length) {\n
error.push(\" - styleUrls: \" + JSON.stringify(metadata.styleUrls));\n }\n error.push(\"Did you run and wait for 'resolveComponentResources()'?\");\n throw new Error(error.join('\\n'));\n }\n // This const was called `jitOptions` previously but had to be renamed to `options` because\n // of a bug with Terser that caused optimized JIT builds to throw a `ReferenceError`.\n // This bug was investigated in https://github.com/angular/angular-cli/issues/17264.\n // We should not rename it back until https://github.com/terser/terser/issues/615 is fixed.\n var options = getJitOptions();\n var preserveWhitespaces = metadata.preserveWhitespaces;\n if (preserveWhitespaces === undefined) {\n if (options !== null && options.preserveWhitespaces !== undefined)
{\n preserveWhitespaces = options.preserveWhitespaces;\n }\n else {\n preserveWhitespaces = false;\n }\n }\n var encapsulation = metadata.encapsulation;\n if (encapsulation === undefined) {\n if (options !== null && options.defaultEncapsulation !== undefined) {\n encapsulation = options.defaultEncapsulation;\n }\n else {\n encapsulation = exports.ViewEncapsulation.Emulated;\n }\n }\n var templateUrl = metadata.templateUrl || \"ng:///\" + type.name + \"/template.html\";\n var meta = Object.assign(Object.assign({}, directiveMetadata(type, metadata)), { typeSourceSpan: compiler.createParseSourceSpan('Component',
type.name, templateUrl), template: metadata.template || '', preserveWhitespaces: preserveWhitespaces, styles: metadata.styles || EMPTY_ARRAY, animations: metadata.animations, directives: [], changeDetection:

metadata.changeDetection, pipes: new Map(), encapsulation: encapsulation, interpolation: metadata.interpolation, viewProviders: metadata.viewProviders || null });\n compilationDepth++;\n try {\n if (meta.usesInheritance) {\n addDirectiveDefToUndecoratedParents(type);\n }\n ngComponentDef = compiler.compileComponent(angularCoreEnv, templateUrl, meta);\n }\n finally {\n // Ensure that the compilation depth is decremented even when the compilation failed.\n compilationDepth--;\n }\n if (compilationDepth === 0) {\n // When NgModule decorator executed, we enqueued the module definition such that\n // it would only dequeue and add itself as module scope to all of its declarations,\n // but only if if all of its declarations had resolved. This call runs the check\n // to see if any modules that are in the queue can be dequeued and add scope to\n // their declarations.\n flushModuleScopingQueueAsMuchAsPossible();\n }\n // If component compilation is async, then the @NgModule annotation which declares the\n // component may execute and set an ngSelectorScope property on the component type. This\n // allows the component to patch itself with directiveDefs from the module after it\n // finishes compiling.\n if (hasSelectorScope(type)) {\n var scopes = transitiveScopesFor(type.ngSelectorScope);\n patchComponentDefWithScope(ngComponentDef, scopes);\n }\n }\n return ngComponentDef;\n },\n // Make the property configurable in dev mode to allow overriding in tests\n configurable: !!ngDevMode,\n });\n }\n function hasSelectorScope(component) {\n return component.ngSelectorScope !== undefined;\n }\n /**\n * Compile an Angular directive according to its decorator metadata, and patch the resulting\n * directive def onto the component type.\n *\n * In the event that compilation is not immediate, `compileDirective` will return a `Promise` which\n * will resolve when compilation completes and the directive becomes usable.\n */\n function compileDirective(type, directive) {\n var ngDirectiveDef = null;\n addDirectiveFactoryDef(type, directive || {});\n Object.defineProperty(type, NG_DIR_DEF, {\n get: function () {\n if (ngDirectiveDef === null) {\n // `directive` can be null in the case of abstract directives as a base class\n // that use `@Directive()` with no selector. In that case, pass empty object to the\n // `directiveMetadata` function instead of null.\n var meta = getDirectiveMetadata(type, directive || {});\n ngDirectiveDef =\n getCompilerFacade().compileDirective(angularCoreEnv, meta.sourceMapUrl, meta.metadata);\n }\n return ngDirectiveDef;\n },\n // Make the property configurable in dev mode to allow overriding in tests\n configurable: !!ngDevMode,\n });\n }\n function getDirectiveMetadata(type, metadata) {\n var name = type && type.name;\n var sourceMapUrl = \"ng:///\" + name + \"/\\u0275dir.js\";\n var compiler = getCompilerFacade();\n var facade = directiveMetadata(type, metadata);\n facade.typeSourceSpan = compiler.createParseSourceSpan('Directive', name, sourceMapUrl);\n if (facade.usesInheritance) {\n addDirectiveDefToUndecoratedParents(type);\n }\n return { metadata: facade, sourceMapUrl: sourceMapUrl };\n }\n function addDirectiveFactoryDef(type, metadata) {\n var ngFactoryDef = null;\n Object.defineProperty(type, NG_FACTORY_DEF, {\n get: function () {\n if (ngFactoryDef === null) {\n var meta = getDirectiveMetadata(type, metadata);\n var compiler = getCompilerFacade();\n ngFactoryDef = compiler.compileFactory(angularCoreEnv, \"ng:///\" + type.name + \"/\\u0275fac.js\", Object.assign(Object.assign({}, meta.metadata), { injectFn: 'directiveInject', target: compiler.R3FactoryTarget.Directive }));\n }\n return ngFactoryDef;\n },\n // Make the property configurable in dev mode to allow overriding in tests\n configurable: !!ngDevMode,\n });\n }\n function extendsDirectlyFromObject(type) {\n return Object.getPrototypeOf(type.prototype) === Object.prototype;\n }\n /**\n * Extract the `R3DirectiveMetadata` for a particular directive (either a `Directive` or a\n * `Component`).\n */\n function directiveMetadata(type, metadata) {\n // Reflect inputs and outputs.\n var reflect = getReflect();\n var propMetadata = reflect.ownPropMetadata(type);\n return {\n name:

```
type.name,\n            type: type,\n            typeArgumentCount: 0,\n            selector: metadata.selector !== undefined ?
metadata.selector : null,\n            deps: reflectDependencies(type),\n            host: metadata.host || EMPTY_OBJ,\n
    propMetadata: propMetadata,\n            inputs: metadata.inputs
 || EMPTY_ARRAY,\n            outputs: metadata.outputs || EMPTY_ARRAY,\n            queries:
extractQueriesMetadata(type, propMetadata, isContentQuery),\n            lifecycle: { usesOnChanges:
reflect.hasLifecycleHook(type, 'ngOnChanges') },\n            typeSourceSpan: null,\n            usesInheritance:
!extendsDirectlyFromObject(type),\n            exportAs: extractExportAs(metadata.exportAs),\n            providers:
metadata.providers || null,\n            viewQueries: extractQueriesMetadata(type, propMetadata, isViewQuery)\n
};\n    }\n    /**\n     * Adds a directive definition to all parent classes of a type that don't have an Angular
decorator.\n     */\n    function addDirectiveDefToUndecoratedParents(type) {\n        var objPrototype =
Object.prototype;\n        var parent = Object.getPrototypeOf(type.prototype).constructor;\n        // Go up the
prototype until we hit `Object`.\n        while (parent && parent !== objPrototype) {\n            // Since inheritance
 works if the class was annotated already, we only need to add\n            // the def if there are no annotations and the
def hasn't been created already.\n            if (!getDirectiveDef(parent) && !getComponentDef(parent) &&\n
shouldAddAbstractDirective(parent)) {\n                compileDirective(parent, null);\n            }\n            parent =
Object.getPrototypeOf(parent);\n        }\n    }\n    function convertToR3QueryPredicate(selector) {\n        return
typeof selector === 'string' ? splitByComma(selector) : resolveForwardRef(selector);\n    }\n    function
convertToR3QueryMetadata(propertyName, ann) {\n        return {\n            propertyName: propertyName,\n
predicate: convertToR3QueryPredicate(ann.selector),\n            descendants: ann.descendants,\n            first:
ann.first,\n            read: ann.read ? ann.read : null,\n            static: !!ann.static\n        };\n    }\n    function
extractQueriesMetadata(type, propMetadata,
 isQueryAnn) {\n        var queriesMeta = [];\n        var _loop_1 = function (field) {\n            if
(propMetadata.hasOwnProperty(field)) {\n                var annotations_1 = propMetadata[field];\n
annotations_1.forEach(function (ann) {\n                    if (isQueryAnn(ann)) {\n                        if (!ann.selector) {\n
                throw new Error(\"Can't construct a query for the property \\\"\" + field + \"\\\" of \" +\n
    (\"\\\"\" + stringifyForError(type) + \"\\\" since the query selector wasn't defined.\"));\n                    }\n
      if (annotations_1.some(isInputAnnotation)) {\n                        throw new Error(\"Cannot combine @Input
decorators with query decorators\");\n                    }\n
queriesMeta.push(convertToR3QueryMetadata(field, ann));\n                });\n            });\n        };\n
for (var field in
 propMetadata) {\n            _loop_1(field);\n        }\n        return queriesMeta;\n    }\n    function
extractExportAs(exportAs) {\n        return exportAs === undefined ? null : splitByComma(exportAs);\n    }\n
function isContentQuery(value) {\n        var name = value.ngMetadataName;\n        return name === 'ContentChild'
|| name === 'ContentChildren';\n    }\n    function isViewQuery(value) {\n        var name =
value.ngMetadataName;\n        return name === 'ViewChild' || name === 'ViewChildren';\n    }\n    function
isInputAnnotation(value) {\n        return value.ngMetadataName === 'Input';\n    }\n    function
splitByComma(value) {\n        return value.split(',').map(function (piece) { return piece.trim(); });\n    }\n    var
LIFECYCLE_HOOKS = [\n        'ngOnChanges', 'ngOnInit', 'ngOnDestroy', 'ngDoCheck', 'ngAfterViewInit',
'ngAfterViewChecked',\n        'ngAfterContentInit', 'ngAfterContentChecked'\n    ];\n    function
shouldAddAbstractDirective(type) {\n        var
 reflect = getReflect();\n        if (LIFECYCLE_HOOKS.some(function (hookName) { return
reflect.hasLifecycleHook(type, hookName); })) {\n            return true;\n        }\n        var propMetadata =
reflect.propMetadata(type);\n        for (var field in propMetadata) {\n            var annotations =
propMetadata[field];\n            for (var i = 0; i < annotations.length; i++) {\n                var current = annotations[i];\n
            var metadataName = current.ngMetadataName;\n                if (isInputAnnotation(current) ||
isContentQuery(current) || isViewQuery(current) ||\n                    metadataName === 'Output' || metadataName ===
'HostBinding' ||\n                    metadataName === 'HostListener') {\n                    return true;\n                }\n
}\n        }\n        return false;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n
```

*\n * Use of this source code is governed by an MIT-style license that
can be\n * found in the LICENSE file at https://angular.io/license\n */\n function compilePipe(type, meta)
{\n var ngPipeDef = null;\n var ngFactoryDef = null;\n Object.defineProperty(type,
NG_FACTORY_DEF, {\n get: function () {\n if (ngFactoryDef === null) {\n var
metadata = getPipeMetadata(type, meta);\n var compiler = getCompilerFacade();\n
ngFactoryDef = compiler.compileFactory(angularCoreEnv, \"ng:///\" + metadata.name + \"/\\u0275fac.js\",
Object.assign(Object.assign({}, metadata), { injectFn: 'directiveInject', target: compiler.R3FactoryTarget.Pipe }));\n
}\n return ngFactoryDef;\n },\n // Make the property configurable in dev mode to
allow overriding in tests\n configurable: !!ngDevMode,\n });\n Object.defineProperty(type,
NG_PIPE_DEF, {\n get: function () {\n
if (ngPipeDef === null) {\n var metadata = getPipeMetadata(type, meta);\n ngPipeDef =
getCompilerFacade().compilePipe(angularCoreEnv, \"ng:///\" + metadata.name + \"/\\u0275pipe.js\", metadata);\n
}\n return ngPipeDef;\n },\n // Make the property configurable in dev mode to allow
overriding in tests\n configurable: !!ngDevMode,\n });\n }\n function getPipeMetadata(type, meta)
{\n return {\n type: type,\n typeArgumentCount: 0,\n name: type.name,\n deps:
reflectDependencies(type),\n pipeName: meta.name,\n pure: meta.pure !== undefined ? meta.pure :
true\n };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of
this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n
*/\n var 0$d = function (dir) {\n if (dir === void 0) { dir = {}; }\n return dir;\n }, 1$2 = function (type,
meta) { return SWITCH_COMPILE_DIRECTIVE(type, meta); };\n /**\n * Type of the Directive metadata.\n
*\n * @publicApi\n */\n var Directive = makeDecorator('Directive', 0$d, undefined, undefined, 1$2);\n var
2$1 = function (c) {\n if (c === void 0) { c = {}; }\n return (Object.assign({ changeDetection:
exports.ChangeDetectionStrategy.Default }, c));\n }, 3$1 = function (type, meta) { return
SWITCH_COMPILE_COMPONENT(type, meta); };\n /**\n * Component decorator and metadata.\n *\n
* @Annotation\n * @publicApi\n */\n var Component = makeDecorator('Component', 2$1, Directive,
undefined, 3$1);\n var 4 = function (p) { return (Object.assign({ pure: true }, p)); }, 5 = function (type, meta) {
return SWITCH_COMPILE_PIPE(type, meta); };\n /**\n * @Annotation\n * @publicApi\n
*/\n var Pipe = makeDecorator('Pipe', 4, undefined, undefined, 5);\n var 6 = function (bindingPropertyName) {
return ({ bindingPropertyName: bindingPropertyName }); };\n /**\n * @Annotation\n * @publicApi\n
*/\n var Input = makePropDecorator('Input', 6);\n var 7 = function (bindingPropertyName) { return ({
bindingPropertyName: bindingPropertyName }); };\n /**\n * @Annotation\n * @publicApi\n */\n var
Output = makePropDecorator('Output', 7);\n var 8 = function (hostPropertyName) { return ({ hostPropertyName:
hostPropertyName }); };\n /**\n * @Annotation\n * @publicApi\n */\n var HostBinding =
makePropDecorator('HostBinding', 8);\n var 9 = function (eventName, args) { return ({ eventName: eventName,
args: args }); };\n /**\n * Decorator that binds a DOM event to a host listener and supplies configuration
metadata.\n * Angular invokes the supplied handler method when the host element emits the specified
event,\n * and updates the bound element with the result.\n *\n * If the handler method returns false, applies
`preventDefault` on the bound element.\n *\n * @usageNotes\n *\n * The following example declares a
directive\n * that attaches a click listener to a button and counts clicks.\n *\n * ```ts\n *
@Directive({selector: 'button[counting]'})\n * class CountClicks {\n * numberOfClicks = 0;\n *\n *
@HostListener('click', ['$event.target'])\n * onClick(btn) {\n * console.log('button', btn, 'number of clicks:',
this.numberOfClicks++);\n * }\n * }\n *\n * @Component({\n * selector: 'app',\n * template:
'<button counting>Increment</button>',\n * })\n * class App {}\n *\n * ```\n *\n * The following
example registers another DOM event handler that listens for key-press events.\n * ``` ts\n * import {
HostListener, Component } from \"@angular/core\";\n
*\n * @Component({\n * selector: 'app',\n * template: `<h1>Hello, you have pressed keys {{counter}}
number of times!</h1> Press any key to\n * increment the counter.\n * <button

(click)=\"resetCounter()\">Reset Counter</button>`\n * })\n * class AppComponent {\n * counter = 0;\n * @HostListener('window:keydown', ['$event'])\n * handleKeyDown(event: KeyboardEvent) {\n * this.counter++;\n * }\n * resetCounter() {\n * this.counter = 0;\n * }\n * }\n * ```\n *\n * @Annotation\n * @publicApi\n */\n var HostListener = makePropDecorator('HostListener', 9);\n var SWITCH_COMPILE_COMPONENT__POST_R3__ = compileComponent;\n var SWITCH_COMPILE_DIRECTIVE__POST_R3__ = compileDirective;\n var SWITCH_COMPILE_PIPE__POST_R3__ = compilePipe;\n var SWITCH_COMPILE_COMPONENT__PRE_R3__ = noop;\n var SWITCH_COMPILE_DIRECTIVE__PRE_R3__ = noop;\n var SWITCH_COMPILE_PIPE__PRE_R3__ = noop;\n var SWITCH_COMPILE_COMPONENT = SWITCH_COMPILE_COMPONENT__PRE_R3__;\n var SWITCH_COMPILE_DIRECTIVE = SWITCH_COMPILE_DIRECTIVE__PRE_R3__;\n var SWITCH_COMPILE_PIPE = SWITCH_COMPILE_PIPE__PRE_R3__;\n\n var 0$e = function (ngModule) { return ngModule; }, 1$3 = \n /**\n * Decorator that marks the following class as an NgModule, and supplies\n * configuration metadata for it.\n *\n * * The `declarations` and `entryComponents` options configure the compiler\n * with information about what belongs to the NgModule.\n * * The `providers` options configures the NgModule's injector to provide\n * dependencies the NgModule members.\n * * The `imports` and `exports` options bring in members from other modules, and make\n * this module's members available to others.\n */\n function (type, meta) { return SWITCH_COMPILE_NGMODULE(type, meta); };\n /**\n * @Annotation\n * @publicApi\n */\n var NgModule = makeDecorator('NgModule', 0$e, undefined, undefined, 1$3);\n function preR3NgModuleCompile(moduleType, metadata) {\n var imports = (metadata && metadata.imports) || [];\n if (metadata && metadata.exports) {\n imports = __spread(imports, [metadata.exports]);\n }\n moduleType.inj = defineInjector({\n factory: convertInjectableProviderToFactory(moduleType, { useClass: moduleType }),\n providers: metadata && metadata.providers,\n imports: imports,\n });\n }\n var SWITCH_COMPILE_NGMODULE__POST_R3__ = compileNgModule;\n var SWITCH_COMPILE_NGMODULE__PRE_R3__ = preR3NgModuleCompile;\n var SWITCH_COMPILE_NGMODULE = SWITCH_COMPILE_NGMODULE__PRE_R3__;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A [DI token](guide/glossary#di-token \"DI token definition\") that you can use to provide\n * one or more initialization functions.\n *\n * The provided functions are injected at application startup and executed during\n * app initialization. If any of these functions returns a Promise, initialization\n * does not complete until the Promise is resolved.\n *\n * You can, for example, create a factory function that loads language data\n * or an external configuration, and provide that function to the `APP_INITIALIZER` token.\n * The function is executed during the application bootstrap process,\n * and the needed data is available on startup.\n *\n * @see `ApplicationInitStatus`\n *\n * @publicApi\n */\n var APP_INITIALIZER = new InjectionToken('Application Initializer');\n /**\n * A class that reflects the state of running {@link APP_INITIALIZER} functions.\n *\n * @publicApi\n */\n var ApplicationInitStatus = /** @class */ (function () {\n function ApplicationInitStatus(appInits) {\n var _this = this;\n this.appInits = appInits;\n this.resolve = noop;\n this.reject = noop;\n this.initialized = false;\n this.done = false;\n this.donePromise = new Promise(function (res, rej) {\n _this.resolve = res;\n _this.reject = rej;\n });\n }\n /** @internal */\n ApplicationInitStatus.prototype.runInitializers = function () {\n var _this = this;\n if (this.initialized) {\n return;\n }\n var asyncInitPromises = [];\n var complete = function () {\n

```
        _this.done = true;\n                _this.resolve();\n            };\n            if (this.appInits) {\n                for (var i = 0; i < this.appInits.length; i++) {\n                    var initResult = this.appInits[i]();\n                    if (isPromise(initResult)) {\n                        asyncInitPromises.push(initResult);\n                    }\n                }\n            }\n            Promise.all(asyncInitPromises)\n                .then(function () {\n                    complete();\n                })\n                .catch(function (e) {\n                    _this.reject(e);\n                });\n            if (asyncInitPromises.length === 0) {\n                complete();\n            }\n            this.initialized = true;\n        };\n        return ApplicationInitStatus;\n    }());\n    ApplicationInitStatus.decorators = [\n        { type: Injectable }\n    ];\n    ApplicationInitStatus.ctorParameters = function () { return [\n        { type: Array, decorators: [{
    type: Inject, args: [APP_INITIALIZER,] }, { type: Optional }] }\n    ]; };\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * A [DI token](guide/glossary#di-token \"DI token definition\") representing a unique string ID, used\n     * primarily for prefixing application attributes and CSS styles when\n     * {@link ViewEncapsulation#Emulated ViewEncapsulation.Emulated} is being used.\n     *\n     * BY default, the value is randomly generated and assigned to the application by Angular.\n     * To provide a custom ID value, use a DI provider <!-- TODO: provider --> to configure\n     * the root {@link Injector} that uses this token.\n     *\n     * @publicApi\n     */\n    var APP_ID = new InjectionToken('AppId');\n    function _appIdRandomProviderFactory() {\n        return \"\" + _randomChar()
    + _randomChar() + _randomChar();\n    }\n    /**\n     * Providers that generate a random `APP_ID_TOKEN`.\n     * @publicApi\n     */\n    var APP_ID_RANDOM_PROVIDER = {\n        provide: APP_ID,\n        useFactory: _appIdRandomProviderFactory,\n        deps: [],\n    };\n    function _randomChar() {\n        return String.fromCharCode(97 + Math.floor(Math.random() * 25));\n    }\n    /**\n     * A function that is executed when a platform is initialized.\n     * @publicApi\n     */\n    var PLATFORM_INITIALIZER = new InjectionToken('Platform Initializer');\n    /**\n     * A token that indicates an opaque platform ID.\n     * @publicApi\n     */\n    var PLATFORM_ID = new InjectionToken('Platform ID');\n    /**\n     * A [DI token](guide/glossary#di-token \"DI token definition\") that provides a set of callbacks to\n     * be called for every component that is bootstrapped.\n     *\n     * Each callback must take a `ComponentRef` instance and return nothing.\n     *\n
     * `(componentRef: ComponentRef) => void`\n     *\n     * @publicApi\n     */\n    var APP_BOOTSTRAP_LISTENER = new InjectionToken('appBootstrapListener');\n    /**\n     * A [DI token](guide/glossary#di-token \"DI token definition\") that indicates the root directory of\n     * the application\n     * @publicApi\n     */\n    var PACKAGE_ROOT_URL = new InjectionToken('Application Packages Root URL');\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var Console = /** @class */ (function () {\n        function Console() {\n        }\n        Console.prototype.log = function (message) {\n            // tslint:disable-next-line:no-console\n            console.log(message);\n        };\n        // Note: for reporting errors use `DOM.logError()` as it is platform specific\n        Console.prototype.warn
    = function (message) {\n            // tslint:disable-next-line:no-console\n            console.warn(message);\n        };\n
    return Console;\n    }());\n    Console.decorators = [\n        { type: Injectable }\n    ];\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Provide this token to set the locale of your application.\n     * It is used for i18n extraction, by i18n pipes (DatePipe, I18nPluralPipe, CurrencyPipe,\n     * DecimalPipe and PercentPipe) and by ICU expressions.\n     *\n     * See the [i18n guide](guide/i18n#setting-up-locale) for more information.\n     *\n     * @usageNotes\n     * ### Example\n     *\n     * ```typescript\n     * import { LOCALE_ID } from '@angular/core';\n     * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n
     * import { AppModule } from './app/app.module';\n     *\n     * platformBrowserDynamic().bootstrapModule(AppModule, {\n     *   providers: [{provide: LOCALE_ID, useValue: 'en-US' }]\n     * });\n     * ```\n     *\n     * @publicApi\n     */\n    var LOCALE_ID$1 = new
```

InjectionToken('LocaleId');\n /**\n * Provide this token to set the default currency code your application uses for\n * CurrencyPipe when there is no currency code passed into it. This is only used by\n * CurrencyPipe and has no relation to locale currency. Defaults to USD if not configured.\n *\n * See the [i18n guide](guide/i18n#setting-up-locale) for more information.\n *\n * <div class=\"alert is-helpful\">\n *\n * **Deprecation notice:**\n *\n * The default currency code is currently always `USD` but this is deprecated from v9.\n *\n * **In v10 the default currency code will be taken from the current locale.**\n *\n * If you need the previous behavior
then set it by creating a `DEFAULT_CURRENCY_CODE` provider in\n * your application `NgModule`:\n *\n * ```ts\n * {provide: DEFAULT_CURRENCY_CODE, useValue: 'USD'}\n * ```\n *\n * \n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n * import { AppModule } from './app/app.module';\n *\n * platformBrowserDynamic().bootstrapModule(AppModule, {\n * providers: [{provide: DEFAULT_CURRENCY_CODE, useValue: 'EUR' }]\n * });\n * ```\n *\n * @publicApi\n */\n var DEFAULT_CURRENCY_CODE = new InjectionToken('DefaultCurrencyCode');\n /**\n * Use this token at bootstrap to provide the content of your translation file (`xtb`,\n * `xlf` or `xlf2`) when you want to translate your application in another language.\n *\n * See the [i18n guide](guide/i18n#merge) for more information.\n *\n * @usageNotes\n
* ### Example\n *\n * ```typescript\n * import { TRANSLATIONS } from '@angular/core';\n * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n * import { AppModule } from './app/app.module';\n *\n * // content of your translation file\n * const translations = '....';\n *\n * platformBrowserDynamic().bootstrapModule(AppModule, {\n * providers: [{provide: TRANSLATIONS, useValue: translations }]\n * });\n * ```\n *\n * @publicApi\n */\n var TRANSLATIONS = new InjectionToken('Translations');\n /**\n * Provide this token at bootstrap to set the format of your {@link TRANSLATIONS}: `xtb`,\n * `xlf` or `xlf2`.\n *\n * See the [i18n guide](guide/i18n#merge) for more information.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * import { TRANSLATIONS_FORMAT } from '@angular/core';\n * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n
* import { AppModule } from './app/app.module';\n *\n * platformBrowserDynamic().bootstrapModule(AppModule, {\n * providers: [{provide: TRANSLATIONS_FORMAT, useValue: 'xlf' }]\n * });\n * ```\n *\n * @publicApi\n */\n var TRANSLATIONS_FORMAT = new InjectionToken('TranslationsFormat');\n (function (MissingTranslationStrategy) {\n MissingTranslationStrategy[MissingTranslationStrategy[\"Error\"] = 0] = \"Error\";\n MissingTranslationStrategy[MissingTranslationStrategy[\"Warning\"] = 1] = \"Warning\";\n MissingTranslationStrategy[MissingTranslationStrategy[\"Ignore\"] = 2] = \"Ignore\";\n })(exports.MissingTranslationStrategy || (exports.MissingTranslationStrategy = {}));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
*/\n var SWITCH_IVY_ENABLED__POST_R3__ = true;\n var SWITCH_IVY_ENABLED__PRE_R3__ = false;\n var ivyEnabled = SWITCH_IVY_ENABLED__PRE_R3__;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Combination of NgModuleFactory and ComponentFactorys.\n *\n * @publicApi\n */\n var ModuleWithComponentFactories = /** @class */ (function () {\n function ModuleWithComponentFactories(ngModuleFactory, componentFactories) {\n this.ngModuleFactory = ngModuleFactory;\n this.componentFactories = componentFactories;\n }\n return ModuleWithComponentFactories;\n }());\n function _throwError() {\n throw new Error(\"Runtime compiler is not loaded\");\n }\n var Compiler_compileModuleSync__PRE_R3__ = _throwError;\n

```
var Compiler_compileModuleSync__POST_R3__ = function (moduleType) {\n return new NgModuleFactory$1(moduleType);\n };\n var Compiler_compileModuleSync = Compiler_compileModuleSync__PRE_R3__;\n var Compiler_compileModuleAsync__PRE_R3__ = _throwError;\n var Compiler_compileModuleAsync__POST_R3__ = function (moduleType) {\n return Promise.resolve(Compiler_compileModuleSync__POST_R3__(moduleType));\n };\n var Compiler_compileModuleAsync = Compiler_compileModuleAsync__PRE_R3__;\n var Compiler_compileModuleAndAllComponentsSync__PRE_R3__ = _throwError;\n var Compiler_compileModuleAndAllComponentsSync__POST_R3__ = function (moduleType) {\n var ngModuleFactory = Compiler_compileModuleSync__POST_R3__(moduleType);\n var moduleDef = getNgModuleDef(moduleType);\n var componentFactories = maybeUnwrapFn(moduleDef.declarations)\n .reduce(function (factories, declaration) {\n var componentDef = getComponentDef(declaration);\n componentDef && factories.push(new ComponentFactory$1(componentDef));\n return factories;\n }, []);\n return new ModuleWithComponentFactories(ngModuleFactory, componentFactories);\n };\n var Compiler_compileModuleAndAllComponentsSync = Compiler_compileModuleAndAllComponentsSync__PRE_R3__;\n var Compiler_compileModuleAndAllComponentsAsync__PRE_R3__ = _throwError;\n var Compiler_compileModuleAndAllComponentsAsync__POST_R3__ = function (moduleType) {\n return Promise.resolve(Compiler_compileModuleAndAllComponentsSync__POST_R3__(moduleType));\n };\n var Compiler_compileModuleAndAllComponentsAsync = Compiler_compileModuleAndAllComponentsAsync__PRE_R3__;\n /**\n * Low-level service for running the angular compiler during runtime\n * to create {@link ComponentFactory}s, which\n * can later be used to create and render a Component instance.\n *\n * Each `@NgModule` provides an own `Compiler` to its injector,\n * that will use the directives/pipes of the ng module for compilation\n * of components.\n *\n * @publicApi\n */\n var Compiler = /** @class */ (function () {\n function Compiler() {\n /**\n * Compiles the given NgModule and all of its components. All templates of the components listed\n * in `entryComponents` have to be inlined.\n */\n this.compileModuleSync = Compiler_compileModuleSync;\n /**\n * Compiles the given NgModule and all of its components\n */\n this.compileModuleAsync = Compiler_compileModuleAsync;\n /**\n * Same as {@link #compileModuleSync} but also creates ComponentFactories for all components.\n */\n this.compileModuleAndAllComponentsSync = Compiler_compileModuleAndAllComponentsSync;\n /**\n * Same as {@link #compileModuleAsync} but also creates ComponentFactories for all components.\n */\n this.compileModuleAndAllComponentsAsync = Compiler_compileModuleAndAllComponentsAsync;\n }\n /**\n * Clears all caches.\n */\n Compiler.prototype.clearCache = function () { };\n /**\n * Clears the cache for the given component/ngModule.\n */\n Compiler.prototype.clearCacheFor = function (type) { };\n /**\n * Returns the id for a given NgModule, if one is defined and known to the compiler.\n */\n Compiler.prototype.getModuleId = function (moduleType) {\n return undefined;\n };\n return Compiler;\n }());\n Compiler.decorators = [\n { type: Injectable }\n ];\n /**\n * Token to provide CompilerOptions in the platform injector.\n *\n * @publicApi\n */\n var COMPILER_OPTIONS = new InjectionToken('compilerOptions');\n /**\n * A factory for creating a Compiler\n *\n * @publicApi\n */\n var CompilerFactory = /** @class */ (function () {\n function CompilerFactory() {\n }\n return CompilerFactory;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var promise = (function () { return Promise.resolve(0); })();\n function scheduleMicroTask(fn) {\n if (typeof Zone === 'undefined') {\n // use promise to schedule microTask instead of use Zone\n promise.then(function () {\n fn && fn.apply(null, null);\n });\n }\n else {\n Zone.current.scheduleMicroTask('scheduleMicrotask', fn);\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by
```

an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function getNativeRequestAnimationFrame() {\n var nativeRequestAnimationFrame = _global['requestAnimationFrame'];\n var nativeCancelAnimationFrame = _global['cancelAnimationFrame'];\n if (typeof Zone !== 'undefined' && nativeRequestAnimationFrame && nativeCancelAnimationFrame) {\n // use unpatched version of requestAnimationFrame(native delegate) if possible\n // to avoid another Change detection\n var unpatchedRequestAnimationFrame = nativeRequestAnimationFrame[Zone.__symbol__('OriginalDelegate')];\n if (unpatchedRequestAnimationFrame) {\n nativeRequestAnimationFrame = unpatchedRequestAnimationFrame;\n }\n var unpatchedCancelAnimationFrame = nativeCancelAnimationFrame[Zone.__symbol__('OriginalDelegate')];\n if (unpatchedCancelAnimationFrame) {\n nativeCancelAnimationFrame = unpatchedCancelAnimationFrame;\n }\n }\n return { nativeRequestAnimationFrame: nativeRequestAnimationFrame, nativeCancelAnimationFrame: nativeCancelAnimationFrame };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * An injectable service for executing work inside or outside of the Angular zone.\n *\n * The most common use of this service is to optimize performance when starting a work consisting of\n * one or more asynchronous tasks that don't require UI updates or error handling to be handled by\n * Angular. Such tasks can be kicked off via {@link #runOutsideAngular} and if needed, these tasks\n * can reenter the Angular zone via {@link #run}.\n *\n * <!-- TODO: add/fix links to:\n * - docs explaining zones and the use of zones in Angular and change-detection\n * - link to runOutsideAngular/run (throughout this file!)\n * -->\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * import {Component, NgZone} from '@angular/core';\n * import {NgIf} from '@angular/common';\n *\n * @Component({\n * selector: 'ng-zone-demo',\n * template: `\n * <h2>Demo: NgZone</h2>\n *\n * <p>Progress: {{progress}}%</p>\n * <p *ngIf=\"progress >= 100\">Done processing {{label}} of Angular zone!</p>\n *\n * <button (click)=\"processWithinAngularZone()\">Process within Angular zone</button>\n * <button (click)=\"processOutsideOfAngularZone()\">Process outside of Angular zone</button>\n * `,\n * })\n * export class NgZoneDemo {\n * progress: number = 0;\n * label: string;\n *\n * constructor(private _ngZone: NgZone) {}\n *\n * // Loop inside the Angular zone\n * // so the UI DOES refresh after each setTimeout cycle\n * processWithinAngularZone() {\n * this.label = 'inside';\n * this.progress = 0;\n * this._increaseProgress(() => console.log('Inside Done!'));\n * }\n *\n * // Loop outside of the Angular zone\n * // so the UI DOES NOT refresh after each setTimeout cycle\n * processOutsideOfAngularZone() {\n * this.label = 'outside';\n * this.progress = 0;\n * this._ngZone.runOutsideAngular(() => {\n * this._increaseProgress(() => {\n * // reenter the Angular zone and display done\n * this._ngZone.run(() => { console.log('Outside Done!'); });\n * });\n * });\n * }\n *\n * _increaseProgress(doneCallback: () => void) {\n * this.progress += 1;\n * console.log(`Current progress: ${this.progress}%`);\n *\n * if (this.progress < 100) {\n * window.setTimeout(() => this._increaseProgress(doneCallback), 10);\n * } else {\n * doneCallback();\n * }\n * }\n * }\n * ```\n *\n * @publicApi\n */\n var NgZone = /** @class */ (function () {\n function NgZone(_a) {\n var _b = _a.enableLongStackTrace, enableLongStackTrace = _b === void 0 ? false : _b, _c = _a.shouldCoalesceEventChangeDetection, shouldCoalesceEventChangeDetection = _c === void 0 ? false : _c;\n this.hasPendingMacrotasks = false;\n this.hasPendingMicrotasks = false;\n /**\n * Whether there are no outstanding microtasks or macrotasks.\n */\n this.isStable = true;\n /**\n * Notifies when code enters Angular Zone. This gets fired first on VM Turn.\n */\n this.onUnstable = new EventEmitter(false);\n /**\n * Notifies when there is no more microtasks enqueued in the current VM Turn.\n

```
 * This is a hint for Angular to do change detection, which may enqueue more microtasks.\n * For this reason this event can fire multiple times per VM Turn.\n */\n this.onMicrotaskEmpty = new EventEmitter(false);\n /**\n * Notifies when the last `onMicrotaskEmpty` has run and there are no more microtasks, which\n * implies we are about to relinquish VM turn.\n * This event gets called just once.\n */\n this.onStable = new EventEmitter(false);\n /**\n * Notifies that an error has been delivered.\n */\n this.onError = new EventEmitter(false);\n if (typeof Zone == 'undefined') {\n throw new Error(\"In this configuration Angular requires Zone.js\");\n }\n Zone.assertZonePatched();\n var self = this;\n self._nesting = 0;\n self._outer = self._inner = Zone.current;\n
 if (Zone['TaskTrackingZoneSpec']) {\n self._inner = self._inner.fork(new Zone['TaskTrackingZoneSpec']);\n }\n if (enableLongStackTrace && Zone['longStackTraceZoneSpec']) {\n self._inner = self._inner.fork(Zone['longStackTraceZoneSpec']);\n }\n self.shouldCoalesceEventChangeDetection = shouldCoalesceEventChangeDetection;\n self.lastRequestAnimationFrameId = -1;\n self.nativeRequestAnimationFrame = getNativeRequestAnimationFrame().nativeRequestAnimationFrame;\n forkInnerZoneWithAngularBehavior(self);\n }\n NgZone.isInAngularZone = function () {\n return Zone.current.get('isAngularZone') === true;\n };\n NgZone.assertInAngularZone = function () {\n if (!NgZone.isInAngularZone()) {\n throw new Error('Expected to be in Angular Zone, but it is not!');\n }\n };\n NgZone.assertNotInAngularZone
 = function () {\n if (NgZone.isInAngularZone()) {\n throw new Error('Expected to not be in Angular Zone, but it is!');\n }\n };\n /**\n * Executes the `fn` function synchronously within the Angular zone and returns value returned by\n * the function.\n *\n * Running functions via `run` allows you to reenter Angular zone from a task that was executed\n * outside of the Angular zone (typically started via {@link #runOutsideAngular}).\n *\n * Any future tasks or microtasks scheduled from within this function will continue executing from\n * within the Angular zone.\n *\n * If a synchronous error happens it will be rethrown and not reported via `onError`.\n */\n NgZone.prototype.run = function (fn, applyThis, applyArgs) {\n return this._inner.run(fn, applyThis, applyArgs);\n };\n /**\n * Executes the `fn`
 function synchronously within the Angular zone as a task and returns value\n * returned by the function.\n *\n * Running functions via `run` allows you to reenter Angular zone from a task that was executed\n * outside of the Angular zone (typically started via {@link #runOutsideAngular}).\n *\n * Any future tasks or microtasks scheduled from within this function will continue executing from\n * within the Angular zone.\n *\n * If a synchronous error happens it will be rethrown and not reported via `onError`.\n */\n NgZone.prototype.runTask = function (fn, applyThis, applyArgs, name) {\n var zone = this._inner;\n var task = zone.scheduleEventTask('NgZoneEvent: ' + name, fn, EMPTY_PAYLOAD, noop, noop);\n try {\n return zone.runTask(task, applyThis, applyArgs);\n }\n finally {\n zone.cancelTask(task);\n }\n };\n /**\n * Same as `run`, except that synchronous errors are caught and forwarded via `onError` and not\n * rethrown.\n */\n NgZone.prototype.runGuarded = function (fn, applyThis, applyArgs) {\n return this._inner.runGuarded(fn, applyThis, applyArgs);\n };\n /**\n * Executes the `fn` function synchronously in Angular's parent zone and returns value returned by\n * the function.\n *\n * Running functions via {@link #runOutsideAngular} allows you to escape Angular's zone and do\n * work that\n * doesn't trigger Angular change-detection or is subject to Angular's error handling.\n *\n * Any future tasks or microtasks scheduled from within this function will continue executing from\n * outside of the Angular zone.\n *\n * Use {@link #run} to reenter the Angular zone and do work that updates the application model.\n */\n
 NgZone.prototype.runOutsideAngular = function (fn) {\n return this._outer.run(fn);\n };\n return NgZone;\n }());\n var EMPTY_PAYLOAD = {};\n function checkStable(zone) {\n if (zone._nesting == 0
```

```
&& !zone.hasPendingMicrotasks && !zone.isStable) {\n try {\n zone._nesting++;\n zone.onMicrotaskEmpty.emit(null);\n }\n finally {\n zone._nesting--;\n if (!zone.hasPendingMicrotasks) {\n try {\n zone.runOutsideAngular(function () { return zone.onStable.emit(null); });\n }\n finally {\n zone.isStable = true;\n }\n }\n }\n }\n function delayChangeDetectionForEvents(zone) {\n if (zone.lastRequestAnimationFrameId !== -1) {\n return;\n }\n zone.lastRequestAnimationFrameId = zone.nativeRequestAnimationFrame.call(_global, function () {\n // This is a work around for https://github.com/angular/angular/issues/36839.\n // The core issue is that when event coalescing is enabled it is possible for microtasks\n // to get flushed too early (As is the case with `Promise.then`) between the\n // coalescing eventTasks.\n //\n // To workaround this we schedule a \"fake\" eventTask before we process the\n // coalescing eventTasks. The benefit of this is that the \"fake\" container eventTask\n // will prevent the microtasks queue from getting drained in between the coalescing\n // eventTask execution.\n if (!zone.fakeTopEventTask) {\n zone.fakeTopEventTask = Zone.root.scheduleEventTask('fakeTopEventTask', function () {\n zone.lastRequestAnimationFrameId = -1;\n updateMicroTaskStatus(zone);\n checkStable(zone);\n }, undefined, function () { }, function () { });\n }\n zone.fakeTopEventTask.invoke();\n });\n updateMicroTaskStatus(zone);\n }\n function forkInnerZoneWithAngularBehavior(zone) {\n var delayChangeDetectionForEventsDelegate = function () {\n delayChangeDetectionForEvents(zone);\n };\n var maybeDelayChangeDetection = !!zone.shouldCoalesceEventChangeDetection &&\n zone.nativeRequestAnimationFrame && delayChangeDetectionForEventsDelegate;\n zone._inner = zone._inner.fork({\n name: 'angular',\n properties: { 'isAngularZone': true, 'maybeDelayChangeDetection': maybeDelayChangeDetection },\n onInvokeTask: function (delegate, current, target, task, applyThis, applyArgs) {\n try {\n onEnter(zone);\n return delegate.invokeTask(target, task, applyThis, applyArgs);\n }\n finally {\n if (maybeDelayChangeDetection && task.type === 'eventTask') {\n maybeDelayChangeDetection();\n }\n onLeave(zone);\n }\n },\n onInvoke: function (delegate, current, target, callback, applyThis, applyArgs, source) {\n try {\n onEnter(zone);\n return delegate.invoke(target, callback, applyThis, applyArgs, source);\n }\n finally {\n onLeave(zone);\n }\n },\n onHasTask: function (delegate, current, target, hasTaskState) {\n delegate.hasTask(target, hasTaskState);\n if (current === target) {\n // We are only interested in hasTask events which originate from our zone\n // (A child hasTask event is not interesting to us)\n if (hasTaskState.change == 'microTask') {\n zone._hasPendingMicrotasks = hasTaskState.microTask;\n updateMicroTaskStatus(zone);\n checkStable(zone);\n }\n else if (hasTaskState.change == 'macroTask') {\n zone.hasPendingMacrotasks = hasTaskState.macroTask;\n }\n }\n },\n onHandleError: function (delegate, current, target, error) {\n delegate.handleError(target, error);\n zone.runOutsideAngular(function () { return zone.onError.emit(error); });\n return false;\n }\n });\n }\n function updateMicroTaskStatus(zone) {\n if (zone._hasPendingMicrotasks ||\n (zone.shouldCoalesceEventChangeDetection && zone.lastRequestAnimationFrameId !== -1)) {\n zone.hasPendingMicrotasks = true;\n }\n else {\n zone.hasPendingMicrotasks = false;\n }\n }\n function onEnter(zone) {\n zone._nesting++;\n if (zone.isStable) {\n zone.isStable = false;\n zone.onUnstable.emit(null);\n }\n }\n function onLeave(zone) {\n zone._nesting--;\n checkStable(zone);\n }\n /**\n * Provides a noop implementation of `NgZone` which does nothing. This zone requires explicit calls\n * to framework to perform rendering.\n */\n var NoopNgZone = /** @class */ (function () {\n function NoopNgZone() {\n this.hasPendingMicrotasks = false;\n this.hasPendingMacrotasks = false;\n this.isStable = true;\n this.onUnstable = new EventEmitter();\n this.onMicrotaskEmpty = new EventEmitter();\n
```

```
this.onStable = new EventEmitter();\n            this.onError = new EventEmitter();\n        }\n
NoopNgZone.prototype.run = function (fn, applyThis, applyArgs) {\n
            return fn.apply(applyThis, applyArgs);\n        };\n        NoopNgZone.prototype.runGuarded = function (fn,
applyThis, applyArgs) {\n            return fn.apply(applyThis, applyArgs);\n        };\n
NoopNgZone.prototype.runOutsideAngular = function (fn) {\n            return fn();\n        };\n
NoopNgZone.prototype.runTask = function (fn, applyThis, applyArgs, name) {\n            return fn.apply(applyThis,
applyArgs);\n        };\n        return NoopNgZone;\n    }());\n\n    /**\n     * @license\n     * Copyright Google LLC
All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     *
found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * The Testability service provides testing
hooks that can be accessed from\n     * the browser and by services such as Protractor. Each bootstrapped Angular\n
     * application on the page will have an instance of Testability.\n     * @publicApi\n
     */\n    var Testability = /** @class */ (function () {\n        function Testability(_ngZone) {\n            var _this =
this;\n            this._ngZone = _ngZone;\n            this._pendingCount = 0;\n            this._isZoneStable = true;\n
/**\n             * Whether any work was done since the last 'whenStable' callback. This is\n             * useful to detect if
this could have potentially destabilized another\n             * component while it is stabilizing.\n             * @internal\n
         */\n            this._didWork = false;\n            this._callbacks = [];\n            this.taskTrackingZone = null;\n
this._watchAngularEvents();\n            _ngZone.run(function () {\n                _this.taskTrackingZone =\n
typeof Zone == 'undefined' ? null : Zone.current.get('TaskTrackingZone');\n            });\n        }\n
Testability.prototype._watchAngularEvents = function () {\n            var _this = this;\n
this._ngZone.onUnstable.subscribe({\n
                next: function () {\n                    _this._didWork = true;\n                    _this._isZoneStable = false;\n
    }\n            });\n            this._ngZone.runOutsideAngular(function () {\n
_this._ngZone.onStable.subscribe({\n                    next: function () {\n
NgZone.assertNotInAngularZone();\n                        scheduleMicroTask(function () {\n
_this._isZoneStable = true;\n                            _this._runCallbacksIfReady();\n                        });\n                    }\n
            });\n            });\n        };\n        /**\n         * Increases the number of pending request\n         * @deprecated
pending requests are now tracked with zones.\n         */\n        Testability.prototype.increasePendingRequestCount =
function () {\n            this._pendingCount += 1;\n            this._didWork = true;\n            return
this._pendingCount;\n        };\n        /**\n         * Decreases the number of pending request\n         * @deprecated
pending requests are now tracked with zones\n         */\n        Testability.prototype.decreasePendingRequestCount =
function () {\n            this._pendingCount -= 1;\n            if (this._pendingCount < 0) {\n                throw new
Error('pending async requests below zero');\n            }\n            this._runCallbacksIfReady();\n            return
this._pendingCount;\n        };\n        /**\n         * Whether an associated application is stable\n         */\n
Testability.prototype.isStable = function () {\n            return this._isZoneStable && this._pendingCount === 0 &&
!this._ngZone.hasPendingMacrotasks;\n        };\n        Testability.prototype._runCallbacksIfReady = function () {\n
        var _this = this;\n            if (this.isStable()) {\n                // Schedules the call backs in a new frame so that it is
always async.\n
            scheduleMicroTask(function () {\n                    while (_this._callbacks.length !== 0) {\n                        var cb
= _this._callbacks.pop();\n                        clearTimeout(cb.timeoutId);\n
cb.doneCb(_this._didWork);\n                    }\n                    _this._didWork = false;\n                });\n            }\n
else {\n                // Still not stable, send updates.\n                var pending_1 = this.getPendingTasks();\n
this._callbacks = this._callbacks.filter(function (cb) {\n                    if (cb.updateCb && cb.updateCb(pending_1))
{\n                        clearTimeout(cb.timeoutId);\n                        return false;\n                    }\n                    return
true;\n                });\n                this._didWork = true;\n            }\n        };\n
Testability.prototype.getPendingTasks = function () {\n            if (!this.taskTrackingZone) {\n                return
[];\n            }\n            // Copy the tasks data so that we don't leak tasks.\n            return
this.taskTrackingZone.macroTasks.map(function (t) {\n                return {\n                    source: t.source,\n
    // From TaskTrackingZone:\n                    // https://github.com/angular/zone.js/blob/master/lib/zone-spec/task-
```

tracking.ts#L40\n creationLocation: t.creationLocation,\n data: t.data\n };\n });\n };\n Testability.prototype.addCallback = function (cb, timeout, updateCb) {\n var _this = this;\n var timeoutId = -1;\n if (timeout && timeout > 0) {\n timeoutId = setTimeout(function () {\n _this._callbacks = _this._callbacks.filter(function (cb) { return cb.timeoutId !== timeoutId; });\n cb(_this._didWork, _this.getPendingTasks());\n }, timeout);\n }\n this._callbacks.push({ doneCb: cb, timeoutId: timeoutId, updateCb: updateCb });\n };\n /**\n * Wait for the application to be stable with a timeout. If the timeout is reached before that\n * happens, the callback receives a list of the macro tasks that were pending, otherwise null.\n *\n * @param doneCb The callback to invoke when Angular is stable or the timeout expires\n * whichever comes first.\n * @param timeout Optional. The maximum time to wait for Angular to become stable. If not\n * specified, whenStable() will wait forever.\n * @param updateCb Optional. If specified, this callback will be invoked whenever the set of\n * pending macrotasks changes. If this callback returns true doneCb will not be invoked\n * and no further updates will be issued.\n */\n Testability.prototype.whenStable = function (doneCb, timeout, updateCb) {\n if (updateCb &&\n !this.taskTrackingZone) {\n throw new Error('Task tracking zone is required when passing an update callback to ' +\n 'whenStable(). Is \"zone.js/dist/task-tracking.js\" loaded?');\n }\n // These arguments are 'Function' above to keep the public API simple.\n this.addCallback(doneCb, timeout, updateCb);\n this._runCallbacksIfReady();\n };\n /**\n * Get the number of pending requests\n * @deprecated pending requests are now tracked with zones\n */\n Testability.prototype.getPendingRequestCount = function () {\n return this._pendingCount;\n };\n /**\n * Find providers by name\n * @param using The root element to search from\n * @param provider The name of binding variable\n * @param exactMatch Whether using exactMatch\n */\n Testability.prototype.findProviders = function (using, provider, exactMatch)\n {\n // TODO(juliemr): implement.\n return [];\n };\n return Testability;\n }());\n Testability.decorators = [\n { type: Injectable }\n ];\n Testability.ctorParameters = function () { return [\n { type: NgZone }\n ]; };\n /**\n * A global registry of {@link Testability} instances for specific elements.\n * @publicApi\n */\n var TestabilityRegistry = /** @class */ (function () {\n function TestabilityRegistry() {\n /** @internal */\n this._applications = new Map();\n _testabilityGetter.addToWindow(this);\n }\n /**\n * Registers an application with a testability hook so that it can be tracked\n * @param token token of application, root element\n * @param testability Testability hook\n */\n TestabilityRegistry.prototype.registerApplication = function (token, testability) {\n this._applications.set(token,\n testability);\n };\n /**\n * Unregisters an application.\n * @param token token of application, root element\n */\n TestabilityRegistry.prototype.unregisterApplication = function (token) {\n this._applications.delete(token);\n };\n /**\n * Unregisters all applications\n */\n TestabilityRegistry.prototype.unregisterAllApplications = function () {\n this._applications.clear();\n };\n /**\n * Get a testability hook associated with the application\n * @param elem root element\n */\n TestabilityRegistry.prototype.getTestability = function (elem) {\n return this._applications.get(elem) || null;\n };\n /**\n * Get all registered testabilities\n */\n TestabilityRegistry.prototype.getAllTestabilities = function () {\n return\n Array.from(this._applications.values());\n };\n /**\n * Get all registered applications(root elements)\n */\n TestabilityRegistry.prototype.getAllRootElements = function () {\n return\n Array.from(this._applications.keys());\n };\n /**\n * Find testability of a node in the Tree\n * @param elem node\n * @param findInAncestors whether finding testability in ancestors if testability was not found in\n * current node\n */\n TestabilityRegistry.prototype.findTestabilityInTree = function (elem, findInAncestors) {\n if (findInAncestors === void 0) { findInAncestors = true; }\n return\n _testabilityGetter.findTestabilityInTree(this, elem, findInAncestors);\n };\n return TestabilityRegistry;\n

```
}());\n    TestabilityRegistry.decorators = [\n        { type: Injectable }\n    ];\n    TestabilityRegistry.ctorParameters = function () { return []; };\n    var _NoopGetTestability = /** @class */ (function () {\n        function _NoopGetTestability() {\n        }\n        _NoopGetTestability.prototype.addToWindow = function (registry) { };\n        _NoopGetTestability.prototype.findTestabilityInTree = function (registry, elem, findInAncestors) {\n            return null;\n        };\n        return _NoopGetTestability;\n    }());\n    /**\n     * Set the {@link GetTestability} implementation used by the Angular testing framework.\n     * @publicApi\n     */\n    function setTestabilityGetter(getter) {\n        _testabilityGetter = getter;\n    }\n    var _testabilityGetter = new _NoopGetTestability();\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * This file is used to control if the default rendering pipeline should be `ViewEngine` or `Ivy`.\n     *\n     * For more information on how to run and\n     debug tests with either Ivy or View Engine (legacy),\n     * please see [BAZEL.md](./docs/BAZEL.md).\n     */\n    var _devMode = true;\n    var _runModeLocked = false;\n    /**\n     * Returns whether Angular is in development mode. After called once,\n     * the value is locked and won't change any more.\n     *\n     * By default, this is true, unless a user calls `enableProdMode` before calling this.\n     *\n     * @publicApi\n     */\n    function isDevMode() {\n        _runModeLocked = true;\n        return _devMode;\n    }\n    /**\n     * Disable Angular's development mode, which turns off assertions and other\n     * checks within the framework.\n     *\n     * One important assertion this disables verifies that a change detection pass\n     * does not result in additional changes to any bindings (also known as\n     * unidirectional data flow).\n     *\n     * @publicApi\n     */\n    function enableProdMode() {\n        if (_runModeLocked) {\n            throw new Error('Cannot\n     enable prod mode after platform setup.');\n        }\n        // The below check is there so when ngDevMode is set via terser\n        // `global['ngDevMode'] = false;` is also dropped.\n        if (typeof ngDevMode === undefined || !!ngDevMode) {\n            _global['ngDevMode'] = false;\n        }\n        _devMode = false;\n    }\n\n    var _platform;\n    var compileNgModuleFactory = compileNgModuleFactory__PRE_R3__;\n    function compileNgModuleFactory__PRE_R3__(injector, options, moduleType) {\n        var compilerFactory = injector.get(CompilerFactory);\n        var compiler = compilerFactory.createCompiler([options]);\n        return compiler.compileModuleAsync(moduleType);\n    }\n    function compileNgModuleFactory__POST_R3__(injector, options, moduleType) {\n        ngDevMode && assertNgModuleType(moduleType);\n        var moduleFactory = new NgModuleFactory$1(moduleType);\n        // All of the logic below is irrelevant for AOT-compiled code.\n        if (typeof ngJitMode\n     !== 'undefined' && !ngJitMode) {\n            return Promise.resolve(moduleFactory);\n        }\n        var compilerOptions = injector.get(COMPILER_OPTIONS, []).concat(options);\n        // Configure the compiler to use the provided options. This call may fail when multiple modules\n        // are bootstrapped with incompatible options, as a component can only be compiled according to\n        // a single set of options.\n        setJitOptions({\n            defaultEncapsulation: _lastDefined(compilerOptions.map(function (opts) { return opts.defaultEncapsulation; })),\n            preserveWhitespaces: _lastDefined(compilerOptions.map(function (opts) { return opts.preserveWhitespaces; })),\n        });\n        if (isComponentResourceResolutionQueueEmpty()) {\n            return Promise.resolve(moduleFactory);\n        }\n        var compilerProviders = _mergeArrays(compilerOptions.map(function (o) { return o.providers; }));\n        // In case there are no compiler providers, we\n         just return the module factory as\n        // there won't be any resource loader. This can happen with Ivy, because AOT compiled\n        // modules can be still passed through \"bootstrapModule\". In that case we shouldn't\n        // unnecessarily require the JIT compiler.\n        if (compilerProviders.length === 0) {\n            return Promise.resolve(moduleFactory);\n        }\n        var compiler = getCompilerFacade();\n        var compilerInjector = Injector.create({ providers: compilerProviders });\n        var resourceLoader = compilerInjector.get(compiler.ResourceLoader);\n        // The resource loader can also return a string while the \"resolveComponentResources\"\n        // always expects a promise. Therefore we need to wrap the returned value in a promise.\n        return resolveComponentResources(function (url) { return
```

Promise.resolve(resourceLoader.get(url)); })\n .then(function () { return moduleFactory; });\n }\n // the `window.ng` global utilities
are only available in non-VE versions of\n // Angular. The function switch below will make sure that the code is not\n // included into Angular when PRE mode is active.\n function publishDefaultGlobalUtils__PRE_R3__() { }\n function publishDefaultGlobalUtils__POST_R3__() {\n ngDevMode && publishDefaultGlobalUtils();\n }\n var publishDefaultGlobalUtils$1 = publishDefaultGlobalUtils__PRE_R3__;\n var isBoundToModule = isBoundToModule__PRE_R3__;\n function isBoundToModule__PRE_R3__(cf) {\n return cf instanceof ComponentFactoryBoundToModule;\n }\n function isBoundToModule__POST_R3__(cf) {\n return cf.isBoundToModule;\n }\n var ALLOW_MULTIPLE_PLATFORMS = new InjectionToken('AllowMultipleToken');\n /**\n * A token for third-party components that can register themselves with NgProbe.\n *\n * @publicApi\n */\n var NgProbeToken = /** @class */ (function () {\n function NgProbeToken(name, token) {\n this.name = name;\n this.token = token;\n }\n return NgProbeToken;\n }());\n /**\n * Creates a platform.\n * Platforms must be created on launch using this function.\n *\n * @publicApi\n */\n function createPlatform(injector) {\n if (_platform && !_platform.destroyed &&\n !_platform.injector.get(ALLOW_MULTIPLE_PLATFORMS, false)) {\n throw new Error('There can be only one platform. Destroy the previous one to create a new one.');\n }\n publishDefaultGlobalUtils$1();\n _platform = injector.get(PlatformRef);\n var inits = injector.get(PLATFORM_INITIALIZER, null);\n if (inits)\n inits.forEach(function (init) { return init(); });\n return _platform;\n }\n /**\n * Creates a factory for a platform. Can be used to provide or override `Providers` specific to\n * your applciation's runtime needs, such as `PLATFORM_INITIALIZER` and `PLATFORM_ID`.\n
* @param parentPlatformFactory Another platform factory to modify. Allows you to compose factories\n * to build up configurations that might be required by different libraries or parts of the\n * application.\n * @param name Identifies the new platform factory.\n * @param providers A set of dependency providers for platforms created with the new factory.\n *\n * @publicApi\n */\n function createPlatformFactory(parentPlatformFactory, name, providers) {\n if (providers === void 0) { providers = []; }\n var desc = \"Platform: \" + name;\n var marker = new InjectionToken(desc);\n return function (extraProviders) {\n if (extraProviders === void 0) { extraProviders = []; }\n var platform = getPlatform();\n if (!platform || platform.injector.get(ALLOW_MULTIPLE_PLATFORMS, false)) {\n if (parentPlatformFactory) {\n parentPlatformFactory(providers.concat(extraProviders).concat({ provide: marker, useValue: true }));\n }\n else {\n var injectedProviders = providers.concat(extraProviders).concat({ provide: marker, useValue: true }, {\n provide: INJECTOR_SCOPE,\n useValue: 'platform'\n });\n createPlatform(Injector.create({ providers: injectedProviders, name: desc }));\n }\n }\n return assertPlatform(marker);\n };\n }\n /**\n * Checks that there is currently a platform that contains the given token as a provider.\n *\n * @publicApi\n */\n function assertPlatform(requiredToken) {\n var platform = getPlatform();\n if (!platform) {\n throw new Error('No platform exists!');\n }\n if (!platform.injector.get(requiredToken, null)) {\n throw new Error('A platform with a different configuration has been created.
Please destroy it first.');\n }\n return platform;\n }\n /**\n * Destroys the current Angular platform and all Angular applications on the page.\n * Destroys all modules and listeners registered with the platform.\n *\n * @publicApi\n */\n function destroyPlatform() {\n if (_platform && !_platform.destroyed) {\n _platform.destroy();\n }\n }\n /**\n * Returns the current platform.\n *\n * @publicApi\n */\n function getPlatform() {\n return _platform && !_platform.destroyed ? _platform : null;\n }\n /**\n * The Angular platform is the entry point for Angular on a web page.\n * Each page has exactly one platform. Services (such as reflection) which are common\n * to every Angular application running on the page are bound in its scope.\n * A page's platform is initialized implicitly when a platform is created using a platform\n * factory such as `PlatformBrowser`,

```
 or explicitly by calling the `createPlatform()` function.\n     *\n     * @publicApi\n     */\n    var PlatformRef = /**
@class */ (function () {\n        /** @internal */\n        function PlatformRef(_injector) {\n            this._injector =
_injector;\n            this._modules = [];\n            this._destroyListeners = [];\n            this._destroyed = false;\n
}\n        /**\n         * Creates an instance of an `@NgModule` for the given platform for offline compilation.\n
*\n         * @usageNotes\n         *\n         * The following example creates the NgModule for a browser platform.\n
     *\n         * ```typescript\n         * my_module.ts:\n         *\n         * @NgModule({\n         *   imports:
[BrowserModule]\n         * })\n         * class MyModule {}\n         *\n         * main.ts:\n         * import
{MyModuleNgFactory} from './my_module.ngfactory';\n         * import {platformBrowser} from
'@angular/platform-browser';\n         *\n         * let
 moduleRef = platformBrowser().bootstrapModuleFactory(MyModuleNgFactory);\n         * ```\n         */\n
PlatformRef.prototype.bootstrapModuleFactory = function (moduleFactory, options) {\n            var _this = this;\n
    // Note: We need to create the NgZone _before_ we instantiate the module,\n            // as instantiating the module
creates some providers eagerly.\n            // So we create a mini parent injector that just contains the new NgZone
and\n            // pass that as parent to the NgModuleFactory.\n            var ngZoneOption = options ? options.ngZone :
undefined;\n            var ngZoneEventCoalescing = (options && options.ngZoneEventCoalescing) || false;\n
var ngZone = getNgZone(ngZoneOption, ngZoneEventCoalescing);\n            var providers = [{ provide: NgZone,
useValue: ngZone }];\n            // Attention: Don't use ApplicationRef.run here,\n            // as we want to be sure that
all possible constructor calls are inside `ngZone.run`!\n
            return ngZone.run(function () {\n                var ngZoneInjector = Injector.create({ providers: providers,
parent: _this.injector, name: moduleFactory.moduleType.name });\n                var moduleRef =
moduleFactory.create(ngZoneInjector);\n                var exceptionHandler = moduleRef.injector.get(ErrorHandler,
null);\n                if (!exceptionHandler) {\n                    throw new Error('No ErrorHandler. Is platform module
(BrowserModule) included?');\n                }\n                ngZone.runOutsideAngular(function () {\n                    var
subscription = ngZone.onError.subscribe({\n                        next: function (error) {\n
exceptionHandler.handleError(error);\n                        }\n                    });\n
moduleRef.onDestroy(function () {\n                    remove(_this._modules, moduleRef);\n
subscription.unsubscribe();\n                });\n
            });\n                return _callAndReportToErrorHandler(exceptionHandler, ngZone, function () {\n
  var initStatus = moduleRef.injector.get(ApplicationInitStatus);\n                    initStatus.runInitializers();\n
  return initStatus.donePromise.then(function () {\n                        if (ivyEnabled) {\n                            // If the
`LOCALE_ID` provider is defined at bootstrap then we set the value for ivy\n                            var localeId =
moduleRef.injector.get(LOCALE_ID$1, DEFAULT_LOCALE_ID);\n                            setLocaleId(localeId ||
DEFAULT_LOCALE_ID);\n                        }\n                        _this._moduleDoBootstrap(moduleRef);\n
    return moduleRef;\n                    });\n                });\n            });\n        };\n        /**\n         * Creates an instance of
an `@NgModule` for a given platform using the given runtime compiler.\n         *\n         * @usageNotes\n
         * ### Simple Example\n         *\n         * ```typescript\n         * @NgModule({\n         *   imports:
[BrowserModule]\n         * })\n         * class MyModule {}\n         *\n         * let moduleRef =
platformBrowser().bootstrapModule(MyModule);\n         * ```\n         *\n         */\n
PlatformRef.prototype.bootstrapModule = function (moduleType, compilerOptions) {\n            var _this = this;\n
    if (compilerOptions === void 0) { compilerOptions = []; }\n            var options = optionsReducer({},
compilerOptions);\n            return compileNgModuleFactory(this.injector, options, moduleType)\n
.then(function (moduleFactory) { return _this.bootstrapModuleFactory(moduleFactory, options); });\n        };\n
PlatformRef.prototype._moduleDoBootstrap = function (moduleRef) {\n            var appRef =
moduleRef.injector.get(ApplicationRef);\n            if (moduleRef._bootstrapComponents.length > 0) {\n
moduleRef._bootstrapComponents.forEach(function
 (f) { return appRef.bootstrap(f); });\n            }\n            else if (moduleRef.instance.ngDoBootstrap) {\n
moduleRef.instance.ngDoBootstrap(appRef);\n            }\n            else {\n                throw new Error(\"The module \"
+ stringify(moduleRef.instance\n                    .constructor) + \" was bootstrapped, but it does not declare
```

\\\"@NgModule.bootstrap\\\" components nor a \\\"ngDoBootstrap\\\" method. \" +\n \"Please define one of these.\");\n }\n this._modules.push(moduleRef);\n };\n /**\n * Registers a listener to be called when the platform is destroyed.\n */\n PlatformRef.prototype.onDestroy = function (callback) {\n this._destroyListeners.push(callback);\n };\n Object.defineProperty(PlatformRef.prototype, \"injector\", {\n /**\n * Retrieves the platform {@link Injector}, which is the parent injector for\n * every Angular application on the page and provides singleton providers.\n */\n get: function () {\n return this._injector;\n },\n enumerable: false,\n configurable: true\n });\n /**\n * Destroys the current Angular platform and all Angular applications on the page.\n * Destroys all modules and listeners registered with the platform.\n */\n PlatformRef.prototype.destroy = function () {\n if (this._destroyed) {\n throw new Error('The platform has already been destroyed!');\n }\n this._modules.slice().forEach(function (module) { return module.destroy(); });\n this._destroyListeners.forEach(function (listener) { return listener(); });\n this._destroyed = true;\n };\n Object.defineProperty(PlatformRef.prototype, \"destroyed\", {\n get: function () {\n return this._destroyed;\n },\n enumerable: false,\n configurable: true\n });\n return PlatformRef;\n }());\n PlatformRef.decorators = [\n { type: Injectable }\n ];\n PlatformRef.ctorParameters = function () { return [\n { type: Injector }\n ]; };\n function getNgZone(ngZoneOption, ngZoneEventCoalescing) {\n var ngZone;\n if (ngZoneOption === 'noop') {\n ngZone = new NoopNgZone();\n }\n else {\n ngZone = (ngZoneOption === 'zone.js' ? undefined : ngZoneOption) || new NgZone({\n enableLongStackTrace: isDevMode(),\n shouldCoalesceEventChangeDetection: ngZoneEventCoalescing\n });\n }\n return ngZone;\n }\n function _callAndReportToErrorHandler(errorHandler, ngZone, callback) {\n try {\n var result = callback();\n if (isPromise(result)) {\n return result.catch(function (e) {\n ngZone.runOutsideAngular(function () { return errorHandler.handleError(e); });\n // rethrow as the exception handler might not do it\n throw e;\n });\n }\n return result;\n }\n catch (e) {\n ngZone.runOutsideAngular(function () { return errorHandler.handleError(e); });\n // rethrow as the exception handler might not do it\n throw e;\n }\n }\n function optionsReducer(dst, objs) {\n if (Array.isArray(objs)) {\n dst = objs.reduce(optionsReducer, dst);\n }\n else {\n dst = Object.assign(Object.assign({}, dst), objs);\n }\n return dst;\n }\n /**\n * A reference to an Angular application running on a page.\n *\n * @usageNotes\n *\n * {@a is-stable-examples}\n * ### isStable examples and caveats\n *\n * Note that two important points about `isStable`, demonstrated in the examples below:\n * - the application will never be stable if you start any kind\n * of recurrent asynchronous task when the application starts\n * (for example for a polling process, started with a `setInterval`, a `setTimeout`\n * or using RxJS operators like `interval`);\n * - the `isStable` Observable runs outside of the Angular zone.\n *\n * Let's imagine that you start a recurrent task\n * (here incrementing a counter, using RxJS `interval`),\n * and at the same time subscribe to `isStable`.\n *\n * ```\n * constructor(appRef: ApplicationRef) {\n * appRef.isStable.pipe(\n * filter(stable => stable)\n * ).subscribe(() => console.log('App is stable now');\n * interval(1000).subscribe(counter => console.log(counter));\n * }\n * ```\n * In this example, `isStable` will never emit `true`,\n * and the trace \"App is stable now\" will never get logged.\n *\n * If you want to execute something when the app is stable,\n * you have to wait for the application to be stable\n * before starting your polling process.\n *\n * ```\n * constructor(appRef: ApplicationRef) {\n * appRef.isStable.pipe(\n * first(stable => stable),\n * tap(stable => console.log('App is stable now')),\n * switchMap(() => interval(1000))\n * ).subscribe(counter => console.log(counter));\n * }\n * ```\n * In this example, the trace \"App is stable now\" will be logged\n * and then the counter starts incrementing every second.\n *\n * Note also that this Observable runs outside of the Angular zone,\n * which means that the code in the subscription\n * to this Observable will not trigger the

```
change detection.\n     *\n     * Let's imagine that instead of logging the counter value,\n     * you update a field of your component\n     * and display it in its template.\n     *\n     * ```\n     * constructor(appRef: ApplicationRef) {\n     *   appRef.isStable.pipe(\n     *     first(stable => stable),\n     *     switchMap(() => interval(1000))\n     *   ).subscribe(counter => this.value = counter);\n     * }\n     * ```\n     * As the `isStable` Observable runs outside the zone,\n     * the `value` field will be updated properly,\n     * but the template will not be refreshed!\n     *\n     * You'll have to manually trigger the change detection to update the template.\n     *\n     * ```\n     * constructor(appRef: ApplicationRef, cd: ChangeDetectorRef) {\n     *   appRef.isStable.pipe(\n     *     first(stable => stable),\n     *     switchMap(() => interval(1000))\n     *   ).subscribe(counter => {\n     *     this.value = counter;\n     *     cd.detectChanges();\n     *   });\n     * }\n     * ```\n     *\n     * Or make the subscription callback run inside the zone.\n     *\n     * ```\n     * constructor(appRef: ApplicationRef, zone: NgZone) {\n     *   appRef.isStable.pipe(\n     *     first(stable => stable),\n     *     switchMap(() => interval(1000))\n     *   ).subscribe(counter => zone.run(() => this.value = counter));\n     * }\n     * ```\n     *\n     * @publicApi\n     */\nvar ApplicationRef = /** @class */ (function () {\n    /** @internal */\n    function ApplicationRef(_zone, _console, _injector, _exceptionHandler, _componentFactoryResolver, _initStatus) {\n        var _this = this;\n        this._zone = _zone;\n        this._console = _console;\n        this._injector = _injector;\n        this._exceptionHandler = _exceptionHandler;\n        this._componentFactoryResolver = _componentFactoryResolver;\n        this._initStatus = _initStatus;\n        /** @internal */\n        this._bootstrapListeners = [];\n        this._views = [];\n        this._runningTick = false;\n        this._stable = true;\n        /**\n         * Get a list of component types registered to this application.\n         * This list is populated even before the component is created.\n         */\n        this.componentTypes = [];\n        /**\n         * Get a list of components registered to this application.\n         */\n        this.components = [];\n        this._onMicrotaskEmptySubscription = this._zone.onMicrotaskEmpty.subscribe({\n            next: function () {\n                _this._zone.run(function () {\n                    _this.tick();\n                });\n            }\n        });\n        var isCurrentlyStable = new rxjs.Observable(function (observer) {\n            _this._stable = _this._zone.isStable &&\n                !_this._zone.hasPendingMacrotasks &&\n                !_this._zone.hasPendingMicrotasks;\n            _this._zone.runOutsideAngular(function () {\n                observer.next(_this._stable);\n                observer.complete();\n            });\n        });\n        var isStable = new rxjs.Observable(function (observer) {\n            // Create the subscription to onStable outside the Angular Zone so that\n            // the callback is run outside the Angular Zone.\n            var stableSub;\n            _this._zone.runOutsideAngular(function () {\n                stableSub = _this._zone.onStable.subscribe(function () {\n                    NgZone.assertNotInAngularZone();\n                    // Check whether there are no pending macro/micro tasks in the next tick\n                    // to allow for NgZone to update the state.\n                    scheduleMicroTask(function () {\n                        if (!_this._stable &&\n                            !_this._zone.hasPendingMacrotasks &&\n                            !_this._zone.hasPendingMicrotasks) {\n                            _this._stable = true;\n                            observer.next(true);\n                        }\n                    });\n                });\n            });\n        var unstableSub = _this._zone.onUnstable.subscribe(function () {\n            NgZone.assertInAngularZone();\n            if (_this._stable) {\n                _this._stable = false;\n                _this._zone.runOutsideAngular(function () {\n                    observer.next(false);\n                });\n            }\n        });\n        return function () {\n            stableSub.unsubscribe();\n            unstableSub.unsubscribe();\n        };\n    });\n    this.isStable =\n        rxjs.merge(isCurrentlyStable, isStable.pipe(operators.share()));\n    }\n    /**\n     * Bootstrap a new component at the root level of the application.\n     *\n     * @usageNotes\n     * ### Bootstrap process\n     *\n     * When bootstrapping a new root component into an application, Angular mounts the\n     * specified application component onto DOM elements identified by the componentType's\n     * selector and kicks off automatic change detection to finish initializing the component.\n     *\n     * Optionally, a component can be mounted onto a DOM element that does not match the\n     *
```

```
componentType's selector.\n *\n * ### Example\n * {@example core/ts/platform/platform.ts
region='longform'}\n */\n ApplicationRef.prototype.bootstrap = function (componentOrFactory,
rootSelectorOrNode) {\n var _this = this;\n if (!this._initStatus.done) {\n throw new
Error('Cannot bootstrap as there are still asynchronous initializers running. Bootstrap components in the
`ngDoBootstrap` method of the root module.');\n }\n var componentFactory;\n if
(componentOrFactory instanceof ComponentFactory) {\n componentFactory
= componentOrFactory;\n }\n else {\n componentFactory =\n
this._componentFactoryResolver.resolveComponentFactory(componentOrFactory);\n }\n
this.componentTypes.push(componentFactory.componentType);\n // Create a factory associated with the
current module if it's not bound to some other\n var ngModule = isBoundToModule(componentFactory) ?
undefined : this._injector.get(NgModuleRef);\n var selectorOrNode = rootSelectorOrNode ||
componentFactory.selector;\n var compRef = componentFactory.create(Injector.NULL, [], selectorOrNode,
ngModule);\n var nativeElement = compRef.location.nativeElement;\n var testability =
compRef.injector.get(Testability, null);\n var testabilityRegistry = testability &&
compRef.injector.get(TestabilityRegistry);\n if (testability && testabilityRegistry) {\n
testabilityRegistry.registerApplication(nativeElement,
testability);\n }\n compRef.onDestroy(function () {\n
_this.detachView(compRef.hostView);\n remove(_this.components, compRef);\n if
(testabilityRegistry) {\n testabilityRegistry.unregisterApplication(nativeElement);\n }\n
});\n this._loadComponent(compRef);\n if (isDevMode()) {\n this._console.log(\"Angular is
running in development mode. Call enableProdMode() to enable production mode.\");\n }\n return
compRef;\n };\n /**\n * Invoke this method to explicitly process change detection and its side-
effects.\n *\n * In development mode, `tick()` also performs a second change detection cycle to ensure that
no\n * further changes are detected. If additional changes are picked up during this second cycle,\n *
bindings in the app have side-effects
that cannot be resolved in a single change detection\n * pass.\n * In this case, Angular throws an error,
since an Angular application can only have one change\n * detection pass during which all change detection
must complete.\n */\n ApplicationRef.prototype.tick = function () {\n var e_1, _a, e_2, _b;\n
var _this = this;\n if (this._runningTick) {\n throw new Error('ApplicationRef.tick is called
recursively');\n }\n try {\n this._runningTick = true;\n try {\n for (var _c
= __values(this._views), _d = _c.next(); !_d.done; _d = _c.next()) {\n var view = _d.value;\n
view.detectChanges();\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n
finally {\n try {\n if (_d && !_d.done &&
(_a = _c.return)) _a.call(_c);\n }\n finally { if (e_1) throw e_1.error; }\n }\n
// Note that we have still left the `isDevMode()` condition in order to avoid\n // creating a breaking
change for projects that still use the View Engine.\n if ((typeof ngDevMode === 'undefined' ||
ngDevMode) && isDevMode()) {\n try {\n for (var _e = __values(this._views), _f =
_e.next(); !_f.done; _f = _e.next()) {\n var view = _f.value;\n
view.checkNoChanges();\n }\n }\n catch (e_2_1) { e_2 = { error: e_2_1 }; }\n
finally {\n try {\n if (_f && !_f.done && (_b = _e.return)) _b.call(_e);\n
}\n finally { if (e_2) throw e_2.error; }\n
}\n }\n }\n catch (e) {\n // Attention: Don't rethrow as it could cancel
subscriptions to Observables!\n this._zone.runOutsideAngular(function () { return
_this._exceptionHandler.handleError(e); });\n }\n finally {\n this._runningTick = false;\n
}\n };\n /**\n * Attaches a view so that it will be dirty checked.\n * The view will be
automatically detached when it is destroyed.\n * This will throw if the view is already attached to a
ViewContainer.\n */\n ApplicationRef.prototype.attachView = function (viewRef) {\n var view =
viewRef;\n this._views.push(view);\n view.attachToAppRef(this);\n };\n /**\n *
```

Detaches a view from dirty checking again.\n */\n ApplicationRef.prototype.detachView = function (viewRef) {\n var view = viewRef;\n remove(this._views, view);\n view.detachFromAppRef();\n };\n ApplicationRef.prototype._loadComponent = function (componentRef) {\n this.attachView(componentRef.hostView);\n this.tick();\n this.components.push(componentRef);\n // Get the listeners lazily to prevent DI cycles.\n var listeners = this._injector.get(APP_BOOTSTRAP_LISTENER, []).concat(this._bootstrapListeners);\n listeners.forEach(function (listener) { return listener(componentRef); });\n };\n /** @internal */\n ApplicationRef.prototype.ngOnDestroy = function () {\n this._views.slice().forEach(function (view) { return view.destroy(); });\n this._onMicrotaskEmptySubscription.unsubscribe();\n };\n Object.defineProperty(ApplicationRef.prototype, \"viewCount\", {\n /**\n * Returns the number of attached views.\n */\n get: function () {\n return this._views.length;\n },\n enumerable: false,\n configurable: true\n });\n return ApplicationRef;\n }());\n ApplicationRef.decorators = [\n { type: Injectable }\n ];\n ApplicationRef.ctorParameters = function () { return [\n { type: NgZone },\n { type: Console },\n { type: Injector },\n { type: ErrorHandler },\n { type: ComponentFactoryResolver },\n { type: ApplicationInitStatus }\n ]; };\n function remove(list, el) {\n var index = list.indexOf(el);\n if (index > -1) {\n list.splice(index, 1);\n }\n }\n function _lastDefined(args) {\n for (var i = args.length - 1; i >= 0; i--) {\n if (args[i] !== undefined) {\n return args[i];\n }\n }\n return undefined;\n }\n function _mergeArrays(parts) {\n var result = [];\n parts.forEach(function (part) { return part && result.push.apply(result, __spread(part)); });\n return result;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Used to load ng module factories.\n *\n * @publicApi\n * @deprecated the `string` form of `loadChildren` is deprecated, and `NgModuleFactoryLoader`\n is\n * part of its implementation. See `LoadChildren` for more details.\n */\n var NgModuleFactoryLoader = /** @class */ (function () {\n function NgModuleFactoryLoader() {\n }\n return NgModuleFactoryLoader;\n }());\n function getModuleFactory__PRE_R3__(id) {\n var factory = getRegisteredNgModuleType(id);\n if (!factory)\n throw noModuleError(id);\n return factory;\n }\n function getModuleFactory__POST_R3__(id) {\n var type = getRegisteredNgModuleType(id);\n if (!type)\n throw noModuleError(id);\n return new NgModuleFactory$1(type);\n }\n /**\n * Returns the NgModuleFactory with the given id, if it exists and has been loaded.\n * Factories for modules that do not specify an `id` cannot be retrieved. Throws if the module\n * cannot be found.\n * @publicApi\n */\n var getModuleFactory = getModuleFactory__PRE_R3__;\n function noModuleError(id) {\n return new Error(\"No module with ID \" + id + \" loaded\");\n }\n\n var _SEPARATOR = '#';\n var FACTORY_CLASS_SUFFIX = 'NgFactory';\n /**\n * Configuration for SystemJsNgModuleLoader.\n * token.\n *\n * @publicApi\n * @deprecated the `string` form of `loadChildren` is deprecated, and `SystemJsNgModuleLoaderConfig`\n * is part of its implementation. See `LoadChildren` for more details.\n */\n var SystemJsNgModuleLoaderConfig = /** @class */ (function () {\n function SystemJsNgModuleLoaderConfig() {\n }\n return SystemJsNgModuleLoaderConfig;\n }());\n var DEFAULT_CONFIG = {\n factoryPathPrefix: '',\n factoryPathSuffix: '.ngfactory',\n };\n /**\n * NgModuleFactoryLoader that uses SystemJS to load NgModuleFactory\n * @publicApi\n * @deprecated the `string` form of `loadChildren` is deprecated, and `SystemJsNgModuleLoader` is\n * part of its implementation. See `LoadChildren`

```
 for more details.\n     */\n     var SystemJsNgModuleLoader = /** @class */ (function () {\n         function SystemJsNgModuleLoader(_compiler, config) {\n             this._compiler = _compiler;\n             this._config = config || DEFAULT_CONFIG;\n         }\n         SystemJsNgModuleLoader.prototype.load = function (path) {\n             var legacyOfflineMode = !ivyEnabled && this._compiler instanceof Compiler;\n             return legacyOfflineMode ? this.loadFactory(path) : this.loadAndCompile(path);\n         };\n         SystemJsNgModuleLoader.prototype.loadAndCompile = function (path) {\n             var _this = this;\n             var _a = __read(path.split(_SEPARATOR), 2), module = _a[0], exportName = _a[1];\n             if (exportName === undefined) {\n                 exportName = 'default';\n             }\n             return System.import(module)\n                 .then(function (module) { return module[exportName]; })\n                 .then(function (type) { return checkNotEmpty(type,
 module, exportName); })\n                 .then(function (type) { return _this._compiler.compileModuleAsync(type); });\n         };\n         SystemJsNgModuleLoader.prototype.loadFactory = function (path) {\n             var _a = __read(path.split(_SEPARATOR), 2), module = _a[0], exportName = _a[1];\n             var factoryClassSuffix = FACTORY_CLASS_SUFFIX;\n             if (exportName === undefined) {\n                 exportName = 'default';\n                 factoryClassSuffix = '';\n             }\n             return System.import(this._config.factoryPathPrefix + module + this._config.factoryPathSuffix)\n                 .then(function (module) { return module[exportName + factoryClassSuffix]; })\n                 .then(function (factory) { return checkNotEmpty(factory, module, exportName); });\n         };\n         return SystemJsNgModuleLoader;\n     }());\n     SystemJsNgModuleLoader.decorators = [\n         { type: Injectable }\n     ];\n     SystemJsNgModuleLoader.ctorParameters = function
 () { return [\n         { type: Compiler },\n         { type: SystemJsNgModuleLoaderConfig, decorators: [{ type: Optional }] }\n     ]; };\n     function checkNotEmpty(value, modulePath, exportName) {\n         if (!value) {\n             throw new Error(\"Cannot find '\" + exportName + \"' in '\" + modulePath + \"'\");\n         }\n         return value;\n     }\n\n     /**\n      * Represents an Angular [view](guide/glossary#view \"Definition\").\n      *\n      * @see {@link ChangeDetectorRef#usage-notes Change detection usage}\n      *\n      * @publicApi\n      */\n     var ViewRef$1 = /** @class */ (function (_super) {\n         __extends(ViewRef, _super);\n         function ViewRef() {\n             return _super !== null && _super.apply(this, arguments) || this;\n         }\n         return ViewRef;\n     }(ChangeDetectorRef));\n     /**\n      * Represents an Angular [view](guide/glossary#view) in a view container.\n      * An [embedded view](guide/glossary#view-tree) can be referenced from a component\n
     * other than the hosting component whose template defines it, or it can be defined\n      * independently by a `TemplateRef`.\n      *\n      * Properties of elements in a view can change, but the structure (number and order) of elements in\n      * a view cannot. Change the structure of elements by inserting, moving, or\n      * removing nested views in a view container.\n      *\n      * @see `ViewContainerRef`\n      *\n      * @usageNotes\n      *\n      * The following template breaks down into two separate `TemplateRef` instances,\n      * an outer one and an inner one.\n      *\n      * ```\n      * Count: {{items.length}}\n      * <ul>\n      *   <li *ngFor=\"let  item of items\">{{item}}</li>\n      * </ul>\n      * ```\n      *\n      * This is the outer `TemplateRef`:\n      *\n      * ```\n      * Count: {{items.length}}\n      * <ul>\n      *   <ng-template ngFor let-item [ngForOf]=\"items\"></ng-template>\n      * </ul>\n      * ```\n      *\n      * This is the inner `TemplateRef`:\n      *\n
     * ```\n      *   <li>{{item}}</li>\n      * ```\n      *\n      * The outer and inner `TemplateRef` instances are assembled into views as follows:\n      *\n      * ```\n      * <!-- ViewRef: outer-0 -->\n      * Count: 2\n      * <ul>\n      *   <ng-template view-container-ref></ng-template>\n      *   <!-- ViewRef: inner-1 --><li>first</li><!-- /ViewRef: inner-1 -->\n      *   <!-- ViewRef: inner-2 --><li>second</li><!-- /ViewRef: inner-2 -->\n      * </ul>\n      * <!-- /ViewRef: outer-0 -->\n      * ```\n      * @publicApi\n      */\n     var EmbeddedViewRef = /** @class */ (function (_super) {\n         __extends(EmbeddedViewRef, _super);\n         function EmbeddedViewRef() {\n             return _super !== null && _super.apply(this, arguments) || this;\n         }\n         return EmbeddedViewRef;\n     }(ViewRef$1));\n\n     /**\n      * @license\n      * Copyright Google LLC All Rights Reserved.\n      *\n      * Use of this source code is governed by an MIT-style license that can be\n      * found in
 the LICENSE file at https://angular.io/license\n      */\n\n     /**\n      * @publicApi\n      */\n     var DebugEventListener = /** @class */ (function () {\n         function DebugEventListener(name, callback) {\n
```

this.name = name;\n this.callback = callback;\n }\n return DebugEventListener;\n }());\n var DebugNode__PRE_R3__ = /** @class */ (function () {\n function DebugNode__PRE_R3__(nativeNode, parent, _debugContext) {\n this.listeners = [];\n this.parent = null;\n this._debugContext = _debugContext;\n this.nativeNode = nativeNode;\n if (parent && parent instanceof DebugElement__PRE_R3__) {\n parent.addChild(this);\n }\n }\n Object.defineProperty(DebugNode__PRE_R3__.prototype, \"injector\", {\n get: function () {\n return this._debugContext.injector;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugNode__PRE_R3__.prototype, \"componentInstance\", {\n get: function () {\n return this._debugContext.component;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugNode__PRE_R3__.prototype, \"context\", {\n get: function () {\n return this._debugContext.context;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugNode__PRE_R3__.prototype, \"references\", {\n get: function () {\n return this._debugContext.references;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugNode__PRE_R3__.prototype, \"providerTokens\", {\n get: function () {\n return this._debugContext.providerTokens;\n },\n enumerable: false,\n configurable: true\n });\n return DebugNode__PRE_R3__;\n }());\n var DebugElement__PRE_R3__ = /** @class */ (function (_super) {\n __extends(DebugElement__PRE_R3__, _super);\n function DebugElement__PRE_R3__(nativeNode, parent, _debugContext) {\n var _this = _super.call(this, nativeNode, parent, _debugContext) || this;\n _this.properties = {};\n _this.attributes = {};\n _this.classes = {};\n _this.styles = {};\n _this.childNodes = [];\n _this.nativeElement = nativeNode;\n return _this;\n }\n DebugElement__PRE_R3__.prototype.addChild = function (child) {\n if (child) {\n this.childNodes.push(child);\n child.parent = this;\n }\n };\n DebugElement__PRE_R3__.prototype.removeChild = function (child) {\n var childIndex = this.childNodes.indexOf(child);\n if (childIndex !== -1) {\n child.parent = null;\n this.childNodes.splice(childIndex, 1);\n }\n };\n DebugElement__PRE_R3__.prototype.insertChildrenAfter = function (child, newChildren) {\n var _a;\n var _this = this;\n var siblingIndex = this.childNodes.indexOf(child);\n if (siblingIndex !== -1) {\n (_a = this.childNodes).splice.apply(_a, __spread([siblingIndex + 1, 0], newChildren));\n newChildren.forEach(function (c) {\n if (c.parent) {\n c.parent.removeChild(c);\n }\n child.parent = _this;\n });\n }\n };\n DebugElement__PRE_R3__.prototype.insertBefore = function (refChild, newChild) {\n var refIndex = this.childNodes.indexOf(refChild);\n if (refIndex === -1) {\n this.addChild(newChild);\n }\n else {\n if (newChild.parent) {\n newChild.parent.removeChild(newChild);\n }\n newChild.parent = this;\n this.childNodes.splice(refIndex, 0, newChild);\n }\n };\n DebugElement__PRE_R3__.prototype.query = function (predicate) {\n var results = this.queryAll(predicate);\n return results[0] || null;\n };\n DebugElement__PRE_R3__.prototype.queryAll = function (predicate) {\n var matches = [];\n _queryElementChildren(this, predicate, matches);\n return matches;\n };\n DebugElement__PRE_R3__.prototype.queryAllNodes = function (predicate) {\n var matches = [];\n _queryNodeChildren(this, predicate, matches);\n return matches;\n };\n Object.defineProperty(DebugElement__PRE_R3__.prototype, \"children\", {\n get: function () {\n return this.childNodes //\n .filter(function (node) { return node instanceof DebugElement__PRE_R3__; });\n },\n enumerable: false,\n configurable: true\n });\n DebugElement__PRE_R3__.prototype.triggerEventHandler = function (eventName, eventObj) {\n this.listeners.forEach(function (listener) {\n if (listener.name == eventName) {\n listener.callback(eventObj);\n }\n });\n };\n return DebugElement__PRE_R3__;\n }(DebugNode__PRE_R3__));\n /**\n * @publicApi\n */\n function asNativeElements(debugEls) {\n

```
return debugEls.map(function (el) { return el.nativeElement; });\n    }\n    function _queryElementChildren(element, predicate, matches) {\n        element.childNodes.forEach(function (node) {\n            if (node instanceof DebugElement__PRE_R3__) {\n                if (predicate(node)) {\n                    matches.push(node);\n                }\n                _queryElementChildren(node, predicate, matches);\n            }\n        });\n    }\n    function _queryNodeChildren(parentNode, predicate, matches) {\n        if (parentNode instanceof DebugElement__PRE_R3__) {\n            parentNode.childNodes.forEach(function (node) {\n                if (predicate(node)) {\n                    matches.push(node);\n                }\n                if (node instanceof DebugElement__PRE_R3__) {\n                    _queryNodeChildren(node, predicate, matches);\n                }\n            });\n        }\n    }\n    var DebugNode__POST_R3__ = /** @class */ (function () {\n        function DebugNode__POST_R3__(nativeNode) {\n            this.nativeNode = nativeNode;\n        }\n        Object.defineProperty(DebugNode__POST_R3__.prototype, \"parent\", {\n            get: function () {\n                var parent = this.nativeNode.parentNode;\n                return parent ? new DebugElement__POST_R3__(parent) : null;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(DebugNode__POST_R3__.prototype, \"injector\", {\n            get: function () {\n                return getInjector(this.nativeNode);\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(DebugNode__POST_R3__.prototype, \"componentInstance\", {\n            get: function () {\n                var nativeElement = this.nativeNode;\n                return nativeElement &&\n                    (getComponent(nativeElement) || getOwningComponent(nativeElement));\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(DebugNode__POST_R3__.prototype, \"context\", {\n            get: function () {\n                return getComponent(this.nativeNode) || getContext(this.nativeNode);\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(DebugNode__POST_R3__.prototype, \"listeners\", {\n            get: function () {\n                return getListeners(this.nativeNode).filter(function (listener) { return listener.type === 'dom'; });\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(DebugNode__POST_R3__.prototype, \"references\", {\n            get: function () {\n                return getLocalRefs(this.nativeNode);\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(DebugNode__POST_R3__.prototype, \"providerTokens\", {\n            get: function () {\n                return getInjectionTokens(this.nativeNode);\n            },\n            enumerable: false,\n            configurable: true\n        });\n        return DebugNode__POST_R3__;\n    }());\n    var DebugElement__POST_R3__ = /** @class */ (function (_super) {\n        __extends(DebugElement__POST_R3__, _super);\n        function DebugElement__POST_R3__(nativeNode) {\n            var _this = this;\n            ngDevMode && assertDomNode(nativeNode);\n            _this = _super.call(this, nativeNode) || this;\n            return _this;\n        }\n        Object.defineProperty(DebugElement__POST_R3__.prototype, \"nativeElement\", {\n            get: function () {\n                return this.nativeNode.nodeType == Node.ELEMENT_NODE ? this.nativeNode : null;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(DebugElement__POST_R3__.prototype, \"name\", {\n            get: function () {\n                try {\n                    var context = loadLContext(this.nativeNode);\n                    var lView = context.lView;\n                    var tData = lView[TVIEW].data;\n                    var tNode = tData[context.nodeIndex];\n                    return tNode.value;\n                }\n                catch (e) {\n                    return this.nativeNode.nodeName;\n                }\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(DebugElement__POST_R3__.prototype, \"properties\", {\n            /**\n             * Gets a map of property names to property values for an element.\n             *\n             * This map includes:\n             * - Regular property bindings (e.g. `[id]=\"id\"`)\n             * - Host property bindings (e.g. `host: { '[id]': \"id\" }`)\n             * - Interpolated property bindings (e.g. `id=\"{{ value }}\"`)\n             *\n             * It does not include:\n             * - input property bindings (e.g. `[myCustomInput]=\"value\"`)\n             * - attribute bindings (e.g. `[attr.role]=\"menu\"`)\n             */\n            get: function () {\n                var context = loadLContext(this.nativeNode, false);\n                if (context == null) {\n                    return {};\n                }\n                var lView = context.lView;\n                var tData = lView[TVIEW].data;\n                var tNode =
```

tData[context.nodeIndex];\n var properties = {};\n // Collect properties from the DOM.\n copyDomProperties(this.nativeElement, properties);\n // Collect properties from the bindings. This is needed for animation renderer which has\n // synthetic properties which don't get reflected into the DOM.\n collectPropertyBindings(properties, tNode, lView, tData);\n return properties;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugElement__POST_R3__.prototype, \"attributes\", {\n get: function () {\n var attributes = {};\n var element = this.nativeElement;\n if (!element) {\n return attributes;\n }\n var context = loadLContext(element, false);\n if (context == null) {\n return {};\n }\n var lView = context.lView;\n var tNodeAttrs = lView[TVIEW].data[context.nodeIndex].attrs;\n var lowercaseTNodeAttrs = [];\n // For debug nodes we take the element's attribute directly from the DOM since it allows us\n // to account for ones that weren't set via bindings (e.g. ViewEngine keeps track of the ones\n // that are set through `Renderer2`). The problem is that the browser will lowercase all names,\n // however since we have the attributes already on the TNode, we can preserve the case by going\n // through them once, adding them to the `attributes` map and putting their lower-cased name\n // into an array. Afterwards when we're going through the native DOM attributes, we can check\n // whether we haven't run into an attribute already through the TNode.\n if (tNodeAttrs) {\n var i = 0;\n while (i < tNodeAttrs.length) {\n var attrName = tNodeAttrs[i];\n // Stop as soon as we hit a marker. We only care about the regular attributes. Everything\n // else will be handled below when we read the final attributes off the DOM.\n if (typeof attrName !== 'string')\n break;\n var attrValue = tNodeAttrs[i + 1];\n attributes[attrName] = attrValue;\n lowercaseTNodeAttrs.push(attrName.toLowerCase());\n i += 2;\n }\n }\n var eAttrs = element.attributes;\n for (var i = 0; i < eAttrs.length; i++) {\n var attr = eAttrs[i];\n var lowercaseName = attr.name.toLowerCase();\n // Make sure that we don't assign the same attribute both in its\n // case-sensitive form and the lower-cased one from the browser.\n if (lowercaseTNodeAttrs.indexOf(lowercaseName) === -1) {\n // Save the lowercase name to align the behavior between browsers.\n // IE preserves the case, while all other browser convert it to lower case.\n attributes[lowercaseName] = attr.value;\n }\n }\n return attributes;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugElement__POST_R3__.prototype, \"styles\", {\n get: function () {\n if (this.nativeElement\n && this.nativeElement.style) {\n return this.nativeElement.style;\n }\n return {};\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugElement__POST_R3__.prototype, \"classes\", {\n get: function () {\n var result = {};\n var element = this.nativeElement;\n // SVG elements return an `SVGAnimatedString` instead of a plain string for the `className`.\n var className = element.className;\n var classes = className && typeof className !== 'string' ? className.baseVal.split(' ') :\n className.split(' ');\n classes.forEach(function (value) { return result[value] = true; });\n return result;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugElement__POST_R3__.prototype, \"childNodes\", {\n get: function () {\n var childNodes = this.nativeNode.childNodes;\n var children = [];\n for (var i = 0; i < childNodes.length; i++) {\n var element = childNodes[i];\n children.push(getDebugNode__POST_R3__(element));\n }\n return children;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugElement__POST_R3__.prototype, \"children\", {\n get: function () {\n var nativeElement = this.nativeElement;\n if (!nativeElement)\n return [];\n var childNodes = nativeElement.children;\n var children = [];\n for (var i = 0; i < childNodes.length;

```
i++) {\n                var element = childNodes[i];\n
children.push(getDebugNode__POST_R3__(element));\n
            }\n            return children;\n        },\n        enumerable: false,\n        configurable: true\n    });\n
    DebugElement__POST_R3__.prototype.query = function (predicate) {\n        var results =
this.queryAll(predicate);\n        return results[0] || null;\n    };\n
DebugElement__POST_R3__.prototype.queryAll = function (predicate) {\n        var matches = [];\n
_queryAllR3(this, predicate, matches, true);\n        return matches;\n    };\n
DebugElement__POST_R3__.prototype.queryAllNodes = function (predicate) {\n        var matches = [];\n
_queryAllR3(this, predicate, matches, false);\n        return matches;\n    };\n
DebugElement__POST_R3__.prototype.triggerEventHandler = function (eventName, eventObj) {\n        var node
= this.nativeNode;\n        var invokedListeners = [];\n        this.listeners.forEach(function (listener) {\n
        if (listener.name === eventName) {\n            var callback = listener.callback;\n
callback.call(node, eventObj);\n            invokedListeners.push(callback);\n        }\n    });\n    //
We need to check whether `eventListeners` exists, because it's something\n        // that Zone.js only adds to
`EventTarget` in browser environments.\n        if (typeof node.eventListeners === 'function') {\n            // Note
that in Ivy we wrap event listeners with a call to `event.preventDefault` in some\n            // cases. We use
'__ngUnwrap__' as a special token that gives us access to the actual event\n            // listener.\n
node.eventListeners(eventName).forEach(function (listener) {\n                // In order to ensure that we can detect
the special __ngUnwrap__ token described above, we\n                // use `toString` on the listener and see if it
contains the token. We
 use this approach to\n                // ensure that it still worked with compiled code since it cannot remove or rename
string\n                // literals. We also considered using a special function name (i.e. if(listener.name ===\n
    // special)) but that was more cumbersome and we were also concerned the compiled code could\n                //
strip the name, turning the condition in to (\"\" === \"\") and always returning true.\n                if
(listener.toString().indexOf('__ngUnwrap__') !== -1) {\n                    var unwrappedListener =
listener('__ngUnwrap__');\n                    return invokedListeners.indexOf(unwrappedListener) === -1 &&\n
            unwrappedListener.call(node, eventObj);\n                }\n            });\n        }\n    };\n    return
DebugElement__POST_R3__;\n}(DebugNode__POST_R3__));\nfunction copyDomProperties(element,
properties) {\n    if (element) {\n
        // Skip own properties (as those are patched)\n        var obj = Object.getPrototypeOf(element);\n        var
NodePrototype = Node.prototype;\n        while (obj !== null && obj !== NodePrototype) {\n            var
descriptors = Object.getOwnPropertyDescriptors(obj);\n            for (var key in descriptors) {\n                if
(!key.startsWith('__') && !key.startsWith('on')) {\n                    // don't include properties starting with `__` and
`on`.\n                    // `__` are patched values which should not be included.\n                    // `on` are listeners
which also should not be included.\n                    var value = element[key];\n                    if
(isPrimitiveValue(value)) {\n                        properties[key] = value;\n                    }\n                }\n
}\n            obj = Object.getPrototypeOf(obj);\n        }\n    }\n}\nfunction isPrimitiveValue(value)
{\n    return typeof value === 'string' || typeof value === 'boolean' || typeof value === 'number' ||\n        value
=== null;\n}\nfunction _queryAllR3(parentElement, predicate, matches, elementsOnly) {\n    var context =
loadLContext(parentElement.nativeNode, false);\n    if (context !== null) {\n        var parentTNode =
context.lView[TVIEW].data[context.nodeIndex];\n        _queryNodeChildrenR3(parentTNode, context.lView,
predicate, matches, elementsOnly, parentElement.nativeNode);\n    }\n    else {\n        // If the context is null,
then `parentElement` was either created with Renderer2 or native DOM\n        // APIs.\n
_queryNativeNodeDescendants(parentElement.nativeNode, predicate, matches, elementsOnly);\n    }\n}\n
/**\n * Recursively match the current TNode against the predicate, and goes on with the next ones.\n *\n *
@param tNode the current TNode\n * @param lView the LView
 of this TNode\n * @param predicate the predicate to match\n * @param matches the list of positive matches\n
  * @param elementsOnly whether only elements should be searched\n * @param rootNativeNode the root native
```

```
node on which predicate should not be matched\n     */\n    function _queryNodeChildrenR3(tNode, lView,
predicate, matches, elementsOnly, rootNativeNode) {\n        var e_1, _a;\n        ngDevMode &&
assertTNodeForLView(tNode, lView);\n        var nativeNode = getNativeByTNodeOrNull(tNode, lView);\n        //
For each type of TNode, specific logic is executed.\n        if (tNode.type & (3 /* AnyRNode */ | 8 /*
ElementContainer */)) {\n            // Case 1: the TNode is an element\n            // The native node has to be checked.\n
            _addQueryMatchR3(nativeNode, predicate, matches, elementsOnly, rootNativeNode);\n            if
(isComponentHost(tNode)) {\n                // If the element is the host of a component, then all nodes in its view have
 to be processed.\n                // Note: the component's content (tNode.child) will be processed from the insertion
points.\n                var componentView = getComponentLViewByIndex(tNode.index, lView);\n                if
(componentView && componentView[TVIEW].firstChild) {\n
_queryNodeChildrenR3(componentView[TVIEW].firstChild, componentView, predicate, matches, elementsOnly,
rootNativeNode);\n                }\n            }\n            else {\n                if (tNode.child) {\n                    // Otherwise, its
children have to be processed.\n                    _queryNodeChildrenR3(tNode.child, lView, predicate, matches,
elementsOnly, rootNativeNode);\n                }\n                // We also have to query the DOM directly in order to
catch elements inserted through\n                // Renderer2. Note that this is __not__ optimal, because we're walking
similar trees multiple\n                // times. ViewEngine could do it more efficiently, because
 all the insertions go through\n                // Renderer2, however that's not the case in Ivy. This approach is being used
because:\n                // 1. Matching the ViewEngine behavior would mean potentially introducing a depedency\n
        //    from `Renderer2` to Ivy which could bring Ivy code into ViewEngine.\n                // 2. We would have to
make `Renderer3` \"know\" about debug nodes.\n                // 3. It allows us to capture nodes that were inserted
directly via the DOM.\n                nativeNode && _queryNativeNodeDescendants(nativeNode, predicate, matches,
elementsOnly);\n            }\n            // In all cases, if a dynamic container exists for this node, each view inside it has
to be\n            // processed.\n            var nodeOrContainer = lView[tNode.index];\n            if
(isLContainer(nodeOrContainer)) {\n                _queryNodeChildrenInContainerR3(nodeOrContainer, predicate,
matches, elementsOnly, rootNativeNode);\n
 }\n        }\n        else if (tNode.type & 4 /* Container */) {\n            // Case 2: the TNode is a container\n            //
The native node has to be checked.\n            var lContainer = lView[tNode.index];\n
_addQueryMatchR3(lContainer[NATIVE], predicate, matches, elementsOnly, rootNativeNode);\n            // Each
view inside the container has to be processed.\n            _queryNodeChildrenInContainerR3(lContainer, predicate,
matches, elementsOnly, rootNativeNode);\n        }\n        else if (tNode.type & 16 /* Projection */) {\n            // Case
3: the TNode is a projection insertion point (i.e. a <ng-content>).\n            // The nodes projected at this location all
need to be processed.\n            var componentView = lView[DECLARATION_COMPONENT_VIEW];\n
var componentHost = componentView[T_HOST];\n            var head =
componentHost.projection[tNode.projection];\n            if (Array.isArray(head)) {\n                try {\n
  for (var head_1 = __values(head), head_1_1 = head_1.next(); !head_1_1.done; head_1_1 = head_1.next()) {\n
                var nativeNode_1 = head_1_1.value;\n                    _addQueryMatchR3(nativeNode_1, predicate,
matches, elementsOnly, rootNativeNode);\n                }\n            }\n                catch (e_1_1) { e_1 = { error:
e_1_1 }; }\n                finally {\n                    try {\n                        if (head_1_1 && !head_1_1.done && (_a =
head_1.return)) _a.call(head_1);\n                    }\n                    finally { if (e_1) throw e_1.error; }\n                }\n
  }\n            else if (head) {\n                var nextLView = componentView[PARENT];\n                var nextTNode =
nextLView[TVIEW].data[head.index];\n                _queryNodeChildrenR3(nextTNode, nextLView, predicate,
matches, elementsOnly, rootNativeNode);\n            }\n        }\n        else if (tNode.child) {\n            // Case 4: the
TNode
 is a view.\n            _queryNodeChildrenR3(tNode.child, lView, predicate, matches, elementsOnly,
rootNativeNode);\n        }\n        // We don't want to go to the next sibling of the root node.\n        if (rootNativeNode
!== nativeNode) {\n            // To determine the next node to be processed, we need to use the next or the
projectionNext\n            // link, depending on whether the current node has been projected.\n            var nextTNode
= (tNode.flags & 4 /* isProjected */) ? tNode.projectionNext : tNode.next;\n            if (nextTNode) {\n
```

```
_queryNodeChildrenR3(nextTNode, lView, predicate, matches, elementsOnly, rootNativeNode);\n            }\n    }\n    }\n    /**\n     * Process all TNodes in a given container.\n     *\n     * @param lContainer the container to be processed\n     * @param predicate the predicate to match\n     * @param matches the list of positive matches\n     * @param elementsOnly whether only elements should be searched\n     *
 @param rootNativeNode the root native node on which predicate should not be matched\n     */\n    function _queryNodeChildrenInContainerR3(lContainer, predicate, matches, elementsOnly, rootNativeNode) {\n        for (var i = CONTAINER_HEADER_OFFSET; i < lContainer.length; i++) {\n            var childView = lContainer[i];\n
 var firstChild = childView[TVIEW].firstChild;\n            if (firstChild) {\n
_queryNodeChildrenR3(firstChild, childView, predicate, matches, elementsOnly, rootNativeNode);\n            }\n    }\n    }\n    /**\n     * Match the current native node against the predicate.\n     *\n     * @param nativeNode the current native node\n     * @param predicate the predicate to match\n     * @param matches the list of positive matches\n     * @param elementsOnly whether only elements should be searched\n     * @param rootNativeNode the root native node on which predicate should not be matched\n     */\n    function _addQueryMatchR3(nativeNode,
 predicate, matches, elementsOnly, rootNativeNode) {\n        if (rootNativeNode !== nativeNode) {\n            var debugNode = getDebugNode$1(nativeNode);\n            if (!debugNode) {\n                return;\n            }\n            // Type of the \"predicate and \"matches\" array are set based on the value of\n            // the \"elementsOnly\" parameter. TypeScript is not able to properly infer these\n            // types with generics, so we manually cast the parameters accordingly.\n            if (elementsOnly && debugNode instanceof DebugElement__POST_R3__ && predicate(debugNode) &&\n                matches.indexOf(debugNode) === -1) {\n                matches.push(debugNode);\n            }\n            else if (!elementsOnly && predicate(debugNode) &&\n                matches.indexOf(debugNode) === -1) {\n                matches.push(debugNode);\n            }\n        }\n    }\n    /**\n     * Match all the descendants of a DOM node against a predicate.\n     *\n     *
 @param nativeNode the current native node\n     * @param predicate the predicate to match\n     * @param matches the list where matches are stored\n     * @param elementsOnly whether only elements should be searched\n
     */\n    function _queryNativeNodeDescendants(parentNode, predicate, matches, elementsOnly) {\n        var nodes = parentNode.childNodes;\n        var length = nodes.length;\n        for (var i = 0; i < length; i++) {\n            var node = nodes[i];\n            var debugNode = getDebugNode$1(node);\n            if (debugNode) {\n                if (elementsOnly && debugNode instanceof DebugElement__POST_R3__ && predicate(debugNode) &&\n
    matches.indexOf(debugNode) === -1) {\n                    matches.push(debugNode);\n                }\n                else if (!elementsOnly && predicate(debugNode) &&\n                    matches.indexOf(debugNode) === -1) {\n                    matches.push(debugNode);\n                }\n                _queryNativeNodeDescendants(node,
 predicate, matches, elementsOnly);\n            }\n        }\n    }\n    /**\n     * Iterates through the property bindings for a given node and generates\n     * a map of property names to values. This map only contains property bindings\n     * defined in templates, not in host bindings.\n     */\n    function collectPropertyBindings(properties, tNode, lView, tData) {\n        var bindingIndexes = tNode.propertyBindings;\n        if (bindingIndexes !== null) {\n            for (var i = 0; i < bindingIndexes.length; i++) {\n                var bindingIndex = bindingIndexes[i];\n                var propMetadata = tData[bindingIndex];\n                var metadataParts = propMetadata.split(INTERPOLATION_DELIMITER);\n                var propertyName = metadataParts[0];\n                if (metadataParts.length > 1) {\n                    var value = metadataParts[1];\n                    for (var j = 1; j < metadataParts.length - 1; j++) {\n
        value += renderStringify(lView[bindingIndex + j - 1]) + metadataParts[j + 1];\n                    }\n                    properties[propertyName] = value;\n                }\n                else {\n                    properties[propertyName] = lView[bindingIndex];\n                }\n            }\n        }\n    }\n    // Need to keep the nodes in a global Map so that multiple angular apps are supported.\n    var _nativeNodeToDebugNode = new Map();\n    function getDebugNode__PRE_R3__(nativeNode) {\n        return _nativeNodeToDebugNode.get(nativeNode) || null;\n    }\n
 var NG_DEBUG_PROPERTY = '__ng_debug__';\n    function getDebugNode__POST_R3__(nativeNode) {\n        if (nativeNode instanceof Node) {\n            if (!(nativeNode.hasOwnProperty(NG_DEBUG_PROPERTY))) {\n
        nativeNode[NG_DEBUG_PROPERTY] = nativeNode.nodeType == Node.ELEMENT_NODE ?\n
```

new DebugElement__POST_R3__(nativeNode) :\n new DebugNode__POST_R3__(nativeNode);\n }\n return nativeNode[NG_DEBUG_PROPERTY];\n }\n return null;\n }\n /**\n * @publicApi\n */\n var getDebugNode$1 = getDebugNode__PRE_R3__;\n function getDebugNodeR2__PRE_R3__(nativeNode) {\n return getDebugNode__PRE_R3__(nativeNode);\n }\n function getDebugNodeR2__POST_R3__(_nativeNode) {\n return null;\n }\n var getDebugNodeR2 = getDebugNodeR2__PRE_R3__;\n function getAllDebugNodes() {\n return Array.from(_nativeNodeToDebugNode.values());\n }\n function indexDebugNode(node) {\n _nativeNodeToDebugNode.set(node.nativeNode, node);\n }\n function removeDebugNodeFromIndex(node) {\n _nativeNodeToDebugNode.delete(node.nativeNode);\n }\n /**\n * @publicApi\n */\n var DebugNode = DebugNode__PRE_R3__;\n /**\n * @publicApi\n */\n var DebugElement = DebugElement__PRE_R3__;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var _CORE_PLATFORM_PROVIDERS = [\n // Set a default platform name for platforms that don't set it explicitly.\n { provide: PLATFORM_ID, useValue: 'unknown' },\n { provide: PlatformRef, deps: [Injector] },\n { provide: TestabilityRegistry, deps: [] },\n { provide: Console, deps: [] },\n ];\n /**\n * This platform has to be included in any other platform\n *\n * @publicApi\n */\n var platformCore = createPlatformFactory(null, 'core', _CORE_PLATFORM_PROVIDERS);\n\n /**\n * @license\n * Copyright Google LLC All Rights\n Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function _iterableDiffersFactory() {\n return defaultIterableDiffers;\n }\n function _keyValueDiffersFactory() {\n return defaultKeyValueDiffers;\n }\n function _localeFactory(locale) {\n locale = locale || getGlobalLocale();\n if (ivyEnabled) {\n setLocaleId(locale);\n }\n return locale;\n }\n /**\n * Work out the locale from the potential global properties.\n *\n * * Closure Compiler: use `goog.LOCALE`.\n * * Ivy enabled: use `$localize.locale`\n */\n function getGlobalLocale() {\n if (typeof ngI18nClosureMode !== 'undefined' && ngI18nClosureMode &&\n typeof goog !== 'undefined' && goog.LOCALE !== 'en') {\n // * The default `goog.LOCALE` value is `en`, while Angular used `en-US`.\n // * In order to preserve backwards compatibility, we use Angular default value over\n // Closure Compiler's one.\n return goog.LOCALE;\n }\n else {\n // KEEP `typeof $localize !== 'undefined' && $localize.locale` IN SYNC WITH THE LOCALIZE\n // COMPILE-TIME INLINER.\n //\n // * During compile time inlining of translations the expression will be replaced\n // with a string literal that is the current locale. Other forms of this expression are not\n // guaranteed to be replaced.\n //\n // * During runtime translation evaluation, the developer is required to set `$localize.locale`\n // if required, or just to provide their own `LOCALE_ID` provider.\n return (ivyEnabled && typeof $localize !== 'undefined' && $localize.locale) ||\n DEFAULT_LOCALE_ID;\n }\n }\n var 0$f = USD_CURRENCY_CODE;\n /**\n *\n A built-in [dependency injection token](guide/glossary#di-token)\n * that is used to configure the root injector for bootstrapping.\n */\n var APPLICATION_MODULE_PROVIDERS = [\n {\n provide: ApplicationRef,\n useClass: ApplicationRef,\n deps: [NgZone, Console, Injector, ErrorHandler, ComponentFactoryResolver, ApplicationInitStatus]\n },\n { provide: SCHEDULER, deps: [NgZone], useFactory: zoneSchedulerFactory },\n {\n provide: ApplicationInitStatus,\n useClass: ApplicationInitStatus,\n deps: [[new Optional(), APP_INITIALIZER]]\n },\n { provide: Compiler, useClass: Compiler, deps: [] },\n APP_ID_RANDOM_PROVIDER,\n { provide: IterableDiffers, useFactory: _iterableDiffersFactory, deps: [] },\n { provide: KeyValueDiffers, useFactory: _keyValueDiffersFactory, deps: [] },\n {\n provide: LOCALE_ID$1,\n useFactory: _localeFactory,\n

```
deps: [[new Inject(LOCALE_ID$1), new Optional(), new SkipSelf()]]\n        },\n        { provide:
DEFAULT_CURRENCY_CODE, useValue: 0$f },\n    ];\n    /**\n     * Schedule work at next available slot.\n
*\n     * In Ivy this is just `requestAnimationFrame`. For compatibility reasons when bootstrapped\n     * using
`platformRef.bootstrap` we need to use `NgZone.onStable` as the scheduling mechanism.\n     * This overrides the
scheduling mechanism in Ivy to `NgZone.onStable`.\n     *\n     * @param ngZone NgZone to use for scheduling.\n
*/\n    function zoneSchedulerFactory(ngZone) {\n        var queue = [];\n        ngZone.onStable.subscribe(function ()
{\n            while (queue.length) {\n                queue.pop()();\n            }\n        });\n        return function (fn) {\n
queue.push(fn);\n        };\n    }\n    /**\n     * Configures the root injector for an app with\n     * providers of
`@angular/core` dependencies that `ApplicationRef` needs\n
    * to bootstrap components.\n     *\n     * Re-exported by `BrowserModule`, which is included automatically in the
root\n     * `AppModule` when you create a new app with the CLI `new` command.\n     *\n     * @publicApi\n
*/\n    var ApplicationModule = /** @class */ (function () {\n        // Inject ApplicationRef to make it eager...\n
function ApplicationModule(appRef) {\n        }\n        return ApplicationModule;\n    }());\n
ApplicationModule.decorators = [\n        { type: NgModule, args: [{ providers:
APPLICATION_MODULE_PROVIDERS },] }\n    ];\n    ApplicationModule.ctorParameters = function () { return
[\n        { type: ApplicationRef }\n    ]; };\n\n    function anchorDef(flags, matchedQueriesDsl, ngContentIndex,
childCount, handleEvent, templateFactory) {\n        flags |= 1 /* TypeElement */;\n        var _a =
splitMatchedQueriesDsl(matchedQueriesDsl), matchedQueries = _a.matchedQueries, references = _a.references,
matchedQueryIds = _a.matchedQueryIds;\n
        var template = templateFactory ? resolveDefinition(templateFactory) : null;\n        return {\n            // will bet
set by the view definition\n            nodeIndex: -1,\n            parent: null,\n            renderParent: null,\n
bindingIndex: -1,\n            outputIndex: -1,\n            // regular values\n            flags: flags,\n            checkIndex: -1,\n
            childFlags: 0,\n            directChildFlags: 0,\n            childMatchedQueries: 0,\n            matchedQueries:
matchedQueries,\n            matchedQueryIds: matchedQueryIds,\n            references: references,\n
ngContentIndex: ngContentIndex,\n            childCount: childCount,\n            bindings: [],\n            bindingFlags:
0,\n            outputs: [],\n            element: {\n                ns: null,\n                name: null,\n                attrs: null,\n
 template: template,\n                componentProvider: null,\n                componentView:
 null,\n                componentRendererType: null,\n                publicProviders: null,\n                allProviders: null,\n
            handleEvent: handleEvent || NOOP\n            },\n            provider: null,\n            text: null,\n            query:
null,\n            ngContent: null\n        };\n    }\n    function elementDef(checkIndex, flags, matchedQueriesDsl,
ngContentIndex, childCount, namespaceAndName, fixedAttrs, bindings, outputs, handleEvent, componentView,
componentRendererType) {\n        var _a;\n        if (fixedAttrs === void 0) { fixedAttrs = []; }\n        if
(!handleEvent) {\n            handleEvent = NOOP;\n        }\n        var _b =
splitMatchedQueriesDsl(matchedQueriesDsl), matchedQueries = _b.matchedQueries, references = _b.references,
matchedQueryIds = _b.matchedQueryIds;\n        var ns = null;\n        var name = null;\n        if
(namespaceAndName) {\n            _a = __read(splitNamespace(namespaceAndName), 2), ns = _a[0], name =
 _a[1];\n        }\n        bindings = bindings || [];\n        var bindingDefs = [];\n        for (var i = 0; i < bindings.length;
i++) {\n            var _c = __read(bindings[i], 3), bindingFlags = _c[0], namespaceAndName_1 = _c[1],
suffixOrSecurityContext = _c[2];\n            var _d = __read(splitNamespace(namespaceAndName_1), 2), ns_1 =
_d[0], name_1 = _d[1];\n            var securityContext = undefined;\n            var suffix = undefined;\n            switch
(bindingFlags & 15 /* Types */) {\n                case 4 /* TypeElementStyle */:\n                    suffix =
suffixOrSecurityContext;\n                    break;\n                case 1 /* TypeElementAttribute */:\n                case 8 /*
TypeProperty */:\n                    securityContext = suffixOrSecurityContext;\n                    break;\n            }\n
bindingDefs[i] =\n                { flags: bindingFlags, ns: ns_1, name: name_1, nonMinifiedName: name_1,
securityContext: securityContext, suffix: suffix
 };\n        }\n        outputs = outputs || [];\n        var outputDefs = [];\n        for (var i = 0; i < outputs.length; i++) {\n
            var _e = __read(outputs[i], 2), target = _e[0], eventName = _e[1];\n            outputDefs[i] =\n                { type: 0
/* ElementOutput */, target: target, eventName: eventName, propName: null };\n        }\n        fixedAttrs =
```

```
fixedAttrs || [];\n        var attrs = fixedAttrs.map(function (_a) {\n            var _b = __read(_a, 2),
namespaceAndName = _b[0], value = _b[1];\n            var _c = __read(splitNamespace(namespaceAndName), 2), ns
= _c[0], name = _c[1];\n            return [ns, name, value];\n        });\n        componentRendererType =
resolveRendererType2(componentRendererType);\n        if (componentView) {\n            flags |= 33554432 /*
ComponentView */;\n        }\n        flags |= 1 /* TypeElement */;\n        return {\n            // will bet set by the view
definition\n            nodeIndex: -1,\n            parent:
 null,\n            renderParent: null,\n            bindingIndex: -1,\n            outputIndex: -1,\n            // regular values\n
    checkIndex: checkIndex,\n            flags: flags,\n            childFlags: 0,\n            directChildFlags: 0,\n
childMatchedQueries: 0,\n            matchedQueries: matchedQueries,\n            matchedQueryIds:
matchedQueryIds,\n            references: references,\n            ngContentIndex: ngContentIndex,\n            childCount:
childCount,\n            bindings: bindingDefs,\n            bindingFlags: calcBindingFlags(bindingDefs),\n
outputs: outputDefs,\n            element: {\n                ns: ns,\n                name: name,\n                attrs: attrs,\n
template: null,\n                // will bet set by the view definition\n                componentProvider: null,\n
componentView: componentView || null,\n                componentRendererType: componentRendererType,\n
            publicProviders: null,\n                allProviders: null,\n                handleEvent: handleEvent || NOOP,\n
},\n            provider: null,\n            text: null,\n            query: null,\n            ngContent: null\n        };\n    }\n
function createElement(view, renderHost, def) {\n        var elDef = def.element;\n        var rootSelectorOrNode =
view.root.selectorOrNode;\n        var renderer = view.renderer;\n        var el;\n        if (view.parent ||
!rootSelectorOrNode) {\n            if (elDef.name) {\n                el = renderer.createElement(elDef.name, elDef.ns);\n
        }\n            else {\n                el = renderer.createComment('');\n            }\n            var parentEl =
getParentRenderElement(view, renderHost, def);\n            if (parentEl) {\n                renderer.appendChild(parentEl,
el);\n            }\n        }\n        else {\n            // when using native Shadow DOM, do not clear the root element
contents
 to allow slot projection\n            var preserveContent = (!!elDef.componentRendererType &&\n
elDef.componentRendererType.encapsulation === exports.ViewEncapsulation.ShadowDom);\n            el =
renderer.selectRootElement(rootSelectorOrNode, preserveContent);\n        }\n        if (elDef.attrs) {\n            for (var
i = 0; i < elDef.attrs.length; i++) {\n                var _a = __read(elDef.attrs[i], 3), ns = _a[0], name = _a[1], value =
_a[2];\n                renderer.setAttribute(el, name, value, ns);\n            }\n        }\n        return el;\n    }\n    function
listenToElementOutputs(view, compView, def, el) {\n        for (var i = 0; i < def.outputs.length; i++) {\n            var
output = def.outputs[i];\n            var handleEventClosure = renderEventHandlerClosure(view, def.nodeIndex,
elementEventFullName(output.target, output.eventName));\n            var listenTarget = output.target;\n            var
listenerView = view;\n            if (output.target
 === 'component') {\n                listenTarget = null;\n                listenerView = compView;\n            }\n            var
disposable = listenerView.renderer.listen(listenTarget || el, output.eventName, handleEventClosure);\n
view.disposables[def.outputIndex + i] = disposable;\n        }\n    }\n    function renderEventHandlerClosure(view,
index, eventName) {\n        return function (event) { return dispatchEvent(view, index, eventName, event); };\n
}\n    function checkAndUpdateElementInline(view, def, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n        var bindLen
= def.bindings.length;\n        var changed = false;\n        if (bindLen > 0 && checkAndUpdateElementValue(view,
def, 0, v0))\n            changed = true;\n        if (bindLen > 1 && checkAndUpdateElementValue(view, def, 1, v1))\n
        changed = true;\n        if (bindLen > 2 && checkAndUpdateElementValue(view, def, 2, v2))\n            changed =
true;\n        if (bindLen > 3 && checkAndUpdateElementValue(view,
 def, 3, v3))\n            changed = true;\n        if (bindLen > 4 && checkAndUpdateElementValue(view, def, 4, v4))\n
         changed = true;\n        if (bindLen > 5 && checkAndUpdateElementValue(view, def, 5, v5))\n            changed
= true;\n        if (bindLen > 6 && checkAndUpdateElementValue(view, def, 6, v6))\n            changed = true;\n
if (bindLen > 7 && checkAndUpdateElementValue(view, def, 7, v7))\n            changed = true;\n        if (bindLen >
8 && checkAndUpdateElementValue(view, def, 8, v8))\n            changed = true;\n        if (bindLen > 9 &&
checkAndUpdateElementValue(view, def, 9, v9))\n            changed = true;\n        return changed;\n    }\n    function
checkAndUpdateElementDynamic(view, def, values) {\n        var changed = false;\n        for (var i = 0; i <
```

values.length; i++) {\n if (checkAndUpdateElementValue(view, def, i, values[i]))\n changed = true;\n }\n return changed;\n }\n function checkAndUpdateElementValue(view, def, bindingIdx, value) {\n if (!checkAndUpdateBinding(view, def, bindingIdx, value)) {\n return false;\n }\n var binding = def.bindings[bindingIdx];\n var elData = asElementData(view, def.nodeIndex);\n var renderNode = elData.renderElement;\n var name = binding.name;\n switch (binding.flags & 15 /* Types */) {\n case 1 /* TypeElementAttribute */:\n setElementAttribute$1(view, binding, renderNode, binding.ns, name, value);\n break;\n case 2 /* TypeElementClass */:\n setElementClass(view, renderNode, name, value);\n break;\n case 4 /* TypeElementStyle */:\n setElementStyle(view, binding, renderNode, name, value);\n break;\n case 8 /* TypeProperty */:\n var bindView = (def.flags & 33554432 /* ComponentView */ &&\n binding.flags & 32 /* SyntheticHostProperty */) ?\n elData.componentView :\n view;\n setElementProperty(bindView, binding, renderNode, name, value);\n break;\n }\n return true;\n }\n function setElementAttribute$1(view, binding, renderNode, ns, name, value) {\n var securityContext = binding.securityContext;\n var renderValue = securityContext ? view.root.sanitizer.sanitize(securityContext, value) : value;\n renderValue = renderValue != null ? renderValue.toString() : null;\n var renderer = view.renderer;\n if (value != null) {\n renderer.setAttribute(renderNode, name, renderValue, ns);\n }\n else {\n renderer.removeAttribute(renderNode, name, ns);\n }\n }\n function setElementClass(view, renderNode, name, value) {\n var renderer = view.renderer;\n if (value) {\n renderer.addClass(renderNode, name);\n }\n else {\n renderer.removeClass(renderNode, name);\n }\n }\n function setElementStyle(view, binding, renderNode, name, value) {\n var renderValue = view.root.sanitizer.sanitize(exports.SecurityContext.STYLE, value);\n if (renderValue != null) {\n renderValue = renderValue.toString();\n var unit = binding.suffix;\n if (unit != null) {\n renderValue = renderValue + unit;\n }\n }\n else {\n renderValue = null;\n }\n var renderer = view.renderer;\n if (renderValue != null) {\n renderer.setStyle(renderNode, name, renderValue);\n }\n else {\n renderer.removeStyle(renderNode, name);\n }\n }\n function setElementProperty(view, binding, renderNode, name, value) {\n var securityContext = binding.securityContext;\n var renderValue = securityContext ? view.root.sanitizer.sanitize(securityContext, value) : value;\n view.renderer.setProperty(renderNode, name, renderValue);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function queryDef(flags, id, bindings) {\n var bindingDefs = [];\n for (var propName in bindings) {\n var bindingType = bindings[propName];\n bindingDefs.push({ propName: propName, bindingType: bindingType });\n }\n return {\n // will bet set by the view definition\n nodeIndex: -1,\n parent: null,\n renderParent: null,\n bindingIndex: -1,\n outputIndex: -1,\n // regular values\n // TODO(vicb): check\n checkIndex: -1,\n flags: flags,\n childFlags: 0,\n directChildFlags: 0,\n childMatchedQueries: 0,\n ngContentIndex: -1,\n matchedQueries: {},\n matchedQueryIds: 0,\n references: {},\n childCount: 0,\n bindings: [],\n bindingFlags: 0,\n outputs: [],\n element: null,\n provider: null,\n text: null,\n query: { id: id, filterId: filterQueryId(id), bindings: bindingDefs },\n ngContent: null\n };\n }\n function createQuery() {\n return new QueryList();\n }\n function dirtyParentQueries(view) {\n var queryIds = view.def.nodeMatchedQueries;\n while (view.parent && isEmbeddedView(view)) {\n var tplDef = view.parentNodeDef;\n view = view.parent;\n // content queries\n var end = tplDef.nodeIndex + tplDef.childCount;\n for (var i = 0; i <= end; i++) {\n var nodeDef = view.def.nodes[i];\n if ((nodeDef.flags & 67108864 /* TypeContentQuery */) &&\n (nodeDef.flags & 536870912 /* DynamicQuery */) &&\n (nodeDef.query.filterId & queryIds) === nodeDef.query.filterId) {\n

```
    asQueryList(view, i).setDirty();\n            }\n            if ((nodeDef.flags & 1 /* TypeElement */ && i +
nodeDef.childCount < tplDef.nodeIndex) ||\n                !(nodeDef.childFlags & 67108864 /* TypeContentQuery
*/) ||\n                !(nodeDef.childFlags & 536870912 /* DynamicQuery */)) {\n                // skip elements that
don't contain the template element or no query.\n                i += nodeDef.childCount;\n            }\n        }\n
}\n    // view queries\n    if (view.def.nodeFlags & 134217728 /* TypeViewQuery */) {\n        for (var i = 0; i
< view.def.nodes.length; i++) {\n            var nodeDef = view.def.nodes[i];\n            if ((nodeDef.flags &
134217728
 /* TypeViewQuery */) && (nodeDef.flags & 536870912 /* DynamicQuery */)) {\n                asQueryList(view,
i).setDirty();\n            }\n            // only visit the root nodes\n            i += nodeDef.childCount;\n        }\n
  }\n  }\n  function checkAndUpdateQuery(view, nodeDef) {\n    var queryList = asQueryList(view,
nodeDef.nodeIndex);\n    if (!queryList.dirty) {\n        return;\n    }\n    var directiveInstance;\n    var
newValues = undefined;\n    if (nodeDef.flags & 67108864 /* TypeContentQuery */) {\n        var elementDef =
nodeDef.parent.parent;\n        newValues = calcQueryValues(view, elementDef.nodeIndex,
elementDef.nodeIndex + elementDef.childCount, nodeDef.query, []);\n        directiveInstance =
asProviderData(view, nodeDef.parent.nodeIndex).instance;\n    }\n    else if (nodeDef.flags & 134217728 /*
TypeViewQuery */) {\n        newValues = calcQueryValues(view, 0, view.def.nodes.length
 - 1, nodeDef.query, []);\n        directiveInstance = view.component;\n    }\n    queryList.reset(newValues);\n
    var bindings = nodeDef.query.bindings;\n    var notify = false;\n    for (var i = 0; i < bindings.length; i++)
{\n        var binding = bindings[i];\n        var boundValue = void 0;\n        switch (binding.bindingType) {\n
        case 0 /* First */:\n                boundValue = queryList.first;\n                break;\n            case 1 /* All
*/:\n                boundValue = queryList;\n                notify = true;\n                break;\n        }\n
directiveInstance[binding.propName] = boundValue;\n    }\n    if (notify) {\n
queryList.notifyOnChanges();\n    }\n  }\n  function calcQueryValues(view, startIndex, endIndex, queryDef,
values) {\n    for (var i = startIndex; i <= endIndex; i++) {\n        var nodeDef = view.def.nodes[i];\n
        var valueType = nodeDef.matchedQueries[queryDef.id];\n        if (valueType != null) {\n
values.push(getQueryValue(view, nodeDef, valueType));\n        }\n        if (nodeDef.flags & 1 /* TypeElement
*/ && nodeDef.element.template &&\n            (nodeDef.element.template.nodeMatchedQueries &
queryDef.filterId) ===\n                queryDef.filterId) {\n            var elementData = asElementData(view, i);\n
        // check embedded views that were attached at the place of their template,\n            // but process child
nodes first if some match the query (see issue #16568)\n            if ((nodeDef.childMatchedQueries &
queryDef.filterId) === queryDef.filterId) {\n                calcQueryValues(view, i + 1, i + nodeDef.childCount,
queryDef, values);\n                i += nodeDef.childCount;\n            }\n            if (nodeDef.flags & 16777216 /*
EmbeddedViews */) {\n                var embeddedViews
 = elementData.viewContainer._embeddedViews;\n                for (var k = 0; k < embeddedViews.length; k++) {\n
                var embeddedView = embeddedViews[k];\n                    var dvc =
declaredViewContainer(embeddedView);\n                    if (dvc && dvc === elementData) {\n
calcQueryValues(embeddedView, 0, embeddedView.def.nodes.length - 1, queryDef, values);\n                    }\n
        }\n            }\n            var projectedViews = elementData.template._projectedViews;\n            if
(projectedViews) {\n                for (var k = 0; k < projectedViews.length; k++) {\n                    var
projectedView = projectedViews[k];\n                    calcQueryValues(projectedView, 0,
projectedView.def.nodes.length - 1, queryDef, values);\n                }\n            }\n        }\n        if
((nodeDef.childMatchedQueries & queryDef.filterId) !== queryDef.filterId)
 {\n            // if no child matches the query, skip the children.\n            i += nodeDef.childCount;\n        }\n
 }\n    return values;\n  }\n  function getQueryValue(view, nodeDef, queryValueType) {\n    if
(queryValueType != null) {\n        // a match\n        switch (queryValueType) {\n            case 1 /*
RenderElement */:\n                return asElementData(view, nodeDef.nodeIndex).renderElement;\n            case 0
/* ElementRef */:\n                return new ElementRef(asElementData(view,
nodeDef.nodeIndex).renderElement);\n            case 2 /* TemplateRef */:\n                return
```

```
asElementData(view, nodeDef.nodeIndex).template;\n            case 3 /* ViewContainerRef */:\n                return asElementData(view, nodeDef.nodeIndex).viewContainer;\n            case 4 /* Provider */:\n                return asProviderData(view, nodeDef.nodeIndex).instance;\n            }\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    function ngContentDef(ngContentIndex, index) {\n        return {\n            // will bet set by the view definition\n            nodeIndex: -1,\n            parent: null,\n            renderParent: null,\n            bindingIndex: -1,\n            outputIndex: -1,\n            // regular values\n            checkIndex: -1,\n            flags: 8 /* TypeNgContent */,\n            childFlags: 0,\n            directChildFlags: 0,\n            childMatchedQueries: 0,\n            matchedQueries: {},\n            matchedQueryIds: 0,\n            references: {},\n            ngContentIndex: ngContentIndex,\n            childCount: 0,\n            bindings: [],\n            bindingFlags: 0,\n            outputs: [],\n            element: null,\n            provider: null,\n            text: null,\n            query: null,\n            ngContent: { index: index }\n        };\n    }\n    function appendNgContent(view, renderHost, def) {\n        var parentEl = getParentRenderElement(view, renderHost, def);\n        if (!parentEl) {\n            // Nothing to do if there is no parent element.\n            return;\n        }\n        var ngContentIndex = def.ngContent.index;\n        visitProjectedRenderNodes(view, ngContentIndex, 1 /* AppendChild */, parentEl, null, undefined);\n    }\n\n    function purePipeDef(checkIndex, argCount) {\n        // argCount + 1 to include the pipe as first arg\n        return _pureExpressionDef(128 /* TypePurePipe */, checkIndex, newArray(argCount + 1));\n    }\n    function pureArrayDef(checkIndex, argCount) {\n        return _pureExpressionDef(32 /* TypePureArray */, checkIndex, newArray(argCount));\n    }\n    function pureObjectDef(checkIndex, propToIndex) {\n        var keys = Object.keys(propToIndex);\n        var nbKeys = keys.length;\n        var propertyNames = [];\n        for (var i = 0; i < nbKeys; i++) {\n            var key = keys[i];\n            var index = propToIndex[key];\n            propertyNames.push(key);\n        }\n        return _pureExpressionDef(64 /* TypePureObject */, checkIndex, propertyNames);\n    }\n    function _pureExpressionDef(flags, checkIndex, propertyNames) {\n        var bindings = [];\n        for (var i = 0; i < propertyNames.length; i++) {\n            var prop = propertyNames[i];\n            bindings.push({\n                flags: 8 /* TypeProperty */,\n                name: prop,\n                ns: null,\n                nonMinifiedName: prop,\n                securityContext: null,\n                suffix: null\n            });\n        }\n        return {\n            // will bet set by the view definition\n            nodeIndex: -1,\n            parent: null,\n            renderParent: null,\n            bindingIndex: -1,\n            outputIndex: -1,\n            // regular values\n            checkIndex: checkIndex,\n            flags: flags,\n            childFlags: 0,\n            directChildFlags: 0,\n            childMatchedQueries: 0,\n            matchedQueries: {},\n            matchedQueryIds: 0,\n            references: {},\n            ngContentIndex: -1,\n            childCount: 0,\n            bindings: bindings,\n            bindingFlags: calcBindingFlags(bindings),\n            outputs: [],\n            element: null,\n            provider: null,\n            text: null,\n            query: null,\n            ngContent: null\n        };\n    }\n    function createPureExpression(view, def) {\n        return { value: undefined };\n    }\n    function checkAndUpdatePureExpressionInline(view, def, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n        var bindings = def.bindings;\n        var changed = false;\n        var bindLen = bindings.length;\n        if (bindLen > 0 && checkAndUpdateBinding(view,\n         def, 0, v0))\n            changed = true;\n        if (bindLen > 1 && checkAndUpdateBinding(view, def, 1, v1))\n            changed = true;\n        if (bindLen > 2 && checkAndUpdateBinding(view, def, 2, v2))\n            changed = true;\n        if (bindLen > 3 && checkAndUpdateBinding(view, def, 3, v3))\n            changed = true;\n        if (bindLen > 4 && checkAndUpdateBinding(view, def, 4, v4))\n            changed = true;\n        if (bindLen > 5 && checkAndUpdateBinding(view, def, 5, v5))\n            changed = true;\n        if (bindLen > 6 && checkAndUpdateBinding(view, def, 6, v6))\n            changed = true;\n        if (bindLen > 7 && checkAndUpdateBinding(view, def, 7, v7))\n            changed = true;\n        if (bindLen > 8 && checkAndUpdateBinding(view, def, 8, v8))\n            changed = true;\n        if (bindLen > 9 && checkAndUpdateBinding(view, def, 9, v9))\n            changed = true;\n        if (changed) {\n            var data = asPureExpressionData(view,
```

```
def.nodeIndex);\n            var value = void 0;\n            switch (def.flags & 201347067 /* Types */) {\n                case 32 /* TypePureArray */:\n                    value = [];\n                    if (bindLen > 0)\n                        value.push(v0);\n                    if (bindLen > 1)\n                        value.push(v1);\n                    if (bindLen > 2)\n                        value.push(v2);\n                    if (bindLen > 3)\n                        value.push(v3);\n                    if (bindLen > 4)\n                        value.push(v4);\n                    if (bindLen > 5)\n                        value.push(v5);\n                    if (bindLen > 6)\n                        value.push(v6);\n                    if (bindLen > 7)\n                        value.push(v7);\n                    if (bindLen > 8)\n                        value.push(v8);\n                    if (bindLen > 9)\n                        value.push(v9);\n\n                    break;\n                case 64 /* TypePureObject */:\n                    value = {};\n                    if (bindLen > 0)\n                        value[bindings[0].name] = v0;\n                    if (bindLen > 1)\n                        value[bindings[1].name] = v1;\n                    if (bindLen > 2)\n                        value[bindings[2].name] = v2;\n                    if (bindLen > 3)\n                        value[bindings[3].name] = v3;\n                    if (bindLen > 4)\n                        value[bindings[4].name] = v4;\n                    if (bindLen > 5)\n                        value[bindings[5].name] = v5;\n                    if (bindLen > 6)\n                        value[bindings[6].name] = v6;\n                    if (bindLen > 7)\n                        value[bindings[7].name] = v7;\n                    if (bindLen > 8)\n                        value[bindings[8].name] = v8;\n                    if (bindLen > 9)\n                        value[bindings[9].name]\n                        = v9;\n                    break;\n                case 128 /* TypePurePipe */:\n                    var pipe = v0;\n                    switch (bindLen) {\n                        case 1:\n                            value = pipe.transform(v0);\n                            break;\n                        case 2:\n                            value = pipe.transform(v1);\n                            break;\n                        case 3:\n                            value = pipe.transform(v1, v2);\n                            break;\n                        case 4:\n                            value = pipe.transform(v1, v2, v3);\n                            break;\n                        case 5:\n                            value = pipe.transform(v1, v2, v3, v4);\n                            break;\n                        case 6:\n                            value = pipe.transform(v1, v2, v3, v4, v5);\n                            break;\n                        case\n                        7:\n                            value = pipe.transform(v1, v2, v3, v4, v5, v6);\n                            break;\n                        case\n                        8:\n                            value = pipe.transform(v1, v2, v3, v4, v5, v6, v7);\n                            break;\n                        case 9:\n                            value = pipe.transform(v1, v2, v3, v4, v5, v6, v7, v8);\n                            break;\n                        case 10:\n                            value = pipe.transform(v1, v2, v3, v4, v5, v6, v7, v8, v9);\n                            break;\n                    }\n                    break;\n            }\n            data.value = value;\n        }\n        return changed;\n    }\n    function checkAndUpdatePureExpressionDynamic(view, def, values) {\n        var bindings = def.bindings;\n        var changed = false;\n        for (var i = 0; i < values.length; i++) {\n            // Note: We need to loop over all values, so that\n            // the old values\n            are updates as well!\n            if (checkAndUpdateBinding(view, def, i, values[i])) {\n                changed = true;\n            }\n        }\n        if (changed) {\n            var data = asPureExpressionData(view, def.nodeIndex);\n            var value = void 0;\n            switch (def.flags & 201347067 /* Types */) {\n                case 32 /* TypePureArray */:\n                    value = values;\n                    break;\n                case 64 /* TypePureObject */:\n                    value = {};\n                    for (var i = 0; i < values.length; i++) {\n                        value[bindings[i].name] = values[i];\n                    }\n                    break;\n                case 128 /* TypePurePipe */:\n                    var pipe = values[0];\n                    var params = values.slice(1);\n                    value = pipe.transform.apply(pipe, __spread(params));\n                    break;\n            }\n            data.value = value;\n        }\n        return changed;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    function textDef(checkIndex, ngContentIndex, staticText) {\n        var bindings = [];\n        for (var i = 1; i < staticText.length; i++) {\n            bindings[i - 1] = {\n                flags: 8 /* TypeProperty */,\n                name: null,\n                ns: null,\n                nonMinifiedName: null,\n                securityContext: null,\n                suffix: staticText[i],\n            };\n        }\n        return {\n            // will bet set by the view definition\n            nodeIndex: -1,\n            parent: null,\n            renderParent: null,\n            bindingIndex: -1,\n            outputIndex: -1,\n            // regular values\n            checkIndex: checkIndex,\n
```

```
flags: 2 /* TypeText */,\n childFlags: 0,\n directChildFlags: 0,\n childMatchedQueries: 0,\n matchedQueries: {},\n matchedQueryIds: 0,\n references: {},\n ngContentIndex: ngContentIndex,\n childCount: 0,\n bindings: bindings,\n bindingFlags: 8 /* TypeProperty */,\n outputs: [],\n element: null,\n provider: null,\n text: { prefix: staticText[0] },\n query: null,\n ngContent: null,\n };\n }\n function createText(view, renderHost, def) {\n var renderNode;\n var renderer = view.renderer;\n renderNode = renderer.createText(def.text.prefix);\n var parentEl = getParentRenderElement(view, renderHost, def);\n if (parentEl) {\n renderer.appendChild(parentEl, renderNode);\n }\n return { renderText: renderNode };\n }\n function checkAndUpdateTextInline(view,
 def, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n var changed = false;\n var bindings = def.bindings;\n var bindLen = bindings.length;\n if (bindLen > 0 && checkAndUpdateBinding(view, def, 0, v0))\n changed = true;\n if (bindLen > 1 && checkAndUpdateBinding(view, def, 1, v1))\n changed = true;\n if (bindLen > 2 && checkAndUpdateBinding(view, def, 2, v2))\n changed = true;\n if (bindLen > 3 && checkAndUpdateBinding(view, def, 3, v3))\n changed = true;\n if (bindLen > 4 && checkAndUpdateBinding(view, def, 4, v4))\n changed = true;\n if (bindLen > 5 && checkAndUpdateBinding(view, def, 5, v5))\n changed = true;\n if (bindLen > 6 && checkAndUpdateBinding(view, def, 6, v6))\n changed = true;\n if (bindLen > 7 && checkAndUpdateBinding(view, def, 7, v7))\n changed = true;\n if (bindLen > 8 && checkAndUpdateBinding(view,
 def, 8, v8))\n changed = true;\n if (bindLen > 9 && checkAndUpdateBinding(view, def, 9, v9))\n changed = true;\n if (changed) {\n var value = def.text.prefix;\n if (bindLen > 0)\n value += _addInterpolationPart(v0, bindings[0]);\n if (bindLen > 1)\n value += _addInterpolationPart(v1, bindings[1]);\n if (bindLen > 2)\n value += _addInterpolationPart(v2, bindings[2]);\n if (bindLen > 3)\n value += _addInterpolationPart(v3, bindings[3]);\n if (bindLen > 4)\n value += _addInterpolationPart(v4, bindings[4]);\n if (bindLen > 5)\n value += _addInterpolationPart(v5, bindings[5]);\n if (bindLen > 6)\n value += _addInterpolationPart(v6, bindings[6]);\n if (bindLen > 7)\n value += _addInterpolationPart(v7, bindings[7]);\n if (bindLen > 8)\n value += _addInterpolationPart(v8, bindings[8]);\n if (bindLen > 9)\n value += _addInterpolationPart(v9, bindings[9]);\n var renderNode = asTextData(view, def.nodeIndex).renderText;\n view.renderer.setValue(renderNode, value);\n }\n return changed;\n }\n function checkAndUpdateTextDynamic(view, def, values) {\n var bindings = def.bindings;\n var changed = false;\n for (var i = 0; i < values.length; i++) {\n // Note: We need to loop over all values, so that\n // the old values are updates as well!\n if (checkAndUpdateBinding(view, def, i, values[i])) {\n changed = true;\n }\n }\n if (changed) {\n var value = '';\n for (var i = 0; i < values.length; i++) {\n value = value + _addInterpolationPart(values[i], bindings[i]);\n }\n value = def.text.prefix
 + value;\n var renderNode = asTextData(view, def.nodeIndex).renderText;\n view.renderer.setValue(renderNode, value);\n }\n return changed;\n }\n function _addInterpolationPart(value, binding) {\n var valueStr = value != null ? value.toString() : '';\n return valueStr + binding.suffix;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function viewDef(flags, nodes, updateDirectives, updateRenderer) {\n // clone nodes and set auto calculated values\n var viewBindingCount = 0;\n var viewDisposableCount = 0;\n var viewNodeFlags = 0;\n var viewRootNodeFlags = 0;\n var viewMatchedQueries = 0;\n var currentParent = null;\n var currentRenderParent = null;\n var currentElementHasPublicProviders = false;\n var currentElementHasPrivateProviders = false;\n var lastRenderRootNode = null;\n for (var i = 0; i < nodes.length; i++) {\n var node = nodes[i];\n node.nodeIndex = i;\n node.parent = currentParent;\n node.bindingIndex = viewBindingCount;\n node.outputIndex =
```

```
viewDisposableCount;\n            node.renderParent = currentRenderParent;\n            viewNodeFlags |= node.flags;\n
        viewMatchedQueries |= node.matchedQueryIds;\n            if (node.element) {\n                var elDef =
node.element;\n                elDef.publicProviders =\n                    currentParent ?
currentParent.element.publicProviders : Object.create(null);\n                elDef.allProviders =
elDef.publicProviders;\n                // Note: We assume that all providers of an element are before any child
element!\n                currentElementHasPublicProviders = false;\n                currentElementHasPrivateProviders
 = false;\n                if (node.element.template) {\n                    viewMatchedQueries |=
node.element.template.nodeMatchedQueries;\n                }\n            }\n            validateNode(currentParent, node,
nodes.length);\n            viewBindingCount += node.bindings.length;\n            viewDisposableCount +=
node.outputs.length;\n            if (!currentRenderParent && (node.flags & 3 /* CatRenderNode */)) {\n
lastRenderRootNode = node;\n            }\n            if (node.flags & 20224 /* CatProvider */) {\n                if
(!currentElementHasPublicProviders) {\n                    currentElementHasPublicProviders = true;\n                    // Use
prototypical inheritance to not get O(n^2) complexity...\n                    currentParent.element.publicProviders =\n
            Object.create(currentParent.element.publicProviders);\n                    currentParent.element.allProviders =
currentParent.element.publicProviders;\n
            }\n                var isPrivateService = (node.flags & 8192 /* PrivateProvider */) !== 0;\n                var
isComponent = (node.flags & 32768 /* Component */) !== 0;\n                if (!isPrivateService || isComponent) {\n
            currentParent.element.publicProviders[tokenKey(node.provider.token)] = node;\n                }\n
else {\n                    if (!currentElementHasPrivateProviders) {\n                        currentElementHasPrivateProviders
= true;\n                        // Use prototypical inheritance to not get O(n^2) complexity...\n
currentParent.element.allProviders =\n                            Object.create(currentParent.element.publicProviders);\n
            }\n                    currentParent.element.allProviders[tokenKey(node.provider.token)] = node;\n                }\n
        if (isComponent) {\n                    currentParent.element.componentProvider
 = node;\n                }\n            }\n            if (currentParent) {\n                currentParent.childFlags |= node.flags;\n
        currentParent.directChildFlags |= node.flags;\n                currentParent.childMatchedQueries |=
node.matchedQueryIds;\n                if (node.element && node.element.template) {\n
currentParent.childMatchedQueries |= node.element.template.nodeMatchedQueries;\n                }\n            }\n
else {\n                viewRootNodeFlags |= node.flags;\n            }\n            if (node.childCount > 0) {\n
currentParent = node;\n                if (!isNgContainer(node)) {\n                    currentRenderParent = node;\n
}\n            }\n            else {\n                // When the current node has no children, check if it is the last children of its
parent.\n                // When it is, propagate the flags up.\n                // The loop is required because an element
 could be the last transitive children of several\n                // elements. We loop to either the root or the highest
opened element (= with remaining\n                // children)\n                while (currentParent && i ===
currentParent.nodeIndex + currentParent.childCount) {\n                    var newParent = currentParent.parent;\n
        if (newParent) {\n                        newParent.childFlags |= currentParent.childFlags;\n
newParent.childMatchedQueries |= currentParent.childMatchedQueries;\n                    }\n                    currentParent
= newParent;\n                    // We also need to update the render parent & account for ng-container\n                    if
(currentParent && isNgContainer(currentParent)) {\n                        currentRenderParent =
currentParent.renderParent;\n                    }\n                    else {\n                        currentRenderParent =
currentParent;\n
  }\n                }\n            }\n        }\n        var handleEvent = function (view, nodeIndex, eventName, event) { return
nodes[nodeIndex].element.handleEvent(view, eventName, event); };\n        return {\n            // Will be filled
later...\n            factory: null,\n            nodeFlags: viewNodeFlags,\n            rootNodeFlags: viewRootNodeFlags,\n
        nodeMatchedQueries: viewMatchedQueries,\n            flags: flags,\n            nodes: nodes,\n
updateDirectives: updateDirectives || NOOP,\n            updateRenderer: updateRenderer || NOOP,\n
handleEvent: handleEvent,\n            bindingCount: viewBindingCount,\n            outputCount:
viewDisposableCount,\n            lastRenderRootNode: lastRenderRootNode\n        };\n    }\n    function
isNgContainer(node) {\n        return (node.flags & 1 /* TypeElement */) !== 0 && node.element.name === null;\n
```

```
}\n    function validateNode(parent, node, nodeCount) {\n        var template = node.element
 && node.element.template;\n        if (template) {\n            if (!template.lastRenderRootNode) {\n                throw
new Error(\"Illegal State: Embedded templates without nodes are not allowed!\");\n            }\n            if
(template.lastRenderRootNode &&\n                template.lastRenderRootNode.flags & 16777216 /* EmbeddedViews
*/) {\n                throw new Error(\"Illegal State: Last root node of a template can't have embedded views, at index \"
+ node.nodeIndex + \"!\");\n            }\n        }\n        if (node.flags & 20224 /* CatProvider */) {\n            var
parentFlags = parent ? parent.flags : 0;\n            if ((parentFlags & 1 /* TypeElement */) === 0) {\n                throw
new Error(\"Illegal State: StaticProvider/Directive nodes need to be children of elements or anchors, at index \" +
node.nodeIndex + \"!\");\n            }\n        }\n        if (node.query) {\n            if (node.flags & 67108864 /*
TypeContentQuery */ &&\n
  (!parent || (parent.flags & 16384 /* TypeDirective */) === 0)) {\n                throw new Error(\"Illegal State:
Content Query nodes need to be children of directives, at index \" + node.nodeIndex + \"!\");\n            }\n            if
(node.flags & 134217728 /* TypeViewQuery */ && parent) {\n                throw new Error(\"Illegal State: View
Query nodes have to be top level nodes, at index \" + node.nodeIndex + \"!\");\n            }\n        }\n        if
(node.childCount) {\n            var parentEnd = parent ? parent.nodeIndex + parent.childCount : nodeCount - 1;\n
 if (node.nodeIndex <= parentEnd && node.nodeIndex + node.childCount > parentEnd) {\n                throw new
Error(\"Illegal State: childCount of node leads outside of parent, at index \" + node.nodeIndex + \"!\");\n            }\n
  }\n    }\n    function createEmbeddedView(parent, anchorDef, viewDef, context) {\n        // embedded views are
seen as siblings to the anchor, so we need\n
 // to get the parent of the anchor and use it as parentIndex.\n        var view = createView(parent.root,
parent.renderer, parent, anchorDef, viewDef);\n        initView(view, parent.component, context);\n
createViewNodes(view);\n        return view;\n    }\n    function createRootView(root, def, context) {\n        var view
= createView(root, root.renderer, null, null, def);\n        initView(view, context, context);\n
createViewNodes(view);\n        return view;\n    }\n    function createComponentView(parentView, nodeDef,
viewDef, hostElement) {\n        var rendererType = nodeDef.element.componentRendererType;\n        var
compRenderer;\n        if (!rendererType) {\n            compRenderer = parentView.root.renderer;\n        }\n        else
{\n            compRenderer = parentView.root.rendererFactory.createRenderer(hostElement, rendererType);\n        }\n
    return createView(parentView.root, compRenderer, parentView, nodeDef.element.componentProvider,
viewDef);\n
  }\n    function createView(root, renderer, parent, parentNodeDef, def) {\n        var nodes = new
Array(def.nodes.length);\n        var disposables = def.outputCount ? new Array(def.outputCount) : null;\n        var
view = {\n            def: def,\n            parent: parent,\n            viewContainerParent: null,\n            parentNodeDef:
parentNodeDef,\n            context: null,\n            component: null,\n            nodes: nodes,\n            state: 13 /* CatInit
*/,\n            root: root,\n            renderer: renderer,\n            oldValues: new Array(def.bindingCount),\n
disposables: disposables,\n            initIndex: -1\n        };\n        return view;\n    }\n    function initView(view,
component, context) {\n        view.component = component;\n        view.context = context;\n    }\n    function
createViewNodes(view) {\n        var renderHost;\n        if (isComponentView(view)) {\n            var hostDef =
view.parentNodeDef;\n            renderHost
 = asElementData(view.parent, hostDef.parent.nodeIndex).renderElement;\n        }\n        var def = view.def;\n
var nodes = view.nodes;\n        for (var i = 0; i < def.nodes.length; i++) {\n            var nodeDef = def.nodes[i];\n
 Services.setCurrentNode(view, i);\n            var nodeData = void 0;\n            switch (nodeDef.flags & 201347067 /*
Types */) {\n                case 1 /* TypeElement */:\n                    var el = createElement(view, renderHost,
nodeDef);\n                    var componentView = undefined;\n                    if (nodeDef.flags & 33554432 /*
ComponentView */) {\n                        var compViewDef = resolveDefinition(nodeDef.element.componentView);\n
                componentView = Services.createComponentView(view, nodeDef, compViewDef, el);\n
}\n                    listenToElementOutputs(view, componentView, nodeDef, el);\n                    nodeData = {\n
        renderElement:
```

```
el,\n componentView: componentView,\n viewContainer: null,\n template: nodeDef.element.template ? createTemplateData(view, nodeDef) : undefined\n };\n if (nodeDef.flags & 16777216 /* EmbeddedViews */) {\n nodeData.viewContainer = createViewContainerData(view, nodeDef, nodeData);\n }\n break;\n case 2 /* TypeText */:\n nodeData = createText(view, renderHost, nodeDef);\n break;\n case 512 /* TypeClassProvider */:\n case 1024 /* TypeFactoryProvider */:\n case 2048 /* TypeUseExistingProvider */:\n case 256 /* TypeValueProvider */: {\n nodeData = nodes[i];\n if (!nodeData && !(nodeDef.flags & 4096 /* LazyProvider */)) {\n var instance = createProviderInstance(view, nodeDef);\n nodeData = { instance: instance };\n }\n break;\n }\n case 16 /* TypePipe */: {\n var instance = createPipeInstance(view, nodeDef);\n nodeData = { instance: instance };\n break;\n }\n case 16384 /* TypeDirective */: {\n nodeData = nodes[i];\n if (!nodeData) {\n var instance = createDirectiveInstance(view, nodeDef);\n nodeData = { instance: instance };\n }\n if (nodeDef.flags & 32768 /* Component */) {\n var compView = asElementData(view, nodeDef.parent.nodeIndex).componentView;\n initView(compView, nodeData.instance, nodeData.instance);\n }\n break;\n }\n case 32 /* TypePureArray */:\n case 64 /* TypePureObject */:\n case 128 /* TypePurePipe */:\n nodeData = createPureExpression(view, nodeDef);\n break;\n case 67108864 /* TypeContentQuery */:\n case 134217728 /* TypeViewQuery */:\n nodeData = createQuery();\n break;\n case 8 /* TypeNgContent */:\n appendNgContent(view, renderHost, nodeDef);\n // no runtime data needed for NgContent...\n nodeData = undefined;\n break;\n }\n nodes[i] = nodeData;\n }\n // Create the ViewData.nodes of component views after we created everything else,\n // so that e.g. ng-content works\n execComponentViewsAction(view, ViewAction.CreateViewNodes);\n // fill static content and view queries\n execQueriesAction(view, 67108864 /* TypeContentQuery */ | 134217728 /* TypeViewQuery */, 268435456 /* StaticQuery */, 0 /* CheckAndUpdate */);\n }\n function checkNoChangesView(view) {\n markProjectedViewsForCheck(view);\n Services.updateDirectives(view, 1 /* CheckNoChanges */);\n execEmbeddedViewsAction(view, ViewAction.CheckNoChanges);\n Services.updateRenderer(view, 1 /* CheckNoChanges */);\n execComponentViewsAction(view, ViewAction.CheckNoChanges);\n // Note: We don't check queries for changes as we didn't do this in v2.x.\n // TODO(tbosch): investigate if we can enable the check again in v5.x with a nicer error message.\n view.state &= ~(64 /* CheckProjectedViews */ | 32 /* CheckProjectedView */);\n }\n function checkAndUpdateView(view) {\n if (view.state & 1 /* BeforeFirstCheck */) {\n view.state &= ~1 /* BeforeFirstCheck */;\n view.state |= 2 /* FirstCheck */;\n }\n else {\n view.state &= ~2 /* FirstCheck */;\n }\n shiftInitState(view, 0 /* InitState_BeforeInit */, 256 /* InitState_CallingOnInit */);\n markProjectedViewsForCheck(view);\n Services.updateDirectives(view, 0 /* CheckAndUpdate */);\n execEmbeddedViewsAction(view, ViewAction.CheckAndUpdate);\n execQueriesAction(view, 67108864 /* TypeContentQuery */, 536870912 /* DynamicQuery */, 0 /* CheckAndUpdate */);\n var callInit = shiftInitState(view, 256 /* InitState_CallingOnInit */, 512 /* InitState_CallingAfterContentInit */);\n callLifecycleHooksChildrenFirst(view, 2097152 /* AfterContentChecked */ | (callInit ? 1048576 /* AfterContentInit */ : 0));\n Services.updateRenderer(view, 0 /* CheckAndUpdate */);\n execComponentViewsAction(view, ViewAction.CheckAndUpdate);\n execQueriesAction(view, 134217728 /* TypeViewQuery */, 536870912 /* DynamicQuery */, 0 /* CheckAndUpdate */);\n callInit = shiftInitState(view, 512 /* InitState_CallingAfterContentInit */, 768 /* InitState_CallingAfterViewInit */);\n callLifecycleHooksChildrenFirst(view, 8388608 /* AfterViewChecked */ | (callInit ? 4194304 /* AfterViewInit */ : 0));\n if (view.def.flags & 2 /* OnPush */) {\n view.state &= ~8 /* ChecksEnabled */;\n }\n view.state &= ~(64 /* CheckProjectedViews */ | 32 /*
```

CheckProjectedView */);\n shiftInitState(view, 768 /* InitState_CallingAfterViewInit */, 1024 /* InitState_AfterInit */);\n }\n function checkAndUpdateNode(view, nodeDef, argStyle, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n if (argStyle === 0 /* Inline */) {\n return checkAndUpdateNodeInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n }\n else {\n return checkAndUpdateNodeDynamic(view, nodeDef, v0);\n }\n }\n function markProjectedViewsForCheck(view) {\n var def = view.def;\n if (!(def.nodeFlags & 4 /* ProjectedTemplate */)) {\n return;\n }\n for (var i = 0; i < def.nodes.length; i++) {\n var nodeDef = def.nodes[i];\n if (nodeDef.flags & 4 /* ProjectedTemplate */) {\n var projectedViews = asElementData(view, i).template._projectedViews;\n if (projectedViews) {\n for (var i_1 = 0; i_1 < projectedViews.length; i_1++) {\n var projectedView = projectedViews[i_1];\n projectedView.state |= 32 /* CheckProjectedView */;\n markParentViewsForCheckProjectedViews(projectedView, view);\n }\n }\n }\n else if ((nodeDef.childFlags & 4 /* ProjectedTemplate */) === 0) {\n // a parent with leafs\n // no child is a component,\n // then skip the children\n i += nodeDef.childCount;\n }\n }\n }\n function checkAndUpdateNodeInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n switch (nodeDef.flags & 201347067 /* Types */) {\n case 1 /* TypeElement */:\n return checkAndUpdateElementInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n case 2 /* TypeText */:\n return checkAndUpdateTextInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n case 16384 /* TypeDirective */:\n return checkAndUpdateDirectiveInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n case 32 /* TypePureArray */:\n case 64 /* TypePureObject */:\n case 128 /* TypePurePipe */:\n return checkAndUpdatePureExpressionInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n default:\n throw 'unreachable';\n }\n }\n function checkAndUpdateNodeDynamic(view, nodeDef, values) {\n switch (nodeDef.flags & 201347067 /* Types */) {\n case 1 /* TypeElement */:\n return checkAndUpdateElementDynamic(view, nodeDef, values);\n case 2 /* TypeText */:\n return checkAndUpdateTextDynamic(view, nodeDef, values);\n case 16384 /* TypeDirective */:\n return checkAndUpdateDirectiveDynamic(view, nodeDef, values);\n case 32 /* TypePureArray */:\n case 64 /* TypePureObject */:\n case 128 /* TypePurePipe */:\n return checkAndUpdatePureExpressionDynamic(view, nodeDef, values);\n default:\n throw 'unreachable';\n }\n }\n function checkNoChangesNode(view, nodeDef, argStyle, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n if (argStyle === 0 /* Inline */) {\n checkNoChangesNodeInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n }\n else {\n checkNoChangesNodeDynamic(view, nodeDef, v0);\n }\n // Returning false is ok here as we would have thrown in case of a change.\n return false;\n }\n function checkNoChangesNodeInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n var bindLen = nodeDef.bindings.length;\n if (bindLen > 0)\n checkBindingNoChanges(view, nodeDef, 0, v0);\n if (bindLen > 1)\n checkBindingNoChanges(view, nodeDef, 1, v1);\n if (bindLen > 2)\n checkBindingNoChanges(view, nodeDef, 2, v2);\n if (bindLen > 3)\n checkBindingNoChanges(view, nodeDef, 3, v3);\n if (bindLen > 4)\n checkBindingNoChanges(view, nodeDef, 4, v4);\n if (bindLen > 5)\n checkBindingNoChanges(view, nodeDef, 5, v5);\n if (bindLen > 6)\n checkBindingNoChanges(view, nodeDef, 6, v6);\n if (bindLen > 7)\n checkBindingNoChanges(view, nodeDef, 7, v7);\n if (bindLen > 8)\n checkBindingNoChanges(view, nodeDef, 8, v8);\n if (bindLen > 9)\n checkBindingNoChanges(view, nodeDef, 9, v9);\n }\n function checkNoChangesNodeDynamic(view, nodeDef, values) {\n for (var i = 0; i < values.length; i++) {\n checkBindingNoChanges(view, nodeDef, i, values[i]);\n }\n }\n /**\n * Workaround https://github.com/angular/tsickle/issues/497\n * @suppress {misplacedTypeAnnotation}\n */\n function checkNoChangesQuery(view, nodeDef) {\n var queryList = asQueryList(view, nodeDef.nodeIndex);\n if (queryList.dirty) {\n throw

expressionChangedAfterItHasBeenCheckedError(Services.createDebugContext(view, nodeDef.nodeIndex), \"Query \" + nodeDef.query.id + \" not dirty\", \"Query \" + nodeDef.query.id + \" dirty\", (view.state & 1 /* BeforeFirstCheck */) !== 0);\n }\n }\n function destroyView(view) {\n if (view.state & 128 /* Destroyed */) {\n return;\n }\n execEmbeddedViewsAction(view, ViewAction.Destroy);\n execComponentViewsAction(view, ViewAction.Destroy);\n callLifecycleHooksChildrenFirst(view, 131072 /* OnDestroy */);\n if (view.disposables) {\n for (var i = 0; i < view.disposables.length; i++) {\n view.disposables[i]();\n }\n }\n detachProjectedView(view);\n if (view.renderer.destroyNode) {\n destroyViewNodes(view);\n }\n if (isComponentView(view)) {\n view.renderer.destroy();\n }\n view.state |= 128 /* Destroyed */;\n }\n function destroyViewNodes(view) {\n var len = view.def.nodes.length;\n for (var i = 0; i < len; i++) {\n var def = view.def.nodes[i];\n if (def.flags & 1 /* TypeElement */) {\n view.renderer.destroyNode(asElementData(view, i).renderElement);\n }\n else if (def.flags & 2 /* TypeText */) {\n view.renderer.destroyNode(asTextData(view, i).renderText);\n }\n else if (def.flags & 67108864 /* TypeContentQuery */ || def.flags & 134217728 /* TypeViewQuery */) {\n asQueryList(view, i).destroy();\n }\n }\n }\n var ViewAction;\n (function (ViewAction) {\n ViewAction[ViewAction[\"CreateViewNodes\"] = 0] = \"CreateViewNodes\";\n ViewAction[ViewAction[\"CheckNoChanges\"] = 1] = \"CheckNoChanges\";\n ViewAction[ViewAction[\"CheckNoChangesProjectedViews\"] = 2] = \"CheckNoChangesProjectedViews\";\n ViewAction[ViewAction[\"CheckAndUpdate\"] = 3] = \"CheckAndUpdate\";\n ViewAction[ViewAction[\"CheckAndUpdateProjectedViews\"] = 4] = \"CheckAndUpdateProjectedViews\";\n ViewAction[ViewAction[\"Destroy\"] = 5] = \"Destroy\";\n })(ViewAction || (ViewAction = {}));\n function execComponentViewsAction(view, action) {\n var def = view.def;\n if (!(def.nodeFlags & 33554432 /* ComponentView */)) {\n return;\n }\n for (var i = 0; i < def.nodes.length; i++) {\n var nodeDef = def.nodes[i];\n if (nodeDef.flags & 33554432 /* ComponentView */) {\n // a leaf\n callViewAction(asElementData(view, i).componentView, action);\n }\n else if ((nodeDef.childFlags & 33554432 /* ComponentView */) === 0) {\n // a parent with leafs\n // no child is a component,\n // then skip the children\n i += nodeDef.childCount;\n }\n }\n }\n function execEmbeddedViewsAction(view, action) {\n var def = view.def;\n if (!(def.nodeFlags & 16777216 /* EmbeddedViews */)) {\n return;\n }\n for (var i = 0; i < def.nodes.length; i++) {\n var nodeDef = def.nodes[i];\n if (nodeDef.flags & 16777216 /* EmbeddedViews */) {\n // a leaf\n var embeddedViews = asElementData(view, i).viewContainer._embeddedViews;\n for (var k = 0; k < embeddedViews.length; k++) {\n callViewAction(embeddedViews[k], action);\n }\n }\n else if ((nodeDef.childFlags & 16777216 /* EmbeddedViews */) === 0) {\n // a parent with leafs\n // no child is a component,\n // then skip the children\n i += nodeDef.childCount;\n }\n }\n }\n function callViewAction(view, action) {\n var viewState = view.state;\n switch (action) {\n case ViewAction.CheckNoChanges:\n if ((viewState & 128 /* Destroyed */) === 0) {\n if ((viewState & 12 /* CatDetectChanges */) === 12 /* CatDetectChanges */) {\n checkNoChangesView(view);\n }\n else if (viewState & 64 /* CheckProjectedViews */) {\n execProjectedViewsAction(view, ViewAction.CheckNoChangesProjectedViews);\n }\n }\n break;\n case ViewAction.CheckNoChangesProjectedViews:\n if ((viewState & 128 /* Destroyed */) === 0) {\n if (viewState & 32 /* CheckProjectedView */) {\n checkNoChangesView(view);\n }\n else if (viewState & 64 /* CheckProjectedViews */) {\n execProjectedViewsAction(view, action);\n }\n }\n break;\n case ViewAction.CheckAndUpdate:\n if ((viewState & 128 /* Destroyed */) === 0) {\n if ((viewState & 12 /* CatDetectChanges */) === 12 /* CatDetectChanges */) {\n checkAndUpdateView(view);\n }\n else if (viewState & 64 /* CheckProjectedViews */) {\n

```
execProjectedViewsAction(view, ViewAction.CheckAndUpdateProjectedViews);\n
}\n }\n break;\n case ViewAction.CheckAndUpdateProjectedViews:\n
if ((viewState & 128 /* Destroyed */) === 0) {\n if (viewState & 32 /* CheckProjectedView */) {\n
checkAndUpdateView(view);\n }\n else if (viewState & 64 /*
CheckProjectedViews */) {\n execProjectedViewsAction(view, action);\n }\n }\n
break;\n case ViewAction.Destroy:\n // Note: destroyView recurses over all views,\n
// so we don't need to special case projected views here.\n destroyView(view);\n break;\n
case ViewAction.CreateViewNodes:\n createViewNodes(view);\n break;\n }\n }\n
function execProjectedViewsAction(view, action) {\n execEmbeddedViewsAction(view,
action);\n execComponentViewsAction(view, action);\n }\n function execQueriesAction(view, queryFlags,
staticDynamicQueryFlag, checkType) {\n if (!(view.def.nodeFlags & queryFlags) || !(view.def.nodeFlags &
staticDynamicQueryFlag)) {\n return;\n }\n var nodeCount = view.def.nodes.length;\n for (var i
= 0; i < nodeCount; i++) {\n var nodeDef = view.def.nodes[i];\n if ((nodeDef.flags & queryFlags) &&
(nodeDef.flags & staticDynamicQueryFlag)) {\n Services.setCurrentNode(view, nodeDef.nodeIndex);\n
switch (checkType) {\n case 0 /* CheckAndUpdate */:\n
checkAndUpdateQuery(view, nodeDef);\n break;\n case 1 /* CheckNoChanges */:\n
checkNoChangesQuery(view, nodeDef);\n break;\n }\n }\n if
(!(nodeDef.childFlags & queryFlags)
|| !(nodeDef.childFlags & staticDynamicQueryFlag)) {\n // no child has a matching query\n //
then skip the children\n i += nodeDef.childCount;\n }\n }\n }\n\n var initialized = false;\n
function initServicesIfNeeded() {\n if (initialized) {\n return;\n }\n initialized = true;\n var
services = isDevMode() ? createDebugServices() : createProdServices();\n Services.setCurrentNode =
services.setCurrentNode;\n Services.createRootView = services.createRootView;\n
Services.createEmbeddedView = services.createEmbeddedView;\n Services.createComponentView =
services.createComponentView;\n Services.createNgModuleRef = services.createNgModuleRef;\n
Services.overrideProvider = services.overrideProvider;\n Services.overrideComponentView =
services.overrideComponentView;\n Services.clearOverrides = services.clearOverrides;\n
Services.checkAndUpdateView = services.checkAndUpdateView;\n Services.checkNoChangesView =
services.checkNoChangesView;\n Services.destroyView = services.destroyView;\n Services.resolveDep =
resolveDep;\n Services.createDebugContext = services.createDebugContext;\n Services.handleEvent =
services.handleEvent;\n Services.updateDirectives = services.updateDirectives;\n Services.updateRenderer
= services.updateRenderer;\n Services.dirtyParentQueries = dirtyParentQueries;\n }\n function
createProdServices() {\n return {\n setCurrentNode: function () { },\n createRootView:
createProdRootView,\n createEmbeddedView: createEmbeddedView,\n createComponentView:
createComponentView,\n createNgModuleRef: createNgModuleRef,\n overrideProvider: NOOP,\n
overrideComponentView: NOOP,\n clearOverrides: NOOP,\n checkAndUpdateView:
checkAndUpdateView,\n
checkNoChangesView: checkNoChangesView,\n destroyView: destroyView,\n
createDebugContext: function (view, nodeIndex) { return new DebugContext_(view, nodeIndex); },\n
handleEvent: function (view, nodeIndex, eventName, event) { return view.def.handleEvent(view, nodeIndex,
eventName, event); },\n updateDirectives: function (view, checkType) { return
view.def.updateDirectives(checkType === 0 /* CheckAndUpdate */ ? prodCheckAndUpdateNode :
prodCheckNoChangesNode, view); },\n updateRenderer: function (view, checkType) { return
view.def.updateRenderer(checkType === 0 /* CheckAndUpdate */ ? prodCheckAndUpdateNode :
prodCheckNoChangesNode, view); },\n };\n }\n function createDebugServices() {\n return {\n
setCurrentNode: debugSetCurrentNode,\n createRootView: debugCreateRootView,\n
createEmbeddedView: debugCreateEmbeddedView,\n createComponentView:
```

```
debugCreateComponentView,\n createNgModuleRef: debugCreateNgModuleRef,\n overrideProvider: debugOverrideProvider,\n overrideComponentView: debugOverrideComponentView,\n clearOverrides: debugClearOverrides,\n checkAndUpdateView: debugCheckAndUpdateView,\n checkNoChangesView: debugCheckNoChangesView,\n destroyView: debugDestroyView,\n createDebugContext: function (view, nodeIndex) { return new DebugContext_(view, nodeIndex); },\n handleEvent: debugHandleEvent,\n updateDirectives: debugUpdateDirectives,\n updateRenderer: debugUpdateRenderer,\n };\n }\n function createProdRootView(elInjector, projectableNodes, rootSelectorOrNode, def, ngModule, context) {\n var rendererFactory = ngModule.injector.get(RendererFactory2);\n return createRootView(createRootData(elInjector, ngModule, rendererFactory, projectableNodes, rootSelectorOrNode), def, context);\n }\n function debugCreateRootView(elInjector, projectableNodes, rootSelectorOrNode, def, ngModule, context) {\n var rendererFactory = ngModule.injector.get(RendererFactory2);\n var root = createRootData(elInjector, ngModule, new DebugRendererFactory2(rendererFactory), projectableNodes, rootSelectorOrNode);\n var defWithOverride = applyProviderOverridesToView(def);\n return callWithDebugContext(DebugAction.create, createRootView, null, [root, defWithOverride, context]);\n }\n function createRootData(elInjector, ngModule, rendererFactory, projectableNodes, rootSelectorOrNode) {\n var sanitizer = ngModule.injector.get(Sanitizer);\n var errorHandler = ngModule.injector.get(ErrorHandler);\n var renderer = rendererFactory.createRenderer(null, null);\n return {\n ngModule: ngModule,\n injector: elInjector,\n projectableNodes: projectableNodes,\n selectorOrNode: rootSelectorOrNode,\n sanitizer: sanitizer,\n rendererFactory: rendererFactory,\n renderer: renderer,\n errorHandler: errorHandler\n };\n }\n function debugCreateEmbeddedView(parentView, anchorDef, viewDef, context) {\n var defWithOverride = applyProviderOverridesToView(viewDef);\n return callWithDebugContext(DebugAction.create, createEmbeddedView, null, [parentView, anchorDef, defWithOverride, context]);\n }\n function debugCreateComponentView(parentView, nodeDef, viewDef, hostElement) {\n var overrideComponentView = viewDefOverrides.get(nodeDef.element.componentProvider.provider.token);\n if (overrideComponentView) {\n viewDef = overrideComponentView;\n }\n else {\n viewDef = applyProviderOverridesToView(viewDef);\n }\n return callWithDebugContext(DebugAction.create, createComponentView, null, [parentView, nodeDef, viewDef, hostElement]);\n }\n function debugCreateNgModuleRef(moduleType, parentInjector, bootstrapComponents, def) {\n var defWithOverride = applyProviderOverridesToNgModule(def);\n return createNgModuleRef(moduleType, parentInjector, bootstrapComponents, defWithOverride);\n }\n var providerOverrides = new Map();\n var providerOverridesWithScope = new Map();\n var viewDefOverrides = new Map();\n function debugOverrideProvider(override) {\n providerOverrides.set(override.token, override);\n var injectableDef;\n if (typeof override.token === 'function' && (injectableDef = getInjectableDef(override.token)) &&\n typeof injectableDef.providedIn === 'function') {\n providerOverridesWithScope.set(override.token, override);\n }\n }\n function debugOverrideComponentView(comp, compFactory) {\n var hostViewDef = resolveDefinition(getComponentViewDefinitionFactory(compFactory));\n var compViewDef = resolveDefinition(hostViewDef.nodes[0].element.componentView);\n viewDefOverrides.set(comp, compViewDef);\n }\n function debugClearOverrides() {\n providerOverrides.clear();\n providerOverridesWithScope.clear();\n viewDefOverrides.clear();\n }\n // Notes about the algorithm:\n // 1) Locate the providers of an element and check if one of them was overwritten\n // 2) Change the providers of that element\n //\n // We only create new datastructures if we need to, to keep perf impact\n // reasonable.\n function applyProviderOverridesToView(def) {\n if (providerOverrides.size === 0) {\n return def;\n }\n var elementIndicesWithOverwrittenProviders = findElementIndicesWithOverwrittenProviders(def);\n if (elementIndicesWithOverwrittenProviders.length === 0) {\n return def;\n }\n // clone the whole view definition,\n // as it maintains references between
```

the nodes that are hard to update.\n def = def.factory(function () { return NOOP; });\n for (var i = 0; i < elementIndicesWithOverwrittenProviders.length; i++) {\n applyProviderOverridesToElement(def, elementIndicesWithOverwrittenProviders[i]);\n }\n return def;\n function findElementIndicesWithOverwrittenProviders(def) {\n var elIndicesWithOverwrittenProviders = [];\n var lastElementDef = null;\n for (var i = 0; i < def.nodes.length; i++) {\n var nodeDef = def.nodes[i];\n if (nodeDef.flags & 1 /* TypeElement */) {\n lastElementDef = nodeDef;\n }\n if (lastElementDef && nodeDef.flags & 3840 /* CatProviderNoDirective */ &&\n providerOverrides.has(nodeDef.provider.token)) {\n elIndicesWithOverwrittenProviders.push(lastElementDef.nodeIndex);\n lastElementDef = null;\n }\n }\n return elIndicesWithOverwrittenProviders;\n }\n function applyProviderOverridesToElement(viewDef, elIndex) {\n for (var i = elIndex + 1; i < viewDef.nodes.length; i++) {\n var nodeDef = viewDef.nodes[i];\n if (nodeDef.flags & 1 /* TypeElement */) {\n // stop at the next element\n return;\n }\n if (nodeDef.flags & 3840 /* CatProviderNoDirective */) {\n var provider = nodeDef.provider;\n var override = providerOverrides.get(provider.token);\n if (override) {\n nodeDef.flags = (nodeDef.flags & ~3840 /* CatProviderNoDirective */) | override.flags;\n provider.deps = splitDepsDsl(override.deps);\n provider.value = override.value;\n }\n }\n }\n }\n // Notes about the algorithm:\n // We only create new datastructures if we need to, to keep perf impact\n // reasonable.\n function applyProviderOverridesToNgModule(def) {\n var _a = calcHasOverrides(def), hasOverrides = _a.hasOverrides, hasDeprecatedOverrides = _a.hasDeprecatedOverrides;\n if (!hasOverrides) {\n return def;\n }\n // clone the whole view definition,\n // as it maintains references between the nodes that are hard to update.\n def = def.factory(function () { return NOOP; });\n applyProviderOverrides(def);\n return def;\n function calcHasOverrides(def) {\n var hasOverrides = false;\n var hasDeprecatedOverrides = false;\n if (providerOverrides.size === 0) {\n return { hasOverrides: hasOverrides, hasDeprecatedOverrides: hasDeprecatedOverrides };\n }\n def.providers.forEach(function (node) {\n var override = providerOverrides.get(node.token);\n if ((node.flags & 3840 /* CatProviderNoDirective */) && override) {\n hasOverrides = true;\n hasDeprecatedOverrides = hasDeprecatedOverrides || override.deprecatedBehavior;\n }\n });\n def.modules.forEach(function (module) {\n providerOverridesWithScope.forEach(function (override, token) {\n if (getInjectableDef(token).providedIn === module) {\n hasOverrides = true;\n hasDeprecatedOverrides = hasDeprecatedOverrides || override.deprecatedBehavior;\n }\n });\n });\n return { hasOverrides: hasOverrides, hasDeprecatedOverrides: hasDeprecatedOverrides };\n }\n function applyProviderOverrides(def) {\n for (var i = 0; i < def.providers.length; i++) {\n var provider = def.providers[i];\n if (hasDeprecatedOverrides) {\n\n // We had a bug where me made\n // all providers lazy. Keep this logic behind a flag\n // for migrating existing users.\n provider.flags |= 4096 /* LazyProvider */;\n }\n var override = providerOverrides.get(provider.token);\n if (override) {\n provider.flags = (provider.flags & ~3840 /* CatProviderNoDirective */) | override.flags;\n provider.deps = splitDepsDsl(override.deps);\n provider.value = override.value;\n }\n }\n if (providerOverridesWithScope.size > 0) {\n var moduleSet_1 = new Set(def.modules);\n providerOverridesWithScope.forEach(function (override, token) {\n if (moduleSet_1.has(getInjectableDef(token).providedIn)) {\n var provider = {\n token: token,\n flags: override.flags | (hasDeprecatedOverrides ? 4096 /* LazyProvider */ : 0 /* None */),\n deps: splitDepsDsl(override.deps),\n value: override.value,\n index: def.providers.length,\n };\n def.providers.push(provider);\n

```
def.providersByKey[tokenKey(token)] = provider;\n                }\n            });\n        }\n    }\n}\n
function prodCheckAndUpdateNode(view, checkIndex, argStyle, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9) {\n    var
nodeDef = view.def.nodes[checkIndex];\n    checkAndUpdateNode(view, nodeDef, argStyle, v0, v1, v2, v3, v4,
v5, v6, v7, v8, v9);\n    return (nodeDef.flags & 224 /* CatPureExpression */) ?\n
asPureExpressionData(view, checkIndex).value :\n        undefined;\n}\nfunction
prodCheckNoChangesNode(view, checkIndex, argStyle, v0, v1, v2, v3, v4, v5, v6, v7,
 v8, v9) {\n    var nodeDef = view.def.nodes[checkIndex];\n    checkNoChangesNode(view, nodeDef, argStyle,
v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n    return (nodeDef.flags & 224 /* CatPureExpression */) ?\n
asPureExpressionData(view, checkIndex).value :\n        undefined;\n}\nfunction
debugCheckAndUpdateView(view) {\n    return callWithDebugContext(DebugAction.detectChanges,
checkAndUpdateView, null, [view]);\n}\nfunction debugCheckNoChangesView(view) {\n    return
callWithDebugContext(DebugAction.checkNoChanges, checkNoChangesView, null, [view]);\n}\nfunction
debugDestroyView(view) {\n    return callWithDebugContext(DebugAction.destroy, destroyView, null,
[view]);\n}\nvar DebugAction;\n(function (DebugAction) {\n    DebugAction[DebugAction[\"create\"] =
0] = \"create\";\n    DebugAction[DebugAction[\"detectChanges\"] = 1] = \"detectChanges\";\n
DebugAction[DebugAction[\"checkNoChanges\"] =
 2] = \"checkNoChanges\";\n    DebugAction[DebugAction[\"destroy\"] = 3] = \"destroy\";\n
DebugAction[DebugAction[\"handleEvent\"] = 4] = \"handleEvent\";\n})(DebugAction || (DebugAction = {}));\n
 var _currentAction;\n var _currentView;\n var _currentNodeIndex;\n function debugSetCurrentNode(view,
nodeIndex) {\n    _currentView = view;\n    _currentNodeIndex = nodeIndex;\n}\nfunction
debugHandleEvent(view, nodeIndex, eventName, event) {\n    debugSetCurrentNode(view, nodeIndex);\n
return callWithDebugContext(DebugAction.handleEvent, view.def.handleEvent, null, [view, nodeIndex,
eventName, event]);\n}\nfunction debugUpdateDirectives(view, checkType) {\n    if (view.state & 128 /*
Destroyed */) {\n        throw viewDestroyedError(DebugAction[_currentAction]);\n    }\n
debugSetCurrentNode(view, nextDirectiveWithBinding(view, 0));\n    return
view.def.updateDirectives(debugCheckDirectivesFn, view);\n
 function debugCheckDirectivesFn(view, nodeIndex, argStyle) {\n        var values = [];\n        for (var _i = 3; _i
< arguments.length; _i++) {\n            values[_i - 3] = arguments[_i];\n        }\n        var nodeDef =
view.def.nodes[nodeIndex];\n        if (checkType === 0 /* CheckAndUpdate */) {\n
debugCheckAndUpdateNode(view, nodeDef, argStyle, values);\n        }\n        else {\n
debugCheckNoChangesNode(view, nodeDef, argStyle, values);\n        }\n        if (nodeDef.flags & 16384 /*
TypeDirective */) {\n            debugSetCurrentNode(view, nextDirectiveWithBinding(view, nodeIndex));\n
}\n        return (nodeDef.flags & 224 /* CatPureExpression */) ?\n            asPureExpressionData(view,
nodeDef.nodeIndex).value :\n            undefined;\n    }\n}\nfunction debugUpdateRenderer(view,
checkType) {\n    if (view.state & 128 /* Destroyed */) {\n        throw
viewDestroyedError(DebugAction[_currentAction]);\n
    }\n    debugSetCurrentNode(view, nextRenderNodeWithBinding(view, 0));\n    return
view.def.updateRenderer(debugCheckRenderNodeFn, view);\n    function debugCheckRenderNodeFn(view,
nodeIndex, argStyle) {\n        var values = [];\n        for (var _i = 3; _i < arguments.length; _i++) {\n
values[_i - 3] = arguments[_i];\n        }\n        var nodeDef = view.def.nodes[nodeIndex];\n        if
(checkType === 0 /* CheckAndUpdate */) {\n            debugCheckAndUpdateNode(view, nodeDef, argStyle,
values);\n        }\n        else {\n            debugCheckNoChangesNode(view, nodeDef, argStyle, values);\n
 }\n        if (nodeDef.flags & 3 /* CatRenderNode */) {\n            debugSetCurrentNode(view,
nextRenderNodeWithBinding(view, nodeIndex));\n        }\n        return (nodeDef.flags & 224 /*
CatPureExpression */) ?\n            asPureExpressionData(view,
 nodeDef.nodeIndex).value :\n            undefined;\n    }\n}\nfunction debugCheckAndUpdateNode(view,
nodeDef, argStyle, givenValues) {\n    var changed = checkAndUpdateNode.apply(void 0, __spread([view,
nodeDef, argStyle], givenValues));\n    if (changed) {\n        var values = argStyle === 1 /* Dynamic */ ?
```

```
givenValues[0] : givenValues;\n            if (nodeDef.flags & 16384 /* TypeDirective */) {\n                var
bindingValues = {};\n                for (var i = 0; i < nodeDef.bindings.length; i++) {\n                    var binding =
nodeDef.bindings[i];\n                    var value = values[i];\n                    if (binding.flags & 8 /* TypeProperty */) {\n
                        bindingValues[normalizeDebugBindingName(binding.nonMinifiedName)] =\n
normalizeDebugBindingValue(value);\n                    }\n                }\n                var elDef = nodeDef.parent;\n
  var el = asElementData(view,
 elDef.nodeIndex).renderElement;\n                if (!elDef.element.name) {\n                    // a comment.\n
view.renderer.setValue(el, escapeCommentText(\"bindings=\" + JSON.stringify(bindingValues, null, 2)));\n
 }\n                else {\n                    // a regular element.\n                    for (var attr in bindingValues) {\n
var value = bindingValues[attr];\n                        if (value != null) {\n                            view.renderer.setAttribute(el,
attr, value);\n                        }\n                        else {\n                            view.renderer.removeAttribute(el, attr);\n
                    }\n                }\n            }\n        }\n    }\n    function debugCheckNoChangesNode(view,
nodeDef, argStyle, values) {\n        checkNoChangesNode.apply(void 0, __spread([view, nodeDef, argStyle],
values));\n    }\n    function nextDirectiveWithBinding(view,
 nodeIndex) {\n        for (var i = nodeIndex; i < view.def.nodes.length; i++) {\n            var nodeDef =
view.def.nodes[i];\n            if (nodeDef.flags & 16384 /* TypeDirective */ && nodeDef.bindings &&
nodeDef.bindings.length) {\n                return i;\n            }\n        }\n        return null;\n    }\n    function
nextRenderNodeWithBinding(view, nodeIndex) {\n        for (var i = nodeIndex; i < view.def.nodes.length; i++) {\n
        var nodeDef = view.def.nodes[i];\n            if ((nodeDef.flags & 3 /* CatRenderNode */) && nodeDef.bindings
&& nodeDef.bindings.length) {\n                return i;\n            }\n        }\n        return null;\n    }\n    var
DebugContext_ = /** @class */ (function () {\n        function DebugContext_(view, nodeIndex) {\n            this.view
= view;\n            this.nodeIndex = nodeIndex;\n            if (nodeIndex == null) {\n                this.nodeIndex =
nodeIndex = 0;\n            }\n            this.nodeDef = view.def.nodes[nodeIndex];\n
            var elDef = this.nodeDef;\n            var elView = view;\n            while (elDef && (elDef.flags & 1 /*
TypeElement */) === 0) {\n                elDef = elDef.parent;\n            }\n            if (!elDef) {\n                while (!elDef
&& elView) {\n                    elDef = viewParentEl(elView);\n                    elView = elView.parent;\n                }\n
        }\n            this.elDef = elDef;\n            this.elView = elView;\n        }\n
Object.defineProperty(DebugContext_.prototype, \"elOrCompView\", {\n            get: function () {\n                // Has
to be done lazily as we use the DebugContext also during creation of elements...\n                return
asElementData(this.elView, this.elDef.nodeIndex).componentView || this.view;\n            },\n            enumerable:
false,\n            configurable: true\n        });\n        Object.defineProperty(DebugContext_.prototype, \"injector\", {\n
        get: function
 () {\n                return createInjector$1(this.elView, this.elDef);\n            },\n            enumerable: false,\n
configurable: true\n        });\n        Object.defineProperty(DebugContext_.prototype, \"component\", {\n            get:
function () {\n                return this.elOrCompView.component;\n            },\n            enumerable: false,\n
configurable: true\n        });\n        Object.defineProperty(DebugContext_.prototype, \"context\", {\n            get:
function () {\n                return this.elOrCompView.context;\n            },\n            enumerable: false,\n
configurable: true\n        });\n        Object.defineProperty(DebugContext_.prototype, \"providerTokens\", {\n
get: function () {\n                var tokens = [];\n                if (this.elDef) {\n                    for (var i =
this.elDef.nodeIndex + 1; i <= this.elDef.nodeIndex + this.elDef.childCount; i++) {\n                        var childDef =
 this.elView.def.nodes[i];\n                        if (childDef.flags & 20224 /* CatProvider */) {\n
tokens.push(childDef.provider.token);\n                        }\n                        i += childDef.childCount;\n                    }\n
                }\n                return tokens;\n            },\n            enumerable: false,\n            configurable: true\n        });\n
 Object.defineProperty(DebugContext_.prototype, \"references\", {\n            get: function () {\n                var
references = {};\n                if (this.elDef) {\n                    collectReferences(this.elView, this.elDef, references);\n
                    for (var i = this.elDef.nodeIndex + 1; i <= this.elDef.nodeIndex + this.elDef.childCount; i++) {\n
    var childDef = this.elView.def.nodes[i];\n                        if (childDef.flags & 20224 /* CatProvider */) {\n
                        collectReferences(this.elView, childDef, references);\n
```

```
}\n i += childDef.childCount;\n }\n }\n return references;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugContext_.prototype, \"componentRenderElement\", {\n get: function () {\n var elData = findHostElement(this.elOrCompView);\n return elData ? elData.renderElement : undefined;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(DebugContext_.prototype, \"renderNode\", {\n get: function () {\n return this.nodeDef.flags & 2 /* TypeText */ ? renderNode(this.view, this.nodeDef) :\n renderNode(this.elView, this.elDef);\n },\n enumerable: false,\n configurable: true\n });\n DebugContext_.prototype.logError\n = function (console) {\n var values = [];\n for (var _i = 1; _i < arguments.length; _i++) {\n values[_i - 1] = arguments[_i];\n }\n var logViewDef;\n var logNodeIndex;\n if (this.nodeDef.flags & 2 /* TypeText */) {\n logViewDef = this.view.def;\n logNodeIndex = this.nodeDef.nodeIndex;\n }\n else {\n logViewDef = this.elView.def;\n logNodeIndex = this.elDef.nodeIndex;\n }\n // Note: we only generate a log function for text and element nodes\n // to make the generated code as small as possible.\n var renderNodeIndex = getRenderNodeIndex(logViewDef, logNodeIndex);\n var currRenderNodeIndex = -1;\n var nodeLogger = function () {\n var _a;\n currRenderNodeIndex++;\n if (currRenderNodeIndex === renderNodeIndex) {\n return (_a = console.error).bind.apply(_a, __spread([console], values));\n }\n else {\n return NOOP;\n }\n };\n logViewDef.factory(nodeLogger);\n if (currRenderNodeIndex < renderNodeIndex) {\n console.error('Illegal state: the ViewDefinitionFactory did not call the logger!');\n console.error.apply(console, __spread(values));\n }\n };\n return DebugContext_;\n }());\n function getRenderNodeIndex(viewDef, nodeIndex) {\n var renderNodeIndex = -1;\n for (var i = 0; i <= nodeIndex; i++) {\n var nodeDef = viewDef.nodes[i];\n if (nodeDef.flags & 3 /* CatRenderNode */) {\n renderNodeIndex++;\n }\n }\n return renderNodeIndex;\n }\n function findHostElement(view) {\n while (view && !isComponentView(view)) {\n view = view.parent;\n }\n if (view.parent) {\n return asElementData(view.parent, viewParentEl(view).nodeIndex);\n }\n return null;\n }\n function collectReferences(view, nodeDef, references) {\n for (var refName in nodeDef.references) {\n references[refName] = getQueryValue(view, nodeDef, nodeDef.references[refName]);\n }\n }\n function callWithDebugContext(action, fn, self, args) {\n var oldAction = _currentAction;\n var oldView = _currentView;\n var oldNodeIndex = _currentNodeIndex;\n try {\n _currentAction = action;\n var result = fn.apply(self, args);\n _currentView = oldView;\n _currentNodeIndex = oldNodeIndex;\n _currentAction = oldAction;\n return result;\n }\n catch (e) {\n if (isViewDebugError(e) || !_currentView) {\n throw e;\n }\n throw viewWrappedDebugError(e, getCurrentDebugContext());\n }\n }\n function getCurrentDebugContext() {\n return _currentView ? new DebugContext_(_currentView, _currentNodeIndex) : null;\n }\n var DebugRendererFactory2 = /** @class */ (function () {\n function DebugRendererFactory2(delegate) {\n this.delegate = delegate;\n }\n DebugRendererFactory2.prototype.createRenderer = function (element, renderData) {\n return new DebugRenderer2(this.delegate.createRenderer(element, renderData));\n };\n DebugRendererFactory2.prototype.begin = function () {\n if (this.delegate.begin) {\n this.delegate.begin();\n }\n };\n DebugRendererFactory2.prototype.end = function () {\n if (this.delegate.end) {\n this.delegate.end();\n }\n };\n DebugRendererFactory2.prototype.whenRenderingDone = function () {\n if (this.delegate.whenRenderingDone) {\n return this.delegate.whenRenderingDone();\n }\n return Promise.resolve(null);\n };\n return DebugRendererFactory2;\n }());\n var DebugRenderer2 = /** @class */ (function () {\n function
```

```
DebugRenderer2(delegate) {\n this.delegate = delegate;\n /**\n * Factory function used to create a `DebugContext` when a node is created.\n *\n * The `DebugContext` allows to retrieve information about the nodes that are useful in tests.\n *\n * The factory is configurable so that the `DebugRenderer2` could instantiate either a View Engine\n * or a Render context.\n */\n this.debugContextFactory = getCurrentDebugContext;\n this.data = this.delegate.data;\n }\n DebugRenderer2.prototype.createDebugContext = function (nativeElement) {\n return this.debugContextFactory(nativeElement);\n };\n DebugRenderer2.prototype.destroyNode = function (node) {\n var debugNode = getDebugNode$1(node);\n removeDebugNodeFromIndex(debugNode);\n if (debugNode instanceof DebugNode__PRE_R3__) {\n debugNode.listeners.length = 0;\n }\n if (this.delegate.destroyNode) {\n this.delegate.destroyNode(node);\n }\n };\n DebugRenderer2.prototype.destroy = function () {\n this.delegate.destroy();\n };\n DebugRenderer2.prototype.createElement = function (name, namespace) {\n var el = this.delegate.createElement(name, namespace);\n var debugCtx = this.createDebugContext(el);\n if (debugCtx) {\n var debugEl = new DebugElement__PRE_R3__(el, null, debugCtx);\n debugEl.name = name;\n indexDebugNode(debugEl);\n }\n return el;\n };\n DebugRenderer2.prototype.createComment
 = function (value) {\n var comment = this.delegate.createComment(escapeCommentText(value));\n var debugCtx = this.createDebugContext(comment);\n if (debugCtx) {\n indexDebugNode(new DebugNode__PRE_R3__(comment, null, debugCtx));\n }\n return comment;\n };\n DebugRenderer2.prototype.createText = function (value) {\n var text = this.delegate.createText(value);\n var debugCtx = this.createDebugContext(text);\n if (debugCtx) {\n indexDebugNode(new DebugNode__PRE_R3__(text, null, debugCtx));\n }\n return text;\n };\n DebugRenderer2.prototype.appendChild = function (parent, newChild) {\n var debugEl = getDebugNode$1(parent);\n var debugChildEl = getDebugNode$1(newChild);\n if (debugEl && debugChildEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.addChild(debugChildEl);\n }\n this.delegate.appendChild(parent, newChild);\n };\n DebugRenderer2.prototype.insertBefore = function (parent, newChild, refChild, isMove) {\n var debugEl = getDebugNode$1(parent);\n var debugChildEl = getDebugNode$1(newChild);\n var debugRefEl = getDebugNode$1(refChild);\n if (debugEl && debugChildEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.insertBefore(debugRefEl, debugChildEl);\n }\n this.delegate.insertBefore(parent, newChild, refChild, isMove);\n };\n DebugRenderer2.prototype.removeChild = function (parent, oldChild) {\n var debugEl = getDebugNode$1(parent);\n var debugChildEl = getDebugNode$1(oldChild);\n if (debugEl && debugChildEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.removeChild(debugChildEl);\n }\n this.delegate.removeChild(parent,
 oldChild);\n };\n DebugRenderer2.prototype.selectRootElement = function (selectorOrNode, preserveContent) {\n var el = this.delegate.selectRootElement(selectorOrNode, preserveContent);\n var debugCtx = getCurrentDebugContext();\n if (debugCtx) {\n indexDebugNode(new DebugElement__PRE_R3__(el, null, debugCtx));\n }\n return el;\n };\n DebugRenderer2.prototype.setAttribute = function (el, name, value, namespace) {\n var debugEl = getDebugNode$1(el);\n if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n var fullName = namespace ? namespace + ':' + name : name;\n debugEl.attributes[fullName] = value;\n }\n this.delegate.setAttribute(el, name, value, namespace);\n };\n DebugRenderer2.prototype.removeAttribute = function (el, name, namespace) {\n var debugEl = getDebugNode$1(el);\n
```

```
if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n var fullName = namespace ? namespace + ':' + name : name;\n debugEl.attributes[fullName] = null;\n }\n this.delegate.removeAttribute(el, name, namespace);\n };\n DebugRenderer2.prototype.addClass = function (el, name) {\n var debugEl = getDebugNode$1(el);\n if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.classes[name] = true;\n }\n this.delegate.addClass(el, name);\n };\n DebugRenderer2.prototype.removeClass = function (el, name) {\n var debugEl = getDebugNode$1(el);\n if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.classes[name] = false;\n }\n this.delegate.removeClass(el, name);\n };\n DebugRenderer2.prototype.setStyle = function (el, style, value, flags)\n {\n var debugEl = getDebugNode$1(el);\n if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.styles[style] = value;\n }\n this.delegate.setStyle(el, style, value, flags);\n };\n DebugRenderer2.prototype.removeStyle = function (el, style, flags) {\n var debugEl = getDebugNode$1(el);\n if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.styles[style] = null;\n }\n this.delegate.removeStyle(el, style, flags);\n };\n DebugRenderer2.prototype.setProperty = function (el, name, value) {\n var debugEl = getDebugNode$1(el);\n if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.properties[name] = value;\n }\n this.delegate.setProperty(el, name, value);\n };\n DebugRenderer2.prototype.listen = function (target, eventName, callback)\n {\n if (typeof target !== 'string') {\n var debugEl = getDebugNode$1(target);\n if (debugEl) {\n debugEl.listeners.push(new DebugEventListener(eventName, callback));\n }\n }\n return this.delegate.listen(target, eventName, callback);\n };\n DebugRenderer2.prototype.parentNode = function (node) {\n return this.delegate.parentNode(node);\n };\n DebugRenderer2.prototype.nextSibling = function (node) {\n return this.delegate.nextSibling(node);\n };\n DebugRenderer2.prototype.setValue = function (node, value) {\n return this.delegate.setValue(node, value);\n };\n return DebugRenderer2;\n }());\n\n function overrideProvider(override) {\n initServicesIfNeeded();\n return Services.overrideProvider(override);\n }\n function overrideComponentView(comp, componentFactory) {\n initServicesIfNeeded();\n return Services.overrideComponentView(comp, componentFactory);\n }\n function clearOverrides() {\n initServicesIfNeeded();\n return Services.clearOverrides();\n }\n // Attention: this function is called as top level function.\n // Putting any logic in here will destroy closure tree shaking!\n function createNgModuleFactory(ngModuleType, bootstrapComponents, defFactory) {\n return new NgModuleFactory_(ngModuleType, bootstrapComponents, defFactory);\n }\n function cloneNgModuleDefinition(def) {\n var providers = Array.from(def.providers);\n var modules = Array.from(def.modules);\n var providersByKey = {};\n for (var key in def.providersByKey) {\n providersByKey[key] = def.providersByKey[key];\n }\n return {\n factory: def.factory,\n scope: def.scope,\n providers: providers,\n modules: modules,\n providersByKey: providersByKey,\n };\n }\n var NgModuleFactory_ = /** @class */ (function (_super) {\n __extends(NgModuleFactory_, _super);\n function NgModuleFactory_(moduleType, _bootstrapComponents, _ngModuleDefFactory) {\n var _this = \n // Attention: this ctor is called as top level function.\n // Putting any logic in here will destroy closure tree shaking!\n _super.call(this) || this;\n _this.moduleType = moduleType;\n _this._bootstrapComponents = _bootstrapComponents;\n _this._ngModuleDefFactory = _ngModuleDefFactory;\n return _this;\n }\n NgModuleFactory_.prototype.create = function (parentInjector) {\n initServicesIfNeeded();\n // Clone the NgModuleDefinition so that any tree shakeable provider definition\n // added to this instance of the NgModuleRef doesn't affect the cached copy.\n // See https://github.com/angular/angular/issues/25018.\n var def = cloneNgModuleDefinition(resolveDefinition(this._ngModuleDefFactory));\n return Services.createNgModuleRef(this.moduleType, parentInjector || Injector.NULL, this._bootstrapComponents, def);\n
```

};\n return NgModuleFactory_;\n }(NgModuleFactory));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // clang-format on\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n if (typeof ngDevMode !== 'undefined' && ngDevMode) {\n // This helper is to give a reasonable error message to people upgrading to v9 that have not yet\n // installed `@angular/localize` in their app.\n // tslint:disable-next-line: no-toplevel-property-access\n _global.$localize = _global.$localize || function () {\n throw new Error('It looks like your application or one of its dependencies is using i18n.\\n' +\n 'Angular 9 introduced a global `$localize()` function that needs to be loaded.\\n' +\n 'Please run `ng add @angular/localize` from the Angular CLI.\\n' +\n '(For non-CLI projects, add `import \\'@angular/localize/init\\';` to your `polyfills.ts` file.\\n' +\n 'For server-side rendering applications add the import to your `main.server.ts` file.)');\n };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // This file only reexports content of the `src` folder. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.ANALYZE_FOR_ENTRY_COMPONENTS = ANALYZE_FOR_ENTRY_COMPONENTS;\n exports.APP_BOOTSTRAP_LISTENER = APP_BOOTSTRAP_LISTENER;\n exports.APP_ID = APP_ID;\n exports.APP_INITIALIZER = APP_INITIALIZER;\n exports.ApplicationInitStatus = ApplicationInitStatus;\n exports.ApplicationModule = ApplicationModule;\n exports.ApplicationRef = ApplicationRef;\n exports.Attribute = Attribute;\n exports.COMPILER_OPTIONS = COMPILER_OPTIONS;\n exports.CUSTOM_ELEMENTS_SCHEMA = CUSTOM_ELEMENTS_SCHEMA;\n exports.ChangeDetectorRef = ChangeDetectorRef;\n exports.Compiler = Compiler;\n exports.CompilerFactory = CompilerFactory;\n exports.Component = Component;\n exports.ComponentFactory = ComponentFactory;\n exports.ComponentFactoryResolver = ComponentFactoryResolver;\n exports.ComponentRef = ComponentRef;\n exports.ContentChild = ContentChild;\n exports.ContentChildren = ContentChildren;\n exports.DEFAULT_CURRENCY_CODE = DEFAULT_CURRENCY_CODE;\n exports.DebugElement = DebugElement;\n exports.DebugEventListener = DebugEventListener;\n exports.DebugNode = DebugNode;\n exports.DefaultIterableDiffer = DefaultIterableDiffer;\n exports.Directive = Directive;\n exports.ElementRef = ElementRef;\n exports.EmbeddedViewRef = EmbeddedViewRef;\n exports.ErrorHandler = ErrorHandler;\n exports.EventEmitter = EventEmitter;\n exports.Host = Host;\n exports.HostBinding = HostBinding;\n exports.HostListener = HostListener;\n exports.INJECTOR = INJECTOR$1;\n exports.Inject = Inject;\n exports.Injectable = Injectable;\n exports.InjectionToken = InjectionToken;\n exports.Injector = Injector;\n exports.Input = Input;\n exports.IterableDiffers = IterableDiffers;\n exports.KeyValueDiffers = KeyValueDiffers;\n exports.LOCALE_ID = LOCALE_ID$1;\n exports.ModuleWithComponentFactories = ModuleWithComponentFactories;\n exports.NO_ERRORS_SCHEMA = NO_ERRORS_SCHEMA;\n exports.NgModule = NgModule;\n exports.NgModuleFactory = NgModuleFactory;\n exports.NgModuleFactoryLoader = NgModuleFactoryLoader;\n exports.NgModuleRef =

NgModuleRef;\n exports.NgProbeToken = NgProbeToken;\n exports.NgZone = NgZone;\n exports.Optional = Optional;\n exports.Output = Output;\n exports.PACKAGE_ROOT_URL = PACKAGE_ROOT_URL;\n exports.PLATFORM_ID = PLATFORM_ID;\n exports.PLATFORM_INITIALIZER = PLATFORM_INITIALIZER;\n exports.Pipe = Pipe;\n exports.PlatformRef = PlatformRef;\n exports.Query = Query;\n exports.QueryList = QueryList;\n exports.ReflectiveInjector = ReflectiveInjector;\n exports.ReflectiveKey = ReflectiveKey;\n exports.Renderer2 = Renderer2;\n exports.RendererFactory2 = RendererFactory2;\n exports.ResolvedReflectiveFactory = ResolvedReflectiveFactory;\n exports.Sanitizer = Sanitizer;\n exports.Self = Self;\n exports.SimpleChange = SimpleChange;\n exports.SkipSelf = SkipSelf;\n exports.SystemJsNgModuleLoader = SystemJsNgModuleLoader;\n exports.SystemJsNgModuleLoaderConfig = SystemJsNgModuleLoaderConfig;\n exports.TRANSLATIONS = TRANSLATIONS;\n exports.TRANSLATIONS_FORMAT = TRANSLATIONS_FORMAT;\n exports.TemplateRef = TemplateRef;\n exports.Testability = Testability;\n exports.TestabilityRegistry = TestabilityRegistry;\n exports.Type = Type;\n exports.VERSION = VERSION;\n exports.Version = Version;\n exports.ViewChild = ViewChild;\n exports.ViewChildren = ViewChildren;\n exports.ViewContainerRef = ViewContainerRef;\n exports.ViewRef = ViewRef$1;\n exports.WrappedValue = WrappedValue;\n exports.asNativeElements = asNativeElements;\n exports.assertPlatform = assertPlatform;\n exports.createPlatform = createPlatform;\n exports.createPlatformFactory = createPlatformFactory;\n exports.defineInjectable = defineInjectable;\n exports.destroyPlatform = destroyPlatform;\n exports.enableProdMode = enableProdMode;\n exports.forwardRef = forwardRef;\n exports.getDebugNode = getDebugNode$1;\n exports.getModuleFactory = getModuleFactory;\n exports.getPlatform = getPlatform;\n exports.inject = inject;\n exports.isDevMode = isDevMode;\n exports.platformCore = platformCore;\n exports.resolveForwardRef = resolveForwardRef;\n exports.setTestabilityGetter = setTestabilityGetter;\n exports.0 = 0$2;\n exports.ALLOW_MULTIPLE_PLATFORMS = ALLOW_MULTIPLE_PLATFORMS;\n exports.APP_ID_RANDOM_PROVIDER = APP_ID_RANDOM_PROVIDER;\n exports.CREATE_ATTRIBUTE_DECORATOR__POST_R3__ = CREATE_ATTRIBUTE_DECORATOR__POST_R3__;\n exports.CodegenComponentFactoryResolver = CodegenComponentFactoryResolver;\n exports.Compiler_compileModuleAndAllComponentsAsync__POST_R3__ = Compiler_compileModuleAndAllComponentsAsync__POST_R3__;\n exports.Compiler_compileModuleAndAllComponentsSync__POST_R3__ = Compiler_compileModuleAndAllComponentsSync__POST_R3__;\n exports.Compiler_compileModuleAsync__POST_R3__ = Compiler_compileModuleAsync__POST_R3__;\n exports.Compiler_compileModuleSync__POST_R3__ = Compiler_compileModuleSync__POST_R3__;\n exports.ComponentFactory = ComponentFactory;\n exports.Console = Console;\n exports.DEFAULT_LOCALE_ID = DEFAULT_LOCALE_ID;\n exports.EMPTY_ARRAY = EMPTY_ARRAY$4;\n exports.EMPTY_MAP = EMPTY_MAP;\n exports.INJECTOR_IMPL__POST_R3__ = INJECTOR_IMPL__POST_R3__;\n exports.INJECTOR_SCOPE = INJECTOR_SCOPE;\n exports.LifecycleHooksFeature = LifecycleHooksFeature;\n exports.NG_COMP_DEF = NG_COMP_DEF;\n exports.NG_DIR_DEF = NG_DIR_DEF;\n exports.NG_ELEMENT_ID = NG_ELEMENT_ID;\n exports.NG_INJ_DEF = NG_INJ_DEF;\n exports.NG_MOD_DEF = NG_MOD_DEF;\n exports.NG_PIPE_DEF = NG_PIPE_DEF;\n exports.NG_PROV_DEF = NG_PROV_DEF;\n exports.NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR = NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR;\n exports.NO_CHANGE = NO_CHANGE;\n exports.NgModuleFactory = NgModuleFactory$1;\n exports.NoopNgZone = NoopNgZone;\n exports.ReflectionCapabilities = ReflectionCapabilities;\n exports.Render3ComponentFactory = ComponentFactory$1;\n exports.Render3ComponentRef = ComponentRef$1;\n exports.Render3NgModuleRef = NgModuleRef$1;\n

```
exports.SWITCH_CHANGE_DETECTOR_REF_FACTORY__POST_R3__ =
SWITCH_CHANGE_DETECTOR_REF_FACTORY__POST_R3__;\n
exports.SWITCH_COMPILE_COMPONENT__POST_R3__ =
SWITCH_COMPILE_COMPONENT__POST_R3__;\n
exports.SWITCH_COMPILE_DIRECTIVE__POST_R3__ = SWITCH_COMPILE_DIRECTIVE__POST_R3__;\n
 exports.SWITCH_COMPILE_INJECTABLE__POST_R3__ =
SWITCH_COMPILE_INJECTABLE__POST_R3__;\n
exports.SWITCH_COMPILE_NGMODULE__POST_R3__ =
SWITCH_COMPILE_NGMODULE__POST_R3__;\n    exports.SWITCH_COMPILE_PIPE__POST_R3__ =
SWITCH_COMPILE_PIPE__POST_R3__;\n    exports.SWITCH_ELEMENT_REF_FACTORY__POST_R3__ =
SWITCH_ELEMENT_REF_FACTORY__POST_R3__;\n    exports.SWITCH_IVY_ENABLED__POST_R3__ =
SWITCH_IVY_ENABLED__POST_R3__;\n
   exports.SWITCH_RENDERER2_FACTORY__POST_R3__ =
SWITCH_RENDERER2_FACTORY__POST_R3__;\n
exports.SWITCH_TEMPLATE_REF_FACTORY__POST_R3__ =
SWITCH_TEMPLATE_REF_FACTORY__POST_R3__;\n
exports.SWITCH_VIEW_CONTAINER_REF_FACTORY__POST_R3__ =
SWITCH_VIEW_CONTAINER_REF_FACTORY__POST_R3__;\n    exports._sanitizeHtml = _sanitizeHtml;\n
exports._sanitizeUrl = _sanitizeUrl;\n    exports.allowSanitizationBypassAndThrow =
allowSanitizationBypassAndThrow;\n    exports.and = anchorDef;\n    exports.angular_packages_core_core_a =
isForwardRef;\n    exports.angular_packages_core_core_b = injectInjectorOnly;\n
exports.angular_packages_core_core_ba = DebugContext;\n    exports.angular_packages_core_core_bb =
NgOnChangesFeatureImpl;\n    exports.angular_packages_core_core_bc = SCHEDULER;\n
exports.angular_packages_core_core_bd = injectAttributeImpl;\n    exports.angular_packages_core_core_be =
getLView;\n    exports.angular_packages_core_core_bf = getBindingRoot;\n
   exports.angular_packages_core_core_bg = nextContextImpl;\n    exports.angular_packages_core_core_bi =
pureFunction1Internal;\n    exports.angular_packages_core_core_bj = pureFunction2Internal;\n
exports.angular_packages_core_core_bk = pureFunction3Internal;\n    exports.angular_packages_core_core_bl =
pureFunction4Internal;\n    exports.angular_packages_core_core_bm = pureFunctionVInternal;\n
exports.angular_packages_core_core_bn = getUrlSanitizer;\n    exports.angular_packages_core_core_bo =
makePropDecorator;\n    exports.angular_packages_core_core_bp = makeParamDecorator;\n
exports.angular_packages_core_core_bq = getClosureSafeProperty;\n    exports.angular_packages_core_core_br =
NullInjector;\n    exports.angular_packages_core_core_bs = getInjectImplementation;\n
exports.angular_packages_core_core_bu = getNativeByTNode;\n    exports.angular_packages_core_core_bw =
getRootContext;\n    exports.angular_packages_core_core_bx = i18nPostprocess;\n
  exports.angular_packages_core_core_by = trustedHTMLFromString;\n    exports.angular_packages_core_core_bz
= trustedScriptURLFromString;\n    exports.angular_packages_core_core_c = ReflectiveInjector_;\n
exports.angular_packages_core_core_ca = trustedScriptFromString;\n    exports.angular_packages_core_core_d =
ReflectiveDependency;\n    exports.angular_packages_core_core_e = resolveReflectiveProviders;\n
exports.angular_packages_core_core_f = _appIdRandomProviderFactory;\n
exports.angular_packages_core_core_g = injectRenderer2;\n    exports.angular_packages_core_core_h =
injectElementRef;\n    exports.angular_packages_core_core_i = createElementRef;\n
exports.angular_packages_core_core_j = getModuleFactory__PRE_R3__;\n
exports.angular_packages_core_core_k = injectTemplateRef;\n    exports.angular_packages_core_core_l =
createTemplateRef;\n    exports.angular_packages_core_core_m = injectViewContainerRef;\n
exports.angular_packages_core_core_n = DebugNode__PRE_R3__;\n
   exports.angular_packages_core_core_o = DebugElement__PRE_R3__;\n
exports.angular_packages_core_core_p = getDebugNodeR2__PRE_R3__;\n
```

exports.angular_packages_core_core_q = injectChangeDetectorRef;\n exports.angular_packages_core_core_r = DefaultIterableDifferFactory;\n exports.angular_packages_core_core_s = DefaultKeyValueDifferFactory;\n exports.angular_packages_core_core_t = _iterableDiffersFactory;\n exports.angular_packages_core_core_u = _keyValueDiffersFactory;\n exports.angular_packages_core_core_v = _localeFactory;\n exports.angular_packages_core_core_w = APPLICATION_MODULE_PROVIDERS;\n exports.angular_packages_core_core_x = zoneSchedulerFactory;\n exports.angular_packages_core_core_y = USD_CURRENCY_CODE;\n exports.angular_packages_core_core_z = _def;\n exports.bypassSanitizationTrustHtml = bypassSanitizationTrustHtml;\n exports.bypassSanitizationTrustResourceUrl = bypassSanitizationTrustResourceUrl;\n exports.bypassSanitizationTrustScript
= bypassSanitizationTrustScript;\n exports.bypassSanitizationTrustStyle = bypassSanitizationTrustStyle;\n exports.bypassSanitizationTrustUrl = bypassSanitizationTrustUrl;\n exports.ccf = createComponentFactory;\n exports.clearOverrides = clearOverrides;\n exports.clearResolutionOfComponentResourcesQueue = clearResolutionOfComponentResourcesQueue;\n exports.cmf = createNgModuleFactory;\n exports.compileComponent = compileComponent;\n exports.compileDirective = compileDirective;\n exports.compileNgModule = compileNgModule;\n exports.compileNgModuleDefs = compileNgModuleDefs;\n exports.compileNgModuleFactory__POST_R3__ = compileNgModuleFactory__POST_R3__;\n exports.compilePipe = compilePipe;\n exports.createInjector = createInjector;\n exports.crt = createRendererType2;\n exports.defaultIterableDiffers = defaultIterableDiffers;\n exports.defaultKeyValueDiffers = defaultKeyValueDiffers;\n
exports.detectChanges = detectChanges;\n exports.devModeEqual = devModeEqual;\n exports.did = directiveDef;\n exports.eld = elementDef;\n exports.findLocaleData = findLocaleData;\n exports.flushModuleScopingQueueAsMuchAsPossible = flushModuleScopingQueueAsMuchAsPossible;\n exports.getComponentViewDefinitionFactory = getComponentViewDefinitionFactory;\n exports.getDebugNodeR2 = getDebugNodeR2;\n exports.getDebugNode__POST_R3__ = getDebugNode__POST_R3__;\n exports.getDirectives = getDirectives;\n exports.getHostElement = getHostElement;\n exports.getInjectableDef = getInjectableDef;\n exports.getLContext = getLContext;\n exports.getLocaleCurrencyCode = getLocaleCurrencyCode;\n exports.getLocalePluralCase = getLocalePluralCase;\n exports.getModuleFactory__POST_R3__ = getModuleFactory__POST_R3__;\n exports.getSanitizationBypassType = getSanitizationBypassType;\n exports.global = _global;\n exports.initServicesIfNeeded
= initServicesIfNeeded;\n exports.inlineInterpolate = inlineInterpolate;\n exports.interpolate = interpolate;\n exports.isBoundToModule__POST_R3__ = isBoundToModule__POST_R3__;\n exports.isDefaultChangeDetectionStrategy = isDefaultChangeDetectionStrategy;\n exports.isListLikeIterable = isListLikeIterable;\n exports.isObservable = isObservable;\n exports.isPromise = isPromise;\n exports.ivyEnabled = ivyEnabled;\n exports.makeDecorator = makeDecorator;\n exports.markDirty = markDirty;\n exports.mod = moduleDef;\n exports.mpd = moduleProvideDef;\n exports.ncd = ngContentDef;\n exports.noSideEffects = noSideEffects;\n exports.nov = nodeValue;\n exports.overrideComponentView = overrideComponentView;\n exports.overrideProvider = overrideProvider;\n exports.pad = pureArrayDef;\n exports.patchComponentDefWithScope = patchComponentDefWithScope;\n exports.pid = pipeDef;\n exports.pod = pureObjectDef;\n exports.ppd
= purePipeDef;\n exports.prd = providerDef;\n exports.publishDefaultGlobalUtils = publishDefaultGlobalUtils;\n exports.publishGlobalUtil = publishGlobalUtil;\n exports.qud = queryDef;\n exports.registerLocaleData = registerLocaleData;\n exports.registerModuleFactory = registerModuleFactory;\n exports.registerNgModuleType = registerNgModuleType;\n exports.renderComponent = renderComponent$1;\n exports.resetCompiledComponents = resetCompiledComponents;\n exports.resetJitOptions = resetJitOptions;\n exports.resolveComponentResources = resolveComponentResources;\n exports.setClassMetadata = setClassMetadata;\n exports.setCurrentInjector = setCurrentInjector;\n exports.setDocument = setDocument;\n

exports.setLocaleId = setLocaleId;\n exports.store = store;\n exports.stringify = stringify;\n exports.ted = textDef;\n exports.transitiveScopesFor = transitiveScopesFor;\n exports.unregisterLocaleData = unregisterAllLocaleData;\n

exports.unv = unwrapValue;\n exports.unwrapSafeValue = unwrapSafeValue;\n exports.vid = viewDef;\n exports.whenRendered = whenRendered;\n exports.CopyDefinitionFeature = CopyDefinitionFeature;\n exports.InheritDefinitionFeature = InheritDefinitionFeature;\n exports.NgOnChangesFeature = NgOnChangesFeature;\n exports.ProvidersFeature = ProvidersFeature;\n exports.advance = advance;\n exports.attribute = attribute;\n exports.attributeInterpolate1 = attributeInterpolate1;\n exports.attributeInterpolate2 = attributeInterpolate2;\n exports.attributeInterpolate3 = attributeInterpolate3;\n exports.attributeInterpolate4 = attributeInterpolate4;\n exports.attributeInterpolate5 = attributeInterpolate5;\n exports.attributeInterpolate6 = attributeInterpolate6;\n exports.attributeInterpolate7 = attributeInterpolate7;\n exports.attributeInterpolate8 = attributeInterpolate8;\n

exports.attributeInterpolateV = attributeInterpolateV;\n exports.classMap = classMap;\n exports.classMapInterpolate1 = classMapInterpolate1;\n exports.classMapInterpolate2 = classMapInterpolate2;\n exports.classMapInterpolate3 = classMapInterpolate3;\n exports.classMapInterpolate4 = classMapInterpolate4;\n exports.classMapInterpolate5 = classMapInterpolate5;\n exports.classMapInterpolate6 = classMapInterpolate6;\n exports.classMapInterpolate7 = classMapInterpolate7;\n exports.classMapInterpolate8 = classMapInterpolate8;\n exports.classMapInterpolateV = classMapInterpolateV;\n exports.classProp = classProp;\n exports.contentQuery = contentQuery;\n exports.defineComponent = defineComponent;\n exports.defineDirective = defineDirective;\n exports.defineInjectable = defineInjectable;\n exports.defineInjector = defineInjector;\n exports.defineNgModule = defineNgModule;\n

exports.definePipe = definePipe;\n exports.directiveInject = directiveInject;\n exports.disableBindings = disableBindings;\n exports.element = element;\n exports.elementContainer = elementContainer;\n exports.elementContainerEnd = elementContainerEnd;\n exports.elementContainerStart = elementContainerStart;\n exports.elementEnd = elementEnd;\n exports.elementStart = elementStart;\n exports.enableBindings = enableBindings;\n exports.getCurrentView = getCurrentView;\n exports.getFactoryOf = getFactoryOf;\n exports.getInheritedFactory = getInheritedFactory;\n exports.hostProperty = hostProperty;\n exports.i18n = i18n;\n exports.i18nApply = i18nApply;\n exports.i18nAttributes = i18nAttributes;\n exports.i18nEnd = i18nEnd;\n exports.i18nExp = i18nExp;\n exports.i18nPostprocess = i18nPostprocess;\n exports.i18nStart = i18nStart;\n

exports.inject = inject;\n exports.injectAttribute = injectAttribute;\n exports.injectPipeChangeDetectorRef = injectPipeChangeDetectorRef;\n exports.invalidFactory = invalidFactory;\n exports.invalidFactoryDep = invalidFactoryDep;\n exports.listener = listener;\n exports.loadQuery = loadQuery;\n exports.namespaceHTML = namespaceHTML;\n exports.namespaceMathML = namespaceMathML;\n exports.namespaceSVG = namespaceSVG;\n exports.nextContext = nextContext;\n exports.pipe = pipe;\n exports.pipeBind1 = pipeBind1;\n exports.pipeBind2 = pipeBind2;\n exports.pipeBind3 = pipeBind3;\n exports.pipeBind4 = pipeBind4;\n exports.pipeBindV = pipeBindV;\n exports.projection = projection;\n exports.projectionDef = projectionDef;\n exports.property = property;\n exports.propertyInterpolate = propertyInterpolate;\n exports.propertyInterpolate1 = propertyInterpolate1;\n

exports.propertyInterpolate2 = propertyInterpolate2;\n exports.propertyInterpolate3 = propertyInterpolate3;\n exports.propertyInterpolate4 = propertyInterpolate4;\n exports.propertyInterpolate5 = propertyInterpolate5;\n exports.propertyInterpolate6 = propertyInterpolate6;\n exports.propertyInterpolate7 = propertyInterpolate7;\n exports.propertyInterpolate8 = propertyInterpolate8;\n exports.propertyInterpolateV = propertyInterpolateV;\n exports.pureFunction0 = pureFunction0;\n exports.pureFunction1 = pureFunction1;\n exports.pureFunction2 = pureFunction2;\n exports.pureFunction3 = pureFunction3;\n exports.pureFunction4 = pureFunction4;\n exports.pureFunction5 = pureFunction5;\n exports.pureFunction6 = pureFunction6;\n exports.pureFunction7 = pureFunction7;\n exports.pureFunction8 = pureFunction8;\n exports.pureFunctionV = pureFunctionV;\n exports.queryRefresh

= queryRefresh;\n    exports.reference = reference;\n    exports.resolveBody = resolveBody;\n
exports.resolveDocument = resolveDocument;\n    exports.resolveWindow = resolveWindow;\n
exports.restoreView = restoreView;\n    exports.sanitizeHtml = sanitizeHtml;\n    exports.sanitizeResourceUrl =
sanitizeResourceUrl;\n    exports.sanitizeScript = sanitizeScript;\n    exports.sanitizeStyle = sanitizeStyle;\n
exports.sanitizeUrl = sanitizeUrl;\n    exports.sanitizeUrlOrResourceUrl = sanitizeUrlOrResourceUrl;\n
exports.setComponentScope = setComponentScope;\n    exports.setNgModuleScope = setNgModuleScope;\n
exports.staticContentQuery = staticContentQuery;\n    exports.staticViewQuery = staticViewQuery;\n
exports.styleMap = styleMap;\n    exports.styleMapInterpolate1 = styleMapInterpolate1;\n
exports.styleMapInterpolate2 = styleMapInterpolate2;\n    exports.styleMapInterpolate3 =
styleMapInterpolate3;\n    exports.styleMapInterpolate4 = styleMapInterpolate4;\n    exports.styleMapInterpolate5
= styleMapInterpolate5;\n    exports.styleMapInterpolate6 = styleMapInterpolate6;\n    exports.styleMapInterpolate7
= styleMapInterpolate7;\n    exports.styleMapInterpolate8 = styleMapInterpolate8;\n
exports.styleMapInterpolateV = styleMapInterpolateV;\n    exports.styleProp = styleProp;\n
exports.stylePropInterpolate1 = stylePropInterpolate1;\n    exports.stylePropInterpolate2 = stylePropInterpolate2;\n
exports.stylePropInterpolate3 = stylePropInterpolate3;\n    exports.stylePropInterpolate4 = stylePropInterpolate4;\n
exports.stylePropInterpolate5 = stylePropInterpolate5;\n    exports.stylePropInterpolate6 = stylePropInterpolate6;\n
exports.stylePropInterpolate7 = stylePropInterpolate7;\n    exports.stylePropInterpolate8 = stylePropInterpolate8;\n
exports.stylePropInterpolateV = stylePropInterpolateV;\n
    exports.syntheticHostListener = syntheticHostListener;\n    exports.syntheticHostProperty =
syntheticHostProperty;\n    exports.template = template;\n    exports.templateRefExtractor = templateRefExtractor;\n
  exports.text = text;\n    exports.textInterpolate = textInterpolate;\n    exports.textInterpolate1 = textInterpolate1;\n
exports.textInterpolate2 = textInterpolate2;\n    exports.textInterpolate3 = textInterpolate3;\n
exports.textInterpolate4 = textInterpolate4;\n    exports.textInterpolate5 = textInterpolate5;\n
exports.textInterpolate6 = textInterpolate6;\n    exports.textInterpolate7 = textInterpolate7;\n
exports.textInterpolate8 = textInterpolate8;\n    exports.textInterpolateV = textInterpolateV;\n
exports.trustConstantHtml = trustConstantHtml;\n    exports.trustConstantResourceUrl =
trustConstantResourceUrl;\n    exports.trustConstantScript = trustConstantScript;\n    exports.viewQuery
= viewQuery;\n\n    Object.defineProperty(exports, '__esModule', { value: true });\n\n})));\n//#
sourceMappingURL=core.umd.js.map\n"]}

Found in path(s):
* /core-11-0-5-tgz/package/bundles/core.umd.min.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"core.js","sources":["../../../../../../packages/core/src/util/property.ts","../../../../../../packages/core/src/util/stringify.ts","../../../../../../packages/core/src/di/forward_ref.ts","../../../../../../packages/core/src/util/assert.ts","../../../../../../packages/core/src/di/interface/defs.ts","../../../../../../packages/core/src/di/interface/injector.ts","../../../../../../packages/core/src/di/inject_switch.ts","../../../../../../packages/core/src/util/closure.ts","../../../../../../packages/core/src/change_detection/constants.ts","../../../../../../packages/core/src/metadata/view.ts","../../../../../../packages/core/src/util/global.ts","../../../../../../packages/core/src/util/ng_dev_mode.ts","../../../../../../packages/core/src/render3/empty.ts","../../../../../../packages/core/src/render3/fields.ts","../../../../../../packages/core/src/render3/definition.ts","../../../../../../packages/core/src/render3/interfaces/view.ts","../../../../../../packages/core/src/render3/interfaces/container.ts","../../../../../../packages/core/src/render3/interfaces/type_checks.ts","../../../../../../packages/core/src/render3/assert.ts","../../../../../../packages/core/src/render3/definition_factory.ts","../../../../../../packages/core/src/render3/error_code.ts","../../../../../../packages/core/src/render3/util/stringify_utils.ts","../../../../../../packages/core/src/render3/errors_di.ts","../../../../../../packages/core/src/interface/simple_change.ts","../../../../../../packages/core/src/render3/features/ng_onchanges_feature.ts","../../../../../../packages/core/src/render3/namespaces.ts","../../../../../../packages/core/src/render3/interfaces/context.ts","../../../../../../packages/core/src/render3/interfaces/document.ts","../../../../../../packages/core/src/render3/interfaces/rende

rer.ts","../../../../../../packages/core/src/render3/util/view_utils.ts","../../../../../../packages/core/src/render3/state.ts","../../../../../../packages/core/src/render3/hooks.ts","../../../../../../packages/core/src/render3/interfaces/injector.ts","../../../../../../packages/core/src/render3/interfaces/node.ts","../../../../../../packages/core/src/render3/node_assert.ts","../../../../../../packages/core/src/render3/util/attrs_utils.ts","../../../../../../packages/core/src/render3/util/injector_utils.ts","../../../../../../packages/core/src/render3/di.ts","../../../../../../packages/core/src/render3/instructions/di_attr.ts","../../../../../../packages/core/src/util/decorators.ts","../../../../../../packages/core/src/di/metadata_attr.ts","../../../../../../packages/core/src/di/injection_token.ts","../../../../../../packages/core/src/metadata/di.ts","../../../../../../packages/core/src/compiler/compiler_facade_interface.ts","../../../../../../packages/core/src/compiler/compiler_facade.ts","../../../../../../packages/core/src/interface/type.ts","../../../../../../packages/core/src/util/array_utils.ts","../../../../../../packages/core/src/reflection/reflection_capabilities.ts","../../../../../../packages/core/src/di/metadata.ts","../../../../../../packages/core/src/di/jit/util.ts","../../../../../../packages/core/src/metadata/resource_loading.ts","../../../../../../packages/core/src/di/injector_compatibility.ts","../../../../../../packages/core/src/util/security/trusted_types.ts","../../../../../../packages/core/src/sanitization/bypass.ts","../../../../../../packages/core/src/sanitization/inert_body.ts","../../../../../../packages/core/src/sanitization/url_sanitizer.ts","../../../../../../packages/core/src/sanitization/html_sanitizer.ts","../../../../../../packages/core/src/sanitization/security.ts","../../../../../../packages/core/src/sanitization/sanitization.ts","../../../../../../packages/core/src/util/errors.ts","../../../../../../packages/core/src/errors.ts","../../../../../../packages/core/src/error_handler.ts","../../../../../../packages/core/src/metadata/schema.ts","../../../../../../packages/core/src/util/dom.ts","../../../../../../packages/core/src/util/named_array_type.ts","../../../../../../packages/core/src/util/ng_reflect.ts","../../../../../../packages/core/src/render3/context_discovery.ts","../../../../../../packages/core/src/render3/util/misc_utils.ts","../../../../../../packages/core/src/render3/errors.ts","../../../../../../packages/core/src/render/api_flags.ts","../../../../../../packages/core/src/render3/i18n/i18n_tree_shaking.ts","../../../../../../packages/core/src/render3/interfaces/projection.ts","../../../../../../packages/core/src/render3/util/view_traversal_utils.ts","../../../../../../packages/core/src/render3/node_manipulation.ts","../../../../../../packages/core/src/render3/styling/class_differ.ts","../../../../../../packages/core/src/render3/node_selector_matcher.ts","../../../../../../packages/core/src/render3/tokens.ts","../../../../../../packages/core/src/render3/instructions/advance.ts","../../../../../../packages/core/src/render3/interfaces/styling.ts","../../../../../../packages/core/src/render3/util/debug_utils.ts","../../../../../../packages/core/src/render3/instructions/lview_debug.ts","../../../../../../packages/core/src/render3/instructions/shared.ts","../../../../../../packages/core/src/render3/styling/static_styling.ts","../../../../../../packages/core/src/render3/instructions/change_detection.ts","../../../../../../packages/core/src/di/injector_token.ts","../../../../../../packages/core/src/di/null_injector.ts","../../../../../../packages/core/src/di/scope.ts","../../../../../../packages/core/src/di/r3_injector.ts","../../../../../../packages/core/src/di/injector.ts","../../../../../../packages/core/src/render3/util/discovery_utils.ts","../../../../../../packages/core/src/render3/util/change_detection_utils.ts","../../../../../../packages/core/src/render3/util/global_utils.ts","../../../../../../packages/core/src/render3/component.ts","../../../../../../packages/core/src/render3/features/inherit_definition_feature.ts","../../../../../../packages/core/src/render3/features/copy_definition_feature.ts","../../../../../../packages/core/src/util/symbol.ts","../../../../../../packages/core/src/change_detection/change_detection_util.ts","../../../../../../packages/core/src/render3/bindings.ts","../../../../../../packages/core/src/render3/instructions/attribute.ts","../../../../../../packages/core/src/render3/instructions/interpolation.ts","../../../../../../packages/core/src/render3/instructions/attribute_interpolation.ts","../../../../../../packages/core/src/render3/instructions/template.ts","../../../../../../packages/core/src/render3/instructions/storage.ts","../../../../../../packages/core/src/di/jit/environment.ts","../../../../../../packages/core/src/di/jit/injectable.ts","../../../../../../packages/core/src/di/util.ts","../../../../../../packages/core/src/di/injectable.ts","../../../../../../packages/core/src/di/reflective_errors.ts","../../../../../../packages/core/src/di/reflective_key.ts","../../../../../../packages/core/src/reflection/reflector.ts","../../../../../../packages/core/src/reflection/reflection.ts","../../../../../../packages/core/src/di/reflective_provider.ts","../../../../../../packages/core/src/di/reflective_injector.ts","../../../../../../packages/core/src/di/index.ts","../../../../../../packages/core/src/di.ts","../../../../../../packages/core/src/render3/instructions/di.ts","../../../../../../packages/core/src/render3/instructions/property.ts","../../../../../../packages/core/src/render3/instructions/element.ts","../../../../../../packages/core/src/render3/instructions/element_container.ts","../../../../../../packages/core/src/render3/instructions/get_current_view.ts","../../../../../../packages/core/src/util/lang.ts","../../../../../../packages/core/src/render3/instructions/listener.ts","../../../../../../packages/core/src/render3/instructions/namespace.ts","../../../../../../packages/core/src/render3/instructions/next_context.ts","../../../../../../packages/core/src/render3/instructions/projection.ts","../../../../../../packages/core/src/render3/instructions/property_int

erpolation.ts","../../../../../../packages/core/src/util/empty.ts","../../../../../../packages/core/src/render3/styling/style_binding_list.ts","../../../../../../packages/core/src/render3/styling/styling_parser.ts","../../../../../../packages/core/src/render3/instructions/styling.ts","../../../../../../packages/core/src/render3/instructions/text.ts","../../../../../../packages/core/src/render3/instructions/text_interpolation.ts","../../../../../../packages/core/src/render3/instructions/class_map_interpolation.ts","../../../../../../packages/core/src/render3/instructions/style_map_interpolation.ts","../../../../../../packages/core/src/render3/instructions/style_prop_interpolation.ts","../../../../../../packages/core/src/render3/instructions/host_property.ts","../../../../../../packages/core/src/util/ng_i18n_closure_mode.ts","../../../../../../packages/core/src/i18n/locale_en.ts","../../../../../../packages/core/src/i18n/locale_data_api.ts","../../../../../../packages/core/src/i18n/localization.ts","../../../../../../packages/core/src/render3/interfaces/i18n.ts","../../../../../../packages/core/src/render3/i18n/i18n_locale_id.ts","../../../../../../packages/core/src/render3/node_manipulation_i18n.ts","../../../../../../packages/core/src/render3/i18n/i18n_insert_before_index.ts","../../../../../../packages/core/src/render3/i18n/i18n_util.ts","../../../../../../packages/core/src/render3/i18n/i18n_apply.ts","../../../../../../packages/core/src/render3/instructions/i18n_icu_container_visitor.ts","../../../../../../packages/core/src/render3/i18n/i18n_debug.ts","../../../../../../packages/core/src/render3/i18n/i18n_parse.ts","../../../../../../packages/core/src/render3/i18n/i18n_postprocess.ts","../../../../../../packages/core/src/render3/instructions/i18n.ts","../../../../../../packages/core/src/render3/instructions/all.ts","../../../../../../packages/core/src/render3/di_setup.ts","../../../../../../packages/core/src/render3/features/providers_feature.ts","../../../../../../packages/core/src/linker/component_factory.ts","../../../../../../packages/core/src/linker/component_factory_resolver.ts","../../../../../../packages/core/src/util/noop.ts","../../../../../../packages/core/src/linker/element_ref.ts","../../../../../../packages/core/src/render/api.ts","../../../../../../packages/core/src/sanitization/sanitizer.ts","../../../../../../packages/core/src/version.ts","../../../../../../packages/core/src/change_detection/differs/default_iterable_differ.ts","../../../../../../packages/core/src/change_detection/differs/default_keyvalue_differ.ts","../../../../../../packages/core/src/change_detection/differs/iterable_differs.ts","../../../../../../packages/core/src/change_detection/differs/keyvalue_differs.ts","../../../../../../packages/core/src/render3/collect_native_nodes.ts","../../../../../../packages/core/src/render3/view_ref.ts","../../../../../../packages/core/src/change_detection/change_detector_ref.ts","../../../../../../packages/core/src/change_detection/change_detection.ts","../../../../../../packages/core/src/linker/template_ref.ts","../../../../../../packages/core/src/linker/ng_module_factory.ts","../../../../../../packages/core/src/linker/view_container_ref.ts","../../../../../../packages/core/src/view/errors.ts","../../../../../../packages/core/src/view/types.ts","../../../../../../packages/core/src/view/util.ts","../../../../../../packages/core/src/view/ng_module.ts","../../../../../../packages/core/src/view/view_attach.ts","../../../../../../packages/core/src/view/refs.ts","../../../../../../packages/core/src/view/provider.ts","../../../../../../packages/core/src/render3/component_ref.ts","../../../../../../packages/core/src/render3/metadata.ts","../../../../../../packages/core/src/linker/ng_module_factory_registration.ts","../../../../../../packages/core/src/render3/ng_module_ref.ts","../../../../../../packages/core/src/render3/pure_function.ts","../../../../../../packages/core/src/render3/pipe.ts","../../../../../../packages/core/src/event_emitter.ts","../../../../../../packages/core/src/linker/query_list.ts","../../../../../../packages/core/src/render3/interfaces/definition.ts","../../../../../../packages/core/src/render3/interfaces/query.ts","../../../../../../packages/core/src/render3/query.ts","../../../../../../packages/core/src/render3/view_engine_compatibility_prebound.ts","../../../../../../packages/core/src/render3/index.ts","../../../../../../packages/core/src/render3/jit/environment.ts","../../../../../../packages/core/src/render3/jit/jit_options.ts","../../../../../../packages/core/src/render3/jit/module.ts","../../../../../../packages/core/src/render3/jit/directive.ts","../../../../../../packages/core/src/render3/jit/pipe.ts","../../../../../../packages/core/src/metadata/directives.ts","../../../../../../packages/core/src/metadata/ng_module.ts","../../../../../../packages/core/src/metadata.ts","../../../../../../packages/core/src/util/ng_jit_mode.ts","../../../../../../packages/core/src/application_init.ts","../../../../../../packages/core/src/application_tokens.ts","../../../../../../packages/core/src/console.ts","../../../../../../packages/core/src/i18n/tokens.ts","../../../../../../packages/core/src/ivy_switch.ts","../../../../../../packages/core/src/linker/compiler.ts","../../../../../../packages/core/src/util/microtask.ts","../../../../../../packages/core/src/util/raf.ts","../../../../../../packages/core/src/zone/ng_zone.ts","../../../../../../packages/core/src/testability/testability.ts","../../../../../../packages/core/src/util/is_dev_mode.ts","../../../../../../packages/core/src/application_ref.ts","../../../../../../packages/core/src/zone.ts","../../../../../../packages/core/src/render.ts","../../../../../../packages/core/src/linker/ng_module_factory_loader.ts","../../../../../../packages/core/src/linker/system_js_ng_module_factory_loader.ts","../../../../../../packages/core/src/linker/view_ref.ts","../../../../../../packages/core/src/linker.ts","../../../../../../packages/core/src/debug/debug_node.ts","../../../../../../packages/core/src/change_detection.ts","../../../../../../packages/core/src/platform_core_providers.ts","../../../../

../../packages/core/src/application_module.ts","../../../../../../packages/core/src/view/element.ts","../../../../../../packages/core/src/view/query.ts","../../../../../../packages/core/src/view/ng_content.ts","../../../../../../packages/core/src/view/pure_expression.ts","../../../../../../packages/core/src/view/text.ts","../../../../../../packages/core/src/view/view.ts","../../../../../../packages/core/src/view/services.ts","../../../../../../packages/core/src/view/entrypoint.ts","../../../../../../packages/core/src/view/index.ts","../../../../../../packages/core/src/core_private_export.ts","../../../../../../packages/core/src/core_render3_private_export.ts","../../../../../../packages/core/src/codegen_private_exports.ts","../../../../../../packages/core/src/core.ts","../../../../../../packages/core/public_api.ts","../../../../../../packages/core/index.ts","../../../../../../packages/core/core.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function getClosureSafeProperty<T>(objWithPropertyToExtract: T): string {\n  for (let key in objWithPropertyToExtract) {\n    if (objWithPropertyToExtract[key] === getClosureSafeProperty as any) {\n      return key;\n    }\n  }\n  throw Error('Could not find renamed property on target object.');\n}\n\n/**\n * Sets properties on a target object from a source object, but only if\n * the property doesn't already exist on the target object.\n * @param target The target to set properties on\n * @param source The source of
 the property keys and values to set\n */\nexport function fillProperties(target: {[key: string]: string}, source: {[key: string]: string}) {\n  for (const key in source) {\n    if (source.hasOwnProperty(key) &&
 !target.hasOwnProperty(key)) {\n      target[key] = source[key];\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function stringify(token: any): string {\n  if (typeof token === 'string') {\n    return token;\n  }\n\n  if (Array.isArray(token)) {\n    return '[' +
 token.map(stringify).join(', ') + ']';\n  }\n\n  if (token == null) {\n    return '' + token;\n  }\n\n  if
 (token.overriddenName) {\n    return `${token.overriddenName}`;\n  }\n\n  if (token.name) {\n    return
 `${token.name}`;\n  }\n\n  const res = token.toString();\n\n  if (res == null) {\n    return '' + res;\n  }\n\n  const
 newLineIndex
 = res.indexOf('\\n');\n  return newLineIndex === -1 ? res : res.substring(0, newLineIndex);\n}\n\n/**\n *
 Concatenates two strings with separator, allocating new strings only when necessary.\n *\n * @param before before
 string.\n * @param separator separator string.\n * @param after after string.\n * @returns concatenated string.\n
 */\nexport function concatStringsWithSpace(before: string|null, after: string|null): string {\n  return (before == null ||
 before === '') ?\n      (after === null ? '' : after) :\n      ((after == null || after === '') ? before : before + ' ' +
 after);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is
 governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
 */\n\nimport {Type} from '../interface/type';\nimport {getClosureSafeProperty} from '../util/property';\nimport
 {stringify} from '../util/stringify';\n\n\n\n/**\n * An interface that a function
 passed into {@link forwardRef} has to implement.\n *\n * @usageNotes\n * ### Example\n *\n * {@example
 core/di/ts/forward_ref/forward_ref_spec.ts region='forward_ref_fn'}\n * @publicApi\n */\nexport interface
 ForwardRefFn {\n  (): any;\n}\n\nconst __forward_ref__ = getClosureSafeProperty({__forward_ref__:
 getClosureSafeProperty});\n\n/**\n * Allows to refer to references which are not yet defined.\n *\n * For instance,
 `forwardRef` is used when the `token` which we need to refer to for the purposes of\n * DI is declared, but not yet
 defined. It is also used when the `token` which we use when creating\n * a query is not yet defined.\n *\n *
 @usageNotes\n * ### Example\n * {@example core/di/ts/forward_ref/forward_ref_spec.ts region='forward_ref'}\n
 * @publicApi\n */\nexport function forwardRef(forwardRefFn: ForwardRefFn): Type<any> {\n
 (<any>forwardRefFn).__forward_ref__ = forwardRef;\n  (<any>forwardRefFn).toString = function() {\n    return
 stringify(this());\n  };\n  return (<Type<any>><any>forwardRefFn);\n}\n\n/**\n
 * Lazily retrieves the reference value from a forwardRef.\n *\n * Acts as the identity function when given a non-
 forward-ref value.\n *\n * @usageNotes\n * ### Example\n *\n * {@example
 core/di/ts/forward_ref/forward_ref_spec.ts region='resolve_forward_ref'}\n *\n * @see `forwardRef`\n *
 @publicApi\n */\nexport function resolveForwardRef<T>(type: T): T {\n  return isForwardRef(type) ? type() :

type;\n}\n\n/** Checks whether a function is wrapped by a `forwardRef`. */\nexport function isForwardRef(fn: any): fn is() => any {\n  return typeof fn === 'function' && fn.hasOwnProperty(__forward_ref__) &&\n fn.__forward_ref__ === forwardRef;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// The functions in this file verify that the assumptions we are making\n// about state in an instruction
 are correct before implementing any logic.\n// They are meant only to be called in dev mode as sanity checks.\n\nimport {stringify} from './stringify';\n\nexport function assertNumber(actual: any, msg: string): asserts actual is number {\n  if (!(typeof actual === 'number')) {\n    throwError(msg, typeof actual, 'number', '===');\n }\n}\n\nexport function assertNumberInRange(\n    actual: any, minInclusive: number, maxInclusive: number): asserts actual is number {\n  assertNumber(actual, 'Expected a number');\n  assertLessThanOrEqual(actual, maxInclusive, 'Expected number to be less than or equal to');\n  assertGreaterThanOrEqual(actual, minInclusive, 'Expected number to be greater than or equal to');\n}\n\nexport function assertString(actual: any, msg: string): asserts actual is string {\n  if (!(typeof actual === 'string')) {\n    throwError(msg, actual === null ? 'null' : typeof actual, 'string', '===');\n  }\n}\n\nexport function assertFunction(actual: any, msg: string): asserts
 actual is Function {\n  if (!(typeof actual === 'function')) {\n    throwError(msg, actual === null ? 'null' : typeof actual, 'function', '===');\n  }\n}\n\nexport function assertEqual<T>(actual: T, expected: T, msg: string) {\n  if (!(actual == expected)) {\n    throwError(msg, actual, expected, '==');\n  }\n}\n\nexport function assertNotEqual<T>(actual: T, expected: T, msg: string): asserts actual is T {\n  if (!(actual != expected)) {\n throwError(msg, actual, expected, '!=');\n  }\n}\n\nexport function assertSame<T>(actual: T, expected: T, msg: string): asserts actual is T {\n  if (!(actual === expected)) {\n    throwError(msg, actual, expected, '===');\n }\n}\n\nexport function assertNotSame<T>(actual: T, expected: T, msg: string) {\n  if (!(actual !== expected)) {\n throwError(msg, actual, expected, '!==');\n  }\n}\n\nexport function assertLessThan<T>(actual: T, expected: T, msg: string): asserts actual is T {\n  if (!(actual < expected)) {\n    throwError(msg, actual,
 expected, '<');\n  }\n}\n\nexport function assertLessThanOrEqual<T>(actual: T, expected: T, msg: string): asserts actual is T {\n  if (!(actual <= expected)) {\n    throwError(msg, actual, expected, '<=');\n  }\n}\n\nexport function assertGreaterThan<T>(actual: T, expected: T, msg: string): asserts actual is T {\n  if (!(actual > expected)) {\n throwError(msg, actual, expected, '>');\n  }\n}\n\nexport function assertGreaterThanOrEqual<T>(\n    actual: T, expected: T, msg: string): asserts actual is T {\n  if (!(actual >= expected)) {\n    throwError(msg, actual, expected, '>=');\n  }\n}\n\nexport function assertNotDefined<T>(actual: T, msg: string) {\n  if (actual != null) {\n throwError(msg, actual, null, '==');\n  }\n}\n\nexport function assertDefined<T>(actual: T|null|undefined, msg: string): asserts actual is T {\n  if (actual == null) {\n    throwError(msg, actual, null, '!=');\n  }\n}\n\nexport function throwError(msg: string): never;\nexport function throwError(msg: string,
 actual: any, expected: any, comparison: string): never;\nexport function throwError(msg: string, actual?: any, expected?: any, comparison?: string): never {\n  throw new Error(\n      `ASSERTION ERROR: ${msg}` +\n (comparison == null ? '' : ` [Expected=> ${expected} ${comparison} ${actual} <=Actual]`));\n}\n\nexport function assertDomNode(node: any): asserts node is Node {\n  // If we're in a worker, `Node` will not be defined.\n  if (!(typeof Node !== 'undefined' && node instanceof Node) &&\n      !(typeof node === 'object' && node != null &&\n        node.constructor.name === 'WebWorkerRenderNode')) {\n    throwError(`The provided value must be an instance of a DOM Node but got ${stringify(node)}`);\n  }\n}\n\n\nexport function assertIndexInRange(arr: any[], index: number) {\n  assertDefined(arr, 'Array must be defined.');\n  const maxLen = arr.length;\n  if (index < 0 || index >= maxLen) {\n    throwError(`Index expected to be less than ${maxLen} but got ${index}`);\n }\n}\n\n\nexport
 function assertOneOf(value: any, ...validValues: any[]) {\n  if (validValues.indexOf(value) !== -1) return true;\n throwError(`Expected value to be one of ${JSON.stringify(validValues)} but was ${\n JSON.stringify(value)}.`);\n}","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../../interface/type';\nimport {getClosureSafeProperty} from

'../../util/property';\nimport {ClassProvider, ConstructorProvider, ExistingProvider, FactoryProvider, StaticClassProvider, ValueProvider} from './provider';\n\n\n\n/**\n * Information about how a type or `InjectionToken` interfaces with the DI system.\n *\n * At a minimum, this includes a `factory` which defines how to create the given type `T`, possibly\n * requesting injection of other types if necessary.\n *\n * Optionally, a `providedIn` parameter
specifies that the given type belongs to a particular\n * `InjectorDef`, `NgModule`, or a special scope (e.g. `'root'`). A value of `null` indicates\n * that the injectable does not belong to any scope.\n *\n * @codeGenApi\n * @publicApi The ViewEngine compiler emits code with this type for injectables. This code is\n * deployed to npm, and should be treated as public api.\n\n */\nexport interface InjectableDef<T> {\n /**\n * Specifies that the given type belongs to a particular injector:\n * - `InjectorType` such as `NgModule`,\n * - `'root'` the root injector\n * - `'any'` all injectors.\n * - `null`, does not belong to any injector. Must be explicitly listed in the injector\n * `providers`.\n */\n providedIn: InjectorType<any>|'root'|'platform'|'any'|null;\n\n /**\n * The token to which this definition belongs.\n *\n * Note that this may not be the same as the type that the `factory` will create.\n */\n token: unknown;\n\n /**\n * Factory method to
execute to create an instance of the injectable.\n */\n factory: (t?: Type<any>) => T;\n\n /**\n * In a case of no explicit injector, a location where the instance of the injectable is stored.\n */\n value: T|undefined;\n}\n\n/**\n * Information about the providers to be included in an `Injector` as well as how the given type\n * which carries the information should be created by the DI system.\n *\n * An `InjectorDef` can import other types which have `InjectorDefs`, forming a deep nested\n * structure of providers with a defined priority (identically to how `NgModule`s also have\n * an import/dependency structure).\n *\n * NOTE: This is a private type and should not be exported\n *\n * @codeGenApi\n */\nexport interface InjectorDef<T> {\n factory: () => T;\n\n // TODO(alxhub): Narrow down the type here once decorators properly change the return type of the\n // class they are decorating (to add the prov property for example).\n providers:
(Type<any>|ValueProvider|ExistingProvider|FactoryProvider|ConstructorProvider|\n
StaticClassProvider|ClassProvider|any[])[];\n\n imports:
(InjectorType<any>|InjectorTypeWithProviders<any>)[];\n}\n\n/**\n * A `Type` which has an `InjectableDef` static field.\n *\n * `InjectableDefType`s contain their own Dependency Injection metadata and are usable in an\n * `InjectorDef`-based `StaticInjector.\n *\n * @publicApi\n */\nexport interface InjectableType<T> extends Type<T> {\n /**\n * Opaque type whose structure is highly version dependent. Do not rely on any properties.\n */\n prov: never;\n}\n\n/**\n * A type which has an `InjectorDef` static field.\n *\n * `InjectorDefTypes` can be used to configure a `StaticInjector`.\n *\n * @publicApi\n */\nexport interface InjectorType<T> extends Type<T> {\n /**\n * Opaque type whose structure is highly version dependent. Do not rely on any properties.\n */\n inj: never;\n}\n\n/**\n * Describes the `InjectorDef` equivalent of a `ModuleWithProviders`,
an `InjectorDefType` with an\n * associated array of providers.\n *\n * Objects of this type can be listed in the imports section of an `InjectorDef`.\n *\n * NOTE: This is a private type and should not be exported\n */\nexport interface InjectorTypeWithProviders<T> {\n ngModule: InjectorType<T>;\n providers?:
(Type<any>|ValueProvider|ExistingProvider|FactoryProvider|ConstructorProvider|\n
StaticClassProvider|ClassProvider|any[])[];\n}\n\n\n/**\n * Construct an `InjectableDef` which defines how a token will be constructed by the DI system, and\n * in which injectors (if any) it will be available.\n *\n * This should be assigned to a static `prov` field on a type, which will then be an\n * `InjectableType`.\n *\n * Options:\n * * `providedIn` determines which injectors will include the injectable, by either associating it\n * with an `@NgModule` or other `InjectorType`, or by specifying that this injectable should be\n * provided in the `'root'` injector, which will
be the application-level injector in most apps.\n * * `factory` gives the zero argument function which will create an instance of the injectable.\n * The factory can call `inject` to access the `Injector` and request injection of dependencies.\n *\n * @codeGenApi\n * @publicApi This instruction has been emitted by ViewEngine for some time and is deployed to npm.\n */\nexport function defineInjectable<T>(opts: {\n token: unknown,\n providedIn?: Type<any>|'root'|'platform'|'any'|null, factory: () => T,\n}): never {\n return ({\n token: opts.token,\n

providedIn: opts.providedIn as any || null,\n factory: opts.factory,\n value: undefined,\n } as InjectableDef<T>) as never;\n}\n\n/**\n * @deprecated in v8, delete after v10. This API should be used only by generated code, and that\n * code should now use defineInjectable instead.\n * @publicApi\n */\nexport const defineInjectable = defineInjectable;\n\n/**\n * Construct an `InjectorDef`
which configures an injector.\n *\n * This should be assigned to a static injector def (`inj`) field on a type, which will then be an\n * `InjectorType`.\n *\n * Options:\n *\n * * `factory`: an `InjectorType` is an instantiable type, so a zero argument `factory` function to\n * create the type must be provided. If that factory function needs to inject arguments, it can\n * use the `inject` function.\n * * `providers`: an optional array of providers to add to the injector. Each provider must\n * either have a factory or point to a type which has a `prov` static property (the\n * type must be an `InjectableType`).\n * * `imports`: an optional array of imports of other `InjectorType`s or `InjectorTypeWithModule`s\n * whose providers will also be added to the injector. Locally provided types will override\n * providers from imports.\n *\n * @codeGenApi\n */\nexport function defineInjector(options: {factory: () => any, providers?: any[], imports?: any[]}):\n never
{\n return ({\n factory: options.factory,\n providers: options.providers || [],\n imports: options.imports || [],\n } as InjectorDef<any>) as never;\n}\n\n/**\n * Read the injectable def (`prov`) for `type` in a way which is immune to accidentally reading\n * inherited value.\n *\n * @param type A type which may have its own (non-inherited) `prov`.\n */\nexport function getInjectableDef<T>(type: any): InjectableDef<T>|null {\n return getOwnDefinition(type, NG_PROV_DEF) || getOwnDefinition(type, NG_INJECTABLE_DEF);\n}\n\n/**\n * Return definition only if it is defined directly on `type` and is not inherited from a base\n * class of `type`.\n */\nfunction getOwnDefinition<T>(type: any, field: string): InjectableDef<T>|null {\n return type.hasOwnProperty(field) ? type[field] : null;\n}\n\n/**\n * Read the injectable def (`prov`) for `type` or read the `prov` from one of its ancestors.\n *\n * @param type A type which may have `prov`,
via inheritance.\n *\n * @deprecated Will be removed in a future version of Angular, where an error will occur in the\n * scenario if we find the `prov` on an ancestor only.\n */\nexport function getInheritedInjectableDef<T>(type: any): InjectableDef<T>|null {\n const def = type && (type[NG_PROV_DEF] || type[NG_INJECTABLE_DEF]);\n\n if (def) {\n const typeName = getTypeName(type);\n // TODO(FW-1307): Re-add ngDevMode when closure can handle it\n // ngDevMode &&\n console.warn(\n `DEPRECATED: DI is instantiating a token \"${\n typeName}\" that inherits its @Injectable decorator but does not provide one itself.\\n` +\n `This will become an error in a future version of Angular. Please add @Injectable() to the \"${\n typeName}\" class.`);\n return def;\n } else {\n return null;\n }\n}\n\n/** Gets the name of a type, accounting for some cross-browser differences. */\nfunction getTypeName(type: any): string {\n // `Function.prototype.name`
behaves differently between IE and other browsers. In most browsers\n // it'll always return the name of the function itself, no matter how many other functions it\n // inherits from. On IE the function doesn't have its own `name` property, but it takes it from\n // the lowest level in the prototype chain. E.g. if we have `class Foo extends Parent` most\n // browsers will evaluate `Foo.name` to `Foo` while IE will return `Parent`. We work around\n // the issue by converting the function to a string and parsing its name out that way via a regex.\n if (type.hasOwnProperty('name')) {\n return type.name;\n }\n\n const match = ('' + type).match(/^function\\s*([^\\s(]+)/);\n return match === null ? '' : match[1];\n}\n\n/**\n * Read the injector def type in a way which is immune to accidentally reading inherited value.\n *\n * @param type type which may have an injector def (`inj`)\n */\nexport function getInjectorDef<T>(type: any): InjectorDef<T>|null {\n return
type && (type.hasOwnProperty(NG_INJ_DEF) || type.hasOwnProperty(NG_INJECTOR_DEF)) ?\n (type as any)[NG_INJ_DEF] :\n null;\n}\n\nexport const NG_PROV_DEF = getClosureSafeProperty({prov: getClosureSafeProperty});\nexport const NG_INJ_DEF = getClosureSafeProperty({inj: getClosureSafeProperty});\n\n// We need to keep these around so we can read off old defs if new defs are unavailable\nexport const NG_INJECTABLE_DEF = getClosureSafeProperty({ngInjectableDef: getClosureSafeProperty});\nexport const NG_INJECTOR_DEF = getClosureSafeProperty({ngInjectorDef: getClosureSafeProperty});\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this

source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n/**\n * Injection flags for DI.\n *\n * @publicApi\n */\nexport enum InjectFlags {\n  // TODO(alxhub): make this 'const' when ngc no longer writes exports of it into ngfactory files.\n\n  /** Check self and check parent injector if needed */\n  Default = 0b0000,\n  /**\n   * Specifies that an injector should retrieve a dependency from any injector until reaching the\n   * host element of the current component. (Only used with Element Injector)\n   */\n  Host = 0b0001,\n  /** Don't ascend to ancestors of the node requesting injection. */\n  Self = 0b0010,\n  /** Skip the node that is requesting injection. */\n  SkipSelf = 0b0100,\n  /** Inject `defaultValue` instead if token not found. */\n  Optional = 0b1000,\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {assertNotEqual} from '../util/assert';\nimport {stringify} from '../util/stringify';\nimport {InjectionToken} from './injection_token';\nimport {getInjectableDef, InjectableDef} from './interface/defs';\nimport {InjectFlags} from './interface/injector';\n\n\n/**\n * Current implementation of inject.\n *\n * By default, it is `injectInjectorOnly`, which makes it `Injector`-only aware. It can be changed\n * to `directiveInject`, which brings in the `NodeInjector` system of ivy. It is designed this\n * way for two reasons:\n *  1. `Injector` should not depend on ivy logic.\n *  2. To maintain tree shake-ability we don't want to bring in unnecessary code.\n */\nlet _injectImplementation: (<T>(token: Type<T>|InjectionToken<T>, flags?: InjectFlags) => T | null)|\nundefined;\nexport function getInjectImplementation() {\n  return _injectImplementation;\n}\n\n\n/**\n * Sets the current inject implementation.\n */\nexport function setInjectImplementation(\n    impl: (<T>(token: Type<T>|InjectionToken<T>, flags?: InjectFlags) => T | null)|\n    undefined): (<T>(token: Type<T>|InjectionToken<T>, flags?: InjectFlags) => T | null)|undefined {\n  const previous = _injectImplementation;\n  _injectImplementation\n  = impl;\n  return previous;\n}\n\n\n/**\n * Injects `root` tokens in limp mode.\n *\n * If no injector exists, we can still inject tree-shakable providers which have `providedIn` set to\n * `\"root\"`. This is known as the limp mode injection. In such case the value is stored in the\n * `InjectableDef`.\n */\nexport function injectRootLimpMode<T>(\n    token: Type<T>|InjectionToken<T>, notFoundValue: T|undefined, flags: InjectFlags): T|null {\n  const injectableDef: InjectableDef<T>|null = getInjectableDef(token);\n  if (injectableDef && injectableDef.providedIn == 'root') {\n    return injectableDef.value === undefined ? injectableDef.value = injectableDef.factory() :\n                                               injectableDef.value;\n  }\n  if (flags & InjectFlags.Optional) return null;\n  if (notFoundValue !== undefined) return notFoundValue;\n  throw new Error(`Injector: NOT_FOUND [${stringify(token)}]`);\n}\n\n\n/**\n * Assert that `_injectImplementation` is not `fn`.\n *\n * This is useful, to prevent infinite recursion.\n *\n * @param fn Function which it should not equal to\n */\nexport function assertInjectImplementationNotEqual(\n    fn: (<T>(token: Type<T>|InjectionToken<T>, flags?: InjectFlags) => T | null)) {\n  ngDevMode &&\n      assertNotEqual(_injectImplementation, fn, 'Calling inject would cause infinite recursion');\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Convince closure compiler that the wrapped function has no side-effects.\n *\n * Closure compiler always assumes that `toString` has no side-effects. We use this quirk to\n * allow us to execute a function but have closure compiler mark the call as no-side-effects.\n * It is important that the return value for the `noSideEffects` function be assigned\n * to something which is retained otherwise the call to `noSideEffects` will be removed by closure\n * compiler.\n */\nexport function noSideEffects<T>(fn: () => T): T {\n  return {toString: fn}.toString() as unknown as T;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n/**\n * The strategy that the default change detector uses to detect changes.\n * When set, takes effect the next time change detection is triggered.\n *\n * @see {@link ChangeDetectorRef#usage-notes Change detection usage}\n *\n * @publicApi\n */\nexport enum ChangeDetectionStrategy {\n  /**\n   * Use the `CheckOnce` strategy, meaning that automatic change detection is deactivated\n   * until reactivated by setting the strategy to `Default` (`CheckAlways`).\n   * Change detection can

still be explicitly invoked.\n  * This strategy applies to all child directives and cannot be overridden.\n  */\n  OnPush = 0,\n\n  /**\n  * Use the default `CheckAlways` strategy, in which change detection is automatic until\n  * explicitly deactivated.\n  */\n  Default = 1,\n}\n\n/**\n * Defines the possible states of the default change detector.\n * @see `ChangeDetectorRef`\n */\nexport enum ChangeDetectorStatus {\n  /**\n  * A state in which, after calling `detectChanges()`, the change detector\n  * state becomes `Checked`, and must be explicitly invoked or reactivated.\n  */\n  CheckOnce,\n\n  /**\n  * A state in which change detection is skipped until the change detector mode\n  * becomes `CheckOnce`.\n  */\n  Checked,\n\n  /**\n  * A state in which change detection continues automatically until explicitly\n  * deactivated.\n  */\n  CheckAlways,\n\n  /**\n  * A state in which a change detector sub tree is not a part of the main tree and\n  * should be skipped.\n  */\n  Detached,\n\n  /**\n  * Indicates that the change detector encountered an error checking a binding\n  * or calling a directive lifecycle method and is now in an inconsistent state. Change\n  * detectors in this state do not detect changes.\n  */\n  Errored,\n\n  /**\n  * Indicates that the change detector has been destroyed.\n  */\n  Destroyed,\n}\n\n/**\n * Reports whether a given strategy is currently the default for change detection.\n * @param changeDetectionStrategy The strategy to check.\n * @returns True if the given strategy is the current default, false otherwise.\n * @see `ChangeDetectorStatus`\n * @see `ChangeDetectorRef`\n */\nexport function isDefaultChangeDetectionStrategy(changeDetectionStrategy: ChangeDetectionStrategy):\n  boolean {\n  return changeDetectionStrategy == null ||\n      changeDetectionStrategy === ChangeDetectionStrategy.Default;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n
 * Defines template and style encapsulation options available for Component's {@link Component}.\n *\n * See {@link Component#encapsulation encapsulation}.\n *\n * @usageNotes\n * ### Example\n *\n * {@example core/ts/metadata/encapsulation.ts region='longform'}\n *\n * @publicApi\n */\nexport enum ViewEncapsulation {\n  /**\n  * Emulate `Native` scoping of styles by adding an attribute containing surrogate id to the Host\n  * Element and pre-processing the style rules provided via {@link Component#styles styles} or\n  * {@link Component#styleUrls styleUrls}, and adding the new Host Element attribute to all\n  * selectors.\n  *\n  * This is the default option.\n  */\n  Emulated = 0,\n\n  // Historically the 1 value was for `Native` encapsulation which has been removed as of v11.\n\n  /**\n  * Don't provide any template or style encapsulation.\n  */\n  None = 2,\n\n  /**\n  * Use Shadow DOM to encapsulate styles.\n  *\n  * For the DOM this means using modern [Shadow\n  * DOM](https://w3c.github.io/webcomponents/spec/shadow/) and\n  * creating a ShadowRoot for Component's Host Element.\n  */\n  ShadowDom = 3\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// TODO(jteplitz602): Load WorkerGlobalScope from lib.webworker.d.ts file #3492\ndeclare var WorkerGlobalScope: any /** TODO #9100 */;\n// CommonJS / Node have global context exposed as \"global\" variable.\n// We don't want to include the whole node.d.ts this this compilation unit so we'll just fake\n// the global \"global\" var for now.\ndeclare var global: any /** TODO #9100 */;\n// Not yet available in TypeScript: https://github.com/Microsoft/TypeScript/pull/29332\ndeclare var globalThis: any /** TODO #9100 */;\n\nconst __globalThis = typeof globalThis !== 'undefined' && globalThis;\nconst __window = typeof window !== 'undefined'
 && window;\nconst __self = typeof self !== 'undefined' && typeof WorkerGlobalScope !== 'undefined' &&\n self instanceof WorkerGlobalScope && self;\nconst __global = typeof global !== 'undefined' && global;\n\n// Always use __globalThis if available, which is the spec-defined global variable across all\n// environments, then fallback to __global first, because in Node tests both __global and\n// __window may be defined and _global should be __global in that case.\nconst _global = __globalThis || __global || __window || __self;\n\n/**\n * Attention: whenever providing a new value, be sure to add an\n * entry into the corresponding `....externs.js` file,\n * so that closure won't use that global for its purposes.\n */\nexport {_global as global};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {global} from './global';\n\ndeclare

global {\n /**\n * Values of ngDevMode\n * Depending on the current state of the application, ngDevMode may have one of several values.\n *\n * For convenience, the “truthy” value which enables dev mode is also an object which contains\n * Angular’s performance counters. This is not necessary, but cuts down on boilerplate for the\n * perf counters.\n *\n * ngDevMode may also be set to false. This can happen in one of a few ways:\n * - The user explicitly sets `window.ngDevMode = false` somewhere in their app.\n * - The user calls `enableProdMode()`.\n * - The URL contains a `ngDevMode=false` text.\n * Finally, ngDevMode may not have been defined at all.\n */\n const ngDevMode: null|NgDevModePerfCounters;\n interface NgDevModePerfCounters {\n namedConstructors: boolean;\n firstCreatePass: number;\n tNode: number;\n tView: number;\n rendererCreateTextNode: number;\n rendererSetText: number;\n rendererCreateElement: number;\n
rendererAddEventListener: number;\n rendererSetAttribute: number;\n rendererRemoveAttribute: number;\n rendererSetProperty: number;\n rendererSetClassName: number;\n rendererAddClass: number;\n rendererRemoveClass: number;\n rendererSetStyle: number;\n rendererRemoveStyle: number;\n rendererDestroy: number;\n rendererDestroyNode: number;\n rendererMoveNode: number;\n rendererRemoveNode: number;\n rendererAppendChild: number;\n rendererInsertBefore: number;\n rendererCreateComment: number;\n }\n}\n\nexport function ngDevModeResetPerfCounters(): NgDevModePerfCounters {\n const locationString = typeof location !== 'undefined' ? location.toString() : '';\n const newCounters: NgDevModePerfCounters = {\n namedConstructors: locationString.indexOf('ngDevMode=namedConstructors') != -1,\n firstCreatePass: 0,\n tNode: 0,\n tView: 0,\n rendererCreateTextNode: 0,\n rendererSetText: 0,\n rendererCreateElement: 0,\n rendererAddEventListener:
0,\n rendererSetAttribute: 0,\n rendererRemoveAttribute: 0,\n rendererSetProperty: 0,\n rendererSetClassName: 0,\n rendererAddClass: 0,\n rendererRemoveClass: 0,\n rendererSetStyle: 0,\n rendererRemoveStyle: 0,\n rendererDestroy: 0,\n rendererDestroyNode: 0,\n rendererMoveNode: 0,\n rendererRemoveNode: 0,\n rendererAppendChild: 0,\n rendererInsertBefore: 0,\n rendererCreateComment: 0,\n };\n\n // Make sure to refer to ngDevMode as ['ngDevMode'] for closure.\n const allowNgDevModeTrue = locationString.indexOf('ngDevMode=false') === -1;\n global['ngDevMode'] = allowNgDevModeTrue && newCounters;\n return newCounters;\n}\n\n/**\n * This function checks to see if the `ngDevMode` has been set. If yes,\n * then we honor it, otherwise we default to dev mode with additional checks.\n *\n * The idea is that unless we are doing production build where we explicitly\n * set `ngDevMode == false` we should be helping the developer
by providing\n * as much early warning and errors as possible.\n *\n * `defineComponent` is guaranteed to have been called before any component template functions\n * (and thus Ivy instructions), so a single initialization there is sufficient to ensure ngDevMode\n * is defined for the entire instruction set.\n *\n * When checking `ngDevMode` on toplevel, always init it before referencing it\n * (e.g. `((typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode())`), otherwise you can\n * get a `ReferenceError` like in https://github.com/angular/angular/issues/31595.\n *\n * Details on possible values for `ngDevMode` can be found on its docstring.\n *\n * NOTE:\n * - changes to the `ngDevMode` name must be synced with `compiler-cli/src/tooling.ts`.\n */\nexport function initNgDevMode(): boolean {\n // The below checks are to ensure that calling `initNgDevMode` multiple times does not\n // reset the counters.\n // If the `ngDevMode` is not an object, then it means we have
not created the perf counters\n // yet.\n if (typeof ngDevMode === 'undefined' || ngDevMode) {\n if (typeof ngDevMode !== 'object') {\n ngDevModeResetPerfCounters();\n }\n return typeof ngDevMode !== 'undefined' && !!ngDevMode;\n }\n return false;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {initNgDevMode} from '../util/ng_dev_mode';\n\n/**\n * This file contains reuseable \"empty\" symbols that can be used as default return values\n * in different parts of the rendering code. Because the same symbols are returned, this\n * allows for identity checks against these values to be

consistently used by the framework\n * code.\n */\n\nexport const EMPTY_OBJ: {} = {};\nexport const EMPTY_ARRAY: any[] = [];\n\n// freezing the values prevents any code from accidentally inserting new values in\nif ((typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode()) {\n // These property accesses can be ignored because ngDevMode will be set to false\n // when optimizing code and the whole if statement will be dropped.\n // tslint:disable-next-line:no-toplevel-property-access\n Object.freeze(EMPTY_OBJ);\n // tslint:disable-next-line:no-toplevel-property-access\n Object.freeze(EMPTY_ARRAY);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getClosureSafeProperty} from '../util/property';\n\nexport const NG_COMP_DEF = getClosureSafeProperty({cmp: getClosureSafeProperty});\nexport const NG_DIR_DEF = getClosureSafeProperty({dir: getClosureSafeProperty});\nexport const NG_PIPE_DEF = getClosureSafeProperty({pipe: getClosureSafeProperty});\nexport const NG_MOD_DEF = getClosureSafeProperty({mod: getClosureSafeProperty});\nexport const NG_LOC_ID_DEF = getClosureSafeProperty({loc: getClosureSafeProperty});\nexport const NG_FACTORY_DEF = getClosureSafeProperty({fac: getClosureSafeProperty});\n\n/**\n * If a directive is diPublic, bloomAdd sets a property on the type with this constant as\n * the key and the directive's unique ID as the value. This allows us to map directives to their\n * bloom filter bit for DI.\n */\n// TODO(misko): This is wrong. The NG_ELEMENT_ID should never be minified.\nexport const NG_ELEMENT_ID = getClosureSafeProperty({__NG_ELEMENT_ID__: getClosureSafeProperty});\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectionStrategy} from '../change_detection/constants';\nimport {Mutable, Type} from '../interface/type';\nimport {NgModuleDef, NgModuleType} from '../metadata/ng_module_def';\nimport {SchemaMetadata} from '../metadata/schema';\nimport {ViewEncapsulation} from '../metadata/view';\nimport {noSideEffects} from '../util/closure';\nimport {initNgDevMode} from '../util/ng_dev_mode';\nimport {stringify} from '../util/stringify';\nimport {EMPTY_ARRAY, EMPTY_OBJ} from './empty';\nimport {NG_COMP_DEF, NG_DIR_DEF, NG_LOC_ID_DEF, NG_MOD_DEF, NG_PIPE_DEF} from './fields';\nimport {ComponentDef, ComponentDefFeature, ComponentTemplate, ComponentType, ContentQueriesFunction, DirectiveDef, DirectiveDefFeature, DirectiveTypesOrFactory, HostBindingsFunction, PipeDef, PipeTypesOrFactory, ViewQueriesFunction} from './interfaces/definition';\nimport {AttributeMarker, TAttributes, TConstantsOrFactory} from './interfaces/node';\nimport {CssSelectorList, SelectorFlags} from './interfaces/projection';\n\n\nlet _renderCompCount = 0;\n\n// While these types are unused here, they are required so that types don't\n// get resolved lazily. see: https://github.com/Microsoft/web-build-tools/issues/1050\ntype _web_build_tools_issue_1050_SelectorFlags = SelectorFlags;\ntype _web_build_tools_issue_1050_AttributeMarker = AttributeMarker;\n\n/**\n * Create a component definition object.\n *\n *\n * # Example\n * ```\n * class MyDirective {\n * // Generated by Angular Template Compiler\n * // [Symbol] syntax will not be supported by TypeScript until v2.7\n * static cmp = defineComponent({\n * ...\n * });\n * }\n * ```\n * @codeGenApi\n */\nexport function defineComponent<T>(componentDefinition: {\n /**\n * Directive type, needed to configure the injector.\n */\n type: Type<T>;\n\n /** The selectors that will be used to match nodes to this component. */\n selectors?: CssSelectorList;\n\n /**\n * The number of nodes, local refs, and pipes in this component template.\n *\n * Used to calculate the length of this component's LView array, so we\n * can pre-fill the array and set the binding start index.\n */\n // TODO(kara): remove queries from this count\n decls: number;\n\n /**\n * The number of bindings in this component template (including pure fn bindings).\n *\n * Used to calculate the length of this component's LView array, so we\n * can pre-fill the array and set the host binding start index.\n */\n vars: number;\n\n /**\n * A map of input names.\n *\n * The format is in: `{[actualPropertyName: string]:(string|[string, string])}`.\n *\n * Given:\n * ```\n * class MyComponent {\n * @Input()\n * publicInput1: string;\n *\n * @Input('publicInput2')\n * declaredInput2: string;\n * }\n *

```\n *\n * is described as:\n * ```\n * {\n * publicInput1: 'publicInput1',\n * declaredInput2: ['publicInput2', 'declaredInput2'],\n * }\n * ```\n *\n * Which the minifier may translate to:\n * ```\n * {\n * minifiedPublicInput1: 'publicInput1',\n * minifiedDeclaredInput2: ['publicInput2', 'declaredInput2'],\n * }\n * ```\n *\n * This allows the render
to re-construct the minified, public, and declared names\n * of properties.\n *\n * NOTE:\n * - Because declared and public name are usually same we only generate the array\n * `['public', 'declared']` format when they differ.\n * - The reason why this API and `outputs` API is not the same is that `NgOnChanges` has\n * inconsistent behavior in that it uses declared names rather than minified or public. For\n * this reason `NgOnChanges` will be deprecated and removed in future version and this\n * API will be simplified to be consistent with `output`.\n */\n inputs?: {[P in keyof T]?: string | [string, string]};\n\n /**\n * A map of output names.\n *\n * The format is in: `{[actualPropertyName: string]:string}`.\n *\n * Which the minifier may translate to: `{[minifiedPropertyName: string]:string}`.\n *\n * This allows the render to re-construct the minified and non-minified names\n * of properties.\n */\n outputs?: {[P in keyof T]?:
string};\n\n /**\n * Function executed by the parent template to allow child directive to apply host bindings.\n */\n hostBindings?: HostBindingsFunction<T>;\n\n /**\n * The number of bindings in this directive `hostBindings` (including pure fn bindings).\n *\n * Used to calculate the length of the component's LView array, so we\n * can pre-fill the array and set the host binding start index.\n */\n hostVars?: number;\n\n /**\n * Assign static attribute values to a host element.\n *\n * This property will assign static attribute values as well as class and style\n * values to a host element. Since attribute values can consist of different types of values, the\n * `hostAttrs` array must include the values in the following format:\n *\n * attrs = [\n * // static attributes (like `title`, `name`, `id`...)\n * attr1, value1, attr2, value,\n *\n * // a single namespace value (like `x:id`)\n * NAMESPACE_MARKER, namespaceUri1, name1, value1,\n
*\n * // another single namespace value (like `x:name`)\n * NAMESPACE_MARKER, namespaceUri2, name2, value2,\n *\n * // a series of CSS classes that will be applied to the element (no spaces)\n * CLASSES_MARKER, class1, class2, class3,\n *\n * // a series of CSS styles (property + value) that will be applied to the element\n * STYLES_MARKER, prop1, value1, prop2, value2\n * ]\n *\n * All non-class and non-style attributes must be defined at the start of the list\n * first before all class and style values are set. When there is a change in value\n * type (like when classes and styles are introduced) a marker must be used to separate\n * the entries. The marker values themselves are set via entries found in the\n * [AttributeMarker] enum.\n */\n hostAttrs?: TAttributes;\n\n /**\n * Function to create instances of content queries associated with a given directive.\n */\n contentQueries?: ContentQueriesFunction<T>;\n\n /**\n * Defines
the name that can be used in the template to assign this directive to a variable.\n *\n * See: {@link Directive.exportAs}\n */\n exportAs?: string[];\n\n /**\n * Template function use for rendering DOM.\n *\n * This function has following structure.\n *\n * ```\n * function Template<T>(ctx:T, creationMode: boolean) {\n * if (creationMode) {\n * // Contains creation mode instructions.\n * }\n * // Contains binding update instructions\n * }\n * ```\n *\n * Common instructions are:\n * Creation mode instructions:\n * - `elementStart`, `elementEnd`\n * - `text`\n * - `container`\n * - `listener`\n *\n * Binding update instructions:\n * - `bind`\n * - `elementAttribute`\n * - `elementProperty`\n * - `elementClass`\n * - `elementStyle`\n *\n */\n template: ComponentTemplate<T>;\n\n /**\n * Constants for the nodes in the component's view.\n * Includes attribute arrays, local definition arrays etc.\n */\n
consts?: TConstantsOrFactory;\n\n /**\n * An array of `ngContent[selector]` values that were found in the template.\n */\n ngContentSelectors?: string[];\n\n /**\n * Additional set of instructions specific to view query processing. This could be seen as a\n * set of instruction to be inserted into the template function.\n *\n * Query-related instructions need to be pulled out to a specific function as a timing of\n * execution is different as compared to all other instructions (after change detection hooks but\n * before view hooks).\n */\n viewQuery?: ViewQueriesFunction<T>| null;\n\n /**\n * A list of optional features to apply.\n *\n * See: {@link NgOnChangesFeature}, {@link ProvidersFeature}\n */\n features?: ComponentDefFeature[];\n\n /**\n * Defines template and style encapsulation options available for Component's {@link Component}.\n */\n
```

```
encapsulation?: ViewEncapsulation;\n\n  /**\n   * Defines arbitrary developer-defined data to be stored
 on a renderer instance.\n   * This is useful for renderers that delegate to other renderers.\n   *\n   * see: animation\n
*/\n  data?: {[kind: string]: any};\n\n  /**\n   * A set of styles that the component needs to be present for component
to render correctly.\n   */\n  styles?: string[];\n\n  /**\n   * The strategy that the default change detector uses to detect
changes.\n   * When set, takes effect the next time change detection is triggered.\n   */\n  changeDetection?:
ChangeDetectionStrategy;\n\n  /**\n   * Registry of directives and components that may be found in this
component's view.\n   *\n   * The property is either an array of `DirectiveDef`s or a function which returns the array
of\n   * `DirectiveDef`s. The function is necessary to be able to support forward declarations.\n   */\n  directives?:
DirectiveTypesOrFactory | null;\n\n  /**\n   * Registry of pipes that may be found in this component's view.\n   *\n
* The property is either an array of `PipeDefs`s or a
 function which returns the array of\n   * `PipeDefs`s. The function is necessary to be able to support forward
declarations.\n   */\n  pipes?: PipeTypesOrFactory | null;\n\n  /**\n   * The set of schemas that declare elements to be
allowed in the component's template.\n   */\n  schemas?: SchemaMetadata[] | null;\n}): never {\n  return
noSideEffects(() => {\n          // Initialize ngDevMode. This must be the first statement in defineComponent.\n
// See the `initNgDevMode` docstring for more information.\n          (typeof ngDevMode === 'undefined' ||
ngDevMode) && initNgDevMode();\n\n          const type = componentDefinition.type;\n          const typePrototype
= type.prototype;\n          const declaredInputs: {[key: string]: string} = {} as any;\n          const def:
Mutable<ComponentDef<any>, keyof ComponentDef<any>> = {\n            type: type,\n            providersResolver:
null,\n            decls: componentDefinition.decls,\n            vars: componentDefinition.vars,\n
            factory: null,\n            template: componentDefinition.template || null!,\n            consts:
componentDefinition.consts || null,\n            ngContentSelectors: componentDefinition.ngContentSelectors,\n
 hostBindings: componentDefinition.hostBindings || null,\n            hostVars: componentDefinition.hostVars || 0,\n
      hostAttrs: componentDefinition.hostAttrs || null,\n            contentQueries: componentDefinition.contentQueries
|| null,\n            declaredInputs: declaredInputs,\n            inputs: null!,   // assigned in noSideEffects\n
outputs: null!,  // assigned in noSideEffects\n            exportAs: componentDefinition.exportAs || null,\n
onPush: componentDefinition.changeDetection === ChangeDetectionStrategy.OnPush,\n            directiveDefs:
null!,  // assigned in noSideEffects\n            pipeDefs: null!,       // assigned in noSideEffects\n            selectors:
componentDefinition.selectors
 || EMPTY_ARRAY,\n            viewQuery: componentDefinition.viewQuery || null,\n            features:
componentDefinition.features as DirectiveDefFeature[] || null,\n            data: componentDefinition.data || {},\n
  // TODO(misko): convert ViewEncapsulation into const enum so that it can be used\n            // directly in the next
line. Also `None` should be 0 not 2.\n            encapsulation: componentDefinition.encapsulation ||
ViewEncapsulation.Emulated,\n            id: 'c',\n            styles: componentDefinition.styles || EMPTY_ARRAY,\n
      _: null as never,\n            setInput: null,\n            schemas: componentDefinition.schemas || null,\n
tView: null,\n          };\n          const directiveTypes = componentDefinition.directives!;\n          const feature =
componentDefinition.features;\n          const pipeTypes = componentDefinition.pipes!;\n          def.id +=
_renderCompCount++;\n          def.inputs =
 invertObject(componentDefinition.inputs, declaredInputs),\n          def.outputs =
invertObject(componentDefinition.outputs),\n          feature && feature.forEach((fn) => fn(def));\n
def.directiveDefs = directiveTypes ?\n            () => (typeof directiveTypes === 'function' ? directiveTypes() :
directiveTypes)\n                .map(extractDirectiveDef) :\n            null;\n          def.pipeDefs = pipeTypes ?\n
          () =>\n                (typeof pipeTypes === 'function' ? pipeTypes() : pipeTypes).map(extractPipeDef) :\n
    null;\n\n          return def as never;\n        }) as never;\n}\n\n/**\n * Generated next to NgModules to monkey-
patch directive and pipe references onto a component's\n * definition, when generating a direct reference in the
component file would otherwise create an\n * import cycle.\n *\n * See [this
explanation](https://hackmd.io/Odw80D0pR6yfsOjg_7XCJg?view) for more details.\n *\n * @codeGenApi\n
*/\nexport
```

```
function setComponentScope(\n    type: ComponentType<any>, directives: Type<any>[], pipes: Type<any>[]): void {\n  const def = (type.cmp as ComponentDef<any>);\n  def.directiveDefs = () => directives.map(extractDirectiveDef);\n  def.pipeDefs = () => pipes.map(extractPipeDef);\n}\n\nexport function extractDirectiveDef(type: Type<any>): DirectiveDef<any>|ComponentDef<any> {\n  const def = getComponentDef(type) || getDirectiveDef(type);\n  if (ngDevMode && !def) {\n    throw new Error(`'${type.name}' is neither 'ComponentType' or 'DirectiveType'.`);\n  }\n  return def!;\n}\n\nexport function extractPipeDef(type: Type<any>): PipeDef<any> {\n  const def = getPipeDef(type);\n  if (ngDevMode && !def) {\n    throw new Error(`'${type.name}' is not a 'PipeType'.`);\n  }\n  return def!;\n}\n\nexport const autoRegisterModuleById: {[id: string]: NgModuleType} = {};\n\n/**\n * @codeGenApi\n */\nexport function defineNgModule<T>(def: {\n  /** Token representing the module. Used by DI. */\n  type: T;\n\n  /** List of components to bootstrap. */\n  bootstrap?: Type<any>[] | (() => Type<any>[]);\n\n  /** List of components, directives, and pipes declared by this module. */\n  declarations?: Type<any>[] | (() => Type<any>[]);\n\n  /** List of modules or `ModuleWithProviders` imported by this module. */\n  imports?: Type<any>[] | (() => Type<any>[]);\n\n  /**\n   * List of modules, `ModuleWithProviders`, components, directives, or pipes exported by this\n   * module.\n   */\n  exports?: Type<any>[] | (() => Type<any>[]);\n\n  /** The set of schemas that declare elements to be allowed in the NgModule. */\n  schemas?: SchemaMetadata[] | null;\n\n  /** Unique ID for the module that is used with `getModuleFactory`. */\n  id?: string | null;\n}): never {\n  const res: NgModuleDef<T> = {\n    type: def.type,\n    bootstrap: def.bootstrap || EMPTY_ARRAY,\n    declarations: def.declarations || EMPTY_ARRAY,\n    imports: def.imports || EMPTY_ARRAY,\n    exports: def.exports || EMPTY_ARRAY,\n
    transitiveCompileScopes: null,\n    schemas: def.schemas || null,\n    id: def.id || null,\n  };\n  if (def.id != null) {\n    noSideEffects(() => {\n      autoRegisterModuleById[def.id!] = def.type as unknown as NgModuleType;\n    });\n  }\n  return res as never;\n}\n\n/**\n * Adds the module metadata that is necessary to compute the module's transitive scope to an\n * existing module definition.\n *\n * Scope metadata of modules is not used in production builds, so calls to this function can be\n * marked pure to tree-shake it from the bundle, allowing for all referenced declarations\n * to become eligible for tree-shaking as well.\n *\n * @codeGenApi\n */\nexport function setNgModuleScope(type: any, scope: {\n  /** List of components, directives, and pipes declared by this module. */\n  declarations?: Type<any>[]|(() => Type<any>[]);\n\n  /** List of modules or `ModuleWithProviders` imported by this module. */\n  imports?: Type<any>[] | (() => Type<any>[]);\n\n  /**\n   * List of modules, `ModuleWithProviders`, components, directives, or pipes exported by this\n   * module.\n   */\n  exports?: Type<any>[] | (() => Type<any>[]);\n}): void {\n  return noSideEffects(() => {\n    const ngModuleDef = getNgModuleDef(type, true);\n    ngModuleDef.declarations = scope.declarations || EMPTY_ARRAY;\n    ngModuleDef.imports = scope.imports || EMPTY_ARRAY;\n    ngModuleDef.exports = scope.exports || EMPTY_ARRAY;\n  }) as never;\n}\n\n/**\n * Inverts an inputs or outputs lookup such that the keys, which were the\n * minified keys, are part of the values, and the values are parsed so that\n * the publicName of the property is the new key\n *\n * e.g. for\n *\n * ```\n * class Comp {\n *   @Input()\n *   propName1: string;\n *\n *   @Input('publicName2')\n *   declaredPropName2: number;\n * }\n * ```\n *\n * will be serialized as\n *\n * ```\n * {\n *   propName1: 'propName1',\n *   declaredPropName2: ['publicName2', 'declaredPropName2'],\n * }\n * ```\n *\n * which is than translated by the minifier as:\n *\n * ```\n * {\n *   minifiedPropName1: 'propName1',\n *   minifiedPropName2: ['publicName2', 'declaredPropName2'],\n * }\n * ```\n *\n * becomes:\n *\n * ```\n * {\n *  'propName1': 'minifiedPropName1',\n *  'publicName2': 'minifiedPropName2',\n * }\n * ```\n *\n * Optionally the function can take `secondary` which will result in: (public name => declared name)\n *\n * ```\n * {\n *  'propName1': 'propName1',\n *  'publicName2': 'declaredPropName2',\n * }\n * ```\n *\n */\nfunction invertObject<T>(\n    obj?: {[P in keyof T]?: string|[string, string]},\n    secondary?: {[key: string]: string}): {[P in keyof T]: string} {\n  if (obj == null) return EMPTY_OBJ as any;\n  const newLookup: any = {};\n  for (const minifiedKey in obj) {\n    if (obj.hasOwnProperty(minifiedKey)) {\n      let publicName: string|[string, string] = obj[minifiedKey]!;\n      let declaredName = publicName;\n
```

if (Array.isArray(publicName)) {\n declaredName = publicName[1];\n publicName = publicName[0];\n }\n newLookup[publicName] = minifiedKey;\n if (secondary) {\n (secondary[publicName] = declaredName as string);\n }\n }\n }\n return newLookup;\n}\n\n/**\n * Create a directive definition object.\n *\n * # Example\n * ```ts\n * class MyDirective {\n * // Generated by Angular Template Compiler\n * // [Symbol] syntax will not be supported by TypeScript until v2.7\n * static dir = defineDirective({\n * ...\n * });\n * }\n * ```\n *\n * @codeGenApi\n */\nexport const defineDirective =\n defineComponent as any as<T>(directiveDefinition: {\n /**\n * Directive type, needed to configure the injector.\n */\n type: Type<T>;\n\n /** The selectors that will be used to match nodes to this directive. */\n selectors?: CssSelectorList;\n\n /**\n * A map of input names.\n *\n * The format is in: `{[actualPropertyName: string]:(string|[string, string])}`.\n *\n * Given:\n * ```\n * class MyComponent {\n * @Input()\n * publicInput1: string;\n *\n * @Input('publicInput2')\n * declaredInput2: string;\n * }\n * ```\n *\n * is described as:\n * ```\n * {\n * publicInput1: 'publicInput1',\n * declaredInput2: ['declaredInput2', 'publicInput2'],\n * }\n * ```\n *\n * Which the minifier may translate to:\n * ```\n * {\n * minifiedPublicInput1: 'publicInput1',\n * minifiedDeclaredInput2: [ 'publicInput2', 'declaredInput2'],\n * }\n * ```\n *\n * This allows the render to re-construct the minified, public, and declared names\n * of properties.\n *\n * NOTE:\n * - Because declared and public name are usually same we only generate the array\n * `['declared', 'public']` format when they differ.\n * - The reason why this API and `outputs` API is not the same is that `NgOnChanges` has\n * inconsistent behavior in that it uses declared names rather than minified or public. For\n * this reason `NgOnChanges` will be deprecated and removed in future version and this\n * API will be simplified to be consistent with `output`.\n */\n inputs?: {[P in keyof T]?: string | [string, string]};\n\n /**\n * A map of output names.\n *\n * The format is in: `{[actualPropertyName: string]:string}`.\n *\n * Which the minifier may translate to: `{[minifiedPropertyName: string]:string}`.\n *\n * This allows the render to re-construct the minified and non-minified names\n * of properties.\n */\n outputs?: {[P in keyof T]?: string};\n\n /**\n * A list of optional features to apply.\n *\n * See: {@link NgOnChangesFeature}, {@link ProvidersFeature},\n {@link InheritDefinitionFeature}\n */\n features?: DirectiveDefFeature[];\n\n /**\n * Function executed by the parent template to allow child directive to apply host bindings.\n */\n hostBindings?: HostBindingsFunction<T>;\n\n /**\n * The number of bindings in this directive `hostBindings` (including pure fn bindings).\n *\n * Used to calculate the length of the component's LView array, so we\n * can pre-fill the array and set the host binding start index.\n */\n hostVars?: number;\n\n /**\n * Assign static attribute values to a host element.\n *\n * This property will assign static attribute values as well as class and style\n * values to a host element. Since attribute values can consist of different types of values,\n * the `hostAttrs` array must include the values in the following format:\n *\n * attrs = [\n * // static attributes (like `title`,\n `name`, `id`...)\n * attr1, value1, attr2, value,\n *\n * // a single namespace value (like `x:id`)\n * NAMESPACE_MARKER, namespaceUri1, name1, value1,\n *\n * // another single namespace value (like `x:name`)\n * NAMESPACE_MARKER, namespaceUri2, name2, value2,\n *\n * // a series of CSS classes that will be applied to the element (no spaces)\n * CLASSES_MARKER, class1, class2, class3,\n *\n * // a series of CSS styles (property + value) that will be applied to the element\n * STYLES_MARKER, prop1, value1, prop2, value2\n * ]\n *\n * All non-class and non-style attributes must be defined at the start of the list\n * first before all class and style values are set. When there is a change in value\n * type (like when classes and styles are introduced) a marker must be used to separate\n * the entries. The marker values themselves are set via entries found in the\n * [AttributeMarker] enum.\n */\n hostAttrs?: TAttributes;\n\n /**\n * Function to create instances of content queries associated with a given directive.\n */\n contentQueries?: ContentQueriesFunction<T>;\n\n /**\n * Additional set of instructions specific to view query processing. This could be seen as a\n * set of instructions to be inserted into the template function.\n */\n

viewQuery?: ViewQueriesFunction<T>| null;\n\n /**\n * Defines the name that can be used in the template to assign this directive to a variable.\n *\n * See: {@link Directive.exportAs}\n */\n exportAs?: string[];\n }) => never;\n\n/**\n * Create a pipe definition object.\n *\n * # Example\n * ```\n * class MyPipe implements PipeTransform {\n * // Generated by Angular Template Compiler\n * static pipe = definePipe({\n * ...\n * });\n * }\n * ```\n * @param pipeDef Pipe definition generated by the compiler\n *\n * @codeGenApi\n */\nexport function definePipe<T>(pipeDef: {\n /** Name of the pipe. Used for matching pipes in template to pipe defs. */\n name: string,\n\n /** Pipe class reference. Needed to extract pipe lifecycle hooks. */\n type: Type<T>,\n\n /** Whether the pipe is pure. */\n pure?: boolean\n}): never {\n return (<PipeDef<T>>{\n type: pipeDef.type,\n name: pipeDef.name,\n factory: null,\n pure: pipeDef.pure !== false,\n onDestroy: pipeDef.type.prototype.ngOnDestroy || null\n }) as never;\n}\n\n/**\n * The following getter methods retrieve the definition from the type. Currently the retrieval\n * honors inheritance, but in the future we may change the rule to require that definitions are\n * explicit. This would require some sort of migration strategy.\n */\n\nexport function getComponentDef<T>(type: any): ComponentDef<T>|null {\n return type[NG_COMP_DEF] || null;\n}\n\nexport function getDirectiveDef<T>(type: any): DirectiveDef<T>|null {\n return type[NG_DIR_DEF] || null;\n}\n\nexport function getPipeDef<T>(type: any): PipeDef<T>|null {\n return type[NG_PIPE_DEF] || null;\n}\n\nexport function getNgModuleDef<T>(type: any, throwNotFound: true): NgModuleDef<T>;\nexport function getNgModuleDef<T>(type: any): NgModuleDef<T>|null;\nexport function getNgModuleDef<T>(type: any, throwNotFound?: boolean): NgModuleDef<T>|null {\n const ngModuleDef = type[NG_MOD_DEF] || null;\n if (!ngModuleDef && throwNotFound === true) {\n throw new Error(`Type ${stringify(type)} does not have 'mod' property.`);\n }\n return ngModuleDef;\n}\n\nexport function getNgLocaleIdDef(type: any): string|null {\n return (type as any)[NG_LOC_ID_DEF] || null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from '../../di/injection_token';\nimport {Injector} from '../../di/injector';\nimport {Type} from '../../interface/type';\nimport {SchemaMetadata} from '../../metadata/schema';\nimport {Sanitizer} from '../../sanitization/sanitizer';\nimport {LContainer} from './container';\nimport {ComponentDef, ComponentTemplate, DirectiveDef, DirectiveDefList, HostBindingsFunction, PipeDef, PipeDefList, ViewQueriesFunction} from './definition';\nimport {I18nUpdateOpCodes, TI18n, TIcu} from './i18n';\nimport {TConstants, TNode} from './node';\nimport {PlayerHandler} from './player';\nimport {LQueries, TQueries} from './query';\nimport {Renderer3, RendererFactory3} from './renderer';\nimport {RComment, RElement} from './renderer_dom';\nimport {TStylingKey, TStylingRange} from './styling';\n\n\n\n// Below are constants for LView indices to help us look up LView members\n// without having to remember the specific indices.\n// Uglify will inline these when minifying so there shouldn't be a cost.\nexport const HOST = 0;\nexport const TVIEW = 1;\nexport const FLAGS = 2;\nexport const PARENT = 3;\nexport const NEXT = 4;\nexport const TRANSPLANTED_VIEWS_TO_REFRESH = 5;\nexport const T_HOST = 6;\nexport const CLEANUP = 7;\nexport const CONTEXT = 8;\nexport const INJECTOR = 9;\nexport const RENDERER_FACTORY = 10;\nexport const RENDERER = 11;\nexport const SANITIZER = 12;\nexport const CHILD_HEAD = 13;\nexport const CHILD_TAIL = 14;\n// FIXME(misko): Investigate if the three declarations aren't all same thing.\nexport const DECLARATION_VIEW = 15;\nexport const DECLARATION_COMPONENT_VIEW = 16;\nexport const DECLARATION_LCONTAINER = 17;\nexport const PREORDER_HOOK_FLAGS = 18;\nexport const QUERIES = 19;\n/**\n * Size of LView's header. Necessary to adjust for it when setting slots.\n *\n * IMPORTANT: `HEADER_OFFSET` should only be referred to the in the `*` instructions to translate\n * instruction index into `LView` index. All other indexes should be in the `LView` index space and\n * there should be no need to refer to `HEADER_OFFSET` anywhere else.\n */\nexport const HEADER_OFFSET = 20;\n\n\n// This interface replaces the real LView interface if it is an arg or a\n// return value of a public instruction. This ensures we don't need to expose\n// the actual interface, which should be kept private.\nexport interface

OpaqueViewState {\n '__brand__': 'Brand for OpaqueViewState that nothing will match';\n}\n\n\n/**\n * `LView` stores all of the information needed to process the instructions as\n * they are invoked from the template. Each embedded view and component view has its\n * own `LView`. When processing a particular view, we set the `viewData` to that\n * `LView`. When that view is done processing, the `viewData` is set back to\n * whatever the original `viewData` was before (the parent `LView`).\n *\n * Keeping separate state for each view facilities view insertion / deletion, so we\n * don't have to edit the data array based on which views are present.\n */\nexport interface LView extends Array<any> {\n /**\n * Human readable representation of the `LView`.\n *\n * NOTE: This property only exists if `ngDevMode` is set to `true` and it is not present in\n * production. Its presence is purely to help debug issue in development, and should not be relied\n * on in production application.\n */\n debug?: LViewDebug;\n\n /**\n * The node into which this `LView` is inserted.\n */\n [HOST]: RElement|null;\n\n /**\n * The static data for this view. We need a reference to this so we can easily walk up the\n * node tree in DI and get the TView.data array associated with a node (where the\n * directive defs are stored).\n */\n readonly[TVIEW]: TView;\n\n /** Flags for this view. See LViewFlags for more info. */\n [FLAGS]: LViewFlags;\n\n /**\n * This may store an {@link LView} or {@link LContainer}.\n *\n * `LView` - The parent view. This is needed when we exit the view and must restore the previous\n * LView. Without this, the render method would have to keep a stack of\n * views as it is recursively rendering templates.\n *\n * `LContainer` - The current view is part of a container, and is an embedded view.\n */\n [PARENT]: LView|LContainer|null;\n\n /**\n *\n * The next sibling LView or LContainer.\n *\n * Allows us to propagate between sibling view states that aren't in the same\n * container. Embedded views already have a node.next, but it is only set for\n * views in the same container. We need a way to link component views and views\n * across containers as well.\n */\n [NEXT]: LView|LContainer|null;\n\n /** Queries active for this view - nodes from a view are reported to those queries. */\n [QUERIES]: LQueries|null;\n\n /**\n * Store the `TNode` of the location where the current `LView` is inserted into.\n *\n * Given:\n * ```\n * <div>\n * <ng-template><span></span></ng-template>\n * </div>\n * ```\n *\n * We end up with two `TView`s.\n * - `parent` `TView` which contains `<div><!-- anchor --></div>`\n * - `child` `TView` which contains `<span></span>`\n *\n * Typically the `child` is inserted into the declaration location of the `parent`, but it can be\n * inserted anywhere. Because it can be inserted anywhere it is not possible to store the\n * insertion information in the `TView` and instead we must store it in the `LView[T_HOST]`.\n *\n * So to determine where is our insertion parent we would execute:\n * ```\n * const parentLView = lView[PARENT];\n * const parentTNode = lView[T_HOST];\n * const insertionParent = parentLView[parentTNode.index];\n * ```\n *\n *\n * If `null`, this is the root view of an application (root component is in this view) and it has\n * no parents.\n */\n [T_HOST]: TNode|null;\n\n /**\n * When a view is destroyed, listeners need to be released and outputs need to be\n * unsubscribed. This context array stores both listener functions wrapped with\n * their context and output subscription instances for a particular view.\n *\n * These change per LView instance, so they cannot be stored on TView. Instead,\n * TView.cleanup saves an index to the necessary context in this array.\n *\n * After `LView` is created it is possible to attach additional instance specific functions at the\n * end of the `lView[CLENUP]` because we know that no more `T` level cleanup functions will be\n * addeded here.\n */\n [CLEANUP]: any[]|null;\n\n /**\n * - For dynamic views, this is the context with which to render the template (e.g.\n * `NgForContext`), or `{}` if not defined explicitly.\n * - For root view of the root component the context contains change detection data.\n * - For non-root components, the context is the component instance,\n * - For inline views, the context is null.\n */\n [CONTEXT]: {}|RootContext|null;\n\n /** An optional Module Injector to be used as fall back after Element Injectors are consulted.\n */\n readonly[INJECTOR]: Injector|null;\n\n /** Factory to be used for creating Renderer. */\n [RENDERER_FACTORY]: RendererFactory3;\n\n /** Renderer to be used for this view. */\n [RENDERER]: Renderer3;\n\n /** An optional custom sanitizer. */\n [SANITIZER]: Sanitizer|null;\n\n /**\n * Reference to the first LView or LContainer beneath this LView in\n * the hierarchy.\n *\n * Necessary to store this so views can traverse through their nested views\n * to remove listeners and call onDestroy callbacks.\n */\n [CHILD_HEAD]: LView|LContainer|null;\n\n /**\n * The last LView or LContainer beneath this LView in the hierarchy.\n *\n *

The tail allows us to quickly add a new state to the end of the view list\n * without having to propagate starting from the first child.\n */\n [CHILD_TAIL]: LView|LContainer|null;\n\n /**\n * View where this view's template was declared.\n *\n * The template for a dynamically created view may be declared in a different view than\n * it is inserted. We already track the \"insertion view\" (view where the template was\n * inserted) in LView[PARENT], but we also need access to the \"declaration view\"\n * (view where the template was declared). Otherwise, we wouldn't be able to call the\n * view's template function with the proper contexts. Context should be inherited from\n * the declaration view tree, not the insertion view tree.\n *\n * Example (AppComponent template):\n *\n * <ng-template #foo></ng-template> <-- declared here -->\n * <some-comp [tpl]=\"foo\"></some-comp> <-- inserted inside this component -->\n *\n * The <ng-template> above is declared in the AppComponent template, but it will be passed into\n * SomeComp and inserted there. In this case, the declaration view would be the AppComponent,\n * but the insertion view would be SomeComp. When we are removing views, we would want to\n * traverse through the insertion view to clean up listeners. When we are calling the\n * template function during change detection, we need the declaration view to get inherited\n * context.\n */\n [DECLARATION_VIEW]: LView|null;\n\n\n /**\n * Points to the declaration component view, used to track transplanted `LView`s.\n *\n * See: `DECLARATION_VIEW` which points to the actual `LView` where it was declared, whereas\n * `DECLARATION_COMPONENT_VIEW` points to the component which may not be same as\n * `DECLARATION_VIEW`.\n *\n * Example:\n * ```\n * <#VIEW #myComp>\n * <div *ngIf=\"true\">\n * <ng-template #myTmpl>...</ng-template>\n * </div>\n * </#VIEW>\n * ```\n * In the above case `DECLARATION_VIEW` for `myTmpl` points to the `LView` of `ngIf` whereas\n * `DECLARATION_COMPONENT_VIEW` points to `LView` of the `myComp` which owns the template.\n *\n * The reason for this is that all embedded views are always check-always whereas the component\n * view can be check-always or on-push. When we have a transplanted view it is important to\n * determine if we have transplanted a view from check-always declaration to on-push insertion\n * point. In such a case the transplanted view needs to be added to the `LContainer` in the\n * declared `LView` and CD during the declared view CD (in addition to the CD at the insertion\n * point.) (Any transplanted views which are intra Component are of no interest because the CD\n * strategy of declaration and insertion will always be the same, because it is the same\n * component.)\n *\n * Queries already track moved views in `LView[DECLARATION_LCONTAINER]` and\n * `LContainer[MOVED_VIEWS]`. However the queries also track `LView`s which moved within the same\n * component `LView`. Transplanted views are a subset of moved views, and we use\n * `DECLARATION_COMPONENT_VIEW` to differentiate them. As in this example.\n *\n * Example showing intra component `LView` movement.\n * ```\n * <#VIEW #myComp>\n * <div *ngIf=\"condition; then thenBlock else elseBlock\"></div>\n * <ng-template #thenBlock>Content to render when condition is true.</ng-template>\n * <ng-template #elseBlock>Content to render when condition is false.</ng-template>\n * </#VIEW>\n * ```\n * The `thenBlock` and `elseBlock` is moved but not transplanted.\n *\n * Example showing inter component `LView` movement (transplanted view).\n * ```\n * <#VIEW #myComp>\n * <ng-template #myTmpl>...</ng-template>\n * <insertion-component [template]=\"myTmpl\"></insertion-component>\n * </#VIEW>\n * ```\n * In the above example `myTmpl` is passed into a different component. If `insertion-component`\n * instantiates `myTmpl` and `insertion-component` is on-push then the `LContainer` needs to be\n * marked as containing transplanted views and those views need to be CD as part of the\n * declaration CD.\n *\n *\n * When change detection runs, it iterates over `[MOVED_VIEWS]` and CDs any child `LView`s where\n

* the `DECLARATION_COMPONENT_VIEW` of the current component and the child `LView` does not match\n * (it has been transplanted across components.)\n *\n * Note: `[DECLARATION_COMPONENT_VIEW]` points to itself if the LView is a component view (the\n * simplest / most common case).\n *\n * see also:\n * - https://hackmd.io/@mhevery/rJUJsvv9H write up of the problem\n * - `LContainer[HAS_TRANSPLANTED_VIEWS]` which marks which `LContainer` has transplanted views.\n * - `LContainer[TRANSPLANT_HEAD]` and `LContainer[TRANSPLANT_TAIL]`

storage for transplanted\n * - `LView[DECLARATION_LCONTAINER]` similar problem for queries\n * - `LContainer[MOVED_VIEWS]` similar problem for queries\n */\n [DECLARATION_COMPONENT_VIEW]: LView;\n\n /**\n * A declaration point of embedded views (ones instantiated based on the content of a\n * <ng-template>), null for other types of views.\n *\n * We need to track all embedded views created from a given declaration
point so we can prepare\n * query matches in a proper order (query matches are ordered based on their declaration point and\n * _not_ the insertion point).\n */\n [DECLARATION_LCONTAINER]: LContainer|null;\n\n /**\n * More flags for this view. See PreOrderHookFlags for more info.\n */\n [PREORDER_HOOK_FLAGS]: PreOrderHookFlags;\n\n /**\n * The number of direct transplanted views which need a refresh or have descendants themselves\n * that need a refresh but have not marked their ancestors as Dirty. This tells us that during\n * change detection we should still descend to find those children to refresh, even if the parents\n * are not `Dirty`/`CheckAlways`.\n */\n [TRANSPLANTED_VIEWS_TO_REFRESH]: number;\n}\n\n/** Flags associated with an LView (saved in LView[FLAGS]) */\nexport const enum LViewFlags {\n /** The state of the init phase on the first 2 bits */\n InitPhaseStateIncrementer = 0b00000000001,\n InitPhaseStateMask = 0b00000000011,\n\n /**\n
* Whether or not the view is in creationMode.\n *\n * This must be stored in the view rather than using `data` as a marker so that\n * we can properly support embedded views. Otherwise, when exiting a child view\n * back into the parent view, `data` will be defined and `creationMode` will be\n * improperly reported as false.\n */\n CreationMode = 0b00000000100,\n\n /**\n * Whether or not this LView instance is on its first processing pass.\n *\n * An LView instance is considered to be on its \"first pass\" until it\n * has completed one creation mode run and one update mode run. At this\n * time, the flag is turned off.\n */\n FirstLViewPass = 0b00000001000,\n\n /** Whether this view has default change detection strategy (checks always) or onPush */\n CheckAlways = 0b00000010000,\n\n /**\n * Whether or not manual change detection is turned on for onPush components.\n *\n * This is a special mode that only marks components dirty in two cases:\n * 1)
There has been a change to an @Input property\n * 2) `markDirty()` has been called manually by the user\n *\n * Note that in this mode, the firing of events does NOT mark components\n * dirty automatically.\n *\n * Manual mode is turned off by default for backwards compatibility, as events\n * automatically mark OnPush components dirty in View Engine.\n *\n * TODO: Add a public API to ChangeDetectionStrategy to turn this mode on\n */\n ManualOnPush = 0b00000100000,\n\n /** Whether or not this view is currently dirty (needing check) */\n Dirty = 0b000001000000,\n\n /** Whether or not this view is currently attached to change detection tree. */\n Attached = 0b000010000000,\n\n /** Whether or not this view is destroyed. */\n Destroyed = 0b000100000000,\n\n /** Whether or not this view is the root view */\n IsRoot = 0b001000000000,\n\n /**\n * Whether this moved LView was needs to be refreshed at the insertion location because the\n * declaration was dirty.\n
*/\n RefreshTransplantedView = 0b0010000000000,\n\n /**\n * Index of the current init phase on last 21 bits\n */\n IndexWithinInitPhaseIncrementer = 0b0100000000000,\n IndexWithinInitPhaseShift = 11,\n IndexWithinInitPhaseReset = 0b0011111111111,\n}\n\n/**\n * Possible states of the init phase:\n * - 00: OnInit hooks to be run.\n * - 01: AfterContentInit hooks to be run\n * - 10: AfterViewInit hooks to be run\n * - 11: All init hooks have been run\n */\nexport const enum InitPhaseState {\n OnInitHooksToBeRun = 0b00,\n AfterContentInitHooksToBeRun = 0b01,\n AfterViewInitHooksToBeRun = 0b10,\n InitPhaseCompleted = 0b11,\n}\n\n/** More flags associated with an LView (saved in LView[PREORDER_HOOK_FLAGS]) */\nexport const enum PreOrderHookFlags {\n /**\n The index of the next pre-order hook to be called in the hooks array, on the first 16\n bits\n */\n IndexOfTheNextPreOrderHookMaskMask = 0b0111111111111111,\n\n /**\n * The number of init hooks that have
already been called, on the last 16 bits\n */\n NumberOfInitHooksCalledIncrementer = 0b0100000000000000000,\n NumberOfInitHooksCalledShift = 16,\n NumberOfInitHooksCalledMask = 0b11111111111111110000000000000000,\n}\n\n/**\n * Stores a set of OpCodes to process `HostBindingsFunction` associated with a current view.\n *\n * In order to invoke `HostBindingsFunction` we

need:\n * 1. 'elementIdx`: Index to the element associated with the `HostBindingsFunction`.\n * 2. 'directiveIdx`: Index to the directive associated with the `HostBindingsFunction`. (This will\n * become the context for the `HostBindingsFunction` invocation.)\n * 3. `bindingRootIdx`: Location where the bindings for the `HostBindingsFunction` start. Internally\n * `HostBindingsFunction` binding indexes start from `0` so we need to add `bindingRootIdx` to\n * it.\n * 4. `HostBindingsFunction`: A host binding function to execute.\n *\n * The above information needs to be encoded into the `HostBindingOpCodes` in
an efficient manner.\n *\n * 1. `elementIdx` is encoded into the `HostBindingOpCodes` as `~elementIdx` (so a negative number);\n * 2. `directiveIdx`\n * 3. `bindingRootIdx`\n * 4. `HostBindingsFunction` is passed in as is.\n *\n * The `HostBindingOpCodes` array contains:\n * - negative number to select the element index.\n * - followed by 1 or more of:\n * - a number to select the directive index\n * - a number to select the bindingRoot index\n * - and a function to invoke.\n *\n * ## Example\n *\n * ```\n * const hostBindingOpCodes = [\n * ~30,
// Select element 30\n * 40, 45, MyDir.dir.hostBindings // Invoke host bindings on MyDir on element 30;\n * // directiveIdx = 40; bindingRootIdx = 45;\n * 50, 55, OtherDir.dir.hostBindings // Invoke host bindings on OtherDire on element 30\n * // directiveIdx = 50; bindingRootIdx = 55;\n * ]\n * ```\n *\n * ## Pseudocode\n
* ```\n * const hostBindingOpCodes = tView.hostBindingOpCodes;\n * if (hostBindingOpCodes === null) return;\n * for (let i = 0; i < hostBindingOpCodes.length; i++) {\n * const opCode = hostBindingOpCodes[i] as number;\n * if (opCode < 0) {\n * // Negative numbers are element indexes.\n * setSelectedIndex(~opCode);\n * } else {\n * // Positive numbers are NumberTuple which store bindingRootIndex and directiveIndex.\n * const directiveIdx = opCode;\n * const bindingRootIndx = hostBindingOpCodes[++i] as number;\n * const hostBindingFn = hostBindingOpCodes[++i] as HostBindingsFunction<any>;\n * setBindingRootForHostBindings(bindingRootIndx, directiveIdx);\n * const context = lView[directiveIdx];\n * hostBindingFn(RenderFlags.Update, context);\n * }\n * }\n * ```\n *\n */\nexport interface HostBindingOpCodes extends Array<number|HostBindingsFunction<any>> {\n __brand__: 'HostBindingOpCodes';\n debug?: string[];\n}\n\n/**\n * Explicitly marks `TView`
as a specific type in `ngDevMode`\n *\n * It is useful to know conceptually what time of `TView` we are dealing with when\n * debugging an application (even if the runtime does not need it.) For this reason\n * we store this information in the `ngDevMode` `TView` and than use it for\n * better debugging experience.\n */\nexport const enum TViewType {\n /**\n * Root `TView` is the used to bootstrap components into. It is used in conjunction with\n * `LView` which takes an existing DOM node not owned by Angular and wraps it in `TView`/`LView`\n * so that other components can be loaded into it.\n */\n Root = 0,\n\n /**\n * `TView` associated with a Component. This would be the `TView` directly associated with the\n * component view (as opposed an `Embedded` `TView` which would be a child of `Component` `TView`)\n */\n Component = 1,\n\n /**\n * `TView` associated with a template. Such as `*ngIf`, `<ng-template>` etc... A `Component`\n * can have zero or more `Embedede`
`TView`s.\n */\n Embedded = 2,\n}\n\n/**\n * Converts `TViewType` into human readable text.\n * Make sure this matches with `TViewType`\n */\nexport const TViewTypeAsString = [\n 'Root', // 0\n 'Component', // 1\n 'Embedded', // 2\n] as const;\n\n\n/**\n * The static data for an LView (shared between all templates of a\n * given type).\n *\n * Stored on the `ComponentDef.tView`.\n */\nexport interface TView {\n /**\n * Type of `TView` (`Root`|`Component`|`Embedded`).\n */\n type: TViewType;\n\n /**\n * This is a blueprint used to generate LView instances for this TView. Copying this\n * blueprint is faster than creating a new LView from scratch.\n */\n blueprint: LView;\n\n /**\n * The template function used to refresh the view of dynamically created views\n * and components. Will be null for inline views.\n */\n template: ComponentTemplate<{}>|null;\n\n /**\n * A function containing query-related instructions.\n */\n viewQuery: ViewQueriesFunction<{}>|null;\n\n
/**\n * A `TNode` representing the declaration location of this `TView` (not part of this TView).\n */\n declTNode: TNode|null;\n\n // FIXME(misko): Why does `TView` not have `declarationTView` property?\n\n /** Whether or not this template has been processed in creation mode. */\n firstCreatePass: boolean;\n\n /**\n * Whether or not this template has been processed in update mode (e.g. change detected)\n *\n * `firstUpdatePass`

is used by styling to set up `TData` to contain metadata about the styling\n * instructions. (Mainly to build up a linked list of styling priority order.)\n *\n * Typically this function gets cleared after first execution. If exception is thrown then this\n * flag can remain turned un until there is first successful (no exception) pass. This means that\n * individual styling instructions keep track of if they have already been added to the linked\n * list to prevent double adding.\n */\n firstUpdatePass:
boolean;\n\n /** Static data equivalent of LView.data[]. Contains TNodes, PipeDefInternal or TI18n. */\n data: TData;\n\n /**\n * The binding start index is the index at which the data array\n * starts to store bindings only. Saving this value ensures that we\n * will begin reading bindings at the correct point in the array when\n * we are in update mode.\n *\n * -1 means that it has not been initialized.\n */\n bindingStartIndex: number;\n\n /**\n * The index where the \"expando\" section of `LView` begins. The expando\n * section contains injectors, directive instances, and host binding values.\n * Unlike the \"decls\" and \"vars\" sections of `LView`, the length of this\n * section cannot be calculated at compile-time because directives are matched\n * at runtime to preserve locality.\n *\n * We store this start index so we know where to start checking host bindings\n * in `setHostBindings`.\n */\n expandoStartIndex: number;\n\n /**\n *
Whether or not there are any static view queries tracked on this view.\n *\n * We store this so we know whether or not we should do a view query\n * refresh after creation mode to collect static query results.\n */\n staticViewQueries: boolean;\n\n /**\n * Whether or not there are any static content queries tracked on this view.\n *\n * We store this so we know whether or not we should do a content query\n * refresh after creation mode to collect static query results.\n */\n staticContentQueries: boolean;\n\n /**\n * A reference to the first child node located in the view.\n */\n firstChild: TNode|null;\n\n /**\n * Stores the OpCodes to be replayed during change-detection to process the `HostBindings`\n *\n * See `HostBindingOpCodes` for encoding details.\n */\n hostBindingOpCodes: HostBindingOpCodes|null;\n\n /**\n * Full registry of directives and components that may be found in this view.\n *\n * It's necessary to keep a copy of the full def
list on the TView so it's possible\n * to render template functions without a host component.\n */\n directiveRegistry: DirectiveDefList|null;\n\n /**\n * Full registry of pipes that may be found in this view.\n *\n * The property is either an array of `PipeDefs`s or a function which returns the array of\n * `PipeDefs`s. The function is necessary to be able to support forward declarations.\n *\n * It's necessary to keep a copy of the full def list on the TView so it's possible\n * to render template functions without a host component.\n */\n pipeRegistry: PipeDefList|null;\n\n /**\n * Array of ngOnInit, ngOnChanges and ngDoCheck hooks that should be executed for this view in\n * creation mode.\n *\n * This array has a flat structure and contains TNode indices, directive indices (where an\n * instance can be found in `LView`) and hook functions. TNode index is followed by the directive\n * index and a hook function. If there are multiple hooks for
a given TNode, the TNode index is\n * not repeated and the next lifecycle hook information is stored right after the previous hook\n * function. This is done so that at runtime the system can efficiently iterate over all of the\n * functions to invoke without having to make any decisions/lookups.\n */\n preOrderHooks: HookData|null;\n\n /**\n * Array of ngOnChanges and ngDoCheck hooks that should be executed for this view in update mode.\n *\n * This array has the same structure as the `preOrderHooks` one.\n */\n preOrderCheckHooks: HookData|null;\n\n /**\n * Array of ngAfterContentInit and ngAfterContentChecked hooks that should be executed\n * for this view in creation mode.\n *\n * Even indices: Directive index\n * Odd indices: Hook function\n */\n contentHooks: HookData|null;\n\n /**\n * Array of ngAfterContentChecked hooks that should be executed for this view in update\n * mode.\n *\n * Even indices: Directive index\n * Odd indices: Hook
function\n */\n contentCheckHooks: HookData|null;\n\n /**\n * Array of ngAfterViewInit and ngAfterViewChecked hooks that should be executed for\n * this view in creation mode.\n *\n * Even indices: Directive index\n * Odd indices: Hook function\n */\n viewHooks: HookData|null;\n\n /**\n * Array of ngAfterViewChecked hooks that should be executed for this view in\n * update mode.\n *\n * Even indices: Directive index\n * Odd indices: Hook function\n */\n viewCheckHooks: HookData|null;\n\n /**\n * Array of ngOnDestroy hooks that should be executed when this view is destroyed.\n *\n * Even indices: Directive index\n * Odd indices: Hook function\n */\n destroyHooks: DestroyHookData|null;\n\n /**\n * When a view is

destroyed, listeners need to be released and outputs need to be\n * unsubscribed. This cleanup array stores both listener data (in chunks of 4)\n * and output data (in chunks of 2) for a particular view. Combining the arrays\n * saves on memory (70 bytes per array) and on a few bytes of code size (for two\n * separate for loops).\n *\n * If it's a native DOM listener or output subscription being stored:\n * 1st index is: event name `name = tView.cleanup[i+0]`\n * 2nd index is: index of native element or a function that retrieves global target (window,\n * document or body) reference based on the native element:\n * `typeof idxOrTargetGetter === 'function'`: global target getter function\n * `typeof idxOrTargetGetter === 'number'`: index of native element\n *\n * 3rd index is: index of listener function `listener = lView[CLEANUP][tView.cleanup[i+2]]`\n * 4th index is: `useCaptureOrIndx = tView.cleanup[i+3]`\n * `typeof useCaptureOrIndx == 'boolean' : useCapture boolean\n * `typeof useCaptureOrIndx == 'number':\n * `useCaptureOrIndx >= 0` `removeListener = LView[CLEANUP][useCaptureOrIndx]`\n * `useCaptureOrIndx < 0` `subscription = LView[CLEANUP][-useCaptureOrIndx]`\n

*\n * If it's an output subscription or query list destroy hook:\n * 1st index is: output unsubscribe function / query list destroy function\n * 2nd index is: index of function context in LView.cleanupInstances[]\n * `tView.cleanup[i+0].call(lView[CLEANUP][tView.cleanup[i+1]])`\n */\n cleanup: any[]|null;\n\n /**\n * A list of element indices for child components that will need to be\n * refreshed when the current view has finished its check. These indices have\n * already been adjusted for the HEADER_OFFSET.\n *\n */\n components: number[]|null;\n\n /**\n * A collection of queries tracked in a given view.\n */\n queries: TQueries|null;\n\n /**\n * An array of indices pointing to directives with content queries alongside with the\n * corresponding query index. Each entry in this array is a tuple of:\n * - index of the first content query index declared by a given directive;\n * - index of a directive.\n

*\n * We are storing those indexes so we can refresh content queries as part of a view refresh\n * process.\n */\n contentQueries: number[]|null;\n\n /**\n * Set of schemas that declare elements to be allowed inside the view.\n */\n schemas: SchemaMetadata[]|null;\n\n /**\n * Array of constants for the view. Includes attribute arrays, local definition arrays etc.\n * Used for directive matching, attribute bindings, local definitions and more.\n */\n consts: TConstants|null;\n\n /**\n * Indicates that there was an error before we managed to complete the first create pass of the\n * view. This means that the view is likely corrupted and we should try to recover it.\n */\n incompleteFirstPass: boolean;\n}\n\nexport const enum RootContextFlags {\n Empty = 0b00,\n DetectChanges = 0b01,\n FlushPlayers = 0b10\n}\n\n\n/**\n * RootContext contains information which is shared for all components which\n * were bootstrapped with {@link renderComponent}.\n */\nexport

interface RootContext {\n /**\n * A function used for scheduling change detection in the future. Usually\n * this is `requestAnimationFrame`.\n */\n scheduler: (workFn: () => void) => void;\n\n /**\n * A promise which is resolved when all components are considered clean (not dirty).\n *\n * This promise is overwritten every time a first call to {@link markDirty} is invoked.\n */\n clean: Promise<null>;\n\n /**\n * RootComponents - The components that were instantiated by the call to\n * {@link renderComponent}.\n */\n components: {}[];\n\n /**\n * The player flushing handler to kick off all animations\n */\n playerHandler: PlayerHandler|null;\n\n /**\n * What render-related operations to run once a scheduler has been set\n */\n flags: RootContextFlags;\n}\n\n/** Single hook callback function. */\nexport type HookFn = () => void;\n\n/**\n * Information necessary to call a hook. E.g. the callback that\n * needs to invoked and the index at which

to find its context.\n */\nexport type HookEntry = number|HookFn;\n\n/**\n * Array of hooks that should be executed for a view and their directive indices.\n *\n * For each node of the view, the following data is stored:\n * 1) Node index (optional)\n * 2) A series of number/function pairs where:\n * - even indices are directive indices\n * - odd indices are hook functions\n *\n * Special cases:\n * - a negative directive index flags an init hook (ngOnInit, ngAfterContentInit, ngAfterViewInit)\n */\nexport type HookData = HookEntry[];\n\n/**\n * Array of destroy hooks that should be executed for a view and their directive indices.\n *\n * The array is set up as a series of number/function or number/(number|function)[]:\n * - Even indices represent the context with which hooks should be called.\n * - Odd indices are the hook functions themselves. If a value at an odd index is an array,\n * it represents the destroy hooks of a `multi` provider where:\n * - Even indices represent

the index of the provider for which we've registered a destroy hook,\n * inside of the `multi` provider array.\n * - Odd indices are the destroy hook functions.\n * For example:\n * LView: `[0, 1, 2, AService, 4, [BService, CService, DService]]`\n * destroyHooks: `[3, AService.ngOnDestroy, 5, [0, BService.ngOnDestroy, 2, DService.ngOnDestroy]]`\n *\n * In the example above `AService` is a type provider with an `ngOnDestroy`, whereas `BService`,\n * `CService` and `DService` are part of a `multi` provider where only `BService` and `DService`\n * have an `ngOnDestroy` hook.\n */\nexport type DestroyHookData = (HookEntry|HookData)[];\n\n/**\n * Static data that corresponds to the instance-specific data array on an LView.\n *\n * Each node's static data is stored in tData at the same index that it's stored\n * in the data array. Any nodes that do not have static data store a null value in\n * tData to avoid a sparse array.\n *\n * Each pipe's definition is stored here at the
same index as its pipe instance in\n * the data array.\n *\n * Each host property's name is stored here at the same index as its value in the\n * data array.\n *\n * Each property binding name is stored here at the same index as its value in\n * the data array. If the binding is an interpolation, the static string values\n * are stored parallel to the dynamic values. Example:\n *\n * id=\"prefix {{ v0 }} a {{ v1 }} b {{ v2 }} suffix\"\n *\n * LView | TView.data\n *------------------------\n * v0 value | 'a'\n * v1 value | 'b'\n * v2 value | id prefix suffix\n *\n * Injector bloom filters are also stored here.\n */\nexport type TData =\n (TNode|PipeDef<any>|DirectiveDef<any>|ComponentDef<any>|number|TStylingRange|TStylingKey|\n Type<any>|InjectionToken<any>|TI18n|I18nUpdateOpCodes|TIcu|null|string)[];\n\n// Note: This hack is necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd
= 1;\n\n/**\n * Human readable version of the `LView`.\n *\n * `LView` is a data structure used internally to keep track of views. The `LView` is designed for\n * efficiency and so at times it is difficult to read or write tests which assert on its values. For\n * this reason when `ngDevMode` is true we patch a `LView.debug` property which points to\n * `LViewDebug` for easier debugging and test writing. It is the intent of `LViewDebug` to be used\n * in tests.\n */\nexport interface LViewDebug {\n /**\n * Flags associated with the `LView` unpacked into a more readable state.\n *\n * See `LViewFlags` for the flag meanings.\n */\n readonly flags: {\n initPhaseState: number,\n creationMode: boolean,\n firstViewPass: boolean,\n checkAlways: boolean,\n dirty: boolean,\n attached: boolean,\n destroyed: boolean,\n isRoot: boolean,\n indexWithinInitPhase: number,\n };\n\n /**\n * Associated TView\n */\n readonly tView: TView;\n\n /**\n * Parent
view (or container)\n */\n readonly parent: LViewDebug|LContainerDebug|null;\n\n /**\n * Next sibling to the `LView`.\n */\n readonly next: LViewDebug|LContainerDebug|null;\n\n /**\n * The context used for evaluation of the `LView`\n *\n * (Usually the component)\n */\n readonly context: {}|null;\n\n /**\n * Hierarchical tree of nodes.\n */\n readonly nodes: DebugNode[];\n\n /**\n * Template structure (no instance data).\n * (Shows how TNodes are connected)\n */\n readonly template: string;\n\n /**\n * HTML representation of the `LView`.\n *\n * This is only approximate to actual HTML as child `LView`s are removed.\n */\n readonly html: string;\n\n /**\n * The host element to which this `LView` is attached.\n */\n readonly hostHTML: string|null;\n\n /**\n * Child `LView`s\n */\n readonly childViews: Array<LViewDebug|LContainerDebug>;\n\n /**\n * Sub range of `LView` containing decls (DOM elements).\n */\n readonly decls: LViewDebugRange;\n\n /**\n * Sub range of `LView` containing vars (bindings).\n */\n readonly vars: LViewDebugRange;\n\n /**\n * Sub range of `LView` containing expando (used by DI).\n */\n readonly expando: LViewDebugRange;\n}\n\n/**\n * Human readable version of the `LContainer`\n *\n * `LContainer` is a data structure used internally to keep track of child views. The `LContainer`\n * is designed for efficiency and so at times it is difficult to read or write tests which assert on\n * its values. For this reason when `ngDevMode` is true we patch a `LContainer.debug` property which\n * points to `LContainerDebug` for easier debugging and test writing. It is the intent of\n * `LContainerDebug` to be used in tests.\n */\nexport interface LContainerDebug {\n readonly native: RComment;\n /**\n * Child `LView`s.\n */\n readonly views: LViewDebug[];\n readonly parent: LViewDebug|null;\n readonly movedViews: LView[]|null;\n readonly host: RElement|RComment|LView;\n readonly

next: LViewDebug|LContainerDebug|null;\n  readonly hasTransplantedViews: boolean;\n}\n\n\n\n/**\n * `LView` is subdivided to ranges where the actual data is stored. Some of these ranges such as\n * `decls` and `vars` are known at compile time. Other such as `i18n` and `expando` are runtime only\n * concepts.\n */\nexport interface LViewDebugRange {\n  /**\n   * The starting index in `LView` where the range begins. (Inclusive)\n   */\n  start: number;\n\n  /**\n   * The ending index in `LView` where the range ends. (Exclusive)\n   */\n  end: number;\n\n  /**\n   * The length of the range\n   */\n  length: number;\n\n  /**\n   * The merged content of the range. `t` contains data from `TView.data` and `l` contains `LView`\n   * data at an index.\n   */\n  content: LViewDebugRangeContent[];\n}\n\n/**\n * For convenience the static and instance portions of `TView` and `LView` are merged into a single\n * object in `LViewRange`.\n */\nexport interface LViewDebugRangeContent {\n  /**\n
 * Index into original `LView` or `TView.data`.\n   */\n  index: number;\n\n  /**\n   * Value from the `TView.data[index]` location.\n   */\n  t: any;\n\n  /**\n   * Value from the `LView[index]` location.\n   */\n  l: any;\n}\n\n\n/**\n * A logical node which comprise into `LView`s.\n *\n */\nexport interface DebugNode {\n  /**\n
 * HTML representation of the node.\n   */\n  html: string|null;\n\n  /**\n   * Human readable node type.\n   */\n  type: string;\n\n  /**\n   * DOM native node.\n   */\n  native: Node;\n\n  /**\n   * Child nodes\n   */\n  children: DebugNode[];\n\n  /**\n   * A list of Component/Directive types which need to be instantiated an this location.\n   */\n  factories: Type<unknown>[];\n\n  /**\n   * A list of Component/Directive instances which were instantiated an this location.\n   */\n  instances: unknown[];\n\n  /**\n   * NodeInjector information.\n   */\n  injector: NodeInjectorDebug;\n}\n\nexport interface NodeInjectorDebug {\n  /**\n   * Instance bloom. Does
 the current injector have a provider with a given bloom mask.\n   */\n  bloom: string;\n\n\n  /**\n   * Cumulative bloom. Do any of the above injectors have a provider with a given bloom mask.\n   */\n  cumulativeBloom: string;\n\n  /**\n   * A list of providers associated with this injector.\n   */\n  providers: (Type<unknown>|DirectiveDef<unknown>|ComponentDef<unknown>)[];\n\n  /**\n   * A list of providers associated with this injector visible to the view of the component only.\n   */\n  viewProviders: Type<unknown>[];\n\n\n\n  /**\n   * Location of the parent `TNode`.\n   */\n  parentInjectorIndex: number;\n}","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {TNode} from './node';\nimport {RComment, RElement} from './renderer_dom';\nimport {HOST, LView, NEXT, PARENT, T_HOST, TRANSPLANTED_VIEWS_TO_REFRESH} from './view';\n\n\n\n/**\n
 * Special location which allows easy identification of type. If we have an array which was\n * retrieved from the `LView` and that array has `true` at `TYPE` location, we know it is\n * `LContainer`.\n */\nexport const TYPE = 1;\n\n/**\n * Below are constants for LContainer indices to help us look up LContainer members\n * without having to remember the specific indices.\n * Uglify will inline these when minifying so there shouldn't be a cost.\n */\n\n/**\n * Flag to signify that this `LContainer` may have transplanted views which need to be change\n * detected. (see: `LView[DECLARATION_COMPONENT_VIEW])`.\n *\n * This flag, once set, is never unset for the `LContainer`. This means that when unset we can skip\n * a lot of work in `refreshEmbeddedViews`. But when set we still need to verify\n * that the `MOVED_VIEWS` are transplanted and on-push.\n */\nexport const HAS_TRANSPLANTED_VIEWS = 2;\n\n// PARENT, NEXT, TRANSPLANTED_VIEWS_TO_REFRESH are indices 3, 4, and 5\n//
 As we already have these constants in LView, we don't need to re-create them.\n\n// T_HOST is index 6\n// We already have this constants in LView, we don't need to re-create it.\n\nexport const NATIVE = 7;\nexport const VIEW_REFS = 8;\nexport const MOVED_VIEWS = 9;\n\n\n/**\n * Size of LContainer's header. Represents the index after which all views in the\n * container will be inserted. We need to keep a record of current views so we know\n * which views are already in the DOM (and don't need to be re-added) and so we can\n * remove views from the DOM when they are no longer required.\n */\nexport const CONTAINER_HEADER_OFFSET = 10;\n\n/**\n * The state associated with a container.\n *\n * This is an array so that its structure is closer to LView. This helps\n * when traversing the view tree (which is a mix of containers and component\n * views), so we can jump to viewOrContainer[NEXT] in the same way regardless\n * of type.\n */\nexport interface LContainer extends

Array<any> {\n  /**\n
   * The host element of this LContainer.\n   *\n   * The host could be an LView if this container is on a component node.\n   * In that case, the component LView is its HOST.\n   */\n  readonly[HOST]: RElement|RComment|LView;\n\n  /**\n   * This is a type field which allows us to differentiate `LContainer` from `StylingContext` in an\n   * efficient way. The value is always set to `true`\n   */\n  [TYPE]: true;\n\n  /**\n   * Flag to signify that this `LContainer` may have transplanted views which need to be change\n   * detected. (see: `LView[DECLARATION_COMPONENT_VIEW])`.\n   *\n   * This flag, once set, is never unset for the `LContainer`.\n   */\n  [HAS_TRANSPLANTED_VIEWS]: boolean;\n\n  /**\n   * Access to the parent view is necessary so we can propagate back\n   * up from inside a container to parent[NEXT].\n   */\n  [PARENT]: LView;\n\n  /**\n   * This allows us to jump from a container to a sibling container or component\n   * view with the same parent, so we can remove listeners
 efficiently.\n   */\n  [NEXT]: LView|LContainer|null;\n\n  /**\n   * The number of direct transplanted views which need a refresh or have descendants themselves\n   * that need a refresh but have not marked their ancestors as Dirty. This tells us that during\n   * change detection we should still descend to find those children to refresh, even if the parents\n   * are not `Dirty`/`CheckAlways`.\n   */\n  [TRANSPLANTED_VIEWS_TO_REFRESH]: number;\n\n  /**\n   * A collection of views created based on the underlying `<ng-template>` element but inserted into\n   * a different `LContainer`. We need to track views created from a given declaration point since\n   * queries collect matches from the embedded view declaration point and _not_ the insertion point.\n   */\n  [MOVED_VIEWS]: LView[]|null;\n\n  /**\n   * Pointer to the `TNode` which represents the host of the container.\n   */\n  [T_HOST]: TNode;\n\n  /** The comment element that serves as an anchor for this LContainer. */\n  readonly[NATIVE]:\n    RComment;  // TODO(misko): remove as this value can be gotten by unwrapping `[HOST]`\n\n  /**\n   * Array of `ViewRef`s used by any `ViewContainerRef`s that point to this container.\n   *\n   * This is lazily initialized by `ViewContainerRef` when the first view is inserted.\n   *\n   * NOTE: This is stored as `any[]` because render3 should really not be aware of `ViewRef` and\n   * doing so creates circular dependency.\n   */\n  [VIEW_REFS]: unknown[]|null;\n}\n\n// Note: This hack is necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd = 1;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {LContainer, TYPE} from './container';\nimport {ComponentDef, DirectiveDef} from './definition';\nimport {TNode, TNodeFlags} from
 './node';\nimport {RNode} from './renderer_dom';\nimport {FLAGS, LView, LViewFlags} from './view';\n\n\n/**\n * True if `value` is `LView`.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\nexport function isLView(value: RNode|LView|LContainer|{}|null): value is LView {\n  return Array.isArray(value) && typeof value[TYPE] === 'object';\n}\n\n/**\n * True if `value` is `LContainer`.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\nexport function isLContainer(value: RNode|LView|LContainer|{}|null): value is LContainer {\n  return Array.isArray(value) && value[TYPE] === true;\n}\n\nexport function isContentQueryHost(tNode: TNode): boolean {\n  return (tNode.flags & TNodeFlags.hasContentQuery) !== 0;\n}\n\nexport function isComponentHost(tNode: TNode): boolean {\n  return (tNode.flags & TNodeFlags.isComponentHost) === TNodeFlags.isComponentHost;\n}\n\nexport function isDirectiveHost(tNode: TNode): boolean {\n  return (tNode.flags & TNodeFlags.isDirectiveHost)
 === TNodeFlags.isDirectiveHost;\n}\n\nexport function isComponentDef<T>(def: DirectiveDef<T>): def is ComponentDef<T> {\n  return (def as ComponentDef<T>).template !== null;\n}\n\nexport function isRootView(target: LView): boolean {\n  return (target[FLAGS] & LViewFlags.IsRoot) !== 0;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDefined, assertEqual, assertNumber, throwError} from '../util/assert';\nimport {getComponentDef, getNgModuleDef} from './definition';\nimport {LContainer} from './interfaces/container';\nimport {DirectiveDef} from './interfaces/definition';\nimport {TIcu} from './interfaces/i18n';\nimport {NodeInjectorOffset} from './interfaces/injector';\nimport {TNode} from './interfaces/node';\nimport {isLContainer, isLView} from

'./interfaces/type_checks';\nimport {HEADER_OFFSET,
LView, TVIEW, TView} from './interfaces/view';\n\n\n// [Assert functions do not constraint type when they are guarded by a truthy\n// expression.](https://github.com/microsoft/TypeScript/issues/37295)\n\n\nexport function assertTNodeForLView(tNode: TNode, lView: LView) {\n assertTNodeForTView(tNode, lView[TVIEW]);\n}\n\nexport function assertTNodeForTView(tNode: TNode, tView: TView) {\n assertTNode(tNode);\n tNode.hasOwnProperty('tView_') &&\n assertEqual(\n (tNode as any as {tView_: TView}).tView_, tView,\n 'This TNode does not belong to this TView.');\n}\n\nexport function assertTNode(tNode: TNode) {\n assertDefined(tNode, 'TNode must be defined');\n if (!(tNode && typeof tNode === 'object' && tNode.hasOwnProperty('directiveStylingLast'))) {\n throwError('Not of type TNode, got: ' + tNode);\n }\n}\n\n\nexport function assertTIcu(tIcu: TIcu) {\n assertDefined(tIcu, 'Expected TIcu to be defined');\n if (!(typeof tIcu.currentCaseLViewIndex === 'number'))
{\n throwError('Object is not of TIcu type.');\n }\n}\n\nexport function assertComponentType(\n actual: any,\n msg: string = 'Type passed in is not ComponentType, it does not have \\'cmp\\' property.') {\n if (!getComponentDef(actual)) {\n throwError(msg);\n }\n}\n\nexport function assertNgModuleType(\n actual: any,\n msg: string = 'Type passed in is not NgModuleType, it does not have \\'mod\\' property.') {\n if (!getNgModuleDef(actual)) {\n throwError(msg);\n }\n}\n\nexport function assertCurrentTNodeIsParent(isParent: boolean) {\n assertEqual(isParent, true, 'currentTNode should be a parent');\n}\n\nexport function assertHasParent(tNode: TNode|null) {\n assertDefined(tNode, 'currentTNode should exist!');\n assertDefined(tNode!.parent, 'currentTNode should have a parent');\n}\n\nexport function assertDataNext(lView: LView, index: number, arr?: any[]) {\n if (arr == null) arr = lView;\n assertEqual(\n arr.length, index, `index ${index} expected
to be at the end of arr (length ${arr.length})`);\n}\n\nexport function assertLContainer(value: any): asserts value is LContainer {\n assertDefined(value, 'LContainer must be defined');\n assertEqual(isLContainer(value), true, 'Expecting LContainer');\n}\n\nexport function assertLViewOrUndefined(value: any): asserts value is LView|null|undefined {\n value && assertEqual(isLView(value), true, 'Expecting LView or undefined or null');\n}\n\nexport function assertLView(value: any): asserts value is LView {\n assertDefined(value, 'LView must be defined');\n assertEqual(isLView(value), true, 'Expecting LView');\n}\n\nexport function assertFirstCreatePass(tView: TView, errMessage?: string) {\n assertEqual(\n tView.firstCreatePass, true, errMessage || 'Should only be called in first create pass.');\n}\n\nexport function assertFirstUpdatePass(tView: TView, errMessage?: string) {\n assertEqual(\n tView.firstUpdatePass, true, errMessage || 'Should only be called in first update
pass.');\n}\n\n/**\n * This is a basic sanity check that an object is probably a directive def. DirectiveDef is\n * an interface, so we can't do a direct instanceof check.\n */\nexport function assertDirectiveDef<T>(obj: any): asserts obj is DirectiveDef<T> {\n if (obj.type === undefined || obj.selectors == undefined || obj.inputs === undefined) {\n throwError(\n `Expected a DirectiveDef/ComponentDef and this object does not seem to have the expected shape.`);\n }\n}\n\nexport function assertIndexInDeclRange(lView: LView, index: number) {\n const tView = lView[1];\n assertBetween(HEADER_OFFSET, tView.bindingStartIndex, index);\n}\n\nexport function assertIndexInVarsRange(lView: LView, index: number) {\n const tView = lView[1];\n assertBetween(tView.bindingStartIndex, tView.expandoStartIndex, index);\n}\n\nexport function assertIndexInExpandoRange(lView: LView, index: number) {\n const tView = lView[1];\n assertBetween(tView.expandoStartIndex, lView.length, index);\n}\n\nexport
function assertBetween(lower: number, upper: number, index: number) {\n if (!(lower <= index && index < upper)) {\n throwError(`Index out of range (expecting ${lower} <= ${index} < ${upper})`);\n }\n}\n\n\n\n/**\n * This is a basic sanity check that the `injectorIndex` seems to point to what looks like a\n * NodeInjector data structure.\n *\n * @param lView `LView` which should be checked.\n * @param injectorIndex index into the `LView` where the `NodeInjector` is expected.\n */\nexport function assertNodeInjector(lView: LView, injectorIndex: number) {\n assertIndexInExpandoRange(lView, injectorIndex);\n assertIndexInExpandoRange(lView, injectorIndex + NodeInjectorOffset.PARENT);\n

assertNumber(lView[injectorIndex + 0], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 1], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 2], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 3], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 4], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 5], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 6], 'injectorIndex should point to a bloom filter');\n assertNumber(lView[injectorIndex + 7], 'injectorIndex should point to a bloom filter');\n assertNumber(\n lView[injectorIndex + NodeInjectorOffset.PARENT],\n 'injectorIndex should point to parent injector');\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {stringify} from '../util/stringify';\nimport {NG_FACTORY_DEF} from './fields';\n\n\n/**\n * Definition of what a factory function should look like.\n */\nexport type FactoryFn<T> = {\n /**\n * Subclasses without an explicit constructor call through to the factory of their base\n * definition, providing it with their own constructor to instantiate.\n */\n <U extends T>(t: Type<U>): U;\n\n /**\n * If no constructor to instantiate is provided, an instance of type T itself is created.\n */\n (t?: undefined): T;\n};\n\n\nexport function getFactoryDef<T>(type: any, throwNotFound: true): FactoryFn<T>;\nexport function getFactoryDef<T>(type: any): FactoryFn<T>|null;\nexport function getFactoryDef<T>(type: any, throwNotFound?: boolean): FactoryFn<T>|null {\n const hasFactoryDef = type.hasOwnProperty(NG_FACTORY_DEF);\n if (!hasFactoryDef && throwNotFound === true && ngDevMode) {\n throw new Error(`Type ${stringify(type)} does not have 'fac' property.`);\n }\n return hasFactoryDef ? type[NG_FACTORY_DEF] : null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport const enum RuntimeErrorCode {\n // Internal Errors\n\n // Change Detection Errors\n EXPRESSION_CHANGED_AFTER_CHECKED = '100',\n\n // Dependency Injection Errors\n CYCLIC_DI_DEPENDENCY = '200',\n PROVIDER_NOT_FOUND = '201',\n\n // Template Errors\n MULTIPLE_COMPONENTS_MATCH = '300',\n EXPORT_NOT_FOUND = '301',\n PIPE_NOT_FOUND = '302',\n UNKNOWN_BINDING = '303',\n UNKNOWN_ELEMENT = '304',\n\n // Styling Errors\n\n // Declarations Errors\n\n // i18n Errors\n\n // Compilation Errors\n}\n\nexport class RuntimeError extends Error {\n constructor(public code: RuntimeErrorCode, message: string) {\n super(formatRuntimeError(code, message));\n }\n}\n\n/** Called to format a runtime error */\nexport function formatRuntimeError(code: RuntimeErrorCode, message: string): string {\n const fullCode = code ? `NG0${code}: ` : '';\n return `${fullCode}${message}`;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Used for stringify render output in Ivy.\n * Important! This function is very performance-sensitive and we should\n * be extra careful not to introduce megamorphic reads in it.\n * Check `core/test/render3/perf/render_stringify` for benchmarks and alternate implementations.\n */\nexport function renderStringify(value: any): string {\n if (typeof value === 'string') return value;\n if (value == null) return '';\n // Use `String` so that it invokes the `toString` method of the value. Note that this\n // appears to be faster than calling `value.toString` (see `render_stringify` benchmark).\n return String(value);\n}\n\n\n/**\n * Used to stringify a value so that it can be displayed in an error message.\n * Important! This function contains a megamorphic read and should only be\n * used for error messages.\n */\nexport function stringifyForError(value: any): string {\n if (typeof value === 'function') return value.name || value.toString();\n if (typeof value === 'object' && value != null && typeof value.type === 'function') {\n return value.type.name || value.type.toString();\n }\n\n return renderStringify(value);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this

source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {InjectorType} from '../di/interface/defs';\nimport {stringify} from '../util/stringify';\nimport {RuntimeError, RuntimeErrorCode} from './error_code';\nimport {stringifyForError} from './util/stringify_utils';\n\n\n/** Called when directives inject each other (creating a circular dependency) */\nexport function throwCyclicDependencyError(token: string, path?: string[]): never {\n  const depPath = path ? `. Dependency path: ${path.join(' > ')} > ${token}` : '';\n  throw new RuntimeError(\n      RuntimeErrorCode.CYCLIC_DI_DEPENDENCY,\n `Circular dependency in DI detected for ${token}${depPath}`);\n}\n\nexport function throwMixedMultiProviderError() {\n  throw new Error(`Cannot mix multi providers and regular providers`);\n}\n\nexport function throwInvalidProviderError(\n    ngModuleType?: InjectorType<any>, providers?: any[], provider?: any) {\n  let ngModuleDetail = '';\n  if (ngModuleType && providers) {\n    const providerDetail = providers.map(v => v == provider ? '?' + provider + '?' : '...');\n    ngModuleDetail =\n        ` - only instances of Provider and Type are allowed, got: [${providerDetail.join(', ')}]`;\n  }\n\n  throw new Error(\n      `Invalid provider for the NgModule '${stringify(ngModuleType)}'` + ngModuleDetail);\n}\n\n\n/** Throws an error when a token is not found in DI. */\nexport function throwProviderNotFoundError(token: any, injectorName?: string): never {\n  const injectorDetails = injectorName ? ` in ${injectorName}` : '';\n  throw new RuntimeError(\n      RuntimeErrorCode.PROVIDER_NOT_FOUND,\n      `No provider for ${stringifyForError(token)} found${injectorDetails}`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Represents a basic change from a previous to a new value for a single\n * property on a directive instance. Passed as a value in a\n * {@link SimpleChanges} object to the `ngOnChanges` hook.\n *\n * @see `OnChanges`\n *\n * @publicApi\n */\nexport class SimpleChange {\n  constructor(public previousValue: any, public currentValue: any, public firstChange: boolean) {}\n  /**\n   * Check whether the new value is the first value assigned.\n   */\n  isFirstChange(): boolean {\n    return this.firstChange;\n  }\n}\n\n/**\n * A hashtable of changes represented by {@link SimpleChange} objects stored\n * at the declared property name they belong to on a Directive or Component. This is\n * the type passed to the `ngOnChanges` hook.\n *\n * @see `OnChanges`\n *\n * @publicApi\n */\nexport interface SimpleChanges {\n  [propName: string]: SimpleChange;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {OnChanges} from '../../interface/lifecycle_hooks';\nimport {SimpleChange, SimpleChanges} from '../../interface/simple_change';\nimport {EMPTY_OBJ} from '../empty';\nimport {DirectiveDef, DirectiveDefFeature} from '../interfaces/definition';\n\n\n/**\n * The NgOnChangesFeature decorates a component with support for the ngOnChanges\n * lifecycle hook, so it should be included in any component that implements\n * that hook.\n *\n * If the component or directive uses inheritance, the NgOnChangesFeature MUST\n * be included as a feature AFTER {@link InheritDefinitionFeature}, otherwise\n * inherited properties will not be propagated to the ngOnChanges lifecycle\n * hook.\n *\n * Example usage:\n *\n * ```\n * static cmp = defineComponent({\n *   ...\n *   inputs: {name: 'publicName'},\n *   features: [NgOnChangesFeature]\n * });\n * ```\n *\n * @codeGenApi\n */\nexport function NgOnChangesFeature<T>(): DirectiveDefFeature {\n  return NgOnChangesFeatureImpl;\n}\n\nexport function NgOnChangesFeatureImpl<T>(definition: DirectiveDef<T>) {\n  if (definition.type.prototype.ngOnChanges) {\n    definition.setInput = ngOnChangesSetInput;\n  }\n  return rememberChangeHistoryAndInvokeOnChangesHook;\n}\n\n// This option ensures that the ngOnChanges lifecycle hook will be inherited\n// from superclasses (in InheritDefinitionFeature).\n/** @nocollapse */\n// tslint:disable-next-line:no-toplevel-property-access\n(NgOnChangesFeature as DirectiveDefFeature).ngInherit = true;\n\n/**\n * This is a synthetic lifecycle hook which gets inserted into `TView.preOrderHooks` to simulate\n * `ngOnChanges`.\n *\n * The hook reads the `NgSimpleChangesStore` data from the component instance and if changes are\n * found it

invokes `ngOnChanges` on the component instance.\n *\n * @param this Component instance. Because this function gets inserted into `TView.preOrderHooks`,\n *  it is guaranteed to be called with component instance.\n */\nfunction rememberChangeHistoryAndInvokeOnChangesHook(this: OnChanges) {\n  const simpleChangesStore = getSimpleChangesStore(this);\n  const current = simpleChangesStore?.current;\n\n  if (current) {\n    const previous = simpleChangesStore!.previous;\n    if (previous === EMPTY_OBJ) {\n simpleChangesStore!.previous = current;\n    } else {\n      // New changes are copied to the previous store, so that we don't lose history for inputs\n      // which were not changed this time\n      for (let key in current) {\n previous[key] = current[key];\n
    }\n    }\n    simpleChangesStore!.current = null;\n    this.ngOnChanges(current);\n  }\n}\n\n\nfunction ngOnChangesSetInput<T>(\n    this: DirectiveDef<T>, instance: T, value: any, publicName: string, privateName: string): void {\n  const simpleChangesStore = getSimpleChangesStore(instance) ||\n setSimpleChangesStore(instance, {previous: EMPTY_OBJ, current: null});\n  const current = simpleChangesStore.current || (simpleChangesStore.current = {});\n  const previous = simpleChangesStore.previous;\n\n  const declaredName = (this.declaredInputs as {[key: string]: string})[publicName];\n  const previousChange = previous[declaredName];\n  current[declaredName] = new SimpleChange(\n      previousChange && previousChange.currentValue, value, previous === EMPTY_OBJ);\n\n (instance as any)[privateName] = value;\n}\n\nconst SIMPLE_CHANGES_STORE = '__ngSimpleChanges__';\n\nfunction getSimpleChangesStore(instance: any): null|NgSimpleChangesStore {\n return instance[SIMPLE_CHANGES_STORE]
 || null;\n}\n\nfunction setSimpleChangesStore(instance: any, store: NgSimpleChangesStore): NgSimpleChangesStore {\n  return instance[SIMPLE_CHANGES_STORE] = store;\n}\n\n/**\n * Data structure which is monkey-patched on the component instance and used by `ngOnChanges`\n * life-cycle hook to track previous input values.\n */\ninterface NgSimpleChangesStore {\n  previous: SimpleChanges;\n  current: SimpleChanges|null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport const SVG_NAMESPACE = 'http://www.w3.org/2000/svg';\nexport const MATH_ML_NAMESPACE = 'http://www.w3.org/1998/MathML/';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {RNode}
 from './renderer_dom';\nimport {LView} from './view';\n\n/**\n * This property will be monkey-patched on elements, components and directives\n */\nexport const MONKEY_PATCH_KEY_NAME = '__ngContext__';\n\n/**\n * The internal view context which is specific to a given DOM element, directive or\n * component instance. Each value in here (besides the LView and element node details)\n * can be present, null or undefined. If undefined then it implies the value has not been\n * looked up yet, otherwise, if null, then a lookup was executed and nothing was found.\n *\n * Each value will get filled when the respective value is examined within the getContext\n * function. The component, element and each directive instance will share the same instance\n * of the context.\n */\nexport interface LContext {\n  /**\n   * The component's parent view data.\n   */\n  lView: LView;\n\n  /**\n   * The index instance of the node.\n   */\n  nodeIndex: number;\n\n  /**\n   * The instance of the DOM node
 that is attached to the lNode.\n   */\n  native: RNode;\n\n  /**\n   * The instance of the Component node.\n   */\n  component: {}|null|undefined;\n\n  /**\n   * The list of active directives that exist on this element.\n   */\n  directives: any[]|null|undefined;\n\n  /**\n   * The map of local references (local reference name => element or directive instance) that exist\n   * on this element.\n   */\n  localRefs: {[key: string]: any}|null|undefined;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Most of the use of `document` in Angular is from within the DI system so it is possible to simply\n * inject the `DOCUMENT` token and are done.\n *\n * Ivy is special because it does not rely upon the DI and must get hold of the document some other\n * way.\n *\n * The solution is to define

`getDocument()` and `setDocument()`
top-level functions for ivy.\n * Wherever ivy needs the global document, it calls `getDocument()` instead.\n *\n * When running ivy outside of a browser environment, it is necessary to call `setDocument()` to\n * tell ivy what the global `document` is.\n *\n * Angular does this for us in each of the standard platforms (`Browser`, `Server`, and `WebWorker`)\n * by calling `setDocument()` when providing the `DOCUMENT` token.\n */\nlet DOCUMENT: Document|undefined = undefined;\n\n/**\n * Tell ivy what the `document` is for this platform.\n *\n * It is only necessary to call this if the current platform is not a browser.\n *\n * @param document The object representing the global `document` in this environment.\n */\nexport function setDocument(document: Document|undefined): void {\n  DOCUMENT = document;\n}\n\n/**\n * Access the object that represents the `document` for this platform.\n *\n * Ivy calls this whenever it needs to access the `document` object.\n * For example to create
the renderer or to do sanitization.\n */\nexport function getDocument(): Document {\n  if (DOCUMENT !== undefined) {\n    return DOCUMENT;\n  } else if (typeof document !== 'undefined') {\n    return document;\n  }\n  // No \"document\" can be found. This should only happen if we are running ivy outside Angular and\n  // the current platform is not a browser. Since this is not a supported scenario at the moment\n  // this should not happen in Angular apps.\n  // Once we support running ivy outside of Angular we will need to publish `setDocument()` as a\n// public API. Meanwhile we just return `undefined` and let the application fail.\n  return undefined!;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * The goal here is to make sure that the browser DOM API is the Renderer.\n * We do this by defining a subset
of DOM API to be the renderer and then\n * use that at runtime for rendering.\n *\n * At runtime we can then use the DOM api directly, in server or web-worker\n * it will be easy to implement such API.\n */\n\nimport {RendererStyleFlags2, RendererType2} from '../../render/api_flags';\nimport {getDocument} from './document';\nimport {RComment, RElement, RNode, RText} from './renderer_dom';\n\n// TODO: cleanup once the code is merged in angular/angular\nexport enum RendererStyleFlags3 {\n  Important = 1 << 0,\n  DashCase = 1 << 1\n}\n\nexport type Renderer3 = ObjectOrientedRenderer3|ProceduralRenderer3;\n\nexport type GlobalTargetName = 'document'|'window'|'body';\n\nexport type GlobalTargetResolver = (element: any) => {\n name: GlobalTargetName, target: EventTarget\n};\n\n/**\n * Object Oriented style of API needed to create elements and text nodes.\n *\n * This is the native browser API style, e.g. operations are methods on individual objects\n * like HTMLElement. With this style,
no additional code is needed as a facade\n * (reducing payload size).\n * */\nexport interface ObjectOrientedRenderer3 {\n  createComment(data: string): RComment;\n  createElement(tagName: string): RElement;\n  createElementNS(namespace: string, tagName: string): RElement;\n  createTextNode(data: string): RText;\n\n  querySelector(selectors: string): RElement|null;\n}\n\n/** Returns whether the `renderer` is a `ProceduralRenderer3` */\nexport function isProceduralRenderer(renderer: ProceduralRenderer3|\n    ObjectOrientedRenderer3): renderer is ProceduralRenderer3 {\n  return !!((renderer as any).listen);\n}\n\n/**\n * Procedural style of API needed to create elements and text nodes.\n *\n * In non-native browser environments (e.g. platforms such as web-workers), this is the\n * facade that enables element manipulation. This also facilitates backwards compatibility\n * with Renderer2.\n */\nexport interface ProceduralRenderer3 {\n  destroy(): void;\n  createComment(value: string): RComment;\n  createElement(name: string, namespace?: string|null): RElement;\n createText(value: string): RText;\n  /**\n   * This property is allowed to be null / undefined,\n   * in which case the view engine won't call it.\n   * This is used as a performance optimization for production mode.\n   */\n destroyNode?: ((node: RNode) => void)|null;\n  appendChild(parent: RElement, newChild: RNode): void;\n insertBefore(parent: RNode, newChild: RNode, refChild: RNode|null, isMove?: boolean): void;\n removeChild(parent: RElement, oldChild: RNode, isHostElement?: boolean): void;\n selectRootElement(selectorOrNode: string|any, preserveContent?: boolean): RElement;\n\n  parentNode(node: RNode): RElement|null;\n  nextSibling(node: RNode): RNode|null;\n\n  setAttribute(el: RElement, name: string, value: string, namespace?: string|null): void;\n  removeAttribute(el: RElement, name: string, namespace?: string|null): void;\n  addClass(el: RElement, name: string):

void;\n  removeClass(el: RElement, name: string): void;\n  setStyle(\n      el: RElement, style: string, value: any,\n  flags?: RendererStyleFlags2|RendererStyleFlags3): void;\n  removeStyle(el: RElement, style: string, flags?: RendererStyleFlags2|RendererStyleFlags3): void;\n  setProperty(el: RElement, name: string, value: any): void;\n  setValue(node: RText|RComment, value: string): void;\n\n  // TODO(misko): Deprecate in favor of addEventListener/removeEventListener\n  listen(\n      target: GlobalTargetName|RNode, eventName: string,\n  callback: (event: any) => boolean | void): () => void;\n}\n\nexport interface RendererFactory3 {\n  createRenderer(hostElement: RElement|null, rendererType: RendererType2|null): Renderer3;\n  begin?(): void;\n  end?(): void;\n}\n\nexport const domRendererFactory3: RendererFactory3 = {\n  createRenderer: (hostElement: RElement|null, rendererType: RendererType2|null): Renderer3 => {\n    return getDocument();\n  }\n};\n\n// Note: This hack is
  necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd = 1;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDefined, assertDomNode, assertGreaterThan, assertGreaterThanOrEqual, assertIndexInRange, assertLessThan} from '../../util/assert';\nimport {assertTNode, assertTNodeForLView} from '../assert';\nimport {LContainer, TYPE} from '../interfaces/container';\nimport {LContext, MONKEY_PATCH_KEY_NAME} from '../interfaces/context';\nimport {TConstants, TNode} from '../interfaces/node';\nimport {isProceduralRenderer} from '../interfaces/renderer';\nimport {RNode} from '../interfaces/renderer_dom';\nimport {isLContainer, isLView} from '../interfaces/type_checks';\nimport {FLAGS, HEADER_OFFSET, HOST, LView, LViewFlags, PARENT, PREORDER_HOOK_FLAGS,
  RENDERER, TData, TRANSPLANTED_VIEWS_TO_REFRESH, TView} from '../interfaces/view';\n\n\n\n/**\n * For efficiency reasons we often put several different data types (`RNode`, `LView`, `LContainer`)\n * in same location in `LView`. This is because we don't want to pre-allocate space for it\n * because the storage is sparse. This file contains utilities for dealing with such data types.\n *\n * How do we know what is stored at a given location in `LView`.\n * - `Array.isArray(value) === false` => `RNode` (The normal storage value)\n * - `Array.isArray(value) === true` => then the `value[0]` represents the wrapped value.\n *   - `typeof value[TYPE] === 'object'` => `LView`\n *       - This happens when we have a component at a given location\n *   - `typeof value[TYPE] === true` => `LContainer`\n *       - This happens when we have `LContainer` binding at a given location.\n *\n *\n * NOTE: it is assumed that `Array.isArray` and `typeof` operations are very efficient.\n */\n\n/**\n *
  Returns `RNode`.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\nexport function unwrapRNode(value: RNode|LView|LContainer): RNode {\n  while (Array.isArray(value)) {\n    value = value[HOST] as any;\n  }\n  return value as RNode;\n}\n\n/**\n * Returns `LView` or `null` if not found.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\nexport function unwrapLView(value: RNode|LView|LContainer): LView|null {\n  while (Array.isArray(value)) {\n    // This check is same as `isLView()` but we don't call at as we don't want to call\n    // `Array.isArray()` twice and give JITer more work for inlining.\n    if (typeof value[TYPE] === 'object') return value as LView;\n    value = value[HOST] as any;\n  }\n  return null;\n}\n\n/**\n * Returns `LContainer` or `null` if not found.\n * @param value wrapped value of `RNode`, `LView`, `LContainer`\n */\nexport function unwrapLContainer(value: RNode|LView|LContainer): LContainer|null {\n  while (Array.isArray(value))
  {\n    // This check is same as `isLContainer()` but we don't call at as we don't want to call\n    // `Array.isArray()` twice and give JITer more work for inlining.\n    if (value[TYPE] === true) return value as LContainer;\n    value = value[HOST] as any;\n  }\n  return null;\n}\n\n/**\n * Retrieves an element value from the provided `viewData`, by unwrapping\n * from any containers, component views, or style contexts.\n */\nexport function getNativeByIndex(index: number, lView: LView): RNode {\n  ngDevMode && assertIndexInRange(lView, index);\n  ngDevMode && assertGreaterThanOrEqual(index, HEADER_OFFSET, 'Expected to be past HEADER_OFFSET');\n  return unwrapRNode(lView[index]);\n}\n\n/**\n * Retrieve an `RNode` for a given `TNode` and `LView`.\n *\n * This function guarantees in dev mode to retrieve a non-null `RNode`.\n *\n * @param tNode\n * @param lView\n */\nexport function getNativeByTNode(tNode: TNode, lView: LView):

RNode {\n  ngDevMode && assertTNodeForLView(tNode,
 lView);\n  ngDevMode && assertIndexInRange(lView, tNode.index);\n  const node: RNode =
unwrapRNode(lView[tNode.index]);\n  ngDevMode && !isProceduralRenderer(lView[RENDERER]) &&
assertDomNode(node);\n  return node;\n}\n\n/**\n * Retrieve an `RNode` or `null` for a given `TNode` and
`LView`.\n *\n * Some `TNode`s don't have associated `RNode`s. For example `Projection`\n *\n * @param
tNode\n * @param lView\n */\nexport function getNativeByTNodeOrNull(tNode: TNode|null, lView: LView):
RNode|null {\n  const index = tNode === null ? -1 : tNode.index;\n  if (index !== -1) {\n    ngDevMode &&
assertTNodeForLView(tNode!, lView);\n    const node: RNode|null = unwrapRNode(lView[index]);\n
ngDevMode && node !== null && !isProceduralRenderer(lView[RENDERER]) && assertDomNode(node);\n
return node;\n  }\n  return null;\n}\n\n\n// fixme(misko): The return Type should be `TNode|null`\nexport function
getTNode(tView: TView, index: number): TNode {\n  ngDevMode && assertGreaterThan(index, -1, 'wrong
 index for TNode');\n  ngDevMode && assertLessThan(index, tView.data.length, 'wrong index for TNode');\n  const
tNode = tView.data[index] as TNode;\n  ngDevMode && tNode !== null && assertTNode(tNode);\n  return
tNode;\n}\n\n/** Retrieves a value from any `LView` or `TData`. */\nexport function load<T>(view: LView|TData,
index: number): T {\n  ngDevMode && assertIndexInRange(view, index);\n  return view[index];\n}\n\nexport
function getComponentLViewByIndex(nodeIndex: number, hostView: LView): LView {\n  // Could be an LView
or an LContainer. If LContainer, unwrap to find LView.\n  ngDevMode && assertIndexInRange(hostView,
nodeIndex);\n  const slotValue = hostView[nodeIndex];\n  const lView = isLView(slotValue) ? slotValue :
slotValue[HOST];\n  return lView;\n}\n\n\n/**\n * Returns the monkey-patch value data present on the target
(which could be\n * a component, directive or a DOM node).\n */\nexport function readPatchedData(target: any):
LView|LContext|null {\n  ngDevMode && assertDefined(target,
 'Target expected');\n  return target[MONKEY_PATCH_KEY_NAME] || null;\n}\n\nexport function
readPatchedLView(target: any): LView|null {\n  const value = readPatchedData(target);\n  if (value) {\n    return
Array.isArray(value) ? value : (value as LContext).lView;\n  }\n  return null;\n}\n\n/** Checks whether a given
view is in creation mode */\nexport function isCreationMode(view: LView): boolean {\n  return (view[FLAGS] &
LViewFlags.CreationMode) === LViewFlags.CreationMode;\n}\n\n/**\n * Returns a boolean for whether the view
is attached to the change detection tree.\n *\n * Note: This determines whether a view should be checked, not
whether it's inserted\n * into a container. For that, you'll want `viewAttachedToContainer` below.\n */\nexport
function viewAttachedToChangeDetector(view: LView): boolean {\n  return (view[FLAGS] &
LViewFlags.Attached) === LViewFlags.Attached;\n}\n\n/** Returns a boolean for whether the view is attached to a
container. */\nexport function
 viewAttachedToContainer(view: LView): boolean {\n  return isLContainer(view[PARENT]);\n}\n\n/** Returns a
constant from `TConstants` instance. */\nexport function getConstant<T>(consts: TConstants|null, index:
null|undefined): null;\nexport function getConstant<T>(consts: TConstants, index: number): T|null;\nexport function
getConstant<T>(consts: TConstants|null, index: number|null|undefined): T|null;\nexport function
getConstant<T>(consts: TConstants|null, index: number|null|undefined): T|null {\n  if (index === null || index ===
undefined) return null;\n  ngDevMode && assertIndexInRange(consts!, index);\n  return consts![index] as unknown
as T;\n}\n\n/**\n * Resets the pre-order hook flags of the view.\n * @param lView the LView on which the flags
are reset\n */\nexport function resetPreOrderHookFlags(lView: LView) {\n  lView[PREORDER_HOOK_FLAGS]
= 0;\n}\n\n/**\n * Updates the `TRANSPLANTED_VIEWS_TO_REFRESH` counter on the `LContainer` as well
as the parents\n * whose\n *  1. counter
 goes from 0 to 1, indicating that there is a new child that has a view to refresh\n *  or\n *  2. counter goes from 1 to
0, indicating there are no more descendant views to refresh\n */\nexport function
updateTransplantedViewCount(lContainer: LContainer, amount: 1|- 1) {\n
lContainer[TRANSPLANTED_VIEWS_TO_REFRESH] += amount;\n  let viewOrContainer: LView|LContainer =
lContainer;\n  let parent: LView|LContainer|null = lContainer[PARENT];\n  while (parent !== null &&\n
((amount === 1 && viewOrContainer[TRANSPLANTED_VIEWS_TO_REFRESH] === 1) ||\n          (amount ===
-1 && viewOrContainer[TRANSPLANTED_VIEWS_TO_REFRESH] === 0))) {\n

parent[TRANSPLANTED_VIEWS_TO_REFRESH] += amount;\n  viewOrContainer = parent;\n  parent = parent[PARENT];\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectFlags} from '../di/interface/injector';\nimport {assertDefined, assertEqual, assertGreaterThanOrEqual, assertLessThan, assertNotEqual} from '../util/assert';\nimport {assertLViewOrUndefined, assertTNodeForLView, assertTNodeForTView} from './assert';\nimport {DirectiveDef} from './interfaces/definition';\nimport {TNode, TNodeType} from './interfaces/node';\nimport {CONTEXT, DECLARATION_VIEW, HEADER_OFFSET, LView, OpaqueViewState, T_HOST, TData, TVIEW, TView, TViewType} from './interfaces/view';\nimport {MATH_ML_NAMESPACE, SVG_NAMESPACE} from './namespaces';\nimport {getTNode} from './util/view_utils';\n\n\n/**\n *\n */\ninterface LFrame {\n  /**\n   * Parent LFrame.\n   *\n   * This is needed when `leaveView` is called to restore the previous state.\n   */\n  parent: LFrame;\n\n  /**\n   * Child LFrame.\n   *\n   * This is used to cache existing LFrames to relieve the memory pressure.\n   */\n  child: LFrame|null;\n\n  /**\n   * State of the current view being processed.\n   *\n   * An array of nodes (text, element, container, etc), pipes, their bindings, and\n   * any local variables that need to be stored between invocations.\n   */\n  lView: LView;\n\n  /**\n   * Current `TView` associated with the `LFrame.lView`.\n   *\n   * One can get `TView` from `lFrame[TVIEW]` however because it is so common it makes sense to\n   * store it in `LFrame` for perf reasons.\n   */\n  tView: TView;\n\n  /**\n   * Used to set the parent property when nodes are created and track query results.\n   *\n   * This is used in conjunction with `isParent`.\n   */\n  currentTNode: TNode|null;\n\n  /**\n   * If `isParent` is:\n   * - `true`: then `currentTNode` points to a parent node.\n   * - `false`: then `currentTNode` points to previous node (sibling).\n   */\n  isParent: boolean;\n\n  /**\n   * Index of currently selected element in LView.\n   *\n   * Used by binding instructions. Updated as part of advance instruction.\n   */\n  selectedIndex: number;\n\n  /**\n   * Current pointer to the binding index.\n   */\n  bindingIndex: number;\n\n  /**\n   * The last viewData retrieved by nextContext().\n   * Allows building nextContext() and reference() calls.\n   *\n   * e.g. const inner = x().$implicit; const outer = x().$implicit;\n   */\n  contextLView: LView;\n\n  /**\n   * Store the element depth count. This is used to identify the root elements of the template\n   * so that we can then attach patch data `LView` to only those elements. We know that those\n   * are the only places where the patch data could change, this way we will save on number\n   * of places where tha patching occurs.\n   */\n  elementDepthCount: number;\n\n  /**\n   * Current namespace to be used when creating elements\n   */\n  currentNamespace: string|null;\n\n\n\n  /**\n   * The root index from which pure function instructions should calculate their binding\n   * indices. In component views, this is TView.bindingStartIndex. In a host binding\n   * context, this is the TView.expandoStartIndex + any dirs/hostVars before the given dir.\n   */\n  bindingRootIndex: number;\n\n  /**\n   * Current index of a View or Content Query which needs to be processed next.\n   * We iterate over the list of Queries and increment current query index at every step.\n   */\n  currentQueryIndex: number;\n\n  /**\n   * When host binding is executing this points to the directive index.\n   * `TView.data[currentDirectiveIndex]` is `DirectiveDef`\n   * `LView[currentDirectiveIndex]` is directive instance.\n   */\n  currentDirectiveIndex: number;\n\n  /**\n   * Are we currently in i18n block as denoted by `elementStart` and `elementEnd`.\n   *\n   * This information is needed because while we are in i18n block all elements must be pre-declared\n   * in the translation. (i.e. `Hello #2World/#2!` pre-declares element at `#2` location.)\n   * This allocates `TNodeType.Placeholder` element at location `2`. If translator removes `#2`\n   * from translation than the runtime must also ensure tha element at `2` does not get inserted\n   * into the DOM. The translation does not carry information about deleted elements. Therefor the\n   * only way to know that an element is deleted is that it was not pre-declared in the translation.\n   *\n   * This flag works by ensuring that elements which are created without pre-declaration\n   * (`TNodeType.Placeholder`) are not inserted into the DOM render tree. (It does mean that the\n   * element still gets instantiated along with all of its behavior [directives])\n   */\n  inI18n: boolean;\n}\n\n/**\n * All implicit instruction state is stored here.\n *\n * It is useful to have a single object where all of the state is stored as a mental model\n * (rather it being spread across many different variables.)\n *\n * PERF NOTE: Turns out that writing to a true global

variable is slower than\n * having an intermediate object with properties.\n */\ninterface InstructionState {\n /**\n * Current `LFrame`\n *\n * `null` if we have not called
`enterView`\n */\n lFrame: LFrame;\n\n /**\n * Stores whether directives should be matched to elements.\n *\n * When template contains `ngNonBindable` then we need to prevent the runtime from matching\n * directives on children of that element.\n *\n * Example:\n * ```\n * <my-comp my-directive>\n * Should match component / directive.\n * </my-comp>\n * <div ngNonBindable>\n * <my-comp my-directive>\n * Should not match component / directive because we are in ngNonBindable.\n * </my-comp>\n * </div>\n * ```\n */\n bindingsEnabled: boolean;\n\n /**\n * In this mode, any changes in bindings will throw an ExpressionChangedAfterChecked error.\n *\n * Necessary to support ChangeDetectorRef.checkNoChanges().\n *\n * checkNoChanges Runs only in devmode=true and verifies that no unintended changes exist in\n * the change detector or its children.\n */\n isInCheckNoChangesMode: boolean;\n}\n\nconst instructionState: InstructionState
= {\n lFrame: createLFrame(null),\n bindingsEnabled: true,\n isInCheckNoChangesMode: false,\n};\n\n/**\n * Returns true if the instruction state stack is empty.\n *\n * Intended to be called from tests only (tree shaken otherwise).\n */\nexport function specOnlyIsInstructionStateEmpty(): boolean {\n return instructionState.lFrame.parent === null;\n}\n\n\nexport function getElementDepthCount() {\n return instructionState.lFrame.elementDepthCount;\n}\n\nexport function increaseElementDepthCount() {\n instructionState.lFrame.elementDepthCount++;\n}\n\nexport function decreaseElementDepthCount() {\n instructionState.lFrame.elementDepthCount--;\n}\n\nexport function getBindingsEnabled(): boolean {\n return instructionState.bindingsEnabled;\n}\n\n\n/**\n * Enables directive matching on elements.\n *\n * * Example:\n * ```\n * <my-comp my-directive>\n * Should match component / directive.\n * </my-comp>\n * <div ngNonBindable>\n * <!-- disableBindings() -->\n * <my-comp my-directive>\n
* Should not match component / directive because we are in ngNonBindable.\n * </my-comp>\n * <!-- enableBindings() -->\n * \n * ```\n *\n * @codeGenApi\n */\nexport function enableBindings(): void {\n instructionState.bindingsEnabled = true;\n}\n\n/**\n * Disables directive matching on element.\n *\n * * Example:\n * ```\n * <my-comp my-directive>\n * Should match component / directive.\n * </my-comp>\n * <div ngNonBindable>\n * <!-- disableBindings() -->\n * <my-comp my-directive>\n * Should not match component / directive because we are in ngNonBindable.\n * </my-comp>\n * <!-- enableBindings() -->\n * \n * ```\n *\n * @codeGenApi\n */\nexport function disableBindings(): void {\n instructionState.bindingsEnabled = false;\n}\n\n/**\n * Return the current `LView`.\n */\nexport function getLView(): LView {\n return instructionState.lFrame.lView;\n}\n\n/**\n * Return the current `TView`.\n */\nexport function getTView(): TView
{\n return instructionState.lFrame.tView;\n}\n\n/**\n * Restores `contextViewData` to the given OpaqueViewState instance.\n *\n * Used in conjunction with the getCurrentView() instruction to save a snapshot\n * of the current view and restore it when listeners are invoked. This allows\n * walking the declaration view tree in listeners to get vars from parent views.\n *\n * @param viewToRestore The OpaqueViewState instance to restore.\n *\n * @codeGenApi\n */\nexport function restoreView(viewToRestore: OpaqueViewState) {\n instructionState.lFrame.contextLView = viewToRestore as any as LView;\n}\n\n\nexport function getCurrentTNode(): TNode|null {\n let currentTNode = getCurrentTNodePlaceholderOk();\n while (currentTNode !== null && currentTNode.type === TNodeType.Placeholder) {\n currentTNode = currentTNode.parent;\n }\n return currentTNode;\n}\n\nexport function getCurrentTNodePlaceholderOk(): TNode|null {\n return instructionState.lFrame.currentTNode;\n}\n\nexport function
getCurrentParentTNode(): TNode|null {\n const lFrame = instructionState.lFrame;\n const currentTNode = lFrame.currentTNode;\n return lFrame.isParent ? currentTNode : currentTNode!.parent;\n}\n\nexport function setCurrentTNode(tNode: TNode|null, isParent: boolean) {\n ngDevMode && tNode && assertTNodeForTView(tNode, instructionState.lFrame.tView);\n const lFrame = instructionState.lFrame;\n lFrame.currentTNode = tNode;\n lFrame.isParent = isParent;\n}\n\nexport function isCurrentTNodeParent(): boolean {\n return instructionState.lFrame.isParent;\n}\n\nexport function setCurrentTNodeAsNotParent(): void {\n instructionState.lFrame.isParent = false;\n}\nexport function setCurrentTNodeAsParent(): void {\n

instructionState.lFrame.isParent = true;\n}\n\nexport function getContextLView(): LView {\n  return instructionState.lFrame.contextLView;\n}\n\nexport function isInCheckNoChangesMode(): boolean {\n  // TODO(misko): remove this from the LView since it is ngDevMode=true mode only.\n  return instructionState.isInCheckNoChangesMode;\n}\n\nexport function setIsInCheckNoChangesMode(mode: boolean): void {\n  instructionState.isInCheckNoChangesMode = mode;\n}\n\n// top level variables should not be exported for performance reasons (PERF_NOTES.md)\nexport function getBindingRoot() {\n  const lFrame = instructionState.lFrame;\n  let index = lFrame.bindingRootIndex;\n  if (index === -1) {\n    index = lFrame.bindingRootIndex = lFrame.tView.bindingStartIndex;\n  }\n  return index;\n}\n\nexport function getBindingIndex(): number {\n  return instructionState.lFrame.bindingIndex;\n}\n\nexport function setBindingIndex(value: number): number {\n  return instructionState.lFrame.bindingIndex = value;\n}\n\nexport function nextBindingIndex(): number {\n  return instructionState.lFrame.bindingIndex++;\n}\n\nexport function incrementBindingIndex(count: number): number {\n  const lFrame = instructionState.lFrame;\n  const index = lFrame.bindingIndex;\n  lFrame.bindingIndex = lFrame.bindingIndex + count;\n  return index;\n}\n\nexport function isInI18nBlock() {\n  return instructionState.lFrame.inI18n;\n}\n\nexport function setInI18nBlock(isInI18nBlock: boolean): void {\n  instructionState.lFrame.inI18n = isInI18nBlock;\n}\n\n/**\n * Set a new binding root index so that host template functions can execute.\n *\n * Bindings inside the host template are 0 index. But because we don't know ahead of time\n * how many host bindings we have we can't pre-compute them. For this reason they are all\n * 0 index and we just shift the root so that they match next available location in the LView.\n *\n * @param bindingRootIndex Root index for `hostBindings`\n * @param currentDirectiveIndex `TData[currentDirectiveIndex]` will point to the current directive\n *        whose `hostBindings` are being processed.\n */\nexport function setBindingRootForHostBindings(\n    bindingRootIndex: number, currentDirectiveIndex: number) {\n  const lFrame = instructionState.lFrame;\n  lFrame.bindingIndex = lFrame.bindingRootIndex = bindingRootIndex;\n  setCurrentDirectiveIndex(currentDirectiveIndex);\n}\n\n/**\n * When host binding is executing this points to the directive index.\n * `TView.data[getCurrentDirectiveIndex()]` is `DirectiveDef`\n * `LView[getCurrentDirectiveIndex()]` is directive instance.\n */\nexport function getCurrentDirectiveIndex(): number {\n  return instructionState.lFrame.currentDirectiveIndex;\n}\n\n/**\n * Sets an index of a directive whose `hostBindings` are being processed.\n *\n * @param currentDirectiveIndex `TData` index where current directive instance can be found.\n */\nexport function setCurrentDirectiveIndex(currentDirectiveIndex: number): void {\n  instructionState.lFrame.currentDirectiveIndex = currentDirectiveIndex;\n}\n\n/**\n * Retrieve the current `DirectiveDef` which is active when `hostBindings` instruction is being\n * executed.\n *\n * @param tData Current `TData` where the `DirectiveDef` will be looked up at.\n */\nexport function getCurrentDirectiveDef(tData: TData): DirectiveDef<any>|null {\n  const currentDirectiveIndex = instructionState.lFrame.currentDirectiveIndex;\n  return currentDirectiveIndex === -1 ? null : tData[currentDirectiveIndex] as DirectiveDef<any>;\n}\n\nexport function getCurrentQueryIndex(): number {\n  return instructionState.lFrame.currentQueryIndex;\n}\n\nexport function setCurrentQueryIndex(value: number): void {\n  instructionState.lFrame.currentQueryIndex = value;\n}\n\n/**\n * Returns a `TNode` of the location where the current `LView` is declared at.\n *\n * @param lView an `LView` that we want to find parent `TNode` for.\n */\nfunction getDeclarationTNode(lView: LView): TNode|null {\n  const tView = lView[TVIEW];\n\n  // Return the declaration parent for embedded views\n  if (tView.type === TViewType.Embedded) {\n    ngDevMode && assertDefined(tView.declTNode, 'Embedded TNodes should have declaration parents.');\n    return tView.declTNode;\n  }\n\n  // Components don't have `TView.declTNode` because each instance of component could be\n  // inserted in different location, hence `TView.declTNode` is meaningless.\n  // Falling back to `T_HOST` in case we cross component boundary.\n  if (tView.type === TViewType.Component) {\n    return lView[T_HOST];\n  }\n\n  // Remaining TNode type is `TViewType.Root` which doesn't have a parent TNode.\n  return null;\n}\n\n/**\n * This is a light weight version of the `enterView` which is needed by the DI system.\n *\n * @param lView `LView` location of the DI context.\n * @param tNode

`TNode` for DI context\n * @param flags DI context flags. if `SkipSelf` flag is set than we walk up the declaration\n * tree from `tNode` until we find parent declared `TElementNode`.\n * @returns `true` if we have successfully entered DI associated with `tNode` (or with declared\n * `TNode` if `flags` has `SkipSelf`). Failing to enter DI implies that no associated\n * `NodeInjector` can be found and we should instead use `ModuleInjector`.\n * - If `true` than this call must be fallowed by `leaveDI`\n * - If `false` than this call failed and we should NOT call `leaveDI`\n */\nexport function enterDI(lView: LView, tNode: TNode, flags: InjectFlags) {\n ngDevMode && assertLViewOrUndefined(lView);\n\n if (flags & InjectFlags.SkipSelf) {\n ngDevMode && assertTNodeForTView(tNode, lView[TVIEW]);\n\n let parentTNode = tNode as TNode | null;\n let parentLView = lView;\n\n while (true) {\n ngDevMode && assertDefined(parentTNode, 'Parent TNode should be defined');\n parentTNode = parentTNode!.parent as TNode | null;\n if (parentTNode === null && !(flags & InjectFlags.Host)) {\n parentTNode = getDeclarationTNode(parentLView);\n if (parentTNode === null) break;\n\n // In this case, a parent exists and is definitely an element. So it will definitely\n // have an existing lView as the declaration view, which is why we can assume it's defined.\n ngDevMode && assertDefined(parentLView, 'Parent LView should be defined');\n parentLView = parentLView[DECLARATION_VIEW]!;\n\n // In Ivy there are Comment nodes that correspond to ngIf and NgFor embedded directives\n // We want to skip those and look only at Elements and ElementContainers to ensure\n // we're looking at true parent nodes, and not content or other types.\n if (parentTNode.type & (TNodeType.Element | TNodeType.ElementContainer)) {\n break;\n }\n } else {\n break;\n }\n }\n if (parentTNode === null) {\n // If we failed to find a parent TNode this means that we should use module injector.\n return false;\n } else {\n tNode = parentTNode;\n lView = parentLView;\n }\n }\n\n ngDevMode && assertTNodeForLView(tNode, lView);\n const lFrame = instructionState.lFrame = allocLFrame();\n lFrame.currentTNode = tNode;\n lFrame.lView = lView;\n\n return true;\n}\n\n/**\n * Swap the current lView with a new lView.\n *\n * For performance reasons we store the lView in the top level of the module.\n * This way we minimize the number of properties to read. Whenever a new view\n * is entered we have to store the lView for later, and when the view is\n * exited the state has to be restored\n *\n * @param newView New lView to become active\n * @returns the previously active lView;\n */\nexport function enterView(newView: LView): void {\n ngDevMode && assertNotEqual(newView[0], newView[1] as any, '????');\n ngDevMode && assertLViewOrUndefined(newView);\n const newLFrame = allocLFrame();\n if (ngDevMode) {\n assertEqual(newLFrame.isParent, true, 'Expected clean LFrame');\n assertEqual(newLFrame.lView, null, 'Expected clean LFrame');\n assertEqual(newLFrame.tView, null, 'Expected clean LFrame');\n assertEqual(newLFrame.selectedIndex, -1, 'Expected clean LFrame');\n assertEqual(newLFrame.elementDepthCount, 0, 'Expected clean LFrame');\n assertEqual(newLFrame.currentDirectiveIndex, -1, 'Expected clean LFrame');\n assertEqual(newLFrame.currentNamespace, null, 'Expected clean LFrame');\n assertEqual(newLFrame.bindingRootIndex, -1, 'Expected clean LFrame');\n assertEqual(newLFrame.currentQueryIndex, 0, 'Expected clean LFrame');\n }\n const tView = newView[TVIEW];\n instructionState.lFrame = newLFrame;\n ngDevMode && tView.firstChild && assertTNodeForTView(tView.firstChild, tView);\n newLFrame.currentTNode = tView.firstChild!;\n newLFrame.lView = newView;\n newLFrame.tView = tView;\n newLFrame.contextLView = newView!;\n newLFrame.bindingIndex = tView.bindingStartIndex;\n newLFrame.inI18n = false;\n}\n\n/**\n * Allocates next free LFrame. This function tries to reuse the `LFrame`s to lower memory pressure.\n */\nfunction allocLFrame() {\n const currentLFrame = instructionState.lFrame;\n const childLFrame = currentLFrame === null ? null : currentLFrame.child;\n const newLFrame = childLFrame === null ? createLFrame(currentLFrame) : childLFrame;\n return newLFrame;\n}\n\nfunction createLFrame(parent: LFrame|null): LFrame {\n const lFrame: LFrame = {\n currentTNode: null,\n isParent: true,\n lView: null!,\n tView: null!,\n selectedIndex: -1,\n contextLView: null!,\n elementDepthCount: 0,\n currentNamespace: null,\n currentDirectiveIndex: -1,\n bindingRootIndex: -1,\n bindingIndex: -1,\n currentQueryIndex: 0,\n parent: parent!,\n child: null,\n

inI18n: false,\n };\n parent !== null && (parent.child = lFrame); // link the new LFrame for reuse.\n return lFrame;\n}\n\n/**\n * A lightweight version of leave which is used with DI.\n *\n * This function only resets `currentTNode` and `LView` as those are the only properties\n * used with DI (`enterDI()`).\n *\n * NOTE: This function is reexported as `leaveDI`. However `leaveDI` has return type of `void` where\n * as `leaveViewLight` has `LFrame`. This is so that `leaveViewLight` can be used in `leaveView`.\n */\nfunction leaveViewLight(): LFrame {\n const oldLFrame = instructionState.lFrame;\n instructionState.lFrame = oldLFrame.parent;\n oldLFrame.currentTNode = null!;\n oldLFrame.lView = null!;\n return oldLFrame;\n}\n\n/**\n * This is a lightweight version of the `leaveView` which is needed by the DI system.\n *\n * NOTE: this function is an alias so that we can change the type of the function to have `void`\n * return type.\n */\nexport const leaveDI: () => void = leaveViewLight;\n\n/**\n * Leave the current `LView`\n *\n * This pops the `LFrame` with the associated `LView` from the stack.\n *\n * IMPORTANT: We must zero out the `LFrame` values here otherwise they will be retained. This is\n * because for performance reasons we don't release `LFrame` but rather keep it for next use.\n */\nexport function leaveView() {\n const oldLFrame = leaveViewLight();\n oldLFrame.isParent = true;\n oldLFrame.tView = null!;\n oldLFrame.selectedIndex = -1;\n oldLFrame.contextLView = null!;\n oldLFrame.elementDepthCount = 0;\n oldLFrame.currentDirectiveIndex = -1;\n oldLFrame.currentNamespace = null;\n oldLFrame.bindingRootIndex = -1;\n oldLFrame.bindingIndex = -1;\n oldLFrame.currentQueryIndex = 0;\n}\n\nexport function nextContextImpl<T = any>(level: number): T {\n const contextLView = instructionState.lFrame.contextLView =\n walkUpViews(level, instructionState.lFrame.contextLView!);\n return contextLView[CONTEXT] as T;\n}\n\nfunction walkUpViews(nestingLevel: number, currentView: LView): LView {\n while (nestingLevel > 0) {\n ngDevMode &&\n assertDefined(\n currentView[DECLARATION_VIEW],\n 'Declaration view should be defined if nesting level is greater than 0.');\n currentView = currentView[DECLARATION_VIEW]!;\n nestingLevel--;\n }\n return currentView;\n}\n\n/**\n * Gets the currently selected element index.\n *\n * Used with {@link property} instruction (and more in the future) to identify the index in the\n * current `LView` to act on.\n */\nexport function getSelectedIndex() {\n return instructionState.lFrame.selectedIndex;\n}\n\n/**\n * Sets the most recent index passed to {@link select}\n *\n * Used with {@link property} instruction (and more in the future) to identify the index in the\n * current `LView` to act on.\n *\n * (Note that if an \"exit function\" was set earlier (via `setElementExitFn()`) then that will be\n * run if and when the provided `index` value is different from the current selected index value.)\n */\nexport function setSelectedIndex(index: number) {\n ngDevMode && index !== -1 &&\n assertGreaterThanOrEqual(index, HEADER_OFFSET, 'Index must be past HEADER_OFFSET (or -1).');\n ngDevMode &&\n assertLessThan(\n index, instructionState.lFrame.lView.length, 'Can\\'t set index passed end of LView');\n instructionState.lFrame.selectedIndex = index;\n}\n\n/**\n * Gets the `tNode` that represents currently selected element.\n */\nexport function getSelectedTNode() {\n const lFrame = instructionState.lFrame;\n return getTNode(lFrame.tView, lFrame.selectedIndex);\n}\n\n/**\n * Sets the namespace used to create elements to `'http://www.w3.org/2000/svg'` in global state.\n *\n * @codeGenApi\n */\nexport function namespaceSVG() {\n instructionState.lFrame.currentNamespace = SVG_NAMESPACE;\n}\n\n/**\n * Sets the namespace used to create elements to `'http://www.w3.org/1998/MathML/'` in global state.\n *\n * @codeGenApi\n */\nexport function namespaceMathML() {\n instructionState.lFrame.currentNamespace = MATH_ML_NAMESPACE;\n}\n\n/**\n * Sets the namespace used to create elements to `null`, which forces element creation to use\n * `createElement` rather than `createElementNS`.\n *\n * @codeGenApi\n */\nexport function namespaceHTML() {\n namespaceHTMLInternal();\n}\n\n/**\n * Sets the namespace used to create elements to `null`, which forces element creation to use\n * `createElement` rather than `createElementNS`.\n */\nexport function namespaceHTMLInternal() {\n instructionState.lFrame.currentNamespace = null;\n}\n\nexport function getNamespace(): string|null {\n return instructionState.lFrame.currentNamespace;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the

LICENSE file at https://angular.io/license\n */\n\nimport {AfterContentChecked, AfterContentInit, AfterViewChecked, AfterViewInit, DoCheck, OnChanges, OnDestroy, OnInit} from '../interface/lifecycle_hooks';\nimport {assertDefined, assertEqual, assertNotEqual} from '../util/assert';\nimport {assertFirstCreatePass} from './assert';\nimport {NgOnChangesFeatureImpl} from './features/ng_onchanges_feature';\nimport {DirectiveDef} from './interfaces/definition';\nimport {TNode} from './interfaces/node';\nimport {FLAGS, HookData, InitPhaseState, LView, LViewFlags, PREORDER_HOOK_FLAGS, PreOrderHookFlags, TView} from './interfaces/view';\nimport {isInCheckNoChangesMode}
from './state';\n\n\n\n/**\n * Adds all directive lifecycle hooks from the given `DirectiveDef` to the given `TView`.\n *\n * Must be run *only* on the first template pass.\n *\n * Sets up the pre-order hooks on the provided `tView`,\n * see {@link HookData} for details about the data structure.\n *\n * @param directiveIndex The index of the directive in LView\n * @param directiveDef The definition containing the hooks to setup in tView\n * @param tView The current TView\n */\nexport function registerPreOrderHooks(\n directiveIndex: number, directiveDef: DirectiveDef<any>, tView: TView): void {\n ngDevMode && assertFirstCreatePass(tView);\n const {ngOnChanges, ngOnInit, ngDoCheck} =\n directiveDef.type.prototype as OnChanges & OnInit & DoCheck;\n\n if (ngOnChanges as Function | undefined) {\n const wrappedOnChanges = NgOnChangesFeatureImpl(directiveDef);\n (tView.preOrderHooks || (tView.preOrderHooks = [])).push(directiveIndex, wrappedOnChanges);\n (tView.preOrderCheckHooks || (tView.preOrderCheckHooks = []))\n .push(directiveIndex, wrappedOnChanges);\n }\n\n if (ngOnInit) {\n (tView.preOrderHooks || (tView.preOrderHooks = [])).push(0 - directiveIndex, ngOnInit);\n }\n\n if (ngDoCheck) {\n (tView.preOrderHooks || (tView.preOrderHooks = [])).push(directiveIndex, ngDoCheck);\n (tView.preOrderCheckHooks || (tView.preOrderCheckHooks = [])).push(directiveIndex, ngDoCheck);\n }\n}\n\n/**\n *\n * Loops through the directives on the provided `tNode` and queues hooks to be\n * run that are not initialization hooks.\n *\n * Should be executed during `elementEnd()` and similar to\n * preserve hook execution order. Content, view, and destroy hooks for projected\n * components and directives must be called *before* their hosts.\n *\n * Sets up the content, view, and destroy hooks on the provided `tView`,\n * see {@link HookData} for details about the data structure.\n *\n * NOTE: This does not set up `onChanges`, `onInit`
or `doCheck`, those are set up\n * separately at `elementStart`.\n *\n * @param tView The current TView\n * @param tNode The TNode whose directives are to be searched for hooks to queue\n */\nexport function registerPostOrderHooks(tView: TView, tNode: TNode): void {\n ngDevMode && assertFirstCreatePass(tView);\n // It's necessary to loop through the directives at elementEnd() (rather than processing in\n // directiveCreate) so we can preserve the current hook order. Content, view, and destroy\n // hooks for projected components and directives must be called *before* their hosts.\n for (let i = tNode.directiveStart, end = tNode.directiveEnd; i < end; i++) {\n const directiveDef = tView.data[i] as DirectiveDef<any>;\n ngDevMode && assertDefined(directiveDef, 'Expecting DirectiveDef');\n const lifecycleHooks: AfterContentInit&AfterContentChecked&AfterViewInit&AfterViewChecked&\n OnDestroy = directiveDef.type.prototype;\n const {\n ngAfterContentInit,\n ngAfterContentChecked,\n ngAfterViewInit,\n ngAfterViewChecked,\n ngOnDestroy\n } = lifecycleHooks;\n\n if (ngAfterContentInit) {\n (tView.contentHooks || (tView.contentHooks = [])).push(-i, ngAfterContentInit);\n }\n\n if (ngAfterContentChecked) {\n (tView.contentHooks || (tView.contentHooks = [])).push(i, ngAfterContentChecked);\n (tView.contentCheckHooks || (tView.contentCheckHooks = [])).push(i, ngAfterContentChecked);\n }\n\n if (ngAfterViewInit) {\n (tView.viewHooks || (tView.viewHooks = [])).push(-i, ngAfterViewInit);\n }\n\n if (ngAfterViewChecked) {\n (tView.viewHooks || (tView.viewHooks = [])).push(i, ngAfterViewChecked);\n (tView.viewCheckHooks || (tView.viewCheckHooks = [])).push(i, ngAfterViewChecked);\n }\n\n if (ngOnDestroy != null) {\n (tView.destroyHooks || (tView.destroyHooks = [])).push(i, ngOnDestroy);\n }\n }\n}\n\n/**\n * Executing hooks requires complex logic as we need to deal with

2 constraints.\n *\n * 1. Init hooks (ngOnInit, ngAfterContentInit, ngAfterViewInit) must all be executed once and only\n * once, across many change detection cycles. This must be true even if some hooks throw, or if\n * some recursively trigger a change detection cycle.\n * To solve that, it is required to track the state of the execution of these init hooks.\n * This is done by storing and maintaining flags in the view: the {@link InitPhaseState},\n * and the index within that phase. They can be seen as a cursor in the following structure:\n * [[onInit1, onInit2], [afterContentInit1], [afterViewInit1, afterViewInit2, afterViewInit3]]\n * They are are stored as flags in LView[FLAGS].\n *\n * 2. Pre-order hooks can be executed in batches, because of the select instruction.\n * To be able to pause and resume their execution, we also need some state about the hook's array\n * that is being processed:\n * - the index of the next hook to be executed\n * - the number of init hooks already found in the processed part of the array\n * They are are stored as flags in LView[PREORDER_HOOK_FLAGS].\n */\n\n\n/**\n * Executes pre-order check hooks ( OnChanges, DoChanges) given a view where all the init hooks were\n * executed once. This is a light version of executeInitAndCheckPreOrderHooks where we can skip read\n * / write of the init-hooks related flags.\n * @param lView The LView where hooks are defined\n * @param hooks Hooks to be run\n * @param nodeIndex 3 cases depending on the value:\n * - undefined: all hooks from the array should be executed (post-order case)\n * - null: execute hooks only from the saved index until the end of the array (pre-order case, when\n * flushing the remaining hooks)\n * - number: execute hooks only from the saved index until that node index exclusive (pre-order\n * case, when executing select(number))\n */\nexport function executeCheckHooks(lView: LView, hooks: HookData, nodeIndex?: number|null) {\n callHooks(lView, hooks, InitPhaseState.InitPhaseCompleted, nodeIndex);\n}\n\n/**\n * Executes post-order init and check hooks (one of AfterContentInit, AfterContentChecked,\n * AfterViewInit, AfterViewChecked) given a view where there are pending init hooks to be executed.\n * @param lView The LView where hooks are defined\n * @param hooks Hooks to be run\n * @param initPhase A phase for which hooks should be run\n * @param nodeIndex 3 cases depending on the value:\n * - undefined: all hooks from the array should be executed (post-order case)\n * - null: execute hooks only from the saved index until the end of the array (pre-order case, when\n * flushing the remaining hooks)\n * - number: execute hooks only from the saved index until that node index exclusive (pre-order\n * case, when executing select(number))\n */\nexport function executeInitAndCheckHooks(\n lView: LView, hooks: HookData, initPhase: InitPhaseState, nodeIndex?: number|null) {\n ngDevMode &&\n assertNotEqual(\n initPhase, InitPhaseState.InitPhaseCompleted,\n 'Init pre-order hooks should not be called more than once');\n if ((lView[FLAGS] & LViewFlags.InitPhaseStateMask) === initPhase) {\n callHooks(lView, hooks, initPhase, nodeIndex);\n }\n}\n\nexport function incrementInitPhaseFlags(lView: LView, initPhase: InitPhaseState): void {\n ngDevMode &&\n assertNotEqual(\n initPhase, InitPhaseState.InitPhaseCompleted,\n 'Init hooks phase should not be incremented after all init hooks have been run.');\n let flags = lView[FLAGS];\n if ((flags & LViewFlags.InitPhaseStateMask) === initPhase) {\n flags &= LViewFlags.IndexWithinInitPhaseReset;\n flags += LViewFlags.InitPhaseStateIncrementer;\n lView[FLAGS] = flags;\n }\n}\n\n/**\n * Calls lifecycle hooks with their contexts, skipping init hooks if it's not\n * the first LView pass\n *\n * @param currentView The current view\n * @param arr The array in which the hooks are found\n * @param initPhaseState the current state of the init phase\n * @param currentNodeIndex 3 cases depending on the value:\n * - undefined: all hooks from the array should be executed (post-order case)\n * - null: execute hooks only from the saved index until the end of the array (pre-order case, when\n * flushing the remaining hooks)\n * - number: execute hooks only from the saved index until that node index exclusive (pre-order\n * case, when executing select(number))\n */\nfunction callHooks(\n currentView: LView, arr: HookData, initPhase: InitPhaseState,\n currentNodeIndex: number|null|undefined): void {\n ngDevMode &&\n assertEqual(\n isInCheckNoChangesMode(), false,\n 'Hooks should never be run when in check no changes mode.');\n const startIndex = currentNodeIndex !== undefined ?\n (currentView[PREORDER_HOOK_FLAGS] & PreOrderHookFlags.IndexOfTheNextPreOrderHookMaskMask) :\n 0;\n const nodeIndexLimit = currentNodeIndex != null ? currentNodeIndex : -1;\n let lastNodeIndexFound = 0;\n

for (let i
= startIndex; i < arr.length; i++) {\n const hook = arr[i + 1] as () => void;\n if (typeof hook === 'number') {\n lastNodeIndexFound = arr[i] as number;\n if (currentNodeIndex != null && lastNodeIndexFound >= currentNodeIndex) {\n break;\n }\n } else {\n const isInitHook = arr[i] < 0;\n if (isInitHook)\n currentView[PREORDER_HOOK_FLAGS] += PreOrderHookFlags.NumberOfInitHooksCalledIncrementer;\n if (lastNodeIndexFound < nodeIndexLimit || nodeIndexLimit == -1) {\n callHook(currentView, initPhase, arr, i);\n currentView[PREORDER_HOOK_FLAGS] =\n (currentView[PREORDER_HOOK_FLAGS] & PreOrderHookFlags.NumberOfInitHooksCalledMask) + i +\n 2;\n }\n i++;\n }\n }\n}\n\n/**\n * Execute one hook against the current `LView`.\n *\n * @param currentView The current view\n * @param initPhaseState the current state of the init phase\n * @param arr The array in which the hooks are found\n * @param i The
current index within the hook data array\n */\nfunction callHook(currentView: LView, initPhase: InitPhaseState, arr: HookData, i: number) {\n const isInitHook = arr[i] < 0;\n const hook = arr[i + 1] as () => void;\n const directiveIndex = isInitHook ? -arr[i] : arr[i] as number;\n const directive = currentView[directiveIndex];\n if (isInitHook) {\n const indexWithintInitPhase = currentView[FLAGS] >> LViewFlags.IndexWithinInitPhaseShift;\n // The init phase state must be always checked here as it may have been recursively\n // updated\n if (indexWithintInitPhase <\n (currentView[PREORDER_HOOK_FLAGS] >> PreOrderHookFlags.NumberOfInitHooksCalledShift) &&\n (currentView[FLAGS] & LViewFlags.InitPhaseStateMask) === initPhase) {\n currentView[FLAGS] += LViewFlags.IndexWithinInitPhaseIncrementer;\n hook.call(directive);\n }\n } else {\n hook.call(directive);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use
of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from '../../di/injection_token';\nimport {InjectFlags} from '../../di/interface/injector';\nimport {Type} from '../../interface/type';\nimport {assertDefined, assertEqual} from '../../util/assert';\n\nimport {TDirectiveHostNode} from './node';\nimport {LView, TData} from './view';\n\n/**\n * Offsets of the `NodeInjector` data structure in the expando.\n *\n * `NodeInjector` is stored in both `LView` as well as `TView.data`. All storage requires 9 words.\n * First 8 are reserved for bloom filter and the 9th is reserved for the associated `TNode` as well\n * as parent `NodeInjector` pointer. All indexes are starting with `index` and have an offset as\n * shown.\n *\n * `LView` layout:\n * ```\n * index + 0: cumulative bloom filter\n * index + 1: cumulative bloom filter\n * index + 2: cumulative bloom filter\n * index + 3: cumulative
bloom filter\n * index + 4: cumulative bloom filter\n * index + 5: cumulative bloom filter\n * index + 6: cumulative bloom filter\n * index + 7: cumulative bloom filter\n * index + 8: cumulative bloom filter\n * index + PARENT: Index to the parent injector. See `RelativeInjectorLocation`\n * `const parent = lView[index + NodeInjectorOffset.PARENT]`\n * ```\n *\n * `TViewData` layout:\n * ```\n * index + 0: cumulative bloom filter\n * index + 1: cumulative bloom filter\n * index + 2: cumulative bloom filter\n * index + 3: cumulative bloom filter\n * index + 4: cumulative bloom filter\n * index + 5: cumulative bloom filter\n * index + 6: cumulative bloom filter\n * index + 7: cumulative bloom filter\n * index + 8: cumulative bloom filter\n * index + TNODE: TNode associated with this `NodeInjector`\n * `canst tNode = tView.data[index + NodeInjectorOffset.TNODE]`\n * ```\n */\nexport const enum NodeInjectorOffset {\n TNODE = 8,\n PARENT = 8,\n BLOOM_SIZE
= 8,\n SIZE = 9,\n}\n\n/**\n * Represents a relative location of parent injector.\n *\n * The interfaces encodes number of parents `LView`s to traverse and index in the `LView`\n * pointing to the parent injector.\n */\nexport interface RelativeInjectorLocation {\n __brand__: 'RelativeInjectorLocationFlags';\n}\n\nexport const enum RelativeInjectorLocationFlags {\n InjectorIndexMask = 0b111111111111111,\n ViewOffsetShift = 16,\n NO_PARENT = -1,\n}\n\nexport const NO_PARENT_INJECTOR: RelativeInjectorLocation = -1 as any;\n\n/**\n * Each injector is saved in 9 contiguous slots in `LView` and 9 contiguous slots in\n * `TView.data`. This allows us to store information about the current node's tokens (which\n * can be shared in `TView`) as well as the tokens of its ancestor nodes (which cannot be\n * shared, so they live in `LView`).\n *\n * Each of these slots (aside from the last slot) contains a bloom filter. This bloom filter\n * determines whether a directive is available on

the associated node or not. This prevents us\n * from searching the directives array at this level unless it's probable the directive is in it.\n *\n * See: https://en.wikipedia.org/wiki/Bloom_filter for more about bloom filters.\n *\n * Because all injectors have been flattened into `LView` and `TViewData`, they cannot typed\n * using interfaces as they were previously. The start index of each `LInjector` and `TInjector`\n * will differ based on where it is flattened into the main array, so it's not possible to know\n * the indices ahead of time and save their types here. The interfaces are still included here\n * for documentation purposes.\n *\n * export interface LInjector extends Array<any> {\n *\n *  // Cumulative bloom for directive IDs 0-31  (IDs are % BLOOM_SIZE)\n *  [0]: number;\n *\n *  // Cumulative bloom for directive IDs 32-63\n *  [1]: number;\n *\n *  // Cumulative bloom for directive IDs 64-95\n *  [2]: number;\n *\n *  // Cumulative bloom for directive IDs 96-127\n *  [3]: number;\n *\n *  // Cumulative bloom for directive IDs 128-159\n *  [4]: number;\n *\n *  // Cumulative bloom for directive IDs 160 - 191\n *  [5]: number;\n *\n *  // Cumulative bloom for directive IDs 192 - 223\n *  [6]: number;\n *\n *  // Cumulative bloom for directive IDs 224 - 255\n *  [7]: number;\n *\n *  // We need to store a reference to the injector's parent so DI can keep looking up\n *  // the injector tree until it finds the dependency it's looking for.\n *  [PARENT_INJECTOR]: number;\n * }\n *\n * export interface TInjector extends Array<any> {\n *\n *  // Shared node bloom for directive IDs 0-31  (IDs are % BLOOM_SIZE)\n *  [0]: number;\n *\n *  // Shared node bloom for directive IDs 32-63\n *  [1]: number;\n *\n *  // Shared node bloom for directive IDs 64-95\n *  [2]: number;\n *\n *  // Shared node bloom for directive IDs 96-127\n *  [3]: number;\n *\n *  // Shared node bloom for directive IDs 128-159\n *  [4]: number;\n *\n *  // Shared node bloom for directive IDs 160 - 191\n *  [5]: number;\n *\n *  // Shared node bloom for directive IDs 192 - 223\n *  [6]: number;\n *\n *  // Shared node bloom for directive IDs 224 - 255\n *  [7]: number;\n *\n *  // Necessary to find directive indices for a particular node.\n *  [TNODE]: TElementNode|TElementContainerNode|TContainerNode;\n *  }\n */\n\n/**\n * Factory for creating instances of injectors in the NodeInjector.\n *\n * This factory is complicated by the fact that it can resolve `multi` factories as well.\n *\n * NOTE: Some of the fields are optional which means that this class has two hidden classes.\n * - One without `multi` support (most common)\n * - One with `multi` values, (rare).\n *\n * Since VMs can cache up to 4 inline hidden classes this is OK.\n *\n * - Single factory: Only `resolving` and `factory` is defined.\n * - `providers` factory: `componentProviders` is a number and `index = -1`.\n * - `viewProviders` factory: `componentProviders` is a number and `index` points to `providers`.\n */\nexport class NodeInjectorFactory {\n  /**\n   * The inject implementation to be activated when using the factory.\n   */\n  injectImpl: null|(<T>(token: Type<T>|InjectionToken<T>, flags?: InjectFlags) => T);\n\n  /**\n   * Marker set to true during factory invocation to see if we get into recursive loop.\n   * Recursive loop causes an error to be displayed.\n   */\n  resolving = false;\n\n  /**\n   * Marks that the token can see other Tokens declared in `viewProviders` on the same node.\n   */\n  canSeeViewProviders: boolean;\n\n  /**\n   * An array of factories to use in case of `multi` provider.\n   */\n  multi?: Array<() => any>;\n\n  /**\n   * Number of `multi`-providers which belong to the component.\n   *\n   * This is needed because when multiple components and directives declare the `multi` provider\n   * they have to be concatenated in the correct order.\n   *\n   * Example:\n   *\n   * If we have a component and directive active an a single element as declared here\n   * ```\n   * component:\n   *  provides: [ {provide: String, useValue: 'component', multi: true} ],\n   *  viewProvides: [ {provide: String, useValue: 'componentView', multi: true} ],\n   *\n   * directive:\n   *  provides: [ {provide: String, useValue: 'directive', multi: true} ],\n   * ```\n   *\n   * Then the expected results are:\n   *\n   * ```\n   * providers: ['component', 'directive']\n   * viewProviders: ['component', 'componentView', 'directive']\n   * ```\n   *\n   * The way to think about it is that the `viewProviders` have been inserted after the component\n   * but before the directives, which is why we need to know how many `multi`s have been declared by\n   * the component.\n   */\n  componentProviders?: number;\n\n  /**\n   * Current index of the Factory in the `data`. Needed for `viewProviders` and `providers` merging.\n   * See `providerFactory`.\n   */\n  index?: number;\n\n  /**\n   * Because the same `multi` provider can be declared in `provides` and `viewProvides` it is\n   * possible for `viewProvides` to shadow the `provides`. For this reason we store the\n   * `provideFactory` of the `providers` so that `providers` can be extended with `viewProviders`.\n   *\n   * Example:\n   *\n   * Given:\n   * ```\n   * provides:

[ {provide: String, useValue: 'all', multi: true} ],\n * viewProvides: [ {provide: String, useValue: 'viewOnly', multi: true} ],\n * ```\n *\n * We have to return `['all']` in case of content injection, but `['all', 'viewOnly']` in case\n * of view injection. We further have to make sure that the shared instances (in our case\n * `all`) are the exact same instance in both the content as well as the view injection. (We\n * have to make sure that we don't double instantiate.) For this reason the `viewProvides`\n * `Factory` has a pointer to the shadowed `provides` factory so that it can instantiate the\n * `providers` (`['all']`)
and then extend it with `viewProviders` (`['all'] + ['viewOnly'] =\n * ['all', 'viewOnly']`).\n */\n providerFactory?: NodeInjectorFactory|null;\n\n\n constructor(\n /**\n * Factory to invoke in order to create a new instance.\n */\n public factory:\n (this: NodeInjectorFactory, _: undefined,\n /**\n * array where injectables tokens are stored. This is used in\n * case of an error reporting to produce friendlier errors.\n */\n tData: TData,\n /**\n * array where existing instances of injectables are stored. This is used in case\n * of multi shadow is needed. See `multi` field documentation.\n */\n lView: LView,\n /**\n * The TNode of the same element injector.\n */\n tNode: TDirectiveHostNode) => any,\n /**\n * Set to `true` if the token is declared in `viewProviders` (or if it is component).\n */\n isViewProvider: boolean,\n injectImplementation: null|\n (<T>(token: Type<T>|InjectionToken<T>, flags?: InjectFlags) => T)) {\n ngDevMode && assertDefined(factory, 'Factory not specified');\n ngDevMode && assertEqual(typeof factory, 'function', 'Expected factory function.');\n this.canSeeViewProviders = isViewProvider;\n this.injectImpl = injectImplementation;\n }\n}\n\nexport function isFactory(obj: any): obj is NodeInjectorFactory {\n return obj instanceof NodeInjectorFactory;\n}\n\n// Note: This hack is necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd = 1;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {KeyValueArray} from '../../util/array_utils';\nimport {TStylingRange} from '../interfaces/styling';\nimport
{TIcu} from './i18n';\nimport {CssSelector} from './projection';\nimport {RNode} from './renderer_dom';\nimport {LView, TView} from './view';\n\n\n/**\n * TNodeType corresponds to the {@link TNode} `type` property.\n *\n * NOTE: type IDs are such that we use each bit to denote a type. This is done so that we can easily\n * check if the `TNode` is of more than one type.\n *\n * `if (tNode.type === TNodeType.Text || tNode.type === TNode.Element)`\n * can be written as:\n * `if (tNode.type & (TNodeType.Text | TNodeType.Element))`\n *\n * However any given `TNode` can only be of one type.\n */\nexport const enum TNodeType {\n /**\n * The TNode contains information about a DOM element aka {@link RText}.\n */\n Text = 0b1,\n\n /**\n * The TNode contains information about a DOM element aka {@link RElement}.\n */\n Element = 0b10,\n\n /**\n * The TNode contains information about an {@link LContainer} for embedded views.\n */\n Container = 0b100,\n\n /**\n
* The TNode contains information about an `<ng-container>` element {@link RNode}.\n */\n ElementContainer = 0b1000,\n\n /**\n * The TNode contains information about an `<ng-content>` projection\n */\n Projection = 0b10000,\n\n /**\n * The TNode contains information about an ICU comment used in `i18n`.\n */\n Icu = 0b100000,\n\n /**\n * Special node type representing a placeholder for future `TNode` at this location.\n *\n * I18n translation blocks are created before the element nodes which they contain. (I18n blocks\n * can span over many elements.) Because i18n `TNode`s (representing text) are created first they\n * often may need to point to element `TNode`s which are not yet created. In such a case we create\n * a `Placeholder` `TNode`. This allows the i18n to structurally link the `TNode`s together\n * without knowing any information about the future nodes which will be at that location.\n *\n * On `firstCreatePass` When element instruction executes
it will try to create a `TNode` at that\n * location. Seeing a `Placeholder` `TNode` already there tells the system that it should reuse\n * existing `TNode` (rather than create a new one) and just update the missing information.\n */\n Placeholder = 0b1000000,\n\n // Combined Types These should never be used for `TNode.type` only as a useful way to check\n // if `TNode.type` is one of several choices.\n\n // See: https://github.com/microsoft/TypeScript/issues/35875 why we can't refer to existing enum.\n AnyRNode = 0b11,

```
// Text | Element,\n  AnyContainer = 0b1100,  // Container | ElementContainer, // See:\n}\n\n/**\n * Converts `TNodeType` into human readable text.\n * Make sure this matches with `TNodeType`\n */\nexport function toTNodeTypeAsString(tNodeType: TNodeType): string {\n  let text = '';\n  (tNodeType & TNodeType.Text) && (text += '|Text');\n  (tNodeType & TNodeType.Element) && (text += '|Element');\n  (tNodeType & TNodeType.Container) && (text += '|Container');\n
  (tNodeType & TNodeType.ElementContainer) && (text += '|ElementContainer');\n  (tNodeType & TNodeType.Projection) && (text += '|Projection');\n  (tNodeType & TNodeType.Icu) && (text += '|IcuContainer');\n  (tNodeType & TNodeType.Placeholder) && (text += '|Placeholder');\n  return text.length > 0 ? text.substring(1) : text;\n}\n\n/**\n * Corresponds to the TNode.flags property.\n */\nexport const enum TNodeFlags {\n  /** Bit #1 - This bit is set if the node is a host for any directive (including a component) */\n  isDirectiveHost = 0x1,\n\n  /**\n   * Bit #2 - This bit is set if the node is a host for a component.\n   *\n   * Setting this bit implies that the `isDirectiveHost` bit is set as well.\n   * */\n  isComponentHost = 0x2,\n\n  /** Bit #3 - This bit is set if the node has been projected */\n  isProjected = 0x4,\n\n  /** Bit #4 - This bit is set if any directive on this node has content queries */\n  hasContentQuery = 0x8,\n\n  /** Bit #5 - This bit is set if the node
  has any \"class\" inputs */\n  hasClassInput = 0x10,\n\n  /** Bit #6 - This bit is set if the node has any \"style\" inputs */\n  hasStyleInput = 0x20,\n\n  /** Bit #7 This bit is set if the node has been detached by i18n */\n
  isDetached = 0x40,\n\n  /**\n   * Bit #8 - This bit is set if the node has directives with host bindings.\n   *\n   * This flags allows us to guard host-binding logic and invoke it only on nodes\n   * that actually have directives with host bindings.\n   */\n  hasHostBindings = 0x80,\n}\n\n/**\n * Corresponds to the TNode.providerIndexes property.\n */\nexport const enum TNodeProviderIndexes {\n  /** The index of the first provider on this node is encoded on the least significant bits. */\n  ProvidersStartIndexMask = 0b00000000000011111111111111111111,\n\n  /**\n   * The count of view providers from the component on this node is\n   * encoded on the 20 most significant bits.\n   */\n  CptViewProvidersCountShift = 20,\n  CptViewProvidersCountShifter =
  0b00000000000100000000000000000000,\n}\n\n/**\n
 * A set of marker values to be used in the attributes arrays. These markers indicate that some\n * items are not regular attributes and the processing should be adapted accordingly.\n */\nexport const enum AttributeMarker {\n  /**\n   * An implicit marker which indicates that the value in the array are of `attributeKey`,\n   * `attributeValue` format.\n   *\n   * NOTE: This is implicit as it is the type when no marker is present in array. We indicate that\n   * it should not be present at runtime by the negative number.\n   */\n  ImplicitAttributes = -1,\n\n  /**\n   * Marker indicates that the following 3 values in the attributes array are:\n   * namespaceUri, attributeName, attributeValue\n   * in that order.\n   */\n  NamespaceURI = 0,\n\n  /**\n   * Signals class declaration.\n   *\n   * Each value following `Classes` designates a class name to include on the element.\n   * ## Example:\n   *\n   * Given:\n   * ```\n   * <div class=\"foo bar baz\">...<d/vi>\n
   * ```\n   *\n   * the generated code is:\n   * ```\n   * var _c1 = [AttributeMarker.Classes, 'foo', 'bar', 'baz'];\n   * ```\n   */\n  Classes = 1,\n\n  /**\n   * Signals style declaration.\n   *\n   * Each pair of values following `Styles` designates a style name and value to include on the\n   * element.\n   * ## Example:\n   *\n   * Given:\n   * ```\n   * <div style=\"width:100px; height:200px; color:red\">...</div>\n   * ```\n   *\n   * the generated code is:\n   * ```\n   * var _c1 = [AttributeMarker.Styles, 'width', '100px', 'height'. '200px', 'color', 'red'];\n   * ```\n   */\n  Styles = 2,\n\n  /**\n   * Signals that the following attribute names were extracted from input or output bindings.\n   *\n   * For example, given the following HTML:\n   *\n   * ```\n   * <div moo=\"car\" [foo]=\"exp\" (bar)=\"doSth()\">\n   * ```\n   *\n   * the generated code is:\n   *\n   * ```\n   * var _c1 = ['moo', 'car', AttributeMarker.Bindings, 'foo', 'bar'];\n   * ```\n   */\n
  Bindings = 3,\n\n  /**\n   * Signals that the following attribute names were hoisted from an inline-template declaration.\n   *\n   * For example, given the following HTML:\n   *\n   * ```\n   * <div *ngFor=\"let value of values; trackBy:trackBy\" dirA [dirB]=\"value\">\n   * ```\n   *\n   * the generated code for the `template()` instruction would include:\n   *\n   * ```\n   * ['dirA', '', AttributeMarker.Bindings, 'dirB', AttributeMarker.Template, 'ngFor', 'ngForOf',\n   * 'ngForTrackBy', 'let-value']\n   * ```\n   *\n   * while the generated code for the `element()` instruction inside the template function would\n   * include:\n   *\n   * ```\n   * ['dirA', '', AttributeMarker.Bindings,
```

'dirB']\n * ```\n */\n Template = 4,\n\n /**\n * Signals that the following attribute is `ngProjectAs` and its value is a parsed\n * `CssSelector`.\n *\n * For example, given the following HTML:\n *\n * ```\n * <h1 attr=\"value\" ngProjectAs=\"[title]\">\n * ```\n *\n *
the generated code for the `element()` instruction would include:\n *\n * ```\n * ['attr', 'value', AttributeMarker.ProjectAs, ['', 'title', '']]\n * ```\n */\n ProjectAs = 5,\n\n /**\n * Signals that the following attribute will be translated by runtime i18n\n *\n * For example, given the following HTML:\n *\n * ```\n * <div moo=\"car\" foo=\"value\" i18n-foo [bar]=\"binding\" i18n-bar>\n * ```\n *\n * the generated code is:\n *\n * ```\n * var _c1 = ['moo', 'car', AttributeMarker.I18n, 'foo', 'bar'];\n */\n I18n = 6,\n}\n\n/**\n * A combination of:\n * - Attribute names and values.\n * - Special markers acting as flags to alter attributes processing.\n * - Parsed ngProjectAs selectors.\n */\nexport type TAttributes = (string|AttributeMarker|CssSelector)[];\n\n/**\n * Constants that are associated with a view. Includes:\n * - Attribute arrays.\n * - Local definition arrays.\n * - Translated messages (i18n).\n */\nexport type TConstants = (TAttributes|string)[];\n\n/**\n
* Factory function that returns an array of consts. Consts can be represented as a function in\n * case any additional statements are required to define consts in the list. An example is i18n\n * where additional i18n calls are generated, which should be executed when consts are requested\n * for the first time.\n */\nexport type TConstantsFactory = () => TConstants;\n\n/**\n * TConstants type that describes how the `consts` field is generated on ComponentDef: it can be\n * either an array or a factory function that returns that array.\n */\nexport type TConstantsOrFactory = TConstants|TConstantsFactory;\n\n/**\n * Binding data (flyweight) for a particular node that is shared between all templates\n * of a specific type.\n *\n * If a property is:\n * - PropertyAliases: that property's data was generated and this is it\n * - Null: that property's data was already generated and nothing was found.\n * - Undefined: that property's data has not yet been generated\n
*\n * see: https://en.wikipedia.org/wiki/Flyweight_pattern for more on the Flyweight pattern\n */\nexport interface TNode {\n /** The type of the TNode. See TNodeType. */\n type: TNodeType;\n\n /**\n * Index of the TNode in TView.data and corresponding native element in LView.\n *\n * This is necessary to get from any TNode to its corresponding native element when\n * traversing the node tree.\n *\n * If index is -1, this is a dynamically created container node or embedded view node.\n */\n index: number;\n\n /**\n * Insert before existing DOM node index.\n *\n * When DOM nodes are being inserted, normally they are being appended as they are created.\n * Under i18n case, the translated text nodes are created ahead of time as part of the\n * `i18nStart` instruction which means that this `TNode` can't just be appended and instead\n * needs to be inserted using `insertBeforeIndex` semantics.\n *\n * Additionally sometimes it is necessary to insert
new text nodes as a child of this `TNode`. In\n * such a case the value stores an array of text nodes to insert.\n *\n * Example:\n * ```\n * <div i18n>\n * Hello <span>World</span>!\n * </div>\n * ```\n * In the above example the `i18nStart` instruction can create `Hello `, `World` and `!` text\n * nodes. It can also insert `Hello ` and `!` text node as a child of `<div>`, but it can't\n * insert `World` because the `<span>` node has not yet been created. In such a case the\n * `<span>` `TNode` will have an array which will direct the `<span>` to not only insert\n * itself in front of `!` but also to insert the `World` (created by `i18nStart`) into\n * `<span>` itself.\n *\n * Pseudo code:\n * ```\n * if (insertBeforeIndex === null) {\n * // append as normal\n * } else if (Array.isArray(insertBeforeIndex)) {\n * // First insert current `TNode` at correct location\n * const currentNode = lView[this.index];\n *
parentNode.insertBefore(currentNode, lView[this.insertBeforeIndex[0]]);\n * // Now append all of the children\n * for(let i=1; i<this.insertBeforeIndex; i++) {\n * currentNode.appendChild(lView[this.insertBeforeIndex[i]]);\n * }\n * } else {\n * parentNode.insertBefore(lView[this.index], lView[this.insertBeforeIndex])\n * }\n * ```\n * - null: Append as normal using `parentNode.appendChild`\n * - `number`: Append using\n * `parentNode.insertBefore(lView[this.index], lView[this.insertBeforeIndex])`\n *\n * *Initialization*\n *\n * Because `i18nStart` executes before nodes are created, on `TView.firstCreatePass` it is not\n * possible for `i18nStart` to set the `insertBeforeIndex` value as the corresponding `TNode`\n * has not yet been created. For this

reason the `i18nStart` creates a `TNodeType.Placeholder`\n * `TNode` at that location. See `TNodeType.Placeholder` for more information.\n */\n insertBeforeIndex: InsertBeforeIndex;\n\n /**\n * The index of the closest injector in this node's LView.\n *\n * If the index === -1, there is no injector on this node or any ancestor node in this view.\n *\n * If the index !== -1, it is the index of this node's injector OR the index of a parent\n * injector in the same view. We pass the parent injector index down the node tree of a view so\n * it's possible to find the parent injector without walking a potentially deep node tree.\n * Injector indices are not set across view boundaries because there could be multiple component\n * hosts.\n *\n * If tNode.injectorIndex === tNode.parent.injectorIndex, then the index belongs to a parent\n * injector.\n */\n injectorIndex: number;\n\n /**\n * Stores starting index of the directives.\n *\n * NOTE: The first directive is always component (if present).\n */\n directiveStart: number;\n\n /**\n * Stores final exclusive index of the directives.\n *\n * The area right behind the `directiveStart-directiveEnd` range is used to allocate the\n * `HostBindingFunction` `vars` (or null if no bindings.) Therefore `directiveEnd` is used to set\n * `LFrame.bindingRootIndex` before `HostBindingFunction` is executed.\n */\n directiveEnd: number;\n\n /**\n * Stores the last directive which had a styling instruction.\n *\n * Initial value of this is `-1` which means that no `hostBindings` styling instruction has\n * executed. As `hostBindings` instructions execute they set the value to the index of the\n * `DirectiveDef` which contained the last `hostBindings` styling instruction.\n *\n * Valid values are:\n * - `-1` No `hostBindings` instruction has executed.\n * - `directiveStart <= directiveStylingLast < directiveEnd`: Points to the `DirectiveDef` of\n * the last styling instruction which executed in the `hostBindings`.\n *\n * This data is needed so that styling instructions know which static styling data needs to be\n * collected from the `DirectiveDef.hostAttrs`. A styling instruction needs to collect all data\n * since last styling instruction.\n */\n directiveStylingLast: number;\n\n /**\n * Stores indexes of property bindings. This field is only set in the ngDevMode and holds\n * indexes of property bindings so TestBed can get bound property metadata for a given node.\n */\n propertyBindings: number[]|null;\n\n /**\n * Stores if Node isComponent, isProjected, hasContentQuery, hasClassInput and hasStyleInput\n * etc.\n */\n flags: TNodeFlags;\n\n /**\n * This number stores two values using its bits:\n *\n * - the index of the first provider on that node (first 16 bits)\n * - the count of view providers from the component on this node (last 16 bits)\n */\n // TODO(misko): break this into actual vars.\n providerIndexes: TNodeProviderIndexes;\n\n /**\n * The value name associated with this node.\n * if type:\n * `TNodeType.Text`: text value\n * `TNodeType.Element`: tag name\n * `TNodeType.ICUContainer`: `TIcu`\n */\n value: any;\n\n /**\n * Attributes associated with an element. We need to store attributes to support various\n * use-cases (attribute injection, content projection with selectors, directives matching).\n * Attributes are stored statically because reading them from the DOM would be way too slow for\n * content projection and queries.\n *\n * Since attrs will always be calculated first, they will never need to be marked undefined by\n * other instructions.\n *\n * For regular attributes a name of an attribute and its value alternate in the array.\n * e.g. ['role', 'checkbox']\n * This array can contain flags that will indicate \"special attributes\" (attributes with\n * namespaces, attributes extracted from bindings and outputs).\n */\n attrs: TAttributes|null;\n\n /**\n * Same as `TNode.attrs` but contains merged data across all directive host bindings.\n *\n * We need to keep `attrs` as unmerged so that it can be used for attribute selectors.\n * We merge attrs here so that it can be used in a performant way for initial rendering.\n *\n * The `attrs` are merged in first pass in following order:\n * - Component's `hostAttrs`\n * - Directives' `hostAttrs`\n * - Template `TNode.attrs` associated with the current `TNode`.\n */\n mergedAttrs: TAttributes|null;\n\n /**\n * A set of local names under which a given element is exported in a template and\n * visible to queries. An entry in this array can be created for different reasons:\n * - an element itself is referenced, ex.: `<div #foo>`\n * - a component is referenced, ex.: `<my-cmpt #foo>`\n * - a directive is referenced, ex.: `<my-cmpt #foo=\"directiveExportAs\">`.\n *\n * A given element might have different local names and those names can be associated\n * with a directive. We store local names at even indexes while odd indexes are reserved\n * for directive index in a view (or

`-1` if there is no associated directive).\n *\n * Some examples:\n * - `<div #foo>` => `[\"foo\", -1]`\n * - `<my-cmpt #foo>` => `[\"foo\", myCmptIdx]`\n * - `<my-cmpt #foo #bar=\"directiveExportAs\">` => `[\"foo\", myCmptIdx, \"bar\", directiveIdx]`\n * - `<div #foo #bar=\"directiveExportAs\">` => `[\"foo\", -1, \"bar\", directiveIdx]`\n */\n localNames: (string|number)[]|null;\n\n /** Information about input properties that need to be set once from attribute data. */\n initialInputs: InitialInputData|null|undefined;\n\n /**\n * Input data for all directives on this node. `null` means that there are no directives with\n * inputs on this node.\n */\n inputs: PropertyAliases|null;\n\n /**\n * Output data for all directives on this node. `null` means that there are no directives with\n * outputs on this node.\n */\n outputs: PropertyAliases|null;\n\n /**\n * The TView or TViews attached to this node.\n *\n * If this TNode corresponds to an LContainer with inline views, the container will\n * need to store separate static data for each of its view blocks (TView[]). Otherwise,\n * nodes in inline views with the same index as nodes in their parent views will overwrite\n * each other, as they are in the same template.\n *\n * Each index in this array corresponds to the static data for a certain\n * view. So if you had V(0) and V(1) in a container, you might have:\n *\n * [\n * [{tagName: 'div', attrs: ...}, null], // V(0) TView\n * [{tagName: 'button', attrs ...}, null] // V(1) TView\n *\n * If this TNode corresponds to an LContainer with a template (e.g. structural\n * directive), the template's TView will be stored here.\n *\n * If this TNode corresponds to an element, tViews will be null .\n */\n tViews: TView|TView[]|null;\n\n /**\n * The next sibling node. Necessary so we can propagate through the root nodes of a view\n * to insert them or remove them from the DOM.\n */\n next: TNode|null;\n\n /**\n * The next projected sibling. Since in Angular content projection works on the node-by-node\n * basis the act of projecting nodes might change nodes relationship at the insertion point\n * (target view). At the same time we need to keep initial relationship between nodes as\n * expressed in content view.\n */\n projectionNext: TNode|null;\n\n /**\n * First child of the current node.\n *\n * For component nodes, the child will always be a ContentChild (in same view).\n * For embedded view nodes, the child will be in their child view.\n */\n child: TNode|null;\n\n /**\n * Parent node (in the same view only).\n *\n * We need a reference to a node's parent so we can append the node to its parent's native\n * element at the appropriate time.\n *\n * If the parent would be in a different view (e.g. component host), this property will be null.\n * It's important that we don't try to cross component boundaries when retrieving the parent\n * because the parent will change (e.g. index, attrs) depending on where the component was\n * used (and thus shouldn't be stored on TNode). In these cases, we retrieve the parent through\n * LView.node instead (which will be instance-specific).\n *\n * If this is an inline view node (V), the parent will be its container.\n */\n parent: TElementNode|TContainerNode|null;\n\n /**\n * List of projected TNodes for a given component host element OR index into the said nodes.\n *\n * For easier discussion assume this example:\n * `<parent>`'s view definition:\n * ```\n * <child id=\"c1\">content1</child>\n * <child id=\"c2\"><span>content2</span></child>\n * ```\n * `<child>`'s view definition:\n * ```\n * <ng-content id=\"cont1\"></ng-content>\n * ```\n *\n * If `Array.isArray(projection)` then `TNode` is a host element:\n * - `projection` stores the content nodes which are to be projected.\n * - The nodes represent categories defined by the selector: For example:\n * `<ng-content/><ng-content select=\"abc\"/>` would represent the heads for `<ng-content/>`\n * and `<ng-content select=\"abc\"/>` respectively.\n * - The nodes we store in `projection` are heads only, we used `.next` to get their\n * siblings.\n * - The nodes `.next` is sorted/rewritten as part of the projection setup.\n * - `projection` size is equal to the number of projections `<ng-content>`. The size of\n * `c1` will be `1` because `<child>` has only one `<ng-content>`.\n * - we store `projection` with the host (`c1`, `c2`) rather than the `<ng-content>` (`cont1`)\n * because the same component (`<child>`) can be used in multiple locations (`c1`, `c2`) and\n * as a result have different set of nodes to project.\n * - without `projection` it would be difficult to efficiently traverse nodes to be projected.\n *\n * If `typeof projection == 'number'` then `TNode` is a `<ng-content>` element:\n * - `projection` is an index of the host's `projection`Nodes.\n * - This would return the first head node to project:\n * `getHost(currentTNode).projection[currentTNode.projection]`.\n * - When projecting nodes the parent node retrieved may be a `<ng-content>` node, in which case\n * the process is recursive in nature.\n *\n

* If `projection` is of type `RNode[][]` than we have a collection of native nodes passed as\n * projectable nodes during dynamic component creation.\n */\n projection: (TNode|RNode[])[]|number|null;\n\n /**\n * A collection of all `style` static values for an element (including from host).\n *\n * This field will be populated if and when:\n *\n * - There are one or more initial `style`s on an element (e.g. `<div style=\"width:200px;\">`)\n * - There are one or more initial `style`s on a directive/component host\n * (e.g. `@Directive({host: {style: \"width:200px;\" } }`)\n */\n styles: string|null;\n\n\n /**\n * A collection
of all `style` static values for an element excluding host sources.\n *\n * Populated when there are one or more initial `style`s on an element\n * (e.g. `<div style=\"width:200px;\">`)\n * Must be stored separately from `tNode.styles` to facilitate setting directive\n * inputs that shadow the `style` property. If we used `tNode.styles` as is for shadowed inputs,\n * we would feed host styles back into directives as \"inputs\". If we used `tNode.attrs`, we\n * would have to concatenate the attributes on every template pass. Instead, we process once on\n * first create pass and store here.\n */\n stylesWithoutHost: string|null;\n\n /**\n * A `KeyValueArray` version of residual `styles`.\n *\n * When there are styling instructions than each instruction stores the static styling\n * which is of lower priority than itself. This means that there may be a higher priority\n * styling than the instruction.\n *\n * Imagine:\n * ```\n * <div style=\"color:
highest;\" my-dir>\n *\n * @Directive({\n * host: {\n * style: 'color: lowest; ',\n * '[styles.color]': 'exp' // styleProp('color', ctx.exp);\n * }\n * })\n * ```\n *\n * In the above case:\n * - `color: lowest` is stored with `styleProp('color', ctx.exp);` instruction\n * - `color: highest` is the residual and is stored here.\n *\n * - `undefined': not initialized.\n * - `null`: initialized but `styles` is `null`\n * - `KeyValueArray`: parsed version of `styles`.\n */\n residualStyles: KeyValueArray<any>|undefined|null;\n\n /**\n * A collection of all class static values for an element (including from host).\n *\n * This field will be populated if and when:\n *\n * - There are one or more initial classes on an element (e.g. `<div class=\"one two three\">`)\n * - There are one or more initial classes on an directive/component host\n * (e.g. `@Directive({host: {class: \"SOME_CLASS\" } }`)\n */\n classes: string|null;\n\n
/**\n * A collection of all class static values for an element excluding host sources.\n *\n * Populated when there are one or more initial classes on an element\n * (e.g. `<div class=\"SOME_CLASS\">`)\n * Must be stored separately from `tNode.classes` to facilitate setting directive\n * inputs that shadow the `class` property. If we used `tNode.classes` as is for shadowed\n * inputs, we would feed host classes back into directives as \"inputs\". If we used\n * `tNode.attrs`, we would have to concatenate the attributes on every template pass. Instead,\n * we process once on first create pass and store here.\n */\n classesWithoutHost: string|null;\n\n /**\n * A `KeyValueArray` version of residual `classes`.\n *\n * Same as `TNode.residualStyles` but for classes.\n *\n * - `undefined': not initialized.\n * - `null`: initialized but `classes` is `null`\n * - `KeyValueArray`: parsed version of `classes`.\n */\n residualClasses: KeyValueArray<any>|undefined|null;\n\n
/**\n * Stores the head/tail index of the class bindings.\n *\n * - If no bindings, the head and tail will both be 0.\n * - If there are template bindings, stores the head/tail of the class bindings in the template.\n * - If no template bindings but there are host bindings, the head value will point to the last\n * host binding for \"class\" (not the head of the linked list), tail will be 0.\n *\n * See: `style_binding_list.ts` for details.\n *\n * This is used by `insertTStylingBinding` to know where the next styling binding should be\n * inserted so that they can be sorted in priority order.\n */\n classBindings: TStylingRange;\n\n /**\n * Stores the head/tail index of the class bindings.\n *\n * - If no bindings, the head and tail will both be 0.\n * - If there are template bindings, stores the head/tail of the style bindings in the template.\n * - If no template bindings but there are host bindings, the head value
will point to the last\n * host binding for \"style\" (not the head of the linked list), tail will be 0.\n *\n * See: `style_binding_list.ts` for details.\n *\n * This is used by `insertTStylingBinding` to know where the next styling binding should be\n * inserted so that they can be sorted in priority order.\n */\n styleBindings: TStylingRange;\n}\n\n/**\n * See `TNode.insertBeforeIndex`\n */\nexport type InsertBeforeIndex = null|number|number[];\n\n/** Static data for an element */\nexport interface TElementNode extends TNode {\n /** Index in the data[] array */\n index: number;\n child:

TElementNode|TTextNode|TElementContainerNode|TContainerNode|TProjectionNode|null;\n /**\n * Element nodes will have parents unless they are the first node of a component or\n * embedded view (which means their parent is in a different view and must be\n * retrieved using viewData[HOST_NODE]).\n */\n parent: TElementNode|TElementContainerNode|null;\n tViews: null;\n\n /**\n * If this is a component TNode with projection, this will be an array of projected\n * TNodes or native nodes (see TNode.projection for more info). If it's a regular element node\n * or a component without projection, it will be null.\n */\n projection: (TNode|RNode[])[]|null;\n\n /**\n * Stores TagName\n */\n value: string;\n}\n\n/** Static data for a text node */\nexport interface TTextNode extends TNode {\n /** Index in the data[] array */\n index: number;\n child: null;\n /**\n * Text nodes will have parents unless they are the first node of a component or\n * embedded view (which means their parent is in a different view and must be\n * retrieved using LView.node).\n */\n parent: TElementNode|TElementContainerNode|null;\n tViews: null;\n projection: null;\n}\n\n/** Static data for an LContainer */\nexport interface TContainerNode extends TNode {\n /**\n * Index in the data[] array.\n *\n * If it's -1, this is a dynamically created container node that isn't stored in\n * data[] (e.g. when you inject ViewContainerRef) .\n */\n index: number;\n child: null;\n\n /**\n * Container nodes will have parents unless:\n *\n * - They are the first node of a component or embedded view\n * - They are dynamically created\n */\n parent: TElementNode|TElementContainerNode|null;\n tViews: TView|TView[]|null;\n projection: null;\n value: null;\n}\n\n/** Static data for an <ng-container> */\nexport interface TElementContainerNode extends TNode {\n /** Index in the LView[] array. */\n index: number;\n child: TElementNode|TTextNode|TContainerNode|TElementContainerNode|TProjectionNode|null;\n parent: TElementNode|TElementContainerNode|null;\n tViews: null;\n projection: null;\n}\n\n/** Static data for an ICU expression */\nexport interface TIcuContainerNode extends TNode {\n /** Index in the LView[] array. */\n index: number;\n child: null;\n parent: TElementNode|TElementContainerNode|null;\n tViews: null;\n projection: null;\n value: TIcu;\n}\n\n/** Static data for an LProjectionNode */\nexport interface TProjectionNode extends TNode {\n /** Index in the data[] array */\n child: null;\n /**\n * Projection nodes will have parents unless they are the first node of a component\n * or embedded view (which means their parent is in a different view and must be\n * retrieved using LView.node).\n */\n parent: TElementNode|TElementContainerNode|null;\n tViews: null;\n\n /** Index of the projection node. (See TNode.projection for more info.) */\n projection: number;\n value: null;\n}\n\n/**\n * A union type representing all TNode types that can host a directive.\n */\nexport type TDirectiveHostNode = TElementNode|TContainerNode|TElementContainerNode;\n\n/**\n * This mapping is necessary so we can set input properties and output listeners\n * properly at runtime when property names are minified or aliased.\n *\n * Key: unminified / public input or output name\n * Value: array containing minified / internal name and related directive index\n *\n * The value must be an array to support inputs and outputs with the same name\n * on the same node.\n */\nexport type PropertyAliases = {\n // This uses an object map because using the Map type would be too slow\n [key: string]: PropertyAliasValue\n};\n\n/**\n * Store the runtime input or output names for all the directives.\n *\n * i+0: directive instance index\n * i+1: privateName\n *\n * e.g. [0, 'change-minified']\n */\nexport type PropertyAliasValue = (number|string)[];\n\n/**\n * This array contains information about input properties that\n * need to be set once from attribute data. It's ordered by\n * directive index (relative to element) so it's simple to\n * look up a specific directive's initial input data.\n *\n * Within each sub-array:\n *\n * i+0: attribute name\n * i+1: minified/internal input name\n * i+2: initial value\n *\n * If a directive on a node does not have any input properties\n * that should be set from attributes, its index is set to null\n * to avoid a sparse array.\n *\n * e.g. [null, ['role-min', 'minified-input', 'button']]\n */\nexport type InitialInputData = (InitialInputs|null)[];\n\n/**\n * Used by InitialInputData to store input properties\n * that should be set once from attributes.\n *\n * i+0: attribute name\n * i+1: minified/internal input name\n * i+2: initial value\n *\n * e.g. ['role-min', 'minified-input', 'button']\n */\nexport type InitialInputs = string[];\n\n// Note: This hack is necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd = 1;\n\n/**\n * Type representing a set of

TNodes that can have local refs (`#foo`) placed on them.\n */\nexport type TNodeWithLocalRefs = TContainerNode|TElementNode|TElementContainerNode;\n\n/**\n * Type for a function that extracts a value for a local refs.\n * Example:\n * - `<div #nativeDivEl>` - `nativeDivEl` should point to the native `<div>` element;\n * - `<ng-template #tplRef>` - `tplRef` should point to the `TemplateRef` instance;\n */\nexport type LocalRefExtractor = (tNode: TNodeWithLocalRefs, currentView: LView) => any;\n\n/**\n * Returns `true` if the `TNode` has a directive which has `@Input()` for `class` binding.\n *\n * ```\n * <div my-dir [class]=\"exp\"></div>\n * ```\n * and\n * ```\n * @Directive({\n * })\n * class MyDirective {\n *   @Input()\n * class: string;\n * }\n * ```\n *\n * In the above case it is necessary to write the reconciled styling information into the\n * directive's input.\n *\n * @param tNode\n */\nexport function hasClassInput(tNode: TNode) {\n  return (tNode.flags & TNodeFlags.hasClassInput) !== 0;\n}\n\n/**\n * Returns `true` if the `TNode` has a directive which has `@Input()` for `style` binding.\n *\n * ```\n * <div my-dir [style]=\"exp\"></div>\n * ```\n * and\n * ```\n * @Directive({\n * })\n * class MyDirective {\n *   @Input()\n *   class: string;\n * }\n * ```\n *\n * In the above case it is necessary to write the reconciled styling information into the\n * directive's input.\n *\n * @param tNode\n */\nexport function hasStyleInput(tNode: TNode) {\n  return (tNode.flags & TNodeFlags.hasStyleInput) !== 0;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDefined, throwError} from '../util/assert';\nimport {TNode, TNodeType, toTNodeTypeAsString} from './interfaces/node';\n\nexport function assertTNodeType(\n    tNode: TNode|null, expectedTypes: TNodeType, message?: string): void {\n  assertDefined(tNode, 'should be called with a TNode');\n  if ((tNode.type & expectedTypes) === 0) {\n    throwError(\n        message ||\n        `Expected [${toTNodeTypeAsString(expectedTypes)}] but got ${\n            toTNodeTypeAsString(tNode.type)}.`);\n  }\n}\n\nexport function assertPureTNodeType(type: TNodeType) {\n  if (!(type === TNodeType.Element ||  //\n        type === TNodeType.Text ||  //\n        type === TNodeType.Container ||  //\n        type === TNodeType.ElementContainer ||  //\n        type === TNodeType.Icu ||  //\n        type === TNodeType.Projection ||  //\n        type === TNodeType.Placeholder)) {\n    throwError(`Expected TNodeType to have only a single type selected, but got ${\n        toTNodeTypeAsString(type)}.`);\n  }\n}","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CharCode} from '../../util/char_code';\nimport {AttributeMarker, TAttributes} from '../interfaces/node';\nimport {CssSelector} from '../interfaces/projection';\nimport {isProceduralRenderer, ProceduralRenderer3, Renderer3} from '../interfaces/renderer';\nimport {RElement} from '../interfaces/renderer_dom';\n\n\n\n/**\n * Assigns all attribute values to the provided element via the inferred renderer.\n *\n * This function accepts two forms of attribute entries:\n *\n * default: (key, value):\n *  attrs = [key1, value1, key2, value2]\n *\n * namespaced: (NAMESPACE_MARKER, uri, name, value)\n *  attrs = [NAMESPACE_MARKER, uri, name, value, NAMESPACE_MARKER, uri, name, value]\n *\n * The `attrs` array can contain a mix of both the default and namespaced entries.\n * The \"default\" values are set without a marker, but if the function comes across\n * a marker value then it will attempt to set a namespaced value. If the marker is\n * not of a namespaced value then the function will quit and return the index value\n * where it stopped during the iteration of the attrs array.\n *\n * See [AttributeMarker] to understand what the namespace marker value is.\n *\n * Note that this instruction does not support assigning style and class values to\n * an element.\n *\n * See `elementStart` and `elementHostAttrs` to learn how styling values\n * are applied to an element.\n * @param renderer The renderer to be used\n * @param native The element that the attributes will be assigned to\n * @param attrs The attribute array of values that will be assigned to the element\n * @returns the index value that was last accessed in the attributes array\n */\nexport function setUpAttributes(renderer: Renderer3, native: RElement, attrs: TAttributes): number {\n  const isProc = isProceduralRenderer(renderer);\n\n  let i = 0;\n  while (i < attrs.length) {\n    const value = attrs[i];\n    if (typeof value === 'number') {\n      // only namespaces are supported. Other value types (such as style/class\n      // entries) are not supported in this function.\n      if (value !== AttributeMarker.NamespaceURI) {\n        break;\n      }\n\n      // we just landed on the marker value ... therefore\n

```
// we should skip to the next entry\n      i++;\n\n      const namespaceURI
 = attrs[i++] as string;\n      const attrName = attrs[i++] as string;\n      const attrVal = attrs[i++] as string;\n
ngDevMode && ngDevMode.rendererSetAttribute++;\n      isProc ?\n          (renderer as
ProceduralRenderer3).setAttribute(native, attrName, attrVal, namespaceURI) :\n
native.setAttributeNS(namespaceURI, attrName, attrVal);\n    } else {\n      // attrName is string;\n      const
attrName = value as string;\n      const attrVal = attrs[++i];\n      // Standard attributes\n      ngDevMode &&
ngDevMode.rendererSetAttribute++;\n      if (isAnimationProp(attrName)) {\n        if (isProc) {\n          (renderer as
ProceduralRenderer3).setProperty(native, attrName, attrVal);\n        }\n      } else {\n        isProc ?\n          (renderer
as ProceduralRenderer3).setAttribute(native, attrName, attrVal as string) :\n          native.setAttribute(attrName,
attrVal as string);\n      }\n      i++;\n    }\n  }\n\n  // another piece of code may iterate over the
 same attributes array. Therefore\n  // it may be helpful to return the exact spot where the attributes array exited\n  //
whether by running into an unsupported marker or if all the static values were\n  // iterated over.\n  return
i;\n}\n\n/**\n * Test whether the given value is a marker that indicates that the following\n * attribute values in a
`TAttributes` array are only the names of attributes,\n * and not name-value pairs.\n * @param marker The attribute
marker to test.\n * @returns true if the marker is a \"name-only\" marker (e.g. `Bindings`, `Template` or `I18n`).\n
*/\nexport function isNameOnlyAttributeMarker(marker: string|AttributeMarker|CssSelector) {\n  return marker
=== AttributeMarker.Bindings || marker === AttributeMarker.Template ||\n      marker ===
AttributeMarker.I18n;\n}\n\nexport function isAnimationProp(name: string): boolean {\n  // Perf note: accessing
charCodeAt to check for the first character of a string is faster as\n  // compared to accessing a character
 at index 0 (ex. name[0]). The main reason for this is that\n  // charCodeAt doesn't allocate memory to return a
substring.\n  return name.charCodeAt(0) === CharCode.AT_SIGN;\n}\n\n/**\n * Merges `src` `TAttributes` into
`dst` `TAttributes` removing any duplicates in the process.\n *\n * This merge function keeps the order of attrs
same.\n *\n * @param dst Location of where the merged `TAttributes` should end up.\n * @param src `TAttributes`
which should be appended to `dst`\n */\nexport function mergeHostAttrs(dst: TAttributes|null, src: TAttributes|null):
TAttributes|null {\n  if (src === null || src.length === 0) {\n    // do nothing\n  } else if (dst === null || dst.length ===
0) {\n    // We have source, but dst is empty, just make a copy.\n    dst = src.slice();\n  } else {\n    let srcMarker:
AttributeMarker = AttributeMarker.ImplicitAttributes;\n    for (let i = 0; i < src.length; i++) {\n      const item =
src[i];\n      if (typeof item === 'number') {\n        srcMarker = item;\n
      } else {\n        if (srcMarker === AttributeMarker.NamespaceURI) {\n          // Case where we need to consume
`key1`, `key2`, `value` items.\n        } else if (\n            srcMarker === AttributeMarker.ImplicitAttributes ||\n
srcMarker === AttributeMarker.Styles) {\n          // Case where we have to consume `key1` and `value` only.\n
mergeHostAttribute(dst, srcMarker, item as string, null, src[++i] as string);\n        } else {\n          // Case where we
have to consume `key1` only.\n          mergeHostAttribute(dst, srcMarker, item as string, null, null);\n        }\n      }\n
  }\n  }\n  return dst;\n}\n\n/**\n * Append `key`/`value` to existing `TAttributes` taking region marker and
duplicates into account.\n *\n * @param dst `TAttributes` to append to.\n * @param marker Region where the
`key`/`value` should be added.\n * @param key1 Key to add to `TAttributes`\n * @param key2 Key to add to
`TAttributes` (in case of `AttributeMarker.NamespaceURI`)\n
 * @param value Value to add or to overwrite to `TAttributes` Only used if `marker` is not Class.\n */\nexport
function mergeHostAttribute(\n    dst: TAttributes, marker: AttributeMarker, key1: string, key2: string|null,\n
value: string|null): void {\n  let i = 0;\n  // Assume that new markers will be inserted at the end.\n  let
markerInsertPosition = dst.length;\n  // scan until correct type.\n  if (marker === AttributeMarker.ImplicitAttributes)
{\n    markerInsertPosition = -1;\n  } else {\n    while (i < dst.length) {\n      const dstValue = dst[i++];\n      if
(typeof dstValue === 'number') {\n        if (dstValue === marker) {\n          markerInsertPosition = -1;\n
break;\n        } else if (dstValue > marker) {\n          // We need to save this as we want the markers to be inserted in
specific order.\n          markerInsertPosition = i - 1;\n          break;\n        }\n      }\n    }\n  }\n\n  // search until you
find place of insertion\n  while (i < dst.length)
 {\n    const item = dst[i];\n    if (typeof item === 'number') {\n      // since `i` started as the index after the marker,
we did not find it if we are at the next\n      // marker\n      break;\n    } else if (item === key1) {\n      // We already
```

have same token\n if (key2 === null) {\n if (value !== null) {\n dst[i + 1] = value;\n }\n return;\n } else if (key2 === dst[i + 1]) {\n dst[i + 2] = value!;\n return;\n }\n }\n // Increment counter.\n i++;\n if (key2 !== null) i++;\n if (value !== null) i++;\n }\n\n // insert at location.\n if (markerInsertPosition !== -1) {\n dst.splice(markerInsertPosition, 0, marker);\n i = markerInsertPosition + 1;\n }\n dst.splice(i++, 0, key1);\n if (key2 !== null) {\n dst.splice(i++, 0, key2);\n }\n if (value !== null) {\n dst.splice(i++, 0, value);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code
is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertGreaterThan, assertNotEqual, assertNumber} from '../../util/assert';\nimport {NO_PARENT_INJECTOR, RelativeInjectorLocation, RelativeInjectorLocationFlags} from '../interfaces/injector';\nimport {DECLARATION_VIEW, HEADER_OFFSET, LView} from '../interfaces/view';\n\n\n/// Parent Injector Utils //////////////////////////////////////////////////////////////\nexport function hasParentInjector(parentLocation: RelativeInjectorLocation): boolean {\n return parentLocation !== NO_PARENT_INJECTOR;\n}\n\nexport function getParentInjectorIndex(parentLocation: RelativeInjectorLocation): number {\n ngDevMode && assertNumber(parentLocation, 'Number expected');\n ngDevMode && assertNotEqual(parentLocation as any, -1, 'Not a valid state.');\n const parentInjectorIndex =\n (parentLocation as any as number) & RelativeInjectorLocationFlags.InjectorIndexMask;\n ngDevMode
&&\n assertGreaterThan(\n parentInjectorIndex, HEADER_OFFSET,\n 'Parent injector must be pointing past HEADER_OFFSET.');\n return (parentLocation as any as number) & RelativeInjectorLocationFlags.InjectorIndexMask;\n}\n\nexport function getParentInjectorViewOffset(parentLocation: RelativeInjectorLocation): number {\n return (parentLocation as any as number) >> RelativeInjectorLocationFlags.ViewOffsetShift;\n}\n\n/**\n * Unwraps a parent injector location number to find the view offset from the current injector,\n * then walks up the declaration view tree until the view is found that contains the parent\n * injector.\n *\n * @param location The location of the parent injector, which contains the view offset\n * @param startView The LView instance from which to start walking up the view tree\n * @returns The LView instance that contains the parent injector\n */\nexport function getParentInjectorView(location: RelativeInjectorLocation, startView: LView): LView
{\n let viewOffset = getParentInjectorViewOffset(location);\n let parentView = startView;\n // For most cases, the parent injector can be found on the host node (e.g. for component\n // or container), but we must keep the loop here to support the rarer case of deeply nested\n // <ng-template> tags or inline views, where the parent injector might live many views\n // above the child injector.\n while (viewOffset > 0) {\n parentView = parentView[DECLARATION_VIEW]!;\n viewOffset--;\n }\n return parentView;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {isForwardRef, resolveForwardRef} from '../di/forward_ref';\nimport {injectRootLimpMode, setInjectImplementation} from '../di/inject_switch';\nimport {InjectionToken} from '../di/injection_token';\nimport {Injector} from '../di/injector';\nimport {InjectorMarkers}
from '../di/injector_marker';\nimport {getInjectorDef} from '../di/interface/defs';\nimport {InjectFlags} from '../di/interface/injector';\nimport {Type} from '../interface/type';\nimport {assertDefined, assertEqual, assertIndexInRange} from '../util/assert';\nimport {noSideEffects} from '../util/closure';\n\nimport {assertDirectiveDef, assertNodeInjector, assertTNodeForLView} from './assert';\nimport {FactoryFn, getFactoryDef} from './definition_factory';\nimport {throwCyclicDependencyError, throwProviderNotFoundError} from './errors_di';\nimport {NG_ELEMENT_ID, NG_FACTORY_DEF} from './fields';\nimport {registerPreOrderHooks} from './hooks';\nimport {DirectiveDef} from './interfaces/definition';\nimport {isFactory, NO_PARENT_INJECTOR, NodeInjectorFactory, NodeInjectorOffset, RelativeInjectorLocation, RelativeInjectorLocationFlags} from './interfaces/injector';\nimport {AttributeMarker, TContainerNode, TDirectiveHostNode, TElementContainerNode, TElementNode, TNode, TNodeProviderIndexes,

```
TNodeType} from './interfaces/node';\nimport {isComponentDef, isComponentHost} from
'./interfaces/type_checks';\nimport {DECLARATION_COMPONENT_VIEW, DECLARATION_VIEW,
INJECTOR, LView, T_HOST, TData, TVIEW, TView, TViewType} from './interfaces/view';\nimport
{assertTNodeType} from './node_assert';\nimport {enterDI, getCurrentTNode, getLView, leaveDI} from
'./state';\nimport {isNameOnlyAttributeMarker} from './util/attrs_utils';\nimport {getParentInjectorIndex,
getParentInjectorView, hasParentInjector} from './util/injector_utils';\nimport {stringifyForError} from
'./util/stringify_utils';\n\n\n\n/**\n * Defines if the call to `inject` should include `viewProviders` in its resolution.\n
*\n * This is set to true when we try to instantiate a component. This value is reset in\n * `getNodeInjectable` to a
value which matches the declaration location of the token about to be\n * instantiated. This is done so that if we are
injecting a token which was declared outside of\n *
 `viewProviders` we don't accidentally pull `viewProviders` in.\n *\n * Example:\n *\n * ```\n * @Injectable()\n *
class MyService {\n *   constructor(public value: String) {}\n * }\n *\n * @Component({\n *   providers: [\n *
MyService,\n *     {provide: String, value: 'providers' }\n *   ]\n *   viewProviders: [\n *     {provide: String, value:
'viewProviders'}\n *   ]\n * })\n * class MyComponent {\n *   constructor(myService: MyService, value: String) {\n
*     // We expect that Component can see into `viewProviders`.\n *     expect(value).toEqual('viewProviders');\n *
// `MyService` was not declared in `viewProviders` hence it can't see it.\n *
expect(myService.value).toEqual('providers');\n *   }\n * }\n *\n * ```\n */\nlet includeViewProviders =
true;\n\nexport function setIncludeViewProviders(v: boolean): boolean {\n  const oldValue =
includeViewProviders;\n  includeViewProviders = v;\n  return oldValue;\n}\n\n/**\n * The number of slots in each
bloom filter (used by
 DI). The larger this number, the fewer\n * directives that will share slots, and thus, the fewer false positives when
checking for\n * the existence of a directive.\n */\nconst BLOOM_SIZE = 256;\nconst BLOOM_MASK =
BLOOM_SIZE - 1;\n\n/** Counter used to generate unique IDs for directives. */\nlet nextNgElementId =
0;\n\n/**\n * Registers this directive as present in its node's injector by flipping the directive's\n * corresponding bit
in the injector's bloom filter.\n *\n * @param injectorIndex The index of the node injector where this token should
be registered\n * @param tView The TView for the injector's bloom filters\n * @param type The directive token to
register\n */\nexport function bloomAdd(\n    injectorIndex: number, tView: TView, type:
Type<any>|InjectionToken<any>|string): void {\n  ngDevMode && assertEqual(tView.firstCreatePass, true,
'expected firstCreatePass to be true');\n  let id: number|undefined;\n  if (typeof type === 'string') {\n    id =
type.charCodeAt(0) || 0;\n
  } else if (type.hasOwnProperty(NG_ELEMENT_ID)) {\n    id = (type as any)[NG_ELEMENT_ID];\n  }\n\n  // Set
a unique ID on the directive type, so if something tries to inject the directive,\n  // we can easily retrieve the ID and
hash it into the bloom bit that should be checked.\n  if (id == null) {\n    id = (type as any)[NG_ELEMENT_ID] =
nextNgElementId++;\n  }\n\n  // We only have BLOOM_SIZE (256) slots in our bloom filter (8 buckets * 32 bits
each),\n  // so all unique IDs must be modulo-ed into a number from 0 - 255 to fit into the filter.\n  const bloomBit =
id & BLOOM_MASK;\n\n  // Create a mask that targets the specific bit associated with the directive.\n  // JS bit
operations are 32 bits, so this will be a number between 2^0 and 2^31, corresponding\n  // to bit positions 0 - 31 in a
32 bit integer.\n  const mask = 1 << bloomBit;\n\n  // Use the raw bloomBit number to determine which bloom filter
bucket we should check\n  // e.g: bf0 = [0 - 31], bf1 = [32 - 63], bf2 = [64 - 95],
 bf3 = [96 - 127], etc\n  const b7 = bloomBit & 0x80;\n  const b6 = bloomBit & 0x40;\n  const b5 = bloomBit &
0x20;\n  const tData = tView.data as number[];\n\n  if (b7) {\n    b6 ? (b5 ? (tData[injectorIndex + 7] |= mask) :
(tData[injectorIndex + 6] |= mask)) :\n         (b5 ? (tData[injectorIndex + 5] |= mask) : (tData[injectorIndex + 4] |=
mask));\n  } else {\n    b6 ? (b5 ? (tData[injectorIndex + 3] |= mask) : (tData[injectorIndex + 2] |= mask)) :\n
(b5 ? (tData[injectorIndex + 1] |= mask) : (tData[injectorIndex] |= mask));\n  }\n}\n\n/**\n * Creates (or gets an
existing) injector for a given element or container.\n *\n * @param tNode for which an injector should be retrieved /
created.\n * @param lView View where the node is stored\n * @returns Node injector\n */\nexport function
getOrCreateNodeInjectorForNode(\n    tNode: TElementNode|TContainerNode|TElementContainerNode, lView:
LView): number {\n  const existingInjectorIndex = getInjectorIndex(tNode, lView);\n  if (existingInjectorIndex
```

```
!== -1) {\n    return existingInjectorIndex;\n  }\n\n  const tView = lView[TVIEW];\n  if (tView.firstCreatePass) {\n  tNode.injectorIndex = lView.length;\n    insertBloom(tView.data, tNode);  // foundation for node bloom\n  insertBloom(lView, null);        // foundation for cumulative bloom\n    insertBloom(tView.blueprint, null);\n  }\n\n  const parentLoc = getParentInjectorLocation(tNode, lView);\n  const injectorIndex = tNode.injectorIndex;\n\n  // If a parent injector can't be found, its location is set to -1.\n  // In that case, we don't need to set up a cumulative bloom\n  if (hasParentInjector(parentLoc)) {\n    const parentIndex = getParentInjectorIndex(parentLoc);\n    const parentLView = getParentInjectorView(parentLoc, lView);\n    const parentData = parentLView[TVIEW].data as any;\n    // Creates a cumulative bloom filter that merges the parent's bloom filter\n    // and its own cumulative bloom (which contains tokens for all ancestors)\n    for (let
  i = 0; i < NodeInjectorOffset.BLOOM_SIZE; i++) {\n      lView[injectorIndex + i] = parentLView[parentIndex + i] | parentData[parentIndex + i];\n    }\n  }\n\n  lView[injectorIndex + NodeInjectorOffset.PARENT] = parentLoc;\n  return injectorIndex;\n}\n\nfunction insertBloom(arr: any[], footer: TNode|null): void {\n  arr.push(0, 0, 0, 0, 0, 0, 0, 0, footer);\n}\n\n\nexport function getInjectorIndex(tNode: TNode, lView: LView): number {\n  if (tNode.injectorIndex === -1 ||\n      // If the injector index is the same as its parent's injector index, then the index has been\n      // copied down from the parent node. No injector has been created yet on this node.\n      (tNode.parent && tNode.parent.injectorIndex === tNode.injectorIndex) ||\n      // After the first template pass, the injector index might exist but the parent values\n      // might not have been calculated yet for this instance\n      lView[tNode.injectorIndex + NodeInjectorOffset.PARENT] === null) {\n    return -1;\n  } else
  {\n    ngDevMode && assertIndexInRange(lView, tNode.injectorIndex);\n    return tNode.injectorIndex;\n  }\n}\n\n/**\n * Finds the index of the parent injector, with a view offset if applicable. Used to set the\n * parent injector initially.\n *\n * @returns Returns a number that is the combination of the number of LViews that we have to go up\n * to find the LView containing the parent inject AND the index of the injector within that LView.\n */\nexport function getParentInjectorLocation(tNode: TNode, lView: LView): RelativeInjectorLocation {\n  if (tNode.parent && tNode.parent.injectorIndex !== -1) {\n    // If we have a parent `TNode` and there is an injector associated with it we are done, because\n    // the parent injector is within the current `LView`.\n    return tNode.parent.injectorIndex as any;  // ViewOffset is 0\n  }\n\n  // When parent injector location is computed it may be outside of the current view. (ie it could\n  // be pointing to a declared parent location). This
  variable stores number of declaration parents\n  // we need to walk up in order to find the parent injector location.\n  let declarationViewOffset = 0;\n  let parentTNode: TNode|null = null;\n  let lViewCursor: LView|null = lView;\n\n  // The parent injector is not in the current `LView`. We will have to walk the declared parent\n  // `LView` hierarchy and look for it. If we walk of the top, that means that there is no parent\n  // `NodeInjector`.\n  while (lViewCursor !== null) {\n    // First determine the `parentTNode` location. The parent pointer differs based on `TView.type`.\n    const tView = lViewCursor[TVIEW];\n    const tViewType = tView.type;\n    if (tViewType ===
  TViewType.Embedded) {\n      ngDevMode &&\n          assertDefined(tView.declTNode, 'Embedded TNodes should have declaration parents.');\n      parentTNode = tView.declTNode;\n    } else if (tViewType ===
  TViewType.Component) {\n      // Components don't have `TView.declTNode` because each instance of component could
  be\n      // inserted in different location, hence `TView.declTNode` is meaningless.\n      parentTNode = lViewCursor[T_HOST];\n    } else {\n      ngDevMode && assertEqual(tView.type, TViewType.Root, 'Root type expected');\n      parentTNode = null;\n    }\n    if (parentTNode === null) {\n      // If we have no parent, than we are done.\n      return NO_PARENT_INJECTOR;\n    }\n\n    ngDevMode && parentTNode &&
  assertTNodeForLView(parentTNode!, lViewCursor[DECLARATION_VIEW]!);\n    // Every iteration of the loop requires that we go to the declared parent.\n    declarationViewOffset++;\n    lViewCursor = lViewCursor[DECLARATION_VIEW];\n\n    if (parentTNode.injectorIndex !== -1) {\n      // We found a NodeInjector which points to something.\n      return (parentTNode.injectorIndex |\n              (declarationViewOffset << RelativeInjectorLocationFlags.ViewOffsetShift)) as any;\n    }\n  }\n  return
  NO_PARENT_INJECTOR;\n}\n\n/**\n * Makes a type or an injection token public to the
```

DI system by adding it to an\n * injector's bloom filter.\n *\n * @param di The node injector in which a directive will be added\n * @param token The type or the injection token to be made public\n */\nexport function diPublicInInjector(\n injectorIndex: number, tView: TView, token: InjectionToken<any>|Type<any>): void {\n bloomAdd(injectorIndex, tView, token);\n}\n\n/**\n * Inject static attribute value into directive constructor.\n *\n * This method is used with `factory` functions which are generated as part of\n * `defineDirective` or `defineComponent`. The method retrieves the static value\n * of an attribute. (Dynamic attributes are not supported since they are not resolved\n * at the time of injection and can change over time.)\n *\n * # Example\n * Given:\n * ```\n * @Component(...)\n * class MyComponent {\n * constructor(@Attribute('title') title: string) { ... }\n * }\n * ```\n * When instantiated with\n * ```\n * <my-component title=\"Hello\"></my-component>\n * ```\n *\n * Then factory method generated is:\n * ```\n * MyComponent.cmp = defineComponent({\n * factory: () => new MyComponent(injectAttribute('title'))\n * ...\n * })\n * ```\n *\n * @publicApi\n */\nexport function injectAttributeImpl(tNode: TNode, attrNameToInject: string): string|null {\n ngDevMode && assertTNodeType(tNode, TNodeType.AnyContainer | TNodeType.AnyRNode);\n ngDevMode && assertDefined(tNode, 'expecting tNode');\n if (attrNameToInject === 'class') {\n return tNode.classes;\n }\n if (attrNameToInject === 'style') {\n return tNode.styles;\n }\n\n const attrs = tNode.attrs;\n if (attrs) {\n const attrsLength = attrs.length;\n let i = 0;\n while (i < attrsLength) {\n const value = attrs[i];\n\n // If we hit a `Bindings` or `Template` marker then we are done.\n if (isNameOnlyAttributeMarker(value)) break;\n\n // Skip namespaced attributes\n if (value === AttributeMarker.NamespaceURI) {\n // we skip the next two values\n // as namespaced attributes looks like\n // [..., AttributeMarker.NamespaceURI, 'http://someuri.com/test', 'test:exist',\n // 'existValue', ...]\n i = i + 2;\n } else if (typeof value === 'number') {\n // Skip to the first value of the marked attribute.\n i++;\n while (i < attrsLength && typeof attrs[i] === 'string') {\n i++;\n }\n } else if (value === attrNameToInject) {\n return attrs[i + 1] as string;\n } else {\n i = i + 2;\n }\n }\n return null;\n}\n\n\nfunction notFoundValueOrThrow<T>(\n notFoundValue: T|null, token: Type<T>|InjectionToken<T>, flags: InjectFlags): T|null {\n if (flags & InjectFlags.Optional) {\n return notFoundValue;\n } else {\n throwProviderNotFoundError(token, 'NodeInjector');\n }\n}\n\n/**\n * Returns the value associated to the given token from the ModuleInjector or throws exception\n *\n * @param lView The `LView` that contains the `tNode`\n * @param token The token to look for\n * @param flags Injection flags\n * @param notFoundValue The value to return when the injection flags is `InjectFlags.Optional`\n * @returns the value from the injector or throws an exception\n */\nfunction lookupTokenUsingModuleInjector<T>(\n lView: LView, token: Type<T>|InjectionToken<T>, flags: InjectFlags, notFoundValue?: any): T|\n null {\n if (flags & InjectFlags.Optional && notFoundValue === undefined) {\n // This must be set or the NullInjector will throw for optional deps\n notFoundValue = null;\n }\n\n if ((flags & (InjectFlags.Self | InjectFlags.Host)) === 0) {\n const moduleInjector = lView[INJECTOR];\n // switch to `injectInjectorOnly` implementation for module injector, since module injector\n // should not have access to Component/Directive DI scope (that may happen through\n // `directiveInject` implementation)\n const previousInjectImplementation = setInjectImplementation(undefined);\n try {\n if (moduleInjector) {\n return moduleInjector.get(token, notFoundValue, flags & InjectFlags.Optional);\n } else {\n return injectRootLimpMode(token, notFoundValue, flags & InjectFlags.Optional);\n }\n } finally {\n setInjectImplementation(previousInjectImplementation);\n }\n }\n return notFoundValueOrThrow<T>(notFoundValue, token, flags);\n}\n\n/**\n * Returns the value associated to the given token from the NodeInjectors => ModuleInjector.\n *\n * Look for the injector providing the token by walking up the node injector tree and then\n * the module injector tree.\n *\n * This function patches `token` with `__NG_ELEMENT_ID__` which contains the id for the bloom\n * filter. `-1` is reserved for injecting `Injector` (implemented by `NodeInjector`)\n *\n * @param tNode The Node where the search for the injector should start\n * @param lView The `LView` that contains the `tNode`\n * @param token The token to look for\n * @param flags Injection flags\n

```
 * @param notFoundValue The value to return when the injection flags is `InjectFlags.Optional`\n * @returns the value from the injector, `null` when not found, or `notFoundValue` if provided\n */\nexport function getOrCreateInjectable<T>(\n    tNode: TDirectiveHostNode|null, lView: LView, token: Type<T>|InjectionToken<T>,\n    flags: InjectFlags = InjectFlags.Default, notFoundValue?: any): T|null {\n  if (tNode !== null) {\n    const bloomHash = bloomHashBitOrFactory(token);\n    // If the ID stored here is a function, this is a special object like ElementRef or TemplateRef\n    // so just call the factory function to create it.\n    if (typeof bloomHash === 'function') {\n      if (!enterDI(lView, tNode, flags)) {\n        // Failed to enter DI, try module injector instead. If a token is injected with the @Host\n        // flag, the module injector is not searched for that token in Ivy.\n        return (flags & InjectFlags.Host) ?\n            notFoundValueOrThrow<T>(notFoundValue, token, flags) :\n            lookupTokenUsingModuleInjector<T>(lView, token, flags, notFoundValue);\n      }\n      try {\n        const value = bloomHash();\n        if (value == null && !(flags & InjectFlags.Optional)) {\n          throwProviderNotFoundError(token);\n        } else {\n          return value;\n        }\n      } finally {\n        leaveDI();\n      }\n    } else if (typeof bloomHash === 'number') {\n      // A reference to the previous injector TView that was found while climbing the element\n      // injector tree. This is used to know if viewProviders can be accessed on the current\n      // injector.\n      let previousTView: TView|null = null;\n      let injectorIndex = getInjectorIndex(tNode, lView);\n      let parentLocation: RelativeInjectorLocation = NO_PARENT_INJECTOR;\n      let hostTElementNode: TNode|null =\n          flags & InjectFlags.Host ? lView[DECLARATION_COMPONENT_VIEW][T_HOST] : null;\n\n      // If we should skip this injector, or if there is no
 injector on this node, start by\n      // searching the parent injector.\n      if (injectorIndex === -1 || flags & InjectFlags.SkipSelf) {\n        parentLocation = injectorIndex === -1 ? getParentInjectorLocation(tNode, lView) :\n                                                lView[injectorIndex + NodeInjectorOffset.PARENT];\n\n        if (parentLocation === NO_PARENT_INJECTOR || !shouldSearchParent(flags, false)) {\n          injectorIndex = -1;\n        } else {\n          previousTView = lView[TVIEW];\n          injectorIndex = getParentInjectorIndex(parentLocation);\n          lView = getParentInjectorView(parentLocation, lView);\n        }\n      }\n\n      // Traverse up the injector tree until we find a potential match or until we know there\n      // *isn't* a match.\n      while (injectorIndex !== -1) {\n        ngDevMode && assertNodeInjector(lView, injectorIndex);\n\n        // Check the current injector. If it matches, see if it contains token.\n        const tView = lView[TVIEW];\n        ngDevMode &&\n            assertTNodeForLView(\n                tView.data[injectorIndex + NodeInjectorOffset.TNODE] as TNode, lView);\n        if (bloomHasToken(bloomHash, injectorIndex, tView.data)) {\n          // At this point, we have an injector which *may* contain the token, so we step through\n          // the providers and directives associated with the injector's corresponding node to get\n          // the instance.\n          const instance: T|null = searchTokensOnInjector<T>(\n              injectorIndex, lView, token, previousTView, flags, hostTElementNode);\n          if (instance !== NOT_FOUND) {\n            return instance;\n          }\n        }\n        parentLocation = lView[injectorIndex + NodeInjectorOffset.PARENT];\n        if (parentLocation !== NO_PARENT_INJECTOR &&\n            shouldSearchParent(\n                flags,\n                lView[TVIEW].data[injectorIndex + NodeInjectorOffset.TNODE] === hostTElementNode) &&\n            bloomHasToken(bloomHash,
 injectorIndex, lView)) {\n          // The def wasn't found anywhere on this node, so it was a false positive.\n          // Traverse up the tree and continue searching.\n          previousTView = tView;\n          injectorIndex = getParentInjectorIndex(parentLocation);\n          lView = getParentInjectorView(parentLocation, lView);\n        } else {\n          // If we should not search parent OR If the ancestor bloom filter value does not have the\n          // bit corresponding to the directive we can give up on traversing up to find the specific\n          // injector.\n          injectorIndex = -1;\n        }\n      }\n    }\n\n  return lookupTokenUsingModuleInjector<T>(lView, token, flags, notFoundValue);\n}\n\nconst NOT_FOUND = {};\n\nexport function createNodeInjector(): Injector {\n  return new NodeInjector(getCurrentTNode()! as TDirectiveHostNode, getLView()) as any;\n}\n\nfunction searchTokensOnInjector<T>(\n    injectorIndex: number, lView: LView,
```

token: Type<T>|InjectionToken<T>,\n previousTView: TView|null, flags: InjectFlags, hostTElementNode: TNode|null) {\n const currentTView = lView[TVIEW];\n const tNode = currentTView.data[injectorIndex + NodeInjectorOffset.TNODE] as TNode;\n // First, we need to determine if view providers can be accessed by the starting element.\n // There are two possibilities\n const canAccessViewProviders = previousTView == null ?\n // 1) This is the first invocation `previousTView == null` which means that we are at the\n // `TNode` of where injector is starting to look. In such a case the only time we are allowed\n // to look into the ViewProviders is if:\n // - we are on a component\n // - AND the injector set `includeViewProviders` to true (implying that the token can see\n // ViewProviders because it is the Component or a Service which itself was declared in\n // ViewProviders)\n (isComponentHost(tNode) && includeViewProviders) :\n // 2) `previousTView != null` which means that we are now walking across the parent nodes.\n // In such a case we are only allowed to look into the ViewProviders if:\n // - We just crossed from child View to Parent View `previousTView != currentTView`\n // - AND the parent TNode is an Element.\n // This means that we just came from the Component's View and therefore are allowed to see\n // into the ViewProviders.\n (previousTView != currentTView && ((tNode.type & TNodeType.AnyRNode) !== 0));\n\n // This special case happens when there is a @host on the inject and when we are searching\n // on the host element node.\n const isHostSpecialCase = (flags & InjectFlags.Host) && hostTElementNode === tNode;\n\n const injectableIdx = locateDirectiveOrProvider(\n tNode, currentTView, token, canAccessViewProviders, isHostSpecialCase);\n if (injectableIdx !== null) {\n return getNodeInjectable(lView, currentTView, injectableIdx, tNode as TElementNode);\n } else {\n return NOT_FOUND;\n }\n}\n\n/**\n * Searches for the given token among the node's directives and providers.\n *\n * @param tNode TNode on which directives are present.\n * @param tView The tView we are currently processing\n * @param token Provider token or type of a directive to look for.\n * @param canAccessViewProviders Whether view providers should be considered.\n * @param isHostSpecialCase Whether the host special case applies.\n * @returns Index of a found directive or provider, or null when none found.\n */\nexport function locateDirectiveOrProvider<T>(\n tNode: TNode, tView: TView, token: Type<T>|InjectionToken<T>|string,\n canAccessViewProviders: boolean, isHostSpecialCase: boolean|number): number|null {\n const nodeProviderIndexes = tNode.providerIndexes;\n const tInjectables = tView.data;\n\n const injectablesStart = nodeProviderIndexes & TNodeProviderIndexes.ProvidersStartIndexMask;\n const directivesStart = tNode.directiveStart;\n const directiveEnd = tNode.directiveEnd;\n const cptViewProvidersCount =\n nodeProviderIndexes >> TNodeProviderIndexes.CptViewProvidersCountShift;\n const startingIndex =\n canAccessViewProviders ? injectablesStart : injectablesStart + cptViewProvidersCount;\n // When the host special case applies, only the viewProviders and the component are visible\n const endIndex = isHostSpecialCase ? injectablesStart + cptViewProvidersCount : directiveEnd;\n for (let i = startingIndex; i < endIndex; i++) {\n const providerTokenOrDef =\n tInjectables[i] as InjectionToken<any>| Type<any>| DirectiveDef<any>| string;\n if (i < directivesStart && token === providerTokenOrDef ||\n i >= directivesStart && (providerTokenOrDef as DirectiveDef<any>).type === token) {\n return i;\n }\n }\n if (isHostSpecialCase) {\n const dirDef = tInjectables[directivesStart] as DirectiveDef<any>;\n if (dirDef && isComponentDef(dirDef) && dirDef.type === token) {\n return directivesStart;\n }\n }\n return null;\n}\n\n/**\n * Retrieve or instantiate the injectable from the `LView` at particular `index`.\n *\n * This function checks to see if the value has already been instantiated and if so returns the\n * cached `injectable`. Otherwise if it detects that the value is still a factory it\n * instantiates the `injectable` and caches the value.\n */\nexport function getNodeInjectable(\n lView: LView, tView: TView, index: number, tNode: TDirectiveHostNode): any {\n let value = lView[index];\n const tData = tView.data;\n if (isFactory(value)) {\n const factory: NodeInjectorFactory = value;\n if (factory.resolving) {\n throwCyclicDependencyError(stringifyForError(tData[index]));\n }\n const previousIncludeViewProviders = setIncludeViewProviders(factory.canSeeViewProviders);\n factory.resolving = true;\n const previousInjectImplementation =\n factory.injectImpl ? setInjectImplementation(factory.injectImpl) : null;\n const success = enterDI(lView,

tNode, InjectFlags.Default);\n ngDevMode &&\n assertEqual(\n success, true,\n 'Because flags do not contain \\`SkipSelf\\' we expect this to always succeed.');\n try {\n value = lView[index] = factory.factory(undefined, tData, lView, tNode);\n // This code path is hit for both directives and providers.\n // For perf reasons, we want to avoid searching for hooks on providers.\n // It does no harm to try (the hooks just won't exist), but the extra\n // checks are unnecessary and this is a hot path. So we check to see\n // if the index of the dependency is in the directive range for this\n // tNode. If it's not, we know it's a provider and skip hook registration.\n if (tView.firstCreatePass && index >= tNode.directiveStart) {\n ngDevMode && assertDirectiveDef(tData[index]);\n registerPreOrderHooks(index, tData[index] as DirectiveDef<any>, tView);\n }\n } finally {\n previousInjectImplementation !== null &&\n setInjectImplementation(previousInjectImplementation);\n setIncludeViewProviders(previousIncludeViewProviders);\n factory.resolving = false;\n leaveDI();\n }\n }\n return value;\n}\n\n/**\n * Returns the bit in an injector's bloom filter that should be used to determine whether or not\n * the directive might be provided by the injector.\n *\n * When a directive is public, it is added to the bloom filter and given a unique ID that can be\n * retrieved on the Type. When the directive isn't public or the token is not a directive `null`\n * is returned as the node injector can not possibly provide that token.\n *\n * @param token the injection token\n * @returns the matching bit to check in the bloom filter or `null` if the token is not known.\n * When the returned value is negative then it represents special values such as `Injector`.\n */\nexport function bloomHashBitOrFactory(token: Type<any>|InjectionToken<any>|string): number|Function|\n undefined {\n ngDevMode && assertDefined(token, 'token must be defined');\n if (typeof token === 'string') {\n return token.charCodeAt(0) || 0;\n }\n const tokenId: number|undefined =\n // First check with `hasOwnProperty` so we don't get an inherited ID.\n token.hasOwnProperty(NG_ELEMENT_ID) ? (token as any)[NG_ELEMENT_ID] : undefined;\n // Negative token IDs are used for special objects such as `Injector`\n if (typeof tokenId === 'number') {\n if (tokenId >= 0) {\n return tokenId & BLOOM_MASK;\n } else {\n ngDevMode &&\n assertEqual(tokenId, InjectorMarkers.Injector, 'Expecting to get Special Injector Id');\n return createNodeInjector;\n }\n } else {\n return tokenId;\n }\n}\n\nexport function bloomHasToken(bloomHash: number, injectorIndex: number, injectorView: LView|TData) {\n // Create a mask that targets the specific bit associated with the directive we're looking for.\n // JS bit operations are 32 bits, so this will be a number between 2^0 and 2^31, corresponding\n // to bit positions 0 - 31 in a 32 bit integer.\n const mask = 1 << bloomHash;\n const b7 = bloomHash & 0x80;\n const b6 = bloomHash & 0x40;\n const b5 = bloomHash & 0x20;\n\n // Our bloom filter size is 256 bits, which is eight 32-bit bloom filter buckets:\n // bf0 = [0 - 31], bf1 = [32 - 63], bf2 = [64 - 95], bf3 = [96 - 127], etc.\n // Get the bloom filter value from the appropriate bucket based on the directive's bloomBit.\n let value: number;\n\n if (b7) {\n value = b6 ? (b5 ? injectorView[injectorIndex + 7] : injectorView[injectorIndex + 6]) :\n (b5 ? injectorView[injectorIndex + 5] : injectorView[injectorIndex + 4]);\n } else {\n value = b6 ? (b5 ? injectorView[injectorIndex + 3] : injectorView[injectorIndex + 2]) :\n (b5 ? injectorView[injectorIndex + 1] : injectorView[injectorIndex]);\n }\n\n // If the bloom filter value has the bit corresponding to the directive's bloomBit flipped on,\n // this injector is a potential match.\n return !!(value & mask);\n}\n\n/** Returns true if flags prevent parent injector from being searched for tokens */\nfunction shouldSearchParent(flags: InjectFlags, isFirstHostTNode: boolean): boolean|number {\n return !(flags & InjectFlags.Self) && !(flags & InjectFlags.Host && isFirstHostTNode);\n}\n\nexport class NodeInjector implements Injector {\n constructor(\n private _tNode: TElementNode|TContainerNode|TElementContainerNode|null,\n private _lView: LView) {}\n\n get(token: any, notFoundValue?: any): any {\n return getOrCreateInjectable(this._tNode, this._lView, token, undefined, notFoundValue);\n }\n}\n\n/**\n * @codeGenApi\n */\nexport function getFactoryOf<T>(type: Type<any>): FactoryFn<T>|null {\n const typeAny = type as any;\n\n if (isForwardRef(type)) {\n return (() => {\n const factory = getFactoryOf<T>(resolveForwardRef(typeAny));\n return factory ? factory() : null;\n }) as any;\n }\n\n let factory = getFactoryDef<T>(typeAny);\n if (factory === null) {\n const injectorDef = getInjectorDef<T>(typeAny);\n factory = injectorDef && injectorDef.factory;\n }\n return factory || null;\n}\n\n/**\n * @codeGenApi\n */\nexport function getInheritedFactory<T>(type: Type<any>): (type:

Type<T>) => T {\n  return noSideEffects(() => {\n    const ownConstructor = type.prototype.constructor;\n    const ownFactory = ownConstructor[NG_FACTORY_DEF] || getFactoryOf(ownConstructor);\n    const objectPrototype = Object.prototype;\n    let parent = Object.getPrototypeOf(type.prototype).constructor;\n\n    // Go up the prototype until we hit `Object`.\n    while (parent && parent !== objectPrototype) {\n      const factory = parent[NG_FACTORY_DEF] || getFactoryOf(parent);\n\n      // If we hit something that has a factory and the factory isn't the same as the type,\n      // we've found the inherited factory. Note the check that the factory isn't the type's\n      // own factory is redundant in most cases, but if the user has custom decorators on the\n      // class, this lookup will start one level down in the prototype chain, causing us to\n      // find the own factory first and potentially triggering an infinite loop downstream.\n      if (factory && factory !== ownFactory) {\n        return factory;\n      }\n\n      parent = Object.getPrototypeOf(parent);\n    }\n\n    // There is no factory defined. Either this was improper usage of inheritance\n    // (no Angular decorator on the superclass) or there is no constructor at all\n    // in the inheritance chain. Since the two cases cannot be distinguished, the\n    // latter has to be assumed.\n    return t => new t();\n  });\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {injectAttributeImpl} from '../di';\nimport {getCurrentTNode} from '../state';\n\n/**\n * Facade for the attribute injection from DI.\n *\n * @codeGenApi\n */\nexport function injectAttribute(attrNameToInject: string): string|null {\n  return injectAttributeImpl(getCurrentTNode()!, attrNameToInject);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\n\nimport {noSideEffects} from './closure';\n\n\n\n/**\n * An interface implemented by all Angular type decorators, which allows them to be used as\n * decorators as well as Angular syntax.\n *\n * ```\n * @ng.Component({...})\n * class MyClass {...}\n * ```\n *\n * @publicApi\n */\nexport interface TypeDecorator {\n  /**\n   * Invoke as decorator.\n   */\n  <T extends Type<any>>(type: T): T;\n\n  // Make TypeDecorator assignable to built-in ParameterDecorator type.\n  // ParameterDecorator is declared in lib.d.ts as a `declare type`\n  // so we cannot declare this interface as a subtype.\n  // see https://github.com/angular/angular/issues/3379#issuecomment-126169417\n  (target: Object, propertyKey?: string|symbol, parameterIndex?: number): void;\n}\n\nexport const ANNOTATIONS = '__annotations__';\nexport const PARAMETERS = '__parameters__';\nexport const PROP_METADATA = '__prop__metadata__';\n\n/**\n * @suppress {globalThis}\n */\nexport function makeDecorator<T>(\n    name: string, props?: (...args: any[]) => any, parentClass?: any,\n    additionalProcessing?: (type: Type<T>) => void,\n    typeFn?: (type: Type<T>, ...args: any[]) => void):\n    {new (...args: any[]): any; (...args: any[]): any; (...args: any[]): (cls: any) => any;} {\n  return noSideEffects(() => {\n    const metaCtor = makeMetadataCtor(props);\n\n    function DecoratorFactory(\n        this: unknown|typeof DecoratorFactory, ...args: any[]): (cls: Type<T>) => any {\n      if (this instanceof DecoratorFactory) {\n        metaCtor.call(this, ...args);\n        return this as typeof DecoratorFactory;\n      }\n\n      const annotationInstance = new (DecoratorFactory as any)(...args);\n      return function TypeDecorator(cls: Type<T>) {\n        if (typeFn) typeFn(cls, ...args);\n        // Use of Object.defineProperty is important since it creates non-enumerable property which\n        // prevents the property is copied during subclassing.\n        const annotations = cls.hasOwnProperty(ANNOTATIONS) ?\n            (cls as any)[ANNOTATIONS] :\n            Object.defineProperty(cls, ANNOTATIONS, {value: []})[ANNOTATIONS];\n        annotations.push(annotationInstance);\n\n\n        if (additionalProcessing) additionalProcessing(cls);\n\n        return cls;\n      };\n    }\n\n    if (parentClass) {\n      DecoratorFactory.prototype = Object.create(parentClass.prototype);\n    }\n\n    DecoratorFactory.prototype.ngMetadataName = name;\n    (DecoratorFactory as any).annotationCls = DecoratorFactory;\n    return DecoratorFactory as any;\n  });\n}\n\nfunction makeMetadataCtor(props?: (...args: any[]) => any): any {\n  return function ctor(this: any, ...args: any[]) {\n    if (props) {\n      const values = props(...args);\n      for (const propName in values) {\n        this[propName] = values[propName];\n      }\n    }\n  };\n}\n\nexport function makeParamDecorator(\n    name: string, props?: (...args: any[]) => any, parentClass?: any): any {\n  return noSideEffects(() => {\n    const metaCtor = makeMetadataCtor(props);\n    function ParamDecoratorFactory(\n        this: unknown|typeof

ParamDecoratorFactory, ...args: any[]): any {\n if (this instanceof ParamDecoratorFactory) {\n metaCtor.apply(this, args);\n return this;\n }\n const annotationInstance = new (<any>ParamDecoratorFactory)(...args);\n\n (<any>ParamDecorator).annotation = annotationInstance;\n return ParamDecorator;\n\n function ParamDecorator(cls: any, unusedKey: any, index: number): any {\n // Use of Object.defineProperty is important since it creates non-enumerable property which\n // prevents the property is copied during subclassing.\n const parameters = cls.hasOwnProperty(PARAMETERS) ?\n (cls as any)[PARAMETERS] :\n Object.defineProperty(cls, PARAMETERS, {value: []})[PARAMETERS];\n\n // there might be gaps if some in between parameters do not have annotations.\n // we pad with nulls.\n while (parameters.length <= index) {\n parameters.push(null);\n }\n\n (parameters[index] = parameters[index] || []).push(annotationInstance);\n return cls;\n }\n }\n if (parentClass) {\n ParamDecoratorFactory.prototype = Object.create(parentClass.prototype);\n }\n ParamDecoratorFactory.prototype.ngMetadataName = name;\n (<any>ParamDecoratorFactory).annotationCls = ParamDecoratorFactory;\n return ParamDecoratorFactory;\n });\n}\n\nexport function makePropDecorator(\n name: string, props?: (...args: any[]) => any, parentClass?: any,\n additionalProcessing?: (target: any, name: string, ...args: any[]) => void): any {\n return noSideEffects(() => {\n const metaCtor = makeMetadataCtor(props);\n\n function PropDecoratorFactory(this: unknown|typeof PropDecoratorFactory, ...args: any[]): any {\n if (this instanceof PropDecoratorFactory) {\n metaCtor.apply(this, args);\n return this;\n }\n\n const decoratorInstance = new (<any>PropDecoratorFactory)(...args);\n\n function PropDecorator(target: any, name: string) {\n const constructor = target.constructor;\n // Use of Object.defineProperty is important because it creates a non-enumerable property\n // which prevents the property from being copied during subclassing.\n const meta = constructor.hasOwnProperty(PROP_METADATA) ?\n (constructor as any)[PROP_METADATA] :\n Object.defineProperty(constructor, PROP_METADATA, {value: {}})[PROP_METADATA];\n meta[name] = meta.hasOwnProperty(name) && meta[name] || [];\n meta[name].unshift(decoratorInstance);\n\n if (additionalProcessing) additionalProcessing(target, name, ...args);\n }\n\n return PropDecorator;\n }\n\n if (parentClass) {\n PropDecoratorFactory.prototype = Object.create(parentClass.prototype);\n }\n\n PropDecoratorFactory.prototype.ngMetadataName = name;\n (<any>PropDecoratorFactory).annotationCls = PropDecoratorFactory;\n return PropDecoratorFactory;\n });\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {injectAttribute} from '../render3/instructions/di_attr';\nimport {makeParamDecorator} from '../util/decorators';\n\n\n/**\n * Type of the Attribute decorator / constructor function.\n *\n * @publicApi\n */\nexport interface AttributeDecorator {\n /**\n * Parameter decorator for a directive constructor that designates\n * a host-element attribute whose value is injected as a constant string literal.\n *\n * @usageNotes\n *\n * Suppose we have an `<input>` element and want to know its `type`.\n *\n * ```html\n * <input type=\"text\">\n * ```\n *\n * The following example uses the decorator to inject the string literal `text` in a directive.\n *\n * {@example core/ts/metadata/metadata.ts region='attributeMetadata'}\n *\n * The following example uses the decorator in a component constructor.\n *\n * {@example core/ts/metadata/metadata.ts region='attributeFactory'}\n *\n */\n (name: string): any;\n new(name: string): Attribute;\n}\n\n/**\n * Type of the Attribute metadata.\n *\n * @publicApi\n */\nexport interface Attribute {\n /**\n * The name of the attribute whose value can be injected.\n */\n attributeName: string;\n}\n\nfunction CREATE_ATTRIBUTE_DECORATOR__PRE_R3__(): AttributeDecorator {\n return makeParamDecorator('Attribute', (attributeName?: string) => ({attributeName}));\n}\n\nexport function CREATE_ATTRIBUTE_DECORATOR__POST_R3__(): AttributeDecorator {\n return makeParamDecorator(\n 'Attribute',\n (attributeName?: string) =>\n ({attributeName, __NG_ELEMENT_ID__: () => injectAttribute(attributeName!)}));\n}\n\nconst CREATE_ATTRIBUTE_DECORATOR_IMPL = CREATE_ATTRIBUTE_DECORATOR__PRE_R3__;\n\n/**\n

* Attribute decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const Attribute: AttributeDecorator = CREATE_ATTRIBUTE_DECORATOR_IMPL();\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {assertLessThan} from '../util/assert';\n\nimport {defineInjectable} from './interface/defs';\n\n/**\n * Creates a token that can be used in a DI Provider.\n *\n * Use an `InjectionToken` whenever the type you are injecting is not reified (does not have a\n * runtime representation) such as when injecting an interface, callable type, array or\n * parameterized type.\n *\n * `InjectionToken` is parameterized on `T` which is the type of object which will be returned by\n * the `Injector`. This provides additional level of type safety.\n *\n * ```\n * interface MyInterface {...}\n * var myInterface = injector.get(new InjectionToken<MyInterface>('SomeToken'));\n * // myInterface is inferred to be MyInterface.\n * ```\n *\n * When creating an `InjectionToken`, you can optionally specify a factory function which returns\n * (possibly by creating) a default value of the parameterized type `T`. This sets up the\n * `InjectionToken` using this factory as a provider as if it was defined explicitly in the\n * application's root injector. If the factory function, which takes zero arguments, needs to inject\n * dependencies, it can do so using the `inject` function. See below for an example.\n *\n * Additionally, if a `factory` is specified you can also specify the `providedIn` option, which\n * overrides the above behavior and marks the token as belonging to a particular `@NgModule`. As\n * mentioned above, `'root'` is the default value for `providedIn`.\n *\n * @usageNotes\n * ### Basic Example\n *\n * ### Plain InjectionToken\n *\n * {@example core/di/ts/injector_spec.ts region='InjectionToken'}\n *\n * ### Tree-shakable InjectionToken\n *\n * {@example core/di/ts/injector_spec.ts region='ShakableInjectionToken'}\n *\n *\n * @publicApi\n */\nexport class InjectionToken<T> {\n  /** @internal */\n  readonly ngMetadataName = 'InjectionToken';\n\n  readonly prov: never|undefined;\n\n  constructor(protected _desc: string, options?: {\n    providedIn?: Type<any>|'root'|'platform'|'any'|null, factory: () => T\n  }) {\n    this.prov = undefined;\n    if (typeof options == 'number') {\n      (typeof ngDevMode === 'undefined' || ngDevMode) &&\n          assertLessThan(options, 0, 'Only negative numbers are supported here');\n      // This is a special hack to assign __NG_ELEMENT_ID__ to this instance.\n      // See `InjectorMarkers`\n      (this as any).__NG_ELEMENT_ID__ = options;\n    } else if (options !== undefined) {\n      this.prov = defineInjectable({\n        token: this,\n        providedIn: options.providedIn || 'root',\n        factory: options.factory,\n      });\n    }\n  }\n\n  toString(): string {\n    return `InjectionToken ${this._desc}`;\n  }\n}\n\nexport interface InjectableDefToken<T> extends InjectionToken<T> {\n  prov: never;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from '../di/injection_token';\nimport {Type} from '../interface/type';\nimport {makePropDecorator} from '../util/decorators';\n\n/**\n * A DI token that you can use to create a virtual [provider](guide/glossary#provider)\n * that will populate the `entryComponents` field of components and NgModules\n * based on its `useValue` property value.\n * All components that are referenced in the `useValue` value (either directly\n * or in a nested array or map) are added to the `entryComponents` property.\n *\n * @usageNotes\n *\n * The following example shows how the router can populate the `entryComponents`\n * field of an NgModule based on a router configuration that refers\n * to components.\n *\n * ```typescript\n * // helper function inside the router\n * function provideRoutes(routes) {\n *   return [\n *     {provide: ROUTES, useValue: routes},\n *     {provide: ANALYZE_FOR_ENTRY_COMPONENTS, useValue: routes, multi: true}\n *   ];\n * }\n *\n * // user code\n * let routes = [\n *   {path: '/root', component: RootComp},\n *   {path: '/teams', component: TeamsComp}\n * ];\n *\n * @NgModule({\n *   providers: [provideRoutes(routes)]\n * })\n * class ModuleWithRoutes {}\n * ```\n *\n * @publicApi\n * @deprecated Since 9.0.0. With Ivy, this property is no longer necessary.\n */\nexport const ANALYZE_FOR_ENTRY_COMPONENTS = new InjectionToken<any>('AnalyzeForEntryComponents');\n\n/**\n * Type of the `Attribute` decorator / constructor

function.\n *\n * @publicApi\n */\nexport interface AttributeDecorator {\n /**\n * Specifies that a constant attribute value should be injected.\n *\n * The directive can inject constant string literals of host element attributes.\n *\n * @usageNotes\n *\n * Suppose we have an `<input>` element and want to know its `type`.\n *\n * ```html\n * <input type=\"text\">\n * ```\n *\n * A decorator can inject string literal `text` as in the following example.\n *\n * {@example core/ts/metadata/metadata.ts region='attributeMetadata'}\n *\n * @publicApi\n */\n (name: string): any;\n new(name: string): Attribute;\n}\n\n\n/**\n * Type of the Attribute metadata.\n *\n * @publicApi\n */\nexport interface Attribute {\n /**\n * The name of the attribute to be injected into the constructor.\n */\n attributeName?: string;\n}\n\n/**\n * Type of the Query metadata.\n *\n * @publicApi\n */\nexport interface Query {\n descendants: boolean;\n first: boolean;\n read: any;\n isViewQuery: boolean;\n selector: any;\n static?: boolean;\n}\n\n/**\n * Base class for query metadata.\n *\n * @see `ContentChildren`.\n * @see `ContentChild`.\n * @see `ViewChildren`.\n * @see `ViewChild`.\n *\n * @publicApi\n */\nexport abstract class Query {}\n\n/**\n * Type of the ContentChildren decorator / constructor function.\n *\n * @see `ContentChildren`.\n * @publicApi\n */\nexport interface ContentChildrenDecorator {\n /**\n * Parameter decorator that configures a content query.\n *\n * Use to get the `QueryList` of elements or directives from the content DOM.\n * Any time a child element is added, removed, or moved, the query list will be\n * updated, and the changes observable of the query list will emit a new value.\n *\n * Content queries are set before the `ngAfterContentInit` callback is called.\n *\n * Does not retrieve elements or directives that are in other components' templates,\n * since a component's template is always a black box to its ancestors.\n *\n * **Metadata Properties**:\n *\n * * **selector** - The directive type or the name used for querying.\n * * **descendants** - True to include all descendants, otherwise include only direct children.\n * * **read** - Used to read a different token from the queried elements.\n *\n * @usageNotes\n *\n * Here is a simple demonstration of how the `ContentChildren` decorator can be used.\n *\n * {@example core/di/ts/contentChildren/content_children_howto.ts region='HowTo'}\n *\n * ### Tab-pane example\n *\n * Here is a slightly more realistic example that shows how `ContentChildren` decorators\n * can be used to implement a tab pane component.\n *\n * {@example core/di/ts/contentChildren/content_children_example.ts region='Component'}\n *\n * @Annotation\n */\n (selector: Type<any>|InjectionToken<unknown>|Function|string,\n opts?: {descendants?: boolean, read?: any}): any;\n new(selector: Type<any>|InjectionToken<unknown>|Function|string,\n opts?: {descendants?: boolean, read?: any}): Query;\n}\n\n/**\n * Type of the ContentChildren metadata.\n *\n *\n * @Annotation\n * @publicApi\n */\nexport type ContentChildren = Query;\n\n/**\n * ContentChildren decorator and metadata.\n *\n *\n * @Annotation\n * @publicApi\n */\nexport const ContentChildren: ContentChildrenDecorator = makePropDecorator(\n 'ContentChildren',\n (selector?: any, data: any = {}) =>\n ({selector, first: false, isViewQuery: false, descendants: false, ...data}),\n Query);\n\n/**\n * Type of the ContentChild decorator / constructor function.\n *\n * @publicApi\n */\nexport interface ContentChildDecorator {\n /**\n * Parameter decorator that configures a content query.\n *\n * Use to get the first element or the directive matching the selector from the content DOM.\n * If the content DOM changes, and a new child matches the selector,\n * the property will be updated.\n *\n * Content queries are set before the `ngAfterContentInit` callback is called.\n *\n * Does not retrieve elements or directives that are in other components' templates,\n * since a component's template is always a black box to its ancestors.\n *\n * **Metadata Properties**:\n *\n * * **selector** - The directive type or the name used for querying.\n * * **read** - Used to read a different token from the queried element.\n * * **static** - True to resolve query results before change detection runs,\n * false to resolve after change detection.\n * Defaults to false.\n *\n * @usageNotes\n *\n * {@example core/di/ts/contentChild/content_child_howto.ts region='HowTo'}\n *\n * ### Example\n *\n * {@example core/di/ts/contentChild/content_child_example.ts region='Component'}\n *\n * @Annotation\n */\n (selector: Type<any>|InjectionToken<unknown>|Function|string,\n opts?: {read?: any, static?: boolean}): any;\n new(selector: Type<any>|InjectionToken<unknown>|Function|string,\n opts?: {read?: any, static?: boolean}): ContentChild;\n}\n\n/**\n * Type of the ContentChild metadata.\n *\n * @publicApi\n */\nexport type

ContentChild = Query;\n\n/**\n * ContentChild decorator and metadata.\n *\n *\n * @Annotation\n *\n * @publicApi\n */\nexport const ContentChild: ContentChildDecorator = makePropDecorator(\n 'ContentChild',\n (selector?: any, data: any = {}) =>\n ({selector, first: true, isViewQuery: false, descendants: true, ...data}),\n Query);\n\n/**\n * Type of the ViewChildren decorator
/ constructor function.\n *\n * @see `ViewChildren`.\n *\n * @publicApi\n */\nexport interface ViewChildrenDecorator {\n /**\n * Parameter decorator that configures a view query.\n *\n * Use to get the `QueryList` of elements or directives from the view DOM.\n * Any time a child element is added, removed, or moved, the query list will be updated,\n * and the changes observable of the query list will emit a new value.\n *\n * View queries are set before the `ngAfterViewInit` callback is called.\n *\n * **Metadata Properties**:\n *\n * * **selector** - The directive type or the name used for querying.\n * * **read** - Used to read a different token from the queried elements.\n *\n * @usageNotes\n *\n * {@example core/di/ts/viewChildren/view_children_howto.ts region='HowTo'}\n *\n * ### Another example\n *\n * {@example core/di/ts/viewChildren/view_children_example.ts region='Component'}\n *\n * @Annotation\n */\n (selector: Type<any>|InjectionToken<unknown>|Function|string,
opts?: {read?: any}): any;\n new(selector: Type<any>|InjectionToken<unknown>|Function|string,\n opts?: {read?: any}): ViewChildren;\n}\n\n/**\n * Type of the ViewChildren metadata.\n *\n * @publicApi\n */\nexport type ViewChildren = Query;\n\n/**\n * ViewChildren decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const ViewChildren: ViewChildrenDecorator = makePropDecorator(\n 'ViewChildren',\n (selector?: any, data: any = {}) =>\n ({selector, first: false, isViewQuery: true, descendants: true, ...data}),\n Query);\n\n/**\n * Type of the ViewChild decorator / constructor function.\n *\n * @see `ViewChild`.\n * @publicApi\n */\nexport interface ViewChildDecorator {\n /**\n * @description\n * Property decorator that configures a view query.\n * The change detector looks for the first element or the directive matching the selector\n * in the view DOM. If the view DOM changes, and a new child matches the
selector,\n * the property is updated.\n *\n * View queries are set before the `ngAfterViewInit` callback is called.\n *\n * **Metadata Properties**:\n *\n * * **selector** - The directive type or the name used for querying.\n * * **read** - Used to read a different token from the queried elements.\n * * **static** - True to resolve query results before change detection runs,\n * false to resolve after change detection. Defaults to false.\n *\n *\n * The following selectors are supported.\n * * Any class with the `@Component` or `@Directive` decorator\n * * A template reference variable as a string (e.g. query `<my-component #cmp></my-component>`\n * with `@ViewChild('cmp')`)\n * * Any provider defined in the child component tree of the current component (e.g.\n * `@ViewChild(SomeService) someService: SomeService`)\n * * Any provider defined through a string token (e.g. `@ViewChild('someToken') someTokenVal:\n * any`)\n * * A `TemplateRef`
(e.g. query `<ng-template></ng-template>` with `@ViewChild(TemplateRef)\n * template;`)\n *\n * @usageNotes\n *\n * {@example core/di/ts/viewChild/view_child_example.ts region='Component'}\n *\n * ### Example 2\n *\n * {@example core/di/ts/viewChild/view_child_howto.ts region='HowTo'}\n *\n * @Annotation\n */\n (selector: Type<any>|InjectionToken<unknown>|Function|string,\n opts?: {read?: any, static?: boolean}): any;\n new(selector: Type<any>|InjectionToken<unknown>|Function|string,\n opts?: {read?: any, static?: boolean}): ViewChild;\n}\n\n/**\n * Type of the ViewChild metadata.\n *\n * @publicApi\n */\nexport type ViewChild = Query;\n\n/**\n * ViewChild decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const ViewChild: ViewChildDecorator = makePropDecorator(\n 'ViewChild',\n (selector: any, data: any) =>\n ({selector, first: true, isViewQuery: true, descendants: true, ...data}),\n Query);\n","/**\n * @license\n
* Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n/**\n * A set of interfaces which are shared between `@angular/core` and `@angular/compiler` to allow\n * for late binding of `@angular/compiler` for JIT purposes.\n *\n * This file has two copies. Please ensure that they are in sync:\n * - packages/compiler/src/compiler_facade_interface.ts (main)\n * -

packages/core/src/compiler/compiler_facade_interface.ts (replica)\n *\n * Please ensure that the two files are in sync using this command:\n * ```\n * cp packages/compiler/src/compiler_facade_interface.ts \\\n * packages/core/src/compiler/compiler_facade_interface.ts\n * ```\n */\n\nexport interface ExportedCompilerFacade {\n compilerFacade: CompilerFacade;\n}\n\nexport interface CompilerFacade {\n compilePipe(angularCoreEnv: CoreEnvironment, sourceMapUrl: string, meta:
R3PipeMetadataFacade):\n any;\n compileInjectable(\n angularCoreEnv: CoreEnvironment, sourceMapUrl: string, meta: R3InjectableMetadataFacade): any;\n compileInjector(\n angularCoreEnv: CoreEnvironment, sourceMapUrl: string, meta: R3InjectorMetadataFacade): any;\n compileNgModule(\n angularCoreEnv: CoreEnvironment, sourceMapUrl: string, meta: R3NgModuleMetadataFacade): any;\n compileDirective(\n angularCoreEnv: CoreEnvironment, sourceMapUrl: string, meta: R3DirectiveMetadataFacade): any;\n compileComponent(\n angularCoreEnv: CoreEnvironment, sourceMapUrl: string, meta: R3ComponentMetadataFacade): any;\n compileFactory(\n angularCoreEnv: CoreEnvironment, sourceMapUrl: string, meta: R3FactoryDefMetadataFacade): any;\n\n createParseSourceSpan(kind: string, typeName: string, sourceUrl: string): ParseSourceSpan;\n\n R3ResolvedDependencyType: typeof R3ResolvedDependencyType;\n R3FactoryTarget: typeof R3FactoryTarget;\n ResourceLoader: {new(): ResourceLoader};\n}\n\nexport
interface CoreEnvironment {\n [name: string]: Function;\n}\n\nexport type ResourceLoader = {\n get(url: string): Promise<string>|string;\n};\n\nexport type StringMap = {\n [key: string]: string;\n};\n\nexport type StringMapWithRename = {\n [key: string]: string|[string, string];\n};\n\nexport type Provider = any;\n\nexport enum R3ResolvedDependencyType {\n Token = 0,\n Attribute = 1,\n ChangeDetectorRef = 2,\n Invalid = 3,\n}\n\nexport enum R3FactoryTarget {\n Directive = 0,\n Component = 1,\n Injectable = 2,\n Pipe = 3,\n NgModule = 4,\n}\n\nexport interface R3DependencyMetadataFacade {\n token: any;\n resolved: R3ResolvedDependencyType;\n host: boolean;\n optional: boolean;\n self: boolean;\n skipSelf: boolean;\n}\n\nexport interface R3PipeMetadataFacade {\n name: string;\n type: any;\n typeArgumentCount: number;\n pipeName: string;\n deps: R3DependencyMetadataFacade[]|null;\n pure: boolean;\n}\n\nexport
interface R3InjectableMetadataFacade
{\n name: string;\n type: any;\n typeArgumentCount: number;\n providedIn: any;\n useClass?: any;\n useFactory?: any;\n useExisting?: any;\n useValue?: any;\n userDeps?: R3DependencyMetadataFacade[];\n}\n\nexport interface R3NgModuleMetadataFacade {\n type: any;\n bootstrap: Function[];\n declarations: Function[];\n imports: Function[];\n exports: Function[];\n schemas: {name: string}[]|null;\n id: string|null;\n}\n\nexport interface R3InjectorMetadataFacade {\n name: string;\n type: any;\n deps: R3DependencyMetadataFacade[]|null;\n providers: any[];\n imports: any[];\n}\n\nexport interface R3DirectiveMetadataFacade {\n name: string;\n type: any;\n typeArgumentCount: number;\n typeSourceSpan: ParseSourceSpan;\n deps: R3DependencyMetadataFacade[]|null;\n selector: string|null;\n queries: R3QueryMetadataFacade[];\n host: {[key: string]: string};\n propMetadata: {[key: string]: any[]};\n lifecycle: {usesOnChanges: boolean;};\n inputs: string[];\n outputs:
string[];\n usesInheritance: boolean;\n exportAs: string[]|null;\n providers: Provider[]|null;\n viewQueries: R3QueryMetadataFacade[];\n}\n\nexport interface R3ComponentMetadataFacade extends R3DirectiveMetadataFacade {\n template: string;\n preserveWhitespaces: boolean;\n animations: any[]|undefined;\n pipes: Map<string, any>;\n directives: {selector: string, expression: any}[];\n styles: string[];\n encapsulation: ViewEncapsulation;\n viewProviders: Provider[]|null;\n interpolation?: [string, string];\n changeDetection?: ChangeDetectionStrategy;\n}\n\nexport interface R3FactoryDefMetadataFacade {\n name: string;\n type: any;\n typeArgumentCount: number;\n deps: R3DependencyMetadataFacade[]|null;\n injectFn: 'directiveInject'|'inject';\n target: R3FactoryTarget;\n}\n\nexport enum ViewEncapsulation {\n Emulated = 0,\n // Historically the 1 value was for `Native` encapsulation which has been removed as of v11.\n None = 2,\n ShadowDom = 3\n}\n\nexport type
ChangeDetectionStrategy = number;\n\nexport interface R3QueryMetadataFacade {\n propertyName: string;\n first: boolean;\n predicate: any|string[];\n descendants: boolean;\n read: any|null;\n static: boolean;\n}\n\nexport interface ParseSourceSpan {\n start: any;\n end: any;\n details: any;\n fullStart: any;\n}\n","/**\n * @license\n *

Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {global} from '../util/global';\nimport {CompilerFacade, ExportedCompilerFacade} from './compiler_facade_interface';\nexport * from './compiler_facade_interface';\n\nexport function getCompilerFacade(): CompilerFacade {\n  const globalNg: ExportedCompilerFacade = global['ng'];\n  if (!globalNg || !globalNg.compilerFacade) {\n    throw new Error(\n `Angular JIT compilation failed: '@angular/compiler' not loaded!\\n` +\n        ` - JIT compilation is discouraged for production use-cases! Consider AOT mode instead.\\n` +\n        ` - Did you bootstrap using '@angular/platform-browser-dynamic' or '@angular/platform-server'?\\n` +\n        ` - Alternatively provide the compiler with 'import \"@angular/compiler\";' before bootstrapping.`);\n  }\n  return globalNg.compilerFacade;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @description\n *\n * Represents a type that a Component or other object is instances of.\n *\n * An example of a `Type` is `MyCustomComponent` class, which in JavaScript is represented by\n * the `MyCustomComponent` constructor function.\n *\n * @publicApi\n */\nexport const Type = Function;\n\nexport function isType(v: any): v is Type<any> {\n  return typeof v === 'function';\n}\n\n/**\n * @description\n *\n * Represents an abstract class `T`, if applied to a concrete class it would stop being\n * instantiable.\n *\n * @publicApi\n */\nexport interface AbstractType<T> extends Function {\n  prototype: T;\n}\n\nexport interface Type<T> extends Function {\n  new(...args: any[]): T;\n}\n\nexport type Mutable<T extends {[x: string]: any}, K extends string> = {\n  [P in K]: T[P];\n};\n\n/**\n * Returns a writable type version of type.\n *\n * USAGE:\n * Given:\n * ```\n * interface Person {readonly name: string}\n * ```\n *\n * We would like to get a read/write version of `Person`.\n * ```\n * const WritablePerson = Writable<Person>;\n * ```\n *\n * The result is that you can do:\n *\n * ```\n * const readonlyPerson: Person = {name: 'Marry'};\n * readonlyPerson.name = 'John'; // TypeError\n * (readonlyPerson as WritablePerson).name = 'John'; // OK\n *\n * // Error: Correctly detects that `Person` did not have `age` property.\n * (readonlyPerson as WritablePerson).age = 30;\n * ```\n */\nexport type Writable<T> = {\n -readonly[K in keyof T]: T[K];\n};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertEqual, assertLessThanOrEqual} from './assert';\n\n/**\n * Equivalent to ES6 spread, add each item to an array.\n *\n * @param items The items to add\n * @param arr The array to which you want to add the items\n */\nexport function addAllToArray(items: any[], arr: any[]) {\n  for (let i = 0; i < items.length; i++) {\n    arr.push(items[i]);\n  }\n}\n\n/**\n * Flattens an array.\n */\nexport function flatten(list: any[], dst?: any[]): any[] {\n  if (dst === undefined) dst = list;\n  for (let i = 0; i < list.length; i++) {\n    let item = list[i];\n    if (Array.isArray(item)) {\n      // we need to inline it.\n      if (dst === list) {\n        // Our assumption that the list was already flat was wrong and\n        // we need to clone flat since we need to write to it.\n        dst = list.slice(0, i);\n      }\n      flatten(item, dst);\n    } else if (dst !== list) {\n      dst.push(item);\n    }\n  }\n  return dst;\n}\n\nexport function deepForEach<T>(input: (T|any[])[], fn: (value: T) => void): void {\n  input.forEach(value => Array.isArray(value) ? deepForEach(value, fn) : fn(value));\n}\n\nexport function addToArray(arr: any[], index: number, value: any): void {\n  // perf: array.push is faster than array.splice!\n  if (index >= arr.length) {\n    arr.push(value);\n  } else {\n    arr.splice(index, 0, value);\n  }\n}\n\nexport function removeFromArray(arr: any[], index: number): any {\n  // perf: array.pop is faster than array.splice!\n  if (index >= arr.length - 1) {\n    return arr.pop();\n  } else {\n    return arr.splice(index, 1)[0];\n  }\n}\n\nexport function newArray<T = any>(size: number): T[];\nexport function newArray<T>(size: number, value: T): T[];\nexport function newArray<T>(size: number, value?: T): T[] {\n  const list: T[] = [];\n  for (let i = 0; i < size; i++) {\n    list.push(value!);\n  }\n  return list;\n}\n\n/**\n * Remove item from array (Same as `Array.splice()` but faster.)\n *\n * `Array.splice()` is not as fast because it has to allocate an array for the elements which were\n * removed. This causes memory pressure and slows down code when most of the time we don't\n * care about the deleted items array.\n *\n * https://jsperf.com/fast-array-splice (About 20x faster)\n *\n * @param array Array to splice\n * @param index Index of element in array to remove.\n *

@param count Number of items to remove.\n */\nexport function arraySplice(array: any[], index: number, count: number): void {\n  const length = array.length - count;\n  while (index < length) {\n    array[index] = array[index + count];\n    index++;\n  }\n  while (count--) {\n    array.pop();  // shrink the array\n  }\n}\n\n/**\n * Same as `Array.splice(index, 0, value)` but faster.\n *\n * `Array.splice()`
 is not fast because it has to allocate an array for the elements which were\n * removed. This causes memory pressure and slows down code when most of the time we don't\n * care about the deleted items array.\n *\n * @param array Array to splice.\n * @param index Index in array where the `value` should be added.\n * @param value Value to add to array.\n */\nexport function arrayInsert(array: any[], index: number, value: any): void {\n ngDevMode && assertLessThanOrEqual(index, array.length, 'Can\\'t insert past array end.');\n  let end = array.length;\n  while (end > index) {\n    const previousEnd = end - 1;\n    array[end] = array[previousEnd];\n    end = previousEnd;\n  }\n  array[index] = value;\n}\n\n/**\n * Same as `Array.splice2(index, 0, value1, value2)` but faster.\n *\n * `Array.splice()` is not fast because it has to allocate an array for the elements which were\n * removed. This causes memory pressure and slows down code when most of the time we don't\n * care about the
 deleted items array.\n *\n * @param array Array to splice.\n * @param index Index in array where the `value` should be added.\n * @param value1 Value to add to array.\n * @param value2 Value to add to array.\n */\nexport function arrayInsert2(array: any[], index: number, value1: any, value2: any): void {\n  ngDevMode && assertLessThanOrEqual(index, array.length, 'Can\\'t insert past array end.');\n  let end = array.length;\n  if (end == index) {\n    // inserting at the end.\n    array.push(value1, value2);\n  } else if (end === 1) {\n    // corner case when we have less items in array than we have items to insert.\n    array.push(value2, array[0]);\n    array[0] = value1;\n  } else {\n    end--;\n    array.push(array[end - 1], array[end]);\n    while (end > index) {\n      const previousEnd = end - 2;\n      array[end] = array[previousEnd];\n      end--;\n    }\n    array[index] = value1;\n    array[index + 1] = value2;\n  }\n}\n\n/**\n * Insert a `value` into an `array` so that the
 array remains sorted.\n *\n * NOTE:\n * - Duplicates are not allowed, and are ignored.\n * - This uses binary search algorithm for fast inserts.\n *\n * @param array A sorted array to insert into.\n * @param value The value to insert.\n * @returns index of the inserted value.\n */\nexport function arrayInsertSorted(array: string[], value: string): number {\n  let index = arrayIndexOfSorted(array, value);\n  if (index < 0) {\n    // if we did not find it insert it.\n    index = ~index;\n    arrayInsert(array, index, value);\n  }\n  return index;\n}\n\n/**\n * Remove `value` from a sorted `array`.\n *\n * NOTE:\n * - This uses binary search algorithm for fast removals.\n *\n * @param array A sorted array to remove from.\n * @param value The value to remove.\n * @returns index of the removed value.\n *    - positive index if value found and removed.\n *    - negative index if value not found. (`~index` to get the value where it should have been\n *      inserted)\n */\nexport function arrayRemoveSorted(array:
 string[], value: string): number {\n  const index = arrayIndexOfSorted(array, value);\n  if (index >= 0) {\n    arraySplice(array, index, 1);\n  }\n  return index;\n}\n\n\n/**\n * Get an index of an `value` in a sorted `array`.\n *\n * NOTE:\n * - This uses binary search algorithm for fast removals.\n *\n * @param array A sorted array to binary search.\n * @param value The value to look for.\n * @returns index of the value.\n *    - positive index if value found.\n *    - negative index if value not found. (`~index` to get the value where it should have been\n * located)\n */\nexport function arrayIndexOfSorted(array: string[], value: string): number {\n  return _arrayIndexOfSorted(array, value, 0);\n}\n\n\n/**\n * `KeyValueArray` is an array where even positions contain keys and odd positions contain values.\n *\n * `KeyValueArray` provides a very efficient way of iterating over its contents. For small\n * sets (~10) the cost of binary searching an `KeyValueArray`
 has about the same performance\n * characteristics that of a `Map` with significantly better memory footprint.\n *\n * If used as a `Map` the keys are stored in alphabetical order so that they can be binary searched\n * for retrieval.\n *\n * See: `keyValueArraySet`, `keyValueArrayGet`, `keyValueArrayIndexOf`, `keyValueArrayDelete`.\n */\nexport interface KeyValueArray<VALUE> extends Array<VALUE|string> {\n  __brand__: 'array-map';\n}\n\n/**\n * Set a `value` for a `key`.\n *\n * @param keyValueArray to modify.\n * @param key The key to locate or create.\n * @param value The value to set for a `key`.\n * @returns index (always even) of where the value vas set.\n */\nexport function keyValueArraySet<V>(\n  keyValueArray: KeyValueArray<V>, key: string, value: V): number {\n  let index = keyValueArrayIndexOf(keyValueArray, key);\n  if (index >= 0) {\n    // if we found it

set it.\n keyValueArray[index | 1] = value;\n } else {\n index = ~index;\n arrayInsert2(keyValueArray, index, key, value);\n }\n return index;\n}\n\n/**\n * Retrieve a `value` for a `key` (on `undefined` if not found.)\n *\n * @param keyValueArray to search.\n * @param key The key to locate.\n * @return The `value` stored at the `key` location or `undefined if not found.\n */\nexport function keyValueArrayGet<V>(keyValueArray: KeyValueArray<V>, key: string): V|undefined {\n const index = keyValueArrayIndexOf(keyValueArray, key);\n if (index >= 0) {\n // if we found it retrieve it.\n return keyValueArray[index | 1] as V;\n }\n return undefined;\n}\n\n/**\n * Retrieve a `key` index value in the array or `-1` if not found.\n *\n * @param keyValueArray to search.\n * @param key The key to locate.\n * @returns index of where the key is (or should have been.)\n * - positive (even) index if key found.\n * - negative index if key not found. (`~index` (even) to get the index where it should have\n * been inserted.)\n */\nexport function keyValueArrayIndexOf<V>(keyValueArray: KeyValueArray<V>, key: string): number {\n return _arrayIndexOfSorted(keyValueArray as string[], key, 1);\n}\n\n/**\n * Delete a `key` (and `value`) from the `KeyValueArray`.\n *\n * @param keyValueArray to modify.\n * @param key The key to locate or delete (if exist).\n * @returns index of where the key was (or should have been.)\n * - positive (even) index if key found and deleted.\n * - negative index if key not found. (`~index` (even) to get the index where it should have\n * been.)\n */\nexport function keyValueArrayDelete<V>(keyValueArray: KeyValueArray<V>, key: string): number {\n const index = keyValueArrayIndexOf(keyValueArray, key);\n if (index >= 0) {\n // if we found it remove it.\n arraySplice(keyValueArray, index, 2);\n }\n return index;\n}\n\n/**\n * INTERNAL: Get an index of an `value` in a sorted `array` by grouping search by `shift`.\n *\n * NOTE:\n * - This uses binary search algorithm for fast removals.\n *\n * @param array A sorted array to binary search.\n * @param value The value to look for.\n * @param shift grouping shift.\n * - `0` means look at every location\n * - `1` means only look at every other (even) location (the odd locations are to be ignored as\n * they are values.)\n * @returns index of the value.\n * - positive index if value found.\n * - negative index if value not found. (`~index` to get the value where it should have been\n * inserted)\n */\nfunction _arrayIndexOfSorted(array: string[], value: string, shift: number): number {\n ngDevMode && assertEqual(Array.isArray(array), true, 'Expecting an array');\n let start = 0;\n let end = array.length >> shift;\n while (end !== start) {\n const middle = start + ((end - start) >> 1); // find the middle.\n const current = array[middle << shift];\n if (value === current) {\n return (middle << shift);\n } else if (current > value) {\n end = middle;\n } else {\n start = middle + 1; // We already searched middle so make it non-inclusive by adding 1\n }\n }\n return ~(end << shift);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {isType, Type} from '../interface/type';\nimport {newArray} from '../util/array_utils';\nimport {ANNOTATIONS, PARAMETERS, PROP_METADATA} from '../util/decorators';\nimport {global} from '../util/global';\nimport {stringify} from '../util/stringify';\n\nimport {PlatformReflectionCapabilities} from './platform_reflection_capabilities';\nimport {GetterFn, MethodFn, SetterFn} from './types';\n\n\n\n/*\n * ##########################\n * Attention: These Regular expressions have to hold even if the code is minified!\n * ##########################\n */\n\n/**\n * Regular expression that detects pass-through constructors for ES5 output. This Regex\n * intends to capture the common delegation pattern emitted by TypeScript and Babel. Also\n * it intends to capture the pattern where existing constructors have been downleveled from\n * ES2015 to ES5 using TypeScript w/ downlevel iteration. e.g.\n *\n * ```\n * function MyClass() {\n * var _this = _super.apply(this, arguments) || this;\n * ```\n *\n * ```\n * function MyClass() {\n * var _this = _super.apply(this, __spread(arguments)) || this;\n * ```\n *\n * More details can be found in: https://github.com/angular/angular/issues/38453.\n */\nexport const ES5_DELEGATE_CTOR =\n /^function\\s+\\S+\\(\\)\\s*{[\\s\\S]+\\.apply\\(this,\\s*(arguments|[^()]+\\(arguments\\))\\)/;\n/** Regular expression that detects ES2015 classes which extend from other classes. */\nexport const ES2015_INHERITED_CLASS = /^class\\s+[A-Za-z\\d$_]*\\s*extends\\s+[^{]+{/;\n/**\n * Regular expression that detects ES2015 classes which extend from other classes and\n * have an explicit constructor defined.\n */\nexport const ES2015_INHERITED_CLASS_WITH_CTOR

```
=\n    /^class\\s+[A-Za-z\\d$_]*\\s*extends\\s+[^{]+{[\\s\\S]*constructor\\s*\\(/;\n/**\n * Regular expression that detects ES2015 classes which extend from other classes\n * and inherit a constructor.\n */\nexport const ES2015_INHERITED_CLASS_WITH_DELEGATE_CTOR =\n    /^class\\s+[A-Za-z\\d$_]*\\s*extends\\s+[^{]+{[\\s\\S]*constructor\\s*\\(\\)\\s*{\\s*super\\(\\.\\.\\.arguments\\)/;\n\n/**\n * Determine whether a stringified type is a class which delegates its constructor\n * to its parent.\n *\n * This is not trivial since compiled code can actually contain a constructor function\n * even if the original source code did not. For instance, when the child class contains\n * an initialized instance property.\n */\nexport function isDelegateCtor(typeStr: string): boolean {\n  return ES5_DELEGATE_CTOR.test(typeStr) ||\n ES2015_INHERITED_CLASS_WITH_DELEGATE_CTOR.test(typeStr) ||\n (ES2015_INHERITED_CLASS.test(typeStr) &&\n !ES2015_INHERITED_CLASS_WITH_CTOR.test(typeStr));\n}\n\nexport\n  class ReflectionCapabilities implements PlatformReflectionCapabilities {\n  private _reflect: any;\n\n constructor(reflect?: any) {\n    this._reflect = reflect || global['Reflect'];\n  }\n\n  isReflectionEnabled(): boolean {\n    return true;\n  }\n\n  factory<T>(t: Type<T>): (args: any[]) => T {\n    return (...args: any[]) => new t(...args);\n  }\n\n  /** @internal */\n  _zipTypesAndAnnotations(paramTypes: any[], paramAnnotations: any[]): any[][] {\n    let result: any[][];\n\n    if (typeof paramTypes === 'undefined') {\n      result = newArray(paramAnnotations.length);\n    } else {\n      result = newArray(paramTypes.length);\n    }\n\n    for (let i = 0; i < result.length; i++) {\n      // TS outputs Object for parameters without types, while Traceur omits\n      // the annotations. For now we preserve the Traceur behavior to aid\n      // migration, but this can be revisited.\n      if (typeof paramTypes === 'undefined') {\n        result[i] = [];\n      } else if (paramTypes[i]\n    && paramTypes[i] != Object) {\n        result[i] = [paramTypes[i]];\n      } else {\n        result[i] = [];\n      }\n      if (paramAnnotations && paramAnnotations[i] != null) {\n        result[i] = result[i].concat(paramAnnotations[i]);\n      }\n    }\n    return result;\n  }\n\n  private _ownParameters(type: Type<any>, parentCtor: any): any[][]|null {\n    const typeStr = type.toString();\n    // If we have no decorators, we only have function.length as metadata.\n    // In that case, to detect whether a child class declared an own constructor or not,\n    // we need to look inside of that constructor to check whether it is\n    // just calling the parent.\n    // This also helps to work around for https://github.com/Microsoft/TypeScript/issues/12439\n    // that sets 'design:paramtypes' to []\n    // if a class inherits from another class but has no ctor declared itself.\n    if (isDelegateCtor(typeStr)) {\n      return null;\n    }\n\n    // Prefer the direct API.\n    if ((<any>type).parameters && (<any>type).parameters !== parentCtor.parameters) {\n      return (<any>type).parameters;\n    }\n\n    // API of tsickle for lowering decorators to properties on the class.\n    const tsickleCtorParams = (<any>type).ctorParameters;\n    if (tsickleCtorParams && tsickleCtorParams !== parentCtor.ctorParameters) {\n      // Newer tsickle uses a function closure\n      // Retain the non-function case for compatibility with older tsickle\n      const ctorParameters =\n          typeof tsickleCtorParams === 'function' ? tsickleCtorParams() : tsickleCtorParams;\n      const paramTypes = ctorParameters.map((ctorParam: any) => ctorParam && ctorParam.type);\n      const paramAnnotations = ctorParameters.map(\n          (ctorParam: any) =>\n              ctorParam && convertTsickleDecoratorIntoMetadata(ctorParam.decorators));\n      return this._zipTypesAndAnnotations(paramTypes, paramAnnotations);\n    }\n\n    // API for metadata created by invoking the decorators.\n
    const paramAnnotations = type.hasOwnProperty(PARAMETERS) && (type as any)[PARAMETERS];\n    const paramTypes = this._reflect && this._reflect.getOwnMetadata &&\n this._reflect.getOwnMetadata('design:paramtypes', type);\n    if (paramTypes || paramAnnotations) {\n      return this._zipTypesAndAnnotations(paramTypes, paramAnnotations);\n    }\n\n    // If a class has no decorators, at least create metadata\n    // based on function.length.\n    // Note: We know that this is a real constructor as we checked\n    // the content of the constructor above.\n    return newArray<any[]>(type.length);\n  }\n\n  parameters(type: Type<any>): any[][] {\n    // Note: only report metadata if we have at least one class decorator\n    // to stay in sync with the static reflector.\n    if (!isType(type)) {\n      return [];\n    }\n    const parentCtor = getParentCtor(type);\n    let parameters = this._ownParameters(type, parentCtor);\n    if (!parameters && parentCtor !== Object) {\n
```

```
 parameters = this.parameters(parentCtor);\n    }\n    return parameters || [];\n  }\n\n  private
_ownAnnotations(typeOrFunc: Type<any>, parentCtor: any): any[]|null {\n    // Prefer the direct API.\n    if
((<any>typeOrFunc).annotations && (<any>typeOrFunc).annotations !== parentCtor.annotations) {\n      let
annotations = (<any>typeOrFunc).annotations;\n      if (typeof annotations === 'function' &&
annotations.annotations) {\n        annotations = annotations.annotations;\n      }\n      return annotations;\n    }\n\n    //
API of tsickle for lowering decorators to properties on the class.\n    if ((<any>typeOrFunc).decorators &&
(<any>typeOrFunc).decorators !== parentCtor.decorators) {\n      return
convertTsickleDecoratorIntoMetadata((<any>typeOrFunc).decorators);\n    }\n\n    // API for metadata created by
invoking the decorators.\n    if (typeOrFunc.hasOwnProperty(ANNOTATIONS)) {\n      return (typeOrFunc as
any)[ANNOTATIONS];\n    }\n    return null;\n  }\n\n  annotations(typeOrFunc:
 Type<any>): any[] {\n    if (!isType(typeOrFunc)) {\n      return [];\n    }\n    const parentCtor =
getParentCtor(typeOrFunc);\n    const ownAnnotations = this._ownAnnotations(typeOrFunc, parentCtor) || [];\n
const parentAnnotations = parentCtor !== Object ? this.annotations(parentCtor) : [];\n    return
parentAnnotations.concat(ownAnnotations);\n  }\n\n  private _ownPropMetadata(typeOrFunc: any, parentCtor:
any): {[key: string]: any[]}|null {\n    // Prefer the direct API.\n    if ((<any>typeOrFunc).propMetadata &&\n
(<any>typeOrFunc).propMetadata !== parentCtor.propMetadata) {\n      let propMetadata =
(<any>typeOrFunc).propMetadata;\n      if (typeof propMetadata === 'function' && propMetadata.propMetadata)
{\n        propMetadata = propMetadata.propMetadata;\n      }\n      return propMetadata;\n    }\n\n    // API of tsickle
for lowering decorators to properties on the class.\n    if ((<any>typeOrFunc).propDecorators &&\n
(<any>typeOrFunc).propDecorators !==
 parentCtor.propDecorators) {\n      const propDecorators = (<any>typeOrFunc).propDecorators;\n      const
propMetadata = <{[key: string]: any[]}>{};\n      Object.keys(propDecorators).forEach(prop => {\n
propMetadata[prop] = convertTsickleDecoratorIntoMetadata(propDecorators[prop]);\n      });\n      return
propMetadata;\n    }\n\n    // API for metadata created by invoking the decorators.\n    if
(typeOrFunc.hasOwnProperty(PROP_METADATA)) {\n      return (typeOrFunc as any)[PROP_METADATA];\n
}\n    return null;\n  }\n\n  propMetadata(typeOrFunc: any): {[key: string]: any[]} {\n    if (!isType(typeOrFunc)) {\n
    return {};\n    }\n    const parentCtor = getParentCtor(typeOrFunc);\n    const propMetadata: {[key: string]: any[]}
= {};\n    if (parentCtor !== Object) {\n      const parentPropMetadata = this.propMetadata(parentCtor);\n
Object.keys(parentPropMetadata).forEach((propName) => {\n        propMetadata[propName] =
parentPropMetadata[propName];\n      });\n
  }\n    const ownPropMetadata = this._ownPropMetadata(typeOrFunc, parentCtor);\n    if (ownPropMetadata) {\n
Object.keys(ownPropMetadata).forEach((propName) => {\n        const decorators: any[] = [];\n        if
(propMetadata.hasOwnProperty(propName)) {\n          decorators.push(...propMetadata[propName]);\n        }\n
decorators.push(...ownPropMetadata[propName]);\n        propMetadata[propName] = decorators;\n      });\n    }\n
return propMetadata;\n  }\n\n  ownPropMetadata(typeOrFunc: any): {[key: string]: any[]} {\n    if
(!isType(typeOrFunc)) {\n      return {};\n    }\n    return this._ownPropMetadata(typeOrFunc,
getParentCtor(typeOrFunc)) || {};\n  }\n\n  hasLifecycleHook(type: any, lcProperty: string): boolean {\n    return
type instanceof Type && lcProperty in type.prototype;\n  }\n\n  guards(type: any): {[key: string]: any} {\n    return
{};\n  }\n\n  getter(name: string): GetterFn {\n    return <GetterFn>new Function('o', 'return o.' + name + ';');\n  }\n\n
  setter(name: string): SetterFn {\n    return <SetterFn>new Function('o', 'v', 'return o.' + name + ' = v;');\n  }\n\n
method(name: string): MethodFn {\n    const functionBody = `if (!o.${name}) throw new Error('\"${name}\" is
undefined');\n        return o.${name}.apply(o, args);`;\n    return <MethodFn>new Function('o', 'args',
functionBody);\n  }\n\n  // There is not a concept of import uri in Js, but this is useful in developing Dart
applications.\n  importUri(type: any): string {\n    // StaticSymbol\n    if (typeof type === 'object' &&
type['filePath']) {\n      return type['filePath'];\n    }\n    // Runtime type\n    return `./${stringify(type)}`;\n  }\n\n
resourceUri(type: any): string {\n    return `./${stringify(type)}`;\n  }\n\n  resolveIdentifier(name: string, moduleUrl:
string, members: string[], runtime: any): any {\n    return runtime;\n  }\n  resolveEnum(enumIdentifier: any, name:
string): any {\n    return enumIdentifier[name];\n  }\n}\n\nfunction
```

convertTsickleDecoratorIntoMetadata(decoratorInvocations:
any[]): any[] {\n  if (!decoratorInvocations) {\n    return [];\n  }\n  return
decoratorInvocations.map(decoratorInvocation => {\n    const decoratorType = decoratorInvocation.type;\n    const
annotationCls = decoratorType.annotationCls;\n    const annotationArgs = decoratorInvocation.args ?
decoratorInvocation.args : [];\n    return new annotationCls(...annotationArgs);\n  });\n}\n\nfunction
getParentCtor(ctor: Function): Type<any> {\n  const parentProto = ctor.prototype ?
Object.getPrototypeOf(ctor.prototype) : null;\n  const parentCtor = parentProto ? parentProto.constructor : null;\n  //
Note: We always use `Object` as the null value\n  // to simplify checking later on.\n  return parentCtor ||
Object;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is
governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
*/\n\nimport {makeParamDecorator}
from '../util/decorators';\n\n\n/**\n * Type of the Inject decorator / constructor function.\n *\n * @publicApi\n
*/\nexport interface InjectDecorator {\n  /**\n   * Parameter decorator on a dependency parameter of a class
constructor\n   * that specifies a custom provider of the dependency.\n   *\n   * @usageNotes\n   * The following
example shows a class constructor that specifies a\n   * custom provider of a dependency using the parameter
decorator.\n   *\n   * When `@Inject()` is not present, the injector uses the type annotation of the\n   * parameter as
the provider.\n   *\n   * <code-example path=\"core/di/ts/metadata_spec.ts\" region=\"InjectWithoutDecorator\">\n
* </code-example>\n   *\n   * @see [\"Dependency Injection Guide\"](guide/dependency-injection)\n   *\n   */\n
(token: any): any;\n  new(token: any): Inject;\n}\n\n/**\n * Type of the Inject metadata.\n *\n * @publicApi\n
*/\nexport interface Inject {\n  /**\n   * A [DI token](guide/glossary#di-token) that maps to
the dependency to be injected.\n   */\n  token: any;\n}\n\n/**\n * Inject decorator and metadata.\n *\n *
@Annotation\n * @publicApi\n */\nexport const Inject: InjectDecorator = makeParamDecorator('Inject', (token:
any) => ({token}));\n\n\n/**\n * Type of the Optional decorator / constructor function.\n *\n * @publicApi\n
*/\nexport interface OptionalDecorator {\n  /**\n   * Parameter decorator to be used on constructor parameters,\n   *
which marks the parameter as being an optional dependency.\n   * The DI framework provides null if the
dependency is not found.\n   *\n   * Can be used together with other parameter decorators\n   * that modify how
dependency injection operates.\n   *\n   * @usageNotes\n   *\n   * The following code allows the possibility of a null
result:\n   *\n   * <code-example path=\"core/di/ts/metadata_spec.ts\" region=\"Optional\">\n   * </code-example>\n
   *\n   * @see [\"Dependency Injection Guide\"](guide/dependency-injection).\n   */\n  (): any;\n  new():
Optional;\n}\n\n/**\n
 * Type of the Optional metadata.\n *\n * @publicApi\n */\nexport interface Optional {}\n\n/**\n * Optional
decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const Optional: OptionalDecorator =
makeParamDecorator('Optional');\n\n/**\n * Type of the Self decorator / constructor function.\n *\n * @publicApi\n
*/\nexport interface SelfDecorator {\n  /**\n   * Parameter decorator to be used on constructor parameters,\n   *
which tells the DI framework to start dependency resolution from the local injector.\n   *\n   * Resolution works
upward through the injector hierarchy, so the children\n   * of this class must configure their own providers or be
prepared for a null result.\n   *\n   * @usageNotes\n   *\n   * In the following example, the dependency can be
resolved\n   * by the local injector when instantiating the class itself, but not\n   * when instantiating a child.\n   *\n
* <code-example path=\"core/di/ts/metadata_spec.ts\" region=\"Self\">\n
   * </code-example>\n   *\n   * @see `SkipSelf`\n   * @see `Optional`\n   *\n   */\n  (): any;\n  new():
Self;\n}\n\n/**\n * Type of the Self metadata.\n *\n * @publicApi\n */\nexport interface Self {}\n\n/**\n * Self
decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const Self: SelfDecorator =
makeParamDecorator('Self');\n\n\n/**\n * Type of the `SkipSelf` decorator / constructor function.\n *\n *
@publicApi\n */\nexport interface SkipSelfDecorator {\n  /**\n   * Parameter decorator to be used on constructor
parameters,\n   * which tells the DI framework to start dependency resolution from the parent injector.\n   *
Resolution works upward through the injector hierarchy, so the local injector\n   * is not checked for a provider.\n
*\n   * @usageNotes\n   *\n   * In the following example, the dependency can be resolved when\n   * instantiating a
child, but not when instantiating the class itself.\n   *\n   * <code-example path=\"core/di/ts/metadata_spec.ts\"

region=\"SkipSelf\">\n * </code-example>\n *\n * @see [Dependency Injection guide](guide/dependency-injection-in-action#skip).\n * @see `Self`\n * @see `Optional`\n *\n */\n (): any;\n new(): SkipSelf;\n}\n\n/**\n * Type of the `SkipSelf` metadata.\n *\n * @publicApi\n */\nexport interface SkipSelf {}\n\n/**\n * `SkipSelf` decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const SkipSelf: SkipSelfDecorator = makeParamDecorator('SkipSelf');\n\n/**\n * Type of the `Host` decorator / constructor function.\n *\n * @publicApi\n */\nexport interface HostDecorator {\n /**\n * Parameter decorator on a view-provider parameter of a class constructor\n * that tells the DI framework to resolve the view by checking injectors of child\n * elements, and stop when reaching the host element of the current component.\n *\n * @usageNotes\n *\n * The following shows use with the `@Optional` decorator, and allows for a null result.\n *\n * <code-example
path=\"core/di/ts/metadata_spec.ts\" region=\"Host\">\n * </code-example>\n *\n * For an extended example, see [\"Dependency Injection\n * Guide\"](guide/dependency-injection-in-action#optional).\n */\n (): any;\n new(): Host;\n}\n\n/**\n * Type of the Host metadata.\n *\n * @publicApi\n */\nexport interface Host {}\n\n/**\n * Host decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const Host: HostDecorator = makeParamDecorator('Host');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompilerFacade, getCompilerFacade, R3DependencyMetadataFacade, R3ResolvedDependencyType} from '../../compiler/compiler_facade';\nimport {Type} from '../../interface/type';\nimport {ReflectionCapabilities} from '../../reflection/reflection_capabilities';\nimport {Host, Inject, Optional, Self, SkipSelf}
from '../metadata';\nimport {Attribute} from '../metadata_attr';\n\nlet _reflect: ReflectionCapabilities|null = null;\n\nexport function getReflect(): ReflectionCapabilities {\n return (_reflect = _reflect || new ReflectionCapabilities());\n}\n\nexport function reflectDependencies(type: Type<any>): R3DependencyMetadataFacade[] {\n return convertDependencies(getReflect().parameters(type));\n}\n\nexport function convertDependencies(deps: any[]): R3DependencyMetadataFacade[] {\n const compiler = getCompilerFacade();\n return deps.map(dep => reflectDependency(compiler, dep));\n}\n\nfunction reflectDependency(compiler: CompilerFacade, dep: any|any[]): R3DependencyMetadataFacade {\n const meta: R3DependencyMetadataFacade = {\n token: null,\n host: false,\n optional: false,\n resolved: compiler.R3ResolvedDependencyType.Token,\n self: false,\n skipSelf: false,\n };\n\n function setTokenAndResolvedType(token: any): void {\n meta.resolved = compiler.R3ResolvedDependencyType.Token;\n
meta.token = token;\n }\n\n if (Array.isArray(dep) && dep.length > 0) {\n for (let j = 0; j < dep.length; j++) {\n const param = dep[j];\n if (param === undefined) {\n // param may be undefined if type of dep is not set by ngtsc\n continue;\n }\n\n const proto = Object.getPrototypeOf(param);\n\n if (param instanceof Optional || proto.ngMetadataName === 'Optional') {\n meta.optional = true;\n } else if (param instanceof SkipSelf || proto.ngMetadataName === 'SkipSelf') {\n meta.skipSelf = true;\n } else if (param instanceof Self || proto.ngMetadataName === 'Self') {\n meta.self = true;\n } else if (param instanceof Host || proto.ngMetadataName === 'Host') {\n meta.host = true;\n } else if (param instanceof Inject) {\n meta.token = param.token;\n } else if (param instanceof Attribute) {\n if (param.attributeName === undefined) {\n throw new Error(`Attribute
name must be defined.`);\n }\n meta.token = param.attributeName;\n meta.resolved = compiler.R3ResolvedDependencyType.Attribute;\n } else if (param.__ChangeDetectorRef__ === true) {\n meta.token = param;\n meta.resolved = compiler.R3ResolvedDependencyType.ChangeDetectorRef;\n } else {\n setTokenAndResolvedType(param);\n }\n }\n } else if (dep === undefined || (Array.isArray(dep) && dep.length === 0)) {\n meta.token = undefined;\n meta.resolved = R3ResolvedDependencyType.Invalid;\n } else {\n setTokenAndResolvedType(dep);\n }\n return meta;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {Component}

from './directives';\n\n\n/**\n * Used to resolve resource URLs on `@Component` when used with JIT compilation.\n *\n * Example:\n * ```\n * @Component({\n *   selector: 'my-comp',\n *   templateUrl: 'my-comp.html', // This requires asynchronous resolution\n * })\n * class MyComponent{\n * }\n *\n * // Calling `renderComponent` will fail because `renderComponent` is a synchronous process\n * // and `MyComponent`'s `@Component.templateUrl` needs to be resolved asynchronously.\n *\n * // Calling `resolveComponentResources()` will resolve `@Component.templateUrl` into\n * // `@Component.template`, which allows `renderComponent` to proceed in a synchronous manner.\n *\n * // Use browser's `fetch()` function as the default resource resolution strategy.\n * resolveComponentResources(fetch).then(() => {\n *   // After resolution all URLs have been converted into `template` strings.\n *   renderComponent(MyComponent);\n * });\n *\n * ```\n *\n * NOTE: In AOT the resolution happens during compilation, and so there should be no need\n * to call this method outside JIT mode.\n *\n * @param resourceResolver a function which is responsible for returning a `Promise` to the\n * contents of the resolved URL. Browser's `fetch()` method is a good default implementation.\n */\nexport function resolveComponentResources(\n resourceResolver: (url: string) => (Promise<string|{text(): Promise<string>}>)): Promise<void> {\n  // Store all promises which are fetching the resources.\n  const componentResolved: Promise<void>[] = [];\n\n  // Cache so that we don't fetch the same resource more than once.\n  const urlMap = new Map<string, Promise<string>>();\n function cachedResourceResolve(url: string): Promise<string> {\n    let promise = urlMap.get(url);\n    if (!promise) {\n      const resp = resourceResolver(url);\n      urlMap.set(url, promise = resp.then(unwrapResponse));\n    }\n return promise;\n  }\n\n  componentResourceResolutionQueue.forEach((component: Component, type: Type<any>) => {\n    const promises: Promise<void>[] = [];\n    if (component.templateUrl) {\n promises.push(cachedResourceResolve(component.templateUrl).then((template) => {\n      component.template = template;\n    }));\n    }\n    const styleUrls = component.styleUrls;\n    const styles = component.styles || (component.styles = []);\n    const styleOffset = component.styles.length;\n    styleUrls && styleUrls.forEach((styleUrl, index) => {\n      styles.push('');  // pre-allocate array.\n promises.push(cachedResourceResolve(styleUrl).then((style) => {\n        styles[styleOffset + index] = style;\n styleUrls.splice(styleUrls.indexOf(styleUrl), 1);\n        if (styleUrls.length == 0) {\n          component.styleUrls = undefined;\n        }\n      }));\n    });\n    const fullyResolved = Promise.all(promises).then(() => componentDefResolved(type));\n    componentResolved.push(fullyResolved);\n  });\n clearResolutionOfComponentResourcesQueue();\n  return Promise.all(componentResolved).then(() => undefined);\n}\n\nlet componentResourceResolutionQueue = new Map<Type<any>, Component>();\n\n// Track when existing cmp for a Type is waiting on resources.\nconst componentDefPendingResolution = new Set<Type<any>>();\n\nexport function maybeQueueResolutionOfComponentResources(type: Type<any>, metadata: Component) {\n  if (componentNeedsResolution(metadata)) {\n    componentResourceResolutionQueue.set(type, metadata);\n componentDefPendingResolution.add(type);\n  }\n}\n\nexport function isComponentDefPendingResolution(type: Type<any>): boolean {\n  return componentDefPendingResolution.has(type);\n}\n\nexport function componentNeedsResolution(component: Component): boolean {\n  return !!(\n      (component.templateUrl && !component.hasOwnProperty('template')) ||\n      component.styleUrls && component.styleUrls.length);\n}\nexport function clearResolutionOfComponentResourcesQueue(): Map<Type<any>, Component> {\n  const old = componentResourceResolutionQueue;\n  componentResourceResolutionQueue = new Map();\n  return old;\n}\n\nexport function restoreComponentResolutionQueue(queue: Map<Type<any>, Component>): void {\n  componentDefPendingResolution.clear();\n  queue.forEach((_, type) => componentDefPendingResolution.add(type));\n  componentResourceResolutionQueue = queue;\n}\n\nexport function isComponentResourceResolutionQueueEmpty() {\n  return componentResourceResolutionQueue.size === 0;\n}\n\nfunction unwrapResponse(response: string|{text(): Promise<string>}): string|Promise<string> {\n  return typeof response == 'string' ? response : response.text();\n}\n\nfunction componentDefResolved(type: Type<any>): void {\n  componentDefPendingResolution.delete(type);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the

LICENSE file at https://angular.io/license\n */\n\nimport '../util/ng_dev_mode';\n\nimport {Type} from '../interface/type';\nimport {getClosureSafeProperty} from '../util/property';\nimport {stringify} from '../util/stringify';\nimport
{resolveForwardRef} from './forward_ref';\nimport {getInjectImplementation, injectRootLimpMode} from './inject_switch';\nimport {InjectionToken} from './injection_token';\nimport {Injector} from './injector';\nimport {InjectFlags} from './interface/injector';\nimport {ValueProvider} from './interface/provider';\nimport {Inject, Optional, Self, SkipSelf} from './metadata';\n\n\nconst _THROW_IF_NOT_FOUND = {};\nexport const THROW_IF_NOT_FOUND = _THROW_IF_NOT_FOUND;\n\nexport const NG_TEMP_TOKEN_PATH = 'ngTempTokenPath';\nconst NG_TOKEN_PATH = 'ngTokenPath';\nconst NEW_LINE = /\n/gm;\nconst NO_NEW_LINE = '';\nexport const SOURCE = '__source';\n\nexport const USE_VALUE =\n getClosureSafeProperty<ValueProvider>({provide: String, useValue: getClosureSafeProperty});\n\n/**\n * Current injector value used by `inject`.\n * - `undefined`: it is an error to call `inject`\n * - `null`: `inject` can be called but there is no injector (limp-mode).\n * - Injector instance:
Use the injector for resolution.\n */\nlet _currentInjector: Injector|undefined|null = undefined;\n\nexport function setCurrentInjector(injector: Injector|null|undefined): Injector|undefined|null {\n const former = _currentInjector;\n _currentInjector = injector;\n return former;\n}\n\n\nexport function injectInjectorOnly<T>(token: Type<T>|InjectionToken<T>): T;\nexport function injectInjectorOnly<T>(token: Type<T>|InjectionToken<T>, flags?: InjectFlags): T|\n null;\nexport function injectInjectorOnly<T>(\n token: Type<T>|InjectionToken<T>, flags = InjectFlags.Default): T|null {\n if (_currentInjector === undefined) {\n throw new Error(`inject() must be called from an injection context`);\n } else if (_currentInjector === null) {\n return injectRootLimpMode(token, undefined, flags);\n } else {\n return _currentInjector.get(token, flags & InjectFlags.Optional ? null : undefined, flags);\n }\n}\n\n/**\n * Generated instruction: Injects a token from the currently
active injector.\n *\n * Must be used in the context of a factory function such as one defined for an\n * `InjectionToken`. Throws an error if not called from such a context.\n *\n * (Additional documentation moved to `inject`, as it is the public API, and an alias for this\n * instruction)\n *\n * @see inject\n * @codeGenApi\n * @publicApi This instruction has been emitted by ViewEngine for some time and is deployed to npm.\n */\nexport function inject<T>(token: Type<T>|InjectionToken<T>): T;\nexport function inject<T>(token: Type<T>|InjectionToken<T>, flags?: InjectFlags): T|null;\nexport function inject<T>(token: Type<T>|InjectionToken<T>, flags = InjectFlags.Default): T|null {\n return (getInjectImplementation() || injectInjectorOnly)(resolveForwardRef(token), flags);\n}\n\n/**\n * Throws an error indicating that a factory function could not be generated by the compiler for a\n * particular class.\n *\n * This instruction allows the actual error message to be optimized away
when ngDevMode is turned\n * off, saving bytes of generated code while still providing a good experience in dev mode.\n *\n * The name of the class is not mentioned here, but will be in the generated factory function name\n * and thus in the stack trace.\n *\n * @codeGenApi\n */\nexport function invalidFactoryDep(index: number): never {\n const msg = ngDevMode ?\n `This constructor is not compatible with Angular Dependency Injection because its dependency at index ${\n index} of the parameter list is invalid.\nThis can happen if the dependency type is a primitive like a string or if an ancestor of this class is missing an Angular decorator.\n\nPlease check that 1) the type for the parameter at index ${\n index} is correct and 2) the correct Angular decorators are defined for this class and its ancestors.` :\n 'invalid';\n throw new Error(msg);\n}\n\n/**\n * Injects a token from the currently active injector.\n *\n * Must be used in the context of a factory
function such as one defined for an\n * `InjectionToken`. Throws an error if not called from such a context.\n *\n * Within such a factory function, using this function to request injection of a dependency\n * is faster and more type-safe than providing an additional array of dependencies\n * (as has been common with `useFactory` providers).\n *\n * @param token The injection token for the dependency to be injected.\n * @param flags Optional flags that control how injection is executed.\n * The flags correspond to injection strategies that can be specified with\n * parameter decorators `@Host`, `@Self`, `@SkipSef`, and `@Optional`.\n * @returns True if injection is successful, null otherwise.\n *\n * @usageNotes\n *\n * ### Example\n *\n * {@example core/di/ts/injector_spec.ts

region='ShakableInjectionToken'}\n *\n * @publicApi\n */\nexport const inject = inject;\n\n\nexport function injectArgs(types: (Type<any>|InjectionToken<any>|any[])[]): any[] {\n  const args: any[] = [];\n  for (let i = 0; i < types.length; i++) {\n    const arg = resolveForwardRef(types[i]);\n    if (Array.isArray(arg)) {\n      if (arg.length === 0) {\n        throw new Error('Arguments array must have arguments.');\n      }\n      let type: Type<any>|undefined = undefined;\n      let flags: InjectFlags = InjectFlags.Default;\n\n      for (let j = 0; j < arg.length; j++) {\n        const meta = arg[j];\n        if (meta instanceof Optional || meta.ngMetadataName === 'Optional' || meta === Optional) {\n          flags |= InjectFlags.Optional;\n        } else if (\n            meta instanceof SkipSelf || meta.ngMetadataName === 'SkipSelf' || meta === SkipSelf) {\n          flags |= InjectFlags.SkipSelf;\n        } else if (meta instanceof Self || meta.ngMetadataName === 'Self' || meta === Self) {\n          flags |= InjectFlags.Self;\n        } else if (meta instanceof Inject || meta === Inject) {\n          type = meta.token;\n        } else {\n          type = meta;\n        }\n      }\n\n      args.push(inject(type!, flags));\n    } else {\n      args.push(inject(arg));\n    }\n  }\n  return args;\n}\n\n\nexport function catchInjectorError(\n    e: any, token: any, injectorErrorName: string, source: string|null): never {\n  const tokenPath: any[] = e[NG_TEMP_TOKEN_PATH];\n  if (token[SOURCE]) {\n    tokenPath.unshift(token[SOURCE]);\n  }\n  e.message = formatError('\\n' + e.message, tokenPath, injectorErrorName, source);\n  e[NG_TOKEN_PATH] = tokenPath;\n  e[NG_TEMP_TOKEN_PATH] = null;\n  throw e;\n}\n\nexport function formatError(\n    text: string, obj: any, injectorErrorName: string, source: string|null = null): string {\n  text = text && text.charAt(0) === '\\n' && text.charAt(1) == NO_NEW_LINE ? text.substr(2) : text;\n  let context = stringify(obj);\n  if (Array.isArray(obj)) {\n    context = obj.map(stringify).join(' -> ');\n  } else if (typeof obj === 'object') {\n    let parts = <string[]>[];\n    for (let key in obj) {\n      if (obj.hasOwnProperty(key)) {\n        let value = obj[key];\n        parts.push(\n            key + ':' + (typeof value === 'string' ? JSON.stringify(value) : stringify(value)));\n      }\n    }\n    context = `{${parts.join(', ')}}`;\n  }\n  return `${injectorErrorName}${source ? '(' + source + ')' : ''}[${context}]: ${\n      text.replace(NEW_LINE, '\\n  ')}`;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @fileoverview\n * A module to facilitate use of a Trusted Types policy internally within\n * Angular. It lazily constructs the Trusted Types policy, providing helper\n * utilities for promoting strings to Trusted Types. When Trusted Types are not\n * available, strings are used as a fallback.\n * @security All use of this module is security-sensitive and should go through\n * security review.\n */\n\nimport {global} from '../global';\nimport {TrustedHTML, TrustedScript, TrustedScriptURL, TrustedTypePolicy, TrustedTypePolicyFactory} from './trusted_type_defs';\n\n/**\n * The Trusted Types policy, or null if Trusted Types are not\n * enabled/supported, or undefined if the policy has not been created yet.\n */\nlet policy: TrustedTypePolicy|null|undefined;\n\n/**\n * Returns the Trusted Types policy, or null if Trusted Types are not\n * enabled/supported. The first call to this function will create the policy.\n */\nfunction getPolicy(): TrustedTypePolicy|null {\n  if (policy === undefined) {\n    policy = null;\n    if (global.trustedTypes) {\n      try {\n        policy = (global.trustedTypes as TrustedTypePolicyFactory).createPolicy('angular', {\n          createHTML: (s: string) => s,\n          createScript: (s: string) => s,\n          createScriptURL: (s: string) => s,\n        });\n      } catch {\n        // trustedTypes.createPolicy throws if called with a name that is\n        // already registered,
even in report-only mode. Until the API changes,\n        // catch the error not to break the applications functionally. In such\n        // cases, the code will fall back to using strings.\n      }\n    }\n  }\n  return policy;\n}\n\n/**\n * Unsafely promote a string to a TrustedHTML, falling back to strings when\n * Trusted Types are not available.\n * @security This is a security-sensitive function; any use of this function\n * must go through security review. In particular, it must be assured that the\n * provided string will never cause an XSS vulnerability if used in a context\n * that will be interpreted as HTML by a browser, e.g. when assigning to\n * element.innerHTML.\n */\nexport function trustedHTMLFromString(html: string): TrustedHTML|string {\n  return getPolicy()?.createHTML(html) || html;\n}\n\n/**\n * Unsafely promote a string to a TrustedScript, falling back to strings when\n * Trusted Types are not available.\n * @security In particular, it must be assured that the provided

string will\n * never cause an XSS vulnerability if used in a context that will be\n * interpreted and executed as a script by a browser, e.g. when calling eval.\n */\nexport function trustedScriptFromString(script: string): TrustedScript|string {\n  return getPolicy()?.createScript(script) || script;\n}\n\n/**\n * Unsafely promote a string to a TrustedScriptURL, falling back to strings\n * when Trusted Types are not available.\n * @security This is a security-sensitive function; any use of this function\n * must go through security review. In particular, it must be assured that the\n * provided string will never cause an XSS vulnerability if used in a context\n * that will cause a browser to load and execute a resource, e.g. when\n * assigning to script.src.\n */\nexport function trustedScriptURLFromString(url: string): TrustedScriptURL|string {\n  return getPolicy()?.createScriptURL(url) || url;\n}\n\n/**\n * Unsafely call the Function constructor with the given string arguments.
 It\n * is only available in development mode, and should be stripped out of\n * production code.\n * @security This is a security-sensitive function; any use of this function\n * must go through security review. In particular, it must be assured that it\n * is only called from development code, as use in production code can lead to\n * XSS vulnerabilities.\n */\nexport function newTrustedFunctionForDev(...args: string[]): Function {\n  if (typeof ngDevMode === 'undefined') {\n    throw new Error('newTrustedFunctionForDev should never be called in production');\n  }\n  if (!global.trustedTypes) {\n    // In environments that don't support Trusted Types, fall back to the most\n    // straightforward implementation:\n    return new Function(...args);\n  }\n\n  // Chrome currently does not support passing TrustedScript to the Function\n  // constructor. The following implements the workaround proposed on the page\n  // below, where the Chromium bug is also referenced:\n  // https://github.com/w3c/webappsec-trusted-types/wiki/Trusted-Types-for-function-constructor\n
  const fnArgs = args.slice(0, -1).join(',');\n  const fnBody = args.pop()!.toString();\n  const body = `(function anonymous(${fnArgs}\n) { ${fnBody}\n})`;\n\n  // Using eval directly confuses the compiler and prevents this module from\n  // being stripped out of JS binaries even if not used. The global['eval']\n  // indirection fixes that.\n  const fn = global['eval'](trustedScriptFromString(body) as string) as Function;\n\n  // To completely mimic the behavior of calling \"new Function\", two more\n  // things need to happen:\n  // 1. Stringifying the resulting function should return its source code\n  fn.toString = () => body;\n  // 2. When calling the resulting function, `this` should refer to `global`\n  return fn.bind(global);\n\n  // When Trusted Types support in Function constructors is widely available,\n  // the implementation of this function can be simplified to:\n  // return new Function(...args.map(a => trustedScriptFromString(a)));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nexport const enum BypassType {\n  Url = 'URL',\n  Html = 'HTML',\n  ResourceUrl = 'ResourceURL',\n  Script = 'Script',\n  Style = 'Style',\n}\n\n/**\n * Marker interface for a value that's safe to use in a particular context.\n *\n * @publicApi\n */\nexport interface SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as HTML.\n *\n * @publicApi\n */\nexport interface SafeHtml extends SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as style (CSS).\n *\n * @publicApi\n */\nexport interface SafeStyle extends SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as JavaScript.\n *\n * @publicApi\n */\nexport interface SafeScript extends SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as a URL linking to a document.\n *\n * @publicApi\n */\nexport interface SafeUrl extends SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as a URL to load executable code from.\n *\n * @publicApi\n */\nexport interface SafeResourceUrl extends SafeValue {}\n\n\nabstract class SafeValueImpl implements SafeValue {\n  constructor(public changingThisBreaksApplicationSecurity: string) {}\n\n  abstract getTypeName(): string;\n\n  toString() {\n    return `SafeValue must use [property]=binding: ${this.changingThisBreaksApplicationSecurity}` +\n        ` (see https://g.co/ng/security#xss)`;\n  }\n}\n\nclass SafeHtmlImpl extends SafeValueImpl implements SafeHtml {\n  getTypeName() {\n    return BypassType.Html;\n  }\n}\nclass SafeStyleImpl extends SafeValueImpl implements SafeStyle {\n  getTypeName() {\n    return BypassType.Style;\n  }\n}\nclass SafeScriptImpl extends SafeValueImpl implements SafeScript {\n  getTypeName() {\n    return
 BypassType.Script;\n  }\n}\nclass SafeUrlImpl extends SafeValueImpl implements SafeUrl {\n  getTypeName() {\n    return BypassType.Url;\n  }\n}\nclass SafeResourceUrlImpl extends SafeValueImpl implements

SafeResourceUrl {\n  getTypeName() {\n    return BypassType.ResourceUrl;\n  }\n}\n\nexport function unwrapSafeValue(value: SafeValue): string;\nexport function unwrapSafeValue<T>(value: T): T;\nexport function unwrapSafeValue<T>(value: T|SafeValue): T {\n  return value instanceof SafeValueImpl ? value.changingThisBreaksApplicationSecurity as any as T :\n                                          value as any as T;\n}\n\n\nexport function allowSanitizationBypassAndThrow(\n    value: any, type: BypassType.Html): value is SafeHtml;\nexport function allowSanitizationBypassAndThrow(\n    value: any, type: BypassType.ResourceUrl): value is SafeResourceUrl;\nexport function allowSanitizationBypassAndThrow(\n    value: any, type: BypassType.Script): value is SafeScript;\nexport function allowSanitizationBypassAndThrow(\n    value: any, type: BypassType.Style): value is SafeStyle;\nexport function allowSanitizationBypassAndThrow(value: any, type: BypassType.Url): value is SafeUrl;\nexport function allowSanitizationBypassAndThrow(value: any, type: BypassType): boolean;\nexport function allowSanitizationBypassAndThrow(value: any, type: BypassType): boolean {\n  const actualType = getSanitizationBypassType(value);\n  if (actualType != null && actualType !== type) {\n    // Allow ResourceURLs in URL contexts, they are strictly more trusted.\n    if (actualType === BypassType.ResourceUrl && type === BypassType.Url) return true;\n    throw new Error(\n        `Required a safe ${type}, got a ${actualType} (see https://g.co/ng/security#xss)`);\n  }\n  return actualType === type;\n}\n\nexport function getSanitizationBypassType(value: any): BypassType|null {\n  return value instanceof SafeValueImpl && value.getTypeName() as BypassType || null;\n}\n\n/**\n * Mark `html` string as trusted.\n *\n * This function wraps the trusted string in `String` and brands it in a way which makes it\n * recognizable to {@link htmlSanitizer} to be trusted implicitly.\n *\n * @param trustedHtml `html` string which needs to be implicitly trusted.\n * @returns a `html` which has been branded to be implicitly trusted.\n */\nexport function bypassSanitizationTrustHtml(trustedHtml: string): SafeHtml {\n  return new SafeHtmlImpl(trustedHtml);\n}\n/**\n * Mark `style` string as trusted.\n *\n * This function wraps the trusted string in `String` and brands it in a way which makes it\n * recognizable to {@link styleSanitizer} to be trusted implicitly.\n *\n * @param trustedStyle `style` string which needs to be implicitly trusted.\n * @returns a `style` hich has been branded to be implicitly trusted.\n */\nexport function bypassSanitizationTrustStyle(trustedStyle: string): SafeStyle {\n  return new SafeStyleImpl(trustedStyle);\n}\n/**\n * Mark `script` string as trusted.\n *\n * This function wraps the trusted string in `String` and brands it in a way which makes it\n * recognizable to {@link scriptSanitizer} to be trusted implicitly.\n *\n * @param trustedScript `script` string which needs to be implicitly trusted.\n * @returns a `script` which has been branded to be implicitly trusted.\n */\nexport function bypassSanitizationTrustScript(trustedScript: string): SafeScript {\n  return new SafeScriptImpl(trustedScript);\n}\n/**\n * Mark `url` string as trusted.\n *\n * This function wraps the trusted string in `String` and brands it in a way which makes it\n * recognizable to {@link urlSanitizer} to be trusted implicitly.\n *\n * @param trustedUrl `url` string which needs to be implicitly trusted.\n * @returns a `url`  which has been branded to be implicitly trusted.\n */\nexport function bypassSanitizationTrustUrl(trustedUrl: string): SafeUrl {\n  return new SafeUrlImpl(trustedUrl);\n}\n/**\n * Mark `url` string as trusted.\n *\n * This function wraps the trusted string\n in `String` and brands it in a way which makes it\n * recognizable to {@link resourceUrlSanitizer} to be trusted implicitly.\n *\n * @param trustedResourceUrl `url` string which needs to be implicitly trusted.\n * @returns a `url` which has been branded to be implicitly trusted.\n */\nexport function bypassSanitizationTrustResourceUrl(trustedResourceUrl: string): SafeResourceUrl {\n  return new SafeResourceUrlImpl(trustedResourceUrl);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {trustedHTMLFromString} from '../util/security/trusted_types';\n\n/**\n * This helper is used to get hold of an inert tree of DOM elements containing dirty HTML\n * that needs sanitizing.\n * Depending upon browser support we use one of two strategies for doing this.\n * Default: DOMParser strategy\n * Fallback: InertDocument strategy\n

```
*/\nexport function getInertBodyHelper(defaultDoc: Document): InertBodyHelper {\n  return isDOMParserAvailable() ? new DOMParserHelper() : new InertDocumentHelper(defaultDoc);\n}\n\nexport interface InertBodyHelper {\n  /**\n   * Get an inert DOM element containing DOM created from the dirty HTML string provided.\n   */\n  getInertBodyElement: (html: string) => HTMLElement | null;\n}\n\n/**\n * Uses DOMParser to create and fill an inert body element.\n * This is the default strategy used in browsers that support it.\n */\nclass DOMParserHelper implements InertBodyHelper {\n  getInertBodyElement(html: string): HTMLElement|null {\n    // We add these extra elements to ensure that the rest of the content is parsed as expected\n    // e.g. leading whitespace is maintained and tags like `<meta>` do not get hoisted to the\n    // `<head>` tag. Note that the `<body>` tag is closed implicitly to prevent unclosed tags\n    // in `html` from consuming the otherwise explicit `</body>` tag.\n    html = '<body><remove></remove>' + html;\n    try {\n      const body = new window.DOMParser()\n    .parseFromString(trustedHTMLFromString(html) as string, 'text/html')\n                    .body as HTMLBodyElement;\n      body.removeChild(body.firstChild!);\n      return body;\n    } catch {\n      return null;\n    }\n  }\n}\n\n/**\n * Use an HTML5 `template` element, if supported, or an inert body element created via\n * `createHtmlDocument` to create and fill an inert DOM element.\n * This is the fallback strategy if the browser does not support DOMParser.\n */\nclass InertDocumentHelper implements InertBodyHelper {\n  private inertDocument: Document;\n\n  constructor(private defaultDoc: Document) {\n    this.inertDocument = this.defaultDoc.implementation.createHTMLDocument('sanitization-inert');\n\n    if (this.inertDocument.body == null) {\n      // usually there should be only one body element in the document, but IE doesn't have any, so\n      // we need
 to create one.\n      const inertHtml = this.inertDocument.createElement('html');\n      this.inertDocument.appendChild(inertHtml);\n      const inertBodyElement = this.inertDocument.createElement('body');\n      inertHtml.appendChild(inertBodyElement);\n    }\n  }\n\n  getInertBodyElement(html: string): HTMLElement|null {\n    // Prefer using <template> element if supported.\n    const templateEl = this.inertDocument.createElement('template');\n    if ('content' in templateEl) {\n      templateEl.innerHTML = trustedHTMLFromString(html) as string;\n      return templateEl;\n    }\n\n    // Note that previously we used to do something like `this.inertDocument.body.innerHTML = html`\n    // and we returned the inert `body` node. This was changed, because IE seems to treat setting\n    // `innerHTML` on an inserted element differently, compared to one that hasn't been inserted\n    // yet. In particular, IE appears to split some of the text into multiple text nodes rather\n    // than keeping
 them in a single one which ends up messing with Ivy's i18n parsing further\n    // down the line. This has been worked around by creating a new inert `body` and using it as\n    // the root node in which we insert the HTML.\n    const inertBody = this.inertDocument.createElement('body');\n    inertBody.innerHTML = trustedHTMLFromString(html) as string;\n\n    // Support: IE 11 only\n    // strip custom-namespaced attributes on IE<=11\n    if ((this.defaultDoc as any).documentMode) {\n      this.stripCustomNsAttrs(inertBody);\n    }\n\n    return inertBody;\n  }\n\n  /**\n   * When IE11 comes across an unknown namespaced attribute e.g. 'xlink:foo' it adds 'xmlns:ns1'\n   * attribute to declare ns1 namespace and prefixes the attribute with 'ns1' (e.g.\n   * 'ns1:xlink:foo').\n   *\n   * This is undesirable since we don't want to allow any of these custom attributes. This method\n   * strips them all.\n   */\n  private stripCustomNsAttrs(el: Element) {\n    const elAttrs = el.attributes;\n    // loop backwards so that we can support removals.\n    for (let i = elAttrs.length - 1; 0 < i; i--) {\n      const attrib = elAttrs.item(i);\n      const attrName = attrib!.name;\n      if (attrName === 'xmlns:ns1' || attrName.indexOf('ns1:') === 0) {\n        el.removeAttribute(attrName);\n      }\n    }\n    let childNode = el.firstChild as Node | null;\n    while (childNode) {\n      if (childNode.nodeType === Node.ELEMENT_NODE) this.stripCustomNsAttrs(childNode as Element);\n      childNode = childNode.nextSibling;\n    }\n  }\n}\n\n/**\n * We need to determine whether the DOMParser exists in the global context and\n * supports parsing HTML; HTML parsing support is not as wide as other formats, see\n * https://developer.mozilla.org/en-US/docs/Web/API/DOMParser#Browser_compatibility.\n *\n * @suppress {uselessCode}\n */\nexport function isDOMParserAvailable() {\n  try {\n    return !!new window.DOMParser().parseFromString(\n        trustedHTMLFromString('') as string, 'text/html');\n
```

} catch {\n return false;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n/**\n * A pattern that recognizes a commonly useful subset of URLs that are safe.\n *\n * This regular expression matches a subset of URLs that will not cause script\n * execution if used in URL context within a HTML document. Specifically, this\n * regular expression matches if (comment from here on and regex copied from\n * Soy's EscapingConventions):\n * (1) Either an allowed protocol (http, https, mailto or ftp).\n * (2) or no protocol. A protocol must be followed by a colon. The below\n * allows that by allowing colons only after one of the characters [/?#].\n * A colon after a hash (#) must be in the fragment.\n * Otherwise, a colon after a (?) must be in a query.\n * Otherwise, a colon after a single solidus (/) must be in a path.\n * Otherwise, a colon after a double solidus (//) must be in the authority\n * (before port).\n *\n * The pattern disallows &, used in HTML entity declarations before\n * one of the characters in [/?#]. This disallows HTML entities used in the\n * protocol name, which should never happen, e.g. \"http\" for \"http\".\n * It also disallows HTML entities in the first path part of a relative path,\n * e.g. \"foo<bar/baz\". Our existing escaping functions should not produce\n * that. More importantly, it disallows masking of a colon,\n * e.g. \"javascript:...\".\n *\n * This regular expression was taken from the Closure sanitization library.\n */\nconst SAFE_URL_PATTERN = /^(?:(?:https?|mailto|ftp|tel|file|sms):|[^&:/?#]*(?:[/?#]|$))/gi;\n\n/* A pattern that matches safe srcset values */\nconst SAFE_SRCSET_PATTERN = /^(?:(?:https?|file):|[^&:/?#]*(?:[/?#]|$))/gi;\n\n/** A pattern that matches safe data URLs. Only matches image, video and audio types. */\nconst DATA_URL_PATTERN = /^data:(?:image\\/(?:bmp|gif|jpeg|jpg|png|tiff|webp)|video\\/(?:mpeg|mp4|ogg|webm)|audio\\/(?:mp3|oga|ogg|opus))base64,[a-z0-9+\\/]+=*$/i;\n\nexport function _sanitizeUrl(url: string): string {\n url = String(url);\n if (url.match(SAFE_URL_PATTERN) || url.match(DATA_URL_PATTERN)) return url;\n\n if (typeof ngDevMode === 'undefined' || ngDevMode) {\n console.warn(`WARNING: sanitizing unsafe URL value ${url} (see https://g.co/ng/security#xss)`);\n }\n\n return 'unsafe:' + url;\n}\n\nexport function sanitizeSrcset(srcset: string): string {\n srcset = String(srcset);\n return srcset.split(',').map((srcset) => _sanitizeUrl(srcset.trim())).join(', ');\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getInertBodyHelper, InertBodyHelper} from './inert_body';\nimport {_sanitizeUrl, sanitizeSrcset} from './url_sanitizer';\n\nfunction tagSet(tags: string): {[k: string]: boolean} {\n const res: {[k: string]: boolean} = {};\n for (const t of tags.split(',')) res[t] = true;\n return res;\n}\n\nfunction merge(...sets: {[k: string]: boolean}[]): {[k: string]: boolean} {\n const res: {[k: string]: boolean} = {};\n for (const s of sets) {\n for (const v in s) {\n if (s.hasOwnProperty(v)) res[v] = true;\n }\n }\n return res;\n}\n\n// Good source of info about elements and attributes\n// https://html.spec.whatwg.org/#semantics\n// https://simon.html5.org/html-elements\n\n// Safe Void Elements - HTML5\n// https://html.spec.whatwg.org/#void-elements\nconst VOID_ELEMENTS = tagSet('area,br,col,hr,img,wbr');\n\n// Elements that you can, intentionally, leave open (and which close themselves)\n// https://html.spec.whatwg.org/#optional-tags\nconst OPTIONAL_END_TAG_BLOCK_ELEMENTS = tagSet('colgroup,dd,dt,li,p,tbody,td,tfoot,th,thead,tr');\nconst OPTIONAL_END_TAG_INLINE_ELEMENTS = tagSet('rp,rt');\nconst OPTIONAL_END_TAG_ELEMENTS =\n merge(OPTIONAL_END_TAG_INLINE_ELEMENTS, OPTIONAL_END_TAG_BLOCK_ELEMENTS);\n\n// Safe Block Elements - HTML5\nconst BLOCK_ELEMENTS = merge(\n OPTIONAL_END_TAG_BLOCK_ELEMENTS,\n tagSet(\n 'address,article,' +\n 'aside,blockquote,caption,center,del,details,dialog,dir,div,dl,figure,figcaption,footer,h1,h2,h3,h4,h5,' +\n 'h6,header,hgroup,hr,ins,main,map,menu,nav,ol,pre,section,summary,table,ul'));\n\n// Inline Elements - HTML5\nconst INLINE_ELEMENTS = merge(\n OPTIONAL_END_TAG_INLINE_ELEMENTS,\n tagSet(\n 'a,abbr,acronym,audio,b,' +\n 'bdi,bdo,big,br,cite,code,del,dfn,em,font,i,img,ins,kbd,label,map,mark,picture,q,ruby,rp,rt,s,' +\n

'samp,small,source,span,strike,strong,sub,sup,time,track,tt,u,var,video'));\n\nexport const VALID_ELEMENTS =\n merge(VOID_ELEMENTS, BLOCK_ELEMENTS, INLINE_ELEMENTS,
OPTIONAL_END_TAG_ELEMENTS);\n\n// Attributes
that have href and hence need to be sanitized\nexport const URI_ATTRS =
tagSet('background,cite,href,itemtype,longdesc,poster,src,xlink:href');\n\n// Attributes that have special href set hence need to be sanitized\nexport const SRCSET_ATTRS = tagSet('srcset');\n\nconst HTML_ATTRS = tagSet(\n 'abbr,accesskey,align,alt,autoplay,axis,bgcolor,border,cellpadding,cellspacing,class,clear,color,cols,colspan,' +\n 'compact,controls,coords,datetime,default,dir,download,face,headers,height,hidden,hreflang,hspace,' +\n 'ismap,itemscope,itemprop,kind,label,lang,language,loop,media,muted,nohref,nowrap,open,preload,rel,rev,role,rows,rowspan,rules,' +\n
'scope,scrolling,shape,size,sizes,span,srclang,start,summary,tabindex,target,title,translate,type,usemap,' +\n 'valign,value,vspace,width');\n\n// Accessibility attributes as per WAI-ARIA 1.1 (W3C Working Draft 14 December 2018)\nconst ARIA_ATTRS = tagSet(\n 'aria-activedescendant,aria-atomic,aria-autocomplete,aria-busy,aria-checked,aria-colcount,aria-colindex,'
+\n 'aria-colspan,aria-controls,aria-current,aria-describedby,aria-details,aria-disabled,aria-dropeffect,' +\n 'aria-errormessage,aria-expanded,aria-flowto,aria-grabbed,aria-haspopup,aria-hidden,aria-invalid,' +\n 'aria-keyshortcuts,aria-label,aria-labelledby,aria-level,aria-live,aria-modal,aria-multiline,' +\n 'aria-multiselectable,aria-orientation,aria-owns,aria-placeholder,aria-posinset,aria-pressed,aria-readonly,' +\n 'aria-relevant,aria-required,aria-roledescription,aria-rowcount,aria-rowindex,aria-rowspan,aria-selected,' +\n 'aria-setsize,aria-sort,aria-valuemax,aria-valuemin,aria-valuenow,aria-valuetext');\n\n// NB: This currently consciously doesn't support SVG. SVG sanitization has had several security\n// issues in the past, so it seems safer to leave it out if possible. If support for binding SVG via\n// innerHTML is required, SVG attributes should be added here.\n\n// NB: Sanitization does not allow <form> elements or other active
elements (<button> etc). Those\n// can be sanitized, but they increase security surface area without a legitimate use case, so they\n// are left out here.\n\nexport const VALID_ATTRS = merge(URI_ATTRS, SRCSET_ATTRS, HTML_ATTRS, ARIA_ATTRS);\n\n// Elements whose content should not be traversed/preserved, if the elements themselves are invalid.\n//\n// Typically, `<invalid>Some content</invalid>` would traverse (and in this case preserve)\n// `Some content`, but strip `invalid-element` opening/closing tags. For some elements, though, we\n// don't want to preserve the content, if the elements themselves are going to be removed.\nconst SKIP_TRAVERSING_CONTENT_IF_INVALID_ELEMENTS = tagSet('script,style,template');\n\n/**\n * SanitizingHtmlSerializer serializes a DOM fragment, stripping out any unsafe elements and unsafe\n * attributes.\n */\nclass SanitizingHtmlSerializer {\n // Explicitly track if something was stripped, to avoid accidentally warning of sanitization just\n // because
characters were re-encoded.\n public sanitizedSomething = false;\n private buf: string[] = [];\n\n sanitizeChildren(el: Element): string {\n // This cannot use a TreeWalker, as it has to run on Angular's various DOM adapters.\n // However this code never accesses properties off of `document` before deleting its contents\n // again, so it shouldn't be vulnerable to DOM clobbering.\n let current: Node = el.firstChild!;\n let traverseContent = true;\n while (current) {\n if (current.nodeType === Node.ELEMENT_NODE) {\n traverseContent = this.startElement(current as Element);\n } else if (current.nodeType === Node.TEXT_NODE) {\n this.chars(current.nodeValue!);\n } else {\n // Strip non-element, non-text nodes.\n this.sanitizedSomething = true;\n }\n if (traverseContent && current.firstChild) {\n current = current.firstChild!;\n continue;\n }\n while (current) {\n // Leaving the element.
Walk up and to the right, closing tags as we go.\n if (current.nodeType === Node.ELEMENT_NODE) {\n this.endElement(current as Element);\n }\n\n let next = this.checkClobberedElement(current, current.nextSibling!);\n\n if (next) {\n current = next;\n break;\n }\n\n current = this.checkClobberedElement(current, current.parentNode!);\n }\n }\n return this.buf.join('');\n }\n\n /**\n * Sanitizes an opening element tag (if valid) and returns whether the element's contents should\n * be traversed. Element content must always be traversed (even if the element itself is not\n * valid/safe), unless the element is one

of `SKIP_TRAVERSING_CONTENT_IF_INVALID_ELEMENTS`.\n   *\n   * @param element The element to sanitize.\n   * @return True if the element's contents should be traversed.\n   */\n  private startElement(element: Element): boolean {\n    const tagName = element.nodeName.toLowerCase();\n    if (!VALID_ELEMENTS.hasOwnProperty(tagName))
 {\n      this.sanitizedSomething = true;\n      return !SKIP_TRAVERSING_CONTENT_IF_INVALID_ELEMENTS.hasOwnProperty(tagName);\n    }\n this.buf.push('<');\n    this.buf.push(tagName);\n    const elAttrs = element.attributes;\n    for (let i = 0; i < elAttrs.length; i++) {\n      const elAttr = elAttrs.item(i);\n      const attrName = elAttr!.name;\n      const lower = attrName.toLowerCase();\n      if (!VALID_ATTRS.hasOwnProperty(lower)) {\n        this.sanitizedSomething = true;\n        continue;\n      }\n      let value = elAttr!.value;\n      // TODO(martinprobst): Special case image URIs for data:image/...\n      if (URI_ATTRS[lower]) value = _sanitizeUrl(value);\n      if (SRCSET_ATTRS[lower]) value = sanitizeSrcset(value);\n      this.buf.push(' ', attrName, '="', encodeEntities(value), '"');\n    }\n    this.buf.push('>');\n    return true;\n  }\n\n  private endElement(current: Element) {\n    const tagName = current.nodeName.toLowerCase();\n
    if (VALID_ELEMENTS.hasOwnProperty(tagName) && !VOID_ELEMENTS.hasOwnProperty(tagName)) {\n      this.buf.push('</');\n      this.buf.push(tagName);\n      this.buf.push('>');\n    }\n  }\n\n  private chars(chars: string) {\n    this.buf.push(encodeEntities(chars));\n  }\n\n  checkClobberedElement(node: Node, nextNode: Node): Node {\n    if (nextNode &&\n        (node.compareDocumentPosition(nextNode) &\n Node.DOCUMENT_POSITION_CONTAINED_BY) === Node.DOCUMENT_POSITION_CONTAINED_BY) {\n      throw new Error(`Failed to sanitize html because the element is clobbered: ${\n          (node as Element).outerHTML}`);\n    }\n    return nextNode;\n  }\n}\n\n// Regular Expressions for parsing tags and attributes\nconst SURROGATE_PAIR_REGEXP = /[\\uD800-\\uDBFF][\\uDC00-\\uDFFF]/g;\n// ! to ~ is the ASCII range.\nconst NON_ALPHANUMERIC_REGEXP = /([^\\#-~ |!])/g;\n\n/**\n * Escapes all potentially dangerous characters, so that the\n * resulting string can be safely inserted into attribute or\n * element text.\n * @param value\n */\nfunction encodeEntities(value: string) {\n  return value.replace(/&/g, '&')\n      .replace(\n          SURROGATE_PAIR_REGEXP,\n          function(match: string) {\n            const hi = match.charCodeAt(0);\n            const low = match.charCodeAt(1);\n            return '&#' + (((hi - 0xD800) * 0x400) + (low - 0xDC00) + 0x10000) + ';';\n          })\n      .replace(\n          NON_ALPHANUMERIC_REGEXP,\n          function(match: string) {\n            return '&#' + match.charCodeAt(0) + ';';\n          })\n      .replace(/</g, '<')\n      .replace(/>/g, '>');\n}\n\nlet inertBodyHelper: InertBodyHelper;\n\n/**\n * Sanitizes the given unsafe, untrusted HTML fragment, and returns HTML text that is safe to add to\n * the DOM in a browser environment.\n */\nexport function _sanitizeHtml(defaultDoc: any, unsafeHtmlInput: string): string {\n  let inertBodyElement: HTMLElement|null = null;\n  try {\n    inertBodyHelper = inertBodyHelper || getInertBodyHelper(defaultDoc);\n    // Make sure unsafeHtml is actually a string (TypeScript types are not enforced at runtime).\n    let unsafeHtml = unsafeHtmlInput ? String(unsafeHtmlInput) : '';\n    inertBodyElement = inertBodyHelper.getInertBodyElement(unsafeHtml);\n\n    // mXSS protection. Repeatedly parse the document to make sure it stabilizes, so that a browser\n    // trying to auto-correct incorrect HTML cannot cause formerly inert HTML to become dangerous.\n    let mXSSAttempts = 5;\n    let parsedHtml = unsafeHtml;\n\n    do {\n      if (mXSSAttempts === 0) {\n        throw new Error('Failed to sanitize html because the input is unstable');\n      }\n      mXSSAttempts--;\n\n      unsafeHtml = parsedHtml;\n      parsedHtml = inertBodyElement!.innerHTML;\n      inertBodyElement = inertBodyHelper.getInertBodyElement(unsafeHtml);\n    } while (unsafeHtml !== parsedHtml);\n\n    const sanitizer = new SanitizingHtmlSerializer();\n    const safeHtml = sanitizer.sanitizeChildren(\n
        getTemplateContent(inertBodyElement!) as Element || inertBodyElement);\n    if ((typeof ngDevMode === 'undefined' || ngDevMode) && sanitizer.sanitizedSomething) {\n      console.warn(\n          'WARNING: sanitizing HTML stripped some content, see https://g.co/ng/security#xss');\n    }\n\n    return safeHtml;\n  } finally {\n    // In case anything goes wrong, clear out inertElement to reset the entire DOM structure.\n    if (inertBodyElement) {\n      const parent = getTemplateContent(inertBodyElement) || inertBodyElement;\n      while (parent.firstChild) {\n

parent.removeChild(parent.firstChild);\n }\n }\n }\n}\n\nexport function getTemplateContent(el: Node): Node|null {\n return 'content' in (el as any /** Microsoft/TypeScript#21517 */) && isTemplateElement(el) ?\n el.content :\n null;\n}\nfunction isTemplateElement(el: Node): el is HTMLTemplateElement {\n return el.nodeType === Node.ELEMENT_NODE && el.nodeName === 'TEMPLATE';\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A SecurityContext marks a location that has dangerous security implications, e.g. a DOM property\n * like `innerHTML` that could cause Cross Site Scripting (XSS) security bugs when improperly\n * handled.\n *\n * See DomSanitizer for more details on security in Angular applications.\n *\n * @publicApi\n */\nexport enum SecurityContext {\n NONE = 0,\n HTML = 1,\n STYLE = 2,\n SCRIPT = 3,\n URL = 4,\n RESOURCE_URL = 5,\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getDocument} from '../render3/interfaces/document';\nimport {SANITIZER} from '../render3/interfaces/view';\nimport {getLView}
from '../render3/state';\nimport {renderStringify} from '../render3/util/stringify_utils';\nimport {TrustedHTML, TrustedScript, TrustedScriptURL} from '../util/security/trusted_type_defs';\nimport {trustedHTMLFromString, trustedScriptFromString, trustedScriptURLFromString} from '../util/security/trusted_types';\n\nimport {allowSanitizationBypassAndThrow, BypassType, unwrapSafeValue} from './bypass';\nimport {_sanitizeHtml as _sanitizeHtml} from './html_sanitizer';\nimport {Sanitizer} from './sanitizer';\nimport {SecurityContext} from './security';\nimport {_sanitizeUrl as _sanitizeUrl} from './url_sanitizer';\n\n\n\n/**\n * An `html` sanitizer which converts untrusted `html` **string** into trusted string by removing\n * dangerous content.\n *\n * This method parses the `html` and locates potentially dangerous content (such as urls and\n * javascript) and removes it.\n *\n * It is possible to mark a string as trusted by calling {@link bypassSanitizationTrustHtml}.\n *\n * @param unsafeHtml untrusted `html`, typically from the user.\n * @returns `html` string which is safe to display to user, because all of the dangerous javascript\n * and urls have been removed.\n *\n * @codeGenApi\n */\nexport function sanitizeHtml(unsafeHtml: any): string {\n const sanitizer = getSanitizer();\n if (sanitizer) {\n return sanitizer.sanitize(SecurityContext.HTML, unsafeHtml) || '';\n }\n if (allowSanitizationBypassAndThrow(unsafeHtml, BypassType.Html)) {\n return unwrapSafeValue(unsafeHtml);\n }\n return _sanitizeHtml(getDocument(), renderStringify(unsafeHtml));\n}\n\n/**\n * A `style` sanitizer which converts untrusted `style` **string** into trusted string by removing\n * dangerous content.\n *\n * It is possible to mark a string as trusted by calling {@link bypassSanitizationTrustStyle}.\n *\n * @param unsafeStyle untrusted `style`, typically from the user.\n * @returns `style` string which is safe to bind to the `style` properties.\n *\n * @codeGenApi\n */\nexport
function sanitizeStyle(unsafeStyle: any): string {\n const sanitizer = getSanitizer();\n if (sanitizer) {\n return sanitizer.sanitize(SecurityContext.STYLE, unsafeStyle) || '';\n }\n if (allowSanitizationBypassAndThrow(unsafeStyle, BypassType.Style)) {\n return unwrapSafeValue(unsafeStyle);\n }\n return renderStringify(unsafeStyle);\n}\n\n/**\n * A `url` sanitizer which converts untrusted `url` **string** into trusted string by removing\n * dangerous\n * content.\n *\n * This method parses the `url` and locates potentially dangerous content (such as javascript) and\n * removes it.\n *\n * It is possible to mark a string as trusted by calling {@link bypassSanitizationTrustUrl}.\n *\n * @param unsafeUrl untrusted `url`, typically from the user.\n * @returns `url` string which is safe to bind to the `src` properties such as `<img src>`, because\n * all of the dangerous javascript has been removed.\n *\n * @codeGenApi\n */\nexport function sanitizeUrl(unsafeUrl: any): string
{\n const sanitizer = getSanitizer();\n if (sanitizer) {\n return sanitizer.sanitize(SecurityContext.URL, unsafeUrl) || '';\n }\n if (allowSanitizationBypassAndThrow(unsafeUrl, BypassType.Url)) {\n return unwrapSafeValue(unsafeUrl);\n }\n return _sanitizeUrl(renderStringify(unsafeUrl));\n}\n\n/**\n * A `url` sanitizer which only lets trusted `url`s through.\n *\n * This passes only `url`s marked trusted by calling {@link bypassSanitizationTrustResourceUrl}.\n *\n * @param unsafeResourceUrl untrusted `url`, typically from the user.\n

```
* @returns `url` string which is safe to bind to the `src` properties such as `<img src>`, because\n * only trusted `url`s have been allowed to pass.\n *\n * @codeGenApi\n */\nexport function sanitizeResourceUrl(unsafeResourceUrl: any): string {\n  const sanitizer = getSanitizer();\n  if (sanitizer) {\n    return sanitizer.sanitize(SecurityContext.RESOURCE_URL, unsafeResourceUrl) || '';\n  }\n  if (allowSanitizationBypassAndThrow(unsafeResourceUrl,
  BypassType.ResourceUrl)) {\n    return unwrapSafeValue(unsafeResourceUrl);\n  }\n  throw new Error('unsafe value used in a resource URL context (see https://g.co/ng/security#xss)');\n}\n\n/**\n * A `script` sanitizer which only lets trusted javascript through.\n *\n * This passes only `script`s marked trusted by calling {@link\n * bypassSanitizationTrustScript}.\n *\n * @param unsafeScript untrusted `script`, typically from the user.\n * @returns `url` string which is safe to bind to the `<script>` element such as `<img src>`,\n * because only trusted `scripts` have been allowed to pass.\n *\n * @codeGenApi\n */\nexport function sanitizeScript(unsafeScript: any): string {\n  const sanitizer = getSanitizer();\n  if (sanitizer) {\n    return sanitizer.sanitize(SecurityContext.SCRIPT, unsafeScript) || '';\n  }\n  if (allowSanitizationBypassAndThrow(unsafeScript, BypassType.Script)) {\n    return unwrapSafeValue(unsafeScript);\n  }\n  throw new Error('unsafe value used in a script
  context');\n}\n\n/**\n * Promotes the given constant string to a TrustedHTML.\n * @param html constant string containing trusted HTML.\n * @returns TrustedHTML wrapping `html`.\n *\n * @security This is a security-sensitive function and should only be used to\n * convert constant values of attributes and properties found in\n * application-provided Angular templates to TrustedHTML.\n *\n * @codeGenApi\n */\nexport function trustConstantHtml(html: string): TrustedHTML|string {\n  return trustedHTMLFromString(html);\n}\n\n/**\n * Promotes the given constant string to a TrustedScript.\n * @param script constant string containing a trusted script.\n * @returns TrustedScript wrapping `script`.\n *\n * @security This is a security-sensitive function and should only be used to\n * convert constant values of attributes and properties found in\n * application-provided Angular templates to TrustedScript.\n *\n * @codeGenApi\n */\nexport function trustConstantScript(script: string): TrustedScript|string
  {\n  return trustedScriptFromString(script);\n}\n\n/**\n * Promotes the given constant string to a TrustedScriptURL.\n * @param url constant string containing a trusted script URL.\n * @returns TrustedScriptURL wrapping `url`.\n *\n * @security This is a security-sensitive function and should only be used to\n * convert constant values of attributes and properties found in\n * application-provided Angular templates to TrustedScriptURL.\n *\n * @codeGenApi\n */\nexport function trustConstantResourceUrl(url: string): TrustedScriptURL|string {\n  return trustedScriptURLFromString(url);\n}\n\n/**\n * Detects which sanitizer to use for URL property, based on tag name and prop name.\n *\n * The rules are based on the RESOURCE_URL context config from\n * `packages/compiler/src/schema/dom_security_schema.ts`.\n * If tag and prop names don't match Resource URL schema, use URL sanitizer.\n */\nexport function getUrlSanitizer(tag: string, prop: string) {\n  if ((prop === 'src' &&\n
      (tag === 'embed' || tag === 'frame' || tag === 'iframe' || tag === 'media' ||\n        tag === 'script')) ||\n      (prop === 'href' && (tag === 'base' || tag === 'link'))) {\n    return sanitizeResourceUrl;\n  }\n  return sanitizeUrl;\n}\n\n/**\n * Sanitizes URL, selecting sanitizer function based on tag and property names.\n *\n * This function is used in case we can't define security context at compile time, when only prop\n * name is available. This happens when we generate host bindings for Directives/Components. The\n * host element is unknown at compile time, so we defer calculation of specific sanitizer to\n * runtime.\n *\n * @param unsafeUrl untrusted `url`, typically from the user.\n * @param tag target element tag name.\n * @param prop name of the property that contains the value.\n * @returns `url` string which is safe to bind.\n *\n * @codeGenApi\n */\nexport function sanitizeUrlOrResourceUrl(unsafeUrl: any, tag: string, prop: string): any {\n  return getUrlSanitizer(tag,
  prop)(unsafeUrl);\n}\n\nexport function validateAgainstEventProperties(name: string) {\n  if (name.toLowerCase().startsWith('on')) {\n    const msg = `Binding to event property '${name}' is disallowed for security reasons, ` +\n        `please use (${name.slice(2)})=...` +\n        `\\nIf '${name}' is a directive input, make sure the directive is imported by the` +\n        ` current module.`;\n    throw new Error(msg);\n  }\n}\n\nexport function validateAgainstEventAttributes(name: string) {\n  if (name.toLowerCase().startsWith('on')) {\n    const msg
```

= `Binding to event attribute '${name}' is disallowed for security reasons, ` +\n `please use (${name.slice(2)})=...`;\n throw new Error(msg);\n }\n}\n\nfunction getSanitizer(): Sanitizer|null {\n const lView = getLView();\n return lView && lView[SANITIZER];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport const ERROR_TYPE = 'ngType';\nexport const ERROR_DEBUG_CONTEXT = 'ngDebugContext';\nexport const ERROR_ORIGINAL_ERROR = 'ngOriginalError';\nexport const ERROR_LOGGER = 'ngErrorLogger';\n\n\nexport function wrappedError(message: string, originalError: any): Error {\n const msg = `${message} caused by: ${\n originalError instanceof Error ? originalError.message : originalError}`;\n const error = Error(msg);\n (error as any)[ERROR_ORIGINAL_ERROR] = originalError;\n return error;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ERROR_DEBUG_CONTEXT, ERROR_LOGGER, ERROR_ORIGINAL_ERROR, ERROR_TYPE} from './util/errors';\nimport {DebugContext} from './view/types';\n\nexport function getType(error: Error): Function {\n return (error as any)[ERROR_TYPE];\n}\n\nexport function getDebugContext(error: Error): DebugContext {\n return (error as any)[ERROR_DEBUG_CONTEXT];\n}\n\nexport function getOriginalError(error: Error): Error {\n return (error as any)[ERROR_ORIGINAL_ERROR];\n}\n\nexport function getErrorLogger(error: Error): (console: Console, ...values: any[]) => void {\n return (error as any)[ERROR_LOGGER] || defaultErrorLogger;\n}\n\n\nfunction defaultErrorLogger(console: Console, ...values: any[]) {\n (<any>console.error)(...values);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getDebugContext, getErrorLogger, getOriginalError} from './errors';\n\n\n\n/**\n * Provides a hook for centralized exception handling.\n *\n * The default implementation of `ErrorHandler` prints error messages to the `console`. To\n * intercept error handling, write a custom exception handler that replaces this default as\n * appropriate for your app.\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * class MyErrorHandler implements ErrorHandler {\n * handleError(error) {\n * // do something with the exception\n * }\n * }\n *\n * @NgModule({\n * providers: [{provide: ErrorHandler, useClass: MyErrorHandler}]\n * })\n * class MyModule {}\n * ```\n *\n * @publicApi\n */\nexport class ErrorHandler {\n /**\n * @internal\n */\n _console: Console = console;\n\n handleError(error: any): void {\n const originalError = this._findOriginalError(error);\n const context = this._findContext(error);\n // Note: Browser consoles show the place from where console.error was called.\n // We can use this to give users additional information about the error.\n const errorLogger = getErrorLogger(error);\n\n errorLogger(this._console, `ERROR`, error);\n if (originalError) {\n errorLogger(this._console, `ORIGINAL ERROR`, originalError);\n }\n if (context) {\n errorLogger(this._console, 'ERROR CONTEXT', context);\n }\n }\n\n /** @internal */\n _findContext(error: any): any {\n if (error) {\n return getDebugContext(error) ? getDebugContext(error) :\n this._findContext(getOriginalError(error));\n }\n\n return null;\n }\n\n /** @internal */\n _findOriginalError(error: Error): any {\n let e = getOriginalError(error);\n while (e && getOriginalError(e)) {\n e = getOriginalError(e);\n }\n\n return e;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n\n/**\n * A schema definition associated with an NgModule.\n *\n * @see `@NgModule`, `CUSTOM_ELEMENTS_SCHEMA`, `NO_ERRORS_SCHEMA`\n *\n * @param name The name of a defined schema.\n *\n * @publicApi\n */\nexport interface SchemaMetadata {\n name: string;\n}\n\n\n/**\n * Defines a schema that allows an NgModule to contain the following:\n * - Non-Angular elements named with dash case (`-`).\n * - Element properties named with dash case (`-`).\n * Dash case is the naming convention for custom elements.\n *\n * @publicApi\n */\nexport const CUSTOM_ELEMENTS_SCHEMA: SchemaMetadata = {\n name: 'custom-elements'\n};\n\n\n/**\n * Defines a schema that allows any property on any element.\n *\n * @publicApi\n */\nexport const NO_ERRORS_SCHEMA:

SchemaMetadata = {\n  name: 'no-errors-schema'\n};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nconst END_COMMENT = /-->/g;\nconst END_COMMENT_ESCAPED = '-\\u200B-\\u200B>';\n\n/**\n * Escape the content of the strings so that it can be safely inserted into a comment node.\n *\n * The issue is that HTML
 does not specify any way to escape comment end text inside the comment.\n * `<!-- The way you close a comment is with \"-->\". -->`. Above the `\"-->\"` is meant to be text not\n * an end to the comment. This can be created programmatically through DOM APIs.\n *\n * ```\n * div.innerHTML = div.innerHTML\n * ```\n *\n * One would expect that the above code would be safe to do, but it turns out that because comment\n * text is not escaped, the comment may contain text which will prematurely close the comment\n * opening up the application for XSS attack. (In SSR we programmatically create comment nodes which\n * may contain such text and expect them to be safe.)\n *\n * This function escapes the comment text by looking for the closing char sequence `-->` and replace\n * it with `-_-_>` where the `_` is a zero width space `\\u200B`. The result is that if a comment\n * contains `-->` text it will render normally but it will not cause the HTML parser to close the\n * comment.\n *\n * @param
 value text to make safe for comment node by escaping the comment close character sequence\n */\nexport function escapeCommentText(value: string): string {\n  return value.replace(END_COMMENT, END_COMMENT_ESCAPED);\n}","\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport './ng_dev_mode';\nimport {newTrustedFunctionForDev} from './security/trusted_types';\n\n/**\n * THIS FILE CONTAINS CODE WHICH SHOULD BE TREE SHAKEN AND NEVER CALLED FROM PRODUCTION CODE!!!\n */\n\n\n/**\n * Creates an `Array` construction with a given name. This is useful when\n * looking for memory consumption to see what time of array it is.\n *\n *\n * @param name Name to give to the constructor\n * @returns A subclass of `Array` if possible. This can only be done in\n *
    environments which support `class` construct.\n */\nexport function createNamedArrayType(name:
 string): typeof Array {\n  // This should never be called in prod mode, so let's verify that is the case.\n  if (ngDevMode) {\n    try {\n      // If this function were compromised the following could lead to arbitrary\n      // script execution. We bless it with Trusted Types anyway since this\n      // function is stripped out of production binaries.\n      return (newTrustedFunctionForDev('Array', `return class ${name} extends Array{}`))(Array);\n    } catch (e) {\n      // If it does not work just give up and fall back to regular Array.\n      return Array;\n    }\n  } else {\n    throw new Error(\n        'Looks like we are in \\'prod mode\\', but we are creating a named Array type, which is wrong! Check your code');\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function normalizeDebugBindingName(name:
 string) {\n  // Attribute names with `$` (eg `x-y$`) are valid per spec, but unsupported by some browsers\n  name = camelCaseToDashCase(name.replace(/[$@]/g, '_'));\n  return `ng-reflect-${name}`;\n}\n\nconst CAMEL_CASE_REGEXP = /([A-Z])/g;\n\nfunction camelCaseToDashCase(input: string): string {\n  return input.replace(CAMEL_CASE_REGEXP, (...m: any[]) => '-' + m[1].toLowerCase());\n}\n\nexport function normalizeDebugBindingValue(value: any): string {\n  try {\n    // Limit the size of the value as otherwise the DOM just gets polluted.\n    return value != null ? value.toString().slice(0, 30) : value;\n  } catch (e) {\n    return '[ERROR] Exception while trying to serialize the value';\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport '../util/ng_dev_mode';\n\nimport {assertDomNode}
 from '../util/assert';\n\nimport {EMPTY_ARRAY} from './empty';\nimport {LContext, MONKEY_PATCH_KEY_NAME} from './interfaces/context';\nimport {TNode, TNodeFlags} from './interfaces/node';\nimport {RElement, RNode} from './interfaces/renderer_dom';\nimport {CONTEXT, HEADER_OFFSET, HOST, LView, TVIEW} from './interfaces/view';\nimport {getComponentLViewByIndex, readPatchedData, unwrapRNode} from './util/view_utils';\n\n\n\n/**\n * Returns the matching `LContext` data for a given DOM node, directive or component instance.\n *\n * This function will examine the provided DOM element,

component, or directive instance\\'s\n * monkey-patched property to derive the `LContext` data. Once called then the monkey-patched\n * value will be that of the newly created `LContext`.\n *\n * If the monkey-patched value is the `LView` instance then the context value for that\n * target will be created and the monkey-patch reference will be updated. Therefore when this\n * function is called it may mutate the
provided element\\'s, component\\'s or any of the associated\n * directive\\'s monkey-patch values.\n *\n * If the monkey-patch value is not detected then the code will walk up the DOM until an element\n * is found which contains a monkey-patch reference. When that occurs then the provided element\n * will be updated with a new context (which is then returned). If the monkey-patch value is not\n * detected for a component/directive instance then it will throw an error (all components and\n * directives should be automatically monkey-patched by ivy).\n *\n * @param target Component, Directive or DOM Node.\n */\nexport function getLContext(target: any): LContext|null {\n  let mpValue = readPatchedData(target);\n  if (mpValue) {\n    // only when it's an array is it considered an LView instance\n    // ... otherwise it's an already constructed LContext instance\n    if (Array.isArray(mpValue)) {\n      const lView: LView = mpValue!;\n      let nodeIndex: number;\n      let component: any
= undefined;\n      let directives: any[]|null|undefined = undefined;\n\n      if (isComponentInstance(target)) {\n        nodeIndex = findViaComponent(lView, target);\n        if (nodeIndex == -1) {\n          throw new Error('The provided component was not found in the application');\n        }\n        component = target;\n      } else if (isDirectiveInstance(target)) {\n        nodeIndex = findViaDirective(lView, target);\n        if (nodeIndex == -1) {\n          throw new Error('The provided directive was not found in the application');\n        }\n        directives = getDirectivesAtNodeIndex(nodeIndex, lView, false);\n      } else {\n        nodeIndex = findViaNativeElement(lView, target as RElement);\n        if (nodeIndex == -1) {\n          return null;\n        }\n      }\n\n      // the goal is not to fill the entire context full of data because the lookups\n      // are expensive. Instead, only the target data (the element, component, container, ICU\n      // expression
or directive details) are filled into the context. If called multiple times\n      // with different target values then the missing target data will be filled in.\n      const native = unwrapRNode(lView[nodeIndex]);\n      const existingCtx = readPatchedData(native);\n      const context: LContext = (existingCtx && !Array.isArray(existingCtx)) ?\n          existingCtx :\n          createLContext(lView, nodeIndex, native);\n\n      // only when the component has been discovered then update the monkey-patch\n      if (component && context.component === undefined) {\n        context.component = component;\n        attachPatchData(context.component, context);\n      }\n\n      // only when the directives have been discovered then update the monkey-patch\n      if (directives && context.directives === undefined) {\n        context.directives = directives;\n        for (let i = 0; i < directives.length; i++) {\n          attachPatchData(directives[i], context);\n        }\n      }\n\n
      attachPatchData(context.native, context);\n      mpValue = context;\n    }\n  } else {\n    const rElement = target as RElement;\n    ngDevMode && assertDomNode(rElement);\n\n    // if the context is not found then we need to traverse upwards up the DOM\n    // to find the nearest element that has already been monkey patched with data\n    let parent = rElement as any;\n    while (parent = parent.parentNode) {\n      const parentContext = readPatchedData(parent);\n      if (parentContext) {\n        let lView: LView|null;\n        if (Array.isArray(parentContext)) {\n          lView = parentContext as LView;\n        } else {\n          lView = parentContext.lView;\n        }\n\n        // the edge of the app was also reached here through another means\n        // (maybe because the DOM was changed manually).\n        if (!lView) {\n          return null;\n        }\n\n        const index = findViaNativeElement(lView, rElement);\n        if (index >= 0) {\n          const native = unwrapRNode(lView[index]);\n
          const context = createLContext(lView, index, native);\n          attachPatchData(native, context);\n          mpValue = context;\n          break;\n        }\n      }\n    }\n  }\n  return (mpValue as LContext) || null;\n}\n\n/**\n * Creates an empty instance of a `LContext` context\n */\nfunction createLContext(lView: LView, nodeIndex: number, native: RNode): LContext {\n  return {\n    lView,\n    nodeIndex,\n    native,\n    component: undefined,\n    directives: undefined,\n    localRefs: undefined,\n  };\n}\n\n/**\n * Takes a component instance and returns the view for that component.\n *\n * @param componentInstance\n * @returns The component's view\n */\nexport function

getComponentViewByInstance(componentInstance: {}): LView {\n  let lView = readPatchedData(componentInstance);\n  let view: LView;\n\n  if (Array.isArray(lView)) {\n    const nodeIndex = findViaComponent(lView, componentInstance);\n    view = getComponentLViewByIndex(nodeIndex, lView);\n    const context = createLContext(lView, nodeIndex, view[HOST] as RElement);\n    context.component = componentInstance;\n    attachPatchData(componentInstance, context);\n    attachPatchData(context.native, context);\n  } else {\n    const context = lView as any as LContext;\n    view = getComponentLViewByIndex(context.nodeIndex, context.lView);\n  }\n  return view;\n}\n\n/**\n * Assigns the given data to the given target (which could be a component,\n * directive or DOM node instance) using monkey-patching.\n */\nexport function attachPatchData(target: any, data: LView|LContext) {\n target[MONKEY_PATCH_KEY_NAME] = data;\n}\n\nexport function isComponentInstance(instance: any): boolean {\n  return instance && instance.constructor && instance.constructor.cmp;\n}\n\nexport function isDirectiveInstance(instance: any): boolean {\n  return instance && instance.constructor && instance.constructor.dir;\n}\n\n/**\n * Locates the element within the given LView and returns the matching index\n */\nfunction findViaNativeElement(lView: LView, target: RElement): number {\n  const tView = lView[TVIEW];\n  for (let i = HEADER_OFFSET; i < tView.bindingStartIndex; i++) {\n    if (unwrapRNode(lView[i]) === target) {\n      return i;\n    }\n  }\n\n  return -1;\n}\n\n/**\n * Locates the next tNode (child, sibling or parent).\n */\nfunction traverseNextElement(tNode: TNode): TNode|null {\n  if (tNode.child) {\n    return tNode.child;\n  } else if (tNode.next) {\n    return tNode.next;\n  } else {\n    // Let's take the following template: text <component/>\n    // After checking the text node, we need to find the next parent that has a \"next\" TNode,\n    // in this case the parent `div`, so that we can find the component.\n    while (tNode.parent && !tNode.parent.next) {\n      tNode = tNode.parent;\n    }\n    return tNode.parent && tNode.parent.next;\n  }\n}\n\n/**\n * Locates the component within the given LView and returns the matching index\n */\nfunction findViaComponent(lView: LView, componentInstance: {}): number {\n  const componentIndices = lView[TVIEW].components;\n  if (componentIndices) {\n    for (let i = 0; i < componentIndices.length; i++) {\n      const elementComponentIndex = componentIndices[i];\n      const componentView = getComponentLViewByIndex(elementComponentIndex, lView);\n      if (componentView[CONTEXT] === componentInstance) {\n        return elementComponentIndex;\n      }\n    }\n  } else {\n    const rootComponentView = getComponentLViewByIndex(HEADER_OFFSET, lView);\n    const rootComponent = rootComponentView[CONTEXT];\n    if (rootComponent === componentInstance) {\n      // we are dealing with the root element here therefore we know that the\n      // element is the very first element after the HEADER data in the lView\n      return HEADER_OFFSET;\n    }\n  }\n  return -1;\n}\n\n/**\n * Locates the directive within the given LView and returns the matching index\n */\nfunction findViaDirective(lView: LView, directiveInstance: {}): number {\n  // if a directive is monkey patched then it will (by default)\n  // have a reference to the LView of the current view. The\n  // element bound to the directive being search lives somewhere\n  // in the view data. We loop through the nodes and check their\n  // list of directives for the instance.\n  let tNode = lView[TVIEW].firstChild;\n  while (tNode) {\n    const directiveIndexStart = tNode.directiveStart;\n    const directiveIndexEnd = tNode.directiveEnd;\n    for (let i = directiveIndexStart; i < directiveIndexEnd; i++) {\n      if (lView[i] === directiveInstance) {\n        return tNode.index;\n      }\n    }\n    tNode = traverseNextElement(tNode);\n  }\n  return -1;\n}\n\n/**\n * Returns a list of directives extracted from the given view based on the\n * provided list of directive index values.\n *\n * @param nodeIndex The node index\n * @param lView The target view data\n * @param includeComponents Whether or not to include components in returned directives\n */\nexport function getDirectivesAtNodeIndex(\n    nodeIndex: number, lView: LView, includeComponents: boolean): any[]|null {\n  const tNode = lView[TVIEW].data[nodeIndex] as TNode;\n  let directiveStartIndex = tNode.directiveStart;\n  if (directiveStartIndex == 0) return EMPTY_ARRAY;\n  const directiveEndIndex = tNode.directiveEnd;\n  if (!includeComponents && tNode.flags & TNodeFlags.isComponentHost) directiveStartIndex++;\n  return lView.slice(directiveStartIndex, directiveEndIndex);\n}\n\nexport function getComponentAtNodeIndex(nodeIndex: number, lView: LView): {}|null

{\n  const tNode = lView[TVIEW].data[nodeIndex] as TNode;\n  let directiveStartIndex = tNode.directiveStart;\n return tNode.flags & TNodeFlags.isComponentHost ? lView[directiveStartIndex] : null;\n}\n\n/**\n * Returns a map of local references (local reference name => element or directive instance) that\n * exist on a given element.\n */\nexport function discoverLocalRefs(lView: LView,
 nodeIndex: number): {[key: string]: any}|null {\n  const tNode = lView[TVIEW].data[nodeIndex] as TNode;\n  if (tNode && tNode.localNames) {\n    const result: {[key: string]: any} = {};\n    let localIndex = tNode.index + 1;\n for (let i = 0; i < tNode.localNames.length; i += 2) {\n      result[tNode.localNames[i]] = lView[localIndex];\n localIndex++;\n    }\n    return result;\n  }\n\n  return null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {global} from '../../util/global';\nimport {RElement} from '../interfaces/renderer_dom';\n\n\nexport const defaultScheduler =\n    (() => (\n                typeof requestAnimationFrame !== 'undefined' &&\n                    requestAnimationFrame ||  // browser only\n                setTimeout                    // everything else\n            )\n        .bind(global))();\n\n/**\n *\n * @codeGenApi\n */\nexport function resolveWindow(element: RElement&{ownerDocument: Document}) {\n  return {name: 'window', target: element.ownerDocument.defaultView};\n}\n\n/**\n *\n * @codeGenApi\n */\nexport function resolveDocument(element: RElement&{ownerDocument: Document}) {\n  return {name: 'document', target: element.ownerDocument};\n}\n\n/**\n *\n * @codeGenApi\n */\nexport function resolveBody(element: RElement&{ownerDocument: Document}) {\n  return {name: 'body', target: element.ownerDocument.body};\n}\n\n/**\n * The special delimiter we use to separate property names, prefixes, and suffixes\n * in property binding metadata. See storeBindingMetadata().\n *\n * We intentionally use the Unicode \"REPLACEMENT CHARACTER\" (U+FFFD) as a delimiter\n * because it is a very uncommon character that is unlikely to be part of a user's\n * property names or interpolation strings. If it is in fact used in a property\n * binding, DebugElement.properties
 will not return the correct value for that\n * binding. However, there should be no runtime effect for real applications.\n *\n * This character is typically rendered as a question mark inside of a diamond.\n * See https://en.wikipedia.org/wiki/Specials_(Unicode_block)\n *\n */\nexport const INTERPOLATION_DELIMITER = ``;\n\n/**\n * Unwrap a value which might be behind a closure (for forward declaration reasons).\n */\nexport function maybeUnwrapFn<T>(value: T|(() => T)): T {\n  if (value instanceof Function) {\n    return value();\n  } else {\n    return value;\n  }\n}\n","\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {RuntimeError, RuntimeErrorCode} from './error_code';\nimport {TNode} from './interfaces/node';\nimport {LView, TVIEW} from './interfaces/view';\nimport {INTERPOLATION_DELIMITER} from './util/misc_utils';\n\n\n\n/**
 Called when there are multiple component selectors that match a given node */\nexport function throwMultipleComponentError(tNode: TNode): never {\n  throw new RuntimeError(\n RuntimeErrorCode.MULTIPLE_COMPONENTS_MATCH,\n      `Multiple components match node with tagname ${tNode.value}`);\n}\n\n/** Throws an ExpressionChangedAfterChecked error if checkNoChanges mode is on. */\nexport function throwErrorIfNoChangesMode(\n    creationMode: boolean, oldValue: any, currValue: any, propName?: string): never|void {\n  const field = propName ? ` for '${propName}'` : '';\n  let msg =\n `ExpressionChangedAfterItHasBeenCheckedError: Expression has changed after it was checked. Previous value${\n          field}: '${oldValue}'. Current value: '${currValue}'.`;\n  if (creationMode) {\n    msg +=\n        ` It seems like the view has been created after its parent and its children have been dirty checked.` +\n        ` Has it been created in a change detection hook?`;\n
  }\n  // TODO: include debug context, see `viewDebugError` function in\n  // `packages/core/src/view/errors.ts` for reference.\n  throw new RuntimeError(RuntimeErrorCode.EXPRESSION_CHANGED_AFTER_CHECKED, msg);\n}\n\nfunction constructDetailsForInterpolation(\n    lView: LView, rootIndex: number, expressionIndex: number, meta: string, changedValue: any) {\n  const [propName, prefix, ...chunks] =

meta.split(INTERPOLATION_DELIMITER);\n  let oldValue = prefix, newValue = prefix;\n  for (let i = 0; i < chunks.length; i++) {\n    const slotIdx = rootIndex + i;\n    oldValue += `${lView[slotIdx]}${chunks[i]}`;\n newValue += `${slotIdx === expressionIndex ? changedValue : lView[slotIdx]}${chunks[i]}`;\n  }\n  return {propName, oldValue, newValue};\n}\n\n/**\n * Constructs an object that contains details for the ExpressionChangedAfterItHasBeenCheckedError:\n * - property name (for property bindings or interpolations)\n * - old and new values, enriched using information from metadata\n *\n
 * More information on the metadata storage format can be found in `storePropertyBindingMetadata`\n * function description.\n */\nexport function getExpressionChangedErrorDetails(\n    lView: LView, bindingIndex: number, oldValue: any,\n    newValue: any): {propName?: string, oldValue: any, newValue: any} {\n  const tData = lView[TVIEW].data;\n  const metadata = tData[bindingIndex];\n\n  if (typeof metadata === 'string') {\n    // metadata for property interpolation\n    if (metadata.indexOf(INTERPOLATION_DELIMITER) > -1) {\n      return constructDetailsForInterpolation(\n          lView, bindingIndex, bindingIndex, metadata, newValue);\n    }\n    // metadata for property binding\n    return {propName: metadata, oldValue, newValue};\n  }\n\n  // metadata is not available for this expression, check if this expression is a part of the\n  // property interpolation by going from the current binding index left and look for a string that\n  // contains INTERPOLATION_DELIMITER, the layout in tView.data for this case will look like this:\n  // [..., 'idPrefix  and  suffix', null, null, null, ...]\n  if (metadata === null) {\n    let idx = bindingIndex - 1;\n    while (typeof tData[idx] !== 'string' && tData[idx + 1] === null) {\n      idx--;\n    }\n    const meta = tData[idx];\n    if (typeof meta === 'string') {\n      const matches = meta.match(new RegExp(INTERPOLATION_DELIMITER, 'g'));\n      // first interpolation delimiter separates property name from interpolation parts (in case of\n      // property interpolations), so we subtract one from total number of found delimiters\n      if (matches && (matches.length - 1) > bindingIndex - idx) {\n        return constructDetailsForInterpolation(lView, idx, bindingIndex, meta, newValue);\n      }\n    }\n  }\n  return {propName: undefined, oldValue, newValue};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ViewEncapsulation} from '../metadata/view';\n\n\n/**\n * Used by `RendererFactory2` to associate custom rendering data and styles\n * with a rendering implementation.\n *  @publicApi\n */\nexport interface RendererType2 {\n  /**\n   * A unique identifying string for the new renderer, used when creating\n   * unique styles for encapsulation.\n   */\n  id: string;\n  /**\n   * The view encapsulation type, which determines how styles are applied to\n   * DOM elements. One of\n   * - `Emulated` (default): Emulate native scoping of styles.\n   * - `Native`: Use the native encapsulation mechanism of the renderer.\n   * - `ShadowDom`: Use modern [Shadow\n   * DOM](https://w3c.github.io/webcomponents/spec/shadow/) and\n   * create a ShadowRoot for component's host element.\n   * - `None`: Do not provide any template or style encapsulation.\n   */\n  encapsulation: ViewEncapsulation;\n  /**\n   * Defines CSS styles to be stored on a renderer instance.\n   */\n  styles: (string|any[])[];\n  /**\n   * Defines arbitrary developer-defined data to be stored on a renderer instance.\n   * This is useful for renderers that delegate to other renderers.\n   */\n  data: {[kind: string]: any};\n}\n\n\n/**\n * Flags for renderer-specific style modifiers.\n * @publicApi\n */\nexport enum RendererStyleFlags2 {\n  // TODO(misko): This needs to be refactored into a separate file so that it can be imported from\n  // `node_manipulation.ts` Currently doing the import cause resolution order to change and fails\n  // the tests. The work around is to have hard coded value in `node_manipulation.ts` for now.\n  /**\n   * Marks a style as important.\n   */\n  Important = 1 << 0,\n  /**\n   * Marks a style as using dash case naming (this-is-dash-case).\n   */\n  DashCase = 1 << 1\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @fileoverview\n *\n * This file provides mechanism by which code relevant to the `TIcuContainerNode` is only loaded if\n * ICU is present in the template.\n */\n\nimport {TIcuContainerNode} from '../interfaces/node';\nimport {RNode} from '../interfaces/renderer_dom';\nimport {LView} from '../interfaces/view';\n\n\nlet _icuContainerIterate: (tIcuContainerNode: TIcuContainerNode, lView: LView) =>\n    () => RNode | null);\n\n/**\n * Iterator which provides ability to visit all of the `TIcuContainerNode` root `RNode`s.\n */\nexport function

icuContainerIterate(tIcuContainerNode: TIcuContainerNode, lView: LView): () =>\n RNode | null {\n return _icuContainerIterate(tIcuContainerNode, lView);\n}\n\n/**\n * Ensures that `IcuContainerVisitor`'s implementation is present.\n *\n * This function is invoked when i18n instruction comes across an ICU. The purpose is to allow the\n * bundler to tree shake ICU logic and only load it
if ICU instruction is executed.\n */\nexport function ensureIcuContainerVisitorLoaded(\n loader: () => ((tIcuContainerNode: TIcuContainerNode, lView: LView) => (() => RNode | null))) {\n if (_icuContainerIterate === undefined) {\n // Do not inline this function. We want to keep `ensureIcuContainerVisitorLoaded` light, so it\n // can be inlined into call-site.\n _icuContainerIterate = loader();\n }\n}\n","\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n/**\n * Expresses a single CSS Selector.\n *\n * Beginning of array\n * - First index: element name\n * - Subsequent odd indices: attr keys\n * - Subsequent even indices: attr values\n *\n * After SelectorFlags.CLASS flag\n * - Class name values\n *\n * SelectorFlags.NOT flag\n * - Changes the mode to NOT\n * - Can be combined with other flags to set the element / attr / class mode\n *\n * e.g. SelectorFlags.NOT | SelectorFlags.ELEMENT\n *\n * Example:\n * Original: `div.foo.bar[attr1=val1][attr2]`\n * Parsed: ['div', 'attr1', 'val1', 'attr2', '', SelectorFlags.CLASS, 'foo', 'bar']\n *\n * Original: 'div[attr1]:not(.foo[attr2])\n * Parsed: [\n * 'div', 'attr1', ',\n * SelectorFlags.NOT | SelectorFlags.ATTRIBUTE 'attr2', '', SelectorFlags.CLASS, 'foo'\n * ]\n *\n * See more examples in node_selector_matcher_spec.ts\n */\nexport type CssSelector = (string|SelectorFlags)[];\n\n/**\n * A list of CssSelectors.\n *\n * A directive or component can have multiple selectors. This type is used for\n * directive defs so any of the selectors in the list will match that directive.\n *\n * Original: 'form, [ngForm]'\n * Parsed: [['form'], ['', 'ngForm', '']]\n */\nexport type CssSelectorList = CssSelector[];\n\n/**\n * List of slots for a projection. A slot can be either based on a parsed CSS selector\n * which will be used to determine nodes which are
projected into that slot.\n *\n * When set to \"*\", the slot is reserved and can be used for multi-slot projection\n * using {@link ViewContainerRef#createComponent}. The last slot that specifies the\n * wildcard selector will retrieve all projectable nodes which do not match any selector.\n */\nexport type ProjectionSlots = (CssSelectorList|'*')[];\n\n/** Flags used to build up CssSelectors */\nexport const enum SelectorFlags {\n /** Indicates this is the beginning of a new negative selector */\n NOT = 0b0001,\n\n /** Mode for matching attributes */\n ATTRIBUTE = 0b0010,\n\n /** Mode for matching tag names */\n ELEMENT = 0b0100,\n\n /** Mode for matching class names */\n CLASS = 0b1000,\n}\n\n// Note: This hack is necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd = 1;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDefined} from '../../util/assert';\nimport {assertLView} from '../assert';\nimport {LContainer} from '../interfaces/container';\nimport {isLContainer, isLView} from '../interfaces/type_checks';\nimport {CHILD_HEAD, CONTEXT, FLAGS, LView, LViewFlags, NEXT, PARENT, RootContext} from '../interfaces/view';\n\nimport {readPatchedLView} from './view_utils';\n\n\n/**\n * Gets the parent LView of the passed LView, if the PARENT is an LContainer, will get the parent of\n * that LContainer, which is an LView\n * @param lView the lView whose parent to get\n */\nexport function getLViewParent(lView: LView): LView|null {\n ngDevMode && assertLView(lView);\n const parent = lView[PARENT];\n return isLContainer(parent) ? parent[PARENT]! : parent;\n}\n\n/**\n * Retrieve the root view from any component or `LView` by walking the parent `LView` until\n * reaching the root `LView`.\n *\n * @param componentOrLView
any component or `LView`\n */\nexport function getRootView(componentOrLView: LView|{}): LView {\n ngDevMode && assertDefined(componentOrLView, 'component');\n let lView = isLView(componentOrLView) ? componentOrLView : readPatchedLView(componentOrLView)!;\n while (lView && !(lView[FLAGS] & LViewFlags.IsRoot)) {\n lView = getLViewParent(lView)!;\n }\n ngDevMode && assertLView(lView);\n return lView;\n}\n\n/**\n * Returns the `RootContext` instance that is associated with\n * the application where the target is situated. It does this by walking the parent views until it\n * gets to the root view, then getting the context

off of that.\n *\n * @param viewOrComponent the `LView` or component to get the root context for.\n */\nexport function getRootContext(viewOrComponent: LView|{}): RootContext {\n  const rootView = getRootView(viewOrComponent);\n  ngDevMode &&\n      assertDefined(rootView[CONTEXT], 'RootView has no context. Perhaps it is disconnected?');\n  return rootView[CONTEXT]
 as RootContext;\n}\n\n\n/**\n * Gets the first `LContainer` in the LView or `null` if none exists.\n */\nexport function getFirstLContainer(lView: LView): LContainer|null {\n  return getNearestLContainer(lView[CHILD_HEAD]);\n}\n\n/**\n * Gets the next `LContainer` that is a sibling of the given container.\n */\nexport function getNextLContainer(container: LContainer): LContainer|null {\n  return getNearestLContainer(container[NEXT]);\n}\n\nfunction getNearestLContainer(viewOrContainer: LContainer|LView|null) {\n  while (viewOrContainer !== null && !isLContainer(viewOrContainer)) {\n viewOrContainer = viewOrContainer[NEXT];\n  }\n  return viewOrContainer;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ViewEncapsulation} from '../metadata/view';\nimport {Renderer2} from '../render/api';\nimport {RendererStyleFlags2} from '../render/api_flags';\nimport {addToArray, removeFromArray} from '../util/array_utils';\nimport {assertDefined, assertDomNode, assertEqual, assertFunction, assertString} from '../util/assert';\nimport {escapeCommentText} from '../util/dom';\nimport {assertLContainer, assertLView, assertTNodeForLView} from './assert';\nimport {attachPatchData} from './context_discovery';\nimport {icuContainerIterate} from './i18n/i18n_tree_shaking';\nimport {CONTAINER_HEADER_OFFSET, HAS_TRANSPLANTED_VIEWS, LContainer, MOVED_VIEWS, NATIVE, unusedValueExportToPlacateAjd as unused1} from './interfaces/container';\nimport {ComponentDef} from './interfaces/definition';\nimport {NodeInjectorFactory} from './interfaces/injector';\nimport {TElementNode, TIcuContainerNode, TNode, TNodeFlags, TNodeType, TProjectionNode, unusedValueExportToPlacateAjd as unused2} from './interfaces/node';\nimport {unusedValueExportToPlacateAjd as unused3} from './interfaces/projection';\nimport {isProceduralRenderer,
 ProceduralRenderer3, Renderer3, unusedValueExportToPlacateAjd as unused4} from './interfaces/renderer';\nimport {RComment, RElement, RNode, RText} from './interfaces/renderer_dom';\nimport {isLContainer, isLView} from './interfaces/type_checks';\nimport {CHILD_HEAD, CLEANUP, DECLARATION_COMPONENT_VIEW, DECLARATION_LCONTAINER, DestroyHookData, FLAGS, HookData, HookFn, HOST, LView, LViewFlags, NEXT, PARENT, QUERIES, RENDERER, T_HOST, TVIEW, TView, TViewType, unusedValueExportToPlacateAjd as unused5} from './interfaces/view';\nimport {assertTNodeType} from './node_assert';\nimport {getLViewParent} from './util/view_traversal_utils';\nimport {getNativeByTNode, unwrapRNode, updateTransplantedViewCount} from './util/view_utils';\n\n\n\nconst unusedValueToPlacateAjd = unused1 + unused2 + unused3 + unused4 + unused5;\n\nconst enum WalkTNodeTreeAction {\n  /** node create in the native environment. Run on initial creation. */\n  Create = 0,\n\n  /**\n   * node insert in the native
 environment.\n   * Run when existing node has been detached and needs to be re-attached.\n   */\n  Insert = 1,\n\n  /** node detach from the native environment */\n  Detach = 2,\n\n  /** node destruction using the renderer's API */\n  Destroy = 3,\n}\n\n\n\n/**\n * NOTE: for performance reasons, the possible actions are inlined within the function instead of\n * being passed as an argument.\n */\nfunction applyToElementOrContainer(\n    action: WalkTNodeTreeAction, renderer: Renderer3, parent: RElement|null,\n    lNodeToHandle: RNode|LContainer|LView, beforeNode?: RNode|null) {\n  // If this slot was allocated for a text node dynamically created by i18n, the text node itself\n  // won't be created until i18nApply() in the update block, so this node should be skipped.\n  // For more info, see \"ICU expressions should work inside an ngTemplateOutlet inside an ngFor\"\n  // in `i18n_spec.ts`.\n  if (lNodeToHandle != null) {\n    let lContainer: LContainer|undefined;\n    let isComponent = false;\n    // We are expecting an RNode, but in the case of a component or LContainer the `RNode` is\n    // wrapped in an array which needs to be unwrapped. We need to know if it is a component and if\n    // it has LContainer so that we can process all of those cases appropriately.\n    if (isLContainer(lNodeToHandle)) {\n

lContainer = lNodeToHandle;\n } else if (isLView(lNodeToHandle)) {\n isComponent = true;\n ngDevMode && assertDefined(lNodeToHandle[HOST], 'HOST must be defined for a component LView');\n lNodeToHandle = lNodeToHandle[HOST]!;\n }\n const rNode: RNode = unwrapRNode(lNodeToHandle);\n ngDevMode && !isProceduralRenderer(renderer) && assertDomNode(rNode);\n\n if (action === WalkTNodeTreeAction.Create && parent !== null) {\n if (beforeNode == null) {\n nativeAppendChild(renderer, parent, rNode);\n } else {\n nativeInsertBefore(renderer, parent, rNode, beforeNode || null, true);\n }\n } else if (action === WalkTNodeTreeAction.Insert && parent !== null) {\n nativeInsertBefore(renderer, parent, rNode, beforeNode || null, true);\n } else if (action === WalkTNodeTreeAction.Detach) {\n nativeRemoveNode(renderer, rNode, isComponent);\n } else if (action === WalkTNodeTreeAction.Destroy) {\n ngDevMode && ngDevMode.rendererDestroyNode++;\n (renderer as ProceduralRenderer3).destroyNode!(rNode);\n }\n if (lContainer != null) {\n applyContainer(renderer, action, lContainer, parent, beforeNode);\n }\n }\n}\n\nexport function createTextNode(renderer: Renderer3, value: string): RText {\n ngDevMode && ngDevMode.rendererCreateTextNode++;\n ngDevMode && ngDevMode.rendererSetText++;\n return isProceduralRenderer(renderer) ? renderer.createText(value) :\n renderer.createTextNode(value);\n}\n\nexport function updateTextNode(renderer: Renderer3, rNode: RText, value: string): void {\n ngDevMode && ngDevMode.rendererSetText++;\n isProceduralRenderer(renderer) ? renderer.setValue(rNode, value) : rNode.textContent = value;\n}\n\nexport function createCommentNode(renderer: Renderer3, value: string): RComment {\n ngDevMode && ngDevMode.rendererCreateComment++;\n // isProceduralRenderer check is not needed because both `Renderer2` and `Renderer3` have the same\n // method name.\n return renderer.createComment(escapeCommentText(value));\n}\n\n/**\n * Creates a native element from a tag name, using a renderer.\n * @param renderer A renderer to use\n * @param name the tag name\n * @param namespace Optional namespace for element.\n * @returns the element created\n */\nexport function createElementNode(\n renderer: Renderer3, name: string, namespace: string|null): RElement {\n ngDevMode && ngDevMode.rendererCreateElement++;\n if (isProceduralRenderer(renderer)) {\n return renderer.createElement(name, namespace);\n } else {\n return namespace === null ? renderer.createElement(name) :\n renderer.createElementNS(namespace, name);\n }\n}\n\n\n/**\n * Removes all DOM elements associated with a view.\n *\n * Because some root nodes of the view may be containers, we sometimes need\n * to propagate deeply into the nested containers to remove all elements in the\n * views beneath it.\n *\n * @param tView The `TView' of the `LView` from which elements should be added or removed\n * @param lView The view from which elements should be added or removed\n */\nexport function removeViewFromContainer(tView: TView, lView: LView): void {\n const renderer = lView[RENDERER];\n applyView(tView, lView, renderer, WalkTNodeTreeAction.Detach, null, null);\n lView[HOST] = null;\n lView[T_HOST] = null;\n}\n\n/**\n * Adds all DOM elements associated with a view.\n *\n * Because some root nodes of the view may be containers, we sometimes need\n * to propagate deeply into the nested containers to add all elements in the\n * views beneath it.\n *\n * @param tView The `TView' of the `LView` from which elements should be added or removed\n * @param parentTNode The `TNode` where the `LView` should be attached to.\n * @param renderer Current renderer to use for DOM manipulations.\n * @param lView The view from which elements should be added or removed\n * @param parentNativeNode The parent `RElement` where it should be inserted into.\n * @param beforeNode The node before which elements should be added, if insert mode\n */\nexport function addViewToContainer(\n tView: TView, parentTNode: TNode, renderer: Renderer3, lView: LView, parentNativeNode: RElement,\n beforeNode: RNode|null): void {\n lView[HOST] = parentNativeNode;\n lView[T_HOST] = parentTNode;\n applyView(tView, lView, renderer, WalkTNodeTreeAction.Insert, parentNativeNode, beforeNode);\n}\n\n\n/**\n * Detach a `LView` from the DOM by detaching its nodes.\n *\n * @param tView The `TView' of the `LView` to be detached\n * @param lView the `LView` to be detached.\n */\nexport function renderDetachView(tView:

```
TView, lView: LView) {\n  applyView(tView, lView, lView[RENDERER], WalkTNodeTreeAction.Detach, null, null);\n}\n\n/**\n * Traverses down and up the tree of views and containers to remove listeners and\n * call onDestroy callbacks.\n *\n * Notes:\n *  - Because it's used for onDestroy calls, it needs to be bottom-up.\n *  - Must process containers instead of their views to avoid splicing\n *  when views are destroyed and re-added.\n *  - Using a while loop because it's faster than recursion\n *  - Destroy only called on movement to sibling or movement to parent (laterally or up)\n *\n *  @param rootView The view to destroy\n */\nexport function destroyViewTree(rootView: LView): void {\n  // If the view has no children, we can clean it up and return early.\n  let lViewOrLContainer = rootView[CHILD_HEAD];\n  if (!lViewOrLContainer) {\n    return cleanUpView(rootView[TVIEW], rootView);\n  }\n\n  while (lViewOrLContainer) {\n    let next: LView|LContainer|null = null;\n\n
    if (isLView(lViewOrLContainer)) {\n      // If LView, traverse down to child.\n      next = lViewOrLContainer[CHILD_HEAD];\n    } else {\n      ngDevMode && assertLContainer(lViewOrLContainer);\n
  // If container, traverse down to its first LView.\n      const firstView: LView|undefined = lViewOrLContainer[CONTAINER_HEADER_OFFSET];\n      if (firstView) next = firstView;\n    }\n\n    if (!next) {\n      // Only clean up view when moving to the side or up, as destroy hooks\n      // should be called in order from the bottom up.\n      while (lViewOrLContainer && !lViewOrLContainer![NEXT] && lViewOrLContainer !== rootView) {\n        if (isLView(lViewOrLContainer)) {\n          cleanUpView(lViewOrLContainer[TVIEW], lViewOrLContainer);\n        }\n        lViewOrLContainer = lViewOrLContainer[PARENT];\n      }\n      if (lViewOrLContainer === null) lViewOrLContainer = rootView;\n      if (isLView(lViewOrLContainer)) {\n cleanUpView(lViewOrLContainer[TVIEW], lViewOrLContainer);\n
      }\n      next = lViewOrLContainer && lViewOrLContainer![NEXT];\n    }\n    lViewOrLContainer = next;\n  }\n}\n\n/**\n * Inserts a view into a container.\n *\n * This adds the view to the container's array of active views in the correct\n * position. It also adds the view's elements to the DOM if the container isn't a\n * root node of another view (in that case, the view's elements will be added when\n * the container's parent view is added later).\n *\n * @param tView The `TView' of the `LView` to insert\n * @param lView The view to insert\n * @param lContainer The container into which the view should be inserted\n * @param index Which index in the container to insert the child view into\n */\nexport function insertView(tView: TView, lView: LView, lContainer: LContainer, index: number) {\n  ngDevMode && assertLView(lView);\n  ngDevMode && assertLContainer(lContainer);\n  const indexInContainer = CONTAINER_HEADER_OFFSET + index;\n  const containerLength = lContainer.length;\n\n
  if (index > 0) {\n    // This is a new view, we need to add it to the children.\n    lContainer[indexInContainer - 1][NEXT] = lView;\n  }\n  if (index < containerLength - CONTAINER_HEADER_OFFSET) {\n    lView[NEXT] = lContainer[indexInContainer];\n    addToArray(lContainer, CONTAINER_HEADER_OFFSET + index, lView);\n  } else {\n    lContainer.push(lView);\n    lView[NEXT] = null;\n  }\n\n  lView[PARENT] = lContainer;\n\n  // track views where declaration and insertion points are different\n  const declarationLContainer = lView[DECLARATION_LCONTAINER];\n  if (declarationLContainer !== null && lContainer !== declarationLContainer) {\n    trackMovedView(declarationLContainer, lView);\n  }\n\n  // notify query that a new view has been added\n  const lQueries = lView[QUERIES];\n  if (lQueries !== null) {\n    lQueries.insertView(tView);\n  }\n\n  // Sets the attached flag\n  lView[FLAGS] |= LViewFlags.Attached;\n}\n\n/**\n * Track views created from the declaration container (TemplateRef)
  and inserted into a\n * different LContainer.\n */\nfunction trackMovedView(declarationContainer: LContainer, lView: LView) {\n  ngDevMode && assertDefined(lView, 'LView required');\n  ngDevMode && assertLContainer(declarationContainer);\n  const movedViews = declarationContainer[MOVED_VIEWS];\n  const insertedLContainer = lView[PARENT] as LContainer;\n  ngDevMode && assertLContainer(insertedLContainer);\n  const insertedComponentLView = insertedLContainer[PARENT]![DECLARATION_COMPONENT_VIEW];\n  ngDevMode && assertDefined(insertedComponentLView, 'Missing insertedComponentLView');\n  const declaredComponentLView = lView[DECLARATION_COMPONENT_VIEW];\n  ngDevMode && assertDefined(declaredComponentLView, 'Missing declaredComponentLView');\n  if (declaredComponentLView !== insertedComponentLView) {\n    // At this point the declaration-component is not same as insertion-component;
```

this means that\n    // this is a transplanted view. Mark the declared lView as having transplanted views so
 that\n    // those views can participate in CD.\n    declarationContainer[HAS_TRANSPLANTED_VIEWS] = true;\n
}\n  if (movedViews === null) {\n    declarationContainer[MOVED_VIEWS] = [lView];\n  } else {\n
movedViews.push(lView);\n  }\n}\n\nfunction detachMovedView(declarationContainer: LContainer, lView:
LView) {\n  ngDevMode && assertLContainer(declarationContainer);\n  ngDevMode &&\n      assertDefined(\n
   declarationContainer[MOVED_VIEWS],\n          'A projected view should belong to a non-empty projected views
collection');\n  const movedViews = declarationContainer[MOVED_VIEWS]!;\n  const declarationViewIndex =
movedViews.indexOf(lView);\n  const insertionLContainer = lView[PARENT] as LContainer;\n  ngDevMode &&
assertLContainer(insertionLContainer);\n\n  // If the view was marked for refresh but then detached before it was
checked (where the flag\n  // would be cleared and the counter decremented), we need to decrement the view counter
here\n  // instead.\n  if (lView[FLAGS]
 & LViewFlags.RefreshTransplantedView) {\n    lView[FLAGS] &= ~LViewFlags.RefreshTransplantedView;\n
updateTransplantedViewCount(insertionLContainer, -1);\n  }\n\n  movedViews.splice(declarationViewIndex,
1);\n}\n\n/**\n * Detaches a view from a container.\n *\n * This method removes the view from the container's array
of active views. It also\n * removes the view's elements from the DOM.\n *\n * @param lContainer The container
from which to detach a view\n * @param removeIndex The index of the view to detach\n * @returns Detached
LView instance.\n */\nexport function detachView(lContainer: LContainer, removeIndex: number):
LView|undefined {\n  if (lContainer.length <= CONTAINER_HEADER_OFFSET) return;\n\n  const
indexInContainer = CONTAINER_HEADER_OFFSET + removeIndex;\n  const viewToDetach =
lContainer[indexInContainer];\n\n  if (viewToDetach) {\n    const declarationLContainer =
viewToDetach[DECLARATION_LCONTAINER];\n    if (declarationLContainer !== null &&
declarationLContainer
 !== lContainer) {\n      detachMovedView(declarationLContainer, viewToDetach);\n    }\n\n\n    if (removeIndex >
0) {\n      lContainer[indexInContainer - 1][NEXT] = viewToDetach[NEXT] as LView;\n    }\n    const
removedLView = removeFromArray(lContainer, CONTAINER_HEADER_OFFSET + removeIndex);\n
removeViewFromContainer(viewToDetach[TVIEW], viewToDetach);\n\n    // notify query that a view has been
removed\n    const lQueries = removedLView[QUERIES];\n    if (lQueries !== null) {\n
lQueries.detachView(removedLView[TVIEW]);\n    }\n\n    viewToDetach[PARENT] = null;\n
viewToDetach[NEXT] = null;\n    // Unsets the attached flag\n    viewToDetach[FLAGS] &=
~LViewFlags.Attached;\n  }\n  return viewToDetach;\n}\n\n/**\n * A standalone function which destroys an
LView,\n * conducting clean up (e.g. removing listeners, calling onDestroys).\n *\n * @param tView The `TView'
of the `LView` to be destroyed\n * @param lView The view to be destroyed.\n */\nexport function
destroyLView(tView:
 TView, lView: LView) {\n  if (!(lView[FLAGS] & LViewFlags.Destroyed)) {\n    const renderer =
lView[RENDERER];\n    if (isProceduralRenderer(renderer) && renderer.destroyNode) {\n      applyView(tView,
lView, renderer, WalkTNodeTreeAction.Destroy, null, null);\n    }\n\n    destroyViewTree(lView);\n  }\n}\n\n/**\n
* Calls onDestroys hooks for all directives and pipes in a given view and then removes all\n * listeners. Listeners are
removed as the last step so events delivered in the onDestroys hooks\n * can be propagated to @Output listeners.\n
*\n * @param tView `TView` for the `LView` to clean up.\n * @param lView The LView to clean up\n
*/\nfunction cleanUpView(tView: TView, lView: LView): void {\n  if (!(lView[FLAGS] &
LViewFlags.Destroyed)) {\n    // Usually the Attached flag is removed when the view is detached from its parent,
however\n    // if it's a root view, the flag won't be unset hence why we're also removing on destroy.\n
lView[FLAGS] &= ~LViewFlags.Attached;\n\n
   // Mark the LView as destroyed *before* executing the onDestroy hooks. An onDestroy hook\n    // runs arbitrary
user code, which could include its own `viewRef.destroy()` (or similar). If\n    // We don't flag the view as destroyed
before the hooks, this could lead to an infinite loop.\n    // This also aligns with the ViewEngine behavior. It also
means that the onDestroy hook is\n    // really more of an \"afterDestroy\" hook if you think about it.\n
lView[FLAGS] |= LViewFlags.Destroyed;\n\n    executeOnDestroys(tView, lView);\n    processCleanups(tView,

```
lView);\n    // For component views only, the local renderer is destroyed at clean up time.\n    if (lView[TVIEW].type === TViewType.Component && isProceduralRenderer(lView[RENDERER])) {\n ngDevMode && ngDevMode.rendererDestroy++;\n      (lView[RENDERER] as ProceduralRenderer3).destroy();\n }\n\n    const declarationContainer = lView[DECLARATION_LCONTAINER];\n    // we are dealing with an embedded view that is
 still inserted into a container\n    if (declarationContainer !== null && isLContainer(lView[PARENT])) {\n      // and this is a projected view\n      if (declarationContainer !== lView[PARENT]) {\n detachMovedView(declarationContainer, lView);\n      }\n\n      // For embedded views still attached to a container: remove query result from this view.\n      const lQueries = lView[QUERIES];\n      if (lQueries !== null) {\n lQueries.detachView(tView);\n      }\n    }\n  }\n}\n\n/** Removes listeners and unsubscribes from output subscriptions */\nfunction processCleanups(tView: TView, lView: LView): void {\n  const tCleanup = tView.cleanup;\n  const lCleanup = lView[CLEANUP]!;\n  // `LCleanup` contains both share information with `TCleanup` as well as instance specific\n  // information appended at the end. We need to know where the end of the `TCleanup` information\n  // is, and we track this with `lastLCleanupIndex`.\n  let lastLCleanupIndex = -1;\n  if (tCleanup !== null)
 {\n    for (let i = 0; i < tCleanup.length - 1; i += 2) {\n      if (typeof tCleanup[i] === 'string') {\n        // This is a native DOM listener\n        const idxOrTargetGetter = tCleanup[i + 1];\n        const target = typeof idxOrTargetGetter === 'function' ?\n            idxOrTargetGetter(lView) :\n            unwrapRNode(lView[idxOrTargetGetter]);\n        const listener = lCleanup[lastLCleanupIndex = tCleanup[i + 2]];\n        const useCaptureOrSubIdx = tCleanup[i + 3];\n        if (typeof useCaptureOrSubIdx === 'boolean') {\n          // native DOM listener registered with Renderer3\n          target.removeEventListener(tCleanup[i], listener, useCaptureOrSubIdx);\n        } else {\n          if (useCaptureOrSubIdx >= 0) {\n            // unregister\n            lCleanup[lastLCleanupIndex = useCaptureOrSubIdx]();\n          } else {\n            // Subscription\n            lCleanup[lastLCleanupIndex = -useCaptureOrSubIdx].unsubscribe();\n          }\n        }\n        i += 2;\n      } else {\n        // This is a cleanup function that is grouped with the index of its context\n        const context = lCleanup[lastLCleanupIndex = tCleanup[i + 1]];\n        tCleanup[i].call(context);\n      }\n    }\n    if (lCleanup !== null) {\n      for (let i = lastLCleanupIndex + 1; i < lCleanup.length; i++) {\n        const instanceCleanupFn = lCleanup[i];\n        ngDevMode && assertFunction(instanceCleanupFn, 'Expecting instance cleanup function.');\n instanceCleanupFn();\n      }\n    }\n    lView[CLEANUP] = null;\n  }\n}\n\n/** Calls onDestroy hooks for this view */\nfunction executeOnDestroys(tView: TView, lView: LView): void {\n  let destroyHooks: DestroyHookData|null;\n\n  if (tView != null && (destroyHooks = tView.destroyHooks) != null) {\n    for (let i = 0; i < destroyHooks.length; i += 2) {\n      const context = lView[destroyHooks[i] as number];\n\n      // Only call the destroy hook if the context has been requested.\n      if (!(context instanceof NodeInjectorFactory))
 {\n        const toCall = destroyHooks[i + 1] as HookFn | HookData;\n\n        if (Array.isArray(toCall)) {\n          for (let j = 0; j < toCall.length; j += 2) {\n            (toCall[j + 1] as HookFn).call(context[toCall[j] as number]);\n }\n        } else {\n          toCall.call(context);\n        }\n      }\n    }\n  }\n}\n\n/**\n * Returns a native element if a node can be inserted into the given parent.\n *\n * There are two reasons why we may not be able to insert a element immediately.\n * - Projection: When creating a child content element of a component, we have to skip the\n *   insertion because the content of a component will be projected.\n *   `<component><content>delayed due to projection</content></component>`\n * - Parent container is disconnected: This can happen when we are inserting a view into\n *   parent container, which itself is disconnected. For example the parent container is part\n *   of a View which has not be inserted or is
 made for projection but has not been inserted\n *   into destination.\n *\n * @param tView: Current `TView`.\n * @param tNode: `TNode` for which we wish to retrieve render parent.\n * @param lView: Current `LView`.\n */\nexport function getParentRElement(tView: TView, tNode: TNode, lView: LView): RElement|null {\n  return getClosestRElement(tView, tNode.parent, lView);\n}\n\n/**\n * Get closest `RElement` or `null` if it can't be found.\n *\n * If `TNode` is `TNodeType.Element` => return `RElement` at `LView[tNode.index]` location.\n * If `TNode` is `TNodeType.ElementContainer|IcuContain` => return the parent (recursively).\n * If `TNode` is `null`
```

then return host `RElement`:\n *   - return `null` if projection\n *   - return `null` if parent container is disconnected (we have no parent.)\n *\n * @param tView: Current `TView`.\n * @param tNode: `TNode` for which we wish to retrieve `RElement` (or `null` if host element is\n *     needed).\n * @param lView: Current `LView`.\n * @returns  `null` if the `RElement` can't be determined at this time (no parent / projection)\n */\nexport function getClosestRElement(tView: TView, tNode: TNode|null, lView: LView): RElement|null {\n  let parentTNode: TNode|null = tNode;\n  // Skip over element and ICU containers as those are represented by a comment node and\n  // can't be used as a render parent.\n  while (parentTNode !== null &&\n         (parentTNode.type & (TNodeType.ElementContainer | TNodeType.Icu))) {\n    tNode = parentTNode;\n    parentTNode = tNode.parent;\n  }\n\n  // If the parent tNode is null, then we are inserting across views: either into an embedded view\n  // or a component view.\n  if (parentTNode === null) {\n    // We are inserting a root element of the component view into the component host element and\n    // it should always be eager.\n    return lView[HOST];\n  } else {\n    ngDevMode && assertTNodeType(parentTNode, TNodeType.AnyRNode | TNodeType.Container);\n    if (parentTNode.flags & TNodeFlags.isComponentHost)
  {\n      ngDevMode && assertTNodeForLView(parentTNode, lView);\n      const encapsulation =\n      (tView.data[parentTNode.directiveStart] as ComponentDef<unknown>).encapsulation;\n      // We've got a parent which is an element in the current view. We just need to verify if the\n      // parent element is not a component. Component's content nodes are not inserted immediately\n      // because they will be projected, and so doing insert at this point would be wasteful.\n      // Since the projection would then move it to its final destination. Note that we can't\n      // make this assumption when using the Shadow DOM, because the native projection placeholders\n      // (<content> or <slot>) have to be in place as elements are being inserted.\n      if (encapsulation ===
      ViewEncapsulation.None ||\n          encapsulation === ViewEncapsulation.Emulated) {\n        return null;\n      }\n    }\n\n    return getNativeByTNode(parentTNode, lView) as RElement;\n  }\n}\n\n/**\n
 * Inserts a native node before another native node for a given parent using {@link Renderer3}.\n * This is a utility function that can be used when native nodes were determined - it abstracts an\n * actual renderer being used.\n */\nexport function nativeInsertBefore(\n    renderer: Renderer3, parent: RElement, child: RNode, beforeNode: RNode|null,\n    isMove: boolean): void {\n  ngDevMode && ngDevMode.rendererInsertBefore++;\n  if (isProceduralRenderer(renderer)) {\n    renderer.insertBefore(parent, child, beforeNode, isMove);\n  } else {\n    parent.insertBefore(child, beforeNode, isMove);\n  }\n}\n\nfunction nativeAppendChild(renderer: Renderer3, parent: RElement, child: RNode): void {\n  ngDevMode && ngDevMode.rendererAppendChild++;\n  ngDevMode && assertDefined(parent, 'parent node must be defined');\n  if (isProceduralRenderer(renderer)) {\n    renderer.appendChild(parent, child);\n  } else {\n    parent.appendChild(child);\n  }\n}\n\nfunction nativeAppendOrInsertBefore(\n
    renderer: Renderer3, parent: RElement, child: RNode, beforeNode: RNode|null, isMove: boolean) {\n  if (beforeNode !== null) {\n    nativeInsertBefore(renderer, parent, child, beforeNode, isMove);\n  } else {\n    nativeAppendChild(renderer, parent, child);\n  }\n}\n\n/** Removes a node from the DOM given its native parent. */\nfunction nativeRemoveChild(\n    renderer: Renderer3, parent: RElement, child: RNode, isHostElement?: boolean): void {\n  if (isProceduralRenderer(renderer)) {\n    renderer.removeChild(parent, child, isHostElement);\n  } else {\n    parent.removeChild(child);\n  }\n}\n\n/**\n * Returns a native parent of a given native node.\n */\nexport function nativeParentNode(renderer: Renderer3, node: RNode): RElement|null {\n  return (isProceduralRenderer(renderer) ? renderer.parentNode(node) : node.parentNode) as RElement;\n}\n\n/**\n * Returns a native sibling of a given native node.\n */\nexport function nativeNextSibling(renderer: Renderer3, node: RNode): RNode|null
 {\n  return isProceduralRenderer(renderer) ? renderer.nextSibling(node) : node.nextSibling;\n}\n\n/**\n * Find a node in front of which `currentTNode` should be inserted.\n *\n * This method determines the `RNode` in front of which we should insert the `currentRNode`. This\n * takes `TNode.insertBeforeIndex` into account if i18n code has been invoked.\n *\n * @param parentTNode parent `TNode`\n * @param currentTNode current `TNode` (The node which we would like to insert into the DOM)\n * @param lView current `LView`\n */\nfunction getInsertInFrontOfRNode(parentTNode: TNode, currentTNode: TNode, lView: LView): RNode|\n    null {\n  return

_getInsertInFrontOfRNodeWithI18n(parentTNode, currentTNode, lView);\n}\n\n\n/**\n * Find a node in front of which `currentTNode` should be inserted. (Does not take i18n into\n * account)\n *\n * This method determines the `RNode` in front of which we should insert the `currentRNode`. This\n * does not take `TNode.insertBeforeIndex` into account.\n
*\n * @param parentTNode parent `TNode`\n * @param currentTNode current `TNode` (The node which we would like to insert into the DOM)\n * @param lView current `LView`\n */\nexport function getInsertInFrontOfRNodeWithNoI18n(\n parentTNode: TNode, currentTNode: TNode, lView: LView): RNode|null {\n if (parentTNode.type & (TNodeType.ElementContainer | TNodeType.Icu)) {\n return getNativeByTNode(parentTNode, lView);\n }\n return null;\n}\n\n/**\n * Tree shakable boundary for `getInsertInFrontOfRNodeWithI18n` function.\n *\n * This function will only be set if i18n code runs.\n */\nlet _getInsertInFrontOfRNodeWithI18n: (parentTNode: TNode, currentTNode: TNode, lView: LView) =>\n RNode | null = getInsertInFrontOfRNodeWithNoI18n;\n\n/**\n * Tree shakable boundary for `processI18nInsertBefore` function.\n *\n * This function will only be set if i18n code runs.\n */\nlet _processI18nInsertBefore: (\n renderer: Renderer3, childTNode: TNode, lView: LView, childRNode: RNode|RNode[],\n parentRElement: RElement|null) => void;\n\nexport function setI18nHandling(\n getInsertInFrontOfRNodeWithI18n: (parentTNode: TNode, currentTNode: TNode, lView: LView) =>\n RNode | null,\n processI18nInsertBefore: (\n renderer: Renderer3, childTNode: TNode, lView: LView, childRNode: RNode|RNode[],\n parentRElement: RElement|null) => void) {\n _getInsertInFrontOfRNodeWithI18n = getInsertInFrontOfRNodeWithI18n;\n _processI18nInsertBefore = processI18nInsertBefore;\n}\n\n/**\n * Appends the `child` native node (or a collection of nodes) to the `parent`.\n *\n * @param tView The `TView' to be appended\n * @param lView The current LView\n * @param childRNode The native child (or children) that should be appended\n * @param childTNode The TNode of the child element\n */\nexport function appendChild(\n tView: TView, lView: LView, childRNode: RNode|RNode[], childTNode: TNode): void {\n const parentRNode = getParentRElement(tView, childTNode, lView);\n const
renderer = lView[RENDERER];\n const parentTNode: TNode = childTNode.parent || lView[T_HOST]!;\n const anchorNode = getInsertInFrontOfRNode(parentTNode, childTNode, lView);\n if (parentRNode != null) {\n if (Array.isArray(childRNode)) {\n for (let i = 0; i < childRNode.length; i++) {\n nativeAppendOrInsertBefore(renderer, parentRNode, childRNode[i], anchorNode, false);\n }\n } else {\n nativeAppendOrInsertBefore(renderer, parentRNode, childRNode, anchorNode, false);\n }\n }\n\n _processI18nInsertBefore !== undefined &&\n _processI18nInsertBefore(renderer, childTNode, lView, childRNode, parentRNode);\n}\n\n/**\n * Returns the first native node for a given LView, starting from the provided TNode.\n *\n * Native nodes are returned in the order in which those appear in the native tree (DOM).\n */\nfunction getFirstNativeNode(lView: LView, tNode: TNode|null): RNode|null {\n if (tNode !== null) {\n ngDevMode &&\n assertTNodeType(\n tNode,\n TNodeType.AnyRNode | TNodeType.AnyContainer | TNodeType.Icu | TNodeType.Projection);\n\n const tNodeType = tNode.type;\n if (tNodeType & TNodeType.AnyRNode) {\n return getNativeByTNode(tNode, lView);\n } else if (tNodeType & TNodeType.Container) {\n return getBeforeNodeForView(-1, lView[tNode.index]);\n } else if (tNodeType & TNodeType.ElementContainer) {\n const elIcuContainerChild = tNode.child;\n if (elIcuContainerChild !== null) {\n return getFirstNativeNode(lView, elIcuContainerChild);\n } else {\n const rNodeOrLContainer = lView[tNode.index];\n if (isLContainer(rNodeOrLContainer)) {\n return getBeforeNodeForView(-1, rNodeOrLContainer);\n } else {\n return unwrapRNode(rNodeOrLContainer);\n }\n }\n } else if (tNodeType & TNodeType.Icu) {\n let nextRNode = icuContainerIterate(tNode as TIcuContainerNode, lView);\n let rNode: RNode|null = nextRNode();\n
// If the ICU container has no nodes, than we use the ICU anchor as the node.\n return rNode || unwrapRNode(lView[tNode.index]);\n } else {\n const componentView = lView[DECLARATION_COMPONENT_VIEW];\n const componentHost = componentView[T_HOST] as TElementNode;\n const parentView = getLViewParent(componentView);\n const firstProjectedTNode:

TNode|null =\n (componentHost.projection as (TNode | null)[])[tNode.projection as number];\n\n if (firstProjectedTNode != null) {\n return getFirstNativeNode(parentView!, firstProjectedTNode);\n } else {\n return getFirstNativeNode(lView, tNode.next);\n }\n }\n }\n\n return null;\n}\n\nexport function getBeforeNodeForView(viewIndexInContainer: number, lContainer: LContainer): RNode|\n null {\n const nextViewIndex = CONTAINER_HEADER_OFFSET + viewIndexInContainer + 1;\n if (nextViewIndex < lContainer.length) {\n const lView = lContainer[nextViewIndex] as LView;\n const firstTNodeOfView = lView[TVIEW].firstChild;\n if (firstTNodeOfView !== null) {\n return getFirstNativeNode(lView, firstTNodeOfView);\n }\n }\n\n return lContainer[NATIVE];\n}\n\n/**\n * Removes a native node itself using a given renderer. To remove the node we are looking up its\n * parent from the native tree as not all platforms / browsers support the equivalent of\n * node.remove().\n *\n * @param renderer A renderer to be used\n * @param rNode The native node that should be removed\n * @param isHostElement A flag indicating if a node to be removed is a host of a component.\n */\nexport function nativeRemoveNode(renderer: Renderer3, rNode: RNode, isHostElement?: boolean): void {\n ngDevMode && ngDevMode.rendererRemoveNode++;\n const nativeParent = nativeParentNode(renderer, rNode);\n if (nativeParent) {\n nativeRemoveChild(renderer, nativeParent, rNode, isHostElement);\n }\n}\n\n\n/**\n * Performs the operation of `action` on the node. Typically this involves
inserting or removing\n * nodes on the LView or projection boundary.\n */\nfunction applyNodes(\n renderer: Renderer3, action: WalkTNodeTreeAction, tNode: TNode|null, lView: LView,\n parentRElement: RElement|null, beforeNode: RNode|null, isProjection: boolean) {\n while (tNode != null) {\n ngDevMode && assertTNodeForLView(tNode, lView);\n ngDevMode &&\n assertTNodeType(\n tNode,\n TNodeType.AnyRNode | TNodeType.AnyContainer | TNodeType.Projection | TNodeType.Icu);\n const rawSlotValue = lView[tNode.index];\n const tNodeType = tNode.type;\n if (isProjection) {\n if (action === WalkTNodeTreeAction.Create) {\n rawSlotValue && attachPatchData(unwrapRNode(rawSlotValue), lView);\n tNode.flags |= TNodeFlags.isProjected;\n }\n }\n if ((tNode.flags & TNodeFlags.isDetached) !== TNodeFlags.isDetached) {\n if (tNodeType & TNodeType.ElementContainer) {\n applyNodes(renderer, action, tNode.child, lView, parentRElement,
beforeNode, false);\n applyToElementOrContainer(action, renderer, parentRElement, rawSlotValue, beforeNode);\n } else if (tNodeType & TNodeType.Icu) {\n const nextRNode = icuContainerIterate(tNode as TIcuContainerNode, lView);\n let rNode: RNode|null;\n while (rNode = nextRNode()) {\n applyToElementOrContainer(action, renderer, parentRElement, rNode, beforeNode);\n }\n applyToElementOrContainer(action, renderer, parentRElement, rawSlotValue, beforeNode);\n } else if (tNodeType & TNodeType.Projection) {\n applyProjectionRecursive(\n renderer, action, lView, tNode as TProjectionNode, parentRElement, beforeNode);\n } else {\n ngDevMode && assertTNodeType(tNode, TNodeType.AnyRNode | TNodeType.Container);\n applyToElementOrContainer(action, renderer, parentRElement, rawSlotValue, beforeNode);\n }\n }\n tNode = isProjection ? tNode.projectionNext : tNode.next;\n }\n}\n\n\n/**\n
* `applyView` performs operation on the view as specified in `action` (insert, detach, destroy)\n *\n * Inserting a view without projection or containers at top level is simple. Just iterate over the\n * root nodes of the View, and for each node perform the `action`.\n *\n * Things get more complicated with containers and projections. That is because coming across:\n * - Container: implies that we have to insert/remove/destroy the views of that container as well\n * which in turn can have their own Containers at the View roots.\n * - Projection: implies that we have to insert/remove/destroy the nodes of the projection. The\n * complication is that the nodes we are projecting can themselves have Containers\n * or other Projections.\n *\n * As you can see this is a very recursive problem. Yes recursion is not most efficient but the\n * code is complicated enough that trying to implemented with recursion becomes unmaintainable.\n *\n * @param
tView The `TView' which needs to be inserted, detached, destroyed\n * @param lView The LView which needs to be inserted, detached, destroyed.\n * @param renderer Renderer to use\n * @param action action to perform (insert, detach, destroy)\n * @param parentRElement parent DOM element for insertion (Removal does not need it).\n *

@param beforeNode Before which node the insertions should happen.\n */\nfunction applyView(\n tView: TView, lView: LView, renderer: Renderer3, action: WalkTNodeTreeAction.Destroy,\n parentRElement: null, beforeNode: null): void;\nfunction applyView(\n tView: TView, lView: LView, renderer: Renderer3, action: WalkTNodeTreeAction,\n parentRElement: RElement|null, beforeNode: RNode|null): void;\nfunction applyView(\n tView: TView, lView: LView, renderer: Renderer3, action: WalkTNodeTreeAction,\n parentRElement: RElement|null, beforeNode: RNode|null): void {\n applyNodes(renderer, action, tView.firstChild, lView, parentRElement, beforeNode, false);\n}\n\n/**\n * `applyProjection` performs operation on the projection.\n *\n * Inserting a projection requires us to locate the projected nodes from the parent component. The\n * complication is that those nodes themselves could be re-projected from their parent component.\n *\n * @param tView The `TView` of `LView` which needs to be inserted, detached, destroyed\n * @param lView The `LView` which needs to be inserted, detached, destroyed.\n * @param tProjectionNode node to project\n */\nexport function applyProjection(tView: TView, lView: LView, tProjectionNode: TProjectionNode) {\n const renderer = lView[RENDERER];\n const parentRNode = getParentRElement(tView, tProjectionNode, lView);\n const parentTNode = tProjectionNode.parent || lView[T_HOST]!;\n let beforeNode = getInsertInFrontOfRNode(parentTNode, tProjectionNode, lView);\n applyProjectionRecursive(\n renderer, WalkTNodeTreeAction.Create, lView, tProjectionNode, parentRNode, beforeNode);\n}\n\n/**\n * `applyProjectionRecursive`
 performs operation on the projection specified by `action` (insert,\n * detach, destroy)\n *\n * Inserting a projection requires us to locate the projected nodes from the parent component. The\n * complication is that those nodes themselves could be re-projected from their parent component.\n *\n * @param renderer Render to use\n * @param action action to perform (insert, detach, destroy)\n * @param lView The LView which needs to be inserted, detached, destroyed.\n * @param tProjectionNode node to project\n * @param parentRElement parent DOM element for insertion/removal.\n * @param beforeNode Before which node the insertions should happen.\n */\nfunction applyProjectionRecursive(\n renderer: Renderer3, action: WalkTNodeTreeAction, lView: LView,\n tProjectionNode: TProjectionNode, parentRElement: RElement|null, beforeNode: RNode|null) {\n const componentLView = lView[DECLARATION_COMPONENT_VIEW];\n const componentNode = componentLView[T_HOST] as TElementNode;\n ngDevMode
 &&\n assertEqual(typeof tProjectionNode.projection, 'number', 'expecting projection index');\n const nodeToProjectOrRNodes = componentNode.projection![tProjectionNode.projection]!;\n if (Array.isArray(nodeToProjectOrRNodes)) {\n // This should not exist, it is a bit of a hack. When we bootstrap a top level node and we\n // need to support passing projectable nodes, so we cheat and put them in the TNode\n // of the Host TView. (Yes we put instance info at the T Level). We can get away with it\n // because we know that that TView is not shared and therefore it will not be a problem.\n // This should be refactored and cleaned up.\n for (let i = 0; i < nodeToProjectOrRNodes.length; i++) {\n const rNode = nodeToProjectOrRNodes[i];\n applyToElementOrContainer(action, renderer, parentRElement, rNode, beforeNode);\n }\n } else {\n let nodeToProject: TNode|null = nodeToProjectOrRNodes;\n const projectedComponentLView = componentLView[PARENT]
 as LView;\n applyNodes(\n renderer, action, nodeToProject, projectedComponentLView, parentRElement, beforeNode, true);\n }\n}\n\n/**\n * `applyContainer` performs an operation on the container and its views as specified by\n * `action` (insert, detach, destroy)\n *\n * Inserting a Container is complicated by the fact that the container may have Views which\n * themselves have containers or projections.\n *\n * @param renderer Renderer to use\n * @param action action to perform (insert, detach, destroy)\n * @param lContainer The LContainer which needs to be inserted, detached, destroyed.\n * @param parentRElement parent DOM element for insertion/removal.\n * @param beforeNode Before which node the insertions should happen.\n */\nfunction applyContainer(\n renderer: Renderer3, action: WalkTNodeTreeAction, lContainer: LContainer,\n parentRElement: RElement|null, beforeNode: RNode|null|undefined) {\n ngDevMode && assertLContainer(lContainer);\n const anchor = lContainer[NATIVE];

```
// LContainer has its own before node.\n  const native = unwrapRNode(lContainer);\n  // An LContainer can be created dynamically on any node by injecting ViewContainerRef.\n  // Asking for a ViewContainerRef on an element will result in a creation of a separate anchor\n  // node (comment in the DOM) that will be different from the LContainer's host node. In this\n  // particular case we need to execute action on 2 nodes:\n  // - container's host node (this is done in the executeActionOnElementOrContainer)\n  // - container's host node (this is done here)\n  if (anchor !== native) {\n    // This is very strange to me (Misko). I would expect that the native is same as anchor. I\n    // don't see a reason why they should be different, but they are.\n    //\n    // If they are we need to process the second anchor as well.\n    applyToElementOrContainer(action, renderer, parentRElement, anchor, beforeNode);\n  }\n  for (let i = CONTAINER_HEADER_OFFSET; i < lContainer.length; i++)
  {\n    const lView = lContainer[i] as LView;\n    applyView(lView[TVIEW], lView, renderer, action, parentRElement, anchor);\n  }\n}\n\n/**\n * Writes class/style to element.\n *\n * @param renderer Renderer to use.\n * @param isClassBased `true` if it should be written to `class` (`false` to write to `style`)\n * @param rNode The Node to write to.\n * @param prop Property to write to. This would be the class/style name.\n * @param value Value to write. If `null`/`undefined`/`false` this is considered a remove (set/add\n *        otherwise).\n */\nexport function applyStyling(\n    renderer: Renderer3, isClassBased: boolean, rNode: RElement, prop: string, value: any) {\n  const isProcedural = isProceduralRenderer(renderer);\n  if (isClassBased) {\n    // We actually want JS true/false here because any truthy value should add the class\n    if (!value) {\n      ngDevMode && ngDevMode.rendererRemoveClass++;\n      if (isProcedural) {\n        (renderer as Renderer2).removeClass(rNode, prop);\n
      } else {\n        (rNode as HTMLElement).classList.remove(prop);\n      }\n    } else {\n      ngDevMode && ngDevMode.rendererAddClass++;\n      if (isProcedural) {\n        (renderer as Renderer2).addClass(rNode, prop);\n
  } else {\n        ngDevMode && assertDefined((rNode as HTMLElement).classList, 'HTMLElement expected');\n
  (rNode as HTMLElement).classList.add(prop);\n      }\n    }\n  } else {\n    let flags = prop.indexOf('-') === -1 ? undefined : RendererStyleFlags2.DashCase as number;\n    if (value == null /** || value === undefined */) {\n      ngDevMode && ngDevMode.rendererRemoveStyle++;\n      if (isProcedural) {\n        (renderer as Renderer2).removeStyle(rNode, prop, flags);\n      } else {\n        (rNode as HTMLElement).style.removeProperty(prop);\n      }\n    } else {\n      // A value is important if it ends with `!important`. The style\n      // parser strips any semicolons at the end of the value.\n      const isImportant = typeof value ===
  'string' ? value.endsWith('!important') : false;\n\n      if (isImportant) {\n        // !important has to be stripped from the value for it to be valid.\n        value = value.slice(0, -10);\n        flags! |= RendererStyleFlags2.Important;\n      }\n\n      ngDevMode && ngDevMode.rendererSetStyle++;\n      if (isProcedural) {\n        (renderer as Renderer2).setStyle(rNode, prop, value, flags);\n      } else {\n        ngDevMode && assertDefined((rNode as HTMLElement).style, 'HTMLElement expected');\n        (rNode as HTMLElement).style.setProperty(prop, value, isImportant ? 'important' : '');\n      }\n    }\n  }\n}\n\n\n/**\n * Write `cssText` to `RElement`.\n *\n * This function does direct write without any reconciliation. Used for writing initial values, so\n * that static styling values do not pull in the style parser.\n *\n * @param renderer Renderer to use\n * @param element The element which needs to be updated.\n * @param newValue The new class list to write.\n */\nexport
  function writeDirectStyle(renderer: Renderer3, element: RElement, newValue: string) {\n  ngDevMode && assertString(newValue, '\\'newValue\\' should be a string');\n  if (isProceduralRenderer(renderer)) {\n    renderer.setAttribute(element, 'style', newValue);\n  } else {\n    (element as HTMLElement).style.cssText = newValue;\n  }\n  ngDevMode && ngDevMode.rendererSetStyle++;\n}\n\n/**\n * Write `className` to `RElement`.\n *\n * This function does direct write without any reconciliation. Used for writing initial values, so\n * that static styling values do not pull in the style parser.\n *\n * @param renderer Renderer to use\n * @param element The element which needs to be updated.\n * @param newValue The new class list to write.\n */\nexport function writeDirectClass(renderer: Renderer3, element: RElement, newValue: string) {\n  ngDevMode && assertString(newValue, '\\'newValue\\' should be a string');\n  if (isProceduralRenderer(renderer)) {\n    if (newValue === '') {\n      // There
```

are tests in `google3` which expect `element.getAttribute('class')` to be `null`.\n renderer.removeAttribute(element, 'class');\n } else {\n renderer.setAttribute(element, 'class', newValue);\n }\n } else {\n element.className = newValue;\n }\n ngDevMode && ngDevMode.rendererSetClassName++;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertNotEqual} from '../../util/assert';\nimport {CharCode} from '../../util/char_code';\n\n\n/**\n * Returns an index of `classToSearch` in `className` taking token boundaries into account.\n *\n * `classIndexOf('AB A', 'A', 0)` will be 3 (not 0 since `AB!==A`)\n *\n * @param className A string containing classes (whitespace separated)\n * @param classToSearch A class name to locate\n * @param startingIndex Starting location of search\n * @returns an index of the located class (or -1 if not found)\n */\nexport function classIndexOf(\n className: string, classToSearch: string, startingIndex: number): number {\n ngDevMode && assertNotEqual(classToSearch, '', 'can not look for \"\" string.');\n let end = className.length;\n while (true) {\n const foundIndex = className.indexOf(classToSearch, startingIndex);\n if (foundIndex === -1) return foundIndex;\n if (foundIndex === 0 || className.charCodeAt(foundIndex - 1) <= CharCode.SPACE) {\n // Ensure that it has leading whitespace\n const length = classToSearch.length;\n if (foundIndex + length === end ||\n className.charCodeAt(foundIndex + length) <= CharCode.SPACE) {\n // Ensure that it has trailing whitespace\n return foundIndex;\n }\n }\n // False positive, keep searching from where we left off.\n startingIndex = foundIndex + 1;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport '../util/ng_dev_mode';\n\nimport {assertDefined, assertEqual, assertNotEqual} from '../util/assert';\n\nimport {AttributeMarker, TAttributes, TNode, TNodeType, unusedValueExportToPlacateAjd as unused1} from './interfaces/node';\nimport {CssSelector, CssSelectorList, SelectorFlags, unusedValueExportToPlacateAjd as unused2} from './interfaces/projection';\nimport {classIndexOf} from './styling/class_differ';\nimport {isNameOnlyAttributeMarker} from './util/attrs_utils';\n\nconst unusedValueToPlacateAjd = unused1 + unused2;\n\nconst NG_TEMPLATE_SELECTOR = 'ng-template';\n\n/**\n * Search the `TAttributes` to see if it contains `cssClassToMatch` (case insensitive)\n *\n * @param attrs `TAttributes` to search through.\n * @param cssClassToMatch class to match (lowercase)\n * @param isProjectionMode Whether or not class matching should look into the attribute `class` in\n * addition to the `AttributeMarker.Classes`.\n */\nfunction isCssClassMatching(\n attrs: TAttributes, cssClassToMatch: string, isProjectionMode: boolean): boolean {\n // TODO(misko): The fact that this function needs to know about `isProjectionMode` seems suspect.\n // It is strange to me that sometimes the class information comes in form of `class` attribute\n // and sometimes in form of `AttributeMarker.Classes`. Some investigation is needed to determine\n // if that is the right behavior.\n ngDevMode &&\n assertEqual(\n cssClassToMatch, cssClassToMatch.toLowerCase(), 'Class name expected to be lowercase.');\n let i = 0;\n while (i < attrs.length) {\n let item = attrs[i++];\n if (isProjectionMode && item === 'class') {\n item = attrs[i] as string;\n if (classIndexOf(item.toLowerCase(), cssClassToMatch, 0) !== -1) {\n return true;\n }\n } else if (item === AttributeMarker.Classes) {\n // We found the classes section. Start searching for the class.\n while (i < attrs.length && typeof (item = attrs[i++]) == 'string') {\n // while we have strings\n if (item.toLowerCase() === cssClassToMatch) return true;\n }\n return false;\n }\n }\n return false;\n}\n\n/**\n * Checks whether the `tNode` represents an inline template (e.g. `*ngFor`).\n *\n * @param tNode current TNode\n */\nexport function isInlineTemplate(tNode: TNode): boolean {\n return tNode.type === TNodeType.Container && tNode.value !== NG_TEMPLATE_SELECTOR;\n}\n\n/**\n * Function that checks whether a given tNode matches tag-based selector and has a valid type.\n *\n * Matching can be performed in 2 modes: projection mode (when we project nodes) and regular\n * directive matching mode:\n * - in the \"directive matching\" mode we do _not_ take TContainer's tagName into account if it is\n * different from NG_TEMPLATE_SELECTOR (value different from NG_TEMPLATE_SELECTOR indicates that a\n * tag name

was
extracted from * syntax so we would match the same directive twice);\n * - in the \"projection\" mode, we use a tag name potentially extracted from the * syntax processing\n * (applicable to TNodeType.Container only).\n */\nfunction hasTagAndTypeMatch(\n tNode: TNode, currentSelector: string, isProjectionMode: boolean): boolean {\n const tagNameToCompare =\n tNode.type === TNodeType.Container && !isProjectionMode ? NG_TEMPLATE_SELECTOR : tNode.value;\n return currentSelector === tagNameToCompare;\n}\n\n/**\n * A utility function to match an Ivy node static data against a simple CSS selector\n *\n * @param node static data of the node to match\n * @param selector The selector to try matching against the node.\n * @param isProjectionMode if `true` we are matching for content projection, otherwise we are doing\n * directive matching.\n * @returns true if node matches the selector.\n */\nexport function isNodeMatchingSelector(\n tNode: TNode, selector: CssSelector, isProjectionMode:
boolean): boolean {\n ngDevMode && assertDefined(selector[0], 'Selector should have a tag name');\n let mode: SelectorFlags = SelectorFlags.ELEMENT;\n const nodeAttrs = tNode.attrs || [];\n\n // Find the index of first attribute that has no value, only a name.\n const nameOnlyMarkerIdx = getNameOnlyMarkerIndex(nodeAttrs);\n\n // When processing \":not\" selectors, we skip to the next \":not\" if the\n // current one doesn't match\n let skipToNextSelector = false;\n\n for (let i = 0; i < selector.length; i++) {\n const current = selector[i];\n if (typeof current === 'number') {\n // If we finish processing a :not selector and it hasn't failed, return false\n if (!skipToNextSelector && !isPositive(mode) && !isPositive(current)) {\n return false;\n }\n // If we are skipping to the next :not() and this mode flag is positive,\n // it's a part of the current :not() selector, and we should keep skipping\n if (skipToNextSelector && isPositive(current))
continue;\n skipToNextSelector = false;\n mode = (current as number) | (mode & SelectorFlags.NOT);\n continue;\n }\n\n if (skipToNextSelector) continue;\n\n if (mode & SelectorFlags.ELEMENT) {\n mode = SelectorFlags.ATTRIBUTE | mode & SelectorFlags.NOT;\n if (current !== '' && !hasTagAndTypeMatch(tNode, current, isProjectionMode) ||\n current === '' && selector.length === 1) {\n if (isPositive(mode)) return false;\n skipToNextSelector = true;\n }\n } else {\n const selectorAttrValue = mode & SelectorFlags.CLASS ? current : selector[++i];\n\n // special case for matching against classes when a tNode has been instantiated with\n // class and style values as separate attribute values (e.g. ['title', CLASS, 'foo'])\n if ((mode & SelectorFlags.CLASS) && tNode.attrs !== null) {\n if (!isCssClassMatching(tNode.attrs, selectorAttrValue as string, isProjectionMode)) {\n if (isPositive(mode))
return false;\n skipToNextSelector = true;\n }\n continue;\n }\n\n const attrName = (mode & SelectorFlags.CLASS) ? 'class' : current;\n const attrIndexInNode =\n findAttrIndexInNode(attrName, nodeAttrs, isInlineTemplate(tNode), isProjectionMode);\n\n if (attrIndexInNode === -1) {\n if (isPositive(mode)) return false;\n skipToNextSelector = true;\n continue;\n }\n\n if (selectorAttrValue !== '') {\n let nodeAttrValue: string;\n if (attrIndexInNode > nameOnlyMarkerIdx) {\n nodeAttrValue = '';\n } else {\n ngDevMode &&\n assertNotEqual(\n nodeAttrs[attrIndexInNode], AttributeMarker.NamespaceURI,\n 'We do not match directives on namespaced attributes');\n // we lowercase the attribute value to be able to match\n // selectors without case-sensitivity\n // (selectors are already in lowercase
when generated)\n nodeAttrValue = (nodeAttrs[attrIndexInNode + 1] as string).toLowerCase();\n }\n\n const compareAgainstClassName = mode & SelectorFlags.CLASS ? nodeAttrValue : null;\n if (compareAgainstClassName &&\n classIndexOf(compareAgainstClassName, selectorAttrValue as string, 0) !== -1 ||\n mode & SelectorFlags.ATTRIBUTE && selectorAttrValue !== nodeAttrValue) {\n if (isPositive(mode)) return false;\n skipToNextSelector = true;\n }\n }\n }\n\n return isPositive(mode) || skipToNextSelector;\n}\n\nfunction isPositive(mode: SelectorFlags): boolean {\n return (mode & SelectorFlags.NOT) === 0;\n}\n\n/**\n * Examines the attribute's definition array for a node to find the index of the\n * attribute that matches the given `name`.\n *\n * NOTE: This will not match namespaced attributes.\n *\n * Attribute matching depends upon `isInlineTemplate` and `isProjectionMode`.\n * The following

```
 table summarizes which types of attributes we attempt to match:\n *\n *
==========================================================================================\n * Modes                | Normal Attributes | Bindings Attributes | Template Attributes | I18n\n * Attributes\n *
==========================================================================================\n * Inline + Projection    | YES             | YES               | NO                |  YES\n * ----------------------------------------------------------------------------------------------------\n * Inline + Directive     | NO              | NO                | YES               | NO\n * ----------------------------------------------------------------------------------------------------\n * Non-inline + Projection | YES             | YES               | NO                |  YES\n * ----------------------------------------------------------------------------------------------------\n * Non-inline + Directive  | YES             | YES               | NO                | YES\n *
==========================================================================================\n *\n * @param name the name of the attribute to find\n * @param attrs the attribute array to examine\n * @param isInlineTemplate true if the node being matched is an inline template (e.g. `*ngFor`)\n * rather than a manually expanded template node (e.g `<ng-template>`).\n * @param isProjectionMode true if we are matching against content projection otherwise we are\n * matching against directives.\n */\nfunction findAttrIndexInNode(\n    name: string, attrs: TAttributes|null, isInlineTemplate: boolean,\n    isProjectionMode: boolean): number {\n  if (attrs === null) return -1;\n\n  let i = 0;\n\n  if (isProjectionMode || !isInlineTemplate) {\n    let bindingsMode = false;\n    while (i < attrs.length) {\n      const maybeAttrName = attrs[i];\n      if (maybeAttrName === name) {\n        return i;\n      } else if (\n          maybeAttrName === AttributeMarker.Bindings || maybeAttrName === AttributeMarker.I18n) {\n        bindingsMode = true;\n      } else if (\n          maybeAttrName === AttributeMarker.Classes || maybeAttrName === AttributeMarker.Styles) {\n        let value = attrs[++i];\n        // We should skip classes here because we have a separate mechanism for\n        // matching classes in projection mode.\n        while (typeof value === 'string') {\n          value = attrs[++i];\n        }\n        continue;\n      } else if (maybeAttrName === AttributeMarker.Template) {\n        // We do not care about Template attributes in this scenario.\n        break;\n      } else if (maybeAttrName === AttributeMarker.NamespaceURI) {\n        // Skip the whole namespaced attribute and value. This is by design.\n        i += 4;\n        continue;\n      }\n      // In binding mode there are only names, rather than name-value pairs.\n      i += bindingsMode ? 1 : 2;\n    }\n    // We did not match the attribute\n    return -1;\n  } else {\n    return matchTemplateAttribute(attrs, name);\n  }\n}\n\nexport function isNodeMatchingSelectorList(\n    tNode: TNode, selector: CssSelectorList, isProjectionMode: boolean = false): boolean {\n  for (let i = 0; i < selector.length; i++) {\n    if (isNodeMatchingSelector(tNode, selector[i], isProjectionMode)) {\n      return true;\n    }\n  }\n\n  return false;\n}\n\nexport function getProjectAsAttrValue(tNode: TNode): CssSelector|null {\n  const nodeAttrs = tNode.attrs;\n  if (nodeAttrs != null) {\n    const ngProjectAsAttrIdx = nodeAttrs.indexOf(AttributeMarker.ProjectAs);\n    // only check for ngProjectAs in attribute names, don't accidentally match attribute's value\n    // (attribute names are stored at even indexes)\n    if ((ngProjectAsAttrIdx & 1) === 0) {\n      return nodeAttrs[ngProjectAsAttrIdx + 1] as CssSelector;\n    }\n  }\n  return null;\n}\n\nfunction getNameOnlyMarkerIndex(nodeAttrs: TAttributes) {\n  for (let i = 0; i < nodeAttrs.length; i++) {\n    const nodeAttr = nodeAttrs[i];\n    if (isNameOnlyAttributeMarker(nodeAttr)) {\n      return i;\n    }\n  }\n  return nodeAttrs.length;\n}\n\nfunction matchTemplateAttribute(attrs: TAttributes, name: string): number {\n  let i = attrs.indexOf(AttributeMarker.Template);\n  if (i > -1) {\n    i++;\n    while (i < attrs.length) {\n      const attr = attrs[i];\n      // Return in case we checked all template attrs and are switching to the next section in the\n      // attrs array (that starts with a number that represents an attribute marker).\n      if (typeof attr === 'number') return -1;\n      if (attr === name) return i;\n      i++;\n    }\n  }\n  return -1;\n}\n\n/**\n * Checks whether a selector is inside a CssSelectorList\n * @param selector Selector to be checked.\n * @param list List in which to look for the selector.\n */\nexport function isSelectorInSelectorList(selector: CssSelector, list: CssSelectorList): boolean {\n  selectorListLoop: for (let i = 0; i < list.length; i++) {\n    const currentSelectorInList = list[i];\n    if (selector.length !== currentSelectorInList.length) {\n      continue;\n    }\n    for
```

(let j = 0; j < selector.length; j++) {\n if (selector[j] !== currentSelectorInList[j]) {\n continue selectorListLoop;\n }\n }\n return true;\n }\n return false;\n}\n\nfunction maybeWrapInNotSelector(isNegativeMode: boolean, chunk: string): string {\n return isNegativeMode ? ':not(' + chunk.trim() + ')' : chunk;\n}\n\nfunction stringifyCSSSelector(selector: CssSelector): string {\n let result = selector[0] as string;\n let i = 1;\n let mode = SelectorFlags.ATTRIBUTE;\n let currentChunk = '';\n let isNegativeMode = false;\n while (i < selector.length) {\n let valueOrMarker = selector[i];\n if (typeof valueOrMarker === 'string') {\n if (mode & SelectorFlags.ATTRIBUTE) {\n const attrValue = selector[++i] as string;\n currentChunk +=\n '[' + valueOrMarker + (attrValue.length > 0 ? '=\"' + attrValue + '\"' : '') + ']';\n } else if (mode & SelectorFlags.CLASS) {\n currentChunk += '.' + valueOrMarker;\n } else if (mode & SelectorFlags.ELEMENT) {\n currentChunk += ' ' + valueOrMarker;\n }\n } else {\n //\n // Append current chunk to the final result in case we come across SelectorFlag, which\n // indicates that the previous section of a selector is over. We need to accumulate content\n // between flags to make sure we wrap the chunk later in :not() selector if needed, e.g.\n // ```\n // ['', Flags.CLASS, '.classA', Flags.CLASS | Flags.NOT, '.classB', '.classC']\n // ```\n // should be transformed to `.classA :not(.classB .classC)`.\n //\n // Note: for negative selector part, we accumulate content between flags until we find the\n // next negative flag. This is needed to support a case where `:not()` rule contains more than\n // one chunk, e.g. the following selector:\n // ```\n // ['', Flags.ELEMENT | Flags.NOT, 'p', Flags.CLASS, 'foo', Flags.CLASS | Flags.NOT, 'bar']\n // ```\n // should be stringified to `:not(p.foo) :not(.bar)`\n //\n if (currentChunk !== '' && !isPositive(valueOrMarker)) {\n result += maybeWrapInNotSelector(isNegativeMode, currentChunk);\n currentChunk = '';\n }\n mode = valueOrMarker;\n // According to CssSelector spec, once we come across `SelectorFlags.NOT` flag, the negative\n // mode is maintained for remaining chunks of a selector.\n isNegativeMode = isNegativeMode || !isPositive(mode);\n }\n i++;\n }\n if (currentChunk !== '') {\n result += maybeWrapInNotSelector(isNegativeMode, currentChunk);\n }\n return result;\n}\n\n/**\n * Generates string representation of CSS selector in parsed form.\n *\n * ComponentDef and DirectiveDef are generated with the selector in parsed form to avoid doing\n * additional parsing at runtime (for example, for directive matching). However in some cases (for\n * example, while bootstrapping a component), a string version of the selector is required to query\n * for the host element on the page. This function takes the parsed form of a selector and returns\n * its string representation.\n *\n * @param selectorList selector in parsed form\n * @returns string representation of a given selector\n */\nexport function stringifyCSSSelectorList(selectorList: CssSelectorList): string {\n return selectorList.map(stringifyCSSSelector).join(',');\n}\n\n/**\n * Extracts attributes and classes information from a given CSS selector.\n *\n * This function is used while creating a component dynamically. In this case, the host element\n * (that is created dynamically) should contain attributes and classes specified in component's CSS\n * selector.\n *\n * @param selector CSS selector in parsed form (in a form of array)\n * @returns object with `attrs` and `classes` fields that contain extracted information\n */\nexport function extractAttrsAndClassesFromSelector(selector: CssSelector):\n {attrs: string[], classes: string[]} {\n const attrs: string[] = [];\n const classes: string[] = [];\n let i = 1;\n let mode = SelectorFlags.ATTRIBUTE;\n while (i < selector.length) {\n let valueOrMarker = selector[i];\n if (typeof valueOrMarker === 'string') {\n if (mode === SelectorFlags.ATTRIBUTE) {\n if (valueOrMarker !== '') {\n attrs.push(valueOrMarker, selector[++i] as string);\n }\n } else if (mode === SelectorFlags.CLASS) {\n classes.push(valueOrMarker);\n }\n } else {\n // According to CssSelector spec, once we come across `SelectorFlags.NOT` flag, the negative\n // mode is maintained for remaining chunks of a selector. Since attributes and classes are\n // extracted only for \"positive\" part of the selector, we can stop here.\n if (!isPositive(mode)) break;\n mode = valueOrMarker;\n }\n i++;\n }\n return {attrs, classes};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport interface NO_CHANGE {\n // This is a brand that ensures that this type can never match anything else\n __brand__: 'NO_CHANGE';\n}\n\n/** A special value which designates that a value has not changed.

*/\nexport const NO_CHANGE: NO_CHANGE =\n (typeof ngDevMode === 'undefined' || ngDevMode) ? {__brand__: 'NO_CHANGE'} : ({} as NO_CHANGE);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {assertGreaterThan} from '../../util/assert';\nimport {assertIndexInDeclRange} from '../assert';\nimport {executeCheckHooks, executeInitAndCheckHooks} from '../hooks';\nimport {FLAGS, InitPhaseState, LView, LViewFlags, TView} from '../interfaces/view';\nimport {getLView, getSelectedIndex, getTView, isInCheckNoChangesMode, setSelectedIndex} from '../state';\n\n\n/**\n * Advances to an element for later binding instructions.\n *\n * Used in conjunction with instructions like {@link property} to act on elements with specified\n * indices, for example those created with {@link element} or {@link elementStart}.\n *\n * ```ts\n * (rf: RenderFlags, ctx: any) => {\n *   if (rf & 1) {\n *     text(0, 'Hello');\n *     text(1, 'Goodbye')\n *     element(2, 'div');\n *   }\n *   if (rf & 2) {\n *     advance(2); // Advance twice to the <div>.\n *     property('title', 'test');\n *   }\n * }\n * ```\n * @param delta Number of elements to advance forwards by.\n *\n * @codeGenApi\n */\nexport function advance(delta: number): void {\n ngDevMode && assertGreaterThan(delta, 0, 'Can only advance forward');\n selectIndexInternal(getTView(), getLView(), getSelectedIndex() + delta, isInCheckNoChangesMode());\n}\n\nexport function selectIndexInternal(\n tView: TView, lView: LView, index: number, checkNoChangesMode: boolean) {\n ngDevMode && assertIndexInDeclRange(lView, index);\n\n // Flush the initial hooks for elements in the view that have been added up to this point.\n // PERF WARNING: do NOT extract this to a separate function without running benchmarks\n if (!checkNoChangesMode) {\n const hooksInitPhaseCompleted =\n (lView[FLAGS] & LViewFlags.InitPhaseStateMask) === InitPhaseState.InitPhaseCompleted;\n if (hooksInitPhaseCompleted) {\n const preOrderCheckHooks = tView.preOrderCheckHooks;\n if (preOrderCheckHooks !== null) {\n executeCheckHooks(lView, preOrderCheckHooks, index);\n }\n } else {\n const preOrderHooks = tView.preOrderHooks;\n if (preOrderHooks !== null) {\n executeInitAndCheckHooks(lView, preOrderHooks, InitPhaseState.OnInitHooksToBeRun, index);\n }\n }\n }\n\n // We must set the selected index *after* running the hooks, because hooks may have side-effects\n // that cause other template functions to run, thus updating the selected index, which is global\n // state. If we run `setSelectedIndex` *before* we run the hooks, in some cases the selected index\n // will be altered by the time we leave the `advance` instruction.\n setSelectedIndex(index);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {KeyValueArray} from '../../util/array_utils';\nimport {assertNumber, assertNumberInRange} from '../../util/assert';\n\n\n/**\n * Value stored in the `TData` which is needed to re-concatenate the styling.\n *\n * See: `TStylingKeyPrimitive` and `TStylingStatic`\n */\nexport type TStylingKey = TStylingKeyPrimitive|TStylingStatic;\n\n\n/**\n * The primitive portion (`TStylingStatic` removed) of the value stored in the `TData` which is\n * needed to re-concatenate the styling.\n *\n * - `string`: Stores the property name. Used with `styleProp`/`classProp` instruction.\n * - `null`: Represents map, so there is no name. Used with `styleMap`/`classMap`.\n * - `false`: Represents an ignore case. This happens when `styleProp`/`classProp` instruction\n *   is combined with directive which shadows its input `@Input('class')`. That way the binding\n *   should not participate in the styling resolution.\n */\nexport type TStylingKeyPrimitive = string|null|false;\n\n\n/**\n * Store the static values for the styling binding.\n *\n * The `TStylingStatic` is just `KeyValueArray` where key `\"\"` (stored at location 0) contains the\n * `TStylingKey` (stored at location 1). In other words this wraps the `TStylingKey` such that the\n * `\"\"` contains the wrapped value.\n *\n * When instructions
are resolving styling they may need to look forward or backwards in the linked\n * list to resolve the value. For this reason we have to make sure that he linked list also contains\n * the static values. However the list only has space for one item per styling instruction. For this\n * reason we store the static values here as part of the `TStylingKey`. This means that the\n * resolution function when looking for a value needs to first look at the binding value, and than\n * at `TStylingKey` (if it exists).\n *\n * Imagine we have:\n *\n * ```\n * <div class=\"TEMPLATE\" my-

dir>\n *\n * @Directive({\n *   host: {\n *     class: 'DIR',\n *     '[class.dynamic]': 'exp' // classProp('dynamic', ctx.exp);\n *   }\n * })\n * ```\n *\n * In the above case the linked list will contain one item:\n *\n * ```\n *   // assume binding location: 10 for `classProp('dynamic', ctx.exp);`\n *   tData[10] = <TStylingStatic>[\n *     '': 'dynamic', // This is the wrapped value of `TStylingKey`\n
 *     'DIR': true,   // This is the default static value of directive binding.\n *   ];\n *   tData[10 + 1] = 0; // We don't have prev/next.\n *\n *   lView[10] = undefined;     // assume `ctx.exp` is `undefined`\n *   lView[10 + 1] = undefined; // Just normalized `lView[10]`\n * ```\n *\n * So when the function is resolving styling value, it first needs to look into the linked list\n * (there is none) and than into the static `TStylingStatic` too see if there is a default value for\n * `dynamic` (there is not). Therefore it is safe to remove it.\n *\n * If setting `true` case:\n * ```\n *   lView[10] = true;     // assume `ctx.exp` is `true`\n *   lView[10 + 1] = true; // Just normalized `lView[10]`\n * ```\n * So when the function is resolving styling value, it first needs to look into the linked list\n * (there is none) and than into `TNode.residualClass` (TNode.residualStyle) which contains\n * ```\n *   tNode.residualClass = [\n *     'TEMPLATE': true,\n *   ];\n * ```\n *\n *
 This means that it is safe to add class.\n */\nexport interface TStylingStatic extends KeyValueArray<any> {}\n\n/**\n * This is a branded number which contains previous and next index.\n *\n * When we come across styling instructions we need to store the `TStylingKey` in the correct\n * order so that we can re-concatenate the styling value in the desired priority.\n *\n * The insertion can happen either at the:\n * - end of template as in the case of coming across additional styling instruction in the template\n * - in front of the template in the case of coming across additional instruction in the\n *   `hostBindings`.\n *\n * We use `TStylingRange` to store the previous and next index into the `TData` where the template\n * bindings can be found.\n *\n * - bit 0 is used to mark that the previous index has a duplicate for current value.\n * - bit 1 is used to mark that the next index has a duplicate for the current value.\n * - bits 2-16 are used to encode the next/tail of the template.\n
 * - bits 17-32 are used to encode the previous/head of template.\n *\n * NODE: *duplicate* false implies that it is statically known that this binding will not collide\n * with other bindings and therefore there is no need to check other bindings. For example the\n * bindings in `<div [style.color]=\"exp\" [style.width]=\"exp\">` will never collide and will have\n * their bits set accordingly. Previous duplicate means that we may need to check previous if the\n * current binding is `null`. Next duplicate means that we may need to check next bindings if the\n * current binding is not `null`.\n *\n * NOTE: `0` has special significance and represents `null` as in no additional pointer.\n */\nexport interface TStylingRange {\n  __brand__: 'TStylingRange';\n}\n\n/**\n * Shift and masks constants for encoding two numbers into and duplicate info into a single number.\n */\nexport const enum StylingRange {\n  /// Number of bits to shift for the previous pointer\n  PREV_SHIFT = 17,\n  ///
 Previous pointer mask.\n  PREV_MASK = 0xFFFE0000,\n\n  /// Number of bits to shift for the next pointer\n  NEXT_SHIFT = 2,\n  /// Next pointer mask.\n  NEXT_MASK = 0x001FFFC,\n\n  // Mask to remove nagative bit. (interpret number as positive)\n  UNSIGNED_MASK = 0x7FFF,\n\n  /**\n   * This bit is set if the previous bindings contains a binding which could possibly cause a\n   * duplicate. For example: `<div [style]=\"map\" [style.width]=\"width\">`, the `width` binding will\n   * have previous duplicate set. The implication is that if `width` binding becomes `null`, it is\n   * necessary to defer the value to `map.width`. (Because `width` overwrites `map.width`.)\n   */\n  PREV_DUPLICATE = 0x02,\n\n  /**\n   * This bit is set to if the next binding contains a binding which could possibly cause a\n   * duplicate. For example: `<div [style]=\"map\" [style.width]=\"width\">`, the `map` binding will\n   * have next duplicate set. The implication is that if `map.width` binding becomes not `null`,
 it\n   * is necessary to defer the value to `width`. (Because `width` overwrites `map.width`.)\n   */\n  NEXT_DUPLICATE = 0x01,\n}\n\n\nexport function toTStylingRange(prev: number, next: number): TStylingRange {\n  ngDevMode && assertNumberInRange(prev, 0, StylingRange.UNSIGNED_MASK);\n  ngDevMode && assertNumberInRange(next, 0, StylingRange.UNSIGNED_MASK);\n  return (prev << StylingRange.PREV_SHIFT | next << StylingRange.NEXT_SHIFT) as any;\n}\n\nexport function getTStylingRangePrev(tStylingRange: TStylingRange): number {\n  ngDevMode && assertNumber(tStylingRange, 'expected number');\n  return ((tStylingRange as any as number) >> StylingRange.PREV_SHIFT) &

StylingRange.UNSIGNED_MASK;\n}\n\nexport function getTStylingRangePrevDuplicate(tStylingRange: TStylingRange): boolean {\n  ngDevMode && assertNumber(tStylingRange, 'expected number');\n  return ((tStylingRange as any as number) & StylingRange.PREV_DUPLICATE) ==\n StylingRange.PREV_DUPLICATE;\n}\n\nexport function setTStylingRangePrev(\n    tStylingRange: TStylingRange, previous: number): TStylingRange {\n  ngDevMode && assertNumber(tStylingRange, 'expected number');\n  ngDevMode && assertNumberInRange(previous, 0, StylingRange.UNSIGNED_MASK);\n  return (((tStylingRange as any as number) & ~StylingRange.PREV_MASK) |\n          (previous << StylingRange.PREV_SHIFT)) as any;\n}\n\nexport function setTStylingRangePrevDuplicate(tStylingRange: TStylingRange): TStylingRange {\n  ngDevMode && assertNumber(tStylingRange, 'expected number');\n  return ((tStylingRange as any as number) | StylingRange.PREV_DUPLICATE) as any;\n}\n\nexport function getTStylingRangeNext(tStylingRange: TStylingRange): number {\n  ngDevMode && assertNumber(tStylingRange, 'expected number');\n  return ((tStylingRange as any as number) & StylingRange.NEXT_MASK) >> StylingRange.NEXT_SHIFT;\n}\n\nexport function setTStylingRangeNext(tStylingRange: TStylingRange, next: number): TStylingRange {\n  ngDevMode && assertNumber(tStylingRange,
  'expected number');\n  ngDevMode && assertNumberInRange(next, 0, StylingRange.UNSIGNED_MASK);\n  return (((tStylingRange as any as number) & ~StylingRange.NEXT_MASK) |  //\n          next << StylingRange.NEXT_SHIFT) as any;\n}\n\nexport function getTStylingRangeNextDuplicate(tStylingRange: TStylingRange): boolean {\n  ngDevMode && assertNumber(tStylingRange, 'expected number');\n  return ((tStylingRange as any as number) & StylingRange.NEXT_DUPLICATE) ===\n StylingRange.NEXT_DUPLICATE;\n}\n\nexport function setTStylingRangeNextDuplicate(tStylingRange: TStylingRange): TStylingRange {\n  ngDevMode && assertNumber(tStylingRange, 'expected number');\n  return ((tStylingRange as any as number) | StylingRange.NEXT_DUPLICATE) as any;\n}\n\nexport function getTStylingRangeTail(tStylingRange: TStylingRange): number {\n  ngDevMode && assertNumber(tStylingRange, 'expected number');\n  const next = getTStylingRangeNext(tStylingRange);\n  return next === 0 ? getTStylingRangePrev(tStylingRange)
  : next;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Patch a `debug` property on top of the existing object.\n *\n * NOTE: always call this method with `ngDevMode && attachDebugObject(...)`\n *\n * @param obj Object to patch\n * @param debug Value to patch\n */\nexport function attachDebugObject(obj: any, debug: any): void {\n  if (ngDevMode) {\n Object.defineProperty(obj, 'debug', {value: debug, enumerable: false});\n  } else {\n    throw new Error(\n        'This method should be guarded with `ngDevMode` so that it can be tree shaken in production!');\n  }\n}\n\n/**\n * Patch a `debug` property getter on top of the existing object.\n *\n * NOTE: always call this method with `ngDevMode && attachDebugObject(...)`\n *\n * @param obj Object to patch\n * @param debugGetter Getter returning a value to patch\n
  */\nexport function attachDebugGetter<T>(obj: T, debugGetter: (this: T) => any): void {\n  if (ngDevMode) {\n Object.defineProperty(obj, 'debug', {get: debugGetter, enumerable: false});\n  } else {\n    throw new Error(\n 'This method should be guarded with `ngDevMode` so that it can be tree shaken in production!');\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../../di/injector';\nimport {Type} from '../../interface/type';\nimport {SchemaMetadata} from '../../metadata/schema';\nimport {Sanitizer} from '../../sanitization/sanitizer';\nimport {KeyValueArray} from '../../util/array_utils';\nimport {assertDefined} from '../../util/assert';\nimport {createNamedArrayType} from '../../util/named_array_type';\nimport {initNgDevMode} from '../../util/ng_dev_mode';\nimport {assertNodeInjector}
  from '../assert';\nimport {getInjectorIndex} from '../di';\nimport {CONTAINER_HEADER_OFFSET, HAS_TRANSPLANTED_VIEWS, LContainer, MOVED_VIEWS, NATIVE} from '../interfaces/container';\nimport {ComponentTemplate, DirectiveDef, DirectiveDefList, PipeDefList, ViewQueriesFunction} from

'../interfaces/definition';\nimport {NO_PARENT_INJECTOR, NodeInjectorOffset} from '../interfaces/injector';\nimport {AttributeMarker, InsertBeforeIndex, PropertyAliases, TConstants, TContainerNode, TElementNode, TNode as ITNode, TNodeFlags, TNodeProviderIndexes, TNodeType, toTNodeTypeAsString} from '../interfaces/node';\nimport {SelectorFlags} from '../interfaces/projection';\nimport {LQueries, TQueries} from '../interfaces/query';\nimport {Renderer3, RendererFactory3} from '../interfaces/renderer';\nimport {RComment, RElement, RNode} from '../interfaces/renderer_dom';\nimport {getTStylingRangeNext, getTStylingRangeNextDuplicate, getTStylingRangePrev, getTStylingRangePrevDuplicate, TStylingKey, TStylingRange}
from '../interfaces/styling';\nimport {CHILD_HEAD, CHILD_TAIL, CLEANUP, CONTEXT, DebugNode, DECLARATION_VIEW, DestroyHookData, FLAGS, HEADER_OFFSET, HookData, HOST, HostBindingOpCodes, INJECTOR, LContainerDebug as ILContainerDebug, LView, LViewDebug as ILViewDebug, LViewDebugRange, LViewDebugRangeContent, LViewFlags, NEXT, PARENT, QUERIES, RENDERER, RENDERER_FACTORY, SANITIZER, T_HOST, TData, TView as ITView, TVIEW, TView, TViewType, TViewTypeAsString} from '../interfaces/view';\nimport {attachDebugObject} from '../util/debug_utils';\nimport {getParentInjectorIndex, getParentInjectorView} from '../util/injector_utils';\nimport {unwrapRNode} from '../util/view_utils';\n\nconst NG_DEV_MODE = ((typeof ngDevMode === 'undefined' || !!ngDevMode) && initNgDevMode());\n\n/*\n * This file contains conditionally attached classes which provide human readable (debug) level\n * information for `LView`, `LContainer` and other internal data structures. These data structures\n * are stored internally
as array which makes it very difficult during debugging to reason about the\n * current state of the system.\n *\n * Patching the array with extra property does change the array's hidden class' but it does not\n * change the cost of access, therefore this patching should not have significant if any impact in\n * `ngDevMode` mode. (see: https://jsperf.com/array-vs-monkey-patch-array)\n *\n * So instead of seeing:\n * ```\n * Array(30) [Object, 659, null, …]\n * ```\n *\n * You get to see:\n * ```\n * LViewDebug {\n *   views: [...],\n *   flags: {attached: true, ...}\n *   nodes: [\n *     {html: '<div id=\"123\">', ..., nodes: [\n *       {html: '<span>', ..., nodes: null}\n *     ]}\n *   ]\n * }\n * ```\n */\n\nlet LVIEW_COMPONENT_CACHE!: Map<string|null, Array<any>>;\nlet LVIEW_EMBEDDED_CACHE!: Map<string|null, Array<any>>;\nlet LVIEW_ROOT!: Array<any>;\n\ninterface TViewDebug extends ITView {\n  type: TViewType;\n}\n\n/**\n * This function clones a blueprint and creates LView.\n
*\n * Simple slice will keep the same type, and we need it to be LView\n */\nexport function cloneToLViewFromTViewBlueprint(tView: TView): LView {\n  const debugTView = tView as TViewDebug;\n  const lView = getLViewToClone(debugTView.type, tView.template && tView.template.name);\n  return lView.concat(tView.blueprint) as any;\n}\n\nfunction getLViewToClone(type: TViewType, name: string|null): Array<any> {\n  switch (type) {\n    case TViewType.Root:\n      if (LVIEW_ROOT === undefined) LVIEW_ROOT = new (createNamedArrayType('LRootView'))();\n      return LVIEW_ROOT;\n    case TViewType.Component:\n      if (LVIEW_COMPONENT_CACHE === undefined) LVIEW_COMPONENT_CACHE = new Map();\n      let componentArray = LVIEW_COMPONENT_CACHE.get(name);\n      if (componentArray === undefined) {\n        componentArray = new (createNamedArrayType('LComponentView' + nameSuffix(name)))();\n        LVIEW_COMPONENT_CACHE.set(name, componentArray);\n      }\n      return componentArray;\n    case TViewType.Embedded:\n
if (LVIEW_EMBEDDED_CACHE === undefined) LVIEW_EMBEDDED_CACHE = new Map();\n      let embeddedArray = LVIEW_EMBEDDED_CACHE.get(name);\n      if (embeddedArray === undefined) {\n        embeddedArray = new (createNamedArrayType('LEmbeddedView' + nameSuffix(name)))();\n        LVIEW_EMBEDDED_CACHE.set(name, embeddedArray);\n      }\n      return embeddedArray;\n  }\n  throw new Error('unreachable code');\n}\n\nfunction nameSuffix(text: string|null|undefined): string {\n  if (text == null) return '';\n  const index = text.lastIndexOf('_Template');\n  return '_' + (index === -1 ? text : text.substr(0, index));\n}\n\n/**\n * This class is a debug version of Object literal so that we can have constructor name show up\n

* in\n * debug tools in ngDevMode.\n */\nexport const TViewConstructor = class TView implements ITView {\n constructor(\n public type: TViewType,\n public blueprint: LView,\n public template: ComponentTemplate<{}>|null,\n public queries: TQueries|null,\n public viewQuery: ViewQueriesFunction<{}>|null,\n public declTNode: ITNode|null,\n public data: TData,\n public bindingStartIndex: number,\n public expandoStartIndex: number,\n public hostBindingOpCodes: HostBindingOpCodes|null,\n public firstCreatePass: boolean,\n public firstUpdatePass: boolean,\n public staticViewQueries: boolean,\n public staticContentQueries: boolean,\n public preOrderHooks: HookData|null,\n public preOrderCheckHooks: HookData|null,\n public contentHooks: HookData|null,\n public contentCheckHooks: HookData|null,\n public viewHooks: HookData|null,\n public viewCheckHooks: HookData|null,\n public destroyHooks: DestroyHookData|null,\n public cleanup: any[]|null,\n public contentQueries: number[]|null,\n public components: number[]|null,\n public directiveRegistry: DirectiveDefList|null,\n public pipeRegistry: PipeDefList|null,\n public firstChild: ITNode|null,\n public schemas: SchemaMetadata[]|null,\n public consts: TConstants|null,\n public incompleteFirstPass: boolean,\n public _decls: number,\n public _vars: number,\n\n ) {}\n\n get template_(): string {\n const buf: string[] = [];\n processTNodeChildren(this.firstChild, buf);\n return buf.join('');\n }\n\n get type_(): string {\n return TViewTypeAsString[this.type] || `TViewType.?${this.type}?`;\n }\n};\n\nclass TNode implements ITNode {\n constructor(\n public tView_: TView,\n //\n public type: TNodeType, //\n public index: number, //\n public insertBeforeIndex: InsertBeforeIndex, //\n public injectorIndex: number, //\n public directiveStart: number, //\n public directiveEnd: number, //\n public directiveStylingLast: number, //\n public propertyBindings: number[]|null, //\n public flags: TNodeFlags, //\n public providerIndexes: TNodeProviderIndexes, //\n public value: string|null, //\n public attrs: (string|AttributeMarker|(string|SelectorFlags)[])[]|null, //\n public mergedAttrs: (string|AttributeMarker|(string|SelectorFlags)[])[]|null, //\n public localNames: (string|number)[]|null, //\n public initialInputs: (string[]|null)[]|null|undefined, //\n public inputs: PropertyAliases|null, //\n public outputs: PropertyAliases|null, //\n public tViews: ITView|ITView[]|null, //\n public next: ITNode|null, //\n public projectionNext: ITNode|null, //\n public child: ITNode|null, //\n public parent: TElementNode|TContainerNode|null, //\n public projection: number|(ITNode|RNode[])[]|null, //\n public styles: string|null, //\n public stylesWithoutHost: string|null, //\n public residualStyles: KeyValueArray<any>|undefined|null, //\n public classes: string|null, //\n public classesWithoutHost: string|null, //\n public residualClasses: KeyValueArray<any>|undefined|null, //\n public classBindings: TStylingRange, //\n public styleBindings: TStylingRange, //\n ) {}\n\n /**\n * Return a human debug version of the set of `NodeInjector`s which will be consulted when\n * resolving tokens from this `TNode`.\n *\n * When debugging applications, it is often difficult to determine which `NodeInjector`s will be\n * consulted. This method shows a list of `DebugNode`s representing the `TNode`s which will be\n * consulted in order when resolving a token starting at this `TNode`.\n *\n * The original data is stored in `LView` and `TView` with a lot of offset indexes, and so it is\n * difficult to reason about.\n *\n * @param lView The `LView` instance for this `TNode`.\n */\n debugNodeInjectorPath(lView: LView): DebugNode[] {\n const path: DebugNode[] = [];\n let injectorIndex = getInjectorIndex(this, lView);\n ngDevMode && assertNodeInjector(lView, injectorIndex);\n while (injectorIndex !== -1) {\n const tNode = lView[TVIEW].data[injectorIndex + NodeInjectorOffset.TNODE] as TNode;\n path.push(buildDebugNode(tNode, lView));\n const

parentLocation = lView[injectorIndex + NodeInjectorOffset.PARENT];\n if (parentLocation === NO_PARENT_INJECTOR) {\n injectorIndex = -1;\n } else {\n injectorIndex = getParentInjectorIndex(parentLocation);\n lView = getParentInjectorView(parentLocation, lView);\n }\n }\n return path;\n }\n\n get type_(): string {\n return toTNodeTypeAsString(this.type) || `TNodeType.?${this.type}?`;\n }\n\n get flags_(): string {\n const flags: string[] = [];\n if (this.flags & TNodeFlags.hasClassInput) flags.push('TNodeFlags.hasClassInput');\n if (this.flags & TNodeFlags.hasContentQuery) flags.push('TNodeFlags.hasContentQuery');\n if (this.flags & TNodeFlags.hasStyleInput) flags.push('TNodeFlags.hasStyleInput');\n if (this.flags & TNodeFlags.hasHostBindings) flags.push('TNodeFlags.hasHostBindings');\n if (this.flags & TNodeFlags.isComponentHost) flags.push('TNodeFlags.isComponentHost');\n if (this.flags & TNodeFlags.isDirectiveHost) flags.push('TNodeFlags.isDirectiveHost');\n if (this.flags & TNodeFlags.isDetached) flags.push('TNodeFlags.isDetached');\n if (this.flags & TNodeFlags.isProjected) flags.push('TNodeFlags.isProjected');\n return flags.join('|');\n }\n\n get template_(): string {\n if (this.type & TNodeType.Text) return this.value!;\n const buf: string[] = [];\n const tagName = typeof this.value === 'string' && this.value || this.type_;\n buf.push('<', tagName);\n if (this.flags) {\n buf.push(' ', this.flags_);\n }\n if (this.attrs) {\n for (let i = 0; i < this.attrs.length;) {\n const attrName = this.attrs[i++];\n if (typeof attrName == 'number') {\n break;\n }\n const attrValue = this.attrs[i++];\n buf.push(' ', attrName as string, '="', attrValue as string, '"');\n }\n }\n buf.push('>');\n processTNodeChildren(this.child, buf);\n buf.push('</', tagName, '>');\n return buf.join('');\n }\n\n get styleBindings_(): DebugStyleBindings {\n return toDebugStyleBinding(this, false);\n }\n get classBindings_(): DebugStyleBindings {\n return toDebugStyleBinding(this, true);\n }\n\n get providerIndexStart_(): number {\n return this.providerIndexes & TNodeProviderIndexes.ProvidersStartIndexMask;\n }\n get providerIndexEnd_(): number {\n return this.providerIndexStart_ +\n (this.providerIndexes >>> TNodeProviderIndexes.CptViewProvidersCountShift);\n }\n}\nexport const TNodeDebug = TNode;\nexport type TNodeDebug = TNode;\n\nexport interface DebugStyleBindings extends\n Array<KeyValueArray<any>|DebugStyleBinding|string|null> {}\nexport interface DebugStyleBinding {\n key: TStylingKey;\n index: number;\n isTemplate: boolean;\n prevDuplicate: boolean;\n nextDuplicate: boolean;\n prevIndex: number;\n nextIndex: number;\n}\n\nfunction toDebugStyleBinding(tNode: TNode, isClassBased: boolean): DebugStyleBindings {\n const tData = tNode.tView_.data;\n const bindings: DebugStyleBindings = [] as any;\n const range = isClassBased ? tNode.classBindings : tNode.styleBindings;\n const prev = getTStylingRangePrev(range);\n const next = getTStylingRangeNext(range);\n let isTemplate = next !== 0;\n let cursor = isTemplate ? next : prev;\n while (cursor !== 0) {\n const itemKey = tData[cursor] as TStylingKey;\n const itemRange = tData[cursor + 1] as TStylingRange;\n bindings.unshift({\n key: itemKey,\n index: cursor,\n isTemplate: isTemplate,\n prevDuplicate: getTStylingRangePrevDuplicate(itemRange),\n nextDuplicate: getTStylingRangeNextDuplicate(itemRange),\n nextIndex: getTStylingRangeNext(itemRange),\n prevIndex: getTStylingRangePrev(itemRange),\n });\n if (cursor === prev) isTemplate = false;\n cursor = getTStylingRangePrev(itemRange);\n }\n bindings.push((isClassBased ? tNode.residualClasses : tNode.residualStyles) || null);\n return bindings;\n}\n\nfunction processTNodeChildren(tNode: ITNode|null, buf: string[]) {\n while (tNode) {\n buf.push((tNode as any as {template_: string}).template_);\n tNode = tNode.next;\n }\n}\n\nconst TViewData = NG_DEV_MODE && createNamedArrayType('TViewData') || null! as ArrayConstructor;\nlet TVIEWDATA_EMPTY: unknown[]; // can't initialize here or it will not be tree shaken, because\n // `LView` constructor could have side-effects.\n/**\n * This function clones a blueprint and creates TData.\n *\n * Simple slice will keep the same type, and we need it to be TData\n */\nexport function cloneToTViewData(list: any[]): TData {\n if (TVIEWDATA_EMPTY === undefined) TVIEWDATA_EMPTY = new TViewData();\n return TVIEWDATA_EMPTY.concat(list) as any;\n}\n\nexport const LViewBlueprint =\n NG_DEV_MODE &&

createNamedArrayType('LViewBlueprint') || null! as ArrayConstructor;\nexport const MatchesArray =\n NG_DEV_MODE && createNamedArrayType('MatchesArray') || null! as ArrayConstructor;\nexport const TViewComponents =\n NG_DEV_MODE && createNamedArrayType('TViewComponents') || null! as ArrayConstructor;\nexport const TNodeLocalNames =\n NG_DEV_MODE && createNamedArrayType('TNodeLocalNames') || null! as ArrayConstructor;\nexport const TNodeInitialInputs =\n NG_DEV_MODE && createNamedArrayType('TNodeInitialInputs') || null! as ArrayConstructor;\nexport const TNodeInitialData =\n NG_DEV_MODE && createNamedArrayType('TNodeInitialData') || null! as ArrayConstructor;\nexport const LCleanup =\n NG_DEV_MODE && createNamedArrayType('LCleanup') || null! as ArrayConstructor;\nexport
 const TCleanup =\n NG_DEV_MODE && createNamedArrayType('TCleanup') || null! as ArrayConstructor;\n\n\n\nexport function attachLViewDebug(lView: LView) {\n attachDebugObject(lView, new LViewDebug(lView));\n}\n\nexport function attachLContainerDebug(lContainer: LContainer) {\n attachDebugObject(lContainer, new LContainerDebug(lContainer));\n}\n\nexport function toDebug(obj: LView): ILViewDebug;\nexport function toDebug(obj: LView|null): ILViewDebug|null;\nexport function toDebug(obj: LView|LContainer|null): ILViewDebug|ILContainerDebug|null;\nexport function toDebug(obj: any): any {\n if (obj) {\n const debug = (obj as any).debug;\n assertDefined(debug, 'Object does not have a debug representation.');\n return debug;\n } else {\n return obj;\n }\n}\n\n/**\n * Use this method to unwrap a native element in `LView` and convert it into HTML for easier\n * reading.\n *\n * @param value possibly wrapped native DOM node.\n * @param includeChildren If `true` then the
 serialized HTML form will include child elements\n * (same\n * as `outerHTML`). If `false` then the serialized HTML form will only contain the element\n * itself\n * (will not serialize child elements).\n */\nfunction toHtml(value: any, includeChildren: boolean = false): string|null {\n const node: Node|null = unwrapRNode(value) as any;\n if (node) {\n switch (node.nodeType) {\n case Node.TEXT_NODE:\n return node.textContent;\n case Node.COMMENT_NODE:\n return `<!--${(node as Comment).textContent}-->`;\n case Node.ELEMENT_NODE:\n const outerHTML = (node as Element).outerHTML;\n if (includeChildren) {\n return outerHTML;\n } else {\n const innerHTML = '>' + (node as Element).innerHTML + '<';\n return (outerHTML.split(innerHTML)[0]) + '>';\n }\n }\n }\n return null;\n}\n\nexport class LViewDebug implements ILViewDebug {\n constructor(private readonly _raw_lView: LView) {}\n\n /**\n * Flags
 associated with the `LView` unpacked into a more readable state.\n */\n get flags() {\n const flags = this._raw_lView[FLAGS];\n return {\n __raw__flags__: flags,\n initPhaseState: flags & LViewFlags.InitPhaseStateMask,\n creationMode: !!(flags & LViewFlags.CreationMode),\n firstViewPass: !!(flags & LViewFlags.FirstLViewPass),\n checkAlways: !!(flags & LViewFlags.CheckAlways),\n dirty: !!(flags & LViewFlags.Dirty),\n attached: !!(flags & LViewFlags.Attached),\n destroyed: !!(flags & LViewFlags.Destroyed),\n isRoot: !!(flags & LViewFlags.IsRoot),\n indexWithinInitPhase: flags >> LViewFlags.IndexWithinInitPhaseShift,\n };\n }\n get parent(): ILViewDebug|ILContainerDebug|null {\n return toDebug(this._raw_lView[PARENT]);\n }\n get hostHTML(): string|null {\n return toHtml(this._raw_lView[HOST], true);\n }\n get html(): string {\n return (this.nodes || []).map(mapToHTML).join('');\n }\n get context(): {}|null {\n
 return this._raw_lView[CONTEXT];\n }\n /**\n * The tree of nodes associated with the current `LView`. The nodes have been normalized into\n * a tree structure with relevant details pulled out for readability.\n */\n get nodes(): DebugNode[] {\n const lView = this._raw_lView;\n const tNode = lView[TVIEW].firstChild;\n return toDebugNodes(tNode, lView);\n }\n get template(): string {\n return (this.tView as any as {template_: string}).template_;\n }\n get tView(): ITView {\n return this._raw_lView[TVIEW];\n }\n get cleanup(): any[]|null {\n return this._raw_lView[CLEANUP];\n }\n get injector(): Injector|null {\n return this._raw_lView[INJECTOR];\n }\n get rendererFactory(): RendererFactory3 {\n return this._raw_lView[RENDERER_FACTORY];\n }\n get renderer(): Renderer3 {\n return this._raw_lView[RENDERER];\n }\n get sanitizer(): Sanitizer|null {\n return this._raw_lView[SANITIZER];\n }\n get childHead(): ILViewDebug|ILContainerDebug|null

{\n return toDebug(this._raw_lView[CHILD_HEAD]);\n }\n get next(): ILViewDebug|ILContainerDebug|null {\n return toDebug(this._raw_lView[NEXT]);\n }\n get childTail(): ILViewDebug|ILContainerDebug|null {\n return toDebug(this._raw_lView[CHILD_TAIL]);\n }\n get declarationView(): ILViewDebug|null {\n return toDebug(this._raw_lView[DECLARATION_VIEW]);\n }\n get queries(): LQueries|null {\n return this._raw_lView[QUERIES];\n }\n get tHost(): ITNode|null {\n return this._raw_lView[T_HOST];\n }\n\n get decls(): LViewDebugRange {\n return toLViewRange(this.tView, this._raw_lView, HEADER_OFFSET, this.tView.bindingStartIndex);\n }\n\n get vars(): LViewDebugRange {\n return toLViewRange(\n this.tView, this._raw_lView, this.tView.bindingStartIndex, this.tView.expandoStartIndex);\n }\n\n get expando(): LViewDebugRange {\n return toLViewRange(\n this.tView, this._raw_lView, this.tView.expandoStartIndex, this._raw_lView.length);\n }\n\n
/**\n * Normalized view of child views (and containers) attached at this location.\n */\n get childViews(): Array<ILViewDebug|ILContainerDebug> {\n const childViews: Array<ILViewDebug|ILContainerDebug> = [];\n let child = this.childHead;\n while (child) {\n childViews.push(child);\n child = child.next;\n }\n return childViews;\n }\n}\n\nfunction mapToHTML(node: DebugNode): string {\n if (node.type === 'ElementContainer') {\n return (node.children || []).map(mapToHTML).join('');\n } else if (node.type === 'IcuContainer') {\n throw new Error('Not implemented');\n } else {\n return toHtml(node.native, true) || '';\n }\n}\n\nfunction toLViewRange(tView: TView, lView: LView, start: number, end: number): LViewDebugRange {\n let content: LViewDebugRangeContent[] = [];\n for (let index = start; index < end; index++) {\n content.push({index: index, t: tView.data[index], l: lView[index]});\n }\n return {start: start, end: end, length: end - start, content: content};\n}\n\n/**\n * Turns a flat list of nodes into a tree by walking the associated `TNode` tree.\n *\n * @param tNode\n * @param lView\n */\nexport function toDebugNodes(tNode: ITNode|null, lView: LView): DebugNode[] {\n if (tNode) {\n const debugNodes: DebugNode[] = [];\n let tNodeCursor: ITNode|null = tNode;\n while (tNodeCursor) {\n debugNodes.push(buildDebugNode(tNodeCursor, lView));\n tNodeCursor = tNodeCursor.next;\n }\n return debugNodes;\n } else {\n return [];\n }\n}\n\nexport function buildDebugNode(tNode: ITNode, lView: LView): DebugNode {\n const rawValue = lView[tNode.index];\n const native = unwrapRNode(rawValue);\n const factories: Type<any>[] = [];\n const instances: any[] = [];\n const tView = lView[TVIEW];\n for (let i = tNode.directiveStart; i < tNode.directiveEnd; i++) {\n const def = tView.data[i] as DirectiveDef<any>;\n factories.push(def.type);\n instances.push(lView[i]);\n }\n return {\n html: toHtml(native),\n type: toTNodeTypeAsString(tNode.type),\n native: native as any,\n children: toDebugNodes(tNode.child, lView),\n factories,\n instances,\n injector: buildNodeInjectorDebug(tNode, tView, lView)\n };\n}\n\nfunction buildNodeInjectorDebug(tNode: ITNode, tView: ITView, lView: LView) {\n const viewProviders: Type<any>[] = [];\n for (let i = (tNode as TNode).providerIndexStart_; i < (tNode as TNode).providerIndexEnd_; i++) {\n viewProviders.push(tView.data[i] as Type<any>);\n }\n const providers: Type<any>[] = [];\n for (let i = (tNode as TNode).providerIndexEnd_; i < (tNode as TNode).directiveEnd; i++) {\n providers.push(tView.data[i] as Type<any>);\n }\n const nodeInjectorDebug = {\n bloom: toBloom(lView, tNode.injectorIndex),\n cumulativeBloom: toBloom(tView.data, tNode.injectorIndex),\n providers,\n viewProviders,\n parentInjectorIndex: lView[(tNode as TNode).providerIndexStart_ - 1],\n };\n return nodeInjectorDebug;\n}\n\n/**\n * Convert a number at `idx` location in `array` into binary representation.\n *\n * @param array\n * @param idx\n */\nfunction binary(array: any[], idx: number): string {\n const value = array[idx];\n // If not a number we print 8 `?` to retain alignment but let user know that it was called on\n // wrong type.\n if (typeof value !== 'number') return '????????';\n // We prefix 0s so that we have constant length number\n const text = '00000000' + value.toString(2);\n return text.substring(text.length - 8);\n}\n\n/**\n * Convert a bloom filter at location `idx` in `array` into binary representation.\n *\n * @param array\n * @param idx\n */\nfunction toBloom(array: any[], idx: number): string {\n return `${binary(array, idx + 7)}_${binary(array, idx + 6)}_${binary(array, idx + 5)}_${\n binary(array, idx + 4)}_${binary(array, idx + 3)}_${binary(array, idx + 2)}_${\n binary(array, idx + 1)}_${binary(array, idx + 0)}`;\n}\n\nexport class LContainerDebug implements ILContainerDebug

{\n constructor(private readonly _raw_lContainer: LContainer) {}\n\n get hasTransplantedViews(): boolean {\n return this._raw_lContainer[HAS_TRANSPLANTED_VIEWS];\n }\n get views(): ILViewDebug[] {\n return this._raw_lContainer.slice(CONTAINER_HEADER_OFFSET)\n .map(toDebug as (l: LView) => ILViewDebug);\n }\n get parent(): ILViewDebug|null {\n return toDebug(this._raw_lContainer[PARENT]);\n }\n get movedViews(): LView[]|null {\n return this._raw_lContainer[MOVED_VIEWS];\n }\n get host(): RElement|RComment|LView {\n return this._raw_lContainer[HOST];\n }\n get native(): RComment {\n return this._raw_lContainer[NATIVE];\n }\n get next() {\n return toDebug(this._raw_lContainer[NEXT]);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {Injector} from '../../di';\nimport {ErrorHandler} from '../../error_handler';\nimport {DoCheck, OnChanges, OnInit} from '../../interface/lifecycle_hooks';\nimport {CUSTOM_ELEMENTS_SCHEMA, NO_ERRORS_SCHEMA, SchemaMetadata} from '../../metadata/schema';\nimport {ViewEncapsulation} from '../../metadata/view';\nimport {validateAgainstEventAttributes, validateAgainstEventProperties} from '../../sanitization/sanitization';\nimport {Sanitizer} from '../../sanitization/sanitizer';\nimport {assertDefined, assertDomNode, assertEqual, assertGreaterThanOrEqual, assertIndexInRange, assertNotEqual, assertNotSame, assertSame, assertString} from '../../util/assert';\nimport {escapeCommentText} from '../../util/dom';\nimport {createNamedArrayType} from '../../util/named_array_type';\nimport {initNgDevMode} from '../../util/ng_dev_mode';\nimport {normalizeDebugBindingName, normalizeDebugBindingValue} from '../../util/ng_reflect';\nimport {stringify} from '../../util/stringify';\nimport {assertFirstCreatePass, assertFirstUpdatePass, assertLContainer, assertLView, assertTNodeForLView, assertTNodeForTView} from '../assert';\nimport {attachPatchData} from '../context_discovery';\nimport {getFactoryDef} from '../definition_factory';\nimport {diPublicInInjector, getNodeInjectable, getOrCreateNodeInjectorForNode} from '../di';\nimport {formatRuntimeError, RuntimeError, RuntimeErrorCode} from '../error_code';\nimport {throwMultipleComponentError} from '../errors';\nimport {executeCheckHooks, executeInitAndCheckHooks, incrementInitPhaseFlags} from '../hooks';\nimport {CONTAINER_HEADER_OFFSET, HAS_TRANSPLANTED_VIEWS, LContainer, MOVED_VIEWS} from '../interfaces/container';\nimport {ComponentDef, ComponentTemplate, DirectiveDef, DirectiveDefListOrFactory, HostBindingsFunction, PipeDefListOrFactory, RenderFlags, ViewQueriesFunction} from '../interfaces/definition';\nimport {NodeInjectorFactory} from '../interfaces/injector';\nimport {AttributeMarker, InitialInputData, InitialInputs, LocalRefExtractor, PropertyAliases, PropertyAliasValue, TAttributes, TConstantsOrFactory, TContainerNode, TDirectiveHostNode, TElementContainerNode, TElementNode, TIcuContainerNode, TNode, TNodeFlags, TNodeType, TProjectionNode} from '../interfaces/node';\nimport {isProceduralRenderer, Renderer3, RendererFactory3} from '../interfaces/renderer';\nimport {RComment, RElement, RNode, RText} from '../interfaces/renderer_dom';\nimport {SanitizerFn} from '../interfaces/sanitization';\nimport {isComponentDef, isComponentHost, isContentQueryHost, isRootView} from '../interfaces/type_checks';\nimport {CHILD_HEAD, CHILD_TAIL, CLEANUP, CONTEXT, DECLARATION_COMPONENT_VIEW, DECLARATION_VIEW, FLAGS, HEADER_OFFSET, HOST, HostBindingOpCodes, InitPhaseState, INJECTOR, LView, LViewFlags, NEXT, PARENT, RENDERER, RENDERER_FACTORY, RootContext, RootContextFlags, SANITIZER, T_HOST, TData, TRANSPLANTED_VIEWS_TO_REFRESH, TVIEW, TView, TViewType} from '../interfaces/view';\nimport {assertPureTNodeType, assertTNodeType} from '../node_assert';\nimport {updateTextNode} from '../node_manipulation';\nimport {isInlineTemplate, isNodeMatchingSelectorList} from '../node_selector_matcher';\nimport {enterView, getBindingsEnabled, getCurrentDirectiveIndex, getCurrentParentTNode, getCurrentTNode, getCurrentTNodePlaceholderOk, getSelectedIndex, isCurrentTNodeParent, isInCheckNoChangesMode, isInI18nBlock, leaveView, setBindingIndex, setBindingRootForHostBindings, setCurrentDirectiveIndex, setCurrentQueryIndex, setCurrentTNode, setIsInCheckNoChangesMode, setSelectedIndex} from '../state';\nimport {NO_CHANGE} from '../tokens';\nimport

{isAnimationProp, mergeHostAttrs} from '../util/attrs_utils';\nimport {INTERPOLATION_DELIMITER} from '../util/misc_utils';\nimport {renderStringify, stringifyForError} from '../util/stringify_utils';\nimport {getFirstLContainer, getLViewParent, getNextLContainer} from '../util/view_traversal_utils';\nimport {getComponentLViewByIndex, getNativeByIndex, getNativeByTNode, isCreationMode, readPatchedLView, resetPreOrderHookFlags,
unwrapLView, updateTransplantedViewCount, viewAttachedToChangeDetector} from '../util/view_utils';\n\nimport {selectIndexInternal} from './advance';\nimport {attachLContainerDebug, attachLViewDebug, cloneToLViewFromTViewBlueprint, cloneToTViewData, LCleanup, LViewBlueprint, MatchesArray, TCleanup, TNodeDebug, TNodeInitialInputs, TNodeLocalNames, TViewComponents, TViewConstructor} from './lview_debug';\n\n\n\n/**\n * A permanent marker promise which signifies that the current CD tree is\n * clean.\n */\nconst _CLEAN_PROMISE = (() => Promise.resolve(null))();\n\n/**\n * Invoke `HostBindingsFunction`s for view.\n *\n * This methods executes `TView.hostBindingOpCodes`. It is used to execute the\n * `HostBindingsFunction`s associated with the current `LView`.\n *\n * @param tView Current `TView`.\n * @param lView Current `LView`.\n */\nexport function processHostBindingOpCodes(tView: TView, lView: LView): void {\n  const hostBindingOpCodes = tView.hostBindingOpCodes;\n  if (hostBindingOpCodes === null) return;\n  try {\n    for (let i = 0; i < hostBindingOpCodes.length; i++) {\n      const opCode = hostBindingOpCodes[i] as number;\n      if (opCode < 0) {\n        // Negative numbers are element indexes.\n        setSelectedIndex(~opCode);\n      } else {\n        // Positive numbers are NumberTuple which store bindingRootIndex and directiveIndex.\n        const directiveIdx = opCode;\n        const bindingRootIndx = hostBindingOpCodes[++i] as number;\n        const hostBindingFn = hostBindingOpCodes[++i] as HostBindingsFunction<any>;\n        setBindingRootForHostBindings(bindingRootIndx, directiveIdx);\n        const context = lView[directiveIdx];\n        hostBindingFn(RenderFlags.Update, context);\n      }\n    }\n  } finally {\n    setSelectedIndex(-1);\n  }\n}\n\n\n/** Refreshes all content queries declared by directives in a given view */\nfunction refreshContentQueries(tView: TView, lView: LView): void {\n  const contentQueries = tView.contentQueries;\n
  if (contentQueries !== null) {\n    for (let i = 0; i < contentQueries.length; i += 2) {\n      const queryStartIdx = contentQueries[i];\n      const directiveDefIdx = contentQueries[i + 1];\n      if (directiveDefIdx !== -1) {\n        const directiveDef = tView.data[directiveDefIdx] as DirectiveDef<any>;\n        ngDevMode && assertDefined(directiveDef, 'DirectiveDef not found.');\n        ngDevMode &&\n assertDefined(directiveDef.contentQueries, 'contentQueries function should be defined');\n        setCurrentQueryIndex(queryStartIdx);\n        directiveDef.contentQueries!(RenderFlags.Update, lView[directiveDefIdx], directiveDefIdx);\n      }\n    }\n  }\n}\n\n/** Refreshes child components in the current view (update mode). */\nfunction refreshChildComponents(hostLView: LView, components: number[]): void {\n  for (let i = 0; i < components.length; i++) {\n    refreshComponent(hostLView, components[i]);\n  }\n}\n\n/** Renders child components in the current view (creation
 mode). */\nfunction renderChildComponents(hostLView: LView, components: number[]): void {\n  for (let i = 0; i < components.length; i++) {\n    renderComponent(hostLView, components[i]);\n  }\n}\n\nexport function createLView<T>(\n    parentLView: LView|null, tView: TView, context: T|null, flags: LViewFlags, host: RElement|null,\n    tHostNode: TNode|null, rendererFactory: RendererFactory3|null, renderer: Renderer3|null,\n sanitizer: Sanitizer|null, injector: Injector|null): LView {\n  const lView =\n      ngDevMode ? cloneToLViewFromTViewBlueprint(tView) : tView.blueprint.slice() as LView;\n  lView[HOST] = host;\n  lView[FLAGS] = flags | LViewFlags.CreationMode | LViewFlags.Attached | LViewFlags.FirstLViewPass;\n  resetPreOrderHookFlags(lView);\n  ngDevMode && tView.declTNode && parentLView && assertTNodeForLView(tView.declTNode, parentLView);\n  lView[PARENT] = lView[DECLARATION_VIEW] = parentLView;\n  lView[CONTEXT] = context;\n  lView[RENDERER_FACTORY] = (rendererFactory
 || parentLView && parentLView[RENDERER_FACTORY])!;\n  ngDevMode && assertDefined(lView[RENDERER_FACTORY], 'RendererFactory is required');\n  lView[RENDERER] = (renderer || parentLView && parentLView[RENDERER])!;\n  ngDevMode && assertDefined(lView[RENDERER],

'Renderer is required');\n  lView[SANITIZER] = sanitizer || parentLView && parentLView[SANITIZER] || null!;\n  lView[INJECTOR as any] = injector || parentLView && parentLView[INJECTOR] || null;\n  lView[T_HOST] = tHostNode;\n  ngDevMode &&\n      assertEqual(\n          tView.type == TViewType.Embedded ? parentLView !== null : true, true,\n          'Embedded views must have parentLView');\n  lView[DECLARATION_COMPONENT_VIEW] =\n      tView.type == TViewType.Embedded ? parentLView![DECLARATION_COMPONENT_VIEW] : lView;\n  ngDevMode &&\n  attachLViewDebug(lView);\n  return lView;\n}\n\n/**\n * Create and stores the TNode, and hooks it up to the tree.\n *\n * @param tView The current `TView`.\n * @param index The index at which the TNode\n  should be saved (null if view, since they are not\n * saved).\n * @param type The type of TNode to create\n * @param native The native element for this node, if applicable\n * @param name The tag name of the associated native element, if applicable\n * @param attrs Any attrs for the native element, if applicable\n */\nexport function getOrCreateTNode(\n    tView: TView, index: number, type: TNodeType.Element|TNodeType.Text, name: string|null,\n    attrs: TAttributes|null): TElementNode;\nexport function getOrCreateTNode(\n    tView: TView, index: number, type: TNodeType.Container, name: string|null,\n    attrs: TAttributes|null): TContainerNode;\nexport function getOrCreateTNode(\n    tView: TView, index: number, type: TNodeType.Projection, name: null,\n    attrs: TAttributes|null): TProjectionNode;\nexport function getOrCreateTNode(\n    tView: TView, index: number, type: TNodeType.ElementContainer, name: string|null,\n    attrs: TAttributes|null): TElementContainerNode;\nexport function
 getOrCreateTNode(\n    tView: TView, index: number, type: TNodeType.Icu, name: null,\n    attrs: TAttributes|null): TElementContainerNode;\nexport function getOrCreateTNode(\n    tView: TView, index: number, type: TNodeType, name: string|null, attrs: TAttributes|null):\n  TElementNode&TContainerNode&TElementContainerNode&TProjectionNode&TIcuContainerNode {\n  ngDevMode && index !== 0 &&  // 0 are bogus nodes and they are OK. See `createContainerRef` in\n      // `view_engine_compatibility` for additional context.\n      assertGreaterThanOrEqual(index, HEADER_OFFSET, 'TNodes can\\'t be in the LView header.');\n  // Keep this function short, so that the VM will inline it.\n  ngDevMode && assertPureTNodeType(type);\n  let tNode = tView.data[index] as TNode;\n  if (tNode === null) {\n    tNode = createTNodeAtIndex(tView, index, type, name, attrs);\n    if (isInI18nBlock()) {\n      // If we are in i18n block then all elements should be pre declared through
 `Placeholder`\n      // See `TNodeType.Placeholder` and `LFrame.inI18n` for more context.\n      // If the `TNode` was not pre-declared than it means it was not mentioned which means it was\n      // removed, so we mark it as detached.\n      tNode.flags |= TNodeFlags.isDetached;\n    }\n  } else if (tNode.type & TNodeType.Placeholder) {\n  tNode.type = type;\n    tNode.value = name;\n    tNode.attrs = attrs;\n    const parent = getCurrentParentTNode();\n  tNode.injectorIndex = parent === null ? -1 : parent.injectorIndex;\n    ngDevMode &&
 assertTNodeForTView(tNode, tView);\n    ngDevMode && assertEqual(index, tNode.index, 'Expecting same index');\n  }\n  setCurrentTNode(tNode, true);\n  return tNode as TElementNode & TContainerNode & TElementContainerNode & TProjectionNode &\n      TIcuContainerNode;\n}\n\nexport function createTNodeAtIndex(\n    tView: TView, index: number, type: TNodeType, name: string|null, attrs: TAttributes|null) {\n  const currentTNode = getCurrentTNodePlaceholderOk();\n
  const isParent = isCurrentTNodeParent();\n  const parent = isParent ? currentTNode : currentTNode && currentTNode.parent;\n  // Parents cannot cross component boundaries because components will be used in multiple places.\n  const tNode = tView.data[index] =\n      createTNode(tView, parent as TElementNode | TContainerNode, type, index, name, attrs);\n  // Assign a pointer to the first child node of a given view. The first node is not always the one\n  // at index 0, in case of i18n, index 0 can be the instruction `i18nStart` and the first node has\n  // the index 1 or more, so we can't just check node index.\n  if (tView.firstChild === null) {\n    tView.firstChild = tNode;\n  }\n  if (currentTNode !== null) {\n    if (isParent) {\n      // FIXME(misko): This logic looks unnecessarily complicated. Could we simplify?\n      if (currentTNode.child == null && tNode.parent !== null) {\n        // We are in the same view, which means we are adding content node to the parent

```
view.\n        currentTNode.child = tNode;\n      }\n    } else {\n      if (currentTNode.next === null) {\n        // In the case of i18n the `currentTNode` may already be linked, in which case we don't want\n        // to break the links which i18n created.\n        currentTNode.next = tNode;\n      }\n    }\n  }\n  return tNode;\n}\n\n\n/**\n * When elements are created dynamically after a view blueprint is created (e.g. through\n * i18nApply()), we need to adjust the blueprint for future\n * template passes.\n *\n * @param tView `TView` associated with `LView`\n * @param lView The `LView` containing the blueprint to adjust\n * @param numSlotsToAlloc The number of slots to alloc in the LView, should be >0\n * @param initialValue Initial value to store in blueprint\n */\nexport function allocExpando(\n    tView: TView, lView: LView, numSlotsToAlloc: number, initialValue: any): number {\n  if (numSlotsToAlloc === 0) return -1;\n  if (ngDevMode) {\n    assertFirstCreatePass(tView);\n    assertSame(tView, lView[TVIEW], '`LView` must be associated with `TView`!');\n    assertEqual(tView.data.length, lView.length, 'Expecting LView to be same size as TView');\n    assertEqual(\n        tView.data.length, tView.blueprint.length, 'Expecting Blueprint to be same size as TView');\n    assertFirstUpdatePass(tView);\n  }\n  const allocIdx = lView.length;\n  for (let i = 0; i < numSlotsToAlloc; i++) {\n    lView.push(initialValue);\n    tView.blueprint.push(initialValue);\n    tView.data.push(null);\n  }\n  return allocIdx;\n}\n\n\n//////////////////////////\n//// Render\n//////////////////////////\n\n/**\n * Processes a view in the creation mode. This includes a number of steps in a specific order:\n * - creating view query functions (if any);\n * - executing a template function in the creation mode;\n * - updating static queries (if any);\n * - creating child components defined in a given view.\n */\nexport function renderView<T>(tView: TView, lView: LView, context: T): void
{\n  ngDevMode && assertEqual(isCreationMode(lView), true, 'Should be run in creation mode');\n  enterView(lView);\n  try {\n    const viewQuery = tView.viewQuery;\n    if (viewQuery !== null) {\n      executeViewQueryFn(RenderFlags.Create, viewQuery, context);\n    }\n\n    // Execute a template associated with this view, if it exists. A template function might not be\n    // defined for the root component views.\n    const templateFn = tView.template;\n    if (templateFn !== null) {\n      executeTemplate(tView, lView, templateFn, RenderFlags.Create, context);\n    }\n\n    // This needs to be set before children are processed to support recursive components.\n    // This must be set to false immediately after the first creation run because in an\n    // ngFor loop, all the views will be created together before update mode runs and turns\n    // off firstCreatePass. If we don't set it here, instances will perform directive\n    // matching, etc again and again.\n    if (tView.firstCreatePass)
    {\n      tView.firstCreatePass = false;\n    }\n\n    // We resolve content queries specifically marked as `static` in creation mode. Dynamic\n    // content queries are resolved during change detection (i.e. update mode), after embedded\n    // views are refreshed (see block above).\n    if (tView.staticContentQueries) {\n      refreshContentQueries(tView, lView);\n    }\n\n    // We must materialize query results before child components are processed\n    // in case a child component has projected a container. The LContainer needs\n    // to exist so the embedded views are properly attached by the container.\n    if (tView.staticViewQueries) {\n      executeViewQueryFn(RenderFlags.Update, tView.viewQuery!, context);\n    }\n\n    // Render child component views.\n    const components = tView.components;\n    if (components !== null) {\n      renderChildComponents(lView, components);\n    }\n\n  } catch (error) {\n    // If we didn't manage to get past the first template pass
    due to\n    // an error, mark the view as corrupted so we can try to recover.\n    if (tView.firstCreatePass) {\n      tView.incompleteFirstPass = true;\n    }\n\n    throw error;\n  } finally {\n    lView[FLAGS] &= ~LViewFlags.CreationMode;\n    leaveView();\n  }\n}\n\n/**\n * Processes a view in update mode. This includes a number of steps in a specific order:\n * - executing a template function in update mode;\n * - executing hooks;\n * - refreshing queries;\n * - setting host bindings;\n * - refreshing child (embedded and component) views.\n */\nexport function refreshView<T>(\n    tView: TView, lView: LView, templateFn: ComponentTemplate<{}>|null, context: T) {\n  ngDevMode && assertEqual(isCreationMode(lView), false, 'Should be run in update mode');\n  const flags = lView[FLAGS];\n  if ((flags & LViewFlags.Destroyed) === LViewFlags.Destroyed) return;\n  enterView(lView);\n  // Check no changes mode is a dev only mode used to verify that bindings have not changed\n  // since they
```

were assigned. We do not want to execute lifecycle hooks in that mode.\n  const isInCheckNoChangesPass = isInCheckNoChangesMode();\n  try {\n    resetPreOrderHookFlags(lView);\n\n setBindingIndex(tView.bindingStartIndex);\n    if (templateFn !== null) {\n      executeTemplate(tView, lView, templateFn, RenderFlags.Update, context);\n    }\n\n    const hooksInitPhaseCompleted =\n        (flags & LViewFlags.InitPhaseStateMask) === InitPhaseState.InitPhaseCompleted;\n\n    // execute pre-order hooks (OnInit, OnChanges, DoCheck)\n    // PERF WARNING: do NOT extract this to a separate function without running benchmarks\n    if (!isInCheckNoChangesPass) {\n      if (hooksInitPhaseCompleted) {\n        const preOrderCheckHooks = tView.preOrderCheckHooks;\n        if (preOrderCheckHooks !== null) {\n          executeCheckHooks(lView, preOrderCheckHooks, null);\n        }\n      } else {\n        const preOrderHooks = tView.preOrderHooks;\n        if (preOrderHooks !== null) {\n          executeInitAndCheckHooks(lView, preOrderHooks, InitPhaseState.OnInitHooksToBeRun, null);\n        }\n        incrementInitPhaseFlags(lView, InitPhaseState.OnInitHooksToBeRun);\n      }\n    }\n\n    // First mark transplanted views that are declared in this lView as needing a refresh at their\n    // insertion points. This is needed to avoid the situation where the template is defined in this\n    // `LView` but its declaration appears after the insertion component.\n    markTransplantedViewsForRefresh(lView);\n    refreshEmbeddedViews(lView);\n\n    // Content query results must be refreshed before content hooks are called.\n    if (tView.contentQueries !== null) {\n      refreshContentQueries(tView, lView);\n    }\n\n    // execute content hooks (AfterContentInit, AfterContentChecked)\n    // PERF WARNING: do NOT extract this to a separate function without running benchmarks\n    if (!isInCheckNoChangesPass) {\n      if (hooksInitPhaseCompleted) {\n        const contentCheckHooks =\n            tView.contentCheckHooks;\n        if (contentCheckHooks !== null) {\n          executeCheckHooks(lView, contentCheckHooks);\n        }\n      } else {\n        const contentHooks = tView.contentHooks;\n        if (contentHooks !== null) {\n          executeInitAndCheckHooks(\n              lView, contentHooks, InitPhaseState.AfterContentInitHooksToBeRun);\n        }\n        incrementInitPhaseFlags(lView, InitPhaseState.AfterContentInitHooksToBeRun);\n      }\n    }\n\n    processHostBindingOpCodes(tView, lView);\n\n    // Refresh child component views.\n    const components = tView.components;\n    if (components !== null) {\n      refreshChildComponents(lView, components);\n    }\n\n    // View queries must execute after refreshing child components because a template in this view\n    // could be inserted in a child component. If the view query executes before child component\n    // refresh, the template might not yet be inserted.\n    const viewQuery = tView.viewQuery;\n    if (viewQuery\n        !== null) {\n      executeViewQueryFn(RenderFlags.Update, viewQuery, context);\n    }\n\n    // execute view hooks (AfterViewInit, AfterViewChecked)\n    // PERF WARNING: do NOT extract this to a separate function without running benchmarks\n    if (!isInCheckNoChangesPass) {\n      if (hooksInitPhaseCompleted) {\n        const viewCheckHooks = tView.viewCheckHooks;\n        if (viewCheckHooks !== null) {\n          executeCheckHooks(lView, viewCheckHooks);\n        }\n      } else {\n        const viewHooks = tView.viewHooks;\n        if (viewHooks !== null) {\n          executeInitAndCheckHooks(lView, viewHooks, InitPhaseState.AfterViewInitHooksToBeRun);\n        }\n        incrementInitPhaseFlags(lView, InitPhaseState.AfterViewInitHooksToBeRun);\n      }\n    }\n    if (tView.firstUpdatePass === true) {\n      // We need to make sure that we only flip the flag on successful `refreshView` only\n      // Don't do this in `finally` block.\n      // If we did this in `finally` block
 then an exception could block the execution of styling\n      // instructions which in turn would be unable to insert themselves into the styling linked\n      // list. The result of this would be that if the exception would not be throw on subsequent CD\n      // the styling would be unable to process it data and reflect to the DOM.\n      tView.firstUpdatePass = false;\n    }\n\n    // Do not reset the dirty state when running in check no changes mode. We don't want components\n    // to behave differently depending on whether check no changes is enabled or not. For example:\n    // Marking an OnPush component as dirty from within the `ngAfterViewInit` hook in order to\n    // refresh a `NgClass` binding should work. If we would reset the dirty state in the check\n    // no changes cycle, the component would be not be dirty for the next update pass. This would\n    // be different in production mode where

the component dirty state is not reset.\n  if (!isInCheckNoChangesPass) {\n
  lView[FLAGS] &= ~(LViewFlags.Dirty | LViewFlags.FirstLViewPass);\n  }\n  if (lView[FLAGS] &
LViewFlags.RefreshTransplantedView) {\n  lView[FLAGS] &= ~LViewFlags.RefreshTransplantedView;\n
updateTransplantedViewCount(lView[PARENT] as LContainer, -1);\n  }\n } finally {\n  leaveView();\n
}\n}\n\nexport function renderComponentOrTemplate<T>(\n  tView: TView, lView: LView, templateFn:
ComponentTemplate<{}>|null, context: T) {\n  const rendererFactory = lView[RENDERER_FACTORY];\n  const
normalExecutionPath = !isInCheckNoChangesMode();\n  const creationModeIsActive = isCreationMode(lView);\n
try {\n  if (normalExecutionPath && !creationModeIsActive && rendererFactory.begin) {\n
rendererFactory.begin();\n  }\n  if (creationModeIsActive) {\n  renderView(tView, lView, context);\n  }\n
refreshView(tView, lView, templateFn, context);\n } finally {\n  if (normalExecutionPath &&
!creationModeIsActive && rendererFactory.end) {\n  rendererFactory.end();\n
  }\n  }\n}\n\nfunction executeTemplate<T>(\n  tView: TView, lView: LView, templateFn:
ComponentTemplate<T>, rf: RenderFlags, context: T) {\n  const prevSelectedIndex = getSelectedIndex();\n  try {\n
 setSelectedIndex(-1);\n  if (rf & RenderFlags.Update && lView.length > HEADER_OFFSET) {\n  // When
we're updating, inherently select 0 so we don't\n  // have to generate that instruction for most update blocks.\n
selectIndexInternal(tView, lView, HEADER_OFFSET, isInCheckNoChangesMode());\n  }\n  templateFn(rf,
context);\n } finally {\n  setSelectedIndex(prevSelectedIndex);\n  }\n}\n\n////////////////////////\n////
Element\n////////////////////////\n\nexport function executeContentQueries(tView: TView, tNode: TNode, lView:
LView) {\n  if (isContentQueryHost(tNode)) {\n  const start = tNode.directiveStart;\n  const end =
tNode.directiveEnd;\n  for (let directiveIndex = start; directiveIndex < end; directiveIndex++) {\n  const def =
tView.data[directiveIndex]
 as DirectiveDef<any>;\n  if (def.contentQueries) {\n  def.contentQueries(RenderFlags.Create,
lView[directiveIndex], directiveIndex);\n  }\n  }\n  }\n}\n\n\n/**\n * Creates directive instances.\n */\nexport
function createDirectivesInstances(tView: TView, lView: LView, tNode: TDirectiveHostNode) {\n  if
(!getBindingsEnabled()) return;\n  instantiateAllDirectives(tView, lView, tNode, getNativeByTNode(tNode,
lView));\n  if ((tNode.flags & TNodeFlags.hasHostBindings) === TNodeFlags.hasHostBindings) {\n
invokeDirectivesHostBindings(tView, lView, tNode);\n  }\n}\n\n/**\n * Takes a list of local names and indices and
pushes the resolved local variable values\n * to LView in the same order as they are loaded in the template with
load().\n */\nexport function saveResolvedLocalsInData(\n  viewData: LView, tNode: TDirectiveHostNode,\n
localRefExtractor: LocalRefExtractor = getNativeByTNode): void {\n  const localNames = tNode.localNames;\n  if
(localNames
 !== null) {\n  let localIndex = tNode.index + 1;\n  for (let i = 0; i < localNames.length; i += 2) {\n  const index
= localNames[i + 1] as number;\n  const value = index === -1 ?\n  localRefExtractor(\n  tNode as
TElementNode | TContainerNode | TElementContainerNode, viewData) :\n  viewData[index];\n
viewData[localIndex++] = value;\n  }\n  }\n}\n\n/**\n * Gets TView from a template function or creates a new
TView\n * if it doesn't already exist.\n *\n * @param def ComponentDef\n * @returns TView\n */\nexport function
getOrCreateTComponentView(def: ComponentDef<any>): TView {\n  const tView = def.tView;\n\n  // Create a
TView if there isn't one, or recreate it if the first create pass didn't\n  // complete successfully since we can't know
for sure whether it's in a usable shape.\n  if (tView === null || tView.incompleteFirstPass) {\n  // Declaration node
here is null since this function is called when we dynamically create a\n  // component
 and hence there is no declaration.\n  const declTNode = null;\n  return def.tView = createTView(\n
TViewType.Component, declTNode, def.template, def.decls, def.vars, def.directiveDefs,\n  def.pipeDefs,
def.viewQuery, def.schemas, def.consts);\n  }\n\n  return tView;\n}\n\n\n/**\n * Creates a TView instance\n *\n *
@param type Type of `TView`.\n * @param declTNode Declaration location of this `TView`.\n * @param
templateFn Template function\n * @param decls The number of nodes, local refs, and pipes in this template\n *
@param directives Registry of directives for this view\n * @param pipes Registry of pipes for this view\n *
@param viewQuery View queries for this view\n * @param schemas Schemas for this view\n * @param consts
Constants for this view\n */\nexport function createTView(\n  type: TViewType, declTNode: TNode|null,

templateFn: ComponentTemplate<any>|null, decls: number,\n vars: number, directives: DirectiveDefListOrFactory|null, pipes: PipeDefListOrFactory|null,\n viewQuery: ViewQueriesFunction<any>|null, schemas: SchemaMetadata[]|null,\n constsOrFactory: TConstantsOrFactory|null): TView {\n ngDevMode && ngDevMode.tView++;\n const bindingStartIndex = HEADER_OFFSET + decls;\n // This length does not yet contain host bindings from child directives because at this point,\n // we don't know which directives are active on this template. As soon as a directive is matched\n // that has a host binding, we will update the blueprint with that def's hostVars count.\n const initialViewLength = bindingStartIndex + vars;\n const blueprint = createViewBlueprint(bindingStartIndex, initialViewLength);\n const consts = typeof constsOrFactory === 'function' ? constsOrFactory() : constsOrFactory;\n const tView = blueprint[TVIEW as any] = ngDevMode ?\n new TViewConstructor(\n type, // type: TViewType,\n blueprint, // blueprint: LView,\n templateFn, // template: ComponentTemplate<{}>|null,\n null, // queries: TQueries|null\n viewQuery, // viewQuery: ViewQueriesFunction<{}>|null,\n declTNode, // declTNode: TNode|null,\n cloneToTViewData(blueprint).fill(null, bindingStartIndex), // data: TData,\n bindingStartIndex, // bindingStartIndex: number,\n initialViewLength, // expandoStartIndex: number,\n null, // hostBindingOpCodes: HostBindingOpCodes,\n true, // firstCreatePass: boolean,\n true, // firstUpdatePass: boolean,\n false, // staticViewQueries: boolean,\n false, // staticContentQueries: boolean,\n null, // preOrderHooks: HookData|null,\n null, // preOrderCheckHooks: HookData|null,\n null, // contentHooks: HookData|null,\n null, // contentCheckHooks: HookData|null,\n null, // viewHooks: HookData|null,\n null, // viewCheckHooks: HookData|null,\n null, // destroyHooks: DestroyHookData|null,\n null, // cleanup: any[]|null,\n null, // contentQueries: number[]|null,\n null, // components: number[]|null,\n typeof directives === 'function' ? //\n directives() : //\n directives, // directiveRegistry: DirectiveDefList|null,\n typeof pipes === 'function' ? pipes() : pipes, // pipeRegistry: PipeDefList|null,\n null, // firstChild: TNode|null,\n schemas, // schemas: SchemaMetadata[]|null,\n consts, // consts: TConstants|null\n false, // incompleteFirstPass: boolean\n decls, // ngDevMode only: decls\n vars, // ngDevMode only: vars\n ) :\n {\n type: type,\n blueprint: blueprint,\n template: templateFn,\n queries: null,\n viewQuery: viewQuery,\n declTNode: declTNode,\n data: blueprint.slice().fill(null, bindingStartIndex),\n bindingStartIndex: bindingStartIndex,\n expandoStartIndex: initialViewLength,\n hostBindingOpCodes: null,\n firstCreatePass: true,\n firstUpdatePass: true,\n staticViewQueries: false,\n staticContentQueries: false,\n preOrderHooks: null,\n preOrderCheckHooks: null,\n contentHooks: null,\n contentCheckHooks: null,\n viewHooks: null,\n viewCheckHooks: null,\n destroyHooks: null,\n cleanup: null,\n contentQueries: null,\n components: null,\n directiveRegistry: typeof directives === 'function' ? directives() : directives,\n pipeRegistry: typeof pipes === 'function' ? pipes() : pipes,\n firstChild: null,\n schemas: schemas,\n consts: consts,\n incompleteFirstPass: false\n };\n if (ngDevMode) {\n // For performance reasons it is important that the tView retains the same shape during runtime.\n // (To make sure that all of the code is monomorphic.) For this reason we seal the object to\n // prevent class transitions.\n Object.seal(tView);\n }\n return tView;\n}\n\nfunction createViewBlueprint(bindingStartIndex: number, initialViewLength: number): LView {\n const blueprint = ngDevMode ? new LViewBlueprint() : [];\n\n for (let i = 0; i < initialViewLength; i++) {\n blueprint.push(i < bindingStartIndex ? null : NO_CHANGE);\n }\n\n return blueprint as LView;\n}\n\nfunction createError(text: string, token: any) {\n return new Error(`Renderer: ${text} [${stringifyForError(token)}]`);\n}\n\nfunction

assertHostNodeExists(rElement: RElement, elementOrSelector: RElement|string) {\n  if (!rElement) {\n    if (typeof elementOrSelector === 'string') {\n      throw createError('Host node with selector not found:', elementOrSelector);\n    } else {\n      throw createError('Host node is required:', elementOrSelector);\n    }\n  }\n}\n\n/**\n * Locates the host native element, used for bootstrapping existing nodes into rendering pipeline.\n *\n * @param rendererFactory Factory function to create renderer instance.\n * @param elementOrSelector Render element or CSS selector to locate the element.\n * @param encapsulation View Encapsulation defined for component that requests host element.\n */\nexport function locateHostElement(\n    renderer: Renderer3, elementOrSelector: RElement|string,\n    encapsulation: ViewEncapsulation): RElement {\n  if (isProceduralRenderer(renderer)) {\n    // When using native Shadow DOM, do not clear host element to allow native slot projection\n    const preserveContent = encapsulation === ViewEncapsulation.ShadowDom;\n    return renderer.selectRootElement(elementOrSelector, preserveContent);\n  }\n\n  let rElement = typeof elementOrSelector === 'string' ?\n      renderer.querySelector(elementOrSelector)! :\n      elementOrSelector;\n  ngDevMode && assertHostNodeExists(rElement, elementOrSelector);\n\n  // Always clear host element's content when Renderer3 is in use. For procedural renderer case we\n  // make it depend on whether ShadowDom encapsulation is used (in which case the content should be\n  // preserved to allow native slot projection). ShadowDom encapsulation requires procedural\n  // renderer, and procedural renderer case is handled above.\n  rElement.textContent = '';\n\n  return rElement;\n}\n\n/**\n * Saves context for this cleanup function in LView.cleanupInstances.\n *\n * On the first template pass, saves in TView:\n * - Cleanup function\n * - Index of context we just saved in LView.cleanupInstances\n *\n * This function can also be used to store instance specific cleanup fns. In that case the `context`\n * is `null` and the function is store in `LView` (rather than it `TView`).\n */\nexport function storeCleanupWithContext(\n    tView: TView, lView: LView, context: any, cleanupFn: Function): void {\n  const lCleanup = getLCleanup(lView);\n  if (context === null) {\n    // If context is null that this is instance specific callback. These callbacks can only be\n    // inserted after template shared instances. For this reason in ngDevMode we freeze the TView.\n    if (ngDevMode) {\n      Object.freeze(getTViewCleanup(tView));\n    }\n    lCleanup.push(cleanupFn);\n  } else {\n    lCleanup.push(context);\n\n    if (tView.firstCreatePass) {\n      getTViewCleanup(tView).push(cleanupFn, lCleanup.length - 1);\n    }\n  }\n}\n\n/**\n * Constructs a TNode object from the arguments.\n *\n * @param tView `TView` to which this `TNode` belongs (used only in `ngDevMode`)\n * @param tParent Parent `TNode`\n * @param type The type of the node\n * @param index The index of the TNode in TView.data, adjusted for HEADER_OFFSET\n * @param tagName The tag name of the node\n * @param attrs The attributes defined on this node\n * @param tViews Any TViews attached to this node\n * @returns the TNode object\n */\nexport function createTNode(\n    tView: TView, tParent: TElementNode|TContainerNode|null, type: TNodeType.Container,\n    index: number, tagName: string|null, attrs: TAttributes|null): TContainerNode;\nexport function createTNode(\n    tView: TView, tParent: TElementNode|TContainerNode|null, type: TNodeType.Element|TNodeType.Text,\n    index: number, tagName: string|null, attrs: TAttributes|null): TElementNode;\nexport function createTNode(\n    tView: TView, tParent: TElementNode|TContainerNode|null, type: TNodeType.ElementContainer,\n    index: number, tagName: string|null, attrs: TAttributes|null): TElementContainerNode;\nexport function createTNode(\n    tView: TView, tParent: TElementNode|TContainerNode|null, type: TNodeType.Icu, index: number,\n    tagName: string|null, attrs: TAttributes|null): TIcuContainerNode;\nexport function createTNode(\n    tView: TView, tParent: TElementNode|TContainerNode|null, type: TNodeType.Projection,\n    index: number, tagName: string|null, attrs: TAttributes|null): TProjectionNode;\nexport function createTNode(\n    tView: TView, tParent: TElementNode|TContainerNode|null, type: TNodeType, index: number,\n    tagName: string|null, attrs: TAttributes|null): TNode;\nexport function createTNode(\n    tView: TView, tParent: TElementNode|TContainerNode|null, type: TNodeType, index: number,\n    value: string|null, attrs: TAttributes|null): TNode {\n  ngDevMode && index !== 0 &&  // 0 are bogus nodes and they are OK. See `createContainerRef` in\n                               // `view_engine_compatibility` for additional context.\n  assertGreaterThanOrEqual(index, HEADER_OFFSET, 'TNodes can\\'t be in the LView header.');\n  ngDevMode

```
&& assertNotSame(attrs, undefined, '\\'undefined\\' is not valid value for \\'attrs\\'');\n  ngDevMode &&
ngDevMode.tNode++;\n  ngDevMode && tParent && assertTNodeForTView(tParent, tView);\n  let injectorIndex
= tParent ? tParent.injectorIndex : -1;\n  const tNode = ngDevMode ?\n      new TNodeDebug(\n          tView,         //
tView_: TView\n          type,          // type: TNodeType\n          index,         // index: number\n          null,          //
insertBeforeIndex: null|-1|number|number[]\n          injectorIndex,  // injectorIndex: number\n          -1,            //
directiveStart: number\n          -1,            // directiveEnd: number\n
          -1,            // directiveStylingLast: number\n          null,          // propertyBindings: number[]|null\n          0,
    // flags: TNodeFlags\n          0,             // providerIndexes: TNodeProviderIndexes\n          value,         // value:
string|null\n          attrs,         // attrs: (string|AttributeMarker|(string|SelectorFlags)[])[]|null\n          null,          //
mergedAttrs\n          null,          // localNames: (string|number)[]|null\n          undefined,     // initialInputs:
(string[]|null)[]|null|undefined\n          null,          // inputs: PropertyAliases|null\n          null,          // outputs:
PropertyAliases|null\n          null,          // tViews: ITView|ITView[]|null\n          null,          // next: ITNode|null\n
    null,          // projectionNext: ITNode|null\n          null,          // child: ITNode|null\n          tParent,       // parent:
TElementNode|TContainerNode|null\n          null,          // projection:
 number|(ITNode|RNode[])[]|null\n          null,          // styles: string|null\n          null,          // stylesWithoutHost:
string|null\n          undefined,     // residualStyles: string|null\n          null,          // classes: string|null\n          null,
    // classesWithoutHost: string|null\n          undefined,     // residualClasses: string|null\n          0 as any,      //
classBindings: TStylingRange;\n          0 as any,      // styleBindings: TStylingRange;\n          ) :\n      {\n          type,\n
      index,\n          insertBeforeIndex: null,\n          injectorIndex,\n          directiveStart: -1,\n          directiveEnd: -1,\n
directiveStylingLast: -1,\n          propertyBindings: null,\n          flags: 0,\n          providerIndexes: 0,\n          value:
value,\n          attrs: attrs,\n          mergedAttrs: null,\n          localNames: null,\n          initialInputs: undefined,\n
inputs: null,\n          outputs: null,\n          tViews: null,\n          next:
 null,\n          projectionNext: null,\n          child: null,\n          parent: tParent,\n          projection: null,\n          styles: null,\n
      stylesWithoutHost: null,\n          residualStyles: undefined,\n          classes: null,\n          classesWithoutHost: null,\n
    residualClasses: undefined,\n          classBindings: 0 as any,\n          styleBindings: 0 as any,\n      };\n  if
(ngDevMode) {\n    // For performance reasons it is important that the tNode retains the same shape during
runtime.\n    // (To make sure that all of the code is monomorphic.) For this reason we seal the object to\n    //
prevent class transitions.\n    Object.seal(tNode);\n  }\n  return tNode;\n}\n\n\nfunction generatePropertyAliases(\n
inputAliasMap: {[publicName: string]: string}, directiveDefIdx: number,\n    propStore: PropertyAliases|null):
PropertyAliases|null {\n  for (let publicName in inputAliasMap) {\n    if
(inputAliasMap.hasOwnProperty(publicName)) {\n      propStore = propStore === null
 ? {} : propStore;\n      const internalName = inputAliasMap[publicName];\n\n      if
(propStore.hasOwnProperty(publicName)) {\n        propStore[publicName].push(directiveDefIdx, internalName);\n
    } else {\n        (propStore[publicName] = [directiveDefIdx, internalName]);\n      }\n    }\n  }\n  return
propStore;\n}\n\n/**\n * Initializes data structures required to work with directive inputs and outputs.\n *
Initialization is done for all directives matched on a given TNode.\n */\nfunction
initializeInputAndOutputAliases(tView: TView, tNode: TNode): void {\n  ngDevMode &&
assertFirstCreatePass(tView);\n\n  const start = tNode.directiveStart;\n  const end = tNode.directiveEnd;\n  const
tViewData = tView.data;\n\n  const tNodeAttrs = tNode.attrs;\n  const inputsFromAttrs: InitialInputData =
ngDevMode ? new TNodeInitialInputs() : [];\n  let inputsStore: PropertyAliases|null = null;\n  let outputsStore:
PropertyAliases|null = null;\n  for (let i = start; i < end; i++) {\n    const directiveDef
 = tViewData[i] as DirectiveDef<any>;\n    const directiveInputs = directiveDef.inputs;\n    // Do not use unbound
attributes as inputs to structural directives, since structural\n    // directive inputs can only be set using microsyntax
(e.g. `<div *dir=\"exp\">`).\n    // TODO(FW-1930): microsyntax expressions may also contain unbound/static
attributes, which\n    // should be set for inline templates.\n    const initialInputs = (tNodeAttrs !== null &&
!isInlineTemplate(tNode)) ?\n        generateInitialInputs(directiveInputs, tNodeAttrs) :\n        null;\n
inputsFromAttrs.push(initialInputs);\n    inputsStore = generatePropertyAliases(directiveInputs, i, inputsStore);\n
outputsStore = generatePropertyAliases(directiveDef.outputs, i, outputsStore);\n  }\n\n  if (inputsStore !== null) {\n
```

if (inputsStore.hasOwnProperty('class')) {\n tNode.flags |= TNodeFlags.hasClassInput;\n }\n if (inputsStore.hasOwnProperty('style')) {\n tNode.flags |= TNodeFlags.hasStyleInput;\n }\n }\n\n tNode.initialInputs = inputsFromAttrs;\n tNode.inputs = inputsStore;\n tNode.outputs = outputsStore;\n}\n\n/**\n * Mapping between attributes names that don't correspond to their element property names.\n *\n * Performance note: this function is written as a series of if checks (instead of, say, a property\n * object lookup) for performance reasons - the series of `if` checks seems to be the fastest way of\n * mapping property names. Do NOT change without benchmarking.\n *\n * Note: this mapping has to be kept in sync with the equally named mapping in the template\n * type-checking machinery of ngtsc.\n */\nfunction mapPropName(name: string): string {\n if (name === 'class') return 'className';\n if (name === 'for') return 'htmlFor';\n if (name === 'formaction') return 'formAction';\n if (name === 'innerHtml') return 'innerHTML';\n if (name === 'readonly') return 'readOnly';\n if (name === 'tabindex') return 'tabIndex';\n return name;\n}\n\nexport function elementPropertyInternal<T>(\n tView: TView, tNode: TNode, lView: LView, propName: string, value: T, renderer: Renderer3,\n sanitizer: SanitizerFn|null|undefined, nativeOnly: boolean): void {\n ngDevMode && assertNotSame(value, NO_CHANGE as any, 'Incoming value should never be NO_CHANGE.');\n const element = getNativeByTNode(tNode, lView) as RElement | RComment;\n let inputData = tNode.inputs;\n let dataValue: PropertyAliasValue|undefined;\n if (!nativeOnly && inputData != null && (dataValue = inputData[propName])) {\n setInputsForProperty(tView, lView, dataValue, propName, value);\n if (isComponentHost(tNode)) markDirtyIfOnPush(lView, tNode.index);\n if (ngDevMode) {\n setNgReflectProperties(lView, element, tNode.type, dataValue, value);\n }\n } else if (tNode.type & TNodeType.AnyRNode) {\n propName = mapPropName(propName);\n\n if (ngDevMode) {\n validateAgainstEventProperties(propName);\n if (!validateProperty(tView, element, propName,\n tNode)) {\n // Return here since we only log warnings for unknown properties.\n logUnknownPropertyError(propName, tNode);\n return;\n }\n ngDevMode.rendererSetProperty++;\n }\n\n // It is assumed that the sanitizer is only added when the compiler determines that the\n // property is risky, so sanitization can be done without further checks.\n value = sanitizer != null ? (sanitizer(value, tNode.value || '', propName) as any) : value;\n if (isProceduralRenderer(renderer)) {\n renderer.setProperty(element as RElement, propName, value);\n } else if (!isAnimationProp(propName)) {\n (element as RElement).setProperty ? (element as any).setProperty(propName, value) :\n (element as any)[propName] = value;\n }\n } else if (tNode.type & TNodeType.AnyContainer) {\n // If the node is a container and the property didn't\n // match any of the inputs or schemas we should throw.\n if (ngDevMode && !matchingSchemas(tView, tNode.value)) {\n logUnknownPropertyError(propName, tNode);\n }\n }\n}\n\n/** If node is an OnPush component, marks its LView dirty. */\nfunction markDirtyIfOnPush(lView: LView, viewIndex: number): void {\n ngDevMode && assertLView(lView);\n const childComponentLView = getComponentLViewByIndex(viewIndex, lView);\n if (!(childComponentLView[FLAGS] & LViewFlags.CheckAlways)) {\n childComponentLView[FLAGS] |= LViewFlags.Dirty;\n }\n}\n\nfunction setNgReflectProperty(\n lView: LView, element: RElement|RComment, type: TNodeType, attrName: string, value: any) {\n const renderer = lView[RENDERER];\n attrName = normalizeDebugBindingName(attrName);\n const debugValue = normalizeDebugBindingValue(value);\n if (type & TNodeType.AnyRNode) {\n if (value == null) {\n isProceduralRenderer(renderer) ? renderer.removeAttribute((element as RElement), attrName) :\n (element as RElement).removeAttribute(attrName);\n } else {\n isProceduralRenderer(renderer) ?\n renderer.setAttribute((element as RElement), attrName, debugValue) :\n (element as RElement).setAttribute(attrName, debugValue);\n }\n } else {\n const textContent =\n escapeCommentText(`bindings=${JSON.stringify({[attrName]: debugValue}, null, 2)}`);\n if (isProceduralRenderer(renderer)) {\n renderer.setValue((element as RComment), textContent);\n } else {\n (element as RComment).textContent = textContent;\n }\n }\n}\n\nexport function setNgReflectProperties(\n lView: LView, element: RElement|RComment, type: TNodeType, dataValue: PropertyAliasValue,\n value: any) {\n if (type & (TNodeType.AnyRNode | TNodeType.Container)) {\n /**\n * dataValue is an array containing runtime input or output names for the directives:\n * i+0: directive instance index\n * i+1: privateName\n *\n

```
 * e.g. [0, 'change', 'change-minified']\n     * we want to set
 the reflected property with the privateName: dataValue[i+1]\n     */\n    for (let i = 0; i < dataValue.length; i += 2)
{\n      setNgReflectProperty(lView, element, type, dataValue[i + 1] as string, value);\n    }\n  }\n}\n\nfunction
validateProperty(\n    tView: TView, element: RElement|RComment, propName: string, tNode: TNode): boolean {\n
// If `schemas` is set to `null`, that's an indication that this Component was compiled in AOT\n  // mode where this
check happens at compile time. In JIT mode, `schemas` is always present and\n  // defined as an array (as an empty
array in case `schemas` field is not defined) and we should\n  // execute the check below.\n  if (tView.schemas ===
null) return true;\n\n  // The property is considered valid if the element matches the schema, it exists on the
element\n  // or it is synthetic, and we are in a browser context (web worker nodes should be skipped).\n  if
(matchingSchemas(tView, tNode.value) || propName in element || isAnimationProp(propName))
 {\n    return true;\n  }\n\n  // Note: `typeof Node` returns 'function' in most browsers, but on IE it is 'object' so we\n
// need to account for both here, while being careful for `typeof null` also returning 'object'.\n  return typeof Node
=== 'undefined' || Node === null || !(element instanceof Node);\n}\n\nexport function matchingSchemas(tView:
TView, tagName: string|null): boolean {\n  const schemas = tView.schemas;\n\n  if (schemas !== null) {\n    for (let
i = 0; i < schemas.length; i++) {\n      const schema = schemas[i];\n      if (schema === NO_ERRORS_SCHEMA ||\n
      schema === CUSTOM_ELEMENTS_SCHEMA && tagName && tagName.indexOf('-') > -1) {\n        return
true;\n      }\n    }\n  }\n\n  return false;\n}\n\n/**\n * Logs an error that a property is not supported on an element.\n
* @param propName Name of the invalid property.\n * @param tNode Node on which we encountered the
property.\n */\nfunction logUnknownPropertyError(propName: string, tNode: TNode): void
 {\n  let message = `Can't bind to '${propName}' since it isn't a known property of '${tNode.value}'.`;\n
console.error(formatRuntimeError(RuntimeErrorCode.UNKNOWN_BINDING, message));\n}\n\n/**\n *
Instantiate a root component.\n */\nexport function instantiateRootComponent<T>(tView: TView, lView: LView,
def: ComponentDef<T>): T {\n  const rootTNode = getCurrentTNode()!;\n  if (tView.firstCreatePass) {\n    if
(def.providersResolver) def.providersResolver(def);\n    const directiveIndex = allocExpando(tView, lView, 1,
null);\n    ngDevMode &&\n        assertEqual(\n            directiveIndex, rootTNode.directiveStart,\n            'Because
this is a root component the allocated expando should match the TNode component.');\n
configureViewWithDirective(tView, rootTNode, lView, directiveIndex, def);\n  }\n  const directive =\n
getNodeInjectable(lView, tView, rootTNode.directiveStart, rootTNode as TElementNode);\n
attachPatchData(directive, lView);\n  const native = getNativeByTNode(rootTNode,
 lView);\n  if (native) {\n    attachPatchData(native, lView);\n  }\n  return directive;\n}\n\n/**\n * Resolve the
matched directives on a node.\n */\nexport function resolveDirectives(\n    tView: TView, lView: LView, tNode:
TElementNode|TContainerNode|TElementContainerNode,\n    localRefs: string[]|null): boolean {\n  // Please make
sure to have explicit type for `exportsMap`. Inferred type triggers bug in\n  // tsickle.\n  ngDevMode &&
assertFirstCreatePass(tView);\n\n  let hasDirectives = false;\n  if (getBindingsEnabled()) {\n    const directiveDefs:
DirectiveDef<any>[]|null = findDirectiveDefMatches(tView, lView, tNode);\n    const exportsMap: ({[key: string]:
number}|null) = localRefs === null ? null : {'': -1};\n\n    if (directiveDefs !== null) {\n      hasDirectives = true;\n
initTNodeFlags(tNode, tView.data.length, directiveDefs.length);\n      // When the same token is provided by several
directives on the same node, some rules apply in\n      // the viewEngine:\n
      // - viewProviders have priority over providers\n      // - the last directive in NgModule.declarations has priority
over the previous one\n      // So to match these rules, the order in which providers are added in the arrays is very\n
 // important.\n      for (let i = 0; i < directiveDefs.length; i++) {\n        const def = directiveDefs[i];\n        if
(def.providersResolver) def.providersResolver(def);\n      }\n      let preOrderHooksFound = false;\n      let
preOrderCheckHooksFound = false;\n      let directiveIdx = allocExpando(tView, lView, directiveDefs.length,
null);\n      ngDevMode &&\n          assertSame(\n              directiveIdx, tNode.directiveStart,\n
'TNode.directiveStart should point to just allocated space');\n\n      for (let i = 0; i < directiveDefs.length; i++) {\n
 const def = directiveDefs[i];\n        // Merge the attrs in the order of matches. This assumes that the first directive is
the\n        // component itself,
```

so that the component has the least priority.\n tNode.mergedAttrs = mergeHostAttrs(tNode.mergedAttrs, def.hostAttrs);\n\n configureViewWithDirective(tView, tNode, lView, directiveIdx, def);\n saveNameToExportMap(directiveIdx, def, exportsMap);\n\n if (def.contentQueries !== null) tNode.flags |= TNodeFlags.hasContentQuery;\n if (def.hostBindings !== null || def.hostAttrs !== null || def.hostVars !== 0)\n tNode.flags |= TNodeFlags.hasHostBindings;\n\n const lifeCycleHooks: OnChanges&OnInit&DoCheck = def.type.prototype;\n // Only push a node index into the preOrderHooks array if this is the first\n // pre-order hook found on this node.\n if (!preOrderHooksFound &&\n (lifeCycleHooks.ngOnChanges || lifeCycleHooks.ngOnInit || lifeCycleHooks.ngDoCheck)) {\n // We will push the actual hook function into this array later during dir instantiation.\n // We cannot do it now because we must ensure hooks are registered in the same\n // order that directives are created (i.e. injection order).\n (tView.preOrderHooks || (tView.preOrderHooks = [])).push(tNode.index);\n preOrderHooksFound = true;\n }\n\n if (!preOrderCheckHooksFound && (lifeCycleHooks.ngOnChanges || lifeCycleHooks.ngDoCheck)) {\n (tView.preOrderCheckHooks || (tView.preOrderCheckHooks = [])).push(tNode.index);\n preOrderCheckHooksFound = true;\n }\n\n directiveIdx++;\n }\n\n initializeInputAndOutputAliases(tView, tNode);\n }\n if (exportsMap) cacheMatchingLocalNames(tNode, localRefs, exportsMap);\n }\n // Merge the template attrs last so that they have the highest priority.\n tNode.mergedAttrs = mergeHostAttrs(tNode.mergedAttrs, tNode.attrs);\n return hasDirectives;\n}\n\n/**\n * Add `hostBindings` to the `TView.hostBindingOpCodes`.\n *\n * @param tView `TView` to which the `hostBindings` should be added.\n * @param tNode `TNode` the element which contains the directive\n * @param lView `LView` current `LView`\n * @param directiveIdx Directive index in view.\n * @param directiveVarsIdx Where will the directive's vars be stored\n * @param def `ComponentDef`/`DirectiveDef`, which contains the `hostVars`/`hostBindings` to add.\n */\nexport function registerHostBindingOpCodes(\n tView: TView, tNode: TNode, lView: LView, directiveIdx: number, directiveVarsIdx: number,\n def: ComponentDef<any>|DirectiveDef<any>): void {\n ngDevMode && assertFirstCreatePass(tView);\n\n const hostBindings = def.hostBindings;\n if (hostBindings) {\n let hostBindingOpCodes = tView.hostBindingOpCodes;\n if (hostBindingOpCodes === null) {\n hostBindingOpCodes = tView.hostBindingOpCodes = [] as any as HostBindingOpCodes;\n }\n const elementIndx = ~tNode.index;\n if (lastSelectedElementIdx(hostBindingOpCodes) != elementIndx) {\n // Conditionally add select element so that we are more efficient in execution.\n // NOTE: this is strictly not necessary and it trades code size for runtime perf.\n // (We could just always add it.)\n hostBindingOpCodes.push(elementIndx);\n }\n hostBindingOpCodes.push(directiveIdx, directiveVarsIdx, hostBindings);\n }\n}\n\n/**\n * Returns the last selected element index in the `HostBindingOpCodes`\n *\n * For perf reasons we don't need to update the selected element index in `HostBindingOpCodes` only\n * if it changes. This method returns the last index (or '0' if not found.)\n *\n * Selected element index are only the ones which are negative.\n */\nfunction lastSelectedElementIdx(hostBindingOpCodes: HostBindingOpCodes): number {\n let i = hostBindingOpCodes.length;\n while (i > 0) {\n const value = hostBindingOpCodes[--i];\n if (typeof value === 'number' && value < 0) {\n return value;\n }\n }\n return 0;\n}\n\n\n/**\n * Instantiate all the directives that were previously resolved on the current node.\n */\nfunction instantiateAllDirectives(\n tView: TView, lView: LView, tNode: TDirectiveHostNode, native: RNode) {\n const start = tNode.directiveStart;\n const end = tNode.directiveEnd;\n if (!tView.firstCreatePass) {\n getOrCreateNodeInjectorForNode(tNode, lView);\n }\n\n attachPatchData(native, lView);\n\n const initialInputs = tNode.initialInputs;\n for (let i = start; i < end; i++) {\n const def = tView.data[i] as DirectiveDef<any>;\n const isComponent = isComponentDef(def);\n\n if (isComponent) {\n ngDevMode && assertTNodeType(tNode, TNodeType.AnyRNode);\n addComponentLogic(lView, tNode as TElementNode, def as ComponentDef<any>);\n }\n\n const directive = getNodeInjectable(lView, tView, i, tNode);\n attachPatchData(directive, lView);\n\n if (initialInputs !== null) {\n setInputsFromAttrs(lView, i - start, directive, def, tNode, initialInputs!);\n }\n\n if (isComponent) {\n const componentView =

```
getComponentLViewByIndex(tNode.index, lView);\n
    componentView[CONTEXT] = directive;\n  }\n }\n}\n\nfunction invokeDirectivesHostBindings(tView:
TView, lView: LView, tNode: TNode) {\n  const start = tNode.directiveStart;\n  const end = tNode.directiveEnd;\n
const firstCreatePass = tView.firstCreatePass;\n  const elementIndex = tNode.index;\n  const currentDirectiveIndex
= getCurrentDirectiveIndex();\n  try {\n  setSelectedIndex(elementIndex);\n  for (let dirIndex = start; dirIndex <
end; dirIndex++) {\n  const def = tView.data[dirIndex] as DirectiveDef<unknown>;\n  const directive =
lView[dirIndex];\n  setCurrentDirectiveIndex(dirIndex);\n  if (def.hostBindings !== null || def.hostVars !== 0 ||
def.hostAttrs !== null) {\n  invokeHostBindingsInCreationMode(def, directive);\n  }\n  }\n  } finally {\n
setSelectedIndex(-1);\n  setCurrentDirectiveIndex(currentDirectiveIndex);\n  }\n}\n\n/**\n * Invoke the host
bindings in creation mode.\n *\n * @param def `DirectiveDef` which may contain
 the `hostBindings` function.\n * @param directive Instance of directive.\n */\nexport function
invokeHostBindingsInCreationMode(def: DirectiveDef<any>, directive: any) {\n  if (def.hostBindings !== null) {\n
 def.hostBindings!(RenderFlags.Create, directive);\n  }\n}\n\n/**\n * Matches the current node against all available
selectors.\n * If a component is matched (at most one), it is returned in first position in the array.\n */\nfunction
findDirectiveDefMatches(\n  tView: TView, viewData: LView,\n  tNode:
TElementNode|TContainerNode|TElementContainerNode): DirectiveDef<any>[]|null {\n  ngDevMode &&
assertFirstCreatePass(tView);\n  ngDevMode && assertTNodeType(tNode, TNodeType.AnyRNode |
TNodeType.AnyContainer);\n\n  const registry = tView.directiveRegistry;\n  let matches: any[]|null = null;\n  if
(registry) {\n  for (let i = 0; i < registry.length; i++) {\n  const def = registry[i] as ComponentDef<any>|
DirectiveDef<any>;\n  if (isNodeMatchingSelectorList(tNode, def.selectors!,
 /* isProjectionMode */ false)) {\n  matches || (matches = ngDevMode ? new MatchesArray() : []);\n
diPublicInInjector(getOrCreateNodeInjectorForNode(tNode, viewData), tView, def.type);\n\n  if
(isComponentDef(def)) {\n  if (ngDevMode) {\n  assertTNodeType(\n  tNode,
TNodeType.Element,\n  `\"${tNode.value}\" tags cannot be used as component hosts. ` +\n
`Please use a different tag to activate the ${stringify(def.type)} component.`);\n\n  if (tNode.flags &
TNodeFlags.isComponentHost) throwMultipleComponentError(tNode);\n  }\n
markAsComponentHost(tView, tNode);\n  // The component is always stored first with directives after.\n
matches.unshift(def);\n  } else {\n  matches.push(def);\n  }\n  }\n  }\n  }\n  return
matches;\n}\n\n/**\n * Marks a given TNode as a component's host. This consists of:\n * - setting appropriate
TNode flags;\n
 * - storing index of component's host element so it will be queued for view refresh during CD.\n */\nexport function
markAsComponentHost(tView: TView, hostTNode: TNode): void {\n  ngDevMode &&
assertFirstCreatePass(tView);\n  hostTNode.flags |= TNodeFlags.isComponentHost;\n  (tView.components ||
(tView.components = ngDevMode ? new TViewComponents() : []))\n  .push(hostTNode.index);\n}\n\n\n/**
Caches local names and their matching directive indices for query and template lookups. */\nfunction
cacheMatchingLocalNames(\n  tNode: TNode, localRefs: string[]|null, exportsMap: {[key: string]: number}): void
{\n  if (localRefs) {\n  const localNames: (string|number)[] = tNode.localNames = ngDevMode ? new
TNodeLocalNames() : [];\n\n  // Local names must be stored in tNode in the same order that localRefs are
defined\n  // in the template to ensure the data is loaded in the same slots as their refs\n  // in the template (for
template queries).\n  for (let i = 0; i < localRefs.length;
 i += 2) {\n  const index = exportsMap[localRefs[i + 1]];\n  if (index == null)\n  throw new
RuntimeError(\n  RuntimeErrorCode.EXPORT_NOT_FOUND, `Export of name '${localRefs[i + 1]}' not
found!`);\n  localNames.push(localRefs[i], index);\n  }\n  }\n}\n\n/**\n * Builds up an export map as directives
are created, so local refs can be quickly mapped\n * to their directive instances.\n */\nfunction
saveNameToExportMap(\n  directiveIdx: number, def: DirectiveDef<any>|ComponentDef<any>,\n  exportsMap:
{[key: string]: number}|null) {\n  if (exportsMap) {\n  if (def.exportAs) {\n  for (let i = 0; i <
def.exportAs.length; i++) {\n  exportsMap[def.exportAs[i]] = directiveIdx;\n  }\n  }\n  if
(isComponentDef(def)) exportsMap[''] = directiveIdx;\n  }\n}\n\n/**\n * Initializes the flags on the current node,
```

setting all indices to the initial index,\n * the directive count to 0, and adding the isComponent flag.\n * @param index the initial
index\n */\nexport function initTNodeFlags(tNode: TNode, index: number, numberOfDirectives: number) {\n ngDevMode &&\n assertNotEqual(\n numberOfDirectives, tNode.directiveEnd - tNode.directiveStart,\n 'Reached the max number of directives');\n tNode.flags |= TNodeFlags.isDirectiveHost;\n // When the first directive is created on a node, save the index\n tNode.directiveStart = index;\n tNode.directiveEnd = index + numberOfDirectives;\n tNode.providerIndexes = index;\n}\n\n/**\n * Setup directive for instantiation.\n *\n * We need to create a `NodeInjectorFactory` which is then inserted in both the `Blueprint` as well\n * as `LView`. `TView` gets the `DirectiveDef`.\n *\n * @param tView `TView`\n * @param tNode `TNode`\n * @param lView `LView`\n * @param directiveIndex Index where the directive will be stored in the Expando.\n * @param def `DirectiveDef`\n */\nfunction configureViewWithDirective<T>(\n tView: TView, tNode: TNode, lView: LView, directiveIndex:
number, def: DirectiveDef<T>): void {\n ngDevMode &&\n assertGreaterThanOrEqual(directiveIndex, HEADER_OFFSET, 'Must be in Expando section');\n tView.data[directiveIndex] = def;\n const directiveFactory =\n def.factory || ((def as {factory: Function}).factory = getFactoryDef(def.type, true));\n const nodeInjectorFactory = new NodeInjectorFactory(directiveFactory, isComponentDef(def), null);\n tView.blueprint[directiveIndex] = nodeInjectorFactory;\n lView[directiveIndex] = nodeInjectorFactory;\n\n registerHostBindingOpCodes(\n tView, tNode, lView, directiveIndex, allocExpando(tView, lView, def.hostVars, NO_CHANGE),\n def);\n}\n\nfunction addComponentLogic<T>(lView: LView, hostTNode: TElementNode, def: ComponentDef<T>): void {\n const native = getNativeByTNode(hostTNode, lView) as RElement;\n const tView = getOrCreateTComponentView(def);\n\n // Only component views should be added to the view tree directly. Embedded views are\n // accessed through
their containers because they may be removed / re-added later.\n const rendererFactory = lView[RENDERER_FACTORY];\n const componentView = addToViewTree(\n lView,\n createLView(\n lView, tView, null, def.onPush ? LViewFlags.Dirty : LViewFlags.CheckAlways, native,\n hostTNode as TElementNode, rendererFactory, rendererFactory.createRenderer(native, def),\n null, null));\n\n // Component view will always be created before any injected LContainers,\n // so this is a regular element, wrap it with the component view\n lView[hostTNode.index] = componentView;\n}\n\nexport function elementAttributeInternal(\n tNode: TNode, lView: LView, name: string, value: any, sanitizer: SanitizerFn|null|undefined,\n namespace: string|null|undefined) {\n if (ngDevMode) {\n assertNotSame(value, NO_CHANGE as any, 'Incoming value should never be NO_CHANGE.');\n validateAgainstEventAttributes(name);\n assertTNodeType(\n tNode, TNodeType.Element,\n `Attempted to set attribute \\`${name}\\` on a container node. ` +\n `Host bindings are not valid on ng-container or ng-template.`);\n }\n const element = getNativeByTNode(tNode, lView) as RElement;\n setElementAttribute(lView[RENDERER], element, namespace, tNode.value, name, value, sanitizer);\n}\n\nexport function setElementAttribute(\n renderer: Renderer3, element: RElement, namespace: string|null|undefined, tagName: string|null,\n name: string, value: any, sanitizer: SanitizerFn|null|undefined) {\n if (value == null) {\n ngDevMode && ngDevMode.rendererRemoveAttribute++;\n isProceduralRenderer(renderer) ? renderer.removeAttribute(element, name, namespace) :\n element.removeAttribute(name);\n } else {\n ngDevMode && ngDevMode.rendererSetAttribute++;\n const strValue =\n sanitizer == null ? renderStringify(value) : sanitizer(value, tagName || '', name);\n\n\n if (isProceduralRenderer(renderer)) {\n renderer.setAttribute(element, name, strValue, namespace);\n } else {\n namespace ? element.setAttributeNS(namespace, name, strValue) :\n element.setAttribute(name, strValue);\n }\n}\n\n/**\n * Sets initial input properties on directive instances from attribute data\n *\n * @param lView Current LView that is being processed.\n * @param directiveIndex Index of the directive in directives array\n * @param instance Instance of the directive on which to set the initial inputs\n * @param def The directive def that contains the list of inputs\n * @param tNode The static data for this node\n */\nfunction setInputsFromAttrs<T>(\n lView: LView, directiveIndex: number, instance: T, def: DirectiveDef<T>, tNode: TNode,\n initialInputData:

InitialInputData): void {\n  const initialInputs: InitialInputs|null = initialInputData![directiveIndex];\n  if (initialInputs !== null) {\n    const setInput = def.setInput;\n    for (let i = 0; i < initialInputs.length;) {\n      const publicName = initialInputs[i++];\n      const privateName = initialInputs[i++];\n      const value = initialInputs[i++];\n      if (setInput !== null) {\n        def.setInput!(instance, value, publicName, privateName);\n      } else {\n        (instance as any)[privateName] = value;\n      }\n      if (ngDevMode) {\n        const nativeElement = getNativeByTNode(tNode, lView) as RElement;\n        setNgReflectProperty(lView, nativeElement, tNode.type, privateName, value);\n      }\n    }\n  }\n}\n\n/**\n * Generates initialInputData for a node and stores it in the template's static storage\n * so subsequent template invocations don't have to recalculate it.\n *\n * initialInputData is an array containing values that need to be set as input properties\n * for directives on this node, but only once on creation. We need this array to support\n * the case where you set an @Input property of a directive using attribute-like syntax.\n * e.g. if you have a `name` @Input, you can set it once like this:\n *\n * <my-component name=\"Bess\"></my-component>\n *\n * @param inputs The list of inputs from the directive def\n * @param attrs The static attrs on this node\n */\nfunction generateInitialInputs(inputs: {[key: string]: string}, attrs: TAttributes): InitialInputs|\n    null {\n  let inputsToStore: InitialInputs|null = null;\n  let i = 0;\n  while (i < attrs.length) {\n    const attrName = attrs[i];\n    if (attrName === AttributeMarker.NamespaceURI) {\n      // We do not allow inputs on namespaced attributes.\n      i += 4;\n      continue;\n    } else if (attrName === AttributeMarker.ProjectAs) {\n      // Skip over the `ngProjectAs` value.\n      i += 2;\n      continue;\n    }\n\n    // If we hit any other attribute markers, we're done anyway. None of those are valid inputs.\n    if (typeof attrName === 'number') break;\n\n    if (inputs.hasOwnProperty(attrName as string)) {\n      if (inputsToStore === null) inputsToStore = [];\n      inputsToStore.push(attrName as string, inputs[attrName as string], attrs[i + 1] as string);\n    }\n\n    i += 2;\n  }\n  return inputsToStore;\n}\n\n////////////////////////////\n//// ViewContainer & View\n////////////////////////////\n\n// Not sure why I need to do `any` here but TS complains later.\nconst LContainerArray: any = ((typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode()) &&\n    createNamedArrayType('LContainer');\n\n/**\n * Creates a LContainer, either from a container instruction, or for a ViewContainerRef.\n *\n * @param hostNative The host element for the LContainer\n * @param hostTNode The host TNode for the LContainer\n * @param currentView The parent view of the LContainer\n * @param native The native comment element\n * @param isForViewContainerRef Optional a flag indicating the ViewContainerRef case\n * @returns LContainer\n */\nexport function createLContainer(\n    hostNative: RElement|RComment|LView, currentView: LView, native: RComment,\n    tNode: TNode): LContainer {\n  ngDevMode && assertLView(currentView);\n  ngDevMode && !isProceduralRenderer(currentView[RENDERER]) && assertDomNode(native);\n  // https://jsperf.com/array-literal-vs-new-array-really\n  const lContainer: LContainer = new (ngDevMode ? LContainerArray : Array)(\n      hostNative,  // host native\n      true,        // Boolean `true` in this position signifies that this is an `LContainer`\n      false,       // has transplanted views\n      currentView,  // parent\n      null,        // next\n      0,           // transplanted views to refresh count\n      tNode,       // t_host\n      native,      // native,\n      null,        // view refs\n      null,        // moved views\n  );\n  ngDevMode &&\n      assertEqual(\n          lContainer.length, CONTAINER_HEADER_OFFSET,\n          'Should allocate correct number of slots for LContainer header.');\n  ngDevMode && attachLContainerDebug(lContainer);\n  return lContainer;\n}\n\n/**\n * Goes over embedded views (ones created through ViewContainerRef APIs) and refreshes\n * them by executing an associated template function.\n */\nfunction refreshEmbeddedViews(lView: LView) {\n  for (let lContainer = getFirstLContainer(lView); lContainer !== null;\n       lContainer = getNextLContainer(lContainer)) {\n    for (let i = CONTAINER_HEADER_OFFSET; i < lContainer.length; i++) {\n      const embeddedLView = lContainer[i];\n      const embeddedTView = embeddedLView[TVIEW];\n      ngDevMode && assertDefined(embeddedTView, 'TView must be allocated');\n      if (viewAttachedToChangeDetector(embeddedLView)) {\n        refreshView(embeddedTView, embeddedLView, embeddedTView.template, embeddedLView[CONTEXT]!);\n      }\n    }\n  }\n}\n\n/**\n * Mark transplanted views as needing to be refreshed at their insertion points.\n *\n *

@param lView The `LView` that may have transplanted views.\n */\nfunction markTransplantedViewsForRefresh(lView: LView) {\n  for (let lContainer = getFirstLContainer(lView); lContainer !== null;\n lContainer = getNextLContainer(lContainer)) {\n  if (!lContainer[HAS_TRANSPLANTED_VIEWS]) continue;\n\n  const movedViews = lContainer[MOVED_VIEWS]!;\n  ngDevMode && assertDefined(movedViews, 'Transplanted View flags set but missing MOVED_VIEWS');\n  for (let i = 0; i < movedViews.length; i++) {\n  const movedLView = movedViews[i]!;\n  const insertionLContainer = movedLView[PARENT] as LContainer;\n  ngDevMode && assertLContainer(insertionLContainer);\n  // We don't want to increment the counter if the moved LView was already marked for\n  // refresh.\n  if ((movedLView[FLAGS] & LViewFlags.RefreshTransplantedView) === 0) {\n updateTransplantedViewCount(insertionLContainer, 1);\n  }\n  // Note, it is possible that the `movedViews` is tracking views that are transplanted *and*\n  // those that aren't (declaration component === insertion component). In the latter case,\n  // it's fine to add the flag, as we will clear it immediately in\n  // `refreshEmbeddedViews` for the view currently being refreshed.\n  movedLView[FLAGS] |= LViewFlags.RefreshTransplantedView;\n  }\n  }\n}\n\n////////////\n\n/**\n * Refreshes components by entering the component view and processing its bindings, queries, etc.\n *\n * @param componentHostIdx  Element index in LView[] (adjusted for HEADER_OFFSET)\n */\nfunction refreshComponent(hostLView: LView, componentHostIdx: number): void {\n  ngDevMode && assertEqual(isCreationMode(hostLView), false, 'Should be run in update mode');\n  const componentView = getComponentLViewByIndex(componentHostIdx, hostLView);\n // Only attached components that are CheckAlways or OnPush and dirty should be refreshed\n  if (viewAttachedToChangeDetector(componentView)) {\n  const tView = componentView[TVIEW];\n  if (componentView[FLAGS] & (LViewFlags.CheckAlways | LViewFlags.Dirty)) {\n  refreshView(tView, componentView, tView.template, componentView[CONTEXT]);\n  } else if (componentView[TRANSPLANTED_VIEWS_TO_REFRESH] > 0) {\n  // Only attached components that are CheckAlways or OnPush and dirty should be refreshed\n  refreshContainsDirtyView(componentView);\n  }\n  }\n}\n\n/**\n * Refreshes all transplanted views marked with `LViewFlags.RefreshTransplantedView` that are\n * children or descendants of the given lView.\n *\n * @param lView The lView which contains descendant transplanted views that need to be refreshed.\n */\nfunction refreshContainsDirtyView(lView: LView) {\n  for (let lContainer = getFirstLContainer(lView); lContainer !== null;\n  lContainer = getNextLContainer(lContainer)) {\n  for (let i = CONTAINER_HEADER_OFFSET; i < lContainer.length; i++) {\n  const embeddedLView = lContainer[i];\n  if (embeddedLView[FLAGS] & LViewFlags.RefreshTransplantedView) {\n  const embeddedTView = embeddedLView[TVIEW];\n  ngDevMode && assertDefined(embeddedTView, 'TView must be allocated');\n  refreshView(embeddedTView, embeddedLView, embeddedTView.template, embeddedLView[CONTEXT]!);\n  } else if (embeddedLView[TRANSPLANTED_VIEWS_TO_REFRESH] > 0) {\n  refreshContainsDirtyView(embeddedLView);\n  }\n  }\n  }\n\n  const tView = lView[TVIEW];\n  // Refresh child component views.\n  const components = tView.components;\n  if (components !== null) {\n  for (let i = 0; i < components.length; i++) {\n  const componentView = getComponentLViewByIndex(components[i], lView);\n  // Only attached components that are CheckAlways or OnPush and dirty should be refreshed\n  if (viewAttachedToChangeDetector(componentView) &&\n  componentView[TRANSPLANTED_VIEWS_TO_REFRESH] > 0) {\n  refreshContainsDirtyView(componentView);\n  }\n  }\n  }\n}\n\nfunction renderComponent(hostLView: LView, componentHostIdx: number) {\n  ngDevMode && assertEqual(isCreationMode(hostLView), true, 'Should be run in creation mode');\n  const componentView = getComponentLViewByIndex(componentHostIdx, hostLView);\n  const componentTView = componentView[TVIEW];\n syncViewWithBlueprint(componentTView, componentView);\n  renderView(componentTView, componentView, componentView[CONTEXT]);\n}\n\n/**\n * Syncs an LView instance with its blueprint if they have gotten out of sync.\n *\n * Typically, blueprints and their view instances should always be in sync, so the loop here\n * will be

skipped. However, consider this case of two components side-by-side:\n *\n * App template:\n * ```\n * <comp></comp>\n * <comp></comp>\n * ```\n *\n * The following will happen:\n * 1. App template begins processing.\n * 2. First <comp> is matched as a component and its LView is created.\n * 3. Second <comp> is matched as a component and its LView is created.\n * 4. App template completes processing, so it's time to check child templates.\n * 5. First <comp> template is checked. It has a directive, so its def is pushed to blueprint.\n * 6. Second <comp> template is checked. Its blueprint has been updated
by the first\n * <comp> template, but its LView was created before this update, so it is out of sync.\n *\n * Note that embedded views inside ngFor loops will never be out of sync because these views\n * are processed as soon as they are created.\n *\n * @param tView The `TView` that contains the blueprint for syncing\n * @param lView The view to sync\n */\nfunction syncViewWithBlueprint(tView: TView, lView: LView) {\n  for (let i = lView.length; i < tView.blueprint.length; i++) {\n    lView.push(tView.blueprint[i]);\n  }\n}\n\n/**\n * Adds LView or LContainer to the end of the current view tree.\n *\n * This structure will be used to traverse through nested views to remove listeners\n * and call onDestroy callbacks.\n *\n * @param lView The view where LView or LContainer should be added\n * @param adjustedHostIndex Index of the view's host node in LView[], adjusted for header\n * @param lViewOrLContainer The LView or LContainer to add to the view tree\n * @returns The state passed
in\n */\nexport function addToViewTree<T extends LView|LContainer>(lView: LView, lViewOrLContainer: T): T {\n  // TODO(benlesh/misko): This implementation is incorrect, because it always adds the LContainer\n  // to the end of the queue, which means if the developer retrieves the LContainers from RNodes out\n  // of order, the change detection will run out of order, as the act of retrieving the the\n  // LContainer from the RNode is what adds it to the queue.\n  if (lView[CHILD_HEAD]) {\n    lView[CHILD_TAIL]![NEXT] = lViewOrLContainer;\n  } else {\n    lView[CHILD_HEAD] = lViewOrLContainer;\n  }\n  lView[CHILD_TAIL] = lViewOrLContainer;\n  return lViewOrLContainer;\n}\n\n////////////////////////////\n//// Change detection\n////////////////////////////\n\n/**\n * Marks current view and all ancestors dirty.\n *\n * Returns the root view because it is found as a byproduct of marking the view tree\n * dirty, and can be used by methods that consume markViewDirty() to easily schedule\n
* change detection. Otherwise, such methods would need to traverse up the view tree\n * an additional time to get the root view and schedule a tick on it.\n *\n * @param lView The starting LView to mark dirty\n * @returns the root LView\n */\nexport function markViewDirty(lView: LView): LView|null {\n  while (lView) {\n    lView[FLAGS] |= LViewFlags.Dirty;\n    const parent = getLViewParent(lView);\n    // Stop traversing up as soon as you find a root view that wasn't attached to any container\n    if (isRootView(lView) && !parent) {\n      return lView;\n    }\n    // continue otherwise\n    lView = parent!;\n  }\n  return null;\n}\n\n/**\n * Used to schedule change detection on the whole application.\n *\n * Unlike `tick`, `scheduleTick` coalesces multiple calls into one change detection run.\n * It is usually called indirectly by calling `markDirty` when the view needs to be\n * re-rendered.\n *\n * Typically `scheduleTick` uses `requestAnimationFrame` to coalesce multiple\n
`scheduleTick` requests. The scheduling function can be overridden in\n * `renderComponent`'s `scheduler` option.\n */\nexport function scheduleTick(rootContext: RootContext, flags: RootContextFlags) {\n  const nothingScheduled = rootContext.flags === RootContextFlags.Empty;\n  if (nothingScheduled && rootContext.clean == _CLEAN_PROMISE) {\n    // https://github.com/angular/angular/issues/39296\n    // should only attach the flags when really scheduling a tick\n    rootContext.flags |= flags;\n    let res: null|((val: null) => void);\n    rootContext.clean = new Promise<null>((r) => res = r);\n    rootContext.scheduler(() => {\n      if (rootContext.flags & RootContextFlags.DetectChanges) {\n        rootContext.flags &= ~RootContextFlags.DetectChanges;\n        tickRootContext(rootContext);\n      }\n\n      if (rootContext.flags & RootContextFlags.FlushPlayers) {\n        rootContext.flags &= ~RootContextFlags.FlushPlayers;\n        const playerHandler = rootContext.playerHandler;\n
        if (playerHandler) {\n          playerHandler.flushPlayers();\n        }\n      }\n\n      rootContext.clean = _CLEAN_PROMISE;\n      res!(null);\n    });\n  }\n}\n\nexport function tickRootContext(rootContext: RootContext) {\n  for (let i = 0; i < rootContext.components.length; i++) {\n    const rootComponent = rootContext.components[i];\n    const lView = readPatchedLView(rootComponent)!;\n    const tView = lView[TVIEW];\n    renderComponentOrTemplate(tView, lView, tView.template, rootComponent);\n

}\n}\n\nexport function detectChangesInternal<T>(tView: TView, lView: LView, context: T) {\n  const rendererFactory = lView[RENDERER_FACTORY];\n  if (rendererFactory.begin) rendererFactory.begin();\n  try {\n    refreshView(tView, lView, tView.template, context);\n  } catch (error) {\n    handleError(lView, error);\n    throw error;\n  } finally {\n    if (rendererFactory.end) rendererFactory.end();\n  }\n}\n\n/**\n * Synchronously perform change detection on a root view and its components.\n
 *\n * @param lView The view which the change detection should be performed on.\n */\nexport function detectChangesInRootView(lView: LView): void {\n  tickRootContext(lView[CONTEXT] as RootContext);\n}\n\nexport function checkNoChangesInternal<T>(tView: TView, view: LView, context: T) {\n  setIsInCheckNoChangesMode(true);\n  try {\n    detectChangesInternal(tView, view, context);\n  } finally {\n    setIsInCheckNoChangesMode(false);\n  }\n}\n\n/**\n * Checks the change detector on a root view and its components, and throws if any changes are\n * detected.\n *\n * This is used in development mode to verify that running change detection doesn't\n * introduce other changes.\n *\n * @param lView The view which the change detection should be checked on.\n */\nexport function checkNoChangesInRootView(lView: LView): void {\n  setIsInCheckNoChangesMode(true);\n  try {\n    detectChangesInRootView(lView);\n  } finally {\n    setIsInCheckNoChangesMode(false);\n  }\n}\n\nfunction executeViewQueryFn<T>(\n
    flags: RenderFlags, viewQueryFn: ViewQueriesFunction<{}>, component: T): void {\n  ngDevMode && assertDefined(viewQueryFn, 'View queries function to execute must be defined.');\n  setCurrentQueryIndex(0);\n  viewQueryFn(flags, component);\n}\n\n\n////////////////////////////////\n/// Bindings & interpolations\n////////////////////////////////\n\n/**\n * Stores meta-data for a property binding to be used by TestBed's `DebugElement.properties`.\n *\n * In order to support TestBed's `DebugElement.properties` we need to save, for each binding:\n * - a bound property name;\n * - a static parts of interpolated strings;\n *\n * A given property metadata is saved at the binding's index in the `TView.data` (in other words, a\n * property binding metadata will be stored in `TView.data` at the same index as a bound value in\n * `LView`). Metadata are represented as `INTERPOLATION_DELIMITER`-delimited string with the\n * following format:\n * - `propertyName` for bound properties;\n
 * - `propertyNameprefixinterpolation_static_part1..interpolation_static_partNsuffix` for\n * interpolated properties.\n *\n * @param tData `TData` where meta-data will be saved;\n * @param tNode `TNode` that is a target of the binding;\n * @param propertyName bound property name;\n * @param bindingIndex binding index in `LView`\n * @param interpolationParts static interpolation parts (for property interpolations)\n */\nexport function storePropertyBindingMetadata(\n    tData: TData, tNode: TNode, propertyName: string, bindingIndex: number,\n ...interpolationParts: string[]) {\n  // Binding meta-data are stored only the first time a given property instruction is processed.\n  // Since we don't have a concept of the \"first update pass\" we need to check for presence of the\n  // binding meta-data to decide if one should be stored (or if was stored already).\n  if (tData[bindingIndex] === null) {\n    if (tNode.inputs == null || !tNode.inputs[propertyName]) {\n      const propBindingIdxs = tNode.propertyBindings || (tNode.propertyBindings = []);\n      propBindingIdxs.push(bindingIndex);\n      let bindingMetadata = propertyName;\n      if (interpolationParts.length > 0) {\n        bindingMetadata +=\n            INTERPOLATION_DELIMITER + interpolationParts.join(INTERPOLATION_DELIMITER);\n      }\n      tData[bindingIndex] = bindingMetadata;\n    }\n  }\n}\n\nexport const CLEAN_PROMISE = _CLEAN_PROMISE;\n\nexport function getLCleanup(view: LView): any[] {\n  // top level variables should not be exported for performance reasons (PERF_NOTES.md)\n  return view[CLEANUP] || (view[CLEANUP] = ngDevMode ? new LCleanup() : []);\n}\n\nexport function getTViewCleanup(tView: TView): any[] {\n  return tView.cleanup || (tView.cleanup = ngDevMode ? new TCleanup() : []);\n}\n\n/**\n * There are cases where the sub component's renderer needs to be included\n * instead of the current renderer (see the componentSyntheticHost* instructions).\n */\nexport function loadComponentRenderer(\n
    currentDef: DirectiveDef<any>|null, tNode: TNode, lView: LView): Renderer3 {\n  // TODO(FW-2043): the `currentDef` is null when host bindings are invoked while creating root\n  // component (see packages/core/src/render3/component.ts). This is not consistent with the process\n  // of creating inner components,

when current directive index is available in the state. In order\n  // to avoid relying on current def being `null` (thus special-casing root component creation), the\n  // process of creating root component should be unified with the process of creating inner\n  // components.\n  if (currentDef === null || isComponentDef(currentDef)) {\n    lView = unwrapLView(lView[tNode.index])!;\n  }\n  return lView[RENDERER];\n}\n\n/** Handles an error thrown in an LView. */\nexport function handleError(lView: LView, error: any): void {\n  const injector = lView[INJECTOR];\n  const errorHandler = injector ? injector.get(ErrorHandler, null) : null;\n  errorHandler && errorHandler.handleError(error);\n}\n\n/**\n * Set the inputs of directives at the current node to corresponding value.\n *\n * @param tView The current TView\n * @param lView the `LView` which contains the directives.\n * @param inputs mapping between the public \"input\" name and privately-known,\n *        possibly minified, property names to write to.\n * @param value Value to set.\n */\nexport function setInputsForProperty(\n    tView: TView, lView: LView, inputs: PropertyAliasValue, publicName: string, value: any): void {\n  for (let i = 0; i < inputs.length;) {\n    const index = inputs[i++] as number;\n    const privateName = inputs[i++] as string;\n    const instance = lView[index];\n    ngDevMode && assertIndexInRange(lView, index);\n    const def = tView.data[index] as DirectiveDef<any>;\n    if (def.setInput !== null) {\n      def.setInput!(instance, value, publicName, privateName);\n    } else {\n      instance[privateName] = value;\n    }\n  }\n}\n\n/**\n * Updates a text binding at a given index in a given LView.\n */\nexport function textBindingInternal(lView: LView, index: number, value: string): void {\n  ngDevMode && assertString(value, 'Value should be a string');\n  ngDevMode && assertNotSame(value, NO_CHANGE as any, 'value should not be NO_CHANGE');\n  ngDevMode && assertIndexInRange(lView, index);\n  const element = getNativeByIndex(index, lView) as any as RText;\n  ngDevMode && assertDefined(element, 'native element should exist');\n  updateTextNode(lView[RENDERER], element, value);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {concatStringsWithSpace} from '../../util/stringify';\nimport {assertFirstCreatePass} from '../assert';\nimport {AttributeMarker, TAttributes, TNode} from '../interfaces/node';\nimport {getTView} from '../state';\n\n/**\n * Compute the static styling (class/style) from `TAttributes`.\n *\n * This function should be called during `firstCreatePass` only.\n *\n * @param tNode The `TNode` into which the styling information should be loaded.\n * @param attrs `TAttributes` containing the styling information.\n * @param writeToHost Where should the resulting static styles be written?\n *   - `false` Write to `TNode.stylesWithoutHost` / `TNode.classesWithoutHost`\n *   - `true` Write to `TNode.styles` / `TNode.classes`\n */\nexport function computeStaticStyling(\n    tNode: TNode, attrs: TAttributes|null, writeToHost: boolean): void {\n  ngDevMode &&\n      assertFirstCreatePass(getTView(), 'Expecting to be called in first template pass only');\n  let styles: string|null = writeToHost ? tNode.styles : null;\n  let classes: string|null = writeToHost ? tNode.classes : null;\n  let mode: AttributeMarker|0 = 0;\n  if (attrs !== null) {\n    for (let i = 0; i < attrs.length; i++) {\n      const value = attrs[i];\n      if (typeof value === 'number') {\n        mode = value;\n      } else if (mode == AttributeMarker.Classes) {\n        classes = concatStringsWithSpace(classes, value as string);\n      } else if (mode == AttributeMarker.Styles) {\n        const style = value as string;\n        const styleValue = attrs[++i] as string;\n        styles = concatStringsWithSpace(styles, style + ': ' + styleValue + ';');\n      }\n    }\n  }\n  writeToHost ? tNode.styles = styles : tNode.stylesWithoutHost = styles;\n  writeToHost ? tNode.classes = classes : tNode.classesWithoutHost = classes;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDefined} from '../../util/assert';\nimport {getComponentViewByInstance} from '../context_discovery';\nimport {CONTEXT, RootContext, RootContextFlags, TVIEW} from '../interfaces/view';\nimport {getRootView} from '../util/view_traversal_utils';\nimport {detectChangesInternal, markViewDirty, scheduleTick, tickRootContext} from './shared';\n\n/**\n * Synchronously perform change detection on a component (and possibly its sub-components).\n *\n * This function triggers change detection in a synchronous way on a component.\n *\n * @param component The component which the change

detection should be performed on.\n */\nexport function detectChanges(component: {}): void {\n  const view = getComponentViewByInstance(component);\n  detectChangesInternal(view[TVIEW], view, component);\n}\n\n/**\n * Marks the component as dirty (needing change detection). Marking a component dirty will\n * schedule a change detection on it at some point in the future.\n *\n * Marking an already dirty component as dirty won't do anything. Only one outstanding change\n * detection can be scheduled per component tree.\n *\n * @param component Component to mark as dirty.\n */\nexport function markDirty(component: {}): void {\n  ngDevMode && assertDefined(component, 'component');\n  const rootView = markViewDirty(getComponentViewByInstance(component))!;\n\n  ngDevMode && assertDefined(rootView[CONTEXT], 'rootContext should be defined');\n  scheduleTick(rootView[CONTEXT] as RootContext, RootContextFlags.DetectChanges);\n}\n\n/**\n * Used to perform change detection on the whole application.\n *\n * This is equivalent to `detectChanges`, but invoked on root component. Additionally, `tick`\n * executes lifecycle hooks and conditionally checks components based on their\n * `ChangeDetectionStrategy` and dirtiness.\n *\n * The preferred way to trigger change detection is to call `markDirty`. `markDirty` internally\n * schedules `tick` using a scheduler in order to coalesce multiple `markDirty` calls into a\n * single change detection run. By default, the scheduler is `requestAnimationFrame`, but can\n * be changed when calling `renderComponent` and providing the `scheduler` option.\n */\nexport function tick<T>(component: T): void {\n  const rootView = getRootView(component);\n  const rootContext = rootView[CONTEXT] as RootContext;\n  tickRootContext(rootContext);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from './injection_token';\nimport {Injector} from './injector';\nimport {InjectorMarkers} from './injector_marker';\n\n\n\n/**\n * An InjectionToken that gets the current `Injector` for `createInjector()`-style injectors.\n *\n * Requesting this token instead of `Injector` allows `StaticInjector` to be tree-shaken from a\n * project.\n *\n * @publicApi\n */\nexport const INJECTOR = new InjectionToken<Injector>(\n    'INJECTOR',\n    // Dissable tslint because this is const enum which gets inlined not top level prop access.\n    // tslint:disable-next-line: no-toplevel-property-access\n    InjectorMarkers.Injector as any,  // Special value used by Ivy to identify `Injector`.\n);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {stringify} from '../util/stringify';\nimport {Injector} from './injector';\nimport {THROW_IF_NOT_FOUND} from './injector_compatibility';\n\nexport class NullInjector implements Injector {\n  get(token: any, notFoundValue: any = THROW_IF_NOT_FOUND): any {\n    if (notFoundValue === THROW_IF_NOT_FOUND) {\n      const error = new Error(`NullInjectorError: No provider for ${stringify(token)}!`);\n      error.name = 'NullInjectorError';\n      throw error;\n    }\n    return notFoundValue;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from './injection_token';\n\n\n\n/**\n * An internal token whose presence in an injector indicates that the injector should treat itself\n * as a root scoped injector when processing requests for unknown tokens which may indicate\n * they are provided in the root scope.\n */\nexport const INJECTOR_SCOPE = new InjectionToken<'root'|'platform'|null>('Set Injector scope.');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport '../util/ng_dev_mode';\n\nimport {OnDestroy} from '../interface/lifecycle_hooks';\nimport {Type} from '../interface/type';\nimport {FactoryFn, getFactoryDef} from '../render3/definition_factory';\nimport {throwCyclicDependencyError, throwInvalidProviderError, throwMixedMultiProviderError} from '../render3/errors_di';\nimport {deepForEach, newArray} from '../util/array_utils';\nimport {stringify} from '../util/stringify';\n\nimport {resolveForwardRef} from './forward_ref';\nimport {InjectionToken} from './injection_token';\nimport {Injector} from './injector';\nimport {catchInjectorError, injectArgs, NG_TEMP_TOKEN_PATH, setCurrentInjector, THROW_IF_NOT_FOUND, USE_VALUE, inject} from

'./injector_compatibility';\nimport {INJECTOR} from './injector_token';\nimport {getInheritedInjectableDef, getInjectableDef, getInjectorDef, InjectorType, InjectorTypeWithProviders, InjectableDef} from './interface/defs';\nimport {InjectFlags} from './interface/injector';\nimport {ClassProvider, ConstructorProvider, ExistingProvider, FactoryProvider, StaticClassProvider, StaticProvider, TypeProvider, ValueProvider} from './interface/provider';\nimport {NullInjector} from './null_injector';\nimport {INJECTOR_SCOPE} from './scope';\n\n\n\n/**\n * Internal type for a single provider in a deep provider array.\n */\ntype SingleProvider = TypeProvider|ValueProvider|ClassProvider|ConstructorProvider|ExistingProvider|\n FactoryProvider|StaticClassProvider;\n\n/**\n * Marker which indicates that a value has not yet been created from the factory function.\n */\nconst NOT_YET = {};\n\n/**\n * Marker which indicates that the factory function for a token is in the process of being called.\n *\n * If the injector is asked to inject a token with its value set to CIRCULAR, that indicates\n * injection of a dependency has recursively attempted to inject the original token, and there is\n * a circular dependency among the providers.\n */\nconst CIRCULAR = {};\n\nconst EMPTY_ARRAY = [] as any[];\n\n/**\n * A lazily initialized NullInjector.\n */\nlet NULL_INJECTOR: Injector|undefined = undefined;\n\nfunction getNullInjector(): Injector {\n if (NULL_INJECTOR === undefined) {\n NULL_INJECTOR = new NullInjector();\n }\n return NULL_INJECTOR;\n}\n\n/**\n * An entry in the injector which tracks information about the given token, including a possible\n * current value.\n */\ninterface Record<T> {\n factory: (() => T)|undefined;\n value: T|{};\n multi: any[]|undefined;\n}\n\n/**\n * Create a new `Injector` which is configured using a `defType` of `InjectorType<any>`s.\n *\n * @publicApi\n */\nexport function createInjector(\n defType: /* InjectorType<any> */ any, parent: Injector|null = null,\n additionalProviders: StaticProvider[]|null = null, name?: string): Injector {\n const injector =\n createInjectorWithoutInjectorInstances(defType, parent, additionalProviders, name);\n injector._resolveInjectorDefTypes();\n return injector;\n}\n\n/**\n * Creates a new injector without eagerly resolving its injector types. Can be used in places\n * where resolving the injector types immediately can lead to an infinite loop. The injector types\n * should be resolved at a later point by calling `_resolveInjectorDefTypes`.\n */\nexport function createInjectorWithoutInjectorInstances(\n defType: /* InjectorType<any> */ any, parent: Injector|null\n = null,\n additionalProviders: StaticProvider[]|null = null, name?: string): R3Injector {\n return new R3Injector(defType, additionalProviders, parent || getNullInjector(), name);\n}\n\nexport class R3Injector {\n /**\n * Map of tokens to records which contain the instances of those tokens.\n * - `null` value implies that we don't have the record. Used by tree-shakable injectors\n * to prevent further searches.\n */\n private records = new Map<Type<any>|InjectionToken<any>, Record<any>|null>();\n\n /**\n * The transitive set of `InjectorType`s which define this injector.\n */\n private injectorDefTypes = new Set<InjectorType<any>>();\n\n /**\n * Set of values instantiated by this injector which contain `ngOnDestroy` lifecycle hooks.\n */\n private onDestroy = new Set<OnDestroy>();\n\n /**\n * Flag indicating this injector provides the APP_ROOT_SCOPE token, and thus counts as the\n * root scope.\n */\n private readonly scope: 'root'|'platform'|null;\n\n readonly source: string|null;\n\n /**\n * Flag indicating that this injector was previously destroyed.\n */\n get destroyed(): boolean {\n return this._destroyed;\n }\n private _destroyed = false;\n\n constructor(\n def: InjectorType<any>, additionalProviders: StaticProvider[]|null, readonly parent: Injector,\n source: string|null = null) {\n const dedupStack: InjectorType<any>[] = [];\n\n // Start off by creating Records for every provider declared in every InjectorType\n // included transitively in additional providers then do the same for `def`. This order is\n // important because `def` may include providers that override ones in additionalProviders.\n additionalProviders &&\n deepForEach(\n additionalProviders,\n provider => this.processProvider(provider, def, additionalProviders));\n\n deepForEach([def], injectorDef => this.processInjectorType(injectorDef, [], dedupStack));\n\n // Make sure the INJECTOR token provides this injector.\n this.records.set(INJECTOR, makeRecord(undefined, this));\n\n // Detect whether this injector has the APP_ROOT_SCOPE token and thus should provide\n // any injectable scoped to APP_ROOT_SCOPE.\n const record = this.records.get(INJECTOR_SCOPE);\n this.scope = record != null ? record.value : null;\n\n // Source name, used for debugging\n this.source = source || (typeof def === 'object' ?

null : stringify(def));\n  }\n\n  /**\n   * Destroy the injector and release references to every instance or provider associated with it.\n   *\n   * Also calls the `OnDestroy` lifecycle hooks of every instance that was created for which a\n   * hook was found.\n   */\n  destroy(): void {\n    this.assertNotDestroyed();\n\n    // Set destroyed = true first, in case lifecycle hooks re-enter destroy().\n    this._destroyed = true;\n    try {\n      // Call all the lifecycle hooks.\n      this.onDestroy.forEach(service => service.ngOnDestroy());\n    } finally {\n      // Release all references.\n      this.records.clear();\n      this.onDestroy.clear();\n      this.injectorDefTypes.clear();\n    }\n  }\n\n  get<T>(\n      token: Type<T>|InjectionToken<T>, notFoundValue: any = THROW_IF_NOT_FOUND,\n      flags = InjectFlags.Default): T {\n    this.assertNotDestroyed();\n    // Set the injection context.\n    const previousInjector = setCurrentInjector(this);\n    try {\n      // Check for the SkipSelf flag.\n      if (!(flags & InjectFlags.SkipSelf)) {\n        // SkipSelf isn't set, check if the record belongs to this injector.\n        let record: Record<T>|undefined|null = this.records.get(token);\n        if (record === undefined) {\n          // No record, but maybe the token is scoped to this injector. Look for an injectable\n          // def with a scope matching this injector.\n          const def = couldBeInjectableType(token) && getInjectableDef(token);\n          if (def && this.injectableDefInScope(def)) {\n            // Found an injectable def and it's scoped to this injector. Pretend as if it was here\n            // all along.\n            record = makeRecord(injectableDefOrInjectorDefFactory(token), NOT_YET);\n          } else {\n            record = null;\n          }\n          this.records.set(token, record);\n        }\n        // If a record was found, get the instance for it and return it.\n        if (record != null /* NOT null || undefined */) {\n          return this.hydrate(token, record);\n        }\n      }\n\n      // Select the next injector based on the Self flag - if self is set, the next injector is\n      // the NullInjector, otherwise it's the parent.\n      const nextInjector = !(flags & InjectFlags.Self) ? this.parent : getNullInjector();\n      // Set the notFoundValue based on the Optional flag - if optional is set and notFoundValue\n      // is undefined, the value is null, otherwise it's the notFoundValue.\n      notFoundValue = (flags & InjectFlags.Optional) && notFoundValue\n      === THROW_IF_NOT_FOUND ?\n          null :\n          notFoundValue;\n      return nextInjector.get(token, notFoundValue);\n    } catch (e) {\n      if (e.name === 'NullInjectorError') {\n        const path: any[] = e[NG_TEMP_TOKEN_PATH] = e[NG_TEMP_TOKEN_PATH] || [];\n        path.unshift(stringify(token));\n        if (previousInjector) {\n          // We still have a parent injector, keep throwing\n          throw e;\n        } else {\n          // Format & throw the final error message when we don't have any previous injector\n          return catchInjectorError(e, token, 'R3InjectorError', this.source);\n        }\n      } else {\n        throw e;\n      }\n    } finally {\n      // Lastly, clean up the state by restoring the previous injector.\n      setCurrentInjector(previousInjector);\n    }\n  }\n\n  /** @internal */\n  _resolveInjectorDefTypes() {\n    this.injectorDefTypes.forEach(defType => this.get(defType));\n  }\n\n  toString() {\n    const tokens = <string[]>[],\n      records = this.records;\n    records.forEach((v, token) => tokens.push(stringify(token)));\n    return `R3Injector[${tokens.join(', ')}]`;\n  }\n\n  private assertNotDestroyed(): void {\n    if (this._destroyed) {\n      throw new Error('Injector has already been destroyed.');\n    }\n  }\n\n  /**\n   * Add an `InjectorType` or `InjectorTypeWithProviders` and all of its transitive providers\n   * to this injector.\n   *\n   * If an `InjectorTypeWithProviders` that declares providers besides the type is specified,\n   * the function will return \"true\" to indicate that the providers of the type definition need\n   * to be processed. This allows us to process providers of injector types after all imports of\n   * an injector definition are processed. (following View Engine semantics: see FW-1349)\n   */\n  private processInjectorType(\n      defOrWrappedDef: InjectorType<any>|InjectorTypeWithProviders<any>,\n      parents: InjectorType<any>[],\n      dedupStack: InjectorType<any>[]):\n      defOrWrappedDef is InjectorTypeWithProviders<any> {\n    defOrWrappedDef = resolveForwardRef(defOrWrappedDef);\n    if (!defOrWrappedDef) return false;\n\n    // Either the defOrWrappedDef is an InjectorType (with injector def) or an\n    // InjectorDefTypeWithProviders (aka ModuleWithProviders). Detecting either is a megamorphic\n    // read, so care is taken to only do the read once.\n\n    // First attempt to read the injector def (`inj`).\n    let def = getInjectorDef(defOrWrappedDef);\n\n    // If that's not present, then attempt to read ngModule from the InjectorDefTypeWithProviders.\n    const ngModule =\n        (def

```
== null) && (defOrWrappedDef as InjectorTypeWithProviders<any>).ngModule || undefined;\n\n    // Determine the InjectorType. In the case where `defOrWrappedDef` is an `InjectorType`,\n    // then this is easy. In the case of an InjectorDefTypeWithProviders, then the definition type\n    // is the `ngModule`.\n    const defType: InjectorType<any> =\n        (ngModule
 === undefined) ? (defOrWrappedDef as InjectorType<any>) : ngModule;\n\n    // Check for circular dependencies.\n    if (ngDevMode && parents.indexOf(defType) !== -1) {\n      const defName = stringify(defType);\n      const path = parents.map(stringify);\n      throwCyclicDependencyError(defName, path);\n    }\n\n    // Check for multiple imports of the same module\n    const isDuplicate = dedupStack.indexOf(defType) !== -1;\n\n    // Finally, if defOrWrappedType was an `InjectorDefTypeWithProviders`, then the actual\n    // `InjectorDef` is on its `ngModule`.\n    if (ngModule !== undefined) {\n      def = getInjectorDef(ngModule);\n    }\n\n    // If no definition was found, it might be from exports. Remove it.\n    if (def == null) {\n      return false;\n    }\n\n    // Add providers in the same way that @NgModule resolution did:\n\n    // First, include providers from any imports.\n    if (def.imports != null && !isDuplicate) {\n      // Before processing defType's imports, add
 it to the set of parents. This way, if it ends\n      // up deeply importing itself, this can be detected.\n      ngDevMode && parents.push(defType);\n      // Add it to the set of dedups. This way we can detect multiple imports of the same module\n      dedupStack.push(defType);\n\n      let importTypesWithProviders: (InjectorTypeWithProviders<any>[])|undefined;\n      try {\n        deepForEach(def.imports, imported => {\n          if (this.processInjectorType(imported, parents, dedupStack)) {\n            if (importTypesWithProviders === undefined) importTypesWithProviders = [];\n            // If the processed import is an injector type with providers, we store it in the\n            // list of import types with providers, so that we can process those afterwards.\n            importTypesWithProviders.push(imported);\n          }\n        });\n      } finally {\n        // Remove it from the parents set when finished.\n        ngDevMode && parents.pop();\n      }\n\n      // Imports
 which are declared with providers (TypeWithProviders) need to be processed\n      // after all imported modules are processed. This is similar to how View Engine\n      // processes/merges module imports in the metadata resolver. See: FW-1349.\n      if (importTypesWithProviders !== undefined) {\n        for (let i = 0; i < importTypesWithProviders.length; i++) {\n          const {ngModule, providers} = importTypesWithProviders[i];\n          deepForEach(\n              providers!,\n              provider => this.processProvider(provider, ngModule, providers || EMPTY_ARRAY));\n        }\n      }\n    }\n    // Track the InjectorType and add a provider for it. It's important that this is done after the\n    // def's imports.\n    this.injectorDefTypes.add(defType);\n    this.records.set(defType, makeRecord(def.factory, NOT_YET));\n\n    // Next, include providers listed on the definition itself.\n    const defProviders = def.providers;\n    if (defProviders != null && !isDuplicate)
 {\n      const injectorType = defOrWrappedDef as InjectorType<any>;\n      deepForEach(\n          defProviders, provider => this.processProvider(provider, injectorType, defProviders));\n    }\n\n    return (\n        ngModule !== undefined &&\n        (defOrWrappedDef as InjectorTypeWithProviders<any>).providers !== undefined);\n  }\n\n  /**\n   * Process a `SingleProvider` and add it.\n   */\n  private processProvider(\n      provider: SingleProvider, ngModuleType: InjectorType<any>, providers: any[]): void {\n    // Determine the token from the provider. Either it's its own token, or has a {provide: ...}\n    // property.\n    provider = resolveForwardRef(provider);\n    let token: any =\n        isTypeProvider(provider) ? provider : resolveForwardRef(provider && provider.provide);\n\n    // Construct a `Record` for the provider.\n    const record = providerToRecord(provider, ngModuleType, providers);\n\n    if (!isTypeProvider(provider) && provider.multi === true) {\n      // If the
 provider indicates that it's a multi-provider, process it specially.\n      // First check whether it's been defined already.\n      let multiRecord = this.records.get(token);\n      if (multiRecord) {\n        // It has. Throw a nice error if\n        if (ngDevMode && multiRecord.multi === undefined) {\n          throwMixedMultiProviderError();\n        }\n      } else {\n        multiRecord = makeRecord(undefined, NOT_YET, true);\n        multiRecord.factory = () => injectArgs(multiRecord!.multi!);\n        this.records.set(token, multiRecord);\n      }\n      token = provider;\n      multiRecord.multi!.push(provider);\n    } else {\n      const existing = this.records.get(token);\n      if (ngDevMode && existing && existing.multi !== undefined) {\n        throwMixedMultiProviderError();\n      }\n    }\n    this.records.set(token, record);\n  }\n\n  private hydrate<T>(token: Type<T>|InjectionToken<T>, record:
```

Record<T>): T {\n  if (ngDevMode && record.value === CIRCULAR) {\n  throwCyclicDependencyError(stringify(token));\n  } else if (record.value === NOT_YET) {\n  record.value = CIRCULAR;\n  record.value = record.factory!();\n  }\n  if (typeof record.value === 'object' && record.value && hasOnDestroy(record.value)) {\n  this.onDestroy.add(record.value);\n  }\n  return record.value as T;\n }\n\n  private injectableDefInScope(def: InjectableDef<any>): boolean {\n  if (!def.providedIn) {\n  return false;\n  } else if (typeof def.providedIn === 'string') {\n  return def.providedIn === 'any' || (def.providedIn === this.scope);\n  } else {\n  return this.injectorDefTypes.has(def.providedIn);\n  }\n }\n}\n\nfunction injectableDefOrInjectorDefFactory(token: Type<any>|InjectionToken<any>): FactoryFn<any> {\n  // Most tokens will have an injectable def directly on them, which specifies a factory directly.\n  const injectableDef = getInjectableDef(token);\n  const factory = injectableDef !== null ? injectableDef.factory : getFactoryDef(token);\n\n  if (factory !== null) {\n  return factory;\n  }\n\n  // If the token is an NgModule, it's also injectable but the factory is on its injector def\n  // (`inj`)\n  const injectorDef = getInjectorDef(token);\n  if (injectorDef !== null) {\n  return injectorDef.factory;\n  }\n\n  // InjectionTokens should have an injectable def (prov) and thus should be handled above.\n  // If it's missing that, it's an error.\n  if (token instanceof InjectionToken) {\n  throw new Error(`Token ${stringify(token)} is missing a prov definition.`);\n  }\n\n  // Undecorated types can sometimes be created if they have no constructor arguments.\n  if (token instanceof Function) {\n  return getUndecoratedInjectableFactory(token);\n  }\n\n  // There was no way to resolve a factory for this token.\n  throw new Error('unreachable');\n}\n\nfunction getUndecoratedInjectableFactory(token: Function) {\n  // If the token has parameters then it has dependencies that we cannot resolve implicitly.\n  const paramLength = token.length;\n  if (paramLength > 0) {\n  const args: string[] = newArray(paramLength, '?');\n  throw new Error(`Can't resolve all parameters for ${stringify(token)}: (${args.join(', ')}).`);\n  }\n\n  // The constructor function appears to have no parameters.\n  // This might be because it inherits from a super-class. In which case, use an injectable\n  // def from an ancestor if there is one.\n  // Otherwise this really is a simple class with no dependencies, so return a factory that\n  // just instantiates the zero-arg constructor.\n  const inheritedInjectableDef = getInheritedInjectableDef(token);\n  if (inheritedInjectableDef !== null) {\n  return () => inheritedInjectableDef.factory(token as Type<any>);\n  } else {\n  return () => new (token as Type<any>)();\n  }\n}\n\nfunction providerToRecord(\n  provider: SingleProvider, ngModuleType: InjectorType<any>, providers: any[]): Record<any> {\n  if (isValueProvider(provider)) {\n  return makeRecord(undefined, provider.useValue);\n  } else {\n  const factory: (() => any)|undefined = providerToFactory(provider, ngModuleType, providers);\n  return makeRecord(factory, NOT_YET);\n }\n}\n\n/**\n * Converts a `SingleProvider` into a factory function.\n *\n * @param provider provider to convert to factory\n */\nexport function providerToFactory(\n  provider: SingleProvider, ngModuleType?: InjectorType<any>, providers?: any[]): () => any {\n  let factory: (() => any)|undefined = undefined;\n  if (isTypeProvider(provider)) {\n  const unwrappedProvider = resolveForwardRef(provider);\n  return getFactoryDef(unwrappedProvider) || injectableDefOrInjectorDefFactory(unwrappedProvider);\n  } else {\n  if (isValueProvider(provider)) {\n  factory = () => resolveForwardRef(provider.useValue);\n  } else if (isFactoryProvider(provider)) {\n  factory = () => provider.useFactory(...injectArgs(provider.deps || []));\n  } else if (isExistingProvider(provider)) {\n  factory = () => inject(resolveForwardRef(provider.useExisting));\n  } else {\n  const classRef = resolveForwardRef(\n  provider &&\n  ((provider as StaticClassProvider | ClassProvider).useClass || provider.provide));\n  if (ngDevMode && !classRef) {\n  throwInvalidProviderError(ngModuleType, providers, provider);\n  }\n  if (hasDeps(provider)) {\n  factory = () => new (classRef)(...injectArgs(provider.deps));\n  } else {\n  return getFactoryDef(classRef) || injectableDefOrInjectorDefFactory(classRef);\n  }\n  }\n  return factory;\n}\n\nfunction makeRecord<T>(\n  factory: (() => T)|undefined, value: T|{}, multi: boolean = false): Record<T> {\n  return {\n  factory: factory,\n  value: value,\n  multi: multi ? [] : undefined,\n  };\n}\n\nfunction isValueProvider(value: SingleProvider): value is ValueProvider {\n  return value !== null && typeof value == 'object' && USE_VALUE in value;\n}\n\nfunction isExistingProvider(value:

SingleProvider): value is ExistingProvider {\n  return !!(value && (value as ExistingProvider).useExisting);\n}\n\nfunction isFactoryProvider(value: SingleProvider): value is FactoryProvider {\n  return !!(value && (value as FactoryProvider).useFactory);\n}\n\nexport function isTypeProvider(value: SingleProvider): value is TypeProvider {\n  return typeof value === 'function';\n}\n\nexport function isClassProvider(value: SingleProvider): value is ClassProvider {\n  return !!(value as StaticClassProvider | ClassProvider).useClass;\n}\n\nfunction hasDeps(value: ClassProvider|ConstructorProvider|\n StaticClassProvider): value is ClassProvider&{deps: any[]} {\n  return !!(value as any).deps;\n}\n\nfunction hasOnDestroy(value: any): value is OnDestroy {\n  return value !== null && typeof value === 'object' &&\n typeof (value as OnDestroy).ngOnDestroy === 'function';\n}\n\nfunction couldBeInjectableType(value: any): value is Type<any>|InjectionToken<any>
 {\n  return (typeof value === 'function') ||\n      (typeof value === 'object' && value instanceof InjectionToken);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AbstractType, Type} from '../interface/type';\nimport {stringify} from '../util/stringify';\nimport {resolveForwardRef} from './forward_ref';\nimport {InjectionToken} from './injection_token';\nimport {catchInjectorError, formatError, NG_TEMP_TOKEN_PATH, setCurrentInjector, THROW_IF_NOT_FOUND, USE_VALUE, inject} from './injector_compatibility';\nimport {InjectorMarkers} from './injector_marker';\nimport {INJECTOR} from './injector_token';\nimport {getInjectableDef, defineInjectable} from './interface/defs';\nimport {InjectFlags} from './interface/injector';\nimport {ConstructorProvider, ExistingProvider, FactoryProvider, StaticClassProvider, StaticProvider,
 ValueProvider} from './interface/provider';\nimport {Inject, Optional, Self, SkipSelf} from './metadata';\nimport {NullInjector} from './null_injector';\nimport {createInjector} from './r3_injector';\nimport {INJECTOR_SCOPE} from './scope';\n\nexport function INJECTOR_IMPL__PRE_R3__(\n    providers: StaticProvider[], parent: Injector|undefined, name: string) {\n  return new StaticInjector(providers, parent, name);\n}\n\nexport function INJECTOR_IMPL__POST_R3__(\n    providers: StaticProvider[], parent: Injector|undefined, name: string) {\n return createInjector({name: name}, parent, providers, name);\n}\n\nexport const INJECTOR_IMPL = INJECTOR_IMPL__PRE_R3__;\n\n/**\n * Concrete injectors implement this interface. Injectors are configured\n * with [providers](guide/glossary#provider) that associate\n * dependencies of various types with [injection tokens](guide/glossary#di-token).\n *\n * @see [\"DI Providers\"](guide/dependency-injection-providers).\n * @see `StaticProvider`\n
 *\n * @usageNotes\n *\n *  The following example creates a service injector instance.\n *\n * {@example core/di/ts/provider_spec.ts region='ConstructorProvider'}\n *\n * ### Usage example\n *\n * {@example core/di/ts/injector_spec.ts region='Injector'}\n *\n * `Injector` returns itself when given `Injector` as a token:\n *\n * {@example core/di/ts/injector_spec.ts region='injectInjector'}\n *\n * @publicApi\n */\nexport abstract class Injector {\n  static THROW_IF_NOT_FOUND = THROW_IF_NOT_FOUND;\n  static NULL: Injector = new NullInjector();\n\n  /**\n   * Retrieves an instance from the injector based on the provided token.\n   * @returns The instance from the injector if defined, otherwise the `notFoundValue`.\n   * @throws When the `notFoundValue` is `undefined` or `Injector.THROW_IF_NOT_FOUND`.\n   */\n  abstract get<T>(\n      token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T, flags?: InjectFlags): T;\n  /**\n   * @deprecated from v4.0.0 use Type<T> or InjectionToken<T>\n
   * @suppress {duplicate}\n   */\n  abstract get(token: any, notFoundValue?: any): any;\n\n  /**\n   * @deprecated from v5 use the new signature Injector.create(options)\n   */\n  static create(providers: StaticProvider[], parent?: Injector): Injector;\n\n  /**\n   * Creates a new injector instance that provides one or more dependencies,\n   * according to a given type or types of `StaticProvider`.\n   *\n   * @param options An object with the following properties:\n   * * `providers`: An array of providers of the [StaticProvider type](api/core/StaticProvider).\n   * * `parent`: (optional) A parent injector.\n   * * `name`: (optional) A developer-defined identifying name for the new injector.\n   *\n   * @returns The new injector instance.\n   *\n   */\n  static create(options: {providers: StaticProvider[], parent?: Injector, name?: string}): Injector;\n\n\n  static create(\n      options:

StaticProvider[]|{providers: StaticProvider[], parent?: Injector, name?: string},\n parent?: Injector): Injector {\n if (Array.isArray(options)) {\n return INJECTOR_IMPL(options, parent, '');\n } else {\n return INJECTOR_IMPL(options.providers, options.parent, options.name || '');\n }\n }\n\n /** @nocollapse */\n static prov = defineInjectable({\n token: Injector,\n providedIn: 'any' as any,\n factory: () => inject(INJECTOR),\n });\n\n /**\n * @internal\n * @nocollapse\n */\n static __NG_ELEMENT_ID__ = InjectorMarkers.Injector;\n}\n\n\n\nconst IDENT = function<T>(value: T): T {\n return value;\n};\nconst EMPTY = <any[]>[];\nconst CIRCULAR = IDENT;\nconst MULTI_PROVIDER_FN = function(): any[] {\n return Array.prototype.slice.call(arguments);\n};\n\nconst enum OptionFlags {\n Optional = 1 << 0,\n CheckSelf = 1 << 1,\n CheckParent = 1 << 2,\n Default = CheckSelf | CheckParent\n}\nconst NO_NEW_LINE = '';\n\nexport class StaticInjector implements Injector {\n readonly parent: Injector;\n readonly source: string|null;\n readonly scope: string|null;\n\n private _records: Map<any, Record|null>;\n\n constructor(\n providers: StaticProvider[], parent: Injector = Injector.NULL, source: string|null = null) {\n this.parent = parent;\n this.source = source;\n const records = this._records = new Map<any, Record>();\n records.set(\n Injector, <Record>{token: Injector, fn: IDENT, deps: EMPTY, value: this, useNew: false});\n records.set(\n INJECTOR, <Record>{token: INJECTOR, fn: IDENT, deps: EMPTY, value: this, useNew: false});\n this.scope = recursivelyProcessProviders(records, providers);\n }\n\n get<T>(token: Type<T>|InjectionToken<T>, notFoundValue?: T, flags?: InjectFlags): T;\n get(token: any, notFoundValue?: any): any;\n get(token: any, notFoundValue?: any, flags: InjectFlags = InjectFlags.Default): any {\n const records = this._records;\n let record = records.get(token);\n if (record === undefined) {\n // This means we have never seen this record, see if it is tree shakable provider.\n const injectableDef = getInjectableDef(token);\n if (injectableDef) {\n const providedIn = injectableDef && injectableDef.providedIn;\n if (providedIn === 'any' || providedIn != null && providedIn === this.scope) {\n records.set(\n token,\n record = resolveProvider(\n {provide: token, useFactory: injectableDef.factory, deps: EMPTY}));\n }\n }\n if (record === undefined) {\n // Set record to null to make sure that we don't go through expensive lookup above again.\n records.set(token, null);\n }\n }\n let lastInjector = setCurrentInjector(this);\n try {\n return tryResolveToken(token, record, records, this.parent, notFoundValue, flags);\n } catch (e) {\n return catchInjectorError(e, token, 'StaticInjectorError', this.source);\n } finally {\n setCurrentInjector(lastInjector);\n }\n }\n\n toString() {\n const tokens = <string[]>[], records = this._records;\n records.forEach((v, token) => tokens.push(stringify(token)));\n return `StaticInjector[${tokens.join(', ')}]`;\n }\n}\n\n\ntype SupportedProvider =\n ValueProvider|ExistingProvider|StaticClassProvider|ConstructorProvider|FactoryProvider;\n\ninterface Record {\n fn: Function;\n useNew: boolean;\n deps: DependencyRecord[];\n value: any;\n}\n\ninterface DependencyRecord {\n token: any;\n options: number;\n}\n\nfunction resolveProvider(provider: SupportedProvider): Record {\n const deps = computeDeps(provider);\n let fn: Function = IDENT;\n let value: any = EMPTY;\n let useNew: boolean = false;\n let provide = resolveForwardRef(provider.provide);\n if (USE_VALUE in provider) {\n // We need to use USE_VALUE in provider since provider.useValue could be defined as undefined.\n value = (provider as ValueProvider).useValue;\n } else if ((provider as FactoryProvider).useFactory) {\n fn = (provider as FactoryProvider).useFactory;\n } else if ((provider as ExistingProvider).useExisting) {\n // Just use IDENT\n } else if ((provider as StaticClassProvider).useClass) {\n useNew = true;\n fn = resolveForwardRef((provider as StaticClassProvider).useClass);\n } else if (typeof provide == 'function') {\n useNew = true;\n fn = provide;\n } else {\n throw staticError(\n 'StaticProvider does not have [useValue|useFactory|useExisting|useClass] or [provide] is not newable',\n provider);\n }\n return {deps, fn, useNew, value};\n}\n\nfunction multiProviderMixError(token: any) {\n return staticError('Cannot mix multi providers and regular providers', token);\n}\n\nfunction recursivelyProcessProviders(records: Map<any, Record>, provider: StaticProvider): string|null {\n let scope: string|null = null;\n if (provider) {\n provider = resolveForwardRef(provider);\n if (Array.isArray(provider)) {\n // if we have an array recurse into the array\n

```
for (let i = 0; i < provider.length; i++) {\n scope = recursivelyProcessProviders(records, provider[i]) || scope;\n }\n } else if (typeof provider === 'function') {\n // Functions were supported in ReflectiveInjector, but are not here. For safety give useful\n // error messages\n throw staticError('Function/Class not supported', provider);\n } else if (provider && typeof provider === 'object' && provider.provide) {\n // At this point we have what looks like a provider: {provide: ?, ....}\n let token = resolveForwardRef(provider.provide);\n const resolvedProvider = resolveProvider(provider);\n if (provider.multi === true) {\n // This is a multi provider.\n let multiProvider: Record|undefined = records.get(token);\n if (multiProvider) {\n if (multiProvider.fn !== MULTI_PROVIDER_FN) {\n throw multiProviderMixError(token);\n }\n } else {\n // Create a placeholder factory
 which will look up the constituents of the multi provider.\n records.set(token, multiProvider = <Record>{\n token: provider.provide,\n deps: [],\n useNew: false,\n fn: MULTI_PROVIDER_FN,\n value: EMPTY\n });\n }\n // Treat the provider as the token.\n token = provider;\n multiProvider.deps.push({token, options: OptionFlags.Default});\n }\n const record = records.get(token);\n if (record && record.fn == MULTI_PROVIDER_FN) {\n throw multiProviderMixError(token);\n }\n if (token === INJECTOR_SCOPE) {\n scope = resolvedProvider.value;\n }\n records.set(token, resolvedProvider);\n } else {\n throw staticError('Unexpected provider', provider);\n }\n }\n return scope;\n}\n\nfunction tryResolveToken(\n token: any, record: Record|undefined|null, records: Map<any, Record|null>, parent: Injector,\n notFoundValue: any, flags: InjectFlags):
 any {\n try {\n return resolveToken(token, record, records, parent, notFoundValue, flags);\n } catch (e) {\n // ensure that 'e' is of type Error.\n if (!(e instanceof Error)) {\n e = new Error(e);\n }\n const path: any[] = e[NG_TEMP_TOKEN_PATH] = e[NG_TEMP_TOKEN_PATH] || [];\n path.unshift(token);\n if (record && record.value == CIRCULAR) {\n // Reset the Circular flag.\n record.value = EMPTY;\n }\n throw e;\n }\n}\n\nfunction resolveToken(\n token: any, record: Record|undefined|null, records: Map<any, Record|null>, parent: Injector,\n notFoundValue: any, flags: InjectFlags): any {\n let value;\n if (record && !(flags & InjectFlags.SkipSelf)) {\n // If we don't have a record, this implies that we don't own the provider hence don't know how\n // to resolve it.\n value = record.value;\n if (value == CIRCULAR) {\n throw Error(NO_NEW_LINE + 'Circular dependency');\n } else if (value === EMPTY) {\n record.value
 = CIRCULAR;\n let obj = undefined;\n let useNew = record.useNew;\n let fn = record.fn;\n let depRecords = record.deps;\n let deps = EMPTY;\n if (depRecords.length) {\n deps = [];\n for (let i = 0; i < depRecords.length; i++) {\n const depRecord: DependencyRecord = depRecords[i];\n const options = depRecord.options;\n const childRecord =\n options & OptionFlags.CheckSelf ? records.get(depRecord.token) : undefined;\n deps.push(tryResolveToken(\n // Current Token to resolve\n depRecord.token,\n // A record which describes how to resolve the token.\n // If undefined, this means we don't have such a record\n childRecord,\n // Other records we know about.\n records,\n // If we don't know how to resolve dependency and we should not check parent for it,\n // than pass in Null injector.\n
 !childRecord && !(options & OptionFlags.CheckParent) ? Injector.NULL : parent,\n options & OptionFlags.Optional ? null : Injector.THROW_IF_NOT_FOUND,\n InjectFlags.Default));\n }\n }\n record.value = value = useNew ? new (fn as any)(...deps) : fn.apply(obj, deps);\n }\n } else if (!(flags & InjectFlags.Self)) {\n value = parent.get(token, notFoundValue, InjectFlags.Default);\n } else if (!(flags & InjectFlags.Optional)) {\n value = Injector.NULL.get(token, notFoundValue);\n } else {\n value = Injector.NULL.get(token, typeof notFoundValue !== 'undefined' ? notFoundValue : null);\n }\n return value;\n}\n\nfunction computeDeps(provider: StaticProvider): DependencyRecord[] {\n let deps: DependencyRecord[] = EMPTY;\n const providerDeps: any[] =\n (provider as ExistingProvider & StaticClassProvider & ConstructorProvider).deps;\n if (providerDeps && providerDeps.length) {\n deps = [];\n for (let i
 = 0; i < providerDeps.length; i++) {\n let options = OptionFlags.Default;\n let token = resolveForwardRef(providerDeps[i]);\n if (Array.isArray(token)) {\n for (let j = 0, annotations = token; j <
```

annotations.length; j++) {\n const annotation = annotations[j];\n if (annotation instanceof Optional || annotation == Optional) {\n options = options | OptionFlags.Optional;\n } else if (annotation instanceof SkipSelf || annotation == SkipSelf) {\n options = options & ~OptionFlags.CheckSelf;\n } else if (annotation instanceof Self || annotation == Self) {\n options = options & ~OptionFlags.CheckParent;\n } else if (annotation instanceof Inject) {\n token = (annotation as Inject).token;\n } else {\n token = resolveForwardRef(annotation);\n }\n }\n }\n deps.push({token, options});\n }\n } else if ((provider as ExistingProvider).useExisting)
{\n const token = resolveForwardRef((provider as ExistingProvider).useExisting);\n deps = [{token, options: OptionFlags.Default}];\n } else if (!providerDeps && !(USE_VALUE in provider)) {\n // useValue & useExisting are the only ones which are exempt from deps all others need it.\n throw staticError('\\'deps\\' required', provider);\n }\n return deps;\n}\n\nfunction staticError(text: string, obj: any): Error {\n return new Error(formatError(text, obj, 'StaticInjectorError'));\n}\n"],"/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../../di/injector';\nimport {assertEqual} from '../../util/assert';\nimport {assertLView} from '../assert';\nimport {discoverLocalRefs, getComponentAtNodeIndex, getDirectivesAtNodeIndex, getLContext} from '../context_discovery';\nimport {NodeInjector} from
'../di';\nimport {buildDebugNode} from '../instructions/lview_debug';\nimport {LContext} from '../interfaces/context';\nimport {DirectiveDef} from '../interfaces/definition';\nimport {TElementNode, TNode, TNodeProviderIndexes} from '../interfaces/node';\nimport {isLView} from '../interfaces/type_checks';\nimport {CLEANUP, CONTEXT, DebugNode, FLAGS, LView, LViewFlags, T_HOST, TVIEW, TViewType} from '../interfaces/view';\nimport {stringifyForError} from './stringify_utils';\nimport {getLViewParent, getRootContext} from './view_traversal_utils';\nimport {getTNode, unwrapRNode} from './view_utils';\n\n\n\n/**\n * Retrieves the component instance associated with a given DOM element.\n *\n * @usageNotes\n * Given the following DOM structure:\n * ```html\n * <my-app>\n * <div>\n * <child-comp></child-comp>\n * </div>\n * </my-app>\n * ```\n * Calling `getComponent` on `<child-comp>` will return the instance of `ChildComponent`\n * associated with this DOM element.\n *\n * Calling the
function on `<my-app>` will return the `MyApp` instance.\n *\n *\n * @param element DOM element from which the component should be retrieved.\n * @returns Component instance associated with the element or `null` if there\n * is no component associated with it.\n *\n * @publicApi\n * @globalApi ng\n */\nexport function getComponent<T>(element: Element): T|null {\n assertDomElement(element);\n const context = loadLContext(element, false);\n if (context === null) return null;\n\n if (context.component === undefined) {\n context.component = getComponentAtNodeIndex(context.nodeIndex, context.lView);\n }\n\n return context.component as T;\n}\n\n\n/**\n * If inside an embedded view (e.g. `*ngIf` or `*ngFor`), retrieves the context of the embedded\n * view that the element is part of. Otherwise retrieves the instance of the component whose view\n * owns the element (in this case, the result is the same as calling `getOwningComponent`).\n *\n * @param element Element for which to
get the surrounding component instance.\n * @returns Instance of the component that is around the element or null if the element isn't\n * inside any component.\n *\n * @publicApi\n * @globalApi ng\n */\nexport function getContext<T>(element: Element): T|null {\n assertDomElement(element);\n const context = loadLContext(element, false);\n return context === null ? null : context.lView[CONTEXT] as T;\n}\n\n/**\n * Retrieves the component instance whose view contains the DOM element.\n *\n * For example, if `<child-comp>` is used in the template of `<app-comp>`\n * (i.e. a `ViewChild` of `<app-comp>`), calling `getOwningComponent` on `<child-comp>`\n * would return `<app-comp>`.\n *\n * @param elementOrDir DOM element, component or directive instance\n * for which to retrieve the root components.\n * @returns Component instance whose view owns the DOM element or null if the element is not\n * part of a component view.\n *\n * @publicApi\n * @globalApi ng\n */\nexport function

getOwningComponent<T>(elementOrDir: Element|{}): T|null {\n  const context = loadLContext(elementOrDir, false);\n  if (context === null) return null;\n\n  let lView = context.lView;\n  let parent: LView|null;\n  ngDevMode && assertLView(lView);\n  while (lView[TVIEW].type === TViewType.Embedded && (parent = getLViewParent(lView)!)) {\n    lView = parent;\n  }\n  return lView[FLAGS] & LViewFlags.IsRoot ? null : lView[CONTEXT] as T;\n}\n\n/**\n * Retrieves all root components associated with a DOM element, directive or component instance.\n * Root components are those which have been bootstrapped by Angular.\n *\n * @param elementOrDir DOM element, component or directive instance\n *     for which to retrieve the root components.\n * @returns Root components associated with the target object.\n *\n * @publicApi\n * @globalApi ng\n */\nexport function getRootComponents(elementOrDir: Element|{}): {}[] {\n  return [...getRootContext(elementOrDir).components];\n}\n\n/**\n * Retrieves an `Injector`
associated with an element, component or directive instance.\n *\n * @param elementOrDir DOM element, component or directive instance for which to\n *     retrieve the injector.\n * @returns Injector associated with the element, component or directive instance.\n *\n * @publicApi\n * @globalApi ng\n */\nexport function getInjector(elementOrDir: Element|{}): Injector {\n  const context = loadLContext(elementOrDir, false);\n  if (context === null) return Injector.NULL;\n\n  const tNode = context.lView[TVIEW].data[context.nodeIndex] as TElementNode;\n  return new NodeInjector(tNode, context.lView);\n}\n\n/**\n * Retrieve a set of injection tokens at a given DOM node.\n *\n * @param element Element for which the injection tokens should be retrieved.\n */\nexport function getInjectionTokens(element: Element): any[] {\n  const context = loadLContext(element, false);\n  if (context === null) return [];\n  const lView = context.lView;\n  const tView = lView[TVIEW];\n  const tNode = tView.data[context.nodeIndex]
as TNode;\n  const providerTokens: any[] = [];\n  const startIndex = tNode.providerIndexes & TNodeProviderIndexes.ProvidersStartIndexMask;\n  const endIndex = tNode.directiveEnd;\n  for (let i = startIndex; i < endIndex; i++) {\n    let value = tView.data[i];\n    if (isDirectiveDefHack(value)) {\n      // The fact that we sometimes store Type and sometimes DirectiveDef in this location is a\n      // design flaw.  We should always store same type so that we can be monomorphic. The issue\n      // is that for Components/Directives we store the def instead the type. The correct behavior\n      // is that we should always be storing injectable type in this location.\n      value = value.type;\n    }\n    providerTokens.push(value);\n  }\n  return providerTokens;\n}\n\n/**\n * Retrieves directive instances associated with a given DOM element. Does not include\n * component instances.\n *\n * @usageNotes\n * Given the following DOM structure:\n * ```\n * <my-app>\n
 *   <button my-button></button>\n *   <my-comp></my-comp>\n * </my-app>\n * ```\n * Calling `getDirectives` on `<button>` will return an array with an instance of the `MyButton`\n * directive that is associated with the DOM element.\n *\n * Calling `getDirectives` on `<my-comp>` will return an empty array.\n *\n * @param element DOM element for which to get the directives.\n * @returns Array of directives associated with the element.\n *\n * @publicApi\n * @globalApi ng\n */\nexport function getDirectives(element: Element): {}[] {\n  const context = loadLContext(element)!;\n\n  if (context.directives === undefined) {\n    context.directives = getDirectivesAtNodeIndex(context.nodeIndex, context.lView, false);\n  }\n\n  // The `directives` in this case are a named array called `LComponentView`. Clone the\n  // result so we don't expose an internal data structure in the user's console.\n  return context.directives === null ? [] : [...context.directives];\n}\n\n/**\n * Returns LContext associated
with a target passed as an argument.\n * Throws if a given target doesn't have associated LContext.\n */\nexport function loadLContext(target: {}): LContext;\nexport function loadLContext(target: {}, throwOnNotFound: false): LContext|null;\nexport function loadLContext(target: {}, throwOnNotFound: boolean = true): LContext|null {\n  const context = getLContext(target);\n  if (!context && throwOnNotFound) {\n    throw new Error(\n        ngDevMode ? `Unable to find context associated with ${stringifyForError(target)}` :\n                    'Invalid ng target');\n  }\n  return context;\n}\n\n/**\n * Retrieve map of local references.\n *\n * The references are retrieved as a map of local reference name to element or directive instance.\n *\n * @param target DOM element, component or directive instance for which to retrieve\n *     the local references.\n */\nexport function getLocalRefs(target: {}): {[key: string]: any} {\n  const context = loadLContext(target, false);\n  if (context

```
 === null) return {};\n\n  if (context.localRefs === undefined) {\n    context.localRefs =
discoverLocalRefs(context.lView, context.nodeIndex);\n  }\n\n  return context.localRefs || {};\n}\n\n/**\n *
Retrieves the host element of a component or directive instance.\n * The host element is the DOM element that
matched the selector of the directive.\n *\n * @param componentOrDirective Component or directive instance for
which the host\n *     element should be retrieved.\n * @returns Host element of the target.\n *\n * @publicApi\n *
@globalApi ng\n */\nexport function getHostElement(componentOrDirective: {}): Element {\n  return
getLContext(componentOrDirective)!.native as never as Element;\n}\n\n/**\n * Retrieves the rendered text for a
given component.\n *\n * This function retrieves the host element of a component and\n * and then returns the
`textContent` for that element. This implies\n * that the text returned will include re-projected content of\n * the
component as well.\n *\n
 * @param component The component to return the content text for.\n */\nexport function
getRenderedText(component: any): string {\n  const hostElement = getHostElement(component);\n  return
hostElement.textContent || '';\n}\n\nexport function loadLContextFromNode(node: Node): LContext {\n  if (!(node
instanceof Node)) throw new Error('Expecting instance of DOM Element');\n  return
loadLContext(node)!;\n}\n\n/**\n * Event listener configuration returned from `getListeners`.\n * @publicApi\n
*/\nexport interface Listener {\n  /** Name of the event listener. */\n  name: string;\n  /** Element that the listener is
bound to. */\n  element: Element;\n  /** Callback that is invoked when the event is triggered. */\n  callback: (value:
any) => any;\n  /** Whether the listener is using event capturing. */\n  useCapture: boolean;\n  /**\n    * Type of the
listener (e.g. a native DOM event or a custom @Output).\n    */\n  type: 'dom'|'output';\n}\n\n\n/**\n * Retrieves a list
of event listeners associated
 with a DOM element. The list does include host\n * listeners, but it does not include event listeners defined outside
of the Angular context\n * (e.g. through `addEventListener`).\n *\n * @usageNotes\n * Given the following DOM
structure:\n * ```\n * <my-app>\n *   <div (click)=\"doSomething()\"></div>\n * </my-app>\n *\n * ```\n * Calling
`getListeners` on `<div>` will return an object that looks as follows:\n * ```\n * {\n *   name: 'click',\n *   element:
<div>,\n *   callback: () => doSomething(),\n *   useCapture: false\n * }\n * ```\n *\n * @param element Element for
which the DOM listeners should be retrieved.\n * @returns Array of event listeners on the DOM element.\n *\n *
@publicApi\n * @globalApi ng\n */\nexport function getListeners(element: Element): Listener[] {\n
assertDomElement(element);\n  const lContext = loadLContext(element, false);\n  if (lContext === null) return
[];\n\n  const lView = lContext.lView;\n  const tView = lView[TVIEW];\n  const lCleanup = lView[CLEANUP];\n
  const tCleanup = tView.cleanup;\n  const listeners: Listener[] = [];\n  if (tCleanup && lCleanup) {\n    for (let i = 0;
i < tCleanup.length;) {\n      const firstParam = tCleanup[i++];\n      const secondParam = tCleanup[i++];\n      if
(typeof firstParam === 'string') {\n        const name: string = firstParam;\n        const listenerElement =
unwrapRNode(lView[secondParam]) as any as Element;\n        const callback: (value: any) => any =
lCleanup[tCleanup[i++]];\n        const useCaptureOrIndx = tCleanup[i++];\n        // if useCaptureOrIndx is boolean
then report it as is.\n        // if useCaptureOrIndx is positive number then it in unsubscribe method\n        // if
useCaptureOrIndx is negative number then it is a Subscription\n        const type =\n            (typeof
useCaptureOrIndx === 'boolean' || useCaptureOrIndx >= 0) ? 'dom' : 'output';\n        const useCapture = typeof
useCaptureOrIndx === 'boolean' ? useCaptureOrIndx : false;\n        if (element == listenerElement)
 {\n          listeners.push({element, name, callback, useCapture, type});\n        }\n      }\n    }\n  }\n
listeners.sort(sortListeners);\n  return listeners;\n}\n\nfunction sortListeners(a: Listener, b: Listener) {\n  if (a.name
== b.name) return 0;\n  return a.name < b.name ? -1 : 1;\n}\n\n/**\n * This function should not exist because it is
megamorphic and only mostly correct.\n *\n * See call site for more info.\n */\nfunction isDirectiveDefHack(obj:
any): obj is DirectiveDef<any> {\n  return obj.type !== undefined && obj.template !== undefined &&
obj.declaredInputs !== undefined;\n}\n\n/**\n * Returns the attached `DebugNode` instance for an element in the
DOM.\n *\n * @param element DOM element which is owned by an existing component's view.\n */\nexport
function getDebugNode(element: Element): DebugNode|null {\n  let debugNode: DebugNode|null = null;\n\n  const
lContext = loadLContextFromNode(element);\n  const lView = lContext.lView;\n  const nodeIndex =
lContext.nodeIndex;\n
```

if (nodeIndex !== -1) {\n const valueInLView = lView[nodeIndex];\n // this means that value in the lView is a component with its own\n // data. In this situation the TNode is not accessed at the same spot.\n const tNode =\n isLView(valueInLView) ? (valueInLView[T_HOST] as TNode) : getTNode(lView[TVIEW], nodeIndex);\n ngDevMode &&\n assertEqual(tNode.index, nodeIndex, 'Expecting that TNode at index is same as index');\n debugNode = buildDebugNode(tNode, lView);\n }\n\n return debugNode;\n}\n\n/**\n * Retrieve the component `LView` from component/element.\n *\n * NOTE: `LView` is a private and should not be leaked outside.\n * Don't export this method to `ng.*` on window.\n *\n * @param target DOM element or component instance for which to retrieve the LView.\n */\nexport function getComponentLView(target: any): LView {\n const lContext = loadLContext(target);\n const nodeIndx = lContext.nodeIndex;\n const lView = lContext.lView;\n const componentLView = lView[nodeIndx];\n ngDevMode && assertLView(componentLView);\n return componentLView;\n}\n\n/** Asserts that a value is a DOM Element. */\nfunction assertDomElement(value: any) {\n if (typeof Element !== 'undefined' && !(value instanceof Element)) {\n throw new Error('Expecting instance of DOM Element');\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {detectChanges, markDirty} from '../instructions/change_detection';\nimport {getRootComponents} from './discovery_utils';\n\n/**\n * Marks a component for check (in case of OnPush components) and synchronously\n * performs change detection on the application this component belongs to.\n *\n * @param component Component to {@link ChangeDetectorRef#markForCheck mark for check}.\n *\n * @publicApi\n * @globalApi ng\n */\nexport function applyChanges(component: {}): void {\n markDirty(component);\n getRootComponents(component).forEach(rootComponent => detectChanges(rootComponent));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {assertDefined} from '../../util/assert';\nimport {global} from '../../util/global';\nimport {applyChanges} from './change_detection_utils';\nimport {getComponent, getContext, getDirectives, getHostElement, getInjector, getListeners, getOwningComponent, getRootComponents} from './discovery_utils';\n\n\n\n/**\n * This file introduces series of globally accessible debug tools\n * to allow for the Angular debugging story to function.\n *\n * To see this in action run the following command:\n *\n * bazel run --config=ivy\n * //packages/core/test/bundling/todo:devserver\n *\n * Then load `localhost:5432` and start using the console tools.\n */\n\n/**\n * This value reflects the property on the window where the dev\n * tools are patched (window.ng).\n * */\nexport const GLOBAL_PUBLISH_EXPANDO_KEY = 'ng';\n\nlet _published = false;\n/**\n * Publishes a collection of default debug tools onto`window.ng`.\n *\n * These functions are available globally when Angular is in development\n * mode and are automatically stripped away from prod mode is on.\n */\nexport function publishDefaultGlobalUtils() {\n if (!_published) {\n _published = true;\n publishGlobalUtil('getComponent', getComponent);\n publishGlobalUtil('getContext', getContext);\n publishGlobalUtil('getListeners', getListeners);\n publishGlobalUtil('getOwningComponent', getOwningComponent);\n publishGlobalUtil('getHostElement', getHostElement);\n publishGlobalUtil('getInjector', getInjector);\n publishGlobalUtil('getRootComponents', getRootComponents);\n publishGlobalUtil('getDirectives', getDirectives);\n publishGlobalUtil('applyChanges', applyChanges);\n }\n}\n\nexport declare type GlobalDevModeContainer = {\n [GLOBAL_PUBLISH_EXPANDO_KEY]: {[fnName: string]: Function};\n};\n\n/**\n * Publishes the given function to `window.ng` so that it can be\n * used from the browser console when an application is not in production.\n */\nexport function publishGlobalUtil(name: string, fn: Function): void {\n if (typeof COMPILED === 'undefined' || !COMPILED) {\n // Note: we can't export `ng` when using closure enhanced optimization as:\n // - closure declares globals itself for minified names, which sometimes clobber our `ng` global\n // - we can't declare a closure extern as the namespace `ng` is already used within Google\n // for typings for AngularJS (via `goog.provide('ng....')`).\n const w = global as any as GlobalDevModeContainer;\n ngDevMode && assertDefined(fn, 'function not defined');\n if (w) {\n let container =

w[GLOBAL_PUBLISH_EXPANDO_KEY];\n  if (!container)
 {\n  container = w[GLOBAL_PUBLISH_EXPANDO_KEY] = {};\n  }\n  container[name] = fn;\n  }\n
}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is
governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n//
We are temporarily importing the existing viewEngine from core so we can be sure we are\n// correctly
implementing its interfaces for backwards compatibility.\nimport {Injector} from '../di/injector';\nimport {Type}
from '../interface/type';\nimport {Sanitizer} from '../sanitization/sanitizer';\nimport {assertDefined,
assertIndexInRange} from '../util/assert';\nimport {assertComponentType} from './assert';\nimport
{getComponentDef} from './definition';\nimport {diPublicInInjector, getOrCreateNodeInjectorForNode} from
'./di';\nimport {throwProviderNotFoundError} from './errors_di';\nimport {registerPostOrderHooks} from
'./hooks';\nimport {addToViewTree, CLEAN_PROMISE,
 createLView, createTView, getOrCreateTComponentView, getOrCreateTNode, initTNodeFlags,
instantiateRootComponent, invokeHostBindingsInCreationMode, locateHostElement, markAsComponentHost,
refreshView, registerHostBindingOpCodes, renderView} from './instructions/shared';\nimport {ComponentDef,
ComponentType, RenderFlags} from './interfaces/definition';\nimport {TElementNode, TNodeType} from
'./interfaces/node';\nimport {PlayerHandler} from './interfaces/player';\nimport {domRendererFactory3, Renderer3,
RendererFactory3} from './interfaces/renderer';\nimport {RElement} from './interfaces/renderer_dom';\nimport
{CONTEXT, HEADER_OFFSET, LView, LViewFlags, RootContext, RootContextFlags, TVIEW, TViewType}
from './interfaces/view';\nimport {writeDirectClass, writeDirectStyle} from './node_manipulation';\nimport
{enterView, getCurrentTNode, leaveView, setSelectedIndex} from './state';\nimport {computeStaticStyling} from
'./styling/static_styling';\nimport {setUpAttributes} from './util/attrs_utils';\nimport
 {publishDefaultGlobalUtils} from './util/global_utils';\nimport {defaultScheduler} from './util/misc_utils';\nimport
{getRootContext} from './util/view_traversal_utils';\nimport {readPatchedLView} from './util/view_utils';\n\n\n\n/**
Options that control how the component should be bootstrapped. */\nexport interface CreateComponentOptions {\n
/** Which renderer factory to use. */\n  rendererFactory?: RendererFactory3;\n\n  /** A custom sanitizer instance
*/\n  sanitizer?: Sanitizer;\n\n  /** A custom animation player handler */\n  playerHandler?: PlayerHandler;\n\n
/**\n   * Host element on which the component will be bootstrapped. If not specified,\n   * the component
definition's `tag` is used to query the existing DOM for the\n   * element to bootstrap.\n   */\n  host?:
RElement|string;\n\n  /** Module injector for the component. If unspecified, the injector will be NULL_INJECTOR.
*/\n  injector?: Injector;\n\n  /**\n   * List of features to be applied to the
 created component. Features are simply\n   * functions that decorate a component with a certain behavior.\n   *\n   *
Typically, the features in this list are features that cannot be added to the\n   * other features list in the component
definition because they rely on other factors.\n   *\n   * Example: `LifecycleHooksFeature` is a function that adds
lifecycle hook capabilities\n   * to root components in a tree-shakable way. It cannot be added to the component\n   *
features list because there's no way of knowing when the component will be used as\n   * a root component.\n   */\n
hostFeatures?: HostFeature[];\n\n  /**\n   * A function which is used to schedule change detection work in the
future.\n   *\n   * When marking components as dirty, it is necessary to schedule the work of\n   * change detection
in the future. This is done to coalesce multiple\n   * {@link markDirty} calls into a single changed detection
processing.\n   *\n   * The default value of the scheduler is the `requestAnimationFrame`
 function.\n   *\n   * It is also useful to override this function for testing purposes.\n   */\n  scheduler?: (work: () =>
void) => void;\n}\n\n/** See CreateComponentOptions.hostFeatures */\ntype HostFeature = (<T>(component: T,
componentDef: ComponentDef<T>) => void);\n\n// TODO: A hack to not pull in the NullInjector from
@angular/core.\nexport const NULL_INJECTOR: Injector = {\n  get: (token: any, notFoundValue?: any) => {\n
throwProviderNotFoundError(token, 'NullInjector');\n  }\n};\n\n/**\n * Bootstraps a Component into an existing
host element and returns an instance\n * of the component.\n *\n * Use this function to bootstrap a component into
the DOM tree. Each invocation\n * of this function will create a separate tree of components, injectors and\n *
change detection cycles and lifetimes. To dynamically insert a new component\n * into an existing tree such that it
shares the same injection, change detection\n * and object lifetime, use {@link

```
ViewContainer#createComponent}.\n
 *\n * @param componentType Component to bootstrap\n * @param options Optional parameters which control
bootstrapping\n */\nexport function renderComponent<T>(\n    componentType: ComponentType<T>|\n
Type<T>/* Type as workaround for: Microsoft/TypeScript/issues/4881 */\n    ,\n    opts: CreateComponentOptions
= {}): T {\n  ngDevMode && publishDefaultGlobalUtils();\n  ngDevMode &&
assertComponentType(componentType);\n\n  const rendererFactory = opts.rendererFactory ||
domRendererFactory3;\n  const sanitizer = opts.sanitizer || null;\n  const componentDef =
getComponentDef<T>(componentType)!;\n  if (componentDef.type != componentType) (componentDef as {type:
Type<any>}).type = componentType;\n\n  // The first index of the first selector is the tag name.\n  const
componentTag = componentDef.selectors![0]![0] as string;\n  const hostRenderer =
rendererFactory.createRenderer(null, null);\n  const hostRNode =\n      locateHostElement(hostRenderer, opts.host ||
componentTag,
 componentDef.encapsulation);\n  const rootFlags = componentDef.onPush ? LViewFlags.Dirty |
LViewFlags.IsRoot :\n                                  LViewFlags.CheckAlways | LViewFlags.IsRoot;\n  const
rootContext = createRootContext(opts.scheduler, opts.playerHandler);\n\n  const renderer =
rendererFactory.createRenderer(hostRNode, componentDef);\n  const rootTView = createTView(TViewType.Root,
null, null, 1, 0, null, null, null, null, null);\n  const rootView: LView = createLView(\n      null, rootTView,
rootContext, rootFlags, null, null, rendererFactory, renderer, null,\n      opts.injector || null);\n\n
enterView(rootView);\n  let component: T;\n\n  try {\n    if (rendererFactory.begin) rendererFactory.begin();\n
const componentView = createRootComponentView(\n        hostRNode, componentDef, rootView, rendererFactory,
renderer, sanitizer);\n    component = createRootComponent(\n        componentView, componentDef, rootView,
rootContext, opts.hostFeatures || null);\n\n
   // create mode pass\n    renderView(rootTView, rootView, null);\n    // update mode pass\n
refreshView(rootTView, rootView, null, null);\n\n  } finally {\n    leaveView();\n    if (rendererFactory.end)
rendererFactory.end();\n  }\n\n  return component;\n}\n\n/**\n * Creates the root component view and the root
component node.\n *\n * @param rNode Render host element.\n * @param def ComponentDef\n * @param
rootView The parent view where the host node is stored\n * @param rendererFactory Factory to be used for creating
child renderers.\n * @param hostRenderer The current renderer\n * @param sanitizer The sanitizer, if provided\n
*\n * @returns Component view created\n */\nexport function createRootComponentView(\n    rNode:
RElement|null, def: ComponentDef<any>, rootView: LView,\n    rendererFactory: RendererFactory3, hostRenderer:
Renderer3, sanitizer?: Sanitizer|null): LView {\n  const tView = rootView[TVIEW];\n  const index =
HEADER_OFFSET;\n  ngDevMode && assertIndexInRange(rootView,
 index);\n  rootView[index] = rNode;\n  // '#host' is added here as we don't know the real host DOM name (we don't
want to read it) and at\n  // the same time we want to communicate the the debug `TNode` that this is a special
`TNode`\n  // representing a host element.\n  const tNode: TElementNode = getOrCreateTNode(tView, index,
TNodeType.Element, '#host', null);\n  const mergedAttrs = tNode.mergedAttrs = def.hostAttrs;\n  if (mergedAttrs
!== null) {\n    computeStaticStyling(tNode, mergedAttrs, true);\n    if (rNode !== null) {\n
setUpAttributes(hostRenderer, rNode, mergedAttrs);\n      if (tNode.classes !== null) {\n
writeDirectClass(hostRenderer, rNode, tNode.classes);\n      }\n      if (tNode.styles !== null) {\n
writeDirectStyle(hostRenderer, rNode, tNode.styles);\n      }\n    }\n  }\n\n  const viewRenderer =
rendererFactory.createRenderer(rNode, def);\n  const componentView = createLView(\n      rootView,
getOrCreateTComponentView(def), null,\n
    def.onPush ? LViewFlags.Dirty : LViewFlags.CheckAlways, rootView[index], tNode,\n      rendererFactory,
viewRenderer, sanitizer || null, null);\n\n  if (tView.firstCreatePass) {\n
diPublicInInjector(getOrCreateNodeInjectorForNode(tNode, rootView), tView, def.type);\n
markAsComponentHost(tView, tNode);\n    initTNodeFlags(tNode, rootView.length, 1);\n  }\n\n
addToViewTree(rootView, componentView);\n\n  // Store component view at node index, with node as the HOST\n
return rootView[index] = componentView;\n}\n\n/**\n * Creates a root component and sets it up with features and
```

host bindings. Shared by\n * renderComponent() and ViewContainerRef.createComponent().\n */\nexport function createRootComponent<T>(\n componentView: LView, componentDef: ComponentDef<T>, rootLView: LView, rootContext: RootContext,\n hostFeatures: HostFeature[]|null): any {\n const tView = rootLView[TVIEW];\n // Create directive instance with factory() and store at next index in viewData\n const component = instantiateRootComponent(tView, rootLView, componentDef);\n\n rootContext.components.push(component);\n componentView[CONTEXT] = component;\n\n hostFeatures && hostFeatures.forEach((feature) => feature(component, componentDef));\n\n // We want to generate an empty QueryList for root content queries for backwards\n // compatibility with ViewEngine.\n if (componentDef.contentQueries) {\n const tNode = getCurrentTNode()!;\n ngDevMode && assertDefined(tNode, 'TNode expected');\n componentDef.contentQueries(RenderFlags.Create, component, tNode.directiveStart);\n }\n\n const rootTNode = getCurrentTNode()!;\n ngDevMode && assertDefined(rootTNode, 'tNode should have been already created');\n if (tView.firstCreatePass &&\n (componentDef.hostBindings !== null || componentDef.hostAttrs !== null)) {\n setSelectedIndex(rootTNode.index);\n\n const rootTView = rootLView[TVIEW];\n registerHostBindingOpCodes(\n rootTView, rootTNode, rootLView, rootTNode.directiveStart, rootTNode.directiveEnd,\n componentDef);\n\n invokeHostBindingsInCreationMode(componentDef, component);\n }\n return component;\n}\n\n\nexport function createRootContext(\n scheduler?: (workFn: () => void) => void, playerHandler?: PlayerHandler|null): RootContext {\n return {\n components: [],\n scheduler: scheduler || defaultScheduler,\n clean: CLEAN_PROMISE,\n playerHandler: playerHandler || null,\n flags: RootContextFlags.Empty\n };\n}\n\n/**\n * Used to enable lifecycle hooks on the root component.\n *\n * Include this feature when calling `renderComponent` if the root component\n * you are rendering has lifecycle hooks defined. Otherwise, the hooks won't\n * be called properly.\n *\n * Example:\n *\n * ```\n * renderComponent(AppComponent, {hostFeatures: [LifecycleHooksFeature]});\n * ```\n */\nexport function LifecycleHooksFeature(component: any, def: ComponentDef<any>): void {\n const lView = readPatchedLView(component)!;\n ngDevMode && assertDefined(lView, 'LView is required');\n const tView = lView[TVIEW];\n const tNode = getCurrentTNode()!;\n ngDevMode && assertDefined(tNode, 'TNode is required');\n registerPostOrderHooks(tView, tNode);\n}\n\n/**\n * Wait on component until it is rendered.\n *\n * This function returns a `Promise` which is resolved when the component's\n * change detection is executed. This is determined by finding the scheduler\n * associated with the `component`'s render tree and waiting until the scheduler\n * flushes. If nothing is scheduled, the function returns a resolved promise.\n *\n * Example:\n * ```\n * await whenRendered(myComponent);\n * ```\n *\n * @param component Component to wait upon\n * @returns Promise which resolves when the component is rendered.\n */\nexport function whenRendered(component: any): Promise<null> {\n return getRootContext(component).clean;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type, Writable} from '../../interface/type';\nimport {fillProperties} from '../../util/property';\nimport {EMPTY_ARRAY, EMPTY_OBJ} from '../empty';\nimport {ComponentDef, ContentQueriesFunction, DirectiveDef, DirectiveDefFeature, HostBindingsFunction, RenderFlags, ViewQueriesFunction} from '../interfaces/definition';\nimport {TAttributes} from '../interfaces/node';\nimport {isComponentDef} from '../interfaces/type_checks';\nimport {mergeHostAttrs} from '../util/attrs_utils';\n\nexport function getSuperType(type: Type<any>): Type<any>&\n {cmp?: ComponentDef<any>, dir?: DirectiveDef<any>} {\n return Object.getPrototypeOf(type.prototype).constructor;\n}\n\ntype WritableDef = Writable<DirectiveDef<any>|ComponentDef<any>>;\n\n/**\n * Merges the definition from a super class to a sub class.\n * @param definition The definition that is a SubClass of another directive of component\n *\n * @codeGenApi\n */\nexport function InheritDefinitionFeature(definition: DirectiveDef<any>|ComponentDef<any>): void {\n let superType = getSuperType(definition.type);\n let shouldInheritFields = true;\n const inheritanceChain: WritableDef[] = [definition];\n\n while (superType) {\n let

superDef: DirectiveDef<any>|ComponentDef<any>|undefined = undefined;\n  if (isComponentDef(definition)) {\n  // Don't use getComponentDef/getDirectiveDef. This logic relies on inheritance.\n  superDef = superType.cmp || superType.dir;\n  } else {\n  if (superType.cmp) {\n  throw new Error('Directives cannot inherit Components');\n  }\n  // Don't use getComponentDef/getDirectiveDef. This logic relies on inheritance.\n  superDef = superType.dir;\n  }\n\n  if (superDef) {\n  if (shouldInheritFields) {\n  inheritanceChain.push(superDef);\n  // Some fields in the definition may be empty, if there were no values to put in them
that\n  // would've justified object creation. Unwrap them if necessary.\n  const writeableDef = definition as WritableDef;\n  writeableDef.inputs = maybeUnwrapEmpty(definition.inputs);\n  writeableDef.declaredInputs = maybeUnwrapEmpty(definition.declaredInputs);\n  writeableDef.outputs = maybeUnwrapEmpty(definition.outputs);\n\n  // Merge hostBindings\n  const superHostBindings = superDef.hostBindings;\n  superHostBindings && inheritHostBindings(definition, superHostBindings);\n\n  // Merge queries\n  const superViewQuery = superDef.viewQuery;\n  const superContentQueries = superDef.contentQueries;\n  superViewQuery && inheritViewQuery(definition, superViewQuery);\n  superContentQueries && inheritContentQueries(definition, superContentQueries);\n\n  // Merge inputs and outputs\n  fillProperties(definition.inputs, superDef.inputs);\n  fillProperties(definition.declaredInputs, superDef.declaredInputs);\n
fillProperties(definition.outputs, superDef.outputs);\n\n  // Merge animations metadata.\n  // If `superDef` is a Component, the `data` field is present (defaults to an empty object).\n  if (isComponentDef(superDef) && superDef.data.animation) {\n  // If super def is a Component, the `definition` is also a Component, since Directives can\n  // not inherit Components (we throw an error above and cannot reach this code).\n  const defData = (definition as ComponentDef<any>).data;\n  defData.animation = (defData.animation || []).concat(superDef.data.animation);\n  }\n  }\n\n  // Run parent features\n  const features = superDef.features;\n  if (features) {\n  for (let i = 0; i < features.length; i++) {\n  const feature = features[i];\n  if (feature && feature.ngInherit) {\n  (feature as DirectiveDefFeature)(definition);\n  }\n  // If `InheritDefinitionFeature`
is a part of the current `superDef`, it means that this\n  // def already has all the necessary information inherited from its super class(es), so we\n  // can stop merging fields from super classes. However we need to iterate through the\n  // prototype chain to look for classes that might contain other \"features\" (like\n  // NgOnChanges), which we should invoke for the original `definition`. We set the\n  // `shouldInheritFields` flag to indicate that, essentially skipping fields inheritance\n  // logic and only invoking functions from the \"features\" list.\n  if (feature === InheritDefinitionFeature) {\n  shouldInheritFields = false;\n  }\n  }\n  }\n  }\n\n  superType = Object.getPrototypeOf(superType);\n  }\n mergeHostAttrsAcrossInheritance(inheritanceChain);\n}\n\n/**\n * Merge the `hostAttrs` and `hostVars` from the inherited parent to the base class.\n *\n * @param inheritanceChain
A list of `WritableDefs` starting at the top most type and listing\n * sub-types in order. For each type take the `hostAttrs` and `hostVars` and merge it with the child\n * type.\n */\nfunction mergeHostAttrsAcrossInheritance(inheritanceChain: WritableDef[]) {\n  let hostVars: number = 0;\n  let hostAttrs: TAttributes|null = null;\n  // We process the inheritance order from the base to the leaves here.\n  for (let i = inheritanceChain.length - 1; i >= 0; i--) {\n  const def = inheritanceChain[i];\n  // For each `hostVars`, we need to add the superclass amount.\n  def.hostVars = (hostVars += def.hostVars);\n  // for each `hostAttrs` we need to merge it with superclass.\n  def.hostAttrs =\n  mergeHostAttrs(def.hostAttrs, hostAttrs = mergeHostAttrs(hostAttrs, def.hostAttrs));\n  }\n}\n\nfunction maybeUnwrapEmpty<T>(value: T[]): T[];\nfunction maybeUnwrapEmpty<T>(value: T): T;\nfunction maybeUnwrapEmpty(value: any): any {\n  if (value === EMPTY_OBJ) {\n  return {};\n
  } else if (value === EMPTY_ARRAY) {\n  return [];\n  } else {\n  return value;\n  }\n}\n\nfunction inheritViewQuery(definition: WritableDef, superViewQuery: ViewQueriesFunction<any>) {\n  const prevViewQuery = definition.viewQuery;\n  if (prevViewQuery) {\n  definition.viewQuery = (rf, ctx) => {\n

superViewQuery(rf, ctx);\n prevViewQuery(rf, ctx);\n };\n } else {\n definition.viewQuery = superViewQuery;\n }\n}\n\nfunction inheritContentQueries(\n definition: WritableDef, superContentQueries: ContentQueriesFunction<any>) {\n const prevContentQueries = definition.contentQueries;\n if (prevContentQueries) {\n definition.contentQueries = (rf, ctx, directiveIndex) => {\n superContentQueries(rf, ctx, directiveIndex);\n prevContentQueries(rf, ctx, directiveIndex);\n };\n } else {\n definition.contentQueries = superContentQueries;\n }\n}\n\nfunction inheritHostBindings(\n definition: WritableDef, superHostBindings: HostBindingsFunction<any>)
{\n const prevHostBindings = definition.hostBindings;\n if (prevHostBindings) {\n definition.hostBindings = (rf: RenderFlags, ctx: any) => {\n superHostBindings(rf, ctx);\n prevHostBindings(rf, ctx);\n };\n } else {\n definition.hostBindings = superHostBindings;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentDef, DirectiveDef} from '../interfaces/definition';\nimport {isComponentDef} from '../interfaces/type_checks';\n\nimport {getSuperType} from './inherit_definition_feature';\n\n/**\n * Fields which exist on either directive or component definitions, and need to be copied from\n * parent to child classes by the `CopyDefinitionFeature`.\n */\nconst COPY_DIRECTIVE_FIELDS: (keyof DirectiveDef<unknown>)[] = [\n // The child class should use the providers of its parent.\n
'providersResolver',\n\n // Not listed here are any fields which are handled by the `InheritDefinitionFeature`, such\n // as inputs, outputs, and host binding functions.\n];\n\n/**\n * Fields which exist only on component definitions, and need to be copied from parent to child\n * classes by the `CopyDefinitionFeature`.\n *\n * The type here allows any field of `ComponentDef` which is not also a property of `DirectiveDef`,\n * since those should go in `COPY_DIRECTIVE_FIELDS` above.\n */\nconst COPY_COMPONENT_FIELDS: Exclude<keyof ComponentDef<unknown>, keyof DirectiveDef<unknown>>[] = [\n // The child class should use the template function of its parent, including all template\n // semantics.\n 'template',\n 'decls',\n 'consts',\n 'vars',\n 'onPush',\n 'ngContentSelectors',\n\n // The child class should use the CSS styles of its parent, including all styling semantics.\n 'styles',\n 'encapsulation',\n\n // The child class should be checked by the runtime in the same
way as its parent.\n 'schemas',\n];\n\n/**\n * Copies the fields not handled by the `InheritDefinitionFeature` from the supertype of a\n * definition.\n *\n * This exists primarily to support ngcc migration of an existing View Engine pattern, where an\n * entire decorator is inherited from a parent to a child class. When ngcc detects this case, it\n * generates a skeleton definition on the child class, and applies this feature.\n *\n * The `CopyDefinitionFeature` then copies any needed fields from the parent class' definition,\n * including things like the component template function.\n *\n * @param definition The definition of a child class which inherits from a parent class with its\n * own definition.\n *\n * @codeGenApi\n */\nexport function CopyDefinitionFeature(definition: DirectiveDef<any>|ComponentDef<any>): void {\n let superType = getSuperType(definition.type)!;\n\n let superDef: DirectiveDef<any>|ComponentDef<any>|undefined = undefined;\n if (isComponentDef(definition))
{\n // Don't use getComponentDef/getDirectiveDef. This logic relies on inheritance.\n superDef = superType.cmp!;\n } else {\n // Don't use getComponentDef/getDirectiveDef. This logic relies on inheritance.\n superDef = superType.dir!;\n }\n\n // Needed because `definition` fields are readonly.\n const defAny = (definition as any);\n\n // Copy over any fields that apply to either directives or components.\n for (const field of COPY_DIRECTIVE_FIELDS) {\n defAny[field] = superDef[field];\n }\n\n if (isComponentDef(superDef)) {\n // Copy over any component-specific fields.\n for (const field of COPY_COMPONENT_FIELDS) {\n defAny[field] = superDef[field];\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {global as _global} from './global';\n\n// When Symbol.iterator
doesn't exist, retrieves the key used in es6-shim\ndeclare const Symbol: any;\nlet _symbolIterator: any = null;\nexport function getSymbolIterator(): string|symbol {\n if (!_symbolIterator) {\n const Symbol = _global['Symbol'];\n if (Symbol && Symbol.iterator) {\n _symbolIterator = Symbol.iterator;\n } else {\n //

es6-shim specific logic\n const keys = Object.getOwnPropertyNames(Map.prototype);\n for (let i = 0; i < keys.length; ++i) {\n const key = keys[i];\n if (key !== 'entries' && key !== 'size' &&\n (Map as any).prototype[key] === Map.prototype['entries']) {\n _symbolIterator = key;\n }\n }\n }\n return _symbolIterator;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getSymbolIterator} from '../util/symbol';\n\nexport function devModeEqual(a: any, b: any): boolean {\n const isListLikeIterableA = isListLikeIterable(a);\n const isListLikeIterableB = isListLikeIterable(b);\n if (isListLikeIterableA && isListLikeIterableB) {\n return areIterablesEqual(a, b, devModeEqual);\n } else {\n const isAObject = a && (typeof a === 'object' || typeof a === 'function');\n const isBObject = b && (typeof b === 'object' || typeof b === 'function');\n if (!isListLikeIterableA && isAObject && !isListLikeIterableB && isBObject) {\n return true;\n } else {\n return Object.is(a, b);\n }\n }\n}\n\n/**\n * Indicates that the result of a {@link Pipe} transformation has changed even though the\n * reference has not changed.\n *\n * Wrapped values are unwrapped automatically during the change detection, and the unwrapped value\n * is stored.\n *\n * Example:\n *\n * ```\n * if (this._latestValue === this._latestReturnedValue) {\n * return this._latestReturnedValue;\n * } else {\n * this._latestReturnedValue = this._latestValue;\n * return WrappedValue.wrap(this._latestValue); // this will force update\n * }\n * ```\n *\n * @publicApi\n * @deprecated from v10 stop using. (No replacement, deemed unnecessary.)\n */\nexport class WrappedValue {\n /** @deprecated from 5.3, use `unwrap()` instead - will switch to protected */\n wrapped: any;\n\n constructor(value: any) {\n this.wrapped = value;\n }\n\n /** Creates a wrapped value. */\n static wrap(value: any): WrappedValue {\n return new WrappedValue(value);\n }\n\n /**\n * Returns the underlying value of a wrapped value.\n * Returns the given `value` when it is not wrapped.\n **/\n static unwrap(value: any): any {\n return WrappedValue.isWrapped(value) ? value.wrapped : value;\n }\n\n /** Returns true if `value` is a wrapped value. */\n static isWrapped(value: any): value is WrappedValue {\n return value instanceof WrappedValue;\n }\n}\n\nexport function isListLikeIterable(obj: any): boolean {\n if (!isJsObject(obj)) return false;\n return Array.isArray(obj) ||\n (!(obj instanceof Map) && // JS Map are iterables but return entries as [k, v]\n getSymbolIterator() in obj); // JS Iterable have a Symbol.iterator prop\n}\n\nexport function areIterablesEqual(\n a: any, b: any, comparator: (a: any, b: any) => boolean): boolean {\n const iterator1 = a[getSymbolIterator()]();\n const iterator2 = b[getSymbolIterator()]();\n\n while (true) {\n const item1 = iterator1.next();\n const item2 = iterator2.next();\n if (item1.done && item2.done) return true;\n if (item1.done || item2.done) return false;\n if (!comparator(item1.value, item2.value)) return false;\n }\n}\n\nexport function iterateListLike(obj: any, fn: (p: any) => any) {\n if (Array.isArray(obj)) {\n for (let i = 0; i < obj.length; i++) {\n fn(obj[i]);\n }\n } else {\n const iterator = obj[getSymbolIterator()]();\n let item: any;\n while (!((item = iterator.next()).done)) {\n fn(item.value);\n }\n }\n}\n\nexport function isJsObject(o: any): boolean {\n return o !== null && (typeof o === 'function' || typeof o === 'object');\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {devModeEqual} from '../change_detection/change_detection_util';\nimport {assertIndexInRange, assertLessThan, assertNotSame} from '../util/assert';\n\nimport {getExpressionChangedErrorDetails, throwErrorIfNoChangesMode} from './errors';\nimport {LView} from './interfaces/view';\nimport {isInCheckNoChangesMode} from './state';\nimport {NO_CHANGE} from './tokens';\n\n\n// TODO(misko): consider inlining\n/** Updates binding and returns the value. */\nexport function updateBinding(lView: LView, bindingIndex: number, value: any): any {\n return lView[bindingIndex] = value;\n}\n\n\n/** Gets the current binding value. */\nexport function getBinding(lView: LView, bindingIndex: number): any {\n ngDevMode && assertIndexInRange(lView, bindingIndex);\n ngDevMode &&\n assertNotSame(lView[bindingIndex], NO_CHANGE, 'Stored value should never be NO_CHANGE.');\n return lView[bindingIndex];\n}\n\n/**\n * Updates binding if changed, then returns whether it was updated.\n *\n * This function also checks the `CheckNoChangesMode` and throws if changes are made.\n * Some changes (Objects/iterables) during

`CheckNoChangesMode` are exempt to comply with VE\n * behavior.\n *\n * @param lView current `LView`\n * @param bindingIndex The binding in the `LView` to check\n * @param value New value to check against `lView[bindingIndex]`\n * @returns `true` if the bindings has changed. (Throws if binding has changed during\n * `CheckNoChangesMode`)\n */\nexport function bindingUpdated(lView: LView, bindingIndex: number, value: any): boolean {\n ngDevMode && assertNotSame(value, NO_CHANGE,
'Incoming value should never be NO_CHANGE.');\n ngDevMode &&\n assertLessThan(bindingIndex, lView.length, `Slot should have been initialized to NO_CHANGE`);\n const oldValue = lView[bindingIndex];\n\n if (Object.is(oldValue, value)) {\n return false;\n } else {\n if (ngDevMode && isInCheckNoChangesMode()) {\n // View engine didn't report undefined values as changed on the first checkNoChanges pass\n // (before the change detection was run).\n const oldValueToCompare = oldValue !== NO_CHANGE ? oldValue : undefined;\n if (!devModeEqual(oldValueToCompare, value)) {\n const details =\n getExpressionChangedErrorDetails(lView, bindingIndex, oldValueToCompare, value);\n throwErrorIfNoChangesMode(\n oldValue === NO_CHANGE, details.oldValue, details.newValue, details.propName);\n }\n // There was a change, but the `devModeEqual` decided that the change is exempt from an error.\n // For this reason we exit
as if no change. The early exit is needed to prevent the changed\n // value to be written into `LView` (If we would write the new value that we would not see it\n // as change on next CD.)\n return false;\n }\n lView[bindingIndex] = value;\n return true;\n }\n}\n\n/** Updates 2 bindings if changed, then returns whether either was updated. */\nexport function bindingUpdated2(lView: LView, bindingIndex: number, exp1: any, exp2: any): boolean {\n const different = bindingUpdated(lView, bindingIndex, exp1);\n return bindingUpdated(lView, bindingIndex + 1, exp2) || different;\n}\n\n/** Updates 3 bindings if changed, then returns whether any was updated. */\nexport function bindingUpdated3(\n lView: LView, bindingIndex: number, exp1: any, exp2: any, exp3: any): boolean {\n const different = bindingUpdated2(lView, bindingIndex, exp1, exp2);\n return bindingUpdated(lView, bindingIndex + 2, exp3) || different;\n}\n\n/** Updates 4 bindings if changed, then returns
whether any was updated. */\nexport function bindingUpdated4(\n lView: LView, bindingIndex: number, exp1: any, exp2: any, exp3: any, exp4: any): boolean {\n const different = bindingUpdated2(lView, bindingIndex, exp1, exp2);\n return bindingUpdated2(lView, bindingIndex + 2, exp3, exp4) || different;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {bindingUpdated} from '../bindings';\nimport {SanitizerFn} from '../interfaces/sanitization';\nimport {getLView, getSelectedTNode, getTView, nextBindingIndex} from '../state';\nimport {elementAttributeInternal, storePropertyBindingMetadata} from './shared';\n\n\n\n/**\n * Updates the value of or removes a bound attribute on an Element.\n *\n * Used in the case of `[attr.title]=\"value\"`\n *\n * @param name name The name of the attribute.\n * @param value value The
attribute is removed when value is `null` or `undefined`.\n * Otherwise the attribute value is set to the stringified value.\n * @param sanitizer An optional function used to sanitize the value.\n * @param namespace Optional namespace to use when setting the attribute.\n *\n * @codeGenApi\n */\nexport function attribute(\n name: string, value: any, sanitizer?: SanitizerFn|null,\n namespace?: string): typeof attribute {\n const lView = getLView();\n const bindingIndex = nextBindingIndex();\n if (bindingUpdated(lView, bindingIndex, value)) {\n const tView = getTView();\n const tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, name, value, sanitizer, namespace);\n ngDevMode && storePropertyBindingMetadata(tView.data, tNode, 'attr.' + name, bindingIndex);\n }\n return attribute;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertEqual, assertLessThan} from '../../util/assert';\nimport {bindingUpdated, bindingUpdated2, bindingUpdated3, bindingUpdated4} from '../bindings';\nimport {LView} from '../interfaces/view';\nimport {getBindingIndex, incrementBindingIndex, nextBindingIndex, setBindingIndex} from '../state';\nimport {NO_CHANGE} from '../tokens';\nimport {renderStringify} from '../util/stringify_utils';\n\n\n\n/**\n * Create interpolation bindings with a variable number of expressions.\n *\n * If there are 1 to 8 expressions `interpolation1()` to `interpolation8()` should be used instead.\n *

Those are faster because there is no need to create an array of expressions and iterate over it.\n *\n * `values`:\n * - has static text at even indexes,\n * - has evaluated expressions at odd indexes.\n *\n * Returns the concatenated string when any of the arguments changes, `NO_CHANGE` otherwise.\n */\nexport function interpolationV(lView: LView, values: any[]): string|NO_CHANGE {\n ngDevMode && assertLessThan(2, values.length, 'should have at least 3 values');\n ngDevMode && assertEqual(values.length % 2, 1, 'should have an odd number of values');\n let isBindingUpdated = false;\n let bindingIndex = getBindingIndex();\n\n for (let i = 1; i < values.length; i += 2) {\n // Check if bindings (odd indexes) have changed\n isBindingUpdated = bindingUpdated(lView, bindingIndex++, values[i]) || isBindingUpdated;\n }\n setBindingIndex(bindingIndex);\n\n if (!isBindingUpdated) {\n return NO_CHANGE;\n }\n\n // Build the updated content\n let content = values[0];\n for (let i = 1; i < values.length; i += 2) {\n content += renderStringify(values[i]) + values[i + 1];\n }\n\n return content;\n}\n\n/**\n * Creates an interpolation binding with 1 expression.\n *\n * @param prefix static value used for concatenation only.\n * @param v0 value checked for change.\n * @param suffix static value used for concatenation only.\n */\nexport function interpolation1(lView: LView, prefix: string, v0: any, suffix: string): string|\n NO_CHANGE {\n const different = bindingUpdated(lView, nextBindingIndex(), v0);\n return different ? prefix + renderStringify(v0) + suffix : NO_CHANGE;\n}\n\n/**\n * Creates an interpolation binding with 2 expressions.\n */\nexport function interpolation2(\n lView: LView, prefix: string, v0: any, i0: string, v1: any, suffix: string): string|NO_CHANGE {\n const bindingIndex = getBindingIndex();\n const different = bindingUpdated2(lView, bindingIndex, v0, v1);\n incrementBindingIndex(2);\n\n return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + suffix : NO_CHANGE;\n}\n\n/**\n * Creates an interpolation binding with 3 expressions.\n */\nexport function interpolation3(\n lView: LView, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any,\n suffix: string): string|NO_CHANGE {\n const bindingIndex = getBindingIndex();\n const different = bindingUpdated3(lView, bindingIndex, v0, v1, v2);\n incrementBindingIndex(3);\n\n return different ?\n prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 + renderStringify(v2) + suffix :\n NO_CHANGE;\n}\n\n/**\n * Create an interpolation binding with 4 expressions.\n */\nexport function interpolation4(\n lView: LView, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, suffix: string): string|NO_CHANGE {\n const bindingIndex = getBindingIndex();\n const different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n incrementBindingIndex(4);\n\n return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 +\n renderStringify(v2) + i2 + renderStringify(v3) + suffix :\n NO_CHANGE;\n}\n\n/**\n * Creates an interpolation binding with 5 expressions.\n */\nexport function interpolation5(\n lView: LView, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, suffix: string): string|NO_CHANGE {\n const bindingIndex = getBindingIndex();\n let different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n different = bindingUpdated(lView, bindingIndex + 4, v4) || different;\n incrementBindingIndex(5);\n\n return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 +\n renderStringify(v2) + i2 + renderStringify(v3) + i3 + renderStringify(v4) + suffix :\n NO_CHANGE;\n}\n\n/**\n * Creates an interpolation binding with 6 expressions.\n */\nexport function interpolation6(\n lView: LView, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, suffix: string): string|NO_CHANGE {\n const bindingIndex = getBindingIndex();\n let different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n different = bindingUpdated2(lView, bindingIndex + 4, v4, v5) || different;\n incrementBindingIndex(6);\n\n return different ?\n prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 + renderStringify(v2) + i2 +\n renderStringify(v3) + i3 + renderStringify(v4) + i4 + renderStringify(v5) + suffix :\n NO_CHANGE;\n}\n\n/**\n * Creates an interpolation binding with 7 expressions.\n */\nexport function interpolation7(\n lView: LView, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, suffix: string): string|\n NO_CHANGE {\n const bindingIndex = getBindingIndex();\n let different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n different = bindingUpdated3(lView, bindingIndex + 4, v4, v5, v6) || different;\n incrementBindingIndex(7);\n\n return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 +\n renderStringify(v2) + i2 + renderStringify(v3) + i3 + renderStringify(v4)

```
 + i4 +\n          renderStringify(v5) + i5 + renderStringify(v6) + suffix :\n                    NO_CHANGE;\n}\n\n/**\n * Creates an interpolation binding with 8 expressions.\n */\nexport function interpolation8(\n    lView: LView, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n    v3: any, i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, i6: string, v7: any,\n    suffix: string): string|NO_CHANGE {\n  const bindingIndex = getBindingIndex();\n  let different = bindingUpdated4(lView, bindingIndex, v0, v1, v2, v3);\n  different = bindingUpdated4(lView, bindingIndex + 4, v4, v5, v6, v7) || different;\n  incrementBindingIndex(8);\n\n  return different ? prefix + renderStringify(v0) + i0 + renderStringify(v1) + i1 +\n          renderStringify(v2) + i2 + renderStringify(v3) + i3 + renderStringify(v4) + i4 +\n          renderStringify(v5) + i5 + renderStringify(v6) + i6 + renderStringify(v7) + suffix :\n                    NO_CHANGE;\n}\n","/**\n
 * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {SanitizerFn} from '../interfaces/sanitization';\nimport {getBindingIndex, getLView, getSelectedTNode, getTView} from '../state';\nimport {NO_CHANGE} from '../tokens';\nimport {interpolation1, interpolation2, interpolation3, interpolation4, interpolation5, interpolation6, interpolation7, interpolation8, interpolationV} from './interpolation';\nimport {elementAttributeInternal, storePropertyBindingMetadata} from './shared';\n\n\n\n/**\n *\n * Update an interpolated attribute on an element with single bound value surrounded by text.\n *\n * Used when the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate1('title',
 'prefix', v0, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolate1(\n    attrName: string, prefix: string, v0: any, suffix: string, sanitizer?: SanitizerFn,\n    namespace?: string): typeof attributeInterpolate1 {\n  const lView = getLView();\n  const interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n  if (interpolatedValue !== NO_CHANGE) {\n    const tNode = getSelectedTNode();\n    elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n    ngDevMode &&\n        storePropertyBindingMetadata(\n getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 1, prefix, suffix);\n
  }\n  return attributeInterpolate1;\n}\n\n/**\n *\n * Update an interpolated attribute on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate2('title', 'prefix', v0, '-', v1, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolate2(\n attrName: string, prefix: string, v0: any, i0: string, v1: any, suffix:
 string,\n    sanitizer?: SanitizerFn, namespace?: string): typeof attributeInterpolate2 {\n  const lView = getLView();\n  const interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n  if (interpolatedValue !== NO_CHANGE) {\n    const tNode = getSelectedTNode();\n    elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n    ngDevMode &&\n        storePropertyBindingMetadata(\n getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 2, prefix, i0, suffix);\n  }\n  return attributeInterpolate2;\n}\n\n/**\n *\n * Update an interpolated attribute on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to a property has 3 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate3(\n * 'title', 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n
 *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n *
```

@param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolate3(\n attrName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any,\n suffix: string, sanitizer?: SanitizerFn, namespace?: string): typeof attributeInterpolate3 {\n const lView = getLView();\n const interpolatedValue = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n const tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(\n getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 3, prefix, i0, i1,\n suffix);\n }\n return attributeInterpolate3;\n}\n\n/**\n *\n * Update an interpolated attribute on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate4(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolate4(\n attrName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, suffix: string, sanitizer?: SanitizerFn,\n namespace?: string): typeof attributeInterpolate4 {\n const lView = getLView();\n const interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n const tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(\n getTView().data, tNode, 'attr.'
+ attrName, getBindingIndex() - 4, prefix, i0, i1, i2,\n suffix);\n }\n return attributeInterpolate4;\n}\n\n/**\n *\n * Update an interpolated attribute on an element with 5 bound values surrounded by text.\n *\n * Used when the value passed to a property has 5 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate5(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value
checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolate5(\n attrName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, suffix: string, sanitizer?: SanitizerFn,\n namespace?: string): typeof attributeInterpolate5 {\n const lView = getLView();\n const interpolatedValue =\n interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n const tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(\n getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 5, prefix, i0, i1, i2,\n i3, suffix);\n }\n return attributeInterpolate5;\n}\n\n/**\n *\n * Update an interpolated attribute on an element with 6 bound values surrounded by text.\n *\n * Used when the value passed to a property has 6 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix\"></div>\n * ```\n *\n * Its

compiled representation is::\n *\n * ```ts\n * attributeInterpolate6(\n *    'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolate6(\n    attrName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, suffix: string, sanitizer?: SanitizerFn,\n    namespace?: string): typeof attributeInterpolate6 {\n  const lView = getLView();\n  const interpolatedValue =\n      interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n  if (interpolatedValue !== NO_CHANGE) {\n    const tNode = getSelectedTNode();\n    elementAttributeInternal(tNode, lView, attrName, interpolatedValue,\n sanitizer, namespace);\n    ngDevMode &&\n        storePropertyBindingMetadata(\n            getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 6, prefix, i0, i1, i2,\n            i3, i4, suffix);\n  }\n  return attributeInterpolate6;\n}\n\n/**\n *\n * Update an interpolated attribute on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate7(\n *    'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked
 for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolate7(\n    attrName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n    v3: any, i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, suffix: string,\n    sanitizer?: SanitizerFn, namespace?: string): typeof attributeInterpolate7 {\n  const lView = getLView();\n  const interpolatedValue =\n      interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n  if (interpolatedValue !== NO_CHANGE) {\n    const tNode = getSelectedTNode();\n    elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n    ngDevMode &&\n        storePropertyBindingMetadata(\n            getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 7, prefix, i0, i1, i2,\n            i3, i4, i5, suffix);\n  }\n  return attributeInterpolate7;\n}\n\n/**\n *\n * Update an interpolated attribute on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div attr.title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolate8(\n *  'title', 'prefix', v0, '-', v1, '-', v2, '-',
 v3, '-', v4, '-', v5, '-', v6, '-', v7, 'suffix');\n * ```\n *\n * @param attrName The name of the attribute to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6

Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n
 * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolate8(\n attrName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, i6: string, v7: any,\n suffix: string, sanitizer?: SanitizerFn, namespace?: string): typeof attributeInterpolate8 {\n const lView = getLView();\n const interpolatedValue = interpolation8(\n lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n const tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolatedValue, sanitizer, namespace);\n ngDevMode &&\n storePropertyBindingMetadata(\n getTView().data, tNode, 'attr.' + attrName, getBindingIndex() - 8, prefix, i0, i1, i2,\n i3, i4, i5, i6, suffix);\n }\n return attributeInterpolate8;\n}\n\n/**\n
 * Update an interpolated attribute on an element with 9 or more bound values surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n *  title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * attributeInterpolateV(\n *  'title', ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n *  'suffix']);\n * ```\n *\n * @param attrName The name of the attribute to update.\n * @param values The collection of values and the strings in-between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function attributeInterpolateV(\n attrName: string, values:
 any[], sanitizer?: SanitizerFn,\n namespace?: string): typeof attributeInterpolateV {\n const lView = getLView();\n const interpolated = interpolationV(lView, values);\n if (interpolated !== NO_CHANGE) {\n const tNode = getSelectedTNode();\n elementAttributeInternal(tNode, lView, attrName, interpolated, sanitizer, namespace);\n if (ngDevMode) {\n const interpolationInBetween = [values[0]];  // prefix\n for (let i = 2; i < values.length; i += 2) {\n interpolationInBetween.push(values[i]);\n }\n storePropertyBindingMetadata(\n getTView().data, tNode, 'attr.' + attrName,\n getBindingIndex() - interpolationInBetween.length + 1,\n ...interpolationInBetween);\n }\n }\n return attributeInterpolateV;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {assertFirstCreatePass}
 from '../assert';\nimport {attachPatchData} from '../context_discovery';\nimport {registerPostOrderHooks} from '../hooks';\nimport {ComponentTemplate} from '../interfaces/definition';\nimport {LocalRefExtractor, TAttributes, TContainerNode, TNodeType} from '../interfaces/node';\nimport {isDirectiveHost} from '../interfaces/type_checks';\nimport {HEADER_OFFSET, LView, RENDERER, TView, TViewType} from '../interfaces/view';\nimport {appendChild} from '../node_manipulation';\nimport {getLView, getTView, setCurrentTNode} from '../state';\nimport {getConstant} from '../util/view_utils';\nimport {addToViewTree, createDirectivesInstances, createLContainer, createTView, getOrCreateTNode, resolveDirectives, saveResolvedLocalsInData} from './shared';\n\n\n\nfunction templateFirstCreatePass(\n index: number, tView: TView, lView: LView, templateFn: ComponentTemplate<any>|null,\n decls: number, vars: number, tagName?: string|null, attrsIndex?: number|null,\n localRefsIndex?:
 number|null): TContainerNode {\n ngDevMode && assertFirstCreatePass(tView);\n ngDevMode && ngDevMode.firstCreatePass++;\n const tViewConsts = tView.consts;\n // TODO(pk): refactor getOrCreateTNode to have the \"create\" only version\n const tNode = getOrCreateTNode(\n tView, index, TNodeType.Container, tagName || null,\n getConstant<TAttributes>(tViewConsts, attrsIndex));\n\n resolveDirectives(tView, lView, tNode, getConstant<string[]>(tViewConsts, localRefsIndex));\n registerPostOrderHooks(tView, tNode);\n\n const embeddedTView = tNode.tViews = createTView(\n TViewType.Embedded, tNode, templateFn, decls, vars, tView.directiveRegistry,\n tView.pipeRegistry, null, tView.schemas, tViewConsts);\n\n if (tView.queries !== null) {\n tView.queries.template(tView, tNode);\n embeddedTView.queries =

tView.queries.embeddedTView(tNode);\n  }\n\n  return tNode;\n}\n\n/**\n * Creates an LContainer for an ng-template (dynamically-inserted view), e.g.\n *\n * <ng-template #foo>\n *    \n * </ng-template>\n *\n * @param index The index of the container in the data array\n * @param templateFn Inline template\n * @param decls The number of nodes, local refs, and pipes for this template\n * @param vars The number of bindings for this template\n * @param tagName The name of the container element, if applicable\n * @param attrsIndex Index of template attributes in the `consts` array.\n * @param localRefs Index of the local references in the `consts` array.\n * @param localRefExtractor A function which extracts local-refs values from the template.\n *        Defaults to the current element associated with the local-ref.\n *\n * @codeGenApi\n */\nexport function template(\n    index: number, templateFn: ComponentTemplate<any>|null, decls: number, vars: number,\n    tagName?: string|null, attrsIndex?: number|null, localRefsIndex?: number|null,\n    localRefExtractor?: LocalRefExtractor) {\n  const lView = getLView();\n  const tView = getTView();\n  const adjustedIndex = index + HEADER_OFFSET;\n\n  const tNode = tView.firstCreatePass ? templateFirstCreatePass(\n                                            adjustedIndex, tView, lView, templateFn, decls, vars,\n                                            tagName, attrsIndex, localRefsIndex) :\n                                        tView.data[adjustedIndex] as TContainerNode;\n  setCurrentTNode(tNode, false);\n\n  const comment = lView[RENDERER].createComment(ngDevMode ? 'container' : '');\n  appendChild(tView, lView, comment, tNode);\n  attachPatchData(comment, lView);\n\n  addToViewTree(lView, lView[adjustedIndex] = createLContainer(comment, lView, comment, tNode));\n\n  if (isDirectiveHost(tNode)) {\n    createDirectivesInstances(tView, lView, tNode);\n  }\n\n  if (localRefsIndex != null) {\n    saveResolvedLocalsInData(lView, tNode, localRefExtractor);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {HEADER_OFFSET, LView, TView} from '../interfaces/view';\nimport {getContextLView} from '../state';\nimport {load} from '../util/view_utils';\n\n\n/** Store a value in the `data` at a given `index`. */\nexport function store<T>(tView: TView, lView: LView, index: number, value: T): void {\n  // We don't store any static data for local variables, so the first time\n  // we see the template, we should store as null to avoid a sparse array\n  if (index >= tView.data.length) {\n    tView.data[index] = null;\n    tView.blueprint[index] = null;\n  }\n  lView[index] = value;\n}\n\n/**\n * Retrieves a local reference from the current contextViewData.\n *\n * If the reference to retrieve is in a parent view, this instruction is used in conjunction\n * with a nextContext() call, which walks up the tree and updates the contextViewData instance.\n *\n * @param index The index of the local ref in contextViewData.\n *\n * @codeGenApi\n */\nexport function reference<T>(index: number) {\n  const contextLView = getContextLView();\n  return load<T>(contextLView, HEADER_OFFSET + index);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../../interface/type';\nimport {isForwardRef, resolveForwardRef} from '../forward_ref';\nimport {inject, invalidFactoryDep} from '../injector_compatibility';\nimport {getInjectableDef, getInjectorDef, defineInjectable, defineInjector} from '../interface/defs';\n\n\n\n/**\n * A mapping of the @angular/core API surface used in generated expressions to the actual symbols.\n *\n * This should be kept up to date with the public exports of @angular/core.\n */\nexport const angularCoreDiEnv: {[name: string]: Function} = {\n  'defineInjectable': defineInjectable,\n  'defineInjector': defineInjector,\n  'inject': inject,\n  'getFactoryOf': getFactoryOf,\n  'invalidFactoryDep': invalidFactoryDep,\n};\n\nfunction getFactoryOf<T>(type: Type<any>): ((type?: Type<T>) => T)|null {\n  const typeAny = type as any;\n\n  if (isForwardRef(type)) {\n    return (() => {\n              const factory = getFactoryOf<T>(resolveForwardRef(typeAny));\n              return factory ? factory() : null;\n            }) as any;\n  }\n\n  const def = getInjectableDef<T>(typeAny) || getInjectorDef<T>(typeAny);\n  if (!def || def.factory === undefined) {\n    return null;\n  }\n  return def.factory;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the

LICENSE file at https://angular.io/license\n */\n\nimport {getCompilerFacade, R3InjectableMetadataFacade} from '../../compiler/compiler_facade';\nimport {Type} from '../../interface/type';\nimport {NG_FACTORY_DEF} from '../../render3/fields';\nimport {getClosureSafeProperty} from '../../util/property';\nimport {resolveForwardRef} from '../forward_ref';\nimport {Injectable} from '../injectable';\nimport {NG_PROV_DEF} from '../interface/defs';\nimport {ClassSansProvider, ExistingSansProvider, FactorySansProvider, ValueProvider, ValueSansProvider} from '../interface/provider';\n\nimport {angularCoreDiEnv} from './environment';\nimport {convertDependencies, reflectDependencies} from './util';\n\n\n\n/**\n * Compile an Angular injectable according to its `Injectable` metadata, and patch the resulting\n * injectable def (`prov`) onto the injectable type.\n */\nexport function compileInjectable(type: Type<any>, srcMeta?: Injectable): void {\n  let ngInjectableDef: any = null;\n  let ngFactoryDef: any = null;\n\n  // if NG_PROV_DEF is already defined on this class then don't overwrite it\n  if (!type.hasOwnProperty(NG_PROV_DEF)) {\n    Object.defineProperty(type, NG_PROV_DEF, {\n      get: () => {\n        if (ngInjectableDef === null) {\n          ngInjectableDef = getCompilerFacade().compileInjectable(\n              angularCoreDiEnv, `ng:///${type.name}/prov.js`,\n              getInjectableMetadata(type, srcMeta));\n        }\n        return ngInjectableDef;\n      },\n    });\n  }\n\n  // if NG_FACTORY_DEF is already defined on this class then don't overwrite it\n  if (!type.hasOwnProperty(NG_FACTORY_DEF)) {\n    Object.defineProperty(type, NG_FACTORY_DEF, {\n      get: () => {\n        if (ngFactoryDef === null) {\n          const metadata = getInjectableMetadata(type, srcMeta);\n          const compiler = getCompilerFacade();\n          ngFactoryDef = compiler.compileFactory(angularCoreDiEnv, `ng:///${type.name}/fac.js`, {\n            name: metadata.name,\n            type: metadata.type,\n            typeArgumentCount: metadata.typeArgumentCount,\n            deps: reflectDependencies(type),\n            injectFn: 'inject',\n            target: compiler.R3FactoryTarget.Injectable\n          });\n        }\n        return ngFactoryDef;\n      },\n      // Leave this configurable so that the factories from directives or pipes can take precedence.\n      configurable: true\n    });\n  }\n}\n\ntype UseClassProvider = Injectable&ClassSansProvider&{deps?: any[]};\n\nconst USE_VALUE =\n    getClosureSafeProperty<ValueProvider>({provide: String, useValue: getClosureSafeProperty});\n\nfunction isUseClassProvider(meta: Injectable): meta is UseClassProvider {\n  return (meta as UseClassProvider).useClass !== undefined;\n}\n\nfunction isUseValueProvider(meta: Injectable): meta is Injectable&ValueSansProvider {\n  return USE_VALUE in meta;\n}\n\nfunction isUseFactoryProvider(meta: Injectable): meta is Injectable&FactorySansProvider {\n  return (meta as FactorySansProvider).useFactory !== undefined;\n}\n\nfunction isUseExistingProvider(meta: Injectable): meta is Injectable&ExistingSansProvider {\n  return (meta as ExistingSansProvider).useExisting !== undefined;\n}\n\nfunction getInjectableMetadata(type: Type<any>, srcMeta?: Injectable): R3InjectableMetadataFacade {\n  // Allow the compilation of a class with a `@Injectable()` decorator without parameters\n  const meta: Injectable = srcMeta || {providedIn: null};\n  const compilerMeta: R3InjectableMetadataFacade = {\n    name: type.name,\n    type: type,\n    typeArgumentCount: 0,\n    providedIn: meta.providedIn,\n    userDeps: undefined,\n  };\n  if ((isUseClassProvider(meta) || isUseFactoryProvider(meta)) && meta.deps !== undefined) {\n    compilerMeta.userDeps = convertDependencies(meta.deps);\n  }\n  if (isUseClassProvider(meta)) {\n    // The user explicitly specified useClass, and may or may not have provided deps.\n    compilerMeta.useClass = resolveForwardRef(meta.useClass);\n  } else if (isUseValueProvider(meta)) {\n    // The user explicitly specified useValue.\n    compilerMeta.useValue = resolveForwardRef(meta.useValue);\n  } else if (isUseFactoryProvider(meta)) {\n    // The user explicitly specified useFactory.\n    compilerMeta.useFactory = meta.useFactory;\n  } else if (isUseExistingProvider(meta)) {\n    // The user explicitly specified useExisting.\n    compilerMeta.useExisting = resolveForwardRef(meta.useExisting);\n  }\n  return compilerMeta;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {ReflectionCapabilities} from '../reflection/reflection_capabilities';\nimport {getClosureSafeProperty} from

'../util/property';\n\nimport {resolveForwardRef} from './forward_ref';\nimport {injectArgs, inject} from
'./injector_compatibility';\nimport {ClassSansProvider, ConstructorSansProvider, ExistingSansProvider,
FactorySansProvider, StaticClassSansProvider, ValueProvider, ValueSansProvider} from
'./interface/provider';\n\nconst USE_VALUE
=\n getClosureSafeProperty<ValueProvider>({provide: String, useValue: getClosureSafeProperty});\nconst
EMPTY_ARRAY: any[] = [];\n\nexport function convertInjectableProviderToFactory(\n type: Type<any>,\n
provider?: ValueSansProvider|ExistingSansProvider|StaticClassSansProvider|\n
ConstructorSansProvider|FactorySansProvider|ClassSansProvider): () => any {\n if (!provider) {\n const
reflectionCapabilities = new ReflectionCapabilities();\n const deps = reflectionCapabilities.parameters(type);\n //
TODO - convert to flags.\n return () => new type(...injectArgs(deps as any[]));\n }\n\n if (USE_VALUE in
provider) {\n const valueProvider = (provider as ValueSansProvider);\n return () => valueProvider.useValue;\n
} else if ((provider as ExistingSansProvider).useExisting) {\n const existingProvider = (provider as
ExistingSansProvider);\n return () => inject(resolveForwardRef(existingProvider.useExisting));\n } else if
((provider as FactorySansProvider).useFactory)
{\n const factoryProvider = (provider as FactorySansProvider);\n return () =>
factoryProvider.useFactory(...injectArgs(factoryProvider.deps || EMPTY_ARRAY));\n } else if ((provider as
StaticClassSansProvider | ClassSansProvider).useClass) {\n const classProvider = (provider as
StaticClassSansProvider | ClassSansProvider);\n let deps = (provider as StaticClassSansProvider).deps;\n if
(!deps) {\n const reflectionCapabilities = new ReflectionCapabilities();\n deps =
reflectionCapabilities.parameters(type);\n }\n return () => new
(resolveForwardRef(classProvider.useClass))(...injectArgs(deps));\n } else {\n let deps = (provider as
ConstructorSansProvider).deps;\n if (!deps) {\n const reflectionCapabilities = new ReflectionCapabilities();\n
deps = reflectionCapabilities.parameters(type);\n }\n return () => new type(...injectArgs(deps!));\n
}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n
* Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {makeDecorator, TypeDecorator}
from '../util/decorators';\n\nimport {getInjectableDef, InjectableType, defineInjectable} from
'./interface/defs';\nimport {ClassSansProvider, ConstructorSansProvider, ExistingSansProvider,
FactorySansProvider, StaticClassSansProvider, ValueSansProvider} from './interface/provider';\nimport
{compileInjectable as render3CompileInjectable} from './jit/injectable';\nimport
{convertInjectableProviderToFactory} from './util';\n\n\n\n/**\n * Injectable providers used in `@Injectable`
decorator.\n *\n * @publicApi\n */\nexport type InjectableProvider =
ValueSansProvider|ExistingSansProvider|StaticClassSansProvider|\n
ConstructorSansProvider|FactorySansProvider|ClassSansProvider;\n\n/**\n * Type of the Injectable decorator /
constructor function.\n *\n * @publicApi\n */\nexport
interface InjectableDecorator {\n /**\n * Decorator that marks a class as available to be\n * provided and
injected as a dependency.\n *\n * @see [Introduction to Services and DI](guide/architecture-services)\n * @see
[Dependency Injection Guide](guide/dependency-injection)\n *\n * @usageNotes\n *\n * Marking a class with
`@Injectable` ensures that the compiler\n * will generate the necessary metadata to create the class's\n *
dependencies when the class is injected.\n *\n * The following example shows how a service class is properly\n
* marked so that a supporting service can be injected upon creation.\n *\n * <code-example
path=\"core/di/ts/metadata_spec.ts\" region=\"Injectable\"></code-example>\n *\n */\n (): TypeDecorator;\n
(options?: {providedIn: Type<any>|'root'|'platform'|'any'|null}&\n InjectableProvider): TypeDecorator;\n new():
Injectable;\n new(options?: {providedIn: Type<any>|'root'|'platform'|'any'|null}&\n InjectableProvider):
Injectable;\n}\n\n/**\n * Type of the Injectable metadata.\n *\n * @publicApi\n */\nexport interface Injectable {\n
/**\n * Determines which injectors will provide the injectable,\n * by either associating it with an `@NgModule`
or other `InjectorType`,\n * or by specifying that this injectable should be provided in one of the following
injectors:\n * - 'root' : The application-level injector in most apps.\n * - 'platform' : A special singleton platform

injector shared by all\n * applications on the page.\n * - 'any' : Provides a unique instance in each lazy loaded module while all eagerly loaded\n * modules share one instance.\n *\n */\n providedIn?: Type<any>|'root'|'platform'|'any'|null;\n}\n\n/**\n * Injectable decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const Injectable: InjectableDecorator = makeDecorator(\n 'Injectable', undefined, undefined, undefined,\n (type: Type<any>, meta: Injectable) => SWITCH_COMPILE_INJECTABLE(type as any, meta));\n\n\n/**\n * Supports @Injectable() in JIT mode for Render2.\n */\nfunction render2CompileInjectable(\n injectableType: Type<any>,\n options?: {providedIn?: Type<any>|'root'|'platform'|'any'|null}&InjectableProvider): void {\n if (options && options.providedIn !== undefined && !getInjectableDef(injectableType)) {\n (injectableType as InjectableType<any>).prov = defineInjectable({\n token: injectableType,\n providedIn: options.providedIn,\n factory: convertInjectableProviderToFactory(injectableType, options),\n });\n }\n}\n\nexport const SWITCH_COMPILE_INJECTABLE__POST_R3__ = render3CompileInjectable;\nconst SWITCH_COMPILE_INJECTABLE__PRE_R3__ = render2CompileInjectable;\nconst SWITCH_COMPILE_INJECTABLE: typeof render3CompileInjectable =\n SWITCH_COMPILE_INJECTABLE__PRE_R3__;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {ERROR_ORIGINAL_ERROR, wrappedError} from '../util/errors';\nimport {stringify} from '../util/stringify';\n\nimport {ReflectiveInjector} from './reflective_injector';\nimport {ReflectiveKey} from './reflective_key';\n\nfunction findFirstClosedCycle(keys: any[]): any[] {\n const res: any[] = [];\n for (let i = 0; i < keys.length; ++i) {\n if (res.indexOf(keys[i]) > -1) {\n res.push(keys[i]);\n return res;\n }\n res.push(keys[i]);\n }\n return res;\n}\n\nfunction constructResolvingPath(keys: any[]): string {\n if (keys.length > 1) {\n const reversed = findFirstClosedCycle(keys.slice().reverse());\n const tokenStrs = reversed.map(k => stringify(k.token));\n return ' (' + tokenStrs.join(' -> ') + ')';\n }\n\n return '';\n}\n\nexport interface InjectionError extends Error {\n keys: ReflectiveKey[];\n injectors: ReflectiveInjector[];\n constructResolvingMessage: (keys: ReflectiveKey[]) => string;\n addKey(injector: ReflectiveInjector, key: ReflectiveKey): void;\n}\n\nfunction injectionError(\n injector: ReflectiveInjector, key: ReflectiveKey,\n constructResolvingMessage: (keys: ReflectiveKey[]) => string,\n originalError?: Error): InjectionError {\n const keys = [key];\n const errMsg = constructResolvingMessage(keys);\n const error =\n (originalError ? wrappedError(errMsg, originalError) : Error(errMsg)) as InjectionError;\n error.addKey = addKey;\n error.keys = keys;\n error.injectors = [injector];\n error.constructResolvingMessage = constructResolvingMessage;\n (error as any)[ERROR_ORIGINAL_ERROR] = originalError;\n return error;\n}\n\nfunction addKey(this: InjectionError, injector: ReflectiveInjector, key: ReflectiveKey): void {\n this.injectors.push(injector);\n this.keys.push(key);\n // Note: This updated message won't be reflected in the `.stack` property\n this.message = this.constructResolvingMessage(this.keys);\n}\n\n/**\n * Thrown when trying to retrieve a dependency by key from {@link Injector}, but the\n * {@link Injector} does not have a {@link Provider} for the given key.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class A {\n * constructor(b:B) {}\n * }\n *\n * expect(() => Injector.resolveAndCreate([A])).toThrowError();\n * ```\n */\nexport function noProviderError(injector: ReflectiveInjector, key: ReflectiveKey): InjectionError {\n return injectionError(injector, key, function(keys: ReflectiveKey[]) {\n const first = stringify(keys[0].token);\n return `No provider for ${first}!${constructResolvingPath(keys)}`;\n });\n}\n\n/**\n * Thrown when dependencies form a cycle.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * var injector = Injector.resolveAndCreate([\n * {provide: \"one\", useFactory: (two) => \"two\", deps: [[new Inject(\"two\")]]},\n * {provide: \"two\", useFactory: (one) => \"one\", deps: [[new Inject(\"one\")]]}\n * ]);\n *\n * expect(() => injector.get(\"one\")).toThrowError();\n * ```\n *\n * Retrieving `A` or `B` throws a `CyclicDependencyError` as the graph above cannot be constructed.\n */\nexport function cyclicDependencyError(\n injector: ReflectiveInjector, key: ReflectiveKey): InjectionError {\n return injectionError(injector, key, function(keys: ReflectiveKey[]) {\n return `Cannot instantiate cyclic dependency!${constructResolvingPath(keys)}`;\n });\n}\n\n/**\n * Thrown when a constructing type returns with

an Error.\n *\n * The `InstantiationError` class contains the original error plus the dependency graph which caused\n * this object to be instantiated.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class A {\n * constructor() {\n * throw new Error('message');\n * }\n * }\n *\n * var injector = Injector.resolveAndCreate([A]);\n\n * try {\n * injector.get(A);\n * } catch (e) {\n * expect(e instanceof InstantiationError).toBe(true);\n *
expect(e.originalException.message).toEqual(\"message\");\n * expect(e.originalStack).toBeDefined();\n * }\n * ```\n */\nexport function instantiationError(\n injector: ReflectiveInjector, originalException: any, originalStack: any,\n key: ReflectiveKey): InjectionError {\n return injectionError(injector, key, function(keys: ReflectiveKey[]) {\n const first = stringify(keys[0].token);\n return `${originalException.message}: Error during instantiation of ${first}!${\n constructResolvingPath(keys)}.`;\n }, originalException);\n}\n\n/**\n * Thrown when an object other then {@link Provider} (or `Type`) is passed to {@link Injector}\n * creation.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * expect(() => Injector.resolveAndCreate([\"not a type\"])).toThrowError();\n * ```\n */\nexport function invalidProviderError(provider: any) {\n return Error(\n `Invalid provider - only instances of Provider and Type are allowed, got: ${provider}`);\n}\n\n/**\n
* Thrown when the class has no annotation information.\n *\n * Lack of annotation information prevents the {@link Injector} from determining which dependencies\n * need to be injected into the constructor.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class A {\n * constructor(b) {}\n * }\n *\n * expect(() => Injector.resolveAndCreate([A])).toThrowError();\n * ```\n *\n * This error is also thrown when the class not marked with {@link Injectable} has parameter types.\n *\n * ```typescript\n * class B {}\n *\n * class A {\n * constructor(b:B) {} // no information about the parameter types of A is available at runtime.\n * }\n *\n * expect(() => Injector.resolveAndCreate([A,B])).toThrowError();\n * ```\n *\n */\nexport function noAnnotationError(typeOrFunc: Type<any>|Function, params: any[][]): Error {\n const signature: string[] = [];\n for (let i = 0, ii = params.length; i < ii; i++) {\n const parameter = params[i];\n if (!parameter || parameter.length == 0) {\n signature.push('?');\n } else {\n signature.push(parameter.map(stringify).join(' '));\n }\n }\n return Error(\n 'Cannot resolve all parameters for \\'' + stringify(typeOrFunc) + '\\'(' +\n signature.join(', ') + '). ' +\n 'Make sure that all the parameters are decorated with Inject or have valid type annotations and that \\'' +\n stringify(typeOrFunc) + '\\' is decorated with Injectable.');\n}\n\n/**\n * Thrown when getting an object by index.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class A {}\n *\n * var injector = Injector.resolveAndCreate([A]);\n *\n * expect(() => injector.getAt(100)).toThrowError();\n * ```\n *\n */\nexport function outOfBoundsError(index: number) {\n return Error(`Index ${index} is out-of-bounds.`);\n}\n\n// TODO: add a working example after alpha38 is released\n/**\n * Thrown when a multi provider and a regular provider are bound to the same token.\n *\n * @usageNotes\n * ### Example\n *\n *
```typescript\n * expect(() => Injector.resolveAndCreate([\n * { provide: \"Strings\", useValue: \"string1\", multi: true},\n * { provide: \"Strings\", useValue: \"string2\", multi: false}\n * ])).toThrowError();\n * ```\n */\nexport function mixingMultiProvidersWithRegularProvidersError(\n provider1: any, provider2: any): Error {\n return Error(`Cannot mix multi providers and regular providers, got: ${provider1} ${provider2}`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {stringify} from '../util/stringify';\nimport {resolveForwardRef} from './forward_ref';\n\n\n/**\n * A unique object used for retrieving items from the {@link ReflectiveInjector}.\n *\n * Keys have:\n * - a system-wide unique `id`.\n * - a `token`.\n *\n * `Key` is used internally by {@link ReflectiveInjector} because its system-wide
unique `id` allows\n * the\n * injector to store created objects in a more efficient way.\n *\n * `Key` should not be created directly. {@link ReflectiveInjector} creates keys automatically when\n * resolving\n * providers.\n *\n * @deprecated No replacement\n * @publicApi\n */\nexport class ReflectiveKey {\n public readonly displayName: string;\n /**\n * Private\n */\n constructor(public token: Object, public id: number) {\n if (!token) {\n throw new Error('Token must be defined!');\n }\n this.displayName = stringify(this.token);\n }\n\n /**\n * Retrieves a `Key` for a token.\n */\n static get(token: Object): ReflectiveKey {\n return _globalKeyRegistry.get(resolveForwardRef(token));\n }\n\n /**\n * @returns the number of keys registered in the
```

system.\n */\n static get numberOfKeys(): number {\n return _globalKeyRegistry.numberOfKeys;\n }\n}\n\nexport class KeyRegistry {\n private _allKeys = new Map<Object, ReflectiveKey>();\n\n get(token: Object): ReflectiveKey {\n if (token instanceof ReflectiveKey) return token;\n\n if (this._allKeys.has(token)) {\n return this._allKeys.get(token)!;\n }\n\n const newKey = new ReflectiveKey(token, ReflectiveKey.numberOfKeys);\n this._allKeys.set(token, newKey);\n return newKey;\n }\n\n get numberOfKeys(): number {\n return this._allKeys.size;\n }\n}\n\nconst _globalKeyRegistry = new KeyRegistry();\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {PlatformReflectionCapabilities} from './platform_reflection_capabilities';\nimport {GetterFn, MethodFn, SetterFn} from './types';\n\nexport {PlatformReflectionCapabilities};\nexport {GetterFn, MethodFn, SetterFn};\n\n/**\n * Provides access to reflection data about symbols. Used internally by Angular\n *\n to power dependency injection and compilation.\n */\nexport class Reflector {\n constructor(public reflectionCapabilities: PlatformReflectionCapabilities) {}\n\n updateCapabilities(caps: PlatformReflectionCapabilities) {\n this.reflectionCapabilities = caps;\n }\n\n factory(type: Type<any>): Function {\n return this.reflectionCapabilities.factory(type);\n }\n\n parameters(typeOrFunc: Type<any>): any[][] {\n return this.reflectionCapabilities.parameters(typeOrFunc);\n }\n\n annotations(typeOrFunc: Type<any>): any[] {\n return this.reflectionCapabilities.annotations(typeOrFunc);\n }\n\n propMetadata(typeOrFunc: Type<any>): {[key: string]: any[]} {\n return this.reflectionCapabilities.propMetadata(typeOrFunc);\n }\n\n hasLifecycleHook(type: any, lcProperty: string): boolean {\n return this.reflectionCapabilities.hasLifecycleHook(type, lcProperty);\n }\n\n getter(name: string): GetterFn {\n return this.reflectionCapabilities.getter(name);\n }\n\n setter(name: string): SetterFn {\n return this.reflectionCapabilities.setter(name);\n }\n\n method(name: string): MethodFn {\n return this.reflectionCapabilities.method(name);\n }\n\n importUri(type: any): string {\n return this.reflectionCapabilities.importUri(type);\n }\n\n resourceUri(type: any): string {\n return this.reflectionCapabilities.resourceUri(type);\n }\n\n resolveIdentifier(name: string, moduleUrl: string, members: string[], runtime: any): any {\n return this.reflectionCapabilities.resolveIdentifier(name, moduleUrl, members, runtime);\n }\n\n resolveEnum(identifier: any, name: string): any {\n return this.reflectionCapabilities.resolveEnum(identifier, name);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ReflectionCapabilities} from './reflection_capabilities';\nimport {Reflector} from './reflector';\n\nexport {Reflector} from './reflector';\n\n/**\n * The {@link Reflector} used internally in Angular to access metadata\n * about symbols.\n */\nexport const reflector = new Reflector(new ReflectionCapabilities());\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {reflector} from '../reflection/reflection';\n\nimport {resolveForwardRef} from './forward_ref';\nimport {InjectionToken} from './injection_token';\nimport {ClassProvider, ExistingProvider, FactoryProvider, Provider, TypeProvider, ValueProvider} from './interface/provider';\nimport {Inject, Optional, Self, SkipSelf} from './metadata';\nimport {invalidProviderError, mixingMultiProvidersWithRegularProvidersError, noAnnotationError} from './reflective_errors';\nimport {ReflectiveKey} from './reflective_key';\n\n\ninterface NormalizedProvider extends TypeProvider, ValueProvider, ClassProvider, ExistingProvider,\n FactoryProvider {}\n\n/**\n * `Dependency` is used by the framework to extend DI.\n * This is internal to Angular and should not be used directly.\n */\nexport class ReflectiveDependency {\n constructor(\n public key: ReflectiveKey, public optional: boolean, public visibility: Self|SkipSelf|null) {}\n\n static fromKey(key: ReflectiveKey): ReflectiveDependency {\n return new ReflectiveDependency(key, false, null);\n }\n}\n\nconst _EMPTY_LIST: any[] = [];\n\n/**\n * An internal resolved representation of a

`Provider` used by the `Injector`.\n *\n * @usageNotes\n * This is usually created automatically by `Injector.resolveAndCreate`.\n *\n * It can be created manually, as follows:\n *\n * ### Example\n *\n * ```typescript\n * var resolvedProviders = Injector.resolve([{ provide: 'message', useValue: 'Hello' }]);\n * var injector = Injector.fromResolvedProviders(resolvedProviders);\n *\n * expect(injector.get('message')).toEqual('Hello');\n * ```\n *\n * @publicApi\n */\nexport interface ResolvedReflectiveProvider {\n /**\n * A key, usually a `Type<any>`.\n */\n key: ReflectiveKey;\n\n /**\n * Factory function which can return an instance of an object represented by a key.\n */\n resolvedFactories: ResolvedReflectiveFactory[];\n\n /**\n * Indicates if the provider is a multi-provider or a regular provider.\n */\n multiProvider: boolean;\n}\n\nexport class ResolvedReflectiveProvider_ implements ResolvedReflectiveProvider {\n readonly resolvedFactory: ResolvedReflectiveFactory;\n\n constructor(\n public key: ReflectiveKey, public resolvedFactories: ResolvedReflectiveFactory[],\n public multiProvider: boolean) {\n this.resolvedFactory = this.resolvedFactories[0];\n }\n}\n\n/**\n * An internal resolved representation of a factory function created by resolving `Provider`.\n * @publicApi\n */\nexport class ResolvedReflectiveFactory {\n constructor(\n /**\n * Factory function which can return an instance of an object represented by a key.\n */\n public factory: Function,\n\n /**\n * Arguments (dependencies) to the `factory` function.\n */\n public dependencies: ReflectiveDependency[]) {}\n}\n\n\n/**\n * Resolve a single provider.\n */\nfunction resolveReflectiveFactory(provider: NormalizedProvider): ResolvedReflectiveFactory {\n let factoryFn: Function;\n let resolvedDeps: ReflectiveDependency[];\n if (provider.useClass) {\n const useClass = resolveForwardRef(provider.useClass);\n factoryFn = reflector.factory(useClass);\n resolvedDeps = _dependenciesFor(useClass);\n } else if (provider.useExisting) {\n factoryFn = (aliasInstance: any) => aliasInstance;\n resolvedDeps = [ReflectiveDependency.fromKey(ReflectiveKey.get(provider.useExisting))];\n } else if (provider.useFactory) {\n factoryFn = provider.useFactory;\n resolvedDeps = constructDependencies(provider.useFactory, provider.deps);\n } else {\n factoryFn = () => provider.useValue;\n resolvedDeps = _EMPTY_LIST;\n }\n return new ResolvedReflectiveFactory(factoryFn, resolvedDeps);\n}\n\n/**\n * Converts the `Provider` into `ResolvedProvider`.\n *\n * `Injector` internally only uses `ResolvedProvider`, `Provider` contains convenience provider\n * syntax.\n */\nfunction resolveReflectiveProvider(provider: NormalizedProvider): ResolvedReflectiveProvider {\n return new ResolvedReflectiveProvider_(\n ReflectiveKey.get(provider.provide), [resolveReflectiveFactory(provider)],\n provider.multi || false);\n}\n\n/**\n * Resolve a list of Providers.\n */\nexport function resolveReflectiveProviders(providers: Provider[]): ResolvedReflectiveProvider[] {\n const normalized = _normalizeProviders(providers, []);\n const resolved = normalized.map(resolveReflectiveProvider);\n const resolvedProviderMap = mergeResolvedReflectiveProviders(resolved,\n new Map());\n return Array.from(resolvedProviderMap.values());\n}\n\n/**\n * Merges a list of ResolvedProviders into a list where each key is contained exactly once and\n * multi providers have been merged.\n */\nexport function mergeResolvedReflectiveProviders(\n providers: ResolvedReflectiveProvider[],\n normalizedProvidersMap: Map<number, ResolvedReflectiveProvider>):\n Map<number, ResolvedReflectiveProvider> {\n for (let i = 0; i < providers.length; i++) {\n const provider = providers[i];\n const existing = normalizedProvidersMap.get(provider.key.id);\n if (existing) {\n if (provider.multiProvider !== existing.multiProvider) {\n throw mixingMultiProvidersWithRegularProvidersError(existing, provider);\n }\n if (provider.multiProvider) {\n for (let j = 0; j < provider.resolvedFactories.length; j++) {\n existing.resolvedFactories.push(provider.resolvedFactories[j]);\n }\n }\n else {\n normalizedProvidersMap.set(provider.key.id, provider);\n }\n } else {\n let resolvedProvider: ResolvedReflectiveProvider;\n if (provider.multiProvider) {\n resolvedProvider = new ResolvedReflectiveProvider_(\n provider.key, provider.resolvedFactories.slice(), provider.multiProvider);\n } else {\n resolvedProvider = provider;\n }\n normalizedProvidersMap.set(provider.key.id, resolvedProvider);\n }\n }\n return normalizedProvidersMap;\n}\n\nfunction _normalizeProviders(\n providers:

Provider[], res: NormalizedProvider[]): NormalizedProvider[] {\n providers.forEach(b => {\n if (b instanceof Type) {\n res.push({provide: b, useClass: b} as NormalizedProvider);\n\n } else if (b && typeof b == 'object' && (b as any).provide !== undefined) {\n res.push(b as NormalizedProvider);\n\n } else if (Array.isArray(b)) {\n _normalizeProviders(b, res);\n\n } else {\n throw invalidProviderError(b);\n }\n });\n\n return res;\n}\n\nexport function constructDependencies(\n typeOrFunc: any, dependencies?: any[]): ReflectiveDependency[] {\n if (!dependencies) {\n return _dependenciesFor(typeOrFunc);\n } else {\n const params: any[][] = dependencies.map(t => [t]);\n return dependencies.map(t => _extractToken(typeOrFunc, t, params));\n }\n}\n\nfunction _dependenciesFor(typeOrFunc: any): ReflectiveDependency[] {\n const params = reflector.parameters(typeOrFunc);\n\n if (!params) return [];\n if (params.some(p => p == null)) {\n throw noAnnotationError(typeOrFunc, params);\n }\n return params.map(p => _extractToken(typeOrFunc, p, params));\n}\n\nfunction _extractToken(\n typeOrFunc: any, metadata: any[]|any, params: any[][]): ReflectiveDependency {\n let token: any = null;\n let optional = false;\n\n if (!Array.isArray(metadata)) {\n if (metadata instanceof Inject) {\n return _createDependency(metadata.token, optional, null);\n } else {\n return _createDependency(metadata, optional, null);\n }\n }\n\n let visibility: Self|SkipSelf|null = null;\n\n for (let i = 0; i < metadata.length; ++i) {\n const paramMetadata = metadata[i];\n\n if (paramMetadata instanceof Type) {\n token = paramMetadata;\n\n } else if (paramMetadata instanceof Inject) {\n token = paramMetadata.token;\n\n } else if (paramMetadata instanceof Optional) {\n optional = true;\n\n } else if (paramMetadata instanceof Self || paramMetadata instanceof SkipSelf) {\n visibility = paramMetadata;\n } else if (paramMetadata instanceof InjectionToken) {\n token = paramMetadata;\n }\n }\n\n token = resolveForwardRef(token);\n\n if (token != null) {\n return _createDependency(token, optional, visibility);\n } else {\n throw noAnnotationError(typeOrFunc, params);\n }\n}\n\nfunction _createDependency(\n token: any, optional: boolean, visibility: Self|SkipSelf|null): ReflectiveDependency {\n return new ReflectiveDependency(ReflectiveKey.get(token), optional, visibility);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from './injector';\nimport {THROW_IF_NOT_FOUND} from './injector_compatibility';\nimport {Provider} from './interface/provider';\nimport {Self, SkipSelf} from './metadata';\nimport {cyclicDependencyError, instantiationError, noProviderError, outOfBoundsError} from './reflective_errors';\nimport {ReflectiveKey} from './reflective_key';\nimport {ReflectiveDependency, ResolvedReflectiveFactory, ResolvedReflectiveProvider, resolveReflectiveProviders} from './reflective_provider';\n\n\n// Threshold for the dynamic version\nconst UNDEFINED = {};\n\n/**\n * A ReflectiveDependency injection container used for instantiating objects and resolving\n * dependencies.\n *\n * An `Injector` is a replacement for a `new` operator, which can automatically resolve the\n * constructor dependencies.\n *\n * In typical use, application code asks for the dependencies in the constructor and they are\n * resolved by the `Injector`.\n *\n * @usageNotes\n * ### Example\n *\n * The following example creates an `Injector` configured to create `Engine` and `Car`.\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var injector = ReflectiveInjector.resolveAndCreate([Car, Engine]);\n * var car = injector.get(Car);\n * expect(car instanceof Car).toBe(true);\n * expect(car.engine instanceof Engine).toBe(true);\n * ```\n *\n * Notice, we don't use the `new` operator because we explicitly want to have the `Injector`\n * resolve all of the object's dependencies automatically.\n *\n * @deprecated from v5 - slow and brings in a lot of code, Use `Injector.create` instead.\n * @publicApi\n */\nexport abstract class ReflectiveInjector implements Injector {\n /**\n * Turns an array of provider definitions into an array of resolved providers.\n *\n * A resolution is a process of flattening multiple nested arrays and converting individual\n * providers into an array of `ResolvedReflectiveProvider`s.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var providers = ReflectiveInjector.resolve([Car, [[Engine]]]);\n *\n * expect(providers.length).toEqual(2);\n *\n * expect(providers[0] instanceof

ResolvedReflectiveProvider).toBe(true);\n * expect(providers[0].key.displayName).toBe(\"Car\");\n * expect(providers[0].dependencies.length).toEqual(1);\n * expect(providers[0].factory).toBeDefined();\n *\n * expect(providers[1].key.displayName).toBe(\"Engine\");\n * });\n * ```\n *\n */\n static resolve(providers: Provider[]): ResolvedReflectiveProvider[] {\n return resolveReflectiveProviders(providers);\n }\n\n /**\n * Resolves an array of providers and creates an injector from those providers.\n *\n * The passed-in providers can be an array of `Type`, `Provider`,\n * or a recursive array of more providers.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var injector = ReflectiveInjector.resolveAndCreate([Car, Engine]);\n * expect(injector.get(Car) instanceof Car).toBe(true);\n * ```\n */\n static resolveAndCreate(providers: Provider[], parent?: Injector): ReflectiveInjector {\n const ResolvedReflectiveProviders = ReflectiveInjector.resolve(providers);\n return ReflectiveInjector.fromResolvedProviders(ResolvedReflectiveProviders, parent);\n }\n\n /**\n * Creates an injector from previously resolved providers.\n *\n * This API is the recommended way to construct injectors in performance-sensitive parts.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var providers = ReflectiveInjector.resolve([Car, Engine]);\n * var injector = ReflectiveInjector.fromResolvedProviders(providers);\n * expect(injector.get(Car) instanceof Car).toBe(true);\n * ```\n */\n static fromResolvedProviders(providers: ResolvedReflectiveProvider[], parent?: Injector):\n ReflectiveInjector {\n return new ReflectiveInjector_(providers, parent);\n }\n\n\n /**\n * Parent of this injector.\n *\n * <!-- TODO: Add a link to the section of the user guide talking about hierarchical injection.\n * -->\n */\n abstract get parent(): Injector|null;\n\n /**\n * Resolves an array of providers and creates a child injector from those providers.\n *\n * <!-- TODO: Add a link to the section of the user guide talking about hierarchical injection.\n * -->\n *\n * The passed-in providers can be an array of `Type`, `Provider`,\n * or a recursive array of more providers.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class ParentProvider {}\n * class ChildProvider {}\n *\n * var parent = ReflectiveInjector.resolveAndCreate([ParentProvider]);\n * var child = parent.resolveAndCreateChild([ChildProvider]);\n *\n * expect(child.get(ParentProvider) instanceof ParentProvider).toBe(true);\n * expect(child.get(ChildProvider) instanceof ChildProvider).toBe(true);\n * expect(child.get(ParentProvider)).toBe(parent.get(ParentProvider));\n * ```\n */\n abstract resolveAndCreateChild(providers: Provider[]): ReflectiveInjector;\n\n /**\n * Creates a child injector from previously resolved providers.\n *\n * <!--\n TODO: Add a link to the section of the user guide talking about hierarchical injection.\n * -->\n *\n * This API is the recommended way to construct injectors in performance-sensitive parts.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * class ParentProvider {}\n * class ChildProvider {}\n *\n * var parentProviders = ReflectiveInjector.resolve([ParentProvider]);\n * var childProviders = ReflectiveInjector.resolve([ChildProvider]);\n *\n * var parent = ReflectiveInjector.fromResolvedProviders(parentProviders);\n * var child = parent.createChildFromResolved(childProviders);\n *\n * expect(child.get(ParentProvider) instanceof ParentProvider).toBe(true);\n * expect(child.get(ChildProvider) instanceof ChildProvider).toBe(true);\n * expect(child.get(ParentProvider)).toBe(parent.get(ParentProvider));\n * ```\n */\n abstract createChildFromResolved(providers: ResolvedReflectiveProvider[]): ReflectiveInjector;\n\n /**\n * Resolves a provider and instantiates an object in the context of the injector.\n *\n * The created object does not get cached by the injector.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * @Injectable()\n * class Engine {\n * }\n *\n * @Injectable()\n * class Car {\n * constructor(public engine:Engine) {}\n * }\n *\n * var injector = ReflectiveInjector.resolveAndCreate([Engine]);\n *\n * var car = injector.resolveAndInstantiate(Car);\n * expect(car.engine).toBe(injector.get(Engine));\n * expect(car).not.toBe(injector.resolveAndInstantiate(Car));\n * ```\n */\n abstract resolveAndInstantiate(provider: Provider): any;\n\n /**\n * Instantiates an object using a resolved provider in the context of the injector.\n *\n *

```
The created object does not get cached by the injector.\n   *\n   * @usageNotes\n   * ### Example\n   *\n   *
```typescript\n   * @Injectable()\n   * class Engine {\n   * }\n   *\n   * @Injectable()\n   * class
 Car {\n   *   constructor(public engine:Engine) {}\n   * }\n   *\n   * var injector =
ReflectiveInjector.resolveAndCreate([Engine]);\n   * var carProvider = ReflectiveInjector.resolve([Car])[0];\n   * var
car = injector.instantiateResolved(carProvider);\n   * expect(car.engine).toBe(injector.get(Engine));\n   *
expect(car).not.toBe(injector.instantiateResolved(carProvider));\n   * ```\n   */\n  abstract
instantiateResolved(provider: ResolvedReflectiveProvider): any;\n\n  abstract get(token: any, notFoundValue?:
any): any;\n}\n\nexport class ReflectiveInjector_ implements ReflectiveInjector {\n  private static INJECTOR_KEY
= ReflectiveKey.get(Injector);\n  /** @internal */\n  _constructionCounter: number = 0;\n  /** @internal */\n
public _providers: ResolvedReflectiveProvider[];\n  public readonly parent: Injector|null;\n\n  keyIds: number[];\n
objs: any[];\n  /**\n   * Private\n   */\n  constructor(_providers: ResolvedReflectiveProvider[], _parent?: Injector)
{\n    this._providers
 = _providers;\n    this.parent = _parent || null;\n\n    const len = _providers.length;\n\n    this.keyIds = [];\n
this.objs = [];\n\n    for (let i = 0; i < len; i++) {\n      this.keyIds[i] = _providers[i].key.id;\n      this.objs[i] =
UNDEFINED;\n    }\n  }\n\n  get(token: any, notFoundValue: any = THROW_IF_NOT_FOUND): any {\n    return
this._getByKey(ReflectiveKey.get(token), null, notFoundValue);\n  }\n\n  resolveAndCreateChild(providers:
Provider[]): ReflectiveInjector {\n    const ResolvedReflectiveProviders = ReflectiveInjector.resolve(providers);\n
return this.createChildFromResolved(ResolvedReflectiveProviders);\n  }\n\n  createChildFromResolved(providers:
ResolvedReflectiveProvider[]): ReflectiveInjector {\n    const inj = new ReflectiveInjector_(providers);\n    (inj as
{parent: Injector | null}).parent = this;\n    return inj;\n  }\n\n  resolveAndInstantiate(provider: Provider): any {\n
return this.instantiateResolved(ReflectiveInjector.resolve([provider])[0]);\n
  }\n\n  instantiateResolved(provider: ResolvedReflectiveProvider): any {\n    return
this._instantiateProvider(provider);\n  }\n\n  getProviderAtIndex(index: number): ResolvedReflectiveProvider {\n
if (index < 0 || index >= this._providers.length) {\n      throw outOfBoundsError(index);\n    }\n    return
this._providers[index];\n  }\n\n  /** @internal */\n  _new(provider: ResolvedReflectiveProvider): any {\n    if
(this._constructionCounter++ > this._getMaxNumberOfObjects()) {\n      throw cyclicDependencyError(this,
provider.key);\n    }\n    return this._instantiateProvider(provider);\n  }\n\n  private _getMaxNumberOfObjects():
number {\n    return this.objs.length;\n  }\n\n  private _instantiateProvider(provider: ResolvedReflectiveProvider):
any {\n    if (provider.multiProvider) {\n      const res = [];\n      for (let i = 0; i < provider.resolvedFactories.length;
++i) {\n        res[i] = this._instantiate(provider, provider.resolvedFactories[i]);\n      }\n      return res;\n
    } else {\n      return this._instantiate(provider, provider.resolvedFactories[0]);\n    }\n  }\n\n  private _instantiate(\n
    provider: ResolvedReflectiveProvider,\n      ResolvedReflectiveFactory: ResolvedReflectiveFactory): any {\n
const factory = ResolvedReflectiveFactory.factory;\n\n    let deps: any[];\n    try {\n      deps =\n
ResolvedReflectiveFactory.dependencies.map(dep => this._getByReflectiveDependency(dep));\n    } catch (e) {\n
if (e.addKey) {\n        e.addKey(this, provider.key);\n      }\n      throw e;\n    }\n\n    let obj: any;\n    try {\n      obj =
factory(...deps);\n    } catch (e) {\n      throw instantiationError(this, e, e.stack, provider.key);\n    }\n\n    return
obj;\n  }\n\n  private _getByReflectiveDependency(dep: ReflectiveDependency): any {\n    return
this._getByKey(dep.key, dep.visibility, dep.optional ? null : THROW_IF_NOT_FOUND);\n  }\n\n  private
_getByKey(key: ReflectiveKey, visibility: Self|SkipSelf|null, notFoundValue: any):
 any {\n    if (key === ReflectiveInjector_.INJECTOR_KEY) {\n      return this;\n    }\n\n    if (visibility instanceof
Self) {\n      return this._getByKeySelf(key, notFoundValue);\n\n    } else {\n      return this._getByKeyDefault(key,
notFoundValue, visibility);\n    }\n  }\n\n  private _getObjByKeyId(keyId: number): any {\n    for (let i = 0; i <
this.keyIds.length; i++) {\n      if (this.keyIds[i] === keyId) {\n        if (this.objs[i] === UNDEFINED) {\n
this.objs[i] = this._new(this._providers[i]);\n        }\n\n        return this.objs[i];\n      }\n    }\n\n    return
UNDEFINED;\n  }\n\n  /** @internal */\n  _throwOrNull(key: ReflectiveKey, notFoundValue: any): any {\n    if
(notFoundValue !== THROW_IF_NOT_FOUND) {\n      return notFoundValue;\n    } else {\n      throw
noProviderError(this, key);\n    }\n  }\n\n  /** @internal */\n  _getByKeySelf(key: ReflectiveKey, notFoundValue:
any): any {\n    const obj = this._getObjByKeyId(key.id);\n    return (obj !== UNDEFINED)
```
```

? obj : this._throwOrNull(key, notFoundValue);\n  }\n\n  /** @internal */\n  _getByKeyDefault(key: ReflectiveKey, notFoundValue: any, visibility: Self|SkipSelf|null): any {\n    let inj: Injector|null;\n\n    if (visibility instanceof SkipSelf) {\n      inj = this.parent;\n    } else {\n      inj = this;\n    }\n\n    while (inj instanceof ReflectiveInjector_) {\n      const inj_ = <ReflectiveInjector_>inj;\n      const obj = inj_._getObjByKeyId(key.id);\n      if (obj !== UNDEFINED) return obj;\n      inj = inj_.parent;\n    }\n    if (inj !== null) {\n      return inj.get(key.token, notFoundValue);\n    } else {\n      return this._throwOrNull(key, notFoundValue);\n    }\n  }\n\n  get displayName(): string {\n    const providers =\n        _mapProviders(this, (b: ResolvedReflectiveProvider) => ' \'" + b.key.displayName + '\" ')\n            .join(', ');\n    return `ReflectiveInjector(providers: [${providers}])`;\n  }\n\n  toString(): string {\n    return this.displayName;\n  }\n}\n\nfunction _mapProviders(injector: ReflectiveInjector_, fn: Function): any[] {\n  const res: any[] = [];\n  for (let i = 0; i < injector._providers.length; ++i) {\n    res[i] = fn(injector.getProviderAtIndex(i));\n  }\n  return res;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * The `di` module provides dependency injection container services.\n */\n\nexport * from './metadata';\nexport {InjectFlags} from './interface/injector';\nexport {defineInjectable, defineInjectable, defineInjector, InjectableType, InjectorType} from './interface/defs';\nexport {forwardRef, resolveForwardRef, ForwardRefFn} from './forward_ref';\nexport {Injectable, InjectableDecorator, InjectableProvider} from './injectable';\nexport {Injector} from './injector';\nexport {inject, inject, invalidFactoryDep} from './injector_compatibility';\nexport {INJECTOR} from './injector_token';\nexport {ReflectiveInjector} from './reflective_injector';\nexport {ClassProvider, ClassSansProvider, ConstructorProvider, ConstructorSansProvider, ExistingProvider, ExistingSansProvider, FactoryProvider, FactorySansProvider, Provider, StaticClassProvider, StaticClassSansProvider, StaticProvider, TypeProvider, ValueProvider, ValueSansProvider} from './interface/provider';\nexport {ResolvedReflectiveFactory, ResolvedReflectiveProvider} from './reflective_provider';\nexport {ReflectiveKey} from './reflective_key';\nexport {InjectionToken} from './injection_token';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * This file should not be necessary because node resolution should just default to `./di/index`!\n *\n * However it does not seem to work and it breaks:\n *  - //packages/animations/browser/test:test_web_chromium-local\n *  - //packages/compiler-cli/test:extract_i18n\n *  - //packages/compiler-cli/test:ngc\n *  - //packages/compiler-cli/test:perform_watch\n *  - //packages/compiler-cli/test/diagnostics:check_types\n *  - //packages/compiler-cli/test/transformers:test\n *  - //packages/compiler/test:test\n *  - //tools/public_api_guard:core_api\n *\n * Remove this file once the above is solved or wait until `ngc` is deleted and then it should be\n * safe to delete this file.\n */\n\nexport * from './di/index';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {InjectFlags, InjectionToken, resolveForwardRef} from '../../di';\nimport {assertInjectImplementationNotEqual} from '../../di/inject_switch';\nimport {inject} from '../../di/injector_compatibility';\nimport {Type} from '../../interface/type';\nimport {getOrCreateInjectable} from '../di';\nimport {TDirectiveHostNode} from '../interfaces/node';\nimport {getCurrentTNode, getLView} from '../state';\n\n/**\n * Returns the value associated to the given token from the injectors.\n *\n * `directiveInject` is intended to be used for directive, component and pipe factories.\n *  All other injection use `inject` which does not walk the node injector tree.\n *\n * Usage example (in factory function):\n *\n * ```ts\n * class SomeDirective {\n *   constructor(directive: DirectiveA) {}\n *\n *   static dir = defineDirective({\n *     type: SomeDirective,\n *     factory: () => new SomeDirective(directiveInject(DirectiveA))\n *   });\n * }\n * ```\n * @param token the type or token to inject\n * @param flags Injection flags\n * @returns the value from the injector or `null` when not found\n *\n * @codeGenApi\n */\nexport function directiveInject<T>(token: Type<T>|InjectionToken<T>):

T;\nexport function directiveInject<T>(token: Type<T>|InjectionToken<T>, flags: InjectFlags): T;\nexport function directiveInject<T>(\n token: Type<T>|InjectionToken<T>, flags = InjectFlags.Default): T|null {\n const lView = getLView();\n // Fall back to inject() if view hasn't been created. This situation can happen in tests\n // if inject utilities are used before bootstrapping.\n if (lView === null) {\n // Verify that we will not get into infinite loop.\n ngDevMode && assertInjectImplementationNotEqual(directiveInject);\n return inject(token, flags);\n }\n const tNode = getCurrentTNode();\n return getOrCreateInjectable<T>(\n tNode as TDirectiveHostNode, lView, resolveForwardRef(token), flags);\n}\n\n/**\n * Throws an error indicating that a factory function could not be generated by the compiler for a\n * particular class.\n *\n * This instruction allows the actual error message to be optimized away when ngDevMode is turned\n * off, saving
bytes of generated code while still providing a good experience in dev mode.\n *\n * The name of the class is not mentioned here, but will be in the generated factory function name\n * and thus in the stack trace.\n *\n * @codeGenApi\n */\nexport function invalidFactory(): never {\n const msg =\n ngDevMode ? `This constructor was not compatible with Dependency Injection.` : 'invalid';\n throw new Error(msg);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {bindingUpdated} from '../bindings';\nimport {TNode} from '../interfaces/node';\nimport {SanitizerFn} from '../interfaces/sanitization';\nimport {LView, RENDERER, TView} from '../interfaces/view';\nimport {getLView, getSelectedTNode, getTView, nextBindingIndex} from '../state';\n\nimport {elementPropertyInternal, setInputsForProperty, storePropertyBindingMetadata}
from './shared';\n\n\n/**\n * Update a property on a selected element.\n *\n * Operates on the element selected by index via the {@link select} instruction.\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled\n *\n * @param propName Name of property. Because it is going to DOM, this is not subject to\n * renaming as part of minification.\n * @param value New value to write.\n * @param sanitizer An optional function used to sanitize the value.\n * @returns This function returns itself so that it may be chained\n * (e.g. `property('name', ctx.name)('title', ctx.title)`)\n *\n * @codeGenApi\n */\nexport function property<T>(\n propName: string, value: T, sanitizer?: SanitizerFn|null): typeof property {\n const lView = getLView();\n
const bindingIndex = nextBindingIndex();\n if (bindingUpdated(lView, bindingIndex, value)) {\n const tView = getTView();\n const tNode = getSelectedTNode();\n elementPropertyInternal(\n tView, tNode, lView, propName, value, lView[RENDERER], sanitizer, false);\n ngDevMode &&
storePropertyBindingMetadata(tView.data, tNode, propName, bindingIndex);\n }\n return property;\n}\n\n/**\n * Given `<div style=\"...\" my-dir>` and `MyDir` with `@Input('style')` we need to write to\n * directive input.\n */\nexport function setDirectiveInputsWhichShadowsStyling(\n tView: TView, tNode: TNode, lView: LView, value: any, isClassBased: boolean) {\n const inputs = tNode.inputs!;\n const property = isClassBased ? 'class' : 'style';\n // We support both 'class' and `className` hence the fallback.\n setInputsForProperty(tView, lView, inputs[property], property, value);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed
by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDefined, assertEqual, assertIndexInRange} from '../../util/assert';\nimport {assertFirstCreatePass, assertHasParent} from '../assert';\nimport {attachPatchData} from '../context_discovery';\nimport {formatRuntimeError, RuntimeErrorCode} from '../error_code';\nimport {registerPostOrderHooks} from '../hooks';\nimport {hasClassInput, hasStyleInput, TAttributes, TElementNode, TNode, TNodeFlags, TNodeType} from '../interfaces/node';\nimport {RElement} from '../interfaces/renderer_dom';\nimport {isContentQueryHost, isDirectiveHost} from '../interfaces/type_checks';\nimport {HEADER_OFFSET, LView, RENDERER, TView} from '../interfaces/view';\nimport {assertTNodeType} from '../node_assert';\nimport {appendChild, createElementNode, writeDirectClass, writeDirectStyle} from '../node_manipulation';\nimport {decreaseElementDepthCount, getBindingIndex, getCurrentTNode, getElementDepthCount,

```
 getLView, getNamespace, getTView, increaseElementDepthCount, isCurrentTNodeParent, setCurrentTNode,
setCurrentTNodeAsNotParent} from '../state';\nimport {computeStaticStyling} from
'../styling/static_styling';\nimport {setUpAttributes} from '../util/attrs_utils';\nimport {getConstant} from
'../util/view_utils';\nimport {setDirectiveInputsWhichShadowsStyling} from './property';\nimport
{createDirectivesInstances, executeContentQueries, getOrCreateTNode, matchingSchemas, resolveDirectives,
saveResolvedLocalsInData} from './shared';\n\n\n\nfunction elementStartFirstCreatePass(\n    index: number, tView:
TView, lView: LView, native: RElement, name: string,\n    attrsIndex?: number|null, localRefsIndex?: number):
TElementNode {\n  ngDevMode && assertFirstCreatePass(tView);\n  ngDevMode &&
ngDevMode.firstCreatePass++;\n\n  const tViewConsts = tView.consts;\n  const attrs =
getConstant<TAttributes>(tViewConsts, attrsIndex);\n  const tNode = getOrCreateTNode(tView, index,
TNodeType.Element,
 name, attrs);\n\n  const hasDirectives =\n      resolveDirectives(tView, lView, tNode,
getConstant<string[]>(tViewConsts, localRefsIndex));\n  ngDevMode && logUnknownElementError(tView,
native, tNode, hasDirectives);\n\n  if (tNode.attrs !== null) {\n    computeStaticStyling(tNode, tNode.attrs, false);\n
}\n\n  if (tNode.mergedAttrs !== null) {\n    computeStaticStyling(tNode, tNode.mergedAttrs, true);\n  }\n\n  if
(tView.queries !== null) {\n    tView.queries.elementStart(tView, tNode);\n  }\n\n  return tNode;\n}\n\n/**\n *
Create DOM element. The instruction must later be followed by `elementEnd()` call.\n *\n * @param index Index of
the element in the LView array\n * @param name Name of the DOM Node\n * @param attrsIndex Index of the
element's attributes in the `consts` array.\n * @param localRefsIndex Index of the element's local references in the
`consts` array.\n *\n * Attributes and localRefs are passed as an array of strings where elements with an even
index\n * hold
 an attribute name and elements with an odd index hold an attribute value, ex.:\n * ['id', 'warning5', 'class', 'alert']\n
*\n * @codeGenApi\n */\nexport function elementStart(\n    index: number, name: string, attrsIndex?: number|null,
localRefsIndex?: number): void {\n  const lView = getLView();\n  const tView = getTView();\n  const
adjustedIndex = HEADER_OFFSET + index;\n\n  ngDevMode &&\n      assertEqual(\n          getBindingIndex(),
tView.bindingStartIndex,\n          'elements should be created before any bindings');\n  ngDevMode &&
assertIndexInRange(lView, adjustedIndex);\n\n  const renderer = lView[RENDERER];\n  const native =
lView[adjustedIndex] = createElementNode(renderer, name, getNamespace());\n  const tNode =
tView.firstCreatePass ?\n      elementStartFirstCreatePass(\n          adjustedIndex, tView, lView, native, name,
attrsIndex, localRefsIndex) :\n      tView.data[adjustedIndex] as TElementNode;\n  setCurrentTNode(tNode,
true);\n\n  const mergedAttrs = tNode.mergedAttrs;\n
  if (mergedAttrs !== null) {\n    setUpAttributes(renderer, native, mergedAttrs);\n  }\n  const classes =
tNode.classes;\n  if (classes !== null) {\n    writeDirectClass(renderer, native, classes);\n  }\n  const styles =
tNode.styles;\n  if (styles !== null) {\n    writeDirectStyle(renderer, native, styles);\n  }\n\n  if ((tNode.flags &
TNodeFlags.isDetached) !== TNodeFlags.isDetached) {\n    // In the i18n case, the translation may have removed
this element, so only add it if it is not\n    // detached. See `TNodeType.Placeholder` and `LFrame.inI18n` for more
context.\n    appendChild(tView, lView, native, tNode);\n  }\n\n  // any immediate children of a component or
template container must be pre-emptively\n  // monkey-patched with the component view data so that the element
can be inspected\n  // later on using any element discovery utility methods (see `element_discovery.ts`)\n  if
(getElementDepthCount() === 0) {\n    attachPatchData(native, lView);\n  }\n  increaseElementDepthCount();\n\n\n
  if (isDirectiveHost(tNode)) {\n    createDirectivesInstances(tView, lView, tNode);\n
executeContentQueries(tView, tNode, lView);\n  }\n  if (localRefsIndex !== null) {\n
saveResolvedLocalsInData(lView, tNode);\n  }\n}\n\n/**\n * Mark the end of the element.\n *\n * @codeGenApi\n
*/\nexport function elementEnd(): void {\n  let currentTNode = getCurrentTNode()!;\n  ngDevMode &&
assertDefined(currentTNode, 'No parent node to close.');\n  if (isCurrentTNodeParent()) {\n
setCurrentTNodeAsNotParent();\n  } else {\n    ngDevMode && assertHasParent(getCurrentTNode());\n
currentTNode = currentTNode.parent!;\n    setCurrentTNode(currentTNode, false);\n  }\n\n  const tNode =
currentTNode;\n  ngDevMode && assertTNodeType(tNode, TNodeType.AnyRNode);\n\n\n
```

decreaseElementDepthCount();\n\n  const tView = getTView();\n  if (tView.firstCreatePass) {\n registerPostOrderHooks(tView, currentTNode);\n    if (isContentQueryHost(currentTNode)) {\n tView.queries!.elementEnd(currentTNode);\n
    }\n  }\n\n  if (tNode.classesWithoutHost != null && hasClassInput(tNode)) {\n setDirectiveInputsWhichShadowsStyling(tView, tNode, getLView(), tNode.classesWithoutHost, true);\n  }\n\n  if (tNode.stylesWithoutHost != null && hasStyleInput(tNode)) {\n    setDirectiveInputsWhichShadowsStyling(tView, tNode, getLView(), tNode.stylesWithoutHost, false);\n  }\n}\n\n/**\n * Creates an empty element using {@link elementStart} and {@link elementEnd}\n *\n * @param index Index of the element in the data array\n * @param name Name of the DOM Node\n * @param attrsIndex Index of the element's attributes in the `consts` array.\n * @param localRefsIndex Index of the element's local references in the `consts` array.\n *\n * @codeGenApi\n */\nexport function element(\n    index: number, name: string, attrsIndex?: number|null, localRefsIndex?: number): void {\n  elementStart(index, name, attrsIndex, localRefsIndex);\n  elementEnd();\n}\n\nfunction logUnknownElementError(\n
    tView: TView, element: RElement, tNode: TNode, hasDirectives: boolean): void {\n  const schemas = tView.schemas;\n\n  // If `schemas` is set to `null`, that's an indication that this Component was compiled in AOT\n // mode where this check happens at compile time. In JIT mode, `schemas` is always present and\n  // defined as an array (as an empty array in case `schemas` field is not defined) and we should\n  // execute the check below.\n  if (schemas === null) return;\n\n  const tagName = tNode.value;\n\n  // If the element matches any directive, it's considered as valid.\n  if (!hasDirectives && tagName !== null) {\n    // The element is unknown if it's an instance of HTMLUnknownElement or it isn't registered\n    // as a custom element. Note that unknown elements with a dash in their name won't be instances\n    // of HTMLUnknownElement in browsers that support web components.\n const isUnknown =\n        // Note that we can't check for `typeof HTMLUnknownElement === 'function'`,\n        // because while most browsers return 'function', IE returns 'object'.\n        (typeof HTMLUnknownElement !== 'undefined' && HTMLUnknownElement &&\n         element instanceof HTMLUnknownElement) ||\n        (typeof customElements !== 'undefined' && tagName.indexOf('-') > -1 &&\n !customElements.get(tagName));\n\n    if (isUnknown && !matchingSchemas(tView, tagName)) {\n      let message = `'${tagName}' is not a known element:\\n`;\n      message += `1. If '${\n          tagName}' is an Angular component, then verify that it is part of this module.\\n`;\n      if (tagName && tagName.indexOf('-') > -1) {\n message += `2. If '${\n            tagName}' is a Web Component then add 'CUSTOM_ELEMENTS_SCHEMA' to the '@NgModule.schemas' of this component to suppress this message.`;\n      } else {\n        message +=\n            `2. To allow any element add 'NO_ERRORS_SCHEMA' to the '@NgModule.schemas' of this component.`;\n      }\n console.error(formatRuntimeError(RuntimeErrorCode.UNKNOWN_ELEMENT, message));\n    }\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {assertEqual, assertIndexInRange} from '../../util/assert';\nimport {assertHasParent} from '../assert';\nimport {attachPatchData} from '../context_discovery';\nimport {registerPostOrderHooks} from '../hooks';\nimport {TAttributes, TElementContainerNode, TNodeType} from '../interfaces/node';\nimport {isContentQueryHost, isDirectiveHost} from '../interfaces/type_checks';\nimport {HEADER_OFFSET, LView, RENDERER, T_HOST, TView} from '../interfaces/view';\nimport {assertTNodeType} from '../node_assert';\nimport {appendChild} from '../node_manipulation';\nimport {getBindingIndex, getCurrentTNode, getLView, getTView, isCurrentTNodeParent, setCurrentTNode, setCurrentTNodeAsNotParent} from '../state';\nimport {computeStaticStyling} from '../styling/static_styling';\nimport {getConstant} from '../util/view_utils';\n\nimport {createDirectivesInstances, executeContentQueries, getOrCreateTNode, resolveDirectives, saveResolvedLocalsInData} from './shared';\n\nfunction elementContainerStartFirstCreatePass(\n    index: number, tView: TView, lView: LView, attrsIndex?: number|null,\n    localRefsIndex?: number): TElementContainerNode {\n  ngDevMode && ngDevMode.firstCreatePass++;\n\n  const tViewConsts = tView.consts;\n  const attrs = getConstant<TAttributes>(tViewConsts, attrsIndex);\n  const tNode = getOrCreateTNode(tView, index,

TNodeType.ElementContainer, 'ng-container', attrs);\n\n  // While ng-container doesn't necessarily support styling, we use the style context to identify\n  // and execute directives on the ng-container.\n  if (attrs !== null) {\n computeStaticStyling(tNode, attrs, true);\n  }\n\n  const localRefs = getConstant<string[]>(tViewConsts, localRefsIndex);\n  resolveDirectives(tView,
 lView, tNode, localRefs);\n\n  if (tView.queries !== null) {\n    tView.queries.elementStart(tView, tNode);\n  }\n\n return tNode;\n}\n\n/**\n * Creates a logical container for other nodes (<ng-container>) backed by a comment node in the DOM.\n * The instruction must later be followed by `elementContainerEnd()` call.\n *\n * @param index Index of the element in the LView array\n * @param attrsIndex Index of the container attributes in the `consts` array.\n * @param localRefsIndex Index of the container's local references in the `consts` array.\n *\n * Even if this instruction accepts a set of attributes no actual attribute values are propagated to\n * the DOM (as a comment node can't have attributes). Attributes are here only for directive\n * matching purposes and setting initial inputs of directives.\n *\n * @codeGenApi\n */\nexport function elementContainerStart(\n    index: number, attrsIndex?: number|null, localRefsIndex?: number): void {\n  const lView = getLView();\n
  const tView = getTView();\n  const adjustedIndex = index + HEADER_OFFSET;\n\n  ngDevMode && assertIndexInRange(lView, adjustedIndex);\n  ngDevMode &&\n      assertEqual(\n          getBindingIndex(), tView.bindingStartIndex,\n          'element containers should be created before any bindings');\n\n  const tNode = tView.firstCreatePass ?\n      elementContainerStartFirstCreatePass(\n          adjustedIndex, tView, lView, attrsIndex, localRefsIndex) :\n      tView.data[adjustedIndex] as TElementContainerNode;\n  setCurrentTNode(tNode, true);\n\n ngDevMode && ngDevMode.rendererCreateComment++;\n  const native = lView[adjustedIndex] =\n lView[RENDERER].createComment(ngDevMode ? 'ng-container' : '');\n  appendChild(tView, lView, native, tNode);\n  attachPatchData(native, lView);\n\n  if (isDirectiveHost(tNode)) {\n    createDirectivesInstances(tView, lView, tNode);\n    executeContentQueries(tView, tNode, lView);\n  }\n\n  if (localRefsIndex != null) {\n saveResolvedLocalsInData(lView,
 tNode);\n  }\n}\n\n/**\n * Mark the end of the <ng-container>.\n *\n * @codeGenApi\n */\nexport function elementContainerEnd(): void {\n  let currentTNode = getCurrentTNode()!;\n  const tView = getTView();\n  if (isCurrentTNodeParent()) {\n    setCurrentTNodeAsNotParent();\n  } else {\n    ngDevMode && assertHasParent(currentTNode);\n    currentTNode = currentTNode.parent!;\n    setCurrentTNode(currentTNode, false);\n  }\n\n  ngDevMode && assertTNodeType(currentTNode, TNodeType.ElementContainer);\n\n  if (tView.firstCreatePass) {\n    registerPostOrderHooks(tView, currentTNode);\n    if (isContentQueryHost(currentTNode)) {\n      tView.queries!.elementEnd(currentTNode);\n    }\n  }\n}\n\n/**\n * Creates an empty logical container using {@link elementContainerStart}\n * and {@link elementContainerEnd}\n *\n * @param index Index of the element in the LView array\n * @param attrsIndex Index of the container attributes in the `consts` array.\n * @param localRefsIndex Index
 of the container's local references in the `consts` array.\n *\n * @codeGenApi\n */\nexport function elementContainer(\n    index: number, attrsIndex?: number|null, localRefsIndex?: number): void {\n elementContainerStart(index, attrsIndex, localRefsIndex);\n  elementContainerEnd();\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {OpaqueViewState} from '../interfaces/view';\nimport {getLView} from '../state';\n\n/**\n * Returns the current OpaqueViewState instance.\n *\n * Used in conjunction with the restoreView() instruction to save a snapshot\n * of the current view and restore it when listeners are invoked. This allows\n * walking the declaration view tree in listeners to get vars from parent views.\n *\n * @codeGenApi\n */\nexport function getCurrentView(): OpaqueViewState {\n  return getLView() as
 any as OpaqueViewState;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Observable} from 'rxjs';\n\n/**\n * Determine if the argument is shaped like a Promise\n */\nexport function isPromise<T = any>(obj: any): obj is Promise<T> {\n  // allow any Promise/A+ compliant thenable.\n  // It's up to the caller to ensure that obj.then conforms to the spec\n  return !!obj && typeof obj.then === 'function';\n}\n\n/**\n * Determine if the argument is an Observable\n *\n * Strictly this tests that the

`obj` is `Subscribable`, since `Observable`\n * types need additional methods, such as `lift()`. But it is adequate for our\n * needs since within the Angular framework code we only ever need to use the\n * `subscribe()` method, and RxJS has mechanisms to wrap `Subscribable` objects\n * into `Observable` as needed.\n */\nexport function isObservable(obj: any|Observable<any>): obj is Observable<any> {\n  return !!obj && typeof obj.subscribe === 'function';\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {assertIndexInRange} from '../../util/assert';\nimport {isObservable} from '../../util/lang';\nimport {EMPTY_OBJ} from '../empty';\nimport {PropertyAliasValue, TNode, TNodeFlags, TNodeType} from '../interfaces/node';\nimport {GlobalTargetResolver, isProceduralRenderer, Renderer3} from '../interfaces/renderer';\nimport {RElement} from '../interfaces/renderer_dom';\nimport {isDirectiveHost} from '../interfaces/type_checks';\nimport {CLEANUP, FLAGS, LView, LViewFlags, RENDERER, TView} from '../interfaces/view';\nimport {assertTNodeType} from '../node_assert';\nimport {getCurrentDirectiveDef, getCurrentTNode, getLView, getTView} from '../state';\nimport {getComponentLViewByIndex, getNativeByTNode, unwrapRNode} from '../util/view_utils';\n\nimport {getLCleanup, getTViewCleanup, handleError, loadComponentRenderer, markViewDirty} from './shared';\n\n\n\n/**\n * Adds an event listener to the current node.\n *\n * If an output exists on one of the node's directives, it also subscribes to the output\n * and saves the subscription for later cleanup.\n *\n * @param eventName Name of the event\n * @param listenerFn The function to be called when event emits\n * @param useCapture Whether or not to use capture in event listener\n * @param eventTargetResolver Function that returns global target information in case this listener\n * should be attached to a global object like window, document or body\n *\n * @codeGenApi\n */\nexport function listener(\n    eventName: string, listenerFn: (e?: any) => any, useCapture = false,\n    eventTargetResolver?: GlobalTargetResolver): typeof listener {\n  const lView = getLView();\n  const tView = getTView();\n  const tNode = getCurrentTNode()!;\n  listenerInternal(\n      tView, lView, lView[RENDERER], tNode, eventName, listenerFn, useCapture, eventTargetResolver);\n  return listener;\n}\n\n/**\n * Registers a synthetic host listener (e.g. `(@foo.start)`) on a component or directive.\n *\n * This instruction is for compatibility purposes and is designed to ensure that a\n * synthetic host listener (e.g. `@HostListener('@foo.start')`) properly gets rendered\n * in the component's renderer. Normally all host listeners are evaluated with the\n * parent component's renderer, but, in the case of animation @triggers, they need\n * to be evaluated with the sub component's renderer (because that's where the\n * animation triggers are defined).\n *\n * Do not use this instruction as a replacement for `listener`. This instruction\n * only exists to ensure compatibility with the ViewEngine's host binding behavior.\n *\n * @param eventName Name of the event\n * @param listenerFn The function to be called when event emits\n * @param useCapture Whether or not to use capture in event listener\n * @param eventTargetResolver Function that returns global target information in case this listener\n * should be attached to a global object like window, document or body\n *\n * @codeGenApi\n */\nexport function syntheticHostListener(\n    eventName: string, listenerFn: (e?: any) => any, useCapture = false,\n    eventTargetResolver?: GlobalTargetResolver): typeof syntheticHostListener {\n  const tNode = getCurrentTNode()!;\n  const lView = getLView();\n  const tView = getTView();\n  const currentDef = getCurrentDirectiveDef(tView.data);\n  const renderer = loadComponentRenderer(currentDef, tNode, lView);\n  listenerInternal(\n      tView, lView, renderer, tNode, eventName, listenerFn, useCapture, eventTargetResolver);\n  return syntheticHostListener;\n}\n\n/**\n * A utility function that checks if a given element has already an event handler registered for an\n * event with a specified name. The TView.cleanup data structure is used to find out which events\n * are registered for a given element.\n */\nfunction findExistingListener(\n    tView: TView, lView: LView, eventName: string, tNodeIdx: number): ((e?: any) => any)|null {\n  const tCleanup = tView.cleanup;\n  if (tCleanup != null) {\n    for (let i = 0; i < tCleanup.length - 1; i += 2) {\n      const cleanupEventName = tCleanup[i];\n      if (cleanupEventName === eventName && tCleanup[i + 1] === tNodeIdx) {\n        // We have found a matching event name on the same

node but it might not have been\n // registered yet, so we must explicitly verify entries in the LView cleanup data\n // structures.\n const lCleanup = lView[CLEANUP]!;\n const listenerIdxInLCleanup = tCleanup[i + 2];\n return lCleanup.length > listenerIdxInLCleanup ? lCleanup[listenerIdxInLCleanup] : null;\n }\n // TView.cleanup can have a mix of 4-elements entries (for event handler cleanups) or\n // 2-element entries (for directive and queries destroy hooks). As such we can encounter\n // blocks of 4 or 2 items in the tView.cleanup and this is why we iterate over 2 elements\n // first and jump another 2 elements if we detect listeners cleanup (4 elements). Also check\n // documentation of TView.cleanup for more details of this data structure layout.\n if (typeof cleanupEventName === 'string') {\n i += 2;\n }\n }\n }\n return null;\n}\n\nfunction listenerInternal(\n tView: TView, lView: LView, renderer: Renderer3, tNode: TNode, eventName: string,\n listenerFn: (e?: any) => any, useCapture = false,\n eventTargetResolver?: GlobalTargetResolver): void {\n const isTNodeDirectiveHost = isDirectiveHost(tNode);\n const firstCreatePass = tView.firstCreatePass;\n const tCleanup: false|any[] = firstCreatePass && getTViewCleanup(tView);\n\n // When the listener instruction was generated and is executed we know that there is either a\n // native listener or a directive output on this element. As such we we know that we will have to\n // register a listener and store its cleanup function on LView.\n const lCleanup = getLCleanup(lView);\n\n ngDevMode && assertTNodeType(tNode, TNodeType.AnyRNode | TNodeType.AnyContainer);\n\n let processOutputs = true;\n\n // add native event listener - applicable to elements only\n if (tNode.type & TNodeType.AnyRNode) {\n const native = getNativeByTNode(tNode, lView) as RElement;\n const resolved = eventTargetResolver ? eventTargetResolver(native) : EMPTY_OBJ as any;\n const target = resolved.target || native;\n const lCleanupIndex = lCleanup.length;\n const idxOrTargetGetter = eventTargetResolver ?\n (_lView: LView) => eventTargetResolver(unwrapRNode(_lView[tNode.index])).target :\n tNode.index;\n\n // In order to match current behavior, native DOM event listeners must be added for all\n // events (including outputs).\n if (isProceduralRenderer(renderer)) {\n // There might be cases where multiple directives on the same element try to register an event\n // handler function for the same event. In this situation we want to avoid registration of\n // several native listeners as each registration would be intercepted by NgZone and\n // trigger change detection. This would mean that a single user action would result in several\n // change detections being invoked. To avoid this situation we want to have only one call to\n // native handler registration (for the same element and same type of event).\n //\n // In order to have just one native event handler in presence of multiple handler functions,\n // we just register a first handler function as a native event listener and then chain\n // (coalesce) other handler functions on top of the first native handler function.\n let existingListener = null;\n // Please note that the coalescing described here doesn't happen for events specifying an\n // alternative target (ex. (document:click)) - this is to keep backward compatibility with the\n // view engine.\n // Also, we don't have to search for existing listeners is there are no directives\n // matching on a given node as we can't register multiple event handlers for the same event in\n // a template (this would mean having duplicate attributes).\n if (!eventTargetResolver && isTNodeDirectiveHost) {\n existingListener = findExistingListener(tView, lView, eventName, tNode.index);\n }\n if (existingListener !== null) {\n // Attach a new listener to coalesced listeners list, maintaining the order in which\n // listeners are registered. For performance reasons, we keep a reference to the last\n // listener in that list (in `__ngLastListenerFn__` field), so we can avoid going through\n // the entire set each time we need to add a new listener.\n const lastListenerFn = (<any>existingListener).__ngLastListenerFn__ || existingListener;\n lastListenerFn.__ngNextListenerFn__ = listenerFn;\n (<any>existingListener).__ngLastListenerFn__ = listenerFn;\n processOutputs = false;\n } else {\n // The first argument of `listen` function in Procedural Renderer is:\n // - either a target name (as a string) in case of global target (window, document, body)\n // - or element reference (in all other cases)\n listenerFn = wrapListener(tNode, lView, listenerFn, false /** preventDefault */);\n const cleanupFn = renderer.listen(resolved.name || target, eventName, listenerFn);\n ngDevMode && ngDevMode.rendererAddEventListener++;\n\n lCleanup.push(listenerFn, cleanupFn);\n tCleanup &&

tCleanup.push(eventName, idxOrTargetGetter, lCleanupIndex, lCleanupIndex + 1);\n }\n\n } else {\n listenerFn = wrapListener(tNode, lView, listenerFn, true /** preventDefault */);\n target.addEventListener(eventName, listenerFn, useCapture);\n ngDevMode && ngDevMode.rendererAddEventListener++;\n\n lCleanup.push(listenerFn);\n tCleanup && tCleanup.push(eventName, idxOrTargetGetter, lCleanupIndex, useCapture);\n }\n } else {\n // Even if there is no native listener to add, we still need to wrap the listener so that OnPush\n // ancestors are marked dirty when an event occurs.\n listenerFn = wrapListener(tNode, lView, listenerFn, false /** preventDefault */);\n }\n\n // subscribe to directive outputs\n const outputs = tNode.outputs;\n let props: PropertyAliasValue|undefined;\n if (processOutputs && outputs !== null && (props = outputs[eventName])) {\n const propsLength = props.length;\n if (propsLength) {\n for (let i = 0; i < propsLength; i += 2) {\n const index = props[i] as number;\n ngDevMode && assertIndexInRange(lView, index);\n const minifiedName = props[i + 1];\n const directiveInstance
= lView[index];\n const output = directiveInstance[minifiedName];\n\n if (ngDevMode && !isObservable(output)) {\n throw new Error(`@Output ${minifiedName} not initialized in '${\n directiveInstance.constructor.name}'.`);\n }\n\n const subscription = output.subscribe(listenerFn);\n const idx = lCleanup.length;\n lCleanup.push(listenerFn, subscription);\n tCleanup && tCleanup.push(eventName, tNode.index, idx, -(idx + 1));\n }\n }\n }\n}\n\nfunction executeListenerWithErrorHandling(\n lView: LView, listenerFn: (e?: any) => any, e: any): boolean {\n try {\n // Only explicitly returning false from a listener should preventDefault\n return listenerFn(e) !== false;\n } catch (error) {\n handleError(lView, error);\n return false;\n }\n}\n\n/**\n * Wraps an event listener with a function that marks ancestors dirty and prevents default behavior,\n * if applicable.\n *\n * @param tNode The TNode associated
with this listener\n * @param lView The LView that contains this listener\n * @param listenerFn The listener function to call\n * @param wrapWithPreventDefault Whether or not to prevent default behavior\n * (the procedural renderer does this already, so in those cases, we should skip)\n */\nfunction wrapListener(\n tNode: TNode, lView: LView, listenerFn: (e?: any) => any,\n wrapWithPreventDefault: boolean): EventListener {\n // Note: we are performing most of the work in the listener function itself\n // to optimize listener registration.\n return function wrapListenerIn_markDirtyAndPreventDefault(e: any) {\n // Ivy uses `Function` as a special token that allows us to unwrap the function\n // so that it can be invoked programmatically by `DebugNode.triggerEventHandler`.\n if (e === Function) {\n return listenerFn;\n }\n\n // In order to be backwards compatible with View Engine, events on component host nodes\n // must also mark the component view
itself dirty (i.e. the view that it owns).\n const startView = tNode.flags & TNodeFlags.isComponentHost ?\n getComponentLViewByIndex(tNode.index, lView) :\n lView;\n\n // See interfaces/view.ts for more on LViewFlags.ManualOnPush\n if ((lView[FLAGS] & LViewFlags.ManualOnPush) === 0) {\n markViewDirty(startView);\n }\n\n let result = executeListenerWithErrorHandling(lView, listenerFn, e);\n // A just-invoked listener function might have coalesced listeners so we need to check for\n // their presence and invoke as needed.\n let nextListenerFn =
(<any>wrapListenerIn_markDirtyAndPreventDefault).__ngNextListenerFn__;\n while (nextListenerFn) {\n // We should prevent default if any of the listeners explicitly return false\n result = executeListenerWithErrorHandling(lView, nextListenerFn, e) && result;\n nextListenerFn = (<any>nextListenerFn).__ngNextListenerFn__;\n }\n\n if (wrapWithPreventDefault && result === false) {\n e.preventDefault();\n // Necessary for legacy browsers that don't support preventDefault (e.g. IE)\n e.returnValue = false;\n }\n\n return result;\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {namespaceHTML, namespaceMathML, namespaceSVG} from '../state';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {nextContextImpl} from '../state';\n\n/**\n * Retrieves a context at the level specified and saves it as the

global, contextViewData.\n * Will get the next level up if level is not specified.\n *\n * This is used to save contexts of parent views so they can be bound in embedded views, or\n * in conjunction with reference()
to bind a ref from a parent view.\n *\n * @param level The relative level of the view from which to grab context compared to contextVewData\n * @returns context\n *\n * @codeGenApi\n */\nexport function nextContext<T = any>(level: number = 1): T {\n  return nextContextImpl(level);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {newArray} from '../../util/array_utils';\nimport {TAttributes, TElementNode, TNode, TNodeFlags, TNodeType} from '../interfaces/node';\nimport {ProjectionSlots} from '../interfaces/projection';\nimport {DECLARATION_COMPONENT_VIEW, HEADER_OFFSET, T_HOST} from '../interfaces/view';\nimport {applyProjection} from '../node_manipulation';\nimport {getProjectAsAttrValue, isNodeMatchingSelectorList, isSelectorInSelectorList} from '../node_selector_matcher';\nimport {getLView, getTView,
setCurrentTNodeAsNotParent} from '../state';\nimport {getOrCreateTNode} from './shared';\n\n\n\n/**\n * Checks a given node against matching projection slots and returns the\n * determined slot index. Returns \"null\" if no slot matched the given node.\n *\n * This function takes into account the parsed ngProjectAs selector from the\n * node's attributes. If present, it will check whether the ngProjectAs selector\n * matches any of the projection slot selectors.\n */\nexport function matchingProjectionSlotIndex(tNode: TNode, projectionSlots: ProjectionSlots): number|\n    null {\n  let wildcardNgContentIndex = null;\n  const ngProjectAsAttrVal = getProjectAsAttrValue(tNode);\n  for (let i = 0; i < projectionSlots.length; i++) {\n    const slotValue = projectionSlots[i];\n    // The last wildcard projection slot should match all nodes which aren't matching\n    // any selector. This is necessary to be backwards compatible with view engine.\n    if (slotValue === '*') {\n      wildcardNgContentIndex
= i;\n      continue;\n    }\n    // If we ran into an `ngProjectAs` attribute, we should match its parsed selector\n    // to the list of selectors, otherwise we fall back to matching against the node.\n    if (ngProjectAsAttrVal === null ?\n        isNodeMatchingSelectorList(tNode, slotValue, /* isProjectionMode */ true) :\n        isSelectorInSelectorList(ngProjectAsAttrVal, slotValue)) {\n      return i;  // first matching selector \"captures\" a given node\n    }\n  }\n  return wildcardNgContentIndex;\n}\n\n/**\n * Instruction to distribute projectable nodes among <ng-content> occurrences in a given template.\n * It takes all the selectors from the entire component's template and decides where\n * each projected node belongs (it re-distributes nodes among \"buckets\" where each \"bucket\" is\n * backed by a selector).\n *\n * This function requires CSS selectors to be provided in 2 forms: parsed (by a compiler) and text,\n * un-parsed form.\n *\n * The parsed
form is needed for efficient matching of a node against a given CSS selector.\n * The un-parsed, textual form is needed for support of the ngProjectAs attribute.\n *\n * Having a CSS selector in 2 different formats is not ideal, but alternatives have even more\n * drawbacks:\n * - having only a textual form would require runtime parsing of CSS selectors;\n * - we can't have only a parsed as we can't re-construct textual form from it (as entered by a\n * template author).\n *\n * @param projectionSlots? A collection of projection slots. A projection slot can be based\n *        on a parsed CSS selectors or set to the wildcard selector (\"*\") in order to match\n *        all nodes which do not match any selector. If not specified, a single wildcard\n *        selector projection slot will be defined.\n *\n * @codeGenApi\n */\nexport function projectionDef(projectionSlots?: ProjectionSlots): void {\n  const componentNode = getLView()[DECLARATION_COMPONENT_VIEW][T_HOST] as TElementNode;\n\n
  if (!componentNode.projection) {\n    // If no explicit projection slots are defined, fall back to a single\n    // projection slot with the wildcard selector.\n    const numProjectionSlots = projectionSlots ? projectionSlots.length : 1;\n    const projectionHeads: (TNode|null)[] = componentNode.projection =\n        newArray(numProjectionSlots, null! as TNode);\n    const tails: (TNode|null)[] = projectionHeads.slice();\n\n    let componentChild: TNode|null = componentNode.child;\n\n    while (componentChild !== null) {\n      const slotIndex =\n          projectionSlots ? matchingProjectionSlotIndex(componentChild, projectionSlots) : 0;\n\n      if (slotIndex !== null) {\n        if (tails[slotIndex]) {\n          tails[slotIndex]!.projectionNext = componentChild;\n        } else {\n          projectionHeads[slotIndex] = componentChild;\n        }\n        tails[slotIndex] = componentChild;\n      }\n\n

componentChild = componentChild.next;\n    }\n  }\n}\n\n\n/**\n * Inserts
previously re-distributed projected nodes. This instruction must be preceded by a call\n * to the projectionDef instruction.\n *\n * @param nodeIndex\n * @param selectorIndex:\n *        - 0 when the selector is `*` (or unspecified as this is the default value),\n *        - 1 based index of the selector from the {@link projectionDef}\n *\n * @codeGenApi\n */\nexport function projection(\n    nodeIndex: number, selectorIndex: number = 0, attrs?: TAttributes): void {\n  const lView = getLView();\n  const tView = getTView();\n  const tProjectionNode =\n getOrCreateTNode(tView, HEADER_OFFSET + nodeIndex, TNodeType.Projection, null, attrs || null);\n\n  // We can't use viewData[HOST_NODE] because projection nodes can be nested in embedded views.\n  if (tProjectionNode.projection === null) tProjectionNode.projection = selectorIndex;\n\n  // `<ng-content>` has no content\n  setCurrentTNodeAsNotParent();\n\n  if ((tProjectionNode.flags & TNodeFlags.isDetached) !== TNodeFlags.isDetached)
{\n    // re-distribution of projectable nodes is stored on a component's view level\n    applyProjection(tView, lView, tProjectionNode);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {SanitizerFn} from '../interfaces/sanitization';\nimport {RENDERER} from '../interfaces/view';\nimport {getBindingIndex, getLView, getSelectedTNode, getTView} from '../state';\nimport {NO_CHANGE} from '../tokens';\n\nimport {interpolation1, interpolation2, interpolation3, interpolation4, interpolation5, interpolation6, interpolation7, interpolation8, interpolationV} from './interpolation';\nimport {elementPropertyInternal, storePropertyBindingMetadata} from './shared';\n\n\n/**\n *\n * Update an interpolated property on an element with a lone bound value\n *\n * Used when the value passed to a property has 1 interpolated value in it, an no additional text\n * surrounds that interpolated value:\n *\n * ```html\n * <div title=\"{{v0}}\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate('title', v0);\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate(\n    propName: string, v0: any, sanitizer?: SanitizerFn): typeof propertyInterpolate {\n propertyInterpolate1(propName,
", v0, '', sanitizer);\n  return propertyInterpolate;\n}\n\n\n/**\n *\n * Update an interpolated property on an element with single bound value surrounded by text.\n *\n * Used when the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate1('title', 'prefix', v0, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An
optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate1(\n    propName: string, prefix: string, v0: any, suffix: string,\n    sanitizer?: SanitizerFn): typeof propertyInterpolate1 {\n  const lView = getLView();\n  const interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n  if (interpolatedValue !== NO_CHANGE) {\n    const tView = getTView();\n    const tNode = getSelectedTNode();\n    elementPropertyInternal(\n        tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n    ngDevMode &&\n        storePropertyBindingMetadata(\n tView.data, tNode, propName, getBindingIndex() - 1, prefix, suffix);\n  }\n  return propertyInterpolate1;\n}\n\n/**\n *\n * Update an interpolated property on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-

{{v1}}suffix\"> \n
 * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate2('title', 'prefix', v0, '-', v1, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate2(\n propName: string, prefix: string, v0: any, i0: string,
 v1: any, suffix: string,\n    sanitizer?: SanitizerFn): typeof propertyInterpolate2 {\n  const lView = getLView();\n const interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n  if (interpolatedValue !== NO_CHANGE) {\n    const tView = getTView();\n    const tNode = getSelectedTNode();\n elementPropertyInternal(\n        tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n    ngDevMode &&\n        storePropertyBindingMetadata(\n            tView.data, tNode, propName, getBindingIndex() - 2, prefix, i0, suffix);\n  }\n  return propertyInterpolate2;\n}\n\n/**\n *\n * Update an interpolated property on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to a property has 3 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate3(\n * 'title', 'prefix', v0, '-',
 v1, '-', v2, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate3(\n propName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any,\n    suffix: string,
 sanitizer?: SanitizerFn): typeof propertyInterpolate3 {\n  const lView = getLView();\n  const interpolatedValue = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n  if (interpolatedValue !== NO_CHANGE) {\n    const tView = getTView();\n    const tNode = getSelectedTNode();\n    elementPropertyInternal(\n        tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n    ngDevMode &&\n storePropertyBindingMetadata(\n            tView.data, tNode, propName, getBindingIndex() - 3, prefix, i0, i1, suffix);\n  }\n  return propertyInterpolate3;\n}\n\n/**\n *\n * Update an interpolated property on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate4(\n * 'title', 'prefix', v0, '-', v1, '-',
 v2, '-', v3, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate4(\n    propName:

string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, suffix: string, sanitizer?: SanitizerFn): typeof propertyInterpolate4 {\n const lView = getLView();\n const interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n const tView = getTView();\n const tNode = getSelectedTNode();\n elementPropertyInternal(\n tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n ngDevMode &&\n storePropertyBindingMetadata(\n tView.data, tNode, propName, getBindingIndex() - 4, prefix, i0, i1, i2, suffix);\n }\n return propertyInterpolate4;\n}\n\n/**\n *\n * Update an interpolated property on an element with 5 bound values surrounded by text.\n *\n * Used when the value passed to a property has 5 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate5(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate5(\n propName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, suffix: string,\n sanitizer?: SanitizerFn): typeof propertyInterpolate5 {\n const lView = getLView();\n const interpolatedValue =\n interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n const tView = getTView();\n const tNode = getSelectedTNode();\n elementPropertyInternal(\n tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n ngDevMode &&\n storePropertyBindingMetadata(\n tView.data, tNode, propName, getBindingIndex() - 5, prefix, i0, i1, i2, i3, suffix);\n }\n return propertyInterpolate5;\n}\n\n/**\n *\n * Update an interpolated property on an element with 6 bound values surrounded by text.\n *\n * Used when the value passed to a property has 6 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate6(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate6(\n propName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, suffix: string,\n sanitizer?: SanitizerFn): typeof propertyInterpolate6 {\n const lView = getLView();\n const interpolatedValue =\n interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n const tView = getTView();\n const tNode = getSelectedTNode();\n elementPropertyInternal(\n tView, tNode, lView, propName, interpolatedValue,

lView[RENDERER], sanitizer, false);\n ngDevMode &&\n storePropertyBindingMetadata(\n tView.data, tNode, propName, getBindingIndex() - 6, prefix, i0, i1, i2, i3, i4, suffix);\n }\n return propertyInterpolate6;\n}\n\n/**\n *\n * Update an interpolated property on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate7(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate7(\n propName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, suffix: string,\n sanitizer?: SanitizerFn): typeof propertyInterpolate7 {\n const lView = getLView();\n const interpolatedValue =\n interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n const tView = getTView();\n const tNode = getSelectedTNode();\n elementPropertyInternal(\n tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n ngDevMode &&\n storePropertyBindingMetadata(\n tView.data, tNode, propName, getBindingIndex() - 7, prefix, i0, i1, i2, i3, i4, i5,\n suffix);\n }\n return propertyInterpolate7;\n}\n\n/**\n *\n * Update an interpolated property on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix\"></div>\n * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolate8(\n * 'title', 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, 'suffix');\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function propertyInterpolate8(\n propName: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3:\n string, v4: any, i4: string, v5: any, i5: string, v6: any, i6: string, v7: any,\n suffix: string, sanitizer?: SanitizerFn): typeof propertyInterpolate8 {\n const lView = getLView();\n const interpolatedValue = interpolation8(\n lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n if (interpolatedValue !== NO_CHANGE) {\n

const tView = getTView();\n  const tNode = getSelectedTNode();\n  elementPropertyInternal(\n  tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n  ngDevMode &&\n storePropertyBindingMetadata(\n  tView.data, tNode, propName, getBindingIndex() - 8, prefix, i0, i1, i2, i3, i4, i5, i6,\n  suffix);\n  }\n  return propertyInterpolate8;\n}\n\n/**\n * Update an interpolated property on an element with 9 or more bound values surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n *  title=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix\"> \n
 * ```\n *\n * Its compiled representation is::\n *\n * ```ts\n * propertyInterpolateV(\n *  'title', ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n *  'suffix']);\n * ```\n *\n * If the property name also exists as an input property on one of the element's directives,\n * the component property will be set instead of the element property. This check must\n * be conducted at runtime so child components that add new `@Inputs` don't have to be re-compiled.\n *\n * @param propName The name of the property to update.\n * @param values The collection of values and the strings inbetween those values, beginning with a\n * string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n * @param sanitizer An optional sanitizer function\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport
 function propertyInterpolateV(\n  propName: string, values: any[], sanitizer?: SanitizerFn): typeof propertyInterpolateV {\n  const lView = getLView();\n  const interpolatedValue = interpolationV(lView, values);\n  if (interpolatedValue !== NO_CHANGE) {\n  const tView = getTView();\n  const tNode = getSelectedTNode();\n  elementPropertyInternal(\n  tView, tNode, lView, propName, interpolatedValue, lView[RENDERER], sanitizer, false);\n  if (ngDevMode) {\n  const interpolationInBetween = [values[0]];  // prefix\n  for (let i = 2; i < values.length; i += 2) {\n  interpolationInBetween.push(values[i]);\n  }\n  storePropertyBindingMetadata(\n  tView.data, tNode, propName, getBindingIndex() - interpolationInBetween.length + 1,\n  ...interpolationInBetween);\n  }\n  }\n  return propertyInterpolateV;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
 license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {initNgDevMode} from './ng_dev_mode';\n\n/**\n * This file contains reuseable \"empty\" symbols that can be used as default return values\n * in different parts of the rendering code. Because the same symbols are returned, this\n * allows for identity checks against these values to be consistently used by the framework\n * code.\n */\n\nexport const EMPTY_OBJ: {} = {};\nexport const EMPTY_ARRAY: any[] = [];\n\n// freezing the values prevents any code from accidentally inserting new values in\nif ((typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode()) {\n  // These property accesses can be ignored because ngDevMode will be set to false\n  // when optimizing code and the whole if statement will be dropped.\n  // tslint:disable-next-line:no-toplevel-property-access\n  Object.freeze(EMPTY_OBJ);\n  // tslint:disable-next-line:no-toplevel-property-access\n  Object.freeze(EMPTY_ARRAY);\n}\n","/**\n
 * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {KeyValueArray, keyValueArrayIndexOf} from '../../util/array_utils';\nimport {assertEqual, assertIndexInRange, assertNotEqual} from '../../util/assert';\nimport {assertFirstUpdatePass} from '../assert';\nimport {TNode} from '../interfaces/node';\nimport {getTStylingRangeNext, getTStylingRangePrev, setTStylingRangeNext, setTStylingRangeNextDuplicate, setTStylingRangePrev, setTStylingRangePrevDuplicate, toTStylingRange, TStylingKey, TStylingKeyPrimitive, TStylingRange} from '../interfaces/styling';\nimport {TData} from '../interfaces/view';\nimport {getTView} from '../state';\n\n\n/**\n * NOTE: The word `styling` is used interchangeably as style or class styling.\n *\n * This file contains code to link styling instructions together so that they can be replayed in\n
 * priority order. The file exists because Ivy styling instruction execution order does not match\n * that of the priority order. The purpose of this code is to create a linked list so that the\n * instructions can be traversed in priority order when computing the styles.\n *\n * Assume we are dealing with the following code:\n * ```\n *

@Component({\n *   template: `\n *     <my-cmp [style]=\" {color: '#001'} \"\n *               [style.color]=\" #002 \"\n *           dir-style-color-1\n *           dir-style-color-2> `\n * })\n * class ExampleComponent {\n *   static ngComp = ... {\n *     ...\n *     // Compiler ensures that `styleProp` is after `styleMap`\n *     styleMap({color: '#001'});\n * styleProp('color', '#002');\n *     ...\n *   }\n * }\n *\n * @Directive({\n *   selector: `[dir-style-color-1]',\n * })\n * class Style1Directive {\n *   @HostBinding('style') style = {color: '#005'};\n *   @HostBinding('style.color') color = '#006';\n *\n *   static ngDir = ...
{\n *     ...\n *     // Compiler ensures that `styleProp` is after `styleMap`\n *     styleMap({color: '#005'});\n * styleProp('color', '#006');\n *     ...\n *   }\n * }\n *\n * @Directive({\n *   selector: `[dir-style-color-2]',\n * })\n * class Style2Directive {\n *   @HostBinding('style') style = {color: '#007'};\n *   @HostBinding('style.color') color = '#008';\n *\n *   static ngDir = ... {\n *     ...\n *     // Compiler ensures that `styleProp` is after `styleMap`\n * styleMap({color: '#007'});\n *     styleProp('color', '#008');\n *     ...\n *   }\n * }\n *\n * @Directive({\n *   selector: `my-cmp',\n * })\n * class MyComponent {\n *   @HostBinding('style') style = {color: '#003'};\n * @HostBinding('style.color') color = '#004';\n *\n *   static ngComp = ... {\n *     ...\n *     // Compiler ensures that `styleProp` is after `styleMap`\n *     styleMap({color: '#003'});\n *     styleProp('color', '#004');\n *     ...\n *   }\n * }\n * ```\n
*\n * The Order of instruction execution is:\n *\n * NOTE: the comment binding location is for illustrative purposes only.\n *\n * ```\n * // Template: (ExampleComponent)\n *     styleMap({color: '#001'});   // Binding index: 10\n * styleProp('color', '#002');  // Binding index: 12\n * // MyComponent\n *     styleMap({color: '#003'});   // Binding index: 20\n *     styleProp('color', '#004');  // Binding index: 22\n * // Style1Directive\n *     styleMap({color: '#005'});   // Binding index: 24\n *     styleProp('color', '#006');  // Binding index: 26\n * // Style2Directive\n * styleMap({color: '#007'});   // Binding index: 28\n *     styleProp('color', '#008');  // Binding index: 30\n * ```\n *\n * The correct priority order of concatenation is:\n *\n * ```\n * // MyComponent\n *     styleMap({color: '#003'});   // Binding index: 20\n *     styleProp('color', '#004');  // Binding index: 22\n * // Style1Directive\n * styleMap({color: '#005'});   // Binding
index: 24\n *     styleProp('color', '#006');  // Binding index: 26\n * // Style2Directive\n *     styleMap({color: '#007'});   // Binding index: 28\n *     styleProp('color', '#008');  // Binding index: 30\n * // Template: (ExampleComponent)\n *     styleMap({color: '#001'});   // Binding index: 10\n *     styleProp('color', '#002');  // Binding index: 12\n * ```\n *\n * What color should be rendered?\n *\n * Once the items are correctly sorted in the list, the answer is simply the last item in the\n * concatenation list which is `#002`.\n *\n * To do so we keep a linked list of all of the bindings which pertain to this element.\n * Notice that the bindings are inserted in the order of execution, but the `TView.data` allows\n * us to traverse them in the order of priority.\n *\n * |Idx|`TView.data`|`LView`          | Notes\n * |---|------------|-----------------|--------------\n * |...|            |                 |\n * |10 |`null`      |`{color: '#001'}`| `styleMap('color',
{color: '#001'})`\n * |11 |`30 | 12`   | ...             |\n * |12 |`color`     |`'#002'`         | `styleProp('color', '#002')`\n * |13 |`10 | 0`    | ...             |\n * |...|            |                 |\n * |20 |`null`      |`{color: '#003'}`| `styleMap('color', {color: '#003'})`\n * |21 |`0 | 22`    | ...             |\n * |22 |`color`     |`'#004'`         | `styleProp('color', '#004')`\n * |23 |`20 | 24`   | ...             |\n * |24 |`null`      |`{color: '#005'}`| `styleMap('color', {color: '#005'})`\n * |25 |`22 | 26`   | ...             |\n * |26 |`color`     |`'#006'`         | `styleProp('color', '#006')`\n * |27 |`24 | 28`   | ...             |\n * |28 |`null`      |`{color: '#007'}`| `styleMap('color', {color: '#007'})`\n * |29 |`26 | 30`   | ...             |\n * |30 |`color`     |`'#008'`         | `styleProp('color', '#008')`\n * |31 |`28 | 10`   | ...             |\n *\n * The above data structure allows us to re-concatenate the styling no
matter which data binding\n * changes.\n *\n * NOTE: in addition to keeping track of next/previous index the `TView.data` also stores prev/next\n * duplicate bit. The duplicate bit if true says there either is a binding with the same name or\n * there is a map (which may contain the name). This information is useful in knowing if other\n * styles with higher priority need to be searched for overwrites.\n *\n * NOTE: See `should support example in 'tnode_linked_list.ts' documentation` in\n * `tnode_linked_list_spec.ts` for working example.\n */\nlet __unused_const_as_closure_does_not_like_standalone_comment_blocks__: undefined;\n\n/**\n * Insert new `tStyleValue` at `TData` and link existing style bindings such that we maintain linked\n * list of styles and compute

the duplicate flag.\n *\n * Note: this function is executed during `firstUpdatePass` only to populate the `TView.data`.\n *\n * The function works by keeping track of `tStylingRange` which contains two pointers pointing to\n
 * the head/tail of the template portion of the styles.\n *  - if `isHost === false` (we are template) then insertion is at tail of `TStylingRange`\n *  - if `isHost === true` (we are host binding) then insertion is at head of `TStylingRange`\n *\n * @param tData The `TData` to insert into.\n * @param tNode `TNode` associated with the styling element.\n * @param tStylingKey See `TStylingKey`.\n * @param index location of where `tStyleValue` should be stored (and linked into list.)\n * @param isHostBinding `true` if the insertion is for a `hostBinding`. (insertion is in front of\n *              template.)\n * @param isClassBinding True if the associated `tStylingKey` as a `class` styling.\n *                      `tNode.classBindings` should be used (or `tNode.styleBindings` otherwise.)\n */\nexport function insertTStylingBinding(\n    tData: TData, tNode: TNode, tStylingKeyWithStatic: TStylingKey, index: number,\n    isHostBinding: boolean, isClassBinding: boolean): void {\n  ngDevMode
 && assertFirstUpdatePass(getTView());\n  let tBindings = isClassBinding ? tNode.classBindings : tNode.styleBindings;\n  let tmplHead = getTStylingRangePrev(tBindings);\n  let tmplTail = getTStylingRangeNext(tBindings);\n\n  tData[index] = tStylingKeyWithStatic;\n  let isKeyDuplicateOfStatic = false;\n  let tStylingKey: TStylingKeyPrimitive;\n  if (Array.isArray(tStylingKeyWithStatic)) {\n    // We are case when the `TStylingKey` contains static fields as well.\n    const staticKeyValueArray = tStylingKeyWithStatic as KeyValueArray<any>;\n    tStylingKey = staticKeyValueArray[1];  // unwrap.\n    // We need to check if our key is present in the static so that we can mark it as duplicate.\n    if (tStylingKey === null ||\n keyValueArrayIndexOf(staticKeyValueArray, tStylingKey as string) > 0) {\n      // tStylingKey is present in the statics, need to mark it as duplicate.\n      isKeyDuplicateOfStatic = true;\n    }\n  } else {\n    tStylingKey = tStylingKeyWithStatic;\n  }\n
  if (isHostBinding) {\n    // We are inserting host bindings\n\n    // If we don't have template bindings then `tail` is 0.\n    const hasTemplateBindings = tmplTail !== 0;\n    // This is important to know because that means that the `head` can't point to the first\n    // template bindings (there are none.) Instead the head points to the tail of the template.\n    if (hasTemplateBindings) {\n      // template head's \"prev\" will point to last host binding or to 0 if no host bindings yet\n      const previousNode = getTStylingRangePrev(tData[tmplHead + 1] as TStylingRange);\n      tData[index + 1] = toTStylingRange(previousNode, tmplHead);\n      // if a host binding has already been registered, we need to update the next of that host\n      // binding to point to this one\n      if (previousNode !== 0) {\n        // We need to update the template-tail value to point to us.\n        tData[previousNode + 1] =\n setTStylingRangeNext(tData[previousNode + 1] as TStylingRange,
 index);\n      }\n      // The \"previous\" of the template binding head should point to this host binding\n      tData[tmplHead + 1] = setTStylingRangePrev(tData[tmplHead + 1] as TStylingRange, index);\n    } else {\n      tData[index + 1] = toTStylingRange(tmplHead, 0);\n      // if a host binding has already been registered, we need to update the next of that host\n      // binding to point to this one\n      if (tmplHead !== 0) {\n        // We need to update the template-tail value to point to us.\n        tData[tmplHead + 1] = setTStylingRangeNext(tData[tmplHead + 1] as TStylingRange, index);\n      }\n      // if we don't have template, the head points to template-tail, and needs to be advanced.\n      tmplHead = index;\n    }\n  } else {\n    // We are inserting in template section.\n    // We need to set this binding's \"previous\" to the current template tail\n    tData[index + 1] = toTStylingRange(tmplTail, 0);\n    ngDevMode &&\n        assertEqual(\n            tmplHead !==
 0 && tmplTail === 0, false,\n            'Adding template bindings after hostBindings is not allowed.');\n    if (tmplHead === 0) {\n      tmplHead = index;\n    } else {\n      // We need to update the previous value \"next\" to point to this binding\n      tData[tmplTail + 1] = setTStylingRangeNext(tData[tmplTail + 1] as TStylingRange, index);\n    }\n    tmplTail = index;\n  }\n\n  // Now we need to update / compute the duplicates.\n  // Starting with our location search towards head (least priority)\n  if (isKeyDuplicateOfStatic) {\n    tData[index + 1] = setTStylingRangePrevDuplicate(tData[index + 1] as TStylingRange);\n  }\n  markDuplicates(tData, tStylingKey, index, true, isClassBinding);\n  markDuplicates(tData, tStylingKey, index, false, isClassBinding);\n  markDuplicateOfResidualStyling(tNode, tStylingKey, tData, index, isClassBinding);\n\n  tBindings =

toTStylingRange(tmplHead, tmplTail);\n  if (isClassBinding) {\n    tNode.classBindings = tBindings;\n  } else {\n tNode.styleBindings
 = tBindings;\n  }\n}\n\n/**\n * Look into the residual styling to see if the current `tStylingKey` is duplicate of residual.\n *\n * @param tNode `TNode` where the residual is stored.\n * @param tStylingKey `TStylingKey` to store.\n * @param tData `TData` associated with the current `LView`.\n * @param index location of where `tStyleValue` should be stored (and linked into list.)\n * @param isClassBinding True if the associated `tStylingKey` as a `class` styling.\n *                       `tNode.classBindings` should be used (or `tNode.styleBindings` otherwise.)\n */\nfunction markDuplicateOfResidualStyling(\n    tNode: TNode, tStylingKey: TStylingKey, tData: TData, index: number, isClassBinding: boolean) {\n  const residual = isClassBinding ? tNode.residualClasses : tNode.residualStyles;\n  if (residual != null /* or undefined */ && typeof tStylingKey == 'string' &&\n keyValueArrayIndexOf(residual, tStylingKey) >= 0) {\n    // We have duplicate in the residual so mark ourselves as duplicate.\n    tData[index + 1] = setTStylingRangeNextDuplicate(tData[index + 1] as TStylingRange);\n  }\n}\n\n\n/**\n * Marks `TStyleValue`s as duplicates if another style binding in the list has the same\n * `TStyleValue`.\n *\n * NOTE: this function is intended to be called twice once with `isPrevDir` set to `true` and once\n * with it set to `false` to search both the previous as well as next items in the list.\n *\n * No duplicate case\n * ```\n *   [style.color]\n *   [style.width.px] <<- index\n *   [style.height.px]\n * ```\n *\n * In the above case adding `[style.width.px]` to the existing `[style.color]` produces no\n * duplicates because `width` is not found in any other part of the linked list.\n *\n * Duplicate case\n * ```\n *   [style.color]\n *   [style.width.em]\n *   [style.width.px] <<- index\n * ```\n * In the above case adding `[style.width.px]` will produce a duplicate with `[style.width.em]`\n * because `width` is found in the chain.\n *\n * Map
 case 1\n * ```\n *   [style.width.px]\n *   [style.color]\n *   [style]  <<- index\n * ```\n * In the above case adding `[style]` will produce a duplicate with any other bindings because\n * `[style]` is a Map and as such is fully dynamic and could produce `color` or `width`.\n *\n * Map case 2\n * ```\n *   [style]\n *   [style.width.px]\n *   [style.color] <<- index\n * ```\n * In the above case adding `[style.color]` will produce a duplicate because there is already a\n * `[style]` binding which is a Map and as such is fully dynamic and could produce `color` or\n * `width`.\n *\n * NOTE: Once `[style]` (Map) is added into the system all things are mapped as duplicates.\n * NOTE: We use `style` as example, but same logic is applied to `class`es as well.\n *\n * @param tData `TData` where the linked list is stored.\n * @param tStylingKey `TStylingKeyPrimitive` which contains the value to compare to other keys in\n *  the linked list.\n * @param index Starting location in the linked
 list to search from\n * @param isPrevDir Direction.\n *        - `true` for previous (lower priority);\n *        - `false` for next (higher priority).\n */\nfunction markDuplicates(\n    tData: TData, tStylingKey: TStylingKeyPrimitive, index: number, isPrevDir: boolean,\n    isClassBinding: boolean) {\n  const tStylingAtIndex = tData[index + 1] as TStylingRange;\n  const isMap = tStylingKey === null;\n  let cursor =\n      isPrevDir ? getTStylingRangePrev(tStylingAtIndex) : getTStylingRangeNext(tStylingAtIndex);\n  let foundDuplicate = false;\n  // We keep iterating as long as we have a cursor\n  // AND either:\n  // - we found what we are looking for, OR\n  // - we are a map in which case we have to continue searching even after we find what we were\n  //   looking for since we are a wild card and everything needs to be flipped to duplicate.\n  while (cursor !== 0 && (foundDuplicate === false || isMap)) {\n    ngDevMode && assertIndexInRange(tData, cursor);\n    const tStylingValueAtCursor = tData[cursor] as TStylingKey;\n    const tStyleRangeAtCursor = tData[cursor + 1] as TStylingRange;\n    if (isStylingMatch(tStylingValueAtCursor, tStylingKey)) {\n      foundDuplicate = true;\n      tData[cursor + 1] = isPrevDir ? setTStylingRangeNextDuplicate(tStyleRangeAtCursor) :\n          setTStylingRangePrevDuplicate(tStyleRangeAtCursor);\n    }\n    cursor = isPrevDir ? getTStylingRangePrev(tStyleRangeAtCursor) :\n                         getTStylingRangeNext(tStyleRangeAtCursor);\n  }\n  if (foundDuplicate) {\n    // if we found a duplicate, than mark ourselves.\n    tData[index + 1] = isPrevDir ? setTStylingRangePrevDuplicate(tStylingAtIndex) :\n        setTStylingRangeNextDuplicate(tStylingAtIndex);\n  }\n}\n\n/**\n * Determines if two `TStylingKey`s are a match.\n *\n * When computing whether a binding contains a duplicate, we need to compare if the instruction\n * `TStylingKey` has a match.\n *\n * Here are

examples of `TStylingKey`s which match given `tStylingKeyCursor` is:\n * - `color`\n *  - `color`  // Match another color\n *  - `null`  // That means that `tStylingKey` is a `classMap`/`styleMap` instruction\n *  - `['', 'color', 'other', true]` // wrapped `color` so match\n *  - `['', null, 'other', true]`  // wrapped `null` so match\n *  - `['', 'width', 'color', 'value']` // wrapped static value contains a match on `'color'`\n * - `null`  // `tStylingKeyCursor` always match as it is `classMap`/`styleMap` instruction\n *\n * @param tStylingKeyCursor\n * @param tStylingKey\n */\nfunction isStylingMatch(tStylingKeyCursor: TStylingKey, tStylingKey: TStylingKeyPrimitive) {\n  ngDevMode &&\n  assertNotEqual(\n  Array.isArray(tStylingKey), true, 'Expected that \\'tStylingKey\\' has been unwrapped');\n  if (\n  tStylingKeyCursor === null ||  // If the cursor is `null` it means that we have map at that\n  // location
 so we must assume that we have a match.\n  tStylingKey == null ||  // If `tStylingKey` is `null` then it is a map therefor assume that it\n  // contains a match.\n  (Array.isArray(tStylingKeyCursor) ? tStylingKeyCursor[1] : tStylingKeyCursor) ===\n  tStylingKey  // If the keys match explicitly than we are a match.\n  ) {\n  return true;\n  } else if (Array.isArray(tStylingKeyCursor) && typeof tStylingKey === 'string') {\n  // if we did not find a match, but `tStylingKeyCursor` is `KeyValueArray` that means cursor has\n  // statics and we need to check those as well.\n  return keyValueArrayIndexOf(tStylingKeyCursor, tStylingKey) >=\n  0;  // see if we are matching the key\n  }\n  return false;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertEqual,
 throwError} from '../../util/assert';\nimport {CharCode} from '../../util/char_code';\n\n/**\n * Stores the locations of key/value indexes while parsing styling.\n *\n * In case of `cssText` parsing the indexes are like so:\n * ```\n * \"key1: value1; key2: value2; key3: value3\"\n *  ^  ^ ^  ^  ^\n *  |  | |  |  +-- textEnd\n *  |  | |  +---------- valueEnd\n *  |  | +------------------ value\n *  |  +---------------------- keyEnd\n *  +------------------------- key\n * ```\n *\n * In case of `className` parsing the indexes are like so:\n * ```\n *  \"key1 key2 key3\"\n *  ^  ^  ^\n *  |  |  +-- textEnd\n *  |  +---------- keyEnd\n *  +------------- key\n * ```\n * NOTE: `value` and `valueEnd` are used only for styles, not classes.\n */\ninterface ParserState {\n  textEnd:
 number;\n  key: number;\n  keyEnd: number;\n  value: number;\n  valueEnd: number;\n}\n// Global state of the parser. (This makes parser non-reentrant, but that is not an issue)\nconst parserState: ParserState = {\n  textEnd: 0,\n  key: 0,\n  keyEnd: 0,\n  value: 0,\n  valueEnd: 0,\n};\n\n/**\n * Retrieves the last parsed `key` of style.\n * @param text the text to substring the key from.\n */\nexport function getLastParsedKey(text: string): string {\n  return text.substring(parserState.key, parserState.keyEnd);\n}\n\n/**\n * Retrieves the last parsed `value` of style.\n * @param text the text to substring the key from.\n */\nexport function getLastParsedValue(text: string): string {\n  return text.substring(parserState.value, parserState.valueEnd);\n}\n\n/**\n * Initializes `className` string for parsing and parses the first token.\n *\n * This function is intended to be used in this format:\n * ```\n * for (let i = parseClassName(text); i >= 0; i = parseClassNameNext(text, i)) {\n
 *  const key = getLastParsedKey();\n *  ...\n * }\n * ```\n * @param text `className` to parse\n * @returns index where the next invocation of `parseClassNameNext` should resume.\n */\nexport function parseClassName(text: string): number {\n  resetParserState(text);\n  return parseClassNameNext(text, consumeWhitespace(text, 0, parserState.textEnd));\n}\n\n/**\n * Parses next `className` token.\n *\n * This function is intended to be used in this format:\n * ```\n * for (let i = parseClassName(text); i >= 0; i = parseClassNameNext(text, i)) {\n *  const key = getLastParsedKey();\n *  ...\n * }\n * ```\n *\n * @param text `className` to parse\n * @param index where the parsing should resume.\n * @returns index where the next invocation of `parseClassNameNext` should resume.\n */\nexport function parseClassNameNext(text: string, index: number): number {\n  const end = parserState.textEnd;\n  if (end === index) {\n  return -1;\n  }\n  index = parserState.keyEnd =
 consumeClassToken(text,
 parserState.key = index, end);\n  return consumeWhitespace(text, index, end);\n}\n\n/**\n * Initializes `cssText` string for parsing and parses the first key/values.\n *\n * This function is intended to be used in this format:\n * ```\n * for (let i = parseStyle(text); i >= 0; i = parseStyleNext(text, i))) {\n *  const key = getLastParsedKey();\n *  const

value = getLastParsedValue();\n *   ...\n * }\n * ```\n * @param text `cssText` to parse\n * @returns index where the next invocation of `parseStyleNext` should resume.\n */\nexport function parseStyle(text: string): number {\n resetParserState(text);\n  return parseStyleNext(text, consumeWhitespace(text, 0, parserState.textEnd));\n}\n\n/**\n * Parses the next `cssText` key/values.\n *\n * This function is intended to be used in this format:\n * ```\n * for (let i = parseStyle(text); i >= 0; i = parseStyleNext(text, i))) {\n *   const key = getLastParsedKey();\n *   const value = getLastParsedValue();\n *   ...\n * }\n *\n * @param
 text `cssText` to parse\n * @param index where the parsing should resume.\n * @returns index where the next invocation of `parseStyleNext` should resume.\n */\nexport function parseStyleNext(text: string, startIndex: number): number {\n  const end = parserState.textEnd;\n  let index = parserState.key = consumeWhitespace(text, startIndex, end);\n  if (end === index) {\n    // we reached an end so just quit\n    return -1;\n  }\n  index = parserState.keyEnd = consumeStyleKey(text, index, end);\n  index = consumeSeparator(text, index, end, CharCode.COLON);\n  index = parserState.value = consumeWhitespace(text, index, end);\n  index = parserState.valueEnd = consumeStyleValue(text, index, end);\n  return consumeSeparator(text, index, end, CharCode.SEMI_COLON);\n}\n\n/**\n * Reset the global state of the styling parser.\n * @param text The styling text to parse.\n */\nexport function resetParserState(text: string): void {\n  parserState.key = 0;\n  parserState.keyEnd = 0;\n  parserState.value
 = 0;\n  parserState.valueEnd = 0;\n  parserState.textEnd = text.length;\n}\n\n/**\n * Returns index of next non-whitespace character.\n *\n * @param text Text to scan\n * @param startIndex Starting index of character where the scan should start.\n * @param endIndex Ending index of character where the scan should end.\n * @returns Index of next non-whitespace character (May be the same as `start` if no whitespace at\n *          that location.)\n */\nexport function consumeWhitespace(text: string, startIndex: number, endIndex: number): number {\n  while (startIndex < endIndex && text.charCodeAt(startIndex) <= CharCode.SPACE) {\n    startIndex++;\n  }\n  return startIndex;\n}\n\n/**\n * Returns index of last char in class token.\n *\n * @param text Text to scan\n * @param startIndex Starting index of character where the scan should start.\n * @param endIndex Ending index of character where the scan should end.\n * @returns Index after last char in class token.\n */\nexport function
 consumeClassToken(text: string, startIndex: number, endIndex: number): number {\n  while (startIndex < endIndex && text.charCodeAt(startIndex) > CharCode.SPACE) {\n    startIndex++;\n  }\n  return startIndex;\n}\n\n/**\n * Consumes all of the characters belonging to style key and token.\n *\n * @param text Text to scan\n * @param startIndex Starting index of character where the scan should start.\n * @param endIndex Ending index of character where the scan should end.\n * @returns Index after last style key character.\n */\nexport function consumeStyleKey(text: string, startIndex: number, endIndex: number): number {\n  let ch: number;\n  while (startIndex < endIndex &&\n         ((ch = text.charCodeAt(startIndex)) === CharCode.DASH || ch === CharCode.UNDERSCORE ||\n          ((ch & CharCode.UPPER_CASE) >= CharCode.A && (ch & CharCode.UPPER_CASE) <= CharCode.Z) ||\n          (ch >= CharCode.ZERO && ch <= CharCode.NINE))) {\n    startIndex++;\n  }\n  return startIndex;\n}\n\n/**\n * Consumes
 all whitespace and the separator `:` after the style key.\n *\n * @param text Text to scan\n * @param startIndex Starting index of character where the scan should start.\n * @param endIndex Ending index of character where the scan should end.\n * @returns Index after separator and surrounding whitespace.\n */\nexport function consumeSeparator(\n    text: string, startIndex: number, endIndex: number, separator: number): number {\n  startIndex = consumeWhitespace(text, startIndex, endIndex);\n  if (startIndex < endIndex) {\n    if (ngDevMode && text.charCodeAt(startIndex) !== separator) {\n      malformedStyleError(text, String.fromCharCode(separator), startIndex);\n    }\n    startIndex++;\n  }\n  return startIndex;\n}\n\n\n\n/**\n * Consumes style value honoring `url()` and `\"\"` text.\n *\n * @param text Text to scan\n * @param startIndex Starting index of character where the scan should start.\n * @param endIndex Ending index of character where the scan should end.\n * @returns
 Index after last style value character.\n */\nexport function consumeStyleValue(text: string, startIndex: number, endIndex: number): number {\n  let ch1 = -1;  // 1st previous character\n  let ch2 = -1;  // 2nd previous character\n  let ch3 = -1;  // 3rd previous character\n  let i = startIndex;\n  let lastChIndex = i;\n  while (i < endIndex) {\n    const ch: number = text.charCodeAt(i++);\n    if (ch === CharCode.SEMI_COLON) {\n      return lastChIndex;\n    } else

if (ch === CharCode.DOUBLE_QUOTE || ch === CharCode.SINGLE_QUOTE) {\n lastChIndex = i = consumeQuotedText(text, ch, i, endIndex);\n } else if (\n startIndex ===\n i - 4 && // We have seen only 4 characters so far \"URL(\" (Ignore \"foo_URL()\")\n ch3 === CharCode.U &&\n ch2 === CharCode.R && ch1 === CharCode.L && ch === CharCode.OPEN_PAREN) {\n lastChIndex = i = consumeQuotedText(text, CharCode.CLOSE_PAREN, i, endIndex);\n } else if (ch > CharCode.SPACE) {\n // if we have
a non-whitespace character then capture its location\n lastChIndex = i;\n }\n ch3 = ch2;\n ch2 = ch1;\n ch1 = ch & CharCode.UPPER_CASE;\n }\n return lastChIndex;\n}\n\n/**\n * Consumes all of the quoted characters.\n *\n * @param text Text to scan\n * @param quoteCharCode CharCode of either `\"` or `'` quote or `)` for `url(...)`.\n * @param startIndex Starting index of character where the scan should start.\n * @param endIndex Ending index of character where the scan should end.\n * @returns Index after quoted characters.\n */\nexport function consumeQuotedText(\n text: string, quoteCharCode: number, startIndex: number, endIndex: number): number {\n let ch1 = -1; // 1st previous character\n let index = startIndex;\n while (index < endIndex) {\n const ch = text.charCodeAt(index++);\n if (ch == quoteCharCode && ch1 !== CharCode.BACK_SLASH) {\n return index;\n }\n if (ch == CharCode.BACK_SLASH && ch1 === CharCode.BACK_SLASH) {\n // two back slashes cancel each other out. For example `\"\\\\\"` should properly end the\n // quotation. (It should not assume that the last `\"` is escaped.)\n ch1 = 0;\n } else {\n ch1 = ch;\n }\n }\n throw ngDevMode ? malformedStyleError(text, String.fromCharCode(quoteCharCode), endIndex) :\n new Error();\n}\n\nfunction malformedStyleError(text: string, expecting: string, index: number): never {\n ngDevMode && assertEqual(typeof text === 'string', true, 'String expected here');\n throw throwError(\n `Malformed style at location ${index} in string ` + text.substring(0, index) + '[>>' +\n text.substring(index, index + 1) + '<<]' + text.substr(index + 1) +\n `. Expecting '${expecting}'.`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {SafeValue, unwrapSafeValue}
from '../../sanitization/bypass';\nimport {KeyValueArray, keyValueArrayGet, keyValueArraySet} from '../../util/array_utils';\nimport {assertDefined, assertEqual, assertLessThan, assertNotEqual, throwError} from '../../util/assert';\nimport {EMPTY_ARRAY} from '../../util/empty';\nimport {concatStringsWithSpace, stringify} from '../../util/stringify';\nimport {assertFirstUpdatePass} from '../assert';\nimport {bindingUpdated} from '../bindings';\nimport {DirectiveDef} from '../interfaces/definition';\nimport {AttributeMarker, TAttributes, TNode, TNodeFlags, TNodeType} from '../interfaces/node';\nimport {Renderer3} from '../interfaces/renderer';\nimport {RElement} from '../interfaces/renderer_dom';\nimport {getTStylingRangeNext, getTStylingRangeNextDuplicate, getTStylingRangePrev, getTStylingRangePrevDuplicate, TStylingKey, TStylingRange} from '../interfaces/styling';\nimport {LView, RENDERER, TData, TView} from '../interfaces/view';\nimport {applyStyling} from '../node_manipulation';\nimport
{getCurrentDirectiveDef, getLView, getSelectedIndex, getTView, incrementBindingIndex} from '../state';\nimport {insertTStylingBinding} from '../styling/style_binding_list';\nimport {getLastParsedKey, getLastParsedValue, parseClassName, parseClassNameNext, parseStyle, parseStyleNext} from '../styling/styling_parser';\nimport {NO_CHANGE} from '../tokens';\nimport {getNativeByIndex} from '../util/view_utils';\nimport {setDirectiveInputsWhichShadowsStyling} from './property';\n\n\n/**\n * Update a style binding on an element with the provided value.\n *\n * If the style value is falsy then it will be removed from the element\n * (or assigned a different value depending if there are any styles placed\n * on the element with `styleMap` or any static styles that are\n * present from when the element was created with `styling`).\n *\n * Note that the styling element is updated as part of `stylingApply`.\n *\n * @param prop A valid CSS property.\n * @param value New value to write (`null` or an empty string to remove).\n * @param suffix Optional suffix. Used with scalar values to add unit such as `px`.\n *\n * Note that this will apply the provided style value to the host element if this function is called\n * within a host binding function.\n *\n * @codeGenApi\n */\nexport function styleProp(\n prop: string, value: string|number|SafeValue|undefined|null,\n suffix?: string|null): typeof styleProp {\n checkStylingProperty(prop, value, suffix, false);\n return styleProp;\n}\n\n/**\n * Update a class binding on an element with the provided

value.\n *\n * This instruction is meant to handle the `[class.foo]=\"exp\"` case and,\n * therefore, the class binding itself must already be allocated using\n * `styling` within the creation block.\n *\n * @param prop A valid CSS class (only one).\n * @param value A true/false value which will turn the class on or off.\n *\n * Note that this will apply the provided class value to the host element if this function\n * is called within a host binding function.\n *\n * @codeGenApi\n */\nexport function classProp(className: string, value: boolean|undefined|null): typeof classProp {\n  checkStylingProperty(className, value, null, true);\n  return classProp;\n}\n\n\n/**\n * Update style bindings using an object literal on an element.\n *\n * This instruction is meant to apply styling via the `[style]=\"exp\"` template bindings.\n * When styles are applied to the element they will then be updated with respect to\n * any styles/classes set via `styleProp`. If any styles are set to falsy\n * then they will be removed from the element.\n *\n * Note that the styling instruction will not be applied until `stylingApply` is called.\n *\n * @param styles A key/value style map of the styles that will be applied to the given element.\n *        Any missing styles (that have already been applied to the element beforehand) will be\n * removed (unset) from the element's styling.\n *\n * Note that this will apply the provided styleMap value to the host element if this function\n * is called within a host binding.\n *\n * @codeGenApi\n */\nexport function styleMap(styles: {[styleName: string]: any}|string|undefined|null): void {\n  checkStylingMap(styleKeyValueArraySet, styleStringParser, styles, false);\n}\n\n\n/**\n * Parse text as style and add values to KeyValueArray.\n *\n * This code is pulled out to a separate function so that it can be tree shaken away if it is not\n * needed. It is only referenced from `styleMap`.\n *\n * @param keyValueArray KeyValueArray to add parsed values to.\n * @param text text to parse.\n */\nexport function styleStringParser(keyValueArray: KeyValueArray<any>, text: string): void {\n  for (let i = parseStyle(text); i >= 0; i = parseStyleNext(text, i)) {\n    styleKeyValueArraySet(keyValueArray, getLastParsedKey(text), getLastParsedValue(text));\n  }\n}\n\n\n/**\n * Update class bindings using an object literal or class-string on an element.\n *\n * This instruction is meant to apply styling via the `[class]=\"exp\"` template bindings.\n * When classes are applied to the element they will then be updated with\n * respect to any styles/classes set via `classProp`. If any\n * classes are set to falsy then they will be removed from the element.\n *\n * Note that the styling instruction will not be applied until `stylingApply` is called.\n * Note that this will the provided classMap value to the host element if this function is called\n * within a host binding.\n *\n * @param classes A key/value map or string of CSS classes that will be added to the\n *        given element. Any missing classes (that have already been applied to the element\n *        beforehand) will be removed (unset) from the element's list of CSS classes.\n *\n * @codeGenApi\n */\nexport function classMap(classes: {[className: string]: boolean|undefined|null}|string|undefined|\n                         null): void {\n  checkStylingMap(keyValueArraySet, classStringParser,\n    classes, true);\n}\n\n/**\n * Parse text as class and add values to KeyValueArray.\n *\n * This code is pulled out to a separate function so that it can be tree shaken away if it is not\n * needed. It is only referenced from `classMap`.\n *\n * @param keyValueArray KeyValueArray to add parsed values to.\n * @param text text to parse.\n */\nexport function classStringParser(keyValueArray: KeyValueArray<any>, text: string): void {\n  for (let i = parseClassName(text); i >= 0; i = parseClassNameNext(text, i)) {\n    keyValueArraySet(keyValueArray, getLastParsedKey(text), true);\n  }\n}\n\n/**\n * Common code between `classProp` and `styleProp`.\n *\n * @param prop property name.\n * @param value binding value.\n * @param suffix suffix for the property (e.g. `em` or `px`)\n * @param isClassBased `true` if `class` change (`false` if `style`)\n */\nexport function checkStylingProperty(\n    prop: string, value: any|NO_CHANGE, suffix: string|undefined|null,\n    isClassBased: boolean): void {\n  const lView = getLView();\n  const tView = getTView();\n  // Styling instructions use 2 slots per binding.\n  // 1. one for the value / TStylingKey\n  // 2. one for the intermittent-value / TStylingRange\n  const bindingIndex = incrementBindingIndex(2);\n  if (tView.firstUpdatePass) {\n    stylingFirstUpdatePass(tView, prop, bindingIndex, isClassBased);\n  }\n  if (value !== NO_CHANGE && bindingUpdated(lView, bindingIndex, value)) {\n    const tNode = tView.data[getSelectedIndex()] as TNode;\n    updateStyling(\n        tView, tNode, lView, lView[RENDERER], prop,\n        lView[bindingIndex + 1] = normalizeSuffix(value, suffix), isClassBased, bindingIndex);\n  }\n}\n\n/**\n * Common code between `classMap` and `styleMap`.\n *\n * @param keyValueArraySet (See `keyValueArraySet` in \"util/array_utils\") Gets passed in as a\n *        function so that

`style` can be processed. This is done for tree shaking purposes.\n * @param stringParser Parser used to parse `value`
 if `string`. (Passed in as `style` and `class`\n *  have different parsers.)\n * @param value bound value from application\n * @param isClassBased `true` if `class` change (`false` if `style`)\n */\nexport function checkStylingMap(\n  keyValueArraySet: (keyValueArray: KeyValueArray<any>, key: string, value: any) => void,\n  stringParser: (styleKeyValueArray: KeyValueArray<any>, text: string) => void,\n  value: any|NO_CHANGE, isClassBased: boolean): void {\n  const tView = getTView();\n  const bindingIndex = incrementBindingIndex(2);\n  if (tView.firstUpdatePass) {\n  stylingFirstUpdatePass(tView, null, bindingIndex, isClassBased);\n  }\n  const lView = getLView();\n  if (value !== NO_CHANGE && bindingUpdated(lView, bindingIndex, value)) {\n  // `getSelectedIndex()` should be here (rather than in instruction) so that it is guarded by the\n  // if so as not to read unnecessarily.\n  const tNode = tView.data[getSelectedIndex()] as TNode;\n  if (hasStylingInputShadow(tNode,
 isClassBased) && !isInHostBindings(tView, bindingIndex)) {\n  if (ngDevMode) {\n  // verify that if we are shadowing then `TData` is appropriately marked so that we skip\n  // processing this binding in styling resolution.\n  const tStylingKey = tView.data[bindingIndex];\n  assertEqual(\n  Array.isArray(tStylingKey) ? tStylingKey[1] : tStylingKey, false,\n  'Styling linked list shadow input should be marked as \\'false\\'');\n  }\n  // VE does not concatenate the static portion like we are doing here.\n  // Instead VE just ignores the static completely if dynamic binding is present.\n  // Because of locality we have already set the static portion because we don't know if there\n  // is a dynamic portion until later. If we would ignore the static portion it would look like\n  // the binding has removed it. This would confuse `[ngStyle]`/`[ngClass]` to do the wrong\n  // thing as it would think that
 the static portion was removed. For this reason we\n  // concatenate it so that `[ngStyle]`/`[ngClass]` can continue to work on changed.\n  let staticPrefix = isClassBased ? tNode.classesWithoutHost : tNode.stylesWithoutHost;\n  ngDevMode && isClassBased === false && staticPrefix !== null &&\n  assertEqual(\n  staticPrefix.endsWith(';'), true, 'Expecting static portion to end with \\';\\'');\n  if (staticPrefix !== null) {\n  // We want to make sure that falsy values of `value` become empty strings.\n  value = concatStringsWithSpace(staticPrefix, value ? value : '');\n  }\n  // Given `<div [style] my-dir>` such that `my-dir` has `@Input('style')`.\n  // This takes over the `[style]` binding. (Same for `[class]`)\n  setDirectiveInputsWhichShadowsStyling(tView, tNode, lView, value, isClassBased);\n  } else {\n  updateStylingMap(\n  tView, tNode, lView, lView[RENDERER], lView[bindingIndex + 1],\n  lView[bindingIndex
 + 1] = toStylingKeyValueArray(keyValueArraySet, stringParser, value),\n  isClassBased, bindingIndex);\n  }\n  }\n}\n\n/**\n * Determines when the binding is in `hostBindings` section\n *\n * @param tView Current `TView`\n * @param bindingIndex index of binding which we would like if it is in `hostBindings`\n */\nfunction isInHostBindings(tView: TView, bindingIndex: number): boolean {\n  // All host bindings are placed after the expando section.\n  return bindingIndex >= tView.expandoStartIndex;\n}\n\n/**\n * Collects the necessary information to insert the binding into a linked list of style bindings\n * using `insertTStylingBinding`.\n *\n * @param tView `TView` where the binding linked list will be stored.\n * @param tStylingKey Property/key of the binding.\n * @param bindingIndex Index of binding associated with the `prop`\n * @param isClassBased `true` if `class` change (`false` if `style`)\n */\nfunction stylingFirstUpdatePass(\n  tView: TView, tStylingKey:
 TStylingKey, bindingIndex: number, isClassBased: boolean): void {\n  ngDevMode && assertFirstUpdatePass(tView);\n  const tData = tView.data;\n  if (tData[bindingIndex + 1] === null) {\n  // The above check is necessary because we don't clear first update pass until first successful\n  // (no exception) template execution. This prevents the styling instruction from double adding\n  // itself to the list.\n  // `getSelectedIndex()` should be here (rather than in instruction) so that it is guarded by the\n  // if so as not to read unnecessarily.\n  const tNode = tData[getSelectedIndex()] as TNode;\n  ngDevMode && assertDefined(tNode, 'TNode expected');\n  const isHostBindings = isInHostBindings(tView, bindingIndex);\n  if (hasStylingInputShadow(tNode, isClassBased) && tStylingKey === null && !isHostBindings) {\n  // `tStylingKey === null` implies that we are

either `[style]` or `[class]` binding.\n // If there is a directive which uses `@Input('style')` or `@Input('class')` than\n // we need to neutralize this binding since that directive is shadowing it.\n // We turn this into a noop by setting the key to `false`\n tStylingKey = false;\n }\n tStylingKey = wrapInStaticStylingKey(tData, tNode, tStylingKey, isClassBased);\n insertTStylingBinding(tData, tNode, tStylingKey, bindingIndex, isHostBindings, isClassBased);\n }\n}\n\n/**\n * Adds static styling information to the binding if applicable.\n *\n * The linked list of styles not only stores the list and keys, but also stores static styling\n * information on some of the keys. This function determines if the key should contain the styling\n * information and computes it.\n *\n * See `TStylingStatic` for more details.\n *\n * @param tData `TData` where the linked list is stored.\n * @param tNode `TNode` for which the styling is being computed.\n * @param stylingKey `TStylingKeyPrimitive` which may need to be wrapped into `TStylingKey`\n * @param isClassBased `true` if `class` (`false` if `style`)\n */\nexport function wrapInStaticStylingKey(\n tData: TData, tNode: TNode, stylingKey: TStylingKey, isClassBased: boolean): TStylingKey {\n const hostDirectiveDef = getCurrentDirectiveDef(tData);\n let residual = isClassBased ? tNode.residualClasses : tNode.residualStyles;\n if (hostDirectiveDef === null) {\n // We are in template node.\n // If template node already had styling instruction then it has already collected the static\n // styling and there is no need to collect them again. We know that we are the first styling\n // instruction because the `TNode.*Bindings` points to 0 (nothing has been inserted yet).\n const isFirstStylingInstructionInTemplate =\n (isClassBased ? tNode.classBindings : tNode.styleBindings) as any as number === 0;\n if (isFirstStylingInstructionInTemplate) {\n // It would be nice to be able to get the statics from `mergeAttrs`, however, at this point\n // they are already merged and it would not be possible to figure which property belongs where\n // in the priority.\n stylingKey = collectStylingFromDirectives(null, tData, tNode, stylingKey, isClassBased);\n stylingKey = collectStylingFromTAttrs(stylingKey, tNode.attrs, isClassBased);\n // We know that if we have styling binding in template we can't have residual.\n residual = null;\n }\n } else {\n // We are in host binding node and there was no binding instruction in template node.\n // This means that we need to compute the residual.\n const directiveStylingLast = tNode.directiveStylingLast;\n const isFirstStylingInstructionInHostBinding =\n directiveStylingLast === -1 || tData[directiveStylingLast] !== hostDirectiveDef;\n if (isFirstStylingInstructionInHostBinding) {\n stylingKey =\n collectStylingFromDirectives(hostDirectiveDef, tData, tNode, stylingKey, isClassBased);\n if (residual === null) {\n // - If `null` than either:\n // - Template styling instruction already ran and it has consumed the static\n // styling into its `TStylingKey` and so there is no need to update residual. Instead\n // we need to update the `TStylingKey` associated with the first template node\n // instruction. OR\n // - Some other styling instruction ran and determined that there are no residuals\n let templateStylingKey = getTemplateHeadTStylingKey(tData, tNode, isClassBased);\n if (templateStylingKey !== undefined && Array.isArray(templateStylingKey)) {\n // Only recompute if `templateStylingKey` had static values. (If no static value found\n // then there is nothing to do since this operation can only produce less static keys, not\n // more.)\n templateStylingKey = collectStylingFromDirectives(\n null, tData, tNode, templateStylingKey[1] /* unwrap previous statics */,\n isClassBased);\n templateStylingKey =\n collectStylingFromTAttrs(templateStylingKey, tNode.attrs, isClassBased);\n setTemplateHeadTStylingKey(tData, tNode, isClassBased, templateStylingKey);\n }\n } else {\n // We only need to recompute residual if it is not `null`.\n // - If existing residual (implies there was no template styling). This means that some of\n // the statics may have moved from the residual to the `stylingKey` and so we have to\n // recompute.\n // - If `undefined` this is the first time we are running.\n residual = collectResidual(tData, tNode, isClassBased);\n }\n }\n if (residual !== undefined) {\n isClassBased ? (tNode.residualClasses = residual) : (tNode.residualStyles = residual);\n }\n return stylingKey;\n}\n\n/**\n * Retrieve the `TStylingKey` for the template styling instruction.\n *\n * This is needed since `hostBinding` styling instructions are inserted after the template\n * instruction.

While the template instruction needs to update the residual in `TNode` the\n * `hostBinding` instructions need to update the `TStylingKey` of the template instruction because\n * the template instruction is downstream from the `hostBindings` instructions.\n *\n * @param tData `TData` where the linked list is stored.\n * @param tNode `TNode` for which the styling is being computed.\n * @param isClassBased `true` if `class` (`false` if `style`)\n * @return `TStylingKey` if found or `undefined` if not found.\n */\nfunction getTemplateHeadTStylingKey(tData: TData, tNode: TNode, isClassBased: boolean): TStylingKey|\n undefined {\n const bindings = isClassBased ? tNode.classBindings : tNode.styleBindings;\n if (getTStylingRangeNext(bindings) === 0) {\n // There does not seem to be a styling instruction in the `template`.\n return undefined;\n }\n return tData[getTStylingRangePrev(bindings)] as TStylingKey;\n}\n\n/**\n * Update the `TStylingKey` of the first template instruction
in `TNode`.\n *\n * Logically `hostBindings` styling instructions are of lower priority than that of the template.\n * However, they execute after the template styling instructions. This means that they get inserted\n * in front of the template styling instructions.\n *\n * If we have a template styling instruction and a new `hostBindings` styling instruction is\n * executed it means that it may need to steal static fields from the template instruction. This\n * method allows us to update the first template instruction `TStylingKey` with a new value.\n *\n * Assume:\n * ```\n * <div my-dir style=\"color: red\" [style.color]=\"tmplExp\"></div>\n *\n * @Directive({\n * host: {\n * 'style': 'width: 100px',\n * '[style.color]': 'dirExp',\n * }\n * })\n * class MyDir {}\n * ```\n *\n * when `[style.color]=\"tmplExp\"` executes it creates this data structure.\n * ```\n * ['', 'color', 'color', 'red', 'width', '100px'],\n * ```\n *\n * The reason for this is that the template instruction
does not know if there are styling\n * instructions and must assume that there are none and must collect all of the static styling.\n * (both\n * `color' and 'width`)\n *\n * When `'[style.color]': 'dirExp',` executes we need to insert a new data into the linked list.\n * ```\n * ['', 'color', 'width', '100px'], // newly inserted\n * ['', 'color', 'color', 'red', 'width', '100px'], // this is wrong\n * ```\n *\n * Notice that the template statics is now wrong as it incorrectly contains `width` so we need to\n * update it like so:\n * ```\n * ['', 'color', 'width', '100px'],\n * ['', 'color', 'color', 'red'], // UPDATE\n * ```\n *\n * @param tData `TData` where the linked list is stored.\n * @param tNode `TNode` for which the styling is being computed.\n * @param isClassBased `true` if `class` (`false` if `style`)\n * @param tStylingKey New `TStylingKey` which is replacing the old one.\n */\nfunction setTemplateHeadTStylingKey(\n tData: TData, tNode: TNode, isClassBased:
boolean, tStylingKey: TStylingKey): void {\n const bindings = isClassBased ? tNode.classBindings : tNode.styleBindings;\n ngDevMode &&\n assertNotEqual(\n getTStylingRangeNext(bindings), 0,\n 'Expecting to have at least one template styling binding.');\n tData[getTStylingRangePrev(bindings)] = tStylingKey;\n}\n\n/**\n * Collect all static values after the current `TNode.directiveStylingLast` index.\n *\n * Collect the remaining styling information which has not yet been collected by an existing\n * styling instruction.\n *\n * @param tData `TData` where the `DirectiveDefs` are stored.\n * @param tNode `TNode` which contains the directive range.\n * @param isClassBased `true` if `class` (`false` if `style`)\n */\nfunction collectResidual(tData: TData, tNode: TNode, isClassBased: boolean): KeyValueArray<any>|\n null {\n let residual: KeyValueArray<any>|null|undefined = undefined;\n const directiveEnd = tNode.directiveEnd;\n ngDevMode &&\n assertNotEqual(\n tNode.directiveStylingLast, -1,\n 'By the time this function gets called at least one hostBindings-node styling instruction must have executed.');\n // We add `1 + tNode.directiveStart` because we need to skip the current directive (as we are\n // collecting things after the last `hostBindings` directive which had a styling instruction.)\n for (let i = 1 + tNode.directiveStylingLast; i < directiveEnd; i++) {\n const attrs = (tData[i] as DirectiveDef<any>).hostAttrs;\n residual = collectStylingFromTAttrs(residual, attrs, isClassBased) as KeyValueArray<any>| null;\n }\n return collectStylingFromTAttrs(residual, tNode.attrs, isClassBased) as KeyValueArray<any>| null;\n}\n\n/**\n * Collect the static styling information with lower priority than `hostDirectiveDef`.\n *\n * (This is opposite of residual styling.)\n *\n * @param hostDirectiveDef `DirectiveDef` for which we want to collect lower priority static\n * styling. (Or `null` if template

styling)\n * @param tData `TData` where the linked list is stored.\n * @param tNode `TNode` for which the styling is being computed.\n * @param stylingKey Existing `TStylingKey` to update or wrap.\n * @param isClassBased `true` if `class` (`false` if `style`)\n */\nfunction collectStylingFromDirectives(\n hostDirectiveDef: DirectiveDef<any>|null, tData: TData, tNode: TNode, stylingKey: TStylingKey,\n isClassBased: boolean): TStylingKey {\n // We need to loop because there can be directives which have `hostAttrs` but don't have\n // `hostBindings` so this loop catches up to the current directive..\n let currentDirective: DirectiveDef<any>|null = null;\n const directiveEnd = tNode.directiveEnd;\n let directiveStylingLast = tNode.directiveStylingLast;\n if (directiveStylingLast === -1) {\n directiveStylingLast = tNode.directiveStart;\n } else {\n directiveStylingLast++;\n }\n while (directiveStylingLast < directiveEnd) {\n currentDirective = tData[directiveStylingLast]
as DirectiveDef<any>;\n ngDevMode && assertDefined(currentDirective, 'expected to be defined');\n stylingKey = collectStylingFromTAttrs(stylingKey, currentDirective.hostAttrs, isClassBased);\n if (currentDirective === hostDirectiveDef) break;\n directiveStylingLast++;\n }\n if (hostDirectiveDef !== null) {\n // we only advance the styling cursor if we are collecting data from host bindings.\n // Template executes before host bindings and so if we would update the index,\n // host bindings would not get their statics.\n tNode.directiveStylingLast = directiveStylingLast;\n }\n return stylingKey;\n}\n\n/**\n * Convert `TAttrs` into `TStylingStatic`.\n *\n * @param stylingKey existing `TStylingKey` to update or wrap.\n * @param attrs `TAttributes` to process.\n * @param isClassBased `true` if `class` (`false` if `style`)\n */\nfunction collectStylingFromTAttrs(\n stylingKey: TStylingKey|undefined, attrs: TAttributes|null,\n isClassBased: boolean): TStylingKey
{\n const desiredMarker = isClassBased ? AttributeMarker.Classes : AttributeMarker.Styles;\n let currentMarker = AttributeMarker.ImplicitAttributes;\n if (attrs !== null) {\n for (let i = 0; i < attrs.length; i++) {\n const item = attrs[i] as number | string;\n if (typeof item === 'number') {\n currentMarker = item;\n } else {\n if (currentMarker === desiredMarker) {\n if (!Array.isArray(stylingKey)) {\n stylingKey = stylingKey === undefined ? [] : ['', stylingKey] as any;\n }\n keyValueArraySet(\n stylingKey as KeyValueArray<any>, item, isClassBased ? true : attrs[++i]);\n }\n }\n }\n return stylingKey === undefined ? null : stylingKey;\n}\n\n/**\n * Convert user input to `KeyValueArray`.\n *\n * This function takes user input which could be `string`, Object literal, or iterable and converts\n * it into a consistent representation. The output of this is `KeyValueArray` (which
is an array\n * where\n * even indexes contain keys and odd indexes contain values for those keys).\n *\n * The advantage of converting to `KeyValueArray` is that we can perform diff in an input\n * independent\n * way.\n * (ie we can compare `foo bar` to `['bar', 'baz'] and determine a set of changes which need to be\n * applied)\n *\n * The fact that `KeyValueArray` is sorted is very important because it allows us to compute the\n * difference in linear fashion without the need to allocate any additional data.\n *\n * For example if we kept this as a `Map` we would have to iterate over previous `Map` to determine\n * which values need to be deleted, over the new `Map` to determine additions, and we would have to\n * keep additional `Map` to keep track of duplicates or items which have not yet been visited.\n *\n * @param keyValueArraySet (See `keyValueArraySet` in \"util/array_utils\") Gets passed in as a\n * function so that `style` can be processed. This is done\n *
for tree shaking purposes.\n * @param stringParser The parser is passed in so that it will be tree shakable. See\n * `styleStringParser` and `classStringParser`\n * @param value The value to parse/convert to `KeyValueArray`\n */\nexport function toStylingKeyValueArray(\n keyValueArraySet: (keyValueArray: KeyValueArray<any>, key: string, value: any) => void,\n stringParser: (styleKeyValueArray: KeyValueArray<any>, text: string) => void,\n value: string|string[]|{[key: string]: any}|SafeValue|null|undefined): KeyValueArray<any> {\n if (value == null /*|| value === undefined */ || value === '') return EMPTY_ARRAY as any;\n const styleKeyValueArray: KeyValueArray<any> = [] as any;\n const unwrappedValue = unwrapSafeValue(value) as string | string[] | {[key: string]: any};\n if (Array.isArray(unwrappedValue)) {\n for (let i = 0; i < unwrappedValue.length; i++) {\n keyValueArraySet(styleKeyValueArray, unwrappedValue[i], true);\n }\n } else if (typeof unwrappedValue

=== 'object') {\n for (const key in unwrappedValue) {\n if (unwrappedValue.hasOwnProperty(key)) {\n keyValueArraySet(styleKeyValueArray, key, unwrappedValue[key]);\n }\n }\n } else if (typeof unwrappedValue === 'string') {\n stringParser(styleKeyValueArray, unwrappedValue);\n } else {\n ngDevMode &&\n throwError('Unsupported styling type ' + typeof unwrappedValue + ': ' + unwrappedValue);\n }\n return styleKeyValueArray;\n}\n\n/**\n * Set a `value` for a `key`.\n *\n * See: `keyValueArraySet` for details\n *\n * @param keyValueArray KeyValueArray to add to.\n * @param key Style key to add.\n * @param value The value to set.\n */\nexport function styleKeyValueArraySet(keyValueArray: KeyValueArray<any>, key: string, value: any) {\n keyValueArraySet(keyValueArray, key, unwrapSafeValue(value));\n}\n\n/**\n * Update map based styling.\n *\n * Map based styling could be anything which contains more than one binding. For example `string`,\n * or object literal. Dealing with all of these types would complicate the logic so\n * instead this function expects that the complex input is first converted into normalized\n * `KeyValueArray`. The advantage of normalization is that we get the values sorted, which makes it\n * very cheap to compute deltas between the previous and current value.\n *\n * @param tView Associated `TView.data` contains the linked list of binding priorities.\n * @param tNode `TNode` where the binding is located.\n * @param lView `LView` contains the values associated with other styling binding at this `TNode`.\n * @param renderer Renderer to use if any updates.\n * @param oldKeyValueArray Previous value represented as `KeyValueArray`\n * @param newKeyValueArray Current value represented as `KeyValueArray`\n * @param isClassBased `true` if `class` (`false` if `style`)\n * @param bindingIndex Binding index of the binding.\n */\nfunction updateStylingMap(\n tView: TView, tNode: TNode, lView: LView, renderer:
Renderer3,\n oldKeyValueArray: KeyValueArray<any>, newKeyValueArray: KeyValueArray<any>,\n isClassBased: boolean, bindingIndex: number) {\n if (oldKeyValueArray as KeyValueArray<any>| NO_CHANGE === NO_CHANGE) {\n // On first execution the oldKeyValueArray is NO_CHANGE => treat it as empty KeyValueArray.\n oldKeyValueArray = EMPTY_ARRAY as any;\n }\n let oldIndex = 0;\n let newIndex = 0;\n let oldKey: string|null = 0 < oldKeyValueArray.length ? oldKeyValueArray[0] : null;\n let newKey: string|null = 0 < newKeyValueArray.length ? newKeyValueArray[0] : null;\n while (oldKey !== null || newKey !== null) {\n ngDevMode && assertLessThan(oldIndex, 999, 'Are we stuck in infinite loop?');\n ngDevMode && assertLessThan(newIndex, 999, 'Are we stuck in infinite loop?');\n const oldValue =\n oldIndex < oldKeyValueArray.length ? oldKeyValueArray[oldIndex + 1] : undefined;\n const newValue =\n newIndex < newKeyValueArray.length ? newKeyValueArray[newIndex
+ 1] : undefined;\n let setKey: string|null = null;\n let setValue: any = undefined;\n if (oldKey === newKey) {\n // UPDATE: Keys are equal => new value is overwriting old value.\n oldIndex += 2;\n newIndex += 2;\n if (oldValue !== newValue) {\n setKey = newKey;\n setValue = newValue;\n }\n } else if (newKey === null || oldKey !== null && oldKey < newKey!) {\n // DELETE: oldKey key is missing or we did not find the oldKey in the newValue\n // (because the keyValueArray is sorted and `newKey` is found later alphabetically).\n // `\"background\" < \"color\"` so we need to delete `\"background\"` because it is not found in the\n // new array.\n oldIndex += 2;\n setKey = oldKey;\n } else {\n // CREATE: newKey's is earlier alphabetically than oldKey's (or no oldKey) => we have new key.\n // `\"color\" > \"background\"` so we need to add `color` because it is in new array but not in\n // old
array.\n ngDevMode && assertDefined(newKey, 'Expecting to have a valid key');\n newIndex += 2;\n setKey = newKey;\n setValue = newValue;\n }\n if (setKey !== null) {\n updateStyling(tView, tNode, lView, renderer, setKey, setValue, isClassBased, bindingIndex);\n }\n oldKey = oldIndex < oldKeyValueArray.length ? oldKeyValueArray[oldIndex] : null;\n newKey = newIndex < newKeyValueArray.length ? newKeyValueArray[newIndex] : null;\n }\n}\n\n/**\n * Update a simple (property name) styling.\n *\n * This function takes `prop` and updates the DOM to that value. The function takes the binding\n * value as well as binding priority into consideration to determine which value should be written\n * to DOM. (For example it may be determined that there is a higher priority overwrite which blocks\n * the DOM write, or if the value goes to `undefined` a lower priority overwrite may be consulted.)\n *\n * @param tView Associated

`TView.data` contains the linked list
of binding priorities.\n * @param tNode `TNode` where the binding is located.\n * @param lView `LView` contains the values associated with other styling binding at this `TNode`.\n * @param renderer Renderer to use if any updates.\n * @param prop Either style property name or a class name.\n * @param value Either style value for `prop` or `true`/`false` if `prop` is class.\n * @param isClassBased `true` if `class` (`false` if `style`)\n * @param bindingIndex Binding index of the binding.\n */\nfunction updateStyling(\n tView: TView, tNode: TNode, lView: LView, renderer: Renderer3, prop: string,\n value: string|undefined|null|boolean, isClassBased: boolean, bindingIndex: number) {\n if (!(tNode.type & TNodeType.AnyRNode)) {\n // It is possible to have styling on non-elements (such as ng-container).\n // This is rare, but it does happen. In such a case, just ignore the binding.\n return;\n }\n const tData = tView.data;\n const tRange = tData[bindingIndex + 1] as TStylingRange;\n const higherPriorityValue = getTStylingRangeNextDuplicate(tRange) ?\n findStylingValue(tData, tNode, lView, prop, getTStylingRangeNext(tRange), isClassBased) :\n undefined;\n if (!isStylingValuePresent(higherPriorityValue)) {\n // We don't have a next duplicate, or we did not find a duplicate value.\n if (!isStylingValuePresent(value)) {\n // We should delete current value or restore to lower priority value.\n if (getTStylingRangePrevDuplicate(tRange)) {\n // We have a possible prev duplicate, let's retrieve it.\n value = findStylingValue(tData, null, lView, prop, bindingIndex, isClassBased);\n }\n }\n const rNode = getNativeByIndex(getSelectedIndex(), lView) as RElement;\n applyStyling(renderer, isClassBased, rNode, prop, value);\n }\n}\n\n/**\n * Search for styling value with higher priority which is overwriting current value, or a\n * value of lower priority to which we should fall back if the value is `undefined`.\n *\n * When value is being applied at a location, related values need to be consulted.\n * - If there is a higher priority binding, we should be using that one instead.\n * For example `<div [style]=\"{color:exp1}\" [style.color]=\"exp2\">` change to `exp1`\n * requires that we check `exp2` to see if it is set to value other than `undefined`.\n * - If there is a lower priority binding and we are changing to `undefined`\n * For example `<div [style]=\"{color:exp1}\" [style.color]=\"exp2\">` change to `exp2` to\n * `undefined` requires that we check `exp1` (and static values) and use that as new value.\n *\n * NOTE: The styling stores two values.\n * 1. The raw value which came from the application is stored at `index + 0` location. (This value\n * is used for dirty checking).\n * 2. The normalized value is stored at `index + 1`.\n *\n * @param tData `TData` used for traversing the priority.\n * @param tNode `TNode` to use for resolving static styling. Also controls search direction.\n * - `TNode` search next and quit as soon as `isStylingValuePresent(value)` is true.\n * If no value found consult `tNode.residualStyle`/`tNode.residualClass` for default value.\n * - `null` search prev and go all the way to end. Return last value where\n * `isStylingValuePresent(value)` is true.\n * @param lView `LView` used for retrieving the actual values.\n * @param prop Property which we are interested in.\n * @param index Starting index in the linked list of styling bindings where the search should start.\n * @param isClassBased `true` if `class` (`false` if `style`)\n */\nfunction findStylingValue(\n tData: TData, tNode: TNode|null, lView: LView, prop: string, index: number,\n isClassBased: boolean): any {\n // `TNode` to use for resolving static styling. Also controls search direction.\n // - `TNode` search next and quit as soon as `isStylingValuePresent(value)` is true.\n // If no value found consult `tNode.residualStyle`/`tNode.residualClass`
for default value.\n // - `null` search prev and go all the way to end. Return last value where\n // `isStylingValuePresent(value)` is true.\n const isPrevDirection = tNode === null;\n let value: any = undefined;\n while (index > 0) {\n const rawKey = tData[index] as TStylingKey;\n const containsStatics = Array.isArray(rawKey);\n // Unwrap the key if we contain static values.\n const key = containsStatics ? (rawKey as string[])[1] : rawKey;\n const isStylingMap = key === null;\n let valueAtLViewIndex = lView[index + 1];\n if (valueAtLViewIndex === NO_CHANGE) {\n // In firstUpdatePass the styling instructions create a linked list of styling.\n // On subsequent passes it is possible for a styling instruction to try to read a binding\n // which\n // has not yet executed. In that case we will find `NO_CHANGE` and we should assume that\n // we have `undefined` (or empty array in case of styling-map instruction) instead. This\n // allows the resolution to apply the value (which may later be overwritten when the\n // binding actually executes.)\n valueAtLViewIndex = isStylingMap ? EMPTY_ARRAY : undefined;\n }\n let currentValue =

isStylingMap ? keyValueArrayGet(valueAtLViewIndex, prop) :\n key === prop ? valueAtLViewIndex : undefined;\n if (containsStatics && !isStylingValuePresent(currentValue)) {\n currentValue = keyValueArrayGet(rawKey as KeyValueArray<any>, prop);\n }\n if (isStylingValuePresent(currentValue)) {\n value = currentValue;\n if (isPrevDirection) {\n return value;\n }\n }\n const tRange = tData[index + 1] as TStylingRange;\n index = isPrevDirection ? getTStylingRangePrev(tRange) : getTStylingRangeNext(tRange);\n }\n if (tNode !== null) {\n // in case where we are going in next direction AND we did not find anything, we need to\n // consult residual styling\n let residual = isClassBased
? tNode.residualClasses : tNode.residualStyles;\n if (residual != null /** OR residual !== undefined */) {\n value = keyValueArrayGet(residual!, prop);\n }\n }\n return value;\n}\n\n/**\n * Determines if the binding value should be used (or if the value is 'undefined' and hence priority\n * resolution should be used.)\n *\n * @param value Binding style value.\n */\nfunction isStylingValuePresent(value: any): boolean {\n // Currently only `undefined` value is considered non-binding. That is `undefined` says I don't\n // have an opinion as to what this binding should be and you should consult other bindings by\n // priority to determine the valid value.\n // This is extracted into a single function so that we have a single place to control this.\n return value !== undefined;\n}\n\n/**\n * Normalizes and/or adds a suffix to the value.\n *\n * If value is `null`/`undefined` no suffix is added\n * @param value\n * @param suffix\n */\nfunction normalizeSuffix(value:
any, suffix: string|undefined|null): string|null|undefined|boolean {\n if (value == null /** || value === undefined */) {\n // do nothing\n } else if (typeof suffix === 'string') {\n value = value + suffix;\n } else if (typeof value === 'object') {\n value = stringify(unwrapSafeValue(value));\n }\n return value;\n}\n\n\n/**\n * Tests if the `TNode` has input shadow.\n *\n * An input shadow is when a directive steals (shadows) the input by using `@Input('style')` or\n * `@Input('class')` as input.\n *\n * @param tNode `TNode` which we would like to see if it has shadow.\n * @param isClassBased `true` if `class` (`false` if `style`)\n */\nexport function hasStylingInputShadow(tNode:
TNode, isClassBased: boolean) {\n return (tNode.flags & (isClassBased ? TNodeFlags.hasClassInput :
TNodeFlags.hasStyleInput)) !== 0;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found
in the LICENSE file at https://angular.io/license\n */\nimport {assertEqual, assertIndexInRange} from '../../util/assert';\nimport {TElementNode, TNodeType} from '../interfaces/node';\nimport {HEADER_OFFSET, RENDERER, T_HOST} from '../interfaces/view';\nimport {appendChild, createTextNode} from '../node_manipulation';\nimport {getBindingIndex, getLView, getTView, setCurrentTNode} from '../state';\n\nimport {getOrCreateTNode} from './shared';\n\n\n/**\n * Create static text node\n *\n * @param index Index of the node in the data array\n * @param value Static string value to write.\n *\n * @codeGenApi\n */\nexport function text(index: number, value: string = ''): void {\n const lView = getLView();\n const tView = getTView();\n const adjustedIndex = index + HEADER_OFFSET;\n\n ngDevMode &&\n assertEqual(\n getBindingIndex(), tView.bindingStartIndex,\n 'text nodes should be created before any bindings');\n ngDevMode && assertIndexInRange(lView, adjustedIndex);\n\n
const tNode = tView.firstCreatePass ?\n getOrCreateTNode(tView, adjustedIndex, TNodeType.Text, value, null) :\n tView.data[adjustedIndex] as TElementNode;\n\n const textNative = lView[adjustedIndex] = createTextNode(lView[RENDERER], value);\n appendChild(tView, lView, textNative, tNode);\n\n // Text nodes are self closing.\n setCurrentTNode(tNode, false);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {getLView, getSelectedIndex} from '../state';\nimport {NO_CHANGE} from '../tokens';\n\nimport {interpolation1, interpolation2, interpolation3, interpolation4, interpolation5, interpolation6, interpolation7, interpolation8, interpolationV} from './interpolation';\nimport {textBindingInternal} from './shared';\n\n\n/**\n *\n * Update text content with a lone bound value\n *\n * Used when a text node
has 1 interpolated value in it, an no additional text\n * surrounds that interpolated value:\n *\n * ```html\n * <div>{{v0}}</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate(v0);\n * ```\n *

@returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate(v0: any): typeof textInterpolate {\n  textInterpolate1('', v0, '');\n  return textInterpolate;\n}\n\n\n/**\n *\n * Update text content with single bound value surrounded by other text.\n *\n * Used when a text node has 1 interpolated value in it:\n *\n * ```html\n * <div>prefix{{v0}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate1('prefix', v0, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate1(\n    prefix: string, v0: any, suffix: string): typeof textInterpolate1 {\n  const lView
 = getLView();\n  const interpolated = interpolation1(lView, prefix, v0, suffix);\n  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(), interpolated as string);\n  }\n  return textInterpolate1;\n}\n\n/**\n *\n * Update text content with 2 bound values surrounded by other text.\n *\n * Used when a text node has 2 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate2('prefix', v0, '-', v1, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate2(\n    prefix: string, v0: any, i0: string, v1: any, suffix: string): typeof textInterpolate2 {\n  const lView = getLView();\n  const interpolated = interpolation2(lView, prefix, v0, i0, v1, suffix);\n  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(), interpolated as
 string);\n  }\n  return textInterpolate2;\n}\n\n/**\n *\n * Update text content with 3 bound values surrounded by other text.\n *\n * Used when a text node has 3 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate3(\n * 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate3(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any,\n    suffix: string): typeof textInterpolate3 {\n  const lView = getLView();\n  const interpolated = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(), interpolated as string);\n  }\n  return textInterpolate3;\n}\n\n/**\n *\n * Update text content with 4 bound values surrounded by other text.\n *\n
 * Used when a text node has 4 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate4(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate4(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n    suffix: string): typeof textInterpolate4 {\n  const lView = getLView();\n  const interpolated = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(), interpolated as string);\n  }\n  return textInterpolate4;\n}\n\n/**\n *\n * Update text content with 5 bound values surrounded by other text.\n *\n * Used when a text node has 5 interpolated values in it:\n *\n * ```html\n * prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix \n
 * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate5(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate5(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n    i3: string, v4: any, suffix: string): typeof textInterpolate5 {\n  const lView = getLView();\n  const interpolated = interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(), interpolated as string);\n  }\n  return textInterpolate5;\n}\n\n/**\n *\n * Update text content with 6 bound values surrounded by other text.\n *\n * Used when a text node has 6 interpolated values in it:\n *\n * ```html\n * prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix \n
 * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate6(\n *    'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change. @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate6(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3:

any,\n    i3: string, v4: any, i4: string, v5: any, suffix: string): typeof textInterpolate6 {\n  const lView = getLView();\n  const interpolated =\n      interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(), interpolated as string);\n  }\n  return textInterpolate6;\n}\n\n/**\n *\n * Update text content with 7 bound values surrounded by other text.\n *\n * Used when a text
 node has 7 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate7(\n *    'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate7(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n    i3: string, v4: any, i4: string, v5: any, i5: string, v6: any,\n    suffix: string): typeof textInterpolate7 {\n  const lView = getLView();\n  const interpolated =\n      interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(), interpolated as string);\n  }\n  return textInterpolate7;\n}\n\n/**\n *\n * Update text content with 8 bound
 values surrounded by other text.\n *\n * Used when a text node has 8 interpolated values in it:\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolate8(\n *  'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, 'suffix');\n * ```\n * @returns itself, so that it may be chained.\n * @see textInterpolateV\n * @codeGenApi\n */\nexport function textInterpolate8(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n    i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, i6: string, v7: any,\n    suffix: string): typeof textInterpolate8 {\n  const lView = getLView();\n  const interpolated = interpolation8(\n      lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(),
 interpolated as string);\n  }\n  return textInterpolate8;\n}\n\n/**\n * Update text content with 9 or more bound values other surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div>prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix</div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * textInterpolateV(\n *  ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n *  'suffix']);\n * ```\n *.\n * @param values The collection of values and the strings in between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n *\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function textInterpolateV(values: any[]): typeof textInterpolateV {\n  const lView = getLView();\n  const interpolated = interpolationV(lView, values);\n
  if (interpolated !== NO_CHANGE) {\n    textBindingInternal(lView, getSelectedIndex(), interpolated as string);\n  }\n  return textInterpolateV;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {keyValueArraySet} from '../../util/array_utils';\nimport {getLView} from '../state';\nimport {interpolation1, interpolation2, interpolation3, interpolation4, interpolation5, interpolation6, interpolation7, interpolation8, interpolationV} from './interpolation';\nimport {checkStylingMap, classStringParser} from './styling';\n\n\n\n/**\n *\n * Update an interpolated class on an element with single bound value surrounded by text.\n *\n * Used when the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n
 *\n * ```ts\n * classMapInterpolate1('prefix', v0, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function classMapInterpolate1(prefix: string, v0: any, suffix: string): void {\n  const lView = getLView();\n  const interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n  checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n\n/**\n *\n * Update an interpolated class on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}suffix\"> \n *

```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate2('prefix', v0, '-', v1, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function classMapInterpolate2(\n prefix: string, v0: any, i0: string, v1: any, suffix: string): void {\n const lView = getLView();\n const interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n\n/**\n *\n * Update an interpolated class on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to a property has 3 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate3(\n * 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function classMapInterpolate3(\n prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, suffix: string): void {\n const lView = getLView();\n const interpolatedValue = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n\n/**\n *\n * Update an interpolated class on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate4(\n * 'prefix', v0, '-', v1, '-',
v2, '-', v3, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function classMapInterpolate4(\n prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n suffix: string): void {\n const lView = getLView();\n const interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n\n/**\n *\n * Update an interpolated class on an element with 5 bound values surrounded by text.\n *\n * Used when the value passed to a property has 5 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate5(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function classMapInterpolate5(\n prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,
v3: any,\n i3: string, v4: any, suffix: string): void {\n const lView = getLView();\n const interpolatedValue =\n interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n\n/**\n *\n * Update an interpolated class on an element with 6 bound values surrounded by text.\n *\n * Used when the value passed to a property has 6 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate6(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n
```

```
 * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function classMapInterpolate6(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n    i3: string, v4: any, i4: string, v5: any, suffix: string): void {\n  const lView = getLView();\n  const interpolatedValue =\n    interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n\n/**\n *\n * Update an interpolated class on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated
 values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate7(\n * 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param
 suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function classMapInterpolate7(\n prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n    i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, suffix: string): void {\n  const lView = getLView();\n  const interpolatedValue =\n interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n\n/**\n *\n * Update an interpolated class on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolate8(\n *  'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7,
 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function classMapInterpolate8(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,
 v3: any,\n    i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, i6: string, v7: any,\n    suffix: string): void {\n const lView = getLView();\n  const interpolatedValue = interpolation8(\n      lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n  checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n\n/**\n * Update an interpolated class on an element with 9 or more bound values surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n *  class=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * classMapInterpolateV(\n *  ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n *  'suffix']);\n * ```\n *.\n * @param values The collection of values and the strings in-between those values, beginning with\n * a string prefix
```

and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n * @codeGenApi\n */\nexport function classMapInterpolateV(values: any[]): void {\n  const lView = getLView();\n const interpolatedValue = interpolationV(lView, values);\n  checkStylingMap(keyValueArraySet, classStringParser, interpolatedValue, true);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getLView} from '../state';\nimport {interpolation1, interpolation2, interpolation3, interpolation4, interpolation5, interpolation6, interpolation7, interpolation8, interpolationV} from './interpolation';\nimport {styleMap} from './styling';\n\n\n/**\n *\n * Update an interpolated style on an element with single bound value surrounded by text.\n *\n * Used when the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div style=\"key: {{v0}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate1('key: ', v0, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function styleMapInterpolate1(prefix: string, v0: any, suffix: string): void {\n  const lView = getLView();\n  const interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n styleMap(interpolatedValue);\n}\n\n/**\n *\n * Update an interpolated style on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate2('key: ', v0, '; key1: ', v1, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function styleMapInterpolate2(\n    prefix: string, v0: any, i0: string, v1: any, suffix: string): void {\n  const lView = getLView();\n  const interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n  styleMap(interpolatedValue);\n}\n\n/**\n *\n * Update an interpolated style on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to a property has 3 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key2: {{v1}}; key2: {{v2}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate3(\n * 'key: ', v0, '; key1: ', v1, '; key2: ', v2, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function styleMapInterpolate3(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, suffix: string): void {\n  const lView = getLView();\n  const interpolatedValue = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n  styleMap(interpolatedValue);\n}\n\n/**\n *\n * Update an interpolated style on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate4(\n *     'key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function styleMapInterpolate4(\n    prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n    suffix: string): void {\n  const lView = getLView();\n  const interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n  styleMap(interpolatedValue);\n}\n\n/**\n *\n * Update an interpolated style on an element with 5 bound values surrounded by text.\n *\n * Used when the value passed to a property has 5 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4: {{v4}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate5(\n *     'key: ', v0, '; key1: ', v1, '; key2: ', v2, ';

key3: ', v3, '; key4: ', v4, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function styleMapInterpolate5(\n prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n i3: string, v4: any, suffix: string): void {\n const lView = getLView();\n const interpolatedValue =\n interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n styleMap(interpolatedValue);\n}\n\n/**\n *\n * Update an interpolated style on an element with 6 bound values surrounded by text.\n *\n * Used when the value passed to a property has 6 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4: {{v4}};\n * key5: {{v5}}suffix\"> \n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate6(\n * 'key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, '; key4: ', v4, '; key5: ', v5,\n * 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value
used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function styleMapInterpolate6(\n prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n i3: string, v4: any, i4: string, v5: any, suffix: string): void {\n const lView = getLView();\n const interpolatedValue =\n interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n styleMap(interpolatedValue);\n}\n\n/**\n *\n * Update an interpolated style on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4: {{v4}}; key5: {{v5}};\n * key6: {{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate7(\n * 'key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, '; key4: ', v4, '; key5: ', v5,\n * '; key6: ', v6, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param
i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function styleMapInterpolate7(\n prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, suffix: string): void {\n const lView = getLView();\n const interpolatedValue =\n interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n styleMap(interpolatedValue);\n}\n\n/**\n *\n * Update an interpolated style on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div style=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4: {{v4}}; key5: {{v5}};\n * key6: {{v6}};
key7: {{v7}}suffix\"> \n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolate8(\n * 'key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, '; key4: ', v4, '; key5: ', v5,\n * '; key6: ', v6, '; key7: ', v7, 'suffix');\n * ```\n *\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value

used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @codeGenApi\n */\nexport function styleMapInterpolate8(\n prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string, v3: any,\n i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, i6: string, v7: any,\n suffix: string): void {\n const lView = getLView();\n const interpolatedValue = interpolation8(\n lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n styleMap(interpolatedValue);\n}\n\n/**\n * Update an interpolated style on an element with 9 or more bound values surrounded by text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n * class=\"key: {{v0}}; key1: {{v1}}; key2: {{v2}}; key3: {{v3}}; key4: {{v4}}; key5: {{v5}};\n * key6: {{v6}}; key7: {{v7}}; key8: {{v8}}; key9: {{v9}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * styleMapInterpolateV(\n * ['key: ', v0, '; key1: ', v1, '; key2: ', v2, '; key3: ', v3, '; key4: ', v4, '; key5: ', v5,\n * '; key6: ', v6, '; key7: ', v7, '; key8: ', v8, '; key9: ', v9, 'suffix']);\n * ```\n *.\n * @param values The collection of values and the strings in-between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '; key2: ', value1, '; key2: ', value2, ..., value99, 'suffix']`)\n * @codeGenApi\n */\nexport function styleMapInterpolateV(values: any[]): void {\n const lView = getLView();\n const interpolatedValue = interpolationV(lView, values);\n styleMap(interpolatedValue);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getLView,} from '../state';\nimport {interpolation1, interpolation2, interpolation3, interpolation4, interpolation5, interpolation6, interpolation7, interpolation8, interpolationV} from './interpolation';\nimport {checkStylingProperty} from './styling';\n\n\n/**\n *\n * Update an interpolated style property on an element with single bound value surrounded by text.\n *\n * Used when the value passed to a property has 1 interpolated value in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate1(0, 'prefix', v0, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolate1(\n prop: string, prefix: string, v0: any, suffix: string,\n valueSuffix?: string|null): typeof stylePropInterpolate1 {\n const lView = getLView();\n const interpolatedValue = interpolation1(lView, prefix, v0, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate1;\n}\n\n/**\n *\n * Update an interpolated style property on an element with 2 bound values surrounded by text.\n *\n * Used when the value passed to a property has 2 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate2(0, 'prefix', v0, '-', v1, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolate2(\n prop: string, prefix: string, v0: any, i0: string, v1: any, suffix: string,\n valueSuffix?: string|null): typeof stylePropInterpolate2 {\n const lView = getLView();\n const interpolatedValue = interpolation2(lView, prefix, v0, i0, v1, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate2;\n}\n\n/**\n *\n * Update an interpolated style property on an element with 3 bound values surrounded by text.\n *\n * Used when the value passed to

a property has 3 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate3(0, 'prefix', v0, '-', v1, '-', v2, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolate3(\n prop: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, suffix: string,\n valueSuffix?: string|null): typeof stylePropInterpolate3 {\n const lView = getLView();\n const interpolatedValue = interpolation3(lView, prefix, v0, i0, v1, i1, v2, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate3;\n}\n\n/**\n *\n * Update an interpolated style property on an element with 4 bound values surrounded by text.\n *\n * Used when the value passed to a property has 4 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate4(0, 'prefix', v0, '-', v1, '-', v2, '-', v3, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolate4(\n prop: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, suffix: string, valueSuffix?: string|null): typeof stylePropInterpolate4 {\n const lView = getLView();\n const interpolatedValue = interpolation4(lView, prefix, v0, i0, v1, i1, v2, i2, v3, suffix);\n checkStylingProperty(prop,\n interpolatedValue, valueSuffix, false);\n return stylePropInterpolate4;\n}\n\n/**\n *\n * Update an interpolated style property on an element with 5 bound values surrounded by text.\n *\n * Used when the value passed to a property has 5 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate5(0, 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolate5(\n prop: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, suffix: string,\n valueSuffix?: string|null): typeof stylePropInterpolate5 {\n const lView = getLView();\n const interpolatedValue =\n interpolation5(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate5;\n}\n\n/**\n *\n * Update an interpolated style property on an element with 6 bound values surrounded by text.\n *\n * Used when the value passed to a property has 6 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}suffix\"></div>\n * ```\n *\n *

Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate6(0, 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolate6(\n prop: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, suffix: string,\n valueSuffix?: string|null): typeof stylePropInterpolate6 {\n const lView = getLView();\n const interpolatedValue =\n interpolation6(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate6;\n}\n\n/**\n *\n * Update an interpolated style property on an element with 7 bound values surrounded by text.\n *\n * Used when the value passed to a property has 7 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate7(\n * 0, 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param suffix Static value used for concatenation only.\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolate7(\n prop: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, suffix: string,\n valueSuffix?: string|null): typeof stylePropInterpolate7 {\n const lView = getLView();\n const interpolatedValue =\n interpolation7(lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate7;\n}\n\n/**\n *\n * Update an interpolated style property on an element with 8 bound values surrounded by text.\n *\n * Used when the value passed to a property has 8 interpolated values in it:\n *\n * ```html\n * <div style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}suffix\"></div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolate8(0, 'prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6,\n * '-', v7, 'suffix');\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`.\n * @param prefix Static value used for concatenation only.\n * @param v0 Value checked for change.\n * @param i0 Static value used for concatenation only.\n * @param v1 Value checked for change.\n * @param i1 Static value used for concatenation only.\n * @param v2 Value checked for change.\n * @param i2 Static value used for concatenation only.\n * @param v3 Value checked for change.\n * @param i3 Static value used for concatenation only.\n * @param v4 Value checked for change.\n * @param i4 Static value used for concatenation only.\n * @param v5 Value checked for change.\n * @param i5 Static value used for concatenation only.\n * @param v6 Value checked for change.\n * @param i6 Static value used for concatenation only.\n * @param v7 Value checked for change.\n * @param suffix Static value used for concatenation only.\n *

@param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolate8(\n prop: string, prefix: string, v0: any, i0: string, v1: any, i1: string, v2: any, i2: string,\n v3: any, i3: string, v4: any, i4: string, v5: any, i5: string, v6: any, i6: string, v7: any,\n suffix: string, valueSuffix?: string|null): typeof stylePropInterpolate8 {\n const lView = getLView();\n const interpolatedValue = interpolation8(\n lView, prefix, v0, i0, v1, i1, v2, i2, v3, i3, v4, i4, v5, i5, v6, i6, v7, suffix);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolate8;\n}\n\n/**\n * Update an interpolated style property on an element with 9 or more bound values surrounded by\n * text.\n *\n * Used when the number of interpolated values exceeds 8.\n *\n * ```html\n * <div\n * style.color=\"prefix{{v0}}-{{v1}}-{{v2}}-{{v3}}-{{v4}}-{{v5}}-{{v6}}-{{v7}}-{{v8}}-{{v9}}suffix\">\n * </div>\n * ```\n *\n * Its compiled representation is:\n *\n * ```ts\n * stylePropInterpolateV(\n * 0, ['prefix', v0, '-', v1, '-', v2, '-', v3, '-', v4, '-', v5, '-', v6, '-', v7, '-', v9,\n * 'suffix']);\n * ```\n *\n * @param styleIndex Index of style to update. This index value refers to the\n * index of the style in the style bindings array that was passed into\n * `styling`..\n * @param values The collection of values and the strings in-between those values, beginning with\n * a string prefix and ending with a string suffix.\n * (e.g. `['prefix', value0, '-', value1, '-', value2, ..., value99, 'suffix']`)\n * @param valueSuffix Optional suffix. Used with scalar values to add unit such as `px`.\n * @returns itself, so that it may be chained.\n * @codeGenApi\n */\nexport function stylePropInterpolateV(\n prop: string, values: any[], valueSuffix?: string|null): typeof stylePropInterpolateV {\n const lView = getLView();\n const interpolatedValue = interpolationV(lView, values);\n checkStylingProperty(prop, interpolatedValue, valueSuffix, false);\n return stylePropInterpolateV;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {bindingUpdated} from '../bindings';\nimport {SanitizerFn} from '../interfaces/sanitization';\nimport {RENDERER} from '../interfaces/view';\nimport {getCurrentDirectiveDef, getLView, getSelectedTNode, getTView, nextBindingIndex} from '../state';\nimport {NO_CHANGE} from '../tokens';\n\nimport {elementPropertyInternal, loadComponentRenderer, storePropertyBindingMetadata} from './shared';\n\n/**\n * Update a property on a host element. Only applies to native node properties, not inputs.\n *\n * Operates on the element selected by index via the {@link select} instruction.\n *\n * @param propName Name of property. Because it is going to DOM, this is not subject to\n * renaming as part of minification.\n * @param value New value to write.\n * @param sanitizer An optional function used to sanitize the value.\n * @returns This function returns itself so that it may be chained\n * (e.g. `property('name', ctx.name)('title', ctx.title)`)\n *\n * @codeGenApi\n */\nexport function hostProperty<T>(\n propName: string, value: T, sanitizer?: SanitizerFn|null): typeof hostProperty {\n const lView = getLView();\n const bindingIndex = nextBindingIndex();\n if (bindingUpdated(lView, bindingIndex, value)) {\n const tView = getTView();\n const tNode = getSelectedTNode();\n elementPropertyInternal(tView, tNode, lView, propName, value, lView[RENDERER], sanitizer, true);\n ngDevMode && storePropertyBindingMetadata(tView.data, tNode, propName, bindingIndex);\n }\n return hostProperty;\n}\n\n\n/**\n * Updates a synthetic host binding (e.g. `[@foo]`) on a component or directive.\n *\n * This instruction is for compatibility purposes and is designed to ensure that a\n * synthetic host binding (e.g. `@HostBinding('@foo')`) properly gets rendered in\n * the component's renderer. Normally all host bindings are evaluated with the parent\n * component's renderer, but, in the case of animation @triggers, they need to be\n * evaluated with the sub component's renderer (because that's where the animation\n * triggers are defined).\n *\n * Do not use this instruction as a replacement for `elementProperty`. This instruction\n * only exists to ensure compatibility with the ViewEngine's host binding behavior.\n *\n * @param index The index of the element to update in the data array\n * @param propName Name of property. Because it is going to DOM, this is not subject to\n * renaming as part of minification.\n * @param value New value to write.\n * @param sanitizer An optional function used to sanitize the value.\n *\n * @codeGenApi\n */\nexport function syntheticHostProperty<T>(\n propName: string, value: T|NO_CHANGE,\n sanitizer?: SanitizerFn|null): typeof

syntheticHostProperty {\n  const lView = getLView();\n  const bindingIndex = nextBindingIndex();\n  if (bindingUpdated(lView, bindingIndex, value)) {\n    const tView = getTView();\n    const tNode = getSelectedTNode();\n    const currentDef = getCurrentDirectiveDef(tView.data);\n    const renderer = loadComponentRenderer(currentDef,
 tNode, lView);\n    elementPropertyInternal(tView, tNode, lView, propName, value, renderer, sanitizer, true);\n ngDevMode && storePropertyBindingMetadata(tView.data, tNode, propName, bindingIndex);\n  }\n  return syntheticHostProperty;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {global} from './global';\n\ndeclare global {\n  const ngI18nClosureMode: boolean;\n}\n\n/**\n * NOTE: changes to the `ngI18nClosureMode` name must be synced with `compiler-cli/src/tooling.ts`.\n */\nif (typeof ngI18nClosureMode === 'undefined') {\n  // These property accesses can be ignored because ngI18nClosureMode will be set to false\n  // when optimizing code and the whole if statement will be dropped.\n  // Make sure to refer to ngI18nClosureMode as ['ngI18nClosureMode'] for closure.\n  // NOTE: we need to have it in
 IIFE so that the tree-shaker is happy.\n  (function() {\n    // tslint:disable-next-line:no-toplevel-property-access\n global['ngI18nClosureMode'] =\n        // TODO(FW-1250): validate that this actually, you know, works.\n        // tslint:disable-next-line:no-toplevel-property-access\n        typeof goog !== 'undefined' && typeof goog.getMsg === 'function';\n  })();\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// THIS CODE IS GENERATED - DO NOT MODIFY\n// See angular/tools/gulp-tasks/cldr/extract.js\n\nconst u = undefined;\n\nfunction plural(n: number): number {\n  let i = Math.floor(Math.abs(n)), v = n.toString().replace(/^[^.]*\\.?/, '').length;\n  if (i === 1 && v === 0) return 1;\n  return 5;\n}\n\nexport default [\n  'en',\n  [['a', 'p'], ['AM', 'PM'], u],\n  [['AM', 'PM'], u, u],\n  [\n    ['S', 'M', 'T', 'W', 'T', 'F', 'S'], ['Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat'],\n    ['Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday'],\n    ['Su', 'Mo', 'Tu', 'We', 'Th', 'Fr', 'Sa']\n  ],\n  u,\n  [\n    ['J', 'F', 'M', 'A', 'M', 'J', 'J', 'A', 'S', 'O', 'N', 'D'],\n    ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec'],\n    [\n      'January', 'February', 'March', 'April', 'May', 'June', 'July', 'August', 'September',\n      'October', 'November', 'December'\n    ]\n  ],\n  u,\n  [['B', 'A'], ['BC', 'AD'], ['Before Christ', 'Anno Domini']],\n  0,\n  [6, 0],\n  ['M/d/yy', 'MMM d, y', 'MMMM d, y', 'EEEE, MMMM d, y'],\n  ['h:mm a', 'h:mm:ss a', 'h:mm:ss a z', 'h:mm:ss a zzzz'],\n  ['{1}, {0}', u, '{1} \\'at\\' {0}', u],\n  ['.', ',', ';', '%', '+', '-', 'E', '×', '‰', '', 'NaN', ':'],\n  ['#,##0.###', '#,##0%', '¤#,##0.00', '#E0'],\n  'USD',\n  '$',\n  'US Dollar',\n  {},\n  'ltr',\n  plural\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {global} from '../util/global';\n\nimport localeEn from './locale_en';\n\n/**\n * This const is used to store the locale data registered with `registerLocaleData`\n */\nlet LOCALE_DATA: {[localeId: string]: any} = {};\n\n/**\n * Register locale data to be used internally by Angular. See the\n * [\"I18n guide\"](guide/i18n#i18n-pipes) to know how to import additional locale data.\n *\n * The signature `registerLocaleData(data: any, extraData?: any)` is deprecated since v5.1\n */\nexport function registerLocaleData(data: any, localeId?: string|any, extraData?: any): void {\n  if (typeof localeId !== 'string') {\n    extraData = localeId;\n    localeId = data[LocaleDataIndex.LocaleId];\n  }\n\n  localeId = localeId.toLowerCase().replace(/_/g, '-');\n\n  LOCALE_DATA[localeId] = data;\n\n  if (extraData) {\n    LOCALE_DATA[localeId][LocaleDataIndex.ExtraData] = extraData;\n  }\n}\n\n/**\n * Finds the locale data for a given locale.\n *\n * @param locale The locale code.\n * @returns The locale data.\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n */\nexport function findLocaleData(locale: string): any {\n  const normalizedLocale = normalizeLocale(locale);\n\n  let match = getLocaleData(normalizedLocale);\n  if (match) {\n    return match;\n  }\n\n  // let's try to find a parent locale\n  const parentLocale = normalizedLocale.split('-')[0];\n  match = getLocaleData(parentLocale);\n  if (match) {\n    return match;\n  }\n\n  if (parentLocale === 'en') {\n    return localeEn;\n  }\n\n  throw new Error(`Missing locale data for the locale \"${locale}\".`);\n}\n\n/**\n * Retrieves the default currency code for the given locale.\n *\n *

The default is defined as the first currency which is still in use.\n *\n * @param locale The code of the locale whose currency
code we want.\n * @returns The code of the default currency for the given locale.\n *\n */\nexport function getLocaleCurrencyCode(locale: string): string|null {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.CurrencyCode] || null;\n}\n\n/**\n * Retrieves the plural function used by ICU expressions to determine the plural case to use\n * for a given locale.\n * @param locale A locale code for the locale format rules to use.\n * @returns The plural function for the locale.\n * @see `NgPlural`\n * @see [Internationalization (i18n) Guide](https://angular.io/guide/i18n)\n */\nexport function getLocalePluralCase(locale: string): (value: number) => number {\n  const data = findLocaleData(locale);\n  return data[LocaleDataIndex.PluralCase];\n}\n\n\n\n/**\n * Helper function to get the given `normalizedLocale` from `LOCALE_DATA`\n * or from the global `ng.common.locale`.\n */\nexport function getLocaleData(normalizedLocale: string): any {\n  if (!(normalizedLocale in LOCALE_DATA))
{\n    LOCALE_DATA[normalizedLocale] = global.ng && global.ng.common && global.ng.common.locales &&\n        global.ng.common.locales[normalizedLocale];\n  }\n  return LOCALE_DATA[normalizedLocale];\n}\n\n/**\n * Helper function to remove all the locale data from `LOCALE_DATA`.\n */\nexport function unregisterAllLocaleData() {\n  LOCALE_DATA = {};\n}\n\n/**\n * Index of each type of locale data from the locale data array\n */\nexport enum LocaleDataIndex {\n  LocaleId = 0,\n  DayPeriodsFormat,\n  DayPeriodsStandalone,\n  DaysFormat,\n  DaysStandalone,\n  MonthsFormat,\n  MonthsStandalone,\n  Eras,\n  FirstDayOfWeek,\n  WeekendRange,\n  DateFormat,\n  TimeFormat,\n  DateTimeFormat,\n  NumberSymbols,\n  NumberFormats,\n  CurrencyCode,\n  CurrencySymbol,\n  CurrencyName,\n  Currencies,\n  Directionality,\n  PluralCase,\n  ExtraData\n}\n\n/**\n * Index of each type of locale data from the extra locale data array\n */\nexport const enum ExtraLocaleDataIndex {\n  ExtraDayPeriodFormats
= 0,\n  ExtraDayPeriodStandalone,\n  ExtraDayPeriodsRules\n}\n\n/**\n * Index of each value in currency data (used to describe CURRENCIES_EN in currencies.ts)\n */\nexport const enum CurrencyIndex {\n  Symbol = 0,\n  SymbolNarrow,\n  NbOfDigits\n}\n\n/**\n * Returns the canonical form of a locale name - lowercase with `_` replaced with `-`.\n */\nfunction normalizeLocale(locale: string): string {\n  return locale.toLowerCase().replace(/_/g, '-');\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getLocalePluralCase} from './locale_data_api';\n\nconst pluralMapping = ['zero', 'one', 'two', 'few', 'many'];\n\n/**\n * Returns the plural case based on the locale\n */\nexport function getPluralCase(value: string, locale: string): string {\n  const plural = getLocalePluralCase(locale)(parseInt(value, 10));\n  const
result = pluralMapping[plural];\n  return (result !== undefined) ? result : 'other';\n}\n\n/**\n * The locale id that the application is using by default (for translations and ICU expressions).\n */\nexport const DEFAULT_LOCALE_ID = 'en-US';\n\n/**\n * USD currency code that the application uses by default for CurrencyPipe when no\n * DEFAULT_CURRENCY_CODE is provided.\n */\nexport const USD_CURRENCY_CODE = 'USD';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {SanitizerFn} from './sanitization';\n\n\n/**\n * Stores a list of nodes which need to be removed.\n *\n * Numbers are indexes into the `LView`\n * - index > 0: `removeRNode(lView[0])`\n * - index < 0: `removeICU(~lView[0])`\n */\nexport interface I18nRemoveOpCodes extends Array<number> {\n  __brand__: 'I18nRemoveOpCodes';\n}\n\n/**\n * `I18nMutateOpCode`
defines OpCodes for `I18nMutateOpCodes` array.\n *\n * OpCodes are efficient operations which can be applied to the DOM to update it. (For example to\n * update to a new ICU case requires that we clean up previous elements and create new ones.)\n *\n * OpCodes contain three parts:\n *  1) Parent node index offset. (p)\n *  2) Reference node index offset. (r)\n *  3) The instruction to execute. (i)\n *\n * pppp pppp pppp pppp rrrr rrrr rrrr riii\n * 3322 2222 2222 1111 1111 1110 0000 0000\n * 1098 7654 3210 9876 5432 1098 7654 3210\n *\n * ```\n * var parent =

lView[opCode >>> SHIFT_PARENT];\n * var refNode = lView[((opCode & MASK_REF) >>> SHIFT_REF)];\n * var instruction = opCode & MASK_OPCODE;\n * ```\n *\n * See: `I18nCreateOpCodes` for example of usage.\n */\nexport const enum IcuCreateOpCode {\n  /**\n   * Stores shift amount for bits 17-3 that contain reference index.\n   */\n  SHIFT_REF = 1,\n  /**\n   * Stores shift amount for bits 31-17 that contain parent index.\n   */\n  SHIFT_PARENT
 = 17,\n  /**\n   * Mask for OpCode\n   */\n  MASK_INSTRUCTION = 0b1,\n\n  /**\n   * Mask for the Reference node (bits 16-3)\n   */\n  MASK_REF = 0b1111111111111110,\n  //           1111111000000000\n  // 65432109876543210\n\n  /**\n   * Instruction to append the current node to `PARENT`.\n   */\n  AppendChild = 0b0,\n\n  /**\n   * Instruction to set the attribute of a node.\n   */\n  Attr = 0b1,\n}\n\n\n/**\n * Array storing OpCode for dynamically creating `i18n` blocks.\n *\n * Example:\n * ```ts\n * <I18nCreateOpCode>[\n *   // For adding text nodes\n *   // ---------------------\n *   // Equivalent to:\n *   //   lView[1].appendChild(lView[0] = document.createTextNode('xyz'));\n *   'xyz', 0, 1 << SHIFT_PARENT | 0 << SHIFT_REF | AppendChild,\n *\n *   // For adding element nodes\n *   // ---------------------\n *   // Equivalent to:\n *   //   lView[1].appendChild(lView[0] = document.createElement('div'));\n *   ELEMENT_MARKER, 'div', 0, 1 << SHIFT_PARENT | 0 << SHIFT_REF | AppendChild,\n *\n *   // For adding comment nodes\n *   // ---------------------\n *   // Equivalent to:\n *   //   lView[1].appendChild(lView[0] = document.createComment(''));\n *   ICU_MARKER, '', 0, 1 << SHIFT_PARENT | 0 << SHIFT_REF | AppendChild,\n *\n *   // For moving existing nodes to a different location\n *   // --------------------------------------------------\n *   // Equivalent to:\n *   //   const node = lView[1];\n *   //   lView[2].appendChild(node);\n *   1 << SHIFT_REF | Select, 2 << SHIFT_PARENT | 0 << SHIFT_REF | AppendChild,\n *\n *   // For removing existing nodes\n *   // --------------------------------------------------\n *   //   const node = lView[1];\n *   //   removeChild(tView.data(1), node, lView);\n *   1 << SHIFT_REF | Remove,\n *\n *   // For writing attributes\n *   // --------------------------------------------------\n *   //   const node = lView[1];\n *   //   node.setAttribute('attr', 'value');\n *   1 << SHIFT_REF | Attr, 'attr', 'value'\n * ];\n * ```\n */\nexport interface IcuCreateOpCodes extends Array<number|string|ELEMENT_MARKER|ICU_MARKER|null>,\n                                          I18nDebug {\n  __brand__: 'I18nCreateOpCodes';\n}\n\nexport const enum I18nUpdateOpCode {\n  /**\n   * Stores shift amount for bits 17-2 that contain reference index.\n   */\n  SHIFT_REF = 2,\n  /**\n   * Mask for OpCode\n   */\n  MASK_OPCODE = 0b11,\n\n  /**\n   * Instruction to update a text node.\n   */\n  Text = 0b00,\n  /**\n   * Instruction to update a attribute of a node.\n   */\n  Attr = 0b01,\n  /**\n   * Instruction to switch the current ICU case.\n   */\n  IcuSwitch = 0b10,\n  /**\n   * Instruction to update the current ICU case.\n   */\n  IcuUpdate = 0b11,\n}\n\n/**\n * Marks that the next string is an element name.\n *\n * See `I18nMutateOpCodes` documentation.\n */\nexport const ELEMENT_MARKER: ELEMENT_MARKER = {\n  marker: 'element'\n};\nexport interface ELEMENT_MARKER {\n  marker: 'element';\n}\n\n/**\n * Marks that the next string is comment text need for ICU.\n *\n * See `I18nMutateOpCodes` documentation.\n */\nexport const ICU_MARKER: ICU_MARKER = {\n  marker: 'ICU'\n};\n\nexport interface ICU_MARKER {\n  marker: 'ICU';\n}\n\nexport interface I18nDebug {\n  /**\n   * Human readable representation of the OpCode arrays.\n   *\n   * NOTE: This property only exists if `ngDevMode` is set to `true` and it is not present in\n   * production. Its presence is purely to help debug issue in development, and should not be relied\n   * on in production application.\n   */\n  debug?: string[];\n}\n\n/**\n * Array storing OpCode for dynamically creating `i18n` translation DOM elements.\n *\n * This array creates a sequence of `Text` and `Comment` (as ICU anchor) DOM elements. It consists\n * of a pair of `number` and `string` pairs which encode the operations for the creation of the\n * translated block.\n *\n * The number is shifted and encoded according to `I18nCreateOpCode`\n *\n * Pseudocode:\n * ```\n * const i18nCreateOpCodes = [\n *   10 << I18nCreateOpCode.SHIFT, \"Text Node add to DOM\",\n *   11 << I18nCreateOpCode.SHIFT | I18nCreateOpCode.COMMENT, \"Comment Node add to DOM\",\n *   12 << I18nCreateOpCode.SHIFT | I18nCreateOpCode.APPEND_LATER, \"Text Node added later\"\n * ];\n *\n * for(var i=0; i<i18nCreateOpCodes.length; i++) {\n *   const opcode = i18NCreateOpCodes[i++];\n *   const index = opcode >> I18nCreateOpCode.SHIFT;\n *   const text = i18NCreateOpCodes[i];\n *   let node: Text|Comment;\n *   if (opcode & I18nCreateOpCode.COMMENT === I18nCreateOpCode.COMMENT) {\n *     node = lView[~index] =

document.createComment(text);\n *   } else {\n *     node = lView[index] = document.createText(text);\n *   }\n * if (opcode & I18nCreateOpCode.APPEND_EAGERLY !== I18nCreateOpCode.APPEND_EAGERLY) {\n * parentNode.appendChild(node);\n *   }\n * }\n * ```\n */\nexport interface I18nCreateOpCodes extends Array<number|string>, I18nDebug {\n  __brand__: 'I18nCreateOpCodes';\n}\n\n/**\n
 * See `I18nCreateOpCodes`\n */\nexport enum I18nCreateOpCode {\n  /**\n   * Number of bits to shift index so that it can be combined with the `APPEND_EAGERLY` and\n   * `COMMENT`.\n   */\n  SHIFT = 2,\n\n  /**\n   * Should the node be appended to parent imedditatly after creation.\n   */\n  APPEND_EAGERLY = 0b01,\n\n  /**\n * If set the node should be comment (rather than a text) node.\n   */\n  COMMENT = 0b10,\n}\n\n\n/**\n * Stores DOM operations which need to be applied to update DOM render tree due to changes in\n * expressions.\n *\n * The basic idea is that `i18nExp` OpCodes capture expression changes and update a change\n * mask bit. (Bit 1 for expression 1, bit 2 for expression 2 etc..., bit 32 for expression 32 and\n * higher.) The OpCodes then compare its own change mask against the expression change mask to\n * determine if the OpCodes should execute.\n *\n * NOTE: 32nd bit is special as it says 32nd or higher. This way if we have more than 32 bindings\n *
 the code still works, but with lower efficiency. (it is unlikely that a translation would have\n * more than 32 bindings.)\n *\n * These OpCodes can be used by both the i18n block as well as ICU sub-block.\n *\n * ## Example\n *\n * Assume\n * ```ts\n *   if (rf & RenderFlags.Update) {\n *     i18nExp(ctx.exp1); // If changed set mask bit 1\n *     i18nExp(ctx.exp2); // If changed set mask bit 2\n *     i18nExp(ctx.exp3); // If changed set mask bit 3\n *     i18nExp(ctx.exp4); // If changed set mask bit 4\n *     i18nApply(0);              // Apply all changes by executing the OpCodes.\n *   }\n * ```\n * We can assume that each call to `i18nExp` sets an internal `changeMask` bit depending on the\n * index of `i18nExp`.\n *\n * ### OpCodes\n * ```ts\n * <I18nUpdateOpCodes>[\n *   // The following OpCodes represent: `<div i18n-title=\"pre{{exp1}}in{{exp2}}post\">`\n *   // If `changeMask & 0b11`\n *   //        has changed then execute update OpCodes.\n *   //        has NOT changed then skip `8`
 values and start processing next OpCodes.\n *   0b11, 8,\n *   // Concatenate `newValue = 'pre'+lView[bindIndex-4]+'in'+lView[bindIndex-3]+'post';`.\n *   'pre', -4, 'in', -3, 'post',\n *   // Update attribute: `elementAttribute(1, 'title', sanitizerFn(newValue));`\n *   1 << SHIFT_REF | Attr, 'title', sanitizerFn,\n *\n *   // The following OpCodes represent: `<div i18n>Hello {{exp3}}!\">`\n *   // If `changeMask & 0b100`\n *   //        has changed then execute update OpCodes.\n *   //        has NOT changed then skip `4` values and start processing next OpCodes.\n *   0b100, 4,\n *   // Concatenate `newValue = 'Hello ' + lView[bindIndex -2] + '!';`.\n *   'Hello ', -2, '!',\n *   // Update text: `lView[1].textContent = newValue;`\n *   1 << SHIFT_REF | Text,\n *\n *   // The following OpCodes represent: `<div i18n>{exp4, plural, ... }\">`\n *   // If `changeMask & 0b1000`\n *   //        has changed then execute update OpCodes.\n *   //        has NOT changed then skip `2` values
 and start processing next OpCodes.\n *   0b1000, 2,\n *   // Concatenate `newValue = lView[bindIndex -1];`.\n *   -1,\n *   // Switch ICU: `icuSwitchCase(lView[1], 0, newValue);`\n *   0 << SHIFT_ICU | 1 << SHIFT_REF | IcuSwitch,\n *\n *   // Note `changeMask & -1` is always true, so the IcuUpdate will always execute.\n *   -1, 1,\n * // Update ICU: `icuUpdateCase(lView[1], 0);`\n *   0 << SHIFT_ICU | 1 << SHIFT_REF | IcuUpdate,\n *\n * ];\n * ```\n *\n */\nexport interface I18nUpdateOpCodes extends Array<string|number|SanitizerFn|null>, I18nDebug {\n  __brand__: 'I18nUpdateOpCodes';\n}\n\n/**\n * Store information for the i18n translation block.\n */\nexport interface TI18n {\n  /**\n   * A set of OpCodes which will create the Text Nodes and ICU anchors for the translation blocks.\n   *\n   * NOTE: The ICU anchors are filled in with ICU Update OpCode.\n   */\n  create: I18nCreateOpCodes;\n\n  /**\n   * A set of OpCodes which will be executed on each change detection to determine if
 any changes to\n   * DOM are required.\n   */\n  update: I18nUpdateOpCodes;\n}\n\n/**\n * Defines the ICU type of `select` or `plural`\n */\nexport const enum IcuType {\n  select = 0,\n  plural = 1,\n}\n\nexport interface TIcu {\n  /**\n   * Defines the ICU type of `select` or `plural`\n   */\n  type: IcuType;\n\n  /**\n   * Index in `LView` where the anchor node is stored. `<!-- ICU 0:0 -->`\n   */\n  anchorIdx: number;\n\n  /**\n   * Currently selected ICU case pointer.\n   *\n   * `lView[currentCaseLViewIndex]` stores the currently selected case. This is needed to know how\n   * to clean up the current case when transitioning no the new case.\n   *\n   * If the value stored is:\n   * `null`: No current case selected.\n   * `<0`: A flag which means that the ICU just switched and that `icuUpdate`

must be executed\n * regardless of the `mask`. (After the execution the flag is cleared)\n * `>=0` A currently selected case index.\n */\n currentCaseLViewIndex: number;\n\n /**\n * A list of case values which the current ICU will try to match.\n *\n * The last value is `other`\n */\n cases: any[];\n\n /**\n * A set of OpCodes to apply in order to build up the DOM render tree for the ICU\n */\n create: IcuCreateOpCodes[];\n\n /**\n * A set of OpCodes to apply in order to destroy the DOM render tree for the ICU.\n */\n remove: I18nRemoveOpCodes[];\n\n /**\n * A set of OpCodes to apply in order to update the DOM render tree for the ICU bindings.\n */\n update: I18nUpdateOpCodes[];\n}\n\n// Note: This hack is necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd = 1;\n\n/**\n * Parsed ICU expression\n */\nexport interface IcuExpression {\n type: IcuType;\n mainBinding: number;\n cases: string[];\n values: (string|IcuExpression)[][];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DEFAULT_LOCALE_ID} from '../../i18n/localization';\nimport {assertDefined} from '../../util/assert';\n\n\n/**\n * The locale id that the application is currently using (for translations and ICU expressions).\n * This is the ivy version of `LOCALE_ID` that was defined as an injection token for the view engine\n * but is now defined as a global value.\n */\nlet LOCALE_ID = DEFAULT_LOCALE_ID;\n\n/**\n * Sets the locale id that will be used for translations and ICU expressions.\n * This is the ivy version of `LOCALE_ID` that was defined as an injection token for the view engine\n * but is now defined as a global value.\n *\n * @param localeId\n */\nexport function setLocaleId(localeId: string) {\n assertDefined(localeId, `Expected localeId to be defined`);\n if (typeof localeId === 'string') {\n LOCALE_ID = localeId.toLowerCase().replace(/_/g, '-');\n }\n}\n\n/**\n * Gets the locale id that will be used for translations and ICU expressions.\n * This is the ivy version of `LOCALE_ID` that was defined as an injection token for the view engine\n * but is now defined as a global value.\n */\nexport function getLocaleId(): string {\n return LOCALE_ID;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDomNode, assertIndexInRange} from '../util/assert';\n\nimport {TNode, TNodeFlags, TNodeType} from './interfaces/node';\nimport {Renderer3} from './interfaces/renderer';\nimport {RElement, RNode} from './interfaces/renderer_dom';\nimport {LView} from './interfaces/view';\nimport {getInsertInFrontOfRNodeWithNoI18n, nativeInsertBefore} from './node_manipulation';\nimport {unwrapRNode} from './util/view_utils';\n\n\n/**\n * Find a node in front of which `currentTNode` should be inserted (takes i18n into account).\n *\n * This method determines the `RNode` in front of which we should insert the `currentRNode`. This\n * takes `TNode.insertBeforeIndex` into account.\n *\n * @param parentTNode parent `TNode`\n * @param currentTNode current `TNode` (The node which we would like to insert into the DOM)\n * @param lView current `LView`\n */\nexport function getInsertInFrontOfRNodeWithI18n(\n parentTNode: TNode, currentTNode: TNode, lView: LView): RNode|null {\n const tNodeInsertBeforeIndex = currentTNode.insertBeforeIndex;\n const insertBeforeIndex =\n Array.isArray(tNodeInsertBeforeIndex) ? tNodeInsertBeforeIndex[0] : tNodeInsertBeforeIndex;\n if (insertBeforeIndex === null) {\n return getInsertInFrontOfRNodeWithNoI18n(parentTNode, currentTNode, lView);\n } else {\n ngDevMode &&\n assertIndexInRange(lView, insertBeforeIndex);\n return unwrapRNode(lView[insertBeforeIndex]);\n }\n}\n\n\n/**\n * Process `TNode.insertBeforeIndex` by adding i18n text nodes.\n *\n * See `TNode.insertBeforeIndex`\n */\nexport function processI18nInsertBefore(\n renderer: Renderer3, childTNode: TNode, lView: LView, childRNode: RNode|RNode[],\n parentRElement: RElement|null): void {\n const tNodeInsertBeforeIndex = childTNode.insertBeforeIndex;\n if (Array.isArray(tNodeInsertBeforeIndex)) {\n // An array indicates that there are i18n nodes that need to be added as children of this\n // `childRNode`. These i18n nodes were created before this `childRNode` was available and so\n // only now can be added. The first element of the array is the normal index where we should\n // insert the `childRNode`. Additional elements are the extra nodes to be added as children of\n // `childRNode`.\n ngDevMode && assertDomNode(childRNode);\n let i18nParent: RElement|null = childRNode as RElement;\n let anchorRNode: RNode|null = null;\n if

(!(childTNode.type & TNodeType.AnyRNode)) {\n anchorRNode = i18nParent;\n i18nParent = parentRElement;\n
}\n if (i18nParent !== null && (childTNode.flags & TNodeFlags.isComponentHost) === 0) {\n for (let i = 1; i < tNodeInsertBeforeIndex.length; i++) {\n // No need to `unwrapRNode` because all of the indexes point to i18n text nodes.\n // see `assertDomNode` below.\n const i18nChild = lView[tNodeInsertBeforeIndex[i]];\n nativeInsertBefore(renderer, i18nParent, i18nChild, anchorRNode, false);\n }\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertEqual} from '../../util/assert';\nimport {TNode, TNodeType} from '../interfaces/node';\nimport {setI18nHandling} from '../node_manipulation';\nimport {getInsertInFrontOfRNodeWithI18n, processI18nInsertBefore} from '../node_manipulation_i18n';\n\n/**\n * Add `tNode` to `previousTNodes` list and update relevant `TNode`s in `previousTNodes` list\n * `tNode.insertBeforeIndex`.\n *\n * Things to keep in mind:\n * 1. All i18n text nodes are encoded as `TNodeType.Element` and are created eagerly by the\n * `i18nStart` instruction.\n * 2. All `TNodeType.Placeholder` `TNodes` are elements which will be created later by\n * `elementStart` instruction.\n * 3. `elementStart` instruction will create `TNode`s in the ascending `TNode.index` order. (So a\n * smaller index `TNode` is guaranteed to be created before a larger one)\n *\n * We use the above three invariants to determine `TNode.insertBeforeIndex`.\n *\n * In an ideal world `TNode.insertBeforeIndex` would always be `TNode.next.index`. However,\n * this will not work because `TNode.next.index` may be larger than `TNode.index` which means that\n * the next node is not yet created and therefore we can't insert in front of it.\n *\n * Rule1: `TNode.insertBeforeIndex = null` if `TNode.next === null` (Initial condition, as we don't\n * know if there will be further `TNode`s inserted after.)\n * Rule2: If `previousTNode` is created after the `tNode` being inserted, then\n * `previousTNode.insertBeforeNode = tNode.index` (So when a new `tNode` is added we check\n * previous to see if we can update its `insertBeforeTNode`)\n *\n * See `TNode.insertBeforeIndex` for more context.\n *\n * @param previousTNodes A list of previous TNodes so that we can easily traverse `TNode`s in\n * reverse order. (If `TNode` would have `previous` this would not be necessary.)\n * @param newTNode A TNode to add to the `previousTNodes` list.\n */\nexport function addTNodeAndUpdateInsertBeforeIndex(previousTNodes: TNode[], newTNode: TNode) {\n // Start with Rule1\n ngDevMode &&\n assertEqual(newTNode.insertBeforeIndex, null, 'We expect that insertBeforeIndex is not set');\n\n previousTNodes.push(newTNode);\n if (previousTNodes.length > 1) {\n for (let i = previousTNodes.length - 2; i >= 0; i--) {\n const existingTNode = previousTNodes[i];\n // Text nodes are created eagerly and so they don't need their `indexBeforeIndex` updated.\n // It is safe to ignore them.\n if (!isI18nText(existingTNode)) {\n if (isNewTNodeCreatedBefore(existingTNode, newTNode) &&\n getInsertBeforeIndex(existingTNode) === null) {\n // If it was created before us in time, (and it does not yet have `insertBeforeIndex`)\n // then add the `insertBeforeIndex`.\n setInsertBeforeIndex(existingTNode, newTNode.index);\n }\n }\n }\n}\n\nfunction isI18nText(tNode: TNode): boolean {\n return !(tNode.type & TNodeType.Placeholder);\n}\n\nfunction isNewTNodeCreatedBefore(existingTNode: TNode, newTNode: TNode): boolean {\n return isI18nText(newTNode) || existingTNode.index > newTNode.index;\n}\n\nfunction getInsertBeforeIndex(tNode: TNode): number|null {\n const index = tNode.insertBeforeIndex;\n return Array.isArray(index) ? index[0] : index;\n}\n\nfunction setInsertBeforeIndex(tNode: TNode, value: number): void {\n const index = tNode.insertBeforeIndex;\n if (Array.isArray(index)) {\n // Array is stored if we have to insert child nodes. See `TNode.insertBeforeIndex`\n index[0] = value;\n } else {\n setI18nHandling(getInsertInFrontOfRNodeWithI18n, processI18nInsertBefore);\n tNode.insertBeforeIndex = value;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertEqual, assertGreaterThan, assertGreaterThanOrEqual, throwError} from '../../util/assert';\nimport {assertTIcu, assertTNode} from '../assert';\nimport {createTNodeAtIndex} from '../instructions/shared';\nimport {IcuCreateOpCode, TIcu} from '../interfaces/i18n';\nimport {TIcuContainerNode,

TNode, TNodeType} from '../interfaces/node';\nimport {LView, TView} from '../interfaces/view';\nimport {assertTNodeType} from '../node_assert';\nimport {setI18nHandling} from '../node_manipulation';\nimport {getInsertInFrontOfRNodeWithI18n, processI18nInsertBefore} from '../node_manipulation_i18n';\nimport {addTNodeAndUpdateInsertBeforeIndex} from './i18n_insert_before_index';\n\n\n/**\n * Retrieve `TIcu` at a given `index`.\n *\n * The `TIcu` can be stored either directly (if it is nested ICU) OR\n * it is stored inside tho `TIcuContainer` if it is top level ICU.\n *\n * The reason for this is that the top level ICU need a `TNode` so that they are part of the render\n * tree, but nested ICU's have no TNode, because we don't know ahead of time if the nested ICU is\n * expressed (parent ICU may have selected a case which does not contain it.)\n *\n * @param tView Current `TView`.\n * @param index Index where the value should be read from.\n */\nexport function getTIcu(tView: TView, index: number): TIcu|null {\n const value = tView.data[index] as null | TIcu | TIcuContainerNode | string;\n if (value === null || typeof value === 'string') return null;\n if (ngDevMode &&\n !(value.hasOwnProperty('tViews') || value.hasOwnProperty('currentCaseLViewIndex'))) {\n throwError('We expect to get \\'null\\'|\\'TIcu\\'|\\'TIcuContainer\\', but got: ' + value);\n }\n // Here the `value.hasOwnProperty('currentCaseLViewIndex')` is a polymorphic read as it can be\n // either TIcu or TIcuContainerNode. This is not ideal, but we still think it is OK because it\n // will be just two cases which fits into the browser inline cache (inline cache can take up to\n // 4)\n const tIcu = value.hasOwnProperty('currentCaseLViewIndex') ? value as TIcu :\n (value as TIcuContainerNode).value;\n ngDevMode && assertTIcu(tIcu);\n return tIcu;\n}\n\n/**\n * Store `TIcu` at a give `index`.\n *\n * The `TIcu` can be stored either directly (if it is nested ICU) OR\n * it is stored inside tho `TIcuContainer` if it is top level ICU.\n *\n * The reason for this is that the top level ICU need a `TNode` so that they are part of the render\n * tree, but nested ICU's have no TNode, because we don't know ahead of time if the nested ICU is\n * expressed (parent ICU may have selected a case which does not contain it.)\n *\n * @param tView Current `TView`.\n * @param index Index where the value should be stored at in `Tview.data`\n * @param tIcu The TIcu to store.\n */\nexport function setTIcu(tView: TView, index: number, tIcu: TIcu): void {\n const tNode = tView.data[index] as null | TIcuContainerNode;\n ngDevMode &&\n assertEqual(\n tNode === null || tNode.hasOwnProperty('tViews'), true,\n 'We expect to get \\'null\\'|\\'TIcuContainer\\'');\n if (tNode === null) {\n tView.data[index] = tIcu;\n } else {\n ngDevMode && assertTNodeType(tNode, TNodeType.Icu);\n tNode.value = tIcu;\n }\n}\n\n/**\n * Set `TNode.insertBeforeIndex` taking the `Array` into account.\n *\n * See `TNode.insertBeforeIndex`\n */\nexport function setTNodeInsertBeforeIndex(tNode: TNode, index: number) {\n ngDevMode && assertTNode(tNode);\n let insertBeforeIndex = tNode.insertBeforeIndex;\n if (insertBeforeIndex === null) {\n setI18nHandling(getInsertInFrontOfRNodeWithI18n, processI18nInsertBefore);\n insertBeforeIndex = tNode.insertBeforeIndex =\n [null!/* may be updated to number later */, index];\n } else {\n assertEqual(Array.isArray(insertBeforeIndex), true, 'Expecting array here');\n (insertBeforeIndex as number[]).push(index);\n }\n}\n\n/**\n * Create `TNode.type=TNodeType.Placeholder` node.\n *\n * See `TNodeType.Placeholder` for more information.\n */\nexport function createTNodePlaceholder(\n tView: TView, previousTNodes: TNode[], index: number): TNode {\n const tNode = createTNodeAtIndex(tView, index, TNodeType.Placeholder, null, null);\n addTNodeAndUpdateInsertBeforeIndex(previousTNodes, tNode);\n return tNode;\n}\n\n\n/**\n * Returns current ICU case.\n *\n * ICU cases are stored as index into the `TIcu.cases`.\n * At times it is necessary to communicate that the ICU case just switched and that next ICU update\n * should update all bindings regardless of the mask. In such a case the we store negative numbers\n * for cases which have just been switched. This function removes the negative flag.\n */\nexport function getCurrentICUCaseIndex(tIcu: TIcu, lView: LView) {\n const currentCase: number|null = lView[tIcu.currentCaseLViewIndex];\n return currentCase === null ? currentCase : (currentCase < 0 ? ~currentCase : currentCase);\n}\n\nexport function getParentFromIcuCreateOpCode(mergedCode: number): number {\n return mergedCode >>> IcuCreateOpCode.SHIFT_PARENT;\n}\n\nexport function getRefFromIcuCreateOpCode(mergedCode: number):

number {\n  return (mergedCode & IcuCreateOpCode.MASK_REF) >>> IcuCreateOpCode.SHIFT_REF;\n}\n\nexport function getInstructionFromIcuCreateOpCode(mergedCode: number): number {\n  return mergedCode
 & IcuCreateOpCode.MASK_INSTRUCTION;\n}\n\nexport function icuCreateOpCode(opCode: IcuCreateOpCode, parentIdx: number, refIdx: number) {\n  ngDevMode && assertGreaterThanOrEqual(parentIdx, 0, 'Missing parent index');\n  ngDevMode && assertGreaterThan(refIdx, 0, 'Missing ref index');\n  return opCode | parentIdx << IcuCreateOpCode.SHIFT_PARENT | refIdx << IcuCreateOpCode.SHIFT_REF;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getPluralCase} from '../../i18n/localization';\nimport {assertDefined, assertDomNode, assertEqual, assertGreaterThan, assertIndexInRange, throwError} from '../../util/assert';\nimport {assertIndexInExpandoRange, assertTIcu} from '../assert';\nimport {attachPatchData} from '../context_discovery';\nimport {elementPropertyInternal, setElementAttribute} from '../instructions/shared';\nimport
 {ELEMENT_MARKER, I18nCreateOpCode, I18nCreateOpCodes, I18nUpdateOpCode, I18nUpdateOpCodes, ICU_MARKER, IcuCreateOpCode, IcuCreateOpCodes, IcuType, TI18n, TIcu} from '../interfaces/i18n';\nimport {TNode} from '../interfaces/node';\nimport {RElement, RNode, RText} from '../interfaces/renderer_dom';\nimport {SanitizerFn} from '../interfaces/sanitization';\nimport {HEADER_OFFSET, LView, RENDERER, TView} from '../interfaces/view';\nimport {createCommentNode, createElementNode, createTextNode, nativeInsertBefore, nativeParentNode, nativeRemoveNode, updateTextNode} from '../node_manipulation';\nimport {getBindingIndex} from '../state';\nimport {renderStringify} from '../util/stringify_utils';\nimport {getNativeByIndex, unwrapRNode} from '../util/view_utils';\nimport {getLocaleId} from './i18n_locale_id';\nimport {getCurrentICUCaseIndex, getParentFromIcuCreateOpCode, getRefFromIcuCreateOpCode, getTIcu} from './i18n_util';\n\n\n\n/**\n * Keep track of which input bindings in `i18nExp`
 have changed.\n *\n * This is used to efficiently update expressions in i18n only when the corresponding input has\n * changed.\n *\n * 1) Each bit represents which of the `i18nExp` has changed.\n * 2) There are 32 bits allowed in JS.\n * 3) Bit 32 is special as it is shared for all changes past 32. (In other words if you have more\n * than 32 `i18nExp` then all changes past 32nd `i18nExp` will be mapped to same bit. This means\n * that we may end up changing more than we need to. But i18n expressions with 32 bindings is rare\n * so in practice it should not be an issue.)\n */\nlet changeMask = 0b0;\n\n/**\n * Keeps track of which bit needs to be updated in `changeMask`\n *\n * This value gets incremented on every call to `i18nExp`\n */\nlet changeMaskCounter = 0;\n\n/**\n * Keep track of which input bindings in `i18nExp` have changed.\n *\n * `setMaskBit` gets invoked by each call to `i18nExp`.\n *\n * @param hasChange did `i18nExp` detect a change.\n */\nexport function
 setMaskBit(hasChange: boolean) {\n  if (hasChange) {\n    changeMask = changeMask | (1 << Math.min(changeMaskCounter, 31));\n  }\n  changeMaskCounter++;\n}\n\nexport function applyI18n(tView: TView, lView: LView, index: number) {\n  if (changeMaskCounter > 0) {\n    ngDevMode && assertDefined(tView, `tView should be defined`);\n    const tI18n = tView.data[index] as TI18n | I18nUpdateOpCodes;\n    // When `index` points to an `i18nAttributes` then we have an array otherwise `TI18n`\n    const updateOpCodes: I18nUpdateOpCodes =\n        Array.isArray(tI18n) ? tI18n as I18nUpdateOpCodes : (tI18n as TI18n).update;\n    const bindingsStartIndex = getBindingIndex() - changeMaskCounter - 1;\n    applyUpdateOpCodes(tView, lView, updateOpCodes, bindingsStartIndex, changeMask);\n  }\n  // Reset changeMask & maskBit to default for the next update cycle\n  changeMask = 0b0;\n  changeMaskCounter = 0;\n}\n\n\n/**\n * Apply `I18nCreateOpCodes` op-codes as stored in `TI18n.create`.\n *\n * Creates
 text (and comment) nodes which are internationalized.\n *\n * @param lView Current lView\n * @param createOpCodes Set of op-codes to apply\n * @param parentRNode Parent node (so that direct children can be added eagerly) or `null` if it is\n *     a root node.\n * @param insertInFrontOf DOM node that should be used as an anchor.\n */\nexport function applyCreateOpCodes(\n    lView: LView, createOpCodes: I18nCreateOpCodes, parentRNode: RElement|null,\n    insertInFrontOf: RElement|null): void {\n  const renderer = lView[RENDERER];\n  for (let i = 0; i < createOpCodes.length; i++) {\n    const opCode = createOpCodes[i++] as

```
any;\n    const text = createOpCodes[i] as string;\n    const isComment = (opCode &
I18nCreateOpCode.COMMENT) === I18nCreateOpCode.COMMENT;\n    const appendNow =\n        (opCode &
I18nCreateOpCode.APPEND_EAGERLY) === I18nCreateOpCode.APPEND_EAGERLY;\n    const index =
opCode >>> I18nCreateOpCode.SHIFT;\n    let rNode = lView[index];\n    if (rNode === null) {\n
  // We only create new DOM nodes if they don't already exist: If ICU switches case back to a\n      // case which
was already instantiated, no need to create new DOM nodes.\n      rNode = lView[index] =\n          isComment ?
renderer.createComment(text) : createTextNode(renderer, text);\n    }\n    if (appendNow && parentRNode !==
null) {\n      nativeInsertBefore(renderer, parentRNode, rNode, insertInFrontOf, false);\n    }\n  }\n}\n\n/**\n *
Apply `I18nMutateOpCodes` OpCodes.\n *\n * @param tView Current `TView`\n * @param mutableOpCodes
Mutable OpCodes to process\n * @param lView Current `LView`\n * @param anchorRNode place where the i18n
node should be inserted.\n */\nexport function applyMutableOpCodes(\n    tView: TView, mutableOpCodes:
IcuCreateOpCodes, lView: LView, anchorRNode: RNode): void {\n  ngDevMode &&
assertDomNode(anchorRNode);\n  const renderer = lView[RENDERER];\n  // `rootIdx` represents the node into
which all inserts happen.\n  let rootIdx: number|null = null;\n
  // `rootRNode` represents the real node into which we insert. This can be different from\n  // `lView[rootIdx]` if we
have projection.\n  //  - null we don't have a parent (as can be the case in when we are inserting into a root of\n  //
LView which has no parent.)\n  //  - `RElement` The element representing the root after taking projection into
account.\n  let rootRNode!: RElement|null;\n  for (let i = 0; i < mutableOpCodes.length; i++) {\n    const opCode =
mutableOpCodes[i];\n    if (typeof opCode == 'string') {\n      const textNodeIndex = mutableOpCodes[++i] as
number;\n      if (lView[textNodeIndex] === null) {\n        ngDevMode &&
ngDevMode.rendererCreateTextNode++;\n        ngDevMode && assertIndexInRange(lView, textNodeIndex);\n
lView[textNodeIndex] = createTextNode(renderer, opCode);\n      }\n    } else if (typeof opCode == 'number') {\n
switch (opCode & IcuCreateOpCode.MASK_INSTRUCTION) {\n        case IcuCreateOpCode.AppendChild:\n
 const parentIdx
 = getParentFromIcuCreateOpCode(opCode);\n          if (rootIdx === null) {\n            // The first operation should
save the `rootIdx` because the first operation\n            // must insert into the root. (Only subsequent operations can
insert into a dynamic\n            // parent)\n            rootIdx = parentIdx;\n            rootRNode =
nativeParentNode(renderer, anchorRNode);\n          }\n          let insertInFrontOf: RNode|null;\n          let
parentRNode: RElement|null;\n          if (parentIdx === rootIdx) {\n            insertInFrontOf = anchorRNode;\n
parentRNode = rootRNode;\n          } else {\n            insertInFrontOf = null;\n            parentRNode =
unwrapRNode(lView[parentIdx]) as RElement;\n          }\n          // FIXME(misko): Refactor with
`processI18nText`\n          if (parentRNode !== null) {\n            // This can happen if the `LView` we are adding to is
not attached to a parent `LView`.\n            // In such a case there is no \"root\"
 we can attach to. This is fine, as we still need to\n            // create the elements. When the `LView` gets later added
to a parent these \"root\" nodes\n            // get picked up and added.\n            ngDevMode &&
assertDomNode(parentRNode);\n            const refIdx = getRefFromIcuCreateOpCode(opCode);\n
ngDevMode && assertGreaterThan(refIdx, HEADER_OFFSET, 'Missing ref');\n            // `unwrapRNode` is not
needed here as all of these point to RNodes as part of the i18n\n            // which can't have components.\n
const child = lView[refIdx] as RElement;\n            ngDevMode && assertDomNode(child);\n
nativeInsertBefore(renderer, parentRNode, child, insertInFrontOf, false);\n            const tIcu = getTIcu(tView,
refIdx);\n            if (tIcu !== null && typeof tIcu === 'object') {\n              // If we just added a comment node which
has ICU then that ICU may have already been\n              // rendered and therefore we need to re-add
 it here.\n              ngDevMode && assertTIcu(tIcu);\n              const caseIndex = getCurrentICUCaseIndex(tIcu,
lView);\n              if (caseIndex !== null) {\n                applyMutableOpCodes(tView, tIcu.create[caseIndex], lView,
lView[tIcu.anchorIdx]);\n              }\n            }\n          }\n          break;\n        case IcuCreateOpCode.Attr:\n
const elementNodeIndex = opCode >>> IcuCreateOpCode.SHIFT_REF;\n          const attrName =
mutableOpCodes[++i] as string;\n          const attrValue = mutableOpCodes[++i] as string;\n          // This code is
used for ICU expressions only, since we don't support\n          // directives/components in ICUs, we don't need to
```

```
worry about inputs here\n setElementAttribute(\n renderer, getNativeByIndex(elementNodeIndex, lView) as RElement, null, null, attrName,\n attrValue, null);\n break;\n default:\n throw new Error(`Unable to determine the type of mutate operation for \"${opCode}\"`);\n }\n } else {\n switch (opCode) {\n case ICU_MARKER:\n const commentValue = mutableOpCodes[++i] as string;\n const commentNodeIndex = mutableOpCodes[++i] as number;\n if (lView[commentNodeIndex] === null) {\n ngDevMode &&\n assertEqual(\n typeof commentValue, 'string',\n `Expected \"${commentValue}\" to be a comment node value`);\n ngDevMode && ngDevMode.rendererCreateComment++;\n ngDevMode && assertIndexInExpandoRange(lView, commentNodeIndex);\n const commentRNode = lView[commentNodeIndex] =\n createCommentNode(renderer, commentValue);\n // FIXME(misko): Attaching patch data is only needed for the root (Also add tests)\n attachPatchData(commentRNode, lView);\n }\n break;\n case ELEMENT_MARKER:\n const tagName = mutableOpCodes[++i] as string;\n const elementNodeIndex = mutableOpCodes[++i] as number;\n if (lView[elementNodeIndex] === null) {\n ngDevMode &&\n assertEqual(\n typeof tagName, 'string',\n `Expected \"${tagName}\" to be an element node tag name`);\n\n ngDevMode && ngDevMode.rendererCreateElement++;\n ngDevMode && assertIndexInExpandoRange(lView, elementNodeIndex);\n const elementRNode = lView[elementNodeIndex] =\n createElementNode(renderer, tagName, null);\n // FIXME(misko): Attaching patch data is only needed for the root (Also add tests)\n attachPatchData(elementRNode, lView);\n }\n break;\n default:\n ngDevMode &&\n throwError(`Unable to determine the type of mutate operation for \"${opCode}\"`);\n }\n }\n }\n}\n\n\n/**\n * Apply `I18nUpdateOpCodes` OpCodes\n *\n * @param tView Current `TView`\n * @param lView
 Current `LView`\n * @param updateOpCodes OpCodes to process\n * @param bindingsStartIndex Location of the first `i18nApply`\n * @param changeMask Each bit corresponds to a `i18nExp` (Counting backwards from\n * `bindingsStartIndex`)\n */\nexport function applyUpdateOpCodes(\n tView: TView, lView: LView, updateOpCodes: I18nUpdateOpCodes, bindingsStartIndex: number,\n changeMask: number) {\n for (let i = 0; i < updateOpCodes.length; i++) {\n // bit code to check if we should apply the next update\n const checkBit = updateOpCodes[i] as number;\n // Number of opCodes to skip until next set of update codes\n const skipCodes = updateOpCodes[++i] as number;\n if (checkBit & changeMask) {\n // The value has been updated since last checked\n let value = '';\n for (let j = i + 1; j <= (i + skipCodes); j++) {\n const opCode = updateOpCodes[j];\n if (typeof opCode == 'string') {\n value += opCode;\n } else if (typeof opCode == 'number') {\n if (opCode < 0) {\n // Negative opCode represent `i18nExp` values offset.\n value += renderStringify(lView[bindingsStartIndex - opCode]);\n } else {\n const nodeIndex = (opCode >>> I18nUpdateOpCode.SHIFT_REF);\n switch (opCode & I18nUpdateOpCode.MASK_OPCODE) {\n case I18nUpdateOpCode.Attr:\n const propName = updateOpCodes[++j] as string;\n const sanitizeFn = updateOpCodes[++j] as SanitizerFn | null;\n const tNodeOrTagName = tView.data[nodeIndex] as TNode | string;\n ngDevMode && assertDefined(tNodeOrTagName, 'Experting TNode or string');\n if (typeof tNodeOrTagName === 'string') {\n // IF we don't have a `TNode`, then we are an element in ICU (as ICU content does\n // not have TNode), in which case we know that there are no directives, and hence\n // we use attribute setting.\n setElementAttribute(\n lView[RENDERER], lView[nodeIndex], null, tNodeOrTagName, propName, value,\n sanitizeFn);\n } else {\n elementPropertyInternal(\n tView, tNodeOrTagName, lView, propName, value, lView[RENDERER], sanitizeFn,\n false);\n }\n break;\n case I18nUpdateOpCode.Text:\n const rText = lView[nodeIndex] as RText | null;\n rText !== null && updateTextNode(lView[RENDERER], rText, value);\n break;\n case I18nUpdateOpCode.IcuSwitch:\n applyIcuSwitchCase(tView, getTIcu(tView, nodeIndex)!, lView,
```

value);\n break;\n case I18nUpdateOpCode.IcuUpdate:\n applyIcuUpdateCase(tView, getTIcu(tView, nodeIndex)!, bindingsStartIndex, lView);\n break;\n }\n }\n }\n }\n } else {\n const opCode = updateOpCodes[i + 1] as number;\n if (opCode > 0 && (opCode & I18nUpdateOpCode.MASK_OPCODE) === I18nUpdateOpCode.IcuUpdate) {\n // Special case for the `icuUpdateCase`. It could be that the mask did not match, but\n // we still need to execute `icuUpdateCase` because the case has changed recently due to\n // previous `icuSwitchCase` instruction. (`icuSwitchCase` and `icuUpdateCase` always come in\n // pairs.)\n const nodeIndex = (opCode >>> I18nUpdateOpCode.SHIFT_REF);\n const tIcu = getTIcu(tView, nodeIndex)!;\n const currentIndex = lView[tIcu.currentCaseLViewIndex];\n if (currentIndex < 0) {\n applyIcuUpdateCase(tView, tIcu, bindingsStartIndex, lView);\n }\n }\n }\n i += skipCodes;\n }\n}\n\n/**\n * Apply OpCodes associated with updating an existing ICU.\n *\n * @param tView Current `TView`\n * @param tIcu Current `TIcu`\n * @param bindingsStartIndex
Location of the first `i18nApply`\n * @param lView Current `LView`\n */\nfunction applyIcuUpdateCase(tView: TView, tIcu: TIcu, bindingsStartIndex: number, lView: LView) {\n ngDevMode && assertIndexInRange(lView, tIcu.currentCaseLViewIndex);\n let activeCaseIndex = lView[tIcu.currentCaseLViewIndex];\n if (activeCaseIndex !== null) {\n let mask = changeMask;\n if (activeCaseIndex < 0) {\n // Clear the flag.\n // Negative number means that the ICU was freshly created and we need to force the update.\n activeCaseIndex = lView[tIcu.currentCaseLViewIndex] = ~activeCaseIndex;\n // -1 is same as all bits on, which simulates creation since it marks all bits dirty\n mask = -1;\n }\n applyUpdateOpCodes(tView, lView, tIcu.update[activeCaseIndex], bindingsStartIndex, mask);\n }\n}\n\n/**\n * Apply OpCodes associated with switching a case on ICU.\n *\n * This involves tearing down existing case and than building up a new case.\n *\n * @param tView Current
`TView`\n * @param tIcu Current `TIcu`\n * @param lView Current `LView`\n * @param value Value of the case to update to.\n */\nfunction applyIcuSwitchCase(tView: TView, tIcu: TIcu, lView: LView, value: string) {\n // Rebuild a new case for this ICU\n const caseIndex = getCaseIndex(tIcu, value);\n let activeCaseIndex = getCurrentICUCaseIndex(tIcu, lView);\n if (activeCaseIndex !== caseIndex) {\n applyIcuSwitchCaseRemove(tView, tIcu, lView);\n lView[tIcu.currentCaseLViewIndex] = caseIndex === null ? null : ~caseIndex;\n if (caseIndex !== null) {\n // Add the nodes for the new case\n const anchorRNode = lView[tIcu.anchorIdx];\n if (anchorRNode) {\n ngDevMode && assertDomNode(anchorRNode);\n applyMutableOpCodes(tView, tIcu.create[caseIndex], lView, anchorRNode);\n }\n }\n}\n\n/**\n * Apply OpCodes associated with tearing ICU case.\n *\n * This involves tearing down existing case and than building up a new case.\n *\n * @param tView
Current `TView`\n * @param tIcu Current `TIcu`\n * @param lView Current `LView`\n */\nfunction applyIcuSwitchCaseRemove(tView: TView, tIcu: TIcu, lView: LView) {\n let activeCaseIndex = getCurrentICUCaseIndex(tIcu, lView);\n if (activeCaseIndex !== null) {\n const removeCodes = tIcu.remove[activeCaseIndex];\n for (let i = 0; i < removeCodes.length; i++) {\n const nodeOrIcuIndex = removeCodes[i] as number;\n if (nodeOrIcuIndex > 0) {\n // Positive numbers are `RNode`s.\n const rNode = getNativeByIndex(nodeOrIcuIndex, lView);\n rNode !== null && nativeRemoveNode(lView[RENDERER], rNode);\n } else {\n // Negative numbers are ICUs\n applyIcuSwitchCaseRemove(tView, getTIcu(tView, ~nodeOrIcuIndex)!, lView);\n }\n }\n}\n\n/**\n * Returns the index of the current case of an ICU expression depending on the main binding value\n *\n * @param icuExpression\n * @param bindingValue The value of the main binding used by this
ICU expression\n */\nfunction getCaseIndex(icuExpression: TIcu, bindingValue: string): number|null {\n let index = icuExpression.cases.indexOf(bindingValue);\n if (index === -1) {\n switch (icuExpression.type) {\n case IcuType.plural: {\n const resolvedCase = getPluralCase(bindingValue, getLocaleId());\n index = icuExpression.cases.indexOf(resolvedCase);\n if (index === -1 && resolvedCase !== 'other') {\n index = icuExpression.cases.indexOf('other');\n }\n break;\n }\n case IcuType.select: {\n index = icuExpression.cases.indexOf('other');\n break;\n }\n }\n }\n return index === -1 ? null :

index;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDomNode, assertNumber, assertNumberInRange} from '../../util/assert';\nimport {assertTIcu, assertTNodeForLView} from '../assert';\nimport {EMPTY_ARRAY} from '../empty';\nimport {getCurrentICUCaseIndex} from '../i18n/i18n_util';\nimport {I18nRemoveOpCodes, TIcu} from '../interfaces/i18n';\nimport {TIcuContainerNode} from '../interfaces/node';\nimport {RNode} from '../interfaces/renderer_dom';\nimport {LView, TVIEW} from '../interfaces/view';\n\nexport function loadIcuContainerVisitor() {\n const _stack: any[] = [];\n let _index: number = -1;\n let _lView: LView;\n let _removes: I18nRemoveOpCodes;\n\n /**\n * Retrieves a set of root nodes from `TIcu.remove`. Used by `TNodeType.ICUContainer`\n * to determine which root belong to the ICU.\n *\n * Example of usage.\n * ```\n * const nextRNode = icuContainerIteratorStart(tIcuContainerNode, lView);\n * let rNode: RNode|null;\n * while(rNode = nextRNode()) {\n * console.log(rNode);\n * }\n * ```\n *\n * @param tIcuContainerNode Current `TIcuContainerNode`\n * @param lView `LView` where the `RNode`s should be looked up.\n */\n function icuContainerIteratorStart(tIcuContainerNode: TIcuContainerNode, lView: LView): () =>\n RNode | null {\n _lView = lView;\n while (_stack.length) _stack.pop();\n ngDevMode && assertTNodeForLView(tIcuContainerNode, lView);\n enterIcu(tIcuContainerNode.value, lView);\n return icuContainerIteratorNext;\n }\n\n function enterIcu(tIcu: TIcu, lView: LView) {\n _index = 0;\n const currentCase = getCurrentICUCaseIndex(tIcu, lView);\n if (currentCase !== null) {\n ngDevMode && assertNumberInRange(currentCase, 0, tIcu.cases.length - 1);\n _removes = tIcu.remove[currentCase];\n } else {\n _removes = EMPTY_ARRAY as any;\n }\n }\n\n\n function icuContainerIteratorNext(): RNode|null {\n if (_index < _removes.length) {\n const removeOpCode = _removes[_index++] as number;\n ngDevMode && assertNumber(removeOpCode, 'Expecting OpCode number');\n if (removeOpCode > 0) {\n const rNode = _lView[removeOpCode];\n ngDevMode && assertDomNode(rNode);\n return rNode;\n } else {\n _stack.push(_index, _removes);\n // ICUs are represented by negative indices\n const tIcuIndex = ~removeOpCode;\n const tIcu = _lView[TVIEW].data[tIcuIndex] as TIcu;\n ngDevMode && assertTIcu(tIcu);\n enterIcu(tIcu, _lView);\n return icuContainerIteratorNext();\n }\n } else {\n if (_stack.length === 0) {\n return null;\n } else {\n _removes = _stack.pop();\n _index = _stack.pop();\n return icuContainerIteratorNext();\n }\n }\n }\n\n return icuContainerIteratorStart;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertNumber, assertString} from '../../util/assert';\nimport {ELEMENT_MARKER, I18nCreateOpCode, I18nCreateOpCodes, I18nRemoveOpCodes, I18nUpdateOpCode, I18nUpdateOpCodes, ICU_MARKER, IcuCreateOpCode, IcuCreateOpCodes} from '../interfaces/i18n';\n\nimport {getInstructionFromIcuCreateOpCode, getParentFromIcuCreateOpCode, getRefFromIcuCreateOpCode} from './i18n_util';\n\n\n/**\n * Converts `I18nCreateOpCodes` array into a human readable format.\n *\n * This function is attached to the `I18nCreateOpCodes.debug` property if `ngDevMode` is enabled.\n * This function provides a human readable view of the opcodes. This is useful when debugging the\n * application as well as writing more readable tests.\n *\n * @param this `I18nCreateOpCodes` if attached as a method.\n * @param opcodes `I18nCreateOpCodes` if invoked as a function.\n */\nexport function i18nCreateOpCodesToString(\n this: I18nCreateOpCodes|void, opcodes?: I18nCreateOpCodes): string[] {\n const createOpCodes: I18nCreateOpCodes = opcodes || (Array.isArray(this) ? this : [] as any);\n let lines: string[] = [];\n for (let i = 0; i < createOpCodes.length; i++) {\n const opCode = createOpCodes[i++] as any;\n const text = createOpCodes[i] as string;\n const isComment = (opCode & I18nCreateOpCode.COMMENT) === I18nCreateOpCode.COMMENT;\n const appendNow =\n (opCode & I18nCreateOpCode.APPEND_EAGERLY) === I18nCreateOpCode.APPEND_EAGERLY;\n const index = opCode >>> I18nCreateOpCode.SHIFT;\n lines.push(`lView[${index}] = document.${isComment ?

'createComment' : 'createText'}(${\n JSON.stringify(text)});`);\n if (appendNow) {\n lines.push(`parent.appendChild(lView[${index}]);`);\n }\n }\n return lines;\n}\n\n/**\n * Converts `I18nUpdateOpCodes` array into a human readable format.\n *\n * This function is attached to the `I18nUpdateOpCodes.debug` property if `ngDevMode` is enabled.\n * This function provides a human readable view of the opcodes. This is useful when debugging the\n * application as well as writing more readable tests.\n *\n * @param this `I18nUpdateOpCodes` if attached as a method.\n * @param opcodes `I18nUpdateOpCodes` if invoked as a function.\n */\nexport function i18nUpdateOpCodesToString(\n this: I18nUpdateOpCodes|void, opcodes?: I18nUpdateOpCodes): string[] {\n const parser = new OpCodeParser(opcodes || (Array.isArray(this) ? this : []));\n let lines: string[] = [];\n\n function consumeOpCode(value: number): string {\n const ref = value >>> I18nUpdateOpCode.SHIFT_REF;\n const opCode = value & I18nUpdateOpCode.MASK_OPCODE;\n switch (opCode) {\n case I18nUpdateOpCode.Text:\n return `(lView[${ref}] as Text).textContent = $$$`;\n case I18nUpdateOpCode.Attr:\n const attrName = parser.consumeString();\n const sanitizationFn = parser.consumeFunction();\n const value = sanitizationFn ? `(${sanitizationFn})($$$)` : '$$$';\n return `(lView[${ref}] as Element).setAttribute('${attrName}', ${value})`;\n case I18nUpdateOpCode.IcuSwitch:\n return `icuSwitchCase(${ref},\n $$$)`;\n case I18nUpdateOpCode.IcuUpdate:\n return `icuUpdateCase(${ref})`;\n }\n throw new Error('unexpected OpCode');\n }\n\n while (parser.hasMore()) {\n let mask = parser.consumeNumber();\n let size = parser.consumeNumber();\n const end = parser.i + size;\n const statements: string[] = [];\n let statement = '';\n while (parser.i < end) {\n let value = parser.consumeNumberOrString();\n if (typeof value === 'string') {\n statement += value;\n } else if (value < 0) {\n // Negative numbers are ref indexes\n // Here `i` refers to current binding index. It is to signify that the value is relative,\n // rather than absolute.\n statement += '${lView[i' + value + ']}';\n } else {\n // Positive numbers are operations.\n const opCodeText = consumeOpCode(value);\n statements.push(opCodeText.replace('$$$', '`' + statement + '`') + ';');\n statement = '';\n\n }\n }\n lines.push(`if (mask & 0b${mask.toString(2)}) { ${statements.join(' ')} }`);\n }\n return lines;\n}\n\n/**\n * Converts `I18nCreateOpCodes` array into a human readable format.\n *\n * This function is attached to the `I18nCreateOpCodes.debug` if `ngDevMode` is enabled. This\n * function provides a human readable view of the opcodes. This is useful when debugging the\n * application as well as writing more readable tests.\n *\n * @param this `I18nCreateOpCodes` if attached as a method.\n * @param opcodes `I18nCreateOpCodes` if invoked as a function.\n */\nexport function icuCreateOpCodesToString(\n this: IcuCreateOpCodes|void, opcodes?: IcuCreateOpCodes): string[] {\n const parser = new OpCodeParser(opcodes || (Array.isArray(this) ? this : []));\n let lines: string[] = [];\n\n function consumeOpCode(opCode: number): string {\n const parent = getParentFromIcuCreateOpCode(opCode);\n const ref = getRefFromIcuCreateOpCode(opCode);\n switch (getInstructionFromIcuCreateOpCode(opCode)) {\n case IcuCreateOpCode.AppendChild:\n return `(lView[${parent}] as Element).appendChild(lView[${lastRef}])`;\n case IcuCreateOpCode.Attr:\n return `(lView[${ref}] as Element).setAttribute(\"${parser.consumeString()}\", \"${\n parser.consumeString()}\")`;\n }\n throw new Error('Unexpected OpCode: ' + getInstructionFromIcuCreateOpCode(opCode));\n }\n\n let lastRef = -1;\n while (parser.hasMore()) {\n let value = parser.consumeNumberStringOrMarker();\n if (value === ICU_MARKER) {\n const text = parser.consumeString();\n lastRef = parser.consumeNumber();\n lines.push(`lView[${lastRef}] = document.createComment(\"${text}\")`);\n } else if (value === ELEMENT_MARKER) {\n const text = parser.consumeString();\n lastRef = parser.consumeNumber();\n lines.push(`lView[${lastRef}] = document.createElement(\"${text}\")`);\n } else if (typeof value === 'string') {\n lastRef = parser.consumeNumber();\n\n lines.push(`lView[${lastRef}] = document.createTextNode(\"${value}\")`);\n } else if (typeof value === 'number') {\n const line = consumeOpCode(value);\n line && lines.push(line);\n } else {\n throw new Error('Unexpected value');\n }\n }\n\n return lines;\n}\n\n/**\n * Converts `I18nRemoveOpCodes` array into a

human readable format.\n *\n * This function is attached to the `I18nRemoveOpCodes.debug` if `ngDevMode` is enabled. This\n * function provides a human readable view of the opcodes. This is useful when debugging the\n * application as well as writing more readable tests.\n *\n * @param this `I18nRemoveOpCodes` if attached as a method.\n * @param opcodes `I18nRemoveOpCodes` if invoked as a function.\n */\nexport function i18nRemoveOpCodesToString(\n this: I18nRemoveOpCodes|void, opcodes?: I18nRemoveOpCodes): string[] {\n const removeCodes = opcodes || (Array.isArray(this) ? this : []);\n let lines: string[] = [];\n\n for (let i = 0; i < removeCodes.length; i++) {\n const nodeOrIcuIndex = removeCodes[i] as number;\n if (nodeOrIcuIndex > 0) {\n // Positive numbers are `RNode`s.\n lines.push(`remove(lView[${nodeOrIcuIndex}])`);\n } else {\n // Negative numbers are ICUs\n lines.push(`removeNestedICU(${~nodeOrIcuIndex})`);\n }\n }\n\n return lines;\n}\n\n\nclass OpCodeParser {\n i: number = 0;\n codes: any[];\n\n constructor(codes: any[]) {\n this.codes = codes;\n }\n\n hasMore() {\n return this.i < this.codes.length;\n }\n\n consumeNumber(): number {\n let value = this.codes[this.i++];\n assertNumber(value, 'expecting number in OpCode');\n return value;\n }\n\n consumeString(): string {\n let value = this.codes[this.i++];\n assertString(value, 'expecting string in OpCode');\n return value;\n }\n\n consumeFunction(): Function|null {\n let value = this.codes[this.i++];\n if (value === null || typeof value === 'function') {\n return value;\n }\n throw new Error('expecting function in OpCode');\n }\n\n consumeNumberOrString(): number|string {\n let value = this.codes[this.i++];\n if (typeof value === 'string') {\n return value;\n }\n assertNumber(value, 'expecting number or string in OpCode');\n return value;\n }\n\n consumeNumberStringOrMarker(): number|string|ICU_MARKER|ELEMENT_MARKER {\n let value = this.codes[this.i++];\n if (typeof value === 'string' || typeof value === 'number' || value == ICU_MARKER ||\n value == ELEMENT_MARKER) {\n return value;\n }\n assertNumber(value, 'expecting number, string, ICU_MARKER or ELEMENT_MARKER in OpCode');\n return value;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport '../../util/ng_dev_mode';\nimport '../../util/ng_i18n_closure_mode';\n\nimport {getTemplateContent, SRCSET_ATTRS, URI_ATTRS, VALID_ATTRS, VALID_ELEMENTS} from '../../sanitization/html_sanitizer';\nimport {getInertBodyHelper} from '../../sanitization/inert_body';\nimport {_sanitizeUrl, sanitizeSrcset} from '../../sanitization/url_sanitizer';\nimport {assertDefined, assertEqual, assertGreaterThanOrEqual, assertOneOf, assertString} from '../../util/assert';\nimport {CharCode} from '../../util/char_code';\nimport {loadIcuContainerVisitor} from '../instructions/i18n_icu_container_visitor';\nimport {allocExpando, createTNodeAtIndex} from '../instructions/shared';\nimport {getDocument} from '../interfaces/document';\nimport {ELEMENT_MARKER, I18nCreateOpCode, I18nCreateOpCodes, I18nRemoveOpCodes, I18nUpdateOpCode, I18nUpdateOpCodes, ICU_MARKER, IcuCreateOpCode, IcuCreateOpCodes, IcuExpression, IcuType, TI18n, TIcu} from '../interfaces/i18n';\nimport {TNode, TNodeType} from '../interfaces/node';\nimport {SanitizerFn} from '../interfaces/sanitization';\nimport {HEADER_OFFSET, LView, TView} from '../interfaces/view';\nimport {getCurrentParentTNode, getCurrentTNode, setCurrentTNode} from '../state';\nimport {attachDebugGetter} from '../util/debug_utils';\n\nimport {i18nCreateOpCodesToString, i18nRemoveOpCodesToString, i18nUpdateOpCodesToString, icuCreateOpCodesToString} from './i18n_debug';\nimport {addTNodeAndUpdateInsertBeforeIndex} from './i18n_insert_before_index';\nimport {ensureIcuContainerVisitorLoaded} from './i18n_tree_shaking';\nimport {createTNodePlaceholder, icuCreateOpCode, setTIcu, setTNodeInsertBeforeIndex} from './i18n_util';\n\n\n\nconst BINDING_REGEXP = /(\\d+):?\\d*/gi;\nconst ICU_REGEXP = /({\\s*\\d+:?\\d*\\s*,\\s*\\S{6}\\s*,[\\s\\S]*})/gi;\nconst NESTED_ICU = /(\\d+)/;\nconst ICU_BLOCK_REGEXP = /^\\s*(\\d+:?\\d*)\\s*,\\s*(select|plural)\\s*,/;\n\nconst MARKER = ``;\nconst SUBTEMPLATE_REGEXP = /\\/?*(\\d+:\\d+)/gi;\nconst PH_REGEXP = /(\\/?[#*]\\d+):?\\d*/gi;\n\n/**\n * Angular Dart introduced &ngsp; as a placeholder for non-removable space, see:\n * https://github.com/dart-lang/angular/blob/0bb611387d29d65b5af7f9d2515ab571fd3fbee4/_tests/test/compiler/preserve_whitespace_test.dart

#L25-L32\n * In Angular Dart &ngsp; is converted to the 0xE500 PUA (Private Use Areas) unicode character\n * and later on replaced by a space. We are re-implementing the same idea here, since translations\n * might contain this special character.\n */\nconst NGSP_UNICODE_REGEXP = /\\uE500/g;\nfunction replaceNgsp(value: string): string {\n  return value.replace(NGSP_UNICODE_REGEXP, ' ');\n}\n\n/**\n * Create dynamic nodes from i18n translation block.\n *\n * - Text nodes are created synchronously\n * - TNodes are linked into tree lazily\n *\n * @param tView Current `TView`\n * @parentTNodeIndex index to the parent TNode of this i18n block\n * @param lView Current `LView`\n * @param index Index of `i18nStart` instruction.\n * @param message Message to translate.\n * @param subTemplateIndex Index into the sub template of
message translation. (ie in case of\n *  `ngIf`) (-1 otherwise)\n */\nexport function i18nStartFirstCreatePass(\n tView: TView, parentTNodeIndex: number, lView: LView, index: number, message: string,\n  subTemplateIndex: number) {\n  const rootTNode = getCurrentParentTNode();\n  const createOpCodes: I18nCreateOpCodes = [] as any;\n  const updateOpCodes: I18nUpdateOpCodes = [] as any;\n  const existingTNodeStack: TNode[][] = [[]];\n  if (ngDevMode) {\n  attachDebugGetter(createOpCodes, i18nCreateOpCodesToString);\n attachDebugGetter(updateOpCodes, i18nUpdateOpCodesToString);\n  }\n\n  message = getTranslationForTemplate(message, subTemplateIndex);\n  const msgParts = replaceNgsp(message).split(PH_REGEXP);\n  for (let i = 0; i < msgParts.length; i++) {\n  let value = msgParts[i];\n  if ((i & 1) === 0) {\n  // Even indexes are text (including bindings & ICU expressions)\n  const parts = i18nParseTextIntoPartsAndICU(value);\n  for (let j = 0; j < parts.length;
j++) {\n  let part = parts[j];\n  if ((j & 1) === 0) {\n  // `j` is odd therefore `part` is string\n  const text = part as string;\n  ngDevMode && assertString(text, 'Parsed ICU part should be string');\n  if (text !== '') {\n  i18nStartFirstCreatePassProcessTextNode(\n  tView, rootTNode, existingTNodeStack[0], createOpCodes, updateOpCodes, lView, text);\n  }\n  } else {\n  // `j` is Even therefor `part` is an `ICUExpression`\n  const icuExpression: IcuExpression = part as IcuExpression;\n  // Verify that ICU expression has the right shape. Translations might contain invalid\n  // constructions (while original messages were correct), so ICU parsing at runtime may\n  // not succeed (thus `icuExpression` remains a string).\n // Note: we intentionally retain the error here by not using `ngDevMode`, because\n  // the value can change based on the locale
and users aren't guaranteed to hit\n  // an invalid string while they're developing.\n  if (typeof icuExpression !== 'object') {\n  throw new Error(`Unable to parse ICU expression in \"${message}\" message.`);\n  }\n  const icuContainerTNode = createTNodeAndAddOpCode(\n  tView, rootTNode, existingTNodeStack[0], lView, createOpCodes,\n  ngDevMode ? `ICU ${index}:${icuExpression.mainBinding}` : '', true);\n  const icuNodeIndex = icuContainerTNode.index;\n ngDevMode &&\n  assertGreaterThanOrEqual(\n  icuNodeIndex, HEADER_OFFSET, 'Index must be in absolute LView offset');\n  icuStart(tView, lView, updateOpCodes, parentTNodeIndex, icuExpression, icuNodeIndex);\n  }\n  }\n  } else {\n  // Odd indexes are placeholders (elements and sub-templates)\n  // At this point value is something like: '/#1:2' (originally coming from '/#1:2')\n  const isClosing = value.charCodeAt(0) === CharCode.SLASH;\n  const type = value.charCodeAt(isClosing ? 1 : 0);\n ngDevMode && assertOneOf(type, CharCode.STAR, CharCode.HASH);\n  const index = HEADER_OFFSET + Number.parseInt(value.substring((isClosing ? 2 : 1)));\n  if (isClosing) {\n  existingTNodeStack.shift();\n setCurrentTNode(getCurrentParentTNode()!, false);\n  } else {\n  const tNode = createTNodePlaceholder(tView, existingTNodeStack[0], index);\n  existingTNodeStack.unshift([]);\n setCurrentTNode(tNode, true);\n  }\n  }\n  }\n\n  tView.data[index] = <TI18n>{\n  create: createOpCodes,\n update: updateOpCodes,\n  };\n}\n\n/**\n * Allocate space in i18n Range add create OpCode instruction to crete a text or comment node.\n *\n * @param tView Current `TView` needed to allocate space in i18n range.\n * @param rootTNode Root `TNode` of the i18n block. This node determines if the new TNode will be\n *  added as part of the `i18nStart`
instruction or as part of the `TNode.insertBeforeIndex`.\n * @param existingTNodes internal state for `addTNodeAndUpdateInsertBeforeIndex`.\n * @param lView Current `LView` needed to allocate space in i18n

range.\n * @param createOpCodes Array storing `I18nCreateOpCodes` where new opCodes will be added.\n * @param text Text to be added when the `Text` or `Comment` node will be created.\n * @param isICU true if a `Comment` node for ICU (instead of `Text`) node should be created.\n */\nfunction createTNodeAndAddOpCode(\n tView: TView, rootTNode: TNode|null, existingTNodes: TNode[], lView: LView,\n createOpCodes: I18nCreateOpCodes, text: string|null, isICU: boolean): TNode {\n const i18nNodeIdx = allocExpando(tView, lView, 1, null);\n let opCode = i18nNodeIdx << I18nCreateOpCode.SHIFT;\n let parentTNode = getCurrentParentTNode();\n\n if (rootTNode === parentTNode) {\n // FIXME(misko): A null `parentTNode` should represent when we fall of the `LView` boundary.\n // (there is no parent), but in some circumstances (because we are inconsistent about how we set\n // `previousOrParentTNode`) it could point to `rootTNode` So this is a work around.\n parentTNode = null;\n }\n if (parentTNode === null) {\n // If we don't have a parent that means that we can eagerly add nodes.\n // If we have a parent than these nodes can't be added now (as the parent has not been created\n // yet) and instead the `parentTNode` is responsible for adding it. See\n // `TNode.insertBeforeIndex`\n opCode |= I18nCreateOpCode.APPEND_EAGERLY;\n }\n if (isICU) {\n opCode |= I18nCreateOpCode.COMMENT;\n ensureIcuContainerVisitorLoaded(loadIcuContainerVisitor);\n }\n createOpCodes.push(opCode, text === null ? '' : text);\n // We store `{{?}}` so that when looking at debug `TNodeType.template` we can see where the\n // bindings are.\n const tNode = createTNodeAtIndex(\n tView, i18nNodeIdx, isICU ? TNodeType.Icu : TNodeType.Text,\n text === null ? (ngDevMode ? '{{?}}' : '') : text, null);\n addTNodeAndUpdateInsertBeforeIndex(existingTNodes, tNode);\n const tNodeIdx = tNode.index;\n setCurrentTNode(tNode, false /* Text nodes are self closing */);\n if (parentTNode !== null && rootTNode !== parentTNode) {\n // We are a child of deeper node (rather than a direct child of `i18nStart` instruction.)\n // We have to make sure to add ourselves to the parent.\n setTNodeInsertBeforeIndex(parentTNode, tNodeIdx);\n }\n return tNode;\n}\n\n/**\n * Processes text node in i18n block.\n *\n * Text nodes can have:\n * - Create instruction in `createOpCodes` for creating the text node.\n * - Allocate spec for text node in i18n range of `LView`\n * - If contains binding:\n * - bindings => allocate space in i18n range of `LView` to store the binding value.\n * - populate `updateOpCodes` with update instructions.\n *\n * @param tView Current `TView`\n * @param rootTNode Root `TNode` of the i18n block. This node determines if the new TNode will\n * be added as part of the `i18nStart` instruction or as part of the\n * `TNode.insertBeforeIndex`.\n * @param existingTNodes internal state for `addTNodeAndUpdateInsertBeforeIndex`.\n * @param createOpCodes Location where the creation OpCodes will be stored.\n * @param lView Current `LView`\n * @param text The translated text (which may contain binding)\n */\nfunction i18nStartFirstCreatePassProcessTextNode(\n tView: TView, rootTNode: TNode|null, existingTNodes: TNode[], createOpCodes: I18nCreateOpCodes,\n updateOpCodes: I18nUpdateOpCodes, lView: LView, text: string): void {\n const hasBinding = text.match(BINDING_REGEXP);\n const tNode = createTNodeAndAddOpCode(\n tView, rootTNode, existingTNodes, lView, createOpCodes, hasBinding ? null : text, false);\n if (hasBinding) {\n generateBindingUpdateOpCodes(updateOpCodes, text, tNode.index);\n }\n}\n\n/**\n * See `i18nAttributes` above.\n */\nexport function i18nAttributesFirstPass(tView: TView, index: number, values: string[]) {\n const previousElement = getCurrentTNode()!;\n const previousElementIndex = previousElement.index;\n const updateOpCodes: I18nUpdateOpCodes = [] as any;\n if (ngDevMode) {\n attachDebugGetter(updateOpCodes, i18nUpdateOpCodesToString);\n }\n if (tView.firstCreatePass && tView.data[index] === null) {\n for (let i = 0; i < values.length; i += 2) {\n const attrName = values[i];\n const message = values[i + 1];\n\n if (message !== '') {\n // Check if attribute value contains an ICU and throw an error if that's the case.\n // ICUs in element attributes are not supported.\n // Note: we intentionally retain the error here by not using `ngDevMode`, because\n // the `value` can change based on the locale and users aren't guaranteed to hit\n // an invalid string while they're developing.\n if (ICU_REGEXP.test(message)) {\n throw new Error(\n `ICU expressions are not supported in attributes. Message: \"${message}\".`);\n }\n\n // i18n attributes that hit this code path are guaranteed to have bindings, because\n // the compiler treats static i18n attributes as regular attribute bindings.\n

generateBindingUpdateOpCodes(updateOpCodes, message, previousElementIndex, attrName);\n }\n }\n tView.data[index] = updateOpCodes;\n }\n}\n\n\n/**\n * Generate the OpCodes to update the bindings of a string.\n *\n * @param updateOpCodes Place where the update opcodes will be stored.\n * @param str The string containing the bindings.\n * @param destinationNode Index of the destination node which will receive the binding.\n * @param attrName Name of the attribute, if the string belongs to an attribute.\n * @param sanitizeFn Sanitization function used to sanitize the string after update, if necessary.\n */\nexport function generateBindingUpdateOpCodes(\n updateOpCodes: I18nUpdateOpCodes, str: string, destinationNode: number, attrName?: string,\n sanitizeFn: SanitizerFn|null = null): number {\n ngDevMode &&\n assertGreaterThanOrEqual(\n destinationNode, HEADER_OFFSET, 'Index must be in absolute LView offset');\n const maskIndex = updateOpCodes.length; // Location of mask\n const sizeIndex = maskIndex + 1; // location of size for skipping\n updateOpCodes.push(null, null); // Alloc space for mask and size\n const startIndex = maskIndex + 2; // location of first allocation.\n if (ngDevMode) {\n attachDebugGetter(updateOpCodes, i18nUpdateOpCodesToString);\n }\n const textParts = str.split(BINDING_REGEXP);\n let mask = 0;\n\n for (let j = 0; j < textParts.length; j++) {\n const textValue = textParts[j];\n\n if (j & 1) {\n // Odd indexes are bindings\n const bindingIndex = parseInt(textValue, 10);\n updateOpCodes.push(-1 - bindingIndex);\n mask = mask | toMaskBit(bindingIndex);\n } else if (textValue !== '') {\n // Even indexes
are text\n updateOpCodes.push(textValue);\n }\n }\n\n updateOpCodes.push(\n destinationNode << I18nUpdateOpCode.SHIFT_REF |\n (attrName ? I18nUpdateOpCode.Attr : I18nUpdateOpCode.Text));\n if (attrName) {\n updateOpCodes.push(attrName, sanitizeFn);\n }\n updateOpCodes[maskIndex] = mask;\n updateOpCodes[sizeIndex] = updateOpCodes.length - startIndex;\n return mask;\n}\n\n\n/**\n * Convert binding index to mask bit.\n *\n * Each index represents a single bit on the bit-mask. Because bit-mask only has 32 bits, we make\n * the 32nd bit share all masks for all bindings higher than 32. Since it is extremely rare to\n * have more than 32 bindings this will be hit very rarely. The downside of hitting this corner\n * case is that we will execute binding code more often than necessary. (penalty of performance)\n */\nfunction toMaskBit(bindingIndex: number): number {\n return 1 << Math.min(bindingIndex, 31);\n}\n\nexport function isRootTemplateMessage(subTemplateIndex:
number): subTemplateIndex is - 1 {\n return subTemplateIndex === -1;\n}\n\n\n/**\n * Removes everything inside the sub-templates of a message.\n */\nfunction removeInnerTemplateTranslation(message: string): string {\n let match;\n let res = '';\n let index = 0;\n let inTemplate = false;\n let tagMatched;\n\n while ((match = SUBTEMPLATE_REGEXP.exec(message)) !== null) {\n if (!inTemplate) {\n res += message.substring(index, match.index + match[0].length);\n tagMatched = match[1];\n inTemplate = true;\n } else {\n if (match[0] === `${MARKER}/*${tagMatched}${MARKER}`) {\n index = match.index;\n inTemplate = false;\n }\n }\n }\n\n ngDevMode &&\n assertEqual(\n inTemplate, false,\n `Tag mismatch: unable to find the end of the sub-template in the translation \"${\n message}\"`);\n\n res += message.substr(index);\n return res;\n}\n\n\n/**\n * Extracts a part of a message and removes the rest.\n
*\n * This method is used for extracting a part of the message associated with a template. A\n * translated message can span multiple templates.\n *\n * Example:\n * ```\n * <div i18n>Translate <span *ngIf>me</span>!</div>\n * ```\n *\n * @param message The message to crop\n * @param subTemplateIndex Index of the sub-template to extract. If undefined it returns the\n * external template and removes all sub-templates.\n */\nexport function getTranslationForTemplate(message: string, subTemplateIndex: number) {\n if (isRootTemplateMessage(subTemplateIndex)) {\n // We want the root template message, ignore all sub-templates\n return removeInnerTemplateTranslation(message);\n } else {\n // We want a specific sub-template\n const start =\n message.indexOf(`:${subTemplateIndex}${MARKER}`) + 2 + subTemplateIndex.toString().length;\n const end = message.search(new RegExp(`${MARKER}\\\\/\\\\*\\\\d+:${subTemplateIndex}${MARKER}`));\n return removeInnerTemplateTranslation(message.substring(start,

```
end));\n  }\n}\n\n/**\n * Generate the OpCodes for ICU expressions.\n *\n * @param icuExpression\n * @param index Index where the anchor is stored and an optional `TIcuContainerNode`\n *   - `lView[anchorIdx]` points to a `Comment` node representing the anchor for the ICU.\n *   - `tView.data[anchorIdx]` points to the `TIcuContainerNode` if ICU is root (`null` otherwise)\n */\nexport function icuStart(\n    tView: TView, lView: LView, updateOpCodes: I18nUpdateOpCodes, parentIdx: number,\n    icuExpression: IcuExpression, anchorIdx: number) {\n  ngDevMode && assertDefined(icuExpression, 'ICU expression must be defined');\n  let bindingMask = 0;\n  const tIcu: TIcu = {\n    type: icuExpression.type,\n    currentCaseLViewIndex: allocExpando(tView, lView, 1, null),\n    anchorIdx,\n    cases: [],\n    create: [],\n    remove: [],\n    update: []\n  };\n  addUpdateIcuSwitch(updateOpCodes, icuExpression, anchorIdx);\n  setTIcu(tView, anchorIdx, tIcu);\n  const values
 = icuExpression.values;\n  for (let i = 0; i < values.length; i++) {\n    // Each value is an array of strings & other ICU expressions\n    const valueArr = values[i];\n    const nestedIcus: IcuExpression[] = [];\n    for (let j = 0; j < valueArr.length; j++) {\n      const value = valueArr[j];\n      if (typeof value !== 'string') {\n        // It is an nested ICU expression\n        const icuIndex = nestedIcus.push(value as IcuExpression) - 1;\n        // Replace nested ICU expression by a comment node\n        valueArr[j] = `<!--${icuIndex}-->`;\n      }\n    }\n    bindingMask = parseIcuCase(\n                  tView, tIcu, lView, updateOpCodes, parentIdx, icuExpression.cases[i],\n                  valueArr.join(''), nestedIcus) |\n        bindingMask;\n  }\n  if (bindingMask) {\n    addUpdateIcuUpdate(updateOpCodes, bindingMask, anchorIdx);\n  }\n}\n\n/**\n * Parses text containing an ICU expression and produces a JSON object for it.\n * Original code from closure library,
 modified for Angular.\n *\n * @param pattern Text containing an ICU expression that needs to be parsed.\n *\n */\nexport function parseICUBlock(pattern: string): IcuExpression {\n  const cases = [];\n  const values: (string|IcuExpression)[][] = [];\n  let icuType = IcuType.plural;\n  let mainBinding = 0;\n  pattern = pattern.replace(ICU_BLOCK_REGEXP, function(str: string, binding: string, type: string) {\n    if (type === 'select') {\n      icuType = IcuType.select;\n    } else {\n      icuType = IcuType.plural;\n    }\n    mainBinding = parseInt(binding.substr(1), 10);\n    return '';\n  });\n\n  const parts = i18nParseTextIntoPartsAndICU(pattern) as string[];\n  // Looking for (key block)+ sequence. One of the keys has to be \"other\".\n  for (let pos = 0; pos < parts.length;) {\n    let key = parts[pos++].trim();\n    if (icuType === IcuType.plural) {\n      // Key can be \"=x\", we just want \"x\"\n      key = key.replace(/\\s*(?:=)?(\\w+)\\s*/, '$1');\n    }\n    if (key.length)
 {\n      cases.push(key);\n    }\n\n    const blocks = i18nParseTextIntoPartsAndICU(parts[pos++]) as string[];\n    if (cases.length > values.length) {\n      values.push(blocks);\n    }\n  }\n\n  // TODO(ocombe): support ICU expressions in attributes, see #21615\n  return {type: icuType, mainBinding: mainBinding, cases, values};\n}\n\n/**\n * Breaks pattern into strings and top level {...} blocks.\n * Can be used to break a message into text and ICU expressions, or to break an ICU expression\n * into keys and cases. Original code from closure library, modified for Angular.\n *\n * @param pattern (sub)Pattern to be broken.\n * @returns An `Array<string|IcuExpression>` where:\n *   - odd positions: `string` => text between ICU expressions\n *   - even positions: `ICUExpression` => ICU expression parsed into `ICUExpression` record.\n */\nexport function i18nParseTextIntoPartsAndICU(pattern: string): (string|IcuExpression)[] {\n  if (!pattern) {\n    return [];\n  }\n\n  let prevPos
 = 0;\n  const braceStack = [];\n  const results: (string|IcuExpression)[] = [];\n  const braces = /[{}]/g;\n  // lastIndex doesn't get set to 0 so we have to.\n  braces.lastIndex = 0;\n\n  let match;\n  while (match = braces.exec(pattern)) {\n    const pos = match.index;\n    if (match[0] == '}') {\n      braceStack.pop();\n\n      if (braceStack.length == 0) {\n        // End of the block.\n        const block = pattern.substring(prevPos, pos);\n        if (ICU_BLOCK_REGEXP.test(block)) {\n          results.push(parseICUBlock(block));\n        } else {\n          results.push(block);\n        }\n\n        prevPos = pos + 1;\n      }\n    } else {\n      if (braceStack.length == 0) {\n        const substring = pattern.substring(prevPos, pos);\n        results.push(substring);\n        prevPos = pos + 1;\n      }\n      braceStack.push('{');\n    }\n  }\n\n  const substring = pattern.substring(prevPos);\n  results.push(substring);\n  return results;\n}\n\n/**\n * Parses a node, its
```

```
 children and its siblings, and generates the mutate & update OpCodes.\n *\n */\nexport function parseIcuCase(\n tView: TView, tIcu: TIcu, lView: LView, updateOpCodes: I18nUpdateOpCodes, parentIdx: number,\n    caseName: string, unsafeCaseHtml: string, nestedIcus: IcuExpression[]): number {\n  const create: IcuCreateOpCodes = [] as any;\n  const remove: I18nRemoveOpCodes = [] as any;\n  const update: I18nUpdateOpCodes = [] as any;\n  if (ngDevMode) {\n    attachDebugGetter(create, icuCreateOpCodesToString);\n    attachDebugGetter(remove, i18nRemoveOpCodesToString);\n    attachDebugGetter(update, i18nUpdateOpCodesToString);\n  }\n tIcu.cases.push(caseName);\n  tIcu.create.push(create);\n  tIcu.remove.push(remove);\n tIcu.update.push(update);\n\n  const inertBodyHelper = getInertBodyHelper(getDocument());\n  const inertBodyElement = inertBodyHelper.getInertBodyElement(unsafeCaseHtml);\n  ngDevMode &&
 assertDefined(inertBodyElement, 'Unable to generate inert body element');\n  const
 inertRootNode = getTemplateContent(inertBodyElement!) as Element || inertBodyElement;\n  if (inertRootNode)
 {\n    return walkIcuTree(\n        tView, tIcu, lView, updateOpCodes, create, remove, update, inertRootNode,
 parentIdx,\n        nestedIcus, 0);\n  } else {\n    return 0;\n  }\n}\n\nfunction walkIcuTree(\n    tView: TView, tIcu:
 TIcu, lView: LView, sharedUpdateOpCodes: I18nUpdateOpCodes,\n    create: IcuCreateOpCodes, remove:
 I18nRemoveOpCodes, update: I18nUpdateOpCodes,\n    parentNode: Element, parentIdx: number, nestedIcus:
 IcuExpression[], depth: number): number {\n  let bindingMask = 0;\n  let currentNode = parentNode.firstChild;\n
 while (currentNode) {\n    const newIndex = allocExpando(tView, lView, 1, null);\n    switch
 (currentNode.nodeType) {\n      case Node.ELEMENT_NODE:\n        const element = currentNode as Element;\n
   const tagName = element.tagName.toLowerCase();\n        if (VALID_ELEMENTS.hasOwnProperty(tagName))
 {\n          addCreateNodeAndAppend(create,
  ELEMENT_MARKER, tagName, parentIdx, newIndex);\n          tView.data[newIndex] = tagName;\n          const
 elAttrs = element.attributes;\n          for (let i = 0; i < elAttrs.length; i++) {\n            const attr = elAttrs.item(i)!;\n
     const lowerAttrName = attr.name.toLowerCase();\n            const hasBinding =
 !!attr.value.match(BINDING_REGEXP);\n            // we assume the input string is safe, unless it's using a binding\n
         if (hasBinding) {\n              if (VALID_ATTRS.hasOwnProperty(lowerAttrName)) {\n                if
 (URI_ATTRS[lowerAttrName]) {\n                  generateBindingUpdateOpCodes(\n                      update, attr.value,
 newIndex, attr.name, _sanitizeUrl);\n                } else if (SRCSET_ATTRS[lowerAttrName]) {\n
 generateBindingUpdateOpCodes(\n                      update, attr.value, newIndex, attr.name, sanitizeSrcset);\n
 } else {\n                  generateBindingUpdateOpCodes(update, attr.value,
  newIndex, attr.name);\n                }\n              } else {\n                ngDevMode &&\n                    console.warn(\n
                `WARNING: ignoring unsafe attribute value ` +\n                    `${lowerAttrName} on element
 ${tagName} ` +\n                    `(see https://g.co/ng/security#xss)`);\n              }\n            } else {\n
 addCreateAttribute(create, newIndex, attr);\n            }\n          }\n          // Parse the children of this node (if any)\n
    bindingMask = walkIcuTree(\n                        tView, tIcu, lView, sharedUpdateOpCodes, create, remove,
 update,\n                        currentNode as Element, newIndex, nestedIcus, depth + 1) |\n              bindingMask;\n
   addRemoveNode(remove, newIndex, depth);\n        }\n        break;\n      case Node.TEXT_NODE:\n        const
 value = currentNode.textContent || '';\n        const hasBinding = value.match(BINDING_REGEXP);\n
 addCreateNodeAndAppend(create,
  null, hasBinding ? '' : value, parentIdx, newIndex);\n        addRemoveNode(remove, newIndex, depth);\n        if
 (hasBinding) {\n          bindingMask = generateBindingUpdateOpCodes(update, value, newIndex) | bindingMask;\n
     }\n        break;\n      case Node.COMMENT_NODE:\n        // Check if the comment node is a placeholder for a
 nested ICU\n        const isNestedIcu = NESTED_ICU.exec(currentNode.textContent || '');\n        if (isNestedIcu) {\n
       const nestedIcuIndex = parseInt(isNestedIcu[1], 10);\n          const icuExpression: IcuExpression =
 nestedIcus[nestedIcuIndex];\n          // Create the comment node that will anchor the ICU expression\n
 addCreateNodeAndAppend(\n              create, ICU_MARKER, ngDevMode ? `nested ICU ${nestedIcuIndex}` : '',
 parentIdx,\n              newIndex);\n          icuStart(tView, lView, sharedUpdateOpCodes, parentIdx, icuExpression,
 newIndex);\n          addRemoveNestedIcu(remove, newIndex, depth);\n
```

}\n break;\n }\n currentNode = currentNode.nextSibling;\n }\n return bindingMask;\n}\n\nfunction addRemoveNode(remove: I18nRemoveOpCodes, index: number, depth: number) {\n if (depth === 0) {\n remove.push(index);\n }\n}\n\nfunction addRemoveNestedIcu(remove: I18nRemoveOpCodes, index: number, depth: number) {\n if (depth === 0) {\n remove.push(~index); // remove ICU at `index`\n remove.push(index); // remove ICU comment at `index`\n }\n}\n\nfunction addUpdateIcuSwitch(\n update: I18nUpdateOpCodes, icuExpression: IcuExpression, index: number) {\n update.push(\n toMaskBit(icuExpression.mainBinding), 2, -1 - icuExpression.mainBinding,\n index << I18nUpdateOpCode.SHIFT_REF | I18nUpdateOpCode.IcuSwitch);\n}\n\nfunction addUpdateIcuUpdate(update: I18nUpdateOpCodes, bindingMask: number, index: number) {\n update.push(bindingMask, 1, index << I18nUpdateOpCode.SHIFT_REF | I18nUpdateOpCode.IcuUpdate);\n}\n\nfunction addCreateNodeAndAppend(\n create: IcuCreateOpCodes, marker: null|ICU_MARKER|ELEMENT_MARKER, text: string,\n appendToParentIdx: number, createAtIdx: number) {\n if (marker !== null) {\n create.push(marker);\n }\n create.push(\n text, createAtIdx,\n icuCreateOpCode(IcuCreateOpCode.AppendChild, appendToParentIdx, createAtIdx));\n}\n\nfunction addCreateAttribute(create: IcuCreateOpCodes, newIndex: number, attr: Attr) {\n create.push(newIndex << IcuCreateOpCode.SHIFT_REF | IcuCreateOpCode.Attr, attr.name, attr.value);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// i18nPostprocess consts\nconst ROOT_TEMPLATE_ID = 0;\nconst PP_MULTI_VALUE_PLACEHOLDERS_REGEXP = /\\[(.+??)\\]/;\nconst PP_PLACEHOLDERS_REGEXP = /\\[(.+??)\\]|(\\/?*\\d+:\\d+)/g;\nconst PP_ICU_VARS_REGEXP = /({\\s*)(VAR_(PLURAL|SELECT)(_\\d+)?)(\\s*,)/g;\nconst PP_ICU_PLACEHOLDERS_REGEXP = /{([A-Z0-9_]+)}/g;\nconst PP_ICUS_REGEXP = /I18N_EXP_(ICU(_\\d+)?)/g;\nconst PP_CLOSE_TEMPLATE_REGEXP = /\\/*/;\nconst PP_TEMPLATE_ID_REGEXP = /\\d+\\:(\\d+)/;\n\n// Parsed placeholder structure used in postprocessing (within `i18nPostprocess` function)\n// Contains the following fields: [templateId, isCloseTemplateTag, placeholder]\ntype PostprocessPlaceholder = [number, boolean, string];\n\n\n/**\n * Handles message string post-processing for internationalization.\n *\n * Handles message string post-processing by transforming it from intermediate\n * format (that might contain some markers that we need to replace) to the final\n * form, consumable by i18nStart instruction. Post processing steps include:\n *\n * 1. Resolve all multi-value cases (like [*1:1#2:1|#4:1|5])\n * 2. Replace all ICU vars (like \"VAR_PLURAL\")\n * 3. Replace all placeholders used inside ICUs in a form of {PLACEHOLDER}\n * 4. Replace all ICU references with corresponding values (like ICU_EXP_ICU_1)\n * in case multiple ICUs have the same placeholder name\n *\n * @param message Raw translation string for post processing\n * @param replacements Set of replacements that should be applied\n *\n * @returns Transformed string that can be consumed by i18nStart instruction\n *\n * @codeGenApi\n */\nexport function i18nPostprocess(\n message: string, replacements: {[key: string]: (string|string[])} = {}): string {\n /**\n * Step 1: resolve all multi-value placeholders like [#5|*1:1#2:1|#4:1]\n *\n * Note: due to the way we process nested templates (BFS), multi-value placeholders are typically\n * grouped by templates, for example: [#5|#6|#1:1|#3:2] where #5 and #6 belong to root\n * template, #1:1 belong to nested template with index 1 and #1:2 - nested template with index\n * 3. However in real templates the order might be different: i.e. #1:1 and/or #3:2 may go in\n * front of #6. The post processing step restores the right order by keeping track of the\n * template id stack and looks for placeholders that belong to the currently active template.\n */\n let result: string = message;\n if (PP_MULTI_VALUE_PLACEHOLDERS_REGEXP.test(message)) {\n const matches: {[key: string]: PostprocessPlaceholder[]} = {};\n const templateIdsStack: number[] = [ROOT_TEMPLATE_ID];\n result = result.replace(PP_PLACEHOLDERS_REGEXP, (m: any, phs: string, tmpl: string): string => {\n const content = phs || tmpl;\n const placeholders: PostprocessPlaceholder[] = matches[content] || [];\n if (!placeholders.length) {\n content.split('|').forEach((placeholder: string) => {\n const match = placeholder.match(PP_TEMPLATE_ID_REGEXP);\n const templateId = match ? parseInt(match[1], 10) :

ROOT_TEMPLATE_ID;\n const isCloseTemplateTag = PP_CLOSE_TEMPLATE_REGEXP.test(placeholder);\n placeholders.push([templateId, isCloseTemplateTag, placeholder]);\n

});\n matches[content] = placeholders;\n }\n\n if (!placeholders.length) {\n throw new Error(`i18n postprocess: unmatched placeholder - ${content}`);\n }\n\n const currentTemplateId = templateIdsStack[templateIdsStack.length - 1];\n let idx = 0;\n // find placeholder index that matches current template id\n for (let i = 0; i < placeholders.length; i++) {\n if (placeholders[i][0] === currentTemplateId) {\n idx = i;\n break;\n }\n }\n // update template id stack based on the current tag extracted\n const [templateId, isCloseTemplateTag, placeholder] = placeholders[idx];\n if (isCloseTemplateTag) {\n templateIdsStack.pop();\n } else if (currentTemplateId !== templateId) {\n templateIdsStack.push(templateId);\n }\n // remove processed tag from the list\n placeholders.splice(idx, 1);\n return placeholder;\n });\n }\n\n // return current result
if no replacements specified\n if (!Object.keys(replacements).length) {\n return result;\n }\n\n /**\n * Step 2: replace all ICU vars (like \"VAR_PLURAL\")\n */\n result = result.replace(PP_ICU_VARS_REGEXP, (match, start, key, _type, _idx, end): string => {\n return replacements.hasOwnProperty(key) ? `${start}${replacements[key]}${end}` : match;\n });\n\n /**\n * Step 3: replace all placeholders used inside ICUs in a form of {PLACEHOLDER}\n */\n result = result.replace(PP_ICU_PLACEHOLDERS_REGEXP, (match, key): string => {\n return replacements.hasOwnProperty(key) ? replacements[key] as string : match;\n });\n\n /**\n * Step 4: replace all ICU references with corresponding values (like ICU_EXP_ICU_1) in case\n * multiple ICUs have the same placeholder name\n */\n result = result.replace(PP_ICUS_REGEXP, (match, key): string => {\n if (replacements.hasOwnProperty(key)) {\n const list = replacements[key] as string[];\n if (!list.length) {\n

throw new Error(`i18n postprocess: unmatched ICU - ${match} with key: ${key}`);\n }\n return list.shift()!;\n }\n return match;\n });\n\n return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport '../../util/ng_dev_mode';\nimport '../../util/ng_i18n_closure_mode';\n\nimport {assertDefined} from '../../util/assert';\nimport {bindingUpdated} from '../bindings';\nimport {applyCreateOpCodes, applyI18n, setMaskBit} from '../i18n/i18n_apply';\nimport {i18nAttributesFirstPass, i18nStartFirstCreatePass} from '../i18n/i18n_parse';\nimport {i18nPostprocess} from '../i18n/i18n_postprocess';\nimport {TI18n} from '../interfaces/i18n';\nimport {TElementNode, TNodeType} from '../interfaces/node';\nimport {HEADER_OFFSET, T_HOST} from '../interfaces/view';\nimport {getClosestRElement} from '../node_manipulation';\nimport {getCurrentParentTNode, getLView, getTView, nextBindingIndex, setInI18nBlock} from '../state';\nimport {getConstant} from '../util/view_utils';\n\n/**\n * Marks a block of text as translatable.\n *\n * The instructions `i18nStart` and `i18nEnd` mark the translation block in the template.\n * The translation `message` is the value which is locale specific. The translation string may\n * contain placeholders which associate inner elements and sub-templates within the translation.\n *\n * The translation `message` placeholders are:\n * - `{index}(:{block})`: *Binding Placeholder*: Marks a location where an expression will be\n * interpolated into. The placeholder `index` points to the expression binding index. An optional\n * `block` that matches the sub-template in which it was declared.\n * - `#{index}(:{block})`/`/#{index}(:{block})`: *Element Placeholder*: Marks the beginning\n * and end of DOM element that were embedded in the original translation
block. The placeholder\n * `index` points to the element index in the template instructions set. An optional `block` that\n * matches the sub-template in which it was declared.\n * - `*{index}:{block}`/`/*{index}:{block}`: *Sub-template Placeholder*: Sub-templates must be\n * split up and translated separately in each angular template function. The `index` points to the\n * `template` instruction index. A `block` that matches the sub-template in which it was declared.\n *\n * @param index A unique index of the translation in the static block.\n * @param messageIndex An index of the translation message from the `def.consts` array.\n * @param subTemplateIndex Optional sub-template index in the `message`.\n *\n * @codeGenApi\n */\nexport function i18nStart(\n index:

number, messageIndex: number, subTemplateIndex: number = -1): void {\n  const tView = getTView();\n  const lView = getLView();\n  const adjustedIndex = HEADER_OFFSET + index;\n  ngDevMode && assertDefined(tView,
 `tView should be defined`);\n  const message = getConstant<string>(tView.consts, messageIndex)!;\n  const parentTNode = getCurrentParentTNode() as TElementNode | null;\n  if (tView.firstCreatePass) {\n i18nStartFirstCreatePass(\n        tView, parentTNode === null ? 0 : parentTNode.index, lView, adjustedIndex, message,\n        subTemplateIndex);\n  }\n  const tI18n = tView.data[adjustedIndex] as TI18n;\n  const sameViewParentTNode = parentTNode === lView[T_HOST] ? null : parentTNode;\n  const parentRNode = getClosestRElement(tView, sameViewParentTNode, lView);\n  // If `parentTNode` is an `ElementContainer` than it has `<!--ng-container--->`.\n  // When we do inserts we have to make sure to insert in front of `<!--ng-container--->`.\n  const insertInFrontOf = parentTNode && (parentTNode.type & TNodeType.ElementContainer) ?\n lView[parentTNode.index] :\n      null;\n  applyCreateOpCodes(lView, tI18n.create, parentRNode, insertInFrontOf);\n  setInI18nBlock(true);\n}\n\n\n\n/**\n
 * Translates a translation block marked by `i18nStart` and `i18nEnd`. It inserts the text/ICU nodes\n * into the render tree, moves the placeholder nodes and removes the deleted nodes.\n *\n * @codeGenApi\n */\nexport function i18nEnd(): void {\n  setInI18nBlock(false);\n}\n\n/**\n *\n * Use this instruction to create a translation block that doesn't contain any placeholder.\n * It calls both {@link i18nStart} and {@link i18nEnd} in one instruction.\n *\n * The translation `message` is the value which is locale specific. The translation string may\n * contain placeholders which associate inner elements and sub-templates within the translation.\n *\n * The translation `message` placeholders are:\n * - `{index}(:{block})`: *Binding Placeholder*: Marks a location where an expression will be\n *   interpolated into. The placeholder `index` points to the expression binding index. An optional\n *   `block` that matches the sub-template in which it was declared.\n * - `#{index}(:{block})`/`/#{index}(:{block})`:
 *Element Placeholder*:  Marks the beginning\n *   and end of DOM element that were embedded in the original translation block. The placeholder\n *   `index` points to the element index in the template instructions set. An optional `block` that\n *   matches the sub-template in which it was declared.\n * - `*{index}:{block}`/`/*{index}:{block}`: *Sub-template Placeholder*: Sub-templates must be\n *   split up and translated separately in each angular template function. The `index` points to the\n *   `template` instruction index. A `block` that matches the sub-template in which it was declared.\n *\n * @param index A unique index of the translation in the static block.\n * @param messageIndex An index of the translation message from the `def.consts` array.\n * @param subTemplateIndex Optional sub-template index in the `message`.\n *\n * @codeGenApi\n */\nexport function i18n(index: number, messageIndex: number, subTemplateIndex?: number): void {\n  i18nStart(index, messageIndex, subTemplateIndex);\n  i18nEnd();\n}\n\n/**\n * Marks a list of attributes as translatable.\n *\n * @param index A unique index in the static block\n * @param values\n *\n * @codeGenApi\n */\nexport function i18nAttributes(index: number, attrsIndex: number): void {\n  const tView = getTView();\n ngDevMode && assertDefined(tView, `tView should be defined`);\n  const attrs = getConstant<string[]>(tView.consts, attrsIndex)!;\n  i18nAttributesFirstPass(tView, index + HEADER_OFFSET, attrs);\n}\n\n\n/**\n * Stores the values of the bindings during each update cycle in order to determine if we need to\n * update the translated nodes.\n *\n * @param value The binding's value\n * @returns This function returns itself so that it may be chained\n * (e.g. `i18nExp(ctx.name)(ctx.title)`)\n *\n * @codeGenApi\n */\nexport function i18nExp<T>(value: T): typeof i18nExp {\n  const lView = getLView();\n  setMaskBit(bindingUpdated(lView, nextBindingIndex(), value));\n
  return i18nExp;\n}\n\n/**\n * Updates a translation block or an i18n attribute when the bindings have changed.\n *\n * @param index Index of either {@link i18nStart} (translation block) or {@link i18nAttributes}\n * (i18n attribute) on which it should update the content.\n *\n * @codeGenApi\n */\nexport function i18nApply(index: number) {\n  applyI18n(getTView(), getLView(), index + HEADER_OFFSET);\n}\n\n/**\n * Handles message string post-processing for internationalization.\n *\n * Handles message string post-processing by transforming it from intermediate\n * format (that might contain some markers that we need to replace) to the final\n * form,

consumable by i18nStart instruction. Post processing steps include:\n *\n * 1. Resolve all multi-value cases (like [*1:1#2:1|#4:1|5])\n * 2. Replace all ICU vars (like \"VAR_PLURAL\")\n * 3. Replace all placeholders used inside ICUs in a form of {PLACEHOLDER}\n * 4. Replace all ICU references with corresponding values (like ICU_EXP_ICU_1)\n * in case multiple ICUs have the same placeholder name\n *\n * @param message Raw translation string for post processing\n * @param replacements Set of replacements that should be applied\n *\n * @returns Transformed string that can be consumed by i18nStart instruction\n *\n * @codeGenApi\n */\nexport function i18nPostprocess(\n message: string, replacements: {[key: string]: (string|string[])} = {}): string {\n return i18nPostprocess(message, replacements);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/*\n * This file re-exports all symbols contained in this directory.\n *\n * Why is this file not `index.ts`?\n *\n * There seems to be an inconsistent path resolution of an `index.ts` file\n * when only the parent directory is referenced. This could be due to the\n * node module resolution configuration differing from rollup and/or typescript.\n *\n * With commit\n * https://github.com/angular/angular/commit/d5e3f2c64bd13ce83e7c70788b7fc514ca4a9918\n * the `instructions.ts` file was moved to `instructions/instructions.ts` and an\n * `index.ts` file was used to re-export everything. Having had file names that were\n * importing from `instructions' directly (not the from the sub file or the `index.ts`\n * file) caused strange CI issues. `index.ts` had to be renamed to `all.ts` for this\n * to work.\n *\n * Jira Issue = FW-1184\n */\nexport * from './attribute';\nexport * from './attribute_interpolation';\nexport * from './change_detection';\nexport * from './template';\nexport * from './storage';\nexport * from './di';\nexport * from './di_attr';\nexport * from './element';\nexport * from './element_container';\nexport * from './get_current_view';\nexport * from './listener';\nexport * from './namespace';\nexport * from './next_context';\nexport * from './projection';\nexport * from './property';\nexport * from './property_interpolation';\nexport * from './advance';\nexport * from './styling';\nexport * from './text';\nexport * from './text_interpolation';\nexport * from './class_map_interpolation';\nexport * from './style_map_interpolation';\nexport * from './style_prop_interpolation';\nexport * from './host_property';\nexport * from './i18n';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {resolveForwardRef} from '../di/forward_ref';\nimport {ClassProvider, Provider} from '../di/interface/provider';\nimport {isClassProvider, isTypeProvider, providerToFactory} from '../di/r3_injector';\nimport {assertDefined} from '../util/assert';\n\nimport {diPublicInInjector, getNodeInjectable, getOrCreateNodeInjectorForNode} from './di';\nimport {directiveInject} from './instructions/all';\nimport {DirectiveDef} from './interfaces/definition';\nimport {NodeInjectorFactory} from './interfaces/injector';\nimport {TContainerNode, TDirectiveHostNode, TElementContainerNode, TElementNode, TNodeProviderIndexes} from './interfaces/node';\nimport {isComponentDef} from './interfaces/type_checks';\nimport {DestroyHookData, LView, TData, TVIEW, TView} from './interfaces/view';\nimport {getCurrentTNode, getLView, getTView} from './state';\n\n\n\n/**\n * Resolves the providers which are defined in the DirectiveDef.\n *\n * When inserting the tokens and the factories in their respective arrays, we can assume that\n * this method is called first for the component (if any), and then for other directives on the same\n * node.\n * As a consequence,the providers are always processed in that order:\n * 1) The view providers of the component\n * 2) The providers of the component\n * 3) The providers of the other directives\n * This matches the structure of the injectables arrays of a view (for each node).\n * So the tokens and the factories can be pushed at the end of the arrays, except\n * in one case for multi providers.\n *\n * @param def the directive definition\n * @param providers: Array of `providers`.\n * @param viewProviders: Array of `viewProviders`.\n */\nexport function providersResolver<T>(\n def: DirectiveDef<T>, providers: Provider[], viewProviders: Provider[]): void {\n const tView = getTView();\n if (tView.firstCreatePass) {\n const isComponent = isComponentDef(def);\n\n // The list of view providers is processed first, and the flags are updated\n resolveProvider(viewProviders, tView.data, tView.blueprint, isComponent, true);\n\n // Then, the list of providers is processed, and the flags are updated\n resolveProvider(providers, tView.data, tView.blueprint, isComponent, false);\n }\n}\n\n/**\n * Resolves a provider

and publishes it to the DI system.\n */\nfunction resolveProvider(\n provider: Provider, tInjectables: TData, lInjectablesBlueprint:
NodeInjectorFactory[],\n isComponent: boolean, isViewProvider: boolean): void {\n provider = resolveForwardRef(provider);\n if (Array.isArray(provider)) {\n // Recursively call `resolveProvider`\n // Recursion is OK in this case because this code will not be in hot-path once we implement\n // cloning of the initial state.\n for (let i = 0; i < provider.length; i++) {\n resolveProvider(\n provider[i], tInjectables, lInjectablesBlueprint, isComponent, isViewProvider);\n }\n } else {\n const tView = getTView();\n const lView = getLView();\n let token: any = isTypeProvider(provider) ? provider : resolveForwardRef(provider.provide);\n let providerFactory: () => any = providerToFactory(provider);\n\n const tNode = getCurrentTNode()!;\n const beginIndex = tNode.providerIndexes & TNodeProviderIndexes.ProvidersStartIndexMask;\n const endIndex = tNode.directiveStart;\n const cptViewProvidersCount =\n tNode.providerIndexes
>> TNodeProviderIndexes.CptViewProvidersCountShift;\n\n if (isTypeProvider(provider) || !provider.multi) {\n // Single provider case: the factory is created and pushed immediately\n const factory = new NodeInjectorFactory(providerFactory, isViewProvider, directiveInject);\n const existingFactoryIndex = indexOf(\n token, tInjectables, isViewProvider ? beginIndex : beginIndex + cptViewProvidersCount,\n endIndex);\n if (existingFactoryIndex === -1) {\n diPublicInInjector(\n getOrCreateNodeInjectorForNode(\n tNode as TElementNode | TContainerNode | TElementContainerNode, lView),\n tView, token);\n registerDestroyHooksIfSupported(tView, provider, tInjectables.length);\n tInjectables.push(token);\n tNode.directiveStart++;\n tNode.directiveEnd++;\n if (isViewProvider) {\n tNode.providerIndexes += TNodeProviderIndexes.CptViewProvidersCountShifter;\n }\n
lInjectablesBlueprint.push(factory);\n lView.push(factory);\n } else {\n lInjectablesBlueprint[existingFactoryIndex] = factory;\n lView[existingFactoryIndex] = factory;\n }\n } else {\n // Multi provider case:\n // We create a multi factory which is going to aggregate all the values.\n // Since the output of such a factory depends on content or view injection,\n // we create two of them, which are linked together.\n //\n // The first one (for view providers) is always in the first block of the injectables array,\n // and the second one (for providers) is always in the second block.\n // This is important because view providers have higher priority. When a multi token\n // is being looked up, the view providers should be found first.\n // Note that it is not possible to have a multi factory in the third block (directive block).\n //\n // The algorithm to process multi providers is as
follows:\n // 1) If the multi provider comes from the `viewProviders` of the component:\n // a) If the special view providers factory doesn't exist, it is created and pushed.\n // b) Else, the multi provider is added to the existing multi factory.\n // 2) If the multi provider comes from the `providers` of the component or of another\n // directive:\n // a) If the multi factory doesn't exist, it is created and provider pushed into it.\n // It is also linked to the multi factory for view providers, if it exists.\n // b) Else, the multi provider is added to the existing multi factory.\n\n const existingProvidersFactoryIndex =\n indexOf(token, tInjectables, beginIndex + cptViewProvidersCount, endIndex);\n const existingViewProvidersFactoryIndex =\n indexOf(token, tInjectables, beginIndex, beginIndex + cptViewProvidersCount);\n const doesProvidersFactoryExist = existingProvidersFactoryIndex >= 0 &&\n
lInjectablesBlueprint[existingProvidersFactoryIndex];\n const doesViewProvidersFactoryExist = existingViewProvidersFactoryIndex >= 0 &&\n lInjectablesBlueprint[existingViewProvidersFactoryIndex];\n\n if (isViewProvider && !doesViewProvidersFactoryExist ||\n !isViewProvider && !doesProvidersFactoryExist) {\n // Cases 1.a and 2.a\n diPublicInInjector(\n getOrCreateNodeInjectorForNode(\n tNode as TElementNode | TContainerNode | TElementContainerNode, lView),\n tView, token);\n const factory = multiFactory(\n isViewProvider ? multiViewProvidersFactoryResolver : multiProvidersFactoryResolver,\n lInjectablesBlueprint.length, isViewProvider, isComponent, providerFactory);\n if (!isViewProvider &&

```
doesViewProvidersFactoryExist) {\n
lInjectablesBlueprint[existingViewProvidersFactoryIndex].providerFactory = factory;\n        }\n
registerDestroyHooksIfSupported(tView,
 provider, tInjectables.length, 0);\n        tInjectables.push(token);\n        tNode.directiveStart++;\n
tNode.directiveEnd++;\n        if (isViewProvider) {\n          tNode.providerIndexes +=
TNodeProviderIndexes.CptViewProvidersCountShifter;\n        }\n        lInjectablesBlueprint.push(factory);\n
lView.push(factory);\n      } else {\n        // Cases 1.b and 2.b\n        const indexInFactory = multiFactoryAdd(\n
  lInjectablesBlueprint!\n              [isViewProvider ? existingViewProvidersFactoryIndex :\n
existingProvidersFactoryIndex],\n            providerFactory, !isViewProvider && isComponent);\n
registerDestroyHooksIfSupported(\n            tView, provider,\n            existingProvidersFactoryIndex > -1 ?
existingProvidersFactoryIndex :\n                                        existingViewProvidersFactoryIndex,\n
indexInFactory);\n      }\n      if (!isViewProvider && isComponent &&
 doesViewProvidersFactoryExist) {\n
lInjectablesBlueprint[existingViewProvidersFactoryIndex].componentProviders!++;\n      }\n    }\n  }\n}\n\n/**\n *
Registers the `ngOnDestroy` hook of a provider, if the provider supports destroy hooks.\n * @param tView `TView`
in which to register the hook.\n * @param provider Provider whose hook should be registered.\n * @param
contextIndex Index under which to find the context for the hook when it's being invoked.\n * @param
indexInFactory Only required for `multi` providers. Index of the provider in the multi\n * provider factory.\n
*/\nfunction registerDestroyHooksIfSupported(\n    tView: TView, provider: Exclude<Provider, any[]>,
contextIndex: number,\n    indexInFactory?: number) {\n  const providerIsTypeProvider =
isTypeProvider(provider);\n  if (providerIsTypeProvider || isClassProvider(provider)) {\n    const prototype =
((provider as ClassProvider).useClass || provider).prototype;\n    const ngOnDestroy = prototype.ngOnDestroy;\n
 if (ngOnDestroy) {\n      const hooks = tView.destroyHooks || (tView.destroyHooks = []);\n\n      if
(!providerIsTypeProvider && ((provider as ClassProvider)).multi) {\n        ngDevMode &&\n
assertDefined(\n              indexInFactory, 'indexInFactory when registering multi factory destroy hook');\n
const existingCallbacksIndex = hooks.indexOf(contextIndex);\n\n        if (existingCallbacksIndex === -1) {\n
hooks.push(contextIndex, [indexInFactory, ngOnDestroy]);\n        } else {\n          (hooks[existingCallbacksIndex +
1] as DestroyHookData).push(indexInFactory!, ngOnDestroy);\n        }\n      } else {\n
hooks.push(contextIndex, ngOnDestroy);\n      }\n    }\n  }\n}\n\n/**\n * Add a factory in a multi factory.\n *
@returns Index at which the factory was inserted.\n */\nfunction multiFactoryAdd(\n    multiFactory:
NodeInjectorFactory, factory: () => any, isComponentProvider: boolean): number {\n  if (isComponentProvider) {\n
  multiFactory.componentProviders!++;\n
  }\n  return multiFactory.multi!.push(factory) - 1;\n}\n\n/**\n * Returns the index of item in the array, but only in
the begin to end range.\n */\nfunction indexOf(item: any, arr: any[], begin: number, end: number) {\n  for (let i =
begin; i < end; i++) {\n    if (arr[i] === item) return i;\n  }\n  return -1;\n}\n\n/**\n * Use this with `multi`
`providers`.\n */\nfunction multiProvidersFactoryResolver(\n    this: NodeInjectorFactory, _: undefined, tData:
TData, lData: LView,\n    tNode: TDirectiveHostNode): any[] {\n  return multiResolve(this.multi!, []);\n}\n\n/**\n *
Use this with `multi` `viewProviders`.\n *\n * This factory knows how to concatenate itself with the existing `multi`
`providers`.\n */\nfunction multiViewProvidersFactoryResolver(\n    this: NodeInjectorFactory, _: undefined, tData:
TData, lView: LView,\n    tNode: TDirectiveHostNode): any[] {\n  const factories = this.multi!;\n  let result:
any[];\n  if (this.providerFactory) {\n    const componentCount
 = this.providerFactory.componentProviders!;\n    const multiProviders =\n        getNodeInjectable(lView,
lView[TVIEW], this.providerFactory!.index!, tNode);\n    // Copy the section of the array which contains `multi`
`providers` from the component\n    result = multiProviders.slice(0, componentCount);\n    // Insert the
`viewProvider` instances.\n    multiResolve(factories, result);\n    // Copy the section of the array which contains
`multi` `providers` from other directives\n    for (let i = componentCount; i < multiProviders.length; i++) {\n
result.push(multiProviders[i]);\n    }\n  } else {\n    result = [];\n    // Insert the `viewProvider` instances.\n
multiResolve(factories, result);\n  }\n  return result;\n}\n\n/**\n * Maps an array of factories into an array of
```

values.\n */\nfunction multiResolve(factories: Array<() => any>, result: any[]): any[] {\n  for (let i = 0; i < factories.length; i++) {\n    const factory = factories[i]! as () => null;\n    result.push(factory());\n  }\n  return result;\n}\n\n/**\n * Creates a multi factory.\n */\nfunction multiFactory(\n    factoryFn: (\n        this: NodeInjectorFactory, _: undefined, tData: TData, lData: LView,\n        tNode: TDirectiveHostNode) => any,\n    index: number, isViewProvider: boolean, isComponent: boolean,\n    f: () => any): NodeInjectorFactory {\n  const factory = new NodeInjectorFactory(factoryFn, isViewProvider, directiveInject);\n  factory.multi = [];\n  factory.index = index;\n  factory.componentProviders = 0;\n  multiFactoryAdd(factory, f, isComponent && !isViewProvider);\n  return factory;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {ProcessProvidersFunction, Provider} from '../../di/interface/provider';\nimport {providersResolver} from '../di_setup';\nimport {DirectiveDef} from '../interfaces/definition';\n\n/**\n
 * This feature resolves the providers of a directive (or component),\n * and publish them into the DI system, making it visible to others for injection.\n *\n * For example:\n * ```ts\n * class ComponentWithProviders {\n *   constructor(private greeter: GreeterDE) {}\n *\n *   static cmp = defineComponent({\n *     type: ComponentWithProviders,\n *     selectors: [['component-with-providers']],\n *     factory: () => new ComponentWithProviders(directiveInject(GreeterDE as any)),\n *     decls: 1,\n *     vars: 1,\n *     template: function(fs: RenderFlags, ctx: ComponentWithProviders) {\n *       if (fs & RenderFlags.Create) {\n *         text(0);\n *       }\n *       if (fs & RenderFlags.Update) {\n *         textInterpolate(ctx.greeter.greet());\n *       }\n *     },\n *     features: [ProvidersFeature([GreeterDE])]\n *   });\n * }\n * ```\n *\n * @param definition\n *\n * @codeGenApi\n */\nexport function ProvidersFeature<T>(providers: Provider[], viewProviders: Provider[]
 = []) {\n  return (definition: DirectiveDef<T>) => {\n    definition.providersResolver =\n        (def: DirectiveDef<T>, processProvidersFn?: ProcessProvidersFunction) => {\n          return providersResolver(\n              def,  //\n              processProvidersFn ? processProvidersFn(providers) : providers,  //\n              viewProviders);\n        };\n  };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef} from '../change_detection/change_detection';\nimport {Injector} from '../di/injector';\nimport {Type} from '../interface/type';\n\nimport {ElementRef} from './element_ref';\nimport {NgModuleRef} from './ng_module_factory';\nimport {ViewRef} from './view_ref';\n\n/**\n * Represents a component created by a `ComponentFactory`.\n
 * Provides access to the component instance and related objects,\n * and provides the means of destroying the instance.\n *\n * @publicApi\n */\nexport abstract class ComponentRef<C> {\n  /**\n   * The host or anchor [element](guide/glossary#element) for this component instance.\n   */\n  abstract get location(): ElementRef;\n\n  /**\n   * The [dependency injector](guide/glossary#injector) for this component instance.\n   */\n  abstract get injector(): Injector;\n\n  /**\n   * This component instance.\n   */\n  abstract get instance(): C;\n\n  /**\n   * The [host view](guide/glossary#view-tree) defined by the template\n   * for this component instance.\n   */\n  abstract get hostView(): ViewRef;\n\n  /**\n   * The change detector for this component instance.\n   */\n  abstract get changeDetectorRef(): ChangeDetectorRef;\n\n  /**\n   * The type of this component (as created by a `ComponentFactory` class).\n   */\n  abstract get componentType(): Type<any>;\n\n  /**\n   * Destroys the component instance and all of the data structures associated with it.\n   */\n  abstract destroy(): void;\n\n  /**\n   * A lifecycle hook that provides additional developer-defined cleanup\n   * functionality for the component.\n   * @param callback A handler function that cleans up developer-defined data\n   * associated with this component. Called when the `destroy()` method is invoked.\n   */\n  abstract onDestroy(callback: Function): void;\n}\n\n/**\n * Base class for a factory that can create a component dynamically.\n * Instantiate a factory for a given type of component with `resolveComponentFactory()`.\n * Use the resulting `ComponentFactory.create()` method to create a component of that type.\n *\n * @see [Dynamic Components](guide/dynamic-component-loader)\n *\n * @publicApi\n */\nexport abstract class ComponentFactory<C> {\n  /**\n   * The component's HTML selector.\n

*/\n  abstract get selector(): string;\n  /**\n   * The type of component the factory will create.\n   */\n  abstract get componentType(): Type<any>;\n  /**\n   * Selector for all <ng-content> elements in the component.\n   */\n  abstract get ngContentSelectors(): string[];\n  /**\n   * The inputs of the component.\n   */\n  abstract get inputs(): {propName: string, templateName: string}[];\n  /**\n   * The outputs of the component.\n   */\n  abstract get outputs(): {propName: string, templateName: string}[];\n  /**\n   * Creates a new component.\n   */\n  abstract create(\n      injector: Injector, projectableNodes?: any[][], rootSelectorOrNode?: string|any,\n      ngModule?: NgModuleRef<any>): ComponentRef<C>;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../di/injector';\nimport {Type} from '../interface/type';\nimport {stringify} from '../util/stringify';\n\nimport {ComponentFactory, ComponentRef}
 from './component_factory';\nimport {NgModuleRef} from './ng_module_factory';\n\nexport function noComponentFactoryError(component: Function) {\n  const error = Error(`No component factory found for ${\n      stringify(component)}. Did you add it to @NgModule.entryComponents?`);\n  (error as any)[ERROR_COMPONENT] = component;\n  return error;\n}\n\nconst ERROR_COMPONENT = 'ngComponent';\n\nexport function getComponent(error: Error): Type<any> {\n  return (error as any)[ERROR_COMPONENT];\n}\n\n\nclass _NullComponentFactoryResolver implements ComponentFactoryResolver {\n  resolveComponentFactory<T>(component: {new(...args: any[]): T}):
 ComponentFactory<T> {\n    throw noComponentFactoryError(component);\n  }\n}\n\n/**\n * A simple registry that maps `Components` to generated `ComponentFactory` classes\n * that can be used to create instances of components.\n * Use to obtain the factory for a given component type,\n * then use the factory's `create()` method to create a component
 of that type.\n *\n * @see [Dynamic Components](guide/dynamic-component-loader)\n * @publicApi\n */\nexport abstract class ComponentFactoryResolver {\n  static NULL: ComponentFactoryResolver = new _NullComponentFactoryResolver();\n  /**\n   * Retrieves the factory object that creates a component of the given type.\n   * @param component The component type.\n   */\n  abstract resolveComponentFactory<T>(component: Type<T>): ComponentFactory<T>;\n}\n\nexport class CodegenComponentFactoryResolver implements ComponentFactoryResolver {\n  private _factories = new Map<any, ComponentFactory<any>>();\n\n  constructor(\n      factories: ComponentFactory<any>[], private _parent: ComponentFactoryResolver,\n      private _ngModule: NgModuleRef<any>) {\n    for (let i = 0; i < factories.length; i++) {\n      const factory = factories[i];\n      this._factories.set(factory.componentType, factory);\n    }\n  }\n\n  resolveComponentFactory<T>(component: {new(...args: any[]): T}): ComponentFactory<T>
 {\n    let factory = this._factories.get(component);\n    if (!factory && this._parent) {\n      factory = this._parent.resolveComponentFactory(component);\n    }\n    if (!factory) {\n      throw noComponentFactoryError(component);\n    }\n    return new ComponentFactoryBoundToModule(factory, this._ngModule);\n  }\n}\n\nexport class ComponentFactoryBoundToModule<C> extends ComponentFactory<C> {\n  readonly selector: string;\n  readonly componentType: Type<any>;\n  readonly ngContentSelectors: string[];\n  readonly inputs: {propName: string, templateName: string}[];\n  readonly outputs: {propName: string, templateName: string}[];\n\n  constructor(private factory: ComponentFactory<C>, private ngModule: NgModuleRef<any>) {\n    super();\n    this.selector = factory.selector;\n    this.componentType = factory.componentType;\n    this.ngContentSelectors = factory.ngContentSelectors;\n    this.inputs = factory.inputs;\n    this.outputs = factory.outputs;\n  }\n\n  create(\n      injector:
 Injector, projectableNodes?: any[][], rootSelectorOrNode?: string|any,\n      ngModule?: NgModuleRef<any>):
 ComponentRef<C> {\n    return this.factory.create(\n        injector, projectableNodes, rootSelectorOrNode, ngModule || this.ngModule);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function noop(...args: any[]): any {\n  // Do nothing.\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {TNode} from

'../render3/interfaces/node';\nimport {RElement} from '../render3/interfaces/renderer_dom';\nimport {LView} from '../render3/interfaces/view';\nimport {getCurrentTNode, getLView} from '../render3/state';\nimport {getNativeByTNode} from
'../render3/util/view_utils';\nimport {noop} from '../util/noop';\n\n/**\n * Creates an ElementRef from the most recent node.\n *\n * @returns The ElementRef instance to use\n */\nexport function injectElementRef(): ElementRef {\n return createElementRef(getCurrentTNode()!, getLView());\n}\n\n/**\n * Creates an ElementRef given a node.\n *\n * @param tNode The node for which you'd like an ElementRef\n * @param lView The view to which the node belongs\n * @returns The ElementRef instance to use\n */\nexport function createElementRef(tNode: TNode, lView: LView): ElementRef {\n return new ElementRef(getNativeByTNode(tNode, lView) as RElement);\n}\n\nexport const SWITCH_ELEMENT_REF_FACTORY__POST_R3__ = injectElementRef;\nconst SWITCH_ELEMENT_REF_FACTORY__PRE_R3__ = noop;\nconst SWITCH_ELEMENT_REF_FACTORY: typeof injectElementRef = SWITCH_ELEMENT_REF_FACTORY__PRE_R3__;\n\n/**\n * A wrapper around a native element inside of a View.\n *\n * An `ElementRef` is backed by a render-specific
element. In the browser, this is usually a DOM\n * element.\n *\n * @security Permitting direct access to the DOM can make your application more vulnerable to\n * XSS attacks. Carefully review any use of `ElementRef` in your code. For more detail, see the\n * [Security Guide](https://g.co/ng/security).\n *\n * @publicApi\n */\n// Note: We don't expose things like `Injector`, `ViewContainer`, ... here,\n// i.e. users have to ask for what they need. With that, we can build better analysis tools\n// and could do better codegen in the future.\nexport class ElementRef<T = any> {\n /**\n * The underlying native element or `null` if direct access to native elements is not supported\n * (e.g. when the application runs in a web worker).\n *\n * <div class=\"callout is-critical\">\n * <header>Use with caution</header>\n * \n * Use this API as the last resort when direct access to DOM is needed. Use templating and\n * data-binding provided by Angular instead. Alternatively
you can take a look at {@link\n * Renderer2}\n * which provides API that can safely be used even when direct access to native elements is not\n * supported.\n * \n * \n * Relying on direct DOM access creates tight coupling between your application and rendering\n * layers which will make it impossible to separate the two and deploy your application into a\n * web worker.\n * \n * \n *\n */\n public nativeElement: T;\n\n constructor(nativeElement: T) {\n this.nativeElement = nativeElement;\n }\n\n /**\n * @internal\n * @nocollapse\n */\n static __NG_ELEMENT_ID__: () => ElementRef = SWITCH_ELEMENT_REF_FACTORY;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from '../di/injection_token';\nimport {isProceduralRenderer}
from '../render3/interfaces/renderer';\nimport {isLView} from '../render3/interfaces/type_checks';\nimport {LView, RENDERER} from '../render3/interfaces/view';\nimport {getCurrentTNode, getLView} from '../render3/state';\nimport {getComponentLViewByIndex} from '../render3/util/view_utils';\nimport {noop} from '../util/noop';\nimport {RendererStyleFlags2, RendererType2} from './api_flags';\n\n\nexport const Renderer2Interceptor = new InjectionToken<Renderer2[]>('Renderer2Interceptor');\n\n\n/**\n * Creates and initializes a custom renderer that implements the `Renderer2` base class.\n *\n * @publicApi\n */\nexport abstract class RendererFactory2 {\n /**\n * Creates and initializes a custom renderer for a host DOM element.\n * @param hostElement The element to render.\n * @param type The base class to implement.\n * @returns The new custom renderer instance.\n */\n abstract createRenderer(hostElement: any, type: RendererType2|null): Renderer2;\n /**\n * A callback invoked
when rendering has begun.\n */\n abstract begin?(): void;\n /**\n * A callback invoked when rendering has completed.\n */\n abstract end?(): void;\n /**\n * Use with animations test-only mode. Notifies the test when rendering has completed.\n * @returns The asynchronous result of the developer-defined function.\n */\n abstract whenRenderingDone?(): Promise<any>;\n}\n\n\n/**\n * Extend this base class to implement custom rendering. By default, Angular\n * renders a template into DOM. You can use custom rendering to intercept\n * rendering calls, or

to render to something other than DOM.\n *\n * Create your custom renderer using `RendererFactory2`.\n *\n * Use a custom renderer to bypass Angular's templating and\n * make custom UI changes that can't be expressed declaratively.\n * For example if you need to set a property or an attribute whose name is\n * not statically known, use the `setProperty()` or\n * `setAttribute()` method.\n *\n * @publicApi\n */\nexport abstract class Renderer2 {\n /**\n * Use to store arbitrary developer-defined data on a renderer instance,\n * as an object containing key-value pairs.\n * This is useful for renderers that delegate to other renderers.\n */\n abstract get data(): {[key: string]: any};\n\n /**\n * Implement this callback to destroy the renderer or the host element.\n */\n abstract destroy(): void;\n /**\n * Implement this callback to create an instance of the host element.\n * @param name An identifying name for the new element, unique within the namespace.\n * @param namespace The namespace for the new element.\n * @returns The new element.\n */\n abstract createElement(name: string, namespace?: string|null): any;\n /**\n * Implement this callback to add a comment to the DOM of the host element.\n * @param value The comment text.\n * @returns The modified element.\n */\n abstract createComment(value: string): any;\n\n /**\n * Implement this callback to add text to the DOM of the host element.\n * @param value The text string.\n * @returns The modified element.\n */\n abstract createText(value: string): any;\n /**\n * If null or undefined, the view engine won't call it.\n * This is used as a performance optimization for production mode.\n */\n // TODO(issue/24571): remove '!'.\n destroyNode!: ((node: any) => void)|null;\n /**\n * Appends a child to a given parent node in the host element DOM.\n * @param parent The parent node.\n * @param newChild The new child node.\n */\n abstract appendChild(parent: any, newChild: any): void;\n /**\n * Implement this callback to insert a child node at a given position in a parent node\n * in the host element DOM.\n * @param parent The parent node.\n * @param newChild The new child nodes.\n * @param refChild The existing child node before which `newChild` is inserted.\n * @param isMove Optional argument which signifies if the current `insertBefore` is a result of a\n * move. Animation uses this information to trigger move animations. In the past the Animation\n * would always assume that any `insertBefore` is a move. This is not strictly true because\n * with runtime i18n it is possible to invoke `insertBefore` as a result of i18n and it should\n * not trigger an animation move.\n */\n abstract insertBefore(parent: any, newChild: any, refChild: any, isMove?: boolean): void;\n /**\n * Implement this callback to remove a child node from the host element's DOM.\n * @param parent The parent node.\n * @param oldChild The child node to remove.\n * @param isHostElement Optionally signal to the renderer whether this element is a host element\n * or not\n */\n abstract removeChild(parent: any, oldChild: any, isHostElement?: boolean): void;\n /**\n * Implement this callback to prepare an element to be bootstrapped\n * as a root element, and return the element instance.\n * @param selectorOrNode The DOM element.\n * @param preserveContent Whether the contents of the root element\n * should be preserved, or cleared upon bootstrap (default behavior).\n * Use with `ViewEncapsulation.ShadowDom` to allow simple native\n * content projection via `<slot>` elements.\n * @returns The root element.\n */\n abstract selectRootElement(selectorOrNode: string|any, preserveContent?: boolean): any;\n /**\n * Implement this callback to get the parent of a given node\n * in the host element's DOM.\n * @param node The child node to query.\n * @returns The parent node, or null if there is no parent.\n * For WebWorkers, always returns true.\n * This is because the check is synchronous,\n * and the caller can't rely on checking for null.\n */\n abstract parentNode(node: any): any;\n /**\n * Implement this callback to get the next sibling node of a given node\n * in the host element's DOM.\n * @returns The sibling node, or null if there is no sibling.\n * For WebWorkers, always returns a value.\n * This is because the check is synchronous,\n * and the caller can't rely on checking for null.\n */\n abstract nextSibling(node: any): any;\n /**\n * Implement this callback to set an attribute value for an element in the DOM.\n * @param el The element.\n * @param name The attribute name.\n * @param value The new value.\n * @param namespace The namespace.\n */\n abstract setAttribute(el: any, name: string, value: string, namespace?: string|null): void;\n\n /**\n * Implement this callback to remove an attribute from an element in the DOM.\n * @param el The element.\n * @param name The attribute name.\n * @param namespace The namespace.\n */\n abstract removeAttribute(el: any, name: string, namespace?: string|null): void;\n /**\n * Implement this callback to add a class to an element in the DOM.\n * @param el The element.\n * @param name

The class name.\n */\n abstract addClass(el: any, name: string): void;\n\n /**\n * Implement this callback to remove a class from an element in the DOM.\n * @param el The element.\n * @param name The class name.\n */\n abstract removeClass(el: any, name: string): void;\n\n /**\n * Implement this callback to set a CSS style for an element in the DOM.\n * @param el The element.\n * @param style The name of the style.\n * @param value The new value.\n * @param flags Flags for style variations. No flags are set by default.\n */\n abstract setStyle(el: any, style: string, value: any, flags?: RendererStyleFlags2): void;\n\n /**\n * Implement this callback to remove the value from a CSS style for an element in the DOM.\n * @param el The element.\n * @param style The name of the style.\n * @param flags Flags for style variations to remove, if set. ???\n */\n abstract removeStyle(el: any, style: string, flags?: RendererStyleFlags2): void;\n\n /**\n * Implement this callback to set the value of a property of an element in the DOM.\n * @param el The element.\n * @param name The property name.\n * @param value The new value.\n */\n abstract setProperty(el: any, name: string, value: any): void;\n\n /**\n * Implement this callback to set the value of a node in the host element.\n * @param node The node.\n * @param value The new value.\n */\n abstract setValue(node: any, value: string): void;\n\n /**\n * Implement this callback to start an event listener.\n * @param target The context in which to listen for events. Can be\n * the entire window or document, the body of the document, or a specific\n * DOM element.\n * @param eventName The event to listen for.\n * @param callback A handler function to invoke when the event occurs.\n * @returns An \"unlisten\" function for disposing of this handler.\n */\n abstract listen(\n target: 'window'|'document'|'body'|any, eventName: string,\n callback: (event: any) => boolean | void): () => void;\n\n /**\n * @internal\n * @nocollapse\n */\n static __NG_ELEMENT_ID__: () => Renderer2 = () => SWITCH_RENDERER2_FACTORY();\n}\n\n\nexport const SWITCH_RENDERER2_FACTORY__POST_R3__ = injectRenderer2;\nconst SWITCH_RENDERER2_FACTORY__PRE_R3__ = noop;\nconst SWITCH_RENDERER2_FACTORY: typeof injectRenderer2 = SWITCH_RENDERER2_FACTORY__PRE_R3__;\n\n/** Returns a Renderer2 (or throws when application was bootstrapped with Renderer3) */\nfunction getOrCreateRenderer2(lView: LView): Renderer2 {\n const renderer = lView[RENDERER];\n if (ngDevMode && !isProceduralRenderer(renderer)) {\n throw new Error('Cannot inject Renderer2 when the application uses Renderer3!');\n }\n return renderer as Renderer2;\n}\n\n/** Injects a Renderer2 for the current component. */\nexport function injectRenderer2(): Renderer2 {\n // We need the Renderer to be based on the component that it's being injected into, however since\n // DI happens before we've entered its view, `getLView` will return the parent view instead.\n const lView = getLView();\n const tNode = getCurrentTNode()!;\n const nodeAtIndex = getComponentLViewByIndex(tNode.index, lView);\n return getOrCreateRenderer2(isLView(nodeAtIndex) ? nodeAtIndex : lView);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {defineInjectable} from '../di/interface/defs';\nimport {SecurityContext} from './security';\n\n/**\n * Sanitizer is used by the views to sanitize potentially dangerous values.\n *\n * @publicApi\n */\nexport abstract class Sanitizer {\n abstract sanitize(context: SecurityContext, value: {}|string|null): string|null;\n /** @nocollapse */\n static prov = defineInjectable({\n token: Sanitizer,\n providedIn: 'root',\n factory: () => null,\n });\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license\n that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @description Represents the version of Angular\n *\n * @publicApi\n */\nexport class Version {\n public readonly major: string;\n public readonly minor: string;\n public readonly patch: string;\n\n constructor(public full: string) {\n this.major = full.split('.')[0];\n this.minor = full.split('.')[1];\n this.patch = full.split('.').slice(2).join('.');\n }\n}\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {stringify} from '../../util/stringify';\nimport {isListLikeIterable, iterateListLike} from '../change_detection_util';\n\nimport {IterableChangeRecord, IterableChanges, IterableDiffer, IterableDifferFactory, NgIterable, TrackByFunction}

```
from './iterable_differs';\n\n\nexport class DefaultIterableDifferFactory implements IterableDifferFactory {\n constructor() {}\n  supports(obj: Object|null|undefined): boolean {\n    return isListLikeIterable(obj);\n  }\n\n create<V>(trackByFn?: TrackByFunction<V>): DefaultIterableDiffer<V> {\n    return new DefaultIterableDiffer<V>(trackByFn);\n  }\n}\n\nconst trackByIdentity = (index: number, item: any) => item;\n\n/**\n * @deprecated v4.0.0 - Should not be part of public API.\n * @publicApi\n */\nexport class DefaultIterableDiffer<V> implements IterableDiffer<V>, IterableChanges<V> {\n  public readonly length: number = 0;\n  // TODO(issue/24571): remove '!'.\n  public readonly collection!: V[]|Iterable<V>|null;\n  // Keeps track of the used records at any point in time (during & across `_check()` calls)\n  private _linkedRecords: _DuplicateMap<V>|null = null;\n  // Keeps track of the removed records at any point in time during `_check()` calls.\n  private _unlinkedRecords: _DuplicateMap<V>|null
 = null;\n  private _previousItHead: IterableChangeRecord_<V>|null = null;\n  private _itHead: IterableChangeRecord_<V>|null = null;\n  private _itTail: IterableChangeRecord_<V>|null = null;\n  private _additionsHead: IterableChangeRecord_<V>|null = null;\n  private _additionsTail: IterableChangeRecord_<V>|null = null;\n  private _movesHead: IterableChangeRecord_<V>|null = null;\n  private _movesTail: IterableChangeRecord_<V>|null = null;\n  private _removalsHead: IterableChangeRecord_<V>|null = null;\n  private _removalsTail: IterableChangeRecord_<V>|null = null;\n  // Keeps track of records where custom track by is the same, but item identity has changed\n  private _identityChangesHead: IterableChangeRecord_<V>|null = null;\n  private _identityChangesTail: IterableChangeRecord_<V>|null = null;\n  private _trackByFn: TrackByFunction<V>;\n\n  constructor(trackByFn?: TrackByFunction<V>) {\n    this._trackByFn = trackByFn || trackByIdentity;\n  }\n\n  forEachItem(fn: (record:
 IterableChangeRecord_<V>) => void) {\n    let record: IterableChangeRecord_<V>|null;\n    for (record = this._itHead; record !== null; record = record._next) {\n      fn(record);\n    }\n  }\n\n  forEachOperation(\n      fn: (item: IterableChangeRecord<V>, previousIndex: number|null, currentIndex: number|null) =>\n          void) {\n    let nextIt = this._itHead;\n    let nextRemove = this._removalsHead;\n    let addRemoveOffset = 0;\n    let moveOffsets: number[]|null = null;\n    while (nextIt || nextRemove) {\n      // Figure out which is the next record to process\n      // Order: remove, add, move\n      const record: IterableChangeRecord<V> = !nextRemove ||\n              nextIt &&\n          nextIt.currentIndex! <\n              getPreviousIndex(nextRemove, addRemoveOffset, moveOffsets) ?\n  nextIt! :\n          nextRemove;\n      const adjPreviousIndex = getPreviousIndex(record, addRemoveOffset, moveOffsets);\n      const currentIndex = record.currentIndex;\n\n
      // consume the item, and adjust the addRemoveOffset and update moveDistance if necessary\n      if (record === nextRemove) {\n        addRemoveOffset--;\n        nextRemove = nextRemove._nextRemoved;\n      } else {\n        nextIt = nextIt!._next;\n        if (record.previousIndex == null) {\n          addRemoveOffset++;\n        } else {\n          // INVARIANT:  currentIndex < previousIndex\n          if (!moveOffsets) moveOffsets = [];\n          const localMovePreviousIndex = adjPreviousIndex - addRemoveOffset;\n          const localCurrentIndex = currentIndex! - addRemoveOffset;\n          if (localMovePreviousIndex != localCurrentIndex) {\n            for (let i = 0; i < localMovePreviousIndex; i++) {\n              const offset = i < moveOffsets.length ? moveOffsets[i] : (moveOffsets[i] = 0);\n              const index = offset + i;\n              if (localCurrentIndex <= index && index < localMovePreviousIndex) {\n                moveOffsets[i] = offset + 1;\n              }\n            }\n            const previousIndex = record.previousIndex;\n            moveOffsets[previousIndex] = localCurrentIndex - localMovePreviousIndex;\n          }\n        }\n      }\n\n      if (adjPreviousIndex !== currentIndex) {\n        fn(record, adjPreviousIndex, currentIndex);\n      }\n    }\n  }\n\n  forEachPreviousItem(fn: (record: IterableChangeRecord_<V>) => void) {\n    let record: IterableChangeRecord_<V>|null;\n    for (record = this._previousItHead; record !== null; record = record._nextPrevious) {\n      fn(record);\n    }\n  }\n\n  forEachAddedItem(fn: (record: IterableChangeRecord_<V>) => void) {\n    let record: IterableChangeRecord_<V>|null;\n    for (record = this._additionsHead; record !== null; record = record._nextAdded) {\n      fn(record);\n    }\n  }\n\n  forEachMovedItem(fn: (record: IterableChangeRecord_<V>) => void) {\n    let record: IterableChangeRecord_<V>|null;\n    for (record = this._movesHead; record !== null; record = record._nextMoved)
```

```
 {\n      fn(record);\n    }\n  }\n\n  forEachRemovedItem(fn: (record: IterableChangeRecord_<V>) => void) {\n    let record: IterableChangeRecord_<V>|null;\n    for (record = this._removalsHead; record !== null; record = record._nextRemoved) {\n      fn(record);\n    }\n  }\n\n  forEachIdentityChange(fn: (record: IterableChangeRecord_<V>) => void) {\n    let record: IterableChangeRecord_<V>|null;\n    for (record = this._identityChangesHead; record !== null; record = record._nextIdentityChange) {\n      fn(record);\n    }\n  }\n\n  diff(collection: NgIterable<V>|null|undefined): DefaultIterableDiffer<V>|null {\n    if (collection == null) collection = [];\n    if (!isListLikeIterable(collection)) {\n      throw new Error(\n          `Error trying to diff '${stringify(collection)}'. Only arrays and iterables are allowed`);\n    }\n\n    if (this.check(collection)) {\n      return this;\n    } else {\n      return null;\n    }\n  }\n\n  onDestroy() {}\n\n  check(collection: NgIterable<V>): boolean {\n    this._reset();\n\n    let record: IterableChangeRecord_<V>|null = this._itHead;\n    let mayBeDirty: boolean = false;\n    let index: number;\n    let item: V;\n    let itemTrackBy: any;\n    if (Array.isArray(collection)) {\n      (this as {length: number}).length = collection.length;\n\n      for (let index = 0; index < this.length; index++) {\n        item = collection[index];\n        itemTrackBy = this._trackByFn(index, item);\n        if (record === null || !Object.is(record.trackById, itemTrackBy)) {\n          record = this._mismatch(record, item, itemTrackBy, index);\n          mayBeDirty = true;\n        } else {\n          if (mayBeDirty) {\n            // TODO(misko): can we limit this to duplicates only?\n            record = this._verifyReinsertion(record, item, itemTrackBy, index);\n          }\n          if (!Object.is(record.item, item)) this._addIdentityChange(record, item);\n        }\n\n        record = record._next;\n      }\n    } else {\n      index = 0;\n      iterateListLike(collection, (item: V) => {\n        itemTrackBy = this._trackByFn(index, item);\n        if (record === null || !Object.is(record.trackById, itemTrackBy)) {\n          record = this._mismatch(record, item, itemTrackBy, index);\n          mayBeDirty = true;\n        } else {\n          if (mayBeDirty) {\n            // TODO(misko): can we limit this to duplicates only?\n            record = this._verifyReinsertion(record, item, itemTrackBy, index);\n          }\n          if (!Object.is(record.item, item)) this._addIdentityChange(record, item);\n        }\n        record = record._next;\n        index++;\n      });\n      (this as {length: number}).length = index;\n    }\n\n    this._truncate(record);\n    (this as {collection: V[] | Iterable<V>}).collection = collection;\n    return this.isDirty;\n  }\n\n  /* CollectionChanges is considered dirty if it has any additions, moves, removals, or identity\n   * changes.\n   */\n  get isDirty(): boolean {\n    return this._additionsHead !== null || this._movesHead !== null ||\n        this._removalsHead !== null || this._identityChangesHead !== null;\n  }\n\n  /**\n   * Reset the state of the change objects to show no changes. This means set previousKey to\n   * currentKey, and clear all of the queues (additions, moves, removals).\n   * Set the previousIndexes of moved and added items to their currentIndexes\n   * Reset the list of additions, moves and removals\n   *\n   * @internal\n   */\n  _reset() {\n    if (this.isDirty) {\n      let record: IterableChangeRecord_<V>|null;\n\n      for (record = this._previousItHead = this._itHead; record !== null; record = record._next) {\n        record._nextPrevious = record._next;\n      }\n\n      for (record = this._additionsHead; record !== null; record = record._nextAdded) {\n        record.previousIndex = record.currentIndex;\n      }\n      this._additionsHead = this._additionsTail = null;\n\n      for (record = this._movesHead; record !== null; record = record._nextMoved) {\n        record.previousIndex = record.currentIndex;\n      }\n      this._movesHead = this._movesTail = null;\n      this._removalsHead = this._removalsTail = null;\n      this._identityChangesHead = this._identityChangesTail = null;\n\n      // TODO(vicb): when assert gets supported\n      // assert(!this.isDirty);\n    }\n  }\n\n  /**\n   * This is the core function which handles differences between collections.\n   *\n   * - `record` is the record which we saw at this position last time. If null then it is a new\n   *   item.\n   * - `item` is the current item in the collection\n   * - `index` is the position of the item in the collection\n   *\n   * @internal\n   */\n  _mismatch(record: IterableChangeRecord_<V>|null, item: V, itemTrackBy: any, index: number):\n      IterableChangeRecord_<V> {\n    // The previous record after which we will append the current one.\n    let previousRecord: IterableChangeRecord_<V>|null;\n\n    if (record === null) {\n      previousRecord = this._itTail;\n    } else {\n      previousRecord = record._prev;\n      // Remove the record from the collection since we know it does not match the item.\n      this._remove(record);\n    }\n\n    // Attempt to see if we have seen the item before.\n    record = this._linkedRecords === null ? null :
```

this._linkedRecords.get(itemTrackBy, index);\n if (record !== null) {\n // We have seen this before, we need to move it forward in the collection.\n // But first we need to check if identity changed, so we can update in view if necessary\n if (!Object.is(record.item, item)) this._addIdentityChange(record, item);\n\n this._moveAfter(record, previousRecord, index);\n } else {\n // Never seen it, check evicted list.\n record = this._unlinkedRecords === null ? null : this._unlinkedRecords.get(itemTrackBy, null);\n if (record !== null) {\n // It is an item which we have evicted earlier: reinsert it back into the list.\n // But first we need to check if identity changed, so we can update in view if necessary\n if (!Object.is(record.item, item)) this._addIdentityChange(record, item);\n\n this._reinsertAfter(record, previousRecord, index);\n } else {\n // It is a new item: add it.\n record =\n this._addAfter(new IterableChangeRecord_<V>(item, itemTrackBy), previousRecord, index);\n }\n }\n return record;\n }\n\n /**\n * This check is only needed if an array contains duplicates. (Short circuit of nothing dirty)\n *\n * Use case: `[a, a]` => `[b, a, a]`\n *\n * If we did not have this check then the insertion of `b` would:\n * 1) evict first `a`\n * 2) insert `b` at `0` index.\n * 3) leave `a` at index `1` as is. <-- this is wrong!\n * 3) reinsert `a` at index 2. <-- this is wrong!\n *\n * The correct behavior is:\n * 1) evict first `a`\n * 2) insert `b` at `0` index.\n * 3) reinsert `a` at index 1.\n * 3) move `a` at from `1` to `2`.\n *\n *\n * Double check that we have not evicted a duplicate item. We need to check if the item type may\n * have already been removed:\n * The insertion of b will evict the first 'a'. If we don't reinsert it now it will be reinserted\n * at the end. Which will show up as the two 'a's switching position. This is incorrect, since a\n * better way to think of it is as insert of 'b' rather then switch 'a' with 'b' and then add 'a'\n * at the end.\n *\n * @internal\n */\n _verifyReinsertion(record: IterableChangeRecord_<V>, item: V, itemTrackBy: any, index: number):\n IterableChangeRecord_<V> {\n let reinsertRecord: IterableChangeRecord_<V>|null =\n this._unlinkedRecords === null ? null : this._unlinkedRecords.get(itemTrackBy, null);\n if (reinsertRecord !== null) {\n record = this._reinsertAfter(reinsertRecord, record._prev!, index);\n } else if (record.currentIndex != index) {\n record.currentIndex = index;\n this._addToMoves(record, index);\n }\n return record;\n }\n\n /**\n * Get rid of any excess {@link IterableChangeRecord_}s from the previous collection\n *\n * - `record` The first excess {@link IterableChangeRecord_}.\n *\n * @internal\n */\n _truncate(record: IterableChangeRecord_<V>|null) {\n // Anything after that needs to be removed;\n while (record !== null) {\n const nextRecord: IterableChangeRecord_<V>|null = record._next;\n this._addToRemovals(this._unlink(record));\n record = nextRecord;\n }\n if (this._unlinkedRecords !== null) {\n this._unlinkedRecords.clear();\n }\n\n if (this._additionsTail !== null) {\n this._additionsTail._nextAdded = null;\n }\n if (this._movesTail !== null) {\n this._movesTail._nextMoved = null;\n }\n if (this._itTail !== null) {\n this._itTail._next = null;\n }\n if (this._removalsTail !== null) {\n this._removalsTail._nextRemoved = null;\n }\n if (this._identityChangesTail !== null) {\n this._identityChangesTail._nextIdentityChange = null;\n }\n }\n\n /** @internal */\n _reinsertAfter(\n record: IterableChangeRecord_<V>, prevRecord: IterableChangeRecord_<V>|null,\n index: number): IterableChangeRecord_<V> {\n if (this._unlinkedRecords !== null) {\n this._unlinkedRecords.remove(record);\n }\n const prev = record._prevRemoved;\n const next = record._nextRemoved;\n\n\n if (prev === null) {\n this._removalsHead = next;\n } else {\n prev._nextRemoved = next;\n }\n if (next === null) {\n this._removalsTail = prev;\n } else {\n next._prevRemoved = prev;\n }\n\n this._insertAfter(record, prevRecord, index);\n this._addToMoves(record, index);\n return record;\n }\n\n /** @internal */\n _moveAfter(\n record: IterableChangeRecord_<V>, prevRecord: IterableChangeRecord_<V>|null,\n index: number): IterableChangeRecord_<V> {\n this._unlink(record);\n this._insertAfter(record, prevRecord, index);\n this._addToMoves(record, index);\n return record;\n }\n\n /** @internal */\n _addAfter(\n record: IterableChangeRecord_<V>, prevRecord: IterableChangeRecord_<V>|null,\n index: number): IterableChangeRecord_<V> {\n this._insertAfter(record, prevRecord, index);\n\n\n if (this._additionsTail === null) {\n // TODO(vicb):\n // assert(this._additionsHead === null);\n this._additionsTail = this._additionsHead = record;\n } else {\n // TODO(vicb):\n //

```
assert(_additionsTail._nextAdded === null);\n      // assert(record._nextAdded === null);\n      this._additionsTail =
this._additionsTail._nextAdded = record;\n    }\n    return record;\n  }\n\n  /** @internal */\n  _insertAfter(\n
record: IterableChangeRecord_<V>, prevRecord: IterableChangeRecord_<V>|null,\n      index: number):
IterableChangeRecord_<V> {\n    // TODO(vicb):\n    // assert(record != prevRecord);\n
   // assert(record._next === null);\n    // assert(record._prev === null);\n\n    const next:
IterableChangeRecord_<V>|null =\n        prevRecord === null ? this._itHead : prevRecord._next;\n    //
TODO(vicb):\n    // assert(next != record);\n    // assert(prevRecord != record);\n    record._next = next;\n
record._prev = prevRecord;\n    if (next === null) {\n      this._itTail = record;\n    } else {\n      next._prev =
record;\n    }\n    if (prevRecord === null) {\n      this._itHead = record;\n    } else {\n      prevRecord._next =
record;\n    }\n\n    if (this._linkedRecords === null) {\n      this._linkedRecords = new _DuplicateMap<V>();\n
}\n    this._linkedRecords.put(record);\n\n    record.currentIndex = index;\n    return record;\n  }\n\n  /** @internal
*/\n  _remove(record: IterableChangeRecord_<V>): IterableChangeRecord_<V> {\n    return
this._addToRemovals(this._unlink(record));\n  }\n\n  /** @internal */\n  _unlink(record:
IterableChangeRecord_<V>): IterableChangeRecord_<V>
 {\n    if (this._linkedRecords !== null) {\n      this._linkedRecords.remove(record);\n    }\n\n    const prev =
record._prev;\n    const next = record._next;\n\n    // TODO(vicb):\n    // assert((record._prev = null) === null);\n    //
assert((record._next = null) === null);\n\n    if (prev === null) {\n      this._itHead = next;\n    } else {\n
prev._next = next;\n    }\n    if (next === null) {\n      this._itTail = prev;\n    } else {\n      next._prev = prev;\n
}\n\n    return record;\n  }\n\n  /** @internal */\n  _addToMoves(record: IterableChangeRecord_<V>, toIndex:
number): IterableChangeRecord_<V> {\n    // TODO(vicb):\n    // assert(record._nextMoved === null);\n\n    if
(record.previousIndex === toIndex) {\n      return record;\n    }\n\n    if (this._movesTail === null) {\n      //
TODO(vicb):\n      // assert(_movesHead === null);\n      this._movesTail = this._movesHead = record;\n    } else
{\n      // TODO(vicb):\n      // assert(_movesTail._nextMoved
 === null);\n      this._movesTail = this._movesTail._nextMoved = record;\n    }\n\n    return record;\n  }\n\n  private
_addToRemovals(record: IterableChangeRecord_<V>): IterableChangeRecord_<V> {\n    if (this._unlinkedRecords
=== null) {\n      this._unlinkedRecords = new _DuplicateMap<V>();\n    }\n    this._unlinkedRecords.put(record);\n
  record.currentIndex = null;\n    record._nextRemoved = null;\n\n    if (this._removalsTail === null) {\n      //
TODO(vicb):\n      // assert(_removalsHead === null);\n      this._removalsTail = this._removalsHead = record;\n
record._prevRemoved = null;\n    } else {\n      // TODO(vicb):\n      // assert(_removalsTail._nextRemoved ===
null);\n      // assert(record._nextRemoved === null);\n      record._prevRemoved = this._removalsTail;\n
this._removalsTail = this._removalsTail._nextRemoved = record;\n    }\n    return record;\n  }\n\n  /** @internal
*/\n  _addIdentityChange(record: IterableChangeRecord_<V>, item: V) {\n
   record.item = item;\n    if (this._identityChangesTail === null) {\n      this._identityChangesTail =
this._identityChangesHead = record;\n    } else {\n      this._identityChangesTail =
this._identityChangesTail._nextIdentityChange = record;\n    }\n    return record;\n  }\n}\n\nexport class
IterableChangeRecord_<V> implements IterableChangeRecord<V> {\n  currentIndex: number|null = null;\n
previousIndex: number|null = null;\n\n  /** @internal */\n  _nextPrevious: IterableChangeRecord_<V>|null =
null;\n  /** @internal */\n  _prev: IterableChangeRecord_<V>|null = null;\n  /** @internal */\n  _next:
IterableChangeRecord_<V>|null = null;\n  /** @internal */\n  _prevDup: IterableChangeRecord_<V>|null = null;\n
/** @internal */\n  _nextDup: IterableChangeRecord_<V>|null = null;\n  /** @internal */\n  _prevRemoved:
IterableChangeRecord_<V>|null = null;\n  /** @internal */\n  _nextRemoved: IterableChangeRecord_<V>|null =
null;\n  /** @internal */\n  _nextAdded: IterableChangeRecord_<V>|null
 = null;\n  /** @internal */\n  _nextMoved: IterableChangeRecord_<V>|null = null;\n  /** @internal */\n
_nextIdentityChange: IterableChangeRecord_<V>|null = null;\n\n\n  constructor(public item: V, public trackById:
any) {}\n}\n\n// A linked list of IterableChangeRecords with the same IterableChangeRecord_.item\nclass
_DuplicateItemRecordList<V> {\n  /** @internal */\n  _head: IterableChangeRecord_<V>|null = null;\n  /**
@internal */\n  _tail: IterableChangeRecord_<V>|null = null;\n\n  /**\n   * Append the record to the list of
duplicates.\n   *\n   * Note: by design all records in the list of duplicates hold the same value in record.item.\n   */\n
```

add(record: IterableChangeRecord_<V>): void {\n  if (this._head === null) {\n  this._head = this._tail = record;\n  record._nextDup = null;\n  record._prevDup = null;\n  } else {\n  // TODO(vicb):\n  // assert(record.item ==  _head.item ||\n  //  record.item is num && record.item.isNaN && _head.item is num && _head.item.isNaN);\n  this._tail!._nextDup = record;\n  record._prevDup = this._tail;\n  record._nextDup = null;\n  this._tail = record;\n  }\n  }\n\n  // Returns a IterableChangeRecord_ having IterableChangeRecord_.trackById == trackById and\n  // IterableChangeRecord_.currentIndex >= atOrAfterIndex\n  get(trackById: any, atOrAfterIndex: number|null): IterableChangeRecord_<V>|null {\n  let record: IterableChangeRecord_<V>|null;\n  for (record = this._head; record !== null; record = record._nextDup) {\n  if ((atOrAfterIndex === null || atOrAfterIndex <= record.currentIndex!) &&\n  Object.is(record.trackById, trackById)) {\n  return record;\n  }\n  }\n  return null;\n  }\n\n  /**\n  * Remove one {@link IterableChangeRecord_} from the list of duplicates.\n  *\n  * Returns whether the list of duplicates is empty.\n  */\n  remove(record: IterableChangeRecord_<V>): boolean {\n  // TODO(vicb):\n  // assert(() {\n  //  // verify that the record being removed is in the list.\n  //  for (IterableChangeRecord_ cursor = _head; cursor != null; cursor = cursor._nextDup) {\n  //  if (identical(cursor, record)) return true;\n  //  }\n  //  return false;\n  //});\n\n  const prev: IterableChangeRecord_<V>|null = record._prevDup;\n  const next: IterableChangeRecord_<V>|null = record._nextDup;\n  if (prev === null) {\n  this._head = next;\n  } else {\n  prev._nextDup = next;\n  }\n  if (next === null) {\n  this._tail = prev;\n  } else {\n  next._prevDup = prev;\n  }\n  return this._head === null;\n  }\n}\n\nclass _DuplicateMap<V> {\n  map = new Map<any, _DuplicateItemRecordList<V>>();\n\n  put(record: IterableChangeRecord_<V>) {\n  const key = record.trackById;\n\n  let duplicates = this.map.get(key);\n  if (!duplicates) {\n  duplicates = new _DuplicateItemRecordList<V>();\n  this.map.set(key, duplicates);\n  }\n  duplicates.add(record);\n  }\n\n  /**\n  *  Retrieve the `value` using key. Because the IterableChangeRecord_ value may be one which we\n  * have already iterated over, we use the `atOrAfterIndex` to pretend it is not there.\n  *\n  * Use case: `[a, b, c, a, a]` if we are at index `3` which is the second `a` then asking if we\n  * have any more `a`s needs to return the second `a`.\n  */\n  get(trackById: any, atOrAfterIndex: number|null): IterableChangeRecord_<V>|null {\n  const key = trackById;\n  const recordList = this.map.get(key);\n  return recordList ? recordList.get(trackById, atOrAfterIndex) : null;\n  }\n\n  /**\n  * Removes a {@link IterableChangeRecord_} from the list of duplicates.\n  *\n  * The list of duplicates also is removed from the map if it gets empty.\n  */\n  remove(record: IterableChangeRecord_<V>): IterableChangeRecord_<V> {\n  const key = record.trackById;\n  const recordList: _DuplicateItemRecordList<V> = this.map.get(key)!;\n  // Remove the list of duplicates when it gets empty\n  if (recordList.remove(record)) {\n  this.map.delete(key);\n  }\n  return record;\n  }\n\n  get isEmpty(): boolean {\n  return this.map.size === 0;\n  }\n\n  clear() {\n  this.map.clear();\n  }\n}\n\nfunction getPreviousIndex(item: any, addRemoveOffset: number, moveOffsets: number[]|null): number {\n  const previousIndex = item.previousIndex;\n  if (previousIndex === null) return previousIndex;\n  let moveOffset = 0;\n  if (moveOffsets && previousIndex < moveOffsets.length) {\n  moveOffset = moveOffsets[previousIndex];\n  }\n  return previousIndex + addRemoveOffset + moveOffset;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {stringify} from '../../util/stringify';\nimport {isJsObject} from '../change_detection_util';\nimport {KeyValueChangeRecord, KeyValueChanges, KeyValueDiffer, KeyValueDifferFactory}
 from './keyvalue_differs';\n\n\nexport class DefaultKeyValueDifferFactory<K, V> implements KeyValueDifferFactory {\n  constructor() {}\n  supports(obj: any): boolean {\n  return obj instanceof Map || isJsObject(obj);\n  }\n\n  create<K, V>(): KeyValueDiffer<K, V> {\n  return new DefaultKeyValueDiffer<K, V>();\n  }\n}\n\nexport class DefaultKeyValueDiffer<K, V> implements KeyValueDiffer<K, V>, KeyValueChanges<K, V> {\n  private _records = new Map<K, KeyValueChangeRecord_<K, V>>();\n  private _mapHead: KeyValueChangeRecord_<K, V>|null = null;\n  // _appendAfter is used in the check loop\n  private _appendAfter: KeyValueChangeRecord_<K, V>|null = null;\n  private _previousMapHead: KeyValueChangeRecord_<K, V>|null = null;\n  private _changesHead: KeyValueChangeRecord_<K, V>|null =

```
null;\n  private _changesTail: KeyValueChangeRecord_<K, V>|null = null;\n  private _additionsHead:
KeyValueChangeRecord_<K, V>|null = null;\n  private _additionsTail: KeyValueChangeRecord_<K, V>|null
 = null;\n  private _removalsHead: KeyValueChangeRecord_<K, V>|null = null;\n  private _removalsTail:
KeyValueChangeRecord_<K, V>|null = null;\n\n  get isDirty(): boolean {\n    return this._additionsHead !== null ||
this._changesHead !== null ||\n        this._removalsHead !== null;\n  }\n\n  forEachItem(fn: (r:
KeyValueChangeRecord<K, V>) => void) {\n    let record: KeyValueChangeRecord_<K, V>|null;\n    for (record =
this._mapHead; record !== null; record = record._next) {\n      fn(record);\n    }\n  }\n\n  forEachPreviousItem(fn: (r:
KeyValueChangeRecord<K, V>) => void) {\n    let record: KeyValueChangeRecord_<K, V>|null;\n    for (record =
this._previousMapHead; record !== null; record = record._nextPrevious) {\n      fn(record);\n    }\n  }\n\n
forEachChangedItem(fn: (r: KeyValueChangeRecord<K, V>) => void) {\n    let record:
KeyValueChangeRecord_<K, V>|null;\n    for (record = this._changesHead; record !== null; record =
record._nextChanged) {\n      fn(record);\n    }\n  }\n\n
  forEachAddedItem(fn: (r: KeyValueChangeRecord<K, V>) => void) {\n    let record:
KeyValueChangeRecord_<K, V>|null;\n    for (record = this._additionsHead; record !== null; record =
record._nextAdded) {\n      fn(record);\n    }\n  }\n\n  forEachRemovedItem(fn: (r: KeyValueChangeRecord<K, V>)
=> void) {\n    let record: KeyValueChangeRecord_<K, V>|null;\n    for (record = this._removalsHead; record !==
null; record = record._nextRemoved) {\n      fn(record);\n    }\n  }\n\n  diff(map?: Map<any, any>|{[k: string]:
any}|null): any {\n    if (!map) {\n      map = new Map();\n    } else if (!(map instanceof Map || isJsObject(map))) {\n
   throw new Error(\n          `Error trying to diff '${stringify(map)}'. Only maps and objects are allowed`);\n    }\n\n
return this.check(map) ? this : null;\n  }\n\n  onDestroy() {}\n\n  /**\n   * Check the current state of the map vs the
previous.\n   * The algorithm is optimised for when the keys do no change.\n   */\n  check(map: Map<any, any>|{[k:
 string]: any}): boolean {\n    this._reset();\n\n    let insertBefore = this._mapHead;\n    this._appendAfter = null;\n\n
 this._forEach(map, (value: any, key: any) => {\n      if (insertBefore && insertBefore.key === key) {\n
this._maybeAddToChanges(insertBefore, value);\n        this._appendAfter = insertBefore;\n        insertBefore =
insertBefore._next;\n      } else {\n        const record = this._getOrCreateRecordForKey(key, value);\n
insertBefore = this._insertBeforeOrAppend(insertBefore, record);\n      }\n    });\n\n    // Items remaining at the end
of the list have been deleted\n    if (insertBefore) {\n      if (insertBefore._prev) {\n        insertBefore._prev._next =
null;\n      }\n\n      this._removalsHead = insertBefore;\n\n      for (let record: KeyValueChangeRecord_<K, V>|null
= insertBefore; record !== null;\n           record = record._nextRemoved) {\n        if (record === this._mapHead) {\n
      this._mapHead = null;\n        }\n        this._records.delete(record.key);\n
        record._nextRemoved = record._next;\n        record.previousValue = record.currentValue;\n
record.currentValue = null;\n        record._prev = null;\n        record._next = null;\n      }\n    }\n\n    // Make sure
tails have no next records from previous runs\n    if (this._changesTail) this._changesTail._nextChanged = null;\n
if (this._additionsTail) this._additionsTail._nextAdded = null;\n\n    return this.isDirty;\n  }\n\n  /**\n   * Inserts a
record before `before` or append at the end of the list when `before` is null.\n   *\n   * Notes:\n   * - This method
appends at `this._appendAfter`,\n   * - This method updates `this._appendAfter`,\n   * - The return value is the new
value for the insertion pointer.\n   */\n  private _insertBeforeOrAppend(\n      before: KeyValueChangeRecord_<K,
V>|null,\n      record: KeyValueChangeRecord_<K, V>): KeyValueChangeRecord_<K, V>|null {\n    if (before) {\n
   const prev = before._prev;\n
 record._next = before;\n      record._prev = prev;\n      before._prev = record;\n      if (prev) {\n        prev._next =
record;\n      }\n      if (before === this._mapHead) {\n        this._mapHead = record;\n      }\n\n      this._appendAfter
= before;\n      return before;\n    }\n\n    if (this._appendAfter) {\n      this._appendAfter._next = record;\n
record._prev = this._appendAfter;\n    } else {\n      this._mapHead = record;\n    }\n\n    this._appendAfter =
record;\n    return null;\n  }\n\n  private _getOrCreateRecordForKey(key: K, value: V):
KeyValueChangeRecord_<K, V> {\n    if (this._records.has(key)) {\n      const record = this._records.get(key)!;\n
this._maybeAddToChanges(record, value);\n      const prev = record._prev;\n      const next = record._next;\n      if
(prev) {\n        prev._next = next;\n      }\n      if (next) {\n        next._prev = prev;\n      }\n      record._next = null;\n
  record._prev = null;\n\n      return record;\n    }\n\n
```

const record = new KeyValueChangeRecord_<K, V>(key);\n this._records.set(key, record);\n record.currentValue = value;\n this._addToAdditions(record);\n return record;\n }\n\n /** @internal */\n _reset() {\n if (this.isDirty) {\n let record: KeyValueChangeRecord_<K, V>|null;\n // let `_previousMapHead` contain the state of the map before the changes\n this._previousMapHead = this._mapHead;\n for (record = this._previousMapHead; record !== null; record = record._next) {\n record._nextPrevious = record._next;\n }\n\n // Update `record.previousValue` with the value of the item before the changes\n // We need to update all changed items (that's those which have been added and changed)\n for (record = this._changesHead; record !== null; record = record._nextChanged) {\n record.previousValue = record.currentValue;\n }\n for (record = this._additionsHead; record != null; record = record._nextAdded) {\n record.previousValue
= record.currentValue;\n }\n\n this._changesHead = this._changesTail = null;\n this._additionsHead = this._additionsTail = null;\n this._removalsHead = null;\n }\n }\n\n // Add the record or a given key to the list of changes only when the value has actually changed\n private _maybeAddToChanges(record: KeyValueChangeRecord_<K, V>, newValue: any): void {\n if (!Object.is(newValue, record.currentValue)) {\n record.previousValue = record.currentValue;\n record.currentValue = newValue;\n this._addToChanges(record);\n }\n }\n\n private _addToAdditions(record: KeyValueChangeRecord_<K, V>) {\n if (this._additionsHead === null) {\n this._additionsHead = this._additionsTail = record;\n } else {\n this._additionsTail!._nextAdded = record;\n this._additionsTail = record;\n }\n }\n\n private _addToChanges(record: KeyValueChangeRecord_<K, V>) {\n if (this._changesHead === null) {\n this._changesHead
= this._changesTail = record;\n } else {\n this._changesTail!._nextChanged = record;\n this._changesTail = record;\n }\n }\n\n /** @internal */\n private _forEach<K, V>(obj: Map<K, V>|{[k: string]: V}, fn: (v: V, k: any) => void) {\n if (obj instanceof Map) {\n obj.forEach(fn);\n } else {\n Object.keys(obj).forEach(k => fn(obj[k], k));\n }\n }\n}\n\nclass KeyValueChangeRecord_<K, V> implements KeyValueChangeRecord<K, V> {\n previousValue: V|null = null;\n currentValue: V|null = null;\n\n /** @internal */\n _nextPrevious: KeyValueChangeRecord_<K, V>|null = null;\n /** @internal */\n _next: KeyValueChangeRecord_<K, V>|null = null;\n /** @internal */\n _prev: KeyValueChangeRecord_<K, V>|null = null;\n /** @internal */\n _nextAdded: KeyValueChangeRecord_<K, V>|null = null;\n /** @internal */\n _nextRemoved: KeyValueChangeRecord_<K, V>|null = null;\n /** @internal */\n _nextChanged: KeyValueChangeRecord_<K, V>|null = null;\n\n constructor(public
key: K) {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {defineInjectable} from '../../di/interface/defs';\nimport {StaticProvider} from '../../di/interface/provider';\nimport {Optional, SkipSelf} from '../../di/metadata';\nimport {DefaultIterableDifferFactory} from '../differs/default_iterable_differ';\n\n\n\n/**\n * A type describing supported iterable types.\n *\n * @publicApi\n */\nexport type NgIterable<T> = Array<T>|Iterable<T>;\n\n/**\n * A strategy for tracking changes over time to an iterable. Used by {@link NgForOf} to\n * respond to changes in an iterable by effecting equivalent changes in the DOM.\n *\n * @publicApi\n */\nexport interface IterableDiffer<V> {\n /**\n * Compute a difference between the previous state and the new `object` state.\n *\n * @param object containing the new value.\n * @returns an object describing the difference. The return value is only valid until the next\n * `diff()` invocation.\n */\n diff(object: NgIterable<V>|undefined|null): IterableChanges<V>|null;\n}\n\n/**\n * An object describing the changes in the `Iterable` collection since last time\n * `IterableDiffer#diff()` was invoked.\n *\n * @publicApi\n */\nexport interface IterableChanges<V> {\n /**\n * Iterate over all changes. `IterableChangeRecord` will contain information about changes\n * to each item.\n */\n forEachItem(fn: (record: IterableChangeRecord<V>) => void): void;\n\n /**\n * Iterate over a set of operations which when applied to the original `Iterable` will produce the\n * new `Iterable`.\n *\n * NOTE: These are not necessarily the actual operations which were applied to the original\n * `Iterable`, rather these are a set of computed operations which may not be the same as the\n * ones applied.\n *\n * @param record A change which

needs to be applied\n * @param previousIndex The `IterableChangeRecord#previousIndex` of the `record` refers to the\n * original `Iterable` location, where as `previousIndex` refers to the transient location\n * of the item, after applying the operations up to this point.\n * @param currentIndex The `IterableChangeRecord#currentIndex` of the `record` refers to the\n * original `Iterable` location, where as `currentIndex` refers to the transient location\n * of the item, after applying the operations up to this point.\n */\n forEachOperation(\n fn:\n (record: IterableChangeRecord<V>, previousIndex: number|null,\n currentIndex: number|null) => void): void;\n\n /**\n * Iterate over changes in the order of original `Iterable` showing where the original items\n * have moved.\n */\n forEachPreviousItem(fn: (record: IterableChangeRecord<V>) => void): void;\n\n /** Iterate over all added items. */\n forEachAddedItem(fn: (record: IterableChangeRecord<V>) => void): void;\n\n /** Iterate over all moved items. */\n forEachMovedItem(fn: (record: IterableChangeRecord<V>) => void): void;\n\n /** Iterate over all removed items. */\n forEachRemovedItem(fn: (record: IterableChangeRecord<V>) => void): void;\n\n /**\n * Iterate over all items which had their identity (as computed by the `TrackByFunction`)\n * changed.\n */\n forEachIdentityChange(fn: (record: IterableChangeRecord<V>) => void): void;\n}\n\n/**\n * Record representing the item change information.\n *\n * @publicApi\n */\nexport interface IterableChangeRecord<V> {\n /** Current index of the item in `Iterable` or null if removed. */\n readonly currentIndex: number|null;\n\n /** Previous index of the item in `Iterable` or null if added. */\n readonly previousIndex: number|null;\n\n /** The item. */\n readonly item: V;\n\n /** Track by identity as computed by the `TrackByFunction`. */\n readonly trackById: any;\n}\n\n/**\n * An

optional function passed into the `NgForOf` directive that defines how to track\n * changes for items in an iterable.\n * The function takes the iteration index and item ID.\n * When supplied, Angular tracks changes by the return value of the function.\n *\n * @publicApi\n */\nexport interface TrackByFunction<T> {\n (index: number, item: T): any;\n}\n\n/**\n * Provides a factory for {@link IterableDiffer}.\n *\n * @publicApi\n */\nexport interface IterableDifferFactory {\n supports(objects: any): boolean;\n create<V>(trackByFn?: TrackByFunction<V>): IterableDiffer<V>;\n}\n\n/**\n * A repository of different iterable diffing strategies used by NgFor, NgClass, and others.\n *\n * @publicApi\n */\nexport class IterableDiffers {\n /** @nocollapse */\n static prov = defineInjectable({\n token: IterableDiffers,\n providedIn: 'root',\n factory: () => new IterableDiffers([new DefaultIterableDifferFactory()])\n });\n\n /**\n * @deprecated v4.0.0 - Should be private\n */\n

factories: IterableDifferFactory[];\n constructor(factories: IterableDifferFactory[]) {\n this.factories = factories;\n }\n\n static create(factories: IterableDifferFactory[], parent?: IterableDiffers): IterableDiffers {\n if (parent != null) {\n const copied = parent.factories.slice();\n factories = factories.concat(copied);\n }\n\n return new IterableDiffers(factories);\n }\n\n /**\n * Takes an array of {@link IterableDifferFactory} and returns a provider used to extend the\n * inherited {@link IterableDiffers} instance with the provided factories and return a new\n * {@link IterableDiffers} instance.\n *\n * @usageNotes\n * ### Example\n *\n * The following example shows how to extend an existing list of factories,\n * which will only be applied to the injector for this component and its children.\n * This step is all that's required to make a new {@link IterableDiffer} available.\n *\n * ```\n * @Component({\n * viewProviders:

[\n * IterableDiffers.extend([new ImmutableListDiffer()])\n * ]\n * })\n * ```\n */\n static extend(factories: IterableDifferFactory[]): StaticProvider {\n return {\n provide: IterableDiffers,\n useFactory: (parent: IterableDiffers) => {\n if (!parent) {\n // Typically would occur when calling IterableDiffers.extend inside of dependencies passed\n // to\n // bootstrap(), which would override default pipes instead of extending them.\n throw new Error('Cannot extend IterableDiffers without a parent injector');\n }\n return IterableDiffers.create(factories, parent);\n },\n // Dependency technically isn't optional, but we can provide a better error message this way.\n deps: [[IterableDiffers, new SkipSelf(), new Optional()]]\n };\n }\n\n find(iterable: any): IterableDifferFactory {\n const factory = this.factories.find(f => f.supports(iterable));\n if (factory != null) {\n

```
return factory;\n    } else {\n      throw new Error(`Cannot find a differ supporting object '${iterable}' of type '${\n        getTypeNameForDebugging(iterable)}'`);\n    }\n  }\n}\n\nexport function getTypeNameForDebugging(type: any): string {\n  return type['name'] || typeof type;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Optional, SkipSelf, StaticProvider, defineInjectable} from '../../di';\nimport {DefaultKeyValueDifferFactory} from './default_keyvalue_differ';\n\n\n/**\n * A differ that tracks changes made to an object over time.\n *\n * @publicApi\n */\nexport interface KeyValueDiffer<K, V> {\n  /**\n   * Compute a difference between the previous state and the new `object` state.\n   *\n   * @param object containing the new value.\n   * @returns an object describing the difference. The return\n  value is only valid until the next\n   * `diff()` invocation.\n   */\n  diff(object: Map<K, V>): KeyValueChanges<K, V>|null;\n\n  /**\n   * Compute a difference between the previous state and the new `object` state.\n   *\n   * @param object containing the new value.\n   * @returns an object describing the difference. The return value is only valid until the next\n   * `diff()` invocation.\n   */\n  diff(object: {[key: string]: V}): KeyValueChanges<string, V>|null;\n  // TODO(TS2.1): diff<KP extends string>(this: KeyValueDiffer<KP, V>, object: Record<KP, V>):\n  // KeyValueDiffer<KP, V>;\n}\n\n/**\n * An object describing the changes in the `Map` or `{[k:string]: string}` since last time\n * `KeyValueDiffer#diff()` was invoked.\n *\n * @publicApi\n */\nexport interface KeyValueChanges<K, V> {\n  /**\n   * Iterate over all changes. `KeyValueChangeRecord` will contain information about changes\n   * to each item.\n   */\n  forEachItem(fn: (r: KeyValueChangeRecord<K, V>) => void): void;\n\n  /**\n   * Iterate over changes in the order of original Map showing where the original items\n   * have moved.\n   */\n  forEachPreviousItem(fn: (r: KeyValueChangeRecord<K, V>) => void): void;\n\n  /**\n   * Iterate over all keys for which values have changed.\n   */\n  forEachChangedItem(fn: (r: KeyValueChangeRecord<K, V>) => void): void;\n\n  /**\n   * Iterate over all added items.\n   */\n  forEachAddedItem(fn: (r: KeyValueChangeRecord<K, V>) => void): void;\n\n  /**\n   * Iterate over all removed items.\n   */\n  forEachRemovedItem(fn: (r: KeyValueChangeRecord<K, V>) => void): void;\n}\n\n/**\n * Record representing the item change information.\n *\n * @publicApi\n */\nexport interface KeyValueChangeRecord<K, V> {\n  /**\n   * Current key in the Map.\n   */\n  readonly key: K;\n\n  /**\n   * Current value for the key or `null` if removed.\n   */\n  readonly currentValue: V|null;\n\n  /**\n   * Previous value for the key or `null` if added.\n   */\n  readonly previousValue: V|null;\n}\n\n/**\n\n * Provides a factory for {@link KeyValueDiffer}.\n *\n * @publicApi\n */\nexport interface KeyValueDifferFactory {\n  /**\n   * Test to see if the differ knows how to diff this kind of object.\n   */\n  supports(objects: any): boolean;\n\n  /**\n   * Create a `KeyValueDiffer`.\n   */\n  create<K, V>(): KeyValueDiffer<K, V>;\n}\n\n/**\n * A repository of different Map diffing strategies used by NgClass, NgStyle, and others.\n *\n * @publicApi\n */\nexport class KeyValueDiffers {\n  /** @nocollapse */\n  static prov = defineInjectable({\n    token: KeyValueDiffers,\n    providedIn: 'root',\n    factory: () => new KeyValueDiffers([new DefaultKeyValueDifferFactory()])\n  });\n\n  /**\n   * @deprecated v4.0.0 - Should be private.\n   */\n  factories: KeyValueDifferFactory[];\n\n  constructor(factories: KeyValueDifferFactory[]) {\n    this.factories = factories;\n  }\n\n  static create<S>(factories: KeyValueDifferFactory[], parent?: KeyValueDiffers): KeyValueDiffers {\n    if (parent) {\n      const copied = parent.factories.slice();\n      factories = factories.concat(copied);\n    }\n    return new KeyValueDiffers(factories);\n  }\n\n  /**\n   * Takes an array of {@link KeyValueDifferFactory} and returns a provider used to extend the\n   * inherited {@link KeyValueDiffers} instance with the provided factories and return a new\n   * {@link KeyValueDiffers} instance.\n   *\n   * @usageNotes\n   * ### Example\n   *\n   * The following example shows how to extend an existing list of factories,\n   * which will only be applied to the injector for this component and its children.\n   * This step is all that's required to make a new {@link KeyValueDiffer} available.\n   *\n   * ```\n   * @Component({\n   *   viewProviders: [\n   *     KeyValueDiffers.extend([new ImmutableMapDiffer()])\n   *   ]\n   * })\n   * ```\n   */\n  static extend<S>(factories: KeyValueDifferFactory[]): StaticProvider {\n    return {\n      provide: KeyValueDiffers,\n      useFactory: (parent: KeyValueDiffers) => {\n        if (!parent) {\n          // Typically would occur when calling KeyValueDiffers.extend inside of dependencies passed\n          // to bootstrap(), which would override default pipes
```

instead of extending them.\n throw new Error('Cannot extend KeyValueDiffers without a parent injector');\n }\n return KeyValueDiffers.create(factories, parent);\n },\n // Dependency technically isn't optional, but we can provide a better error message this way.\n deps: [[KeyValueDiffers, new SkipSelf(), new Optional()]]\n };\n }\n\n find(kv: any): KeyValueDifferFactory {\n const factory = this.factories.find(f => f.supports(kv));\n if (factory) {\n return factory;\n }\n throw new Error(`Cannot find a differ supporting object '${kv}'`);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertDefined} from '../util/assert';\n\nimport {icuContainerIterate} from './i18n/i18n_tree_shaking';\nimport {CONTAINER_HEADER_OFFSET} from './interfaces/container';\nimport {TElementNode, TIcuContainerNode, TNode, TNodeType} from './interfaces/node';\nimport {RNode} from './interfaces/renderer_dom';\nimport {isLContainer} from './interfaces/type_checks';\nimport {DECLARATION_COMPONENT_VIEW, LView, T_HOST, TVIEW, TView} from './interfaces/view';\nimport {assertTNodeType} from './node_assert';\nimport {getLViewParent} from './util/view_traversal_utils';\nimport {unwrapRNode} from './util/view_utils';\n\n\n\nexport function collectNativeNodes(\n tView: TView, lView: LView, tNode: TNode|null, result: any[],\n isProjection: boolean = false): any[] {\n while (tNode !== null) {\n ngDevMode &&\n assertTNodeType(\n tNode,\n TNodeType.AnyRNode | TNodeType.AnyContainer | TNodeType.Projection | TNodeType.Icu);\n\n const lNode = lView[tNode.index];\n if (lNode !== null) {\n result.push(unwrapRNode(lNode));\n }\n\n // A given lNode can represent either a native node or a LContainer (when it is a host of a\n // ViewContainerRef). When we find a LContainer we need to descend into it to collect root nodes\n // from the views in this container.\n if (isLContainer(lNode)) {\n for (let i = CONTAINER_HEADER_OFFSET; i < lNode.length; i++) {\n const lViewInAContainer = lNode[i];\n const lViewFirstChildTNode = lViewInAContainer[TVIEW].firstChild;\n if (lViewFirstChildTNode !== null) {\n collectNativeNodes(\n lViewInAContainer[TVIEW], lViewInAContainer, lViewFirstChildTNode, result);\n }\n }\n }\n\n const tNodeType = tNode.type;\n if (tNodeType & TNodeType.ElementContainer) {\n collectNativeNodes(tView, lView, tNode.child, result);\n } else if (tNodeType & TNodeType.Icu) {\n const nextRNode = icuContainerIterate(tNode as TIcuContainerNode, lView);\n let rNode: RNode|null;\n while (rNode = nextRNode()) {\n result.push(rNode);\n }\n } else if (tNodeType & TNodeType.Projection) {\n const componentView = lView[DECLARATION_COMPONENT_VIEW];\n const componentHost = componentView[T_HOST] as TElementNode;\n const slotIdx = tNode.projection as number;\n ngDevMode &&\n assertDefined(\n componentHost.projection,\n 'Components with projection nodes (<ng-content>) must have projection slots defined.');\n\n const nodesInSlot = componentHost.projection![slotIdx];\n if (Array.isArray(nodesInSlot)) {\n result.push(...nodesInSlot);\n } else {\n const parentView = getLViewParent(componentView)!;\n ngDevMode &&\n assertDefined(\n parentView,\n 'Component views should always have a parent view (component\\'s host view)');\n collectNativeNodes(parentView[TVIEW], parentView, nodesInSlot, result, true);\n }\n }\n\n tNode = isProjection ? tNode.projectionNext : tNode.next;\n }\n\n return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef as viewEngine_ChangeDetectorRef} from '../change_detection/change_detector_ref';\nimport {ViewContainerRef as viewEngine_ViewContainerRef} from '../linker/view_container_ref';\nimport {EmbeddedViewRef as viewEngine_EmbeddedViewRef, InternalViewRef as viewEngine_InternalViewRef, ViewRefTracker} from '../linker/view_ref';\nimport {collectNativeNodes} from './collect_native_nodes';\nimport {checkNoChangesInRootView, checkNoChangesInternal, detectChangesInRootView, detectChangesInternal, markViewDirty, storeCleanupWithContext} from './instructions/shared';\nimport {CONTEXT,

FLAGS, LView, LViewFlags, TVIEW} from './interfaces/view';\nimport {destroyLView, renderDetachView} from './node_manipulation';\n\n\n\n// Needed due to tsickle downleveling where multiple `implements` with classes creates\n// multiple @extends in Closure annotations, which is illegal. This workaround fixes\n// the multiple @extends by making the annotation @implements instead\nexport interface viewEngine_ChangeDetectorRef_interface extends viewEngine_ChangeDetectorRef {}\n\nexport class ViewRef<T> implements viewEngine_EmbeddedViewRef<T>, viewEngine_InternalViewRef,\n viewEngine_ChangeDetectorRef_interface {\n private _appRef: ViewRefTracker|null = null;\n private _viewContainerRef: viewEngine_ViewContainerRef|null = null;\n\n get rootNodes(): any[] {\n const lView = this._lView;\n const tView = lView[TVIEW];\n return collectNativeNodes(tView, lView, tView.firstChild, []);\n }\n\n constructor(\n /**\n * This represents `LView`
associated with the component when ViewRef is a ChangeDetectorRef.\n *\n * When ViewRef is created for a dynamic component, this also represents the `LView` for the\n * component.\n *\n * For a \"regular\" ViewRef created for an embedded view, this is the `LView` for the embedded\n * view.\n *\n * @internal\n */\n public _lView: LView,\n\n /**\n * This represents the `LView` associated with the point where `ChangeDetectorRef` was\n * requested.\n *\n * This may be different from `_lView` if the `_cdRefInjectingView` is an embedded view.\n */\n private _cdRefInjectingView?: LView) {}\n\n get context(): T {\n return this._lView[CONTEXT] as T;\n }\n\n get destroyed(): boolean {\n return (this._lView[FLAGS] & LViewFlags.Destroyed) === LViewFlags.Destroyed;\n }\n\n destroy(): void {\n if (this._appRef) {\n this._appRef.detachView(this);\n } else if (this._viewContainerRef)
{\n const index = this._viewContainerRef.indexOf(this);\n\n if (index > -1) {\n this._viewContainerRef.detach(index);\n }\n\n this._viewContainerRef = null;\n }\n destroyLView(this._lView[TVIEW], this._lView);\n }\n\n onDestroy(callback: Function) {\n storeCleanupWithContext(this._lView[TVIEW], this._lView, null, callback);\n }\n\n /**\n * Marks a view and all of its ancestors dirty.\n *\n * It also triggers change detection by calling `scheduleTick` internally, which coalesces\n * multiple `markForCheck` calls to into one change detection run.\n *\n * This can be used to ensure an {@link ChangeDetectionStrategy#OnPush OnPush} component is\n * checked when it needs to be re-rendered but the two normal triggers haven't marked it\n * dirty (i.e. inputs haven't changed and events haven't fired in the view).\n *\n * <!-- TODO: Add a link to a chapter on OnPush components -->\n *\n * @usageNotes\n * ### Example\n *\n *
```typescript\n * @Component({\n * selector: 'my-app',\n * template: `Number of ticks: {{numberOfTicks}}`\n * changeDetection: ChangeDetectionStrategy.OnPush,\n * })\n * class AppComponent {\n * numberOfTicks = 0;\n *\n * constructor(private ref: ChangeDetectorRef) {\n * setInterval(() => {\n * this.numberOfTicks++;\n * // the following is required, otherwise the view will not be updated\n * this.ref.markForCheck();\n * }, 1000);\n * }\n * }\n * ```\n */\n markForCheck(): void {\n markViewDirty(this._cdRefInjectingView || this._lView);\n }\n\n /**\n * Detaches the view from the change detection tree.\n *\n * Detached views will not be checked during change detection runs until they are\n * re-attached, even if they are dirty. `detach` can be used in combination with\n * {@link ChangeDetectorRef#detectChanges detectChanges} to implement local change\n * detection checks.\n *\n * <!-- TODO: Add
a link to a chapter on detach/reattach/local digest -->\n * <!-- TODO: Add a live demo once ref.detectChanges is merged into master -->\n *\n * @usageNotes\n * ### Example\n *\n * The following example defines a component with a large list of readonly data.\n * Imagine the data changes constantly, many times per second. For performance reasons,\n * we want to check and update the list every five seconds. We can do that by detaching\n * the component's change detector and doing a local check every five seconds.\n *\n * ```typescript\n * class DataProvider {\n * // in a real application the returned data will be different every time\n * get data() {\n * return [1,2,3,4,5];\n * }\n * }\n *\n * @Component({\n * selector: 'giant-list',\n * template: `\n * <li *ngFor=\"let d of dataProvider.data\">Data {{d}}</li>\n * `,\n * })\n * class GiantList {\n * constructor(private ref: ChangeDetectorRef, private dataProvider:
```

DataProvider) {\n * ref.detach();\n * setInterval(() => {\n * this.ref.detectChanges();\n * }, 5000);\n * }\n * }\n *\n * @Component({\n * selector: 'app',\n * providers: [DataProvider],\n * template: `\n * <giant-list><giant-list>\n * `,\n * })\n * class App {\n * }\n * ```\n */\n detach(): void {\n this._lView[FLAGS] &= ~LViewFlags.Attached;\n }\n\n /**\n * Re-attaches a view to the change detection tree.\n *\n * This can be used to re-attach views that were previously detached from the tree\n * using {@link ChangeDetectorRef#detach detach}. Views are attached to the tree by default.\n *\n * <!-- TODO: Add a link to a chapter on detach/reattach/local digest -->\n *\n * @usageNotes\n * ### Example\n *\n * The following example creates a component displaying `live` data. The component will detach\n * its change detector from the main change detector tree when the component's live property\n * is set to false.\n *\n * ```typescript\n * class DataProvider {\n * data = 1;\n *\n * constructor() {\n * setInterval(() => {\n * this.data = this.data * 2;\n * }, 500);\n * }\n * }\n *\n * @Component({\n * selector: 'live-data',\n * inputs: ['live'],\n * template: 'Data: {{dataProvider.data}}'\n * })\n * class LiveData {\n * constructor(private ref: ChangeDetectorRef, private dataProvider: DataProvider) {}\n *\n * set live(value) {\n * if (value) {\n * this.ref.reattach();\n * } else {\n * this.ref.detach();\n * }\n * }\n * }\n *\n * @Component({\n * selector: 'my-app',\n * providers: [DataProvider],\n * template: `\n * Live Update: <input type=\"checkbox\" [(ngModel)]=\"live\">\n * <live-data [live]=\"live\"><live-data>\n * `,\n * })\n * class AppComponent {\n * live = true;\n * }\n * ```\n */\n reattach(): void {\n this._lView[FLAGS]
|= LViewFlags.Attached;\n }\n\n /**\n * Checks the view and its children.\n *\n * This can also be used in combination with {@link ChangeDetectorRef#detach detach} to implement\n * local change detection checks.\n *\n * <!-- TODO: Add a link to a chapter on detach/reattach/local digest -->\n * <!-- TODO: Add a live demo once ref.detectChanges is merged into master -->\n *\n * @usageNotes\n * ### Example\n *\n * The following example defines a component with a large list of readonly data.\n * Imagine, the data changes constantly, many times per second. For performance reasons,\n * we want to check and update the list every five seconds.\n *\n * We can do that by detaching the component's change detector and doing a local change detection\n * check every five seconds.\n *\n * See {@link ChangeDetectorRef#detach detach} for more information.\n */\n detectChanges(): void {\n detectChangesInternal(this._lView[TVIEW], this._lView,
this.context);\n }\n\n /**\n * Checks the change detector and its children, and throws if any changes are detected.\n *\n * This is used in development mode to verify that running change detection doesn't\n * introduce other changes.\n */\n checkNoChanges(): void {\n checkNoChangesInternal(this._lView[TVIEW], this._lView, this.context);\n }\n\n attachToViewContainerRef(vcRef: viewEngine_ViewContainerRef) {\n if (this._appRef) {\n throw new Error('This view is already attached directly to the ApplicationRef!');\n }\n this._viewContainerRef = vcRef;\n }\n\n detachFromAppRef() {\n this._appRef = null;\n renderDetachView(this._lView[TVIEW], this._lView);\n }\n\n attachToAppRef(appRef: ViewRefTracker) {\n if (this._viewContainerRef) {\n throw new Error('This view is already attached to a ViewContainer!');\n }\n this._appRef = appRef;\n }\n}\n\n/** @internal */\nexport class RootViewRef<T> extends ViewRef<T> {\n constructor(public
_view: LView) {\n super(_view);\n }\n\n detectChanges(): void {\n detectChangesInRootView(this._view);\n }\n\n checkNoChanges(): void {\n checkNoChangesInRootView(this._view);\n }\n\n get context(): T {\n return null!;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {TNode, TNodeType} from '../render3/interfaces/node';\nimport {isComponentHost} from '../render3/interfaces/type_checks';\nimport {DECLARATION_COMPONENT_VIEW, LView} from '../render3/interfaces/view';\nimport {getCurrentTNode, getLView} from '../render3/state';\nimport {getComponentLViewByIndex} from '../render3/util/view_utils';\nimport {ViewRef as R3_ViewRef} from '../render3/view_ref';\nimport {noop} from '../util/noop';\n\nexport const SWITCH_CHANGE_DETECTOR_REF_FACTORY__POST_R3__ = injectChangeDetectorRef;\nconst SWITCH_CHANGE_DETECTOR_REF_FACTORY__PRE_R3__

= noop;\nconst SWITCH_CHANGE_DETECTOR_REF_FACTORY: typeof injectChangeDetectorRef =\n SWITCH_CHANGE_DETECTOR_REF_FACTORY__PRE_R3__;\n\n/**\n * Base class that provides change detection functionality.\n * A change-detection tree collects all views that are to be checked for changes.\n * Use the methods to add and remove views from the tree, initiate change-detection,\n * and explicitly mark views as _dirty_, meaning that they have changed and need to be re-rendered.\n *\n * @see [Using change detection hooks](guide/lifecycle-hooks#using-change-detection-hooks)\n * @see [Defining custom change detection](guide/lifecycle-hooks#defining-custom-change-detection)\n *\n * @usageNotes\n *\n * The following examples demonstrate how to modify default change-detection behavior\n * to perform explicit detection when needed.\n *\n * ### Use `markForCheck()` with `CheckOnce` strategy\n *\n * The following example sets the `OnPush` change-detection strategy for
a component\n * (`CheckOnce`, rather than the default `CheckAlways`), then forces a second check\n * after an interval. See [live demo](https://plnkr.co/edit/GC512b?p=preview).\n *\n * <code-example path=\"core/ts/change_detect/change-detection.ts\"\n * region=\"mark-for-check\"></code-example>\n *\n * ### Detach change detector to limit how often check occurs\n *\n * The following example defines a component with a large list of read-only data\n * that is expected to change constantly, many times per second.\n * To improve performance, we want to check and update the list\n * less often than the changes actually occur. To do that, we detach\n * the component's change detector and perform an explicit local check every five seconds.\n *\n * <code-example path=\"core/ts/change_detect/change-detection.ts\" region=\"detach\"></code-example>\n *\n *\n * ### Reattaching a detached component\n *\n * The following example creates a component displaying live data.\n * The component detaches its
change detector from the main change detector tree\n * when the `live` property is set to false, and reattaches it when the property\n * becomes true.\n *\n * <code-example path=\"core/ts/change_detect/change-detection.ts\" region=\"reattach\"></code-example>\n *\n * @publicApi\n */\nexport abstract class ChangeDetectorRef {\n /**\n * When a view uses the {@link ChangeDetectionStrategy#OnPush OnPush} (checkOnce)\n * change detection strategy, explicitly marks the view as changed so that\n * it can be checked again.\n *\n * Components are normally marked as dirty (in need of rerendering) when inputs\n * have changed or events have fired in the view. Call this method to ensure that\n * a component is checked even if these triggers have not occured.\n *\n * <!-- TODO: Add a link to a chapter on OnPush components -->\n *\n */\n abstract markForCheck(): void;\n\n /**\n * Detaches this view from the change-detection tree.\n * A detached view is  not checked until
it is reattached.\n * Use in combination with `detectChanges()` to implement local change detection checks.\n *\n * Detached views are not checked during change detection runs until they are\n * re-attached, even if they are marked as dirty.\n *\n * <!-- TODO: Add a link to a chapter on detach/reattach/local digest -->\n * <!-- TODO: Add a live demo once ref.detectChanges is merged into master -->\n *\n */\n abstract detach(): void;\n\n /**\n * Checks this view and its children. Use in combination with {@link ChangeDetectorRef#detach\n * detach}\n * to implement local change detection checks.\n *\n * <!-- TODO: Add a link to a chapter on detach/reattach/local digest -->\n * <!-- TODO: Add a live demo once ref.detectChanges is merged into master -->\n *\n */\n abstract detectChanges(): void;\n\n /**\n * Checks the change detector and its children, and throws if any changes are detected.\n *\n * Use in development mode to verify that running
change detection doesn't introduce\n * other changes.\n */\n abstract checkNoChanges(): void;\n\n /**\n * Re-attaches the previously detached view to the change detection tree.\n * Views are attached to the tree by default.\n *\n * <!-- TODO: Add a link to a chapter on detach/reattach/local digest -->\n *\n */\n abstract reattach(): void;\n\n /**\n * @internal\n * @nocollapse\n */\n static __NG_ELEMENT_ID__: () => ChangeDetectorRef = SWITCH_CHANGE_DETECTOR_REF_FACTORY;\n\n /**\n * This marker is need so that the JIT compiler can correctly identify this class as special.\n *\n * @internal\n * @nocollapse\n */\n static __ChangeDetectorRef__ = true;\n}\n\n\n\n/** Returns a ChangeDetectorRef (a.k.a. a ViewRef) */\nexport function injectChangeDetectorRef(isPipe = false): ChangeDetectorRef {\n return createViewRef(getCurrentTNode()!, getLView(), isPipe);\n}\n\n/**\n * Creates a ViewRef and stores it on the injector as ChangeDetectorRef (public alias).\n

*\n * @param tNode The node that is requesting a ChangeDetectorRef\n * @param lView The view to which the node belongs\n * @param isPipe Whether the view is being injected into a pipe.\n * @returns The ChangeDetectorRef to use\n */\nfunction createViewRef(tNode: TNode, lView: LView, isPipe: boolean): ChangeDetectorRef {\n // `isComponentView` will be true for Component and Directives (but not for Pipes).\n // See https://github.com/angular/angular/pull/33072 for proper fix\n const isComponentView = !isPipe && isComponentHost(tNode);\n if (isComponentView) {\n // The LView represents the location where the component is declared.\n // Instead we want the LView for the component View and so we need to look it up.\n const componentView = getComponentLViewByIndex(tNode.index, lView); // look down\n return new R3_ViewRef(componentView, componentView);\n } else if (tNode.type & (TNodeType.AnyRNode | TNodeType.AnyContainer | TNodeType.Icu)) {\n // The LView represents the location where the injection is requested from.\n // We need to locate the containing LView (in case where the `lView` is an embedded view)\n const hostComponentView = lView[DECLARATION_COMPONENT_VIEW]; // look up\n return new R3_ViewRef(hostComponentView, lView);\n }\n return null!;\n}","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DefaultIterableDifferFactory} from './differs/default_iterable_differ';\nimport {DefaultKeyValueDifferFactory} from './differs/default_keyvalue_differ';\nimport {IterableDifferFactory, IterableDiffers} from './differs/iterable_differs';\nimport {KeyValueDifferFactory, KeyValueDiffers} from './differs/keyvalue_differs';\n\nexport {SimpleChange, SimpleChanges} from '../interface/simple_change';\nexport {devModeEqual, WrappedValue} from './change_detection_util';\nexport {ChangeDetectorRef} from './change_detector_ref';\nexport {ChangeDetectionStrategy, ChangeDetectorStatus, isDefaultChangeDetectionStrategy} from './constants';\nexport {DefaultIterableDifferFactory} from './differs/default_iterable_differ';\nexport {DefaultIterableDiffer} from './differs/default_iterable_differ';\nexport {DefaultKeyValueDifferFactory} from './differs/default_keyvalue_differ';\nexport {IterableChangeRecord, IterableChanges, IterableDiffer, IterableDifferFactory, IterableDiffers, NgIterable, TrackByFunction} from './differs/iterable_differs';\nexport {KeyValueChangeRecord, KeyValueChanges, KeyValueDiffer, KeyValueDifferFactory, KeyValueDiffers} from './differs/keyvalue_differs';\nexport {PipeTransform} from './pipe_transform';\n\n\n\n/**\n * Structural diffing for `Object`s and `Map`s.\n */\nconst keyValDiff: KeyValueDifferFactory[] = [new DefaultKeyValueDifferFactory()];\n\n/**\n * Structural diffing for `Iterable` types such as `Array`s.\n */\nconst iterableDiff: IterableDifferFactory[] = [new DefaultIterableDifferFactory()];\n\nexport const defaultIterableDiffers = new IterableDiffers(iterableDiff);\n\nexport const defaultKeyValueDiffers = new KeyValueDiffers(keyValDiff);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertLContainer} from '../render3/assert';\nimport {createLView, renderView} from '../render3/instructions/shared';\nimport {TContainerNode, TNode, TNodeType} from '../render3/interfaces/node';\nimport {DECLARATION_LCONTAINER, LView, LViewFlags, QUERIES, TView} from '../render3/interfaces/view';\nimport {getCurrentTNode, getLView} from '../render3/state';\nimport {ViewRef as R3_ViewRef} from '../render3/view_ref';\nimport {assertDefined} from '../util/assert';\nimport {noop} from '../util/noop';\nimport {createElementRef, ElementRef} from './element_ref';\nimport {EmbeddedViewRef} from './view_ref';\n\n\n\nexport const SWITCH_TEMPLATE_REF_FACTORY__POST_R3__ = injectTemplateRef;\nconst SWITCH_TEMPLATE_REF_FACTORY__PRE_R3__ = noop;\nconst SWITCH_TEMPLATE_REF_FACTORY: typeof injectTemplateRef = SWITCH_TEMPLATE_REF_FACTORY__PRE_R3__;\n\n/**\n * Represents an embedded template that can be used to instantiate embedded views.\n * To instantiate embedded views based on a template, use the `ViewContainerRef`\n * method `createEmbeddedView()`.\n *\n * Access a `TemplateRef` instance by placing a directive on an `<ng-template>`\n * element (or directive prefixed with `*`). The `TemplateRef` for the embedded view\n * is injected into the constructor of the directive,\n * using the `TemplateRef` token.\n *\n * You can also use

a `Query` to find a `TemplateRef` associated with\n * a component or a directive.\n *\n * @see `ViewContainerRef`\n * @see [Navigate the Component Tree with DI](guide/dependency-injection-navtree)\n *\n * @publicApi\n */\nexport abstract class TemplateRef<C> {\n /**\n * The anchor element in the parent view for this embedded view.\n *\n * The data-binding and injection contexts of embedded views created from this `TemplateRef`\n * inherit from the contexts of this location.\n *\n * Typically new embedded views are attached to the view container of this location, but in\n * advanced use-cases, the view can be attached to a different container while keeping the\n * data-binding and injection context from the original location.\n *\n */\n // TODO(i): rename to anchor or location\n abstract get elementRef(): ElementRef;\n\n /**\n * Instantiates an embedded view based on this template,\n * and attaches it to the view container.\n * @param context The data-binding context of the embedded view, as declared\n * in the `<ng-template>` usage.\n * @returns The new embedded view object.\n */\n abstract createEmbeddedView(context: C): EmbeddedViewRef<C>;\n\n /**\n * @internal\n * @nocollapse\n */\n static __NG_ELEMENT_ID__: () => TemplateRef<any>| null = SWITCH_TEMPLATE_REF_FACTORY;\n}\n\nconst ViewEngineTemplateRef = TemplateRef;\n\nconst R3TemplateRef = class TemplateRef<T> extends ViewEngineTemplateRef<T> {\n constructor(\n private _declarationLView: LView, private _declarationTContainer: TContainerNode,\n public elementRef: ElementRef) {\n super();\n }\n\n createEmbeddedView(context: T): EmbeddedViewRef<T> {\n const embeddedTView = this._declarationTContainer.tViews as TView;\n const embeddedLView = createLView(\n this._declarationLView, embeddedTView, context, LViewFlags.CheckAlways, null,\n embeddedTView.declTNode, null, null, null, null);\n\n const declarationLContainer = this._declarationLView[this._declarationTContainer.index];\n ngDevMode && assertLContainer(declarationLContainer);\n embeddedLView[DECLARATION_LCONTAINER] = declarationLContainer;\n\n const declarationViewLQueries = this._declarationLView[QUERIES];\n if (declarationViewLQueries !== null) {\n embeddedLView[QUERIES] = declarationViewLQueries.createEmbeddedView(embeddedTView);\n }\n\n renderView(embeddedTView, embeddedLView, context);\n\n return new R3_ViewRef<T>(embeddedLView);\n }\n};\n\n/**\n * Creates a TemplateRef given a node.\n *\n * @returns The TemplateRef instance to use\n */\nexport function injectTemplateRef<T>(): TemplateRef<T>|null {\n return createTemplateRef<T>(getCurrentTNode()!, getLView());\n}\n\n/**\n * Creates a TemplateRef and stores it on the injector.\n *\n * @param hostTNode The node on which a TemplateRef is requested\n * @param hostLView The `LView` to which the node belongs\n * @returns The TemplateRef instance or null if we can't create a TemplateRef on a given node type\n */\nexport function createTemplateRef<T>(hostTNode: TNode, hostLView: LView): TemplateRef<T>|null {\n if (hostTNode.type & TNodeType.Container) {\n ngDevMode && assertDefined(hostTNode.tViews, 'TView must be allocated');\n return new R3TemplateRef(\n hostLView, hostTNode as TContainerNode, createElementRef(hostTNode, hostLView));\n }\n return null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../di/injector';\nimport {Type} from '../interface/type';\n\nimport {ComponentFactoryResolver} from './component_factory_resolver';\n\n\n/**\n * Represents an instance of an `NgModule` created by an `NgModuleFactory`.\n * Provides access to the `NgModule` instance and related objects.\n *\n * @publicApi\n */\nexport abstract class NgModuleRef<T> {\n /**\n * The injector that contains all of the providers of the `NgModule`.\n */\n abstract get injector(): Injector;\n\n /**\n * The resolver that can retrieve the component factories\n * declared in the `entryComponents` property of the module.\n */\n abstract get componentFactoryResolver(): ComponentFactoryResolver;\n\n /**\n * The `NgModule` instance.\n */\n abstract get instance(): T;\n\n /**\n * Destroys the module instance and all of the data structures associated with it.\n */\n abstract destroy(): void;\n\n /**\n * Registers a callback to be executed when the module is destroyed.\n */\n abstract onDestroy(callback: () => void): void;\n}\n\nexport interface InternalNgModuleRef<T> extends NgModuleRef<T> {\n // Note: we are using the prefix _ as NgModuleData is an

NgModuleRef and therefore directly\n  // exposed to the user.\n  _bootstrapComponents: Type<any>[];\n}\n\n/**\n * @publicApi\n */\nexport abstract class NgModuleFactory<T> {\n  abstract get moduleType(): Type<T>;\n  abstract create(parentInjector: Injector|null): NgModuleRef<T>;\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../di/injector';\nimport {assertNodeInjector} from '../render3/assert';\nimport {getParentInjectorLocation, NodeInjector} from '../render3/di';\nimport {addToViewTree, createLContainer} from '../render3/instructions/shared';\nimport {CONTAINER_HEADER_OFFSET, LContainer, NATIVE, VIEW_REFS} from '../render3/interfaces/container';\nimport {NodeInjectorOffset} from '../render3/interfaces/injector';\nimport {TContainerNode, TDirectiveHostNode, TElementContainerNode, TElementNode, TNodeType} from '../render3/interfaces/node';\nimport {RComment, RElement} from '../render3/interfaces/renderer_dom';\nimport {isLContainer} from '../render3/interfaces/type_checks';\nimport {LView, PARENT, RENDERER, T_HOST, TVIEW} from '../render3/interfaces/view';\nimport {assertTNodeType} from '../render3/node_assert';\nimport {addViewToContainer, destroyLView, detachView, getBeforeNodeForView, insertView, nativeInsertBefore, nativeNextSibling,\n  nativeParentNode} from '../render3/node_manipulation';\nimport {getCurrentTNode, getLView} from '../render3/state';\nimport {getParentInjectorIndex, getParentInjectorView, hasParentInjector} from '../render3/util/injector_utils';\nimport {getNativeByTNode, unwrapRNode, viewAttachedToContainer} from '../render3/util/view_utils';\nimport {ViewRef as R3ViewRef} from '../render3/view_ref';\nimport {addToArray, removeFromArray} from '../util/array_utils';\nimport {assertEqual, assertGreaterThan, assertLessThan} from '../util/assert';\nimport {noop} from '../util/noop';\nimport {ComponentFactory, ComponentRef} from './component_factory';\nimport {createElementRef, ElementRef} from './element_ref';\nimport {NgModuleRef} from './ng_module_factory';\nimport {TemplateRef} from './template_ref';\nimport {EmbeddedViewRef, ViewRef} from './view_ref';\n\n\nexport const SWITCH_VIEW_CONTAINER_REF_FACTORY__POST_R3__ = injectViewContainerRef;\nconst SWITCH_VIEW_CONTAINER_REF_FACTORY__PRE_R3__\n  = noop as typeof injectViewContainerRef;\nconst SWITCH_VIEW_CONTAINER_REF_FACTORY: typeof injectViewContainerRef =\n    SWITCH_VIEW_CONTAINER_REF_FACTORY__PRE_R3__;\n\n/**\n * Represents a container where one or more views can be attached to a component.\n *\n * Can contain *host views* (created by instantiating a\n * component with the `createComponent()` method), and *embedded views*\n * (created by instantiating a `TemplateRef` with the `createEmbeddedView()` method).\n *\n * A view container instance can contain other view containers,\n * creating a [view hierarchy](guide/glossary#view-tree).\n *\n * @see `ComponentRef`\n * @see `EmbeddedViewRef`\n *\n * @publicApi\n */\nexport abstract class ViewContainerRef {\n  /**\n   * Anchor element that specifies the location of this container in the containing view.\n   * Each view container can have only one anchor element, and each anchor element\n   * can have only a single view container.\n   *\n   * Root elements of views attached\n  to this container become siblings of the anchor element in\n   * the rendered view.\n   *\n   * Access the `ViewContainerRef` of an element by placing a `Directive` injected\n   * with `ViewContainerRef` on the element, or use a `ViewChild` query.\n   *\n   * <!-- TODO: rename to anchorElement -->\n   */\n  abstract get element(): ElementRef;\n\n  /**\n   * The [dependency injector](guide/glossary#injector) for this view container.\n   */\n  abstract get injector(): Injector;\n\n  /** @deprecated No replacement */\n  abstract get parentInjector(): Injector;\n\n  /**\n   * Destroys all views in this container.\n   */\n  abstract clear(): void;\n\n  /**\n   * Retrieves a view from this container.\n   * @param index The 0-based index of the view to retrieve.\n   * @returns The `ViewRef` instance, or null if the index is out of range.\n   */\n  abstract get(index: number): ViewRef|null;\n\n  /**\n   * Reports how many views are currently attached to this container.\n   * @returns The number\n  of views.\n   */\n  abstract get length(): number;\n\n  /**\n   * Instantiates an embedded view and inserts it\n   * into this container.\n   * @param templateRef The HTML template that defines the view.\n   * @param index The 0-based index at which to insert the new view into this container.\n   * If not specified, appends the new view as the last entry.\n   *\n   * @returns The `ViewRef` instance for the newly created view.\n   */\n  abstract

createEmbeddedView<C>(templateRef: TemplateRef<C>, context?: C, index?: number):\n EmbeddedViewRef<C>;\n\n /**\n * Instantiates a single component and inserts its host view into this container.\n *\n * @param componentFactory The factory to use.\n * @param index The index at which to insert the new component's host view into this container.\n * If not specified, appends the new view as the last entry.\n * @param injector The injector to use as the parent for the new component.\n * @param projectableNodes\n * @param ngModule\n

*\n * @returns The new component instance, containing the host view.\n *\n */\n abstract createComponent<C>(\n componentFactory: ComponentFactory<C>, index?: number, injector?: Injector,\n projectableNodes?: any[][], ngModule?: NgModuleRef<any>): ComponentRef<C>;\n\n /**\n * Inserts a view into this container.\n * @param viewRef The view to insert.\n * @param index The 0-based index at which to insert the view.\n * If not specified, appends the new view as the last entry.\n * @returns The inserted `ViewRef` instance.\n *\n */\n abstract insert(viewRef: ViewRef, index?: number): ViewRef;\n\n /**\n * Moves a view to a new location in this container.\n * @param viewRef The view to move.\n * @param index The 0-based index of the new location.\n * @returns The moved `ViewRef` instance.\n */\n abstract move(viewRef: ViewRef, currentIndex: number): ViewRef;\n\n /**\n * Returns the index of a view within the current container.\n * @param

viewRef The view to query.\n * @returns The 0-based index of the view's position in this container,\n * or `-1` if this container doesn't contain the view.\n */\n abstract indexOf(viewRef: ViewRef): number;\n\n /**\n * Destroys a view attached to this container\n * @param index The 0-based index of the view to destroy.\n * If not specified, the last view in the container is removed.\n */\n abstract remove(index?: number): void;\n\n /**\n * Detaches a view from this container without destroying it.\n * Use along with `insert()` to move a view within the current container.\n * @param index The 0-based index of the view to detach.\n * If not specified, the last view in the container is detached.\n */\n abstract detach(index?: number): ViewRef|null;\n\n /**\n * @internal\n * @nocollapse\n */\n static __NG_ELEMENT_ID__: () => ViewContainerRef = SWITCH_VIEW_CONTAINER_REF_FACTORY;\n}\n\n/**\n * Creates a ViewContainerRef and stores it on the injector.

Or, if the ViewContainerRef\n * already exists, retrieves the existing ViewContainerRef.\n *\n * @returns The ViewContainerRef instance to use\n */\nexport function injectViewContainerRef(): ViewContainerRef {\n const previousTNode = getCurrentTNode() as TElementNode | TElementContainerNode | TContainerNode;\n return createContainerRef(previousTNode, getLView());\n}\n\nconst VE_ViewContainerRef = ViewContainerRef;\n\nconst R3ViewContainerRef = class ViewContainerRef extends VE_ViewContainerRef {\n constructor(\n private _lContainer: LContainer,\n private _hostTNode: TElementNode|TContainerNode|TElementContainerNode,\n private _hostLView: LView) {\n super();\n }\n\n get element(): ElementRef {\n return createElementRef(this._hostTNode, this._hostLView);\n }\n\n get injector(): Injector {\n return new NodeInjector(this._hostTNode, this._hostLView);\n }\n\n /** @deprecated No replacement */\n get parentInjector(): Injector {\n const parentLocation = getParentInjectorLocation(this._hostTNode,

this._hostLView);\n if (hasParentInjector(parentLocation)) {\n const parentView = getParentInjectorView(parentLocation, this._hostLView);\n const injectorIndex = getParentInjectorIndex(parentLocation);\n ngDevMode && assertNodeInjector(parentView, injectorIndex);\n const parentTNode =\n parentView[TVIEW].data[injectorIndex + NodeInjectorOffset.TNODE] as TElementNode;\n return new NodeInjector(parentTNode, parentView);\n } else {\n return new NodeInjector(null, this._hostLView);\n }\n }\n\n clear(): void {\n while (this.length > 0) {\n this.remove(this.length - 1);\n }\n }\n\n get(index: number): ViewRef|null {\n const viewRefs = getViewRefs(this._lContainer);\n return viewRefs !== null && viewRefs[index] || null;\n }\n\n get length(): number {\n return this._lContainer.length - CONTAINER_HEADER_OFFSET;\n }\n\n createEmbeddedView<C>(templateRef: TemplateRef<C>, context?:

```
C, index?: number):\n      EmbeddedViewRef<C> {\n    const viewRef =
templateRef.createEmbeddedView(context || <any>{});\n    this.insert(viewRef, index);\n    return viewRef;\n  }\n\n
createComponent<C>(\n      componentFactory: ComponentFactory<C>, index?: number|undefined,\n      injector?:
Injector|undefined, projectableNodes?: any[][]|undefined,\n      ngModuleRef?: NgModuleRef<any>|undefined):
ComponentRef<C> {\n    const contextInjector = injector || this.parentInjector;\n    if (!ngModuleRef &&
(componentFactory as any).ngModule == null && contextInjector) {\n      // DO NOT REFACTOR. The code here
used to have a `value || undefined` expression\n      // which seems to cause internal google apps to fail. This is
documented in the\n      // following internal bug issue: go/b/142967802\n      const result =
contextInjector.get(NgModuleRef, null);\n      if (result) {\n        ngModuleRef = result;\n      }\n    }\n\n    const
componentRef =\n        componentFactory.create(contextInjector,
 projectableNodes, undefined, ngModuleRef);\n    this.insert(componentRef.hostView, index);\n    return
componentRef;\n  }\n\n  insert(viewRef: ViewRef, index?: number): ViewRef {\n    const lView = (viewRef as
R3ViewRef<any>)._lView!;\n    const tView = lView[TVIEW];\n\n    if (ngDevMode && viewRef.destroyed) {\n
 throw new Error('Cannot insert a destroyed View in a ViewContainer!');\n    }\n\n    if
(viewAttachedToContainer(lView)) {\n      // If view is already attached, detach it first so we clean up references
appropriately.\n\n      const prevIdx = this.indexOf(viewRef);\n\n      // A view might be attached either to this or a
different container. The `prevIdx` for\n      // those cases will be:\n      // equal to -1 for views attached to this
ViewContainerRef\n      // >= 0 for views attached to a different ViewContainerRef\n      if (prevIdx !== -1) {\n
this.detach(prevIdx);\n      } else {\n        const prevLContainer = lView[PARENT] as LContainer;\n
      ngDevMode &&\n            assertEqual(\n                isLContainer(prevLContainer), true,\n                'An attached
view should have its PARENT point to a container.');\n\n\n        // We need to re-create a R3ViewContainerRef
instance since those are not stored on\n        // LView (nor anywhere else).\n        const prevVCRef = new
R3ViewContainerRef(\n            prevLContainer, prevLContainer[T_HOST] as TDirectiveHostNode,
prevLContainer[PARENT]);\n\n        prevVCRef.detach(prevVCRef.indexOf(viewRef));\n      }\n    }\n\n    //
Logical operation of adding `LView` to `LContainer`\n    const adjustedIdx = this._adjustIndex(index);\n    const
lContainer = this._lContainer;\n    insertView(tView, lView, lContainer, adjustedIdx);\n\n    // Physical operation of
adding the DOM nodes.\n    const beforeNode = getBeforeNodeForView(adjustedIdx, lContainer);\n    const
renderer = lView[RENDERER];\n    const parentRNode = nativeParentNode(renderer, lContainer[NATIVE] as
RElement |
 RComment);\n    if (parentRNode !== null) {\n      addViewToContainer(tView, lContainer[T_HOST], renderer,
lView, parentRNode, beforeNode);\n    }\n\n    (viewRef as R3ViewRef<any>).attachToViewContainerRef(this);\n
addToArray(getOrCreateViewRefs(lContainer), adjustedIdx, viewRef);\n\n    return viewRef;\n  }\n\n
move(viewRef: ViewRef, newIndex: number): ViewRef {\n    if (ngDevMode && viewRef.destroyed) {\n      throw
new Error('Cannot move a destroyed View in a ViewContainer!');\n    }\n    return this.insert(viewRef, newIndex);\n
}\n\n  indexOf(viewRef: ViewRef): number {\n    const viewRefsArr = getViewRefs(this._lContainer);\n    return
viewRefsArr !== null ? viewRefsArr.indexOf(viewRef) : -1;\n  }\n\n  remove(index?: number): void {\n    const
adjustedIdx = this._adjustIndex(index, -1);\n    const detachedView = detachView(this._lContainer,
adjustedIdx);\n\n    if (detachedView) {\n      // Before destroying the view, remove it from the container's array of
`ViewRef`s.\n
   // This ensures the view container length is updated before calling\n      // `destroyLView`, which could recursively
call view container methods that\n      // rely on an accurate container length.\n      // (e.g. a method on this view
container being called by a child directive's OnDestroy\n      // lifecycle hook)\n
removeFromArray(getOrCreateViewRefs(this._lContainer), adjustedIdx);\n
destroyLView(detachedView[TVIEW], detachedView);\n    }\n  }\n\n  detach(index?: number): ViewRef|null {\n
const adjustedIdx = this._adjustIndex(index, -1);\n    const view = detachView(this._lContainer, adjustedIdx);\n\n
const wasDetached =\n        view && removeFromArray(getOrCreateViewRefs(this._lContainer), adjustedIdx) !=
null;\n    return wasDetached ? new R3ViewRef(view!) : null;\n  }\n\n  private _adjustIndex(index?: number, shift:
number = 0) {\n    if (index == null) {\n      return this.length + shift;\n    }\n    if (ngDevMode) {\n
```

assertGreaterThan(index, -1, `ViewRef
index must be positive, got ${index}`);\n // +1 because it's legal to insert at the end.\n assertLessThan(index, this.length + 1 + shift, 'index');\n }\n return index;\n }\n};\n\nfunction getViewRefs(lContainer: LContainer): ViewRef[]|null {\n return lContainer[VIEW_REFS] as ViewRef[];\n}\n\nfunction getOrCreateViewRefs(lContainer: LContainer): ViewRef[] {\n return (lContainer[VIEW_REFS] || (lContainer[VIEW_REFS] = [])) as ViewRef[];\n}\n\n/**\n * Creates a ViewContainerRef and stores it on the injector.\n *\n * @param ViewContainerRefToken The ViewContainerRef type\n * @param ElementRefToken The ElementRef type\n * @param hostTNode The node that is requesting a ViewContainerRef\n * @param hostLView The view to which the node belongs\n * @returns The ViewContainerRef instance to use\n */\nexport function createContainerRef(\n hostTNode: TElementNode|TContainerNode|TElementContainerNode,\n hostLView: LView): ViewContainerRef {\n ngDevMode && assertTNodeType(hostTNode, TNodeType.AnyContainer | TNodeType.AnyRNode);\n\n let lContainer: LContainer;\n const slotValue = hostLView[hostTNode.index];\n if (isLContainer(slotValue)) {\n // If the host is a container, we don't need to create a new LContainer\n lContainer = slotValue;\n } else {\n let commentNode: RComment;\n // If the host is an element container, the native host element is guaranteed to be a\n // comment and we can reuse that comment as anchor element for the new LContainer.\n // The comment node in question is already part of the DOM structure so we don't need to append\n // it again.\n if (hostTNode.type & TNodeType.ElementContainer) {\n commentNode = unwrapRNode(slotValue) as RComment;\n } else {\n // If the host is a regular element, we have to insert a comment node manually which will\n // be used as an anchor when inserting elements. In this specific case we use low-level DOM\n // manipulation to insert it.\n const renderer = hostLView[RENDERER];\n ngDevMode && ngDevMode.rendererCreateComment++;\n commentNode = renderer.createComment(ngDevMode ? 'container' : '');\n\n const hostNative = getNativeByTNode(hostTNode, hostLView)!;\n const parentOfHostNative = nativeParentNode(renderer, hostNative);\n nativeInsertBefore(\n renderer, parentOfHostNative!, commentNode, nativeNextSibling(renderer, hostNative),\n false);\n }\n\n hostLView[hostTNode.index] = lContainer =\n createLContainer(slotValue, hostLView, commentNode, hostTNode);\n\n addToViewTree(hostLView, lContainer);\n }\n\n return new R3ViewContainerRef(lContainer, hostTNode, hostLView);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getDebugContext} from '../errors';\nimport {ERROR_DEBUG_CONTEXT, ERROR_LOGGER} from '../util/errors';\n\nimport {DebugContext} from './types';\n\nexport function expressionChangedAfterItHasBeenCheckedError(\n context: DebugContext, oldValue: any, currValue: any, isFirstCheck: boolean): Error {\n let msg =\n `ExpressionChangedAfterItHasBeenCheckedError: Expression has changed after it was checked. Previous value: '${\n oldValue}'. Current value: '${currValue}'.`;\n if (isFirstCheck) {\n msg +=\n ` It seems like the view has been created after its parent and its children have been dirty checked.` +\n ` Has it been created in a change detection hook ?`;\n }\n return viewDebugError(msg, context);\n}\n\nexport function viewWrappedDebugError(err: any, context: DebugContext): Error {\n if (!(err instanceof Error)) {\n // errors that are not Error instances don't have a stack,\n // so it is ok to wrap them into a new Error object...\n err = new Error(err.toString());\n }\n _addDebugContext(err, context);\n return err;\n}\n\nexport function viewDebugError(msg: string, context: DebugContext): Error {\n const err = new Error(msg);\n _addDebugContext(err, context);\n return err;\n}\n\nfunction _addDebugContext(err: Error, context: DebugContext) {\n (err as any)[ERROR_DEBUG_CONTEXT] = context;\n (err as any)[ERROR_LOGGER] = context.logError.bind(context);\n}\n\nexport function isViewDebugError(err: Error): boolean {\n return !!getDebugContext(err);\n}\n\nexport function viewDestroyedError(action: string): Error {\n return new Error(`ViewDestroyedError: Attempt to use a destroyed view: ${action}`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../di';\nimport

{ErrorHandler} from '../error_handler';\nimport {Type} from '../interface/type';\nimport {ComponentFactory} from '../linker/component_factory';\nimport {NgModuleRef}
from '../linker/ng_module_factory';\nimport {QueryList} from '../linker/query_list';\nimport {TemplateRef} from '../linker/template_ref';\nimport {ViewContainerRef} from '../linker/view_container_ref';\nimport {Renderer2, RendererFactory2} from '../render/api';\nimport {RendererType2} from '../render/api_flags';\nimport {Sanitizer} from '../sanitization/sanitizer';\nimport {SecurityContext} from '../sanitization/security';\n\n\n\n// ----------\n// Defs\n// ----------\n\n/**\n * Factory for ViewDefinitions/NgModuleDefinitions.\n * We use a function so we can reexeute it in case an error happens and use the given logger\n * function to log the error from the definition of the node, which is shown in all browser\n * logs.\n */\nexport interface DefinitionFactory<D extends Definition<any>> {\n (logger: NodeLogger): D;\n}\n\n/**\n * Function to call console.error at the right source location. This is an indirection\n * via another function as browser will log the location that actually called\n * `console.error`.\n */\nexport interface NodeLogger {\n (): () => void;\n}\n\nexport interface Definition<DF extends DefinitionFactory<any>> {\n factory: DF|null;\n}\n\nexport interface NgModuleDefinition extends Definition<NgModuleDefinitionFactory> {\n providers: NgModuleProviderDef[];\n providersByKey: {[tokenKey: string]: NgModuleProviderDef};\n modules: any[];\n scope: 'root'|'platform'|null;\n}\n\nexport interface NgModuleDefinitionFactory extends DefinitionFactory<NgModuleDefinition> {}\n\nexport interface ViewDefinition extends Definition<ViewDefinitionFactory> {\n flags: ViewFlags;\n updateDirectives: ViewUpdateFn;\n updateRenderer: ViewUpdateFn;\n handleEvent: ViewHandleEventFn;\n /**\n * Order: Depth first.\n * Especially providers are before elements / anchors.\n */\n nodes: NodeDef[];\n /** aggregated NodeFlags for all nodes **/\n nodeFlags: NodeFlags;\n rootNodeFlags: NodeFlags;\n
lastRenderRootNode: NodeDef|null;\n bindingCount: number;\n outputCount: number;\n /**\n * Binary or of all query ids that are matched by one of the nodes.\n * This includes query ids from templates as well.\n * Used as a bloom filter.\n */\n nodeMatchedQueries: number;\n}\n\nexport interface ViewDefinitionFactory extends DefinitionFactory<ViewDefinition> {}\n\n\nexport interface ViewUpdateFn {\n (check: NodeCheckFn, view: ViewData): void;\n}\n\n// helper functions to create an overloaded function type.\nexport interface NodeCheckFn {\n (view: ViewData, nodeIndex: number, argStyle: ArgumentType.Dynamic, values: any[]): any;\n\n (view: ViewData, nodeIndex: number, argStyle: ArgumentType.Inline, v0?: any, v1?: any, v2?: any,\n v3?: any, v4?: any, v5?: any, v6?: any, v7?: any, v8?: any, v9?: any): any;\n}\n\nexport const enum ArgumentType {\n Inline = 0,\n Dynamic = 1\n}\n\nexport interface ViewHandleEventFn {\n (view: ViewData, nodeIndex: number, eventName: string,
event: any): boolean;\n}\n\n/**\n * Bitmask for ViewDefinition.flags.\n */\nexport const enum ViewFlags {\n None = 0,\n OnPush = 1 << 1,\n}\n\n/**\n * A node definition in the view.\n *\n * Note: We use one type for all nodes so that loops that loop over all nodes\n * of a ViewDefinition stay monomorphic!\n */\nexport interface NodeDef {\n flags: NodeFlags;\n // Index of the node in view data and view definition (those are the same)\n nodeIndex: number;\n // Index of the node in the check functions\n // Differ from nodeIndex when nodes are added or removed at runtime (ie after compilation)\n checkIndex: number;\n parent: NodeDef|null;\n renderParent: NodeDef|null;\n /** this is checked against NgContentDef.index to find matched nodes */\n ngContentIndex: number|null;\n /** number of transitive children */\n childCount: number;\n /** aggregated NodeFlags for all transitive children (does not include self) **/\n childFlags: NodeFlags;\n /** aggregated NodeFlags for all direct children (does not include self) **/\n directChildFlags: NodeFlags;\n\n bindingIndex: number;\n bindings: BindingDef[];\n bindingFlags: BindingFlags;\n outputIndex: number;\n outputs: OutputDef[];\n /**\n * references that the user placed on the element\n */\n references: {[refId: string]: QueryValueType};\n /**\n * ids and value types of all queries that are matched by this node.\n */\n matchedQueries: {[queryId: number]: QueryValueType};\n /** Binary or of all matched query ids of this node. */\n matchedQueryIds: number;\n /**\n * Binary or of all query ids that are matched by one of the children.\n * This includes query ids from templates as well.\n * Used as a bloom filter.\n */\n childMatchedQueries: number;\n element: ElementDef|null;\n provider: ProviderDef|null;\n text: TextDef|null;\n query: QueryDef|null;\n ngContent: NgContentDef|null;\n}\n\n/**\n *

Bitmask for NodeDef.flags.\n * Naming convention:\n * - `Type...`: flags that are mutually exclusive\n * - `Cat...`: union of multiple `Type...` (short for category).\n */\nexport const enum NodeFlags {\n None = 0,\n TypeElement = 1 << 0,\n TypeText = 1 << 1,\n ProjectedTemplate = 1 << 2,\n CatRenderNode = TypeElement | TypeText,\n TypeNgContent = 1 << 3,\n TypePipe = 1 << 4,\n TypePureArray = 1 << 5,\n TypePureObject = 1 << 6,\n TypePurePipe = 1 << 7,\n CatPureExpression = TypePureArray | TypePureObject | TypePurePipe,\n TypeValueProvider = 1 << 8,\n TypeClassProvider = 1 << 9,\n TypeFactoryProvider = 1 << 10,\n TypeUseExistingProvider = 1 << 11,\n LazyProvider = 1 << 12,\n PrivateProvider = 1 << 13,\n TypeDirective = 1 << 14,\n Component = 1 << 15,\n CatProviderNoDirective =\n TypeValueProvider | TypeClassProvider | TypeFactoryProvider | TypeUseExistingProvider,\n CatProvider = CatProviderNoDirective | TypeDirective,\n OnInit = 1 << 16,\n OnDestroy = 1 << 17,\n DoCheck = 1 << 18,\n OnChanges = 1 << 19,\n AfterContentInit = 1 << 20,\n AfterContentChecked = 1 << 21,\n AfterViewInit = 1 << 22,\n AfterViewChecked = 1 << 23,\n EmbeddedViews = 1 << 24,\n ComponentView = 1 << 25,\n TypeContentQuery = 1 << 26,\n TypeViewQuery = 1 << 27,\n StaticQuery = 1 << 28,\n DynamicQuery = 1 << 29,\n TypeNgModule = 1 << 30,\n CatQuery = TypeContentQuery | TypeViewQuery,\n\n // mutually exclusive values...\n Types = CatRenderNode | TypeNgContent | TypePipe | CatPureExpression | CatProvider | CatQuery\n}\n\nexport interface BindingDef {\n flags: BindingFlags;\n ns: string|null;\n name: string|null;\n nonMinifiedName: string|null;\n securityContext: SecurityContext|null;\n suffix: string|null;\n}\n\nexport const enum BindingFlags {\n TypeElementAttribute = 1 << 0,\n TypeElementClass = 1 << 1,\n TypeElementStyle = 1 << 2,\n TypeProperty = 1 << 3,\n SyntheticProperty = 1 << 4,\n SyntheticHostProperty = 1 << 5,\n CatSyntheticProperty = SyntheticProperty | SyntheticHostProperty,\n\n // mutually exclusive values...\n Types = TypeElementAttribute | TypeElementClass | TypeElementStyle | TypeProperty\n}\n\nexport interface OutputDef {\n type: OutputType;\n target: 'window'|'document'|'body'|'component'|null;\n eventName: string;\n propName: string|null;\n}\n\nexport const enum OutputType {\n ElementOutput,\n DirectiveOutput\n}\n\nexport const enum QueryValueType {\n ElementRef = 0,\n RenderElement = 1,\n TemplateRef = 2,\n ViewContainerRef = 3,\n Provider = 4\n}\n\nexport interface ElementDef {\n // set to null for `<ng-container>`\n name: string|null;\n ns: string|null;\n /** ns, name, value */\n attrs: [string, string, string][]|null;\n template: ViewDefinition|null;\n componentProvider: NodeDef|null;\n componentRendererType: RendererType2|null;\n // closure to allow recursive components\n componentView: ViewDefinitionFactory|null;\n /**\n * visible public providers for DI in the view,\n * as see from this element. This does not include private providers.\n */\n publicProviders:
{[tokenKey: string]: NodeDef}|null;\n /**\n * same as visiblePublicProviders, but also includes private providers\n * that are located on this element.\n */\n allProviders: {[tokenKey: string]: NodeDef}|null;\n handleEvent: ElementHandleEventFn|null;\n}\n\nexport interface ElementHandleEventFn {\n (view: ViewData, eventName: string, event: any): boolean;\n}\n\nexport interface ProviderDef {\n token: any;\n value: any;\n deps: DepDef[];\n}\n\nexport interface NgModuleProviderDef {\n flags: NodeFlags;\n index: number;\n token: any;\n value: any;\n deps: DepDef[];\n}\n\nexport interface DepDef {\n flags: DepFlags;\n token: any;\n tokenKey: string;\n}\n\n/**\n * Bitmask for DI flags\n */\nexport const enum DepFlags {\n None = 0,\n SkipSelf = 1 << 0,\n Optional = 1 << 1,\n Self = 1 << 2,\n Value = 1 << 3,\n}\n\nexport interface TextDef {\n prefix: string;\n}\n\nexport interface QueryDef {\n id: number;\n // variant of the id that can be used to check against NodeDef.matchedQueryIds, ...\n filterId: number;\n bindings: QueryBindingDef[];\n}\n\nexport interface QueryBindingDef {\n propName: string;\n bindingType: QueryBindingType;\n}\n\nexport const enum QueryBindingType {\n First = 0,\n All = 1\n}\n\nexport interface NgContentDef {\n /**\n * this index is checked against NodeDef.ngContentIndex to find the nodes\n * that are matched by this ng-content.\n * Note that a NodeDef with an ng-content can be reprojected, i.e.\n * have a ngContentIndex on its own.\n */\n index: number;\n}\n\n// ------------------------------------\n// Data\n// ------------------------------------\n\nexport interface NgModuleData extends Injector, NgModuleRef<any> {\n // Note: we are using the prefix _ as NgModuleData is an NgModuleRef and therefore directly\n // exposed to the user.\n _def: NgModuleDefinition;\n _parent: Injector;\n

_providers: any[];\n}\n\n/**\n * View instance data.\n * Attention: Adding fields to this is performance sensitive!\n */\nexport interface ViewData {\n  def: ViewDefinition;\n  root: RootData;\n  renderer: Renderer2;\n  // index of component provider / anchor.\n  parentNodeDef: NodeDef|null;\n  parent: ViewData|null;\n  viewContainerParent: ViewData|null;\n  component: any;\n  context: any;\n  // Attention: Never loop over this, as this will\n  // create a polymorphic usage site.\n  // Instead: Always loop over ViewDefinition.nodes,\n  // and call the right accessor (e.g. `elementData`) based on\n  // the NodeType.\n  nodes: {[key: number]: NodeData};\n  state: ViewState;\n  oldValues: any[];\n  disposables: DisposableFn[]|null;\n  initIndex: number;\n}\n\n/**\n * Bitmask of states\n */\nexport const enum ViewState {\n  BeforeFirstCheck = 1 << 0,\n  FirstCheck = 1 << 1,\n  Attached = 1 << 2,\n  ChecksEnabled = 1 << 3,\n  IsProjectedView = 1 << 4,\n  CheckProjectedView = 1 << 5,\n  CheckProjectedViews = 1 << 6,\n  Destroyed = 1 << 7,\n\n  // InitState Uses 3 bits\n  InitState_Mask = 7 << 8,\n  InitState_BeforeInit = 0 << 8,\n  InitState_CallingOnInit = 1 << 8,\n  InitState_CallingAfterContentInit = 2 << 8,\n  InitState_CallingAfterViewInit = 3 << 8,\n  InitState_AfterInit = 4 << 8,\n\n  CatDetectChanges = Attached | ChecksEnabled,\n  CatInit = BeforeFirstCheck | CatDetectChanges | InitState_BeforeInit\n}\n\n// Called before each cycle of a view's check to detect whether this is in the\n// initState for which we need to call ngOnInit, ngAfterContentInit or ngAfterViewInit\n// lifecycle methods. Returns true if this check cycle should call lifecycle\n// methods.\nexport function shiftInitState(\n    view: ViewData, priorInitState: ViewState, newInitState: ViewState): boolean {\n  // Only update the InitState if we are currently in the prior state.\n  // For example, only move into CallingInit if we are in BeforeInit. Only\n  // move into CallingContentInit if we are in CallingInit. Normally this will\n  // always be true because of how checkCycle is called in checkAndUpdateView.\n  // However, if checkAndUpdateView is called recursively or if an exception is\n  // thrown while checkAndUpdateView is running, checkAndUpdateView starts over\n  // from the beginning. This ensures the state is monotonically increasing,\n  // terminating in the AfterInit state, which ensures the Init methods are called\n  // at least once and only once.\n  const state = view.state;\n  const initState = state & ViewState.InitState_Mask;\n  if (initState === priorInitState) {\n    view.state = (state & ~ViewState.InitState_Mask) | newInitState;\n    view.initIndex = -1;\n    return true;\n  }\n  return initState === newInitState;\n}\n\n// Returns true if the lifecycle init method should be called for the node with\n// the given init index.\nexport function shouldCallLifecycleInitHook(\n    view: ViewData, initState: ViewState, index: number): boolean {\n  if ((view.state & ViewState.InitState_Mask) === initState && view.initIndex <= index) {\n    view.initIndex = index + 1;\n    return true;\n  }\n  return false;\n}\n\nexport interface DisposableFn {\n  (): void;\n}\n\n/**\n * Node instance data.\n *\n * We have a separate type per NodeType to save memory\n * (TextData | ElementData | ProviderData | PureExpressionData | QueryList<any>)\n *\n * To keep our code monomorphic,\n * we prohibit using `NodeData` directly but enforce the use of accessors (`asElementData`, ...).\n * This way, no usage site can get a `NodeData` from view.nodes and then use it for different\n * purposes.\n */\nexport class NodeData {\n  private __brand: any;\n}\n\n/**\n * Data for an instantiated NodeType.Text.\n *\n * Attention: Adding fields to this is performance sensitive!\n */\nexport interface TextData {\n  renderText: any;\n}\n\n/**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\nexport function asTextData(view: ViewData, index: number): TextData {\n  return <any>view.nodes[index];\n}\n\n/**\n * Data for an instantiated NodeType.Element.\n *\n * Attention: Adding fields to this is performance sensitive!\n */\nexport interface ElementData {\n  renderElement: any;\n  componentView: ViewData;\n  viewContainer: ViewContainerData|null;\n  template: TemplateData;\n}\n\nexport interface ViewContainerData extends ViewContainerRef {\n  // Note: we are using the prefix _ as ViewContainerData is a ViewContainerRef and therefore\n  // directly\n  // exposed to the user.\n  _embeddedViews: ViewData[];\n}\n\nexport interface TemplateData extends TemplateRef<any> {\n  // views that have been created from the template\n  // of this element,\n  // but inserted into the embeddedViews of another element.\n  // By default, this is undefined.\n  // Note: we are using the prefix _ as TemplateData is a TemplateRef and therefore directly\n  // exposed to the user.\n  _projectedViews: ViewData[];\n}\n\n/**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\nexport function asElementData(view: ViewData, index: number):

ElementData {\n  return <any>view.nodes[index];\n}\n\n/**\n * Data for an instantiated NodeType.Provider.\n *\n * Attention: Adding fields to this is performance sensitive!\n */\nexport interface ProviderData {\n  instance: any;\n}\n\n/**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\nexport function asProviderData(view: ViewData, index: number): ProviderData {\n  return <any>view.nodes[index];\n}\n\n/**\n * Data for an instantiated NodeType.PureExpression.\n *\n * Attention: Adding fields to this is performance sensitive!\n */\nexport interface PureExpressionData {\n  value: any;\n}\n\n/**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\nexport function asPureExpressionData(view: ViewData, index: number): PureExpressionData {\n  return <any>view.nodes[index];\n}\n\n/**\n * Accessor for view.nodes, enforcing that every usage site stays monomorphic.\n */\nexport function asQueryList(view: ViewData, index: number): QueryList<any> {\n  return <any>view.nodes[index];\n}\n\nexport interface RootData {\n  injector: Injector;\n  ngModule: NgModuleRef<any>;\n  projectableNodes: any[][];\n  selectorOrNode: any;\n  renderer: Renderer2;\n  rendererFactory: RendererFactory2;\n  errorHandler: ErrorHandler;\n  sanitizer: Sanitizer;\n}\n\nexport abstract class DebugContext {\n  abstract get view(): ViewData;\n  abstract get nodeIndex(): number|null;\n  abstract get injector(): Injector;\n  abstract get component(): any;\n  abstract get providerTokens(): any[];\n  abstract get references(): {[key: string]: any};\n  abstract get context(): any;\n  abstract get componentRenderElement(): any;\n  abstract get renderNode(): any;\n  abstract logError(console: Console, ...values: any[]): void;\n}\n\n// -------------------------------------\n// Other\n// -------------------------------------\n\nexport const enum CheckType {\n  CheckAndUpdate,\n  CheckNoChanges\n}\n\nexport interface ProviderOverride {\n  token: any;\n  flags: NodeFlags;\n  value: any;\n  deps: ([DepFlags, any]|any)[];\n  deprecatedBehavior: boolean;\n}\n\nexport interface Services {\n  setCurrentNode(view: ViewData, nodeIndex: number): void;\n  createRootView(\n      injector: Injector, projectableNodes: any[][], rootSelectorOrNode: string|any,\n      def: ViewDefinition, ngModule: NgModuleRef<any>, context?: any): ViewData;\n  createEmbeddedView(parent: ViewData, anchorDef: NodeDef, viewDef: ViewDefinition, context?: any):\n      ViewData;\n  createComponentView(\n      parentView: ViewData, nodeDef: NodeDef, viewDef: ViewDefinition, hostElement: any): ViewData;\n  createNgModuleRef(\n      moduleType: Type<any>, parent: Injector, bootstrapComponents: Type<any>[],\n      def: NgModuleDefinition): NgModuleRef<any>;\n  overrideProvider(override: ProviderOverride): void;\n  overrideComponentView(compType: Type<any>, compFactory: ComponentFactory<any>): void;\n  clearOverrides(): void;\n  checkAndUpdateView(view: ViewData): void;\n  checkNoChangesView(view: ViewData): void;\n  destroyView(view: ViewData): void;\n  resolveDep(\n      view: ViewData, elDef: NodeDef|null, allowPrivateServices: boolean, depDef: DepDef,\n      notFoundValue?: any): any;\n  createDebugContext(view: ViewData, nodeIndex: number): DebugContext;\n  handleEvent: ViewHandleEventFn;\n  updateDirectives: (view: ViewData, checkType: CheckType) => void;\n  updateRenderer: (view: ViewData, checkType: CheckType) => void;\n  dirtyParentQueries: (view: ViewData) => void;\n}\n\n/**\n * This object is used to prevent cycles in the source files and to have a place where\n * debug mode can hook it. It is lazily filled when `isDevMode` is known.\n */\nexport const Services: Services = {\n  setCurrentNode: undefined!,\n  createRootView: undefined!,\n  createEmbeddedView: undefined!,\n  createComponentView: undefined!,\n  createNgModuleRef: undefined!,\n  overrideProvider: undefined!,\n  overrideComponentView: undefined!,\n  clearOverrides: undefined!,\n  checkAndUpdateView: undefined!,\n  checkNoChangesView: undefined!,\n  destroyView: undefined!,\n  resolveDep: undefined!,\n  createDebugContext: undefined!,\n  handleEvent: undefined!,\n  updateDirectives: undefined!,\n  updateRenderer: undefined!,\n  dirtyParentQueries: undefined!,\n};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {devModeEqual, WrappedValue} from '../change_detection/change_detection';\nimport {SOURCE} from '../di/injector_compatibility';\nimport {ViewEncapsulation} from '../metadata/view';\nimport {RendererType2} from '../render/api_flags';\nimport {stringify} from '../util/stringify';\n\nimport {expressionChangedAfterItHasBeenCheckedError} from './errors';\nimport {asElementData, asTextData,

BindingDef, BindingFlags, Definition, DefinitionFactory, DepDef, DepFlags, ElementData, NodeDef, NodeFlags, QueryValueType, Services, ViewData, ViewDefinition, ViewDefinitionFactory, ViewFlags, ViewState} from './types';\n\nexport const NOOP: any = () => {};\n\nconst _tokenKeyCache = new Map<any, string>();\n\nexport function tokenKey(token: any): string {\n let key = _tokenKeyCache.get(token);\n if (!key) {\n key = stringify(token) + '_' + _tokenKeyCache.size;\n _tokenKeyCache.set(token, key);\n }\n return key;\n}\n\nexport function unwrapValue(view: ViewData, nodeIdx: number, bindingIdx: number, value: any): any {\n if (WrappedValue.isWrapped(value)) {\n value = WrappedValue.unwrap(value);\n const globalBindingIdx = view.def.nodes[nodeIdx].bindingIndex + bindingIdx;\n const oldValue = WrappedValue.unwrap(view.oldValues[globalBindingIdx]);\n view.oldValues[globalBindingIdx] = new WrappedValue(oldValue);\n }\n return value;\n}\n\nconst UNDEFINED_RENDERER_TYPE_ID = '$$undefined';\nconst EMPTY_RENDERER_TYPE_ID = '$$empty';\n\n// Attention: this function is called as top level function.\n// Putting any logic in here will destroy closure tree shaking!\nexport function createRendererType2(values: {\n styles: (string|any[])[],\n encapsulation: ViewEncapsulation,\n data: {[kind: string]: any[]}\n}): RendererType2 {\n return {\n id: UNDEFINED_RENDERER_TYPE_ID,\n styles: values.styles,\n encapsulation: values.encapsulation,\n data: values.data\n };\n}\n\nlet _renderCompCount = 0;\n\nexport function resolveRendererType2(type?: RendererType2|null): RendererType2|null {\n if (type && type.id === UNDEFINED_RENDERER_TYPE_ID) {\n // first time we see this RendererType2. Initialize it...\n const isFilled =\n ((type.encapsulation != null && type.encapsulation !== ViewEncapsulation.None) ||\n type.styles.length || Object.keys(type.data).length);\n if (isFilled) {\n type.id = `c${_renderCompCount++}`;\n } else {\n type.id = EMPTY_RENDERER_TYPE_ID;\n }\n }\n if (type && type.id === EMPTY_RENDERER_TYPE_ID)
{\n type = null;\n }\n return type || null;\n}\n\nexport function checkBinding(\n view: ViewData, def: NodeDef, bindingIdx: number, value: any): boolean {\n const oldValues = view.oldValues;\n if ((view.state & ViewState.FirstCheck) ||\n !Object.is(oldValues[def.bindingIndex + bindingIdx], value)) {\n return true;\n }\n return false;\n}\n\nexport function checkAndUpdateBinding(\n view: ViewData, def: NodeDef, bindingIdx: number, value: any): boolean {\n if (checkBinding(view, def, bindingIdx, value)) {\n view.oldValues[def.bindingIndex + bindingIdx] = value;\n return true;\n }\n return false;\n}\n\nexport function checkBindingNoChanges(\n view: ViewData, def: NodeDef, bindingIdx: number, value: any) {\n const oldValue = view.oldValues[def.bindingIndex + bindingIdx];\n if ((view.state & ViewState.BeforeFirstCheck) || !devModeEqual(oldValue, value)) {\n const bindingName = def.bindings[bindingIdx].name;\n throw expressionChangedAfterItHasBeenCheckedError(\n Services.createDebugContext(view, def.nodeIndex), `${bindingName}: ${oldValue}`,\n `${bindingName}: ${value}`, (view.state & ViewState.BeforeFirstCheck) !== 0);\n }\n}\n\nexport function markParentViewsForCheck(view: ViewData) {\n let currView: ViewData|null = view;\n while (currView) {\n if (currView.def.flags & ViewFlags.OnPush) {\n currView.state |= ViewState.ChecksEnabled;\n }\n currView = currView.viewContainerParent || currView.parent;\n }\n}\n\nexport function markParentViewsForCheckProjectedViews(view: ViewData, endView: ViewData) {\n let currView: ViewData|null = view;\n while (currView && currView !== endView) {\n currView.state |= ViewState.CheckProjectedViews;\n currView = currView.viewContainerParent || currView.parent;\n }\n}\n\nexport function dispatchEvent(\n view: ViewData, nodeIndex: number, eventName: string, event: any): boolean|undefined {\n try {\n const nodeDef = view.def.nodes[nodeIndex];\n const startView = nodeDef.flags & NodeFlags.ComponentView ?\n asElementData(view, nodeIndex).componentView :\n view;\n markParentViewsForCheck(startView);\n return Services.handleEvent(view, nodeIndex, eventName, event);\n } catch (e) {\n // Attention: Don't rethrow, as it would cancel Observable subscriptions!\n view.root.errorHandler.handleError(e);\n }\n}\n\nexport function declaredViewContainer(view: ViewData): ElementData|null {\n if (view.parent) {\n const parentView = view.parent;\n return asElementData(parentView, view.parentNodeDef!.nodeIndex);\n }\n return null;\n}\n\n/**\n * for component views, this is the host element.\n * for embedded views, this is the index of the

parent node\n * that contains the view container.\n */\nexport function viewParentEl(view: ViewData): NodeDef|null {\n  const parentView = view.parent;\n  if (parentView) {\n    return view.parentNodeDef!.parent;\n  } else {\n    return null;\n  }\n}\n\nexport function
renderNode(view: ViewData, def: NodeDef): any {\n  switch (def.flags & NodeFlags.Types) {\n    case NodeFlags.TypeElement:\n      return asElementData(view, def.nodeIndex).renderElement;\n    case NodeFlags.TypeText:\n      return asTextData(view, def.nodeIndex).renderText;\n  }\n}\n\nexport function elementEventFullName(target: string|null, name: string): string {\n  return target ? `${target}:${name}` : name;\n}\n\nexport function isComponentView(view: ViewData): boolean {\n  return !!view.parent && !!(view.parentNodeDef!.flags & NodeFlags.Component);\n}\n\nexport function isEmbeddedView(view: ViewData): boolean {\n  return !!view.parent && !(view.parentNodeDef!.flags & NodeFlags.Component);\n}\n\nexport function filterQueryId(queryId: number): number {\n  return 1 << (queryId % 32);\n}\n\nexport function splitMatchedQueriesDsl(matchedQueriesDsl: [string|number, QueryValueType][]|null): {\n  matchedQueries: {[queryId: string]: QueryValueType},\n  references: {[refId: string]: QueryValueType},\n  matchedQueryIds: number\n} {\n  const matchedQueries: {[queryId: string]: QueryValueType} = {};\n  let matchedQueryIds = 0;\n  const references: {[refId: string]: QueryValueType} = {};\n  if (matchedQueriesDsl) {\n matchedQueriesDsl.forEach(([queryId, valueType]) => {\n    if (typeof queryId === 'number') {\n matchedQueries[queryId] = valueType;\n      matchedQueryIds |= filterQueryId(queryId);\n    } else {\n references[queryId] = valueType;\n    }\n  });\n  }\n  return {matchedQueries, references, matchedQueryIds};\n}\n\nexport function splitDepsDsl(deps: ([DepFlags, any]|any)[], sourceName?: string): DepDef[] {\n  return deps.map(value => {\n    let token: any;\n    let flags: DepFlags;\n    if (Array.isArray(value)) {\n      [flags, token] = value;\n    } else {\n      flags = DepFlags.None;\n      token = value;\n    }\n    if (token && (typeof token === 'function' || typeof token === 'object') && sourceName) {\n      Object.defineProperty(token, SOURCE, {value: sourceName, configurable: true});\n    }\n    return {flags, token, tokenKey: tokenKey(token)};\n  });\n}\n\nexport function getParentRenderElement(view: ViewData, renderHost: any, def: NodeDef): any {\n  let renderParent = def.renderParent;\n  if (renderParent) {\n    if ((renderParent.flags & NodeFlags.TypeElement) === 0 ||\n        (renderParent.flags & NodeFlags.ComponentView) === 0 ||\n (renderParent.element!.componentRendererType &&\n (renderParent.element!.componentRendererType!.encapsulation ===\n              ViewEncapsulation.ShadowDom ||\n        // TODO(FW-2290): remove the `encapsulation === 1` fallback logic in v12.\n renderParent.element!.componentRendererType!.encapsulation === 1))) {\n      // only children of non components, or children of components with native encapsulation should\n      // be attached.\n      return asElementData(view, def.renderParent!.nodeIndex).renderElement;\n    }\n  } else {\n    return renderHost;\n  }\n}\n\nconst DEFINITION_CACHE = new WeakMap<any, Definition<any>>();\n\nexport function resolveDefinition<D extends Definition<any>>(factory: DefinitionFactory<D>): D {\n  let value = DEFINITION_CACHE.get(factory)! as D;\n  if (!value) {\n    value = factory(() => NOOP);\n    value.factory = factory;\n    DEFINITION_CACHE.set(factory, value);\n  }\n  return value;\n}\n\nexport function rootRenderNodes(view: ViewData): any[] {\n  const renderNodes: any[] = [];\n  visitRootRenderNodes(view, RenderNodeAction.Collect, undefined, undefined, renderNodes);\n  return renderNodes;\n}\n\nexport const enum RenderNodeAction {\n  Collect,\n  AppendChild,\n  InsertBefore,\n  RemoveChild\n}\n\nexport function visitRootRenderNodes(\n    view: ViewData, action: RenderNodeAction, parentNode: any, nextSibling: any, target?: any[]) {\n  // We need to re-compute the parent node in case the nodes have been moved around manually\n  if (action === RenderNodeAction.RemoveChild) {\n    parentNode = view.renderer.parentNode(renderNode(view, view.def.lastRenderRootNode!));\n  }\n  visitSiblingRenderNodes(\n      view, action, 0, view.def.nodes.length - 1, parentNode, nextSibling, target);\n}\n\nexport function visitSiblingRenderNodes(\n    view: ViewData, action: RenderNodeAction, startIndex: number, endIndex: number, parentNode: any,\n    nextSibling: any, target?: any[]) {\n  for (let i = startIndex; i <= endIndex; i++) {\n    const nodeDef = view.def.nodes[i];\n    if (nodeDef.flags & (NodeFlags.TypeElement | NodeFlags.TypeText | NodeFlags.TypeNgContent)) {\n      visitRenderNode(view, nodeDef, action, parentNode, nextSibling, target);\n    }\n    // jump to next sibling\n    i += nodeDef.childCount;\n

}\n}\n\nexport function visitProjectedRenderNodes(\n view: ViewData, ngContentIndex: number, action: RenderNodeAction, parentNode: any,\n nextSibling: any, target?: any[]) {\n let compView: ViewData|null = view;\n while (compView && !isComponentView(compView)) {\n compView = compView.parent;\n }\n const hostView = compView!.parent;\n const hostElDef = viewParentEl(compView!);\n const startIndex = hostElDef!.nodeIndex + 1;\n const endIndex = hostElDef!.nodeIndex + hostElDef!.childCount;\n for (let i = startIndex; i <= endIndex; i++) {\n const nodeDef = hostView!.def.nodes[i];\n if (nodeDef.ngContentIndex === ngContentIndex) {\n visitRenderNode(hostView!, nodeDef, action, parentNode, nextSibling, target);\n }\n // jump to next sibling\n i += nodeDef.childCount;\n }\n if (!hostView!.parent) {\n // a root view\n const projectedNodes = view.root.projectableNodes[ngContentIndex];\n if (projectedNodes) {\n for (let i = 0; i < projectedNodes.length; i++) {\n execRenderNodeAction(view, projectedNodes[i], action, parentNode, nextSibling, target);\n }\n }\n }\n}\n\nfunction visitRenderNode(\n view: ViewData, nodeDef: NodeDef, action: RenderNodeAction, parentNode: any, nextSibling: any,\n target?: any[]) {\n if (nodeDef.flags & NodeFlags.TypeNgContent) {\n visitProjectedRenderNodes(\n view, nodeDef.ngContent!.index, action, parentNode, nextSibling, target);\n } else {\n const rn = renderNode(view, nodeDef);\n if (action === RenderNodeAction.RemoveChild && (nodeDef.flags & NodeFlags.ComponentView) &&\n (nodeDef.bindingFlags & BindingFlags.CatSyntheticProperty)) {\n // Note: we might need to do both actions.\n if (nodeDef.bindingFlags & (BindingFlags.SyntheticProperty)) {\n execRenderNodeAction(view, rn, action, parentNode, nextSibling, target);\n }\n if (nodeDef.bindingFlags & (BindingFlags.SyntheticHostProperty)) {\n const compView = asElementData(view, nodeDef.nodeIndex).componentView;\n execRenderNodeAction(compView, rn, action, parentNode, nextSibling, target);\n }\n } else {\n execRenderNodeAction(view, rn, action, parentNode, nextSibling, target);\n }\n if (nodeDef.flags & NodeFlags.EmbeddedViews) {\n const embeddedViews = asElementData(view, nodeDef.nodeIndex).viewContainer!._embeddedViews;\n for (let k = 0; k < embeddedViews.length; k++) {\n visitRootRenderNodes(embeddedViews[k], action, parentNode, nextSibling, target);\n }\n }\n if (nodeDef.flags & NodeFlags.TypeElement && !nodeDef.element!.name) {\n visitSiblingRenderNodes(\n view, action, nodeDef.nodeIndex + 1, nodeDef.nodeIndex + nodeDef.childCount, parentNode,\n nextSibling, target);\n }\n}\n\nfunction execRenderNodeAction(\n view: ViewData, renderNode: any, action: RenderNodeAction, parentNode: any, nextSibling: any,\n target?: any[]) {\n const renderer = view.renderer;\n switch (action) {\n case RenderNodeAction.AppendChild:\n renderer.appendChild(parentNode, renderNode);\n break;\n case RenderNodeAction.InsertBefore:\n renderer.insertBefore(parentNode, renderNode, nextSibling);\n break;\n case RenderNodeAction.RemoveChild:\n renderer.removeChild(parentNode, renderNode);\n break;\n case RenderNodeAction.Collect:\n target!.push(renderNode);\n break;\n }\n}\n\nconst NS_PREFIX_RE = /^:([^:]+):(.+)$/;\n\nexport function splitNamespace(name: string): string[] {\n if (name[0] === ':') {\n const match = name.match(NS_PREFIX_RE)!;\n return [match[1], match[2]];\n }\n return ['', name];\n}\n\nexport function calcBindingFlags(bindings: BindingDef[]): BindingFlags {\n let flags = 0;\n for (let i = 0; i < bindings.length; i++) {\n flags |= bindings[i].flags;\n }\n return flags;\n}\n\nexport function interpolate(valueCount: number, constAndInterp: string[]): string {\n let result = '';\n for (let i = 0; i < valueCount * 2; i = i + 2) {\n result = result + constAndInterp[i] + _toStringWithNull(constAndInterp[i + 1]);\n }\n return result + constAndInterp[valueCount * 2];\n}\n\nexport function inlineInterpolate(\n valueCount: number, c0: string, a1: any, c1: string, a2?: any, c2?: string, a3?: any,\n c3?: string, a4?: any, c4?: string, a5?: any, c5?: string, a6?: any, c6?: string, a7?: any,\n c7?: string, a8?: any, c8?: string, a9?: any, c9?: string): string {\n switch (valueCount) {\n case 1:\n return c0 + _toStringWithNull(a1) + c1;\n case 2:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2;\n case 3:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3;\n case 4:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4;\n case 5:\n

return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5;\n case 6:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5 + _toStringWithNull(a6) + c6;\n case 7:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5 + _toStringWithNull(a6) +\n c6 + _toStringWithNull(a7) + c7;\n case 8:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5 + _toStringWithNull(a6) +\n c6 + _toStringWithNull(a7) + c7 + _toStringWithNull(a8) + c8;\n case 9:\n return c0 + _toStringWithNull(a1) + c1 + _toStringWithNull(a2) + c2 + _toStringWithNull(a3) +\n c3 + _toStringWithNull(a4) + c4 + _toStringWithNull(a5) + c5 + _toStringWithNull(a6) +\n c6 + _toStringWithNull(a7) + c7 + _toStringWithNull(a8) + c8 + _toStringWithNull(a9) + c9;\n default:\n throw new Error(`Does not support more than 9 expressions`);\n }\n}\n\nfunction _toStringWithNull(v: any): string {\n return v != null ? v.toString() : '';\n}\n\nexport const EMPTY_ARRAY: any[] = [];\nexport const EMPTY_MAP: {[key: string]: any} = {};\n'','/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {resolveForwardRef} from '../di/forward_ref';\nimport {Injector} from '../di/injector';\nimport {setCurrentInjector} from '../di/injector_compatibility';\nimport {INJECTOR} from '../di/injector_token';\nimport {getInjectableDef, InjectableDef} from '../di/interface/defs';\nimport {INJECTOR_SCOPE} from '../di/scope';\nimport {NgModuleRef} from '../linker/ng_module_factory';\nimport {newArray} from '../util/array_utils';\nimport {stringify} from '../util/stringify';\n\nimport {DepDef, DepFlags, NgModuleData, NgModuleDefinition, NgModuleProviderDef, NodeFlags} from './types';\nimport {splitDepsDsl, tokenKey} from './util';\n\nconst UNDEFINED_VALUE = {};\n\nconst InjectorRefTokenKey = tokenKey(Injector);\nconst INJECTORRefTokenKey = tokenKey(INJECTOR);\nconst NgModuleRefTokenKey = tokenKey(NgModuleRef);\n\nexport function moduleProvideDef(\n flags: NodeFlags, token: any, value: any, deps: ([DepFlags, any]|any)[]): NgModuleProviderDef {\n // Need to resolve forwardRefs as e.g. for `useValue` we\n // lowered the expression and then stopped evaluating it,\n // i.e. also didn't unwrap it.\n value = resolveForwardRef(value);\n const depDefs = splitDepsDsl(deps, stringify(token));\n return {\n // will bet set by the module definition\n index: -1,\n deps: depDefs,\n flags,\n token,\n value\n };\n}\n\nexport function moduleDef(providers: NgModuleProviderDef[]): NgModuleDefinition {\n const providersByKey: {[key: string]: NgModuleProviderDef} = {};\n const modules = [];\n let scope: 'root'|'platform'|null = null;\n for (let i = 0; i < providers.length; i++) {\n const provider = providers[i];\n if (provider.token === INJECTOR_SCOPE) {\n scope = provider.value;\n }\n if (provider.flags & NodeFlags.TypeNgModule) {\n modules.push(provider.token);\n }\n provider.index = i;\n providersByKey[tokenKey(provider.token)] = provider;\n }\n return {\n // Will be filled later...\n factory: null,\n providersByKey,\n providers,\n modules,\n scope: scope,\n };\n}\n\nexport function initNgModule(data: NgModuleData) {\n const def = data._def;\n const providers = data._providers = newArray(def.providers.length);\n for (let i = 0; i < def.providers.length; i++) {\n const provDef = def.providers[i];\n if (!(provDef.flags & NodeFlags.LazyProvider)) {\n // Make sure the provider has not been already initialized outside this loop.\n if (providers[i] === undefined) {\n providers[i] = _createProviderInstance(data, provDef);\n }\n }\n }\n}\n\nexport function resolveNgModuleDep(\n data: NgModuleData, depDef: DepDef, notFoundValue: any = Injector.THROW_IF_NOT_FOUND): any {\n const former = setCurrentInjector(data);\n try {\n if (depDef.flags & DepFlags.Value) {\n return depDef.token;\n }\n if (depDef.flags & DepFlags.Optional) {\n notFoundValue = null;\n }\n if (depDef.flags & DepFlags.SkipSelf) {\n return data._parent.get(depDef.token, notFoundValue);\n }\n const tokenKey = depDef.tokenKey;\n switch (tokenKey) {\n case InjectorRefTokenKey:\n case INJECTORRefTokenKey:\n case NgModuleRefTokenKey:\n return data;\n

}\n const providerDef = data._def.providersByKey[tokenKey];\n let injectableDef: InjectableDef<any>|null;\n if (providerDef) {\n let providerInstance = data._providers[providerDef.index];\n if (providerInstance === undefined) {\n providerInstance = data._providers[providerDef.index] =\n _createProviderInstance(data, providerDef);\n }\n return providerInstance === UNDEFINED_VALUE ? undefined : providerInstance;\n } else if (\n (injectableDef = getInjectableDef(depDef.token)) && targetsModule(data, injectableDef)) {\n const index = data._providers.length;\n data._def.providers[index] = data._def.providersByKey[depDef.tokenKey] = {\n flags: NodeFlags.TypeFactoryProvider | NodeFlags.LazyProvider,\n value: injectableDef.factory,\n deps: [],\n index,\n token: depDef.token,\n };\n data._providers[index] = UNDEFINED_VALUE;\n return (\n data._providers[index] =\n _createProviderInstance(data, data._def.providersByKey[depDef.tokenKey]));\n } else if (depDef.flags & DepFlags.Self) {\n return notFoundValue;\n }\n return data._parent.get(depDef.token, notFoundValue);\n } finally {\n setCurrentInjector(former);\n }\n}\n\nfunction moduleTransitivelyPresent(ngModule: NgModuleData, scope: any): boolean\n {\n return ngModule._def.modules.indexOf(scope) > -1;\n}\n\nfunction targetsModule(ngModule: NgModuleData, def: InjectableDef<any>): boolean {\n const providedIn = def.providedIn;\n return providedIn != null &&\n (providedIn === 'any' || providedIn === ngModule._def.scope ||\n moduleTransitivelyPresent(ngModule, providedIn));\n}\n\nfunction _createProviderInstance(ngModule: NgModuleData, providerDef: NgModuleProviderDef): any {\n let injectable: any;\n switch (providerDef.flags & NodeFlags.Types) {\n case NodeFlags.TypeClassProvider:\n injectable = _createClass(ngModule, providerDef.value, providerDef.deps);\n break;\n case NodeFlags.TypeFactoryProvider:\n injectable = _callFactory(ngModule, providerDef.value, providerDef.deps);\n break;\n case NodeFlags.TypeUseExistingProvider:\n injectable = resolveNgModuleDep(ngModule, providerDef.deps[0]);\n break;\n case NodeFlags.TypeValueProvider:\n injectable = providerDef.value;\n break;\n }\n\n // The read of `ngOnDestroy` here is slightly expensive as it's megamorphic, so it should be\n // avoided if possible. The sequence of checks here determines whether ngOnDestroy needs to be\n // checked. It might not if the `injectable` isn't an object or if NodeFlags.OnDestroy is already\n // set (ngOnDestroy was detected statically).\n if (injectable !== UNDEFINED_VALUE && injectable !== null && typeof injectable === 'object' &&\n !(providerDef.flags & NodeFlags.OnDestroy) && typeof injectable.ngOnDestroy === 'function') {\n providerDef.flags |= NodeFlags.OnDestroy;\n }\n return injectable === undefined ? UNDEFINED_VALUE : injectable;\n}\n\nfunction _createClass(ngModule: NgModuleData, ctor: any, deps: DepDef[]): any {\n const len = deps.length;\n switch (len) {\n case 0:\n return new ctor();\n case 1:\n return new ctor(resolveNgModuleDep(ngModule, deps[0]));\n case 2:\n return new ctor(resolveNgModuleDep(ngModule, deps[0]),\n resolveNgModuleDep(ngModule, deps[1]));\n case 3:\n return new ctor(\n resolveNgModuleDep(ngModule, deps[0]), resolveNgModuleDep(ngModule, deps[1]),\n resolveNgModuleDep(ngModule, deps[2]));\n default:\n const depValues = [];\n for (let i = 0; i < len; i++) {\n depValues[i] = resolveNgModuleDep(ngModule, deps[i]);\n }\n return new ctor(...depValues);\n }\n}\n\nfunction _callFactory(ngModule: NgModuleData, factory: any, deps: DepDef[]): any {\n const len = deps.length;\n switch (len) {\n case 0:\n return factory();\n case 1:\n return factory(resolveNgModuleDep(ngModule, deps[0]));\n case 2:\n return factory(resolveNgModuleDep(ngModule, deps[0]), resolveNgModuleDep(ngModule, deps[1]));\n case 3:\n return factory(\n resolveNgModuleDep(ngModule, deps[0]), resolveNgModuleDep(ngModule, deps[1]),\n resolveNgModuleDep(ngModule, deps[2]));\n default:\n const depValues = [];\n for (let i = 0; i < len; i++) {\n depValues[i] = resolveNgModuleDep(ngModule, deps[i]);\n }\n return factory(...depValues);\n }\n}\n\nexport function callNgModuleLifecycle(ngModule: NgModuleData, lifecycles: NodeFlags) {\n const def = ngModule._def;\n const destroyed = new Set<any>();\n for (let i = 0; i < def.providers.length; i++) {\n const provDef = def.providers[i];\n if (provDef.flags & NodeFlags.OnDestroy) {\n

```
    const instance = ngModule._providers[i];\n      if (instance && instance !== UNDEFINED_VALUE) {\n
const onDestroy: Function|undefined = instance.ngOnDestroy;\n        if (typeof onDestroy === 'function' &&
!destroyed.has(instance)) {\n          onDestroy.apply(instance);\n          destroyed.add(instance);\n        }\n      }\n
}\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is
governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
 */\n\nimport {addToArray, removeFromArray} from '../util/array_utils';\n\nimport {ElementData, NodeDef,
NodeFlags, Services, ViewData, ViewDefinition, ViewState} from './types';\nimport {declaredViewContainer,
renderNode, RenderNodeAction, visitRootRenderNodes} from './util';\n\nexport function attachEmbeddedView(\n
parentView: ViewData, elementData: ElementData, viewIndex: number|undefined|null,\n    view: ViewData) {\n  let
embeddedViews = elementData.viewContainer!._embeddedViews;\n  if (viewIndex === null || viewIndex ===
undefined) {\n    viewIndex = embeddedViews.length;\n  }\n  view.viewContainerParent = parentView;\n
addToArray(embeddedViews, viewIndex!, view);\n  attachProjectedView(elementData, view);\n\n
Services.dirtyParentQueries(view);\n\n  const prevView = viewIndex! > 0 ? embeddedViews[viewIndex! - 1] :
null;\n  renderAttachEmbeddedView(elementData, prevView, view);\n}\n\nfunction
attachProjectedView(vcElementData: ElementData, view: ViewData) {\n
  const dvcElementData = declaredViewContainer(view);\n  if (!dvcElementData || dvcElementData ===
vcElementData ||\n      view.state & ViewState.IsProjectedView) {\n    return;\n  }\n  // Note: For performance
reasons, we\n  // - add a view to template._projectedViews only 1x throughout its lifetime,\n  //   and remove it not
until the view is destroyed.\n  //   (hard, as when a parent view is attached/detached we would need to attach/detach
all\n  //    nested projected views as well, even across component boundaries).\n  // - don't track the insertion order of
views in the projected views array\n  //   (hard, as when the views of the same template are inserted different view
containers)\n  view.state |= ViewState.IsProjectedView;\n  let projectedViews =
dvcElementData.template._projectedViews;\n  if (!projectedViews) {\n    projectedViews =
dvcElementData.template._projectedViews = [];\n  }\n  projectedViews.push(view);\n  // Note: we are changing the
NodeDef here as we cannot calculate\n
  // the fact whether a template is used for projection during compilation.\n
markNodeAsProjectedTemplate(view.parent!.def, view.parentNodeDef!);\n}\n\nfunction
markNodeAsProjectedTemplate(viewDef: ViewDefinition, nodeDef: NodeDef) {\n  if (nodeDef.flags &
NodeFlags.ProjectedTemplate) {\n    return;\n  }\n  viewDef.nodeFlags |= NodeFlags.ProjectedTemplate;\n
nodeDef.flags |= NodeFlags.ProjectedTemplate;\n  let parentNodeDef = nodeDef.parent;\n  while (parentNodeDef)
{\n    parentNodeDef.childFlags |= NodeFlags.ProjectedTemplate;\n    parentNodeDef = parentNodeDef.parent;\n
}\n}\n\nexport function detachEmbeddedView(elementData: ElementData, viewIndex?: number): ViewData|null {\n
const embeddedViews = elementData.viewContainer!._embeddedViews;\n  if (viewIndex == null || viewIndex >=
embeddedViews.length) {\n    viewIndex = embeddedViews.length - 1;\n  }\n  if (viewIndex < 0) {\n    return null;\n
}\n  const view = embeddedViews[viewIndex];\n  view.viewContainerParent = null;\n
  removeFromArray(embeddedViews, viewIndex);\n\n  // See attachProjectedView for why we don't update
projectedViews here.\n  Services.dirtyParentQueries(view);\n\n  renderDetachView(view);\n\n  return
view;\n}\n\nexport function detachProjectedView(view: ViewData) {\n  if (!(view.state &
ViewState.IsProjectedView)) {\n    return;\n  }\n  const dvcElementData = declaredViewContainer(view);\n  if
(dvcElementData) {\n    const projectedViews = dvcElementData.template._projectedViews;\n    if (projectedViews)
{\n      removeFromArray(projectedViews, projectedViews.indexOf(view));\n
Services.dirtyParentQueries(view);\n    }\n  }\n}\n\nexport function moveEmbeddedView(\n    elementData:
ElementData, oldViewIndex: number, newViewIndex: number): ViewData {\n  const embeddedViews =
elementData.viewContainer!._embeddedViews;\n  const view = embeddedViews[oldViewIndex];\n
removeFromArray(embeddedViews, oldViewIndex);\n  if (newViewIndex == null) {\n    newViewIndex =
embeddedViews.length;\n
  }\n  addToArray(embeddedViews, newViewIndex, view);\n\n  // Note: Don't need to change projectedViews as the
order in there\n  // as always invalid...\n\n  Services.dirtyParentQueries(view);\n\n  renderDetachView(view);\n
```

const prevView = newViewIndex > 0 ? embeddedViews[newViewIndex - 1] : null;\n renderAttachEmbeddedView(elementData, prevView, view);\n\n  return view;\n}\n\nfunction renderAttachEmbeddedView(\n    elementData: ElementData, prevView: ViewData|null, view: ViewData) {\n const prevRenderNode =\n      prevView ? renderNode(prevView, prevView.def.lastRenderRootNode!) : elementData.renderElement;\n  const parentNode = view.renderer.parentNode(prevRenderNode);\n  const nextSibling = view.renderer.nextSibling(prevRenderNode);\n  // Note: We can't check if `nextSibling` is present, as on WebWorkers it will always be!\n  // However, browsers automatically do `appendChild` when there is no `nextSibling`.\n  visitRootRenderNodes(view, RenderNodeAction.InsertBefore, parentNode, nextSibling, undefined);\n}\n\nexport function renderDetachView(view: ViewData) {\n visitRootRenderNodes(view, RenderNodeAction.RemoveChild, null, null, undefined);\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef} from '../change_detection/change_detection';\nimport {Injector} from '../di/injector';\nimport {InjectFlags} from '../di/interface/injector';\nimport {Type} from '../interface/type';\nimport {ComponentFactory, ComponentRef} from '../linker/component_factory';\nimport {ComponentFactoryBoundToModule, ComponentFactoryResolver} from '../linker/component_factory_resolver';\nimport {ElementRef} from '../linker/element_ref';\nimport {InternalNgModuleRef, NgModuleRef} from '../linker/ng_module_factory';\nimport {TemplateRef} from '../linker/template_ref';\nimport {ViewContainerRef} from '../linker/view_container_ref';\nimport {EmbeddedViewRef, InternalViewRef, ViewRef, ViewRefTracker} from '../linker/view_ref';\nimport {stringify} from '../util/stringify';\nimport {VERSION} from '../version';\n\nimport {callNgModuleLifecycle, initNgModule, resolveNgModuleDep} from './ng_module';\nimport {asElementData, asProviderData, asTextData, DepFlags, ElementData, NgModuleData, NgModuleDefinition, NodeDef, NodeFlags, Services, TemplateData, ViewContainerData, ViewData, ViewDefinitionFactory, ViewState} from './types';\nimport {markParentViewsForCheck, resolveDefinition, rootRenderNodes, tokenKey, viewParentEl} from './util';\nimport {attachEmbeddedView, detachEmbeddedView, moveEmbeddedView, renderDetachView} from './view_attach';\n\nconst EMPTY_CONTEXT = {};\n\n// Attention: this function is called as top level function.\n// Putting any logic in here will destroy closure tree shaking!\nexport function createComponentFactory(\n    selector: string, componentType: Type<any>, viewDefFactory: ViewDefinitionFactory,\n    inputs: {[propName: string]: string}|null, outputs: {[propName: string]: string},\n ngContentSelectors: string[]): ComponentFactory<any> {\n  return new ComponentFactory_(\n      selector, componentType, viewDefFactory, inputs, outputs, ngContentSelectors);\n}\n\nexport function getComponentViewDefinitionFactory(componentFactory: ComponentFactory<any>):\n    ViewDefinitionFactory {\n  return (componentFactory as ComponentFactory_).viewDefFactory;\n}\n\nclass ComponentFactory_ extends ComponentFactory<any> {\n  /**\n   * @internal\n   */\n  viewDefFactory: ViewDefinitionFactory;\n\n constructor(\n      public selector: string, public componentType: Type<any>,\n      viewDefFactory: ViewDefinitionFactory, private _inputs: {[propName: string]: string}|null,\n      private _outputs: {[propName: string]: string}, public ngContentSelectors: string[]) {\n    // Attention: this ctor is called as top level function.\n    // Putting any logic in here will\n    destroy closure tree shaking!\n    super();\n    this.viewDefFactory = viewDefFactory;\n  }\n\n  get inputs() {\n const inputsArr: {propName: string, templateName: string}[] = [];\n    const inputs = this._inputs!;\n    for (let propName in inputs) {\n      const templateName = inputs[propName];\n      inputsArr.push({propName, templateName});\n    }\n    return inputsArr;\n  }\n\n  get outputs() {\n    const outputsArr: {propName: string, templateName: string}[] = [];\n    for (let propName in this._outputs) {\n      const templateName = this._outputs[propName];\n      outputsArr.push({propName, templateName});\n    }\n    return outputsArr;\n  }\n\n  /**\n   * Creates a new component.\n   */\n  create(\n      injector: Injector, projectableNodes?: any[][], rootSelectorOrNode?: string|any,\n      ngModule?: NgModuleRef<any>): ComponentRef<any> {\n    if (!ngModule) {\n      throw new Error('ngModule should be provided');\n    }\n    const viewDef = resolveDefinition(this.viewDefFactory);\n

```
    const componentNodeIndex = viewDef.nodes[0].element!.componentProvider!.nodeIndex;\n    const view =
Services.createRootView(\n        injector, projectableNodes || [], rootSelectorOrNode, viewDef, ngModule,
EMPTY_CONTEXT);\n    const component = asProviderData(view, componentNodeIndex).instance;\n    if
(rootSelectorOrNode) {\n      view.renderer.setAttribute(asElementData(view, 0).renderElement, 'ng-version',
VERSION.full);\n    }\n\n    return new ComponentRef_(view, new ViewRef_(view), component);\n  }\n}\n\nclass
ComponentRef_ extends ComponentRef<any> {\n  public readonly hostView: ViewRef;\n  public readonly
instance: any;\n  public readonly changeDetectorRef: ChangeDetectorRef;\n  private _elDef: NodeDef;\n
constructor(private _view: ViewData, private _viewRef: ViewRef, private _component: any) {\n    super();\n
this._elDef = this._view.def.nodes[0];\n    this.hostView = _viewRef;\n    this.changeDetectorRef = _viewRef;\n
this.instance = _component;\n  }\n
  get location(): ElementRef {\n    return new ElementRef(asElementData(this._view,
this._elDef.nodeIndex).renderElement);\n  }\n  get injector(): Injector {\n    return new Injector_(this._view,
this._elDef);\n  }\n  get componentType(): Type<any> {\n    return <any>this._component.constructor;\n  }\n\n
destroy(): void {\n    this._viewRef.destroy();\n  }\n  onDestroy(callback: Function): void {\n
this._viewRef.onDestroy(callback);\n  }\n}\n\nexport function createViewContainerData(\n    view: ViewData,
elDef: NodeDef, elData: ElementData): ViewContainerData {\n  return new ViewContainerRef_(view, elDef,
elData);\n}\n\nclass ViewContainerRef_ implements ViewContainerData {\n  /**\n   * @internal\n   */\n
_embeddedViews: ViewData[] = [];\n  constructor(private _view: ViewData, private _elDef: NodeDef, private
_data: ElementData) {}\n\n  get element(): ElementRef {\n    return new ElementRef(this._data.renderElement);\n
}\n\n  get injector(): Injector {\n    return new Injector_(this._view,
  this._elDef);\n  }\n\n  /** @deprecated No replacement */\n  get parentInjector(): Injector {\n    let view =
this._view;\n    let elDef = this._elDef.parent;\n    while (!elDef && view) {\n      elDef = viewParentEl(view);\n
view = view.parent!;\n    }\n\n    return view ? new Injector_(view, elDef) : new Injector_(this._view, null);\n  }\n\n
clear(): void {\n    const len = this._embeddedViews.length;\n    for (let i = len - 1; i >= 0; i--) {\n      const view =
detachEmbeddedView(this._data, i)!;\n      Services.destroyView(view);\n    }\n  }\n\n  get(index: number):
ViewRef|null {\n    const view = this._embeddedViews[index];\n    if (view) {\n      const ref = new
ViewRef_(view);\n      ref.attachToViewContainerRef(this);\n      return ref;\n    }\n    return null;\n  }\n\n  get
length(): number {\n    return this._embeddedViews.length;\n  }\n\n  createEmbeddedView<C>(templateRef:
TemplateRef<C>, context?: C, index?: number):\n      EmbeddedViewRef<C> {\n    const
  viewRef = templateRef.createEmbeddedView(context || <any>{});\n    this.insert(viewRef, index);\n    return
viewRef;\n  }\n\n  createComponent<C>(\n      componentFactory: ComponentFactory<C>, index?: number,
injector?: Injector,\n      projectableNodes?: any[][], ngModuleRef?: NgModuleRef<any>): ComponentRef<C> {\n
const contextInjector = injector || this.parentInjector;\n    if (!ngModuleRef && !(componentFactory instanceof
ComponentFactoryBoundToModule)) {\n      ngModuleRef = contextInjector.get(NgModuleRef);\n    }\n    const
componentRef =\n        componentFactory.create(contextInjector, projectableNodes, undefined, ngModuleRef);\n
this.insert(componentRef.hostView, index);\n    return componentRef;\n  }\n\n  insert(viewRef: ViewRef, index?:
number): ViewRef {\n    if (viewRef.destroyed) {\n      throw new Error('Cannot insert a destroyed View in a
ViewContainer!');\n    }\n    const viewRef_ = <ViewRef_>viewRef;\n    const viewData = viewRef_._view;\n
attachEmbeddedView(this._view,
  this._data, index, viewData);\n    viewRef_.attachToViewContainerRef(this);\n    return viewRef;\n  }\n\n
move(viewRef: ViewRef_, currentIndex: number): ViewRef {\n    if (viewRef.destroyed) {\n      throw new
Error('Cannot move a destroyed View in a ViewContainer!');\n    }\n    const previousIndex =
this._embeddedViews.indexOf(viewRef._view);\n    moveEmbeddedView(this._data, previousIndex,
currentIndex);\n    return viewRef;\n  }\n\n  indexOf(viewRef: ViewRef): number {\n    return
this._embeddedViews.indexOf((<ViewRef_>viewRef)._view);\n  }\n\n  remove(index?: number): void {\n    const
viewData = detachEmbeddedView(this._data, index);\n    if (viewData) {\n      Services.destroyView(viewData);\n
}\n  }\n\n  detach(index?: number): ViewRef|null {\n    const view = detachEmbeddedView(this._data, index);\n
return view ? new ViewRef_(view) : null;\n  }\n}\n\nexport function createChangeDetectorRef(view: ViewData):
```

ChangeDetectorRef {\n  return new ViewRef_(view);\n}\n\nexport
 class ViewRef_ implements EmbeddedViewRef<any>, InternalViewRef {\n  /** @internal */\n  _view:
ViewData;\n  private _viewContainerRef: ViewContainerRef|null;\n  private _appRef: ViewRefTracker|null;\n\n
constructor(_view: ViewData) {\n    this._view = _view;\n    this._viewContainerRef = null;\n    this._appRef =
null;\n  }\n\n  get rootNodes(): any[] {\n    return rootRenderNodes(this._view);\n  }\n\n  get context() {\n    return
this._view.context;\n  }\n\n  get destroyed(): boolean {\n    return (this._view.state & ViewState.Destroyed) !== 0;\n
}\n\n  markForCheck(): void {\n    markParentViewsForCheck(this._view);\n  }\n  detach(): void {\n
this._view.state &= ~ViewState.Attached;\n  }\n  detectChanges(): void {\n    const fs =
this._view.root.rendererFactory;\n    if (fs.begin) {\n      fs.begin();\n    }\n    try {\n
Services.checkAndUpdateView(this._view);\n    } finally {\n      if (fs.end) {\n        fs.end();\n      }\n    }\n  }\n
checkNoChanges():
 void {\n    Services.checkNoChangesView(this._view);\n  }\n\n  reattach(): void {\n    this._view.state |=
ViewState.Attached;\n  }\n  onDestroy(callback: Function) {\n    if (!this._view.disposables) {\n
this._view.disposables = [];\n    }\n    this._view.disposables.push(<any>callback);\n  }\n\n  destroy() {\n    if
(this._appRef) {\n      this._appRef.detachView(this);\n    } else if (this._viewContainerRef) {\n
this._viewContainerRef.detach(this._viewContainerRef.indexOf(this));\n    }\n
Services.destroyView(this._view);\n  }\n\n  detachFromAppRef() {\n    this._appRef = null;\n
renderDetachView(this._view);\n    Services.dirtyParentQueries(this._view);\n  }\n\n  attachToAppRef(appRef:
ViewRefTracker) {\n    if (this._viewContainerRef) {\n      throw new Error('This view is already attached to a
ViewContainer!');\n    }\n    this._appRef = appRef;\n  }\n\n  attachToViewContainerRef(vcRef: ViewContainerRef)
{\n    if (this._appRef) {\n      throw new Error('This view
 is already attached directly to the ApplicationRef!');\n    }\n    this._viewContainerRef = vcRef;\n  }\n}\n\nexport
function createTemplateData(view: ViewData, def: NodeDef): TemplateData {\n  return new TemplateRef_(view,
def);\n}\n\nclass TemplateRef_ extends TemplateRef<any> implements TemplateData {\n  /**\n   * @internal\n
*/\n  // TODO(issue/24571): remove '!'.\n  _projectedViews!: ViewData[];\n\n  constructor(private _parentView:
ViewData, private _def: NodeDef) {\n    super();\n  }\n\n  createEmbeddedView(context: any):
EmbeddedViewRef<any> {\n    return new ViewRef_(Services.createEmbeddedView(\n        this._parentView,
this._def, this._def.element!.template !, context));\n  }\n\n  get elementRef(): ElementRef {\n    return new
ElementRef(asElementData(this._parentView, this._def.nodeIndex).renderElement);\n  }\n}\n\nexport function
createInjector(view: ViewData, elDef: NodeDef): Injector {\n  return new Injector_(view, elDef);\n}\n\nclass
Injector_ implements Injector {\n
 constructor(private view: ViewData, private elDef: NodeDef|null) {}\n  get(token: any, notFoundValue: any =
Injector.THROW_IF_NOT_FOUND): any {\n    const allowPrivateServices =\n        this.elDef ? (this.elDef.flags &
NodeFlags.ComponentView) !== 0 : false;\n    return Services.resolveDep(\n        this.view, this.elDef,
allowPrivateServices,\n        {flags: DepFlags.None, token, tokenKey: tokenKey(token)}, notFoundValue);\n
}\n}\n\nexport function nodeValue(view: ViewData, index: number): any {\n  const def = view.def.nodes[index];\n
if (def.flags & NodeFlags.TypeElement) {\n    const elData = asElementData(view, def.nodeIndex);\n    return
def.element!.template ? elData.template : elData.renderElement;\n  } else if (def.flags & NodeFlags.TypeText) {\n
return asTextData(view, def.nodeIndex).renderText;\n  } else if (def.flags & (NodeFlags.CatProvider |
NodeFlags.TypePipe)) {\n    return asProviderData(view, def.nodeIndex).instance;\n  }\n  throw new Error(`Illegal
state: read
 nodeValue for node index ${index}`);\n}\n\nexport function createNgModuleRef(\n    moduleType: Type<any>,
parent: Injector, bootstrapComponents: Type<any>[],\n    def: NgModuleDefinition): NgModuleRef<any> {\n
return new NgModuleRef_(moduleType, parent, bootstrapComponents, def);\n}\n\nclass NgModuleRef_
implements NgModuleData, InternalNgModuleRef<any> {\n  private _destroyListeners: (() => void)[] = [];\n
private _destroyed: boolean = false;\n  /** @internal */\n  // TODO(issue/24571): remove '!'.\n  _providers!: any[];\n
/** @internal */\n  // TODO(issue/24571): remove '!'.\n  _modules!: any[];\n\n  readonly injector: Injector =
this;\n\n  constructor(\n      private _moduleType: Type<any>, public _parent: Injector,\n      public

_bootstrapComponents: Type<any>[], public _def: NgModuleDefinition) {\n  initNgModule(this);\n }\n\n get(token: any, notFoundValue: any = Injector.THROW_IF_NOT_FOUND,\n  injectFlags: InjectFlags = InjectFlags.Default): any {\n  let flags = DepFlags.None;\n  if (injectFlags & InjectFlags.SkipSelf) {\n  flags |= DepFlags.SkipSelf;\n  } else if (injectFlags & InjectFlags.Self) {\n  flags |= DepFlags.Self;\n  }\n  return resolveNgModuleDep(\n  this, {token: token, tokenKey: tokenKey(token), flags: flags}, notFoundValue);\n }\n\n get instance() {\n  return this.get(this._moduleType);\n }\n\n get componentFactoryResolver() {\n  return this.get(ComponentFactoryResolver);\n }\n\n destroy(): void {\n  if (this._destroyed) {\n  throw new Error(\n  `The ng module ${stringify(this.instance.constructor)} has already been destroyed.`);\n  }\n  this._destroyed = true;\n  callNgModuleLifecycle(this, NodeFlags.OnDestroy);\n  this._destroyListeners.forEach((listener) => listener());\n }\n\n onDestroy(callback: () => void): void {\n  this._destroyListeners.push(callback);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed
by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef, SimpleChange, SimpleChanges, WrappedValue} from '../change_detection/change_detection';\nimport {INJECTOR, Injector, resolveForwardRef} from '../di';\nimport {ElementRef} from '../linker/element_ref';\nimport {TemplateRef} from '../linker/template_ref';\nimport {ViewContainerRef} from '../linker/view_container_ref';\nimport {Renderer2} from '../render/api';\nimport {isObservable} from '../util/lang';\nimport {stringify} from '../util/stringify';\n\nimport {createChangeDetectorRef, createInjector} from './refs';\nimport {asElementData, asProviderData, BindingDef, BindingFlags, DepDef, DepFlags, NodeDef, NodeFlags, OutputDef, OutputType, ProviderData, QueryValueType, Services, shouldCallLifecycleInitHook, ViewData, ViewFlags, ViewState} from './types';\nimport {calcBindingFlags, checkBinding, dispatchEvent, isComponentView, splitDepsDsl, splitMatchedQueriesDsl,
tokenKey, viewParentEl} from './util';\n\nconst Renderer2TokenKey = tokenKey(Renderer2);\nconst ElementRefTokenKey = tokenKey(ElementRef);\nconst ViewContainerRefTokenKey = tokenKey(ViewContainerRef);\nconst TemplateRefTokenKey = tokenKey(TemplateRef);\nconst ChangeDetectorRefTokenKey = tokenKey(ChangeDetectorRef);\nconst InjectorRefTokenKey = tokenKey(Injector);\nconst INJECTORRefTokenKey = tokenKey(INJECTOR);\n\nexport function directiveDef(\ncheckIndex: number, flags: NodeFlags, matchedQueries: null|[string | number, QueryValueType][],\n  childCount: number, ctor: any, deps: ([DepFlags, any]|any)[],\n  props?: null|{[name: string]: [number, string]},\n  outputs?: null|{[name: string]: string}): NodeDef {\n const bindings: BindingDef[] = [];\n if (props) {\n  for (let prop in props) {\n  const [bindingIndex, nonMinifiedName] = props[prop];\n  bindings[bindingIndex] = {\n  flags: BindingFlags.TypeProperty,\n  name: prop,\n  nonMinifiedName,\n
  ns: null,\n  securityContext: null,\n  suffix: null\n  };\n  }\n }\n const outputDefs: OutputDef[] = [];\n if (outputs) {\n  for (let propName in outputs) {\n  outputDefs.push(\n  {type: OutputType.DirectiveOutput, propName, target: null, eventName: outputs[propName]});\n  }\n }\n flags |= NodeFlags.TypeDirective;\n return _def(\n  checkIndex, flags, matchedQueries, childCount, ctor, ctor, deps, bindings, outputDefs);\n}\n\nexport function pipeDef(flags: NodeFlags, ctor: any, deps: ([DepFlags, any]|any)[]): NodeDef {\n flags |= NodeFlags.TypePipe;\n return _def(-1, flags, null, 0, ctor, ctor, deps);\n}\n\nexport function providerDef(\n  flags: NodeFlags, matchedQueries: null|[string | number, QueryValueType][], token: any,\n value: any, deps: ([DepFlags, any]|any)[]): NodeDef {\n return _def(-1, flags, matchedQueries, 0, token, value, deps);\n}\n\nexport function _def(\n  checkIndex: number, flags: NodeFlags, matchedQueriesDsl:
 [string|number, QueryValueType][]|null,\n  childCount: number, token: any, value: any, deps: ([DepFlags, any]|any)[],\n  bindings?: BindingDef[], outputs?: OutputDef[]): NodeDef {\n const {matchedQueries, references, matchedQueryIds} = splitMatchedQueriesDsl(matchedQueriesDsl);\n if (!outputs) {\n  outputs = [];\n }\n if (!bindings) {\n  bindings = [];\n }\n // Need to resolve forwardRefs as e.g. for `useValue` we\n // lowered the expression and then stopped evaluating it,\n // i.e. also didn't unwrap it.\n value = resolveForwardRef(value);\n\n const depDefs = splitDepsDsl(deps, stringify(token));\n\n return {\n  // will bet set by the view definition\n

nodeIndex: -1,\n parent: null,\n renderParent: null,\n bindingIndex: -1,\n outputIndex: -1,\n // regular values\n checkIndex,\n flags,\n childFlags: 0,\n directChildFlags: 0,\n childMatchedQueries: 0,\n matchedQueries,\n matchedQueryIds,\n references,\n ngContentIndex: -1,\n childCount,\n bindings,\n bindingFlags: calcBindingFlags(bindings),\n outputs,\n element: null,\n provider: {token, value, deps: depDefs},\n text: null,\n query: null,\n ngContent: null\n };\n}\n\nexport function createProviderInstance(view: ViewData, def: NodeDef): any {\n return _createProviderInstance(view, def);\n}\n\nexport function createPipeInstance(view: ViewData, def: NodeDef): any {\n // deps are looked up from component.\n let compView = view;\n while (compView.parent && !isComponentView(compView)) {\n compView = compView.parent;\n }\n // pipes can see the private services of the component\n const allowPrivateServices = true;\n // pipes are always eager and classes!\n return createClass(\n compView.parent!, viewParentEl(compView)!, allowPrivateServices, def.provider!.value,\n def.provider!.deps);\n}\n\nexport function createDirectiveInstance(view: ViewData, def: NodeDef): any {\n // components can see other private services, other directives can't.\n const allowPrivateServices = (def.flags & NodeFlags.Component) > 0;\n // directives are always eager and classes!\n const instance =\n createClass(view, def.parent!, allowPrivateServices, def.provider!.value, def.provider!.deps);\n if (def.outputs.length) {\n for (let i = 0; i < def.outputs.length; i++) {\n const output = def.outputs[i];\n const outputObservable = instance[output.propName!];\n if (isObservable(outputObservable)) {\n const subscription = outputObservable.subscribe(\n eventHandlerClosure(view, def.parent!.nodeIndex, output.eventName));\n view.disposables![def.outputIndex + i] = subscription.unsubscribe.bind(subscription);\n } else {\n throw new Error(\n `@Output ${output.propName} not initialized in '${instance.constructor.name}'.`);\n }\n }\n }\n return instance;\n}\n\nfunction eventHandlerClosure(view: ViewData, index: number, eventName: string) {\n return (event: any) => dispatchEvent(view, index, eventName, event);\n}\n\nexport function checkAndUpdateDirectiveInline(\n view: ViewData, def: NodeDef, v0: any, v1: any, v2: any, v3: any, v4: any, v5: any, v6: any,\n v7: any, v8: any, v9: any): boolean {\n const providerData = asProviderData(view, def.nodeIndex);\n const directive = providerData.instance;\n let changed = false;\n let changes: SimpleChanges = undefined!;\n const bindLen = def.bindings.length;\n if (bindLen > 0 && checkBinding(view, def, 0, v0)) {\n changed = true;\n changes = updateProp(view, providerData, def, 0, v0, changes);\n }\n if (bindLen > 1 && checkBinding(view, def, 1, v1)) {\n changed = true;\n changes = updateProp(view, providerData, def, 1, v1, changes);\n }\n if (bindLen > 2 && checkBinding(view, def, 2, v2)) {\n changed = true;\n changes = updateProp(view, providerData, def, 2, v2, changes);\n }\n if (bindLen > 3 && checkBinding(view, def, 3, v3)) {\n changed = true;\n changes = updateProp(view, providerData, def, 3, v3, changes);\n }\n if (bindLen > 4 && checkBinding(view, def, 4, v4)) {\n changed = true;\n changes = updateProp(view, providerData, def, 4, v4, changes);\n }\n if (bindLen > 5 && checkBinding(view, def, 5, v5)) {\n changed = true;\n changes = updateProp(view, providerData, def, 5, v5, changes);\n }\n if (bindLen > 6 && checkBinding(view, def, 6, v6)) {\n changed = true;\n changes = updateProp(view, providerData, def, 6, v6, changes);\n }\n if (bindLen > 7 && checkBinding(view, def, 7, v7)) {\n changed = true;\n changes = updateProp(view, providerData, def, 7, v7, changes);\n }\n if (bindLen > 8 && checkBinding(view, def, 8, v8)) {\n changed = true;\n changes = updateProp(view, providerData, def, 8, v8, changes);\n }\n if (bindLen > 9 && checkBinding(view, def, 9, v9)) {\n changed = true;\n changes = updateProp(view, providerData, def, 9, v9, changes);\n }\n if (changes) {\n directive.ngOnChanges(changes);\n }\n if ((def.flags & NodeFlags.OnInit) &&\n shouldCallLifecycleInitHook(view, ViewState.InitState_CallingOnInit, def.nodeIndex)) {\n directive.ngOnInit();\n }\n if (def.flags & NodeFlags.DoCheck) {\n directive.ngDoCheck();\n }\n return changed;\n}\n\nexport function checkAndUpdateDirectiveDynamic(\n view: ViewData, def: NodeDef, values: any[]): boolean {\n const providerData = asProviderData(view, def.nodeIndex);\n const directive = providerData.instance;\n let changed = false;\n let changes: SimpleChanges = undefined!;\n for (let i = 0; i < values.length; i++) {\n if (checkBinding(view, def, i, values[i])) {\n changed = true;\n changes = updateProp(view, providerData, def, i, values[i], changes);\n }\n }\n if (changes) {\n

directive.ngOnChanges(changes);\n  }\n  if ((def.flags & NodeFlags.OnInit) &&\n shouldCallLifecycleInitHook(view, ViewState.InitState_CallingOnInit, def.nodeIndex)) {\n directive.ngOnInit();\n
  }\n  if (def.flags & NodeFlags.DoCheck) {\n    directive.ngDoCheck();\n  }\n  return changed;\n}\n\nfunction _createProviderInstance(view: ViewData, def: NodeDef): any {\n  // private services can see other private services\n const allowPrivateServices = (def.flags & NodeFlags.PrivateProvider) > 0;\n  const providerDef = def.provider;\n switch (def.flags & NodeFlags.Types) {\n    case NodeFlags.TypeClassProvider:\n      return createClass(\n view, def.parent!, allowPrivateServices, providerDef!.value, providerDef!.deps);\n    case NodeFlags.TypeFactoryProvider:\n      return callFactory(\n          view, def.parent!, allowPrivateServices, providerDef!.value, providerDef!.deps);\n    case NodeFlags.TypeUseExistingProvider:\n      return resolveDep(view, def.parent!, allowPrivateServices, providerDef!.deps[0]);\n    case NodeFlags.TypeValueProvider:\n      return providerDef!.value;\n  }\n}\n\nfunction createClass(\n    view: ViewData, elDef: NodeDef, allowPrivateServices:
 boolean, ctor: any, deps: DepDef[]): any {\n  const len = deps.length;\n  switch (len) {\n    case 0:\n      return new ctor();\n    case 1:\n      return new ctor(resolveDep(view, elDef, allowPrivateServices, deps[0]));\n    case 2:\n      return new ctor(\n          resolveDep(view, elDef, allowPrivateServices, deps[0]),\n          resolveDep(view, elDef, allowPrivateServices, deps[1]));\n    case 3:\n      return new ctor(\n          resolveDep(view, elDef, allowPrivateServices, deps[0]),\n          resolveDep(view, elDef, allowPrivateServices, deps[1]),\n resolveDep(view, elDef, allowPrivateServices, deps[2]));\n    default:\n      const depValues = [];\n      for (let i = 0; i < len; i++) {\n        depValues.push(resolveDep(view, elDef, allowPrivateServices, deps[i]));\n      }\n      return new ctor(...depValues);\n  }\n}\n\nfunction callFactory(\n    view: ViewData, elDef: NodeDef, allowPrivateServices: boolean, factory: any,\n    deps: DepDef[]): any
 {\n  const len = deps.length;\n  switch (len) {\n    case 0:\n      return factory();\n    case 1:\n      return factory(resolveDep(view, elDef, allowPrivateServices, deps[0]));\n    case 2:\n      return factory(\n resolveDep(view, elDef, allowPrivateServices, deps[0]),\n          resolveDep(view, elDef, allowPrivateServices, deps[1]));\n    case 3:\n      return factory(\n          resolveDep(view, elDef, allowPrivateServices, deps[0]),\n resolveDep(view, elDef, allowPrivateServices, deps[1]),\n          resolveDep(view, elDef, allowPrivateServices, deps[2]));\n    default:\n      const depValues = [];\n      for (let i = 0; i < len; i++) {\n depValues.push(resolveDep(view, elDef, allowPrivateServices, deps[i]));\n      }\n      return factory(...depValues);\n  }\n}\n\n// This default value is when checking the hierarchy for a token.\n//\n// It means both:\n// - the token is not provided by the current injector,\n// - only the element injectors should be checked
 (ie do not check module injectors\n//\n//          mod1\n//          /\n//       el1   mod2\n//          \\  /\n//          el2\n//\n// When requesting el2.injector.get(token), we should check in the following order and return the\n// first found value:\n// - el2.injector.get(token, default)\n// - el1.injector.get(token, NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR) -> do not check the module\n// - mod2.injector.get(token, default)\nexport const NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR = {};\n\nexport function resolveDep(\n    view: ViewData, elDef: NodeDef, allowPrivateServices: boolean, depDef: DepDef,\n    notFoundValue: any = Injector.THROW_IF_NOT_FOUND): any {\n  if (depDef.flags & DepFlags.Value) {\n    return depDef.token;\n  }\n  const startView = view;\n  if (depDef.flags & DepFlags.Optional) {\n    notFoundValue = null;\n  }\n  const tokenKey = depDef.tokenKey;\n\n  if (tokenKey === ChangeDetectorRefTokenKey) {\n    // directives on the same element as a component should be able to control
 the change detector\n    // of that component as well.\n    allowPrivateServices = !!(elDef && elDef.element!.componentView);\n  }\n\n  if (elDef && (depDef.flags & DepFlags.SkipSelf)) {\n allowPrivateServices = false;\n    elDef = elDef.parent!;\n  }\n\n  let searchView: ViewData|null = view;\n  while (searchView) {\n    if (elDef) {\n      switch (tokenKey) {\n        case Renderer2TokenKey: {\n          const compView = findCompView(searchView, elDef, allowPrivateServices);\n          return compView.renderer;\n        }\n        case ElementRefTokenKey:\n          return new ElementRef(asElementData(searchView, elDef.nodeIndex).renderElement);\n        case ViewContainerRefTokenKey:\n          return

asElementData(searchView, elDef.nodeIndex).viewContainer;\n case TemplateRefTokenKey: {\n if (elDef.element!.template) {\n return asElementData(searchView, elDef.nodeIndex).template;\n }\n break;\n }\n case ChangeDetectorRefTokenKey:
{\n let cdView = findCompView(searchView, elDef, allowPrivateServices);\n return createChangeDetectorRef(cdView);\n }\n case InjectorRefTokenKey:\n case INJECTORRefTokenKey:\n return createInjector(searchView, elDef);\n default:\n const providerDef =\n (allowPrivateServices ? elDef.element!.allProviders :\n elDef.element!.publicProviders)![tokenKey];\n if (providerDef) {\n let providerData = asProviderData(searchView, providerDef.nodeIndex);\n if (!providerData) {\n providerData = {instance: _createProviderInstance(searchView, providerDef)};\n searchView.nodes[providerDef.nodeIndex] = providerData as any;\n }\n return providerData.instance;\n }\n }\n }\n\n allowPrivateServices = isComponentView(searchView);\n elDef = viewParentEl(searchView)!;\n searchView
= searchView.parent!;\n\n if (depDef.flags & DepFlags.Self) {\n searchView = null;\n }\n }\n\n const value = startView.root.injector.get(depDef.token, NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR);\n\n if (value !== NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR ||\n notFoundValue === NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR) {\n // Return the value from the root element injector when\n // - it provides it\n // (value !== NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n // - the module injector should not be checked\n // (notFoundValue === NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n return value;\n }\n\n return startView.root.ngModule.injector.get(depDef.token, notFoundValue);\n}\n\nfunction findCompView(view: ViewData, elDef: NodeDef, allowPrivateServices: boolean) {\n let compView: ViewData;\n if (allowPrivateServices) {\n compView = asElementData(view, elDef.nodeIndex).componentView;\n } else {\n compView = view;\n while (compView.parent && !isComponentView(compView))
{\n compView = compView.parent;\n }\n }\n return compView;\n}\n\nfunction updateProp(\n view: ViewData, providerData: ProviderData, def: NodeDef, bindingIdx: number, value: any,\n changes: SimpleChanges): SimpleChanges {\n if (def.flags & NodeFlags.Component) {\n const compView = asElementData(view, def.parent!.nodeIndex).componentView;\n if (compView.def.flags & ViewFlags.OnPush) {\n compView.state |= ViewState.ChecksEnabled;\n }\n }\n const binding = def.bindings[bindingIdx];\n const propName = binding.name!;\n // Note: This is still safe with Closure Compiler as\n // the user passed in the property name as an object has to `providerDef`,\n // so Closure Compiler will have renamed the property correctly already.\n providerData.instance[propName] = value;\n if (def.flags & NodeFlags.OnChanges) {\n changes = changes || {};\n const oldValue = WrappedValue.unwrap(view.oldValues[def.bindingIndex + bindingIdx]);\n const binding
= def.bindings[bindingIdx];\n changes[binding.nonMinifiedName!] =\n new SimpleChange(oldValue, value, (view.state & ViewState.FirstCheck) !== 0);\n }\n view.oldValues[def.bindingIndex + bindingIdx] = value;\n return changes;\n}\n\n// This function calls the ngAfterContentCheck, ngAfterContentInit,\n// ngAfterViewCheck, and ngAfterViewInit lifecycle hooks (depending on the node\n// flags in lifecycle). Unlike ngDoCheck, ngOnChanges and ngOnInit, which are\n// called during a pre-order traversal of the view tree (that is calling the\n// parent hooks before the child hooks) these events are sent in using a\n// post-order traversal of the tree (children before parents). This changes the\n// meaning of initIndex in the view state. For ngOnInit, initIndex tracks the\n// expected nodeIndex which a ngOnInit should be called. When sending\n// ngAfterContentInit and ngAfterViewInit it is the expected count of\n// ngAfterContentInit or ngAfterViewInit methods that have been called. This\n// ensure that despite being called recursively or after picking up after an\n// exception, the ngAfterContentInit or ngAfterViewInit will be called on the\n// correct nodes. Consider for example, the following (where E is an element\n// and D is a directive)\n// Tree: pre-order index post-order index\n// E1 0 6\n// E2
1 1\n// D3 2 0\n// E4 3 5\n// E5 4 4\n// E6 5
2\n// E7 6 3\n// As can be seen, the post-order index has an unclear relationship to the\n// pre-order

index (postOrderIndex === preOrderIndex - parentCount +\n// childCount). Since number of calls to ngAfterContentInit and ngAfterViewInit\n// are stable (will be the same for the same view regardless of exceptions or\n// recursion) we just need to count them which will roughly correspond to the\n// post-order index (it skips elements and directives
that do not have\n// lifecycle hooks).\n//\n// For example, if an exception is raised in the E6.onAfterViewInit() the\n// initIndex is left at 3 (by shouldCallLifecycleInitHook() which set it to\n// initIndex + 1). When checkAndUpdateView() is called again D3, E2 and E6 will\n// not have their ngAfterViewInit() called but, starting with E7, the rest of\n// the view will begin getting ngAfterViewInit() called until a check and\n// pass is complete.\n//\n// This algorthim also handles recursion. Consider if E4's ngAfterViewInit()\n// indirectly calls E1's ChangeDetectorRef.detectChanges(). The expected\n// initIndex is set to 6, the recusive checkAndUpdateView() starts walk again.\n// D3, E2, E6, E7, E5 and E4 are skipped, ngAfterViewInit() is called on E1.\n// When the recursion returns the initIndex will be 7 so E1 is skipped as it\n// has already been called in the recursively called checkAnUpdateView().\nexport function callLifecycleHooksChildrenFirst(view: ViewData, lifecycles:
NodeFlags) {\n  if (!(view.def.nodeFlags & lifecycles)) {\n    return;\n  }\n  const nodes = view.def.nodes;\n  let initIndex = 0;\n  for (let i = 0; i < nodes.length; i++) {\n    const nodeDef = nodes[i];\n    let parent = nodeDef.parent;\n    if (!parent && nodeDef.flags & lifecycles) {\n      // matching root node (e.g. a pipe)\n      callProviderLifecycles(view, i, nodeDef.flags & lifecycles, initIndex++);\n    }\n    if ((nodeDef.childFlags & lifecycles) === 0) {\n      // no child matches one of the lifecycles\n      i += nodeDef.childCount;\n    }\n    while (parent && (parent.flags & NodeFlags.TypeElement) &&\n           i === parent.nodeIndex + parent.childCount) {\n      // last child of an element\n      if (parent.directChildFlags & lifecycles) {\n        initIndex = callElementProvidersLifecycles(view, parent, lifecycles, initIndex);\n      }\n      parent = parent.parent;\n    }\n  }\n}\n\nfunction callElementProvidersLifecycles(\n    view: ViewData, elDef: NodeDef, lifecycles:
NodeFlags, initIndex: number): number {\n  for (let i = elDef.nodeIndex + 1; i <= elDef.nodeIndex + elDef.childCount; i++) {\n    const nodeDef = view.def.nodes[i];\n    if (nodeDef.flags & lifecycles) {\n      callProviderLifecycles(view, i, nodeDef.flags & lifecycles, initIndex++);\n    }\n    // only visit direct children\n    i += nodeDef.childCount;\n  }\n  return initIndex;\n}\n\nfunction callProviderLifecycles(\n    view: ViewData, index: number, lifecycles: NodeFlags, initIndex: number) {\n  const providerData = asProviderData(view, index);\n  if (!providerData) {\n    return;\n  }\n  const provider = providerData.instance;\n  if (!provider) {\n    return;\n  }\n  Services.setCurrentNode(view, index);\n  if (lifecycles & NodeFlags.AfterContentInit &&\n      shouldCallLifecycleInitHook(view, ViewState.InitState_CallingAfterContentInit, initIndex)) {\n    provider.ngAfterContentInit();\n  }\n  if (lifecycles & NodeFlags.AfterContentChecked) {\n    provider.ngAfterContentChecked();\n
}\n  if (lifecycles & NodeFlags.AfterViewInit &&\n      shouldCallLifecycleInitHook(view, ViewState.InitState_CallingAfterViewInit, initIndex)) {\n    provider.ngAfterViewInit();\n  }\n  if (lifecycles & NodeFlags.AfterViewChecked) {\n    provider.ngAfterViewChecked();\n  }\n  if (lifecycles & NodeFlags.OnDestroy) {\n    provider.ngOnDestroy();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef as ViewEngine_ChangeDetectorRef} from '../change_detection/change_detector_ref';\nimport {InjectionToken} from '../di/injection_token';\nimport {Injector} from '../di/injector';\nimport {InjectFlags} from '../di/interface/injector';\nimport {Type} from '../interface/type';\nimport {ComponentFactory as viewEngine_ComponentFactory, ComponentRef as viewEngine_ComponentRef} from '../linker/component_factory';\nimport
{ComponentFactoryResolver as viewEngine_ComponentFactoryResolver} from '../linker/component_factory_resolver';\nimport {createElementRef, ElementRef as viewEngine_ElementRef} from '../linker/element_ref';\nimport {NgModuleRef as viewEngine_NgModuleRef} from '../linker/ng_module_factory';\nimport {RendererFactory2} from '../render/api';\nimport {Sanitizer} from '../sanitization/sanitizer';\nimport {VERSION} from '../version';\nimport {NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR} from '../view/provider';\nimport

{assertComponentType} from './assert';\nimport {createRootComponent, createRootComponentView, createRootContext, LifecycleHooksFeature} from './component';\nimport {getComponentDef} from './definition';\nimport {NodeInjector} from './di';\nimport {createLView, createTView, locateHostElement, renderView} from './instructions/shared';\nimport {ComponentDef} from './interfaces/definition';\nimport {TContainerNode, TElementContainerNode, TElementNode, TNode} from './interfaces/node';\nimport {domRendererFactory3, RendererFactory3} from './interfaces/renderer';\nimport {RNode} from './interfaces/renderer_dom';\nimport {HEADER_OFFSET, LView, LViewFlags, TViewType} from './interfaces/view';\nimport {MATH_ML_NAMESPACE, SVG_NAMESPACE} from './namespaces';\nimport {createElementNode, writeDirectClass} from './node_manipulation';\nimport {extractAttrsAndClassesFromSelector, stringifyCSSSelectorList} from './node_selector_matcher';\nimport {enterView, leaveView} from './state';\nimport {setUpAttributes} from './util/attrs_utils';\nimport {defaultScheduler} from './util/misc_utils';\nimport {getTNode} from './util/view_utils';\nimport {RootViewRef, ViewRef} from './view_ref';\n\nexport class ComponentFactoryResolver extends viewEngine_ComponentFactoryResolver {\n /**\n * @param ngModule The NgModuleRef to which all resolved factories are bound.\n */\n constructor(private ngModule?: viewEngine_NgModuleRef<any>) {\n super();\n }\n\n resolveComponentFactory<T>(component: Type<T>): viewEngine_ComponentFactory<T> {\n ngDevMode && assertComponentType(component);\n const componentDef = getComponentDef(component)!;\n return new ComponentFactory(componentDef, this.ngModule);\n }\n}\n\nfunction toRefArray(map: {[key: string]: string}): {propName: string; templateName: string;}[] {\n const array: {propName: string; templateName: string;}[] = [];\n for (let nonMinified in map) {\n if (map.hasOwnProperty(nonMinified)) {\n const minified = map[nonMinified];\n array.push({propName: minified, templateName: nonMinified});\n }\n }\n return array;\n}\n\nfunction getNamespace(elementName: string): string|null {\n const name = elementName.toLowerCase();\n return name === 'svg' ? SVG_NAMESPACE : (name === 'math' ? MATH_ML_NAMESPACE : null);\n}\n\n/**\n * A change detection scheduler token for {@link RootContext}. This token is the default value used\n * for the default `RootContext` found in the {@link ROOT_CONTEXT} token.\n */\nexport const SCHEDULER = new InjectionToken<((fn: () => void) => void)>('SCHEDULER_TOKEN', {\n providedIn: 'root',\n factory: () => defaultScheduler,\n});\n\nfunction createChainedInjector(rootViewInjector: Injector, moduleInjector: Injector): Injector {\n return {\n get: <T>(token: Type<T>|InjectionToken<T>, notFoundValue?: T, flags?: InjectFlags): T => {\n const value = rootViewInjector.get(token, NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR as T, flags);\n\n if (value !== NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR ||\n notFoundValue === NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR) {\n // Return the value from the root element injector when\n // - it provides it\n // (value !== NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n // - the module injector should not be checked\n // (notFoundValue === NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR)\n return value;\n }\n\n return moduleInjector.get(token, notFoundValue, flags);\n }\n };\n}\n\n/**\n * Render3 implementation of {@link viewEngine_ComponentFactory}.\n */\nexport class ComponentFactory<T> extends viewEngine_ComponentFactory<T> {\n selector: string;\n componentType: Type<any>;\n ngContentSelectors: string[];\n isBoundToModule: boolean;\n\n get inputs(): {propName: string; templateName: string;}[] {\n return toRefArray(this.componentDef.inputs);\n }\n\n get outputs(): {propName: string; templateName: string;}[] {\n return toRefArray(this.componentDef.outputs);\n }\n\n /**\n * @param componentDef The component definition.\n * @param ngModule The NgModuleRef to which the factory is bound.\n */\n constructor(\n private componentDef: ComponentDef<any>, private ngModule?: viewEngine_NgModuleRef<any>) {\n super();\n this.componentType = componentDef.type;\n this.selector = stringifyCSSSelectorList(componentDef.selectors);\n this.ngContentSelectors =\n componentDef.ngContentSelectors ? componentDef.ngContentSelectors\n : [];\n this.isBoundToModule = !!ngModule;\n }\n\n create(\n injector: Injector, projectableNodes?: any[][]|undefined, rootSelectorOrNode?: any,\n ngModule?: viewEngine_NgModuleRef<any>|undefined):

viewEngine_ComponentRef<T> {\n ngModule = ngModule || this.ngModule;\n\n const rootViewInjector =\n ngModule ? createChainedInjector(injector, ngModule.injector) : injector;\n\n const rendererFactory =\n rootViewInjector.get(RendererFactory2, domRendererFactory3) as RendererFactory3;\n const sanitizer = rootViewInjector.get(Sanitizer, null);\n\n const hostRenderer = rendererFactory.createRenderer(null, this.componentDef);\n // Determine a tag name used for creating host elements when this component is created\n // dynamically. Default to 'div' if this component did not specify any tag name in its selector.\n const elementName = this.componentDef.selectors[0][0] as string || 'div';\n const hostRNode = rootSelectorOrNode ?\n locateHostElement(hostRenderer, rootSelectorOrNode, this.componentDef.encapsulation) :\n createElementNode(\n rendererFactory.createRenderer(null, this.componentDef), elementName,\n getNamespace(elementName));\n\n const rootFlags = this.componentDef.onPush ? LViewFlags.Dirty | LViewFlags.IsRoot :\n LViewFlags.CheckAlways | LViewFlags.IsRoot;\n const rootContext = createRootContext();\n\n // Create the root view. Uses empty TView and ContentTemplate.\n const rootTView = createTView(TViewType.Root, null, null, 1, 0, null, null, null, null, null);\n const rootLView = createLView(\n null, rootTView, rootContext, rootFlags, null, null, rendererFactory, hostRenderer,\n sanitizer, rootViewInjector);\n\n // rootView is the parent when bootstrapping\n // TODO(misko): it looks like we are entering view here but we don't really need to as\n // `renderView` does that. However as the code is written it is needed because\n // `createRootComponentView` and `createRootComponent` both read global state. Fixing those\n // issues would allow us to drop this.\n enterView(rootLView);\n\n let component: T;\n let tElementNode: TElementNode;\n\n try {\n const componentView = createRootComponentView(\n hostRNode, this.componentDef, rootLView, rendererFactory, hostRenderer);\n if (hostRNode) {\n if (rootSelectorOrNode) {\n setUpAttributes(hostRenderer, hostRNode, ['ng-version', VERSION.full]);\n } else {\n // If host element is created as a part of this function call (i.e. `rootSelectorOrNode`\n // is not defined), also apply attributes and classes extracted from component selector.\n // Extract attributes and classes from the first selector only to match VE behavior.\n const {attrs, classes} =\n extractAttrsAndClassesFromSelector(this.componentDef.selectors[0]);\n if (attrs) {\n setUpAttributes(hostRenderer, hostRNode, attrs);\n }\n if (classes && classes.length > 0) {\n writeDirectClass(hostRenderer, hostRNode, classes.join(' '));\n }\n }\n }\n\n tElementNode = getTNode(rootTView, HEADER_OFFSET) as TElementNode;\n\n if (projectableNodes !== undefined) {\n const projection: (TNode|RNode[]|null)[] = tElementNode.projection = [];\n for (let i = 0; i < this.ngContentSelectors.length; i++) {\n const nodesforSlot = projectableNodes[i];\n // Projectable nodes can be passed as array of arrays or an array of iterables (ngUpgrade\n // case). Here we do normalize passed data structure to be an array of arrays to avoid\n // complex checks down the line.\n // We also normalize the length of the passed in projectable nodes (to match the number of\n // <ng-container> slots defined by a component).\n projection.push(nodesforSlot != null ? Array.from(nodesforSlot) : null);\n }\n }\n\n // TODO: should LifecycleHooksFeature and other host features be generated by the compiler and\n // executed here?\n // Angular 5 reference: https://stackblitz.com/edit/lifecycle-hooks-vcref\n component = createRootComponent(\n componentView, this.componentDef, rootLView, rootContext, [LifecycleHooksFeature]);\n\n renderView(rootTView, rootLView, null);\n } finally {\n leaveView();\n }\n\n return new ComponentRef(\n this.componentType, component, createElementRef(tElementNode, rootLView), rootLView,\n tElementNode);\n }\n}\n\nconst componentFactoryResolver: ComponentFactoryResolver = new ComponentFactoryResolver();\n\n/**\n * Creates a ComponentFactoryResolver and stores it on the injector. Or, if the\n * ComponentFactoryResolver\n * already exists, retrieves the existing ComponentFactoryResolver.\n *\n * @returns The ComponentFactoryResolver instance to use\n */\nexport function injectComponentFactoryResolver(): viewEngine_ComponentFactoryResolver {\n return componentFactoryResolver;\n}\n\n/**\n * Represents an instance of a Component created via a {@link ComponentFactory}.\n *\n * `ComponentRef` provides access to the Component Instance as well other objects related to this\n * Component Instance and allows you to destroy the Component Instance via the {@link #destroy}\n * method.\n *\n */\nexport class ComponentRef<T> extends viewEngine_ComponentRef<T> {\n

instance: T;\n  hostView: ViewRef<T>;\n  changeDetectorRef: ViewEngine_ChangeDetectorRef;\n componentType: Type<T>;\n\n  constructor(\n      componentType: Type<T>, instance: T, public location: viewEngine_ElementRef,\n      private _rootLView: LView,\n      private _tNode: TElementNode|TContainerNode|TElementContainerNode) {\n    super();\n    this.instance = instance;\n this.hostView = this.changeDetectorRef = new RootViewRef<T>(_rootLView);\n    this.componentType = componentType;\n  }\n\n  get injector(): Injector {\n    return new NodeInjector(this._tNode, this._rootLView);\n  }\n\n  destroy(): void {\n    this.hostView.destroy();\n  }\n\n  onDestroy(callback: () => void): void {\n this.hostView.onDestroy(callback);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {noSideEffects} from '../util/closure';\n\ninterface TypeWithMetadata extends Type<any> {\n  decorators?: any[];\n  ctorParameters?: () => any[];\n  propDecorators?: {[field: string]: any};\n}\n\n/**\n * Adds decorator, constructor, and property metadata to a given type via static metadata fields\n * on the type.\n *\n * These metadata fields can later be read with Angular's `ReflectionCapabilities` API.\n *\n * Calls to `setClassMetadata` can be marked as pure, resulting in the metadata assignments being\n * tree-shaken away during production builds.\n */\nexport function setClassMetadata(\n    type: Type<any>, decorators: any[]|null, ctorParameters: (() => any[])|null,\n    propDecorators: {[field: string]: any}|null): void {\n  return noSideEffects(() => {\n    const clazz = type as TypeWithMetadata;\n\n    if (decorators !== null) {\n      if (clazz.hasOwnProperty('decorators') && clazz.decorators !== undefined) {\n clazz.decorators.push(...decorators);\n      } else {\n        clazz.decorators = decorators;\n      }\n    }\n    if (ctorParameters !== null) {\n      // Rather than merging, clobber the existing parameters. If other projects exist which\n      // use tsickle-style annotations and reflect over them in the same way, this could\n      // cause issues, but that is vanishingly unlikely.\n      clazz.ctorParameters = ctorParameters;\n    }\n    if (propDecorators !== null) {\n      // The property decorator objects are merged as it is possible different fields have\n      // different decorator types. Decorators on individual fields are not merged, as it's\n      // also incredibly unlikely that a field will be decorated both with an Angular\n      // decorator and a non-Angular decorator that's also been downleveled.\n      if (clazz.hasOwnProperty('propDecorators') && clazz.propDecorators !== undefined) {\n clazz.propDecorators = {...clazz.propDecorators, ...propDecorators};\n      } else {\n clazz.propDecorators = propDecorators;\n      }\n    }\n  }) as never;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {Type} from '../interface/type';\nimport {NgModuleType} from '../metadata/ng_module_def';\nimport {autoRegisterModuleById, getNgModuleDef} from '../render3/definition';\nimport {maybeUnwrapFn} from '../render3/util/misc_utils';\nimport {stringify} from '../util/stringify';\n\nimport {NgModuleFactory} from './ng_module_factory';\n\n\n/**\n * Map of module-id to the corresponding NgModule.\n * - In pre Ivy we track NgModuleFactory,\n * - In post Ivy we track the NgModuleType\n */\nconst modules = new Map<string, NgModuleFactory<any>|NgModuleType>();\n\n/**\n * Registers a loaded module. Should only be called from generated NgModuleFactory code.\n * @publicApi\n */\nexport function registerModuleFactory(id: string, factory: NgModuleFactory<any>) {\n  const existing = modules.get(id) as NgModuleFactory<any>;\n assertSameOrNotExisting(id, existing && existing.moduleType, factory.moduleType);\n  modules.set(id, factory);\n}\n\nfunction assertSameOrNotExisting(id: string, type: Type<any>|null, incoming: Type<any>): void {\n  if (type && type !== incoming) {\n    throw new Error(\n        `Duplicate module registered for ${id} - ${stringify(type)} vs ${stringify(type.name)}`);\n  }\n}\n\nexport function registerNgModuleType(ngModuleType: NgModuleType): void {\n  const visited = new Set<NgModuleType>();\n recurse(ngModuleType);\n  function recurse(ngModuleType: NgModuleType): void {\n    // The imports array of an NgModule must refer to other NgModules,\n    // so an error is thrown if no module definition is available.\n    const def = getNgModuleDef(ngModuleType, /* throwNotFound */ true);\n    const id = def.id;\n    if (id !== null) {\n

const existing = modules.get(id) as NgModuleType | null;\n assertSameOrNotExisting(id, existing, ngModuleType);\n modules.set(id, ngModuleType);\n }\n\n const imports = maybeUnwrapFn(def.imports) as NgModuleType[];\n for (const i of imports) {\n if (!visited.has(i)) {\n visited.add(i);\n recurse(i);\n }\n }\n }\n}\n\nexport function clearModulesForTest(): void {\n modules.clear();\n}\n\nexport function getRegisteredNgModuleType(id: string) {\n return modules.get(id) || autoRegisterModuleById[id];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../di/injector';\nimport {INJECTOR} from '../di/injector_token';\nimport {InjectFlags} from '../di/interface/injector';\nimport {createInjectorWithoutInjectorInstances, R3Injector} from '../di/r3_injector';\nimport {Type} from '../interface/type';\nimport {ComponentFactoryResolver as viewEngine_ComponentFactoryResolver} from '../linker/component_factory_resolver';\nimport {InternalNgModuleRef, NgModuleFactory as viewEngine_NgModuleFactory, NgModuleRef as viewEngine_NgModuleRef} from '../linker/ng_module_factory';\nimport {registerNgModuleType} from '../linker/ng_module_factory_registration';\nimport {NgModuleType} from '../metadata/ng_module_def';\nimport {assertDefined} from '../util/assert';\nimport {stringify} from '../util/stringify';\n\nimport {ComponentFactoryResolver} from './component_ref';\nimport {getNgLocaleIdDef, getNgModuleDef} from './definition';\nimport {setLocaleId} from './i18n/i18n_locale_id';\nimport {maybeUnwrapFn} from './util/misc_utils';\n\nexport class NgModuleRef<T> extends viewEngine_NgModuleRef<T> implements InternalNgModuleRef<T> {\n // tslint:disable-next-line:require-internal-with-underscore\n _bootstrapComponents: Type<any>[] = [];\n // tslint:disable-next-line:require-internal-with-underscore\n _r3Injector: R3Injector;\n injector: Injector = this;\n instance: T;\n destroyCbs: (() => void)[]|null = [];\n\n // When bootstrapping a module we have a dependency graph that looks like this:\n // ApplicationRef -> ComponentFactoryResolver -> NgModuleRef. The problem is that if the\n // module being resolved tries to inject the ComponentFactoryResolver, it'll create a\n // circular dependency which will result in a runtime error, because the injector doesn't\n // exist yet. We work around the issue by creating the ComponentFactoryResolver ourselves\n // and providing it, rather than letting the injector resolve it.\n readonly componentFactoryResolver: ComponentFactoryResolver = new ComponentFactoryResolver(this);\n\n constructor(ngModuleType: Type<T>, public _parent: Injector|null) {\n super();\n const ngModuleDef = getNgModuleDef(ngModuleType);\n ngDevMode &&\n assertDefined(\n ngModuleDef,\n `NgModule '${stringify(ngModuleType)}' is not a subtype of 'NgModuleType'.`);\n\n const ngLocaleIdDef = getNgLocaleIdDef(ngModuleType);\n ngLocaleIdDef && setLocaleId(ngLocaleIdDef);\n this._bootstrapComponents = maybeUnwrapFn(ngModuleDef!.bootstrap);\n this._r3Injector = createInjectorWithoutInjectorInstances(\n ngModuleType, _parent,\n [\n {provide: viewEngine_NgModuleRef, useValue: this}, {\n provide: viewEngine_ComponentFactoryResolver,\n useValue: this.componentFactoryResolver\n }\n ],\n stringify(ngModuleType)) as R3Injector;\n\n // We need to resolve the injector types separately from the injector creation, because\n // the module might be trying to use this ref in its contructor for DI which will cause a\n // circular error that will eventually error out, because the injector isn't created yet.\n this._r3Injector._resolveInjectorDefTypes();\n this.instance = this.get(ngModuleType);\n }\n\n get(token: any, notFoundValue: any = Injector.THROW_IF_NOT_FOUND,\n injectFlags: InjectFlags = InjectFlags.Default): any {\n if (token === Injector || token === viewEngine_NgModuleRef\n || token === INJECTOR) {\n return this;\n }\n return this._r3Injector.get(token, notFoundValue, injectFlags);\n }\n\n destroy(): void {\n ngDevMode && assertDefined(this.destroyCbs, 'NgModule already destroyed');\n const injector = this._r3Injector;\n !injector.destroyed && injector.destroy();\n this.destroyCbs!.forEach(fn => fn());\n this.destroyCbs = null;\n }\n onDestroy(callback: () => void): void {\n ngDevMode && assertDefined(this.destroyCbs, 'NgModule already destroyed');\n this.destroyCbs!.push(callback);\n }\n}\n\nexport class NgModuleFactory<T> extends

viewEngine_NgModuleFactory<T> {\n  constructor(public moduleType: Type<T>) {\n    super();\n\n    const ngModuleDef = getNgModuleDef(moduleType);\n    if (ngModuleDef !== null) {\n      // Register the NgModule with Angular's module registry. The location (and hence timing) of\n      // this call is critical to ensure this works correctly (modules get registered when expected)\n      // without bloating bundles (modules are registered when otherwise not referenced).\n      //\n      // In View Engine, registration occurs in the .ngfactory.js file as a side effect. This has\n      // several practical consequences:\n      //\n      // - If an .ngfactory file is not imported from, the module won't be registered (and can be\n      //   tree shaken).\n      // - If an .ngfactory file is imported from, the module will be registered even if an instance\n      //   is not actually created (via `create` below).\n      // - Since an .ngfactory file in View Engine references the .ngfactory files of the NgModule's\n      //   imports,\n      //\n      // In Ivy, things are a bit different. .ngfactory files still exist for compatibility, but are\n      // not a required API to use - there are other ways to obtain an NgModuleFactory for a given\n      // NgModule. Thus, relying on a side effect in the .ngfactory file is not sufficient. Instead,\n      // the side effect of
registration is added here, in the constructor of NgModuleFactory,\n      // ensuring no matter how a factory is created, the module is registered correctly.\n      //\n      // An alternative would be to include the registration side effect inline following the actual\n      // NgModule definition. This also has the correct timing, but breaks tree-shaking - modules\n      // will be registered and retained even if they're otherwise never referenced.\n      registerNgModuleType(moduleType as NgModuleType);\n    }\n  }\n\n  create(parentInjector: Injector|null): viewEngine_NgModuleRef<T> {\n    return new NgModuleRef(this.moduleType, parentInjector);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertIndexInRange} from '../util/assert';\nimport {bindingUpdated, bindingUpdated2, bindingUpdated3, bindingUpdated4,
getBinding, updateBinding} from './bindings';\nimport {LView} from './interfaces/view';\nimport {getBindingRoot, getLView} from './state';\nimport {NO_CHANGE} from './tokens';\n\n\n/**\n * Bindings for pure functions are stored after regular bindings.\n *\n * |-------decls------|---------vars---------|                |----- hostVars (dir1) ------|\n * ----------------------------------------------------------------------------------------\n * | nodes/refs/pipes | bindings | fn slots | injector | dir1 | host bindings | host slots |\n * ----------------------------------------------------------------------------------------\n *                    ^                    ^\n *      TView.bindingStartIndex      TView.expandoStartIndex\n *\n * Pure function instructions are given an offset from the binding root. Adding the offset to the\n * binding root gives the first index where the bindings are stored. In component views, the binding\n * root is the bindingStartIndex. In host bindings, the binding root is the expandoStartIndex +\n * any directive instances + any hostVars in directives evaluated before it.\n *\n * See VIEW_DATA.md for more information about host binding resolution.\n */\n\n/**\n * If the value hasn't been saved, calls the pure function to store and return the\n * value. If it has been saved, returns the saved value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn Function that returns a value\n * @param thisArg Optional calling context of pureFn\n * @returns value\n *\n * @codeGenApi\n */\nexport function pureFunction0<T>(slotOffset: number, pureFn: () => T, thisArg?: any): T {\n  const bindingIndex = getBindingRoot() + slotOffset;\n  const lView = getLView();\n  return lView[bindingIndex] === NO_CHANGE ?\n      updateBinding(lView, bindingIndex, thisArg ? pureFn.call(thisArg) : pureFn()) :\n      getBinding(lView, bindingIndex);\n}\n\n/**\n * If the value of the provided exp has changed, calls the pure function to return\n * an updated value. Or if the value has not changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn Function that returns an updated value\n * @param exp Updated expression value\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nexport function pureFunction1(\n    slotOffset: number, pureFn: (v: any) => any, exp: any, thisArg?: any): any {\n  return pureFunction1Internal(getLView(), getBindingRoot(), slotOffset, pureFn, exp, thisArg);\n}\n\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n *

@param exp2\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nexport function pureFunction2(\n slotOffset: number, pureFn: (v1: any, v2: any) => any, exp1: any, exp2: any,\n thisArg?: any): any {\n return pureFunction2Internal(\n getLView(), getBindingRoot(), slotOffset, pureFn, exp1, exp2, thisArg);\n}\n\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nexport function pureFunction3(\n slotOffset: number, pureFn: (v1: any, v2: any, v3: any) => any, exp1: any, exp2: any, exp3: any,\n thisArg?: any): any {\n return pureFunction3Internal(\n getLView(), getBindingRoot(), slotOffset, pureFn, exp1, exp2, exp3, thisArg);\n}\n\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param exp4\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nexport function pureFunction4(\n slotOffset: number, pureFn: (v1: any, v2: any, v3: any, v4: any) => any, exp1: any, exp2: any,\n exp3: any, exp4: any, thisArg?: any): any {\n return pureFunction4Internal(\n getLView(), getBindingRoot(), slotOffset, pureFn, exp1, exp2, exp3, exp4, thisArg);\n}\n\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param exp4\n * @param exp5\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nexport function pureFunction5(\n slotOffset: number, pureFn: (v1: any, v2: any, v3: any, v4: any, v5: any) => any, exp1: any,\n exp2: any, exp3: any, exp4: any, exp5: any, thisArg?: any): any {\n const bindingIndex = getBindingRoot() + slotOffset;\n const lView = getLView();\n const different = bindingUpdated4(lView, bindingIndex, exp1, exp2, exp3, exp4);\n return bindingUpdated(lView, bindingIndex + 4, exp5) || different ?\n updateBinding(\n lView, bindingIndex + 5,\n thisArg ? pureFn.call(thisArg, exp1, exp2, exp3, exp4, exp5) :\n pureFn(exp1, exp2, exp3, exp4, exp5)) :\n getBinding(lView, bindingIndex + 5);\n}\n\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param exp4\n * @param exp5\n * @param exp6\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nexport function pureFunction6(\n slotOffset: number, pureFn: (v1: any, v2: any, v3: any, v4: any, v5: any, v6: any) => any,\n exp1: any, exp2: any, exp3: any, exp4: any, exp5: any, exp6: any, thisArg?: any): any {\n const bindingIndex = getBindingRoot() + slotOffset;\n const lView = getLView();\n const different = bindingUpdated4(lView, bindingIndex, exp1, exp2, exp3, exp4);\n return bindingUpdated2(lView, bindingIndex + 4, exp5, exp6) || different ?\n updateBinding(\n lView, bindingIndex + 6,\n thisArg ? pureFn.call(thisArg, exp1, exp2, exp3, exp4, exp5, exp6) :\n pureFn(exp1, exp2, exp3, exp4, exp5, exp6)) :\n getBinding(lView, bindingIndex + 6);\n}\n\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param exp4\n * @param exp5\n * @param exp6\n * @param exp7\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nexport function pureFunction7(\n slotOffset: number,\n pureFn: (v1: any, v2: any, v3: any, v4: any, v5: any, v6: any, v7: any) => any, exp1: any,\n exp2: any, exp3: any, exp4: any, exp5: any, exp6: any, exp7: any, thisArg?: any): any {\n const bindingIndex = getBindingRoot() + slotOffset;\n const lView = getLView();\n let different = bindingUpdated4(lView, bindingIndex, exp1, exp2, exp3, exp4);\n return bindingUpdated3(lView, bindingIndex

```
 + 4, exp5, exp6, exp7) || different ?\n      updateBinding(\n          lView, bindingIndex + 7,\n          thisArg ?
pureFn.call(thisArg, exp1, exp2, exp3, exp4, exp5, exp6, exp7) :\n                pureFn(exp1, exp2, exp3, exp4, exp5,
exp6, exp7)) :\n      getBinding(lView, bindingIndex + 7);\n}\n\n/**\n * If the value of any provided exp has
changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached
value.\n *\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param
exp1\n * @param exp2\n * @param exp3\n * @param exp4\n * @param exp5\n * @param exp6\n * @param
exp7\n * @param exp8\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached
value\n *\n * @codeGenApi\n */\nexport function pureFunction8(\n    slotOffset: number,\n    pureFn: (v1: any, v2:
any, v3: any, v4: any, v5: any, v6: any, v7: any, v8: any) => any,\n    exp1: any, exp2: any, exp3: any,
 exp4: any, exp5: any, exp6: any, exp7: any, exp8: any,\n    thisArg?: any): any {\n  const bindingIndex =
getBindingRoot() + slotOffset;\n  const lView = getLView();\n  const different = bindingUpdated4(lView,
bindingIndex, exp1, exp2, exp3, exp4);\n  return bindingUpdated4(lView, bindingIndex + 4, exp5, exp6, exp7,
exp8) || different ?\n      updateBinding(\n          lView, bindingIndex + 8,\n          thisArg ? pureFn.call(thisArg,
exp1, exp2, exp3, exp4, exp5, exp6, exp7, exp8) :\n                pureFn(exp1, exp2, exp3, exp4, exp5, exp6, exp7,
exp8)) :\n      getBinding(lView, bindingIndex + 8);\n}\n\n/**\n * pureFunction instruction that can support any
number of bindings.\n *\n * If the value of any provided exp has changed, calls the pure function to return\n * an
updated value. Or if no values have changed, returns cached value.\n *\n * @param slotOffset the offset from
binding root to the reserved slot\n * @param pureFn A pure function that takes binding values and builds
 an object or array\n * containing those values.\n * @param exps An array of binding values\n * @param thisArg
Optional calling context of pureFn\n * @returns Updated or cached value\n *\n * @codeGenApi\n */\nexport
function pureFunctionV(\n    slotOffset: number, pureFn: (...v: any[]) => any, exps: any[], thisArg?: any): any {\n
return pureFunctionVInternal(getLView(), getBindingRoot(), slotOffset, pureFn, exps, thisArg);\n}\n\n/**\n *
Results of a pure function invocation are stored in LView in a dedicated slot that is initialized\n * to NO_CHANGE.
In rare situations a pure pipe might throw an exception on the very first\n * invocation and not produce any valid
results. In this case LView would keep holding the NO_CHANGE\n * value. The NO_CHANGE is not something
that we can use in expressions / bindings thus we convert\n * it to `undefined`.\n */\nfunction
getPureFunctionReturnValue(lView: LView, returnValueIndex: number) {\n  ngDevMode &&
assertIndexInRange(lView, returnValueIndex);\n
  const lastReturnValue = lView[returnValueIndex];\n  return lastReturnValue === NO_CHANGE ? undefined :
lastReturnValue;\n}\n\n/**\n * If the value of the provided exp has changed, calls the pure function to return\n * an
updated value. Or if the value has not changed, returns cached value.\n *\n * @param lView LView in which the
function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from
binding root to the reserved slot\n * @param pureFn Function that returns an updated value\n * @param exp
Updated expression value\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached
value\n */\nexport function pureFunction1Internal(\n    lView: LView, bindingRoot: number, slotOffset: number,
pureFn: (v: any) => any, exp: any,\n    thisArg?: any): any {\n  const bindingIndex = bindingRoot + slotOffset;\n
return bindingUpdated(lView, bindingIndex, exp) ?\n      updateBinding(lView, bindingIndex + 1, thisArg ?
pureFn.call(thisArg,
 exp) : pureFn(exp)) :\n      getPureFunctionReturnValue(lView, bindingIndex + 1);\n}\n\n\n/**\n * If the value of
any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed,
returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param
bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n *
@param pureFn\n * @param exp1\n * @param exp2\n * @param thisArg Optional calling context of pureFn\n *
@returns Updated or cached value\n */\nexport function pureFunction2Internal(\n    lView: LView, bindingRoot:
number, slotOffset: number, pureFn: (v1: any, v2: any) => any,\n    exp1: any, exp2: any, thisArg?: any): any {\n
const bindingIndex = bindingRoot + slotOffset;\n  return bindingUpdated2(lView, bindingIndex, exp1, exp2) ?\n
updateBinding(\n          lView, bindingIndex + 2,\n          thisArg ? pureFn.call(thisArg, exp1,
```

exp2) : pureFn(exp1, exp2)) :\n getPureFunctionReturnValue(lView, bindingIndex + 2);\n}\n\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n */\nexport function pureFunction3Internal(\n lView: LView, bindingRoot: number, slotOffset: number,\n pureFn: (v1: any, v2: any, v3: any) => any, exp1: any, exp2: any, exp3: any,\n thisArg?: any): any {\n const bindingIndex = bindingRoot + slotOffset;\n return bindingUpdated3(lView, bindingIndex, exp1, exp2, exp3) ?\n updateBinding(\n lView, bindingIndex + 3,\n

thisArg ? pureFn.call(thisArg, exp1, exp2, exp3) : pureFn(exp1, exp2, exp3)) :\n getPureFunctionReturnValue(lView, bindingIndex + 3);\n}\n\n\n/**\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn\n * @param exp1\n * @param exp2\n * @param exp3\n * @param exp4\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n *\n */\nexport function pureFunction4Internal(\n lView: LView, bindingRoot: number, slotOffset: number,\n pureFn: (v1: any, v2: any, v3: any, v4: any) => any, exp1: any, exp2: any, exp3: any, exp4: any,\n thisArg?: any): any {\n const bindingIndex = bindingRoot + slotOffset;\n return bindingUpdated4(lView, bindingIndex,
exp1, exp2, exp3, exp4) ?\n updateBinding(\n lView, bindingIndex + 4,\n thisArg ? pureFn.call(thisArg, exp1, exp2, exp3, exp4) : pureFn(exp1, exp2, exp3, exp4)) :\n getPureFunctionReturnValue(lView, bindingIndex + 4);\n}\n\n/**\n * pureFunction instruction that can support any number of bindings.\n *\n * If the value of any provided exp has changed, calls the pure function to return\n * an updated value. Or if no values have changed, returns cached value.\n *\n * @param lView LView in which the function is being executed.\n * @param bindingRoot Binding root index.\n * @param slotOffset the offset from binding root to the reserved slot\n * @param pureFn A pure function that takes binding values and builds an object or array\n * containing those values.\n * @param exps An array of binding values\n * @param thisArg Optional calling context of pureFn\n * @returns Updated or cached value\n */\nexport function pureFunctionVInternal(\n lView: LView, bindingRoot:
number, slotOffset: number, pureFn: (...v: any[]) => any,\n exps: any[], thisArg?: any): any {\n let bindingIndex = bindingRoot + slotOffset;\n let different = false;\n for (let i = 0; i < exps.length; i++) {\n bindingUpdated(lView, bindingIndex++, exps[i]) && (different = true);\n }\n return different ? updateBinding(lView, bindingIndex, pureFn.apply(thisArg, exps)) :\n getPureFunctionReturnValue(lView, bindingIndex);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {WrappedValue} from '../change_detection/change_detection_util';\nimport {PipeTransform} from '../change_detection/pipe_transform';\nimport {setInjectImplementation} from '../di/inject_switch';\nimport {getFactoryDef} from './definition_factory';\nimport {setIncludeViewProviders} from './di';\nimport {RuntimeError, RuntimeErrorCode}
from './error_code';\nimport {store, directiveInject} from './instructions/all';\nimport {PipeDef, PipeDefList} from './interfaces/definition';\nimport {HEADER_OFFSET, LView, TVIEW} from './interfaces/view';\nimport {pureFunction1Internal, pureFunction2Internal, pureFunction3Internal, pureFunction4Internal, pureFunctionVInternal} from './pure_function';\nimport {getBindingIndex, getBindingRoot, getLView, getTView} from './state';\nimport {NO_CHANGE} from './tokens';\nimport {load} from './util/view_utils';\n\n\n\n/**\n * Create a pipe.\n *\n * @param index Pipe index where the pipe will be stored.\n * @param pipeName The name of the pipe\n * @returns T the instance of the pipe.\n *\n * @codeGenApi\n */\nexport function pipe(index: number,

pipeName: string): any {\n  const tView = getTView();\n  let pipeDef: PipeDef<any>;\n  const adjustedIndex = index + HEADER_OFFSET;\n\n  if (tView.firstCreatePass) {\n    pipeDef = getPipeDef(pipeName, tView.pipeRegistry);\n    tView.data[adjustedIndex]
 = pipeDef;\n    if (pipeDef.onDestroy) {\n      (tView.destroyHooks || (tView.destroyHooks = [])).push(adjustedIndex, pipeDef.onDestroy);\n    }\n  } else {\n    pipeDef = tView.data[adjustedIndex] as PipeDef<any>;\n  }\n\n  const pipeFactory = pipeDef.factory || (pipeDef.factory = getFactoryDef(pipeDef.type, true));\n  const previousInjectImplementation = setInjectImplementation(directiveInject);\n  try {\n    // DI for pipes is supposed to behave like directives when placed on a component\n    // host node, which means that we have to disable access to `viewProviders`.\n    const previousIncludeViewProviders = setIncludeViewProviders(false);\n    const pipeInstance = pipeFactory();\n    setIncludeViewProviders(previousIncludeViewProviders);\n    store(tView, getLView(), adjustedIndex, pipeInstance);\n    return pipeInstance;\n  } finally {\n    // we have to restore the injector implementation in finally, just in case the creation of the\n    // pipe throws an
 error.\n    setInjectImplementation(previousInjectImplementation);\n  }\n}\n\n/**\n * Searches the pipe registry for a pipe with the given name. If one is found,\n * returns the pipe. Otherwise, an error is thrown because the pipe cannot be resolved.\n *\n * @param name Name of pipe to resolve\n * @param registry Full list of available pipes\n * @returns Matching PipeDef\n */\nfunction getPipeDef(name: string, registry: PipeDefList|null): PipeDef<any> {\n  if (registry) {\n    for (let i = registry.length - 1; i >= 0; i--) {\n      const pipeDef = registry[i];\n      if (name === pipeDef.name) {\n        return pipeDef;\n      }\n    }\n  }\n  throw new RuntimeError(RuntimeErrorCode.PIPE_NOT_FOUND, `The pipe '${name}' could not be found!`);\n}\n\n/**\n * Invokes a pipe with 1 arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n
 * @param slotOffset the offset in the reserved slot space\n * @param v1 1st argument to {@link PipeTransform#transform}.\n *\n * @codeGenApi\n */\nexport function pipeBind1(index: number, slotOffset: number, v1: any): any {\n  const adjustedIndex = index + HEADER_OFFSET;\n  const lView = getLView();\n  const pipeInstance = load<PipeTransform>(lView, adjustedIndex);\n  return unwrapValue(\n      lView,\n      isPure(lView, adjustedIndex) ?\n          pureFunction1Internal(\n              lView, getBindingRoot(), slotOffset, pipeInstance.transform, v1, pipeInstance) :\n          pipeInstance.transform(v1));\n}\n\n/**\n * Invokes a pipe with 2 arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved slot space\n * @param v1 1st argument to {@link PipeTransform#transform}.\n
 * @param v2 2nd argument to {@link PipeTransform#transform}.\n *\n * @codeGenApi\n */\nexport function pipeBind2(index: number, slotOffset: number, v1: any, v2: any): any {\n  const adjustedIndex = index + HEADER_OFFSET;\n  const lView = getLView();\n  const pipeInstance = load<PipeTransform>(lView, adjustedIndex);\n  return unwrapValue(\n      lView,\n      isPure(lView, adjustedIndex) ?\n          pureFunction2Internal(\n              lView, getBindingRoot(), slotOffset, pipeInstance.transform, v1, v2, pipeInstance) :\n          pipeInstance.transform(v1, v2));\n}\n\n/**\n * Invokes a pipe with 3 arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved slot space\n * @param v1 1st argument to {@link PipeTransform#transform}.\n * @param v2 2nd argument to {@link PipeTransform#transform}.\n
 * @param v3 4rd argument to {@link PipeTransform#transform}.\n *\n * @codeGenApi\n */\nexport function pipeBind3(index: number, slotOffset: number, v1: any, v2: any, v3: any): any {\n  const adjustedIndex = index + HEADER_OFFSET;\n  const lView = getLView();\n  const pipeInstance = load<PipeTransform>(lView, adjustedIndex);\n  return unwrapValue(\n      lView,\n      isPure(lView, adjustedIndex) ? pureFunction3Internal(\n                                         lView, getBindingRoot(), slotOffset,\n                                         pipeInstance.transform, v1, v2, v3, pipeInstance) :\n                                     pipeInstance.transform(v1, v2, v3));\n}\n\n/**\n * Invokes a pipe

with 4 arguments.\n *\n * This instruction acts as a guard to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved
slot space\n * @param v1 1st argument to {@link PipeTransform#transform}.\n * @param v2 2nd argument to {@link PipeTransform#transform}.\n * @param v3 3rd argument to {@link PipeTransform#transform}.\n * @param v4 4th argument to {@link PipeTransform#transform}.\n *\n * @codeGenApi\n */\nexport function pipeBind4(\n index: number, slotOffset: number, v1: any, v2: any, v3: any, v4: any): any {\n const adjustedIndex = index + HEADER_OFFSET;\n const lView = getLView();\n const pipeInstance = load<PipeTransform>(lView, adjustedIndex);\n return unwrapValue(\n lView,\n isPure(lView, adjustedIndex) ? pureFunction4Internal(\n lView, getBindingRoot(), slotOffset,\n pipeInstance.transform, v1, v2, v3, v4, pipeInstance) :\n pipeInstance.transform(v1, v2, v3, v4));\n}\n\n/**\n * Invokes a pipe with variable number of arguments.\n *\n * This instruction acts as a guard
to {@link PipeTransform#transform} invoking\n * the pipe only when an input to the pipe changes.\n *\n * @param index Pipe index where the pipe was stored on creation.\n * @param slotOffset the offset in the reserved slot space\n * @param values Array of arguments to pass to {@link PipeTransform#transform} method.\n *\n * @codeGenApi\n */\nexport function pipeBindV(index: number, slotOffset: number, values: [any, ...any[]]): any {\n const adjustedIndex = index + HEADER_OFFSET;\n const lView = getLView();\n const pipeInstance = load<PipeTransform>(lView, adjustedIndex);\n return unwrapValue(\n lView,\n isPure(lView, adjustedIndex) ?\n pureFunctionVInternal(\n lView, getBindingRoot(), slotOffset, pipeInstance.transform, values, pipeInstance) :\n pipeInstance.transform.apply(pipeInstance, values));\n}\n\nfunction isPure(lView: LView, index: number): boolean {\n return (<PipeDef<any>>lView[TVIEW].data[index]).pure;\n}\n\n/**\n * Unwrap the
output of a pipe transformation.\n * In order to trick change detection into considering that the new value is always different from\n * the old one, the old value is overwritten by NO_CHANGE.\n *\n * @param newValue the pipe transformation output.\n */\nfunction unwrapValue(lView: LView, newValue: any): any {\n if (WrappedValue.isWrapped(newValue)) {\n newValue = WrappedValue.unwrap(newValue);\n // The NO_CHANGE value needs to be written at the index where the impacted binding value is\n // stored\n const bindingToInvalidateIdx = getBindingIndex();\n lView[bindingToInvalidateIdx] = NO_CHANGE;\n }\n return newValue;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/// <reference types=\"rxjs\" />\n\nimport {Subject, Subscription} from 'rxjs';\n\n/**\n * Use in components with the `@Output` directive
to emit custom events\n * synchronously or asynchronously, and register handlers for those events\n * by subscribing to an instance.\n *\n * @usageNotes\n *\n * Extends\n * [RxJS `Subject`](https://rxjs.dev/api/index/class/Subject)\n * for Angular by adding the `emit()` method.\n *\n * In the following example, a component defines two output properties\n * that create event emitters. When the title is clicked, the emitter\n * emits an open or close event to toggle the current visibility state.\n *\n * ```html\n * @Component({\n * selector: 'zippy',\n * template: `\n * <div class=\"zippy\">\n * <div (click)=\"toggle()\">Toggle</div>\n * <div [hidden]=\"!visible\">\n * <ng-content></ng-content>\n * </div>\n * </div>`})\n * export class Zippy {\n * visible: boolean = true;\n * @Output() open: EventEmitter<any> = new EventEmitter();\n * @Output() close: EventEmitter<any> = new EventEmitter();\n *\n * toggle() {\n * this.visible = !this.visible;\n *
if (this.visible) {\n * this.open.emit(null);\n * } else {\n * this.close.emit(null);\n * }\n * }\n * }\n * ```\n *\n * Access the event object with the `$event` argument passed to the output event\n * handler:\n *\n * ```html\n * <zippy (open)=\"onOpen($event)\" (close)=\"onClose($event)\"></zippy>\n * ```\n *\n * @see [Observables in Angular](guide/observables-in-angular)\n * @publicApi\n */\nexport interface EventEmitter<T> extends Subject<T> {\n /**\n * @internal\n */\n __isAsync: boolean;\n\n /**\n * Creates an instance of this class that can\n * deliver events synchronously or asynchronously.\n *\n * @param [isAsync=false] When true,

deliver events asynchronously.\n *\n */\n new(isAsync?: boolean): EventEmitter<T>;\n\n /**\n * Emits an event containing a given value.\n * @param value The value to emit.\n */\n emit(value?: T): void;\n /**\n * Registers handlers for events emitted by this instance.\n * @param generatorOrNext When supplied, a custom handler for emitted events.\n * @param error When supplied, a custom handler for an error notification\n * from this emitter.\n * @param complete When supplied, a custom handler for a completion\n * notification from this emitter.\n */\n subscribe(generatorOrNext?: any, error?: any, complete?: any): Subscription;\n}\n\nclass EventEmitter_ extends Subject<any> {\n __isAsync: boolean; // tslint:disable-line\n\n constructor(isAsync: boolean = false) {\n super();\n this.__isAsync = isAsync;\n }\n\n emit(value?: any) {\n super.next(value);\n }\n\n subscribe(generatorOrNext?: any, error?: any, complete?: any): Subscription {\n let schedulerFn: (t: any) => any;\n let errorFn = (err: any): any => null;\n let completeFn = (): any => null;\n\n if (generatorOrNext && typeof generatorOrNext === 'object') {\n schedulerFn = this.__isAsync ? (value: any) => {\n setTimeout(() => generatorOrNext.next(value));\n } : (value: any) => {\n generatorOrNext.next(value);\n };\n\n if (generatorOrNext.error) {\n errorFn = this.__isAsync ? (err) => {\n setTimeout(() => generatorOrNext.error(err));\n } : (err) => {\n generatorOrNext.error(err);\n };\n }\n\n if (generatorOrNext.complete) {\n completeFn = this.__isAsync ? () => {\n setTimeout(() => generatorOrNext.complete());\n } : () => {\n generatorOrNext.complete();\n };\n }\n } else {\n schedulerFn = this.__isAsync ? (value: any) => {\n setTimeout(() => generatorOrNext(value));\n } : (value: any) => {\n generatorOrNext(value);\n };\n\n if (error) {\n errorFn = this.__isAsync ? (err) => {\n setTimeout(() => error(err));\n } : (err) => {\n error(err);\n };\n }\n\n if (complete) {\n completeFn = this.__isAsync ? () => {\n setTimeout(() => complete());\n } : () => {\n complete();\n };\n }\n }\n\n const sink = super.subscribe(schedulerFn, errorFn, completeFn);\n\n if (generatorOrNext instanceof Subscription) {\n generatorOrNext.add(sink);\n }\n\n return sink;\n }\n}\n\n/**\n * @publicApi\n */\nexport const EventEmitter: {\n new (isAsync?: boolean): EventEmitter<any>; new<T>(isAsync?: boolean): EventEmitter<T>;\n readonly prototype: EventEmitter<any>;\n} = EventEmitter_ as any;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Observable} from 'rxjs';\n\nimport {EventEmitter} from '../event_emitter';\nimport {flatten} from '../util/array_utils';\nimport {getSymbolIterator} from '../util/symbol';\n\nfunction symbolIterator<T>(this: QueryList<T>): Iterator<T> {\n return ((this as any as {_results: Array<T>})._results as any)[getSymbolIterator()]();\n}\n\n/**\n * An unmodifiable list of items that Angular keeps up to date when the state\n * of the application changes.\n *\n * The type of object that {@link ViewChildren}, {@link ContentChildren}, and {@link QueryList}\n * provide.\n *\n * Implements an iterable interface, therefore it can be used in both ES6\n * javascript `for (var i of items)` loops as well as in Angular templates with\n * `*ngFor=\"let i of myList\"`.\n *\n * Changes can be observed by subscribing to the changes `Observable`.\n *\n * NOTE: In the future this class will implement an `Observable` interface.\n *\n * @usageNotes\n * ### Example\n * ```typescript\n * @Component({...})\n * class Container {\n * @ViewChildren(Item) items:QueryList<Item>;\n * }\n * ```\n *\n * @publicApi\n */\nexport class QueryList<T> implements Iterable<T> {\n public readonly dirty = true;\n private _results: Array<T> = [];\n public readonly changes: Observable<any> = new EventEmitter();\n\n readonly length: number = 0;\n // TODO(issue/24571): remove '!'.\n readonly first!: T;\n // TODO(issue/24571): remove '!'.\n readonly last!: T;\n\n constructor() {\n // This function should be declared on the prototype, but doing so there will cause the class\n // declaration to have side-effects and become not tree-shakable. For this reason we do it in\n // the constructor.\n // [getSymbolIterator()](): Iterator<T> { ... }\n const symbol = getSymbolIterator();\n const proto = QueryList.prototype as any;\n if (!proto[symbol]) proto[symbol] = symbolIterator;\n }\n\n /**\n * See\n * [Array.map](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/map)\n */\n map<U>(fn: (item: T, index: number, array: T[]) => U): U[] {\n return this._results.map(fn);\n }\n\n /**\n * See\n *

[Array.filter](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/filter)\n */\n filter(fn: (item: T, index: number,
array: T[]) => boolean): T[] {\n return this._results.filter(fn);\n }\n\n /**\n * See\n *
[Array.find](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/find)\n */\n find(fn: (item: T, index: number, array: T[]) => boolean): T|undefined {\n return this._results.find(fn);\n }\n\n /**\n * See\n * [Array.reduce](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/reduce)\n */\n reduce<U>(fn: (prevValue: U, curValue: T, curIndex: number, array: T[]) => U, init: U): U {\n return this._results.reduce(fn, init);\n }\n\n /**\n * See\n * [Array.forEach](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/forEach)\n */\n forEach(fn: (item: T, index: number, array: T[]) => void): void {\n this._results.forEach(fn);\n }\n\n /**\n * See\n *
[Array.some](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/some)\n */\n some(fn: (value: T, index: number, array: T[]) => boolean): boolean {\n return this._results.some(fn);\n }\n\n /**\n * Returns a copy of the internal results list as an Array.\n */\n toArray(): T[] {\n return this._results.slice();\n }\n\n toString(): string {\n return this._results.toString();\n }\n\n /**\n * Updates the stored data of the query list, and resets the `dirty` flag to `false`, so that\n * on change detection, it will not notify of changes to the queries, unless a new change\n * occurs.\n *\n * @param resultsTree The query results to store\n */\n reset(resultsTree: Array<T|any[]>): void {\n this._results = flatten(resultsTree);\n (this as {dirty: boolean}).dirty = false;\n (this as {length: number}).length = this._results.length;\n (this as {last: T}).last = this._results[this.length - 1];\n (this as {first: T}).first = this._results[0];\n }\n\n /**\n * Triggers a change event by emitting on the `changes` {@link
EventEmitter}.\n */\n notifyOnChanges(): void {\n (this.changes as EventEmitter<any>).emit(this);\n }\n\n /** internal */\n setDirty() {\n (this as {dirty: boolean}).dirty = true;\n }\n\n /** internal */\n destroy(): void {\n (this.changes as EventEmitter<any>).complete();\n (this.changes as EventEmitter<any>).unsubscribe();\n }\n\n // The implementation of `Symbol.iterator` should be declared here, but this would cause\n // tree-shaking issues with `QueryList. So instead, it's added in the constructor (see comments\n // there) and this declaration is left here to ensure that TypeScript considers QueryList to\n // implement the Iterable interface. This is required for template type-checking of NgFor loops\n // over QueryLists to work correctly, since QueryList must be assignable to NgIterable.\n [Symbol.iterator]!: () => Iterator<T>;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ProcessProvidersFunction} from '../../di/interface/provider';\nimport {Type} from '../../interface/type';\nimport {SchemaMetadata} from '../../metadata/schema';\nimport {ViewEncapsulation} from '../../metadata/view';\nimport {FactoryFn} from '../definition_factory';\n\nimport {TAttributes, TConstantsOrFactory} from './node';\nimport {CssSelectorList} from './projection';\nimport {TView} from './view';\n\n\n/**\n * Definition of what a template rendering function should look like for a component.\n */\nexport type ComponentTemplate<T> = {\n // Note: the ctx parameter is typed as T|U, as using only U would prevent a template with\n // e.g. ctx: {} from being assigned to ComponentTemplate<any> as TypeScript won't infer U = any\n // in that scenario. By including T this incompatibility is resolved.\n <U extends T>(rf: RenderFlags, ctx: T|U): void;\n};\n\n/**\n * Definition of what a view
queries function should look like.\n */\nexport type ViewQueriesFunction<T> = <U extends T>(rf: RenderFlags, ctx: U) => void;\n\n/**\n * Definition of what a content queries function should look like.\n */\nexport type ContentQueriesFunction<T> =\n <U extends T>(rf: RenderFlags, ctx: U, directiveIndex: number) => void;\n\n/**\n * Flags passed into template functions to determine which blocks (i.e. creation, update)\n * should be executed.\n *\n * Typically, a template runs both the creation block and the update block on initialization and\n * subsequent runs only execute the update block. However, dynamically created views require that\n * the creation block be executed separately from the update block (for backwards compat).\n */\nexport const enum RenderFlags {\n /* Whether to run the creation block (e.g. create elements and directives) */\n Create = 0b01,\n\n /* Whether to

run the update block (e.g. refresh bindings) */\n  Update = 0b10\n}\n\n/**\n * A subclass of `Type` which
 has a static `cmp`:`ComponentDef` field making it\n * consumable for rendering.\n */\nexport interface
ComponentType<T> extends Type<T> {\n  cmp: never;\n}\n\n/**\n * A subclass of `Type` which has a static
`dir`:`DirectiveDef` field making it\n * consumable for rendering.\n */\nexport interface DirectiveType<T> extends
Type<T> {\n  dir: never;\n  fac: () => T;\n}\n\n/**\n * A subclass of `Type` which has a static `pipe`:`PipeDef` field
making it\n * consumable for rendering.\n */\nexport interface PipeType<T> extends Type<T> {\n  pipe:
never;\n}\n\n/**\n * An object literal of this type is used to represent the metadata of a constructor dependency.\n *
The type itself is never referred to from generated code.\n */\nexport type CtorDependency = {\n  /**\n   * If an
`@Attribute` decorator is used, this represents the injected attribute's name. If the\n   * attribute name is a dynamic
expression instead of a string literal, this will be the unknown\n   * type.\n   */\n  attribute?:
 string|unknown;\n\n  /**\n   * If `@Optional()` is used, this key is set to true.\n   */\n  optional?: true;\n\n  /**\n   *
If `@Host` is used, this key is set to true.\n   */\n  host?: true;\n\n  /**\n   * If `@Self` is used, this key is set to
true.\n   */\n  self?: true;\n\n  /**\n   * If `@SkipSelf` is used, this key is set to true.\n   */\n  skipSelf?:
true;\n}|null;\n\n/**\n * @codeGenApi\n */\nexport type DirectiveDefWithMeta<\n    T, Selector extends string,
ExportAs extends\n        string[], InputMap extends {[key: string]: string},\n                                OutputMap
extends {[key: string]: string},\n                                QueryFields extends string[]> =\n
DirectiveDef<T>;\n\n/**\n * Runtime link information for Directives.\n *\n * This is an internal data structure used
by the render to link\n * directives into templates.\n *\n * NOTE: Always use `defineDirective` function to create
this object,\n * never create the object
 directly since the shape of this object\n * can change between versions.\n *\n * @param Selector type metadata
specifying the selector of the directive or component\n *\n * See: {@link defineDirective}\n */\nexport interface
DirectiveDef<T> {\n  /**\n   * A dictionary mapping the inputs' minified property names to their public API names,
which\n   * are their aliases if any, or their original unminified property names\n   * (as in `@Input('alias')
propertyName: any;`).\n   */\n  readonly inputs: {[P in keyof T]: string};\n\n  /**\n   * @deprecated This is only here
because `NgOnChanges` incorrectly uses declared name instead of\n   * public or minified name.\n   */\n  readonly
declaredInputs: {[P in keyof T]: string};\n\n  /**\n   * A dictionary mapping the outputs' minified property names to
their public API names, which\n   * are their aliases if any, or their original unminified property names\n   * (as in
`@Output('alias') propertyName: any;`).\n   */\n  readonly outputs: {[P in keyof
 T]: string};\n\n  /**\n   * Function to create and refresh content queries associated with a given directive.\n   */\n
contentQueries: ContentQueriesFunction<T>|null;\n\n  /**\n   * Query-related instructions for a directive. Note that
while directives don't have a\n   * view and as such view queries won't necessarily do anything, there might be\n   *
components that extend the directive.\n   */\n  viewQuery: ViewQueriesFunction<T>|null;\n\n  /**\n   * Refreshes
host bindings on the associated directive.\n   */\n  readonly hostBindings: HostBindingsFunction<T>|null;\n\n  /**\n
* The number of bindings in this directive `hostBindings` (including pure fn bindings).\n   *\n   * Used to calculate
the length of the component's LView array, so we\n   * can pre-fill the array and set the host binding start index.\n
*/\n  readonly hostVars: number;\n\n  /**\n   * Assign static attribute values to a host element.\n   *\n   * This
property will assign static attribute values as well as
 class and style\n   * values to a host element. Since attribute values can consist of different types of values, the\n   *
`hostAttrs` array must include the values in the following format:\n   *\n   * attrs = [\n   *   // static attributes (like
`title`, `name`, `id`...)\n   *   attr1, value1, attr2, value,\n   *\n   *   // a single namespace value (like `x:id`)\n   *
NAMESPACE_MARKER, namespaceUri1, name1, value1,\n   *\n   *   // another single namespace value (like
`x:name`)\n   *   NAMESPACE_MARKER, namespaceUri2, name2, value2,\n   *\n   *   // a series of CSS classes
that will be applied to the element (no spaces)\n   *   CLASSES_MARKER, class1, class2, class3,\n   *\n   *   // a
series of CSS styles (property + value) that will be applied to the element\n   *   STYLES_MARKER, prop1, value1,
prop2, value2\n   * ]\n   *\n   * All non-class and non-style attributes must be defined at the start of the list\n   * first
before all class and style values are set. When there is a change
 in value\n   * type (like when classes and styles are introduced) a marker must be used to separate\n   * the entries.
The marker values themselves are set via entries found in the\n   * [AttributeMarker] enum.\n   */\n  readonly

hostAttrs: TAttributes|null;\n\n /** Token representing the directive. Used by DI. */\n readonly type: Type<T>;\n\n /** Function that resolves providers and publishes them into the DI system. */\n providersResolver:\n (<U extends T>(def: DirectiveDef<U>, processProvidersFn?: ProcessProvidersFunction) =>\n void)|null;\n\n /** The selectors that will be used to match nodes to this directive. */\n readonly selectors: CssSelectorList;\n\n /**\n * Name under which the directive is exported (for use with local references in template)\n */\n readonly exportAs: string[]|null;\n\n /**\n * Factory function used to create a new directive instance. Will be null initially.\n * Populated when the factory is first requested by directive instantiation
logic.\n */\n readonly factory: FactoryFn<T>|null;\n\n /**\n * The features applied to this directive\n */\n readonly features: DirectiveDefFeature[]|null;\n\n setInput:\n (<U extends T>(\n this: DirectiveDef<U>, instance: U, value: any, publicName: string,\n privateName: string) => void)|null;\n}\n\n/**\n * @codeGenApi\n */\nexport type ComponentDefWithMeta<\n T, Selector extends String, ExportAs extends\n string[], InputMap extends {[key: string]: string},\n OutputMap extends {[key: string]: string}, QueryFields extends\n string[], NgContentSelectors extends string[]> = ComponentDef<T>;\n\n/**\n * @codeGenApi\n */\nexport type FactoryDef<T, CtorDependencies extends CtorDependency[]> = () => T;\n\n/**\n * Runtime link information for Components.\n *\n * This is an internal data structure used by the render to link\n * components into templates.\n *\n * NOTE: Always use `defineComponent`
function to create this object,\n * never create the object directly since the shape of this object\n * can change between versions.\n *\n * See: {@link defineComponent}\n */\nexport interface ComponentDef<T> extends DirectiveDef<T> {\n /**\n * Runtime unique component ID.\n */\n readonly id: string;\n\n /**\n * The View template of the component.\n */\n readonly template: ComponentTemplate<T>;\n\n /** Constants associated with the component's view. */\n readonly consts: TConstantsOrFactory|null;\n\n /**\n * An array of `ngContent[selector]` values that were found in the template.\n */\n readonly ngContentSelectors?: string[];\n\n /**\n * A set of styles that the component needs to be present for component to render correctly.\n */\n readonly styles: string[];\n\n /**\n * The number of nodes, local refs, and pipes in this component template.\n *\n * Used to calculate the length of the component's LView array, so we\n * can pre-fill the array and
set the binding start index.\n */\n // TODO(kara): remove queries from this count\n readonly decls: number;\n\n /**\n * The number of bindings in this component template (including pure fn bindings).\n *\n * Used to calculate the length of the component's LView array, so we\n * can pre-fill the array and set the host binding start index.\n */\n readonly vars: number;\n\n /**\n * Query-related instructions for a component.\n */\n viewQuery: ViewQueriesFunction<T>|null;\n\n /**\n * The view encapsulation type, which determines how styles are applied to\n * DOM elements. One of\n * - `Emulated` (default): Emulate native scoping of styles.\n * - `Native`: Use the native encapsulation mechanism of the renderer.\n * - `ShadowDom`: Use modern [ShadowDOM](https://w3c.github.io/webcomponents/spec/shadow/) and\n * create a ShadowRoot for component's host element.\n * - `None`: Do not provide any template or style encapsulation.\n */\n readonly encapsulation:
ViewEncapsulation;\n\n /**\n * Defines arbitrary developer-defined data to be stored on a renderer instance.\n * This is useful for renderers that delegate to other renderers.\n */\n readonly data: {[kind: string]: any};\n\n /** Whether or not this component's ChangeDetectionStrategy is OnPush */\n readonly onPush: boolean;\n\n /**\n * Registry of directives and components that may be found in this view.\n *\n * The property is either an array of `DirectiveDef`s or a function which returns the array of\n * `DirectiveDef`s. The function is necessary to be able to support forward declarations.\n */\n directiveDefs: DirectiveDefListOrFactory|null;\n\n /**\n * Registry of pipes that may be found in this view.\n *\n * The property is either an array of `PipeDefs`s or a function which returns the array of\n * `PipeDefs`s. The function is necessary to be able to support forward declarations.\n */\n pipeDefs: PipeDefListOrFactory|null;\n\n /**\n * The
set of schemas that declare elements to be allowed in the component's template.\n */\n schemas: SchemaMetadata[]|null;\n\n /**\n * Ivy runtime uses this place to store the computed tView for the component. This gets filled on\n * the first run of component.\n */\n tView: TView|null;\n\n /**\n * Used to store the result of `noSideEffects` function so that it is not removed by closure\n * compiler. The property should never be read.\n

*/\n  readonly _?: never;\n}\n\n/**\n * Runtime link information for Pipes.\n *\n * This is an internal data structure used by the renderer to link\n * pipes into templates.\n *\n * NOTE: Always use `definePipe` function to create this object,\n * never create the object directly since the shape of this object\n * can change between versions.\n *\n * See: {@link definePipe}\n */\nexport interface PipeDef<T> {\n  /** Token representing the pipe. */\n  type: Type<T>;\n\n  /**\n   * Pipe name.\n   *\n   * Used to resolve pipe in templates.\n
   */\n  readonly name: string;\n\n  /**\n   * Factory function used to create a new pipe instance. Will be null initially.\n   * Populated when the factory is first requested by pipe instantiation logic.\n   */\n  factory: FactoryFn<T>|null;\n\n  /**\n   * Whether or not the pipe is pure.\n   *\n   * Pure pipes result only depends on the pipe input and not on internal\n   * state of the pipe.\n   */\n  readonly pure: boolean;\n\n  /* The following are lifecycle hooks for this pipe */\n  onDestroy: (() => void)|null;\n}\n\n/**\n * @codeGenApi\n */\nexport type PipeDefWithMeta<T, Name extends string> = PipeDef<T>;\n\nexport interface DirectiveDefFeature {\n<T>(directiveDef: DirectiveDef<T>): void;\n  /**\n   * Marks a feature as something that {@link InheritDefinitionFeature} will execute\n   * during inheritance.\n   *\n   * NOTE: DO NOT SET IN ROOT OF MODULE! Doing so will result in tree-shakers/bundlers\n   * identifying the change as a side effect, and the feature will be included
 in\n   * every bundle.\n   */\n  ngInherit?: true;\n}\n\nexport interface ComponentDefFeature {\n<T>(componentDef: ComponentDef<T>): void;\n  /**\n   * Marks a feature as something that {@link InheritDefinitionFeature} will execute\n   * during inheritance.\n   *\n   * NOTE: DO NOT SET IN ROOT OF MODULE! Doing so will result in tree-shakers/bundlers\n   * identifying the change as a side effect, and the feature will be included in\n   * every bundle.\n   */\n  ngInherit?: true;\n}\n\n\n/**\n * Type used for directiveDefs on component definition.\n *\n * The function is necessary to be able to support forward declarations.\n */\nexport type DirectiveDefListOrFactory = (() => DirectiveDefList)|DirectiveDefList;\n\nexport type DirectiveDefList = (DirectiveDef<any>|ComponentDef<any>)[];\n\nexport type DirectiveTypesOrFactory = (() => DirectiveTypeList)|DirectiveTypeList;\n\nexport type DirectiveTypeList =\n  (DirectiveType<any>|ComponentType<any>|\n     Type<any>/* Type as workaround
 for: Microsoft/TypeScript/issues/4881 */)[];\n\nexport type HostBindingsFunction<T> = <U extends T>(rf: RenderFlags, ctx: U) => void;\n\n/**\n * Type used for PipeDefs on component definition.\n *\n * The function is necessary to be able to support forward declarations.\n */\nexport type PipeDefListOrFactory = (() => PipeDefList)|PipeDefList;\n\nexport type PipeDefList = PipeDef<any>[];\n\nexport type PipeTypesOrFactory = (() => PipeTypeList)|PipeTypeList;\n\nexport type PipeTypeList =\n    (PipeType<any>|Type<any>/* Type as workaround for: Microsoft/TypeScript/issues/4881 */)[];\n\n\n// Note: This hack is necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd = 1;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from '../../di/injection_token';\nimport
 {Type} from '../../interface/type';\nimport {QueryList} from '../../linker/query_list';\n\nimport {TNode} from './node';\nimport {TView} from './view';\n\n/**\n * An object representing query metadata extracted from query annotations.\n */\nexport interface TQueryMetadata {\n  predicate: Type<any>|InjectionToken<unknown>|string[];\n  descendants: boolean;\n  read: any;\n  isStatic: boolean;\n}\n\n/**\n * TQuery objects represent all the query-related data that remain the same from one view instance\n * to another and can be determined on the very first template pass. Most notably TQuery holds all\n * the matches for a given view.\n */\nexport interface TQuery {\n  /**\n   * Query metadata extracted from query annotations.\n   */\n  metadata: TQueryMetadata;\n\n  /**\n   * Index of a query in a declaration view in case of queries propagated to en embedded view, -1\n   * for queries declared in a given view. We are storing this index so we can find a parent
 query\n   * to clone for an embedded view (when an embedded view is created).\n   */\n  indexInDeclarationView: number;\n\n  /**\n   * Matches collected on the first template pass. Each match is a pair of:\n   * - TNode index;\n   * - match index;\n   *\n   * A TNode index can be either:\n   * - a positive number (the most common case) to

indicate a matching TNode;\n * - a negative number to indicate that a given query is crossing a <ng-template> element and\n * results from views created based on TemplateRef should be inserted at this place.\n *\n * A match index is a number used to find an actual value (for a given node) when query results\n * are materialized. This index can have one of the following values:\n * - -2 - indicates that we need to read a special token (TemplateRef, ViewContainerRef etc.);\n * - -1 - indicates that we need to read a default value based on the node type (TemplateRef for\n * ng-template and ElementRef for other elements);\n * - a positive number - index of an injectable to be read from the element injector.\n */\n matches: number[]|null;\n\n /**\n * A flag indicating if a given query crosses an <ng-template> element. This flag exists for\n * performance reasons: we can notice that queries not crossing any <ng-template> elements will\n * have matches from a given view only (and adapt processing accordingly).\n */\n crossesNgTemplate: boolean;\n\n /**\n * A method call when a given query is crossing an element (or element container). This is where a\n * given TNode is matched against a query predicate.\n * @param tView\n * @param tNode\n */\n elementStart(tView: TView, tNode: TNode): void;\n\n /**\n * A method called when processing the elementEnd instruction - this is mostly useful to determine\n * if a given content query should match any nodes past this point.\n * @param tNode\n */\n elementEnd(tNode: TNode): void;\n\n /**\n * A method called when processing the template instruction. This is where a\n * given TContainerNode is matched against a query predicate.\n * @param tView\n * @param tNode\n */\n template(tView: TView, tNode: TNode): void;\n\n /**\n * A query-related method called when an embedded TView is created based on the content of a\n * <ng-template> element. We call this method to determine if a given query should be propagated\n * to the embedded view and if so - return a cloned TQuery for this embedded view.\n * @param tNode\n * @param childQueryIndex\n */\n embeddedTView(tNode: TNode, childQueryIndex: number): TQuery|null;\n}\n\n/**\n * TQueries represent a collection of individual TQuery objects tracked in a given view. Most of the\n * methods on this interface are simple proxy methods to the corresponding functionality on TQuery.\n */\nexport interface TQueries {\n /**\n * Adds a new TQuery to a collection of queries tracked in a given view.\n * @param tQuery\n */\n track(tQuery: TQuery): void;\n\n /**\n * Returns a TQuery instance for at the given index in the queries array.\n * @param index\n */\n getByIndex(index: number): TQuery;\n\n /**\n * Returns the number of queries tracked in a given view.\n */\n length: number;\n\n /**\n * A proxy method that iterates over all the TQueries in a given TView and calls the corresponding\n * `elementStart` on each and every TQuery.\n * @param tView\n * @param tNode\n */\n elementStart(tView: TView, tNode: TNode): void;\n\n /**\n * A proxy method that iterates over all the TQueries in a given TView and calls the corresponding\n * `elementEnd` on each and every TQuery.\n * @param tNode\n */\n elementEnd(tNode: TNode): void;\n\n /**\n * A proxy method that iterates over all the TQueries in a given TView and calls the corresponding\n * `template` on each and every TQuery.\n * @param tView\n * @param tNode\n */\n template(tView: TView, tNode: TNode): void;\n\n /**\n * A proxy method that iterates over all the TQueries in a given TView and calls the corresponding\n * `embeddedTView` on each and every TQuery.\n * @param tNode\n */\n embeddedTView(tNode: TNode): TQueries|null;\n}\n\n/**\n * An interface that represents query-related information specific to a view instance. Most notably\n * it contains:\n * - materialized query matches;\n * - a pointer to a QueryList where materialized query results should be reported.\n */\nexport interface LQuery<T> {\n /**\n * Materialized query matches for a given view only (!). Results are initialized lazily so the\n * array of matches is set to `null` initially.\n */\n matches: (T|null)[]|null;\n\n /**\n * A QueryList where materialized query results should be reported.\n */\n queryList: QueryList<T>;\n\n /**\n * Clones an LQuery for an embedded view. A cloned query shares the same `QueryList` but has a\n * separate collection of materialized matches.\n */\n clone(): LQuery<T>;\n\n /**\n * Called when an embedded view, impacting results of this query, is inserted or removed.\n */\n setDirty(): void;\n}\n\n/**\n * lQueries represent a collection of individual LQuery objects tracked in a given view.\n */\nexport interface LQueries {\n /**\n * A collection of queries tracked in a given view.\n */\n queries: LQuery<any>[];\n\n /**\n * A method called when a new embedded view is created. As a result a set of LQueries applicable\n * for a new embedded view is instantiated (cloned) from the declaration view.\n * @param tView\n */\n createEmbeddedView(tView: TView): LQueries|null;\n\n /**\n * A method called when an embedded view is inserted into a container. As a result all

impacted\n * `LQuery` objects (and associated `QueryList`) are marked as dirty.\n * @param tView\n */\n insertView(tView: TView): void;\n\n /**\n * A method called when an embedded view is detached from a container. As a result all impacted\n * `LQuery` objects (and associated `QueryList`) are marked as dirty.\n * @param tView\n */\n detachView(tView: TView): void;\n}\n\n\n// Note: This hack is necessary so we don't erroneously get a circular dependency\n// failure based on types.\nexport const unusedValueExportToPlacateAjd = 1;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// We are temporarily importing the existing viewEngine_from core so we can be sure we are\n// correctly implementing its interfaces for backwards compatibility.\n\nimport {InjectionToken} from '../di/injection_token';\nimport {Type} from '../interface/type';\nimport {createElementRef, ElementRef as ViewEngine_ElementRef} from '../linker/element_ref';\nimport {QueryList} from '../linker/query_list';\nimport {createTemplateRef, TemplateRef as ViewEngine_TemplateRef} from '../linker/template_ref';\nimport {createContainerRef, ViewContainerRef} from '../linker/view_container_ref';\nimport {assertDefined, assertIndexInRange, throwError} from '../util/assert';\nimport {stringify} from '../util/stringify';\nimport {assertFirstCreatePass, assertLContainer} from './assert';\nimport {getNodeInjectable, locateDirectiveOrProvider} from './di';\nimport {storeCleanupWithContext} from './instructions/shared';\nimport {CONTAINER_HEADER_OFFSET, LContainer, MOVED_VIEWS} from './interfaces/container';\nimport {unusedValueExportToPlacateAjd as unused1} from './interfaces/definition';\nimport {unusedValueExportToPlacateAjd as unused2} from './interfaces/injector';\nimport {TContainerNode, TElementContainerNode, TElementNode, TNode, TNodeType, unusedValueExportToPlacateAjd as unused3} from './interfaces/node';\nimport {LQueries, LQuery, TQueries, TQuery, TQueryMetadata, unusedValueExportToPlacateAjd as unused4} from './interfaces/query';\nimport {DECLARATION_LCONTAINER, LView, PARENT, QUERIES, TVIEW, TView} from './interfaces/view';\nimport {assertTNodeType} from './node_assert';\nimport {getCurrentQueryIndex, getCurrentTNode, getLView, getTView, setCurrentQueryIndex} from './state';\nimport {isCreationMode} from './util/view_utils';\n\nconst unusedValueToPlacateAjd = unused1 + unused2 + unused3 + unused4;\n\nclass LQuery_<T> implements LQuery<T> {\n matches: (T|null)[]|null = null;\n constructor(public queryList: QueryList<T>) {}\n clone(): LQuery<T> {\n return new LQuery_(this.queryList);\n }\n setDirty(): void {\n this.queryList.setDirty();\n }\n}\n\nclass LQueries_ implements LQueries {\n constructor(public queries: LQuery<any>[] = []) {}\n\n createEmbeddedView(tView: TView): LQueries|null {\n const tQueries = tView.queries;\n if (tQueries !== null) {\n const noOfInheritedQueries =\n tView.contentQueries !== null ? tView.contentQueries[0] : tQueries.length;\n const viewLQueries: LQuery<any>[] = [];\n\n // An embedded view has queries propagated from a declaration view at the\n beginning of the\n // TQueries collection and up until a first content query declared in the embedded view.\n Only\n // propagated LQueries are created at this point (LQuery corresponding to declared content\n // queries will be instantiated from the content query instructions for each directive).\n for (let i = 0; i < noOfInheritedQueries; i++) {\n const tQuery = tQueries.getByIndex(i);\n const parentLQuery = this.queries[tQuery.indexInDeclarationView];\n viewLQueries.push(parentLQuery.clone());\n }\n\n return new LQueries_(viewLQueries);\n }\n\n return null;\n }\n\n insertView(tView: TView): void {\n this.dirtyQueriesWithMatches(tView);\n }\n\n detachView(tView: TView): void {\n this.dirtyQueriesWithMatches(tView);\n }\n\n private dirtyQueriesWithMatches(tView: TView) {\n for (let i = 0; i < this.queries.length; i++) {\n if (getTQuery(tView, i).matches !== null) {\n this.queries[i].setDirty();\n }\n }\n }\n}\n\nclass TQueryMetadata_ implements TQueryMetadata {\n constructor(\n public predicate: Type<any>|InjectionToken<unknown>|string[], public descendants: boolean,\n public isStatic: boolean, public read: any = null) {}\n}\n\nclass TQueries_ implements TQueries {\n constructor(private queries: TQuery[] = []) {}\n\n elementStart(tView: TView, tNode: TNode): void {\n ngDevMode &&\n assertFirstCreatePass(\n tView, 'Queries should collect results on the first template pass only');\n for (let i = 0; i < this.queries.length; i++)

{\n this.queries[i].elementStart(tView, tNode);\n }\n }\n elementEnd(tNode: TNode): void {\n for (let i = 0; i < this.queries.length; i++) {\n this.queries[i].elementEnd(tNode);\n }\n }\n embeddedTView(tNode: TNode): TQueries|null {\n let queriesForTemplateRef: TQuery[]|null = null;\n\n for (let i = 0; i < this.length; i++) {\n const childQueryIndex = queriesForTemplateRef !== null
? queriesForTemplateRef.length : 0;\n const tqueryClone = this.getByIndex(i).embeddedTView(tNode, childQueryIndex);\n\n if (tqueryClone) {\n tqueryClone.indexInDeclarationView = i;\n if (queriesForTemplateRef !== null) {\n queriesForTemplateRef.push(tqueryClone);\n } else {\n queriesForTemplateRef = [tqueryClone];\n }\n }\n }\n\n return queriesForTemplateRef !== null ? new TQueries_(queriesForTemplateRef) : null;\n }\n\n template(tView: TView, tNode: TNode): void {\n ngDevMode &&\n assertFirstCreatePass(\n tView, 'Queries should collect results on the first template pass only');\n for (let i = 0; i < this.queries.length; i++) {\n this.queries[i].template(tView, tNode);\n }\n }\n\n getByIndex(index: number): TQuery {\n ngDevMode && assertIndexInRange(this.queries, index);\n return this.queries[index];\n }\n\n get length(): number {\n return this.queries.length;\n }\n\n track(tquery: TQuery): void {\n this.queries.push(tquery);\n }\n}\n\nclass TQuery_ implements TQuery {\n matches: number[]|null = null;\n indexInDeclarationView = -1;\n crossesNgTemplate = false;\n\n /**\n * A node index on which a query was declared (-1 for view queries and ones inherited from the\n * declaration template). We use this index (alongside with _appliesToNextNode flag) to know\n * when to apply content queries to elements in a template.\n */\n private _declarationNodeIndex: number;\n\n /**\n * A flag indicating if a given query still applies to nodes it is crossing. We use this flag\n * (alongside with _declarationNodeIndex) to know when to stop applying content queries to\n * elements in a template.\n */\n private _appliesToNextNode = true;\n\n constructor(public metadata: TQueryMetadata, nodeIndex: number = -1) {\n this._declarationNodeIndex = nodeIndex;\n }\n\n elementStart(tView: TView, tNode: TNode): void {\n if (this.isApplyingToNode(tNode))
{\n this.matchTNode(tView, tNode);\n }\n }\n\n elementEnd(tNode: TNode): void {\n if (this._declarationNodeIndex === tNode.index) {\n this._appliesToNextNode = false;\n }\n }\n\n template(tView: TView, tNode: TNode): void {\n this.elementStart(tView, tNode);\n }\n\n embeddedTView(tNode: TNode, childQueryIndex: number): TQuery|null {\n if (this.isApplyingToNode(tNode))
{\n this.crossesNgTemplate = true;\n // A marker indicating a `<ng-template>` element (a placeholder for query results from\n // embedded views created based on this `<ng-template>`).\n this.addMatch(-tNode.index, childQueryIndex);\n return new TQuery_(this.metadata);\n }\n return null;\n }\n\n private isApplyingToNode(tNode: TNode): boolean {\n if (this._appliesToNextNode && this.metadata.descendants === false) {\n const declarationNodeIdx = this._declarationNodeIndex;\n let parent = tNode.parent;\n // Determine if a given TNode is
a \"direct\" child of a node on which a content query was\n // declared (only direct children of query's host node can match with the descendants: false\n // option). There are 3 main use-case / conditions to consider here:\n // - <needs-target><i #target></i></needs-target>: here <i #target> parent node is a query\n // host node;\n // - <needs-target><ng-template [ngIf]=\"true\"><i #target></i></ng-template></needs-target>:\n // here <i #target> parent node is null;\n // - <needs-target><ng-container><i #target></i></ng-container></needs-target>: here we need\n // to go past `<ng-container>` to determine <i #target> parent node (but we shouldn't traverse\n // up past the query's host node!).\n while (parent !== null && (parent.type & TNodeType.ElementContainer) &&\n parent.index !== declarationNodeIdx) {\n parent = parent.parent;\n }\n return declarationNodeIdx === (parent !== null ? parent.index : -1);\n
}\n return this._appliesToNextNode;\n }\n\n private matchTNode(tView: TView, tNode: TNode): void {\n const predicate = this.metadata.predicate;\n if (Array.isArray(predicate)) {\n for (let i = 0; i < predicate.length; i++) {\n const name = predicate[i];\n this.matchTNodeWithReadOption(tView, tNode, getIdxOfMatchingSelector(tNode, name));\n // Also try matching the name to a provider since strings can be used as DI tokens too.\n this.matchTNodeWithReadOption(\n tView, tNode, locateDirectiveOrProvider(tNode, tView, name, false, false));\n }\n } else {\n if ((predicate as any) === ViewEngine_TemplateRef) {\n if (tNode.type & TNodeType.Container) {\n

this.matchTNodeWithReadOption(tView, tNode, -1);\n }\n } else {\n this.matchTNodeWithReadOption(\n tView, tNode, locateDirectiveOrProvider(tNode, tView, predicate, false, false));\n }\n }\n }\n\n private matchTNodeWithReadOption(tView: TView, tNode: TNode, nodeMatchIdx: number|null): void {\n if (nodeMatchIdx !== null) {\n const read = this.metadata.read;\n if (read !== null) {\n if (read === ViewEngine_ElementRef || read === ViewContainerRef ||\n read === ViewEngine_TemplateRef && (tNode.type & TNodeType.Container)) {\n this.addMatch(tNode.index, -2);\n } else {\n const directiveOrProviderIdx =\n locateDirectiveOrProvider(tNode, tView, read, false, false);\n if (directiveOrProviderIdx !== null) {\n this.addMatch(tNode.index, directiveOrProviderIdx);\n }\n }\n } else {\n this.addMatch(tNode.index, nodeMatchIdx);\n }\n }\n\n private addMatch(tNodeIdx: number, matchIdx: number) {\n if (this.matches === null) {\n this.matches = [tNodeIdx, matchIdx];\n } else {\n this.matches.push(tNodeIdx, matchIdx);\n }\n }\n}\n\n/**\n * Iterates over local names for a given node and returns directive index\n * (or -1 if a local name points to an element).\n *\n * @param tNode static data of a node to check\n * @param selector selector to match\n * @returns directive index, -1 or null if a selector didn't match any of the local names\n */\nfunction getIdxOfMatchingSelector(tNode: TNode, selector: string): number|null {\n const localNames = tNode.localNames;\n if (localNames !== null) {\n for (let i = 0; i < localNames.length; i += 2) {\n if (localNames[i] === selector) {\n return localNames[i + 1] as number;\n }\n }\n }\n return null;\n}\n\n\nfunction createResultByTNodeType(tNode: TNode, currentView: LView): any {\n if (tNode.type & (TNodeType.AnyRNode | TNodeType.ElementContainer)) {\n return createElementRef(tNode, currentView);\n } else if (tNode.type & TNodeType.Container) {\n return createTemplateRef(tNode, currentView);\n }\n return null;\n}\n\n\nfunction createResultForNode(lView: LView, tNode: TNode, matchingIdx: number, read: any): any {\n if (matchingIdx === -1) {\n // if read token and / or strategy is not specified, detect it using appropriate tNode type\n return createResultByTNodeType(tNode, lView);\n } else if (matchingIdx === -2) {\n // read a special token from a node injector\n return createSpecialToken(lView, tNode, read);\n } else {\n // read a token\n return getNodeInjectable(lView, lView[TVIEW], matchingIdx, tNode as TElementNode);\n }\n}\n\nfunction createSpecialToken(lView: LView, tNode: TNode, read: any): any {\n if (read === ViewEngine_ElementRef) {\n return createElementRef(tNode, lView);\n } else if (read === ViewEngine_TemplateRef) {\n return createTemplateRef(tNode, lView);\n } else if (read === ViewContainerRef) {\n ngDevMode && assertTNodeType(tNode, TNodeType.AnyRNode | TNodeType.AnyContainer);\n return createContainerRef(\n tNode as TElementNode | TContainerNode | TElementContainerNode, lView);\n } else {\n ngDevMode &&\n throwError(\n `Special token to read should be one of ElementRef, TemplateRef or ViewContainerRef but got ${\n stringify(read)}.`);\n }\n}\n\n/**\n * A helper function that creates query results for a given view. This function is meant to do the\n * processing once and only once for a given view instance (a set of results for a given view\n * doesn't change).\n */\nfunction materializeViewResults<T>(\n tView: TView, lView: LView, tQuery: TQuery, queryIndex: number): (T|null)[] {\n const lQuery = lView[QUERIES]!.queries![queryIndex];\n if (lQuery.matches === null) {\n const tViewData = tView.data;\n const tQueryMatches = tQuery.matches!;\n const result: T|null[] = [];\n for (let i = 0; i < tQueryMatches.length; i += 2) {\n const matchedNodeIdx = tQueryMatches[i];\n if (matchedNodeIdx < 0) {\n // we at the <ng-template> marker which might have results in views created based on this\n // <ng-template> - those results will be in separate views though, so here we just leave\n // null as a placeholder\n result.push(null);\n } else {\n ngDevMode && assertIndexInRange(tViewData, matchedNodeIdx);\n const tNode = tViewData[matchedNodeIdx] as TNode;\n result.push(createResultForNode(lView, tNode, tQueryMatches[i + 1], tQuery.metadata.read));\n }\n }\n lQuery.matches = result;\n }\n return lQuery.matches;\n}\n\n/**\n * A helper function that collects (already materialized) query results from a tree of views,\n * starting with a provided LView.\n */\nfunction collectQueryResults<T>(tView: TView, lView: LView, queryIndex: number, result: T[]): T[] {\n const tQuery = tView.queries!.getByIndex(queryIndex);\n const

```
tQueryMatches = tQuery.matches;\n  if (tQueryMatches !== null) {\n    const lViewResults =
materializeViewResults<T>(tView, lView, tQuery, queryIndex);\n\n    for (let i = 0; i < tQueryMatches.length; i +=
2) {\n      const tNodeIdx
 = tQueryMatches[i];\n      if (tNodeIdx > 0) {\n        result.push(lViewResults[i / 2] as T);\n      } else {\n        const
childQueryIndex = tQueryMatches[i + 1];\n\n        const declarationLContainer = lView[-tNodeIdx] as
LContainer;\n        ngDevMode && assertLContainer(declarationLContainer);\n\n        // collect matches for views
inserted in this container\n        for (let i = CONTAINER_HEADER_OFFSET; i < declarationLContainer.length;
i++) {\n          const embeddedLView = declarationLContainer[i];\n          if
(embeddedLView[DECLARATION_LCONTAINER] === embeddedLView[PARENT]) {\n
collectQueryResults(embeddedLView[TVIEW], embeddedLView, childQueryIndex, result);\n          }\n        }\n\n
  // collect matches for views created from this declaration container and inserted into\n        // different containers\n
    if (declarationLContainer[MOVED_VIEWS] !== null) {\n          const embeddedLViews =
declarationLContainer[MOVED_VIEWS]!;\n          for (let
 i = 0; i < embeddedLViews.length; i++) {\n            const embeddedLView = embeddedLViews[i];\n
collectQueryResults(embeddedLView[TVIEW], embeddedLView, childQueryIndex, result);\n          }\n        }\n
}\n    }\n  }\n  return result;\n}\n\n/**\n * Refreshes a query by combining matches from all active views and
removing matches from deleted\n * views.\n *\n * @returns `true` if a query got dirty during change detection or if
this is a static query\n * resolving in creation mode, `false` otherwise.\n *\n * @codeGenApi\n */\nexport function
queryRefresh(queryList: QueryList<any>): boolean {\n  const lView = getLView();\n  const tView = getTView();\n
const queryIndex = getCurrentQueryIndex();\n\n  setCurrentQueryIndex(queryIndex + 1);\n\n  const tQuery =
getTQuery(tView, queryIndex);\n  if (queryList.dirty && (isCreationMode(lView) === tQuery.metadata.isStatic))
{\n    if (tQuery.matches === null) {\n      queryList.reset([]);\n    } else {\n      const result =
tQuery.crossesNgTemplate
 ?\n          collectQueryResults(tView, lView, queryIndex, []) :\n          materializeViewResults(tView, lView,
tQuery, queryIndex);\n      queryList.reset(result);\n      queryList.notifyOnChanges();\n    }\n    return true;\n  }\n\n
return false;\n}\n\n/**\n * Creates new QueryList for a static view query.\n *\n * @param predicate The type for
which the query will search\n * @param descend Whether or not to descend into children\n * @param read What to
save in the query\n *\n * @codeGenApi\n */\nexport function staticViewQuery<T>(\n    predicate:
Type<any>|InjectionToken<unknown>|string[], descend: boolean, read?: any): void {\n
viewQueryInternal(getTView(), getLView(), predicate, descend, read, true);\n}\n\n/**\n * Creates new QueryList,
stores the reference in LView and returns QueryList.\n *\n * @param predicate The type for which the query will
search\n * @param descend Whether or not to descend into children\n * @param read What to save in the query\n
 *\n * @codeGenApi\n */\nexport function viewQuery<T>(\n    predicate:
Type<any>|InjectionToken<unknown>|string[], descend: boolean, read?: any): void {\n
viewQueryInternal(getTView(), getLView(), predicate, descend, read, false);\n}\n\nfunction
viewQueryInternal<T>(\n    tView: TView, lView: LView, predicate:
Type<any>|InjectionToken<unknown>|string[],\n    descend: boolean, read: any, isStatic: boolean): void {\n  if
(tView.firstCreatePass) {\n    createTQuery(tView, new TQueryMetadata_(predicate, descend, isStatic, read), -1);\n
 if (isStatic) {\n      tView.staticViewQueries = true;\n    }\n  }\n  createLQuery<T>(tView, lView);\n}\n\n/**\n *
Registers a QueryList, associated with a content query, for later refresh (part of a view\n * refresh).\n *\n * @param
directiveIndex Current directive index\n * @param predicate The type for which the query will search\n * @param
descend Whether or not to descend into children\n * @param read What to save in the query\n * @returns
QueryList<T>\n
 *\n * @codeGenApi\n */\nexport function contentQuery<T>(\n    directiveIndex: number, predicate:
Type<any>|InjectionToken<unknown>|string[], descend: boolean,\n    read?: any): void {\n
contentQueryInternal(\n      getTView(), getLView(), predicate, descend, read, false, getCurrentTNode()!,
directiveIndex);\n}\n\n/**\n * Registers a QueryList, associated with a static content query, for later refresh\n * (part
of a view refresh).\n *\n * @param directiveIndex Current directive index\n * @param predicate The type for which
```

the query will search\n * @param descend Whether or not to descend into children\n * @param read What to save in the query\n * @returns QueryList<T>\n *\n * @codeGenApi\n */\nexport function staticContentQuery<T>(\n directiveIndex: number, predicate: Type<any>|InjectionToken<unknown>|string[], descend: boolean,\n read?: any): void {\n contentQueryInternal(\n getTView(), getLView(), predicate, descend, read, true, getCurrentTNode()!, directiveIndex);\n}\n\nfunction contentQueryInternal<T>(\n tView: TView, lView: LView, predicate: Type<any>|InjectionToken<unknown>|string[],\n descend: boolean, read: any, isStatic: boolean, tNode: TNode, directiveIndex: number): void {\n if (tView.firstCreatePass) {\n createTQuery(tView, new TQueryMetadata_(predicate, descend, isStatic, read), tNode.index);\n saveContentQueryAndDirectiveIndex(tView, directiveIndex);\n if (isStatic) {\n tView.staticContentQueries = true;\n }\n }\n\n createLQuery<T>(tView, lView);\n}\n\n/**\n * Loads a QueryList corresponding to the current view or content query.\n *\n * @codeGenApi\n */\nexport function loadQuery<T>(): QueryList<T> {\n return loadQueryInternal<T>(getLView(), getCurrentQueryIndex());\n}\n\nfunction loadQueryInternal<T>(lView: LView, queryIndex: number): QueryList<T> {\n ngDevMode &&\n assertDefined(lView[QUERIES], 'LQueries should be defined when trying to load a query');\n ngDevMode && assertIndexInRange(lView[QUERIES]!.queries, queryIndex);\n return lView[QUERIES]!.queries[queryIndex].queryList;\n}\n\nfunction createLQuery<T>(tView: TView, lView: LView) {\n const queryList = new QueryList<T>();\n storeCleanupWithContext(tView, lView, queryList, queryList.destroy);\n\n if (lView[QUERIES] === null) lView[QUERIES] = new LQueries_();\n lView[QUERIES]!.queries.push(new LQuery_(queryList));\n}\n\nfunction createTQuery(tView: TView, metadata: TQueryMetadata, nodeIndex: number): void {\n if (tView.queries === null) tView.queries = new TQueries_();\n tView.queries.track(new TQuery_(metadata, nodeIndex));\n}\n\nfunction saveContentQueryAndDirectiveIndex(tView: TView, directiveIndex: number) {\n const tViewContentQueries = tView.contentQueries || (tView.contentQueries = []);\n const lastSavedDirectiveIndex =\n tViewContentQueries.length ? tViewContentQueries[tViewContentQueries.length - 1] : -1;\n if (directiveIndex !== lastSavedDirectiveIndex) {\n tViewContentQueries.push(tView.queries!.length - 1, directiveIndex);\n }\n}\n\nfunction getTQuery(tView: TView, index: number): TQuery {\n ngDevMode && assertDefined(tView.queries, 'TQueries must be defined to retrieve a TQuery');\n return tView.queries!.getByIndex(index);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef, injectChangeDetectorRef} from '../change_detection/change_detector_ref';\nimport {InjectFlags} from '../di/interface/injector';\nimport {createTemplateRef, TemplateRef} from '../linker/template_ref';\nimport {throwProviderNotFoundError} from './errors_di';\nimport {TNode} from './interfaces/node';\nimport {LView} from './interfaces/view';\n\n\n/**\n * Retrieves `TemplateRef` instance from `Injector` when a local reference is placed on the\n * `<ng-template>` element.\n *\n * @codeGenApi\n */\nexport function templateRefExtractor(tNode: TNode, lView: LView): TemplateRef<any>|null {\n return createTemplateRef(tNode, lView);\n}\n\n\n/**\n * Returns the appropriate `ChangeDetectorRef` for a pipe.\n *\n * @codeGenApi\n */\nexport function injectPipeChangeDetectorRef(flags = InjectFlags.Default): ChangeDetectorRef|null {\n const value = injectChangeDetectorRef(true);\n if (value == null && !(flags & InjectFlags.Optional)) {\n throwProviderNotFoundError('ChangeDetectorRef');\n } else {\n return value;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {LifecycleHooksFeature, renderComponent, whenRendered} from './component';\nimport {defineComponent, defineDirective, defineNgModule, definePipe, setComponentScope, setNgModuleScope} from './definition';\nimport {CopyDefinitionFeature} from './features/copy_definition_feature';\nimport {InheritDefinitionFeature} from './features/inherit_definition_feature';\nimport {NgOnChangesFeature} from './features/ng_onchanges_feature';\nimport {ProvidersFeature} from './features/providers_feature';\nimport {ComponentDef, ComponentTemplate, ComponentType, DirectiveDef, DirectiveType, PipeDef,

ComponentDefWithMeta, DirectiveDefWithMeta, FactoryDef, PipeDefWithMeta} from
'./interfaces/definition';\nimport {getComponent, getDirectives, getHostElement, getRenderedText} from
'./util/discovery_utils';\n\nexport {NgModuleType} from '../metadata/ng_module_def';\nexport {ComponentFactory,
ComponentFactoryResolver, ComponentRef, injectComponentFactoryResolver} from './component_ref';\nexport
{getFactoryOf, getInheritedFactory} from './di';\nexport {getLocaleId, setLocaleId} from './i18n/i18n_locale_id';\n//
clang-format off\nexport {\n detectChanges,\n markDirty,\n store,\n tick,\n advance,\n\n attribute,\n
attributeInterpolate1,\n
attributeInterpolate2,\n attributeInterpolate3,\n attributeInterpolate4,\n attributeInterpolate5,\n
attributeInterpolate6,\n attributeInterpolate7,\n attributeInterpolate8,\n attributeInterpolateV,\n\n classMap,\n
classMapInterpolate1,\n classMapInterpolate2,\n classMapInterpolate3,\n classMapInterpolate4,\n
classMapInterpolate5,\n classMapInterpolate6,\n classMapInterpolate7,\n classMapInterpolate8,\n
classMapInterpolateV,\n\n classProp,\n\n directiveInject,\n\n element,\n\n elementContainer,\n
elementContainerEnd,\n elementContainerStart,\n elementEnd,\n elementStart,\n\n getCurrentView,\n
hostProperty,\n injectAttribute,\n invalidFactory,\n\n listener,\n\n namespaceHTML,\n namespaceMathML,\n
namespaceSVG,\n\n nextContext,\n\n projection,\n projectionDef,\n property,\n propertyInterpolate,\n
propertyInterpolate1,\n propertyInterpolate2,\n propertyInterpolate3,\n
propertyInterpolate4,\n propertyInterpolate5,\n propertyInterpolate6,\n propertyInterpolate7,\n
propertyInterpolate8,\n propertyInterpolateV,\n\n reference,\n\n styleMap,\n styleMapInterpolate1,\n
styleMapInterpolate2,\n styleMapInterpolate3,\n styleMapInterpolate4,\n styleMapInterpolate5,\n
styleMapInterpolate6,\n styleMapInterpolate7,\n styleMapInterpolate8,\n styleMapInterpolateV,\n\n styleProp,\n
stylePropInterpolate1,\n stylePropInterpolate2,\n stylePropInterpolate3,\n stylePropInterpolate4,\n
stylePropInterpolate5,\n stylePropInterpolate6,\n stylePropInterpolate7,\n stylePropInterpolate8,\n
stylePropInterpolateV,\n\n syntheticHostListener,\n syntheticHostProperty,\n\n template,\n\n text,\n
textInterpolate,\n textInterpolate1,\n textInterpolate2,\n textInterpolate3,\n textInterpolate4,\n textInterpolate5,\n
textInterpolate6,\n textInterpolate7,\n
textInterpolate8,\n textInterpolateV,\n} from './instructions/all';\nexport {i18n, i18nApply, i18nAttributes,
i18nEnd, i18nExp,i18nPostprocess, i18nStart} from './instructions/i18n';\nexport {RenderFlags} from
'./interfaces/definition';\nexport {\n AttributeMarker\n} from './interfaces/node';\nexport {CssSelectorList,
ProjectionSlots} from './interfaces/projection';\nexport {\n setClassMetadata,\n} from './metadata';\nexport
{NgModuleFactory, NgModuleRef} from './ng_module_ref';\nexport {\n pipe,\n pipeBind1,\n pipeBind2,\n
pipeBind3,\n pipeBind4,\n pipeBindV,\n} from './pipe';\nexport {\n pureFunction0,\n pureFunction1,\n
pureFunction2,\n pureFunction3,\n pureFunction4,\n pureFunction5,\n pureFunction6,\n pureFunction7,\n
pureFunction8,\n pureFunctionV,\n} from './pure_function';\nexport {\n contentQuery,\n loadQuery,\n
queryRefresh,\n staticContentQuery\n,\n staticViewQuery,\n viewQuery} from './query';\nexport
{\n disableBindings,\n\n enableBindings,\n restoreView,\n} from './state';\nexport {NO_CHANGE} from
'./tokens';\nexport { resolveBody, resolveDocument,resolveWindow} from './util/misc_utils';\nexport {
injectPipeChangeDetectorRef,templateRefExtractor} from './view_engine_compatibility_prebound';\n// clang-
format on\n\nexport {\n ComponentDef,\n ComponentTemplate,\n ComponentType,\n DirectiveDef,\n
DirectiveType,\n getComponent,\n getDirectives,\n getHostElement,\n getRenderedText,\n
LifecycleHooksFeature,\n PipeDef,\n renderComponent,\n whenRendered,\n ComponentDefWithMeta,\n
CopyDefinitionFeature,\n defineComponent,\n defineDirective,\n defineNgModule,\n definePipe,\n
DirectiveDefWithMeta,\n FactoryDef,\n InheritDefinitionFeature,\n NgOnChangesFeature,\n
PipeDefWithMeta,\n ProvidersFeature,\n setComponentScope,\n setNgModuleScope,\n};\n","/**\n * @license\n *
Copyright Google LLC All Rights Reserved.\n
*\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nimport {inject, invalidFactoryDep} from '../../di/injector_compatibility';\nimport
{defineInjectable, defineInjector} from '../../di/interface/defs';\nimport * as sanitization from
'../../sanitization/sanitization';\nimport * as r3 from '../index';\n\n\n\n/**\n * A mapping of the @angular/core API

surface used in generated expressions to the actual symbols.\n *\n * This should be kept up to date with the public exports of @angular/core.\n */\nexport const angularCoreEnv: {[name: string]: Function} =\n (() => ({\n 'attribute': r3.attribute,\n 'attributeInterpolate1': r3.attributeInterpolate1,\n 'attributeInterpolate2': r3.attributeInterpolate2,\n 'attributeInterpolate3': r3.attributeInterpolate3,\n 'attributeInterpolate4': r3.attributeInterpolate4,\n 'attributeInterpolate5': r3.attributeInterpolate5,\n 'attributeInterpolate6': r3.attributeInterpolate6,\n 'attributeInterpolate7': r3.attributeInterpolate7,\n 'attributeInterpolate8': r3.attributeInterpolate8,\n 'attributeInterpolateV': r3.attributeInterpolateV,\n 'defineComponent': r3.defineComponent,\n 'defineDirective': r3.defineDirective,\n 'defineInjectable': defineInjectable,\n 'defineInjector': defineInjector,\n 'defineNgModule': r3.defineNgModule,\n 'definePipe': r3.definePipe,\n 'directiveInject': r3.directiveInject,\n 'getFactoryOf': r3.getFactoryOf,\n 'getInheritedFactory': r3.getInheritedFactory,\n 'inject': inject,\n 'injectAttribute': r3.injectAttribute,\n 'invalidFactory': r3.invalidFactory,\n 'invalidFactoryDep': invalidFactoryDep,\n 'injectPipeChangeDetectorRef': r3.injectPipeChangeDetectorRef,\n 'templateRefExtractor': r3.templateRefExtractor,\n 'NgOnChangesFeature': r3.NgOnChangesFeature,\n 'ProvidersFeature': r3.ProvidersFeature,\n 'CopyDefinitionFeature': r3.CopyDefinitionFeature,\n 'InheritDefinitionFeature': r3.InheritDefinitionFeature,\n 'nextContext': r3.nextContext,\n 'namespaceHTML': r3.namespaceHTML,\n 'namespaceMathML': r3.namespaceMathML,\n 'namespaceSVG': r3.namespaceSVG,\n 'enableBindings': r3.enableBindings,\n 'disableBindings': r3.disableBindings,\n 'elementStart': r3.elementStart,\n 'elementEnd': r3.elementEnd,\n 'element': r3.element,\n 'elementContainerStart': r3.elementContainerStart,\n 'elementContainerEnd': r3.elementContainerEnd,\n 'elementContainer': r3.elementContainer,\n 'pureFunction0': r3.pureFunction0,\n 'pureFunction1': r3.pureFunction1,\n 'pureFunction2': r3.pureFunction2,\n 'pureFunction3': r3.pureFunction3,\n 'pureFunction4': r3.pureFunction4,\n 'pureFunction5': r3.pureFunction5,\n 'pureFunction6': r3.pureFunction6,\n 'pureFunction7': r3.pureFunction7,\n 'pureFunction8': r3.pureFunction8,\n 'pureFunctionV': r3.pureFunctionV,\n 'getCurrentView': r3.getCurrentView,\n 'restoreView': r3.restoreView,\n 'listener': r3.listener,\n 'projection': r3.projection,\n 'syntheticHostProperty': r3.syntheticHostProperty,\n 'syntheticHostListener': r3.syntheticHostListener,\n 'pipeBind1': r3.pipeBind1,\n 'pipeBind2': r3.pipeBind2,\n 'pipeBind3': r3.pipeBind3,\n 'pipeBind4': r3.pipeBind4,\n 'pipeBindV': r3.pipeBindV,\n 'projectionDef': r3.projectionDef,\n 'hostProperty': r3.hostProperty,\n 'property': r3.property,\n 'propertyInterpolate': r3.propertyInterpolate,\n 'propertyInterpolate1': r3.propertyInterpolate1,\n 'propertyInterpolate2': r3.propertyInterpolate2,\n 'propertyInterpolate3': r3.propertyInterpolate3,\n 'propertyInterpolate4': r3.propertyInterpolate4,\n 'propertyInterpolate5': r3.propertyInterpolate5,\n 'propertyInterpolate6': r3.propertyInterpolate6,\n 'propertyInterpolate7': r3.propertyInterpolate7,\n 'propertyInterpolate8': r3.propertyInterpolate8,\n 'propertyInterpolateV': r3.propertyInterpolateV,\n 'pipe': r3.pipe,\n 'queryRefresh': r3.queryRefresh,\n 'viewQuery': r3.viewQuery,\n 'staticViewQuery': r3.staticViewQuery,\n 'staticContentQuery': r3.staticContentQuery,\n 'loadQuery': r3.loadQuery,\n 'contentQuery': r3.contentQuery,\n 'reference': r3.reference,\n 'classMap': r3.classMap,\n 'classMapInterpolate1': r3.classMapInterpolate1,\n 'classMapInterpolate2': r3.classMapInterpolate2,\n 'classMapInterpolate3': r3.classMapInterpolate3,\n 'classMapInterpolate4': r3.classMapInterpolate4,\n 'classMapInterpolate5': r3.classMapInterpolate5,\n 'classMapInterpolate6': r3.classMapInterpolate6,\n 'classMapInterpolate7': r3.classMapInterpolate7,\n 'classMapInterpolate8': r3.classMapInterpolate8,\n 'classMapInterpolateV': r3.classMapInterpolateV,\n 'styleMap': r3.styleMap,\n 'styleMapInterpolate1': r3.styleMapInterpolate1,\n 'styleMapInterpolate2': r3.styleMapInterpolate2,\n 'styleMapInterpolate3': r3.styleMapInterpolate3,\n 'styleMapInterpolate4': r3.styleMapInterpolate4,\n 'styleMapInterpolate5': r3.styleMapInterpolate5,\n 'styleMapInterpolate6': r3.styleMapInterpolate6,\n 'styleMapInterpolate7': r3.styleMapInterpolate7,\n 'styleMapInterpolate8': r3.styleMapInterpolate8,\n

'styleMapInterpolateV': r3.styleMapInterpolateV,\n 'styleProp': r3.styleProp,\n 'stylePropInterpolate1': r3.stylePropInterpolate1,\n 'stylePropInterpolate2': r3.stylePropInterpolate2,\n 'stylePropInterpolate3': r3.stylePropInterpolate3,\n 'stylePropInterpolate4': r3.stylePropInterpolate4,\n 'stylePropInterpolate5': r3.stylePropInterpolate5,\n 'stylePropInterpolate6': r3.stylePropInterpolate6,\n 'stylePropInterpolate7': r3.stylePropInterpolate7,\n 'stylePropInterpolate8': r3.stylePropInterpolate8,\n 'stylePropInterpolateV': r3.stylePropInterpolateV,\n 'classProp': r3.classProp,\n 'advance': r3.advance,\n 'template': r3.template,\n 'text': r3.text,\n 'textInterpolate': r3.textInterpolate,\n 'textInterpolate1': r3.textInterpolate1,\n 'textInterpolate2': r3.textInterpolate2,\n 'textInterpolate3': r3.textInterpolate3,\n 'textInterpolate4': r3.textInterpolate4,\n 'textInterpolate5': r3.textInterpolate5,\n 'textInterpolate6': r3.textInterpolate6,\n 'textInterpolate7': r3.textInterpolate7,\n 'textInterpolate8': r3.textInterpolate8,\n 'textInterpolateV': r3.textInterpolateV,\n 'i18n': r3.i18n,\n 'i18nAttributes': r3.i18nAttributes,\n 'i18nExp': r3.i18nExp,\n 'i18nStart': r3.i18nStart,\n 'i18nEnd': r3.i18nEnd,\n 'i18nApply': r3.i18nApply,\n 'i18nPostprocess': r3.i18nPostprocess,\n 'resolveWindow': r3.resolveWindow,\n 'resolveDocument': r3.resolveDocument,\n 'resolveBody': r3.resolveBody,\n 'setComponentScope': r3.setComponentScope,\n 'setNgModuleScope': r3.setNgModuleScope,\n\n 'sanitizeHtml': sanitization.sanitizeHtml,\n 'sanitizeStyle': sanitization.sanitizeStyle,\n 'sanitizeResourceUrl': sanitization.sanitizeResourceUrl,\n 'sanitizeScript': sanitization.sanitizeScript,\n 'sanitizeUrl': sanitization.sanitizeUrl,\n 'sanitizeUrlOrResourceUrl': sanitization.sanitizeUrlOrResourceUrl,\n 'trustConstantHtml': sanitization.trustConstantHtml,\n 'trustConstantScript': sanitization.trustConstantScript,\n 'trustConstantResourceUrl': sanitization.trustConstantResourceUrl,\n }))();\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {ViewEncapsulation} from '../../metadata/view';\n\nexport interface JitCompilerOptions {\n defaultEncapsulation?: ViewEncapsulation;\n preserveWhitespaces?: boolean;\n}\n\nlet jitOptions: JitCompilerOptions|null = null;\n\nexport function setJitOptions(options: JitCompilerOptions): void {\n if (jitOptions !== null) {\n if (options.defaultEncapsulation !== jitOptions.defaultEncapsulation) {\n ngDevMode &&\n console.error(\n 'Provided value for `defaultEncapsulation` can not be changed once it has been set.');\n return;\n }\n if (options.preserveWhitespaces !== jitOptions.preserveWhitespaces) {\n ngDevMode &&\n console.error(\n 'Provided value for `preserveWhitespaces` can not be changed once it has been set.');\n return;\n }\n }\n jitOptions = options;\n}\n\nexport function getJitOptions(): JitCompilerOptions|null {\n return jitOptions;\n}\n\nexport function resetJitOptions(): void {\n jitOptions = null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getCompilerFacade, R3InjectorMetadataFacade} from '../../compiler/compiler_facade';\nimport {resolveForwardRef} from '../../di/forward_ref';\nimport {NG_INJ_DEF} from '../../di/interface/defs';\nimport {reflectDependencies} from '../../di/jit/util';\nimport {Type} from '../../interface/type';\nimport {Component} from '../../metadata/directives';\nimport {ModuleWithProviders, NgModule} from '../../metadata/ng_module';\nimport {NgModuleDef, NgModuleTransitiveScopes, NgModuleType} from '../../metadata/ng_module_def';\nimport {deepForEach, flatten} from '../../util/array_utils';\nimport {assertDefined} from '../../util/assert';\nimport {getComponentDef, getDirectiveDef, getNgModuleDef, getPipeDef} from '../definition';\nimport {NG_COMP_DEF, NG_DIR_DEF, NG_MOD_DEF, NG_PIPE_DEF} from '../fields';\nimport {ComponentDef} from '../interfaces/definition';\nimport {maybeUnwrapFn} from '../util/misc_utils';\nimport {stringifyForError} from '../util/stringify_utils';\n\nimport {angularCoreEnv} from './environment';\n\nconst EMPTY_ARRAY: Type<any>[] = [];\n\ninterface ModuleQueueItem {\n moduleType: Type<any>;\n ngModule: NgModule;\n}\n\nconst moduleQueue: ModuleQueueItem[] = [];\n\n/**\n * Enqueues moduleDef to be checked later to see if scope can be set on its\n * component declarations.\n */\nfunction enqueueModuleForDelayedScoping(moduleType: Type<any>, ngModule: NgModule) {\n moduleQueue.push({moduleType, ngModule});\n}\n\nlet flushingModuleQueue = false;\n/**\n *

Loops over queued module definitions, if a given module definition has all of its\n * declarations resolved, it dequeues that module definition and sets the scope on\n * its declarations.\n */\nexport function flushModuleScopingQueueAsMuchAsPossible() {\n  if (!flushingModuleQueue) {\n    flushingModuleQueue = true;\n    try {\n      for (let i = moduleQueue.length - 1; i >= 0; i--) {\n        const {moduleType, ngModule} = moduleQueue[i];\n\n        if (ngModule.declarations && ngModule.declarations.every(isResolvedDeclaration)) {\n          // dequeue\n          moduleQueue.splice(i, 1);\n          setScopeOnDeclaredComponents(moduleType, ngModule);\n        }\n      }\n    } finally {\n      flushingModuleQueue = false;\n    }\n  }\n}\n\n/**\n * Returns truthy if a declaration has resolved. If the declaration happens to be\n * an array of declarations, it will recurse to check each declaration in that array\n * (which may also be arrays).\n */\nfunction isResolvedDeclaration(declaration: any[]|Type<any>): boolean {\n  if (Array.isArray(declaration)) {\n    return declaration.every(isResolvedDeclaration);\n  }\n  return !!resolveForwardRef(declaration);\n}\n\n/**\n * Compiles a module in JIT mode.\n *\n * This function automatically gets called when a class has a `@NgModule` decorator.\n */\nexport function compileNgModule(moduleType: Type<any>, ngModule: NgModule = {}): void {\n  compileNgModuleDefs(moduleType as NgModuleType, ngModule);\n\n  // Because we don't know if all declarations have resolved yet at the moment the\n  // NgModule decorator is executing, we're enqueueing the setting of module scope\n  // on its declarations to be run at a later time when all declarations for the module,\n  // including forward refs, have resolved.\n  enqueueModuleForDelayedScoping(moduleType, ngModule);\n}\n\n/**\n * Compiles and adds the `mod` and `inj` properties to the module class.\n *\n * It's possible to compile a module via this API which will allow duplicate declarations in its\n * root.\n */\nexport function compileNgModuleDefs(\n    moduleType: NgModuleType, ngModule: NgModule,\n    allowDuplicateDeclarationsInRoot: boolean = false): void {\n  ngDevMode && assertDefined(moduleType, 'Required value moduleType');\n  ngDevMode && assertDefined(ngModule, 'Required value ngModule');\n  const declarations: Type<any>[] = flatten(ngModule.declarations || EMPTY_ARRAY);\n  let ngModuleDef: any = null;\n  Object.defineProperty(moduleType, NG_MOD_DEF, {\n    configurable: true,\n    get: () => {\n      if (ngModuleDef === null) {\n        if (ngDevMode\n            && ngModule.imports && ngModule.imports.indexOf(moduleType) > -1) {\n          // We need to assert this immediately, because allowing it to continue will cause it to\n          // go into an infinite loop before we've reached the point where we throw all the errors.\n          throw new Error(`'${stringifyForError(moduleType)}' module can't import itself`);\n        }\n        ngModuleDef = getCompilerFacade().compileNgModule(\n            angularCoreEnv, `ng:///${moduleType.name}/mod.js`, {\n              type: moduleType,\n              bootstrap: flatten(ngModule.bootstrap || EMPTY_ARRAY).map(resolveForwardRef),\n              declarations: declarations.map(resolveForwardRef),\n              imports: flatten(ngModule.imports || EMPTY_ARRAY)\n                  .map(resolveForwardRef)\n                  .map(expandModuleWithProviders),\n              exports: flatten(ngModule.exports || EMPTY_ARRAY)\n                  .map(resolveForwardRef)\n                  .map(expandModuleWithProviders),\n              schemas: ngModule.schemas ? flatten(ngModule.schemas) : null,\n              id: ngModule.id || null,\n            });\n        // Set `schemas` on ngModuleDef to an empty array in JIT mode to indicate that runtime\n        // should verify that there are no unknown elements in a template. In AOT mode, that check\n        // happens at compile time and `schemas` information is not present on Component and Module\n        // defs after compilation (so the check doesn't happen the second time at runtime).\n        if (!ngModuleDef.schemas) {\n          ngModuleDef.schemas = [];\n        }\n      }\n      return ngModuleDef;\n    }\n  });\n\n  let ngInjectorDef: any = null;\n  Object.defineProperty(moduleType, NG_INJ_DEF, {\n    get: () => {\n      if (ngInjectorDef === null) {\n        ngDevMode &&\n            verifySemanticsOfNgModuleDef(\n                moduleType as any as NgModuleType, allowDuplicateDeclarationsInRoot);\n        const meta: R3InjectorMetadataFacade = {\n          name: moduleType.name,\n          type: moduleType,\n          deps: reflectDependencies(moduleType),\n          providers: ngModule.providers || EMPTY_ARRAY,\n          imports: [\n            (ngModule.imports || EMPTY_ARRAY).map(resolveForwardRef),\n            (ngModule.exports ||

EMPTY_ARRAY).map(resolveForwardRef),\n ],\n };\n ngInjectorDef = getCompilerFacade().compileInjector(\n angularCoreEnv, `ng:///${moduleType.name}/inj.js`, meta);\n }\n return ngInjectorDef;\n },\n // Make the property configurable in dev mode to allow overriding in tests\n configurable: !!ngDevMode,\n });\n}\n\nfunction verifySemanticsOfNgModuleDef(\n moduleType: NgModuleType, allowDuplicateDeclarationsInRoot: boolean,\n importingModule?: NgModuleType): void {\n if (verifiedNgModule.get(moduleType)) return;\n verifiedNgModule.set(moduleType, true);\n moduleType = resolveForwardRef(moduleType);\n let ngModuleDef: NgModuleDef<any>;\n if (importingModule) {\n ngModuleDef = getNgModuleDef(moduleType)!;\n if (!ngModuleDef) {\n throw new Error(`Unexpected value '${moduleType.name}' imported by the module '${\n importingModule.name}'. Please add an @NgModule annotation.`);\n }\n } else {\n ngModuleDef = getNgModuleDef(moduleType, true);\n }\n const errors: string[] = [];\n const declarations = maybeUnwrapFn(ngModuleDef.declarations);\n const imports = maybeUnwrapFn(ngModuleDef.imports);\n flatten(imports).map(unwrapModuleWithProvidersImports).forEach(mod => {\n verifySemanticsOfNgModuleImport(mod, moduleType);\n verifySemanticsOfNgModuleDef(mod, false, moduleType);\n });\n const exports = maybeUnwrapFn(ngModuleDef.exports);\n declarations.forEach(verifyDeclarationsHaveDefinitions);\n declarations.forEach(verifyDirectivesHaveSelector);\n const combinedDeclarations: Type<any>[] = [\n ...declarations.map(resolveForwardRef),\n ...flatten(imports.map(computeCombinedExports)).map(resolveForwardRef),\n ];\n exports.forEach(verifyExportsAreDeclaredOrReExported);\n declarations.forEach(decl => verifyDeclarationIsUnique(decl, allowDuplicateDeclarationsInRoot));\n declarations.forEach(verifyComponentEntryComponentsIsPartOfNgModule);\n\n const ngModule = getAnnotation<NgModule>(moduleType, 'NgModule');\n if (ngModule) {\n ngModule.imports &&\n flatten(ngModule.imports).map(unwrapModuleWithProvidersImports).forEach(mod => {\n verifySemanticsOfNgModuleImport(mod, moduleType);\n verifySemanticsOfNgModuleDef(mod, false, moduleType);\n });\n ngModule.bootstrap && deepForEach(ngModule.bootstrap, verifyCorrectBootstrapType);\n ngModule.bootstrap && deepForEach(ngModule.bootstrap, verifyComponentIsPartOfNgModule);\n ngModule.entryComponents &&\n deepForEach(ngModule.entryComponents, verifyComponentIsPartOfNgModule);\n }\n\n // Throw Error if any errors were\n detected.\n if (errors.length) {\n throw new Error(errors.join('\\n'));\n }\n ////////////////////////////////////////////////////////////////////////////////////////////\n function verifyDeclarationsHaveDefinitions(type: Type<any>): void {\n type = resolveForwardRef(type);\n const def = getComponentDef(type) || getDirectiveDef(type) || getPipeDef(type);\n if (!def) {\n errors.push(`Unexpected value '${stringifyForError(type)}' declared by the module '${\n stringifyForError(moduleType)}'. Please add a @Pipe/@Directive/@Component annotation.`);\n }\n }\n\n function verifyDirectivesHaveSelector(type: Type<any>): void {\n type = resolveForwardRef(type);\n const def = getDirectiveDef(type);\n if (!getComponentDef(type) && def && def.selectors.length == 0) {\n errors.push(`Directive ${stringifyForError(type)} has no selector, please add it!`);\n }\n }\n\n function verifyExportsAreDeclaredOrReExported(type: Type<any>) {\n type = resolveForwardRef(type);\n const kind = getComponentDef(type) && 'component' || getDirectiveDef(type) && 'directive' ||\n getPipeDef(type) && 'pipe';\n if (kind) {\n // only checked if we are declared as Component, Directive, or Pipe\n // Modules don't need to be declared or imported.\n if (combinedDeclarations.lastIndexOf(type) === -1) {\n // We are exporting something which we don't explicitly declare or import.\n errors.push(`Can't export ${kind} ${stringifyForError(type)} from ${\n stringifyForError(moduleType)} as it was neither declared nor imported!`);\n }\n }\n }\n\n function verifyDeclarationIsUnique(type: Type<any>, suppressErrors: boolean) {\n type = resolveForwardRef(type);\n const existingModule = ownerNgModule.get(type);\n if (existingModule && existingModule !== moduleType)

{\n if (!suppressErrors) {\n const modules = [existingModule, moduleType].map(stringifyForError).sort();\n errors.push(\n `Type ${stringifyForError(type)} is part of the declarations of 2 modules: ${\n modules[0]} and ${modules[1]}! ` +\n `Please consider moving ${stringifyForError(type)} to a higher module that imports ${\n modules[0]} and ${modules[1]}. ` +\n `You can also create a new NgModule that exports and includes ${\n stringifyForError(\n type)} then import that NgModule in ${modules[0]} and ${modules[1]}.`);\n }\n } else {\n // Mark type as having owner.\n ownerNgModule.set(type, moduleType);\n }\n }\n\n function verifyComponentIsPartOfNgModule(type: Type<any>) {\n type = resolveForwardRef(type);\n const existingModule = ownerNgModule.get(type);\n if (!existingModule) {\n errors.push(`Component ${\n stringifyForError(\n type)} is not part of any NgModule or the module has not been imported into your module.`);\n }\n }\n\n function verifyCorrectBootstrapType(type: Type<any>) {\n type = resolveForwardRef(type);\n if (!getComponentDef(type)) {\n errors.push(`${stringifyForError(type)} cannot be used as an entry component.`);\n }\n }\n\n function verifyComponentEntryComponentsIsPartOfNgModule(type: Type<any>) {\n type = resolveForwardRef(type);\n if (getComponentDef(type)) {\n // We know we are component\n const component = getAnnotation<Component>(type, 'Component');\n if (component && component.entryComponents) {\n deepForEach(component.entryComponents, verifyComponentIsPartOfNgModule);\n }\n }\n }\n\n function verifySemanticsOfNgModuleImport(type: Type<any>, importingModule: Type<any>) {\n type = resolveForwardRef(type);\n\n if (getComponentDef(type) || getDirectiveDef(type)) {\n throw new Error(`Unexpected directive '${type.name}' imported by the module '${\n importingModule.name}'. Please add an @NgModule annotation.`);\n }\n\n if (getPipeDef(type)) {\n throw new Error(`Unexpected pipe '${type.name}' imported by the module '${\n importingModule.name}'. Please add an @NgModule annotation.`);\n }\n }\n}\n\nfunction unwrapModuleWithProvidersImports(typeOrWithProviders: NgModuleType<any>|\n{ngModule: NgModuleType<any>}): NgModuleType<any> {\n typeOrWithProviders = resolveForwardRef(typeOrWithProviders);\n return (typeOrWithProviders as any).ngModule || typeOrWithProviders;\n}\n\nfunction getAnnotation<T>(type: any, name: string): T|null {\n let annotation: T|null = null;\n collect(type.__annotations__);\n collect(type.decorators);\n return annotation;\n\n function collect(annotations: any[]|null) {\n if (annotations) {\n annotations.forEach(readAnnotation);\n }\n }\n\n function readAnnotation(\n decorator: {type: {prototype: {ngMetadataName: string}, args: any[]}, args: any}): void {\n if (!annotation) {\n const proto = Object.getPrototypeOf(decorator);\n if (proto.ngMetadataName == name) {\n annotation = decorator as any;\n } else if (decorator.type) {\n const proto = Object.getPrototypeOf(decorator.type);\n if (proto.ngMetadataName == name) {\n annotation = decorator.args[0];\n }\n }\n }\n }\n}\n\n/**\n * Keep track of compiled components. This is needed because in tests we often want to compile the\n * same component with more than one NgModule. This would cause an error unless we reset which\n * NgModule the component belongs to. We keep the list of compiled components here so that the\n * TestBed can reset it later.\n */\nlet ownerNgModule = new Map<Type<any>, NgModuleType<any>>();\nlet verifiedNgModule = new Map<NgModuleType<any>, boolean>();\n\nexport function resetCompiledComponents(): void {\n ownerNgModule = new Map<Type<any>, NgModuleType<any>>();\n verifiedNgModule = new Map<NgModuleType<any>, boolean>();\n moduleQueue.length = 0;\n}\n\n/**\n * Computes the combined declarations of explicit declarations, as well as declarations inherited by\n * traversing the exports of imported modules.\n * @param type\n */\nfunction computeCombinedExports(type: Type<any>): Type<any>[] {\n type = resolveForwardRef(type);\n const ngModuleDef = getNgModuleDef(type, true);\n return [...flatten(maybeUnwrapFn(ngModuleDef.exports).map((type) => {\n const ngModuleDef = getNgModuleDef(type);\n if (ngModuleDef) {\n verifySemanticsOfNgModuleDef(type as any as NgModuleType, false);\n return computeCombinedExports(type);\n } else {\n return type;\n }\n }))];\n}\n\n/**\n * Some declared components may be compiled asynchronously, and thus may not have their\n *

cmp set yet. If this is the case, then a reference to the module is written into\n * the `ngSelectorScope` property of the declared type.\n */\nfunction setScopeOnDeclaredComponents(moduleType: Type<any>, ngModule: NgModule) {\n  const declarations:
 Type<any>[] = flatten(ngModule.declarations || EMPTY_ARRAY);\n\n  const transitiveScopes = transitiveScopesFor(moduleType);\n\n  declarations.forEach(declaration => {\n    if (declaration.hasOwnProperty(NG_COMP_DEF)) {\n      // A `cmp` field exists - go ahead and patch the component directly.\n      const component = declaration as Type<any>& {cmp: ComponentDef<any>};\n      const componentDef = getComponentDef(component)!;\n      patchComponentDefWithScope(componentDef, transitiveScopes);\n    } else if (\n        !declaration.hasOwnProperty(NG_DIR_DEF) && !declaration.hasOwnProperty(NG_PIPE_DEF)) {\n      // Set `ngSelectorScope` for future reference when the component compilation finishes.\n      (declaration as Type<any>& {ngSelectorScope?: any}).ngSelectorScope = moduleType;\n    }\n  });\n}\n\n/**\n * Patch the definition of a component with directives and pipes from the compilation scope of\n * a given module.\n */\nexport function patchComponentDefWithScope<C>(\n componentDef:
 ComponentDef<C>, transitiveScopes: NgModuleTransitiveScopes) {\n  componentDef.directiveDefs = () =>\n Array.from(transitiveScopes.compilation.directives)\n          .map(\n              dir =>\n dir.hasOwnProperty(NG_COMP_DEF) ? getComponentDef(dir)! : getDirectiveDef(dir)!\n              )\n .filter(def => !!def);\n  componentDef.pipeDefs = () =>\n Array.from(transitiveScopes.compilation.pipes).map(pipe => getPipeDef(pipe)!);\n  componentDef.schemas = transitiveScopes.schemas;\n\n  // Since we avoid Components/Directives/Pipes recompiling in case there are no overrides, we\n  // may face a problem where previously compiled defs available to a given Component/Directive\n // are cached in TView and may become stale (in case any of these defs gets recompiled). In\n  // order to avoid this problem, we force fresh TView to be created.\n  componentDef.tView = null;\n}\n\n/**\n * Compute the pair of transitive scopes (compilation scope and exported scope) for a given
 module.\n *\n * This operation is memoized and the result is cached on the module's definition. This function can\n * be called on modules with components that have not fully compiled yet, but the result should not\n * be used until they have.\n *\n * @param moduleType module that transitive scope should be calculated for.\n */\nexport function transitiveScopesFor<T>(moduleType: Type<T>): NgModuleTransitiveScopes {\n  if (!isNgModule(moduleType)) {\n    throw new Error(`${moduleType.name} does not have a module def (mod property)`);\n  }\n  const def = getNgModuleDef(moduleType)!;\n\n  if (def.transitiveCompileScopes !== null) {\n    return def.transitiveCompileScopes;\n  }\n\n  const scopes: NgModuleTransitiveScopes = {\n    schemas: def.schemas || null,\n    compilation: {\n      directives: new Set<any>(),\n      pipes: new Set<any>(),\n    },\n    exported: {\n      directives: new Set<any>(),\n      pipes: new Set<any>(),\n    },\n  };\n\n maybeUnwrapFn(def.imports).forEach(<I>(imported:
 Type<I>) => {\n    const importedType = imported as Type<I>& {\n      // If imported is an @NgModule:\n      mod?: NgModuleDef<I>;\n    };\n\n    if (!isNgModule<I>(importedType)) {\n      throw new Error(`Importing ${importedType.name} which does not have a mod property`);\n    }\n\n    // When this module imports another, the imported module's exported directives and pipes are\n    // added to the compilation scope of this module.\n    const importedScope = transitiveScopesFor(importedType);\n    importedScope.exported.directives.forEach(entry => scopes.compilation.directives.add(entry));\n    importedScope.exported.pipes.forEach(entry => scopes.compilation.pipes.add(entry));\n  });\n\n  maybeUnwrapFn(def.declarations).forEach(declared => {\n    const declaredWithDefs = declared as Type<any>& {\n      pipe?: any;\n    };\n\n    if (getPipeDef(declaredWithDefs)) {\n      scopes.compilation.pipes.add(declared);\n    } else {\n      // Either declared has a cmp or dir, or
 it's a component which hasn't\n      // had its template compiled yet. In either case, it gets added to the compilation's\n      // directives.\n      scopes.compilation.directives.add(declared);\n    }\n  });\n\n maybeUnwrapFn(def.exports).forEach(<E>(exported: Type<E>) => {\n    const exportedType = exported as Type<E>& {\n      // Components, Directives, NgModules, and Pipes can all be exported.\n      cmp?: any;\n      dir?: any;\n      mod?: NgModuleDef<E>;\n      pipe?: any;\n    };\n\n    // Either the type is a module, a pipe, or a

component/directive (which may not have a\n // cmp as it might be compiled asynchronously).\n if (isNgModule(exportedType)) {\n // When this module exports another, the exported module's exported directives and pipes are\n // added to both the compilation and exported scopes of this module.\n const exportedScope = transitiveScopesFor(exportedType);\n exportedScope.exported.directives.forEach(entry => {\n scopes.compilation.directives.add(entry);\n scopes.exported.directives.add(entry);\n });\n exportedScope.exported.pipes.forEach(entry => {\n scopes.compilation.pipes.add(entry);\n scopes.exported.pipes.add(entry);\n });\n } else if (getPipeDef(exportedType)) {\n scopes.exported.pipes.add(exportedType);\n } else {\n scopes.exported.directives.add(exportedType);\n }\n });\n\n def.transitiveCompileScopes = scopes;\n return scopes;\n}\n\nfunction expandModuleWithProviders(value: Type<any>|ModuleWithProviders<{}>): Type<any> {\n if (isModuleWithProviders(value)) {\n return value.ngModule;\n }\n return value;\n}\n\nfunction isModuleWithProviders(value: any): value is ModuleWithProviders<{}> {\n return (value as {ngModule?: any}).ngModule !== undefined;\n}\n\nfunction isNgModule<T>(value: Type<T>): value is Type<T>&{mod: NgModuleDef<T>} {\n return !!getNgModuleDef(value);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights
Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getCompilerFacade, R3DirectiveMetadataFacade} from '../../compiler/compiler_facade';\nimport {R3ComponentMetadataFacade, R3QueryMetadataFacade} from '../../compiler/compiler_facade_interface';\nimport {resolveForwardRef} from '../../di/forward_ref';\nimport {getReflect, reflectDependencies} from '../../di/jit/util';\nimport {Type} from '../../interface/type';\nimport {Query} from '../../metadata/di';\nimport {Component, Directive, Input} from '../../metadata/directives';\nimport {componentNeedsResolution, maybeQueueResolutionOfComponentResources} from '../../metadata/resource_loading';\nimport {ViewEncapsulation} from '../../metadata/view';\nimport {initNgDevMode} from '../../util/ng_dev_mode';\nimport {getComponentDef, getDirectiveDef} from '../definition';\nimport {EMPTY_ARRAY, EMPTY_OBJ} from '../empty';\nimport {NG_COMP_DEF, NG_DIR_DEF, NG_FACTORY_DEF} from '../fields';\nimport {ComponentType} from '../interfaces/definition';\nimport {stringifyForError} from '../util/stringify_utils';\n\nimport {angularCoreEnv} from './environment';\nimport {getJitOptions} from './jit_options';\nimport {flushModuleScopingQueueAsMuchAsPossible, patchComponentDefWithScope, transitiveScopesFor} from './module';\n\n/**\n * Keep track of the compilation depth to avoid reentrancy issues during JIT compilation. This\n * matters in the following scenario:\n *\n * Consider a component 'A' that extends component 'B', both declared in module 'M'. During\n * the compilation of 'A' the definition of 'B' is requested to capture the inheritance chain,\n * potentially triggering compilation of 'B'. If this nested compilation were to trigger\n * `flushModuleScopingQueueAsMuchAsPossible` it may happen that module 'M' is still pending in the\n * queue, resulting in 'A' and 'B' to be patched with the NgModule scope. As the compilation of\n * 'A' is still in progress, this would introduce a circular dependency on its compilation. To avoid\n * this issue, the module scope queue is only flushed for compilations at the depth 0, to ensure\n * all compilations have finished.\n */\nlet compilationDepth = 0;\n\n/**\n * Compile an Angular component according to its decorator metadata, and patch the resulting\n * component def (cmp) onto the component type.\n *\n * Compilation may be asynchronous (due to the need to resolve URLs for the component template or\n * other resources, for example). In the event that compilation is not immediate, `compileComponent`\n * will enqueue resource resolution into a global queue and will fail to return the `cmp`\n * until the global queue has been resolved with a call to `resolveComponentResources`.\n */\nexport function compileComponent(type: Type<any>, metadata: Component): void {\n // Initialize ngDevMode. This must be the first statement in compileComponent.\n // See the `initNgDevMode`
docstring for more information.\n (typeof ngDevMode === 'undefined' || ngDevMode) && initNgDevMode();\n\n let ngComponentDef: any = null;\n\n // Metadata may have resources which need to be resolved.\n maybeQueueResolutionOfComponentResources(type, metadata);\n\n // Note that we're using the same function as

`Directive`, because that's only subset of metadata\n  // that we need to create the ngFactoryDef. We're avoiding using the component metadata\n  // because we'd have to resolve the asynchronous templates.\n addDirectiveFactoryDef(type, metadata);\n\n  Object.defineProperty(type, NG_COMP_DEF, {\n    get: () => {\n if (ngComponentDef === null) {\n        const compiler = getCompilerFacade();\n\n        if (componentNeedsResolution(metadata)) {\n          const error = [`Component '${type.name}' is not resolved:`];\n  if (metadata.templateUrl) {\n            error.push(` - templateUrl: ${metadata.templateUrl}`);\n          }\n          if (metadata.styleUrls &&
 metadata.styleUrls.length) {\n            error.push(` - styleUrls: ${JSON.stringify(metadata.styleUrls)}`);\n          }\n      error.push(`Did you run and wait for 'resolveComponentResources()'?`);\n          throw new Error(error.join('\\n'));\n        }\n\n        // This const was called `jitOptions` previously but had to be renamed to `options` because\n        // of a bug with Terser that caused optimized JIT builds to throw a `ReferenceError`.\n // This bug was investigated in https://github.com/angular/angular-cli/issues/17264.\n        // We should not rename it back until https://github.com/terser/terser/issues/615 is fixed.\n        const options = getJitOptions();\n        let preserveWhitespaces = metadata.preserveWhitespaces;\n        if (preserveWhitespaces === undefined) {\n          if (options !== null && options.preserveWhitespaces !== undefined) {\n            preserveWhitespaces = options.preserveWhitespaces;\n          } else {\n            preserveWhitespaces
 = false;\n          }\n        }\n        let encapsulation = metadata.encapsulation;\n        if (encapsulation === undefined) {\n          if (options !== null && options.defaultEncapsulation !== undefined) {\n            encapsulation = options.defaultEncapsulation;\n          } else {\n            encapsulation = ViewEncapsulation.Emulated;\n          }\n        }\n\n        const templateUrl = metadata.templateUrl || `ng:///${type.name}/template.html`;\n        const meta: R3ComponentMetadataFacade = {\n          ...directiveMetadata(type, metadata),\n          typeSourceSpan: compiler.createParseSourceSpan('Component', type.name, templateUrl),\n          template: metadata.template || '',\n      preserveWhitespaces,\n          styles: metadata.styles || EMPTY_ARRAY,\n          animations: metadata.animations,\n          directives: [],\n          changeDetection: metadata.changeDetection,\n          pipes: new Map(),\n          encapsulation,\n          interpolation:
 metadata.interpolation,\n          viewProviders: metadata.viewProviders || null,\n        };\n\n compilationDepth++;\n        try {\n          if (meta.usesInheritance) {\n addDirectiveDefToUndecoratedParents(type);\n          }\n          ngComponentDef = compiler.compileComponent(angularCoreEnv, templateUrl, meta);\n        } finally {\n          // Ensure that the compilation depth is decremented even when the compilation failed.\n          compilationDepth--;\n        }\n\n        if (compilationDepth === 0) {\n          // When NgModule decorator executed, we enqueued the module definition such that\n          // it would only dequeue and add itself as module scope to all of its declarations,\n          // but only if  if all of its declarations had resolved. This call runs the check\n          // to see if any modules that are in the queue can be dequeued and add scope to\n          // their declarations.\n flushModuleScopingQueueAsMuchAsPossible();\n        }\n\n        // If component compilation is async, then the @NgModule annotation which declares the\n        // component may execute and set an ngSelectorScope property on the component type. This\n        // allows the component to patch itself with directiveDefs from the module after it\n        // finishes compiling.\n        if (hasSelectorScope(type)) {\n          const scopes = transitiveScopesFor(type.ngSelectorScope);\n patchComponentDefWithScope(ngComponentDef, scopes);\n        }\n      }\n      return ngComponentDef;\n    },\n    // Make the property configurable in dev mode to allow overriding in tests\n    configurable: !!ngDevMode,\n  });\n}\n\nfunction hasSelectorScope<T>(component: Type<T>): component is Type<T>&\n    {ngSelectorScope: Type<any>} {\n  return (component as {ngSelectorScope?: any}).ngSelectorScope !== undefined;\n}\n\n/**\n * Compile an Angular directive according to its decorator metadata, and patch the resulting\n * directive def onto
 the component type.\n *\n * In the event that compilation is not immediate, `compileDirective` will return a `Promise` which\n * will resolve when compilation completes and the directive becomes usable.\n */\nexport function compileDirective(type: Type<any>, directive: Directive|null): void {\n  let ngDirectiveDef: any = null;\n\n addDirectiveFactoryDef(type, directive || {});\n\n  Object.defineProperty(type, NG_DIR_DEF, {\n    get: () => {\n

```
 if (ngDirectiveDef === null) {\n       // `directive` can be null in the case of abstract directives as a base class\n
// that use `@Directive()` with no selector. In that case, pass empty object to the\n       // `directiveMetadata`
function instead of null.\n       const meta = getDirectiveMetadata(type, directive || {});\n       ngDirectiveDef =\n
    getCompilerFacade().compileDirective(angularCoreEnv, meta.sourceMapUrl, meta.metadata);\n     }\n     return
ngDirectiveDef;\n   },\n   // Make the property configurable
 in dev mode to allow overriding in tests\n   configurable: !!ngDevMode,\n });\n}\n\nfunction
getDirectiveMetadata(type: Type<any>, metadata: Directive) {\n  const name = type && type.name;\n  const
sourceMapUrl = `ng:///${name}/dir.js`;\n  const compiler = getCompilerFacade();\n  const facade =
directiveMetadata(type as ComponentType<any>, metadata);\n  facade.typeSourceSpan =
compiler.createParseSourceSpan('Directive', name, sourceMapUrl);\n  if (facade.usesInheritance) {\n
addDirectiveDefToUndecoratedParents(type);\n  }\n  return {metadata: facade, sourceMapUrl};\n}\n\nfunction
addDirectiveFactoryDef(type: Type<any>, metadata: Directive|Component) {\n  let ngFactoryDef: any = null;\n\n
Object.defineProperty(type, NG_FACTORY_DEF, {\n   get: () => {\n     if (ngFactoryDef === null) {\n       const
meta = getDirectiveMetadata(type, metadata);\n       const compiler = getCompilerFacade();\n       ngFactoryDef =
compiler.compileFactory(angularCoreEnv, `ng:///${type.name}/fac.js`,
 {\n         ...meta.metadata,\n         injectFn: 'directiveInject',\n         target: compiler.R3FactoryTarget.Directive\n
 });\n     }\n     return ngFactoryDef;\n   },\n   // Make the property configurable in dev mode to allow overriding
in tests\n   configurable: !!ngDevMode,\n });\n}\n\nexport function extendsDirectlyFromObject(type: Type<any>):
boolean {\n  return Object.getPrototypeOf(type.prototype) === Object.prototype;\n}\n\n/**\n * Extract the
`R3DirectiveMetadata` for a particular directive (either a `Directive` or a\n * `Component`).\n */\nexport function
directiveMetadata(type: Type<any>, metadata: Directive): R3DirectiveMetadataFacade {\n  // Reflect inputs and
outputs.\n  const reflect = getReflect();\n  const propMetadata = reflect.ownPropMetadata(type);\n\n  return {\n
name: type.name,\n   type: type,\n   typeArgumentCount: 0,\n   selector: metadata.selector !== undefined ?
metadata.selector : null,\n   deps: reflectDependencies(type),\n
   host: metadata.host || EMPTY_OBJ,\n   propMetadata: propMetadata,\n   inputs: metadata.inputs ||
EMPTY_ARRAY,\n   outputs: metadata.outputs || EMPTY_ARRAY,\n   queries: extractQueriesMetadata(type,
propMetadata, isContentQuery),\n   lifecycle: {usesOnChanges: reflect.hasLifecycleHook(type, 'ngOnChanges')},\n
  typeSourceSpan: null!,\n   usesInheritance: !extendsDirectlyFromObject(type),\n   exportAs:
extractExportAs(metadata.exportAs),\n   providers: metadata.providers || null,\n   viewQueries:
extractQueriesMetadata(type, propMetadata, isViewQuery)\n  };\n}\n\n/**\n * Adds a directive definition to all
parent classes of a type that don't have an Angular decorator.\n */\nfunction
addDirectiveDefToUndecoratedParents(type: Type<any>) {\n  const objPrototype = Object.prototype;\n  let parent
= Object.getPrototypeOf(type.prototype).constructor;\n\n  // Go up the prototype until we hit `Object`.\n  while
(parent && parent !== objPrototype) {\n   // Since inheritance works if
 the class was annotated already, we only need to add\n   // the def if there are no annotations and the def hasn't been
created already.\n   if (!getDirectiveDef(parent) && !getComponentDef(parent) &&\n
shouldAddAbstractDirective(parent)) {\n     compileDirective(parent, null);\n   }\n   parent =
Object.getPrototypeOf(parent);\n  }\n}\n\nfunction convertToR3QueryPredicate(selector: any): any|string[] {\n
return typeof selector === 'string' ? splitByComma(selector) : resolveForwardRef(selector);\n}\n\nexport function
convertToR3QueryMetadata(propertyName: string, ann: Query): R3QueryMetadataFacade {\n  return {\n
propertyName: propertyName,\n   predicate: convertToR3QueryPredicate(ann.selector),\n   descendants:
ann.descendants,\n   first: ann.first,\n   read: ann.read ? ann.read : null,\n   static: !!ann.static\n  };\n}\nfunction
extractQueriesMetadata(\n   type: Type<any>, propMetadata: {[key: string]: any[]},\n   isQueryAnn: (ann: any) =>
ann is Query): R3QueryMetadataFacade[]
 {\n  const queriesMeta: R3QueryMetadataFacade[] = [];\n  for (const field in propMetadata) {\n   if
(propMetadata.hasOwnProperty(field)) {\n     const annotations = propMetadata[field];\n
annotations.forEach(ann => {\n       if (isQueryAnn(ann)) {\n         if (!ann.selector) {\n           throw new Error(\n
          `Can't construct a query for the property \"${field}\" of ` +\n             `\"${stringifyForError(type)}\" since
```

the query selector wasn't defined.`);\n }\n if (annotations.some(isInputAnnotation)) {\n throw new Error(`Cannot combine @Input decorators with query decorators`);\n }\n queriesMeta.push(convertToR3QueryMetadata(field, ann));\n }\n });\n }\n }\n return queriesMeta;\n}\n\nfunction extractExportAs(exportAs: string|undefined): string[]|null {\n return exportAs === undefined ? null : splitByComma(exportAs);\n}\n\nfunction isContentQuery(value: any): value is Query {\n const name = value.ngMetadataName;\n return name === 'ContentChild' || name === 'ContentChildren';\n}\n\nfunction isViewQuery(value: any): value is Query {\n const name = value.ngMetadataName;\n return name === 'ViewChild' || name === 'ViewChildren';\n}\n\nfunction isInputAnnotation(value: any): value is Input {\n return value.ngMetadataName === 'Input';\n}\n\nfunction splitByComma(value: string): string[] {\n return value.split(',').map(piece => piece.trim());\n}\n\nconst LIFECYCLE_HOOKS = [\n 'ngOnChanges', 'ngOnInit', 'ngOnDestroy', 'ngDoCheck', 'ngAfterViewInit', 'ngAfterViewChecked',\n 'ngAfterContentInit', 'ngAfterContentChecked'\n];\n\nfunction shouldAddAbstractDirective(type: Type<any>): boolean {\n const reflect = getReflect();\n\n if (LIFECYCLE_HOOKS.some(hookName => reflect.hasLifecycleHook(type, hookName))) {\n return true;\n }\n\n const propMetadata = reflect.propMetadata(type);\n\n for (const field in propMetadata) {\n const annotations = propMetadata[field];\n\n for (let i = 0; i < annotations.length; i++) {\n const current = annotations[i];\n const metadataName = current.ngMetadataName;\n\n if (isInputAnnotation(current) || isContentQuery(current) || isViewQuery(current) ||\n metadataName === 'Output' || metadataName === 'HostBinding' ||\n metadataName === 'HostListener') {\n return true;\n }\n }\n }\n\n return false;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getCompilerFacade, R3PipeMetadataFacade} from '../../compiler/compiler_facade';\nimport {reflectDependencies} from '../../di/jit/util';\nimport {Type} from '../../interface/type';\nimport {Pipe} from '../../metadata/directives';\nimport {NG_FACTORY_DEF, NG_PIPE_DEF} from '../fields';\n\nimport {angularCoreEnv} from './environment';\n\nexport function compilePipe(type: Type<any>, meta: Pipe): void {\n let ngPipeDef: any = null;\n let ngFactoryDef: any = null;\n\n Object.defineProperty(type, NG_FACTORY_DEF, {\n get: () => {\n if (ngFactoryDef === null) {\n const metadata = getPipeMetadata(type, meta);\n const compiler = getCompilerFacade();\n ngFactoryDef = compiler.compileFactory(\n angularCoreEnv, `ng:///${metadata.name}/fac.js`,\n {...metadata, injectFn: 'directiveInject', target: compiler.R3FactoryTarget.Pipe});\n }\n return ngFactoryDef;\n },\n // Make the property configurable in dev mode to allow overriding in tests\n configurable: !!ngDevMode,\n });\n\n Object.defineProperty(type, NG_PIPE_DEF, {\n get: () => {\n if (ngPipeDef === null) {\n const metadata = getPipeMetadata(type, meta);\n ngPipeDef = getCompilerFacade().compilePipe(\n angularCoreEnv, `ng:///${metadata.name}/pipe.js`, metadata);\n }\n return ngPipeDef;\n },\n // Make the property configurable in dev mode to allow overriding in tests\n configurable: !!ngDevMode,\n });\n}\n\nfunction getPipeMetadata(type: Type<any>, meta: Pipe): R3PipeMetadataFacade {\n return {\n type: type,\n typeArgumentCount: 0,\n name: type.name,\n deps: reflectDependencies(type),\n pipeName: meta.name,\n pure: meta.pure !== undefined ? meta.pure : true\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectionStrategy} from '../change_detection/constants';\nimport {Provider} from '../di/interface/provider';\nimport {Type} from '../interface/type';\nimport {compileComponent as render3CompileComponent, compileDirective as render3CompileDirective} from '../render3/jit/directive';\nimport {compilePipe as render3CompilePipe} from '../render3/jit/pipe';\nimport {makeDecorator, makePropDecorator, TypeDecorator} from '../util/decorators';\nimport {noop} from '../util/noop';\n\nimport {ViewEncapsulation} from './view';\n\n\n\n/**\n * Type of the Directive decorator / constructor function.\n * @publicApi\n */\nexport interface DirectiveDecorator {\n /**\n * Decorator that marks a class as an Angular directive.\n * You can define your own directives to attach custom behavior to elements in the

DOM.\n *\n * The options provide configuration metadata that determines\n * how the directive should be processed, instantiated and used at\n * runtime.\n *\n * Directive classes, like component classes, can implement\n * [life-cycle hooks](guide/lifecycle-hooks) to influence their configuration and behavior.\n *\n *\n * @usageNotes\n * To define a directive, mark the class with the decorator and provide metadata.\n *\n * ```ts\n * import {Directive} from '@angular/core';\n *\n * @Directive({\n * selector: 'my-directive',\n * })\n * export class MyDirective {\n * ...\n * }\n * ```\n *\n * ### Declaring directives\n *\n * Directives are [declarables](guide/glossary#declarable).\n * They must be declared by an NgModule\n * in order to be usable in an app.\n *\n * A directive must belong to exactly one NgModule. Do not re-declare\n * a directive imported from another module.\n * List the directive class in the `declarations` field of an NgModule.\n *\n * ```ts\n * declarations: [\n * AppComponent,\n * MyDirective\n * ],\n * ```\n *\n * @Annotation\n */\n (obj?: Directive): TypeDecorator;\n\n /**\n * See the `Directive` decorator.\n */\n new(obj?: Directive): Directive;\n}\n\n/**\n * Directive decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport interface Directive {\n /**\n * The CSS selector that identifies this directive in a template\n * and triggers instantiation of the directive.\n *\n * Declare as one of the following:\n *\n * - `element-name`: Select by element name.\n * - `.class`: Select by class name.\n * - `[attribute]`: Select by attribute name.\n * - `[attribute=value]`: Select by attribute name and value.\n * - `:not(sub_selector)`: Select only if the element does not match the `sub_selector`.\n * - `selector1, selector2`: Select if either `selector1` or `selector2` matches.\n *\n * Angular only allows directives to apply on CSS selectors that do not cross\n * element boundaries.\n *\n * For the following template HTML, a directive with an `input[type=text]` selector,\n * would be instantiated only on the `<input type=\"text\">` element.\n *\n * ```html\n * <form>\n * <input type=\"text\">\n * <input type=\"radio\">\n * <form>\n * ```\n *\n */\n selector?: string;\n\n /**\n * Enumerates the set of data-bound input properties for a directive\n *\n * Angular automatically updates input properties during
change detection.\n * The `inputs` property defines a set of `directiveProperty` to `bindingProperty`\n * configuration:\n *\n * - `directiveProperty` specifies the component property where the value is written.\n * - `bindingProperty` specifies the DOM property where the value is read from.\n *\n * When `bindingProperty` is not provided, it is assumed to be equal to `directiveProperty`.\n *\n * @usageNotes\n *\n * The following example creates a component with two data-bound properties.\n *\n * ```typescript\n * @Component({\n * selector: 'bank-account',\n * inputs: ['bankName', 'id: account-id'],\n * template: `\n * Bank Name: {{bankName}}\n * Account Id: {{id}}\n * `\n * })\n * class BankAccount {\n * bankName: string;\n * id: string;\n * }\n * ```\n *\n */\n inputs?: string[];\n\n /**\n * Enumerates the set of event-bound output properties.\n *\n * When an output property emits an event, an event handler
attached to that event\n * in the template is invoked.\n *\n * The `outputs` property defines a set of `directiveProperty` to `bindingProperty`\n * configuration:\n *\n * - `directiveProperty` specifies the component property that emits events.\n * - `bindingProperty` specifies the DOM property the event handler is attached to.\n *\n * @usageNotes\n *\n * ```typescript\n * @Component({\n * selector: 'child-dir',\n * outputs: [ 'bankNameChange' ]\n * template: `<input (input)=\"bankNameChange.emit($event.target.value)\" />`\n * })\n * class ChildDir {\n * bankNameChange: EventEmitter<string> = new EventEmitter<string>();\n * }\n *\n * @Component({\n * selector: 'main',\n * template: `\n * {{ bankName }} <child-dir (bankNameChange)=\"onBankNameChange($event)\"></child-dir>\n * `\n * })\n * class MainComponent {\n * bankName: string;\n *\n * onBankNameChange(bankName: string) {\n * this.bankName = bankName;\n * }\n * }\n * ```\n *\n */\n outputs?: string[];\n\n /**\n * Configures the [injector](guide/glossary#injector) of this\n * directive or component with a [token](guide/glossary#di-token)\n * that maps to a [provider](guide/glossary#provider) of a dependency.\n */\n providers?: Provider[];\n\n /**\n * Defines the name that can be used in the template to assign this directive to a variable.\n *\n * @usageNotes\n *\n * ```ts\n * @Directive({\n * selector: 'child-dir',\n * exportAs: 'child'\n * })\n * class ChildDir {\n * }\n *\n * @Component({\n * selector: 'main',\n * template: `<child-dir #c=\"child\"></child-dir>`\n * })\n * class MainComponent {\n * }\n * ```\n *\n */\n exportAs?: string;\n\n /**\n * Configures the queries that

will be injected into the directive.\n *\n * Content queries are set before the `ngAfterContentInit` callback is called.\n * View queries are set before the `ngAfterViewInit`
callback is called.\n *\n * @usageNotes\n *\n * The following example shows how queries are defined\n * and when their results are available in lifecycle hooks:\n *\n * ```ts\n * @Component({\n * selector: 'someDir',\n * queries: {\n * contentChildren: new ContentChildren(ChildDirective),\n * viewChildren: new ViewChildren(ChildDirective)\n * },\n * template: '<child-directive></child-directive>'\n * })\n * class SomeDir {\n * contentChildren: QueryList<ChildDirective>,\n * viewChildren: QueryList<ChildDirective>\n *\n * ngAfterContentInit() {\n * // contentChildren is set\n * }\n *\n * ngAfterViewInit() {\n * // viewChildren is set\n * }\n * }\n * ```\n *\n * @Annotation\n */\n queries?: {[key: string]: any};\n\n /**\n * Maps class properties to host element bindings for properties,\n * attributes, and events, using a set of key-value pairs.\n *\n * Angular automatically
checks host property bindings during change detection.\n * If a binding changes, Angular updates the directive's host element.\n *\n * When the key is a property of the host element, the property value is\n * the propagated to the specified DOM property.\n *\n * When the key is a static attribute in the DOM, the attribute value\n * is propagated to the specified property in the host element.\n *\n * For event handling:\n * - The key is the DOM event that the directive listens to.\n * To listen to global events, add the target to the event name.\n * The target can be `window`, `document` or `body`.\n * - The value is the statement to execute when the event occurs. If the\n * statement evaluates to `false`, then `preventDefault` is applied on the DOM\n * event. A handler method can refer to the `$event` local variable.\n *\n */\n host?: {[key: string]: string};\n\n /**\n * When present, this directive/component is ignored by the AOT compiler.\n
* It remains in distributed code, and the JIT compiler attempts to compile it\n * at run time, in the browser.\n * To ensure the correct behavior, the app must import `@angular/compiler`.\n */\n jit?: true;\n}\n\n/**\n * Type of the Directive metadata.\n *\n * @publicApi\n */\nexport const Directive: DirectiveDecorator = makeDecorator(\n 'Directive', (dir: Directive = {}) => dir, undefined, undefined,\n (type: Type<any>, meta: Directive) => SWITCH_COMPILE_DIRECTIVE(type, meta));\n\n/**\n * Component decorator interface\n *\n * @publicApi\n */\nexport interface ComponentDecorator {\n /**\n * Decorator that marks a class as an Angular component and provides configuration\n * metadata that determines how the component should be processed,\n * instantiated, and used at runtime.\n *\n * Components are the most basic UI building block of an Angular app.\n * An Angular app contains a tree of Angular components.\n *\n * Angular components are a subset of directives,
always associated with a template.\n * Unlike other directives, only one component can be instantiated for a given element in a\n * template.\n *\n * A component must belong to an NgModule in order for it to be available\n * to another component or application. To make it a member of an NgModule,\n * list it in the `declarations` field of the `NgModule` metadata.\n *\n * Note that, in addition to these options for configuring a directive,\n * you can control a component's runtime behavior by implementing\n * life-cycle hooks. For more information, see the\n * [Lifecycle Hooks](guide/lifecycle-hooks) guide.\n *\n * @usageNotes\n *\n * ### Setting component inputs\n *\n * The following example creates a component with two data-bound properties,\n * specified by the `inputs` value.\n *\n * <code-example path=\"core/ts/metadata/directives.ts\" region=\"component-input\"></code-example>\n *\n *\n * ### Setting component outputs\n *\n * The
following example shows two event emitters that emit on an interval. One\n * emits an output every second, while the other emits every five seconds.\n *\n * {@example core/ts/metadata/directives.ts region='component-output-interval'}\n *\n * ### Injecting a class with a view provider\n *\n * The following simple example injects a class into a component\n * using the view provider specified in component metadata:\n *\n * ```ts\n * class Greeter {\n * greet(name:string) {\n * return 'Hello ' + name + '!';\n * }\n * }\n *\n * @Directive({\n * selector: 'needs-greeter'\n * })\n * class NeedsGreeter {\n * greeter:Greeter;\n *\n * constructor(greeter:Greeter) {\n * this.greeter = greeter;\n * }\n * }\n *\n * @Component({\n * selector: 'greet',\n * viewProviders: [\n * Greeter\n * ],\n * template: `<needs-greeter></needs-greeter>`\n * })\n * class HelloWorld {\n * }\n *\n * ```\n

*\n * ### Preserving whitespace\n *\n * Removing whitespace can greatly reduce AOT-generated code size and speed up view creation.\n * As of Angular 6, the default for `preserveWhitespaces` is false (whitespace is removed).\n * To change the default setting for all components in your application, set\n * the `preserveWhitespaces` option of the AOT compiler.\n *\n * By default, the AOT compiler removes whitespace characters as follows:\n * * Trims all whitespaces at the beginning and the end of a template.\n * * Removes whitespace-only text nodes. For example,\n *\n * ```html\n * <button>Action 1</button> <button>Action 2</button>\n * ```\n *\n * becomes:\n *\n * ```html\n * <button>Action 1</button><button>Action 2</button>\n * ```\n *\n * * Replaces a series of whitespace characters in text nodes with a single space.\n * For example, `<span>\\n some text\\n</span>` becomes `<span> some text </span>`.\n * * Does NOT alter text nodes inside
HTML tags such as `<pre>` or `<textarea>`,\n * where whitespace characters are significant.\n *\n * Note that these transformations can influence DOM nodes layout, although impact\n * should be minimal.\n *\n * You can override the default behavior to preserve whitespace characters\n * in certain fragments of a template. For example, you can exclude an entire\n * DOM sub-tree by using the `ngPreserveWhitespaces` attribute:\n *\n * ```html\n * <div ngPreserveWhitespaces>\n * whitespaces are preserved here\n * <span> and here </span>\n * </div>\n * ```\n *\n * You can force a single space to be preserved in a text node by using `&ngsp;`,\n * which is replaced with a space character by Angular's template\n * compiler:\n *\n * ```html\n * <a>Spaces</a>&ngsp;<a>between</a>&ngsp;<a>links.</a>\n * <!-- compiled to be equivalent to:\n * <a>Spaces</a> <a>between</a> <a>links.</a> -->\n * ```\n *\n * Note that sequences of `&ngsp;`
are still collapsed to just one space character when\n * the `preserveWhitespaces` option is set to `false`.\n *\n * ```html\n * <a>before</a>&ngsp;&ngsp;&ngsp;<a>after</a>\n * <!-- compiled to be equivalent to:\n * <a>before</a> <a>after</a> -->\n * ```\n *\n * To preserve sequences of whitespace characters, use the\n * `ngPreserveWhitespaces` attribute.\n *\n * @Annotation\n */\n (obj: Component): TypeDecorator;\n /**\n * See the `Component` decorator.\n */\n new(obj: Component): Component;\n}\n\n/**\n * Supplies configuration metadata for an Angular component.\n *\n * @publicApi\n */\nexport interface Component extends Directive {\n /**\n * The change-detection strategy to use for this component.\n *\n * When a component is instantiated, Angular creates a change detector,\n * which is responsible for propagating the component's bindings.\n * The strategy is one of:\n * - `ChangeDetectionStrategy#OnPush` sets the strategy to `CheckOnce`
(on demand).\n * - `ChangeDetectionStrategy#Default` sets the strategy to `CheckAlways`.\n */\n changeDetection?: ChangeDetectionStrategy;\n\n /**\n * Defines the set of injectable objects that are visible to its view DOM children.\n * See [example](#injecting-a-class-with-a-view-provider).\n *\n */\n viewProviders?: Provider[];\n\n /**\n * The module ID of the module that contains the component.\n * The component must be able to resolve relative URLs for templates and styles.\n * SystemJS exposes the `__moduleName` variable within each module.\n * In CommonJS, this can be set to `module.id`.\n *\n */\n moduleId?: string;\n\n /**\n * The relative path or absolute URL of a template file for an Angular component.\n * If provided, do not supply an inline template using `template`.\n *\n */\n templateUrl?: string;\n\n /**\n * An inline template for an Angular component. If provided,\n * do not supply a template file using `templateUrl`.\n
*\n */\n template?: string;\n\n /**\n * One or more relative paths or absolute URLs for files containing CSS stylesheets to use\n * in this component.\n */\n styleUrls?: string[];\n\n /**\n * One or more inline CSS stylesheets to use\n * in this component.\n */\n styles?: string[];\n\n /**\n * One or more animation `trigger()` calls, containing\n * `state()` and `transition()` definitions.\n * See the [Animations guide](/guide/animations) and animations API documentation.\n *\n */\n animations?: any[];\n\n /**\n * An encapsulation policy for the template and CSS styles. One of:\n * - `ViewEncapsulation.Emulated`: Use shimmed CSS that\n * emulates the native behavior.\n * - `ViewEncapsulation.None`: Use global CSS without any\n * encapsulation.\n * - `ViewEncapsulation.ShadowDom`: Use Shadow DOM v1 to encapsulate styles.\n *\n * If not supplied, the value is taken from `CompilerOptions`. The default compiler option is\n * `ViewEncapsulation.Emulated`.\n
*\n * If the policy is set to `ViewEncapsulation.Emulated` and the component has no `styles`\n * or `styleUrls` specified, the policy is automatically switched to `ViewEncapsulation.None`.\n */\n encapsulation?:

ViewEncapsulation;\n\n /**\n * Overrides the default encapsulation start and end delimiters (`{{` and `}}`)\n */\n interpolation?: [string, string];\n\n /**\n * A set of components that should be compiled along with\n * this component. For each component listed here,\n * Angular creates a {@link ComponentFactory} and stores it in the\n * {@link ComponentFactoryResolver}.\n * @deprecated Since 9.0.0. With Ivy, this property is no longer necessary.\n */\n entryComponents?: Array<Type<any>|any[]>;\n\n /**\n * True to preserve or false to remove potentially superfluous whitespace characters\n * from the compiled template. Whitespace characters are those matching the `\\s`\n * character class in JavaScript regular expressions.
Default is false, unless\n * overridden in compiler options.\n */\n preserveWhitespaces?: boolean;\n}\n\n/**\n * Component decorator and metadata.\n *\n * @Annotation\n * @publicApi\n */\nexport const Component: ComponentDecorator = makeDecorator(\n 'Component', (c: Component = {}) => ({changeDetection: ChangeDetectionStrategy.Default, ...c}),\n Directive, undefined,\n (type: Type<any>, meta: Component) => SWITCH_COMPILE_COMPONENT(type, meta));\n\n/**\n * Type of the Pipe decorator / constructor function.\n *\n * @publicApi\n */\nexport interface PipeDecorator {\n /**\n *\n * Decorator that marks a class as pipe and supplies configuration metadata.\n *\n * A pipe class must implement the `PipeTransform` interface.\n * For example, if the name is \"myPipe\", use a template binding expression\n * such as the following:\n *\n * ```\n * {{ exp | myPipe }}\n * ```\n *\n * The result of the expression is passed to the pipe's `transform()` method.\n *\n
* A pipe must belong to an NgModule in order for it to be available\n * to a template. To make it a member of an NgModule,\n * list it in the `declarations` field of the `NgModule` metadata.\n *\n * @see [Style Guide: Pipe Names](guide/styleguide#02-09)\n *\n */\n (obj: Pipe): TypeDecorator;\n\n /**\n * See the `Pipe` decorator.\n */\n new(obj: Pipe): Pipe;\n}\n\n/**\n * Type of the Pipe metadata.\n *\n * @publicApi\n */\nexport interface Pipe {\n /**\n * The pipe name to use in template bindings.\n * Typically uses [lowerCamelCase](guide/glossary#case-types)\n * because the name cannot contain hyphens.\n */\n name: string;\n\n /**\n * When true, the pipe is pure, meaning that the\n * `transform()` method is invoked only when its input arguments\n * change. Pipes are pure by default.\n *\n * If the pipe has internal state (that is, the result\n * depends on state other than its arguments), set `pure` to false.\n * In this case, the pipe
is invoked on each change-detection cycle,\n * even if the arguments have not changed.\n */\n pure?: boolean;\n}\n\n/**\n * @Annotation\n * @publicApi\n */\nexport const Pipe: PipeDecorator = makeDecorator(\n 'Pipe', (p: Pipe) => ({pure: true, ...p}), undefined, undefined,\n (type: Type<any>, meta: Pipe) => SWITCH_COMPILE_PIPE(type, meta));\n\n\n/**\n * @publicApi\n */\nexport interface InputDecorator {\n /**\n * Decorator that marks a class field as an input property and supplies configuration metadata.\n * The input property is bound to a DOM property in the template. During change detection,\n * Angular automatically updates the data property with the DOM property's value.\n *\n * @usageNotes\n *\n * You can supply an optional name to use in templates when the\n * component is instantiated, that maps to the\n * name of the bound property. By default, the original\n * name of the bound property is used for input binding.\n *\n * The following example
creates a component with two input properties,\n * one of which is given a special binding name.\n *\n * ```typescript\n * @Component({\n * selector: 'bank-account',\n * template: `\n * Bank Name: {{bankName}}\n * Account Id: {{id}}\n * `\n * })\n * class BankAccount {\n * // This property is bound using its original name.\n * @Input() bankName: string;\n * // this property value is bound to a different property name\n * // when this component is instantiated in a template.\n * @Input('account-id') id: string;\n *\n * // this property is not bound, and is not automatically updated by Angular\n * normalizedBankName: string;\n * }\n *\n * @Component({\n * selector: 'app',\n * template: `\n * <bank-account bankName=\"RBC\" account-id=\"4747\"></bank-account>\n * `\n * })\n * class App {}\n * ```\n *\n * @see [Input and Output properties](guide/inputs-outputs)\n */\n (bindingPropertyName?: string): any;\n new(bindingPropertyName?: string): any;\n}\n\n/**\n * Type of metadata for an `Input` property.\n *\n * @publicApi\n */\nexport interface Input {\n /**\n * The name of the DOM property to which the input property is bound.\n */\n bindingPropertyName?: string;\n}\n\n/**\n * @Annotation\n * @publicApi\n */\nexport const Input: InputDecorator =\n makePropDecorator('Input', (bindingPropertyName?: string) =>

({bindingPropertyName}));\n\n/**\n * Type of the Output decorator / constructor function.\n *\n * @publicApi\n */\nexport interface OutputDecorator {\n /**\n * Decorator that marks a class field as an output property and supplies configuration metadata.\n * The DOM property bound to the output property is automatically updated during change detection.\n *\n * @usageNotes\n *\n * You can supply an optional name to use in templates when the\n * component is instantiated, that maps to the\n * name of the bound property. By default, the original\n
* name of the bound property is used for output binding.\n *\n * See `Input` decorator for an example of providing a binding name.\n *\n * @see [Input and Output properties](guide/inputs-outputs)\n *\n */\n (bindingPropertyName?: string): any;\n new(bindingPropertyName?: string): any;\n}\n\n/**\n * Type of the Output metadata.\n *\n * @publicApi\n */\nexport interface Output {\n /**\n * The name of the DOM property to which the output property is bound.\n */\n bindingPropertyName?: string;\n}\n\n/**\n * @Annotation\n * @publicApi\n */\nexport const Output: OutputDecorator =\n makePropDecorator('Output', (bindingPropertyName?: string) => ({bindingPropertyName}));\n\n\n\n/**\n * Type of the HostBinding decorator / constructor function.\n *\n * @publicApi\n */\nexport interface HostBindingDecorator {\n /**\n * Decorator that marks a DOM property as a host-binding property and supplies configuration\n * metadata.\n * Angular automatically checks host property bindings during change detection, and\n * if a binding changes it updates the host element of the directive.\n *\n * @usageNotes\n *\n * The following example creates a directive that sets the `valid` and `invalid`\n * properties on the DOM element that has an `ngModel` directive on it.\n *\n * ```typescript\n * @Directive({selector: '[ngModel]'})\n * class NgModelStatus {\n * constructor(public control: NgModel) {}\n * @HostBinding('class.valid') get valid() { return this.control.valid; }\n * @HostBinding('class.invalid') get invalid() { return this.control.invalid; }\n * }\n *\n * @Component({\n * selector: 'app',\n * template: `<input [(ngModel)]=\"prop\">`,\n * })\n * class App {\n * prop;\n * }\n * ```\n *\n */\n (hostPropertyName?: string): any;\n new(hostPropertyName?: string): any;\n}\n\n/**\n * Type of the HostBinding metadata.\n *\n * @publicApi\n */\nexport interface HostBinding {\n /**\n * The DOM property that is bound to a data property.\n */\n hostPropertyName?: string;\n}\n\n/**\n * @Annotation\n * @publicApi\n */\nexport const HostBinding: HostBindingDecorator =\n makePropDecorator('HostBinding', (hostPropertyName?: string) => ({hostPropertyName}));\n\n\n\n/**\n * Type of the HostListener decorator / constructor function.\n *\n * @publicApi\n */\nexport interface HostListenerDecorator {\n /**\n * Decorator that declares a DOM event to listen for,\n * and provides a handler method to run when that event occurs.\n */\n (eventName: string, args?: string[]): any;\n new(eventName: string, args?: string[]): any;\n}\n\n/**\n * Type of the HostListener metadata.\n *\n * @publicApi\n */\nexport interface HostListener {\n /**\n * The DOM event to listen for.\n */\n eventName?: string;\n /**\n * A set of arguments to pass to the handler method when the event occurs.\n */\n args?: string[];\n}\n\n/**\n * Decorator that binds a DOM event to a host listener and supplies configuration metadata.\n * Angular invokes the supplied handler method when the host element emits the specified event,\n * and updates the bound element with the result.\n *\n * If the handler method returns false, applies `preventDefault` on the bound element.\n *\n * @usageNotes\n *\n * The following example declares a directive\n * that attaches a click listener to a button and counts clicks.\n *\n * ```ts\n * @Directive({selector: 'button[counting]'})\n * class CountClicks {\n * numberOfClicks = 0;\n *\n * @HostListener('click', ['$event.target'])\n * onClick(btn) {\n * console.log('button', btn, 'number of clicks:', this.numberOfClicks++);\n * }\n * }\n *\n * @Component({\n * selector: 'app',\n * template: '<button counting>Increment</button>',\n * })\n * class App {}\n *\n * ```\n *\n * The following example registers another DOM event handler that listens for key-press events.\n * ``` ts\n * import { HostListener, Component } from \"@angular/core\";\n *\n * @Component({\n * selector: 'app',\n * template: `<h1>Hello, you have pressed keys {{counter}} number of times!</h1> Press any key to\n * increment the counter.\n * <button (click)=\"resetCounter()\">Reset Counter</button>`\n * })\n * class AppComponent {\n * counter = 0;\n * @HostListener('window:keydown', ['$event'])\n * handleKeyDown(event: KeyboardEvent) {\n * this.counter++;\n * }\n * resetCounter() {\n * this.counter = 0;\n * }\n * }\n * ```\n *\n * @Annotation\n * @publicApi\n */\nexport const HostListener: HostListenerDecorator =\n makePropDecorator('HostListener', (eventName?: string, args?: string[]) =>

({eventName, args}));\n\n\n\nexport const SWITCH_COMPILE_COMPONENT__POST_R3__ = render3CompileComponent;\nexport const SWITCH_COMPILE_DIRECTIVE__POST_R3__ = render3CompileDirective;\nexport const SWITCH_COMPILE_PIPE__POST_R3__ = render3CompilePipe;\n\nconst SWITCH_COMPILE_COMPONENT__PRE_R3__ = noop;\nconst SWITCH_COMPILE_DIRECTIVE__PRE_R3__ = noop;\nconst SWITCH_COMPILE_PIPE__PRE_R3__ = noop;\n\nconst SWITCH_COMPILE_COMPONENT: typeof render3CompileComponent = SWITCH_COMPILE_COMPONENT__PRE_R3__;\nconst SWITCH_COMPILE_DIRECTIVE: typeof render3CompileDirective = SWITCH_COMPILE_DIRECTIVE__PRE_R3__;\nconst SWITCH_COMPILE_PIPE: typeof render3CompilePipe = SWITCH_COMPILE_PIPE__PRE_R3__;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectorType, defineInjector} from '../di/interface/defs';\nimport {Provider} from '../di/interface/provider';\nimport {convertInjectableProviderToFactory} from '../di/util';\nimport {Type} from '../interface/type';\nimport {SchemaMetadata} from '../metadata/schema';\nimport {compileNgModule as render3CompileNgModule} from '../render3/jit/module';\nimport {makeDecorator, TypeDecorator} from '../util/decorators';\nimport {NgModuleDef} from './ng_module_def';\n\n\n/**\n * @publicApi\n */\nexport type NgModuleDefWithMeta<T, Declarations, Imports, Exports> = NgModuleDef<T>;\n\n\n/**\n * A wrapper around an NgModule that associates it with [providers](guide/glossary#provider\n * \"Definition\"). Usage without a generic type is deprecated.\n *\n * @see [Deprecations](guide/deprecations#modulewithproviders-type-without-a-generic)\n *\n * @publicApi\n */\nexport interface ModuleWithProviders<T> {\n  ngModule: Type<T>;\n  providers?: Provider[];\n}\n\n\n/**\n * Type of the NgModule decorator / constructor function.\n *\n * @publicApi\n */\nexport interface NgModuleDecorator {\n  /**\n   * Decorator that marks a class as an NgModule and supplies configuration metadata.\n   */\n  (obj?: NgModule): TypeDecorator;\n  new(obj?: NgModule): NgModule;\n}\n\n\n/**\n * Type of the NgModule metadata.\n *\n * @publicApi\n */\nexport interface NgModule {\n  /**\n   * The set of injectable objects that are available in the injector\n   * of this module.\n   *\n   * @see [Dependency Injection guide](guide/dependency-injection)\n   * @see [NgModule guide](guide/providers)\n   *\n   * @usageNotes\n   *\n   * Dependencies whose providers are listed here become available for injection\n   * into any component, directive, pipe or service that is a child of this injector.\n   * The NgModule used for bootstrapping uses the root injector, and can provide dependencies\n   * to any part of the app.\n   *\n   * A lazy-loaded module has its own injector, typically a child of the app root injector.\n   * Lazy-loaded services are scoped to the lazy-loaded module's injector.\n   * If a lazy-loaded module also provides the `UserService`, any component created\n   * within that module's context (such as by router navigation) gets the local instance\n   * of the service, not the instance in the root injector.\n   * Components in external modules continue to receive the instance provided by their injectors.\n   *\n   * ### Example\n   *\n   * The following example defines a class that is injected in\n   * the HelloWorld NgModule:\n   *\n   * ```\n   * class Greeter {\n   *    greet(name:string) {\n   *      return 'Hello ' + name + '!';\n   *    }\n   * }\n   *\n   * @NgModule({\n   *   providers: [\n   *     Greeter\n   *   ]\n   * })\n   * class HelloWorld {\n   *   greeter:Greeter;\n   *\n   *   constructor(greeter:Greeter) {\n   *     this.greeter = greeter;\n   *   }\n   * }\n   * ```\n   */\n  providers?: Provider[];\n\n  /**\n   * The set of components, directives, and pipes ([declarables](guide/glossary#declarable))\n   * that belong to this module.\n   *\n   * @usageNotes\n   *\n   * The set of selectors that are available to a template include those declared here, and\n   * those that are exported from imported NgModules.\n   *\n   * Declarables must belong to exactly one module.\n   * The compiler emits an error if you try to declare the same class in more than one module.\n   * Be careful not to declare\n   * a class that is imported from another module.\n   *\n   * ### Example\n   *\n   * The following example allows the CommonModule to use the `NgFor`\n   * directive.\n   *\n   * ```javascript\n   * @NgModule({\n   *   declarations: [NgFor]\n   * })\n   * class CommonModule {\n   * }\n   * ```\n   */\n  declarations?: Array<Type<any>|any[]>;\n\n  /**\n   * The set of NgModules whose exported [declarables](guide/glossary#declarable)\n   * are available to

templates in this module.\n *\n * @usageNotes\n *\n * A template can use exported declarables from any\n * imported module, including those from modules that are imported indirectly\n * and re-exported.\n * For example, `ModuleA` imports `ModuleB`, and also exports\n * it, which makes the declarables from `ModuleB` available\n * wherever `ModuleA` is imported.\n *\n * ### Example\n *\n * The following example allows MainModule to use anything exported by\n * `CommonModule`:\n *\n * ```javascript\n * @NgModule({\n * imports: [CommonModule]\n * })\n * class MainModule {\n * }\n * ```\n *\n */\n imports?: Array<Type<any>|ModuleWithProviders<{}>|any[]>;\n\n /**\n * The set of components, directives, and pipes declared in this\n * NgModule that can be used in the template of any component that is part of an\n * NgModule that imports this NgModule. Exported declarations are the module's public API.\n *\n * A declarable belongs to one and only one NgModule.\n * A module can list another module among its exports, in which case all of that module's\n * public declaration are exported.\n *\n * @usageNotes\n *\n * Declarations are private by default.\n * If this ModuleA does not export UserComponent, then only the components within this\n * ModuleA can use UserComponent.\n *\n * ModuleA can import ModuleB and also export it, making exports from ModuleB\n * available to an NgModule that imports ModuleA.\n *\n * ### Example\n *\n * The following example exports the `NgFor` directive from CommonModule.\n *\n * ```javascript\n * @NgModule({\n * exports: [NgFor]\n * })\n * class CommonModule {\n * }\n * ```\n */\n exports?: Array<Type<any>|any[]>;\n\n /**\n * The set of components to compile when this NgModule is defined,\n * so that they can be dynamically loaded into the view.\n *\n * For each component listed here, Angular creates a `ComponentFactory`\n * and stores it in the `ComponentFactoryResolver`.\n *\n * Angular automatically adds components in the module's bootstrap\n * and route definitions into the `entryComponents` list. Use this\n * option to add components that are bootstrapped\n * using one of the imperative techniques, such as `ViewContainerRef.createComponent()`.\n *\n * @see [Entry Components](guide/entry-components)\n * @deprecated Since 9.0.0. With Ivy, this property is no longer necessary.\n */\n entryComponents?: Array<Type<any>|any[]>;\n\n /**\n *
The set of components that are bootstrapped when\n * this module is bootstrapped. The components listed here\n * are automatically added to `entryComponents`.\n */\n bootstrap?: Array<Type<any>|any[]>;\n\n /**\n * The set of schemas that declare elements to be allowed in the NgModule.\n * Elements and properties that are neither Angular components nor directives\n * must be declared in a schema.\n *\n * Allowed value are `NO_ERRORS_SCHEMA` and `CUSTOM_ELEMENTS_SCHEMA`.\n *\n * @security When using one of `NO_ERRORS_SCHEMA` or `CUSTOM_ELEMENTS_SCHEMA`\n * you must ensure that allowed elements and properties securely escape inputs.\n */\n schemas?: Array<SchemaMetadata|any[]>;\n\n /**\n * A name or path that uniquely identifies this NgModule in `getModuleFactory`.\n * If left `undefined`, the NgModule is not registered with\n * `getModuleFactory`.\n */\n id?: string;\n\n /**\n * When present, this module is ignored by the AOT compiler.\n * It remains
in distributed code, and the JIT compiler attempts to compile it\n * at run time, in the browser.\n * To ensure the correct behavior, the app must import `@angular/compiler`.\n */\n jit?: true;\n}\n\n/**\n * @Annotation\n * @publicApi\n */\nexport const NgModule: NgModuleDecorator = makeDecorator(\n 'NgModule', (ngModule: NgModule) => ngModule, undefined, undefined,\n /**\n * Decorator that marks the following class as an NgModule, and supplies\n * configuration metadata for it.\n *\n * * The `declarations` and `entryComponents` options configure the compiler\n * with information about what belongs to the NgModule.\n * * The `providers` options configures the NgModule's injector to provide\n * dependencies the NgModule members.\n * * The `imports` and `exports` options bring in members from other modules, and make\n * this module's members available to others.\n */\n (type: Type<any>, meta: NgModule) => SWITCH_COMPILE_NGMODULE(type,
meta));\n\n\nfunction preR3NgModuleCompile(moduleType: Type<any>, metadata?: NgModule): void {\n let imports = (metadata && metadata.imports) || [];\n if (metadata && metadata.exports) {\n imports = [...imports, metadata.exports];\n }\n\n (moduleType as InjectorType<any>).inj = defineInjector({\n factory: convertInjectableProviderToFactory(moduleType, {useClass: moduleType}),\n providers: metadata &&

metadata.providers,\n    imports: imports,\n  });\n}\n\n\nexport const SWITCH_COMPILE_NGMODULE__POST_R3__ = render3CompileNgModule;\nconst SWITCH_COMPILE_NGMODULE__PRE_R3__ = preR3NgModuleCompile;\nconst SWITCH_COMPILE_NGMODULE: typeof render3CompileNgModule = SWITCH_COMPILE_NGMODULE__PRE_R3__;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * This indirection is needed to free up Component, etc symbols in the public API\n * to be used by the decorator versions of these annotations.\n */\n\n\nexport {Attribute, AttributeDecorator} from './di/metadata_attr';\nexport {AfterContentChecked, AfterContentInit, AfterViewChecked, AfterViewInit, DoCheck, OnChanges, OnDestroy, OnInit} from './interface/lifecycle_hooks';\nexport {ANALYZE_FOR_ENTRY_COMPONENTS, ContentChild, ContentChildDecorator, ContentChildren, ContentChildrenDecorator, Query, ViewChild, ViewChildDecorator, ViewChildren, ViewChildrenDecorator} from './metadata/di';\nexport {Component, ComponentDecorator, Directive, DirectiveDecorator, HostBinding, HostBindingDecorator, HostListener, HostListenerDecorator, Input, InputDecorator, Output, OutputDecorator, Pipe, PipeDecorator} from './metadata/directives';\nexport {DoBootstrap} from './metadata/do_boostrap';\nexport {ModuleWithProviders, NgModule, NgModuleDecorator} from './metadata/ng_module';\nexport {CUSTOM_ELEMENTS_SCHEMA, NO_ERRORS_SCHEMA, SchemaMetadata} from './metadata/schema';\nexport {ViewEncapsulation} from './metadata/view';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\ndeclare global {\n  const ngJitMode: boolean;\n}\n\n// Make this an ES module to be able to augment the global scope\nexport {};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Inject, Injectable, InjectionToken, Optional} from './di';\nimport {isPromise} from './util/lang';\nimport {noop} from './util/noop';\n\n\n/**\n * A [DI token](guide/glossary#di-token \"DI token definition\") that you can use to provide\n * one or more initialization functions.\n *\n * The provided functions are injected at application startup and executed during\n * app initialization. If any of these functions returns a Promise, initialization\n * does not complete until the Promise is resolved.\n *\n * You can, for example, create a factory function that loads language data\n * or an external configuration, and provide that function to the `APP_INITIALIZER` token.\n * The function is executed during the application bootstrap process,\n * and the needed data is available on startup.\n *\n * @see `ApplicationInitStatus`\n *\n * @publicApi\n */\nexport const APP_INITIALIZER = new InjectionToken<Array<() => void>>('Application Initializer');\n\n/**\n * A class that reflects the state of running {@link APP_INITIALIZER} functions.\n *\n * @publicApi\n */\n@Injectable()\nexport class ApplicationInitStatus {\n  private resolve = noop;\n  private reject = noop;\n  private initialized = false;\n  public readonly donePromise: Promise<any>;\n  public readonly done = false;\n\n  constructor(@Inject(APP_INITIALIZER) @Optional() private appInits: (() => any)[]) {\n    this.donePromise = new Promise((res, rej) => {\n      this.resolve = res;\n      this.reject = rej;\n    });\n  }\n\n  /** @internal */\n  runInitializers() {\n    if (this.initialized) {\n      return;\n    }\n\n    const asyncInitPromises: Promise<any>[] = [];\n\n    const complete = () => {\n      (this as {done: boolean}).done = true;\n      this.resolve();\n    };\n\n    if (this.appInits) {\n      for (let i = 0; i < this.appInits.length; i++) {\n        const initResult = this.appInits[i]();\n        if (isPromise(initResult)) {\n          asyncInitPromises.push(initResult);\n        }\n      }\n    }\n\n    Promise.all(asyncInitPromises)\n        .then(() => {\n          complete();\n        })\n        .catch(e => {\n          this.reject(e);\n        });\n\n    if (asyncInitPromises.length === 0) {\n      complete();\n    }\n    this.initialized = true;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from './di';\nimport {ComponentRef} from './linker/component_factory';\n\n\n/**\n * A [DI

token](guide/glossary#di-token \"DI token definition\") representing a unique string ID, used\n * primarily for prefixing application attributes and CSS styles when\n * {@link ViewEncapsulation#Emulated ViewEncapsulation.Emulated} is being used.\n *\n * BY default, the value is randomly generated and assigned to the application by Angular.\n * To provide a custom ID value, use a DI provider <!-- TODO: provider --> to configure\n * the root {@link Injector} that uses this token.\n *\n * @publicApi\n */\nexport const APP_ID = new InjectionToken<string>('AppId');\n\nexport function _appIdRandomProviderFactory() {\n  return `${_randomChar()}${_randomChar()}${_randomChar()}`;\n}\n\n/**\n * Providers that generate a random `APP_ID_TOKEN`.\n * @publicApi\n */\nexport const
 APP_ID_RANDOM_PROVIDER = {\n  provide: APP_ID,\n  useFactory: _appIdRandomProviderFactory,\n  deps: <any[]>[],\n};\n\nfunction _randomChar(): string {\n  return String.fromCharCode(97 + Math.floor(Math.random() * 25));\n}\n\n/**\n * A function that is executed when a platform is initialized.\n * @publicApi\n */\nexport const PLATFORM_INITIALIZER = new InjectionToken<Array<() => void>>('Platform Initializer');\n\n/**\n * A token that indicates an opaque platform ID.\n * @publicApi\n */\nexport const PLATFORM_ID = new InjectionToken<Object>('Platform ID');\n\n/**\n * A [DI token](guide/glossary#di-token \"DI token definition\") that provides a set of callbacks to\n * be called for every component that is bootstrapped.\n *\n * Each callback must take a `ComponentRef` instance and return nothing.\n *\n * `(componentRef: ComponentRef) => void`\n *\n * @publicApi\n */\nexport const APP_BOOTSTRAP_LISTENER =\n    new InjectionToken<Array<(compRef: ComponentRef<any>) => void>>('appBootstrapListener');\n\n/**\n
 * A [DI token](guide/glossary#di-token \"DI token definition\") that indicates the root directory of\n * the application\n * @publicApi\n */\nexport const PACKAGE_ROOT_URL = new InjectionToken<string>('Application Packages Root URL');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable} from './di';\n\n@Injectable()\nexport class Console {\n  log(message: string): void {\n    // tslint:disable-next-line:no-console\n    console.log(message);\n  }\n  // Note: for reporting errors use `DOM.logError()` as it is platform specific\n  warn(message: string): void {\n    // tslint:disable-next-line:no-console\n    console.warn(message);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {InjectionToken} from '../di/injection_token';\n\n/**\n * Provide this token to set the locale of your application.\n * It is used for i18n extraction, by i18n pipes (DatePipe, I18nPluralPipe, CurrencyPipe,\n * DecimalPipe and PercentPipe) and by ICU expressions.\n *\n * See the [i18n guide](guide/i18n#setting-up-locale) for more information.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * import { LOCALE_ID } from '@angular/core';\n * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n * import { AppModule } from './app/app.module';\n *\n * platformBrowserDynamic().bootstrapModule(AppModule, {\n *   providers: [{provide: LOCALE_ID, useValue: 'en-US' }]\n * });\n * ```\n *\n * @publicApi\n */\nexport const LOCALE_ID = new InjectionToken<string>('LocaleId');\n\n/**\n * Provide this token to set the default currency code your application uses for\n * CurrencyPipe when there is no currency
 code passed into it. This is only used by\n * CurrencyPipe and has no relation to locale currency. Defaults to USD if not configured.\n *\n * See the [i18n guide](guide/i18n#setting-up-locale) for more information.\n *\n * <div class=\"alert is-helpful\">\n *\n * **Deprecation notice:**\n *\n * The default currency code is currently always `USD` but this is deprecated from v9.\n *\n * **In v10 the default currency code will be taken from the current locale.**\n *\n * If you need the previous behavior then set it by creating a `DEFAULT_CURRENCY_CODE` provider in\n * your application `NgModule`:\n *\n * ```ts\n * {provide: DEFAULT_CURRENCY_CODE, useValue: 'USD'}\n * ```\n *\n * \n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n * import { AppModule } from './app/app.module';\n *\n * platformBrowserDynamic().bootstrapModule(AppModule, {\n *   providers: [{provide: DEFAULT_CURRENCY_CODE,

useValue: 'EUR' }]\n * });\n * ```\n *\n * @publicApi\n */\nexport const DEFAULT_CURRENCY_CODE = new InjectionToken<string>('DefaultCurrencyCode');\n\n/**\n * Use this token at bootstrap to provide the content of your translation file (`xtb`,\n * `xlf` or `xlf2`) when you want to translate your application in another language.\n *\n * See the [i18n guide](guide/i18n#merge) for more information.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * import { TRANSLATIONS } from '@angular/core';\n * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n * import { AppModule } from './app/app.module';\n *\n * // content of your translation file\n * const translations = '....';\n *\n * platformBrowserDynamic().bootstrapModule(AppModule, {\n *    providers: [{provide: TRANSLATIONS, useValue: translations }]\n * });\n * ```\n *\n * @publicApi\n */\nexport const TRANSLATIONS = new InjectionToken<string>('Translations');\n\n/**\n * Provide this token at bootstrap to
set the format of your {@link TRANSLATIONS}: `xtb`,\n * `xlf` or `xlf2`.\n *\n * See the [i18n guide](guide/i18n#merge) for more information.\n *\n * @usageNotes\n * ### Example\n *\n * ```typescript\n * import { TRANSLATIONS_FORMAT } from '@angular/core';\n * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n * import { AppModule } from './app/app.module';\n *\n * platformBrowserDynamic().bootstrapModule(AppModule, {\n *    providers: [{provide: TRANSLATIONS_FORMAT, useValue: 'xlf' }]\n * });\n * ```\n *\n * @publicApi\n */\nexport const TRANSLATIONS_FORMAT = new InjectionToken<string>('TranslationsFormat');\n\n/**\n * Use this enum at bootstrap as an option of `bootstrapModule` to define the strategy\n * that the compiler should use in case of missing translations:\n * - Error: throw if you have missing translations.\n * - Warning (default): show a warning in the console and/or shell.\n * - Ignore: do nothing.\n *\n * See the [i18n guide](guide/i18n#missing-translation)
for more information.\n *\n * @usageNotes\n * ### Example\n * ```typescript\n * import { MissingTranslationStrategy } from '@angular/core';\n * import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';\n * import { AppModule } from './app/app.module';\n *\n * platformBrowserDynamic().bootstrapModule(AppModule, {\n *    missingTranslation: MissingTranslationStrategy.Error\n * });\n * ```\n *\n * @publicApi\n */\nexport enum MissingTranslationStrategy {\n  Error = 0,\n  Warning = 1,\n  Ignore = 2,\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport const SWITCH_IVY_ENABLED__POST_R3__ = true;\nconst SWITCH_IVY_ENABLED__PRE_R3__ = false;\nexport const ivyEnabled = SWITCH_IVY_ENABLED__PRE_R3__;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code
is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable} from '../di/injectable';\nimport {InjectionToken} from '../di/injection_token';\nimport {StaticProvider} from '../di/interface/provider';\nimport {MissingTranslationStrategy} from '../i18n/tokens';\nimport {Type} from '../interface/type';\nimport {ViewEncapsulation} from '../metadata/view';\nimport {ComponentFactory as ComponentFactoryR3} from '../render3/component_ref';\nimport {getComponentDef, getNgModuleDef} from '../render3/definition';\nimport {NgModuleFactory as NgModuleFactoryR3} from '../render3/ng_module_ref';\nimport {maybeUnwrapFn} from '../render3/util/misc_utils';\n\nimport {ComponentFactory} from './component_factory';\nimport {NgModuleFactory} from './ng_module_factory';\n\n\n\n/**\n * Combination of NgModuleFactory and ComponentFactorys.\n *\n * @publicApi\n */\nexport class ModuleWithComponentFactories<T> {\n  constructor(\n      public ngModuleFactory: NgModuleFactory<T>,\n      public componentFactories: ComponentFactory<any>[]) {}\n}\n\n\nfunction _throwError() {\n  throw new Error(`Runtime compiler is not loaded`);\n}\n\nconst Compiler_compileModuleSync__PRE_R3__: <T>(moduleType: Type<T>) => NgModuleFactory<T> =\n    _throwError as any;\nexport const Compiler_compileModuleSync__POST_R3__: <T>(moduleType: Type<T>) =>\n    NgModuleFactory<T> = function<T>(moduleType: Type<T>): NgModuleFactory<T> {\n  return new NgModuleFactoryR3(moduleType);\n};\nconst Compiler_compileModuleSync = Compiler_compileModuleSync__PRE_R3__;\n\nconst Compiler_compileModuleAsync__PRE_R3__:

<T>(moduleType: Type<T>) =>\n Promise<NgModuleFactory<T>> = _throwError as any;\nexport const Compiler_compileModuleAsync__POST_R3__: <T>(moduleType: Type<T>) =>\n Promise<NgModuleFactory<T>> = function<T>(moduleType: Type<T>): Promise<NgModuleFactory<T>> {\n return Promise.resolve(Compiler_compileModuleSync__POST_R3__(moduleType));\n};\nconst Compiler_compileModuleAsync = Compiler_compileModuleAsync__PRE_R3__;\n\nconst Compiler_compileModuleAndAllComponentsSync__PRE_R3__: <T>(moduleType: Type<T>) =>\n ModuleWithComponentFactories<T> = _throwError as any;\nexport const Compiler_compileModuleAndAllComponentsSync__POST_R3__: <T>(moduleType: Type<T>) =>\n ModuleWithComponentFactories<T> = function<T>(moduleType: Type<T>):\n ModuleWithComponentFactories<T> {\n const ngModuleFactory = Compiler_compileModuleSync__POST_R3__(moduleType);\n const moduleDef = getNgModuleDef(moduleType)!;\n const componentFactories =\n maybeUnwrapFn(moduleDef.declarations)\n .reduce((factories: ComponentFactory<any>[], declaration: Type<any>) => {\n const componentDef = getComponentDef(declaration);\n componentDef && factories.push(new ComponentFactoryR3(componentDef));\n return factories;\n }, [] as ComponentFactory<any>[]);\n return new ModuleWithComponentFactories(ngModuleFactory,\n componentFactories);\n};\nconst Compiler_compileModuleAndAllComponentsSync =\n Compiler_compileModuleAndAllComponentsSync__PRE_R3__;\n\nconst Compiler_compileModuleAndAllComponentsAsync__PRE_R3__: <T>(moduleType: Type<T>) =>\n Promise<ModuleWithComponentFactories<T>> = _throwError as any;\nexport const Compiler_compileModuleAndAllComponentsAsync__POST_R3__: <T>(moduleType: Type<T>) =>\n Promise<ModuleWithComponentFactories<T>> = function<T>(moduleType: Type<T>):\n Promise<ModuleWithComponentFactories<T>> {\n return Promise.resolve(Compiler_compileModuleAndAllComponentsSync__POST_R3__(moduleType));\n};\nconst Compiler_compileModuleAndAllComponentsAsync =\n Compiler_compileModuleAndAllComponentsAsync__PRE_R3__;\n\n/**\n * Low-level service for running the angular compiler during runtime\n * to create {@link ComponentFactory}s, which\n * can later be used to create and render a Component instance.\n *\n * Each `@NgModule` provides an own `Compiler` to its injector,\n * that will use the directives/pipes of the ng module for compilation\n * of components.\n *\n * @publicApi\n */\n@Injectable()\nexport class Compiler {\n /**\n * Compiles the given NgModule and all of its components. All templates of the components listed\n * in `entryComponents` have to be inlined.\n */\n compileModuleSync: <T>(moduleType: Type<T>) => NgModuleFactory<T> = Compiler_compileModuleSync;\n\n /**\n * Compiles the given NgModule and all of its components\n */\n compileModuleAsync:\n <T>(moduleType: Type<T>) => Promise<NgModuleFactory<T>> = Compiler_compileModuleAsync;\n\n /**\n * Same as {@link #compileModuleSync} but also creates ComponentFactories for all components.\n */\n compileModuleAndAllComponentsSync: <T>(moduleType: Type<T>) => ModuleWithComponentFactories<T>\n =\n Compiler_compileModuleAndAllComponentsSync;\n\n /**\n * Same as {@link #compileModuleAsync} but also creates ComponentFactories for all components.\n */\n compileModuleAndAllComponentsAsync:\n <T>(moduleType: Type<T>) =>\n Promise<ModuleWithComponentFactories<T>> = Compiler_compileModuleAndAllComponentsAsync;\n\n /**\n * Clears all caches.\n */\n clearCache(): void {}\n\n /**\n * Clears the cache for the given component/ngModule.\n */\n clearCacheFor(type: Type<any>) {}\n\n /**\n * Returns the id for a given NgModule, if one is defined and known to the compiler.\n */\n getModuleId(moduleType: Type<any>): string|undefined {\n return undefined;\n }\n}\n\n/**\n * Options for creating a compiler\n *\n * @publicApi\n */\nexport type CompilerOptions = {\n useJit?: boolean,\n defaultEncapsulation?: ViewEncapsulation,\n providers?: StaticProvider[],\n missingTranslation?: MissingTranslationStrategy,\n preserveWhitespaces?: boolean,\n};\n\n/**\n * Token to provide CompilerOptions in the platform injector.\n *\n * @publicApi\n */\nexport const COMPILER_OPTIONS = new InjectionToken<CompilerOptions[]>('compilerOptions');\n\n/**\n

* A factory for creating a Compiler\n *\n * @publicApi\n */\nexport abstract class CompilerFactory {\n abstract createCompiler(options?: CompilerOptions[]): Compiler;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nconst promise: Promise<any> = (() => Promise.resolve(0))();\n\ndeclare const Zone: any;\n\nexport function scheduleMicroTask(fn: Function) {\n if (typeof Zone === 'undefined') {\n // use promise to schedule microTask instead of use Zone\n promise.then(() => {\n fn && fn.apply(null, null);\n });\n } else {\n Zone.current.scheduleMicroTask('scheduleMicrotask', fn);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {global} from './global';\n\nexport function getNativeRequestAnimationFrame() {\n let nativeRequestAnimationFrame: (callback: FrameRequestCallback) => number =\n global['requestAnimationFrame'];\n let nativeCancelAnimationFrame: (handle: number) => void = global['cancelAnimationFrame'];\n if (typeof Zone !== 'undefined' && nativeRequestAnimationFrame && nativeCancelAnimationFrame) {\n // use unpatched version of requestAnimationFrame(native delegate) if possible\n // to avoid another Change detection\n const unpatchedRequestAnimationFrame =\n (nativeRequestAnimationFrame as any)[(Zone as any).__symbol__('OriginalDelegate')];\n if (unpatchedRequestAnimationFrame) {\n nativeRequestAnimationFrame = unpatchedRequestAnimationFrame;\n }\n const unpatchedCancelAnimationFrame =\n (nativeCancelAnimationFrame as any)[(Zone as any).__symbol__('OriginalDelegate')];\n if (unpatchedCancelAnimationFrame) {\n nativeCancelAnimationFrame = unpatchedCancelAnimationFrame;\n }\n }\n return {nativeRequestAnimationFrame, nativeCancelAnimationFrame};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {EventEmitter} from '../event_emitter';\nimport {global} from '../util/global';\nimport {noop} from '../util/noop';\nimport {getNativeRequestAnimationFrame} from '../util/raf';\n\n\n/**\n * An injectable service for executing work inside or outside of the Angular zone.\n *\n * The most common use of this service is to optimize performance when starting a work consisting of\n * one or more asynchronous tasks that don't require UI updates or error handling to be handled by\n * Angular. Such tasks can be kicked off via {@link #runOutsideAngular} and if needed, these tasks\n * can reenter the Angular zone via {@link #run}.\n *\n * <!-- TODO: add/fix links to:\n * - docs explaining zones and the use of zones in Angular and change-detection\n * - link to runOutsideAngular/run (throughout this file!)\n * -->\n *\n * @usageNotes\n * ### Example\n *\n * ```\n * import {Component, NgZone} from '@angular/core';\n * import {NgIf} from '@angular/common';\n *\n * @Component({\n * selector: 'ng-zone-demo',\n * template: `\n * <h2>Demo: NgZone</h2>\n *\n * <p>Progress: {{progress}}%</p>\n * <p *ngIf=\"progress >= 100\">Done processing {{label}} of Angular zone!</p>\n *\n * <button (click)=\"processWithinAngularZone()\">Process within Angular zone</button>\n * <button (click)=\"processOutsideOfAngularZone()\">Process outside of Angular zone</button>\n * `,\n * })\n * export class NgZoneDemo {\n * progress: number = 0;\n * label: string;\n *\n * constructor(private _ngZone: NgZone) {}\n *\n * // Loop inside the Angular zone\n * // so the UI DOES refresh after each setTimeout cycle\n * processWithinAngularZone() {\n * this.label = 'inside';\n * this.progress = 0;\n * this._increaseProgress(() => console.log('Inside Done!'));\n * }\n *\n * // Loop outside of the Angular zone\n * // so the UI DOES NOT refresh after each setTimeout cycle\n * processOutsideOfAngularZone() {\n * this.label = 'outside';\n * this.progress = 0;\n * this._ngZone.runOutsideAngular(() => {\n * this._increaseProgress(() => {\n * // reenter the Angular zone and display done\n * this._ngZone.run(() => { console.log('Outside Done!'); });\n * });\n * });\n * }\n *\n * _increaseProgress(doneCallback: () => void) {\n * this.progress += 1;\n * console.log(`Current progress: ${this.progress}%`);\n *\n * if (this.progress < 100) {\n * window.setTimeout(() => this._increaseProgress(doneCallback), 10);\n * } else {\n * doneCallback();\n * }\n * }\n * }\n * ```\n *\n

```
* @publicApi\n */\nexport class NgZone {\n  readonly hasPendingMacrotasks:
 boolean = false;\n  readonly hasPendingMicrotasks: boolean = false;\n\n  /**\n   * Whether there are no outstanding
microtasks or macrotasks.\n   */\n  readonly isStable: boolean = true;\n\n  /**\n   * Notifies when code enters
Angular Zone. This gets fired first on VM Turn.\n   */\n  readonly onUnstable: EventEmitter<any> = new
EventEmitter(false);\n\n  /**\n   * Notifies when there is no more microtasks enqueued in the current VM Turn.\n   *
This is a hint for Angular to do change detection, which may enqueue more microtasks.\n   * For this reason this
event can fire multiple times per VM Turn.\n   */\n  readonly onMicrotaskEmpty: EventEmitter<any> = new
EventEmitter(false);\n\n  /**\n   * Notifies when the last `onMicrotaskEmpty` has run and there are no more
microtasks, which\n   * implies we are about to relinquish VM turn.\n   * This event gets called just once.\n   */\n
readonly onStable: EventEmitter<any> = new EventEmitter(false);\n\n  /**\n   * Notifies that an error has been
 delivered.\n   */\n  readonly onError: EventEmitter<any> = new EventEmitter(false);\n\n\n
constructor({enableLongStackTrace = false, shouldCoalesceEventChangeDetection = false}) {\n    if (typeof Zone
== 'undefined') {\n      throw new Error(`In this configuration Angular requires Zone.js`);\n    }\n\n
Zone.assertZonePatched();\n    const self = this as any as NgZonePrivate;\n    self._nesting = 0;\n\n    self._outer =
self._inner = Zone.current;\n\n    if ((Zone as any)['TaskTrackingZoneSpec']) {\n      self._inner =
self._inner.fork(new ((Zone as any)['TaskTrackingZoneSpec'] as any));\n    }\n\n    if (enableLongStackTrace &&
(Zone as any)['longStackTraceZoneSpec']) {\n      self._inner = self._inner.fork((Zone as
any)['longStackTraceZoneSpec']);\n    }\n\n    self.shouldCoalesceEventChangeDetection =
shouldCoalesceEventChangeDetection;\n    self.lastRequestAnimationFrameId = -1;\n
self.nativeRequestAnimationFrame = getNativeRequestAnimationFrame().nativeRequestAnimationFrame;\n
    forkInnerZoneWithAngularBehavior(self);\n  }\n\n  static isInAngularZone(): boolean {\n    return
Zone.current.get('isAngularZone') === true;\n  }\n\n  static assertInAngularZone(): void {\n    if
(!NgZone.isInAngularZone()) {\n      throw new Error('Expected to be in Angular Zone, but it is not!');\n    }\n  }\n\n
static assertNotInAngularZone(): void {\n    if (NgZone.isInAngularZone()) {\n      throw new Error('Expected to not
be in Angular Zone, but it is!');\n    }\n  }\n\n  /**\n   * Executes the `fn` function synchronously within the Angular
zone and returns value returned by\n   * the function.\n   *\n   * Running functions via `run` allows you to reenter
Angular zone from a task that was executed\n   * outside of the Angular zone (typically started via {@link
#runOutsideAngular}).\n   *\n   * Any future tasks or microtasks scheduled from within this function will continue
executing from\n   * within the Angular zone.\n   *\n   * If a synchronous error happens it will
 be rethrown and not reported via `onError`.\n   */\n  run<T>(fn: (...args: any[]) => T, applyThis?: any, applyArgs?:
any[]): T {\n    return (this as any as NgZonePrivate)._inner.run(fn, applyThis, applyArgs);\n  }\n\n  /**\n   *
Executes the `fn` function synchronously within the Angular zone as a task and returns value\n   * returned by the
function.\n   *\n   * Running functions via `run` allows you to reenter Angular zone from a task that was executed\n
* outside of the Angular zone (typically started via {@link #runOutsideAngular}).\n   *\n   * Any future tasks or
microtasks scheduled from within this function will continue executing from\n   * within the Angular zone.\n   *\n
* If a synchronous error happens it will be rethrown and not reported via `onError`.\n   */\n  runTask<T>(fn: (...args:
any[]) => T, applyThis?: any, applyArgs?: any[], name?: string): T {\n    const zone = (this as any as
NgZonePrivate)._inner;\n    const task = zone.scheduleEventTask('NgZoneEvent: ' +
 name, fn, EMPTY_PAYLOAD, noop, noop);\n    try {\n      return zone.runTask(task, applyThis, applyArgs);\n    }
finally {\n      zone.cancelTask(task);\n    }\n  }\n\n  /**\n   * Same as `run`, except that synchronous errors are
caught and forwarded via `onError` and not\n   * rethrown.\n   */\n  runGuarded<T>(fn: (...args: any[]) => T,
applyThis?: any, applyArgs?: any[]): T {\n    return (this as any as NgZonePrivate)._inner.runGuarded(fn,
applyThis, applyArgs);\n  }\n\n  /**\n   * Executes the `fn` function synchronously in Angular's parent zone and
returns value returned by\n   * the function.\n   *\n   * Running functions via {@link #runOutsideAngular} allows
you to escape Angular's zone and do\n   * work that\n   * doesn't trigger Angular change-detection or is subject to
Angular's error handling.\n   *\n   * Any future tasks or microtasks scheduled from within this function will continue
executing from\n   * outside of the Angular zone.\n   *\n   * Use {@link #run} to reenter the
```

Angular zone and do work that updates the application model.\n */\n runOutsideAngular<T>(fn: (...args: any[]) => T): T {\n return (this as any as NgZonePrivate)._outer.run(fn);\n }\n}\n\nconst EMPTY_PAYLOAD = {};\n\ninterface NgZonePrivate extends NgZone {\n _outer: Zone;\n _inner: Zone;\n _nesting: number;\n _hasPendingMicrotasks: boolean;\n\n hasPendingMacrotasks: boolean;\n hasPendingMicrotasks: boolean;\n lastRequestAnimationFrameId: number;\n isStable: boolean;\n shouldCoalesceEventChangeDetection: boolean;\n nativeRequestAnimationFrame: (callback: FrameRequestCallback) => number;\n\n // Cache of \"fake\" top eventTask. This is done so that we don't need to schedule a new task every\n // time we want to run a `checkStable`.\n fakeTopEventTask: Task;\n}\n\nfunction checkStable(zone: NgZonePrivate) {\n if (zone._nesting == 0 && !zone.hasPendingMicrotasks && !zone.isStable) {\n try {\n zone._nesting++;\n zone.onMicrotaskEmpty.emit(null);\n } finally {\n zone._nesting--;\n if (!zone.hasPendingMicrotasks) {\n try {\n zone.runOutsideAngular(() => zone.onStable.emit(null));\n } finally {\n zone.isStable = true;\n }\n }\n }\n }\n}\n\nfunction delayChangeDetectionForEvents(zone: NgZonePrivate) {\n if (zone.lastRequestAnimationFrameId !== -1) {\n return;\n }\n zone.lastRequestAnimationFrameId = zone.nativeRequestAnimationFrame.call(global, () => {\n // This is a work around for https://github.com/angular/angular/issues/36839.\n // The core issue is that when event coalescing is enabled it is possible for microtasks\n // to get flushed too early (As is the case with `Promise.then`) between the\n // coalescing eventTasks.\n //\n // To workaround this we schedule a \"fake\" eventTask before we process the\n // coalescing eventTasks. The benefit of this is that the \"fake\" container eventTask\n // will prevent the microtasks queue from getting drained in between the coalescing\n // eventTask execution.\n if (!zone.fakeTopEventTask) {\n zone.fakeTopEventTask = Zone.root.scheduleEventTask('fakeTopEventTask', () => {\n zone.lastRequestAnimationFrameId = -1;\n updateMicroTaskStatus(zone);\n checkStable(zone);\n }, undefined, () => {}, () => {});\n }\n zone.fakeTopEventTask.invoke();\n });\n updateMicroTaskStatus(zone);\n}\n\nfunction forkInnerZoneWithAngularBehavior(zone: NgZonePrivate) {\n const delayChangeDetectionForEventsDelegate = () => {\n delayChangeDetectionForEvents(zone);\n };\n const maybeDelayChangeDetection = !!zone.shouldCoalesceEventChangeDetection &&\n zone.nativeRequestAnimationFrame && delayChangeDetectionForEventsDelegate;\n zone._inner = zone._inner.fork({\n name: 'angular',\n properties:\n <any>{'isAngularZone': true, 'maybeDelayChangeDetection': maybeDelayChangeDetection},\n onInvokeTask:\n (delegate: ZoneDelegate, current: Zone, target: Zone, task: Task, applyThis: any,\n applyArgs: any): any => {\n try {\n onEnter(zone);\n return delegate.invokeTask(target, task, applyThis, applyArgs);\n } finally {\n if (maybeDelayChangeDetection && task.type === 'eventTask') {\n maybeDelayChangeDetection();\n }\n onLeave(zone);\n }\n },\n\n onInvoke:\n (delegate: ZoneDelegate, current: Zone, target: Zone, callback: Function, applyThis: any,\n applyArgs?: any[], source?: string): any => {\n try {\n onEnter(zone);\n return delegate.invoke(target, callback, applyThis, applyArgs, source);\n } finally {\n onLeave(zone);\n }\n },\n\n onHasTask:\n (delegate: ZoneDelegate, current: Zone, target: Zone, hasTaskState: HasTaskState) => {\n delegate.hasTask(target, hasTaskState);\n if (current === target) {\n // We are only interested in hasTask events which originate from our zone\n // (A child hasTask event is not interesting to us)\n if (hasTaskState.change == 'microTask') {\n zone._hasPendingMicrotasks = hasTaskState.microTask;\n updateMicroTaskStatus(zone);\n checkStable(zone);\n } else if (hasTaskState.change == 'macroTask') {\n zone.hasPendingMacrotasks = hasTaskState.macroTask;\n }\n }\n },\n\n onHandleError: (delegate: ZoneDelegate, current: Zone, target: Zone, error: any): boolean => {\n delegate.handleError(target, error);\n zone.runOutsideAngular(() => zone.onError.emit(error));\n return false;\n }\n });\n}\n\nfunction updateMicroTaskStatus(zone: NgZonePrivate) {\n if (zone._hasPendingMicrotasks ||\n (zone.shouldCoalesceEventChangeDetection &&\n zone.lastRequestAnimationFrameId !== -1)) {\n zone.hasPendingMicrotasks = true;\n } else {\n

zone.hasPendingMicrotasks = false;\n }\n}\n\nfunction onEnter(zone: NgZonePrivate) {\n zone._nesting++;\n if (zone.isStable) {\n zone.isStable = false;\n zone.onUnstable.emit(null);\n }\n}\n\nfunction onLeave(zone: NgZonePrivate) {\n zone._nesting--;\n checkStable(zone);\n}\n\n/**\n * Provides a noop implementation of `NgZone` which does nothing. This zone requires explicit calls\n * to framework to perform rendering.\n */\nexport class NoopNgZone implements NgZone {\n readonly hasPendingMicrotasks: boolean = false;\n readonly hasPendingMacrotasks: boolean = false;\n readonly isStable: boolean = true;\n readonly onUnstable: EventEmitter<any> = new EventEmitter();\n readonly onMicrotaskEmpty: EventEmitter<any> = new EventEmitter();\n readonly onStable: EventEmitter<any> = new EventEmitter();\n readonly onError: EventEmitter<any> = new EventEmitter();\n\n run<T>(fn: (...args: any[]) => T, applyThis?: any, applyArgs?: any): T {\n return fn.apply(applyThis, applyArgs);\n }\n\n runGuarded<T>(fn: (...args: any[]) => any, applyThis?: any, applyArgs?: any): T {\n return fn.apply(applyThis, applyArgs);\n }\n\n runOutsideAngular<T>(fn: (...args: any[]) => T): T {\n return fn();\n }\n\n runTask<T>(fn: (...args: any[]) => T, applyThis?: any, applyArgs?: any, name?: string): T {\n return fn.apply(applyThis, applyArgs);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injectable} from '../di';\nimport {scheduleMicroTask} from '../util/microtask';\nimport {NgZone} from '../zone/ng_zone';\n\n/**\n * Testability API.\n * `declare` keyword causes tsickle to generate externs, so these methods are\n * not renamed by Closure Compiler.\n * @publicApi\n */\nexport declare interface PublicTestability {\n isStable(): boolean;\n whenStable(callback: Function, timeout?: number, updateCallback?: Function): void;\n findProviders(using: any, provider: string, exactMatch: boolean): any[];\n}\n\n// Angular internal, not intended for public API.\nexport interface PendingMacrotask {\n source: string;\n creationLocation: Error;\n runCount?: number;\n data?: TaskData;\n}\n\nexport interface TaskData {\n target?: XMLHttpRequest;\n delay?: number;\n isPeriodic?: boolean;\n}\n\n// Angular internal, not intended for public API.\nexport type DoneCallback = (didWork: boolean, tasks?: PendingMacrotask[]) => void;\nexport type UpdateCallback = (tasks: PendingMacrotask[]) => boolean;\n\ninterface WaitCallback {\n // Needs to be 'any' - setTimeout returns a number according to ES6, but\n // on NodeJS it returns a Timer.\n timeoutId: any;\n doneCb: DoneCallback;\n updateCb?: UpdateCallback;\n}\n\n/**\n * The Testability service provides testing hooks that can be accessed from\n * the browser and by services such as Protractor. Each bootstrapped Angular\n * application on the page will have an instance of Testability.\n * @publicApi\n */\n@Injectable()\nexport class Testability implements PublicTestability {\n private _pendingCount: number = 0;\n private _isZoneStable: boolean = true;\n /**\n * Whether any work was done since the last 'whenStable' callback. This is\n * useful to detect if this could have potentially destabilized another\n * component while it is stabilizing.\n * @internal\n */\n private _didWork: boolean = false;\n private _callbacks: WaitCallback[] = [];\n\n private taskTrackingZone: {macroTasks: Task[]}|null = null;\n\n constructor(private _ngZone: NgZone) {\n this._watchAngularEvents();\n _ngZone.run(() => {\n this.taskTrackingZone =\n typeof Zone == 'undefined' ? null : Zone.current.get('TaskTrackingZone');\n });\n }\n\n private _watchAngularEvents(): void {\n this._ngZone.onUnstable.subscribe({\n next: () => {\n this._didWork = true;\n this._isZoneStable = false;\n }\n });\n\n this._ngZone.runOutsideAngular(() => {\n this._ngZone.onStable.subscribe({\n next: () => {\n NgZone.assertNotInAngularZone();\n scheduleMicroTask(() => {\n this._isZoneStable = true;\n this._runCallbacksIfReady();\n });\n }\n });\n });\n }\n\n /**\n * Increases the number of pending request\n * @deprecated pending requests are now tracked with zones.\n */\n increasePendingRequestCount(): number {\n this._pendingCount += 1;\n this._didWork = true;\n return this._pendingCount;\n }\n\n /**\n * Decreases the number of pending request\n * @deprecated pending requests are now tracked with zones\n */\n decreasePendingRequestCount(): number {\n this._pendingCount -= 1;\n if (this._pendingCount < 0) {\n throw new Error('pending async requests below zero');\n }\n this._runCallbacksIfReady();\n return this._pendingCount;\n }\n\n /**\n * Whether an associated application is stable\n */\n isStable(): boolean {\n return this._isZoneStable && this._pendingCount === 0 && !this._ngZone.hasPendingMacrotasks;\n }\n\n private _runCallbacksIfReady(): void

{\n if (this.isStable()) {\n // Schedules the call backs in a new frame so that it is always async.\n scheduleMicroTask(() => {\n while (this._callbacks.length !== 0) {\n let cb = this._callbacks.pop()!;\n clearTimeout(cb.timeoutId);\n cb.doneCb(this._didWork);\n }\n this._didWork = false;\n });\n } else {\n // Still not stable, send updates.\n let pending = this.getPendingTasks();\n this._callbacks = this._callbacks.filter((cb) => {\n if (cb.updateCb && cb.updateCb(pending)) {\n clearTimeout(cb.timeoutId);\n return false;\n }\n\n return true;\n });\n\n this._didWork = true;\n }\n }\n\n private getPendingTasks(): PendingMacrotask[] {\n if (!this.taskTrackingZone) {\n return [];\n }\n\n // Copy the tasks data so that we don't leak tasks.\n return this.taskTrackingZone.macroTasks.map((t: Task) => {\n return {\n source: t.source,\n // From TaskTrackingZone:\n // https://github.com/angular/zone.js/blob/master/lib/zone-spec/task-tracking.ts#L40\n creationLocation: (t as any).creationLocation as Error,\n data: t.data\n };\n });\n }\n\n private addCallback(cb: DoneCallback, timeout?: number, updateCb?: UpdateCallback) {\n let timeoutId: any = -1;\n if (timeout && timeout > 0) {\n timeoutId = setTimeout(() => {\n this._callbacks = this._callbacks.filter((cb) => cb.timeoutId !== timeoutId);\n cb(this._didWork, this.getPendingTasks());\n }, timeout);\n }\n this._callbacks.push(<WaitCallback>{doneCb: cb, timeoutId: timeoutId, updateCb: updateCb});\n }\n\n /**\n * Wait for the application to be stable with a timeout. If\n the timeout is reached before that\n * happens, the callback receives a list of the macro tasks that were pending, otherwise null.\n *\n * @param doneCb The callback to invoke when Angular is stable or the timeout expires\n * whichever comes first.\n * @param timeout Optional. The maximum time to wait for Angular to become stable. If not\n * specified, whenStable() will wait forever.\n * @param updateCb Optional. If specified, this callback will be invoked whenever the set of\n * pending macrotasks changes. If this callback returns true doneCb will not be invoked\n * and no further updates will be issued.\n */\n whenStable(doneCb: Function, timeout?: number, updateCb?: Function): void {\n if (updateCb && !this.taskTrackingZone) {\n throw new Error(\n 'Task tracking zone is required when passing an update callback to ' +\n 'whenStable(). Is \"zone.js/dist/task-tracking.js\" loaded?');\n }\n // These arguments are 'Function'\n above to keep the public API simple.\n this.addCallback(doneCb as DoneCallback, timeout, updateCb as UpdateCallback);\n this._runCallbacksIfReady();\n }\n\n /**\n * Get the number of pending requests\n * @deprecated pending requests are now tracked with zones\n */\n getPendingRequestCount(): number {\n return this._pendingCount;\n }\n\n /**\n * Find providers by name\n * @param using The root element to search from\n * @param provider The name of binding variable\n * @param exactMatch Whether using exactMatch\n */\n findProviders(using: any, provider: string, exactMatch: boolean): any[] {\n // TODO(juliemr): implement.\n return [];\n }\n}\n\n/**\n * A global registry of {@link Testability} instances for specific elements.\n * @publicApi\n */\n@Injectable()\nexport class TestabilityRegistry {\n /** @internal */\n _applications = new Map<any, Testability>();\n\n constructor() {\n _testabilityGetter.addToWindow(this);\n }\n\n /**\n * Registers an application with a testability hook so that it can be tracked\n * @param token token of application, root element\n * @param testability Testability hook\n */\n registerApplication(token: any, testability: Testability) {\n this._applications.set(token, testability);\n }\n\n /**\n * Unregisters an application.\n * @param token token of application, root element\n */\n unregisterApplication(token: any) {\n this._applications.delete(token);\n }\n\n /**\n * Unregisters all applications\n */\n unregisterAllApplications() {\n this._applications.clear();\n }\n\n /**\n * Get a testability hook associated with the application\n * @param elem root element\n */\n getTestability(elem: any): Testability|null {\n return this._applications.get(elem) || null;\n }\n\n /**\n * Get all registered testabilities\n */\n getAllTestabilities(): Testability[] {\n return Array.from(this._applications.values());\n }\n\n /**\n * Get all registered\n applications(root elements)\n */\n getAllRootElements(): any[] {\n return Array.from(this._applications.keys());\n }\n\n /**\n * Find testability of a node in the Tree\n * @param elem node\n * @param findInAncestors whether finding testability in ancestors if testability was not found in\n * current node\n */\n findTestabilityInTree(elem: Node, findInAncestors: boolean = true): Testability|null {\n return _testabilityGetter.findTestabilityInTree(this, elem, findInAncestors);\n }\n}\n\n/**\n * Adapter interface for

retrieving the `Testability` service associated for a\n * particular context.\n *\n * @publicApi\n */\nexport interface GetTestability {\n  addToWindow(registry: TestabilityRegistry): void;\n  findTestabilityInTree(registry: TestabilityRegistry, elem: any, findInAncestors: boolean):\n      Testability|null;\n}\n\nclass _NoopGetTestability implements GetTestability {\n  addToWindow(registry: TestabilityRegistry): void {}\n  findTestabilityInTree(registry:
 TestabilityRegistry, elem: any, findInAncestors: boolean):\n      Testability|null {\n    return null;\n  }\n}\n\n/**\n * Set the {@link GetTestability} implementation used by the Angular testing framework.\n * @publicApi\n */\nexport function setTestabilityGetter(getter: GetTestability): void {\n  _testabilityGetter = getter;\n}\n\nlet _testabilityGetter: GetTestability = new _NoopGetTestability();\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {global} from './global';\n\n/**\n * This file is used to control if the default rendering pipeline should be `ViewEngine` or `Ivy`.\n *\n * For more information on how to run and debug tests with either Ivy or View Engine (legacy),\n * please see [BAZEL.md](./docs/BAZEL.md).\n */\n\nlet _devMode: boolean = true;\nlet _runModeLocked: boolean = false;\n\n\n/**\n * Returns
 whether Angular is in development mode. After called once,\n * the value is locked and won't change any more.\n *\n * By default, this is true, unless a user calls `enableProdMode` before calling this.\n *\n * @publicApi\n */\nexport function isDevMode(): boolean {\n  _runModeLocked = true;\n  return _devMode;\n}\n\n/**\n * Disable Angular's development mode, which turns off assertions and other\n * checks within the framework.\n *\n * One important assertion this disables verifies that a change detection pass\n * does not result in additional changes to any bindings (also known as\n * unidirectional data flow).\n *\n * @publicApi\n */\nexport function enableProdMode(): void {\n  if (_runModeLocked) {\n    throw new Error('Cannot enable prod mode after platform setup.');\n  }\n\n  // The below check is there so when ngDevMode is set via terser\n  // `global['ngDevMode'] = false;` is also dropped.\n  if (typeof ngDevMode === undefined || !!ngDevMode) {\n    global['ngDevMode'] = false;\n
  }\n\n  _devMode = false;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport './util/ng_jit_mode';\n\nimport {merge, Observable, Observer, Subscription} from 'rxjs';\nimport {share} from 'rxjs/operators';\n\nimport {ApplicationInitStatus} from './application_init';\nimport {APP_BOOTSTRAP_LISTENER, PLATFORM_INITIALIZER} from './application_tokens';\nimport {getCompilerFacade} from './compiler/compiler_facade';\nimport {Console} from './console';\nimport {Injectable} from './di/injectable';\nimport {InjectionToken} from './di/injection_token';\nimport {Injector} from './di/injector';\nimport {StaticProvider} from './di/interface/provider';\nimport {INJECTOR_SCOPE} from './di/scope';\nimport {ErrorHandler} from './error_handler';\nimport {DEFAULT_LOCALE_ID} from './i18n/localization';\nimport {LOCALE_ID} from './i18n/tokens';\nimport
 {Type} from './interface/type';\nimport {ivyEnabled} from './ivy_switch';\nimport {COMPILER_OPTIONS, CompilerFactory, CompilerOptions} from './linker/compiler';\nimport {ComponentFactory, ComponentRef} from './linker/component_factory';\nimport {ComponentFactoryBoundToModule, ComponentFactoryResolver} from './linker/component_factory_resolver';\nimport {InternalNgModuleRef, NgModuleFactory, NgModuleRef} from './linker/ng_module_factory';\nimport {InternalViewRef, ViewRef} from './linker/view_ref';\nimport {isComponentResourceResolutionQueueEmpty, resolveComponentResources} from './metadata/resource_loading';\nimport {assertNgModuleType} from './render3/assert';\nimport {ComponentFactory as R3ComponentFactory} from './render3/component_ref';\nimport {setLocaleId} from './render3/i18n/i18n_locale_id';\nimport {setJitOptions} from './render3/jit/jit_options';\nimport {NgModuleFactory as R3NgModuleFactory} from './render3/ng_module_ref';\nimport {publishDefaultGlobalUtils
 as _publishDefaultGlobalUtils} from './render3/util/global_utils';\nimport {Testability, TestabilityRegistry} from './testability/testability';\nimport {isDevMode} from './util/is_dev_mode';\nimport {isPromise} from './util/lang';\nimport {scheduleMicroTask} from './util/microtask';\nimport {stringify} from './util/stringify';\nimport {NgZone, NoopNgZone} from './zone/ng_zone';\n\nlet _platform: PlatformRef;\n\nlet compileNgModuleFactory:\n
 <M>(injector: Injector, options: CompilerOptions, moduleType: Type<M>) =>\n

Promise<NgModuleFactory<M>> = compileNgModuleFactory__PRE_R3__;\n\nfunction compileNgModuleFactory__PRE_R3__<M>(\n injector: Injector, options: CompilerOptions,\n moduleType: Type<M>): Promise<NgModuleFactory<M>> {\n const compilerFactory: CompilerFactory = injector.get(CompilerFactory);\n const compiler = compilerFactory.createCompiler([options]);\n return compiler.compileModuleAsync(moduleType);\n}\n\nexport function compileNgModuleFactory__POST_R3__<M>(\n injector: Injector, options: CompilerOptions,\n moduleType: Type<M>): Promise<NgModuleFactory<M>> {\n ngDevMode && assertNgModuleType(moduleType);\n\n const moduleFactory = new R3NgModuleFactory(moduleType);\n\n // All of the logic below is irrelevant for AOT-compiled code.\n if (typeof ngJitMode !== 'undefined' && !ngJitMode) {\n return Promise.resolve(moduleFactory);\n }\n\n const compilerOptions = injector.get(COMPILER_OPTIONS, []).concat(options);\n\n // Configure the compiler to use the provided options. This call may fail when multiple modules\n // are bootstrapped with incompatible options, as a component can only be compiled according to\n // a single set of options.\n setJitOptions({\n defaultEncapsulation: _lastDefined(compilerOptions.map(opts => opts.defaultEncapsulation)),\n preserveWhitespaces: _lastDefined(compilerOptions.map(opts => opts.preserveWhitespaces)),\n });\n\n if (isComponentResourceResolutionQueueEmpty()) {\n return Promise.resolve(moduleFactory);\n }\n\n const compilerProviders = _mergeArrays(compilerOptions.map(o => o.providers!));\n\n // In case there are no compiler providers, we just return the module factory as\n // there won't be any resource loader. This can happen with Ivy, because AOT compiled\n // modules can be still passed through \"bootstrapModule\". In that case we shouldn't\n // unnecessarily require the JIT compiler.\n if (compilerProviders.length === 0) {\n return Promise.resolve(moduleFactory);\n }\n\n const compiler = getCompilerFacade();\n const compilerInjector = Injector.create({providers: compilerProviders});\n const resourceLoader = compilerInjector.get(compiler.ResourceLoader);\n // The resource loader can also return a string while the \"resolveComponentResources\"\n // always expects a promise. Therefore we need to wrap the returned value in a promise.\n return resolveComponentResources(url => Promise.resolve(resourceLoader.get(url)))\n .then(() => moduleFactory);\n}\n\n//
the `window.ng` global utilities are only available in non-VE versions of\n// Angular. The function switch below will make sure that the code is not\n// included into Angular when PRE mode is active.\nexport function publishDefaultGlobalUtils__PRE_R3__() {}\nexport function publishDefaultGlobalUtils__POST_R3__() {\n ngDevMode && _publishDefaultGlobalUtils();\n}\n\nlet publishDefaultGlobalUtils: () => any = publishDefaultGlobalUtils__PRE_R3__;\n\nlet isBoundToModule: <C>(cf: ComponentFactory<C>) => boolean = isBoundToModule__PRE_R3__;\n\nexport function isBoundToModule__PRE_R3__<C>(cf: ComponentFactory<C>): boolean {\n return cf instanceof ComponentFactoryBoundToModule;\n}\n\nexport function isBoundToModule__POST_R3__<C>(cf: ComponentFactory<C>): boolean {\n return (cf as R3ComponentFactory<C>).isBoundToModule;\n}\n\nexport const ALLOW_MULTIPLE_PLATFORMS = new InjectionToken<boolean>('AllowMultipleToken');\n\n\n\n/**\n * A token for third-party components that can register
themselves with NgProbe.\n *\n * @publicApi\n */\nexport class NgProbeToken {\n constructor(public name: string, public token: any) {}\n}\n\n/**\n * Creates a platform.\n * Platforms must be created on launch using this function.\n *\n * @publicApi\n */\nexport function createPlatform(injector: Injector): PlatformRef {\n if (_platform && !_platform.destroyed &&\n !_platform.injector.get(ALLOW_MULTIPLE_PLATFORMS, false)) {\n throw new Error(\n 'There can be only one platform. Destroy the previous one to create a new one.');\n }\n publishDefaultGlobalUtils();\n _platform = injector.get(PlatformRef);\n const inits = injector.get(PLATFORM_INITIALIZER, null);\n if (inits) inits.forEach((init: any) => init());\n return _platform;\n}\n\n/**\n * Creates a factory for a platform. Can be used to provide or override `Providers` specific to\n * your applciation's runtime needs, such as `PLATFORM_INITIALIZER` and `PLATFORM_ID`.\n * @param parentPlatformFactory Another

platform factory to modify. Allows you to compose factories\n * to build up configurations that might be required by different libraries or parts of the\n * application.\n * @param name Identifies the new platform factory.\n * @param providers A set of dependency providers for platforms created with the new factory.\n *\n * @publicApi\n */\nexport function createPlatformFactory(\n parentPlatformFactory: ((extraProviders?: StaticProvider[]) => PlatformRef)|null, name: string,\n providers: StaticProvider[] = []): (extraProviders?: StaticProvider[]) => PlatformRef {\n const desc = `Platform: ${name}`;\n const marker = new InjectionToken(desc);\n return (extraProviders: StaticProvider[] = []) => {\n let platform = getPlatform();\n if (!platform || platform.injector.get(ALLOW_MULTIPLE_PLATFORMS, false)) {\n if (parentPlatformFactory) {\n parentPlatformFactory(\n providers.concat(extraProviders).concat({provide: marker, useValue: true}));\n } else
{\n const injectedProviders: StaticProvider[] =\n providers.concat(extraProviders).concat({provide: marker, useValue: true}, {\n provide: INJECTOR_SCOPE,\n useValue: 'platform'\n });\n createPlatform(Injector.create({providers: injectedProviders, name: desc}));\n }\n }\n return assertPlatform(marker);\n };\n}\n\n/**\n * Checks that there is currently a platform that contains the given token as a provider.\n *\n * @publicApi\n */\nexport function assertPlatform(requiredToken: any): PlatformRef {\n const platform = getPlatform();\n\n if (!platform) {\n throw new Error('No platform exists!');\n }\n\n if (!platform.injector.get(requiredToken, null)) {\n throw new Error(\n 'A platform with a different configuration has been created. Please destroy it first.');\n }\n\n return platform;\n}\n\n/**\n * Destroys the current Angular platform and all Angular applications on the page.\n * Destroys all modules
and listeners registered with the platform.\n *\n * @publicApi\n */\nexport function destroyPlatform(): void {\n if (_platform && !_platform.destroyed) {\n _platform.destroy();\n }\n}\n\n/**\n * Returns the current platform.\n *\n * @publicApi\n */\nexport function getPlatform(): PlatformRef|null {\n return _platform && !_platform.destroyed ? _platform : null;\n}\n\n/**\n * Provides additional options to the bootstraping process.\n *\n *\n */\nexport interface BootstrapOptions {\n /**\n * Optionally specify which `NgZone` should be used.\n *\n * - Provide your own `NgZone` instance.\n * - `zone.js` - Use default `NgZone` which requires `Zone.js`.\n * - `noop` - Use `NoopNgZone` which does nothing.\n */\n ngZone?: NgZone|'zone.js'|'noop';\n\n /**\n * Optionally specify coalescing event change detections or not.\n * Consider the following case.\n *\n * <div (click)=\"doSomething()\">\n * <button (click)=\"doSomethingElse()\"></button>\n * \n *\n * When button is clicked, because of the event bubbling, both\n * event handlers will be called and 2 change detections will be\n * triggered. We can colesce such kind of events to only trigger\n * change detection only once.\n *\n * By default, this option will be false. So the events will not be\n * coalesced and the change detection will be triggered multiple times.\n * And if this option be set to true, the change detection will be\n * triggered async by scheduling a animation frame. So in the case above,\n * the change detection will only be triggered once.\n */\n ngZoneEventCoalescing?: boolean;\n}\n\n/**\n * The Angular platform is the entry point for Angular on a web page.\n * Each page has exactly one platform. Services (such as reflection) which are common\n * to every Angular application running on the page are bound in its scope.\n * A page's platform is initialized implicitly when a platform is created using a platform\n * factory such as `PlatformBrowser`,
or explicitly by calling the `createPlatform()` function.\n *\n * @publicApi\n */\n@Injectable()\nexport class PlatformRef {\n private _modules: NgModuleRef<any>[] = [];\n private _destroyListeners: Function[] = [];\n private _destroyed: boolean = false;\n\n /** @internal */\n constructor(private _injector: Injector) {}\n\n /**\n * Creates an instance of an `@NgModule` for the given platform for offline compilation.\n *\n * @usageNotes\n *\n * The following example creates the NgModule for a browser platform.\n *\n * ```typescript\n * my_module.ts:\n *\n * @NgModule({\n * imports: [BrowserModule]\n * })\n * class MyModule {}\n *\n * main.ts:\n * import {MyModuleNgFactory} from './my_module.ngfactory';\n * import {platformBrowser} from '@angular/platform-browser';\n *\n * let moduleRef = platformBrowser().bootstrapModuleFactory(MyModuleNgFactory);\n * ```\n */\n bootstrapModuleFactory<M>(moduleFactory: NgModuleFactory<M>, options?:

```
 BootstrapOptions):\n      Promise<NgModuleRef<M>> {\n    // Note: We need to create the NgZone _before_ we instantiate the module,\n    // as instantiating the module creates some providers eagerly.\n    // So we create a mini parent injector that just contains the new NgZone and\n    // pass that as parent to the NgModuleFactory.\n    const ngZoneOption = options ? options.ngZone : undefined;\n    const ngZoneEventCoalescing = (options && options.ngZoneEventCoalescing) || false;\n    const ngZone = getNgZone(ngZoneOption, ngZoneEventCoalescing);\n    const providers: StaticProvider[] = [{provide: NgZone, useValue: ngZone}];\n    // Attention: Don't use ApplicationRef.run here,\n    // as we want to be sure that all possible constructor calls are inside `ngZone.run`!\n    return ngZone.run(() => {\n      const ngZoneInjector = Injector.create(\n          {providers: providers, parent: this.injector, name: moduleFactory.moduleType.name});\n      const moduleRef = <InternalNgModuleRef<M>>moduleFactory.create(ngZoneInjector);\n      const exceptionHandler: ErrorHandler|null = moduleRef.injector.get(ErrorHandler, null);\n      if (!exceptionHandler) {\n        throw new Error('No ErrorHandler. Is platform module (BrowserModule) included?');\n      }\n      ngZone!.runOutsideAngular(() => {\n        const subscription = ngZone!.onError.subscribe({\n          next: (error: any) => {\n            exceptionHandler.handleError(error);\n          }\n        });\n        moduleRef.onDestroy(() => {\n          remove(this._modules, moduleRef);\n          subscription.unsubscribe();\n        });\n      });\n      return _callAndReportToErrorHandler(exceptionHandler, ngZone!, () => {\n        const initStatus: ApplicationInitStatus = moduleRef.injector.get(ApplicationInitStatus);\n        initStatus.runInitializers();\n        return initStatus.donePromise.then(() => {\n          if (ivyEnabled) {\n            // If the `LOCALE_ID` provider is defined at bootstrap then we set the value for ivy\n            const localeId = moduleRef.injector.get(LOCALE_ID, DEFAULT_LOCALE_ID);\n            setLocaleId(localeId || DEFAULT_LOCALE_ID);\n          }\n          this._moduleDoBootstrap(moduleRef);\n          return moduleRef;\n        });\n      });\n    });\n  }\n\n  /**\n   * Creates an instance of an `@NgModule` for a given platform using the given runtime compiler.\n   *\n   * @usageNotes\n   * ### Simple Example\n   *\n   * ```typescript\n   * @NgModule({\n   *   imports: [BrowserModule]\n   * })\n   * class MyModule {}\n   *\n   * let moduleRef = platformBrowser().bootstrapModule(MyModule);\n   * ```\n   *\n   */\n  bootstrapModule<M>(\n      moduleType: Type<M>,\n      compilerOptions: (CompilerOptions&BootstrapOptions)|\n      Array<CompilerOptions&BootstrapOptions> = []): Promise<NgModuleRef<M>> {\n    const options = optionsReducer({}, compilerOptions);\n    return compileNgModuleFactory(this.injector, options, moduleType)\n        .then(moduleFactory\n => this.bootstrapModuleFactory(moduleFactory, options));\n  }\n\n  private _moduleDoBootstrap(moduleRef: InternalNgModuleRef<any>): void {\n    const appRef = moduleRef.injector.get(ApplicationRef) as ApplicationRef;\n    if (moduleRef._bootstrapComponents.length > 0) {\n      moduleRef._bootstrapComponents.forEach(f => appRef.bootstrap(f));\n    } else if (moduleRef.instance.ngDoBootstrap) {\n      moduleRef.instance.ngDoBootstrap(appRef);\n    } else {\n      throw new Error(\n          `The module ${\n              stringify(\n                  moduleRef.instance\n                      .constructor)} was bootstrapped, but it does not declare \"@NgModule.bootstrap\" components nor a \"ngDoBootstrap\" method. ` +\n          `Please define one of these.`);\n    }\n    this._modules.push(moduleRef);\n  }\n\n  /**\n   * Registers a listener to be called when the platform is destroyed.\n   */\n  onDestroy(callback: () => void): void {\n    this._destroyListeners.push(callback);\n  }\n\n  /**\n   * Retrieves the platform {@link Injector}, which is the parent injector for\n   * every Angular application on the page and provides singleton providers.\n   */\n  get injector(): Injector {\n    return this._injector;\n  }\n\n  /**\n   * Destroys the current Angular platform and all Angular applications on the page.\n   * Destroys all modules and listeners registered with the platform.\n   */\n  destroy() {\n    if (this._destroyed) {\n      throw new Error('The platform has already been destroyed!');\n    }\n    this._modules.slice().forEach(module => module.destroy());\n    this._destroyListeners.forEach(listener => listener());\n    this._destroyed = true;\n  }\n\n  get destroyed() {\n    return this._destroyed;\n  }\n}\n\nfunction getNgZone(\n    ngZoneOption: NgZone|'zone.js'|'noop'|undefined,\n    ngZoneEventCoalescing: boolean): NgZone {\n  let ngZone: NgZone;\n\n  if (ngZoneOption === 'noop') {\n    ngZone = new NoopNgZone();\n  } else {\n    ngZone = (ngZoneOption === 'zone.js'
```

? undefined : ngZoneOption) || new NgZone({\n enableLongStackTrace: isDevMode(),\n shouldCoalesceEventChangeDetection: ngZoneEventCoalescing\n });\n }\n return ngZone;\n}\n\nfunction _callAndReportToErrorHandler(\n errorHandler: ErrorHandler, ngZone: NgZone, callback: () => any): any {\n try {\n const result = callback();\n if (isPromise(result)) {\n return result.catch((e: any) => {\n ngZone.runOutsideAngular(() => errorHandler.handleError(e));\n // rethrow as the exception handler might not do it\n throw e;\n });\n }\n\n return result;\n } catch (e) {\n ngZone.runOutsideAngular(() => errorHandler.handleError(e));\n // rethrow as the exception handler might not do it\n throw e;\n }\n}\n\nfunction optionsReducer<T extends Object>(dst: any, objs: T|T[]): T {\n if (Array.isArray(objs)) {\n dst = objs.reduce(optionsReducer, dst);\n } else {\n dst = {...dst, ...(objs as any)};\n }\n return dst;\n}\n\n/**\n * A reference to an Angular application running on a page.\n *\n * @usageNotes\n *\n * {@a is-stable-examples}\n * ### isStable examples and caveats\n *\n * Note two important points about `isStable`, demonstrated in the examples below:\n * - the application will never be stable if you start any kind\n * of recurrent asynchronous task when the application starts\n * (for example for a polling process, started with a `setInterval`, a `setTimeout`\n * or using RxJS operators like `interval`);\n * - the `isStable` Observable runs outside of the Angular zone.\n *\n * Let's imagine that you start a recurrent task\n * (here incrementing a counter, using RxJS `interval`),\n * and at the same time subscribe to `isStable`.\n *\n * ```\n * constructor(appRef: ApplicationRef) {\n * appRef.isStable.pipe(\n * filter(stable => stable)\n * ).subscribe(() => console.log('App is stable now');\n * interval(1000).subscribe(counter => console.log(counter));\n * }\n * ```\n * In this example, `isStable` will never emit `true`,\n * and the trace \"App is stable now\" will never get logged.\n *\n * If you want to execute something when the app is stable,\n * you have to wait for the application to be stable\n * before starting your polling process.\n *\n * ```\n * constructor(appRef: ApplicationRef) {\n * appRef.isStable.pipe(\n * first(stable => stable),\n * tap(stable => console.log('App is stable now')),\n * switchMap(() => interval(1000))\n * ).subscribe(counter => console.log(counter));\n * }\n * ```\n * In this example, the trace \"App is stable now\" will be logged\n * and then the counter starts incrementing every second.\n *\n * Note also that this Observable runs outside of the Angular zone,\n * which means that the code in the subscription\n * to this Observable will not trigger the change detection.\n *\n * Let's imagine that instead of logging the counter value,\n * you update a field of your component\n * and display it in its template.\n *\n * ```\n * constructor(appRef: ApplicationRef) {\n * appRef.isStable.pipe(\n * first(stable => stable),\n * switchMap(() => interval(1000))\n * ).subscribe(counter => this.value = counter);\n * }\n * ```\n * As the `isStable` Observable runs outside the zone,\n * the `value` field will be updated properly,\n * but the template will not be refreshed!\n *\n * You'll have to manually trigger the change detection to update the template.\n *\n * ```\n * constructor(appRef: ApplicationRef, cd: ChangeDetectorRef) {\n * appRef.isStable.pipe(\n * first(stable => stable),\n * switchMap(() => interval(1000))\n * ).subscribe(counter => {\n * this.value = counter;\n * cd.detectChanges();\n * });\n * }\n * ```\n *\n * Or make the subscription callback run inside the zone.\n *\n * ```\n * constructor(appRef: ApplicationRef, zone: NgZone) {\n * appRef.isStable.pipe(\n * first(stable => stable),\n * switchMap(() => interval(1000))\n * ).subscribe(counter => zone.run(() => this.value = counter));\n * }\n * ```\n *\n * @publicApi\n */\n@Injectable()\nexport class ApplicationRef {\n /** @internal */\n private _bootstrapListeners: ((compRef: ComponentRef<any>) => void)[] = [];\n private _views: InternalViewRef[] = [];\n private _runningTick: boolean = false;\n private _stable = true;\n private _onMicrotaskEmptySubscription: Subscription;\n\n /**\n * Get a list of component types registered to this application.\n * This list is populated even before the component is created.\n */\n public readonly componentTypes: Type<any>[] = [];\n\n /**\n * Get a list of components registered to this application.\n */\n public readonly components: ComponentRef<any>[] = [];\n\n /**\n * Returns an Observable that indicates when the application is stable or unstable.\n *\n * @see [Usage notes](#is-stable-examples) for examples and caveats when using this API.\n */\n // TODO(issue/24571): remove '!'.\n public readonly isStable!: Observable<boolean>;\n\n /** @internal */\n constructor(\n private _zone: NgZone, private _console: Console, private _injector: Injector,\n private _exceptionHandler: ErrorHandler,\n private _componentFactoryResolver: ComponentFactoryResolver,\n private _initStatus: ApplicationInitStatus) {\n

this._onMicrotaskEmptySubscription = this._zone.onMicrotaskEmpty.subscribe({\n next: () => {\n this._zone.run(() => {\n this.tick();\n });\n }\n });\n\n const isCurrentlyStable = new Observable<boolean>((observer: Observer<boolean>) => {\n this._stable = this._zone.isStable && !this._zone.hasPendingMacrotasks &&\n !this._zone.hasPendingMicrotasks;\n this._zone.runOutsideAngular(() => {\n observer.next(this._stable);\n observer.complete();\n });\n });\n\n const isStable = new Observable<boolean>((observer: Observer<boolean>) => {\n // Create the subscription
to onStable outside the Angular Zone so that\n // the callback is run outside the Angular Zone.\n let stableSub: Subscription;\n this._zone.runOutsideAngular(() => {\n stableSub = this._zone.onStable.subscribe(() => {\n NgZone.assertNotInAngularZone();\n\n // Check whether there are no pending macro/micro tasks in the next tick\n // to allow for NgZone to update the state.\n scheduleMicroTask(() => {\n if (!this._stable && !this._zone.hasPendingMacrotasks &&\n !this._zone.hasPendingMicrotasks) {\n this._stable = true;\n observer.next(true);\n }\n });\n });\n });\n\n const unstableSub: Subscription = this._zone.onUnstable.subscribe(() => {\n NgZone.assertInAngularZone();\n if (this._stable) {\n this._stable = false;\n this._zone.runOutsideAngular(() => {\n observer.next(false);\n });\n }\n });\n\n return () => {\n stableSub.unsubscribe();\n unstableSub.unsubscribe();\n };\n });\n\n (this as {isStable: Observable<boolean>}).isStable =\n merge(isCurrentlyStable, isStable.pipe(share()));\n }\n\n /**\n * Bootstrap a new component at the root level of the application.\n *\n * @usageNotes\n * ### Bootstrap process\n *\n * When bootstrapping a new root component into an application, Angular mounts the\n * specified application component onto DOM elements identified by the componentType's\n * selector and kicks off automatic change detection to finish initializing the component.\n *\n * Optionally, a component can be mounted onto a DOM element that does not match the\n * componentType's selector.\n *\n * ### Example\n * {@example core/ts/platform/platform.ts region='longform'}\n */\n bootstrap<C>(componentOrFactory: ComponentFactory<C>|Type<C>, rootSelectorOrNode?: string|any):\n ComponentRef<C>
{\n if (!this._initStatus.done) {\n throw new Error(\n 'Cannot bootstrap as there are still asynchronous initializers running. Bootstrap components in the `ngDoBootstrap` method of the root module.');\n }\n let componentFactory: ComponentFactory<C>;\n if (componentOrFactory instanceof ComponentFactory) {\n componentFactory = componentOrFactory;\n } else {\n componentFactory =\n this._componentFactoryResolver.resolveComponentFactory(componentOrFactory)!;\n }\n this.componentTypes.push(componentFactory.componentType);\n\n // Create a factory associated with the current module if it's not bound to some other\n const ngModule =\n isBoundToModule(componentFactory) ? undefined : this._injector.get(NgModuleRef);\n const selectorOrNode = rootSelectorOrNode || componentFactory.selector;\n const compRef = componentFactory.create(Injector.NULL, [], selectorOrNode, ngModule);\n const nativeElement = compRef.location.nativeElement;\n
const testability = compRef.injector.get(Testability, null);\n const testabilityRegistry = testability && compRef.injector.get(TestabilityRegistry);\n if (testability && testabilityRegistry) {\n testabilityRegistry.registerApplication(nativeElement, testability);\n }\n\n compRef.onDestroy(() => {\n this.detachView(compRef.hostView);\n remove(this.components, compRef);\n if (testabilityRegistry) {\n testabilityRegistry.unregisterApplication(nativeElement);\n }\n });\n\n this._loadComponent(compRef);\n if (isDevMode()) {\n this._console.log(\n `Angular is running in development mode. Call enableProdMode() to enable production mode.`);\n }\n return compRef;\n }\n\n /**\n * Invoke this method to explicitly process change detection and its side-effects.\n *\n * In development mode, `tick()` also performs a second change detection cycle to ensure that no\n * further changes are detected. If additional
changes are picked up during this second cycle,\n * bindings in the app have side-effects that cannot be resolved in a single change detection\n * pass.\n * In this case, Angular throws an error, since an Angular application can only have one change\n * detection pass during which all change detection must complete.\n */\n tick(): void {\n

if (this._runningTick) {\n throw new Error('ApplicationRef.tick is called recursively');\n }\n\n try {\n this._runningTick = true;\n for (let view of this._views) {\n view.detectChanges();\n }\n // Note that we have still left the `isDevMode()` condition in order to avoid\n // creating a breaking change for projects that still use the View Engine.\n if ((typeof ngDevMode === 'undefined' || ngDevMode) && isDevMode()) {\n for (let view of this._views) {\n view.checkNoChanges();\n }\n }\n } catch (e) {\n // Attention: Don't rethrow as it could cancel
subscriptions to Observables!\n this._zone.runOutsideAngular(() => this._exceptionHandler.handleError(e));\n } finally {\n this._runningTick = false;\n }\n }\n\n /**\n * Attaches a view so that it will be dirty checked.\n * The view will be automatically detached when it is destroyed.\n * This will throw if the view is already attached to a ViewContainer.\n */\n attachView(viewRef: ViewRef): void {\n const view = (viewRef as InternalViewRef);\n this._views.push(view);\n view.attachToAppRef(this);\n }\n\n /**\n * Detaches a view from dirty checking again.\n */\n detachView(viewRef: ViewRef): void {\n const view = (viewRef as InternalViewRef);\n remove(this._views, view);\n view.detachFromAppRef();\n }\n\n private _loadComponent(componentRef: ComponentRef<any>): void {\n this.attachView(componentRef.hostView);\n this.tick();\n this.components.push(componentRef);\n // Get the listeners lazily to prevent DI cycles.\n const listeners =\n this._injector.get(APP_BOOTSTRAP_LISTENER, []).concat(this._bootstrapListeners);\n listeners.forEach((listener) => listener(componentRef));\n }\n\n /** @internal */\n ngOnDestroy() {\n this._views.slice().forEach((view) => view.destroy());\n this._onMicrotaskEmptySubscription.unsubscribe();\n }\n\n /**\n * Returns the number of attached views.\n */\n get viewCount() {\n return this._views.length;\n }\n}\n\nfunction remove<T>(list: T[], el: T): void {\n const index = list.indexOf(el);\n if (index > -1) {\n list.splice(index, 1);\n }\n}\n\nfunction _lastDefined<T>(args: T[]): T|undefined {\n for (let i = args.length - 1; i >= 0; i--) {\n if (args[i] !== undefined) {\n return args[i];\n }\n }\n return undefined;\n}\n\nfunction _mergeArrays(parts: any[][]): any[] {\n const result: any[] = [];\n parts.forEach((part) => part && result.push(...part));\n return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// Public API for Zone\nexport {NgZone, NoopNgZone as NoopNgZone} from './zone/ng_zone';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// Public API for render\nexport {Renderer2, RendererFactory2} from './render/api';\nexport {RendererStyleFlags2, RendererType2} from './render/api_flags';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {NgModuleType} from '../metadata/ng_module_def';\nimport {NgModuleFactory as R3NgModuleFactory} from '../render3/ng_module_ref';\n\nimport {NgModuleFactory}
from './ng_module_factory';\nimport {getRegisteredNgModuleType} from './ng_module_factory_registration';\n\n\n/**\n * Used to load ng module factories.\n *\n * @publicApi\n * @deprecated the `string` form of `loadChildren` is deprecated, and `NgModuleFactoryLoader` is\n * part of its implementation. See `LoadChildren` for more details.\n */\nexport abstract class NgModuleFactoryLoader {\n abstract load(path: string): Promise<NgModuleFactory<any>>;\n}\n\nexport function getModuleFactory__PRE_R3__(id: string): NgModuleFactory<any> {\n const factory = getRegisteredNgModuleType(id) as NgModuleFactory<any>| null;\n if (!factory) throw noModuleError(id);\n return factory;\n}\n\nexport function getModuleFactory__POST_R3__(id: string): NgModuleFactory<any> {\n const type = getRegisteredNgModuleType(id) as NgModuleType | null;\n if (!type) throw noModuleError(id);\n return new R3NgModuleFactory(type);\n}\n\n/**\n * Returns the NgModuleFactory with the given id, if it exists and has been
loaded.\n * Factories for modules that do not specify an `id` cannot be retrieved. Throws if the module\n * cannot be found.\n * @publicApi\n */\nexport const getModuleFactory: (id: string) => NgModuleFactory<any> = getModuleFactory__PRE_R3__;\n\nfunction noModuleError(\n id: string,\n ): Error {\n return new Error(`No

module with ID ${id} loaded`);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {Injectable, Optional} from '../di';\nimport {ivyEnabled} from '../ivy_switch';\n\nimport {Compiler} from './compiler';\nimport {NgModuleFactory} from './ng_module_factory';\nimport {NgModuleFactoryLoader} from './ng_module_factory_loader';\n\nconst _SEPARATOR = '#';\n\nconst FACTORY_CLASS_SUFFIX = 'NgFactory';\ndeclare var System: any;\n\n/**\n * Configuration for SystemJsNgModuleLoader.\n * token.\n *\n *
 @publicApi\n * @deprecated the `string` form of `loadChildren` is deprecated, and `SystemJsNgModuleLoaderConfig`\n * is part of its implementation. See `LoadChildren` for more details.\n */\nexport abstract class SystemJsNgModuleLoaderConfig {\n  /**\n   * Prefix to add when computing the name of the factory module for a given module name.\n   */\n  // TODO(issue/24571): remove '!'.\n  factoryPathPrefix!: string;\n\n  /**\n   * Suffix to add when computing the name of the factory module for a given module name.\n   */\n  // TODO(issue/24571): remove '!'.\n  factoryPathSuffix!: string;\n}\n\nconst DEFAULT_CONFIG: SystemJsNgModuleLoaderConfig = {\n  factoryPathPrefix: '',\n  factoryPathSuffix: '.ngfactory',\n};\n\n/**\n * NgModuleFactoryLoader that uses SystemJS to load NgModuleFactory\n * @publicApi\n * @deprecated the `string` form of `loadChildren` is deprecated, and `SystemJsNgModuleLoader` is\n * part of its implementation. See `LoadChildren` for more details.\n */\n@Injectable()\nexport
 class SystemJsNgModuleLoader implements NgModuleFactoryLoader {\n  private _config: SystemJsNgModuleLoaderConfig;\n\n  constructor(private _compiler: Compiler, @Optional() config?: SystemJsNgModuleLoaderConfig) {\n    this._config = config || DEFAULT_CONFIG;\n  }\n\n  load(path: string): Promise<NgModuleFactory<any>> {\n    const legacyOfflineMode = !ivyEnabled && this._compiler instanceof Compiler;\n    return legacyOfflineMode ? this.loadFactory(path) : this.loadAndCompile(path);\n  }\n\n  private loadAndCompile(path: string): Promise<NgModuleFactory<any>> {\n    let [module, exportName] = path.split(_SEPARATOR);\n    if (exportName === undefined) {\n      exportName = 'default';\n    }\n\n    return System.import(module)\n        .then((module: any) => module[exportName])\n        .then((type: any) => checkNotEmpty(type, module, exportName))\n        .then((type: any) => this._compiler.compileModuleAsync(type));\n  }\n\n  private loadFactory(path: string): Promise<NgModuleFactory<any>>
 {\n    let [module, exportName] = path.split(_SEPARATOR);\n    let factoryClassSuffix = FACTORY_CLASS_SUFFIX;\n    if (exportName === undefined) {\n      exportName = 'default';\n      factoryClassSuffix = '';\n    }\n\n    return System.import(this._config.factoryPathPrefix + module + this._config.factoryPathSuffix)\n        .then((module: any) => module[exportName + factoryClassSuffix])\n        .then((factory: any) => checkNotEmpty(factory, module, exportName));\n  }\n}\n\nfunction checkNotEmpty(value: any, modulePath: string, exportName: string): any {\n  if (!value) {\n    throw new Error(`Cannot find '${exportName}' in '${modulePath}'`);\n  }\n  return value;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {ChangeDetectorRef} from '../change_detection/change_detector_ref';\n\n/**\n * Represents an
 Angular [view](guide/glossary#view \"Definition\").\n *\n * @see {@link ChangeDetectorRef#usage-notes Change detection usage}\n *\n * @publicApi\n */\nexport abstract class ViewRef extends ChangeDetectorRef {\n  /**\n   * Destroys this view and all of the data structures associated with it.\n   */\n  abstract destroy(): void;\n\n  /**\n   * Reports whether this view has been destroyed.\n   * @returns True after the `destroy()` method has been called, false otherwise.\n   */\n  abstract get destroyed(): boolean;\n\n  /**\n   * A lifecycle hook that provides additional developer-defined cleanup\n   * functionality for views.\n   * @param callback A handler function that cleans up developer-defined data\n   * associated with a view. Called when the `destroy()` method is invoked.\n   */\n  abstract onDestroy(callback: Function): any /** TODO #9100 */;\n}\n\n/**\n * Represents an Angular [view](guide/glossary#view) in a view container.\n * An [embedded view](guide/glossary#view-tree) can

be referenced from a component\n * other than the hosting component whose template defines it, or it can be defined\n * independently by a `TemplateRef`.\n *\n * Properties of elements in a view can change, but the structure (number and order) of elements in\n * a view cannot. Change the structure of elements by inserting, moving, or\n * removing nested views in a view container.\n *\n * @see `ViewContainerRef`\n *\n * @usageNotes\n *\n * The following template breaks down into two separate `TemplateRef` instances,\n * an outer one and an inner one.\n *\n * ```\n * Count: {{items.length}}\n * <ul>\n *  <li *ngFor=\"let item of items\">{{item}}</li>\n * </ul>\n * ```\n *\n * This is the outer `TemplateRef`:\n *\n * ```\n * Count: {{items.length}}\n * <ul>\n *  <ng-template ngFor let-item [ngForOf]=\"items\"></ng-template>\n * </ul>\n * ```\n *\n * This is the inner `TemplateRef`:\n *\n * ```\n * <li>{{item}}</li>\n * ```\n *\n * The outer and inner `TemplateRef` instances are assembled into views as follows:\n *\n * ```\n * <!-- ViewRef: outer-0 -->\n * Count: 2\n * <ul>\n *  <ng-template view-container-ref></ng-template>\n *  <!-- ViewRef: inner-1 --><li>first</li><!-- /ViewRef: inner-1 -->\n *  <!-- ViewRef: inner-2 --><li>second</li><!-- /ViewRef: inner-2 -->\n * </ul>\n * <!-- /ViewRef: outer-0 -->\n * ```\n * @publicApi\n */\nexport abstract class EmbeddedViewRef<C> extends ViewRef {\n  /**\n   * The context for this view, inherited from the anchor element.\n   */\n  abstract get context(): C;\n\n  /**\n   * The root nodes for this embedded view.\n   */\n  abstract get rootNodes(): any[];\n}\n\nexport interface InternalViewRef extends ViewRef {\n  detachFromAppRef(): void;\n  attachToAppRef(appRef: ViewRefTracker): void;\n}\n\n/**\n * Interface for tracking root `ViewRef`s in `ApplicationRef`.\n *\n * NOTE: Importing `ApplicationRef` here directly creates circular dependency, which is why we have\n * a subset of the `ApplicationRef` interface `ViewRefTracker` here.\n */\nexport interface ViewRefTracker {\n  detachView(viewRef: ViewRef): void;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// Public API for compiler\nexport {Compiler, COMPILER_OPTIONS, CompilerFactory, CompilerOptions, ModuleWithComponentFactories} from './linker/compiler';\nexport {ComponentFactory, ComponentRef} from './linker/component_factory';\nexport {ComponentFactoryResolver} from './linker/component_factory_resolver';\nexport {ElementRef} from './linker/element_ref';\nexport {NgModuleFactory, NgModuleRef} from './linker/ng_module_factory';\nexport {getModuleFactory, NgModuleFactoryLoader} from './linker/ng_module_factory_loader';\nexport {QueryList} from './linker/query_list';\nexport {SystemJsNgModuleLoader, SystemJsNgModuleLoaderConfig} from './linker/system_js_ng_module_factory_loader';\nexport {TemplateRef} from './linker/template_ref';\nexport {ViewContainerRef} from './linker/view_container_ref';\nexport {EmbeddedViewRef, ViewRef} from './linker/view_ref';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../di/injector';\nimport {assertTNodeForLView} from '../render3/assert';\nimport {CONTAINER_HEADER_OFFSET, LContainer, NATIVE} from '../render3/interfaces/container';\nimport {TElementNode, TNode, TNodeFlags, TNodeType} from '../render3/interfaces/node';\nimport {isComponentHost, isLContainer} from '../render3/interfaces/type_checks';\nimport {DECLARATION_COMPONENT_VIEW, LView, PARENT, T_HOST, TData, TVIEW} from '../render3/interfaces/view';\nimport {getComponent, getContext, getInjectionTokens, getInjector, getListeners, getLocalRefs, getOwningComponent, loadLContext} from '../render3/util/discovery_utils';\nimport {INTERPOLATION_DELIMITER} from '../render3/util/misc_utils';\nimport {renderStringify} from '../render3/util/stringify_utils';\nimport {getComponentLViewByIndex, getNativeByTNodeOrNull} from '../render3/util/view_utils';\nimport {assertDomNode} from '../util/assert';\nimport {DebugContext} from '../view/types';\n\n\n/**\n * @publicApi\n */\nexport class DebugEventListener {\n  constructor(public name: string, public callback: Function) {}\n}\n\n/**\n * @publicApi\n */\nexport interface DebugNode {\n  readonly listeners: DebugEventListener[];\n  readonly parent: DebugElement|null;\n  readonly nativeNode: any;\n  readonly injector: Injector;\n  readonly componentInstance: any;\n  readonly context: any;\n  readonly references: {[key: string]: any};\n  readonly providerTokens: any[];\n}\nexport class DebugNode__PRE_R3__ {\n  readonly listeners: DebugEventListener[] = [];\n  readonly parent: DebugElement|null = null;\n  readonly nativeNode: any;\n  private

readonly _debugContext: DebugContext;\n\n constructor(nativeNode: any, parent: DebugNode|null, _debugContext: DebugContext) {\n this._debugContext = _debugContext;\n this.nativeNode = nativeNode;\n if (parent && parent instanceof DebugElement__PRE_R3__) {\n parent.addChild(this);\n }\n }\n\n get injector(): Injector {\n return this._debugContext.injector;\n }\n\n get componentInstance(): any {\n return this._debugContext.component;\n }\n\n get context(): any {\n return this._debugContext.context;\n }\n\n get references(): {[key: string]: any} {\n return this._debugContext.references;\n }\n\n get providerTokens(): any[] {\n return this._debugContext.providerTokens;\n }\n}\n\n/**\n * @publicApi\n */\nexport interface DebugElement extends DebugNode {\n readonly name: string;\n readonly properties: {[key: string]: any};\n readonly attributes: {[key: string]: string|null};\n readonly classes: {[key: string]: boolean};\n readonly styles: {[key:
string]: string|null};\n readonly childNodes: DebugNode[];\n readonly nativeElement: any;\n readonly children: DebugElement[];\n\n query(predicate: Predicate<DebugElement>): DebugElement;\n queryAll(predicate: Predicate<DebugElement>): DebugElement[];\n queryAllNodes(predicate: Predicate<DebugNode>): DebugNode[];\n triggerEventHandler(eventName: string, eventObj: any): void;\n}\nexport class DebugElement__PRE_R3__ extends DebugNode__PRE_R3__ implements DebugElement {\n readonly name!: string;\n readonly properties: {[key: string]: any} = {};\n readonly attributes: {[key: string]: string|null} = {};\n readonly classes: {[key: string]: boolean} = {};\n readonly styles: {[key: string]: string|null} = {};\n readonly childNodes: DebugNode[] = [];\n readonly nativeElement: any;\n\n constructor(nativeNode: any, parent: any, _debugContext: DebugContext) {\n super(nativeNode, parent, _debugContext);\n this.nativeElement = nativeNode;\n }\n\n addChild(child: DebugNode)
{\n if (child) {\n this.childNodes.push(child);\n (child as {parent: DebugNode}).parent = this;\n }\n }\n\n removeChild(child: DebugNode) {\n const childIndex = this.childNodes.indexOf(child);\n if (childIndex !== -1) {\n (child as {parent: DebugNode | null}).parent = null;\n this.childNodes.splice(childIndex, 1);\n }\n }\n\n insertChildrenAfter(child: DebugNode, newChildren: DebugNode[]) {\n const siblingIndex = this.childNodes.indexOf(child);\n if (siblingIndex !== -1) {\n this.childNodes.splice(siblingIndex + 1, 0, ...newChildren);\n newChildren.forEach(c => {\n if (c.parent) {\n (c.parent as DebugElement__PRE_R3__).removeChild(c);\n }\n (child as {parent: DebugNode}).parent = this;\n });\n }\n }\n\n insertBefore(refChild: DebugNode, newChild: DebugNode): void {\n const refIndex = this.childNodes.indexOf(refChild);\n if (refIndex === -1) {\n this.addChild(newChild);\n } else
{\n if (newChild.parent) {\n (newChild.parent as DebugElement__PRE_R3__).removeChild(newChild);\n }\n (newChild as {parent: DebugNode}).parent = this;\n this.childNodes.splice(refIndex, 0, newChild);\n }\n }\n\n query(predicate: Predicate<DebugElement>): DebugElement {\n const results = this.queryAll(predicate);\n return results[0] || null;\n }\n\n queryAll(predicate: Predicate<DebugElement>): DebugElement[] {\n const matches: DebugElement[] = [];\n _queryElementChildren(this, predicate, matches);\n return matches;\n }\n\n queryAllNodes(predicate: Predicate<DebugNode>): DebugNode[] {\n const matches: DebugNode[] = [];\n _queryNodeChildren(this, predicate, matches);\n return matches;\n }\n\n get children(): DebugElement[] {\n return this.childNodes //\n .filter((node) => node instanceof DebugElement__PRE_R3__) as DebugElement[];\n }\n\n triggerEventHandler(eventName: string, eventObj: any) {\n this.listeners.forEach((listener)
=> {\n if (listener.name == eventName) {\n listener.callback(eventObj);\n }\n });\n }\n}\n\n/**\n * @publicApi\n */\nexport function asNativeElements(debugEls: DebugElement[]): any {\n return debugEls.map((el) => el.nativeElement);\n}\n\nfunction _queryElementChildren(\n element: DebugElement, predicate: Predicate<DebugElement>, matches: DebugElement[]) {\n element.childNodes.forEach(node => {\n if (node instanceof DebugElement__PRE_R3__) {\n if (predicate(node)) {\n matches.push(node);\n }\n _queryElementChildren(node, predicate, matches);\n }\n });\n}\n\nfunction _queryNodeChildren(\n parentNode: DebugNode, predicate: Predicate<DebugNode>, matches: DebugNode[]) {\n if (parentNode instanceof DebugElement__PRE_R3__) {\n parentNode.childNodes.forEach(node => {\n if (predicate(node)) {\n matches.push(node);\n }\n if (node instanceof DebugElement__PRE_R3__) {\n

```
_queryNodeChildren(node,
 predicate, matches);\n      }\n    });\n  }\n}\n\nclass DebugNode__POST_R3__ implements DebugNode {\n readonly nativeNode: Node;\n\n  constructor(nativeNode: Node) {\n    this.nativeNode = nativeNode;\n  }\n\n  get parent(): DebugElement|null {\n    const parent = this.nativeNode.parentNode as Element;\n    return parent ? new DebugElement__POST_R3__(parent) : null;\n  }\n\n  get injector(): Injector {\n    return getInjector(this.nativeNode);\n  }\n\n  get componentInstance(): any {\n    const nativeElement = this.nativeNode;\n    return nativeElement &&\n        (getComponent(nativeElement as Element) || getOwningComponent(nativeElement));\n  }\n  get context(): any {\n    return getComponent(this.nativeNode as Element) || getContext(this.nativeNode as Element);\n  }\n\n  get listeners(): DebugEventListener[] {\n    return getListeners(this.nativeNode as Element).filter(listener => listener.type === 'dom');\n  }\n\n  get references(): {[key: string]: any;} {\n    return getLocalRefs(this.nativeNode);\n  }\n\n  get providerTokens(): any[] {\n    return getInjectionTokens(this.nativeNode as Element);\n  }\n}\n\nclass DebugElement__POST_R3__ extends DebugNode__POST_R3__ implements DebugElement {\n  constructor(nativeNode: Element) {\n    ngDevMode && assertDomNode(nativeNode);\n    super(nativeNode);\n  }\n\n  get nativeElement(): Element|null {\n    return this.nativeNode.nodeType == Node.ELEMENT_NODE ? this.nativeNode as Element : null;\n  }\n\n  get name(): string {\n    try {\n      const context = loadLContext(this.nativeNode)!;\n      const lView = context.lView;\n      const tData = lView[TVIEW].data;\n      const tNode = tData[context.nodeIndex] as TNode;\n      return tNode.value!;\n    } catch (e) {\n      return this.nativeNode.nodeName;\n    }\n  }\n\n  /**\n   * Gets a map of property names to property values for an element.\n   *\n   * This map includes:\n   * - Regular property bindings (e.g. `[id]=\"id\"`)\n   * - Host property bindings
 (e.g. `host: { '[id]': \"id\" }`)\n   * - Interpolated property bindings (e.g. `id=\"{{ value }}\")\n   *\n   * It does not include:\n   * - input property bindings (e.g. `[myCustomInput]=\"value\"`)\n   * - attribute bindings (e.g. `[attr.role]=\"menu\"`)\n   */\n  get properties(): {[key: string]: any;} {\n    const context = loadLContext(this.nativeNode, false);\n    if (context == null) {\n      return {};\n    }\n\n    const lView = context.lView;\n    const tData = lView[TVIEW].data;\n    const tNode = tData[context.nodeIndex] as TNode;\n\n    const properties: {[key: string]: string} = {};\n    // Collect properties from the DOM.\n    copyDomProperties(this.nativeElement, properties);\n    // Collect properties from the bindings. This is needed for animation renderer which has\n    // synthetic properties which don't get reflected into the DOM.\n    collectPropertyBindings(properties, tNode, lView, tData);\n    return properties;\n  }\n\n  get attributes(): {[key: string]:
 string|null;} {\n    const attributes: {[key: string]: string|null;} = {};\n    const element = this.nativeElement;\n\n    if (!element) {\n      return attributes;\n    }\n\n    const context = loadLContext(element, false);\n    if (context == null) {\n      return {};\n    }\n\n    const lView = context.lView;\n    const tNodeAttrs = (lView[TVIEW].data[context.nodeIndex] as TNode).attrs;\n    const lowercaseTNodeAttrs: string[] = [];\n\n    // For debug nodes we take the element's attribute directly from the DOM since it allows us\n    // to account for ones that weren't set via bindings (e.g. ViewEngine keeps track of the ones\n    // that are set through `Renderer2`). The problem is that the browser will lowercase all names,\n    // however since we have the attributes already on the TNode, we can preserve the case by going\n    // through them once, adding them to the `attributes` map and putting their lower-cased name\n    // into an array. Afterwards when we're going through
 the native DOM attributes, we can check\n    // whether we haven't run into an attribute already through the TNode.\n    if (tNodeAttrs) {\n      let i = 0;\n      while (i < tNodeAttrs.length) {\n        const attrName = tNodeAttrs[i];\n\n        // Stop as soon as we hit a marker. We only care about the regular attributes. Everything\n        // else will be handled below when we read the final attributes off the DOM.\n        if (typeof attrName !== 'string') break;\n\n        const attrValue = tNodeAttrs[i + 1];\n        attributes[attrName] = attrValue as string;\n        lowercaseTNodeAttrs.push(attrName.toLowerCase());\n\n        i += 2;\n      }\n    }\n\n    const eAttrs = element.attributes;\n    for (let i = 0; i < eAttrs.length; i++) {\n      const attr = eAttrs[i];\n      const lowercaseName = attr.name.toLowerCase();\n\n      // Make sure that we don't assign the same attribute both in its\n      // case-sensitive
```

form and the lower-cased one from the browser.\n if (lowercaseTNodeAttrs.indexOf(lowercaseName) === -1) {\n // Save the lowercase name to align the behavior between browsers.\n // IE preserves the case, while all other browser convert it to lower case.\n attributes[lowercaseName] = attr.value;\n }\n }\n\n return attributes;\n }\n\n get styles(): {[key: string]: string|null} {\n if (this.nativeElement && (this.nativeElement as HTMLElement).style) {\n return (this.nativeElement as HTMLElement).style as {[key: string]: any};\n }\n return {};\n }\n\n get classes(): {[key: string]: boolean;} {\n const result: {[key: string]: boolean;} = {};\n const element = this.nativeElement as HTMLElement | SVGElement;\n\n // SVG elements return an `SVGAnimatedString` instead of a plain string for the `className`.\n const className = element.className as string | SVGAnimatedString;\n const classes = className && typeof className !== 'string' ? className.baseVal.split(' ') :\n className.split(' ');\n\n classes.forEach((value: string) => result[value] = true);\n\n return result;\n }\n\n get childNodes(): DebugNode[] {\n const childNodes = this.nativeNode.childNodes;\n const children: DebugNode[] = [];\n for (let i = 0; i < childNodes.length; i++) {\n const element = childNodes[i];\n children.push(getDebugNode__POST_R3__(element));\n }\n return children;\n }\n\n get children(): DebugElement[] {\n const nativeElement = this.nativeElement;\n if (!nativeElement) return [];\n const childNodes = nativeElement.children;\n const children: DebugElement[] = [];\n for (let i = 0; i < childNodes.length; i++) {\n const element = childNodes[i];\n children.push(getDebugNode__POST_R3__(element));\n }\n return children;\n }\n\n query(predicate: Predicate<DebugElement>): DebugElement {\n const results = this.queryAll(predicate);\n return results[0] || null;\n }\n\n queryAll(predicate: Predicate<DebugElement>): DebugElement[] {\n const matches: DebugElement[] = [];\n _queryAllR3(this, predicate, matches, true);\n return matches;\n }\n\n queryAllNodes(predicate: Predicate<DebugNode>): DebugNode[] {\n const matches: DebugNode[] = [];\n _queryAllR3(this, predicate, matches, false);\n return matches;\n }\n\n triggerEventHandler(eventName: string, eventObj: any): void {\n const node = this.nativeNode as any;\n const invokedListeners: Function[] = [];\n\n this.listeners.forEach(listener => {\n if (listener.name === eventName) {\n const callback = listener.callback;\n callback.call(node, eventObj);\n invokedListeners.push(callback);\n }\n });\n\n // We need to check whether `eventListeners` exists, because it's something\n // that Zone.js only adds to `EventTarget` in browser environments.\n if (typeof node.eventListeners === 'function') {\n // Note that in Ivy we wrap event listeners with a call to `event.preventDefault` in some\n // cases. We use '__ngUnwrap__' as a special token that gives us access to the actual event\n // listener.\n node.eventListeners(eventName).forEach((listener: Function) => {\n // In order to ensure that we can detect the special __ngUnwrap__ token described above, we\n // use `toString` on the listener and see if it contains the token. We use this approach to\n // ensure that it still worked with compiled code since it cannot remove or rename string\n // literals. We also considered using a special function name (i.e. if(listener.name ===\n // special)) but that was more cumbersome and we were also concerned the compiled code could\n // strip the name, turning the condition in to (\"\" === \"\") and always returning true.\n if (listener.toString().indexOf('__ngUnwrap__') !== -1) {\n const unwrappedListener = listener('__ngUnwrap__');\n return invokedListeners.indexOf(unwrappedListener) === -1 &&\n unwrappedListener.call(node, eventObj);\n }\n });\n }\n }\n}\n\nfunction copyDomProperties(element: Element|null, properties: {[name: string]: string}): void {\n if (element) {\n // Skip own properties (as those are patched)\n let obj = Object.getPrototypeOf(element);\n const NodePrototype: any = Node.prototype;\n while (obj !== null && obj !== NodePrototype) {\n const descriptors = Object.getOwnPropertyDescriptors(obj);\n for (let key in descriptors) {\n if (!key.startsWith('__') && !key.startsWith('on')) {\n // don't include properties starting with `__` and `on`.\n // `__` are patched values which should not be included.\n // `on` are listeners which also should not be included.\n const value = (element as any)[key];\n if (isPrimitiveValue(value)) {\n properties[key] = value;\n }\n }\n }

```
obj = Object.getPrototypeOf(obj);\n  }\n }\n}\n\nfunction isPrimitiveValue(value: any): boolean {\n  return typeof value === 'string' || typeof value === 'boolean' || typeof value === 'number' ||\n      value === null;\n}\n\n/**\n * Walk the TNode tree to find matches for the predicate.\n *\n * @param parentElement the element from which the walk is started\n * @param predicate the predicate to match\n * @param matches the list of positive matches\n * @param elementsOnly whether only elements should be searched\n */\nfunction _queryAllR3(\n    parentElement: DebugElement, predicate: Predicate<DebugElement>, matches: DebugElement[],\n    elementsOnly: true): void;\nfunction _queryAllR3(\n    parentElement: DebugElement, predicate: Predicate<DebugNode>, matches: DebugNode[],\n    elementsOnly: false): void;\nfunction _queryAllR3(\n    parentElement: DebugElement, predicate: Predicate<DebugElement>|Predicate<DebugNode>,\n matches: DebugElement[]|DebugNode[], elementsOnly: boolean)
 {\n  const context = loadLContext(parentElement.nativeNode, false);\n  if (context !== null) {\n    const parentTNode = context.lView[TVIEW].data[context.nodeIndex] as TNode;\n    _queryNodeChildrenR3(\n parentTNode, context.lView, predicate, matches, elementsOnly, parentElement.nativeNode);\n  } else {\n    // If the context is null, then `parentElement` was either created with Renderer2 or native DOM\n    // APIs.\n _queryNativeNodeDescendants(parentElement.nativeNode, predicate, matches, elementsOnly);\n  }\n}\n\n/**\n * Recursively match the current TNode against the predicate, and goes on with the next ones.\n *\n * @param tNode the current TNode\n * @param lView the LView of this TNode\n * @param predicate the predicate to match\n * @param matches the list of positive matches\n * @param elementsOnly whether only elements should be searched\n * @param rootNativeNode the root native node on which predicate should not be matched\n */\nfunction _queryNodeChildrenR3(\n
   tNode: TNode, lView: LView, predicate: Predicate<DebugElement>|Predicate<DebugNode>,\n    matches: DebugElement[]|DebugNode[], elementsOnly: boolean, rootNativeNode: any) {\n  ngDevMode && assertTNodeForLView(tNode, lView);\n  const nativeNode = getNativeByTNodeOrNull(tNode, lView);\n  // For each type of TNode, specific logic is executed.\n  if (tNode.type & (TNodeType.AnyRNode |
TNodeType.ElementContainer)) {\n    // Case 1: the TNode is an element\n    // The native node has to be checked.\n
  _addQueryMatchR3(nativeNode, predicate, matches, elementsOnly, rootNativeNode);\n    if (isComponentHost(tNode)) {\n      // If the element is the host of a component, then all nodes in its view have to be processed.\n      // Note: the component's content (tNode.child) will be processed from the insertion points.\n const componentView = getComponentLViewByIndex(tNode.index, lView);\n      if (componentView && componentView[TVIEW].firstChild) {\n        _queryNodeChildrenR3(\n
    componentView[TVIEW].firstChild!, componentView, predicate, matches, elementsOnly,\n rootNativeNode);\n      }\n    } else {\n      if (tNode.child) {\n        // Otherwise, its children have to be processed.\n
   _queryNodeChildrenR3(tNode.child, lView, predicate, matches, elementsOnly, rootNativeNode);\n      }\n\n      // We also have to query the DOM directly in order to catch elements inserted through\n      // Renderer2. Note that this is __not__ optimal, because we're walking similar trees multiple\n      // times. ViewEngine could do it more efficiently, because all the insertions go through\n      // Renderer2, however that's not the case in Ivy. This approach is being used because:\n      // 1. Matching the ViewEngine behavior would mean potentially introducing a depedency\n      //    from `Renderer2` to Ivy which could bring Ivy code into ViewEngine.\n      // 2. We would have to make `Renderer3` \"know\" about debug nodes.\n      // 3. It allows us to capture
 nodes that were inserted directly via the DOM.\n      nativeNode && _queryNativeNodeDescendants(nativeNode, predicate, matches, elementsOnly);\n    }\n    // In all cases, if a dynamic container exists for this node, each view inside it has to be\n    // processed.\n    const nodeOrContainer = lView[tNode.index];\n    if (isLContainer(nodeOrContainer)) {\n      _queryNodeChildrenInContainerR3(\n          nodeOrContainer, predicate, matches, elementsOnly, rootNativeNode);\n    }\n  } else if (tNode.type & TNodeType.Container) {\n    // Case 2: the TNode is a container\n    // The native node has to be checked.\n    const lContainer = lView[tNode.index];\n _addQueryMatchR3(lContainer[NATIVE], predicate, matches, elementsOnly, rootNativeNode);\n    // Each view inside the container has to be processed.\n    _queryNodeChildrenInContainerR3(lContainer, predicate, matches, elementsOnly, rootNativeNode);\n  } else if (tNode.type & TNodeType.Projection) {\n    // Case 3: the TNode is
```

```
 a projection insertion point (i.e. a <ng-content>).\n    // The nodes projected at this location all need to be processed.\n    const componentView = lView![DECLARATION_COMPONENT_VIEW];\n    const componentHost = componentView[T_HOST] as TElementNode;\n    const head: TNode|null =\n (componentHost.projection as (TNode | null)[])[tNode.projection as number];\n\n    if (Array.isArray(head)) {\n for (let nativeNode of head) {\n      _addQueryMatchR3(nativeNode, predicate, matches, elementsOnly, rootNativeNode);\n    }\n    } else if (head) {\n      const nextLView = componentView[PARENT]! as LView;\n const nextTNode = nextLView[TVIEW].data[head.index] as TNode;\n      _queryNodeChildrenR3(nextTNode, nextLView, predicate, matches, elementsOnly, rootNativeNode);\n    }\n  } else if (tNode.child) {\n    // Case 4: the TNode is a view.\n    _queryNodeChildrenR3(tNode.child, lView, predicate, matches, elementsOnly, rootNativeNode);\n  }\n\n  // We don't want to go to the next
 sibling of the root node.\n  if (rootNativeNode !== nativeNode) {\n    // To determine the next node to be processed, we need to use the next or the projectionNext\n    // link, depending on whether the current node has been projected.\n    const nextTNode = (tNode.flags & TNodeFlags.isProjected) ? tNode.projectionNext : tNode.next;\n if (nextTNode) {\n      _queryNodeChildrenR3(nextTNode, lView, predicate, matches, elementsOnly, rootNativeNode);\n    }\n  }\n}\n\n/**\n * Process all TNodes in a given container.\n *\n * @param lContainer the container to be processed\n * @param predicate the predicate to match\n * @param matches the list of positive matches\n * @param elementsOnly whether only elements should be searched\n * @param rootNativeNode the root native node on which predicate should not be matched\n */\nfunction _queryNodeChildrenInContainerR3(\n lContainer: LContainer, predicate: Predicate<DebugElement>|Predicate<DebugNode>,\n    matches: DebugElement[]|DebugNode[],
 elementsOnly: boolean, rootNativeNode: any) {\n  for (let i = CONTAINER_HEADER_OFFSET; i < lContainer.length; i++) {\n    const childView = lContainer[i] as LView;\n    const firstChild = childView[TVIEW].firstChild;\n    if (firstChild) {\n      _queryNodeChildrenR3(firstChild, childView, predicate, matches, elementsOnly, rootNativeNode);\n    }\n  }\n}\n\n/**\n * Match the current native node against the predicate.\n *\n * @param nativeNode the current native node\n * @param predicate the predicate to match\n * @param matches the list of positive matches\n * @param elementsOnly whether only elements should be searched\n * @param rootNativeNode the root native node on which predicate should not be matched\n */\nfunction _addQueryMatchR3(\n    nativeNode: any, predicate: Predicate<DebugElement>|Predicate<DebugNode>,\n matches: DebugElement[]|DebugNode[], elementsOnly: boolean, rootNativeNode: any) {\n  if (rootNativeNode !== nativeNode) {\n    const debugNode = getDebugNode(nativeNode);\n
    if (!debugNode) {\n      return;\n    }\n    // Type of the \"predicate and \"matches\" array are set based on the value of\n    // the \"elementsOnly\" parameter. TypeScript is not able to properly infer these\n    // types with generics, so we manually cast the parameters accordingly.\n    if (elementsOnly && debugNode instanceof DebugElement__POST_R3__ && predicate(debugNode) &&\n        matches.indexOf(debugNode) === -1) {\n matches.push(debugNode);\n    } else if (\n        !elementsOnly && (predicate as Predicate<DebugNode>)(debugNode) &&\n        (matches as DebugNode[]).indexOf(debugNode) === -1) {\n (matches as DebugNode[]).push(debugNode);\n    }\n  }\n}\n\n/**\n * Match all the descendants of a DOM node against a predicate.\n *\n * @param nativeNode the current native node\n * @param predicate the predicate to match\n * @param matches the list where matches are stored\n * @param elementsOnly whether only elements should be searched\n */\nfunction _queryNativeNodeDescendants(\n
    parentNode: any, predicate: Predicate<DebugElement>|Predicate<DebugNode>,\n    matches: DebugElement[]|DebugNode[], elementsOnly: boolean) {\n  const nodes = parentNode.childNodes;\n  const length = nodes.length;\n\n  for (let i = 0; i < length; i++) {\n    const node = nodes[i];\n    const debugNode = getDebugNode(node);\n\n    if (debugNode) {\n      if (elementsOnly && debugNode instanceof DebugElement__POST_R3__ && predicate(debugNode) &&\n          matches.indexOf(debugNode) === -1) {\n matches.push(debugNode);\n      } else if (\n          !elementsOnly && (predicate as Predicate<DebugNode>)(debugNode) &&\n          (matches as DebugNode[]).indexOf(debugNode) === -1) {\n (matches as DebugNode[]).push(debugNode);\n      }\n\n      _queryNativeNodeDescendants(node, predicate,
```

matches, elementsOnly);\n  }\n  }\n}\n\n/**\n * Iterates through the property bindings for a given node and generates\n * a map of property names to values. This map
 only contains property bindings\n * defined in templates, not in host bindings.\n */\nfunction collectPropertyBindings(\n  properties: {[key: string]: string}, tNode: TNode, lView: LView, tData: TData): void {\n  let bindingIndexes = tNode.propertyBindings;\n\n  if (bindingIndexes !== null) {\n  for (let i = 0; i < bindingIndexes.length; i++) {\n  const bindingIndex = bindingIndexes[i];\n  const propMetadata = tData[bindingIndex] as string;\n  const metadataParts = propMetadata.split(INTERPOLATION_DELIMITER);\n  const propertyName = metadataParts[0];\n  if (metadataParts.length > 1) {\n  let value = metadataParts[1];\n  for (let j = 1; j < metadataParts.length - 1; j++) {\n  value += renderStringify(lView[bindingIndex + j - 1]) + metadataParts[j + 1];\n  }\n  properties[propertyName] = value;\n  } else {\n  properties[propertyName] = lView[bindingIndex];\n  }\n  }\n  }\n}\n\n\n// Need to keep the nodes in a global
 Map so that multiple angular apps are supported.\nconst _nativeNodeToDebugNode = new Map<any, DebugNode>();\n\nfunction getDebugNode__PRE_R3__(nativeNode: any): DebugNode|null {\n  return _nativeNodeToDebugNode.get(nativeNode) || null;\n}\n\nconst NG_DEBUG_PROPERTY = '__ng_debug__';\n\nexport function getDebugNode__POST_R3__(nativeNode: Element): DebugElement__POST_R3__;\nexport function getDebugNode__POST_R3__(nativeNode: Node): DebugNode__POST_R3__;\nexport function getDebugNode__POST_R3__(nativeNode: null): null;\nexport function getDebugNode__POST_R3__(nativeNode: any): DebugNode|null {\n  if (nativeNode instanceof Node) {\n  if (!(nativeNode.hasOwnProperty(NG_DEBUG_PROPERTY))) {\n  (nativeNode as any)[NG_DEBUG_PROPERTY] = nativeNode.nodeType == Node.ELEMENT_NODE ?\n  new DebugElement__POST_R3__(nativeNode as Element) :\n  new DebugNode__POST_R3__(nativeNode);\n  }\n  return (nativeNode as any)[NG_DEBUG_PROPERTY];\n  }\n  return null;\n}\n\n/**\n * @publicApi\n */\nexport const getDebugNode: (nativeNode: any) => DebugNode | null = getDebugNode__PRE_R3__;\n\n\nexport function getDebugNodeR2__PRE_R3__(nativeNode: any): DebugNode|null {\n  return getDebugNode__PRE_R3__(nativeNode);\n}\n\nexport function getDebugNodeR2__POST_R3__(_nativeNode: any): DebugNode|null {\n  return null;\n}\n\nexport const getDebugNodeR2: (nativeNode: any) => DebugNode | null = getDebugNodeR2__PRE_R3__;\n\n\nexport function getAllDebugNodes(): DebugNode[] {\n  return Array.from(_nativeNodeToDebugNode.values());\n}\n\nexport function indexDebugNode(node: DebugNode) {\n  _nativeNodeToDebugNode.set(node.nativeNode, node);\n}\n\nexport function removeDebugNodeFromIndex(node: DebugNode) {\n  _nativeNodeToDebugNode.delete(node.nativeNode);\n}\n\n/**\n * A boolean-valued function over a value, possibly including context information\n * regarding that value's position in an array.\n *\n * @publicApi\n */\nexport interface Predicate<T> {\n  (value: T): boolean;\n}\n\n/**\n
 * @publicApi\n */\nexport const DebugNode: {new (...args: any[]): DebugNode} = DebugNode__PRE_R3__;\n\n/**\n * @publicApi\n */\nexport const DebugElement: {new (...args: any[]): DebugElement} = DebugElement__PRE_R3__;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Change detection enables data binding in Angular.\n */\n\nexport {ChangeDetectionStrategy, ChangeDetectorRef, DefaultIterableDiffer, IterableChangeRecord, IterableChanges, IterableDiffer, IterableDifferFactory, IterableDiffers, KeyValueChangeRecord, KeyValueChanges, KeyValueDiffer, KeyValueDifferFactory, KeyValueDiffers, NgIterable, PipeTransform, SimpleChange, SimpleChanges, TrackByFunction, WrappedValue} from './change_detection/change_detection';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n *
 Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {createPlatformFactory, PlatformRef} from './application_ref';\nimport {PLATFORM_ID} from './application_tokens';\nimport {Console} from './console';\nimport {Injector, StaticProvider} from './di';\nimport {TestabilityRegistry} from './testability/testability';\n\nconst

_CORE_PLATFORM_PROVIDERS: StaticProvider[] = [\n  // Set a default platform name for platforms that don't set it explicitly.\n  {provide: PLATFORM_ID, useValue: 'unknown'},\n  {provide: PlatformRef, deps: [Injector]},\n  {provide: TestabilityRegistry, deps: []},\n  {provide: Console, deps: []},\n];\n\n/**\n * This platform has to be included in any other platform\n *\n * @publicApi\n */\nexport const platformCore = createPlatformFactory(null, 'core', _CORE_PLATFORM_PROVIDERS);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code
 is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {APP_INITIALIZER, ApplicationInitStatus} from './application_init';\nimport {ApplicationRef} from './application_ref';\nimport {APP_ID_RANDOM_PROVIDER} from './application_tokens';\nimport {defaultIterableDiffers, defaultKeyValueDiffers, IterableDiffers, KeyValueDiffers} from './change_detection/change_detection';\nimport {Console} from './console';\nimport {Injector, StaticProvider} from './di';\nimport {Inject, Optional, SkipSelf} from './di/metadata';\nimport {ErrorHandler} from './error_handler';\nimport {DEFAULT_LOCALE_ID, USD_CURRENCY_CODE} from './i18n/localization';\nimport {DEFAULT_CURRENCY_CODE, LOCALE_ID} from './i18n/tokens';\nimport {ivyEnabled} from './ivy_switch';\nimport {ComponentFactoryResolver} from './linker';\nimport {Compiler} from './linker/compiler';\nimport {NgModule} from './metadata';\nimport {SCHEDULER} from './render3/component_ref';\nimport
 {setLocaleId} from './render3/i18n/i18n_locale_id';\nimport {NgZone} from './zone';\n\ndeclare const $localize: {locale?: string};\n\nexport function _iterableDiffersFactory() {\n  return defaultIterableDiffers;\n}\n\nexport function _keyValueDiffersFactory() {\n  return defaultKeyValueDiffers;\n}\n\nexport function _localeFactory(locale?: string): string {\n  locale = locale || getGlobalLocale();\n  if (ivyEnabled) {\n    setLocaleId(locale);\n  }\n  return locale;\n}\n\n/**\n * Work out the locale from the potential global properties.\n *\n * * Closure Compiler: use `goog.LOCALE`.\n * * Ivy enabled: use `$localize.locale`\n */\nexport function getGlobalLocale(): string {\n  if (typeof ngI18nClosureMode !== 'undefined' && ngI18nClosureMode &&\n      typeof goog !== 'undefined' && goog.LOCALE !== 'en') {\n    // * The default `goog.LOCALE` value is `en`, while Angular used `en-US`.\n    // * In order to preserve backwards compatibility, we use Angular default value over\n    //
  Closure Compiler's one.\n    return goog.LOCALE;\n  } else {\n    // KEEP `typeof $localize !== 'undefined' && $localize.locale` IN SYNC WITH THE LOCALIZE\n    // COMPILE-TIME INLINER.\n    //\n    // * During compile time inlining of translations the expression will be replaced\n    //   with a string literal that is the current locale. Other forms of this expression are not\n    //   guaranteed to be replaced.\n    //\n    // * During runtime translation evaluation, the developer is required to set `$localize.locale`\n    //   if required, or just to provide their own `LOCALE_ID` provider.\n    return (ivyEnabled && typeof $localize !== 'undefined' && $localize.locale) ||\n
    DEFAULT_LOCALE_ID;\n  }\n}\n\n/**\n * A built-in [dependency injection token](guide/glossary#di-token)\n * that is used to configure the root injector for bootstrapping.\n */\nexport const
APPLICATION_MODULE_PROVIDERS: StaticProvider[] = [\n  {\n    provide: ApplicationRef,\n    useClass: ApplicationRef,\n
    deps: [NgZone, Console, Injector, ErrorHandler, ComponentFactoryResolver, ApplicationInitStatus]\n  },\n  {provide: SCHEDULER, deps: [NgZone], useFactory: zoneSchedulerFactory},\n  {\n    provide: ApplicationInitStatus,\n    useClass: ApplicationInitStatus,\n    deps: [[new Optional(), APP_INITIALIZER]]\n  },\n  {provide: Compiler, useClass: Compiler, deps: []},\n  APP_ID_RANDOM_PROVIDER,\n  {provide: IterableDiffers, useFactory: _iterableDiffersFactory, deps: []},\n  {provide: KeyValueDiffers, useFactory: _keyValueDiffersFactory, deps: []},\n  {\n    provide: LOCALE_ID,\n    useFactory: _localeFactory,\n    deps: [[new Inject(LOCALE_ID), new Optional(), new SkipSelf()]]\n  },\n  {provide: DEFAULT_CURRENCY_CODE, useValue: USD_CURRENCY_CODE},\n];\n\n/**\n * Schedule work at next available slot.\n *\n * In Ivy this is just `requestAnimationFrame`. For compatibility reasons when bootstrapped\n * using `platformRef.bootstrap` we need to use `NgZone.onStable` as the scheduling mechanism.\n

* This overrides the scheduling mechanism in Ivy to `NgZone.onStable`.\n *\n * @param ngZone NgZone to use for scheduling.\n */\nexport function zoneSchedulerFactory(ngZone: NgZone): (fn: () => void) => void {\n let queue: (() => void)[] = [];\n ngZone.onStable.subscribe(() => {\n while (queue.length) {\n queue.pop()!();\n }\n });\n return function(fn: () => void) {\n queue.push(fn);\n };\n}\n\n/**\n * Configures the root injector for an app with\n * providers of `@angular/core` dependencies that `ApplicationRef` needs\n * to bootstrap components.\n *\n * Re-exported by `BrowserModule`, which is included automatically in the root\n * `AppModule` when you create a new app with the CLI `new` command.\n *\n * @publicApi\n */\n@NgModule({providers: APPLICATION_MODULE_PROVIDERS})\nexport class ApplicationModule {\n // Inject ApplicationRef to make it eager...\n constructor(appRef: ApplicationRef) {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ViewEncapsulation} from '../metadata/view';\nimport {RendererType2} from '../render/api_flags';\nimport {SecurityContext} from '../sanitization/security';\n\nimport {asElementData, BindingDef, BindingFlags, ElementData, ElementHandleEventFn, NodeDef, NodeFlags, OutputDef, OutputType, QueryValueType, ViewData, ViewDefinitionFactory} from './types';\nimport {calcBindingFlags, checkAndUpdateBinding, dispatchEvent, elementEventFullName, getParentRenderElement, NOOP, resolveDefinition, resolveRendererType2, splitMatchedQueriesDsl, splitNamespace} from './util';\n\nexport function anchorDef(\n flags: NodeFlags, matchedQueriesDsl: null|[string | number, QueryValueType][],\n ngContentIndex: null|number, childCount: number, handleEvent?: null|ElementHandleEventFn,\n templateFactory?: ViewDefinitionFactory): NodeDef {\n flags |= NodeFlags.TypeElement;\n const {matchedQueries, references, matchedQueryIds} = splitMatchedQueriesDsl(matchedQueriesDsl);\n const template = templateFactory ? resolveDefinition(templateFactory) : null;\n\n return {\n // will bet set by the view definition\n nodeIndex: -1,\n parent: null,\n renderParent: null,\n bindingIndex: -1,\n outputIndex: -1,\n // regular values\n flags,\n checkIndex: -1,\n childFlags: 0,\n directChildFlags: 0,\n childMatchedQueries: 0,\n matchedQueries,\n matchedQueryIds,\n references,\n ngContentIndex,\n childCount,\n bindings: [],\n bindingFlags: 0,\n outputs: [],\n element: {\n ns: null,\n name: null,\n attrs: null,\n template,\n componentProvider: null,\n componentView: null,\n componentRendererType: null,\n publicProviders: null,\n allProviders: null,\n handleEvent: handleEvent || NOOP\n },\n provider: null,\n text: null,\n query: null,\n ngContent: null\n };\n}\n\nexport function elementDef(\n checkIndex: number, flags: NodeFlags,\n matchedQueriesDsl: null|[string | number, QueryValueType][], ngContentIndex: null|number,\n childCount: number, namespaceAndName: string|null, fixedAttrs: null|[string, string][] = [],\n bindings?: null|[BindingFlags, string, string | SecurityContext | null][],\n outputs?: null|([string, string])[], handleEvent?: null|ElementHandleEventFn,\n componentView?: null|ViewDefinitionFactory, componentRendererType?: RendererType2|null): NodeDef {\n if (!handleEvent) {\n handleEvent = NOOP;\n }\n const {matchedQueries, references, matchedQueryIds} = splitMatchedQueriesDsl(matchedQueriesDsl);\n let ns: string = null!;\n let name: string = null!;\n if (namespaceAndName) {\n [ns, name] = splitNamespace(namespaceAndName);\n }\n bindings = bindings || [];\n const bindingDefs: BindingDef[] = [];\n for (let i = 0; i < bindings.length; i++) {\n const [bindingFlags, namespaceAndName, suffixOrSecurityContext] = bindings[i];\n\n const [ns, name] = splitNamespace(namespaceAndName);\n let securityContext: SecurityContext = undefined!;\n let suffix: string = undefined!;\n switch (bindingFlags & BindingFlags.Types) {\n case BindingFlags.TypeElementStyle:\n suffix = <string>suffixOrSecurityContext;\n break;\n case BindingFlags.TypeElementAttribute:\n case BindingFlags.TypeProperty:\n securityContext = <SecurityContext>suffixOrSecurityContext;\n break;\n }\n bindingDefs[i] =\n {flags: bindingFlags, ns, name, nonMinifiedName: name, securityContext, suffix};\n }\n outputs = outputs || [];\n const outputDefs: OutputDef[] = [];\n for (let i = 0; i < outputs.length; i++) {\n const [target, eventName] = outputs[i];\n outputDefs[i] =\n {type: OutputType.ElementOutput, target: <any>target, eventName, propName: null};\n }\n fixedAttrs = fixedAttrs || [];\n const attrs

= <[string, string, string][]>fixedAttrs.map(([namespaceAndName, value]) => {\n const [ns, name] = splitNamespace(namespaceAndName);\n return [ns, name, value];\n });\n componentRendererType = resolveRendererType2(componentRendererType);\n if (componentView) {\n flags |= NodeFlags.ComponentView;\n }\n flags |= NodeFlags.TypeElement;\n return {\n // will bet set by the view definition\n nodeIndex: -1,\n parent: null,\n renderParent: null,\n bindingIndex: -1,\n outputIndex: -1,\n // regular values\n checkIndex,\n flags,\n childFlags: 0,\n directChildFlags: 0,\n childMatchedQueries: 0,\n matchedQueries,\n matchedQueryIds,\n references,\n ngContentIndex,\n childCount,\n bindings: bindingDefs,\n bindingFlags: calcBindingFlags(bindingDefs),\n outputs: outputDefs,\n element: {\n ns,\n name,\n attrs,\n template: null,\n // will bet set by the view definition\n componentProvider: null,\n componentView: componentView || null,\n componentRendererType: componentRendererType,\n publicProviders: null,\n allProviders: null,\n handleEvent: handleEvent || NOOP,\n },\n provider: null,\n text: null,\n query: null,\n ngContent: null\n };\n}\n\nexport function createElement(view: ViewData, renderHost: any, def: NodeDef): ElementData {\n const elDef = def.element!;\n const rootSelectorOrNode = view.root.selectorOrNode;\n const renderer = view.renderer;\n let el: any;\n if (view.parent || !rootSelectorOrNode) {\n if (elDef.name) {\n el = renderer.createElement(elDef.name, elDef.ns);\n } else {\n el = renderer.createComment('');\n }\n const parentEl = getParentRenderElement(view, renderHost, def);\n if (parentEl) {\n renderer.appendChild(parentEl, el);\n }\n } else {\n // when using native Shadow DOM, do not clear the root element contents to allow slot projection\n const preserveContent =\n (!!elDef.componentRendererType &&\n elDef.componentRendererType.encapsulation === ViewEncapsulation.ShadowDom);\n el = renderer.selectRootElement(rootSelectorOrNode, preserveContent);\n }\n if (elDef.attrs) {\n for (let i = 0; i < elDef.attrs.length; i++) {\n const [ns, name, value] = elDef.attrs[i];\n renderer.setAttribute(el, name, value, ns);\n }\n }\n return el;\n}\n\nexport function listenToElementOutputs(view: ViewData, compView: ViewData, def: NodeDef, el: any) {\n for (let i = 0; i < def.outputs.length; i++) {\n const output = def.outputs[i];\n const handleEventClosure = renderEventHandlerClosure(\n view, def.nodeIndex, elementEventFullName(output.target, output.eventName));\n let listenTarget: 'window'|'document'|'body'|'component'|null = output.target;\n let listenerView = view;\n if (output.target === 'component') {\n listenTarget = null;\n listenerView = compView;\n }\n const disposable =\n <any>listenerView.renderer.listen(listenTarget || el, output.eventName, handleEventClosure);\n view.disposables![def.outputIndex + i] = disposable;\n }\n}\n\nfunction renderEventHandlerClosure(view: ViewData, index: number, eventName: string) {\n return (event: any) => dispatchEvent(view, index, eventName, event);\n}\n\nexport function checkAndUpdateElementInline(\n view: ViewData, def: NodeDef, v0: any, v1: any, v2: any, v3: any, v4: any, v5: any, v6: any,\n v7: any, v8: any, v9: any): boolean {\n const bindLen = def.bindings.length;\n let changed = false;\n if (bindLen > 0 && checkAndUpdateElementValue(view, def, 0, v0)) changed = true;\n if (bindLen > 1 && checkAndUpdateElementValue(view, def, 1, v1)) changed = true;\n if (bindLen > 2 && checkAndUpdateElementValue(view, def, 2, v2)) changed = true;\n if (bindLen > 3 && checkAndUpdateElementValue(view, def, 3, v3)) changed = true;\n if (bindLen > 4 && checkAndUpdateElementValue(view, def, 4, v4)) changed = true;\n if (bindLen > 5 && checkAndUpdateElementValue(view, def, 5, v5)) changed = true;\n if (bindLen > 6 && checkAndUpdateElementValue(view, def, 6, v6)) changed = true;\n if (bindLen > 7 && checkAndUpdateElementValue(view, def, 7, v7)) changed = true;\n if (bindLen > 8 && checkAndUpdateElementValue(view, def, 8, v8)) changed = true;\n if (bindLen > 9 && checkAndUpdateElementValue(view, def, 9, v9)) changed = true;\n return changed;\n}\n\nexport function checkAndUpdateElementDynamic(view: ViewData, def: NodeDef, values: any[]): boolean {\n let changed = false;\n for (let i = 0; i < values.length; i++) {\n if (checkAndUpdateElementValue(view, def, i, values[i])) changed = true;\n }\n return changed;\n}\n\nfunction checkAndUpdateElementValue(view: ViewData, def: NodeDef, bindingIdx: number, value: any) {\n if (!checkAndUpdateBinding(view, def, bindingIdx, value)) {\n return false;\n }\n const binding = def.bindings[bindingIdx];\n const elData = asElementData(view,

def.nodeIndex);\n
const renderNode = elData.renderElement;\n const name = binding.name!;\n switch (binding.flags & BindingFlags.Types) {\n case BindingFlags.TypeElementAttribute:\n setElementAttribute(view, binding, renderNode, binding.ns, name, value);\n break;\n case BindingFlags.TypeElementClass:\n setElementClass(view, renderNode, name, value);\n break;\n case BindingFlags.TypeElementStyle:\n setElementStyle(view, binding, renderNode, name, value);\n break;\n case BindingFlags.TypeProperty:\n const bindView = (def.flags & NodeFlags.ComponentView &&\n binding.flags & BindingFlags.SyntheticHostProperty) ?\n elData.componentView :\n view;\n setElementProperty(bindView, binding, renderNode, name, value);\n break;\n }\n return true;\n}\n\nfunction setElementAttribute(\n view: ViewData, binding: BindingDef, renderNode: any, ns: string|null, name: string,\n value: any) {\n const securityContext
= binding.securityContext;\n let renderValue = securityContext ? view.root.sanitizer.sanitize(securityContext, value) : value;\n renderValue = renderValue != null ? renderValue.toString() : null;\n const renderer = view.renderer;\n if (value != null) {\n renderer.setAttribute(renderNode, name, renderValue, ns);\n } else {\n renderer.removeAttribute(renderNode, name, ns);\n }\n}\n\nfunction setElementClass(view: ViewData, renderNode: any, name: string, value: boolean) {\n const renderer = view.renderer;\n if (value) {\n renderer.addClass(renderNode, name);\n } else {\n renderer.removeClass(renderNode, name);\n }\n}\n\nfunction setElementStyle(\n view: ViewData, binding: BindingDef, renderNode: any, name: string, value: any) {\n let renderValue: string|null =\n view.root.sanitizer.sanitize(SecurityContext.STYLE, value as {} | string);\n if (renderValue != null) {\n renderValue = renderValue.toString();\n const unit = binding.suffix;\n if (unit != null) {\n renderValue = renderValue + unit;\n }\n } else {\n renderValue = null;\n }\n const renderer = view.renderer;\n if (renderValue != null) {\n renderer.setStyle(renderNode, name, renderValue);\n } else {\n renderer.removeStyle(renderNode, name);\n }\n}\n\nfunction setElementProperty(\n view: ViewData, binding: BindingDef, renderNode: any, name: string, value: any) {\n const securityContext = binding.securityContext;\n let renderValue = securityContext ? view.root.sanitizer.sanitize(securityContext, value) : value;\n view.renderer.setProperty(renderNode, name, renderValue);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ElementRef} from '../linker/element_ref';\nimport {QueryList} from '../linker/query_list';\n\nimport {asElementData, asProviderData, asQueryList, NodeDef, NodeFlags,
QueryBindingDef, QueryBindingType, QueryDef, QueryValueType, ViewData} from './types';\nimport {declaredViewContainer, filterQueryId, isEmbeddedView} from './util';\n\nexport function queryDef(\n flags: NodeFlags, id: number, bindings: {[propName: string]: QueryBindingType}): NodeDef {\n let bindingDefs: QueryBindingDef[] = [];\n for (let propName in bindings) {\n const bindingType = bindings[propName];\n bindingDefs.push({propName, bindingType});\n }\n\n return {\n // will bet set by the view definition\n nodeIndex: -1,\n parent: null,\n renderParent: null,\n bindingIndex: -1,\n outputIndex: -1,\n // regular values\n // TODO(vicb): check\n checkIndex: -1,\n flags,\n childFlags: 0,\n directChildFlags: 0,\n childMatchedQueries: 0,\n ngContentIndex: -1,\n matchedQueries: {},\n matchedQueryIds: 0,\n references: {},\n childCount: 0,\n bindings: [],\n bindingFlags: 0,\n outputs: [],\n element: null,\n
provider: null,\n text: null,\n query: {id, filterId: filterQueryId(id), bindings: bindingDefs},\n ngContent: null\n };\n}\n\nexport function createQuery(): QueryList<any> {\n return new QueryList();\n}\n\nexport function dirtyParentQueries(view: ViewData) {\n const queryIds = view.def.nodeMatchedQueries;\n while (view.parent && isEmbeddedView(view)) {\n let tplDef = view.parentNodeDef!;\n view = view.parent;\n // content queries\n const end = tplDef.nodeIndex + tplDef.childCount;\n for (let i = 0; i <= end; i++) {\n const nodeDef = view.def.nodes[i];\n if ((nodeDef.flags & NodeFlags.TypeContentQuery) &&\n (nodeDef.flags & NodeFlags.DynamicQuery) &&\n (nodeDef.query!.filterId & queryIds) === nodeDef.query!.filterId) {\n asQueryList(view, i).setDirty();\n }\n if ((nodeDef.flags & NodeFlags.TypeElement && i + nodeDef.childCount < tplDef.nodeIndex) ||\n !(nodeDef.childFlags & NodeFlags.TypeContentQuery) ||\n

!(nodeDef.childFlags & NodeFlags.DynamicQuery)) {\n // skip elements that don't contain the template element or no query.\n i += nodeDef.childCount;\n }\n }\n\n // view queries\n if (view.def.nodeFlags & NodeFlags.TypeViewQuery) {\n for (let i = 0; i < view.def.nodes.length; i++) {\n const nodeDef = view.def.nodes[i];\n if ((nodeDef.flags & NodeFlags.TypeViewQuery) && (nodeDef.flags & NodeFlags.DynamicQuery)) {\n asQueryList(view, i).setDirty();\n }\n // only visit the root nodes\n i += nodeDef.childCount;\n }\n }\n}\n\nexport function checkAndUpdateQuery(view: ViewData, nodeDef: NodeDef) {\n const queryList = asQueryList(view, nodeDef.nodeIndex);\n if (!queryList.dirty) {\n return;\n }\n let directiveInstance: any;\n let newValues: any[] = undefined!;\n if (nodeDef.flags & NodeFlags.TypeContentQuery) {\n const elementDef = nodeDef.parent!.parent!;\n newValues = calcQueryValues(\n view,
elementDef.nodeIndex, elementDef.nodeIndex + elementDef.childCount, nodeDef.query!,\n []);\n directiveInstance = asProviderData(view, nodeDef.parent!.nodeIndex).instance;\n } else if (nodeDef.flags & NodeFlags.TypeViewQuery) {\n newValues = calcQueryValues(view, 0, view.def.nodes.length - 1, nodeDef.query!, []);\n directiveInstance = view.component;\n }\n queryList.reset(newValues);\n const bindings = nodeDef.query!.bindings;\n let notify = false;\n for (let i = 0; i < bindings.length; i++) {\n const binding = bindings[i];\n let boundValue: any;\n switch (binding.bindingType) {\n case QueryBindingType.First:\n boundValue = queryList.first;\n break;\n case QueryBindingType.All:\n boundValue = queryList;\n notify = true;\n break;\n }\n directiveInstance[binding.propName] = boundValue;\n }\n if (notify) {\n queryList.notifyOnChanges();\n }\n}\n\nfunction calcQueryValues(\n view: ViewData, startIndex:
number, endIndex: number, queryDef: QueryDef,\n values: any[]): any[] {\n for (let i = startIndex; i <= endIndex; i++) {\n const nodeDef = view.def.nodes[i];\n const valueType = nodeDef.matchedQueries[queryDef.id];\n if (valueType != null) {\n values.push(getQueryValue(view, nodeDef, valueType));\n }\n if (nodeDef.flags & NodeFlags.TypeElement && nodeDef.element!.template &&\n (nodeDef.element!.template !.nodeMatchedQueries & queryDef.filterId) ===\n queryDef.filterId) {\n const elementData = asElementData(view, i);\n // check embedded views that were attached at the place of their template,\n // but process child nodes first if some match the query (see issue #16568)\n if ((nodeDef.childMatchedQueries & queryDef.filterId) === queryDef.filterId) {\n calcQueryValues(view, i + 1, i + nodeDef.childCount, queryDef, values);\n i += nodeDef.childCount;\n }\n if (nodeDef.flags & NodeFlags.EmbeddedViews)
{\n const embeddedViews = elementData.viewContainer!._embeddedViews;\n for (let k = 0; k < embeddedViews.length; k++) {\n const embeddedView = embeddedViews[k];\n const dvc = declaredViewContainer(embeddedView);\n if (dvc && dvc === elementData) {\n calcQueryValues(embeddedView, 0, embeddedView.def.nodes.length - 1, queryDef, values);\n }\n }\n }\n const projectedViews = elementData.template._projectedViews;\n if (projectedViews) {\n for (let k = 0; k < projectedViews.length; k++) {\n const projectedView = projectedViews[k];\n calcQueryValues(projectedView, 0, projectedView.def.nodes.length - 1, queryDef, values);\n }\n }\n }\n if ((nodeDef.childMatchedQueries & queryDef.filterId) !== queryDef.filterId) {\n // if no child matches the query, skip the children.\n i += nodeDef.childCount;\n }\n }\n return values;\n}\n\nexport function getQueryValue(\n
view: ViewData, nodeDef: NodeDef, queryValueType: QueryValueType): any {\n if (queryValueType != null) {\n // a match\n switch (queryValueType) {\n case QueryValueType.RenderElement:\n return asElementData(view, nodeDef.nodeIndex).renderElement;\n case QueryValueType.ElementRef:\n return new ElementRef(asElementData(view, nodeDef.nodeIndex).renderElement);\n case QueryValueType.TemplateRef:\n return asElementData(view, nodeDef.nodeIndex).template;\n case QueryValueType.ViewContainerRef:\n return asElementData(view, nodeDef.nodeIndex).viewContainer;\n case QueryValueType.Provider:\n return asProviderData(view, nodeDef.nodeIndex).instance;\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n

*/\n\nimport {NodeDef, NodeFlags, ViewData} from './types';\nimport
{getParentRenderElement, RenderNodeAction, visitProjectedRenderNodes} from './util';\n\nexport function
ngContentDef(ngContentIndex: null|number, index: number): NodeDef {\n return {\n // will bet set by the view
definition\n nodeIndex: -1,\n parent: null,\n renderParent: null,\n bindingIndex: -1,\n outputIndex: -1,\n //
regular values\n checkIndex: -1,\n flags: NodeFlags.TypeNgContent,\n childFlags: 0,\n directChildFlags:
0,\n childMatchedQueries: 0,\n matchedQueries: {},\n matchedQueryIds: 0,\n references: {},\n
ngContentIndex,\n childCount: 0,\n bindings: [],\n bindingFlags: 0,\n outputs: [],\n element: null,\n
provider: null,\n text: null,\n query: null,\n ngContent: {index}\n };\n}\n\nexport function
appendNgContent(view: ViewData, renderHost: any, def: NodeDef) {\n const parentEl =
getParentRenderElement(view, renderHost, def);\n if (!parentEl) {\n // Nothing to do if there is no parent
element.\n
return;\n }\n const ngContentIndex = def.ngContent!.index;\n visitProjectedRenderNodes(\n view,
ngContentIndex, RenderNodeAction.AppendChild, parentEl, null, undefined);\n}\n","/**\n * @license\n *
Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {newArray} from
'../util/array_utils';\n\nimport {asPureExpressionData, BindingDef, BindingFlags, NodeDef, NodeFlags,
PureExpressionData, ViewData} from './types';\nimport {calcBindingFlags, checkAndUpdateBinding} from
'./util';\n\nexport function purePipeDef(checkIndex: number, argCount: number): NodeDef {\n // argCount + 1 to
include the pipe as first arg\n return _pureExpressionDef(NodeFlags.TypePurePipe, checkIndex,
newArray(argCount + 1));\n}\n\nexport function pureArrayDef(checkIndex: number, argCount: number): NodeDef
{\n return _pureExpressionDef(NodeFlags.TypePureArray,
checkIndex, newArray(argCount));\n}\n\nexport function pureObjectDef(checkIndex: number, propToIndex: {[p:
string]: number}): NodeDef {\n const keys = Object.keys(propToIndex);\n const nbKeys = keys.length;\n const
propertyNames = [];\n for (let i = 0; i < nbKeys; i++) {\n const key = keys[i];\n const index =
propToIndex[key];\n propertyNames.push(key);\n }\n\n return _pureExpressionDef(NodeFlags.TypePureObject,
checkIndex, propertyNames);\n}\n\nfunction _pureExpressionDef(\n flags: NodeFlags, checkIndex: number,
propertyNames: string[]): NodeDef {\n const bindings: BindingDef[] = [];\n for (let i = 0; i <
propertyNames.length; i++) {\n const prop = propertyNames[i];\n bindings.push({\n flags:
BindingFlags.TypeProperty,\n name: prop,\n ns: null,\n nonMinifiedName: prop,\n securityContext:
null,\n suffix: null\n });\n }\n return {\n // will bet set by the view definition\n nodeIndex: -1,\n parent:
null,\n renderParent:
null,\n bindingIndex: -1,\n outputIndex: -1,\n // regular values\n checkIndex,\n flags,\n childFlags: 0,\n
directChildFlags: 0,\n childMatchedQueries: 0,\n matchedQueries: {},\n matchedQueryIds: 0,\n references:
{},\n ngContentIndex: -1,\n childCount: 0,\n bindings,\n bindingFlags: calcBindingFlags(bindings),\n
outputs: [],\n element: null,\n provider: null,\n text: null,\n query: null,\n ngContent: null\n };\n}\n\nexport
function createPureExpression(view: ViewData, def: NodeDef): PureExpressionData {\n return {value:
undefined};\n}\n\nexport function checkAndUpdatePureExpressionInline(\n view: ViewData, def: NodeDef, v0:
any, v1: any, v2: any, v3: any, v4: any, v5: any, v6: any,\n v7: any, v8: any, v9: any): boolean {\n const bindings
= def.bindings;\n let changed = false;\n const bindLen = bindings.length;\n if (bindLen > 0 &&
checkAndUpdateBinding(view, def, 0, v0)) changed = true;\n if (bindLen >
1 && checkAndUpdateBinding(view, def, 1, v1)) changed = true;\n if (bindLen > 2 &&
checkAndUpdateBinding(view, def, 2, v2)) changed = true;\n if (bindLen > 3 && checkAndUpdateBinding(view,
def, 3, v3)) changed = true;\n if (bindLen > 4 && checkAndUpdateBinding(view, def, 4, v4)) changed = true;\n if
(bindLen > 5 && checkAndUpdateBinding(view, def, 5, v5)) changed = true;\n if (bindLen > 6 &&
checkAndUpdateBinding(view, def, 6, v6)) changed = true;\n if (bindLen > 7 && checkAndUpdateBinding(view,
def, 7, v7)) changed = true;\n if (bindLen > 8 && checkAndUpdateBinding(view, def, 8, v8)) changed = true;\n if
(bindLen > 9 && checkAndUpdateBinding(view, def, 9, v9)) changed = true;\n\n if (changed) {\n const data =
asPureExpressionData(view, def.nodeIndex);\n let value: any;\n switch (def.flags & NodeFlags.Types) {\n

```
case NodeFlags.TypePureArray:\n value = [];\n if (bindLen > 0) value.push(v0);\n if (bindLen > 1) value.push(v1);\n if (bindLen > 2) value.push(v2);\n if (bindLen > 3) value.push(v3);\n if (bindLen > 4) value.push(v4);\n if (bindLen > 5) value.push(v5);\n if (bindLen > 6) value.push(v6);\n if (bindLen > 7) value.push(v7);\n if (bindLen > 8) value.push(v8);\n if (bindLen > 9) value.push(v9);\n break;\n case NodeFlags.TypePureObject:\n value = {};\n if (bindLen > 0) value[bindings[0].name!] = v0;\n if (bindLen > 1) value[bindings[1].name!] = v1;\n if (bindLen > 2) value[bindings[2].name!] = v2;\n if (bindLen > 3) value[bindings[3].name!] = v3;\n if (bindLen > 4) value[bindings[4].name!] = v4;\n if (bindLen > 5) value[bindings[5].name!] = v5;\n if (bindLen > 6) value[bindings[6].name!] = v6;\n if (bindLen > 7) value[bindings[7].name!] = v7;\n if (bindLen > 8) value[bindings[8].name!] = v8;\n if (bindLen > 9) value[bindings[9].name!] = v9;\n break;\n case NodeFlags.TypePurePipe:\n const pipe = v0;\n switch (bindLen) {\n case 1:\n value = pipe.transform(v0);\n break;\n case 2:\n value = pipe.transform(v1);\n break;\n case 3:\n value = pipe.transform(v1, v2);\n break;\n case 4:\n value = pipe.transform(v1, v2, v3);\n break;\n case 5:\n value = pipe.transform(v1, v2, v3, v4);\n break;\n case 6:\n value = pipe.transform(v1, v2, v3, v4, v5);\n break;\n case 7:\n value = pipe.transform(v1, v2, v3, v4, v5, v6);\n break;\n case 8:\n value = pipe.transform(v1, v2, v3, v4, v5, v6, v7);\n break;\n case 9:\n value = pipe.transform(v1, v2, v3, v4, v5, v6, v7, v8);\n break;\n case 10:\n value = pipe.transform(v1, v2, v3, v4, v5, v6, v7, v8, v9);\n break;\n }\n break;\n }\n data.value = value;\n }\n return changed;\n}\n\nexport function checkAndUpdatePureExpressionDynamic(\n view: ViewData, def: NodeDef, values: any[]): boolean {\n const bindings = def.bindings;\n let changed = false;\n for (let i = 0; i < values.length; i++) {\n // Note: We need to loop over all values, so that\n // the old values are updates as well!\n if (checkAndUpdateBinding(view, def, i, values[i])) {\n changed = true;\n }\n }\n if (changed) {\n const data = asPureExpressionData(view, def.nodeIndex);\n let value: any;\n switch (def.flags & NodeFlags.Types) {\n case NodeFlags.TypePureArray:\n value = values;\n break;\n case NodeFlags.TypePureObject:\n value = {};\n for (let i = 0; i < values.length; i++) {\n value[bindings[i].name!] = values[i];\n }\n break;\n case NodeFlags.TypePurePipe:\n const pipe = values[0];\n const params = values.slice(1);\n value = (<any>pipe.transform)(...params);\n break;\n }\n data.value = value;\n }\n return changed;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {asTextData, BindingDef, BindingFlags, NodeDef, NodeFlags, TextData, ViewData} from './types';\nimport {checkAndUpdateBinding, getParentRenderElement} from './util';\n\nexport function textDef(\n checkIndex: number, ngContentIndex: number|null, staticText: string[]): NodeDef {\n const bindings: BindingDef[] = [];\n for (let i = 1; i < staticText.length; i++) {\n bindings[i - 1] = {\n flags: BindingFlags.TypeProperty,\n name: null,\n ns: null,\n nonMinifiedName: null,\n securityContext: null,\n suffix: staticText[i],\n };\n }\n\n return {\n // will bet set by the view definition\n nodeIndex: -1,\n parent: null,\n renderParent: null,\n bindingIndex: -1,\n outputIndex: -1,\n // regular values\n checkIndex,\n flags: NodeFlags.TypeText,\n childFlags: 0,\n directChildFlags: 0,\n childMatchedQueries: 0,\n matchedQueries: {},\n matchedQueryIds: 0,\n references: {},\n ngContentIndex,\n childCount: 0,\n bindings,\n bindingFlags: BindingFlags.TypeProperty,\n outputs: [],\n element: null,\n provider: null,\n text: {prefix: staticText[0]},\n query: null,\n ngContent: null,\n };\n}\n\nexport function createText(view: ViewData, renderHost: any, def: NodeDef): TextData {\n let renderNode: any;\n const renderer = view.renderer;\n renderNode = renderer.createText(def.text!.prefix);\n const parentEl = getParentRenderElement(view, renderHost, def);\n if (parentEl) {\n renderer.appendChild(parentEl, renderNode);\n }\n return {renderText: renderNode};\n}\n\nexport function checkAndUpdateTextInline(\n view: ViewData, def: NodeDef, v0: any, v1: any, v2: any, v3: any, v4: any, v5: any, v6: any,\n v7: any, v8: any, v9: any): boolean {\n let changed = false;\n const bindings = def.bindings;\n const bindLen = bindings.length;\n if
```

(bindLen > 0 && checkAndUpdateBinding(view, def, 0, v0)) changed = true;\n  if (bindLen > 1 && checkAndUpdateBinding(view, def, 1, v1)) changed = true;\n  if (bindLen > 2 && checkAndUpdateBinding(view, def, 2, v2)) changed = true;\n  if (bindLen > 3 && checkAndUpdateBinding(view, def, 3, v3)) changed = true;\n  if (bindLen > 4 && checkAndUpdateBinding(view, def, 4, v4)) changed = true;\n  if (bindLen > 5 && checkAndUpdateBinding(view, def, 5, v5)) changed = true;\n  if (bindLen > 6 && checkAndUpdateBinding(view, def, 6, v6)) changed = true;\n  if (bindLen > 7 && checkAndUpdateBinding(view, def, 7, v7)) changed = true;\n  if (bindLen > 8 && checkAndUpdateBinding(view, def, 8, v8)) changed = true;\n  if (bindLen > 9 && checkAndUpdateBinding(view,
 def, 9, v9)) changed = true;\n\n  if (changed) {\n    let value = def.text!.prefix;\n    if (bindLen > 0) value += _addInterpolationPart(v0, bindings[0]);\n    if (bindLen > 1) value += _addInterpolationPart(v1, bindings[1]);\n    if (bindLen > 2) value += _addInterpolationPart(v2, bindings[2]);\n    if (bindLen > 3) value += _addInterpolationPart(v3, bindings[3]);\n    if (bindLen > 4) value += _addInterpolationPart(v4, bindings[4]);\n    if (bindLen > 5) value += _addInterpolationPart(v5, bindings[5]);\n    if (bindLen > 6) value += _addInterpolationPart(v6, bindings[6]);\n    if (bindLen > 7) value += _addInterpolationPart(v7, bindings[7]);\n    if (bindLen > 8) value += _addInterpolationPart(v8, bindings[8]);\n    if (bindLen > 9) value += _addInterpolationPart(v9, bindings[9]);\n    const renderNode = asTextData(view, def.nodeIndex).renderText;\n    view.renderer.setValue(renderNode, value);\n  }\n  return changed;\n}\n\nexport function checkAndUpdateTextDynamic(view: ViewData,
 def: NodeDef, values: any[]): boolean {\n  const bindings = def.bindings;\n  let changed = false;\n  for (let i = 0; i < values.length; i++) {\n    // Note: We need to loop over all values, so that\n    // the old values are updates as well!\n    if (checkAndUpdateBinding(view, def, i, values[i])) {\n      changed = true;\n    }\n  }\n  if (changed) {\n    let value = '';\n    for (let i = 0; i < values.length; i++) {\n      value = value + _addInterpolationPart(values[i], bindings[i]);\n    }\n    value = def.text!.prefix + value;\n    const renderNode = asTextData(view, def.nodeIndex).renderText;\n    view.renderer.setValue(renderNode, value);\n  }\n  return changed;\n}\n\nfunction _addInterpolationPart(value: any, binding: BindingDef): string {\n  const valueStr = value != null ? value.toString() : '';\n  return valueStr + binding.suffix;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that
 can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Renderer2} from '../render/api';\n\nimport {checkAndUpdateElementDynamic, checkAndUpdateElementInline, createElement, listenToElementOutputs} from './element';\nimport {expressionChangedAfterItHasBeenCheckedError} from './errors';\nimport {appendNgContent} from './ng_content';\nimport {callLifecycleHooksChildrenFirst, checkAndUpdateDirectiveDynamic, checkAndUpdateDirectiveInline, createDirectiveInstance, createPipeInstance, createProviderInstance} from './provider';\nimport {checkAndUpdatePureExpressionDynamic, checkAndUpdatePureExpressionInline, createPureExpression} from './pure_expression';\nimport {checkAndUpdateQuery, createQuery} from './query';\nimport {createTemplateData, createViewContainerData} from './refs';\nimport {checkAndUpdateTextDynamic, checkAndUpdateTextInline, createText} from './text';\nimport {ArgumentType, asElementData, asQueryList, asTextData, CheckType, ElementData, NodeData, NodeDef,
 NodeFlags, ProviderData, RootData, Services, shiftInitState, ViewData, ViewDefinition, ViewFlags, ViewHandleEventFn, ViewState, ViewUpdateFn} from './types';\nimport {checkBindingNoChanges, isComponentView, markParentViewsForCheckProjectedViews, NOOP, resolveDefinition, tokenKey} from './util';\nimport {detachProjectedView} from './view_attach';\n\nexport function viewDef(\n    flags: ViewFlags, nodes: NodeDef[], updateDirectives?: null|ViewUpdateFn,\n    updateRenderer?: null|ViewUpdateFn): ViewDefinition {\n  // clone nodes and set auto calculated values\n  let viewBindingCount = 0;\n  let viewDisposableCount = 0;\n  let viewNodeFlags = 0;\n  let viewRootNodeFlags = 0;\n  let viewMatchedQueries = 0;\n  let currentParent: NodeDef|null = null;\n  let currentRenderParent: NodeDef|null = null;\n  let currentElementHasPublicProviders = false;\n  let currentElementHasPrivateProviders = false;\n  let lastRenderRootNode: NodeDef|null = null;\n  for (let i = 0; i < nodes.length; i++)

{\n const node = nodes[i];\n node.nodeIndex = i;\n node.parent = currentParent;\n node.bindingIndex = viewBindingCount;\n node.outputIndex = viewDisposableCount;\n node.renderParent = currentRenderParent;\n\n viewNodeFlags |= node.flags;\n viewMatchedQueries |= node.matchedQueryIds;\n\n if (node.element) {\n const elDef = node.element;\n elDef.publicProviders =\n currentParent ? currentParent.element!.publicProviders : Object.create(null);\n elDef.allProviders = elDef.publicProviders;\n // Note: We assume that all providers of an element are before any child element!\n currentElementHasPublicProviders = false;\n currentElementHasPrivateProviders = false;\n\n if (node.element.template) {\n viewMatchedQueries |= node.element.template.nodeMatchedQueries;\n }\n }\n validateNode(currentParent, node, nodes.length);\n\n\n viewBindingCount += node.bindings.length;\n viewDisposableCount += node.outputs.length;\n\n if (!currentRenderParent && (node.flags & NodeFlags.CatRenderNode)) {\n lastRenderRootNode = node;\n }\n\n if (node.flags & NodeFlags.CatProvider) {\n if (!currentElementHasPublicProviders) {\n currentElementHasPublicProviders = true;\n // Use prototypical inheritance to not get O(n^2) complexity...\n currentParent!.element!.publicProviders =\n Object.create(currentParent!.element!.publicProviders);\n currentParent!.element!.allProviders = currentParent!.element!.publicProviders;\n }\n const isPrivateService = (node.flags & NodeFlags.PrivateProvider) !== 0;\n const isComponent = (node.flags & NodeFlags.Component) !== 0;\n if (!isPrivateService || isComponent) {\n currentParent!.element!.publicProviders![tokenKey(node.provider!.token)] = node;\n } else {\n if (!currentElementHasPrivateProviders) {\n currentElementHasPrivateProviders = true;\n // Use prototypical
inheritance to not get O(n^2) complexity...\n currentParent!.element!.allProviders =\n Object.create(currentParent!.element!.publicProviders);\n }\n currentParent!.element!.allProviders![tokenKey(node.provider!.token)] = node;\n }\n if (isComponent) {\n currentParent!.element!.componentProvider = node;\n }\n }\n\n if (currentParent) {\n currentParent.childFlags |= node.flags;\n currentParent.directChildFlags |= node.flags;\n currentParent.childMatchedQueries |= node.matchedQueryIds;\n if (node.element && node.element.template) {\n currentParent.childMatchedQueries |= node.element.template.nodeMatchedQueries;\n }\n } else {\n viewRootNodeFlags |= node.flags;\n }\n\n if (node.childCount > 0) {\n currentParent = node;\n\n if (!isNgContainer(node)) {\n currentRenderParent = node;\n }\n } else {\n // When the current node has no children, check if it
is the last children of its parent.\n // When it is, propagate the flags up.\n // The loop is required because an element could be the last transitive children of several\n // elements. We loop to either the root or the highest opened element (= with remaining\n // children)\n while (currentParent && i === currentParent.nodeIndex + currentParent.childCount) {\n const newParent: NodeDef|null = currentParent.parent;\n if (newParent) {\n newParent.childFlags |= currentParent.childFlags;\n newParent.childMatchedQueries |= currentParent.childMatchedQueries;\n }\n currentParent = newParent;\n // We also need to update the render parent & account for ng-container\n if (currentParent && isNgContainer(currentParent)) {\n currentRenderParent = currentParent.renderParent;\n } else {\n currentRenderParent = currentParent;\n }\n }\n }\n\n const handleEvent: ViewHandleEventFn
= (view, nodeIndex, eventName, event) =>\n nodes[nodeIndex].element!.handleEvent!(view, eventName, event);\n\n return {\n // Will be filled later...\n factory: null,\n nodeFlags: viewNodeFlags,\n rootNodeFlags: viewRootNodeFlags,\n nodeMatchedQueries: viewMatchedQueries,\n flags,\n nodes: nodes,\n updateDirectives: updateDirectives || NOOP,\n updateRenderer: updateRenderer || NOOP,\n handleEvent,\n bindingCount: viewBindingCount,\n outputCount: viewDisposableCount,\n lastRenderRootNode\n };\n}\n\nfunction isNgContainer(node: NodeDef): boolean {\n return (node.flags & NodeFlags.TypeElement) !== 0 && node.element!.name === null;\n}\n\nfunction validateNode(parent: NodeDef|null, node: NodeDef, nodeCount: number) {\n const template = node.element && node.element.template;\n if (template) {\n if (!template.lastRenderRootNode) {\n throw new Error(`Illegal State: Embedded templates without nodes are not

allowed!`);\n  }\n  if (template.lastRenderRootNode &&\n      template.lastRenderRootNode.flags & NodeFlags.EmbeddedViews) {\n    throw new Error(\n        `Illegal State: Last root node of a template can't have embedded views, at index ${\n      node.nodeIndex}!`);\n  }\n }\n if (node.flags & NodeFlags.CatProvider) {\n  const parentFlags = parent ? parent.flags : 0;\n  if ((parentFlags & NodeFlags.TypeElement) === 0) {\n    throw new Error(\n        `Illegal State: StaticProvider/Directive nodes need to be children of elements or anchors, at index ${\n      node.nodeIndex}!`);\n  }\n }\n if (node.query) {\n  if (node.flags & NodeFlags.TypeContentQuery &&\n      (!parent || (parent.flags & NodeFlags.TypeDirective) === 0)) {\n    throw new Error(\n        `Illegal State: Content Query nodes need to be children of directives, at index ${\n          node.nodeIndex}!`);\n  }\n  if (node.flags & NodeFlags.TypeViewQuery && parent) {\n    throw new Error(`Illegal State: View Query nodes have to be top level nodes, at index ${\n        node.nodeIndex}!`);\n  }\n }\n if (node.childCount) {\n  const parentEnd = parent ? parent.nodeIndex + parent.childCount : nodeCount - 1;\n  if (node.nodeIndex <= parentEnd && node.nodeIndex + node.childCount > parentEnd) {\n    throw new Error(\n        `Illegal State: childCount of node leads outside of parent, at index ${node.nodeIndex}!`);\n  }\n }\n}\n\nexport function createEmbeddedView(\n  parent: ViewData, anchorDef: NodeDef, viewDef: ViewDefinition, context?: any): ViewData {\n // embedded views are seen as siblings to the anchor, so we need\n // to get the parent of the anchor and use it as parentIndex.\n const view = createView(parent.root, parent.renderer, parent, anchorDef, viewDef);\n initView(view, parent.component, context);\n createViewNodes(view);\n return view;\n}\n\nexport function createRootView(root: RootData, def: ViewDefinition, context?: any): ViewData {\n const view = createView(root, root.renderer, null, null, def);\n initView(view, context, context);\n createViewNodes(view);\n return view;\n}\n\nexport function createComponentView(\n  parentView: ViewData, nodeDef: NodeDef, viewDef: ViewDefinition, hostElement: any): ViewData {\n const rendererType = nodeDef.element!.componentRendererType;\n let compRenderer: Renderer2;\n if (!rendererType) {\n  compRenderer = parentView.root.renderer;\n } else {\n  compRenderer = parentView.root.rendererFactory.createRenderer(hostElement, rendererType);\n }\n return createView(\n      parentView.root, compRenderer, parentView, nodeDef.element!.componentProvider, viewDef);\n}\n\nfunction createView(\n  root: RootData, renderer: Renderer2, parent: ViewData|null, parentNodeDef: NodeDef|null,\n  def: ViewDefinition): ViewData {\n const nodes: NodeData[] = new Array(def.nodes.length);\n const disposables = def.outputCount ? new Array(def.outputCount) : null;\n const view: ViewData = {\n  def,\n  parent,\n  viewContainerParent: null,\n  parentNodeDef,\n  context: null,\n  component: null,\n  nodes,\n  state: ViewState.CatInit,\n  root,\n  renderer,\n  oldValues: new Array(def.bindingCount),\n  disposables,\n  initIndex: -1\n };\n return view;\n}\n\nfunction initView(view: ViewData, component: any, context: any) {\n view.component = component;\n view.context = context;\n}\n\nfunction createViewNodes(view: ViewData) {\n let renderHost: any;\n if (isComponentView(view)) {\n  const hostDef = view.parentNodeDef;\n  renderHost = asElementData(view.parent!, hostDef!.parent!.nodeIndex).renderElement;\n }\n const def = view.def;\n const nodes = view.nodes;\n for (let i = 0; i < def.nodes.length; i++) {\n  const nodeDef = def.nodes[i];\n  Services.setCurrentNode(view, i);\n  let nodeData: any;\n  switch (nodeDef.flags & NodeFlags.Types) {\n    case NodeFlags.TypeElement:\n      const el = createElement(view, renderHost, nodeDef) as any;\n      let componentView: ViewData = undefined!;\n      if (nodeDef.flags & NodeFlags.ComponentView) {\n        const compViewDef = resolveDefinition(nodeDef.element!.componentView!);\n        componentView = Services.createComponentView(view, nodeDef, compViewDef, el);\n      }\n      listenToElementOutputs(view, componentView, nodeDef, el);\n      nodeData = <ElementData>{\n        renderElement: el,\n        componentView,\n        viewContainer: null,\n        template: nodeDef.element!.template ? createTemplateData(view, nodeDef) : undefined\n      };\n      if (nodeDef.flags & NodeFlags.EmbeddedViews) {\n        nodeData.viewContainer = createViewContainerData(view, nodeDef, nodeData);\n      }\n      break;\n    case NodeFlags.TypeText:\n      nodeData = createText(view, renderHost, nodeDef) as any;\n      break;\n    case NodeFlags.TypeClassProvider:\n    case NodeFlags.TypeFactoryProvider:\n    case NodeFlags.TypeUseExistingProvider:\n

```
case NodeFlags.TypeValueProvider: {\n nodeData = nodes[i];\n if (!nodeData && !(nodeDef.flags & NodeFlags.LazyProvider)) {\n const instance = createProviderInstance(view, nodeDef);\n nodeData = <ProviderData>{instance};\n }\n break;\n }\n case NodeFlags.TypePipe: {\n const instance = createPipeInstance(view, nodeDef);\n nodeData = <ProviderData>{instance};\n break;\n }\n case NodeFlags.TypeDirective: {\n nodeData = nodes[i];\n if (!nodeData) {\n const instance = createDirectiveInstance(view, nodeDef);\n nodeData = <ProviderData>{instance};\n }\n if (nodeDef.flags & NodeFlags.Component) {\n const compView = asElementData(view, nodeDef.parent!.nodeIndex).componentView;\n initView(compView, nodeData.instance, nodeData.instance);\n }\n break;\n }\n case NodeFlags.TypePureArray:\n case NodeFlags.TypePureObject:\n case NodeFlags.TypePurePipe:\n nodeData = createPureExpression(view, nodeDef) as any;\n break;\n case NodeFlags.TypeContentQuery:\n case NodeFlags.TypeViewQuery:\n nodeData = createQuery() as any;\n break;\n case NodeFlags.TypeNgContent:\n appendNgContent(view, renderHost, nodeDef);\n // no runtime data needed for NgContent...\n nodeData = undefined;\n break;\n }\n nodes[i] = nodeData;\n }\n // Create the ViewData.nodes of component views after we created everything else,\n // so that e.g. ng-content works\n execComponentViewsAction(view, ViewAction.CreateViewNodes);\n\n // fill static content and view queries\n execQueriesAction(\n view, NodeFlags.TypeContentQuery | NodeFlags.TypeViewQuery, NodeFlags.StaticQuery,\n CheckType.CheckAndUpdate);\n}\n\nexport function checkNoChangesView(view: ViewData) {\n markProjectedViewsForCheck(view);\n Services.updateDirectives(view, CheckType.CheckNoChanges);\n execEmbeddedViewsAction(view, ViewAction.CheckNoChanges);\n Services.updateRenderer(view, CheckType.CheckNoChanges);\n execComponentViewsAction(view, ViewAction.CheckNoChanges);\n // Note: We don't check queries for changes as we didn't do this in v2.x.\n // TODO(tbosch): investigate if we can enable the check again in v5.x with a nicer error message.\n view.state &= ~(ViewState.CheckProjectedViews | ViewState.CheckProjectedView);\n}\n\nexport function checkAndUpdateView(view: ViewData) {\n if (view.state & ViewState.BeforeFirstCheck) {\n view.state &= ~ViewState.BeforeFirstCheck;\n view.state |= ViewState.FirstCheck;\n } else {\n view.state &= ~ViewState.FirstCheck;\n }\n shiftInitState(view, ViewState.InitState_BeforeInit, ViewState.InitState_CallingOnInit);\n markProjectedViewsForCheck(view);\n Services.updateDirectives(view, CheckType.CheckAndUpdate);\n execEmbeddedViewsAction(view, ViewAction.CheckAndUpdate);\n execQueriesAction(\n view, NodeFlags.TypeContentQuery, NodeFlags.DynamicQuery, CheckType.CheckAndUpdate);\n let callInit = shiftInitState(\n view, ViewState.InitState_CallingOnInit, ViewState.InitState_CallingAfterContentInit);\n callLifecycleHooksChildrenFirst(\n view, NodeFlags.AfterContentChecked | (callInit ? NodeFlags.AfterContentInit : 0));\n\n Services.updateRenderer(view, CheckType.CheckAndUpdate);\n\n execComponentViewsAction(view, ViewAction.CheckAndUpdate);\n execQueriesAction(\n view, NodeFlags.TypeViewQuery, NodeFlags.DynamicQuery, CheckType.CheckAndUpdate);\n callInit = shiftInitState(\n view, ViewState.InitState_CallingAfterContentInit, ViewState.InitState_CallingAfterViewInit);\n callLifecycleHooksChildrenFirst(\n view, NodeFlags.AfterViewChecked | (callInit ? NodeFlags.AfterViewInit : 0));\n\n if (view.def.flags & ViewFlags.OnPush) {\n view.state &= ~ViewState.ChecksEnabled;\n }\n view.state &= ~(ViewState.CheckProjectedViews | ViewState.CheckProjectedView);\n shiftInitState(view, ViewState.InitState_CallingAfterViewInit, ViewState.InitState_AfterInit);\n}\n\nexport function checkAndUpdateNode(\n view: ViewData, nodeDef: NodeDef, argStyle: ArgumentType, v0?: any, v1?: any, v2?: any,\n v3?: any, v4?: any, v5?: any, v6?: any, v7?: any, v8?: any, v9?: any): boolean {\n if (argStyle === ArgumentType.Inline) {\n return checkAndUpdateNodeInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n } else {\n return checkAndUpdateNodeDynamic(view, nodeDef, v0);\n }\n}\n\nfunction markProjectedViewsForCheck(view: ViewData) {\n const def = view.def;\n if (!(def.nodeFlags &
```

NodeFlags.ProjectedTemplate)) {\n  return;\n }\n for (let i = 0; i < def.nodes.length; i++) {\n  const nodeDef = def.nodes[i];\n  if (nodeDef.flags & NodeFlags.ProjectedTemplate) {\n  const projectedViews = asElementData(view, i).template._projectedViews;\n  if (projectedViews) {\n  for (let i = 0; i < projectedViews.length;
 i++) {\n  const projectedView = projectedViews[i];\n  projectedView.state |= ViewState.CheckProjectedView;\n  markParentViewsForCheckProjectedViews(projectedView, view);\n }\n  }\n  } else if ((nodeDef.childFlags & NodeFlags.ProjectedTemplate) === 0) {\n  // a parent with leafs\n // no child is a component,\n  // then skip the children\n  i += nodeDef.childCount;\n  }\n }\n}\n\nfunction checkAndUpdateNodeInline(\n  view: ViewData, nodeDef: NodeDef, v0?: any, v1?: any, v2?: any, v3?: any, v4?: any, v5?: any,\n  v6?: any, v7?: any, v8?: any, v9?: any): boolean {\n switch (nodeDef.flags & NodeFlags.Types) {\n  case NodeFlags.TypeElement:\n  return checkAndUpdateElementInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n  case NodeFlags.TypeText:\n  return checkAndUpdateTextInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n  case NodeFlags.TypeDirective:\n  return checkAndUpdateDirectiveInline(view,
 nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n  case NodeFlags.TypePureArray:\n  case NodeFlags.TypePureObject:\n  case NodeFlags.TypePurePipe:\n  return checkAndUpdatePureExpressionInline(\n  view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n  default:\n  throw 'unreachable';\n }\n}\n\nfunction checkAndUpdateNodeDynamic(view: ViewData, nodeDef: NodeDef, values: any[]): boolean {\n switch (nodeDef.flags & NodeFlags.Types) {\n  case NodeFlags.TypeElement:\n  return checkAndUpdateElementDynamic(view, nodeDef, values);\n  case NodeFlags.TypeText:\n  return checkAndUpdateTextDynamic(view, nodeDef, values);\n  case NodeFlags.TypeDirective:\n  return checkAndUpdateDirectiveDynamic(view, nodeDef, values);\n  case NodeFlags.TypePureArray:\n  case NodeFlags.TypePureObject:\n  case NodeFlags.TypePurePipe:\n  return checkAndUpdatePureExpressionDynamic(view, nodeDef, values);\n  default:\n  throw 'unreachable';\n }\n}\n\nexport function checkNoChangesNode(\n  view: ViewData, nodeDef: NodeDef, argStyle: ArgumentType, v0?: any, v1?: any, v2?: any,\n  v3?: any, v4?: any, v5?: any, v6?: any, v7?: any, v8?: any, v9?: any): any {\n if (argStyle === ArgumentType.Inline) {\n  checkNoChangesNodeInline(view, nodeDef, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n } else {\n  checkNoChangesNodeDynamic(view, nodeDef, v0);\n }\n // Returning false is ok here as we would have thrown in case of a change.\n return false;\n}\n\nfunction checkNoChangesNodeInline(\n  view: ViewData, nodeDef: NodeDef, v0: any, v1: any, v2: any, v3: any, v4: any, v5: any, v6: any,\n  v7: any, v8: any, v9: any): void {\n const bindLen = nodeDef.bindings.length;\n if (bindLen > 0) checkBindingNoChanges(view, nodeDef, 0, v0);\n if (bindLen > 1) checkBindingNoChanges(view, nodeDef, 1, v1);\n if (bindLen > 2) checkBindingNoChanges(view, nodeDef, 2, v2);\n if (bindLen > 3) checkBindingNoChanges(view, nodeDef, 3,
 v3);\n if (bindLen > 4) checkBindingNoChanges(view, nodeDef, 4, v4);\n if (bindLen > 5) checkBindingNoChanges(view, nodeDef, 5, v5);\n if (bindLen > 6) checkBindingNoChanges(view, nodeDef, 6, v6);\n if (bindLen > 7) checkBindingNoChanges(view, nodeDef, 7, v7);\n if (bindLen > 8) checkBindingNoChanges(view, nodeDef, 8, v8);\n if (bindLen > 9) checkBindingNoChanges(view, nodeDef, 9, v9);\n}\n\nfunction checkNoChangesNodeDynamic(view: ViewData, nodeDef: NodeDef, values: any[]): void {\n for (let i = 0; i < values.length; i++) {\n  checkBindingNoChanges(view, nodeDef, i, values[i]);\n }\n}\n\n/**\n * Workaround https://github.com/angular/tsickle/issues/497\n * @suppress {misplacedTypeAnnotation}\n */\nfunction checkNoChangesQuery(view: ViewData, nodeDef: NodeDef) {\n const queryList = asQueryList(view, nodeDef.nodeIndex);\n if (queryList.dirty) {\n  throw expressionChangedAfterItHasBeenCheckedError(\n  Services.createDebugContext(view, nodeDef.nodeIndex),\n  `Query ${nodeDef.query!.id} not dirty`, `Query ${nodeDef.query!.id} dirty`,\n  (view.state & ViewState.BeforeFirstCheck) !== 0);\n }\n}\n\nexport function destroyView(view: ViewData) {\n if (view.state & ViewState.Destroyed) {\n  return;\n }\n execEmbeddedViewsAction(view, ViewAction.Destroy);\n execComponentViewsAction(view, ViewAction.Destroy);\n callLifecycleHooksChildrenFirst(view,

```
NodeFlags.OnDestroy);\n  if (view.disposables) {\n    for (let i = 0; i < view.disposables.length; i++) {\n
view.disposables[i]();\n    }\n  }\n  detachProjectedView(view);\n  if (view.renderer.destroyNode) {\n
destroyViewNodes(view);\n  }\n  if (isComponentView(view)) {\n    view.renderer.destroy();\n  }\n  view.state |=
ViewState.Destroyed;\n}\n\nfunction destroyViewNodes(view: ViewData) {\n  const len = view.def.nodes.length;\n
for (let i = 0; i < len; i++) {\n    const def = view.def.nodes[i];\n    if (def.flags & NodeFlags.TypeElement) {\n
view.renderer.destroyNode!(asElementData(view,
 i).renderElement);\n    } else if (def.flags & NodeFlags.TypeText) {\n
view.renderer.destroyNode!(asTextData(view, i).renderText);\n    } else if (def.flags &
NodeFlags.TypeContentQuery || def.flags & NodeFlags.TypeViewQuery) {\n      asQueryList(view, i).destroy();\n
}\n  }\n}\n\nenum ViewAction {\n  CreateViewNodes,\n  CheckNoChanges,\n  CheckNoChangesProjectedViews,\n
CheckAndUpdate,\n  CheckAndUpdateProjectedViews,\n  Destroy\n}\n\nfunction
execComponentViewsAction(view: ViewData, action: ViewAction) {\n  const def = view.def;\n  if (!(def.nodeFlags
& NodeFlags.ComponentView)) {\n    return;\n  }\n  for (let i = 0; i < def.nodes.length; i++) {\n    const nodeDef =
def.nodes[i];\n    if (nodeDef.flags & NodeFlags.ComponentView) {\n      // a leaf\n
callViewAction(asElementData(view, i).componentView, action);\n    } else if ((nodeDef.childFlags &
NodeFlags.ComponentView) === 0) {\n      // a parent with leafs\n      // no child is a component,\n      // then
 skip the children\n      i += nodeDef.childCount;\n    }\n  }\n}\n\nfunction execEmbeddedViewsAction(view:
ViewData, action: ViewAction) {\n  const def = view.def;\n  if (!(def.nodeFlags & NodeFlags.EmbeddedViews))
{\n    return;\n  }\n  for (let i = 0; i < def.nodes.length; i++) {\n    const nodeDef = def.nodes[i];\n    if (nodeDef.flags
& NodeFlags.EmbeddedViews) {\n      // a leaf\n      const embeddedViews = asElementData(view,
i).viewContainer!._embeddedViews;\n      for (let k = 0; k < embeddedViews.length; k++) {\n
callViewAction(embeddedViews[k], action);\n      }\n    } else if ((nodeDef.childFlags &
NodeFlags.EmbeddedViews) === 0) {\n      // a parent with leafs\n      // no child is a component,\n      // then skip
the children\n      i += nodeDef.childCount;\n    }\n  }\n}\n\nfunction callViewAction(view: ViewData, action:
ViewAction) {\n  const viewState = view.state;\n  switch (action) {\n    case ViewAction.CheckNoChanges:\n      if
((viewState & ViewState.Destroyed)
 === 0) {\n        if ((viewState & ViewState.CatDetectChanges) === ViewState.CatDetectChanges) {\n
checkNoChangesView(view);\n        } else if (viewState & ViewState.CheckProjectedViews) {\n
execProjectedViewsAction(view, ViewAction.CheckNoChangesProjectedViews);\n        }\n      }\n      break;\n
case ViewAction.CheckNoChangesProjectedViews:\n      if ((viewState & ViewState.Destroyed) === 0) {\n        if
(viewState & ViewState.CheckProjectedView) {\n          checkNoChangesView(view);\n        } else if (viewState &
ViewState.CheckProjectedViews) {\n          execProjectedViewsAction(view, action);\n        }\n      }\n      break;\n
case ViewAction.CheckAndUpdate:\n      if ((viewState & ViewState.Destroyed) === 0) {\n        if ((viewState &
ViewState.CatDetectChanges) === ViewState.CatDetectChanges) {\n          checkAndUpdateView(view);\n        }
else if (viewState & ViewState.CheckProjectedViews) {\n          execProjectedViewsAction(view,
ViewAction.CheckAndUpdateProjectedViews);\n
        }\n      }\n      break;\n    case ViewAction.CheckAndUpdateProjectedViews:\n      if ((viewState &
ViewState.Destroyed) === 0) {\n        if (viewState & ViewState.CheckProjectedView) {\n
checkAndUpdateView(view);\n        } else if (viewState & ViewState.CheckProjectedViews) {\n
execProjectedViewsAction(view, action);\n        }\n      }\n      break;\n    case ViewAction.Destroy:\n      // Note:
destroyView recurses over all views,\n      // so we don't need to special case projected views here.\n
destroyView(view);\n      break;\n    case ViewAction.CreateViewNodes:\n      createViewNodes(view);\n
break;\n  }\n}\n\nfunction execProjectedViewsAction(view: ViewData, action: ViewAction) {\n
execEmbeddedViewsAction(view, action);\n  execComponentViewsAction(view, action);\n}\n\nfunction
execQueriesAction(\n    view: ViewData, queryFlags: NodeFlags, staticDynamicQueryFlag: NodeFlags,\n
checkType: CheckType) {\n
  if (!(view.def.nodeFlags & queryFlags) || !(view.def.nodeFlags & staticDynamicQueryFlag)) {\n    return;\n  }\n
const nodeCount = view.def.nodes.length;\n  for (let i = 0; i < nodeCount; i++) {\n    const nodeDef =
```

view.def.nodes[i];\n  if ((nodeDef.flags & queryFlags) && (nodeDef.flags & staticDynamicQueryFlag)) {\n Services.setCurrentNode(view, nodeDef.nodeIndex);\n  switch (checkType) {\n  case CheckType.CheckAndUpdate:\n  checkAndUpdateQuery(view, nodeDef);\n  break;\n  case CheckType.CheckNoChanges:\n  checkNoChangesQuery(view, nodeDef);\n  break;\n  }\n  }\n  if (!(nodeDef.childFlags & queryFlags) || !(nodeDef.childFlags & staticDynamicQueryFlag)) {\n  // no child has a matching query\n  // then skip the children\n  i += nodeDef.childCount;\n  }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
 * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DebugElement__PRE_R3__, DebugEventListener, DebugNode__PRE_R3__, getDebugNode, indexDebugNode, removeDebugNodeFromIndex} from '../debug/debug_node';\nimport {Injector} from '../di';\nimport {getInjectableDef, InjectableType, InjectableDef} from '../di/interface/defs';\nimport {ErrorHandler} from '../error_handler';\nimport {Type} from '../interface/type';\nimport {ComponentFactory} from '../linker/component_factory';\nimport {NgModuleRef} from '../linker/ng_module_factory';\nimport {Renderer2, RendererFactory2} from '../render/api';\nimport {RendererStyleFlags2, RendererType2} from '../render/api_flags';\nimport {Sanitizer} from '../sanitization/sanitizer';\nimport {escapeCommentText} from '../util/dom';\nimport {isDevMode} from '../util/is_dev_mode';\nimport {normalizeDebugBindingName, normalizeDebugBindingValue} from '../util/ng_reflect';\n\nimport {isViewDebugError, viewDestroyedError, viewWrappedDebugError}
 from './errors';\nimport {resolveDep} from './provider';\nimport {dirtyParentQueries, getQueryValue} from './query';\nimport {createInjector, createNgModuleRef, getComponentViewDefinitionFactory} from './refs';\nimport {ArgumentType, asElementData, asPureExpressionData, BindingFlags, CheckType, DebugContext, ElementData, NgModuleDefinition, NodeDef, NodeFlags, NodeLogger, ProviderOverride, RootData, Services, ViewData, ViewDefinition, ViewState} from './types';\nimport {isComponentView, NOOP, renderNode, resolveDefinition, splitDepsDsl, tokenKey, viewParentEl} from './util';\nimport {checkAndUpdateNode, checkAndUpdateView, checkNoChangesNode, checkNoChangesView, createComponentView, createEmbeddedView, createRootView, destroyView} from './view';\n\n\nlet initialized = false;\n\nexport function initServicesIfNeeded() {\n  if (initialized) {\n  return;\n  }\n  initialized = true;\n  const services = isDevMode() ? createDebugServices() : createProdServices();\n  Services.setCurrentNode
 = services.setCurrentNode;\n  Services.createRootView = services.createRootView;\n Services.createEmbeddedView = services.createEmbeddedView;\n  Services.createComponentView = services.createComponentView;\n  Services.createNgModuleRef = services.createNgModuleRef;\n Services.overrideProvider = services.overrideProvider;\n  Services.overrideComponentView = services.overrideComponentView;\n  Services.clearOverrides = services.clearOverrides;\n Services.checkAndUpdateView = services.checkAndUpdateView;\n  Services.checkNoChangesView = services.checkNoChangesView;\n  Services.destroyView = services.destroyView;\n  Services.resolveDep = resolveDep;\n  Services.createDebugContext = services.createDebugContext;\n  Services.handleEvent = services.handleEvent;\n  Services.updateDirectives = services.updateDirectives;\n  Services.updateRenderer = services.updateRenderer;\n  Services.dirtyParentQueries = dirtyParentQueries;\n}\n\nfunction createProdServices() {\n  return {\n  setCurrentNode:
 () => {},\n  createRootView: createProdRootView,\n  createEmbeddedView: createEmbeddedView,\n createComponentView: createComponentView,\n  createNgModuleRef: createNgModuleRef,\n overrideProvider: NOOP,\n  overrideComponentView: NOOP,\n  clearOverrides: NOOP,\n checkAndUpdateView: checkAndUpdateView,\n  checkNoChangesView: checkNoChangesView,\n destroyView: destroyView,\n  createDebugContext: (view: ViewData, nodeIndex: number) => new DebugContext_(view, nodeIndex),\n  handleEvent: (view: ViewData, nodeIndex: number, eventName: string, event: any) =>\n  view.def.handleEvent(view, nodeIndex, eventName, event),\n  updateDirectives: (view: ViewData, checkType: CheckType) => view.def.updateDirectives(\n  checkType === CheckType.CheckAndUpdate ? prodCheckAndUpdateNode : prodCheckNoChangesNode,\n  view),\n

updateRenderer: (view: ViewData, checkType: CheckType) => view.def.updateRenderer(\n checkType === CheckType.CheckAndUpdate ? prodCheckAndUpdateNode
: prodCheckNoChangesNode,\n view),\n };\n}\n\nfunction createDebugServices() {\n return {\n setCurrentNode: debugSetCurrentNode,\n createRootView: debugCreateRootView,\n createEmbeddedView: debugCreateEmbeddedView,\n createComponentView: debugCreateComponentView,\n createNgModuleRef: debugCreateNgModuleRef,\n overrideProvider: debugOverrideProvider,\n overrideComponentView: debugOverrideComponentView,\n clearOverrides: debugClearOverrides,\n checkAndUpdateView: debugCheckAndUpdateView,\n checkNoChangesView: debugCheckNoChangesView,\n destroyView: debugDestroyView,\n createDebugContext: (view: ViewData, nodeIndex: number) => new DebugContext_(view, nodeIndex),\n handleEvent: debugHandleEvent,\n updateDirectives: debugUpdateDirectives,\n updateRenderer: debugUpdateRenderer,\n };\n}\n\nfunction createProdRootView(\n elInjector: Injector, projectableNodes: any[][], rootSelectorOrNode: string|any,\n def: ViewDefinition,
ngModule: NgModuleRef<any>, context?: any): ViewData {\n const rendererFactory: RendererFactory2 = ngModule.injector.get(RendererFactory2);\n return createRootView(\n createRootData(elInjector, ngModule, rendererFactory, projectableNodes, rootSelectorOrNode),\n def, context);\n}\n\nfunction debugCreateRootView(\n elInjector: Injector, projectableNodes: any[][], rootSelectorOrNode: string|any,\n def: ViewDefinition, ngModule: NgModuleRef<any>, context?: any): ViewData {\n const rendererFactory: RendererFactory2 = ngModule.injector.get(RendererFactory2);\n const root = createRootData(\n elInjector, ngModule, new DebugRendererFactory2(rendererFactory), projectableNodes,\n rootSelectorOrNode);\n const defWithOverride = applyProviderOverridesToView(def);\n return callWithDebugContext(\n DebugAction.create, createRootView, null, [root, defWithOverride, context]);\n}\n\nfunction createRootData(\n elInjector: Injector, ngModule: NgModuleRef<any>,
rendererFactory: RendererFactory2,\n projectableNodes: any[][], rootSelectorOrNode: any): RootData {\n const sanitizer = ngModule.injector.get(Sanitizer);\n const errorHandler = ngModule.injector.get(ErrorHandler);\n const renderer = rendererFactory.createRenderer(null, null);\n return {\n ngModule,\n injector: elInjector,\n projectableNodes,\n selectorOrNode: rootSelectorOrNode,\n sanitizer,\n rendererFactory,\n renderer,\n errorHandler\n };\n}\n\nfunction debugCreateEmbeddedView(\n parentView: ViewData, anchorDef: NodeDef, viewDef: ViewDefinition, context?: any): ViewData {\n const defWithOverride = applyProviderOverridesToView(viewDef);\n return callWithDebugContext(\n DebugAction.create, createEmbeddedView, null,\n [parentView, anchorDef, defWithOverride, context]);\n}\n\nfunction debugCreateComponentView(\n parentView: ViewData, nodeDef: NodeDef, viewDef: ViewDefinition, hostElement: any): ViewData {\n const overrideComponentView
=\n viewDefOverrides.get(nodeDef.element!.componentProvider!.provider!.token);\n if (overrideComponentView) {\n viewDef = overrideComponentView;\n } else {\n viewDef = applyProviderOverridesToView(viewDef);\n }\n return callWithDebugContext(\n DebugAction.create, createComponentView, null, [parentView, nodeDef, viewDef, hostElement]);\n}\n\nfunction debugCreateNgModuleRef(\n moduleType: Type<any>, parentInjector: Injector, bootstrapComponents: Type<any>[],\n def: NgModuleDefinition): NgModuleRef<any> {\n const defWithOverride = applyProviderOverridesToNgModule(def);\n return createNgModuleRef(moduleType, parentInjector, bootstrapComponents, defWithOverride);\n}\n\nconst providerOverrides = new Map<any, ProviderOverride>();\nconst providerOverridesWithScope = new Map<InjectableType<any>, ProviderOverride>();\nconst viewDefOverrides = new Map<any, ViewDefinition>();\n\nfunction debugOverrideProvider(override: ProviderOverride) {\n providerOverrides.set(override.token,
override);\n let injectableDef: InjectableDef<any>|null;\n if (typeof override.token === 'function' &&
(injectableDef = getInjectableDef(override.token)) &&\n typeof injectableDef.providedIn === 'function') {\n providerOverridesWithScope.set(override.token as InjectableType<any>, override);\n }\n}\n\nfunction debugOverrideComponentView(comp: any, compFactory: ComponentFactory<any>) {\n const hostViewDef = resolveDefinition(getComponentViewDefinitionFactory(compFactory));\n const compViewDef =

resolveDefinition(hostViewDef.nodes[0].element!.componentView!);\n  viewDefOverrides.set(comp, compViewDef);\n}\n\nfunction debugClearOverrides() {\n  providerOverrides.clear();\n  providerOverridesWithScope.clear();\n  viewDefOverrides.clear();\n}\n\n// Notes about the algorithm:\n// 1) Locate the providers of an element and check if one of them was overwritten\n// 2) Change the providers of that element\n//\n// We only create new datastructures if we need to, to keep perf impact\n// reasonable.\nfunction applyProviderOverridesToView(def: ViewDefinition): ViewDefinition {\n  if (providerOverrides.size === 0) {\n    return def;\n  }\n  const elementIndicesWithOverwrittenProviders = findElementIndicesWithOverwrittenProviders(def);\n  if (elementIndicesWithOverwrittenProviders.length === 0) {\n    return def;\n  }\n  // clone the whole view definition,\n  // as it maintains references between the nodes that are hard to update.\n  def = def.factory!(() => NOOP);\n  for (let i = 0; i < elementIndicesWithOverwrittenProviders.length; i++) {\n    applyProviderOverridesToElement(def, elementIndicesWithOverwrittenProviders[i]);\n  }\n  return def;\n\n  function findElementIndicesWithOverwrittenProviders(def: ViewDefinition): number[] {\n    const elIndicesWithOverwrittenProviders: number[] = [];\n    let lastElementDef: NodeDef|null = null;\n    for (let i = 0; i < def.nodes.length; i++) {\n      const nodeDef = def.nodes[i];\n      if (nodeDef.flags & NodeFlags.TypeElement) {\n        lastElementDef = nodeDef;\n      }\n      if (lastElementDef && nodeDef.flags & NodeFlags.CatProviderNoDirective &&\n          providerOverrides.has(nodeDef.provider!.token)) {\n        elIndicesWithOverwrittenProviders.push(lastElementDef!.nodeIndex);\n        lastElementDef = null;\n      }\n    }\n    return elIndicesWithOverwrittenProviders;\n  }\n\n  function applyProviderOverridesToElement(viewDef: ViewDefinition, elIndex: number) {\n    for (let i = elIndex + 1; i < viewDef.nodes.length; i++) {\n      const nodeDef = viewDef.nodes[i];\n      if (nodeDef.flags & NodeFlags.TypeElement) {\n        // stop at the next element\n        return;\n      }\n      if (nodeDef.flags & NodeFlags.CatProviderNoDirective) {\n        const provider = nodeDef.provider!;\n        const override = providerOverrides.get(provider.token);\n        if (override) {\n          nodeDef.flags = (nodeDef.flags & ~NodeFlags.CatProviderNoDirective) | override.flags;\n          provider.deps = splitDepsDsl(override.deps);\n          provider.value = override.value;\n        }\n      }\n    }\n  }\n}\n\n// Notes about the algorithm:\n// We only create new datastructures if we need to, to keep perf impact\n// reasonable.\nfunction applyProviderOverridesToNgModule(def: NgModuleDefinition): NgModuleDefinition {\n  const {hasOverrides, hasDeprecatedOverrides} = calcHasOverrides(def);\n  if (!hasOverrides) {\n    return def;\n  }\n  // clone the whole view definition,\n  // as it maintains references between the nodes that are hard to update.\n  def = def.factory!(() => NOOP);\n  applyProviderOverrides(def);\n  return def;\n\n  function calcHasOverrides(def: NgModuleDefinition):\n      {hasOverrides: boolean, hasDeprecatedOverrides: boolean} {\n    let hasOverrides = false;\n    let hasDeprecatedOverrides = false;\n    if (providerOverrides.size === 0) {\n      return {hasOverrides, hasDeprecatedOverrides};\n    }\n    def.providers.forEach(node => {\n      const override = providerOverrides.get(node.token);\n      if ((node.flags & NodeFlags.CatProviderNoDirective) && override) {\n        hasOverrides = true;\n        hasDeprecatedOverrides = hasDeprecatedOverrides || override.deprecatedBehavior;\n      }\n    });\n    def.modules.forEach(module => {\n      providerOverridesWithScope.forEach((override, token) => {\n        if (getInjectableDef(token)!.providedIn === module) {\n          hasOverrides = true;\n          hasDeprecatedOverrides = hasDeprecatedOverrides || override.deprecatedBehavior;\n        }\n      });\n    });\n    return {hasOverrides, hasDeprecatedOverrides};\n  }\n\n  function applyProviderOverrides(def: NgModuleDefinition) {\n    for (let i = 0; i < def.providers.length; i++) {\n      const provider = def.providers[i];\n      if (hasDeprecatedOverrides) {\n        // We had a bug where me made\n        // all providers lazy. Keep this logic behind a flag\n        // for migrating existing users.\n        provider.flags |= NodeFlags.LazyProvider;\n      }\n      const override = providerOverrides.get(provider.token);\n      if (override) {\n        provider.flags = (provider.flags & ~NodeFlags.CatProviderNoDirective) | override.flags;\n        provider.deps = splitDepsDsl(override.deps);\n        provider.value = override.value;\n      }\n    }\n    if (providerOverridesWithScope.size > 0) {\n      let moduleSet = new Set<any>(def.modules);\n      providerOverridesWithScope.forEach((override, token) => {\n        if (moduleSet.has(getInjectableDef(token)!.providedIn)) {\n          let provider = {\n            token: token,\n

flags:\n override.flags | (hasDeprecatedOverrides ? NodeFlags.LazyProvider : NodeFlags.None),\n deps: splitDepsDsl(override.deps),\n value: override.value,\n index: def.providers.length,\n };\n def.providers.push(provider);\n def.providersByKey[tokenKey(token)] = provider;\n }\n });\n }\n }\n}\n\nfunction prodCheckAndUpdateNode(\n view: ViewData, checkIndex: number, argStyle: ArgumentType, v0?: any, v1?: any, v2?: any,\n v3?: any, v4?: any, v5?: any, v6?: any, v7?: any, v8?: any, v9?: any): any {\n const nodeDef = view.def.nodes[checkIndex];\n checkAndUpdateNode(view, nodeDef, argStyle, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n return (nodeDef.flags & NodeFlags.CatPureExpression) ?\n asPureExpressionData(view, checkIndex).value :\n undefined;\n}\n\nfunction prodCheckNoChangesNode(\n view: ViewData, checkIndex: number, argStyle: ArgumentType, v0?: any, v1?: any, v2?: any,\n v3?: any, v4?: any, v5?: any, v6?: any, v7?: any, v8?: any, v9?: any): any {\n const nodeDef = view.def.nodes[checkIndex];\n checkNoChangesNode(view, nodeDef, argStyle, v0, v1, v2, v3, v4, v5, v6, v7, v8, v9);\n return (nodeDef.flags & NodeFlags.CatPureExpression) ?\n asPureExpressionData(view, checkIndex).value :\n undefined;\n}\n\nfunction debugCheckAndUpdateView(view:\n ViewData) {\n return callWithDebugContext(DebugAction.detectChanges, checkAndUpdateView, null, [view]);\n}\n\nfunction debugCheckNoChangesView(view: ViewData) {\n return callWithDebugContext(DebugAction.checkNoChanges, checkNoChangesView, null, [view]);\n}\n\nfunction debugDestroyView(view: ViewData) {\n return callWithDebugContext(DebugAction.destroy, destroyView, null, [view]);\n}\n\nenum DebugAction {\n create,\n detectChanges,\n checkNoChanges,\n destroy,\n handleEvent\n}\n\nlet _currentAction: DebugAction;\nlet _currentView: ViewData;\nlet _currentNodeIndex: number|null;\n\nfunction debugSetCurrentNode(view: ViewData, nodeIndex: number|null) {\n _currentView = view;\n _currentNodeIndex = nodeIndex;\n}\n\nfunction debugHandleEvent(view: ViewData, nodeIndex: number, eventName: string, event: any) {\n debugSetCurrentNode(view, nodeIndex);\n return callWithDebugContext(\n DebugAction.handleEvent, view.def.handleEvent, null, [view, nodeIndex, eventName, event]);\n}\n\nfunction debugUpdateDirectives(view: ViewData, checkType: CheckType) {\n if (view.state & ViewState.Destroyed) {\n throw viewDestroyedError(DebugAction[_currentAction]);\n }\n debugSetCurrentNode(view, nextDirectiveWithBinding(view, 0));\n return view.def.updateDirectives(debugCheckDirectivesFn, view);\n\n function debugCheckDirectivesFn(\n view: ViewData, nodeIndex: number, argStyle: ArgumentType, ...values: any[]) {\n const nodeDef = view.def.nodes[nodeIndex];\n if (checkType === CheckType.CheckAndUpdate) {\n debugCheckAndUpdateNode(view, nodeDef, argStyle, values);\n } else {\n debugCheckNoChangesNode(view, nodeDef, argStyle, values);\n }\n if (nodeDef.flags & NodeFlags.TypeDirective) {\n debugSetCurrentNode(view, nextDirectiveWithBinding(view, nodeIndex));\n }\n return (nodeDef.flags & NodeFlags.CatPureExpression) ?\n asPureExpressionData(view, nodeDef.nodeIndex).value :\n undefined;\n }\n}\n\nfunction debugUpdateRenderer(view:\n ViewData, checkType: CheckType) {\n if (view.state & ViewState.Destroyed) {\n throw viewDestroyedError(DebugAction[_currentAction]);\n }\n debugSetCurrentNode(view, nextRenderNodeWithBinding(view, 0));\n return view.def.updateRenderer(debugCheckRenderNodeFn, view);\n\n function debugCheckRenderNodeFn(\n view: ViewData, nodeIndex: number, argStyle: ArgumentType, ...values: any[]) {\n const nodeDef = view.def.nodes[nodeIndex];\n if (checkType === CheckType.CheckAndUpdate) {\n debugCheckAndUpdateNode(view, nodeDef, argStyle, values);\n } else {\n debugCheckNoChangesNode(view, nodeDef, argStyle, values);\n }\n if (nodeDef.flags & NodeFlags.CatRenderNode) {\n debugSetCurrentNode(view, nextRenderNodeWithBinding(view, nodeIndex));\n }\n return (nodeDef.flags & NodeFlags.CatPureExpression) ?\n asPureExpressionData(view, nodeDef.nodeIndex).value :\n undefined;\n }\n}\n\nfunction debugCheckAndUpdateNode(\n view: ViewData, nodeDef: NodeDef, argStyle: ArgumentType, givenValues: any[]): void {\n const changed = (<any>checkAndUpdateNode)(view, nodeDef, argStyle, ...givenValues);\n if (changed) {\n const values = argStyle === ArgumentType.Dynamic ? givenValues[0] : givenValues;\n if (nodeDef.flags & NodeFlags.TypeDirective) {\n const bindingValues: {[key: string]: string} = {};\n for (let i = 0; i < nodeDef.bindings.length; i++) {\n const binding = nodeDef.bindings[i];\n const value = values[i];\n if

(binding.flags & BindingFlags.TypeProperty) {\n bindingValues[normalizeDebugBindingName(binding.nonMinifiedName!)] =\n normalizeDebugBindingValue(value);\n }\n }\n const elDef = nodeDef.parent!;\n const el = asElementData(view, elDef.nodeIndex).renderElement;\n if (!elDef.element!.name) {\n // a comment.\n view.renderer.setValue(\n el, escapeCommentText(`bindings=${JSON.stringify(bindingValues, null, 2)}`));\n } else {\n // a regular element.\n for (let attr in bindingValues) {\n const value = bindingValues[attr];\n if (value != null) {\n view.renderer.setAttribute(el, attr, value);\n } else {\n view.renderer.removeAttribute(el, attr);\n }\n }\n }\n }\n}\n\nfunction debugCheckNoChangesNode(\n view: ViewData, nodeDef: NodeDef, argStyle: ArgumentType, values: any[]): void {\n (<any>checkNoChangesNode)(view, nodeDef, argStyle, ...values);\n}\n\nfunction nextDirectiveWithBinding(view: ViewData, nodeIndex: number): number|null {\n for (let i = nodeIndex; i < view.def.nodes.length; i++) {\n const nodeDef = view.def.nodes[i];\n if (nodeDef.flags & NodeFlags.TypeDirective && nodeDef.bindings && nodeDef.bindings.length) {\n return i;\n }\n }\n return null;\n}\n\nfunction nextRenderNodeWithBinding(view: ViewData, nodeIndex: number): number|null {\n for (let i = nodeIndex; i < view.def.nodes.length; i++) {\n const nodeDef = view.def.nodes[i];\n if ((nodeDef.flags & NodeFlags.CatRenderNode) && nodeDef.bindings && nodeDef.bindings.length) {\n return i;\n }\n }\n return null;\n}\n\nclass DebugContext_ implements DebugContext {\n private nodeDef: NodeDef;\n private elView: ViewData;\n private elDef: NodeDef;\n\n constructor(public view: ViewData, public nodeIndex: number|null) {\n if (nodeIndex == null) {\n this.nodeIndex = nodeIndex = 0;\n }\n this.nodeDef = view.def.nodes[nodeIndex];\n let elDef = this.nodeDef;\n let elView = view;\n while (elDef && (elDef.flags & NodeFlags.TypeElement) === 0) {\n elDef = elDef.parent!;\n }\n if (!elDef) {\n while (!elDef && elView) {\n elDef = viewParentEl(elView)!;\n elView = elView.parent!;\n }\n }\n this.elDef = elDef;\n this.elView = elView;\n }\n\n private get elOrCompView() {\n // Has to be done lazily as we use the DebugContext also during creation of elements...\n return asElementData(this.elView, this.elDef.nodeIndex).componentView || this.view;\n }\n\n get injector(): Injector {\n return createInjector(this.elView, this.elDef);\n }\n\n get component(): any {\n return this.elOrCompView.component;\n }\n\n get context(): any {\n return this.elOrCompView.context;\n }\n\n get providerTokens(): any[] {\n const tokens: any[] = [];\n if (this.elDef) {\n for (let i = this.elDef.nodeIndex + 1; i <= this.elDef.nodeIndex + this.elDef.childCount;\n i++) {\n const childDef = this.elView.def.nodes[i];\n if (childDef.flags & NodeFlags.CatProvider) {\n tokens.push(childDef.provider!.token);\n }\n i += childDef.childCount;\n }\n }\n return tokens;\n }\n\n get references(): {[key: string]: any} {\n const references: {[key: string]: any} = {};\n if (this.elDef) {\n collectReferences(this.elView, this.elDef, references);\n\n for (let i = this.elDef.nodeIndex + 1; i <= this.elDef.nodeIndex + this.elDef.childCount;\n i++) {\n const childDef = this.elView.def.nodes[i];\n if (childDef.flags & NodeFlags.CatProvider) {\n collectReferences(this.elView, childDef, references);\n }\n i += childDef.childCount;\n }\n }\n return references;\n }\n\n get componentRenderElement() {\n const elData = findHostElement(this.elOrCompView);\n return elData ? elData.renderElement : undefined;\n }\n\n get renderNode(): any {\n return this.nodeDef.flags & NodeFlags.TypeText ? renderNode(this.view, this.nodeDef) :\n renderNode(this.elView, this.elDef);\n }\n\n logError(console: Console, ...values: any[]) {\n let logViewDef: ViewDefinition;\n let logNodeIndex: number;\n if (this.nodeDef.flags & NodeFlags.TypeText) {\n logViewDef = this.view.def;\n logNodeIndex = this.nodeDef.nodeIndex;\n } else {\n logViewDef = this.elView.def;\n logNodeIndex = this.elDef.nodeIndex;\n }\n // Note: we only generate a log function for text and element nodes\n // to make the generated code as small as possible.\n const renderNodeIndex = getRenderNodeIndex(logViewDef, logNodeIndex);\n let currRenderNodeIndex = -1;\n let nodeLogger: NodeLogger = () => {\n currRenderNodeIndex++;\n if (currRenderNodeIndex === renderNodeIndex) {\n return console.error.bind(console, ...values);\n } else {\n return NOOP;\n }\n };\n logViewDef.factory!(nodeLogger);\n if (currRenderNodeIndex < renderNodeIndex) {\n console.error('Illegal state: the ViewDefinitionFactory did not call the logger!');\n

```
(<any>console.error)(...values);\n  }\n }\n}\n\nfunction getRenderNodeIndex(viewDef: ViewDefinition, nodeIndex: number): number {\n let renderNodeIndex = -1;\n for (let i = 0; i <= nodeIndex; i++) {\n const nodeDef
 = viewDef.nodes[i];\n if (nodeDef.flags & NodeFlags.CatRenderNode) {\n renderNodeIndex++;\n }\n }\n return renderNodeIndex;\n}\n\nfunction findHostElement(view: ViewData): ElementData|null {\n while (view && !isComponentView(view)) {\n view = view.parent!;\n }\n if (view.parent) {\n return asElementData(view.parent, viewParentEl(view)!.nodeIndex);\n }\n return null;\n}\n\nfunction collectReferences(view: ViewData, nodeDef: NodeDef, references: {[key: string]: any}) {\n for (let refName in nodeDef.references) {\n references[refName] = getQueryValue(view, nodeDef, nodeDef.references[refName]);\n }\n}\n\nfunction callWithDebugContext(action: DebugAction, fn: any, self: any, args: any[]) {\n const oldAction = _currentAction;\n const oldView = _currentView;\n const oldNodeIndex = _currentNodeIndex;\n try {\n _currentAction = action;\n const result = fn.apply(self, args);\n _currentView = oldView;\n _currentNodeIndex = oldNodeIndex;\n _currentAction
 = oldAction;\n return result;\n } catch (e) {\n if (isViewDebugError(e) || !_currentView) {\n throw e;\n }\n throw viewWrappedDebugError(e, getCurrentDebugContext()!);\n }\n}\n\nexport function getCurrentDebugContext(): DebugContext|null {\n return _currentView ? new DebugContext_(_currentView, _currentNodeIndex) : null;\n}\n\nexport class DebugRendererFactory2 implements RendererFactory2 {\n constructor(private delegate: RendererFactory2) {}\n\n createRenderer(element: any, renderData: RendererType2|null): Renderer2 {\n return new DebugRenderer2(this.delegate.createRenderer(element, renderData));\n }\n\n begin() {\n if (this.delegate.begin) {\n this.delegate.begin();\n }\n }\n end() {\n if (this.delegate.end) {\n this.delegate.end();\n }\n }\n\n whenRenderingDone(): Promise<any> {\n if (this.delegate.whenRenderingDone) {\n return this.delegate.whenRenderingDone();\n }\n return Promise.resolve(null);\n }\n}\n\nexport
 class DebugRenderer2 implements Renderer2 {\n readonly data: {[key: string]: any};\n\n private createDebugContext(nativeElement: any) {\n return this.debugContextFactory(nativeElement);\n }\n\n /**\n * Factory function used to create a `DebugContext` when a node is created.\n *\n * The `DebugContext` allows to retrieve information about the nodes that are useful in tests.\n *\n * The factory is configurable so that the `DebugRenderer2` could instantiate either a View Engine\n * or a Render context.\n */\n debugContextFactory: (nativeElement?: any) => DebugContext | null = getCurrentDebugContext;\n\n constructor(private delegate: Renderer2) {\n this.data = this.delegate.data;\n }\n\n destroyNode(node: any) {\n const debugNode = getDebugNode(node)!;\n removeDebugNodeFromIndex(debugNode);\n if (debugNode instanceof DebugNode__PRE_R3__) {\n debugNode.listeners.length = 0;\n }\n if (this.delegate.destroyNode) {\n this.delegate.destroyNode(node);\n
  }\n }\n\n destroy() {\n this.delegate.destroy();\n }\n\n createElement(name: string, namespace?: string): any {\n const el = this.delegate.createElement(name, namespace);\n const debugCtx = this.createDebugContext(el);\n if (debugCtx) {\n const debugEl = new DebugElement__PRE_R3__(el, null, debugCtx);\n (debugEl as {name: string}).name = name;\n indexDebugNode(debugEl);\n }\n return el;\n }\n\n createComment(value: string): any {\n const comment = this.delegate.createComment(escapeCommentText(value));\n const debugCtx = this.createDebugContext(comment);\n if (debugCtx) {\n indexDebugNode(new DebugNode__PRE_R3__(comment, null, debugCtx));\n }\n return comment;\n }\n\n createText(value: string): any {\n const text = this.delegate.createText(value);\n const debugCtx = this.createDebugContext(text);\n if (debugCtx) {\n indexDebugNode(new DebugNode__PRE_R3__(text, null, debugCtx));\n }\n return text;\n }\n\n appendChild(parent: any, newChild: any): void {\n const debugEl = getDebugNode(parent);\n const debugChildEl = getDebugNode(newChild);\n if (debugEl && debugChildEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.addChild(debugChildEl);\n }\n this.delegate.appendChild(parent, newChild);\n }\n\n insertBefore(parent: any, newChild: any, refChild: any, isMove?: boolean): void {\n const debugEl = getDebugNode(parent);\n const debugChildEl =
```

getDebugNode(newChild);\n  const debugRefEl = getDebugNode(refChild)!;\n  if (debugEl && debugChildEl && debugEl instanceof DebugElement__PRE_R3__) {\n  debugEl.insertBefore(debugRefEl, debugChildEl);\n }\n\n  this.delegate.insertBefore(parent, newChild, refChild, isMove);\n }\n\n removeChild(parent: any, oldChild: any): void {\n  const debugEl = getDebugNode(parent);\n  const debugChildEl = getDebugNode(oldChild);\n  if (debugEl && debugChildEl && debugEl instanceof DebugElement__PRE_R3__)
 {\n  debugEl.removeChild(debugChildEl);\n  }\n  this.delegate.removeChild(parent, oldChild);\n }\n\n selectRootElement(selectorOrNode: string|any, preserveContent?: boolean): any {\n  const el = this.delegate.selectRootElement(selectorOrNode, preserveContent);\n  const debugCtx = getCurrentDebugContext();\n  if (debugCtx) {\n  indexDebugNode(new DebugElement__PRE_R3__(el, null, debugCtx));\n  }\n  return el;\n }\n\n setAttribute(el: any, name: string, value: string, namespace?: string): void {\n  const debugEl = getDebugNode(el);\n  if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n  const fullName = namespace ? namespace + ':' + name : name;\n  debugEl.attributes[fullName] = value;\n  }\n this.delegate.setAttribute(el, name, value, namespace);\n }\n\n removeAttribute(el: any, name: string, namespace?: string): void {\n  const debugEl = getDebugNode(el);\n  if (debugEl && debugEl instanceof DebugElement__PRE_R3__)
 {\n  const fullName = namespace ? namespace + ':' + name : name;\n  debugEl.attributes[fullName] = null;\n }\n  this.delegate.removeAttribute(el, name, namespace);\n }\n\n addClass(el: any, name: string): void {\n  const debugEl = getDebugNode(el);\n  if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.classes[name] = true;\n  }\n  this.delegate.addClass(el, name);\n }\n\n removeClass(el: any, name: string): void {\n  const debugEl = getDebugNode(el);\n  if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n  debugEl.classes[name] = false;\n  }\n  this.delegate.removeClass(el, name);\n }\n\n setStyle(el: any, style: string, value: any, flags: RendererStyleFlags2): void {\n  const debugEl = getDebugNode(el);\n  if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n debugEl.styles[style] = value;\n  }\n  this.delegate.setStyle(el, style, value, flags);\n }\n\n removeStyle(el: any, style: string,
 flags: RendererStyleFlags2): void {\n  const debugEl = getDebugNode(el);\n  if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n  debugEl.styles[style] = null;\n  }\n  this.delegate.removeStyle(el, style, flags);\n }\n\n setProperty(el: any, name: string, value: any): void {\n  const debugEl = getDebugNode(el);\n  if (debugEl && debugEl instanceof DebugElement__PRE_R3__) {\n  debugEl.properties[name] = value;\n  }\n this.delegate.setProperty(el, name, value);\n }\n\n listen(\n  target: 'document'|'windows'|'body'|any, eventName: string,\n  callback: (event: any) => boolean): () => void {\n  if (typeof target !== 'string') {\n  const debugEl = getDebugNode(target);\n  if (debugEl) {\n  debugEl.listeners.push(new DebugEventListener(eventName, callback));\n  }\n  }\n\n  return this.delegate.listen(target, eventName, callback);\n }\n\n parentNode(node: any): any {\n  return this.delegate.parentNode(node);\n }\n
  nextSibling(node: any): any {\n  return this.delegate.nextSibling(node);\n }\n setValue(node: any, value: string): void {\n  return this.delegate.setValue(node, value);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Injector} from '../di/injector';\nimport {Type} from '../interface/type';\nimport {ComponentFactory} from '../linker/component_factory';\nimport {NgModuleFactory, NgModuleRef} from '../linker/ng_module_factory';\n\nimport {initServicesIfNeeded} from './services';\nimport {NgModuleDefinition, NgModuleDefinitionFactory, NgModuleProviderDef, ProviderOverride, Services, ViewDefinition} from './types';\nimport {resolveDefinition} from './util';\n\nexport function overrideProvider(override: ProviderOverride) {\n initServicesIfNeeded();\n return Services.overrideProvider(override);\n}\n\nexport
 function overrideComponentView(comp: Type<any>, componentFactory: ComponentFactory<any>) {\n initServicesIfNeeded();\n return Services.overrideComponentView(comp, componentFactory);\n}\n\nexport function clearOverrides() {\n initServicesIfNeeded();\n return Services.clearOverrides();\n}\n\n// Attention: this function is called as top level function.\n// Putting any logic in here will destroy closure tree shaking!\nexport

function createNgModuleFactory(\n    ngModuleType: Type<any>, bootstrapComponents: Type<any>[],\n defFactory: NgModuleDefinitionFactory): NgModuleFactory<any> {\n  return new NgModuleFactory_(ngModuleType, bootstrapComponents, defFactory);\n}\n\nfunction cloneNgModuleDefinition(def: NgModuleDefinition): NgModuleDefinition {\n  const providers = Array.from(def.providers);\n  const modules = Array.from(def.modules);\n  const providersByKey: {[tokenKey: string]: NgModuleProviderDef} = {};\n  for (const key in def.providersByKey) {\n    providersByKey[key] = def.providersByKey[key];\n
  }\n\n  return {\n    factory: def.factory,\n    scope: def.scope,\n    providers,\n    modules,\n    providersByKey,\n };\n}\n\nclass NgModuleFactory_ extends NgModuleFactory<any> {\n  constructor(\n      public readonly moduleType: Type<any>, private _bootstrapComponents: Type<any>[],\n      private _ngModuleDefFactory: NgModuleDefinitionFactory) {\n    // Attention: this ctor is called as top level function.\n    // Putting any logic in here will destroy closure tree shaking!\n    super();\n  }\n\n  create(parentInjector: Injector|null): NgModuleRef<any> {\n    initServicesIfNeeded();\n    // Clone the NgModuleDefinition so that any tree shakeable provider definition\n    // added to this instance of the NgModuleRef doesn't affect the cached copy.\n    // See https://github.com/angular/angular/issues/25018.\n    const def = cloneNgModuleDefinition(resolveDefinition(this._ngModuleDefFactory));\n    return Services.createNgModuleRef(\n        this.moduleType,
 parentInjector || Injector.NULL, this._bootstrapComponents, def);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {anchorDef, elementDef} from './element';\nexport {clearOverrides, createNgModuleFactory, overrideComponentView, overrideProvider} from './entrypoint';\nexport {ngContentDef} from './ng_content';\nexport {moduleDef, moduleProvideDef} from './ng_module';\nexport {directiveDef, pipeDef, providerDef} from './provider';\nexport {pureArrayDef, pureObjectDef, purePipeDef} from './pure_expression';\nexport {queryDef} from './query';\nexport {createComponentFactory, getComponentViewDefinitionFactory, nodeValue, ViewRef_} from './refs';\nexport {initServicesIfNeeded} from './services';\nexport {textDef} from './text';\nexport {createRendererType2, elementEventFullName, EMPTY_ARRAY, EMPTY_MAP, inlineInterpolate,
 interpolate, rootRenderNodes, tokenKey, unwrapValue} from './util';\nexport {viewDef} from './view';\nexport {attachEmbeddedView, detachEmbeddedView, moveEmbeddedView} from './view_attach';\n\nexport * from './types';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {ALLOW_MULTIPLE_PLATFORMS as ALLOW_MULTIPLE_PLATFORMS} from './application_ref';\nexport {APP_ID_RANDOM_PROVIDER as APP_ID_RANDOM_PROVIDER} from './application_tokens';\nexport {defaultIterableDiffers as defaultIterableDiffers, defaultKeyValueDiffers as defaultKeyValueDiffers} from './change_detection/change_detection';\nexport {devModeEqual as devModeEqual, isListLikeIterable as isListLikeIterable} from './change_detection/change_detection_util';\nexport {ChangeDetectorStatus as ChangeDetectorStatus, isDefaultChangeDetectionStrategy as isDefaultChangeDetectionStrategy}
 from './change_detection/constants';\nexport {Console as Console} from './console';\nexport {getDebugNodeR2 as getDebugNodeR2} from './debug/debug_node';\nexport {inject, setCurrentInjector as setCurrentInjector, inject} from './di/injector_compatibility';\nexport {getInjectableDef as getInjectableDef, InjectableDef, InjectorDef} from './di/interface/defs';\nexport {INJECTOR_SCOPE as INJECTOR_SCOPE} from './di/scope';\nexport {CurrencyIndex as CurrencyIndex, ExtraLocaleDataIndex as ExtraLocaleDataIndex, findLocaleData as findLocaleData, getLocaleCurrencyCode as getLocaleCurrencyCode, getLocalePluralCase as getLocalePluralCase, LocaleDataIndex as LocaleDataIndex, registerLocaleData as registerLocaleData, unregisterAllLocaleData as unregisterLocaleData} from './i18n/locale_data_api';\nexport {DEFAULT_LOCALE_ID as DEFAULT_LOCALE_ID} from './i18n/localization';\nexport {ivyEnabled as ivyEnabled} from './ivy_switch';\nexport {ComponentFactory

as ComponentFactory} from './linker/component_factory';\nexport {CodegenComponentFactoryResolver as CodegenComponentFactoryResolver} from './linker/component_factory_resolver';\nexport {clearResolutionOfComponentResourcesQueue as clearResolutionOfComponentResourcesQueue, resolveComponentResources as resolveComponentResources} from './metadata/resource_loading';\nexport {ReflectionCapabilities as ReflectionCapabilities} from './reflection/reflection_capabilities';\nexport {GetterFn as GetterFn, MethodFn as MethodFn, SetterFn as SetterFn} from './reflection/types';\nexport {allowSanitizationBypassAndThrow as allowSanitizationBypassAndThrow, BypassType as BypassType, getSanitizationBypassType as getSanitizationBypassType, SafeHtml as SafeHtml, SafeResourceUrl as SafeResourceUrl, SafeScript as SafeScript, SafeStyle as SafeStyle, SafeUrl as SafeUrl, SafeValue as SafeValue, unwrapSafeValue as unwrapSafeValue} from './sanitization/bypass';\nexport {_sanitizeHtml as _sanitizeHtml} from './sanitization/html_sanitizer';\nexport {_sanitizeUrl as _sanitizeUrl} from './sanitization/url_sanitizer';\nexport {makeDecorator as makeDecorator} from './util/decorators';\nexport {global as global} from './util/global';\nexport {isObservable as isObservable, isPromise as isPromise} from './util/lang';\nexport {stringify as stringify} from './util/stringify';\nexport {clearOverrides as clearOverrides, initServicesIfNeeded as initServicesIfNeeded, overrideComponentView as overrideComponentView, overrideProvider as overrideProvider} from './view/index';\nexport {NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR as NOT_FOUND_CHECK_ONLY_ELEMENT_INJECTOR} from './view/provider';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// clang-format off\n// we reexport these symbols just so that they are retained
during the dead code elimination\n// performed by rollup while it's creating fesm files.\n//\n// no code actually imports these symbols from the @angular/core entry point\nexport {\n  compileNgModuleFactory__POST_R3__ as compileNgModuleFactory__POST_R3__,\n  isBoundToModule__POST_R3__ as isBoundToModule__POST_R3__\n} from './application_ref';\nexport {\n SWITCH_CHANGE_DETECTOR_REF_FACTORY__POST_R3__ as SWITCH_CHANGE_DETECTOR_REF_FACTORY__POST_R3__,\n} from './change_detection/change_detector_ref';\nexport {\n  getDebugNode__POST_R3__ as getDebugNode__POST_R3__,\n} from './debug/debug_node';\nexport {\n SWITCH_COMPILE_INJECTABLE__POST_R3__ as SWITCH_COMPILE_INJECTABLE__POST_R3__,\n} from './di/injectable';\nexport {INJECTOR_IMPL__POST_R3__ as INJECTOR_IMPL__POST_R3__} from './di/injector';\nexport {\n  NG_INJ_DEF as NG_INJ_DEF,\n  NG_PROV_DEF as NG_PROV_DEF,\n} from './di/interface/defs';\nexport {CREATE_ATTRIBUTE_DECORATOR__POST_R3__ as CREATE_ATTRIBUTE_DECORATOR__POST_R3__}
from './di/metadata_attr';\nexport {createInjector as createInjector} from './di/r3_injector';\nexport {\n SWITCH_IVY_ENABLED__POST_R3__ as SWITCH_IVY_ENABLED__POST_R3__,\n} from './ivy_switch';\nexport {\n  Compiler_compileModuleAndAllComponentsAsync__POST_R3__ as Compiler_compileModuleAndAllComponentsAsync__POST_R3__,\n Compiler_compileModuleAndAllComponentsSync__POST_R3__ as Compiler_compileModuleAndAllComponentsSync__POST_R3__,\n Compiler_compileModuleAsync__POST_R3__ as Compiler_compileModuleAsync__POST_R3__,\n Compiler_compileModuleSync__POST_R3__ as Compiler_compileModuleSync__POST_R3__,\n} from './linker/compiler';\nexport {\n  SWITCH_ELEMENT_REF_FACTORY__POST_R3__ as SWITCH_ELEMENT_REF_FACTORY__POST_R3__,\n} from './linker/element_ref';\nexport { getModuleFactory__POST_R3__ as getModuleFactory__POST_R3__ } from './linker/ng_module_factory_loader';\nexport { registerNgModuleType as registerNgModuleType } from './linker/ng_module_factory_registration';\nexport {\n  SWITCH_TEMPLATE_REF_FACTORY__POST_R3__ as SWITCH_TEMPLATE_REF_FACTORY__POST_R3__,\n} from './linker/template_ref';\nexport {\n

SWITCH_VIEW_CONTAINER_REF_FACTORY__POST_R3__ as
SWITCH_VIEW_CONTAINER_REF_FACTORY__POST_R3__,\n} from './linker/view_container_ref';\nexport
{\n SWITCH_COMPILE_COMPONENT__POST_R3__ as
SWITCH_COMPILE_COMPONENT__POST_R3__,\n SWITCH_COMPILE_DIRECTIVE__POST_R3__ as
SWITCH_COMPILE_DIRECTIVE__POST_R3__,\n SWITCH_COMPILE_PIPE__POST_R3__ as
SWITCH_COMPILE_PIPE__POST_R3__,\n} from './metadata/directives';\nexport {\n
NgModuleDefWithMeta,\n} from './metadata/ng_module';\nexport {\n
SWITCH_COMPILE_NGMODULE__POST_R3__ as SWITCH_COMPILE_NGMODULE__POST_R3__,\n}
from './metadata/ng_module';\nexport {\n NgModuleDef as NgModuleDef,\n NgModuleTransitiveScopes as
NgModuleTransitiveScopes,\n} from './metadata/ng_module_def';\nexport {\n
SWITCH_RENDERER2_FACTORY__POST_R3__ as SWITCH_RENDERER2_FACTORY__POST_R3__,\n}
from './render/api';\nexport {\n getLContext
as getLContext\n} from './render3/context_discovery';\nexport {\n NG_COMP_DEF as NG_COMP_DEF,\n
NG_DIR_DEF as NG_DIR_DEF,\n NG_ELEMENT_ID as NG_ELEMENT_ID,\n NG_MOD_DEF as
NG_MOD_DEF,\n NG_PIPE_DEF as NG_PIPE_DEF,\n} from './render3/fields';\nexport {\n AttributeMarker as
AttributeMarker,\n ComponentDef as ComponentDef,\n ComponentFactory as Render3ComponentFactory,\n
ComponentRef as Render3ComponentRef,\n ComponentType as ComponentType,\n CssSelectorList as
CssSelectorList,\n detectChanges as detectChanges,\n DirectiveDef as DirectiveDef,\n DirectiveType as
DirectiveType,\n getDirectives as getDirectives,\n getHostElement as getHostElement,\n LifecycleHooksFeature
as LifecycleHooksFeature,\n markDirty as markDirty,\n NgModuleFactory as NgModuleFactory,\n NgModuleRef
as Render3NgModuleRef,\n NgModuleType as NgModuleType,\n NO_CHANGE as NO_CHANGE,\n PipeDef
as PipeDef,\n renderComponent as renderComponent,\n RenderFlags as RenderFlags,\n
setClassMetadata as setClassMetadata,\n setLocaleId as setLocaleId,\n store as store,\n whenRendered as
whenRendered,\n advance,\n attribute,\n attributeInterpolate1,\n attributeInterpolate2,\n attributeInterpolate3,\n
attributeInterpolate4,\n attributeInterpolate5,\n attributeInterpolate6,\n attributeInterpolate7,\n
attributeInterpolate8,\n attributeInterpolateV,\n classMap,\n classMapInterpolate1,\n classMapInterpolate2,\n
classMapInterpolate3,\n classMapInterpolate4,\n classMapInterpolate5,\n classMapInterpolate6,\n
classMapInterpolate7,\n classMapInterpolate8,\n classMapInterpolateV,\n classProp,\n
ComponentDefWithMeta,\n contentQuery,\n CopyDefinitionFeature,\n defineComponent,\n defineDirective,\n
defineNgModule,\n definePipe,\n DirectiveDefWithMeta,\n directiveInject,\n disableBindings,\n element,\n
elementContainer,\n elementContainerEnd,\n elementContainerStart,\n
elementEnd,\n elementStart,\n enableBindings,\n FactoryDef,\n getCurrentView,\n getFactoryOf,\n
getInheritedFactory,\n hostProperty,\n i18n,\n i18nApply,\n i18nAttributes,\n i18nEnd,\n i18nExp,\n
i18nPostprocess,\n i18nStart,\n InheritDefinitionFeature,\n injectAttribute,\n injectPipeChangeDetectorRef,\n
invalidFactory,\n listener,\n loadQuery,\n namespaceHTML,\n namespaceMathML,\n namespaceSVG,\n
nextContext,\n NgOnChangesFeature,\n pipe,\n pipeBind1,\n pipeBind2,\n pipeBind3,\n pipeBind4,\n
pipeBindV,\n PipeDefWithMeta,\n projection,\n projectionDef,\n property,\n propertyInterpolate,\n
propertyInterpolate1,\n propertyInterpolate2,\n propertyInterpolate3,\n propertyInterpolate4,\n
propertyInterpolate5,\n propertyInterpolate6,\n propertyInterpolate7,\n propertyInterpolate8,\n
propertyInterpolateV,\n ProvidersFeature,\n pureFunction0,\n pureFunction1,\n
pureFunction2,\n pureFunction3,\n pureFunction4,\n pureFunction5,\n pureFunction6,\n pureFunction7,\n
pureFunction8,\n pureFunctionV,\n queryRefresh,\n reference,\n resolveBody,\n resolveDocument,\n
resolveWindow,\n restoreView,\n\n setComponentScope,\n setNgModuleScope,\n staticContentQuery,\n
staticViewQuery,\n styleMap,\n styleMapInterpolate1,\n styleMapInterpolate2,\n styleMapInterpolate3,\n
styleMapInterpolate4,\n styleMapInterpolate5,\n styleMapInterpolate6,\n styleMapInterpolate7,\n
styleMapInterpolate8,\n styleMapInterpolateV,\n styleProp,\n stylePropInterpolate1,\n stylePropInterpolate2,\n
stylePropInterpolate3,\n stylePropInterpolate4,\n stylePropInterpolate5,\n stylePropInterpolate6,\n
stylePropInterpolate7,\n stylePropInterpolate8,\n stylePropInterpolateV,\n syntheticHostListener,\n

syntheticHostProperty,\n  template,\n  templateRefExtractor,\n
  text,\n  textInterpolate,\n  textInterpolate1,\n  textInterpolate2,\n  textInterpolate3,\n  textInterpolate4,\n
textInterpolate5,\n  textInterpolate6,\n  textInterpolate7,\n  textInterpolate8,\n  textInterpolateV,\n  viewQuery,\n}
from './render3/index';\nexport {\n  LContext as LContext,\n} from './render3/interfaces/context';\nexport {\n
setDocument as setDocument\n} from './render3/interfaces/document';\nexport {\n  Player as Player,\n
PlayerFactory as PlayerFactory,\n  PlayerHandler as PlayerHandler,\n  PlayState as PlayState,\n} from
'./render3/interfaces/player';\nexport {\n  compileComponent as compileComponent,\n  compileDirective as
compileDirective,\n} from './render3/jit/directive';\nexport {\n  resetJitOptions as resetJitOptions,\n} from
'./render3/jit/jit_options';\nexport {\n  compileNgModule as compileNgModule,\n  compileNgModuleDefs as
compileNgModuleDefs,\n  flushModuleScopingQueueAsMuchAsPossible as
flushModuleScopingQueueAsMuchAsPossible,\n
  patchComponentDefWithScope as patchComponentDefWithScope,\n  resetCompiledComponents as
resetCompiledComponents,\n  transitiveScopesFor as transitiveScopesFor,\n} from './render3/jit/module';\nexport
{\n  compilePipe as compilePipe,\n} from './render3/jit/pipe';\nexport {\n  publishDefaultGlobalUtils as
publishDefaultGlobalUtils\n,\n  publishGlobalUtil as publishGlobalUtil} from './render3/util/global_utils';\nexport
{\n  bypassSanitizationTrustHtml as bypassSanitizationTrustHtml,\n  bypassSanitizationTrustResourceUrl as
bypassSanitizationTrustResourceUrl,\n  bypassSanitizationTrustScript as bypassSanitizationTrustScript,\n
bypassSanitizationTrustStyle as bypassSanitizationTrustStyle,\n  bypassSanitizationTrustUrl as
bypassSanitizationTrustUrl,\n} from './sanitization/bypass';\nexport {\n  sanitizeHtml,\n  sanitizeResourceUrl,\n
sanitizeScript,\n  sanitizeStyle,\n  sanitizeUrl,\n  sanitizeUrlOrResourceUrl,\n  trustConstantHtml,\n
trustConstantResourceUrl,\n
  trustConstantScript,\n} from './sanitization/sanitization';\nexport {\n  noSideEffects as noSideEffects,\n} from
'./util/closure';\n\n// clang-format on\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n *
Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nexport {CodegenComponentFactoryResolver as
CodegenComponentFactoryResolver} from './linker/component_factory_resolver';\nexport {registerModuleFactory
as registerModuleFactory} from './linker/ng_module_factory_registration';\nexport {anchorDef as and,
ArgumentType as ArgumentType, BindingFlags as BindingFlags, createComponentFactory as ccf,
createNgModuleFactory as cmf, createRendererType2 as crt, DepFlags as DepFlags, directiveDef as did,
elementDef as eld, EMPTY_ARRAY as EMPTY_ARRAY, EMPTY_MAP as EMPTY_MAP,
getComponentViewDefinitionFactory as getComponentViewDefinitionFactory,
 inlineInterpolate as inlineInterpolate, interpolate as interpolate, moduleDef as mod, moduleProvideDef as mpd,
ngContentDef as ncd, NodeFlags as NodeFlags, nodeValue as nov, pipeDef as pid, providerDef as prd,
pureArrayDef as pad, pureObjectDef as pod, purePipeDef as ppd, QueryBindingType as QueryBindingType,
queryDef as qud, QueryValueType as QueryValueType, textDef as ted, unwrapValue as unv, viewDef as vid,
ViewDefinition as ViewDefinition, ViewFlags as ViewFlags} from './view/index';\n","/**\n * @license\n *
Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n
* Entry point from which you should import all public core APIs.\n */\nexport * from './metadata';\nexport * from
'./version';\nexport {TypeDecorator} from './util/decorators';\nexport * from './di';\nexport {createPlatform,
assertPlatform,
 destroyPlatform, getPlatform, PlatformRef, ApplicationRef, createPlatformFactory, NgProbeToken} from
'./application_ref';\nexport {enableProdMode, isDevMode} from './util/is_dev_mode';\nexport {APP_ID,
PACKAGE_ROOT_URL, PLATFORM_INITIALIZER, PLATFORM_ID, APP_BOOTSTRAP_LISTENER} from
'./application_tokens';\nexport {APP_INITIALIZER, ApplicationInitStatus} from './application_init';\nexport * from
'./zone';\nexport * from './render';\nexport * from './linker';\nexport {DebugElement, DebugEventListener,
DebugNode, asNativeElements, getDebugNode, Predicate} from './debug/debug_node';\nexport {GetTestability,
Testability, TestabilityRegistry, setTestabilityGetter} from './testability/testability';\nexport * from

'./change_detection';\nexport * from './platform_core_providers';\nexport {TRANSLATIONS, TRANSLATIONS_FORMAT, LOCALE_ID, DEFAULT_CURRENCY_CODE, MissingTranslationStrategy} from './i18n/tokens';\nexport {ApplicationModule} from './application_module';\nexport {AbstractType, Type} from './interface/type';\nexport {EventEmitter} from './event_emitter';\nexport {ErrorHandler} from './error_handler';\nexport * from './core_private_export';\nexport * from './core_render3_private_export';\nexport {SecurityContext} from './sanitization/security';\nexport {Sanitizer} from './sanitization/sanitizer';\nexport * from './codegen_private_exports';\n\nimport {global} from './util/global';\nif (typeof ngDevMode !== 'undefined' && ngDevMode) {\n  // This helper is to give a reasonable error message to people upgrading to v9 that have not yet\n // installed `@angular/localize` in their app.\n  // tslint:disable-next-line: no-toplevel-property-access\n global.$localize = global.$localize || function() {\n    throw new Error(\n        'It looks like your application or one of its dependencies is using i18n.\\n' +\n        'Angular 9 introduced a global `$localize()` function that needs to be loaded.\\n' +\n        'Please run `ng add @angular/localize` from the Angular CLI.\\n' +\n        '(For non-CLI projects, add `import \\'@angular/localize/init\\';` to your `polyfills.ts` file.\\n' +\n        'For server-side rendering applications add the import to your `main.server.ts` file.)');\n  };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/core';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification.
 `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {APPLICATION_MODULE_PROVIDERS as angular_packages_core_core_w,_iterableDiffersFactory as angular_packages_core_core_t,_keyValueDiffersFactory as angular_packages_core_core_u,_localeFactory as angular_packages_core_core_v,zoneSchedulerFactory as angular_packages_core_core_x} from './src/application_module';\nexport {_appIdRandomProviderFactory as angular_packages_core_core_f} from './src/application_tokens';\nexport {injectChangeDetectorRef as angular_packages_core_core_q} from './src/change_detection/change_detector_ref';\nexport {DefaultIterableDifferFactory as angular_packages_core_core_r} from './src/change_detection/differs/default_iterable_differ';\nexport {DefaultKeyValueDifferFactory as angular_packages_core_core_s} from './src/change_detection/differs/default_keyvalue_differ';\nexport {DebugElement__PRE_R3__ as angular_packages_core_core_o,DebugNode__PRE_R3__ as angular_packages_core_core_n,getDebugNodeR2__PRE_R3__ as angular_packages_core_core_p} from './src/debug/debug_node';\nexport {isForwardRef as angular_packages_core_core_a} from './src/di/forward_ref';\nexport {getInjectImplementation as angular_packages_core_core_bs} from './src/di/inject_switch';\nexport {injectInjectorOnly as angular_packages_core_core_b} from './src/di/injector_compatibility';\nexport {InjectorMarkers as angular_packages_core_core_bt} from './src/di/injector_marker';\nexport {NullInjector as angular_packages_core_core_br} from './src/di/null_injector';\nexport {ReflectiveInjector_ as angular_packages_core_core_c} from './src/di/reflective_injector';\nexport {ReflectiveDependency as angular_packages_core_core_d,resolveReflectiveProviders as angular_packages_core_core_e} from './src/di/reflective_provider';\nexport {USD_CURRENCY_CODE as angular_packages_core_core_y} from './src/i18n/localization';\nexport {createElementRef as angular_packages_core_core_i,injectElementRef as angular_packages_core_core_h} from './src/linker/element_ref';\nexport {getModuleFactory__PRE_R3__ as angular_packages_core_core_j} from './src/linker/ng_module_factory_loader';\nexport {createTemplateRef as angular_packages_core_core_l,injectTemplateRef as angular_packages_core_core_k} from './src/linker/template_ref';\nexport {injectViewContainerRef as angular_packages_core_core_m} from

'./src/linker/view_container_ref';\nexport {injectRenderer2 as angular_packages_core_core_g} from
'./src/render/api';\nexport {SCHEDULER as angular_packages_core_core_bc} from
'./src/render3/component_ref';\nexport {injectAttributeImpl as angular_packages_core_core_bd} from
'./src/render3/di';\nexport {NgOnChangesFeatureImpl as angular_packages_core_core_bb} from
'./src/render3/features/ng_onchanges_feature';\nexport {i18nPostprocess as angular_packages_core_core_bx}
from './src/render3/i18n/i18n_postprocess';\nexport {TElementNode as angular_packages_core_core_bh} from
'./src/render3/interfaces/node';\nexport {LView as angular_packages_core_core_bv} from
'./src/render3/interfaces/view';\nexport {pureFunction1Internal as
angular_packages_core_core_bi,pureFunction2Internal as angular_packages_core_core_bj,pureFunction3Internal as
angular_packages_core_core_bk,pureFunction4Internal as angular_packages_core_core_bl,pureFunctionVInternal
as angular_packages_core_core_bm} from './src/render3/pure_function';\nexport {getBindingRoot as
angular_packages_core_core_bf,getLView as angular_packages_core_core_be,nextContextImpl as
angular_packages_core_core_bg} from './src/render3/state';\nexport {getRootContext as
angular_packages_core_core_bw} from './src/render3/util/view_traversal_utils';\nexport {getNativeByTNode as
angular_packages_core_core_bu} from './src/render3/util/view_utils';\nexport {getUrlSanitizer as
angular_packages_core_core_bn}
from './src/sanitization/sanitization';\nexport {makeParamDecorator as
angular_packages_core_core_bp,makePropDecorator as angular_packages_core_core_bo} from
'./src/util/decorators';\nexport {getClosureSafeProperty as angular_packages_core_core_bq} from
'./src/util/property';\nexport {trustedHTMLFromString as angular_packages_core_core_by,trustedScriptFromString
as angular_packages_core_core_ca,trustedScriptURLFromString as angular_packages_core_core_bz} from
'./src/util/security/trusted_types';\nexport {_def as angular_packages_core_core_z} from
'./src/view/provider';\nexport {DebugContext as angular_packages_core_core_ba} from
'./src/view/types';"],"names":["global","unusedValueExportToPlacateAjd","ViewEncapsulation","unused1","unused
2","unused3","unused4","unused5","unusedValueToPlacateAjd","INJECTOR","EMPTY_ARRAY","CIRCULAR",
"NO_NEW_LINE","NULL_INJECTOR","renderComponent","USE_VALUE","render3CompileInjectable","EMPT
Y_OBJ","resolveProvider","getComponent","R3_ViewRef","R3ViewRef","_renderCompCount","renderDetachVie
w","createInjector","InjectorRefTokenKey","INJECTORRefTokenKey","_createProviderInstance","ComponentFact
oryResolver","viewEngine_ComponentFactoryResolver","ComponentFactory","getNamespace","viewEngine_Com
ponentFactory","ComponentRef","viewEngine_ComponentRef","NgModuleRef","viewEngine_NgModuleRef","Ng
ModuleFactory","viewEngine_NgModuleFactory","getPipeDef","unwrapValue","ViewEngine_TemplateRef","Vie
wEngine_ElementRef","r3.attribute","r3.attributeInterpolate1","r3.attributeInterpolate2","r3.attributeInterpolate3","r
3.attributeInterpolate4","r3.attributeInterpolate5","r3.attributeInterpolate6","r3.attributeInterpolate7","r3.attributeInt
erpolate8","r3.attributeInterpolateV","r3.defineComponent","r3.defineDirective","r3.defineNgModule","r3.definePi
pe","r3.directiveInject","r3.getFactoryOf","r3.getInheritedFactory","r3.injectAttribute","r3.invalidFactory","r3.inject
PipeChangeDetectorRef","r3.templateRefExtractor","r3.NgOnChangesFeature","r3.ProvidersFeature","r3.CopyDefi
nitionFeature","r3.InheritDefinitionFeature","r3.nextContext","r3.namespaceHTML","r3.namespaceMathML","r3.n
amespaceSVG","r3.enableBindings","r3.disableBindings","r3.elementStart","r3.elementEnd","r3.element","r3.elem
entContainerStart","r3.elementContainerEnd","r3.elementContainer","r3.pureFunction0","r3.pureFunction1","r3.pur
eFunction2","r3.pureFunction3","r3.pureFunction4","r3.pureFunction5","r3.pureFunction6","r3.pureFunction7","r3.
pureFunction8","r3.pureFunctionV","r3.getCurrentView","r3.restoreView","r3.listener","r3.projection","r3.syntheticHostProperty","r3.syntheticHostListener","r3.pipeBind1","r3.pipeBind2","r3.pipeBind3","r3.pipeBind4","r3.pipeBi
ndV","r3.projectionDef","r3.hostProperty","r3.property","r3.propertyInterpolate","r3.propertyInterpolate1","r3.prop
ertyInterpolate2","r3.propertyInterpolate3","r3.propertyInterpolate4","r3.propertyInterpolate5","r3.propertyInterpola
te6","r3.propertyInterpolate7","r3.propertyInterpolate8","r3.propertyInterpolateV","r3.pipe","r3.queryRefresh","r3.v
iewQuery","r3.staticViewQuery","r3.staticContentQuery","r3.loadQuery","r3.contentQuery","r3.reference","r3.class
Map","r3.classMapInterpolate1","r3.classMapInterpolate2","r3.classMapInterpolate3","r3.classMapInterpolate4","r3
.classMapInterpolate5","r3.classMapInterpolate6","r3.classMapInterpolate7","r3.classMapInterpolate8","r3.classMa

pInterpolateV","r3.styleMap","r3.styleMapInterpolate1","r3.styleMapInterpolate2","r3.styleMapInterpolate3","r3.styleMapInterpolate4","r3.styleMapInterpolate5","r3.styleMapInterpolate6","r3.styleMapInterpolate7","r3.styleMapInterpolate8","r3.styleMapInterpolateV","r3.styleProp","r3.stylePropInterpolate1","r3.stylePropInterpolate2","r3.stylePropInterpolate3","r3.stylePropInterpolate4","r3.stylePropInterpolate5","r3.stylePropInterpolate6","r3.stylePropInterpolate7","r3.stylePropInterpolate8","r3.stylePropInterpolateV","r3.classProp","r3.advance","r3.template","r3.text","r3.textInterpolate","r3.textInterpolate1","r3.textInterpolate2","r3.textInterpolate3","r3.textInterpolate4","r3.textInterpolate5","r3.textInterpolate6","r3.textInterpolate7","r3.textInterpolate8","r3.textInterpolateV","r3.i18n","r3.i18nAttributes","r3.i18nExp","r3.i18nStart","r3.i18nEnd","r3.i18nApply","r3.i18nPostprocess","r3.resolveWindow","r3.resolveDocument","r3.resolveBody","r3.setComponentScope","r3.setNgModuleScope","sanitization.sanitizeHtml","sanitization.sanitizeStyle","sanitization.sanitizeResourceUrl","sanitization.sanitizeScript","sanitization.sanitizeUrl","sanitization.sanitizeUrlOrResourceUrl","sanitization.trustConstantHtml","sanitization.trustConstantScript","sanitization.trustConstantResourceUrl","render3CompileComponent","render3CompileDirective","render3CompilePipe","render3CompileNgModule","LOCALE_ID","NgModuleFactoryR3","ComponentFactoryR3","R3NgModuleFactory","_publishDefaultGlobalUtils","publishDefaultGlobalUtils","merge","ViewRef","getDebugNode","setElementAttribute"],"mappings":";;;;;;;;;AAAA;;;;;;;SAQgB,sBAAsB,CAAI,wBAA2B;IACnE,KAAK,IAAI,GAAG,IAAI,wBAAwB,EAAE;QACxC,IAAI,wBAAwB,CAAC,GAAG,CAAC,KAAK,sBAA6B,EAAE;YACnE,OAAO,GAAG,CAAC,KAAK,CAAC;SAClB;KACF;IACD,MAAM,KAAK,CAAC,mDAAmD,CAAC,CAAC;AACnE,CAAC;AAED;;;;;;;SAMgB,cAAc,CAAI,cAAiB,EAAE,GAAG,IAAO;IAC7D,MAAM,CAAC,GAAG,cAAc,CAAC,GAAG,IAAI,CAAC,CAAC;IAClC,IAAI,CAAC,CAAC,KAAK,EAAE;QACX,MAAM,IAAI,KAAK,CAAC,cAAc,CAAC,CAAC;KACjC;IACD,OAAO,CAAC,CAAC,KAAK,CAAC;AACjB,CAAC;AAED;;;;;;;;

Ee,WAAW,CAAI,MAAS,EAAE,QAAW,EAAE,GAAW;IAChE,IAAI,EAAE,MAAM,IAAI,QAAQ,CAAC,EAAE;QACzB,UAAU,CAAC,GAAG,EAAE,MAAM,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC;KACzC;AACH,CAAC;SAEe,cAAc,CAAI,MAAS,EAAE,QAAW,EAAE,GAAW;IACnE,IAAI,EAAE,MAAM,IAAI,QAAQ,CAAC,EAAE;QACzB,UAAU,CAAC,GAAG,EAAE,MAAM,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC;KACzC;AACH,CAAC;SAEe,UAAU,CAAI,MAAS,EAAE,QAAW,EAAE,GAAW;IAC/D,IAAI,EAAE,MAAM,IAAI,QAAQ,CAAC,EAAE;QACzB,UAAU,CAAC,GAAG,EAAE,MAAM,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC;KACzC;AACH,CAAC;SAEe,aAAa,CAAI,MAAS,EAAE,QAAW,EAAE,GAAW;IACl

U,CAAC,IAAI,IAAI,CAAC,cAAc,CAAC,eAAe,CAAC,CAAC;QACnF,IAAY,CAAC,UAAU,CAAC;QACzB,IAAA
I,CAAC;AACX,CAAC;MAEY,WAAW,GAAG,sBAAsB,CAAC,EAAC,KAAK,EAAE,sBAAsB,EAAC,EAAE;M
ACtE,UAAU,GAAG,sBAAsB,CAAC,EAAC,IAAI,EAAE,sBAAsB,EAAC,EAAE;AAEjF;AACO,MAAM,iBAAiB
,GAAG,sBAAsB,CAAC,EAAC,eAAe,EAAE,sBAAsB,EAAC,CAAC,CAAC;AAC5F,MAAM,eAAe,GAAG,sBAA
sB,CAAC,EAAC,aAAa,EAAE,sBAAsB,EAAC,CAAC;;AC1Q9F;;;;;;;AASA;;;;;IAKY;AAAZ,WAAY,WAAW;;;I
AIrB,mDAAgB,CAAA;;;;;IAKhB,6CAAa,CAAA;;IAEb,6CAAa,CAAA;;IAEb,qDAAiB,CAAA;;IAEjB,qDAAiB,
CAAA;AACnB,CAAC,EAhBW,WAAW,KAAX,WAAW;;ACdvB;;;;;;;AAgBA;;;;;;;;;AASA,IAAI,qBACS,CAAC;
SACE,uBAAuB;IACrC,OAAO,qBAAqB,CAAC;AAC/B,CAAC;AAGD;;;SAGgB,uBAAuB,CACnC,IACS;IACX,
MAAM,QAAQ,GAAG,qBAAqB,CAAC;IACvC,qBAAqB,GAAG,IAAI,CAAC;IAC7B,OAAO,QAAQ,CAAC;AA
ClB,CAAC;AAGD;;;;;;;SAOgB,kBAAkB,CAC9B,KAAgC,EAAE,aA0B,EAAE,KAAkB;IAClF,MAAM,aAAa,G
AA4B,gBAAgB,CAAC,KAAK,CAAC,CAAC;IACvE,IAAI,aAAa,IAAI,aAAa,CAAC,UAAU,IAAI,MAAM,EAAE
;QACvD,OAAO,aAAa,CAAC,KAAK,KAAK,SAAS,GAAG,aAAa,CAAC,KAAK,GAAG,aAAa,CAAC,OAAO,EA
AE;YAC7C,aAAa,CAAC,KAAK,CAAC;KAChE;IACD,IAAI,KAAK,GAAG,WAAW,CAAC,QAAQ;QAAE,OAAO,IAAI,CAAC;IAC9C,IAAI,aAAa,KAAK,SAAS;QAAE,OAAO,aAAa,CAAC;IACtD,MAAM,IAAI,KAAK,CAAC,CAAC,wBAAwB,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC

AAC,EAAC,IAAI,EAAE,sBAAsB,EAAC,EAAE;AAC1E,MAAM,aAAa,GAAG,sBAAsB,CAAC,EAAC,IAAI,EA
AE,sBAAsB,EAAC,CAAC,CAAC;AAC7E,MAAM,cAAc,GAAG,sBAAsB,CAAC,EAAC,IAAI,EAAE,sBAAsB,E
AAC,CAAC,CAAC;AAErF;;;;;AAKA;MACa,aAAa,GAAG,sBAAsB,CAAC,EAAC,iBAAiB,EAAE,sBAAsB,EA
AC;;ACvB/F;;;;;;;;AAuBA,IAAI,gBAAgB,GAAG,CAAC,CAAC;AAOzB;;;;;;;;;;;;;;;;SAgBgB,iBAAiB,CAAI,mBA
mPpC;IACC,OAAO,aAAa,CAAC;;;QAGZ,CAAC,OAAO,SAAS,KAAK,WAAW,IAAI,SAAS,KAAK,aAAa,EAAA
E,CAAC;QAEnE,MAAM,IAAI,GAAG,mBAAmB,CAAC,IAAI,CAAC;QACtC,MAAM,aAAa,GAAG,IAAI,CAA
C,SAAS,CAAC;QACrC,MAAM,cAAc,GAA4B,EAAS,CAAC;QAC1D,MAAM,GAAG,GAAwD;YAC/D,IAAI,E
AAE,IAAI;YACV,iBAAiB,EAAE,IAAI;YACvB,KAAK,EAAE,mBAAmB,CAAC,KAAK;YAChC,IAAI,EAAE,m
BAAmB,CAAC,IAAI;YAC9B,OAAO,EAAE,IAAI;YACb,QAAQ,EAAE,mBAAmB,CAAC,QAAQ,IAAI,IAAK;Y
AC/C,MAAM,EAAE,mBAAmB,CAAC,MAAM,IAAI,IAAI;YAC1C,kBAAkB,EAAE,mBAAmB,CAAC,kBAAkB
;YAC1D,YAAY,EAAE,mBAAmB,CAAC,YAAY,IAAI,IAAI;YACtD,QAAQ,EAAE,mBAAmB,CAAC,QAAQ,IA
AI,CAAC;YAC3C,SAAS,EAAE,mBAAmB,CAAC,SAAS,IAAI,IAAI;YAChD,cAAc,EAAE,mBAAmB,CAAC,cA
Ac,IAAI,IAAI;YAC1D,cAAc,EAAE,cAAc;YAC9B,MAAM,EAAE,IAAK;YACb,OAAO,EAAE,IAAK;YACd,QA
AQ,EAAE,mBAAmB,CAAC,QAAQ,IAAI,IAAI;YAC9C,MAAM,EAAE,mBAAmB,CAAC,eAAe,KAAK,uBAAu
B,CAAC,MAAM;YAC9E,aAAa,EAAE,IAAK;YACpB,QAAQ,EAAE,IAAK;YACf,SAAS,EAAE,mBAAmB,CAA
C,SAAS,IAAI,WAAW;YACvD,SAAS,EAAE,mBAAmB,CAAC,SAAS,IAAI,IAAI;YAChD,QAAQ,EAAE,mBAA
mB,CAAC,QAAiC,IAAI,IAAI;YACvE,IAAI,EAAE,mBAAmB,CAAC,IAAI,IAAI,EAAE;;;YAGpC,aAAa,EAAE,
mBAAmB,CAAC,aAAa,IAAI,iBAAiB,CAAC,QAAQ;YAC9E,EAAE,EAAE,GAAG;YACP,MAAM,EAAE,mBA
AmB,CAAC,MAAM,IAAI,WAAW;YACjD,CAAC,EAAE,IAAa;YAChB,QAAQ,EAAE,IAAI;YACd,OAAO,EAAE
,mBAAmB,CAAC,OAAO,IAAI,IAAI;YAC5C,KAAK,EAAE,IAAI;SACZ,CAAC;QACF,MAAM,cAAc,GAAG,
mBAAmB,CAAC,UAAW,CAAC;QACvD,MAAM,OAAO,GAAG,mBAAmB,CAAC,QAAQ,CAAC;QAC7C,MAAM,SAAS,GAAG,mBAAmB,CAAC,KAAM,CAAC;QAC7C,GAAG,CAAC,EAAE,IAAI,gBAAgB,EAAE,CAAC;QAC7B,MAAM,GAAG,CAAC,MAAM,GAAG,CAAC,EAAE,MAAM,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,EAAE,cAAc,EAAE,CAAC,GAAG,CAAC,EAAE;YAC1E,MAAM,IAAI,GAAG,cAAc,CAAC,CAAC,CAAC,CAAC;YAC/B,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;YACvB

KACpD,CAAU,CAAC;AACrB,CAAC;AAED;;;

AC;IACnD,IAAI,EAAE,OAAO,IAAI,CAAC,qBAAqB,KAAK,QAAQ,CAAC,EAAE;QACrD,UAAU,CAAC,6BA
A6B,CAAC,CAAC;KAC3C;AACH,CAAC;SAEe,mBAAmB,CAC/B,MAAW,EACX,MAAc,0EAA0E;IAC1F,IAA
I,CAAC,eAAe,CAAC,MAAM,CAAC,EAAE;QAC5B,UAAU,CAAC,GAAG,CAAC,CAAC;KAAjB;AACH,CAAC
;SAEe,kBAAkB,CAC9B,MAAW,EACX,MAAc,yEAAyE;IACzF,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,EAAA
E;QAC3B,UAAU,CAAC,GAAG,CAAC,CAAC;KAAjB;AACH,CAAC;SAEe,0BAA0B,CAAC,QAAiB;IAC1D,W
AAW,CAAC,QAAQ,EAAE,IAAI,EAAE,iCAAiC,CAAC,CAAC;AAAjE;SAAE,eAAe,CAAC,eAAe,CAAC,KAAiB;IAAC/
C,aAAa,CAAC,KAAK,EAAE,4BAA4B,CAAC,CAAC;IAAnD,aAAa,CAAC,KAAM,CAAC,MAAM,EAAE,mCA
AmC,CAAC,CAAC;AACpE,CAAC;SAAe,cAAc,CAAC,cAAc,CAAC,KAAY,EAAE,KAAa,EAAE,GAAW;IACrE,IAAI,GAAG
,IAAI,IAAI;QAAE,GAAG,GAAG,KAAK,CAAC;IAC7B,WAAW,CAAC,MAAM,EAAE,KAAK,EAAE,SAAS,KAAK,EAAE,6CAA6C,CAAC,CAAC;AAAnG;SAAE,gBAAgB,CAAC,KAAK,EAAE,KAAK,EAAE,GAAG,CAAC,CAAC;AAAtC;SAAE,eAAe

U;QAAE,OAAO,KAAK,CAAC,IAAI,IAAI,KAAK,CAAC,QAAQ,EAAE,CAAC;IACvE,IAAI,OAAO,KAAK,KA
AK,QAAQ,IAAI,KAAK,IAAI,IAAI,IAAI,OAAO,KAAK,CAAC,IAAI,KAAK,UAAU,EAAE;QAClF,OAAO,KAA
K,CAAC,IAAI,CAAC,IAAI,IAAI,KAAK,CAAC,IAAI,CAAC,QAAQ,EAAE,CAAC;KACjD;IAED,OAAO,eAAe,
CAAC,KAAK,CAAC,CAAC;AAChC;;ACtBA;SACgB,0BAA0B,CAAC,KAAa,EAAE,IAAe;IACvE,MAAM,OA
AO,GAAG,IAAI,GAAG,sBAAsB,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,MAAM,KAAK,EAAE,GAAG,EAAE,
CAAC;IAChF,MAAM,IAAI,YAAY,,mCAElB,0CAA0C,KAAK,GAAG,OAAO,EAAE,CAAC,CAAC;AAC nE,CA
AC;SAEe,4BAA4B;IAC1C,MAAM,IAAI,KAAK,CAAC,kDAAkD,CAAC,CAAC;AACtE,CAAC;SAEe,yBAAyB,
CACrC,YAAgC,EAAE,SAAiB,EAAE,QAAc;IACrE,IAAI,cAAc,GAAG,EAAE,CAAC;IACxB,IAAI,YAAY,,IAAI,
SAAS,EAAE;QAC7B,MAAM,cAAc,,GAAG,SAAS,,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,IAAI,QAAQ,,GAA
G,GAAG,GAAG,QAAQ,,GAAG,GAAG,GAAG,KAAK,CAAC,CAAC;QACxF,cAAc,;YACV,6DAA6D,cAAc,,CA
AC,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC;KAC/F;IAED,MAAM,IAAI,KAAK,CACX,sCAAsC,SAAS,,CAAC,
YAAY,,CAAC,GAAG,GAAG,cAAc,,CAAC,CAAC;AACzF,CAAC;SAAG,0BAA0B,CAAC,KAAU,,EAAE,EAAE,
YAAqB;IAC1E,MAAM,eAAe,,GAAG,YAAY,,GAAG,OAAO,,YAAY,,EAAE,GAAG,EAAE,CAAC;IAClE,MAAM,
IAAI,YAAY,,iCAElB,mBAAmB,iBAAiB,,CAAC,KAAK,CAAC,SAAS,eAAe,,CAAC,CAAC;AAC7E;;AC7CA;;;;;;;AAQA;;;;;;;;;MASa,YAAY;IACvB,YAAmB,aAAkB,SAAiB,WAAoB,SAAiB,WAAoB,
QAAqB;QAAzG,kBAAa,GAAb,aAAa,,SAAS,GAAT,SAAS,,WAAW,GAAX,WAAW,,SAAS,GAAT,SAAS,,WAAW,GAAX,WAAW,,QAAQ,GAAR,QAAQ;;;IAIhH,
aAAa;QACX,OAAO,IAAI,CAAC,WAAW,,CAAC,KAAK,CAAC,IAAI,CAAC,SAAS,,IAAI,CAAC,SAAS,,IAAI,CAAC,QAAQ,,IAAI,CAAC,QAAQ,,IAAI,CAAC,aAAa,,IAAI,CAAC,aAAa,,IAAI,CAAC,aAAa

AAQ,CAAC;KAC5B;IACD,OAAO,KAAc,CAAC;AACxB,CAAC;AAED;;;;SAIgB,WAAW,CAAC,KAA6B;IACvD,OAAO,KAAK,CAAC,OAAO,CAAC,KAAK,CAAC,EAAE;;;QAG3B,IAAI,OAAO,KAAK,CAAC,IAAI,CAAC,KAAK,QAAQ;YAAE,OAAO,KAAc,CAAC;QAC3D,KAAK,GAAG,KAAK,CAAC,IAAI,CAAC,KAAK,QAAQ;YAAE,OAAO,KAAc,CAAC;KAC5B;IACD,OAAO,IAAI,CAAC;AACd,CAAC;AAED;;;;SAIgB,gBAAW,CAAC,KA6B;IAC5D,OAAO,KAAK,CAAC,OAAO,CAAC,KAAK,CAAC,EAAE;;;QAG3B,IAAI,KAAK,CAAC,IAAI,CAAC,KAAK,IAAI;YAAE,OAAO,KAAc,CAAC;QAChD,KAAK,GAAG,KAAK,CAAC,IAAI,CAAC,KAAK,QAAQ;YAAE,OAAO,KAAc,CAAC;KAC5B;IACD,OAAO,IAAI,CAAC;AACd,CAAC;AAED;;;;SAIgB,gBAAW,CAAC

AEe,yBAAyB;IACvC,gBAAgB,CAAC,MAAM,CAAC,iBAAiB,EAAE,CAAC;AAC9C,CAAC;SAEe,yBAAyB;IA
CvC,gBAAgB,CAAC,MAAM,CAAC,iBAAiB,EAAE,CAAC;AAC9C,CAAC;SAEe,kBAAkB;IAChC,OAAO,gBA
AgB,CAAC,eAAe,CAAC;AAC1C,CAAC;AAGD;;;;;;;;;;;;;;;;;;SAmBgB,gBAAgB;IAC9B,gBAAgB,CAAC,eAAe,
GAAG,IAAI,CAAC;AAC1C,CAAC;AAED;;;;;;;;;;;;;;;;;;SAmBgB,iBAAiB;IAC/B,gBAAgB,CAAC,eAAe,GAAG,
KAAK,CAAC;AAC3C,CAAC;AAED;;;SAGgB,QAAQ;IACtB,OAAO,gBAAgB,CAAC,MAAM,CAAC,KAAK,C
AAC;AACvC,CAAC;AAED;;;SAGgB,QAAQ;IACtB,OAAO,gBAAgB,CAAC,MAAM,CAAC,KAAK,CAAC;AA
CvC,CAAC;AAED;;;;;;;;;;;SAWgB,aAAa8B;IAC1D,gBAAgB,CAAC,MAAM,CAAC,YAAY,GAAG,
aAA6B,CAAC;AACvE,CAAC;SAGe,eAAe;IAI7B,YAAY,GAAG,4BAA4B,EAAE,CAAC;IAClD,OAAO,
YAAY,KAAK,IAAI,IAAI,YAAY,CAAC,IAAI,2BAA4B;QAC3E,YAAY,GAAG,YAAY,CAAC,MAAM,CAAC;K
ACpC;IACD,OAAO,YAAY,CAAC;AACtB,CAAC;SAAe,4BAA4B;IAC1C,OAAO,gBAAgB,CAAC,MAAM,CAAA
C,YAAY,CAAC;AAC9C,CAAC;SAAe,qBAAqB;IACnC,MAAM,MAAM,GAAG,gBAAgB,CAAC,MAAM,CAA
C;IACvC,MAAM,YAAY,GAAG,MAAM,CAAC,YAAY,CAAC;IACzC,OAAO,MAAM,CAAC,QAAQ,GAAG,Y
AAY,GAAG,YAAa,CAAC,MAAM,CAAC;AAC/D,CAAC,KAAiB,EAAE,QAAiB,EAAE,IAClE,SA
AS,IAAI,KAAK,IAAI,mBAAmB,CAAC,KAAK,EAAE,gBAAgB,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC;I
AChF,MAAM,MAAM,GAAG,gBAAgB,CAAC,MAAM,CAAC;IACvC,MAAM,CAAC,YAAY,GAAG,KAAK,C
AAC;IAC5B,MAAM,CAAC,QAAQ,GAAG,QAAQ,CAAC;AAC7B,CAAC;SAAe,oBAAoB;IAClC,OAAO,gBAA
gB,CAAC,MAAM,CAAC,QAAQ,CAAC;AAC1C,CAAC;SAAe,0BAA0B;IACxC,gBAAgB,CAAC,MAAM,CAA
C,QAAQ,GAAG,KAAK,CAAC;AAC3C,CAAC;SAAe,uBAAuB;IACrC,gBAAgB,CAAC,MAAM,CAAC,QAAQ,
GAAG,IAAI,CAAC;AAC1C,CAAC;SAAe,eAAe;IAC7B,OAAO,gBAAgB,CAAC,MAAM,CAAC,YAAY,CAAC;
AAC9C,CAAC;SAAe,sBAAsB;;IAEpC,OAAO,gBAAgB,CAAC,sBAAsB,CAAC;AACjD,CAAC;SAAe,yBAAyB,
CAAC,IAAa;IACrD,gBAAgB,CAAC,sBAAsB,GAAG,IAAI,CAAC;AACjD,CAAC;SAAe,cAAc;IAC5B,OAAO,
MAAM,MAAM,GAAG,gBAAgB,CAAC,MAAM,CAAC;IACvC,MAAM,CAAC,YAAY,IAAI,KAAK,GAAG,MAAM,CAAC,gBAAgB,CAAC,
CAAC;IACpC,IAAI,KAAK,KAAK,CAAC,EAAE;QAChB,KAAK,GAAG,MAAM,CAAC,gBAAgB,CAAC,
MAAM,CAAC,KAAK,CAAC,iBAAiB,CAAC;KAClE;IACD,OAAO,KAAK,CAAC;AACf,CAAC;SAAe,gBAAgB;IAC9B,
OAAO,gBAAgB,CAAC,MAAM,CAAC,YAAY,CAAC;AAC9C,CAAC;SAAe,eAAe;IAC7B,OAAO,gBAAgB,CAAC,
MAAM,CAAC,YAAY,CAAC;AAC9C,CAAC;SAAe,eAAe;IAC7B,OAAO,gBAAgB,CAAC,MAAM,CAAC,YAAY,CAAC;
AAC9C,CAAC;SAAe,eAAe;IAC7B,OAAO,gBAAgB,CAAC,MAAM,CAAC,YAAY,CAAC;AAC9C,CAAC;SAAe,
eAAe;IAC7B,OAAO,gBAAgB,CAAC,MAAM,CAAC,YAAY,CAAC;AAC9C,CAAC;SAAe,eAAe;IAC7B,OAAO,
gBAAgB,CAAC,MAAM,CAAC,YAAY,CAAC;AAC9C,CAAC;SAAe,eAAe;IAC7B,OAAO,gBAAgB,CAAC,MAAM,

W,EAAE,gCAAgC,CAAC,CAAC;YAC1E,WAAW,GAAG,WAAY,CAAC,MAAsB,CAAC;YAClD,IAAI,WAAW,KAAK,IAAI,IAAI,EAAE,KAAK,GAAG,WAAW,CAAC,IAAI,CAAC,EAAE;gBACvD,WAAW,GAAG,mBAAmB,CAAC,WAAW,CAAC,CAAC;gBAC/C,IAAI,WAAW,KAAK,IAAI;oBAAE,MAAM;;;gBAIhC,SAAS,IAAI,aAAa,CAAC,WAAW,EAAE,gCAAgC,CAAC,CAAC;gBAC1E,WAAW,GAAG,WAAW,CAAC,gBAAgB,CAAE,CAAC;;;;gBAK7C,IAAI,WAAW,CAAC,IAAI,IAAI,2CAA+C,EAAE;oBACvE,MAAM;iBACP;aACF;iBAAM;gBACL,MAAM;aACP;SACF;QACD,IAAI,WAAW,KAAK,IAAI,EAAE;;YAExB,OAAO,KAAK,CAAC,CAAC;SACd;aAAM;YACL,KAAK,GAAG,WAAW,CAAC;YACpB,KAAK,GAAG,WAAW,CAAC;SACrB;KACF;IAED,SAAS,IAAI,mBAAmB,CAAC,KAAK,CAAC,CAAC;IAC1C,MAAM,MAAM,GAAG,GAAG,gBAAgB,CAAC,MAAM,MAAM,GAAG,GAAG,WAAW,EAAE,CAAC,IAAI,CAAC,YAAY,GAAG,GAAG,WAAW,EAAE,CAAC;IACvG,SAAS,IAAI,aAAa,CAAC,KAAK,CAAC,CAAC;IAClC,IAAI,WAAW,KAAK,IAAI,EAAE;QACxB,IAAI,WAAW,KAAK,IAAI,EAAE;YACxB,MAAM,IAAI,KAAK,CAAC,gCAAgC,CAAC,CAAC;SACnD;QACD,IAAI,WAAW,KAAK,IAAI,EAAE;YACxB,MAAM,IAAI,KAAK,CAAC,gCAAgC,CAAC,CAAC;SACnD;KACF;IACD,IAAI,WAAW,KAAK,IAAI,EAAE;QACxB,MAAM,IAAI,KAAK,CAAC,gCAAgC,CAAC,CAAC;KACnD

G,WAAW,CAAC,gBAAgB,CAAE,CAAC;QAC7C,YAAY,EAAE,CAAC;KAChB;IACD,OAAO,WAAW,CAAC;
AACrB,CAAC;AAED;;;;;;SAMgB,gBAAgB;IAC9B,OAAO,gBAAgB,CAAC,MAAM,CAAC,aAAa,CAAC;AAC/
C,CAAC;AAED;;;;;;;;;SASgB,gBAAgB,CAAC,KAAa;IAC5C,SAAS,IAAI,KAAK,KAAK,CAAC,CAAC;QACrB,
wBAAwB,CAAC,KAAK,EAAE,aAAa,EAAE,2CAA2C,CAAC,CAAC;IAChG,SAAS;QACL,cAAc,CACV,KAAK
,EAAE,gBAAgB,CAAC,MAAM,CAAC,KAAK,CAAC,MAAM,EAAE,sCAAsC,CAAC,CAAC;IAC7F,gBAAgB,
CAAC,MAAM,CAAC,aAAa,GAAG,KAAK,CAAC;AAChD,CAAC;AAED;;;SAGgB,gBAAgB;IAC9B,MAAM,M
AAM,GAAG,gBAAgB,CAAC,MAAM,CAAC;IACvC,OAAO,QAAQ,CAAC,MAAM,CAAC,KAAK,EAAE,MAA
M,CAAC,aAAa,CAAC,CAAC;AACtD,CAAC;AAED;;;;;SAKgB,gBAAgB,CAAC,MAAM,CAAC,gBAAgB,CAAC,g
BAAgB,GAAG,aAAa,CAAC;AAC3D,CAAC;AAED;;;;;SAKgB,iBAAiB;IAC/B,gBAAgB,CAAC,MAAM,CAAC,
gBAAgB,GAAG,iBAAiB,CAAC;AAC/D,CAAC;AAED;;;;;;SAMgB,eAAe;IAC7B,qBAAqB,EAAE,CAAC;AAC1
B,CAAC;AAED;;;;SAIgB,qBAAqB;IACnC,gBAAgB,CAAC,MAAM,CAAC,gBAAgB,GAAG,IAAI,CAAC;AACl
D,CAAC;SAEe,YAAY;IAC1B,OAAO,gBAAgB,CAAC,MAAM,CAAC,gBAAgB,CAAC;AAClD;;ACztBA;;;;;;;A
AmBA;;;;;;;;;;;;SAYgB,qBAAqB,CACjC,cAAsB,EAAE,YA+B,EAAE,KAAY;IACvE,SAAS,IAAI,KAAK,KAAK,CAAC,CAAC;QACrB,
AAC,KAAK,CAAC,CAAC;IAC1C,MAAM,EAAC,WAAW,EAAE,QAAQ,EAAE,SAAS,EAAC,GACpC,YAAY,C
AAC,IAAI,CAAC,SAAY,C,CAAC;IAEhE,IAAI,WAAmC,EAAE;QACvC,MAAM,gBAAgB,GAAG,sBAAsB,CAA
C,YAAY,CAAC,CAAC;QAC9D,KAAK,MAAM,KAAK,IAAI,aAAa,EAAE;YAC/B,IAAI,KAAK,KAAK,CAAC,kBAAkB,
EAAE;gBAC1B,SAAS;aACZ;YACD,MAAM,KAAK,GAAG,aAAa,CAAC,KAAK,CAAC,CAAC;YACnC,IAAI,KAAK,
EAAE;gBACP,MAAM,IAAI,KAAK,CAAC,gBAAgB,KAAK,EAAE,CAAC,CAAC;aAC5C;SACJ;KACJ;IACD,OAAO
,WAAW,CAAC;AACvB,CAAC;AAED;;;;;;;;;;;;

cA,SAAS,SAAS,CACd,WAAkB,EAAE,GAAa,EAAE,SAAyB,EAC5D,gBAAuC;IACzC,SAAS;QACL,WAAW,CACP,sBAAsB,EAAE,EAAE,KAAK,EAC/B,0DAA0D,CAAC,CAAC;IACpE,MAAM,UAAU,GAAG,gBAAgB,KAAK,SAAS;SAC5C,WAAW,CAAC,mBAAmB,CAAC;QACjC,CAAC,CAAC;IACN,MAAM,cAAc,GAAG,gBAAgB,IAAI,IAAI,GAAG,gBAAgB,GAAG,CAAC,CAAC,CAAC;IACxE,IAAI,kBAAkB,GAAG,CAAC,CAAC,CAAC;IAC3B,KAAK,IAAI,CAAC,GAAG,UAAU,EAAE,CAAC,GAAG,GAAG,CAAC,MAAM,EAAE,CAAC,CAAC,EAAE,EAAE;QAC5C,MAAM,IAAI,GAAG,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,CAAe,CAAC;QACtC,IAAI,OAAO,IAAI,KAAK,QAAQ,EAAE;YAC5B,IAAI,kBAAkB,GAAG,CAAC,EAAE;gBAC1B,IAAI,gBAAgB,IAAI,EAAE;gBACtE,MAAM;aACP;SACF;aAAM;YACL,MAAM,UAAU,GAAG,gBAAgB,IAAI,EAAE;gBACvC,MAAM,SAAS,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC

AC;YACrC,SAAS,IAAI,SAAS,CAAC,oBAAoB,EAAE,CAAC;YAC9C,MAAM;gBACD,QAAgC,CAAC,YAAY,CAAC,MAAM,EAAE,QAAQ,EAAE,OAAO,EAAE,YAAY,CAAC;gBACvF,MAAM,CAAC,cAAc,CAAC,YAAY,EAAE,QAAQ,EAAE,OAAO,CAAC,CAAC;SAC5D;aAAM;;YAEL,MAAM,QAAQ,GAAG,KAAAe,CAAC;YACjC,MAAM,OAAO,GAAG,KAAK,CAAC,EAAE,CAAC,CAAC,CAAC;;YAE3B,SAAS,IAAI,SAAS,CAAC,oBAAoB,EAAE,CAAC;YAC9C,IAAI,eAAe,CAAC,QAAQ,CAAC,EAAE;gBAC7B,IAAI,MAAM,EAAE;oBACT,QAAgC,CAAC,YAAY,CAAC,MAAM,EAAE,QAAQ,EAAE,OAAO,CAAC,CAAC;iBAC1E;aACF;iBAAM;gBACL,MAAM;oBACD,QAAgC,CAAC,YAAY,CAAC,MAAM,EAAE,QAAQ,EAAE,OAAO,iBAAC,CAAC;oBACnF,MAAM,CAAC,cAAc,CAAC,YAAY,EAAE,QAAQ,EAAE,OAAO,CAAC,CAAC;SAC5D;aAAM;;;;;IAAA,MD,OAAO,CAAC,CAAC;AACX,CAAC;AAED;;;;;;;SAOgB,yBAAyB,CAAC,MAA0C;IAClF,OAAO,MAAM,yBAAyB,CAAC,MAAM,CAAC,CAAC;AACjD

AI,CAAC;SAEhB,uBAAuB,CAAC,CAAU;IAChD,MAAM,QAAQ,GAAG,oBAAoB,CAAC;IACtC,oBAAoB,GAAG,CAAC,CAAC;IACzB,OAAO,QAAQ,CAAC;AAClB,CAAC;AAED;;;;;AAKA,MAAM,UAAU,GAAG,GAAG,CAAC;AACvB,MAAM,UAAU,GAAG,UAAU,GAAG,CAAC,CAAC;AAElC;AACA,IAAI,eAAe,GAAG,CAAC,CAAC;AAExB;;;;;;;;SAQgB,QAAQ,CACpB,aAAqB,EAAE,KAAY,EAAE,IAA0C;IACjF,MAAM,SAAS,GAAG,IAAI,EAAE,KAAK,EAAE,IAAI,EAAE,qCAAqC,CAAC,CAAC;IAC7F,MAAM,SAAS,GAAG,IAAI,EAAE,KAAK,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC,CAAC,CAAC,IAAI,EAAE

WAAW,GAAG,WAAW,CAAC,gBAAgB,CAAC,CAAC;QAE5C,IAAI,WAAW,CAAC,aAAa,KAAK,CAAC,CAAC,EAAE;;YAEpC,QAAQ,WAAW,CAAC,aAAa;iBACxB,qBAAqB,6BAAkD,EAAS;SAC1F;KACF;IACD,OAAO,kBAAkB,CAAC;AAC5B,CAAC;AACD;;;;;;;SAOgB,kBAAkB,CAC9B,aAAqB,EAAE,KAAY,EAAE,KAAoC;IAC3E,QAAQ,CAAC,aAAa,EAAE,KAAK,EAAE,KAAK,CAAC,CAAC;AACxC,CAAC;AAED;;;;;;;

AW,sBAAsB,CAC3C,aAAa,EAAE,KAAK,EAAE,KAAK,EAAE,aAAa,EAAE,KAAK,EAAE,gBAAgB,CAAC,CA
AC;oBACzE,IAAI,QAAQ,KAAK,SAAS,EAAE;wBAC1B,OAAO,QAAQ,CAAC;qBACjB;iBACF;gBACD,cAAc,
GAAG,KAAK,CAAC,aAAa,kBAA6B,CAAC;gBAClE,IAAI,cAAc,KAAK,kBAAkB;oBACrC,kBAAkB,CACd,K
AAK,EACL,KAAK,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,aAAa,iBAA4B,KAAK,gBAAgB,CAAC;oBACrF,a
AAa,CAAC,SAAS,EAAE,aAAa,EAAE,KAAK,CAAC,EAAE;;;oBAGlD,aAAa,GAAG,KAAK,CAAC;oBACtB,aA
Aa,GAAG,sBAAsB,CAAC,cAAc,CAAC,CAAC;oBACvD,KAAK,GAAG,qBAAqB,CAAC,cAAc,EAAE,KAAK,C
AAC,CAAC;iBACtD;qBAAM;;;;oBAIL,aAAa,GAAG,CAAC,CAAC;iBACpB;aACF;SACF;KACF;IAED,
OAAO,8BAA8B,CAAI,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,aAAa,CAAC,CAAC;AAC/E,CAAC;AAED,
MAAM,SAAS,GAAG,EAAE,CAAC;SAEL,kBAAkB;IAChC,OAAO,IAAI,YAAY,CAAC,eAAe,EAAyB,EAAE,Q
AAQ,EAAE,CAAQ,CAAC;AACvF,CAAC;AAED,SAAS,sBAAsB,CAC3B,aAAqB,EAAE,KAAY,EAAE,KAAgC
,EACrE,aAAyB,EAAE,KAAkB,EAAE,gBAA4B;IAC7E,MAAM,YAAY,GAAG,KAAK,CAAC,CAAC,KAAK,CAAC,CA
AC;IAClC,MAAM,KAAK,GAAG,YAAY,CAAC,IAAI,CAAC,aAAa,iBAAqC,CAAC;;;IAGnF,MAAM,sBAAsB,
GAAG,aAAa,IAAI,IAAI;;;;;;;;SAQ/C,eAAe,CAAC,KAAK,CAAC,IAAI,oBAAoB;;;;;;;SAO9C,aAAa,IAAI,YAAY
,KAAK,CAAC,KAAK,CAAC,IAAI,yBA2B,CAAC,CAAC,CAAC,CAAC;;;IAIjF,MAAM,iBAAiB,GAAG,CAAA
C,KAAK,GAAG,WAAW,CAAC,IAAI,KAAK,gBAAgB,KAAK,KAAK,CAAC;IAEnF,MAAM,aAAa,GAAG,yBA
AyB,CAC3C,KAAK,EAAE,YAAY,EAAE,KAAK,EAAE,sBAAsB,EAAE,iBAAiB,CAAC,CAAC;IAC3E,IAAI,aA
Aa,KAAK,IAAI,EAAE;QAC1B,OAAO,iBAAiB,CAAC,KAAK,EAAE,YAAY,EAAE,aAAa,EAAE,KAAqB,CAA
C,CAAC;KACrF;SAAM;QACL,OAAO,SAAS,CAAC;KAClB;AACH,CAAC;AAED;;;;;;;;;SAUgB,yBAAyB,CA
CrC,KAAY,EAAE,KAAY,EAAE,KAAuC,EACnE,sBAA+B,EAAE,iBAAiC;IACpE,MAAM,mBAAmB,GAAG,K
AAK,CAAC,eAAe,CAAC;IAClD,MAAM,YAAY,GAAG,KAAK,CAAC,IAAI,CAAC,aAAa,iBAAqC;IAEhC,MAAM,gBAAgB,G
AAG,mBAAmB,yCAAgD;IAC5F,MAAM,eAAe,GAAG,KAAK,CAAC,cAAc,CAAC;IAC7C,MAAM,YAAY,GA
AG,KAAK,CAAC,YAAY,CAAC;IACxC,MAAM,qBAAqB,GACvB,mBAAmB,wCAAoD;IAC3E,MAAM,aAAa,
GACf,sBAAsB,GAAG,gBAAgB,GAAG,gBAAgB,GAAG,qBAAqB,CAAC;;IAEzF,MAAM,QAAQ,GAAG,iBAAiB
B,GAAG,gBAAgB,GAAG,qBAAqB,GAAG,YAAY,CAAC;IAC7F,MAAM,IAAI,GAAG,KAAK,CAAC,GAAG,aAAa,EAAE,CA
AC,GAAG,QAAQ,EAAE,CAAC,EAAE,EAAE;QAC7C,MAAM,kBAAkB,GACpB,GAAG,CAAC,CAAC,KAAK,CAAC,CAAC;QACjF,MAAM,CAAC,GAAG,CAAC,CAAC,KAAK,CAAC,CAAC;QACnB

,QAAQ,EAAE;QAC/B,IAAI,OAAO,IAAI,CAAC,EAAE;YAChB,OAAO,OAAO,GAAG,UAAU,CAAC;SAC7B;aAAM;YACL,SAAS;gBACL,WAAW,CAAC,OAAO,qBAA4B,sCAAsC,CAAC,CAAC;YAC3F,OAAO,kBAAkB,CAAC;SAC3B;KACF;SAAM;QACL,OAAO,OAAO,CAAC;KAChB;AACH,CAAC;SAEe,aAAa,CAAC,SAAiB,EAAE,aAAqB,EAAE,YAAyB;;;;IAI/F,MAAM,IAAI,GAAG,CAAC,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,SAAS,CAAC;IAC5B,MAAM,EAAE,GAAG,CAAC,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,SAAS,CAAC;IAC5D

CAAC;aACnC;SACF;KACF,CAAC;AACJ,CAAC;SAEe,kBAAkB,CAC9B,IAAY,EAAE,KAA+B,EAAE,WAAiB;IAClE,OAAO,aAAa,CAAC;QACnB,MAAM,QAAQ,GAAG,gBAAgB,CAAC,KAAK,CAAC,CAAC;QACzC,SAAS,qBAAqB,CACkB,GAAG,IAAW;YAC5D,IAAI,IAAI,YAAY,qBAAqB,EAAE;gBACzC,QAAQ,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;gBAC3B,OAAO,IAAI,CAAC;aACb;YACD,MAAM,kBAAkB,GAAG,IAAI,qBAAqB,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;YACjE,OAAO,cAAc,CAAC,IAAI,EAAE,kBAAkB,CAAC,CAAC;QAClD,CAAC;QACD,SAAS,cAAc,CAAC,IAAI,EAAE,KAAK;YAC/B,IAAI,KAAK,YAAY,qBAAqB,EAAE;gBACxC,IAAI,KAAK,CAAC,KAAK,KAAK,IAAI,EAAE;oBACtB,OAAO,KAAK,CAAC,KAAK,CAAC;iBACtB;gBACD,KAAK,CAAC,KAAK,GAAG,IAAI,CAAC;aACtB;YACD,OAAO,KAAK,CAAC;QACjB,CAAC;QACD,IAAI,CAAC,GAAG,CAAC,CAAC;QACV,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,CAAC;QACzB,OAAO,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;YACf,SAAS,CAAC,CAAC,CAAC,GAAG,cAAc,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC;SACrD;QACD,OAAO,SAAS,CAAC;IACrB,CAAC;IACD,IAAI,CAAC,GAAG,CAAC,CAAC;IACV,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,CAAC;IACzB,OAAO,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;QACf,SAAS,CAAC,CAAC,CAAC,GAAG,cAAc,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC;KACrD;IACD,OAAO,SAAS,CAAC;AACrB,CAAC;AACD,SAAS,cAAc,CAAC,IAAI,EAAE,KAAK;IAC/B,IAAI,KAAK,YAAY,qBAAqB,EAAE;QACxC,IAAI,KAAK,CAAC,KAAK,KAAK,IAAI,EAAE;YACtB,OAAO,KAAK,CAAC,KAAK,CAAC;SACtB;QACD,KAAK,CAAC,KAAK,GAAG,IAAI,CAAC;KACtB;IACD,OAAO,KAAK,CAAC;AACjB,CAAC;AACD,IAAI,CAAC,GAAG,CAAC,CAAC;AACV,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,CAAC;AACzB,OAAO,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;IACf,SAAS,CAAC,CAAC,CAAC,GAAG,cAAc,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC;CACrD;AACD,OAAO,SAAS,CAAC;AACjB,SAAS,qBAAqB,CAAC,GAAG,IAAW;IACzC,IAAI,IAAI,YAAY,qBAAqB,EAAE;QACvC,QAAQ,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;QAC5B,OAAO,IAAI,CAAC;KACf;IACD,MAAM,kBAAkB,GAAG,IAAI,qBAAqB,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;IACjE,OAAO,kBAAkB,CAAC;AAC9B,CAAC;AACD,SAAS,QAAQ,CAAC,IAAI,EAAE,KAAK;IACzB,IAAI,KAAK,YAAY,qBAAqB,EAAE;QACxC,IAAI,KAAK,CAAC,KAAK,KAAK,IAAI,EAAE;YACtB,OAAO,KAAK,CAAC,KAAK,CAAC;SACtB;QACD,KAAK,CAAC,KAAK,GAAG,IAAI,CAAC;KACtB;IACD,OAAO,KAAK,CAAC;AACjB,CAAC;AACD,IAAI,CAAC,GAAG,CAAC,CAAC;AACV,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,CAAC;AACzB,OAAO,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;IACf,SAAS,CAAC,CAAC,CAAC,GAAG,QAAQ

EAAE,WAAW,EAAE,IAAI,IAAK,IAAI,EAAE;AAThF;;;;;;MAMa,SAAS,GAAuB,iBAAiB,CAC1D,WAAW,MAGX,KAAK;;ACrXT;;;;;;;AAqEA,IAAY,wBAKX;AALD,WAAY,wBAAwB;IAClC,yEAAS,CAAA;IACT,iFAAa,CAAAA;IACb,iGAAqB,CAAA;IACrB,6EAAW,CAAA;AACb,CAAC,EALW,wBAAwB,KAAxB,wBAAwB,QAKnC;AAED,IAAY,eAMX;AAND,WAAY,eAAe;IACzB,+DAAa,CAAA;IACb,+DAAa,CAAA;IACb,iEAAc,CAAA;IACd,qDAAQ,CAAA;IACR,6DAAY,CAAA;AACd,CAAC,EANW,eAAe,KAAf,eAAe,QAM1B;AAED,IAAY,YAIX;AAJD,WAAY,YAAY;IACtB,iEAAc,CAAA;IACd,yDAAU,CAAA;IACV,mEAAe,CAAA;AACjB,CAAC,EAJW,YAAY,KAAZ,YAAY,QAIvB;AAED,IAAY,cAIX;AAJD,WAAY,cAAc;IACxB,qEAAgB,CAAA;IAChB,6DAAY,CAAA;IACZ,mEAAe,CAAA;AACjB,CAAC,EAJW,cAAc,KAAd,cAAc,QAIzB;AAED,IAAY,aAIX;AAJD,WAAY,aAAa;IACvB,mEAAe,CAAA;IACf,2DAAW,CAAA;IACX,iEAAc,CAAA;AAChB,CAAC,EAJW,aAAa,KAAb,aAAa,QAIxB

AK,CAAC,GAAG,MAAM,CAAC;QACtB,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,GAAG,MAAM,CAAC;K
AC3B;AACH,CAAC;AAED;;;;;;;;;;SAWgB,iBAAiB,CAAC,KAAe,EAAE,KAAa;IAC9D,IAAI,KAAK,GAAG,kB
AAkB,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAC7C,IAAI,KAAK,GAAG,CAAC,EAAE;;QAEb,KAAK,GA
AG,CAAC,KAAK,CAAC;QACf,WAAW,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,CAAC;KAClC;IAC
D,OAAO,KAAK,CAAC;AACf,CAAC;AAED;;;;;;;;;;;;;SAagB,iBAAiB,CAAC,KAAe,EAAE,KAAa;IAC9D,MAA
M,KAAK,GAAG,kBAAkB,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAC/C,IAAI,KAAK,IAAI,CAAC,EAAE;
QACd,WAAW,CAAC,KAAK,EAAE,KAAK,EAAE,CAAC,CAAC,CAAC;KAC9B;IACD,OAAO,KAAK,CAAC;
AACf,CAAC;AAGD;;;;;;;;;;;;;SAagB,kBAAkB,CAAC,KAAe,EAAE,KAAa;IAC/D,mBAAmB,CAAC,KA
AK,EAAE,KAAK,EAAE,CAAC,CAAC,CAAC;AAC9C,CAAC;AAmBD;;;;;;;;SAQgB,gBAAgB,CAC5B,aAA+B,B,
EAAE,GAAW,EAAE,KAAQ;IACxD,IAAI,KAAK,GAAG,oBAAoB,CAAC,aAAa,EAAE,GAAG,CAAC,CAAC;I
ACrD,IAAI,KAAK,IAAI,CAAC,EAAE;;QAEd,aAAa,CAAC,KAAK,GAAG,CAAC,CAAC,GAAG,KAAK,CAAC
;KAClC;SAAM;QACL,KAAK,GAAG,CAAC,KAAK,CAAC;QACf,YAAY,CAAC,aAAa,EAAE,KAAK,EAAE,G
AAG,EAAE,KAAK,CAAC,CAAC;KAChD;IACD,OAAO,KAAK,CAAC;AACf,CAAC;AAED;;;;;;;SAOgB,gBAAgB,
gB,CAAI,aAA+B,EAAE,GAAW;IAC9E,MAAM,KAAK,GAAG,oBAAoB,CAAC,aAAa,EAAE,GAAG,CAAC,CA
AC;IACvD,IAAI,KAAK,IAAI,CAAC,EAAE;;QAEd,OAAO,aAAa,CAAC,KAAK,GAAG,CAAC,CAAM,CAAC;
KACtC;IACD,OAAO,SAAS,CAAC;AACnB,CAAC;AAED;;;;;;;;;;SAUgB,oBAAoB,CAAC,aAA+B,EAAE,GAAW
;IAClF,OAAO,mBAAmB,CAAC,aAAyB,EAAE,GAAG,CAAC,CAAC;AAChE,CAAC;AAED;;;;;;;;
;;SAUgB,mBAAmB,CAAI,aAA+B,EAAE,GAAW;IACjF,MAAM,KAAK,GAAG,oBAAoB,CAAC,aAAa,EAAE,G
AAG,CAAC,CAAC;IACvD,IAAI,KAAK,IAAI,CAAC,EAAE;;QAEd,WAAW,CAAC,aAAa,EAAE,KAAK,EAAE,
CAAC,CAAC,CAAC;KACtC;IACD,OAAO,KAAK,CAAC;AACf,CAAC;AAGD;;;;;;;;;;;;;;;;;AAiBA,SAAS,mBA
AmB,CAAC,KAAe,EAAE,KAAa,EAAE,KAAa;IACxE,IAAI,SAAS,IAAI,WAAW,CAAC,OAAO,CAAC,KAAK,CAAC,OAAO,CAA
C,KAAK,CAAC,EAAE,IAAI,EAAE,oBAAoB,CAAC,CAAC;IAC3E,IAAI,KAAK,GAAG,CAAC,CAAC,IAAI,CAAC,EAAE;QACd,IACd,IAAI,GAAG,KAAK,GAAG,CAAC,CAAC;QACjB,IAAI,KAAK,GAAG,KAAK,CAAC,MAAM,IAAI,IAAI,GAAG,CAAC,EAAE;QAC
pB,MAAM,MAAM,GAAG,KAAK,IAAI,CAAC,GAAG,IAAI,KAAK,CAAC,CAAC;QAC5C,MAAM,OAAO,GAAG,KAAK,IAAI,CAAC,GAAG,IAAI,KAAK,CAAC,CAAC;QACvC,IAAI,MAAM,IAAI,OAAO,EAAE;YACrB,IAAI,KAAK,IAAI,CAAC,EAAE;gBACd,KAAK,GAAG,CAAC,CAAC;aACX;iBAAM;gBACL,KAAK,GAAG,KAAK,CAAC,MAAM,CAAC;aACtB;SACF;aAAM,IAAI,MAAM,EAAE;YACjB,KAAK,GAAG,IAAI,GAAG,CAAC,CAAC;SAClB;aAAM;YACL,KAAK,GAAG,IAAI,GAAG,CAAC,CAAC;SAClB;QACD,OAAO,KAAK,CAAC;KACd;IACD,OAAO,CAAC,CAAC,CAAC;AACZ,CAAC;AAED;;;;;;;;;;;;;;;;;

AE;YAC9E,OAAa,IAAK,CAAC,UAAU,CAAC;SAC/B;;QAGD,MAAM,iBAAiB,GAAS,IAAK,CAAC,cAAc,CA
AC;QACrD,IAAI,iBAAiB,IAAI,iBAAiB,KAAK,UAAU,CAAC,cAAc,EAAE;;;YAGxE,MAAM,cAAc,GAChB,O
AAO,iBAAiB,KAAK,UAAU,GAAG,iBAAiB,EAAE,GAAG,iBAAiB,CAAC;YACtF,MAAM,UAAU,GAAG,cAA
c,CAAC,GAAG,CAAC,CAAC,SAAc,KAAK,SAAS,IAAI,SAAS,CAAC,IAAI,CAAC,CAAC;YACvF,MAAM,gB
AAgB,GAAG,cAAc,CAAC,GAAG,CACvC,CAAC,SAAc,KACX,SAAS,IAAI,mCAAmC,CAAC,SAAS,CAAC,U
AAU,CAAC,CAAC,CAAC;YAChF,OAAO,IAAI,CAAC,uBAAuB,CAAC,UAAU,EAAE,gBAAgB,CAAC,CAAC;
SACnE;;QAGD,MAAM,gBAAgB,GAAG,IAAI,CAAC,cAAc,CAAC,UAAU,CAAC,IAAK,IAAY,CAAC,UAAU,,
CAAC,CAAC;QACtF,MAAM,UAAU,GAAG,IAAI,CAAC,QAAQ,IAAI,CAAC,cAAc,CAAC,UAAU,CAAC,cAAc,5
D,IAAI,CAAC,QAAQ,CAAC,cAAc,CAAC,mBAAmB,EAAE,IAAI,CAAC,CAAC;QAC5D,IAAI,UAAU,IAAI,gB
AAgB,EAAE;YAClC,OAAO,IAAI,CAAC,uBAAuB,CAAC,UAAU,EAAE,gBAAgB,CAAC,CAAC;SACnE;;;;;QA
MD,OAAO,QAAQ,CAAQ,IAAI,CAAC,MAAM,CAAC,CAAC;KACrC,IAED,UAAU,CAAC,IAAe;;;QAGxB,IAA
I,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE;YACjB,OAAO,EAAE,CAAC;SACX;QACD,MAAM,UAAU,GAAG,aAAa,CAAC,IAAI,CAAC,CAAC;QACvC,IAAI,UAAU,GAAG,IAAI,UAAU,GAAG,KAAK,CAAC,IAAI,CAAC,MAAM,GAAG,UAAU,CAAC,MAAM,CAAC,
aAAa,CAAC,IAAI,CAAC,UAAU,CAAC,CAAC;QAC/B,IAAI,UAAU,IAAI,IAAI,CAAC,MAAM,GAAG,UAAU,CAAC,MAAM,EAAE;YACjD,UAAU,GAAG,IAAI,UAAU,GAAG,KAAK,CAAC,IAAI,CAAC,MAAM,GAAG,UAAU,CAAC,MAAM,CAAC,
aAAa,CAAC,IAAI,CAAC,UAAU,CAAC,CAAC;SAClD;QACD,OAAO,UAAU,CAAC;KACrB,IAED,aAAa,CAAC,IAAe;;QAGzB,IAAI,IAAI,CAAC,MAAM,GAAG,CAAC,EAAE;YACjB,OAAO,IAAI,CAAC;SACf;QACD,MAAM,UAAU,GAAG,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;QAClC,IAAI,UAAU,GAAG,CAAC,EAAE;YAChB,OAAO,IAAI,CAAC;SACf;QACD,MAAM,UAAU,GAAG,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;QAClC,IAAI,UAAU,GAAG,CAAC,EAAE;YAChB,OAAO,IAAI,CAAC;SACf;QACD,OAAO,IAAI,UAAU,GAAG,UAAU,CAAC,CAAC;KACvC,IAED,UAAU,CAAC,IAAe,EAAE,IAAe;;QAGvC,IAAI,IAAI,CAAC,MAAM,GAAG,IAAI,CAAC,MAAM,EAAE;YAC3B,OAAO,KAAK,CAAC;SAChB;QACD,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAClC,IAAI,IAAI,CAAC,CAAC,CAAC,KAAK,IAAI,CAAC,CAAC,CAAC,EAAE;gBACrB,OAAO,KAAK,CAAC;aAChB;SACJ;QACD,OAAO,IAAI,CAAC;KACf,IAED,cAAc,CAAC,IAAe;;QAG1B

C;KAC3E;IAED,gBAAgB,CAAC,IAAS,EAAE,UAAkB;QAC5C,OAAO,IAAI,YAAY,IAAI,IAAI,UAAU,IAAI,IA
AI,CAAC,SAAS,CAAC;KAC7D;IAED,MAAM,CAAC,IAAS;QACd,OAAO,EAAE,CAAC;KACX;IAED,MAAM,
CAAC,IAAY;QACjB,OAAiB,IAAI,QAAQ,CAAC,GAAG,EAAE,WAAW,GAAG,IAAI,GAAG,GAAG,CAAC,C
AAC;KAC9D;IAED,MAAM,CAAC,IAAY;QACjB,OAAiB,IAAI,QAAQ,CAAC,GAAG,EAAE,GAAG,EAAE,W
AAW,GAAG,IAAI,GAAG,OAAO,CAAC,CAAC;KACvE;IAED,MAAM,CAAC,IAAY;QACjB,MAAM,YAAY,G
AAG,UAAU,IAAI,uBAAuB,IAAI;mBAC/C,IAAI,kBAAkB,CAAC;QACtC,OAAiB,IAAI,QAAQ,CAAC,GAAG,EAAE
AAE,MAAM,EAAE,YAAY,CAAC,CAAC;KAC1D;;IAGD,SAAS,CAAC,IAAS;;QAEjB,IAAI,OAAO,IAAI,KAA
K,QAAQ,IAAI,IAAI,CAAC,UAAU,CAAC,EAAE;YAChD,OAAO,IAAI,CAAC,UAAU,CAAC,EAAE;SACzB;;Q
AED,OAAO,KAAK,SAAS,CAAC,IAAI,CAAC,EAAE,CAAC;KAC/B;IAED,WAAW,CAAC,IAAS;QACnB,OAAO,KAAK,SAAS,CAAC,IAAI,CAAC,EAAE,CAAC;KAC/B;IAED,iBAAiB,CAAC,IAAY,EAAE,EAAE,SAAiB,EAAE,O
AAiB,EAAE,OAAY;QAChF,OAAO,OAAO,CAAC;KAChB;IACD,WAAW,CAAC,cAAmB,EAAE,IAAY;QAC3
C,OAAO,cAAc,CAAC,IAAI,CAAC,CAAC;KAC7B;IACD,WAAW,CAAC,oBAA2B,EAAE,IAAY;QACpD,OAAO,oBAA2B,CAAC,IAAI,CAAC,CAAC;KAC1C;IAED,WAAW,CAAC,IAAS;QACnB,OAAO,IAAI,CAAC,UAAU,CAAC,EAAE,CAAC;KAC1B

K,CAAC,CAAC,EAAE;QACxE,IAAI,CAAC,KAAK,GAAG,SAAS,CAAC;QACvB,IAAI,CAAC,QAAQ,GAAG,
wBAAwB,CAAC,OAAO,CAAC;KAClD;SAAM;QACL,uBAAuB,CAAC,GAAG,CAAC,CAAC;KAC9B;IACD,O
AAO,IAAI,CAAC;AACd;;ACpFA;;;;;;;AAYA;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAgCgB,yBAAyB,CACrC,gBAA8E;;IAEhF,
MAAM,iBAAiB,GAAoB,EAAE,CAAC;;IAG9C,MAAM,MAAM,GAAG,IAAI,GAAG,EAA2B,CAAC;IAClD,SA
AS,qBAAqB,CAAC,GAAW;QACxC,IAAI,OAAO,GAAG,MAAM,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC;Q
AC9B,IAAI,CAAC,OAAO,EAAE;YACZ,MAAM,IAAI,GAAG,gBAAgB,CAAC,GAAG,CAAC,CAAC;YACnC,
MAAM,CAAC,GAAG,CAAC,GAAG,EAAE,OAAO,GAAG,IAAI,CAAC,IAAI,CAAC,cAAc,CAAC,CAAC,CAA
C;SACtD;QACD,OAAO,OAAO,CAAC;KAChB;IAED,gCAAgC,CAAC,OAAO,CAAC,CAAC,SAAoB,EAAE,IA
Ae;QAC7E,MAAM,QAAQ,GAAoB,EAAE,CAAC;QACrC,IAAI,CAAC,SAAS,CAAC,WAAW,EAAE;YAC1B,MAAM,CAAC,GAAG,CAAC,IAAI,CAAC,qBAAqB,CAAC,SAAS,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC,
CAAC,IAAI,CAAC,qBAAqB,CAAC,SAAS,CAAC,WAAW,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,QAAQ;gBACvE,S
AAS,CAAC,QAAQ,GAAG,QAAQ,CAAC;aAC/B,CAAC,CAAC,CAAC,SAAS,CAAC;QACd,MAAM,CAAC,GAAG,CAAC,IAAI,CAAC,qBAAqB,CAAC,SAAS,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC,
MAAM,CAAC,GAAG,CAAC,IAAI,CAAC,qBAAqB,CAAC,SAAS,CAAC,WAAW,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,MAAM,G
AAG,EAAE,CAAC,CAAC,CAAC,CAAC

AK,CAAC,CAAC;AAC5F,CAAC;AAED;;;;;;;;;;;SAYgB,mBAAmB,CAAC,KAAa;IAC/C,MAAM,GAAG,GAAG,SAAS;QACjB,wGACI,KAAK;;;2DAIL,KAAK,iGAAiG;QAC1G,SAAS,CAAC;IACd,MAAM,IAAI,KAAK,CAAC,GAAG,CAAC,CAAC,CAAC;AACvB,CAAC,CAAC,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;MAwBa,MAAM,GAAG,SAAS;SAGf,UAAU,CAAC,KAA8C;IACvE,MAAM,IAAI,GAAU,EAAE,CAAC;IACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,KAAK,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACrC,MAAM,GAAG,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;QACrB,IAAI,GAAG,CAAC,MAAM,GAAG,CAAC,EAAE;YAClB,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;SAChB;aAAM;YACL,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;SACnB;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC,CAAC;AAED;;;;;;;;;;;;;;;;;;;

CAAC,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;IAC3C,MAAM,MAAM,GAAG,IAAI,CAAC,GAAG,EA
AG,CAAC,QAAQ,EAAE,CAAC;IACtC,MAAM,IAAI,GAAG,uBAAuB,MAAM;MACtC,MAAM;GACT,CAAC;;
;;IAKF,MAAM,EAAE,GAAGA,OAAM,CAAC,MAAM,CAAC,CAAC,uBAAuB,CAAC,IAAI,CAAW,CAAa,CA
AC;;;;IAK/E,EAAE,CAAC,QAAQ,GAAG,MAAM,IAAI,CAAC;;IAEzB,OAAO,EAAE,CAAC,IAAI,CAACA,CA
AM,CAAC,CAAC;;;;AAKzB;;ACrIA;;;;;;;;AA4DA,MAAe,aAAa;IAC1B,YAAmB,qCAA6C;QAA7C,0CAAqC,GA
ArC,qCAAqC,CAAQ;KAAI;IAIpE,QAAQ;QACN,OAAO,0CAA0C,IAAI,CAAC,qCAAqC,EAAE;YACzF,qCAA
qC,CAAC;KAC3C;CACF;AAED,MAAM,YAAa,SAAQ,aAAa;IACtC,WAAW;QACT,yBAAuB;KACxB;CACF;A
ACD,MAAM,aAAc,SAAQ,aAAa;IACvC,WAAW;QACT,2BAAwB;KACzB;CACF;AACD,MAAM,cAAe,SAAQ,
aAAa;IACxC,WAAW;QACT,6BAAyB;KAC1B;CACF;AACD,MAAM,WAAY,SAAQ,aAAa;IACrC,WAAW;QA
CT,uBAAsB;KACvB;CACF;AACD,MAAM,mBAAoB,SAAQ,aAAa;IAC7C,WAAW;QACT,uCAA8B;KAC/B;CACF;SAIe,eAAe,CAAI,KAAkB;IACnD,OAAO,KAAK,YAAY,aAAa,GAAG,CAAC,qCAAiD;QACvD,KAAK,
AAiB,CAAC;AAC5D,CAAC;SAae,+BAA+B,CAAC,KAAU,EAAE,IAAgB;IAC1E,MAAM,UAAU,GAAG,yBAA
yB,CAAC,KAAK,CAAC,CAAC;IACpD,IAAI,UAAU,IAAI,IAAI,IAAI,UAAU,KAAK,IAAI,EAAE;;QAE7C,IAA
I,UAAU,wCAA+B,IAAI,IAAI;YAAqB,OAAO,IAAI,CAAC;QAClF,MAAM,IAAI,KAAK,CACX,mBAAmB,CACX,WAAW,EAAE,gBAAgB,IAAI,IAAI,CAA
C;AACrF,CAAC;AAED;;;;;;;;;SASgB,2BAA2B,CAAC,WAAmB;IAC7D,OAAO,IAAI,YAAY,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,WAAW,CA
AC,CAAC;AACvC,CAAC;AACD;;;;;;;;;SASgB,4BAA4B,CAAC,YAAoB;IAC/D,OAAO,IAAI,aAAa,CAAC,YAAY,CAAC,CAAC,CAAC,CAAC,CAAC,YAA
Y,CAAC,CAAC;AACzC,CAAC;AACD;;;;;;;;;SASgB,6BAA6B,CAAC,aAAqB;IACjE,OAAO,IAAI,cAAc,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,cAAc,CAAC,
aAAa,CAAC,CAAC;AAC3C,CAAC;AACD;;;;;;;;;SASgB,0BAA0B,CAAC,UAAkB;IAC3D,OAAO,IAAI,WAAW,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC,WAAW,CAAC,
CAAC,UAAU,CAAC,CAAC;AACrC,CAAC;AACD;;;;;;;;;SASgB,6BAA6B,CAAC,aAAqB;IACjE,OAAO,IAAI,cAAc,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,CAAC,cAAc,CAAC,
aAAa,CAAC,CAAC;AAC3C,CAAC;AACD;;;;;;;;;SASgB,4BAA4B,CAAC,YAAoB;IAC/D,OAAO,IAAI,aAAa,CAAC,YAAY,CAAC,CAAC,CAAC,CAAC,CAAC,YAAY,CAAC,
CAAC,CAAC;AACzC,CAAC;AACD;;;;;;;;;SASgB,2BAA2B,CAAC,WAAmB;IAC7D,OAAO,IAAI,YAAY,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,WAAW,CAAC,
CAAC,CAAC;AACvC,CAAC;AACD;;;;;;;;;SASgB,0BAA0B,CAAC,UAAkB;IAC3D,OAAO,IAAI,WAAW,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC,WAAW,CAAC,
CAAC,UAAU,CAAC,CAAC;AACr

AO,KAAK,CAAC;KACd;AACH;;AC3IA;;;;;;;AASA;;;;;;;;;;;;;;;;;;;;;;;;;AA0BA,MAAM,gBAAgB,GAAG,iEAAiE,CAAC;AAE3F;AACA,MAAM,mBAAmB,GAAG,8CAA8C,CAAC;AAE3E;AACA,MAAM,gBAAgB,GAAClB,sIAAsI,CAAC;SAE3H,YAAY,CAAC,GAAW;IACtC,GAAG,GAAG,MAAM,CAAC,GAAG,CAAC,CAAC;IAClB,IAAI,GAAG,CAAC,KAAK,CAAC,gBAAgB,CAAC,IAAI,GAAG,CAAC,KAAK,CAAC,gBAAgB,CAAC;QAAE,OAAO,GAAG,CAAC;IAE3E,IAAI,OAAO,SAAS,KAAK,WAAW,IAAI,SAAS,EAAE;QACjD,OAAO,CAAC,IAAI,GAAG,CAAC,KAAK,CAAC,wCAAwC,GAAG,qCAAqC,CAAC,CAAC;KAChG;IAED,OAAO,SAAS,GAAG,CAAC,GAAG,CAAC;AAC1B;AAEA;AACA,MAAM,CAAC,GAAG,CAAC,CAAC;AAEZ,SAAS,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE

YACrC,IAAI,CAAC,WAAW,CAAC,cAAc,CAAC,KAAK,CAAC,EAAE;gBACtC,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC;gBAC/B,SAAS;aACV;YACD,IAAI,KAAK,GAAG,MAAO,CAAC,KAAK,CAAC;;YAE1B,IAAI,SAAS,CAAC,KAAK,CAAC;gBAAE,GAAG,YAAY,CAAC,KAAK,CAAC,CAAC;YAClD,IAAI,YAAY,CAAC,KAAK,CAAC;gBAAE,GAAG,cAAc,CAAC,KAAK,CAAC,CAAC;YAClD,IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,QAAQ,EAAE,IAAI,EAAE,cAAc,CAAC,KAAK,CAAC,EAAE,GAAG,CAAC,CAAC,CAAC;SAChE;QACD,IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC;QACnB,OAAO,IAAI,CAAC;KACb;IAEO,UAAU,CAAC,OAAgB;QACjC,MAAM,OAAO,GAAG,OAAO,CAAC,MAAM,CAAC,CAAC,CAAC,EAAE,QAAQ,CAAC,WAAW,EAAE,GAAG,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;QAC/E,OAAO,IAAI,CAAC,OAAO,CAAC,IAAI,IAAI,CAAC,OAAO

AmB,EAAE;QAClE,OAAO,eAAe,CAAC,WAAW,CAAC,CAAC;KACrC;IACD,OAAO,eAAe,CAAC,WAAW,C
AAC,CAAC;AACtC,CAAC;AAED;;;;;;;;;;;;;;;;SAgBgB,aAAa,CAAC,SAAc;IAC1C,MAAM,SAAS,GAAG,YAAY
,EAAE,CAAC;IACjC,IAAI,SAAS,EAAE;QACb,OAAO,SAAS,CAAC,QAAQ,CAAC,eAAe,CAAC,GAAG,,EAAE
,SAAS,CAAC,IAAI,EAAE,CAAC;KACjE;IACD,IAAI,+BAA+B,CAAC,SAAS,kBAAiB,EAAE;QAC9D,OAAO,e
AAe,CAAC,SAAS,CAAC,CAAC;KACnC;IACD,OAAO,YAAY,CAAC,eAAe,CAAC,SAAS,CAAC,CAAC,CAA
C;AAClD,CAAC;AAED;;;;;;;;;;;SAWgB,qBAAqB,CAAC,iBAAsB;IAC1D,MAAM,SAAS,GAAG,YAAY,EAAE,
CAAC;IACjC,IAAI,SAAS,EAAE;QACb,OAAO,SAAS,CAAC,QAAQ,CAAC,eAAe,CAAC,YAAY,EAAE,iBAAi
B,CAAC,IAAI,EAAE,CAAC;KAClF;IACD,IAAI,+BAA+B,CAAC,iBAAiB,kCAAyB,EAAE;QAC9E,OAAO,eAA
e,CAAC,iBAAiB,CAAC,CAAC;KAC3C;IACD,MAAM,IAAI,KAAK,CAAC,gFAAgF,CAAC,CAAC;AACpG,CA
AC;AAED;;;;;;;;;;;SAYgB,gBAAgB,CAAC,YAAiB;IAChD,MAAM,SAAS,GAAG,YAAY,EAAE,CAAC;IACjC,I
AAI,SAAS,EAAE;QACb,OAAO,SAAS,CAAC,QAAQ,CAAC,eAAe,CAAC,MAAM,EAAE,YAAY,,CAAC,IAAI,
EAAE,CAAC;KACvE;IACD,IAAI,+BAA+B,CAAC,YAAY,EAAE,IAAI,CAAC,CAAC;AAC1D,CAAC;AAED;;;;;;;;
;;;SAWgB,mBAAmB,CAAC,IAAY;IAC9C,OAAO,qBAAqB,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;AAC3C,CAAC;AAED;;;
;;;;;;;;SAWgB,qBAAqB,CAAC,MAAc,EAAE,IAAS,EAAE,MAAM,CAAC,CAAC,CAAC;AAC1E,CAAC;AAED;;;;;;;;;;;SAWgB,0B
AA0B,CAAC,GAAW;IACpD,OAAO,0BAA0B,CAAC,GAAG,EAAE,IAAI,CAAC,CAAC;AACzC,CAAC;AAED;;;;;;;SAOgB,eAAe,CAAC,GAAW,EAAE,IAAI,CAAC,CAAC;AACnD

AAY;QAC7B,IAAI,CAAC,GAAG,gBAAgB,CAAC,KAAK,CAAC,CAAC;QAChC,OAAO,CAAC,IAAI,gBAAgB
,CAAC,CAAC,CAAC,EAAE;YAC/B,CAAC,GAAG,gBAAgB,CAAC,CAAC,CAAC,CAAC;SACzB;QAED,OAA
O,CAAC,CAAC;KACV;;;AC7EH;;;;;;;AAsBA;;;;;;;;MAQa,sBAAsB,GAAmB;IACpD,IAAI,EAAE,iBAAiB;EACv
B;AAEF;;;;;MAKa,gBAAgB,GAAmB;IAC9C,IAAI,EAAE,kBAAkB;;;ACxC1B;;;;;;;AAQA,MAAM,WAAW,GA
AG,MAAM,CAAC;AAC3B,MAAM,mBAAmB,GAAG,iBAAiB,CAAC;AAE9C;;;;;;;;;;;;;;;;;;;;;SAuBgB,iBAAiB,
CAAC,KAAa;IAC7C,OAAO,KAAK,CAAC,OAAO,CAAC,WAAW,EAAE,mBAAmB,CAAC,CAAC;AACzD;;A
CnCA;;;;;;;AAWA;;;AAKA;;;;;;;;;SASgB,oBAAoB,CAAC,IAAY;;IAE/C,IAAI,SAAS,EAAE,QAAQ,CAAC;YAIF
,OAAO,CAAC,wBAAwB,CAAC,OAAO,EAAE,gBAAgB,IAAI,kBAAkB,CAAC,EAAE,KAAK,CAAC,CAAC;S
AC3F;QAAC,OAAO,CAAC,EAAE;;YAEV,OAAO,KAAK,CAAC;SACd;KACF;SAAM;QACL,MAAM,IAAI,KAAK,CACX,6GAA6G,CAAC,CAAC;KACpH;AACH;;AC1CA;;;;;;;SAQgB,yBAAyB,CAAC,IAAY;IAEpD;;;;;;;;;;;;;;;;;;;

,UAAU,EAAE,SAAS;QACrB,SAAS,EAAE,SAAS;KACrB,CAAC;AACJ,CAAC;AAED;;;;;;SAMgB,0BAA0B,CAAC,iBAAAqB;IAC9D,IAAI,KAAK,GAAG,eAAe,CAAC,iBAAAiB,CAAC,CAAC;IAC/C,IAAI,IAAW,CAAC,IAAEhB;IAAI,KAAK,CAAC,OAAO,CAAC,KAAK,CAAC,EAAE;QACxB,MAAM,SAAS,GAAG,gBAAAgB,CAAC,CAAC,KAAK,EAAE,iBAAAiB,CAAC,CAAC,CAAC;QAC7D,IAAI,GAAG,CAAC,KAAK,EAAE,wBAAAwB,CAAC,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnD,IAAI,MAAM,OAAO,GAAG,cAAc,CAAC,KAAK,EAAE,KAAK,EAAE,IAAI,CAAC,CAAC,IAAI,CAAC,CAAa,CAAC,CAAC;QAC1E,IAAI,OAAO,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;QAC1B

AU,EAAE,CAAC;SACd;QACD,OAAO,MAAM,CAAC;KACf;IAED,OAAO,IAAI,CAAC;AACd;;ACtTA;;;;;;;aAaK,MAAM,CACI,OAAO,qBAAqB,KAAK,WAAW;IACxC,qBAAqB;IACzB,UAAU;;KAET,IAAI,CAACA,OAAAM,CAAC;AANrB,MAAM,gBAAgB,GACzB,QAK2B,CAAC;AAEhC;;;;SAIgB,eAAe,CAAC,OAA2C;IACzE,OAAO,EAAC,IAAI,EAAE,QAAQ,EAAE,MAAM,EAAE,OAAO,CAAC,aAAa,CAAC,WAAW,EAAC,CAAC;AACrE,CAAC;AAED;;;;SAIgB,iBAAiB,CAAC,OAA2C;IAC3E,OAAO,EAAC,IAAI,EAAE,UAAU,EAAE,MAAM,EAAE,OAAO,EAAC,CAAC;AAC7C,CAAC;AAED;;;;SAIgB,aAAa,CAAC,OAAuC;IACnE,OAAO,EAAC,IAAI,EAAE,MAAM,EAAE,OAAO,EAAC,CAAC;AACjC

AAG,WAAW,CAAC,eAAe,CAAC,CAAC;IAC9C,SAAS;QACL,aAAa,CAAC,QAAQ,CAAC,OAAO,CAAC,EAAA
E,sDAAsD,CAAC,CAAC;IAC7F,OAAO,QAAQ,CAAC,OAAO,CAAgB,CAAC;AAC1C,CAAC;AAGD;;;SAGgB,
kBAAkB,CAAC,KAAY;IAC7C,OAAO,oBAAoB,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC;AACjD,CA
AC;AAED;;;SAGgB,iBAAiB,CAAC,SAAqB;IACrD,OAAO,oBAAoB,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,
CAAC;AAC/C,CAAC;AAED,SAAS,oBAAoB,CAAC,eAAsC;IAClE,OAAO,eAAe,KAAK,IAAI,IAAI,CAAC,YA
AY,CAAC,eAAe,CAAC,EAAE;QACjE,eAAe,GAAG,eAAe,CAAC,IAAI,CAAC,CAAC;KACzC;IACD,OAAO,eA
Ae,CAAC;AACzB;;AC9EA;;;;;;;AAgCA,MAAM,uBAAuB,GAAGE,+BAAO,GAAGC,+BAAO,GAAGC,+BAAO
,GAAGC,+BAAO,GAAGC,+BAAO,CAAC;AAqBhF;;;;;AAIA,SAAS,yBAAyB,CAC9B,MAA2B,EAAE,IAAI,EAAE,QAAQ,EAAE,
EAAE,MAAqB,EAAE,CAAC;QACxD,IAAI,WAAW,GAAG,CAAC,CAAC;QACpB,IAAI,YAAY,GAAG,CAAC,CAAC;QACrB,IAAI,
EAAE;YACF,WAAW,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;YACpB,YAAY,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;SAC
xB;QACD,IAAI,MAAM,GAAG,CAAC,CAAC;QACf,IAAI,MAAM,GAAG,CAAC,CAAC;QACf,IAAI,MAAM,GAAG,CAAC,CAAC;QAC
f,IAAI,MAAM,GAAG,CAAC,CAAC;QACf,IAAI,MAAM,GAAG,CAAC,CAAC;QACf,IAAI,MAAM,GAAG,CAAC,CAAC;QACf,IAAI,
MAAM,GAAG,CAAC,CAAC;QACf,IAAI,MAAM,GAAG,CAAC,CAAC;QACf,IAAI,MAAM,GAAG,CAAC,CAAC;QACf,IAAI,

ACjC;QAED,IAAI,CAAC,IAAI,EAAE;;;YAGT,OAAO,iBAAiB,IAAI,CAAC,iBAAkB,CAAC,IAAI,CAAC,IAAI,iBAAiB,KAAK,QAAQ,EAAE;gBACvF,IAAI,OAAO,CAAC,iBAAiB,CAAC,EAAE;oBAC9B,WAAW,CAAC,iBAAiB,CAAC,KAAK,CAAC,EAAE,iBAAiB,CAAC,CAAC;iBAC1D;gBACD,iBAAiB,GAAG,iBAAiB,CAAC,MAAM,CAAC,CAAC;aAC/C;YACD,IAAI,iBAAiB,KAAK,IAAI;gBAC5B,iBAAiB,GAAG,iBAAiB,QAAQ,CAAC,EAAE;gBAChD,iBAAiB,CAAC,WAAW,CAAC,iBAAiB,CAAC,KAAK,CAAC,EAAE,iBAAiB,CAAC,CAAC;aAC5E;YACD,IAAI,OAAO,CAAC,iBAAiB,CAAC,EAAE;gBAC9B,iBAAiB,CAAC,WAAW,CAAC,iBAAiB,CAAC,KAAK,CAAC,EAAE,iBAAiB,CAAC,CAAC;aAC5E;YACD,IAAI,GAAG,iBAAiB,IAAI,iBAAkB,CAAC,IAAI,CAAC,CAAC;SACtD;QACD,iBAAiB,GAAG,IAAI,CAAC;KAC1B;AACH,CAAC;AAED;;;;;;;;;;;;;SAagB,UAAU,CAAC,KAAY,EAAE,KAAY,EAAE,UAAsB,EAAE,KAAa;IAC1F,SAAS,IAAI,WAAW,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAChC,SAAS,IAAI,gBAAgB,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAC5C

,QAAQ,CAAC,CAAC;QACjC,IAAI,oBAAoB,CAAC,QAAQ,CAAC,IAAI,QAAQ,CAAC,WAAW,EAAE;YAC1D
,SAAS,CAAC,KAAK,EAAE,KAAK,EAAE,QAAQ,mBAA+B,IAAI,EAAE,IAAI,CAAC,CAAC;SAC5E;QAED,e
AAe,CAAC,KAAK,CAAC,CAAC;KACxB;AACH,CAAC;AAED;;;;;;;;AAQA,SAAS,WAAW,CAAC,KAAY,EA
AE,KAAY;IAC7C,IAAI,EAAE,KAAK,CAAC,KAAK,CAAC,uBAAwB,EAAE;;;QAG1C,KAAK,CAAC,KAAK,
CAAC,IAAI,oBAAqB;;;;;;QAOrC,KAAK,CAAC,KAAK,CAAC,wBAAyB;QAErC,iBAAiB,CAAC,KAAK,EAAE
,KAAK,CAAC,CAAC;QAChC,eAAe,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;;QAE9B,IAAI,KAAK,CAAC,
KAAK,CAAC,IAAI,0BAA4B,oBAAoB,CAAC,KAAK,CAAC,QAAQ,CAAC,CAAC,EAAE;YACtF,SAAS
,IAAI,SAAS,CAAC,eAAe,EAAE,CAAC;YACxC,KAAK,CAAC,QAAQ,CAAyB,CAAC,OAAO,EAAE,CAAC;SA
CpD;QAED,MAAM,oBAAoB,GAAG,KAAK,CAAC,sBAAsB,CAAC,CAAC;;QAE3D,IAAI,oBAAoB,KAAK,IA
AI,IAAI,YAAY,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC,EAAE;;YAEhE,IAAI,oBAAoB,KAAK,KAAK,CA
AC,MAAM,CAAC,EAAE;gBAC1C,eAAe,CAAC,oBAAoB,EAAE,KAAK,CAAC,CAAC;aAC9C;;YAGD,MAAM
,QAAQ,GAAG,KAAK,CAAC,OAAO,CAAC,CAAC;YAChC,IAAI,QAAQ,KAAK,IAAI,EAAE;gBACrB,QAAQ,
UAAU,CAAC,KAAK,CAAC,CAAC;aAC5B;SACF;KACF;AACH,CAAC;AAED;AACA,SAAS,eAAe,CAAC,IAI
AI,oBAAoB,GAAG,CAAC,CAAC,CAAC;IAC3B,QAAQ,IAAI,CAAC,IAAI,EAAE;QACjB,KAAK,CAAC,CAAC;
YAAC;gBACL,MAAM,QAAQ,GAAG,IAAI,CAAC,KAAK,CAAC;gBAC5B,IAAI,QAAQ,KAAK,IAAI,EAAE;oBACrB,
MAAM,IAAI,GAAG,QAAQ,CAAC,IAAI,CAAC;oBAC3B,IAAI,IAAI,KAAK,IAAI,EAAE;wBACjB,IAAI,IAAI
,KAAK,IAAI,EAAE;4BACjB,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;yBACvB;qBACF;iBACF;
gBACD,MAAM;aACP;QACD,KAAK,CAAC;YAAE;gBACN,MAAM,QAAQ,GAAG,IAAI,CAAC,KAAK,CAAC;gBAC5B,IAAI,
QAAQ,KAAK,IAAI,EAAE;oBACrB,MAAM,IAAI,GAAG,QAAQ,CAAC,IAAI,CAAC;oBAC3B,IAAI,IAAI,KAAK,
IAAI,EAAE;wBACjB,IAAI,IAAI,KAAK,IAAI,EAAE;4BACjB,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;
yBACvB;qBACF;iBACF;

,CAAC;YACrD,MAAM,aAAa,GACd,KAAK,CAAC,IAAI,CAAC,WAAW,CAAC,cAAc,CAA2B,CAAC,aAAa,C
AAC;;;;;;;YAOpF,IAAI,aAAa,KAAK,iBAAiB,CAAC,IAAI;gBACxC,aAAa,KAAK,iBAAiB,CAAC,QAAQ,EAAE
;gBAChD,OAAO,IAAI,CAAC;aACb;SACF;QAED,OAAO,gBAAgB,CAAC,WAAW,EAAE,KAAK,CAAa,CAAC
;KACzD;AACH,CAAC;AAED;;;;;SAKgB,kBAAkB,CAC9B,QAAAmB,EAAE,MAAgB,EAAE,KAAY,EAAE,UAA
sB,EAC3E,MAAe;IACjB,SAAS,IAAI,SAAS,CAAC,oBAAoB,EAAE,CAAC;IAC9C,IAAI,oBAAoB,CAAC,QAA
Q,CAAC,EAAE;QAClC,QAAQ,CAAC,YAAY,CAAC,MAAM,EAAE,KAAK,EAAE,UAAU,EAAE,MAAM,CAA
C,CAAC;KAC1D;SAAM;QACL,MAAM,CAAC,YAAY,CAAC,KAAK,EAAE,UAAU,EAAE,MAAM,CAAC,CA
AC;KAChD;AACH,CAAC;AAED,SAAS,iBAAiB,CAAC,QAAmB,EAAE,MAAgB,EAAE,KAAY;IAC5E,SAAS,I
AAI,SAAS,CAAC,mBAAmB,EAAE,CAAC;IAC7C,IAAI,aAAa,CAAC,MAAM,EAAE,6BAA6B,CAAC,C
AAC;IAClE,IAAI,oBAAoB,CAAC,QAAQ,CAAC,EAAE;QAClC,QAAQ,CAAC,WAAW,CAAC,MAAM,EAAE,
KAAK,CAAC,CAAC;KACrC;SAAM;QACL,MAAM,CAAC,WAAW,CAAC,KAAK,CAAC,CAAC;KAC3B;AAC
H,CAAC;AAED,SAAS,0BAA0B,CAC/B,QAAmB,EAAE,MAAgB,EAAE,KAAY,EAAE,UAAsB,EAAE,MAAe;I
AC9F,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,kBAAkB,CAAC,QAAQ,EAAE,MAAM,EAAE,KAAK,EAAE,U
AAU,EAAE,MAAM,CAAC,CAAC;KACjE;SAAM;QACL,MAAM,CAAC,WAAW,CAAC,QAAQ,EAAE,MAAM,EAAE,KAAK,
CAAC,CAAC;KAC5C;AACH,CAAC;AAED;AACA,SAAS,iBAAiB,CACtB,QAAAmB,EAAE,MAAgB,EAAE,KAAY,EAAE,UAAsB,EAAE,MAAe;IAAE,KA
AY,EAAE,aAAuB;IAC9E,IAAI,oBAAoB,CAAC,QAAQ,CAAC,EAAE;QAClC,QAAQ,CAAC,WAAW,CAAC,M
AAM,EAAE,KAAK,EAAE,aAAa,CAAC,CAAC;KACpD;SAAM;QACL,MAAM,CAAC,WAAW,CAAC,KAAK,
CAAC,CAAC;KAC3B;AACH,CAAC;AAED;;;SAGgB,gBAAgB,CAAC,QAAmB,EAAE,IAAW;IAAE,IAAI,oBAAoB,CAAC,QAAQ,CAAC,EAAE;QAAC,o
BAAoB,CAAC,QAAQ,CAAC,GAAG,QAAQ,CAAC,UAAU,CAAC,IAAI,CAAC,QAAQ,CAAC,UAAU,EA
Ac;AACpG,CAAC;AAED;;;SAGgB,iBAAiB,CAAC,QAAmB,EAAE,IAAW;IAAE,IAAI,oBAAoB,CAAC,QAAQ,CAAC,EAAE;QAAC,oBAAoB,CAAC,QA
AQ,CAAC,GAAG,QAAQ,CAAC,WAAW,CAAC,IAAI,CAAC,QAAQ,CAAC,WAAW,CAAC;AACxF,CAAA
C;AAED;;;;;;;;;;AAUA,SAAS,uBAAuB,CAAC,WAAkB,EAAE,YAAmB,EAAE,KAAY;IAEpF,gBAAgB,C
AAC,WAAW,EAAE,YAAY,EAAE,KAAK,CAAC,CAAC;AAC5C,CAAC;AAGD;;;;;;;;;;SAWgB,wBAAwB,CACpC,WAAkB,EAAE,YAAmB,EAAE,KAAY,EAAE,UAAsB,EAAE,MAAe;IAAE,IAAI,oBAAoB,CAAC,WAAW,
CAAC,IAAI,oBAAoB,CAAC,YAAY,CAAC,EAAE;QAAC,0BAA0B,CAAC,WAAW,EAAE,YAAY,EAAE,KAAK,
EAAE,UAAU,EAAE,MAAM,CAAC,CAAC;KAAC;AAAA,CAAC;AAGlK;;;;;;;;;;

IAAI,WAAW,CAAC,KAAK,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,CAAC;SACjD;aAAM;YACL,MAAM,aAAa,GAAG,KAAK,CAAC,0BAA0B,CAAC,CAAC;YACxD,MAAM,aAAa,GAAG,aAAa,CAAC,MAAM,CAAiB,CAAC;YAC5D,MAAM,UAAU,GAAG,cAAc,CAAC,aAAa,CAAC,CAAC;YACjD,MAAM,mBAAmB,GACpB,aAAa,CAAC,UAA+B,CAAC,CAAC,KAAK,CAAC,UAAoB,CAAC,CAAC;YAE/E,IAAI,mBAAmB,IAAI,IAAI,EAAE;gBAC/B,OAAO,kBAAkB,CAAC,UAAW,EAAE,mBAAmB,CAAC,CAAC;aAC7D;iBAAM;gBACL,OAAO,kBAAkB,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC;aACxC;QACH;IAED,OAAO,IAAI,CAAC,CAAC;AACd,CAAC;SAEe,oBAAoB,CAAC,oBAA4B;IAEvF,MAAM,aAAa,GAAG,uBAAuB,GAAG,oBAAoB,GAAG,CAAC,CAAC;IACzE,OAAO,aAAa,GAAG,CAAC,CAAC;AAC3B;SAEgB,gBAAgB,CAAC,KAAa,EAAE,KAAa;IAC3D,OAAO,KAAK,GAAG,KAAK,CAAC;AACvB

Aa,EAAE,uBAAuB,EAAE,cAAc,EAAE,UAAU,EAAE,IAAI,CAAC,CAAC;KACjG;AACH,CAAC;AAGD;;;;;;;;;;
;;AAaA,SAAS,cAAc,CACnB,QAAmB,EAAE,MAA2B,EAAE,UAAsB,EACxE,cAA6B,EAAE,UAAgC;IACjE,SA
AS,IAAI,gBAAgB,CAAC,UAAU,CAAC,CAAC;IAC1C,MAAM,MAAM,GAAG,UAAU,CAAC,MAAM,CAAC,C
AAC;IAClC,MAAM,MAAM,GAAG,WAAW,CAAC,UAAU,CAAC,CAAC;;;;;;IAOvC,IAAI,MAAM,KAAK,MA
AM,EAAE;;;;;QAKrB,yBAAyB,CAAC,MAAM,EAAE,QAAQ,EAAE,cAAc,EAAE,MAAM,EAAE,UAAU,CAAC
,CAAC;KACjF;IACD,KAAK,IAAI,CAAC,GAAG,uBAAuB,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,
CAAC,EAAE,EAAE;QAChE,MAAM,KAAK,GAAG,UAAU,CAAC,CAAC,CAAU,CAAC;QACrC,SAAS,CAAC,
KAAK,CAAC,KAAK,CAAC,EAAE,KAAK,EAAE,QAAQ,EAAE,MAAM,EAAE,cAAc,EAAE,MAAM,CAAC,C
AAC;KAC1E;AACH,CAAC;AAED;;;;;;;;;;SAUgB,YAAY,CACxB,QAAmB,EAAE,YAAqB,EAAE,KAAe,EAAE,
IAAY,EAAE,KAAU;IACvF,MAAM,YAAY,GAAG,oBAAoB,CAAC,QAAQ,CAAC,CAAC;IACpD,IAAI,YAAY,
EAAE;;QAEhB,IAAI,CAAC,KAAK,EAAE;YACV,SAAS,IAAI,SAAS,CAAC,mBAAmB,EAAE,CAAC;YAC7C,I
AAI,YAAY,EAAE;gBACf,QAAsB,CAAC,WAAW,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC;aAClD;iBAAM;gB
ACJ,KAAqB,CAAC,SAAS,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;aAC/C;SACF;aAAM;YACL,SAAS,IAAI,
SAAS,CAAC,gBAAgB,EAAE,CAAC;YAC1C,IAAI,YAAY,EAAE;gBACf,QAAsB,CAAC,QAAQ,CAAC,KAAK,
EAAE,IAAI,CAAC,CAAC;aAC/C;iBAAM;gBACL,SAAS,IAAI,aAAa,CAAE,KAAqB,CAAC,SAAS,EAAE,sBA
AsB,CAAC,CAAC;gBACpF,KAAqB,CAAC,SAAS,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;aAC5C;SACF;KA
CF;SAAM;QACL,IAAI,KAAK,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC,GAAG,
SAAS,GAAG,mBAAmB,CAAC,QAAkB,CAAC;QAC1F,IAAI,KAAK,IAAI,IAAI,IAAI,gCAAgC;YAC/C,IAAI,
SAAS,CAAC,mBAAmB,EAAE,CAAC,WAAW,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC;aAC/D;iBAAM;gBACL,
KAAK,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC,GAAG,SAAS,GAAG,mBAAmB,
EAAE,CAAC,WAAW,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC;aAC/D;SACF;KACF;IAED,IAAI,YAAY,EAAE
;QAChB,IAAI,CAAC,KAAK,EAAE;YACV,SAAS,IAAI,SAAS,CAAC,mBAAmB,EAAE,CAAC;YAC7C,IAAI,
YAAY,EAAE;gBACf,QAAsB,CAAC,WAAW,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC;aAClD;iBAAM;gBACL,
SAAS,IAAI,SAAS,CAAC,gBAAgB,EAAE,CAAC;YAC1C,IAAI,YAAY,EAAE;gBACf,QAAsB,CAAC,QAAQ,CAAC,KAAK,
EAAE,IAAI,CAAC,CAAC;aAC/C;iBAAM;gBACL,SAAS,IAAI,aAAa,CAAE,KAAqB,CAAC,SAAS,EAAE,sBA
AsB,CAAC,CAAC;gBACpF,KAAqB,CAAC,SAAS,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;aAC5C;SACF;KACF;IAED,
IAAI,YAAY,EAAE

AAM,EAAE;QACvB,IAAI,IAAI,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC;QACtB,IAAI,gBAAgB,IAAA
I,IAAI,KAAK,OAAO,EAAE;YACxC,IAAI,GAAG,KAAK,CAAC,CAAC,CAAW,CAAC;YAC1B,IAAI,YAAY,C
AAC,IAAI,CAAC,WAAW,EAAE,EAAE,eAAe,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE;gBAC/D,OA
AO,IAAI,CAAC;aACb;SACF;aAAM,IAAI,IAAI,sBAA8B;;YAE3C,OAAO,CAAC,GAAG,KAAK,CAAC,MAAM
,IAAI,QAAQ,IAAI,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,IAAI,QAAQ,EAAE;;gBAEjE,IAAI,IAAI,
CAAC,WAAW,EAAE,KAAK,eAAe;oBAAE,OAAO,IAAI,CAAC;aACzD;YACD,OAAO,KAAK,CAAC,SACd;K
ACF;IACD,OAAO,KAAK,CAAC;AACf,CAAC;AAED;;;;;SAKgB,gBAAgB,CAAC,KAAY;IAC3C,OAAO,KA
K,CAAC,IAAI,0BAA4B,KAAK,CAAC,KAAK,KAAK,oBAAoB,CAAC;AACpF,CAAC;AAED;;;;;;;;;;AAWA,S
AAS,kBAAkB,CACvB,KAAY,EAAE,eAAuB,EAAE,gBAAyB;IAClE,MAAM,gBAAgB,GAClB,KAAK,CAAC,I
AAI,0BAA4B,CAAC,gBAAgB,GAAG,oBAAoB,GAAG,KAAK,CAAC,KAAK,CAAC;IACjG,OAAO,eAAe,
KAAK,gBAAgB,CAAC;AAC9C,CAAC;AAED;;;;;;;;;SASgB,sBAAsB,CAClC,KAAY,EAAE,QAAqB,EAAE,gBAAyB
;IAChE,SAAS,IAAI,aAAa,CAAC,QAAQ,CAAC,CAAC,CAAC,EAAE,iCAAiC,CAAC,CAAC;IAC3E,IAAI,IAAI,
mBAAwC;IAChD,MAAM,SAAS,GAAG,KAAK,CAAC,KAAK,IAAI,EAAE,CAAC;;IAGpC,MAAM,iBAAiB,GA
AG,sBAAsB,CAAC,SAAS,CAAC,CAAC;;;IAI5D,kBAAkB,GAAG,KAAK,CAAC,IAAE/B,KAAK,IAAI,CA
AC,GAAG,CAAC,EAAE,CAAC,GAAG,QAAQ,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACxC,MAAM,OA
AO,GAAG,QAAQ,CAAC,CAAC,CAAC,QAAQ,CAAC;QAC5B,kBAAkB,GAAG,KAAK,CAAC,IAAI,OAAO,CAAC;
;YAE/B,IAAI,CAAC,kBAAkB,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,EAAE;gB
ACpE,OAAO,KAAK,CAAC;aACd;;;YAGD,IAAI,kBAAkB,IAAI,UAAU,CAAC,OAAO,CAAC;gBAAE,SAAS;Y
ACxD,kBAAkB,GAAG,KAAK,CAAC;YAC3B,IAAI,GAAI,OAAkB,IAAI,IAAI,eAAqB,CAAC;YACxD,SAAS;S
ACV;QAED,IAAI,kBAAkB;YAAE,SAAS;QAEjC,IAAI,IAAI,oBAA0B;YAChC,IAAI,GAAG,oBAA0B,IAAI,eA
AqB;YAC1D,IAAI,OAAO,KAAK,EAAE,IAAI,CAAC,kBAAkB,CAAC,KAAK,EAAE,OAAO,EAAE,gBAAgB,C
AAC;gBACvE,OAAO,KAAK,EAAE,IAAI,QAAQ,CAAC,MAAM,KAAK,CAAC,EAAE;gBAC3C,IAAI,UAAU,C
AAC,IAAI,CAAC;oBAAE,OAAO,KAAK,CAAC;gBACnC,kBAAkB,GAAG,KAAK,CAAC,IAAI,CAAC,UAAU,CAAC;aAC3B;SACF;aAAM;
YACL,MAAM,iBAAiB,GAAG,IAAI,mBAAyB,OAAO,GAAG,QAAQ,CAAC,EAAE,CAAC,CAAC,CAAC;;;YAI
/E,IAAI,CAAC,IAAI,qBAA2B,KAAK,CAAC,KAAK,KAAK,IAAI,EAAE;gBACxD,IAAI,CAAC,kBAAkB,CAAA
C,KAAK,CAAC,KAAK,EAAE,iBAA2B,EAAE,gBAAgB,CAAC,EAAE;oBACnF,IAAI,UAAU,CAAC,IAAI,CAA
C;wBAAE,OAAO,KAAK,CAAC;oBACnC,kBAAkB,GAAG,KAAK,CAAC,IAAI,CAAC,UAAU,CAAC;iBAC3B;gBACD,SAAS;aACV;YAED,
MAAM,QAAQ,GAAG,CAAC,IAAI,qBAA2B,OAAO,GAAG,OAAO,CAAC;YAClE,MAAM,eAAe,GACjB,KAAK,CAAC,I
AAI,CAAC,QAAQ,EAAE,SAAS,EAAE,gBAAgB,CAAC,EAAE,gBAAgB,CAAC,EAAE,gBAAgB,CAAC,CAAC;YAExF
,IAAI,eAAe,KAAK,CAAC,kBAAkB,CAAC,KAAK,EAAE,eAAe,EAAE,gBAAgB,CAAC,EAAE;gBAC3E,IAAI,UAAU,C
AAC,IAAI,CAAC;oBAAE,OAAO,KAAK,CAAC;gBACnC,kBAAkB,GAAG,KAAK,CAAC,IAAI,CAAC,UAAU,CAAC;aAC3B;SACF;aAAM;
YACL,MAAM,iBAAiB,GAAG,IAAI,mBAAyB,OAAO,GAAG,OAAO

BAEzD,CAAC,IAAI,CAAC,CAAC;gBACP,SAAS;aACV;;YAED,CAAC,IAAI,YAAY,GAAG,CAAC,GAAG,CA
AC,CAAC;SAC3B;;QAED,OAAO,CAAC,CAAC,CAAC;KACX;SAAM;QACL,OAAO,sBAAsB,CAAC,KAAK,E
AAE,IAAI,CAAC,CAAC;KAC5C;AACH,CAAC;SAEe,0BAA0B,CACtC,KAAY,EAAE,QAAyB,EAAE,mBAA4
B,KAAK;IAC5E,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,QAAQ,CAAC,MAAM,EAAE,CAAC,
EAAE,EAAE;QACxC,IAAI,sBAAsB,CAAC,KAAK,EAAE,QAAQ,CAAC,CAAC,CAAC,EAAE,gBAAgB,CAAC
,EAAE;YAChE,OAAO,IAAI,CAAC;SACb;KACF;IAED,OAAO,KAAK,CAAC;AACf,CAAC;SAEe,qBAAqB,CA
AC,KAAY;IAChD,MAAM,SAAS,GAAG,KAAK,CAAC,KAAK,CAAC;IAC9B,IAAI,IAAI,EAAE;QA
CrB,MAAM,kBAAkB,GAAG,SAAS,CAAC,OAAO,mBAA2B,CAAC;;;QAGxE,IAAI,CAAC,kBAAkB,GAAG,
CAAC,MAAM,CAAC,EAAE;YAClC,OAAO,SAAS,CAAC,kBAAkB,GAAG,CAAC,CAAgB,CAAC;SACzD;KA
CF;IACD,OAAO,IAAI,CAAC;AACd,CAAC;SAAsB,sBAAsB,CAAC,SAAsB;IAClE,KAAK,IAAI,
GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACzC,MAAM,QAAQ,
GAAG,SAAS,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE;YAC1C,IAAI,
yBAAyB,CAAC,QAAQ,CAAC,EAAE;YACvC,OAAO
,CAAC,CAAC;SACV;KACF;IACD,OAAO,SAAS,CAAC,MAAM,CAAC;AAC1B,CAAC;SAAS,sBAAsB,
CAAC,KAAkB,EAAE,IAAY;IAC/D,IAAI,CAAC,KAAK,IAAI,CAAC,IAAI,KAAK,CAAC,MAAM,EAAE;QAC
9C,OAAO,KAAK;KACb;IAED,MAAM,MAAM,GAAG,KAAK,CAAC,KAAK,CAAC,CAAC,EAAE,IAAI,CAAC;IA
AC,GAAG,IAAI,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACvC,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC
,CAAC,CAAC,CAAC;KACjC;IAED,OAAO,MAAM;AACf,CAAC;SAEe,kBAAkB,CAAC,KAAY,EAAE,KAAY;IAC5D,
IAAI,KAAK,CAAC,MAAM,KAAK,KAAK,CAAC,MAAM,EAAE;QACjC,OAAO,KAAK;KACb;IAED,KAAK,IAAI,
CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,KAAK,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACtC,IAAI,KAAK,
CAAC,CAAC,CAAC,KAAK,KAAK,CAAC,CAAC,CAAC,EAAE;YACpB,OAAO,KAAK;SACb;KACF;IAED,OAAO,I
AAI;AACb,CAAC;SAEe,kBAAkB,CAAC,KAAY,EAAE,KAAY;IAC5D,

C,CAAC;AAC1B;;ACvbA;;;;;;;AAaA;MACa,SAAS,GAClB,CAAC,OAAO,SAAS,KAAK,WAAW,IAAI,SAAS,IAAI,EAAC,SAAS,EAAE,WAAW,EAAC,GAAI;;ACflF;;;;;;;AAcA;;;;;;;;;;;;;;;;;;;;;;SAuBgB,SAAS,CAAC,KAAa;IACrC,SAAS,IAAI,iBAAiB,CAAC,KAAK,EAAE,CAAC,EAAE,0BAA0B,CAAC,CAAC;IACrE,mBAAmB,CAAC,QAAQ,EAAE,EAAE,QAAQ,EAAE,EAAE,gBAAgB,EAAE,GAAG,KAAK,EAAE,sBAAsB,EAAE,CAAC,CAAC;AACpG,CAAC;SAEe,mBAAmB,CAAC/B,kBAAkB,EAAE,EAAE,KAAK,EAAE,EAAE,KAAa,EAAE,kBAA2B;IACxE,SAAS,IAAI,sBAAsB,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;;IAIlD,IAAI,CAAC,kBAAkB,EAAE;QACvB,MAAM,uBAAuB,GAAC,zB,CAAC,KAAK,EAAE,CAAC,KAAK,CAAC,8DAAwE;QACzF,IAAI,uBAAuB,EAAE;YAC3B,MAAM,kBAAkB,GAAG,KAAK,CAAC,KAAK,CAAC,kBAAkB,CAAC;YAC1D,IAAI,kBAAkB,CAAC,KAAK,IAAI,EAAE;gBAChC,MAAM,CAAC,KAAK,CAAC,KAAK,EAAE,kBAAkB,CAAC,KAAK,CAAC,CAAC;aAC/C;SACF;QAED,MAAM,CAAC,KAAK,CAAC,KAAK,EAAE,kBAAkB,CAAC,KAAK,CAAC,CAAC;KAC/C;IAED,OAAO,KAAK,CAAC;AACf,CAAC;SAEe,mBAAmB,CAAC,KAAa,EAAE,KAAa;IAC9D,MAAM,CAAC,KAAK,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;AAC7B

AC;YACnD,IAAI,aAAa,KAAK,SAAS,EAAE;gBAC/B,aAAa,GAAG,KAAK,oBAAoB,CAAC,eAAe,GAAG,UAAA
U,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC;gBACjF,oBAAoB,CAAC,GAAG,CAAC,IAAI,EAAE,aAAa,CAAC,
CAAC;aAC/C;YACD,OAAO,aAAa,CAAC;KACxB;IACD,MAAM,IAAI,KAAK,CAAC,kBAAkB,CAAC,CAAC;
AACtC,CAAC;AAED,SAAS,UAAU,CAAC,IAA2B;IAC7C,IAAI,IAAI,IAAI,IAAI;QAAE,OAAO,EAAE,CAAC;I
AC5B,MAAM,KAAK,GAAG,IAAI,CAAC,WAAW,CAAC,WAAW,CAAC,CAAC;IAC5C,OAAO,GAAG,IAAI,K
AAK,KAAK,CAAC,CAAC,GAAG,IAAI,GAAG,IAAI,CAAC,MAAM,CAAC,CAAC,EAAE,KAAK,CAAC,CAA
C,CAAC;AAC7D,CAAC;AAED;;;;;AAKO,MAAM,gBAAgB,GAAG,MAAM,KAAK;IACzC,YAAW,IAAe,EACf
SAAgB,EAChB,QAAoC,EACpC,OAAsB,EACtB,SAAuC,EACvC,SAAsB,EACtB,IAAW,EACX,iBAAyB,EACzB
,iBAAyB,EACzB,kBAA2C,EAC3C,eAAwB,EACxB,eAAwB,EACxB,iBAA0B,EAC1B,oBAA6B,EAC7B,aAA4B,
EAC5B,kBAAiC,EACjC,YAA2B,EAC3B,iBAAgC,EAChC,SAAwB,EACxB,cAA6B,EAC7B,YAAkC,EAClC,OA
AmB,EACnB,cAA6B,EAC7B,UAAyB,EACzB,iBAAwC,EACxC,YAA8B,EAC9B,UAAuB,EACvB,OAA8B,EAC
9B,MAAuB,EACvB,mBAA4B,EAC5B,MAAc,EACd,KAAa;QA/Bb,SAAI,GAAJ,IAAI,CAAW;QACf,cAAS,
SAAS,CAAO;QAChB,aAAQ,GAAR,QAAQ,CAA4B;QACpC,YAAO,GAAP,OAAO,CAAe;QACtB,cAAS,GAAT,SAAS,CAA8B;QACvC,cAAS,GAAT,SAAS,CAAa;QACtB,SAAI,GAAJ,IAAI,CAAO;QACX,sBAAiB,GAAjB,iBAAiB,CAAQ;QACzB,sBAAiB,GAAjB,iBAAiB,CAAQ;QACzB,uBAAkB,GAAlB,kBAAkB,CAAyB;QAC3C,oBAAe,GAAf,eAAe,CAAS;QACxB,oBAAe,GAAf,eAAe,CAAS;QACxB,sBAAiB,GAAjB,iBAAiB,CAAQ;QACzB,iBAAY,GAAZ,YAAY,CAAO;QACnB,qBAAgB,GAAhB,gBAAgB,CAAO;QACvB,kBAAa,GAAb,aAAa,CAAO;QACpB,sBAAiB,GAAjB,iBAAiB,CAAO;QACxB,iBAAY,GAAZ,YAAY,CAAsB;QAClC,cAAS,GAAT,SAAS,CAAO;QAChB,mBAAc,GAAd,cAAc,CAAO;QACrB,YAAO,GAAP,OAAO,CAAO;QACd,eAAU,GAAV,UAAU,CAAO;QACjB,sBAAiB,GAAjB,iBAAiB,CAAuB;QACxC,iBAAY,GAAZ,YAAY,CAAkB;QAC9B,eAAU,GAAV,UAAU,CAAa;QACvB,YAAO,GAAP,OAAO,CAAuB;QAC9B,sBAAiB,GAAjB,iBAAiB,CAAO;QACxB,sBAAiB,GAAjB,iBAAiB,CAAO;QACxB,WAAM,GAAN,MAAM,CAAQ;QACd,UAAK,GAAL,KAAK,CAAQ;IAAG,CAAC;IAEjC,IAAI,KAAK;QACL,OAAO,IAAI,CAAC,MAAM,CAAC;IACvB,CAAC;IAED,IAAI,KAAK,CAAC,KAAa;QACnB,IAAI,CAAC,MAAM,GAAG,KAAK,CAAC;IACxB,CAAC;IAED,IAAI,IAAI;QACJ,OAAO,IAAI,CAAC,KAAK,CAAC;IACtB,CAAC;IAED,IAAI,IAAI,CAAC,IAAY;QACjB,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC;IACt

AAC,cAAc,CAAC,CAAC;gBACvD,KAAK,GAAG,qBAAqB,CAAC,cAAc,EAAE,KAAK,CAAC,CAAC;aACtD;SACF;QACD,OAAO,IAAI,CAAC;KACb;IAED,IAAI,KAAK;QACP,OAAO,mBAAmB,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,cAAc,IAAI,CAAC,IAAI,GAAG,CAAC;KACrE;IAED,IAAI,MAAM;QACR,MAAM,KAAK,GAAG,EAAE,CAAC;QAC3B,IAAI,0BAA0B,CAAC,CAAC;QACpC,IAAI,0BAA0B,CAAC,CAAC;QACpC,IAAI,0BAA0B,CAAC,CAAC;QACpC

AAI,oBAAoB,CAAC,oBAAoB,CAAC,IAAI,IAAyB,CAAC;AACpF,MAAM,gBAAgB,GACzB,WAAW,IAAI,oBAAoB,CAAC,kBAAkB,CAAC,IAAI,IAAyB,CAAC;AAClF,MAAM,QAAQ,GACjB,WAAW,IAAI,oBAAoB,CAAC,UAAU,CAAC,IAAI,IAAyB,CAAC;AAC1E,MAAM,QAAQ,GACjB,WAAW,IAAI,oBAAoB,CAAC,UAAU,CAAC,IAAI,IAAyB,CAAC;SAIjE,gBAAgB,CAAC,KAAY;IAC3C,iBAAiB,CAAC,KAAK,EAAE,IAAI,UAAU,CAAC,KAAK,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC;AAClD,iBAAiB,CAAC,SAAS,qBAAqB,CAAC,UAAsB;IAC1E,iBAAiB,CAAC,UAAU,EAAE,IAAI,UAAU,CAAC,KAAK,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;AAACjE,SAAS,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC

S,CAAC,IAAe;IAChC,IAAI,IAAI,CAAC,IAAI,KAAK,kBAAkB,EAAE;QACpC,OAAO,CAAC,IAAI,CAAC,QA
AQ,IAAI,EAAE,EAAE,GAAG,CAAC,SAAS,CAAC,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KACtD;SAAM,I
AAI,IAAI,CAAC,IAAI,KAAK,cAAc,EAAE;QACvC,MAAM,IAAI,KAAK,CAAC,iBAAiB,CAAC,CAAC;KACp
C;SAAM;QACL,OAAO,MAAM,CAAC,IAAI,CAAC,MAAM,EAAE,IAAI,CAAC,IAAI,EAAE,CAAC;KACxC;A
ACH,CAAC;AAED,SAAS,YAAY,CAAC,KAAY,EAAE,KAAY,EAAE,KAAa,EAAE,GAAW;IAC1E,IAAI,OAA
O,GAA6B,EAAE,CAAC;IAC3C,KAAK,IAAI,KAAK,GAAG,KAAK,EAAE,KAAK,GAAG,GAAG,EAAE,KAAK
,EAAE,EAAE;QAC5C,OAAO,CAAC,IAAI,CAAC,EAAC,KAAK,EAAE,KAAK,EAAE,CAAC,EAAE,KAAK,CA
AC,IAAI,CAAC,KAAK,CAAC,EAAE,CAAC,EAAE,KAAK,CAAC,KAAK,CAAC,EAAC,CAAC,CAAC;KACrE;
IACD,OAAO,EAAC,KAAK,EAAE,KAAK,EAAE,GAAG,EAAE,GAAG,EAAE,MAAM,EAAE,GAAG,GAAG,K
AAK,EAAE,OAAO,EAAE,OAAO,EAAC,CAAC;AACzE,CAAC;AAED;;;;;;SAMgB,YAAY,CAAC,KAAkB,EA
AE,KAAY;IAC3D,IAAI,KAAK,EAAE;QACT,MAAM,UAAU,GAAgB,EAAE,CAAC;QACnC,IAAI,WAAW,GA
AgB,KAAK,CAAC;QACrC,OAAO,WAAW,EAAE;YAClB,UAAU,CAAC,IAAI,CAAC,cAAc,CAAC,WAAW,EA
AE,KAAK,CAAC,CAAC;YACpD,WAAW,GAAG,WAAW,CAAC,IAAI,CAAC;SAChC;QACD,OAAO,UAAU,CAAC,OU,CAAC,IAAI,CAAC,MAAM,EAAE,CAAC;KACnC;SAAM;QACL,OAAO,EAAE,CAAC;KACX;AACH,CAAC;AAED,SAAS,cAAc,CAAC,IAAU,EAAE,KAAY;IAC9C,IAAI,IAAI,CAAC,IAAI,KAAK,KAAK,EAAE;QACvB,OAAO,IAAI,CAAC;KACb;SAAM,IAAI,IAAI,CAAC,IAAI,KAAK,KAAK,EAAE;QAC9B,OAAO,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE,CAAC;KAChC;SAAM;QACL,MAAM,IAAI,KAAK,CAAC,iBAAiB,CAAC,CAAC;KACpC

MAAM,CAAC,CAAC;KACrC;IACD,IAAI,IAAI;QACN,OAAO,OAAO,CAAC,IAAI,CAAC,eAAe,CAAC,IAAI,CAAC,CAAC,CAAC;KAC5C;;;aChmBqB,MAAM,OAAO,CAAC,OAAO,CAAC,IAAI,CAAC;AAJnD;;;;AAIA,MAAM,cAAc,GAAG,QAA+B,CAAC;AAEvD;;;;;;;;;SASgB,yBAAyB,CAAC,KAAY,EAAE,KAAY;IAClE,MAAM,kBAAkB,GAAG,CAAC,kBAAkB,CAAC;IAC/C,MAAM,kBAAkB,GAAG,CAAC;IACpD,IAAI,kBAAkB,KAAK,IAAI;QAAE,OAAO;IACxC,IAAI;QACF,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,kBAAkB,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAClD,IAAI,CAAC,GAAG,kBAAkB,CAAC,CAAC,CAAC,CAAC;YAC9B,IAAI,CAAC,KAAK,IAAI,IAAI,CAAC,KAAK,SAAS,EAAE;gBACjC,SAAS;aACV;YACD,IAAI,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC

AAC;QACpB,MAAM,MAAM,GAAG,qBAAqB,EAAE,CAAC;QACvC,KAAK,CAAC,aAAa,GAAG,MAAM,KA
AK,IAAI,GAAG,CAAC,CAAC,GAAG,MAAM,CAAC,aAAa,CAAC;QAClE,SAAS,IAAI,mBAAmB,CAAC,KAA
K,EAAE,KAAK,CAAC,CAAC;QAC/C,SAAS,IAAI,WAAW,CAAC,KAAK,EAAE,KAAK,CAAC,KAAK,EAAE,
sBAAsB,CAAC,CAAC;KACtE;IACD,eAAe,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC;IAC7B,OAAO,KACc,CA
AC;AACxB,CAAC;SAEe,kBAAkB,CAC9B,KAAY,EAAE,KAAa,EAAE,IAAe,EAAE,IAAiB,EAAE,KAAuB;IAC
1F,MAAM,YAAY,GAAG,4BAA4B,EAAE,CAAC;IACpD,MAAM,QAAQ,GAAG,oBAAoB,EAAE,CAAC;IACx
C,MAAM,MAAM,GAAG,QAAQ,GAAG,YAAY,GAAG,YAAY,IAAI,YAAY,CAAC,MAAM,CAAC;;IAE7E,MA
AM,KAAK,GAAG,KAAK,CAAC,IAAI,CAAC,KAAK,CAAC;QAC3B,WAAW,CAAC,KAAK,EAAE,MAAuC,E
AAE,IAAI,EAAE,KAAK,EAAE,IAAI,EAAE,KAAK,CAAC,CAAC;;;;IAI1F,IAAI,KAAK,CAAC,UAAU,KAAK,I
AAI,EAAE;QAC7B,KAAK,CAAC,UAAU,GAAG,KAAK,CAAC;KAC1B;IACD,IAAI,YAAY,KAAK,IAAI,EAA
E;QACzB,IAAI,QAAQ,EAAE;;YAEZ,IAAI,YAAY,CAAC,KAAK,IAAI,IAAI,IAAI,KAAK,CAAC,MAAM,KAA
K,IAAI,EAAE;;gBAEvD,YAAY,CAAC,KAAK,GAAG,KAAK,CAAC;aAC5B;SACF;aAAM;YACL,IAAI,YAAY,
CAAC,IAAI,KAAK,IAAI,EAAE;;;gBAG9B,YAAY,CAAC,IAAI,GAAG,KAAK,CAAC;aAC3B;SACF;KACF;IA
CD,OAAO,KAAK,CAAC;AACf,CAAC;AAGD;;;;;;;;;;SAUgB,YAAY,CACxB,KAAY,EAAE,IAAe,EAAE,IAAe,EAAE,eAA
uB,EAAE,YAAiB;IACxE,IAAI,eAAe,KAAK,CAAC;QAAE,OAAO,CAAC,CAAC,IAAI,CAAC;IACrC,SAAS,EA
AE;QACb,qBAAqB,CAAC,KAAK,CAAC,CAAC;QAC7B,UAAU,CAAC,KAAK,EAAE,KAAK,CAAC,KAAK,C
AAC,EAAE,0CAA0C,CAAC,CAAC;QAC5E,WAAW,CAAC,KAAK,CAAC,IAAI,CAAC,MAAM,EAAE,KAAK,
CAAC,MAAM,EAAE,0CAA0C,CAAC,CAAC;QACzF,WAAW,CAACP,KAAK,CAAC,IAAI,CAAC,MAAM,EAA
E,KAAK,CAAC,SAAS,CAAC,MAAM,EAAE,8CAA8C,CAAC,CAAC;QAC/F,qBAAqB,CAAC,KAAK,CAAC,C
AAC;KAC9B;IACD,MAAM,QAAQ,GAAG,KAAK,CAAC,MAAM,CAAC;IAC9B,KAAK,CAAC,KAAK,EAAE,GAAG,C
AAC,EAAE,CAAC,GAAG,eAAe,CAAC,EAAE,EAAE;QACxC,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,YAAY,
CAAC,CAAC;QACzB,KAAK,CAAC,SAAS,CAAC,IAAI,CAAC,YAAY,CAAC,CAAC;QACnC,KAAK,CAAC,IAAI,
CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;KACvB;IACD,OAAO,QAAQ,CAAC;AAClB,CAAC;AAGD;AACA;AAC
A;AAEA;;;;;;;SAOgB,UAAU,CAAI,KAAY,EAAE,KAAa,EAAE,OAAU;IAClE,SAAS,IAAI,WAAW,CAAC,cA
c,CAAC,KAAK,CAAC,EAAE,IAAI,EAAE,gCAAgC,CAAC,CAAC;IACxF,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC;I
ACjB,IAAI;QACF,MAAM,SAAS,GAAG,KAAK,CAAC,SAAS,CAAC;QAClC,IAAI,SAAS,KAAK,IAAI,EAAE;
YACtB,kBAAkB,iBAAqB,SAAS,EAAE,OAAO,CAAC,CAAC;SAC5D;;;QAID,MAAM,UAAU,GAAG,KAAK,C
AAC,QAAQ,CAAC;QAClC,IAAI,UAAU,KAAK,KAAK,IAAI,EAAE;YACvB,kBAAkB,iBAAqB,UAAU,EAAE
,UAAU,kBAAsB,OAAO,CAAC,CAAC;SACxE;;;;;;QAOD,IAAI,KAAK,CAAC,eAAe,EAAE;YACzB,KAAK,CAAC,
eAAe,GAAG,KAAK,CAAC;SAC/B;;;;QAKD,IAAI,KAAK,CAAC,oBAAoB,EAAE;YAC9B,KAAK,CAAC,oB
AAoB,GAAG,KAAK,CAAC;SACrC;;;;QAKD,IAAI,KAAK,CAAC,iBAAiB,EAAE;YAC3B,KAAK,CAAC,iBAAiB
AqB,KAAK,CAAC,SAAU,EAAE,OAAO,CAAC,CAAC;SACnE;;QAGD,MAAM,UAAU,GAAG,KAAK,CAAC,
UAAU,CAAC;QACpC,IAAI,UAAU,KAAK,KAAK,IAAI,EAAE;YACvB,kBAAkB,iBAAqB,UAAU,EAAE,UAAU,CAAC,
CAAC;SAC1C;;;;QAKD,IAAI,KAAK,CAAC,eAAe,EAAE;YACzB,KAAK,CAAC,eAAe,GAAG,KAAK,CAAC;SAC
AC,mBAAmB,GAAG,IAAI,CAAC;SAClC;QAED,MAAM,KAAK,GAAG,KAAK,CAAC;QACpB,KAAK,CAAC,KAAK,EAAE,GAAG,C
AAK,CAAC,IAAI,sBAAyB;QACzC,SAAS,EAAE,OAAO,CAAC,CAAC;KACrB;IACD,IAAI,KAAK,CAAC,KAAK,EAAE,
CvB,KAAY,EAAE,KAAa,EAAE,UAAsC,EAAE,OAAU;IAChF,SAAS,IAAI,WAAW,CAAC,cAAc,CAAC,KAAK,CAAC,cAAc,CAAC,KAA
K,CAAC,EAAE,KAAK,EAAE,8BAA8B,CAAC,CAAC;IACvF,MAAM,KAAK,GAAG,KAAK,CAAC,KAAK,CAAC,
AC,CAAC;IAC3B,IAAI,CAAC,KAAK;QAAE,OAAO;IACnB,KAAK,CAAC,KAAK,EAAE,GAAG,CAAC,EAAE,EAAE,KAAK,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACxC,MAAM,IAAI,GAAG,KAAK,CAAC,CAAC,CAAC;QACrB,IAAI,CAAC,IAAI,CAAC,IAAI,KAAK,IAAI,EAAE;YACvB,IAAI,CAAC,IAAI,GAAG,KAAK,CAAC;SACnB;QACD

KAAK,CAAC,cAAc,KAAK,IAAI,EAAE;YACjC,qBAAqB,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;SACrC;;;
QAID,IAAI,CAAC,sBAAsB,EAAE;YAC3B,IAAI,uBAAuB,EAAE;gBAC3B,MAAM,iBAAiB,GAAG,KAAK,CA
AC,iBAAiB,CAAC;gBAClD,IAAI,iBAAiB,KAAK,IAAI,EAAE;oBAC9B,iBAAiB,CAAC,KAAK,EAAE,iBAAiB,
CAAC,CAAC;iBAC7C;aACF;iBAAM;gBACL,MAAM,YAAY,GAAG,KAAK,CAAC,YAAY,CAAC;gBACxC,IA
AI,YAAY,KAAK,IAAI,EAAE;oBACzB,wBAAwB,CACpB,KAAK,EAAE,YAAY,uCAA8C,CAAC;iBACvE;gBA
CD,uBAAuB,CAAC,KAAK,uCAA8C,CAAC;aAC7E;SACF;QAED,yBAAyB,CAAC,KAAK,EAAE,KAAK,CAA
C,CAAC;;QAGxC,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;QACpC,IAAI,UAAU,KAAK,IAAI,EAAE
E;YACvB,sBAAsB,CAAC,KAAK,EAAE,UAAU,CAAC,CAAC;SAC3C;;;;QAKD,MAAM,SAAS,GAAG,KAAK,
CAAC,SAAS,CAAC;QAClC,IAAI,SAAS,KAAK,IAAI,EAAE;YACtB,kBAAkB,CAAC,KAAK,EAAE,SAAS,eAAe,KAAK,I
AAI,EAAE;;;;;;;YAOlC,KAAK,CAAC,eAAe,GAAG,KAAK,CAAC;SAC/B;;;;;;;QAQD,IAAI,CAAC,sBAAsB,EA
AE;YAC3B,KAAK,CAAC,KAAK,CAAC,IAAI,EAAE,wCA6C,CAAC;SACjE;QACD,IAAI,KAAK,CAAC,KA
AK,CAAC,uCAAuC;YACrD,KAAK,CAAC,KAAK,CAAC,IAAI,oCAAoC;YACpD,2BAA2B,CAAC,KAAK,CA
AC,MAAM,CAAe,EAAE,CAAC,CAAC,CAAC,CAAC;SAC9D;KACF;YAAS;QACR,SAAS,EAAE,CAAC,KAAK,CAAC;KACb
;AACH,CAAC;SAEe,yBAAyB,CACrC,KAAY,EAAE,KAAY,EAAE,UAAsC,EAAE,OAAU;IAChF,MAAM,eAA
e,GAAG,KAAK,CAAC,gBAAgB,CAAC,CAAC;IAChD,MAAM,mBAAmB,GAAG,CAAC,sBAAsB,EAAE,CAA
C;IACtD,MAAM,oBAAoB,GAAG,cAAc,CAAC,KAAK,CAAC,CAAC;IACnD,IAAI;QACF,IAAI,mBAAmB,IAAI
,CAAC,oBAAoB,IAAI,eAAe;YACzE,KAAK,CAAC,KAAK,EAAE;YACb,KAAK,CAAC,KAAK,EAAE,SAAS,CAAC;SACzB;QACD,IAAI,oBAAoB,IAAI,
WAAW,CAAC,KAAK,EAAE,KAAK,EAAE,UAAU,EAAE,OAAO,CAAC,CAAC;KAChD;YAAS;QACR,IAAI,m
BAAmB,IAAI,CAAC,oBAAoB,IAAI,eAAe,CAAC,GAAG,EAAE;YACvE,KAAK,CAAC,GAAG,EAAE,CAAC;SA
CvB;KACF;AACH,CAAC;AAED,SAAS,eAAe,CACpB,KAAY,EAAE,KAAY,EAAE,UAAgC,EAAE,EAAE,EAAe,
EAAE,OAAU;IAC3F,MAAM,iBAAiB,GAAG,gBAAgB,EAAE,CAAC;IAC7C,IAAI;QACF,gBAAgB,CAAC,CAAC,CAAC,
CAAC,CAAC;QACrB,IAAI,EAAE,qBAAqB,KAAK,CAAC,MAAM,GAAG,aAAa,EAAE;;;YAG3D,mBAA
mB,CAAC,KAAK,EAAE,KAAK,EAAE,aAAa,EAAE,sBAAsB,EAAE,CAAC,CAAC;SAC5E;QACD,UAAU,CA
AC,EAAE,EAAE,OAAO,CAAC,CAAC;KACzB;YAAS;QACR,gBAAgB,CAAC,iBAAiB,CAAC,CAAC;KACrC;
AACH,CAAC;AAED;AACA;AACA;SAEgB,qBAAqB,CAAC,KAAY,EAAE,KAAY,EAAE,KAAY;IAC5E,IAAI,
kBAAkB,CAAC,KAAK,EAAE;QAC7B,MAAM,KAAK,GAAG,KAAK,CAAC,cAAc,CAAC,KAAK,CAAC,CAAC;QACnC,M
AAM,GAAG,KAAK,CAAC,YAAY,CAAC,KAAK,CAAC,CAAC;QAC3C,IAAI,KAAK,KAAK,IAAI,IAAI,cAAc,CAAC,KAAK,EAAE,cAAc,CAAC,KAAK,CAAC,EAAE,
EAAE,OAAO,CAAC,CAAC,CAAC,CAAC;KACzE;IAED,IAAI,MAAM,KAAK,IAAI,IAAI,cAAc,CAAC,KAAK,EAAE,cAAc,CAAC,MAAM,CAAC,EAAE,EAAE,OAAO,CAAC,CAAC,CAAC,CAAC;KAC1E;AACH,CAAC;AAED,SAAS,cAAc,CAAC,KAAY,EAAE,KAAY,EAAE,KAAY,EAAE,EAAU,EAAE,OAAU;IACtF,MAAM,KAAK,GAAG,KAAK,CAAC,KAAK,CAAC,CAAC;IAC3B,IAAI,KAAK,KAAK,IAAI,EAAE;QAClB,KAAK,CAAC,KAAK,EAAE,CAAC;QACd,KAAK,CAAC,KAAK,EAAE,EAAE,EAAE,OAAO,CAAC,CAAC;KAC3B;AACH,CAAC;AAED,SAAS,kBAAkB,CAAC,KAAY,EAAE,KAAY,EAAE,KAAY;IAClE,IAAI,KAAK,KAAK,IAAI,EAAE;QAClB,KAAK,CAAC,KAAK,EAAE,CAAC;QACd,KAAK,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;KACrB

KAAK,GAAG,WAAW,oBACE,SAAS,EAAE,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,KAAK,EAAE,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,aAAa,EACpF,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,SAAS,EAAE,GAAG,CAAC,OAAO,EAAE,GAAG,CAAC,MAAM,CAAC,CAAC;KAClE;IAED,OAAO,KAAK,CAAC;AACf,CAAC;AAGD;;;;;;;;;;;;;SAagB,WAAW,CACvB,IAAIe,EAAE,SAAqB,EAAE,UAAuC,EAAE,KAAa,EAC9F,IAAAY,EAAE,UAA0C,EAAE,KAAgC,EAAE,SAAwC,EAAE,OAA8B,EACxE,eAAAyC;IAC3C,SAAS,IAAI,SAAS,CAAC,CAAC,KAAK,EAAE,CAAC;IAC/B,MAAM,iBAAiB,GAAG,aAAa,GAAG,KAAK,CAAC;;;;IAIhD,MAAM,iBAAiB,GAAG,iBAAiB,GAAG,IAAI,CAAC;IACnD,MAAM,SAAS,GAAG,mBAAmB,CAAC,iBAAiB,EAAE,iBAAiB,CAAC,CAAC;IAC5E,MAAM,MAAM,GAAG,OAAO,eAAe,eAAe,GAAG,eAAe,EAAE,GAAG,eAAe,CAAC;IAC3F,MAAM,KAAK,GAAG,SAAS,GAAG,KAAK,GAAG,SAAS;QAC7C,IAAI,gBAAgB,CAAC,SAAS,EAAE,KAAK,CAAC;QACtC,IAAI,SAAS,EAAE,KAAK,CAAC;QACrB,IAAI,KAAK,EAAE,SAAS,CAAC;QACrB,IAAI,SAAS,EAAE,KAAK,CAAC;QACrB,IAAI,KAAK,EAAE,SAAS,CAAC,gBAAgB,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC,IAAI,CAAC,IAAI,EAAE,iBAAiB,CAAC,CAAC;QACvF,IAAI,SAAS,EAAE,KAAK,CAAC;QACrB,IAAI,KAAK,EAAE,SAAS

AAK,EAAE,CAAC;IAC/B,SAAS,IAAI,OAAO,IAAI,mBAAmB,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC;IAC
5D,IAAI,aAAa,GAAG,OAAO,GAAG,OAAO,CAAC,aAAa,GAAG,CAAC,CAAC,CAAC;IACzD,MAAM,KAAK,
GAAG,SAAS;QACnB,IAAI,UAAU,CACV,KAAK;QACL,IAAI;QACJ,KAAK;QACL,IAAI;QACJ,aAAa;QACb,C
AAC,CAAC;QACF,CAAC,CAAC;QACF,CAAC,CAAC;QACF,IAAI;QACJ,CAAC;QACD,CAAC;QACD,KAAK
;QACL,KAAK;QACL,IAAI;QACJ,IAAI;QACJ,SAAS;QACT,IAAI;QACJ,IAAI;QACJ,IAAI;QACJ,IAAI;QACJ,I
AAI;QACJ,IAAI;QACJ,OAAO;QACP,IAAI;QACJ,IAAI;QACJ,IAAI;QACJ,SAAS;QACT,IAAI;QACJ,IAAI;QA
CJ,SAAS;QACT,CAAQ;QACR,CAAQ,CACP;QACL;YACE,IAAI;YACJ,KAAK;YACL,iBAAiB,EAAE,IAAI;Y
ACvB,aAAa;YACb,cAAc,EAAE,CAAC,CAAC;YAClB,YAAY,EAAE,CAAC,CAAC;YAChB,oBAAoB,EAAE,C
AAC,CAAC;YACxB,gBAAgB,EAAE,IAAI;YACtB,KAAK,EAAE,CAAC;YACR,eAAe,EAAE,CAAC;YAClB,K
AAK,EAAE,KAAK;YACZ,KAAK,EAAE,KAAK;YACZ,WAAW,EAAE,IAAI;YACjB,UAAU,EAAE,IAAI;YAC
hB,aAAa,EAAE,SAAS;YACxB,MAAM,EAAE,IAAI;YACZ,OAAO,EAAE,IAAI;YACb,MAAM,EAAE,IAAI;YA
CZ,IAAI,EAAE,IAAI;YACV,cAAc,EAAE,IAAI;YACpB,KAAK,EAAE,IAAI;YACX,MAAM,EAAE,OAAO;YA
Cf,UAAU,EAAE,IAAI;YAChB,MAAM,EAAE,IAAI;YACZ,iBAAiB,EAAE,IAAI;YACvB,cAAc,EAAE,SAAS;Y
ACzB,OAAO,EAAE,IAAI;YACb,kBAAkB,EAAE,IAAI;YACxB,eAAe,EAAE,SAAS;YAC1B,aAAa,EAAE,CAA
Q;YACvB,aAAa,EAAE,CAAQ;SACxB,CAAC;IACN,IAAI,SAAS,EAAE;;;;QAIb,MAAM,CAAC,IAAI,CAAC,K
AAK,CAAC,CAAC;KACpB;IACD,OAAO,KAAK,CAAC;AACf,CAAC;AAGD,SAAS,uBAAuB,CAC5B,aA
EAE,eAAuB,EACtE,SAA+B;IACjC,KAAK,IAAI,UAAU,IAAI,aAAa,EAAE;QACpC,IAAI,aAAa,CAAC,cAAc,
CAAC,UAAU,CAAC,EAAE;YAC5C,SAAS,GAAG,SAAS,KAAK,IAAI,GAAG,EAAE,GAAG,SAAS,CAAC;YA
ChD,MAAM,YAAY,GAAG,aAAa,CAAC,UAAU,CAAC,CAAC;YAE/C,IAAI,SAAS,CAAC,cAAc,CAAC,UAAU
,CAAC,EAAE;gBACxC,SAAS,CAAC,UAAU,CAAC,CAAC,IAAI,CAAC,eAAe,EAAE,YAAY,CAAC,CAAC;aA
C3D;iBAAM;gBACL,SAAS,CAAC,UAAU,CAAC,GAAG,CAAC,eAAe,EAAE,YAAY,CAAC,EAAE;aAC
3D;SACF;KACF;IACD,OAAO,SAAS,CAAC;AACnB;;;;AAIA,SAAS,+BAA+B,CAAC,KAAY,EAAE,KAAY,
EAAE,KAAY;IACjE,SAAS,IAAI,qBAAqB,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CA
AC,cAAc,CAAC;IACnC,MAAM,GAAG,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,
CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,CAAC

AAC,IAAI,EAAE,SAAS,EAAE,KAAK,CAAC,CAAC;SACtE;KACF;SAAM,IAAI,KAAK,CAAC,IAAI,qBAAuB;QAC1C,QAAQ,GAAG,WAAW,CAAC,QAAQ,CAAC,CAAC;QAEjC,IAAI,SAAS,EAAE;YACb,8BAA8B,CAAC,QAAQ,CAAC,CAAC;YACzC,IAAI,CAAC,gBAAgB,CAAC,KAAK,EAAE,OAAO,EAAE,QAAQ,EAAE,KAAK,CAAC,EAAE;;gBAEtD,uBAAuB,CAAC,QAAQ,EAAE,KAAK,CAAC,CAAC;gBACzC,OAAO;aACR;YACD,SAAS,CAAC,mBAAmB,EAAE,CAAC;SACjC;;;QAID,KAAK,GAAG,SAAS,IAAI,IAAI,GAAG,SAAS,CAAC,KAAK,EAAE,KAAK,CAAC,EAAE,KAAK,CAAC,KAAK,CAAC,KAAK,IAAI,EAAE,EAAE,QAAQ,CAAS,GAAG,KAAK,IAAI,oBAAoB,CAAC,QAAQ,CAAC,EAAE;YACzI,YAAY,CAAC,QAAQ,CAAC,WAAW,CAAC,OAAmB,EAAE,QAAQ,EAAE,KAAK,CAAC,CAAC,EAAE,KAAK,CAAC,CAAC;SAC5E,5D;aAAM,IAAI,CAAC,eAAe,CAAC,OAAO,oBAAoB,CAAC,WAAW,GAAI,OAAe,CAAC,WAAW,CAAC,QAAQ,EAAE,KAAK,CAAC,gBAAC5C,OAAO,CAAC,QAAQ,CAAC,EAAE,KAAK,CAAC,CAAC;SACxH

EAAE,KAAK,CAAC,CAAC;IAClD,IAAI,MAAM,EAAE;QACV,eAAe,CAAC,MAAM,EAAE,KAAK,CAAC,CAAC;KAChC;IACD,OAAO,SAAS,CAAC;AACnB,CAAC;AAED;;;SAGgB,iBAAiB,CAC7B,KAAY,,EAAE,KAAY,,EAAE,KAAwD,,EACpF,SAAwB;;;IAG1B,SAAS,IAAI,qBAAqB,CAAC,KAAK,CAAC,CAAC;IAE1C,IAAI,aAAa,,GAAG,KAAK,CAAC,CAAC;IAC3B,IAAI,kBAAkB,,EAAE,EAAE;QACxB,MAAM,aAAa,,GAA6B,uBAAuB,CAAC,KAAK,,EAAE,KAAK,,EAAE,KAAK,CAAC,CAAC;QAC7F,MAAM,UAAU,,GAAmC,SAAS,,KAAK,,IAAI,,GAAG,EAAE,EAAE,EAAE,CAAC,CAAC,CAAC;QAExF,IAAI,aAAa,,KAAK,EAAE,EAAE,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC;QAEhC,YAAY,CAAC,IAAI,EAAE,aAAa,EAAE,IAAI,EAAE,UAAU,CAAC;QAEnD,IAAI,CAAC,aAAa,EAAE,CAAC;YACnB,YAAY,CAAC,IAAI,EAAE,aAAa,EAAE,IAAI,EAAE,UAAU,CAAC;QACrD,CAAC;IACH,CAAC;IAED,IAAI,CAAC,aAAa,EAAE,CAAC;QACnB,aAAa,GAAG,IAAI,CAAC,KAAK,CAAC,CAAC;IAC9B,CAAC;IAED,IAAI,CAAC,aAAa,EAAE,CAAC;QACnB,MAAM,IAAI,KAAK,CAAC,CAAC,CAAC;IACpB,CAAC;IAED,OAAO,aAAa,CAAC;AACvB,CAAC;AAED;;;

EAAE,KAAK,EAAE,CAAC,EAAE,KAAK,CAAC,CAAC;QAC5D,eAAe,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QAElC,IAAI,aAAa,KAAK,IAAI,EAAE;YAC1B,kBAAkB,CAAC,KAAK,EAAE,CAAC,GAAG,KAAK,EAAE,SAAS,EAAE,GAAG,EAAE,KAAK,EAAE,aAAc,CAAC,CAAC;SAC7E;QAED,IAAI,WAAW,EAAE;YACf,MAAM,aAAa,GAAG,wBAAwB,CAAC,KAAK,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;YACnE,aAAa,CAAC,OAAO,CAAC,GAAG,SAAS,CAAC;SACpC;KACF;AACH,CAAC;AAED,SAAS,4BAA4B,CAAC,KAAY,EAAE,KAAY,EAAE,KAAY;IAC5E,MAAM,KAAK,GAAG,GAAG,EAAE,CAAC,CAAC,cAAc,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAClD,MAAM,KAAK,GAAG,GAAG,EAAE,CAAC,CAAC,cAAc,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAClD,OAAO,KAAK,IAAI,KAAK,CAAC;AACxB,CAAC;AAED,SAAS,cAAc,CAAC,KAAY,EAAE,KAAY;IAChD,IAAI,KAAK,CAAC,MAAM,KAAK,KAAK,CAAC,MAAM,EAAE;QACjC,OAAO,KAAK,CAAC;KACd;IAED,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,KAAK,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACrC,IAAI,KAAK,CAAC,CAAC,CAAC,KAAK,KAAK,CAAC,CAAC,CAAC,EAAE;YACzB,OAAO,KAAK,CAAC;SACd;KACF;IAED,OAAO,IAAI,CAAC;AACd

AAY,EAAE,cAAsB,EAAE,GAAoB;IACxF,SAAS;QACL,wBAAwB,CAAC,cAAc,EAAE,aAAa,EAAE,4BAA4B,CAAC,CAAC;IAC1F,KAAK,CAAC,IAAI,CAAC,cAAc,CAAC,GAAG,GAAG,CAAC;IACjC,MAAM,gBAAgB,GAAClB,GAAG,CAAC,OAAO,KAAM,GAA2B,CAAC,OAAO,GAAG,aAAa,CAAC,GAAG,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;IAC1F,MAAM,mBAAmB,GAAG,IAAI,mBAAmB,CAAC,gBAAgB,EAAE,cAAc,CAAC,GAAG,CAAC,EAAE,IAAI,CAAC,CAAC,GAAG,CAAC,EAAE,IAAI,CAAC,CAAC;IACjG,KAAK,CAAC,IAAI,CAAC,KAAK,CAAC,SAAS,CAAC,cAAc,CAAC,cAAc,CAAC,GAAG,CAAC,EAAE,IAAI,CAAC,CAAC,CAAC;IAC5E

BAAgB,CAC5B,UAAmC,EAAE,WAAkB,EAAE,MAAgB,EACzE,KAAY;IACd,SAAS,IAAI,WAAW,CAAC,WAAW,CAAC,CAAC;IACtC,SAAS,IAAI,CAAC,oBAAoB,CAAC,WAAW,CAAC,QAAQ,CAAC,CAAC,IAAI,aAAa,CAAC,MAAM,CAAC,CAAC;;IAEnF,MAAM,UAAU,GAAe,KAAK,SAAS,GAAG,eAAe,GAAG,KAAK,EAC nE,UAAU;IACV,IAAI;IACJ,KAAK;IACL,WAAW;IACX,IAAI;IACJ,CAAC;IACD,KAAK;IACL,MAAM;IACN,IAAI;IACJ,IAAI,CACP,CAAC;IACF,SAAS;QACL,WAAW,CACP,UAAU,CAAC,MAAM,EAAE,uBAAuB,EAC1C,gEAAgE,CAAC,CAAC;IAC1E,SAAS,IAAI,qBAAqB,CAAC,UAAU,CAAC,CAAC;IAC/C,CAAC;IAAO,UAAU,CAAC;AACpB,CAAC;AAED;;;;AAIA,SAAS,oBAAoB,CAAC,KAAY;IACxC,KAAK,IAAI,UAAU,GAAG,iBAAiB,CAAC,UAAU,CAAC,CAAC,EAAE;QAC/C,IAAI,CAAC,KAAK,IAAI,UAAU,GAAG,uBAAuB,CAAC,EAAE,CAAC,CAAC,EAAE,EAAE,EAAE;YACzD,MAAM,aAAa,GAAG,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;YACrC,MAAM,aAAa,GAAG,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;YACrC,MAAM,aAAa,GAAG,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;YACrC,MAAM,aAAa,GAAG,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;YACrC,IAAI,aAAa,KAAK,aAAa,IAAI,aAAa,KAAK,aAAa,IAAI,aAAa,KAAK,aAAa,EAAE;gBAC1G,OAAO,IAAI,CAAC;aACf;SACJ;KACJ;IACD,OAAO,KAAK,CAAC;AACjB,CAAC;AAED,SAAS,mBAAmB,CAAC,KAAY;IACr

H,CAAC;AAED;;;;;;;;;;SAWgB,aAAa,CAA6B,KAAY,EAAE,iBAAoB;;;;;IAK1F,IAAI,KAAK,CAAC,UAAU,CA
AC,EAAE;QACrB,KAAK,CAAC,UAAU,CAAE,CAAC,IAAI,CAAC,GAAG,iBAAiB,CAAC;KAC9C;SAAM;QA
CL,KAAK,CAAC,UAAU,CAAC,GAAG,iBAAiB,CAAC;KACvC;IACD,KAAK,CAAC,UAAU,CAAC,GAAG,iB
AAiB,CAAC;IACtC,OAAO,iBAAiB,CAAC;AAC3B,CAAC;AAED;AACA;AACA;AAGA;;;;;;;;;;SAWgB,aAAa,
CAAC,KAAY;IACxC,OAAO,KAAK,EAAE;QACZ,KAAK,CAAC,KAAK,CAAC,mBAAqB;QACjC,MAAM,MA
AM,GAAG,cAAc,CAAC,KAAK,CAAC,CAAC;;QAErC,IAAI,UAAU,CAAC,KAAK,CAAC,IAAI,CAAC,MAAM
,EAAE;YAChC,OAAO,KAAK,CAAC;SACd;;QAED,KAAK,GAAG,MAAO,CAAC;KACjB;IACD,OAAO,IAAI,
CAAC;AACd,CAAC;AAGD;;;;;;;;;;SAWgB,YAAY,CAAC,WAAwB,EAAE,KAAuB;IAC5E,MAAM,gBAAgB,G
AAG,WAAW,CAAC,KAAK,mBAA4B;IACtE,IAAI,gBAAgB,IAAI,WAAW,CAAC,KAAK,IAAI,cAAc,EAAE;;;
QAG3D,WAAW,CAAC,KAAK,IAAI,KAAK,CAAC;QAC3B,IAAI,GAA+B,CAAC;QACpC,WAAW,CAAC,KA
AK,GAAG,IAAI,OAAO,CAAO,CAAC,CAAC,KAAK,GAAG,GAAG,CAAC,CAAC,CAAC;QACtD,WAAW,CA
AC,SAAS,CAAC;YACpB,IAAI,WAAW,CAAC,KAAK,0BAAmC;gBACtD,WAAW,CAAC,KAAK,IAAI,uBAAg
C;gBACrD,eAAe,CAAC,WAAW,CAAC,CAAC;aAC9B;YAED,IAAI,WAAW,CAAC,KAAK,yBAAkC;gBACrD,
WAAW,CAAC,KAAK,IAAI,sBA+B;gBACpD,MAAM,aAAa,GAAG,WAAW,CAAC,aAAa,CAAC;gBAChD,IA
AI,aAAa,EAAE;oBACjB,aAAa,CAAC,YAAY,EAAE,CAAC;iBAC9B;aACF;YAED,WAAW,CAAC,KAAK,GAAG
G,cAAc,CAAC;YACnC,GAAI,CAAC,IAAI,CAAC,CAAC,CAAC;SACZ,CAAC,CAAC;KACJ;AACH,CAAC;SAEe,eAA
e,CAAC,WAAwB,EAAE,KAAuB;IACtD,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,WAAW,CAAC,UAAU,CAA
C,MAAM,EAAE,CAAC,EAAE,EAAE;QACtD,IAAI,MAAM,aAAa,GAAG,WAAW,CAAC,UAAU,CAAC,CAAC,CAAC,CAA
C,CAAC;QAChD,MAAM,KAAK,GAAG,gBAAgB,CAAC,aAAa,CAAE,CAAC,MAAM,KAAK,GAAG,KAAK,CAAC,CAAC,
QAAQ,EAAE,aAAa,CAAC,CAAC;KACxE;AACH,CAAC;SAEe,eAAe,CAAC,qBAAqB,CAAI,EAAE,KAAY,EAAE,IAAU;I
AC7E,MAAM,eAAe,GAAG,CAAC,gBAAgB,CAAC,CAAC;IAChD,eAAe,CAAC,KAAK;QAAE,eAAe,CAAC,KAAK;QAAE,eA
Ae,CAAC,KAAK,EAAE,CAAC;IACnD,IAAI;QACF,WAAW,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC
,QAAQ,EAAE,OAAO,CAAC,CAAC;KACpD;IAAC,OAAO,KAAK,EAAE;QACd,WAAW,CAAC,KAAK,EAAE,
KAAK,CAAC,CAAC;QAC1B,MAAM,KAAK,GAAG,YAAS;QACvB,eAAe,CAAC,KAAK,GAAG,eAAe,CAAC,KAAK,CAAC;KACjD;AACH,CAAC;SAEe,eAAe,CAAC,qBAAqB,CAAI,EAAE,KAAY,EAAE,IAAU;I
AChD,IAAI;QACF,WAAW,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC
,QAAQ,EAAE,OAAO,CAAC,CAAC;KACpD;IAAC,OAAO,KAAK,EAAE;QACd,WAAW,CAAC,KAAK,EAAE,
KAAK,CAAC,CAAC;QAC1B,MAAM,KAAK,GAAG,YAAS;QACvB,eAAe,CAAC,KAAK,GAAG,eAAe,CAAC,KAAK,CAAC;KACjD;AACH,CAAC;SAEe,eAAe,CAAC,qBAAqB,CAAI,EAAE,KAAY,EAAE,IAAU;I
AC7E,MAAM,eAAe,GAAG,CAAC,gBAAgB,CAAC,CAAC;IAChD,eAAe,CAAC,KAAK;QAAE,eAAe,CAAC,KAAK;QAAE,eA
Ae,CAAC,KAAK,EAAE,CAAC;IACn

AAQ,GAAG,KAAK,CAAC,QAAQ,CAAC,CAAC;IACjC,MAAM,YAAY,GAAG,QAAQ,GAAG,QAAQ,CAAC,G
AAG,CAAC,YAAY,EAAE,IAAI,CAAC,GAAG,IAAI,CAAC;IACxE,YAAY,IAAI,YAAY,CAAC,WAAW,CAAC,
KAAK,CAAC,CAAC;AAClD,CAAC;AAED;;;;;;;;;SASgB,oBAAoB,CAChC,KAAY,EAAE,KAAY,EAAE,MA0
B,EAAE,UAAkB,EAAE,KAAU;IACxF,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC
,MAAM,GAAG;QAClC,MAAM,KAAK,GAAG,MAAM,CAAC,CAAC,EAAE,CAAW,CAAC;QACpC,MAAM,W
AAW,GAAG,MAAM,CAAC,CAAC,EAAE,CAAW,CAAC;QAC1C,MAAM,QAAQ,GAAG,KAAK,CAAC,KA
K,CAAC,CAAC;QAC9B,SAAS,IAAI,kBAAkB,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;QAC9C,MAAM,GA
AG,GAAG,KAAK,CAAC,IAAI,CAAC,KAAK,CAAsB,CAAC;QACnD,IAAI,GAAG,GAAG,CAAC,QAAQ,KAAK,IAAI,
EAAE;YACzB,GAAG,CAAC,QAAS,CAAC,QAAQ,EAAE,KAAK,EAAE,UAAU,EAAE,WAAW,CAAC,CAAC;
SACzD;aAAM;YACL,QAAQ,CAAC,WAAW,CAAC,GAAG,KAAK,CAAC;SAC/B;KACF;AACH,CAAC;AAED
;;;SAGgB,mBAAmB,CAAC,KAAY,EAAE,KAAa;IAC5E,KAAK,IAAI,YAAY,CAAC,KAAK,,EAAE
,0BAA0B,CAAC,CAAC;IAC7D,SAAS,IAAI,aAAa,CAAC,KAAK,,EAAE,SAAgB,EAAE,+BAA+B,CAAC,CAAC
;IACrF,SAAS,IAAI,kBAAkB,CAAC,KAAK,,EAAE,KAAK,,CAAC,CAAC;IAC9C,MAAM,OAAO,GAAG,gBAAg
B,CAAC,KAAK,,EAAE,KAAK,,CAAiB,CAAC;IAC/D,SAAS,IAAI,aAAa,,CAAC,OAAO,,EAAE,6BAA6B,CAAC,
CAAC;IACnE,cAAc,CAAC,KAAK,,CAAC,QAAQ,,CAAC,EAAE,OAAO,,EAAE,KAAK,,CAAC,CAAC;AAClD;;AC7hEA;;;;;;;AAaA;;;;;;;;;;SAWgB,oBAAoB,CAChC,KAAY,EAAE,KAAuB,EAAE,WAAoB;IAC7D,SAAS;QACL,qBAAqB,,CAAC,QAAQ,,EAAE,EAAE,oDAAoD,,CAAC,CAAC;IAC5F,IAAI,MAAM,,GAAgB,KAAK,,CAAC,KAAK,,CAAC,MAAM,,CAAC,GAAG,KAAK,,CAAC,KAAK,,CAAC,CAAC;IAC5D,IAAI,OAAO,,GAAG,KAAK,,CAAC,KAAK,,CAAC,MAAM,,GAAG,CAAC,CAAC;IAC5C,IAAI,MAAM,,GAAG,KAAK,,CAAC,KAAK,,CAAC,MAAM,,GAAG,CAAC,CAAC;IAC3

AC;MAEY,UAAU;IAkCrB,YACI,GAAsB,EAAE,mBAA0C,EAAW,MAAgB,EAC7F,SAAsB,IAAI;QADmD,WAAM,GAAN,MAAM,CAAU;;;;;;QA7BzF,YAAO,GAAG,IAAI,GAAG,EAAmD,CAAC;;;;QAKrE,qBAAgB,GAAG,IAAI,GAAG,EAAqB,CAAC;;;;QAKhD,cAAS,GAAG,IAAI,GAAG,EAAa,CAAC;QAgBjC,eAAU,GAAG,IAAI,GAAG,CAAC;QAKzB,MAAM,UAAU,GAAwB,EAAE,CAAC;;;;QAK3C,mBAAmB;YACf,mBAAmB;gBACf,mBAAmB;oBACf,mBAAmB,EACnB,QAAQ,IAAI,IAAI,CAAC,eAAe,CAAC,QAAQ,EAAE,GAAG,EAAE,mBAAmB,CAAC,CAAC,CAAC;QAE9E,WAAW,CAAC,CAAC,GAAG,CAAC,EAAE,IAAI,IAAI,CAAC,mBAAmB,CAAC,WAAW,EAAE,EAAE,EAAE,EAAE,UAAU,CAAC,CAAC,CAAC;;QAGzF,IAAI,CAAC,OAAO,CAAC,GAAG,EAAE,CAAC,EAAE,UAAU,EAAE,UAAU,EAAE,UAAU,CAAC,SAAS,EAAE,EAAE,IAAI,CAAC,CAAC,CAAC;;;QAI7E,IAAI,MAAM,MAAM,GAAG,EAAE,CAAC,OAAO,CAAC,GAAG,EAAE,CAAC,EAAE,UAAU,EAAE,UAAU,EAAE,UAAU,CAAC,SAAS,EAAE,EAAE,IAAI,CAAC,CAAC,CAAC;;QAGzF,IAAI

;SAChC;;QAGD,IAAI,GAAG,IAAI,IAAI,EAAE;YACf,OAAO,KAAK,CAAC;SACd;;;QAKD,IAAI,GAAG,CAAA
C,OAAO,IAAI,IAAI,IAAI,CAAC,WAAW,EAAE;;;YAGvC,SAAS,IAAI,OAAO,CAAC,IAAI,CAAC,OAAO,CAA
C,CAAC;;YAEnC,UAAU,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;YAEzB,IAAI,wBAAsE,CAAC;YAC3E,IAA
I;gBACF,WAAW,CAAC,GAAG,CAAC,OAAO,EAAE,QAAQ;oBAC/B,IAAI,IAAI,CAAC,mBAAmB,CAAC,QA
AQ,EAAE,OAAO,EAAE,UAAU,CAAC,EAAE;wBAC3D,IAAI,wBAAwB,KAAK,SAAS;4BAAE,wBAAwB,GA
AG,EAAE,CAAC;;;wBAG1E,wBAAwB,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;qBACzC;iBACF,CAAC,CAA
C;aACJ;oBAAS;;gBAER,SAAS,IAAI,OAAO,CAAC,GAAG,EAAE,CAAC;aAC5B;;;;YAKD,IAAI,wBAAwB,KA
AK,SAAS,EAAE;gBAC1C,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,wBAAwB,CAAC,MAAM,E
AAE,CAAC,EAAE,EAAE;oBACxD,MAAM,EAAC,QAAQ,EAAE,SAAS,EAAC,GAAG,wBAAwB,CAAC,CAA
C,CAAC,CAAC;oBAC1D,WAAW,CACP,SAAU,EACV,IAAI,IAAI,CAAC,eAAe,CAAC,QAAQ,EAAE,Q
AAQ,EAAE,SAAS,IAAIC,aAAW,CAAC,CAAC,CAAC;iBACrF;aACF;;;QAGD,IAAI,CAAC,gBAAgB,C
AAC,GAAG,CAAC,OAAO,CAAC,CAAC;QACnC,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,OAAO,EAAE,UA
AU,CAAC,GAAG,CAAC,OAAO,EAAE,OAAO,CAAC,CAAC,CAAC;;QAG5D,MAAM,YAAY,GAAG,GAAG,C
AAC,SAAS,CAAC;QACnC,IAAI,YAAY,IAAI,IAAI,IAAI,CAAC,WAAW,EAAE;YACxC,MAAM,YAAY,GA
AG,eAAoC,CAAC;YAC1D,WAAW,CACP,YAAY,EAAE,QAAQ,IAAI,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,QAAQ,EAAE,Y
AAY,EAAE,YAAY,CAAC,CAAC,CAAC;SAC3F;QAED,QACI,QAAK,KAAK,SAAS;YAACrB,aAAW,CAAC,SAAS,EAAE;;;IAKO,eAAe,CAAC,QAAQ,EAAE,SAAS,EAAE,QAAQ,EAAE,SAAS,EAAE,QAAQ,EAAE,SAAS,EAAE

B,MAAM,IAAI,GAAa,QAAQ,CAAC,WAAW,EAAE,GAAG,CAAC,CAAC;QAClD,MAAM,IAAI,KAAK,CAAC,oCAAoC,SAAS,CAAC,KAAK,CAAC,MAAM,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;KAChG;;;;;;IAOD,MAAM,sBAAsB,GAAG,yBAAyB,CAAC,KAAK,CAAC,CAAC;IAChE,IAAI,sBAAsB,KAAK,IAAI,EAAE;QACnC,OAAO,MAAM,sBAAsB,CAAC,OAAO,CAAC,KAAkB,CAAC,CAAC;KACjE;SAAM;QACL,OAAO,MAAM,IAAK,KAAK,mBAAmB,EAAE,CAAC;KAAE;SAAM;QAAE,OAAO,UAAU,CAAC,SAAS,EAAE,QAAQ,CAAC,QAAQ,CAAC,CAAC;KACjD;SAAM;QAAE,OAAO,MAAM,QAAQ,CAAC,MAAM,OAAO,GAA0B,iBAAiB,CAAC,QAAQ,EAAE,YAAY,EAAE,SAAS,CAAC,CAAC,CAAC,CAAC;KACjD;SAAM;QAAE,OAAO,UAAU,CAAC,OAAO,EAAE,OAAO,CAAC,CAAC,CAAC,CAAC;KACjD;;;;;SAKgB,iBAAiB,CAAC7B,QAAQ,EAAE,YAAY,gCAAgC,EAAE,SAAS,iBAAiB,CAAC/E,IAAI,OAAO,GAAG,GAA0B,iBAAiB,CAAC,QAAQ,EAAE,YAAY,EAAE,SAAS,CAAC,CAAC,CAAC,CAAC;IAAE,IAAI,OAAO,GAAG,KAAK,UAAU,EAAE;QAAE,OAAO,GAAG,CAAC,IAAI,CAAC,CAAC;KAAE;IAAC,OAAO,GAAG,CAAC;CAAE,CAAC,CAAC,CAAC,CAAC

3F,IAAI,CAAC,MAAM,GAAG,MAAM,CAAC;QACrB,IAAI,CAAC,MAAM,GAAG,MAAM,CAAC;QACrB,MA
AM,OAAO,GAAG,IAAI,CAAC,QAAQ,GAAG,IAAI,GAAG,EAAe,CAAC;QACvD,OAAO,CAAC,GAAG,CACP
,QAAQ,EAAU,EAAC,KAAK,EAAE,QAAQ,EAAE,EAAE,EAAE,KAAK,EAAE,IAAI,EAAE,KAAK,EAAE,KA
AK,EAAE,IAAI,EAAE,MAAM,EAAE,KAAK,EAAC,CAAC,CAAC;QAC7F,OAAO,CAAC,GAAG,CACPH,UA
AQ,EAAU,EAAC,KAAK,EAAEA,UAAQ,EAAE,EAAE,EAAE,KAAK,EAAE,IAAI,EAAE,KAAK,EAAE,KAAK
,EAAE,IAAI,EAAE,MAAM,EAAE,KAAK,EAAC,CAAC,CAAC;QAC7F,IAAI,CAAC,KAAK,GAAG,2BAA2B,
CAAC,OAAO,EAAE,SAAS,CAAC,CAAC;KAC9D;IAID,GAAG,CAAC,KAAU,,EAAE,aAAmB,EAAE,QAAqB,
WAAW,CAAC,OAAO;QAC3E,MAAM,OAAO,GAAG,IAAI,CAAC,QAAQ,CAAC;QAC9B,IAAI,MAAM,GA
G,OAAO,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;QAChC,IAAI,MAAM,KAAK,SAAS,EAAE;;YAExB,MA
AM,aAAa,GAAG,gBAAgB,CAAC,KAAK,CAAC,CAAC;YAC9C,IAAI,aAAa,EAAE;gBACjB,MAAM,UAAU,G
AAG,aAAa,IAAI,aAAa,CAAC,UAAU,CAAC;gBAC7D,IAAI,UAAU,KAAK,KAAK,IAAI,UAAU,IAAI,IAAI,IA
AI,UAAU,KAAK,IAAI,CAAC,KAAK,EAAE;oBAC3E,OAAO,CAAC,GAAG,CACP,KAAK,EACL,MAAM,GAA
G,eAAe,CACpB,EAAC,OAAO,EAAE,KAAK,EAAE,UAAU,EAAE,aAAa,CAAC,OAAO,EAAE,IAAI,EAAE,KA
AK,EAAC,CAAC,CAAC;iBAC5E;aACF;YACD,IAAI,MAAM,KAAK,SAAS,EAAE;;gBAExB,OAAO,CA
AC,GAAG,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC;aAC1B;SACF;YACD,IAAI,YAAY,GAAG,kBAAkB,CAAA
C,IAAI,CAAC,CAAC;QAC5C;IAAI;YACF,OAAO,eAAe,CAAC,KAAK,EAAE,MAAM,EAAE,OAAO,EAAE,IA
AI,CAAC,MAAM,EAAE,aAAa,EAAE,KAAK,CAAC,CAAC;SACnF;QAAC,OAAO,CAAC,EAAE;YACV,OAA
O,kBAAkB,CAAC,CAAC,EAAE,KAAK,EAAE,qBAAqB,EAAE,IAAI,CAAC,MAAM,CAAC,CAAC;SACzE;gB
AAS;YACR,kBAAkB,CAAC,YAAY,CAAC,CAAC;SAClC;KACF;IAED,QAAQ;QACN,MAAM,MAAM,GAAa,
EAAE,EAAE,OAAO,GAAG,IAAI,CAAC,QAAQ,CAAC;QACrD,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,E
AAE,KAAK,KAAK,MAAM,CAAC,IAAI,CAAC,SAAS,CAAC,KAAK,CAAC,CAAC;QAC7D,OAAO,kBAAkB,MAAM,CAAC,IAAI,CAAC,GAAG,CAAC;KAC1C;IACD,GAAG,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,GAAG,CAAC;KAC5B;IACD,GAAG,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,GAAG,CAAC;KAC5B;IACD,MAAM,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,MAAM,CAAC;KACjC;IACD,KAAK,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,KAAK,CAAC;KAC/B;IACD,KAAK,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,KAAK,CAAC;KAC/B;IACD,MAAM,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,MAAM,CAAC;KACjC;IACD,KAAK,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,KAAK,CAAC;KAC/B

;gBAC5C,MAAM,qBAAqB,CAAC,KAAK,CAAC,CAAC;aACpC;YACD,IAAI,KAAK,KAAK,cAAc,EAAE;gBAC5B,KAAK,GAAG,gBAAgB,CAAC,KAAK,CAAC;aAChC;YACD,OAAO,CAAC,GAAG,CAAC,KAAK,EAAE,gBAAgB,CAAC,CAAC;SACtC;aAAM;YACL,MAAM,WAAW,CAAC,qBAAqB,EAAE,QAAQ,CAAC,CAAC;SACpD;KACF;IACD,OAAO,KAAK,CAAC;AACf,CAAC;AAED,SAAS,eAAe,CAACpB,KAAU,EAAEC,EAAE,EAAEC,EAAE,EAAEC,EAAE

AAO,IAAI,CAAC;AACd,CAAC;AAED,SAAS,WAAW,CAAC,IAAY,EAAE,GAAQ;IACzC,OAAO,IAAI,KAAK,CAAC,WAAW,CAAC,IAAI,EAAE,GAAG,EAAE,qBAAqB,CAAC,CAAC,CAAC;AAClE;;ACvZA;;;;;;;AAyBA;;;;;;;;;;;;;;;;;;;;;;;;;SAyBgB,YAAY,CAAI,OAAgB;IAC9C,gBAAgB,CAAC,OAAO,CAAC,CAAC,IAC1B,MAAM,OAAO,GAAG,YAAY,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC;IAC7C,OAAO,KAAK,IAAI,GAAG,IAAI,GAAG,OAAO,CAAC,KAAK,CAAC,CAAC;QAAE,OAAO,IAAI,CAAC;IAAC,OAAO,KAAK,CAAC;AAAC,CAAC;AAElE,SAAS,YAAY,CAAI,OAAgB;IACvC,OAAO,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC

;IAC3B,MAAM,QAAQ,GAAG,KAAK,CAAC,OAAO,CAAC,CAAC;IAChC,MAAM,QAAQ,GAAG,KAAK,CAAC,OAAO,CAAC;IAC/B,MAAM,SAAS,GAAe,EAAE,CAAC;IACjC,IAAI,QAAQ,IAAI,QAAQ,EAAE;QACxB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,QAAQ,CAAC,MAAM,GAAG;YACpC,MAAM,UAAU,GAAG,QAAQ,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;YACjC,IAAI,OAAO,UAAU,GAAG,WAAW,GAAG,QAAQ,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;YACtD

eAAe,CAAI,aAAa,CAAE,CAAC;IACxD,IAAI,YAAY,CAAC,IAAI,IAAI,aAAa;QAAG,YAAkC,CAAC,IAAI,GA
AG,aAAa,CAAC;;IAGjG,MAAM,YAAY,GAAG,YAAY,CAAC,SAAU,CAAC,CAAC,CAAE,CAAC,CAAC,CAA
W,CAAC;IAC9D,MAAM,YAAY,GAAG,eAAe,CAAC,cAAc,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;IAChE,M
AAM,SAAS,GACX,iBAAiB,CAAC,YAAY,EAAE,IAAI,CAAC,IAAI,IAAI,YAAY,EAAE,YAAY,CAAC,aAAa,C
AAC,CAAC;IAC3F,MAAM,SAAS,GAAG,YAAY,CAAC,MAAM,GAAG;QACA,wCAA2C;IACnF,MAAM,WA
AW,GAAG,iBAAiB,CAAC,IAAI,CAAC,SAAS,EAAE,IAAI,CAAC,aAAa,CAAC,CAAC;IAE1E,MAAM,QAAQ,
GAAG,eAAe,CAAC,cAAc,CAAC,SAAS,EAAE,YAAY,CAAC,CAAC;IACzE,MAAM,SAAS,GAAG,WAAW,eA
AiB,IAAI,EAAE,IAAI,EAAE,CAAC,EAAE,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IA
AI,CAAC,CAAC;IAC9F,MAAM,QAAQ,GAAU,WAAW,CAC/B,IAAI,EAAE,SAAS,EAAE,WAAW,EAAE,SA
S,EAAE,IAAI,EAAE,IAAI,EAAE,eAAe,EAAE,QAAQ,EAAE,IAAI,EACpF,IAAI,CAAC,QAAQ,IAAI,IAAI,CA
AC,CAAC;IAE3B,SAAS,CAAC,QAAQ,CAAC,CAAC;IACpB,IAAI,SAAY,CAAC;IAEjB,IAAI;QACF,IAAI,eAA
e,CAAC,KAAK;YAAE,eAAe,CAAC,KAAK,EAAE,CAAC;QACnD,MAAM,aAAa,GAAU,uBAAuB,CACzC,SA
AS,EAAE,YAAY,EAAE,QAAQ,EAAE,eAAe,EAAE,QAAQ,EAAE,SAAS,CAAC,CAAC;QAC7E,SAAS,GAAG,
mBAAmB,CAC3B,aAAa,EAAE,YAAY,EAAE,QAAQ,EAAE,WAAW,EAAE,IAAI,CAAC,YAAY,IAAI,IAAI,CA
AC,CAAC;;QAGnF,UAAU,CAAC,SAAS,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC;;QAEtC,WAAW,CAAC,SA
AS,EAAE,QAAQ,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;KAE9C;YAAS;QACR,SAAS,EAAE,CAAC;QACZ,IA
AI,eAAe,CAAC,GAAG;YAAE,eAAe,CAAC,GAAG,EAAE,CAAC;KAChD;IAED,OAAO,SAAS,CAAC;AACnB,
CAAC;AAED;;;;;;;;;;;SAYgB,uBAAuB,CACnC,KAAoB,EAAE,GAAsB,EAAE,QAAe,EAC7D,eAAiC,EAAE,YA
AuB,EAAE,SAA0B;IACxF,MAAM,KAAK,GAAG,QAAQ,CAAC,KAAK,CAAC,CAAC;IAC9B,MAAM,KAAK,GAAG,
GAAG,aAAa,CAAC;IAC5B,SAAS,IAAI,kBAAkB,CAAC,QAAQ,EAAE,KAAK,CAAC,CAAC;IACjD,QAAQ,C
AAC,KAAK,CAAC,GAAG,KAAK,CAAC;;;;IAIxB,MAAM,KAAK,GAAiB,gBAAgB,CAAC,KAAK,EAAE,KAA
K,mBAAqB,OAAO,EAAE,IAAI,CAAC,CAAC;IAC7F,MAAM,WAAW,GAAG,KAAK,CAAC,CAAC;IAC3B,MAAM,WAAW,GAAG,
GAAG,CAAC,CAAC;IACvB,MAAM,SAAS,GAAG,IAAI,WAAW,KAAK,IAAI,EAAE;QAC1C,MAAM,IAAI,GAAG,WAAW,
CAAC,CAAC,CAAC,CAAC;QACtB,IAAI,IAAI,KAAK,SAAS,EAAE;YACtB,MAAM;SACP;QACD,MAAM,IAAI,GAAG,IAAI,CAAC,
IAAI,CAAC;QACnB,IAAI,IAAI,KAAK,WAAW,IAAI,IAAI,KAAK,WAAW,EAAE;YAChD,MAAM;SACP;QACD,IAAI,IAAI,KAAK,
WAAW,EAAE;YACxB,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE,CAAC;SAClB;aAAM,IAAI,IAAI,KAAK,WAAW,EAAE;YAC/B,IAAI,CAAC,IAAI,
CAAC,KAAK,EAAE,CAAC;SACnB;KACF;IAED,OAAO,IAAI,CAAC;AACd,CAAC;AAED,SAAS,kBAAkB,CAAC,QAAe,EAAE,KAAY;IACvD,KAAK,MAAM,
IAAI,IAAI,KAAK,EAAE;QACxB,IAAI,IAAI,CAAC,IAAI,KAAK,WAAW,EAAE;YAC7B,IAAI,CAAC,IAAI,GAAG,QAAQ,CAAC,IAAI,
CAAC,IAAI,CAAC,CAAC;SAC7B;KACF;AACH,CAAC;AAED,SAAS,gBAAgB,CACvB,KAAoB,EAAE,KAAY,EAAE,OAAgB,EAAE,KAAa,EAAE,KAAa,EAAE,GAAW,EAAE,
OAAgB;IAClH,MAAM,KAAK,GAAiB,EAAE,CAAC;IAC/B,IAAI,KAAK,GAAG,KAAK,CAAC;IAClB

C;IAC9E,OAAO;QACL,UAAU,EAAE,EAAE;QACd,SAAS,EAAE,SAAS,IAAI,gBAAgB;QACxC,KAAK,EAAE,aAAa;QACpB,aAAa,EAAE,aAAa,IAAI,IAAI;QACpC,KAAK;KACN,CAAC;AACJ,CAAC;AAED;;;;;;;;;;;;SAagB,qBAAqB,CAAC,SAAc,EAAE,GAAsB;IAC1E,MAAM,KAAK,GAAG,gBAAgB,CAAC,SAAS,CAAE,EAAE,CAAC;IAC3C,SAAS,IAAI,aAAa,CAAC,KAAK,EAAE,mBAAmB,CAAC,CAAC;IACvD,MAAM,KAAK,GAAG,GAAG,CAAC,KAAK,CAAC,CAAC,CAAC;IAC3B,MAAM,KAAK,GAAG,eAAe,EAAG,CAAC;IACjC,SAAS,IAAI,aAAa,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IACvD,sBAAsB,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;AACvC,CAAC;AAED;;;;;;;;;;;;;;;SAgBgB,YAAY,CAAC,SAAc,EAAE,GAAsB;IACzC,MAAM,KAAK,GAAG,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC;IAC3B,MAAM,KAAK,GAAG,eAAe,EAAG,CAAC;IACjC,SAAS,IAAI,aAAa,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IACvD,sBAAsB,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;AACvC,CAAC;AAED;;;;;;;;;;;;;;;

C;SAC7C,CAAC;KACH;SAAM;QACL,UAAU,CAAC,cAAc,GAAG,mBAAmB,CAAC;KACjD;AACH,CAAC;AAED,SAAS,mBAAmB,CACxB,UAAuB,EAAE,iBAA4C;IACvE,MAAM,gBAAgB,GAAG,UAAU,CAAC,YAAY,CAAC;IACjD,IAAI,gBAAgB,EAAE;QACpB,UAAU,CAAC,YAAY,GAAG,CAAC,EAAe,EAAE,GAAQ;YAClD,iBAAiB,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC;YAC3B,gBAAgB,CAAC,EAAE,EAAE,GAAG,CAAC,CAAC,CAAC;SAC3B,gBAAgB,CAAC;KACjB;IAED,OAAO,iBAAiB,CAAC;AAC3B,CAAC;AAED,SAAS,iBAAiB,CAAC,UAAuB,EAAE,GAAQ;IAC1D,IAAI,UAAU,CAAC,YAAY,EAAE;QAC3B,KAAK,MAAM,EAAE,IAAI,UAAU,CAAC,YAAY,EAAE;YACxC,EAAE,CAAC,GAAG,CAAC,CAAC;SACT;KACF;AACH,CAAC;AAED,SAAS,gBAAgB,CAAC,UAAuB,EAAE,GAAQ;IACzD

UAAU,CAAC,CAAM;IAC/B,OAAO,CAAC,KAAK,IAAI,KAAK,OAAO,CAAC,KAAK,UAAU,IAAI,OAAO,CA
AC,KAAK,QAAQ,CAAC,CAAC;AAC1E;;AC/GA;;;;;;;AAiBA;AACA;SACgB,aAAa,CAAC,KAAY,EAAE,YAA
oB,EAAE,KAAU;IAC1E,OAAO,KAAK,CAAC,YAAY,CAAC,GAAG,KAAK,CAAC;AACrC,CAAC;AAGD;SA
CgB,UAAU,CAAC,KAAY,EAAE,YAAoB;IAC3D,SAAS,IAAI,kBAAkB,CAAC,KAAK,EAAE,YAAY,CAAC,C
AAC;IACrD,SAAS;QACL,aAAa,CAAC,KAAK,CAAC,YAAY,CAAC,EAAE,SAAS,EAAE,yCAAyC,CAAC,CA
AC;IAC7F,OAAO,KAAK,CAAC,YAAY,CAAC,CAAC;AAC7B,CAAC;AAED;;;;;;;;;;;;;SAagB,cAAc,CAAC,KA
AY,EAAE,YAAoB,EAAE,KAAU;IAC3E,SAAS,IAAI,aAAa,CAAC,KAAK,EAAE,SAAS,EAAE,2CAA2C,CAAC
,CAAC;IAC1F,SAAS;QACL,cAAc,CAAC,YAAY,EAAE,KAAK,CAAC,MAAM,EAAE,gDAAgD,CAAC,CAAC;
IACjG,MAAM,QAAQ,GAAG,KAAK,CAAC,YAAY,CAAC,CAAC;IAErC,IAAI,SAAS,IAAI,kBAAkB,CAAC,EAAE,CAAC,QAAQ,EAAE,CAAC,Q
AAQ,EAAE,KAAK,CAAC,EAAE;QAC9B,OAAO,KAAK,CAAC;KACd;SAAM;QACL,IAAI,SAAS,IAAI,sBAAsB,EAAE,EAAE;;;YAGzC,MAAM,iBAAiB,GAAG,QAAQ,KAAK,SAAS,GAAG,QAAQ,GAAG,GAAG,SAAS,CAAC;Y
ACxE,IAAI,CAAC,YAAY,CAAC,iBAAiB,EAAE,KAAK,CAAC,EAAE;gBAC3C,MAAM,OAAO,GACT,gCAAgC,CAAC,KAAK,EAAE,YAAY,EAAE,iBAAiB,EAAE,KAAK,CAAC,EAAE,CAAC;gBACpF,yBAAyB,CACrB,QAAQ,EACR,KAAK,SAAS,EAAE,OAAO,CAAC,QAAQ,EAAE,EAAE,OAAO,CAAC,QAAQ,EAAE,OAAO,CAAC,QAAQ,EAAE,CAAC,C
AAC;aACnF;;;;;YAKD,OAAO,KAAK,CAAC,SAAS,CAAC;SACd;QACD,KAAK,CAAC,YAAY,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;QAC5B,OAAO,IAAI,CAAC,CAAC;KACd;SAAM;QACL,IAAI,CAAC,KAAK,CAAC,YAAY,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;QACnC,OAAO,KAAK,CAAC;KACd;AACH,CAAC;AAED;SACgB,eAAe,CAAC,KAAY,EAAE,YAAoB,EAAE,IA
AS,EAAE,IAAS;IACtF,SAAS,IAAI,SAAS,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,CAAC,CAAC,CAAC;IA
C5D,OAAO,cAAc,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,IAAI,CAAC,IAAI,SAAS,CAAC;AACpE,
CAAC;AAED;SACgB,eAAe,CAC3B,KAAY,EAAE,YAAoB,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS;IACrE,MA
AM,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;IACnE,OAAO,cA
Ac,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,IAAI,CAAC,IAAI,SAAS,CAAC;AACpE,CAAC;AAED;SA
CgB,eAAe,CAAC,KAAY,EAAE,YAAoB,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS;IACrF,MAAM
,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;IACnE,OAAO,eA
AC,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,IAAI,CAAC,IAAI,SAAS,CAAC;AACpE,CAAC;AAED;;
AC3E;;AC7FA;;;;;;;AAcA;;;;;;;;;;;;;SAagB,WAAW,CACvB,KAAU,EAAE,YAAoB,EAAE,KAAU,EAAE,SA
A4B,EACtD,SAAkB;IACpB,MAAM,KAAK,GAAG,QAAQ,CAAC,KAAK,EAAE,YAAY,CAAC,CAAC;IAC5C,MAAM,KAAK,
GAAG,QAAQ,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,CAAC;IACzC,IAAI,SAAS,IAAI,KAAK,IAAI,KAAK,EAAE;QAC/B,OAAO,KAAK,CAAC;KACd;SAAM;QACL,IAAI,SAAS,IAAI,KAAK,EAAE;YACtB,KAAK,CAAC,YAAY,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;SAC/B;aAAM;YACL,KAAK,CAAC,YAAY,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;SAC/B;QACD,OAAO,IAAI,CAAC,CAAC;KACd;AACH,CAAC;AAED;SACgB,cAAc,CAAC,KAAY,EAAE,YAAoB,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS;IAChG,MAAM
,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;IACnE,OAAO,cA
Ac,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,IAAI,CAAC,IAAI,SAAS,CAAC;AACpE,CAAC;AAED;SA
CgB,cAAc,CAAC,KAAY,EAAE,YAAoB,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS;IAC/F,MAAM
,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;IACnE,OAAO,cA
Ac,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,IAAI,CAAC,IAAI,SAAS,CAAC;AACpE,CAAC;AAED;SA
CgB,eAAe,CAAC,KAAY,EAAE,YAAoB,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS;IACrF,MAAM
,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;IACnE,OAAO,eA
AC,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,IAAI,CAAC,IAAI,SAAS,CAAC;AACpE,CAAC;AAED;SA
CgB,eAAe,CAAC,KAAY,EAAE,YAAoB,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS;IACrF,MAAM
,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;IACnE,OAAO,eA
AC,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,IAAI,CAAC,IAAI,SAAS,CAAC;AACpE,CAAC;AAED;;
AC3E;;AC7FA;;;;;;;AAiBA;;;;;;;;;;;;;SAYgB,cAAc,CAAC,KAAY,EAAE,YAAoB,EAAE,MAAa;IACxD,SAAS,IAAI,SAAS,CAAC,KAAK,EAAE,YAAY,EAAE,MAAM,CAAC,CAAC,CAAC;IACnE,OAAO,cA
Ac,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,MAAM,CAAC,MAAM,SAAS,CAAC;AACtE,CAAC;AAED;SA
CgB,cAAc,CAAC,KAAY,EAAE,YAAoB,EAAE,MAAa,EAAE,MAAa;IAC7F,MAAM,SAAS,
GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,MAAM,EAAE,MAAM,CAAC,CAAC;IACxE,OAAO,cAAc,CAAC,KA
AK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,MAAM,CAAC,MAAM,SAAS,CAAC;AACtE,CAAC;AAED;SACgB,eA
Ae,CAAC,KAAY,EAAE,YAAoB,EAAE,MAAa,EAAE,MAAa;IAC9F,MAAM,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,MAAM,EAAE,MAAM,CAAC,CAAC;IACxE,OAAO,eAAe,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,EAAE,MAAM,CAAC,MAAM,SAAS,CAAC;AACtE,CAAC;AAED;SACgB,eAAe

AE,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAC/E,MAAc;IAChB,MAA
M,YAAY,GAAG,eAAe,EAAE,CAAC;IACvC,MAAM,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,
EAAE,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;IACnE,qBAAqB,CAAC,CAAC,CAAC,CAAC;IAEzB,OAAO,S
AAS;QACZ,MAAM,GAAG,eAAe,CAAC,EAAE,CAAC,GAAG,EAAE,GAAG,eAAe,CAAC,EAAE,CAAC,GAA
G,EAAE,GAAG,eAAe,CAAC,EAAE,CAAC,GAAG,MAAM;QAC3F,SAAS,CAAC;AAChB,CAAC;AAED;;;SAG
gB,cAAc,CAC1B,KAAY,EAAE,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,
EAAE,EAAU,EAC3F,EAAO,EAAE,MAAc;IACzB,MAAM,YAAY,GAAG,eAAe,EAAE,CAAC;IACvC,MAAM,S
AAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,CAAC,
CAAC;IACvE,qBAAqB,CAAC,CAAC,CAAC,CAAC;IAEzB,OAAO,SAAS,GAAG,MAAM,GAAG,eAAe,CAAC,
EAAE,CAAC,GAAG,EAAE,GAAG,eAAe,CAAC,EAAE,CAAC,GAAG,EAAE;QACvE,eAAe,CAAC,EAAE,CA
AC,GAAG,EAAE,GAAG,eAAe,CAAC,EAAE,CAAC,GAAG,MAAM;QAC5C,SAAS,CAAC;AAC/B,CAAC;AA
ED;;;SAGgB,cAAc,CAC1B,KAAY,EAAE,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAA
E,EAAO,EAAE,EAAU,EAC3F,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc;IAC9C,MAAM,YAAY,GAAG
,eAAe,EAAE,CAAC;IACvC,MAAM,SAAS,GAAG,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,EAAE,EAAE,EAAE,
EAAE,EAAE,EAAE,EAAE,CAAC,CAAC;IACrE,qBAAqB,SAAS,GAAG,eAAe,CAAC,EAAE,CAAC,GAAG,EAAE,YAAY,GAAG,CAA
C,EAAE,EAAE,CAAC,IAAI,SAAS,CAAC;IACrE,qBAAqB,qBAAqB,CAAC,CAAC,CAAC,CAAC;IAEzB,OAAO,SAAS,G
AAG,MAAM,GAAG,eAAe,CAAC,EAAE,CAAC,GAAG,EAAE,GAAG,eAAe,CAAC,EAAE,CAAC,GAAG,EAA
E;QACvE,eAAe,CAAC,EAAE,CAAC,GAAG,EAAE,GAAG,eAAe,CAAC,EAAE,CAAC,GAAG,EAAE,GAAG,e
AAe,CAAC,EAAE,CAAC,GAAG,MAAM;QAC5C,SAAS,CAAC;AAC/B,CAAC;AAED;;;SAGgB,cAAc,CAC1B,
KAAY,EAAE,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAC3

AClF,SAAkB;IACpB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GAAG,cAAc,CAAC
,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACpE,IAAI,iBAAiB,KAAK,SAAS,EAAE;Q
ACnC,MAAM,KAAK,GAAG,gBAAgB,EAAE,CAAC;QACjC,wBAAwB,CAAC,KAAK,EAAE,KAAK,EAAE,Q
AAQ,EAAE,iBAAiB,EAAE,SAAS,EAAE,SAAS,CAAC,CAAC;QAC1F,SAAS;YACL,4BAA4B,CACxB,QAAQ,
EAAE,CAAC,IAAI,EAAE,KAK,EAAE,OAAO,GAAG,QAAQ,EAAE,eAAe,EAAE,GAAG,CAAC,EAAE,MAA
M,EAAE,MAAM,CAAC,CAAC;KC5F;IACD,OAAO,uBAAuB,CAAC;AACjC,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;
SA0BgB,uBAAuB,CACnC,QAAgB,EAAE,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc,EAC
9E,SAAuB,EAAE,SAAkB;IAC7C,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GAAG,
cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IA
C5E,IAAI,iBAAiB,KAAK,SAAS,EAAE;QACnC,MAAM,KAAK,GAAG,gBAAgB,EAAE,CAAC;QACjC,wBAA
wB,CAAC,KAAK,EAAE,KAK,EAAE,QAAQ,EAAE,iBAAiB,EAAE,SAAS,EAAE,SAAS,CAAC,CAAC;QAC1
F,SAAS;YACL,4BAA4B,CACxB,QAAQ,EAAE,CAAC,IAAI,EAAE,KAK,EAAE,OAAO,GAAG,QAAQ,EAAE
,eAAe,EAAE,GAAG,CAAC,EAAE,MAAM,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;KChG;IACD,OAAO,u
BAAuB,CAAC;AACjC,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SA6BgB,uBAAuB,CACnC,QAAgB,EAAE,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc,EAAE,EAAO,
E,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EACnF,MAAc,EAAE,SAAuB,EAAE,SAAkB;
IAC7D,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GAAG,cAAc,CAAC,KAAK,EAAE
,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACpF,IA
CpF,IAAI,iBAAiB,KAAK,SAAS,EAAE;QACnC,MAAM,KAAK,GAAG,gBAAgB,EAAE,CAAC;QACjC,wBAA
wB,CAAC,KAAK,EAAE,KAK,EAAE,QAAQ,EAAE,iBAAiB,EAAE,SAAS,EAAE,SAAS,CAAC,CAAC;QAC1
F,SAAS;YACL,4BAA4B,CACxB,QAAQ,EAAE,CAAC,IAAI,EAAE,KAK,EAAE,OAAO,GAAG,QAAQ,EAAE
,eAAe,EAAE,GAAG,CAAC,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;KACjB;I
ACD,OAAO,uBAAuB,CAAC;AACjC,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SA+BgB,uBAAuB,CACnC,QAAgB,EAAE,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc,EAAE,EAAO,EAAE,
E,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAC/F,EAAO,
EAAE,MAAc,EAAE,SAAuB,EAAE,SAAkB;IAChD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,
EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IAC5F,IAAI,iBAAiB,KAAK,SAAS,EA
AE;QACnC,MAAM,KAAK,GAAG,gBAAgB,EAAE,CAAC;QACjC,wBAAwB,CAAC,KAAK,EAAE,KAK,EAAE,QAAQ,EAAE,iBAAiB,EAAE,SAAS,EAAE,SAAS,CAAC,CAAC;QAC1F,SAAS;YACL,4BAA4B,CACxB,QAAQ,EAAE,CAAC,IAAI,EAAE,KAK,EAAE,OAAO,GAAG,QAAQ,EAAE

EAAE,GAAG,CAAC,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EACrF,EAAE,EAAE,EAAE,EA
AE,MAAM,CAAC,CAAC;KACzB;IACD,OAAO,uBAAuB,CAAC;AACjC,CAAC;AAED;;;

CACnB,aAAa,EAAE,KAAK,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,IAAI,EACpD,OAAO,EAAE,UAAU,EAAE,cAAc,CAAC;QACxC,KAAK,CAAC,IAAI,CAAC,aAAa,CAAmB,CAAC;IAClF,eAAe,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAE9B,MAAM,OAAO,GAAG,KAAK,CAAC,QAAQ,CAAC,CAAC,aAAa,CAAC,SAAS,GAAG,WAAW,GAAG,EAAE,CAAC,CAAC;IAC5E,WAAW,CAAC,KAAK,EAAE,KAAK,EAAE,OAAO,EAAE,EAAE,KAAK,CAAC,CAAC,CAAC;IAC1C,eAAe,CAAC,OAAO,EAAE,EAAE,KAAK,CAAC,CAAC,CAAC;IAEhC,aAAa,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,CAAC;IAC7B,aAAa,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,CAAC;IAE7B,eAAe,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,CAAC;IAC/B,eAAe,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,CAAC;IAE/

AAC,UAAU,GAAG,IAAI,CAAC,UAAU,CAAC;KAC3C;SAAM,IAAI,qBAAqB,CAAC,IAAI,CAAC,EAAE;;QA
EtC,YAAY,CAAC,WAAW,GAAG,iBAAiB,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;KAChE;IACD,OAAO,Y
AAY,CAAC;AACtB;;ACpHA;;;;;;;aAiBsE,sBAAsB;AAD5F,MAAMA,WAAS,GACX,sBAAsB,CAAgB,EAAC,O
AAO,EAAE,MAAM,EAAE,QAAQ,MAAwB,EAAC,CAAC,CAAC;AAC/F,MAAML,aAAW,GAAU,EAAE,CAA
C;SAEd,kCAAkC,CAC9C,IAAe,EACf,QAC6D;IAC/D,IAAI,CAAC,QAAQ,EAAE;QACb,MAAM,sBAAsB,GAA
G,IAAI,sBAAsB,EAAE,CAAC;QAC5D,MAAM,IAAI,GAAG,sBAAsB,CAAC,UAAU,CAAC,IAAI,CAAC,CAA
C;;QAErD,OAAO,MAAM,IAAI,IAAI,CAAC,GAAG,UAAU,CAAC,IAAa,CAAC,CAAC,CAAC;KCrD;IAED,I
AAIK,WAAS,IAAI,QAAQ,EAAE;QACzB,MAAM,aAAa,GAAI,QAA8B,CAAC;QACtD,OAAO,MAAM,aAAa,C
AAC,QAAQ,CAAC;KACrC;SAAM,IAAK,QAAiC,CAAC,WAAW,EAAE;QACzD,MAAM,gBAAgB,GAAI,QAAiC,
iC,CAAC;QAC5D,OAAO,MAAM,QAAQ,CAAC,iBAAiB,CAAC,gBAAgB,CAAC,WAAW,CAAC,CAAC,CAAC
;KACxE;SAAM,IAAK,QAAgC,CAAC,UAAU,EAAE;QACvD,MAAM,eAAe,GAAI,QAAgC,CAAC;QAC1D,OAAO,MAAM,eAAe,C
AAO,MAAM,eAAe,CAAC,UAAU,CAAC,GAAG,UAAU,CAAC,eAAe,CAAC,IAAI,IAAIL,aAAW,CAAC,CAAC,CAAC,
CAAC;KAC7F;SAAM,IAAK,QAAwD,CAAC,QAAQ,EAAE;QAC5E,MAAM,aAAa,GAAI,QAAwD,CAAC;QAChF,OAAO,MAAM,aAAa,C
hF,IAAI,IAAI,GAAI,QAAoC,CAAC,IAAI,CAAC;QACtD,IAAI,CAAC,IAAI,CAAC,EAAE;YACV,MAAM,sBAAsB,GA
AG,IAAI,sBAAsB,EAAE,CAAC;YAC5D,MAAM,IAAI,GAAG,sBAAsB,CAAC,UAAU,CAAC,IAAa,CAAC,CAAC,CAAC;SAC
hD;QACD,OAAO,MAAM,KAAK,iBAAiB,CAAC,aAAa,CAAC,QAAQ,CAAC,EAAE,GAAG,UAAU,CAAC,IAA
I,CAAC,CAAC,CAAC;KCnF;SAAM;QACL,IAAI,IAAI,GAAI,QAAoC,CAAC,IAAI,CAAC;QACtD,IAAI,CAAC,IAAI,CAAC,EAAE;YACV,MAAM,sBAAsB,GAAG,IAAI,sBAAsB,EAAE,CAAC;YAC5D,MAAM,IAAI,GAAG,sBAAsB,CAAC,UAAU,CAAC,IAAa,CAAC,CAAC,CAAC;SAChE;QACD,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC,EAAE;YACvB

CACjC,QAA4B,EAAE,GAAkB;IAClD,OAAO,cAAc,CAAC,QAAQ,EAAE,GAAG,EAAE,UAAS,IAAqB;QACjE,OAAO,wCAAwC,sBAAsB,CAAC,IAAI,CAAC,EAAE,CAAC;KAC/E,CAAC,CAAC;AACL,CAAC;AAED;;;

O,OAAO,CAAC,GAAkB;QAC/B,OAAO,IAAI,oBAAoB,CAAC,GAAG,EAAE,KAAK,EAAE,IAAI,CAAC,CAAC;KACnD;CACF;AAED,MAAM,WAAW,GAAU,EAAE,CAAC;MAsCjB,2BAA2B;IAGtC,YACW,GAAkB,EAAS,iBAA8C,EAAS,eACzE,aAAsB;QADtB,QAAG,GAAH,GAAG,CAAe;QAAS,sBAAiB,GAAjB,iBAAiB,CAA6B;QAAS,oBAAe,GAAf,eAAe;QACzE,kBAAa,GAAb,aAAa,CAAS;QAGhD,aAAQ,GAAG,IAAI,CAAC,eAAe,EAAE,IAAI,CAAC,iBAAiB,EAAE,IAAI,CAAC,eAAe,EAAE,IAAI,CAAC,eAAe,EAAE,IAAI,CAAC,eAAe

AE,CAAC,EAAE,MAAM,CAAC,CAAC,CAAC;AAC/D,CAAC;AAED,SAAS,aAAa,CAClB,UAAe,EAAE,QAA
mB,EAAE,MAAe;IACvD,IAAI,KAAK,GAAQ,IAAI,CAAC;IACtB,IAAI,QAAQ,GAAG,KAAK,CAAC;IAErB,IA
AI,CAAC,KAAK,CAAC,OAAO,CAAC,QAAQ,CAAC,EAAE;QAC5B,IAAI,QAAQ,YAAY,MAAM,EAAE;YAC
9B,OAAO,iBAAiB,CAAC,QAAQ,CAAC,KAAK,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC;SAC1D;aAAM;YAC
L,OAAO,iBAAiB,CAAC,QAAQ,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC;SACpD;KACF;IAED,IAAI,UAAU,G
AAuB,IAAI,CAAC;IAE1C,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,QAAQ,CAAC,MAAM,EA
AE,EAAE,CAAC,EAAE;QACxC,MAAM,aAAa,GAAG,QAAQ,CAAC,CAAC,CAAC,CAAC;QAElC,IAAI,aAAa,
YAAY,IAAI,EAAE;YACjC,KAAK,GAAG,aAAa,CAAC,SAAvB;aAAM,IAAI,aAAa,YAAY,MAAM,EAAE;YAC
1C,KAAK,GAAG,aAAa,CAAC,KAAK,CAAC,SAE7B;aAAM,IAAI,aAAa,YAAY,QAAQ,EAAE;YAC5C,QAAQ,
GAAG,IAAI,CAAC,SAEjB;aAAM,IAAI,aAAa,YAAY,IAAI,IAAI,aAAa,YAAY,QAAQ,EAAE;YAC7E,UAAU,G
AAG,aAAa,CAAC,SAC5B;aAAM,IAAI,aAAa,YAAY,cAAc,EAAE;YAClD,KAAK,GAAG,aAAa,CAAC,SACvB;
KACF;IAED,KAAK,GAAG,iBAAiB,CAAC,KAAK,CAAC,CAAC;IAEjC,IAAI,KAAK,IAAI,IAAI,EAAE;QACjB
,OAAO,iBAAiB,CAAC,KAAK,EAAE,QAAQ,EAAE,UAAU,CAAC,CAAC;KACvD;SAAM;QACL,MAAM,iBA
AiB,CAAC,UAAU,EAAE,MAAM,CAAC,CAAC;KAC7C;AACH,CAAC;AAED,SAAS,iBAAiB,CACtB,iBAAiB,KAAU,E
AAE,QAAiB,EAAE,UA8B;IAC/D,IAAI,oBAAoB,CAAC,aAAa,CAAC,GAAG,CAAC,EAAE,CAAC,E
AAE,QAAQ,EAAE,UAAU,CAAC,CAAC;AAClF;;;;;;;AAiBA;AACA,MAAM,SAAS,GAAG,EAAE,CA
AC;AAErB;;;;;;;

YAAY,CAAC,GAAG,CAAC,GAAG,IAAI,IAAI,CAAC,0BAA0B,CAAC,GAAG,CAAC,CAAC,CAAC;SAC7F;QAAC,OAAO,CAAC,EAAE;YACV,IAAI,CAAC,CAAC,MAAM,EAAE;gBACZ,CAAC,CAAC,MAAM,CAAC,IAAI,EAAE,QAAQ,CAAC,GAAG,CAAC,CAAC;aAC9B;YACD,MAAM,CAAC,CAAC;SACT;QAED,IAAI,GAAQ,,CAAC;QACb,IAAI;YACF,GAAG,GAAG,OAAO,CAAC,GAAG,IAAI,CAAC,CAAC;SACxB;QAAC,OAAO,CAAC,EAAE;YACV,MAAM,kBAAkB,CAAC,IAAI,EAAE,CAAC,EAAE,CAAC,CAAC,KAAK,EAAE,QAAQ,CAAC,GAAG,CAAC,CAAC;SAC1D;QAED,OAAO,GAAG,CAAC;KACZ;IAEO,0BAA0B,CAAC,GAAGB;QAAC,OAAO,IAAI,CAAC,GAAG,IAAI,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC

;SAIgB,qCAAqC,CACjD,KAAY,EAAE,KAAY,EAAE,KAAY,EAAE,KAAU,EAAE,YAAqB;IAC7E,MAAM,MAAM,GAAG,KAAK,CAAC,MAAO,CAAC;IAC7B,MAAM,QAAQ,GAAG,YAAY,GAAG,OAAO,GAAG,OAAO,CAAC;;IAElD,oBAAoB,CAAC,KAAK,EAAE,KAAK,EAAE,MAAM,CAAC,QAAQ,CAAC,EAAE,QAAQ,EAAE,KAAK,CAAC,CAAC;AACxE;;AC1DA;;;;;;;AA4BA,SAAS,2BAA2B,CAAChC,KAAa,EAAE,KAAY,EAAE,KAAY,EAAE,KAAY,EAAE,MAAgB,EAAE,IAAY,EAAE,EAAczE,UAAAwB,EAAE,cAAAuB;IACnD,SAAS,IAAI,qBAAqB,CAAC,KAAK,CAAC,CAAC,CAAC;IAC1C,SAAS,IAAI,SAAS,CAAC,eAAe,EAAE,CAAC;IAEzC,MAAM,WAAW,GAAG,MAAM,CAAC,KAAK,CAAC,CAAC;IAClC,MAAM,MAAM,GAAG,KAAK,CAAC,KAAK,CAAC,CAAC;IAC5B

E,KAAY,EAAE,aAAsB;IACvE,MAAM,OAAO,GAAG,KAAK,CAAC,OAAO,CAAC;;;;;IAM9B,IAAI,OAAO,KAAK,IAAI;QAAE,OAAO;IAE7B,MAAM,OAAO,GAAG,KAAK,CAAC,KAAK,CAAC;;IAG5B,IAAI,CAAC,aAAa,IAAI,OAAO,KAAK,IAAI,EAAE;;;;QAItC,MAAM,SAAS;;;QAGX,CAAC,OAAO,kBAAkB,KAAK,WAAW,IAAI,kBAAkB;YAC/D,CAAC,OAAO,YAAY,kBAAkB;aACrC,OAAO,cAAc,KAAK,WAAW,IAAI,OAAO,CAAC,OAAO,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;gBAClE,CAAC,cAAc,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;QAEnC,IAAI,SAAS,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;YAEjD,CAAC,OAAO,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;YAE7B,IAAI,OAAO,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;YAEjC

ACjC,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,UAAU,GAAG,sBAAsB,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC;IACtD,MAAM,QAAQ,GAAG,qBAAqB,CAAC,UAAU,EAAE,KAAK,EAAE,KAAK,CAAC,CAAC;IACjE,gBAAgB,CACZ,KAAK,EAAE,KAAK,EAAE,QAAQ,EAAE,KAAK,EAAE,SAAS,EAAE,UAAU,EAAE,UAAU,EAAE,mBAAmB,CAAC,CAAC;IAC3F,OAAO,uBAAuB,CAAC;AACjC,CAAC;AAED;;;;;AAKA,SAAS,oBAAoB,CACzB,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,SAAS,EAAE,SAAS,EAAE,QAAQ,EAAE,QAAQ;IACjE,QAAQ,CAAC,MAAM,QAAQ,GAAG,GAAG,KAAK,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,QAAQ,IAAI,IAAI,EAAE;QACpB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,QAAQ,EAAE,CAAC,EAAE,EAAE;YAC/B,MAAM,GAAG,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;YACrB,IAAI,GAAG,IAAI,IAAI,EAAE;gBACb,MAAM,IAAI,KAAK,CAAC,GAAG,CAAC,CAAC;aACxB;SACJ;QACD,OAAO,QAAQ,CAAC;IACpB,CAAC,CAAC,CAAC;IACH,MAAM,IAAI,GAAG,IAAI,CAAC,MAAM,CAAC,QAAQ,CAAC,CAAC;IACnC,MAAM,IAAI,GAAG,IAAI,CAAC,MAAM,CAAC,QAAQ,CAAC,CAAC;IACnC,OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;AAC7B,CAAC;AAED,SAAS,gBAAgB,CACrB,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,SAAS,EAAE,SAAS,EAAE,QAAQ,EAAE,QAAQ;IACjE,MAAM,IAAI,GAAG,oBAAoB,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,SAAS,EAAE,SAAS,EAAE,QAAQ,EAAE,QAAQ,CAAC,CAAC;IACjG,MAAM,IAAI,GAAG,oBAAoB,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,SAAS,EAAE,SAAS,EAAE,QAAQ,EAAE,QAAQ,CAAC,CAAC;IACjG

C,MAAM,CAAC;gBAC5B,QAAQ,CAAC,IAAI,CAAC,UAAU,EAAE,YAAY,CAAC,CAAC;gBACxC,QAAQ,IAAI,QAAQ,CAAC,IAAI,CAAC,SAAS,EAAE,KAAK,CAAC,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;aACpE;SACF;KACF;AACH,CAAC;AAED,SAAS,gCAAgC,CACrC,KAAY,EAAE,EAAE,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;IACpE,CAAC,OAAO,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;QACpE,WAAW,CAAC,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;KACpE,CAAC,OAAO,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;IACpE,CAAC,OAAO,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;AACpE,CAAC,CAAC;AAEF,SAAS,gCAAgC,CACrC,KAAY,EAAE,EAAE,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;IACpE,CAAC,OAAO,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;QACpE,WAAW,CAAC,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,KAAK,EAAE,GAAG,EAAE,EAAE,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;K

,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc,EAC9E,SAAuB;IACzB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IAC5E,IAAI,iBAAiB,KAAK,SAAS,EAAE;QACnC,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;QACzB,MAAM,KAAK,GAAG,gBAAgB,EAAE,CAAC;QACjC,uBAAuB,CACnB,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,QAAQ,EAAE,iBAAiB,EAAE,KAAK,CAAC,QAAQ,CAAC,EAAE,SAAS,EAAE,KAAK,CAAC,CAAC;QACzF,SAAS;YACL,CAAC,4BAA4B,CACzB,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,QAAQ,EAAE,eAAe,EAAE,GAAG,CAAC,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;KACjG;IACD,OAAO,sBAAsB,CAAC;AAChC,CAAC;AAED;;;

AAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc,EACtF,SAAuB;IACz
B,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GACnB,cAAc,CAAC,KAAK,EAAE,MA
AM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,E
AAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IAC9F
,IAAI,iBAAiB,KAAK,SAAS,EAAE;QACnC,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;QACzB,MAAM,KAA
K,GAAG,gBAAgB,EAAE,CAAC;QACjC,uBAAuB,CACnB,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,QAAQ,
EAAE,iBAAiB,EAAE,KAAK,CAAC,QAAQ,CAAC,EAAE,SAAS,EAAE,KAAK,CAAC,CAAC;QACzF,SAAS;Y
ACL,4BAA4B,CACxB,KAAK,CAAC,IAAI,EAAE,KAAK,EAAE,QAAQ,EAAE,eAAe,EAAE,GAAG,CAAC,EA
AE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAClF,MAAM,
CAAC,CAAC;KACjB;IACD,OAAO,sBAAsB,CAAC;AAChC,CAAC;AAED;;;

AI,YAAY,KAAK,CAAC,EAAE;;gBAEtB,KAAK,CAAC,YAAY,GAAG,CAAC,CAAC;oBACnB,oBAAoB,CAAC,KAAK,CAAC,YAAY,GAAG,CAAC,CAAkB,EAAE,KAAK,CAAC,CAAC;aAC3E;;YAED,KAAK,CAAC,QAAQ,GAAG,CAAC,CAAC,GAAG,oBAAoB,CAAC,KAAK,CAAC,QAAQ,GAAG,CAAC,CAAkB,EAAE,KAAK,CAAC,CAAC;SACzF;aAAM;YACL,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,GAAG,eAAe,CAAC,QAAQ,EAAE,CAAC,CAAC,CAAC;;;YAGhD,IAAI,QAAQ,KAAK,CAAC,EAAE;;gBAElB,KAAK,CAAC,QAAQ,GAAG,CAAC,CAAC,GAAG,oBAAoB,CAAC,KAAK,CAAC,QAAQ,GAAG,CAAC,CAAkB,EAAE,KAAK,CAAC,CAAC;aACzF;;YAED,QAAQ,GAAG,KAAK,CAAC;SAClB;KACF;SAAM;;;QAGL,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,GAAG,eAAe,CAAC,QAAQ,EAAE,CAAC,CAAC,CAAC;QAChD,SAAS;YACP,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,GAAG,eAAe,CAAC,QAAQ,EAAE,CAAC,CAAC,CAAC;QAChD,SAAS;YACP,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,GAAG,eAAe,CAAC,QAAQ,EAAE,CAAC,CAAC,CAAC;IAChE,cAAc,CAAC,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,GAAG,eAAe,CAAC,QAAQ,EAAE,CAAC,CAAC,CAAC;IACjE,8BAA8B,CAAC,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,GAAG,eAAe,CAAC,QAAQ,EAAE,CAAC,CAAC,CAAC;IAEjF,SAAS,GAAG,eAAe,CAAC,QAAQ,EAAE,QAAQ,CAAC,CAAC,CAAC;IAChD,IAAI,cAAc,EAAE;QAClB,KAAK,CAAC,KAAK,GAAG,aAAa,GAAG,SAAS,CAAC,CAAC,CAAC;QAC1C,SAAS,CAAC,CAAC,CAAC,GAAG,CAAC;QAChB

AED;;;;;;;;;;;;;;;SAegB,kBAAkB,CAAC,IAAY,EAAE,KAAa;IAC5D,MAAM,GAAAG,GAAAG,WAAW,CAAC,OAAA
O,CAAC;IAChC,IAAI,GAAAG,KAAAK,KAAAK,EAAE;QACjB,OAAO,CAAAC,CAAAC,CAAAC;KACX;IACD,KAAAK,
GAAAG,WAAW,CAAC,MAAM,GAAAG,iBAAAiB,CAAAC,IAAAI,EAAE,WAAW,CAAAC,GAAAG,GAAAG,KAAAK,EAA
E,GAAAG,CAAAC,CAAAC;IACnF,OAAO,iBAAAiB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;AAC7C
,CAAAC;AAED;;;;;;;;;;;;;;SAcgB,UAAU,CAAAC,IAAAY;IACrC,gBAAAgB,CAAAC,IAAAI,CAAAC,CAAAC;IACvB,OAAO
,cAAAc,CAAAC,IAAAI,EAAE,iBAAAiB,CAAAC,IAAAI,EAAE,CAAAC,EAAE,WAAW,CAAAC,OAAO,CAAAC,CAAAC,CA
AC;AAC/E,CAAAC;AAED;;;;;;;;;;;;;;;SAegB,cAAAc,CAAAC,IAAAY,EAAE,UAAAkB;IAC7D,MAAM,GAAAG,GAAAG,
WAAW,CAAAC,OAAO,CAAAC;IAChC,IAAI,KAAAK,GAAAG,WAAW,CAAAC,GAAAG,GAAAG,iBAAAiB,CAAAC,IAAAI,
EAAE,UAAU,EAAAE,GAAAG,CAAAC,CAAAC;IACvE,IAAI,GAAAG,KAAAK,KAAAK,EAAE;;QAEjB,OAAO,CAAAC,C
AAC,CAAAC;KACX;IACD,KAAAK,GAAAG,WAAW,CAAAC,MAAM,GAAAG,eAAAe,CAAAC,IAAAI,EAAE,KAAAK,EAAE
,GAAAG,CAAAC,CAAAC;IAC/D,KAAAK,GAAAG,gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,iBAAAiB,CAA
C;IAC3D,KAAAK,GAAAG,WAAW,CAAAC,KAAAK,GAAAG,iBAAAiB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAA
C,CAAC;IAChE,KAAAK,GAAAG,WAAW,CAAAC,QAAAQ,GAAAG,iBAAAiB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAA
G,CAAAC,CAAAC;IACnE,OAAO,gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,sBAAAsB,CAAAC;AACjE,CA
AC;AAED;;;;SAIgB,gBAAAgB,CAAAC,IAAAY;IAC3C,WAAW,CAAAC,GAAAG,GAAAG,CAAAC,CAAAC;IACpB,WAA
W,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,KAAAK,GAAAG,CAAAC,CAAAC;IACtB,WAAW,C
AAC,QAAAQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,IAAAI,CAAAC,MAAM,CAAAC;AACpC,
CAAC;AAED;;;;;;;;;SASgB,iBAAAiB,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;IAClF,OAAO,UAAU,GAAAG,
QAAQ,IAAAI,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,oBAAAoB;QAC7E,UAAU,EAAAE,CAAAC;KACd;IACD,O
AAO,UAAU,CAAAC;AACpB,CAAC;AAED;;;;;;;;;SAQgB,iBAAAiB,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;I
AClF,OAAO,UAAU,GAAAG,QAAQ,IAAAI,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,mBAAAmB;QAC5E,UAAU,
EAAAE,CAAAC;KACd;IACD,OAAO,UAAU,CAAAC;AACpB,CAAC;AAED;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB
,EAAE,QAAAgB;IACnF,ChF,OAAO,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB
,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACvE,IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,
UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,
CAAAC,GAAAG,GAAAG,UAAU,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,
EAAE,GAAAG,CAAAC,CAAAC;IACnE,OAAO,gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,
WAAW,CAAAC,GAAAG,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,
KAAAK,GAAAG,CAAAC,CAAAC;IACtB,WAAW,CAAAC,QAAAQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,
IAAAI,CAAAC,MAAM,CAAAC;AACpC,CAAC;AAED;;;;;;;;;SASgB,iBAAAiB,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;I
AClF,OAAO,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,mBAAAmB;QAC5E,UAAU,
EAAAE,CAAAC;KACd;IACD,OAAO,UAAU,CAAAC;AACpB,CAAC;AAED;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB
,EAAE,QAAAgB;IACnF,ChF,OAAO,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB
,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACvE,IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,
UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,
CAAAC,GAAAG,GAAAG,UAAU,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,
EAAE,GAAAG,CAAAC,CAAAC;IACnE,OAAO,gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,
WAAW,CAAAC,GAAAG,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,
KAAAK,GAAAG,CAAAC,CAAAC;IACtB,WAAW,CAAAC,QAAAQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,
IAAAI,CAAAC,MAAM,CAAAC;AACpC,CAAC;AAED;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB
;IACnF,ChF,OAAO,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,
EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACvE,IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,
UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,CAAAC,GAAAG,
GAAAG,UAAU,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,
CAAAC,CAAAC;IACnE,OAAO,gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,
GAAAG,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,KAAAK,GAAAG,
CAAAC,CAAAC;IACtB,WAAW,CAAAC,QAAAQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,IAAAI,CAAAC,
MAAM,CAAAC;AACpC,CAAC;AAED;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;IACnF,ChF,
OAAO,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,
EAAE,GAAAG,CAAAC,CAAAC;IACvE,IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,
kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,CAAAC,GAAAG,GAAAG,UAAU,
CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,
CAAAC;IACnE,OAAO,gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,GAAAG,
GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,KAAAK,GAAAG,CAAAC,
CAAAC;IACtB,WAAW,CAAAC,QAAAQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,IAAAI,CAAAC,MAAM,
CAAAC;AACpC,CAAC;AAED;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;IACnF,ChF,OAAO,
UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,
GAAAG,CAAAC,CAAAC;IACvE,IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,
CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,CAAAC,GAAAG,GAAAG,UAAU,CAAAC,IAAAI,
CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACnE,
OAAO,gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,GAAAG,GAAAG,CAAAC,
CAAAC;IACpB,WAAW,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,KAAAK,GAAAG,CAAAC,CAAAC;IACtB,
WAAW,CAAAC,QAAAQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,IAAAI,CAAAC,MAAM,CAAAC;AACpC,
CAAC;AAED;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;IACnF,ChF,OAAO,UAAU,
GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,
CAAAC,CAAAC;IACvE,IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,
IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,CAAAC,GAAAG,GAAAG,UAAU,CAAAC,IAAAI,CAAA
C,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACnE,OAAO,
gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,GAAAG,GAAAG,CAAAC,CAAAC;
IACpB,WAAW,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,KAAAK,GAAAG,CAAAC,CAAAC;IACtB,WAAW,
CAAAC,QAAAQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,IAAAI,CAAAC,MAAM,CAAAC;AACpC,CAAC;
AAED;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;IACnF,ChF,OAAO,UAAU,GAAAG,QAAQ,
CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;
IACvE,IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,
KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,CAAAC,GAAAG,GAAAG,UAAU,CAAAC,IAAAI,CAAAC,UAAU,
CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACnE,OAAO,gBAAAgB,
CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,GAAAG,GAAAG,CAAAC,CAAAC;IACpB,
WAAW,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,KAAAK,GAAAG,CAAAC,CAAAC;IACtB,WAAW,CAAA
C,QAAAQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,IAAAI,CAAAC,MAAM,CAAAC;AACpC,CAAC;AAE
D;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;IACnF,ChF,OAAO,UAAU,GAAAG,QAAQ,CAAAC,
IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACvE,
IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,
EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,CAAAC,GAAAG,GAAAG,UAAU,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,
UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACnE,OAAO,gBAAAgB,CAAA
C,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,GAAAG,GAAAG,CAAAC,CAAAC;IACpB,WAAW
,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,KAAAK,GAAAG,CAAAC,CAAAC;IACtB,WAAW,CAAAC,QA
AQ,GAAAG,CAAAC,CAAAC;IACzB,WAAW,CAAAC,OAAO,GAAAG,IAAAI,CAAAC,MAAM,CAAAC;AACpC,CAAC;AAED;;;;;;;;;SAQgB,eAAAc,CAAAC,IAAAY,EAAE,UAAAkB,EAAE,QAAAgB;IACnF,ChF,OAAO,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACvE,IAAI,UAAU,GAAAG,QAAQ,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACvE,IAAI,CAAAC,GAAAG,GAAAG,UAAU,CAAAC,IAAAI,CAAAC,UAAU,CAAAC,UAAU,CAAAC,kBAAAkB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC,CAAAC;IACnE,OAAO,gBAAAgB,CAAAC,IAAAI,EAAE,KAAAK,EAAE,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,GAAAG,GAAAG,CAAAC,CAAAC;IACpB,WAAW,CAAAC,MAAM,GAAAG,CAAAC,CAAAC;IACvB,WAAW,CAAAC,KAAAK,GAAAG,CAAAC,CAAAC;IACtB,WAAW,CAAAC,QAAA

,IAAI,KAAK,QAAQ,EAAE,IAAI,EAAE,sBAAsB,CAAC,CAAC;IACjF,MAAM,UAAU,CACZ,+BAA+B,KAAK,cAAc,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC,EAAE,KAAK,CAAC,GAAG,KAAK;QACrF,IAAI,CAAC,SAAS,CAAC,KAAK,GAAG,CAAC,CAAC,EAAE,KAAK,GAAG,CAAC,CAAC,GAAG,KAAK,GAAG,IAAI,CAAC,MAAM,CAAC,KAAK,GAAG,CAAC,CAAC;QACjE,iBAAiB,SAAS,IAAI,CAAC,CAAC;AACtC;;ACzTA;;;;;;;AA8BA;;;;;;;;;;;;;;;;;;;SAmBgB,WAAW,CACvB,IAAY,EAAE,KAA6C,EAAE,KAA6C,EAAE,MAAM,EAAE,KAAK,EAAE,MAAM,EAAE,KAAK,EAAE,MAAM,EAAE,KAAK

qB,CAAC,KAAK,EAAE,YAAY,CAAC,IAAI,WAAW,KAAK,IAAI,IAAI,CAAC,cAAc,EAAE;;;;;YAKzF,WAA
W,GAAG,KAAK,CAAC;SACrB;QACD,WAAW,GAAG,sBAAsB,CAAC,KAAK,EAAE,KAAK,EAAE,WAAW,E
AAE,YAAY,CAAC,CAAC;QAC9E,qBAAqB,CAAC,KAAK,EAAE,KAAK,EAAE,WAAW,EAAE,YAAY,EAAE,
cAAc,EAAE,YAAY,CAAC,CAAC;KAC9F;AACH,CAAC;AAED;;;;;;;;;;;;;;SAcgB,sBAAsB,CAClC,KAAY,EAA
E,KAAY,EAAE,UAAuB,EAAE,YAAqB;IAC5E,MAAM,gBAAgB,GAAG,sBAAsB,CAAC,KAAK,CAAC,CAAC
;IACvD,IAAI,QAAQ,GAAG,YAAY,GAAG,KAAK,CAAC,eAAe,GAAG,KAAK,CAAC,cAAc,CAAC;IAC3E,IA
AI,gBAAgB,KAAK,IAAI,EAAE;;;;;QAK7B,MAAM,mCAAmC,GAAC,rC,CAAC,YAAY,GAAG,KAAK,CAAC,aA
Aa,GAAG,KAAK,CAAC,aAAa,MAAuB,CAAC,CAAC;QACtF,IAAI,mCAAmC,EAAE;;;;YAIvC,UAAU,GAAG,
4BAA4B,CAAC,IAAI,EAAE,KAAK,EAAE,KAAK,EAAE,UAAU,EAAE,YAAY,CAAC,CAAC;YACxF,UAAU,
GAAG,wBAAwB,CAAC,UAAU,EAAE,KAAK,CAAC,KAAK,EAAE,YAAY,CAAC,CAAC;;YAE7E,QAAQ,GA
AG,IAAI,CAAC;SACjB;KACF;SAAM;;;QAGL,MAAM,oBAAoB,GAAG,KAAK,CAAC,oBAAoB,CAAC;QACxD
,MAAM,sCAAsC,GAAC,xC,oBAAoB,KAAK,CAAC,CAAC,IAAI,KAAK,CAAC,oBAAoB,CAAC,KAAK,gBAA
gB,CAAC;QACpF,IAAI,sCAAsC,EAAE;YAC1C,UAAU;gBACN,4BAA4B,CAAC,gBAAgB,EAAE,KAAK,EAA
E,KAAK,EAAE,UAAU,EAAE,YAAY,CAAC,CAAC;YAC3F,IAAI,QAAQ,KAAK,IAAI,EAAE;;;;;;;gBAOrB,IA
AI,kBAAkB,GAAG,0BAA0B,CAAC,KAAK,EAAE,KAAK,EAAE,YAAY,CAAC,CAAC;gBAChF,IAAI,kBAAk
B,KAAK,SAAS,IAAI,KAAK,CAAC,OAAO,CAAC,kBAAkB,CAAC,EAAE;;;;oBAIzE,kBAAkB,GAAG,4BAA4
B,CAC7C,IAAI,EAAE,KAAK,EAAE,KAAK,EAAE,kBAAkB,CAAC,CAAC,CAAC,gCAAC,zC,YAAY,CAAC,CA
AC;oBAClB,kBAAkB;wBACd,wBAAwB,CAAC,kBAAkB,EAAE,KAAK,CAAC,KAAK,EAAE,YAAY,CAAC,C
AAC;oBAC5E,0BAA0B,CAAC,KAAK,EAAE,KAAK,EAAE,YAAY,EAAE,kBAAkB,CAAC,CAAC;iBAC5E;aA
CF;iBAAM;;;;;;gBAML,QAAQ,GAAG,eAAe,CAAC,KAAK,EAAE,KAAK,EAAE,YAAY,CAAC,CAAC;aACxD;
SACF;KACF;IACD,IAAI,QAAQ,KAAK,SAAS,EAAE;QAC1B,YAAY,IAAI,KAAK,CAAC,eAAe,GAAG,QAAQ
,KAAK,KAAK,CAAC,cAAc,GAAG,QAAQ,CAAC,CAAC;KACvF;IACD,OAAO,UAAU,CAAC;AACpB,CAAC;AAED;;;;;;;;;;;;;AAaA,SAAS,0BA0B,CAAC,KAAY,EAAE,KAAY,EAAE,YAAqB;IAEnF,MAAM,QAAQ,GAAG,YAAY,GAAG,KAAK,CAAC,aAAa,GAAG,KAAK,CAAC,aAAa,CAAC;IAC1E,IAI,oBAAoB,CAAC,QAAQ,,CAAC,KAAK,EAAE,KAAK,CAAC,KAAK,EAAE,KAAK,CAAC,EAAE;;QAExD,OAAO,SAAS,CAAC;KAClB;IACD,OAAO,KAAK,CAAC,oBAAoB,CAAC,QAAQ,CAAC,KAAK,EAAE,KAAK,CAAC,KAAK,EAAE,KAAK,CAAC,
QAAQ,CAAC,CAAC,CAAC;AAC9E,CAAC;AAED;;;;;;;;;;;;;;

AK,CAAC,CAAC,CAAoB,CAAC;YACzC,IAAI,OAAO,IAAI,KAAK,QAAQ,EAAE;gBAC5B,aAAa,GAAG,IAAI
,CAAC;aACtB;iBAAM;gBACL,IAAI,aAAa,KAAK,aAAa,EAAE;oBACnC,IAAI,CAAC,KAAK,CAAC,OAAO,C
AAC,UAAU,CAAC,EAAE;wBAC9B,UAAU,GAAG,UAAU,KAAK,SAAS,GAAG,EAAE,GAAG,CAAC,EAAE,E
AAE,UAAU,CAAQ,CAAC;qBACtE;oBACD,gBAAgB,CACZ,UAAgC,EAAE,IAAI,EAAE,YAAY,GAAG,IAAI,
GAAG,KAAK,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC;iBAC/E;aACF;SACF;KACF;IACD,OAAO,UAAU,KA
AK,SAAS,GAAG,IAAI,GAAG,UAAU,CAAC;AACtD,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SA4BgB,sBAAsB,CACl
C,gBAAsF,EACtF,YAA4E,EAC5E,KAAoE;IACtE,IAAI,KAAK,IAAI,IAAI,gCAAgC,KAAK,KAAK,EAAE;QAA
E,OAAOA,aAAkB,CAAC;IACzF,MAAM,kBAAkB,GAAuB,EAAS,CAAC;IACzD,cAAc,GAAG,eAAe,C
AAC,KAAK,CAA6C,CAAC;IAC1F,IAAI,KAAK,CAAC,OAAO,CAAC,cAAc,CAAC,EAAE;QACjC,KAAK,IAAI,
CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,cAAc,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAC9C,gB
AAgB,CAAC,kBAAkB,EAAE,cAAc,CAAC,EAAE,CAAC,CAAC,CAAC;SAC/D;KACF;SAAM,IAAI,O
AAO,cAAc,KAAK,QAAQ,EAAE;QAC7C,KAAK,MAAM,GAAG,IAAI,cAAc,EAAE;YAChC,IAAI,cAAc,CAAC
,cAAc,CAAC,GAAG,CAAC,EAAE;gBACtC,gBAAgB,CAAC,kBAAkB,EAAE,GAAG,EAAE,cAAc,CAAC,GAA
G,CAAC,CAAC,CAAC;aAChE;SACF;KACF;SAAM,IAAI,OAAO,cAAc,KAAK,QAAQ,EAAE;QAC7C,YAAY,,
CAAC,kBAAkB,EAAE,cAAc,CAAC,CAAC;KAClD;SAAM;QACL,SAAS;YACL,UAAU,,CAAC,2BAA2B,GAA
G,OAAO,cAAc,GAAG,IAAI,GAAG,cAAc,CAAC,CAAC;KAC7F;IACD,OAAO,kBAAkB,CAAC;AAC5B,CAAC
;AAED;;;;;;;;;SASgB,qBAAqB,CAAC,aAAiC,EAAE,GAAW,EAAE,KAAU;IAC9F,gBAAgB,CAAC,aAAa,EAAE
,GAAG,EAAE,eAAe,CAAC,KAAK,CAAC,CAAC,CAAC;AAC/D,CAAC;AAED;;;;;;;;;;;;;;;;;;;

AAC,QAAQ,EAAE,YAAY,EAAE,KAAK,EAAE,IAAI,EAAE,KAAK,CAAC,CAAC;KAC1D;AACH,CAAC;AA
ED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;AA4BA,SAAS,gBAAgB,CACrB,KAAY,EAAE,KAAiB,EAAE,KAAY,EAAE,IAAY,EAAE
,KAAa,EAC1E,YAAqB;;;;;;IAMvB,MAAM,eAAe,GAAG,KAAK,KAAK,IAAI,CAAC;IACvC,IAAI,KAAK,GAA
Q,SAAS,CAAC;IAC3B,OAAO,KAAK,GAAG,CAAC,EAAE;QAChB,MAAM,MAAM,GAAG,KAAK,CAAC,KA
AK,CAAgB,CAAC;QAC3C,MAAM,eAAe,GAAG,KAAK,CAAC,OAAO,CAAC,MAAM,CAAC,CAAC;;QAE9C,
MAAM,GAAG,GAAG,eAAe,MAAmB,CAAC,CAAC,CAAC,GAAG,MAAM,CAAC;QAC/D,MAAM,YA
AY,GAAG,GAAG,KAAK,IAAI,CAAC;QAClC,IAAI,iBAAiB,GAAG,KAAK,CAAC,KAAK,GAAG,CAAC,CAA
C,CAAC;QACzC,IAAI,iBAAiB,KAAK,SAAS,EAAE;;;;;;;;YAQnC,iBAAiB,GAAG,YAAY,GAAGA,aAAW,GAAA
G,SAAS,CAAC;SAC5D;QACD,IAAI,YAAY,GAAG,YAAY,GAAG,gBAAgB,CAAC,iBAAiB,EAAE,IAAI,CAA
C;YACzC,GAAG,KAAK,IAAI,GAAG,iBAAiB,GAAG,SAAS,CAAC;QAC/E,IAAI,eAAe,IAAI,CAAC,qBAAqB,
CAAC,YAAY,CAAC,EAAE;YAC3D,YAAY,GAAG,gBAAgB,CAAC,MAA4B,EAAE,IAAI,CAAC,CAAC;SACr
E;QACD,IAAI,qBAAqB,CAAC,YAAY,CAAC,EAAE;YACvC,KAAK,GAAG,YAAY,CAAC;YACrB,IAAI,eAAe,
EAAE;gBACnB,OAAO,KAAK,CAAC;aACd;SACF;QACD,MAAM,MAAM,GAAG,KAAK,CAAC,KAAK,GAAG,CAAC,CAAC,CAAkB,CAAC;QACjD,eAAe,GAAG,eAAe,GAAG,oBAAoB,CAAC,MAAM,CAAC,CAAC,GAAG,oBAAoB,
CAAC,MAAM,CAAC,CAAC;KACvF;IACD,IAAI,KAAK,KAAK,IAAI,EAAE;;;QAGlB,IAAI,QAAQ,GAAG,YAAY,GAAG,YAAY,GAAG,KAAK,CAAC,eAAe,CAAC,CAAC;QAC3E,IAAI,QAAQ,GAAG,YAAY,GAAG,YAAY,GAAG,KAAK,CAAC,cAAc

M,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,YAAY,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,EAAA
E,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CA
AC,CAAC;IACvF,IAAI,YAAY,KAAK,SAAS,EAAE;QAC9B,mBAAmB,CAAC,KAAK,EAAE,gBAAgB,EAAE,
EAAE,YAAsB,CAAC,CAAC;KCxE;IACD,OAAO,kBAAkB,CAAC;AAC5B,CAAC;AAED;;;;;;;;;;;;;;;;;;;SAoBg
B,kBAAkB,CAC9B,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAA
U,EAAE,EAAO,ECtF,EAAU,EAAE,EAAO,EAAE,MAAc;IACrC,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;
IACzB,MAAM,YAAY,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;I
AC/F,IAAI,YAAY,KAAK,SAAS,EAAE;QAC9B,mBAAmB,CAAC,KAAK,EAAE,gBAAgB,EAAE,EAAE,YAAs
B,CAAC,CAAC;KCxE;IACD,OAAO,kBAAkB,CAAC;AAC5B,CAAC;AAED;;;;;;;;;;;;;;;;;;;;SAsBgB,kBAAkB,
CAC9B,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EA
AO,ECtF,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc;IAC1D,MAAM,KAAK,GAAG,QAA
Q,EAAE,CAAC;IACzB,MAAM,YAAY,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,
EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,
EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACtF,IAAI,YAAY,KAAK,SAAS,EAAE;QAC9B,mBAAmB,CAAC,
KAAK,EAAE,gBAAgB,EAAE,EAAE,YAAsB,CAAC,CAAC;KCxE;IACD,OAAO,kBAAkB,CAAC;AAC5B,C
AAC;AAED;;;;;;;;;;;;;;;;;;;SAoBgB,kBAAkB,CAC9B,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,E
AAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,ECtF,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAA
E,EAAU,EAAE,EAAO,EAC7D,MAAc;IAChB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,YAAY,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,
EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,E
AAE,EAAE,MAAM,CAAC,CAAC;IACzF,IAAI,YAAY,KAAK,SAAS,EAAE;QAC9B,mBAAmB,CAAC,KAAK,EAAE,
gBAAgB,EAAE,EAAE,YAAsB,CAAC,CAAC;KCxE;IACD,OAAO,kBAAkB,CAAC;AAC5B,CAAC;AAED;;;;;;;;;;;;;;;;;;;;SAoBgB,kBAAkB,CAC9B,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EA
AO,ECtF,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EA
AO,EAC7D,MAAc;IAChB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,YAAY,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE

EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IAC5F,eAAe,CAAC,gBAAgB,EAAE,iB
AAiB,EAAE,iBAAiB,EAAE,IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SA8BgB,sBAAsB,C
AClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAA
O,EACtF,EAAU,EAAE,EAAO,EAAE,MAAc;IACrC,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAA
M,iBAAiB,GACnB,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,
EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IAC9E,eAA
e,CAAC,gBAAgB,EAAE,iBAAiB,EAAE,iBAAiB,EAAE,IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;
;;;;;;;;;;;;;SAgCgB,sBAAsB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAA
O,EAAE,EAAU,EAAE,EAAO,EACtF,EAAU,EAAE,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc;IAC1D,
MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GACnB,cAAc,CAAC,KAAK,EAAE,MA
M,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACtF,eAAe,CAAC,gBAAgB,EAAE
,iBAAiB,EAAE,iBAAiB,EAAE,IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAkCgB,sBAA
sB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,E
AO,EACtF,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,MAAc;IAC/
E,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GACnB,cAAc,CAAC,KAAK,EAAE,MA
AM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,E
AAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IAC9F
,eAAe,CAAC,gBAAgB,EAAE,iBAAiB,EAAE,iBAAiB,EAAE,IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;
;;;;;;;;;;;;;;;;;;;;;;;;SAoCgB,sBAAsB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAA
E,EAAO,EAAE,EAAU,EAAE,EAAO,EACtF,EAAU,EAAE,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,E
AAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAClF,MAAc;IAChB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IA
CzB,MAAM,iBAAiB,GAAG,cAAc,CACpC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACvF,eAAe,CAAC,gBAAAg
B,EAAE,iBAAiB,EAAE,iBAAiB,EAAE,IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;;;;SAuBgB,sBA
AsB,CAAC,MAAa;IAClD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GAAG,cAAc,CACpC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACvF,eAAe,CAAC,gBAAgB,EAAE,
IAAI,CAAC,CAAC;AAChF;;ACjVA;;;;;;;AAaA;;;;;;;;;;;;;;;;;;;;;SAqBgB,sBAAsB,CAAC,MAAa;IAClD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GAAG,cAAc,CACpC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACvF,eAAe,CAAC,gBAAgB,EAAE,
IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SA0BgB,sBAAsB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EA
E,EAAO,EAAE,EAAU,EAAE,EAAO,EACtF,EAAU,EAAE,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,E
AAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAClF,MAAc;IAChB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IA
CzB,MAAM,iBAAiB,GAAG,cAAc,CACpC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACvF,eAAe,CAAC,gBAAgB,EAAE,
IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SA8BgB,sBAAsB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EA
E,EAAO,EAAE,EAAU,EAAE,EAAO,EACtF,EAAU,EAAE,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,E
AAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAClF,MAAc;IAChB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IA
CzB,MAAM,iBAAiB,GAAG,cAAc,CACpC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACvF,eAAe,CAAC,gBAAgB,EAAE,
IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SA4BgB,sBAAsB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EA
E,EAAO,EAAE,EAAU,EAAE,EAAO,EACtF,EAAU,EAAE,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,E
AAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAClF,MAAc;IAChB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IA
CzB,MAAM,iBAAiB,GAAG,cAAc,CACpC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACvF,eAAe,CAAC,gBAAgB,EAAE,
IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SA8BgB,sBAAsB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EA
E,EAAO,EAAE,EAAU,EAAE,EAAO,EACtF,EAAU,EAAE,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,E
AAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAClF,MAAc;IAChB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IA
CzB,MAAM,iBAAiB,GAAG,cAAc,CACpC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EA
AE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACvF,eAAe,CAAC,gBAAgB,EAAE,
IAAI,CAAC,CAAC;AAChF,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAkC

AE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EACtF,EAAU,
EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,MAAc;IAC1D,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;I
ACzB,MAAM,iBAAiB,GACnB,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,E
AAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,E
AAE,MAAM,CAAC,CAAC;IACtF,UAAU,CAAC,iBAAiB,CAAC,CAAC;AAChC,CAAC;AAED;;;;;;;;;;;;;;;;;;;;
;;;;;;;;;;;;SAoCgB,sBAAsB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO
,EAAE,EAAU,EAAE,EAAO,EACtF,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EA
AO,EAAE,MAAc;IAC/E,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBAAiB,GACnB,cAAc,C
AAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE
,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAA
M,CAAC,CAAC;IAC9F,UAAU,CAAC,iBAAiB,CAAC,CAAC;AAChC,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;S
AsCgB,sBAAsB,CAClC,MAAc,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,E
AAU,EAAE,EAAO,EACtF,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAAE,EAAU,EAAE,EAAO,EAA
E,EAAU,EAAE,EAAO,EAClF,MAAc;IAChB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,iBA
AiB,GAAG,cAAc,CACpC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE
,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE
,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACvF,UAAU,CAAC,iBAAiB,CAAC,CAAC;
AAChC,CAAC;AAED;;;;;;;;;;;;;;;;;;;;;;SAwBgB,sBAAsB,CAAC,MAAa;IAClD,MAAM,KAAK,GAAG,QAAQ,E
AAE,CAAC;IACzB,MAAM,iBAAiB,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,CAAC,CAAC;IACxD,UAAU,
CAAC,iBAAiB,CAAC,CAAC;AAChC;;ACtVA;;;;;;;AAaA;;;;;;;;;;;;;;;;;;;;;;;;;;SA0BgB,uBAAuB,CACnC,IAAAY,E
AAE,MAAc,EAAE,EAAO,EAAE,MAAc,EACrD,WAAyB;IAC3B,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;I
ACzB,MAAM,iBAAiB,GAAG,cAAc,CAAC,KAAK,EAAE,MAAM,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;I
ACpE,oBAAoB,CAAC,IAAI,EAAE,iBAAiB,EAAE,WAAW,EAAE,KAAK,CAAC,CAAC;IAClE,OAAO,uBAAu
B,CAAC;AACjC,CAAC;AAED;;;;;;;;;;;;;;;;;;;

E,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;IACtF,oBAAoB,CAAC,IAAI,EAAE,iBAAiB,EAAE,WAAW,EAAE,KAAK,CAAC,CAAC;IAClE,OAAO,uBAAuB,CAAC;AACjC,CAAC;AAED;;;

,GAAG,EAAE,GAAG,CAAC;QAC5D,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,
EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC;Q
ACpF;YACE,SAAS,EAAE,UAAU,EAAE,OAAO,EAAE,OAAO,EAAE,KAAK,EAAE,MAAM,EAAE,MAAM,E
AAE,QAAQ,EAAE,WAAW;YACrF,SAAS,EAAE,UAAU,EAAE,UAAU;SAClC;KACF;IACD,CAAC;IACD,CA
AC,CAAC,GAAG,EAAE,GAAG,CAAC,EAAE,CAAC,IAAI,EAAE,IAAI,CAAC,EAAE,CAAC,eAAe,EAAE,aA
Aa,CAAC,CAAC;IAC5D,CAAC;IACD,CAAC,CAAC,EAAE,CAAC,IACN,CAAC,QAAQ,EAAE,UAAU,
EAAE,WAAW,EAAE,iBAAiB,CAAC;IACtD,CAAC,QAAQ,EAAE,WAAW,EAAE,aAAa,EAAE,gBAAgB,CAA
C;IACxD,CAAC,UAAU,EAAE,CAAC,EAAE,gBAAgB,EAAE,CAAC,CAAC;IACpC,CAAC,GAAG,EAAE,GA
G,EAAE,GAAG,EAAE,GAAG,EAAE,GAAG,EAAE,GAAG,EAAE,GAAG,EAAE,GAAG,EAAE,GAAG,EAAE,
GAAG,EAAE,KAAK,EAAE,GAAG,CAAC;IAC9D,CAAC,WAAW,EAAE,QAAQ,EAAE,WAAW,EAAE,KAAK,
CAAC;IAC3C,KAAK;IACL,GAAG;IACH,WAAW;IACX,EAAE;IACF,KAAK;IACL,MAAM;CACP;;ACpDD;;;;;
;;AAWA;;;AAGA,IAAI,WAAW,GA8B,EAAE,CAAC;AAEhD;;;;;;SAMgB,kBAAkB,CAAC,IAAS,EAAE,QAA
qB,EAAE,SAAe;IAClF,IAAI,OAAO,QAAQ,KAAK,QAAQ,EAAE;QAChC,SAAS,GAAG,QAAQ,CAAC;KACtB;SAM
QAAQ,GAAG,IAAI,CAAC,eAAe,CAAC,QAAQ,CAAC,CAAC;KAC3C;IAED,QAAQ,GAAG,QAAQ,CAAC,WA
AW,EAAE,CAAC,OAAO,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;IAErD,WAAW,CAAC,QAAQ,CAAC,GAA
G,IAAI,CAAC;IAE7B,IAAI,SAAS,EAAE;QACb,WAAW,CAAC,QAAQ,CAAC,CAAC,eAAe,CAAC,SAAS,CAA
C,GAAG,SAAS,CAAC;KAC9D;AACH,CAAC;AAED;;;;;;;SAOgB,cAAc,CAAC,MAAc,EAAE,gBAAgB,
B,GAAG,eAAe,CAAC,MAAM,CAAC,CAAC;IAEjD,IAAI,KAAK,GAAG,aAAa,CAAC,gBAAgB,CAAC,CAAC;
IAC5C,IAAI,KAAK,EAAE;QACT,OAAO,KAAK,CAAC;KACd;;IAGD,MAAM,YAAY,GAAG,gBAAgB,CAAC,
KAAK,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;IACpD,KAAK,GAAG,aAAa,CAAC,YAAY,CAAC,C
AAC;IACpC,IAAI,KAAK,EAAE;QACT,OAAO,KAAK,CAAC;KACd;IAED,IAAI,YAAY,KAAK,IAAI,EAAE;Q
ACzB,OAAO,QAAQ,CAAC;KACjB;IAED,MAAM,IAAI,KAAK,CAAC,uCAAuC,MAAM,IAAI,CAAC,CAAC;A
ACrE,CAAC;AAED;;;;;;;;;SASgB,qBAAqB,CAAC,MAAc;IAClD,MAAM,IAAI,GAAG,cAAc,CAAC,MAAM,CAC
AC,CAAC;IACpC,OAAO,IAAI,CAAC,eAAe,CAAC,YAAY,CAAC,IAAI,CAAC;AACpD,CAAC;AAED;;;;;
;;SAQgB,mBAAmB,CAAC,MAAc;IAChD,MAAM,IAAI,GAAG,cAAc,CAAC,MAAM,CAAC,CAAC;IACpC,O
AAO,IAAI,CAAC,eAAe,CAAC,UAAU,CAAC,CAAC;AAC1C;;;;SAIgB,aAAa,CAAC,gBAAgB;IAC5C,
MAAM,CAAC,gBAAgB,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;AACzC,CAAC;AAED
;;;;;;SAMgB,aAAa,CAAC,KAAa,EAAE,gBAAgB;IAC3D,MAAM,CAAC,KAAK,KAAK,aAAa,CAAC,gBAAgB,
CAAC,CAAC;AACpD,CAAC;AAED;;;;;;;;;

S,GAAG,QAAQ,CAAC,WAAW,EAAE,CAAC,OAAO,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;KACvD;AACH
,CAAC;AAED;;;;;SAKgB,WAAW;IACzB,OAAO,SAAS,CAAC;AACnB;;ACxCA;;;;;;;AAkBA;;;;;;;;;;SAUgB,+B
AA+B,CAC3C,WAAkB,EAAE,YAAmB,EAAE,KAAY;IACvD,MAAM,sBAAsB,GAAG,YAAY,CAAC,iBAAiB,
CAAC;IAC9D,MAAM,iBAAiB,GACnB,KAAK,CAAC,OAAO,CAAC,sBAAsB,CAAC,GAAG,sBAAsB,CAAC,C
AAC,CAAC,GAAG,sBAAsB,CAAC;IAC/F,IAAI,iBAAiB,KAAK,IAAI,EAAE;QAC9B,OAAO,iCAAiC,CAAC,
WAAW,EAAE,YAAY,EAAE,KAAK,CAAC,CAAC;KAC5E;SAAM;QACL,SAAS,IAAI,kBAAkB,CAAC,KAAK,
EAAE,iBAAiB,CAAC,CAAC;QAC1D,OAAO,WAAW,CAAC,KAAK,CAAC,iBAAiB,CAAC,CAAC,CAAC;KA
C9C;AACH,CAAC;AAGD;;;;;SAKgB,uBAAuB,CACnC,QAAmB,EAAE,UAAiB,EAAE,KAAY,EAAE,UAAyB,E
AC/E,cAA6B;IAC/B,MAAM,sBAAsB,GAAG,UAAU,CAAC,iBAAiB,CAAC;IAC5D,IAAI,KAAK,CAAC,OAAO
,CAAC,sBAAsB,CAAC,EAAE;;;;;QAMzC,SAAS,IAAI,aAAa,CAAC,UAAU,CAAC,CAAC;QACvC,IAAI,UAA
U,GAAkB,IAAI,CAAC;QACrC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,sBAAsB,CAAC,MAAM,
EAAE,CAAC,EAAE,EAAE;;;gBAGlD,MAAM,SAAS,GAAG,sBAAsB,CAAC,CAAC,CAAC;gBAC3C,IAAI,SAAS,KAAK,IAAI,
EAAE;oBACb,UAAU,GAAG,IAAI,CAAC;oBAClB,MAAM;iBACT;aACF;YACD,IAAI,UAAU,EAAE;gBACd,OAAO,IAAI,CAAC;aACb;SACF;QACD,OAAO,KAAK;KACb;SAAM;QACL,OAAO,IAAI,CAAC;KACb;AACH;;ACzEA;;;;;;;;;;

ClC,KAAY,EAAE,cAAuB,EAAE,KAAa;IACtD,MAAM,KAAK,GAAG,kBAAkB,CAAC,KAAK,EAAE,KAAK,wBAAyB,IAAI,EAAE,IAAI,CAAC,CAAC;IAClF,kCAAkC,CAAC,cAAc,EAAE,KAAK,CAAC,CAAC;IAC1D,OAAO,KAAK,CAAC;AACf,CAAC;AAGD;;;;;;;;SAQgB,sBAAsB,CAAC,IAAU,EAAE,KAAY;IAC7D,MAAM,WAAW,GAAgB,KAAK,CAAC,IAAI,CAAC,qBAAqB,CAAC,CAAC;IACnE,OAAO,WAAW,KAAK,IAAI,IAAI,WAAW,KAAK,IAAI,CAAC,WAAW,CAAC;AAC7F,CAAC;AAAA,SAAS,CAAC,CAAC,CAAC

AE,WAAW,EAAE,KAAK,EAAE,eAAe,EAAE,KAAK,CAAC,CAAC;wBACzE,MAAM,IAAI,GAAG,OAAO,CA
AC,KAAK,EAAE,MAAM,CAAC,CAAC;wBACpC,IAAI,IAAI,KAAK,IAAI,IAAI,OAAO,IAAI,KAAK,QAAQ,E
AAE;;;4BAG7C,SAAS,IAAI,UAAU,CAAC,IAAI,CAAC,CAAC;4BAC9B,MAAM,SAAS,GAAG,sBAAsB,CAAC
,IAAI,EAAE,KAAK,CAAC,CAAC;4BACtD,IAAI,SAAS,KAAK,IAAI,EAAE;gCACtB,mBAAmB,CAAC,KAAK,
EAAE,IAAI,CAAC,MAAM,CAAC,SAAS,CAAC,EAAE,KAAK,EAAE,KAAK,CAAC,IAAI,CAAC,SAAS,CAAC
,CAAC,CAAC;6BAClF;yBACF;qBACF;oBACD,MAAM;gBACR;oBACE,MAAM,gBAAgB,GAAG,MAAM,uBA
A+B;oBAC9D,MAAM,QAAQ,GAAG,cAAc,CAAC,EAAE,CAAC,CAAW,CAAC;oBAC/C,MAAM,SAAS,GAA
G,cAAc,CAAC,EAAE,CAAC,CAAW,CAAC;;;oBAGhD,mBAAmB,CACf,QAAQ,EAAE,gBAAgB,CAAC,gBAA
gB,EAAE,KAAK,CAAa,EAAE,IAAI,EAAE,IAAI,EAAE,QAAQ,EACrF,SAAS,EAAE,IAAI,CAAC,CAAC;oBAC
rB,MAAM;gBACR;oBACE,MAAM,IAAI,KAAK,CAAC,yDAAyD,MAAM,GAAG,CAAC,CAAC;aACvF;SACF;
aAAM;YACL,QAAQ,MAAM;gBACZ,KAAK,UAAU;oBACb,MAAM,YAAY,GAAG,cAAc,CAAC,EAAE,CAAC
,CAAW,CAAC;oBACnD,MAAM,gBAAgB,GAAG,cAAc,CAAC,EAAE,CAAC,CAAW,CAAC;oBACvD,IAAI,K
AAK,CAAC,gBAAgB,CAAC,KAAK,IAAI,EAAE;wBACpC,SAAS;4BACL,WAAW,CACP,OAAO,YAAY,EAAE
,QAAQ,EAC7B,aAAa,YAAY,8BAA8B,CAAC,CAAC;wBACjE,SAAS,IAAI,SAAS,CAAC,qBAAqB,EAAE,CAA
C;wBAC/C,SAAS,IAAI,yBAAyB,CAAC,KAAK,EAAE,gBAAgB,CAAC,CAAC;wBAChE,MAAM,YAAY,GAA
G,KAAK,CAAC,gBAAgB,CAAC;4BACxC,iBAAiB,CAAC,QAAQ,EAAE,YAAY,CAAC,CAAC;;wBAE9C,eAA
e,CAAC,YAAY,EAAE,KAAK,CAAC,CAAC;qBACtC;oBACD,MAAM;gBACR,KAAK,cAAc;oBACjB,MAAM,
OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAW,CAAC;oBAC9C,MAAM,gBAAgB,GAAG,cAAc,CAAC,EAAA
E,CAAC,CAAW,CAAC;oBACvD,IAAI,KAAK,CAAC,gBAAgB,CAAC,KAAK,IAAI,EAAE;wBACpC,SAAS;4B
ACL,WAAW,CACP,OAAO,OAAO,EAAE,QAAQ,EACxB,aAAa,OAAO,kCAAkC,CAAC,CAAC;wBAEhE,SAAS,IAAI,SAAS,CAAC,qBAAqB,EAAE,CAAC;wBAC/C,SAAS,IAAI,yBAAyB,CAAC,KAAK,EAAE,gBAAgB,CAAC,CAAC;wBAChE,MAAM,YAAY,GAAG,KAAK,CAAC,gBAAgB,CAAC;4BAC5C,iBAAiB,CAAC,QAAQ,EAAE,YAAY,CAAC,CAAC;;wBAE1C,eAAe,CAAC,YAAY,EAAE,KAAK,CAAC,CAAC;qBACtC;oBACD,MAAM;gBACR,KAAK,eAAe;oBAClB,MAAM,IAAI,KAAK,CAAC,oBAAoB,MAAM,GAAG,CAAC,CAAC;aAClD;SACF;KACF;AACH,CAAC;AAGD;;;;;;;;;;SAUgB,kBAAkB,CAC9B,KAAY,EAAE,KAAY,EAAE,aAAqC,EAAE,kBAAkC,EAAE,kBAAkC,EAAE,kBAAk

S,CAAE,CAAC;gBACxC,MAAM,YAAY,GAAG,KAAK,CAAC,IAAI,CAAC,qBAAqB,CAAC,CAAC;gBACvD,IAAI,YAAY,GAAG,CAAC,EAAE;oBACpB,kBAAkB,CAAC,KAAK,EAAE,IAAI,EAAE,kBAAkB,EAAE,KAAK,CAAC,CAAC;iBAC5D;aACF;SACF;QACD,CAAC,IAAI,SAAS,CAAC;KAChB;AACH,CAAC;AAED;;;;;;;;AAQA,SAAS,kBAAkB,CAAC,KAAY,EAAE,IAAU,EAAE,kBAA0B,EAAE,KAAY;IAC5F,SAAS,IAAI,eAAe,GAAG,KAAK,CAAC,IAAI,CAAC,qBAAqB,CAAC,CAAC;IACnE,IAAI,eAAe,GAAG,KAAK,IAAI,EAAE;QAC5B,IAAI,CAAC,eAAe,EAAE;YACpB,KAAK,CAAC,IAAI,CAAC,qBAAqB,CAAC,CAAC,GAAG,IAAI,CAAC;SAC3C;QACD,KAAK,CAAC,IAAI,CAAC,qBAAqB,CAAC,CAAC,GAAG,IAAI,CAAC;KAC3C;;;;;;;;;AAU

CAAC,SAAS,CAAS,CAAC;gBACnD,SAAS,IAAI,UAAU,CAAC,IAAI,CAAC,CAAC;gBAC9B,QAAQ,CAAC,IAAI,EAAE,MAAM,CAAC,CAAC;gBACvB,OAAO,wBAAwB,EAAE,CAAC;aACnC;SACF;aAAM;YACL,IAAI,MAAM,CAAC,MAAM,KAAK,CAAC,EAAE;gBACvB,OAAO,IAAI,CAAC;aACb;iBAAM;gBACL,QAAQ,GAAG,MAAM,CAAC,GAAG,EAAE,CAAC;gBACxB,MAAM,GAAG,MAAM,CAAC,GAAG,EAAE,CAAC;gBACtB,OAAO,wBAAwB,EAAE,CAAC;aACnC;SACF;KACF;IAED,OAAO,yBAAyB,CAAC;AACnC;;ACzFA;;;;;;;;;AAcA;;;;;;;;;;SAUgB,yBAAyB,CACvC,OAA2B;IAC3D,MAAM,aAAa,GAAG,EAAE,CAAC;IACzB,MAAM,GAAG,GAAG,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,MAAM,EAAE,OAAO,CAAC,MAAM,CAAC,MAAM,CAAC,CAAC;IAC3D,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,GAAG,EAAE,CAAC,EAAE,EAAE;QAC5B,aAAa,CAAC,IAAI,CAAC,OAAO,CAAC,MAAM,CAAC,CAAC,CAAC,EAAE,OAAO,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC;KAChE;IACD,OAAO,aAAa,CAAC;AACvB;;;;;;;;;;

AAM,CAAC,aAAa,EAAE,CAAC;YACjC,KAAK,CAAC,IAAI,CAAC,SAAS,OAAO,gCAAgC,KAAK,IAAI,CAAC,CAAC;SACvE;aAAM,IAAI,OAAO,KAAK,KAAK,QAAQ,EAAE;YACpC,MAAM,IAAI,GAAG,aAAa,CAAC,KAAK,CAAC,CAAC;YAClC,IAAI,IAAI,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC;SAC1B;aAAM;YACL,MAAM,IAAI,KAAK,CAAC,kBAAkB,CAAC,CAAC;SACrC;KACF;IAED,OAAO,KAAK,CAAC;AACf,CAAC;AAED;;;;;;;;;;SAUgB,yBAAyB,CACP,OAA2B;IAC3D,MAAM,WAAW,GAAG,OAAO,KAAK,KAAK,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC;IACrD,IAAI,KAAK,GAAG,CAAC,CAAC;IACd,IAAI,GAAG,GAAG,CAAC,CAAC;IACZ,IAAI,EAAE,CAAC,CAAC;IACR,IAAI,WAAW,EAAE;QACf,KAAK,GAAG,CAAC,CAAC;QACV,GAAG,GAAG,CAAC,CAAC;QACR,EAAE,GAAG,CAAC,CAAC;KACR;SAAM;QACL,KAAK,GAAG,CAAC,CAAC;QACV,GAAG,GAAG,CAAC,CAAC;QACR,EAAE,GAAG,CAAC,CAAC;KACR;IAED,OAAO,KAAK,GAAG,GAAG,EAAE,EAAE,EAAE,EAAE;QACxB,IAAI,WAAW,EAAE;YACf,KAAK,GAAG,CAAC,CAAC;YACV,GAAG,GAAG,CAAC,CAAC;YACR,EAAE,GAAG,CAAC,CAAC;SACR;aAAM;YACL,KAAK,GAAG,CAAC,CAAC;YACV,GAAG,GAAG,CAAC,CAAC;YACR,EAAE,GAAG,CAAC,CAAC;SACR;KACF;AACH,CAAC;;YAEtB,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC

AM,YAAY,GAAG,iBAAiB,CAAC,KAAK,CAAC;oBAC7C,SAAS;wBACL,wBAAwB,CACpB,YAAY,EAAE,aAAa,EAAE,wCAAwC,CAAC,CAAC;oBAC/E,QAAQ,CAAC,KAAK,EAAE,KAAK,EAAE,aAAa,EAAE,gBAAgB,EAAE,aAAa,EAAE,YAAY,CAAC,CAAC;iBACtF;aACF;SACF;aAAM;;;YAGL,MAAM,SAAS,GAAG,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,oBAAoB;YACzD,MAAM,IAAI,GAAG,KAAK,CAAC,UAAU,CAAC,CAAC,SAAS,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC;YACjD,SAAS,IAAI,WAAW,CAAC,IAAI,,+BAA+B,CAAC;YAC7D,MAAM,KAAK,GAAG,aAAa,GAAG,MAAM,CAAC,QAAQ,CAAC,KAAK,CAAC,SAAS,EAAE,SAAS,GAAG,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC;YACpF,IAAI,SAAS,gBAAgB,CAAC,KAAK,EAAE;gBAAC,KAAK,CAAC,KAAK,EAAE,gBAAgB,CAAC,KAAK,EAAE,CAAC;gBAAC,KAAK,CAAC,KAAK,EAAE,CAAC;aAAC;iBAAM;gBAAC,KAAK,CAAC,KAAK,EAAE,CAAC;aAAC;YAAC,KAAK,CAAC,KAAK,EAAE,C

C,CAAC;YACtC,IAAI,GAAG,IAAI,GAAG,SAAS,CAAC,YAAY,CAAC,CAAC;SACvC;aAAM,IAAI,SAAS,KA
AK,EAAE,EAAE;;YAE3B,aAAa,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;SAC/B;KACF;IAED,aAAa,CAAC,IA
AI,CACd,eAAe;SACd,QAAQ,+BAAiD,CAAC,CAAC;IAChE,IAAI,QAAQ,EAAE;QACZ,aAAa,CAAC,IAAI,CA
AC,QAAQ,EAAE,UAAU,CAAC,CAAC;KAC1C;IACD,aAAa,CAAC,SAAS,CAAC,GAAG,IAAI,CAAC;IAChC,a
AAa,CAAC,SAAS,CAAC,GAAG,aAAa,CAAC,MAAM,GAAG,UAAU,CAAC;IAC7D,OAAO,IAAI,CAAC;AAC
d,CAAC;AAGD;;;;;;;;AAQA,SAAS,SAAS,CAAC,YAAoB;IACrC,OAAO,CAAC,IAAI,IAAI,CAAC,GAAG,CAA
C,YAAY,EAAE,EAAE,CAAC,CAAC;AACzC,CAAC,CAAC;SAEe,qBAAqB,CAAC,gBAAwB;IAC5D,OAAO,gBAAgB,
KAAK,CAAC,CAAC,CAAC;AACjC,CAAC,CAAC;AAGD;;;AAGA,SAAS,8BAA8B,CAAC,OAAe;IACrD,IAAI,KAAK,
CAAC;IACV,IAAI,GAAG,GAAG,EAAE,CAAC;IACb,IAAI,KAAK,GAAG,CAAC;IACb,IAAI,UAAU,G
AAG,KAAK,CAAC;IACvB,IAAI,UAAU,CAAC;IAEf,OAAO,CAAC,KAAK,GAAG,CAAC,GAAG,OAAO,CAAC,MAAM,EAAE,EA
AE;gBACpD,KAAK,GAAG,KAAK,CAAC,KAAK,CAAC;gBACpB,UAAU,GAAG,KAAK,CAAC;aACpB;SACF;
KACF;IAED,SAAS;QACL,WAAW,CACP,UAAU,EAAE,KAAK,EACjB,gFACI,OAAO,GAAG,CAAC,CAAC;IAE
xB,GAAG,IAAI,OAAO,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC;IAC7B,OAAO,GAAG,CAAC;AACb,CAAC,CAAC;AAGD;;;;;;;;;;;;;;;SAegB,yBAAyB,CAAC,OAAe,EAAE,gBAAwB;IACjF,IAAI,qBAAqB,CAAC,gBAAgB,CA
AC,EAAE;;QAE3C,OAAO,8BAA8B,CAAC,OAAO,CAAC;KAChD;SAAM;;QAEL,MAAM,KAAK,GAC
P,OAAO,CAAC,OAAO,CAAC,IAAI,gBAAgB,GAAG,MAAM,EAAE,CAAC,GAAG,CAAC,GAAG,gBAAgB,C
AAC,QAAQ,EAAE,CAAC,MAAM,CAAC;QAC9F,MAAM,GAAG,GAAG,MAAM,CAAC,IAAI,
MAAM,CAAC,GAAG,MAAM,cAAc,gBAAgB,GAAG,MAAM,EAAE,CAAC,CAAC,CAAC;QAC3F,OAAO,8B
AA8B,CAAC,OAAO,CAAC,SAAS,CAAC,KAAK,EAAE,GAAG,CAAC,CAAC,CAAC;KACtE;AACH,CAAC;A
AED;;;;;;;;SAQgB,QAAQ,CACpB,KAAY,EAAE,KAAY,EAAE,aAAgC,EAAE,SAAiB,EAAE,aA4B,EAAE,SA
AiB;IACjD,SAAS,IAAI,aAAa,CAAC,gBAAgB,CAAC,EAAE,gBAAgB,CAAC,IAC5E,WAAW,GAAG,CAAC,CAAC,CAAC;IACvB,IAAI,WAAW,GAAG,CAAC,EAAE;QACnB,MAAM,IAAI,KAAK,CAAC,
CAAC,CAAC;IAAI;QAAC,qBAAqB,CAAC,gBAAgB,CAAC,EAAE,YAAY,CA
AC,KAAK,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,CAAC;QAC1D,IAAI,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;IAAC;QAAC

G,CAAC,MAAM,EAAE;YACd,KAAK,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;SACjB;QAED,MAAM,MAAM,GAAG,4BAA4B,CAAC,KAAK,CAAC,GAAG,EAAE,CAAC,CAAa,CAAC;QACtE,IAAI,KAAK,CAAC,MAAM,GAAG,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,MAAM,EAAE;YAChC,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,CAAC;SACrB;KACF;;IAGD,OAAO,EAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,WAAW,EAAE,KAAK,EAAE,MAAM,,EAAC,CAAC;AAClE,CAAC;AAGD;;;;;;;;;;SAUgB,4BAA4B,CAAC,OAAe;QAC1D,OAAO,EAAE,WAAW,EAAE,CAAC;AACzB,CAAC;AAED;;;;;;;;;;

EAAE,IAAI,CAAC,KAAK,EAAE,QAAQ,EAAE,IAAI,CAAC,IAAI,CAAC,CAAC;iCACvE;6BACF;iCAAM;gC
ACL,SAAS;oCACL,OAAO,CAAC,IAAI,CACR,2CAA2C;wCAC3C,GAAG,aAAa,eAAe,OAAO,GAAG;wCACzC
,oCAAoC,CAAC,CAAC;6BAC/C;yBACF;6BAAM;4BACL,kBAAkB,CAAC,MAAM,EAAE,QAAQ,EAAE,IAAI,
CAAC,CAAC;yBAC5C;qBACF;;oBAED,WAAW,GAAG,WAAW,CACP,KAAK,EAAE,IAAI,EAAE,KAAK,EA
AE,mBAAmB,EAAE,MAAM,EAAE,MAAM,EAAE,MAAM,EAC/D,WAAsB,EAAE,QAAQ,EAAE,UAAU,EAA
E,KAAK,GAAG,CAAC,CAAC;wBACtE,WAAW,CAAC;oBAChB,aAAa,CAAC,MAAM,EAAE,QAAQ,EAAE,K
AAK,CAAC,CAAC;iBACxC;gBACD,MAAM;YACR,KAAK,IAAI,CAAC,SAAS;gBACjB,MAAM,KAAK,G,WAAW,CAAC,WAAW,IAAI,EAAE,CAAC,CAAC;gBAC5C,QAAQ,CAAC,CAAC;gBAAC,cAAc,CAAC,CAAC,cA
Ac,CAAC,CAAC;gBAC/C,sBAAsB,CAAC,MAAM,EAAE,IAAI,EAAE,UAAU,GAAG,EAAE,GAAG,KAAK,EA
AE,SAAS,EAAE,QAAQ,CAAC,CAAC;gBACnF,aAAa,CAAC,MAAM,EAAE,QAAQ,EAAE,KAAK,CAAC,CAA
C;gBACvC,IAAI,UAAU,EAAE;oBACd,WAAW,GAAG,4BAA4B,CAAC,MAAM,EAAE,KAAK,EAAE,QAAQ,C
AAC,GAAG,WAAW,CAAC;iBACnF;gBACD,MAAM;YACR,KAAK,IAAI,CAAC,YAAY;;gBAEpB,MAAM,W
AAW,GAAG,UAAU,CAAC,IAAI,CAAC,WAAW,CAAC,WAAW,IAAI,EAAE,CAAC,CAAC;gBACnE,IAAI,W
AAW,EAAE;oBACf,MAAM,cAAc,GAAG,QAAQ,CAAC,WAAW,CAAC,CAAC,EAAE,EAAE,CAAC,C
AAC;oBACpD,MAAM,aAAa,GAAkB,UAAU,CAAC,cAAc,CAAC;;oBAEhE,sBAAsB,CAClB,MAAM,E
AAE,UAAU,EAAE,SAAS,GAAG,cAAc,cAAc,EAAE,GAAG,EAAE,EAAE,SAAS,EAC9E,QAAQ,CAAC,CAAC;
oBACd,QAAQ,CAAC,KAAK,EAAE,KAAK,EAAE,mBAAmB,EAAE,SAAS,EAAE,aAAa,EAAE,QAAQ,CAAC,
CAAC;oBAChF,kBAAkB,CAAC,MAAM,EAAE,QAAQ,EAAE,KAAK,CAAC,CAAC;iBAC7C;gBACD,MAM;
SACT;QACD,WAAW,GAAG,WAAW,CAAC,WAAW,CAAC;KACvC;IACD,OAAO,WAAW,CAAC;AACrB,CA
AC;AAED,SAAS,aAAa,CAAC,MAAyB,EAAE,KAAa,EAAE,KAAa;IAC5E,IAAI,KAAK,K,KAAK,CAAC,
QAAQ;QACf,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;KACpB;AACH,CAAC;AAED,SAAS,kBAAkB,CAAC,
MAAyB,EAAE,KAAa,EAAE,KAAa;IACjF,IAAI,KAAK,K,KAAK,CAAC,QAAQ;QAC1B,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;KACpB;AACH,CAAC;AAED,SAAS,kBAAkB,CACvB,MAAyB,EAAE,aAA4B,EAAE,IAAY,EAAE,IAAY;IACrF,MAAM,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC;IAC3B,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;IAClB,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;AACpB

AAgB,CAAC,gBAAgB,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC;YACxE,IAAI,GAAG,GAAG,CAAC,CAAC
;;YAEZ,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,YAAY,CAAC,MAAM,EAAE,CAAC,EAAE,E
AAE;gBAC5C,IAAI,YAAY,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,KAAK,iBAAAiB,EAAE;oBAC5C,GAAG,
GAAG,CAAC,CAAC;oBACR,MAAM;iBACP;aACF;;YAED,MAAM,CAAC,UAAU,EAAE,kBAAkB,EAAE,WA
AW,CAAC,GAAG,YAAY,CAAC,GAAG,CAAC,CAAC;YACxE,IAAI,kBAAkB,EAAE;gBACtB,gBAAgB,CAA
C,GAAG,EAAE,CAAC;aACxB;iBAAM,IAAI,iBAAAiB,KAAK,UAAU,EAAE;gBAC3C,gBAAgB,CAAC,IAAI,CA
AC,UAAU,CAAC,CAAC;aACnC;;YAED,YAAY,CAAC,MAAM,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC;YA
C5B,OAAO,WAAW,CAAC;SACpB,CAAC,CAAC;KACJ;;IAGD,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,YAA
Y,CAAC,CAAC,MAAM,EAAE;QACrC,OAAO,MAAM,CAAC;KACf;;;;IAKD,MAAM,GAAG,MAAM,CAAC,O
AAO,CAAC,kBAAkB,EAAE,CAAC,KAAK,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,IAAI,EAAE,GA
AG;QAC9E,OAAO,YAAY,CAAC,cAAc,CAAC,GAAG,CAAC,GAAG,GAAG,KAAK,GAAG,YAAY,CAAC,GA
AG,CAAC,GAAG,GAAG,EAAE,GAAG,KAAK,CAAC;KACxF,CAAC,CAAC;;;;IAKH,MAAM,GAAG,MAAM,
CAAC,OAAO,CAAC,0BAA0B,EAAE,CAAC,KAAK,EAAE,GAAG;QAC7D,OAAO,YAAY,CAAC,cAAc,CAAC
,GAAG,CAAC,GAAG,YAAY,CAAC,GAAG,CAAW,GAAG,KAAK,CAAC;KAC/E,CAAC,CAAC;;;;;IAMH,MA
AM,GAAG,MAAM,CAAC,OAAO,CAAC,cAAc,EAAE,CAAC,KAAK,EAAE,GAAG;QACjD,IAAI,YAAY,CAA
C,cAAc,CAAC,GAAG,CAAC,EAAE;YACpC,MAAM,IAAI,GAAG,YAAY,CAAC,GAAG,CAAC,GAAa,CAAC;YAC3C
,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE;gBAChB,MAAM,IAAI,KAAK,CAAC,qCAAqC,KAAK,cAAc,GAG,
EAAE,CAAC,CAAC;aAChF;YACD,OAAO,IAAI,CAAC,KAAK,EAAG,CAAC;SACtB;QACD,OAAO,KAAK,C
AAC;KACd,CAAC,CAAC;IAEH,OAAO,MAAM,CAAC;AAChB;;ACrIA;;;;;;;AAsBA;;;;;;;;;;;;;;;;;;;;;;;;SAyBgB,
WAAW,CACvB,KAAa,EAAE,YAAoB,EAAE,mBAA2B,CAAC,CAAC;IACpE,MAAM,KAAK,GAAG,QAAQ,E
AAE,CAAC;IACzB,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,MAAM,aAAa,GAAG,aAAa,GAAG,KA
AK,CAAC;IAC5C,SAAS,IAAI,aAAa,CAAC,KAAK,EAAE,yBAAyB,CAAC,CAAC;IAC7D,MAAM,OAAO,GA
AG,WAAW,CAAS,KAAK,CAAC,MAAM,EAAE,YAAY,CAAE,CAAC;IACjE,MAAM,WAAW,GAAG,qBAAqB
,EAAyB,CAAC;IACnE,IAAI,KAAK,CAAC,eAAe,EAAE;QACzB,wBAAwB,CACpB,KAAK,EAAE,WAAW,KA
AK,IAAI,GAAG,CAAC,GAAG,WAAW,CAAC,KAAK,EAAE,KAAK,EAAE,aAAa,EAAE,OAAO,EAClF,gBAA
gB,CAAC,CAAC;KACvB;IACD,MAAM,KAAK,GAAG,KAAK,CAAC,aAAa,CAAU,CAAC;IACjD,MAAM,mBAAmB,
GAAG,WAAW,CAAC;IACxC,IAAI,CAAC,KAAK,EAAE;QACR,MAAM,IAAI,KAAK,CAAC,4BAA4B,KAAK,
EAAE,CAAC,CAAC;KAC5D;IACD,MAAM,CAAC,KAAK,EAAE,KAAK,CAAC,GAAG,KAAK,CAAC;IAC7B,MAAM,
CAAC,KAAK,EAAE,KAAK,CAAC,GAAG,KAAK,CAAC;IAC7B,MAAM,CAAC,KAAK,EAAE,KAAK,CAAC,GAAG,
KAAK,CAAC;IAC7B,MAAM,CAAC,KAAK,EAAE,KAAK,CAAC,GAAG,KAAK,CAAC;IAC7B,MAAM,CAAC,KAAK,
EAAE,KAAK,CAAC,GAAG,KAAK,CAAC;IAC7B,MAAM,CAAC,KAAK,EAAE,KAAK,CAAC,GAAG,KAAK,CAAC;
IAC7B,MAAM,CAAC,KAAK,EAAE,KAAK,CAAC,GAAG,KAAK,CAAC;IAC7B,MAAM,CAAC,KAAK,EAAE,KAAK,
CAAC,GAAG,KAAK,CAAC;IAC7B

AG,iBAAiB,CAAC,QAAQ,CAAC,CAAC;IACvC,IAAI,KAAK,CAAC,OAAO,CAAC,QAAQ,CAAC,EAAE;;;;QA
I3B,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,QAAQ,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE
;YACxCA,iBAAe,CACX,QAAQ,CAAC,CAAC,CAAC,EAAE,YAAY,EAAE,qBAAqB,EAAE,WAAW,EAAE,cA
Ac,CAAC,CAAC;SACpF;KACF;SAAM;QACL,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;QACzB,MAAM,K
AAK,GAAG,QAAQ,EAAE,CAAC;QACzB,IAAI,KAAK,GAAQ,cAAc,CAAC,QAAQ,CAAC,GAAG,QAAQ,GA
AG,iBAAiB,CAAC,QAAQ,CAAC,OAAO,CAAC,CAAC;QAC3F,IAAI,eAAe,GAAc,iBAAiB,CAAC,QAAQ,CAA
C,CAAC;QAE7D,MAAM,KAAK,GAAG,eAAe,EAAG,CAAC;QACjC,MAAM,UAAU,GAAG,KAAK,CAAC,eA
Ae,yCAAgD;QACxF,MAAM,QAAQ,GAAG,KAAK,CAAC,cAAc,CAAC;QACtC,MAAM,qBAAqB,GACvB,K
AK,CAAC,eAAe,wCAAoD;QAE7E,IAAI,cAAc,CAAC,QAAQ,CAAC,IAAI,CAAC,QAAQ,CAAC,KAAK,EAAE
;;YAE/C,MAAM,OAAO,GAAG,IAAI,mBAAmB,CAAC,eAAe,EAAE,cAAc,EAAE,iBAAiB,CAAC,CAAC;YAC
5F,MAAM,oBAAoB,GAAG,OAAO,CAChC,KAAK,EAAE,YAAY,EAAE,cAAc,GAAG,UAAU,GAAG,UAAU,G
AAG,qBAAqB,EACrF,QAAQ,CAAC,CAAC;YACd,IAAI,oBAAoB,KAAK,CAAC,CAAC,EAAE;gBAC/B,kBAAkB
,CACd,8BAA8B,CAC1B,KAA8D,EAAE,KAAK,CAAC,EAC1E,KAAK,EAAE,KAAK,CAAC,CAAC;gBAClB
,+BAA+B,CAAC,KAAK,EAAE,QAAQ,EAAE,YAAY,CAAC,MAAM,CAAC,CAAC;gBACtE,YAAY,CAAC,IA
AI,CAAC,KAAK,CAAC,CAAC;gBACzB,KAAK,CAAC,cAAc,EAAE,CAAC;gBACvB,KAAK,CAAC,YAAY,,E
AAE,CAAC;gBACrB,IAAI,cAAc,EAAE;oBAClB,KAAK,CAAC,eAAe,,+CAAsD;iBAC5E;gBACD,qBAAqB,CA
AC,IAAI,CAAC,OAAO,CAAC,CAAC;gBACpC,KAAK,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;aACrB;iBAAM
;gBACL,qBAAqB,CAAC,oBAAoB,CAAC,GAAG,OAAO,CAAC;gBACtD,KAAK,CAAC,oBAAoB,CAAC,GA
AG,OAAO,CAAC;aACvC;SACF;aAAM;;;;;;;;;;;;;;;;;;;;YAsBL,MAAM,6BAA6B,GAAG,OAAO,CAAC,KAAK,,E
AAE,YAAY,EAAE,UAAU,GAAG,qBAAqB,EAAE,QAAQ,CAAC,CAAC;YAC/E,MAAM,iCAAiC,GAAG,OA
AO,CAAC,KAAK,EAAE,YAAY,EAAE,UAAU,EAAE,UAAU,GAAG,qBAAqB,CAAC,CAAC;YACjF,MAAM,yB
AAyB,GAAG,iCAAiC,CAAC,GAAG,6BAA6B,CAAC,MAAM;YAC3F,IAAI,cAAc,EAAE;gBAClB,KAAK,CAAC
,eAAe,,+BAAsD;iBAC3E;gBACD,qBAAqB,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;aACrC;iBAAM;gBACL,
qBAAqB,CAAC,yBAAyB,CAAC;aACjD;YACD

AAmB,EAAE,CAAC;KACpC;IACD,OAAO,YAAY,CAAC,KAAM,CAAC,IAAI,CAAC,OAAO,CAAC,GAAG,C
AAC,CAAC;AAC/C,CAAC;AAED;;;AAGA,SAAS,OAAO,CAAC,IAAS,EAAE,GAAU,EAAE,KAAa,EAAE,GA
AW;IAChE,KAAK,IAAI,CAAC,GAAG,KAAK,EAAE,CAAC,GAAG,GAAG,EAAE,CAAC,EAAE,EAAE;QACh
C,IAAI,GAAG,CAAC,CAAC,CAAC,KAAK,IAAI;YAAE,OAAO,CAAC,CAAC;KAC/B;IACD,OAAO,CAAC,C
AAC,CAAC;AACZ,CAAC;AAED;;;AAGA,SAAS,6BAA6B,CACP,CAAY,EAAE,KAAY,EAAE,KAAY,EACnE,
KAAyB;IAC3B,OAAO,YAAY,CAAC,IAAI,CAAC,KAAM,EAAE,EAAE,CAAC,CAAC;AACvC,CAAC;AAED;;
;;;AAKA,SAAS,iCAAiC,CACX,CAAY,EAAE,KAAY,EAAE,KAAY,EACnE,KAAyB;IAC3B,MAAM,SAAS,GA
AG,IAAI,CAAC,KAAM,CAAC;IAC9B,IAAI,MAAa,CAAC;IAClB,IAAI,IAAI,CAAC,eAAe,EAAE;QACxB,MA
AM,cAAc,GAAG,IAAI,CAAC,eAAe,CAAC,kBAAmB,CAAC;QAChE,MAAM,cAAc,GAAG,iBAAiB,CAAC,K
AAK,EAAE,KAAK,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,eAAgB,CAAC,KAAM,EAAE,KAAK,CAAC,CAA
C;;QAEhF,MAAM,GAAG,cAAc,CAAC,KAAK,CAAC,CAAC,EAAE,cAAc,CAAC,CAAC;;QAEjD,YAAY,,CAA
C,SAAS,EAAE,MAAM,CAAC,CAAC;;QAEhC,KAAK,IAAI,CAAC,GAAG,cAAc,EAAE,CAAC,GAAG,cAAc,C
AAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAC3D,MAAM,CAAC,IAAI,CAAC,cAAc,CAAC,CAAC,CAAC,CAAC,CA
AC,CAAC;SAChC;KACF;SAAM;QACL,MAAM,GAAG,EAAE,CAAC;;QAEZ,YAAY,,CAAC,SAAS,,EAAE,MA
AM,CAAC,CAAC;KACjC;IACD,OAAO,MAAM,CAAC;AAChB;;;AAGA,SAAS,YAAY,,CAAC,SA
A2B,EAAE,MAAa;IAC9D,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,,EA
AE,CAAC,EAAE,EAAE;QACzC,MAAM,OAAO,GAAG,SAAS,CAAC,CAAC,CAAC,CAAgB,CAAC;QAC7C,MAAM,,
CAAC,IAAI,CAAC,OAAO,,EAAE,CAAC,CAAC;KACxB;IACD,OAAO,MAAM,,CAAC;AAChB;;;AAGA,SAS
AAGA,SAAS,YAAY,,CAACjB,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,
EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE
,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAA
C,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SA
AS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,E
AE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,C
AC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,S
AAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,
EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE
,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CAAC,SAAS,EAAE,CA

W;;AAEnC;;ACVA;;;;;;;AAeA;;;;;SAKgB,gBAAgB;IAC9B,OAAO,gBAAgB,CAAC,eAAe,EAAG,EAAE,QAAQ,EAAE,CAAC,CAAC;AAC1D,CAAC;AAED;;;;;;;SAOgB,gBAAgB,CAAC,KAAY,EAAE,KAAY;IACzD,OAAO,IAAI,UAAU,CAAC,gBAAgB,CAAC,KAAK,EAAE,KAAK,CAAa,CAAC,CAAC;AACpE,qCAAqC,GAAG,iBAAiB;AACtE,MAAM,oCAAoC,GAAG,IAAI,CAAC;AAClD,MAAM,0BAA0B,GAAG,4BAA4B,oCAAoC,CAAC;AAEjG;;;;;;;;;;;;AAYA;AACA;AACA;MACa,UAAU;IAwBrB,YAAY,aAAgB;QAC1B,IAAI,CAAC,aAAa,GAAG,aAAa,CAAC;QACnC,IAAI,CAAC,KAAK,GAAG,aAAa,CAAC,aAAa,CAAC;QACzC,IAAI,CAAC,MAAM,GAAG,aAAa,CAAC,cAAc,CAAC;QAC3C,IAAI,CAAC,MAAM,GAAG,aAAa,CAAC,cAAc,CAAC;QAC3C,IAAI,CAAC,KAAK,GAAG,aAAa,CAAC,aAAa,CAAC;QACzC

AAM,CAAC,aAAa,CAAC;wBAC3C,WAAW,CAAC,aAAa,CAAC,GAAG,iBAAiB,GAAG,sBAAsB,CAAC;qBA
CzE;iBACF;aACF;YAED,IAAI,gBAAgB,KAAK,YAAY,EAAE;gBACrC,EAAE,CAAC,MAAM,EAAE,gBAAgB,
EAAE,YAAY,CAAC,CAAC;aAC5C;SACF;KACF;IAED,mBAAmB,CAAC,EAA8C;QAChE,IAAI,MAAqC,CAA
C;QAC1C,KAAK,MAAM,GAAG,IAAI,CAAC,eAAe,EAAE,MAAM,KAAK,IAAI,EAAE,MAAM,GAAG,MAA
M,CAAC,aAAa,EAAE;YAClF,EAAE,CAAC,MAAM,CAAC,CAAC;SACZ;KACF;IAED,gBAAgB,CAAC,EAA8
C;QAC7D,IAAI,MAAqC,CAAC;QAC1C,KAAK,MAAM,GAAG,IAAI,CAAC,cAAc,EAAE,MAAM,KAAK,IAAI
,EAAE,MAAM,GAAG,MAAM,CAAC,UAAU,EAAE;YAC9E,EAAE,CAAC,MAAM,CAAC,CAAC;SACZ;KACF;IAED,gBAAgB,CAAC,EAA8C;QAC7D,IAAI,MAAqC,CAAC;QAC1C,KAAK,MAAM,GAAG,IAAI,CAAC,cAAc,EAAE,MAAM,KAAK,IAAI,EAAE,MAAM,GAAG,MAAM,CAAC,U
AAU,EAAE,MAAM,KAAK,IAAI,EAAE,MAAM,GAAG,MAAM,CAAC,UAAU,EAAE;YAC1E,EAAE,CAAC,M
AAM,CAAC,CAAC;SACZ;KACF;IAED,kBAAkB,CAAC,EAA8C;QAC/D,IAAI,MAAqC,CAAC;QAC1C,KAAK,MAAM,GAAG,IAAI,CAAC,cAAc,EAAE,MAAM,KAAK,IAAI,EAAE,MAAM,GAAG,MAAM,CAAC,YAAY,E
AAE;YAC/E,EAAE,CAAC,MAAM,CAAC,CAAC;SACZ;KACF;IAED,qBAAqB,CAAC,EA8C;QAClE,IAAI,MAAqC,CAAC;QAC1C,KAAK,MAAM,GAAG,IAAI,CAAC,cAAc,EAAE,MAAM,KAAK,IAAI,EAAE,MAAM,GAAG,MAAM,CAAC,oBAAoB,EAAE,MAAM,KAAK,IAAI,EAAE,MAAM
,GAAG,MAAM,CAAC,mBAAmB,EAAE;YAC7F,EAAE,CAAC,MAAM,CAAC,CAAC;SACZ;KACF;IAED,IAAA
I,CAAC,UAAwC;QAC3C,IAAI,UAAU,IAAI,IAAI;YAAE,UAAU,GAAG,EAAE,CAAC;QAC1C,IAAI,kB
AAkB,CAAC,UAAU,CAAC,EAAE;YACnC,MAAM,IAAI,KAAK,CACX,yBAAyB,SAAS,CAAC,UAAU,CAC
0CAA0C,CAAC,CAAC;SAC/F;QAED,IAAI,IAAI,CAAC,KAAK,CAAC,UAAU,CAAC,EAAE;YAC1B,OAAO,I
AAI,CAAC;SACb;aAAM;YACL,OAAO,IAAI,CAAC;SACb;KACF;IAED,SAAS,MAAK;IAEd,KAAK,CAAC,U
AAyB;QAC7B,IAAI,CAAC,MAAM,EAAE,CAAC;QAEd,IAAI,MAAM,GAAAkC,IAAI,CAAC,OAAO,CAAC;QA
CzD,IAAI,UAAU,GAAY,KAAK,CAAC;QAChC,IAAI,KAAa,CAAC;QAClB,IAAI,IAAI,CAAC,OAAO,CAAC;QACZ,IAAI,WAAW
AgB,CAAC;QACrB,IAAI,KAAK,CAAC,OAAO,CAAC,UAAU,CAAC,EAAE;YAC5B,yBAAyB,MAAM,
GAAG,UAAU,CAAC,MAAM,CAAC;YAEtD,KAAK,IAAI,KAAK,GAAG,CAAC,EAAE,KAAK,GAAG,UAAU,CAAC,MAAM,EAAE,KAAK,EAAE,EAAE;gBACtD,MAAM,IAAI,GAAG,UAAU,CAAC,KAAK,CAAC;gBAC9B,IAAI,OAAO,IAAI,KAAK,QAAQ,EAAE;oBAC1B,MAAM,IAAI,KAAK,CAAC,yBAAyB,KAAK,EAAE,CAAC,CAAC;iBACrD;gBACD,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC,CAAC;gBACxB,IAAI,IAAI,KAAK,SAAS,EAAE;oBACpB

AI,CAAC,UAAU,EAAE,MAAM,KAAK,IAAI,EAAE,MAAM,GAAG,MAAM,CAAC,UAAU,EAAE;gBAC1E,MAAM,CAAC,aAAa,GAAG,MAAM,CAAC,YAAY,CAAC;aAC5C;YACD,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC;YACzC,IAAI,CAAC,aAAa,GAAG,IAAI,CAAC,aAAa,GAAG,IAAI,CAAC;YAC/C,IAAI,CAAC,oBAAAoB,GAAG,IAAI,CAAC,oBAAAoB,GAAG,IAAI,CAAC;;;SAI9D;KACF;;;;;;;;;;IAYD,SAAS,CAAC,MAAAqC,EAAE,IAAO,EAAE,WAAAgB,EAAE,KAAAa;;QAGvF,IAAI,cAA6C,CAAC,QAAElD,IAAI,MAAM,KAAK,IAAI,EAAE;YACnB,IAAI,MAAM,GAAG,OAAO,CAAC,SAAC/B/B,MAAM,GAAG,IAAI,CAAC,OAAO,CAAC,SAAC/B/B,MAAM;;YAEL

AC;;;;QAI1D,MAAM,CAAC,KAAK,GAAG,IAAI,CAAC;QACpB,MAAM,CAAC,KAAK,GAAG,UAAU,CAAC;QAC1B,IAAI,IAAI,KAAK,IAAI,EAAE;YACjB,IAAI,CAAC,OAAO,GAAG,MAAM,CAAC;SACvB;aAAM;YACL,IAAI,CAAC,KAAK,GAAG,MAAM,CAAC;SACrB;QACD,IAAI,UAAU,KAAK,IAAI,EAAE;YACvB,IAAI,CAAC,OAAO,GAAG,MAAM,CAAC;SACvB;aAAM;YACL,UAAU,CAAC,KAAK,GAAG,MAAM,CAAC;SAC3B;QAED,IAAI,IAAI,CAAC,cAAc,KAAK,IAAI,EAAE;YAChC,IAAI,CAAC,cAAc,GAAG,IAAI,EAAE;YAC5B,IAAI,aAAa,KAAK,IAAI,EAAE;YAC1B,aAAa,CAAC,KAAK,GAAG,MAAM,CAAC;SAC9B;QACD,IAAI,CAAC,MAAM,CAAC,KAAK,GAAG,MAAM,CAAC;QAC3B

KAC5B;CACF;AAED,MAAM,aAAa;IAAnB;QACE,QAAG,GAAG,IAAI,GAAG,EAAoC,CAAC;KAgDnD;IA9C
C,GAAG,CAAC,MAAgC;QAClC,MAAM,GAAG,GAAG,MAAM,CAAC,SAAS,CAAC;QAE7B,IAAI,UAAU,GA
AG,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;QACnC,IAAI,CAAC,UAAU,EAAE;YACf,
UAAU,GAAG,IAAI,wBAAwB,EAAK,CAAC;YAC/C,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,EAAE,
UAAU,CAAC,CAAC;SAC/B;QACD,UAAU,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;KACxB;;;;;;;;IASD,G
AAG,CAAC,SAAc,EAAE,cAA2B;QAC7C,MAAM,GAAG,GAAG,SAAS,CAAC;QACtB,MAAM,UAAU,GAG,
IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;QACrC,OAAO,UAAU,GAAG,UAAU,CAAC,G
AAG,CAAC,SAAS,EAAE,cAAc,CAAC,GAAG,IAAI,CAAC;KACtE;;;;;;IAOD,MAAM,CAAC,MAAgC;QACrC,
MAAM,GAAG,GAAG,MAAM,CAAC,SAAS,CAAC;QAC7B,MAAM,UAAU,GAAG,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,
GAAG,CAAC,GAAG,CAAC,GAAG,CAAE,CAAC;;QAEnE,IAAI,UAAU,CAAC,MAAM,CAAC,UAAU,EAAE;YAC
7B,IAAI,CAAC,GAAG,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;SACtB;QACD,OAAO,MAAM,CAAC;KAC
f;IAED,IAAI,OAAO;QACT,OAAO,IAAI,CAAC,GAAG,CAAC,IAAI,KAAK,CAAC,CAAC;KAC5B;IAED,KAA
K;QACH,IAAI,CAAC,GAAG,CAAC,KAAK,EAAE,CAAC;KAClB;CACF;AAED,SAAS,gBAAgB,CAAC,IAAS,
EAAE,eAAuB,EAAE,WA0B;IACtF,MAAM,aAAa,GAAG,IAAI,CAAC,SAAS,CAAC,aAAa,CAAC;IACzC,aAAa,CAAC,IAAI,KAAK,CAAC,CAAC;KAC5B;IAED,KAAK,MAAM,CAAC,IAAI,WAAW,EAAE;QAC3B,MAAM,CAAC,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC;QAC5B,IAAI,CAAC,CAAC,UAAU,EAAE;YAChB,SAAS;SACV;QACD,MAAM,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC;QAClB,IAAI,CAAC,CAAC,UAAU,EAAE;YAChB,SAAS;SACV;QACD,MAAM,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC;KACnB;IAED,OAAO,IAAI,CAAC;CACb;AAED,SAAS,gBAAgB,CAAC,IAAS,EAAE,eAAuB,EAAE,WAA0B;IACtF,MAAM,aAAa,GAAG,IAAI,CAAC,SAAS,CAAC,aAAa,CAAC;IACzC,aAAa,CAAC,IAAI,KAAK,CAAC,CAAC;KAC5B;IAED,KAAK,MAAM,CAAC,IAAI,WAAW,EAAE;QAC3B,MAAM,CAAC,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC;QAC5B,IAAI,CAAC,CAAC,UAAU,EAAE;YAChB,SAAS;SACV;QACD,MAAM,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC;QAClB,IAAI,CAAC,CAAC,UAAU,EAAE;YAChB,SAAS;SACV;QACD,MAAM,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC;KACnB;IAED,OAAO,IAAI,CAAC;CACb;AAED,SAAS,gBAAgB,CAAC,IAAS,EAAE,eAAuB,EAAE,WAA0B;IACtF,MAAM,aAAa,GAAG,IAAI,CAAC,SAAS,CAAC,aAAa,CAAC;IACzC,aAAa,CAAC,IAAI,KAAK,CAAC,CAAC;KAC5B;IAED,KAAK,MAAM,CAAC,IAAI,WAAW,EAAE;QAC3B,MAAM,CAAC,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC;QAC5B,IAAI,CAAC,CAAC,UAAU,EAAE;YAChB,SAAS;SACV;QACD,MAAM,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC;QAClB,IAAI,CAAC,CAAC,UAAU,EAAE;YAChB,SAAS;SACV;QACD,MAAM,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC;KACnB;IAED,OAAO,IAAI,CAAC;CACb;AAED,SAAS,gBAAgB,CAAC,IAAS,EAAE,eAAuB,EAAE,W

AAK,IAAI,MAAM,GAAqC,YAAY,EAAE,MAAM,KAAK,IAAI,EAC5E,MAAM,GAAG,MAAM,CAAC,YAAY,EAAE;gBACjC,IAAI,MAAM,KAAK,IAAI,CAAC,QAAQ,EAAE;oBAC5B,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC;iBACtB;gBACD,IAAI,CAAC,QAAQ,CAAC,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;gBACjC,MAAM,CAAC,YAAY,,GAAG,MAAM,CAAC,KAAK,CAAC;gBACnC,MAAM,CAAC,aAAa,GAAG,MAAM,CAAC,YAAY,,CAAC;gBAC3C,MAAM,CAAC,YAAY,,GAAG,IAAI,CAAC;gBAC3B,MAAM,CAAC,KAAK,GAAG,GAAG,IAAI,CAAC;gBACvB,MAAM,CAAC,KAAK,GAAG,GAAG,MAAM,CAAC,YAAY,,CAAC;gBACtC,MAAM,CAAC,KAAK,GAAG,GAAG,IAAI,CAAC;aACxB;SACF;;QAGD,IAAI,IAAI,CAAC,YAAY,;YAAE,IAAI,CAAC,cAAc;YAAE,IAAI,CAAC,cAAc;;;;;;;;IAUO,qBAAqB,CAAzB,MAAM,EAAC,CAAC,MAAM,CAAC;QACrC,IAAI,MAAM,GAAG,IAAI,CAAC,KAAK,CAAC,MAAM,GAAG,CAAC,CAAC;QACnC,IAAI,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC,IAAI,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,KAAK,IAAI,EAAE;YACtD,IAAI,CAAC,KAAK,CAAC,MAAM,EAAE,CAAC;SACrB;IACH,CAAC;IAED,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;AACxB,CAAC;AAED,MAAM,CAAC,MAAM,CAAC,SAAS,CAAC,IAAI,GAAG,UAAU,IAAI;IAC3C,IAAI,IAAI,CAAC,MAAM,KAAK,CAAC,EAAE;QACrB,OAAO,IAAI,CAAC;KACb;IAED,IAAI,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,KAAK,IAAI,EAAE;QAC3B,IAAI,CAAC,KAAK,EAAE,CAAC;KACd;IAED,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAEF

,GAAqC,IAAI,CAAC;;QAEvD,UAAK,GAAqC,IAAI,CAAC;;QAE/C,UAAK,GAAqC,IAAI,CAAC;;QAE/C,eAAA
U,GAAqC,IAAI,CAAC;;QAEpD,iBAAY,GAAqC,IAAI,CAAC;;QAEtD,iBAAY,GAAqC,IAAI,CAAC;KAEzB;;;
AC1R/B;;;;;;;AAwIA;;;;;MAKa,eAAe;IAY1B,YAAY,SAAkC;QAC5C,IAAI,CAAC,SAAS,GAAG,SAAS,CAAC;
KAC5B;IAED,OAAO,MAAM,CAAC,SAAkC,EAAE,MAAwB;QACxE,IAAI,MAAM,IAAI,IAAI,EAAE;YAClB,
MAAM,MAAM,GAAG,MAAM,CAAC,SAAS,CAAC,KAAK,EAAE,CAAC;YACxC,SAAS,GAAG,SAAS,CAAC
,MAAM,CAAC,MAAM,CAAC,CAAC;SACtC;QAED,OAAO,IAAI,eAAe,CAAC,SAAS,CAAC,KAAK;KACvC;;;
;;;;;;;;;;;;;;;;;IAsBD,OAAO,MAAM,CAAC,SAAkC,QAAC,9C,OAAO;YACL,OAAO,EAAE,eAAe;YACxB,UAAU,,E
AAE,CAAC,MAAuB;gBAClC,IAAI,CAAC,MAAM,EAAE;;;;oBAIX,MAAM,IAAI,KAAK,CAAC,yDAAyD,CA
AC,CAAC;iBAC5E;gBACD,OAAO,eAAe,CAAC,MAAM,CAAC,SAAS,EAAE,MAAM,CAAC,CAAC;aAClD;;Y
AED,IAAI,EAAE,CAAC,CAAC,eAAe,EAAE,IAAI,QAAQ,EAAE,EAAE,IAAI,QAAQ,EAAE,CAAC,CAAC;SA
C1D,CAAC;KACH;IAED,IAAI,CAAC,QAAa;QAChB,MAAM,OAAO,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,IAAI,C
AAC,CAAC,IAAI,CAAC,CAAC,QAAQ,CAAC,QAAQ,CAAC,CAAC,CAAC;QAC/D,IAAI,OAAO,IAAI,IAAI,EAAE
;YACnB,OAAO,OAAO,CAAC;SAChB;aAAM;YACL,MAAM,IAAI,KAAK,CAAC,2CA2CA2C,QAAQ,cAC/D
,uBAAuB,CAAC,QAAQ,CAAC,GAAG,CAAC,CAAC;SAC3C;KACF;;AArED;AACO,qBAAK,GAAG,kBAAkB,
CAAC;IAChC,KAAK,EAAE,eAAe;IACtB,UAAU,EAAE,MAAM;IAClB,OAAO,EAAE,MAAM,IAAI,eAAe,EAAE,CA
AC,CAAC,IAAI,4BAA4B,EAAE,CAAC,CAAC;CACzE,uBAAuB,CAAC,IAAS,EAAE,OAAO,IAAI,IAAI,EAAE,IAAI,
OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,OAAO,IAAI,CAAC;AACrC;;ACxNA;;;;;;;AAiHA;;;;;MAKa,
eAAe;IAa1B,YAAY,SAAkC;QAC5C,IAAI,CAAC,SAAS,GAAG,SAAS,CAAC;
KAC5B;IAED,OAAO,MAAM,CAAI,SAAkC,EAAE,MAAwB;QAC3E,IAAI,MAAM,IAAI,IAAI,EAAE;;;oBAGX,MAAM,IAAI,KAAK,CAAC,yDAAyD,CA
AC,CAAC;iBAC5E;gBACD,OAAO,eAAe,CAAC,MAAM,CAAC,SAAS,EAAE,MAAM,CAAC,CAAC;aAClD;;YAED,IAAI,EAAE,CAAC,CAAC,eAAe,EAAE,CAAC,CAAC,eAAe,EAAE,EAAE,IAAI,QAAQ,EAAE,EAAE,IAAI,QA
AQ,EAAE,EAAE,IAAI,QAAQ,EAAE,CAAC,CAAC;SAC1D,CAAC;KACH;IAED,IAAI,CAAC,QAAa;QAChB,MAAM,OAAO,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,IAAI

L,aAAa,CACT,UAAU,EACV,2EAA2E,CAAC,CAAC;gBACrF,kBAAkB,CAAC,UAAU,CAAC,KAAK,CAAC,EAAE,UAAU,EAAE,WAAW,EAAE,MAAM,EAAE,IAAI,CAAC,CAAC;aAC9E;SACF;QACD,KAAK,GAAG,YAAY,GAAG,KAAK,CAAC,cAAc,GAAG,KAAK,CAAC,IAAI,CAAC;KAC1D;IAED,OAAO,MAAM,CAAC;AAChB;;ACpFA;;;;;;;MAuBa,OAAO;IAWlB;;;;;;;;;;;;IAYW,MAAa;;;;;;IAQZ,mBAA2B;QAR5B,WAAM,GAAN,MAAM,CAAO;QAAS,gBAAW,GAAX,WAAW,CAAO;QAAS,gBAAW,GAAX,WAAW,CAAO;QAAS,gBAAW,GAAX,WAAW

AO;QAAU,2BAAsB,GAAtB,sBAAsB,CAAgB;QACzE,eAAU,GAAV,UAAU,CAAY;KAEhC;IAED,kBAAkB,CAAC,OAAU;QAC3B,MAAM,aAAa,GAAG,IAAI,CAAC,sBAAsB,CAAC,MAAe,CAAC;QAClE,MAAM,aAAa,GAAG,WAAW,CAC7B,iBAAiB,EAAE,aAAa,EAAE,OAAO,wBA0B,IAAI,EAC5E,aAAa,CAAC,SAAS,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;QAErD,MAAM,qBAAqB,GAAG,IAAI,CAAC,iBAAiB,CAAC,CAAC,CAAC;QACvD,MAAM,kBAAkB,GAAG,IAAI,CAAC,sBAAsB,CAAC,CAAC,CAAC;QACz

M,CAAe,CAAC;gBACnD,SAAS;oBACL,WAAW,CACP,YAAY,CAAC,cAAc,CAAC,EAAE,IAAI,EAClC,+DAA
+D,CAAC,CAAC;;;gBAKzE,MAAM,SAAS,GAAG,IAAI,kBAAkB,CACpC,cAAc,EAAE,cAAc,CAAC,MAAM,C
AAuB,EAAE,cAAc,CAAC,MAAM,CAAC,CAAC,CAAC;gBAE1F,SAAS,CAAC,MAAM,CAAC,SAAS,CAAC,O
AAO,CAAC,OAAO,CAAC,CAAC,CAAC;aAC9C;SACF;;QAGD,MAAM,WAAW,GAAG,IAAI,CAAC,YAAY,C
AAC,KAAK,CAAC,CAAC;QAC7C,MAAM,UAAU,GAAG,IAAI,CAAC,WAAW,CAAC;QACpC,UAAU,CAAC,
KAAK,EAAE,KAAK,EAAE,UAAU,EAAE,WAAW,CAAC,CAAC;;QAGlD,MAAM,UAAU,GAAG,oBAAoB,CA
AC,WAAW,EAAE,UAAU,CAAC,CAAC;QACjE,MAAM,QAAQ,GAAG,KAAK,CAAC,QAAQ,CAAC;Q
ACjC,MAAM,WAAW,GAAG,gBAAgB,CAAC,QAAQ,EAAE,UAAU,CAAC,MAAM,CAAwB,CAAC,CAAC;Q
AC1F,IAAI,WAAW,KAAK,IAAI,EAAE;YACxB,kBAAkB,CAAC,KAAK,EAAE,UAAU,CAAC,MAAM,CAAC,
EAAE,QAAQ,EAAE,KAAK,EAAE,WAAW,EAAE,UAAU,CAAC,CAAC;SACzF;QAEA,OAA0B,CAAC,wBAA
wB,CAAC,IAAI,CAAC,CAAC;QAC3D,UAAU,CAAC,mBAAmB,CAAC,UAAU,CAAC,EAAE,WAAW,EAAE,O
AAO,CAAC,CAAC;QAElE,OAAO,OAAO,CAAC;KAChB;IAED,IAAI,CAAC,OAAgB,EAAE,QAAgB;QACrC,I
AAI,SAAS,IAAI,OAAO,CAAC,SAAS,EAAE;YAClC,MAAM,IAAI,KAAK,CAAC,kBAAkB,CAAC,CAAC;SAC
rE;QACD,OAAO,IAAI,CAAC,MAAM,CAAC,OAAO,EAAE,QAAQ,CAAC,CAAC;KAC vC;IAED,OAAO,CAAC
,OAAgB;QACtB,MAAM,WAAW,GAAG,WAAW,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;QAClD,OAAO,W
AAW,KAAK,IAAI,GAAG,WAAW,CAAC,OAAO,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC,CAAC;KACjE;IA
ED,MAAM,CAAC,KAAc;QACnB,MAAM,WAAW,GAAG,IAAI,CAAC,YAAY,CAAC,KAAK,EAAE,CAAC,CA
AC,CAAC,CAAC;QACjD,YAAY,CAAC,WAAW,EAAE,IAAI,CAAC,WAAW,CAAC,CAAC;QAC5C,OAAO,C
AAC;QAE/D,IAAI,YAAY,EAAE;;;;;;;YAOhB,eAAe,CAAC,mBAAmB,CAAC,IAAI,CAAC,WAAW,CAAC,EAA
E,WAAW,CAAC,CAAC;YACpE,YAAY,CAAC,YAAY,CAAC,KAAK,CAAC,EAAE,YAAY,CAAC,CAAC;SAC
jD;KACF;IAED,MAAM,CAAC,KAAc;QACnB,MAAM,WAAW,GAAG,IAAI,CAAC,YAAY,CAAC,KAAK,EAAE,
E,CAAC,CAAC,CAAC,CAAC;QACjD,MAAM,IAAI,GAAG,UAAU,CAAC,IAAI,CAAC,WAAW,EAAE,WAAW
,CAAC,CAAC;QAEvD,MAAM,WAAW,GAAG,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,WAAW,,
CAAC,EAAE,WAAW,CAAC,IAAI,CAAC;QACxF,OAAO,WAAW,GAAG,IAAIC,OAAS,CAAC,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC;KAC
lD;IAEO,YAAY,CAAC,KAAc,EAAE,QAAgB,CAAC;QACpD,IAAI,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,
EAAE;YACjB,MAAM,IAAI,KAAK,CAAC,kBAAkB,CAAC,CAAC;SAC5B5B;QACD,IAAI,SAAS,CAAC,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,WAAW

CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;IAC/B,OAAO,GAAG,CAAC;AACb,CAAC;SAEe,cAAc,CAAC,GAAW,EAAE,OAAqB;IAC/D,MAAM,GAAG,GAAG,IAAI,KAAK,CAAC,GAAG,CAAC,CAAC;IAC3B,gBAAgB,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;IAC/B,OAAO,GAAG,CAAC;AACb,CAAC;AAED,SAAS,gBAAgB,CAAC,GAAG,EAAE,OAAqB;IACxD,MAAM,GAAG,GAAG,IAAI,KAAK,CAAC,GAAG,CAAC,CAAC;IAC3C,GAAW,CAAC,YAAY,CAAC,QAAQ,CAAC,IAAI,CAAC,CAAC,CAAC

AC,EAAE,KAAK,CAAC,EAAE;QAC/D,OAAO,IAAI,CAAC;KACb;IACD,OAAO,KAAK,CAAC;AACf,CAAC;SAEe,qBAAqB,CACjC,IAAc,EAAE,GAAY,EAAE,UAAkB,EAAE,KAAU;IAC9D,IAAI,YAAY,CAAC,IAAI,EAAE,GAAG,EAAE,UAAU,EAAE,KAAK,CAAC,EAAE;QAC9C,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,UAAU,EAAE,KAAK,CAAC;KACtC;AACL,CAAC;AAED,SAAS,YAAY,CAAC,IAAc,EAAE,GAAY,EAAE,UAAkB,EAAE,KAAU;IAC9E,IAAI,CAAC,GAAG,CAAC,UAAU,EAAE,KAAK,CAAC;AAC/B,CAAC;AAED,SAAS,YAAY,CAAC,IAAc,EAAE,GAAY,EAAE,UAAkB;IAClE,IAAI,KAAK,GAAG,IAAI,CAAC,GAAG,CAAC,UAAU,CAAC;IAChC,IAAI,KAAK,KAAK,SAAS,EAAE;QACrB,OAAO,KAAK;KACf;IACD,IAAI,CAAC,GAAG,CAAC,UAAU,EAAE,KAAK,GAAG,IAAI,GAAG,EAAE,CAAC;IACvC,OAAO,KAAK;AAChB

AAC,KAAK,4BAA8B,CAAC;YAClD,CAAC,YAAY,CAAC,KAAK,qCAAgC,CAAC;aACnD,YAAY,CAAC,OA
AQ,CAAC,qBAAqB;iBAC1C,YAAY,CAAC,OAAQ,CAAC,qBAAsB,CAAC,aAAa;oBACtD,iBAAiB,CAAC,SA
AS;;oBAE/B,YAAY,CAAC,OAAQ,CAAC,qBAAsB,CAAC,aAAa,KAAK,CAAC,CAAC,CAAC,EAAE;;;YAGxE,
OAAO,aAAa,CAAC,IAAI,EAAE,GAAG,CAAC,YAAa,CAAC,SAAS,CAAC,CAAC,aAAa,CAAC;SACvE;KACF
;SAAM;QACL,OAAO,UAAU,CAAC;KCnB;AACH,CAAC;AAED,MAAM,gBAAgB,GAAG,IAAI,OAAO,,EAAA
wB,CAAC;SAE7C,iBAAiB,CAA4B,OAA6B;IACxF,IAAI,KAAK,GAAG,gBAAgB,CAAC,GAAG,CAAC,OAAO,,
CAAO,CAAC;IAChD,IAAI,CAAC,KAAK,EAAE;QACV,KAAK,GAAG,OAAO,CAAC,YAAY,CAAC;QAC5B,gBAAgB,CAAC,GAAG,CAAC,OAAO,,KAAK,CAAC,CAAC,CA
AC;QAC5B,KAAK,CAAC,OAAO,GAAG,OAAO,CAAC;QACxB,gBAAgB,CAAC,GAAG,CAAC,CAAC,OAAO,,EAAE,
KAAK,CAAC,CAAC;KCtC;IACD,OAAO,KAAK,CAAC;AACf,CAAC;AAEf,MAAM,WAAW,,CAAC;SAEe,uBAAuB,CAAC,IAAa,EAAE,OAAgB,EAAE,OAAgB;IAAE,IAAI,CAAC,IAAI,IAAI,CAAC,OAAO,IAAI,CAAC,OAAO,EAAE;QAAE,OAAO,KAAK,CAAC;KAAE;IAAC,IAAI,IAAI,KAAK,OAAO,EAAE;QAAE,OAAO,IAAI,CAAC;KAAE;IAAC,IAAI,IAAI,CAAC,MAAM,KAAK,OAAO,CAAC,MAAM,EAAE;QAAE,OAAO,KAAK,CAAC;KAAE;IAAC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QAAE,IAAI,IAAI,CAAC,CAAC,CAAC,KAAK,OAAO,CAAC,CAAC,CAAC,EAAE;YAAE,OAAO,KAAK,CAAC;SAAE;KAAE;IAAC,OAAO,IAAI,CAAC;AAAA,CAAC;SAEvP,kBAAk

AE;YACnE,uBAAuB,CACnB,IAAI,EAAE,MAAM,EAAE,OAAO,CAAC,SAAS,GAAG,CAAC,EAAE,OAAO,C
AAC,SAAS,GAAG,OAAO,CAAC,UAAU,EAAE,UAAU,EACvF,WAAW,EAAE,MAAM,CAAC,CAAC;SAC1B;
KACF;AACH,CAAC;AAED,SAAS,oBAAoB,CACzB,IAAc,EAAE,UAAe,EAAE,MAAwB,EAAE,UAAe,EAAE,
WAAgB,EAC5F,MAAc;IAChB,MAAM,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC;IAC/B,QAAQ,GAAG,QAAQ,IAAI,MAAM;QAC
Z;YACE,QAAQ,CAAC,WAAW,CAAC,UAAU,EAAE,UAAU,CAAC,CAAC;YAC7C,MAAM;QACR;YACE,QA
AQ,CAAC,YAAY,CAAC,UAAU,EAAE,UAAU,EAAE,WAAW,CAAC,CAAC;YAC3D,MAAM;QACR;YACE,Q
AAQ,CAAC,WAAW,CAAC,UAAU,EAAE,UAAU,CAAC,CAAC;YAC7C,MAAM;QACR;YACE,MAAO,CAAC,
IAAI,CAAC,UAAU,CAAC,CAAC;YACzB,MAAM;KACT;AACH,CAAC;AAED,MAAM,YAAY,GAAiB,MAAM,
B,CAAC;SAEvB,cAAc,CAAC,IAAY;IACzC,IAAI,IAAI,CAAC,CAAC,KAAK,GAAG,EAAE;QAAE,OAAO,IAAI;KAAE;IACnC,MAAM,KAAK,GAAG,IAAI,CAAC,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC

O,CAAC,IAAI,IAAI,GAAG,CAAC,CAAC,QAAQ,EAAE,GAAG,EAAE,CAAC;AACvC,CAAC;MAEYZ,aAAW,GAAU,GAAG;MACxB,SAAS,GAAyB;;AC/b/C;;;;;;;AAqBA,MAAM,eAAe,GAAG,EAAE,CAAC;AAE3B,MAAM,mBAAmB,GAAG,QAAQ,CAAC,QAAQ,CAAC;AAC/C,MAAM,mBAAmB,GAAG,QAAQ,CAACD,UAAQ,CAAC,QAAQ,CAAC;AAC/C,MAAM,mBAAmB,GAAG,QAAQ,CAAC,WAAW,CAAC,CAAC,CAAC;SAElC,gBAAgB,CAAC5B,UAAQ,CAAC,KAAK,gBAAgB,iBAAiB,CAAC,KAAK,CAAC,CAAC,CAAC;IACjF,MAAM,OAAO,GAAG,YAAY,CAAC,IAAI,EAAE,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC;IACrD,OAAO;;QAEL,KAAK,EAAE,CAAC,CAAC;QACT,IAAI,EAAE,OAAO;QACb,KAAK,KAAK;QACV,KAAK,KAAK;QACV,KAAK,KAAK;KACnB,CAAC;AACJ,CAAC;AAED,MAAM,cAAc,GAAG,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC;AACzC,MAAM,eAAe,GAAG,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC;AAC1C

YACE,UAAU,GAAG,YAAY,CAAC,QAAQ,EAAE,WAAW,CAAC,KAAK,EAAE,WAAW,CAAC,IAAI,CAAC,C
AAC;YACzE,MAAM;QACR;YACE,UAAU,GAAG,YAAY,CAAC,QAAQ,EAAE,WAAW,CAAC,KAAK,EAAE,
WAAW,CAAC,IAAI,CAAC,CAAC;YACzE,MAAM;QACR;YACE,UAAU,GAAG,kBAAkB,CAAC,QAAQ,EAA
E,WAAW,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;YAC/D,MAAM;QACR;YACE,UAAU,GAAG,WAA
W,CAAC,KAAK,CAAC;YAC/B,MAAM;KACT;;;;;IAMD,IAAI,UAAU,KAAK,eAAe,IAAI,UAAU,KAAK,IAAI,I
AAI,OAAO,UAAU,KAAK,QAAQ;QACvF,EAAE,WAAW,CAAC,KAAK,0BAAuB,IAAI,OAAO,UAAU,CAAC,
WAAW,KAAK,UAAU,EAAE;QAC9F,WAAW,CAAC,KAAK,2BAAwB;KAC1C;IACD,OAAO,UAAU,KAAK,S
AAS,GAAG,eAAe,GAAG,UAAU,CAAC;AACjE,CAAC;AAED,SAAS,YAAY,CAAC,QAAsB,EAAE,IAAS,,EAA
E,IAAc;IACrE,MAAM,GAAG,GAAG,IAAI,CAAC,MAAM,CAAC;IACxB,QAAQ,GAAG;QACT,KAAK,CAAC;
YACJ,OAAO,IAAI,IAAI,EAAE,CAAC;QACpB,KAAK,CAAC;YACJ,OAAO,IAAI,IAAI,CAAC,kBAAkB,CAAC
,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;QACzD,KAAK,CAAC;YACJ,OAAO,IAAI,IA
I,CAAC,kBAAkB,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,kBAAkB,CAAC,QAAQ,EAA
E,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;QAChG,KAAK,CAAC;YACJ,OAAO,IAAI,IAAI,CACX,kBA
AkB,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,kBAAkB,CAAC,QAAQ,EAAE,IAAI,CAA
C,CAAC,CAAC,CAAC,EAC5E,kBAAkB,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC
;QAC7C;YACE,MAAM,SAAS,GAAG,EAAE,CAAC;YACrB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,
GAAG,EAAE,CAAC,EAAE,EAAE;gBAC5B,SAAS,CAAC,CAAC,CAAC,GAAG,kBAAkB,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;aACtD;YACD,OAAO,IAAI,IAAI,CAAC,GAAG,SAAS,,CAAC,CAAC;KACjC;AACH,CAAC;AAED,SAAS,YAAY,CAAC,QAAsB,EAAE,IAAS,,EAAE,IAAc;IACrE,MAAM,GAAG,GAAG,IAAI,CAAC,MAAM,CAAC;IACxB,QAAQ,GAAG;QACT,KAAK,CAAC;YACJ,OAAO,IAAI,IAAI,EAAE,CAAC;QACpB,KAAK,CAAC;YACJ,OAAO,IAAI,IAAI,CAAC,kBAAkB,CAAC

AAC,IAAI,CAAC,CAAC;;;IAG1B,2BAA2B,CAAC,IAAI,CAAC,MAAO,CAAC,GAAG,EAAE,IAAI,CAAC,aAA
c,CAAC,CAAC;AACrE,CAAC;AAED,SAAS,2BAA2B,CAAC,OAAuB,EAAE,OAAgB;IAC5E,IAAI,OAAO,CA
AC,KAAK,8BAAgC;QAC/C,OAAO;KACR;IACD,OAAO,CAAC,SAAS,8BAAgC;IACjD,OAAO,CAAC,KAAK,
8BAAgC;IAC7C,IAAI,aAAa,GAAG,OAAO,CAAC,MAAM,CAAC;IACnC,OAAO,aAAa,EAAE;QACpB,aAAa,C
AAC,UAAU,8BAAgC;QACxD,aAAa,GAAG,aAAa,CAAC,MAAM,CAAC;KACtC;AACH,CAAC;SAEe,kBAAk
B,CAAC,WAAwB,EAAE,SAAkB;IAC7E,MAAM,aAAa,GAAG,WAAW,CAAC,aAAc,CAAC,cAAc,CAAC;IACh
E,IAAI,SAAS,IAAI,IAAI,IAAI,SAAS,IAAI,aAAa,CAAC,MAAM,EAAE;QAC1D,SAAS,GAAG,aAAa,CAAC,M
AAM,GAAG,CAAC,CAAC;KACtC;IACD,IAAI,SAAS,GAAG,CAAC,EAAE;QACjB,OAAO,IAAI,CAAC;KACb
;IACD,MAAM,IAAI,GAAG,aAAa,CAAC,SAAS,CAAC,CAAC;IACtC,IAAI,CAAC,mBAAmB,GAAG,IAAI,CA
AC;IAChC,eAAe,CAAC,aAAa,EAAE,SAAS,CAAC,CAAC;;IAG1C,QAAQ,CAAC,kBAAkB,CAAC,IAAI,CAAC
,CAAC;IAElCc,kBAAgB,CAAC,IAAI,CAAC,CAAC;IAEvB,OAAO,IAAI,CAAC;AACd,CAAC;SAEe,mBAAmB
,CAAC,IAAc;IAChD,IAAI,EAAE,IAAI,CAAC,4BAA6B,EAAE;QAC7C,KACR;IACD,MAAM,cAAc,GAAG,IAAI,CA
Ac,GAAG,qBAAqB,CAAC,IAAI,CAAC,CAAC;IACnD,IAAI,cAAc,EAAE,cAAc,GAAG,IAAI,CAAC,cAAc
,CAAC,QAAQ,CAAC,eAAe,CAAC;QAC/D,cAAc,GAAG,cAAc,CAAC,cAAc,CAAC;KAChD;IACD,OAAO,cAAc;
AAC,MAAM,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC;IAC7B,IAAI,IAAI,CAAC,mBAAmB,EAAE;QAC5B,IAAI,
CAAC,mBAAmB,GAAG,KAAK,CAAC;QACjC,eAAe,CAAC,IAAI,EAAE,IAAI,CAAC,aAAc,CAAC,cAAc,CAAC;
KACF;AACH,CAAC;SAEe,gBAAgB,CAAC,WAAwB,EAAE,YAAoB,EAAE,YAAoB;IACtE,MAAM,aAAa,GAAG,WAAW,CAAC,aAAc,CAAC,cAAc,CAAC;IAChE,IAAI,aAAa,CAAC,MAAM,GAAG,CAAC,EAAE;QAC1B,MAAM,IAAI,GAAG,aAAa,CAAC,CAAC,CAAC;QAC7B,IAAI,IAAI,CAAC,mBAAmB,EAAE;YAC1B,IAAI,CAAC,mBAAmB,GAAG,KAAK,CAAC;YACjC,eAAe,CAAC,IAAI,EAAE,IAAI,CAAC,aAAc,CAAC,cAAc,CAAC;SAC5D;KACJ;IACD,MAAM,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC;IAC7B,IAAI,IAAI,CAAC,mBAAmB,EAAE;QAC1B,IAAI,CAAC,mBAAmB,GAAG,KAAK,CAAC;QACjC,eAAe,CAAC,IAAI,EAAE,IAAI,CAAC,aAAc,CAAC,cAAc,CAAC;KAC5D;AACL,CAAC;SAEe,eAAe,CAAC,IAAc,EAAE,KAAa,EAAE,GAAW;IACtE,MAAM,IAAI,GAAG,IAAI,CA
AC,SAAS,CAAC,CAAC;IAC7B,IAAI,IAAI,CAAC,mBAAmB,EAAE;QAC1B,IAAI,CAAC,mBAAmB,GAAG,KAAK,CAAC;QACjC,eAAe,CAAC,IAAI,EAAE,IAAI,CAAC,aAAc,CAAC,cAAc,CAAC;KAC5D;IACD,IAAI,CAAC,KAAK,CAAC,KAAK,EAAE,GAAG,CAAC,CAAC;AAC3B

AC;QACpE,IAAI,kBAAkB,EAAE;YACtB,IAAI,CAAC,QAAQ,CAAC,YAAY,CAAC,aAAa,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,aAAa,EAAE,YAAY,EAAE,OAAO,CAAC,IAAI,CAAC,CAAC;SAC9F;QAED,OAAO,IAAI,aAAa,CAAC,IAAI,EAAE,IAAI,QAAQ,CAAC,IAAI,CAAC,EAAE,SAAS,CAAC,CAAC;KAC/D;CACF;AAED,MAAM,aAAc,SAAQ,YAAY;IAK3C,3C,YAAoB,KAAe,EAAU,QAAiB,EAAU,QAAiB,EAAU,UAAe;QAChH,KAAK,CAAC,rF,KAAK,EAAE,EAAE,CAAC;QADI,UAAK,GAAL,KAAK,CAAU;QAAU,aAAQ,GAAR,QAAQ,CAAS;QAAU,aAAQ,GAAR,QAAQ,CAAS;QAAU,eAAU,GAAV,UAAU,CAAK;QAEhH,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC

C,WAAW,CAAC,QAAQ,CAAC,CAAC;SAChC;KACF;IAED,MAAM,CAAC,KAAc;QACnB,MAAM,IAAI,GAAG,kBAAkB,CAAC,IAAI,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;QACnD,OAAO,IAAI,GAAG,IAAI,QAAQ,CAAC,IAAI,CAAC,GAAG,IAAI,CAAC;KACzC;CACF;SAEe,uBAAuB,CAAC,IAAc;IACpD,OAAO,IAAI,QAAQ,CAAC,CAAC,CAAC;SAAC,MAAM,EAAE,YAAY,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK

MAAM,YAAY;IAYhB,YACY,WAAsB,EAAS,OAAiB,EACjD,oBAAiC,EAAS,IAAwB;QADjE,gBAAW,GAAX,WAAW,CAAW;QAAS,YAAO,GAAP,OAAO,CAAU;QACjD,yBAAoB,GAApB,oBAAoB,CAAa;QAAS,SAAI,GAAJ,IAAI,CAAoB;QAbrE,sBAAiB,GAAjB,iBAAiB,CAAmB,EAAE,CAAC;QACvC,eAAU,GAAV,UAAU,CAAY,KAAK,CAAC;QAQ3B,eAAU,GAAV,UAAU,CAAY,KAAK,CAAC;QAQ3B,cAAS,GAAT,SAAS

M,CAAC;KAC5B;;IAED,MAAM,oBAAoB,GAAG,IAAI,CAAC;;IAElC,OAAO,WAAW,CACd,QAAQ,CAAC,MAAO,EAAE,YAAY,CAAC,QAAQ,CAAE,EAAE,oBAAoB,EAAE,GAAG,CAAC,QAAS,CAAC,KAAK,EACpF,GAAG,CAAC,QAAS,CAAC,IAAI,CAAC,CAAC;AAC1B,CAAC;SAEe,uBAAuB,CAAC,IAAc,EAAE,GAAY;;IAElE,MAAM,oBAAoB,GAAG,CAAC,GAAG,CAAC,KAAK,4BAA0B,CAAC,CAAC;;IAEnE,MAAM,QAAQ,GACV,WAAW,CAAC,IAAI,EAAE,GAAG,CAAC,MAAO,EAAE,oBAAoB,EAAE,GAAG,CAAC,QAAS,CAAC,KAAK,EAAE,GAAG,CAAC,KAAK,EAAE,GAAG,CAAC,QAAS,CAAC,IAAI,CAAC,CAAC;IAEvG,MAAM,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC,CAAC;IAEhC

CAAqC,GAAG,CAAC,SAAS,CAAC,EAAE;QACvF,SAAS,CAAC,QAAQ,EAAE,CAAC;KACtB;IACD,IAAI,GA
AG,CAAC,KAAK,yBAAsB;QACjC,SAAS,CAAC,SAAS,EAAE,CAAC;KACvB;IACD,OAAO,OAAO,CAAC;AA
CjB,CAAC;SAEe,8BAA8B,CAC1C,IAAc,EAAE,GAAY,EAAE,MAAa;IAC7C,MAAM,YAAY,,GAAG,,cAAc,
AC,IAAI,EAAE,GAAG,CAAC,SAAS,CAAC,CAAC;IACzD,MAAM,SAAS,,GAAG,,YAAY,,CAAC,QAAQ,,CAAC
;IACxC,IAAI,OAAO,,GAAG,,KAAK,,CAAC;IACpB,IAAI,OAAO,,GAAkB,,SAAU,,CAAC;IACxC,KAAK,,IAAI,,CA
AC,,GAAG,,CAAC,,EAAE,,CAAC,,GAAG,,MAAM,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE,,EAAE;QACtC,IAAI,,YAA
Y,,CAAC,,IAAI,,EAAE,,GAAG,,EAAE,,CAAC,,EAAE,,MAAM,,CAAC,,CAAC,,CAAC,,CAAC,,EAAE;YACzC,OAAO,
,GAAG,,IAAI,,CAAC;YACf,OAAO,,GAAG,,UAAU,,CAAC,,IAAI,,EAAE,,YAAY,,EAAE,,GAAG,,EAAE,,CAAC,,EAAE
,,MAAM,,CAAC,,CAAC,,CAAC,,EAAE,,OAAO,,CAAC,,CAAC;SACtE;KACF;IACD,IAAI,OAAO,,EAAE;QACX,SA
AS,,CAAC,,WAAW,,CAAC,,OAAO,,CAAC,,CAAC;KACjC;IACD,IAAI,,CAAC,,GAAG,,CAAC,,KAAK;QACpB,2BA
A2B,,CAAC,,IAAI,,qCAAqC,,GAAG,,CAAC,,SAAS,,CAAC,,EAAE;QACvF,SAAS,,CAAC,,QAAQ,,EAAE,,CAAC;KA
CtB;IACD,IAAI,,GAAG,,CAAC,,KAAK,,yBAAsB;QACjC,SAAS,,CAAC,,SAAS,,EAAE,,CAAC;KACvB;IACD,OAA
O,,OAAO,,CAAC;AACjB,CAAC;AAED,SASA,,yBAAuB,,CAAC,,IAAc,,EAAE,,GAAY;;IAE3D,MAAM,,oBAAoB,
,GAAG,,CAAC,,GAAG,,CAAC,,KAAK,,iCAAgC,,CAAC,,CAAC;IACzE,MAAM,,WAAW,,GAAG,,GAAG,,CAAC,,QA
AQ,,CAAC;IACjC,QAAQ,,GAAG,,CAAC,,KAAK;QACf;YACE,OAAO,,WAAW,,CAAC,,CAAC,,IAAI,,EAAE,,GAAG,,CAAC,,
MAAO,,EAAE,,oBAAoB,,EAAE,,WAAY,,CAAC,,KAAK,,EAAE,,WAAY,,CAAC,,IAAI,,CAAC,,CAAC;QACtF;YACE,
OAAO,,WAAW,,CAAC,,IAAI,,EAAE,,GAAG,,CAAC,,MAAO,,EAAE,,oBAAoB,,EAAE,,WAAY,,CAAC,,KAAK,,EAAE,,
WAAY,,CAAC,,IAAI,,CAAC,,CAAC;QACtF,IAAI,,YAAY,,CAAC,,OAAO,,UAAU,,CAAC,,IAAI,,EAAE,,GAAG,,CAAC,,MAAO,,EA
AE,,oBAAoB,,EAAE,,WAAY,,CAAC,,IAAI,,CAAC,,CAAC,,CAAC,,CAAC,,CAAC;QACtF,IAAI,,YAAY,,CAAC,,OAAO,,WAAW,,CA
AC,,KAAK,,CAAC;KAC7B;IACD,IAAI,,CAAC,,GAAG,,CAAC,,AAED,SAAS,,WAAW,,CAChB,,IAAc,,EAAE,,KAAc,,EAAE,,oBAA6B,,EAAE,,
AAE,,IAAS,,EAAE,,IAAc;IAC1C,MAAM,,GAAG,,GAAG,,IAAI,,CAAC,,MAAM,,CAAC;IAC/B,MAAM,,GAAG,,GAAG,,IAAI,,CAAC,,MAAM,,CAAC;IACjC,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;QACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;YACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gBACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oBACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wBACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4BACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gCACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oCACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wCACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4CACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gDACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oDACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wDACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4DACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gEACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oEACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wEACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4EACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gFACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oFACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wFACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4FACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gGACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oGACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wGACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4GACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gHACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oHACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wHACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4HACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gIACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oIACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wIACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4IACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gJACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oJACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wJACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4JACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gKACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oKACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wKACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4KACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gLACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oLACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wLACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4LACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gMACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oMACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wMACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4MACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gNACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oNACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wNACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4NACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gOACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oOACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wOACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4OACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gPACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oPACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wPACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4PACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gQACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oQACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wQACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4QACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gRACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oRACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wRACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4RACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gSACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oSACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wSACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4SACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gTACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oTACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wTACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4TACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gUACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oUACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wUACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4UACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gVACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oVACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wVACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4VACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gWACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oWACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wWACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4WACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;gXACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;oXACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;wXACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC,,MAAM,,EAAE,,CAAC,,EAAE;4XACtE,IAAI,,CAAC,,GAAG,,CAAC,,KAAK,,IAAI,,CAAC,,GAAG,,CAAC,,IAAI,,CAAC

AAC;KACrB;IACD,MAAM,SAAS,GAAG,IAAI,CAAC;IACvB,IAAI,MAAM,CAAC,KAAK,qBAAsB;QACpC,aAAa,GAAG,IAAI,CAAC;KACtB;IACD,MAAM,QAAQ,GAAG,MAAM,CAAC,QAAQ,CAAC;IAEjC,IAAI,QAAQ,KAAK,yBAAyB,EAAE;;;QAG1C,oBAAoB,GAAG,CAAC,EAAE,KAAK,IAAI,KAAK,CAAC,OAAQ,CAAC,aAAa,CAAC,CAAC;KAClE;IAED,IAAI,KAAK,KAAK,MAAM,CAAC,KAAK,oBAAqB,EAAE;QAC/C,GAAG,KAAK,CAAC;QAC7B,KAAK,KAAK,MAAM,CAAC,KAAK,MAAO,CAAC,KAAK,CAAC;KACvB;IAED,IAAI,UAAU,GAAG,kBAAkB,,IAAI,CAAC,IAAI,CAAC;IACrC,IAAI,CAAC,IAAI,CAAC,OAAO,UAAU,EAAE;QACjB,YAAY,GAAG,IAAI,CAAC,KAAK,CAAC,EAAE;QAC5B,IAAI,CAAC,IAAI,CAAC,OAAO,YAAY,EAAE;YAC3B,IAAI,CAAC,KAAK,CAAC,EAAE,GAAG,IAAI,CAAC,KAAK,CAAC,EAAE,GAAG,YAAY,CAAC;SAChD;KACJ;IAED,IAAI,CAAC,IAAI,CAAC,OAAO,UAAU,EAAE;QACzB,IAAI,CAAC,KAAK,CAAC,EAAE,GAAG,IAAI,CAAC,KAAK,CAAC,EAAE,GAAG,UAAU,CAAC;KAC9C

KAAK,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACrC,MAAM,OAAO,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;QACzB,IAAI,MAAM,GAAG,OAAO,CAAC,MAAM,,CAAC;QAC5B,IAAI,CAAC,MAAM,IAAI,CAAC,OAAO,,CAAC,KAAK,GAAG,UAAU,EAAE;;YAEzC,sBAAsB,CAAC,IAAI,EAAE,CAAC,EAAE,OAAO,,CAAC,KAAK,GAAG,UAAU,EAAE,SAAS,EAAE,CAAC,CAAC;SAC1E;QACD,IAAI,CAAC,OAAO,,CAAC,UAAU,EAAE,CAAC,CAAC;SAC5B;QACF;AACH,CAAC;AAED,SAAS,8BAA8B,CACnC,IAAI,EAAE,KAAc,EAAE,KAAc,EAAE,UAAqB,EAAE,SAAoB,EAAE,SAAiB;IAExF,IAAI,CAAC,IAAI,EAAE,KAAK,EAAE,KAAK,EAAE,UAAU,EAAE,SAAS,EAAE,SAAS,CAAC;IAC1D,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC;IACpB

AC,GAAG,CAAC,gBAAgB,EAAE,mBAAmB,CAAqB,CAAC;QACpF,MAAM,SAAS,GAAG,gBAAgB,CAAC,GAAG,CAAC,SAAS,EAAE,IAAI,CAAC,CAAC;QAExD,MAAM,YAAY,GAAG,eAAe,CAAC,cAAc,CAAC,IAAI,EAAE,IAAI,CAAC,YAAY,CAAC,CAAC;;;QAG7E,MAAM,WAAW,GAAG,IAAI,CAAC,YAAY,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAW,IAAI,KAAK,CAAC;QACzE,MAAM,SAAS,GAAG,kBAAkB;YAChC,iBAAiB,CAAC,YAAY,EAAE,kBAAkB,EAAE,IAAI,CAAC,YAAY,CAAC,aAAa,CAAC;YACpF,iBAAiB,CACb,eAAe,CAAC,cAAc,CAAC,IAAI,EAAE,IAAI,CAAC,YAAY,CAAC,EAAE,WAAW,EACpED,cAAY,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC;QAEnC,MAAM,SAAS,GAAG,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,YAAY,CAAC,MAAM,GAAG;YACA,wCAA2C;QACxF,MAAM,WAAW,GAAG,iBAAiB,EAAE,CAAC;;QAGxC,MAAM,SAAS,GAAG,WAAW,eAAiB,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC,EAAE,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;QAE9F,MAAM,SAAS,GAAG,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,YAAY,CAAC,WAAW,EAAE,CACzB,CAAC,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI

AC,UAAU,CAAC,CAAC;IACjF,OAAO,CAAC,GAAG,CAAC,EAAE,EAAE,OAAO,CAAC,CAAC;AAC3B,CAAC;AAED,SAAS,uBAAuB,CAAC,EAAU,EAAE,IAAoB,EAAE,QAAmB;IACpF,IAAI,IAAI,IAAI,IAAI,KAAK,QAAQ,EAAE;QAC7B,MAAM,IAAI,KAAK,CACX,mCAAmC,EAAE,MAAM,SAAS,CAAC,IAAI,CAAC,OAAO,SAAS,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KAC9F;AACH,CAAC;SAEe,oBAAoB,CAAC,YAA0B,EAAE,IAAiB,EAAE,QAAmB;IACtG,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE;QACd,MAAM,IAAI,KAAK,CAAC,oBAAoB,CAAC,CAAC;KACvC;IACD,MAAM,OAAO,GAAG,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE,YAAY,CAAC,CAAC;IAC9C,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE;QACjB,MAAM,IAAI,KAAK,CAAC,oBAAoB,CAAC,CAAC;KACvC;IACD,MAAM,OAAO,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,YAAY,CAAC,CAAC;IACjD

xB,QAAQ,EAAE,EAAE,cAAc,EAAE,EAAE,UAAU,EAAE,MAAM,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,OAAO,CAAAC,CAAAC;AACnF,CAAAC;AAED;;;;;;;;;;;;;;;SAegB,eAAe,CAC3B,UAAkB,EAAE,MAAmD,EAAE,IAAS,EAAE,IAAS,EAC7F,IAAS,EAAE,IAAS,EAAE,OAAa;IACrC,OAAO,qBAAqB,CACxB,QAAQ,EAAE,EAAE,EAAE,cAAc,EAAE,EAAE,UAAU,EAAE,MAAM,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,OAAO,CAAAC,CAAAC;AACzF,CAAAC;AAED;;;;;;;;;;;;;;;;SAgBgB,eAAe,CAC3B,UAAkB,EAAE,MAA4D,EAAE,IAAS,EAAE,IAAS,EAC3F,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC3D,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;SAiBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqE,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAClL,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;SAkBgB,eAAe,CAC3B,UAAkB,EAAE,MAA8E,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC3M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;SAmBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;SAoBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SAqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;SqBgB,eAAe,CAC3B,UAAkB,EAAE,MAAqF,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,OAAa;IAC9M,MAAM,YAAY,GAAG,cAAc,EAAE,GAAG,UAAU,CAAAC;IACnD,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAAC;IACxB,MAAM,SAAS,GAAG,eAAe,EAAE,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAAC,CAAAC;IAAA,CAAAC;AAED;;;;;;;;;;;;;;;;;;;

AqB,CACjC,KAAY,EAAE,WAAmB,EAAE,UAAkB,EAAE,MAAiC,EACxF,IAAS,EAAE,IAAS,EAAE,OAAa;IA
CrC,MAAM,YAAY,GAAG,WAAW,GAAG,UAAU,CAAC;IAC9C,OAAO,eAAe,CAAC,KAAK,EAAE,YAAY,E
AAE,IAAI,EAAE,IAAI,CAAC;QACnD,aAAa,CACT,KAAK,EAAE,YAAY,GAAG,CAAC,EACvB,OAAO,GAA
G,MAAM,CAAC,IAAI,CAAC,OAAO,EAAE,IAAI,EAAE,IAAI,CAAC,GAAG,MAAM,CAAC,IAAI,EAAE,IAAI
,CAAC,CAAC;QACpE,0BAA0B,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,CAAC;AAC1D,CAAC;AA
ED;;;;;;;;;;;;;;SAcgB,qBAAqB,CACjC,KAAY,EAAE,WAAmB,EAAE,UAAkB,EACrD,MAA0C,EAAE,IAAS,EA
AE,IAAS,EAAE,IAAS,EAC3E,OAAa;IACf,MAAM,YAAY,GAAG,WAAW,GAAG,UAAU,CAAC;IAC9C,OAA
O,eAAe,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC;QACzD,aAAa,CACT,KAAK
,EAAE,YAAY,GAAG,CAAC,EACvB,OAAO,GAAG,MAAM,CAAC,IAAI,CAAC,OAAO,EAAE,IAAI,EAAE,IA
AI,EAAE,IAAI,CAAC,GAAG,MAAM,CAAC,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;QAChF,0BAA0B,C
AAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,CAAC;AAC1D,CAAC;AAGD;;;;;;;;;;;;;;;SAgBgB,qBAAqB,C
ACjC,KAAY,EAAE,WAAmB,EAAE,UAAkB,EACrD,MAAmD,EAAE,IAAS,EAAE,IAAS,EAAE,IAAS,EAAE,I
AAS,EAC/F,OAAa;IACf,MAAM,YAAY,GAAG,WAAW,GAAG,UAAU,CAAC;IAC9C,OAAO,eAAe,CAAC,KA
AK,EAAE,YAAY,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC;QAC/D,aAAa,CACT,KAAK,EAAE
,YAAY,GAAG,CAAC,EACvB,OAAO,GAAG,MAAM,CAAC,IAAI,CAAC,OAAO,EAAE,IAAI,EAAE,IAAI,EA
AE,IAAI,EAAE,IAAI,CAAC,GAAG,MAAM,CAAC,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;
QAC5F,0BAA0B,CAAC,KAAK,EAAE,YAAY,GAAG,CAAC,CAAC,CAAC;AAC1D,CAAC;AAED;;;;;;;;;;;;;;SA
egB,qBAAqB,CACjC,KAAY,EAAE,WAAmB,EAAE,UAAkB,EAAE,MA4B,EACnF,IAAW,EAAE,OAAa;IAC5
B,IAAI,YAAY,GAAG,WAAW,GAAG,UAAU,CAAC;IAC5C,IAAI,SAAS,GAAG,KAAK,CAAC;IACtB,IAAI,CAAC,GAAG,
AAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACpC,cAAc,c
AAc,CAAC,KAAK,EAAE,YAAY,EAAE,IAAI,CAAC,CAAC,CAAC,KAAK,SAAS,GAAG,IAAI,CAAC,
C,CAAC;KACtE;IACD,OAAO,SAAS,GAAG,aAAa,CAAC,KAAK,EAAE,YAAY,EAAE,MAAM,CAAC,KAAK,
CAAC,OAAO,EAAE,IAAI,CAAC,CAAC;QAC/D,0B,CAAC,KAAK,EAAE,YAAY,CAAC,CAAC;AACrE;
;ACpaA;;;;;;;AAwBA;;;;;;;;;SASgB,MAAM,CAAC,KAAa,EAAE,QAAgB;IACpD,MAAM,KAAK,GAAG,QAAQ,
EAAE,CAAC;IACzB,IAAI,OAAqB,CAAC,IAAI,CAAC,MAAM,aAAa,EAAE,KAAK,GAAG,aAAa,CAAC;IAE5C,
AI,KAAK,CAAC,eAAe,EAAE;QACzB,OAAO,GAAG,I,YAAU,,CAAC,QAAQ,EAAE,KAAK,CAAC,YAAY,,CAA
C,CAAC;QACnD,KAAK,CAAC,IAAI,CAAC,aAAa,CAAC,GAAG,OAAO,CAAC;QACpC,IAAI,OAAO,CAAC,SAAS,
AAS,EAAE;YACrB,KAAK,CAAC,YAAY,,KAAK,KAAK,CAAC,YAAY,,GAAG,I,YAAU,,CAAC,QAAQ,EAAE,I
AI,CAAC,aAAa,CAAC,KAAK,EAAE,OAAO,CAAC,SAAS,CAAC,CAAC;SAC1E;IACD,OAAO,KAAK,CAAC,YAAY,
;KACF;SAAM;QACL,OAAO,GAAG,KAAK,CAAC,IAAI,CAAC,aAAa,CAAC,KAAK,EAAE,QAAQ,CAAC,CAAC;
CAAC,IAAI,CAAC,aAAa,CAAC,KAAK,EAAE,OAAO,CAAC,SAAS,CAAC,CAAC;KACrD;IAED,MAAM,WAAW,GAAG,OAAO,CAAC,OAAO,,KAAK,KAAK,CAAC,OAAO,,GAAG,OAAO,CAAC,OAAO,
AAO,CAAC,OAAO,,GAAG,aAAa,CAAC,OAAO,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;IAC7F,MAAM,
4BAA4B,GAAG,uBAAuB,CAAC,iBAAiB,CAAC,CAAC;IAChF,IAAI;;;QAGF,MAAM,4BAA4B,GAAG,uBAAuB,C
AAC,KAAK,CAAC,CAAC;QACpE,MAAM,YAAY,GAAG,WAAW,EAAE,CAAC;QACnC,uBAAuB,C,4BAA4B,C
AAC,CAAC,CAAC;QACtD,KAAK,CAAC,KAAK,EAAE,EAAE,QAAQ,EAAE,EAAE,aAAa,EAAE,YAAY,,CAAC,
CAAC;QACtD,OAAO,YAAY,,CAAC;KACrB;IAAC,OAAO,GAAG,EAAE;QACZ,uBAAuB,C,4BAA4B,C
AAC,CAAC,CAAC;QACtD,MAAM,GAAG,CAAC;KACX;AACH,CAAC;AAED;;;;;;;;AAQA,SASA,YAAU,,CAAC,IAAY,,EAAE,QA0B;IAC1D,IAAI,QAAQ,CAAC,IAAI,CAAC,KAAK,SAAS,EAAE;QAChC,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,KAAK,
KAAK,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC;QACpC,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,KAAK,EAAE,EAAE,QAAQ,EAAE,EAAE,aAAa,EAAE,YAAY,,CAAC,
CAAC,

qBAAqB,CACjB,KAAK,EAAE,cAAc,EAAE,EAAE,UAAU,EAAE,YAAY,CAAC,SAAS,EAAE,EAAE,EAAE,E
AAE,EAAE,YAAY,CAAC;QACtF,YAAY,CAAC,SAAS,CAAC,EAAE,EAAE,EAAE,CAAC,CAAC,CAAC;AAC
1C,CAAC;AAED;;;;;;;;;;;;;SAcgB,WAAW,CAAC,KAAa,EAAE,UAAkB,EAAE,EAAO,EAAE,EAAO,EAAE,EA
AO;IACtF,MAAM,aAAa,GAAG,KAAK,GAAG,aAAa,CAAC;IAC5C,MAAM,KAAK,GAAG,QAAQ,EAAE,CAA
C;IACzB,MAAM,YAAY,GAAG,IAAI,CAAgB,KAAK,EAAE,aAAa,CAAC,CAAC;IAC/D,OAAOA,aAAW,CAC
d,KAAK,EACL,MAAM,CAAC,KAAK,EAAE,aAAa,CAAC,GAAG,qBAAqB,CAAjB,KAAK,EAAE,cAAc,EAAE
,EAAE,UAAU,EAAnC,YAAY,CAAC,SAAS,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,YAAY,CAAC;QA
CrD,YAAY,CAAC,SAAS,CAAC,EAAE,EAAE,EAAE,EAAE,EAAE,CAAC,CAAC,CAAC;AACzE,CAAC;AAE
D;;;;;;;;;;;;;;;SAegB,WAAW,CAAvB,KAAa,EAAE,UAAkB,EAAE,EAAO,EAAE,EAAO,EAAE,EAAO,EAAE,EA
AO;IACvE,MAAM,aAAa,GAAG,KAAK,GAAG,aAAa,CAAC;IAC5C,MAAM,KAAK,GAAG,QAAQ,EAAE,CA
AC;IACzB,MAAM,YAAY,GAAG,IAAI,CAAgB,KAAK,EAAE,aAAa,CAAC,CAAC;IAC/D,OAAOA,aAAW,CA
Cd,KAAK,EACL,MAAM,CAAC,KAAK,EAAE,aAAa,CAAC,GAAG,qBAAqB,CAAjB,KAAK,EAAE,cAAc,EAA
E,EAAE,UAAU,EAAnC,YAAY,CAAC,SAAS,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,Y
AAY,CAAC;QACzD,YAAY,CAAC,SAAS,CAAC,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,CAAC,CAA
C,CAAC;AAC7E,CAAC;AAED;;;;;;;;;;;SAYgB,WAAW,CAAC,KAAa,EAAE,UAAkB,EAAE,MAAM,EAAE,MAAM;IACpF,M
AAM,aAAa,GAAG,KAAK,GAAG,aAAa,CAAC;IAC5C,MAAM,KAAK,GAAG,QAAQ,EAAE,CAAC;IACzB,M
AAM,YAAY,GAAG,IAAI,CAAgB,KAAK,EAAE,aAAa,CAAC,CAAC;IAC/D,OAAOA,aAAW,CACd,KAAK,EA
CL,MAAM,CAAC,KAAK,EAAE,aAAa,CAAC;QACxB,qBAAqB,CAAjB,KAAK,EAAE,cAAc,EAAE,EAAE,UA
AU,EAAE,YAAY,CAAC,SAAS,EAAE,MAAM,EAAE,YAAY,CAAC;QACtF,YAAY,CAAC,SAAS,CAAC,CAAC,KAA
K,CAAC,YAAY,EAAE,MAAM,CAAC,CAAC,CAAC;AAC9D,CAAC,SAAS,MAAM,CAAC,KAAY,EAAE,EA
AE,KAAa;IACzC,OAAsB,KAAK,CAAC,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,KAAK,EAAE,CAAC,KAAK,EAAE,IAAI,CAAC;
AACvD,CAAC;AAED;;;;;;;AAOA,SAASA,aAAW,CAAC,KAAY,EAAE,EAAE,QAAa;IAC9C,MAAM,CAAC,KAAK,EAAE,IAAI,CAAC,GAAG,YAAY,CAAC,KAAK,EAAE,QAAQ,CAAC,CAAC;;;QA
GzC,MAAM,sBAAsB,GAAG,eAAe,CAAC,CAAC;QACjD,MAAM,CAAC,sBAAsB,CAAC,sB,GAAG,CAAC;
KAC3C;IACD,OAAO,QAAQ,CAAC;AAClB;;ACxOA;;;;;;;AA8FA,MAAM,aAAa,SAAQ,OAAY;IAGtC,YAAY,KAAK,GAAG,EAAE,EAAE,KAAK,GAAG,EAAE,EAAE,KAAK,GAAG,EAAE,EAAE

B,IAAI,YAAY,EAAE,CAAC;QAErD,WAAM,GAAW,CAAC,CAAC;;;;;QAW1B,MAAM,MAAM,GAAG,iBAAiB,EAAE,CAAC;QACnC,MAAM,KAAK,GAAG,SAAS,CAAC,SAAgB,CAAC;QACzC,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC;YAAE,KAAK,CAAC,MAAM,CAAC,GAAG,cAAc,CAAC;KACpD;;;;;IAMD,GAAG,CAAI,EAAA6C;QAClD,OAAO,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC;KAC9B;;;;;IAMD,MAAM,CAAC,EAAAmD;QACxD,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,EAAE,CAAC,CAAC;KACjC;;;;;IAMD,IAAI,CAAC,EAAAmD;QACtD,OAAO,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KAC/B;;;;;IAMD,MAAM,CAAI,EAAAkE,EAAAe;QACnF,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;KAC3B;;;;;IAMD,OAAO,CAAC,EAAAgB;QAAgD,OAAO,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC;KAAE;;;;;IAMtG

W,GAAG,IAAI,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,aAAa,CAAC,KAAK,EAAE,eAAe,CAAC,CAAC;YA
E7E,IAAI,WAAW,EAAE;gBACf,WAAW,CAAC,sBAAsB,GAAG,CAAC,CAAC;gBACvC,IAAI,qBAAqB,KAA
K,IAAI,EAAE;oBAClC,qBAAqB,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;iBACzC;qBAAM;oBACL,qBAAq
B,GAAG,CAAC,WAAW,CAAC,CAAC;iBACvC;aACF;SACF;QAED,OAAO,qBAAqB,KAAK,IAAI,GAAG,IAA
I,SAAS,CAAC,qBAAqB,CAAC,GAAG,IAAI,CAAC;KACrF;IAED,QAAQ,CAAC,KAAY,,EAAE,KAAY;QACjC,
SAAS;YACL,qBAAqB,CACjB,KAAK,EAAE,gEAAgE,CAAC,CAAC;QACjF,KAAK,IAAI,CAAC,GAAG,CAAC
,EAAE,CAAC,GAAG,IAAI,CAAC,OAAO,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YAC5C,IAAI,CAAC,OA
AO,CAAC,CAAC,CAAC,CAAC,QAAQ,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;SACxC;KACF;IAED,UAA
U,CAAC,KAAa;QACtB,SAAS,IAAI,kBAAkB,CAAC,IAAI,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC;QACrD,
OAAO,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC;KAC5B;IAED,IAAI,MAAM;QACR,OAAO,IAAI,CAAC
,OAAO,CAAC,MAAM,CAAC;KAC5B;IAED,KAAK,CAAC,MAAc;QAClB,IAAI,CAAC,OAAO,CAAC,IAAI,
CAAC,MAAM,CAAC,CAAC;KAC3B;IACF;AAED,MAAM,OAAO;IAmBX,YAAoB,QAAAwB,EAAE,YAAAoB,
CAAC,CAAC;QAAhD,aAAQ,GAAR,QAAQ,CAAgB;QAlB3C,YAAO,GAAkB,IAAI,CAAC;QAC9B,2BAAsB,GAAG,
CAAC,CAAC;QAC5B,sBAAiB,GAAG,KAAK,CAAC;;;;;;QAclB,uBAAkB,GAAG,IAAI,CAAC;QAGhC,YAAO,GAAG,
IAAI,CAAC,qBAAqB,CAAC,KAAK,CAAC,CAAC;QAC3C,YAAO,GAAG,IAAI,CAAC,KAAK,EAAE,KAAK;QACrC,IA
AI,IAAI,CAAC,gBAAgB,CAAC,KAAK,CAAC,EAAE;YAChC,IAAI,CAAC,UAAU,CAAC,KAAK,EAAE,KA
K,CAAC,CAAC;SAC/B;KACF;IAED,UAAU,CAAC,KAAY;QACrB,IAAI,IAAI,CAAC,qBAAqB,KAAK,KAAK,
CAAC,KAAK,EAAE;YAC9C,IAAI,CAAC,kBAAkB,GAAG,KAAK,CAAC;SACjC;KACF;IAED,QAAQ,CAAC,QAAQ,
KAAY,,EAAE,KAAY;QACjC,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAA
A,CAAC,KAAY,,EAAE,eAAuB;QACjD,IAAI,IAAI,CAAC,gBAAgB,CAAC,KAAK,CAAC,EAAE;YAChC,IAAI
,CAAC,iBAAiB,GAAG,IAAI,CAAC;;;YAG9B,IAAI,CAAC,QAAQ,CAAC,CAAC,KAAK,EAAE,KAAK,CAAC,EAAE,
eAAe,CAAC,CAAC;YAC7C,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;SACnC;QACD,OA
AO,IAAI,CAAC;KACb;IAED,IAAI,CAAC,KAAa;QAChB,IAAI,CAAC,gBAAgB,CAAC,KAAK,CAAC;QAC5B,IAAI,CAAC,QAAQ,C
AAQ,CAAC,WAAW,KAAK,KAAK,EAAE;YAClC,IAAI,CAAC,IAAI,CAAC,qBAAqB,CAAC,KAAK,CAAC;SACvC;KACF

QAAQ,CAAC,CAAC;SACvC;KACF;CACF;AAED;;;;;;;;AAQA,SAAS,wBAAwB,CAAC,KAAY,EAAE,QAAgB;IAC9D,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,uBAAuB,CAAC,KAAY,EAAE,QAAgB;IAC7D,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,mBAAmB,CAAC,KAAY,EAAE,QAAgB;IACzD,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,qBAAqB,CAAC,KAAY,EAAE,QAAgB;IAC3D,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,sBAAsB,CAAC,KAAY,EAAE,QAAgB;IAC5D,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,oBAAoB,CAAC,KAAY,EAAE,QAAgB;IAC1D,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,kBAAkB,CAAC,KAAY,EAAE,QAAgB;IACxD,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,oBAAoB,CAAC,KAAY,EAAE,QAAgB;IAC1D,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,kBAAkB,CAAC,KAAY,EAAE,QAAgB;IACxD,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,qBAAqB,CAAC,KAAY,EAAE,QAAgB;IAC3D,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,mBAAmB,CAAC,KAAY,EAAE,QAAgB;IACzD,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,qBAAqB,CAAC,KAAY,EAAE,QAAgB;IAC3D,MAAM,UAAU,GAAG,KAAK,CAAC,UAAU,CAAC;IACpC,IAAI,UAAU,KAAK,IAAI,EAAE;QACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;YAC7C,IAAI,UAAU,CAAC,CAAC,CAAC,KAAK,QAAQ,EAAE;gBAC9B,OAAO,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC;aACzB;SACF;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC,CAAC;AAGD,SAAS,sBAAsB,CAAC,KAAY,EAAE,QAAgB;IAC5D

CAAC,CAAC,CAAC;IAErC,MAAM,MAAM,GAAG,SAAS,CAAC,KAAK,EAAE,UAAU,CAAC,CAAC;IAC5C,IAAI,SAAS,CAAC,KAAK,KAAK,cAAc,CAAC,KAAK,CAAC,KAAK,MAAM,CAAC,QAAQ,CAAC,QAAQ,CAAC,EAAE;QAC3E,IAAI,MAAM,CAAC,OAAO,KAAK,IAAI,EAAE;YAC3B,SAAS,CAAC,KAAK,CAAC,EAAE,,CAAC,CAAC;SACrB;aAAM;YACL,MAAM,MAAM,GAAG,MAAM,CAAC,iBAAiB;gBACnC,mBAAmB,CAAC,KAAK,EAAE,KAAK,EAAE,UAAU,EAAE,EAAE,CAAC;gBACjD,sBAAsB,CAAC,KAAK,EAAE,KAAK,EAAE,MAAM,EAAE,EAAE,CAAC,CAAC;YAC7D,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC;SACnB;IACH,CAAC;IAED,SAAS,iBAAiB,CAAC,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE

;;ACAA;;;;;;;aAqBK,OAAO;IACL,aAAa,EAAEE,WAAc;IAC7B,yBAAyB,EAAEC,uBAA0B;IACrD,yBAAyB,EAAEC,uBAA0B;IACrD,yBAAyB,EAAEC,uBAA0B;IACrD,yBAAyB,EAAEC,uBAA0B;IACrD,yBAAyB,EAAEC,uBAA0B;IACrD,yBAAyB,EAAEC,uBAA0B;IACrD,yBAAyB,EAAEC,uBAA0B;IACrD,yBAAyB,EAAEC,uBAA0B;IACrD,yBAAyB,EAAEC,uBAA0B;IACrD,mBAAmB,EAAEC,iBAAoB;IACzC,mBAAmB,EAAEC,iBAAoB;IACzC,oBAAoB,EAAE,kBAAkB;IACxC,kBAAkB,EAAE,gBAAgB;IACpC,kBAAkB,EAAEC,gBAAmB;IACvC,cAAc,EAAEC,YAAe;IAC/B,mBAAmB,EAAEC,iBAAoB;IACzC,gBAAgB,EAAEC,cAAiB;IACnC,kBAAkB,EAAEC,gBAAmB;IACvC,mBAAmB,EAAEC,iBAAoB;IACzC,gBAAgB,EAAEC,cAAiB;IACnC,cAAc,EAAEC,YAAe;IAC/B,WAAW,EAAEC,SAAY;IACzB,mBAAmB,EAAEC,iBAAoB;IACzC,gBAAgB,EAAEC,cAAiB;IACnC,kBAAkB,EAAEC,gBAAmB;IACvC,mBAAmB,EAAEC,iBAAoB;IACzC,gBAAgB,EAAEC,cAAiB;IACnC,cAAc,EAAEC,YAAe;IAC/B,WAAW,EAAEC,SAAY;IACzB,qBAAqB,EAAEC,mBAAsB;IAC7C,mBAAmB;IACzB,iBAAiB,EAAEC,eAAkB;IACrC,6BAA6B;IAC7B,eAAe,EAAEC,aAAgB;IACjC,wBAAwB,EAAEC,sBAAyB;IACnD,sBAAsB,EAAEC,oBAAuB;IAC/C,kBAAkB;IAClB,kBAAkB,EAAEC,gBAAmB;IACvC,yBAAyB,EAAEC,uBAA0B;IACrD,uBAAuB,EAAEC,qBAAwB;IACjD,4BAA4B,EAAEC,0BAA6B;IAC3D,4BAA4B,EAAEC,0BAA6B;IAC3D,eAAe,EAAEC,aAAgB;IACjC,mBAAmB,EAAEC,iBAAoB;IACzC,gBAAgB,EAAEC,cAAiB;IACnC,mBAAmB,EAAEC,iBAAoB;IACzC,gBAAgB,EAAEC,cAAiB;IACnC,cAAc,EAAEC,YAAe;IAC/B,WAAW,EAAEC,SAAY;IACzB,qBAAqB,EAAEC,mBAAsB;IAC7C,mBAAmB;IACzB,iBAAiB,EAAEC,eAAkB;IACrC

ACL,OAAO,CAAC,KAAK,CACT,oFAAoF,CAAC,CAAC;YAC9F,OAAO;SACR;QACD,IAAI,OAAO,CAAC,mBAAAmB,KAAAK,UAAU,CAAC,mBAAAmB,EAAAE;YAClE,SAAAS;gBACL,OAAO,CAAC,KAAK,CACT,mFAAAmF,CAAAC,CAAC;YAC7F,OAAO;SACR;KACF;IACD,UAAU,GAAG,OAAO,CAAC;AACvB,CAAC,SAAE,aAAAa;IAC3B,OAAO,UAAU,CAAC;AACpB,CAAC,SAAE,eAAAe;IAC7B,UAAU,GAAG,IAAI,CAAC;AACpB;;ACxCX;;;

EAAE,IAAI,CAAC,CAAC;KAChD;IACD,MAAM,MAAM,GAAa,EAAE,CAAC;IAC5B,MAAM,YAAY,GAAG,aAAa,CAAC,WAAW,CAAC,YAAY,CAAC,CAAC;IAC7D,MAAM,OAAO,GAAG,aAAa,CAAC,WAAW,CAAC,OAAO,CAAC,CAAC;IACnD,OAAO,CAAC,CAAC;IACnD,OAAO,CAAC,OAAO,CAAC,CAAC,GAAG,CAAC,gCAAgC,CAAC,CAAC,OAAO,CAAC,GAAG;QAChE,+BAA+B,EAAE,CAAC,GAAG,EAAE,UAAU,CAAC,CAAC;QACjD,4BAA4B,GAAG,CAAC,GAAG,EAAE,KAAK,EAAE,UAAU,CAAC,CAAC;KACtD,CAAC,CAAC;IACH,MAAM,OAAO,GAAG,aAAa,CAAC,WAAW,CAAC,OAAO,CAAC,CAAC;IACnD,OAAO,CAAC,CAAC;IACnD,YAAY,CAAC,OAAO,CAAC,CAAC,GAAG,CAAC,iCAAiC,CAAC,CAAC,OAAO,CAAC,GAAG;QACvE,gCAAgC,GAAG,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KACnD,CAAC,CAAC;IACH,MAAM,OAAO,GAAG,aAAa,CAAC,WAAW,CAAC,OAAO,CAAC,CAAC;IACnD,OAAO,CAAC,CAAC;IACnD,YAAY,CAAC,OAAO,CAAC,CAAC,GAAG,CAAC,iCAAiC,CAAC,CAAC,OAAO,CAAC,GAAG;QACvE,gCAAgC,GAAG,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KACnD,CAAC,CAAC;IACH,MAAM,OAAO,GAAG,aAAa,CAAC,WAAW,CAAC,OAAO,CAAC,CAAC;IACnD,OAAO,CAAC,CAAC;IACnD,OAAO,CAAC,OAAO,CAAC,CAAC,GAAG,CAAC,gCAAgC,CAAC,CAAC,OAAO,CAAC,GAAG;QAChE,+BAA+B,EAAE,CAAC,GAAG,EAAE,UAAU,CAAC,CAAC;QACjD,4BAA4B,GAAG,CAAC,GAAG,EAAE,KAAK,EAAE,UAAU,CAAC,CAAC;KACt

Ae,EAAE,eAA0B;QAClF,IAAI,GAAG,iBAAiB,CAAC,IAAI,CAAC,CAAC;QAE/B,IAAI,eAAe,CAAC,IAAI,CA
AC,IAAI,eAAe,CAAC,IAAI,CAAC,EAAE;YAClD,MAAM,IAAI,KAAK,CAAC,yBAAyB,IAAI,CAAC,IAAI,6B
AC9C,eAAe,CAAC,IAAI,wCAAwC,CAAC,CAAC;SACnE;QAED,IAAI,UAAU,CAAC,IAAI,CAAC,EAAE;YAC
pB,MAAM,IAAI,KAAK,CAAC,oBAAoB,IAAI,CAAC,IAAI,6BACzC,eAAe,CAAC,IAAI,wCAAwC,CAAC,CAA
C;SACnE;KACF;AACH,CAAC;AAED,SAAS,gCAAgC,CAAC,mBAC6B;IACrE,mBAAmB,GAAG,iBAAiB,CA
AC,mBAAmB,CAAC,CAAC;IAC7D,OAAQ,mBAA2B,CAAC,IAAI,CAAC,QAAQ,IAAI,mBAAmB,CAAC;AACtE,CAAC;A
AED,SAAS,aAAa,CAAI,IAAS,EAAE,IAAY;IAC/C,UAAU,GAAW,IAAI,CAAC,IAAI,CAAC,UAAU,GAAW,IAAI,CAAC,IA
AI,CAAC,eAAe,CAAC,CAAC;IAC9B,OAAO,CAAC,IAAI,CAAC,UAAU,CAAC,UAAU,CAAC,CAAC;IACzB,OAAO,UAAU,
CAAC;IAElB,SAAS,OAAO,CAAC,WAAuB;QACtC,IAAI,WAAW,EAAE;YACf,YAAY,CAAC,WAAW,CAAC;SAC1B;IACH,CAAC;IAED,SAAS,YAAY,CAAC,WAAuB;QAC3C,IAAI,WAAW,KAAK,IAAI,EAAE;YACxB,OAAO;SACR;QACD,IAAI,WAAW,CAAC,KAAK,KAAK,CAAC,EAAE;YAC3B,WAAW,CAAC,KAAK,GAAG,CAAC,CAAC;YACtB,IAAI,WAAW,CAAC,MAAM,EAAE;gBACtB,YAAY,CAAC,WAAW,CAAC,MAAM,CAAC,CAAC;aAClC;SACF;IACH,CAAC;IAED,SAAS,KAAK,CAAC,WAAuB,EAAE,KAAa;QACnD,IAAI,WAAW,KAAK,IAAI,EAAE;YACxB,OAAO;SACR;QACD,IAAI,WAAW,CAAC,KAAK,KAAK,CAAC,EAAE;YAC3B,WAAW,CAAC,KAAK,GAAG,KAAK,CAAC;YAC1B

AAK,IAAI,MAAM,CAAC,WAAW,CAAC,KAAK,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC,CAAC;KACpF,CAAC,CAAC;IAEH,aAAa,CAAC,GAAG,CAAC,YAAY,CAAC,CAAC,OAAO,CAAC,QAAQ;QAC9C,MAAM,gBAAgB,GAAG,QAExB,CAAC;QAEF,IAAI,UAAU,CAAC,gBAAgB,CAAC,EAAE;YAChC,MAAM,CAAC,WAAW,CAAC,KAAK,CAAC,KAAK,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;SACxC;aAAM;;;;YAIL,MAAM,CAAC,WAAW,CAAC,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;SAC7C;KACF,CAAC,CAAC;IAEH,aAAa,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC,OAAO,CAAC,CAAC,OAAO,CAAC,CAAC,CAAI,QAAQ,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;QAEpE,MAAM,YAAY,GAAG,CAAC,QAAQ,CAAC,CAAC,EAAE;;;YAGhC,MAAM,aAAa,GAAG,CAAC,mBAAmB,CAAC,YAAY,CAAC,CAAC;YAEzD,MAAM,CAAC,WAAW,CAAC,KAAK,CAAC,KAAK,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;SACxC

AC;oBACzD,0BAA0B,CAAC,cAAc,EAAE,MAAM,CAAC,CAAC;iBACpD;aACF;YACD,OAAO,cAAc,CAAC;SACvB;;QAED,YAAY,EAAE,CAAC,CAAC,SAAS;KAC1B,CAAC,CAAC;AACL,CAAC;AAED,SAAS,gBAAgB,CAAI,SAAkB;IAE7C,OAAQ,SAAqC,CAAC,eAAe,KAAK,SAAS,CAAC;AAED;;;;;;;SAOgB,gBAAgB,CAAC,IAAe,EAAE,SAAS;IACzE,OAAO,IAAI,CAAC,IAAI,CAAC,cAAc,KAAK,SAAS,CAAC;AAClD;;;;;;;

C,IAAI,CAAC,4CAA4C,CAAC,CAAC;qBAC9E;oBACD,IAAI,WAAW,CAAC,IAAI,CAAC,iBAAiB,CAAC,EA
AE;wBACvC,MAAM,IAAI,KAAK,CAAC,wDAAwD,CAAC,CAAC;qBAC3E;oBACD,WAAW,CAAC,IAAI,CA
AC,wBAAwB,CAAC,KAAK,EAAE,GAAG,CAAC,CAAC,CAAC;iBACxD;aACF,CAAC,CAAC;SACJ;KACF;IA
CD,OAAO,WAAW,CAAC;AACrB,CAAC;AAED,SAAS,eAAe,CAAC,QAA0B;IACjD,OAAO,QAAQ,KAAK,SA
AS,GAAG,IAAI,GAAG,YAAY,CAAC,QAAQ,CAAC,CAAC;AAChE,CAAC;AAED,SAAS,cAAc,CAAC,KAAU;
IAChC,MAAM,IAAI,GAAG,KAAK,CAAC,cAAc,CAAC;IAClC,OAAO,IAAI,KAAK,cAAc,IAAI,IAAI,KAAK,i
BAAiB,CAAC;AC/D,CAAC;AAED,SAAS,WAAW,CAAC,KAAU;IAC7B,MAAM,IAAI,GAAG,KAAK,CAAC,cAAc,CAAC,
cAAc,CAAC;IAClC,OAAO,IAAI,KAAK,WAAW,IAAI,IAAI,KAAK,cAAc,CAAC;AACzD,CAAC;AAED,SAAS,
iBAAiB,CAAC,KAAU;IACnC,OAAO,KAAK,KAAK,SAAS,IAAI,KAAK,KAAK,IAAI,OAAO,KAAK,QAAQ,CAAC;AAC1C,CAAC;AAED,SAAS,
YAAY,CAAC,KAAa;IACjC,OAAO,KAAK,KAAK,SAAS,IAAI,KAAK,KAAK,IAAI,OAAO,KAAK,QAAQ,IAAI,KAAK,CAAC,MAAM,KAAK,CAAC,CAAC;AAC1F,CAAC;AAED,SAAS,
cAAc,CAAC,KAAU;IAClC,OAAO,KAAK,KAAK,SAAS,IAAI,KAAK,KAAK,IAAI,OAAO,KAAK,KAAK,QAAQ,IAAI,KAAK,CAAC,MAAM,KAAK,CAAC,CAAC;AAC5F,CAAC;AAED,SAAS,
eAAe,CAAC,KAAU;IACnC,OAAO,KAAK,KAAK,SAAS,IAAI,KAAK,KAAK,IAAI,OAAO,KAAK,KAAK,QAAQ,IAAI,KAAK,CAAC,MAAM,KAAK,CAAC,CAAC;AAC5F,CAAC;AAED,SAAS,
aAAa,CAAC,KAAU;IACjC,OAAO,KAAK,KAAK,SAAS,IAAI,KAAK,KAAK,IAAI,OAAO,KAAK,KAAK,QAAQ,IAAI,KAAK,CAAC,MAAM,KAAK,CAAC,CAAC;AAC5F,CAAC;AAED,SAAS,
gBAAgB,CAAC,KAAU;IACp

GAAGC,YAAmB;AAEjE,MAAM,kCAAkC,GAAG,IAAI,CAAC;AAChD,MAAM,kCAAkC,GAAG,IAAI,CAAC;AAChD,MAAM,6BAA6B,GAAG,IAAI,CAAC;AAE3C,MAAM,wBAAwB,GAAAmC,kCAAkC,CAAC;AACpG,MAAM,wBAAwB,GAAAmC,kCAAkC,CAAC;AACpG,MAAM,mBAAmB,GAA8B,6BAA6B;;ACr5BpF;;;;;;;aA4PgB,CAAC,QAAkB,KAAK,QAAQ;AAC5C;;;;;;;;;;;AAWA,CAAC,IAAe,EAAE,IAAc,KAAK,uBAAuB,CAAC,IAAI,EAAE,IAAI,CAAC;AAjB5E;;;;MAIa,QAAQ,GAAsB,aAAa,CAAC,pD,UAAU,QAAQ,oC,SAAS,EAAE,SAAS,QAAY;AAG9E,SAAS,oBAAoB,CAAC,UAAqB,EAAE,QAAmB;IAAC,tE,IAAI,OAAO,GAAG,CAAC,IAAI,QAAQ,CAAC,OAAO,EAAE,KAAK,EAAE,IAAI,CAAC;IAAC,nD,IAAI,QAAQ,IAAI,QAAQ,CAAC,OAAO,EAAE,EAAE;QAAChC,OAAO,GAAG,CAAC,OAAO,EAAE,KAAK,EAAE,IAAI,CAAC,OAAO,EAAE,KAAK,EAAE,KAAK;KAAC1C;IAAC,gBAAgB,EAAE,gBAAgB,EAAE,CAAC;QAACC,OAAO,EAAE,OAAO,EAAE,EAAE,kCAAkC,EAAE,CAAC,EAAE,UAAU,EAAE,EAAE,EAAE,QAAQ,EAAE,EAAE,UAAU,EAAE,EAAE,CAAC;QAAC/E,OAAO,EAAE,SAAS,EAAE,EAAE,QAAQ,EAAE,IAAI,QAAQ,EAAE,CAAC,EAAE,SAAS;QAAC,OAAO,EAAE,OAAO,EAAE,EAAE,OAAO;KAACjB,OAAO,EAAE,CAAC,EAAE,CAAC;AAACL,CAAC,EAAE,CAAC,EAAE,MAAM,GAAY,kCAAkC,EAAE,GAAG,EAAE,gBAAgB,EAAE,MAAM,EAAE,iCAAiC,EAAE,GAAG,EAAE,oBAAoB,EAAE,CAAC,EAAE,AAC/D,MAAM,uBAAuB,EAAE,GAAG,kC,iCAAiC,EAAE,AC3RhG,EAAE,GAAG,EAAE,EAAE,EAAE

qC,CAAC;AAE1E,MAAM,oDAAoD,GACpB,WAAkB,CAAC;MAC5C,qDAAqD,GAC5B,UAAY,UAAmB;IAEn
E,MAAM,eAAe,GAAG,qCAAqC,CAAC,UAAU,CAAC,CAAC;IAC1E,MAAM,SAAS,GAAG,cAAc,CAAC,UAA
U,CAAE,CAAC;IAC9C,MAAM,kBAAkB,GACpB,aAAa,CAAC,SAAS,CAAC,YAAY,CAAC;SAChC,MAAM,C
AAC,CAAC,SAAkC,EAAE,WAAsB;QACjE,MAAM,YAAY,GAAG,eAAe,CAAC,WAAW,CAAC,CAAC;QACl
D,YAAY,IAAI,SAAS,CAAC,IAAI,CAAC,IAAIC,kBAAkB,CAAC,YAAY,CAAC,CAAC,CAAC;QACrE,OAAO,
SAAS,CAAC;KAClB,EAAE,EAA6B,CAAC,CAAC;IAC1C,OAAO,IAAI,4BAA4B,CAAC,eAAe,EAAE,kBAAkB
,CAAC,CAAC;AAC/E;AACF,MAAM,0CAA0C,GAC5C,oDAAoD,CAAC;AAEzD,MAAM,qDAAqD,GA
CZ,WAAkB,CAAC;MACrD,sDAAsD,GACpB,UAAY,UAAmB;IAE5E,OAAO,OAAO,CAAC,OAAO,CAAC,qD
AAqD,CAAC,UAAU,CAAC,CAAC,CAAC;AAC5F,EAAE;AACF,MAAM,2CAA2C,GAC7C,qDAAqD,CAAC;A
AE1D;;;;;;;;;;MAYa,QAAQ;IADrB;;;;;QAME,sBAAiB,GAAmD,0BAA0B,CAAC;;;;QAK/F,uBAAkB,GAC4C,2B
AA2B,CAAC;;;;QAK1F,sCAAiC,GAC7B,0CAA0C,CAAC;;;;QAK/C,uCAAkC,GACa,2CAA2C,CAAC;KAkB5F;
;;;IAbC,UAAU,MAAW;;;;IAKrB,aAAa,CAAC,IAAe,KAAI;;;;IAKjC,WAAW,CAAC,UAAqB;QAC/B,SA
AS,CAAC;KAClB;;;YAzCF,UAAU;;AAyDX;;;;;MAKa,gBAAgB,GAAG,IAAI,cAAc,CAAoB,iBAAiB,EAAE;AA
EzF;;;;;MAKsB,eAAe;;;ACrKrC;;;;;;;AAQA,MAAM,OAAO,GAAiB,CAAC,MAAM,OAAO,CAAC,OAAO,CAAC,CAA
C,CAAC,CAAC,GAAG,CAAC,CAAC;SAI3C,iBAAiB,CAAC,EAAY;IAC5C,IAAI,OAAO,IAAI,KAAK,WAAW;QAE;QAE/B,OAAO,CAAC,IAAI,CAAC,6BAA6B,CAAC,CAAC;IAC9C,OAAO,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,SAAS,CAAC,EAAE,CAAC,CAAC,CAAC;AACxC;AAEA;;;;;;;;;;

;QACzE,OAAQ,IAA6B,CAAC,MAAM,CAAC,UAAU,CAAC,EAAE,EAAE,SAAS,EAAE,SAAS,CAAC,CAAC;KACnF;;;;;;;;;;;;;;IAeD,iBAAiB,CAAI,EAAyB;QAC5C,OAAQ,IAA6B,CAAC,MAAM,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC;KACtD;CACF;AAED,MAAM,aAAa,GAAG,EAAE,CAAC;AAoBzB,SAAS,WAAW,CAAC,IAAmB;QACtC,IAAI,CAAC,IAAI,CAAC,IAAI,CAA

AAyB,EAAE,SAAe,EAAE,SAAe,EAAE,IAAa;QACnF,OAAO,EAAE,CAAC,KAAK,CAAC,SAAS,EAAE,SAAS,CAAC,CAAC;KACvC;;;AChZH;;;;;;;AAkDA;;;;;;MAOa,WAAW;IActB,YAAoB,OAAe;QAAf,YAAO,GAAP,OAAO,CAAQ;QAb3B,kBAAa,GAAW,CAAC,CAAC;QAC1B,kBAAa,GAAY,CAAC;;;;;;;QAO9B,aAAQ,GAAY,KAAK,CAAC;QAC1B,eAAU,GAAG,mBAAmB,EAAE,CAAC;QAEhC,qBAAgB,GAA8B,IAAI,CAAC;QAGzD,gBAAW,GAAG,IAAI,CAAC;QAGf,mBAAmB,EAAE,CAAC;QAC3B,OAAO,CAAC,GAAG,CAAC;YACV,IAAI,CAAC,gBAAgB;gBACnB,IAAI,CAAC,gBAAgB,GAAG,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,CAAC;YACjD,CAAC,CAAC,CAAC;QACL,CAAC;IACH,CAAC;IAED,IAAI,CAAC,KAAa;QAChB,IAAI,CAAC,IAAI,CAAC,gBAAgB,EAAE,CAAC;YAC3B,MAAM,IAAI,KAAK,CAAC,qCAAqC,CAAC,CAAC;QACzD,CAAC;QACD,IAAI,CAAC,gBAAgB,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;IACpC,CAAC;IAED,KAAK;QACH,IAAI,CAAC,IAAI,CAAC,gBAAgB,EAAE,CAAC;YAC3B,MAAM,IAAI,KAAK,CAAC,qCAAqC,CAAC,CAAC;QACzD,CAAC;QACD,IAAI,CAAC,gBAAgB,CAAC,KAAK,EAAE,CAAC;IAChC,CAAC;IAED,KAAK;QACH,IAAI,CAAC,IAAI,CAAC,gBAAgB,EAAE,CAAC;YAC3B,MAAM,IAAI,KAAK,CAAC,qCAAqC,CAAC,CAAC;QACzD,CAAC;QACD,IAAI,CAAC,gBAAgB,CAAC,KAAK,EAAE,CAAC;IAChC,CAAC;IAED,QAAQ;QACN,IAAI,CAAC,IAAI,CAAC,gBAAgB,EAAE,CAAC;YAC3B,MAAM,IAAI,KAAK,CAAC,qCAAqC,CAAC,CAAC;QACzD,CAAC;QACD,IAAI,CAAC,gBAAgB,CAAC,QAAQ,EAAE,CAAC;IACnC

CAAC;KAC9C;;;;;;;IAQD,qBAAqB,CAAC,IAAU,EAAE,kBAA2B,IAAI;QAC/D,OAAO,kBAAkB,CAAC,qBAA
qB,CAAC,IAAI,EAAE,IAAI,EAAE,eAAe,CAAC,CAAC;KAC9E;;;YA/DF,UAAU;;;AA8EX,MAAM,mBAAmB;I
ACvB,WAAW,CAAC,QAA6B,KAAU;IACnD,qBAAqB,CAAC,QAA6B,EAAE,IAAS,EAAE,eAAwB;QAEtF,OA
AO,IAAI,CAAC;KACb;CACF;AAED;;;;SAIgB,oBAAoB,CAAC,MAAsB;IACzD,kBAAkB,GAAG,MAAM,CAA
C;AAC9B,CAAC;AAED,IAAI,kBAAkB,GAAmB,IAAI,mBAAmB,EAAE;;ACtUlE;;;;;;;AAUA;;;;;;AAOA,IAAI,
QAAQ,GAAY,IAAI,CAAC;AAC7B,IAAI,cAAc,GAAY,KAAK,CAAC;AAGpC;;;;;;;;SAQgB,SAAS;IACvB,cAAc
,GAAG,IAAI,CAAC;IACtB,OAAO,QAAQ,CAAC;AAClB,CAAC;AAED;;;;;;;;;;SAUgB,cAAc,cAAc;IAC5B,IAAI,cAA
c,EAAE;QAClB,MAAM,IAAI,KAAK,CAAC,+CAA+C,CAAC;;IAID,IAAI,OAAO,SAAS,KAAK
,SAAS,IAAI,CAAC,CAAC,SAAS,EAAE;QACjDA,OAAM,CAAC,WAAW,CAAC,GAAG,KAAK,CAAC;KAC7
B;IAED,QAAQ,GAAG,KAAK,CAAC;AACnB;;ACxDA;;;;;;;AA8CA,IAAI,SAAsB,CAAC;AAE3B,IAAI,sBAAsB
,GAAG,EAAE,OAAwB,EAC5C,UAAmB;IACrB,MAAM,eAAe,GAAG,CAAC,QAAkB,KAAK,QAAQ,CAAC,OAAO,KAAK,QAAQ;
IAC5E,IAAI,CAAC,eAAe,CAAC,OAAO,CAAC,IAAI,CAAC,eAAe,CAAC,UAAU,CAAC,EAAE;QAC5D,MAAM,IAAI,KAAK,CAAC,
kDAAkD,CAAC;KACpE;IACD,IAAI,OAAO,KAAK,UAAU,EAAE;QAC1B,MAAM,IAAI,KAAK,CAAC,
sDAAsD,CAAC;KACxE;IACD,IAAI,SAAS,KAAK,SAAS,EAAE;QAC3B,MAAM,IAAI,KAAK,CAAC,
yDAAyD,CAAC;KAC3E;IACD,SAAS,GAAG,OAAO,CAAC;IACpB,OAAO,UAAU,CAAC;AACpB,CAAC;AAED;;;;;;;;;;

E;SACF;QACD,OAAO,cAAc,CAAC,MAAM,CAAC,CAAC;KAC/B,CAAC;AACJ,CAAC;AAED;;;;;SAKgB,cAAc,CAAC,aAAkB;IAC/C,MAAM,QAAQ,GAAG,WAAW,EAAE,CAAC;IAE/B,IAAI,CAAC,QAAQ,EAAE;QACb,MAAM,IAAI,KAAK,CAAC,qBAAqB,CAAC,CAAC;KACxC;IAED,IAAI,CAAC,QAAQ,CAAC,QAAQ,CAAC,GAAG,CAAC,aAAa,EAAE,IAAI,CAAC,EAAE;QAC/C,MAAM,IAAI,KAAK,CAAC,sFAAsF,CAAC,CAAC;KAC7F;IAED,OAAO,QAAQ,CAAC;AAClB,CAAC;AAED;;;;;;SAMgB,eAAe;IAC7B,IAAI,SAAS,IAAI,CAAC,CAAC,EAAE;QACnB,MAAM,IAAI,KAAK,CAAC,sFAAsF,CAAC,CAAC;KACzG;IAED,OAAO,IAAI,CAAC,SAAS,CAAC,CAAC;AACzB,CAAC;AAED;;;;;;

AA0B,EAAE,MAAc,EAAE,QAAmB;IACjE,IAAI;QACF,MAAM,MAAM,GAAG,QAAQ,EAAE,CAAC;QAC1B,IAAI,SAAS,CAAC,MAAM,CAAC,EAAE;YACrB,OAAO,MAAM,CAAC,KAAK,CAAC,CAAC,CAAM;gBACzB,MAAM,CAAC,iBAAiB,CAAC,MAAM,YAAY,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC;;gBE5D,MAAM,CAAC,CAAC;aCT;QAC5B,IAAI,CAAC,CAAC;QACN,IAAI,CAAC,CAAC;SACJ;QAED,OAAO,MAAM,CAAC,KAAK,CAAC;KACxC;SAAM;QACL,OAAO,GAAG,CAAC,CAAC;QACZ,IAAI,CAAC,CAAC;QACN,IAAI,CAAC,CAAC;KACP;IAED,OAAO,GAAG,CAAC,CAAC;IACZ,IAAI,CAAC,CAAC;IACN,IAAI,CAAC,CAAC;IAEN,OAAO,CAAC,GAAG,CAAC,EAAE;QACZ,IAAI,CAAC,GAAG,CAAC,CAAC;QACV,IAAI,CAAC,GAAG,CAAC,CAAC;QACV,IAAI,CAAC,GAAG,CAAC,CAAC;QAEV,IAAI,CAAC,GAAG,CAAC,EAAE;YACT,CAAC,IAAI,CAAC,CAAC;YACP,CAAC,IAAI,CAAC,CAAC;YACP,CAAC,IAAI,CAAC,CAAC;SACR;QAED

B,IAAI,SAAS,EAAE,EAAE;YACf,IAAI,CAAC,QAAQ,CAAC,GAAG,CACb,0FAA0F,CAAC,CAAC;SACjG;QACD,OAAO,OAAO,CAAC;KAChB;;;;;;;;;;IAYD,IAAI;QACF,IAAI,IAAI,CAAC,YAAY,EAAE;YACrB,MAAM,IAAI,KAAK,CAAC,2CAA2C,CAAC,CAAC;SAC9D;QAED,IAAI;YACF,IAAI,CAAC,YAAY,GAAG,IAAI,CAAC;SAC1B;QAAC,OAAO,CAAC,EAAE;YACV,IAAI,CAAC,YAAY,GAAG,KAAK,CAAC;SAC3B;IACH,CAAC;IAED,IAAI,YAAY;QACd,OAAO,IAAI,CAAC,aAAa,CAAC;IAC5B,CAAC;IAED,IAAI,YAAY,CAAC,KAAc;QAC7B,IAAI,CAAC,aAAa,GAAG,KAAK,CAAC;IAC7B,CAAC;IAED,IAAI,KAAK;QACP,OAAO,IAAI,CAAC,MAAM,CAAC;IACrB,CAAC;IAED,IAAI,KAAK,CAAC,KAAa;QACrB,IAAI,CAAC,MAAM,GAAG,KAAK,CAAC;IACtB,CAAC;IAED,IAAI,MAAM;QACR,OAAO,IAAI,CAAC,OAAO,CAAC;IACtB,CAAC;IAED,IAAI,MAAM,CAAC,KAAa;QACtB,IAAI,CAAC,OAAO,GAAG,KAAK,CAAC;IACvB,CAAC;IAED,IAAI,MAAM;QACR,OAAO,IAAI,CAAC,OAAO,CAAC;IACtB,CAAC;IAED,IAAI,MAAM,CAAC,KAAa;QACtB,IAAI,CAAC,OAAO,GAAG,KAAK,CAAC;IACvB,CAAC;IAED,IAAI,OAAO;QACT,OAAO,IAAI,CAAC,QAAQ,CAAC;IACvB,CAAC;IAED,IAAI,OAAO,CAAC,KAAa;QACvB,IAAI,CAAC,QAAQ,GAAG,KAAK,CAAC;IACxB,CAAC;IAED,IAAI,OAAO;QACT,OAAO,IAAI,CAAC,QAAQ,CAAC;IACvB,CAAC;IAED,IAAI,OAAO,CAAC,KAAa;QACvB,IAAI,CAAC,QAAQ,GAAG,KAAK,CAAC;IACxB,CAAC;IAED,IAAI,QAAQ;QACV,OAAO,IAAI,CAAC,SAAS,CAAC;IACxB,CAAC;IAED,IAAI,QAAQ,CAAC,KAAa;QACxB,IAAI,CAAC,SAAS,GAAG,KAAK,CAAC;IACzB,CAAC;IAED,IAAI,QAAQ;QACV,OAAO,IAAI,CAAC,SAAS,CAAC;IACxB,CAAC;IAED,IAAI,QAAQ,CAAC,KAAa;QACxB,IAAI,CAAC,SAAS,GAAG,KAAK,CAAC;IACzB,CAAC;IAED,IAAI,SAAS;QACX,OAAO,IAAI,CAAC,UAAU,CAAC;IACzB,CAAC;IAED,IAAI,SAAS,CAAC,KAAa;QACzB,IAAI,CAAC,UAAU,GAAG,KAAK,CAAC;IAC1B,CAAC;IAED,IAAI,SAAS;QACX,OAAO,IAAI,CAAC,UAAU,CAAC;IACzB,CAAC;IAED,IAAI,SAAS,CAAC,KAAa;QACzB,IAAI,CAAC,UAAU,GAAG,KAAK,CAAC;IAC1B,CAAC;IAED,IAAI,UAAU;QACZ,OAAO,IAAI,CAAC,WAAW,CAAC;IAC1B,CAAC;IAED,IAAI,UAAU,CAAC,KAAa;QAC1B,IAAI,CAAC,WAAW,GAAG,KAAK,CAAC;IAC3B,CAAC;IAED,IAAI,UAAU;QACZ,OAAO,IAAI,CAAC,WAAW,CAAC;IAC1B,CAAC;IAED,IAAI,UAAU,CAAC,KAAa;QAC1B,IAAI,CAAC,WAAW,GAAG,KAAK,CAAC;IAC3B,CAAC;IAED,IAAI,WAAW;QACb,OAAO,IAAI,CAAC,YAAY,CAAC;IAC3B,CAAC;IAED,IAAI,WAAW,CAAC,KAAa;QAC3B,IAAI,CAAC,YAAY,GAAG,KAAK,CAAC;IAC5B,CAAC;IAED,IAAI,WAAW;QACb,OAAO,IAAI,CAAC,YAAY,CAAC;IAC3B,CAAC;IAED,IAAI,WAAW,CAAC,KAAa;QAC3B,IAAI,CAAC,YAAY,GAAG,KAAK,CAAC;IAC5B,CAAC;IAED,IAAI,YAAY;QACd,OAAO,IAAI,CAAC,aAAa,CAAC;IAC5B,CAAC;IAED,IAAI,YAAY,CAAC,KAAa;QAC5B,IAAI,CAAC,aAAa,GAAG,KAAK,CAAC;IAC7B,CAAC;IAED,IAAI,YAAY;QACd,OAAO,IAAI,CAAC,aAAa,CAAC;IAC5B,CAAC;IAED,IAAI,YAAY,CAAC,KAAa;QAC5B,IAAI,CAAC,aAAa,GAAG,KAAK,CAAC;IAC7B,CAAC;IAED,IAAI,aAAa;QACf,OAAO,IAAI,CAAC,cAAc,CAAC;IAC7B,CAAC;IAED,IAAI,aAAa,CAAC,KAAa;QAC7B,IAAI,CAAC,cAAc,GAAG,KAAK,CAAC;IAC9B,CAAC;IAED,IAAI,aAAa;QACf,OAAO,IAAI,CAAC,cAAc,CAAC;IAC7B,CAAC;IAED,IAAI,aAAa,CAAC,KAAa;QAC7B,IAAI,CAAC,cAAc,GAAG,KAAK,CAAC;IAC9B,CAAC;IAED,IAAI,cAAc;QAChB,OAAO,IAAI,CAAC,eAAe,CAAC;IAC9B,CAAC;IAED,IAAI,cAAc,CAAC,KAAa;QAC9B,IAAI,CAAC,eAAe,GAAG,KAAK,CAAC;IAC/B,CAAC;IAED,IAAI,cAAc;QAChB,OAAO,IAAI,CAAC,eAAe,CAAC;IAC9B,CAAC;IAED,IAAI,cAAc,CAAC,KAAa;QAC9B,IAAI,CAAC,eAAe,GAAG,KAAK,CAAC;IAC/B,CAAC;IAED,IAAI,eAAe;QACjB,OAAO,IAAI,CAAC,gBAAgB,CAAC;IAC/B,CAAC;IAED,IAAI,eAAe,CAAC,KAAa;QAC/B,IAAI,CAAC,gBAAgB,GAAG,KAAK,CAAC;IAChC,CAAC;IAED,IAAI,eAAe;QACjB,OAAO,IAAI,CAAC,gBAAgB,CAAC;IAC/B,CAAC;IAED,IAAI,eAAe,CAAC,KAAa;QAC/B,IAAI,CAAC,gBAAgB,GAAG,KAAK,CAAC;IAChC,CAAC;IAED,IAAI,gBAAgB;QAClB,OAAO,IAAI,CAAC,iBAAiB,CAAC;IAChC,CAAC;IAED,IAAI,gBAAgB,CAAC,KAAa;QAChC,IAAI,CAAC,iBAAiB,GAAG,KAAK,CAAC;IACjC,CAAC;IAED,IAAI,gBAAgB;QAClB,OAAO,IAAI,CAAC,iBAAiB,CAAC;IAChC,CAAC;IAED,IAAI,gBAAgB,CAAC,KAAa;QAChC,IAAI,CAAC,iBAAiB,GAAG,KAAK,CAAC;IACjC,CAAC;IAED,IAAI,iBAAiB;QACnB,OAAO,IAAI,CAAC,kBAAkB,CAAC;IACjC,CAAC;IAED,IAAI,iBAAiB,CAAC,KAAa;QACjC,IAAI,CAAC,kBAAkB,GAAG,KAAK,CAAC;IAClC,CAAC;IAED,IAAI,iBAAiB;QACnB,OAAO,IAAI,CAAC,kBAAkB,CAAC;IACjC,CAAC;IAED,IAAI,iBAAiB,CAAC,KAAa;QACjC,IAAI,CAAC,kBAAkB,GAAG,KAAK,CAAC;IAClC,CAAC;IAED,IAAI,kBAAkB;QACpB,OAAO,IAAI,CAAC,mBAAmB,CAAC;IAClC,CAAC;IAED,IAAI,kBAAkB,CAAC,KAAa;QAClC,IAAI,CAAC,mBAAmB,GAAG,KAAK,CAAC;IACnC,CAAC;IAED,IAAI,kBAAkB;QACpB,OAAO,IAAI,CAAC,mBAAmB,CAAC;IAClC,CAAC;IAED,IAAI,kBAAkB,CAAC,KAAa;QAClC,IAAI,CAAC,mBAAmB,GAAG,KAAK,CAAC;IACnC,CAAC;IAED,IAAI,mBAAmB;QACrB,OAAO,IAAI,CAAC,oBAAoB,CAAC;IACnC,CAAC;IAED,IAAI,mBAAmB,CAAC,KAAa;QACnC,IAAI,CAAC,oBAAoB,GAAG,KAAK,CAAC;IACpC,CAAC;IAED,IAAI,mBAAmB;QACrB,OAAO,IAAI,CAAC,oBAAoB,CAAC;IACnC,CAAC;IAED,IAAI,mBAAmB,CAAC,KAAa;QACnC,IAAI,CAAC,oBAAoB,GAAG,KAAK,CAAC;IACpC,CAAC;IAED,IAAI,oBAAoB;QACtB,OAAO,IAAI,CAAC,qBAAqB,CAAC;IACpC,CAAC;IAED,IAAI,oBAAoB,CAAC,KAAa;QACpC,IAAI,CAAC,qBAAqB,GAAG,KAAK,CAAC;IACrC,CAAC;IAED,IAAI,oBAAoB;QACtB,OAAO,IAAI,CAAC,qBAAqB,CAAC;IACpC,CAAC;IAED,IAAI,oBAAoB,CAAC,KAAa;QACpC,IAAI,CAAC,qBAAqB,GAAG,KAAK,CAAC;IACrC,CAAC;IAED,IAAI,qBAAqB;QACvB,OAAO,IAAI,CAAC,sBAAsB,CAAC;IACrC,CAAC;IAED,IAAI,qBAAqB,CAAC,KAAa;QACrC,IAAI,CAAC,sBAAsB,GAAG,KAAK,CAAC;IACtC,CAAC;IAED,IAAI,qBAAqB;QACvB,OAAO,IAAI,CAAC,sBAAsB,CAAC;IACrC,CAAC;IAED,IAAI,qBAAqB,CAAC,KAAa;QACrC,IAAI,CAAC,sBAAsB,GAAG,KAAK,CAAC;IACtC,CAAC;IAED,IAAI,sBAAsB;QACxB,OAAO,IAAI,CAAC,uBAAuB,CAAC;IACtC,CAAC;IAED,IAAI,sBAAsB,CAAC,KAAa;QACtC,IAAI,CAAC,uBAAuB,GAAG,KAAK,CAAC;IACvC,CAAC;IAED,IAAI,sBAAsB;QACxB,OAAO,IAAI,CAAC,uBAAuB,CAAC;IACtC,CAAC;IAED,IAAI,sBAAsB,CAAC,KAAa;QACtC,IAAI,CAAC,uBAAuB,GAAG,KAAK,CAAC;IACvC,CAAC;IAED,IAAI,uBAAuB;QACzB,OAAO,IAAI,CAAC,wBAAwB,CAAC;IACvC,CAAC;IAED,IAAI,uBAAuB,CAAC,KAAa;QACvC,IAAI,CAAC,wBAAwB,GAAG,KAAK,CAAC;IACxC,CAAC;IAED,IAAI,uBAAuB;QACzB,OAAO,IAAI,CAAC,wBAAwB,CAAC;IACvC,CAAC;IAED,IAAI,uBAAuB,CAAC,KAAa;QACvC,IAAI,CAAC,wBAAwB,GAAG,KAAK,CAAC;IACxC,CAAC;IAED,IAAI,wBAAwB;QAC1B,OAAO,IAAI,CAAC,yBAAyB,CAAC;IACxC,CAAC;IAED,IAAI,wBAAwB,CAAC,KAAa;QACxC,IAAI,CAAC,yBAAyB,GAAG,KAAK,CAAC;IACzC,CAAC;IAED,IAAI,wBAAwB;QAC1B,OAAO,IAAI,CAAC,yBAAyB,CAAC;IACxC,CAAC;IAED,IAAI,wBAAwB,CAAC,KAAa;QACxC,IAAI,CAAC,yBAAyB,GAAG,KAAK,CAAC;IACzC,CAAC;IAED,IAAI,yBAAyB;QAC3B,OAAO,IAAI,CAAC,0BAA0B,CAAC;IACzC,CAAC;IAED,IAAI,yBAAyB,CAAC,KAAa;QACzC,IAAI,CAAC,0BAA0B,GAAG,KAAK,CAAC;IAC1C,CAAC;IAED,IAAI,yBAAyB;QAC3B,OAAO,IAAI,CAAC,0BAA0B,CAAC;IACzC,CAAC;IAED,IAAI,yBAAyB,CAAC,KAAa;QACzC,IAAI,CAAC,0BAA0B,GAAG,KAAK,CAAC;IAC1C,CAAC;IAED,IAAI,0BAA0B;QAC5B,OAAO,IAAI,CAAC,2BAA2B,CAAC;IAC1C,CAAC;IAED,IAAI,0BAA0B,CAAC,KAAa;QAC1C,IAAI,CAAC,2BAA2B,GAAG,KAAK,CAAC;IAC3C,CAAC;IAED,IAAI,0BAA0B;QAC5B,OAAO,IAAI,CAAC,2BAA2B,CAAC;IAC1C,CAAC;IAED,IAAI,0BAA0B,CAAC,KAAa;QAC1C,IAAI,CAAC,2BAA2B,GAAG,KAAK,CAAC;IAC3C,CAAC;IAED,IAAI,2BAA2B;QAC7B,OAAO,IAAI,CAAC,4BAA4B,CAAC;IAC3C,CAAC;IAED,IAAI,2BAA2B,CAAC,KAAa;QAC3C,IAAI,CAAC,4BAA4B,GAAG,KAAK,CAAC;IAC5C,CAAC;IAED,IAAI,2BAA2B;QAC7B,OAAO,IAAI,CAAC,4BAA4B,CAAC;IAC3C,CAAC;IAED,IAAI,2BAA2B,CAAC,KAAa;QAC3C,IAAI,CAAC,4BAA4B,GAAG,KAAK,CAAC;IAC5C,CAAC;IAED,IAAI,4BAA4B;QAC9B,OAAO,IAAI,CAAC,6BAA6B,CAAC;IAC5C,CAAC;IAED,IAAI,4BAA4B,CAAC,KAAa;QAC5C,IAAI,CAAC,6BAA6B,GAAG,KAAK,CAAC;IAC7C,CAAC;IAED,IAAI,4BAA4B;QAC9B,OAAO,IAAI,CAAC,6BAA6B,CAAC;IAC5C,CAAC;IAED,IAAI,4BAA4B,CAAC,KAAa;QAC5C,IAAI,CAAC,6BAA6B,GAAG,KAAK,CAAC;IAC7C,CAAC;IAED,IAAI,6BAA6B;QAC/B,OAAO,IAAI,CAAC,8BAA8B,CAAC;IAC7C,CAAC;IAED,IAAI,6BAA6B,CAAC,KAAa;QAC7C,IAAI,CAAC,8BAA8B,GAAG,KAAK,CAAC;IAC9C,CAAC;IAED,IAAI,6BAA6B;QAC/B,OAAO,IAAI,CAAC,8BAA8B,CAAC;IAC7C,CAAC;IAED,IAAI,6BAA6B,CAAC,KAAa;QAC7C,IAAI,CAAC,8BAA8B,GAAG,KAAK,CAAC;IAC9C,CAAC;IAED,IAAI,8BAA8B;QAChC,OAAO,IAAI,CAAC,+BAA+B,CAAC;IAC9C,CAAC;IAED,IAAI,8BAA8B,CAAC,KAAa;QAC9C,IAAI,CAAC,+BAA+B,GAAG,KAAK,CAAC;IAC/C,CAAC;IAED,IAAI,8BAA8B;QAChC,OAAO,IAAI,CAAC,+BAA+B,CAAC;IAC9C,CAAC;IAED,IAAI,8BAA8B,CAAC,KAAa;QAC9C,IAAI,CAAC,+BAA+B,GAAG,KAAK,CAAC;IAC/C,CAAC;IAED,IAAI,+BAA+B;QACjC,OAAO,IAAI,CAAC,gCAAgC,CAAC;IAC/C,CAAC;IAED,IAAI,+BAA+B,CAAC,KAAa;QAC/C,IAAI,CAAC,gCAAgC,GAAG,KAAK,CAAC;IAChD,CAAC;IAED,IAAI,+BAA+B;QACjC,OAAO,IAAI,CAAC,gCAAgC,CAAC;IAC/C,CAAC;IAED,IAAI,+BAA+B,CAAC,KAAa;QAC/C,IAAI,CAAC,gCAAgC,GAAG,KAAK,CAAC;IAChD,CAAC;IAED,IAAI,gCAAgC;QAClC,OAAO,IAAI,CAAC,iCAAiC,CAAC;IAChD,CAAC;IAED,IAAI,gCAAgC,CAAC,KAAa;QAChD,IAAI,CAAC,iCAAiC,GAAG,KAAK,CAAC;IACjD,CAAC;IAED,IAAI,gCAAgC;QAClC,OAAO,IAAI,CAAC,iCAAiC,CAAC;IAChD,CAAC;IAED,IAAI,gCAAgC,CAAC,KAAa;QAChD,IAAI,CAAC,iCAAiC,GAAG,KAAK,CAAC;IACjD,CAAC;IAED,IAAI,iCAAiC;QACnC,OAAO,IAAI,CAAC,kCAAkC,CAAC;IACjD,CAAC;IAED,IAAI,iCAAiC,CAAC,KAAa;QACjD,IAAI,CAAC,kCAAkC,GAAG,KAAK,CAAC;IAClD,CAAC;IAED,IAAI,iCAAiC;QACnC,OAAO,IAAI,CAAC,kCAAkC,CAAC;IACjD,CAAC;IAED,IAAI,iCAAiC,CAAC,KAAa;QACjD,IAAI,CAAC,kCAAkC,GAAG,KAAK,CAAC;IAClD,CAAC;IAED,IAAI,kCAAkC;QACpC,OAAO,IAAI,CAAC,mCAAmC,CAAC;IAClD,CAAC;IAED,IAAI,kCAAkC,CAAC,KAAa;QAClD,IAAI,CAAC,mCAAmC,GAAG,KAAK,CAAC;IACnD,CAAC;IAED,IAAI,kCAAkC;QACpC,OAAO,IAAI,CAAC,mCAAmC,CAAC;IAClD,CAAC;IAED,IAAI,kCAAkC,CAAC,KAAa;QAClD,IAAI,CAAC,mCAAmC,GAAG,KAAK,CAAC;IACnD,CAAC;IAED,IAAI,mCAAmC;QACrC,OAAO,IAAI,CAAC,oCAAoC,CAAC;IACnD,CAAC;IAED,IAAI,mCAAmC,CAAC,KAAa;QACnD,IAAI,CAAC,oCAAoC,GAAG,KAAK,CAAC;IACpD,CAAC;IAED,IAAI,mCAAmC;QACrC,OAAO,IAAI,CAAC,oCAAoC,CAAC;IACnD,CAAC;IAED,IAAI,mCAAmC,CAAC,KAAa;QACnD,IAAI,CAAC,oCAAoC,GAAG,KAAK,CAAC;IACpD,CAAC;IAED,IAAI,oCAAoC;QACtC,OAAO,IAAI,CAAC,qCAAqC,CAAC;IACpD,CAAC;IAED,IAAI,oCAAoC,CAAC,KAAa;QACpD,IAAI,CAAC,qCAAqC,GAAG,KAAK,CAAC;IACrD,CAAC;IAED,IAAI,oCAAoC;QACtC,OAAO,IAAI,CAAC,qCAAqC,CAAC;IACpD,CAAC;IAED,IAAI,oCAAoC,CAAC,KAAa;QACpD,IAAI,CAAC,qCAAqC,GAAG,KAAK,CAAC;IACrD,CAAC;IAED,IAAI,qCAAqC;QACvC,OAAO,IAAI,CAAC,sCAAsC,CAAC;IACrD,CAAC;IAED,IAAI,qCAAqC,CAAC,KAAa;QACrD,IAAI,CAAC,sCAAsC,GAAG,KAAK,CAAC;IACtD,CAAC;IAED,IAAI,qCAAqC;QACvC,OAAO,IAAI,CAAC,sCAAsC,CAAC;IACrD,CAAC;IAED,IAAI,qCAAqC,CAAC,KAAa;QACrD,IAAI,CAAC,sCAAsC,GAAG,KAAK,CAAC;IACtD,CAAC;IAED,IAAI,sCAAsC;QACxC,OAAO,IAAI,CAAC,uCAAuC,CAAC;IACtD,CAAC;IAED,IAAI,sCAAsC,CAAC,KAAa;QACtD,IAAI,CAAC,uCAAuC,GAAG,KAAK,CAAC;IACvD,CAAC;IAED,IAAI,sCAAsC;QACxC,OAAO,IAAI,CAAC,uCAAuC,CAAC;IACtD,CAAC;IAED,IAAI,sCAAsC,CAAC,KAAa;QACtD,IAAI,CAAC,uCAAuC,GAAG,KAAK,CAAC;IACvD,CAAC;IAED,IAAI,uCAAuC;QACzC,OAAO,IAAI,CAAC,wCAAwC,CAAC;IACvD,CAAC;IAED,IAAI,uCAAuC,CAAC,KAAa;QACvD,IAAI,CAAC,wCAAwC,GAAG,KAAK,CAAC;IACxD,CAAC;IAED,IAAI,uCAAuC;QACzC,OAAO,IAAI,CAAC,wCAAwC,CAAC;IACvD,CAAC;IAED,IAAI,uCAAuC,CAAC,KAAa;QACvD,IAAI,CAAC,wCAAwC,GAAG,KAAK,CAAC;IACxD,CAAC;IAED,IAAI,wCAAwC;QAC1C,OAAO,IAAI,CAAC,yCAAyC,CAAC;IACxD,CAAC;IAED,IAAI,wCAAwC,CAAC,KAAa;QACxD,IAAI,CAAC,yCAAyC,GAAG,KAAK,CAAC;IACzD,CAAC;IAED,IAAI,wCAAwC;QAC1C,OAAO,IAAI,CAAC,yCAAyC,CAAC;IACxD,CAAC;IAED,IAAI,wCAAwC,CAAC,KAAa;QACxD,IAAI,CAAC,yCAAyC,GAAG,KAAK,CAAC;IACzD,CAAC;IAED,IAAI,yCAAyC;QAC3C,OAAO,IAAI,CAAC,0CAA0C,CAAC;IACzD,CAAC;IAED,IAAI,yCAAyC,CAAC,KAAa;QACzD,IAAI,CAAC,0CAA0C,GAAG,KAAK,CAAC;IAC1D,CAAC;IAED,IAAI,yCAAyC;QAC3C,OAAO,IAAI,CAAC,0CAA0C,CAAC;IACzD,CAAC;IAED,IAAI,yCAAyC,CAAC,KAAa;QACzD,IAAI,CAAC,0CAA0C,GAAG,KAAK,CAAC;IAC1D,CAAC;IAED,IAAI,0CAA0C;QAC5C,OAAO,IAAI,CAAC,2CAA2C,CAAC;IAC1D,CAAC;IAED,IAAI,0CAA0C,CAAC,KAAa;QAC1D,IAAI,CAAC,2CAA2C,GAAG,KAAK,CAAC;IAC3D,CAAC;IAED,IAAI,0CAA0C;QAC5C,OAAO,IAAI,CAAC,2CAA2C,CAAC;IAC1D,CAAC;IAED,IAAI,0CAA0C,CAAC,KAAa;QAC1D,IAAI,CAAC,2CAA2C,GAAG,KAAK,CAAC;IAC3D,CAAC;IAED,IAAI,2CAA2C;QAC7C,OAAO,IAAI,CAAC,4CAA4C,CAAC;IAC3D,CAAC;IAED,IAAI,2CAA2C,CAAC,KAAa;QAC3D,IAAI,CAAC,4CAA4C,GAAG,KAAK,CAAC;IAC5D,CAAC;IAED,IAAI,2CAA2C;QAC7C,OAAO,IAAI,CAAC,4CAA4C,CAAC;IAC3D,CAAC;IAED,IAAI,2CAA2C,CAAC,KAAa;QAC3D,IAAI,CAAC,4CAA4C,GAAG,KAAK,CAAC;IAC5D,CAAC;IAED,IAAI,4CAA4C;QAC9C,OAAO,IAAI,CAAC,6CAA6C,CAAC;IAC5D,CAAC;IAED,IAAI,4CAA4C,CAAC,KAAa;QAC5D,IAAI,CAAC,6CAA6C,GAAG,KAAK,CAAC;IAC7D,CAAC;IAED,IAAI,4CAA4C;QAC9C,OAAO,IAAI,CAAC,6CAA6C,CAAC;IAC5D,CAAC;IAED,IAAI,4CAA4C,CAAC,KAAa;QAC5D,IAAI,CAAC,6CAA6C,GAAG,KAAK,CAAC;IAC7D,CAAC;IAED,IAAI,6CAA6C;QAC/C,OAAO,IAAI,CAAC,8CAA8C,CAAC;IAC7D,CAAC;IAED,IAAI,6CAA6C,CAAC,KAAa;QAC7D,IAAI,CAAC,8CAA8C,GAAG,KAAK,CAAC;IAC9D,CAAC;IAED,IAAI,6CAA6C;QAC/C,OAAO,IAAI,CAAC,8CAA8C,CAAC;IAC7D,CAAC;IAED,IAAI,6CAA6C,CAAC,KAAa;QAC7D,IAAI,CAAC,8CAA8C,GAAG,KAAK,CAAC;IAC9D,CAAC;IAED,IAAI,8CAA8C;QAChD,OAAO,IAAI,CAAC,+CAA+C,CAAC;IAC9D,CAAC;IAED,IAAI,8CAA8C,CAAC,KAAa;QAC9D,IAAI,CAAC,+CAA+C,GAAG,KAAK,CAAC;IAC/D,CAAC;IAED,IAAI,8CAA8C;QAChD,OAAO,IAAI,CAAC,+CAA+C,CAAC;IAC9D,CAAC;IAED,IAAI,8CAA8C,CAAC,KAAa;QAC9D,IAAI,CAAC,+CAA+C,GAAG,KAAK,CAAC;IAC/D,CAAC;IAED,IAAI,+CAA+C;QACjD,OAAO,IAAI,CAAC,gDAAgD,CAAC;IAC/D,CAAC;IAED,IAAI,+CAA+C,CAAC,KAAa;QAC/D,IAAI,CAAC,gDAAgD,GAAG,KAAK,CAAC;IAChE,CAAC;IAED,IAAI,+CAA+C;QACjD,OAAO,IAAI,CAAC,gDAAgD,CAAC;IAC/D,CAAC;IAED,IAAI,+CAA+C,CAAC,KAAa;QAC/D,IAAI,CAAC,gDAAgD,GAAG,KAAK,CAAC;IAChE,CAAC;IAED,IAAI,gDAAgD;QAClD,OAAO,IAAI,CAAC,iDAAiD,CAAC;IAChE,CAAC;IAED,IAAI,gDAAgD,CAAC,KAAa;QAChE,IAAI,CAAC,iDAAiD,GAAG,KAAK,CAAC;IACjE,CAAC;IAED,IAAI,gDAAgD;QAClD,OAAO,IAAI,CAAC,iDAAiD,CAAC;IAChE,CAAC;IAED,IAAI,gDAAgD,CAAC,KAAa;QAChE,IAAI,CAAC,iDAAiD,GAAG,KAAK,CAAC;IACjE,CAAC;IAED,IAAI,iDAAiD;QACnD,OAAO,IAAI,CAAC,kDAAkD,CAAC;IACjE,CAAC;IAED,IAAI,iDAAiD,CAAC,KAAa;QACjE,IAAI,CAAC,kDAAkD,GAAG,KAAK,CAAC;IAClE,CAAC;IAED,IAAI,iDAAiD;QACnD,OAAO,IAAI,CAAC,kDAAkD,CAAC;IACjE,CAAC;IAED,IAAI,iDAAiD,CAAC,KAAa;QACjE,IAAI,CAAC,kDAAkD,GAAG,KAAK,CAAC;IAClE,CAAC;IAED,IAAI,kDAAkD;QACpD,OAAO,IAAI,CAAC,mDAAmD,CAAC;IAClE,CAAC;IAED,IAAI,kDAAkD,CAAC,KAAa;QAClE,IAAI,CAAC,mDAAmD,GAAG,KAAK,CAAC;IACnE,CAAC;IAED,IAAI,kDAAkD;QACpD,OAAO,IAAI,CAAC,mDAAmD,CAAC;IAClE,CAAC;IAED,IAAI,kDAAkD,CAAC,KAAa;QAClE,IAAI,CAAC,mDAAmD,GAAG,KAAK,CAAC;IACnE,CAAC;IAED,IAAI,mDAAmD;QACrD,OAAO,IAAI,CAAC,oDAAoD,CAAC;IACnE,CAAC;IAED,IAAI,mDAAmD,CAAC,KAAa;QACnE,IAAI,CAAC,oDAAoD,GAAG,KAAK,CAAC;IACpE,CAAC;IAED,IAAI,mDAAmD;QACrD,OAAO,IAAI,CAAC,oDAAoD,CAAC;IACnE,CAAC;IAED,IAAI,mDAAmD,CAAC,KAAa;QACnE,IAAI,CAAC,oDAAoD,GAAG,KAAK,CAAC;IACpE,CAAC;IAED,IAAI,oDAAoD;QACtD,OAAO,IAAI,CAAC,qDAAqD,CAAC;IACpE,CAAC;IAED,IAAI,oDAAoD,CAAC,KAAa;QACpE,IAAI,CAAC,qDAAqD,GAAG,KAAK,CAAC;IACrE,CAAC;IAED,IAAI,oDAAoD;QACtD,OAAO,IAAI,CAAC,qDAAqD,CAAC;IACpE,CAAC;IAED,IAAI,oDAAoD,CAAC,KAAa;QACpE,IAAI,CAAC,qDAAqD,GAAG,KAAK,CAAC;IACrE,CAAC;IAED,IAAI,qDAAqD;QACvD,OAAO,IAAI,CAAC,sDAAsD,CAAC;IACrE,CAAC;IAED,IAAI,qDAAqD,CAAC,KAAa;QACrE,IAAI,CAAC,sDAAsD,GAAG,KAAK,CAAC;IACtE,CAAC;IAED,IAAI,qDAAqD;QACvD,OAAO,IAAI,CAAC,sDAAsD,CAAC;IACrE,CAAC;IAED,IAAI,qDAAqD,CAAC,KAAa;QACrE,IAAI,CAAC,sDAAsD,GAAG,KAAK,CAAC;IACtE,CAAC;IAED,IAAI,sDAAsD;QACxD,OAAO,IAAI,CAAC,uDAAuD,CAAC;IACtE,CAAC;IAED,IAAI,sDAAsD,CAAC,KAAa;QACtE,IAAI,CAAC,uDAAuD,GAAG,KAAK,CAAC;IACvE,CAAC;IAED,IAAI,sDAAsD;QACxD,OAAO,IAAI,CAAC,uDAAuD,CAAC;IACtE,CAAC;IAED,IAAI,sDAAsD,CAAC,KAAa;QACtE,IAAI,CAAC,uDAAuD,GAAG,KAAK,CAAC;IACvE,CAAC;IAED,IAAI,uDAAuD;QACzD,OAAO,IAAI,CAAC,wDAAwD,CAAC;IACvE,CAAC;IAED,IAAI,uDAAuD,CAAC,KAAa;QACvE,IAAI,CAAC,wDAAwD,GAAG,KAAK,CAAC;IACxE,CAAC;IAED,IAAI,uDAAuD;QACzD,OAAO,IAAI,CAAC,wDAAwD,CAAC;IACvE,CAAC;IAED,IAAI,uDAAuD,CAAC,KAAa;QACvE,IAAI,CAAC,wDAAwD,GAAG,KAAK,CAAC;IACxE,CAAC;IAED,IAAI,wDAAwD;QAC1D,OAAO,IAAI,CAAC,yDAAyD,CAAC;IACxE,CAAC;IAED,IAAI,wDAAwD,CAAC,KAAa;QACxE,IAAI,CAAC,yDAAyD,GAAG,KAAK,CAAC;IACzE,CAAC;IAED,IAAI,wDAAwD;QAC1D,OAAO,IAAI,CAAC,yDAAyD,CAAC;IACxE,CAAC;IAED,IAAI,wDAAwD,CAAC,KAAa;QACxE,IAAI,CAAC,yDAAyD,GAAG,KAAK,CAAC;IACzE,CAAC;IAED,IAAI,yDAAyD;QAC3D,OAAO,IAAI,CAAC,0DAA0D,CAAC;IACzE,CAAC;IAED,IAAI,yDAAyD,CAAC,KAAa;QACzE,IAAI,CAAC,0DAA0D,GAAG,KAAK,CAAC;IAC1E,CAAC;IAED,IAAI,yDAAyD;QAC3D,OAAO,IAAI,CAAC,0DAA0D,CAAC;IACzE,CAAC;IAED,IAAI,yDAAyD,CAAC,KAAa;QACzE,IAAI,CAAC,0DAA0D,GAAG,KAAK,CAAC;IAC1E,CAAC;IAED,IAAI,0DAA0D;QAC5D,OAAO,IAAI,CAAC,2DAA2D,CAAC;IAC1E,CAAC;IAED,IAAI,0DAA0D,CAAC,KAAa;QAC1E,IAAI,CAAC,2DAA2D,GAAG,KAAK,CAAC;IAC3E,CAAC;IAED,IAAI,0DAA0D;QAC5D,OAAO,IAAI,CAAC,2DAA2D,CAAC;IAC1E,CAAC;IAED,IAAI,0DAA0D,CAAC,KAAa;QAC1E,IAAI,CAAC,2DAA2D,GAAG,KAAK,CAAC;IAC3E,CAAC;IAED,IAAI,2DAA2D;QAC7D,OAAO,IAAI,CAAC,4DAA4D,CAAC;IAC3E,CAAC;IAED,IAAI,2DAA2D,CAAC,KAAa;QAC3E,IAAI,CAAC,4DAA4D,GAAG,KAAK,CAAC;IAC5E,CAAC;IAED,IAAI,2DAA2D;QAC7D,OAAO,IAAI,CAAC,4DAA4D,CAAC;IAC3E,CAAC;IAED,IAAI,2DAA2D,CAAC,KAAa;QAC3E,IAAI,CAAC,4DAA4D,GAAG,KAAK,CAAC;IAC5E,CAAC;IAED,IAAI,4DAA4D;QAC9D,OAAO,IAAI,CAAC,6DAA6D,CAAC;IAC5E,CAAC;IAED,IAAI,4DAA4D,CAAC,KAAa;QAC5E,IAAI,CAAC,6DAA6D,GAAG,KAAK,CAAC;IAC7E,CAAC;IAED,IAAI,4DAA4D;QAC9D,OAAO,IAAI,CAAC,6DAA6D,CAAC;IAC5E,CAAC;IAED,IAAI,4DAA4D,CAAC,KAAa;QAC5E,IAAI,CAAC,6DAA6D,GAAG,KAAK,CAAC;IAC7E,CAAC;IAED,IAAI,6DAA6D;QAC/D,OAAO,IAAI,CAAC,8DAA8D,CAAC;IAC7E,CAAC;IAED,IAAI,6DAA6D,CAAC,KAAa;QAC7E,IAAI,CAAC,8DAA8D,GAAG,KAAK,CAAC;IAC9E,CAAC;IAED,IAAI,6DAA6D;QAC/D,OAAO,IAAI,CAAC,8DAA8D,CAAC;IAC7E,CAAC;IAED,IAAI,6DAA6D,CAAC,KAAa;QAC7E,IAAI,CAAC,8DAA8D,GAAG,KAAK,CAAC;IAC9E,CAAC;IAED,IAAI,8DAA8D;QAChE,OAAO,IAAI,CAAC,+DAA+D,CAAC;IAC9E,CAAC;IAED,IAAI,8DAA8D,CAAC,KAAa;QAC9E,IAAI,CAAC,+DAA+D,GAAG,KAAK,CAAC;IAC/E,CAAC;IAED,IAAI,8DAA8D;QAChE,OAAO,IAAI,CAAC,+DAA+D,CAAC;IAC9E,CAAC;IAED,IAAI,8DAA8D,CAAC,KAAa;QAC9E,IAAI,CAAC,+DAA+D,GAAG,KAAK,CAAC;IAC/E,CAAC;IAED,IAAI,+DAA+D;QACjE,OAAO,IAAI,CAAC,gEAAgE,CAAC;IAC/E,CAAC;IAED,IAAI,+DAA+D,CAAC,KAAa;QAC/E,IAAI,CAAC,gEAAgE,GAAG,KAAK,CAAC;IAChF,CAAC;IAED,IAAI,+DAA+D;QACjE,OAAO,IAAI,CAAC,gEAAgE,CAAC;IAC/E,CAAC;IAED,IAAI,+DAA+D,CAAC,KAAa;QAC/E,IAAI,CAAC,gEAAgE,GAAG,KAAK,CAAC;IAChF,CAAC;IAED,IAAI,gEAAgE;QAClE,OAAO,IAAI,CAAC,iEAAiE,CAAC;IAChF,CAAC;IAED,IAAI,gEAAgE,CAAC,KAAa;QAChF,IAAI,CAAC,iEAAiE,GAAG,KAAK,CAAC;IACjF,CAAC;IAED,IAAI,gEAAgE;QAClE,OAAO,IAAI,CAAC,iEAAiE,CAAC;IAChF,CAAC;IAED,IAAI,gEAAgE,CA

,SAAS,CAAC;YACvB,kBAAkB,GAAG,EAAE,CAAC;SACzB;QAED,OAAO,MAAM,CAAC,MAAM,CAAC,IAAI,CAAC,OAAO,CAAC,iBAAiB,GAAG,MAAM,GAAG,IAAI,CAAC,OAAO,CAAC,iBAAiB,CAAC;aACzF,IAAI,CAAC,CAAC,MAAW,KAAK,MAAM,CAAC,UAAU,GAAG,kBAAkB,CAAC,CAAC;aAC9D,IAAI,CAAC,CAAC,OAAY,KAAK,aAAa,CAAC,OAAO,EAAE,MAAM,EAAE,UAAU,CAAC,CAAC,CAAC;KACzE;;;YApCF,UAAU;;;YA1CH,QAAQ;YA8CgD,4BAA4B,uBAAhD,hD,QAAQ;;AAmCpD,SAAS,aAAa,CAAC,KAAU,EAAE,UAAU,EAAE,UAAU,kBAAkB,EAAE,UAAU,kBAAkB;IACvG,IAAI,CAAC,KAAK,EAAE,EAAE,CAAC,KAAK,EAAE,QAAQ,CAAC,KAAK,EAAE,gBAAgB,EAAE,UAAU,CAAC,SAAS,EAAE,UAAU,CAAC,SAAS,EAAE,UAAU,CAAC,SAAS

,IAAI,CAAC,IAAI,CAAC,CAAC;aACpB;YACD,qBAAqB,CAAC,IAAI,EAAE,SAAS,EAAE,OAAO,CAAC,CAAC;SACjD;KACF,CAAC,CAAC;AACL,CAAC;AAED,SAAS,kBAAkB,CACvB,UAAqB,EAAE,SA+B,EAAE,OAAoB;IAC9E,IAAI,UAAU,,YAAY,sBAAsB,EAAE;QAChD,UAAU,,CAAC,UAAU,,CAAC,OAAO,,CAAC,IAAI;YAChC,IAAI,SAAS,,CAAC,IAAI,,CAAC,EAAE;gBACnB,OAAO,,CAAC,IAAI,,CAAC,IAAI,,CAAC,CAAC;aACpB;YACD,IAAI,IAAI,,YAAY,sBAAsB,EAAE;gBAC1C,kBAAkB,,CAAC,IAAI,EAAE,SAAS,EAAE,OAAO,,CAAC,CAAC;aAC9C;SACF,,CAAC,,CAAC;KACJ;AACH,,CAAC;AAED,MAAM,oBAAoB;IAGxB,YAAY,,UAAgB;QAC1B,IAAI,,CAAC,UAAU,,GAAG,,UAAU,,CAAC,IAAI,,CAAC,IAAI,,CAAC,IAAI,,CAAC,IAAI,,CAAC,CAAC;KACrD;IAED,IAAI,MAAM;QACR,OAAO,IAAI,,CAAC,UAAU,,CAAC,MAAM,,CAAC;KAC/B;IAED,IAAI,IAAI;QACN,OAAO,IAAI,,CAAC,UAAU,,CAAC,IAAI,,CAAC;KAC7

AS,KAAK,QAAQ,GAAG,SAAS,CAAC,OAAO,CAAC,KAAK,CAAC,GAAG,CAAC;YAC5B,SAAS,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;QAElF,OAAO,CAAC,OAAO,CAAC,CAAC,KAAa,KAAK,MAAM,CAAC,KAAK,CAAC,GAAG,IAAI,CAAC,UAAU;QAEzD,OAAO,MAAM,CAAC;KCf;IAED,IAAI,UAAU;QACZ,MAAM,UAAU,GAAG,IAAI,CAAC,UAAU;QAAC,OAAO,UAAU,CAAC,MAAM,KAAK,CAAC,GAAG,SAAS,GAAG,UAAU,CAAC,CAAC,CAAC;IAAC,CAAC;IAEnG,IAAI,KAAK;QAAI,OAAO,IAAI,CAAC,MAAM,CAAC,MAAM,GAAG,CAAC,CAAC;IAAC,CAAC;IAE7C,IAAI,IAAI;QAAI,OAAO,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC;IAAC,CAAC;IAEnC,IAAI,MAAM;QAAI,OAAO,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC;IAAC,CAAC;IAE1C,IAAI,MAAM,CAAC,KAAa;QAAI,IAAI,CAAC,MAAM,CAAC,MAAM,GAAG,KAAK,CAAC;IAAC,CAAC;IAEzD,IAAI,CAAC,KAAa;QAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;IAAC,CAAC;IAEhD,GAAG,CAAC,KAAa;QAAI,OAAO,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC;IAAC,CAAC;IAEhD,GAAG,CAAC,KAAa,EAAE,KAAa;QAAI,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,KAAK,CAAC;IAAC,CAAC;IAEjE,MAAM,CAAC,KAAa,EAAE,KAAa;QAAI,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,KAAK,EAAE,CAAC,EAAE,KAAK,CAAC,CAAC;IAAC,CAAC;IAE7E,MAAM,CAAC,KAAa;QAAI,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC;IAEvD,KAAK;QAAI,IAAI,CAAC,MAAM,GAAG,EAAE,CAAC;IAAC,CAAC;IAE5B,OAAO,CAAC,QAAkB;QAAI,KAAK,IAAI,CAAC,IAAI,IAAI,CAAC,MAAM,EAAE,QAAQ,CAAC,CAAC,CAAC,CAAC;IAAC,CAAC;IAEvE,OAAO,CAAC,QAAkB;QAAI,KAAK,IAAI,CAAC,IAAI,IAAI,CAAC,MAAM,EAAE,QAAQ,CAAC,CAAC,CAAC,CAAC;IAAC,CAAC;IAEvE,MAAM,CAAC,QAAkB;QAAI,IAAI,MAAM,GAAG,IAAI,CAAC,KAAK,EAAE,CAAC;QAAC,KAAK,IAAI,CAAC,IAAI,IAAI,CAAC,MAAM,EAAE,MAAM,CAAC,CAAC,CAAC,CAAC

ChB,aAAa,CAAC,KAAK,CAAC,CAAC,UAAW,EAAE,aAAa,EAAE,SAAS,EAAE,OAAO,EAAE,YAAY,EACjF,cAAc,CAAC,CAAC;aACrB;SACF;aAAM;YACL,IAAI,KAAK,CAAC,KAAK,EAAE;;gBAEf,oBAAoB,CAAC,KAAK,CAAC,KAAK,EAAE,KAAK,EAAE,SAAS,EAAE,OAAO,EAAE,YAAY,EAAE,cAAc,CAAC,CAAC;aAC5F;;;;;;;;;YAUD,UAAU,IAAI,2BAA2B,CAAC,UAAU,EAAE,SAAS,EAAE,OAAO,EAAE,YAAY,CAAC,CAAC;SACzF;;;QAGD,MAAM,eAAe,GAAG,KAAK,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC;QAC3C,IAAI,YAAY,CAAC,eAAe,CAAC,EAAE;YACjC,+BAA+B,CAC3B,eAAe,EAAE,SAAS,EAAE,OAAO,EAAE,YAAY,EAAE,cAAc,CAAC,CAAC;SACxE;KACF;SAAM,IAAI,KAAK,CAAC,IAAI,sBAAsB,wB;;;QAG3C,MAAM,UAAU,GAAG,KAAK,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC;QACtC,gBAAgB,CAAC,UAAU,CAAC,MAAM,CAAC,EAAE,SAAS,EAAE,OAAO,EAAE,YAAY,EAAE,cAAc,CAAC,CAAC;;QAEvF,+BAA+B,CAC3B,UAAU,EAAE,SAAS,EAAE,OAAO,EAAE,YAAY,EAAE,cAAc,CAAC,CAAC;KACrE;SAAM,IAAI,KAAK,CAAC,IAAI,sBAAsB,wB;;;QAG3C,MAAM,aAAa,GAAG,KAAK,CAAC,KAAK,CAAC,0BAA0B,CAAC,CAAC;QAC9D,aAAa,CAAC,MAAM,CAAC,aAAa,CAAC,MAAM,GAAG,CAAC,CAAC,GAAG,IAAI,CAAC;KACzD;IAED,OAAO,IAAI,CAAC;AACd,CAAC;AAED,MAAM,UAAU,gBAAgB,CAAC,KAAa,EAAE,KAAa;IAC3D,MAAM,IAAI,GAAG,KAAK,CAAC,KAAK,CAAC,CAAC;IAC1B,MAAM,IAAI,GAAG,KAAK,CAAC,KAAK,CAAC,CAAC;IAC1B,IAAI,IAAI,CAAC,MAAM,KAAK,IAAI,CAAC,MAAM,EAAE;QAC/B,MAAM,IAAI,KAAK,CAAC,+BAA+B,CAAC,CAAC;KAClD;IACD,IAAI,IAAI,GAAG,CAAC,CAAC;IACb,KAAK,MAAM,CAAC,IAAI,IAAI,EAAE;QACpB,IAAI,IAAI,CAAC,GAAG,IAAI,CAAC,IAAI,CAAC,CAAC;KACxB;IACD

AG,aAAa,CAAC,CAAC,CAAC,CAAC;YACtC,IAAI,aAAa,CAAC,MAAM,GAAG,CAAC,EAAE;gBAC5B,IAAI,KAAK,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC;gBAC7B,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,G
AAG,aAAa,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;oBACjD,KAAK,IAAI,eAAe,CAAC,KAA
K,CAAC,YAAY,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,GAAG,aAAa,CAAC,CAAC,GAAG,CAAC,CAAC,
CAAC;iBAC9E;gBACD,UAAU,CAAC,YAAY,CAAC,GAAG,KAAK,CAAC;aAClC;iBAAM;gBACL,UAAU,CA
AC,YAAY,CAAC,GAAG,KAAK,CAAC,YAAY,CAAC,CAAC;aAChD;SACF;KACF;AACH,CAAC;AAGD;AA
CA,MAAM,sBAAsB,GAAG,IAAI,GAAG,EAAkB,CAAC;AAEzD,SAAS,sBAAsB,CAAC,UAAe;IAC7C,OAAO,s
BAAsB,CAAC,GAAG,CAAC,UAAU,CAAC,IAAI,IAAI,CAAC;AACxD,CAAC;AAED,MAAM,iBAAiB,GAAG,
cAAc,CAAC;SAKzB,uBAAuB,CAAC,UAAe;IACrD,IAAI,UAAU,YAAY,IAAI,EAAE;QAC9B,UAAU,CAAC,iBAAU,CAAC,cAAc,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC

AE,IAAI;QACZ,YAAY,EAAE,IAAI;QAClB,YAAY,EAAE,CAAC,CAAC;QAChB,WAAW,EAAE,CAAC,CAAC
;;QAEf,KAAK;QACL,UAAU,EAAE,CAAC,CAAC;QACd,UAAU,EAAE,CAAC;QACb,gBAAgB,EAAE,CAAC;
QACnB,mBAAmB,EAAE,CAAC;QACtB,cAAc;QACd,eAAe;QACf,UAAU;QACV,cAAc;QACd,UAAU;QACV,
QAAQ,EAAE,EAAE;QACZ,YAAY,EAAE,CAAC;QACf,OAAO,EAAE,EAAE;QACX,OAAO,EAAE;YACP,EA
AE,EAAE,IAAI;YACR,IAAI,EAAE,IAAI;YACV,KAAK,EAAE,IAAI;YACX,QAAQ;YACR,iBAAiB,EAAE,IAA
I;YACvB,aAAa,EAAE,IAAI;YACnB,qBAAqB,EAAE,IAAI;YAC3B,eAAe,EAAE,IAAI;YACrB,YAAY,EAAE,IA
AI;YAClB,WAAW,EAAE,WAAW,IAAI,IAAI;SACjC;QACD,QAAQ,EAAE,IAAI;QACd,IAAI,EAAE,IAAI;QAC
V,KAAK,EAAE,IAAI;QACX,SAAS,EAAE,IAAI;KAChB,CAAC;AACJ,CAAC;SAEe,UAAU,CAAC,B
AAE,KAAgB,EACpC,iBAA2D,EAAE,cAA2B,EACxF,UAAkB,EAAE,gBAA6B,EAAE,aAAsC,EAAE,EAC3F,Q
AAyE,EACzE,OAAmC,EAAE,WAAuC,EAC5E,aA0C,EAC1C,qBA0C;IAC5C,IAAI,CAAC,WAW,EAAE;Q
AChB,WAAW,GAAG,IAAI,CAAC;KACpB;IACD,MAAM,EAAC,cAAc,EAAE,UAAU,EAAE,eAAe,EAAC,GA
AG,sBAAsB,CAAC,iBAAiB,CAAC,CAAC;IAChG,IAAI,EAAE,GAAW,IAAK,CAAC;IACvB,IAAI,IAAI,GAAW
,IAAK,CAAC;IACzB,IAAI,gBAAgB,EAAE;QACpB,CAAC,EAAE,EAAE,IAAI,CAAC,EAAE,GAAG,cAAc,CAAC,gB
AAgB,CAAC,CAAC;KAC/C;IACD,QAAQ,GAAG,QAAQ,IAAI,EAAE,CAAC;IAC1B,MAAM,WAAW,GAAG,EAAE,
EAAE,CAAC;IACrC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,QAAQ,CAAC,MAAM,EAAE,CA
AC,EAAE,EAAE;QACxC,MAAM,CAAC,YAAY,EAAE,gBAAgB,EAAE,uBAAuB,CAAC,GAAG,QAAQ,CAAC
,CAAC,CAAC,CAAC;QAE9E,MAAM,CAAC,EAAE,EAAE,IAAI,EAAE,gBAAgB,EAAE,cAAc,CAAC,GAAG,
CAAC,gBAAgB,CAAC,CAAC;QACpD,IAAI,eAAe,GAAG,oBAAoB,CAAC,IAAI,EAAE,CAAC,EAAE,CAAC,EAAE,
CAAC;QAClD,IAAI,MAAM,GAAG,WAAW,CAAC,eAAe,CAAC,CAAC;QAC1C,IAAI,CAAC,MAAM,EAAE;YACX,MA
AM,GAAG,IAAI,CAAC,EAAE,EAAE,IAAI,EAAE,gBAAgB,EAAE,cAAc,CAAC;YACnD,WAAW,CAAC,eAAe,
CAAC,GAAG,MAAM,CAAC;SAC9B;QACD,MAAM,CAAC,GAAG,CAAC,CAAC;KACb;IACD,OAAO,QAAQ,CAAC;AAC
lB,CAAC;AAED,SAAS,oBAAoB,CAAC,IAAY,EAAE,EAAU,EAAE,EAAU,EAAE,CAAS;IAC3E,IAAI,IAAI,KAAK,
CAAC,EAAE;QACd,OAAO,EAAE,GAAG,CAAC,GAAG,EAAE,CAAC;KACpB;IACD,IAAI,IAAI,KAAK,CAAC,EAAE;QACd,OAAO,EAAE,GAAG,
CAAC,GAAG,EAAE,CAAC;KACpB;IACD,IAAI,IAAI,KAAK,CAAC,EAAE;QACd,OAAO,EAAE,GAAG,CAAC,GAAG,EAAE,CAAC;KACpB;IACD,OAAO,CAAC,CAAC;AACX,CAAC;AAED,SAAS,WAAW,CAAC,CAAS;IAC5B,IAAI,CAAC,IAAI,CAAC,EAAE;QACV,OAAO,CAAC,CAAC;KACV;IACD,IAAI,CAAC,IAAI,CAAC,EAAE;QACV,OAAO,CAAC,CAAC;KACV;IACD,IAAI,CAAC,IAAI,CAAC,EAAE;QACV,OAAO,CAAC,CAAC;KACV;IACD,OAAO,CAAC,CAAC;AACX,CAAC;AAED,SAAS,eAAe,CAAC,CAAS;IAChC,IAAI,CAAC,IAAI,CAAC,EAAE;QACV,OAAO,CAAC,CAAC;KACV;IACD,IAAI,CAAC,IAAI,CAAC,EAAE;QACV,OAAO,CAAC,CAAC;KACV;IACD,IAAI,CAAC,IAAI,CAAC,EAAE;QACV,OAAO,CAAC,CAAC;KACV;IACD,OAAO,CAAC,CAAC;AACX,CAAC;AAED,SAAS,cAAc,CAAC,CAAS;IAC/B

AK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,KAAK,CAAC,KAAK,CAAC,MAAM,EAAE,CAAC,EAAE
,EAAE;YAC3C,MAAM,CAAC,EAAE,EAAE,IAAI,EAAE,KAAK,CAAC,GAAG,KAAK,CAAC,KAAK,CAAC,C
AAC,CAAC,CAAC;YACzC,QAAQ,CAAC,YAAY,CAAC,EAAE,EAAE,IAAI,EAAE,KAAK,EAAE,EAAE,CAA
C,CAAC;SAC5C;KACF;IACD,OAAO,EAAE,CAAC;AACZ,CAAC;SAEe,sBAAsB,CAAC,IAAc,EAAE,QAAkB,
EAAE,GAAY,EAAE,EAAO;IAC9F,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,GAAG,CAAC,OA
AO,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QAC3C,MAAM,MAAM,GAAG,GAAG,CAAC,OAAO,CAAC,C
AAC,CAAC,CAAC;QAC9B,MAAM,kBAAkB,GAAG,yBAAyB,CAChD,IAAI,EAAE,GAAG,CAAC,SAAS,EAAE
,oBAAoB,CAAC,MAAM,CAAC,MAAM,EAAE,MAAM,CAAC,SAAS,CAAC,CAAC;QAChF,IAAI,YA
AY,GAAgD,MAAM,CAAC,MAAM,CAAC;QAC9E,IAAI,YAAY,GAAG,IAAI,CAAC;QACxB,IAAI,MAAM,CA
AC,MAAM,KAAK,WAAW,EAAE;YACjC,IAAI,YAAY,GAAG,IAAI,CAAC;YACpB,IAAY,GAAG,IAAI,CAAC;SACzB;QACD,MAAM,UAAU,GACP,YAAY,IAAI,EAAE,EAAE,M
AAM,CAAC,SAAS,EAAE,kBAAkB,CAAC,CAAC;QAChG,IAAI,CAAC,WAAY,CAAC,WAAW,GAAG,GAAG,CAAC,WAAW,
GAAG,CAAC,CAAC,GAAG,UAAU,CAAC;KACrD;AACH,CAAC;AAED,SAAS,yBAAyB,CAAC,IAAc,EAAE,
KAAa,EAAE,SAAiB;IACjF,OAAO,CAAC,KAAK,EAAE,KAAK,EAAE,aAAa,IAAI,EAAE,KAAK,EAAE,SAAS,EAAE
,KAAK,CAAC,CAAC;AACtE,CAAC;AACtE,SAAS,2BAA2B,CAAC,IAAc,EAAE,2BAAmC,EAAE,
EAAE,EAAO,EAAE,EAAO,EAAE,EAAO,EAAE,EAAO,EAAE,EAAO,EAAE,EAAO,EAAE,EAAO,EAC3F,EAAO,EAAE,EAAO,EAAE,EAAO,EAAE,EA
AO;IAC3B,MAAM,OAAO,GAAG,GAAG,CAAC,QAAQ,CAAC,MAAM,CAAC;IACpC,IAAI,OAAO,GAAG,KAAK,KAAK,
GAAG,KAAK,CAAC;IACpB,IAAI,OAAO,GAAG,CAAC,IAAI,0BAA0B,CAAC,IAAI,EAAE,GAAG,EAAE,CAAC,EAAE,
EAAE,CAAC;QAAE,OAAO,GAAG,IAAI,CAAC;IAChF,IAAI,OAAO,GAAG,CAAC,IAAI,0BAA0B,CAAC,IAAI,EAAE,GAAG,EAAE,CAAC,EAAE

AS,CAAC,QAAQ,CAAC,eAAe,EAAE,KAAK,CAAC,GAAG,KAAK,CAAC;IACjG,WAAW,GAAG,WAAW,IAAA
I,IAAI,GAAG,WAAW,CAAC,QAAQ,EAAE,GAAG,IAAI,CAAC;IAClE,MAAM,QAAQ,GAAG,IAAI,CAAC,QA
AQ,CAAC;IAC/B,IAAI,KAAK,IAAI,IAAI,EAAE;QACjB,QAAQ,CAAC,YAAY,CAAC,UAAU,EAAE,IAAI,EA
AE,WAAW,EAAE,EAAE,CAAC,CAAC;KAC1D;SAAM;QACL,QAAQ,CAAC,eAAe,CAAC,UAAU,EAAE,IAAI
,EAAE,EAAE,CAAC,CAAC;KAChD;AACH,CAAC;AAED,SAAS,eAAe,CAAC,IAAc,EAAE,UAAe,EAAE,IAA
Y,EAAE,KAAc;IACpF,MAAM,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC;IAC/B,IAAI,KAAK,EAAE;QACT,Q
AAQ,CAAC,QAAQ,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;KCrC;SAAM;QACL,QAAQ,CAAC,WAAW,CA
AC,UAAU,EAAE,IAAI,CAAC,CAAC;KCxC;AACH,CAAC;AAED,SAAS,eAAe,CAAC,IAAc,EAAE,OAAmB
,EAAE,UAAe,EAAE,IAAY,EAAE,KAAU;IAChF,IAAI,WAAW,GACX,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,SAAS,,CAAC,
QAAQ,CAAC,eAAe,CAAC,KAAK,EAAE,KAAoB,CAAC,CAAC;IAC9E,IAAI,WAAW,IAAI,IAAI,EAAE;QACvB
,WAAW,GAAG,WAAW,CAAC,QAAQ,EAAE,CAAC;QACrC,MAAM,IAAI,GAAG,OAAO,,CAAC,MAAM,,CA
AC;QAC5B,IAAI,IAAI,IAAI,IAAI,EAAE;YAChB,WAAW,GAAG,WAAW,GAAG,IAAI,CAAC;SAClC;KACF;S
AAM;QACL,WAAW,GAAG,IAAI,CAAC;KCpB;IACD,MAAM,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC;IA
C/B,IAAI,WAAW,IAAI,IAAI,EAAE;QACvB,QAAQ,CAAC,QAAQ,CAAC,UAAU,EAAE,IAAI,EAAE,WAW,
CAAC,CAAC;KClD;SAAM;QACL,QAAQ,CAAC,WAAW,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;KCxC;
AACH,CAAC;AAED,SAAS,kBAAkB,CACvB,IAAc,EAAE,OAAmB,EAAE,UAAe,EAAE,IAAY,EAAE,KAAU;I
AChF,MAAM,eAAe,GAAG,OAAO,,CAAC,eAAe,CAAC,IAAI,,WAAW,,GAAG,eAAe,GAAG,IAAI,,CAA
C,IAAI,,CAAC,SAAS,,CAAC,QAAQ,,CAAC,eAAe,,EAAE,KAAK,,CAAC,GAAG,,KAAK,,CAAC;IACjG,IAAI,,CAA
C,QAAQ,,CAAC,WAAW,,CAAC,UAAU,,EAAE,IAAI,,EAAE,WAAW,,CAAC,CAAC;AAC3D;;AC3TA;;;;;;;SAcgB
,QAAQ,,CACpB,KAAgB,,EAAE,EAAU,,EAAE,QAAgD;IAChF,IAAI,WAAW,,GAAG,WAAW,,CAAC,GAAG,,sB,CAAC,IAAI,,WAAW,,CAAC,CAAC;IAClE,IAAI,,CAA
K,IAAI,,QAAQ,,IAAI,,QAAQ,,EAAE;QAC5B,QAAQ,C7B,MAAM,,WAAW,,GAAG,,QAAQ,,CAAC,,QAAQ,,CAAC,,CAAC;QACpE,IAAI,vC,WAAW,,CAAC,IAAI,,CAAC,EAAC,,QAAQ,,EAAE,,WAAW,,EAAC,,CAAC,,CAAC;KAC3C3C;IAED,OAAO;;QAE
L,SAAS,,EAAE,CAAC,,CAAC;QACb,MAAM,,EAAE,IAAI;QACZ,YAAY,,EAAE,IAAI;QAClB,YAAY,,EAAE,CA
AC,,CAAC;QAChB,WAAW,,CAAC,,CAAC;;;QAGf,UAAU,,EAAE,CAAC,,CAAC;QACd,KAAK;QACL,UA
AU,,EAAE,CAAC;QACb,gBAAgB,,EAAE,CAAC;QACnB,mBAAmB,,EAAE,CAAC;QACtB,cAAc,,EAAE,CAAC,,
CAAC;QAClB,cAAc,,EAAE,EAAE;QAClB,eAAe,,EAAE,CAAC;QAClB,UAAU,,EAAE,EAAE;QACd,UAAU,,EA
AE,CAAC;QACb,QAAQ,,EAAE,EAAE;QACZ,YAAY,,EAAE,CAAC;QACf,OAAO,,EAAE,EAAE;QACX,OAAO,,
EAAE,IAAI;QACb,QAAQ,,EAAE,IAAI;QACd,IAAI,,EAAE,IAAI;QACV,KAAK,,EAAE,EAAC,,EAAE,,EAAE,,QA
AQ,,EAAE,aAAa,,CAAC,,EAAE,,CAAC,,EAAE,,QAAQ,,EAAE,,WAAW,,EAAC;QAC/D,D,SAAS,,EAAE,IAAI;KAChB
B,CAAC;AACJ,CAAC;SAAE,CAAC;QAAE,WAAW,;EAAC;QAAE,OAAO,,IAAI,,SAAS,,EAAE,CAAC,;AAAC;QAAE,CAAC;AAAC;kBAAE,CAAC;AAAC;IAAE,C
AAC,,IAAI,,MAAM,,QAAQ,,GAAG,,IAAI,,CAAC,,GAAG,,CAAC,,kBAAkB,,CAAC,,CAAC;IAAE,IAAI,,C7C,OAAO,,IAAI,,CA
AC,,MAAM,,IAAI,,cAAc,,CAAC,,CAAC;IAAE,IAAI,,CAAC,,MAAM,,IAAI,,CAAC,,CAAC,,IAAI,,CAAC,,CAAC,,CAAC

CAAC,KAAK,oCAA+B;QAC9C,MAAM,UAAU,GAAG,OAAO,CAAC,MAAO,CAAC,MAAO,CAAC;QAC3C,SAAS,GAAG,eAAe,CACvB,IAAI,EAAE,UAAU,CAAC,SAAS,EAAE,UAAU,CAAC,SAAS,GAAG,UAAU,CAAC,UAAU,EAAE,OAAO,CAAC,KAAM,EACxF,EAAE,CAAC,CAAC;QACR,iBAAiB,GAAG,cAAc,CAAC,IAAI,EAAE,OAAO,CAAC,MAAO,CAAC,SAAS,CAAC,SAAS,CAAC,QAAQ,CAAC;KAC9E;SAAM,IAAI,OAAO,CAAC,KAAK,kCAA4B;QAClD,SAAS,GAAG,eAAe,CAAC,IAAI,EAAE,CAAC,EAAE,IAAI,CAAC,GAAG,CAAC,KAAK,CAAC,MAAM,GAAG,CAAC,CAAC,KAAK,CAAC,MAAM,EAAE,OAAO,CAAC,KAAM,EAAE,EAAE,CAAC,CAAC;QACpF,iBAAiB,GAAG,IAAI,CAAC,SAAS,CAAC,KAAK,CAAC,SAAS,CAAC,QAAQ,CAAC;IAC3B,MAAM,QAAQ,GAAG,cAAc,CAAC,IAAI,EAAE,OAAO,CAAC,MAAO,CAAC,SAAS,CAAC,SAAS,CAAC,QAAQ,CAAC;IACnF

X,SAAS,EAAE,EAAC,KAAK,EAAC;KACnB,CAAC;AACJ,CAAC;SAEe,eAAe,CAAC,IAAc,EAAE,UAAe,EAAE,GAAAY;IAC3E,MAAM,QAAQ,GAAG,sBAAsB,CAAC,IAAI,EAAE,UAAU,EAAE,GAAG,CAAC,CAAC;IAC/D,IAAI,CAAC,QAAQ,EAAE;;QAEb,OAAO;KACR;IACD,MAAM,cAAc,GAAG,CAAC,SAAU,CAAC,KAAK,CAAC,KAAK,CAAC;IAC5C,yBAAyB,CACrB,IAAI,EAAE,cAAc,uBAAgC,QAAQ,EAAE,IAAI,EAAE,SAAS,CAAC,CAAC;AACrF;;AClDA;;;;;;;SAAgB,WAAW,CAAC,UAAkB,EAAE,QAAA;IAAE,OAAO,kBAAkB,EAAE,UAAU,EAAE,QAAQ,CAAC,CAAC;AAAC,CAAC;AACvG,SAAS,kBAAkB,CAAC,IAAI,EAAE,UAAU,EAAE,QAAA;IAAE,IAAI,CAAC,IAAI,EAAE,UAAU,EAAE,QAAQ,CAAC,CAAC;AAAC,CAAC;AAEnF,SAAS,IAAI,CAAC,IAAI,EAAE,UAAU,EAAE,QAAA;IAAE,IAAI,CAAC,IAAI,EAAE,UAAU,EAAE,QAAQ,CAAC,CAAC;AAAC,CAAC;AAE3E

E,KAAK,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gBAChC,IAAI,OAAO,GAAG,CAAC;oBAAE,KAAK,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gBAChC,IAAI,OAAO,GAAG,CAAC;oBAAE,KAAK,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gBAChC,IAAI,OAAO,GAAG,CAAC;oBAAE,KAAK,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gBAChC,IAAI,OAAO,GAAG,CAAC;oBAAE,KAAK,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;gBAChC,MAAM;YACR;gBACE,KAAK,GAAG,EAAE,CAAC;gBACX,IAAI,OAAO,GAAG,CAAC;oBAAE,KAAK,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC,IAAK,CAAC,CAAC,GAAG,EAAE,CAAC;gBAC/C

YAChB,KAAK;YACL,IAAI,EAAE,IAAI;YACV,EAAE,EAAE,IAAI;YACR,eAAe,EAAE,IAAI;YACrB,eAAe,EAAE,IAAI;YACrB,MAAM,EAAE,UAAU,CAAC,CAAC,CAAC;SACtB,CAAC;KACH;IAED,OAAO;;QAEL,SAAS,EAAE,CAAC,CAAC;QACb,MAAM,EAAE,IAAI;QACZ,YAAY,EAAE,IAAI;QAClB,YAAY,EAAE,CAAC,CAAC;QAChB,WAAW,EAAE,CAAC,CAAC;;QAEf,UAAU;QACV,KAAK;QACL,UAAU,EAAE,CAAC;QACb,gBAAgB,EAAE,CAAC;QACnB,mBAAmB,EAAE,CAAC;QACtB,cAAc,EAAE,EAAE;QAClB,eAAe,EAAE,CAAC;QAClB,UAAU,EAAE,EAAE;QACd,cAAc;QACd,UAAU,EAAE,CAAC;QACb,QAAQ;QACR,YAAY;QACZ,OAAO,EAAE,EAAE;QACX,OAAO,EAAE,IAAI;QACb,QAAQ,EAAE,IAAI;QACd,IAAI,EAAE,EAAC,MAAM,EAAE,UAAU,CAAC,CAAC,CAAC,EAAC;QAC7B,KAAK,EAAE,IAAI;QACX,OAAO,EAAE,IAAI;QACb,OAAO,EAAE,IAAI;QACb,OAAO,EAAE,IAAI;QACb

AAI,CAAC;SAChB;KACF;IACD,IAAI,OAAO,EAAE;QACX,IAAI,KAAK,GAAG,EAAE,CAAC;QACf,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YACtC,KAAK,GAAG,KAAK,GAAG,qBAAqB,CAAC,MAAM,CAAC,CAAC,EAAE,QAAQ,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;SAC/D;QACD,KAAK,GAAG,GAAG,CAAC,IAAK,MAAM,CAAC,MAAM,GAAG,KAAK,CAAC;QACjC,MAAM,UAAU,GAAG,CAAC,IAAI,EAAE,CAAC,CAAC

AED,MAAM,WAAW,GAAsB,CAAC,IAAI,EAAE,SAAS,EAAE,SAAS,EAAE,KAAK,KACrE,KAAK,CAAC,SA
AS,CAAC,CAAC,OAAQ,CAAC,WAAY,CAAC,IAAI,EAAE,SAAS,EAAE,KAAK,CAAC,CAAC;IAEnE,OAAO;
;QAEL,OAAO,EAAE,IAAI;QACb,SAAS,EAAE,aAAa;QACxB,aAAa,EAAE,iBAAiB;QAChC,kBAAkB,EAAE,k
BAAkB;QACtC,KAAK;QACL,KAAK,EAAE,KAAK;QACZ,gBAAgB,EAAE,gBAAgB,IAAI,IAAI;QAC1C,cAAc
,EAAE,cAAc,IAAI,IAAI;QACtC,WAAW;QACX,YAAY,EAAE,gBAAgB;QAC9B,WAAW,EAAE,mBAAmB;QA
ChC,kBAAkB;KACnB,CAAC;AACJ,CAAC;AAED,SAAS,aAAa,CAAC,IAAa;IAClC,OAAO,CAAC,IAAI,CAAC
,KAAK,4BAA8B,CAAC,IAAI,IAAI,CAAC,OAAQ,CAAC,IAAI,KAAK,IAAI,CAAC;AACnF,CAAC;AAED,SAAA
S,YAAY,CAAC,MAAoB,EAAE,IAAa,EAAE,SAAiB;IAC1E,MAAM,QAAQ,GAAG,IAAI,MAAM,EAAE;QAC
3B,GAAG,CAAC,MAAM,EAAE,IAAI,EAAE,QAAQ;YACzB,IAAI,IAAI,KAAK,QAAQ,EAAE;gBACtB,OAAO,IAAI
,CAAC,OAAO,CAAC,QAAQ,CAAC;aAC9B;YACD,OAAO,KAAK,CAAC,GAAG,CAAC,MAAM,EAAE,IAAI,EAAE,QAAQ,CAAC;SAC
zC,CAAC,CAAC;QACH,OAAO,QAAQ,CAAC;IACpB,CAAC;IAED,MAAM,KAAK,GAAG,IAAI,KAAK,CAAC,EAAE,EAAE,QAAQ,CAAC,CAAC;IACtC,OAAO,KAAK,CAAC;AACjB,CAAC;AAED,MAAM,MAAM,GAAG,IAAI,GAAG,EAAE,CAAC;AACzB

,IAAI,QAAa,CAAC;QAClB,QAAQ,OAAO,CAAC,KAAK;YACnB;gBACE,MAAM,EAAE,GAAG,aAAa,CAAC,IAAI,EAAE,UAAU,EAAE,OAAO,CAAQ,CAAC;gBAC3D,IAAI,aAAa,GAAa,SAAU,CAAC;gBACzC,IAAI,OAAO,CAAC,KAAK,iCAA4B;oBAC3C,MAAM,WAAW,GAAG,iBAAiB,CAAC,OAAO,CAAC,OAAQ,CAAC,aAAc,CAAC,CAAC;oBACvE,aAAa,GAAG,QAAQ,CAAC,mBAAmB,CAAC,IAAI,EAAE,OAAO,EAAE,WAAW,EAAE,EAAE,EAAE,CAAC,CAAC;iBAC9E;gBACD,IAAI,sBAAsB,CAAC,IAAI,EAAE,aAAa,EAAE,OAAO,EAAE,EAAE,CAAC,CAAC;gBAC7D,IAAI,OAAO,CAAC,KAAK,iCAA4B;oBAC3C,IAAI,sBAAsB,CAAC,IAAI,EAAE,aAAa,EAAE,OAAO,EAAE,EAAE,CAAC,CAAC;iBAC9D

CAAC,CAAC,CAAC,CAAC;QAC7B,IAAI,OAAO,CAAC,KAAK,8BAAgC;YAC/C,MAAM,cAAc,GAAG,aAAa,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,QAAQ,CAAC,eAAe,CAAC;YACvE,IAAI,cAAc,EAAE;gBAClB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,cAAc,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;oBAC9C,MAAM,aAAa,GAAG,cAAc,CAAC,CAAC,CAAC,oBACvC,qCAAqC,CAAC,aAAa,EAAE,IAAI,CAAC,CAAC,CAAC;iBAC5D;aACF;SACF;aAAM,IAAI,CAAC,OAAO,CAAC,UAAU,kCAAoC,CAAC,EAAE;;;;YAInE,CAAC,IAAI,OAAO,CAAC,UAAU,CAAC;SACzB;KACF;AACH,CAAC;AAED,SAAS,wBAAwB,CAC7B,IAAc,EAAE,OAAgB,EAAE,EAAQ,EAAE,EAAQ,EAAE,EAAQ

WAAW,CAAC,IAAc;IACxC,IAAI,IAAI,CAAC,KAAK,wBAAwB;QACpC,OAAO;KACR;IACD,uBAAuB,CAAC,IAAI,EAAE,UAAU,CAAC,OAAO,CAAC,CAAC;IAClD,wBAAwB,CAAC,IAAI,EAAE,UAAU,CAAC,OAAO,CAAC,CAAC;IACnD,+BAA+B,CAAC,IAAI,yBAAsB,CAAC;IAC3D,IAAI,IAAI,CAAC,WAAW,EAAE;QACpB,CAAC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,WAAW,EAAE,CAAC,EAAE,EAAE;YAChD,IAAI,CAAC,WAAW,EAAE,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC;SAC1B;KACF;IACD,mBAAmB,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;IAC/B,IAAI,CAAC,IAAI,CAAC,CAAC;IACX,IAAI,IAAI,CAAC,QAAQ,EAAE,CAAC,EAAE,CAAC,WAAW,EAAE;QAClC,CAAC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,WAAW,EAAE,CAAC,EAAE,EAAE;YAChD,IAAI,CAAC,WAAW,EAAE,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC;SAC1B;KACF;IACD,IAAI,eAAe,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;IAC/B,IAAI,CAAC,IAAI,CAAC,CAAC;IACX,IAAI,IAAI,CAAC,QAAQ,EAAE,CAAC,EAAE,CAAC,WAAW,EAAE;QAClC,CAAC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,WAAW,EAAE,CAAC,EAAE,EAAE;YAChD,IAAI,CAAC,WAAW,EAAE,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC;SAC1B;KACF;IACD

C;AACzC,CAAC;AAED,SAAS,iBAAiB,CACtB,IAAc,EAAE,UAAqB,EAAE,sBAAiC,EACxE,SAAoB;IACtB,IA
AI,EAAE,IAAI,CAAC,GAAG,CAAC,SAAS,GAAG,UAAU,CAAC,IAAI,EAAE,IAAI,CAAC,GAAG,CAAC,SAA
S,GAAG,sBAAsB,CAAC,EAAE;QACxF,OAAO;KACR;IACD,MAAM,SAAS,GAAG,IAAI,CAAC,GAAG,CAAC
,KAAK,CAAC,MAAM,CAAC;IACxC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,EAAE,C
AAC,EAAE,EAAE;QAClC,MAAM,OAAO,GAAG,IAAI,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC,CAAC,CA
AC;QAClC,IAAI,CAAC,OAAO,CAAC,KAK,GAAG,UAAU,MAAM,OAAO,CAAC,KAK,GAAG,sBAAsB,C
AAC,EAAE;YAC5E,QAAQ,CAAC,cAAc,CAAC,IAAI,EAAE,OAAO,CAAC,SAAS,CAAC,CAAC;YACjD,QAA
Q,SAAS;gBACf;oBACE,mBAAmB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;oBACnC,MAAM;gBACR;oBACE
,mBAAmB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;oBACnC,MAAM;aACT;SACF;QACD,IAAI,EAAE,OAAO
,CAAC,UAAU,GAAG,UAAU,CAAC,IAAI,EAAE,OAAO,CAAC,UAAU,GAAG,sBAAsB,CAAC,EAAE;;;YAGx
F,CAAC,IAAI,OAAO,CAAC,UAAU,CAAC;SACzB;KACF;AACH;;AC1qBA;;;;;;;AA+BA,IAAI,WAAW,GAAG,
KAAK,CAAC;SAER,oBAAoB;IAClC,IAAI,WAAW,EAAE;QACf,OAAO;KACR;IACD,WAAW,GAAG,IAAI,
CAAC;IACnB,MAAM,QAAQ,GAAG,SAAS,EAAE,GAAG,mBAAmB,EAAE,GAAG,kBAAkB,EAAE,CAAC;IAC
5E,QAAQ,CAAC,cAAc,GAAG,QAAQ,CAAC,cAAc,CAAC;IAClD,QAAQ,CAAC,cAAc,GAAG,QAAQ,CAAC,c
AAc,CAAC;IAClD,QAAQ,CAAC,kBAAkB,GAAG,QAAQ,CAAC,kBAAkB,CAAC;IAC1D,QAAQ,CAAC,mBA
AmB,GAAG,QAAQ,CAAC,mBAAmB,CAAC;IAC5D,QAAQ,CAAC,iBAAiB,GAAG,QAAQ,CAAC,iBAAiB,CA
AC;IACxD,QAAQ,CAAC,gBAAgB,GAAG,QAAQ,CAAC,gBAAgB,CAAC;IACtD,QAAQ,CAAC,qBAAqB,GAAA
G,QAAQ,CAAC,qBAAqB,CAAC;IAChE,QAAQ,CAAC,cAAc,GAAG,QAAQ,CAAC,cAAc,CAAC;IAClD,QAA
Q,CAAC,kBAAkB,GAAG,QAAQ,CAAC,kBAAkB,CAAC;IAC1D,QAAQ,CAAC,kBAAkB,GAAG,QAAQ,CAAC,kBAAkB,GAAG,QAAQ,CAA
C,kBAAkB,CAAC;IAC1D,QAAQ,CAAC,WAAW,GAAG,QAAQ,CAAC,WAAW,CAAC;IAC5C,QAAQ,CAAC,
UAAU,GAAG,UAAU,CAAC;IACjC,QAAQ,CAAC,kBAAkB,GAAG,QAAQ,CAAC,kBAAkB,CAAC;IAC1D,QA
AQ,CAAC,WAAW,GAAG,QAAQ,CAAC,WAAW,CAAC;IAC5C,QAAQ,CAAC,gBAAgB,GAAG,QAAQ,CAAC
,gBAAgB,CAAC;IACtD,QAAQ,CAAC,cAAc,GAAG,QAAQ,CAAC,cAAc,CAAC;IAClD,QAAQ,CAAC,kBAk
B,GAAG,kBAAkB,CAAC;AACnD,CAAC;AAED,SAAS,kBAAkB;IACzB,OAAO;QACL,cAAc,EAAE,SAAQ;Q
ACxB,cAAc,EAAE,kBAAkB;QAClC,kBAAkB,EAAE,kBAAkB;QACtC,mBAAmB,EAAE,mBAAmB;QACxC,iB
AAiB,EAAE,iBAAiB;QACpC,gBAAgB,EAAE,IAAI;QACtB,qBAAqB,EAAE,IAAI;QAC3B,cAAc,EAAE,IAAI;
QACpB,kBAAkB,EAAE,kBAAkB;QACtC,kBAAkB,EAAE,kBAAkB;QACtC,WAAW,EAAE,WAAW;QACxB,k
BAAkB,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,aAAa,CAAC,IAAI,EAAE,SAAS,CAAC;QAC7F,WAA
W,EAAE,CAAC,IAAc,EAAE,SAAiB,EAAE,SAAiB,EAAE,KAAU,KAC1E,IAAI,CAAC,GAAG,CAAC,WAAW,
CAAC,IAAI,EAAE,SAAS,EAAE,SAAS,EAAE,KAAK,CAAC;QAC3D,gBAAgB,EAAE,CAAC,IAAc,EAAE,SA
AoB,KAAK,IAAI,CAAC,GAAG,CAAC,gBAAgB,CAAC,IAAI,EAAE,SAAS,,8BAAgC,sBAAsB,GAAG,sBAAsB,EACxF,IAA
I,CAAC;QACT,cAAc,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,cAAc,CAC7E,SAA
S,8BAAgC,sBAAsB,GAAG,sBAAsB,EACxF,IAAI,CAAC;KACV,CAAC;AACJ,CAAC;AAED,SAAS,mBAAmB;
IAC1B,OAAO;QACL,cAAc,EAAE,mBAAmB;QACnC,cAAc,EAAE,mBAAmB;QACnC,kBAAkB,EAAE,uBAAuu
B;QAC3C,mBAAmB,EAAE,wBAAwB;QAC7C,iBAAiB,EAAE,sBAAsB;QACzC,gBAAgB,EAAE,qBAAqB;QA
CvC,qBAAqB,EAAE,0BA0B;QACjD,cAAc,EAAE,mBAAmB;QACnC,kBAAkB,EAAE,uBAAuB;QAC3C,kBA
AkB,EAAE,uBAAuB;QAC3C,WAAW,EAAE,gBAAgB;QAC7B,kBAAkB,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,aAAa,CAAC,IAAI,EAAE,SAAS,CAAC,gBAAgB;QAC7G,kBAAkB,EAAE,qB
AAqB;QACvC,cAAc,EAAE,mBAAmB;QACnC,kBAAkB,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,kBAAkB,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAC9G,kBAAkB,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,kBAAkB,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAC9G,WAAW,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,WAAW,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAC5G,UAAU,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,UAAU,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAC1G,kBAAkB,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,kBAAkB,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAClH,WAAW,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,WAAW,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAC5G,gBAAgB,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,gBAAgB,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAC/G,cAAc,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,cAAc,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAC3G,kBAAkB,EAAE,CAAC,IAAc,EAAE,SAAiB,KAAK,IAAI,CAAC,GAAG,CAAC,kBAAkB,CAAC,IAAI,EAAE,SAAS,CAAC,EAAE,SAAS,CAAC;QAClH

EAAE,QAA0B,EAAE,eAAiC,EACnF,gBAAyB,EAAE,kBAAuB;IACpD,MAAM,SAAS,GAAG,QAAQ,CAAC,Q
AAQ,CAAC,GAAG,CAAC,SAAS,CAAC,CAAC;IACnD,MAAM,YAAY,GAAG,QAAQ,CAAC,QAAQ,CAAC,G
AAG,CAAC,YAAY,CAAC,CAAC;IACzD,MAAM,QAAQ,GAAG,eAAe,CAAC,cAAc,CAAC,IAAI,EAAE,IAAI,
CAAC,CAAC;IAC5D,OAAO;QACL,QAAQ;QACR,QAAQ,EAAE,UAAU;QACpB,gBAAgB;QAChB,cAAc,EAAA
E,kBAAkB;QAClC,SAAS;QACT,eAAe;QACf,QAAQ;QACR,YAAY;KACb,CAAC;AACJ,CAAC;AAED,SAAS,u
BAAuB,CAC5B,UAAoB,EAAE,SAAkB,EAAE,OAAuB,EAAE,OAAa;IAClF,MAAM,eAAe,GAAG,4BAA4B,CA
AC,OAAO,CAAC,CAAC;IAC9D,OAAO,oBAAoB,CACvB,WAAW,CAAC,MAAM,,EAAE,kBAAkB,,EAAE,IAAI
,EAC5C,CAAC,UAAU,,EAAE,SAAS,,EAAE,eAAe,,EAAE,OAAO,,CAAC,CAAC,CAAC;AACzD,CAAC;AAED,S
AAS,wBAAwB,CAC7B,UAAoB,EAAE,OAAgB,,EAAE,OAAuB,,EAAE,WAAgB;IACnF,MAAM,qBAAqB,,GACv
B,gBAAgB,,CAAC,GAAG,,CAAC,OAAO,,CAAC,OAAQ,,CAAC,iBAAkB,,CAAC,QAAS,,CAAC,KAAK,,CAAC,C
AAC;IAC9E,IAAI,qBAAqB,,EAAE;QACzB,OAAO,GAAG,qBAAqB,,CAAC;KACjC;SAAM;QACL,OAAO,GAAG,4B
AA4B,,CAAC,OAAO,,CAAC,CAAC;KACjD;IACD,OAAO,oBAAoB,,CACvB,WAAW,,CAAC,MAAM,,EAAE
,mBAAmB,,EAAE,IAAI,,EAAE,CAAC,UAAU,,EAAE,OAAO,,EAAE,OAAO,,EAAE,WAAW,,CAAC,CAAC,CAAC
;AAClG,CAAC;AAED,SAAS,sBAAsB,,CAC3B,qBAAqB,,EAAE,cAAwB,,EAAE,mBAAgC,,EACjF,GAAuB;IACzB,MAAM,eAAe,,eAAe,,GAAG,,CAAC,gBAAgB,,CAAC,GAAG,,CAAC,OAAO,,CAAC,iBAAiB,,CAAC,QAAQ

AsB,EAAC,GAAG,gBAAgB,CAAC,GAAG,CAAC,CAAC;IACrE,IAAI,CAAC,YAAY,EAAE;QACjB,OAAO,GAAG,CAAC;KACZ;;;IAGD,GAAG,GAAG,GAAG,CAAC,OAAQ,CAAC,MAAM,IAAI,CAAC,CAAC;IAC/B,sBAAsB,CAAC,GAAG,CAAC,CAAC;IAC5B,OAAO,GAAG,CAAC;IAEX,SAAS,gBAAgB,CAAC,GAAG,CAAC;QAE/C,IAAI,YAAY,GAAG,KAAK,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;QAEzC,IAAI,KAAK,GAAG,IAAI,CAAC;QAEjB,IAAI,CAAC,GAAG,CAAC,CAAC;QAEV,OAAO,CAAC,GAAG,YAAY,CAAC,MAAM,EAAE;YAC5B,IAAI,CAAC,KAAK,CAAC,EAAE;gBACT,KAAK,GAAG,KAAK,CAAC;aACjB;iBAAM;gBACH,KAAK,IAAI,GAAG,CAAC;aAChB;YAED,KAAK,IAAI,YAAY,CAAC,CAAC,CAAC,CAAC;YAEzB,CAAC,EAAE,CAAC;SACP;QAED,OAAO,KAAK,CAAC;IACjB,CAAC;IAED,SAAS,gBAAgB,CAAC,GAAG,CAAC;QAE1B

mBAAmB,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;IACrC,OAAO,oBAAoB,CACvB,WAAW,CAAC,WAAW,EAAE,IAAI,CAAC,GAAG,CAAC,WAAW,EAAE,IAAI,EAAE,CAAC,IAAI,EAAE,SAAS,EAAE,SAAS,EAAE,KAAK,CAAC,CAAC,CAAC;AAChG,CAAC,CAAC;AAED,SAAS,qBAAqB,CAAC,IAAc,EAAE,SAAoB,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC,KAAK,wBAAwB;QACpC,MAAM,kBAAkB,CAAC,WAAW,CAAC,cAAc,CAAC,CAAC,CAAC;KACvD;IACD,mBAAmB,CAAC,IAAI,EAAE,wBAAwB,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,CAAC;IAC7D,OAAO,IAAI,CAAC,GAAG,CAAC,gBAAgB,CAAC,sBAAsB,EAAE,IAAI,CAAC,CAAC,CAAC;IAAE,sBAAsB,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;IAAE

;YAC5F,OAAO,CAAC,CAAC;SACV;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC;AAED,MAAM,aAAa;IA
KjB,YAAmB,IAAc,EAAS,SAAsB;QAA7C,SAAI,GAAJ,IAAI,CAAU;QAAS,cAAS,GAAT,SAAS,CAAa;QAC9D
,IAAI,SAAS,IAAI,IAAI,EAAE;YACrB,IAAI,CAAC,SAAS,GAAG,SAAS,GAAG,CAAC,CAAC;SAChC;QACD,I
AAI,CAAC,OAAO,GAAG,IAAI,CAAC,GAAG,CAAC,KAAK,CAAC,SAAS,CAAC,CAAC;QACzC,IAAI,KAAK
,GAAG,IAAI,CAAC,OAAO,CAAC;QACzB,IAAI,MAAM,GAAG,IAAI,CAAC;QAClB,OAAO,KAAK,IAAI,CAAC;AA
CAC,KAAK,CAAC,KAAK,4BAA8B,CAAC,EAAE;YAC3D,KAAK,GAAG,KAAK,CAAC,MAAO,CAAC;SACvB;
QACD,IAAI,CAAC,KAAK,EAAE;YACV,OAAO,CAAC,KAAK,IAAI,MAAM,EAAE;gBACvB,KAAK,GAAG,KAAK,
YAAY,CAAC,MAAM,CAAE,CAAC;gBAC9B,MAAM,GAAG,MAAM,CAAC,MAAO,CAAC;aACzB;SACF;QACD
,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC;QACnB,IAAI,CAAC,MAAM,GAAG,MAAM,CAAC;IACvB,CAAC;IAED
,IAAY,YAAY;;QAEtB,OAAO,aAAa,CAAC,IAAI,CAAC,MAAM,EAAE,IAAI,CAAC,KAAK,CAAC,SAAS,CAAC,SAAS,,CAA
C,CAAC,aAAa,IAAI,IAAI,CAAC,IAAI,CAAC;KACpF;IAED,IAAI,QAAQ;QACV,OAAOhL,gBAAc,CAAC,IAAA
I,CAAC,MAAM,EAAE,IAAI,CAAC,KAAK,CAAC,SAAS,CAAC,CAAC;KAChD;IAED,IAAI,SAAS;QACX,OAAO,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC,CAAC

I,OAAO,CAAC,UAAU,EAAE;QACtC,UAAU,CAAC,OAAO,CAAC,GAAG,aAAa,CAAC,IAAI,EAAE,OAAO,E
AAE,OAAO,CAAC,UAAU,CAAC,OAAO,CAAC,CAAC,CAAC;KACjF;AACH,CAAC;AAED,SAAS,oBAAoB,C
AAC,MAAmB,EAAE,EAAO,EAAE,IAAS,EAAE,IAAW;IAChF,MAAM,SAAS,GAAG,cAAc,CAAC;IACjC,MA
AM,OAAO,GAAG,YAAY,CAAC;IAC7B,MAAM,YAAY,GAAG,iBAAiB,CAAC;IACvC,QACF,cAAc,GA
AG,MAAM,CAAC;QACxB,MAAM,MAAM,GAAG,EAAE,CAAC,KAAK,CAAC,IAAI,EAAE,IAAI,CAAC,CAA
C;QACpC,YAAY,GAAG,OAAO,CAAC;QACvB,iBAAiB,GAAG,YAAY,CAAC;QACjC,cAAc,GAAG,SAAS,CA
AC;QAC3B,OAAO,MAAM,CAAC;KCf;IAAC,OAAO,CAAC,EAAE;QACV,IAAI,gBAAgB,CAAC,CAAC,CA
AC,IAAI,CAAC,YAAY,EAAE;YACxC,MAAM,CAAC,CAAC;SACT;QACD,MAAM,qBAAqB,CAAC,CAAC,E
AAE,sBAAsB,EAAG,CAAC,CAAC;KC3D;AACH,CAAC;SAEe,sBAAsB;IACpC,OAAO,YAAY,GAAG,IAAI,a
AAa,CAAC,YAAY,EAAE,iBAAiB,CAAC,GAAG,IAAI,CAAC;AAClF,CAAC,MAEY,qBAAqB;IAChC,YAAoB,
QAA0B;QAAG,KAAK,IAAElD,cAAc,CAAC,OAAY,EAAE,UA8B;QACzD,OAAO,IAAI,cAAc,CAAC,CAAC,
IAAI,CAAC,cAAc,CAAC,QAAQ,CAAC,cAAc,CAAC,OAAO,EAAE,UAAU,CAAC,CAAC,CAAC;KC9E;IAED,KAAK;QACH,IAAI,IAAI,CAAC,QAAQ,CAAC,KAAK,EAAE;YACvB,IAAI,CAAC,QAAQ,CAAC,KAAK,CAAC,KA
AK,EAAE,CAAC;SACvB;KCF;IACD,GAAG;QACD,IAAI,IAAI,CAAC,QAAQ,CAAC,GAAG,EAAE;YACrB,IAAI,
CAAC,QAAQ,CAAC,GAAG,EAAE,CAAC;SACrB;KCF;IAED,iBAAiB;QACf,IAAI,IAAI,CAAC,QAAQ,CAAC,iBAAiB,EAAE,CAAC;SACvC;KCF;IAED,iBAAiB,EAAE;YACnC,OAAO,IAAI,CAAC,QAAQ,CAAC,iBAAiB,EAAE,CAAC;SAC1C;QACD,OAAO
,OAAO,CAAC,OAAO,CAAC,IAAI,CAAC,QAAQ,CAAC,cAAc,CAAC;KC9B;CACF;MAEY,cAAc;IAAG,YAAoB,
QAAa,EAAE,UAAe;QAAlC,aAAQ,GAAR,QAAQ,CAAK;QAAE,eAAU,GAAV,UAAU,CAAK;KAAI;IAAC,IAAI,
CAAC,CAAM;QAAI,OAAO,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC;KAAE;IAAC,IAAI,MAAM;QAAK,OAAO,
IAAI,CAAC,QAAQ,CAAC,MAAM,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM,EAAE,CAAM;QAAI,IAAI,CAAC,QAAQ,
CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,
CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,
CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;
KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,
IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,
CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,
IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,
QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,
CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,
GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,
CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;
IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,
CAAC,CAAM;QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;
QAAI,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC,CAAM;QAAI,IAAI,
CAAC,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC;KAAE;IAAC,IAAI,CAAC

AAiB,CAAC,cAA0B,EAAE,eAAyB;QACrE,MAAM,EAAE,GAAG,IAAI,CAAC,QAAQ,CAAC,iBAAiB,CAAC,cAAc,EAAE,eAAe,CAAC,CAAC;QAC5E,MAAM,QAAQ,GAAG,sBAAsB,EAAE,CAAC;QAC1C,IAAI,QAAQ,EAAE;YACZ,cAAc,CAAC,IAAI,sBAAsB,CAAC,EAAE,EAAE,IAAI,EAAE,QAAQ,CAAC,CAAC,CAAC;SAChE;QACD,OAAO,EAAE,CAAC;KACX;IAED,YAAY,CAAC,EAAO,EAAE,IAAI,EAAE,KAAa,EAAE,SAAkB;QAC3D,MAAM,OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAC;QACnC,IAAI,OAAO,EAAE;YACX,OAAO,CAAC,IAAI,CAAC,IAAI,EAAE,KAAK,EAAE,SAAS,CAAC,CAAC;SACtC;QACD,IAAI,CAAC,cAAc,CAAC,EAAE,CAAC,CAAC;KACzB;IAED,eAAe,CAAC,EAAO,EAAE,IAAI,EAAE,QAAkB;QAC/C,MAAM,OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAC;QACnC,IAAI,OAAO,EAAE;YACX,OAAO,CAAC,MAAM,CAAC,IAAI,EAAE,QAAQ,CAAC,CAAC;SAChC;KACF;IAED,mBAAmB,CAAC,EAAO,EAAE,IAAI,EAAE,QAAkB;QACnD,MAAM,OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAC;QACnC,IAAI,OAAO,EAAE;YACX,OAAO,CAAC,WAAW,CAAC,IAAI,EAAE,QAAQ,CAAC,CAAC;SACrC;KACF;IAED,cAAc,CAAC,EAAO,EAAE,IAAI,EAAE,KAAa,EAAE,SAAkB;QAC7D,MAAM,OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAC;QACnC,IAAI,OAAO,EAAE;YACX,OAAO,CAAC,QAAQ,CAAC,IAAI,EAAE,KAAK,EAAE,SAAS,CAAC,CAAC;SAC1C;KACF;IAED,iBAAiB,CAAC,EAAO,EAAE,IAAI,EAAE,KAAa,EAAE,SAAkB;QAChE,MAAM,OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAC;QACnC,IAAI,OAAO,EAAE;YACX,OAAO,CAAC,WAAW,CAAC,IAAI,EAAE,KAAK,EAAE,SAAS,CAAC,CAAC;SAC7C;KACF;IAED,mBAAmB,CAAC,EAAO,EAAE,IAAI,EAAE,KAAa,EAAE,SAAkB;QAClE,MAAM,OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAC;QACnC,IAAI,OAAO,EAAE;YACX,OAAO,CAAC,aAAa,CAAC,IAAI,EAAE,KAAK,EAAE,SAAS,CAAC,CAAC;SAC/C;KACF;IAED,kBAAkB,CAAC,EAAO,EAAE,IAAI,EAAE,KAAa,EAAE,SAAkB;QACjE,MAAM,OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAC;QACnC,IAAI,OAAO,EAAE;YACX,OAAO,CAAC,YAAY,CAAC,IAAI,EAAE,KAAK,EAAE,SAAS,CAAC,CAAC;SAC9C;KACF;IAED,kBAAkB,CAAC,EAAO,EAAE,IAAI,EAAE,KAAa,EAAE,SAAkB;QACjE,MAAM,OAAO,GAAG,cAAc,CAAC,EAAE,CAAC,CAAC;QACnC,IAAI,OAAO,EAAE;YACX,OAAO,CAAC,YAAY,CAAC,IAAI,EAAE,KAAK,EAAE,SAAS,CAAC,CAAC;SAC9

qB,EAAU,oBAAiC,EACxE,mBAA8C;;;QAGxD,KAAK,EAAE,CAAC;QAJU,eAAU,GAAV,UAAU,CAAW;QAAU,yBAAoB,GAApB,oBAAoB,CAAa;QACxE,wBAAmB,GAAnB,mBAAmB,CAA2B;KAIzD;IAED,MAAM,CAAC,cAA6B;QAClC,oBAAoB,EAAE,CAAC;;;;QAIvB,MAAM,GAAG,GAAG,uBAAuB,CAAC,iBAAiB,CAAC,IAAI,CAAC,mBAAmB,CAAC,CAAC,CAAC;QACjF,OAAO,QAAQ,CAAC,iBAAiB,CAAC,UAAU,EAAE,cAAc,CAAC,iBAAiB,CAAC,IAAI,CAAC,cAAc,CAAC,CAAC,CAAC;KACvF;;;AC1EH;;;;;;;;ACAA;;;;;;;;ACAA;;;;;;;AA+SA;;AC/SA;;;;;;;;ACAA;;;;;;;AAwCA,IAAI,OAAO,SAAS,KAAK,WAAW,IAAI,OAAO,SAAS,KAAK,WAAW,IAAI,OAAO,SAAS,KAAK,WAAW

waitForAsync(inject([AClass], (object) => {\n *   object.doSomething.then(() => {\n *     expect(...);\n *   })\n * });\n * ```\n *\n * @publicApi\n */\nexport function waitForAsync(fn: Function): (done: any) => any {\n  const _Zone:
 any = typeof Zone !== 'undefined' ? Zone : null;\n  if (!_Zone) {\n    return function() {\n      return Promise.reject(\n          'Zone is needed for the waitForAsync() test helper but could not be found. ' +\n          'Please make sure that your environment includes zone.js/dist/zone.js');\n    };\n  }\n  const asyncTest = _Zone && _Zone[_Zone.__symbol__('asyncTest')];\n  if (typeof asyncTest === 'function') {\n    return asyncTest(fn);\n  }\n  return function() {\n    return Promise.reject(\n        'zone-testing.js is needed for the async() test helper but could not be found. ' +\n        'Please make sure that your environment includes zone.js/dist/zone-testing.js');\n  };\n}\n\n/**\n * @deprecated use `waitForAsync()`, (expected removal in v12)\n * @see {@link waitForAsync}\n * @publicApi\n * */\nexport function async(fn: Function): (done: any) => any {\n  return waitForAsync(fn);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
 code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectorRef, ComponentRef, DebugElement, ElementRef, getDebugNode, NgZone, RendererFactory2} from '@angular/core';\n\n\n/**\n * Fixture for debugging and testing a component.\n *\n * @publicApi\n */\nexport class ComponentFixture<T> {\n  /**\n   * The DebugElement associated with the root element of this component.\n   */\n  debugElement: DebugElement;\n\n  /**\n   * The instance of the root component class.\n   */\n  componentInstance: T;\n\n  /**\n   * The native element at the root of the component.\n   */\n  nativeElement: any;\n\n  /**\n   * The ElementRef for the element at the root of the component.\n   */\n  elementRef: ElementRef;\n\n  /**\n   * The ChangeDetectorRef for the component\n   */\n  changeDetectorRef: ChangeDetectorRef;\n\n  private _renderer: RendererFactory2|null|undefined;\n  private _isStable: boolean = true;\n  private _isDestroyed:
 boolean = false;\n  private _resolve: ((result: any) => void)|null = null;\n  private _promise: Promise<any>|null = null;\n  private _onUnstableSubscription: any /** TODO #9100 */ = null;\n  private _onStableSubscription: any /** TODO #9100 */ = null;\n  private _onMicrotaskEmptySubscription: any /** TODO #9100 */ = null;\n  private _onErrorSubscription: any /** TODO #9100 */ = null;\n\n  constructor(\n      public componentRef: ComponentRef<T>, public ngZone: NgZone|null,\n      private _autoDetect: boolean) {\n    this.changeDetectorRef = componentRef.changeDetectorRef;\n    this.elementRef = componentRef.location;\n    this.debugElement = <DebugElement>getDebugNode(this.elementRef.nativeElement);\n    this.componentInstance = componentRef.instance;\n    this.nativeElement = this.elementRef.nativeElement;\n    this.componentRef = componentRef;\n    this.ngZone = ngZone;\n\n    if (ngZone) {\n      // Create subscriptions outside the NgZone so that the callbacks run oustide\n
      // of NgZone.\n      ngZone.runOutsideAngular(() => {\n        this._onUnstableSubscription = ngZone.onUnstable.subscribe({\n          next: () => {\n            this._isStable = false;\n          }\n        });\n        this._onMicrotaskEmptySubscription = ngZone.onMicrotaskEmpty.subscribe({\n          next: () => {\n            if (this._autoDetect) {\n              // Do a change detection run with checkNoChanges set to true to check\n              // there are no changes on the second run.\n              this.detectChanges(true);\n            }\n          }\n        });\n        this._onStableSubscription = ngZone.onStable.subscribe({\n          next: () => {\n            this._isStable = true;\n
  // Check whether there is a pending whenStable() completer to resolve.\n            if (this._promise !== null) {\n
    // If so check whether there are no pending macrotasks before resolving.\n              // Do this check in the next tick so that ngZone gets a
 chance to update the state of\n              // pending macrotasks.\n              scheduleMicroTask(() => {\n                if (!ngZone.hasPendingMacrotasks) {\n                  if (this._promise !== null) {\n                    this._resolve!(true);\n                    this._resolve = null;\n                    this._promise = null;\n                  }\n                });\n            }\n
      }\n        });\n\n        this._onErrorSubscription = ngZone.onError.subscribe({\n          next: (error: any) => {\n
    throw error;\n          }\n        });\n      });\n    }\n  }\n\n  private _tick(checkNoChanges: boolean) {\n    this.changeDetectorRef.detectChanges();\n    if (checkNoChanges) {\n      this.checkNoChanges();\n    }\n  }\n\n

/**\n * Trigger a change detection cycle for the component.\n */\n detectChanges(checkNoChanges: boolean = true): void {\n if (this.ngZone != null) {\n // Run the change detection inside the NgZone so that any async tasks as part of the change\n // detection are captured by the zone and can be waited for in isStable.\n this.ngZone.run(() => {\n this._tick(checkNoChanges);\n });\n } else {\n // Running without zone. Just do the change detection.\n this._tick(checkNoChanges);\n }\n }\n\n /**\n * Do a change detection run to make sure there were no changes.\n */\n checkNoChanges(): void {\n this.changeDetectorRef.checkNoChanges();\n }\n\n /**\n * Set whether the fixture should autodetect changes.\n *\n * Also runs detectChanges once so that any existing change is detected.\n */\n autoDetectChanges(autoDetect: boolean = true) {\n if (this.ngZone == null) {\n throw new Error('Cannot call autoDetectChanges when ComponentFixtureNoNgZone is set');\n }\n this._autoDetect = autoDetect;\n this.detectChanges();\n }\n\n /**\n * Return whether the fixture is currently stable or has async tasks that have not been completed\n * yet.\n */\n isStable(): boolean {\n return this._isStable && !this.ngZone!.hasPendingMacrotasks;\n }\n\n /**\n * Get a promise that resolves when the fixture is stable.\n *\n * This can be used to resume testing after events have triggered asynchronous activity or\n * asynchronous change detection.\n */\n whenStable(): Promise<any> {\n if (this.isStable()) {\n return Promise.resolve(false);\n } else if (this._promise !== null) {\n return this._promise;\n } else {\n this._promise = new Promise(res => {\n this._resolve = res;\n });\n return this._promise;\n }\n }\n\n\n private _getRenderer() {\n if (this._renderer === undefined) {\n this._renderer = this.componentRef.injector.get(RendererFactory2, null);\n }\n return this._renderer as RendererFactory2 | null;\n }\n\n /**\n * Get a promise that resolves when the ui state is stable following animations.\n */\n whenRenderingDone(): Promise<any> {\n const renderer = this._getRenderer();\n if (renderer && renderer.whenRenderingDone) {\n return renderer.whenRenderingDone();\n }\n return this.whenStable();\n }\n\n /**\n * Trigger component destruction.\n */\n destroy(): void {\n if (!this._isDestroyed) {\n this.componentRef.destroy();\n if (this._onUnstableSubscription != null) {\n this._onUnstableSubscription.unsubscribe();\n this._onUnstableSubscription = null;\n }\n if (this._onStableSubscription != null) {\n this._onStableSubscription.unsubscribe();\n this._onStableSubscription = null;\n }\n if (this._onMicrotaskEmptySubscription != null) {\n this._onMicrotaskEmptySubscription.unsubscribe();\n this._onMicrotaskEmptySubscription = null;\n }\n if (this._onErrorSubscription != null) {\n this._onErrorSubscription.unsubscribe();\n this._onErrorSubscription = null;\n }\n this._isDestroyed = true;\n }\n }\n}\n\nfunction scheduleMicroTask(fn: Function) {\n Zone.current.scheduleMicroTask('scheduleMicrotask', fn);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nconst _Zone: any = typeof Zone !== 'undefined' ? Zone : null;\nconst fakeAsyncTestModule = _Zone && _Zone[_Zone.__symbol__('fakeAsyncTest')];\n\nconst fakeAsyncTestModuleNotLoadedErrorMessage =\n `zone-testing.js is needed for the async() test helper but could not be found.\n Please make sure that your environment includes zone.js/dist/zone-testing.js`;\n\n/**\n * Clears out the shared fake async zone for a test.\n * To be called in a global `beforeEach`.\n *\n * @publicApi\n */\nexport function resetFakeAsyncZone(): void {\n if (fakeAsyncTestModule) {\n return fakeAsyncTestModule.resetFakeAsyncZone();\n }\n throw new Error(fakeAsyncTestModuleNotLoadedErrorMessage);\n}\n\n/**\n * Wraps a function to be executed in the fakeAsync zone:\n * - microtasks are manually executed by calling `flushMicrotasks()`,\n * - timers are synchronous, `tick()` simulates the asynchronous passage of time.\n *\n * If there are any pending timers at the end of the function, an exception will be thrown.\n *\n * Can be used to wrap inject() calls.\n *\n * @usageNotes\n * ### Example\n *\n * {@example core/testing/ts/fake_async.ts region='basic'}\n *\n * @param fn\n * @returns The function wrapped to be executed in the fakeAsync zone\n *\n * @publicApi\n */\nexport function fakeAsync(fn: Function): (...args: any[]) => any {\n if (fakeAsyncTestModule) {\n return fakeAsyncTestModule.fakeAsync(fn);\n }\n throw new

Error(fakeAsyncTestModuleNotLoadedErrorMessage);\n}\n\n/**\n * Simulates the asynchronous passage of time for the timers in the fakeAsync zone.\n *\n * The microtasks queue is drained at the very start of this function and after any timer callback\n
* has been executed.\n *\n * @usageNotes\n * ### Example\n *\n * {@example core/testing/ts/fake_async.ts region='basic'}\n *\n * @param millis, the number of millisecond to advance the virtual timer\n * @param tickOptions, the options of tick with a flag called\n * processNewMacroTasksSynchronously, whether to invoke the new macroTasks, by default is\n * false, means the new macroTasks will be invoked\n *\n * For example,\n *\n * it ('test with nested setTimeout', fakeAsync(() => {\n *  let nestedTimeoutInvoked = false;\n *  function funcWithNestedTimeout() {\n *  setTimeout(() => {\n *  nestedTimeoutInvoked = true;\n *  });\n *  };\n * setTimeout(funcWithNestedTimeout);\n *  tick();\n *  expect(nestedTimeoutInvoked).toBe(true);\n * }));\n *\n * in this case, we have a nested timeout (new macroTask), when we tick, both the\n * funcWithNestedTimeout and the nested timeout both will be invoked.\n *\n * it ('test with nested setTimeout', fakeAsync(() => {\n *
let nestedTimeoutInvoked = false;\n *  function funcWithNestedTimeout() {\n *  setTimeout(() => {\n * nestedTimeoutInvoked = true;\n *  });\n *  };\n *  setTimeout(funcWithNestedTimeout);\n *  tick(0, {processNewMacroTasksSynchronously: false});\n *  expect(nestedTimeoutInvoked).toBe(false);\n * }));\n *\n * if we pass the tickOptions with processNewMacroTasksSynchronously to be false, the nested timeout\n * will not be invoked.\n *\n *\n * @publicApi\n */\nexport function tick(\n  millis: number = 0, tickOptions: {processNewMacroTasksSynchronously: boolean} = {\n  processNewMacroTasksSynchronously: true\n  }): void {\n  if (fakeAsyncTestModule) {\n  return fakeAsyncTestModule.tick(millis, tickOptions);\n  }\n  throw new Error(fakeAsyncTestModuleNotLoadedErrorMessage);\n}\n\n/**\n * Simulates the asynchronous passage of time for the timers in the fakeAsync zone by\n * draining the macrotask queue until it is empty. The returned value is the milliseconds\n * of
time that would have been elapsed.\n *\n * @param maxTurns\n * @returns The simulated time elapsed, in millis.\n *\n * @publicApi\n */\nexport function flush(maxTurns?: number): number {\n  if (fakeAsyncTestModule) {\n  return fakeAsyncTestModule.flush(maxTurns);\n  }\n  throw new Error(fakeAsyncTestModuleNotLoadedErrorMessage);\n}\n\n/**\n * Discard all remaining periodic tasks.\n *\n * @publicApi\n */\nexport function discardPeriodicTasks(): void {\n  if (fakeAsyncTestModule) {\n  return fakeAsyncTestModule.discardPeriodicTasks();\n  }\n  throw new Error(fakeAsyncTestModuleNotLoadedErrorMessage);\n}\n\n/**\n * Flush any pending microtasks.\n *\n * @publicApi\n */\nexport function flushMicrotasks(): void {\n  if (fakeAsyncTestModule) {\n  return fakeAsyncTestModule.flushMicrotasks();\n  }\n  throw new Error(fakeAsyncTestModuleNotLoadedErrorMessage);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style
license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Injectable completer that allows signaling completion of an asynchronous test. Used internally.\n */\nexport class AsyncTestCompleter {\n  // TODO(issue/24571): remove '!'.\n  private _resolve!: (result: any) => void;\n  // TODO(issue/24571): remove '!'.\n  private _reject!: (err: any) => void;\n  private _promise: Promise<any> = new Promise((res, rej) => {\n  this._resolve = res;\n  this._reject = rej;\n  });\n  done(value?: any) {\n  this._resolve(value);\n  }\n\n  fail(error?: any, stackTrace?: string) {\n  this._reject(error);\n  }\n\n  get promise(): Promise<any> {\n  return this._promise;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Type} from '../interface/type';\nimport {Component} from './directives';\n\n\n/**\n
* Used to resolve resource URLs on `@Component` when used with JIT compilation.\n *\n * Example:\n * ```\n * @Component({\n *  selector: 'my-comp',\n *  templateUrl: 'my-comp.html', // This requires asynchronous resolution\n * })\n * class MyComponent{\n * }\n *\n * // Calling `renderComponent` will fail because `renderComponent` is a synchronous process\n * // and `MyComponent`'s `@Component.templateUrl` needs to be resolved asynchronously.\n *\n * // Calling `resolveComponentResources()` will resolve

`@Component.templateUrl` into\n * // `@Component.template`, which allows `renderComponent` to proceed in a synchronous manner.\n *\n * // Use browser's `fetch()` function as the default resource resolution strategy.\n * resolveComponentResources(fetch).then(() => {\n *   // After resolution all URLs have been converted into `template` strings.\n *   renderComponent(MyComponent);\n * });\n *\n * ```\n *\n * NOTE: In AOT the resolution happens during compilation,
and so there should be no need\n * to call this method outside JIT mode.\n *\n * @param resourceResolver a function which is responsible for returning a `Promise` to the\n * contents of the resolved URL. Browser's `fetch()` method is a good default implementation.\n */\nexport function resolveComponentResources(\n    resourceResolver: (url: string) => (Promise<string|{text(): Promise<string>}>)): Promise<void> {\n  // Store all promises which are fetching the resources.\n  const componentResolved: Promise<void>[] = [];\n\n  // Cache so that we don't fetch the same resource more than once.\n  const urlMap = new Map<string, Promise<string>>();\n  function cachedResourceResolve(url: string): Promise<string> {\n    let promise = urlMap.get(url);\n    if (!promise) {\n      const resp = resourceResolver(url);\n      urlMap.set(url, promise = resp.then(unwrapResponse));\n    }\n    return promise;\n  }\n\n  componentResourceResolutionQueue.forEach((component: Component, type: Type<any>) => {\n    const promises: Promise<void>[] = [];\n    if (component.templateUrl) {\n      promises.push(cachedResourceResolve(component.templateUrl).then((template) => {\n        component.template = template;\n      }));\n    }\n    const styleUrls = component.styleUrls;\n    const styles = component.styles || (component.styles = []);\n    const styleOffset = component.styles.length;\n    styleUrls &&
styleUrls.forEach((styleUrl, index) => {\n      styles.push('');  // pre-allocate array.\n      promises.push(cachedResourceResolve(styleUrl).then((style) => {\n        styles[styleOffset + index] = style;\n        styleUrls.splice(styleUrls.indexOf(styleUrl), 1);\n        if (styleUrls.length == 0) {\n          component.styleUrls = undefined;\n        }\n      }));\n    });\n    const fullyResolved = Promise.all(promises).then(() => componentDefResolved(type));\n    componentResolved.push(fullyResolved);\n  });\n  clearResolutionOfComponentResourcesQueue();\n  return Promise.all(componentResolved).then(() => undefined);\n}\n\nlet componentResourceResolutionQueue = new Map<Type<any>, Component>();\n\n// Track when existing cmp for a Type is waiting on resources.\nconst componentDefPendingResolution = new Set<Type<any>>();\n\nexport function maybeQueueResolutionOfComponentResources(type: Type<any>, metadata: Component) {\n  if (componentNeedsResolution(metadata)) {\n    componentResourceResolutionQueue.set(type, metadata);\n    componentDefPendingResolution.add(type);\n  }\n}\n\nexport function isComponentDefPendingResolution(type: Type<any>): boolean {\n  return componentDefPendingResolution.has(type);\n}\n\nexport function componentNeedsResolution(component: Component): boolean {\n  return !!(\n      (component.templateUrl && !component.hasOwnProperty('template')) ||\n      component.styleUrls && component.styleUrls.length);\n}\nexport function clearResolutionOfComponentResourcesQueue(): Map<Type<any>, Component> {\n  const old = componentResourceResolutionQueue;\n  componentResourceResolutionQueue = new Map();\n  return old;\n}\n\nexport function restoreComponentResolutionQueue(queue: Map<Type<any>, Component>): void {\n  componentDefPendingResolution.clear();\n  queue.forEach((_, type) => componentDefPendingResolution.add(type));\n  componentResourceResolutionQueue = queue;\n}\n\nexport function isComponentResourceResolutionQueueEmpty() {\n  return componentResourceResolutionQueue.size === 0;\n}\n\nfunction unwrapResponse(response: string|{text(): Promise<string>}): string|Promise<string> {\n  return typeof response == 'string' ? response : response.text();\n}\n\nfunction componentDefResolved(type: Type<any>): void {\n  componentDefPendingResolution.delete(type);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {stringify as stringify} from '@angular/core';\nimport {MetadataOverride}
from './metadata_override';\n\ntype StringMap = {\n  [key: string]: any\n};\n\nlet _nextReferenceId = 0;\n\nexport class MetadataOverrider {\n  private _references = new Map<any, string>();\n  /**\n   * Creates a new instance for the given metadata class\n   * based on an old instance and overrides.\n   */\n  overrideMetadata<C extends T, T>(\n

metadataClass: {new(options: T): C;}, oldMetadata: C, override: MetadataOverride<T>): C {\n const props: StringMap = {};\n if (oldMetadata) {\n _valueProps(oldMetadata).forEach((prop) => props[prop] = (<any>oldMetadata)[prop]);\n }\n\n if (override.set) {\n if (override.remove || override.add) {\n throw new Error(`Cannot set and add/remove ${stringify(metadataClass)} at the same time!`);\n }\n setMetadata(props, override.set);\n }\n if (override.remove) {\n removeMetadata(props, override.remove, this._references);\n }\n if (override.add) {\n addMetadata(props, override.add);\n }\n return new metadataClass(<any>props);\n }\n}\n\nfunction removeMetadata(metadata: StringMap, remove: any, references: Map<any, string>) {\n const removeObjects = new Set<string>();\n for (const prop in remove) {\n const removeValue = remove[prop];\n if (Array.isArray(removeValue)) {\n removeValue.forEach((value: any) => {\n removeObjects.add(_propHashKey(prop, value, references));\n });\n } else {\n removeObjects.add(_propHashKey(prop, removeValue, references));\n }\n }\n\n for (const prop in metadata) {\n const propValue = metadata[prop];\n if (Array.isArray(propValue)) {\n metadata[prop] = propValue.filter(\n (value: any) => !removeObjects.has(_propHashKey(prop, value, references)));\n } else {\n if (removeObjects.has(_propHashKey(prop, propValue, references))) {\n metadata[prop] = undefined;\n }\n }\n }\n}\n\nfunction addMetadata(metadata: StringMap, add: any) {\n for (const prop in add) {\n const addValue = add[prop];\n const propValue = metadata[prop];\n if (propValue != null && Array.isArray(propValue)) {\n metadata[prop] = propValue.concat(addValue);\n } else {\n metadata[prop] = addValue;\n }\n }\n}\n\nfunction setMetadata(metadata: StringMap, set: any) {\n for (const prop in set) {\n metadata[prop] = set[prop];\n }\n}\n\nfunction _propHashKey(propName: any, propValue: any, references: Map<any, string>): string {\n const replacer = (key: any, value: any) => {\n if (typeof value === 'function') {\n value = _serializeReference(value, references);\n }\n return value;\n };\n\n return `${propName}:${JSON.stringify(propValue, replacer)}`;\n}\n\nfunction _serializeReference(ref: any, references: Map<any, string>): string {\n let id = references.get(ref);\n if (!id) {\n id = `${stringify(ref)}${_nextReferenceId++}`;\n references.set(ref, id);\n }\n return id;\n}\n\n\nfunction _valueProps(obj: any): string[] {\n const props: string[] = [];\n // regular public props\n Object.keys(obj).forEach((prop) => {\n if (!prop.startsWith('_')) {\n props.push(prop);\n }\n });\n\n // getters\n let proto = obj;\n while (proto = Object.getPrototypeOf(proto)) {\n Object.keys(proto).forEach((protoProp) => {\n const desc = Object.getOwnPropertyDescriptor(proto, protoProp);\n if (!protoProp.startsWith('_') && desc && 'get' in desc) {\n props.push(protoProp);\n }\n });\n }\n return props;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Component, Directive, NgModule, Pipe, Type, ReflectionCapabilities as ReflectionCapabilities} from '@angular/core';\n\nimport {MetadataOverride} from './metadata_override';\nimport {MetadataOverrider} from './metadata_overrider';\n\nconst reflection = new ReflectionCapabilities();\n\n/**\n * Base interface to resolve `@Component`, `@Directive`, `@Pipe` and `@NgModule`.\n */\nexport interface Resolver<T> {\n addOverride(type: Type<any>, override: MetadataOverride<T>): void;\n setOverrides(overrides: Array<[Type<any>, MetadataOverride<T>]>): void;\n resolve(type: Type<any>): T|null;\n}\n\n/**\n * Allows to override ivy metadata for tests (via the `TestBed`).\n */\nabstract class OverrideResolver<T> implements Resolver<T> {\n private overrides = new Map<Type<any>, MetadataOverride<T>[]>();\n private resolved = new Map<Type<any>, T|null>();\n\n abstract get type(): any;\n\n addOverride(type: Type<any>, override: MetadataOverride<T>) {\n const overrides = this.overrides.get(type) || [];\n overrides.push(override);\n this.overrides.set(type, overrides);\n this.resolved.delete(type);\n }\n\n setOverrides(overrides: Array<[Type<any>, MetadataOverride<T>]>) {\n this.overrides.clear();\n overrides.forEach(([type, override]) => {\n this.addOverride(type, override);\n });\n }\n\n getAnnotation(type: Type<any>): T|null {\n const annotations = reflection.annotations(type);\n // Try to find the nearest known Type annotation and make sure that this annotation is an\n // instance of the type we are looking for, so we can use it for resolution. Note: there might\n // be multiple known annotations found due to the fact that Components can extend Directives (so\n //

both Directive and Component annotations would be present), so we always check if the known\n // annotation has the right type.\n for (let i = annotations.length - 1; i >= 0; i--) {\n const annotation = annotations[i];\n const isKnownType = annotation instanceof Directive || annotation instanceof Component ||\n annotation instanceof Pipe || annotation instanceof NgModule;\n if (isKnownType) {\n return annotation instanceof this.type ? annotation : null;\n }\n }\n return null;\n
}\n\n resolve(type: Type<any>): T|null {\n let resolved = this.resolved.get(type) || null;\n\n if (!resolved) {\n resolved = this.getAnnotation(type);\n if (resolved) {\n const overrides = this.overrides.get(type);\n if (overrides) {\n const overrider = new MetadataOverrider();\n overrides.forEach(override => {\n resolved = overrider.overrideMetadata(this.type, resolved!, override);\n });\n }\n }\n this.resolved.set(type, resolved);\n }\n\n return resolved;\n }\n}\n\n\nexport class DirectiveResolver extends OverrideResolver<Directive> {\n get type() {\n return Directive;\n }\n}\n\nexport class ComponentResolver extends OverrideResolver<Component> {\n get type() {\n return Component;\n }\n}\n\nexport class PipeResolver extends OverrideResolver<Pipe> {\n get type() {\n return Pipe;\n }\n}\n\nexport class NgModuleResolver extends OverrideResolver<NgModule> {\n get type() {\n return
NgModule;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ResourceLoader} from '@angular/compiler';\nimport {ApplicationInitStatus, Compiler, COMPILER_OPTIONS, Component, Directive, Injector, InjectorType, LOCALE_ID, ModuleWithComponentFactories, ModuleWithProviders, NgModule, NgModuleFactory, NgZone, Pipe, PlatformRef, Provider, Type, compileComponent as compileComponent, compileDirective as compileDirective, compileNgModuleDefs as compileNgModuleDefs, compilePipe as compilePipe, DEFAULT_LOCALE_ID as DEFAULT_LOCALE_ID, DirectiveDef as DirectiveDef, getInjectableDef as getInjectableDef, NG_COMP_DEF as NG_COMP_DEF, NG_DIR_DEF as NG_DIR_DEF, NG_INJ_DEF as NG_INJ_DEF, NG_MOD_DEF as NG_MOD_DEF, NG_PIPE_DEF as NG_PIPE_DEF, NgModuleFactory as R3NgModuleFactory, NgModuleTransitiveScopes as NgModuleTransitiveScopes,
NgModuleType as NgModuleType, patchComponentDefWithScope as patchComponentDefWithScope, Render3ComponentFactory as ComponentFactory, Render3NgModuleRef as NgModuleRef, setLocaleId as setLocaleId, transitiveScopesFor as transitiveScopesFor, InjectableDef as InjectableDef} from '@angular/core';\n\nimport {clearResolutionOfComponentResourcesQueue, isComponentDefPendingResolution, resolveComponentResources, restoreComponentResolutionQueue} from '../../src/metadata/resource_loading';\n\nimport {MetadataOverride} from './metadata_override';\nimport {ComponentResolver, DirectiveResolver, NgModuleResolver, PipeResolver, Resolver} from './resolvers';\nimport {TestModuleMetadata} from './test_bed_common';\n\nenum TestingModuleOverride {\n DECLARATION,\n OVERRIDE_TEMPLATE,\n}\n\nfunction isTestingModuleOverride(value: unknown): value is TestingModuleOverride {\n return value === TestingModuleOverride.DECLARATION ||\n value === TestingModuleOverride.OVERRIDE_TEMPLATE;\n}\n\n//
Resolvers for Angular decorators\ntype Resolvers = {\n module: Resolver<NgModule>,\n component: Resolver<Directive>,\n directive: Resolver<Component>,\n pipe: Resolver<Pipe>,\n};\n\ninterface CleanupOperation {\n fieldName: string;\n object: any;\n originalValue: unknown;\n}\n\nexport class R3TestBedCompiler {\n private originalComponentResolutionQueue: Map<Type<any>, Component>|null = null;\n\n // Testing module configuration\n private declarations: Type<any>[] = [];\n private imports: Type<any>[] = [];\n private providers: Provider[] = [];\n private schemas: any[] = [];\n\n // Queues of components/directives/pipes that should be recompiled.\n private pendingComponents = new Set<Type<any>>();\n private pendingDirectives = new Set<Type<any>>();\n private pendingPipes = new Set<Type<any>>();\n\n // Keep track of all components and directives, so we can patch Providers onto defs later.\n private seenComponents = new Set<Type<any>>();\n private seenDirectives
= new Set<Type<any>>();\n\n // Keep track of overridden modules, so that we can collect all affected ones in the module tree.\n private overriddenModules = new Set<NgModuleType<any>>();\n\n // Store resolved styles for

Components that have template overrides present and `styleUrls`\n  // defined at the same time.\n  private existingComponentStyles = new Map<Type<any>, string[]>();\n\n  private resolvers: Resolvers = initResolvers();\n\n  private componentToModuleScope = new Map<Type<any>, Type<any>|TestingModuleOverride>();\n\n  // Map that keeps initial version of component/directive/pipe defs in case\n  // we compile a Type again, thus overriding respective static fields. This is\n  // required to make sure we restore defs to their initial states between test runs\n  // TODO: we should support the case with multiple defs on a type\n  private initialNgDefs = new Map<Type<any>, [string, PropertyDescriptor|undefined]>();\n\n  // Array that keeps cleanup operations for initial
 versions of component/directive/pipe/module\n  // defs in case TestBed makes changes to the originals.\n  private defCleanupOps: CleanupOperation[] = [];\n\n  private _injector: Injector|null = null;\n  private compilerProviders: Provider[]|null = null;\n\n  private providerOverrides: Provider[] = [];\n  private rootProviderOverrides: Provider[] = [];\n  // Overrides for injectables with `{providedIn: SomeModule}` need to be tracked and added to that\n  // module's provider list.\n  private providerOverridesByModule = new Map<InjectorType<any>, Provider[]>();\n  private providerOverridesByToken = new Map<any, Provider>();\n  private moduleProvidersOverridden = new Set<Type<any>>();\n\n  private testModuleType: NgModuleType<any>;\n  private testModuleRef: NgModuleRef<any>|null = null;\n\n  constructor(private platform: PlatformRef, private additionalModuleTypes: Type<any>|Type<any>[]) {\n    class DynamicTestModule {}\n    this.testModuleType = DynamicTestModule as any;\n  }\n\n  setCompilerProviders(providers:
 Provider[]|null): void {\n    this.compilerProviders = providers;\n    this._injector = null;\n  }\n\n  configureTestingModule(moduleDef: TestModuleMetadata): void {\n    // Enqueue any compilation tasks for the directly declared component.\n    if (moduleDef.declarations !== undefined) {\n      this.queueTypeArray(moduleDef.declarations, TestingModuleOverride.DECLARATION);\n      this.declarations.push(...moduleDef.declarations);\n    }\n\n    // Enqueue any compilation tasks for imported modules.\n    if (moduleDef.imports !== undefined) {\n      this.queueTypesFromModulesArray(moduleDef.imports);\n      this.imports.push(...moduleDef.imports);\n    }\n\n    if (moduleDef.providers !== undefined) {\n      this.providers.push(...moduleDef.providers);\n    }\n\n    if (moduleDef.schemas !== undefined) {\n      this.schemas.push(...moduleDef.schemas);\n    }\n  }\n\n  overrideModule(ngModule: Type<any>, override: MetadataOverride<NgModule>): void {\n    this.overriddenModules.add(ngModule
 as NgModuleType<any>);\n\n    // Compile the module right away.\n    this.resolvers.module.addOverride(ngModule, override);\n    const metadata = this.resolvers.module.resolve(ngModule);\n    if (metadata === null) {\n      throw invalidTypeError(ngModule.name, 'NgModule');\n    }\n\n    this.recompileNgModule(ngModule, metadata);\n\n    // At this point, the module has a valid module def (mod), but the override may have introduced\n    // new declarations or imported modules. Ingest any possible new types and add them to the\n    // current queue.\n    this.queueTypesFromModulesArray([ngModule]);\n  }\n\n  overrideComponent(component: Type<any>, override: MetadataOverride<Component>): void {\n    this.resolvers.component.addOverride(component, override);\n    this.pendingComponents.add(component);\n  }\n\n  overrideDirective(directive: Type<any>, override: MetadataOverride<Directive>): void {\n    this.resolvers.directive.addOverride(directive, override);\n    this.pendingDirectives.add(directive);\n  }\n\n  overridePipe(pipe: Type<any>, override: MetadataOverride<Pipe>): void {\n    this.resolvers.pipe.addOverride(pipe, override);\n    this.pendingPipes.add(pipe);\n  }\n\n  overrideProvider(\n      token: any,\n      provider: {useFactory?: Function, useValue?: any, deps?: any[], multi?: boolean}): void {\n    let providerDef: Provider;\n    if (provider.useFactory !== undefined) {\n      providerDef = {\n        provide: token,\n        useFactory: provider.useFactory,\n        deps: provider.deps || [],\n        multi: provider.multi\n      };\n    } else if (provider.useValue !== undefined) {\n      providerDef = {provide: token, useValue: provider.useValue, multi: provider.multi};\n    } else {\n      providerDef = {provide: token};\n    }\n\n    const injectableDef: InjectableDef<any>|null =\n        typeof token !== 'string' ? getInjectableDef(token) : null;\n    const isRoot = injectableDef !== null && injectableDef.providedIn

```
 === 'root';\n    const overridesBucket = isRoot ? this.rootProviderOverrides : this.providerOverrides;\n
overridesBucket.push(providerDef);\n\n    // Keep overrides grouped by token as well for fast lookups using token\n
 this.providerOverridesByToken.set(token, providerDef);\n    if (injectableDef !== null &&
injectableDef.providedIn !== null &&\n        typeof injectableDef.providedIn !== 'string') {\n      const
existingOverrides = this.providerOverridesByModule.get(injectableDef.providedIn);\n      if (existingOverrides !==
undefined) {\n        existingOverrides.push(providerDef);\n      } else {\n
this.providerOverridesByModule.set(injectableDef.providedIn, [providerDef]);\n      }\n    }\n  }\n\n
overrideTemplateUsingTestingModule(type: Type<any>, template: string): void {\n    const def = (type as
any)[NG_COMP_DEF];\n    const hasStyleUrls = (): boolean => {\n      const metadata =
this.resolvers.component.resolve(type)! as Component;\n      return !!metadata.styleUrls
 && metadata.styleUrls.length > 0;\n    };\n    const overrideStyleUrls = !!def &&
!isComponentDefPendingResolution(type) && hasStyleUrls();\n\n    // In Ivy, compiling a component does not
require knowing the module providing the\n    // component's scope, so overrideTemplateUsingTestingModule can
be implemented purely via\n    // overrideComponent. Important: overriding template requires full Component re-
compilation,\n    // which may fail in case styleUrls are also present (thus Component is considered as required\n    //
resolution). In order to avoid this, we preemptively set styleUrls to an empty array,\n    // preserve current styles
available on Component def and restore styles back once compilation\n    // is complete.\n    const override =
overrideStyleUrls ? {template, styles: [], styleUrls: []} : {template};\n    this.overrideComponent(type, {set:
override});\n\n    if (overrideStyleUrls && def.styles && def.styles.length > 0) {\n
this.existingComponentStyles.set(type,
 def.styles);\n    }\n\n    // Set the component's scope to be the testing module.\n
this.componentToModuleScope.set(type, TestingModuleOverride.OVERRIDE_TEMPLATE);\n  }\n\n  async
compileComponents(): Promise<void> {\n    this.clearComponentResolutionQueue();\n    // Run compilers for all
queued types.\n    let needsAsyncResources = this.compileTypesSync();\n\n    // compileComponents() should not be
async unless it needs to be.\n    if (needsAsyncResources) {\n      let resourceLoader: ResourceLoader;\n      let
resolver = (url: string): Promise<string> => {\n        if (!resourceLoader) {\n          resourceLoader =
this.injector.get(ResourceLoader);\n        }\n        return Promise.resolve(resourceLoader.get(url));\n      };\n      await
resolveComponentResources(resolver);\n    }\n  }\n\n  finalize(): NgModuleRef<any> {\n    // One last compile\n
this.compileTypesSync();\n\n    // Create the testing module itself.\n    this.compileTestModule();\n\n
this.applyTransitiveScopes();\n\n
    this.applyProviderOverrides();\n\n    // Patch previously stored `styles` Component values (taken from cmp), in
case these\n    // Components have `styleUrls` fields defined and template override was requested.\n
this.patchComponentsWithExistingStyles();\n\n    // Clear the componentToModuleScope map, so that future
compilations don't reset the scope of\n    // every component.\n    this.componentToModuleScope.clear();\n\n    const
parentInjector = this.platform.injector;\n    this.testModuleRef = new NgModuleRef(this.testModuleType,
parentInjector);\n\n    // ApplicationInitStatus.runInitializers() is marked @internal to core.\n    // Cast it to any
before accessing it.\n    (this.testModuleRef.injector.get(ApplicationInitStatus) as any).runInitializers();\n\n    // Set
locale ID after running app initializers, since locale information might be updated while\n    // running initializers.
This is also consistent with the execution order while bootstrapping an\n
    // app (see `packages/core/src/application_ref.ts` file).\n    const localeId =
this.testModuleRef.injector.get(LOCALE_ID, DEFAULT_LOCALE_ID);\n    setLocaleId(localeId);\n\n    return
this.testModuleRef;\n  }\n\n  /**\n   * @internal\n   */\n  _compileNgModuleSync(moduleType: Type<any>): void
{\n    this.queueTypesFromModulesArray([moduleType]);\n    this.compileTypesSync();\n
this.applyProviderOverrides();\n    this.applyProviderOverridesToModule(moduleType);\n
this.applyTransitiveScopes();\n  }\n\n  /**\n   * @internal\n   */\n  async _compileNgModuleAsync(moduleType:
Type<any>): Promise<void> {\n    this.queueTypesFromModulesArray([moduleType]);\n    await
this.compileComponents();\n    this.applyProviderOverrides();\n
this.applyProviderOverridesToModule(moduleType);\n    this.applyTransitiveScopes();\n  }\n\n  /**\n   *
```

```
@internal\n   */\n  _getModuleResolver(): Resolver<NgModule> {\n    return this.resolvers.module;\n  }\n\n  /**\n
* @internal\n   */\n  _getComponentFactories(moduleType:
 NgModuleType): ComponentFactory<any>[] {\n    return
maybeUnwrapFn(moduleType.mod.declarations).reduce((factories, declaration) => {\n      const componentDef =
(declaration as any).cmp;\n      componentDef && factories.push(new ComponentFactory(componentDef,
this.testModuleRef!));\n      return factories;\n    }, [] as ComponentFactory<any>[]);\n  }\n\n  private
compileTypesSync(): boolean {\n    // Compile all queued components, directives, pipes.\n    let
needsAsyncResources = false;\n    this.pendingComponents.forEach(declaration => {\n      needsAsyncResources =
needsAsyncResources || isComponentDefPendingResolution(declaration);\n      const metadata =
this.resolvers.component.resolve(declaration);\n      if (metadata === null) {\n        throw
invalidTypeError(declaration.name, 'Component');\n      }\n      this.maybeStoreNgDef(NG_COMP_DEF,
declaration);\n      compileComponent(declaration, metadata);\n    });\n    this.pendingComponents.clear();\n\n
   this.pendingDirectives.forEach(declaration => {\n      const metadata =
this.resolvers.directive.resolve(declaration);\n      if (metadata === null) {\n        throw
invalidTypeError(declaration.name, 'Directive');\n      }\n      this.maybeStoreNgDef(NG_DIR_DEF, declaration);\n
   compileDirective(declaration, metadata);\n    });\n    this.pendingDirectives.clear();\n\n
this.pendingPipes.forEach(declaration => {\n      const metadata = this.resolvers.pipe.resolve(declaration);\n      if
(metadata === null) {\n        throw invalidTypeError(declaration.name, 'Pipe');\n      }\n
this.maybeStoreNgDef(NG_PIPE_DEF, declaration);\n      compilePipe(declaration, metadata);\n    });\n
this.pendingPipes.clear();\n\n    return needsAsyncResources;\n  }\n\n  private applyTransitiveScopes(): void {\n    if
(this.overriddenModules.size > 0) {\n      // Module overrides (via `TestBed.overrideModule`) might affect scopes
that were previously\n      // calculated and stored in `transitiveCompileScopes`.
 If module overrides are present,\n      // collect all affected modules and reset scopes to force their re-calculatation.\n
    const testingModuleDef = (this.testModuleType as any)[NG_MOD_DEF];\n      const affectedModules =
this.collectModulesAffectedByOverrides(testingModuleDef.imports);\n      if (affectedModules.size > 0) {\n
affectedModules.forEach(moduleType => {\n          this.storeFieldOfDefOnType(moduleType as any,
NG_MOD_DEF, 'transitiveCompileScopes');\n          (moduleType as
any)[NG_MOD_DEF].transitiveCompileScopes = null;\n        });\n      }\n    }\n\n    const moduleToScope = new
Map<Type<any>|TestingModuleOverride, NgModuleTransitiveScopes>();\n    const getScopeOfModule =\n
(moduleType: Type<any>|TestingModuleOverride): NgModuleTransitiveScopes => {\n          if
(!moduleToScope.has(moduleType)) {\n            const isTestingModule = isTestingModuleOverride(moduleType);\n
          const realType = isTestingModule ? this.testModuleType
 : moduleType as Type<any>;\n            moduleToScope.set(moduleType, transitiveScopesFor(realType));\n
}\n          return moduleToScope.get(moduleType)!;\n        };\n\n
this.componentToModuleScope.forEach((moduleType, componentType) => {\n      const moduleScope =
getScopeOfModule(moduleType);\n      this.storeFieldOfDefOnType(componentType, NG_COMP_DEF,
'directiveDefs');\n      this.storeFieldOfDefOnType(componentType, NG_COMP_DEF, 'pipeDefs');\n      // `tView`
that is stored on component def contains information about directives and pipes\n      // that are in the scope of this
component. Patching component scope will cause `tView` to be\n      // changed. Store original `tView` before
patching scope, so the `tView` (including scope\n      // information) is restored back to its previous/original state
before running next test.\n      this.storeFieldOfDefOnType(componentType, NG_COMP_DEF, 'tView');\n
patchComponentDefWithScope((componentType as any).cmp,
 moduleScope);\n    });\n\n    this.componentToModuleScope.clear();\n  }\n\n  private applyProviderOverrides():
void {\n    const maybeApplyOverrides = (field: string) => (type: Type<any>) => {\n      const resolver = field ===
NG_COMP_DEF ? this.resolvers.component : this.resolvers.directive;\n      const metadata =
resolver.resolve(type)!;\n      if (this.hasProviderOverrides(metadata.providers)) {\n
this.patchDefWithProviderOverrides(type, field);\n      }\n    };\n
this.seenComponents.forEach(maybeApplyOverrides(NG_COMP_DEF));\n
```

```
this.seenDirectives.forEach(maybeApplyOverrides(NG_DIR_DEF));\n\n    this.seenComponents.clear();\n
this.seenDirectives.clear();\n  }\n\n  private applyProviderOverridesToModule(moduleType: Type<any>): void {\n
if (this.moduleProvidersOverridden.has(moduleType)) {\n      return;\n    }\n
this.moduleProvidersOverridden.add(moduleType);\n\n    const injectorDef: any = (moduleType as
any)[NG_INJ_DEF];\n    if (this.providerOverridesByToken.size
 > 0) {\n      const providers = [\n        ...injectorDef.providers,\n
...(this.providerOverridesByModule.get(moduleType as InjectorType<any>) || [])\n      ];\n      if
(this.hasProviderOverrides(providers)) {\n        this.maybeStoreNgDef(NG_INJ_DEF, moduleType);\n\n
this.storeFieldOfDefOnType(moduleType, NG_INJ_DEF, 'providers');\n        injectorDef.providers =
this.getOverriddenProviders(providers);\n      }\n\n      // Apply provider overrides to imported modules recursively\n
    const moduleDef = (moduleType as any)[NG_MOD_DEF];\n      const imports =
maybeUnwrapFn(moduleDef.imports);\n      for (const importedModule of imports) {\n
this.applyProviderOverridesToModule(importedModule);\n      }\n      // Also override the providers on any
ModuleWithProviders imports since those don't appear in\n      // the moduleDef.\n      for (const importedModule of
flatten(injectorDef.imports)) {\n        if (isModuleWithProviders(importedModule)) {\n
this.defCleanupOps.push({\n            object: importedModule,\n            fieldName: 'providers',\n            originalValue:
importedModule.providers\n          });\n          importedModule.providers =
this.getOverriddenProviders(importedModule.providers);\n        }\n      }\n    }\n  }\n\n  private
patchComponentsWithExistingStyles(): void {\n    this.existingComponentStyles.forEach(\n        (styles, type) =>
(type as any)[NG_COMP_DEF].styles = styles);\n    this.existingComponentStyles.clear();\n  }\n\n  private
queueTypeArray(arr: any[], moduleType: Type<any>|TestingModuleOverride): void {\n    for (const value of arr)
{\n      if (Array.isArray(value)) {\n        this.queueTypeArray(value, moduleType);\n      } else {\n
this.queueType(value, moduleType);\n      }\n    }\n  }\n\n  private recompileNgModule(ngModule: Type<any>,
metadata: NgModule): void {\n    // Cache the initial ngModuleDef as it will be overwritten.\n
this.maybeStoreNgDef(NG_MOD_DEF, ngModule);\n
 this.maybeStoreNgDef(NG_INJ_DEF, ngModule);\n\n    compileNgModuleDefs(ngModule as
NgModuleType<any>, metadata);\n  }\n\n  private queueType(type: Type<any>, moduleType:
Type<any>|TestingModuleOverride): void {\n    const component = this.resolvers.component.resolve(type);\n    if
(component) {\n      // Check whether a give Type has respective NG def (cmp) and compile if def is\n      // missing.
That might happen in case a class without any Angular decorators extends another\n      // class where
Component/Directive/Pipe decorator is defined.\n      if (isComponentDefPendingResolution(type) ||
!type.hasOwnProperty(NG_COMP_DEF)) {\n        this.pendingComponents.add(type);\n      }\n
this.seenComponents.add(type);\n\n      // Keep track of the module which declares this component, so later the
component's scope\n      // can be set correctly. If the component has already been recorded here, then one of
several\n      // cases is true:\n      // * the module containing the component
 was imported multiple times (common).\n      // * the component is declared in multiple modules (which is an
error).\n      // * the component was in 'declarations' of the testing module, and also in an imported module\n      //   in
which case the module scope will be TestingModuleOverride.DECLARATION.\n      // *
overrideTemplateUsingTestingModule was called for the component in which case the module\n      //   scope will
be TestingModuleOverride.OVERRIDE_TEMPLATE.\n      //\n      // If the component was previously in the testing
module's 'declarations' (meaning the\n      // current value is TestingModuleOverride.DECLARATION), then
`moduleType` is the component's\n      // real module, which was imported. This pattern is understood to mean that
the component\n      // should use its original scope, but that the testing module should also contain the\n      //
component in its scope.\n      if (!this.componentToModuleScope.has(type) ||\n
this.componentToModuleScope.get(type)
 === TestingModuleOverride.DECLARATION) {\n        this.componentToModuleScope.set(type, moduleType);\n
  }\n      return;\n    }\n\n    const directive = this.resolvers.directive.resolve(type);\n    if (directive) {\n      if
```

(!type.hasOwnProperty(NG_DIR_DEF)) {\n this.pendingDirectives.add(type);\n }\n this.seenDirectives.add(type);\n return;\n }\n\n const pipe = this.resolvers.pipe.resolve(type);\n if (pipe && !type.hasOwnProperty(NG_PIPE_DEF)) {\n this.pendingPipes.add(type);\n return;\n }\n }\n\n private queueTypesFromModulesArray(arr: any[]): void {\n // Because we may encounter the same NgModule while processing the imports and exports of an\n // NgModule tree, we cache them in this set so we can skip ones that have already been seen\n // encountered. In some test setups, this caching resulted in 10X runtime improvement.\n const processedNgModuleDefs = new Set();\n const queueTypesFromModulesArrayRecur = (arr: any[]): void => {\n for (const value of arr) {\n if (Array.isArray(value)) {\n queueTypesFromModulesArrayRecur(value);\n } else if (hasNgModuleDef(value)) {\n const def = value.mod;\n if (processedNgModuleDefs.has(def)) {\n continue;\n }\n processedNgModuleDefs.add(def);\n // Look through declarations, imports, and exports, and queue\n // everything found there.\n this.queueTypeArray(maybeUnwrapFn(def.declarations), value);\n queueTypesFromModulesArrayRecur(maybeUnwrapFn(def.imports));\n queueTypesFromModulesArrayRecur(maybeUnwrapFn(def.exports));\n }\n }\n };\n queueTypesFromModulesArrayRecur(arr);\n }\n\n // When module overrides (via `TestBed.overrideModule`) are present, it might affect all modules\n // that import (even transitively) an overridden one. For all affected modules we need to\n // recalculate their scopes for a given test run and restore original scopes at the end. The goal\n // of this function is to collect all affected modules in a set for further processing. Example:\n // if we have the following module hierarchy: A -> B -> C (where `->` means `imports`) and module\n // `C` is overridden, we consider `A` and `B` as affected, since their scopes might become\n // invalidated with the override.\n private collectModulesAffectedByOverrides(arr: any[]): Set<NgModuleType<any>> {\n const seenModules = new Set<NgModuleType<any>>();\n const affectedModules = new Set<NgModuleType<any>>();\n const calcAffectedModulesRecur = (arr: any[], path: NgModuleType<any>[]): void => {\n for (const value of arr) {\n if (Array.isArray(value)) {\n // If the value is an array, just flatten it (by invoking this function recursively),\n // keeping \"path\" the same.\n calcAffectedModulesRecur(value, path);\n } else if (hasNgModuleDef(value)) {\n if (seenModules.has(value))\n {\n // If we've seen this module before and it's included into \"affected modules\" list, mark\n // the whole path that leads to that module as affected, but do not descend into its\n // imports, since we already examined them before.\n if (affectedModules.has(value)) {\n path.forEach(item => affectedModules.add(item));\n }\n continue;\n }\n seenModules.add(value);\n if (this.overriddenModules.has(value)) {\n path.forEach(item => affectedModules.add(item));\n }\n // Examine module imports recursively to look for overridden modules.\n const moduleDef = (value as any)[NG_MOD_DEF];\n calcAffectedModulesRecur(maybeUnwrapFn(moduleDef.imports), path.concat(value));\n }\n }\n };\n calcAffectedModulesRecur(arr, []);\n return affectedModules;\n }\n\n private maybeStoreNgDef(prop: string, type: Type<any>) {\n if (!this.initialNgDefs.has(type)) {\n const currentDef = Object.getOwnPropertyDescriptor(type, prop);\n this.initialNgDefs.set(type, [prop, currentDef]);\n }\n }\n\n private storeFieldOfDefOnType(type: Type<any>, defField: string, fieldName: string): void {\n const def: any = (type as any)[defField];\n const originalValue: any = def[fieldName];\n this.defCleanupOps.push({object: def, fieldName, originalValue});\n }\n\n /**\n * Clears current components resolution queue, but stores the state of the queue, so we can\n * restore it later. Clearing the queue is required before we try to compile components (via\n * `TestBed.compileComponents`), so that component defs are in sync with the resolution queue.\n */\n private clearComponentResolutionQueue() {\n if (this.originalComponentResolutionQueue === null) {\n this.originalComponentResolutionQueue = new Map();\n }\n clearResolutionOfComponentResourcesQueue().forEach(\n (value, key) => this.originalComponentResolutionQueue!.set(key, value));\n }\n\n /*\n * Restores component resolution queue to the previously saved state. This operation is performed\n * as a part of restoring the state after completion of the current set of tests (that might\n * potentially mutate the state).\n */\n private

```
restoreComponentResolutionQueue() {\n    if (this.originalComponentResolutionQueue !== null) {\n
restoreComponentResolutionQueue(this.originalComponentResolutionQueue);\n
this.originalComponentResolutionQueue = null;\n    }\n  }\n\n  restoreOriginalState(): void {\n    // Process cleanup
ops in reverse order so the field's original value is restored correctly (in\n    // case there were multiple overrides for
the same field).\n    forEachRight(this.defCleanupOps, (op: CleanupOperation) => {\n      op.object[op.fieldName] =
op.originalValue;\n    });\n    // Restore initial component/directive/pipe defs\n    this.initialNgDefs.forEach((value:
[string, PropertyDescriptor|undefined],
 type: Type<any>) => {\n      const [prop, descriptor] = value;\n      if (!descriptor) {\n        // Delete operations are
generally undesirable since they have performance implications\n        // on objects they were applied to. In this
particular case, situations where this code\n        // is invoked should be quite rare to cause any noticeable impact,
since it's applied\n        // only to some test cases (for example when class with no annotations extends some\n        //
@Component) when we need to clear 'cmp' field on a given class to restore\n        // its original state (before
applying overrides and running tests).\n        delete (type as any)[prop];\n      } else {\n
Object.defineProperty(type, prop, descriptor);\n      }\n    });\n    this.initialNgDefs.clear();\n
this.moduleProvidersOverridden.clear();\n    this.restoreComponentResolutionQueue();\n    // Restore the locale ID
to the default value, this shouldn't be necessary but we never
 know\n    setLocaleId(DEFAULT_LOCALE_ID);\n  }\n\n  private compileTestModule(): void {\n    class
RootScopeModule {}\n    compileNgModuleDefs(RootScopeModule as NgModuleType<any>, {\n      providers:
[...this.rootProviderOverrides],\n    });\n\n    const ngZone = new NgZone({enableLongStackTrace: true});\n    const
providers: Provider[] = [\n      {provide: NgZone, useValue: ngZone},\n      {provide: Compiler, useFactory: () =>
new R3TestCompiler(this)},\n      ...this.providers,\n      ...this.providerOverrides,\n    ];\n    const imports =
[RootScopeModule, this.additionalModuleTypes, this.imports || []];\n\n    // clang-format off\n
compileNgModuleDefs(this.testModuleType, {\n      declarations: this.declarations,\n      imports,\n      schemas:
this.schemas,\n      providers,\n    }, /* allowDuplicateDeclarationsInRoot */ true);\n    // clang-format on\n\n
this.applyProviderOverridesToModule(this.testModuleType);\n  }\n\n  get injector(): Injector {\n    if (this._injector
 !== null) {\n      return this._injector;\n    }\n\n    const providers: Provider[] = [];\n    const compilerOptions =
this.platform.injector.get(COMPILER_OPTIONS);\n    compilerOptions.forEach(opts => {\n      if (opts.providers)
{\n        providers.push(opts.providers);\n      }\n    });\n    if (this.compilerProviders !== null) {\n
providers.push(...this.compilerProviders);\n    }\n\n    // TODO(ocombe): make this work with an Injector directly
instead of creating a module for it\n    class CompilerModule {}\n    compileNgModuleDefs(CompilerModule as
NgModuleType<any>, {providers});\n\n    const CompilerModuleFactory = new
R3NgModuleFactory(CompilerModule);\n    this._injector =
CompilerModuleFactory.create(this.platform.injector).injector;\n    return this._injector;\n  }\n\n  // get overrides for
a specific provider (if any)\n  private getSingleProviderOverrides(provider: Provider): Provider|null {\n    const
token = getProviderToken(provider);\n    return this.providerOverridesByToken.get(token)
 || null;\n  }\n\n  private getProviderOverrides(providers?: Provider[]): Provider[] {\n    if (!providers ||
!providers.length || this.providerOverridesByToken.size === 0) return [];\n    // There are two flattening operations
here. The inner flatten() operates on the metadata's\n    // providers and applies a mapping function which retrieves
overrides for each incoming\n    // provider. The outer flatten() then flattens the produced overrides array. If this is
not\n    // done, the array can contain other empty arrays (e.g. `[[], []]`) which leak into the\n    // providers array and
contaminate any error messages that might be generated.\n    return flatten(flatten(\n        providers, (provider:
Provider) => this.getSingleProviderOverrides(provider) || []));\n  }\n\n  private getOverriddenProviders(providers?:
Provider[]): Provider[] {\n    if (!providers || !providers.length || this.providerOverridesByToken.size === 0) return
[];\n\n    const flattenedProviders
 = flatten<Provider[]>(providers);\n    const overrides = this.getProviderOverrides(flattenedProviders);\n    const
overriddenProviders = [...flattenedProviders, ...overrides];\n    const final: Provider[] = [];\n    const
seenOverriddenProviders = new Set<Provider>();\n\n    // We iterate through the list of providers in reverse order to
make sure provider overrides\n    // take precedence over the values defined in provider list. We also filter out all
```

providers\n // that have overrides, keeping overridden values only. This is needed, since presence of a\n // provider with `ngOnDestroy` hook will cause this hook to be registered and invoked later.\n forEachRight(overriddenProviders, (provider: any) => {\n const token: any = getProviderToken(provider);\n if (this.providerOverridesByToken.has(token)) {\n if (!seenOverriddenProviders.has(token)) {\n seenOverriddenProviders.add(token);\n // Treat all overridden providers as `{multi: false}` (even if it's a multi-provider) to\n // make sure that provided override takes highest precedence and is not combined with\n // other instances of the same multi provider.\n final.unshift({...provider, multi: false});\n }\n } else {\n final.unshift(provider);\n }\n });\n return final;\n }\n\n private hasProviderOverrides(providers?: Provider[]): boolean {\n return this.getProviderOverrides(providers).length > 0;\n }\n\n private patchDefWithProviderOverrides(declaration: Type<any>, field: string): void {\n const def = (declaration as any)[field];\n if (def && def.providersResolver) {\n this.maybeStoreNgDef(field, declaration);\n\n const resolver = def.providersResolver;\n const processProvidersFn = (providers: Provider[]) => this.getOverriddenProviders(providers);\n this.storeFieldOfDefOnType(declaration, field, 'providersResolver');\n def.providersResolver = (ngDef: DirectiveDef<any>) => resolver(ngDef, processProvidersFn);\n }\n }\n}\n\nfunction initResolvers(): Resolvers {\n return {\n module: new NgModuleResolver(),\n component: new ComponentResolver(),\n directive: new DirectiveResolver(),\n pipe: new PipeResolver()\n };\n}\n\nfunction hasNgModuleDef<T>(value: Type<T>): value is NgModuleType<T> {\n return value.hasOwnProperty('mod');\n}\n\nfunction maybeUnwrapFn<T>(maybeFn: (() => T)|T): T {\n return maybeFn instanceof Function ? maybeFn() : maybeFn;\n}\n\nfunction flatten<T>(values: any[], mapFn?: (value: T) => any): T[] {\n const out: T[] = [];\n values.forEach(value => {\n if (Array.isArray(value)) {\n out.push(...flatten<T>(value, mapFn));\n } else {\n out.push(mapFn ? mapFn(value) : value);\n }\n });\n return out;\n}\n\nfunction getProviderField(provider: Provider, field: string) {\n return provider && typeof provider === 'object' && (provider as any)[field];\n}\n\nfunction getProviderToken(provider: Provider) {\n return getProviderField(provider, 'provide') || provider;\n}\n\nfunction isModuleWithProviders(value: any): value is ModuleWithProviders<any> {\n return value.hasOwnProperty('ngModule');\n}\n\nfunction forEachRight<T>(values: T[], fn: (value: T, idx: number) => void): void {\n for (let idx = values.length - 1; idx >= 0; idx--) {\n fn(values[idx], idx);\n }\n}\n\nfunction invalidTypeError(name: string, expectedType: string): Error {\n return new Error(`${name} class doesn't have @${expectedType} decorator or is missing metadata.`);\n}\n\nclass R3TestCompiler implements Compiler {\n constructor(private testBed: R3TestBedCompiler) {}\n\n compileModuleSync<T>(moduleType: Type<T>): NgModuleFactory<T> {\n this.testBed._compileNgModuleSync(moduleType);\n return new R3NgModuleFactory(moduleType);\n }\n\n async compileModuleAsync<T>(moduleType: Type<T>): Promise<NgModuleFactory<T>> {\n await this.testBed._compileNgModuleAsync(moduleType);\n return new R3NgModuleFactory(moduleType);\n }\n\n compileModuleAndAllComponentsSync<T>(moduleType: Type<T>): ModuleWithComponentFactories<T> {\n const ngModuleFactory = this.compileModuleSync(moduleType);\n const componentFactories = this.testBed._getComponentFactories(moduleType as NgModuleType<T>);\n return new ModuleWithComponentFactories(ngModuleFactory, componentFactories);\n }\n\n async compileModuleAndAllComponentsAsync<T>(moduleType: Type<T>):\n Promise<ModuleWithComponentFactories<T>> {\n const ngModuleFactory = await this.compileModuleAsync(moduleType);\n const componentFactories = this.testBed._getComponentFactories(moduleType as NgModuleType<T>);\n return new ModuleWithComponentFactories(ngModuleFactory, componentFactories);\n }\n\n clearCache(): void {}\n\n clearCacheFor(type: Type<any>): void {}\n\n getModuleId(moduleType: Type<any>): string|undefined {\n const meta = this.testBed._getModuleResolver().resolve(moduleType);\n return meta && meta.id || undefined;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AbstractType, Component, Directive, InjectFlags, InjectionToken, NgModule, Pipe, PlatformRef,

SchemaMetadata, Type} from '@angular/core';\n\nimport {ComponentFixture} from './component_fixture';\nimport {MetadataOverride} from './metadata_override';\nimport {TestBed} from './test_bed';\n\n/**\n * An abstract class for inserting the root test component element in a platform independent way.\n *\n * @publicApi\n */\nexport class TestComponentRenderer {\n insertRootElement(rootElementId: string) {}\n}\n\n/**\n * @publicApi\n */\nexport const ComponentFixtureAutoDetect =\n new InjectionToken<boolean[]>('ComponentFixtureAutoDetect');\n\n/**\n * @publicApi\n */\nexport const ComponentFixtureNoNgZone = new InjectionToken<boolean[]>('ComponentFixtureNoNgZone');\n\n/**\n * @publicApi\n
*/\nexport type TestModuleMetadata = {\n providers?: any[],\n declarations?: any[],\n imports?: any[],\n schemas?: Array<SchemaMetadata|any[]>,\n aotSummaries?: () => any[],\n};\n\n/**\n * Static methods implemented by the `TestBedViewEngine` and `TestBedRender3`\n *\n * @publicApi\n */\nexport interface TestBedStatic {\n new(...args: any[]): TestBed;\n\n initTestEnvironment(\n ngModule: Type<any>|Type<any>[], platform: PlatformRef, aotSummaries?: () => any[]): TestBed;\n\n /**\n * Reset the providers for the test injector.\n */\n resetTestEnvironment(): void;\n\n resetTestingModule(): TestBedStatic;\n\n /**\n * Allows overriding default compiler providers and settings\n * which are defined in test_injector.js\n */\n configureCompiler(config: {providers?: any[]; useJit?: boolean;}): TestBedStatic;\n\n /**\n * Allows overriding default providers, directives, pipes, modules of the test injector,\n * which are defined in test_injector.js\n */\n configureTestingModule(moduleDef: TestModuleMetadata): TestBedStatic;\n\n /**\n * Compile components with a `templateUrl` for the test's NgModule.\n * It is necessary to call this function\n * as fetching urls is asynchronous.\n */\n compileComponents(): Promise<any>;\n\n overrideModule(ngModule: Type<any>, override: MetadataOverride<NgModule>): TestBedStatic;\n\n overrideComponent(component: Type<any>, override: MetadataOverride<Component>): TestBedStatic;\n\n overrideDirective(directive: Type<any>, override: MetadataOverride<Directive>): TestBedStatic;\n\n overridePipe(pipe: Type<any>, override: MetadataOverride<Pipe>): TestBedStatic;\n\n overrideTemplate(component: Type<any>, template: string): TestBedStatic;\n\n /**\n * Overrides the template of the given component, compiling the template\n * in the context of the TestingModule.\n *\n * Note: This works for JIT and AOTed components as well.\n */\n overrideTemplateUsingTestingModule(component: Type<any>,
template: string): TestBedStatic;\n\n /**\n * Overwrites all providers for the given token with the given provider definition.\n *\n * Note: This works for JIT and AOTed components as well.\n */\n overrideProvider(token: any, provider: {\n useFactory: Function,\n deps: any[],\n }): TestBedStatic;\n overrideProvider(token: any, provider: {useValue: any;}): TestBedStatic;\n overrideProvider(token: any, provider: {\n useFactory?: Function,\n useValue?: any,\n deps?: any[],\n }): TestBedStatic;\n\n inject<T>(\n token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T, flags?: InjectFlags): T;\n inject<T>(\n token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue: null, flags?: InjectFlags): T\n |null;\n\n /** @deprecated from v9.0.0 use TestBed.inject */\n get<T>(token: Type<T>|InjectionToken<T>, notFoundValue?: T, flags?: InjectFlags): any;\n /** @deprecated from v9.0.0 use TestBed.inject */\n get(token: any, notFoundValue?:
any): any;\n\n createComponent<T>(component: Type<T>): ComponentFixture<T>;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// The formatter and CI disagree on how this import statement should be formatted. Both try to keep\n// it on one line, too, which has gotten very hard to read & manage. So disable the formatter for\n// this statement only.\n\n/* clang-format off */\nimport {\n AbstractType,\n Component,\n Directive,\n InjectFlags,\n InjectionToken,\n Injector,\n NgModule,\n NgZone,\n Pipe,\n PlatformRef,\n Type,\n flushModuleScopingQueueAsMuchAsPossible as flushModuleScopingQueueAsMuchAsPossible,\n Render3ComponentFactory as ComponentFactory,\n Render3NgModuleRef as NgModuleRef,\n resetCompiledComponents as resetCompiledComponents,\n stringify as stringify,\n} from '@angular/core';\n\n/*

clang-format on */\n\nimport {ComponentFixture} from './component_fixture';\nimport {MetadataOverride} from './metadata_override';\nimport {R3TestBedCompiler} from './r3_test_bed_compiler';\nimport {TestBed} from './test_bed';\nimport {ComponentFixtureAutoDetect, ComponentFixtureNoNgZone, TestBedStatic, TestComponentRenderer, TestModuleMetadata} from './test_bed_common';\n\nlet _nextRootElementId = 0;\n\n\n/**\n * @description\n * Configures and initializes environment for unit testing and provides methods for\n * creating components and services in unit tests.\n *\n * TestBed is the primary api for writing unit tests for Angular applications and libraries.\n *\n * Note: Use `TestBed` in tests. It will be set to either `TestBedViewEngine` or `TestBedRender3`\n * according to the compiler used.\n */\nexport class TestBedRender3 implements TestBed {\n /**\n * Initialize the environment for testing with a compiler factory, a PlatformRef, and an\n * angular module. These are common
to every test in the suite.\n *\n * This may only be called once, to set up the common providers for the current test\n * suite on the current platform. If you absolutely need to change the providers,\n * first use `resetTestEnvironment`.\n *\n * Test modules and platforms for individual platforms are available from\n * '@angular/<platform_name>/testing'.\n *\n * @publicApi\n */\n static initTestEnvironment(\n ngModule: Type<any>|Type<any>[], platform: PlatformRef, aotSummaries?: () => any[]): TestBed {\n const testBed = _getTestBedRender3();\n testBed.initTestEnvironment(ngModule, platform, aotSummaries);\n return testBed;\n }\n\n /**\n * Reset the providers for the test injector.\n *\n * @publicApi\n */\n static resetTestEnvironment(): void {\n _getTestBedRender3().resetTestEnvironment();\n }\n\n static configureCompiler(config: {providers?: any[]; useJit?: boolean;}): TestBedStatic {\n _getTestBedRender3().configureCompiler(config);\n
return TestBedRender3 as any as TestBedStatic;\n }\n\n /**\n * Allows overriding default providers, directives, pipes, modules of the test injector,\n * which are defined in test_injector.js\n */\n static configureTestingModule(moduleDef: TestModuleMetadata): TestBedStatic {\n _getTestBedRender3().configureTestingModule(moduleDef);\n return TestBedRender3 as any as TestBedStatic;\n }\n\n /**\n * Compile components with a `templateUrl` for the test's NgModule.\n * It is necessary to call this function\n * as fetching urls is asynchronous.\n */\n static compileComponents(): Promise<any> {\n return _getTestBedRender3().compileComponents();\n }\n\n static overrideModule(ngModule: Type<any>, override: MetadataOverride<NgModule>): TestBedStatic {\n _getTestBedRender3().overrideModule(ngModule, override);\n return TestBedRender3 as any as TestBedStatic;\n }\n\n static overrideComponent(component: Type<any>, override: MetadataOverride<Component>):\n
TestBedStatic {\n _getTestBedRender3().overrideComponent(component, override);\n return TestBedRender3 as any as TestBedStatic;\n }\n\n static overrideDirective(directive: Type<any>, override: MetadataOverride<Directive>):\n TestBedStatic {\n _getTestBedRender3().overrideDirective(directive, override);\n return TestBedRender3 as any as TestBedStatic;\n }\n\n static overridePipe(pipe: Type<any>, override: MetadataOverride<Pipe>): TestBedStatic {\n _getTestBedRender3().overridePipe(pipe, override);\n return TestBedRender3 as any as TestBedStatic;\n }\n\n static overrideTemplate(component: Type<any>, template: string): TestBedStatic {\n _getTestBedRender3().overrideComponent(component, {set: {template, templateUrl: null!}});\n return TestBedRender3 as any as TestBedStatic;\n }\n\n /**\n * Overrides the template of the given component, compiling the template\n * in the context of the TestingModule.\n *\n * Note: This works for JIT and
AOTed components as well.\n */\n static overrideTemplateUsingTestingModule(component: Type<any>, template: string): TestBedStatic {\n _getTestBedRender3().overrideTemplateUsingTestingModule(component, template);\n return TestBedRender3 as any as TestBedStatic;\n }\n\n static overrideProvider(token: any, provider: {\n useFactory: Function,\n deps: any[],\n }): TestBedStatic;\n static overrideProvider(token: any, provider: {useValue: any;}): TestBedStatic;\n static overrideProvider(token: any, provider: {\n useFactory?: Function,\n useValue?: any,\n deps?: any[],\n }): TestBedStatic {\n _getTestBedRender3().overrideProvider(token, provider);\n return TestBedRender3 as any as TestBedStatic;\n }\n\n static inject<T>(\n token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T, flags?:

InjectFlags): T;\n  static inject<T>(\n      token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue: null, flags?: InjectFlags): T\n      |null;\n
  static inject<T>(\n      token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T|null,\n      flags?: InjectFlags): T|null {\n    return _getTestBedRender3().inject(token, notFoundValue, flags);\n  }\n\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  static get<T>(token: Type<T>|InjectionToken<T>, notFoundValue?: T, flags?: InjectFlags): any;\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  static get(token: any, notFoundValue?: any): any;\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  static get(\n token: any, notFoundValue: any = Injector.THROW_IF_NOT_FOUND,\n      flags: InjectFlags = InjectFlags.Default): any {\n    return _getTestBedRender3().inject(token, notFoundValue, flags);\n  }\n\n  static createComponent<T>(component: Type<T>): ComponentFixture<T> {\n    return _getTestBedRender3().createComponent(component);\n  }\n\n  static resetTestingModule(): TestBedStatic {\n _getTestBedRender3().resetTestingModule();\n    return TestBedRender3
  as any as TestBedStatic;\n  }\n\n  // Properties\n\n  platform: PlatformRef = null!;\n  ngModule: Type<any>|Type<any>[] = null!;\n\n  private _compiler: R3TestBedCompiler|null = null;\n  private _testModuleRef: NgModuleRef<any>|null = null;\n\n  private _activeFixtures: ComponentFixture<any>[] = [];\n\n private _globalCompilationChecked = false;\n\n  /**\n   * Initialize the environment for testing with a compiler factory, a PlatformRef, and an\n   * angular module. These are common to every test in the suite.\n   *\n   * This may only be called once, to set up the common providers for the current test\n   * suite on the current platform. If you absolutely need to change the providers,\n   * first use `resetTestEnvironment`.\n   *\n   * Test modules and platforms for individual platforms are available from\n   * '@angular/<platform_name>/testing'.\n   *\n   * @publicApi\n   */\n  initTestEnvironment(\n      ngModule: Type<any>|Type<any>[], platform: PlatformRef, aotSummaries?: ()
  => any[]): void {\n    if (this.platform || this.ngModule) {\n      throw new Error('Cannot set base providers because it has already been called');\n    }\n    this.platform = platform;\n    this.ngModule = ngModule;\n    this._compiler = new R3TestBedCompiler(this.platform, this.ngModule);\n  }\n\n  /**\n   * Reset the providers for the test injector.\n   *\n   * @publicApi\n   */\n  resetTestEnvironment(): void {\n    this.resetTestingModule();\n    this._compiler = null;\n    this.platform = null!;\n    this.ngModule = null!;\n  }\n\n  resetTestingModule(): void {\n    this.checkGlobalCompilationFinished();\n    resetCompiledComponents();\n    if (this._compiler !== null) {\n      this.compiler.restoreOriginalState();\n    }\n    this._compiler = new R3TestBedCompiler(this.platform, this.ngModule);\n    this._testModuleRef = null;\n    this.destroyActiveFixtures();\n  }\n\n  configureCompiler(config: {providers?: any[]; useJit?: boolean;}): void {\n    if (config.useJit != null) {\n      throw new Error('the Render3 compiler JiT mode is not configurable !');\n    }\n\n    if (config.providers !== undefined) {\n      this.compiler.setCompilerProviders(config.providers);\n    }\n  }\n\n  configureTestingModule(moduleDef: TestModuleMetadata): void {\n    this.assertNotInstantiated('R3TestBed.configureTestingModule', 'configure the test module');\n    this.compiler.configureTestingModule(moduleDef);\n  }\n\n  compileComponents(): Promise<any> {\n    return this.compiler.compileComponents();\n  }\n\n  inject<T>(\n      token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T, flags?: InjectFlags): T;\n  inject<T>(\n token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue: null, flags?: InjectFlags): T\n      |null;\n  inject<T>(\n      token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T|null,\n      flags?: InjectFlags): T|null {\n    if (token as unknown === TestBedRender3) {\n      return this as any;\n    }\n    const UNDEFINED
  = {};\n    const result = this.testModuleRef.injector.get(token, UNDEFINED, flags);\n    return result === UNDEFINED ? this.compiler.injector.get(token, notFoundValue, flags) as any :\n                                  result;\n  }\n\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  get<T>(token: Type<T>|InjectionToken<T>, notFoundValue?: T, flags?: InjectFlags): any;\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  get(token: any, notFoundValue?: any): any;\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  get(token: any, notFoundValue: any = Injector.THROW_IF_NOT_FOUND,\n      flags: InjectFlags = InjectFlags.Default): any {\n

```
return this.inject(token, notFoundValue, flags);\n  }\n\n  execute(tokens: any[], fn: Function, context?: any): any {\n
 const params = tokens.map(t => this.inject(t));\n    return fn.apply(context, params);\n  }\n\n
overrideModule(ngModule: Type<any>, override: MetadataOverride<NgModule>): void {\n
this.assertNotInstantiated('overrideModule',
 'override module metadata');\n    this.compiler.overrideModule(ngModule, override);\n  }\n\n
overrideComponent(component: Type<any>, override: MetadataOverride<Component>): void {\n
this.assertNotInstantiated('overrideComponent', 'override component metadata');\n
this.compiler.overrideComponent(component, override);\n  }\n\n
overrideTemplateUsingTestingModule(component: Type<any>, template: string): void {\n
this.assertNotInstantiated(\n        'R3TestBed.overrideTemplateUsingTestingModule',\n        'Cannot override
template when the test module has already been instantiated');\n
this.compiler.overrideTemplateUsingTestingModule(component, template);\n  }\n\n  overrideDirective(directive:
Type<any>, override: MetadataOverride<Directive>): void {\n    this.assertNotInstantiated('overrideDirective',
'override directive metadata');\n    this.compiler.overrideDirective(directive, override);\n  }\n\n  overridePipe(pipe:
Type<any>, override: MetadataOverride<Pipe>):
 void {\n    this.assertNotInstantiated('overridePipe', 'override pipe metadata');\n    this.compiler.overridePipe(pipe,
override);\n  }\n\n  /**\n   * Overwrites all providers for the given token with the given provider definition.\n   */\n
overrideProvider(token: any, provider: {useFactory?: Function, useValue?: any, deps?: any[]}):\n      void {\n
this.assertNotInstantiated('overrideProvider', 'override provider');\n    this.compiler.overrideProvider(token,
provider);\n  }\n\n  createComponent<T>(type: Type<T>): ComponentFixture<T> {\n    const
testComponentRenderer = this.inject(TestComponentRenderer);\n    const rootElId =
`root${_nextRootElementId++}`;\n    testComponentRenderer.insertRootElement(rootElId);\n\n    const
componentDef = (type as any).cmp;\n\n    if (!componentDef) {\n      throw new Error(\n          `It looks like
'${stringify(type)}' has not been IVY compiled - it has no 'cmp' field`);\n    }\n\n    // TODO: Don't cast as
`InjectionToken<boolean>`, proper
 type is boolean[]\n    const noNgZone = this.inject(ComponentFixtureNoNgZone as InjectionToken<boolean>,
false);\n    // TODO: Don't cast as `InjectionToken<boolean>`, proper type is boolean[]\n    const autoDetect:
boolean =\n        this.inject(ComponentFixtureAutoDetect as InjectionToken<boolean>, false);\n    const ngZone:
NgZone|null = noNgZone ? null : this.inject(NgZone, null);\n    const componentFactory = new
ComponentFactory(componentDef);\n    const initComponent = () => {\n      const componentRef =\n
componentFactory.create(Injector.NULL, [], `#${rootElId}`, this.testModuleRef);\n      return new
ComponentFixture<any>(componentRef, ngZone, autoDetect);\n    };\n    const fixture = ngZone ?
ngZone.run(initComponent) : initComponent();\n    this._activeFixtures.push(fixture);\n    return fixture;\n  }\n\n
/**\n   * @internal strip this from published d.ts files due to\n   *
https://github.com/microsoft/TypeScript/issues/36216\n   */\n  private get compiler(): R3TestBedCompiler
 {\n    if (this._compiler === null) {\n      throw new Error(`Need to call TestBed.initTestEnvironment() first`);\n
}\n    return this._compiler;\n  }\n\n  /**\n   * @internal strip this from published d.ts files due to\n   *
https://github.com/microsoft/TypeScript/issues/36216\n   */\n  private get testModuleRef(): NgModuleRef<any> {\n
  if (this._testModuleRef === null) {\n      this._testModuleRef = this.compiler.finalize();\n    }\n    return
this._testModuleRef;\n  }\n\n  private assertNotInstantiated(methodName: string, methodDescription: string) {\n    if
(this._testModuleRef !== null) {\n      throw new Error(\n          `Cannot ${methodDescription} when the test
module has already been instantiated. ` +\n          `Make sure you are not using \\`inject\\` before
\\`${methodName}\\`.`);\n    }\n  }\n\n  /**\n   * Check whether the module scoping queue should be flushed, and
flush it if needed.\n   *\n   * When the TestBed is reset, it clears the JIT module compilation
 queue, cancelling any\n   * in-progress module compilation. This creates a potential hazard - the very first time
the\n   * TestBed is initialized (or if it's reset without being initialized), there may be pending\n   *
compilations of modules declared in global scope. These compilations should be finished.\n   *\n   * To ensure that globally declared
modules have their components scoped properly, this function\n   * is called whenever TestBed is initialized or
```

reset. The _first_ time that this happens, prior\n * to any other operations, the scoping queue is flushed.\n */\n private checkGlobalCompilationFinished(): void {\n // Checking _testNgModuleRef is null should not be necessary, but is left in as an additional\n // guard that compilations queued in tests (after instantiation) are never flushed accidentally.\n if (!this._globalCompilationChecked && this._testModuleRef === null) {\n flushModuleScopingQueueAsMuchAsPossible();\n }\n this._globalCompilationChecked = true;\n }\n\n private destroyActiveFixtures(): void {\n this._activeFixtures.forEach((fixture) => {\n try {\n fixture.destroy();\n } catch (e) {\n console.error('Error during cleanup of component', {\n component: fixture.componentInstance,\n stacktrace: e,\n });\n }\n });\n this._activeFixtures = [];\n }\n}\n\nlet testBed: TestBedRender3;\n\nexport function _getTestBedRender3(): TestBedRender3 {\n return testBed = testBed || new TestBedRender3();\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Compiler, CompilerOptions, Component, ComponentFactory, Directive, Injectable, Injector, NgModule, Pipe, Type} from '@angular/core';\n\nimport {MetadataOverride} from './metadata_override';\n\nfunction unimplemented(): any {\n throw Error('unimplemented');\n}\n\n/**\n * Special interface to the compiler only used by testing\n *\n * @publicApi\n */\n@Injectable()\nexport class TestingCompiler extends Compiler {\n get injector(): Injector {\n throw unimplemented();\n }\n overrideModule(module: Type<any>, overrides: MetadataOverride<NgModule>): void {\n throw unimplemented();\n }\n overrideDirective(directive: Type<any>, overrides: MetadataOverride<Directive>): void {\n throw unimplemented();\n }\n overrideComponent(component: Type<any>, overrides: MetadataOverride<Component>): void {\n throw unimplemented();\n }\n overridePipe(directive: Type<any>, overrides: MetadataOverride<Pipe>): void {\n throw unimplemented();\n }\n /**\n * Allows to pass the compile summary from AOT compilation to the JIT compiler,\n * so that it can use the code generated by AOT.\n */\n loadAotSummaries(summaries: () => any[]) {\n throw unimplemented();\n }\n\n /**\n * Gets the component factory for the given component.\n * This assumes that the component has been compiled before calling this call using\n * `compileModuleAndAllComponents*`.\n */\n getComponentFactory<T>(component: Type<T>): ComponentFactory<T> {\n throw unimplemented();\n }\n\n /**\n * Returns the component type that is stored in the given error.\n * This can be used for errors created by compileModule...\n */\n getComponentFromError(error: Error): Type<any>|null {\n throw unimplemented();\n }\n}\n\n/**\n * A factory for creating a Compiler\n *\n * @publicApi\n */\nexport abstract class TestingCompilerFactory {\n abstract createTestingCompiler(options?: CompilerOptions[]): TestingCompiler;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AbstractType, ApplicationInitStatus, CompilerOptions, Component, Directive, InjectFlags, InjectionToken, Injector, NgModule, NgModuleFactory, NgModuleRef, NgZone, Optional, Pipe, PlatformRef, Provider, SchemaMetadata, SkipSelf, StaticProvider, Type, clearOverrides as clearOverrides, DepFlags as DepFlags, getInjectableDef as getInjectableDef, INJECTOR_SCOPE as INJECTOR_SCOPE, ivyEnabled as ivyEnabled, NodeFlags as NodeFlags, overrideComponentView as overrideComponentView, overrideProvider as overrideProvider, stringify as stringify, InjectableDef} from '@angular/core';\n\nimport {AsyncTestCompleter} from './async_test_completer';\nimport {ComponentFixture} from './component_fixture';\nimport {MetadataOverride} from './metadata_override';\nimport {_getTestBedRender3, TestBedRender3} from './r3_test_bed';\nimport {ComponentFixtureAutoDetect, ComponentFixtureNoNgZone, TestBedStatic, TestComponentRenderer, TestModuleMetadata} from './test_bed_common';\nimport {TestingCompiler, TestingCompilerFactory} from './test_compiler';\n\n\nlet _nextRootElementId = 0;\n\n/**\n * @publicApi\n */\nexport interface TestBed {\n platform: PlatformRef;\n\n ngModule: Type<any>|Type<any>[];\n\n /**\n * Initialize the environment for testing with a compiler factory, a PlatformRef, and an\n * angular module. These are common to every test in the suite.\n *\n * This may only be called once, to

set up the common providers for the current test\n * suite on the current platform. If you absolutely need to change the providers,\n * first use `resetTestEnvironment`.\n *\n * Test modules and platforms for individual platforms are available from\n * '@angular/<platform_name>/testing'.\n */\n initTestEnvironment(\n ngModule: Type<any>|Type<any>[], platform: PlatformRef, aotSummaries?: () => any[]): void;\n\n /**\n * Reset the providers for the test injector.\n */\n resetTestEnvironment(): void;\n\n resetTestingModule(): void;\n\n configureCompiler(config: {providers?: any[], useJit?: boolean}): void;\n\n configureTestingModule(moduleDef: TestModuleMetadata):
void;\n\n compileComponents(): Promise<any>;\n\n inject<T>(\n token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T, flags?: InjectFlags): T;\n inject<T>(\n token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue: null, flags?: InjectFlags): T\n |null;\n\n /** @deprecated from v9.0.0 use TestBed.inject */\n get<T>(token: Type<T>|InjectionToken<T>, notFoundValue?: T, flags?: InjectFlags): any;\n /** @deprecated from v9.0.0 use TestBed.inject */\n get(token: any, notFoundValue?: any): any;\n\n execute(tokens: any[], fn: Function, context?: any): any;\n\n overrideModule(ngModule: Type<any>, override: MetadataOverride<NgModule>): void;\n\n overrideComponent(component: Type<any>, override: MetadataOverride<Component>): void;\n\n overrideDirective(directive: Type<any>, override: MetadataOverride<Directive>): void;\n\n overridePipe(pipe: Type<any>, override: MetadataOverride<Pipe>): void;\n\n /**\n * Overwrites all providers
for the given token with the given provider definition.\n */\n overrideProvider(token: any, provider: {\n useFactory: Function,\n deps: any[],\n }): void;\n overrideProvider(token: any, provider: {useValue: any;}):
void;\n overrideProvider(token: any, provider: {useFactory?: Function, useValue?: any, deps?: any[]}):\n void;\n\n overrideTemplateUsingTestingModule(component: Type<any>, template: string): void;\n\n createComponent<T>(component: Type<T>): ComponentFixture<T>;\n}\n\n/**\n * @description\n * Configures and initializes environment for unit testing and provides methods for\n * creating components and services in unit tests.\n *\n * `TestBed` is the primary api for writing unit tests for Angular applications and libraries.\n *\n * Note: Use `TestBed` in tests. It will be set to either `TestBedViewEngine` or `TestBedRender3`\n * according to the compiler used.\n */\nexport class TestBedViewEngine implements TestBed {\n /**\n * Initialize the environment
for testing with a compiler factory, a PlatformRef, and an\n * angular module. These are common to every test in the suite.\n *\n * This may only be called once, to set up the common providers for the current test\n * suite on the current platform. If you absolutely need to change the providers,\n * first use `resetTestEnvironment`.\n *\n * Test modules and platforms for individual platforms are available from\n * '@angular/<platform_name>/testing'.\n */\n static initTestEnvironment(\n ngModule: Type<any>|Type<any>[], platform: PlatformRef,\n aotSummaries?: () => any[]): TestBedViewEngine {\n const testBed = _getTestBedViewEngine();\n testBed.initTestEnvironment(ngModule, platform, aotSummaries);\n return testBed;\n }\n\n /**\n * Reset the providers for the test injector.\n */\n static resetTestEnvironment(): void {\n _getTestBedViewEngine().resetTestEnvironment();\n }\n\n static resetTestingModule(): TestBedStatic {\n _getTestBedViewEngine().resetTestingModule();\n
return TestBedViewEngine as any as TestBedStatic;\n }\n\n /**\n * Allows overriding default compiler providers and settings\n * which are defined in test_injector.js\n */\n static configureCompiler(config: {providers?: any[]; useJit?: boolean;}): TestBedStatic {\n _getTestBedViewEngine().configureCompiler(config);\n return TestBedViewEngine as any as TestBedStatic;\n }\n\n /**\n * Allows overriding default providers, directives, pipes, modules of the test injector,\n * which are defined in test_injector.js\n */\n static configureTestingModule(moduleDef: TestModuleMetadata): TestBedStatic {\n _getTestBedViewEngine().configureTestingModule(moduleDef);\n return TestBedViewEngine as any as TestBedStatic;\n }\n\n /**\n * Compile components with a `templateUrl` for the test's NgModule.\n * It is necessary to call this function\n * as fetching urls is asynchronous.\n */\n static compileComponents(): Promise<any> {\n
return getTestBed().compileComponents();\n }\n\n static overrideModule(ngModule: Type<any>, override: MetadataOverride<NgModule>): TestBedStatic {\n _getTestBedViewEngine().overrideModule(ngModule,

override);\n    return TestBedViewEngine as any as TestBedStatic;\n  }\n\n  static overrideComponent(component: Type<any>, override: MetadataOverride<Component>):\n      TestBedStatic {\n    _getTestBedViewEngine().overrideComponent(component, override);\n    return TestBedViewEngine as any as TestBedStatic;\n  }\n\n  static overrideDirective(directive: Type<any>, override: MetadataOverride<Directive>):\n    TestBedStatic {\n    _getTestBedViewEngine().overrideDirective(directive, override);\n    return TestBedViewEngine as any as TestBedStatic;\n  }\n\n  static overridePipe(pipe: Type<any>, override: MetadataOverride<Pipe>): TestBedStatic {\n    _getTestBedViewEngine().overridePipe(pipe, override);\n    return TestBedViewEngine as any as TestBedStatic;\n  }\n\n  static overrideTemplate(component:\n    Type<any>, template: string): TestBedStatic {\n    _getTestBedViewEngine().overrideComponent(component, {set: {template, templateUrl: null!}});\n    return TestBedViewEngine as any as TestBedStatic;\n  }\n\n  /**\n   * Overrides the template of the given component, compiling the template\n   * in the context of the TestingModule.\n   *\n   * Note: This works for JIT and AOTed components as well.\n   */\n  static overrideTemplateUsingTestingModule(component: Type<any>, template: string): TestBedStatic {\n    _getTestBedViewEngine().overrideTemplateUsingTestingModule(component, template);\n    return TestBedViewEngine as any as TestBedStatic;\n  }\n\n  /**\n   * Overwrites all providers for the given token with the given provider definition.\n   *\n   * Note: This works for JIT and AOTed components as well.\n   */\n  static overrideProvider(token: any, provider: {\n    useFactory: Function,\n    deps: any[],\n  }): TestBedStatic;\n  static overrideProvider(token: any, provider:\n    {useValue: any;}): TestBedStatic;\n  static overrideProvider(token: any, provider: {\n    useFactory?: Function,\n    useValue?: any,\n    deps?: any[],\n  }): TestBedStatic {\n    _getTestBedViewEngine().overrideProvider(token, provider as any);\n    return TestBedViewEngine as any as TestBedStatic;\n  }\n\n  static inject<T>(\n      token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T, flags?: InjectFlags): T;\n  static inject<T>(\n    token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue: null, flags?: InjectFlags): T\n      |null;\n  static inject<T>(\n      token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T|null,\n      flags?: InjectFlags): T|null {\n    return _getTestBedViewEngine().inject(token, notFoundValue, flags);\n  }\n\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  static get<T>(token: Type<T>|InjectionToken<T>, notFoundValue?: T, flags?: InjectFlags): any;\n  /**\n   * @deprecated from v9.0.0 use TestBed.inject\n     * @suppress {duplicate}\n   */\n  static get(token: any, notFoundValue?: any): any;\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  static get(\n      token: any, notFoundValue: any =\n    Injector.THROW_IF_NOT_FOUND,\n      flags: InjectFlags = InjectFlags.Default): any {\n    return _getTestBedViewEngine().inject(token, notFoundValue, flags);\n  }\n\n  static createComponent<T>(component: Type<T>): ComponentFixture<T> {\n    return _getTestBedViewEngine().createComponent(component);\n  }\n\n  private _instantiated: boolean = false;\n\n  private _compiler: TestingCompiler = null!;\n  private _moduleRef: NgModuleRef<any> = null!;\n  private _moduleFactory: NgModuleFactory<any> = null!;\n\n  private _compilerOptions: CompilerOptions[] = [];\n\n  private _moduleOverrides: [Type<any>, MetadataOverride<NgModule>][] = [];\n  private _componentOverrides: [Type<any>, MetadataOverride<Component>][] = [];\n  private _directiveOverrides: [Type<any>, MetadataOverride<Directive>][] = [];\n\n    private _pipeOverrides: [Type<any>, MetadataOverride<Pipe>][] = [];\n\n  private _providers: Provider[] = [];\n  private _declarations: Array<Type<any>|any[]|any> = [];\n  private _imports: Array<Type<any>|any[]|any> = [];\n  private _schemas: Array<SchemaMetadata|any[]> = [];\n  private _activeFixtures: ComponentFixture<any>[] = [];\n\n  private _testEnvAotSummaries: () => any[] = () => [];\n  private _aotSummaries: Array<() => any[]> = [];\n  private _templateOverrides: Array<{component: Type<any>, templateOf: Type<any>}> = [];\n\n  private _isRoot: boolean = true;\n  private _rootProviderOverrides: Provider[] = [];\n\n  platform: PlatformRef = null!;\n\n  ngModule: Type<any>|Type<any>[] = null!;\n\n  /**\n   * Initialize the environment for testing with a compiler factory, a PlatformRef, and an\n   * angular module. These are common to every test in the suite.\n   *\n   * This may only be called once, to set up the common providers for the current test\n   * suite on the current

platform. If you absolutely need to change the providers,\n * first use `resetTestEnvironment`.\n *\n * Test modules and platforms for individual platforms are available from\n * '@angular/<platform_name>/testing'.\n */\n initTestEnvironment(\n ngModule: Type<any>|Type<any>[], platform: PlatformRef, aotSummaries?: () => any[]): void {\n if (this.platform || this.ngModule) {\n throw new Error('Cannot set base providers because it has already been called');\n }\n this.platform = platform;\n this.ngModule = ngModule;\n if (aotSummaries) {\n this._testEnvAotSummaries = aotSummaries;\n }\n }\n\n /**\n * Reset the providers for the test injector.\n */\n resetTestEnvironment(): void {\n this.resetTestingModule();\n this.platform = null!;\n this.ngModule = null!;\n this._testEnvAotSummaries = () => [];\n }\n\n resetTestingModule(): void {\n clearOverrides();\n this._aotSummaries = [];\n this._templateOverrides = [];\n this._compiler = null!;\n this._moduleOverrides = [];\n this._componentOverrides = [];\n this._directiveOverrides = [];\n this._pipeOverrides = [];\n\n this._isRoot = true;\n this._rootProviderOverrides = [];\n\n this._moduleRef = null!;\n this._moduleFactory = null!;\n this._compilerOptions = [];\n this._providers = [];\n this._declarations = [];\n this._imports = [];\n this._schemas = [];\n this._instantiated = false;\n this._activeFixtures.forEach((fixture) => {\n try {\n fixture.destroy();\n } catch (e) {\n console.error('Error during cleanup of component', {\n component: fixture.componentInstance,\n stacktrace: e,\n });\n }\n });\n this._activeFixtures = [];\n }\n\n configureCompiler(config: {providers?: any[], useJit?: boolean}): void {\n this._assertNotInstantiated('TestBed.configureCompiler', 'configure the compiler');\n this._compilerOptions.push(config);\n }\n\n configureTestingModule(moduleDef: TestModuleMetadata): void {\n this._assertNotInstantiated('TestBed.configureTestingModule', 'configure the test module');\n if (moduleDef.providers) {\n this._providers.push(...moduleDef.providers);\n }\n if (moduleDef.declarations) {\n this._declarations.push(...moduleDef.declarations);\n }\n if (moduleDef.imports) {\n this._imports.push(...moduleDef.imports);\n }\n if (moduleDef.schemas) {\n this._schemas.push(...moduleDef.schemas);\n }\n if (moduleDef.aotSummaries) {\n this._aotSummaries.push(moduleDef.aotSummaries);\n }\n }\n\n compileComponents(): Promise<any> {\n if (this._moduleFactory || this._instantiated) {\n return Promise.resolve(null);\n }\n\n const moduleType = this._createCompilerAndModule();\n return this._compiler.compileModuleAndAllComponentsAsync(moduleType)\n .then((moduleAndComponentFactories) => {\n this._moduleFactory = moduleAndComponentFactories.ngModuleFactory;\n });\n }\n\n private _initIfNeeded(): void {\n if (this._instantiated) {\n return;\n }\n if (!this._moduleFactory) {\n try {\n const moduleType = this._createCompilerAndModule();\n this._moduleFactory =\n this._compiler.compileModuleAndAllComponentsSync(moduleType).ngModuleFactory;\n } catch (e) {\n const errorCompType = this._compiler.getComponentFromError(e);\n if (errorCompType) {\n throw new Error(\n `This test module uses the component ${\n stringify(\n errorCompType)} which is using a \"templateUrl\" or \"styleUrls\", but they were never compiled. ` +\n `Please call \"TestBed.compileComponents\" before your test.`);\n } else {\n throw e;\n }\n }\n }\n for (const {component, templateOf} of this._templateOverrides) {\n const compFactory = this._compiler.getComponentFactory(templateOf);\n overrideComponentView(component, compFactory);\n }\n\n const ngZone =\n new NgZone({enableLongStackTrace: true, shouldCoalesceEventChangeDetection: false});\n const providers: StaticProvider[] = [{provide: NgZone, useValue: ngZone}];\n const ngZoneInjector = Injector.create({\n providers: providers,\n parent: this.platform.injector,\n name: this._moduleFactory.moduleType.name\n });\n this._moduleRef = this._moduleFactory.create(ngZoneInjector);\n // ApplicationInitStatus.runInitializers() is marked @internal to core. So casting to any\n // before accessing it.\n (this._moduleRef.injector.get(ApplicationInitStatus) as any).runInitializers();\n this._instantiated = true;\n }\n\n private _createCompilerAndModule(): Type<any> {\n const providers = this._providers.concat([{provide:

```
TestBed, useValue: this}]);\n    const declarations =\n        [...this._declarations,
...this._templateOverrides.map(entry => entry.templateOf)];\n\n
    const rootScopeImports = [];\n    const rootProviderOverrides = this._rootProviderOverrides;\n    if (this._isRoot)
{\n      @NgModule({\n        providers: [\n          ...rootProviderOverrides,\n        ],\n        jit: true,\n      })\n      class
RootScopeModule {\n      }\n      rootScopeImports.push(RootScopeModule);\n    }\n    providers.push({provide:
INJECTOR_SCOPE, useValue: this._isRoot ? 'root' : null});\n\n    const imports = [rootScopeImports,
this.ngModule, this._imports];\n    const schemas = this._schemas;\n\n    @NgModule({providers, declarations,
imports, schemas, jit: true})\n    class DynamicTestModule {\n    }\n\n    const compilerFactory =
this.platform.injector.get(TestingCompilerFactory);\n    this._compiler =
compilerFactory.createTestingCompiler(this._compilerOptions);\n    for (const summary of
[this._testEnvAotSummaries, ...this._aotSummaries]) {\n      this._compiler.loadAotSummaries(summary);\n    }\n
this._moduleOverrides.forEach((entry)
 => this._compiler.overrideModule(entry[0], entry[1]));\n    this._componentOverrides.forEach(\n        (entry) =>
this._compiler.overrideComponent(entry[0], entry[1]));\n    this._directiveOverrides.forEach(\n        (entry) =>
this._compiler.overrideDirective(entry[0], entry[1]));\n    this._pipeOverrides.forEach((entry) =>
this._compiler.overridePipe(entry[0], entry[1]));\n    return DynamicTestModule;\n  }\n\n  private
_assertNotInstantiated(methodName: string, methodDescription: string) {\n    if (this._instantiated) {\n      throw
new Error(\n          `Cannot ${methodDescription} when the test module has already been instantiated. ` +\n
`Make sure you are not using \\`inject\\` before \\`${methodName}\\`.`);\n    }\n  }\n\n  inject<T>(\n      token:
Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T, flags?: InjectFlags): T;\n  inject<T>(\n
token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue: null, flags?: InjectFlags): T\n      |null;\n
  inject<T>(\n      token: Type<T>|InjectionToken<T>|AbstractType<T>, notFoundValue?: T|null,\n      flags?:
InjectFlags): T|null {\n    this._initIfNeeded();\n    if (token as unknown === TestBed) {\n      return this as any;\n
}\n    // Tests can inject things from the ng module and from the compiler,\n    // but the ng module can't inject things
from the compiler and vice versa.\n    const UNDEFINED = {};\n    const result =
this._moduleRef.injector.get(token, UNDEFINED, flags);\n    return result === UNDEFINED ?
this._compiler.injector.get(token, notFoundValue, flags) as any :\n                                result;\n  }\n\n  /**
@deprecated from v9.0.0 use TestBed.inject */\n  get<T>(token: Type<T>|InjectionToken<T>, notFoundValue?: T,
flags?: InjectFlags): any;\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  get(token: any, notFoundValue?:
any): any;\n  /** @deprecated from v9.0.0 use TestBed.inject */\n  get(token: any, notFoundValue: any =
Injector.THROW_IF_NOT_FOUND,\n
    flags: InjectFlags = InjectFlags.Default): any {\n    return this.inject(token, notFoundValue, flags);\n  }\n\n
execute(tokens: any[], fn: Function, context?: any): any {\n    this._initIfNeeded();\n    const params = tokens.map(t
=> this.inject(t));\n    return fn.apply(context, params);\n  }\n\n  overrideModule(ngModule: Type<any>, override:
MetadataOverride<NgModule>): void {\n    this._assertNotInstantiated('overrideModule', 'override module
metadata');\n    this._moduleOverrides.push([ngModule, override]);\n  }\n\n  overrideComponent(component:
Type<any>, override: MetadataOverride<Component>): void {\n    this._assertNotInstantiated('overrideComponent',
'override component metadata');\n    this._componentOverrides.push([component, override]);\n  }\n\n
overrideDirective(directive: Type<any>, override: MetadataOverride<Directive>): void {\n
this._assertNotInstantiated('overrideDirective', 'override directive metadata');\n
this._directiveOverrides.push([directive,
 override]);\n  }\n\n  overridePipe(pipe: Type<any>, override: MetadataOverride<Pipe>): void {\n
this._assertNotInstantiated('overridePipe', 'override pipe metadata');\n    this._pipeOverrides.push([pipe, override]);\n
}\n\n  /**\n   * Overwrites all providers for the given token with the given provider definition.\n   */\n
overrideProvider(token: any, provider: {\n    useFactory: Function,\n    deps: any[],\n  }): void;\n
overrideProvider(token: any, provider: {useValue: any;}): void;\n  overrideProvider(token: any, provider:
{useFactory?: Function, useValue?: any, deps?: any[]}):\n      void {\n
this._assertNotInstantiated('overrideProvider', 'override provider');\n    this.overrideProviderImpl(token, provider);\n
```

```
}\n\n  private overrideProviderImpl(\n      token: any, provider: {\n        useFactory?: Function,\n        useValue?:
any,\n        deps?: any[],\n      },\n      deprecated = false): void {\n    let def: InjectableDef<any>|null = null;\n    if
(typeof token
 !== 'string' && (def = getInjectableDef(token)) && def.providedIn === 'root') {\n      if (provider.useFactory) {\n
  this._rootProviderOverrides.push(\n            {provide: token, useFactory: provider.useFactory, deps: provider.deps ||
[]});\n      } else {\n        this._rootProviderOverrides.push({provide: token, useValue: provider.useValue});\n      }\n
 }\n    let flags: NodeFlags = 0;\n    let value: any;\n    if (provider.useFactory) {\n      flags |=
NodeFlags.TypeFactoryProvider;\n      value = provider.useFactory;\n    } else {\n      flags |=
NodeFlags.TypeValueProvider;\n      value = provider.useValue;\n    }\n    const deps = (provider.deps ||
[]).map((dep) => {\n      let depFlags: DepFlags = DepFlags.None;\n      let depToken: any;\n      if
(Array.isArray(dep)) {\n        dep.forEach((entry: any) => {\n          if (entry instanceof Optional) {\n
depFlags |= DepFlags.Optional;\n          } else if (entry instanceof SkipSelf) {\n            depFlags
 |= DepFlags.SkipSelf;\n          } else {\n            depToken = entry;\n          }\n        });\n      } else {\n        depToken
= dep;\n      }\n      return [depFlags, depToken];\n    });\n    overrideProvider({token, flags, deps, value,
deprecatedBehavior: deprecated});\n  }\n\n  overrideTemplateUsingTestingModule(component: Type<any>,
template: string) {\n    this._assertNotInstantiated('overrideTemplateUsingTestingModule', 'override template');\n\n
@Component({selector: 'empty', template, jit: true})\n    class OverrideComponent {\n    }\n\n
this._templateOverrides.push({component, templateOf: OverrideComponent});\n  }\n\n
createComponent<T>(component: Type<T>): ComponentFixture<T> {\n    this._initIfNeeded();\n    const
componentFactory = this._compiler.getComponentFactory(component);\n\n    if (!componentFactory) {\n      throw
new Error(`Cannot create the component ${\n          stringify(component)} as it was not imported into the testing
module!`);\n    }\n\n    //
 TODO: Don't cast as `InjectionToken<boolean>`, declared type is boolean[]\n    const noNgZone =
this.inject(ComponentFixtureNoNgZone as InjectionToken<boolean>, false);\n    // TODO: Don't cast as
`InjectionToken<boolean>`, declared type is boolean[]\n    const autoDetect: boolean =\n
this.inject(ComponentFixtureAutoDetect as InjectionToken<boolean>, false);\n    const ngZone: NgZone|null =
noNgZone ? null : this.inject(NgZone, null);\n    const testComponentRenderer: TestComponentRenderer =
this.inject(TestComponentRenderer);\n    const rootElId = `root${_nextRootElementId++}`;\n
testComponentRenderer.insertRootElement(rootElId);\n\n    const initComponent = () => {\n      const
componentRef =\n          componentFactory.create(Injector.NULL, [], `#${rootElId}`, this._moduleRef);\n      return
new ComponentFixture<T>(componentRef, ngZone, autoDetect);\n    };\n\n    const fixture = !ngZone ?
initComponent() : ngZone.run(initComponent);\n    this._activeFixtures.push(fixture);\n
    return fixture;\n  }\n}\n\n/**\n * @description\n * Configures and initializes environment for unit testing and
provides methods for\n * creating components and services in unit tests.\n *\n * `TestBed` is the primary api for
writing unit tests for Angular applications and libraries.\n *\n * Note: Use `TestBed` in tests. It will be set to either
`TestBedViewEngine` or `TestBedRender3`\n * according to the compiler used.\n *\n * @publicApi\n */\nexport
const TestBed: TestBedStatic =\n    ivyEnabled ? TestBedRender3 as any as TestBedStatic : TestBedViewEngine as
any as TestBedStatic;\n\n/**\n * Returns a singleton of the applicable `TestBed`.\n *\n * It will be either an instance
of `TestBedViewEngine` or `TestBedRender3`.\n *\n * @publicApi\n */\nexport const getTestBed: () => TestBed =
ivyEnabled ? _getTestBedRender3 : _getTestBedViewEngine;\n\nlet testBed: TestBedViewEngine;\n\nfunction
_getTestBedViewEngine(): TestBedViewEngine {\n  return testBed = testBed || new
TestBedViewEngine();\n}\n\n/**\n
 * Allows injecting dependencies in `beforeEach()` and `it()`.\n *\n * Example:\n *\n * ```\n *
beforeEach(inject([Dependency, AClass], (dep, object) => {\n *   // some code that uses `dep` and `object`\n *   //
...\n * }));\n *\n * it('...', inject([AClass], (object) => {\n *   object.doSomething();\n *   expect(...);\n * })\n * ```\n
*\n * Notes:\n * - inject is currently a function because of some Traceur limitation the syntax should\n *
eventually\n *   becomes `it('...', @Inject (object: AClass, async: AsyncTestCompleter) => { ... });`\n *\n *
@publicApi\n */\nexport function inject(tokens: any[], fn: Function): () => any {\n  const testBed = getTestBed();\n
```

if (tokens.indexOf(AsyncTestCompleter) >= 0) {\n // Not using an arrow function to preserve context passed from call site\n return function(this: unknown) {\n // Return an async test method that returns a Promise if AsyncTestCompleter is one of\n // the injected tokens.\n return testBed.compileComponents().then(() => {\n const completer = testBed.inject(AsyncTestCompleter);\n testBed.execute(tokens, fn, this);\n return completer.promise;\n });\n };\n } else {\n // Not using an arrow function to preserve context passed from call site\n return function(this: unknown) {\n return testBed.execute(tokens, fn, this);\n };\n }\n}\n\n/**\n * @publicApi\n */\nexport class InjectSetupWrapper {\n constructor(private _moduleDef: () => TestModuleMetadata) {}\n\n private _addModule() {\n const moduleDef = this._moduleDef();\n if (moduleDef) {\n getTestBed().configureTestingModule(moduleDef);\n }\n }\n\n inject(tokens: any[], fn: Function): () => any {\n const self = this;\n // Not using an arrow function to preserve context passed from call site\n return function(this: unknown) {\n self._addModule();\n return inject(tokens, fn).call(this);\n };\n }\n}\n\n/**\n * @publicApi\n */\nexport function withModule(moduleDef: TestModuleMetadata): InjectSetupWrapper;\nexport function withModule(moduleDef: TestModuleMetadata, fn: Function): () => any;\nexport function withModule(moduleDef: TestModuleMetadata, fn?: Function|null): (() => any)|\n InjectSetupWrapper {\n if (fn) {\n // Not using an arrow function to preserve context passed from call site\n return function(this: unknown) {\n const testBed = getTestBed();\n if (moduleDef) {\n testBed.configureTestingModule(moduleDef);\n }\n return fn.apply(this);\n };\n }\n return new InjectSetupWrapper(() => moduleDef);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Public Test Library for unit testing Angular applications. Assumes that you are running\n * with Jasmine, Mocha, or a similar framework which exports a beforeEach function and\n * allows tests to be asynchronous by either returning a promise or using a 'done' parameter.\n */\n\nimport {resetFakeAsyncZone} from './fake_async';\nimport {TestBed} from './test_bed';\n\ndeclare var global: any;\n\nconst _global = <any>(typeof window === 'undefined' ? global : window);\n\n// Reset the test providers and the fake async zone before each test.\nif (_global.beforeEach) {\n _global.beforeEach(() => {\n TestBed.resetTestingModule();\n resetFakeAsyncZone();\n });\n}\n\n/**\n * This API should be removed. But doing so seems to break `google3` and so it requires a bit of\n * investigation.\n *\n * A work around is to mark it as `@codeGenApi` for now and investigate later.\n *\n * @codeGenApi\n */\n// TODO(iminar): Remove this code in a safe way.\nexport const __core_private_testing_placeholder__ = '';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Type used for modifications to metadata\n *\n * @publicApi\n */\nexport type MetadataOverride<T> = {\n add?: Partial<T>,\n remove?: Partial<T>,\n set?: Partial<T>\n};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {TestingCompiler as TestingCompiler, TestingCompilerFactory as TestingCompilerFactory} from './test_compiler';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the core/testing package.\n */\n\nexport * from './async';\nexport * from './component_fixture';\nexport * from './fake_async';\nexport {TestBed, getTestBed, inject, InjectSetupWrapper, withModule} from './test_bed';\nexport * from './test_bed_common';\nexport * from './before_each';\nexport * from './metadata_override';\nexport {MetadataOverrider as MetadataOverrider} from './metadata_overrider';\nexport * from './private_export_testing';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/// <reference types=\"jasmine\" />\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/testing';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at

https://angular.io/license\n */\n\n// This file is not used
to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {TestBedRender3 as angular_packages_core_testing_testing_b,_getTestBedRender3 as angular_packages_core_testing_testing_c} from './src/r3_test_bed';\nexport {TestBedViewEngine as angular_packages_core_testing_testing_a} from './src/test_bed';"],"names":["stringify","ReflectionCapabilities","getInjectableDef","NG_COMP_DEF","NgModuleRef","DEFAULT_LOCALE_ID","setLocaleId","ComponentFactory","compileComponent","NG_DIR_DEF","compileDirective","NG_PIPE_DEF","compilePipe","NG_MOD_DEF","transitiveScopesFor","patchComponentDefWithScope","NG_INJ_DEF","compileNgModuleDefs","R3NgModuleFactory","resetCompiledComponents","flushModuleScopingQueueAsMuchAsPossible","_nextRootElementId","clearOverrides","overrideComponentView","INJECTOR_SCOPE","overrideProvider","ivyEnabled","testBed"],"mappings":";;;;;;;;;;AAAA;;;;;;;AAOA;;;;;;;;;;;;;;;;;SAiBgB,YAAY,CAAC,EAAY;IACvC,MAAM,KAAK,GAAG,EAAE,CAAC,OAAO,IAAI,EAAE,CAAC,KAAK,IAAI,EAAE,CAAC,WAAW,IAAI,EAAE,CAAC,SAAS,IAAI,EAAE,CAAC,SAAS,IAAI,EAAE,CAAC,SAAS

AI,CAAC,SAAS,IAAI,CAAC,IAAI,CAAC,MAAO,CAAC,oBAAoB,CAAC;KAC7D;;;;;;;IAQD,UAAU;QACR,IA
AI,IAAI,CAAC,QAAQ,EAAE,EAAE;YACnB,OAAO,OAAO,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC;SAC/
B;aAAM,IAAI,IAAI,CAAC,QAAQ,KAAK,IAAI,EAAE;YACjC,OAAO,IAAI,CAAC,QAAQ,CAAC;SACtB;aAA
M;YACL,IAAI,CAAC,QAAQ,GAAG,IAAI,OAAO,CAAC,GAAG;gBAC7B,IAAI,CAAC,QAAQ,GAAG,GAAG,
CAAC;aACrB,CAAC,CAAC;YACH,OAAO,IAAI,CAAC,QAAQ,CAAC;SACtB;KACF;IAGO,YAAY;QAClB,IA
AI,IAAI,CAAC,SAAS,KAAK,SAAS,EAAE;YAChC,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,YAAY,,IAAI,CAAC,QA
AQ,CAAC,GAAG,CAAC,gBAAgB,EAAE,IAAI,CAAC,CAAC;SACzE;QACD,OAAO,IAAI,CAAC,SAAoC,CAA
C;KAClD;;;;IAKD,iBAAiB;QACf,MAAM,QAAQ,GAAG,IAAI,CAAC,YAAY,,EAAE,CAAC;QACrC,IAAI,QAA
Q,IAAI,QAAQ,CAAC,iBAAiB,EAAE;YAC1C,OAAO,QAAQ,CAAC,iBAAiB,EAAE,CAAC;SACrC;QACD,OA
AO,IAAI,CAAC,UAAU,EAAE,CAAC;KAC1B;;;;IAKD,OAAO;QACL,IAAI,CAAC,IAAI,CAAC,YAAY,EAAE;
YACtB,IAAI,CAAC,YAAY,,CAAC,OAAO,EAAE,CAAC;YAC5B,IAAI,IAAI,CAAC,uBAAuB,IAAI,IAAI,EAAE
;gBACxC,IAAI,CAAC,uBAAuB,CAAC,WAAW,EAAE,CAAC;gBAC3C,IAAI,CAAC,uBAAuB,GAAG,IAAI,CA
AC;aACrC;YACD,IAAI,IAAI,CAAC,qBAAqB,IAAI,IAAI,EAAE;gBACtC,IAAI,CAAC,qBAAqB,,CAAC,WAA
W,EAAE,CAAC;gBACzC,IAAI,CAAC,qBAAqB,GAAG,IAAI,CAAC;aACnC;YACD,IAAI,IAAI,CAAC,6BAA6
B,IAAI,IAAI,EAAE;gBAC9C,IAAI,CAAC,6BAA6B,CAAC,WAAW,EAAE,CAAC;gBACjD,IAAI,CAAC,6BA
6B,GAAG,IAAI,CAAC;aAC3C;YACD,IAAI,IAAI,CAAC,oBAAoB,IAAI,IAAI,EAAE;gBACrC,IAAI,CAAC,oB
AAoB,CAAC,WAAW,EAAE,CAAC;gBACxC,IAAI,CAAC,oBAAoB,GAAG,IAAI,CAAC;aAClC;YACD,IAAI,C
AAC,YAAY,GAAG,IAAI,CAAC;SAC1B;KACF;CACF;AAED,SAAS,iBAAiB,CAAC,EAAY;IACrC,IAAI,CAAC,OAAO,CAAC,iBAAiB,,CAAC,mBAAmB,EAAE,EAAE,CAAC,CAAC;AAC1D;;;;;;;AAOA,MAAM,K
AAK,GAAQ,OAAO,IAAI,KAAK,WAAW,GAAG,IAAI,CAAC;AAC7D,MAAM,mBAAmB,GAAG,
KAAK,IAAI,KAAK,CAAC,KAAK,CAAC,UAAU,CAAC,eAAe,CAAC,CAAC,CAAC;AAE9E,MAAM,wCAAwC,GAC1C;qFACiF,CAAC;AAEtF;;;;;;SAMgB,kBAAkB;IAChC,IAAI,mBAAmB,EAAE;QACvB,OAAO,mBAAmB,,CAAC,kBAAkB,EAAE,CAAC;KACjD;IACD,MAAM,IAAI,KAAK,CAAC,wCAAwC,CAAC,CAAC;AAC5D,
CAAC;AAED;;;;;;;;;;;;;;;;;;SAmBgB,SAAS,CAAC,EAAY;IACpC,IAAI,mBAAmB,EAAE;QACvB,OAAO,mBAAmB,,CAAC,SAAS,CAAC,EAAE,CAAC,CAAC;KAC1C;IACD,MAAM,IAAI,KAAK,CAAC,wCAAwC,CAAC,CA
AC;AAC5D,CAAC;AAED;;;;;;;;;;;;;;;;;;

AS,CAAC,MAAM,GAAG,EAAE,CAAC,CAAC;QAC3D,MAAM,WAAW,GAAG,SAAS,CAAC,MAAM,CAAC,MAAM,CAAC;QAC5C,SAAS,IAAI,SAAS,CAAC,OAAO,CAAC,CAAC,QAAQ,EAAE,KAAK;YAC7C,MAAM,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;YAChB,QAAQ,CAAC,IAAI,CAAC,qBAAqB,CAAC,QAAQ,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK;gBACvD,MAAM,CAAC,WAAW,GAAG,KAAK,CAAC,GAAG,KAAK,CAAC;gBACpC,SAAS,CAAC,MAAM,CAAC,SAAS,CAAC,OAAO,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,CAAC;gBACjD,SAAS,IAAI,SAAS,CAAC,MAAM,IAAI,CAAC,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC;iBACpD;aACF,CAAC,CAAC;SACL,CAAC,CAAC;QACH,MAAM,aAAa,GAAG,EAAE,CAAC;QACzB,KAAK,MAAM,IAAI,IAAI,MAAM,EAAE;YACzB,aAAa,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;SAC1B;QACD,OAAO,aAAa,CAAC;IACvB,CAAC,CAAC;AACF,kBAAe,OAAO,CAAC;;;

S,CAAC,MAAM,CAAC,QAAQ,CAAC,CAAC;SAC7C;aAAM;YACL,QAAQ,CAAC,IAAI,CAAC,GAAG,QAAQ,CAAC;SAC3B;KACF;AACH,CAAC;AAED,SAAS,WAAW,CAAC,QAAmB,EAAE,GAAQ;IAChD,KAAK,MAAM,IAAI,IAAI,GAAG,EAAE;QACtB,QAAQ,CAAC,IAAI,CAAC,GAAG,GAAG,CAAC,IAAI,CAAC,CAAC;KAC5B;AACH,CAAC;AAED,SAAS,YAAY,CAAC,QAAa,EAAE,EAAE,MAAM,QAAQ,GAAA,CAAC,EAAE,GAAG,GAAA,CAAC,EAAE,UAA4B;IAC/E,MAAM,QAAQ,GAAG,CAAC,GAAG,QAAQ,CAAC,MAAM,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC

,CAAC;;QAGpB,sBAAiB,GAAG,IAAI,GAAG,EAAa,CAAC;QACzC,sBAAiB,GAAG,IAAI,GAAG,EAAa,CAAC
;QACzC,iBAAY,GAAG,IAAI,GAAG,EAAa,CAAC;;QAGpC,mBAAc,GAAG,IAAI,GAAG,EAAa,CAAC;QACtC,
mBAAc,GAAG,IAAI,GAAG,EAAa,CAAC;;QAGtC,sBAAiB,GAAG,IAAI,GAAG,EAAqB,CAAC;;;QAIjD,4BAA
uB,GAAG,IAAI,GAAG,EAAuB,CAAC;QAEzD,cAAS,GAAc,aAAa,EAAE,CAAC;QAEvC,2BAAsB,GAAG,IAAI
,GAAG,EAA8C,CAAC;;;;;QAM/E,kBAAa,GAAG,IAAI,GAAG,EAAqD,CAAC;;;QAI7E,kBAAa,GAAuB,EAAE,
CAAC;QAEvC,cAAS,GAAkB,EAAE,CAAC;QAChC,sBAAiB,GAAoB,IAAI,CAAC;QAE1C,sBAAiB,GAAe,EAAE
E,CAAC;QACnC,0BAAqB,GAAe,EAAE,CAAC;;;QAGvC,8BAAyB,GAAG,IAAI,GAAG,EAAiC,CAAC;QACrE,
6BAAwB,GAAG,IAAI,GAAG,EAAiB,CAAC;QACpD,8BAAyB,GAAG,IAAI,GAAG,EAAa,CAAC;QAGjD,kBA
Aa,GAA0B,IAAI,CAAC;QAGlD,MAAM,iBAAiB;SAAG;QAC1B,IAAI,CAAC,cAAc,GAAG,iBAAwB,CAAC;K
AChD;IAED,oBAAoB,CAAC,SA0B;QAC7C,IAAI,CAAC,iBAAiB,GAAG,SAAS,CAAC;QACnC,IAAI,CAAC,
SAAS,GAAG,IAAI,CAAC;KCvB;IAED,sBAAsB,CAAC,SA6B;;QAElD,IAAI,SAAS,CAAC,YAAY,,KAAK,S
AAS,EAAE;YACxC,IAAI,CAAC,cAAc,CAAC,YAAY,EAAE,qBAAqB,CAAC,WAAW,CAAC,CA
AC;YAC/E,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,YAAY,CAAC,CAAC;SAC
nD;;QAGD,IAAI,SAAS,CAAC,OAAO,KAAK,SAAS,EAAE;YACnC,IAAI,CAAC,0BA0B,CAAC,SAAS,CAAC,OAAO,C
AAC,CAAC;YACnD,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,OAAO,CAAC,CAAC;SACzC
;QAED,IAAI,SAAS,CAAC,SAAS,KAAK,SAAS,EAAE;YACrC,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,GAAG
,SAAS,CAAC,SAAS,CAAC,CAAC;SAC7C;QAED,IAAI,SAAS,CAAC,OAAO,KAAK,SAAS,EAAE;YACnC,IAAI,CA
AI,CAAC,OAAO,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,OAAO,CAAC,CAAC;SACzC;KACF;IAED,cAAc,C
AAC,QAAmB,EAAE,QAAoC;QACtE,IAAI,CAAC,iBAAiB,CAAC,GAAG,CAAC,QA6B,CAAC,CAAC;;QAG1
D,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,WAAW,CAAC,QAAQ,EAAE,QAAQ,CAAC,CAAC;QACtD,MAA
M,QAAQ,GAAG,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,OAAO,CAAC,QAAQ,CAAC,CAAC;QACzD,IAAI,
QAAQ,KAAK,IAAI,EAAE;YACrB,MAAM,gBAAgB,CAAC,QAAQ,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;S
ACnD;QAED,IAAI,CAAC,iBAAiB,CAAC,QAAQ,EAAE,QAAQ,CAAC,CAAC;;;QAK3C,IAAI,CAAC,0B
,CAAC,CAAC,QAAQ,CAAC,CAAC,CAAC;KC7C;IAED,iBAAiB,CAAC,SAAoB,EAAE,QAAqC;QAC3E,IAA
I,CAAC,SAAS,CAAC,SAAS,CAAC,WAAW,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;QAC1D,iB
AAiB,CAAC,GAAG,CAAC,SAAS,CAAC,CAAC;KCvC;IAED,iBAAiB,CAAC,SAAoB,EAAE,QAAqC;QAC3E
,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,WAAW,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;QAC1D,IAAI,CA
AC,iBAAiB,CAAC,GAAG,CAAC,SAAS,CAAC,CAAC;KCvC;IAED,cAAc,CAAC,SAAoB,EAAE,QAAqC;
QAC5E,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,WAAW,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;QAC5D,IAAI,
CAAC,YAAY,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,CAAC;KC7B;IAED,gBAAgB,CAAC,SAAoB,EAAE,QA
AqC;QAClF,IAAI,WAAqB,qBAAqB,CAAC,SAAS,CAAC,CAAC;QAC1D,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,
WAAW,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;QAC5D,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,CAAC;KCzB;IAED,gBAAgB,CAAC,SAAoB,EAAE,QA
AqC;QAClF,IAAI,WAAqB,qBAAqB,CAAC,SAAS,CAAC,CAAC;QAC1D,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,
WAAW,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;QAC5D,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,CAAC;KCzB;IAED,cAAc,CAAC,SAAoB,EAAE,QAAqC;
QAC5E,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,WAAW,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;QAC5D,IAAI,
CAAC,YAAY,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,CAAC;KC7B;IAED,gBAAgB,CAAC,SAAoB,EAAE,QA
AqC;QAClF,IAAI,WAAqB,qBAAqB,CAAC,SAAS,CAAC,CAAC;QAC1D,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,
WAAW,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;QAC5D,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,CAAC;KCzB

CAAC,CAAC,GAAG,IAAI,CAAC,+BAA+B,CAAC,IAAI,CAAC,IAAI,YAAY,EAAE,CAAC;;;;;;;;QAS5F,MAAM,QAAQ,GAAG,iBAAiB,GAAG,EAAC,QAAQ,EAAE,MAAM,EAAE,EAAE,EAAE,SAAS,EAAE,EAAE,EAAC,GAAG,EAAC,QAAQ,EAAC,CAAC;QACxF,IAAI,CAAC,iBAAiB,CAAC,IAAI,EAAE,EAAC,GAAG,EAAE,QAAQ,EAAC,CAAC,CAAC;QAE9C,IAAI,iBAAiB,IAAI,GAAG,CAAC,MAAM,IAAI,GAAG,CAAC,MAAM,CAAC,MAAM,GAAG,CAAC,EAAE;YAC5D,IAAI,CAAC,uBAAuB,CAAC,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,MAAM,CAAC,CAAC;;QACpD;;QAGD,IAAI,CAAC,sBAAsB,CAAC,GAAG,CAAC,IAAI,EAAE,qBAAqB,CAAC,iBAAiB,CAAC,CAAC;KAChF;IAEK,iBAAiB;;YACrB,IAAI,CAAC,6BAA6B,EAAE,CAAC;;YAErC,IAAI,CAAC,gBAAgB,EAAE,CAAC;;YAExB,IAAI,mBAAmB,EAAE;gBACvB,IAAI,cAAc,CAAC,IAAI,EAAE,mBAAmB,CAAC,CAAC;gBAC9C

AAO,CAAC,UAAU;oBAChC,IAAI,CAAC,qBAAqB,CAAC,UAAiB,EAAEA,WAAU,EAAE,yBAAyB,CAAC,CA
AC;oBACpF,UAAkB,CAACA,WAAU,CAAC,CAAC,uBAAuB,GAAG,IAAI,CAAC;iBAChE,CAAC,CAAC;aAC
J;SACF;QAED,MAAM,aAAa,GAAG,IAAI,GAAG,EAA6D,CAAC;QAC3F,MAAM,gBAAgB,GAAClB,CAAC,UA
A2C;YAC1C,IAAI,CAAC,aAAa,CAAC,GAAG,CAAC,UAAU,CAAC,EAAE;gBAClC,MAAM,eAAe,GAAG,uB
AAuB,CAAC,UAAU,CAAC,CAAC;gBAC5D,MAAM,QAAQ,GAAG,eAAe,GAAG,IAAI,CAAC,cAAc,GAAG,U
AAuB,CAAC;gBACjF,aAAa,CAAC,GAAG,CAAC,UAAU,EAAEC,oBAAmB,CAAC,QAAQ,CAAC,CAAC,CAA
C;aAC9D;YACD,OAAO,aAAa,CAAC,GAAG,CAAC,UAAU,CAAE,CAAC;SACvC,CAAC;QAEN,IAAI,CAAC,s
BAAsB,CAAC,OAAO,CAAC,CAAC,UAAU,EAAE,aAAa;YAC5D,MAAM,WAAW,GAAG,gBAAgB,CAAC,UA
AU,CAAC,CAAC;YACjD,IAAI,CAAC,qBAAqB,CAAC,aAAa,EAAEX,YAAW,,EAAE,eAAe,CAAC,CAAC;YA
CxE,IAAI,CAAC,qBAAqB,CAAC,aAAa,EAAEA,EA,YAAW,,EAAE,UAAU,CAAC,CAAC;;;;;YAKnE,IAAI,CAAC,q
BAAqB,CAAC,aAAa,EAAEA,EA,YAAW,,EAAE,OAAO,CAAC,CAAC;YAChEY,2BAA0B,CAAE,aAAqB,CAAC,I
AAI,EAAE,WAAW,CAAC,CAAC;SACtE,CAAC,CAAC;QAEH,IAAI,CAAC,CAAC;QAEH,IAAI,CAAC,sBAAsB,CAAC,KAAK,EAAE,CA
AC;KACrC;IAEO,sBAAsB;QAC5B,MAAM,mBAAmB,GAAG,CAAC,KAAa,,KAAK,CAAC,IAAe;YAC7D,MAAM,
QAAQ,GAAG,KAAK,KAAKZ,YAAW,,GAAG,IAAI,CAAC,SAAS,,GAAG,IAAI,CAAC,SAAS,
CAAC,SAAS,CAAC;YAC7F,MAAM,QAAQ,GAAG,CAAC,OAAO,CAAC,IAAI,CAAE,CAAC,IAAI,CAAE,CAAC;YACzC,oB
AAoB,CAAC,QAAQ,CAAC,SAAS,CAAC,EAAE;gBACjD,KAAK,CAAC,CAAC;aACjD;YACD,MAAM,QAAQ,GAAG,CAAC,
CAAC,IAAI,CAAE,CAAC,IAAI,CAAE,CAAC;YACzC,IAAI

ED,MAAM,SAAS,GAAG,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC;QACzD,IAAI,SAAS,EAAE;YACb,IAAI,CAAC,IAAI,CAAC,cAAc,CAACM,WAAU,CAAC,EAAE;gBACpC,IAAI,CAAC,iBAAiB,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;aAClC;YACD,IAAI,CAAC,cAAc,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;YAC9B,OAAO;SACR;QAED,MAAM,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC;QAC/C,IAAI,CAAC,IAAI,CAAC,CAAC;QAC/C,IAAI,IAAI,IAAI,CAAC,IAAI,CAAC,cAAc,CAACE,YAAW,CAAC,EAAE;YAC7C,IAAI,CAAC,YAAY,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;YAC5B,OAAO;SACR;KACF;IAEO,0BAA0B,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;;;;QAI3C,MAAM,qBAAqB,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC;QACvE,IAAI,CAAC,IAAI,CAAC,CAAC;QACvE,IAAI,qBAAqB,IAAI,CAAC,IAAI,CAAC,cAAc,CAACA,YAAW,CAAC,EAAE;YAC9D,IAAI,CAAC,YAAY,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;YAC5B,OAAO;SACR;KACF;IAEO,0BAA0B,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;QAC1

E,QAAQ,EAAE,UAAU,EAAE,MAAM,IAAI,cAAc,CAAC,IAAI,CAAC,EAAC;YAC/D,GAAG,IAAI,CAAC,SAAS;YACjB,GAAG,IAAI,CAAC,iBAAiB;SAC1B,CAAC;QACF,MAAM,OAAO,GAAG,CAAC,eAAe,EAAE,IAAI,CAAC,qBAAqB,EAAE,IAAI,CAAC,OAAO,IAAI,EAAE,IAAI,CAAC,OAAO,CAAC;;QAGlFA,oBAAmB,CAAC,IAAI,CAAC,cAAc,EAAE;YACvC,GAAG,IAAI,CAAC,OAAO,IAAI,EAAE,IAAI,CAAC,CAAC;YAAY,GAAG,IAAI,CAAC,OAAO,CAAC;YAAY,GAAG,IAAI,CAAC,OAAO,IAAI,EAAE

AAqB,CAAC,KAAU;IACvC,OAAO,KAAK,CAAC,cAAc,CAAC,UAAU,CAAC,CAAC;AAC1C,CAAC;AAED,SAAS,YAAY,CAAI,MAAW,EAAE,EAAmC;IACvE,KAAK,IAAI,GAAG,GAAG,MAAM,CAAC,MAAM,GAAG,CAAC,EAAE,GAAG,IAAI,CAAC,EAAE,GAAG,EAAE;QACjD,EAAE,CAAC,MAAM,CAAC,GAAG,CAAC,EAAE,MAAM,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC,EAAE,MAAM,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;KACtB;AACH,CAAC;AAED,SAAS,gBAAgB,CAAC,IAAY,EAAE,IAAY;IAClD,OAAO,IAAI,GAAG,IAAI,CAAC,CAAC,CAAC,IAAI,GAAG,IAAI,CAAC,CAAC,CAAC,CAAC;AACtC,CAAC;AAED,SAAS,iBAAiB,CAAC,IAAY,EAAE,IAAY;IACnD,OAAO,IAAI,GAAG,IAAI,CAAC,CAAC,CAAC,IAAI,GAAG,IAAI,CAAC,CAAC,CAAC,CAAC;AACtC

CAAC,8DAA8D,CAAC,CAAC;SACjF;QACD,IAAI,CAAC,QAAQ,GAAG,QAAQ,CAAC;QACzB,IAAI,CAAC,QAAQ,GAAG,QAAQ,CAAC;QACzB,IAAI,CAAC,SAAS,GAAG,IAAI,iBAAiB,CAAC,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,QAAQ,CAAC,CAAC;KACtE;;;;;;IAOD,oBAAoB;QAClB,IAAI,CAAC,kBAAkB,EAAE,CAAC;QAC1B,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,QAAQ,GAAG,IAAK,CAAC;QACvD,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,QAAQ,GAAG,IAAK,CAAC;QACt

kD,CAAC,CAAC;SACrE;QACD,OAAO,IAAI,CAAC,SAAS,CAAC;KACvB;;;;;IAMD,IAAY,aAAa;QACvB,IAAI
,IAAI,CAAC,cAAc,KAAK,IAAI,EAAE;YAChC,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC,QAAQ,CAAC,QAAQ,E
AAE,CAAC;SAChD;QACD,OAAO,IAAI,CAAC,cAAc,CAAC;KAC5B;IAEO,qBAAqB,CAAC,UAAkB,EAAE,iB
AAyB;QACzE,IAAI,IAAI,CAAC,cAAc,KAAK,IAAI,EAAE;YAChC,MAAM,IAAI,KAAK,CACX,UAAU,iBAAi
B,uDAAuD;gBAClF,mDAAmD,UAAU,KAAK,CAAC,CAAC;SACzE;KACF;;;;;;;;;;;;IAcO,8BAA8B;;;QAGpC,I
AAI,CAAC,IAAI,CAAC,yBAAyB,IAAI,IAAI,CAAC,cAAc,KAAK,IAAI,EAAE;YAChEa,wCAAuC,EAAE,CAA
C;SAC3C;QACD,IAAI,CAAC,yBAAyB,GAAG,IAAI,CAAC;KACvC;IAEO,qBAAqB;QAC3B,IAAI,CAAC,eAA
e,CAAC,OAAO,CAAC,CAAC,OAAO;YACnC,IAAI;gBACF,OAAO,CAAC,OAAO,EAAE,CAAC;aACnB;YAAC,OAAO,CAAC,EAAE;gBACV,OAAO,CAAC,KAAK,CACX,0
,OAAO,CAAC,EAAE;gBACd,OAAO,CAAC,KAAK,CAAC,mCAAmC,EAAE;oBACjD,SAAS,EAAE,OAAO,C
AAC,iBAAiB;oBACpC,UAAU,EAAE,CAAC;iBACd,CAAC,CAAC;aACJ;SACF,CAAC,CAAC;QACH,IAAI,CA
AC,eAAe,GAAG,EAAE,CAAC;KAC3B;CACF;AAED,IAAI,OAAuB,CAAC;SAEZ,kBAAkB;IAChC,OAAO,O
AAO,GAAG,OAAO,IAAI,IAAI,cAAc,EAAE,CAAC;AACnD;;;AChbA;;;;;;;AAYA,SAAS,aAAa,aAAa;IACpB,MAAM,KA
AK,CAAC,eAAe,CAAC,CAAC,CAAC,CAAC;AAC/C;;;;;;;;;;;;

CrB,OAAO,qBAAqB,EAAE,CAAC,MAAM,CAAC,KAAK,EAAE,aAAa,EAAE,KAAK,CAAC,CAAC;KACpE;;IAUD,OAAO,GAAG,CACN,KAAU,EAAE,gBAAqB,QAAQ,CAAC,kBAAkB,EAC5D,QAAqB,WAAW,CAAC,OAAO;QAC1C,OAAO,qBAAqB,EAAE,CAAC,MAAM,CAAC,KAAK,EAAE,aAAa,EAAE,KAAK,CAAC,CAAC;KACpE;IAED,OAAO,eAAe,CAAI,SAAkB;QAC1C,OAAO,qBAAqB,EAAE,CAAC,eAAe,CAAC,SAAS,CAAC,CAAC;KAC3D;;;;;;;;;;;IA2CD,mBAAmB,CACf,QAA+B,EAAE,QAAqB,EAAE,YA0B;QACpF,IAAI,IAAI,CAAC,QAAQ,EAAE,CAAC,MAAM,IAAI,KAAK,CAAC,8DAA8D,CAAC,CAAC;SACjG;QAED,IAAI,CAAC,SAAS,GAAG,QAAQ,CAAC;QAC1B,IAAI,CAAC,SAAS,GAAG,QAAQ,CAAC;QAC1B,IAAI,CAAC,aAAa,GAAG,YAAY,CAAC;KACrC;IAED,IAAI,QAAQ,KAAK,OAAO,IAAI,CAAC,SAAS,CAAC,EAAE;IACzC,IAAI,QAAQ,KAAK,OAAO,IAAI,CAAC,SAAS,CAAC,EAAE;IACzC,IAAI,YAAY,KAAK,OAAO,IAAI,CAAC,aAAa,CAAC,EAAE;IAEjD

M,CAAC,cAAc,CAAC,CAAC;;;QAG5D,IAAI,CAAC,UAAU,CAAC,QAAQ,CAAC,GAAG,CAAC,qBAAqB,CA
AS,CAAC,eAAe,EAAE,CAAC;QAC/E,IAAI,CAAC,aAAa,GAAG,IAAI,CAAC;KAC3B;IAEO,wBAAwB;QAC9
B,MAAM,SAAS,GAAG,IAAI,CAAC,UAAU,CAAC,MAAM,CAAC,CAAC,EAAC,OAAO,EAAE,OAAO,EAAE,
QAAQ,EAAE,IAAI,EAAC,CAAC,CAAC,CAAC;QAC/E,MAAM,YAAY,,GACd,CAAC,GAAG,IAAI,CAAC,aA
a,EAAE,GAAG,IAAI,CAAC,kBAAkB,CAAC,GAAG,CAAC,KAAK,IAAI,KAAK,CAAC,UAAU,CAAC,CAAC,
CAAC;QAEvF,MAAM,gBAAgB,GAAG,EAAE,CAAC;QAC5B,MAAM,qBAAqB,GAAG,IAAI,CAAC,sBAAsB,
CAAC;QAC1D,IAAI,IAAI,CAAC,OAAO,EAAE;YAChB,MAAM,eAAe;;;wBANpB,QAAQ,SAAC;4BACR,SAA
S,EAAE;gCACT,qBAAqB;6BACzB;4BACD,GAAG,EAAE,IAAI;yBACV;;YAGD,gBAAgB,CAAC,IAAI,
CAAC,eAAe,CAAC,CAAC;SACxC;QACD,SAAS,CAAC,IAAI,CAAC,EAAC,OAAO,EAAEC,eAAe,EAAC,QAA
Q,EAAE,IAAI,CAAC,OAAO,GAAG,MAAM,GAAG,IAAI,EAAC,CAAC,CAAC;QAElF,MAAM,OAAO,GAAG,IAAI,
CAAC,gBAAgB,EAAE,IAAI,CAAC,QAAQ,,CAAC,CAAC;QACjE,MAAM,OAAO,,GAAG,IAAI,CAAC,QAAQ,,
CAAC,gBAAgB,EAAE,IAAI,CAAC,QAAQ,,CAAC,CAAC;QAE9C,MAAM,OAAO,,GAAG,IAAI,CAAC,QAAQ,,
CAAC,gBAAgB,EAAE,IAAI,CAAC,QAAQ,,CAAC,CAAC;QAC

CAAC,UAAU,KAAK,MAAM,EAAE;YAC7F,IAAI,QAAQ,CAAC,UAAU,EAAE;gBACvB,IAAI,CAAC,sBAAsB
,CAAC,IAAI,CAC5B,EAAC,OAAO,EAAE,KAAK,EAAE,UAAU,EAAE,QAAQ,CAAC,UAAU,EAAE,IAAI,EA
AE,QAAQ,CAAC,IAAI,IAAI,EAAE,EAAC,CAAC,CAAC;aACnF;iBAAM;gBACL,IAAI,CAAC,sBAAsB,CAAC
,IAAI,CAAC,EAAC,OAAO,EAAE,KAAK,EAAE,QAAQ,EAAE,QAAQ,CAAC,QAAQ,EAAC,CAAC,CAAC;aA
CjF;SACF;QACD,IAAI,KAAK,GAAc,CAAC,CAAC;QACzB,IAAI,KAAU,CAAC;QACf,IAAI,QAAQ,CAAC,UA
AU,EAAE;YACvB,KAAK,mCAAkC;YACvC,KAAK,GAAG,QAAQ,CAAC,UAAU,CAAC;SAC7B;aAAM;YAC
L,KAAK,gCAAgC;YACrC,KAAK,GAAG,QAAQ,CAAC,QAAQ,CAAC;SAC3B;QACD,MAAM,IAAI,GAAG,C
AAC,QAAQ,CAAC,IAAI,IAAI,EAAE,EAAE,GAAG,CAAC,CAAC,GAAG;YACzC,IAAI,QAAQ,gBA2B;YAC
vC,IAAI,QAAa,CAAC;YAClB,IAAI,KAAK,CAAC,OAAO,CAAC,GAAG,CAAC,EAAE;gBACtB,GAAG,CAAC,
OAAO,CAAC,CAAC,KAAU;oBACrB,IAAI,KAAK,YAAY,QAAQ,EAAE;wBAC7B,QAAQ,qBAAsB;qBAC/B;yB
AAM,IAAI,KAAK,YAAY,QAAQ,EAAE;wBACpC,QAAQ,qBAAsB;qBAC/B;yBAAM;wBACL,QAAQ,GAAG,
KAAK,CAAC;qBAClB;iBACF,CAAC,CAAC;aACJ;iBAAM;gBACL,QAAQ,GAAG,GAAG,CAAC;aAChB;YACD,OAAO,CAAC,QAAQ,EAAE,QAAQ,CAAC,CAAC;SAC7B,CAAC,CAAC;QACHuB,iBAAgB,CAAC,EAAC,K
AAK,EAAE,KAAK,EAAE,IAAI,EAAE,KAAK,EAAE,kBAAkB,EAAE,UAAU,EAAC,CAAC,CAAC;KAC/E;IAE
D,kCAAkC,CAAC,SAAoB,EAAE,QAAgB;QACvE,IAAI,CAAC,sBAAsB,CAAC,oCAAoC,EAAE,mBAAmB,CA
AC,CAAC;QAEvF,MACM,iBAAiB;;;oBADtB,SAAS,SAAC,EAAC,QAAQ,EAAE,OAAO,EAAE,QAAQ,EAAE,
GAAG,EAAE,IAAI,EAAC;;QAInD,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,EAAC,SAAS,EAAE,UAAU,EAA
E,iBAAiB,EAAC,CAAC,CAAC;KAC1E;IAED,eAAe,CAAI,SAAkB;QACnC,IAAI,CAAC,aAAa,EAAE,CAAC;Q
ACrB,MAAM,gBAAgB,GAAG,IAAI,CAAC,SAAS,CAAC,mBAAmB,CAAC,SAAS,CAAC,CAAC;QAEvE,IAAI,
CAAC,gBAAgB,EAAE;YACrB,MAAM,IAAI,KAAK,CAAC,+BAAgC,SAAS,CAAC,kDAAkD,C
AAC,CAAC;SAC7E;;QAGD,MAAM,QAAQ,GAAG,IAAI,CAAC,MAAM,CAAC,wBAAmD,EAAE,KAAK,CAA
C,CAAC;;QAEzF,MAAM,UAAU,GACZ,IAAI,CAAC,MAAM,CAAC,0BAAqD,EAAE,KAAK,CAAC,CAAC;QA
C9E,MAAM,MAAM,GAAgB,QAAQ,GAAG,IAAI,CAAC,GAAG,CAAC,MAAM,CAAC,MAAM,EAAE,IAAI,CA
AC,CAAC;QACxE,MAAM,qBAAqB,GAA0B,IAAI,CAAC,MAAM,CAAC,qBAAqB,CAAC,CAAC;QACxF,MA
AM,QAAQ,GAAG,OAAOqB,oBAAkB,EAAE,EAAE,CAAC;QAC/C,qBAAqB,CAAC,iBAAiB,CAAC,QAAQ,C
AAC,CAAC;QAElD,MAAM,aAAa,GAAG;YACpB,MAAM,YAAY,GAAG,IAAI,CAAC,MAAM,CAAC,gBAAgB,CAAC,QAA
Q,CAAC,IAAI,EAAE,EAAE,EAAE,IAAI,QAAQ,EAAE,EAAE,IAAI,CAAC,UAAU,CAAC,CAAC;YAChF,OAA
O,IAAI,gBAAgB,CAAI,YAAY,EAAE,MAAM,EAAE,UAAU,CAAC,CAAC;SAClE,CAAC;QAEF,MAAM,OAAO,GAAG,MAAM,CAAC,GAAG,CAAC,aAAa,EAAE,CAAC,CAAC,CAAC;QAC7C,MAAM,MAAM,GAAG,OAAO,CAAC,GAAG,CAAC,CAAC,CAAC

AS,OAAO,MAAM,KAAK,WAAW,GAAG,MAAM,GAAG,MAAM,CAAC,CAAC;AAEvE;AACA,IAAI,OAAO,
CAAC,UAAU,EAAE;IACtB,OAAO,CAAC,UAAU,CAAC;QACjB,OAAO,CAAC,kBAAkB,EAAE,CAAC;QAC7
B,kBAAkB,EAAE,CAAC;KACtB,CAAC,CAAC;CACJ;AAED;;;;;;;;AAQA;MACa,oCAAoC,GAAG;;ACtCpD;;;;;
;;;ACAA;;;;;;;;ACAA;;;;;;;;ACAA;;;;;;;AAiBA;;ACjBA;;;;;;;;ACAA;;;;;;"}

Found
in path(s):
* /core-11-0-5-tgz/package/fesm2015/testing.js.map
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/

Found in path(s):
* /core-11-0-5-tgz/package/src/r3_symbols.d.ts
* /core-11-0-5-tgz/package/core.d.ts
* /core-11-0-5-tgz/package/testing.d.ts
* /core-11-0-5-tgz/package/testing/testing.d.ts
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
 * @license
 * Copyright Google LLC All Rights Reserved.
 *
 * Use of this source code is governed by an MIT-style license that can be
 * found in the LICENSE file at https://angular.io/license
 */
/*! *****************************************************************************
Copyright (c) Microsoft Corporation.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR

PERFORMANCE OF THIS SOFTWARE.
********** */

Found in path(s):
* /core-11-0-5-tgz/package/bundles/core-testing.umd.js
* /core-11-0-5-tgz/package/bundles/core.umd.min.js
* /core-11-0-5-tgz/package/bundles/core-testing.umd.min.js
* /core-11-0-5-tgz/package/bundles/core.umd.js

# 1.434 ngx-mat-select-search 3.3.3

## 1.434.1 Available under license :

MIT
MIT License

Copyright (c) 2018 Bithost GmbH

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.435 angular-forms 11.0.5

## 1.435.1 Available under license :

No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/

```
/**
 * @license
 * Copyright Google LLC All Rights Reserved.
 *
 * Use of this source code is governed by an MIT-style license that can be
 * found in the LICENSE file at https://angular.io/license
 */
/*! *****************************************************************************
  Copyright (c) Microsoft Corporation.

  Permission to use, copy, modify, and/or distribute this software for any
  purpose with or without fee is hereby granted.

  THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
  REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
  AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
  INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
  LOSS OF USE, DATA OR PROFITS,
 WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
  OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
  PERFORMANCE OF THIS SOFTWARE.
  ***************************************************************************** */
```

Found in path(s):
* /forms-11-0-5-tgz/package/bundles/forms.umd.min.js
* /forms-11-0-5-tgz/package/bundles/forms.umd.js
No license file was found, but licenses were detected in source scan.

```
/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/
```

Found in path(s):
* /forms-11-0-5-tgz/package/esm2015/src/directives/default_value_accessor.js
* /forms-11-0-5-tgz/package/esm2015/public_api.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/abstract_control_directive.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/ng_control_status.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/reactive_errors.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/ng_model.js
* /forms-11-0-5-tgz/package/esm2015/src/directives.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/number_value_accessor.js
* /forms-11-0-5-tgz/package/esm2015/src/form_providers.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/ng_control.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/template_driven_errors.js

*
 /forms-11-0-5-tgz/package/esm2015/src/directives/checkbox_value_accessor.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/reactive_directives/form_control_directive.js
* /forms-11-0-5-tgz/package/esm2015/src/model.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/reactive_directives/form_group_name.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/control_value_accessor.js
* /forms-11-0-5-tgz/package/esm2015/src/version.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/radio_control_value_accessor.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/shared.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/ng_no_validate_directive.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/error_examples.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/reactive_directives/form_group_directive.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/abstract_form_group_directive.js
* /forms-11-0-5-tgz/package/esm2015/index.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/select_multiple_control_value_accessor.js
*
 /forms-11-0-5-tgz/package/esm2015/src/directives/validators.js
* /forms-11-0-5-tgz/package/esm2015/src/form_builder.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/form_interface.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/range_value_accessor.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/select_control_value_accessor.js
* /forms-11-0-5-tgz/package/esm2015/src/validators.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/reactive_directives/form_control_name.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/control_container.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/ng_model_group.js
* /forms-11-0-5-tgz/package/esm2015/src/forms.js
* /forms-11-0-5-tgz/package/esm2015/src/directives/ng_form.js
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/

Found in path(s):
* /forms-11-0-5-tgz/package/fesm2015/forms.js
MIT

# 1.436 angular-compiler 11.0.5

## 1.436.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/**
   * @license
   * Copyright Google LLC All Rights Reserved.
   *
   * Use of this source code is governed by an MIT-style license that can be
   * found in the LICENSE file at https://angular.io/license
   */
```

Found in path(s):
* /compiler-11-0-5-tgz/package/src/parse_util.js
* /compiler-11-0-5-tgz/package/testing/src/directive_resolver_mock.js
* /compiler-11-0-5-tgz/package/src/aot/summary_serializer.js
* /compiler-11-0-5-tgz/package/src/i18n/index.js
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/util.js

No license file was found, but licenses were detected in source scan.

```
/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
```

Found in path(s):
* /compiler-11-0-5-tgz/package/testing.d.ts

No license file was found, but licenses were detected in source scan.

```
/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/
```

Found in path(s):
* /compiler-11-0-5-tgz/package/src/injectable_compiler_2.js
* /compiler-11-0-5-tgz/package/public_api.js
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/icu_serializer.js
* /compiler-11-0-5-tgz/package/src/render3/r3_types.js
* /compiler-11-0-5-tgz/package/testing/src/output/source_map_util.d.ts
* /compiler-11-0-5-tgz/package/src/compile_metadata.js
* /compiler-11-0-5-tgz/package/index.d.ts

* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/t2_binder.js
* /compiler-11-0-5-tgz/package/src/output/output_jit.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/extractor_merger.js
* /compiler-11-0-5-tgz/package/src/shadow_css.d.ts
* /compiler-11-0-5-tgz/package/src/output/source_map.js
* /compiler-11-0-5-tgz/package/src/aot/static_symbol.js
*
 /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_pipe_compiler.js
* /compiler-11-0-5-tgz/package/src/i18n/translation_bundle.js
* /compiler-11-0-5-tgz/package/src/assertions.js
* /compiler-11-0-5-tgz/package/src/aot/compiler.js
* /compiler-11-0-5-tgz/package/src/render3/view/t2_api.js
* /compiler-11-0-5-tgz/package/src/render3/view/t2_api.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/output/value_util.js
* /compiler-11-0-5-tgz/package/src/template_parser/template_parser.d.ts
* /compiler-11-0-5-tgz/package/src/aot/summary_serializer.d.ts
* /compiler-11-0-5-tgz/package/src/css_parser/css_lexer.js
* /compiler-11-0-5-tgz/package/src/i18n/translation_bundle.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/i18n_ast.js
* /compiler-11-0-5-tgz/package/src/render3/r3_module_factory_compiler.js
* /compiler-11-0-5-tgz/package/src/view_compiler/provider_compiler.d.ts
* /compiler-11-0-5-tgz/package/src/compile_reflector.d.ts
* /compiler-11-0-5-tgz/package/src/output/output_interpreter.d.ts
*
 /compiler-11-0-5-tgz/package/src/output/abstract_js_emitter.d.ts
* /compiler-11-0-5-tgz/package/src/resource_loader.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/css_parser/css_ast.js
* /compiler-11-0-5-tgz/package/src/compiler_facade_interface.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/aot/util.js
* /compiler-11-0-5-tgz/package/src/render3/r3_types.d.ts
* /compiler-11-0-5-tgz/package/src/render3/r3_jit.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/extractor.js
* /compiler-11-0-5-tgz/package/src/render3/view/style_parser.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/aot/generated_file.js
* /compiler-11-0-5-tgz/package/src/template_parser/template_ast.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/i18n_parser.js
* /compiler-11-0-5-tgz/package/src/template_parser/template_parser.js
* /compiler-11-0-5-tgz/package/src/render3/view/compiler.d.ts
* /compiler-11-0-5-tgz/package/src/resource_loader.js
* /compiler-11-0-5-tgz/package/src/render3/view/style_parser.js
*
 /compiler-11-0-5-tgz/package/esm2015/src/ng_module_compiler.js
* /compiler-11-0-5-tgz/package/src/ml_parser/xml_tags.d.ts
* /compiler-11-0-5-tgz/package/src/output/output_ast.d.ts
* /compiler-11-0-5-tgz/package/src/jit/compiler.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/template_parser/template_parser.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/t2_api.js
* /compiler-11-0-5-tgz/package/src/aot/lazy_routes.js

* /compiler-11-0-5-tgz/package/src/compile_metadata.d.ts
* /compiler-11-0-5-tgz/package/src/aot/generated_file.d.ts
* /compiler-11-0-5-tgz/package/src/jit/compiler.js
* /compiler-11-0-5-tgz/package/src/aot/compiler_factory.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/message_bundle.js
* /compiler-11-0-5-tgz/package/src/render3/util.js
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/interpolation_config.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_jit.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/translation_bundle.js
*
 /compiler-11-0-5-tgz/package/src/render3/view/compiler.js
* /compiler-11-0-5-tgz/package/esm2015/src/ast_path.js
* /compiler-11-0-5-tgz/package/src/aot/compiler_factory.js
* /compiler-11-0-5-tgz/package/src/constant_pool.js
* /compiler-11-0-5-tgz/package/src/compiler_util/expression_converter.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/api.js
* /compiler-11-0-5-tgz/package/public_api.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/selector.js
* /compiler-11-0-5-tgz/package/src/ml_parser/lexer.js
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xliff.js
* /compiler-11-0-5-tgz/package/esm2015/testing/src/ng_module_resolver_mock.js
* /compiler-11-0-5-tgz/package/src/shadow_css.js
* /compiler-11-0-5-tgz/package/src/schema/element_schema_registry.d.ts
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/util.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/extractor_merger.js
* /compiler-11-0-5-tgz/package/esm2015/src/output/abstract_emitter.js
* /compiler-11-0-5-tgz/package/esm2015/src/template_parser/template_ast.js
*
 /compiler-11-0-5-tgz/package/src/constant_pool.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/compiler_util/expression_converter.js
* /compiler-11-0-5-tgz/package/src/selector.d.ts
* /compiler-11-0-5-tgz/package/esm2015/compiler.js
* /compiler-11-0-5-tgz/package/testing/src/schema_registry_mock.d.ts
* /compiler-11-0-5-tgz/package/src/chars.js
* /compiler-11-0-5-tgz/package/src/ml_parser/html_tags.d.ts
* /compiler-11-0-5-tgz/package/src/ng_module_resolver.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/compiler.js
* /compiler-11-0-5-tgz/package/esm2015/src/schema/element_schema_registry.js
* /compiler-11-0-5-tgz/package/testing/src/testing.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/output/ts_emitter.js
* /compiler-11-0-5-tgz/package/src/schema/dom_security_schema.js
* /compiler-11-0-5-tgz/package/esm2015/src/output/map_util.js
* /compiler-11-0-5-tgz/package/testing/src/schema_registry_mock.js
* /compiler-11-0-5-tgz/package/esm2015/src/css_parser/css_lexer.js
*
 /compiler-11-0-5-tgz/package/src/i18n/message_bundle.d.ts
* /compiler-11-0-5-tgz/package/src/ml_parser/xml_parser.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/i18n/context.js

* /compiler-11-0-5-tgz/package/testing/src/pipe_resolver_mock.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/parse_util.js
* /compiler-11-0-5-tgz/package/src/aot/partial_module.js
* /compiler-11-0-5-tgz/package/src/compile_reflector.js
* /compiler-11-0-5-tgz/package/src/output/output_ast.js
* /compiler-11-0-5-tgz/package/src/output/abstract_emitter.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_module_compiler.js
* /compiler-11-0-5-tgz/package/src/style_compiler.js
* /compiler-11-0-5-tgz/package/src/url_resolver.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/aot/partial_module.js
* /compiler-11-0-5-tgz/package/src/jit_compiler_facade.d.ts
* /compiler-11-0-5-tgz/package/src/aot/formatted_error.js
* /compiler-11-0-5-tgz/package/esm2015/src/style_compiler.js
*
 /compiler-11-0-5-tgz/package/src/css_parser/css_ast.d.ts
* /compiler-11-0-5-tgz/package/src/render3/r3_module_compiler.js
* /compiler-11-0-5-tgz/package/src/ng_module_resolver.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/parse_util.d.ts
* /compiler-11-0-5-tgz/package/src/view_compiler/view_compiler.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/i18n_parser.js
* /compiler-11-0-5-tgz/package/src/pipe_resolver.d.ts
* /compiler-11-0-5-tgz/package/src/config.d.ts
* /compiler-11-0-5-tgz/package/src/version.d.ts
* /compiler-11-0-5-tgz/package/src/schema/dom_element_schema_registry.js
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/html_whitespaces.js
* /compiler-11-0-5-tgz/package/src/render3/view/t2_binder.d.ts
* /compiler-11-0-5-tgz/package/src/view_compiler/view_compiler.js
* /compiler-11-0-5-tgz/package/src/ml_parser/html_whitespaces.d.ts
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/get_msg_utils.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/schema/dom_element_schema_registry.js
*
 /compiler-11-0-5-tgz/package/src/directive_normalizer.js
* /compiler-11-0-5-tgz/package/src/view_compiler/type_check_compiler.d.ts
* /compiler-11-0-5-tgz/package/esm2015/testing/index.js
* /compiler-11-0-5-tgz/package/src/render3/r3_pipe_compiler.d.ts
* /compiler-11-0-5-tgz/package/esm2015/public_api.js
* /compiler-11-0-5-tgz/package/src/output/value_util.js
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/localize_utils.d.ts
* /compiler-11-0-5-tgz/package/testing/src/directive_resolver_mock.d.ts
* /compiler-11-0-5-tgz/package/src/jit_compiler_facade.js
* /compiler-11-0-5-tgz/package/esm2015/src/provider_analyzer.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/message_bundle.js
* /compiler-11-0-5-tgz/package/src/style_compiler.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/output/abstract_js_emitter.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/static_symbol.js
* /compiler-11-0-5-tgz/package/src/aot/static_reflector.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_factory.js
*

/compiler-11-0-5-tgz/package/esm2015/src/output/source_map.js
* /compiler-11-0-5-tgz/package/esm2015/src/jit_compiler_facade.js
* /compiler-11-0-5-tgz/package/src/i18n/serializers/placeholder.js
* /compiler-11-0-5-tgz/package/esm2015/src/view_compiler/view_compiler.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/static_reflector.js
* /compiler-11-0-5-tgz/package/esm2015/src/output/output_jit.js
* /compiler-11-0-5-tgz/package/src/ml_parser/lexer.d.ts
* /compiler-11-0-5-tgz/package/src/directive_resolver.js
* /compiler-11-0-5-tgz/package/src/render3/r3_factory.js
* /compiler-11-0-5-tgz/package/src/aot/compiler_options.js
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/html_parser.js
* /compiler-11-0-5-tgz/package/src/identifiers.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/ng_module_resolver.js
* /compiler-11-0-5-tgz/package/index.js
* /compiler-11-0-5-tgz/package/testing/public_api.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/core.js
* /compiler-11-0-5-tgz/package/esm2015/testing/src/pipe_resolver_mock.js
*
/compiler-11-0-5-tgz/package/esm2015/src/identifiers.js
* /compiler-11-0-5-tgz/package/src/i18n/serializers/serializer.d.ts
* /compiler-11-0-5-tgz/package/src/url_resolver.js
* /compiler-11-0-5-tgz/package/src/lifecycle_reflector.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/compiler_factory.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/i18n/util.js
* /compiler-11-0-5-tgz/package/src/expression_parser/lexer.d.ts
* /compiler-11-0-5-tgz/package/src/ast_path.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_module_factory_compiler.js
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xliff.d.ts
* /compiler-11-0-5-tgz/package/testing/index.d.ts
* /compiler-11-0-5-tgz/package/src/chars.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/extractor.d.ts
* /compiler-11-0-5-tgz/package/src/injectable_compiler_2.d.ts
* /compiler-11-0-5-tgz/package/esm2015/testing/src/output/source_map_util.js
* /compiler-11-0-5-tgz/package/esm2015/src/compiler.js
*
/compiler-11-0-5-tgz/package/src/assertions.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/extractor.js
* /compiler-11-0-5-tgz/package/esm2015/src/compile_reflector.js
* /compiler-11-0-5-tgz/package/src/render3/view/template.d.ts
* /compiler-11-0-5-tgz/package/src/lifecycle_reflector.d.ts
* /compiler-11-0-5-tgz/package/src/css_parser/css_ast.js
* /compiler-11-0-5-tgz/package/src/ng_module_compiler.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/index.js
* /compiler-11-0-5-tgz/package/src/expression_parser/parser.d.ts
* /compiler-11-0-5-tgz/package/testing/src/testing.js
* /compiler-11-0-5-tgz/package/src/ng_module_compiler.d.ts
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/context.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/serializers/xliff2.js

* /compiler-11-0-5-tgz/package/src/output/ts_emitter.js
* /compiler-11-0-5-tgz/package/src/compiler_facade_interface.js
* /compiler-11-0-5-tgz/package/src/i18n/index.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/injectable_compiler_2.js
*
 /compiler-11-0-5-tgz/package/src/css_parser/css_parser.js
* /compiler-11-0-5-tgz/package/src/ml_parser/xml_parser.js
* /compiler-11-0-5-tgz/package/esm2015/src/jit/compiler.js
* /compiler-11-0-5-tgz/package/src/render3/r3_template_transform.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/parse_util.js
* /compiler-11-0-5-tgz/package/src/aot/util.d.ts
* /compiler-11-0-5-tgz/package/src/ml_parser/xml_tags.js
* /compiler-11-0-5-tgz/package/src/aot/compiler_host.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/big_integer.js
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xmb.d.ts
* /compiler-11-0-5-tgz/package/src/template_parser/template_preparser.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/expression_parser/lexer.js
* /compiler-11-0-5-tgz/package/src/aot/lazy_routes.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/render3/util.js
* /compiler-11-0-5-tgz/package/src/ast_path.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/compile_metadata.js
*
 /compiler-11-0-5-tgz/package/esm2015/src/url_resolver.js
* /compiler-11-0-5-tgz/package/src/render3/view/api.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/i18n_html_parser.js
* /compiler-11-0-5-tgz/package/esm2015/src/compiler_facade_interface.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/i18n/icu_serializer.js
* /compiler-11-0-5-tgz/package/esm2015/src/injectable_compiler.js
* /compiler-11-0-5-tgz/package/src/ml_parser/parser.js
* /compiler-11-0-5-tgz/package/esm2015/src/expression_parser/parser.js
* /compiler-11-0-5-tgz/package/src/render3/r3_ast.d.ts
* /compiler-11-0-5-tgz/package/src/style_url_resolver.d.ts
* /compiler-11-0-5-tgz/package/src/ml_parser/html_whitespaces.js
* /compiler-11-0-5-tgz/package/src/selector.js
* /compiler-11-0-5-tgz/package/esm2015/src/template_parser/template_preparser.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/serializers/xmb.js
* /compiler-11-0-5-tgz/package/src/template_parser/binding_parser.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/icu_ast_expander.js
*
 /compiler-11-0-5-tgz/package/src/output/abstract_js_emitter.js
* /compiler-11-0-5-tgz/package/esm2015/src/shadow_css.js
* /compiler-11-0-5-tgz/package/esm2015/src/style_url_resolver.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/formatted_error.js
* /compiler-11-0-5-tgz/package/src/metadata_resolver.js
* /compiler-11-0-5-tgz/package/src/output/map_util.js
* /compiler-11-0-5-tgz/package/src/render3/view/util.d.ts
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/context.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/aot/compiler_host.js

* /compiler-11-0-5-tgz/package/src/view_compiler/type_check_compiler.js
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/meta.js
* /compiler-11-0-5-tgz/package/esm2015/src/css_parser/css_parser.js
* /compiler-11-0-5-tgz/package/src/style_url_resolver.js
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/lexer.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/compiler_options.js
* /compiler-11-0-5-tgz/package/src/metadata_resolver.d.ts
*
 /compiler-11-0-5-tgz/package/src/i18n/i18n_html_parser.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/lazy_routes.js
* /compiler-11-0-5-tgz/package/esm2015/src/chars.js
* /compiler-11-0-5-tgz/package/src/render3/r3_identifiers.js
* /compiler-11-0-5-tgz/package/src/directive_resolver.d.ts
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/meta.d.ts
* /compiler-11-0-5-tgz/package/src/aot/static_symbol_resolver.d.ts
* /compiler-11-0-5-tgz/package/src/provider_analyzer.js
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/xml_parser.js
* /compiler-11-0-5-tgz/package/src/summary_resolver.d.ts
* /compiler-11-0-5-tgz/package/src/ml_parser/parser.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xtb.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xtb.js
* /compiler-11-0-5-tgz/package/src/version.js
* /compiler-11-0-5-tgz/package/src/ml_parser/html_tags.js
* /compiler-11-0-5-tgz/package/src/template_parser/template_ast.js
*
 /compiler-11-0-5-tgz/package/src/i18n/serializers/serializer.js
* /compiler-11-0-5-tgz/package/src/render3/r3_identifiers.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_template_transform.js
* /compiler-11-0-5-tgz/package/src/render3/view/t2_binder.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/style_parser.js
* /compiler-11-0-5-tgz/package/esm2015/testing/public_api.js
* /compiler-11-0-5-tgz/package/src/aot/formatted_error.d.ts
* /compiler-11-0-5-tgz/package/src/ml_parser/icu_ast_expander.js
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/parser.js
* /compiler-11-0-5-tgz/package/src/i18n/digest.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/i18n_parser.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/output/output_ast.js
* /compiler-11-0-5-tgz/package/src/i18n/digest.js
* /compiler-11-0-5-tgz/package/src/aot/compiler_host.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/template.js
* /compiler-11-0-5-tgz/package/src/expression_parser/ast.js
* /compiler-11-0-5-tgz/package/src/compiler_util/expression_converter.d.ts
*
 /compiler-11-0-5-tgz/package/esm2015/src/i18n/serializers/xliff.js
* /compiler-11-0-5-tgz/package/src/aot/summary_resolver.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/expression_parser/ast.js
* /compiler-11-0-5-tgz/package/src/aot/static_reflector.d.ts
* /compiler-11-0-5-tgz/package/src/render3/r3_ast.js

* /compiler-11-0-5-tgz/package/src/ml_parser/tags.js
* /compiler-11-0-5-tgz/package/esm2015/src/config.js
* /compiler-11-0-5-tgz/package/src/render3/view/util.js
* /compiler-11-0-5-tgz/package/src/ml_parser/ast.js
* /compiler-11-0-5-tgz/package/src/output/abstract_emitter.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_types.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_ast.js
* /compiler-11-0-5-tgz/package/src/schema/dom_security_schema.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/version.js
* /compiler-11-0-5-tgz/package/src/util.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/i18n_ast.js
*
 /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/html_tags.js
* /compiler-11-0-5-tgz/package/src/compiler.js
* /compiler-11-0-5-tgz/package/esm2015/src/schema/dom_security_schema.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/summary_serializer.js
* /compiler-11-0-5-tgz/package/src/i18n/i18n_html_parser.d.ts
* /compiler-11-0-5-tgz/package/src/render3/view/api.js
* /compiler-11-0-5-tgz/package/src/ml_parser/interpolation_config.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/summary_resolver.js
* /compiler-11-0-5-tgz/package/testing/src/output/source_map_util.js
* /compiler-11-0-5-tgz/package/src/i18n/serializers/placeholder.d.ts
* /compiler-11-0-5-tgz/package/esm2015/testing/src/testing.js
* /compiler-11-0-5-tgz/package/esm2015/src/lifecycle_reflector.js
* /compiler-11-0-5-tgz/package/src/aot/util.js
* /compiler-11-0-5-tgz/package/src/output/js_emitter.js
* /compiler-11-0-5-tgz/package/esm2015/src/render3/r3_identifiers.js
* /compiler-11-0-5-tgz/package/src/aot/static_symbol_resolver.js
*
 /compiler-11-0-5-tgz/package/src/render3/r3_module_compiler.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/ast.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/serializers/placeholder.js
* /compiler-11-0-5-tgz/package/src/schema/element_schema_registry.js
* /compiler-11-0-5-tgz/package/src/aot/partial_module.d.ts
* /compiler-11-0-5-tgz/package/testing/public_api.js
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/tags.js
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xliff2.js
* /compiler-11-0-5-tgz/package/src/compiler.d.ts
* /compiler-11-0-5-tgz/package/src/injectable_compiler.js
* /compiler-11-0-5-tgz/package/src/i18n/extractor_merger.d.ts
* /compiler-11-0-5-tgz/package/src/ml_parser/html_parser.d.ts
* /compiler-11-0-5-tgz/package/src/render3/util.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/i18n/meta.js
* /compiler-11-0-5-tgz/package/src/config.js
* /compiler-11-0-5-tgz/package/esm2015/src/resource_loader.js
* /compiler-11-0-5-tgz/package/src/render3/r3_module_factory_compiler.d.ts
*

/compiler-11-0-5-tgz/package/testing/src/ng_module_resolver_mock.d.ts
* /compiler-11-0-5-tgz/package/src/aot/generated_file.js
* /compiler-11-0-5-tgz/package/src/injectable_compiler.d.ts
* /compiler-11-0-5-tgz/package/src/ml_parser/html_parser.js
* /compiler-11-0-5-tgz/package/esm2015/src/metadata_resolver.js
* /compiler-11-0-5-tgz/package/src/output/source_map.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/i18n_ast.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/directive_resolver.js
* /compiler-11-0-5-tgz/package/esm2015/src/view_compiler/type_check_compiler.js
* /compiler-11-0-5-tgz/package/testing/src/resource_loader_mock.d.ts
* /compiler-11-0-5-tgz/package/src/template_parser/template_preparser.js
* /compiler-11-0-5-tgz/package/esm2015/src/aot/static_symbol_resolver.js
* /compiler-11-0-5-tgz/package/esm2015/src/output/js_emitter.js
* /compiler-11-0-5-tgz/package/src/provider_analyzer.d.ts
* /compiler-11-0-5-tgz/package/src/render3/r3_factory.d.ts
*
/compiler-11-0-5-tgz/package/esm2015/src/view_compiler/provider_compiler.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/serializers/xtb.js
* /compiler-11-0-5-tgz/package/src/output/ts_emitter.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xmb.js
* /compiler-11-0-5-tgz/package/testing/src/ng_module_resolver_mock.js
* /compiler-11-0-5-tgz/package/testing/src/pipe_resolver_mock.js
* /compiler-11-0-5-tgz/package/esm2015/src/assertions.js
* /compiler-11-0-5-tgz/package/src/util.d.ts
* /compiler-11-0-5-tgz/package/src/css_parser/css_parser.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/util.js
* /compiler-11-0-5-tgz/package/src/ml_parser/icu_ast_expander.d.ts
* /compiler-11-0-5-tgz/package/src/css_parser/css_lexer.d.ts
* /compiler-11-0-5-tgz/package/src/aot/static_symbol.d.ts
* /compiler-11-0-5-tgz/package/src/directive_normalizer.d.ts
* /compiler-11-0-5-tgz/package/src/expression_parser/parser.js
* /compiler-11-0-5-tgz/package/src/render3/r3_jit.d.ts
*
/compiler-11-0-5-tgz/package/src/view_compiler/provider_compiler.js
* /compiler-11-0-5-tgz/package/src/aot/summary_resolver.js
* /compiler-11-0-5-tgz/package/src/output/output_jit.js
* /compiler-11-0-5-tgz/package/testing/index.js
* /compiler-11-0-5-tgz/package/compiler.d.ts
* /compiler-11-0-5-tgz/package/src/output/value_util.d.ts
* /compiler-11-0-5-tgz/package/esm2015/testing/src/schema_registry_mock.js
* /compiler-11-0-5-tgz/package/esm2015/testing/src/resource_loader_mock.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/digest.js
* /compiler-11-0-5-tgz/package/src/output/map_util.d.ts
* /compiler-11-0-5-tgz/package/src/core.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xliff2.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/template_parser/binding_parser.js
* /compiler-11-0-5-tgz/package/esm2015/index.js
* /compiler-11-0-5-tgz/package/esm2015/src/parse_util.js

* /compiler-11-0-5-tgz/package/src/identifiers.js
* /compiler-11-0-5-tgz/package/esm2015/testing/src/directive_resolver_mock.js
*
 /compiler-11-0-5-tgz/package/esm2015/src/util.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/serializers/xml_helper.js
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/big_integer.js
* /compiler-11-0-5-tgz/package/src/ml_parser/interpolation_config.d.ts
* /compiler-11-0-5-tgz/package/src/i18n/serializers/xml_helper.js
* /compiler-11-0-5-tgz/package/src/ml_parser/tags.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/pipe_resolver.js
* /compiler-11-0-5-tgz/package/src/core.js
* /compiler-11-0-5-tgz/package/src/i18n/big_integer.d.ts
* /compiler-11-0-5-tgz/package/src/pipe_resolver.js
* /compiler-11-0-5-tgz/package/compiler.js
* /compiler-11-0-5-tgz/package/src/expression_parser/lexer.js
* /compiler-11-0-5-tgz/package/src/aot/compiler.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/directive_normalizer.js
* /compiler-11-0-5-tgz/package/src/template_parser/binding_parser.js
* /compiler-11-0-5-tgz/package/src/aot/compiler_options.d.ts
* /compiler-11-0-5-tgz/package/src/render3/r3_pipe_compiler.js
*
 /compiler-11-0-5-tgz/package/src/i18n/serializers/xml_helper.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/render3/view/compiler.js
* /compiler-11-0-5-tgz/package/src/render3/view/template.js
* /compiler-11-0-5-tgz/package/esm2015/src/constant_pool.js
* /compiler-11-0-5-tgz/package/src/ml_parser/ast.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/ml_parser/xml_tags.js
* /compiler-11-0-5-tgz/package/src/render3/view/i18n/icu_serializer.d.ts
* /compiler-11-0-5-tgz/package/testing/src/resource_loader_mock.js
* /compiler-11-0-5-tgz/package/src/schema/dom_element_schema_registry.d.ts
* /compiler-11-0-5-tgz/package/src/expression_parser/ast.d.ts
* /compiler-11-0-5-tgz/package/esm2015/src/i18n/serializers/serializer.js
* /compiler-11-0-5-tgz/package/src/output/js_emitter.d.ts
* /compiler-11-0-5-tgz/package/src/render3/r3_template_transform.js
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/compiler/compiler.umd.js"],"names":["global","factory","exports","module","define","amd","self","ng","compiler","this","TagContentType","extendStatics","d","b","Object","setPrototypeOf","__proto__","Array","p","hasOwnProperty","__extends","__","constructor","prototype","create","__values","o","s","Symbol","iterator","m","i","call","length","next","value","done","TypeError","__read","n","r","e","ar","push","error","__spread","arguments","concat","splitNsName","elementName","colonIndex","indexOf","Error","slice","isNgContainer","tagName","isNgContent","isNgTemplate","getNsPrefix","fullName","mergeNsAndName","prefix","localName","_DEFAULT_TAG_DEFINITION","TAG_DEFINITIONS","NAMED_ENTITIES","Aacute","aacute","Acirc","acirc","acute","AElig","aelig","Agrave","agrave","alefsym","Alpha","alpha","amp","and","ang","apos","Aring","aring","asymp","Atilde","atilde","Auml","auml","bdquo","Beta","beta","brvbar","bull","cap","Ccedil","ccedil","cedil","cent","Chi","chi","circ","clubs","cong","copy","crarr","cup","curren","dagger","Dagger","darr","dArr","deg","Delta","delta","diams","divide","Eacute","eacute","Ecirc","ecirc","Egrave","egrave","empty","emsp","ensp","Epsilon","epsilon","equiv","Eta","eta","ETH","eth","Euml","euml","euro","exist","fnof","forall","frac12","frac14","frac34","

frasl","Gamma","gamma","ge","gt","harr","hArr","hearts","hellip","Iacute","iacute","Icirc","icirc","iexcl","Igrave","igrave","image","infin","int","Iota","iota","iquest","isin","Iuml","iuml","Kappa","kappa","Lambda","lambda","lang","laquo","larr","lArr","lceil","ldquo","le","lfloor","lowast","loz","lrm","lsaquo","lsquo","lt","macr","mdash","micro","middot","minus","Mu","mu","nabla","nbsp","ndash","ne","ni","not","notin","nsub","Ntilde","ntilde","Nu","nu","Oacute","oacute","Ocirc","ocirc","OElig","oelig","Ograve","ograve","oline","Omega","omega","Omicron","omicron","oplus","or","ordf","ordm","Oslash","oslash","Otilde","otilde","otimes","Ouml","ouml","para","permil","perp","Phi","phi","Pi","pi","piv","plusmn","pound","prime","Prime","prod","prop","Psi","psi","quot","radic","rang","raquo","rarr","rArr","rceil","rdquo","real","reg","rfloor","Rho","rho","rlm","rsaquo","rsquo","sbquo","Scaron","scaron","sdot","sect","shy","Sigma","sigma","sigmaf","sim","spades","sub","sube","sum","sup","sup1","sup2","sup3","supe","szlig","Tau","tau","there4","Theta","theta","thetasym","thinsp","THORN","thorn","tilde","times","trade","Uacute","uacute","uarr","uArr","Ucirc","ucirc","Ugrave","ugrave","uml","upsih","Upsilon","upsilon","Uuml","uuml","weierp","Xi","xi","Yacute","yacute","yen","yuml","Yuml","Zeta","zeta","zwj","zwnj","ngsp","HtmlTagDefinition","_c","_this","_d","closedByChildren","implicitNamespacePrefix","_e","contentType","PARSABLE_DATA","_f","closedByParent","_g","isVoid","_h","ignoreFirstLf","_j","preventNamespaceInheritance","canSelfClose","forEach","isClosedByChild","name","toLowerCase","getHtmlTagDefinition","_a","_b","base","meta","area","embed","link","img","input","param","hr","br","source","track","wbr","thead","tbody","tfoot","tr","td","th","col","svg","foreignObject","math","li","dt","dd","rb","rt","rtc","rp","optgroup","option","pre","listing","style","RAW_TEXT","script","title","ESCAPABLE_RAW_TEXT","textarea","ViewEncapsulation","ChangeDetectionStrategy","_SELECTOR_REGEXP","RegExp","CssSelector","element","classNames","attrs","notSelectors","parse","selector","match","results","_addResult","res","cssSel","cssSelector","current","inNot","lastIndex","exec","tag","addAttribute","substr","addClassName","setElement","attribute","isElementSelector","hasElementSelector","getMatchingElementTemplate","classAttr","join","getAttrs","result","toString","klass","notSelector","SelectorMatcher","_elementMap","Map","_elementPartialMap","_classMap","_classPartialMap","_attrValueMap","_attrValuePartialMap","_listContexts","createNotMatcher","notMatcher","addSelectables","cssSelectors","callbackCtxt","listContext","SelectorListContext","_addSelectable","matcher","selectable","SelectorContext","_addTerminal","_addPartial","className","terminalMap","terminalValuesMap","get","set","partialMap","partialValuesMap","map","terminalList","matchedCallback","alreadyMatched","_matchTerminal","_matchPartial","selectables","starSelectables","finalize","nestedSelector","selectors","cbContext","callback","createInject","makeMetadataFactory","token","createInjectionToken","desc","_desc","prov","undefined","createAttribute","attributeName","createContentChildren","data","assign","first","isViewQuery","descendants","createContentChild","createViewChildren","createViewChild","createDirective","dir","SecurityContext","MissingTranslationStrategy","createComponent","c","changeDetection","Default","createPipe","pure","createInput","bindingPropertyName","createOutput","createHostBinding","hostPropertyName","createHostListener","eventName","args","createNgModule","ngModule","createInjectable","injectable","CUSTOM_ELEMENTS_SCHEMA","NO_ERRORS_SCHEMA","createOptional","createSelf","createSkipSelf","createHost","Type","Function","props","_i","values","apply","ngMetadataName","isTypeOf","obj","parserSelectorToR3Selector","positive","parserSelectorToSimpleSelector","classes","negative","parserSelectorToNegativeSelector","parseSelectorToR3Selector","TypeModifier","core","freeze","BuiltinTypeName","Type$1","modifiers","hasModifier","modifier","UnaryOperator","BinaryOperator","BuiltinType","_super","visitType","visitor","context","visitBuiltinType","ExpressionType","typeParams","visitExpressionType","ArrayType","of","visitArrayType","MapType","valueType","visitMapType","DYNAMIC_TYPE","Dynamic","INFERRED_TYPE","Inferred","BOOL_TYPE","Bool","NUMBER_TYPE","Int","Number","STRING_TYPE","String","NONE_TYPE","None","nullSafeIsEquivalent","other","isEquivalent","areAllEquivalent","len","BuiltinVar","Expression","type","sourceSpan","ReadPropExpr","key","index","ReadKeyExpr","callMethod","params","InvokeMethodExpr","callFn","InvokeFunctionExpr","instantiate","InstantiateExpr","conditional","trueCase","falseCase","ConditionalExpr","equals","rhs","BinaryOperatorExpr","Equals","notEquals","NotEquals","identical","Identical","notIdentical","NotIdentical","Minus","plus","Plus","Divide","multiply","Multiply","modulo","Modulo","And","bitwiseAnd","parens","BitwiseAnd","Or","lower","Lower","lowerEquals","LowerEquals","bigger","Bigger","biggerEquals","BiggerEquals","isBlank","TYPED_NULL_EXPR","cast","CastExpr","toStmt","ExpressionStatement","BuiltinMethod","ReadVarExpr","builtin","isConstant","visitExpression","visitReadVarExpr","WriteVarExpr","

TypeofExpr","expr","visitTypeofExpr","WrappedNodeExpr","node","visitWrappedNodeExpr","visitWriteVarExpr","toDeclStmt","DeclareVarStmt","toConstDecl","StmtModifier","Final","WriteKeyExpr","receiver","visitWriteKeyExpr","WritePropExpr","visitWritePropExpr","MessagePiece","method","visitInvokeMethodExpr","fn","visitInvokeFunctionExpr","classExpr","visitInstantiateExpr","LiteralExpr","visitLiteralExpr","LiteralPiece","text","PlaceholderPiece","LocalizedString","metaBlock","messageParts","placeHolderNames","expressions","visitLocalizedString","serializeI18nHead","description","meaning","customId","legacyIds","legacyId","createCookedRawString","getMessagePartSourceSpan","getPlaceholderSourceSpan","serializeI18nTemplatePart","partIndex","escapeSlashes","str","replace","escapeColons","escapeForMessagePart","messagePart","range","cooked","raw","ExternalExpr","moduleName","runtime","visitExternalExpr","ExternalReference","condition","visitConditionalExpr","NotExpr","visitNotExpr","AssertNotNull","visitAssertNotNullExpr","visitCastExpr","FnParam","FunctionExpr","statements","visitFunctionExpr","DeclareFunctionStmt","UnaryOperatorExpr","operator","visitUnaryOperatorExpr","lhs","visitBinaryOperatorExpr","visitReadPropExpr","visitReadKeyExpr","LiteralArrayExpr","entries","every","visitLiteralArrayExpr","LiteralMapEntry","quoted","LiteralMapExpr","visitLiteralMapExpr","CommaExpr","parts","visitCommaExpr","NULL_EXPR","This","Super","CatchError","CatchStack","LeadingComment","multiline","trailingNewline","JSDocComment","tags","serializeTags","e_2","tagToString","out","tags_1","tags_1_1","e_2_1","return","Statement","leadingComments","addLeadingComment","leadingComment","stmt","visitStatement","visitDeclareVarStmt","visitDeclareFunctionStmt","visitExpressionStmt","ReturnStatement","visitReturnStmt","AbstractClassPart","ClassField","initializer","f","ClassMethod","body","ClassGetter","ClassStmt","parent","fields","getters","constructorMethod","methods","visitDeclareClassStmt","IfStmt","visitIfStmt","TryCatchStmt","bodyStmts","catchStmts","visitTryCatchStmt","ThrowStmt","visitThrowStmt","AstTransformer","transformExpr","transformStmt","ast","visitAllExpressions","visitAllStatements","entry","mapType","exprs","getter","ctorMethod","stmts","RecursiveAstVisitor","findReadVarNames","_ReadVarVisitor","varNames","Set","add","_FindExternalReferencesVisitor","externalReferences","applySourceSpanToStatementIfNeeded","transformer","_ApplySourceSpanTransformer","applySourceSpanToExpressionIfNeeded","_clone","e_1","clone","keys","e_1_1","jsDocComment","variable","importExpr","id","importType","typeModifiers","expressionType","typeofExpr","literalArr","literalMap","ifStmt","thenClause","elseClause","literal","isNull","exp","DASH_CASE_REGEXP","splitAtColon","defaultValues","_splitAt","character","characterIndex","trim","visitValue","isArray","visitArray","isStrictStringMap","getPrototypeOf","STRING_MAP_PROTO","visitStringMap","visitPrimitive","visitOther","isDefined","val","noUndefined","ValueTransformer","arr","SyncAsync","isPromise","cb","then","syncAsyncValues","some","Promise","all","msg","syntaxError","parseErrors","ERROR_SYNTAX_ERROR","ERROR_PARSE_ERRORS","escapeRegExp","utf8Encode","encoded","codePoint","charCodeAt","low","stringify","overriddenName","newLineIndex","substring","resolveForwardRef","Version","full","splits","split","major","minor","patch","__window","window","__self","WorkerGlobalScope","_global","newArray","size","list","UNKNOWN_VALUE_KEY","KEY_CONTEXT","FixupExpression","resolved","original","fixup","expression","shared","ConstantPool","isClosureCompilerEnabled","literals","literalFactories","injectorDefinitions","directiveDefinitions","componentDefinitions","pipeDefinitions","nextNameIndex","getConstLiteral","forceShared","isLongStringLiteral","keyOf","newValue","freshName","definition","usage","getDefinition","kind","ctx","definitions","definitionsOf","property","propertyNameOf","getLiteralFactory","argumentsForKey","_getLiteralFactory","expressionForKey","resultMap","literalFactory","literalFactoryArguments","filter","resultExpressions","pureFunctionDeclaration","isVariable","uniqueName","KeyVisitor","invalid","quote","mapKey","arg","Identifiers","CORE","createTokenForReference","reference","identifier","createTokenForExternalReference","reflector","resolveExternalReference","ANALYZE_FOR_ENTRY_COMPONENTS","ElementRef","NgModuleRef","ViewContainerRef","ChangeDetectorRef","QueryList","TemplateRef","Renderer2","CodegenComponentFactoryResolver","ComponentFactoryResolver","ComponentFactory","ComponentRef","NgModuleFactory","createModuleFactory","moduleDef","moduleProviderDef","RegisterModuleFactoryFn","inject","directiveInject","INJECTOR","Injector","defineInjectable","InjectableDef","LOCALE_ID","TRANSLATIONS_FORMAT","inlineInterpolate","interpolate","EMPTY_ARRAY","EMPTY_MAP","Renderer","viewDef","elementDef","anchorDef","textDef","directiveDef","providerDef","queryDef","pureArrayDef","pureObjectDef","purePipeDef","pipeDef","nodeValue","ngContentDef","unwrapValue","createRendererType2","RendererType2","ViewDefinition","createComponentFactory","setClassMetadata","StaticSymbol","filePa

th","members","assertNoMembers","JSON","StaticSymbolCache","cache","declarationFile","HOST_REG_EXP","sanitizeIdentifier","CompileSummaryKind","_anonymousTypeIndex","identifierName","compileIdentifier","ref","identifierModuleUrl","viewClassName","compType","embeddedTemplateIndex","rendererTypeName","hostViewClassName","componentFactoryName","tokenName","tokenReference","CompileStylesheetMetadata","styles","styleUrls","moduleUrl","_normalizeArray","CompileTemplateMetadata","template","templateUrl","htmlAst","externalStylesheets","animations","ngContentSelectors","interpolation","isInline","preserveWhitespaces","encapsulation","flatten","toSummary","CompileDirectiveMetadata","isComponent","exportAs","inputs","outputs","hostListeners","hostProperties","hostAttributes","providers","viewProviders","queries","guards","viewQueries","entryComponents","componentViewType","rendererType","componentFactory","isHost","host","matches","inputsMap","bindConfig","outputsMap","summaryKind","Directive","CompilePipeMetadata","Pipe","CompileShallowModuleMetadata","CompileNgModuleMetadata","declaredDirectives","exportedDirectives","declaredPipes","exportedPipes","bootstrapComponents","importedModules","exportedModules","schemas","transitiveModule","NgModule","modules","TransitiveCompileNgModuleMetadata","directivesSet","directives","exportedDirectivesSet","pipesSet","pipes","exportedPipesSet","modulesSet","entryComponentsSet","addProvider","provider","addDirective","has","addExportedDirective","addPipe","addExportedPipe","addModule","addEntryComponent","ec","componentType","ProviderMeta","useClass","useValue","useExisting","useFactory","deps","multi","dependencies","reduce","flat","item","flatItem","jitSourceUrl","url","templateSourceUrl","ngModuleType","compMeta","templateMeta","sharedStylesheetJitUrl","pathParts","ngModuleJitUrl","moduleMeta","templateJitUrl","CORE$1","Identifiers$1","mapToMapExpression","convertMetaToOutput","typeWithParameters","numParams","prepareSyntheticPropertyName","prepareSyntheticListenerFunctionName","phase","jitOnlyGuardedExpression","ngJitMode","jitFlagNotDefined","jitFlagUndefinedOrTrue","NEW_METHOD","TRANSFORM_METHOD","PATCH_DEPS","namespaceHTML","namespaceMathML","namespaceSVG","elementStart","elementEnd","advance","syntheticHostProperty","syntheticHostListener","attributeInterpolate1","attributeInterpolate2","attributeInterpolate3","attributeInterpolate4","attributeInterpolate5","attributeInterpolate6","attributeInterpolate7","attributeInterpolate8","attributeInterpolateV","classProp","elementContainerStart","elementContainerEnd","elementContainer","styleMap","styleMapInterpolate1","styleMapInterpolate2","styleMapInterpolate3","styleMapInterpolate4","styleMapInterpolate5","styleMapInterpolate6","styleMapInterpolate7","styleMapInterpolate8","styleMapInterpolateV","classMap","classMapInterpolate1","classMapInterpolate2","classMapInterpolate3","classMapInterpolate4","classMapInterpolate5","classMapInterpolate6","classMapInterpolate7","classMapInterpolate8","classMapInterpolateV","styleProp","stylePropInterpolate1","stylePropInterpolate2","stylePropInterpolate3","stylePropInterpolate4","stylePropInterpolate5","stylePropInterpolate6","stylePropInterpolate7","stylePropInterpolate8","stylePropInterpolateV","nextContext","templateCreate","enableBindings","disableBindings","getCurrentView","textInterpolate","textInterpolate1","textInterpolate2","textInterpolate3","textInterpolate4","textInterpolate5","textInterpolate6","textInterpolate7","textInterpolate8","textInterpolateV","restoreView","pureFunction0","pureFunction1","pureFunction2","pureFunction3","pureFunction4","pureFunction5","pureFunction6","pureFunction7","pureFunction8","pureFunctionV","pipeBind1","pipeBind2","pipeBind3","pipeBind4","pipeBindV","hostProperty","propertyInterpolate","propertyInterpolate1","propertyInterpolate2","propertyInterpolate3","propertyInterpolate4","propertyInterpolate5","propertyInterpolate6","propertyInterpolate7","propertyInterpolate8","propertyInterpolateV","i18n","i18nAttributes","i18nExp","i18nStart","i18nEnd","i18nApply","i18nPostprocess","pipe","projection","projectionDef","injectAttribute","injectPipeChangeDetectorRef","invalidFactory","invalidFactoryDep","templateRefExtractor","resolveWindow","resolveDocument","resolveBody","defineComponent","setComponentScope","ComponentDefWithMeta","FactoryDef","defineDirective","DirectiveDefWithMeta","InjectorDef","defineInjector","NgModuleDefWithMeta","ModuleWithProviders","defineNgModule","setNgModuleScope","PipeDefWithMeta","definePipe","queryRefresh","viewQuery","staticViewQuery","staticContentQuery","loadQuery","contentQuery","NgOnChangesFeature","InheritDefinitionFeature","CopyDefinitionFeature","ProvidersFeature","listener","getFactoryOf","getInheritedFactory","sanitizeHtml","sanitizeStyle","sanitizeResourceUrl","sanitizeScript","sanitizeUrl","sanitizeUrlOrResourceUrl","trustConstantHtml","trustConstantScript","trustConstantResourceUrl","Text","visit","visitText","BoundText","visitBoundText","TextAttribute","valueSpan","visitTextAttribute","BoundAttribute","securityContext","unit","keySpan","fromBoundElementProperty","visitBoundAttribute","BoundEvent","handler","target","handlerSpan","fromParsed

Event","event","targetOrPhase","visitBoundEvent","Element","attributes","children","references","startSourceSpan","endSourceSpan","visitElement","Template","templateAttrs","variables","visitTemplate","Content","visitContent","Variable","visitVariable","Reference","visitReference","Icu","vars","placeholders","visitIcu","RecursiveVisitor","NullVisitor","content","icu","visitAll","nodes","nodes_1","nodes_1_1","newNode","nodes_2","nodes_2_1","transformAll","e_3","changed","nodes_3","nodes_3_1","e_3_1","TransformVisitor","newAttributes","newInputs","newOutputs","newChildren","newReferences","newTemplateAttrs","newVariables","Message","placeholderToMessage","sources","start","file","startLine","line","startCol","endLine","end","endCol","Text$1","Container","visitContainer","Icu$1","cases","TagPlaceholder","startName","closeName","visitTagPlaceholder","Placeholder","visitPlaceholder","IcuPlaceholder","visitIcuPlaceholder","CloneVisitor","container","expressionPlaceholder","ph","RecurseVisitor","child","k","BigInteger","digits","zero","one","addToSelf","maxNrOfDigits","Math","max","carry","digitSum","BigIntForMultiplication","powerOfTwos","getValue","multiplyBy","num","product","multiplyByAndAddTo","exponent","getMultipliedByPowerOfTwo","previousPower","BigIntExponentiation","exponents","toThePowerOf","digest","message","computeDigest","sha1","utf8","words32","bytesToWords32","bytes","endian","wordAt","Endian","Big","w","a","h0","h1","h2","h3","h4","j","rol32","fkVal","fk","temp","add32","bytesToHexString","hex","byteAt","words32ToByteString","word","word32ToByteString","serializeNodes","serializerVisitor","decimalDigest","computeDecimalDigest","_SerializerIgnoreIcuExpVisitor","computeMsgId","_SerializerVisitor","strCases","fingerprint","hi","hash32","lo","msgFingerprint","meaningFingerprint","add64","ah","bh","add32to64","l","rol64","count","wordsToDecimalString","decimal","base256","mix","Little","sub32","high","Serializer","createNameMapper","SimplePlaceholderMapper","mapName","internalToPublic","publicToNextId","publicToInternal","toPublicName","internalName","toInternalName","publicName","visitPlaceholderName","nextId","_visitor","_Visitor","visitTag","strAttrs","_serializeAttributes","strChildren","visitDeclaration","decl","visitDoctype","doctype","rootTag","dtd","serialize","Declaration","unescapedAttrs","escapeXml","Doctype","Tag","Text$2","unescapedValue","CR","ws","_ESCAPED_CHARS","Xmb","write","messages","locale","exampleVisitor","ExampleVisitor","_Visitor$1","rootNode","sourceTags","version","encoding","addDefaultExamples","load","digest$1","startTagAsText","startEx","startTagPh","closeTagAsText","closeEx","closeTagPh","interpolationAsText","exTag","icuExpression","icuType","icuCases","icuAsText","exText","toUpperCase","isI18nAttribute","startsWith","isI18nRootNode","isSingleI18nIcu","hasI18nMeta","icuFromI18nMessage","wrapI18nPlaceholder","contextId","getSeqNumberGenerator","startsAt","placeholdersToParams","updatePlaceholderMap","assembleBoundTextPlaceholders","bindingStartIndex","startIdx","find","idx","i18nFormatPlaceholderNames","useCamelCase","_params","formatI18nPlaceholderName","postfix","chunks","test","pop","shift","charAt","getTranslationConstPrefix","extra","declareI18nVariable","UNSAFE_OBJECT_KEY_NAME_REGEXP","temporaryAllocator","unsupported","feature","invalid$1","asLiteral","conditionallyCreateMapObjectLiteral","keepDeclared","getOwnPropertyNames","mapToExpression","declaredName","minifiedName","trimTrailingNulls","parameters","getQueryPredicate","query","constantPool","predicate","predicate_1","R3FactoryDelegateType","R3FactoryTarget","R3ResolvedDependencyType","DefinitionMap","toLiteralMap","getAttrsForDirectiveMatching","elOrTpl","attributesMap","chainedInstruction","calls","span","getInterpolationArgsLength","strings","compileFactoryFunction","t","ctorDepsType","typeForCtor","isDelegatedMetadata","internalType","ctorExpr","injectDependencies","injectFn","createCtorDepsType","hasTypes","attributeTypes","dep","createCtorDepType","Attribute","optional","skipSelf","baseFactory","baseFactoryStmt","Exported","ctorExprFinal","retExpr","makeConditionalFactory","nonCtorExpr","ctorStmt","delegateType","Factory","delegateFactory","delegate","delegateFactoryStmt","delegateArgs","delegateDeps","Class","isExpressionFactoryMetadata","typeArgumentCount","isPipe","compileInjectDependency","Token","flags","flagsParam","injectArgs","Invalid","dependenciesFromGlobalMetadata","outputCtx","diDeps","dependency","tokenRef","isAttribute","isOptional","isSelf","isSkipSelf","compileInjectable","factoryMeta","Injectable","useClassOnSelf","userDeps","delegateToFactory","injectableProps","providedIn","assertArrayOfStrings","UNUSABLE_INTERPOLATION_REGEXPS","assertInterpolationSymbols","start_1","end_1","regexp","InterpolationConfig","fromArray","markers","DEFAULT_INTERPOLATION_CONFIG","SourceMapGenerator","sourcesContent","lines","lastCol0","hasMappings","addSource","addLine","addMapping","col0","sourceUrl","sourceLine0","sourceCol0","currentLine","defineProperty","enumerable","configurable","toJSON","sourcesIndex","from","mappings","lastSourceIndex","lastSourceLine0","lastSourceCol0","segments","segment","segAsStr","toBase64VL

Q","sourceRoot","toJsComment","toBase64String","b64","i1","i2","i3","toBase64Digit","digit","_SINGLE_QUOTE_ESCAPE_STRING_RE","_LEGAL_IDENTIFIER_RE","CATCH_ERROR_VAR$1","CATCH_STACK_VAR$1","_EmittedLine","indent","partsLength","srcSpans","EmitterVisitorContext","_indent","_classes","_preambleLineCount","_lines","createRoot","println","lastPart","print","lineIsEmpty","_currentLine","lineLength","part","newLine","removeEmptyLastLine","incIndent","decIndent","pushClass","clazz","popClass","toSource","sourceLines","_createIndent","toSourceMapGenerator","genFilePath","startsAtLine","firstOffsetMapped","mapFirstOffsetIfNeeded","lineIdx","spans","spanIdx","sourceLine","sourceCol","setPreambleLineCount","spanOf","column","emittedLine","columnsLeft","AbstractEmitterVisitor","_escapeDollarInStrings","printLeadingComments","comment","hasElseCase","lineWasEmpty","getBuiltinMethodName","varName","escapeIdentifier","head","opStr","visitAllObjects","separator","incrementedIndent","escapeDollar","alwaysQuote","AbstractJsEmitterVisitor","_visitClassConstructor","_visitClassGetter","_visitClassMethod","_visitParams","fnExpr","currentClass","ConcatArray","SubscribeObservable","Bind","JitEvaluator","evaluateStatements","createSourceMaps","converter","JitEmitterVisitor","isUseStrictStatement","statement","createReturnStmt","evaluateCode","getArgs","createSourceMap","fnBody","fnArgNames","fnArgValues","argName","emptyFn","bind","headerLines","executeFunction","_evalArgNames","_evalArgValues","_evalExportedVars","resultVar","_emitReferenceToExternal","isWhitespace","code","isDigit","isAsciiLetter","isNewLine","isOctalDigit","ParseErrorLevel","ParseLocation","offset","moveBy","ch","priorLine","lastIndexOf","fromCharCode","getContext","maxChars","maxLines","startOffset","endOffset","ctxChars","ctxLines","before","after","ParseSourceFile","ParseSourceSpan","fullStart","details","ParseError","level","ERROR","contextualMessage","typeSourceSpan","sourceFileName","sourceFile","r3JitTypeSourceSpan","typeName","R3JitReflector","typeOrFunc","annotations","shallowAnnotations","tryAnnotations","propMetadata","hasLifecycleHook","lcProperty","componentModuleUrl","cmpMetadata","mapLiteral","compileNgModule","moduleType","bootstrap","declarations","imports","containsForwardDecls","emitInline","additionalStatements","definitionMap","refsToArray","setNgModuleScopeCall","generateSetNgModuleScopeCall","adjacentType","scopeMap","guardedCall","iife","tupleTypeOf","compileInjector","types","refs","shouldForwardDeclare","compilePipeFromMetadata","metadata","definitionMapValues","pipeName","ParsedPropertyType","ParserError","errLocation","ctxLocation","ParseSpan","toAbsolute","absoluteOffset","AbsoluteSourceSpan","AST","ASTWithName","nameSpan","Quote","uninterpretedExpression","location","visitQuote","EmptyExpr","ImplicitReceiver","visitImplicitReceiver","ThisReceiver","visitThisReceiver","Chain","visitChain","Conditional","trueExp","falseExp","visitConditional","PropertyRead","visitPropertyRead","PropertyWrite","visitPropertyWrite","SafePropertyRead","visitSafePropertyRead","KeyedRead","visitKeyedRead","KeyedWrite","visitKeyedWrite","BindingPipe","visitPipe","LiteralPrimitive","visitLiteralPrimitive","LiteralArray","visitLiteralArray","LiteralMap","visitLiteralMap","Interpolation","visitInterpolation","Binary","operation","left","right","visitBinary","Unary","binaryOp","binaryLeft","binaryRight","createMinus","createPlus","visitUnary","PrefixNot","visitPrefixNot","NonNullAssert","visitNonNullAssert","MethodCall","visitMethodCall","SafeMethodCall","visitSafeMethodCall","FunctionCall","visitFunctionCall","ASTWithSource","errors","visitASTWithSource","VariableBinding","ExpressionBinding","RecursiveAstVisitor$1","asts","asts_1","asts_1_1","AstTransformer$1","AstMemoryEfficientTransformer","modified","ParsedProperty","isLiteral","LITERAL_ATTR","isAnimation","ANIMATION","EventHandlerVars","ParsedEvent","ParsedVariable","BoundElementProperty","ConvertActionBindingResult","allowDefault","render3Stmts","convertActionBinding","localResolver","implicitReceiver","action","bindingId","interpolationFunction","baseSourceSpan","implicitReceiverAccesses","globals","DefaultLocalResolver","actionWithoutBuiltins","convertPropertyBindingBuiltins","createLiteralArrayConverter","argCount","createLiteralMapConverter","createPipeConverter","_AstToIrVisitor","actionStmts","flattenStatements","output","_Mode","prependTemporaryDecls","temporaryCount","unshift","temporaryDeclaration","usesImplicitReceiver","notifyImplicitReceiverUse","preventDefaultVar","returnExpr","convertStmtIntoExpression","createPreventDefaultVar","converterFactory","convertBuiltins","_BuiltinAstConverter","BindingForm","ConvertPropertyBindingResult","currValExpr","convertPropertyBinding","expressionWithoutBuiltins","form","outputExpr","getStatementsFromVisitor","TrySimple","createCurrValueExpr","temporaryName","temporaryNumber","ensureExpressionMode","mode","convertToStatementIfNeeded","_converterFactory","BuiltinFunctionCall","_localResolver","_implicitReceiver","_nodeMap","_resultMap","_currentTemporary","op","_visit","convertSourceSpan","ensureStatementMode","convertedArgs","leftMostSafe","leftMostSafeNode","co

nvertSafeAccess","_getLocal","getLocal","prevUsesImplicitReceiver","varExpr","addImplicitReceiverAccess","ass
ertNotNull","localExpr","guardedExpression","temporary","needsTemporary","allocateTemporary","access","delete
","releaseTemporary","visitSome","tempNumber","ShadowCss","strictStyling","shimCssText","cssText","hostSelec
tor","commentsWithHash","extractCommentsWithHash","_commentWithHashRe","stripComments","_commentRe
","_insertDirectives","_scopeCssText","_insertPolyfillDirectivesInCssText","_insertPolyfillRulesInCssText","_cssC
ontentNextSelectorRe","_cssContentRuleRe","rule","scopeSelector","unscopedRules","_extractUnscopedRulesFro
mCssText","_insertPolyfillHostInCssText","_convertColonHost","_convertColonHostContext","_convertShadowD
OMSelectors","_scopeSelectors","_cssContentUnscopedRuleRe","_convertColonRule","_cssColonHostRe","_colon
HostPartReplacer","_cssColonHostContextRe","_colonHostContextPartReplacer","regExp","partReplacer","_polyfi
llHostNoCombinator","suffix","_polyfillHost","_shadowDOMSelectorsRe","pattern","processRules","ruleCallback"
,"inputWithEscapedQuotes","escapeBlocks","QUOTE_PAIRS","inputWithEscapedBlocks","escapedString","CON
TENT_PAIRS","nextBlockIndex","nextQuoteIndex","_ruleRe","contentPrefix","blocks","CssRule","_quotedRe","_
scopeSelector","strict","_shadowDeepSelectors","deepParts","shallowPart","otherParts","_selectorNeedsScoping","
_applyStrictSelectorScope","_applySelectorScope","applyScope","_makeScopeMatcher","_selectorReSuffix","_app
lySimpleSelectorScope","_polyfillHostRe","replaceBy_1","_polyfillHostNoCombinatorRe","hnc","_","colon","attr
Name","_scopeSelectorPart","scopedP","safeContent","SafeSelector","scopedSelector","startIndex","sep","shouldSc
ope","part_1","restore","_colonHostContextRe","_polyfillHostContext","_colonHostRe","keep","replaceBy","_cont
ent","pseudo","_parenSuffix","StringWithEscapedBlocks","charPairs","placeholder","openChar","closeChar","resul
tParts","escapedBlocks","openCharCount","nonBlockStartIndex","blockStartIndex","char","StylesCompileDepende
ncy","setValue","CompiledStylesheet","stylesVar","isShimmed","StyleCompiler","_urlResolver","_shadowCss","co
mpileComponent","comp","_compileStyles","needsStyleShim","compileStyles","stylesheet","shim","Emulated","is
ComponentStylesheet","styleExpressions","plainStyle","_shimIfNeeded","styleUrl","exprIndex","getStylesVarNam
e","Const","component","NodeWithI18n","AstPath","path","position","parentOf","childOf","ctor","Text$3","Expan
sion","switchValue","switchValueSourceSpan","visitExpansion","ExpansionCase","valueSourceSpan","expSourceS
pan","visitExpansionCase","visitAttribute","Element$1","Comment","visitComment","visitAll$1","astResult","Tok
enType","RecursiveVisitor$1","visitChildren","CharacterReferenceType","TokenError","errorMsg","tokenType","T
okenizeResult","tokens","nonNormalizedIcuExpressions","_CR_OR_CRLF_REGEXP","_unexpectedCharacterErro
rMsg","charCode","_unknownEntityErrorMsg","entitySrc","_ControlFlowError","_Tokenizer","_file","_getTagDefi
nition","options","_currentTokenStart","_currentTokenType","_expansionCaseStack","_inInterpolation","_tokenizeI
cu","tokenizeExpansionForms","_interpolationConfig","interpolationConfig","_leadingTriviaCodePoints","leadingT
riviaChars","codePointAt","endPos","startPos","_cursor","EscapedCharacterCursor","PlainCharacterCursor","_pres
erveLineEndings","preserveLineEndings","_escapedString","_i18nNormalizeLineEndingsInICUs","i18nNormalize
LineEndingsInICUs","init","handleError","_processCarriageReturns","tokenize","peek","_attemptCharCode","_con
sumeCdata","_consumeComment","_consumeDocType","_consumeTagClose","_consumeTagOpen","_tokenizeExp
ansionForm","_consumeText","_beginToken","EOF","_endToken","isExpansionFormStart","_consumeExpansionF
ormStart","isExpansionCaseStart","_isInExpansionForm","_consumeExpansionCaseStart","_isInExpansionCase","_
consumeExpansionCaseEnd","_consumeExpansionFormEnd","getSpan","_createError","CursorError","cursor","_at
temptCharCodeCaseInsensitive","compareCharCodeCaseInsensitive","code1","code2","toUpperCaseCharCode","_r
equireCharCode","_attemptStr","chars","charsLeft","initialPosition","_attemptStrCaseInsensitive","_requireStr","_a
ttemptCharCodeUntilFn","_requireCharCodeUntilFn","diff","_attemptUntilChar","_readChar","decodeEntities","_d
ecodeEntity","fromCodePoint","nameStart","isNamedEntityEnd","getChars","isHex","codeStart","isDigitEntityEnd
","_unparsableEntityErrorMsg","entityStr","HEX","DEC","strNum","parseInt","_consumeRawText","endMarkerPr
edicate","tagCloseStart","foundEndMarker","COMMENT_START","COMMENT_END","CDATA_START","CD
ATA_END","DOC_TYPE","contentStart","_consumePrefixAndName","nameOrPrefixStart","isNameEnd","openTa
gToken","_consumeTagOpenStart","isNotWhitespace","_consumeAttributeName","_consumeAttributeValue","_co
nsumeTagOpenEnd","INCOMPLETE_TAG_OPEN","TEXT","contentTokenType","_consumeRawTextWithTagCl
ose","TAG_CLOSE","TAG_OPEN_START","attrNameStart","ATTR_NAME","prefixAndName","ATTR_QUOT
E","quoteChar","ATTR_VALUE","valueStart","TAG_OPEN_END_VOID","TAG_OPEN_END","EXPANSION_

FORM_START","_readUntil","normalizedCondition","conditionToken","EXPANSION_CASE_VALUE","EXPA
NSION_CASE_EXP_START","EXPANSION_CASE_EXP_END","EXPANSION_FORM_END","_isTextEnd","i
sInterpolation","isAsciiHexDigit","fileOrCursor","state","advanceState","updatePeek","leadingTriviaCodePoints","s
tartLocation","locationFromCursor","endLocation","fullStartLocation","pos","currentChar","internalState","process
EscapeSequence","digitStart","decodeHexDigits","octal","previous","isNaN","TreeError","ParseTreeResult","rootN
odes","Parser","getTagDefinition","tokenizeResult","tokenizer","mergeTextTokens","srcTokens","dstTokens","last
DstToken","parser","_TreeBuilder","build","_index","_elementStack","_advance","_peek","_consumeStartTag","_c
onsumeEndTag","_closeVoidElement","_consumeExpansion","prev","_advanceIf","_startToken","_addToParent","
expCase","_parseExpansionCase","_collectExpansionExpTokens","expansionCaseParser","expansionFormStack","l
astOnStack","_getParentElement","el","startTagToken","_consumeAttr","_getElementFullName","selfClosing","tag
Def","startSpan","_pushElement","_popElement","parentEl","endTagToken","stackIndex","splice","valueToken","p
arentElement","parentTagName","stack","HtmlParser","SKIP_WS_TRIM_TAGS","NO_WS_REGEXP","WS_REP
LACE_REGEXP","replaceNgsp","WhitespaceVisitor","hasPreserveWhitespacesAttr","attr","visitAllWithSiblings",
"expansion","expansionCase","removeWhitespaces","htmlAstWithErrors","PLURAL_CASES","expandNodes","ex
pander","_Expander","ExpansionResult","isExpanded","ProviderAstType","expanded","ExpansionError","_expand
PluralForm","expansionResult","switchAttr","_expandDefaultForm","icuCase","TextAst","ngContentIndex","Boun
dTextAst","AttrAst","visitAttr","BoundPropertyMapping","BoundElementPropertyAst","fromBoundProperty","visit
ElementProperty","BoundEventAst","calcFullName","visitEvent","ReferenceAst","originalValue","VariableAst","fr
omParsedVariable","v","ElementAst","hasViewContainer","queryMatches","EmbeddedTemplateAst","visitEmbedd
edTemplate","BoundDirectivePropertyAst","directiveName","templateName","visitDirectiveProperty","DirectiveAs
t","directive","hostEvents","contentQueryStartId","visitDirective","ProviderAst","multiProvider","eager","provider
Type","lifecycleHooks","isModule","NgContentAst","visitNgContent","NullTemplateVisitor","RecursiveTemplate
AstVisitor","templateVisitAll","ProviderError","ProviderViewContext","_getViewQueries","viewQueryId","_addQ
ueryToTokenMap","queryId","ProviderElementContext","viewContext","_parent","_isViewRoot","_directiveAsts",
"isTemplate","_sourceSpan","_transformedProviders","_seenProviders","_queriedTokens","transformedHasViewCo
ntainer","_attrs","attrAst","directivesMeta","directiveAst","_allProviders","_resolveProvidersFromDirectives","targ
etErrors","providersByToken","_resolveProviders","Component","PublicService","PrivateService","_contentQuerie
s","_getContentQueries","contentQueryId","contentQueries","directiveIndex","_addQueryReadsTo","templateRefId
","refAst","defaultQueryValue","_getOrCreateLocalProvider","afterElement","lazyProviders","eagerProviders","sor
tedProviderTypes","transformProviders","sortedDirectives","sort","dir1","dir2","allMatches","defaultValue","query
ReadTokens","_getQueriesFor","queryValue","read","currentEl","distance","requestingProviderType","resolvedPro
vider","Builtin","transformedProviderAst","transformedProviders","transformedUseValue","transformedUseExistin
g","transformedDeps","existingDiDep","_getDependency","_transformProvider","_transformProviderAst","_getLoc
alDependency","attrValue","isValue","currElement","currEager","NgModuleProviderAnalyzer","extraProviders","_
errors","errorString","requestorSourceSpan","targetProvidersByToken","StyleWithImports","isStyleUrlResolvable",
"schemeMatch","URL_WITH_SCHEMA_REGEXP","PreparsedElementType","CSS_IMPORT_REGEXP","CSS_
STRIPPABLE_COMMENT_REGEXP","BindingParser","_exprParser","_schemaRegistry","pipesByName","_used
Pipes","pipesByName_1","getUsedPipes","createBoundHostProperties","dirMeta","boundProps_1","propName","p
arsePropertyBinding","_reportError","createDirectiveHostPropertyAsts","elementSelector","boundProps","createBo
undElementProperty","createDirectiveHostEventAsts","targetEvents_1","parseEvent","parseInterpolation","sourceI
nfo","_reportExpressionParserErrors","_checkPipes","wrapLiteralPrimitive","parseInterpolationExpression","parseI
nlineTemplateBinding","tplKey","tplValue","absoluteValueOffset","targetMatchableAttrs","targetProps","targetVar
s","isIvyAst","bindings","_parseTemplateBindings","bindings_1","bindings_1_1","binding","bindingSpan","moveP
arseSourceSpan","srcSpan","_parsePropertyAst","parseLiteralAttr","absoluteKeyOffset","bindingsResult","parseTe
mplateBindings","templateBindings","warnings","warning","WARNING","isAnimationLabel","_parseAnimation","
isAnimationProp","_parseBinding","parsePropertyInterpolation","DEFAULT","isHostBinding","parseSimpleBindin
g","parseBinding","boundProp","skipValidation","mapPropertyName","NONE","bindingType","boundPropertyNa
me","securityContexts","_validatePropertyOrAttributeName","calcPossibleSecurityContexts","nsSeparatorIdx","ns"

,"STYLE","mappedPropName","getMappedPropName","targetEvents","_parseAnimationEvent","_parseRegularEv
ent","splitAtPeriod","_parseAction","parseAction","errors_1","errors_1_1","collector","PipeCollector","pipeMeta","
isAttr","report","validateAttribute","validateProperty","registry","ctxs","elementNames","allKnownElementNames"
,"notElementNames","possibleElementNames","absoluteSpan","startDiff","endDiff","preparseElement","selectAttr"
,"hrefAttr","relAttr","nonBindable","projectAs","lcAttrName","normalizeNgContentSelect","nodeName","OTHER"
,"NG_CONTENT","SCRIPT","STYLESHEET","PreparsedElement","_TEXT_CSS_SELECTOR","BIND_NAME_
REGEXP","TEXT_CSS_SELECTOR","TemplateParseError","TemplateParseResult","templateAst","usedPipes","T
emplateParser","_config","_reflector","_htmlParser","_console","transforms","tryParse","warn","htmlParseResult","
getInterpolationConfig","tryParseHtml","expandHtml","uniqDirectives","removeSummaryDuplicates","uniqPipes",
"providerViewContext","bindingParser","parseVisitor","TemplateParseVisitor","EMPTY_ELEMENT_CONTEXT"
,"_assertNoReferenceDuplicationOnTemplate","transform","forced","expandedHtmlAst","existingReferences","con
fig","_bindingParser","_schemas","_targetErrors","selectorMatcher","directivesIndex","ngContentCount","findNgC
ontentIndex","valueNoNgsp","queryStartIndex","elName","preparsedElement","matchableAttrs","elementOrDirecti
veProps","elementOrDirectiveRefs","elementVars","events","templateElementOrDirectiveProps","templateMatchab
leAttrs","templateElementVars","hasInlineTemplates","isTemplateElement","templateValue","templateKey","hasBi
nding","_parseAttr","normalizedName","_normalizeAttributeName","hasTemplateBinding","parsedVariables_1","el
ementCssSelector","createElementCssSelector","_parseDirectives","directiveMetas","matchElement","boundDirecti
vePropNames","directiveAsts","_createDirectiveAsts","elementProps","_createElementPropertyAsts","providerCon
text","NON_BINDABLE_VISITOR","ElementContext","parsedElement","projectionSelector","_isEmptyTextNode
","_assertAllEventsPublishedByDirectives","_assertNoComponentsNorElementBindingsOnTemplate","transformed
DirectiveAsts","_assertElementExists","_assertOnlyOneComponent","ngContentIndex_1","templateQueryStartInde
x","templateSelector","templateBoundDirectivePropNames","templateDirectiveAsts","templateElementProps","tem
plateProviderContext","targetRefs","boundEvents","bindParts","_parseVariable","_parseReference","_parseAssign
mentEvent","ElementOrDirectiveRef","elementSourceSpan","targetReferences","targetBoundDirectivePropNames"
,"matchedReferences","directiveProperties","_checkPropertiesInSchema","parsedEvents","_createDirectiveProperty
Asts","elOrDirRef","isReferenceToDirective","refToken","targetBoundDirectiveProps","boundPropsByName_1","p
revValue","dirProp","isEmptyExpression","boundElementProps","_findComponentDirectives","_findComponentDi
rectiveNames","componentTypeNames","hasElement","allDirectiveEvents","hasProperty","NonBindableVisitor","a
ttrNameAndValues","splitExportAs","splitClasses","classAttrValue","_ngContentIndexMatcher","_wildcardNgCont
entIndex","wildcardNgContentIndex","ngContentIndices","elNameNoNs","attrNameNoNs","items","stripUnnecess
aryQuotes","qS","tempValue","hyphenate","StylingBuilder","_directiveExpr","_hasInitialValues","hasBindings","h
asBindingsWithPipes","_classMapInput","_styleMapInput","_singleStyleInputs","_singleClassInputs","_lastStylingI
nput","_firstStylingInput","_stylesIndex","_classesIndex","_initialStyleValues","_initialClassValues","registerBoun
dInput","registerInputBasedOnName","registerStyleInput","registerClassInput","isStyle","isMapBased","parsePrope
rty","normalizePropName","hasOverrideFlag","registerIntoMap","_checkForPipes","registerStyleAttr","parenDepth
","propStart","currentProp","valueHasQuotes","styleVal","registerClassAttr","populateInitialStylingAttrs","assignH
ostAttrs","buildClassMapInstruction","valueConverter","_buildMapBasedInstruction","buildStyleMapInstruction","i
sClassBased","stylingInput","totalBindingSlotsRequired","mapValue","getClassMapInterpolationExpression","getS
tyleMapInterpolationExpression","supportsInterpolation","allocateBindingSlots","convertFn","convertResult","_bui
ldSingleInputs","getInterpolationExpressionFn","instructions","previousInstruction","referenceForCall","_buildClas
sInputs","_buildStyleInputs","getStylePropInterpolationExpression","buildUpdateLevelInstructions","styleMapInstr
uction","classMapInstruction","overrideIndex","unitIndex","KEYWORDS","Lexer","scanner","_Scanner","scanTok
en","Token$1","numValue","strValue","isCharacter","Character","isNumber","isString","isOperator","Operator","is
Identifier","Identifier","isKeyword","Keyword","isKeywordLet","isKeywordAs","isKeywordNull","isKeywordUnd
efined","isKeywordTrue","isKeywordFalse","isKeywordThis","isError","toNumber","newCharacterToken","newOp
eratorToken","isIdentifierStart","scanIdentifier","scanNumber","scanCharacter","scanString","scanOperator","scan
ComplexOperator","twoCode","two","threeCode","three","isIdentifierPart","newKeywordToken","newIdentifierTo
ken","simple","isExponentSign","parseIntAutoRadix","parseFloat","newNumberToken","buffer","marker","unescap

edCode","unescape","last","newStringToken","newErrorToken","isQuote","SplitInterpolation","offsets","Template
BindingParseResult","defaultInterpolateRegExp","_createInterpolateRegExp","ParseContextFlags","Parser$1","_lex
er","simpleExpressionChecker","SimpleExpressionChecker","_checkNoInterpolation","sourceToLex","_stripComm
ents","_ParseAST","parseChain","_parseBindingAst","checkSimpleExpression","checker","_parseQuote","prefixSe
paratorIndex","splitInterpolation","expressionNodes","expressionText","createInterpolationAst","atInterpolation","e
xtendLastString","interpStart","interpEnd","exprStart","exprEnd","_getExpressiondEndIndex","fullEnd","piece","_c
ommentStart","outerQuote","nextChar","_getInterpolateRegExp","_findInterpolationErrorColumn","partInErrIdx","
expressionEnd","currentQuote","escapeCount","IvyParser","IvySimpleExpressionChecker","_SECURITY_SCHEM
A","inputLength","rparensExpected","rbracketsExpected","rbracesExpected","sourceSpanCache","atEOF","current
EndIndex","inputIndex","serial","withContext","ret","consumeOptionalCharacter","peekKeywordLet","peekKeywo
rdAs","expectCharacter","consumeOptionalOperator","expectOperator","prettyPrintToken","tok","expectIdentifierO
rKeyword","expectIdentifierOrKeywordOrString","parsePipe","parseExpression","parseConditional","parseLogical
Or","yes","no","parseLogicalAnd","parseEquality","parseRelational","parseAdditive","parseMultiplicative","parseP
refix","parseCallChain","parsePrimary","resultStart","parseAccessMemberOrMethodCall","Writable","parseCallAr
guments","elements","parseExpressionList","parseLiteralMap","literalValue","terminator","isSafe","positionals","ex
pectTemplateBindingKey","operatorFound","currentAbsoluteOffset","parseDirectiveKeywordBindings","letBindin
g","parseLetBinding","parseAsBinding","consumeStatementTerminator","getDirectiveBoundTarget","spanEnd","as
Binding","spanStart","locationText","skip","SECURITY_SCHEMA","registerContext","HTML","URL","RESOUR
CE_URL","specs","specs_1","specs_1_1","ElementSchemaRegistry","SCHEMA","_ATTR_TO_PROP","class","fo
r","formaction","innerHtml","readonly","tabindex","DomElementSchemaRegistry","_schema","encodedType","strT
ype","properties","superName","superType","schemaMetas","schema","getDefaultComponentElementName","nor
malizeAnimationStyleProperty","dashCaseToCamelCase","normalizeAnimationStyleValue","camelCaseProp","user
ProvidedProp","strVal","_isPixelDimensionStyle","valAndSuffixMatch","BIND_NAME_REGEXP$1","htmlAstTo
Render3Ast","htmlNodes","HtmlAstToIvyAst","TagType","inI18nBlock","isI18nRootElement","reportError","cont
ents","textContents","parsedProperties","i18nAttrsMeta","templateParsedProperties","templateVariables","element
HasInlineTemplate","normalizeAttributeName","isTemplateBinding","parsedVariables","parseAttribute","NON_BI
NDABLE_VISITOR$1","isEmptyTextNode","isCommentNode","extractAttributes","bound","templateAttrs_1","ho
istedAttrs","_visitTextWithInterpolation","formattedKey","i18nPropsMeta","bep","matchableAttributes","createKey
Span","keySpanStart","keySpanEnd","parseVariable","parseReference","addEvents","parseAssignmentEvent","I18n
Context","templateIndex","isEmitted","_unresolvedCtxCount","_registry","setupRegistry","getUniqueId","icus","ap
pendTag","closed","getSerializedPlaceholders","serializePlaceholderValue","appendBinding","appendIcu","append
BoundText","appendTemplate","TEMPLATE","appendElement","ELEMENT","appendProjection","forkChildCont
ext","reconcileChildContext","findTemplateFn","phs","tmplIdx","findIndex","isCloseTag","endsWith","tmpl","wra
p","symbol","wrapTag","serializer","IcuSerializerVisitor","formatPh","serializeIcuNode","TAG_TO_PLACEHOL
DER_NAMES","A","B","BR","EM","H1","H2","H3","H4","H5","H6","HR","I","LI","LINK","OL","P","Q","S","S
MALL","SUB","SUP","TBODY","TD","TFOOT","TH","THEAD","TR","TT","U","UL","PlaceholderRegistry","_
placeHolderNameCounts","_signatureToName","getStartTagPlaceholderName","signature","_hashTag","upperTag"
,"baseName","_generateUniqueName","getCloseTagPlaceholderName","_hashClosingTag","getPlaceholderName",
"upperName","getUniquePlaceholder","_expParser","createI18nMessageFactory","_I18nVisitor","visitNodeFn","toI
18nMessage","noopVisitNodeFn","_html","_expressionParser","isIcu","icuDepth","placeholderRegistry","placehold
erToContent","i18nodes","startPhName","closePhName","i18nIcuCases","i18nIcu","caze","expPh","phName","_icu
Case","_context","previousI18n","_addText","_addPlaceholder","reusePreviousSourceSpans","assertSingleContaine
rMessage","assertEquivalentNodes","previousNodes","textPiece","interpolationSpan","stringSpan","getOffsetSourc
eSpan","extractPlaceholderName","_CUSTOM_PH_EXP","setI18nRefs","htmlNode","i18nNode","previousMessag
e","I18nMetaVisitor","keepI18nAttrs","enableI18nLegacyMessageIdFormat","_createI18nMessage","_generateI18n
Message","_parseMetadata","_setMessageId","_setLegacyIds","hasI18nAttrs","attrsMeta","attrs_1","attrs_1_1","cur
rentMessage","parseI18nMeta","idIndex","descIndex","meaningAndDesc","createGoogleGetMsgStatements","varia
ble$1","closureVar","serializeI18nMessageForGetMsg","serializerVisitor$1","googGetMsgStmt","metaComment","

i18nMetaToJSDoc","GetMsgSerializerVisitor","createLocalizeStatements","serializeI18nMessageForLocalize","pieces","serializerVisitor$2","processMessagePieces","placeHolders","createEmptyMessagePart","getSourceSpan","startNode","localizedString$1","localizedString","placeholderNames","variableInitialization","LocalizeSerializerVisitor","createPlaceholderPiece","EVENT_BINDING_SCOPE_GLOBALS","GLOBAL_TARGET_RESOLVERS","LEADING_TRIVIA_CHARS","renderFlagCheckIfStmt","prepareEventListenerParameters","eventAst","handlerName","scope","implicitReceiverExpr","bindingLevel","getOrCreateSharedContextVar","bindingExpr","restoreViewStatement","variableDeclarations","prepareSyntheticListenerName","fnName","fnArgs","handlerFn","TemplateDefinitionBuilder","parentBindingScope","contextName","i18nContext","directiveMatcher","pipeTypeByName","_namespace","relativeContextFilePath","i18nUseExternalIds","_constants","prepareStatements","constExpressions","_dataIndex","_bindingContext","_prefixCode","_creationCodeFns","_updateCodeFns","_currentIndex","_tempVariables","_nestedTemplateFns","_unsupported","_pureFunctionSlots","_bindingSlots","_ngContentReservedSlots","_ngContentSelectorsOffset","_implicitReceiverExpr","_bindingScope","nestedScope","fileBasedI18nSuffix","_valueConverter","ValueConverter","allocateDataSlot","numSlots","allocatePureFunctionSlots","slot","pipeType","creationInstruction","buildTemplateFunction","ngContentSelectorsOffset","registerContextVariables","initI18nContext","isSingleElementTemplate","selfClosingI18nInstruction","hasTextChildrenOnly","updatePipeSlotOffsets","buildTemplateFn","r3ReservedSlots","creationStatements","updateStatements","creationVariables","viewSnapshotStatements","updateVariables","creationBlock","updateBlock","i18nTranslate","transformFn","_ref","i18nGenerateMainBlockVar","getTranslationDeclStmts","createClosureModeGuard","i18nGenerateClosureVar","scopedName","freshReferenceName","retrievalLevel","relativeLevel","getSharedContextName","generateNextContextExpr","i18nAppendBindings","i18nBindProps","label","assembleI18nBoundString","acc","lastIdx","messageId","uniqueSuffix","i18nUpdateRef","isRoot","isResolved","icuMapping_1","params_1","instruction","addToConsts","chainBindings_1","updateInstructionChainWithAdvance","getConstCount","updateInstruction","i18nAttributesInstruction","nodeIndex","i18nAttrArgs","converted","constIndex","getNamespaceInstruction","namespaceKey","addNamespaceInstruction","nsInstruction","interpolatedUpdateInstruction","elementIndex","updateInstructionWithAdvance","getUpdateInstructionArguments","ngContent","projectionSlotIdx","nonContentSelectAttributes","getAttributeExpressions","stylingBuilder","isNonBindableMode","outputAttrs","isNgContainer$1","matchDirectives","allOtherInputs","boundI18nAttrs","addAttrsToConsts","prepareRefsArray","wasInNamespace","currentNamespace","hasChildren","createSelfClosingInstruction","createSelfClosingI18nInstruction","listeners","outputAst","prepareListenerParameter","creationInstructionChain","stylingInstructions","limit","processStylingUpdateInstruction","emptyValueBindInstruction","propertyBindings","attributeBindings","inputType","value_1","hasValue_1","value_2","params_2","attrNamespace","attrName_1","sanitizationRef","resolveSanitizationFn","namespaceLiteral","getPropertyInterpolationExpression","getAttributeInterpolationExpression","boundValue_1","attrsExprs","templateVisitor","templateFunctionExpr","getVarCount","templatePropertyBindings","partitionArray","conditionFn","truthy","falsy","arr_1","arr_1_1","i18nInputs","value_3","getTextInterpolationExpression","initWasInvoked","formatted","getConsts","getNgContentSelectors","bindingContext","value_4","instructionFn","fns","paramsOrFn","prepend","calls_1","addAdvanceInstructionIfNecessary","updateInstructionChain","fnParams","originalSlots","getImplicitReceiverExpr","convertedPropertyBinding","valExpr","convertUpdateArguments","contextVariableExpression","expressionWithArgumentsToExtract","createCssSelector","staticType","renderAttributes","ngProjectAsAttr","alreadySeen","attrExprs","renderAttributes_1","renderAttributes_1_1","getAttributeNameLiterals","trustedConstAttribute","addAttrExpr","getNgProjectAsLiteral","parsedR3Selector","attrsLengthBeforeInputs","consts","variableName","nextContextStmt","refExpr","bindingFnName","allocateSlot","_pipeBindExprs","slotPseudoLocal","pureFunctionSlot","pipeBindingCallInfo","pipeBindingIdentifiers","isVarLength","pipeBindExpr","bindingSlots","array","pureFunctionIdentifiers","relativeLevelDiff","literal$1","allocateSlots","startSlot","pureFunctionCallInfo","attributeNamespace","nameLiteral","BindingScope","referenceNameIndex","restoreViewVariable","globals_1","globals_1_1","createRootScope","declareLocalCallback","declare","priority","localRef","maybeGenerateSharedContextVar","maybeRestoreView","getComponentProperty","SHARED_CONTEXT_KEY","newScope","generateSharedContextVar","bindingKey","sharedCtxObj","componentValue","localRefLookup","isListenerScope","getCurrentViewInstruction","currentContextLevel","levelDiff","currStmts","elementNameNoNs","nameNoNs","parseTemplate","makeBindingParser","parseResult","i18nMetaVisitor","elementRegistry","is

TextNode","ATTR_REGEX","baseDirectiveFields","createContentQueriesFunction","createStatements","tempAllocator","queries_1","queries_1_1","static","prepareQueryParams","getQueryList","refresh","updateDirective","propertyName","contentQueriesFnName","createViewQueriesFunction","queryDefinition","viewQueryFnName","createHostBindingsFunction","hostBindingsMetadata","styleBuilder","specialAttributes","styleAttr","hostBindingSourceSpan","directiveSummary","metadataAsSummary","eventBindings","createHostListeners","syntheticListeners","bindingName","allOtherBindings","totalHostVarsCount","getValueConverter","originalVarsCount","syntheticHostBindings","bindingFn","getBindingNameAndInstruction","attrMatches","sanitizerFn","instructionParams","hostAttrs","convertAttributesToExpressions","convertStylingCall","hostBindingsFnName","addFeatures","features","usesInheritance","fullInheritance","lifecycle","usesOnChanges","compileDirectiveFromMetadata","createDirectiveTypeParams","compileComponentFromMetadata","firstSelector","selectorAttributes","expression_1","templateTypeName","directivesUsed","pipesUsed","templateBuilder","templateFunctionExpression","constsExpr","directivesExpr","wrapDirectivesAndPipesInClosure","pipesExpr","shadowCss","stringArrayAsType","directiveMetadataFromGlobalMetadata","queriesFromGlobalMetadata","selectorsFromGlobalMetadata","selectorStrings","stringMapAsType","selectorForType","q","implicit","typeMapToExpressionMap","HOST_REG_EXP$1","parseHostBindings","e_4","e_4_1","verifyHostBindings","summary","ResourceLoader","CompilerFacadeImpl","jitEvaluator","elementSchemaRegistry","compilePipe","angularCoreEnv","sourceMapUrl","facade","wrapReference$1","convertR3DependencyMetadataArray","jitExpression","wrapExpression","USE_CLASS","USE_FACTORY","USE_VALUE","USE_EXISTING","compileDirective","convertDirectiveFacadeToMetadata","err","compileFactory","factoryRes","createParseSourceSpan","def","preStatements","wrapped","convertToR3QueryMetadata","inputsFromMetadata","parseInputOutputs","outputsFromMetadata","inputsFromType","outputsFromType","_loop_1","field","ann","isInput","isOutput","extractHostBindings","convertR3DependencyMetadata","facades","_loop_2","isHostListener","publishFacade","compilerFacade","VERSION$1","CompilerConfig","defaultEncapsulation","useJit","jitDevMode","missingTranslation","strictInjectionParameters","preserveWhitespacesDefault","preserveWhitespacesOption","defaultSetting","DirectiveNormalizer","_resourceLoader","_resourceLoaderCache","clearCache","clear","clearCacheFor","normalizedDirective","_fetch","normalizeTemplate","prenormData","_preParseTemplate","preparsedTemplate","_normalizeTemplateMetadata","prenomData","resolve","_preparseLoadedTemplate","templateAbsUrl","rootNodesAndErrors","templateMetadataStyles","_normalizeStylesheet","TemplatePreparseVisitor","templateStyles","inlineStyleUrls","_loadMissingExternalStylesheets","_normalizeLoadedTemplateMetadata","stylesheets","_inlineStyles","targetStyles","loadedStylesheets","loadedStyle","allStyleUrls","allStyles","styleWithImports","extractStyleUrls","resolver","baseUrl","foundUrls","modifiedCssText","ngNonBindableStackCount","textContent_1","QUERY_METADATA_IDENTIFIERS","DirectiveResolver","isDirective","typeMetadata","isDirectiveMetadata","throwIfNotFound","findLast","propertyMetadata","_mergeWithPropertyMetadata","dm","directiveType","hostBinding","startWith","hostListener","_merge","_extractPublicName","_dedupeBindings","names","publicNames","reversedResult","reverse","mergedInputs","mergedOutputs","mergedHost","mergedQueries","moduleId","_VisitorMode","I18nError","_I18N_COMMENT_PREFIX_REGEXP","i18nCommentsWarned","ExtractionResult","_Visitor$2","_implicitTags","_implicitAttrs","extract","_init","Extract","_inI18nBlock","_messages","merge","translations","Merge","_translations","translatedNode","_mode","_mayBeAddBlockChildren","wasInIcu","_inIcu","_isInTranslatableSection","_addMessage","isOpening","_isOpeningComment","isClosing","_isClosingComment","_inI18nNode","_depth","_blockStartDepth","_closeTranslatableSection","_blockChildren","_blockMeaningAndDesc","_translateMessage","console","_openTranslatableSection","wasInI18nNode","wasInImplicitNode","_inImplicitNode","childNodes","translatedChildNodes","i18nAttr","_getI18nAttr","i18nMeta","isImplicit","isTopLevelImplicit","isTranslatable","visited","_visitAttributesOf","translatedAttrs","_translateAttributes","_msgCountAtSectionStart","explicitAttrNameToValue","implicitAttrNames","msgMeta","_parseMessageMeta","i18nParsedMessageMeta","translatedAttributes","directChildren","_TAG_DEFINITION","XmlTagDefinition","requireExtraParent","currentParent","getXmlTagDefinition","XmlParser","Xliff","_WriteVisitor","transUnits","contextTags","contextGroupTag","purpose","context-type","transUnit","datatype","source-language","xliff","xmlns","XliffParser","msgIdToHtml","i18nNodesByMsgId","XmlToI18n","msgId","convert","i18nNodes","ctype","getCtypeForTag","equiv-text","equivText","_locale","_unitMlString","_msgIdToHtml","xml","idAttr","_addError","innerText","localeAttr",

"xmlIcu","nameAttr","caseMap","Xliff2","_WriteVisitor$1","units","notes","category","srcLang","Xliff2Parser","XmlToI18n$1","getTypeForTag","_nextPlaceholderId","disp","tagPc","equivStart","equivEnd","dispStart","dispEnd","idStr","versionAttr","startAttr","endAttr","endId","Xtb","XtbParser","XmlToI18n$2","createLazyProperty","valueFn","xtb","_bundleDepth","langAttr","TranslationBundle","_i18nNodesByMsgId","mapperFactory","missingTranslationStrategy","Warning","_i18nToHtml","I18nToHtmlVisitor","srcMsg","html","_digest","_mapperFactory","_missingTranslationStrategy","_contextStack","_convertToText","_srcMsg","_mapper","mapper","I18NHtmlParser","translationsFormat","createSerializer","format","_translationBundle","mergeTranslations","implicitTags","implicitAttrs","convertValueToOutputAst","_ValueOutputAstTransformer","quotedSet","mapEntry$1","InjectableCompiler","alwaysGenerateDef","tokenInjector","depsArray","tokenExpr","factoryFor","retValue","depArgs","injectableDef","compile","Static","STRIP_SRC_FILE_SUFFIXES","GENERATED_FILE","JIT_SUMMARY_FILE","JIT_SUMMARY_NAME","ngfactoryFilePath","forceSourceFile","urlWithSuffix","splitTypescriptSuffix","normalizeGenFileSuffix","stripGeneratedFileSuffix","lastDot","srcFileSuffix","summaryFileName","fileName","summaryForJitFileName","summaryForJitName","symbolName","LifecycleHooks","LOWERED_SYMBOL","isLoweredSymbol","LIFECYCLE_HOOKS_VALUES","OnInit","OnDestroy","DoCheck","OnChanges","AfterContentInit","AfterContentChecked","AfterViewInit","AfterViewChecked","CompileMetadataResolver","_ngModuleResolver","_directiveResolver","_pipeResolver","_summaryResolver","_directiveNormalizer","_staticSymbolCache","_errorCollector","_nonNormalizedDirectiveCache","_directiveCache","_summaryCache","_pipeCache","_ngModuleCache","_ngModuleOfTypes","_shallowModuleCache","getReflector","_createProxyClass","baseType","proxyClass","setDelegate","getGeneratedClass","dirType","getComponentViewClass","getHostComponentViewClass","getHostComponentType","getRendererType","getComponentFactory","hostView","initComponentFactory","_loadSummary","typeSummary","resolveSummary","getHostComponentMetadata","hostViewType","hostType","loadDirectiveMetadata","isSync","getNonNormalizedDirectiveMetadata","createDirectiveMetadata","templateMetadata","normalizedDirMeta","annotation","componentStillLoadingError","cacheEntry","nonNormalizedTemplateMetadata","changeDetectionStrategy","entryComponentMetadata","_getProvidersMetadata","stringifyType","flattenAndDedupeArray","_getEntryComponentMetadata","_getQueriesMetadata","_getTypeMetadata","getDirectiveMetadata","getDirectiveSummary","dirSummary","isAbstractDirective","isNgModule","getNgModuleSummary","alreadyCollecting","moduleSummary","getNgModuleMetadata","loadNgModuleDirectiveAndPipeMetadata","loading","promise","_loadPipeMetadata","getShallowModuleMetadata","compileMeta","ngModuleMeta","rawExports","rawImports","rawProviders","exportedNonModuleIdentifiers","importedType","importedModuleType","isValidType","_checkSelfImport","_getTypeDescriptor","importedModuleSummary","exportedType","exportedModuleSummary","_getIdentifierMetadata","_getTransitiveNgModuleMetadata","declaredType","declaredIdentifier","_addTypeToModule","exportedId","provide","oldModule","modulesByToken","modSummary","mod","addedTokens","prevModules","moduleRef","isInjectable","getInjectableSummary","getInjectableMetadata","throwOnUnknownDeps","_getDependenciesMetadata","hook","getHookName","_getFactoryMetadata","getPipeMetadata","getPipeSummary","pipeSummary","getOrLoadPipeMetadata","pipeAnnotation","hasUnknownDeps","dependenciesMetadata","paramEntry","_getTokenMetadata","depsTokens","targetEntryComponents","debugInfo","compileProviders","providerIdx","providerMeta","_validateProvider","providersInfo","soFar","seenProvider","seenProviderIdx","_getEntryComponentsFromProvider","getProviderMetadata","components","collectedIdentifiers","extractIdentifiers","targetIdentifiers","_CompileValueConverter","_getInjectableTypeMetadata","compileDeps","compileTypeMetadata","compileFactoryMetadata","_getQueryMetadata","_queryVarBindings","otherType","tree","dedupeArray","flattenArray","providerAst","lifecycleHook","lifecycleHookToNodeFlag","multiProviderDef","allDepDefs","allParams","providerIndex","depExprs","convertDeps","providerExpr","depsExpr","depIndex","paramName","depDef","singleProviderDef","tokenMeta","nodeFlag","componentFactoryResolverProviderDef","entryComponentFactories","entryComponent","classMeta","NgModuleCompileResult","ngModuleFactoryVar","LOG_VAR","NgModuleCompiler","providerParser","providerDefs","ngModuleDef","ngModuleDefFactory","_createNgModuleFactory","registerFactoryStmt","createStub","ngModuleReference","ngModuleFactoryStmt","NgModuleResolver","debugOutputAstAsTypeScript","_TsEmitterVisitor","TypeScriptEmitter","emitStatementsAndContext","preamble","emitSourceMaps","referenceFilter","importFilter","preambleLines","reexports","exportedModuleName","reexportsCode","reexport","as","importsWithPrefixes","importedModuleName","sm","sourc

eText","emitStatements","typeExpression","defaultType","_visitIdentifier","_printColonType","_visitClassField","Private","typeStr","PipeResolver","metas","TypeCheckCompiler","componentId","externalReferenceVars","embeddedViewCount","viewBuilderFactory","embeddedViewIndex","ViewBuilder","defaultResolver","TypeCheckLocalResolver","isHostComponent","refOutputVars","updates","actions","getOutputVar","getTypeGuardExpressions","guard","useIf","astNodes","targetStatements","viewStmts","bindingCount","preprocessUpdateExpression","General","guardExpression","guardClause","viewFactory","visitElementOrTemplate","fullTemplateTypeCheck","childVisitor","inputAst","dirAst","hostEventAst","currBuilder","outputVarType","varAst","pipeOutputVar","ViewCompileResult","viewClassVar","rendererTypeVar","ViewCompiler","renderComponentVarName","template_1","customRenderData","renderComponentVar","ViewBuilder$1","viewName","LOG_VAR$1","VIEW_VAR","CHECK_VAR","COMP_VAR","EVENT_NAME_VAR","ALLOW_DEFAULT_VAR","purePipeNodeIndices","refNodeIndices","_createPipe","queryIndex","calcStaticDynamicQueryFlags","nodeFlags","nodeDef","needsAdditionalRootNode","lastAstNode","_createNodeExpressions","updateDirectivesStmts","nodeDefExprs","updateRendererFn","_createUpdateFn","updateRendererStmts","updateDirectivesFn","viewFlags","OnPush","updateStmts","updateFn","preStmts","inter","updateRendererExpressions","bindingIndex","_preprocessUpdateExpression","checkIndex","updateRenderer","_visitElementOrTemplate","queryMatchesExpr","childCount","_createElementHandleEventFn","usedEvents","dirHostBindings","hostBindings","inputDefs","outputDefs","elementBindingDef","compAst","compRendererType","compView","elementAst","mapResult","mergeAttributeValue","attrValue1","attrValue2","elementEventNameAndTarget","elementEventFullName","_visitComponentFactoryResolverProvider","localDirAst","_visitDirective","dirHostEvents","_visitProvider","queryMatchExprs","_visitProviderOrDirective","updateDirectiveExpressions","dirContextExpr","updateDirectives","_addProviderNode","componentDirMeta","currViewExpr","refNodeIndex","varValue","_createLiteralArrayConverter","valueExpr_1","callCheckStmt","_createLiteralMapConverter","valueExpr_2","_createPipeConverter","checkIndex_1","compViewExpr","compBuilder","pipeNodeIndex","pipeValueExpr_1","callUnwrapValue","nodeValueExpr_1","diDep","updateBindingCount","createUpdateStatements","allowEmptyExprs","handlers","handleEventFn","handleEventStmts","handleEventBindingCount","trueStmts","fullEventName","bindingIdx","MessageBundle","updateFromTemplate","htmlParserResult","i18nParserResult","extractMessages","getMessages","filterSources","mapperVisitor","MapPlaceholderNames","msgList","src","transformedMessage","GeneratedFile","srcFileUrl","genFileUrl","sourceOrStmts","listLazyRoutes","allLazyRoutes","ROUTES","loadChildren","_collectLoadChildren","loadChildren_1","loadChildren_1_1","parseLazyRoute","routes","routes_1","routes_1_1","route","referencedModule","TS","ResolvedStaticSymbol","StaticSymbolResolver","staticSymbolCache","summaryResolver","errorRecorder","metadataCache","resolvedSymbols","importAs","symbolResourcePaths","symbolFromFile","knownFileNameToModuleNames","resolveSymbol","staticSymbol","_resolveSymbolMembers","_resolveSymbolFromSummary","_createSymbolsOf","getImportAs","useSummaries","baseSymbol","getStaticSymbol","baseImportAs","summarizedFileName","stripSummaryForJitFileSuffix","summarizedName","stripSummaryForJitNameSuffix","getResourcePath","getTypeArity","isGeneratedFile","resolvedSymbol","unwrapResolvedMetadata","arity","getKnownModuleName","recordImportAs","sourceSymbol","targetSymbol","recordModuleNameForFileName","invalidateFile","symbols","symbols_1","symbols_1_1","ignoreErrorsFor","recorder","baseResolvedSymbol","baseMetadata","__symbolic","statics","hasDecorators","getModuleMetadata","metadataKey","decorators","getSymbolsOf","moduleExport","export","exportSymbol","symName","unescapeIdentifier","resolvedModule","resolveModule","createExport","this_1","topLevelSymbolNames_1","origins_1","symbolMeta","origin","originFilePath","getOutputName","createResolvedSymbol","uniqueSymbols","resolvedSymbols_1","resolvedSymbols_1_1","topLevelPath","topLevelSymbolNames","_originalFileMemo","isTsFile","isLibraryFile","getOriginalName","transformedMeta","ReferenceTransformer","functionParams","symbolic","oldLen","getMetadataFor","unwrappedTransformedMeta","moduleMetadata","moduleMetadatas","maxVersion_1","md","errorMessage","getSymbolByModule","containingFile","moduleNameToFileName","createSummaryForJitFunction","ToJsonSerializer","symbolResolver","srcFileName","indexBySymbol","reexportedBy","processedSummaryBySymbol","processedSummaries","unprocessedSymbolSummariesBySymbol","addSummary","unprocessedSummary","processedSummary","processValue","metadata_1","clone_1","isCall","isFunctionCall","isMethodCallOnVariable","declarationSymbol","ngModuleSummary","summary_1","createExternalSymbolReexports","json","summaries","reexportSymbol","__symbol","toSummaryFileName","visitStaticS

ymbol","loadSummary","ForJitSerializer","addSourceType","isLibrary","addLibType","exportAsArr","exportAsBy
Symbol","exportAsArr_1","exportAsArr_1_1","ngModuleSymbols","serializeSummaryWithDeps","ngModuleSym
bol","jitExportAsName","serializeSummaryRef","serializeSummary","typeSymbol","jitImportedSymbol","Transfor
mer","FromJsonDeserializer","symbolCache","deserialize","libraryFileName","allImportAs","serializedSymbol","fr
omSummaryFileName","AotCompiler","_options","_host","_metadataResolver","_templateParser","_styleCompiler
","_viewCompiler","_typeCheckCompiler","_ngModuleCompiler","_injectableCompiler","_outputEmitter","_symb
olResolver","_templateAstCache","_analyzedFiles","_analyzedFilesForInjectables","analyzeModulesSync","rootFil
es","analyzeResult","analyzeAndValidateNgModules","ngModules","analyzeModulesAsync","_analyzeFile","analy
zedFile","analyzeFile","_analyzeFileForInjectables","analyzeFileForInjectables","findGeneratedFileNames","genFil
eNames","allowEmptyCodegenFiles","injectables","exportsNonSourceFiles","enableSummariesForJit","fileSuffix",
"dirSymbol","normalizedUrl","resourceNameToFileName","needsShim","_stylesModuleUrl","emitBasicStub","gen
FileName","originalFileName","_createOutputContext","originalFile","_createNgFactoryStub","_createEmptyStub"
,"createForJitStub","_codegenSourceModule","emitTypeCheckStub","loadFilesAsync","fileNames","tsFiles","files"
,"loadingPromises","analyzedInjectables","tsFile","analyzedModules","mergeAndValidateNgFiles","loadFilesSync"
,"emitFlags","ngModuleIndex","_externalIdentifierReferences","typeIndex","dirId","_createTypeCheckBlock","refe
rences_1","references_1_1","_parseTemplate","emitMessageBundle","htmlParser","messageBundle","compMetas",
"emitAllPartialModules","r3Files","ngModuleByPipeOrDirective","contextMap","_compilePartialModule","_compi
leShallowModules","shallowModules","compileNgModuleFromRender2","injectableCompiler","injectorDefArg","i
njectorDef","schemaRegistry","hostBindingParser","expressionParser","directiveMetadata","render3Ast","directive
TypeBySel_1","pipeTypeByName_1","compileComponentFromRender2","directiveTypeBySel","definitionField","
ngFactoryDefStatement","componentDefStatement","compileDirectiveFromRender2","directiveDefStatement","pip
eMetadata","compilePipeFromRender2","pipeDefStatement","emitAllPartialModules2","_emitPartialModule2","em
itAllImpls","_compileImplFile","generatedFiles","_createSummary","_compileModule","componentStylesheet","st
ylesheetMeta","_codegenStyles","_compileComponent","_compileComponentFactory","srcModule","ngFactoryCtx
","symbolSummaries","typeData","forJitOutputCtx","serializeSummaries","forJitCtx","toJsonSerializer","forJitSeria
lizer_1","createExternalSymbolFactoryReexports","normalizedLocale","i18nFormat","hostMeta","hostViewFactory
Var","compFactoryVar","inputsExprs","outputsExprs","directiveIdentifiers","componentStyles","parsedTemplate","
stylesExpr","viewResult","_resolveStyleStatements","importModule","_fileNameToModuleName","suppliedTypeP
arams","allTypeParams","memberName","importedFilePath","containingFilePath","fileNameToModuleName","styl
esheetMetadata","compiledStylesheet","entryRoute","visitLazyRoute","seenRoutes","lazyRoutes","lazyRoutes_2","l
azyRoutes_2_1","lazyRoute","lazyRoutes_1","lazyRoutes_1_1","compileResult","stylesheetUrl","analyzeNgModul
es","staticSymbolResolver","metadataResolver","mergeAnalyzedFiles","_analyzeFilesIncludingNonProgramFiles",
"seenFiles","visitFile","isSourceFile","modMeta","validateAnalyzedModules","symbolsMissingModule","abstractD
irectives","isNgSymbol","isValueExportingNonSourceFile","Visitor","analyzedFiles","allNgModules","allPipesAnd
Directives","af","formattedError","chain","formatChain","indentStr","half","floor","ANGULAR_CORE","HIDDEN
_KEY","IGNORE","REFERENCE_SET","shouldIgnore","StaticReflector","knownMetadataClasses","knownMetad
ataFunctions","annotationCache","shallowAnnotationCache","propertyCache","parameterCache","methodCache","s
taticCache","conversionMap","resolvedExternalReferences","annotationForParentClassWithSummaryKind","initiali
zeConversionMap","kc","_registerDecoratorOrConstructor","kf","_registerFunction","findSymbolDeclaration","inv
alidateSymbols","declarationSymbol_1","refSymbol","findDeclaration","tryFindDeclaration","resolvedMetadata","
originalRecorder","_annotations","simplify","classMetadata","getTypeMetadata","parentType","findParentType","p
arentAnnotations","ownAnnotations_1","requiredAnnotationTypes","requiredType","formatMetadataError","metad
ataError","parentPropMetadata_1","parentProp","members_1","parameters_1","ctorData","rawParameterTypes","pa
rameterDecorators_1","rawParamType","nestedResult","paramType","trySimplify","_methodNames","methodNam
es","parentMethodNames_1","members_2","isMethod","_staticMembers","staticMembers","staticMembers_1","stat
icMembers_1_1","injectionToken","opaqueToken","lazy","BindingScope$1","calling","simplifyInContext","depth",
"resolveReferenceValue","simplifyEagerly","simplifyNested","nestedContext","isMetadataError","summaryMsg","
errorSummary","FUNCTION_CALL_NOT_SUPPORTED","advise","isPrimitive","result_2","expression_1_1","sp

readArray","spreadArray_1","spreadArray_1_1","declarationValue","operand","indexTarget","member","selectContext","selectTarget","localValue","missing","argExpressions","simplifyCall","functionSymbol","targetFunction","targetExpression","defaults","functionScope","result_1","oldScope","mapStringMap","simplifyLazily","reportingContext","PopulatedScope","formatMetadataMessageChain","expandedMessage","messageAdvise","AotSummaryResolver","summaryCache","loadedFilePaths","referringSrcFileName","referringLibFileName","rootSymbol","_loadSummaryFile","hasSummary","summaryFilePath","deserializeSummaries","createAotUrlResolver","basePath","SummaryResolver","JitSummaryResolver","_summaries","_executeFunctionStatements","varValues","childCtx","createChildWihtLocalVars","_ExecutionContext","instance","ReturnValue","StatementInterpreter","debugAst","initialValue","currCtx","CATCH_ERROR_VAR$2","CATCH_STACK_VAR$2","subscribe","createDynamicClass","_classStmt","_ctx","propertyDescriptors","instanceCtx","paramNames","writable","ctorParamNames","superClass","_declareFn","JitCompiler","_jitEvaluator","_compilerConfig","getExtraNgModuleProviders","_compiledTemplateCache","_compiledHostTemplateCache","_compiledDirectiveWrapperCache","_compiledNgModuleCache","_sharedStylesheetCount","_addedAotSummaries","compileModuleSync","_compileModuleAndComponents","compileModuleAsync","compileModuleAndAllComponentsSync","_compileModuleAndAllComponents","compileModuleAndAllComponentsAsync","loadAotSummaries","_addAotSummaries","hasAotSummary","_filterJitIdentifiers","ids","_loadModules","_compileComponents","componentFactories","ngModuleFactory","mainModule","mainNgModule","nestedNgModule","createOutputContext","_interpretOrJit","allComponentFactories","moduleByJitDirective","templates","transJitModules","localMod","localModuleMeta","dirRef","_createCompiledTemplate","_createCompiledHostTemplate","entryComponentType","_compileTemplate","compiledTemplate","assertComponent","viewDefFactory","CompiledTemplate","isCompiled","externalStylesheetsByModuleUrl","outputContext","_resolveStylesCompileResult","evalResult","compiled","nestedCompileResult","nestedStylesArr","_resolveAndEvalStylesCompileResult","interpretStatements","exportName","_viewClass","viewClass","_ComponentIndex","CompileReflector","UrlResolver","UrlResolverImpl","_packagePrefix","resolvedUrl","_resolveUrl","_split","encodeURI","baseParts","Scheme","_joinAndCanonicalizePath","Port","Path","resolvedParts","_splitRe","uri","_removeDotSegments","leadingSlash","trailingSlash","up","_buildFromEncodedParts","opt_scheme","opt_userInfo","opt_domain","opt_port","opt_path","opt_queryData","opt_fragment","UserInfo","Domain","QueryData","Fragment","Extractor","urlResolver","staticReflector","normalizer","loadResource","extractor","R3TargetBinder","Scope","templateEntities","extractTemplateEntities","rootScope","entityMap","extractScopeEntities","currentEntities","namedEntities","parentScope","scopesToProcess","childScopes","entityMap_1","entityMap_1_1","DirectiveBinder","TemplateBinder","R3BoundTarget","nestingLevel","newRootScope","ingest","maybeDeclare","thing","lookup","getChildScope","dirTarget","setAttributeBinding","ioType","hasBindingPropertyName","visitBoundAttributeOrEvent","visitNode","childScope","maybeMap","exprTargets","getEntitiesInTemplateScope","getDirectivesOfNode","getReferenceTarget","getConsumerOfBinding","getExpressionTarget","getTemplateOfSymbol","getNestingLevel","getUsedDirectives","dirs","CONTENT_ATTR","ERROR_COMPONENT_TYPE","HOST_ATTR","NGSP_UNICODE","R3Identifiers","TmplAstBoundAttribute","TmplAstBoundEvent","TmplAstBoundText","TmplAstContent","TmplAstElement","TmplAstIcu","TmplAstRecursiveVisitor","TmplAstReference","TmplAstTemplate","TmplAstText","TmplAstTextAttribute","TmplAstVariable","VERSION","collectExternalReferences","createAotCompiler","compilerHost","errorCollector","enableIvy","tmplParser","viewCompiler","typeCheckCompiler","createLoweredSymbol","createOfflineCompileUrlResolver","createUrlResolverWithoutPackagePrefix","findNode","class_1","getParseErrors","getUrlScheme","isFormattedError","isSyntaxError","toTypeScript"],"mappings":";;;;;CAMC,SAAUA,EAAQC,EAAIC,EAAIC,EAAI

EAAI,EAC5E,GAAID,EACA,OAAOA,EAAEE,KAAKN,GAClB,GAAIA,GAAyB,iBAAbA,EAAEO,OACd,MAAO,CACHC,KAAAM,WAGF,OAFIR,GAAAKK,GAAAKL,EAAAEO,SACZP,OAAAI,GACD,CAAAES,MAAAOT,GAAAKA,EAAAEK,KAAAMK,MAAAOV,IAAAWhD,OAAAWG,EAAAI,0BAA4B,mCAAExD,SAASW,EAAAOZ,EAAAGa,GACf,GACfC,IAAAIT,EAAAsB,mBAAAXF,QAAAyBF,EAAAEE,OAAAOC,UACjDJ,IAAAKC,EACDO,IAAAOV,EAAAqB,QAAAyBF,EAAAEE,OAAAOC,UAAAJ,IAAAKC,EAAA

AAS,IACTC,MAAS,IACTC,OAAU,IACVC,OAAU,IACVC,KAAQ,IACRC,KAAQ,IACRC,MAAS,IACTC,MAA
S,IACTC,OAAU,IACVC,OAAU,IACVC,IAAO,IACPC,MAAS,IACTC,QAAW,IACXC,QAAW,IACXC,KAAQ,I
ACRC,KAAQ,IACRC,OAAU,IACVC,GAAM,IACNC,GAAM,IACNC,OAAU,IACVC,OAAU,IACVC,IAAO,IAC
PC,KAAQ,IACRC,KAAQ,IACRC,KAAQ,IACRC,KAAQ,IACRC,IAAO,IACPC,KAAQ,IAKZC,KADmB,KAUfC
,EAAmC,WACnC,SAASA,EAAkBC,GACvB,IAAIC,EAAQxT,KACRyT,OAAY,IAAPF,EAAgB,GAAKA,EAAI
G,EAAmBD,EAAGC,iBAAkBC,EAA0BF,EAAGE,wBAAyBC,EAAKH,EAAGI,YAAaA,OAAqB,IAAPD,EAAg
BnU,EAAQQ,eAAe6T,cAAgBF,EAAIG,EAAKN,EAAGO,eAAgBC,OAAwB,IAAPD,EAAgBE,EAAKR
,EAAGS,OAAQA,OAAgB,IAAPD,EAAgBE,EAAIE,EAAKV,EAAGW,eAAgBC,OAAwB,IAAPF,EAAgBG,EA
AIE,EAAKZ,EAAGa,4BAA6BA,OAAqC,IAAPD,EAAgBE,EAAKd,EAAGe,iBAAkBC,OAA0B,IAAPF,EAAgBG,
gBAAiB,EACtBhU,KAAKuU,cAAe,EAAEChBb,GAAoBA,EAAIBlS,OAAS,GAAC9C,KAAKgU,
gBAAiB,EACtBi

AAM,6CAEpB8V,GAAQ,EACRD,EAAU,IAAIb,EACdY,EAAYR,aAAa7V,KAAKsW,GAElC,IAAII,EAAMV,EAAM,GAChB,GAAIU,EAAK,CACL,IAAIxV,EAAS8U,EAAM,GACJ,MAAX9U,EAAEAoV,EAAQK,aAAa,KAAMD,EAAIE,OAAO,IAEtB,MAAX1V,EAAELoV,EAAQO,aAAaH,EAAIE,OAAO,IAAhCN,CN,EAAQO,EAAIE,OAAO,IAAIC,WAAW,GAG3B,IAAIK,EAAYf,EAAM,GAAIgB,EAAOhB,EAAM,GAAIiB,EAAOjB,EAAM,GAAIkB,EAAOlB,EAAM,GAAImB,EAAOnB,EAAM,GAAIoB,EAAOpB,EAAM,GAAIqB,EAAOrB,EAAM,GAAIsB,EAAOtB,EAAM,GAAIuB,EAAOvB,EAAM,GAAIwB,EAAOxB,EAAM,GAAIyB,EAAOzB,EAAM,GAAI0B,EAAO1B,EAAM,GAAI2B,EAAO3B,EAAM,GAAI4B,EAAO5B,EAAM,GAAI6B,EAAO7B,EAAM,GAAI8B,EAAO9B,EAAM,GAAI+B,EAAO/B,EAAM,GAAIgC,EAAOhC,EAAM,GAAIiC,EAAOjC,EAAM,GAAIkC,EAAOlC,EAAM,GAAImC,EAAOnC,EAAM,GAAIoC,EAAOpC,EAAM,GAAIqC,EAAOrC,EAAM,GAAIsC,EAAOtC,EAAM,GAAIuC,EAAOvC,EAAM,GAAIwC,EAAOxC,EAAM,GAAIyC,EAAOzC,EAAM,GAAI0C,EAAO1C,EAAM,GAAI2C,EAAO3C,EAAM,GAAI4C,EAAO5C,EAAM,GAAI6C,EAAO7C,EAAM,GAAI8C,EAAO9C,EAAM,GAAI+C,EAAO/C,EAAM,GAAIgD,EAAOhD,EAAM,GAAIiD,EAAOjD,EAAM,GAAIkD,EAAOlD,EAAM,GAAImD,EAAOnD,EAAM,GAAIoD,EAAOpD,EAAM,GAAIqD,EAAOrD,EAAM,GAAIsD,EAAOtD,EAAM,GAAIuD,EAAOvD,EAAM,GAAIwD,EAAOxD,EAAM,GAAIyD,EAAOzD,EAAM,GAAI0D,EAAO1D,EAAM,GAAI2D,EAAO3D,EAAM,GAAI4D,EAAO5D,EAAM,GAAI6D,EAAO7D,EAAM,GAAI8D,EAAO9D,EAAM,GAAI+D,EAAO/D,EAAM,GAAIgE,EAAOhE,EAAM,GAAIiE,EAAOjE,EAAM,GAAIkE,EAAOlE,EAAM,GAAImE,EAAOnE,EAAM,GAAIoE,EAAOpE,EAAM,GAAIqE,EAAOrE,EAAM,GAAIsE,EAAOtE,EAAM,GAAIuE,EAAOvE,EAAM,GAAIwE,EAAOxE,EAAM,GAAIyE,EAAOzE,EAAM,GAAI0E,EAAO1E,EAAM,GAAI2E,EAAO3E,EAAM,GAAI4E,EAAO5E,EAAM,GAAI6E,EAAO7E,EAAM,GAAI8E,EAAO9E,EAAM,GAAI+E,EAAO/E,EAAM,GAAIgF,EAAOhF,EAAM,GAAIiF,EAAOjF,EAAM,GAAIkF,EAAOlF,EAAM,GAAImF,EAAOnF,EAAM,GAAIoF,EAAOpF,EAAM,GAAIqF,EAAOrF,EAAM,GAAIsF,EAAOtF,EAAM,GAAIuF,EAAOvF,EAAM,GAAIwF,EAAOxF,EAAM,GAAIyF,EAAOzF,EAAM,GAAI0F,EAAO1F,EAAM,GAAI2F,EAAO3F,EAAM,GAAI4F,EAAO5F,EAAM,GAAI6F,EAAO7F,EAAM,GAAI8F,EAAO9F,EAAM,GAAI+F,EAAO/F,EAAM,GAAIgG,EAAOhG,EAAM,GAAIiG,EAAOjG,EAAM,GAAIkG,EAAOlG,EAAM,GAAImG,EAAOnG,EAAM,GAAIoG,EAAOpG,EAAM,GAAIqG,EAAOrG,EAAM,GAAIsG,EAAOtG,EAAM,GAAIuG,EAAOvG,EAAM,GAAIwG,EAAOxG,EAAM,GAAIyG,EAAOzG,EAAM,GAAI0G,EAAO1G,EAAM,GAAI2G,EAAO3G,EAAM,GAAI4G,EAAO5G,EAAM,GAAI6G,EAAO7G,EAAM,GAAI8G,EAAO9G,EAAM,GAAI+G,EAAO/G,EAAM,GAAIgH,EAAOhH,EAAM,GAAIiH,EAAOjH,EAAM,GAAIkH,EAAOlH,EAAM,GAAImH,EAAOnH,EAAM,GAAIoH,EAAOpH,EAAM,GAAIqH,EAAOrH,EAAM,GAAIsH,EAAOtH,EAAM,GAAIuH,EAAOvH,EAAM,GAAIwH,EAAOxH,EAAM,GAAIyH,EAAOzH,EAAM,GAAI0H,EAAO1H,EAAM,GAAI2H,EAAO3H,EAAM,GAAI4H,EAAO5H,EAAM,GAAI6H,EAAO7H,EAAM,GAAI8H,EAAO9H,EAAM,GAAI+H,EAAO/H,EAAM,GAAIgI,EAAOhI,EAAM,GAAIiI,EAAOjI,EAAM,GAAIkI,EAAOlI,EAAM,GAAImI,EAAOnI,EAAM,GAAIoI,EAAOpI,EAAM,GAAIqI,EAAOrI,EAAM,GAAIsI,EAAOtI,EAAM,GAAIuI,EAAOvI,EAAM,GAAIwI,EAAOxI,EAAM,GAAIyI,EAAOzI,EAAM,GAAI0I,EAAO1I,EAAM,GAAI2I,EAAO3I,EAAM,GAAI4I,EAAO5I,EAAM,GAAI6I,EAAO7I,EAAM,GAAI8I,EAAO9I,EAAM,GAAI+I,EAAO/I,EAAM,GAAIgJ,EAAOhJ,EAAM,GAAIiJ,EAAOjJ,EAAM,GAAIkJ,EAAOlJ,EAAM,GAAImJ,EAAOnJ,EAAM,GAAIoJ,EAAOpJ,EAAM,GAAIqJ,EAAOrJ,EAAM,GAAIsJ,EAAOtJ,EAAM,GAAIuJ,EAAOvJ,EAAM,GAAIwJ,EAAOxJ,EAAM,GAAIyJ,EAAOzJ,EAAM,GAAI0J,EAAO1J,EAAM,GAAI2J,EAAO3J,EAAM,GAAI4J,EAAO5J,EAAM,GAAI6J,EAAO7J,EAAM,GAAI8J,EAAO9J,EAAM,GAAI+J,EAAO/J,EAAM,GAAIgK,EAAOhK,EAAM,GAAIiK,EAAOjK,EAAM,GAAIkK,EAAOlK,EAAM,GAAImK,EAAOnK,EAAM,GAAIoK,EAAOpK,EAAM,GAAIqK,EAAOrK,EAAM,GAAIsK,EAAOtK,EAAM,GAAIuK,EAAOvK,EAAM,GAAIwK,EAAOxK,EAAM,GAAIyK,EAAOzK,EAAM,GAAI0K,EAAO1K,EAAM,GAAI2K,EAAO3K,EAAM,GAAI4K,EAAO5K,EAAM,GAAI6K,EAAO7K,EAAM,GAAI8K,EAAO9K,EAAM,GAAI+K,EAAO/K,EAAM,GAAIgL,EAAOhL,EAAM,GAAIiL,EAAOjL,EAAM,GAAIkL,EAAOlL,EAAM,GAAImL,EAAOnL,EAAM,GAAIoL,EAAOpL,EAAM,GAAIqL,EAAOrL,EAAM,GAAIsL,EAAOtL,EAAM,GAAIuL,EAAOvL,EAAM,GAAIwL,EAAOxL,EAAM,GAAIyL,EAAOzL,EAAM,GAAI0L,EAAO1L,EAAM,GAAI2L,EAAO3L,EAAM,GAAI4L,EAAO5L,EAAM,GAAI6L,EAAO7L,EAAM,GAAI8L,EAAO9L,EAAM,GAAI+L,EAAO/L,EAAM,GAAIgM,EAAOhM,EAAM,GAAIiM,EAAOjM,EAAM,GAAIkM,EAAOlM,EAAM,GAAImM,EAAOnM,EAAM,GAAIoM,EAAOpM,EAAM,GAAIqM,EAAOrM,EAAM,GAAIsM,EAAOtM,EAAM,GAAIuM,EAAOvM,EAAM,GAAIwM,EAAOxM,EAAM,GAAIyM,EAAOzM,EAAM,GAAI0M,EAAO1M,EAAM,GAAI2M,EAAO3M,EAAM,GAAI4M,EAAO5M,EAAM,GAAI6M,EAAO7M,EAAM,GAAI8M,EAAO9M,EAAM,GAAI+M,EAAO/M,EAAM,GAAIgN,EAAOhN,EAAM,GAAIiN,EAAOjN,EAAM,GAAIkN,EAAOlN,EAAM,GAAImN,EAAOnN,EAAM,GAAIoN,EAAOpN,EAAM,GAAIqN,EAAOrN,EAAM,GAAIsN,EAAOtN,EAAM,GAAIuN,EAAOvN,EAAM,GAAIwN,EAAOxN,EAAM,GAAIyN,EAAOzN,EAAM,GAAI0N,EAAO1N,EAAM,GAAI2N,EAAO3N,EAAM,GAAI4N,EAAO5N,EAAM,GAAI6N,EAAO7N,EAAM,GAAI8N,EAAO9N,EAAM,GAAI+N,EAAO/N,EAAM,GAAIgO,EAAOhO,EAAM,GAAIiO,EAAOjO,EAAM,GAAIkO,EAAOlO,EAAM,GAAImO,EAAOnO,EAAM,GAAIoO,EAAOpO,EAAM,GAAIqO,EAAOrO,EAAM,GAAIsO,EAAOtO,EAAM,GAAIuO,EAAOvO,EAAM,GAAIwO,EAAOxO,EAAM,GAAIyO,EAAOzO,EAAM,GAAI0O,EAAO1O,EAAM,GAAI2O,EAAO3O,EAAM,GAAI4O,EAAO5O,EAAM,GAAI6O,EAAO7O,EAAM,GAAI8O,EAAO9O,EAAM,GAAI+O,EAAO/O,EAAM,GAAIgP,EAAOhP,EAAM,GAAIiP,EAAOjP,EAAM,GAAIkP,EAAOlP,EAAM,GAAImP,EAAOnP,EAAM,GAAIoP,EAAOpP,EAAM,GAAIqP,EAAOrP,EAAM,GAAIsP,EAAOtP,EAAM,GAAIuP,EAAOvP,EAAM,GAAIwP,EAAOxP,EAAM,GAAIyP,EAAOzP,EAAM,GAAI0P,EAAO1P,EAAM,GAAI2P,EAAO3P,EAAM,GAAI4P,EAAO5P,EAAM,GAAI6P,EAAO7P,EAAM,GAAI8P,EAAO9P,EAAM,GAAI+P,EAAO/P,EAAM,GAAIgQ,EAAOhQ,EAAM,GAAIiQ,EAAOjQ,EAAM,GAAIkQ,EAAOlQ,EAAM,GAAImQ,EAAOnQ,EAAM,GAAIoQ,EAAOpQ,EAAM,GAAIqQ,EAAOrQ,EAAM,GAAIsQ,EAAOtQ,EAAM,GAAIuQ,EAAOvQ,EAAM,GAAIwQ,EAAOxQ,EAAM,GAAIyQ,EAAOzQ,EAAM,GAAI0Q,EAAO1Q,EAAM,GAAI2Q,EAAO3Q,EAAM,GAAI4Q,EAAO5Q,EAAM,GAAI6Q,EAAO7Q,EAAM,GAAI8Q,EAAO9Q,EAAM,GAAI+Q,EAAO/Q,EAAM,GAAIgR,EAAOhR,EAAM,GAAIiR,EAAOjR,EAAM,GAAIkR,EAAOlR,EAAM,GAAImR,EAAOnR,EAAM,GAAIoR,EAAOpR,EAAM,GAAIqR,EAAOrR,EAAM,GAAIsR,EAAOtR,EAAM,GAAIuR,EAAOvR,EAAM,GAAIwR,EAAOxR,EAAM,GAAIyR,EAAOzR,EAAM,GAAI0R,EAAO1R,EAAM,GAAI2R,EAAO3R,EAAM,GAAI4R,EAAO5R,EAAM,GAAI6R,EAAO7R,EAAM,GAAI8R,EAAO9R,EAAM,GAAI+R,EAAO/R,EAAM,GAAIgS,EAAOhS,EAAM,GAAIiS,EAAOjS,EAAM,GAAIkS,EAAOlS,EAAM,GAAImS,EAAOnS,EAAM,GAAIoS,EAAOpS,EAAM,GAAIqS,EAAOrS,EAAM,GAAIsS,EAAOtS,EAAM,GAAIuS,EAAOvS,EAAM,GAAIwS,EAAOxS,EAAM,GAAIyS,EAAOzS,EAAM,GAAI0S,EAAO1S,EAAM,GAAI2S,EAAO3S,EAAM,GAAI4S,EAAO5S,EAAM,GAAI6S,EAAO7S,EAAM,GAAI8S,EAAO9S,EAAM,GAAI+S,EAAO/S,EAAM,GAAIgT,EAAOhT,EAAM,GAAIiT,EAAOjT,EAAM,GAAIkT,EAAOlT,EAAM,GAAImT,EAAOnT,EAAM,GAAIoT,EAAOpT,EAAM,GAAIqT,EAAOrT,EAAM,GAAIsT,EAAOtT,EAAM,GAAIuT,EAAOvT,EAAM,GAAIwT,EAAOxT,EAAM,GAAIyT,EAAOzT,EAAM,GAAI0T,EAAO1T,EAAM,GAAI2T,EAAO3T,EAAM,GAAI4T,EAAO5T,EAAM,GAAI6T,EAAO7T,EAAM,GAAI8T,EAAO9T,EAAM,GAAI+T,EAAO/T,EAAM,GAAIgU,EAAOhU,EAAM,GAAIiU,EAAOjU,EAAM,GAAIkU,EAAOlU,EAAM,GAAImU,EAAOnU,EAAM,GAAIoU,EAAOpU,EAAM,GAAIqU,EAAOrU,EAAM,GAAIsU,EAAOtU,EAAM,GAAIuU,EAAOvU,EAAM,GAAIwU,EAAOxU,EAAM,GAAIyU,EAAOzU,EAAM,GAAI0U,EAAO1U,EAAM,GAAI2U,EAAO3U,EAAM,GAAI4U,EAAO5U,EAAM,GAAI6U,EAAO7U,EAAM,GAAI8U,EAAO9U,EAAM,GAAI+U,EAAO/U,EAAM,GAAIgV,EAAOhV,EAAM,GAAIiV,EAAOjV,EAAM,GAAIkV,EAAOlV,EAAM,GAAImV,EAAOnV,EAAM,GAAIoV,EAAOpV,EAAM,GAAIqV,EAAOrV,EAAM,GAAIsV,EAAOtV,EAAM,GAAIuV,EAAOvV,EAAM,GAAIwV,EAAOxV,EAAM,GAAIyV,EAAOzV,EAAM,GAAI0V,EAAO1V,EAAM,GAAI2V,EAAO3V,EAAM,GAAI4V,EAAO5V,EAAM,GAAI6V,EAAO7V,EAAM,GAAI8V,EAAO9V,EAAM,GAAI+V,EAAO/V,EAAM,GAAIgW,EAAOhW,EAAM,GAAIiW,EAAOjW,EAAM,GAAIkW,EAAOlW,EAAM,GAAImW,EAAOnW,EAAM,GAAIoW,EAAOpW,EAAM,GAAIqW,EAAOrW,EAAM,GAAIsW,EAAOtW,EAAM,GAAIuW,EAAOvW,EAAM,GAAIwW,EAAOxW,EAAM,GAAIyW,EAAOzW,EAAM,GAAI0W,EAAO1W,EAAM,GAAI2W,EAAO3W,EAAM,GAAI4W,EAAO5W,EAAM,GAAI6W,EAAO7W,EAAM,GAAI8W,EAAO9W,EAAM,GAAI+W,EAAO/W,EAAM,GAAIgX,EAAOhX,EAAM,GAAIiX,EAAOjX,EAAM,GAAIkX,EAAOlX,EAAM,GAAImX,EAAOnX,EAAM,GAAIoX,EAAOpX,EAAM,GAAIqX,EAAOrX,EAAM,GAAIsX,EAAOtX,EAAM,GAAIuX,EAAOvX,EAAM,GAAIwX,EAAOxX,EAAM,GAAIyX,EAAOzX,EAAM,GAAI0X,EAAO1X,EAAM,GAAI2X,EAAO3X,EAAM,GAAI4X,EAAO5X,EAAM,GAAI6X,EAAO7X,EAAM,GAAI8X,EAAO9X,EAAM,GAAI+X,EAAO/X,EAAM,GAAIgY,EAAOhY,EAAM,GAAIiY,EAAOjY,EAAM,GAAIkY,EAAOlY,EAAM,GAAImY,EAAOnY,EAAM,GAAIoY,EAAOpY,EAAM,GAAIqY,EAAOrY,EAAM,GAAIsY,EAAOtY,EAAM,GAAIuY,EAAOvY,EAAM,GAAIwY,EAAOxY,EAAM,GAAIyY,EAAOzY,EAAM,GAAI0Y,EAAO1Y,EAAM,GAAI2Y,EAAO3Y,EAAM,GAAI4Y,EAAO5Y,EAAM,GAAI6Y,EAAO7Y,EAAM,GAAI8Y,EAAO9Y,EAAM,GAAI+Y,EAAO/Y,EAAM,GAAIgZ,EAAOhZ,EAAM,GAAIiZ,EAAOjZ,EAAM,GAAIkZ,EAAOlZ,EAAM,GAAImZ,EAAOnZ,EAAM,GAAIoZ,EAAOpZ,EAAM,GAAIqZ,EAAOrZ,EAAM,GAAIsZ,EAAOtZ,EAAM,GAAIuZ,EAAOvZ,EAAM,GAAIwZ,EAAOxZ,EAAM,GAAIyZ,EAAOzZ,EAAM,GAAI0Z,EAAO1Z,EAAM,GAAI2Z,EAAO3Z,EAAM,GAAI4Z,EAAO5Z,EAAM,GAAI6Z,EAAO7Z,EAAM,GAAI8Z,EAAO9Z,EAAM,GAAI+Z,EAAO/Z,EAAM,GAAIga,EAAOha,EAAM,GAAIia,EAAOja,EAAM,GAAIka,EAAOla,EAAM,GAAIma,EAAOna,EAAM,GAAIoa,EAAOpa,EAAM,GAAIqa,EAAOra,EAAM,GAAIsa,EAAOta,EAAM,GAAIua,EAAOva,EAAM,GAAIwa,EAAOxa,EAAM,GAAIya,EAAOza,EAAM,GAAI0a,EAAO1a,EAAM,GAAI2a,EAAO3a,EAAM,GAAI4a,EAAO5a,EAAM,GAAI6a,EAAO7a,EAAM,GAAI8a,EAAO9a,EAAM,GAAI+a,EAAO/a,EAAM,GAAIgb,EAAOhb,EAAM,GAAIib,EAAOjb,EAAM,GAAIkb,EAAOlb,EAAM,GAAImb,EAAOnb,EAAM,GAAIob,EAAOpb,EAAM,GAAIqb,EAAOrb,EAAM,GAAIsb,EAAOtb,EAAM,GAAIub,EAAOvb,EAAM,GAAIwb,EAAOxb,EAAM,GAAIyb,EAAOzb,EAAM,GAAI0b,EAAO1b,EAAM,GAAI2b,EAAO3b,EAAM,GAAI4b,EAAO5b,EAAM,GAAI6b,EAAO7b,EAAM,GAAI8b,EAAO9b,EAAM,GAAI+b,EAAO/b,EAAM,GAAIgc,EAAOhc,EAAM,GAAIic,EAAOjc,EAAM,GAAIkc,EAAOlc,EAAM,GAAImc,EAAOnc,EAAM,GAAIoc,EAAOpc,EAAM,GAAIqc,EAAOrc,EAAM,GAAIsc,EAAOtc,EAAM,GAAIuc,EAAOvc,EAAM,GAAIwc,EAAOxc,EAAM,GAAIyc,EAAOzc,EAAM,GAAI0c,EAAO1c,EAAM,GAAI2c,EAAO3c,EAAM,GAAI4c,EAAO5c,EAAM,GAAI6c,EAAO7c,EAAM,GAAI8c,EAAO9c,EAAM,GAAI+c,EAAO/c,EAAM,GAAIgd,EAAOhd,EAAM,GAAIid,EAAOjd,EAAM,GAAIkd,EAAOld,EAAM,GAAImd,EAAOnd,EAAM,GAAIod,EAAOpd,EAAM,GAAIqd,EAAOrd,EAAM,GAAIsd,EAAOtd,EAAM,GAAIud,EAAOvd,EAAM,GAAIwd,EAAOxd,EAAM,GAAIyd,EAAOzd,EAAM,GAAI0d,EAAO1d,EAAM,GAAI2d,EAAO3d,EAAM,GAAI4d,EAAO5d,EAAM,GAAI6d,EAAO7d,EAAM,GAAI8d,EAAO9d,EAAM,GAAI+d,EAAO/d,EAAM,GAAIge,EAAOhe,EAAM,GAAIie,EAAOje,EAAM,GAAIke,EAAOle,EAAM,GAAIme,EAAOne,EAAM,GAAIoe,EAAOpe,EAAM,GAAIqe,EAAOre,EAAM,GAAIse,EAAOte,EAAM,GAAIue,EAAOve,EAAM,GAAIwe,EAAOxe,EAAM,GAAIye,EAAOze,EAAM,GAAI0e,EAAO1e,EAAM,GAAI2e,EAAO3e,EAAM,GAAI4e,EAAO5e,EAAM,GAAI6e,EAAO7e,EAAM,GAAI8e,EAAO9e,EAAM,GAAI+e,EAAO/e,EAAM,GAAIgf,EAAOhf,EAAM,GAAIif,EAAOjf,EAAM,GAAIkf,EAAOlf,EAAM,GAAImf,EAAOnf,EAAM,GAAIof,EAAOpf,EAAM,GAAIqf,EAAOrf,EAAM,GAAIsf,EAAOtf,EAAM,GAAIuf,EAAOvf,EAAM,GAAIwf,EAAOxf,EAAM,GAAIyf,EAAOzf,EAAM,GAAI0f,EAAO1f,EAAM,GAAI2f,EAAO3f,EAAM,GAAI4f,EAAO5f,EAAM,GAAI6f,EAAO7f,EAAM,GAAI8f,EAAO9f,EAAM,GAAI+f,EAAO/f,EAAM,GAAIggB,EAAOhgB,EAAM,GAAIigB,EAAOjgB,EAAM,GAAIkgB,EAAOlgB,EAAM,GAAImgB,EAAOngB,EAAM,GAAIogB,EAAOpgB,EAAM,GAAIqgB,EAAOrgB,EAAM,GAAIsgB,EAAOtgB,EAAM,GAAIugB,EAAOvgB,EAAM,GAAIwgB,EAAOxgB,EAAM,GAAIygB,EAAOzgB,EAAM,GAAI0gB,EAAO1gB,EAAM,GAAI2gB,EAAO3gB,EAAM,GAAI4gB,EAAO5gB,EAAM,GAAI6gB,EAAO7gB,EAAM,GAAI8gB,EAAO9gB,EAAM,GAAI+gB,EAAO/gB,EAAM,GAAIghB,EAAOhhB,EAAM,GAAIihB,EAAOjhB,EAAM,GAAIkhB,EAAOlhB,EAAM,GAAImhB,EAAOnhB,EAAM,GAAIohB,EAAOphB,EAAM,GAAIqhB,EAAOrhB,EAAM,GAAIshB,EAAOthB,EAAM,GAAIuhB,EAAOvhB,EAAM,GAAIwhB,EAAOxhB,EAAM,GAAIyhB,EAAOzhB,EAAM,GAAI0hB,EAAO1hB,EAAM,GAAI2hB,EAAO3hB,EAAM,GAAI4hB,EAAO5hB,EAAM,GAAI6hB,EAAO7hB,EAAM,GAAI8hB,EAAO9hB,EAAM,GAAI+hB,EAAO/hB,EAAM,GAAIgiB,EAAOhiB,EAAM,GAAIiiB,EAAOjiB,EAAM,GAAIkiB,EAAOliB,EAAM,GAAImiB,EAAOniB,EAAM,GAAIoiB,EAAOpiB,EAAM,GAAIqiB,EAAOriB,EAAM,GAAIsiB,EAAOtiB,EAAM,GAAIuiB,EAAOviB,EAAM,GAAIwiB,EAAOxiB,EAAM,GAAIyiB,EAAOziB,EAAM,GAAI0iB,EAAO1iB,EAAM,GAAI2iB,EAAO3iB,EAAM,GAAI4iB,EAAO5iB,EAAM,GAAI6iB,EAAO7iB,EAAM,GAAI8iB,EAAO9iB,EAAM,GAAI+iB,EAAO/iB,EAAM,GAAIgjB,EAAOhjB,EAAM,GAAIijB,EAAOjjB,EAAM,GAAIkjB,EAAOljB,EAAM,GAAImjB,EAAOnjB,EAAM,GAAIojB,EAAOpjB,EAAM,GAAIqjB,EAAOrjB,EAAM,GAAIsjB,EAAOtjB,EAAM,GAAIujB,EAAOvjB,EAAM,GAAIwjB,EAAOxjB,EAAM,GAAIyjB,EAAOzjB,EAAM,GAAI0jB,EAAO1jB,EAAM,GAAI2jB,EAAO3jB,EAAM,GAAI4jB,EAAO5jB,EAAM,GAAI6jB,EAAO7jB,EAAM,GAAI8jB,EAAO9jB,EAAM,GAAI+jB,EAAO/jB,EAAM,GAAIgkB,EAAOhkB,EAAM,GAAIikB,EAAOjkB,EAAM,GAAIkkB,EAAOlkB,EAAM,GAAImkB,EAAOnkB,EAAM,GAAIokB,EAAOpkB,EAAM,GAAIqkB,EAAOrkB,EAAM,GAAIskB,EAAOtkB,EAAM,GAAIukB,EAAOvkB,EAAM,GAAIwkB,EAAOxkB,EAAM,GAAIykB,EAAOzkB,EAAM,GAAI0kB,EAAO1kB,EAAM,GAAI2kB,EAAO3kB,EAAM,GAAI4kB,EAAO5kB,EAAM,GAAI6kB,EAAO7kB,EAAM,GAAI8kB,EAAO9kB,EAAM,GAAI+kB,EAAO/kB,EAAM,GAAIglB,EAAOhlB,EAAM,GAAIilB,EAAOjlB,EAAM,GAAIklB,EAAOllB,EAAM,GAAImlB,EAAOnlB,EAAM,GAAIolB,EAAOplB,EAAM,GAAIqlB,EAAOrlB,EAAM,GAAIslB,EAAOtlB,EAAM,GAAIulB,EAAOvlB,EAAM,GAAIwlB,EAAOxlB,EAAM,GAAIylB,EAAOzlB,EAAM,GAAI0lB,EAAO1lB,EAAM,GAAI2lB,EAAO3lB,EAAM,GAAI4lB,EAAO5lB,EAAM,GAAI6lB,EAAO7lB,EAAM,GAAI8lB,EAAO9lB,EAAM,GAAI+lB,EAAO/lB,EAAM,GAAIgmB,EAAOhmB,EAAM,GAAIimB,EAAOjmB,EAAM,GAAIkmB,EAAOlmB,EAAM,GAAImmB,EAAOnmB,EAAM,GAAIomB,EAAOpmB,EAAM,GAAIqmB,EAAOrmB,EAAM,GAAIsmB,EAAOtmB,EAAM,GAAIumB,EAAOvmB,EAAM,GAAIwmB,EAAOxmB,EAAM,GAAIymB,EAAOzmB,EAAM,GAAI0mB,EAAO1mB,EAAM,GAAI2mB,EAAO3mB,EAAM,GAAI4mB,EAAO5mB,EAAM,GAAI6mB,EAAO7mB,EAAM,GAAI8mB,EAAO9mB,EAAM,GAAI+mB,EAAO/mB,EAAM,GAAIgnB,EAAOhnB,EAAM,GAAIinB,EAAOjnB,EAAM,GAAIknB,EAAOlnB,EAAM,GAAImnB,EAAOnnB,EAAM,GAAIonB,EAAOpnB,EAAM,GAAIqnB,EAAOrnB,EAAM,GAAIsnB,EAAOtnB,EAAM,GAAIunB,EAAOvnB,EAAM,GAAIwnB,EAAOxnB,EAAM,GAAIynB,EAAOznB,EAAM,GAAI0nB,EAAO1nB,EAAM,GAAI2nB,EAAO3nB,EAAM,GAAI4nB,EAAO5nB,EAAM,GAAI6nB,EAAO7nB,EAAM,GAAI8nB,EAAO9nB,EAAM,GAAI+nB,EAAO/nB,EAAM,GAAIgoB,EAAOhoB,EAAM,GAAIioB,EAAOjoB,EAAM,GAAIkoB,EAAOloB,EAAM,GAAImoB,EAAOnoB,EAAM,GAAIooB,EAAOpoB,EAAM,GAAIqoB,EAAOroB,EAAM,GAAIsoB,EAAOtoB,EAAM,GAAIuoB,EAAOvoB,EAAM,GAAIwoB,EAAOxoB,EAAM,GAAIyoB,EAAOzoB,EAAM,GAAI0oB,EAAO1oB,EAAM,GAAI2oB,EAAO3oB,EAAM,GAAI4oB,EAAO5oB,EAAM,GAAI6oB,EAAO7oB,EAAM,GAAI8oB,EAAO9oB,EAAM,GAAI+oB,EAAO/oB,EAAM,GAAIgpB,EAAOhpB,EAAM,GAAIipB,EAAOjpB,EAAM,GAAIkpB,EAAOlpB,EAAM,GAAImpB,EAAOnpB,EAAM,GAAIopB,EAAOppB,EAAM,GAAIqpB,EAAOrpB,EAAM,GAAIspB,EAAOtpB,EAAM,GAAIupB,EAAOvpB,EAAM,GAAIwpB,EAAOxpB,EAAM,GAAIypB,EAAOzpB,EAAM,GAAI0pB,EAAO1pB,EAAM,GAAI2pB,EAAO3pB,EAAM,GAAI4pB,EAAO5pB,EAAM,GAAI6pB,EAAO7pB,EAAM,GAAI8pB,EAAO9pB,EAAM,GAAI+pB,EAAO/pB,EAAM,GAAIgqB,EAAOhqB,EAAM,GAAIiqB,EAAOjqB,EAAM,GAAIkqB,EAAOlqB,EAAM,GAAImqB,EAAOnqB,EAAM,GAAIoqB,EAAOpqB,EAAM,GAAIqqB,EAAOrqB,EAAM,GAAIsqB,EAAOtqB,EAAM,GAAIuqB,EAAOvqB,EAAM,GAAIwqB,EAAOxqB,EAAM,GAAIyqB,EAAOzqB,EAAM,GAAI0qB,EAAO1qB,EAAM,GAAI2qB,EAAO3qB,EAAM,GAAI4qB,EAAO5qB,EAAM,GAAI6qB,EAAO7qB,EAAM,GAAI8qB,EAAO9qB,EAAM,GAAI+qB,EAAO/qB,EAAM,GAAIgrB,EAAOhrB,EAAM,GAAIirB,EAAOjrB,EAAM,GAAIkrB,EAAOlrB,EAAM,GAAImrB,EAAOnrB,EAAM,GAAIorB,EAAOprB,EAAM,GAAIqrB,EAAOrrB,EAAM,GAAIsrB,EAAOtrB,EAAM,GAAIurB,EAAOvrB,EAAM,GAAIwrB,EAAOxrB,EAAM,GAAIyrB,EAAOzrB,EAAM,GAAI0rB,EAAO1rB,EAAM,GAAI2rB,EAAO3rB,EAAM,GAAI4rB,EAAO5rB,EAAM,GAAI6rB,EAAO7rB,EAAM,GAAI8rB,EAAO9rB,EAAM,GAAI+rB,EAAO/rB,EAAM,GAAIgsB,EAAOhsB,EAAM,GAAIisB,EAAOjsB,EAAM,GAAIksB,EAAOlsB,EAAM,GAAImsB,EAAOnsB,EAAM,GAAIosB,EAAOpsB,EAAM,GAAIqsB,EAAOrsB,EAAM,GAAIssB,EAAOtsB,EAAM,GAAIusB,EAAOvsB,EAAM,GAAIwsB,EAAOxsB,EAAM,GAAIysB,EAAOzsB,EAAM,GAAI0sB,EAAO1sB,EAAM,GAAI2sB,EAAO3sB,EAAM,GAAI4sB,EAAO5sB,EAAM,GAAI6sB,EAAO7sB,EAAM,GAAI8sB,EAAO9sB,EAAM,GAAI+sB,EAAO/sB,EAAM,GAAIgtB,EAAOhtB,EAAM,GAAIitB,EAAOjtB,EAAM,GAAIktB,EAAOltB,EAAM,GAAImtB,EAAOntB,EAAM,GAAIotB,EAAOptB,EAAM,GAAIqtB,EAAOrtB,EAAM,GAAIstB,EAAOttB,EAAM,GAAIutB,EAAOvtB,EAAM,GAAIwtB,EAAOxtB,EAAM,GAAIytB,EAAOztB,EAAM,GAAI0tB,EAAO1tB,EAAM,GAAI2tB,EAAO3tB,EAAM,GAAI4tB,EAAO5tB,EAAM,GAAI6tB,EAAO7tB,EAAM,GAAI8tB,EAAO9tB,EAAM,GAAI+tB,EAAO/tB,EAAM,GAAIguB,EAAOhuB,EAAM,GAAIiuB,EAAOjuB,EAAM,GAAIkuB,EAAOluB,EAAM,GAAImuB,EAAOnuB,EAAM,GAAIouB,EAAOpuB,EAAM,GAAIquB,EAAOruB,EAAM,GAAIsuB,EAAOtuB,EAAM,GAAIuuB,EAAOvuB,EAAM,GAAIwuB,EAAOxuB,EAAM,GAAIyuB,EAAOzuB,EAAM,GAAI0uB,EAAO1uB,EAAM,GAAI2uB,EAAO3uB,EAAM,GAAI4uB,EAAO5uB,EAAM,GAAI6uB,EAAO7uB,EAAM,GAAI8uB,EAAO9uB,EAAM,GAAI+uB,EAAO/uB,EAAM,GAAIgvB,EAAOhvB,EAAM,GAAIivB,EAAOjvB,EAAM,GAAIkvB,EAAOlvB,EAAM,GAAImvB,EAAOnvB,EAAM,GAAIovB,EAAOpvB,EAAM,GAAIqvB,EAAOrvB,EAAM,GAAIsvB,EAAOtvB,EAAM,GAAIuvB,EAAOvvB,EAAM,GAAIwvB,EAAOxvB,EAAM,GAAIyvB,EAAOzvB,EAAM,GAAI0vB,EAAO1vB,EAAM,GAAI2vB,EAAO3vB,EAAM,GAAI4vB,EAAO5vB,EAAM,GAAI6vB,EAAO7vB,EAAM,GAAI8vB,EAAO9vB,EAAM,GAAI+vB,EAAO/vB,EAAM,GAAIgwB,EAAOhwB,EAAM,GAAIiwB,EAAOjwB,EAAM,GAAIkwB,EAAOlwB,EAAM,GAAImwB,EAAOnwB,EAAM,GAAIowB,EAAOpwB,EAAM,GAAIqwB,EAAOrwB,EAAM,GAAIswB,EAAOtwB,EAAM,GAAIuwB,EAAOvwB,EAAM,GAAIwwB,EAAOxwB,EAAM,GAAIywB,EAAOzwB,EAAM,GAAI0wB,EAAO1wB,EAAM,GAAI2wB,EAAO3wB,EAAM,GAAI4wB,EAAO5wB,EAAM,GAAI6wB,EAAO7wB,EAAM,GAAI8wB,EAAO9wB,EAAM,GAAI+wB,EAAO/wB,EAAM,GAAIgxB,EAAOhxB,EAAM,GAAIixB,EAAOjxB,EAAM,GAAIkxB,EAAOlxB,EAAM,GAAImxB,EAAOnxB,EAAM,GAAIoxB,EAAOpxB,EAAM,GAAIqxB,EAAOrxB,EAAM,GAAIsxB,EAAOtxB,EAAM,GAAIuxB,EAAOvxB,EAAM,GAAIwxB,EAAOxxB,EAAM,GAAIyxB,EAAOzxB,EAAM,GAAI0xB,EAAO1xB,EAAM,GAAI2xB,EAAO3xB,EAAM,GAAI4xB,EAAO5xB,EAAM,GAAI6xB,EAAO7xB,EAAM,GAAI8xB,EAAO9xB,EAAM,GAAI+xB,EAAO/xB,EAAM,GAAIgyB,EAAOhyB,EAAM,GAAIiyB,EAAOjyB,EAAM,GAAIkyB,EAAOlyB,EAAM,GAAImyB,EAAOnyB,EAAM,GAAIoyB,EAAOpyB,EAAM,GAAIqyB,EAAOryB,EAAM,GAAIsyB,EAAOtyB,EAAM,GAAIuyB,EAAOvyB,EAAM,GAAIwyB,EAAOxyB,EAAM,GAAIyyB,EAAOzyB,EAAM,GAAI0yB,EAAO1yB,EAAM,GAAI2yB,EAAO3yB,EAAM,GAAI4yB,EAAO5yB,EAAM,GAAI6yB,EAAO7yB,EAAM,GAAI8yB,EAAO9yB,EAAM,GAAI+yB

cAAc9Y,GAAGsa,gBAAiB,EAK3C,GAHApC,EAASxZ,KAAK6b,eAAe7b,KAAK6Z,YAAajC,EAASW,EAAaoD
,IAAoBnC,EACzFA,EAASxZ,KAAK8b,cAAc9b,KAAK+Z,mBAAoBnC,EAASW,EAAaoD,IACvEnC,EACA3B,
EACA,IAASvW,EAAI,EAAGA,EAAIuW,EAAWrW,OAAQF,IAAK,CACxC,IAAI4Z,EAAYrD,EAAWvW,GAC3
BkY,EACIxZ,KAAK6b,eAAe7b,KAAKga,UAAWkB,EAAW3C,EAAaoD,IAAoBnC,EACpFA,EACIxZ,KAAK8b,
cAAc9b,KAAKia,iBAAkBiB,EAAW3C,EAAaoD,IAC9DnC,EAAGhB,GAAI1B,EACA,IAASxW,EAAI,EAAGA,E
AAIwW,EAAMtW,OAAQF,IAAK,CACtC,IAAIoY,EAAOtC,EAAIoD,EAAOxW,EAAGqW,CAAIxB,EAAI,EAAGA,E
AAI,GAAClB8Z,EAAoBpb,KAAKka,cAAcmB,IAAI3G,GAAC3ChT,IACA8X,EACIxZ,KAAK6b,eAAeT,EAAmB,G
AAI7C,EAAaoD,IAAoBnC,GAEpFA,EACIxZ,KAAK6b,eAAeT,EAAmB1Z,EAAO6W,EAAaoD,IAAoBnC,EACnF,IAAIgC,EAAmBxb,KAAKma,qBAAqBkB,IAAI3G,GACjDhTIjD,EAAoBpb,KAAK8X,EAASxZ,KAAK8b,cAAcN,EAAI,EAAGA,E
AAIjD,EAAaoD,IAAoBnC,GAEvFA,EACIxZ,KAAK8b,cAAcN,EAAI9Z,EAAO6W,EAAaoD,IAAoBnC,EAAGz
F,OAAOA,GAGXI,EAAgB9Y,UAAU+a,eAAiB,SAAUJ,EAAMK,EAAMC,EAAMC,EAAMC

AjgB,EAAQogB,SAAW,SAAUC,GAAO,OAAOA,GAAOA,EAAIF,iBAAmBjL,GACzElV,EAAQmgB,eAAiBjL,
EAClBlV,EAwBX,SAASsgB,EAA2B7H,GAChC,IAAI8H,EAvBR,SAASC,EAA+B/C,GACpC,IAAIgI,EAAUhI,EAAS
AASJ,YAAcI,EAASJ,WAAWrW,OAASY,EAAS,CAAC,GAAgB6V,EAASJ,YAAcjG,GAEJ,OAAOzV,EAAS,CA
DE6V,EAASL,SAAgC,MAArBK,EAASL,QAAkBK,EAASL,QAAU,IACrDK,EAASH,MAAOmI,GAmBhCD,CA
A+B/H,GAC1CiI,EAAWjI,EAASF,cAAgBE,EAASF,aAAavW,OAC1DyW,EAASF,aAAa0D,KAAI,SAAU9Z,GAAO,OAAOA,EAAIsW,UAAUtW,EAAIuW,YAAY,IAAMvW,EAAIwW,UAAU,IAAIC,KAAK,KAAO,IAAM,IAAM,IAAM

AIyhB,EAAKzhB,IACrB,IAAKyT,EAAKzT,GAAGuhB,aAAaD,EAAMthB,IAC5B,OAAO,EAGf,OAAO,GAtCAuf,GAGRphB,EAAQohB,gBAAkBphB,EAAQohB,cAAgB,KAFnCA,GAAqB,MAAI,GAAK,QAC5CA,GAAcA,GAAAoB,KAAI,GAAK,QAAEpCC,GAAiBRrhB,EAAAQqhB,iBAAAmBrhB,EAAAQqhB,eAAiB,KAAhBpCA,GAAAuB,OAAI,GAAK,SAC/C/CA,GAAAeA,GAA0B,UAAI,GAAK,YAAClDA,GAAAeA,GAA0B,UAAI,GAAK,YAAClDA,GAAAeA,GA6B,aAAI,GAAK,eACrDA,GAAAeA,GAAAsB,MAAI,GAAK,QAAC9CA,GAAAeA,GAAAqB,KAAI,GAAK,OAAC7CA,GAAAeA,GAAAuB,OAAI,GAAK,SAAC/CA,GAAAeA,GAAAyB,SAAI,GAAK,WAAEjDA,GAAAeA,GAAAuB,OAAI,GAAK,SAAC/CA,GAAAeA,GAAAoB,IAAI,GAAK,MAAC5CA,GAAAeA,GAAAsB,MAAI,GAAK,QAAC9CA,GAAAeA,GAAAuB,OAAI,GAAK,SAAC/CA,GAAAeA,GAAAqB,KAAI,GAAK,OAAC7CA,GAAAeA,GAAAuB,OAAI,GAAK,SAAC/CA,GAAAeA,GAAAoB,IAAI,GAAK,MAAC5CA,GAAAeA,GAAAsB,MAAI,GAAK,QAAC9

U8lB,EAAazF,GAavByF,EAAY3lB,UAAU+hB,aAAe,SAAU7gB,GAC3C,OAAOA,aAAaykB,GAAezmB,KAAK
0U,OAAS1S,EAAE0S,MAAQ1U,KAAK0mB,UAAY1kB,EAAE0kB,SAElFD,EAAY3lB,UAAU6lB,WAAa,WAC
/B,OAAO,GAEXF,EAAY3lB,UAAU8lB,gBAAkB,SAAU1F,EAASC,GACvD,OAAOD,EAAQ2F,iBAAiB7mB,K
AAMmhB,IAE1CsF,EAAY3lB,UAAUwa,IAAM,SAAU5Z,GAClC,IAAK1B,KAAK0U,KACN,MAAM,qBAAuB3C,KAAK0mB,QAAU,4BAE1D,OAAO,IAAII,GAAa9mB,KAAK0U,KAAMhT,GAAKsa,MAAM,qBAAuB,KAAKmjB,aAElDsD,EA7BqB,CA8B9BxD,IACE8D,GAA4B,SAAU/F,GAAW,EAAAC,WAAC,EAAAD,EAAAA,WAAC,EAAAA,EAAAA,WAAC,EAAAA,EAAAA,WAAC,EAAAA

AAMmhB,IAExCuC,EA1B0B,CA2BnCT,IACEW,GAAoC,SAAU5C,GAE9C,SAAS4C,EAAmBuE,EAAIzJ,EAAAMwE,EAAMC,EAAAYjF,QACvC,IAATA,IAAmBA,GAAO,GAC9B,IAAI1K,EAAQwN,EAAOzf,KAAAKvB,KAAAMkjB,EAAMC,IAAenjB,KAAInD,OAHAwT,EAAM2U,GAAAKA,EACX3U,EAAAMkL,KAAAOA,EACblL,EAAM0K,KAAAOA,EACN1K,EAAAY1K,EAAAYnBA7S,EAAAUijB,EAAAoB5C,GAS9B4C,EAAAmB9iB,UAAU+hB,aAAAe,SAAU7gB,GAAAlD,KAAAgkB,QAAAC,IAAA/gB,GAAAlD,KAAAkkB,QAAAC,IAAAjhB,GAAAlD,KAAAokB,QAAAC,IAAAnhB,GAAAlD,KAAAskB,QAAAC,IAAArhB,GAAAlD,KAAAwkB,QAAAC,IAAAvhB,GAAAlD,KAAA0kB,QAAAC,IAAAzhB,GAAAlD,KAAA4kB,QAAAC,IAAA3hB,GAAAlD,KAAA8kB,QAAAC,IAAA7hB,GAAAlD,KAAAglB,QAAAC,IAAA/hB,GAAAlD,KAAAklB,QAAAC,IAAAjiB,GAAAlD,KAAAolB,QAAAC,IAAAniB,GAAAlD,KAAAslB,QAAAC,IAAAriB,GAAAlD,KAAAwlB,QAAAC,IAAAviB,GAAAlD,KAAA0lB,QAAAC,IAAAziB,GAAAlD,KAAA4lB,QAAAC,IAAA3iB,GAAAlD,KAAA8lB,QAAAC,IAAA7iB,GAAAlD,KAAAgmB,QAAAC,IAAA/iB,GAAAlD,KAAAkmB,QAAAC,IAAAjjB,GAAAlD,KAAAomB,QAAAC,IAAAnjB,GAAAlD,KAAAsmB,QAAAC,IAAArjB,GAAAlD,KAAAwmB,QAAAC,IAAAvjB,GAAAlD,KAAA0mB,QAAAC,IAAAzjB,GAAAlD,KAAA4mB,QAAAC,IAAA3jB,GAAAlD,KAAA8mB,QAAAC,IAAA7jB,GAAAlD,KAAAgnB,QAAAC,IAAA/jB,GAAAlD,KAAAknB,QAAAC,IAAAjkB,GAAAlD,KAAAonB,QAAAC,IAAAnkB,GAAAlD,KAAAsnB,QAAAC,IAAArkB,GAAAlD,KAAAwnB,QAAAC,IAAAvkB,GAAAlD,KAAA0nB,QAAAC,IAAAzkB,GAAAlD,KAAA4nB,QAAAC,IAAA3kB,GAAAlD,KAAA8nB,QAAAC,IAAA7kB,GAAAlD,KAAAgoB,QAAAC,IAAA/kB,GAAAlD,KAAAkoB,QAAAC,IAAAjlB,GAAAlD,KAAAooB,QAAAC,IAAAnlB,GAAAlD,KAAAsoB,QAAAC,IAAArlB,GAAAlD,KAAAwoB,QAAAC,IAAAvlB,GAAAlD,KAAA0oB,QAAAC,IAAAzlB,GAAAlD,KAAA4oB,QAAAC,IAAA3lB,GAAAlD,KAAA8oB,QAAAC,IAAA7lB,GAAAlD,KAAAgpB,QAAAC,IAAA/lB,GAAAlD,KAAAkpB,QAAAC,IAAAjmB,GAAAlD,KAAAopB,QAAAC,IAAAnmB,GAAAlD,KAAAspB,QAAAC,IAAArmB,GAAAlD,KAAAwpB,QAAAC,IAAAvmB,GAAAlD,KAAA0pB,QAAAC,IAAAzmB,GAAAlD,KAAA4pB,QAAAC,IAAA3mB,GAAAlD,KAAA8pB,QAAAC,IAAA7mB,GAAAlD,KAAAgqB,QAAAC,IAAA/mB,GAAAlD,KAAAkqB,QAAAC,IAAAjnB,GAAAlD,KAAAoqB,QAAAC,IAAAnnB,GAAAlD,KAAAsqB,QAAAC,IAAArnB,GAAAlD,KAAAwqB,QAAAC,IAAAvnB,GAAAlD,KAAA0qB,QAAAC,IAAAznB,GAAAlD,KAAA4qB,QAAAC,IAAA3nB,GAAAlD,KAAA8qB,QAAAC,IAAA7nB,GAAAlD,KAAAgrB,QAAAC,IAAA/nB,GAAAlD,KAAAkrB,QAAAC,IAAAjoB,GAAAlD,KAAAorB,QAAAC,IAAAnoB,GAAAlD,KAAAsrB,QAAAC,IAAAroB,GAAAlD,KAAAwrB,QAAAC,IAAAvoB,GAAAlD,KAAA0rB,QAAAC,IAAAzoB,GAAAlD,KAAA4rB,QAAAC,IAAA3oB,GAAAlD,KAAA8rB,QAAAC,IAAA7oB,GAAAlD,KAAAgsB,QAAAC,IAAA/oB,GAAAlD,KAAAksB,QAAAC,IAAAjpB,GAAAlD,KAAAosB,QAAAC,IAAAnpB,GAAAlD,KAAAssB,QAAAC,IAAArpB,GAAAlD,KAAAwsB,QAAAC,IAAAvpB,GAAAlD,KAAA0sB,QAAAC,IAAAzpB,GAAAlD,KAAA4sB,QAAAC,IAAA3pB,GAAAlD,KAAA8sB,QAAAC,IAAA7pB,GAAAlD,KAAAgtB,QAAAC,IAAA/pB,GAAAlD,KAAAktB,QAAAC,IAAAjqB,GAAAlD,KAAAotB,QAAAC,IAAAnqB,GAAAlD,KAAAstB,QAAAC,IAAArqB,GAAAlD,KAAAwtB,QAAAC,IAAAvqB,GAAAlD,KAAA0tB,QAAAC,IAAAzqB,GAAAlD,KAAA4tB,QAAAC,IAAA3qB,GAAAlD,KAAA8tB,QAAAC,IAAA7qB,GAAAlD,KAAAguB,QAAAC,IAAA/qB,GAAAlD,KAAAkuB,QAAAC,IAAAjrB,GAAAlD,KAAAouB,QAAAC,IAAAnrB,GAAAlD,KAAAsuB,QAAAC,IAAArrB,GAAAlD,KAAAwuB,QAAAC,IAAAvrB,GAAAlD,KAAA0uB,QAAAC,IAAAzrB,GAAAlD,KAAA4uB,QAAAC,IAAA3rB,GAAAlD,KAAA8uB,QAAAC,IAAA7rB,GAAAlD,KAAAgvB,QAAAC,IAAA/rB,GAAAlD,KAAAkvB,QAAAC,IAAAjsB,GAAAlD,KAAAovB,QAAAC,IAAAnsB,GAAAlD,KAAAsvB,QAAAC,IAAArsB,GAAAlD,KAAAwvB,QAAAC,IAAAvsB,GAAAlD,KAAA0vB,QAAAC,IAAAzsB,GAAAlD,KAAA4vB,QAAAC,IAAA3sB,GAAAlD,KAAA8vB,QAAAC,IAAA7sB,GAAAlD,KAAAgwB,QAAAC,IAAA/sB,GAAAlD,KAAAkwB,QAAAC,IAAAjtB,GAAAlD,KAAAowB,QAAAC,IAAAntB,GAAAlD,KAAAswB,QAAAC,IAAArtB,GAAAlD,KAAAwwB,QAAAC,IAAAvtB,GAAAlD,KAAA0wB,QAAAC,IAAAztB,GAAAlD,KAAA4wB,QAAAC,IAAA3tB,GAAAlD,KAAA8wB,QAAAC,IAAA7tB,GAAAlD,KAAAgxB,QAAAC,IAAA/tB,GAAAlD,KAAAkxB,QAAAC,IAAAjuB,GAAAlD,KAAAoxB,QAAAC,IAAAnuB,GAAAlD,KAAAsxB,QAAAC,IAAAruB,GAAAlD,KAAAwxB,QAAAC,IAAAvuB,GAAAlD,KAAA0xB,QAAAC,IAAAzuB,GAAAlD,KAAA4xB,QAAAC,IAAA3uB,GAAAlD,KAAA8xB,QAAAC,IAAA7uB,GAAAlD,KAAAgyB,QAAAC,IAAA/uB,GAAAlD,KAAAkyB,QAAAC,IAAAjvB,GAAAlD,KAAAoyB,QAAAC,IAAAnvB,GAAAlD,KAAAsyB,QAAAC,IAAArvB,GAAAlD,KAAAwyB,QAAAC,IAAAvvB,GAAAlD,KAAA0yB,QAAAC,IAAAzvB,GAAAlD,KAAA4yB,QAAAC,IAAA3vB,GAAAlD,KAAA8yB,QAAAC,IAAA7vB,GAAAlD,KAAAgzB,QAAAC,IAAA/vB,GAAAlD,KAAAkzB,QAAAC,IAAAjwB,GAAAlD,KAAAozB,QAAAC,IAAAnwB,GAAAlD,KAAAszB,QAAAC,IAAArwB,GAAAlD,KAAAwzB,QAAAC,IAAAvwB,GAAAlD,KAAA0zB,QAAAC,IAAAzwB,GAAAlD,KAAA4zB,QAAAC,IAAA3wB,GAAAlD,KAAA8zB,QAAAC,IAAA7wB,GAAAlD,KAAAg0B,QAAAC,IAAA/wB,GAAAlD,KAAAk0B,QAAAC,IAAAjxB,GAAAlD,KAAAo0B,QAAAC,IAAAnxB,GAAAlD,KAAAs0B,QAAAC,IAAArxB,GAAAlD,KAAAw0B,QAAAC,IAAAvxB,GAAAlD,KAAA00B,QAAAC,IAAAzxB,GAAAlD,KAAA40B,QAAAC,IAAA3xB,GAAAlD,KAAA80B,QAAAC,IAAA7xB,GAAAlD,KAAAg1B,QAAAC,IAAA/xB,GAAAlD,KAAAk1B,QAAAC,IAAAjyB,GAAAlD,KAAAo1B,QAAAC,IAAAnyB,GAAAlD,KAAAs1B,QAAAC,IAAAryB,GAAAlD,KAAAw1B,QAAAC,IAAAvyB,GAAAlD,KAAA01B,QAAAC,IAAAzyB,GAAAlD,KAAA41B,QAAAC,IAAA3yB,GAAAlD,KAAA81B,QAAAC,IAAA7yB,GAAAlD,KAAAg2B,QAAAC,IAAA/yB,GAAAlD,KAAAk2B,QAAAC,IAAAjzB,GAAAlD,KAAAo2B,QAAAC,IAAAnzB,GAAAlD,KAAAs2B,QAAAC,IAAArzB,GAAAlD,KAAAw2B,QAAAC,IAAAvzB,GAAAlD,KAAA02B,QAAAC,IAAAzzB,GAAAlD,KAAA42B,QAAAC,IAAA3zB,GAAAlD,KAAA82B,QAAAC,IAAA7zB,GAAAlD,KAAAg3B,QAAAC,IAAA/zB,GAAAlD,KAAAk3B,QAAAC,IAAAj0B,GAAAlD,KAAAo3B,QAAAC,IAAAn0B,GAAAlD,KAAAs3B,QAAAC,IAAAr0B,GAAAlD,KAAAw3B,QAAAC,IAAAv0B,GAAAlD,KAAA03B,QAAAC,IAAAz0B,GAAAlD,KAAA43B,QAAAC,IAAA30B,GAAAlD,KAAA83B,QAAAC,IAAA70B,GAAAlD,KAAAg4B,QAAAC,IAAA/0B,GAAAlD,KAAAk4B,QAAAC,IAAAj1B,GAAAlD,KAAAo4B,QAAAC,IAAAn1B,GAAAlD,KAAAs4B,QAAAC,IAAAr1B,GAAAlD,KAAAw4B,QAAAC,IAAAv1B,GAAAlD,KAAA04B,QAAAC,IAAAz1B,GAAAlD,KAAA44B,QAAAC,IAAA31B,GAAAlD,KAAA84B,QAAAC,IAAA71B,GAAAlD,KAAAg5B,QAAAC,IAAA/1B,GAAAlD,KAAAk5B,QAAAC,IAAAj2B,GAAAlD,KAAAo5B,QAAAC,IAAAn2B,GAAAlD,KAAAs5B,QAAAC,IAAAr2B,GAAAlD,KAAAw5B,QAAAC,IAAAv2B,GAAAlD,KAAA05B,QAAAC,IAAAz2B,GAAAlD,KAAA45B,QAAAC,IAAA32B,GAAAlD,KAAA85B,QAAAC,IAAA72B,GAAAlD,KAAAg6B,QAAAC,IAAA/2B,GAAAlD,KAAAk6B,QAAAC,IAAAj3B,GAAAlD,KAAAo6B,QAAAC,IAAAn3B,GAAAlD,KAAAs6B,QAAAC,IAAAr3B,GAAAlD,KAAAw6B,QAAAC,IAAAv3B,GAAAlD,KAAA06B,QAAAC,IAAAz3B,GAAAlD,KAAA46B,QAAAC,IAAA33B,GAAAlD,KAAA86B,QAAAC,IAAA73B,GAAAlD,KAAAg7B,QAAAC,IAAA/3B,GAAAlD,KAAAk7B,QAAAC,IAAAj4B,GAAAlD,KAAAo7B,QAAAC,IAAAn4B,GAAAlD,KAAAs7B,QAAAC,IAAAr4B,GAAAlD,KAAAw7B,QAAAC,IAAAv4B,GAAAlD,KAAA07B,QAAAC,IAAAz4B,GAAAlD,KAAA47B,QAAAC,IAAA34B,GAAAlD,KAAA87B,QAAAC,IAAA74B,GAAAlD,KAAAg8B,QAAAC,IAAA/4B,GAAAlD,KAAAk8B,QAAAC,IAAAj5B,GAAAlD,KAAAo8B,QAAAC,IAAAn5B,GAAAlD,KAAAs8B,QAAAC,IAAAr5B,GAAAlD,KAAAw8B,QAAAC,IAAAv5B,GAAAlD,KAAA08B,QAAAC,IAAAz5B,GAAAlD,KAAA48B,QAAAC,IAAA35B,GAAAlD,KAAA88B,QAAAC,IAAA75B,GAAAlD,KAAAg9B,QAAAC,IAAA/5B,GAAAlD,KAAAk9B,QAAAC,IAAAj6B,GAAAlD,KAAAo9B,QAAAC,IAAAn6B,GAAAlD,KAAAs9B,QAAAC,IAAAr6B,GAAAlD,KAAAw9B,QAAAC,IAAAv6B,GAAAlD,KAAA09B,QAAAC,IAAAz6B,GAAAlD,KAAA49B,QAAAC,IAAA36B,GAAAlD,KAAA89B,QAAAC,IAAA76B,GAAAlD,KAAAg+B,QAAAC,IAAA/6B,GAAAlD,KAAAk+B,QAAAC,IAAAj7B,GAAAlD,KAAAo+B,QAAAC,IAAAn7B,GAAAlD,KAAAs+B,QAAAC,IAAAr7B,GAAAlD,KAAAw+B,QAAAC,IAAAv7B,GAAAlD,KAAA0+B,QAAAC,IAAAz7B,GAAAlD,KAAA4+B,QAAAC,IAAA37B,GAAAlD,KAAA8+B,QAAAC,IAAA77B,GAAAlD,KAAAg/B,QAAAC,IAAA/7B,GAAAlD,KAAAk/B,QAAAC,IAAAj8B,GAAAlD,KAAAo/B,QAAAC,IAAAn8B,GAAAlD,KAAAs/B,QAAAC,IAAAr8B,GAAAlD,KAAAw/B,QAAAC,IAAAv8B,GAAAlD,KAAA0/B,QAAAC,IAAAz8B,GAAAlD,KAAA4/B,QAAAC,IAAA38B,GAAAlD,KAAA8/B,QAAAC,IAAA78B,GAAAlD,KAAAggC,QAAAC,IAAA/8B,GAAAlD,KAAAkgC,QAAAC,IAAAj9B,GAAAlD,KAAAogC,QAAAC,IAAAn9B,GAAAlD,KAAAsgC,QAAAC,IAAAr9B,GAAAlD,KAAAwgC,QAAAC,IAAAv9B,GAAAlD,KAAA0gC,QAAAC,IAAAz9B,GAAAlD,KAAA4gC,QAAAC,IAAA39B,GAAAlD,KAAA8gC,QAAAC,IAAA79B,GAAAlD,KAAAghC,QAAAC,IAAA/9B,GAAAlD,KAAAkhC,QAAAC,IAAAj+B,GAAAlD,KAAAohC,QAAAC,IAAAn+B,GAAAlD,KAAAshC,QAAAC,IAAAr+B,GAAAlD,KAAAwhC,QAAAC,IAAAv+B,GAAAlD,KAAA0hC,QAAAC,IAAAz+B,GAAAlD,KAAA4hC,QAAAC,IAAA3+B,GAAAlD,KAAA8hC,QAAAC,IAAA7+B,GAAAlD,KAAAgiC,QAAAC,IAAA/+B,GAAAlD,KAAAkiC,QAAAC,IAAAj/B,GAAAlD,KAAAoiC,QAAAC,IAAAn/B,GAAAlD,KAAAsiC,QAAAC,IAAAr/B,GAAAlD,KAAAwiC,QAAAC,IAAAv/B,GAAAlD,KAAA0iC,QAAAC,IAAAz/B,GAAAlD,KAAA4iC,QAAAC,IAAA3/B,GAAAlD,KAAA8iC,QAAAC,IAAA7/B,GAAAlD,KAAAgjC,QAAAC,IAAA/jC,GAAAlD,KAAAkjC,QAAAC,IAAAjgC,GAAAlD,KAAAojC,QAAAC,IAAAngC,GAAAlD,KAAAsjC,QAAAC,IAAArgC,GAAAlD,KAAAwjC,QAAAC,IAAAvgC,GAAAlD,KAAA0jC,QAAAC,IAAAzgC,GAAAlD,KAAA4jC,QAAAC,IAAA3gC,GAAAlD,KAAA8jC,QAAAC,IAAA7gC,GAAAlD,KAAAgkC,QAAAC,IAAA/gC,GAAAlD,KAAAkkC,QAAAC,IAAAjhC,GAAAlD,KAAAokC,QAAAC,IAAAnhC,GAAAlD,KAAAskC,QAAAC,IAAArhC,GAAAlD,KAAAwkC,QAAAC,IAAAvhC,GAAAlD,KAAA0kC,QAAAC,IAAAzhC,GAAAlD,KAAA4kC,QAAAC,IAAA3hC,GAAAlD,KAAA8kC,QAAAC,IAAA7hC,GAAAlD,KAAAglC,QAAAC,IAAA/hC,GAAAlD,KAAAklC,QAAAC,IAAAjiC,GAAAlD,KAAAolC,QAAAC,IAAAniC,GAAAlD,KAAAslC,QAAAC,IAAAriC,GAAAlD,KAAAwlC,QAAAC,IAAAviC,GAAAlD,KAAA0lC,QAAAC,IAAAziC,GAAAlD,KAAA4lC,QAAAC,IAAA3iC,GAAAlD,KAAA8lC,QAAAC,IAAA7iC,GAAAlD,KAAAgmC,QAAAC,IAAA/iC,GAAAlD,KAAAkmC,QAAAC,IAAAjjC,GAAAlD,KAAAomC,QAAAC,IAAAnjC,GAAAlD,KAAAsmC,QAAAC,IAAArjC,GAAAlD,KAAAwmC,QAAAC,IAAAvjC,GAAAlD,KAAA0mC,QAAAC,IAAAzjC,GAAAlD,KAAA4mC,QAAAC,IAAA3jC,GAAAlD,KAAA8mC,QAAAC,IAAA7jC,GAAAlD,KAAAgnC,QAAAC,IAAA/jC,GAAAlD,KAAAknC,QAAAC,IAAAjkC,GAAAlD,KAAAonC,QAAAC,IAAAnkC,GAAAlD,KAAAsnC,QAAAC,IAAArkC,GAAAlD,KAAAwnC,QAAAC,IAAAvkC,GAAAlD,KAAA0nC,QAAAC,IAAAzkC,GAAAlD,KAAA4nC,QAAAC,IAAA3kC,GAAAlD,KAAA8nC,QAAAC,IAAA7kC,GAAAlD,KAAAgoC,QAAAC,IAAA/kC,GAAAlD,KAAAkoC,QAAAC,IAAAjlC,GAAAlD,KAAAooC,QAAAC,IAAAnlC,GAAAlD,KAAAsoC,QAAAC,IAAArlC,GAAAlD,KAAAwoC,QAAAC,IAAAvlC,GAAAlD,KAAA0oC,QAAAC,IAAAzlC,GAAAlD,KAAA4oC,QAAAC,IAAA3lC,GAAAlD,KAAA8oC,QAAAC,IAAA7lC,GAAAlD,KAAAgpC,QAAAC,IAAA/lC,GAAAlD,KAAAkpC,QAAAC,IAAAjmC,GAAAlD,KAAAopC,QAAAC,IAAAnmC,GAAAlD,KAAAspC,QAAAC,IAAArmC,GAAAlD,KAAAwpC,QAAAC,IAAAvmC,GAAAlD,KAAA0pC,QAAAC,IAAAzmC,GAAAlD,KAAA4pC,QAAAC,IAAA3mC,GAAAlD,KAAA8pC,QAAAC,IAAA7mC,GAAAlD,KAAAgqC,QAAAC,IAAA/mC,GAAAlD,KAAAkqC,QAAAC,IAAAjnC,GAAAlD,KAAAoqC,QAAAC,IAAAnnC,GAAAlD,KAAAsqC,QAAAC,IAAArnC,GAAAlD,KAAAwqC,QAAAC,IAAAvnC,GAAAlD,KAAA0qC,QAAAC,IAAAznC,GAAAlD,KAAA4qC,QAAAC,IAAA3nC,GAAAlD,KAAA8qC,QAAAC,IAAA7nC,GAAAlD,KAAAgrC,QAAAC,IAAA/nC,GAAAlD,KAAAkrC,QAAAC,IAAAjoC,GAAAlD,KAAAorC,QAAAC,IAAAnoC,GAAAlD,KAAAsrC,QAAAC,IAAAroC,GAAAlD,KAAAwrC,QAAAC,IAAAvoC,GAAAlD,KAAA0rC,QAAAC,IAAAzoC,GAAAlD,KAAA4rC,QAAAC,IAAA3oC,GAAAlD,KAAA8rC,QAAAC,IAAA7oC,GAAAlD,KAAAgsC,QAAAC,IAAA/oC,GAAAlD,KAAAksC,QAAAC,IAAAjpC,GAAAlD,KAAAosC,QAAAC,IAAAnpC,GAAAlD,KAAAssC,QAAAC,IAAArpC,GAAAlD,KAAAwsC,QAAAC,IAAAvpC,GAAAlD,KAAA0sC,QAAAC,IAAAzpC,GAAAlD,KAAA4sC,QAAAC,IAAA3pC,GAAAlD,KAAA8sC,QAAAC,IAAA7pC,GAAAlD,KAAAgtC,QAAAC,IAAA/pC,GAAAlD,KAAAktC,QAAAC,IAAAjqC,GAAAlD,KAAAotC,QAAAC,IAAAnqC,GAAAlD,KAAAstC,QAAAC,IAAArqC,GAAAlD,KAAAwtC,QAAAC,IAAAvqC,GAAAlD,KAAA0tC,QAAAC,IAAAzqC,GAAAlD,KAAA4tC,QAAAC,IAAA3qC,GAAAlD,KAAA8tC,QAAAC,IAAA7qC,GAAAlD,KAAAguC,QAAAC,IAAA/qC,GAAAlD,KAAAkuC,QAAAC,IAAAjrC,GAAAlD,KAAAouC,QAAAC,IAAAnrC,GAAAlD,KAAAsuC,QAAAC,IAAArrC,GAAAlD,KAAAwuC,QAAAC,IAAAvrC,GAAAlD,KAAA0uC,QAAAC,IAAAzrC,GAAAlD,KAAA4uC,QAAAC,IAAA3rC,GAAAlD,KAAA8uC,QAAAC,IAAA7rC,GAAAlD,KAAAgvC,QAAAC,IAAA/rC,GAAAlD,KAAAkvC,QAAAC,IAAAjsC,GAAAlD,KAAAovC,QAAAC,IAAAnsC,GAAAlD,KAAAsvC,QAAAC,IAAArsC,GAAAlD,KAAAwvC,QAAAC,IAAAvsC,GAAAlD,KAAA0vC,QAAAC,IAAAzsC,GAAAlD,KAAA4vC,QAAAC,IAAA3sC,GAAAlD,KAAA8vC,QAAAC,IAAA7sC,GAAAlD,KAAAgwC,QAAAC,IAAA/sC,GAAAlD,KAAAkwC,QAAAC,IAAAjtC,GAAAlD,KAAAowC,QAAAC,IAAAntC,GAAAlD,KAAAswC,QAAAC,IAAArtC,GAAAlD,KAAAwwC,QAAAC,IAAAvtC,GAAAlD,KAAA0wC,QAAAC,IAAAztC,GAAAlD,KAAA4wC,QAAAC,IAAA3tC,GAAAlD,KAAA8wC,QAAAC,IAAA7tC,GAAAlD,KAAAgxC,QAAAC,IAAA/tC,GAAAlD,KAAAkxC,QAAAC,IAAAjuC,GAAAlD,KAAAoxC,QAAAC,IAAAnuC,GAAAlD,KAAAsxC,QAAAC,IAAAruC,GAAAlD,KAAAwxC,QAAAC,IAAAvuC,GAAAlD,KAAA0xC,QAAAC,IAAAzuC,GAAAlD,KAAA4xC,QAAAC,IAAA3uC,GAAAlD,KAAA8xC,QAAAC,IAAA7uC,GAAAlD,KAAAgyC,QAAAC,IAAA/uC,GAAAlD,KAAAkyC,QAAAC,IAAAjvC,GAAAlD,KAAAoyC,QAAAC,IAAAnvC,GAAAlD,KAAAsyC,QAAAC,IAAArvC,GAAAlD,KAAAwyC,QAAAC,IAAAvvC,GAAAlD,KAAA0yC,QAAAC,IAAAzvC,GAAAlD,KAAA4yC,QAAAC,IAAA3vC,GAAAlD,KAAA8yC,QAAAC,IAAA7vC,GAAAlD,KAAAgzC,QAAAC,IAAA/vC,GAAAlD,KAAAkzC,QAAAC,IAAAjwC,GAAAlD,KAAAozC,QAAAC,IAAAnwC,GAAAlD,KAAAszC,QAAAC,IAAArwC,GAAAlD,KAAAwzC,QAAAC,IAAAvwC,GAAAlD,KAAA0zC,QAAAC,IAAAzwC,GAAAlD,KAAA4zC,QAAAC,IAAA3wC,GAAAlD,KAAA8zC,QAAAC,IAAA7wC,GAAAlD,KAAAg0C,QAAAC,IAAA/wC,GAAAlD,KAAAk0C,QAAAC,IAAAjxC,GAAAlD,KAAAo0C,QAAAC,IAAAnxC,GAAAlD,KAAAs0C,QAAAC,IAAArxC,GAAAlD,KAAAw0C,QAAAC,IAAAvxC,GAAAlD,KAAA00C,QAAAC,IAAAzxC,GAAAlD,KAAA40C,QAAAC,IAAA3xC,GAAAlD,KAAA80C,QAAAC,IAAA7xC,GAAAlD,KAAAg1C,QAAAC,IAAA/xC,GAAAlD,KAAAk1C,QAAAC,IAAAjyC,GAAAlD,KAAAo1C,QAAAC,IAAAnyC,GAAAlD,KAAAs1C,QAAAC,IAAAryC,GAAAlD,KAAAw1C,QAAAC,IAAAvyC,GAAAlD,KAAA01C,QAAAC,IAAAzyC,GAAAlD,KAAA41C,QAAAC,IAAA3yC,GAAAlD,KAAA81C,QAAAC,IAAA7yC,GAAAlD,KAAAg2C,QAAAC,IAAA/yC,GAAAlD,KAAAk2C,QAAAC,IAAAjzC,GAAAlD,KAAAo2C,QAAAC,IAAAnzC,GAAAlD,KAAAs2C,QAAAC,IAAArzC,GAAAlD,KAAAw2C,QAAAC,IAAAvzC,GAAAlD,KAAA02C,QAAAC,IAAAzzC,GAAAlD,KAAA42C,QAAAC,IAAA3zC,GAAAlD,KAAA82C,QAAAC,IAAA7zC,GAAAlD,KAAAg3C,QAAAC,IAAA/zC,GAAAlD,KAAAk3C,QAAAC,IAAAj0C,GAAAlD,KAAAo3C,QAAAC,IAAAn0C,GAAAlD,KAAAs3C,QAAAC,IAAAr0C,GAAAlD,KAAAw3C,QAAAC,IAAAv0C,GAAAlD,KAAA03C,QAAAC,IAAAz0C,GAAAlD,KAAA43C,QAAAC,IAAA30C,GAAAlD,KAAA83C,QAAAC,IAAA70C,GAAAlD,KAAAg4C,QAAAC,IAAA/0C,GAAAlD,KAAAk4C,QAAAC,IAAAj1C,GAAAlD,KAAAo4C,QAAAC,IAAAn1C,GAAAlD,KAAAs4C,QAAAC,IAAAr1C,GAAAlD,KAAAw4C,QAAAC,IAAAv1C,GAAAlD,KAAA04C,QAAAC,IAAAz1C,GAAAlD,KAAA44C,QAAAC,IAAA31C,GAAAlD,KAAA84C,QAAAC,IAAA71C,GAAAlD,KAAAg5C,QAAAC,IAAA/1C,GAAAlD,KAAAk5C,QAAAC,IAAAj2C,GAAAlD,KAAAo5C,QAAAC,IAAAn2C,GAAAlD,KAAAs5C,QAAAC,IAAAr2C,GAAAlD,KAAAw5C,QAAAC,IAAAv2C,GAAAlD,KAAA05C,QAAAC,IAAAz2C,GAAAlD,KAAA45C,QAAAC,IAAA32C,GAAAlD,KAAA85C,QAAAC,IAAA72C,GAAAlD,KAAAg6C,QAAAC,IAAA/2C,GAAAlD,KAAAk6C,QAAAC,IAAAj3C,GAAAlD,KAAAo6C,QAAAC,IAAAn3C,GAAAlD,KAAAs6C,QAAAC,IAAAr3C,GAAAlD,KAAAw6C,QAAAC,IAAAv3C,GAAAlD,KAAA06C,QAAAC,IAAAz3C,GAAAlD,KAAA46C,QAAAC,IAAA33C,GAAAlD,KAAA86C,QAAAC,IAAA73C,GAAAlD,KAAAg7C,QAAAC,IAAA/3C,GAAAlD,KAAAk7C,QAAAC,IAAAj4C,GAAAlD,KAAAo7C,QAAAC,IAAAn4C,GAAAlD,KAAAs7C,QAAAC,IAAAr4C,GAAAlD,KAAAw7C,QAAAC,IAAAv4C,GAAAlD,KAAA07C,QAAAC,IAAAz4C,GAAAlD,KAAA47C,QAAAC,IAAA34C,GAAAlD,KAAA87C,QAAAC,IAAA74C,GAAAlD,KAAAg8C,QAAAC,IAAA/4C,GAAAlD,KAAAk8C,QAAAC,IAAAj5C,GAAAlD,KAAAo8C,QAAAC,IAAAn5C,GAAAlD,KAAAs8C,QAAAC,IAAAr5C,GAAAlD,KAAAw8C,QAAAC,IAAAv5C,GAAAlD,KAAA08C,QAAAC,IAAAz5C,GAAAlD,KAAA48C,QAAAC,IAAA35C,GAAAlD,KAAA88C,QAAAC,IAAA75C,GAAAlD,KAAAg9C,QAAAC,IAAA/5C,GAAAlD,KAAAk9C,QAAAC,IAAAj6C,GAAAlD,KAAAo9C,QAAAC,IAAAn6C,GAAAlD,KAAAs9C,QAAAC,IAAAr6C,GAAAlD,KAAAw9C,QAAAC,IAAAv6C,GAAAlD,KAAA09C,QAAAC,IAAAz6C,GAAAlD,KAAA49C,QAAAC,IAAA36C,GAAAlD,KAAA89C,QAAAC,IAAA76C,GAAAlD,KAAAg+C,QAAAC,IAAA/6C,GAAAlD,KAAAk+C,QAAAC,IAAAj7C,GAAAlD,KAAAo+C,QAAAC,IAAAn7C,GAAAlD,KAAAs+C,QAAAC,IAAAr7C,GAAAlD,KAAAw+C,QAAAC,IAAAv7C,GAAAlD,KAAA0+C,QAAAC,IAAAz7C,GAAAlD,KAAA4+C,QAAAC,IAAA37C,GAAAlD,KAAA8+C,QAAAC,IAAA77C,GAAAlD,KAAAg/C,QAAAC,IAAA/7C,GAAAlD,KAAAk/C,QAAAC,IAAAj8C,GAAAlD,KAAAo/C,QAAAC,IAAAn8C,GAAAlD,KAAAs/C,QAAAC,IAAAr8C,GAAAlD,KAAAw/C,QAAAC,IAAAv8C,GAAAlD,KAAA0/C,QAAAC,IAAAz8C,GAAAlD,KAAA4/C,QAAAC,IAAA38C,GAAAlD,KAAA8/C,QAAAC,IAAA78C,GAAAlD,KAAAggD,QAAAC,IAAA/8C,GAAAlD,KAAAkgD,QAAAC,IAAAj9C,GAAAlD,KAAAogD,QAAAC,IAAAn9C,GAAAlD,KAAAsgD,QAAAC,IAAAr9C,GAAAlD,KAAAwgD,QAAAC,IAAAv9C,GAAAlD,KAAA0gD,QAAAC,IAAAz9C,GAAAlD,KAAA4gD,QAAAC,IAAA39C,GAAAlD,KAAA8gD,QAAAC,IAAA79C,GAAAlD,KAAAghD,QAAAC,IAAA/9C,GAAAlD,KAAAkhD,QAAAC,IAAAj+C,GAAAlD,KAAAohD,QAAAC,IAAAn+C,GAAAlD,KAAAshD,QAAAC,IAAAr+C,GAAAlD,KAAAwhD,QAAAC,IAAAv+C,GAAAlD,KAAA0hD,QAAAC,IAAAz+C,GAAAlD,KAAA4hD,QAAAC,IAAA3+C,GAAAlD,KAAA8hD,QAAAC,IAAA7+C,GAAAlD,KAAAgiD,QAAAC,IAAA/+C,GAAAlD,KAAAkiD,QAAAC,IAAAj/C,GAAAlD,KAAAoiD,QAAAC,IAAAn/C,GAAAlD,KAAAsiD,QAAAC,IAAAr/C,GAAAlD,KAAAwiD,QAAAC,IAAAv/C,GAAAlD,KAAA0iD,QAAAC,IAAAz/C,GAAAlD,KAAA4iD,QAAAC,IAAA3/C,GAAAlD,KAAA8iD,QAAAC,IAAA7/C,GAAAlD,KAAAgjD,QAAAC,IAAA/jD,GAAAlD,KAAAkjD,QAAAC,IAAAjgD,GAAAlD,KAAAojD,QAAAC,IAAAngD,GAAAlD,KAAAsjD,QAAAC,IAAArgD,GAAAlD,KAAAwjD,QAAAC,IAAAvgD,GAAAlD,KAAA0jD,QAAAC,IAAAzgD,GAAAlD,KAAA4jD,QAAAC,IAAA3gD,GAAAlD,KAAA8jD,QAAAC,IAAA7gD,GAAAlD,KAAAgkD,QAAAC,IAAA/gD,GAAAlD,KAAAkkD,QAAAC,IAAAjhD,GAAAlD,KAAAokD,QAAAC,IAAAnhD,GAAAlD,KAAAskD,QAAAC,IAAArhD,GAAAlD,KAAAwkD,QAAAC,IAAAvhD,GAAAlD,KAAA0kD,QAAAC,IAAAzhD,GAAAlD,KAAA4kD,QAAAC,IAAA3hD,GAAAlD,KAAA8kD,QAAAC,IAAA7hD,GAAAlD,KAAAglD,QAAAC,IAAA/hD,GAAAlD,KAAAklD,QAAAC,IAAAjiD,GAAAlD,KAAAolD,QAAAC,IAAAniD,GAAAlD,KAAAslD,QAAAC,IAAAriD,GAAAlD,KAAAwlD,QAAAC,IAAAviD,GAAAlD,KAAA0lD,QAAAC,IAAAziD,GAAAlD,KAAA4lD,QAAAC,IAAA3iD,GAAAlD,KAAA8lD,QAAAC,IAAA7iD,GAAAlD,KAAAgmD,QAAAC,IAAA/iD,GAAAlD,KAAAkmD,QAAAC,IAAAjjD,GAAAlD,KAAAomD,QAAAC,IAAAnjD,GAAAlD,KAAAsmD,QAAAC,IAAArjD,GAAAlD,KAAAwmD,QAAAC,IAAAvjD,GAAAlD,KAAA0mD,QAAAC,IAAAzjD,GAAAlD,KAAA4mD,QAAAC,IAAA3jD,GAAAlD,KAAA8mD,QAAAC,IAAA7jD,GAAAlD,KAAAgnD,QAAAC,IAAA/jD,GAAAlD,KAAAknD,QAAAC,IAAAjkD,GAAAlD,KAAAonD,QAAAC,IAAAnkD,GAAAlD,KAAAsnD,QAAAC,IAAArkD,GAAAlD,KAAAwnD,QAAAC,IAAAvkD,GAAAlD,KAAA0nD,QAAAC,IAAAzkD,GAAAlD,KAAA4nD,QAAAC,IAAA3kD,GAAAlD,KAAA8nD,QAAAC,IAAA7kD,GAAAlD,KAAAgoD,QAAAC,IAAA/kD,GAAAlD,KAAAkoD,QAAAC,IAAAjlD,GAAAlD,KAAAooD,QAAAC,IAAAnlD,GAAAlD,KAAAsoD,QAAAC,IAAArlD,GAAAlD

A,EACd8R,EAAM8N,WAAaA,EACZ9N,EAYX,OAlBA7S,EAAU2pB,EAActJ,GAQxBsJ,EAAaxpB,UAAU+hB,aAAe,SAAU7gB,GAC5C,OAAOA,aAAasoB,GAAgBtqB,KAAK0B,MAAMgT,OAAS1S,EAAEN,MAAMgT,MAC5D1U,KAAK0B,MAAM6oB,aAAevoB,EAAEN,MAAM6oB,YAAcvqB,KAAK0B,MAAM8oB,UAAYxoB,EAAEN,MAAM8oB,SAAvFF,GAAgBtqB

AAenjB,KAK/D,OAJAwT,EAAMgY,SAAWA,EACjBhY,EAAM4Q,IAAMA,EACZ5Q,EAAM+R,OAASA,EACf/R,EAAMkY,IAAMA,EACLlY,EAYX,OApBA7S,EAAU0jB,EAAoBrD,GAU9BqD,EAAmBvjB,UAAU+hB,aAAe,SAAU7gB,GAClD,OAAOA,aAAaqiB,GAAsBrkB,KAAKwrB,WAAaxpB,EAAwpB,UAC1DxrB,KAAK0rB,IAAI7I,aAAa7gB,EAAE0pB,MAAQ1rB,KAAKokB,IAAIvB,aAAa7gB,EAAoiB,MAEhEC,EAAmBvjB,UAAU6lB,WAAa,WAAaa,WACtCC,OAAOC,GAAEXtC,EAAmBvjB,UAAU8lB,WAAa,gBAAkB,SAAU1F,GAASC,GAAC9D,GAAC,OAAOwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,EAAEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,EAAEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,EAAEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,GAAGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,GAAGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,GAAGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,IAAIwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,IAAIwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,IAAIwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,KAAKwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,KAAKwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,KAAKwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,MAAMwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,MAAMwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,MAAMwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,OAAOwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,OAAOwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,OAAOwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,QAAQwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,QAAQwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,QAAQwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,SAASwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,SAASwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,SAASwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,UAAUwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,UAAUwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,UAAUwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,WAAWwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,WAAWwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,WAAWwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,YAAYwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,YAAYwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,YAAYwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,aAAawJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,aAAawJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,aAAawJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,cAAcwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,cAAcwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,cAAcwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,eAAewJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,eAAewJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,eAAewJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gBAAgBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gBAAgBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gBAAgBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iBAAiBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iBAAiBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iBAAiBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kBAAkBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kBAAkBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kBAAkBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mBAAmBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mBAAmBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mBAAmBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oBAAoBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oBAAoBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oBAAoBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qBAAqBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qBAAqBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qBAAqBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sBAAsBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sBAAsBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sBAAsBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uBAAuBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uBAAuBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uBAAuBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wBAAwBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wBAAwBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wBAAwBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yBAAyBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yBAAyBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yBAAyBwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0BAA0BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0BAA0BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0BAA0BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2BAA2BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2BAA2BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2BAA2BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4BAA4BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4BAA4BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4BAA4BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6BAA6BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6BAA6BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6BAA6BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8BAA8BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8BAA8BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8BAA8BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+BAA+BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+BAA+BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+BAA+BwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gCAAgCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gCAAgCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gCAAgCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iCAAiCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iCAAiCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iCAAiCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kCAAkCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kCAAkCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kCAAkCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mCAAmCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mCAAmCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mCAAmCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oCAAoCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oCAAoCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oCAAoCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qCAAqCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qCAAqCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qCAAqCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sCAAsCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sCAAsCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sCAAsCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uCAAuCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uCAAuCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uCAAuCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wCAAwCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wCAAwCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wCAAwCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yCAAyCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yCAAyCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yCAAyCwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0CAA0CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0CAA0CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0CAA0CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2CAA2CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2CAA2CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2CAA2CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4CAA4CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4CAA4CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4CAA4CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6CAA6CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6CAA6CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6CAA6CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8CAA8CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8CAA8CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8CAA8CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+CAA+CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+CAA+CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+CAA+CwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gDAAgDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gDAAgDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gDAAgDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iDAAiDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iDAAiDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iDAAiDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kDAAkDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kDAAkDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kDAAkDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mDAAmDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mDAAmDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mDAAmDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oDAAoDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oDAAoDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oDAAoDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qDAAqDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qDAAqDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qDAAqDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sDAAsDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sDAAsDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sDAAsDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uDAAuDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uDAAuDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uDAAuDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wDAAwDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wDAAwDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wDAAwDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yDAAyDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yDAAyDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yDAAyDwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0DAA0DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0DAA0DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0DAA0DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2DAA2DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2DAA2DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2DAA2DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4DAA4DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4DAA4DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4DAA4DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6DAA6DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6DAA6DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6DAA6DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8DAA8DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8DAA8DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8DAA8DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+DAA+DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+DAA+DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+DAA+DwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gEAAgEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gEAAgEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gEAAgEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iEAAiEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iEAAiEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iEAAiEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kEAAkEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kEAAkEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kEAAkEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mEAAmEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mEAAmEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mEAAmEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oEAAoEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oEAAoEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oEAAoEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qEAAqEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qEAAqEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qEAAqEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sEAAsEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sEAAsEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sEAAsEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uEAAuEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uEAAuEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uEAAuEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wEAAwEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wEAAwEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wEAAwEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yEAAyEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yEAAyEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yEAAyEwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0EAA0EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0EAA0EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0EAA0EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2EAA2EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2EAA2EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2EAA2EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4EAA4EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4EAA4EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4EAA4EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6EAA6EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6EAA6EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6EAA6EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8EAA8EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8EAA8EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8EAA8EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+EAA+EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+EAA+EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+EAA+EwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gFAAgFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gFAAgFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gFAAgFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iFAAiFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iFAAiFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iFAAiFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kFAAkFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kFAAkFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kFAAkFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mFAAmFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mFAAmFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mFAAmFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oFAAoFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oFAAoFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oFAAoFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qFAAqFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qFAAqFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qFAAqFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sFAAsFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sFAAsFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sFAAsFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uFAAuFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uFAAuFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uFAAuFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wFAAwFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wFAAwFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wFAAwFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yFAAyFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yFAAyFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yFAAyFwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0FAA0FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0FAA0FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0FAA0FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2FAA2FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2FAA2FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2FAA2FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4FAA4FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4FAA4FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4FAA4FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6FAA6FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6FAA6FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6FAA6FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8FAA8FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8FAA8FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8FAA8FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+FAA+FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+FAA+FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+FAA+FwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gGAAgGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gGAAgGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gGAAgGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iGAAiGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iGAAiGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iGAAiGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kGAAkGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kGAAkGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kGAAkGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mGAAmGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mGAAmGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mGAAmGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oGAAoGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oGAAoGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oGAAoGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qGAAqGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qGAAqGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qGAAqGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sGAAsGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sGAAsGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sGAAsGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uGAAuGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uGAAuGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uGAAuGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wGAAwGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wGAAwGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wGAAwGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yGAAyGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yGAAyGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yGAAyGwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0GAA0GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0GAA0GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0GAA0GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2GAA2GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2GAA2GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2GAA2GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4GAA4GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4GAA4GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4GAA4GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6GAA6GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6GAA6GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6GAA6GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8GAA8GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8GAA8GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8GAA8GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+GAA+GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+GAA+GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,+GAA+GwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gHAAgHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gHAAgHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,gHAAgHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iHAAiHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iHAAiHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,iHAAiHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kHAAkHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kHAAkHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,kHAAkHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mHAAmHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mHAAmHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,mHAAmHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oHAAoHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oHAAoHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,oHAAoHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qHAAqHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qHAAqHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,qHAAqHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sHAAsHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sHAAsHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,sHAAsHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uHAAuHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uHAAuHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,uHAAuHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wHAAwHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wHAAwHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,wHAAwHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yHAAyHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yHAAyHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,yHAAyHwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0HAA0HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0HAA0HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,0HAA0HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2HAA2HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2HAA2HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,2HAA2HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4HAA4HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4HAA4HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,4HAA4HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6HAA6HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6HAA6HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,6HAA6HwJ,GAAAA,KAAKyB,IAAIpF,GAAC9D,GAAC,8HAA8HwJ,GAAAA,

AOzZ,KAAK+sB,UAAY,IAAM/sB,KAAK0oB,KAAO,IAAM1oB,KAAK0oB,MAElDoE,EATwB,GAW/BG,GA
A8B,SAAUjM,GAExC,SAASiM,EAAaC,GAClB,IAAI1Z,EAAQwN,EAAOzf,KAAKvB,KAAM,IAAoB,GAA4B,
IAASA,KAEvF,OADAwT,EAAM0Z,KAAOA,EACN1Z,EAAM7S,EAAUssB,EAAcjM,GAMxBiM,EAAan
sB,UAAU2Y,SAAW,WAC9B,OA0sBR,SAAS0T,EAAcD,GACnB,IAAIE,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC

GAQvB0N,EAAY5tB,UAAU+hB,aAAe,SAAUxhB,GAC3C,OAAOrB,KAAK0U,OAASrT,EAAEqT,MAAQoO,GAAiB9iB,KAAK2uB,KAAMttB,EAAEstB,OAE1DD,EAZqB,CAa9BJ,IACEM,GAA6B,SAAU5N,GAEvC,EAAYla,EAAMia,EAAMzL,EAAMxC,GACnC,IAAIlN,EAAQwN,EAAOzf,KAAKvB,KAAMkjB,EAAMxC,IAAc1gB,KAAKlD,OAFAwT,EAAMkB,KAAOA,EACblB,EAAMmb,KAAOA,EACNnb,EAAKX,OAVA7S,EAAUiuB,EAAa5N,GAAOvB4N,EAAY9tB,UAAU+hB,aAAeSAAUxhB,GAC3C,OAAOrB,KAAK0U,OAASrT,EAAEqT,MAAQoO,GAAiB9iB,KAAK2uB,KAAMttB,EAAEstB,OAE1DC,EAAXqB,CAAY9tB

AM6M,EAAI5M,YAAahC,IAEhLyO,EAAe9uB,UAAUsnB,wBAA0B,SAAU2H,EAAK5O,GAC9D,OAAOnhB,KAAK6vB,cAAc,IAAIjM,GAAmBmM,EAAI5H,GAAGvB,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEpKyO,EAAe9uB,UAAUwnB,qBAAuB,SAAUyH,EAAK5O,GAC3D,OAAOnhB,KAAK6vB,cAAc,IAAI/L,GAAgBiM,EAAI1H,UAAUzB,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAExKyO,EAAe9uB,UAAU0nB,iBAAmB,SAAUuH,EAAK5O,GACvD,OAAOnhB,KAAK6vB,cAAc,IAAIvL,GAAcyL,EAAIpH,UAAU3B,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEpKyO,EAAe9uB,UAAU4nB,8BAAgC,SAAUqH,EAAK5O,GACpE,OAAOnhB,KAAK6vB,cAAc,IAAIrL,GAAuBuL,EAAIlH,UAAU7B,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEjLyO,EAAe9uB,UAAU8nB,kBAAoB,SAAUmH,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIlL,GAAeoL,EAAIhH,UAAU/B,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgoB,kBAAoB,SAAUiH,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIhL,GAAekL,EAAI9G,UAAUjC,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUkoB,kBAAoB,SAAU+G,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI9K,GAAegL,EAAI5G,UAAUnC,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUooB,kBAAoB,SAAU6G,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI5K,GAAe8K,EAAI1G,UAAUrC,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUsoB,kBAAoB,SAAU2G,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI1K,GAAe4K,EAAIxG,UAAUvC,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwoB,kBAAoB,SAAUyG,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIxK,GAAe0K,EAAItG,UAAUzC,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0oB,kBAAoB,SAAUuG,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIvK,GAAeyK,EAAIpG,UAAU3C,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4oB,kBAAoB,SAAUqG,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIrK,GAAeuK,EAAIlG,UAAU7C,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8oB,kBAAoB,SAAUmG,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIpK,GAAesK,EAAIhG,UAAU/C,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgpB,kBAAoB,SAAUiG,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAInK,GAAeqK,EAAI9F,UAAUjD,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUkpB,kBAAoB,SAAU+F,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIlK,GAAeoK,EAAI5F,UAAUnD,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUopB,kBAAoB,SAAU6F,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIjK,GAAemK,EAAI1F,UAAUrD,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUspB,kBAAoB,SAAU2F,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIhK,GAAekK,EAAIxF,UAAUvD,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwpB,kBAAoB,SAAUyF,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI/J,GAAeiK,EAAItF,UAAUzD,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0pB,kBAAoB,SAAUuF,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI9J,GAAegK,EAAIpF,UAAU3D,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4pB,kBAAoB,SAAUqF,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI7J,GAAe+J,EAAInF,UAAU5D,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8pB,kBAAoB,SAAUmF,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI5J,GAAe8J,EAAIlF,UAAU7D,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgqB,kBAAoB,SAAUiF,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI3J,GAAe6J,EAAIjF,UAAU9D,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUkqB,kBAAoB,SAAU+E,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI1J,GAAe4J,EAAIhF,UAAU/D,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUoqB,kBAAoB,SAAU6E,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIzJ,GAAe2J,EAAI/E,UAAUhE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUsqB,kBAAoB,SAAU2E,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIxJ,GAAe0J,EAAI9E,UAAUjE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwqB,kBAAoB,SAAUyE,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIvJ,GAAeyJ,EAAI7E,UAAUlE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0qB,kBAAoB,SAAUuE,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAItJ,GAAewJ,EAAI5E,UAAUnE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4qB,kBAAoB,SAAUqE,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIrJ,GAAeuJ,EAAI3E,UAAUpE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8qB,kBAAoB,SAAUmE,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIpJ,GAAesJ,EAAI1E,UAAUrE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgrB,kBAAoB,SAAUiE,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAInJ,GAAeqJ,EAAIzE,UAAUtE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUkrB,kBAAoB,SAAU+D,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIlJ,GAAeoJ,EAAIxE,UAAUvE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUorB,kBAAoB,SAAU6D,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIjJ,GAAemJ,EAAIvE,UAAUxE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUsrB,kBAAoB,SAAU2D,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIhJ,GAAekJ,EAAItE,UAAUzE,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwrB,kBAAoB,SAAUyD,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI/I,GAAeiJ,EAAIrE,UAAU1E,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0rB,kBAAoB,SAAUuD,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI9I,GAAegJ,EAAIpE,UAAU3E,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4rB,kBAAoB,SAAUqD,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI7I,GAAe+I,EAAInE,UAAU5E,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8rB,kBAAoB,SAAUmD,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI5I,GAAe8I,EAAIlE,UAAU7E,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgsB,kBAAoB,SAAUiD,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI3I,GAAe6I,EAAIjE,UAAU9E,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUksB,kBAAoB,SAAU+C,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI1I,GAAe4I,EAAIhE,UAAU/E,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUosB,kBAAoB,SAAU6C,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIzI,GAAe2I,EAAI/D,UAAUhF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUssB,kBAAoB,SAAU2C,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIxI,GAAe0I,EAAI9D,UAAUjF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwsB,kBAAoB,SAAUyC,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIvI,GAAeyI,EAAI7D,UAAUlF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0sB,kBAAoB,SAAUuC,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAItI,GAAewI,EAAI5D,UAAUnF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4sB,kBAAoB,SAAUqC,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIrI,GAAeuI,EAAI3D,UAAUpF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8sB,kBAAoB,SAAUmC,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIpI,GAAesI,EAAI1D,UAAUrF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgtB,kBAAoB,SAAUiC,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAInI,GAAeqI,EAAIzD,UAAUtF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUktB,kBAAoB,SAAU+B,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIlI,GAAeoI,EAAIxD,UAAUvF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUotB,kBAAoB,SAAU6B,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIjI,GAAemI,EAAIvD,UAAUxF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUstB,kBAAoB,SAAU2B,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIhI,GAAekI,EAAItD,UAAUzF,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwtB,kBAAoB,SAAUyB,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI/H,GAAeiI,EAAIrD,UAAU1F,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0tB,kBAAoB,SAAUuB,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI9H,GAAegI,EAAIpD,UAAU3F,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4tB,kBAAoB,SAAUqB,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI7H,GAAe+H,EAAInD,UAAU5F,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8tB,kBAAoB,SAAUmB,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI5H,GAAe8H,EAAIlD,UAAU7F,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUguB,kBAAoB,SAAUiB,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI3H,GAAe6H,EAAIjD,UAAU9F,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUkuB,kBAAoB,SAAU+A,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI1H,GAAe4H,EAAIhD,UAAU/F,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUouB,kBAAoB,SAAU6A,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIzH,GAAe2H,EAAI/C,UAAUhG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUsuB,kBAAoB,SAAU2A,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIxH,GAAe0H,EAAI9C,UAAUjG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwuB,kBAAoB,SAAUyA,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIvH,GAAeyH,EAAI7C,UAAUlG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0uB,kBAAoB,SAAUuA,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAItH,GAAewH,EAAI5C,UAAUnG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4uB,kBAAoB,SAAUqA,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIrH,GAAeuH,EAAI3C,UAAUpG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8uB,kBAAoB,SAAUmA,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIpH,GAAesH,EAAI1C,UAAUrG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgvB,kBAAoB,SAAUiA,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAInH,GAAeqH,EAAIzC,UAAUtG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUkvB,kBAAoB,SAAU+z,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIlH,GAAeoH,EAAIxC,UAAUvG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUovB,kBAAoB,SAAU6z,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIjH,GAAemH,EAAIvC,UAAUxG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUsvB,kBAAoB,SAAU2z,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIhH,GAAekH,EAAItC,UAAUzG,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwvB,kBAAoB,SAAUyz,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI/G,GAAeiH,EAAIrC,UAAU1G,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0vB,kBAAoB,SAAUuz,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI9G,GAAegH,EAAIpC,UAAU3G,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4vB,kBAAoB,SAAUqz,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI7G,GAAe+G,EAAInC,UAAU5G,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8vB,kBAAoB,SAAUmz,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI5G,GAAe8G,EAAIlC,UAAU7G,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgwB,kBAAoB,SAAUiz,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI3G,GAAe6G,EAAIjC,UAAU9G,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUkwB,kBAAoB,SAAU+y,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIxG,GAAe0G,EAAI9B,UAAUjH,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUowB,kBAAoB,SAAU6y,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIrG,GAAeuG,EAAI3B,UAAUpH,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUswB,kBAAoB,SAAU2y,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIlG,GAAeoG,EAAIxB,UAAUvH,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwwB,kBAAoB,SAAUyy,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI/F,GAAeiG,EAAIrB,UAAU1H,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0wB,kBAAoB,SAAUuy,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI5F,GAAe8F,EAAIlB,UAAU7H,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4wB,kBAAoB,SAAUqy,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIzF,GAAe2F,EAAIf,UAAUhI,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8wB,kBAAoB,SAAUmy,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIrF,GAAeuF,EAAIZ,UAAUpI,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUgxB,kBAAoB,SAAUiy,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIlF,GAAeoF,EAAIT,UAAUvI,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUkxB,kBAAoB,SAAU+x,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI/E,GAAeiF,EAAIN,UAAU1I,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUoxB,kBAAoB,SAAU6x,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAI5E,GAAe8E,EAAIH,UAAU7I,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUsxB,kBAAoB,SAAU2x,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIzE,GAAe2E,EAAIA,UAAUhJ,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAUwxB,kBAAoB,SAAUyx,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIvE,GAAeyE,EAAIA,UAAUlJ,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU0xB,kBAAoB,SAAUux,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIrE,GAAeuE,EAAIA,UAAUpJ,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU4xB,kBAAoB,SAAUqx,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAInE,GAAeqE,EAAIA,UAAUtJ,gBAAgB5mB,KAAMmhB,GAAUnhB,KAAKgwB,oBAAoBD,EAAIrR,KAAMyC,GAAU4O,EAAI7M,KAAM6M,EAAI5M,YAAahC,IAEtKyO,EAAe9uB,UAAU8xB,kBAAoB,SAAUmx,EAAK5O,GACxD,OAAOnhB,KAAK6vB,cAAc,IAAIjE,GAAemE,EAAIA,UAAUxJ,gBAAgB5mB,KAAMmhB,GAAUnhB,KAA

C7D,IAAI3N,EAAQxT,KACR8uB,EAASf,EAAKe,OAAOlI,gBAAgB5mB,KAAMmhB,GAC3C6N,EAAUjB,EA
AKiB,QAAQvT,KAAI,SAAU4U,GAAU,OAAO,IAAIzB,GAAAYyB,EAAO3b,KAAMlB,EAAMyc,mBAAmBI,EA
AO1B,KAAMxN,GAAUkP,EAAOnN,KAAMmN,EAAO3P,cACvJ4P,EAAavC,EAAKkB,mBAClB,IAAIP,GAAAY
X,EAAKkB,kBAAkBva,KAAMqZ,EAAKkB,kBAAkBxL,OAAQzjB,KAAKiwB,mBAAmBlC,EAAKkB,kBAAkB
N,KAAMxN,GAAU4M,EAAKkB,kBAAkB/L,KAAM6K,EAAKkB,kBAAkBvO,WAC/LwO,EAAUnB,EAAKmB,
QAAQzT,KAAI,SAAUwM,GAAU,OAAO,IAAIyG,GAAAYzG,EAAOvT,KAAMuT,EAAOxE,OAAQjQ,EAAMyc,
mBAAmBhI,EAAO0G,KAAMxN,GAAU8G,EAAO/E,KAAM+E,EAAOvH,cAC1KOAO1gB,KAAMlB,EAAMyc,mBAAmB
IAAIjB,GAAUd,EAAKrZ,KAAMoa,EAAQf,KAAMgB,OAAQC,EAASsB,EAAYpB,EAASnB,EAAKrN,UAAWq
N,EAAK5K,YAAahC,IAE5IyO,EAAe9uB,UAAUuuB,YAAc,SAAUtB,EAAM5M,GACnD,OAAOnhB,KAAK8vB
,cAAc,IAAIV,GAAOrB,EAAKpD,UAAU/D,gBAAKmB,KAAMlB,EAAMyc,mBAAmBlC,EA
AK/J,SAAU7C,GAAUnhB,KAAKiwB,mBAAmBlC,EAAK9J,SAAU7C,GAAU4M,EAAK5K,WAAY4K,EAAK
H,iBAAkBzM,IAEnOyO,EAAe9uB,UAAU2uB,kBAAoB,SAAU1B,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cA
Ac,IAAIR,GAAatvB,KAAKiwB,mBAAmBlC,EAAKwB,UAAWpO,GAAUnhB,KAAKiwB,mBAAmBlC,EAAKy
B,WAAYrO,GAAU4M,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAE5IyO,EAAe9uB,UAAU6uB,kBAAoB,SAAU5B,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIJ,GAAO3B,EAAKpD,UAAU6E,gBAAKzB,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUgvB,kBAAoB,SAAU/B,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIH,GAAO5B,EAAKpD,UAAUoF,gBAAKhC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUivB,kBAAoB,SAAUhC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIF,GAAO7B,EAAKpD,UAAUqF,gBAAKjC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUkvB,kBAAoB,SAAUjC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIC,GAAOhC,EAAKpD,UAAUsF,gBAAKlC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUmvB,kBAAoB,SAAUlC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIE,GAAOjC,EAAKpD,UAAUuF,gBAAKnC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUovB,kBAAoB,SAAUnC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIG,GAAOlC,EAAKpD,UAAUwF,gBAAKpC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUqvB,kBAAoB,SAAUpC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIK,GAAOpC,EAAKpD,UAAUyF,gBAAKrC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUsvB,kBAAoB,SAAUrC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIM,GAAOrC,EAAKpD,UAAU0F,gBAAKtC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUuvB,kBAAoB,SAAUtC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIO,GAAOtC,EAAKpD,UAAU2F,gBAAKvC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUwvB,kBAAoB,SAAUvC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIQ,GAAOvC,EAAKpD,UAAU4F,gBAAKxC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUyvB,kBAAoB,SAAUxC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIS,GAAOxC,EAAKpD,UAAU6F,gBAAKzC,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU0vB,kBAAoB,SAAUzC,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIU,GAAOzC,EAAKpD,UAAU8F,gBAAK1C,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU2vB,kBAAoB,SAAU1C,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIW,GAAO1C,EAAKpD,UAAU+F,gBAAK3C,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU4vB,kBAAoB,SAAU3C,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIY,GAAO3C,EAAKpD,UAAUgG,gBAAK5C,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU6vB,kBAAoB,SAAU5C,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIa,GAAO5C,EAAKpD,UAAUiG,gBAAK7C,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU8vB,kBAAoB,SAAU7C,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIc,GAAO7C,EAAKpD,UAAUkG,gBAAK9C,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU+vB,kBAAoB,SAAU9C,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIe,GAAO9C,EAAKpD,UAAUmG,gBAAK/C,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUgwB,kBAAoB,SAAU/C,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIgB,GAAO/C,EAAKpD,UAAUoG,gBAAKhD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUiwB,kBAAoB,SAAUhD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIiB,GAAOhD,EAAKpD,UAAUqG,gBAAKjD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUkwB,kBAAoB,SAAUjD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIkB,GAAOjD,EAAKpD,UAAUsG,gBAAKlD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUmwB,kBAAoB,SAAUlD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAImB,GAAOlD,EAAKpD,UAAUuG,gBAAKnD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUowB,kBAAoB,SAAUnD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIoB,GAAOnD,EAAKpD,UAAUwG,gBAAKpD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUqwB,kBAAoB,SAAUpD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIqB,GAAOpD,EAAKpD,UAAUyG,gBAAKrD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUswB,kBAAoB,SAAUrD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIsB,GAAOrD,EAAKpD,UAAU0G,gBAAKtD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUuwB,kBAAoB,SAAUtD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIuB,GAAOtD,EAAKpD,UAAU2G,gBAAKvD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUwwB,kBAAoB,SAAUvD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIwB,GAAOvD,EAAKpD,UAAU4G,gBAAKxD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUywB,kBAAoB,SAAUxD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIyB,GAAOxD,EAAKpD,UAAU6G,gBAAKzD,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU0wB,kBAAoB,SAAUzD,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI0B,GAAOzD,EAAKpD,UAAU8G,gBAAK1D,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU2wB,kBAAoB,SAAU1D,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI2B,GAAO1D,EAAKpD,UAAU+G,gBAAK3D,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU4wB,kBAAoB,SAAU3D,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI4B,GAAO3D,EAAKpD,UAAUgH,gBAAK5D,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU6wB,kBAAoB,SAAU5D,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI6B,GAAO5D,EAAKpD,UAAUiH,gBAAK7D,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU8wB,kBAAoB,SAAU7D,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI8B,GAAO7D,EAAKpD,UAAUkH,gBAAK9D,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU+wB,kBAAoB,SAAU9D,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI+B,GAAO9D,EAAKpD,UAAUmH,gBAAK/D,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUgxB,kBAAoB,SAAU/D,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIgC,GAAO/D,EAAKpD,UAAUoH,gBAAKhE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUixB,kBAAoB,SAAUhE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIiC,GAAOhE,EAAKpD,UAAUqH,gBAAKjE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUkxB,kBAAoB,SAAUjE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIkC,GAAOjE,EAAKpD,UAAUsH,gBAAKlE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUmxB,kBAAoB,SAAUlE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAImC,GAAOlE,EAAKpD,UAAUuH,gBAAKnE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUoxB,kBAAoB,SAAUnE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIoC,GAAOnE,EAAKpD,UAAUwH,gBAAKpE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUqxB,kBAAoB,SAAUpE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIqC,GAAOpE,EAAKpD,UAAUyH,gBAAKrE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUsxB,kBAAoB,SAAUrE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIsC,GAAOrE,EAAKpD,UAAU0H,gBAAKtE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUuxB,kBAAoB,SAAUtE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIuC,GAAOtE,EAAKpD,UAAU2H,gBAAKvE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUwxB,kBAAoB,SAAUvE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIwC,GAAOvE,EAAKpD,UAAU4H,gBAAKxE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUyxB,kBAAoB,SAAUxE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIyC,GAAOxE,EAAKpD,UAAU6H,gBAAKzE,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU0xB,kBAAoB,SAAUzE,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI0C,GAAOzE,EAAKpD,UAAU8H,gBAAK1E,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU2xB,kBAAoB,SAAU1E,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI2C,GAAO1E,EAAKpD,UAAU+H,gBAAK3E,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU4xB,kBAAoB,SAAU3E,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI4C,GAAO3E,EAAKpD,UAAUgI,gBAAK5E,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU6xB,kBAAoB,SAAU5E,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI6C,GAAO5E,EAAKpD,UAAUiI,gBAAK7E,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU8xB,kBAAoB,SAAU7E,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI8C,GAAO7E,EAAKpD,UAAUkI,gBAAK9E,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU+xB,kBAAoB,SAAU9E,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI+C,GAAO9E,EAAKpD,UAAUmI,gBAAK/E,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUgyB,kBAAoB,SAAU/E,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIgD,GAAO/E,EAAKpD,UAAUoI,gBAAKhF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUiyB,kBAAoB,SAAUhF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIiD,GAAOhF,EAAKpD,UAAUqI,gBAAKjF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUkyB,kBAAoB,SAAUjF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIkD,GAAOjF,EAAKpD,UAAUsI,gBAAKlF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUmyB,kBAAoB,SAAUlF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAImD,GAAOlF,EAAKpD,UAAUuI,gBAAKnF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUoyB,kBAAoB,SAAUnF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIoD,GAAOnF,EAAKpD,UAAUwI,gBAAKpF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUqyB,kBAAoB,SAAUpF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIqD,GAAOpF,EAAKpD,UAAUyI,gBAAKrF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUsyB,kBAAoB,SAAUrF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIsD,GAAOrF,EAAKpD,UAAU0I,gBAAKtF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUuyB,kBAAoB,SAAUtF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIuD,GAAOtF,EAAKpD,UAAU2I,gBAAKvF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUwyB,kBAAoB,SAAUvF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIwD,GAAOvF,EAAKpD,UAAU4I,gBAAKxF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUyyB,kBAAoB,SAAUxF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIyD,GAAOxF,EAAKpD,UAAU6I,gBAAKzF,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU0yB,kBAAoB,SAAUzF,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI0D,GAAOzF,EAAKpD,UAAU8I,gBAAK1F,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU2yB,kBAAoB,SAAU1F,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI2D,GAAO1F,EAAKpD,UAAU+I,gBAAK3F,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU4yB,kBAAoB,SAAU3F,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI4D,GAAO3F,EAAKpD,UAAUgJ,gBAAK5F,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU6yB,kBAAoB,SAAU5F,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI6D,GAAO5F,EAAKpD,UAAUiJ,gBAAK7F,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU8yB,kBAAoB,SAAU7F,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI8D,GAAO7F,EAAKpD,UAAUkJ,gBAAK9F,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU+yB,kBAAoB,SAAU9F,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI+D,GAAO9F,EAAKpD,UAAUmJ,gBAAK/F,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUgzB,kBAAoB,SAAU/F,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIgE,GAAO/F,EAAKpD,UAAUoJ,gBAAKhG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUizB,kBAAoB,SAAUhG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIiE,GAAOhG,EAAKpD,UAAUqJ,gBAAKjG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUkzB,kBAAoB,SAAUjG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIkE,GAAOjG,EAAKpD,UAAUsJ,gBAAKlG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUmzB,kBAAoB,SAAUlG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAImE,GAAOlG,EAAKpD,UAAUuJ,gBAAKnG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUozB,kBAAoB,SAAUnG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIoE,GAAOnG,EAAKpD,UAAUwJ,gBAAKpG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUqzB,kBAAoB,SAAUpG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIqE,GAAOpG,EAAKpD,UAAUyJ,gBAAKrG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUszB,kBAAoB,SAAUrG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIsE,GAAOrG,EAAKpD,UAAU0J,gBAAKtG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUuzB,kBAAoB,SAAUtG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIuE,GAAOtG,EAAKpD,UAAU2J,gBAAKvG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUwzB,kBAAoB,SAAUvG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIwE,GAAOvG,EAAKpD,UAAU4J,gBAAKxG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUyzB,kBAAoB,SAAUxG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIyE,GAAOxG,EAAKpD,UAAU6J,gBAAKzG,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU0zB,kBAAoB,SAAUzG,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI0E,GAAOzG,EAAKpD,UAAU8J,gBAAK1G,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU2zB,kBAAoB,SAAU1G,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI2E,GAAO1G,EAAKpD,UAAU+J,gBAAK3G,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU4zB,kBAAoB,SAAU3G,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI4E,GAAO3G,EAAKpD,UAAUgK,gBAAK5G,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU6zB,kBAAoB,SAAU5G,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI6E,GAAO5G,EAAKpD,UAAUiK,gBAAK7G,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU8zB,kBAAoB,SAAU7G,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI8E,GAAO7G,EAAKpD,UAAUkK,gBAAK9G,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAU+zB,kBAAoB,SAAU9G,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAI+E,GAAO9G,EAAKpD,UAAUmK,gBAAK/G,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUg0B,kBAAoB,SAAU/G,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIgF,GAAO/G,EAAKpD,UAAUoK,gBAAKhH,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUi0B,kBAAoB,SAAUhH,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIiF,GAAOhH,EAAKpD,UAAUqK,gBAAKjH,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUk0B,kBAAoB,SAAUjH,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIkF,GAAOjH,EAAKpD,UAAUsK,gBAAKlH,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUm0B,kBAAoB,SAAUlH,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAImF,GAAOlH,EAAKpD,UAAUuK,gBAAKnH,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUo0B,kBAAoB,SAAUnH,EAAM5M,GACzD,OAAOnhB,KAAK8vB,cAAc,IAAIoF,GAAOnH,EAAKpD,UAAUwK,gBAAKpH,KAAMlB,EAAMyc,mBAAmBlC,EAAKrN,UAAWqN,EAAK5K,WAAY4K,EAAKH,iBAAkBzM,IAEnJyO,EAAe9uB,UAAUq0B,kBAAoB,SAAUpH,EAAM5M,GACzD,OAAOnhB,KAA

mJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUgqB,aAAe,SAAUiF,EAAK5O,GAExD,OADA4O,EAAIpF,UAAU/D,gBAAgB5mB,KAAAMmhB,GAC7BnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUkqB,uBAAyB,SAAU+E,EAAK5O,GAElE,OADA4O,EAAIpF,UAAU/D,gBAAgB5mB,KAAAMmhB,GAC7BnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmqB,cAAgB,SAAU8E,EAAK5O,GAEzD,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUuqB,kBAAoB,SAAU0E,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUqqB,qBAAuB,SAAUwE,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUyqB,mBAAqB,SAAUsE,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUwqB,oBAAsB,SAAUuE,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU0qB,kBAAoB,SAAUqE,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU2qB,qBAAuB,SAAUoE,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU4qB,mBAAqB,SAAUmE,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU6qB,oBAAsB,SAAUkE,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU8qB,kBAAoB,SAAUiE,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU+qB,qBAAuB,SAAUgE,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUgrB,mBAAqB,SAAU+D,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUirB,oBAAsB,SAAU8D,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUkrB,kBAAoB,SAAU6D,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmrB,qBAAuB,SAAU4D,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUorB,mBAAqB,SAAU2D,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUqrB,oBAAsB,SAAU0D,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUsrB,kBAAoB,SAAUyD,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUurB,qBAAuB,SAAUwD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUwrB,mBAAqB,SAAUuD,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUyrB,oBAAsB,SAAUsD,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU0rB,kBAAoB,SAAUqD,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU2rB,qBAAuB,SAAUoD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU4rB,mBAAqB,SAAUmD,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU6rB,oBAAsB,SAAUkD,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU8rB,kBAAoB,SAAUiD,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU+rB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUgsB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUisB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUksB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmsB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUosB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUqsB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUssB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUusB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUwsB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUysB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU0sB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU2sB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU4sB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU6sB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU8sB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU+sB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUgtB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUitB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUktB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmtB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUotB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUqtB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUstB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUutB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUwtB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUytB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU0tB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU2tB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU4tB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU6tB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU8tB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU+tB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUguB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUiuB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUkuB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmuB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUouB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUquB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUsuB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUuuB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUwuB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUyuB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU0uB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU2uB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU4uB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU6uB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU8uB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU+uB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUgvB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUivB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUkvB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmvB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUovB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUqvB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUsvB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUuvB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUwvB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUyvB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU0vB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU2vB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU4vB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU6vB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU8vB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU+vB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUgwB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUiwB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUkwB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmwB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUowB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUqwB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUswB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUuwB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUwwB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUywB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU0wB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU2wB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU4wB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU6wB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU8wB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU+wB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUgxB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUixB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUkxB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmxB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUoxB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUqxB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUsxB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUuxB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUwxB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUyxB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU0xB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU2xB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU4xB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU6xB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU8xB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAU+xB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUgyB,mBAAqB,SAAU+C,EAAK5O,GAE9D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUiyB,oBAAsB,SAAU8C,EAAK5O,GAE/D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUkyB,kBAAoB,SAAU6C,EAAK5O,GAE7D,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAAoB1vB,UAAUmyB,qBAAuB,SAAUgD,EAAK5O,GAEhE,OADA4O,EAAIruB,MAAAMklB,gBAAgB5mB,KAAAMmhB,GAAKnhB,KAAK4mB,gBAAgBmJ,EAAK5O,IAErCqP,EAA

AAKvB,KAAMgC,EAAGmf,IAErD2P,EAXwC,CAYjDN,IACF,SAASQ,GAAmCjD,EAAM5K,GAC9C,IAAKA,
EACD,OAAO4K,EAEX,IAAIkD,EAAc,IAAIC,GAA4B/N,GAClD,OAAO4K,EAAKC,eAAeiD,EAAa,MAE5C,S
AASE,GAAoCnK,EAAM7D,GAC/C,IAAKA,EACD,OAAO6D,EAEX,IAAIiK,EAAc,IAAIC,GAA4B/N,GAClD,
OAAO6D,EAAKJ,gBAAgBqK,EAAa,MAE7C,IAAIC,GAA6C,SAAUlQ,GAEvD,SAASkQ,GAAqCnK,
AI3P,EAAQwN,EAAOzf,KAAKvB,OAASA,KAAjC,OADAwT,EAAM2P,WAAaA,EACZ3P,EAAM4P,cAAcC,EAAOtCA7S,
EAAUuwB,EAA6BlQ,GAAMvCkQ,EAA4BpwB,UAAUswB,OAAS,SAAUvR,GAAcrD,IAAwR,EAAKzd,EACL0d,
EAAQjxB,EAAOkxB,KAAKC,EAAOC,GAAOC,EAAOC,GAAOC,EAAOC,GAAO

2xB,GAIlB,OAHAnyB,EAAMsyB,KAAsB,EACxBD,IACAryB,EAAMuyB,IAAsBF,GACzBryB,EAEX,IAAIsyB,GAAqB,gBACrBC,GAAqB,gBAQzB,SAASC,GAAazB,GAClB,OAAOA,EAAE6oB,QAAQ,6BAA8B,QAEnD,IAAIsJ,GAAmBhzB,OAAO+yB,eAAe,IAI7C,SAASwB,GAAW9K,GAAE,IADA,IAAI+K,GAAU,EAAUC,GACLC,GAAE,EAAEA,GAAEjL,GAAE,OAAOiL,KAAI,CAAC,IAAIC,GAAElL,GAAE,WAAWiL,IAAGF,IAAGA,GAAEG,GAAEA,GAAE,IAAIA,GAAE,KAAKA,GAAE,KAAKA,GAAE,KAAK

AAMA,MAAMhF,GAAShd,IAEzB,OAAOgiB,GAEXG,EAAa/1B,UAAUu3B,kBAAoB,SAAU/F,GAEjD,GAAIA,aAAmBxG,GAAkB,CACrC,IAAIwM,EAAkBhG,EAAQvG,QAAQtQ,KAAI,SAAUzZ,GAAK,OAAOA,EAAE2kB,aAAe3kB,EAAIq0B,MACjFhT,EAAMrjB,KAAKy3B,MAAMpU,EAAKwM,GAAkB,IAAIxM,EAAIwM,GAAmBxM,EAAIwM,GAAmBmB,AAmBlV,EAAKiP,EAAQvG,SAAS,SAAUA,GAAW,OAAOkG,GAAWlG,MAG5F,IAAIyM,EAAmBtG,GAAWI,EAAQvG,QAAQtQ,KAAI,SAAUzZ,GAAK,OAAOA,EAAE2kB,aAAe3kB,EAAIq0B,MACjG

Ac6V,WAAYgP,IAC3DD,GAAYU,YAAc,CAAEtlB,KAAM,cAAe6V,WAAYgP,IAC7DD,GAAYW,iBAAmB,CAAEvlB,KAAM,mBAAoB6V,WAAYgP,IACvED,GAAYY,kBAAoB,CAC5BxlB,KAAM,oBACN6V,WAAYgP,IAEhBD,GAAYa,UAAY,CAAEzlB,KAAM,YAAa6V,WAAYgP,IACzDD,GAAYc,YAAc,CAAE1lB,KAAM,cAAe6V,WAAYgP,IAC7DD,GAAYe,UAAY,CAAE3lB,KAAM,cAAe6V,WAAYgP,IACzDD,GAAYgB,gBCAAkC,CAC1C5lB,KAAM,mCACN6V,WAAYgP,IAEhBD,GAAYiB,yBAA2B,CACnC7lB,KAAM,2BACN6V,WAAYgP,IAEhBD,GAAYkB,kBAAoB,CAAE9lB,KAAM,oBAAqB6V,WAAYgP,IACzED,GAAYmB,aAAe,CAAE/lB,KAAM,eAAgB6V,WAAYgP,IAEjED,GAAYoB,eAAgB,CAAEhmB,KAAM,iBAAkB6V,WAAYgP,IAClED,GAAYqB,qBAAsB,CAAEjmB,KAAM,uBAAwB6V,WAAYgP,IAC9ED,GAAYsB,YAAc,CAAElmB,KAAM,cAAe6V,WAAYgP,IAC7DD,GAAYuB,oBAAqB,CAAEnmB,KAAM,sBAAuB6V,WAAYgP,IAC5ED,GAAYwB,wBAA0B,CAAEpmB,KAAM,0BAA2B6V,WAAYgP,IACrFD,GAAYyB,yBAA2B,CAAErmB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0B,yBAA2B,CAAEtmB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2B,yBAA2B,CAAEvmB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4B,yBAA2B,CAAExmB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6B,yBAA2B,CAAEzmB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8B,yBAA2B,CAAE1mB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+B,yBAA2B,CAAE3mB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgC,yBAA2B,CAAE5mB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiC,yBAA2B,CAAE7mB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkC,yBAA2B,CAAE9mB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmC,yBAA2B,CAAE/mB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoC,yBAA2B,CAAEhnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqC,yBAA2B,CAAEjnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsC,yBAA2B,CAAElnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuC,yBAA2B,CAAEnnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwC,yBAA2B,CAAEpnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyC,yBAA2B,CAAErnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0C,yBAA2B,CAAEtnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2C,yBAA2B,CAAEvnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4C,yBAA2B,CAAExnB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6C,yBAA2B,CAAEznB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8C,yBAA2B,CAAE1nB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+C,yBAA2B,CAAE3nB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgD,yBAA2B,CAAE5nB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiD,yBAA2B,CAAE7nB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkD,yBAA2B,CAAE9nB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmD,yBAA2B,CAAE/nB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoD,yBAA2B,CAAEhoB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqD,yBAA2B,CAAEjoB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsD,yBAA2B,CAAEloB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuD,yBAA2B,CAAEnoB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwD,yBAA2B,CAAEpoB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyD,yBAA2B,CAAEroB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0D,yBAA2B,CAAEtoB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2D,yBAA2B,CAAEvoB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4D,yBAA2B,CAAExoB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6D,yBAA2B,CAAEzoB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8D,yBAA2B,CAAE1oB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+D,yBAA2B,CAAE3oB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgE,yBAA2B,CAAE5oB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiE,yBAA2B,CAAE7oB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkE,yBAA2B,CAAE9oB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmE,yBAA2B,CAAE/oB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoE,yBAA2B,CAAEhpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqE,yBAA2B,CAAEjpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsE,yBAA2B,CAAElpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuE,yBAA2B,CAAEnpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwE,yBAA2B,CAAEppB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyE,yBAA2B,CAAErpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0E,yBAA2B,CAAEtpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2E,yBAA2B,CAAEvpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4E,yBAA2B,CAAExpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6E,yBAA2B,CAAEzpB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8E,yBAA2B,CAAE1pB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+E,yBAA2B,CAAE3pB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgF,yBAA2B,CAAE5pB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiF,yBAA2B,CAAE7pB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkF,yBAA2B,CAAE9pB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmF,yBAA2B,CAAE/pB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoF,yBAA2B,CAAEhqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqF,yBAA2B,CAAEjqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsF,yBAA2B,CAAElqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuF,yBAA2B,CAAEnqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwF,yBAA2B,CAAEpqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyF,yBAA2B,CAAErqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0F,yBAA2B,CAAEtqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2F,yBAA2B,CAAEvqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4F,yBAA2B,CAAExqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6F,yBAA2B,CAAEzqB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8F,yBAA2B,CAAE1qB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+F,yBAA2B,CAAE3qB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgG,yBAA2B,CAAE5qB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiG,yBAA2B,CAAE7qB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkG,yBAA2B,CAAE9qB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmG,yBAA2B,CAAE/qB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoG,yBAA2B,CAAEhrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqG,yBAA2B,CAAEjrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsG,yBAA2B,CAAElrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuG,yBAA2B,CAAEnrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwG,yBAA2B,CAAEprB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyG,yBAA2B,CAAErrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0G,yBAA2B,CAAEtrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2G,yBAA2B,CAAEvrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4G,yBAA2B,CAAExrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6G,yBAA2B,CAAEzrB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8G,yBAA2B,CAAE1rB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+G,yBAA2B,CAAE3rB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgH,yBAA2B,CAAE5rB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiH,yBAA2B,CAAE7rB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkH,yBAA2B,CAAE9rB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmH,yBAA2B,CAAE/rB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoH,yBAA2B,CAAEhsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqH,yBAA2B,CAAEjsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsH,yBAA2B,CAAElsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuH,yBAA2B,CAAEnsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwH,yBAA2B,CAAEpsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyH,yBAA2B,CAAErsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0H,yBAA2B,CAAEtsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2H,yBAA2B,CAAEvsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4H,yBAA2B,CAAExsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6H,yBAA2B,CAAEzsB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8H,yBAA2B,CAAE1sB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+H,yBAA2B,CAAE3sB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgI,yBAA2B,CAAE5sB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiI,yBAA2B,CAAE7sB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkI,yBAA2B,CAAE9sB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmI,yBAA2B,CAAE/sB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoI,yBAA2B,CAAEhtB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqI,yBAA2B,CAAEjtB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsI,yBAA2B,CAAEltB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuI,yBAA2B,CAAEntB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwI,yBAA2B,CAAEptB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyI,yBAA2B,CAAErtB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0I,yBAA2B,CAAEttB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2I,yBAA2B,CAAEvtB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4I,yBAA2B,CAAExtB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6I,yBAA2B,CAAEztB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8I,yBAA2B,CAAE1tB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+I,yBAA2B,CAAE3tB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgJ,yBAA2B,CAAE5tB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiJ,yBAA2B,CAAE7tB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkJ,yBAA2B,CAAE9tB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmJ,yBAA2B,CAAE/tB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoJ,yBAA2B,CAAEhuB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqJ,yBAA2B,CAAEjuB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsJ,yBAA2B,CAAEluB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuJ,yBAA2B,CAAEnuB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwJ,yBAA2B,CAAEpuB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyJ,yBAA2B,CAAEruB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0J,yBAA2B,CAAEtuB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2J,yBAA2B,CAAEvuB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4J,yBAA2B,CAAExuB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6J,yBAA2B,CAAEzuB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8J,yBAA2B,CAAE1uB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+J,yBAA2B,CAAE3uB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgK,yBAA2B,CAAE5uB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiK,yBAA2B,CAAE7uB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkK,yBAA2B,CAAE9uB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmK,yBAA2B,CAAE/uB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoK,yBAA2B,CAAEhvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqK,yBAA2B,CAAEjvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsK,yBAA2B,CAAElvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuK,yBAA2B,CAAEnvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwK,yBAA2B,CAAEpvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyK,yBAA2B,CAAErvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0K,yBAA2B,CAAEtvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2K,yBAA2B,CAAEvvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4K,yBAA2B,CAAExvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6K,yBAA2B,CAAEzvB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8K,yBAA2B,CAAE1vB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+K,yBAA2B,CAAE3vB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgL,yBAA2B,CAAE5vB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiL,yBAA2B,CAAE7vB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkL,yBAA2B,CAAE9vB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmL,yBAA2B,CAAE/vB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoL,yBAA2B,CAAEhwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqL,yBAA2B,CAAEjwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsL,yBAA2B,CAAElwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuL,yBAA2B,CAAEnwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwL,yBAA2B,CAAEpwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyL,yBAA2B,CAAErwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0L,yBAA2B,CAAEtwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2L,yBAA2B,CAAEvwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4L,yBAA2B,CAAExwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6L,yBAA2B,CAAEzwB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8L,yBAA2B,CAAE1wB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+L,yBAA2B,CAAE3wB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgM,yBAA2B,CAAE5wB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiM,yBAA2B,CAAE7wB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkM,yBAA2B,CAAE9wB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmM,yBAA2B,CAAE/wB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoM,yBAA2B,CAAEhxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqM,yBAA2B,CAAEjxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsM,yBAA2B,CAAElxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuM,yBAA2B,CAAEnxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwM,yBAA2B,CAAEpxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyM,yBAA2B,CAAErxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0M,yBAA2B,CAAEtxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2M,yBAA2B,CAAEvxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4M,yBAA2B,CAAExxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6M,yBAA2B,CAAEzxB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8M,yBAA2B,CAAE1xB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+M,yBAA2B,CAAE3xB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgN,yBAA2B,CAAE5xB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiN,yBAA2B,CAAE7xB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkN,yBAA2B,CAAE9xB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmN,yBAA2B,CAAE/xB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoN,yBAA2B,CAAEhyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqN,yBAA2B,CAAEjyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsN,yBAA2B,CAAElyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuN,yBAA2B,CAAEnyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwN,yBAA2B,CAAEpyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyN,yBAA2B,CAAEryB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0N,yBAA2B,CAAEtyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2N,yBAA2B,CAAEvyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4N,yBAA2B,CAAExyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6N,yBAA2B,CAAEzyB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8N,yBAA2B,CAAE1yB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+N,yBAA2B,CAAE3yB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgO,yBAA2B,CAAE5yB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiO,yBAA2B,CAAE7yB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkO,yBAA2B,CAAE9yB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmO,yBAA2B,CAAE/yB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoO,yBAA2B,CAAEhzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqO,yBAA2B,CAAEjzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsO,yBAA2B,CAAElzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuO,yBAA2B,CAAEnzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwO,yBAA2B,CAAEpzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyO,yBAA2B,CAAErzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0O,yBAA2B,CAAEtzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2O,yBAA2B,CAAEvzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4O,yBAA2B,CAAExzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6O,yBAA2B,CAAEzzB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8O,yBAA2B,CAAE1zB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+O,yBAA2B,CAAE3zB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgP,yBAA2B,CAAE5zB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiP,yBAA2B,CAAE7zB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkP,yBAA2B,CAAE9zB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmP,yBAA2B,CAAE/zB,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoP,yBAA2B,CAAEh0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqP,yBAA2B,CAAEj0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsP,yBAA2B,CAAEl0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuP,yBAA2B,CAAEn0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwP,yBAA2B,CAAEp0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyP,yBAA2B,CAAEr0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0P,yBAA2B,CAAEt0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2P,yBAA2B,CAAEv0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4P,yBAA2B,CAAEx0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6P,yBAA2B,CAAEz0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8P,yBAA2B,CAAE10B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+P,yBAA2B,CAAE30B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgQ,yBAA2B,CAAE50B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiQ,yBAA2B,CAAE70B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkQ,yBAA2B,CAAE90B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmQ,yBAA2B,CAAE/0B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoQ,yBAA2B,CAAEh1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqQ,yBAA2B,CAAEj1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsQ,yBAA2B,CAAEl1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuQ,yBAA2B,CAAEn1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwQ,yBAA2B,CAAEp1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyQ,yBAA2B,CAAEr1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0Q,yBAA2B,CAAEt1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2Q,yBAA2B,CAAEv1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4Q,yBAA2B,CAAEx1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6Q,yBAA2B,CAAEz1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8Q,yBAA2B,CAAE11B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+Q,yBAA2B,CAAE31B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgR,yBAA2B,CAAE51B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiR,yBAA2B,CAAE71B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkR,yBAA2B,CAAE91B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmR,yBAA2B,CAAE/1B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoR,yBAA2B,CAAEh2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqR,yBAA2B,CAAEj2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsR,yBAA2B,CAAEl2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuR,yBAA2B,CAAEn2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwR,yBAA2B,CAAEp2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyR,yBAA2B,CAAEr2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0R,yBAA2B,CAAEt2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2R,yBAA2B,CAAEv2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4R,yBAA2B,CAAEx2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6R,yBAA2B,CAAEz2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8R,yBAA2B,CAAE12B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+R,yBAA2B,CAAE32B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgS,yBAA2B,CAAE52B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiS,yBAA2B,CAAE72B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkS,yBAA2B,CAAE92B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmS,yBAA2B,CAAE/2B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoS,yBAA2B,CAAEh3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqS,yBAA2B,CAAEj3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsS,yBAA2B,CAAEl3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuS,yBAA2B,CAAEn3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwS,yBAA2B,CAAEp3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyS,yBAA2B,CAAEr3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0S,yBAA2B,CAAEt3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2S,yBAA2B,CAAEv3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4S,yBAA2B,CAAEx3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6S,yBAA2B,CAAEz3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8S,yBAA2B,CAAE13B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+S,yBAA2B,CAAE33B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgT,yBAA2B,CAAE53B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiT,yBAA2B,CAAE73B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkT,yBAA2B,CAAE93B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmT,yBAA2B,CAAE/3B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoT,yBAA2B,CAAEh4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqT,yBAA2B,CAAEj4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsT,yBAA2B,CAAEl4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuT,yBAA2B,CAAEn4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwT,yBAA2B,CAAEp4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyT,yBAA2B,CAAEr4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0T,yBAA2B,CAAEt4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2T,yBAA2B,CAAEv4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4T,yBAA2B,CAAEx4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6T,yBAA2B,CAAEz4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8T,yBAA2B,CAAE14B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+T,yBAA2B,CAAE34B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgU,yBAA2B,CAAE54B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiU,yBAA2B,CAAE74B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYkU,yBAA2B,CAAE84B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYmU,yBAA2B,CAAE/4B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYoU,yBAA2B,CAAEh5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYqU,yBAA2B,CAAEj5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYsU,yBAA2B,CAAEl5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYuU,yBAA2B,CAAEn5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYwU,yBAA2B,CAAEp5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYyU,yBAA2B,CAAEr5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY0U,yBAA2B,CAAEt5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY2U,yBAA2B,CAAEv5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY4U,yBAA2B,CAAEx5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY6U,yBAA2B,CAAEz5B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY8U,yBAA2B,CAAE15B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAY+U,yBAA2B,CAAE35B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYgV,yBAA2B,CAAE55B,KAAM,2BAA4B6V,WAAYgP,IACvFD,GAAYiV,yBAA2B,CAAE75B,KAA

BhhB,EAAM9a,OAASi8B,GAAenhB,EAAMkd,YAExF,SAAS4E,GAAe9hB,GACpB,OAAwB,MAApBA,EAAMkd,WACCld,EAAMkd,WAAWD,UAGjBjd,EAAM9a,OAdV+7B,GAKRh+B,EAAQg+B,qBAAuBh+B,EAAQg+B,mBAAqB,KAJxCA,GAAyB,KAAI,GAAK,OACrDA,GAAmBA,GAA8B,UAAI,GAAK,YAC1DA,GAAmBA,GAA6B,SAAI,GAAK,WACzDA,GAAmBA,GAA+B,WAAI,GAAK,aAgB/D,B/D,IAAIc,GACJ,SAAS,GAAgBC,GACvB,OAAQA,GACN,KAAK,EACH,MAAO,MACT,KAAK,EACH,MAAO,MACT,KAAK,EACH,MAAO,MACT

0nB,SAAU3/B,KAAK2/B,SACfC,OAAQ5/B,KAAK4/B,OACbC,QAAS7/B,KAAK6/B,QACdC,cAAe9/B,KAAK8/B,cACpBC,eAAgB//B,KAAK+/B,eACrBC,eAAgBhgC,KAAKggC,eACrBC,UAAWjgC,KAAKigC,UAChBC,cAAelgC,KAAKkgC,cACpBC,QAASngC,KAAKmgC,QACdC,OAAQpgC,KAAKogC,OACbC,YAAargC,KAAKqgC,YAClBC,gBAAiBtgC,KAAKsgC,gBCtBviB,gBAAiB/d,KAAK+d,gBCtB8gB,SAAU7+B,KAAK6+B,SAAU7+B,KAAK6+B,SASW,YACzCe,kBAAmBvgC,KAAKugC,kBCxBxBC,aAAcxgC,KAAKwgC,aCnBC,iBAAkBC,KAAKygC,iBAAkBC,KAAK0gC,iBAAkBC,KAAK2gC,iBAAkBC,KAAK4gC,iBAAkBC,KAAK6gC,iBAAkBC,KAAK8gC,iBAAkBC,KAAK+gC,iBAAkBC,KAAKghC,iBAAkBC,KAAKihC,iBAAkBC,KAAKkhC,iBAAkBC,KAAKmhC,iBAAkBC,KAAKohC,iBAAkBC,KAAKqhC,iBAAkBC,KAAKshC,iBAAkBC,KAAKuhC,iBAAkBC,KAAKwhC,iBAAkBC,KAAKyhC,iBAAkBC,KAAK0hC,iBAAkBC,KAAK2hC,iBAAkBC,KAAK4hC,iBAAkBC,KAAK6hC,iBAAkBC,KAAK8hC,iBAAkBC,KAAK+hC,iBAAkBC,KAAKgiC,iBAAkBC,KAAKiiC,iBAAkBC,KAAKkiC,iBAAkBC,KAAKmiC,iBAAkBC,KAAKoiC,iBAAkBC,KAAKqiC,iBAAkBC,KAAKsiC,iBAAkBC,KAAKuiC,iBAAkBC,KAAKwiC,iBAAkBC,KAAKyiC,iBAAkBC,KAAK0iC,iBAAkBC,KAAK2iC,iBAAkBC,KAAK4iC,iBAAkBC,KAAK6iC,iBAAkBC,KAAK8iC,iBAAkBC,KAAK+iC,iBAAkBC,KAAKgjC,iBAAkBC,KAAKijC,iBAAkBC,KAAKkjC,iBAAkBC,KAAKmjC,iBAAkBC,KAAKojC,iBAAkBC,KAAKqjC,iBAAkBC,KAAKsjC,iBAAkBC,KAAKujC,iBAAkBC,KAAKwjC,iBAAkBC,KAAKyjC,iBAAkBC,KAAK0jC,iBAAkBC,KAAK2jC,iBAAkBC,KAAK4jC,iBAAkBC,KAAK6jC,iBAAkBC,KAAK8jC,iBAAkBC,KAAK+jC,iBAAkBC,KAAKgkC,iBAAkBC,KAAKikC,iBAAkBC,KAAKkkC,iBAAkBC,KAAKmkC,iBAAkBC,KAAKokC,iBAAkBC,KAAKqkC,iBAAkBC,KAAKskC,iBAAkBC,KAAKukC,iBAAkBC,KAAKwkC,iBAAkBC,KAAKykC,iBAAkBC,KAAK0kC,iBAAkBC,KAAK2kC,iBAAkBC,KAAK4kC,iBAAkBC,KAAK6kC,iBAAkBC,KAAK8kC,iBAAkBC,KAAK+kC,iBAAkBC,KAAKglC,iBAAkBC,KAAKilC,iBAAkBC,KAAKklC,iBAAkBC,KAAKmlC,iBAAkBC,KAAKolC,iBAAkBC,KAAKqlC,iBAAkBC,KAAKslC,iBAAkBC,KAAKulC,iBAAkBC,KAAKwlC,iBAAkBC,KAAKylC,iBAAkBC,KAAK0lC,iBAAkBC,KAAK2lC,iBAAkBC,KAAK4lC,iBAAkBC,KAAK6lC,iBAAkBC,KAAK8lC,iBAAkBC,KAAK+lC,iBAAkBC,KAAKgmC,iBAAkBC,KAAKimC,iBAAkBC,KAAKkmC,iBAAkBC,KAAKmmC,iBAAkBC,KAAKomC,iBAAkBC,KAAKqmC,iBAAkBC,KAAKsmC,iBAAkBC,KAAKumC,iBAAkBC,KAAKwmC,iBAAkBC,KAAKymC,iBAAkBC,KAAK0mC,iBAAkBC,KAAK2mC,iBAAkBC,KAAK4mC,iBAAkBC,KAAK6mC,iBAAkBC,KAAK8mC,iBAAkBC,KAAK+mC,iBAAkBC,KAAKgnC,iBAAkBC,KAAKinC,iBAAkBC,KAAKknC,iBAAkBC,KAAKmnC,iBAAkBC,KAAKonC,iBAAkBC,KAAKqnC,iBAAkBC,KAAKsnC,iBAAkBC,KAAKunC,iBAAkBC,KAAKwnC,iBAAkBC,KAAKynC,iBAAkBC,KAAK0nC,iBAAkBC,KAAK2nC,iBAAkBC,KAAK4nC,iBAAkBC,KAAK6nC,iBAAkBC,KAAK8nC,iBAAkBC,KAAK+nC,iBAAkBC,KAAKgoC,iBAAkBC,KAAKioC,iBAAkBC,KAAKkoC,iBAAkBC,KAAKmoC,iBAAkBC,KAAKooC,iBAAkBC,KAAKqoC,iBAAkBC,KAAKsoC,iBAAkBC,KAAKuoC,iBAAkBC,KAAKwoC,iBAAkBC,KAAKyoC,iBAAkBC,KAAK0oC,iBAAkBC,KAAK2oC,iBAAkBC,KAAK4oC,iBAAkBC,KAAK6oC,iBAAkBC,KAAK8oC,iBAAkBC,KAAK+oC,iBAAkBC,KAAKgpC,iBAAkBC,KAAKipC,iBAAkBC,KAAKkpC,iBAAkBC,KAAKmpC,iBAAkBC,KAAKopC,iBAAkBC,KAAKqpC,iBAAkBC,KAAKspC,iBAAkBC,KAAKupC,iBAAkBC,KAAKwpC,iBAAkBC,KAAKypC,iBAAkBC,KAAK0pC,iBAAkBC,KAAK2pC,iBAAkBC,KAAK4pC,iBAAkBC,KAAK6pC,iBAAkBC,KAAK8pC,iBAAkBC,KAAK+pC,iBAAkBC,KAAKgqC,iBAAkBC,KAAKiqC,iBAAkBC,KAAKkqC,iBAAkBC,KAAKmqC,iBAAkBC,KAAKoqC,iBAAkBC,KAAKqqC,iBAAkBC,KAAKsqC,iBAAkBC,KAAKuqC,iBAAkBC,KAAKwqC,iBAAkBC,KAAKyqC,iBAAkBC,KAAK0qC,iBAAkBC,KAAK2qC,iBAAkBC,KAAK4qC,iBAAkBC,KAAK6qC,iBAAkBC,KAAK8qC,iBAAkBC,KAAK+qC,iBAAkBC,KAAKgrC,iBAAkBC,KAAKirC,iBAAkBC,KAAKkrC,iBAAkBC,KAAKmrC,iBAAkBC,KAAKorC,iBAAkBC,KAAKqrC,iBAAkBC,KAAKsrC,iBAAkBC,KAAKurC,iBAAkBC,KAAKwrC,iBAAkBC,KAAKyrC,iBAAkBC,KAAK0rC,iBAAkBC,KAAK2rC,iBAAkBC,KAAK4rC,iBAAkBC,KAAK6rC,iBAAkBC,KAAK8rC,iBAAkBC,KAAK+rC,iBAAkBC,KAAKgsC,iBAAkBC,KAAKisC,iBAAkBC,KAAKksC,iBAAkBC,KAAKmsC,iBAAkBC,KAAKosC,iBAAkBC,KAAKqsC,iBAAkBC,KAAKssC,iBAAkBC,KAAKusC,iBAAkBC,KAAKwsC,iBAAkBC,KAAKysC,iBAAkBC,KAAK0sC,iBAAkBC,KAAK2sC,iBAAkBC,KAAK4sC,iBAAkBC,KAAK6sC,iBAAkBC,KAAK8sC,iBAAkBC,KAAK+sC,iBAAkBC,KAAKgtC,iBAAkBC,KAAKitC,iBAAkBC,KAAKktC,iBAAkBC,KAAKmtC,iBAAkBC,KAAKotC,iBAAkBC,KAAKqtC,iBAAkBC,KAAKstC,iBAAkBC,KAAKutC,iBAAkBC,KAAKwtC,iBAAkBC,KAAKytC,iBAAkBC,KAAK0tC,iBAAkBC,KAAK2tC,iBAAkBC,KAAK4tC,iBAAkBC,KAAK6tC,iBAAkBC,KAAK8tC,iBAAkBC,KAAK+tC,iBAAkBC,KAAKguC,iBAAkBC,KAAKiuC,iBAAkBC,KAAKkuC,iBAAkBC,KAAKmuC,iBAAkBC,KAAKouC,iBAAkBC,KAAKquC,iBAAkBC,KAAKsuC,iBAAkBC,KAAKuuC,iBAAkBC,KAAKwuC,iBAAkBC,KAAKyuC,iBAAkBC,KAAK0uC,iBAAkBC,KAAK2uC,iBAAkBC,KAAK4uC,iBAAkBC,KAAK6uC,iBAAkBC,KAAK8uC,iBAAkBC,KAAK+uC,iBAAkBC,KAAKgvC,iBAAkBC,KAAKivC,iBAAkBC,KAAKkvC,iBAAkBC,KAAKmvC,iBAAkBC,KAAKovC,iBAAkBC,KAAKqvC,iBAAkBC,KAAKsvC,iBAAkBC,KAAKuvC,iBAAkBC,KAAKwvC,iBAAkBC,KAAKyvC,iBAAkBC,KAAK0vC,iBAAkBC,KAAK2vC,iBAAkBC,KAAK4vC,iBAAkBC,KAAK6vC,iBAAkBC,KAAK8vC,iBAAkBC,KAAK+vC,iBAAkBC,KAAKgwC,iBAAkBC,KAAKiwC,iBAAkBC,KAAKkwC,iBAAkBC,KAAKmwC,iBAAkBC,KAAKowC,iBAAkBC,KAAKqwC,iBAAkBC,KAAKswC,iBAAkBC,KAAKuwC,iBAAkBC,KAAKwwC,iBAAkBC,KAAKywC,iBAAkBC,KAAK0wC,iBAAkBC,KAAK2wC,iBAAkBC,KAAK4wC,iBAAkBC,KAAK6wC,iBAAkBC,KAAK8wC,iBAAkBC,KAAK+wC,iBAAkBC,KAAKgxC,iBAAkBC,KAAKixC,iBAAkBC,KAAKkxC,iBAAkBC,KAAKmxC,iBAAkBC,KAAKoxC,iBAAkBC,KAAKqxC,iBAAkBC,KAAKsxC,iBAAkBC,KAAKuxC,iBAAkBC,KAAKwxC,iBAAkBC,KAAKyxC,iBAAkBC,KAAK0xC,iBAAkBC,KAAK2xC,iBAAkBC,KAAK4xC,iBAAkBC,KAAK6xC,iBAAkBC,KAAK8xC,iBAAkBC,KAAK+xC,iBAAkBC,KAAKgyC,iBAAkBC,KAAKiyC,iBAAkBC,KAAKkyC,iBAAkBC,KAAKmyC,iBAAkBC,KAAKoyC,iBAAkBC,KAAKqyC,iBAAkBC,KAAKsyC,iBAAkBC,KAAKuyC,iBAAkBC,KAAKwyC,iBAAkBC,KAAKyyC,iBAAkBC,KAAK0yC,iBAAkBC,KAAK2yC,iBAAkBC,KAAK4yC,iBAAkBC,KAAK6yC,iBAAkBC,KAAK8yC,iBAAkBC,KAAK+yC,iBAAkBC,KAAKgzC,iBAAkBC,KAAKizC,iBAAkBC,KAAKkzC,iBAAkBC,KAAKmzC,iBAAkBC,KAAKozC,iBAAkBC,KAAKqzC,iBAAkBC,KAAKszC,iBAAkBC,KAAKuzC,iBAAkBC,KAAKwzC,iBAAkBC,KAAKyzC,iBAAkBC,KAAK0zC,iBAAkBC,KAAK2zC,iBAAkBC,KAAK4zC,iBAAkBC,KAAK6zC,iBAAkBC,KAAK8zC,iBAAkBC,KAAK+zC,iBAAkBC,KAAKg0C,iBAAkBC,KAAKi0C,iBAAkBC,KAAKk0C,iBAAkBC,KAAKm0C,iBAAkBC,KAAKo0C,iBAAkBC,KAAKq0C,iBAAkBC,KAAKs0C,iBAAkBC,KAAKu0C,iBAAkBC,KAAKw0C,iBAAkBC,KAAKy0C,iBAAkBC,KAAK00C,iBAAkBC,KAAK20C,iBAAkBC,KAAK40C,iBAAkBC,KAAK60C,iBAAkBC,KAAK80C,iBAAkBC,KAAK+0C,iBAAkBC,KAAKg1C,iBAAkBC,KAAKi1C,iBAAkBC,KAAKk1C,iBAAkBC,KAAKm1C,iBAAkBC,KAAKo1C,iBAAkBC,KAAKq1C,iBAAkBC,KAAKs1C,iBAAkBC,KAAKu1C,iBAAkBC,KAAKw1C,iBAAkBC,KAAKy1C,iBAAkBC,KAAK01C,iBAAkBC,KAAK21C,iBAAkBC,KAAK41C,iBAAkBC,KAAK61C,iBAAkBC,KAAK81C,iBAAkBC,KAAK+1C,iBAAkBC,KAAKg2C,iBAAkBC,KAAKi2C,iBAAkBC,KAAKk2C,iBAAkBC,KAAKm2C,iBAAkBC,KAAKo2C,iBAAkBC,KAAKq2C,iBAAkBC,KAAKs2C,iBAAkBC,KAAKu2C,iBAAkBC,KAAKw2C,iBAAkBC,KAAKy2C,iBAAkBC,KAAK02C,iBAAkBC,KAAK22C,iBAAkBC,KAAK42C,iBAAkBC,KAAK62C,iBAAkBC,KAAK82C,iBAAkBC,KAAK+2C,iBAAkBC,KAAKg3C,iBAAkBC,KAAKi3C,iBAAkBC,KAAKk3C,iBAAkBC,KAAKm3C,iBAAkBC,KAAKo3C,iBAAkBC,KAAKq3C,iBAAkBC,KAAKs3C,iBAAkBC,KAAKu3C,iBAAkBC,KAAKw3C,iBAAkBC,KAAKy3C,iBAAkBC,KAAK03C,iBAAkBC,KAAK23C,iBAAkBC,KAAK43C,iBAAkBC,KAAK63C,iBAAkBC,KAAK83C,iBAAkBC,KAAK+3C,iBAAkBC,KAAKg4C,iBAAkBC,KAAKi4C,iBAAkBC,KAAKk4C,iBAAkBC,KAAKm4C,iBAAkBC,KAAKo4C,iBAAkBC,KAAKq4C,iBAAkBC,KAAKs4C,iBAAkBC,KAAKu4C,iBAAkBC,KAAKw4C,iBAAkBC,KAAKy4C,iBAAkBC,KAAK04C,iBAAkBC,KAAK24C,iBAAkBC,KAAK44C,iBAAkBC,KAAK65C,iBAAkBC,KAAK85C,iBAAkBC,KAAK+5C,iBAAkBC,KAAKg6C,iBAAkBC,KAAKi6C,iBAAkBC,KAAKk6C,iBAAkBC,KAAKm6C,iBAAkBC,KAAKo6C,iBAAkBC,KAAKq6C,iBAAkBC,KAAKs6C,iBAAkBC,KAAKu6C,iBAAkBC,KAAKw6C,iBAAkBC,KAAKy6C,iBAAkBC,KAAK06C,iBAAkBC,KAAK26C,iBAAkBC,KAAK46C,iBAAkBC,KAAK66C,iBAAkBC,KAAK86C,iBAAkBC,KAAK+6C,iBAAkBC,KAAKg7C,iBAAkBC,KAAKi7C,iBAAkBC,KAAKk7C,iBAAkBC,KAAKm7C,iBAAkBC,KAAKo7C,iBAAkBC,KAAKq7C,iBAAkBC,KAAKs7C,iBAAkBC,KAAKu7C,iBAAkBC,KAAKw7C,iBAAkBC,KAAKy7C,iBAAkBC,KAAK07C,iBAAkBC,KAAK27C,iBAAkBC,KAAK47C,iBAAkBC,KAAK67C,iBAAkBC,KAAK87C,iBAAkBC,KAAK+7C,iBAAkBC,KAAKg8C,iBAAkBC,KAAKi8C,iBAAkBC,KAAKk8C,iBAAkBC,KAAKm8C,iBAAkBC,KAAKo8C,iBAAkBC,KAAKq8C,iBAAkBC,KAAKs8C,iBAAkBC,KAAKu8C,iBAAkBC,KAAKw8C,iBAAkBC,KAAKy8C,iBAAkBC,KAAK08C,iBAAkBC,KAAK28C,iBAAkBC,KAAK48C,iBAAkBC,KAAK68C,iBAAkBC,KAAK88C,iBAAkBC,KAAK+8C,iBAAkBC,KAAKg9C,iBAAkBC,KAAKi9C,iBAAkBC,KAAKk9C,iBAAkBC,KAAKm9C,iBAAkBC,KAAKo9C,iBAAkBC,KAAKq9C,iBAAkBC,KAAKs9C,iBAAkBC,KAAKu9C,iBAAkBC,KAAKw9C,iBAAkBC,KAAKy9C,iBAAkBC,KAAK09C,iBAAkBC,KAAK29C,iBAAkBC,KAAK49C,iBAAkBC,KAAK69C,iBAAkBC,KAAK89C,iBAAkBC,KAAK+9C,iBAAkBC,KAAKg+C,iBAAkBC,KAAKi+C,iBAAkBC,KAAKk+C,iBAAkBC,KAAKm+C,iBAAkBC,KAAKo+C,iBAAkBC,KAAKq+C,iBAAkBC,KAAKs+C,iBAAkBC,KAAKu+C,iBAAkBC,KAAKw+C,iBAAkBC,KAAKy+C,iBAAkBC,KAAK0+C,iBAAkBC,KAAK2+C,iBAAkBC,KAAK4+C,iBAAkBC,KAAK6+C,iBAAkBC,KAAK8+C,iBAAkBC,KAAK++C,iBAAkBC,KAAKg/C,iBAAkBC,KAAKi/C,iBAAkBC,KAAKk/C,iBAAkBC,KAAKm/C,iBAAkBC,KAAKo/C,iBAAkBC,KAAKq/C,iBAAkBC,KAAKs/C,iBAAkBC,KAAKu/C,iBAAkBC,KAAKw/C,iBAAkBC,KAAKy/C,iBAAkBC,KAAK0/C,iBAAkBC,KAAK2/C,iBAAkBC,KAAK4/C,iBAAkBC,KAAK6/C,iBAAkBC,KAAK8/C,iBAAkBC,KAAK+/C,iBAAkBC,KAAKggD,iBAAkBC,KAAKigD,iBAAkBC,KAAKkgD,iBAAkBC,KAAKmgD,iBAAkBC,KAAKogD,iBAAkBC,KAAKqgD,iBAAkBC,KAAKsgD,iBAAkBC,KAAKugD,iBAAkBC,KAAKwgD,iBAAkBC,KAAKygD,iBAAkBC,KAAK0gD,iBAAkBC,KAAK2gD,iBAAkBC,KAAK4gD,iBAAkBC,KAAK6gD,iBAAkBC,KAAK8gD,iBAAkBC,KAAK+gD,iBAAkBC,KAAKghD,iBAAkBC,KAAKihD,iBAAkBC,KAAKkhD,iBAAkBC,KAAKmhD,iBAAkBC,KAAKohD,iBAAkBC,KAAKqhD,iBAAkBC,KAAKshD,iBAAkBC,KAAKuhD,iBAAkBC,KAAKwhD,iBAAkBC,KAAKyhD,iBAAkBC,KAAK0hD,iBAAkBC,KAAK2hD,iBAAkBC,KAAK4hD,iBAAkBC,KAAK6hD,iBAAkBC,KAAK8hD,iBAAkBC,KAAK+hD,iBAAkBC,KAAKgiD,iBAAkBC,KAAKiiD,iBAAkBC,KAAKkiD,iBAAkBC,KAAKmiD,iBAAkBC,KAAKoiD,iBAAkBC,KAAKqiD,iBAAkBC,KAAKsiD,iBAAkBC,KAAKuiD,iBAAkBC,KAAKwiD,iBAAkBC,KAAKyiD,iBAAkBC,KAAK0iD,iBAAkBC,KAAK2iD,iBAAkBC,KAAK4iD,iBAAkBC,KAAK6iD,iBAAkBC,KAAK8iD,iBAAkBC,KAAK+iD,iBAAkBC,KAAKgjD,iBAAkBC,KAAKijD,iBAAkBC,KAAKkjD,iBAAkBC,KAAKmjD,iBAAkBC,KAAKojD,iBAAkBC,KAAKqjD,iBAAkBC,KAAKsjD,iBAAkBC,KAAKujD,iBAAkBC,KAAKwjD,iBAAkBC,KAAKyjD,iBAAkBC,KAAK0jD,iBAAkBC,KAAK2jD,iBAAkBC,KAAK4jD,iBAAkBC,KAAK6jD,iBAAkBC,KAAK8jD,iBAAkBC,KAAK+jD,iBAAkBC,KAAKgkD,iBAAkBC,KAAKikD,iBAAkBC,KAAKkkD,iBAAkBC,KAAKmkD,iBAAkBC,KAAKokD,iBAAkBC,KAAKqkD,iBAAkBC,KAAKskD,iBAAkBC,KAAKukD,iBAAkBC,KAAKwkD,iBAAkBC,KAAKykD,iBAAkBC,KAAK0kD,iBAAkBC,KAAK2kD,iBAAkBC,KAAK4kD,iBAAkBC,KAAK6kD,iBAAkBC,KAAK8kD,iBAAkBC,KAAK+kD,iBAAkBC,KAAKglD,iBAAkBC,KAAKilD,iBAAkBC,KAAKklD,iBAAkBC,KAAKmlD,iBAAkBC,KAAKolD,iBAAkBC,KAAKqlD,iBAAkBC,KAAKslD,iBAAkBC,KAAKulD,iBAAkBC,KAAKwlD,iBAAkBC,KAAKylD,iBAAkBC,KAAK0lD,iBAAkBC,KAAK2lD,iBAAkBC,KAAK4lD,iBAAkBC,KAAK6lD,iBAAkBC,KAAK8lD,iBAAkBC,KAAK+lD,iBAAkBC,KAAKgmD,iBAAkBC,KAAKimD,iBAAkBC,KAAKkmD,iBAAkBC,KAAKmmD,iBAAkBC,KAAKomD,iBAAkBC,KAAKqmD,iBAAkBC,KAAKsmD,iBAAkBC,KAAKumD,iBAAkBC,KAAKwmD,iBAAkBC,KAAKymD,iBAAkBC,KAAK0mD,iBAAkBC,KAAK2mD,iBAAkBC,KAAK4mD,iBAAkBC,KAAK6mD,iBAAkBC,KAAK8mD,iBAAkBC,KAAK+mD,iBAAkBC,KAAKgnD,iBAAkBC,KAAKinD,iBAAkBC,KAAKknD,iBAAkBC,KAAKmnD,iBAAkBC,KAAKonD,iBAAkBC,KAAKqnD,iBAAkBC,KAAKsnD,iBAAkBC,KAAKunD,iBAAkBC,KAAKwnD,iBAAkBC,KAAKynD,iBAAkBC,KAAK0nD,iBAAkBC,KAAK2nD,iBAAkBC,KAAK4nD,iBAAkBC,KAAK6nD,iBAAkBC,KAAK8nD,iBAAkBC,KAAK+nD,iBAAkBC,KAAKgoD,iBAAkBC,KAAKioD,iBAAkBC,KAAKkoD,iBAAkBC,KAAKmoD,iBAAkBC,KAAKooD,iBAAkBC,KAAKqoD,iBAAkBC,KAAKsoD,iBAAkBC,KAAKuoD,iBAAkBC,KAAKwoD,iBAAkBC,KAAKyoD,iBAAkBC,KAAK0oD,iBAAkBC,KAAK2oD,iBAAkBC,KAAK4oD,iBAAkBC,KAAK6oD,iBAAkBC,KAAK8oD,iBAAkBC,KAAK+oD,iBAAkBC,KAAKgpD,iBAAkBC,KAAKipD,iBAAkBC,KAAKkpD,iBAAkBC,KAAKmpD,iBAAkBC,KAAKopD,iBAAkBC,KAAKqpD,iBAAkBC,KAAKspD,iBAAkBC,KAAKupD,iBAAkBC,KAAKwpD,iBAAkBC,KAAKypD,iBAAkBC,KAAK0pD,iBAAkBC,KAAK2pD,iBAAkBC,KAAK4pD,iBAAkBC,KAAK6pD,iBAAkBC,KAAK8pD,iBAAkBC,KAAK+pD,iBAAkBC,KAAKgqD,iBAAkBC,KAAKiqD,iBAAkBC,KAAKkqD,iBAAkBC,KAAKmqD,iBAAkBC,KAAKoqD,iBAAkBC,KAAKqqD,iBAAkBC,KAAKsqD,iBAAkBC,KAAKuqD,iBAAkBC,KAAKwqD,iBAAkBC,KAAKyqD,iBAAkBC,KAAK0qD,iBAAkBC,KAAK2qD,iBAAkBC,KAAK4qD,iBAAkBC,KAAK6qD,iBAAkBC,KAAK8qD,iBAAkBC,KAAK+qD,iBAAkBC,KAAKgrD,iBAAkBC,KAAKirD,iBAAkBC,KAAKkrD,iBAAkBC,KAAKmrD,iBAAkBC,KAAKorD,iBAAkBC,KAAKqrD,iBAAkBC,KAAKsrD,iBAAkBC,KAAKurD,iBAAkBC,KAAKwrD,iBAAkBC,KAAKyrD,iBAAkBC,KAAK0rD,iBAAkBC,KAAK2rD,iBAAkBC,KAAK4rD,iBAAkBC,KAAK6rD,iBAAkBC,KAAK8rD,iBAAkBC,KAAK+rD,iBAAkBC,KAAKgsD,iBAAkBC,KAAKisD,iBAAkBC,KAAKksD,iBAAkBC,KAAKmsD,iBAAkBC,KAAKosD,iBAAkBC,KAAKqsD,iBAAkBC,KAAKssD,iBAAkBC,KAAKusD,iBAAkBC,KAAKwsD,iBAAkBC,KAAKysD,iBAAkBC,KAAK0sD,iBAAkBC,KAAK2sD,iBAAkBC,KAAK4sD,iBAAkBC,KAAK6sD,iBAAkBC,KAAK8sD,iBAAkBC,KAAK+sD,iBAAkBC,KAAKgtD,iBAAkBC,KAAKitD,iBAAkBC,KAAKktD,iBAAkBC,KAAKmtD,iBAAkBC,KAAKotD,iBAAkBC,KAAKqtD,iBAAkBC,KAAKstD,iBAAkBC,KAAKutD,iBAAkBC,KAAKwtD,iBAAkBC,KAAKytD,iBAAkBC,KAAK0tD,iBAAkBC,KAAK2tD,iBAAkBC,KAAK4tD,iBAAkBC,KAAK6tD,iBAAkBC,KAAK8tD,iBAAkBC,KAAK+tD,iBAAkBC,KAAKguD,iBAAkBC,KAAKiuD,iBAAkBC,KAAKkuD,iBAAkBC,KAAKmuD,iBAAkBC,KAAKouD,iBAAkBC,KAAKquD,iBAAkBC,KAAKsuD,iBAAkBC,KAAKuuD,iBAAkBC,KAAKwuD,iBAAkBC,KAAKyuD,iBAAkBC,KAAK0uD,iBAAkBC,KAAK2uD,iBAAkBC,KAAK4uD,iBAAkBC,KAAK6uD,iBAAkBC,KAAK8uD,iBAAkBC,KAAK+uD,iBAAkBC,KAAKgvD,iBAAkBC,KAAKivD,iBAAkBC,KAAKkvD,iBAAkBC,KAAKmvD,iBAAkBC,KAAKovD,iBAAkBC,KAAKqvD,iBAAkBC,KAAKsvD,iBAAkBC,KAAKuvD,iBAAkBC,KAAKwvD,iBAAkBC,KAAKyvD,iBAAkBC,KAAK0vD,iBAAkBC,KAAK2vD,iBAAkBC,KAAK4vD,iBAAkBC,KAAK6vD,iBAAkBC,KAAK8vD,iBAAkBC,KAAK+vD,iBAAkBC,KAAKgwD,iBAAkBC,KAAKiwD,iBAAkBC,KAAKkwD,iBAAkBC,KAAKmwD,iBAAkBC,KAAKowD,iBAAkBC,KAAKqwD,iBAAkBC,KAAKswD,iBAAkBC,KAAKuwD,iBAAkBC,KAAKwwD,iBAAkBC,KAAKywD,iBAAkBC,KAAK0wD,iBAAkBC,KAAK2wD,iBAAkBC,KAAK4wD,iBAAkBC,KAAK6wD,iBAAkBC,KAAK8wD,iBAAkBC,KAAK+wD,iBAAkBC,KAAKgxD,iBAAkBC,KAAKixD,iBAAkBC,KAAKkxD,iBAAkBC,KAAKmxD,iBAAkBC,KAAKoxD,iBAAkBC,KAAKqxD,iBAAkBC,KAAKsxD,iBAAkBC,KAAKuxD,iBAAkBC,KAAKwxD,iBAAkBC,KAAKyxD,iBAAkBC,KAAK0xD,iBAAkBC,KAAK2xD,iBAAkBC,KAAK4xD,iBAAkBC,KAAK6xD,iBAAkBC,KAAK8xD,iBAAkBC,KAAK+xD,iBAAkBC,KAAKgyD,iBAAkBC,KAAKiyD,iBAAkBC,KAAKkyD,iBAAkBC,KAAKmyD,iBAAkBC,KAAKoyD,iBAAkBC,KAAKqyD,iBAAkBC,KAAKsyD,iBAAkBC,KAAKuyD,iBAAkBC,KAAKwyD,iBAAkBC,KAAKyyD,iBAAkBC,KAAK0yD,iBAAkBC,KAAK2yD,iBAAkBC,KAAK4yD,iBAAkBC,KAAK6yD,iBAAkBC,KAAK8yD,iBAAkBC,KAAK+yD,iBAAkBC,KAAKgzD,iBAAkBC,KAAKizD,iBAAkBC,KAAKkzD,iBAAkBC,KAAKmzD,iBAAkBC,KAAKozD,iBAAkBC,KAAKqzD,iBAAkBC,KAAKszD,iBAAkBC,KAAKuzD,iBAAkBC,KAAKwzD,iBAAkBC,KAAKyzD,iBAAkBC,KAAK0zD,iBAAkBC,KAAK2zD,iBAAkBC,KAAK4zD,iBAAkBC,KAAK6zD,iBAAkBC,KAAK8zD,iBAAkBC,KAAK+zD,iBAAkBC,KAAKg0D,iBAAkBC,KAAKi0D,iBAAkBC,KAAKk0D,iBAAkBC,KAAKm0D,iBAAkBC,KAAKo0D,iBAAkBC,KAAKq0D,iBAAkBC,KAAKs0D,iBAAkBC,KAAKu0D,iBAAkBC,KAAKw0D,iBAAkBC,KAAKy0D,iBAAkBC,KAAK00D,iBAAkBC,KAAK20D,iBAAkBC,KAAK40D,iBAAkBC,KAAK60D,iBAAkBC,KAAK80D,iBAAkBC,KAAK+0D,iBAAkBC,KAAKg1D,iBAAkBC,KAAKi1D,iBAAkBC,KAAKk1D,iBAAkBC,KAAKm1D,iBAAkBC,KAAKo1D,iBAAkBC,KAAKq1D,iBAAkBC,KAAKs1D,iBAAkBC,KAAKu1D,iBAAkBC,KAAKw1D,iBAAkBC,KAAKy1D,iBAAkBC,KAAK01D,iBAAkBC,KAAK21D,iBAAkBC,KAAK41D,iBAAkBC,KAAK61D,iBAAkBC,KAAK81D,iBAAkBC,KAAK+1D,iBAAkBC,KAAKg2D,iBAAkBC,KAAKi2D,iBAAkBC,KAAKk2D,iBAAkBC,KAAKm2D,iBAAkBC,KAAKo2D,iBAAkBC,KAAKq2D,iBAAkBC,KAAKs2D,iBAAkBC,KAAKu2D,iBAAkBC,KAAKw2D,iBAAkBC,KAAKy2D,iBAAkBC,KAAK02D,iBAAkBC,KAAK22D,iBAAkBC,KAAK42D,iBAAkBC,KAAK62D,iBAAkBC,KAAK82D,iBAAkBC,KAAK+2D,iBAAkBC,KAAKg3D,iBAAkBC,KAAKi3D,iBAAkBC,KAAKk3D,iBAAkBC,KAAKm3D,iBAAkBC,KAAKo3D,iBAAkBC,KAAKq3D,iBAAkBC,KAAKs3D,iBAAkBC,KAAKu3D,iBAAkBC,KAAKw3D,iBAAkBC,KAAKy3D,iBAAkBC,KAAK03D,iBAAkBC,KAAK23D,iBAAkBC,KAAK43D,iBAAkBC,KAAK63D,iBAAkBC,KAAK83D,iBAAkBC,KAAK+3D,iBAAkBC,KAAKg4D,iBAAkBC,KAAKi4D,iBAAkBC,KAAKk4D,iBAAkBC,KAAKm4D,iBAAkBC,KAAKo4D,iBAAkBC,KAAKq4D,iBAAkBC,KAAKs4D,iBAAkBC,KAAKu4D,iBAAkBC,KAAKw4D,iBAAkBC,KAAKy4D,iBAAkBC,KAAK04D,iBAAkBC,KAAK24D,iBAAkBC,KAAK44D,iBAAkBC,KAAK65D,iBAAkBC,KAAK85D,iBAAkBC,KAAK+5D,iBAAkBC,KAAKg6D,iBAAkBC,KAAKi6D,iBAAkBC,KAAKk6D,iBAAkBC,KAAKm6D,iBAAkBC,KAAKo6D,iBAAkBC,KAAKq6D,iBAAkBC,KAAKs6D,iBAAkBC,KAAKu6D,iBAAkBC,KAAKw6D,iBAAkBC,KAAKy6D,iBAAkBC,KAAK06D,iBAAkBC,KAAK26D,iBAAkBC,KAAK46D,iBAAkBC,KAAK66D,iBAAkBC,KAAK86D,iBAAkBC,KAAK+6D,iBAAkBC,KAAKg7D,iBAAkBC,KAAKi7D,iBAAkBC,KAAKk7D,iBAAkBC,KAAKm7D,iBAAkBC,KAAKo7D,iBAAkBC,KAAKq7D,iBAAkBC,KAAKs7D,iBAAkBC,KAAKu7D,iBAAkBC,KAAKw7D,iBAAkBC,KAAKy7D,iBAAkBC,KAAK07D,iBAAkBC,KAAK27D,iBAAkBC,KAAK47D,iBAAkBC,KAAK67D,iBAAkBC,KAAK87D,iBAAkBC,KAAK+7D,iBAAkBC,KAAKg8D,iBAAkBC,KAAKi8D,iBAAkBC,KAAKk8D,iBAAkBC,KAAKm8D,iBAAkBC,KAAKo8D,iBAAkBC,KAAKq8D,iBAAkBC,KAAKs8D,iBAAkBC,KAAKu8D,iBAAkBC,KAAKw8D,iBAAkBC,KAAKy8D,iBAAkBC,KAAK08D,iBAAkBC,KAAK28D,iBAAkBC,KAAK48D,iBAAkBC,KAAK68D,iBAAkBC,KAAK88D,iBAAkBC,KAAK+8D,iBAAkBC,KAAKg9D,iBAAkBC,KAAKi9D,iBAAkBC,KAAKk9D,iBAAkBC,KAAKm9D,iBAAkBC,KAAKo9D,iBAAkBC,KAAKq9D,iBAAkBC,KAAKs9D,iBAAkBC,KAAKu9D,iBAAkBC,KAAKw9D,iBAAkBC,KAAKy9D,iBAAkBC,KAAK09D,iBAAkBC,KAAK29D,iBAAkBC,KAAK49D,iBAAkBC,KAAK69D,iBAAkBC,KAAK89D,iBAAkBC,KAAK+9D,iBAAkBC,KAAKg+D,iBAAkBC,KAAKi+D,iBAAkBC,KAAKk+D,iBAAkBC,KAAKm+D,iBAAkBC,KAAKo+D,iBAAkBC,KAAKq+D,iBAAkBC,KAAKs+D,iBAAkBC,KAAKu+D,iBAAkBC,KAAKw+D,iBAAkBC,KAAKy+D,iBAAkBC,KAAK0+D,iBAAkBC,KAAK2+D,iBAAkBC,KAAK4+D,iBAAkBC,KAAK6+D,iBAAkBC,KAAK8+D,iBAAkBC,KAAK++D,iBAAkBC,KAAKg/D,iBAAkBC,KAAKi/D,iBAAkBC,KAAKk/D,iBAAkBC,KAAKm/D,iBAAkBC,KAAKo/D,iBAAkBC,KAAKq/D,iBAAkBC,KAAKs/D,iBAAkBC,KAAKu/D,iBAAkBC,KAAKw/D,iBAAkBC,KAAKy/D,iBAAkBC,KAAK0/D,iBAAkBC,KAAK2/D,iBAAkBC,KAAK4/D,iBAAkBC,KAAK6/D,iBAAkBC,KAAK8/D,iBAAkBC,KAAK+/D,iBAAkBC,KAAKggE,iBAAkBC,KAAKigE,iBAAkBC,KAAKkgE,iBAAkBC,KAAKmgE,iBAAkBC,KAAKogE,iBAAkBC,KAAKqgE,iBAAkBC,KAA

uD,SAAW,IAAMqH,EAASnhB,KAAKuW,UAAU/kB,KAAO,QAGxEipB,GAAeyG,GAAgB,IAAMzG,GAAe0G,EAASnhB,MAAQ,QAIzEohB,EAAaxF,YAEhBuF,EAASnhB,KAAKuW,qBAAqBsD,GAAemH,EAAMD,GAAaC,GAEhF,SAASK,GAAuBvvB,EAAM4c,GAClC,IAAI4S,EAAErC,OAAOwO,GAAa,OASrS,EADd4S,EAAUA,EAAUhjC,OAAS,GACC,eAEjD,SASijC,GAAeC,GAAeG,GAAOT,GAAaU,GAAeG,GAAeG,GAAeG

AAM,0BAA2B6V,WAAYqa,IACrFC,GAAc6D,sBAAwB,CAAEh0B,KAAAM,0BAA2B6V,WAAYqa,IACrFC,GAAc8D,sBAAwB,CAAEj0B,KAAAM,0BAA2B6V,WAAYqa,IACrFC,GAAc+D,sBAAwB,CAAEl0B,KAAAM,0BAA2B6V,WAAYqa,IACrFC,GAAcgE,sBAAwB,CAAEn0B,KAAAM,0BAA2B6V,WAAYqa,IACrFC,GAAciE,sBAAwB,CAAEp0B,KAAAM,0BAA2B6V,WAAYqa,IACrFC,GAAckE,YAAc,CAAEr0B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmE,eAAiB,CAAEt0B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoE,eAAiB,CAAEv0B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqE,gBAAkB,CAAEx0B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsE,eAAiB,CAAEz0B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuE,gBAAkB,CAAE10B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwE,iBAAmB,CAAE30B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyE,eAAiB,CAAE50B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0E,gBAAkB,CAAE70B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2E,iBAAmB,CAAE90B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4E,eAAiB,CAAE/0B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6E,gBAAkB,CAAEh1B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8E,iBAAmB,CAAEj1B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+E,eAAiB,CAAEl1B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgF,gBAAkB,CAAEn1B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciF,iBAAmB,CAAEp1B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckF,YAAc,CAAEr1B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmF,eAAiB,CAAEt1B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoF,eAAiB,CAAEv1B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqF,gBAAkB,CAAEx1B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsF,eAAiB,CAAEz1B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuF,gBAAkB,CAAE11B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwF,iBAAmB,CAAE31B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyF,eAAiB,CAAE51B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0F,gBAAkB,CAAE71B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2F,iBAAmB,CAAE91B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4F,eAAiB,CAAE/1B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6F,gBAAkB,CAAEh2B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8F,iBAAmB,CAAEj2B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+F,eAAiB,CAAEl2B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgG,gBAAkB,CAAEn2B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciG,iBAAmB,CAAEp2B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckG,YAAc,CAAEr2B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmG,eAAiB,CAAEt2B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoG,eAAiB,CAAEv2B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqG,gBAAkB,CAAEx2B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsG,eAAiB,CAAEz2B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuG,gBAAkB,CAAE12B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwG,iBAAmB,CAAE32B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyG,eAAiB,CAAE52B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0G,gBAAkB,CAAE72B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2G,iBAAmB,CAAE92B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4G,eAAiB,CAAE/2B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6G,gBAAkB,CAAEh3B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8G,iBAAmB,CAAEj3B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+G,eAAiB,CAAEl3B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgH,gBAAkB,CAAEn3B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciH,iBAAmB,CAAEp3B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckH,YAAc,CAAEr3B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmH,eAAiB,CAAEt3B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoH,eAAiB,CAAEv3B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqH,gBAAkB,CAAEx3B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsH,eAAiB,CAAEz3B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuH,gBAAkB,CAAE13B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwH,iBAAmB,CAAE33B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyH,eAAiB,CAAE53B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0H,gBAAkB,CAAE73B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2H,iBAAmB,CAAE93B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4H,eAAiB,CAAE/3B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6H,gBAAkB,CAAEh4B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8H,iBAAmB,CAAEj4B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+H,eAAiB,CAAEl4B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgI,gBAAkB,CAAEn4B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciI,iBAAmB,CAAEp4B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckI,YAAc,CAAEr4B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmI,eAAiB,CAAEt4B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoI,eAAiB,CAAEv4B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqI,gBAAkB,CAAEx4B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsI,eAAiB,CAAEz4B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuI,gBAAkB,CAAE14B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwI,iBAAmB,CAAE34B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyI,eAAiB,CAAE54B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0I,gBAAkB,CAAE74B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2I,iBAAmB,CAAE94B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4I,eAAiB,CAAE/4B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6I,gBAAkB,CAAEh5B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8I,iBAAmB,CAAEj5B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+I,eAAiB,CAAEl5B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgJ,gBAAkB,CAAEn5B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciJ,iBAAmB,CAAEp5B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckJ,YAAc,CAAEr5B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmJ,eAAiB,CAAEt5B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoJ,eAAiB,CAAEv5B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqJ,gBAAkB,CAAEx5B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsJ,eAAiB,CAAEz5B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuJ,gBAAkB,CAAE15B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwJ,iBAAmB,CAAE35B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyJ,eAAiB,CAAE55B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0J,gBAAkB,CAAE75B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2J,iBAAmB,CAAE95B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4J,eAAiB,CAAE/5B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6J,gBAAkB,CAAEh6B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8J,iBAAmB,CAAEj6B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+J,eAAiB,CAAEl6B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgK,gBAAkB,CAAEn6B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciK,iBAAmB,CAAEp6B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckK,YAAc,CAAEr6B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmK,eAAiB,CAAEt6B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoK,eAAiB,CAAEv6B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqK,gBAAkB,CAAEx6B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsK,eAAiB,CAAEz6B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuK,gBAAkB,CAAE16B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwK,iBAAmB,CAAE36B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyK,eAAiB,CAAE56B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0K,gBAAkB,CAAE76B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2K,iBAAmB,CAAE96B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4K,eAAiB,CAAE/6B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6K,gBAAkB,CAAEh7B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8K,iBAAmB,CAAEj7B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+K,eAAiB,CAAEl7B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgL,gBAAkB,CAAEn7B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciL,iBAAmB,CAAEp7B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckL,YAAc,CAAEr7B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmL,eAAiB,CAAEt7B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoL,eAAiB,CAAEv7B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqL,gBAAkB,CAAEx7B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsL,eAAiB,CAAEz7B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuL,gBAAkB,CAAE17B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwL,iBAAmB,CAAE37B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyL,eAAiB,CAAE57B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0L,gBAAkB,CAAE77B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2L,iBAAmB,CAAE97B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4L,eAAiB,CAAE/7B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6L,gBAAkB,CAAEh8B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8L,iBAAmB,CAAEj8B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+L,eAAiB,CAAEl8B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgM,gBAAkB,CAAEn8B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciM,iBAAmB,CAAEp8B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckM,YAAc,CAAEr8B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmM,eAAiB,CAAEt8B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoM,eAAiB,CAAEv8B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqM,gBAAkB,CAAEx8B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsM,eAAiB,CAAEz8B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuM,gBAAkB,CAAE18B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwM,iBAAmB,CAAE38B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyM,eAAiB,CAAE58B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0M,gBAAkB,CAAE78B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2M,iBAAmB,CAAE98B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4M,eAAiB,CAAE/8B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6M,gBAAkB,CAAEh9B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8M,iBAAmB,CAAEj9B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+M,eAAiB,CAAEl9B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgN,gBAAkB,CAAEn9B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciN,iBAAmB,CAAEp9B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckN,YAAc,CAAEr9B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmN,eAAiB,CAAEt9B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoN,eAAiB,CAAEv9B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqN,gBAAkB,CAAEx9B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsN,eAAiB,CAAEz9B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuN,gBAAkB,CAAE19B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwN,iBAAmB,CAAE39B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyN,eAAiB,CAAE59B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0N,gBAAkB,CAAE79B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2N,iBAAmB,CAAE99B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4N,eAAiB,CAAE/9B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6N,gBAAkB,CAAEh+B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8N,iBAAmB,CAAEj+B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+N,eAAiB,CAAEl+B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgO,gBAAkB,CAAEn+B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciO,iBAAmB,CAAEp+B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckO,YAAc,CAAEr+B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmO,eAAiB,CAAEt+B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoO,eAAiB,CAAEv+B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqO,gBAAkB,CAAEx+B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsO,eAAiB,CAAEz+B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuO,gBAAkB,CAAE1+B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwO,iBAAmB,CAAE3+B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyO,eAAiB,CAAE5+B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0O,gBAAkB,CAAE7+B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2O,iBAAmB,CAAE9+B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4O,eAAiB,CAAE/+B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6O,gBAAkB,CAAEh/B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8O,iBAAmB,CAAEj/B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+O,eAAiB,CAAEl/B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgP,gBAAkB,CAAEn/B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciP,iBAAmB,CAAEp/B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckP,YAAc,CAAEr/B,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmP,eAAiB,CAAEt/B,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoP,eAAiB,CAAEv/B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqP,gBAAkB,CAAEx/B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsP,eAAiB,CAAEz/B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuP,gBAAkB,CAAE1/B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwP,iBAAmB,CAAE3/B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyP,eAAiB,CAAE5/B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0P,gBAAkB,CAAE7/B,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2P,iBAAmB,CAAE9/B,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4P,eAAiB,CAAE//B,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6P,gBAAkB,CAAEhgC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8P,iBAAmB,CAAEjgC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+P,eAAiB,CAAElgC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgQ,gBAAkB,CAAEngC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciQ,iBAAmB,CAAEpgC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckQ,YAAc,CAAErgC,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmQ,eAAiB,CAAEtgC,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoQ,eAAiB,CAAEvgC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqQ,gBAAkB,CAAExgC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsQ,eAAiB,CAAEzgC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuQ,gBAAkB,CAAE1gC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwQ,iBAAmB,CAAE3gC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyQ,eAAiB,CAAE5gC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0Q,gBAAkB,CAAE7gC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2Q,iBAAmB,CAAE9gC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4Q,eAAiB,CAAE/gC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6Q,gBAAkB,CAAEhhC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8Q,iBAAmB,CAAEjhC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+Q,eAAiB,CAAElhC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgR,gBAAkB,CAAEnhC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciR,iBAAmB,CAAEphC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckR,YAAc,CAAErhC,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmR,eAAiB,CAAEthC,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoR,eAAiB,CAAEvhC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqR,gBAAkB,CAAExhC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsR,eAAiB,CAAEzhC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuR,gBAAkB,CAAE1hC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwR,iBAAmB,CAAE3hC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyR,eAAiB,CAAE5hC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0R,gBAAkB,CAAE7hC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2R,iBAAmB,CAAE9hC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4R,eAAiB,CAAE/hC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6R,gBAAkB,CAAEhiC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8R,iBAAmB,CAAEjiC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+R,eAAiB,CAAEliC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgS,gBAAkB,CAAEniC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciS,iBAAmB,CAAEpiC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckS,YAAc,CAAEriC,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmS,eAAiB,CAAEtiC,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoS,eAAiB,CAAEviC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqS,gBAAkB,CAAExiC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsS,eAAiB,CAAEziC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuS,gBAAkB,CAAE1iC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwS,iBAAmB,CAAE3iC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyS,eAAiB,CAAE5iC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0S,gBAAkB,CAAE7iC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2S,iBAAmB,CAAE9iC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4S,eAAiB,CAAE/iC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6S,gBAAkB,CAAEhjC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8S,iBAAmB,CAAEjjC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+S,eAAiB,CAAEljC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgT,gBAAkB,CAAEnjC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciT,iBAAmB,CAAEpjC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckT,YAAc,CAAErjC,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmT,eAAiB,CAAEtjC,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoT,eAAiB,CAAEvjC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqT,gBAAkB,CAAExjC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsT,eAAiB,CAAEzjC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuT,gBAAkB,CAAE1jC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwT,iBAAmB,CAAE3jC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyT,eAAiB,CAAE5jC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0T,gBAAkB,CAAE7jC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2T,iBAAmB,CAAE9jC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4T,eAAiB,CAAE/jC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6T,gBAAkB,CAAEhkC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8T,iBAAmB,CAAEjkC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+T,eAAiB,CAAElkC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgU,gBAAkB,CAAEnkC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciU,iBAAmB,CAAEpkC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckU,YAAc,CAAErkC,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmU,eAAiB,CAAEtkC,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoU,eAAiB,CAAEvkC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqU,gBAAkB,CAAExkC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsU,eAAiB,CAAEzkC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuU,gBAAkB,CAAE1kC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwU,iBAAmB,CAAE3kC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyU,eAAiB,CAAE5kC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0U,gBAAkB,CAAE7kC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2U,iBAAmB,CAAE9kC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4U,eAAiB,CAAE/kC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6U,gBAAkB,CAAEhlC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8U,iBAAmB,CAAEjlC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+U,eAAiB,CAAEllC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgV,gBAAkB,CAAEnlC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciV,iBAAmB,CAAEplC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckV,YAAc,CAAErlC,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmV,eAAiB,CAAEtlC,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoV,eAAiB,CAAEvlC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqV,gBAAkB,CAAExlC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsV,eAAiB,CAAEzlC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuV,gBAAkB,CAAE1lC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwV,iBAAmB,CAAE3lC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyV,eAAiB,CAAE5lC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0V,gBAAkB,CAAE7lC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2V,iBAAmB,CAAE9lC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4V,eAAiB,CAAE/lC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6V,gBAAkB,CAAEhmC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8V,iBAAmB,CAAEjmC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+V,eAAiB,CAAElmC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgW,gBAAkB,CAAEnmC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciW,iBAAmB,CAAEpmC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckW,YAAc,CAAErmC,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmW,eAAiB,CAAEtmC,KAAAM,aAAc6V,WAAYqa,IACjEC,GAAcnc,KAAAO,0BAA2B6V,WAAYqa,IACjEC,GAAcoW,eAAiB,CAAEvmC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcqW,gBAAkB,CAAExmC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcsW,eAAiB,CAAEzmC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcuW,gBAAkB,CAAE1mC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAcwW,iBAAmB,CAAE3mC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAcyW,eAAiB,CAAE5mC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc0W,gBAAkB,CAAE7mC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2W,iBAAmB,CAAE9mC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc4W,eAAiB,CAAE/mC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAc6W,gBAAkB,CAAEhnC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc8W,iBAAmB,CAAEjnC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc+W,eAAiB,CAAElnC,KAAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcgX,gBAAkB,CAAEnnC,KAAAM,oBAAqB6V,WAAYqa,IACzEC,GAAciX,iBAAmB,CAAEpnC,KAAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAckX,YAAc,CAAErnC,KAAAM,gBAAiB6V,WAAYqa,IACjEC,GAAcmX,e

AEhBC,GAAcsI,oBAAsB,CAChCz4B,KAAM,wBACN6V,WAAYqa,IAEhBC,GAAcuI,oBAAsB,CAChC14B,KAAM,sBACN6V,WAAYqa,IAEhBC,GAAcwI,eAAiB,CAAE34B,KAAM,mBAAoB6V,WAAYqa,IACvEC,GAAcyI,iBAAmB,CAAE54B,KAAM,qBAAsB6V,WAAYqa,IAC3EC,GAAc0I,gBAAkB,CAAE74B,KAAM,oBAAqB6V,WAAYqa,IACzEC,GAAc2I,gBAAkB,CAAE94B,KAAM,eAAgB6V,WAAYqa,IAC/DC,GAAc4I,aAAe,CAAE/4B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IACnEC,GAAc6I,cAAgB,CAAEh5B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC7DC,GAAc8I,gBAAkB,CAAEj5B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc+I,aAAe,CAAEl5B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcgJ,cAAgB,CAAEn5B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAciJ,gBAAkB,CAAEp5B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAckJ,aAAe,CAAEr5B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcmJ,cAAgB,CAAEt5B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcoJ,gBAAkB,CAAEv5B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcqJ,aAAe,CAAEx5B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsJ,cAAgB,CAAEz5B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuJ,gBAAkB,CAAE15B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwJ,aAAe,CAAE35B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyJ,cAAgB,CAAE55B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0J,gBAAkB,CAAE75B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2J,aAAe,CAAE95B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4J,cAAgB,CAAE/5B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6J,gBAAkB,CAAEh6B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8J,aAAe,CAAEj6B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+J,cAAgB,CAAEl6B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgK,gBAAkB,CAAEn6B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciK,aAAe,CAAEp6B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckK,cAAgB,CAAEr6B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmK,gBAAkB,CAAEt6B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoK,aAAe,CAAEv6B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcqK,cAAgB,CAAEx6B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcsK,gBAAkB,CAAEz6B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcuK,aAAe,CAAE16B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcwK,cAAgB,CAAE36B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcyK,gBAAkB,CAAE56B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc0K,aAAe,CAAE76B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc2K,cAAgB,CAAE86B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc4K,gBAAkB,CAAE/6B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc6K,aAAe,CAAEh7B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc8K,cAAgB,CAAEj7B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc+K,gBAAkB,CAAEl7B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcgL,aAAe,CAAEn7B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAciL,cAAgB,CAAEp7B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAckL,gBAAkB,CAAEr7B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcmL,aAAe,CAAEt7B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcoL,cAAgB,CAAEv7B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcqL,gBAAkB,CAAEx7B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcsL,aAAe,CAAEz7B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcuL,cAAgB,CAAE17B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcwL,gBAAkB,CAAE37B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcyL,aAAe,CAAE47B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc0L,cAAgB,CAAE77B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc2L,gBAAkB,CAAE97B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc4L,aAAe,CAAE/7B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc6L,cAAgB,CAAEh8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc8L,gBAAkB,CAAEj8B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc+L,aAAe,CAAEl8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcgM,cAAgB,CAAEn8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAciM,gBAAkB,CAAEp8B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAckM,aAAe,CAAEr8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcmM,cAAgB,CAAEt8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcoM,gBAAkB,CAAEv8B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcqM,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsM,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuM,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwM,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyM,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0M,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2M,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4M,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6M,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8M,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+M,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgN,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciN,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckN,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmN,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoN,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsN,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuN,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwN,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyN,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0N,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2N,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4N,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6N,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8N,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+N,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgO,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciO,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckO,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmO,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoO,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsO,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuO,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwO,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyO,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0O,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2O,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4O,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6O,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8O,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+O,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgP,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciP,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckP,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmP,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoP,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsP,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuP,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwP,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyP,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0P,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2P,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4P,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6P,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8P,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+P,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgQ,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciQ,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckQ,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmQ,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoQ,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsQ,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuQ,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwQ,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyQ,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0Q,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2Q,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4Q,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6Q,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8Q,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+Q,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgR,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciR,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckR,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmR,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoR,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsR,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuR,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwR,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyR,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0R,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2R,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4R,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6R,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8R,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+R,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgS,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciS,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckS,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmS,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoS,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsS,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuS,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwS,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyS,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0S,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2S,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4S,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6S,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8S,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+S,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgT,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciT,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckT,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmT,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoT,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsT,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuT,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwT,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyT,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0T,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2T,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4T,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6T,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8T,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+T,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgU,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciU,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckU,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmU,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoU,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsU,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuU,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwU,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyU,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0U,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2U,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4U,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6U,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8U,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+U,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgV,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciV,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckV,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmV,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoV,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsV,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuV,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwV,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyV,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0V,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2V,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4V,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6V,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8V,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+V,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgW,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciW,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckW,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmW,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoW,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsW,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuW,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwW,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyW,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0W,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2W,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4W,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6W,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8W,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+W,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgX,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciX,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckX,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmX,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoX,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsX,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuX,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwX,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyX,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0X,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2X,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4X,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6X,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8X,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+X,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgY,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciY,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckY,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmY,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoY,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsY,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuY,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwY,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyY,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0Y,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2Y,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4Y,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6Y,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8Y,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+Y,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcgZ,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAciZ,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAckZ,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcmZ,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoZ,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsZ,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcuZ,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwZ,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcyZ,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0Z,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2Z,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4Z,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6Z,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8Z,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc+Z,cAAgB,CAAEl9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcga,gBAAkB,CAAEn9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcia,aAAe,CAAEp9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcka,cAAgB,CAAEr9B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcma,gBAAkB,CAAEt9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcoa,aAAe,CAAEx8B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcsa,cAAgB,CAAEz8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAcua,gBAAkB,CAAE18B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAcwa,aAAe,CAAE38B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAcya,cAAgB,CAAE58B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc0a,gBAAkB,CAAE78B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc2a,aAAe,CAAE98B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa,IAC1EC,GAAc4a,cAAgB,CAAE+8B,KAAM,6B,KAAM,gBAAiB6V,WAAYqa,IAC3EC,GAAc6a,gBAAkB,CAAEh9B,KAAM,+B,KAAM,kBAAmB6V,WAAYqa,IAC/EC,GAAc8a,aAAe,CAAEj9B,KAAM,4B,KAAM,iBAAkB6V,WAAYqa

AAKuwC,SAAWA,EAChBvwC,KAAKwwC,WAAaA,EAClBxwC,KAAK8wC,UAAYA,EACjB9wC,KAAKmjB,WAAaA,EAClBnjB,KAAKywC,gBAAkBA,EACvBzwC,KAAK0wC,cAAgBA,EACrB1wC,KAAKyrC,KAAAOA,EAKhB,OAHAmF,EAAS9vC,UAAUkuC,MAAQ,SAAU9tB,GACjC,OAAOA,EAAQ6vB,cAAc/wC,OAE1B4wC,EAAlBkB,GAAoBzI,GAAAyB,WACzB,SAASA,EAAQ/4B,EAAAQ/B,EAAAyB,EAAAQ/B,EAAAyB,EAAAQ/B,EAAAyB

CyC,EAAgBX,GAAaryC,KAAM4X,EAAQ44B,YAC/C,OAAIoC,GAAiBh7B,EAAQ04B,YAAcuC,GAAaj7B,EA
AQgoB,QAC5DkT,GAAcl7B,EAAQioB,SAAWkT,GAAen7B,EAAQ24B,UACxDyC,GAAiBp7B,EAAQ44B,WA
ClB,IAAIH,GAAQz4B,EAAQlD,KAAMk+B,EAAeC,EAAWC,EAAYC,EAAaC,EAAep7B,EAAQuL,WAAYvL,,
EAAQ64B,gBAAiB74B,EAAQ84B,EAAeRJ94B,GAEX+6B,EAAiB7xC,UAAUiwC,cAAgB,SAAUlS,GACjD,IAAI
+T,EAAgBP,GAAaryC,KAAM6+B,EAASyR,YAC5CuC,EAAYR,GAAaryC,KAAM6+B,EAASe,QACxCkT,EAA
aT,GAAaryC,KAAM6+B,EAASgB,SACzCoT,EAAmBZ,GAAaryC,KAAM6+B,EAASgS,eAC/CkC,EAAcV,GAA
aryC,KAAM6+B,EAAS0R,UAC1CyC,EAAgBX,GAAaryC,KAAM6+B,EAAS2R,YAC5C0C,EAAeb,GAAaryC,K
AAM6+B,EAASiS,WAC/C,OAAI8B,GAAiB/T,EAASyR,YAAcuC,GAAahU,EAASe,QAC9DkT,GAAcjU
gB,SAAWoT,GAAoBpU,EAASgS,eAC/CkC,GAAelU,EAAS0R,UAAYyC,GAAiBnU,EAAS2R,YAC9D0C,GAAA
gBrU,EAASiS,UAClB,IAAIF,GAAS/R,EAAS7B,QAAS8vC,EAAeC,EAAWC,EAAYG,EAAakBF,EAAaC,EAAeA
E,EAAcrU,EAAS1b,WAAY0b,EAAS4R,gBAAiB5R,EAAS6R,eAE7L7R,GAEX8T,EAAiB7xC,UAAUmwC,aAA
e,SAAUW,GAChD,OAAOA,GAAeXe,EAAiB7xC,UAAUqwC,cAAgB,SAAUzf,GACjD,OAAOA,GAAeXihB,EAAAi
B7xC,UAAUuwC,eAAiB,SAAU5X,GAClD,OAAOA,GAAekZ,EAAiB7xC,UAAUwuC,mBAAqB,SAAUr2B,GA
CtD,OAAOA,GAAe05B,EAAiB7xC,UAAU8uC,oBAAsB,SAAU32B,GAAOA,GAAe05B,EAAiB7xC,UAAU
AUsvC,gBAAkB,SAAUn3B,GACnD,OAAOA,GAAe05B,EAAiB7xC,UAAUmuC,UAAY,SAAUvvmB,GAC7C,OAAOA,GAAeXiqB,EAAAi
B7xC,UAAUquC,eAAiB,SAAUzmB,GAClD,OAAOA,GAAeXiqB,EAAiB7xC,UAAU2uC,UAAY,SAAUvmB,GAAOA,GAAeXiqB,EAAiB7xC,UAAUAU2w
C,SAAW,SAAUI,GAC5C,OAAOA,GAAeX5C,EAAiB7xC,UAAUsuC,cAAgB,SAAUlmB,GAAOA,GAAeXizDsB,GAAkIrC,IAAAIsB,GASA,SAASA,GAAQpB,EAAAOP,EAAAc4B,
BhqB,EAASD,EAAaE,GAC9ErpB,B,KAAK+xC,GAAAC,EAAAC,EAAAC,E

AAMx7B,EAAO2N,MAChG,IAAImT,EAAM,IAAI2f,GAAMpC,EAAIlb,WAAYkb,EAAI3uB,KAAMgxB,EAAO
rC,EAAI1uB,YAEzD,OADAmR,EAAIugB,sBAAwBhD,EAAIgD,sBACzBvgB,GAEXqgB,EAAa7zC,UAAUwzC,
oBAAsB,SAAUQ,EAAI3zB,GACvD,IAAI3N,EAAQxT,KACRuwC,EAAWuE,EAAGvE,SAAS90B,EAAIgzB,EAAU
3Z,GAAK,OAAOA,EAAEktC,MAAMx7B,EAAO2N,MACpE,OAAO,IAAIgzB,GAAeW,EAAGl8B,IAAKk8B,E
AAGh9B,MAAOg9B,EAAGV,UAAWU,EAAGT,UAAW9D,EAAUuE,EAAG5gC,OAAQ4gC,EAAG3xB,WAAY
2xB,EAAGrE,gBAAiBqE,EAAGpE,gBAEvIiE,EAAa7zC,UAAU0zC,iBAAmB,SAAUM,EAAGC,EAAGC,
O,IAAIozB,GAAYO,EAAGpzC,MAAOozC,EAAGpgC,OAAQogC,EAAG3xB,WAAaAEjDwxB,EAAa7zC,UAAU4zC,
oBAAsB,SAAUI,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EA
AG3xB,aAE7CwxB,EA9BsB,GAiC7BI,GAAgC,WAAhC,SAASA,KAAmBT,EAAEU,EAAGC,EAAGC,EAAGC,
Y,SAAUvmB,EAAMvH,KAAKrD4zB,EAAej0C,UAAUkzC,eAAiB,SAAUwB,EAAIC,EAAIC,EAAIC,EAAIC,
T,KACZ40C,EAAUrE,SAAS/7B,SAAQ,SAAUwgC,GAAS,OAAOA,EAAMhG,EAAEuhC,EAAej0
C,UAAU2wC,SAAW,SAAUI,EAAIC,EAAIC,EAAIC,EAAIC,EAAIC,EAAIC,EAAIC,EAAIC,EAAIC,EAAIC,EAAIC,
C,IAAIpJ,EAASxZ,KAAKsxB,QAElB,OADA9X,EAAO87B,EAAGvE,SAAS/7B,SAAQ,SAAUwgC,GAAS,OAAOA,EAAMhG,EAAEuhC,EAAej0
Uw0C,UAAY,SAAU1yB,GAAGvC,IAFA,IAAI2yB,EAAgBC,KAAKC,IAAIz1C,KAAKC,IAAIz1C,KAAKC,IAAIz1C

AAIi2C,EAAKD,EAAGE,EAAKp3C,EAAGq3C,EAAK35B,EAAG45B,EAAKv3C,EAAGw3C,EAAK31C,EAChC41C,EAAI,EAAGA,EAAI,GAAIA,IAAK,CAErBP,EAAEO,GADFA,EAAI,GACGd,GAAQx1C,EAAIs2C,GAGZC,GAAMR,EAAEO,EAAI,GAAKP,EAAEO,EAAI,GAAKP,EAAEO,EAAI,IAAMP,EAAEO,EAAI,IAAK,GAE9DD,IAAIE,EAAQC,GAAGH,EAAGx3C,EAAG0d,EAAG3d,GACpBsuB,EAAIqpB,EAAM,GACVC,EAAIC,GAAGH,EAAGx3C,EAAG0d,EAAG3d,GAAK,EAAIqpB,EAAM,GAAKA,EAAM,GAAKA,EAAM,GAAKA

MS,EAAUX,IAAQ,GAAKW,GA5FXD,CAAMP,EAAgB,GAAIC,GAIrD,OAqJJ,SAASQ,EAAqBZ,EAAIE,GAI9
B,IAAIW,EAAUC,GAAQvD,aAAa,GAAGT,WAAWoD,GAIjD,OADAY,GAAQvD,aAAa,GAAGN,mBAAmB+C
,EAAIa,GACxCA,EAAQrgC,WA7JRogC,CAA0B,WAFxBT,EAAe,GACfA,EAAe,IAG5B,SAASF,GAAOlC,EAA
Ol5B,GACnB,IACIxc,EADAg2C,EAAI,WAAYl3C,EAAI,WAEpB2iB,EAAMi0B,EAAMx1C,OAChB,IAAKF,EA
AI,EAAGA,EAAI,IAAMyhB,EAAKzhB,GAAK,GAAI,CAIhC,IAAIW,EAAIW,EAAM2hC,GAAHV1C,EAAIW,EAAM
1C,EAAI,EAAG61C,GAAO8C,SACrC75C,EAAI63C,GAAM73C,EAAG82C,GAAOF,EAAO1
1C,EAAI,EAAG61C,GAAO8C,SACzCn8B,EAAIm6B,GAAMn6B,EAAGo5B,GAAOF,EAAO11C,EAAI,EAAG6
1C,GAAO8C,UAEzC3C,EAAIj/B,EAAI,GAAIjY,EAAIiY,EAAI,GAAIyF,EAAIzF,EAAI,GAAIpC,OALAi/B,EAAA
IW,GAAMX,EAAGJ,GAAOF,EAAO11C,EAAG61C,GAAO8C,SACrC75C,EAAI63C,GAAM73C,EAAG82C,GAAOF,EAAO
AOF,EAAO11C,EAAI,EAAG61C,GAAO8C,SAEzCn8B,EAAIm6B,GAAMn6B,EAAGo5B,GAAOiF,GAENi3B,GAAI1C,EA
AGl3C,EADd0d,EAAIm6B,GAAMn6B,EAAGo5B,GAAOF,EAAO11C,EAAI,EAAG61C,GAAO8C,SAAW,IACh
C,GAGxB,SASD,GAAI1C,EAAGl3C,EAAG0d,GA4Bf,OA3BAw5B,EAAI4C,GAAM5C,EAAGl3C,GAAGm3C,EAAGl3C,
EAAI4C,GAAM5C,EAAGx5B,GAAGy5B,EAAGl3C,GAAGm3C,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EAAGx
EAAI4C,GAAM5C,EAAGx5B,GAAGy5B,EAAGl3C,GAAGm3C,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EAAGx
ACb1d,EAAI85C,GAAM95C,EAAGk3C,GAAGC,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EAAGx5B,GAAGy5B,EAAG
w5B,GACbx5B,EAAIo8B,GAAMp8B,EAAGq5B,GAAGC,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EAAGx5B,GAAGy5B,EAAG
l3C,GACbk3C,EAAI4C,GAAM5C,EAAGx5B,GAAGy5B,EAAGl3C,GAAGm3C,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EA
AG0d,GACb1d,EAAI85C,GAAM95C,EAAGk3C,GAAGC,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EAAGx5B,GAAGy5B,EAAG
,EAAGw5B,GACbx5B,EAAIo8B,GAAMp8B,EAAGq5B,GAAGC,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EAAGx5B,GAAGy5B,EAAG
,EAAGl3C,GAAGm3C,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EAAGx5B,GAAGy5B,EAAGl3C,GAAGm3C,EAAGl3C,EAAG0d,GAAIw5B,EAAI4C,GAAM5C,EAAGx
ClB,IAAI40B,GAAAW,MAAAJsiB,IAAAmB,MAAAJl3C,GAACtB+5C,GAAAQ7C,IAAAM,KAAAOl3C,IAAA
M,KAAAO40B,IAAAQ,IAC9C,MAAAO,CAACmlB,IAAAS,GAAAKA,GAAAQ,GAAAa,MAANnlB,GAAWzC,SAASklB,GA
AM5C,EAAGl3C,GACd,IAAI40B,GAAAW,MAAAJsiB,IAAAmB,MAAAJl3C,GAAE1B,OADYk3C,GAAAK,KAAAOl3C,G
AAK,KAAAO40B,GAAAO,KAAC3B,GAAAa,MAANA,EAAG3B,SAAS6iB,GAAAMP,EAAAGsC,GACd,OAAAQtC,GAAAKs
C,EAAAUtC,IAAAO,GAAAKsC,EAAiBvC,SAASxB,GAAAOpB,EAAAO1zB,GACnB,OAAAOA,GAAAS0zB,GAAAS,EAAAMx1C,OAAS,
AS,EAAAIw1C,EAAAM1zB,GAAE7C,SAAS4zB,GAAAOF,EAAAO1zB,GAAAO2zB,GAAAP,EAAAO,EACX,GA
AIrB,IAAWE,GAAAOC,IAAClB,IAAAK,IAAAI91C,EAAAI,IAAAGA,EAAAI,IAAACnBg3C,GAAAQF,GAAAOpB,EA
AO1zB,EAAAQhiB,IAAAO,GAAAK,EAAAIA,OAAIlD,IAASA,EAAAI,IAAAGA,EAAAI,IAAACnBg3C,GAAAQF,GAA
OpB,EAAO1zB,EAAAQhiB,IAAAM,IAAAK,EAAAIA,EAAGhD,OAAAOg3C,GAAA,GA5DX,SAAAWnB,GAAAQ,GAAAa,
GAAK,SAAC/BA,EAAAI,IAAAK,EAAAK,IAAAC,EAAAI,IAAAK,EAAAK,IAAAC,EAAAI,IAAAK,EAAAK,IAAAC

C96C,KAAKw6C,iBAAiBI,GAAgBE,EACtC96C,KAAK06C,iBAAiBI,GAAcF,IAEjCN,EArDiC,CAsD1CvF,IAoCEkG,GAAW,IA3Be,WAC1B,SAASC,KAwBT,OAtBAA,EAASp6C,UAAUq6C,SAAW,SAAUviC,GACpC,IAAIpF,EAAQxT,KACRo7C,EAAWp7C,KAAKq7C,qBAAqBziC,EAAId,OAC7C,GAA2B,GAAvBc,EAAI23B,SAAS/uC,OACb,OAAOsX,EAAIy3B,SAAS,GAExB,IAAIiL,EAAS,IAAIC,YAAYF,GACzBG,EAAO,IAAIC,WAAWH,GAC1B,IAAK,IAAIrkD,EAAI,EAAGA,EAAIqkD,EAAUrkD,IAC1BukD,EAAKvkD,GAAK2hB,EAAI23B,SAAStrC,WAAWhO,GAEtC,OAAOqkD,GAEXvT,EAASp6C,UAAU6tD,qBAAuB,SAAUziC,EAAKd,GACrD,IAAIwjC,EAAQ,EACRC,EAAQ,EACRC,EAAQ,EACR

AOkxB,KAAKsgB,EAAIqC,OAAO1/B,SAAQ,SAAUsJ,GACrCi0B,EAAM7vC,KAAKwd,MAAMqyB,EAAO3vC
,EAAS,CAAC,IAAI+5C,GAAOr+B,EAAI,OAAQ+zB,EAAIqC,MAAMp2B,GAAGkxB,MAAMx7B,GAAQ,CAA
C,IAAI2oC,GAAO,YAEpGpK,EAAM7vC,KAAK,IAAIi6C,GAAO,MACfpK,GAEXmJ,EAASp6C,UAAUwzC,oB
AAsB,SAAUQ,EAAI3zB,GACnD,IAAIm8B,EAAIiB,GAAOr+B,EAAI,OAAQ+zB,EAAIqC,MAAMrH,EAAGl8B,IAAM,KAC3C2C2kC,EA
AU,IAAIrB,GAtEP,KAsEyB,GAAI,CAACoB,IAErCE,EAAa,IAAItB,GAzEN,KAyE4B,CAAExnC,KAAMogC,E
AAGV,WAAa,CAACmJ,EAASD,IAC7E,GAAIxI,EAAG5gC,OAEH,MAAO,CAACspC,GAEZI,EAAIiB,GAAOr+B,EAAI,OAAQ+zB,EAAIqC,MAAMrH,EAAGl8B,IAAM,KAC5C8EkC,EAAU,IAAIrB,GA
AItB,GAAO,KAAOrH,EAAGl8B,IAAM,KAAC5EkC,EAAU,IAAIxB,GA9EP,KA8EyB,GAAI,CACAGuB,
EAAa,IAAIzB,GAjFN,KAiF4B,CAAExnC,KAAMogC,EAAGT,WAAa,CAACqJ,EAASD,IAC7E,OAAOr7C,EAAS,
EAAS,CAACo7C,EAAIiB,GAAOr+B,EAAI,OAAQ+zB,EAAIqC,MAAMrH,EAAGl8B,IAAM,KAAC5EkC,EAAU,IAAIx

+C,OAAS,MACpCi+C,EAAUC,EAAOE,OAErB,IAAIv1B,EAAMq1B,EAAOG,QAAQlrC,cAIzB,OAHI+qC,EAAAOl+C,SACP6oB,GAAOq1B,EAAOjkC,KAAI,SAAUqC,GAAK,OAAOA,EAAEgiC,OAAO,GAAG3B,cAAgBrC,EAAAElb,MAAM,GAAG+R,iBAAkB2E,KAAK,KAAEnGmmC,EAAUp1B,EAAM,IAAMo1B,EAAUp1B,EAAQ3C,SAAS01B,GAA0BC,GAAC/B,OAAjJiC,OAAiJaA,GAAAOD,IAAAC,GAAAC,GAAAC,G

,IAAK,WAAY3hB,MAAO4wB,IAAQ,GAAOnG,QAAQ,IAE3DJ,EAAQvqB,OAAS,EAAI0wB,GAAWnG,GAAA
W,KAnCnCg3B,CAAkBD,GAC7B,OAAa,OAAT5/B,GACA0/B,GAAW,EACJ1/B,GAGAoP,GAAQ,SAGvB,OA
AIswB,EACO7wB,GAAeE,GAAW4wB,IAG1BpgC,GAzHYkgC,CAAmB3tC,EAAK0uB,WAG1C,CACD,IAAIyf,
EAAczxB,GAAS,IAAW1c,EAAKN,KAAO,gBAC9C25B,EAAsB1c,GAAWkT,GAAcwJ,qBAC/C+C+U,EAAkBD,E
ACjB7nC,IAAI+yB,EAAoB1qB,OAAO,CAAC3O,EAAKutC,mBAAgC1lC,GAAsB,IAC3FyK,WAAWtF,GAAe,C
AACviB,EAAQgoB,aAAa47B,SAAU5jD,EAAQgoB,aAAaC,QACpF0D,EAAWlpB,KAAKkhD,GAEhBZ,EAAW
W,EAAYx/B,OAAO,CAAC0+B,IAAEnC,IAAIiB,EAAgBd,EAChB7zB,EAAO,GACP40B,EAAU,KACd,SASC,E
AAuBC,GAC5B,IAEIC,EAFA3hD,EAAI2vB,GAAS,KAUjB,OATA/C,KAAKzsB,EAAE,EAAEuZ,IAAIiT,EAAIgoB,EAAIhoB,
AWnF,cAGvBo8B,EADkB,OAAlBJ,EACWvhD,EAAIuZ,IAAIiT,EAAIgoB,EAAIhoB,IAAIgoC,GAAeh9B,SAGrBqL,GAAWkT,GAAWwH,g
BAAgB1oB,OAAO,IAAI2C,SAEnEqI,EAAKzsB,EAAE,KAAKiwB,GAAOgwB,EAAG,CAACuB,GAAW,CAAC3hD,E
AAEuZ,IAAImoC,GAAan9B,YAC7CvkB,EAEX,GAAIugD,GAAoBttC,IASA,EAAK2uC,eAAiBtC,GAAsBuC,
QAAS,CAClF,IAAIC,EAAkBnyB,GAAS,IAAW1c,EAAKN,KAAO,gBAClD05B,EAAezc,GAAWkT,GAAcuJ,cA
C5C,GAAIp5B,SAAS8uC,SAASjhC,aAAa7N,EAAKutC,cAChC,MAAM,IAAI5/C,MAAM,6DAEpB,IAAIohD,E
AAsBF,EAAgBvoC,IAAI8yB,EAAazqB,OAAO,CAAC3O,EAAK8uC,YAAYx8B,WAAWtF,GAAe,CAC1GviB,E
AAQgoB,aAAa47B,SAAU5jD,EAAQgoB,aAAaC,QAExD0D,EAAWlpB,KAAK6hD,GAChBR,EAAUC,GAAWBR,C
AK,EAAgBlgC,OAAO,UAEvD,GAAI2+B,+B,GAAIoBttC,GAAOevC,EAAevB,GAAmBztC,,EAAKivC,,a
AAcjvC,EAAK0tC,SAAU1tC,,EAAK+6B,SAAWtwC,EAAQ6hD,gBAAgBngC,MAKhHoiB,EAAUC,,EAHQ,IAA
KxuC,EAAK2uC,eAAiBtC,GAAsB6C,MAC/DpgC,GACAF,IAAoB5O,EAAK8uC,SAAUE,SAQvCT,CT,EA4IR,SAA
SY,EAA4BnvC,GACjC,YA2B7H,EAAK2hB;;;;;;;OAlJHwtB,CAA4BnvC,GAEvDoiB,EAAUC,BxuC,E
AAK2hB,YAG5B6rB,EAQd,OALI7zB,EAAKzsB,KADO,OAAZqhD,EACUC,GAAW,EACU,IAAIn1B,GAAgBm1B,GAAgBpB5xB,
GAAWkT,GAAWwH,g,BAAgB1oB,OAAO,IAAI2C,UAE3D,CACH9mB,B,QAAS2O,GAAG,CAAC,IAAI+C,I+C,E
AAQ,IAAKpJ,KAAgB6M,EAAM3M,QAAQenF,EAAW7H,EAAKN,KAAO,gBAAYC,SAAS,EACZlI,II,KAAM6O,
GAAeJ,

D7e,OAAO7mB,OACWA,IAAlB7H,EAAKywC,WACL/hB,EAAO1uB,EAAKywC,UAIZjsC,OAFSqD,IAAT6mB
,EAESwe,GAAuB7hD,OAAO6c,OAAO7c,OAAO6c,OAAO,GAAIooC,GAAc,CAAExB,SAAU9uC,EAAKsuB,SA
AU2gB,aAAcvgB,EAAMigB,aAActC,GAAsB6C,SAE5JsB,EACItD,GAAuBoD,GAGvBI,GAAkB1wC,EAAKkO,
KAAKxhB,MAAOsT,EAAKsuB,eAKjD9pB,OAFqBqD,IAApB7H,EAAKyuB,gBACY5mB,IAAlB7H,EAAKywC
,SACIvD,GAAuB7hD,OAAO6c,OAAO7c,OAAO6c,OAAO,GAAIooC,GAAc,CAAExB,SAAU9uC,EAAKyuB,W
AAYwgB,aAAcjvC,EAAKywC,UAAY,GAAI9B,aAActC,GAAsB/hC,YAGzK,CACL8L,WAAY,GACZ5rB,QAA
S2oB,GAAG,GAAI,CAAC,IAAIiG,GAAgBpZ,EAAKyuB,WAAW9f,OAAO,aAI7C9G,IAAlB7H,EAAKuuB,SAI
D2e,GAAuB7hD,OAAO6c,OAAO7c,OAAO6c,OAAO,GAAIooC,GAAc,CAAE3uB,WAAY3hB,EAAKkuuB,iBAE
vE1mB,IAArB7H,EAAKwuB,YAED0e,GAAuB7hD,OAAO6c,OAAO7c,OAAO6c,OAAO,GAAIooC,GAAc,CAA
E3uB,WAAYhF,GAAW2H,GAAYyB,QAAQpX,OAAO,CAAC3O,EAAKwuB,iBAG/HkiB,GAAkB1wC,EAAKkO
,KAAKxhB,MAAOsT,EAAKutC,cAErD,IACIoD,EAAkB,CAAEnpC,MADZxH,EAAKutC,aACqB/C,QAASga,
EAAOha,SAOtD,OAL8B,OAA1BwV,EAAK4wC,WAAWlkD,QAChBikD,EAAgBC,WAAa5wC,EAAK4wC,WAAYI
/B,CACHjvB,WAHahF,GAAW2H,GAAY6B,oBAAoBxX,OAAO,CAACmhB,GAAmB6gB,KAInFziC,KAHO,IA
AI7B,GAAesQ,GAAW2H,GAAY8B,cAAe,CAAE4C4J,GAAK4kBkO,KAAKA,KAAMlO,EAAKovC,sBAI
zGh5B,WAAY5R,EAAO4R,YAG3B,SAASs6B,GAAkBxiC,EAAMq/B,GAAC7B,MAAO,CACHn3B,WAAY,GAIZ
5rB,QAAS0jB,EAAKiE,OAASo7B,EAAap7B,KAChCo7B,EAAa/zC,EAAOA,EAAa/zC,KAAK,QAClB2Z,GAAG,CAAC,IAAI+C,G
AAQ,IAAKpJ,KAAgB,CAAC,IAAIsM,GAAgBm0B,EAAa/+B,WAAW,OAAQ,CACkO,GAAS;;;;;;;OAWhH,S
AASm0B,GAAqBnsB,EAAYh4B,GACtC,GAAa,MAATA,,EAAJ,kBAAkB,MAAMyyB,QAAQvxB,GACf,MAAM,IAAIiB,MAAM,aAAe+2B,EAAa,gCAEhD,IAAK,IAAIp4B,EAAI,EAAGA,EAAII,EAAAMF,OAAQF,IAAK,CAAE,IAAIq4B,EAAOz3B,EAAAZ,GAAI,GAAA
AK,EACnC,GAAwB,iBAAbI,EAAMJ,GAAkB,MAAM,IAAIiB,MAAM,aAAe+2B,EAAa,kCAAuBxD,SAAW2nB,G
ACPA,EAAsBA,EAA6B,MAAI,GAAK,QAC5DA,EAAsBA,EAAgC,SAAI,GAAK,WAC/DA,EAA6B,EAAQ,IAAI,GAAK,UAAWlE,GAAK,UAAWA,EAAK,UAAWA,EAAK,UAAWA,E

AAI1tC,IACnBu5B,EAAU,GACVmT,EAAiB,GACrBhmD,MAAMinD,KAAKznD,KAAKwmD,eAAej1B,QAAQ/c,SAAQ,SAAU0vB,EAAK5iC,GAC1DkmD,EAAalsC,IAAI4oB,EAAK5iC,GACtB+xC,EAAQnxC,KAAKgiC,GACbsiB,EAAetkD,KAAKsR,EAAMgzC,eAAenrC,IAAI6oB,IAAQ,SAAEzD,IAAIwB,EAAW,EACXiB,EAAkB,EAAClBC,EAAkB,EAAClBC,EAAiB,EA0BrB,OAAzBA7nD,KAAKymD,MAAMjyC,SAAQ,GAAKymD,MAAMjyC,SAAQ,SAAUkyC,GAAQ,OAAOA,EAAKC,SAAS,IAAIC,OAAO,EAAG,KAAKC,KAAK,KAAO

sX,GACrCtvC,EAAIorC,UAMJ,IALA,IAAImE,EAAQvX,EAAKyV,SACb38B,EAAQknB,EAAKlnB,MACbw6B,EAAOtT,EAAKuV,OA9GT,KA8G+BxnD,OAClCypD,EAAU,EAEPA,EAAUD,EAAMxpD,SAAWwpD,EAAMC,IACpClE,GAAQx6B,EAAM0+B,EAAAsB,IAAZupD,GAA0B,IAAThE,EAC3C8D,GAAoBC,EAAGG,EAAUD,EAAMxpD,QAAQ,CAC3B,IAAIugD,EAAEOiJ,EAAMC,EAAGx6B,EAAMC,EAAMC,EAAMC

AAI2xB,MAAM3iC,EAAM,KAEpBA,EAAKY,SAAShB,gBAAgB5mB,KAAMg4B,GACpCA,EAAI2xB,MAAM
3iC,EAAM,IAAMA,EAAKtS,KAAO,OAClCsS,EAAKtlB,MAAMklB,gBAAgB5mB,KAAMg4B,GAC5B8zB,GA
CD9zB,EAAI2xB,MAAM3iC,EAAM,KAEb,MAEXykC,EAAuB3qD,UAAUonB,sBAAwB,SAAUlB,EAAMgR,G
ACrEhR,EAAKY,SAAShB,gBAAgB5mB,KAAMg4B,GACpC,IAAItjB,EAAOsS,EAAKtS,KAChB,OAAoB,MA
AhBsS,EAAKN,SAEO,OADZhS,EAAO1U,KAAK+rD,qBAAqB/kC,EAAKN,YAM1CsR,EAAI2xB,MAAM3iC,E
AAM,IAAMtS,EAAO,KAC7B1U,KAAKgwB,oBAAoBhJ,EAAKtI,KAAMsZ,EAAK,KACzCA,EAAI2xB,MAAM
3iC,EAAM,MALD,MAQnBykC,EAAuB3qD,UAAUsnB,wBAA0B,SAAUpB,EAAMgR,GAKvE,mB,GAAGvB,gBAAgB5mB,KAAMg4B,GAAKhR,EAAKN,SAAWsR,EAAI2xB,MAAM3iC,EAAM,KAChBhnB,KAAKgwB,o
BhJ,EAAKtI,KAAMsZ,EAAK,KACzCA,EAAI2xB,MAAM3iC,EAAM,KACT,MAEXykC,EAAuB3qD,UAAUs
mB,qBAAuB,SAAU2I,EAAKiI,GACnE,MAAM,IAAIr1B,MAAM,mDAEpB8oD,EAAuB3qD,UAAUmmB,gBAA
kB,SAAUD,EAAMgR,GAAKhR,EAAKN,SAAWsR,EAAI2xB,MAAM3iC,EAAM,KAAMA,EAAKN,SAAWsR,EAAI
g4B,IAEpCyzB,EAAuB3qD,UAAU+lB,iBAAmB,SAAUkB,EAAKiI,GAAKjI,EAAIrB,SAAWsJ,EAAI2xB,MAAM
GAAmB,MAAfqb,EAAIrJ,QACJ,OAAQqJ,EAAIrJ,SACR,KAAKjnB,EAAQujB,WAAW2J,MACpBq/B,EAAU,Q
ACV,MACJ,KAAKvsD,EAAQujB,WAAW0J,KACpBs/B,EAAU,OACV,MACJ,KAAKvsD,EAAQujB,WAAW4J,
WACpBo/B,EAAUnD,GAAkBn0C,KAC5B5B,MACJ,KAAKjV,EAAQujB,WAAW6J,MACpBm/B,EAAUlD,GAAk
Bp0C,KAC5B5B,MACJ,QACI,MAAM,IAAI/R,MAAM,4BAA8BotB,EAAIrJ,SAI9D,OADAsR,EAAI2xB,MAAM55
B,EAAKi8B,GACR,MAEXP,EAAuB3qD,UAAUwnB,qBAAuB,SAAUyI,EAAKiI,GAAKjI,EAAIrB,SAAWsJ,EAAI2xB,
MAAM55B,EAAK,QACfA,EAAI1H,UAAUzB,gBAAgB5mB,KAAMg4B,GAAKhR,EAAKN,SAAWsR,EAAI2xB,MAAM55B,EAA
K,KACf/vB,KAAKgwB,oBAAoBD,EAAIrR,KAAMsZ,EAAK,KACxCA,EAAI2xB,MAAM55B,EAAK,KACR

AM55B,EAAK,KACnBA,EAAIrE,IAAI9E,gBAAgB5mB,KAAMg4B,GAC9BA,EAAI2xB,MAAM55B,EAAK,IA
AMo8B,EAAQ,KAC7Bp8B,EAAI3L,IAAIwC,gBAAgB5mB,KAAMg4B,GAC1BjI,EAAIxK,QACJyS,EAAI2xB,
MAAM55B,EAAK,KACZ,MAEX07B,EAAuB3qD,UAAU8qB,kBAAoB,SAAUmE,EAAKiI,GAIhE,OAHAjI,EA
AInI,SAAShB,gBAAgB5mB,KAAMg4B,GACnCA,EAAI2xB,MAAM55B,EAAK,KACfiI,EAAI2xB,MAAM55B,
EAAKA,EAAIrb,MACZ,MAEX+2C,EAAuB3qD,UAAU+qB,iBAAmB,SAAUkE,iBAAKiI,EAAKiI,GAK/D,OAJAjI,EAAI
nI,SAAShB,gBAAgB5mB,KAAMg4B,GACnCA,EAAI2xB,MAAM55B,EAAK,KACfA,EAAIzM,MAAM,EAAIzM,
AgB5mB,KAAMg4B,GAChCA,EAAI2xB,MAAM55B,EAAK,KACR,MAEX07B,EAAuB3qD,UAAUmrB,sBAAA
wB,SAAU8D,EAAKiI,GAIpE,OAHAA,EAAI2xB,MAAM55B,EAAK,KACf/vB,KAAKgwB,oBAAoBD,EAAIhE,
QAASiM,EAAK,KAC3CA,EAAI2xB,MAAM55B,EAAK,KACR,MAEX07B,EAAuB3qD,UAAUurB,oBAAsB,S
AAU0D,EAAKiI,GAClE,IAAIxkB,EAAQxT,KAAOZ,OANAg4B,EAAI2xB,MAAM55B,EAAK,KACf/vB,KAAKo
sD,iBAAgB,SAAUl8B,GAC3B8H,EAAI2xB,MAAM55B,EAAK,k8B,GAAiB/7B,EAAM7M,IAAK7P,EAAMk4C,
uBAAwBx7B,EAAM/D,QAAU,KACzF+D,xuB,MAAMklB,gBAAgBpT,EAAOwkB,KACpCjI,EAAIhE,Q
AASiM,EAAK,KACrBA,EAAI2xB,MAAM55B,EAAK,KACR,MAEX07B,EAAuB3qD,UAAU0rB,eAAiB,SAAU
uD,EAAKiI,GAI7D,OAHAA,EAAI2xB,MAAM55B,EAAK,KACf/vB,KAAKgwB,oBAAoBD,EAAIxD,MAAOyL
,EAAK,KACzCA,EAAI2xB,MAAM55B,EAAK,KACR,MAEX07B,EAAuB3qD,UAAUkvB,oBAAsB,SAAUhH
EAAagP,EAAKq0B,GAC/E,IAAI74C,EAAQxT,KAAOZ,OAAOosD,iBAAgB,SAAUplC,GAAGA,EAAIzM,MAAM,EAAIzM,
gBAAgBpT,EAAOwkB,KAAShP,EAAIzM,MAAM,EAAIzM,MAAMyb,EAAIzM,MAAM,EAAIzM,MAAMyb,EAAIzM,MAAM,EAAIzM,MAAMyb

EtB0+B,EAAyB3rD,UAAUsmB,qBAAuB,SAAU2I,EAAKiI,GACrE,MAAM,IAAIr1B,MAAM,iDAEpB8pD,EAAyB3rD,UAAU+lB,iBAAmB,SAAUkJ,EAAKiI,GACjE,GAAIjI,EAAIrJ,UAAYjnB,EAAQujB,WAAW0J,KAAcnCsL,EAAI2xB,MAAM55B,EAAK,YAEd,CAAA,GAAIA,EAAIrJ,UAAYjnB,EAAQujB,WAAW2J,MAAcxC,MAAM,IAAIhqB,MAAM,gFAGhBqe,EAAOlgB,UAAU+lB,iBAAiBtlB,KAAKvB,KAAM+vB,EAAKiI,GAAEtD,OAAO,MAEXy0B,EAAyB3rD,UAAUmtB,oBAAsB,SAAUF,EAAKF,GAAUF,EAAKI,EAAKF,GAAWE,EAAIF,UAAYA,EAAUE,EAAIC,YAAcH,EAAUG,YAAaD,EAAIF,UAAUI,YAAcD,EAAIC,YAAaD,EAAIF,UAAUK,YAAcH,EAAIF,UAAUM,YAAcJ,EAAIF,UAAUO,YAAcL,EAAIF,UAAUQ,YAAcN,EAAIF,UAAUS,YAAcP,EAAIF,UAAUU,YAAcR,EAAIF,UAAUW,YAAcT,EAAIF,UAAUY,YAAcV,EAAIF,UAAUa,YAAcX,EAAIF,UAAUc,YAAcZ,EAAIF,UAAUe,YAAcb,EAAIF,UAAUgB,YAAcd,EAAIF,UAAUiB,YAAcf,EAAIF,UAAUkB,YAAchB,EAAIF,UAAUmB,YAAcjB,EAAIF,UAAUoB,YAAclB,EAAIF,UAAUqB,YAAcnB,EAAIF,UAAUsB,YAAcpB,EAAIF,UAAUuB,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyB,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0B,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2B,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4B,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6B,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8B,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+B,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyC,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0C,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2C,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4C,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6C,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8C,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+C,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyD,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0D,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2D,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4D,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6D,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8D,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+D,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyE,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0E,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2E,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4E,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6E,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8E,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+E,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyF,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0F,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2F,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4F,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6F,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8F,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+F,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyG,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0G,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2G,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4G,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6G,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8G,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+G,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyH,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0H,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2H,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4H,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6H,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8H,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+H,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyI,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0I,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2I,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4I,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6I,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8I,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+I,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyJ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0J,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2J,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4J,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6J,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8J,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+J,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyK,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0K,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2K,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4K,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6K,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8K,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+K,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyL,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0L,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2L,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4L,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6L,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8L,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+L,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyM,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0M,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2M,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4M,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6M,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8M,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+M,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyN,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0N,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2N,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4N,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6N,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8N,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+N,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyO,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0O,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2O,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4O,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6O,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8O,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+O,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyP,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0P,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2P,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4P,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6P,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8P,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+P,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyQ,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0Q,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2Q,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4Q,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6Q,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8Q,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+Q,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyR,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0R,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2R,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4R,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6R,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8R,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+R,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyS,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0S,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2S,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4S,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6S,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8S,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+S,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyT,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0T,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2T,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4T,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6T,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8T,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+T,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyU,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0U,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2U,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4U,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6U,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8U,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+U,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUkV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUmV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUoV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUqV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUsV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUuV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUwV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUyV,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU0V,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU2V,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU4V,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU6V,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU8V,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAU+V,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUgW,YAAcrB,EAAIF,UAAUwB,YAAcrB,EAAIH,EAAIF,UAAUiW,YAAcrB,EAA

,qBAAqB1D,EAAWoH,GAAajG,cAEtE,IAAIhgC,EAAK,IAAK7I,SAAS6uC,KAAKzuC,MAAMJ,SAAUld,EAAAS,MAAC,GAAS2rD,EAAAWzrD,OAAOwrD,MACjF,OAAO9tD,KAAKquD,gBAAgBlmC,EAAAI6lC,IAYpCb,EAAArsD,UAAUutD,gBAAkB,SAAUlmC,EAAAIzlC,GAACnD,OAAOyJ,EAAAGzI,WAAM,EAAAQtd,EAASsc,KAE9ByuC,EAArEsB,GA0E7BI,GAAmC,SAAUvsC,EAAAE7C,SAASusC,EAAAkB3zB,GACvB,EAAAkwN,EAAAOzf,KAAAKvB,EAAAkBvsC,EAAAE7C,SAASusC,EAAAkB3zB,G

szC,MAAQA,EACbtzC,KAAK4zC,IAAMA,EACX5zC,KAAKowD,UAAYA,EACjBpwD,KAAKqwD,QAAUA,EAKnB,OAHAF,EAAgBrvD,UAAU2Y,SAAW,WACjC,OAAOzZ,KAAKszC,MAAMC,KAAK3B,QAAQxc,UAAUp1B,KAAKszC,MAAM6b,OAAQnvD,KAAK4zC,IAAIub,SAAElEgB,EAAnCyB,IAAqCzBlB,GAAGRxvD,EAAAQwvD,kBAAAoBxvD,EAAAQwvD,gBAAAkB,KAFrCA,GAAAyB,QAAAI,GAAAK,UAAClDA,GAAAgBA,GAAAuB,MAAAI,GAAAK,QAAEpD,IAAAIqB,GAA4B,WAC5B,SAASA,EAAWvO,EAAAMztB,EAAAKi8B,QACCb,IAAVA,EAAsB,GAAIA,EAAAA,EAAAA,EAAA

,CAChCxtC,KAAMM,EAAKN,KACXwO,KAAMlO,EAAKkO,KACXq/B,aAAcvtC,EAAKutC,aACnB6B,kBAA
mB,EACnB1gB,KAAM1uB,EAAK0uB,KACXgf,SAAU7d,GAAc9J,OACxBgV,OAAQtwC,EAAQ6hD,gBAAgBv
f,WAEhCmwB,EAAgB,CAChB1yD,QAASga,EAAOha,SAUpB,OARuB,OAAnBwV,EAAKirB,YACLiyB,EAAcj
yB,UAAYjrB,EAAKirB,WAE/BjrB,EAAK88C,QAAQtwD,OAAS,IACtB0wD,EAAcJ,QAAU7/B,GAAAWjd,EAA
K88C,UAIrC,CAAEn7B,WAFQhF,GAAWkT,GAAcqI,gBAAgBvpB,OAAO,CAACmhB,GAAmBotB,KAEpDhvC
,KADtB,IAAI7B,GAAesQ,GAAWkT,GAAcoI,YAAa,CAAC,IAAI5rB,GAAerM,EAAKkO,KAAKA,SACrDkI,W
AAY5R,EAAO4R,YA6BpE,SAASsnC,GAAYlgC,GACjB,IAAIogC,GAAAQiB,GAAAI,GAAAW,GAAAI,GAAAW,GAAAI,GAAAW

,EAAY3zD,UAAUkuC,MAAQ,SAAU9tB,EAASC,GAE7C,YADgB,IAAZA,IAAsBA,EAAU,MAC7BD,EAAQ0z
C,iBAAiB50D,KAAMmhB,IAEnCszC,EAbqB,CAc9Bd,IACEkB,GAA8B,SAAU7zC,GAExC,SAAS6zC,EAAa9S,
EAAM5+B,EAAY0wC,EAAUjsC,EAAUlT,GACxD,IAAIlB,EAAQwN,EAAOzf,KAAKvB,KAAM+hD,EAAM5+
B,EAAY0wC,IAAa7zD,KAG7D,OAFAwT,EAAMoU,SAAWA,EACjBpU,EAAMkB,KAAOA,EACNlB,EAAMm
OAXA7S,EAAUk0D,EAAc7zC,GAOxB6zC,EAAa/zD,UAAUkuC,MAAQ,SAAU9tB,EAASC,GAE9C,YADgB,IA
AZA,IAAsBA,EAAU,MAC7BD,EAAQ4zC,kB90D,KAAMmhB,IAEpC0zC,EAZsB,CAa/BjB,IACEmB,GA
A+B,SAAU/zC,GAEzC,SAAS+zC,EAAchT,EAAM5+B,EAAY0wC,EAAUjsC,EAAUlT,GAC/D,IAAIl8
R,EAAQwN,EAAOzf,KAAKvB,KAAM+hD,EAAM5+B,EAAY0wC,IAAa7zD,KAI7D,OAHAwT,EAAMoU,SAA
WA,EACjBpU,EAAMkB,KAAOA,EACNlB,EAAMm9R,EAAQ,EAAGC,EAAQ,EAAGC,EAAQ,EAAGC

Q,SAAU9tB,EAASC,GAExC,YADgB,IAAZA,IAAsBA,EAAU,MAC7BD,EAAQm1C,YAAYr2D,KAAMmhB,IAE9B80C,EAbgB,CAczBtC,IAME2C,GAAuB,SAAUt1C,GAMjC,SASs1C,EAAMvU,EAAM5+B,EAAYqI,EAAAUxE,EAAMuvC,EAAUC,EAAYC,GACnE,IAAIjjD,EAAQwN,EAAOzf,KAAKvB,KAAM+hD,EAAM5+B,EAAYoz C,EAAUC,EAAYC,IAAgBz2D,KAAGtF,OAFAwT,EAAMgY,SAAWA,EACjBhY,EAAMwT,KAAOA,EAAMxT,EAAMuT,OAASA,EAAQvT,EAAMyT,IAAMA,EAAKzT,EAAMqT,KAAOA,EAAMrT,EAAMsT,MAAQA,EAAOtT,EAAMoT,OAASA,EAAQpT,EAAMkT,IAAMA,EAAKlT,EAAMmT,MAAQA,EAAOnT,EAAMiT,KAAOA,EAAMjT,EAAMgT,MAAQA,EAAOhT,EAAM+S,OAASA,EAAQ/S,EAAM8S,IAAMA,EAAK9S,EAAM6S,MAAQA,EAAO7S,EAAM4S,KAAOA,EAAM5S,EAAM2S,MAAQA,EAAO3S,EAAM0S,OAASA,EAAQ1S,EAAMyS,IAAMA,EAAKzS,EAAMwS,MAAQA,EAAOxS,EAAMuS,KAAOA,EAAMvS,EAAMsS,MAAQA,EAAOtS,EAAMqS,OAASA,EAAQrS,EAAMoS,IAAMA,EAAKpS,EAAMmS,MAAQA,EAAOnS,EAAMkS,KAAOA,EAAMlS,EAAMiS,MAAQA,EAAOjS,EAAMgS,OAASA,EAAQhS,EAAM+R,IAAMA,EAAK/R,EAAM8R,MAAQA,EAAO9R,EAAM6R,KAAOA,EAAM7R,EAAM4R,MAAQA,EAAO5R,EAAM2R,OAASA,EAAQ3R,EAAM0R,IAAMA,EAAK1R,EAAMyR,MAAQA,EAAOzR,EAAMwR,KAAOA,EAAMxR,EAAMuR,MAAQA,EAAOvR,EAAMsR,OAASA,EAAQtR,EAAMqR,IAAMA,EAAKrR,EAAMoR,MAAQA,EAAOpR,EAAMmR,KAAOA,EAAMnR,EAAMkR,MAAQA,EAAOlR,EAAMiR,OAASA,EAAQjR,EAAMgR,IAAMA,EAAKhR,EAAM+Q,MAAQA,EAAO/Q,EAAM8Q,KAAOA,EAAM9Q,EAAM6Q,MAAQA,EAAO7Q,EAAM4Q,OAASA,EAAQ5Q,EAAM2Q,IAAMA,EAAK3Q,EAAM0Q,MAAQA,EAAO1Q,EAAMyQ,KAAOA,EAAMzQ,EAAMwQ,MAAQA,EAAOxQ,EAAMuQ,OAASA,EAAQvQ,EAAMsQ,IAAMA,EAAKtQ,EAAMqQ,MAAQA,EAAOrQ,EAAMoQ,KAAOA,EAAMpQ,EAAMmQ,MAAQA,EAAOnQ,EAAMkQ,OAASA,EAAQlQ,EAAMiQ,IAAMA,EAAKjQ,EAAMgQ,MAAQA,EAAOhQ,EAAM+P,KAAOA,EAAM/P,EAAM8P,MAAQA,EAAO9P,EAAM6P,OAASA,EAAQ7P,EAAM4P,IAAMA,EAAK5P,EAAM2P,MAAQA,EAAO3P,EAAM0P,KAAOA,EAAM1P,EAAMyP,MAAQA,EAAOzP,EAAMwP,OAASA,EAAQxP,EAAMuP,IAAMA,EAAKvP,EAAMsP,MAAQA,EAAOtP,EAAMqP,KAAOA,EAAMrP,EAAMoP,MAAQA,EAAOpP,EAAMmP,OAASA,EAAQnP,EAAMkP,IAAMA,EAAKlP,EAAMiP,MAAQA,EAAOjP,EAAMgP,KAAOA,EAAMhP,EAAM+O,MAAQA,EAAO/O,EAAM8O,OAASA,EAAQ9O,EAAM6O,IAAMA,EAAK7O,EAAM4O,MAAQA,EAAO5O,EAAM2O,KAAOA,EAAM3O,EAAM0O,MAAQA,EAAO1O,EAAMyO,OAASA,EAAQzO,EAAMwO,IAAMA,EAAKxO,EAAMuO,MAAQA,EAAOvO,EAAMsO,KAAOA,EAAMtO,EAAMqO,MAAQA,EAAOrO,EAAMoO,OAASA,EAAQpO,EAAMmO,IAAMA,EAAKnO,EAAMkO,MAAQA,EAAOlO,EAAMiO,KAAOA,EAAMjO,EAAMgO,MAAQA,EAAOhO,EAAM+N,OAASA,EAAQ/N,EAAM8N,IAAMA,EAAK9N,EAAM6N,MAAQA,EAAO7N,EAAM4N,KAAOA,EAAM5N,EAAM2N,MAAQA,EAAO3N,EAAM0N,OAASA,EAAQ1N,EAAMyN,IAAMA,EAAKzN,EAAMwN,MAAQA,EAAOxN,EAAMuN,KAAOA,EAAMvN,EAAMsN,MAAQA,EAAOtN,EAAMqN,OAASA,EAAQrN,EAAMoN,IAAMA,EAAKpN,EAAMmN,MAAQA,EAAOnN,EAAMkN,KAAOA,EAAMlN,EAAMiN,MAAQA,EAAOjN,EAAMgN,OAASA,EAAQhN,EAAM+M,IAAMA,EAAK/M,EAAM8M,MAAQA,EAAO9M,EAAM6M,KAAOA,EAAM7M,EAAM4M,MAAQA,EAAO5M,EAAM2M,OAASA,EAAQ3M,EAAM0M,IAAMA,EAAK1M,EAAMyM,MAAQA,EAAOzM,EAAMwM,KAAOA,EAAMxM,EAAMuM,MAAQA,EAAOvM,EAAMsM,OAASA,EAAQtM,EAAMqM,IAAMA,EAAKrM,EAAMoM,MAAQA,EAAOpM,EAAMmM,KAAOA,EAAMnM,EAAMkM,MAAQA,EAAOlM,EAAMiM,OAASA,EAAQjM,EAAMgM,IAAMA,EAAKhM,EAAM+L,MAAQA,EAAO/L,EAAM8L,KAAOA,EAAM9L,EAAM6L,MAAQA,EAAO7L,EAAM4L,OAASA,EAAQ5L,EAAM2L,IAAMA,EAAK3L,EAAM0L,MAAQA,EAAO1L,EAAMyL,KAAOA,EAAMzL,EAAMwL,MAAQA,EAAOxL,EAAMuL,OAASA,EAAQvL,EAAMsL,IAAMA,EAAKtL,EAAMqL,MAAQA,EAAOrL,EAAMoL,KAAOA,EAAMpL,EAAMmL,MAAQA,EAAOnL,EAAMkL,OAASA,EAAQlL,EAAMiL,IAAMA,EAAKjL,EAAMgL,MAAQA,EAAOhL,EAAM+K,KAAOA,EAAM/K,EAAM8K,MAAQA,EAAO9K,EAAM6K,OAASA,EAAQ7K,EAAM4K,IAAMA,EAAK5K,EAAM2K,MAAQA,EAAO3K,EAAM0K,KAAOA,EAAM1K,EAAMyK,MAAQA,EAAOzK,EAAMwK,OAASA,EAAQxK,EAAMuK,IAAMA,EAAKvK,EAAMsK,MAAQA,EAAOtK,EAAMqK,KAAOA,EAAMrK,EAAMoK,MAAQA,EAAOpK,EAAMmK,OAASA,EAAQnK,EAAMkK,IAAMA,EAAKlK,EAAMiK,MAAQA,EAAOjK,EAAMgK,KAAOA,EAAMhK,EAAM+J,MAAQA,EAAO/J,EAAM8J,OAASA,EAAQ9J,EAAM6J,IAAMA,EAAK7J,EAAM4J,MAAQA,EAAO5J,EAAM2J,KAAOA,EAAM3J,EAAM0J,MAAQA,EAAO1J,EAAMyJ,OAASA,EAAQzJ,EAAMwJ,IAAMA,EAAKxJ,EAAMuJ,MAAQA,EAAOvJ,EAAMsJ,KAAOA,EAAMtJ,EAAMqJ,MAAQA,EAAOrJ,EAAMoJ,OAASA,EAAQpJ,EAAMmJ,IAAMA,EAAKnJ,EAAMkJ,MAAQA,EAAOlJ,EAAMiJ,KAAOA,EAAMjJ,EAAMgJ,MAAQA,EAAOhJ,EAAM+I,OAASA,EAAQ/I,EAAM8I,IAAMA,EAAK9I,EAAM6I,MAAQA,EAAO7I,EAAM4I,KAAOA,EAAM5I,EAAM2I,MAAQA,EAAO3I,EAAM0I,OAASA,EAAQ1I,EAAMyI,IAAMA,EAAKzI,EAAMwI,MAAQA,EAAOxI,EAAMuI,KAAOA,EAAMvI,EAAMsI,MAAQA,EAAOtI,EAAMqI,OAASA,EAAQrI,EAAMoI,IAAMA,EAAKpI,EAAMmI,MAAQA,EAAOnI,EAAMkI,KAAOA,EAAMlI,EAAMiI,MAAQA,EAAOjI,EAAMgI,OAASA,EAAQhI,EAAM+H,IAAMA,EAAK/H,EAAM8H,MAAQA,EAAO9H,EAAM6H,KAAOA,EAAM7H,EAAM4H,MAAQA,EAAO5H,EAAM2H,OAASA,EAAQ3H,EAAM0H,IAAMA,EAAK1H,EAAMyH,MAAQA,EAAOzH,EAAMwH,KAAOA,EAAMxH,EAAMuH,MAAQA,EAAOvH,EAAMsH,OAASA,EAAQtH,EAAMqH,IAAMA,EAAKrH,EAAMoH,MAAQA,EAAOpH,EAAMmH,KAAOA,EAAMnH,EAAMkH,MAAQA,EAAOlH,EAAMiH,OAASA,EAAQjH,EAAMgH,IAAMA,EAAKhH,EAAM+G,MAAQA,EAAO/G,EAAM8G,KAAOA,EAAM9G,EAAM6G,MAAQA,EAAO7G,EAAM4G,OAASA,EAAQ5G,EAAM2G,IAAMA,EAAK3G,EAAM0G,MAAQA,EAAO1G,EAAMyG,KAAOA,EAAMzG,EAAMwG,MAAQA,EAAOxG,EAAMuG,OAASA,EAAQvG,EAAMsG,IAAMA,EAAKtG,EAAMqG,MAAQA,EAAOrG,EAAMoG,KAAOA,EAAMpG,EAAMmG,MAAQA,EAAOnG,EAAMkG,OAASA,EAAQlG,EAAMiG,IAAMA,EAAKjG,EAAMgG,MAAQA,EAAOhG,EAAM+F,KAAOA,EAAM/F,EAAM8F,MAAQA,EAAO9F,EAAM6F,OAASA,EAAQ7F,EAAM4F,IAAMA,EAAK5F,EAAM2F,MAAQA,EAAO3F,EAAM0F,KAAOA,EAAM1F,EAAMyF,MAAQA,EAAOzF,EAAMwF,OAASA,EAAQxF,EAAMuF,IAAMA,EAAKvF,EAAMsF,MAAQA,EAAOtF,EAAMqF,KAAOA,EAAMrF,EAAMoF,MAAQA,EAAOpF,EAAMmF,OAASA,EAAQnF,EAAMkF,IAAMA,EAAKlF,EAAMiF,MAAQA,EAAOjF,EAAMgF,KAAOA,EAAMhF,EAAM+E,MAAQA,EAAO/E,EAAM8E,OAASA,EAAQ9E,EAAM6E,IAAMA,EAAK7E,EAAM4E,MAAQA,EAAO5E,EAAM2E,KAAOA,EAAM3E,EAAM0E,MAAQA,EAAO1E,EAAMyE,OAASA,EAAQzE,EAAMwE,IAAMA,EAAKxE,EAAMuE,MAAQA,EAAOvE,EAAMsE,KAAOA,EAAMtE,EAAMqE,MAAQA,EAAOrE,EAAMoE,OAASA,EAAQpE,EAAMmE,IAAMA,EAAKnE,EAAMkE,MAAQA,EAAOlE,EAAMiE,KAAOA,EAAMjE,EAAMgE,MAAQA,EAAOhE,EAAM+D,OAASA,EAAQ/D,EAAM8D,IAAMA,EAAK9D,EAAM6D,MAAQA,EAAO7D,EAAM4D,KAAOA,EAAM5D,EAAM2D,MAAQA,EAAO3D,EAAM0D,OAASA,EAAQ1D,EAAMyD,IAAMA,EAAKzD,EAAMwD,MAAQA,EAAOxD,EAAMuD,KAAOA,EAAMvD,EAAMsD,MAAQA,EAAOtD,EAAMqD,OAASA,EAAQrD,EAAMoD,IAAMA,EAAKpD,EAAMmD,MAAQA,EAAOnD,EAAMkD,KAAOA,EAAMlD,EAAMiD,MAAQA,EAAOjD,EAAMgD,OAASA,EAAQhD,EAAM+C,IAAMA,EAAK/C,EAAM8C,MAAQA,EAAO9C,EAAM6C,KAAOA,EAAM7C,EAAM4C,MAAQA,EAAO5C,EAAM2C,OAASA,EAAQ3C,EAAM0C,IAAMA,EAAK1C,EAAMyC,MAAQA,EAAOzC,EAAMwC,KAAOA,EAAMxC,EAAMuC,MAAQA,EAAOvC,EAAMsC,OAASA,EAAQtC,EAAMqC,IAAMA,EAAKrC,EAAMoC,MAAQA,EAAOpC,EAAMmC,KAAOA,EAAMnC,EAAMkC,MAAQA,EAAOlC,EAAMiC,OAASA,EAAQjC,EAAMgC,IAAMA,EAAKhC,EAAM+B,MAAQA,EAAO/B,EAAM8B,KAAOA,EAAM9B,EAAM6B,MAAQA,EAAO7B,EAAM4B,OAASA,EAAQ5B,EAAM2B,IAAMA,EAAK3B,EAAM0B,MAAQA,EAAO1B,EAAMyB,KAAOA,EAAMzB,EAAMwB,MAAQA,EAAOxB,EAAMuB,OAASA,EAAQvB,EAAMsB,IAAMA,EAAKtB,EAAMqB,MAAQA,EAAOrB,EAAMoB,KAAOA,EAAMpB,EAAMmB,MAAQA,EAAOnB,EAAMkB,OAASA,EAAQlB,EAAMiB,IAAMA,EAAKjB,EAAMgB,MAAQA,EAAOhB,EAAMe,KAAOA,EAAMf,EAAMc,MAAQA,EAAOd,EAAMa,OAASA,EAAQb,EAAMY,IAAMA,EAAKZ,EAAMW,MAAQA,EAAOX,EAAMU,KAAOA,EAAMV,EAAMS,MAAQA,EAAOT,EAAMQ,OAASA,EAAQR,EAAMO,IAAMA,EAAKP,EAAMM,MAAQA,EAAON,EAAMK,KAAOA,EAAML,EAAMI,MAAQA,EAAOJ,EAAMG,OAASA,EAAQH,EAAMF,IAAMA,EAAKE,EAAMD,MAAQA,EAAOC,EAAMA,KAAOA,EAAMA,EAAMH,MAAQA,EAAOG,EAAMJ,OAASA,EAAQI,EAAMC,IAAMA,EAAKD,EAAMF,MAAQA,EAAOE,EAAMH,KAAOA,EAAMG,EAAMA,MAAQA,EAAOA

AAoB1vB,UAAU8zD,iBAAmB,SAAU7kC,EAAK5O,GAC5DnhB,KAAKgvC,MAAMjf,EAAIpF,UAAWxJ,GAC
1BnhB,KAAKgvC,MAAMjf,EAAI2kC,QAASvzC,GACxBnhB,KAAKgvC,MAAMjf,EAAI4kC,SAAUxzC,IAE7B
qP,EAAoB1vB,UAAU00D,UAAY,SAAUzlC,EAAK5O,GACrDnhB,KAAKgvC,MAAMjf,EAAIyC,IAAKrR,GAC
pBnhB,KAAK8xC,SAAS/hB,EAAIrR,KAAMyC,IAE5BqP,EAAoB1vB,UAAUw2D,kBAAoB,SAAUvnC,EAAK5O
O,GACzD4O,EAAIggB,QACJ/vC,KAAKgvC,MAAMjf,EAAIggB,OAAQ5uB,GAE3BnhB,KAAK8xC,SAAS/hB,
EAAIrR,KAAMyC,IAE5BqP,EAAoB1vB,UAAUszD,sBAAwB,SAAUrkC,EAAK5O,KACrEqP,EAAoB1vB,UAA
UwzD,kBAAoB,SAAUvkC,EAAK5O,KACjEqP,EAAoB1vB,UAAUk1D,mBAAqB,SAAUjmC,EAAK5O,GAC9D
nhB,KAAK8xC,SAAS/hB,EAAI/G,YAAa7H,IAEnCqP,EAAoB1vB,UAAUs0D,eAAiB,SAAUrlC,EAAK5O,GAC
1DnhB,KAAKgvC,MAAMjf,EAAIlQ,IAAKsB,GACpBnhB,KAAKgvC,MAAMjf,EAAI1M,IAAKlC,IAExBqP,EA
AoB1vB,UAAUw0D,gBAAkB,SAAUvlC,EAAK5O,GAC3DnhB,KAAKgvC,MAAMjf,EAAIlQ,IAAKsB,GACpB
nhB,KAAKgvC,MAAMjf,EAAI1M,IAAKlC,GACpBnhB,KAAKgvC,MAAMjf,EAAIruB,IAAKyf,IAE1BqP,EA
AoB1vB,UAAU80D,kBAAoB,SAAU7lC,EAAK5O,GAC7DnhB,KAAK8xC,SAAS/hB,EAAI/G,YAAa7H,IAEnCq
P,EAAoB1vB,UAAUg1D,gBAAkB,SAAU/lC,EAAK5O,GAC3DnhB,KAAK8xC,SAAS/hB,EAAIsQ,IAAKlf,GA
E9BqP,EAAoB1vB,UAAU40D,sBAAwB,SAAU3lC,EAAK5O,KACrEqP,EAAoB1vB,UAAUo2D,gBAAkB,SAA
UnnC,EAAK5O,GAC3DnhB,KAAKgvC,MAAMjf,EAAIlI,IAAKsZ,GACzBnhB,KAAK8xC,SAAS/hB,EAAIrR,KAAMyC,IA
AIrR,KAAMyC,IAE5BqP,EAAoB1vB,UAAUg2D,eAAiB,SAAU/mC,EAAK5O,GAC1DnhB,KAAKgvC,MAAMjf,EA
AI4G,WAAYxV,IAE/BqP,EAAoB1vB,UAAUk2D,mBAAqB,SAAUjnC,EAAK5O,GAC9DnhB,KAAKgvC,MAAMjf,EAAI
Mjf,EAAI4G,WAAYxV,IAE/BqP,EAAoB1vB,UAAUg0D,gBAAkB,SAAU/kC,EAAK5O,GAC3DnhB,KAAK8xC,SAAS/hB,EAAIsQ,IAAKlf,GA
,MAAMjf,EAAIlI,IAAKsZ,GACzBnhB,KAAKgvC,MAAMjf,EAAIlI,IAAKsZ,GAE7BqP,EAAoB1vB,UAAUk0D,kBAAoB,SAAUjlC,EAAK5O,GAC7DnhB,KAAK8xC,SAAS/hB,EAAIrR,KAAMyC,IA
KgvC,MAAMjf,EAAIlI,IAAKsZ,GACzBnhB,KAAKgvC,MAAMjf,EAAIruB,IAAKyf,IAE1BqP,EAAoB1vB,UAAUo0D,sBAAwB,SAAUnlC,EAAK5O,GACjEnhB,KAAKgvC,MAAMjf,EAAIruB,IAAKyf,IAE1BqP,EAAoB1vB,UAAUs2D,eAAiB,SAAUrnC,EAAK5O,GAC1DnhB,KAAKgvC,MAAMjf,EAAIlI,IAAKsZ,GACzBnhB,KAAK8xC,SAAS/hB,EAAIrR,KAAMyC,IA
Uo0D,sBAAwB,SAAUnlC,EAAK5O,GACjEnhB,KAAKgvC,MAAMjf,EAAIruB,IAAKyf,IAE1BqP,EAAoB1vB,UAAUu2D,eAAiB,SAAUtnC,EAAK5O,GAC1DnhB,KAAKgvC,MAAMjf,EAAIlI,IAAKsZ,GACzBnhB,KAAK8xC,SAAS/hB,EAAIrR,KAAMyC,IA
Us2D,oBAAsB,SAAUrnC,EAAK5O,GAC/DnhB,KAAKgvC,MAAMjf,EAAIlI,IAAKsZ,GACzBnhB,KAAK8xC,SAAS/hB,EAAIrR,KAAMyC,IA
AK8xC,SAAS/hB,EAAIrR,KAAMyC,IAE5BqP,EAAoB1vB,UAAUmzD,kBAAoB,SAAUllC,EAAK5O,GAC7DnhB,KAAK8xC,SAAS/hB,EAAIrR,KAAMyC,IA
EAAoB1vB,UAAUgxC,SAAW,SAAU+lB,EAAK12D,GAAMA,EAAG02D,EAAM,KAAM,KAAM,K

hyB,EAAI5M,WAAY4M,EAAIwB,KAAMvxB,KAAK8xC,SAAS/hB,EAAItQ,UAEhFmQ,EAAe9uB,UAAU81D,WAAa,SAAU7mC,EAAK5O,GACjD,OAAQ4O,EAAIvE,UACR,IAAK,IACD,OAAO8qC,GAAMK,WAAW5mC,EAAIgyB,KAAMhyB,MAAMhvC,OACtE,QACI,MAAM,IAAI2C,MAAM,0BAA4BotB,EAAIvE,YAG5DoE,EAAe9uB,UAAUu1D,YAAc,SAAUtmC,EAAK5O,GAClD,OAAO,IAAI80C,GAAOlmC,EAAIgyB,KAAMhyB,MAAMhvC,OAAQ,EAAIgvC,MAAMhvC,OAAQ,KAAKnB,QAAQ,GAAGmB,OAAQ,KAAKnB,QAAQ,GAAGmB,OAAQ,KAAKnB,QAAQ,GAAGmB

AU80D,kBAAoB,SAAU7lC,EAAK5O,GACvE,IAAI6H,EAAchpB,KAAK8xC,SAAS/hB,EAAI/G,aACpC,OAAIA
,IAAgB+G,EAAI/G,YACb,IAAI2sC,GAAAa5lC,EAAIgyB,KAAMhyB,EAAI5M,WAAY6F,GAE/C+G,GAEXkoC,
EAA8Bn3D,UAAUg1D,gBAAkB,SAAU/lC,EAAK5O,GACrE,IAAI1B,EAASzf,KAAK8xC,SAAS/hB,EAAItQ,
AC/B,OAAIA,IAAWsQ,EAAItQ,OACR,IAAIo2C,GAAW9lC,EAAIgyB,KAAMhyB,EAAI5M,WAAY4M,EAAIw
B,KAAM9R,GAEvDsQ,GAEXkoC,EAA8Bn3D,UAAU81D,WAAa,SAAU7mC,EAAK5O,GAAChE,EAAIA6F,EAAIAO
+I,EAAI/I,KAAKgoB,MAAMhvC,MAC1B,GAAIgnB,IAAS+I,EAAI/I,KACb,OAAQ+I,EAAIvE,UACR,IAAK,IA
CD,OAAO8qC,GAAMK,WAAW5mC,EAAIgyB,KAAMhyB,EAAI5M,WAAY6D,GACtD,IAAK,IACD,OAAOsv
C,GAAMI,YAAY3mC,EAAIgyB,KAAMhyB,EAAI5M,WAAY6D,GACvD,QACI,MAAM,IAAIrB,MAAM,0BA
A4BotB,EAAIvE,UAG5D,OAAOuE,GAEXkoC,EAA8Bn3D,UAAUu1D,YAAc,SAAUtmC,EAAK5O,GAACjE,SAAS
Ig1C,EAAOpmC,EAAIomC,KAAKnnB,MAAMhvC,MACtBo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,
MAC5B,OAAIm2D,IAASpmC,EAAIomC,MAAQ,IAAUrmC,EAAIqmC,MAAQ,IAAIH,GAAOlmC,EAAIgyB,
KAAMhyB,EAAI5M,WAAY4M,EAAImmC,KAAKnnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUg2D,WAAa,SAAU/mC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUi2D,WAAa,SAAUhnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUk2D,WAAa,SAAUjnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUm2D,WAAa,SAAUlnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUo2D,WAAa,SAAUnnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUq2D,WAAa,SAAUpnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUs2D,WAAa,SAAUrnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUu2D,WAAa,SAAUtnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUw2D,WAAa,SAAUvnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUy2D,WAAa,SAAUxnC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU02D,WAAa,SAAUznC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU22D,WAAa,SAAU1nC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU42D,WAAa,SAAU3nC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU62D,WAAa,SAAU5nC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU82D,WAAa,SAAU7nC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU+2D,WAAa,SAAU9nC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUg3D,WAAa,SAAU/nC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUi3D,WAAa,SAAUhoC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUk3D,WAAa,SAAUjoC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUm3D,WAAa,SAAUloC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUo3D,WAAa,SAAUnoC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUq3D,WAAa,SAAUpoC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUs3D,WAAa,SAAUroC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUu3D,WAAa,SAAUtoC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUw3D,WAAa,SAAUvoC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUy3D,WAAa,SAAUxoC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU03D,WAAa,SAAUzoC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU23D,WAAa,SAAU1oC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU43D,WAAa,SAAU3oC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU63D,WAAa,SAAU5oC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU83D,WAAa,SAAU7oC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU+3D,WAAa,SAAU9oC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUg4D,WAAa,SAAU/oC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUi4D,WAAa,SAAUhpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUk4D,WAAa,SAAUjpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUm4D,WAAa,SAAUlpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUo4D,WAAa,SAAUnpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUq4D,WAAa,SAAUppC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUs4D,WAAa,SAAUrpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUu4D,WAAa,SAAUtpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUw4D,WAAa,SAAUvpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUy4D,WAAa,SAAUxpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU04D,WAAa,SAAUzpC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU24D,WAAa,SAAU1pC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU44D,WAAa,SAAU3pC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU64D,WAAa,SAAU5pC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU84D,WAAa,SAAU7pC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU+4D,WAAa,SAAU9pC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUg5D,WAAa,SAAU/pC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUi5D,WAAa,SAAUhqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUk5D,WAAa,SAAUjqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUm5D,WAAa,SAAUlqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUo5D,WAAa,SAAUnqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUq5D,WAAa,SAAUpqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUs5D,WAAa,SAAUrqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUu5D,WAAa,SAAUtqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUw5D,WAAa,SAAUvqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUy5D,WAAa,SAAUxqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU05D,WAAa,SAAUzqC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU25D,WAAa,SAAU1qC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU45D,WAAa,SAAU3qC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU65D,WAAa,SAAU5qC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU85D,WAAa,SAAU7qC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU+5D,WAAa,SAAU9qC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUg6D,WAAa,SAAU/qC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUi6D,WAAa,SAAUhrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUk6D,WAAa,SAAUjrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUm6D,WAAa,SAAUlrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUo6D,WAAa,SAAUnrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUq6D,WAAa,SAAUprC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUs6D,WAAa,SAAUrrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUu6D,WAAa,SAAUtrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUw6D,WAAa,SAAUvrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUy6D,WAAa,SAAUxrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU06D,WAAa,SAAUzrC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU26D,WAAa,SAAU1rC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU46D,WAAa,SAAU3rC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU66D,WAAa,SAAU5rC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU86D,WAAa,SAAU7rC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAU+6D,WAAa,SAAU9rC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUg7D,WAAa,SAAU/rC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUi7D,WAAa,SAAUhsC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUk7D,WAAa,SAAUjsC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUm7D,WAAa,SAAUlsC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUo7D,WAAa,SAAUnsC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUq7D,WAAa,SAAUpsC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUs7D,WAAa,SAAUrsC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUu7D,WAAa,SAAUtsC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8Bn3D,UAAUw7D,WAAa,SAAUvsC,EAAK5O,GAAChE,EAAIA6F,EAAIAO,EAAIA,EAAI/I,KAAKgoB,MAAMhvC,MAC
MACtCo2D,EAAQrmC,EAAIqmC,MAAMpnB,MAAMhvC,MAAMo2D,EAAQ,GAAIpmC,EAAIqmC,MAAQ,
EAA8B

L,GACzFrvC,KAAK0U,KAAOA,EACZ1U,KAAKkjB,KAAOA,EACZljB,KAAKwvC,gBAAkBA,EACvBxvC,K
AAK0B,MAAQA,EACb1B,KAAKyvC,KAAOA,EACZzvC,KAAKmjB,WAAaA,EAClBnjB,KAAK0vC,QAAUA,
EACf1vC,KAAKqvC,UAAYA,IAKrBmpB,GACA,SAASA,QAIItoB,MAAQxe,GAAS,UAClC,IAAIknC,GACA,S
AASA,GAITroC,EAIAsoC,GACI74D,KAAKuwB,MAAQA,EACbvwB,KAAK64D,aAAeA,EAmBpB74D,KAAK
84D,aAAevoC,EAAM9U,KAAI,SAAUgyC,EAAM,EAAU/4C,EAAU/4C,MAAQmkD,EA
AankD,MACtE+4C,EAAU/rD,iBAAiB2iB,GAEpB,IAAI+J,GADDq/B,EAAU/rD,MAAMgqB,IACKhqB,OAE5B+
rD,MASnB,SAASsL,GAAqBC,EAAeC,,IAAWC,EAAeC,EAA0BC,GAC1IP,EAAI,GACD
A,EAAgB,IAAIQ,GAAqBD,IAE7C,IAAIE,EAAwBC,GAA+B,4BAA6BC,GAAqBC,GAAqBC,GAAqB

EAAO2N,MACxE,OAAO,IAAI86C,GAAoBlsC,EAAIgyB,KAAMhyB,EAAI5M,WAAYzE,EAAM1e,KAAKg8D,kBAAkBrC,4BAA4B5pC,EAAI/G,YAAYxnB,UAEtIw5D,EAAqBl6D,UAAUg1D,gBAAkB,SAAU/C,EAAK5O,GAC5D,IAAI3N,EAAQxT,KACR0e,EAAOqR,EAAItQ,OAAOhE,KAAI,SAAUsU,GAAO,OAAOA,EAAIif,MAAMx7B,EAAO2N,MACnE,OAAO,IAAI86C,GAAoBlsC,EAAIgyB,KAAMhyB,EAAI5M,WAAYzE,EAAM1e,KAAKg8D,kBAAkBnC,0BA0B9pC,EAAIwB,QAEjHypC,EAAtB8B,CAAuBhsC,EAAIgyB,KAAMhyB,EAAI5M,WAAYzE,EAAM1e,KAAKg8D,kBAAkBnC,GAAIiC,EAAIC,GAAIC,EAAIC,GAAIC,EAAIC,GAAI

Ml3C,YAAYI,IAAIrjB,KAAKw8D,OAAOzsC,EAAI1M,IAAK82C,GAAMl3C,eAGtH82C,EAAgBj5D,UAAUw0D,gBAAkB,SAAUvlC,EAAK+rC,GACvD,IAAIj8C,EAAM7f,KAAKw8D,OAAOzsC,EAAIlQ,IAAKs6C,GAAMl3C,YACjCI,EAAMrjB,KAAKw8D,OAAOzsC,EAAI1M,IAAK82C,GAAMl3C,YACjCvhB,EAAQ1B,KAAKw8D,OAAOzsC,EAAIruB,MAAOy4D,GAAMl3C,YACzCzc,EAAMrjB

EAAah1C,SAAUuyC,GAAMl3C,YAC7Ds6C,OAAY1gD,EACZ7c,KAAKw9D,eAAeZ,EAAah1C,YAKjC01C,GA
FAC,EAAYv9D,KAAKy9D,qBAEaniD,IAAIgiD,GAElCt9D,KAAKq8D,WAAW/gD,IAAIshD,EAAah1C,SAAU2
1C,IAE/C,IAAI5yC,EAAY2yC,EAAkBp3C,UAI9BlmB,KAAKo8D,SAAS9gD,IAAIshD,EADlBA,aAAwBzF,GA
CQ,IAAIF,GAAW2F,EAAa7a,KAAM6a,EAAaz5C,WAAYy5C,EAAa/I,SAAU+I,EAAah1C,SAAUg1C,EAAaloD
,KAAMkoD,EAAal+C,MAGzI,IAAIm2C,GAAa+H,EAAa7a,KAAM6a,EAAaz5C,WAAYy5C,EAAa/I,SAAU+I,E
AAah1C,SAAUg1C,EAAaloD,OAG5J,IAAIgpD,EAAS19D,KAAKw8D,OAAOzsC,EAAKoqC,GAAMl3C,YASp
C,OANAjjB,KAAKo8D,SASuB,OAAOf,GAEjBW,GACAv9D,KAAK49D,iBAAiBL,GAGnBxB,GAA2BD,EAA
MnxC,EAAU5G,YAAYuO,GAAQ,MAAOorC,KASjF3D,EAAgBj5D,UAAU+D,iBAAiBsB,GACnD,I
AAIvc,EAAQxT,KACRgvC,EAAQ,SAAU9tB,EAAS6O,GAC3B,OAAQvc,EAAM4oD,SAAS/gD,IAAI0U,GAAQ,IAAIQ
A,GAAKif,MAAM9tB,IAElD,OAAO6O,EAAIif,MAAM,CACb4nB,WAAY,SAAUzmC,EAAMhjB,GACxB,IAAIm2C,GAAa+H,EAAa7a,KAAM6a,EAAaz5C,WAAYy5C,EAAa/I,SAAU+I,EAAah1C,SAAUg1C,EAAaloD
C,sBAAuB,SAAU3lC,GAC7B,OAAO,MAEXmnC,gBAAiB,SAAUnnC,GACvB,OAAO,MAEXykC,WAAY,SAAUzkC,GAClB,OAAO,MAEX6kC,gBAAiB,SAAU7kC,GACvB,OAAO,MAEX6mC,gBAAiB,SAAU7mC,GACvB,OAAO,MAEXunC,kBAAmB,SAAUvnC,GACzB,OAAO,MAEXqkC,gBAAiB,SAAUrkC,GACvB,OAAO,MAEXukC,kBAAmB,SAAUvkC,GACzB,OAAO,MAEXimC,mBAAoB,SAAUjmC,GAC1B,OAAO,MAEXqlC,eAAgB,SAAUrlC,GACtB,OAAO,MAEXslC,gBAAiB,SAAUtlC,GACvB,OAAO,MAEXolC,iBAAkB,SAAUplC,GACxB,OAAO,MAEXwlC,kBAAmB,SAAUxlC,GACzB,OAAO,MAEXylC,mBAAoB,SAAUzlC,GAC1B,OAAO,MAEXulC,kBAAmB,SAAUvlC,GACzB,OAAO,MAEXwmC,kBAAmB,SAAUxmC,GACzB,OAAO,MAEXymC,mBAAoB,SAAUzmC,GAC1B,OAAO,MAEXumC,kBAAmB,SAAUvmC,GACzB,OAAO,MAEXqmC,kBAAmB,SAAUrmC,GACzB,OAAO,MAEXsmC,mBAAoB,SAAUtmC,GAC1B,OAAO,MAEXomC,kBAAmB,SAAUpmC,GACzB,OAAO,MAEXkmC,kBAAmB,SAAUlmC,GACzB,OAAO,MAEXmmC,mBAAoB,SAAUnmC,GAC1B,OAAO,MAEXimC,kBAAmB,SAAUjmC,GACzB,OAAO,MAEXgmC,kBAAmB,SAAUhmC,GACzB,OAAO,MAEXimC,mBAAoB,SAAUjmC,GAC1B,OAAO,MAEXgmC,kBAAmB,SAAUhmC,GACzB,OAAO,MAEXkmC,kBAAmB,SAAUlmC,GACzB,OAAO,MAEXmmC,mBAAoB,SAAUnmC,GAC1B,OAAO,MAEXimC,kBAAmB,SAAUjmC,GACzB

GAE/C,SAASi7C,EAAoBla,EAAM5+B,EAAYzE,EAAM4uC,GACjD,IAAI95C,EAAQwN,EAAOzf,KAAKvB,KAAM+hD,EAAM5+B,EAAY,KAAMzE,IAAS1e,KAG/D,OAFAwT,EAAMkL,KAAOA,EAAOblL,EAAM85C,UAAYA,EACX95C,EAEX,OAPA7S,EAAUs7D,EAAqBj7C,GAAOxBi7C,EAR6B,CAAStC5E,IAAqIE0G,GAA2B,WAC3B,SAASA,IAACL/9D,KAAKg+D,eAAgBC,EAAsBj+D,KAAMA,KAAKk+D,eAAgBC,EAAsBn+D,KAAMA,KAAKo+D,eAAgBC,EAAsBr+D,KAAMA,KAAKs+D,eAAgBC,EAAsBv+D,KAAMA,KAAKw+D,eAAgBC,EAAsBz+D,KAAMA,KAAK0+D,eAAgBC,EAAsB3+D,KAAMA,KAAK4+D,eAAgBC,EAAsB7+D,KAAMA,KAAK8+D,eAAgBC,EAAsB/+D,KAAMA,KAAKg/D,eAAgBC,EAAsBj/D,KAAMA,KAAKk/D,eAAgBC,EAAsBn/D,KAAMA,KAAKo/D,eAAgBC,EAAsBr/D,KAAMA,KAAKs/D,eAAgBC,EAAsBv/D,KAAMA,KAAKw/D,eAAgBC,EAAsBz/D,KAAMA,KAAK0/D,eAAgBC,EAAsB3/D,KAAMA,KAAK4/D,eAAgBC,EAAsB7/D,KAAMA,KAAK8/D,eAAgBC,EAAsB//D,KAAMA,KAAKggE,eAAgBC,EAAsBjgE,KAAMA,KAAKkgE,eAAgBC,EAAsBngE,KAAMA,KAAKogE,eAAgBC,EAAsBrgE,KAAMA,KAAKsgE,eAAgBC,EAAsBvgE,KAAMA,KAAKwgE,eAAgBC,EAAsBzgE,KAAMA,KAAK0gE,eAAgBC,EAAsB3gE,KAAMA,KAAK4gE,eAAgBC,EAAsB7gE,KAAMA,KAAK8gE,eAAgBC,EAAsB/gE,KAAMA,KAAKghE,eAAgBC,EAAsBjhE,KAAMA,KAAKkhE,eAAgBC,EAAsBnhE,KAAMA,KAAKohE,eAAgBC,EAAsBrhE,KAAMA,KAAKshE,eAAgBC,EAAsBvhE,KAAMA,KAAKwhE,eAAgBC,EAAsBzhE,KAAMA,KAAK0hE,eAAgBC,EAAsB3hE,KAAMA,KAAK4hE,eAAgBC,EAAsB7hE,KAAMA,KAAK8hE,eAAgBC,EAAsB/hE,KAAMA,KAAKgiE,eAAgBC,EAAsBjiE,KAAMA,KAAKkiE,eAAgBC,EAAsBniE,KAAMA,KAAKoiE,eAAgBC,EAAsBriE,KAAMA,KAAKsiE,eAAgBC,EAAsBviE,KAAMA,KAAKwiE,eAAgBC,EAAsBziE,KAAMA,KAAK0iE,eAAgBC,EAAsB3iE,KAAMA,KAAK4iE,eAAgBC,EAAsB7iE,KAAMA,KAAK8iE,eAAgBC,EAAsB/iE,KAAMA,KAAKgjE,eAAgBC,EAAsBjjE,KAAMA,KAAKkjE,eAAgBC,EAAsBnjE,KAAMA,KAAKojE,eAAgBC,EAAsBrjE,KAAMA,KAAKsjE,eAAgBC,EAAsBvjE,KAAMA,KAAKwjE,eAAgBC,EAAsBzjE,KAAMA,KAAK0jE,eAAgBC,EAAsB3jE,KAAMA,KAAK4jE,eAAgBC,EAAsB7jE,KAAMA,KAAK8jE,eAAgBC,EAAsB/jE,KAAMA,KAAKgkE,eAAgBC,EAAsBjkE,KAAMA,KAAKkkE,eAAgBC,EAAsBnkE,KAAMA,KAAKokE,eAAgBC,EAAsBrkE,KAAMA,KAAKskE,eAAgBC,EAAsBvkE,KAAMA,KAAKwkE,eAAgBC,EAAsBzkE,KAAMA,KAAK0kE,eAAgBC,EAAsB3kE,KAAMA,KAAK4kE,eAAgBC,EAAsB7kE,KAAMA,KAAK8kE,eAAgBC,EAAsB/kE,KAAMA,KAAKglE,eAAgBC,EAAsBjlE,KAAMA,KAAKklE,eAAgBC,EAAsBnlE,KAAMA,KAAKolE,eAAgBC,EAAsBrlE,KAAMA,KAAKslE,eAAgBC,EAAsBvlE,KAAMA,KAAKwlE,eAAgBC,EAAsBzlE,KAAMA,KAAK0lE,eAAgBC,EAAsB3lE,KAAMA,KAAK4lE,eAAgBC,EAAsB7lE,KAAMA,KAAK8lE,eAAgBC,EAAsB/lE,KAAMA,KAAKgmE,eAAgBC,EAAsBjmE,KAAMA,KAAKkmE,eAAgBC,EAAsBnmE,KAAMA,KAAKomE,eAAgBC,EAAsBrmE,KAAMA,KAAKsmE,eAAgBC,EAAsBvmE,KAAMA,KAAKwmE,eAAgBC,EAAsBzmE,KAAMA,KAAK0mE,eAAgBC,EAAsB3mE,KAAMA,KAAK4mE,eAAgBC,EAAsB7mE,KAAMA,KAAK8mE,eAAgBC,EAAsB/mE,KAAMA,KAAKgnE,eAAgBC,EAAsBjnE,KAAMA,KAAKknE,eAAgBC,EAAsBnnE,KAAMA,KAAKonE,eAAgBC,EAAsBrnE,KAAMA,KAAKsnE,eAAgBC,EAAsBvnE,KAAMA,KAAKwnE,eAAgBC,EAAsBznE,KAAMA,KAAK0nE,eAAgBC,EAAsB3nE,KAAMA,KAAK4nE,eAAgBC,EAAsB7nE,KAAMA,KAAK8nE,eAAgBC,EAAsB/nE,KAAMA,KAAKgoE,eAAgBC,EAAsBjoE,KAAMA,KAAKkoE,eAAgBC,EAAsBnoE,KAAMA,KAAKooE,eAAgBC,EAAsBroE,KAAMA,KAAKsoE,eAAgBC,EAAsBvoE,KAAMA,KAAKwoE,eAAgBC,EAAsBzoE,KAAMA,KAAK0oE,eAAgBC,EAAsB3oE,KAAMA,KAAK4oE,eAAgBC,EAAsB7oE,KAAMA,KAAK8oE,eAAgBC,EAAsB/oE,KAAMA,KAAKgpE,eAAgBC,EAAsBjpE,KAAMA,KAAKkpE,eAAgBC,EAAsBnpE,KAAMA,KAAKopE,eAAgBC,EAAsBrpE,KAAMA,KAAKspE,eAAgBC,EAAsBvpE,KAAMA,KAAKwpE,eAAgBC,EAAsBzpE,KAAMA,KAAK0pE,eAAgBC,EAAsB3pE,KAAMA,KAAK4pE,eAAgBC,EAAsB7pE,KAAMA,KAAK8pE,eAAgBC,EAAsB/pE,KAAMA,KAAKgqE,eAAgBC,EAAsBjqE,KAAMA,KAAKkqE,eAAgBC,EAAsBnqE,KAAMA,KAAKoqE,eAAgBC,EAAsBrqE,KAAMA,KAAKsqE,eAAgBC,EAAsBvqE,KAAMA,KAAKwqE,eAAgBC,EAAsBzqE,KAAMA,KAAK0qE,eAAgBC,EAAsB3qE,KAAMA,KAAK4qE,eAAgBC,EAAsB7qE,KAAMA,KAAK8qE,eAAgBC,EAAsB/qE,KAAMA,KAAKgrE,eAAgBC,EAAsBjrE,KAAMA,KAAKkrE,eAAgBC,EAAsBnrE,KAAMA,KAAKorE,eAAgBC,EAAsBrrE,KAAMA,KAAKsrE,eAAgBC,EAAsBvrE,KAAMA,KAAKwrE,eAAgBC,EAAsBzrE,KAAMA,KAAK0rE,eAAgBC,EAAsB3rE,KAAMA,KAAK4rE,eAAgBC,EAAsB7rE,KAAMA,KAAK8rE,eAAgBC,EAAsB/rE,KAAMA,KAAKgsE,eAAgBC,EAAsBjsE,KAAMA,KAAKksE,eAAgBC,EAAsBnsE,KAAMA,KAAKosE,eAAgBC,EAAsBrsE,KAAMA,KAAKssE,eAAgBC,EAAsBvsE,KAAMA,KAAKwsE,eAAgBC,EAAsBzsE,KAAMA,KAAK0sE,eAAgBC,EAAsB3sE,KAAMA,KAAK4sE,eAAgBC,EAAsB7sE,KAAMA,KAAK8sE,eAAgBC,EAAsB/sE,KAAMA,KAAKgtE,eAAgBC,EAAsBjtE,KAAMA,KAAKktE,eAAgBC,EAAsBntE,KAAMA,KAAKotE,eAAgBC,EAAsBrtE,KAAMA,KAAKstE,eAAgBC,EAAsBvtE,KAAMA,KAAKwtE,eAAgBC,EAAsBztE,KAAMA,KAAK0tE,eAAgBC,EAAsB3tE,KAAMA,KAAK4tE,eAAgBC,EAAsB7tE,KAAMA,KAAK8tE,eAAgBC,EAAsB/tE,KAAMA,KAAKguE,eAAgBC,EAAsBjuE,KAAMA,KAAKkuE,eAAgBC,EAAsBnuE,KAAMA,KAAKouE,eAAgBC,EAAsBruE,KAAMA,KAAKsuE,eAAgBC,EAAsBvuE,KAAMA,KAAKwuE,eAAgBC,EAAsBzuE,KAAMA,KAAK0uE,eAAgBC,EAAsB3uE,KAAMA,KAAK4uE,eAAgBC,EAAsB7uE,KAAMA,KAAK8uE,eAAgBC,EAAsB/uE,KAAMA,KAAKgvE,eAAgBC,EAAsBjvE,KAAMA,KAAKkvE,eAAgBC,EAAsBnvE,KAAMA,KAAKovE,eAAgBC,EAAsBrvE,KAAMA,KAAKsvE,eAAgBC,EAAsBvvE,KAAMA,KAAKwvE,eAAgBC,EAAsBzvE,KAAMA,KAAK0vE,eAAgBC,EAAsB3vE,KAAMA,KAAK4vE,eAAgBC,EAAsB7vE,KAAMA,KAAK8vE,eAAgBC,EAAsB/vE,KAAMA,KAAKgwE,eAAgBC,EAAsBjwE,KAAMA,KAAKkwE,eAAgBC,EAAsBnwE,KAAMA,KAAKowE,eAAgBC,EAAsBrwE,KAAMA,KAAKswE,eAAgBC,EAAsBvwE,KAAMA,KAAKwwE,eAAgBC,EAAsBzwE,KAAMA,KAAK0wE,eAAgBC,EAAsB3wE,KAAMA,KAAK4wE,eAAgBC,EAAsB7wE,KAAMA,KAAK8wE,eAAgBC,EAAsB/wE,KAAMA,KAAKgxE,eAAgBC,EAAsBjxE,KAAMA,KAAKkxE,eAAgBC,EAAsBnxE,KAAMA,KAAKoxE,eAAgBC,EAAsBrxE,KAAMA,KAAKsxE,eAAgBC,EAAsBvxE,KAAMA,KAAKwxE,eAAgBC,EAAsBzxE,KAAMA,KAAK0xE,eAAgBC,EAAsB3xE,KAAMA,KAAK4xE,eAAgBC,EAAsB7xE,KAAMA,KAAK8xE,eAAgBC,EAAsB/xE,KAAMA,KAAKgyE,eAAgBC,EAAsBjyE,KAAMA,KAAKkyE,eAAgBC,EAAsBnyE,KAAMA,KAAKoyE,eAAgBC,EAAsBryE,KAAMA,KAAKsyE,eAAgBC,EAAsBvyE,KAAMA,KAAKwyE,eAAgBC,EAAsBzyE,KAAMA,KAAK0yE,eAAgBC,EAAsB3yE,KAAMA,KAAK4yE,eAAgBC,EAAsB7yE,KAAMA,KAAK8yE,eAAgBC,EAAsB/yE,KAAMA,KAAKgzE,eAAgBC,EAAsBjzE,KAAMA,KAAKkzE,eAAgBC,EAAsBnzE,KAAMA,KAAKozE,eAAgBC,EAAsBrzE,KAAMA,KAAKszE,eAAgBC,EAAsBvzE,KAAMA,KAAKwzE,eAAgBC,EAAsBzzE,KAAMA,KAAK0zE,eAAgBC,EAAsB3zE,KAAMA,KAAK4zE,eAAgBC,EAAsB7zE,KAAMA,KAAK8zE,eAAgBC,EAAsB/zE,KAAMA,KAAKg0E,eAAgBC,EAAsBj0E,KAAMA,KAAKk0E,eAAgBC,EAAsBn0E,KAAMA,KAAKo0E,eAAgBC,EAAsBr0E,KAAMA,KAAKs0E,eAAgBC,EAAsBv0E,KAAMA,KAAKw0E,eAAgBC,EAAsBz0E,KAAMA,KAAK00E,eAAgBC,EAAsB30E,KAAMA,KAAK40E,eAAgBC,EAAsB70E,KAAMA,KAAK80E,eAAgBC,EAAsB/0E,KAAMA,KAAKg1E,eAAgBC,EAAsBj1E,KAAMA,KAAKk1E,eAAgBC,EAAsBn1E,KAAMA,KAAKo1E,eAAgBC,EAAsBr1E,KAAMA,KAAKs1E,eAAgBC,EAAsBv1E,KAAMA,KAAKw1E,eAAgBC,EAAsBz1E,KAAMA,KAAK01E,eAAgBC,EAAsB31E,KAAMA,KAAK41E,eAAgBC,EAAsB71E,KAAMA,KAAK81E,eAAgBC,EAAsB/1E,KAAMA,KAAKg2E,eAAgBC,EAAsBj2E,KAAMA,KAAKk2E,eAAgBC,EAAsBn2E,KAAMA,KAAKo2E,eAAgBC,EAAsBr2E,KAAMA,KAAKs2E,eAAgBC,EAAsBv2E,KAAMA,KAAKw2E,eAAgBC,EAAsBz2E,KAAMA,KAAK02E,eAAgBC,EAAsB32E,KAAMA,KAAK42E,eAAgBC,EAAsB72E,KAAMA,KAAK82E,eAAgBC,EAAsB/2E,KAAMA,KAAKg3E,eAAgBC,EAAsBj3E,KAAMA,KAAKk3E,eAAgBC,EAAsBn3E,KAAMA,KAAKo3E,eAAgBC,EAAsBr3E,KAAMA,KAAKs3E,eAAgBC,EAAsBv3E,KAAMA,KAAKw3E,eAAgBC,EAAsBz3E,KAAMA,KAAK03E,eAAgBC,EAAsB33E,KAAMA,KAAK43E,eAAgBC,EAAsB73E,KAAMA,KAAK83E,eAAgBC,EAAsB/3E,KAAMA,KAAKg4E,eAAgBC,EAAsBj4E,KAAMA,KAAKk4E,eAAgBC,EAAsBn4E,KAAMA,KAAKo4E,eAAgBC,EAAsBr4E,KAAMA,KAAKs4E,eAAgBC,EAAsBv4E,KAAMA,KAAKw4E,eAAgBC,EAAsBz4E,KAAMA,KAAK04E,eAAgBC,EAAsB34E,KAAMA,KAAK44E,eAAgBC,EAAsB74E,KAAMA,KAAK84E,eAAgBC,EAAsB/4E,KAAMA,KAAKg5E,eAAgBC,EAAsBj5E,KAAMA,KAAKk5E,eAAgBC,EAAsBn5E,KAAMA,KAAKo5E,eAAgBC,EAAsBr5E,KAAMA,KAAKs5E,eAAgBC,EAAsBv5E,KAAMA,KAAKw5E,eAAgBC,EAAsBz5E,KAAMA,KAAK05E,eAAgBC,EAAsB35E,KAAMA,KAAK45E,eAAgBC,EAAsB75E,KAAMA,KAAK85E,eAAgBC,EAAsB/5E,KAAMA,KAAKg6E,eAAgBC,EAAsBj6E,KAAMA,KAAKk6E,eAAgBC,EAAsBn6E,KAAMA,KAAKo6E,eAAgBC,EAAsBr6E,KAAMA,KAAKs6E,eAAgBC,EAAsBv6E,KAAMA,KAAKw6E,eAAgBC,EAAsBz6E,KAAMA,KAAK06E,eAAgBC,EAAsB36E,KAAMA,KAAK46E,eAAgBC,EAAsB76E,KAAMA,KAAK86E,eAAgBC,EAAsB/6E,KAAMA,KAAKg7E,eAAgBC,EAAsBj7E,KAAMA,KAAKk7E,eAAgBC,EAAsBn7E,KAAMA,KAAKo7E,eAAgBC,EAAsBr7E,KAAMA,KAAKs7E,eAAgBC,EAAsBv7E,KAAMA,KAAKw7E,eAAgBC,EAAsBz7E,KAAMA,KAAK07E,eAAgBC,EAAsB37E,KAAMA,KAAK47E,eAAgBC,EAAsB77E,KAAMA,KAAK87E,eAAgBC,EAAsB/7E,KAAMA,KAAKg8E,eAAgBC,EAAsBj8E,KAAMA,KAAKk8E,eAAgBC,EAAsBn8E,KAAMA,KAAKo8E,eAAgBC,EAAsBr8E,KAAMA,KAAKs8E,eAAgBC,EAAsBv8E,KAAMA,KAAKw8E,eAAgBC,EAAsBz8E,KAAMA,KAAK08E,eAAgBC,EAAsB38E,KAAMA,KAAK48E,eAAgBC,EAAsB78E,KAAMA,KAAK88E,eAAgBC,EAAsB/8E,KAAMA,KAAKg9E,eAAgBC,EAAsBj9E,KAAMA,KAAKk9E,eAAgBC,EAAsBn9E,KAAMA,KAAKo9E,eAAgBC,EAAsBr9E,KAAMA,KAAKs9E,eAAgBC,EAAsBv9E,KAAMA,KAAKw9E,eAAgBC,EAAsBz9E,KAAMA,KAAK09E,eAAgBC,EAAsB39E,KAAMA,KAAK49E,eAAgBC,EAAsB79E,KAAMA,KAAK89E,eAAgBC,EAAsB/9E,KAAMA,KAAKg+E,eAAgBC,EAAsBj+E,KAAMA,KAAKk+E,eAAgBC,EAAsBn+E,KAAMA,KAAKo+E,eAAgBC,EAAsBr+E,KAAMA,KAAKs+E,eAAgBC,EAAsBv+E,KAAMA,KAAKw+E,eAAgBC,EAAsBz+E,KAAMA,KAAK0+E,eAAgBC,EAAsB3+E,KAAMA,KAAK4+E,eAAgBC,EAAsB7+E,KAAMA,KAAK8+E,eAAgBC,EAAsB/+E,KAAMA,KAAKg/E,eAAgBC,EAAsBj/E,KAAMA,KAAKk/E,eAAgBC,EAAsBn/E,KAAMA,KAAKo/E,eAAgBC,EAAsBr/E,KAAMA,KAAKs/E,eAAgBC,EAAsBv/E,KAAMA,KAAKw/E,eAAgBC,EAAsBz/E,KAAMA,KAAK0/E,eAAgBC,EAAsB3/E,KAAMA,KAAK4/E,eAAgBC,EAAsB7/E,KAAMA,KAAK8/E,eAAgBC,EAAsB//E,KAAMA,KAAKggF,eAAgBC,EAAsBjgF,KAAMA,KAAKkgF,eAAgBC,EAAsBngF,KAAMA,KAAKogF,eAAgBC,EAAsBrgF,KAAMA,KAAKsgF,eAAgBC,EAAsBvgF,KAAMA,KAAKwgF,eAAgBC,EAAsBzgF,KAAMA,KAAK0gF,eAAgBC,EAAsB3gF,KAAMA,KAAK4gF,eAAgBC,EAAsB7gF,KAAMA,KAAK8gF,eAAgBC,EAAsB/gF,KAAMA,KAAKghF,eAAgBC,EAAsBjhF,KAAMA,KAAKkhF,eAAgBC,EAAsBnhF,KAAMA,KAAKohF,eAAgBC,EAAsBrhF,KAAMA,KAAKshF,eAAgBC,EAAsBvhF,KAAMA,KAAKwhF,eAAgBC,EAAsBzhF,KAAMA,KAAK0hF,eAAgBC,EAAsB3hF,KAAMA,KAAK4hF,eAAgBC,EAAsB7hF,KAAMA,KAAK8hF,eAAgBC,EAAsB/hF,KAAMA,KAAKgiF,eAAgBC,EAAsBjiF,KAAMA,KAAKkiF,eAAgBC,EAAsBniF,KAAMA,KAAKoiF,eAAgBC,EAAsBriF,KAAMA,KAAKsiF,eAAgBC,EAAsBviF,KAAMA,KAAKwiF,eAAgBC,EAAsBziF,KAAMA,KAAK0iF,eAAgBC,EAAsB3iF,KAAMA,KAAK4iF,eAAgBC,EAAsB7iF,KAAMA,KAAK8iF,eAAgBC,EAAsB/iF,KAAMA,KAAKgjF,eAAgBC,EAAsBjjF,KAAMA,KAAKkjF,eAAgBC,EAAsBnjF,KAAMA,KAAKojF,eAAgBC,EAAsBrjF,KAAMA,KAAKsjF,eAAgBC,EAAsBvjF,KAAMA,KAAKwjF,eAAgBC,EAAsBzjF,KAAMA,KAAK0jF,eAAgBC,EAAsB3jF,KAAMA,KAAK4jF,eAAgBC,EAAsB7jF,KAAMA,KAAK8jF,eAAgBC,EAAsB/jF,KAAMA,KAAKgkF,eAAgBC,EAAsBjkF,KAAMA,KAAKkkF,eAAgBC,EAAsBnkF,KAAMA,KAAKokF,eAAgBC,EAAsBrkF,KAAMA,KAAKskF,eAAgBC,EAAsBvkF,KAAMA,KAAKwkF,eAAgBC,EAAsBzkF,KAAMA,KAAK0kF,eAAgBC,EAAsB3kF,KAAMA,KAAK4kF,eAAgBC,EAAsB7kF,KAAMA,KAAK8kF,eAAgBC,EAAsB/kF,KAAMA,KAAKglF,eAAgBC,EAAsBjlF,KAAMA,KAAKklF,eAAgBC,EAAsBnlF,KAAMA,KAAKolF,eAAgBC,EAAsBrlF,KAAMA,KAAKslF,eAAgBC,EAAsBvlF,KAAMA,KAAKwlF,eAAgBC,EAAsBzlF,KAAMA,KAAK0lF,eAAgBC,EAAsB3lF,KAAMA,KAAK4lF,eAAgBC,EAAsB7lF,KAAMA,KAAK8lF,eAAgBC,EAAsB/lF,KAAMA,KAAKgmF,eAAgBC,EAAsBjmF,KAAMA,KAAKkmF,eAAgBC,EAAsBnmF,KAAMA,KAAKomF,eAAgBC,EAAsBrmF,KAAMA,KAAKsmF,eAAgBC,EAAsBvmF,KAAMA,KAAKwmF,eAAgBC,EAAsBzmF,KAAMA,KAAK0mF,eAAgBC,EAAsB3mF,KAAMA,KAAK4mF,eAAgBC,EAAsB7mF,KAAMA,KAAK8mF,eAAgBC,EAAsB/mF,KAAMA,KAAKgnF,eAAgBC,EAAsBjnF,KAAMA,KAAKknF,eAAgBC,EAAsBnnF,KAAMA,KAAKonF,eAAgBC,EAAsBrnF,KAAMA,KAAKsnF,eAAgBC,EAAsBvnF,KAAMA,KAAKwnF,eAAgBC,EAAsBznF,KAAMA,KAAK0nF,eAAgBC,EAAsB3nF,KAAMA,KAAK4nF,eAAgBC,EAAsB7nF,KAAMA,KAAK8nF,eAAgBC,EAAsB/nF,KAAMA,KAAKgoF,eAAgBC,EAAsBjoF,KAAMA,KAAKkoF,eAAgBC,EAAsBnoF,KAAMA,KAAKooF,eAAgBC,EAAsBroF,KAAMA,KAAKsoF,eAAgBC,EAAsBvoF,KAAMA,KAAKwoF,eAAgBC,EAAsBzoF,KAAMA,KAAK0oF,eAAgBC,EAAsB3oF,KAAMA,KAAK4oF,eAAgBC,EAAsB7oF,KAAMA,KAAK8oF,eAAgBC,EAAsB/oF,KAAMA,KAAKgpF,eAAgBC,EAAsBjpF,KAAMA,KAAKkpF,eAAgBC,EAAsBnpF,KAAMA,KAAKopF,eAAgBC,EAAsBrpF,KAAMA,KAAKspF,eAAgBC,EAAsBvpF,KAAMA,KAAKwpF,eAAgBC,EAAsBzpF,KAAMA,KAAK0pF,eAAgBC,EAAsB3pF,KAAMA,KAAK4pF,eAAgBC,EAAsB7pF,KAAMA,KAAK8pF,eAAgBC,EAAsB/pF,KAAMA,KAAKgqF,eAAgBC,EAAsBjqF,KAAMA,KAAKkqF,eAAgBC,EAAsBnqF,KAAMA,KAAKoqF,eAAgBC,EAAsBrqF,KAAMA,KAAKsqF,eAAgBC,EAAsBvqF,KAAMA,KAAKwqF,eAAgBC,EAAsBzqF,KAAMA,KAAK0qF,eAAgBC,EAAsB3qF,KAAMA,KAAK4qF,eAAgBC,EAAsB7qF,KAAMA,KAAK8qF,eAAgBC,EAAsB/qF,KAAMA,KAAKgrF,eAAgBC,EAAsBjrF,KAAMA,KAAKkrF,eAAgBC,EAAsBnrF,KAAMA,KAAKorF,eAAgBC,EAAsBrrF,KAAMA,KAAKsrF,eAAgBC,EAAsBvrF,KAAMA,KAAKwrF,eAAgBC,EAAsBzrF,KAAMA,KAAK0rF,eAAgBC,EAAsB3rF,KAAMA,KAAK4rF,eAAgBC,EAAsB7rF,KAAMA,KAAK8rF,eAAgBC,EAAsB/rF,KAAMA,KAAKgsF,eAAgBC,EAAsBjsF,KAAMA,KAAKksF,eAAgBC,EAAsBnsF,KAAMA,KAAKosF,eAAgBC,EAAsBrsF,KAAMA,KAAKssF,eAAgBC,EAAsBvsF,KAAMA,KAAKwsF,eAAgBC,EAAsBzsF,KAAMA,KAAK0sF,eAAgBC,EAAsB3sF,KAAMA,KAAK4sF,eAAgBC,EAAsB7sF,KAAMA,KAAK8sF,eAAgBC,EAAsB/sF,KAAMA,KAAKgtF,eAAgBC,EAAsBjtF,KAAMA,KAAKktF,eAAgBC,EAAsBntF,KAAMA,KAAKotF,eAAgBC,EAAsBrtF,KAAMA,KAAKstF,eAAgBC,EAAsBvtF,KAAMA,KAAKwtF,eAAgBC,EAAsBztF,KAAMA,KAAK0tF,eAAgBC,EAAsB3tF,KAAMA,KAAK4tF,eAAgBC,EAAsB7tF,KAAMA,KAAK8tF,eAAgBC,EAAsB/tF,KAAMA,KAAKguF,eAAgBC,EAAsBjuF,KAAMA,KAAKkuF,eAAgBC,EAAsBnuF,KAAMA,KAAKouF,eAAgBC,EAAsBruF,KAAMA,KAAKsuF,eAAgBC,EAAsBvuF,KAAMA,KAAKwuF,eAAgBC,EAAsBzuF,KAAMA,KAAK0uF,eAAgBC,EAAsB3uF,KAAMA,KAAK4uF,eAAgBC,EAAsB7uF,KAAMA,KAAK8uF,eAAgBC,EAAsB/uF,KAAMA,KAAKgvF,eAAgBC,EAAsBjvF,KAAMA,KAAKkvF,eAAgBC,EAAsBnvF,KAAMA,KAAKovF,eAAgBC,EAAsBrvF,KAAMA,KAAKsvF,eAAgBC,EAAsBvvF,KAAMA,KAAKwvF,eAAgBC,EAAsBzvF,KAAMA,KAAK0vF,eAAgBC,EAAsB3vF,KAAMA,KAAK4vF,eAAgBC,EAAsB7vF,KAAMA,KAAK8vF,eAAgBC,EAAsB/vF,KAAMA,KAAKgwF,eAAgBC,EAAsBjwF,KAAMA,KAAKkwF,eAAgBC,EAAsBnwF,KAAMA,KAAKowF,eAAgBC,EAAsBrwF,KAAMA,KAAKswF,eAAgBC,EAAsBvwF,KAAMA,KAAKwwF,eAAgBC,EAAsBzwF,KAAMA,KAAK0wF,eAAgBC,EAAsB3wF,KAAMA,KAAK4wF,eAAgBC,EAAsB7wF,KAAMA,KAAK8wF,eAAgBC,EAAsB/wF,KAAMA,KAAKgxF,eAAgBC,EAAsBjxF,KAAMA,KAAKkxF,eAAgBC,EAAsBnxF,KAAMA,KAAKoxF,eAAgBC,EAAsBrxF,KAAMA,KAAKsxF,eAAgBC,EAAsBvxF,KAAMA,KAAKwxF,eAAgBC,EAAsBzxF,KAAMA,KAAK0xF,eAAgBC,EAAsB3xF,KAAMA,KAAK4xF,eAAgBC,EAAsB7xF,KAAMA,KAAK8xF,eAAgBC,EAAsB/xF,KAAMA,KAAKgyF,eAAgBC,EAAsBjyF,KAAMA,KAAKkyF,eAAgBC,EAAsBnyF,KAAMA,KAAKoyF,eAAgBC,EAAsBryF,KAAMA,KAAKsyF,eAAgBC,EAAsBvyF,KAAMA,KAAKwyF,eAAgBC,EAAsBzyF,KAAMA,KAAK0yF,eAAgBC,EAAsB3yF,KAAMA,KAAK4yF,eAAgBC,EAAsB7yF,KAAMA,KAAK8yF,eAAgBC,EAAsB/yF,KAAMA,KAAKgzF,eAAgBC,EAAsBjzF,KAAMA,KAAKkzF,eAAgBC,EAAsBnzF,KAAMA,KAAKozF,eAAgBC,EAAsBrzF,KAAMA,KAAKszF,eAAgBC,EAAsBvzF,KAAMA,KAAKwzF,eAAgBC,EAAsBzzF,KAAMA,KAAK0zF,eAAgBC,EAAsB3zF,KAAMA,KAAK4zF,eAAgBC,EAAsB7zF,KAAMA,KAAK8zF,eAAgBC,EAAsB/zF,KAAMA,KAAKg0F,eAAgBC,EAAsBj0F,KAAMA,KAAKk0F,eAAgBC,EAAsBn0F,KAAMA,KAAKo0F,eAAgBC,EAAsBr0F,KAAMA,KAAKs0F,eAAgBC,EAAsBv0F,KAAMA,KAAKw0F,eAAgBC,EAAsBz0F,KAAMA,KAAK00F,eAAgBC,EAAsB30F,KAAMA,KAAK40F,eAAgBC,EAAsB70F,KAAMA,KAAK80F,eAAgBC,EAAsB/0F,KAAMA,KAAKg1F,eAAgBC,EAAsBj1F,KAAMA,KAAKk1F,eAAgBC,EAAsBn1F,KAAMA,KAAKo1F,eAAgBC,EAAsBr1F,KAAMA,KAAKs1F,eAAgBC,EAAsBv1F,KAAMA,KAAKw1F,eAAgBC,EAAsBz1F,KAAMA,KAAK01F,eAAgBC,EAAsB31F,KAAMA,KAAK41F,eAAgBC,EAAsB71F,KAAMA,KAAK81F,eAAgBC,EAAsB/1F,KAAMA,KAAKg2F,eAAgBC,EAAsBj2F,KAAMA,KAAKk2F,eAAgBC,EAAsBn2F,KAAMA,KAAKo2F,eAAgBC,EAAsBr2F,KAAMA,KAAKs2F,eAAgBC,EAAsBv2F,KAAMA,KAAKw2F,eAAgBC,EAAsBz2F,KAAMA,KAAK02F,eAAgBC,EAAsB32F,KAAMA,KAAK42F,eAAgBC,EAAsB72F,KAAMA,KAAK82F,eAAgBC,EAAsB/2F,KAAMA,KAAKg3F,eAAgBC,EAAsBj3F,KAAMA,KAAKk3F,eAAgBC,EAAsBn3F,KAAMA,KAAKo3F,eAAgBC,EAAsBr3F,KAAMA,KAAKs3F,eAAgBC,EAAsBv3F,KAAMA,KAAKw3F,eAAgBC,EAAsBz3F,KAAMA,KAAK03F,eAAgBC,EAAsB33F,KAAMA,KAAK43F,eAAgBC,EAAsB73F,KAAMA,KAAK83F,eAAgBC,EAAsB/3F,KAAMA,KAAKg4F,eAAgBC,EAAsBj4F,KAAMA,KAAKk4F,eAAgBC,EAAsBn4F,KAAMA,KAAKo4F,eAAgBC,EAAsBr4F,KAAMA,KAAKs4F,eAAgBC,EAAsBv4F,KAAMA,KAAKw4F,eAAgBC,EAAsBz4F,KAAMA,KAAK04F,eAAgBC,EAAsB34F,KAAMA,KAAK44F,eAAgBC,EAAsB74F,KAAMA,KAAK84F,eAAgBC,EAAsB/4F,KAAMA,KAAKg5F,eAAgBC,EAAsBj5F,KAAMA,KAAKk5F,eAAgBC,EAAsBn5F,KAAMA,KAAKo5F,eAAgBC,EAAsBr5F,KAAMA,KAAKs5F,eAAgBC,EAAsBv5F,KAAMA,KAAKw5F,eAAgBC,EAAsBz5F,KAAMA,KAAK05F,eAAgBC,EAAsB35F,KAAMA,KAAK45F,eAAgBC,EAAsB75F,KAAMA,KAAK85F,eAAgBC,EAAsB/5F,KAAMA,KAAKg6F,eAAgBC,EAAsBj6F,KAAMA,KAAKk6F,eAAgBC,EAAsBn6F,KAAMA,KAAKo6F,eAAgBC,EAAsBr6F,KAAMA,KAAKs6F,eAAgBC,EAAsBv6F,KAAMA,KAAKw6F,eAAgBC,EAAsBz6F,KAAMA,KAAK06F,eAAgBC,EAAsB36F,KAAMA,KAAK46F,eAAgBC,EAAsB76F,KAAMA,KAAK86F,eAAgBC,EAAsB/6F,KAAMA,KAAKg7F,eAAgBC,EAAsBj7F,KAAMA,KAAKk7F,eAAgBC,EAAsBn7F,KAAMA,KAAKo7F,eAAgBC,EAAsBr7F,KAAMA,KAAKs7F,eAAgBC,EAAsBv7F,KAAMA,KAAKw7F,eAAgBC,EAAsBz7F,KAAMA,KAAK07F,eAAgBC,EAAsB37F,KAAMA,KAAK47F,eAAgBC,EAAsB77F,KAAMA,KAAK87F,eAAgBC,EAAsB/7F,KAAMA,KAAKg8F,eAAgBC,EAAsBj8F,KAAMA,KAAKk8F,eAAgBC,EAAsBn8F,KAAMA,KAAKo8F,eAAgBC,EAAsBr8F,KAAMA,KAAKs8F,eAAgBC,EAAsBv8F,KAAMA,KAAKw8F,eAAgBC,EAAsBz8F,KAAMA,KAAK08F,eAAgBC,EAAsB38F,KAAMA,KAAK48F,eAAgBC,EAAsB78F,KAAMA,KAAK88F,eAAgBC,EAAsB/8F,KAAMA,KAAKg9F,eAAgBC,EAAsBj9F,KAAMA,KAAKk9F,eAAgBC,EAAsBn9F,KAAMA,KAAKo9F,eAAgBC,EAAsBr9F,KAAMA,KAAKs9F,eAAgBC,EAAsBv9F,KAAMA,KAAKw9F,eAAgBC,EAAsBz9F,KAAMA,KAAK09F,eAAgBC,EAAsB39F,KAAMA,KAAK49F,eAAgBC,EAAsB79F,KAAMA,KAAK89F,eAAgBC,EAAsB/9F,KAAMA,KAAKg+F,eAAgBC,EAAsBj+F,KAAMA,KAAKk+F,eAAgBC,EAAsBn+F,KAAMA,KAAKo+F,eAAgBC,EAAsBr+F,KAAMA,KAAKs+F,eAAgBC,EAAsBv+F,KAAMA,KAAKw+F,eAAgBC,EAAsBz+F,KAAMA,KAAK0+F,eAAgBC,EAAsB3+F,KAAMA,KAAK4+F,eAAgBC,EAAsB7+F,KAAMA,KAAK8+F,eAAgBC,EAAsB/+F,KAAMA,KAAKg/F,eAAgBC,EAAsBj/F,KAAMA,KAAKk/F,eAAgBC,EAAsBn/F,KAAMA,KAAKo/F,eAAgBC,EAAsBr/F,KAAMA,KAAKs/F,eAAgBC,EAAsBv/F,KAAMA,KAAKw/F,eAAgBC,EAAsBz/F,KAAMA,KAAK0/F,eAAgBC,EAAsB3/F,KAAMA,KAAK4/F,eAAgBC,EAAsB7/F,KAAMA,KAAK8/F,eAAgBC,EAAsB//F,KAAMA,KAAKggG,eAAgBC,EAAsBjgG,KAAMA,KAAKkgG,eAAgBC,EAAsBngG,KAAMA,KAAKogG,eAAgBC,EAAsBrgG,KAAMA,

GrCmsB,EAAUj9D,UAAUsgE,eAAiB,SAAUnpD,EAAU+mD,EAAeb,EAAckD,GAClF,IAAI7tD,EAAQxT,KAC
Z,OAAOiY,EAASwd,MAAM,KACjBha,KAAI,SAAUsuC,GAAQ,OAAOA,EAAKh3B,OAAO0C,MAAM6rC,OA
C/C7lD,KAAI,SAAU8lD,GACf,IAAI1sD,EAAKhT,EAAO0/D,GAAYC,EAAc3sD,EAAG,GAAI4sD,EAAa5sD,E
AAGjS,MAAM,GAWvE,OAAOR,EAAS,CAVC,SAAUo/D,GACvB,OAAIhuD,EAAMkuD,sBAAsBF,EAAaxC,G
AClCqC,EACH7tD,EAAMmuD,0BAA0BH,EAAaxC,EAAeb,GAC5D3qD,EAAMouD,oBAAoBJ,EAAaxC,EAAe
b,GAGnDqD,EAGEK,CAAWL,IAAeC,GAAYnoD,KAAK,QAE3DA,KAAK,OAEdykD,EAAUj9D,UAAU4gE,sB
AAwB,SAAUzpD,EAAU+mD,GAE5D,OADSh/D,KAAK8hE,kBAAkB9C,GACrBrf,KAAK1nC,IAEpB8lD,EAA
Uj9D,UAAUghE,kBAAoB,SAAU9C,GAAQ,OAAOA,EAAKj1C,QAFpB,MAEiC,OAAOA,QADxC,MA
CqD,OACxD,IAAIrS,OAAO,KAAOsnD,EAAgB,IAAM+C,GAAmB,MAEtEhE,EAAUj9D,UAAU8gE,oBAAoB,S
AAU3pD,EAAU+mD,EAAeb,GAEzE,OAAOn+D,KAAKgiE,0BAA0B/pD,EAAU+mD,EAAeb,IAGnEJ,EAAUj9
D,UAAUkhE,0BAA4B,SAAU/pD,EAAU+mD,EAAeb,GAG/E,GADA8D,GAAgBvpD,UAAY,EACxBupD,GAAg
BtiB,KAAK1nC,GAAW,CAChC,IAAIiqD,EAAcliE,KAAKg+D,cAAcD,GAAeb,GACpD,OAAOn+D/hE,MAAMG,UAAU
gmE,KAAKjmE,KAAK+lE,EAAaC,GAAeA,EAAcD,EAAYnoD,OAAS,GAE7E,OAAOmoD,EAAYnoD,KAAK
,IACjDwW,EAAaC,EAAIpqD,UAErB,IAAIqxC,EAAO9xC,EAASmd,SAAUuuD,GAAI9B,OAAOD,EAAIC,OAAOD,EAAIC,
A,GAAehZ,KAAKrnD,QAAQ,QAAQ,KAA8B,EAAC,GAAIC,EAAOC,EAAOC,EAAO

KAAKmT,EAAM+f,UAAU+uC,EAAiB7iE,IACpDyiE,EAAY7hE,KAAK0hE,GACjBM,EAAqB5iE,EACrB6iE,GAAmB,EACnBN,EAAWC,OAAYjnD,GAGtBunD,IAASP,EACdI,IAEuB,IAAlBA,GAAuBN,EAAU9gC,IAAIuhC,KAC1CP,EAAWO,EACXN,EAAYH,EAAUtoD,IAAI+oD,GAC1CBH,EAAgB,EAAhBhB,EAAY7hE,KAAAKmT,EAAAM+f,UAAAU8uC,EAADjCC,EAAAkB7iE,IAAAkpDyiE,EAAAY7hE,KAAAK0hE,IAAAGACjBM,EAAAqB5iE,IAAAkCrB6iE,GAAAmB,EACnBN,EAAWC,OAAYjnD,GAGtBunD,IAASP,EACdI,IAEuB,IAAlBA,GAAuBN,EAAU9gC,IAAIuhC,KAC1CP,EAAWO,EACXN,EAAYH,EAAUtoD,IAAI+oD,GAC1CBH,EAAgB,EAAhBhB,EAAY7hE,KAAAKmT,EAAAM+f,UAAAU8uC,E

B,EAASC,GAC3C,OAAOD,EAAQulD,eAAezmE,KAAMmhB,IAEjCmlD,EAbmB,CAc5BR,IACEY,GAA+B,WAC/B,SAASA,EAAchlE,EAAOi1B,EAAYxT,EAAYwjD,EAAiBC,GACnE5mE,KAAK0B,MAAQA,EACb1B,KAAK22B,WAAaA,EAClB32B,KAAKmjB,WAAaA,EAClBnjB,KAAK2mE,gBAAkBA,EACvB3mE,KAAK4mE,cAAgBA,EAAcC,gBAAkBA,EAAkBC,EAAOC,EAAQC,EAAOC,EAAQC,EAAOC,EAAQ

oE,KAAK0oE,oBAAsB,GAC3B1oE,KAAK2oE,kBAAmB,EACxB3oE,KAAK4nE,OAAS,GACd5nE,KAAKw3D,OAAS,GACdx3D,KAAK6nE,4BAA8B,GACnC7nE,KAAK4oE,aAAeL,EAAQM,yBAA0B,EACtD7oE,KAAK8oE,qBAAuB,EAAQQ,qBAAuBziB,GAC3DtmD,KAAKgpE,yBACDT,KAAI,SAAUqC,GAAK,OAAOA,EAAEorD,YAAY,IAAM,KAC3G,KAAK,EAAQo+C,EAAQp+C,EAAQq+C,EAAOS,CAAEg/C,OAAQd,EAAQ5+C,EAAQ6+C,EAAOS,CAAEi/C,QAAQ,EAAQ7+C,EAAQ8+C,EAAOS,CAAEk/C,QAAQ,EAAQ9+C,EAAQ++C,EAAOS,CAAEm/C,QAAQ,EAAQ/+C,EAAQg/C,EAAOS,CAAEo/C,QAAQ,EAAQh/C,EAAQi/C,EAAOS,CAAEq/C,QAAQ,EAAQj/C,EAAQk/C,EAAOS,CAAEs/C,QAAQ,EAAQl/C,EAAQm/C,EAAOS,CAAEu/C,QAAQ,EAAQn/C,EAAQo/C,EAAOS,CAAEw/C,QAAQ,EAAQp/C,EAAQq/C,EAAOS,CAAEy/C,QAAQ,EAAQr/C,EAAQs/C,EAAOS,CAAE0/C,QAAQ,EAAQt/C,EAAQu/C,EAAOS,CAAE2/C,QAAQ,EAAQv/C,EAAQw/C,EAAOS,CAAE4/C,QAAQ,EAAQx/C,EAAQy/C,EAAOS,CAAE6/C,QAAQ,EAAQz/C,EAAQ0/C,EAAOS,CAAE8/C,QAAQ,EAAQ1/C,EAAQ2/C,EAAOS,CAAE+/C,QAAQ,EAAQ3/C,EAAQ4/C,EAAOS,CAAEggD,QAAQ,EAAQ5/C,EAAQ6/C,EAAOS,CAAEigD,QAAQ,EAAQ7/C,EAAQ8/C,EAAOS,CAAEkgD,QAAQ,EAAQ9/C,EAAQ+/C,EAAOS,CAAEmgD,QAAQ,EAAQ//C,EAAQggD,EAAOS,CAAEogD,QAAQ,EAAQhgD,EAAQigD,EAAOS,CAAEqgD,QAAQ,EAAQjgD,EAAQkgD,EAAOS,CAAEsgD,QAAQ,EAAQlgD,EAAQmgD,EAAOS,CAAEugD,QAAQ,EAAQngD,EAAQogD,EAAOS,CAAEwgD,QAAQ,EAAQpgD,EAAQqgD,EAAOS,CAAEygD,QAAQ,EAAQrgD,EAAQsgD,EAAOS,CAAE0gD,QAAQ,EAAQtgD,EAAQugD,EAAOS,CAAE2gD,QAAQ,EAAQvgD,EAAQwgD,EAAOS,CAAE4gD,QAAQ,EAAQxgD,EAAQygD,EAAOS,CAAE6gD,QAAQ,EAAQzgD,EAAQ0gD,EAAOS,CAAE8gD,QAAQ,EAAQ1gD,EAAQ2gD,EAAOS,CAAE+gD,QAAQ,EAAQ3gD,EAAQ4gD,EAAOS,CAAEghD,QAAQ,EAAQ5gD,EAAQ6gD,EAAOS,CAAEihD,QAAQ,EAAQ7gD,EAAQ8gD,EAAOS,CAAEkhD,QAAQ,EAAQ9gD,EAAQ+gD,EAAOS,CAAEmhD,QAAQ,EAAQ/gD,EAAQghD,EAAOS,CAAEohD,QAAQ,EAAQhhD,EAAQihD,EAAOS,CAAEqhD,QAAQ,EAAQjhD,EAAQkhD,EAAOS,CAAEshD,QAAQ,EAAQlhD,EAAQmhD,EAAOS,CAAEuhD,QAAQ,EAAQnhD,EAAQohD,EAAOS,CAAEwhD,QAAQ,EAAQphD,EAAQqhD,EAAOS,CAAEyhD,QAAQ,EAAQrhD,EAAQshD,EAAOS,CAAE0hD,QAAQ,EAAQthD,EAAQuhD,EAAOS,CAAE2hD,QAAQ,EAAQvhD,EAAQwhD,EAAOS,CAAE4hD,QAAQ,EAAQxhD,EAAQyhD,EAAOS,CAAE6hD,QAAQ,EAAQzhD,EAAQ0hD,EAAOS,CAAE8hD,QAAQ,EAAQ1hD,EAAQ2hD,EAAOS,CAAE+hD,QAAQ,EAAQ3hD,EAAQ4hD,EAAOS,CAAEgiD,QAAQ,EAAQ5hD,EAAQ6hD,EAAOS,CAAEiiD,QAAQ,EAAQ7hD,EAAQ8hD,EAAOS,CAAEkiD,QAAQ,EAAQ9hD,EAAQ+hD,EAAOS,CAAEmiD,QAAQ,EAAQ/hD,EAAQgiD,EAAOS,CAAEoiD,QAAQ,EAAQhiD,EAAQiiD,EAAOS,CAAEqiD,QAAQ,EAAQjiD,EAAQkiD,EAAOS,CAAEsiD,QAAQ,EAAQliD,EAAQmiD,EAAOS,CAAEuiD,QAAQ,EAAQniD,EAAQoiD,EAAOS,CAAEwiD,QAAQ,EAAQpiD,EAAQqiD,EAAOS,CAAEyiD,QAAQ,EAAQriD,EAAQsiD,EAAOS,CAAE0iD,QAAQ,EAAQtiD,EAAQuiD,EAAOS,CAAE2iD,QAAQ,EAAQviD,EAAQwiD,EAAOS,CAAE4iD,QAAQ,EAAQxiD,EAAQyiD,EAAOS,CAAE6iD,QAAQ,EAAQziD,EAAQ0iD,EAAOS,CAAE8iD,QAAQ,EAAQ1iD,EAAQ2iD,EAAOS,CAAE+iD,QAAQ,EAAQ3iD,EAAQ4iD,EAAOS,CAAEgjD,QAAQ,EAAQ5iD,EAAQ6iD,EAAOS,CAAEijD,QAAQ,EAAQ7iD,EAAQ8iD,EAAOS,CAAEkjD,QAAQ,EAAQ9iD,EAAQ+iD,EAAOS,CAAEmjD,QAAQ,EAAQ/iD,EAAQgjD,EAAOS,CAAEojD,QAAQ,EAAQhjD,EAAQijD,EAAOS,CAAEqjD,QAAQ,EAAQjjD,EAAQkjD,EAAOS,CAAEsjD,QAAQ,EAAQljD,EAAQmjD,EAAOS,CAAEujD,QAAQ,EAAQnjD,EAAQojD,EAAOS,CAAEwjD,QAAQ,EAAQpjD,EAAQqjD,EAAOS,CAAEyjD,QAAQ,EAAQrjD,EAAQsjD,EAAOS,CAAE0jD,QAAQ,EAAQtjD,EAAQujD,EAAOS,CAAE2jD,QAAQ,EAAQvjD,EAAQwjD,EAAOS,CAAE4jD,QAAQ,EAAQxjD,EAAQyjD,EAAOS,CAAE6jD,QAAQ,EAAQzjD,EAAQ0jD,EAAOS,CAAE8jD,QAAQ,EAAQ1jD,EAAQ2jD,EAAOS,CAAE+jD,QAAQ,EAAQ3jD,EAAQ4jD,EAAOS,CAAEgkD,QAAQ,EAAQ5jD,EAAQ6jD,EAAOS,CAAEikD,QAAQ,EAAQ7jD,EAAQ8jD,EAAOS,CAAEkkD,QAAQ,EAAQ9jD,EAAQ+jD,EAAOS,CAAEmkD,QAAQ,EAAQ/jD,EAAQgkD,EAAOS,CAAEokD,QAAQ,EAAQhkD,EAAQikD,EAAOS,CAAEqkD,QAAQ,EAAQjkD,EAAQkkD,EAAOS,CAAEskD,QAAQ,EAAQlkD,EAAQmkD,EAAOS,CAAEukD,QAAQ,EAAQnkD,EAAQokD,EAAOS,CAAEwkD,QAAQ,EAAQpkD,EAAQqkD,EAAOS,CAAEykD,QAAQ,EAAQrkD,EAAQskD,EAAOS,CAAE0kD,QAAQ,EAAQtkD,EAAQukD,EAAOS,CAAE2kD,QAAQ,EAAQvkD,EAAQwkD,EAAOS,CAAE4kD,QAAQ,EAAQxkD,EAAQykD,EAAOS,CAAE6kD,QAAQ,EAAQzkD,EAAQ0kD,EAAOS,CAAE8kD,QAAQ,EAAQ1kD,EAAQ2kD,EAAOS,CAAE+kD,QAAQ,EAAQ3kD,EAAQ4kD,EAAOS,CAAEglD,QAAQ,EAAQ5kD,EAAQ6kD,EAAOS,CAAEilD,QAAQ,EAAQ7kD,EAAQ8kD,EAAOS,CAAEklD,QAAQ,EAAQ9kD,EAAQ+kD,EAAOS,CAAEmlD,QAAQ,EAAQ/kD,EAAQglD,EAAOS,CAAEolD,QAAQ,EAAQhlD,EAAQilD,EAAOS,CAAEqlD,QAAQ,EAAQjlD,EAAQklD,EAAOS,CAAEslD,QAAQ,EAAQllD,EAAQmlD,EAAOS,CAAEulD,QAAQ,EAAQnlD,EAAQolD,EAAOS,CAAEwlD,QAAQ,EAAQplD,EAAQqlD,EAAOS,CAAEylD,QAAQ,EAAQrlD,EAAQslD,EAAOS,CAAE0lD,QAAQ,EAAQtlD,EAAQulD,EAAOS,CAAE2lD,QAAQ,EAAQvlD,EAAQwlD,EAAOS,CAAE4lD,QAAQ,EAAQxlD,EAAQylD,EAAOS,CAAE6lD,QAAQ,EAAQzlD,EAAQ0lD,EAAOS,CAAE8lD,QAAQ,EAAQ1lD,EAAQ2lD,EAAOS,CAAE+lD,QAAQ,EAAQ3lD,EAAQ4lD,EAAOS,CAAEgmD,QAAQ,EAAQ5lD,EAAQ6lD,EAAOS,CAAEimD,QAAQ,EAAQ7lD,EAAQ8lD,EAAOS,CAAEkmD,QAAQ,EAAQ9lD,EAAQ+lD,EAAOS,CAAEmmD,QAAQ,EAAQ/lD,EAAQgmD,EAAOS,CAAEomD,QAAQ,EAAQhmD,EAAQimD,EAAOS,CAAEqmD,QAAQ,EAAQjmD,EAAQkmD,EAAOS,CAAEsmD,QAAQ,EAAQlmD,EAAQmmD,EAAOS,CAAEumD,QAAQ,EAAQnmD,EAAQomD,EAAOS,CAAEwmD,QAAQ,EAAQpmD,EAAQqmD,EAAOS,CAAEymD,QAAQ,EAAQrmD,EAAQsmD,EAAOS,CAAE0mD,QAAQ,EAAQtmD,EAAQumD,EAAOS,CAAE2mD,QAAQ,EAAQvmD,EAAQwmD,EAAOS,CAAE4mD,QAAQ,EAAQxmD,EAAQymD,EAAOS,CAAE6mD,QAAQ,EAAQzmD,EAAQ0mD,EAAOS,CAAE8mD,QAAQ,EAAQ1mD,EAAQ2mD,EAAOS,CAAE+mD,QAAQ,EAAQ3mD,EAAQ4mD,EAAOS,CAAEgnD,QAAQ,EAAQ5mD,EAAQ6mD,EAAOS,CAAEinD,QAAQ,EAAQ7mD,EAAQ8mD,EAAOS,CAAEknD,QAAQ,EAAQ9mD,EAAQ+mD,EAAOS,CAAEmnD,QAAQ,EAAQ/mD,EAAQgnD,EAAOS,CAAEonD,QAAQ,EAAQhnD,EAAQinD,EAAOS,CAAEqnD,QAAQ,EAAQjnD,EAAQknD,EAAOS,CAAEsnD,QAAQ,EAAQlnD,EAAQmnD,EAAOS,CAAEunD,QAAQ,EAAQnnD,EAAQonD,EAAOS,CAAEwnD,QAAQ,EAAQpnD,EAAQqnD,EAAOS,CAAEynD,QAAQ,EAAQrnD,EAAQsnD,EAAOS,CAAE0nD,QAAQ,EAAQtnD,EAAQunD,EAAOS,CAAE2nD,QAAQ,EAAQvnD,EAAQwnD,EAAOS,CAAE4nD,QAAQ,EAAQxnD,EAAQynD,EAAOS,CAAE6nD,QAAQ,EAAQznD,EAAQ0nD,EAAOS,CAAE8nD,QAAQ,EAAQ1nD,EAAQ2nD,EAAOS,CAAE+nD,QAAQ,EAAQ3nD,EAAQ4nD,EAAOS,CAAEgoD,QAAQ,EAAQ5nD,EAAQ6nD,EAAOS,CAAEioD,QAAQ,EAAQ7nD,EAAQ8nD,EAAOS,CAAEkoD,QAAQ,EAAQ9nD,EAAQ+nD,EAAOS,CAAEmoD,QAAQ,EAAQ/nD,EAAQgoD,EAAOS,CAAEooD,QAAQ,EAAQhoD,EAAQioD,EAAOS,CAAEqoD,QAAQ,EAAQjoD,EAAQkoD,EAAOS,CAAEsoD,QAAQ,EAAQloD,EAAQmoD,EAAOS,CAAEuoD,QAAQ,EAAQnoD,EAAQooD,EAAOS,CAAEwoD,QAAQ,EAAQpoD,EAAQqoD,EAAOS,CAAEyoD,QAAQ,EAAQroD,EAAQsoD,EAAOS,CAAE0oD,QAAQ,EAAQtoD,EAAQuoD,EAAOS,CAAE2oD,QAAQ,EAAQvoD,EAAQwoD,EAAOS,CAAE4oD,QAAQ,EAAQxoD,EAAQyoD,EAAOS,CAAE6oD,QAAQ,EAAQzoD,EAAQ0oD,EAAOS,CAAE8oD,QAAQ,EAAQ1oD,EAAQ2oD,EAAOS,CAAE+oD,QAAQ,EAAQ3oD,EAAQ4oD,EAAOS,CAAEgpD,QAAQ,EAAQ5oD,EAAQ6oD,EAAOS,CAAEipD,QAAQ,EAAQ7oD,EAAQ8oD,EAAOS,CAAEkpD,QAAQ,EAAQ9oD,EAAQ+oD,EAAOS,CAAEmpD,QAAQ,EAAQ/oD,EAAQgpD,EAAOS,CAAEopD,QAAQ,EAAQhpD,EAAQipD,EAAOS,CAAEqpD,QAAQ,EAAQjpD,EAAQkpD,EAAOS,CAAEspD,QAAQ,EAAQlpD,EAAQmpD,EAAOS,CAAEupD,QAAQ,EAAQnpD,EAAQopD,EAAOS,CAAEwpD,QAAQ,EAAQppD,EAAQqpD,EAAOS,CAAEypD,QAAQ,EAAQrpD,EAAQspD,EAAOS,CAAE0pD,QAAQ,EAAQtpD,EAAQupD,EAAOS,CAAE2pD,QAAQ,EAAQvpD,EAAQwpD,EAAOS,CAAE4pD,QAAQ,EAAQxpD,EAAQypD,EAAOS,CAAE6pD,QAAQ,EAAQzpD,EAAQ0pD,EAAOS,CAAE8pD,QAAQ,EAAQ1pD,EAAQ2pD,EAAOS,CAAE+pD,QAAQ,EAAQ3pD,EAAQ4pD,EAAOS,CAAEgqD,QAAQ,EAAQ5pD,EAAQ6pD,EAAOS,CAAEiqD,QAAQ,EAAQ7pD,EAAQ8pD,EAAOS,CAAEkqD,QAAQ,EAAQ9pD,EAAQ+pD,EAAOS,CAAEmqD,QAAQ,EAAQ/pD,EAAQgqD,EAAOS,CAAEoqD,QAAQ,EAAQhqD,EAAQiqD,EAAOS,CAAEqqD,QAAQ,EAAQjqD,EAAQkqD,EAAOS,CAAEsqD,QAAQ,EAAQlqD,EAAQmqD,EAAOS,CAAEuqD,QAAQ,EAAQnqD,EAAQoqD,EAAOS,CAAEwqD,QAAQ,EAAQpqD,EAAQqqD,EAAOS,CAAEyqD,QAAQ,EAAQrqD,EAAQsqD,EAAOS,CAAE0qD,QAAQ,EAAQtqD,EAAQuqD,EAAOS,CAAE2qD,QAAQ,EAAQvqD,EAAQwqD,EAAOS,CAAE4qD,QAAQ,EAAQxqD,EAAQyqD,EAAOS,CAAE6qD,QAAQ,EAAQzqD,EAAQ0qD,EAAOS,CAAE8qD,QAAQ,EAAQ1qD,EAAQ2qD,EAAOS,CAAE+qD,QAAQ,EAAQ3qD,EAAQ4qD,EAAOS,CAAEgrD,QAAQ,EAAQ5qD,EAAQ6qD,EAAOS,CAAEirD,QAAQ,EAAQ7qD,EAAQ8qD,EAAOS,CAAEkrD,QAAQ,EAAQ9qD,EAAQ+qD,EAAOS,CAAEmrD,QAAQ,EAAQ/qD,EAAQgrD,EAAOS,CAAEorD,QAAQ,EAAQhrD,EAAQirD,EAAOS,CAAEqrD,QAAQ,EAAQjrD,EAAQkrD,EAAOS,CAAEsrD,QAAQ,EAAQlrD,EAAQmrD,EAAOS,CAAEurD,QAAQ,EAAQnrD,EAAQorD,EAAOS,CAAEwrD,QAAQ,EAAQprD,EAAQqrD,EAAOS,CAAEyrD,QAAQ,EAAQrrD,EAAQsrD,EAAOS,CAAE0rD,QAAQ,EAAQtrD,EAAQurD,EAAOS,CAAE2rD,QAAQ,EAAQvrD,EAAQwrD,EAAOS,CAAE4rD,QAAQ,EAAQxrD,EAAQyrD,EAAOS,CAAE6rD,QAAQ,EAAQzrD,EAAQ0rD,EAAOS,CAAE8rD,QAAQ,EAAQ1rD,EAAQ2rD,EAAOS,CAAE+rD,QAAQ,EAAQ3rD,EAAQ4rD,EAAOS,CAAEgsD,QAAQ,EAAQ5rD,EAAQ6rD,EAAOS,CAAEisD,QAAQ,EAAQ7rD,EAAQ8rD,EAAOS,CAAEksD,QAAQ,EAAQ9rD,EAAQ+rD,EAAOS,CAAEmsD,QAAQ,EAAQ/rD,EAAQgsD,EAAOS,CAAEosD,QAAQ,EAAQhsD,EAAQisD,EAAOS,CAAEqsD,QAAQ,EAAQjsD,EAAQksD,EAAOS,CAAEssD,QAAQ,EAAQlsD,EAAQmsD,EAAOS,CAAEusD,QAAQ,EAAQnsD,EAAQosD,EAAOS,CAAEwsD,QAAQ,EAAQpsD,EAAQqsD,EAAOS,CAAEysD,QAAQ,EAAQrsD,EAAQssD,EAAOS,CAAE0sD,QAAQ,EAAQtsD,EAAQusD,EAAOS,CAAE2sD,QAAQ,EAAQvsD,EAAQwsD,EAAOS,CAAE4sD,QAAQ,EAAQxsD,EAAQysD,EAAOS,CAAE6sD,QAAQ,EAAQzsD,EAAQ0sD,EAAOS,CAAE8sD,QAAQ,EAAQ1sD,EAAQ2sD,EAAOS,CAAE+sD,QAAQ,EAAQ3sD,EAAQ4sD,EAAOS,CAAEgtD,QAAQ,EAAQ5sD,EAAQ6sD,EAAOS,CAAEitD,QAAQ,EAAQ7sD,EAAQ8sD,EAAOS,CAAEktD,QAAQ,EAAQ9sD,EAAQ+sD,EAAOS,CAAEmtD,QAAQ,EAAQ/sD,EAAQgtD,EAAOS,CAAEotD,QAAQ,EAAQhtD,EAAQitD,EAAOS,CAAEqtD,QAAQ,EAAQjtD,EAAQktD,EAAOS,CAAEstD,QAAQ,EAAQltD,EAAQmtD,EAAOS,CAAEutD,QAAQ,EAAQntD,EAAQotD,EAAOS,CAAEwtD,QAAQ,EAAQptD,EAAQqtD,EAAOS,CAAEytD,QAAQ,EAAQrtD,EAAQstD,EAAOS,CAAE0tD,QAAQ,EAAQttD,EAAQutD,EAAOS,CAAE2tD,QAAQ,EAAQvtD,EAAQwtD,EAAOS,CAAE4tD,QAAQ,EAAQxtD,EAAQytD,EAAOS,CAAE6tD,QAAQ,EAAQztD,EAAQ0tD,EAAOS,CAAE8tD,QAAQ,EAAQ1tD,EAAQ2tD,EAAOS,CAAE+tD,QAAQ,EAAQ3tD,EAAQ4tD,EAAOS,CAAEguD,QAAQ,EAAQ5tD,EAAQ6tD,EAAOS,CAAEiuD,QAAQ,EAAQ7tD,EAAQ8tD,EAAOS,CAAEkuD,QAAQ,EAAQ9tD,EAAQ+tD,EAAOS,CAAEmuD,QAAQ,EAAQ/tD,EAAQguD,EAAOS,CAAEouD,QAAQ,EAAQhuD,EAAQiuD,EAAOS,CAAEquD,QAAQ,EAAQjuD,EAAQkuD,EAAOS,CAAEsuD,QAAQ,EAAQluD,EAAQmuD,EAAOS,CAAEuuD,QAAQ,EAAQnuD,EAAQouD,EAAOS,CAAEwuD,QAAQ,EAAQpuD,EAAQquD,EAAOS,CAAEyuD,QAAQ,EAAQruD,EAAQsuD,EAAOS,CAAE0uD,QAAQ,EAAQtuD,EAAQuuD,EAAOS,CAAE2uD,QAAQ,EAAQvuD,EAAQwuD,EAAOS,CAAE4uD,QAAQ,EAAQxuD,EAAQyuD,EAAOS,CAAE6uD,QAAQ,EAAQzuD,EAAQ0uD,EAAOS,CAAE8uD,QAAQ,EAAQ1uD,EAAQ2uD,EAAOS,CAAE+uD,QAAQ,EAAQ3uD,EAAQ4uD,EAAOS,CAAEgvD,QAAQ,EAAQ5uD,EAAQ6uD,EAAOS,CAAEivD,QAAQ,EAAQ7uD,EAAQ8uD,EAAOS,CAAEkvD,QAAQ,EAAQ9uD,EAAQ+uD,EAAOS,CAAEmvD,QAAQ,EAAQ/uD,EAAQgvD,EAAOS,CAAEovD,QAAQ,EAAQhvD,EAAQivD,EAAOS,CAAEqvD,QAAQ,EAAQjvD,EAAQkvD,EAAOS,CAAEsvD,QAAQ,EAAQlvD,EAAQmvD,EAAOS,CAAEuvD,QAAQ,EAAQnvD,EAAQovD,EAAOS,CAAEwvD,QAAQ,EAAQpvD,EAAQqvD,EAAOS,CAAEyvD,QAAQ,EAAQrvD,EAAQsvD,EAAOS,CAAE0vD,QAAQ,EAAQtvD,EAAQuvD,EAAOS,CAAE2vD,QAAQ,EAAQvvD,EAAQwvD,EAAOS,CAAE4vD,QAAQ,EAAQxvD,EAAQyvD,EAAOS,CAAE6vD,QAAQ,EAAQzvD,EAAQ0vD,EAAOS,CAAE8vD,QAAQ,EAAQ1vD,EAAQ2vD,EAAOS,CAAE+vD,QAAQ,EAAQ3vD,EAAQ4vD,EAAOS,CAAEgwD,QAAQ,EAAQ5vD,EAAQ6vD,EAAOS,CAAEiwD,QAAQ,EAAQ7vD,EAAQ8vD,EAAOS,CAAEkwD,QAAQ,EAAQ9vD,EAAQ+vD,EAAOS,CAAEmwD,QAAQ,EAAQ/vD,EAAQgwD,EAAOS,CAAEowD,QAAQ,EAAQhwD,EAAQiwD,EAAOS,CAAEqwD,QAAQ,EAAQjwD,EAAQkwD,EAAOS,CAAEswD,QAAQ,EAAQlwD,EAAQmwD,EAAOS,CAAEuwD,QAAQ,EAAQnwD,EAAQowD,EAAOS,CAAEwwD,QAAQ,EAAQpwD,EAAQqwD,EAAOS,CAAEywD,QAAQ,EAAQrwD,EAAQswD,EAAOS,CAAE0wD,QAAQ,EAAQtwD,EAAQuwD,EAAOS,CAAE2wD,QAAQ,EAAQvwD,EAAQwwD,EAAOS,CAAE4wD,QAAQ,EAAQxwD,EAAQywD,EAAOS,CAAE6wD,QAAQ,EAAQzwD,EAAQ0wD,EAAOS,CAAE8wD,QAAQ,EAAQ1wD,EAAQ2wD,EAAOS,CAAE+wD,QAAQ,EAAQ3wD,EAAQ4wD,EAAOS,CAAEgxD,QAAQ,EAAQ5wD,EAAQ6wD,EAAOS,CAAEixD,QAAQ,EAAQ7wD,EAAQ8wD,EAAOS,CAAEkxD,QAAQ,EAAQ9wD,EAAQ+wD,EAAOS,CAAEmxD,QAAQ,EAAQ/wD,EAAQgxD,EAAOS,CAAEoxD,QAAQ,EAAQhxD,EAAQixD,EAAOS,CAAEqxD,QAAQ,EAAQjxD,EAAQkxD,EAAOS,CAAEsxD,QAAQ,EAAQlxD,EAAQmxD,EAAOS,CAAEuxD,QAAQ,EAAQnxD,EAAQoxD,EAAOS,CAAEwxD,QAAQ,EAAQpxD,EAAQqxD,EAAOS,CAAEyxD,QAAQ,EAAQrxD,EAAQsxD,EAAOS,CAAE0xD,QAAQ,EAAQtxD,EAAQuxD,EAAOS,CAAE2xD,QAAQ,EAAQvxD,EAAQwxD,EAAOS,CAAE4xD,QAAQ,EAAQxxD,EAAQyxD,EAAOS,CAAE6xD,QAAQ,EAAQzxD,EAAQ0xD,EAAOS,CAAE8xD,QAAQ,EAAQ1xD,EAAQ2xD,EAAOS,CAAE+xD,QAAQ,EAAQ3xD,EAAQ4xD,EAAOS,CAAEgyD,QAAQ,EAAQ5xD,EAAQ6xD,EAAOS,CAAEiyD,QAAQ,EAAQ7xD,EAAQ8xD,EAAOS,CAAEkyD,QAAQ,EAAQ9xD,EAAQ+xD,EAAOS,CAAEmyD,QAAQ,EAAQ/xD,EAAQgyD,EAAOS,CAAEoyD,QAAQ,EAAQhyD,EAAQiyD,EAAOS,CAAEqyD,QAAQ,EAAQjyD,EAAQkyD,EAAOS,CAAEsyD,QAAQ,EAAQlyD,EAAQmyD,EAAOS,CAAEuyD,QAAQ,EAAQnyD,EAAQoyD,EAAOS,CAAEwyD,QAAQ,EAAQpyD,EAAQqyD,EAAOS,CAAEyyD,QAAQ,EAAQryD,EAAQsyD,EAAOS,CAAE0yD,QAAQ,EAAQtyD,EAAQuyD,EAAOS,CAAE2yD,QAAQ,EAAQvyD,EAAQwyD,EAAOS,CAAE4yD,QAAQ,EAAQxyD,EAAQyyD,EAAOS,CAAE6yD,QAAQ,EAAQzyD,EAAQ0yD,EAAOS,CAAE8yD,QAAQ,EAAQ1yD,EAAQ2yD,EAAOS,CAAE+yD,QAAQ,EAAQ3yD,EAAQ4yD,EAAOS,CAAEgzD,QAAQ,EAAQ5yD,EAAQ6yD,EAAOS,CAAEizD,QAAQ,EAAQ7yD,EAAQ8yD,EAAOS,CAAEkzD,QAAQ,EAAQ9yD,EAAQ+yD,EAAOS,CAAEmzD,QAAQ,EAAQ/yD,EAAQgzD,EAAOS,CAAEozD,QAAQ,EAAQhzD,EAAQizD,EAAOS,CAAEqzD,QAAQ,EAAQjzD,EAAQkzD,EAAOS,CAAEszD,QAAQ,EAAQlzD,EAAQmzD,EAAOS,CAAEuzD,QAAQ,EAAQnzD,EAAQozD,EAAOS,CAAEwzD,QAAQ,EAAQpzD,EAAQqzD,EAAOS,CAAEyzD,QAAQ,EAAQrzD,EAAQszD,EAAOS,CAAE0zD,QAAQ,EAAQtzD,EAAQuzD,EAAOS,CAAE2zD,QAAQ,EAAQvzD,EAAQwzD,EAAOS,CAAE4zD,QAAQ,EAAQxzD,EAAQyzD,EAAOS,CAAE6zD,QAAQ,EAAQzzD,EAAQ0zD,EAAOS,CAAE8zD,QAAQ,EAAQ1zD,EAAQ2zD,EAAOS,CAAE+zD,QAAQ,EAAQ3zD,EAAQ4zD,EAAOS,CAAEg0D,QAAQ,EAAQ5zD,EAAQ6zD,EAAOS,CAAEi0D,QAAQ,EAAQ7zD,EAAQ8zD,EAAOS,CAAEk0D,QAAQ,EAAQ9zD,EAAQ+zD,EAAOS,CAAEm0D,QAAQ,EAAQ/zD,EAAQg0D,EAAOS,CAAEo0D,QAAQ,EAAQh0D,EAAQi0D,EAAOS,CAAEq0D,QAAQ,EAAQj0D,EAAQk0D,EAAOS,CAAEs0D,QAAQ,EAAQl0D,EAAQm0D,EAAOS,CAAEu0D,QAAQ,EAAQn0D,EAAQo0D,EAAOS,CAAEw0D,QAAQ,EAAQp0D,EAAQq0D,EAAOS,CAAEy0D,QAAQ,EAAQr0D,EAAQs0D,EAAOS,CAAE00D,QAAQ,EAAQt0D,EAAQu0D,EAAOS,CAAE20D,QAAQ,EAAQv0D,EAAQw0D,EAAOS,CAAE40D,QAAQ,EAAQx0D,EAAQy0D,EAAOS,CAAE60D,QAAQ,EAAQz0D,EAAQ00D,EAAOS,CAAE80D,QAAQ,EAAQ10D,EAAQ20D,EAAOS,CAAE+0D,QAAQ,EAAQ30D,EAAQ40D,EAAOS,CAAEg1D,QAAQ,EAAQ50D,EAAQ60D,EAAOS,CAAEi1D,QAAQ,EAAQ70D,EAAQ80D,EAAOS,CAAEk1D,QAAQ,EAAQ90D,EAAQ+0D,EAAOS,CAAEm1D,QAAQ,EAAQ/0D,EAAQg1D,EAAOS,CAAEo1D,QAAQ,EAAQh1D,EAAQi1D,EAAOS,CAAEq1D,QAAQ,EAAQj1D,EAAQk1D,EAAOS,CAAEs1D,QAAQ,EAAQl1D,EAAQm1D,EAAOS,CAAEu1D,QAAQ,EAAQn1D,EAAQo1D,EAAOS,CAAEw1D,QAAQ,EAAQp1D,EAAQq1D,EAAOS,CAAEy1D,QAAQ,EAAQr1D,EAAQs1D,EAAOS,CAAE01D,QAAQ,EAAQt1D,EAAQu1D,EAAOS,CAAE21D,QAAQ,EAAQv1D,EAAQw1D,EAAOS,CAAE41D,QAAQ,EAAQx1D,EAAQy1D,EAAOS,CAAE61D,QAAQ,EAAQz1D,EAAQ01D,EAAOS,CAAE81D,QAAQ,EAAQ11D,EAAQ21D,EAAOS,CAAE+1D,QAAQ,EAAQ31D,EAAQ41D,EAAOS,CAAEg2D,QAAQ,EAAQ51D,EAAQ61D,EAAOS,CAAEi2D,QAAQ,EAAQ71D,EAAQ81D,EAAOS,CAAEk2D,QAAQ,EAAQ91D,EAAQ+1D,EAAOS,CAAEm2D,QAAQ,EAAQ/1D,EAAQg2D,EAAOS,CAAEo2D,QAAQ,EAAQh2D,EAAQi2D,EAAOS,CAAEq2D,QAAQ,EAAQj2D,EAAQk2D,EAAOS,CAAEs2D,QAAQ,EAAQl2D,EAAQm2D,EAAOS,CAAEu2D,QAAQ,EAAQn2D,EAAQo2D,EAAOS,CAAEw2D,QAAQ,EAAQp2D,EAAQq2D,EAAOS,CAAEy2D,QAAQ,EAAQr2D,EAAQs2D,EAAOS,CAAE02D,QAAQ,EAAQt2D,EAAQu2D,EAAOS,CAAE22D,QAAQ,EAAQv2D,EAAQw2D,EAAOS,CAAE42D,QAAQ,EAAQx2D,EAAQy2D,EAAOS,CAAE62D,QAAQ,EAAQz2D,EAAQ02D,EAAOS,CAAE82D,QAAQ,EAAQ12D,EAAQ22D,EAAOS,CAAE+2D,QAAQ,EAAQ32D,EAAQ42D,EAAOS,CAAEg3D,QAAQ,EAAQ52D,EAAQ62D,EAAOS,CAAEi3D,QAAQ,EAAQ72D,EAAQ82D,EAAOS,CAAEk3D,QAAQ,EAAQ92D,EAAQ+2D,EAAOS,CAAEm3D,QAAQ,EAAQ/2D,EAAQg3D,EAAOS,CAAEo3D,QAAQ,EAAQh3D,EAAQi3D,EAAOS,CAAEq3D,QAAQ,EAAQj3D,EAAQk3D,EAAOS,CAAEs3D,QAAQ,EAAQl3D,EAAQm3D,EAAOS,CAAEu3D,QAAQ,EAAQn3D,EAAQo3D,EAAOS,CAAEw3D,QAAQ,EAAQp3D,EAAQq3D,EAAOS,CAAEy3D,QAAQ,EAAQr3D,EAAQs3D,EAAOS,CAAE03D,QAAQ,EAAQt3D,EAAQu3D,EAAOS,CAAE23D,QAAQ,EAAQv3D,EAAQw3D,EAAOS,CAAE43D,QAAQ,EAAQx3D,EAAQy3D,EAAOS,CAAE63D,QAAQ,EAAQz3D,EAAQ03D,EAAOS,CAAE83D,QAAQ,EAAQ13D,EAAQ23D,EAAOS,CAAE+3D,QAAQ,EAAQ33D,EAAQ43D,EAAOS,CAAEg4D,QAAQ,EAAQ53D,EAAQ63D,EAAOS,CAAEi4D,QAAQ,EAAQ73D,EAAQ83D,EAAOS,CAAEk4D,QAAQ,EAAQ93D,EAAQ+3D,EAAOS,CAAEm4D,QAAQ,EAAQ/3D,EAAQg4D,EAAOS,CAAEo4D,QAAQ,EAAQh4D,EAAQi4D,EAAOS,CAAEq4D,QAAQ,EAAQj4D,EAAQk4D,EAAOS,CAAEs4D,QAAQ,EAAQl4D,EAAQm4D,EAAOS,CAAEu4D,QAAQ,EAAQn4D,EAAQo4D,EAAOS,CAAEw4D,QAAQ,EAAQp4D,EAAQq4D,EAAOS,CAAEy4D,QAAQ,EAAQr4D,EAAQs4D,EAAOS,CAAE04D,QAAQ,EAAQt4D,EAAQu4D,EAAOS,CAAE24D,QAAQ,EAAQv4D,EAAQw4D,EAAOS,CAAE44D,QAAQ,EAAQx4D,EAAQy4D,EAAOS,CAAE64D,QAAQ,EAAQz4D,EAAQ04D,EAAOS,CAAE84D,QAAQ,EAAQ14D,EAAQ24D,EAAOS,CAAE+4D,QAAQ,EAAQ34D,EAAQ44D,EAAOS,CAAEg5D,QAAQ,EAAQ54D,EAAQ64D,EAAOS,CAAEi5D,QAAQ,EAAQ74D,EAAQ84D,EAAOS,CAAEk5D,QAAQ,EAAQ94D,EAAQ+4D,EAAOS,CAAEm5D,QAAQ,EAAQ/4D,EAAQg5D,EAAOS,CAAEo5D,QAAQ,EAAQh5D,EAAQi5D,EAAOS,CAAEq5D,QAAQ,EAAQj5D,EAAQk5D,EAAOS,CAAEs5D,QAAQ,EAAQl5D,EAAQm5D,EAAOS,CAAEu5D,QAAQ,EAAQn5D,EAAQo5D,EAAOS,CAAEw5D,QAAQ,EAAQp5D,EAAQq5D,EAAOS,CAAEy5D,QAAQ,EAAQr5D,EAAQs5D,EAAOS,CAAE05D,QAAQ,EAAQt5D,EAAQu5D,EAAOS,CAAE25D,QAAQ,EAAQv5D,EAAQw5D,EAAOS,CAAE45D,QAAQ,EAAQx5D,EAAQy5D,EAAOS,CAAE65D,QAAQ,EAAQz5D,EAAQ05D,EAAOS,CAAE85D,QAAQ,EAAQ15D,EAAQ25D,EAAOS,CAAE+5D,QAAQ,EAAQ35D,EAAQ45D,EAAOS,CAAEg6D,QAAQ,EAAQ55D,EAAQ65D,EAAOS,CAAEi6D,QAAQ,EAAQ75D,EAAQ85D,EAAOS,CA

B,EAAQtzC,KAAKqpE,QAAQ/3C,QAEzB,GADAtxB,KAAKqsE,wBAAwBlrB,GACzBnhD,KAAKqpE,QAAQkD,KAAKj5B,GAASvwB,EAC3B,MAAM/iB,KAAKsrE,aAAavD,GAA6B/nE,KAAKqpE,QAAQY,QAASjqE,KAAKqpE,QAAQgC,QAAQ/3B,KAGxG80B,EAAWtnE,UAAU0rE,kBAAoB,SAAUpI,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU2rE,kBAAoB,SAAUrI,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU4rE,kBAAoB,SAAUtI,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU6rE,kBAAoB,SAAUvI,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU8rE,kBAAoB,SAAUxI,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU+rE,kBAAoB,SAAUzI,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUgsE,kBAAoB,SAAU1I,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUisE,kBAAoB,SAAU3I,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUksE,kBAAoB,SAAU5I,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUmsE,kBAAoB,SAAU7I,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUosE,kBAAoB,SAAU9I,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUqsE,kBAAoB,SAAU/I,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUssE,kBAAoB,SAAUhJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUusE,kBAAoB,SAAUjJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUwsE,kBAAoB,SAAUlJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUysE,kBAAoB,SAAUnJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU0sE,kBAAoB,SAAUpJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU2sE,kBAAoB,SAAUrJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU4sE,kBAAoB,SAAUtJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU6sE,kBAAoB,SAAUvJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU8sE,kBAAoB,SAAUxJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU+sE,kBAAoB,SAAUzJ,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUgtE,kBAAoB,SAAU1J,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUitE,kBAAoB,SAAU3J,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUktE,kBAAoB,SAAU5J,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUmtE,kBAAoB,SAAU7J,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUotE,kBAAoB,SAAU9J,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUqtE,kBAAoB,SAAU/J,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUstE,kBAAoB,SAAUhK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUutE,kBAAoB,SAAUjK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUwtE,kBAAoB,SAAUlK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUytE,kBAAoB,SAAUnK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU0tE,kBAAoB,SAAUpK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU2tE,kBAAoB,SAAUrK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU4tE,kBAAoB,SAAUtK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU6tE,kBAAoB,SAAUvK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU8tE,kBAAoB,SAAUxK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU+tE,kBAAoB,SAAUzK,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUguE,kBAAoB,SAAU1K,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUiuE,kBAAoB,SAAU3K,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUkuE,kBAAoB,SAAU5K,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUmuE,kBAAoB,SAAU7K,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUouE,kBAAoB,SAAU9K,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUquE,kBAAoB,SAAU/K,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUsuE,kBAAoB,SAAUhL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUuuE,kBAAoB,SAAUjL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUwuE,kBAAoB,SAAUlL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUyuE,kBAAoB,SAAUnL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU0uE,kBAAoB,SAAUpL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU2uE,kBAAoB,SAAUrL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU4uE,kBAAoB,SAAUtL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU6uE,kBAAoB,SAAUvL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU8uE,kBAAoB,SAAUxL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU+uE,kBAAoB,SAAUzL,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUgvE,kBAAoB,SAAU1L,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUivE,kBAAoB,SAAU3L,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUkvE,kBAAoB,SAAU5L,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUmvE,kBAAoB,SAAU7L,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUovE,kBAAoB,SAAU9L,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUqvE,kBAAoB,SAAU/L,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUsvE,kBAAoB,SAAUhM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUuvE,kBAAoB,SAAUjM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUwvE,kBAAoB,SAAUlM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUyvE,kBAAoB,SAAUnM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU0vE,kBAAoB,SAAUpM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU2vE,kBAAoB,SAAUrM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU4vE,kBAAoB,SAAUtM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU6vE,kBAAoB,SAAUvM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU8vE,kBAAoB,SAAUxM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU+vE,kBAAoB,SAAUzM,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUgwE,kBAAoB,SAAU1M,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUiwE,kBAAoB,SAAU3M,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUkwE,kBAAoB,SAAU5M,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUmwE,kBAAoB,SAAU7M,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUowE,kBAAoB,SAAU9M,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUqwE,kBAAoB,SAAU/M,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUswE,kBAAoB,SAAUhN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUuwE,kBAAoB,SAAUjN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUwwE,kBAAoB,SAAUlN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUywE,kBAAoB,SAAUnN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU0wE,kBAAoB,SAAUpN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU2wE,kBAAoB,SAAUrN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU4wE,kBAAoB,SAAUtN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU6wE,kBAAoB,SAAUvN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU8wE,kBAAoB,SAAUxN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU+wE,kBAAoB,SAAUzN,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUgxE,kBAAoB,SAAU1N,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUixE,kBAAoB,SAAU3N,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUkxE,kBAAoB,SAAU5N,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUmxE,kBAAoB,SAAU7N,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUoxE,kBAAoB,SAAU9N,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUqxE,kBAAoB,SAAU/N,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUsxE,kBAAoB,SAAUhO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUuxE,kBAAoB,SAAUjO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUwxE,kBAAoB,SAAUlO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUyxE,kBAAoB,SAAUnO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU0xE,kBAAoB,SAAUpO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU2xE,kBAAoB,SAAUrO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU4xE,kBAAoB,SAAUtO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU6xE,kBAAoB,SAAUvO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU8xE,kBAAoB,SAAUxO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAU+xE,kBAAoB,SAAUzO,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUgyE,kBAAoB,SAAU1O,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUiyE,kBAAoB,SAAU3O,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUkyE,kBAAoB,SAAU5O,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUmyE,kBAAoB,SAAU7O,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUoyE,kBAAoB,SAAU9O,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QAAQpjC,WAAWrmC,KAAKqpE,QAAQY,SAAW7F,GAAQ,EAAI,EAAG,GACjE,EAEAqI,GAAWtnE,UAAUqyE,kBAAoB,SAAU/O,GAC/C,KAAKpkE,KAAKqpE,QAAQY,SAAW7F,GAC3BpkE,KAAKqpE,QA

EAAmB9uE,KAAKsoE,kBAAkBxlE,GAAS+Q,YACnDi7D,IAAqBrvE,EAAQQ,eAAeiX,SAC5ClX,KAAK+uE,4BAA4B3rE,EAAQN,GAAAS,GAE7CgsE,IAAqBrvE,EAAQQ,eAAeoX,oBACjDrX,KAAK+uE,4BAA4B3rE,EAAQN,GAAAS,IAG1DslE,EAAWtnE,UAAUiuE,4BAA8B,SAAU3rE,EAAQN,GAAAS,GAAAS,IAAAl5D,EAAQxT,KACIA,KAAKytE,gBAAgBf,GAAAgB,WACjD,QAAAKl5D,EAAAm5D,02D,EAAAM,02D,iBA7kHVMAolHD12D,EAAAM64D,wBmCMACzBh7D,EAAAM24D,2BrPEKAEtC0Q,EAAAM64D,wBmCMIACvBh7D,EAAAM02D,iBAnlHfSAqlHFlqE,KAAAK0qE,YAAYtD,GAAAU4H,WAC3BhvE,KAAAKssE,yBAAwB,SAAU1d,GAAAOAtlH7C,KAAslHoDA,IAAAiB,GACvE5uD,KAAAKqpE,QAAQpjC,UACbjmC,KAAAK4qE,UAAU,CAACxnE,EAAAQN,GAAAS,KAE5BslE,EAAWtnE,UAAUyuE,4BAA8B,SAAUnsE,EAAQN,GAAAS,GAAAS,IAAAl5D,EAAQxT,KACIA,KAAKytE,gBAAgBf,GAAAgB,WACjD,QAAAKl5D,EAAAm5D,02D,EAAAM,02D,iBA7kHVMAolHD12D,EAAAM64D,wBmCMACzBh7D,EAAAM24D,2BrPEKAEtC0Q,EAAAM64D,wBmCMIACvBh7D,EAAAM02D,iBAnlHfSAqlHFlqE,KAAAK0qE,YAAYtD,GAAAU4H,WAC3BhvE,KAAAKssE,yBAAwB,SAAU1d,GAAAOAtlH7C,KAAslHoDA,IAAAiB,GACvE5uD,KAAAKqpE,QAAQpjC,UACbjmC,KAAAK4qE,UAAU,CAACxnE,EAAAQN,GAAAS,KAE5BslE,EAAWtnE,UAAUyuE,4BAA8B,SAAUnsE,EAAQN,GAAAS,GAAAS,IAAAl5D,EAAQxT,KACIA,KAAKytE,gBAAgBf,GAAAgB,WACjD,QAAAKl5D,EAAAm5D,02D,EAAAM,02D,iBA7kHVMAolHD12D,EAAAM64D,wBmCMACzBh7D,EAAAM24D,2BrPEKAEtC0Q,EAAAM64D,wBmCMIACvBh7D,EAAAM02D,iBAnlHfSAqlHFlqE,KAAAK0qE,YAAYtD,GAAAU4H,WC3BhvE,KAAAKssE,yBAAwB,SAAU1d,GAAAOAtlH7C,KAAslHoDA,IAAAiB,GACvE5uD,KAAAKqpE,QAAQpjC,UACbjmC,KAAAK4qE,UAAU,CAACxnE,EAAAQN,GAAAS,KE5BlB

1tHE,KA0tHEnwE,KAAKqpE,QAAQY,QAnvHd,IAmvHgCjqE,KAAKqpE,QAAQY,OAC5C,OAAO,EAEX,GAAIjqE,KAAK4oE,eAAiB5oE,KAAK2oE,iBAAkB,CAC7C,GAAI3oE,KAAK6qE,uBAEL,OAAO,EAEX,GApsHE,MAosHE7qE,KAAKqpE,QAAQY,QAAsBjqE,KAAKkrE,qBAExC,OAAO,EAGf,OAAO,GAEX9C,EAAWtnE,UAAU8uE,WAAa,SAAUxL,GACxC,IAAI9wB,EAAQtzC,KAAKqpE,QAAQ/3C,QAEzB,OADAtxB,KAAKwsE,kBAAkBpI,GAChBpkE,KAAKqpE,QAAQ0D,SASz5B,IAEjC80B,EAAWtnE,UAAUuoqE,mBAAqB,WACtC,OAAOlrE,KAAK0oE,oBAAoBlnE,OAAS,GAAKxB,KAAK0oE,oBAAoB1oE,KAAK0oE,oBAAoBlnE,OAAS,KACvD4kE,GAAAU,4lE,GAAAU,0BAAAV,EAAAU,4BAAAV,EAAAU,0BAAAV,EAAAU,4BAAAV,EAAAU,0BAAAV,EAAAU,4BAAAV,E

AUmlC,QAAU,WACvCjmC,KAAKuwE,MAAQvwE,KAAKixE,cAClBjwD,EAAOlgB,UAAUmlC,QAAQ1kC,K
AAKvB,MAC9BA,KAAKkxE,yBAET5H,EAAuBxoE,UAAU+oE,KAAO,WACpC7oD,EAAOlgB,UAAU+oE,KA
AKtoE,KAAKvB,MAC3BA,KAAKkxE,yBAET5H,EAAuBxoE,UAAUwwB,MAAQ,WACrC,OAAO,IAAIg4C,E
AAuBtpE,OAEtCspE,EAAuBxoE,UAAUisE,SAAW,SAAUz5B,GAAGlD,IAFA,IAAIk4B,EAASl4B,EAAMhiB,QA
Cf06C,EAAQ,GACLR,EAAOyF,cAAc9hB,OAASnvD,KAAKixE,cAAc9hB,QACpD6c,GAASxpD,OAAOoqD,cA
AcpB,EAAOvB,QACrCuB,EAAOvlC,UAEX,OAAO+lC,GAOX1C,EAAuBxoE,UAAUowE,sBAAwB,WACrD,IA
AI19D,EAAQxT,KACRiqE,EAAO,WAAc,OAAOz2D,EAAMy9D,cAAchH,MACpD,GA/6HS,KA+6HLA,IAOA,
GAJAjqE,KAAKixE,cAAgB5wE,OAAO6c,OAAO,GAAIld,KAAKuwE,OAE5CvwE,KAAKwwE,aAAaxwE,KAA
KixE,eA56H1B,MA86HOhH,IACAjqE,KAAKuwE,MAAMtG,KA19HjB,QA49HO,GAh7HR,MAg7HYA,IACLjq
E,KAAKuwE,MAAMtG,KA19HjB,QA49HO,GAh7HR,MAg7HYA,IACLjqE,KAAKuwE,MAAMtG,KA/9Hf,QAi
+HK,GAr7HR,MAq7HYA,IACLjqE,KAAKuwE,MAAMtG,KAp+HhB,OAs+HM,GA77HR,KA67HYA,IACLjqE,
KAAKuwE,MAAMtG,KAx+Hb,OA0+HG,GA97HR,MA87HYA,IACLjqE,KAAKuwE,MAAMtG,KAv+HjB,QA0
+HO,GA97HR,MA87HYA,IAGL,GADAjqE,KAAKwwE,aAAaxwE,KAAKixE,eA57HzB,MA67HMhH,IAAoB,C
AEpBjqE,KAAKwwE,aAAaxwE,KAAKixE,eAIvB,IAFA,IAAIE,EAAanxE,KAAKsxB,QAClB9vB,EAAS,EAh8H
nB,MAi8HayoE,KACHjqE,KAAKwwE,aAAaxwE,KAAKixE,eACvBzvE,IAEJxB,KAAKuwE,MAAMtG,KAAOj
qE,KAAKoxE,gBAAgBD,EAAY3vE,QAI/C2vE,EAAanxE,KAAKsxB,QACtBtxB,KAAKwwE,aAAaxwE,KAAKi
xE,eACvBjxE,KAAKwwE,aAAaxwE,KAAKixE,eACvBjxE,KAAKwwE,aAAaxwE,KAAKixE,eACvBjxE,KAAKwwE,aAAaxwE,KAAKixE,eACvBjxE,KAAK
uwE,MAAMtG,KAAOjqE,KAAKoxE,gBAAgBD,EAAY,QAGtD,GAp9HR,MAo9HYlH,IAELjqE,KAAKwwE,aA
AaxwE,KAAKixE,eACnBE,EAAanxE,KAAKsxB,QACtBtxB,KAAKwwE,aAAaxwE,KAAKixE,eACvBjxE,KAAKuwE,MAAMtG,KAAOjqE,KAAKoxE,gBAAgBD,EAAY,QAElD,GAAIniB,CAK3B,IAHA,IAAIoH,EAAEC,xB,SAAKsb,IAAIoH,EAAQ,GADA9hB,EAAEC,xB,SAAKsb,IAAIoH,EAAQ,GACAC

AAUuD,KAC7B3qE,KAAKyyE,MAAMvvD,OAASkkD,GAAU6H,gBAC9BjvE,KAAKyyE,MAAMvvD,OAASkkD,GAAUwH,oBAC9B5uE,KAAK0yE,iBAAiB1yE,KAAKwyE,YAEtBxyE,KAAKyyE,MAAMvvD,OAASkkD,GAAU4H,UACnChvE,KAAK2yE,eAAe3yE,KAAKwyE,YAEpBxyE,KAAKyyE,MAAMvvD,OAASkkD,GAAU2G,aACnC/tE,KAAK4yE,oBACL5yE,KAAKmqE,cAAcnqE,KAAKwyE,aAEnBxyE,KAAKyyE,MAAMvvD,OAASkkD,GAAUyG,eACnC7tE,KAAK4yE,oBCL5yE,KAAKoqE,gBAAgBpqE,KAAKwyE,aAErBxyE,KAAKyyE,MAAMvvD,OAASkkD,GAAUyH,MAAQ7uE,KAAKyyE,MAAMvvD,OAASkkD,GAAUlwD,UACzElX,KAAKyyE,MAAMvvD,OAASkkD,GAAU/vD,oBAC9BrX,KAAK4yE,oBCL5yE,KAAKyqE,aAAazqE,KAAKwyE,aAElBxyE,KAAKyyE,MAAMvvD,OAASkkD,GAAUuI,qBACnC3vE,KAAK6yE,kBAAkB7yE,KAAKwyE,YAI5BxyE,KAAKwyE,YAIjBJ,EAAatxE,UAAU0xE,SAAW,WAC9B,IAAIM,EAAO9yE,KAAKyyE,MAAMhB,OALIzyE,KAAKsyE,OAAStyE,KAAK4nE,OAAOpmE,OAAS,GAEnCxB,KAAKsyE,SAETtyE,KAAKyyE,MAAQzyE,KAAK4nE,OAAO5nE,KAAK4nE,OAAOpmE,OAAS,GAAK,EAAIxB,KAAKsyE,SAAWt

E,iBAAiB6B,EAAG/+D,MAAMR,QACrClU,KAAKuyE,cAAc3yB,OAG3BwyB,EAAatxE,UAAU4xE,iBAAmB,SAAUgB,GAGhD,IAFA,IAAI7+D,EAAKhT,EAAO6xE,EAAcnnD,MAAO,GAAInpB,EAASyR,EAAG,GAAIH,EAAOG,GAAIH,EAAOG,GAAG,GAC/DiD,EAAQ,GACL9X,KAAKyyE,MAAMvvD,OAASkD,GAAU+H,WACjCr3D,EAAM5V,KAAKlC,KAAKAEtC,IAAItvE,EAAoBxwE,EAAQsR,EAAM1U,KAAKwzE,EAAqBC,EAAMzzE,KAAKwzE,EAAqBE,EAAM1zE,KAAKwzE,EAAqBG,EAAM3zE,KAAKwzE,EAAqBI,EAAM5zE,KAAKwzE,EAAqBK,EAAM7zE,KAAKwzE,EAAqBM,EAAM9zE,KAAKwzE,EAAqBO,EAAM/zE,KAAKwzE,EAAqBQ,EAAMh0E,KAAKwzE,EAAqBS,EAAMj0E,KAAKwzE,EAAqBU,EAAMl0E,KAAKwzE,EAAqBW,EAAMn0E,KAAKwzE,EAAqBY,EAAMp0E,KAAKwzE,EAAqBa,EAAMr0E,KAAKwzE,EAAqBc,EAAMt0E,KAAKwzE,EAAqBe,EAAMv0E,KAAKwzE,EAAqBgB,EAAMx0E,KAAKwzE,EAAqBiB,EAAMz0E,KAAKwzE,EAAqBkB,EAAM10E,KAAKwzE,EAAqBmB,EAAM30E,KAAKwzE,EAAqBoB,EAAM50E,KAAKwzE,EAAqBqB,EAAM70E,KAAKwzE,EAAqBsB,EAAM90E,KAAKwzE,EAAqBuB,EAAM/0E,KAAKwzE,EAAqBwB,EAAMh1E,KAAKwzE,EAAqByB,EAAMj1E,KAAKwzE,EAAqB0B,EAAMl1E,KAAKwzE,EAAqB2B,EAAMn1E,KAAKwzE,EAAqB4B,EAAMp1E,KAAKwzE,EAAqB6B,EAAMr1E,KAAKwzE,EAAqB8B,EAAMt1E,KAAKwzE,EAAqB+B,EAAMv1E,KAAKwzE,EAAqBgC,EAAMx1E,KAAKwzE,EAAqBiC,EAAMz1E,KAAKwzE,EAAqBkC,EAAM11E,KAAKwzE,EAAqBmC,EAAM31E,KAAKwzE,EAAqBoC,EAAM51E,KAAKwzE,EAAqBqC,EAAM71E,KAAKwzE,EAAqBsC,EAAM91E,KAAKwzE,EAAqBuC,EAAM/1E,KAAKwzE,EAAqBwC,EAAMh2E,KAAKwzE,EAAqByC,EAAMj2E,KAAKwzE,EAAqB0C,EAAMl2E,KAAKwzE,EAAqB2C,EAAMn2E,KAAKwzE,EAAqB4C,EAAMp2E,KAAKwzE,EAAqB6C,EAAMr2E,KAAKwzE,EAAqB8C,EAAMt2E,KAAKwzE,EAAqB+C,EAAMv2E,KAAKwzE,EAAqBgD,EAAMx2E,KAAKwzE,EAAqBiD,EAAMz2E,KAAKwzE,EAAqBkD,EAAM12E,KAAKwzE,EAAqBmD,EAAM32E,KAAKwzE,EAAqBoD,EAAM52E,KAAKwzE,EAAqBqD,EAAM72E,KAAKwzE,EAAqBsD,EAAM92E,KAAKwzE,EAAqBuD,EAAM/2E,KAAKwzE,EAAqBwD,EAAMh3E,KAAKwzE,EAAqByD,EAAMj3E,KAAKwzE,EAAqB0D,EAAMl3E,KAAKwzE,EAAqB2D,EAAMn3E,KAAKwzE,EAAqB4D,EAAMp3E,KAAKwzE,EAAqB6D,EAAMr3E,KAAKwzE,EAAqB8D,EAAMt3E,KAAKwzE,EAAqB+D,EAAMv3E,KAAKwzE,EAAqBgE,EAAMx3E,KAAKwzE,EAAqBiE,EAAMz3E,KAAKwzE,EAAqBkE,EAAM13E,KAAKwzE,EAAqBmE,EAAM33E,KAAKwzE,EAAqBoE,EAAM53E,KAAKwzE,EAAqBqE,EAAM73E,KAAKwzE,EAAqBsE,EAAM93E,KAAKwzE,EAAqBuE,EAAM/3E,KAAKwzE,EAAqBwE,EAAMh4E,KAAKwzE,EAAqByE,EAAMj4E,KAAKwzE,EAAqB0E,EAAMl4E,KAAKwzE,EAAqB2E,EAAMn4E,KAAKwzE,EAAqB4E,EAAMp4E,KAAKwzE,EAAqB6E,EAAMr4E,KAAKwzE,EAAqB8E,EAAMt4E,KAAKwzE,EAAqB+E,EAAMv4E,KAAKwzE,EAAqBgF,EAAMx4E,KAAKwzE,EAAqBiF,EAAMz4E,KAAKwzE,EAAqBkF,EAAM14E,KAAKwzE,EAAqBmF,EAAM34E,KAAKwzE,EAAqBoF,EAAM54E,KAAKwzE,EAAqBqF,EAAM74E,KAAKwzE,EAAqBsF,EAAM94E,KAAKwzE,EAAqBuF,EAAM/4E,KAAKwzE,EAAqBwF,EAAMh5E,KAAKwzE,EAAqByF,EAAMj5E,KAAKwzE,EAAqB0F,EAAMl5E,KAAKwzE,EAAqB2F,EAAMn5E,KAAKwzE,EAAqB4F,EAAMp5E,KAAKwzE,EAAqB6F,EAAMr5E,KAAKwzE,EAAqB8F,EAAMt5E,KAAKwzE,EAAqB+F,EAAMv5E,KAAKwzE,EAAqBgG,EAAMx5E,KAAKwzE,EAAqBiG,EAAMz5E,KAAKwzE,EAAqBkG,EAAM15E,KAAKwzE,EAAqBmG,EAAM35E,KAAKwzE,EAAqBoG,EAAM55E,KAAKwzE,EAAqBqG,EAAM75E,KAAKwzE,EAAqBsG,EAAM95E,KAAKwzE,EAAqBuG,EAAM/5E,KAAKwzE,EAAqBwG,EAAMh6E,KAAKwzE,EAAqByG,EAAMj6E,KAAKwzE,EAAqB0G,EAAMl6E,KAAKwzE,EAAqB2G,EAAMn6E,KAAKwzE,EAAqB4G,EAAMp6E,KAAKwzE,EAAqB6G,EAAMr6E,KAAKwzE,EAAqB8G,EAAMt6E,KAAKwzE,EAAqB+G,EAAMv6E,KAAKwzE,EAAqBgH,EAAMx6E,KAAKwzE,EAAqBiH,EAAMz6E,KAAKwzE,EAAqBkH,EAAM16E,KAAKwzE,EAAqBmH,EAAM36E,KAAKwzE,EAAqBoH,EAAM56E,KAAKwzE,EAAqBqH,EAAM76E,KAAKwzE,EAAqBsH,EAAM96E,KAAKwzE,EAAqBuH,EAAM/6E,KAAKwzE,EAAqBwH,EAAMh7E,KAAKwzE,EAAqByH,EAAMj7E,KAAKwzE,EAAqB0H,EAAMl7E,KAAKwzE,EAAqB2H,EAAMn7E,KAAKwzE,EAAqB4H,EAAMp7E,KAAKwzE,EAAqB6H,EAAMr7E,KAAKwzE,EAAqB8H,EAAMt7E,KAAKwzE,EAAqB+H,EAAMv7E,KAAKwzE,EAAqBgI,EAAMx7E,KAAKwzE,EAAqBiI,EAAMz7E,KAAKwzE,EAAqBkI,EAAM17E,KAAKwzE,EAAqBmI,EAAM37E,KAAKwzE,EAAqBoI,EAAM57E,KAAKwzE,EAAqBqI,EAAM77E,KAAKwzE,EAAqBsI,EAAM97E,KAAKwzE,EAAqBuI,EAAM/7E,KAAKwzE,EAAqBwI,EAAMh8E,KAAKwzE,EAAqByI,EAAMj8E,KAAKwzE,EAAqB0I,EAAMl8E,KAAKwzE,EAAqB2I,EAAMn8E,KAAKwzE,EAAqB4I,EAAMp8E,KAAKwzE,EAAqB6I,EAAMr8E,KAAKwzE,EAAqB8I,EAAMt8E,KAAKwzE,EAAqB+I,EAAMv8E,KAAKwzE,EAAqBgJ,EAAMx8E,KAAKwzE,EAAqBiJ,EAAMz8E,KAAKwzE,EAAqBkJ,EAAM18E,KAAKwzE,EAAqBmJ,EAAM38E,KAAKwzE,EAAqBoJ,EAAM58E,KAAKwzE,EAAqBqJ,EAAM78E,KAAKwzE,EAAqBsJ,EAAM98E,KAAKwzE,EAAqBuJ,EAAM/8E,KAAKwzE,EAAqBwJ,EAAMh9E,KAAKwzE,EAAqByJ,EAAMj9E,KAAKwzE,EAAqB0J,EAAMl9E,KAAKwzE,EAAqB2J,EAAMn9E,KAAKwzE,EAAqB4J,EAAMp9E,KAAKwzE,EAAqB6J,EAAMr9E,KAAKwzE,EAAqB8J,EAAMt9E,KAAKwzE,EAAqB+J,EAAMv9E,KAAKwzE,EAAqBgK,EAAMx9E,KAAKwzE,EAAqBiK,EAAMz9E,KAAKwzE,EAAqBkK,EAAM19E,KAAKwzE,EAAqBmK,EAAM39E,KAAKwzE,EAAqBoK,EAAM59E,KAAKwzE,EAAqBqK,EAAM79E,KAAKwzE,EAAqBsK,EAAM99E,KAAKwzE,EAAqBuK,EAAM/9E,KAAKwzE,EAAqBwK,EAAMh+E,KAAKwzE,EAAqByK,EAAMj+E,KAAKwzE,EAAqB0K,EAAMl+E,KAAKwzE,EAAqB2K,EAAMn+E,KAAKwzE,EAAqB4K,EAAMp+E,KAAKwzE,EAAqB6K,EAAMr+E,KAAKwzE,EAAqB8K,EAAMt+E,KAAKwzE,EAAqB+K,EAAMv+E,KAAKwzE,EAAqBgL,EAAMx+E,KAAKwzE,EAAqBiL,EAAMz+E,KAAKwzE,EAAqBkL,EAAM1+E,KAAKwzE,EAAqBmL,EAAM3+E,KAAKwzE,EAAqBoL,EAAM5+E,KAAKwzE,EAAqBqL,EAAM7+E,KAAKwzE,EAAqBsL,EAAM9+E,KAAKwzE,EAAqBuL,EAAM/+E,KAAKwzE,EAAqBwL,EAAMh/E,KAAKwzE,EAAqByL,EAAMj/E,KAAKwzE,EAAqB0L,EAAMl/E,KAAKwzE,EAAqB2L,EAAMn/E,KAAKwzE,EAAqB4L,EAAMp/E,KAAKwzE,EAAqB6L,EAAMr/E,KAAKwzE,EAAqB8L,EAAMt/E,KAAKwzE,EAAqB+L,EAAMv/E,KAAKwzE,EAAqBgM,EAAMx/E,KAAKwzE,EAAqBiM,EAAMz/E,KAAKwzE,EAAqBkM,EAAM1/E,KAAKwzE,EAAqBmM,EAAM3/E,KAAKwzE,EAAqBoM,EAAM5/E,KAAKwzE,EAAqBqM,EAAM7/E,KAAKwzE,EAAqBsM,EAAM9/E,KAAKwzE,EAAqBuM,EAAM//E,KAAKwzE,EAAqBwM,EAAMhgF,KAAKwzE,EAAqByM,EAAMjgF,KAAKwzE,EAAqB0M,EAAMlgF,KAAKwzE,EAAqB2M,EAAMngF,KAAKwzE,EAAqB4M,EAAMpgF,KAAKwzE,EAAqB6M,EAAMrgF,KAAKwzE,EAAqB8M,EAAMtgF,KAAKwzE,EAAqB+M,EAAMvgF,KAAKwzE,EAAqBgN,EAAMxgF,KAAKwzE,EAAqBiN,EAAMzgF,KAAKwzE,EAAqBkN,EAAM1gF,KAAKwzE,EAAqBmN,EAAM3gF,KAAKwzE,EAAqBoN,EAAM5gF,KAAKwzE,EAAqBqN,EAAM7gF,KAAKwzE,EAAqBsN,EAAM9gF,KAAKwzE,EAAqBuN,EAAM/gF,KAAKwzE,EAAqBwN,EAAMhhF,KAAKwzE,EAAqByN,EAAMjhF,KAAKwzE,EAAqB0N,EAAMlhF,KAAKwzE,EAAqB2N,EAAMnhF,KAAKwzE,EAAqB4N,EAAMphF,KAAKwzE,EAAqB6N,EAAMrhF,KAAKwzE,EAAqB8N,EAAMthF,KAAKwzE,EAAqB+N,EAAMvhF,KAAKwzE,EAAqBgO,EAAMxhF,KAAKwzE,EAAqBiO,EAAMzhF,KAAKwzE,EAAqBkO,EAAM1hF,KAAKwzE,EAAqBmO,EAAM3hF,KAAKwzE,EAAqBoO,EAAM5hF,KAAKwzE,EAAqBqO,EAAM7hF,KAAKwzE,EAAqBsO,EAAM9hF,KAAKwzE,EAAqBuO,EAAM/hF,KAAKwzE,EAAqBwO,EAAMhiF,KAAKwzE,EAAqByO,EAAMjiF,KAAKwzE,EAAqB0O,EAAMliF,KAAKwzE,EAAqB2O,EAAMniF,KAAKwzE,EAAqB4O,EAAMpiF,KAAKwzE,EAAqB6O,EAAMriF,KAAKwzE,EAAqB8O,EAAMtiF,KAAKwzE,EAAqB+O,EAAMviF,KAAKwzE,EAAqBgP,EAAMxiF,KAAKwzE,EAAqBiP,EAAMziF,KAAKwzE,EAAqBkP,EAAM1iF,KAAKwzE,EAAqBmP,EAAM3iF,KAAKwzE,EAAqBoP,EAAM5iF,KAAKwzE,EAAqBqP,EAAM7iF,KAAKwzE,EAAqBsP,EAAM9iF,KAAKwzE,EAAqBuP,EAAM/iF,KAAKwzE,EAAqBwP,EAAMhjF,KAAKwzE,EAAqByP,EAAMjjF,KAAKwzE,EAAqB0P,EAAMljF,KAAKwzE,EAAqB2P,EAAMnjF,KAAKwzE,EAAqB4P,EAAMpjF,KAAKwzE,EAAqB6P,EAAMrjF,KAAKwzE,EAAqB8P,EAAMtjF,KAAKwzE,EAAqB+P,EAAMvjF,KAAKwzE,EAAqBgQ,EAAMxjF,KAAKwzE,EAAqBiQ,EAAMzjF,KAAKwzE,EAAqBkQ,EAAM1jF,KAAKwzE,EAAqBmQ,EAAM3jF,KAAKwzE,EAAqBoQ,EAAM5jF,KAAKwzE,EAAqBqQ,EAAM7jF,KAAKwzE,EAAqBsQ,EAAM9jF,KAAKwzE,EAAqBuQ,EAAM/jF,KAAKwzE,EAAqBwQ,EAAMhkF,KAAKwzE,EAAqByQ,EAAMjkF,KAAKwzE,EAAqB0Q,EAAMlkF,KAAKwzE,EAAqB2Q,EAAMnkF,KAAKwzE,EAAqB4Q,EAAMpkF,KAAKwzE,EAAqB6Q,EAAMrkF,KAAKwzE,EAAqB8Q,EAAMtkF,KAAKwzE,EAAqB+Q,EAAMvkF,KAAKwzE,EAAqBgR,EAAMxkF,KAAKwzE,EAAqBiR,EAAMzkF,KAAKwzE,EAAqBkR,EAAM1kF,KAAKwzE,EAAqBmR,EAAM3kF,KAAKwzE,EAAqBoR,EAAM5kF,KAAKwzE,EAAqBqR,EAAM7kF,KAAKwzE,EAAqBsR,EAAM9kF,KAAKwzE,EAAqBuR,EAAM/kF,KAAKwzE,EAAqBwR,EAAMhlF,KAAKwzE,EAAqByR,EAAMjlF,KAAKwzE,EAAqB0R,EAAMllF,KAAKwzE,EAAqB2R,EAAMnlF,KAAKwzE,EAAqB4R,EAAMplF,KAAKwzE,EAAqB6R,EAAMrlF,KAAKwzE,EAAqB8R,EAAMtlF,KAAKwzE,EAAqB+R,EAAMvlF,KAAKwzE,EAAqBgS,EAAMxlF,KAAKwzE,EAAqBiS,EAAMzlF,KAAKwzE,EAAqBkS,EAAM1lF,KAAKwzE,EAAqBmS,EAAM3lF,KAAKwzE,EAAqBoS,EAAM5lF,KAAKwzE,EAAqBqS,EAAM7lF,KAAKwzE,EAAqBsS,EAAM9lF,KAAKwzE,EAAqBuS,EAAM/lF,KAAKwzE,EAAqBwS,EAAMhmF,KAAKwzE,EAAqByS,EAAMjmF,KAAKwzE,EAAqB0S,EAAMlmF,KAAKwzE,EAAqB2S,EAAMnmF,KAAKwzE,EAAqB4S,EAAMpmF,KAAKwzE,EAAqB6S,EAAMrmF,KAAKwzE,EAAqB8S,EAAMtmF,KAAKwzE,EAAqB+S,EAAMvmF,KAAKwzE,EAAqBgT,EAAMxmF,KAAKwzE,EAAqBiT,EAAMzmF,KAAKwzE,EAAqBkT,EAAM1mF,KAAKwzE,EAAqBmT,EAAM3mF,KAAKwzE,EAAqBoT,EAAM5mF,KAAKwzE,EAAqBqT,EAAM7mF,KAAKwzE,EAAqBsT,EAAM9mF,KAAKwzE,EAAqBuT,EAAM/mF,KAAKwzE,EAAqBwT,EAAMhnF,KAAKwzE,EAAqByT,EAAMjnF,KAAKwzE,EAAqB0T,EAAMlnF,KAAKwzE,EAAqB2T,EAAMnnF,KAAKwzE,EAAqB4T,EAAMpnF,KAAKwzE,EAAqB6T,EAAMrnF,KAAKwzE,EAAqB8T,EAAMtnF,KAAKwzE,EAAqB+T,EAAMvnF,KAAKwzE,EAAqBgU,EAAMxnF,KAAKwzE,EAAqBiU,EAAMznF,KAAKwzE,EAAqBkU,EAAM1nF,KAAKwzE,EAAqBmU,EAAM3nF,KAAKwzE,EAAqBoU,EAAM5nF,KAAKwzE,EAAqBqU,EAAM7nF,KAAKwzE,EAAqBsU,EAAM9nF,KAAKwzE,EAAqBuU,EAAM/nF,KAAKwzE,EAAqBwU,EAAMhoF,KAAKwzE,EAAqByU,EAAMjoF,KAAKwzE,EAAqB0U,EAAMloF,KAAKwzE,EAAqB2U,EAAMnoF,KAAKwzE,EAAqB4U,EAAMpoF,KAAKwzE,EAAqB6U,EAAMroF,KAAKwzE,EAAqB8U,EAAMtoF,KAAKwzE,EAAqB+U,EAAMvoF,KAAKwzE,EAAqBgV,EAAMxoF,KAAKwzE,EAAqBiV,EAAMzoF,KAAKwzE,EAAqBkV,EAAM1oF,KAAKwzE,EAAqBmV,EAAM3oF,KAAKwzE,EAAqBoV,EAAM5oF,KAAKwzE,EAAqBqV,EAAM7oF,KAAKwzE,EAAqBsV,EAAM9oF,KAAKwzE,EAAqBuV,EAAM/oF,KAAKwzE,EAAqBwV,EAAMhpF,KAAKwzE,EAAqByV,EAAMjpF,KAAKwzE,EAAqB0V,EAAMlpF,KAAKwzE,EAAqB2V,EAAMnpF,KAAKwzE,EAAqB4V,EAAMppF,KAAKwzE,EAAqB6V,EAAMrpF,KAAKwzE,EAAqB8V,EAAMtpF,KAAKwzE,EAAqB+V,EAAMvpF,KAAKwzE,EAAqBgW,EAAMxpF,KAAKwzE,EAAqBiW,EAAMzpF,KAAKwzE,EAAqBkW,EAAM1pF,KAAKwzE,EAAqBmW,EAAM3pF,KAAKwzE,EAAqBoW,EAAM5pF,KAAKwzE,EAAqBqW,EAAM7pF,KAAKwzE,EAAqBsW,EAAM9pF,KAAKwzE,EAAqBuW,EAAM/pF,KAAKwzE,EAAqBwW,EAAMhqF,KAAKwzE,EAAqByW,EAAMjqF,KAAKwzE,EAAqB0W,EAAMlqF,KAAKwzE,EAAqB2W,EAAMnqF,KAAKwzE,EAAqB4W,EAAMpqF,KAAKwzE,EAAqB6W,EAAMrqF,KAAKwzE,EAAqB8W,EAAMtqF,KAAKwzE,EAAqB+W,EAAMvqF,KAAKwzE,EAAqBgX,EAAMxqF,KAAKwzE,EAAqBiX,EAAMzqF,KAAKwzE,EAAqBkX,EAAM1qF,KAAKwzE,EAAqBmX,EAAM3qF,KAAKwzE,EAAqBoX,EAAM5qF,KAAKwzE,EAAqBqX,EAAM7qF,KAAKwzE,EAAqBsX,EAAM9qF,KAAKwzE,EAAqBuX,EAAM/qF,KAAKwzE,EAAqBwX,EAAMhrF,KAAKwzE,EAAqByX,EAAMjrF,KAAKwzE,EAAqB0X,EAAMlrF,KAAKwzE,EAAqB2X,EAAMnrF,KAAKwzE,EAAqB4X,EAAMprF,KAAKwzE,EAAqB6X,EAAMrrF,KAAKwzE,EAAqB8X,EAAMtrF,KAAKwzE,EAAqB+X,EAAMvrF,KAAKwzE,EAAqBgY,EAAMxrF,KAAKwzE,EAAqBiY,EAAMzrF,KAAKwzE,EAAqBkY,EAAM1rF,KAAKwzE,EAAqBmY,EAAM3rF,KAAKwzE,EAAqBoY,EAAM5rF,KAAKwzE,EAAqBqY,EAAM7rF,KAAKwzE,EAAqBsY,EAAM9rF,KAAKwzE,EAAqBuY,EAAM/rF,KAAKwzE,EAAqBwY,EAAMhsF,KAAKwzE,EAAqByY,EAAMjsF,KAAKwzE,EAAqB0Y,EAAMlsF,KAAKwzE,EAAqB2Y,EAAMnsF,KAAKwzE,EAAqB4Y,EAAMpsF,KAAKwzE,EAAqB6Y,EAAMrsF,KAAKwzE,EAAqB8Y,EAAMtsF,KAAKwzE,EAAqB+Y,EAAMvsF,KAAKwzE,EAAqBgZ,EAAMxsF,KAAKwzE,EAAqBiZ,EAAMzsF,KAAKwzE,EAAqBkZ,EAAM1sF,KAAKwzE,EAAqBmZ,EAAM3sF,KAAKwzE,EAAqBoZ,EAAM5sF,KAAKwzE,EAAqBqZ,EAAM7sF,KAAKwzE,EAAqBsZ,EAAM9sF,KAAKwzE,EAAqBuZ,EAAM/sF,KAAKwzE,EAAqBwZ,EAAMhtF,KAAKwzE,EAAqByZ,EAAMjtF,KAAKwzE,EAAqB0Z,EAAMltF,KAAKwzE,EAAqB2Z,EAAMntF,KAAKwzE,EAAqB4Z,EAAMptF,KAAKwzE,EAAqB6Z,EAAMrtF,KAAKwzE,EAAqB8Z,EAAMttF,KAAKwzE,EAAqB+Z,EAAMvtF,KAAKwzE,EAAqBga,EAAMxtF,KAAKwzE,EAAqBia,EAAMztF,KAAKwzE,EAAqBka,EAAM1tF,KAAKwzE,EAAqBma,EAAM3tF,KAAKwzE,EAAqBoa,EAAM5tF,KAAKwzE,EAAqBqa,EAAM7tF,KAAKwzE,EAAqBsa,EAAM9tF,KAAKwzE,EAAqBua,EAAM/tF,KAAKwzE,EAAqBwa,EAAMhuF,KAAKwzE,EAAqBya,EAAMjuF,KAAKwzE,EAAqB0a,EAAMluF,KAAKwzE,EAAqB2a,EAAMnuF,KAAKwzE,EAAqB4a,EAAMpuF,KAAKwzE,EAAqB6a,EAAMruF,KAAKwzE,EAAqB8a,EAAMtuF,KAAKwzE,EAAqB+a,EAAMvuF,KAAKwzE,EAAqBgb,EAAMxuF,KAAKwzE,EAAqBib,EAAMzuF,KAAKwzE,EAAqBkb,EAAM1uF,KAAKwzE,EAAqBmb,EAAM3uF,KAAKwzE,EAAqBob,EAAM5uF,KAAKwzE,EAAqBqb,EAAM7uF,KAAKwzE,EAAqBsb,EAAM9uF,KAAKwzE,EAAqBub,EAAM/uF,KAAKwzE,EAAqBwb,EAAMhvF,KAAKwzE,EAAqByb,EAAMjvF,KAAKwzE,EAAqB0b,EAAMlvF,KAAKwzE,EAAqB2b,EAAMnvF,KAAKwzE,EAAqB4b,EAAMpvF,KAAKwzE,EAAqB6b,EAAMrvF,KAAKwzE,EAAqB8b,EAAMtvF,KAAKwzE,EAAqB+b,EAAMvvF,KAAKwzE,EAAqBgc,EAAMxvF,KAAKwzE,EAAqBic,EAAMzvF,KAAKwzE,EAAqBkc,EAAM1vF,KAAKwzE,EAAqBmc,EAAM3vF,KAAKwzE,EAAqBoc,EAAM5vF,KAAKwzE,EAAqBqc,EAAM7vF,KAAKwzE,EAAqBsc,EAAM9vF,KAAKwzE,EAAqBuc,EAAM/vF,KAAKwzE,EAAqBwc,EAAMhwF,KAAKwzE,EAAqByc,EAAMjwF,KAAKwzE,EAAqB0c,EAAMlwF,KAAKwzE,EAAqB2c,EAAMnwF,KAAKwzE,EAAqB4c,EAAMpwF,KAAKwzE,EAAqB6c,EAAMrwF,KAAKwzE,EAAqB8c,EAAMtwF,KAAKwzE,EAAqB+c,EAAMvwF,KAAKwzE,EAAqBgd,EAAMxwF,KAAKwzE,EAAqBid,EAAMzwF,KAAKwzE,EAAqBkd,EAAM1wF,KAAKwzE,EAAqBmd,EAAM3wF,KAAKwzE,EAAqBod,EAAM5wF,KAAKwzE,EAAqBqd,EAAM7wF,KAAKwzE,EAAqBsd,EAAM9wF,KAAKwzE,EAAqBud,EAAM/wF,KAAKwzE,EAAqBwd,EAAMhxF,KAAKwzE,EAAqByd,EAAMjxF,KAAKwzE,EAAqB0d,EAAMlxF,KAAKwzE,EAAqB2d,EAAMnxF,KAAKwzE,EAAqB4d,EAAMpxF,KAAKwzE,EAAqB6d,EAAMrxF,KAAKwzE,EAAqB8d,EAAMtxF,KAAKwzE,EAAqB+d,EAAMvxF,KAAKwzE,EAAqBge,EAAMxxF,KAAKwzE,EAAqBie,EAAMzxF,KAAKwzE,EAAqBke,EAAM1xF,KAAKwzE,EAAqBme,EAAM3xF,KAAKwzE,EAAqBoe,EAAM5xF,KAAKwzE,EAAqBqe,EAAM7xF,KAAKwzE,EAAqBse,EAAM9xF,KAAKwzE,EAAqBue,EAAM/xF,KAAKwzE,EAAqBwe,EAAMhyF,KAAKwzE,EAAqBye,EAAMjyF,KAAKwzE,EAAqB0e,EAAMlyF,KAAKwzE,EAAqB2e,EAAMnyF,KAAKwzE,EAAqB4e,EAAMpyF,KAAKwzE,EAAqB6e,EAAMryF,KAAKwzE,EAAqB8e,EAAMtyF,KAAKwzE,EAAqB+e,EAAMvyF,KAAKwzE,EAAqBgf,EAAMxyF,KAAKwzE,EAAqBif,EAAMzyF,KAAKwzE,EAAqBkf,EAAM1yF,KAAKwzE,EAAqBmf,EAAM3yF,KAAKwzE,EAAqBof,EAAM5yF,KAAKwzE,EAAqBqf,EAAM7yF,KAAKwzE,EAAqBsf,EAAM9yF,KAAKwzE,EAAqBuf,EAAM/yF,KAAKwzE,EAAqBwf,EAAMhzF,KAAKwzE,EAAqByf,EAAMjzF,KAAKwzE,EAAqB0f,EAAMlzF,KAAKwzE,EAAqB2f,EAAMnzF,KAAKwzE,EAAqB4f,EAAMpzF,KAAKwzE,EAAqB6f,EAAMrzF,KAAKwzE,EAAqB8f,EAAMtzF,KAAKwzE,EAAqB+f,EAAMvzF,KAAKwzE,EAAqBggB,EAAMxzF,KAAKwzE,EAAqBigB,EAAMzzF,KAAKwzE,EAAqBkgB,EAAM1zF,KAAKwzE,EAAqBmgB,EAAM3zF,KAAKwzE,EAAqBogB,EAAM5zF,KAAKwzE,EAAqBqgB,EAAM7zF,KAAKwzE,EAAqBsgB,EAAM9zF,KAAKwzE,EAAqBugB,EAAM/zF,KAAKwzE,EAAqBwgB,EAAMh0F,KAAKwzE,EAAqBygB,EAAMj0F,KAAKwzE,EAAqB0gB,EAAMl0F,KAAKwzE,EAAqB2gB,EAAMn0F,KAAKwzE,EAAqB4gB,EAAMp0F,KAAKwzE,EAAqB6gB,EAAMr0F,KAAKwzE,EAAqB8gB,EAAMt0F,KAAKwzE,EAAqB+gB,EAAMv0F,KAAKwzE,EAAqBghB,EAAMx0F,KAAKwzE,EAAqBihB,EAAMz0F,KAAKwzE,EAAqBkhB,EAAM10F,KAAKwzE,EAAqBmhB,EAAM30F,KAAKwzE,EAAqBohB,EAAM50F,KAAKwzE,EAAqBqhB,EAAM70F,KAAKwzE,EAAqBshB,EAAM90F,KAAKwzE,EAAqBuhB,EAAM/0F,KAAKwzE,EAAqBwhB,EAAMh1F,KAAKwzE,EAAqByhB,EAAMj1F,KAAKwzE,EAAqB0hB,EAAMl1F,KAAKwzE,EAAqB2hB,EAAMn1F,KAAKwzE,EAAqB4hB,EAAMp1F,KAAKwzE,EAAqB6hB,EAAMr1F,KAAKwzE,EAAqB8hB,EAAMt1F,KAAKwzE,EAAqB+hB,EAAMv1F,KAAKwzE,EAAqBgiB,EAAMx1F,KAAKwzE,EAAqBiiB,EAAMz1F,KAAKwzE,EAAqBkiB,EAAM11F,KAAKwzE,EAAqBmiB,EAAM31F,KAAKwzE,EAAqBoiB,EAAM51F,KAAKwzE,EAAqBqiB,EAAM71F,KAAKwzE,EAAqBsiB,EAAM91F,KAAKwzE,EAAqBuiB,EAAM/1F,KAAKwzE,EAAqBwiB,EAAMh2F,KAAKwzE,EAAqByiB,EAAMj2F,KAAKwzE,EAAqB0iB,EAAMl2F,KAAKwzE,EAAqB2iB,EAAMn2F,KAAKwzE,EAAqB4iB,EAAMp2F,KAAKwzE,EAAqB6iB,EAAMr2F,KAAKwzE,EAAqB8iB,EAAMt2F,KAAKwzE,EAAqB+iB,EAAMv2F,KAAKwzE,EAAqBgjB,EAAMx2F,KAAKwzE,EAAqBijB,EAAMz2F,KAAKwzE,EAAqBkjB,EAAM12F,KAAKwzE,EAAqBmjB,EAAM32F,KAAKwzE,EAAqBojB,EAAM52F,KAAKwzE,EAAqBqjB,EAAM72F,KAAKwzE,EAAqBsjB,EAAM92F,KAAKwzE,EAAqBujB,EAAM/2F,KAAKwzE,EAAqBwjB,EAAMh3F,KAAKwzE,EAAqByjB,EAAMj3F,KAAKwzE,EAAqB0jB,EAAMl3F,KAAKwzE,EAAqB2jB,EAAMn3F,KAAKwzE,EAAqB4jB,EAAMp3F,KAAKwzE,EAAqB6jB,EAAMr3F,KAAKwzE,EAAqB8jB,EAAMt3F,KAAKwzE,EAAqB+jB,EAAMv3F,KAAKwzE,EAAqBgkB,EAAMx3F,KAAKwzE,EAAqBikB,EAAMz3F,KAAKwzE,EAAqBkkB,EAAM13F,KAAKwzE,EAAqBmkB,EAAM33F,KAAKwzE,EAAqBokB,EAAM53F,KAAKwzE,EAAqBqkB,EAAM73F,KAAKwzE,EAAqBskB,EAAM93F,KAAKwzE,EAAqBukB,EAAM/3F,KAAKwzE,EAAqBwkB,EAAMh4F,KAAKwzE,EAAqBykB,EAAMj4F,KAAKwzE,EAAqB0kB,EAAMl4F,KAAKwzE,EAAqB2kB,EAAMn4F,KAAKwzE,EAAqB4kB,EAAMp4F,KAAKwzE,EAAqB6kB,EAAMr4F,KAAKwzE,EAAqB8kB,EAAMt4F,KAAKwzE,EAAqB+kB,EAAMv4F,KAAKwzE,EAAqBglB,EAAMx4F,KAAKwzE,EAAqBilB,EAAMz4F,KAAKwzE,EAAqBklB,EAAM14F,KAAKwzE,EAAqBmlB,EAAM34F,KAAKwzE,EAAqBolB,EAAM54F,KAAKwzE,EAAqBqlB,EAAM74F,KAAKwzE,EAAqBslB,EAAM94F,KAAKwzE,EAAqBulB,EAAM/4F,KAAKwzE,EAAqBwlB,EAAMh5F,KAAKwzE,EAAqBylB,EAAMj5F,KAAKwzE,EAAqB0lB,EAAMl5F,KAAKwzE,EAAqB2lB,EAAMn5F,KAAKwzE,EAAqB4lB,EAAMp5F,KAAKwzE,EAAqB6lB,EAAMr5F,KAAKwzE,EAAqB8lB,EAAMt5F,KAAKwzE,EAAqB+lB,EAAMv5F,KAAKwzE,EAAqBgmB,EAAMx5F,KAAKwzE,EAAqBimB,EAAMz5F,KAAKwzE,EAAqBkmB,EAAM15F,KAAKwzE,EAAqBmmB,EAAM35F,KAAKwzE,EAAqBomB,EAAM55F,KAAKwzE,EAAqBqmB,EAAM75F,KAAKwzE,EAAqBsmB,EAAM95F,KAAKwzE,EAAqBumB,EAAM/5F,KAAKwzE,EAAqBwmB,EAAMh6F,KAAKwzE,EAAqBymB,EAAMj6F,KAAKwzE,EAAqB0mB,EAAMl6F,KAAKwzE,EAAqB2mB,EAAMn6F,KAAKwzE,EAAqB4mB,EAAMp6F,KAAKwzE,EAAqB6mB,EAAMr6F,KAAKwzE,EAAqB8mB,EAAMt6F,KAAKwzE,EAAqB+mB,EAAMv6F,KAAKwzE,EAAqBgnB,EAAMx6F,KAAKwzE,EAAqBinB,EAAMz6F,KAAKwzE,EAAqBknB,EAAM16F,KAAKwzE,EAAqBmnB,EAAM36F,KAAKwzE,EAAqBonB,EAAM56F,KAAKwzE,EAAqBqnB,EAAM76F,KAAKwzE,EAAqBsnB,EAAM96F,KAAKwzE,EAAqBunB,EAAM/6F,KAAKwzE,EAAqBwnB,EAAMh7F,KAAKwzE,EAAqBynB,EAAMj7F,KAAKwzE,EAAqB0nB,EAAMl7F,KAAKwzE,EAAqB2nB,EAAMn7F,KAAKwzE,EAAqB4nB,EAAMp7F,KAAKwzE,EAAqB6nB,EAAMr7F,KAAKwzE,EAAqB8nB,EAAMt7F,KAAKwzE,EAAqB+nB,EAAMv7F,KAAKwzE,EAAqBgoB,EAAMx7F,KAAKwzE,EAAqBioB,EAAMz7F,KAAKwzE,EAAqBkoB,EAAM17F,KAAKwzE,EAAqBmoB,EAAM37F,KAAKwzE,EAAqBooB,EAAM57F,KAAKwzE,EAAqBqoB,EAAM77F,KAAKwzE,EAAqBsoB,EAAM97F,KAAKwzE,EAAqBuoB,EAAM/7F,KAAKwzE,EAAqBwoB,EAAMh8F,KAAKwzE,EAAqByoB,EAAMj8F,KAAKwzE,EAAqB0oB,EAAMl8F,KAAKwzE,EAAqB2oB,EAAMn8F,KAAKwzE,EAAqB4oB,EAAMp8F,KAAKwzE,EAAqB6oB,EAAMr8F,KAAKwzE,EAAqB8oB,EAAMt8F,KAAKwzE,EAAqB+oB,EAAMv8F,KAAKwz

A+BT,OA7BAA,EAAkBj0E,UAAU6vC,aAAe,SAAU/4B,EAASuJ,GAC1D,OAAIwzD,GAAkB9xC,IAAIjrB,EAAAQlD,OA/B1C,SAASsgE,EAA2Bl9D,GAChC,OAAOA,EAAMqc,MAAK,SAAU8gD,MARZ,0BAQmBA,EAAAKvgE,QA8BDsgE,CAA2Bp9D,EAAAQE,OAGnE,IAAIivD,GAAAUnvD,EAAAQlD,KAAAMwyD,GAAAWlnE,KAAAM4X,EAAAQE,OAAAQF,EAAAQ24B,EAAAU34B,EAAAQuL,WAAAYvL,EAAAQ64B,gBAAAiB74B,EAAAQ84B,cAAAe94B,EAAAQ6zB,MAAE/J,IAAAIs7B,GAAAUnvD,EAAAQlD,KAAAMkD,EAAAQE,MA4BnD,SAASo9D,EAAAqBh0D,EAAAS6wB,GACnC,IAAIv4B,GAAAUub,OAAPAu4B,EAAAMv9B,EAAAQuL,WAAAYvL,EAAAQ64B,gBAAAiB74B,EAAAQ84B,cAAAe94B,EAAAQ6zB,MAAE/J,IAAAIs7B,GAAAUnvD,EAAAQlD,KAAAMkD,EAAAQE,MAAAQ,GAAAQ24B,EAAAU34

Bt2E,KAAKmjB,WAAaA,EAKtB,OAHAozD,EAAaz1E,UAAUkuC,MAAQ,SAAU9tB,EAASC,GAC9C,OAAOD,
EAAQiuB,eAAenvC,KAAMmhB,IAEjCo1D,EATsB,GAc7BC,GAAyB,WACzB,SAASA,EAAQ9hE,EAAMhT,E
AAOyhB,GAC1BnjB,KAAK0U,KAAOA,EACZ1U,KAAK0B,MAAQA,EACb1B,KAAKmjB,WAAaA,EAKtB,O
AHAqzD,EAAQ11E,UAAUkuC,MAAQ,SAAU9tB,EASC,GACzC,OAAOD,EAAQu1D,UAAUz2E,KAAMmhB,
IAE5Bq1D,EATiB,GAWxBE,KAAwB7hE,GAAK,IAC1B,GAAqB,EACxBA,BA,GAAG,GAAqB,EACxBA,BA,GAAG,G
AAiB,EACpBA,GAAG,GAAoB,EACvBA,GAAG,GAAiB,EACpBA,IAKA8hE,GAAyC,WACzC,SAASA,EAAw
BjiE,EAAMwO,EAAMssB,EAAiB9tC,EAAO+tC,EAAMtsB,GACvEnjB,K0U,KAAOA,EACZ1U,KAAKkjB
,KAAOA,EACZljB,KAAKwvC,gBAAkBA,EACvBxvC,KAAK0B,MAAQA,EACb1B,KAAKyvC,KAAOA,EACZ
zvC,KAAKmjB,WAAaA,EAClBnjB,KAAKs4D,YA4B,IAAdt4D,KAAKkjB,KAS5B,OAPAyzD,EAAwBC,kBA
AoB,SAAUpoE,GAElD,OAAO,IAAImoE,EAAwBnoE,EAAKkG,KAD7BgiE,GAAqBloE,,EAAK0U,MACe1e1U,
AKghC,gBAAiBhhC,EAAK9M,MAAO8M,EAAKihC,KAAMjhC,EAAK2U,aAE1GwzD,EAAwB71E,,UAAUkuC,
MAAQ,SAAU9tB,EASC,GAAzCD,EAAQ21D,qBAAqB72E,,KAAMmhB,IAEvCw1D,GAAuBxCG,GAA+B,WAC/C,SAASA,EAAcpiE,EAAMq7B,EAAQ3K,EAAO0K,EAAS3sB,EAAY6sB,GAC7E7vC,K0U,KAAOA,EACZ1U,KAAKkjB
,KAAOA,EACZljB,KAAKwvC,gBAAkBA,EACvBxvC,KAAK0B,MAAQA,EACb1B,KAAKyvC,KAAOA,EACZ
zvC,KAAKmjB,WAAaA,EAClBnjB,KAAKgwC,YAAcA,EACnBhwC,KAAKkD,SAAW4sE4zE,EAAc

K,GAA6B,WAC7B,SAASA,EAAY57D,EAAO67D,EAAeC,EAAOr4C,EAAWs4C,EAAcC,EAAgBr1D,EAAYs1D,GACnGz4E,KAAKwc,MAAQA,EACbxc,KAAKq4E,cAAgBA,EACrBr4E,KAAKs4E,MAAQA,EACbt4E,KAAKigC,UAAYA,EACjBjgC,KAAKu4E,aAAeA,EACpBv4E,KAAKw4E,eAAiBA,EACtBx4E,KAAKmjB,WAAaA,EAClBnjB,KAAKy4E,SAAWA,EAChBA,EAAWA,EAAWA,EAAW

EAAmB,IAAIzgE,IAW3B,OAVAqoB,EAAW3tB,SAAQ,SAAUwjE,GAEzBwC,GAAkB,CADA,CAAEh+D,MAAO,CAAEkd,WAAYs+C,EAAU90D,MAAQogB,SAAU00C,EAAU90D,OAC9C80D,EAAUt4C,YAAcjgC,EAAQo2E,gBAAgB4E,UAAYh7E,EAAQo2E,gBAAgB50C,WAAW,EAAM9d,EAAYm3D,EAAcC,GAAiC,MAAGlKp4C,EAAWvJ,QAAO,SAAUlb,GAAO,OAAOA,EAAIgBp9B,OAAO6/B,EAAWvJ,QAAO,SAAUlb,GAAO,OAAOA,EAAIgiB,gBAC1C1HlrB,SAAQ,SAAUwjE,GAC3CwC,GAAkBxC,EAAU/3C,GAAUWxgC,EAAQo2E,gBAAgB6E,eAAe,CAAEv7E,EAAOv3D,EAAYm3D,EAAcC,GAAiC,MAAGhKp4C,EAAWvJ,QAAO,SAAUlb,GAAO,OAAOA,EAAIgiB,gBAAgB

AAiBv8C,UAAUxkB,KAAI,SAAUknB,GAChE,IAAIi6C,EAAsBj6C,EAASY,SAC/Bs5C,EAAyBl6C,EAASa,YAClCs5C,OAAkBjgE,EACtB,GAA4B,MAAxB8lB,EAASa,YAAqB,CAC9Bu5C,EAAgBvpE,EAAMwpE,eAAeR,EAAiBjE,aAAc,CAAE/7D,MAAOmmB,EAASa,aAAe80C,GAC9E,MAAvByE,EAAcvgE,MAAOyE,EAAcqgE,MAAOrg

Bj6C,EAASY,SAC/Bs5C,EAAyBl6C,EAASa,YAClCs5C,OAAkBjgE,EACtB,GAA4B,MAAxB8lB,EAASa,YAAq
B,CAC9B,IAAIu5C,EAAgBvpE,EAAMwpE,eAAe,CAAExgE,MAAOmmB,EAASa,aAAe80C,EAAOkE,EAAiBr5
D,YACvE,MAAvB45D,EAAcvgE,MACdqgE,EAAyBE,EAAcvgE,OAGvCqgE,EAAyB,KACzBD,EAAsBG,EAAA
cr7E,YAGnCihC,EAASc,WAEdq5C,GADWn6C,EAASe,MAAQf,EAASc,WAAWqhB,QAEvCrpC,KAAI,SAAUq
nC,GAAO,OAAOtvC,EAAMwpE,eAAel6B,EAAKw1B,EAAOkE,EAAiBr5D,eAElFwf,EAASW,WAEdw5C,GA
DWn6C,EAASe,MAAQf,EAASW,SAASwhB,QAErCrpC,KAAI,SAAUqnC,GAAO,OAAOtvC,EAAMwpE,eAAel
6B,EAAKw1B,EAAOkE,EAAiBr5D,gBAE3F,OAAO85D,GAAmBt6C,EAAU,CAAChCa,YAAaq5C,EACbt5C,SA
AUq5C,EACVl5C,KAAMo5C,OAAMd,OAHAJ,EACIQ,GAAsBV,EAAkBlE,MAAOA,EAAOr4C,UAAW0
8C,IACvE38E,KAAK45E,sBAAsBt+D,IAAIgjB,GAAe9hB,GAAQkgE,GAC/CA,GAEXc,EAAyB18E,UAAUk8E,
eAAiB,SAAUl6B,EAAKw1B,EAAOsE,GAAgBtE,EAAMuE,GAAGC,IAAIx6B,EAAKy6B,EAAiBH,EAAOI,
gB,OAGxB,SAASu5C,GAAsBv6C,EAAU9tB,GAErC,OAAO,IAAIujE,GAAAYz1C,EAASnmB,MAAOmmB,EAA
S01C,cAAe11C,EAAS21C,OAD5DzjE,EAAyBgjE,MAAmBzjE,EAAyBorB,UAC8D0C,EAAS41C,aAAc51C,EAAS
61C,eAAgB71C,EAASxf,WAAYwf,EAAS81C,UAAgBrL,SAAS+B,GAAkBv6C,EAAUs4C,EAAcD,EAAOn1D,E
AAYm3D,EAAcuD,EAAwBpF,GACzGx4C,EAAUzrB,SAAQ,SAAUmuB,GAAgBA,EAAa,MAAMA,EAAa,MAAMA,
xiE,IAAIijB,GAAeqE,EAASnmB,QAClD,MAApBggE,KAA8BA,EAAiBnE,iBAAoB,iBAAoB11C,EAASgB,OAC5E22C,E
AAap4E,KAAK,IAAI62E,GAAc,iEAAmE16C,GAAUm+C,EAAiBhgE,OAAQ2G,IAEzIq5D,GAUI75C,EAASgB,
QACV64C,EAAiBv8C,UAAUz+B,SAAQ,SAAUmuB,GAAgBA,EAAa,MAAMA,EAAa,MAAMA,EAAa/9B/B,KAAK
AIpE,GAAYz1C,EAASnmB,QAASmmB,EAASmB,QAAQ20C,EAASgB,OAAO20C,KAAKD,GAAiBE,GAAiBC,IA
ASc,YACiB,CAACd,GAAW41C,EALjF51C,EAASnmB,MAAMkd,YAAiJ,EAASnmB,MAAMkd,WAAW8+C,EAAW8+
eAC1B71C,EAASnmB,MAAMkd,WAAW8+C,eAC1B,GAEgIr1D,EAAYs1D,GAAhJoF,EAAuBviE,IAAIgjB,GA
AeqE,EAASnmB,OAAQggE,EAAiBv8C,UAAUz+B,SAAQ,SAAUmuB,GAAgBA,EAAa,MAAMA,EAAa,MAAMA,
H,SAAQ,SAAUgI,EAAInC,EAAI0T,EAAIjB,GAAe9hB,IAC9B0T,EAAIjB,GAAe9hB,IAAIgjB,GAAe9hB,IAAIgjB,GAAe9hB,IAAIg

koD,EAAQ/+C,cAAci/C,GACb,iBAAfpoD,EAEPnjB,EAAMgsE,WAAWT,EAAUpoD,EAAYxT,EAAYA,EAAY,GAAIo8D,GAGnE/rE,EAAMyrE,aAAa,+BAAkCF,EAAW,8DAAkEpoD,EAAa,aAAgBA,EAAa,IAAKxT,MAGlLo8D,EAEX,OAAO,MAEXlB,EAAcv9E,UAAU2+E,mBAAqB,SAAU9E,GACnD,IAAIu8D,EAAav8D,EAAOyhB,EAAYzhB,EAAOyhB,EAAYzhB,EAAOyhB,EAAYzhB

ACrC2qE,EAAYl+E,KAAK,IAAIi2D,GAAezjD,EAAMqb,EAAKtwB,EAAQ0zD,mBAAmB0uB,QAAS1+D,EAA
YusB,EAASL,KAE5GgvC,EAAcv9E,UAAU2gF,gBAAkB,SAAU/sE,EAAMiiB,EAAYxT,EAAYswC,EAAgB/jB,
EAASL,EAAW8wC,EAAsBC,GACpH,IAAhB1rE,EAAKlT,QACLxB,KAAKi/E,aAAa,+BAAgC97D,GAAKtD,IA
AI4M,EAAM/vB,KAAK2hF,cAAchrD,GAAc,aAAa,EAAO0Y,GAAalsB,EAAYswC,GACxF0sB,EAAqBj+E,KA
AK,CAACwS,EAAMqb,EAAIta,SACrC2qE,EAAYl+E,KAAK,IAAIi2D,GAAezjD,EAAMqb,EAAKtwB,EAAQ0z
D,mBAAmBoF,UAAWp1C,EAAYusB,EAASL,KAE9GgvC,EAAcv9E,UAAU6gF,cAAgB,SAAUjtE,EAAMiiB,EAAYxT,EAAYswC,EAAgBogF,E
AAe3+D,EAAYswC,GAChF,IAAIisB,GAAcv8D,GAAcA,EAAWmwB,OAAS,aAAa75B,WACjE,IACI,IAAIsW,E
AAM+xD,EACN9hF,KAAKs+E,YAAYyD,mBAAmBrgF,EAAOg+E,EAAYjsB,EAAgBzzD,KAAK8oE,sBAC5E5E
9oE,KAAKs+E,YAAY0D,aAAatgF,EAAOg+E,EAAYjsB,EAAgBzzD,KAAK8oE,sBAI1E,OAHI/4C,GACA/vB,K
AAK2/E,8BAA8B5vD,EAAIynC,OAAQr0C,GACnDnjB,KAAK4/E,7vD,EAAK5M,GACf4M,EAEX,MAA
O/tB,GAEH,OADAhC,KAAKi/E,aAAa,GAAKj9E,EAAGmhB,GACnBnjB,KAAKs+E,YAAYuB,qBAAqB,QAASH,EAAYjsB,KAG1E4qB,EAAcv9E,UAAUu+E,2BAA6B,SAAUjtE,EAAMiiB,EAAYxT,EAAYswC,EAAgBC,GAAGvG,QAAuB,
IAAnBD,GAA6B,QAC1B,IAA6BA,GAAQ,QAC1C1B,IAAIA8BA,GAAkB,QAAC1B,DF,YAAY,GAAEnFo/D,EAAmBE,GAA6BziF,KAAKu+E,gBF
Y,EAAiBmD,GAAmB,GAAC1G,IAAII,EAAiBJ,EAAkB5/E,QAAAA,C/C,GAAIggF,GAAkB,EAAG,CACrB,IA
AIC,EAAKL,EAAkBltD,UAAU,EAAGstD,GACpChuE,EAAO4tE,EAAkBltD,UAAUstD,EAAiB,GACxDJ,EAAo
Bn/E,EAAew/E,EAAIjuE,GAE3C2tE,EAAc,MA/SX,SAiTE91D,EAAM,IACX+1D,EAAoB/1D,EAAM,GAC1B81
D,EAAc,EACdE,EAAmB,CAAC5kE,EAAgBykE,OAnTjC,SAqTE71D,EAAM,KACXkjB,EAAOljB,EAAM/qB/,EAAM/qB,
OAAS,EAAI+qB,EAAM,GAAK,KACrC+1D+1D,EAAoB/1D,EAAM,GAAK,EAAc,CAAC5kE,EAAgBilE,QAI5C,GAA0B,OAAtBN,EAAkB,
EAAA4B,CAAC5B,IAAIO,EAAkBP,EAAkB7iF,KAAKu+E,gBuE,kBAAkBb,EAAU
vtE,MACtE4tE,EAAoBH,EAAkBU,EAAiBZ,EAAUvtE,KAAKjE6tE,EAAmBE,GA6BziF,KAAKu+E,gBuE,kBAAkBBY,
EAAiB0D,GAAgB,GAAC1G,IAAII,EAAiBJ,EAAkB5/E,QAAAA,C/C,GAAIggF,GAAkB,EAAG,CACrB,IA
AIC,EAAKL,EAAkBltD,UAAU,EAAGstD,GACpChuE,EAAO4tE,EAAkBltD,UAAUstD,EAAiB,GACxDJ,EAAo
Bn/E,EAAew/E,EAAIjuE,GAE3C2tE,EAAc,MA/SX,SAiTE91

B,QAASH,EAAYjsB,KAEtEzzD,KAAK4/E,YAAY7vD,EAAK5M,GACf4M,GAEX,MAAO/tB,GAEH,OADAhC,KAAKi/E,aAAa,GAAKj9E,EAAGmhB,GACnBnjB,KAAKs+E,YAAYuB,qBAAqB,QAASH,EAAYjsB,KAG1E4qB,EAAcv9E,UAAUm+E,aAAe,SAAUvoC,EAASvzB,EAAYotC,QACpD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUw9E,aAAe,SAAUC,EAAQ/uC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUy9E,aAAe,SAAUC,EAAQ/uC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU09E,aAAe,SAAUC,EAAQ/uC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU29E,aAAe,SAAUC,EAAQjvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU49E,aAAe,SAAUC,EAAQlvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU69E,aAAe,SAAUC,EAAQnvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU89E,aAAe,SAAUC,EAAQpvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU+9E,aAAe,SAAUC,EAAQrvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUg+E,aAAe,SAAUC,EAAQtvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUi+E,aAAe,SAAUC,EAAQvvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUk+E,aAAe,SAAUC,EAAQxvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUm+E,aAAe,SAAUC,EAAQzvC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUo+E,aAAe,SAAUC,EAAQ1vC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUq+E,aAAe,SAAUC,EAAQ3vC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUs+E,aAAe,SAAUC,EAAQ5vC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUu+E,aAAe,SAAUC,EAAQ7vC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUw+E,aAAe,SAAUC,EAAQ9vC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUy+E,aAAe,SAAUC,EAAQ/vC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU0+E,aAAe,SAAUC,EAAQhwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU2+E,aAAe,SAAUC,EAAQjwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU4+E,aAAe,SAAUC,EAAQlwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU6+E,aAAe,SAAUC,EAAQnwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU8+E,aAAe,SAAUC,EAAQpwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAMAI,KAAK,OAGtBC,EAAcv9E,UAAU++E,aAAe,SAAUC,EAAQrwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUg/E,aAAe,SAAUC,EAAQtwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUi/E,aAAe,SAAUC,EAAQvwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUk/E,aAAe,SAAUC,EAAQxwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUm/E,aAAe,SAAUC,EAAQzwC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUo/E,aAAe,SAAUC,EAAQ1wC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUq/E,aAAe,SAAUC,EAAQ3wC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUs/E,aAAe,SAAUC,EAAQ5wC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUu/E,aAAe,SAAUC,EAAQ7wC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUw/E,aAAe,SAAUC,EAAQ9wC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUy/E,aAAe,SAAUC,EAAQ/wC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU0/E,aAAe,SAAUC,EAAQhxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU2/E,aAAe,SAAUC,EAAQjxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU4/E,aAAe,SAAUC,EAAQlxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU6/E,aAAe,SAAUC,EAAQnxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU8/E,aAAe,SAAUC,EAAQpxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU+/E,aAAe,SAAUC,EAAQrxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUggF,aAAe,SAAUC,EAAQtxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUigF,aAAe,SAAUC,EAAQvxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUkgF,aAAe,SAAUC,EAAQxxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUmgF,aAAe,SAAUC,EAAQzxC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUogF,aAAe,SAAUC,EAAQ1xC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUqgF,aAAe,SAAUC,EAAQ3xC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUsgF,aAAe,SAAUC,EAAQ5xC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUugF,aAAe,SAAUC,EAAQ7xC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUwgF,aAAe,SAAUC,EAAQ9xC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUygF,aAAe,SAAUC,EAAQ/xC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU0gF,aAAe,SAAUC,EAAQhyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU2gF,aAAe,SAAUC,EAAQjyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU4gF,aAAe,SAAUC,EAAQlyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU6gF,aAAe,SAAUC,EAAQnyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU8gF,aAAe,SAAUC,EAAQpyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAU+gF,aAAe,SAAUC,EAAQryC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUghF,aAAe,SAAUC,EAAQtyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUihF,aAAe,SAAUC,EAAQvyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUkhF,aAAe,SAAUC,EAAQxyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUmhF,aAAe,SAAUC,EAAQzyC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUohF,aAAe,SAAUC,EAAQ1yC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUqhF,aAAe,SAAUC,EAAQ3yC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUshF,aAAe,SAAUC,EAAQ5yC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUuhF,aAAe,SAAUC,EAAQ7yC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,CACjFoB,EAAMpB,GAAS,IAAIsB,MAAMF,EAAMpB,EAAQ,GAAGuB,KAAK,KAEnD,OAAOH,EAAMI,KAAK,OAGtBC,EAAcv9E,UAAUwhF,aAAe,SAAUC,EAAQ9yC,EAAYotC,QACrD,IAAVA,IAAoBA,EAAQ,GAC5B,IAAIoB,EAAQ,IAAIC,MAAMzuC,GAAWA,EAAQwuC,MAAQ,GAAIpB,GAAS,EAAGA,EAAQ,EAAGA,IAAS,

AU6kF,EAAoBxkE,GAIvBwkE,EAL4B,CAMrCl1B,IACEm1B,GACA,SAASA,GAAoBC,EAAaC,EAAWnuB,G
ACjDx3D,KAAK0lF,YAAcA,EACnB1lF,KAAK2lF,UAAYA,EACjB3lF,KAAKw3D,OAASA,GAIlBouB,GAAgC
,WAChC,SAASA,EAAeC,EAASC,EAAYxH,EAAaC,EAAiBwH,EAAaC,,EAAUC,,GAC9FjmF,KAAK6lF,QAAU
A,EACf7lF,KAAK8lF,WAAaA,EAClB9lF,KAAKs+E,YAAcA,EACnBt+E,KAAKu+E,gBAAkBA,EACvBv+E,K
AAK+lF,YAAcA,EACnB/lF,KAAKgmF,SAAWA,EAChBhmF,KAAKimF,WAAaA,EAAsGtB,OApGA5lF,OAAO+
mD,eAAew+B,EAAe9kF,UAAW,mBAAoB,CAChEua,IAAK,WACD,OAAOrb,KAAKs+E,aAEhBj3B,YAAY,EA
CZC,cAAc,IAElBs+B,EAAe9kF,UAAUkX,MAAQ,SAAU6tD,EAAWhnC,EAAUsD,EAAYG,,EAAOT,,EAAS/C,E
AAaO,GACrG,IAAIxqB,EACA2E,SAASrB,EAAWkmF,SAASrgB,EAAWhnC,EAAUsD,EAAYG,,EAAOT,,EAAS
/C,EAAaO,GACrFgiD,EAAW7nE,EAAOg+B,EAAOs+B,OAAOt+B,EAAOu+B,QAAQ9+B,EAAOO,EAAOw+B,OAAOx+B,EAAOy+B,QAAQh/B,EAAOO,EAAO0+B,OAAO1+B,EAAO2+B,QAAQl/B,EAAOO,EAAO4+B,OAAO5+B,EAAO6+B,QAAQp/B,EAAOO,EAAO8+B,OAAO9+B,EAAO++B,QAAQt/B,EAAOO,EAAOg/B,OAAOh/B,EAAOi/B,QAAQx/B,EAAOO,EAAOk/B,OAAOl/B,EAAOm/B,QAAQ1/B,EAAOO,EAAOo/B,OAAOp/B,EAAOq/B,QAAQ5/B,EAAOO,EAAOs/B,OAAOt/B,EAAOu/B,QAAQ9/B,EAAOO,EAAOw/B,OAAOx/B,EAAOy/B,QAAQhgC,EAAOO,EAAO0/B,OAAO1/B,EAAO2/B,QAAQlgC,EAAOO,EAAO4/B,OAAO5/B,EAAO6/B,QAAQpgC,EAAOO,EAAO8/B,OAAO9/B,EAAO+/B,QAAQtgC,EAAOO,EAAOggC,OAAOhgC,EAAOigC,QAAQxgC,EAAOO,EAAOkgC,OAAOlgC,EAAOmgC,QAAQ1gC,EAAOO,EAAOogC,OAAOpgC,EAAOqgC,QAAQ5gC,EAAOO,EAAOsgC,OAAOtgC,EAAOugC,QAAQ9gC,EAAOO,EAAOwgC,OAAOxgC,EAAOygC,QAAQhhC,EAAOO,EAAO0gC,OAAO1gC,EAAO2gC,QAAQlhC,EAAOO,EAAO4gC,OAAO5gC,EAAO6gC,QAAQphC,EAAOO,EAAO8gC,OAAO9gC,EAAO+gC,QAAQthC,EAAOO,EAAOghC,OAAOhhC,EAAOihC,QAAQxhC,EAAOO,EAAOkhC,OAAOlhC,EAAOmhC,QAAQ1hC,EAAOO,EAAOohC,OAAOphC,EAAOqhC,QAAQ5hC,EAAOO,EAAOshC,OAAOthC,EAAOuhC,QAAQ9hC,EAAOO,EAAOwhC,OAAOxhC,EAAOyhC,QAAQhiC,EAAOO,EAAO0hC,OAAO1hC,EAAO2hC,QAAQliC,EAAOO,EAAO4hC,OAAO5hC,EAAO6hC,QAAQpiC,EAAOO,EAAO8hC,OAAO9hC,EAAO+hC,QAAQtiC,EAAOO,EAAOgiC,OAAOhiC,EAAOiiC,QAAQxiC,EAAOO,EAAOkiC,OAAOliC,EAAOmiC,QAAQ1iC,EAAOO,EAAOoiC,OAAOpiC,EAAOqiC,QAAQ5iC,EAAOO,EAAOsiC,OAAOtiC,EAAOuiC,QAAQ9iC,EAAOO,EAAOwiC,OAAOxiC,EAAOyiC,QAAQhjC,EAAOO,EAAO0iC,OAAO1iC,EAAO2iC,QAAQljC,EAAOO,EAAO4iC,OAAO5iC,EAAO6iC,QAAQpjC,EAAOO,EAAO8iC,OAAO9iC,EAAO+iC,QAAQtjC,EAAOO,EAAOgjC,OAAOhjC,EAAOijC,QAAQxjC,EAAOO,EAAOkjC,OAAOljC,EAAOmjC,QAAQ1jC,EAAOO,EAAOojC,OAAOpjC,EAAOqjC,QAAQ5jC,EAAOO,EAAOsjC,OAAOtjC,EAAOujC,QAAQ9jC,EAAOO,EAAOwjC,OAAOxjC,EAAOyjC,QAAQhkC,EAAOO,EAAO0jC,OAAO1jC,EAAO2jC,QAAQlkC,EAAOO,EAAO4jC,OAAO5jC,EAAO6jC,QAAQpkC,EAAOO,EAAO8jC,OAAO9jC,EAAO+jC,QAAQtkC,EAAOO,EAAOgkC,OAAOhkC,EAAOikC,QAAQxkC,EAAOO,EAAOkkC,OAAOlkC,EAAOmkC,QAAQ1kC,EAAOO,EAAOokC,OAAOpkC,EAAOqkC,QAAQ5kC,EAAOO,EAAOskC,OAAOtkC,EAAOukC,QAAQ9kC,EAAOO,EAAOwkC,OAAOxkC,EAAOykC,QAAQhlC,EAAOO,EAAO0kC,OAAO1kC,EAAO2kC,QAAQllC,EAAOO,EAAO4kC,OAAO5kC,EAAO6kC,QAAQplC,EAAOO,EAAO8kC,OAAO9kC,EAAO+kC,QAAQtlC,EAAOO,EAAOglC,OAAOhlC,EAAOilC,QAAQxlC,EAAOO,EAAOklC,OAAOllC,EAAOmlC,QAAQ1lC,EAAOO,EAAOolC,OAAOplC,EAAOqlC,QAAQ5lC,EAAOO,EAAOslC,OAAOtlC,EAAOulC,QAAQ9lC,EAAOO,EAAOwlC,OAAOxlC,EAAOylC,QAAQhmC,EAAOO,EAAO0lC,OAAO1lC,EAAO2lC,QAAQlmC,EAAOO,EAAO4lC,OAAO5lC,EAAO6lC,QAAQpmC,EAAOO,EAAO8lC,OAAO9lC,EAAO+lC,QAAQtmC,EAAOO,EAAOgmC,OAAOhmC,EAAOimC,QAAQxmC,EAAOO,EAAOkmC,OAAOlmC,EAAOmmC,QAAQ1mC,EAAOO,EAAOomC,OAAOpmC,EAAOqmC,QAAQ5mC,EAAOO,EAAOsmC,OAAOtmC,EAAOumC,QAAQ9mC,EAAOO,EAAOwmC,OAAOxmC,EAAOymC,QAAQhnC,EAAOO,EAAO0mC,OAAO1mC,EAAO2mC,QAAQlnC,EAAOO,EAAO4mC,OAAO5mC,EAAO6mC,QAAQpnC,EAAOO,EAAO8mC,OAAO9mC,EAAO+mC,QAAQtnC,EAAOO,EAAOgnC,OAAOhnC,EAAOinC,QAAQxnC,EAAOO,EAAOknC,OAAOlnC,EAAOmnC,QAAQ1nC,EAAOO,EAAOonC,OAAOpnC,EAAOqnC,QAAQ5nC,EAAOO,EAAOsnC,OAAOtnC,EAAOunC,QAAQ9nC,EAAOO,EAAOwnC,OAAOxnC,EAAOynC,QAAQhoC,EAAOO,EAAO0nC,OAAO1nC,EAAO2nC,QAAQloC,EAAOO,EAAO4nC,OAAO5nC,EAAO6nC,QAAQpoC,EAAOO,EAAO8nC,OAAO9nC,EAAO+nC,QAAQtoC,EAAOO,EAAOgoC,OAAOhoC,EAAOioC,QAAQxoC,EAAOO,EAAOkoC,OAAOloC,EAAOmoC,QAAQ1oC,EAAOO,EAAOooC,OAAOpoC,EAAOqoC,QAAQ5oC,EAAOO,EAAOsoC,OAAOtoC,EAAOuoC,QAAQ9oC,EAAOO,EAAOwoC,OAAOxoC,EAAOyoC,QAAQhpC,EAAOO,EAAO0oC,OAAO1oC,EAAO2oC,QAAQlpC,EAAOO,EAAO4oC,OAAO5oC,EAAO6oC,QAAQppC,EAAOO,EAAO8oC,OAAO9oC,EAAO+oC,QAAQtpC,EAAOO,EAAOgpC,OAAOhpC,EAAOipC,QAAQxpC,EAAOO,EAAOkpC,OAAOlpC,EAAOmpC,QAAQ1pC,EAAOO,EAAOopC,OAAOppC,EAAOqpC,QAAQ5pC,EAAOO,EAAOspC,OAAOtpC,EAAOupC,QAAQ9pC,EAAOO,EAAOwpC,OAAOxpC,EAAOypC,QAAQhqC,EAAOO,EAAO0pC,OAAO1pC,EAAO2pC,QAAQlqC,EAAOO,EAAO4pC,OAAO5pC,EAAO6pC,QAAQpqC,EAAOO,EAAO8pC,OAAO9pC,EAAO+pC,QAAQtqC,EAAOO,EAAOgqC,OAAOhqC,EAAOiqC,QAAQxqC,EAAOO,EAAOkqC,OAAOlqC,EAAOmqC,QAAQ1qC,EAAOO,EAAOoqC,OAAOpqC,EAAOqqC,QAAQ5qC,EAAOO,EAAOsqC,OAAOtqC,EAAOuqC,QAAQ9qC,EAAOO,EAAOwqC,OAAOxqC,EAAOyqC,QAAQhrC,EAAOO,EAAO0qC,OAAO1qC,EAAO2qC,QAAQlrC,EAAOO,EAAO4qC,OAAO5qC,EAAO6qC,QAAQprC,EAAOO,EAAO8qC,OAAO9qC,EAAO+qC,QAAQtrC,EAAOO,EAAOgrC,OAAOhrC,EAAOirC,QAAQxrC,EAAOO,EAAOkrC,OAAOlrC,EAAOmrC,QAAQ1rC,EAAOO,EAAOorC,OAAOprC,EAAOqrC,QAAQ5rC,EAAOO,EAAOsrC,OAAOtrC,EAAOurC,QAAQ9rC,EAAOO,EAAOwrC,OAAOxrC,EAAOyrC,QAAQhsC,EAAOO,EAAO0rC,OAAO1rC,EAAO2rC,QAAQlsC,EAAOO,EAAO4rC,OAAO5rC,EAAO6rC,QAAQpsC,EAAOO,EAAO8rC,OAAO9rC,EAAO+rC,QAAQtsC,EAAOO,EAAOgsC,OAAOhsC,EAAOisC,QAAQxsC,EAAOO,EAAOksC,OAAOlsC,EAAOmsC,QAAQ1sC,EAAOO,EAAOosC,OAAOpsC,EAAOqsC,QAAQ5sC,EAAOO,EAAOssC,OAAOtsC,EAAOusC,QAAQ9sC,EAAOO,EAAOwsC,OAAOxsC,EAAOysC,QAAQhtC,EAAOO,EAAO0sC,OAAO1sC,EAAO2sC,QAAQltC,EAAOO,EAAO4sC,OAAO5sC,EAAO6sC,QAAQptC,EAAOO,EAAO8sC,OAAO9sC,EAAO+sC,QAAQttC,EAAOO,EAAOgtC,OAAOhtC,EAAOitC,QAAQxtC,EAAOO,EAAOktC,OAAOltC,EAAOmtC,QAAQ1tC,EAAOO,EAAOotC,OAAOptC,EAAOqtC,QAAQ5tC,EAAOO,EAAOstC,OAAOttC,EAAOutC,QAAQ9tC,EAAOO,EAAOwtC,OAAOxtC,EAAOytC,QAAQhuC,EAAOO,EAAO0tC,OAAO1tC,EAAO2tC,QAAQluC,EAAOO,EAAO4tC,OAAO5tC,EAAO6tC,QAAQpuC,EAAOO,EAAO8tC,OAAO9tC,EAAO+tC,QAAQtuC,EAAOO,EAAOguC,OAAOhuC,EAAOiuC,QAAQxuC,EAAOO,EAAOkuC,OAAOluC,EAAOmuC,QAAQ1uC,EAAOO,EAAOouC,OAAOpuC,EAAOquC,QAAQ5uC,EAAOO,EAAOsuC,OAAOtuC,EAAOuuC,QAAQ9uC,EAAOO,EAAOwuC,OAAOxuC,EAAOyuC,QAAQhvC,EAAOO,EAAO0uC,OAAO1uC,EAAO2uC,QAAQlvC,EAAOO,EAAO4uC,OAAO5uC,EAAO6uC,QAAQpvC,EAAOO,EAAO8uC,OAAO9uC,EAAO+uC,QAAQtvC,EAAOO,EAAOgvC,OAAOhvC,EAAOivC,QAAQxvC,EAAOO,EAAOkvC,OAAOlvC,EAAOmvC,QAAQ1vC,EAAOO,EAAOovC,OAAOpvC,EAAOqvC,QAAQ5vC,EAAOO,EAAOsvC,OAAOtvC,EAAOuvC,QAAQ9vC,EAAOO,EAAOwvC,OAAOxvC,EAAOyvC,QAAQhwC,EAAOO,EAAO0vC,OAAO1vC,EAAO2vC,QAAQlwC,EAAOO,EAAO4vC,OAAO5vC,EAAO6vC,QAAQpwC,EAAOO,EAAO8vC,OAAO9vC,EAAO+vC,QAAQtwC,EAAOO,EAAOgwC,OAAOhwC,EAAOiwC,QAAQxwC,EAAOO,EAAOkwC,OAAOlwC,EAAOmwC,QAAQ1wC,EAAOO,EAAOowC,OAAOpwC,EAAOqwC,QAAQ5wC,EAAOO,EAAOswC,OAAOtwC,EAAOuwC,QAAQ9wC,EAAOO,EAAOwwC,OAAOxwC,EAAOywC,QAAQhxC,EAAOO,EAAO0wC,OAAO1wC,EAAO2wC,QAAQlxC,EAAOO,EAAO4wC,OAAO5wC,EAAO6wC,QAAQpxC,EAAOO,EAAO8wC,OAAO9wC,EAAO+wC,QAAQtxC,EAAOO,EAAOgxC,OAAOhxC,EAAOixC,QAAQxxC,EAAOO,EAAOkxC,OAAOlxC,EAAOmxC,QAAQ1xC,EAAOO,EAAOoxC,OAAOpxC,EAAOqxC,QAAQ5xC,EAAOO,EAAOsxC,OAAOtxC,EAAOuxC,QAAQ9xC,EAAOO,EAAOwxC,OAAOxxC,EAAOyxC,QAAQhyC,EAAOO,EAAO0xC,OAAO1xC,EAAO2xC,QAAQlyC,EAAOO,EAAO4xC,OAAO5xC,EAAO6xC,QAAQpyC,EAAOO,EAAO8xC,OAAO9xC,EAAO+xC,QAAQtyC,EAAOO,EAAOgyC,OAAOhyC,EAAOiyC,QAAQxyC,EAAOO,EAAOkyC,OAAOlyC,EAAOmyC,QAAQ1yC,EAAOO,EAAOoyC,OAAOpyC,EAAOqyC,QAAQ5yC,EAAOO,EAAOsyC,OAAOtyC,EAAOuyC,QAAQ9yC,EAAOO,EAAOwyC,OAAOxyC,EAAOyyC,QAAQhzC,EAAOO,EAAO0yC,OAAO1yC,EAAO2yC,QAAQlzC,EAAOO,EAAO4yC,OAAO5yC,EAAO6yC,QAAQpzC,EAAOO,EAAO8yC,OAAO9yC,EAAO+yC,QAAQtzC,EAAOO,EAAOgzC,OAAOhzC,EAAOizC,QAAQxzC,EAAOO,EAAOkzC,OAAOlzC,EAAOmzC,QAAQ1zC,EAAOO,EAAOozC,OAAOpzC,EAAOqzC,QAAQ5zC,EAAOO,EAAOszC,OAAOtzC,EAAOuzC,QAAQ9zC,EAAOO,EAAOwzC,OAAOxzC,EAAOyzC,QAAQh0C,EAAOO,EAAO0zC,OAAO1zC,EAAO2zC,QAAQl0C,EAAOO,EAAO4zC,OAAO5zC,EAAO6zC,QAAQp0C,EAAOO,EAAO8zC,OAAO9zC,EAAO+zC,QAAQt0C,EAAOO,EAAOg0C,OAAOh0C,EAAOi0C,QAAQx0C,EAAOO,EAAOk0C,OAAOl0C,EAAOm0C,QAAQ10C,EAAOO,EAAOo0C,OAAOp0C,EAAOq0C,QAAQ50C,EAAOO,EAAOs0C,OAAOt0C,EAAOu0C,QAAQ90C,EAAOO,EAAOw0C,OAAOx0C,EAAOy0C,QAAQh1C,EAAOO,EAAO00C,OAAO10C,EAAO20C,QAAQl1C,EAAOO,EAAO40C,OAAO50C,EAAO60C,QAAQp1C,EAAOO,EAAO80C,OAAO90C,EAAO+0C,QAAQt1C,EAAOO,EAAOg1C,OAAOh1C,EAAOi1C,QAAQx1C,EAAOO,EAAOk1C,OAAOl1C,EAAOm1C,QAAQ11C,EAAOO,EAAOo1C,OAAOp1C,EAAOq1C,QAAQ51C,EAAOO,EAAOs1C,OAAOt1C,EAAOu1C,QAAQ91C,EAAOO,EAAOw1C,OAAOx1C,EAAOy1C,QAAQh2C,EAAOO,EAAO01C,OAAO11C,EAAO21C,QAAQl2C,EAAOO,EAAO41C,OAAO51C,EAAO61C,QAAQp2C,EAAOO,EAAO81C,OAAO91C,EAAO+1C,QAAQt2C,EAAOO,EAAOg2C,OAAOh2C,EAAOi2C,QAAQx2C,EAAOO,EAAOk2C,OAAOl2C,EAAOm2C,QAAQ12C,EAAOO,EAAOo2C,OAAOp2C,EAAOq2C,QAAQ52C,EAAOO,EAAOs2C,OAAOt2C,EAAOu2C,QAAQ92C,EAAOO,EAAOw2C,OAAOx2C,EAAOy2C,QAAQh3C,EAAOO,EAAO02C,OAAO12C,EAAO22C,QAAQl3C,EAAOO,EAAO42C,OAAO52C,EAAO62C,QAAQp3C,EAAOO,EAAO82C,OAAO92C,EAAO+2C,QAAQt3C,EAAOO,EAAOg3C,OAAOh3C,EAAOi3C,QAAQx3C,EAAOO,EAAOk3C,OAAOl3C,EAAOm3C,QAAQ13C,EAAOO,EAAOo3C,OAAOp3C,EAAOq3C,QAAQ53C,EAAOO,EAAOs3C,OAAOt3C,EAAOu3C,QAAQ93C,EAAOO,EAAOw3C,OAAOx3C,EAAOy3C,QAAQh4C,EAAOO,EAAO03C,OAAO13C,EAAO23C,QAAQl4C,EAAOO,EAAO43C,OAAO53C,EAAO63C,QAAQp4C,EAAOO,EAAO83C,OAAO93C,EAAO+3C,QAAQt4C,EAAOO,EAAOg4C,OAAOh4C,EAAOi4C,QAAQx4C,EAAOO,EAAOk4C,OAAOl4C,EAAOm4C,QAAQ14C,EAAOO,EAAOo4C,OAAOp4C,EAAOq4C,QAAQ54C,EAAOO,EAAOs4C,OAAOt4C,EAAOu4C,QAAQ94C,EAAOO,EAAOw4C,OAAOx4C,EAAOy4C,QAAQh5C,EAAOO,EAAO04C,OAAO14C,EAAO24C,QAAQl5C,EAAOO,EAAO44C,OAAO54C,EAAO64C,QAAQp5C,EAAOO,EAAO84C,OAAO94C,EAAO+4C,QAAQt5C,EAAOO,EAAOg5C,OAAOh5C,EAAOi5C,QAAQx5C,EAAOO,EAAOk5C,OAAOl5C,EAAOm5C,QAAQ15C,EAAOO,EAAOo5C,OAAOp5C,EAAOq5C,QAAQ55C,EAAOO,EAAOs5C,OAAOt5C,EAAOu5C,QAAQ95C,EAAOO,EAAOw5C,OAAOx5C,EAAOy5C,QAAQh6C,EAAOO,EAAO05C,OAAO15C,EAAO25C,QAAQl6C,EAAOO,EAAO45C,OAAO55C,EAAO65C,QAAQp6C,EAAOO,EAAO85C,OAAO95C,EAAO+5C,QAAQt6C,EAAOO,EAAOg6C,OAAOh6C,EAAOi6C,QAAQx6C,EAAOO,EAAOk6C,OAAOl6C,EAAOm6C,QAAQ16C,EAAOO,EAAOo6C,OAAOp6C,EAAOq6C,QAAQ56C,EAAOO,EAAOs6C,OAAOt6C,EAAOu6C,QAAQ96C,EAAOO,EAAOw6C,OAAOx6C,EAAOy6C,QAAQh7C,EAAOO,EAAO06C,OAAO16C,EAAO26C,QAAQl7C,EAAOO,EAAO46C,OAAO56C,EAAO66C,QAAQp7C,EAAOO,EAAO86C,OAAO96C,EAAO+6C,QAAQt7C,EAAOO,EAAOg7C,OAAOh7C,EAAOi7C,QAAQx7C,EAAOO,EAAOk7C,OAAOl7C,EAAOm7C,QAAQ17C,EAAOO,EAAOo7C,OAAOp7C,EAAOq7C,QAAQ57C,EAAOO,EAAOs7C,OAAOt7C,EAAOu7C,QAAQ97C,EAAOO,EAAOw7C,OAAOx7C,EAAOy7C,QAAQh8C,EAAOO,EAAO07C,OAAO17C,EAAO27C,QAAQl8C,EAAOO,EAAO47C,OAAO57C,EAAO67C,QAAQp8C,EAAOO,EAAO87C,OAAO97C,EAAO+7C,QAAQt8C,EAAOO,EAAOg8C,OAAOh8C,EAAOi8C,QAAQx8C,EAAOO,EAAOk8C,OAAOl8C,EAAOm8C,QAAQ18C,EAAOO,EAAOo8C,OAAOp8C,EAAOq8C,QAAQ58C,EAAOO,EAAOs8C,OAAOt8C,EAAOu8C,QAAQ98C,EAAOO,EAAOw8C,OAAOx8C,EAAOy8C,QAAQh9C,EAAOO,EAAO08C,OAAO18C,EAAO28C,QAAQl9C,EAAOO,EAAO48C,OAAO58C,EAAO68C,QAAQp9C,EAAOO,EAAO88C,OAAO98C,EAAO+8C,QAAQt9C,EAAOO,EAAOg9C,OAAOh9C,EAAOi9C,QAAQx9C,EAAOO,EAAOk9C,OAAOl9C,EAAOm9C,QAAQ19C,EAAOO,EAAOo9C,OAAOp9C,EAAOq9C,QAAQ59C,EAAOO,EAAOs9C,OAAOt9C,EAAOu9C,QAAQ99C,EAAOO,EAAOw9C,OAAOx9C,EAAOy9C,QAAQh+C,EAAOO,EAAO09C,OAAO19C,EAAO29C,QAAQl+C,EAAOO,EAAO49C,OAAO59C,EAAO69C,QAAQp+C,EAAOO,EAAO89C,OAAO99C,EAAO+9C,QAAQt+C,EAAOO,EAAOg+C,OAAOh+C,EAAOi+C,QAAQx+C,EAAOO,EAAOk+C,OAAOl+C,EAAOm+C,QAAQ1+C,EAAOO,EAAOo+C,OAAOp+C,EAAOq+C,QAAQ5+C,EAAOO,EAAOs+C,OAAOt+C,EAAOu+C,QAAQ9+C,EAAOO,EAAOw+C,OAAOx+C,EAAOy+C,QAAQh/C,EAAOO,EAAO0+C,OAAO1+C,EAAO2+C,QAAQl/C,EAAOO,EAAO4+C,OAAO5+C,EAAO6+C,QAAQp/C,EAAOO,EAAO8+C,OAAO9+C,EAAO++C,QAAQt/C,EAAOO,EAAOg/C,OAAOh/C,EAAOi/C,QAAQx/C,EAAOO,EAAOk/C,OAAOl/C,EAAOm/C,QAAQ1/C,EAAOO,EAAOo/C,OAAOp/C,EAAOq/C,QAAQ5/C,EAAOO,EAAOs/C,OAAOt/C,EAAOu/C,QAAQ9/C,EAAOO,EAAOw/C,OAAOx/C,EAAOy/C,QAAQhgD,EAAOO,EAAO0/C,OAAO1/C,EAAO2/C,QAAQlgD,EAAOO,EAAO4/C,OAAO5/C,EAAO6/C,QAAQpgD,EAAOO,EAAO8/C,OAAO9/C,EAAO+/C,QAAQtgD,EAAOO,EAAOggD,OAAOhgD,EAAOigD,QAAQxgD,EAAOO,EAAOkgD,OAAOlgD,EAAOmgD,QAAQ1gD,EAAOO,EAAOogD,OAAOpgD,EAAOqgD,QAAQ5gD,EAAOO,EAAOsgD,OAAOtgD,EAAOugD,QAAQ9gD,EAAOO,EAAOwgD,OAAOxgD,EAAOygD,QAAQhhD,EAAOO,EAAO0gD,OAAO1gD,EAAO2gD,QAAQlhD,EAAOO,EAAO4gD,OAAO5gD,EAAO6gD,QAAQphD,EAAOO,EAAO8gD,OAAO9gD,EAAO+gD,QAAQthD,EAAOO,EAAOghD,OAAOhhD,EAAOihD,QAAQxhD,EAAOO,EAAOkhD,OAAOlhD,EAAOmhD,QAAQ1hD,EAAOO,EAAOohD,OAAOphD,EAAOqhD,QAAQ5hD,EAAOO,EAAOshD,OAAOthD,EAAOuhD,QAAQ9hD,EAAOO,EAAOwhD,OAAOxhD,EAAOyhD,QAAQhiD,EAAOO,EAAO0hD,OAAO1hD,EAAO2hD,QAAQliD,EAAOO,EAAO4hD,OAAO5hD,EAAO6hD,QAAQpiD,EAAOO,EAAO8hD,OAAO9hD,EAAO+hD,QAAQtiD,EAAOO,EAAOgiD,OAAOhiD,EAAOiiD,QAAQxiD,EAAOO,EAAOkiD,OAAOliD,EAAOmiD,QAAQ1iD,EAAOO,EAAOoiD,OAAOpiD,EAAOqiD,QAAQ5iD,EAAOO,EAAOsiD,OAAOtiD,EAAOuiD,QAAQ9iD,EAAOO,EAAOwiD,OAAOxiD,EAAOyiD,QAAQhjD,EAAOO,EAAO0iD,OAAO1iD,EAAO2iD,QAAQljD,EAAOO,EAAO4iD,OAAO5iD,EAAO6iD,QAAQpjD,EAAOO,EAAO8iD,OAAO9iD,EAAO+iD,QAAQtjD,EAAOO,EAAOgjD,OAAOhjD,EAAOijD,QAAQxjD,EAAOO,EAAOkjD,OAAOljD,EAAOmjD,QAAQ1jD,EAAOO,EAAOojD,OAAOpjD,EAAOqjD,QAAQ5jD,EAAOO,EAAOsjD,OAAOtjD,EAAOujD,QAAQ9jD,EAAOO,EAAOwjD,OAAOxjD,EAAOyjD,QAAQhkD,EAAOO,EAAO0jD,OAAO1jD,EAAO2jD,QAAQlkD,EAAOO,EAAO4jD,OAAO5jD,EAAO6jD,QAAQpkD,EAAOO,EAAO8jD,OAAO9jD,EAAO+jD,QAAQtkD,EAAOO,EAAOgkD,OAAOhkD,EAAOikD,QAAQxkD,EAAOO,EAAOkkD,OAAOlkD,EAAOmkD,QAAQ1kD,EAAOO,EAAOokD,OAAOpkD,EAAOqkD,QAAQ5kD,EAAOO,EAAOskD,OAAOtkD,EAAOukD,QAAQ9kD,EAAOO,EAAOwkD,OAAOxkD,EAAOykD,QAAQhlD,EAAOO,EAAO0kD,OAAO1kD,EAAO2kD,QAAQllD,EAAOO,EAAO4kD,OAAO5kD,EAAO6kD,QAAQplD,EAAOO,EAAO8kD,OAAO9kD,EAAO+kD,QAAQtlD,EAAOO,EAAOglD,OAAOhlD,EAAOilD,QAAQxlD,EAAOO,EAAOklD,OAAOllD,EAAOmlD,QAAQ1lD,EAAOO,EAAOolD,OAAOplD,EAAOqlD,QAAQ5lD,EAAOO,EAAOslD,OAAOtlD,EAAOulD,QAAQ9lD,EAAOO,EAAOwlD,OAAOxlD,EAAOylD,QAAQhmD,EAAOO,EAAO0lD,OAAO1lD,EAAO2lD,QAAQlmD,EAAOO,EAAO4lD,OAAO5lD,EAAO6lD,QAAQpmD,EAAOO,EAAO8lD,OAAO9lD,EAAO+lD,QAAQtmD,EAAOO,EAAOgmD,OAAOhmD,EAAOimD,QAAQxmD,EAAOO,EAAOkmD,OAAOlmD,EAAOmmD,QAAQ1mD,EAAOO,EAAOomD,OAAOpmD,EAAOqmD,QAAQ5mD,EAAOO,EAAOsmD,OAAOtmD,EAAOumD,QAAQ9mD,EAAOO,EAAOwmD,OAAOxmD,EAAOymD,QAAQhnD,EAAOO,EAAO0mD,OAAO1mD,EAAO2mD,QAAQlnD,EAAOO,EAAO4mD,OAAO5mD,EAAO6mD,QAAQpnD,EAAOO,EAAO8mD,OAAO9mD,EAAO+mD,QAAQtnD,EAAOO,EAAOgnD,OAAOhnD,EAAOinD,QAAQxnD,EAAOO,EAAOknD,OAAOlnD,EAAOmnD,QAAQ1nD,EAAOO,EAAOonD,OAAOpnD,EAAOqnD,QAAQ5nD,EAAOO,EAAOsnD,OAAOtnD,EAAOunD,QAAQ9nD,EAAOO,EAAOwnD,OAAOxnD,EAAOynD,QAAQhoD,EAAOO,EAAO0nD,OAAO1nD,EAAO2nD,QAAQloD,EAAOO,EAAO4nD,OAAO5nD,EAAO6nD,QAAQpoD,EAAOO,EAAO8nD,OAAO9nD,EAAO+nD,QAAQtoD,EAAOO,EAAOgoD,OAAOhoD,EAAOioD,QAAQxoD,EAAOO,EAAOkoD,OAAOloD,EAAOmoD,QAAQ1oD,EAAOO,EAAOooD,OAAOpoD,EAAOqoD,QAAQ5oD,EAAOO,EAAOsoD,OAAOtoD,EAAOuoD,QAAQ9oD,EAAOO,EAAOwoD,OAAOxoD,EAAOyoD,QAAQhpD,EAAOO,EAAO0oD,OAAO1oD,EAAO2oD,QAAQlpD,EAAOO,EAAO4oD,OAAO5oD,EAAO6oD,QAAQppD,EAAOO,EAAO8oD,OAAO9oD,EAAO+oD,QAAQtpD,EAAOO,EAAOgpD,OAAOhpD,EAAOipD,QAAQxpD,EAAOO,EAAOkpD,OAAOlpD,EAAOmpD,QAAQ1pD,EAAOO,EAAOopD,OAAOppD,EAAOqpD,QAAQ5pD,EAAOO,EAAOspD,OAAOtpD,EAAOupD,QAAQ9pD,EAAOO,EAAOwpD,OAAOxpD,EAAOypD,QAAQhqD,EAAOO,EAAO0pD,OAAO1pD,EAAO2pD,QAAQlqD,EAAOO,EAAO4pD,OAAO5pD,EAAO6pD,QAAQpqD,EAAOO,EAAO8pD,OAAO9pD,EAAO+pD,QAAQtqD,EAAOO,EAAOgqD,OAAOhqD,EAAOiqD,QAAQxqD,EAAOO,EAAOkqD,OAAOlqD,EAAOmqD,QAAQ1qD,EAAOO,EAAOoqD,OAAOpqD,EAAOqqD,QAAQ5qD,EAAOO,EAAOsqD,OAAOtqD,EAAOuqD,QAAQ9qD,EAAOO,EAAOwqD,OAAOxqD,EAAOyqD,QAAQhrD,EAAOO,EAAO0qD,OAAO1qD,EAAO2qD,QAAQlrD,EAAOO,EAAO4qD,OAAO5qD,EAAO6qD,QAAQprD,EAAOO,EAAO8qD,OAAO9qD,EAAO+qD,QAAQtrD,EAAOO,EAAOgrD,OAAOhrD,EAAOirD,QAAQxrD,EAAOO,EAAOkrD,OAAOlrD,EAAOmrD,QAAQ1rD,EAAOO,EAAOorD,OAAOprD,EAAOqrD,QAAQ5rD,EAAOO,EAAOsrD,OAAOtrD,EAAOurD,QAAQ9rD,EAAOO,EAAOwrD,OAAOxrD,EAAOyrD,QAAQhsD,EAAOO,EAAO0rD,OAAO1rD,EAAO2rD,QAAQlsD,EAAOO,EAAO4rD,OAAO5rD,EAAO6rD,QAAQpsD,EAAOO,EAAO8rD,OAAO9rD,EAAO+rD,QAAQtsD,EAAOO,EAAOgsD,OAAOhsD,EAAOisD,QAAQxsD,EAAOO,EAAOksD,OAAOlsD,EAAOmsD,QAAQ1sD,EAAOO,EAAOosD,OAAOpsD,EAAOqsD,QAAQ5sD,EAAOO,EAAOssD,OAAOtsD,EAAOusD,QAAQ9sD,EAAOO,EAAOwsD,OAAOxsD,EAAOysD,QAAQhtD,EAAOO,EAAO0sD,OAAO1sD,EAAO2sD,QAAQltD,EAAOO,EAAO4sD,OAAO5sD,EAAO6sD,QAAQptD,EAAOO,EAAO8sD,OAAO9sD,EAAO+sD,QAAQttD,EAAOO,EAAOgtD,OAAOhtD,EAAOitD,QAAQxtD,EAAOO,EAAOktD,OAAOltD,EAAOmtD,QAAQ1tD,EAAOO,EAAOotD,OAAOptD,EAAOqtD,QAAQ5tD,EAAOO,EAAOstD,OAAOttD,EAAOutD,QAAQ9tD,EAAOO,EAAOwtD,OAAOxtD,EAAOytD,QAAQhuD,EAAOO,EAAO0tD,OAAO1tD,EAAO2tD,QAAQluD,EAAOO,EAAO4tD,OAAO5tD,EAAO6tD,QAAQpuD,EAAOO,EAAO8tD,OAAO9tD,EAAO+tD,QAAQtuD,EAAOO,EAAOguD,OAAOhuD,EAAOiuD,QAAQxuD,EAAOO,EAAOkuD,OAAOluD,EAAOmuD,QAAQ1uD,EAAOO,EAAOouD,OAAOpuD,EAAOquD,QAAQ5uD,EAAOO,EAAOsuD,OAAOtuD,EAAOuuD,QAAQ9uD,EAAOO,EAAOwuD,OAAOxuD,EAAOyuD,QAAQhvD,EAAOO,EAAO0uD,OAAO1uD,EAAO2uD,QAAQlvD,EAAOO,EAAO4uD,OAAO5uD,EAAO6uD,QAAQpvD,EAAOO,EAAO8uD,OAAO9uD,EAAO+uD,QAAQtvD,EAAOO,EAAOgvD,OAAOhvD,EAAOivD,QAAQxvD,EAAOO,EAAOkvD,OAAOlvD,EAAOmvD,QAAQ1vD,EAAOO,EAAOovD,OAAOpvD,EAAOqvD,QAAQ5vD,EAAOO,EAAOsvD,OAAOtvD,EAAOuvD,QAAQ9vD,EAAOO,EAAOwvD,OAAOxvD,EAAOyvD,QAAQhwD,EAAOO,EAAO0vD,OAAO1vD,EAAO2vD,QAAQlwD,EAAOO,EAAO4vD,OAAO5vD,EAAO6vD,QAAQpwD,EAAOO,EAAO8vD,OAAO9vD,EAAO+vD,QAAQtwD,EAAOO,EAAOgwD,OAAOhwD,EAAOiwD,QAAQxwD,EAAOO,EAAOkwD,OAAOlwD,EAAOmwD,QAAQ1wD,EAAOO,EAAOowD,OAAOpwD,EAAOqwD,QAAQ5wD,EAAOO,EAAOswD,OAAOtwD,EAAOuwD,QAAQ9wD,EAAOO,EAAOwwD,OAAOxwD,EAAOywD,QAAQhxD,EAAOO,EAAO0wD,OAAO1wD,EAAO2wD,QAAQlxD,EAAOO,EAAO4wD,OAAO5wD,EAAO6wD,QAAQpxD,EAAOO,EAAO8wD,OAAO9wD,EAAO+wD,QAAQtxD,EAAOO,EAAOgxD,OAAOhxD,EAAOixD,QAAQxxD,EAAOO,EAAOkxD,OAAOlxD,EAAOmxD,QAAQ1xD,EAAOO

AAIwnD,EAAiBxnD,EAAO84D,mBAAmBrC,MAC3CsC,EAAc/S,GAAYpsD,EAAKhnB,OAC/BslB,EAAOhnB,KAAKsnF,eAAe7H,mBAAmBoI,EAAAan/D,EAAKvF,YACpE,OAAO6D,EAAO,IAAIuvD,GAAAavvD,EAAMsvD,EAAgB5tD,EAAKvF,YACtD,IAAIkzD,GAAQwR,EAAavR,EAAgB5tD,EAAKvF,aAEtD2jE,EAAqBhmF,UAAUgmE,eAAiB,SAAU7tD,EAAWkI,GACjE,OAAO,IAAIq1D,GAAQv9D,EAAUvE,KAAMuE,EAAUvX,MAAOuX,OuX,EAAUkK,aAElE2jE,EAAqBhmF,UAAUmmE,aAAe,SAAUrb,GAAU,OAAOA,EAASzrB,KAAKyrB,SAAWzrB,KAAKyrB,OAAS,IAAIsb,GAAc/mC,KAAMA,KAAKgnC,WAAWvb,KAAYzrB,KAAKyrB,OAAQ,EAAGA,IAAWzrB,KAAKyrB,OAAQ,EAAGA,IAAWzrB,KAAKyrB,OAAQ,EAAGA,IAAW

AY1K,GACxI,IAAI3rE,EAAO1U,KAAKgpF,wBAAwB/T,EAAKvgE,MACzChT,EAAQuzE,EAAKvzE,MACbo/E,EAAU7L,EAAK9xD,WACfswC,EAAiBwhB,EAAK5lC,UAAY4lC,EAAK5lC,UAAUiE,MAAM6b,OAAS2xB,EAAQxtC,MAAM6b,OAC9E67B,EAAc,GACdC,EAAYv2E,EAAKwD,MAAMotE,IACvBuD,GAAa,EA+CjB,OA9CkB,OAAdoC,GACApC,EAAiB,MAA1BoC,EAAzTE,GA0TFjrF,KAAKsnF,eAAetI,qBAAqBiM,EA9StC,GA8S+DvpF,GAAO,EAAOo/E,EAAiB,EAASrtB,EAAgBwhB,EAAK5lC,UAAW8wC,EAAsBC,GAE1I6K,EA1TJ,GA2TGvC,EAAiB1oF,KAAKkrF,eADYD,EAlTlB,GAmTTiC,EAAmBvpF,EAAOo/E,EAAS,SAAgBC,GAAiBrtB,EAAgBwhB,EAAK5lC,UAAW8wC,EAAsBC,GAAuE6K,EAAiB,GAAIvC,EAAiB1oF,KAAKkrF,eAAeD,EAAYjC,EAAiB,GAAIA,EAAiB,GAAIA,EAAiB,GAAIA

,MAAQ,IAAMoqF,EAAW3oE,iBAGhH,IAAK0iD,EAAW,CACjB,IAAImmB,EAAW,KACXtD,IACAsD,EAAWryD,GAAgCnmB,EAAMomB,UAAWN,GAAAYc,cAE5EmxD,EAAiBrpF,KAAK,IAAI+0E,GAAAa6U,EAAWp3E,KAAAMs3E,EAAUF,,MAAOooqF,EAAW3oE,iBAGhGsmE,GAEX3C,EAAqBhmF,UAAU+qF,6BAA+B,SAAUH,EAAAUH,EAAqBtM,EAAAY6M,EAAA2M,BT,EAAAW5qE,SAAAQ,SAAAUytE,GACzBD,EAAAkK,EAAAI4mE,EAAAYD,EAAAmB7wE,IAAAI4mE,EAAAUvtE,MAC5Cy3E,IAAAaA,EAAAU/zB,WAAExB8zB,EAAAmB5wE,IAAAI2mE,EAAAUvtE,KAAAMutE,MAAG/C5hF,OAAAOkxB,KAAAKm6D,GAAAqBl3E,SAAAQ,SAAU43E,C/C,IACInK,EAAAYiK,EAAAmB7wE,IADtBqwE,EAAAoBU,IAG7BnK,EACAuJ,EAAAoxD,EAAAUvtE,MACvC23E,C,GAAAkBpK,EAAAUtrD,aAC7Cs1D,EAAAY+sE,EAAAmBhmF,UAAU8oF,2BAAAnnF,EAAAonF,EAAAa+a+c,EAAAOiqE,GACtF,IAAAIh2E,EAAAQxT,KACRssF,EAAAoB,GAAOxB,OANA/sE,K,K,CAAAM,EAAAUhG,GACpB,IAAAKA,EAAAK4pD,YAAAcoxB,EAAAwB3mD,IAAAIr0B,EAAAKkG,MAAAO,CAAC5D,IAAAIutE,EAAAYzuE,EAAAM8zE,eAAAI,2BAAAE,EAAAagM,EAAAC7E89E,EAAAkBpqF,KAAAKy0E,GAAAwBC,kBAAAkBqL,QAAAGlEjiF,KAAAK2rF,yBAAAYBnpF,EAAAa8pF,IAAAEtDxF,EAAAqBhmF,UAAAUyrF,yBAA2B,SAAUpqD,GAAChE,OAAAOniC,KAAAK4mC,EAAAjE,GAAAC,EAAAhiC,KAAAgiC,EAAAD,GAAAC,EAAAhiC,KAAAgiC,EAAAD,GAAAC,EAAAhiC,KAAAgiC,EAAAD

gB5tD,EAAKvF,aAExD0pE,EAAmB/rF,UAAU2lE,eAAiB,SAAU0O,EAAWh0D,GAC/D,OAAOg0D,GAEX0X,EAAmB/rF,UAAU+lE,mBAAqB,SAAUuO,EAAej0D,GACvE,OAAOi0D,GAEJyX,EAnC4B,GA4CnCxB,GAAuC,WACvC,SAASA,EAAsB32E,EAAMhT,EAAOyB,EAAMhB,EAAOyB,EAAMhB,EAAOyB,EAAMhB

GADTx6E,EA6VR,SAASy6E,EAAkB3gF,GACvB,OAAOo/E,GAAUp/E;;;;;;;OA9VN2gF,CAAkBz6E,IACKyjB,EAAWtjB,EAAGsjB,SAExCjI,EAAQ,CAAExb,KAAMyjB,EAAU8nC,OAD9BA,EAA2B,iBAAXA,GAAyC,IAAlBA,EAAOz+D,OAAey+D,EAAD+CprD,EAAGorD,OAEjEv+D,MAAOA,EAAOyhB,WAAYA,EAAYisE,gBAFZv6E,EAAGu6E,iBAAc3E,QAAS4E,EAAcC,uBAAwBC,EAAuBC,uBAAwBC,EAAuBC,uBAAwBC,EAAuB

C,qBACzB,KAAK,GACD,OAAOxC,GAAcyC,qBACzB,KAAK,GACD,OAAOzC,GAAc0C,qBACzB,KAAK,GACD,OAAO1C,GAAc2C,qBACzB,KAAK,GACD,OAAO3C,GAAc4C,qBACzB,QACI,OAAO5C,GAAc6C,sBAvLjB+oD,CAAmCF,IAGvC92D,EAAY22D,EAAevrD,GAAc8C,SAAW9C,GAAcoC,SAE/D,CACHxN,CFVKoB,MAAOA,CAAC,CAAC,CAAC

AY,WACxB,OAAO3yF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAE1CruC,EAAMzjD,UAAU+xF,aAAe,WAC3B,OAAO7yF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,OAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUgyF,YAAc,WAC1B,OAAO9yF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,MAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUiyF,cAAgB,WAC5B,OAAO/yF/yF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUkyF,mBAAqB,WACjC,OAAOhzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,aAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUmyF,cAAgB,WAC5B,OAAOjzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUoyF,eAAiB,WAC7B,OAAOlzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,SAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUqyF,cAAgB,WAC5B,OAAOnzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUsyF,cAAgB,WAC5B,OAAOpzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUuyF,cAAgB,WAC5B,OAAOrzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUwyF,cAAgB,WAC5B,OAAOtzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUyyF,cAAgB,WAC5B,OAAOvzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU0yF,cAAgB,WAC5B,OAAOxzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU2yF,cAAgB,WAC5B,OAAOzzF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU4yF,cAAgB,WAC5B,OAAO1zF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU6yF,cAAgB,WAC5B,OAAO3zF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU8yF,cAAgB,WAC5B,OAAO5zF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+yF,cAAgB,WAC5B,OAAO7zF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUgzF,cAAgB,WAC5B,OAAO9zF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUizF,cAAgB,WAC5B,OAAO/zF,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUkzF,cAAgB,WAC5B,OAAOh0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUmzF,cAAgB,WAC5B,OAAOj0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUozF,cAAgB,WAC5B,OAAOl0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUqzF,cAAgB,WAC5B,OAAOn0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUszF,cAAgB,WAC5B,OAAOp0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUuzF,cAAgB,WAC5B,OAAOr0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUwzF,cAAgB,WAC5B,OAAOt0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUyzF,cAAgB,WAC5B,OAAOv0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU0zF,cAAgB,WAC5B,OAAOx0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU2zF,cAAgB,WAC5B,OAAOz0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU4zF,cAAgB,WAC5B,OAAO10F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU6zF,cAAgB,WAC5B,OAAO30F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU8zF,cAAgB,WAC5B,OAAO50F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+zF,cAAgB,WAC5B,OAAO70F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUg0F,cAAgB,WAC5B,OAAO80F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUi0F,cAAgB,WAC5B,OAAO/0F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUk0F,cAAgB,WAC5B,OAAOh1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUm0F,cAAgB,WAC5B,OAAOj1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUo0F,cAAgB,WAC5B,OAAOl1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUq0F,cAAgB,WAC5B,OAAOn1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUs0F,cAAgB,WAC5B,OAAOp1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUu0F,cAAgB,WAC5B,OAAOr1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUw0F,cAAgB,WAC5B,OAAOt1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUy0F,cAAgB,WAC5B,OAAOv1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU00F,cAAgB,WAC5B,OAAOx1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU20F,cAAgB,WAC5B,OAAOz1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU40F,cAAgB,WAC5B,OAAO11F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU60F,cAAgB,WAC5B,OAAO31F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU80F,cAAgB,WAC5B,OAAO41F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+0F,cAAgB,WAC5B,OAAO71F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUg1F,cAAgB,WAC5B,OAAO81F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUi1F,cAAgB,WAC5B,OAAO/1F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUk1F,cAAgB,WAC5B,OAAOh2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUm1F,cAAgB,WAC5B,OAAOj2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUo1F,cAAgB,WAC5B,OAAOl2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUq1F,cAAgB,WAC5B,OAAOn2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUs1F,cAAgB,WAC5B,OAAOp2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUu1F,cAAgB,WAC5B,OAAOr2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUw1F,cAAgB,WAC5B,OAAOt2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUy1F,cAAgB,WAC5B,OAAOv2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU01F,cAAgB,WAC5B,OAAOx2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU21F,cAAgB,WAC5B,OAAOz2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU41F,cAAgB,WAC5B,OAAO12F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU61F,cAAgB,WAC5B,OAAO32F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU82F,cAAgB,WAC5B,OAAO42F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+2F,cAAgB,WAC5B,OAAO72F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUg3F,cAAgB,WAC5B,OAAO82F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUi3F,cAAgB,WAC5B,OAAO/2F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUk3F,cAAgB,WAC5B,OAAOh4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUm3F,cAAgB,WAC5B,OAAOj4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUo3F,cAAgB,WAC5B,OAAOl4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUq3F,cAAgB,WAC5B,OAAOn4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUs3F,cAAgB,WAC5B,OAAOp4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUu3F,cAAgB,WAC5B,OAAOr4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUw3F,cAAgB,WAC5B,OAAOt4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUy3F,cAAgB,WAC5B,OAAOv4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU04F,cAAgB,WAC5B,OAAOx4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU24F,cAAgB,WAC5B,OAAOz4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU44F,cAAgB,WAC5B,OAAO14F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU64F,cAAgB,WAC5B,OAAO34F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU84F,cAAgB,WAC5B,OAAO44F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+4F,cAAgB,WAC5B,OAAO74F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUg5F,cAAgB,WAC5B,OAAO84F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUi5F,cAAgB,WAC5B,OAAO/4F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUk5F,cAAgB,WAC5B,OAAOh6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUm5F,cAAgB,WAC5B,OAAOj6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUo5F,cAAgB,WAC5B,OAAOl6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUq5F,cAAgB,WAC5B,OAAOn6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUs5F,cAAgB,WAC5B,OAAOp6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUu5F,cAAgB,WAC5B,OAAOr6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUw5F,cAAgB,WAC5B,OAAOt6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUy5F,cAAgB,WAC5B,OAAOv6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU06F,cAAgB,WAC5B,OAAOx6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU26F,cAAgB,WAC5B,OAAOz6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU46F,cAAgB,WAC5B,OAAO16F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU66F,cAAgB,WAC5B,OAAO36F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU86F,cAAgB,WAC5B,OAAO46F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+6F,cAAgB,WAC5B,OAAO76F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUg7F,cAAgB,WAC5B,OAAO86F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUi7F,cAAgB,WAC5B,OAAO/6F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUk7F,cAAgB,WAC5B,OAAOh8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUm7F,cAAgB,WAC5B,OAAOj8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUo7F,cAAgB,WAC5B,OAAOl8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUq7F,cAAgB,WAC5B,OAAOn8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUs7F,cAAgB,WAC5B,OAAOp8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUu7F,cAAgB,WAC5B,OAAOr8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUw7F,cAAgB,WAC5B,OAAOt8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUy7F,cAAgB,WAC5B,OAAOv8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU07F,cAAgB,WAC5B,OAAOx8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU27F,cAAgB,WAC5B,OAAOz8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU47F,cAAgB,WAC5B,OAAO18F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU67F,cAAgB,WAC5B,OAAO38F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU87F,cAAgB,WAC5B,OAAO48F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+7F,cAAgB,WAC5B,OAAO78F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUg8F,cAAgB,WAC5B,OAAO88F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUi8F,cAAgB,WAC5B,OAAO/8F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUk8F,cAAgB,WAC5B,OAAOh9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUm8F,cAAgB,WAC5B,OAAOj9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUo8F,cAAgB,WAC5B,OAAOl9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUq8F,cAAgB,WAC5B,OAAOn9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUs8F,cAAgB,WAC5B,OAAOp9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUu8F,cAAgB,WAC5B,OAAOr9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUw8F,cAAgB,WAC5B,OAAOt9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUy8F,cAAgB,WAC5B,OAAOv9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU08F,cAAgB,WAC5B,OAAOx9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU28F,cAAgB,WAC5B,OAAOz9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU48F,cAAgB,WAC5B,OAAO19F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU68F,cAAgB,WAC5B,OAAO39F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU88F,cAAgB,WAC5B,OAAO49F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+8F,cAAgB,WAC5B,OAAO79F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUg9F,cAAgB,WAC5B,OAAO89F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUi9F,cAAgB,WAC5B,OAAO/9F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUk9F,cAAgB,WAC5B,OAAOh+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUm9F,cAAgB,WAC5B,OAAOj+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUo9F,cAAgB,WAC5B,OAAOl+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUq9F,cAAgB,WAC5B,OAAOn+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUs9F,cAAgB,WAC5B,OAAOp+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUu9F,cAAgB,WAC5B,OAAOr+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUw9F,cAAgB,WAC5B,OAAOt+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUy9F,cAAgB,WAC5B,OAAOv+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU09F,cAAgB,WAC5B,OAAOx+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU29F,cAAgB,WAC5B,OAAOz+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU49F,cAAgB,WAC5B,OAAO1+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU69F,cAAgB,WAC5B,OAAO3+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU89F,cAAgB,WAC5B,OAAO4+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU+9F,cAAgB,WAC5B,OAAO7+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUg+F,cAAgB,WAC5B,OAAO8+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUi+F,cAAgB,WAC5B,OAAO/+F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUk+F,cAAgB,WAC5B,OAAOh/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUm+F,cAAgB,WAC5B,OAAOj/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUo+F,cAAgB,WAC5B,OAAOl/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUq+F,cAAgB,WAC5B,OAAOn/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUs+F,cAAgB,WAC5B,OAAOp/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUu+F,cAAgB,WAC5B,OAAOr/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUw+F,cAAgB,WAC5B,OAAOt/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAUy+F,cAAgB,WAC5B,OAAOv/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU0+F,cAAgB,WAC5B,OAAOx/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF,UAE1D3tC,EAAAMzjD,UAAU2+F,cAAgB,WAC5B,OAAOz/F,KAAKkjB,MAAQzjB,EAAQ2nE,UAAUwrB,SAA4B,QAAjB5yF,KAAKkyF

hC,IAAIngD,EAAQtzC,KAAKsjB,MAEjB,IADAtjB,KAAKimC,UACEkuD,GAAiBn0F,KAAKiqE,OACzBjqE,KAAKimC,UACT,IAAInc,EAAM9pB,KAAKqV,MAAM+f,UAAUke,EAAOtzC,KAAKsjB,OAC3C,OAAOquE,GASjvF,QAAQonB,IAAQ,EAtIxC,SAASsqE,EAAgB9wE,EAAOswB,EAAKlrB,GACjC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAqIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAzI/E,SAASuqE,EAAmB/wE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASwqE,EAAmBhxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASyqE,EAAmBjxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS0qE,EAAmBlxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS2qE,EAAmBnxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS4qE,EAAmBpxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS6qE,EAAmBrxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS8qE,EAAmBtxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS+qE,EAAmBvxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASgrE,EAAmBxxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASirE,EAAmBzxE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASkrE,EAAmB1xE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASmrE,EAAmB3xE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASorE,EAAmB5xE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASqrE,EAAmB7xE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASsrE,EAAmB9xE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASurE,EAAmB/xE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASwrE,EAAmBhyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASyrE,EAAmBjyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS0rE,EAAmBlyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS2rE,EAAmBnyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS4rE,EAAmBpyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS6rE,EAAmBryE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS8rE,EAAmBtyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS+rE,EAAmBvyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASgsE,EAAmBxyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASisE,EAAmBzyE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASksE,EAAmB1yE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASmsE,EAAmB3yE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASosE,EAAmB5yE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASqsE,EAAmB7yE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASssE,EAAmB9yE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASusE,EAAmB/yE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASwsE,EAAmBhzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASysE,EAAmBjzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS0sE,EAAmBlzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS2sE,EAAmBnzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS4sE,EAAmBpzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS6sE,EAAmBrzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS8sE,EAAmBtzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS+sE,EAAmBvzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASgtE,EAAmBxzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASitE,EAAmBzzE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASktE,EAAmB1zE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASmtE,EAAmB3zE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASotE,EAAmB5zE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASqtE,EAAmB7zE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASstE,EAAmB9zE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASutE,EAAmB/zE,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASwtE,EAAmBh0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASytE,EAAmBj0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS0tE,EAAmBl0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS2tE,EAAmBn0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS4tE,EAAmBp0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS6tE,EAAmBr0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS8tE,EAAmBt0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS+tE,EAAmBv0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASguE,EAAmBx0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASiuE,EAAmBz0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASkuE,EAAmB10E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASmuE,EAAmB30E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASouE,EAAmB50E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASquE,EAAmB70E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASsuE,EAAmB90E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASuuE,EAAmB/0E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASwuE,EAAmBh1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASyuE,EAAmBj1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS0uE,EAAmBl1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS2uE,EAAmBn1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS4uE,EAAmBp1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS6uE,EAAmBr1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS8uE,EAAmBt1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS+uE,EAAmBv1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASgvE,EAAmBx1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASivE,EAAmBz1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASkvE,EAAmB11E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASmvE,EAAmB31E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASovE,EAAmB51E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASqvE,EAAmB71E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASsvE,EAAmB91E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASuvE,EAAmB/1E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASwvE,EAAmBh2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASyvE,EAAmBj2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS0vE,EAAmBl2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS2vE,EAAmBn2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS4vE,EAAmBp2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS6vE,EAAmBr2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS8vE,EAAmBt2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS+vE,EAAmBv2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASgwE,EAAmBx2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASiwE,EAAmBz2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASkwE,EAAmB12E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASmwE,EAAmB32E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASowE,EAAmB52E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASqwE,EAAmB72E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASswE,EAAmB92E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASuwE,EAAmB/2E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASwwE,EAAmBh3E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAASywE,EAAmBj3E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS0wE,EAAmBl3E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS2wE,EAAmBn3E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS4wE,EAAmBp3E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS6wE,EAAmBr3E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,GAwIrB0rE,CAAgB9gD,EAAOtzC,KAAKsjB,MAAOwwG,GAAzI,SAAS8wE,EAAmBt3E,EAAOswB,EAAKlrB,GACpC,OAAO,IAAIspE,GAAQ1uE,EAAOswB,EAAKn0C,EAAQ2nE,UAAUwrB,QAAS,EAAGlqE,G

Ac,SAAU/tE,EAAO2+C,EAAUP,EAAgBsV,QAC1C,IAAxBA,IAAkCA,EAAsBziB,IAC5DtmD,KAAK61F,sBAA
sBxgF,EAAO2+C,EAAU+U,GAC5C,IAAI+sB,EAAc91F,KAAK+1F,eAAe1gF,GAClCuyD,EAAS5nE,KAAK01F
,OAAO1rB,SAAShqE,KAAK+1F,eAAe1gF,IAClD0a,EAAM,IAAIimE,GAAU3gF,EAAO2+C,EAAUP,EAAgBm
U,EAAQkuB,EAAYt0F,QAAQ,EAAMxB,KAAKw3D,OAAQniD,EAAM7T,OAASs0F,EAAYt0F,QAC9Hy0F,aA
CL,OAAO,IAAI1+B,GAAcxnC,EAAK1a,EAAO2+C,EAAUP,EAAgBzzD,KAAKw3D,SAExEma,EAAO7wE,UA
AUkhF,aAAe,SAAU3sE,EAAO2+C,EAAUP,EAAgBsV,QAC3C,IAAxBA,IAAkCA,EAAsBziB,IAC5D,IAAIv2B,
EAAM/vB,KAAKk2F,iBAAiB7gF,EAAO2+C,EAAUP,EAAgBsV,GACjE,OAAO,IAAIxR,GAAcxnC,EAAK1a,E
AAO2+C,EAAUP,EAAgBzzD,KAAKw3D,SAExEma,EAAO7wE,UAAUq1F,sBAAwBE,SAAUpmE,GAC/C,IAAI
qmE,EAAU,IAAIp2F,KAAK21F,wBAEvB,OADA5lE,EAAIif,MAAMonD,GACHA,EAAQ5+B,EAAQEnBma,EAA
O7wE,UAAUihF,mBAAqBE,SAAU1sE,EAAO2+C,EAAUP,EAAgBsV,QAC3CjD,IAAxBA,IAAkCA,EAAsBziB,IAC
5D,IAAIv2B,EAAM/vB,KAAKk2F,iBAAiB7gF,EAAO2+C,EAAUP,EAAgBsV,GAC7DvR,EAASx3D,KAAKm2
F,sBAAsBpmE,GAIxC,OAHIynC,EAAOh2D,OAAS,GAChBxB,KAAKi/E,a0CAA4CznB,EAAOl+C,KAAK,
KAAMjE,EAAO2+C,EAAUP,EAAgBsV,QAC3CjD,IAAxBA,IAAkCA,EAAsBziB,IAC5D,IAAIv2B,EAAM/vB,KAAKk2F,iBAAiB7gF,EAAO2+C,EAAUP,EAAgBsV,GAAQ,GAAI

AAmB,EACnB,MAEJ,IAAIM,EAAUF,EAAUF,EAAUt1F,QAC9BknB,EAAOrT,EAAM+f,UAAU2hE,EAAWC,I
AC7BjkE,OAAOvxB,OAAS,EACrBwnB,EAAY9mB,KAAK,CAAEwmB,KAAMA,EAAM4qB,MAAO8c,EAAW
xc,IAAKsjD,KAGtDl3F,KAAKi/E,aAAa,4DAA6D5pE,EAAO,aAAe/T,EAAI,MAAO0yD,GAChHhrC,EAAY9mB
,KAAK,CAAEwmB,KAAM,YAAa4qB,MAAO8c,EAAWxc,IAAKsjD,KAEjE9B,EAAQlzF,EAAAQlzC,EAAO
EAAI41F,EACJP,GAAkB,MAlCA,CAElB,IAAIrjD,EAAQhyC,KADXA,,EAAAM3S,QAAAQm0F,E
AAav1F,MAE3BA,EAAI+T,EAAM7T,QAEd,IAAIknB,EAAOrT,EAAM+f,UAAUke,EAAOhyC,GAClC2gD,EA
AQ//C,KAAK,CAAEwmB,KAAMA,EAAM4qB,MAAO8c,EAAWxc,IAAKtyC,IAAC9Cq1F,GAAkB,EA4B1B,IAA
KA,EAED,GAAIC,EAAkB,CAClB,IAAIO,EAAQl1C,EAAQA,EAAQzgD,C,EAAMzuE,MAAQrT,
f,UAAU9zB,GAC9B61F,EAAMvjD,IAAMv+B,B,EAAM7T,YAAGlBygD,EAAQ//C,KAAK,CAAEwmB,KAAMA,EAAM4qB,MAAO8c,EAAWxc,IAAKtyC,IAAC9Cq1F,GAAkB,EAAMrT,EAAM+

AmB,CAK1Dua,IAAK,WACD,OAAIrb,KAAKsjB,MAAQ,EACEtjB,KAAKiqE,MAAM,GACVr2B,IAAM5zC,K
AAKmvD,OAIJ,IAAvBnvD,KAAK4nE,OAAOpmE,OACLxB,KAAKg4F,YAAch4F,KAAKmvD,OAE5BnvD,KA
AKyB,KAAK6hB,MAAQtjB,KAAKmvD,QAElC9H,YAAY,EACZC,cAAc,IAElBjnD,OAAO+mD,eAAe4uC,EA
AUl1F,UAAW,wBAAyB,CAIhEua,IAAK,WACD,OAAOrb,KAAKyzD,eAAiBzzD,KAAKu4F,YAEtClxC,YAAY,
EACZC,cAAc,IAElB0uC,EAAUl1F,UAAUihD,KAAO,SAAUzO,GACjC,OAAO,IAAIigB,GAAUjgB,EAAOtzC,
KAAKs4F,kBAErCtC,EAAUl1F,UAAUqiB,WAAa,SAAUmwB,GACvC,IAAIklD,EAASllD,EAAQ,IAAMtzC,
KAAKu4F,WAIhC,OAHKv4F,KAAKo4F,BAAgB1D,EAAS,KAAKo4F,BAAgB98E,EAAS,EA
AQx4F,KAAK+hD,KAAKzO,GAAOkgB,WAAWxzD,KAAKyzD,iBAE/DzgB/DzzD,KAAKo4F,B/8E,IAAIm9E
,IAEpCxC,EAAUl1F,UAAUmlC,QAAU,WAC1BjmC,KAAKsjB,SAKT0yE,EAAUl1F,UAAU23F,YAAc,SAAUt3
E,EAAS6S,GACjDh0B,KAAKmhB,SAAWA,EAAChB,IAAIu3E,EAAM1kE,IAEV,OADAh0B,KAAKmhB,SAAW
A,EACTu3E,GAEX1C,EAAUl1F,UAAU63F,yBAA2B,SAAU/pC,GACrD,QAAI5uD,KAAKyB,KAAKkyB,
YvjC,KACtB5uD,KAAKimC,WACE,IAMf+vD,EAAUl1F,UAAU83F,eAAiB,SAAUhqC,GAAOA,iB,WACjC,OAAO54F,KAAKyB,KAAA
KoxF,gBAErBmD,EAAUl1F,UAAU+3F,cAAgB,SAAUjqC,GAAOA,iB,WAChC,OAAO74F,KAAKyB,KAAKqxF,eAQrBkD,EAAUl1F,
UAAUg4F,kBAAoB,SAAUlqC,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKkyB,oBAAoBqgB,
OAAOgtC,aAAaZ,KAEzDonC,EAAUl1F,UAAUi4F,wBAAA0B,SAAUx8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAK8
wF,WAAWh2B,KACrBv8D,KAAKimC,WACE,IAMf+vD,EAAUl1F,UAAUk4F,eAAiB,SAAUpqC,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKwxE,
AAK+4F,wBAAwBvtE,IAEjCxrB,KAAKmC,MAAM,6BAA+BqpB,IAE9CwqE,EAAUl1F,UAAUm4F,iBAAmB,SAAUrqC,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKuxE,
SAAUC,GAC7C,OAAOA,IAAQuuB,GAAM,eAAiB,SAAWuuB,GAErDlD,EAAUl1F,UAAUq4F,iBAAmB,SAAUvqC,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
5C,IAAIr3F,EAAI9B,KAAKyB,KACb,OAAKK,EAAE2wF,gBAAmB3wF,EAAE6wF,aAAI5B3yF,KAAKimC,UAC
CEnkC,EAAE2X,aAJLzZ,KAAKmC,MAAM,cAAgBnC,KAAKi5F,iBAAiBn3F,GAAK,oCAC/C/C,KAKfk0F,EAA
Ul1F,UAAUs4F,kBAAoB,WACpD,IAAIt3F,EAAI9B,KAAKyB,KAAKK,EAAE2wF,gBAAmB3wF,EAAE2wF,gBAAmB3wF,EAAE
6wF,aAAgB7wF,EAAEwwF,YAI9CtyF,KAAKimC,UACEnkC,EAAE2X,aAJLzZ,KAAKmC,MAAM,cAAgBnC,
KAAKi5F,iBAAiBn3F,GAAK,6CAC/C/C,KAKfk0F,EAAUl1F,UAAUm1F,iBAAmB,WAAa,IAAIn0F,EAAI9B,KAAKyB,KAAKK,EAAE2wF,gBAAmB3wF,EAAE
lB,EAAOhnB,KAAKq5F,YAEhBjpE,GADAjpE,KAAKmluB,KAAK8kB,KAAKmC,MAAM,wBAAyB,IAAIC,IAAmoQD,IA
HK34F,KAAKojF,aACNpjF,KAAKmC,MAAM,wDAERnC,KAAK24F,yBAAoQX,WAAsoQI34F,KAAKsjB,MAA
QtjB,KAAK4nE,OAAOpmE,OAC9CxB,KAAKmC,MAAM,qBAAuBnC,KAAKyB,KAAKO,KAAGtD,OAAOoB,GAA
hB2uB,EAAM5uB,OACC,IAAI0yD,GAAUl0D,KAAK+hD,KAAKzO,GAAOkgB,WAAWmwB,IACv
C,GAAhBljB,EAAM5uB,OAAC4uB,EAAM,GACV,IAAImkC,GAAMv0D,KAAK+hD,KAAKzO,GAAOkgB,WAAWzzD,KA
AKmjB,WAAWmwB,GAAQljB,IAE/D4lE,EAAUl1F,UAAUu4F,UAAY,WAC5B,IAAIv3F,EAAI9B,KAAKyB,KAAKK,EAAE2wF,gBAAmB3wF,EAAE2wF,gBAAmB3wF,EAAE
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAY,SAAUx8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAa,SAAUz8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAc,SAAU18B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAe,SAAU38B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAgB,SAAU58B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAiB,SAAU78B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAkB,SAAU88B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAmB,SAAU98B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAoB,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAqB,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAsB,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAuB,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAwB,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAyB,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA0B,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA2B,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA4B,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA6B,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA8B,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA+B,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAgC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAiC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAkC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAmC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAoC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAqC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAsC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAuC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAwC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAyC,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA0C,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA2C,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA4C,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA6C,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA8C,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA+C,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAgD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAiD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAkD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAmD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAoD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAqD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAsD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAuD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAwD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAyD,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA0D,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA2D,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA4D,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA6D,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA8D,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA+D,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAgE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAiE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAkE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAmE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAoE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAqE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAsE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAuE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAwE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAyE,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA0E,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA2E,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA4E,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA6E,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA8E,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA+E,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAgF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAiF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAkF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAmF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAoF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAqF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAsF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAuF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAwF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAyF,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA0F,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA2F,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA4F,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA6F,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA8F,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA+F,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAgG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAiG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAkG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAmG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAoG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAqG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAsG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAuG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAwG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAyG,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA0G,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA2G,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA4G,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA6G,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA8G,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAA+G,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAgH,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAiH,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAkH,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAmH,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAoH,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAqH,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAsH,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8CAEf,GAAAuH,SAAU+8B,GAAOA,iB,WAAO,OAAO74F,KAAKyB,KAAKq2F,
mBAEnB,IAAIhmD,EAAQ95B,EAAOuoC,KAAKzO,GAAOkgB,WAAWzzD,KAAKmC,MAAM,8C

WmwB,GAAQ,KAAM95B,EAAQ48C,GAEhF,OAAO58C,GAEXw8E,EAAUl1F,UAAU84F,cAAgB,WAGhC,IA
DA,IAAIpgF,EAASxZ,KAAK65F,kBACX75F,KAAKyB,KAAKyhB,MAAQzjB,EAAQ2nE,UAAUorB,UAAU,C
ACjD,IAAIhnE,EAAWxrB,KAAKyB,KAAKywF,SACzB,OAAQ1mE,GACJ,IAAK,KACL,IAAK,MACL,IAAK,K
ACL,IAAK,MACDxrB,KAAKimC,UACL,IAAImwB,EAAQp2D,KAAK65F,kBACbvmD,EAAQ95B,EAAOuoC,
KAAKzO,MACxB95B,EAAS,IAAIy8C,GAAOj2D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,G
AAQ9nB,EAAUhS,EAAQ48C,GAChF,SAER,MAEJ,OAAO58C,GAEXw8E,EAAUl1F,UAAU+4F,gBAAkB,WA
GlC,IADA,IAAIrgF,EAASxZ,KAAK85F,kBACX95F,KAAKyB,KAAKyhB,MAAQzjB,EAAQ2nE,UAAUorB,UA
AU,CACjD,IAAIhnE,EAAWxrB,KAAKyB,KAAKywF,SACzB,OAAQ1mE,GACJ,IAAK,KACL,IAAK,IACL,IAAK,IACL,IAA
K,KACL,IAAK,KACDxrB,KAAKimC,UACL,IAAImwB,EAAQp2D,KAAK85F,kBACbxmD,EAAQ95B,EAAOu
oC,KAAKzO,MACxB95B,EAAS,IAAIy8C,GAAOj2D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB
,GAAQ9nB,EAAUhS,EAAQ48C,GAChF,SAER,MAEJ,OAAO58C,GAEXw8E,EAAUl1F,UAAUg5F,gBAAkB,WA
GhC,IADA,IAAIrgF,EAASxZ,KAAK+5F,kBACX/5F,KAAKyB,KAAKyhB,MAAQzjB,EAAQ2nE,UAAUorB,UA
AU,CACjD,IAAIhnE,EAAWxrB,KAAKyB,KAAKywF,SACzB,OAAQ1mE,GACJ,IAAK,KACL,IAAK,IACL,IAAK,IACDxrB,
KAAKimC,UACL,IAAImwB,EAAQp2D,KAAK+5F,kBACbzmD,EAAQ95B,EAAOuoC,KAAKzO,MACxB95B,EAS,E
AAS,IAAIy8C,GAAOj2D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,GAAQ9nB,EAAUhS,EAAQ
Q48C,GAChF,SAER,MAEJ,OAAO58C,GAEXw8E,EAAUl1F,UAAUi5F,oBAAsB,WAGtC,IADA,IAAIvgF,EAASxZ,KAAKg6F,kBACXh6F,KAAKyB,KAAKyhB,MAAQzjB,EAAQ2nE,UAAUorB,UA
AU,CACjD,IAAIhnE,EAAWxrB,KAAKyB,KAAKywF,SACzB,OAAQ1mE,GACJ,IAAK,KAAK,cAAC9C,EAAQ6C,KAAKC,MAAMD,KAAKE,UAAUzrB

yB,KAAK0xF,gBAEf,OADAnzF,KAAKimC,UACE,IAAIouB,GAAar0D,KAAK+hD,KAAKzO,GAAQtzC,KAAK
mjB,WAAWmwB,IAEzD,GAAItzC,KAAK24F,yBAl3QN,IAk3Q2C,CAC/C34F,KAAKk4F,oBACL,IAAIqC,EAA
Wv6F,KAAKw6F,oBAl3QhB,IAq3QJ,OAFAx6F,KAAKk4F,oBACLl4F,KAAK84F,gBAp3QD,IAq3QG,IAAInjC,
GAAa31D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,GAAQinD,GAEjE,GAAIv6F,KAAKyB,K
AAK0wF,YAz2Qb,KA02QF,OAAOnyF,KAAKy6F,kBAEX,GAAIz6F,KAAKyB,KAAKgxF,eACf,OAAOzyF,KA
AKo6F,8BAA8B,IAAIjmC,GAAiBn0D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,KAAS,GAEz
G,GAAItzC,KAAKyB,KAAK4wF,WAAY,CAC3B,IAAI3wF,EAAQ1B,KAAKyB,KAAK4xF,WAEtB,OADArzF,
KAAKimC,UACE,IAAIwvB,GAAiBz1D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,GAAQ5xC,
GAErE,GAAI1B,KAAKyB,KAAK6wF,WAAY,CAC3B,IAAIoI,EAAe16F,KAAKyB,KAAKgY,WAE7B,OADAz
Z,KAAKimC,UACE,IAAIwvB,GAAiBz1D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,GAAQon
D,GAErE,OAAI16F,KAAKsjB,OAAStjB,KAAK4nE,OAAOpmE,QAC/BxB,KAAKmC,MAAM,iCAAmCnC,KA
AKqV,OAC5C,IAAI6+C,GAAUl0D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,MAGvDtzC,KA
AKmC,MAAM,oBAAsBnC,KAAKyB,MAC/B,IAAIyyD,GAAUl0D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB
,WAAWmwB,MAG/D0iD,EAAUl1F,UAAU05F,oBAAsB,SAAUG,ChD,IAAInhF,EAAS,GACAKyB,K
AKyB,KAAK0wF,YAAYwI,GACvB,GAAInhF,EAAOtX,KAAKlC,KAAKq5F,mBACZr5F,KAAK24F,yBAz6Qb,
KA26QL,OAAOn/E,GAEXw8E,EAAUl1F,UAAU25F,gBAAkB,WAClC,IAAIlpE,EAAO,GACP9P9R,EAAUl1F,
6zB,EAAQtzC,KAAKu4F,WAEjB,GADAv4F,KAAK84F,gBAA/4QC,MAg5QD94F,KAAK24F,yBA94QJ,KA84QuC,
CACzC34F,KAAKm4F,kBACL,EAAG,CACC,IAAIhsE,EAASnsB,KAAKyB,KAAK6wF,WACAnyF,KAAKo5F,yBE,EAAMrj
B,KAAKo5F,oCACf,IAAIrrE,EAAOrvB,KAAK,CAAEmhB,IAAKA,EAAK8I,IAAOAQA,IAC9BnsB,KAAK84F,gBAp7
QR,IAq7QGr5E,EAAOvd,KAAKlC,KAAKq5F,mBACZr5F,KAAK24F,yBA17QJ,KA27QD34F,KAAKm4F,kBACL
CLn4F,KAAK84F,gBAx5QH,KA05QN,OAAO,IAAIjjC,GAAW71D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB
,WAAWmwB,GAAQ/hB,EAAM9R,IAE1Eu2E,EAAUl1F,UAAUs5F,yBAAyE,SAAUxyE,EAAUgzE,QACrD,IA
AXA,IAAIqBA,GAAS,GAAIlC,IAAIntnD,EAAQ1rB,EAASm6B,KAAKzO,MACtBu5B,EAAY7sE,KAAKu4F,WA
CjB3mE,EAAK5xB,KAAKm5F,4BAC/BC,EAAW7zD,KAAKmjB,WAAW0pD,GAC/B,GAAI7sE,KAAK24F,yBA18QH,KA08QsC,
CACxC34F,KAAKi4F,kBACL,EAAO1e,IAAIv5E,EAAO6e,KAAKzO,MAAMu5B,EAAY7sE,KAAKu4F,WAAWv
H,IA68QF94F,KAAKi4F,kBACL,EAAO/hD,IAAIl2C,EAAO/hD,KAAKzO,GAAQjBnwB,EAAanjB,KAAKmjB,W
AAWmwB,GAAQjC,OAAOsnD,EAAS,IAAIzjC,GAAepV,EAAM5+B,EAAY0wC,EAAUjsC,EAAUgK,EAAIlT,G
ACzE,IAAIu4C,GAAWlV,EAAM5+B,EAAY0wC,EAAUjsC,EAAUgK,EAAIlT,GAG7D,GAAIk8E,EACA,OAAI
56F,KAAK+4F,wBAAwB,MAC7B/4F,KAAKmC,MAAM,sDACJ,IAAI+xD,GAAUl0D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,GAAQ
AQtzC,KAAKmjB,WAAWmwB,KAGhD,IAAI2hB,GAAiBj1D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,GAAQ
AWmwB,GAAQugB,EAAUjsC,EAAUgK,GAAI9f,GAAI5xB,KAAK+4F,wBAAwB,MAAM,CAACnC,IAAK/4F,KA
AKojF,YAEN,OADApjF,KAAKmC,MAAM,uCACJ,IAAI+xD,GAAUl0D,KAAK+hD,KAAKzO,GAAQtzC,KAAKmjB,WAAWmwB,GAAQ
KmjB,WAAWmwB,IAE3D,IAAI5xC,EAAQ1B,KAAKu5F,mBAAmBC,EAAOx5F,KAAKyB,KAAKgY,WAAWzZ,KA
AKzO,GAAQtzC,KAAKmjB,WAAWmwB,GAAQugB,EAAUjsC,EAAUgK,GAAI9f,GAAI5xB,KAAKyB,KAAK6wF,
GAA3F,OAAO,IAAIImzD,GAAWlV,EAAM5+B,EAAY0wC,EAAUjsC,EAAUgK,GAAI9f,GAAI5xB,KAAKyB,K
,EAAUl1F,UAAUw5F,mBAAqB,SAAUC,EAAOx5F,KAAKyB,KAAK4xF,WAAWrzF,KAAKyB,KAAK0wF,YA7+
I0I,EAAc,GAAIlB,GAAIA,EAAY34F,KAAK+4F,wBAAwB,MAAM,CAACnC,IAAK/4F,KAAKyB,KAAK4xF,W
GAMX7E,EAAUl1F,UAAUg6F,oBAAsB,SAAUC,EAAOx5F,KAAKyB,KAAK4xF,WAAWrzF,KAAKyB,KAAK0wF
KAAKg7F,sBACjB,GAAIxB,IAAIxhF,EAAS,GAAIlB,GAAIA,EAAY,GAAIlB,GAAIA,EAAY,GAAIlB,GAAIA
U,WAETuhF,GACT,MAAO,CACHtlF,IAAK/4F,KAAKyB,KAAK4xF,WAAWrzF,KAAKyB,KAAK0wF,YAAYnyF,
AAOhY,UAAwB3Dw0F,EAAUl1F,UAAUqgF,sBAAwB,SAAUwa,EAAOx5F,KAAKyB,KAAK4xF,WAAWrzF,KA
I0I,EAAc,GAAIlB,GAAIA,EAAY34F,KAAK+4F,wBAAwB,MAAM,CAACnC,IAAK/4F,KAAKyB,KAAK4xF,W
GAMX7E,EAAUl1F,UAAUg6F,oBAAsB,SAAUC,EAAOx5F,KAAKyB,KAAK4xF,WAAWrzF,KAAKyB,KAAK0wF
KAAKg7F,sBACjB,GAAIxB,IAAIxhF,EAAS,GAAIlB,GAAIA,EAAY,GAAIlB,GAAIA,EAAY,GAAIlB,GAAIA
U,WAETuhF,GACT,MAAO,CACHtlF,IAAK/4F,KAAKyB,KAAK4xF,WAAWrzF,KAAKyB,KAAK0wF,YAAYnyF,
AAOhY,UAAwB3Dw0F,EAAUl1F,UAAUqgF,sBAAwB,SAAUwa,EAAOx5F,KAAKyB,KAAK4xF,WAAWrzF,KA

RL,IAAIj3F,EAAQ1B,KAAKs7F,0BACbC,EAAUv7F,KAAKg7F,sBAKfQ,EAAYx7F,KAAKo7F,eAAe/3E,GAC/Bm4E,IACDx7F,KAAKq7F,6BACLE,EAAUv7F,KAAKg7F,uBAEnB,IAAI73E,EAAa,IAAIuwC,GAAmBrwC,EAAI0+B,KAAKzO,MAAOioD,GAKxD,OAJAhb,EAASr+E,KAAK,IAAIy1D,GAAkBx0C,EAAYE,EAAK3hB,IACjD85F,GACAjb,EAASr+E,KAAK,IAAIs5F,GAAkBr4E,EAAYE,EAAK3hB,IAEzD,OAAOw6E,EAASx6E,OAAS,EAAIw6E,EAAW,IAAIsb,GAAkBn2F,EAAMC,EAAOC,EAAKC,EAAQ,KAAM,KAAM,KAAM

+E,IAAK,CACjC,eAAgB,YAAa,YAAa,YAAa,SACvD,SAAU,kBAAmB,kBAAmB,WAAY,cAC5D,UAAW,aAAc,YAAa,WAAY,SAClD,aAAc,gBAAiB,YAAa,eAAgB,cAEhEF,GAAgBl+E,EAAgBq+E,aAAc,CAC1C,cACA,kBACA,YACA,YACA,YACA,eACA,gBACA,aACA,YACA,YACA,kBACA,cACA,gBAGDjE,GAEX,SAAS8D,GAAgB7jE,EAAAKikE,GAC1B,IAAI5qE,EAAAKxc,EACT,IACI,IAAK,IAAIqnF,EAAAUl7F,EAAAASi7F,GAAAQE,EAAAYD,EAAAQz6F,QAAAS06F,EAAAUx6F,KAAAMw6F,EAAAYD,EAAAQz6F,OAAAEjGs2F,GADWoE,EAAAUz6F,MACCiT,eAAiBqjB,EAG/C,MAAOxG,GAAAS,H,EAAAM,CAAAElvB,MAAAOqvB,GAAAC/B,QACIC,IACQ2qE,EAAAIA,EAAAUx6F,MAAAOkT,GAAAS,kBAAAC,EAAAC,EAAAC,E

AyB/7F,UAAUy8F,gCAAkC,SAAUxe,GAC3E,OAvqbR,SAASye,EAAoBnoF,GACzB,OAAOA,EAAM0U,QAA
Q0I,IAAkB,WAEnC,IADA,IAAIpxB,EAAI,GACCme,EAAK,EAAGA,EAAKnd,UAAUb,OAAQge,IACpCne,EA
AEme,GAAMnd,UAAUmd,GAEtB,OAAOne,EAAE,GAAG88C,iBAiqbLq/C,CAAoBze,IAE/B,UA
AU28F,6BAA+B,SAAUC,EAAeC,GAAzG,IAAI+b,EAAO,GACPmuD,EAASlqE,EAAIja,WAAWsZ,
OACxB00C,EAAW,KACf,GAeR,SASo2B,EAAuBrvF,GAC5B,OAAQA,GACJ,IAAK,QACL,IAAK,SACL,IAA
K,WACL,IAAK,YACL,IAAK,WACL,IAAK,YACL,IAAK,OACL,IAAK,MACL,IAAK,SACL,IAAK,QACL,IAA
K,WACL,IAAK,eACL,IAAK,gBACL,IAAK,aACL,IAAK,cACL,IAAK,gBACL,IAAK,eACL,IAAK,YACL,IAAK,
aACL,IAAK,eACL,IAAK,cACL,IAAK,eACL,IAAK,cACL,IAAK,iBACL,IAAK,kBACL,IAAK,mBACL,IAAK,o
BACL,IAAK,aACD,OAAO,EACX,QACI,OAAO,GA/CPqvF,CAAuBH,IAA0B,IAARhqE,GAAqB,MAARA,EACtD,GAAmB,iBAARA,,EACP+b,EAAO,IAAIquD,EAAoBpqE,EAAIxb,MAAM,0BAC9C9lF,lF,GAAoD
,GAA/BA,,EAAkB,MAAOA,EAAK,IAAIquD,EAAoBpqE,EAAIxb,MAAM,0BAC9C9lF,lF,GAAoD
AOslE,EAAU/lE,MAAOk8F,EAASnuD,IAAEvCotD,EAAzJkC,CAAnOzCT,GACA,SAASA,QAAiaT2B,GAAqB,2GA
sBzB,SAASC,GAAoBC,EAAWrC,IAAI31D,EAAc,IAAIitE,GAAgBtX,GAAItC,MAAO,CACH70C,MAAJ
Wm1B,GAAWj2C,EAAagtE,GAAKnCzmC,OAAHYovB,EAAcpvB,OAAOl1D,OAAO2uB,EAAYumC,QAIpD/4B,U
AAWxN,EAAYwN,UACvBD,OAAQvN,EAAYuN,OACpBU,MAAoBjO,EAAYiO,oBAGxCD,IAAqXii/D,GArXA
D,GAAiC,WAAjCjSA,SAASA,EAAgBtX,GAAIrB5mF,KAAK4mF,EAAcx1D,EAAcA,EAAcA,EAAcA

ACnE1U,EAAgB,IAAIp5C,GAASh5B,EAAQlD,KAAM47B,EAAYx4B,EAAMwnF,MAAOtU,EAAa,GAAiCz6C
,EAAUC,EAAYM,EAAWl5B,EAAQuL,WAAYvL,EAAQ64B,gBAAiB74B,EAAQ84B,cAAe94B,EAAQ6zB,QA
G3N3zB,EAAQ9X,KAAKq/F,kBAAkBznF,EAAQlD,KAAM+pF,EAAkBC,GACnE1U,EAAgB,IAAI35C,GAAQz
4B,EAAQlD,KAAM47B,EAAYx4B,EAAMwnF,MAAOtU,EAAaz6C,EAAUC,EAAY54B,EAAQuL,WAAYvL,E
AAQ64B,gBAAiB74B,EAAQ84B,cAAe94B,EAAQ6zB,OAEtL,GAAIozD,EAA0B,CAKtB/mF,EAAQ9X,KAAKq
/F,kBAAkB,cAAeV,EAA0BD,GAA5E,IACIa,EAAkB,GACtBznF,EAAMwa,QAAQ9d,SAAQ,SAAUygE,GAC
OAAOsqB,EAAgBr9F,KAAK+yE,MACpEn9D,EAAMwnF,MAAM9qF,SAAQ,SAAUygE,GAAM,OAAOsqB,EAAgBr
AgBr9F,KAAK+yE,MAClE,IAAIuqB,EAAexV,aAAyB35C,GAAcxC,CACIC,WAAY05C,EAAc15C,WAC1B1Q,O
AAQoqD,EAAcpqD,OACtBC,QAASmqD,EAAcnqD,SAE3B,CAAEyQ,WAAY,GAAI1Q,OAAQ,GAAIC,QAAS,I
AM3CmqD,EAAgB,IAAIp5C,GAASo5C,EAAct1E,KAAM8qF,EAAalvD,WAAYkvD,EAAa5/D,OAAQ4/D,EAA
a3/D,QAAS0/D,EAAiB,CAACvV,GAAgB,GAAwB4U,EAAmBhnF,EAAQuL,WAAYvL,EAAQ64B,gBAAiB74B
,EAAQ84B,cAAF5Og4C,GAAqB2V,OAAoBxhF,EAAYjF,EAAQ6zB,MAO5E,OAHI4yD,IACAr+F,KAAKo+F,aAc,GAEhBpU,GAEXkU,EAAgBp9F,UAAUgmE,eAAiB,SAAU7tD,GACjD,OAAO,IAAIm2B,GAAcn2B,EAAM,GAAI,GAAI,GAAI

7U,QAE/F,GAAIC,EAzRH,GA0REv7C,EAAUowD,EAAchf,EAAS,GAAIpsE,GACzC1U,KAAK4mF,cAAc5F,iB
AAiBtsE,EAAMhT,EAAOo/E,EAASrtB,EAAgBx6C,EAAUo2B,UAAWwD,EAAqBpB,EAAkB/uD,QAErI,GA
AIu7C,EAzRQ,GA0RTv7C,EAAUowD,EAAchf,EAAS,KAAMmK,EA1R9B,IA2RbjrF,KAAK4mF,cAAc5H,qBA
AqBiM,EA3R3B,GA2R8DvpF,GAAO,EAAOo/E,EAASrtB,EAAgBx6C,EAAUo2B,UAAWwD,EAAqBpB,EAA
kB/uD,GAC9K1vC,KAAKogG,qBAAqBnV,EA5Rb,GA4RgDvpF,EAAOo/E,EAAS7nE,EAAUo2B,UAAWwD,
EAAqB7U,QAAEtH,GAAIC,EA5RM,GA6RPv7C,EAAUowD,EAAchf,EAAS,IAAKmK,EA7R/B,IA8RXjrF,KAAK
4mF,cAAc5H,qBAAqBiM,EA9R7B,GA8R8DvpF,GAAO,EAAOo/E,EAASrtB,EAAgBx6C,EAAUo2B,UAAWww
D,EAAqBpB,EAAkB/uD,QAE3K,GAAIu7C,EA9RG,IA8R2B,CACnC,IAAI5C,EACJroF,KAAK4mF,cAAcpH,W
AAWyL,EAhStB,IAgSoDvpF,EAAOo/E,EAAS7nE,EAAUo2B,WAAayxC,EAAS+e,EADxGxX,EAAS,IAEb8X,G
AAU9X,EAAQ2C,SAIlBt7C,EAAUowD,EAAchf,EAAS,GAAIiBpsE,GACtDm0E,EAAa7oF,KAAK4mF,cAAcpH,W
2BAA2BltE,EAAMhT,EAAOo/E,EAAS7nE,EAAUo2B,UAAWwD,EAAqBpB,EAAkB/uD,GAEjJ,OAAOm5C,
GAEXqV,EAAgBp9F,UAAU2+F,4BAA8B,SAAU/9F,EAAOyoF,EAAYsoB,GACjF,IAAIo8C,EAAS/kI,KAAKgpI,pz
E,GAC1BslB,EAAOhnB,KAAK4mF,cAAcnH,mBAAmBoI,EAAa1kE,GAC9D,OAAO6D,IAAIkoB,GAA
UloB,EAAM7D,EAAYsoB,GAAQ,IAAIsD,GAAK84C,EAAa1kE,IAEhF+6E,EAAgBp9F,UAAUm/F,cAAAgB,SA
AUvmE,EAAYh4B,EAAOyhB,EAAYusB,EAASL,EAAWyB,GAC/FpX,EAAWh3B,QAAQ,MAAQ,EAC3B1C,K
AAKs+F,YAAY,uCAA0Cn7E,GAEhC,IAAtBuW,EAAWl4B,QAChBxB,KAAKs+F,YAAY,gCAAiCn7E,GAEtD2
tB,EAAU5uC,KAAK,IAAIgvC,GAASxX,EAAYh4B,EAAOyhB,EAAYusB,EAASL,KAExE6uD,EAAgBp9F,UA
AUo/F,eAAiB,SAAUxmE,EAAYh4B,EAAOyhB,EAAYksB,EAAWmB,GACvF9W,EAAWh3B,QAAQ,MAAQ,E
AC3B1C,KAAKs+F,YAAY,wCAA2Cn7E,GAEjC,IAAtBuW,EAAWl4B,QAChBxB,KAAKs+F,YAAY,iCAAkCn7E,G
7E,GAEvDqtB,EAAWtuC,KAAK,IAAIkvC,GAAU1X,EAAYh4B,EAAOyhB,EAAYksB,EAAWmB,EAAqBpB,EAAgBp9F,
UAAUs/F,qBAAuB,SAAU1mE,EAAYh4B,EAAOyhB,EAAYxT,EAAYksB,EAAW8wC,EAAsB6K,GACtH,IAAI3C,EAAS,G
ACbroF,KAAK4mF,cAAcpH,WAAW9qE,EAAO,SAAUiB,EAAa,UAAWxT,EAAYksB,EAAalsB,EAAYg9D,EA
AsBkI,GAClI8X,GAAU9X,EAAQ2C,IAAEtBkT,EAAgBp9F,UAAUw9F,YAAcn7E,GAAQ,YAAc,SAAU5nD,EAAWsoB,
ACrD,IAAVA,IAAoBA,EAAQ9wD,EAAQwvD,gBAAuBOACxDxwD,KAAKw3D,OAAOt1D,KAAK,IAAIou
D,GAAWntC,EAAYuzB,EAAS6Z,KAAlD2tC,EA3TyB,GA+VhCgB,GAAyB,IAAlCa,WACtC,SAASrS,KA+BTBT,7BAA,EAAOC,EAAOC,EAAOC

CACjDua,IAAK,WACD,OAAOrb,KAAKygG,UAAUG,MAE1Bv5C,YAAY,EACZC,cAAc,IAElBjnD,OAAO+m
D,eAAei5C,EAAYv/F,UAAW,SAAU,CACnDua,IAAK,WACD,OAAsB,IAAfrb,KAAKuwD,OAEhBlJ,YAAY,EA
CZC,cAAc,IAElBjnD,OAAO+mD,eAAei5C,EAAYv/F,UAAW,aAAc,CACvDua,IAAK,WACD,OAAoC,IAA7Brb
,KAAKwgG,qBAEhBn5C,YAAY,EACZC,cAAc,IAElB+4C,EAAYv/F,UAAUigG,0BAA4B,WAC9C,IAAIvnF,EA
AS,IAAIM,IAEjB,OADA9Z,KAAKwxC,aAAah9B,SAAQ,SAAUiL,EAAQ4D,GAAO,OAAO7J,EAAO8B,IAAI+
H,EAAK5D,EAAOhE,IAAIulF,QAC9ExnF,GAGX6mF,EAAYv/F,UAAUmgG,cAAgB,SAAUtgB,GAC5C3gF,K
AAKugF,SAAS1vD,IAAI8vD,IAEtB0f,EAAYv/F,UAAUogG,UAAY,SAAUxsF,EAAMpB,GAC9C9R,KAAKygG,UAAUG,MAAM1uF,GAAQpB,EAAQ,EAAI,EAAI,EAAI

B,MAAW8F,KAAK,IAAMtZ,KAAKuiG,SAASztD,EAAGT,YAExIiuD,EAAqBxhG,UAAU0zC,iBAAmB,SAAU
M,GACxD,OAAO90C,KAAKuiG,SAASztD,EAAGpgC,OAE5B4tF,EAAqBxhG,UAAU4zC,oBAAsB,SAAUI,EA
AI3zB,GAC/D,OAAOnhB,KAAKuiG,SAASztD,EAAGpgC,OAE5B4tF,EAAqBxhG,UAAUyhG,SAAW,SAAU7g
G,GAChD,MAAO,IAAM89C,GAA0B99C,GAA0B,GAAS,KAEvE4gG,EA/B8B,IAkCzC,SAASE,GAAiB3wD,G
ACtB,OAAOA,EAAI7C,MAAMqzD;;;;;;;OAUrB,IAAII,GAA2B,CAC3BC,EAAK,OACLC,EAAK,YACLC,GAAA
M,aACNC,GAAM,kBACNC,GAAM,iBACNC,GAAM,iBACNC,GAAM,iBACNC,GAAM,iBACNC,GAAM,iBA
CNC,GAAM,iBACNC,GAAM,kBACNC,EAAK,cACLC,GAAM,YACNC,KAAQ,aACRC,GAAM,eACNC,EAAK
,YACLC,EAAK,YACLC,EAAK,qBACLC,MAAS,aACTC,IAAO,YACPC,IAAO,cACPC,MAAS,aACTC,GAAM,
aACNC,MAAS,eACTC,GAAM,oBACNC,MAAS,eACTC,GAAM,YACNC,GAAM,kBACNC,EAAK,kBACLC,G
AAM,kBAONC,GAAAqC,WACrC,SAASA,IAELxkG,KAAKykG,uBAAyB,GAE9BzkG,KAAK0kG,0BAA4B,GAEjC1kG,KAAK2kG,
D5B,OAvDAF,EAAoB1jG,UAAU6jG,2BA6B,SAAU/rF,EAAKd,EAAO5D,GAC7E,IAAI0wF,EAAY5kG,
K6kG,SASjsF,EAAKd,EAAO5D,GAC1C,GAAIlU,KAAK0kG,0BAA0BE,GACtB,OAAO5kG,KAAK0kG,0BAA0BE,GAEjC,IAAIC,EAAS7kG,KAAK2kG,
BE,GAEjC,IAAIE,EAAWlsF,EAAIulC,cACf4mD,EAAWtC,GAAyBqC,IAAa,OASA,EAC1DpwF,EAAO1U,KA
AKglG,oBAAoB9wF,EAAS6wF,EAAWA,EAAWA,GAEnE,OADA/kG,KAAK0kG,0BAA0BE,GAAaC,EAAQ,
GAEX8vF,EAAoB1jG,UAAUmkG,2BA6B,SAAUrsF,EAAKjE,EAAYgE,EAAY5kG,KAAKklG,gBAAgBtsF,GAC
rC,GAAI5Y,KAAK0kG,0BAA0BE,GACtB,OAAO5kG,KAAK0kG,0BAA0BE,GAEjC,IAAIC,EAAS7kG,KAAK2kG,
BE,GAEjC,IAAIE,EAAWlsF,EAAIulC,cACf4mD,EAAWtC,GAAyBqC,IAAa,OASA,EAC1DpwF,EAAO1U,KA
AKglG,oBAAoB,UADrBvC,GAAyBqC,IAAa,OASA,IAG9D,OADA9kG,KAAK0kG,0BAA0BE,GAAaC,EAAQ,
GAAalwF,EAC5BA,GAEX8vF,EAAoB1jG,UAAUqkG,mBAAqB,SAAUzwF,EAAMk9B,GAC/D,IAAIwzD,
,EAAY1wF,EAAKypC,cACjBymD,EAAY,OAASQ,EAAY,IAAMxzD,EAAQ,IAAMA,EAAQ,IAAMA,EAAQ,G
ACtB,OAAO5xC,KAAK0kG,0BAA0BE,GACtB,OAAO5kG,KAAK0kG,0BAA0BE,GAEjC,IAAIC,EAAS7kG,KAAK2kG,
BE,GAEjC,IAAIE,EAAWlsF,EAAIulC,cACf4mD,EAAWtC,GAAyBqC,IAAa,OASA,EAC1DpwF,EAAO1U,KA
AKglG,oBAAoBI,GAE1C,OADAplG,KAAK0kG,0BAA0BE,GAAaC,EAAQ,
GAAalwF,EAC5BA,GAEX8vF,EAAoB1jG,UAAUukG,mBAAqB,SAAU3w

2B,WAAap2B,EAAUkK,WAAYhC,EAASlI,EAAUwyB,MAC7H,OAAOtqB,EAAQskF,YAAYxsF,EAAWkO,IA
E1Cq+E,EAAa1kG,UAAUmuC,UAAY,SAAUvmB,EAAMvH,GAC/C,IAAIgG,EAAOnnB,KAAKy/F,4BAA4B/2
E,EAAKhnB,MAAOgnB,EAAKvF,WAAYhC,EAASuH,EAAK+iB,MACvF,OAAOtqB,EAAQskF,YAAY/8E,EA
AMvB,IAErCq+E,EAAa1kG,UAAUmmE,aAAe,SAAUrb,EAASzC,GACrD,OAAO,MAEXqkF,EAAa1kG,UAA
U2lE,eAAiB,SAAU50B,EAAK1wB,GACnD,IAAI3N,EAAQxT,KACZmhB,EAAQ4kF,WACR,IAAIM,EAAE,GA
CfC,EAAU,IAAIryD,GAAMpC,EAAI00B,YAAa10B,EAAI3uB,KAAMmjF,EAAcx0D,EAAI1uB,YAKrE,GAJA0
uB,EAAIqC,MAAM1/B,SAAQ,SAAU+xF,GACxBF,EAAaE,EAAK7kG,OAAS,IAAIqyC,GAAUwyD,EAAK5vE,
WAAWlb,KAAI,SAAU0L,GAAQ,OAAOA,EAAK6nB,MAAMx7B,EAAO2N,MAAcolF,EAAK3/B,kBAE/E/Hzl,D,
EAAQ4kF,WACJ5kF,EAAQ2kF,WAAOA,EAAQ4kF,WAAOA,EAAW,EAAG,CAIvC,EAAQ,IAAIS,EAAQrlF,EAAQ
oBAAoBX,qBAAqB,OAASxzD,EAAI3uB,MAAM1E,OALAojF,EAAQzxD,sBAAwB2xD,EAChCrlF,EAAQ8kF,qBAAq
BO,GAAS,CAClC99E,KAAMmpB,EAAI00B,YACVpjD,WAAY0uB,EAAI20B,uBAEbrlD,EAAQskF,YAAY5zD
,EAAKy0D,GAMpC,IAAIG,EAAStlF,EAAQ6kF,oBAAoBb,mBAAmB,MAAOtzD,EAAI1uB,WAAW1J,YAClF0
H,EAAQiyB,qBAAqBqzD,GAAUzmG,KAAK0lG,cAAc,CAAC7zD,GAAM,GAAI,GAAI,QAAIh1B,GAC7E,IAA
IsK,EAAO,IAAIstB,GAAe6xD,EAASG,EAAQ50D,EAAI1uB,YAAnD,OAAOhC,EAAQskF,YAAY5zD,EAAK1q
B,IAEpCq+E,EAAa1kG,UAAU+lE,mBAAqBC,GAAU6/B,EAAGC,IAAIhgC,GAAM,qBAUpB6i
G,EAAa1kG,UAAU2+F,4BAA8B,SAAU2E,EAAMvH,EAAYhC,EAASylF,GACtF,IAAI9xF,EAAQ9U,KAK
G,kBAAkBtP,mBAAmB7tE,EAAMvF,EAAWmwB,MAAM75B,WAAYzZ,KAAK8oE,sBAAuB7mB,EAAUntC,E
AAGmtC,QAASj5B,EAAclU,EAAGkU,YAEzJ,GAA2B,IAAavBA,EAAYxnB,OACZ,OAAO,IAAIsyC,GAAOprB,
EAAMvF,GAI5B,IADA,IAAI4zD,EAAQ,GAAI2xC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,GAAIC,EAAQ,OAAS,EAAGCgF,
CtB,KAAK6mG,SAAS90D,EAAOkQ,EAAQ3gB,GAAGjhB,KAAK8oE,sBAAuB7mB,EAAUntC,EAAGkU,YAAa
AS6H,EAAY1nB,GAAI6hB,KAAMzZ,KAAK8oE,sBAAuB7mB,EAAUntC,EAAGkU,YAAa,EAAQzgB,GAAI,G
AAI2hB,GA+C1D,SAAS4jF,EAAYh1D,EAAOkQ,EAAQ3gB,GAAGjhB,KAAK60D,sBAAuB5yB,EAAUntC,EAAGkU,YAAa
D,GAClC,IAAI3E,EAAQ2E,EAAQ3E,MACpB,GAAIqB,IAAjBA,EAAMvwC,UAAuBwC,EAAM,aAAcgC,IAAC5
C,MAAM,IAAIpxC,MAAM,gGAAnBhqG,KAAK60D,sBAAuB5yB,EAAUntC,EAAGkU,YAAa,EAAQzgB,GAAI,G
D,GAAW,EAAuB3C,SAASkzD,EAAsBC,EAAQ,EAAGC,EAAQ,EAAGC,EAAQ,EAAGC,EAAQ,OAAS,EAAGCgF,
B,MAAM,IAAIpxC,MAAM,8EAEpB,GAAIukG,EAAc/yD,EAAQ,EAAGC,EAAQ,EAAGC,EAAQ,EAAGC,EAAQ,OAAS,EAAGCgF,
MzwC,GAAGT,cAAAgBsmB,EAAKtmB,eAC7E,IAAIC,EAAIC,EAAIC,E

,UAAU6vC,aAAe,SAAU/4B,GAC/C,IAAIyZ,EAAKxc,EAAIuY,EAAKtY,EAClB,GA7iYR,SAASuzF,EAAazwF,GAClB,OAAOA,EAAQE,MAAMqc,MAAK,SAAU8gD,GAAQ,CAAzB,GAAyB,CAAzB,EAAyB,CAAzB,EAAyB,CAAzB,E

SAAS90B,KAAI,SAAUu5B,GAAS,OAAOA,EAAMhG,MAAMx7B,MAAW8F,KAAK,KAExFgwF,EAAwBxoG,UAAU2wC,SAAW,SAAUI,GACnD,OAAO2wD,GAAiB3wD,IAE5By3D,EAAwBxoG,UAAUwzC,oBAAsB,SAAUQ,GAC9D,IAAIthC,EAAQxT,KACZ,OAAO80C,EAAG5gC,OACNlU,KAAKuiG,SASztD,EAAGV,WACjB,GAAKp0C,KAAKuiG,SASztD,EAAGV,WAAaU,EAAGvE,SAAS90B,EAAsB,SAAUQ,GAC/D,IAAIthC,EAAQxT,KACZ,OAAO80C,EAAG5gC,OACNlU,KAAKuiG,SASztD,EAAGT,YAAcS,EAAGvE,SAAS90B,EAAsB,SAAUQ,GAChE

AM,8BAAgCwoG,EAAS36D,YAAaspB,EAA0BgxC,IACzLl/E,EAAa,GACby/E,IACAz/E,EAAWlpB,KAAKwd,MAAM0L,EAAYhpB,EAASyoG,EAAMK,yBACjD9/E,EAAWlpB,KAAKwd,MAAM0L,EAAYhpB,EAASyoG,EAAMM,0BAErD//E,EAAWlpB,KAAKwd,MAAM0L,EAAYhpB,EAAS6oG,EAAYnyC,eACvD,IAAIr6C,EAAqB,IAATyE,EA5ybpB,SAASkoF,EAA6B12F,EAAM0wB,GACxC,IAAIC,EAAS,GACb,KAAOD,EAAI1wB,EAAM2wB,IACbA,GAAUC,mBAAmBC,OAAOC,aAAaJ,KACrD,OAAOC,EAAOI,QAAQ,MAAO,KAAKA,QAAQ,MAAO,KAAKA,QAAQ,MAAO,KAAKA

7F,OACW,IAAXkQ,IAAqBA,EAAS,IAClC,IAAIurF,EAAOnxE,GAAO79B,KAAKivG,2BAInB7jF,EAmgDZ,SA
AS8jF,EAAwBx4D,EAAShlB,EAAUs3E,EAAYvlF,EAAQsrF,QACrD,IAAXtrF,IAAqBA,EAAS,IAClC,IAAI2H,
EAAa,CACb60B,GAAoBvuB,GACpBS,GAAOg9E,KAA0BrG,GAA6Bp3E,EAAUglB,EAASsyD,EAAY3pD,GA
A2B57B,GAA2B,IAAQ8lF,GAAyB73E,EAAUglB,EAAS2I,GAA2B57B,GAA2B,MAKjQ,OAHIsrF,GACA3jF,E
AAWlpB,KAAK,IAAIqkB,GAAoBmL,EAASpW,IAAIyzF,EAAYr9E,MAE9DtG,EA5gDc8jF,CAAwBx4D,EAAS
s4D,EADjChvG,KAAKovG,uBAAuB14D,EAAQ9kB,IACenO,EAAQsrF,GAE5E,OADCx7F,EAAKvT,KAAKisG,
WAAWC,mBAAmBhqG,KAAKwd,MAAMnM,EAAInR,EASgpB,IAC1D4jF,GAEXxD,EAA0B1qG,UAAUitG,
yBAA2B,SAAUhF,GACrE,IAAIsG,EAAarvG,KAAKktG,cAAcoC,qBAChCC,EAAiBvvG,KAAKuwD,MACtB7k
C,EAAMgG,GAASq3E,EAAWr0F,KAAO26F,GACrCrvG,KAAKktG,cAAc5xF,IAAIi0F,EAAgBxG,EAAWr0F,K
AAMgX,EAAK,GAAiB,SAAUm/E,EAAO2E,EAAO26E,IAAIyzF,EAAYr9E,MAE9DtG,EAAOiP,EAFAymF,
EAWJ,OARIA,EAFAymF,EAAME,eAAiBwE,EA
EjB79E,GA/+YH,OAk/YgBm5E,EAAM4E,qBAAqBF,IAEVG,GAAwBF,GAAGzD,CAAC9jF,EAAI7I8I,EAAI8I,
AI5V,KAAKu6F,EAAWrnG,OAj/YvB,cAi/YqD8lB,EAAI8I,EAAI8I,EAAI8I

KyrC,MAG5B,IAAIl4B,EAAKvT,KAAKyrC,KAAMnoB,EAAQ/P,EAAG+P,MAAOi9D,EAAWhtE,EAAGgtE,S
ACpD,GAAIA,EAASpqD,KAAM,CACf,IAAIu6E,EAAkB,GACtBnwB,EAAS/rE,SAAQ,SAAUmsE,GACvB+vB,
EAAgBxuG,KAAK,CAAEihB,WAAY4+B,EAAMrgD,MAAO,WAAc,OAAO8R,EAAM4nD,uBAAuBulB,SAKtG
3gF,KAAK2wG,kCAAkC3wG,KAAK4wG,gBAAkB,EAAG/rE,GAAc8G,QAAS+kE,GACxF1wG,KAAK6wG,kB
AAkB9uD,EAAMld,GAAciH,UAAW,CAACxZ,GAAQhP,EAAE9DuwD,GACD7zE,KAAK4tG,oBAAoB7rD,EAA
Mld,GAAcgH,SAEjD7rC,KAAKyrC,KAAO,MAEhB+/D,EAA0B1qG,UAAUgwG,0BAA4B,SAAUC,EAAWj5F,
AAOqL,GACxF,IAAI3P,EAAQxT,KACRguF,GAAc,EACdgjB,EAAe,GACfzwB,GAAqBf,GAApBAzoE,EA
AMtD,SAAQ,SAAUygE,GACpB,IAAIv+B,EAAuu+B,EAAKxpC,KAAKlE,EAAYh8B,EAAKvzE,MAAMstC,M
AAMx7B,EAAM65F,iBAEvC,GADA75F,EAAMm9E,qBAAqBsgB,GACvBA,Bl7C,GAAe,CACpC,IACIty
C,EAASq7B,GADME,GAA8BtI,IAEjDs6D,EAAa9uG,KAAKowB,GAAQ2iD,EAAKvgE,MAAOlB,EAAMs7F,c
AAcp4D,EAASjzB,IACnEwtF,EAAUjoF,YAAYxU,SAAQ,SAAUmiB,GACpCq3D,GAAc,EACdzN,EAAS+r+E,K
AAK,CACVihB,WAAYA,EACZzhB,MAAO,WAAc,OAAO8R,EAAM4nD,uBzkC,aAKrE4pD,EAAS/+E,O
AAS,GAClBxB,KAAK2wG,kCAAkCI,EAAWlsE,GAAc8G,QAAS40C,GAEzEywB,EAAaxvG,OAAS,EAAG,CA
CzB,IAAI8hB,EAAQgP,GAAQtyB,KAAKutG,oBACrB2D,EAAalxG,KAAKywG,YAAYx+E,GAAW++E,IAC7C
hxG,KAAK4tG,oBAAoBzqF,EAAY0hB,GAAc6G,eAAgB,CACpoB,EAAO4tF,IACvEljB,GACAhuF,KAAK6wG,kB
G,kBAAkB1tF,EAAY0hB,GAAciH,UAAW,CAACxoB,MAIzEkoF,EAA0B1qG,UAAUqwG,wBAA0B,GAAUC,G
ACpE,OAAQA,GACJ,IAAK,OACD,OAAOvsE,GAAcgB,gBACzB,IAAK,MACD,OAAOhB,GAAciB,aACzB,QA
CI,OAAOjB,GAAce,gBAGjC4lE,EAA0B1qG,UAAUuwG,wBAA0B,SAAUC,EAAWC,EAAWC,EAAWC,EAAWC,
AAawF,EAClBtxG,KAAK4tG,oBAAoBh2F,EAAQ64B,gBAAiBA,EAAMtD9F,EAA0B1qG,UAAUywG,8BAAgC
,SAAUf,EAAWC,EAAWC,EAAWC,EAAWC

AAS,EAC1BmxG,GAAgCZ,EAAe9jB,sBACpB,IAA3Br2E,EAAQioB,QAAQr+B,QAA0C,IAA1B6wG,EAAe7wG,SAAiBkxG,EAChEE,GAAoCD,GAAgCxE,GAAoBv2F,EAAQ24B,UACpG,GAAIoiE,EACA3yG,KAAK4tG,oBAAoBh2F,EAAQuL,WAAY+uF,EAAkBrtE,GAAcmC,iBAAmBnC,GAAcjtB,QAASkpC,GAAkBC,QAExI,CASD,GARA/gD,KAAK4tG,oBAAoBh2F,EAAQ64B,gBAAiBhyhE,EAAkBrtE,GAAciC,sBAAwBjC,GAAckB,aAAc+a,GAAkBC,IACpJiCjxD,GACAhyG,KAAK4tG,oBAAoBh2F,EAAQ64B,gBAAiB5L,GAAcqE,iBAEhEmpE,EAAe7wG,OAAS,GACxBxB,KAAK8wG,0BAA0BEAAca,EAAmDQAAlCx9F,EAAK+C,EAAQ64B,gBAAiBuAAoC,IAAP57B,EAAgBA,EAAK+C,EAAQuL,YAGrIvL,EAAQioB,QAAQr+B,KAAOS,EAAQ24B,UAAWhyC,EAAcC,IAAIqxG,EAAQj7F,EAAQioB,QAAQpkB,KAAKI,SAAUq3F,Uq3F,GAAa,MAAO,CAAC9D3vF,WAAY2vF,EAAU3vF,WACtBM,OAAQjQ,EAAQioB,QAAQjY,OAAQ,EAAMu/F,yBAAYA,EAAQlD,KAAMo+F,EAAWtB,OAAQE,ExxG,KAAKgzG,yBAAYA,EAAQnuE,GAAcsJ,SAAU0kE,GAAItDxU,GAAC+r+F,KAAMC,GAAIr+F,KAAK4tG,oBAAoBh2F,EAAQ64B,gBAAiBhyC,EAAcC,IAAIqxG,EAAQj7F,EAAQioB,QAAQpkB,KAAKI,SAAUq3F,UrC

B8B,IAElCv1E,EAAS2R,YAAc3R,EAAS2R,WAAWhvC,OAAQ,CACnD,IAAIqxD,EAAO7yD,KAAKuyG,iBAA
iB1zE,EAAS2R,YAC1CuQ,EAAW7+C,KAAKlC,KAAKywG,YAAY59C,IACjC9R,EAAW7+C,KAAKyvB,GAA
WkT,GAAc0H,uBAG7C,IAAI8nE,EAAkB,IAAI7I,EAA0BxrG,KAAKkhD,aAAclhD,KAAKktG,cAAeltG,KAAK
uwD,MAAQ,EAAGm7C,EAAa1rG,KAAKyrC,KAAM60D,EAAezoB,EAAc73E,KAAK4rG,iBAAkB5rG,KAAK
miC,WAAYniC,KAAK6rG,eAAgB7rG,KAAKsiC,MAAOtiC,KAAK8rG,WAAY9rG,KAAKotG,oBAAqBptG,KA
AKgsG,mBAAoBhsG,KAAKisG,YAqBlT,GAhBAjsG,KAAK2sG,mBAAmBzqG,MAAK,WACzB,IAAIqR,EACA
+gG,EAAuBD,EAAgBxG,sBAAsBhvE,EAAS0R,SAAU1R,EAASiS,UAAWt9B,5F,wBAAwBvrG,OAAS
gS,EAAMw5F,0BAA2BnuE,EAAS4M,MACzLj4B,EAAM0tC,aAAa91B,WAAWlpB,KAAKoyG,EAAqBhtF,WA
AWuwD,IAC/Dw8B,EAAgBtH,wBAAwBvrG,SACvC+R,EAAKC,EAAM5F,yBAAyB7qG,KAAKwd,MAAMn
M,EAAInR,EAASiyG,EAAgBtH,6BAIrF/sG,KAAK4tG,oBAAoB/uE,EAAS1b,WAAY0hB,GAAcmE,gBAAgB,W
AExE,OADA+X,EAAWszB,OAAO,EAAG,EAAG/hD,GAAQ+hF,EAAgBzD,iBAAkBt+E,GAAQ+hF,EAAgBE,g
BACnFzzD,GAAkBC,MAG7B/gD,KAAKw0G,yBU,EAAezhE,EAASgS,eA9C3B,gBAgDvBhS,EAAS/B,
QAAkC,CAC3C,IAAIyQ,EAAK1R,rB,SAAS4yG,EAAe5gF,EAAK6gF,EAAcC,EAAcC,EAAcC

,OAAOr1G,KAAK+sG,wBAAwBvrG,OAChCxB,KAAKkhD,aAAa5pB,gBAAgBipB,GAAUvgD,KAAK+sG,0BA
A0B,GAC3E,MAERvB,EAA0B1qG,UAAUw0G,eAAiB,WACjD,MAAO,GAAKt1G,KAAKqsG,mBAErBb,EAA0
B1qG,UAAU0zG,yBAA2B,SAAUlU,EAAexoF,,GACpF,IAAItE,EAAQxT,KACRqzG,EAAmB,GACvBv7F,,EAA
MtD,SAAQ,SAAUa,GACpB,GAAIA,aAAiBk6B,GAAgB,CACjC,IAAIgmE,EAAUlgG,EAAM3T,KA
AMx7B,EAAM65F,sBACtBxwF,IAAZ04F,IACA/hG,EAAMm9E,qBAAqB4kB,GACvBA,aAAmBx/C,GAMnBviD,EAAM+9F,,8BAA8B0C,GAAmCsB,GAAUjV,EAAejrF,,EAAMX,,KAAMW,,EAAOkgG,,EAFtG,IAMblC,EAAiBnxG,,KAAK,,CAClBwS,,KAAMW,,EAAOkgG,,EAAMX,,KACZyO,,WAAY9N,,EAAM8N,,WAClBzhB,,MAAO,,WAAc,,OAAO8R,,EAAM4nD,,uBAAuBm6C,,WAMzElC,,EAAiB7xG,,OAAS,,GAAC1BxB,,KAAK2wG,,kCAAkCrQ,,EAAez7D,,GAAc1M,,SAAUk7E,,IAOtF7H,,EAA0B1qG,,UAAU00G,,cAAgB,,SAAUlU,,EAAexoF,,GAAgB,,IAAIC,,EAAQxT,,KAAMqzG,,EAAmB,,GAAIv7F,,EAAMstC,,MAAMtD,,SAAQ,,SAAUa,,GAAS,,GAAIA,,aAAiBk6B,,GAAgB,,CAAE,,IAAIgmE,,EAAUlgG,,EAAM3T,,KAAMW,,EAAOkgG,,EAAMX,,KAAMW,,EAAOkgG,,EAAMX,,KAAMW,,EAAOkgG,,EAAMX

AAU,KAGpBkd,EAAO,CAACuT,GAAWvT,KAG3B,MAAO,CAAE6R,MAAOA,EAAO7R,KAAMA,GAkhUhB0
3F,CAAuBp2G,KAAMA,KAAKi2G,0BAA2Bv0G,EAAO1B,KAAKs1G,kBAAmB52F,EAAOjL,EAAGiL,KAE/G
,OADCnL,EAAKvT,KAAK0sG,gBAAgBxqG,KAAKwd,MAAMnM,EAAInR,EADmFqR,EAAG8c,QAEzH7R,G
AEX8sF,EAA0B1qG,UAAUqxG,gBAAkB,SAAU3vG,EAAam/C,GACzE,IAAInuC,EAAQxT,KACZ,
AK4rG,iBAAkB,CACvB,IAAI3zF,EAAWs+F,GAAkB/zG,EAAak/C,GAA6BC,IAC3E2hD,KAAK4rG,iB1z
F,MAAMD,GAAU,SAAUM,EAAai+F,GACzDhjG,EAAM2uB,WAAWtR,IAAI2lF,QA2BjChL,EAA0B1qG,UAA
UgxG,wBAA0B,SAAUtvG,EAAai0G,EAAkB72E,EAAQC,EAASrB,EAAQqS,EAAewhE,GAC3I,IAAIjlF,EAAK
7Z,OACa,IAAlBs9B,IAA4BA,EAAgB,SACzB,IAAnBwhE,IAA6BA,EAAiB,IAClD,IAEIqE,EAFAC,EAAAC/
lF,IAClBgmF,EAAY,GAEhB,IACI,IAAK,IAAIC,EAAqB71G,EAASy1G,GAAmBK,EAAuBD,EAAmBp1G,QA
Sq1G,EAAqBn1G,KAAMm1G,EAAuBD,EAAmBp1G,OAAQ,CACtL,IAAIwzE,EAAO6hC,EAAqBp1G,MA/gClB
B,gBAghCVuzE,EAAKvgE,OACLgiG,EAAkBzhC,GAAIlBA,EAAKxpC,KAAKpqC,EAAQ,KAAMqrE,EAAU10G,KAAKowB,GAA
Q2iD,EAAKvgE,MAAO1U,KAAK8uG,cAAc75B,EAAKxpC,OAG3DmrE,EAAU10G,KAAKwd,MAAMk3F,EA
AWx0G,EAAS20G,GAAyB9hC,EAAKvgE,MAAO,CAACsiG,GAAsBx0G,EAAayyE,OAI9H,MAAOxnD,GAAS
L,EAAM,CAAEjrB,MAAOsrB,GAC/B,QACI,IACQqpF,IAAyBA,EAAoB,MAAQ,EAAE,MAAOnpF,GAAS4R,EAAS5R,
SASna,EAAGhS,KAAKs1G,GAExG,QAAU,GAAIzpF,EAAK,MAAMA,EAAIzrB,SAAS80G,GAAmBA,EAAgBr1G,KAAKg
EAAK3hB,EAAGACH,iBAAR2hB,EACFszF,EAAY9zE,IAAIxf,KACjBuzF,EAAU10G,KAAKwd,MAAMk3F,EAAW
x0G,EAAS20G,GAAyB1zF,UACxDxG,IAAVnb,GAAuBk1G,GAAsBl1G,EAAOmb,GAAQ,GAAIA,EAAQ,EAAGA,IAAS
,IAIpBuzF,EAAU10G,KAAKowB,GAAQjP/B,GAArBIqzF,GACAE,EAAU10G,KAAKwd,MAAMk3F,EAAW
x0G,EAsd5C,SAAS80G,EAAsBj+F,GAAmBk+F/2F,EAAU10G,KAAKowB,GAAQ/O,EAAGiB,EAAGC,EAAGC,EAAGC,
EAAOxlD,MAAOkkD,EAAGiB,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,
CAAC4wB,GAAQ,GAAIoBiuB,GAAU42D,IA1dGD,CAAsBR,KAAiB/Dl4E,GACAA,EAAOsxD,4B4BAA4B8mB,GA
EnCh3E,EAAOp+B,QAAUq+B,EAAQr+B,OAAQ,CAEjCj+E,EAAIs+B,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,EAAGC,
EAAOs+B,EAAQr+B,OAAQ,CAAEjrB,MAAOsrB,GAAS,MAAMA,EAAIzrB,SAAS80G,GAAmBA,EAAgBr1G,KAAKg
EAAK3hB,EAAGACH,iBAAR2hB,EACFszF,EAAY9zE,IAAIxf,KACjBuzF,EAAU10G,KAAKwd,MAAMk3F,EAAW
x0G,EAAS20G,GAAyB1zF,UACxDxG,IAAVnb,GAAuBk1G,G

AAUlK,EAE5BmK,EAAmB73G,KAAKytG,0BAA0B,EAAIzhE,EAAKttB,KAAKld,QAChEuuC,EAAS,IAAI8kB
,GAAa7oB,EAAK+V,KAAM/V,EAAK7oB,WAAY6oB,EAAK6nB,SAAU,IAAIM,GAAiBnoB,EAAK+V,KAAM/
V,EAAK7oB,YAAay0F,GACvHrkG,EA4CZ,SAASukG,EAAoBp5F,GACzB,IAAIgb,+E,GAAuBr5F,EAA
Kld,QAC7C,MAAO,CACHk4B,WAAYA,GAAcmL,GAAcgG,UCxCmtE,aAAct+E,GAhDLo+E,CAAoB9rE,EA
AKttB,MAAmCs5F,EAAczkG,EAAGykG,YACtFh4G,KAAKwtC,WAAWxB,EAAKt3B,KAAMkjG,EAAiBlK,E
AAM/7E,GADIpe,EAAGmmB,aAEzD,IAAIhb,EAAOtc,EAAS,CAAC4pC,EAAKxZ,KAAMwZ,EAAKttB,MACj
Ci+C,EACA38D,KAAK8xC,SADWkmE,EACF,CAAC,IAAIriD,GAAa3pB,EAAK+V,KAAM/V,EAAK7oB,WAA
YzE,IAC9CA,GACdu5F,EAAe,IAAI5gD,GAAarrB,EAAK+V,KAAM/V,EAAK7oB,WAAY4sB,EAAQ3tC,EAAS
,CAC7E,IAAIqzD,GAAiBzpB,EAAK+V,KAAM/V,EAAK7oB,WAAYuqF,GACjD,IAAIj4C,GAAiBzpB,EAAK+V+
V,KAAM/V,EAAK7oB,WAAY00F,IAClDl7C,IAEH,OADA38D,KAAK23G,eAAez1G,KAAK+1G,GAClBA,GA
EX3K,EAAexsG,UAAUstG,sBAAwB,SAAU8J,GACvDl4G,KAAK23G,eAAenjG,SAAQ,SAAUwjG,GAClC
AAKttB,KAAK,GAChBhd,OAASw2G,MAG5B5K,EAAexsG,UAAU80D,kBAAoB,SAAUuiD,EAAOh3F,GAC1
D,IAAI3N,EAAQxT,KACZ,OAAO,IAAIi8D,GAAoBk8C,EAAMp2D,KAAMo2D,EAAMh3F,MAAOg3F,EAAMh1F,WAAYnjB,KAAK8
xC,SASqmE,EAAMnvF,cAAc,SAAUvJ,GAAIrG,IAAI6S,EAAI,GAAIxT,KAAK23G,eAAe,GAAGxkG,WxS,GACzB,OAAO4Y,GAAkB7S,EAAMi6F,EAAMh3F,MAAOg3F,EAAMh1F,WAAYnjB,KAAK8xC,SAASr2B,EAAI,GAAGxT,KAAK23G,eAAe,GAAGxkG,WAAWnT,KAAK23G,eAAenjG,SAAQ,SAAUwjG,GAAiBA,EAAcr

,EAAgB76F,EAAMgX,EAAK0tF,EAAwBF,EAAsBG,GAE5G,QADiB,IAAbD,IAAuBA,EAAW,GAClCp5G,KA
AKyb,IAAIonB,IAAInuB,GAAO,CACpB,GAAI2kG,EAGA,OAAOr5G,KAEXmC,GAAM,YAAcuS,EAAO,sCAA
wC1U,KAAKyb,IAAIJ,IAAI3G,IAUpF,OARA1U,KAAKyb,IAAIH,IAAI5G,EAAM,CACf66F,eAAgBA,EAChB7
jF,IAAKA,EACLytF,SAAS,EACTD,qBAAsBA,EACtBE,SAAUA,EACVC,SAAUA,IAAY,IAEnBr5G,MAGX44G
,EAAa93G,UAAUk8D,SAAW,SAAUtoD,GACxC,OAAO1U,KAAKqb,IAAI3G,IAGpBkkG,EAAa93G,UAAU25
D,0BAA4B,WACrB,IAAtBz6D,KAAK+qG,eAIL/qG,KAAKyb,IAAIJ,IAAo+F,mBAAwBN,SAAU,IAGvDP,EA
Aa93G,UAAUqsG,YAAc,SAAU58C,EAAOgJ,GAClD,IAAImgD,EAAW,IAAId,EAAaroD,EAAOvvwD,KAAKMu5
D,GAG7C,OAFIhJ,EAAQ,GACRmpD,EASC,yBAAyB,GAC/BD,GAOXd,EAAa93G,UAAU4BAA8B,SAA
UuE,GAC3D,IAAIqK,EAAzHa,iBAyHqBrK,EAKtC,OAJKvvG,KAAKyb,IAAIonB,IAAI+2E,IACd55G,K25G
,yBAAyBpK,GAG3BvvG,KAAKyb,IAAIJ,IAAIu+F,GAAAYluF,KAEpCktF,EAAa93G,UAAU2uG,qBAAuB,SAA
UF,GACpD,IAAIsK,EAAe75G,KAAKyb,IAAIJ,IAAIxIX,iBAAiIoCk0F,GAErD,OAAOsK,EAAa,QAAU
U,EAAanuF,IAAM,MAErEktF,EAAa93G,UAAUw4G,8BAAgC,SAU53G,GAC7D,GAAIuB,IAAIuB,EAAMoB,EAAIuB,
G,UACN13G,EAAM6tG,eAAiBvvG,KAAK+qG,IAAI8O,EAAe75G,KAAKyb,IAAIJ,IAAIxIAxIf,iBAAwI
wC3Z,EAAM6tG,gBACvDsK,EACAA,EAAaV,EAAU,EAAGvBn5G,KAAK25G,yBAAj4G,EAAM6tG,kBAIhD
qJ,EAAa93G,UAAU64G,yBAA2B,SAAUpK,GAAUpK,EAAMA2qBC9CA,IAAI7jF,EAAM6tG,gBAAgBG,GA3qbC
ACvCtvG,KAAKyb,IAAIH,IAAnJQ,iBAmJiBi0F,EAAgBA,CAC9CA,EAAaA,EAAWA,EAAaA,EAAWA,EAAaA,EAAW

ACXD,OAAQ,GACRU,mBAAoB,IAG5B,IAAIwyC,EAAY+oC,EAAY/oC,UAKxBgpC,EAAkB,IAAI7S,GAAgB9+B,GAA0C1pC,EAAqB0oE,GACzGr2B,EAAYxK,GAAWwzC,EAAiBhpC,GACnCryC,IACDqyC,EAAYxK,GAAW,IAAI6N,GAAqBrD,GAK5CgpC,EAAgBl8D,cAChBkzB,EAAYxK,GAAW,IAAI2gC,GAAgB9+B,GAAyC,GAAQ2I,KAGpG,IAAIn+D,EAAYqF,GAAoBtsB,EAAWkV,GAAkCpvB,EAASjkD,EAAGikD,OACtFCACHuR,oBAAqBA,EACrB1pC1pC,oBAAqBA,EACrBm4B,OAAQA,EAAOh2D,EAAOg2D,EAAS,EAAIg2D,EAAIg2D,EAAS,KACrC34B,SAAUA,EACVkT,MAN4Dx+B,B,EAAWGw+B,EAAWkrB,GAAkBrpB,GAAkBsrB,GAAgBrrB,GAAiBO,IAAUmrB,GAAmBnrB,GAAUorB,GAAmBprB,GAAUqrB,GAAmBrrB,GAAUsrB,GAAmBtrB,GAAUurB,GAAmBvrB,GAAUwrB,GAAmBxrB,GAAUyrB,GAAmBzrB,GAAU0rB,GAAmB1rB,GAAU2rB,GAAmB3rB,GAAU4rB,GAAmB5rB,GAAU6rB,GAAmB7rB,GAAU8rB,GAAmB9rB,GAAU+rB,GAAmB/rB,GAAUgsB,GAAmBhsB,GAAUisB,GAAmBjsB,GAAUksB,GAAmBlsB,GAAUmsB,GAAmBnsB,GAAUosB,GAAmBpsB,GAAUqsB,GAAmBrsB,GAAUssB,GAAmBtsB,GAAUusB,GAAmBvsB,GAAUwsB,GAAmBxsB,GAAUysB,GAAmBzsB,GAAU0sB,GAAmB1sB,GAAU2sB,GAAmB3sB,GAAU4sB,GAAmB5sB,GAAU6sB,GAAmB7sB,GAAU8sB,GAAmB9sB,GAAU+sB,GAAmB/sB,GAAUgtB,GAAmBhtB,GAAUitB,GAAmBjtB,GAAUktB,GAAmBltB,GAAUmtB,GAAmBntB,GAAUotB,GAAmBptB,GAAUqtB,GAAmBrtB,GAAUstB,GAAmBttB,GAAUutB,GAAmBvtB,GAAUwtB,GAAmBxtB,GAAUytB,GAAmBztB,GAAU0tB,GAAmB1tB,GAAU2tB,GAAmB3tB,GAAU4tB,GAAmB5tB,GAAU6tB,GAAmB7tB,GAAU8tB,GAAmB9tB,GAAU+tB,GAAmB/tB,GAAUguB,GAAmBhuB,GAAUiuB,GAAmBjuB,GAAUkuB,GAAmBluB,GAAUmuB,GAAmBnuB,GAAUouB,GAAmBpuB,GAAUquB,GAAmBruB,GAAUsuB,GAAmBtuB,GAAUuuB,GAAmBvuB,GAAUwuB,GAAmBxuB,GAAUyuB,GAAmBzuB,GAAU0uB,GAAmB1uB,GAAU2uB,GAAmB3uB,GAAU4uB,GAAmB5uB,GAAU6uB,GAAmB7uB,GAAU8uB,GAAmB9uB,GAAU+uB,GAAmB/uB,GAAUgvB,GAAmBhvB,GAAUivB,GAAmBjvB,GAAUkvB,GAAmBlvB,GAAUmvB,GAAmBnvB,GAAUovB,GAAmBpvB,GAAUqvB,GAAmBrvB,GAAUsvB,GAAmBtvB,GAAUuvB,GAAmBvvB,GAAUwvB,GAAmBxvB,GAAUyvB,GAAmBzvB,GAAU0vB,GAAmB1vB,GAAU2vB,GAAmB3vB,GAAU4vB,GAAmB5vB,GAAU6vB,GAAmB7vB,GAAU8vB,GAAmB9vB,GAAU+vB,GAAmB/vB,GAAUgwB,GAAmBhwB,GAAUiwB,GAAmBjwB,GAAUkwB,GAAmBlwB,GAAUmwB,GAAmBnwB,GAAUowB,GAAmBpwB,GAAUqwB,GAAmBrwB,GAAUswB,GAAmBtwB,GAAUuwB,GAAmBvwB,GAAUwwB,GAAmBxwB,GAAUywB,GAAmBzwB,GAAU0wB,GAAmB1wB,GAAU2wB,GAAmB3wB,GAAU4wB,GAAmB5wB,GAAU6wB,GAAmB7wB,GAAU8wB,GAAmB9wB,GAAU+wB,GAAmB/wB,GAAUgxB,GAAmBhxB,GAAUixB,GAAmBjxB,GAAUkxB,GAAmBlxB,GAAUmxB,GAAmBnxB,GAAUoxB,GAAmBpxB,GAAUqxB,GAAmBrxB,GAAUsxB,GAAmBtxB,GAAUuxB,GAAmBvxB,GAAUwxB,GAAmBxxB,GAAUyxB,GAAmBzxB,GAAU0xB,GAAmB1xB,GAAU2xB,GAAmB3xB,GAAU4xB,GAAmB5xB,GAAU6xB,GAAmB7xB,GAAU8xB,GAAmB9xB,GAAU+xB,GAAmB/xB,GAAUgyB,GAAmBhyB,GAAUiyB,GAAmBjyB,GAAUkyB,GAAmBlyB,GAAUmyB,GAAmBnyB,GAAUoyB,GAAmBpyB,GAAUqyB,GAAmBryB,GAAUsyB,GAAmBtyB,GAAUuyB,GAAmBvyB,GAAUwyB,GAAmBxyB,GAAUyyB,GAAmBzyB,GAAU0yB,GAAmB1yB,GAAU2yB,GAAmB3yB,GAAU4yB,GAAmB5yB,GAAU6yB,GAAmB7yB,GAAU8yB,GAAmB9yB,GAAU+yB,GAAmB/yB,GAAUgzB,GAAmBhzB,GAAUizB,GAAmBjzB,GAAUkzB,GAAmBlzB,GAAUmzB,GAAmBnzB,GAAUozB,GAAmBpzB,GAAUqzB,GAAmBrzB,GAAUszB,GAAmBtzB,GAAUuzB,GAAmBvzB,GAAUwzB,GAAmBxzB,GAAUyzB,GAAmBzzB,GAAU0zB,GAAmB1zB,GAAU2zB,GAAmB3zB,GAAU4zB,GAAmB5zB,GAAU6zB,GAAmB7zB,GAAU8zB,GAAmB9zB,GAAU+zB,GAAmB/zB,GAAUg0B,GAAmBh0B,GAAUi0B,GAAmBj0B,GAAUk0B,GAAmBl0B,GAAUm0B,GAAmBn0B,GAAUo0B,GAAmBp0B,GAAUq0B,GAAmBr0B,GAAUs0B,GAAmBt0B,GAAUu0B,GAAmBv0B,GAAUw0B,GAAmBx0B,GAAUy0B,GAAmBz0B,GAAU00B,GAAmB10B,GAAU20B,GAAmB30B,GAAU40B,GAAmB50B,GAAU60B,GAAmB70B,GAAU80B,GAAmB90B,GAAU+0B,GAAmB/0B,GAAUg1B,GAAmBh1B,GAAUi1B,GAAmBj1B,GAAUk1B,GAAmBl1B,GAAUm1B,GAAmBn1B,GAAUo1B,GAAmBp1B,GAAUq1B,GAAmBr1B,GAAUs1B,GAAmBt1B,GAAUu1B,GAAmBv1B,GAAUw1B,GAAmBx1B,GAAUy1B,GAAmBz1B,GAAU01B,GAAmB11B,GAAU21B,GAAmB31B,GAAU41B,GAAmB51B,GAAU61B,GAAmB71B,GAAU81B,GAAmB91B,GAAU+1B,GAAmB/1B,GAAUg2B,GAAmBh2B,GAAUi2B,GAAmBj2B,GAAUk2B,GAAmBl2B,GAAUm2B,GAAmBn2B,GAAUo2B,GAAmBp2B,GAAUq2B,GAAmBr2B,GAAUs2B,GAAmBt2B,GAAUu2B,GAAmBv2B,GAAUw2B,GAAmBx2B,GAAUy2B,GAAmBz2B,GAAU02B,GAAmB12B,GAAU22B,GAAmB32B,GAAU42B,GAAmB52B,GAAU62B,GAAmB72B,GAAU82B,GAAmB92B,GAAU+2B,GAAmB/2B,GAAUg3B,GAAmBh3B,GAAUi3B,GAAmBj3B,GAAUk3B,GAAmBl3B,GAAUm3B,GAAmBn3B,GAAUo3B,GAAmBp3B,GAAUq3B,GAAmBr3B,GAAUs3B,GAAmBt3B,GAAUu3B,GAAmBv3B,GAAUw3B,GAAmBx3B,GAAUy3B,GAAmBz3B,GAAU03B,GAAmB13B,GAAU23B,GAAmB33B,GAAU43B,GAAmB53B,GAAU63B,GAAmB73B,GAAU83B,GAAmB93B,GAAU+3B,GAAmB/3B,GAAUg4B,GAAmBh4B,GAAUi4B,GAAmBj4B,GAAUk4B,GAAmBl4B,GAAUm4B,GAAmBn4B,GAAUo4B,GAAmBp4B,GAAUq4B,GAAmBr4B,GAAUs4B,GAAmBt4B,GAAUu4B,GAAmBv4B,GAAUw4B,GAAmBx4B,GAAUy4B,GAAmBz4B,GAAU04B,GAAmB14B,GAAU24B,GAAmB34B,GAAU44B,GAAmB54B,GAAU64B,GAAmB74B,GAAU84B,GAAmB94B,GAAU+4B,GAAmB/4B,GAAUg5B,GAAmBh5B,GAAUi5B,GAAmBj5B,GAAUk5B,GAAmBl5B,GAAUm5B,GAAmBn5B,GAAUo5B,GAAmBp5B,GAAUq5B,GAAmBr5B,GAAUs5B,GAAmBt5B,GAAUu5B,GAAmBv5B,GAAUw5B,GAAmBx5B,GAAUy5B,GAAmBz5B,GAAU05B,GAAmB15B,GAAU25B,GAAmB35B,GAAU45B,GAAmB55B,GAAU65B,GAAmB75B,GAAU85B,GAAmB95B,GAAU+5B,GAAmB/5B,GAAUg6B,GAAmBh6B,GAAUi6B,GAAmBj6B,GAAUk6B,GAAmBl6B,GAAUm6B,GAAmBn6B,GAAUo6B,GAAmBp6B,GAAUq6B,GAAmBr6B,GAAUs6B,GAAmBt6B,GAAUu6B,GAAmBv6B,GAAUw6B,GAAmBx6B,GAAUy6B,GAAmBz6B,GAAU06B,GAAmB16B,GAAU26B,GAAmB36B,GAAU46B,GAAmB56B,GAAU66B,GAAmB76B,GAAU86B,GAAmB96B,GAAU+6B,GAAmB/6B,GAAUg7B,GAAmBh7B,GAAUi7B,GAAmBj7B,GAAUk7B,GAAmBl7B,GAAUm7B,GAAmBn7B,GAAUo7B,GAAmBp7B,GAAUq7B,GAAmBr7B,GAAUs7B,GAAmBt7B,GAAUu7B,GAAmBv7B,GAAUw7B,GAAmBx7B,GAAUy7B,GAAmBz7B,GAAU07B,GAAmB17B,GAAU27B,GAAmB37B,GAAU47B,GAAmB57B,GAAU67B,GAAmB77B,GAAU87B,GAAmB97B,GAAU+7B,GAAmB/7B,GAAUg8B,GAAmBh8B,GAAUi8B,GAAmBj8B,GAAUk8B,GAAmBl8B,GAAUm8B,GAAmBn8B,GAAUo8B,GAAmBp8B,GAAUq8B,GAAmBr8B,GAAUs8B,GAAmBt8B,GAAUu8B,GAAmBv8B,GAAUw8B,GAAmBx8B,GAAUy8B,GAAmBz8B,GAAU08B,GAAmB18B,GAAU28B,GAAmB38B,GAAU48B,GAAmB58B,GAAU68B,GAAmB78B,GAAU88B,GAAmB98B,GAAU+8B,GAAmB/8B,GAAUg9B,GAAmBh9B,GAAUi9B,GAAmBj9B,GAAUk9B,GAAmBl9B,GAAUm9B,GAAmBn9B,GAAUo9B,GAAmBp9B,GAAUq9B,GAAmBr9B,GAAUs9B,GAAmBt9B,GAAUu9B,GAAmBv9B,GAAUw9B,GAAmBx9B,GAAUy9B,GAAmBz9B,GAAU09B,GAAmB19B,GAAU29B,GAAmB39B,GAAU49B,GAAmB59B,GAAU69B,GAAmB79B,GAAU89B,GAAmB99B,GAAU+9B,GAAmB/9B,GAAUg+B,GAAmBh+B,GAAUi+B,GAAmBj+B,GAAUk+B,GAAmBl+B,GAAUm+B,GAAmBn+B,GAAUo+B,GAAmBp+B,GAAUq+B,GAAmBr+B,GAAUs+B,GAAmBt+B,GAAUu+B,GAAmBv+B,GAAUw+B,GAAmBx+B,GAAUy+B,GAAmBz+B,GAAU0+B,GAAmB1+B,GAAU2+B,GAAmB3+B,GAAU4+B,GAAmB5+B,GAAU6+B,GAAmB7+B,GAAU8+B,GAAmB9+B,GAAU++B,GAAmB/+B,GAAUg/B,GAAmBh/B,GAAUi/B,GAAmBj/B,GAAUk/B,GAAmBl/B,GAAUm/B,GAAmBn/B,GAAUo/B,GAAmBp/B,GAAUq/B,GAAmBr/B,GAAUs/B,GAAmBt/B,GAAUu/B,GAAmBv/B,GAAUw/B,GAAmBx/B,GAAUy/B,GAAmBz/B,GAAU0/B,GAAmB1/B,GAAU2/B,GAAmB3/B,GAAU4/B,GAAmB5/B,GAAU6/B,GAAmB7/B,GAAU8/B,GAAmB9/B,GAAU+/B,GAAmB/

EAAMw9C,GACnH,IAAIojD,EAAiB5jF,GA/4cN,OAg5cXsqF,EAAe,IAAInuB,GAAeynB,GAClCzgG,EAAKkn
G,EAAqBE,kBAAmBC,EAAYrnG,EAAGqnG,UAAW7iG,EAAYxE,EAAGwE,eACxEwD,IAAdq/F,GACAF,EA
AazsB,kBAAkB2sB,QAEjBr/F,IAAdxD,GACA2iG,EAAansB,kBAAkBx2E,GAEnC,IAAI2hG,EAAmB,GACnBx
M,EAAmB,GACnB2N,EAAwBzrD,EACxB0rD,EAAmBC,GAAkBN,GAErCO,EAAgB11B,EAActH,6BAA6B88
B,EAAkBD,GACjF,GAAIG,GAAiBA,EAAc96G,OAAQ,CACvC,IAAIqxG,EA8JZ,SAAS0J,EAAoBD,EAAe5nG,
GACxC,IAAIm+F,EAAY,GACZ2J,EAAqB,GACrBxrB,EAAe,GAqBnB,OApBAsrB,EAAc9nG,SAAQ,SAAUsE
,GAC5B,IAAI87B,EAAc97B,EAAQjsE,MAAQ8oB,GAAmBmjD,EAAQjsE+iG,EAAiC,IAAjB92B,EAA
Qz9D,KACxBiiB,GAAqCs3E,EAAa97B,EAAQxwC,eAC1DssE,EACA7R,EAAcl2F,GAAQ+nG,EAAc/nG,EAAO
,IAAM+iG,EAAgB,sBAAwB,KACzFh0F,EAASinF,GAA+B76D,GAAWI,GAAqB,GAC7D,GAAIhBjqB,EAAQz9D,KACRs5Bt6G,KAAKuhB
hBjqB,EAAQz9D,KACRs5Bs5F,EAAmBt6G,KAAKuhB,GAGxBovF,EAAU3wG,KAAKuhB,MAGnB+4F,EAAmBh
7G,OAAS,GAC5BwvF,EAAa9uF,KAAK2/C,GAAmBhd,GAAcsB,sBAAuBq2E,GAAoBl2F,UAE9FusF,EAAUrx
G,OAAS,GACnBwvF,EAAa9uF,KAAK2/C,GAAmBhd,GAAcsJ,SAAU0kE,GAAWvsF,UAErE0qE,EAtLaurB,CA
AoBD,EAAe5nG,GACnDsmG,EAAiB94G,KAAKwd,MAAM7F,EAAkB54G,EAASywG,IAG3D,IAAiBI5iB,EAAjB
A1P,EAAWqG,EAAchI,0BAA0Bw9B,EAAkBD,GAAqEO,EAAmB,GAAKnBC,EAAqB,EACzBp8B,GAAYA,EA
S/rE,SAAQ,SAAUsE,GACVq7B,EAAantB,yBAAyBlO,EAAQjsE,MAAiBsoG,EAAqBhD,WAAYwlF,GAE7FQ,
GAl9L6B,GAq9L7BD,EAAiBx6G,KAAKy+E,GACtBg8B,QAIR,IAAIC,EAAoB,WAUpB,OATK3sB,EAAOA,K3sB,IAAMDA,EA
AiB,IAAIqd,GAAepsD,GAAc,WAAc,OAAO/+C,sBALvD,SAAUqrG,GAAS,OAAOA,EAAMC,KAAKC,MAAQ
OADAA,GAAsBnP,EACfqP,KAAGM,WAAc,OAAO16G,GAAM,uBAEzC8tF,EAAoBjwG,UAAUqwG,GAAc5B,EAAoBzuF,UAAUqwG,GAAc,WAAc,OAAO
B,GACpBwJ,EAAwB,GAAS5B,EAAoBzuF,UAAUqwG,GAAc,WAAc,OAAO,GAAS,GAAS,GAAS

gBAAkB,KACrD0W,EAAa,GAOjB,OANI4vF,EAAiBx5G,OAAS,GAC1B4pB,EAAWlpB,KAAKuoG,GAAsB,EAAgBuQ,IAEtDxM,EAAiBhtG,OAAS,GAC1B4pB,EAAWlpB,KAAKuoG,GAAsB,EAAgB+D,IAEnDrmF,GAAG,CAAC,IAAI+C,GA1hdJ,KA0hd0B9I,IAAc,IAAI8I,GA5hd5C,MA4hdkE,OAAQE,EAAYpJ,GAAAe,KAAMu7F,GAE1H,OAAO,KA1gB2BzB,CAA2B9mG,EAAK2rB,KAAM3rB,EAAK07C,eAAgBk2B,EAAe1lC,EAAclsC,EAAKiD,UAAY,GAAIjJD,EAAKN,KAAM,KAAMw9C,EAAK4kB,IAAK,KAAMw9C,EAAK4kB,IAAK,KAAMw9C,EAAK4kB,IAAK

,gBAG5B,OAApBtqB,EAAKiqB,YACLizB,EAAc52C,IAAI,OAAQ4W,GAAW,CAAC,CAAE7O,IAAK,YAAa3h
B,MAAOsT,EAAKiqB,WAAY9S,QAAQ,MAGvE,MAAnBpO,GAA2BA,IAAoBvG,EAAwBwG,SACvEk0C,EA
Ac52C,IAAI,kBAAmBgX,GAAQvU,IAEjD,IAAI4Y,EAAahF,GAAWkT,GAAc8H,iBAAiBhpB,OAAO,CAACuu
C,EAAczQ,iBAC7EngC,EAAay8F,GAA0B/oG,GAG3C,OAFAsM,EAAWpf,KAAK48G,GAAkB9pG,EAAK6pB,
SAASK,qBAEzC,CAAEvI,WAAYA,EAAYzT,KADtB6O,GAAeJ,GAAWkT,GAAcgI,qBAAsBvrB,KA8C7E,SAA
Sy9F,GAAoC/mC,EAAWnzB,EAAWjrB,GAE/D,MAAM,IAAIj3B,MAAM,eAKpB,SASq8G,GAA0B7+F,E
AAS0kB,GACxC,OAAO1kB,EAAQ1kB,EAAQ1kB,KAAI,SAAUwlC,GACzB,IAAIm7B,EAAOn7B,
MAAQn7B,EAAWm7B,KAAK1iD,aACzB0iD,EAAOv3B,EAAWlzB,WAAWsvB,EAAWm7B,KAAK1iD,WA
WD,YAE/C,CACHgiF,aAAcx6D,EAAWw6D,+B+F,MAAO8jC,EAAWm9jC,UAAW89D,GA4Bh
+D,EAAM9kC,UAAW0oC,GACxDxnC,YAAa4jC,EAAM5jC,YACnB++D,KAAMA,EACNC,Mm6D,WAQ5B,SAAS6D,GAA4B9iG,EAAW0oC,GAC5C,IAAIq6D,EAAgBr6D,EAAOq6D,
3a,QAAe2a,EAAU,GAAGza,MAAQ,CACvE,IAAIw9G,EAAgBx9G,EAAMy9G,UAAUC,GAAS,GAAS,
AMA,SAGpE,OAFAw9G,EAAgB/qF,EAAMgrF,MAAK,SAAUzyB,GAAQ,OAAOA,EAAKxrF,OAASg+G,
D,aAAa5pB,gBAAgBrF,GAAWitF,EAAgBzjG,KAAI,SAAUwlC,GAAQ,OAAOA,EAAKxrF,KAAO,
GAApBya,EAAU3a,OAAa,CAACvB,EAAMwB,KAAKC,MAAMzB,EAAMwB,KAAKE,UAAUC,GAAS,
IAAIlB,EAAMkB,EAAMlB,IAAKmB,EAAMD,EAAMC,IAAKC,EAAOF,EAAME,KAAMC,EAAOH,EAAMG,
IAAIpD8I,EAAQ,CAAC,CAAEqB,KAAMA,EAAMC,IAAKA,EAAKC,KAAMA,EAAMC,KAAMA,EAAMC,
AAIpY,KAAI,SAAUwlC,GAAQ,OAAOA,EAAKxrF,KAAO,GAAIwrF,EAAKvrF,MAAQ,GAAIurF,EAAKtrF,
B8U,EAqBds1F,EAAoC,CAAC,CAAEC,KAAM,EAAGC,IAAK,EAAGC,KAAM,EAAGC,KAAM,EAAGC,
O,CACHib,GAAmBhwB,EAAkBkO,KAAKA,KAAMlO,EAAkBovC,mBACpB,OAApBg7D,GAAxBct1F,EAAwB0Bs1
F,EAvBrCrtF,GAAeO,GAAQxI,KAAuBiCrH,GAAczC,OAAlBzN,EAAkC2qB,SAAoBm/E,GAAkB9pG,EAAkB2qB,U
AAYld,GAAC5D08F,GAAmBnqG,EAAkB4qB,QAAcrBu/E,GAAmBnqG,EAAkB6qB,SAAcrBi/E,GAAkB9pG,EAAkBmr
B,QAAQ1kB,KAAI,SAAUwlC,GAAQ,OAAOA,EAAKxrF,KAAO,GAAIwrF,EAAKvrF,MAAQ,GAAIurF,EAAKtrF,
AO05D,GAAuB,KAAmBkkD,EAAU59G,EAAOoO,EAAE5D,kBA+EnuC,EAAU59G,EAAOoO,EAAE5D,kBAAoBxK,EAAOoO,EAAE5D,kBAAoBxK,EAAOoO,EAAE5D,kBAAoBxK

ntD,KAAKggH,aAAeA,EACpBhgH,KAAKuhD,yBAA2B9hD,EAAQ8hD,yBACxCvhD,KAAKshD,gBAAkB7hD,EAAQ6hD,gBAC/BthD,KAAK8/G,eAAiBA,GACtB9/G,KAAKigH,sBAAwB,IAAIpjB,GAyHrC,OAvHAkjB,EAAmBj/G,UAAUo/G,YAAc,SAAUC,EAAMC,EAAOC,EAAMC,EAAMC,EAAM

AU,OAAQ,GAC5Cq9E,GAActgH,OAAOkxB,KAAK,CAAEkS,WAAY,OAAQ,GAChDm9E,GAAYvgH,OAAOkxB,KAAK,CAAEgS,SAAU,OAAQ,GAC5Cs9E,GAAexgH,OAAOkxB,KAAK,CAAEiS,YAAa,OAAQ,GAClD88E,GAAkB,SAAU5+G,GAC5B,IAAI4/G,EAAU,IAAIp6F,GAAgBxlB,GAClC,MAAO,CAAEA,MAAO4/G,EAASp6F,KAAMo6F,EAAQ5+F,MAAO,KAAMo+F,IAEnC,SAASC,GAAyBlH,GAAO,OAAOA,EAAMA,EAAIjmjG,GAAS,SAAUimjG,GAAO,OAAO

C1CD,EAASG,oBAAoBxqB,SAAQ,SAAU0wD,GAC3C1xD,EAAM6vG,qBAAqB1lD,OAAOuH,EAAWxmC,gB
AGrDykF,EAAoBriH,UAAU4iH,OAAS,SAAUx/E,GAC7C,IAAI1qB,EAASxZ,KAAKqjH,qBAAqBhoG,IAAI6oB
,GAK3C,OAJK1qB,IACDA,EAASxZ,KAAKojH,gBAAgB/nG,IAAI6oB,GAAClClkC,KAAKqjH,qBAAqB/nG,IAA
I4oB,EAAK1qB,IAEhCA,GAEX2pG,EAAoBriH,UAAU6iH,kBAAoB,SAAUC,GAAClClkC,KAAKqjH,qBAAqB/nG,IAA
Z,GAAIyzB,GAAUmwF,EAAY/kF,UAAW,CACjC,GAAIpL,GAAUmwF,EAAY9kF,aACtB,aACtB,MAAMvK,GAAAY,I
AAMU,GAAU2uF,EAC7BxgF,eAAiB,2DAE1B,GAAoC,iBAAzBwgF,EAAWC,UAClBD,EAAWC,UAAY
A0CU,GAAU2uF,EAAYxgF,eAAiB,wBAGtG,CAAA,IAAI3P,GAAUmwF,EAAY9kF,aAM3B,MAAMvK,GAAAY
,uCAAyCU,GAAU2uF,EAAYxgF,gBALjF,GAAuC,iBAA5BwgF,EAAWC,UAClBD,EAAWC,UAAY9kF,EAAYC,MAAMvK,GAAAY,2CAA6C
U,GAAU2uF,EAAYxgF,eAAiB,oBAM9G,CAAA,IAAI3P,GAAUmwF,EAAYvkF,sBACtB,qBACtB,kBAApCukF,EAAYC,MAAMvK,GAAAY
ACnB,MAAM9K,GAAAY,gDAAkDU,GAAU2uF,EAAYxgF,eAAiB,sBAE/G,GAAIwgF,EAAWC,UAAY,OAAOtP,GAAAe9zB,KAAAK6jH,kBA
AkBD,IAAc,SAAUE,GAAAqBwG,EAAAMuwG,2BAA2BH,EAAAaE,OAAEnJX,EAAAoBriH,UAAU+iH,kBAA
oB,SAAUG,GAAcxD,IAAClnlF,EAAC,EAAFAtrB,KAAWZ,KAAWOAR2B,MAAAvBgkH,EAAAWnlF,UACXA,EA
AWmlF,EAAAWnlF,SACtBC,EAAAcklF,EAAAWtlF,YAAGzBI,EAAc9+B,KAAK2kE,aAAAs/C/C,QAAAQD,EAAAWtlF,U
AAWslF,EAAAWllF,aACzED,EAAW7+B,KAAK0jH,OAAO5kF,IAEpBhL,GAAAe+K,KAAAK,EAAAWnlF,UAAAWnlF,UACXA,EA
AOrrB,EAAM0wG,wBAAwBF,EAAAYnlF,EAAAUC,OAAErHqkF,EAAAoBriH,UAAUojH,wBA0B0B,SAAUN,EAAAa/
kF,EAAAUslF,GACrF,IAAI/kF,IAAAawkF,EAAAY/kF,SACzBkqC,EAAAsB5iB,GAAAoBC,UAAUw9D,EAAAYzkF,EAAC
hEL,EAAcqF,GAAAkB,CAAAE1K,UAAAWmqF,EAAAYx/E,cAAAgB,CAAAElhB,KAAAM,CAAAEuW,UAAAWmqF,EAAAY
xgF,gBAAmB,CAAAEhE,SAAAUA,EAAAUN,YAAAaqlF,IAChKC,EAAAqBpkH,KAAAK+lF,YAAAY/tE,MAAAM6mB,EA
AUC,EAAAa,CAAAE+pC,wBAAAwB,EAAAME,oBAAAqBA,IAC5H,GAAAIq7C,EAAAmB5sD,OAAAOh2D,OAAAS,EAEnC
,MAAM+yB,GAAAY,2BADA6vF,EAAAmB5sD,OAAAOl+C,KAAAK,OAAGrD,IAAAI+qG,EAAAYykH,KAAAKskH,qBA
AqB,IAAI/lF,GAA0B,CAAAEC,OAAAQolF,EAAAYplF,OAAAQE,UAAAWklF,EAAAYllF,aACtIxd,EAAAU,IAAAIqjG,GA
ClBr9C,GAAAWhmD,EAAASkjG,EAAAmB1yC,WAAAvC,IAAAI8yC,EAAAiBxkH,KAAAKskH,qBAAAqBAAqB,IAAI/lF,GAA0
B,CAAAEC,OAAAQtd,EAAAQsd,EAAAQC,UAAAWvd,EAAAQud,EAAAWC,UAAAWylF,KAAMhJ,MAAAO,CACHtlF,SAA
UA,EACVC,YAAAaqlF,EACCb/kF,SAAAUA,EACVCL,QAASqlF,EACT5lF,OAVS6lF,EAAAuB7lF,OAAAOl8B,EAAAuB7lF,OAAAOl8B,EAAAoBkiH,EAAAehmF,QAAW7DimF,gBAAAVkBJ,EAAAuB5lF,UAAAUn8B,EAAAOkiH,EAAAe/lF,WAAAWzEA,UAAAVYz+B,KACXsB,H,qBAAAqBAAqB,IAAI/lF,GAA0B,CAAAEE,OAAAQE,UAAAWmlF,EAAAYnlF,UAAAWC,UAAAWklF,EAAAYllF,aAC9IC,GAAAW9GD,UASDS,m
BAAAoBhe,EAAAQge,qBAAGpCikF,EAAAoBriH,UAAUijH,2BAA6B,SAAUH,EAAAUH,KAAAE9C9E,IAAAItwG,EAAAQxT,K
ACZ,OAAO8zB,GAAAe9zB,KAAAK0jH,OAAO5kF,IAEpBhL,GAAAe+K,KAAAK,EAAAWnlF,UAAAWnlF,UACXA,EA
AOrrB,EAAM0wG,wBAAwBF,EAAAYnlF,EAAAUC,OAAErHqkF,EAAAoBriH,UAAUojH,wBA0B0B,SAAUN,EAAAa/
kF,EAAAUslF,GACrF,IAAI/kF,IAAAawkF,EAAAY/kF,SACzBkqC,EAAAsB5iB,GAAAoBC,UAAUw9D,EAAAYzkF,EAAC
hEL,EAAcqF,GAAAkB,CAAAE1K,UAAAWmqF,EAAAYx/E,cAAAgB,CAAAElhB,KAAAM,CAAAEuW,UAAAWmqF,EAAAY
xgF,gBAAmB,CAAAEhE,SAAAUA,EAAAUN,YAAAaqlF,IAChKC,EAAAqBpkH,KAAAK+lF,YAAAY/tE,MAAAM6mB,EA
AUC,EAAAa,CAAAE+pC,wBAAAwB,EAAAME,oBAAAqBA,IAC5H,GAAAIq7C,EAAAmB5sD,OAAAOh2D,OAAAS,EAEnC
,MAAM+yB,GAAAY,2BADA6vF,EAAAmB5sD,OAAAOl+C,KAAAK,OAAGrD,IAAAI+qG,EAAAYykH,KAAAKskH,qBA
AqB,IAAI/lF,GAA0B,CAAAEC,OAAAQolF,EAAAYplF,OAAAQE,UAAAWklF,EAAAYllF,aACtIxd,EAAAU,IAAAIqjG,GA
ClBr9C,GAAAWhmD,EAAASkjG,EAAAmB1yC,WAAAvC,IAAAI8yC,EAAAiBxkH,KAAAKskH,qBAAAqBAAqB,IAAI/lF,GAA0
B,CAAAEC,OAAAQtd,EAAAQsd,EAAAQC,UAAAWvd,EAAAQud,EAAAWC,UAAAWylF,KAAMhJ,MAAAO,CACHtlF,SAA
UA,EACVC,YAAAaqlF,EACCb/kF,SAAAUA,EACVCL,Q

BAAuB,SAAUp/C,GAC3D,IAAI1xD,EAAQxT,KACR0+B,EAAYwmC,EAAWxmC,UACvBumF,EAAe//C,EAAWzmC,UAAU7F,OAAOmlD,IAC1CtiE,KAAI,SAAUyoB,GAAO,OAAO1wB,EAAMmxD,aAAas/C,QAAQvlF,EAAWwF,MACnEghF,EAAYhgD,EAAW1mC,OAAO/iB,KAAI,SAAUxE,GAC5C,IAAIkuG,EA5nQhB,SAASC,EAAiBC,GAAO,OAAOA,EAAIC,QAAQ,KAAM,IAAIA,QAAQ,KAAM,IAAIA,QAAQ,KAAM,IAAIA

E,GACnBoT,EAAO1U,KAAK0mH,mBAAmB/lC,GACnCkmC,EAAYh2F,IAAInc,GACXkyG,EAAM/jF,IAAInu
B,KACXkyG,EAAM/1F,IAAInc,GACVoyG,EAAe5kH,KAAKy+E,IAG5B,OAAOmmC,EAAeC,WAE1BnB,EAA
kB9kH,UAAU2lH,OAAS,SAAUzuC,EAAWp4C,EAAQC,EASc,EAAMR,EAASC,EAAQimF,GAC9F,IAAIW,
AAehnH,KAAK2mH,gBAAgB3uC,EAAUp4C,OAASo4C,EAAUp4C,OAAOt9B,OAAOs9B,GAAUA,GACzFqnF,
EAAgBjnH,KAAK2mH,gBAAgB3uC,EAAUn4C,QAAUm4C,EAAUn4C,QAAQv9B,OAAOu9B,GAAWA,GAC7
FqnF,EAAalvC,EAAUr3C,KAAOtgC,OAAO6c,OAAO7c,OAAO6c,OAAO,GAAI86D,EAAUr3C,MAAOA,GA
QA,EACvFwmF,EAAgBnvC,EAAU73C,QAAU9/B,OAAO6c,OAAO7c,OAAO6c,OAAO,GAAI86D,EAAU73C,S
AAUA,GAAWA,EACvG,OAAItiB,EAAgB+B,SAASo4D,GAAElBn6D,EAAgBCnB5F,SAFO+/D,EAEQ//D,SA
Cf2nB,OAAQonF,EACRnnF,QAASonF,EACTtmF,KAAMumF,EACNvnF,SANOq4C,EAMQr4C,SACfynF,SAPO
pvC,EAOQovC,SACfjnF,QAASgnF,EACTppG,gBATOi6D,EASej6D,gBACtBkiB,UAVO+3C,EAUS/3C,UAChB
C,cAXO83C,EAWa93C,cACpBI,gBAZO03C,EAYe13C,gBACtBzB,SAbOm5C,EAaQn5C,SACfC,YAdOk5C,EAc
Wl5C,YAClBN,OAfOw5C,EAeMx5C,OACbC,UAhBOu5C,EAgBSv5C,UAChBa,cAjBO04C,EAiBa14C,cACpBL
,WAlBO+4C,EAkBU/4C,WACjBE,cAnBO64C,EAmBa74C,cACpBE,oBAAqB24C,EAAU34C,sBAI5B5hB,EAAg
B,CACnBxF,SAAU+/D,EAAU//D,SACpB2nB,OAAQonF,EACRnnF,QAASonF,EACTtmF,KAAMumF,EACNvnF
F,SAAUq4C,EAAUr4C,SACpBQ,QAASgnF,EACTlnF,UAAW+3C,EAAU/3C,UACrBG,OAAQA,KAIbwlF,EAAzI
2B,GA2ItC,SAASG,GAAoB7iG,GACzB,OAAOzF,EAAgBmC,SASsD,IAASrF,EAAgB+B,SAASsD,IAASsF,GAEtE,SA
AS+iG,GAASpyF,EAAKlJ,GACnB,IAAK,IAAIrpB,EAAIuyB,EAAIryB,OAAS,EAAGF,GAAK,EAAGA,IACjC,
GAAIqpB,EAAUkJ,EAAIvyB,GAAIqpB,GAAW,OAAOrpB,EAC5C,OAAO,KAMX,IAAgCI+lH,GAAhCAC,GAA2B,
SAAUtmG,GAErC,SAASsmG,EAAUvlE,EAAMztB,GACrB,OAAOtU,EAAgBnB,KAAMyoH,GAAYvlE,EAAMztB,EAAS
,IAAQt0B,KAE3C,OAJAW,EAAU2mH,EAAWtmG,GAIdsmG,EALmB,CAM5Bh3D,IAAUg3D,GAAUC,
IAAqB,EAYrBC,GACA,SAASA,GAAaC,GAAcC,GAAcC,GAAcC,GAAcC,GAAcC,GAAcC,GAAcC,GAAcC,
OAASA,IAAKtB,SAAW6vD,GACPA,EAAEA,EAAEsB,GAAGA,EAAGA,EAAGA,E

AQrjC,KAAK,wEAA0Ev6B,EAAQzoC,WAAWmwB,OAF5FsY,EAAQzoC,WAAWktC,QAAU,KAAOzE,EAAQ
zoC,WAAWktC,QAAU,IAE6C,MAEhIrwD,KAAKgoH,cAAe,EACpBhoH,KAAKmpH,iBAAmBnpH,KAAKkpH,
OAC7BlpH,KAAKqpH,eAAiB,GACtBrpH,KAAKspH,qBACD19D,EAAQlqD,MAAMqoB,QAAQw9F,GAA6B,I
AAIx0F,OAC3D/yB,KAAKypH,yBAAyB79D,SAlBtC5rD,KAAKi/E,aAAarzB,EAAS,uCAuCnC1Q,EAASp6C,U
AAUmuC,UAAY,SAAUvmB,EAAMvH,GAI3C,OAHInhB,KAAK2oH,0BACL3oH,KAAKwoH,uBAAuB9/F,GA
EzBA,GAEXwyB,EAASp6C,UAAU6vC,aAAe,SAAU8iC,EAAItyD,GAC5C,IAAI3N,EAAQxT,KACZA,KAAKw
oH,uBAAuB/0C,GAC5BzzE,KAAKkpH,SACL,IAAIQ,EAAgB1pH,KAAKipH,YACrBU,EAAoB3pH,KAAK4pH,
gBACzBC,EAAa,GACbC,OAAuBjtG,EAIvBktG,EAAsOZ,SAASC,EAAavpH,KAAKlB,OAAOA,EAAEqX,MAAMq
nC,MAAK,SAAU81B,GAAQ,MAlYzB,SAkYgCA,EAAKvgE,SAA2B,GAAtBugE,EAAKvgE,SAAS,GAAS,GAE
AWF,EAAWA,EAASroH,MAAQ,GACvCwoH,EAAalqH,KAAK2nH,cAAcxzF,EAAMvH,GAAIuH,EAAMvH,GAAIuH,EAAMvH,GAAIuH

H,EAAqB7oH,KAAK,IAAI8gD,GAAUiyB,EAAKvgE,KAAM,GAAIugE,EAAK9xD,aAEvD4uB,EAAM,aAAcs0
B,GAEzB0kD,EAAqB7oH,KAAK,IAAI8gD,GAAUiyB,EAAKvgE,KADjCq9B,EAAM,GAAGrwC,MACqCuzE,E
AAK9xD,aAG/D3P,EAAMyrE,aAAaxL,EAAI,yCAA4CwB,EAAKvgE,KAAO,WAAekd,GAAMpe,EAAM60G,c
AAc5xE,OAAOC,IAAAY,MAI/IljC,EAAMyrE,aAAaxL,EAAI,0CAA6CwB,EAAKvgE,KAAO,WAAekd,GAAMpe
,EAAM60G,cAAc5xE,OAAOC,IAAAY,WAIhJq0E,EAAqB7oH,KAAK+yE,MAG3B81C,GAQX7vE,EAASp6C,U
AAU0nH,uBAAyB,SAAUrhG,GAC9CnnB,KAAKgoH,eAAiBhoH,KAAK0oH,QAAU1oH,KAAKkpH,QAAUlpH,
KAAKmpH,kBACzDnpH,KAAKqpH,eAAennH,KAAKilB,IAMjC+zB,EASp6C,UAAU2oH,yBAA2B,SAAUtG
,GAChDnnB,KAAK2oH,yBACL3oH,KAAKi/E,aAAa93D,EAAM,4BAGxBnnB,KAAKyqH,wBAA0BzqH,KAAKkpH,
ioH,UAAUzmH,QAGtDnB,OAAO+mD,eAAelM,EASp6C,UAAW,2BAA4B,CAMlEua,IAAK,WACD,YAAC,
IAAjCrb,KAAKyqH,yBAEhBpjE,YAAY,EACZC,cAAc,cAAc,IAkBlBpM,EASp6C,UAAUsoH,0BAA4B,SAAUjG,E
AAM6jG,GAC3D,GAAKhrH,KAAK2oH,yBAAyB,CAAC,MAAO,yBAAyB,CAAC,MAAO,yBAAyB,CAAC,MAAO

E,MAhD7C,yCAgD8D,CAAC,IAAI7vE,GAAG,GAAI9I,EAAM,IAAI8I,KACzF,OAAOR,GAAU,CACb,IAAIC,G
AAY,CAAEmB,QAAS,MAAOC,SAAU,UAAY,IAAIb,GAAM4vE,EAAO,IAAI5vE,MAGrFkvE,EAAMzqH,UAA
Us8C,KAAO,SAAUxL,EAAS1N,GAEtC,IACIrvB,GADc,IAAIs3G,IACDn0G,MAAM45B,EAAS1N,GAAMyY,E
AAS9nC,EAAG8nC,OAAQyvE,EAAcv3G,EAAGu3G,YAAa50D,EAAS3iD,EAAG2iD,OAEpG60D,EAAmB,GA
CnB/+D,EAAY,IAAIg/D,GAMpB,GALAjsH,OAAOkxB,KAAK66F,GAAa53G,SAAQ+3G+3G,GACvC,IAAI1
3G,EAAKy4C,EAAUk/D,QAAQJ,EAAYG,GAAQroF,GAAMuoF,EAAY53G,43G,UACpEj1D,EAAOt1D,
KAAKwd,MAAM83C,EAAQp1D,EADyDyS,EAAG2iD,SAEtF60D,EAAiBE,GAASE,KAE1Bj1D,EAAOh2D,OA
CP,MAAM,IAAImB,MAAM,wBAA0B60D,EAAOl+C,KAAK,OAE1D,MAAO,CAAEqjC,OA,QAAS,iB
AAkBA,IAE/Cd,EAAMzqH,UAAU21C,OAAS,SAAUC,GAC/B,IAEX60E,EA1De,CA2DxBnx
E,IACEoxE,GAA+B,WAC/B,SASA,KAyCT,OAvCAA,EAAc1qH,UAAUmuC,UAAY,SAAUvmB,GAAMvoB,vmB,EAAMvH,G
AChD,MAAO,CAAC,IAAIg7B,GAAOzzB,SAAUhnB,SAE5B8Pv1D,EAAOkzC,eAAiB,SAAUvmB,GAAMvoB,
zzB,GAC1D,IAAI3N,EAAQxT,KACR+xC,EAAQ,GAEZ,OADA6C,EAAUrE,SAAS/7B,SAAQ,SAAUvoB,GAAMvoB,2S,GAAQ,
OAAO4qB,EAAM7vC,KAAKwd,MAAMqyB,EAAO3vC,EAAS+xC,EAAUrE,SAAS/7B,SAAQ,SAAUvoB,GAAMvoB,Mx7B,QACzFu+Fu+B,
YAEpGpK,EAAM7vC,KAAK,IAAIi6C,GAAO,MCfpK,GAEXy5E,EAAc1qH,UAAUwzC,oBAAsB,SAAUvmB,GAAMvoB,
AI3zB,GACxD,IAAIurG,EAAuZ,SASC,EAAe/zG,GAAMvoB,pB,OAAQ,EAAIjE,eACR,IAAK,KACD,MAAO,OAAQ,KACX,MAAO,CAAC,IAAIg7B,GAAOzzB,SAAUhnB,SAE5B8P,KAAKwd,MAAMqyB,EAAO3vC,EAAS+xC,EAAUrE,SAAS/7B,SAAQ,SAAUvoB,GAAMvoB,Mx7B,QACzFu+F,
,IAAK,MACD

grG,EAAYrrH,UAAUmuC,UAAY,SAAUvmB,EAAMvH,KAClDgrG,EAAYrrH,UAAUmmE,aAAe,SAAUrb,EA
ASzqC,KACxDgrG,EAAYrrH,UAAU2lE,eAAiB,SAAU0O,EAAWh0D,KAC5DgrG,EAAYrrH,UAAU+lE,mBAA
qB,SAAUuO,EAAej0D,KACpEgrG,EAAYrrH,UAAUqsH,UAAY,SAAUhmG,EAAMuvB,GAC9C12C,KAAK09E
,QAAQx7E,KAAK,IAAIolH,GAAUngG,EAAKhE,WAAYuzB,KAE9Cy1E,EAzEqB,GA4E5BG,GAAS2B
,SAASA,KAgDT,OA9CAA,EAAUxrH,UAAU0rH,QAAU,SAAU91E,EAASxS,GAC7C,IAAIopF,GAAS,IAAIhC
,IAAYtzG,MAAM0+B,EAASxS,EAAK,CAAE2kC,wBAAwB,IAI3E,OAHA7oE,KAAK09E,QAAU4vC,EAAO91D
,OAGf,CACHi1D,UAHYzsH,KAAK09E,QAAQl8E,OAAS,GAAgC,GAA3B8rH,EAAO57C,UAAUlwE,OACxD,
GAAK,GAAGc,OAAOod,MAAM,GAAItd,EAAS8kE,GAAWlnE,KAAMstH,EAAO57C,UAAU1Dla,OAAQx3D,K
AAK09E,UAGrB4uC,EAAUxrH,UAAUmuC,UAAY,SAAUvmB,EAAMuvB,GAAUnuC,KAAK09E,QAAQ5vC,OAAO,IAAI2yB,GAAOprB,
EAAKhnB,MAAOgnB,EAAKvF,aAEvCmpG,EAAUxrH,UAAU6vC,aAAe,SAAU8iC,EAAIty,D,GAC7C,GAAnNiB
,MAmNbsyD,EAAG/+D,KAA6B,CAAChC,IAAI64G,EAAW95C,EAAG37D,MAAMqnC,MAAK,SAAU81B,GAAQ,
Q,MAAqB,OAAdA,EAAKvgE,KAAgBugE,EAAKvgE,KAAO,KAAMugE,EAAKvgE,KAAO,KAAMugE,EAAKvgE,KAAO,KAAM

AChD,MAAO,CAAC,IAAIg7B,GAAOzzB,EAAKhnB,SAE5B8pH,EAAc1qH,UAAUkzC,eAAiB,SAAUY,EAAWzzB,GAC1D,IAAI3N,EAAQxT,KACR+xC,EAAQ,GAEZ,OADA6C,EAAUrE,SAAS/7B,SAAQ,SAAU2S,GAAOAAO4qB,EAAM7vC,KAAKwd,MAAMqyB,QACzDA,EAAMx7B,KAAK,KAAKwB,MAAMqyB,QAAQ,GAAGXy5E,EAAc1qH,UAAU2wC,SAAW,SAAUwC,EAAQ,SAAUC,EAAQ,SAAUC,EAAQ,SAAU

AQx7E,KAAK,IAAIolH,GAAUngG,EAAKhE,WAAYuzB,KAE9Cq3E,EA9EsB,GAiF7BC,GAA6B,WAC7B,SA
AS1B,KAkET,OAhEAA,EAAUxrH,UAAU0rH,QAAU,SAAU91E,EAASxS,GAC7C,IAAIopF,GAAS,IAAIhC,IA
AYtzG,MAAM0+B,EAASxS,EAAK,CAAE2kC,wBAAwB,IAI3E,OAHA7oE,KAAK09E,QAAU4vC,EAAO91D,
OAGf,CACHi1D,UAHYzsH,KAAK09E,QAAQl8E,OAAS,GAAgC,GAA3B8rH,EAAO57C,UAAUlwE,OACxD,G
AAK,GAAGc,OAAOod,MAAM,GAAItd,EAAS8kE,GAAWlnE,KAAMstH,EAAO57C,aAG1Dla,OAAQx3D,KA
AK09E,UAGrB4uC,EAAUxrH,UAAUmuC,UAAY,SAAUvmB,EAAMvH,GAC5C,OAAO,IAAI2yB,GAAOprB,E
AAKhnB,MAAOgnB,EAAKvF,aAEvCmpG,EAAUxrH,UAAU6vC,aAAe,SAAU8iC,EAAItyD,GAC7C,IAAI3N,E
AAQxT,KACZ,OAAQyzE,EAAG/+D,MACP,IA9Oa,KA+OT,IAAI64G,EAAW95C,EAAG37D,MAAMqnC,MAA
K,SAAU81B,GAAQ,MAAqB,UAAdA,EAAKvrE,KAAmBurE,EAAKvrE,OAAS,SAAU,GA
AIg5E,EAAS7rH,MAAO+xE,EAAGtwD,aAEnDnjB,KAAKmtH,UAAU15C,EAAI,qCACnB,MACJ,IApPoB,KAq
PhB,IAAIk7C,EAAYl7C,EAAG37D,MAAMqnC,MAAK,SAAU81B,GAAQ,MAAqB,eAAdA,EAAKvrE,KAAmBurE,
k6G,EAAUn7C,EAAG37D,MAAMqnC,MAAK,SAAU81B,GAAQ,MAAqB,aAAdA,EAAKvrE,KAAmBurE,EAAK
G,EAGA,CAAA,GAAKC,EAGL,CACD,IACIC,EAAQD,EAAQltH,MAChBqwC,EAAQ,GACZ,IAAIA,EAAMqnC,MAAK,SAAU81B,GAAQ,MAAqB,eAAdA,EAAKvrE,KAAmBurE,EAAKvrE,OAAS,SAAU,GA
vC,OAAOod,MAAMqyB,EAAO3vC,EAAS,CAAC,IAAImyC,GAAY,GAAH7o6E,EAAUjtH,MAAGgD+xE,EAAGt
wD,aAAcswD,EAAGljC,SAAS90B,KAAI,SAAU0L,GAAQ,MAAqB,eAAdA,EAAKvrE,KAAmBurE,EAAKvrE,OAAS,SAAU,GA
AC,IAAI+gC,GAAY,GAAIs6E,EAAOp7C,EAAG37D,MAAMqnC,MAAK,SAAU81B,GAAQ,MAAqB,eAAdA,EAAKvrE,KAAmBurE,EAAKvrE,OAAS,SAAU,GA
AKmtH,UAAU15C,EAAI,0CAAWvB,MAAJ,IAAnQQ,MAAoQJ,MAAO,GAAIGnxE,EAAOod,MAAM,GAAItd,EAAS
8kE,GAAWlnE,KAAMytE,EAAGljC,SAAS,YAC5D,QAAIvwC,KAAKmtH,UAAU15C,EAAI,kBAE3B,MAAO,MAEX64C,EAAOp7C,EAAG37D,MAAMqnC,MAAK,SAAU81B,GAAQ,MAAqB,eAAdA,EAAKvrE,KAAmBurE,EAAKvrE,OAAS,SAAU,GA
4C,EAAUxrH,UAAU2lE,eAAiB,SAAU50B,EAAMvH,GAAS,OAAO,IAAIqyB,GAAOprB,EAAMvH,EAAS,CAAC

,MACnCvwC,KAAKovH,eACL,MACJ,IA1FW,cA2FP,IAAIlC,EAASt1G,EAAQE,MAAMqnC,MAAK,SAAU81B
,GAAQ,MAAqB,OAAdA,EAAKvgE,QAC9D,GAAKw4G,EAGA,CACD,IAAIt7F,EAAKs7F,EAAOxrH,MAChB,
GAAI1B,KAAKgtH,aAAatsH,eAAekxB,GACjC5xB,KAAKmtH,UAAUv1G,EAAS,mCAAqCga,OAE5D,CACD,I
AGIw7F,EADUx1G,EAAQ64B,gBAAgB6C,MAAMC,KAAK3B,QAAczBhvC,MAHHgV,EAAQ64B,gBAAgBmD,
IAAIub,OAC9Bv3C,EAAQ84B,cAAc4C,MAAM6b,QAG/CnvD,KAAKgtH,aAAap7F,GAAMw7F,tH,K
AAKmtH,UAAUv1G,EAAS,2CAe5B,MACJ,QACI5X,KAAKmtH,UAAUv1G,EAAS,oBAGpCm3G,EAAUjuH,U
AUgmE,eAAiB,SAAU7tD,EAAWkI,KAC1D4tG,EAAUjuH,UAAUmuC,UAAY,SAAUvmB,EAAMvH,KAChD
4tG,EAAUjuH,UAAUmmE,aAAe,SAAUrb,EAASzqC,KACtD4tG,EAAUjuH,UAAU2lE,eAAiB,SAAU0O,EAAW
h0D,KAC1D4tG,EAAUjuH,UAAU+lE,mBAAqB,SAAUuO,EAAej0D,KAClE4tG,EAAUjuH,UAAUqsH,UAAY,S
AAUhmG,EAAMuvB,GAC5C12C,KAAK09E,QAAQx7E,KAAK,IAAIolH,GAAUngG,EAAKhE,WAAYuzB,KA
E9Cq4E,EA/DmB,GAkE1BC,GAA6B,WAC7B,SAAS1C,KA+CAA,EAAUxrH,UAAU0rH,QAAU,SAAU
91E,EASxS,GAC7C,IAAIopF,GAAS,IAAIhC,IAAIytzG,MAAM0+B,EASxS,EAAK,CAAE2kC,wBAAwB,IA
K3E,OAJA7oE,KAAK09E,QAAU4vC,EAAO91D,OAIf,CACHi1D,UAJYzsH,KAAK09E,QAAQl8E,OAAS,GAA
gC,GAA3B8rH,EAAO57C,UAAUlwE,OACxD,GACA0lE,GAAWlnE,KAAMstH,EAAO57C,WAGxBla,OAAQx3
D,KAAK09E,UAGrB4uC,EAAUxrH,UAAUmuC,UAAY,SAAUvmB,EAAMvH,KAC5C5C,OAAO,IAAI2yB,GAAO
prB,EAAKhnB,MAAOgnB,EAAKvF,aAEvCmpG,EAAUxrH,UAAU2lE,eAAiB,SAAU50B,EAAW50B50B,IAAIqsB,GAChD
,IAAIqsG,EAAU,GAAId,OAHAtmD,GAAWlnE,KAAM6xC,EAAO1/B,SAAQ,SAAUsJ,GAAGC,GAAGC,GAAGC

wB,GAClD,IAAI3N,EAAQxT,KACRk0C,EAAQ7zC,OAAOkxB,KAAKsgB,EAAIqC,OAAOz4B,KAAI,SAAUw5
B,GAAK,OAAOA,EAAI,KAAOpD,EAAIqC,MAAMe,GAAGjG,MAAMx7B,GAAS,OAMpG,MAAO,KAHGxT,
KAAKowH,QAAQ5+E,aAAa9wC,eAAemxC,EAAIlb,YACnD32B,KAAKowH,QAAQ5+E,aAAaK,EAAIlb,YAA
YjO,KAC1CmpB,EAAIlb,YACW,KAAOkb,EAAI3uB,KAAO,KAAOgxB,EAAM56B,KAAK,KAAO,KAElEs2G,
EAAkB9uH,UAAU0zC,iBAAmB,SAAUM,EAAI3zB,GACzD,IAAIslF,EAASzmG,KAAKqwH,QAAQv7E,EAAG
pgC,MAC7B,OAAI1U,KAAKowH,QAAQ5+E,aAAa9wC,eAAe+lG,GAClCzmG,KAAKowH,QAAQ5+E,aAAai1
D,GAAQ/9E,KAEzC1oB,KAAKowH,QAAQh9E,qBAAqB1yC,eAAe+lG,GAC1CzmG,KAAKmwH,eAAenwH,K
AAKowH,QAAQh9E,qBAAqBqzD,KAEjEzmG,KAAKmtH,UAAUr4E,EAAI,wBAA2BA,EAAGpgC,KAAO,KA
CjD,KAKXk7G,EAAkB9uH,UAAUwzC,oBAAsB,SAAUQ,EAAI3zB,GAC5D,IAAI3N,EAAQxT,KACR4Y,EAAG
M,GAAKk8B,EAAGl8B,IACdd,EAAQzX,OAAOkxB,KAAKujB,EAAGh9B,OAAO2D,KAAI,SAAU/G,G,GAAQ,O
AAOA,EAAO,KAAQogC,EAAGh9B,MAAMpD,GAAQ,OAAS4E,KAAK,KAC7G,OAAIw7B,EAAIgC,EAAOI,I
AAM0E,EAAM,IAAMd,EAAQ,KAG9B,IAAMc,EAAM,IAAMd,EAAQ,IADlBg9B,EAAGvE,SAAS90B,KAAI,S
AAUqC,GAAK,OAAOA,EAAEkxB,MAAMx7B,MAAW8F,KAAK,IAC3B,KAAOV,EAAM,KAAnEg3G,EAAkB
9uH,UAAU4zC,oBAAsB,SAAUI,EAAI3zB,GAAS,OAAOnhB,KAAKmwH,eAAenwH,KAAKowH,QAAQh9E,q
BAAqB0B,EAAGpgC,KAAO,QAAQpEk7G,EAAkB9uH,UAAUqvH,eAAiB,SAAUN,GAAS,OAAOnwH,KAAK
xT,KACR4xB,EAAK5xB,KAAK+vH,QAAQF,GAClBS,EAAStwH,KAAKgwH,eAAiBhwH,KAAKgwH,eAAeH,
GAAU,KAEjE7vH,KAAKkwH,cAAchuH,KAAK,CAAEoyB,EAAK0B,EAAOhB,KAAKowH,QAAQ,QAASE,OAAQtwH,KAAKq
wH,UAC1DrwH,KAAKowH,QAAQUP,EACX7vH,KAAKuvH,kBAAkB7uH,eAAekxB,IAGtCmgB,EAAQ/xC,KA
AKuvH,kBAAkB39F,GAC/B5xB,KAAKqwH,QAAU,SAAU37G,GAAQ,OAAO47G,EAAOz1E,eAAenm
C,GAAQA,KAO3E1U,KAAKiwH,8BAAgCryG,EAA2Bjb,MAEhE3C,KAAKmtH,UAAU0C,EAAO99E,MAAM,
GAAI,oCAAuCngB,EAAK,KADlE5xB,KAAK8sH,QAAU,gBAAmB9sH,KAAK8sH,QAAU,IAAO,KAG7D9sH,
KAAKgmF,UACVhmF,KAAKiwH,8BAAgCryG,EAA2B8xG,SAEhE1vH,KAAKgmF,SASG,KAAK,oCAAuCv
0D,EAAK,KADrD5xB,KAAK8sH,QAAU,gBAAmBmB,9sH,KAAK8sH,QAAU,IAAO,KAGtE/6E,EAAK99E,MAAM
9E,MACf/xC,KAAKqwH,QAAU,SAAU37G,GAAQ,OAAO47G,EAAOz1E,eAAenmB,KAAKowH,QAAQ,QAASE,OAAQtwH,KAAKq
U0L,GAAQ,OAAOA,EAAK6nB,MAAMx7B,MAAW8F,KAAK,IACrE6xG,nhB,KAAKkwH,cAAcwE,MA
GjC,OAFA5/C,KAAKowH,QAAQUjvG,EAAQmT,IACvBt0B,KAAKqwH,QAAQUlvG,EAAQmvG,OAChB5nG,GA
EXknG,EAAkB9uH,UAAUqsH,UAAY,SAAU15C,EAAIn/C,GAClDt0B,K09E,KAAK,IAAIolH,
GAAU7zC,EAAGtwD,WAAYmR,KAE5Cs7F,EAAxH2B,GAAkBlC,WAAgC,SAASA,EAAQ,
C,EAAoiC,EAAQ1N,EAAoB0G,GAAvF,QAAF2B,IAAvB1G,IAAiCA,EAAqBllG,EAA2B8xG,SACrF1vH,KAAK
+lF,YAAcA,EAAoiC,EAAc,CAAd,IAAI9lB,EAAoBhB,SAASouB,EAAiBC,GAAtB,OADAA,GAAUA,,GAAU,OA
AO/7G,eAAvB,IAAK,MAAD,OAAO,IAAI6nC,GAAf,IAAK,MAAD,OAAO,IAAIsyE,GAAf,IAAK,MAAD,OAAO,IAAIsyE,SAAL,IAAK,
OACD,OAAO,IAAIrB,GAAf,IAAK,QAAD,IAAK,MAAD,IAAK,QAAD,OAAO,IAAIlC;;;;;;;OAjCMkF,CAAiBD,GAAlBlC
xwH,KAAK2wH,mBACrBC,GAAkBlyE,eAAlB,KAAK,qBAAD,IAAK,MAAD,OAAO,IAAIsyE,GAAf,IAAK,MAAD,OAAO,IAAIsyE,GAAf,IAAK,MAAD,OAAO,IAAIsyE,GAAf

yyB,eAAiB,SAAU7xB,EAAOwhB,GACnE,OAAOoP,GAAQ5wB,EAAOwhB,IAE1B8tG,EAA2BlwH,UAAU0yB,WAAa,SAAU9xB,EAAOwhB,GAC/D,OAAIxhB,aAAiBuhB,GACVvhB,EAGA1B,KAAKg4B,IAAIrG,WAAWjwB,IAG5BsvH,EApCoC;;;;;;;OA8C/C,SAASE,GAAW7tG,EAAK3hB,GACrB,MAAO,CAAE2hB,EAAK3hB,GAGlB,SAASyvH,GAAWnuH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS0vH,GAAWpuH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS2vH,GAAWruH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS4vH,GAAWtuH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS6vH,GAAWvuH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS8vH,GAAWxuH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+vH,GAAWzuH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASgwH,GAAW1uH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASiwH,GAAW3uH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASkwH,GAAW5uH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASmwH,GAAW7uH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASowH,GAAW9uH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASqwH,GAAW/uH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASswH,GAAWhvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASuwH,GAAWjvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASwwH,GAAWlvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASywH,GAAWnvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS0wH,GAAWpvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS2wH,GAAWrvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS4wH,GAAWtvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS6wH,GAAWvvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS8wH,GAAWxvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+wH,GAAWzvH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASgxH,GAAW1vH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASixH,GAAW3vH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASkxH,GAAW5vH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASmxH,GAAW7vH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASoxH,GAAW9vH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASqxH,GAAW/vH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASsxH,GAAWhwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASuxH,GAAWjwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASwxH,GAAWlwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASyxH,GAAWnwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS0xH,GAAWpwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS2xH,GAAWrwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS4xH,GAAWtwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS6xH,GAAWvwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS8xH,GAAWxwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+xH,GAAWzwH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASgyH,GAAW1wH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASiyH,GAAW3wH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASkyH,GAAW5wH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASmyH,GAAW7wH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASoyH,GAAW9wH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASqyH,GAAW/wH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASsyH,GAAWhxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASuyH,GAAWjxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASwyH,GAAWlxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASyyH,GAAWnxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS0yH,GAAWpxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS2yH,GAAWrxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS4yH,GAAWtxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS6yH,GAAWvxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS8yH,GAAWxxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAQ,EAAI,EAGhC,SAAS+yH,GAAWzxH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASgzH,GAAW1xH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASizH,GAAW3xH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASkzH,GAAW5xH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASmzH,GAAW7xH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASozH,GAAW9xH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASqzH,GAAW/xH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASszH,GAAWhyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASuzH,GAAWjyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASwzH,GAAWlyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASyzH,GAAWnyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS0zH,GAAWpyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS2zH,GAAWryH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS4zH,GAAWtyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS6zH,GAAWvyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS8zH,GAAWxyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+zH,GAAWzyH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASg0H,GAAW1yH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASi0H,GAAW3yH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASk0H,GAAW5yH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASm0H,GAAW7yH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASo0H,GAAW9yH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASq0H,GAAW/yH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASs0H,GAAWhzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASu0H,GAAWjzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASw0H,GAAWlzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASy0H,GAAWnzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS00H,GAAWpzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS20H,GAAWrzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS40H,GAAWtzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS60H,GAAWvzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS80H,GAAWxzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+0H,GAAWzzH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASg1H,GAAW1zH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASi1H,GAAW3zH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASk1H,GAAW5zH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASm1H,GAAW7zH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASo1H,GAAW9zH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASq1H,GAAW/zH,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASs1H,GAAWh0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASu1H,GAAWj0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASw1H,GAAWl0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASy1H,GAAWn0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS01H,GAAWp0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS21H,GAAWr0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS41H,GAAWt0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS61H,GAAWv0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS81H,GAAWx0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+1H,GAAWz0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASg2H,GAAW10H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASi2H,GAAW30H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASk2H,GAAW50H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASm2H,GAAW70H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASo2H,GAAW90H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASq2H,GAAW/0H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASs2H,GAAWh1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASu2H,GAAWj1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASw2H,GAAWl1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASy2H,GAAWn1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS02H,GAAWp1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS22H,GAAWr1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS42H,GAAWt1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS62H,GAAWv1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS82H,GAAWx1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+2H,GAAWz1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASg3H,GAAW11H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASi3H,GAAW31H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASk3H,GAAW51H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASm3H,GAAW71H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASo3H,GAAW91H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASq3H,GAAW/1H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASs3H,GAAWh2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASu3H,GAAWj2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASw3H,GAAWl2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASy3H,GAAWn2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS03H,GAAWp2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS23H,GAAWr2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS43H,GAAWt2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS63H,GAAWv2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS83H,GAAWx2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+3H,GAAWz2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASg4H,GAAW12H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASi4H,GAAW32H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASk4H,GAAW52H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASm4H,GAAW72H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASo4H,GAAW92H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASq4H,GAAW/2H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASs4H,GAAWh3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASu4H,GAAWj3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASw4H,GAAWl3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASy4H,GAAWn3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS04H,GAAWp3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS24H,GAAWr3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS44H,GAAWt3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS64H,GAAWv3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS84H,GAAWx3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAAS+4H,GAAWz3H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASg5H,GAAW13H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASi5H,GAAW33H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASk5H,GAAW53H,EAAOtB,GACvB,OAAIsB,IAAUtB,GAAUsB,IAAUA,GAAStB,IAAUA,EAC1C,EAGJsB,EAAQtB,EAAS,EAAI,EAGhC,SAASm5H,GAAW73H,EAAOtB,GACvB,OAAIsB,IAA

C5Ml0H,KAAK6lF,QAAUA,EACf7lF,KAAK+lF,YAAcA,EACnB/lF,KAAK4zH,kBAAoBA,EACzB5zH,KAAK6zH,mBAAqBA,EAC1B7zH,KAAK8zH,cAAgBA,EACrB9zH,KAAK+zH,iBAAmBA,EACxB/zH,KAAKu+E,gBAAkBA,EACvBv+E,KAAKg0H,qBAAuBA,EAC5Bh0H,KAAKgmF,SAAWA,EAChBmF,KAAAKi0H,mBAAqBA,EAC1Bj0H,KAAK8lF,WAAaA,EAClB9lF,KAAKk0H,gBAAkBA,EACvBl0H,KAAKm0H,6BAA+BA,EACpCn0H,KAAKo0H,cAAgBA,EACrBp0H,KAAKq0H,iBAAmBA,EACxBr0H,KAAKs0H,cAAgBA,EACrBt0H,KAAKu0H,iBAAmBA,EACxBv0H,KAAKw0H,cAAgBA,EACrBx0H,KAAKy0H,iBAAmBA,EACxBz0H,KAAK00H,cAAgBA,EACrB10H,KAAK20H,iBAAmBA,EACxB30H,KAAK40H,cAAgBA,EACrB50H,KAAK60H,iBAAmBA,EACxB70H,KAAK80H,cAAgBA,EACrB90H,KAAK+0H,iBAAmBA,EACxB/0H,KAAKg1H,cAAgBA,EACrBh1H,KAAKi1H,iBAAmBA,EACxBj1H,KAAKk1H,cAAgBA,EACrBl1H,KAAKm1H,iBAAmBA,EACxBn1H,KAAKo1H,cAAgBA,EACrBp1H,KAAKq1H,iBAAmBA,EACxBr1H,KAAKs1H,cAAgBA,EACrBt1H,KAAKu1H,iBAAmBA,EACxBv1H,KAAKw1H,cAAgBA,EACrBx1H,KAAKy1H,iBAAmBA,EACxBz1H,KAAK01H,cAAgBA,EACrB11H,KAAK21H,iBAAmBA,EACxB31H,KAAK41H,cAAgBA,EACrB51H,KAAK61H,iBAAmBA,EACxB71H,KAAK81H,cAAgBA,EACrB91H,KAAK+1H,iBAAmBA,EACxB/1H,KAAKg2H,cAAgBA,EACrBh2H,KAAKi2H,iBAAmBA,EACxBj2H,KAAKk2H,cAAgBA,EACrBl2H,KAAKm2H,iBAAmBA,EACxBn2H,KAAKo2H,cAAgBA,EACrBp2H,KAAKq2H,iBAAmBA,EACxBr2H,KAAKs2H,cAAgBA,EACrBt2H,KAAKu2H,iBAAmBA,EACxBv2H,KAAKw2H,cAAgBA,EACrBx2H,KAAKy2H,iBAAmBA,EACxBz2H,KAAK02H,cAAgBA,EACrB12H,KAAK22H,iBAAmBA,EACxB32H,KAAK42H,cAAgBA,EACrB52H,KAAK62H,iBAAmBA,EACxB72H,KAAK82H,cAAgBA,EACrB92H,KAAK+2H,iBAAmBA,EACxB/2H,KAAKg3H,cAAgBA,EACrBh3H,KAAKi3H,iBAAmBA,EACxBj3H,KAAKk3H,cAAgBA,EACrBl3H,KAAKm3H,iBAAmBA,EACxBn3H,KAAKo3H,cAAgBA,EACrBp3H,KAAKq3H,iBAAmBA,EACxBr3H,KAAKs3H,cAAgBA,EACrBt3H,KAAKu3H,iBAAmBA,EACxBv3H,KAAKw3H,cAAgBA,EACrBx3H,KAAKy3H,iBAAmBA,EACxBz3H,KAAK03H,cAAgBA,EACrB13H,KAAK23H,iBAAmBA,EACxB33H,KAAK43H,cAAgBA,EACrB53H,KAAK63H,iBAAmBA,EACxB73H,KAAK83H,cAAgBA,EACrB93H,KAAK+3H,iBAAmBA,EACxB/3H,KAAKg4H,cAAgBA,EACrBh4H,KAAKi4H,iBAAmBA,EACxBj4H,KAAKk4H,cAAgBA,EACrBl4H,KAAKm4H,iBAAmBA,EACxBn4H,KAAKo4H,cAAgBA,EACrBp4H,KAAKq4H,iBAAmBA,EACxBr4H,KAAKs4H,cAAgBA,EACrBt4H,KAAKu4H,iBAAmBA,EACxBv4H,KAAKw4H,cAAgBA,EACrBx4H,KAAKy4H,iBAAmBA,EACxBz4H,KAAK04H,cAAgBA,EACrB14H,KAAK24H,iBAAmBA,EACxB34H,KAAK44H,cAAgBA,EACrB54H,KAAK64H,iBAAmBA,EACxB74H,KAAK84H,cAAgBA,EACrB94H,KAAK+4H,iBAAmBA,EACxB/4H,KAAKg5H,cAAgBA,EACrBh5H,KAAKi5H,iBAAmBA,EACxBj5H,KAAKk5H,cAAgBA,EACrBl5H,KAAKm5H,iBAAmBA,EACxBn5H,KAAKo5H,cAAgBA,EACrBp5H,KAAKq5H,iBAAmBA,EACxBr5H,KAAKs5H,cAAgBA,EACrBt5H,KAAKu5H,iBAAmBA,EACxBv5H,KAAKw5H,cAAgBA,EACrBx5H,KAAKy5H,iBAAmBA,EACxBz5H,KAAK05H,cAAgBA,EACrB15H,KAAK25H,iBAAmBA,EACxB35H,KAAK45H,cAAgBA,EACrB55H,KAAK65H,iBAAmBA,EACxB75H,KAAK85H,cAAgBA,EACrB95H,KAAK+5H,iBAAmBA,EACxB/5H,KAAKg6H,cAAgBA,EACrBh6H,KAAKi6H,iBAAmBA,EACxBj6H,KAAKk6H,cAAgBA,EACrBl6H,KAAKm6H,iBAAmBA,EACxBn6H,KAAKo6H,cAAgBA,EACrBp6H,KAAKq6H,iBAAmBA,EACxBr6H,KAAKs6H,cAAgBA,EACrBt6H,KAAKu6H,iBAAmBA,EACxBv6H,KAAKw6H,cAAgBA,EACrBx6H,KAAKy6H,iBAAmBA,EACxBz6H,KAAK06H,cAAgBA,EACrB16H,KAAK26H,iBAAmBA,EACxB36H,KAAK46H,cAAgBA,EACrB56H,KAAK66H,iBAAmBA,EACxB76H,KAAK86H,cAAgBA,EACrB96H,KAAK+6H,iBAAmBA,EACxB/6H,KAAKg7H,cAAgBA,EACrBh7H,KAAKi7H,iBAAmBA,EACxBj7H,KAAKk7H,cAAgBA,EACrBl7H,KAAKm7H,iBAAmBA,EACxBn7H,KAAKo7H,cAAgBA,EACrBp7H,KAAKq7H,iBAAmBA,EACxBr7H,KAAKs7H,cAAgBA,EACrBt7H,KAAKu7H,iBAAmBA,EACxBv7H,KAAKw7H,cAAgBA,EACrBx7H,KAAKy7H,iBAAmBA,EACxBz7H,KAAK07H,cAAgBA,EACrB17H,KAAK27H,iBAAmBA,EACxB37H,KAAK47H,cAAgBA,EACrB57H,KAAK67H,iBAAmBA,EACxB77H,KAAK87H,cAAgBA,EACrB97H,KAAK+7H,iBAAmBA,EACxB/7H,KAAKg8H,cAAgBA,EACrBh8H,KAAKi8H,iBAAmBA,EACxBj8H,KAAKk8H,cAAgBA,EACrBl8H,KAAKm8H,iBAAmBA,EACxBn8H,KAAKo8H,cAAgBA,EACrBp8H,KAAKq8H,iBAAmBA,EACxBr8H,KAAKs8H,cAAgBA,EACrBt8H,KAAKu8H,iBAAmBA,EACxBv8H,KAAKw8H,cAAgBA,EACrBx8H,KAAKy8H,iBAAmBA,EACxBz8H,KAAK08H,cAAgBA,EACrB18H,KAAK28H,iBAAmBA,EACxB38H,KAAK48H,cAAgBA,EACrB58H,KAAK68H,iBAAmBA,EACxB78H,KAAK88H,cAAgBA,EACrB98H,KAAK+8H,iBAAmBA,EACxB/8H,KAAKg9H,cAAgBA,EACrBh9H,KAAKi9H,iBAAmBA,EACxBj9H,KAAKk9H,cAAgBA,EACrBl9H,KAAKm9H,iBAAmBA,EACxBn9H,KAAKo9H,cAAgBA,EACrBp9H,KAAKq9H,iBAAmBA,EACxBr9H,KAAKs9H,cAAgBA,EACrBt9H,KAAKu9H,iBAAmBA,EACxBv9H,KAAKw9H,cAAgBA,EACrBx9H,KAAKy9H,iBAAmBA,EACxBz9H,KAAK09H,cAAgBA,EACrB19H,KAAK29H,iBAAmBA,EACxB39H,KAAK49H,cAAgBA,EACrB59H,KAAK69H,iBAAmBA,EACxB79H,KAAK89H,cAAgBA,EACrB99H,KAAK+9H,iBAAmBA,EACxB/9H,KAAKg+H,cAAgBA,EACrBh+H,KAAKi+H,iBAAmBA,EACxBj+H,KAAKk+H,cAAgBA,EACrBl+H,KAAKm+H,iBAAmBA,EACxBn+H,KAAKo+H,cAAgBA,EACrBp+H,KAAKq+H,iBAAmBA,EACxBr+H,KAAKs+H,cAAgBA,EACrBt+H,KAAKu+H,iBAAmBA,EACxBv+H,KAAKw+H,cAAgBA,EACrBx+H,KAAKy+H,iBAAmBA,EACxBz+H,KAAK0+H,cAAgBA,EACrB1+H,KAAK2+H,iBAAmBA,EACxB3+H,KAAK4+H,cAAgBA,EACrB5+H,KAAK6+H,iBAAmBA,EACxB7+H,KAAK8+H,cAAgBA,EACrB9+H,KAAK++H,iBAAmBA,EACxB/+H,KAAKg/H,cAAgBA,EACrBh/H,KAAKi/H,iBAAmBA,EACxBj/H,KAAKk/H,cAAgBA,EACrBl/H,KAAKm/H,iBAAmBA,EACxBn/H,KAAKo/H,cAAgBA,EACrBp/H,KAAKq/H,iBAAmBA,EACxBr/H,KAAKs/H,cAAgBA,EACrBt/H,KAAKu/H,iBAAmBA,EACxBv/H,KAAKw/H,cAAgBA,EACrBx/H,KAAKy/H,iBAAmBA,EACxBz/H,KAAK0/H,cAAgBA,EACrB1/H,KAAK2/H,iBAAmBA,EACxB3/H,KAAK4/H,cAAgBA,EACrB5/H,KAAK6/H,iBAAmBA,EACxB7/H,KAAK8/H,cAAgBA,EACrB9/H,KAAK+/H,iBAAmBA,EACxB//H,KAAKggI,cAAgBA,EACrBhgI,KAAKigI,iBAAmBA,EACxBjgI,KAAKkgI,cAAgBA,EACrBlgI,KAAKmgI,iBAAmBA,EACxBngI,KAAKogI,cAAgBA,EACrBpgI,KAAKqgI,iBAAmBA,EACxBrgI,KAAKsgI,cAAgBA,EACrBtgI,KAAKugI,iBAAmBA,EACxBvgI,KAAKwgI,cAAgBA,EACrBxgI,KAAKygI,iBAAmBA,EACxBzgI,KAAK0gI,cAAgBA,EACrB1gI,KAAK2gI,iBAAmBA,EACxB3gI,KAAK4gI,cAAgBA,EACrB5gI,KAAK6gI,iBAAmBA,EACxB7gI,KAAK8gI,cAAgBA,EACrB9gI,KAAK+gI,iBAAmBA,EACxB/gI,KAAKghI,cAAgBA,EACrBhhI,KAAKihI,iBAAmBA,EACxBjhI,KAAKkhI,cAAgBA,EACrBlhI,KAAKmhI,iBAAmBA,EACxBnhI,KAAKohI,cAAgBA,EACrBphI,KAAKqhI,iBAAmBA,EACxBrhI,KAAKshI,cAAgBA,EACrBthI,KAAKuhI,iBAAmBA,EACxBvhI,KAAKwhI,cAAgBA,EACrBxhI,KAAKyhI,iBAAmBA,EACxBzhI,KAAK0hI,cAAgBA,EACrB1hI,KAAK2hI,iBAAmBA,EACxB3hI,KAAK4hI,cAAgBA,EACrB5hI,KAAK6hI,iBAAmBA,EACxB7hI,KAAK8hI,cAAgBA,EACrB9hI,KAAK+hI,iBAAmBA,EACxB/hI,KAAKgiI,cAAgBA,EACrBhiI,KAAKiiI,iBAAmBA,EACxBjiI,KAAKkiI,cAAgBA,EACrBliI,KAAKmiI,iBAAmBA,EACxBniI,KAAKoiI,cAAgBA,EACrBpiI,KAAKqiI,iBAAmBA,EACxBriI,KAAKsiI,cAAgBA,EACrBtiI,KAAKuiI,iBAAmBA,EACxBviI,KAAKwiI,cAAgBA,EACrBxiI,KAAKyiI,iBAAmBA,EACxBziI,KAAK0iI,cAAgBA,EACrB1iI,KAAK2iI,iBAAmBA,EACxB3iI,KAAK4iI,cAAgBA,EACrB5iI,KAAK6iI,iBAAmBA,EACxB7iI,KAAK8iI,cAAgBA,EACrB9iI,KAAK+iI,iBAAmBA,EACxB/iI,KAAKgjI,cAAgBA,EACrBhjI,KAAKijI,iBAAmBA,EACxBjjI,KAAKkjI,cAAgBA,EACrBljI,KAAKmjI,iBAAmBA,EACxBnjI,KAAKojI,cAAgBA,EACrBpjI,KAAKqjI,iBAAmBA,EACxBrjI,KAAKsjI,cAAgBA,EACrBtjI,KAAKujI,iBAAmBA,EACxBvjI,KAAKwjI,cAAgBA,EACrBxjI,KAAKyjI,iBAAmBA,EACxBzjI,KAAK0jI,cAAgBA,EACrB1jI,KAAK2jI,iBAAmBA,EACxB3jI,KAAK4jI,cAAgBA,EACrB5jI,KAAK6jI,iBAAmBA,EACxB7jI,KAAK8jI,cAAgBA,EACrB9jI,KAAK+jI,iBAAmBA,EACxB/jI,KAAKgkI,cAAgBA,EACrBhkI,KAAKikI,iBAAmBA,EACxBjkI,KAAKkkI,cAAgBA,EACrBlkI,KAAKmkI,iBAAmBA,EACxBnkI,KAAKokI,cAAgBA,EACrBpkI,KAAKqkI,iBAAmBA,EACxBrkI,KAAKskI,cAAgBA,EACrBtkI,KAAKukI,iBAAmBA,EACxBvkI,KAAKwkI,cAAgBA,EACrBxkI,KAAKykI,iBAAmBA,EACxBzkI,KAAK0kI,cAAgBA,EACrB1kI,KAAK2kI,iBAAmBA,EACxB3kI,KAAK4kI,cAAgBA,EACrB5kI,KAAK6kI,iBAAmBA,EACxB7kI,KAAK8kI,cAAgBA,EACrB9kI,KAAK+kI,iBAAmBA,EACxB/kI,KAAKglI,cAAgBA,EACrBhlI,KAAKilI,iBAAmBA,EACxBjlI,KAAKklI,cAAgBA,EACrBllI,KAAKmlI,iBAAmBA,EACxBnlI,KAAKolI,cAAgBA,EACrBplI,KAAKqlI,iBAAmBA,EACxBrlI,KAAKslI,cAAgBA,EACrBtlI,KAAKulI,iBAAmBA,EACxBvlI,KAAKwlI,cAAgBA,EACrBxlI,KAAKylI,iBAAmBA,EACxBzlI,KAAK0lI,cAAgBA,EACrB1lI,KAAK2lI,iBAAmBA,EACxB3lI,KAAK4lI,cAAgBA,EACrB5lI,KAAK6lI,iBAAmBA,EACxB7lI,KAAK8lI,cAAgBA,EACrB9lI,KAAK+lI,iBAAmBA,EACxB/lI,KAAKgmI,cAAgBA,EACrBhmI,KAAKimI,iBAAmBA,EACxBjmI,KAAKkmI,cAAgBA,EACrBlmI,KAAKmmI,iBAAmBA,EACxBnmI,KAAKomI,cAAgBA,EACrBpmI,KAAKqmI,iBAAmBA,EACxBrmI,KAAKsmI,cAAgBA,EACrBtmI,KAAKumI,iBAAmBA,EACxBvmI,KAAKwmI,cAAgBA,EACrBxmI,KAAKymI,iBAAmBA,EACxBzmI,KAAK0mI,cAAgBA,EACrB1mI,KAAK2mI,iBAAmBA,EACxB3mI,KAAK4mI,cAAgBA,EACrB5mI,KAAK6mI,iBAAmBA,EACxB7mI,KAAK8mI,cAAgBA,EACrB9mI,KAAK+mI,iBAAmBA,EACxB/mI,KAAKgnI,cAAgBA,EACrBhnI,KAAKinI,iBAAmBA,EACxBjnI,KAAKknI,cAAgBA,EACrBlnI,KAAKmnI,iBAAmBA,EACxBnnI,KAAKonI,cAAgBA,EACrBpnI,KAAKqnI,iBAAmBA,EACxBrnI,KAAKsnI,cAAgBA,EACrBtnI,KAAKunI,iBAAmBA,EACxBvnI,KAAKwnI,cAAgBA,EACrBxnI,KAAKynI,iBAAmBA,EACxBznI,KAAK0nI,cAAgBA,EACrB1nI,KAAK2nI,iBAAmBA,EACxB3nI,KAAK4nI,cAAgBA,EACrB5nI,KAAK6nI,iBAAmBA,EACxB7nI,KAAK8nI,cAAgBA,EACrB9nI,KAAK+nI,iBAAmBA,EACxB/nI,KAAKgoI,cAAgBA,EACrBhoI,KAAKioI,iBAAmBA,EACxBjoI,KAAKkoI,cAAgBA,EACrBloI,KAAKmoI,iBAAmBA,EACxBnoI,KAAKooI,cAAgBA,EACrBpoI,KAAKqoI,iBAAmBA,EACxBroI,KAAKsoI,cAAgBA,EACrBtoI,KAAKuoI,iBAAmBA,EACxBvoI,KAAKwoI,cAAgBA,EACrBxoI,KAAKyoI,iBAAmBA,EACxBzoI,KAAK0oI,cAAgBA,EACrB1oI,KAAK2oI,iBAAmBA,EACxB3oI,KAAK4oI,cAAgBA,EACrB5oI,KAAK6oI,iBAAmBA,EACxB7oI,KAAK8oI,cAAgBA,EACrB9oI,KAAK+oI,iBAAmBA,EACxB/oI,KAAKgpI,cAAgBA,EACrBhpI,KAAKipI,iBAAmBA,EACxBjpI,KAAKkpI,cAAgBA,EACrBlpI,KAAKmpI,iBAAmBA,EACxBnpI,KAAKopI,cAAgBA,EACrBppI,KAAKqpI,iBAAmBA,EACxBrpI,KAAKspI,cAAgBA,EACrBtpI,KAAKupI,iBAAmBA,EACxBvpI,KAAKwpI,cAAgBA,EACrBxpI,KAAKypI,iBAAmBA,EACxBzpI,KAAK0pI,cAAgBA,EACrB1pI,KAAK2pI,iBAAmBA,EACxB3pI,KAAK4pI,cAAgBA,EACrB5pI,KAAK6pI,iBAAmBA,EACxB7pI,KAAK8pI,cAAgBA,EACrB9pI,KAAK+pI,iBAAmBA,EACxB/pI,KAAKgqI,cAAgBA,EACrBhqI,KAAKiqI,iBAAmBA,EACxBjqI,KAAKkqI,cAAgBA,EACrBlqI,KAAKmqI,iBAAmBA,EACxBnqI,KAAKoqI,cAAgBA,EACrBpqI,KAAKqqI,iBAAmBA,EACxBrqI,KAAKsqI,cAAgBA,EACrBtqI,KAAKuqI,iBAAmBA,EACxBvqI,KAAKwqI,cAAgBA,EACrBxqI,KAAKyqI,iBAAmBA,EACxBzqI,KAAK0qI,cAAgBA,EACrB1qI,KAAK2qI,iBAAmBA,EACxB3qI,KAAK4qI,cAAgBA,EACrB5qI,KAAK6qI,iBAAmBA,EACxB7qI,KAAK8qI,cAAgBA,EACrB9qI,KAAK+qI,iBAAmBA,EACxB/qI,KAAKgrI,cAAgBA,EACrBhrI,KAAKirI,iBAAmBA,EACxBjrI,KAAKkrI,cAAgBA,EACrBlrI,KAAKmrI,iBAAmBA,EACxBnrI,KAAKorI,cAAgBA,EACrBprI,KAAKqrI,iBAAmBA,EACxBrrI,KAAKsrI,cAAgBA,EACrBtrI,KAAKurI,iBAAmBA,EACxBvrI,KAAKwrI,cAAgBA,EACrBxrI,KAAKyrI,iBAAmBA,EACxBzrI,KAAK0rI,cAAgBA,EACrB1rI,KAAK2rI,iBAAmBA,EACxB3rI,KAAK4rI,cAAgBA,EACrB5rI,KAAK6rI,iBAAmBA,EACxB7rI,KAAK8rI,cAAgBA,EACrB9rI,KAAK+rI,iBAAmBA,EACxB/rI,KAAKgsI,cAAgBA,EACrBhsI,KAAKisI,iBAAmBA,EACxBjsI,KAAKksI,cAAgBA,EACrBlsI,KAAKmsI,iBAAmBA,EACxBnsI,KAAKosI,cAAgBA,EACrBpsI,KAAKqsI,iBAAmBA,EACxBrsI,KAAKssI,cAAgBA,EACrBtsI,KAAKusI,iBAAmBA,EACxBvsI,KAAKwsI,cAAgBA,EACrBxsI,KAAKysI,iBAAmBA,EACxBzsI,KAAK0sI,cAAgBA,EACrB1sI,KAAK2sI,iBAAmBA,EACxB3sI,KAAK4sI,cAAgBA,EACrB5sI,KAAK6sI,iBAAmBA,EACxB7sI,KAAK8sI,cAAgBA,EACrB9sI,KAAK+sI,iBAAmBA,EACxB/sI,KAAKgtI,cAAgBA,EACrBhtI,KAAKitI,iBAAmBA,EACxBjtI,KAAKktI,cAAgBA,EACrBltI,KAAKmtI,iBAAmBA,EACxBntI,KAAKotI,cAAgBA,EACrBptI,KAAKqtI,iBAAmBA,EACxBrtI,KAAKstI,cAAgBA,EACrBttI,KAAKutI,iBAAmBA,EACxBvtI,KAAKwtI,cAAgBA,EACrBxtI,KAAKytI,iBAAmBA,EACxBztI,KAAK0tI,cAAgBA,EACrB1tI,KAAK2tI,iBAAmBA,EACxB3tI,KAAK4tI,cAAgBA,EACrB5tI,KAAK6tI,iBAAmBA,EACxB7tI,KAAK8tI,cAAgBA,EACrB9tI,KAAK+tI,iBAAmBA,EACxB/tI,KAAKguI,cAAgBA,EACrBhuI,KAAKiuI,iBAAmBA,EACxBjuI,KAAKkuI,cAAgBA,EACrBluI,KAAKmuI,iBAAmBA,EACxBnuI,KAAKouI,cAAgBA,EACrBpuI,KAAKquI,iBAAmBA,EACxBruI,KAAKsuI,cAAgBA,EACrBtuI,KAAKuuI,iBAAmBA,EACxBvuI,KAAKwuI,cAAgBA,EACrBxuI,KAAKyuI,iBAAmBA,EACxBzuI,KAAK0uI,cAAgBA,EACrB1uI,KAAK2uI,iBAAmBA,EACxB3uI,KAAK4uI,cAAgBA,EACrB5uI,KAAK6uI,iBAAmBA,EACxB7uI,KAAK8uI,cAAgBA,EACrB9uI,KAAK+uI,iBAAmBA,EACxB/uI,KAAKgvI,cAAgBA,EACrBhvI,KAAKivI,iBAAmBA,EACxBjvI,KAAKkvI,cAAgBA,EACrBlvI,KAAKmvI,iBAAmBA,EACxBnvI,KAAKovI,cAAgBA,EACrBpvI,KAAKqvI,iBAAmBA,EACxBrvI,KAAKsvI,cAAgBA,EACrBtvI,KAAKuvI,iBAAmBA,EACxBvvI,KAAKwvI,cAAgBA,EACrBxvI,KAAKyvI,iBAAmBA,EACxBzvI,KAAK0vI,cAAgBA,EACrB1vI,KAAK2vI,iBAAmBA,EACxB3vI,KAAK4vI,cAAgBA,EACrB5vI,KAAK6vI,iBAAmBA,EACxB7vI,KAAK8vI,cAAgBA,EACrB9vI,KAAK+vI,iBAAmBA,EACxB/vI,KAAKgwI,cAAgBA,EACrBhwI,KAAKiwI,iBAAmBA,EACxBjwI,KAAKkwI,cAAgBA,EACrBlwI,KAAKmwI,iBAAmBA,EACxBnwI,KAAKowI,cAAgBA,EACrBpwI,KAAKqwI,iBAAmBA,EACxBrwI,KAAKswI,cAAgBA,EACrBtwI,KAAKuwI,iBAAmBA,EACxBvwI,KAAKwwI,cAAgBA,EACrBxwI,KAAKywI,iBAAmBA,EACxBzwI,KAAK0wI,cAAgBA,EACrB1wI,KAAK2wI,iBAAmBA,EACxB3wI,KAAK4wI,cAAgBA,EACrB5wI,KAAK6wI,iBAAmBA,EACxB7wI,KAAK8wI,cAAgBA,EACrB9wI,KAAK+wI,iBAAmBA,EACxB/wI,KAAKgxI,cAAgBA,EACrBhxI,KAAKixI,iBAAmBA,EACxBjxI,KAAKkxI,cAAgBA,EACrBlxI,KAAKmxI,iBAAmBA,EACxBnxI,KAAKoxI,cAAgBA,EACrBpxI,KAAKqxI,iBAAmBA,EACxBrxI,KAAKsxI,cAAgBA,EACrBtxI,KAAKuxI,iBAAmBA,EACxBvxI,KAAKwxI,cAAgBA,EACrBxxI,KAAKyxI,iBAAmBA,EACxBzxI,KAAK0xI,cAAgBA,EACrB1xI,KAAK2xI,iBAAmBA,EACxB3xI,KAAK4xI,cAAgBA,EACrB5xI,KAAK6xI,iBAAmBA,EACxB7xI,KAAK8xI,cAAgBA,EACrB9xI,KAAK+xI,iBAAmBA,EACxB/xI,KAAKgyI,cAAgBA,EACrBhyI,KAAKiyI,iBAAmBA,EACxBjyI,KAAKkyI,cAAgBA,EACrBlyI,KAAKmyI,iBAAmBA,EACxBnyI,KAAKoyI,cAAgBA,EACrBpyI,KAAKqyI,iBAAmBA,EACxBryI,KAAKsyI,cAAgBA,EACrBtyI,KAAKuyI,iBAAmBA,EACxBvyI,KAAKwyI,cAAgBA,EACrBxyI,KAAKyyI,iBAAmBA,EACxBzyI,KAAK0yI,cAAgBA,EACrB1yI,KAAK2yI,iBAAmBA,EACxB3yI,KAAK4yI,cAAgBA,EACrB5yI,KAAK6yI,iBAAmBA,EACxB7yI,KAAK8yI,cAAgBA,EACrB9yI,KAAK+yI,iBAAmBA,EACxB/yI,KAAKgzI,cAAgBA,EACrBhzI,KAAKizI,iBAAmBA,EACxBjzI,KAAKkzI,cAAgBA,EACrBlzI,KAAKmzI,iBAAmBA,EACxBnzI,KAAKozI,cAAgBA,EACrBpzI,KAAKqzI,iBAAmBA,EACxBrzI,KAAKszI,cAAgBA,EACrBtzI,KAAKuzI,iBAAmBA,EACxBvzI,KAAKwzI,cAAgBA,EACrBxzI,KAAKyzI,iBAAmBA,EACxBzzI,KAAK0zI,cAAgBA,EACrB1zI,KAAK2zI,iBAAmBA,EACxB3zI,KAAK4zI,cAAgBA,EACrB5zI,KAAK6zI,iBAAmBA,EACxB7zI,KAAK8zI,cAAgBA,EACrB9zI,KAAK+zI,iBAAmBA,EACxB/zI,KAAKg0I,cAAgBA,EACrBh0I,KAAKi0I,iBAAmBA,EACxBj0I,KAAKk0I,cAAgBA,EACrBl0I,KAAKm0I,iBAAmBA,EACxBn0I,KAAKo0I,cAAgBA,EACrBp0I,KAAKq0I,iBAAmBA,EACxBr0I,KAAKs0I,cAAgBA,EACrBt0I,KAAKu0I,iBAAmBA,EACxBv0I,KAAKw0I,cAAgBA,EACrBx0I,KAAKy0I,iBAAmBA,EACxBz0I,KAAK00I,cAAgBA,EACrB10I,KAAK20I,iBAAmBA,EACxB30I,KAAK40I,cAAgBA,EACrB50I,KAAK60I,iBAAmBA,EACxB70I,KAAK80I,cAAgBA,EACrB90I,KAAK+0I,iBAAmBA,EACxB/0I,KAAKg1I,cAAgBA,EACrBh1I,KAAKi1I,iBAAmBA,EACxBj1I,KAAKk1I,cAAgBA,EACrBl1I,KAAKm1I,iBAAmBA,EACxBn1I,KAAKo1I,cAAgBA,EACrBp1I,KAAKq1I,iBAAmBA,EACxBr1I,KAAKs1I,cAAgBA,EACrBt1I,KAAKu1I,iBAAmBA,EACxBv1I,KAAKw1I,cAAgBA,EACrBx1I,KAAKy1I,iBAAmBA,EACxBz1I,KAAK01I,cAAgBA,EACrB11I,KAAK21I,iBAAmBA,EACxB31I,KAAK41I,cAAgBA,EACrB51I,KAAK61I,iBAAmBA,EACxB71I,KAAK81I,cAAgBA,EACrB91I,KAAK+1I,iBAAmBA,EACxB/1I,KAAKg2I,cAAgBA,EACrBh2I,KAAKi2I,iBAAmBA,EACxBj2I,KAAKk2I,cAAgBA,EACrBl2I,KAAKm2I,iBAAmBA,EACxBn2I,KAAKo2I,cAAgBA,EACrBp2I,KAAKq2I,iBAAmBA,EACxBr2I,KAAKs2I,cAAgBA,EACrBt2I,KAAKu2I,iBAAmBA,EACxBv2I,KAAKw2I,cAAgBA,EACrBx2I,KAAKy2I,iBAAmBA,EACxBz2I,KAAK02I,cAAgBA,EACrB12I,KAAK22I,iBAAmBA,EACxB32I,KAAK42I,cAAgBA,EACrB52I,KAAK62I,iBAAmBA,EACxB72I,KAAK82I,cAAgBA,EACrB92I,KAAK+2I,iBAAmBA,EACxB/2I,KAAKg3I,cAAgBA,EACrBh3I,KAAKi3I,iBAAmBA,EACxBj3I,KAAKk3I,cAAgBA,EACrBl3I,KAAKm3I,iBAAmBA,EACxBn3I,KAAKo3I,cAAgBA,EACrBp3I,KAAKq3I,iBAAmBA,EACxBr3I,KAAKs3I,cAAgBA,EACrBt3I,KAAKu3I,iBAAmBA,EACxBv3I,KAAKw3I,cAAgBA,EACrBx3I,KAAKy3I,iBAAmBA,EACxBz3I,KAAK03I,cAAgBA,EACrB13I,KAAK23I,iBAAmBA,EACxB33I,KAAK43I,cAAgBA,EACrB53I,KAAK63I,iBAAmBA,EACxB73I,KAAK83I,cAAgBA,EACrB93I,KAAK+3I,iBAAmBA,EACxB/3I,KAAKg4I,cAAgBA,EACrBh4I,KAAKi4I,iBAAmBA,EACxBj4I,KAAKk4I,cAAgBA,EACrBl4I,KAAKm4I,iBAAmBA,EACxBn4I,KAAKo4I,cAAgBA,EACrBp4I,KAAKq4I,iBAAmBA,EACxBr4I,KAAKs4I,cAAgBA,EACrBt4I,KAAKu4I,iBAAmBA,EACxBv4I,KAAKw4I,cAAgBA,EACrBx4I,KAAKy4I,iBAAmBA,EACxBz4I,KAAK04I,cAAgBA,EACrB14I,KAAK24I,iBAAmBA,EACxB34I,KAAK44I,cAAgBA,EACrB54I,KAAK64I,iBAAmBA,EACxB74I,KAAK84I,cAAgBA,EACrB94I,KAAK+4I,iBAAmBA,EACxB/4I,KAAKg5I,cAAgBA,EACrBh5I,KAAKi5I,iBAAmBA,EACxBj5I,KAAKk5I,cAAgBA,EACrBl5I,KAAKm5I,iBAAmBA,EACxBn5I,KAAKo5I,cAAgBA,EACrBp5I,KAAKq5I,iBAAmBA,EACxBr5I,KAAKs5I,cAAgBA,EACrBt5I,KAAKu5I,iBAAmBA,EACxBv5I,KAAKw5I,cAAgBA,EACrBx5I,KAAKy5I,iBAAmBA,EACxBz5I,KAAK05I,cAAgBA,EACrB15I,KAAK25I,iBAAmBA,EACxB35I,KAAK45I,cAAgBA,EACrB55I,KAAK65I,iBAAmBA,EACxB75I,KAAK85I,cAAgBA,EACrB95I,KAAK+5I,iBAAmBA,EACxB/5I,KAAKg6I,cAAgBA,EACrBh6I,KAAKi6I,iBAAmBA,EACxBj6I,KAAKk6I,cAAgBA,EACrBl6I,KAAKm6I,iBAAmBA,EACxBn6I,KAAKo6I,cAAgBA,EACrBp6I,KAAKq6I,iBAAmBA,EACxBr6I,KAAKs6I,cAAgBA,EACrBt6I,KAAKu6I,iBAAmBA,EACxBv6I,KAAKw6I,cAAgBA,EACrBx6I,KAAKy6I,iBAAmBA,EACxBz6I,KAAK06I,cAAgBA,EACrB16I,KAAK26I,iBAAmBA,EACxB36I,KAAK46I,cAAgBA,EACrB56I,KAAK66I,iBAAmBA,EACxB76I,KAAK86I,cAAgBA,EACrB96I,KAAK+6I,iBAAmBA,EACxB/6I,KAAKg7I,cAAgBA,EACrBh7I,KAAKi7I,iBAAmBA,EACxBj7I,KAAKk7I,cAAgBA,EACrBl7I,KAAKm7I,iBAAmBA,EACxBn7I,KAAKo7I,cAAgBA,EACrBp7I,KAAKq7I,iBAAmBA,EACxBr7I,KAAKs7I,cAAgBA,EACrBt7I,KAAKu7I,iBAAmBA,EACxBv7I,KAAKw7I,cAAgBA,EACrBx7I,KAAKy7I,iBAAmBA,EACxBz7I,KAAK07I,cAAgBA,EACrB17I,KAAK27I,iBAAmBA,EACxB37I,KAAK47I,cAAgBA,EACrB57I,KAAK67I,iBAAmBA,EACxB77I,KAAK87I,cAAgBA,EACrB97I,KAAK+7I,iBAAmBA,EACxB/7I,KAAKg8I,cAAgBA,EACrBh8I,KAAKi8I,iBAAmBA,EACxBj8I,KAAKk8I,cAAgBA,EACrBl8I,KAAKm8I,iBAAmBA,EACxBn8I,KAAKo8I,cAAgBA,EACrBp8I,KAAKq8I,iBAAmBA,EACxBr8I,KAAKs8I,cAAgBA,EACrBt8I,KAAKu8I,iBAAmBA,EACxBv8I,KAAKw8I,cAAgBA,EACrBx8I,KAAKy8I,iBAAmBA,EACxBz8I,KAAK08I,cAAgBA,EACrB18I,KAAK28I,iBAAmBA,EACxB38I,KAAK48I,cAAgBA,EACrB58I,KAAK68I,iBAAmBA,EACxB78I,KAAK88I,cAAgBA,EACrB98I,KAAK+8I,iBAAmBA,EACxB/8I,KAAKg9I,cAAgBA,EACrBh9I,KAAKi9I,iBAAmBA,EACxBj9I,KAAKk9I,cAAgBA,EACrBl9I,KAAKm9I,iBAAmBA,EACxBn9I,KAAKo9I,cAAgBA,EACrBp9I,KAAKq9I,iBAAmBA,EACxBr9I,KAAKs9I,cAAgBA,EACrBt9I,KAAKu9I,iBAAmBA,EACxBv9I,KAAKw9I,cAAgBA,EACrBx9I,KAAKy9I,iBAAmBA,EACxBz9I,KAAK09I,cAAgBA,EACrB19I,KAAK29I,iBAAmBA,EACxB39I,KAAK49I,cAAgBA,EACrB59I,KAAK69I,iBAAmBA,EACxB79I,KAAK89I,cAAgBA,EACrB99I,KAAK+9I,iBAAmBA,EACxB/9I,KAAKg+I,cAAgBA,EACrBh+I,KAAKi+I,iBAAmBA,EACxBj+I,KAAKk+I,cAAgBA,EACrBl+I,KAAKm+I,iBAAmBA,EACxBn+I,KAAKo+I,cAAgBA,EACrBp+I,KAAKq+I,iBAAmBA,EACxBr+I,KAAKs+I,cAAgBA,EACrBt+I,KAAKu+I,iBAAmBA,EACxBv+I,KAAKw+I,cAAgBA,EACrBx+I,KAAKy+I,iBAAmBA,EACxBz+I,KAAK0+I,cAAgBA,EACrB1+I,KAAK2+I,iB

nB,SAAU+6C,EAAS/6C,SACnB0nB,SAAUqzB,EAASrzB,SACnB5hB,gBAAiBi1C,EAASj1C,gBAC1B6hB,OAAQozB,EAASpzB,OACjBC,QAASmzB,EAASnzB,QAClBC,cAAekzB,EAASlzB,cACxBC,eAAgBizB,EAASjzB,eACzBC,eAAgBgzB,EAAShzB,eACzBC,UAAW+yB,EAAS/yB,UACpBC,cAAe8yB,EAAS9yB,cACxBC,QAAS6yB,EAAS7yB,QAClBC,OAAQ4yB,EAAS5yB,OACjBC,YAAa2yB,EAAS3yB,YACtBC,gBAAiB0yB,EAAS1yB,gBAC1BC,kBAAmByyB,EAASzyB,kBAC5BC,aAAcwyB,EAASxyB,aACvBC,iBAAkBuyB,EAASvyB,iBAC3B5BB,SAAUq3F,IAOd,OALIA,GACA1iH,EAAM+hH,qBAAqBviE,EAASvyB,iBAAkBy1F,EAAiBh3F,oBAAoBE,EAAM4gH,gBAAgB94G,IAAI+qG,EAAe8N,gBAAgB94G,IAAI+qG,EAAe8N,gBAAgB94G,IAAI+qG,EAAe8N

AQmgF,EAAQ5nG,SAEpB,IAAIjD,EAAOhV,KAAK6zH,mBAAmB5P,QAAQ/gG,GAAM,GACjD,SAAIlO,GAAAS6I,EAAgB+B,SAAS5K,IAC1BA,EAAKiD,WAIrB07G,EAAwB7yH,UAAUujD,OAAS,SAAUnhC,GACjDljB,KAAKw1H,aAAatyG,EAAMzjB,EAAQg+B,MAAMC,OAAOC,KAAKnb,GAAOA,EAAKmb,OAAOC,KAAKnb,GAAOA,EAAKmb,OAAOC,KAAKnb,GAAOA,EAAKmb

AAIpwB,EAAqB,GACrBE,EAAgB,GAwDpB,OAvDA02F,EAA6B3jH,SAAQ,SAAUykH,GAC3C,GAAIn3F,EA
AiBI,cAAcW,IAAIo2F,EAAWx/F,WAC9C8H,EAAmBr/B,KAAK+2H,GACxBn3F,EAAiBgB,qBAAqBm2F,OAE
rC,CAAA,IAAIn3F,EAAiBO,SAASQ,IAAIo2F,EAAWx/F,WAM9C,YADAjmB,EAAMyrE,aAAa1qD,GAAAY,gB
AAkB/gB,EAAMglH,mBAAmBS,EAAWx/F,WAAa,IAAMk9F,GAAcsC,EAAWx/F,WAAa,SAAWk9F,GAAchlE
,GAAc,6CAA8CA,GAJnOlwB,EAAcv/B,KAAK+2H,GACnBn3F,EAAiBkB,gBAAgBi2F,OASrCjkH,EAAKirB,
WACLA,EAAU/9B,KAAKwd,MAAMugB,EAAW79B,EAASpC,KAAK02H,sBAAsB1hH,EAAKirB,UAAWK,E
AAiB,8BAAgCq2F,GAAchlE,GAAc,IAAK,GAAIA,,KAAE1K38C,EAAKsrB,iBACLA,EAAgBp+B,KAAKwd,MA
AM4gB,EAAiBl+B,EAASw0H,GAAsB5hH,EAAKsrB,iBAC3E7kB,KAAI,SAAUyH,GAAQ,OAAO1P,EAAMqjH
,2BAA2B3zG,QAEnElO,EAAK48C,WACLglE,GAAsB5hH,EAAK48C,WAAWp9C,SAAQ,SAAU0O,GAC/Co1G
,GAAYp1G,GAIjBwe,EAAoBx/B,KAAKsR,EAAMolH,uBAAuB11G,IAHlD1P,EAAMyrE,aAAa1qD,GAAAY,qB
AAuBoiG,GAAczzG,GAAQ,+CAAiDyzG,GAAchlE,GAAc,KAAMA,MAM3KrxB,EAAgBp+B,KAAKwd,MA
M4gB,EAAiBl+B,EAASs/B,EAAoBjmB,KAAI,SAAUyH,GAAQ,OAAO1P,EAAMqjH,2BAA2B,EAAKuW,g
BACxIzkB,EAAK6sB,EACLA,CLA,EAAQ3/B,KAAKwd,MAAMmiB,EAASz/B,EAASw0H,GAAsB5hH,EAAK6sB,W
AEpEi2F,EAAc,IAAIz2F,GAAwB,CACtCne,KAAMljB,KAAK+2H,iBAAiBplE,GAC5B1xB,UAAWA,EACXK
gBAAiBA,EACjBoB,oBAAqBA,EACrBG,QAASA,EACTP,mBAAoBA,EACpBC,mBAAoBA,EACpBC,cAAeA,E
ACfC,cAAeA,EACfE,gBAAiBA,EACjBC,gBAAiBA,EACjBE,iBAAkBA,EAClBlQ,GAAI5c,EAAK4c,IAAM,
EnB0O,EAAgB9rB,SAAQ,SAAUod,GAAM,OAAOkQ,EAAiBoB,kBAAkBtR,MAClFqO,EAAUzrB,SAAQ,SAA
UmuB,GAAY,OAAOb,EAAiBY,YAAYC,EAAUm1F,EAAcz2F,EAAiBmB,UAAU60F,EAAY50G,M
ACvCljB,KAAKu0H,eAAej5G,IAAIq2C,EAAYmmE,GAC7BA,GAEXnE,EAAwB7yH,UAAUy3H,iBAAmB,SA
AU5mE,EAAY0mE,GACvE,OAAI1mE,IAAe0mE,IACfr4H/E,qBAAqBA,KAAK+2H,iBAAiBplE,GAAcA,EAAY1xB,
Ac,gCAAiCA,IAC1F,IAIfgiE,EAAwB7yH,UAAU03H,mBAAqB,SAAUt1G,GAC7D,GAAIA,EAAK,GAAGA,
O,CACnB,GAAIljB,KAAK6sB,YAAY3J,EAAK,GAAIA,EAAK,IAAIljB,KAAKqkD,OAAOnhC,GACnD,MAAA
O,OAEX,GAAIljB,KAAKo3H,WAAWl0G,GAChB,MAAO,SAGf,IAAIm0G,EAAcn0G,EAAK,GAAIo0G,EAAcp0G,EAAK,
UmB,GAAY,OAAOb,EAAiBY,YAAYC,EAAUm1F,EAAcz2F,EAAiBmB,UAAU60F,EAAY50G,M
AEnB,IAAIu2G,EAAgBv2G,EAAiBwB,QAAQ,IAAIg1G,EAAgBx2G,EAAiBwB,QAAQ,IAAIi1G,EAAgBz2G,
AwB7yH,UAAUk4H,iBAAmB,SAAU91G,GAAM,OAAOljB,KAAKqkD,OAAOnhC,GAAMljB,KAAKi5H,eAAe/1G,
AI6H,GACtCi2G,GAAaA,IAAcxnE,EAC3B3xD,KAAKi/E,aAAa1qD,GAAAY,QAAUoiG,GAAczzG,GAAQ,8CAA
gDyzG,GAAcwC,GAAa,QAAUxC,GAAchlE,GAAc,4BAC9IglE,GAAczzG,GAAQ,oCAAsCyzG,GAAcwC,GAAa
,QAAUxC,GAAchlE,GAAc,kEAC9IglE,GAAczzG,GAAQ,iCAAmCyzG,GAAcwC,GAAa,QAAUxC,GAAchlE,G
AAc,KAAOA,GAAG5M3xD,KAAKw0H,iBAAiBl5G,IAAI4H,EAAMyuC,IAEpCgiE,wB7yH,UAAU+3H,3B,+B
AAiC,SAAUl3F,EAAiBC,GAE1F,IAAIpoB,EAAS,IAAIyoB,GAAcbm3F,EAAiB,IAAIt/G,IAAIu/G,EA8BzB,OA7BA6nB,
EAAgBr/B,SAAQ,SAAUod,GAAM,OAAOkQ,EAAiBoB,kBAAkBtR,MAClFqO,EAAUzrB,SAAQ,SAA
AGzB8/F,EAAY12F,EAAiBmB,UAAUm1F,EAAcz2F,EAAiBmB,UAAU60F,EAAY50G,M
G,IAAIm0B,GAAchBxrC,EAAOkpB,YAAYxS,EAAMyS,SAAUzS,EAAMxwB,eIrDkiC,EAAgBptB,SAAQ,SAA
U6kH,GAAC9BA,EAAW93F,mBAAmB/sB,SAAQ,SAAUod,GAAM,OAAOkQ,EAAiBoB,kBAAkBtR,MAClFqO,EAAUzrB,SAAQ,SA
nG,EAAW53F,cAAcjtB,SAAQ,SAAUod,GAAM,OAAOkQ,EAAiBoB,kBAAkBtR,MAClFqO,EAAUzrB,SAAQ,SA
7yH,UAAU83H,iBAAmB,SAAU91G,GAAM,OAAOljB,KAAKqkD,OAAOnhC,GAAMljB,KAAKi5H,eAAe/1G,
AwB7yH,UAAUk4H,iBAAmB,SAAU91G,GAAM,OAAOljB,KAAKqkD,OAAOnhC,GAAMljB,KAAKi5H,eAAe/1G,
AQg+B,mBAAmB8nB,YACjEugE,EAAe2P,EAAiBmB,UAAUm1F,EAAcz2F,EAAiBmB,UAAU60F,EAAY50G,M
Aci2F,GAC1C5oE,EAAoE,CAAA,IAAIn3F,EAAiBC,GAE1F,IAAIpoB,EAAS,IAAIyoB,GAAcbm3F,EAAiB,IAAIt/G,IAAIu/G,EA8BzB,OA7BA6nB,
AcjxD,KAAAK8i,EAAW,WAAW70F,EAAiBmB,UAAUm1F,EAAcz2F,EAAiBmB,UAAU60F,EAAY50G,M

,EAAiBe,SAASmiG,MAC7G,GAA2B,IAAvB9wD,EAAYzvD,OACZ,OAAO,KAEX,IAAIwT,EAAOi8C,EAAYA,
EAAYzvD,OAAS,GAC5C,MAAO,CACH2gG,OAAQj/E,EACRA,KAAM4iG,EACNlgE,WAAY5wC,EAAK4wC,
WACjBriB,SAAUvuB,EAAKuuB,SACfD,SAAUtuB,EAAKsuB,SACfE,YAAaxuB,EAAKwuB,YAClBC,WAAYzuB,EAAKyuB,WACjBC,KAAM1uB,EAAK0uB,OAGnBiwF,EAAwB7yH,UAAUi2H,iBAAmB,SAAU7zG,EAA
M0gB,EAAci2F,QAC1D,IAAjBj2F,IAA2BA,EAAe,WACnB,IAAvBi2F,IAAiCA,GAAqB,GAC1D,IApuBsBjgG,E
AAWpd,EAouB7Bkd,EAAa15B,KAAK44H,uBAAuB11G,GAC7C,MAAO,CACHuW,WC,EAAWD,UACtB
qrB,OAAQ9kD,KAAK85H,yBAAyBpgG,EAAWD,UAAWmK,EAAci2F,GAC1ErhD,gBAxuBkB5+C,E
55B,KAAK8lF,WAxuBbtpE,EAwuByBkd,EAAWD,UAvuBlEy5F,GAAAuBt6F,QAAO,SAAUmhG,GAAQ,OAJ3D,
SAAS1oE,EAAiBz3B,EAAWmgG,EAAMv9G,GACvC,OAAOod,EAAUy3B,iBAAiB70C,EAAKtC,EAAMsC,
AYD,GACjB,OAAQA,GACJ,KAAKhH,GAAeI,OAChB,MAAO,WACX,KAAKJ,GAAeK,OAChB,MAAO,cACX,
KAAKL,GAAeM,QAChB,MAAO,YACX,KAAKN,GAAeO,OAChB,MAAO,cACX,KAAKP,GAAeQ,iBAChB,M
AAO,qBACX,KAAKR,GAAeS,oBAChB,MAAO,wBACX,KAAKT,GAAeU,cAChB,MAAO,kBACX,KAAKV,GAAeW,G
AAeW,iBAChB,MAAO,qBACX,QAMI,MAAM,IAAI/wH,MAAM,cADCo3H,IA5BgBC,CAAYD,IAGS1oE,EAA
iBz3B,EAAWmgG,EAAMv9G,GAAOA,EAAMsC,SA0uBlEy5F,GAAAuBt6F,QAAO,SAAUmhG,GAAQ,OAJ3Dm6F,
YAFqB,IAAjBA,IAA2BA,EAAe,MAEvC,CAAEnK,UADTj6B,EAAU61B,GAAkB71B,EAAUvsvB,SAAUuvB,EAAUvsB,
AK85H,yBAAyBt6H,EAASokC,KAAMhF+vF,EAAwB7yH,UAAUo5H,gBAAkBvsB,GAC1D,IAAIlqB,EA
AWzjF,KAAKs0H,WAAWj5G,IAAIsyF,GAAInC,OAHKlqB,GACDzjF,KAAKi/E,aAAa1qD,GAAAY,oIAAsIoiG,G
AAchpB,GAAAY,KAAMA,GAEjMlqB,GAAAY,MAEvBkwC,EAAwB7yH,UAAUq5H,gBAAkBxsB,GACzD,I
AAIysB,EAAcp6H,KAAKw1H,aAAa7nB,EAAUluG,EAAQg+B,mBAAmB0D,MAIzE,OAHKi5F,GACDp6H,KA
AKi/E,aAAa1qD,GAAAY,sDAAwDoiG,GAAchpB,GAAAY,KAAMA,GAEnHysB,GAEXzG,EAAwB7yH,UAAUu5H,sBAAwB,SAU1D,
EAAWzjF,KAAKs0H,WAAWj5G,IAAIsyF,GAAInC,OAHKlqB,GAAUzjF,KAAKi/E,aAAa1qD,GAAAY,oIAAsIoiG,G
AAchpB,GAAAY,KAAMA,GAEjMlqB,GAAAY,MAEvBkwC,EAAwB7yH,UAAUq5H,gBAAkBxsB,GACzD,I
AAIysB,EAAcp6H,KAAKw1H,aAAa7nB,EAAUluG,EAAQg+B,mBAAmB0D,MAIzE,OAHKi5F,GACDp6H,KA
AKi/E,aAAa1qD,GAAAY,sDAAwDoiG,GAAchpB,GAAAY,KAAMA,GAEnHysB,GAEXzG,EAAwB7yH,UAAUu5H,sBAAwB,SAU1D,
EAAWzjF,KAAKs0H,WAAWj5G,IAAIsyF,GAAInC,OAHKlqB,GAAUzjF,KAAKi/E,aAAa1qD,GAAAY,oIAAsIoiG,G
AAchpB,GAAAY,KAAMA,GAEjMlqB,GAAAY,MAEvBkwC,EAAwB7yH,UAAUq5H,gBAAkBxsB,GACzD,I
AAIysB,EAAcp6H,KAAKw1H,aAAa7nB,EAAUluG,EAAQg+B,mBAAmB0D,MAIzE,OAHKi5F,GACDp6H,KA
AKi/E,aAAa1qD,GAAAY,sDAAwDoiG,GAAchpB,GAAAY,KAAMA,GAEnHysB,GAEXzG,EAAwB7yH,UAAUu5H,sBAAwB,SAU1D,
EAAWzjF,KAAKs0H,WAAWj5G,IAAIsyF,GAAInC,OHKlqB,GACD

AAgB,KAE1CC,GAAmBN,EAAc,GACtCI,EAAMj5H,KAAK,OAERi5H,IACR,IACE7hH,KAAK,MAIV,YAHA9F,EAAMyrE,aAAa1qD,GAAAY,YAAcsmG,GAEzC,YAAc,6DAA+DK,EAAgB,KAAMh4G,GAvBvG83G,EAAAe,IAAI33F,GAAAaV,EAAU,CAAEW,SAAUX,IA0BtDq4F,EAAAax+G,QACbhJ,EAAMsyE,WAAWjsD,yBAAAyBP,GAAAYQ,8BACtD8gG,EAAAsB14H,KAAKwd,MAAMk7G,EAAAuBx4H,EAASoR,EAAM8nH,gCAAgCN,EAAAc93G,KAGrH43G,EAAAiB54H,KAAKsR,EAAM+nH,oBAAoBP,QAIrDF,GAEXnH,EAAAwB7yH,UAAUm6H,kBAAAoB,SAAUt4F,GACxDA,EAASjiC,eAAAeSW,EAAUC,ChDtiKAi/E,KAAKi/E,E/E/BAA,KAAKi/E,E/E/BAA,KAAKi/E,E/E/BAA

H,GAAU/R,GAmBzB,SAAS+Y,GAAYjE,EAAKukG,GACtB,IAAI/3E,EAAQ,EACP+3E,EAAYjkD,QACb9zB,GAAS,MAET+3E,EAAYhkD,eAAiB94E,EAAQo2E,gBAAgB8E,iBACrDn2B,GAAS,MAET+3E,EAAY9jD,WACZj0B,GAAS,YAEb+3E,EAAY/jD,eAAehkE,SAAQ,SAAUgoH,GAAS,OAAOA,EAAMC,WAAa,IAAGC,KAAK,KAAO,KAAM,CAAEC,MAAO,IAAKC,UAAU,IAAQ,SAAUC,GAAS,OAAOA,EAAMC,OAAS

nCs8F,EAAiB,IAAIxgD,GAAyBx9E,KAAK45B,UAAWm+F,EAAct6C,EAAgBt6D,GAC5F86G,EAAe,CAACT,
GAAoCx9H,KAAK45B,UAAW5B,EAAK,EAAcylG,IACtFn7H,OAAO07H,EAAehmH,QAAQyD,KAAI,SAAUk
nB,GAAY,OAAO1G,GAAYjE,EAAK2K,OAChFlnB,KAAI,SAAU5G,GACf,IAAImoH,EAAenoH,EAAGmoH,aA
AcC,EAAWpoH,EAAGooH,SAAUz4E,EAAQ3vC,EAAG2vC,MAAO+sE,EAAY18G,EAAG08G,UAC7F,OAAO
5/F,GAAW2H,GAAYuB,mBAAmBlX,OAAO,CACpD2O,GAAQkyB,GAAQ+sE,EAAWyL,EAAcC,OAG7CiB,E
AAcvsG,GAAW2H,GAAYsB,WAAWjX,OAAO,CAACsO,GAAWgsG,KACnEE,EAAqBh2G,GAAG,CAAC,IAA
I+C,GAAQ4yG,GAAQppH,OAAQ,CAAC,IAAI0Z,GAAgB8vG,IAAel8G,IACzF67G,EAAqBlgG,GAAAeo6F,EAA
a70G,MAAQ,YAM7D,GALAljB,KAAKo+H,uBAAuBpmG,EAAK+/F,EAAa70G,KAAKuW,UAAW9H,GAAW2
H,GAAYqB,qBAAqBhX,OAAO,CAC7GqU,EAAIrG,WAAWomG,EAAa70G,KAAKuW,WACjCxH,GAAWyP,E
AAoBjmB,KAAI,SAAUmW,GAAM,OAAOoG,EAAIrG,WAAWC,EAAG6H,eAC5E,GAAI,CACjB,IAAIA,EAAgC,iBAApBmmG,EAAanmG,GAAkBU,GAAQylG,EAAanmG,IAAIhEoG,EAAIrG,WAA
WomG,EAAanmG,IAC5BysG,EAAsB1sG,GAAW2H,GAAYwB,yBAC5CnX,OAAO,CAACiO,EAAIF,GASms
G,KACrBv3G,SACL0R,EAAI5M,WAAWlpB,KAAKm8H,GAExB,OAAO,IAAIT,GAAsBC,IAErCE,EAAiBj9H,
UAAUw9H,WAAa,SAAUtmG,EAAKumG,GACnDv+H,H,KAAKo+H,uBAAuBpmG,EAAKumG,GAAmB,KA
ExDsxG,EAAiBj9H,UAAUs9H,uBAAuBpmG,EAAKyB,SAAUpmG,KAAKyB,/3B,GAC1E,IACI88H,EAAsB9sG,GADDi
M,GAAe,CAAElE,UAAWA,IAAe,aAE/Dne,IAAI5Z,GACJ4lB,WAAWuK,GAAWyH,GAAYoB,gBAAaiB,CAAC
3I,GAAeiG,EAAIrG,WAAW8H,KAAc,CAACpZ,EAAaulD,QAAS,CAACnmE,EAAQgoB,aAAaC,MAAOjoB,EA
AQgoB,aAAa47B,WAC9KrrB,EAAI5M,WAAWlpB,KAAKs8H,IAEjBT,EA7C0B,GA0DjCU,GAAkC,WAClC,SA
ASA,EAAiB34C,GACtB9lF,KAAK8lF,KAAOA,EAAKiB24C,EAAiB39H,UAAUs2H,WAAa,SAAUl0G
,GAC9C,OAAOljB,KAAK8lF,WAAW70B,YAAY/wD,KAAK8lF,KAAK5iE,IAAIlD,GAAQhgB,KAAKgwD,YAAYhwD,KAAK8lF,KAAK5iE,IAAIlD,IAAS,KAAK,EAAiB39H,UA
AUmjH,QAAU,SAAU/gG,GAAO,OAAOtiB,KAAKgwD,YAAYhwD,KAAK8lF,KAAK5iE,IAAIlD,IAAS,KAAK,EAAiB39H,UAAUs9H,uBAAyB,SAAUpmG,EAAKyB,GAAU,IAAIpmG,EAAIyB,KAAKgwD,YAAYhwD,KAAK8lF,KAAK5iE,IAAIlD,IAAS,KAAK,GAAIzkC,EAAG,CAAE,IAAIwrI,EAAQ/pI,KAAK8lF,KAAK5iE,IAAIlD,GAAM+mG,EAAQ,IAAIC,IAAIzrI,EAAEwrI,GAAQ/pI,KAAK8lF,KAAKx+E,IAAIwiC,EAAK+mG,GAAOA,EAAMrlI,IAAIqlI,EAAMrlI,IAAIqlI,EAAMrlI,IAAIqlI

AAKiI,GACpC,IAAvBjI,EAAIhE,QAAQvqB,QACZw2B,EAAI2xB,MAAM55B,EAAK,KAEnB,IAAIvW,EAAS
wH,EAAOlgB,UAAUmrB,sBAAsB1qB,KAAKvB,KAAM+vB,EAAKiI,GAIpE,OAH2B,IAAAvBjI,EAAIhE,QAAQ
vqB,QACZw2B,EAAI2xB,MAAM55B,EAAK,cAEZvW,GAEXmlH,EAAkB79H,UAAU2pB,kBAAoB,SAAUsF,E
AAKiI,GAE3D,OADAh4B,KAAK+/H,iBAAiBhwG,EAAIruB,MAAOquB,EAAIzO,WAAY0W,GAC1C,MAEX2
mG,EAAkB79H,UAAUkqB,uBAAyB,SAAU+E,EAAKiI,GAChE,IAAIxe,EAASwH,EAAOlgB,UAAUkqB,uBAA
uBzpB,KAAKvB,KAAM+vB,EAAKiI,GAErE,OADAA,EAAI2xB,MAAM55B,EAAK,KACRvW,GAEXmlH,EA
AkB79H,UAAUmtB,oBAAsB,SAAUF,EAAMiK,GAC9D,IAAIjjK,EAAIjB,KAAKpN,YAAYlB,KAAKgqB,QAAaW,
AAat1B,EAAKrsB,iBAAiB4oB,KACxEyD,EAAK7K,KAAM,CAEZ,IAAIrO,EAAIO,EAAIrO,EAAKkZ,EAAKrsB,MAAMA,MA
AOgT,EAAOG,EAAGH,KAAM6V,EAAa1V,EAAG0V,WAC3D,GAAIA,EAAY,I40G,EAAYn/H,KA
AKm/H,UAAU9jH,IAAIkP,GAMnC,OALK40G,GAEDn/H,KAAKm/H,UAAU7jH,IAAIiP,EADnB40G,EAAY,IA
GhBA,EAAUj9H,KAAK,CAAEwS,KAAMA,EAAM6qH,KAAKrZ,OAC/B,MAmBf,OAhBIqZ,EAAKp
N,YAAYlhB,EAAQgoB,aAAa47B,WACtCrrB,EAAI2xB,MAAM57B,EAAM,WAEhBA,EAAKpN,YAAYlhB,EA
AQgoB,aAAaC,OACtCsQ,EAAI2xB,MAAM57B,EAAM,SAGhBiK,EAAI2xB,MAAM57B,EAAM,OAEpBiK,EA
AI2xB,MAAM57B,EAAM,IAAMA,EAAKrZ,MAAQ,IAAMqZ,EAAKpZ,IAAM,IAAMoZ,EAAKnZ,KAAO,IAAMmZ,EAAKlZ,OAAS,IAAMkZ,EAAKjZ,MAAQ,IAAMiZ,EAAKhZ,IAAM,IAAMgZ,EAAK/Y,KAAO,IAAM+Y,EAAK9Y,OAAS,IAAM8Y,EAAK7Y,MAAQ,IAAM6Y,EAAK5Y,IAAM,IAAM4Y,EAAK3Y,KAAO,IAAM2Y,EAAK1Y,OAAS,IAAM0Y,EAAKzY,MAAQ,IAAMyY,EAAKxY,IAAM,IAAMwY,EAAKvY,KAAO,IAAMuY,EAAKtY,OAAS,IAAMsY,EAAKrY,MAAQ,IAAMqY,EAAKpY,IAAM,IAAMoY,EAAKnY,KAAO,IAAMmY,EAAKlY,OAAS,IAAMkY,EAAKjY,MAAQ,IAAMiY,EAAKhY,IAAM,IAAMgY,EAAK/X,KAAO,IAAM+X,EAAK9X,OAAS,IAAM8X,EAAK7X,MAAQ,IAAM6X,EAAK5X,IAAM,IAAM4X,EAAK3X,KAAO,IAAM2X,EAAK1X,OAAS,IAAM0X,EAAKzX,MAAQ,IAAMyX,EAAKxX,IAAM,IAAMwX,EAAKvX,KAAO,IAAMuX,EAAKtX,OAAS,IAAMsX,EAAKrX,MAAQ,IAAMqX,EAAKpX,IAAM,IAAMoX,EAAKnX,KAAO,IAAMmX,EAAKlX,OAAS,IAAMkX,EAAKjX,MAAQ,IAAMiX,EAAKhX,IAAM,IAAMgX,EAAK/W,KAAO,IAAM+W,EAAK9W,OAAS,IAAM8W,EAAK7W,MAAQ,IAAM6W,EAAK5W,IAAM,IAAM4W,EAAK3W,KAAO,IAAM2W,EAAK1W,OAAS,IAAM0W,EAAKzW,MAAQ,IAAMyW,EAAKxW,IAAM,IAAMwW,EAAKvW,KAAO,IAAMuW,EAAKtW,OAAS,IAAMsW,EAAKrW,MAAQ,IAAMqW,EAAKpW,IAAM,IAAMoW,EAAKnW,KAAO,IAAMmW,EAAKlW,OAAS,IAAMkW,EAAKjW,MAAQ,IAAMiW,EAAKhW,IAAM,IAAMgW,EAAK/V,KAAO,IAAM+V,EAAK9V,OAAS,IAAM8V,EAAK7V,MAAQ,IAAM6V,EAAK5V,IAAM,IAAM4V,EAAK3V,KAAO,IAAM2V,EAAK1V,OAAS,IAAM0V,EAAKzV,MAAQ,IAAMyV,EAAKxV,IAAM,IAAMwV,EAAKvV,KAAO,IAAMuV,EAAKtV,OAAS,IAAMsV,EAAKrV,MAAQ,IAAMqV,EAAKpV,IAAM,IAAMoV,EAAKnV,KAAO,IAAMmV,EAAKlV,OAAS,IAAMkV,EAAKjV,MAAQ,IAAMiV,EAAKhV,IAAM,IAAMgV,EAAK/U,KAAO,IAAM+U,EAAK9U,OAAS,IAAM8U,EAAK7U,MAAQ,IAAM6U,EAAK5U,IAAM,IAAM4U,EAAK3U,KAAO,IAAM2U,EAAK1U,OAAS,IAAM0U,EAAKzU,MAAQ,IAAMyU,EAAKxU,IAAM,IAAMwU,EAAKvU,KAAO,IAAMuU,EAAKtU,OAAS,IAAMsU,EAAKrU,MAAQ,IAAMqU,EAAKpU,IAAM,IAAMoU,EAAKnU,KAAO,IAAMmU,EAAKlU,OAAS,IAAMkU,EAAKjU,MAAQ,IAAMiU,EAAKhU,IAAM,IAAMgU,EAAK/T,KAAO,IAAM+T,EAAK9T,OAAS,IAAM8T,EAAK7T,MAAQ,IAAM6T,EAAK5T,IAAM,IAAM4T,EAAK3T,KAAO,IAAM2T,EAAK1T,OAAS,IAAM0T,EAAKzT,MAAQ,IAAMyT,EAAKxT,IAAM,IAAMwT,EAAKvT,KAAO,IAAMuT,EAAKtT,OAAS,IAAMsT,EAAKrT,MAAQ,IAAMqT,EAAKpT,IAAM,IAAMoT,EAAKnT,KAAO,IAAMmT,EAAKlT,OAAS,IAAMkT,EAAKjT,MAAQ,IAAMiT,EAAKhT,IAAM,IAAMgT,EAAK/S,KAAO,IAAM+S,EAAK9S,OAAS,IAAM8S,EAAK7S,MAAQ,IAAM6S,EAAK5S,IAAM,IAAM4S,EAAK3S,KAAO,IAAM2S,EAAK1S,OAAS,IAAM0S,EAAKzS,MAAQ,IAAMyS,EAAKxS,IAAM,IAAMwS,EAAKvS,KAAO,IAAMuS,EAAKtS,OAAS,IAAMsS,EAAKrS,MAAQ,IAAMqS,EAAKpS,IAAM,IAAMoS,EAAKnS,KAAO,IAAMmS,EAAKlS,OAAS,IAAMkS,EAAKjS,MAAQ,IAAMiS,EAAKhS,IAAM,IAAMgS,EAAK/R,KAAO,IAAM+R,EAAK9R,OAAS,IAAM8R,EAAK7R,MAAQ,IAAM6R,EAAK5R,IAAM,IAAM4R,EAAK3R,KAAO,IAAM2R,EAAK1R,OAAS,IAAM0R,EAAKzR,MAAQ,IAAMyR,EAAKxR,IAAM,IAAMwR,EAAKvR,KAAO,IAAMuR,EAAKtR,OAAS,IAAMsR,EAAKrR,MAAQ,IAAMqR,EAAKpR,IAAM,IAAMoR,EAAKnR,KAAO,IAAMmR,EAAKlR,OAAS,IAAMkR,EAAKjR,MAAQ,IAAMiR,EAAKhR,IAAM,IAAMgR,EAAK/Q,KAAO,IAAM+Q,EAAK9Q,OAAS,IAAM8Q,EAAK7Q,MAAQ,IAAM6Q,EAAK5Q,IAAM,IAAM4Q,EAAK3Q,KAAO,IAAM2Q,EAAK1Q,OAAS,IAAM0Q,EAAKzQ,MAAQ,IAAMyQ,EAAKxQ,IAAM,IAAMwQ,EAAKvQ,KAAO,IAAMuQ,EAAKtQ,OAAS,IAAMsQ,EAAKrQ,MAAQ,IAAMqQ,EAAKpQ,IAAM,IAAMoQ,EAAKnQ,KAAO,IAAMmQ,EAAKlQ,OAAS,IAAMkQ,EAAKjQ,MAAQ,IAAMiQ,EAAKhQ,IAAM,IAAMgQ,EAAK/P,KAAO,IAAM+P,EAAK9P,OAAS,IAAM8P,EAAK7P,MAAQ,IAAM6P,EAAK5P,IAAM,IAAM4P,EAAK3P,KAAO,IAAM2P,EAAK1P,OAAS,IAAM0P,EAAKzP,MAAQ,IAAMyP,EAAKxP,IAAM,IAAMwP,EAAKvP,KAAO,IAAMuP,EAAKtP,OAAS,IAAMsP,EAAKrP,MAAQ,IAAMqP,EAAKpP,IAAM,IAAMoP,EAAKnP,KAAO,IAAMmP,EAAKlP,OAAS,IAAMkP,EAAKjP,MAAQ,IAAMiP,EAAKhP,IAAM,IAAMgP,EAAK/O,KAAO,IAAM+O,EAAK9O,OAAS,IAAM8O,EAAK7O,MAAQ,IAAM6O,EAAK5O,IAAM,IAAM4O,EAAK3O,KAAO,IAAM2O,EAAK1O,OAAS,IAAM0O,EAAKzO,MAAQ,IAAMyO,EAAKxO,IAAM,IAAMwO,EAAKvO,KAAO,IAAMuO,EAAKtO,OAAS,IAAMsO,EAAKrO,MAAQ,IAAMqO,EAAKpO,IAAM,IAAMoO,EAAKnO,KAAO,IAAMmO,EAAKlO,OAAS,IAAMkO,EAAKjO,MAAQ,IAAMiO,EAAKhO,IAAM,IAAMgO,EAAK/N,KAAO,IAAM+N,EAAK9N,OAAS,IAAM8N,EAAK7N,MAAQ,IAAM6N,EAAK5N,IAAM,IAAM4N,EAAK3N,KAAO,IAAM2N,EAAK1N,OAAS,IAAM0N,EAAKzN,MAAQ,IAAMyN,EAAKxN,IAAM,IAAMwN,EAAKvN,KAAO,IAAMuN,EAAKtN,OAAS,IAAMsN,EAAKrN,MAAQ,IAAMqN,EAAKpN,IAAM,IAAMoN,EAAKnN,KAAO,IAAMmN,EAAKlN,OAAS,IAAMkN,EAAKjN,MAAQ,IAAMiN,EAAKhN,IAAM,IAAMgN,EAAK/M,KAAO,IAAM+M,EAAK9M,OAAS,IAAM8M,EAAK7M,MAAQ,IAAM6M,EAAK5M,IAAM,IAAM4M,EAAK3M,KAAO,IAAM2M,EAAK1M,OAAS,IAAM0M,EAAKzM,MAAQ,IAAMyM,EAAKxM,IAAM,IAAMwM,EAAKvM,KAAO,IAAMuM,EAAKtM,OAAS,IAAMsM,EAAKrM,MAAQ,IAAMqM,EAAKpM,IAAM,IAAMoM,EAAKnM,KAAO,IAAMmM,EAAKlM,OAAS,IAAMkM,EAAKjM,MAAQ,IAAMiM,EAAKhM,IAAM,IAAMgM,EAAK/L,KAAO,IAAM+L,EAAK9L,OAAS,IAAM8L,EAAK7L,MAAQ,IAAM6L,EAAK5L,IAAM,IAAM4L,EAAK3L,KAAO,IAAM2L,EAAK1L,OAAS,IAAM0L,EAAKzL,MAAQ,IAAMyL,EAAKxL,IAAM,IAAMwL,EAAKvL,KAAO,IAAMuL,EAAKtL,OAAS,IAAMsL,EAAKrL,MAAQ,IAAMqL,EAAKpL,IAAM,IAAMoL,EAAKnL,KAAO,IAAMmL,EAAKlL,OAAS,IAAMkL,EAAKjL,MAAQ,IAAMiL,EAAKhL,IAAM,IAAMgL,EAAK/K,KAAO,IAAM+K,EAAK9K,OAAS,IAAM8K,EAAK7K,MAAQ,IAAM6K,EAAK5K,IAAM,IAAM4K,EAAK3K,KAAO,IAAM2K,EAAK1K,OAAS,IAAM0K,EAAKzK,MAAQ,IAAMyK,EAAKxK,IAAM,IAAMwK,EAAKvK,KAAO,IAAMuK,EAAKtK,OAAS,IAAMsK,EAAKrK,MAAQ,IAAMqK,EAAKpK,IAAM,IAAMoK,EAAKnK,KAAO,IAAMmK,EAAKlK,OAAS,IAAMkK,EAAKjK,MAAQ,IAAMiK,EAAKhK,IAAM,IAAMgK,EAAK/J,KAAO,IAAM+J,EAAK9J,OAAS,IAAM8J,EAAK7J,MAAQ,IAAM6J,EAAK5J,IAAM,IAAM4J,EAAK3J,KAAO,IAAM2J,EAAK1J,OAAS,IAAM0J,EAAKzJ,MAAQ,IAAMyJ,EAAKxJ,IAAM,IAAMwJ,EAAKvJ,KAAO,IAAMuJ,EAAKtJ,OAAS,IAAMsJ,EAAKrJ,MAAQ,IAAMqJ,EAAKpJ,IAAM,IAAMoJ,EAAKnJ,KAAO,IAAMmJ,EAAKlJ,OAAS,IAAMkJ,EAAKjJ,MAAQ,IAAMiJ,EAAKhJ,IAAM,IAAMgJ,EAAK/I,KAAO,IAAM+I,EAAK9I,OAAS,IAAM8I,EAAK7I,MAAQ,IAAM6I,EAAK5I,IAAM,IAAM4I,EAAK3I,KAAO,IAAM2I,EAAK1I,OAAS,IAAM0I,EAAKzI,MAAQ,IAAMyI,EAAKxI,IAAM,IAAMwI,EAAKvI,KAAO,IAAMuI,EAAKtI,OAAS,IAAMsI,EAAKrI,MAAQ,IAAMqI,EAAKpI,IAAM,IAAMoI,EAAKnI,KAAO,IAAMmI,EAAKlI,OAAS,IAAMkI,EAAKjI,MAAQ,IAAMiI,EAAKhI,IAAM,IAAMgI,EAAK/H,KAAO,IAAM+H,EAAK9H,OAAS,IAAM8H,EAAK7H,MAAQ,IAAM6H,EAAK5H,IAAM,IAAM4H,EAAK3H,KAAO,IAAM2H,EAAK1H,OAAS,IAAM0H,EAAKzH,MAAQ,IAAMyH,EAAKxH,IAAM,IAAMwH,EAAKvH,KAAO,IAAMuH,EAAKtH,OAAS,IAAMsH,EAAKrH,MAAQ,IAAMqH,EAAKpH,IAAM,IAAMoH,EAAKnH,KAAO,IAAMmH,EAAKlH,OAAS,IAAMkH,EAAKjH,MAAQ,IAAMiH,EAAKhH,IAAM,IAAMgH,EAAK/G,KAAO,IAAM+G,EAAK9G,OAAS,IAAM8G,EAAK7G,MAAQ,IAAM6G,EAAK5G,IAAM,IAAM4G,EAAK3G,KAAO,IAAM2G,EAAK1G,OAAS,IAAM0G,EAAKzG,MAAQ,IAAMyG,EAAKxG,IAAM,IAAMwG,EAAKvG,KAAO,IAAMuG,EAAKtG,OAAS,IAAMsG,EAAKrG,MAAQ,IAAMqG,EAAKpG,IAAM,IAAMoG,EAAKnG,KAAO,IAAMmG,EAAKlG,OAAS,IAAMkG,EAAKjG,MAAQ,IAAMiG,EAAKhG,IAAM,IAAMgG,EAAK/F,KAAO,IAAM+F,EAAK9F,OAAS,IAAM8F,EAAK7F,MAAQ,IAAM6F,EAAK5F,IAAM,IAAM4F,EAAK3F,KAAO,IAAM2F,EAAK1F,OAAS,IAAM0F,EAAKzF,MAAQ,IAAMyF,EAAKxF,IAAM,IAAMwF,EAAKvF,KAAO,IAAMuF,EAAKtF,OAAS,IAAMsF,EAAKrF,MAAQ,IAAMqF,EAAKpF,IAAM,IAAMoF,EAAKnF,KAAO,IAAMmF,EAAKlF,OAAS,IAAMkF,EAAKjF,MAAQ,IAAMiF,EAAKhF,IAAM,IAAMgF,EAAK/E,KAAO,IAAM+E,EAAK9E,OAAS,IAAM8E,EAAK7E,MAAQ,IAAM6E,EAAK5E,IAAM,IAAM4E,EAAK3E,KAAO,IAAM2E,EAAK1E,OAAS,IAAM0E,EAAKzE,MAAQ,IAAMyE,EAAKxE,IAAM,IAAMwE,EAAKvE,KAAO,IAAMuE,EAAKtE,OAAS,IAAMsE,EAAKrE,MAAQ,IAAMqE,EAAKpE,IAAM,IAAMoE,EAAKnE,KAAO,IAAMmE,EAAKlE,OAAS,IAAMkE,EAAKjE,MAAQ,IAAMiE,EAAKhE,IAAM,IAAMgE,EAAK/D,KAAO,IAAM+D,EAAK9D,OAAS,IAAM8D,EAAK7D,MAAQ,IAAM6D,EAAK5D,IAAM,IAAM4D,EAAK3D,KAAO,IAAM2D,EAAK1D,OAAS,IAAM0D,EAAKzD,MAAQ,IAAMyD,EAAKxD,IAAM,IAAMwD,EAAKvD,KAAO,IAAMuD,EAAKtD,OAAS,IAAMsD,EAAKrD,MAAQ,IAAMqD,EAAKpD,IAAM,IAAMoD,EAAKnD,KAAO,IAAMmD,EAAKlD,OAAS,IAAMkD,EAAKjD,MAAQ,IAAMiD,EAAKhD,IAAM,IAAMgD,EAAK/C,KAAO,IAAM+C,EAAK9C,OAAS,IAAM8C,EAAK7C,MAAQ,IAAM6C,EAAK5C,IAAM,IAAM4C,EAAK3C,KAAO,IAAM2C,EAAK1C,OAAS,IAAM0C,EAAKzC,MAAQ,IAAMyC,EAAKxC,IAAM,IAAMwC,EAAKvC,KAAO,IAAMuC,EAAKtC,OAAS,IAAMsC,EAAKrC,MAAQ,IAAMqC,EAAKpC,IAAM,IAAMoC,EAAKnC,KAAO,IAAMmC,EAAKlC,OAAS,IAAMkC,EAAKjC,MAAQ,IAAMiC,EAAKhC,IAAM,IAAMgC,EAAK/B,KAAO,IAAM+B,EAAK9B,OAAS,IAAM8B,EAAK7B,MAAQ,IAAM6B,EAAK5B,IAAM,IAAM4B,EAAK3B,KAAO,IAAM2B,EAAK1B,OAAS,IAAM0B,EAAKzB,MAAQ,IAAMyB,EAAKxB,IAAM,IAAMwB,EAAKvB,KAAO,IAAMuB,EAAKtB,OAAS,IAAMsB,EAAKrB,MAAQ,IAAMqB,EAAKpB,IAAM,IAAMoB,EAAKnB,KAAO,IAAMmB,EAAKlB,OAAS,IAAMkB,EAAKjB,MAAQ,IAAMiB,EAAKhB,IAAM,IAAMgB,EAAKf,KAAO,IAAMe,EAAKd,OAAS,IAAMc,EAAKb,MAAQ,IAAMa,EAAKZ,IAAM,IAAMY,EAAKX,KAAO,IAAMW,EAAKV,OAAS,IAAMU,EAAKT,MAAQ,IAAMS,EAAKR,IAAM,IAAMQ,EAAKP,KAAO,IAAMO,EAAKN,OAAS,IAAMM,EAAKL,MAAQ,IAAMK,EAAKJ,IAAM,IAAMI,EAAKH,KAAO,IAAMG,EAAKF,OAAS,IAAME,EAAKD,MAAQ,IAAMC,EAAKA,IAAM,IAAMA,EAAKC,KAAO,IAAMD,EAAKE,OAAS,IAAMF,EAAKG,MAAQ,IAAMH,EAAKI,IAAM,IAAMJ,EAAKK,KAAO,IAAML,EAAKM,OAAS,IAAMN,EAAKO,MAAQ,IAAMP,EAAKQ,IAAM,IAAMR,EAAKS,KAAO,IAAMT,EAAKU,OAAS,IAAMV,EAAKW,MAAQ,IAAMX,EAAKY,IAAM,IAAMZ,EAAKa,KAAO,IAAMb,EAAKc,OAAS,IAAMd,EAAKe,MAAQ,IAAMf,EAAKgB,IAAM,IAAMhB,EAAKiB,KAAO,IAAMjB,EAAKkB,OAAS,IAAMlB,EAAKmB,MAAQ,IAAMnB,EAAKoB,IAAM,IAAMpB,EAAKqB,KAAO,IAAMrB,EAAKsB,OAAS,IAAMtB,EAAKuB,MAAQ,IAAMvB,EAAKwB,IAAM,IAAMxB,EAAKyB,KAAO,IAAMzB,EAAK0B,OAAS,IAAM1B,EAAK2B,MAAQ,IAAM3B,EAAK4B,IAAM,IAAM5B,EAAK6B,KAAO,IAAM7B,EAAK8B,OAAS,IAAM9B,EAAK+B,MAAQ,IAAM/B,EAAKgC,IAAM,IAAMhC,EAAKiC,KAAO,IAAMjC,EAAKkC,OAAS,IAAMlC,EAAKmC,MAAQ,IAAMnC,EAAKoC,IAAM,IAAMpC,EAAKqC,KAAO,IAAMrC,EAAKsC,OAAS,IAAMtC,EAAKuC,MAAQ,IAAMvC,EAAKwC,IAAM,IAAMxC,EAAKyC,KAAO,IAAMzC,EAAK0C,OAAS,IAAM1C,EAAK2C,MAAQ,IAAM3C,EAAK4C,IAAM,IAAM5C,EAAK6C,KAAO,IAAM7C,EAAK8C,OAAS,IAAM9C,EAAK+C,MAAQ,IAAM/C,EAAKgD,IAAM,IAAMhD,EAAKiD,KAAO,IAAMjD,EAAKkD,OAAS,IAAMlD,EAAKmD,MAAQ,IAAMnD,EAAKoD,IAAM,IAAMpD,EAAKqD,KAAO,IAAMrD,EAAKsD,OAAS,IAAMtD,EAAKuD,MAAQ,IAAMvD,EAAKwD,IAAM,IAAMxD,EAAKyD,KAAO,IAAMzD,EAAK0D,OAAS,IAAM1D,EAAK2D,MAAQ,IAAM3D,EAAK4D,IAAM,IAAM5D,EAAK6D,KAAO,IAAM7D,EAAK8D,OAAS,IAAM9D,EAAK+D,MAAQ,IAAM/D,EAAKgE,IAAM,IAAMhE,EAAKiE,KAAO,IAAMjE,EAAKkE,OAAS,IAAMlE,EAAKmE,MAAQ,IAAMnE,EAAKoE,IAAM,IAAMpE,EAAKqE,KAAO,IAAMrE,EAAKsE,OAAS,IAAMtE,EAAKuE,MAAQ,IAAMvE,EAAKwE,IAAM,IAAMxE,EAAKyE,KAAO,IAAMzE,EAAK0E,OAAS,IAAM1E,EAAK2E,MAAQ,IAAM3E,EAAK4E,IAAM,IAAM5E,EAAK6E,KAAO,IAAM7E,EAAK8E,OAAS,IAAM9E,EAAK+E,MAAQ,IAAM/E,EAAKgF,IAAM,IAAMhF,EAAKiF,KAAO,IAAMjF,EAAKkF,OAAS,IAAMlF,EAAKmF,MAAQ,IAAMnF,EAAKoF,IAAM,IAAMpF,EAAKqF,KAAO,IAAMrF,EAAKsF,OAAS,IAAMtF,EAAKuF,MAAQ,IAAMvF,EAAKwF,IAAM,IAAMxF,EAAKyF,KAAO,IAAMzF,EAAK0F,OAAS,IAAM1F,EAAK2F,MAAQ,IAAM3F,EAAK4F,IAAM,IAAM5F,EAAK6F,KAAO,IAAM7F,EAAK8F,OAAS,IAAM9F,EAAK+F,MAAQ,IAAM/F,EAAKgG,IAAM,IAAMhG,EAAKiG,KAAO,IAAMjG,EAAKkG,OAAS,IAAMlG,EAAKmG,MAAQ,IAAMnG,EAAKoG,IAAM,IAAMpG,EAAKqG,KAAO,IAAMrG,EAAKsG,OAAS,IAAMtG,EAAKuG,MAAQ,IAAMvG,EAAKwG,IAAM,IAAMxG,EAAKyG,KAAO,IAAMzG,EAAK0G,OAAS,IAAM1G,EAAK2G,MAAQ,IAAM3G,EAAK4G,IAAM,IAAM5G,EAAK6G,KAAO,IAAM7G,EAAK8G,OAAS,IAAM9G,EAAK+G,MAAQ,IAAM/G,EAAKgH,IAAM,IAAMhH,EAAKiH,KAAO,IAAMjH,EAAKkH,OAAS,IAAMlH,EAAKmH,MAAQ,IAAMnH,EAAKoH,IAAM,IAAMpH,EAAKqH,KAAO,IAAMrH,EAAKsH,OAAS,IAAMtH,EAAKuH,MAAQ,IAAMvH,EAAKwH,IAAM,IAAMxH,EAAKyH,KAAO,IAAMzH,EAAK0H,OAAS,IAAM1H,EAAK2H,MAAQ,IAAM3H,EAAK4H,IAAM,IAAM5H,EAAK6H,KAAO,IAAM7H,EAAK8H,OAAS,IAAM9H,EAAK+H,MAAQ,IAAM/H,EAAKgI,IAAM,IAAMhI,EAAKiI,KAAO,IAAMjI,EAAKkI,OAAS,IAAMlI,EAAKmI,MAAQ,IAAMnI,EAAKoI,IAAM,IAAMpI,EAAKqI,KAAO,IAAMrI,EAAKsI,OAAS,IAAMtI,EAAKuI,MAAQ,IAAMvI,EAAKwI,IAAM,IAAMxI,EAAKyI,KAAO,IAAMzI,EAAK0I,OAAS,IAAM1I,EAAK2I,MAAQ,IAAM3I,EAAK4I,IAAM,IAAM5I,EAAK6I,KAAO,IAAM7I,EAAK8I,OAAS,IAAM9I,EAAK+I,MAAQ,IAAM/I,EAAKgJ,IAAM,IAAMhJ,EAAKiJ,KAAO,IAAMjJ,EAAKkJ,OAAS,IAAMlJ,EAAKmJ,MAAQ,IAAMnJ,EAAKoJ,IAAM,IAAMpJ,EAAKqJ,KAAO,IAAMrJ,EAAKsJ,OAAS,IAAMtJ,EAAKuJ,MAAQ,IAAMvJ,EAAKwJ,IAAM,IAAMxJ,EAAKyJ,KAAO,IAAMzJ,EAAK0J,OAAS,IAAM1J,EAAK2J,MAAQ,IAAM3J,EAAK4J,IAAM,IAAM5J,EAAK6J,KAAO,IAAM7J,EAAK8J,OAAS,IAAM9J,EAAK+J,MAAQ,IAAM/J,EAAKgK,IAAM,IAAMhK,EAAKiK,KAAO,IAAMjK,EAAKkK,OAAS,IAAMlK,EAAKmK,MAAQ,IAAMnK,EAAKoK,IAAM,IAAMpK,EAAKqK,KAAO,IAAMrK,EAAKsK,OAAS,IAAMtK,EAAKuK,MAAQ,IAAMvK,EAAKwK,IAAM,IAAMxK,EAAKyK,KAAO,IAAMzK,EAAK0K,OAAS,IAAM1K,EAAK2K,MAAQ,IAAM3K,EAAK4K,IAAM,IAAM5K,EAAK6K,KAAO,IAAM7K,EAAK8K,OAAS,IAAM9K,EAAK+K,MAAQ,IAAM/K,EAAKgL,IAAM,IAAMhL,EAAKiL,KAAO,IAAMjL,EAAKkL,OAAS,IAAMlL,EAAKmL,MAAQ,IAAMnL,EAAKoL,IAAM,IAAMpL,EAAKqL,KAAO,IAAMrL,EAAKsL,OAAS,IAAMtL,EAAKuL,MAAQ,IAAMvL,EAAKwL,IAAM,IAAMxL,EAAKyL,KAAO,IAAMzL,EAAK0L,OAAS,IAAM1L,EAAK2L,MAAQ,IAAM3L,EAAK4L,IAAM,IAAM5L,EAAK6L,KAAO,IAAM7L,EAAK8L,OAAS,IAAM9L,EAAK+L,MAAQ,IAAM/L,EAAKgM,IAAM,IAAMhM,EAAKiM,KAAO,IAAMjM,EAAKkM,OAAS,IAAMlM,EAAKmM,MAAQ,IAAMnM,EAAKoM,IAAM,IAAMpM,EAAKqM,KAAO,IAAMrM,EAAKsM,OAAS,IAAMtM,EAAKuM,MAAQ,IAAMvM,EAAKwM,IAAM,IAAMxM,EAAKyM,KAAO,IAAMzM,EAAK0M,OAAS,IAAM1M,EAAK2M,MAAQ,IAAM3M,EAAK4M,IAAM,IAAM5M,EAAK6M,KAAO,IAAM7M,EAAK8M,OAAS,IAAM9M,EAAK+M,MAAQ,IAAM/M,EAAKgN,IAAM,IAAMhN,EAAKiN,KAAO,IAAMjN,EAAKkN,OAAS,IAAMlN,EAAKmN,MAAQ,IAAMnN,EAAKoN,IAAM,IAAMpN,EAAKqN,KAAO,IAAMrN,EAAKsN,OAAS,IAAMtN,EAAKuN,MAAQ,IAAMvN,EAAKwN,IAAM,IAAMxN,EAAKyN,KAAO,IAAMzN,EAAK0N,OAAS,IAAM1N,EAAK2N,MAAQ,IAAM3N,EAAK4N,IAAM,IAAM5N,EAAK6N,KAAO,IAAM7N,EAAK8N,OAAS,IAAM9N,EAAK+N,MAAQ,IAAM/N,EAAKgO,IAAM,IAAMhO,EAAKiO,KAAO,IAAMjO,EAAKkO,OAAS,IAAMlO,EAAKmO,MAAQ,IAAMnO,EAAKoO,IAAM,IAAMpO,EAAKqO,KAAO,IAAMrO,EAAKsO,OAAS,IAAMtO,EAAKuO,MAAQ,IAAMvO,EAAKwO,IAAM,IAAMxO,EAAKyO,KAAO,IAAMzO,EAAK0O,OAAS,IAAM1O,EAAK2O,MAAQ,IAAM3O,EAAK4O,IAAM,IAAM5O,EAAK6O,KAAO,IAAM7O,EAAK8O,OAAS,IAAM9O,EAAK+O,MAAQ,IAAM/O,EAAKgP,IAAM,IAAMhP,EAAKiP,KAAO,IAAMjP,EAAKkP,OAAS,IAAMlP,EAAKmP,MAAQ,IAAMnP,EAAKoP,IAAM,IAAMpP,EAAKqP,KAAO,IAAMrP,EAAKsP,OAAS,IAAMtP,EAAKuP,MAAQ,IAAMvP,EAAKwP,IAAM,IAAMxP,EAAKyP,KAAO,IAAMzP,EAAK0P,OAAS,IAAM1P,EAAK2P,MAAQ,IAAM3P,EAAK4P,IAAM,IAAM5P,EAAK6P,KAAO,IAAM7P,EAAK8P,OAAS,IAAM9P,EAAK+P,MAAQ,IAAM/P,EAAKgQ,IAAM,IAAMhQ,EAAKiQ,KAAO,IAAMjQ,EAAKkQ,OAAS,IAAMlQ,EAAKmQ,MAAQ,IAAMnQ,EAAKoQ,IAAM,IAAMpQ,EAAKqQ,KAAO,IAAMrQ,EAAKsQ,OAAS,IAAMtQ,EAAKuQ,MAAQ,IAAMvQ,EAAKwQ,IAAM,IAAMxQ,EAAKyQ,KAAO,IAAMzQ,EAAK0Q,OAAS,IAAM1Q,EAAK2Q,MAAQ,IAAM3Q,EAAK4Q,IAAM,IAAM5Q,EAAK6Q,KAAO,IAAM7Q,EAAK8Q,OAAS,IAAM9Q,EAAK+Q,MAAQ,IAAM/Q,EAAKgR,IAAM,IAAMhR,EAAKiR,KAAO,IAAMjR,EAAKkR,OAAS,IAAMlR,EAAKmR,MAAQ,IAAMnR,EAAKoR,IAAM,IAAMpR,EAAKqR,KAAO,IAAMrR,EAAKsR,OAAS,IAAMtR,EAAKuR,MAAQ,IAAMvR,EAAKwR,IAAM,IAAMxR,EAAKyR,KAAO,IAAMzR,EAAK0R,OAAS,IAAM1R,EAAK2R,MAAQ,IAAM3R,EAAK4R,IAAM,IAAM5R,EAAK6R,KAAO,IAAM7R,EAAK8R,OAAS,IAAM9R,EAAK+R,MAAQ,IAAM/R,EAAKgS,IAAM,IAAMhS,EAAKiS,KAAO,IAAMjS,EAAKkS,OAAS,IAAMlS,EAAKmS,MAAQ,IAAMnS,EAAKoS,IAAM,IAAMpS,EAAKqS,KAAO,IAAMrS,EAAKsS,OAAS,IAAMtS,EAAKuS,MAAQ,IAAMvS,EAAKwS,IAAM,IAAMxS,EAAKyS,KAAO,IAAMzS,EAAK0S,OAAS,IAAM1S,EAAK2S,MAAQ,IAAM3S,EAAK4S,IAAM,IAAM5S,EAAK6S,KAAO,IAAM7S,EAAK8S,OAAS,IAAM9S,EAAK+S,MAAQ,IAAM/S,EAAKgT,IAAM,IAAMhT,EAAKiT,KAAO,IAAMjT,EAAKkT,OAAS,IAAMlT,EAAKmT,MAAQ,IAAMnT,EAAKoT,IAAM,IAAMpT,EAAKqT,KAAO,IAAMrT,EAAKsT,OAAS,IAAMtT,EAAKuT,MAAQ,IAAMvT,EAAKwT,IAAM,IAAMxT,EAAKyT,KAAO,IAAMzT,EAAK0T,OAAS,IAAM1T,EAAK2T,MAAQ,IAAM3T,EAAK4T,IAAM,IAAM5T,EAAK6T,KAAO,IAAM7T,EAAK8T,OAAS,IAAM9T,EAAK+T,MAAQ,IAAM/T,EAAKgU,IAAM,IAAMhU,EAAKiU,KAAO,IAAMjU,EAAKkU,OAAS,IAAMlU,EAAKmU,MAAQ,IAAMnU,EAAKoU,IAAM,IAAMpU,EAAKqU,KAAO,IAAMrU,EAAKsU,OAAS,IAAMtU,EAAKuU,MAAQ,IAAMvU,EAAKwU,IAAM,IAAMxU,EAAKyU,KAAO,IAAMzU,EAAK0U,OAAS,IAAM1U,EAAK2U,MAAQ,IAAM3U,EAAK4U,IAAM,IAAM5U,EAAK6U,KAAO,IAAM7U,EAAK8U,OAAS,IAAM9U,EAAK+U,MAAQ,IAAM/U,EAAKgV,IAAM,IAAMhV,EAAKiV,KAAO,IAAMjV,EAAKkV,OAAS,IAAMlV,EAAKmV,MAAQ,IAAMnV,EAAKoV,IAAM,IAAMpV,EAAKqV,KAAO,IAAMrV,EAAKsV,OAAS,IAAMtV,EAAKuV,MAAQ,IAAMvV,EAAKwV,IAAM,IAAMxV,EAAKyV,KAAO,IAAMzV,EAAK0V,OAAS,IAAM1V,EAAK2V,MAAQ,IAAM3V,EAAK4V,IAAM,IAAM5V,EAAK6V,KAAO,IAAM7V,EAAK8V,OAAS,IAAM9V,EAAK+V,MAAQ,IAAM/V,EAAKgW,IAAM,IAAMhW,EAAKiW,KAAO,IAAMjW,EAAKkW,OAAS,IAAMlW,EAAKmW,MAAQ,IAAMnW,EAAKoW,IAAM,IAAMpW,EAAKqW,KAAO,IAAMrW,EAAKsW,OAAS,IAAMtW,EAAKuW,MAAQ,IAAMvW,EAAKwW,IAAM,IAAMxW,EAAKyW,KAAO,IAAMzW,EAAK0W,OAAS,IAAM1W,EAAK2W,MAAQ,IAAM3W,EAAK4W,IAAM,IAAM5W,EAAK6W,KAAO,IAAM7W,EAAK8W,OAAS,IAAM9W,EA

KAAM,MAEtBk1E,EAAkB79H,UAAUuqB,kBAAoB,SAAU0E,EAAKiI,GAiB3D,OAhBIjI,EAAIrb,OACJsjB,EAAI2xB,MAAM55B,EAAK,aACfiI,EAAI2xB,MAAM55B,EAAKA,EAAIrb,OAEvBsjB,EAAI2xB,MAAM55B,EAAK,KACf/vB,KAAK6sD,aAAa98B,EAAAItM,OAAQuU,GAC9BA,EAAI2xB,MAAM55B,EAAK,KACf/vB,KAAKggI,gBAAgBjwG,EAAI7M,KAAM8U,EAAK,QAC/BjI,EAAIrb,OACJsjB,EAAI2xB,MAAM55B,EAAK,QAEnBiI,EAAIyxB,QAAQ15B,EAAK,KACjBiI,EAAIkyB,YACJlqD,KAAKiwB,mBAAmBF,EAAI3E,WAAY4M,GACxCA,EAAIyxB,YACJnyB,EAAI2xB,MAAM55B,EAAK,KACR,MAEX4uG,EAAkB79H,UAAUotB,yBAA2B,SAAUH,EAAMC,EAAKC,EAAKC,EAAK

AkB,GACpD,IAAIqa,EAAQrgI,KAAK8lF,WAAW70B,YAAY57B,GAAkBnS,IAC1D,GAAIm9G,EAAO,CACP,IAAIjK,EAAanQ,GAASoa,EAAOpiH,EAAW2B,UAC5C,GAAIw2G,EACA,OAAOA,EAGf,GAAIpQ,EACA,MAAM,IAAIrjH,MAAM,8BAAgCsyB,GAAU/R,IAE9D,OAAO,MAEJk9G,EAzBsB,GA+B7BE,EAAqB,WAAc,SAASC,EAAiBC,EAAQ1jH,GAAS,IAAK,IAAIqB,EAAI,EAAGA,EAAIrB,EAAMsB,OAAQD,IAAK,CAAE,IAAIsiH,EAAa3jH,EAAMqB,GAAIsiH,EAAWC,WAAaD,EAAWC,aAAc,EAAOD,EAAWE,cAAe,EAAU,UAAWF,IAAYA,EAAWG,UAAW,GAAMC,OAAOC,eAAeN,EAAQC,EAAWM,IAAKN,IAAiB,OAAO,SAAUO,EAAaC,EAAYC,GAAiJ,OAA9HD,GAAYT,EAAiBQ,EAAYrjH,UAAWsjH,GAAiBC,GAAaV,EAAiBQ,EAAaE,GAAqBF,GAA7gB,GAEvBG,EAAiB,SAAUC,EAAUC,GAAc,KAAMD,aAAoBC,GAAgB,MAAM,IAAIC,UAAU,sCAEjHC,EAAa,SAAUC,EAAUC,GAAc,GAA0B,mBAAfA,GAA4C,OAAfA,EAAuB,MAAM,IAAIH,UAAU,kEAAoEG,GAAeD,EAASlkH,UAAYqjH,OAAOe,OAAOD,GAAcA,EAAWnkH,UAAW,CAAEqkH,YAAa,CAAEnlH,MAAOglH,EAAUb,YAAY,EAAOE,UAAU,EAAMD,cAAc,KAAWa,IAAYd,OAAOiB,eAAiBjB,OAAOiB,eAAeJ,EAAUC,GAAcD,EAASK,UAAYJ,GAEje,IAAIK,EAAQ,WAAc,SAASA,EAAMC,EAAMC,EAAMC,GAAQ,IAAIC,EAAQ,KAAMb,EAAeY,EAAOD,GAAQC,EAAME,KAAOJ,EAAMK,KAAOJ,EAAMK,KAAOJ,EAAMK,KAAOL,EAAMM,KAAOL,EAAMM,KAAOP,EAAMQ,KAAOR,EAAMS,KAAOT,EAAMU,KAAOV,EAAMW,KAAOX,EAAMY,KAAOZ,EAAMa,KAAOb,EAAMc,KAAOd,EAAMe,KAAOf,EAAMgB,KAAOhB,EAAMiB,KAAOjB,EAAMkB,KAAOlB,EAAMmB,KAAOnB,EAAMoB,KAAOpB,EAAMqB,KAAOrB,EAAMsB,KAAOtB,EAAMuB,KAAOvB,EAAMwB,KAAOxB,EAAMyB,KAAOzB,EAAM0B,KAAO1B,EAAM2B,KAAO3B,EAAM4B,KAAO5B,EAAM6B,KAAO7B,EAAM8B,KAAO9B,EAAM+B,KAAO/B,EAAMgC,KAAOhC,EAAMiC,KAAOjC,EAAMkC,KAAOlC,EAAMmC,KAAOnC,EAAMoC,KAAOpC,EAAMqC,KAAOrC,EAAMsC,KAAOtC,EAAMuC,KAAOvC,EAAMwC,KAAOxC,EAAMyC,KAAOzC,EAAM0C,KAAO1C,EAAM2C,KAAO3C,EAAM4C,KAAO5C,EAAM6C,KAAO7C,EAAM8C,KAAO9C,EAAM+C,KAAO/C,EAAMgD,KAAOhD,EAAMiD,KAAOjD,EAAMkD,KAAOlD,EAAMmD,KAAOnD,EAAMoD,KAAOpD,EAAMqD,KAAOrD,EAAMsD,KAAOtD,EAAMuD,KAAOvD,EAAMwD,KAAOxD,EAAMyD,KAAOzD,EAAM0D,KAAO1D,EAAM2D,KAAO3D,EAAM4D,KAAO5D,EAAM6D,KAAO7D,EAAM8D,KAAO9D,EAAM+D,KAAO/D,EAAMgE,KAAOhE,EAAMiE,KAAOjE,EAAMkE,KAAOlE,EAAMmE,KAAOnE,EAAMoE,KAAOpE,EAAMqE,KAAOrE,EAAMsE,KAAOtE,EAAMuE,KAAOvE,EAAMwE,KAAOxE,EAAMyE,KAAOzE,EAAM0E,KAAO1E,EAAM2E,KAAO3E,EAAM4E,KAAO5E,EAAM6E,KAAO7E,EAAM8E,KAAO9E,EAAM+E,KAAO/E,EAAMgF,KAAOhF,EAAMiF,KAAOjF,EAAMkF,KAAOlF,EAAMmF,KAAOnF,EAAMoF,KAAOpF,EAAMqF,KAAOrF,EAAMsF,KAAOtF,EAAMuF,KAAOvF,EAAMwF,KAAOxF,EAAMyF,KAAOzF,EAAM0F,KAAO1F,EAAM2F,KAAO3F,EAAM4F,KAAO5F,EAAM6F,KAAO7F,EAAM8F,KAAO9F,EAAM+F,KAAO/F,EAAMgG,KAAOhG,EAAMiG,KAAOjG,EAAMkG,KAAOlG,EAAMmG,KAAOnG,EAAMoG,KAAOpG,EAAMqG,KAAOrG,EAAMsG,KAAOtG,EAAMuG,KAAOvG,EAAMwG,KAAOxG,EAAMyG,KAAOzG,EAAM0G,KAAO1G,EAAM2G,KAAO3G,EAAM4G,KAAO5G,EAAM6G,KAAO7G,EAAM8G,KAAO9G,EAAM+G,KAAO/G,EAAMgH,KAAOhH,EAAMiH,KAAOjH,EAAMkH,KAAOlH,EAAMmH,KAAOnH,EAAMoH,KAAOpH,EAAMqH,KAAOrH,EAAMsH,KAAOtH,EAAMuH,KAAOvH,EAAMwH,KAAOxH,EAAMyH,KAAOzH,EAAM0H,KAAO1H,EAAM2H,KAAO3H,EAAM4H,KAAO5H,EAAM6H,KAAO7H,EAAM8H,KAAO9H,EAAM+H,KAAO/H,EAAMgI,KAAOhI,EAAMiI,KAAOjI,EAAMkI,KAAOlI,EAAMmI,KAAOnI,EAAMoI,KAAOpI,EAAMqI,KAAOrI,EAAMsI,KAAOtI,EAAMuI,KAAOvI,EAAMwI,KAAOxI,EAAMyI,KAAOzI,EAAM0I,KAAO1I,EAAM2I,KAAO3I,EAAM4I,KAAO5I,EAAM6I,KAAO7I,EAAM8I,KAAO9I,EAAM+I,KAAO/I,EAAMgJ,KAAOhJ,EAAMiJ,KAAOjJ,EAAMkJ,KAAOlJ,EAAMmJ,KAAOnJ,EAAMoJ,KAAOpJ,EAAMqJ,KAAOrJ,EAAMsJ,KAAOtJ,EAAMuJ,KAAOvJ,EAAMwJ,KAAOxJ,EAAMyJ,KAAOzJ,EAAM0J,KAAO1J,EAAM2J,KAAO3J,EAAM4J,KAAO5J,EAAM6J,KAAO7J,EAAM8J,KAAO9J,EAAM+J,KAAO/J,EAAMgK,KAAOhK,EAAMiK,KAAOjK,EAAMkK,KAAOlK,EAAMmK,KAAOnK,EAAMoK,KAAOpK,EAAMqK,KAAOrK,EAAMsK,KAAOtK,EAAMuK,KAAOvK,EAAMwK,KAAOxK,EAAMyK,KAAOzK,EAAM0K,KAAO1K,EAAM2K,KAAO3K,EAAM4K,KAAO5K,EAAM6K,KAAO7K,EAAM8K,KAAO9K,EAAM+K,KAAO/K,EAAMgL,KAAOhL,EAAMiL,KAAOjL,EAAMkL,KAAOlL,EAAMmL,KAAOnL,EAAMoL,KAAOpL,EAAMqL,KAAOrL,EAAMsL,KAAOtL,EAAMuL,KAAOvL,EAAMwL,KAAOxL,EAAMyL,KAAOzL,EAAM0L,KAAO1L,EAAM2L,KAAO3L,EAAM4L,KAAO5L,EAAM6L,KAAO7L,EAAM8L,KAAO9L,EAAM+L,KAAO/L,EAAMgM,KAAOhM,EAAMiM,KAAOjM,EAAMkM,KAAOlM,EAAMmM,KAAOnM,EAAMoM,KAAOpM,EAAMqM,KAAOrM,EAAMsM,KAAOtM,EAAMuM,KAAOvM,EAAMwM,KAAOxM,EAAMyM,KAAOzM,EAAM0M,KAAO1M,EAAM2M,KAAO3M,EAAM4M,KAAO5M,EAAM6M,KAAO7M,EAAM8M,KAAO9M,EAAM+M,KAAO/M,EAAMgN,KAAOhN,EAAMiN,KAAOjN,EAAMkN,KAAOlN,EAAMmN,KAAOnN,EAAMoN,KAAOpN,EAAMqN,KAAOrN,EAAMsN,KAAOtN,EAAMuN,KAAOvN,EAAMwN,KAAOxN,EAAMyN,KAAOzN,EAAM0N,KAAO1N,EAAM2N,KAAO3N,EAAM4N,KAAO5N,EAAM6N,KAAO7N,EAAM8N,KAAO9N,EAAM+N,KAAO/N,EAAMgO,KAAOhO,EAAMiO,KAAOjO,EAAMkO,KAAOlO,EAAMmO,KAAOnO,EAAMoO,KAAOpO,EAAMqO,KAAOrO,EAAMsO,KAAOtO,EAAMuO,KAAOvO,EAAMwO,KAAOxO,EAAMyO,KAAOzO,EAAM0O,KAAO1O,EAAM2O,KAAO3O,EAAM4O,KAAO5O,EAAM6O,KAAO7O,EAAM8O,KAAO9O,EAAM+O,KAAO/O,EAAMgP,KAAOhP,EAAMiP,KAAOjP,EAAMkP,KAAOlP,EAAMmP,KAAOnP,EAAMoP,KAAOpP,EAAMqP,KAAOrP,EAAMsP,KAAOtP,EAAMuP,KAAOvP,EAAMwP,KAAOxP,EAAMyP,KAAOzP,EAAM0P,KAAO1P,EAAM2P,KAAO3P,EAAM4P,KAAO5P,EAAM6P,KAAO7P,EAAM8P,KAAO9P,EAAM+P,KAAO/P,EAAMgQ,KAAOhQ,EAAMiQ,KAAOjQ,EAAMkQ,KAAOlQ,EAAMmQ,KAAOnQ,EAAMoQ,KAAOpQ,EAAMqQ,KAAOrQ,EAAMsQ,KAAOtQ,EAAMuQ,KAAOvQ,EAAMwQ,KAAOxQ,EAAMyQ,KAAOzQ,EAAM0Q,KAAO1Q,EAAM2Q,KAAO3Q,EAAM4Q,KAAO5Q,EAAM6Q,KAAO7Q,EAAM8Q,KAAO9Q,EAAM+Q,KAAO/Q,EAAMgR,KAAOhR,EAAMiR,KAAOjR,EAAMkR,KAAOlR,EAAMmR,KAAOnR,EAAMoR,KAAOpR,EAAMqR,KAAOrR,EAAMsR,KAAOtR,EAAMuR,KAAOvR,EAAMwR,KAAOxR,EAAMyR,KAAOzR,EAAM0R,KAAO1R,EAAM2R,KAAO3R,EAAM4R,KAAO5R,EAAM6R,KAAO7R,EAAM8R,KAAO9R,EAAM+R,KAAO/R,EAAMgS,KAAOhS,EAAMiS,KAAOjS,EAAMkS,KAAOlS,EAAMmS,KAAOnS,EAAMoS,KAAOpS,EAAMqS,KAAOrS,EAAMsS,KAAOtS,EAAMuS,KAAOvS,EAAMwS,KAAOxS,EAAMyS,KAAOzS,EAAM0S,KAAO1S,EAAM2S,KAAO3S,EAAM4S,KAAO5S,EAAM6S,KAAO7S,EAAM8S,KAAO9S,EAAM+S,KAAO/S,EAAMgT,KAAOhT,EAAMiT,KAAOjT,EAAMkT,KAAOlT,EAAMmT,KAAOnT,EAAMoT,KAAOpT,EAAMqT,KAAOrT,EAAMsT,KAAOtT,EAAMuT,KAAOvT,EAAMwT,KAAOxT,EAAMyT,KAAOzT,EAAM0T,KAAO1T,EAAM2T,KAAO3T,EAAM4T,KAAO5T,EAAM6T,KAAO7T,EAAM8T,KAAO9T,EAAM+T,KAAO/T,EAAMgU,KAAOhU,EAAMiU,KAAOjU,EAAMkU,KAAOlU,EAAMmU,KAAOnU,EAAMoU,KAAOpU,EAAMqU,KAAOrU,EAAMsU,KAAOtU,EAAMuU,KAAOvU,EAAMwU,KAAOxU,EAAMyU,KAAOzU,EAAM0U,KAAO1U,EAAM2U,KAAO3U,EAAM4U,KAAO5U,EAAM6U,KAAO7U,EAAM8U,KAAO9U,EAAM+U,KAAO/U,EAAMgV,KAAOhV,EAAMiV,KAAOjV,EAAMkV,KAAOlV,EAAMmV,KAAOnV,EAAMoV,KAAOpV,EAAMqV,KAAOrV,EAAMsV,KAAOtV,EAAMuV,KAAOvV,EAAMwV,KAAOxV,EAAMyV,KAAOzV,EAAM0V,KAAO1V,EAAM2V,KAAO3V,EAAM4V,KAAO5V,EAAM6V,KAAO7V,EAAM8V,KAAO9V,EAAM+V,KAAO/V,EAAMgW,KAAOhW,EAAMiW,KAAOjW,EAAMkW,KAAOlW,EAAMmW,KAAOnW,EAAMoW,KAAOpW,EAAMqW,KAAOrW,EAAMsW,KAAOtW,EAAMuW,KAAOvW,EAAMwW,KAAOxW,EAAMyW,KAAOzW,EAAM0W,KAAO1W,EAAM2W,KAAO3W,EAAM4W,KAAO5W,EAAM6W,KAAO7W,EAAM8W,KAAO9W,EAAM+W,KAAO/W,EAAMgX,KAAOhX,EAAMiX,KAAOjX,EAAMkX,KAAOlX,EAAMmX,KAAOnX,EAAMoX,KAAOpX,EAAMqX,KAAOrX,EAAMsX,KAAOtX,EAAMuX,KAAOvX,EAAMwX,KAAOxX,EAAMyX,KAAOzX,EAAM0X,KAAO1X,EAAM2X,KAAO3X,EAAM4X,KAAO5X,EAAM6X,KAAO7X,EAAM8X,KAAO9X,EAAM+X,KAAO/X,EAAMgY,KAAOhY,EAAMiY,KAAOjY,EAAMkY,KAAOlY,EAAMmY,KAAOnY,EAAMoY,KAAOpY,EAAMqY,KAAOrY,EAAMsY,KAAOtY,EAAMuY,KAAOvY,EAAMwY,KAAOxY,EAAMyY,KAAOzY,EAAM0Y,KAAO1Y,EAAM2Y,KAAO3Y,EAAM4Y,KAAO5Y,EAAM6Y,KAAO7Y,EAAM8Y,KAAO9Y,EAAM+Y,KAAO/Y,EAAMgZ,KAAOhZ,EAAMiZ,KAAOjZ,EAAMkZ,KAAOlZ,EAAMmZ,KAAOnZ,EAAMoZ,KAAOpZ,EAAMqZ,KAAOrZ,EAAMsZ,KAAOtZ,EAAMuZ,KAAOvZ,EAAMwZ,KAAOxZ,EAAMyZ,KAAOzZ,EAAM0Z,KAAO1Z,EAAM2Z,KAAO3Z,EAAM4Z,KAAO5Z,EAAM6Z,KAAO7Z,EAAM8Z,KAAO9Z,EAAM+Z,KAAO/Z,EAAMga,KAAOha,EAAMia,KAAOja,EAAMka,KAAOla,EAAMma,KAAOna,EAAMoa,KAAOpa,EAAMqa,KAAOra,EAAMsa,KAAOta,EAAMua,KAAOva,EAAMwa,KAAOxa,EAAMya,KAAOza,EAAM0a,KAAO1a,EAAM2a,KAAO3a,EAAM4a,KAAO5a,EAAM6a,KAAO7a,EAAM8a,KAAO9a,EAAM+a,KAAO/a,EAAMgb,KAAOhb,EAAMib,KAAOjb,EAAMkb,KAAOlb,EAAMmb,KAAOnb,EAAMob,KAAOpb,EAAMqb,KAAOrb,EAAMsb,KAAOtb,EAAMub,KAAOvb,EAAMwb,KAAOxb,EAAMyb,KAAOzb,EAAM0b,KAAO1b,EAAM2b,KAAO3b,EAAM4b,KAAO5b,EAAM6b,KAAO7b,EAAM8b,KAAO9b,EAAM+b,KAAO/b,EAAMgc,KAAOhc,EAAMic,KAAOjc,EAAMkc,KAAOlc,EAAMmc,KAAOnc,EAAMoc,KAAOpc,EAAMqc,KAAOrc,EAAMsc,KAAOtc,EAAMuc,KAAOvc,EAAMwc,KAAOxc,EAAMyc,KAAOzc,EAAM0c,KAAO1c,EAAM2c,KAAO3c,EAAM4c,KAAO5c,EAAM6c,KAAO7c,EAAM8c,KAAO9c,EAAM+c,KAAO/c,EAAMgd,KAAOhd,EAAMid,KAAOjd,EAAMkd,KAAOld,EAAMmd,KAAOnd,EAAMod,KAAOpd,EAAMqd,KAAOrd,EAAMsd,KAAOtd,EAAMud,KAAOvd,EAAMwd,KAAOxd,EAAMyd,KAAOzd,EAAM0d,KAAO1d,EAAM2d,KAAO3d,EAAM4d,KAAO5d,EAAM6d,KAAO7d,EAAM8d,KAAO9d,EAAM+d,KAAO/d,EAAMge,KAAOhe,EAAMie,KAAOje,EAAMke,KAAOle,EAAMme,KAAOne,EAAMoe,KAAOpe,EAAMqe,KAAOre,EAAMse,KAAOte,EAAMue,KAAOve,EAAMwe,KAAOxe,EAAMye,KAAOze,EAAM0e,KAAO1e,EAAM2e,KAAO3e,EAAM4e,KAAO5e,EAAM6e,KAAO7e,EAAM8e,KAAO9e,EAAM+e,KAAO/e,EAAMgf,KAAOhf,EAAMif,KAAOjf,EAAMkf,KAAOlf,EAAMmf,KAAOnf,EAAMof,KAAOpf,EAAMqf,KAAOrf,EAAMsf,KAAOtf,EAAMuf,KAAOvf,EAAMwf,KAAOxf,EAAMyf,KAAOzf,EAAM0f,KAAO1f,EAAM2f,KAAO3f,EAAM4f,KAAO5f,EAAM6f,KAAO7f,EAAM8f,KAAO9f,EAAM+f,KAAO/f,EAAMggB,KAAOhgB,EAAMigB,KAAOjgB,EAAMkgB,KAAOlgB,EAAMmgB,KAAOngB,EAAMogB,KAAOpgB,EAAMqgB,KAAOrgB,EAAMsgB,KAAOtgB,EAAMugB,KAAOvgB,EAAMwgB,KAAOxgB,EAAMygB,KAAOzgB,EAAM0gB,KAAO1gB,EAAM2gB,KAAO3gB,EAAM4gB,KAAO5gB,EAAM6gB,KAAO7gB,EAAM8gB,KAAO9gB,EAAM+gB,KAAO/gB,EAAMghB,KAAOhhB,EAAMihB,KAAOjhB,EAAMkhB,KAAOlhB,EAAMmhB,KAAOnhB,EAAMohB,KAAOphB,EAAMqhB,KAAOrhB,EAAMshB,KAAOthB,EAAMuhB,KAAOvhB,EAAMwhB,KAAOxhB,EAAMyhB,KAAOzhB,EAAM0hB,KAAO1hB,EAAM2hB,KAAO3hB,EAAM4hB,KAAO5hB,EAAM6hB,KAAO7hB,EAAM8hB,KAAO9hB,EAAM+hB,KAAO/hB,EAAMgiB,KAAOhiB,EAAMiiB,KAAOjiB,EAAMkiB,KAAOliB,EAAMmiB,KAAOniB,EAAMoiB,KAAOpiB,EAAMqiB,KAAOriB,EAAMsiB,KAAOtiB,EAAMuiB,KAAOviB,EAAMwiB,KAAOxiB,EAAMyiB,KAAOziB,EAAM0iB,KAAO1iB,EAAM2iB,KAAO3iB,EAAM4iB,KAAO5iB,EAAM6iB,KAAO7iB,EAAM8iB,KAAO9iB,EAAM+iB,KAAO/iB,EAAMgjB,KAAOhjB,EAAMijB,KAAOjjB,EAAMkjB,KAAOljB,EAAMmjB,KAAOnjB,EAAMojB,KAAOpjB,EAAMqjB,KAAOrjB,EAAMsjB,KAAOtjB,EAAMujB,KAAOvjB,EAAMwjB,KAAOxjB,EAAMyjB,KAAOzjB,EAAM0jB,KAAO1jB,EAAM2jB,KAAO3jB,EAAM4jB,KAAO5jB,EAAM6jB,KAAO7jB,EAAM8jB,KAAO9jB,EAAM+jB,KAAO/jB,EAAMgkB,KAAOhkB,EAAMikB,KAAOjkB,EAAMkkB,KAAOlkB,EAAMmkB,KAAOnkB,EAAMokB,KAAOpkB,EAAMqkB,KAAOrkB,EAAMskB,KAAOtkB,EAAMukB,KAAOvkB,EAAMwkB,KAAOxkB,EAAMykB,KAAOzkB,EAAM0kB,KAAO1kB,EAAM2kB,KAAO3kB,EAAM4kB,KAAO5kB,EAAM6kB,KAAO7kB,EAAM8kB,KAAO9kB,EAAM+kB,KAAO/kB,EAAMglB,KAAOhlB,EAAMilB,KAAOjlB,EAAMklB,KAAOllB,EAAMmlB,KAAOnlB,EAAMolB,KAAOplB,EAAMqlB,KAAOrlB,EAAMslB,KAAOtlB,EAAMulB,KAAOvlB,EAAMwlB,KAAOxlB,EAAMylB,KAAOzlB,EAAM0lB,KAAO1lB,EAAM2lB,KAAO3lB,EAAM4lB,KAAO5lB,EAAM6lB,KAAO7lB,EAAM8lB,KAAO9lB,EAAM+lB,KAAO/lB,EAAMgmB,KAAOhmB,EAAMimB,KAAOjmB,EAAMkmB,KAAOlmB,EAAMmmB,KAAOnmB,EAAMomB,KAAOpmB,EAAMqmB,KAAOrmB,EAAMsmB,KAAOtmB,EAAMumB,KAAOvmB,EAAMwmB,KAAOxmB,EAAMymB,KAAOzmB,EAAM0mB,KAAO1mB,EAAM2mB,KAAO3mB,EAAM4mB,KAAO5mB,EAAM6mB,KAAO7mB,EAAM8mB,KAAO9mB,EAAM+mB,KAAO/mB,EAAMgnB,KAAOhnB,EAAMinB,KAAOjnB,EAAMknB,KAAOlnB,EAAMmnB,KAAOnnB,EAAMonB,KAAOpnB,EAAMqnB,KAAOrnB,EAAMsnB,KAAOtnB,EAAMunB,KAAOvnB,EAAMwnB,KAAOxnB,EAAMynB,KAAOznB,EAAM0nB,KAAO1nB,EAAM2nB,KAAO3nB,EAAM4nB,KAAO5nB,EAAM6nB,KAAO7nB,EAAM8nB,KAAO9nB,EAAM+nB,KAAO/nB,EAAMgoB,KAAOhoB,EAAMioB,KAAOjoB,EAAMkoB,KAAOloB,EAAMmoB,KAAOnoB,EAAMooB,KAAOpoB,EAAMqoB,KAAOroB,EAAMsoB,KAAOtoB,EAAMuoB,KAAOvoB,EAAMwoB,KAAOxoB,EAAMyoB,KAAOzoB,EAAM0oB,KAAO1oB,EAAM2oB,KAAO3oB,EAAM4oB,KAAO5oB,EAAM6oB,KAAO7oB,EAAM8oB,KAAO9oB,EAAM+oB,KAAO/oB,EAAMgpB,KAAOhpB,EAAMipB,KAAOjpB,EAAMkpB,KAAOlpB,EAAMmpB,KAAOnpB,EAAMopB,KAAOppB,EAAMqpB,KAAOrpB,EAAMspB,KAAOtpB,EAAMupB,KAAOvpB,EAAMwpB,KAAOxpB,EAAMypB,KAAOzpB,EAAM0pB,KAAO1pB,EAAM2pB,KAAO3pB,EAAM4pB,KAAO5pB,EAAM6pB,KAAO7pB,EAAM8pB,KAAO9pB,EAAM+pB,KAAO/pB,EAAMgqB,KAAOhqB,EAAMiqB,KAAOjqB,EAAMkqB,KAAOlqB,EAAMmqB,KAAOnqB,EAAMoqB,KAAOpqB,EAAMqqB,KAAOrqB,EAAMsqB,KAAOtqB,EAAMuqB,KAAOvqB,EAAMwqB,KAAOxqB,EAAMyqB,KAAOzqB,EAAM0qB,KAAO1qB,EAAM2qB,KAAO3qB,EAAM4qB,KAAO5qB,EAAM6qB,KAAO7qB,EAAM8qB,KAAO9qB,EAAM+qB,KAAO/qB,EAAMgrB,KAAOhrB,EAAMirB,KAAOjrB,EAAMkrB,KAAOlrB,EAAMmrB,KAAOnrB,EAAMorB,KAAOprB,EAAMqrB,KAAOrrB,EAAMsrB,KAAOtrB,EAAMurB,KAAOvrB,EAAMwrB,KAAOxrB,EAAMyrB,KAAOzrB,EAAM0rB,KAAO1rB,EAAM2rB,KAAO3rB,EAAM4rB,KAAO5rB,EAAM6rB,KAAO7rB,EAAM8rB,KAAO9rB,EAAM+rB,KAAO/rB,EAAMgsB,KAAOhsB,EAAMisB,KAAOjsB,EAAMksB,KAAOlsB,EAAMmsB,KAAOnsB,EAAMosB,KAAOpsB,EAAMqsB,KAAOrsB,EAAMssB,KAAOtsB,EAAMusB,KAAOvsB,EAAMwsB,KAAOxsB,EAAMysB,KAAOzsB,EAAM0sB,KAAO1sB,EAAM2sB,KAAO3sB,EAAM4sB,KAAO5sB,EAAM6sB,KAAO7sB,EAAM8sB,KAAO9sB,EAAM+sB,KAAO/sB,EAAMgtB,KAAOhtB,EAAMitB,KAAOjtB,EAAMktB,KAAOltB,EAAMmtB,KAAOntB,EAAMotB,KAAOptB,EAAMqtB,KAAOrtB,EAAMstB,KAAOttB,EAAMutB,KAAOvtB,EAAMwtB,KAAOxtB,EAAMytB,KAAOztB,EAAM0tB,KAAO1tB,EAAM2tB,KAAO3tB,EAAM4tB,KAAO5tB,EAAM6tB,KAAO7tB,EAAM8tB,KAAO9tB,EAAM+tB,KAAO/tB,EAAMguB,KAAOhuB,EAAMiuB,KAAOjuB,EAAMkuB,KAAOluB,EAAMmuB,KAAOnuB,EAAMouB,KAAOpuB,EAAMquB,KAAOruB,EAAMsuB,KAAOtuB,EAAMuuB,KAAOvuB,EAAMwuB,KAAOxuB,EAAMyuB,KAAOzuB,EAAM0uB,KAAO1uB,EAAM2uB,KAAO3uB,EAAM4uB,KAAO5uB,EAAM6uB,KAAO7uB,EAAM8uB,KAAO9uB,EAAM+uB,KAAO/uB,EAAMgvB,KAAOhvB,EAAMivB,KAAOjvB,EAAMkvB,KAAOlvB,EAAMmvB,KAAOnvB,EAAMovB,KAAOpvB,EAAMqvB,KAAOrvB,EAAMsvB,KAAOtvB,EAAMuvB,KAAOvvB,EAAMwvB,KAAOxvB,EAAMyvB,KAAOzvB,EAAM0vB,KAAO1vB,EAAM2vB,KAAO3vB,EAAM4vB,KAAO5vB,EAAM6vB,KAAO7vB,EAAM8vB,KAAO9vB,EAAM+vB,KAAO/vB,EAAMgwB,KAAOhwB,EAAMiwB,KAAOjwB,EAAMkwB,KAAOlwB,EAAMmwB,KAAOnwB,EAAMowB,KAAOpwB,EAAMqwB,KAAOrwB,EAAMswB,KAAOtwB,EAAMuwB,KAAOvwB,EAAMwwB,KAAOxwB,EAAMywB,KAAOzwB,EAAM0wB,KAAO1wB,EAAM2wB,KAAO3wB,EAAM4wB,KAAO5wB,EAAM6wB,KAAO7wB,EAAM8wB,KAAO9wB,EAAM+wB,KAAO/wB,EAAMgxB,KAAOhxB,EAAMixB,KAAOjxB,EAAMkxB,KAAOlxB,EAAMmxB,KAAOnxB,EAAMoxB,KAAOpxB,EAAMqxB,KAAOrxB,EAAMsxB,KAAOtxB,EAAMuxB,KAAOvxB,EAAMwxB,KAAOxxB,EAAMyxB,KAAOzxB,EAAM0xB,KAAO1xB,EAAM2xB,KAAO3xB,EAAM4xB,KAAO5xB,EAAM6xB,KAAO7xB,EAAM8xB,KAAO9xB,EAAM+xB,KAAO/xB,EAAMgyB,KAAOhyB,EAAMiyB,KAAOjyB,EAAMkyB,KAAOlyB,EAAMmyB,KAAOnyB,EAAMoyB,KAAOpyB,EAAMqyB,KAAOryB,EAAMsyB,KAAOtyB,EAAMuyB,KAAOvyB,EAAMwyB,KAAOxyB,EAAMyyB,KAAOzyB,EAAM0yB,KAAO1yB,EAAM2yB,KAAO3yB,EAAM4yB,KAAO5yB,EAAM6yB,KAAO7yB,EAAM8yB,KAAO9yB,EAAM+yB,KAAO/yB,EAAMgzB,KAAOhzB,EAAMizB,KAAOjzB,EAAMkzB,KAAOlzB,EAAMmzB,KAAOnzB,EAAMozB,KAAOpzB,EAAMqzB,KAAOrzB,EAAMszB,KAAOtzB,EAAMuzB,KAAOvzB,EAAMwzB,KAAOxzB,EAAMyzB,KAAOzzB,EAAM0zB,KAAO1zB,EAAM2zB,KAAO3zB,EAAM4zB,KAAO5zB,EAAM6zB,KAAO7zB,EAAM8zB,KAAO9zB,EAAM+zB,KAAO/zB,EAAMg0B,KAAOh0B,EAAMi0B,KAAOj0B,EAAMk0B,KAAOl0B,EAAMm0B,KAAOn0B,EAAMo0B,KAAOp0B,EAAMq0B,KAAOr0B,EAAMs0B,KAAOt0B,EAAMu0B,KAAOv0B,EAAMw0B,KAAOx0B,EAAMy0B,KAAOz0B,EAAM00B,KAAO10B,EAAM20B,KAAO30B,EAAM40B,KAAO50B,EAAM60B,KAAO70B,EAAM80B,KAAO90B,EAAM+0B,KAAO/0B,EAAMg1B,KAAOh1B,EAAMi1B,KAAOj1B,EAAMk1B,KAAOl1B,EAAMm1B,KAAOn1B,EAAMo1B,KAAOp1B,EAAMq1B,KAAOr1B,EAAMs1B,KAAOt1B,EAAMu1B,KAAOv1B,EAAMw1B,KAAOx1B,EAAMy1B,KAAOz1B,EAAM01B,KAAO11B,EAAM21B,KAAO31B,EAAM41B,KAAO51B,EAAM61B,KAAO71B,EAAM81B,KAAO91B,EAAM+1B,KAAO/1B,EAAMg2B,KAAOh2B,EAAMi2B,KAAOj2B,EAAMk2B,KAAOl2B,EAAMm2B,KAAOn2B,EAAMo2B,KAAOp2B,EAAMq2B,KAAOr2B,EAAMs2B,KAAOt2B,EAAMu2B,KAAOv2B,EAAMw2B,KAAOx2B,EAAMy2B,KAAOz2B,EAAM02B,KAAO12B,EAAM22B,KAAO32B,EAAM42B,KAAO52B,EAAM62B,KAAO72B,EAAM82B,KAAO92B,EAAM+2B,KAAO/2B,EAAMg3B,KAAOh3B,EAAMi3B,KAAOj3B,EAAMk3B,KAAOl3B,EAAMm3B,KAAOn3B,EAAMo3B,KAAOp3B,EAAMq3B,KAAOr3B,EAAMs3B,KAAOt3B,EAAMu3B,KAAOv3B,EAAMw3B,KAAOx3B,EAAMy3B,KAAOz3B,EAAM03B,KAAO13B,EAAM23B,KAAO33B,EAAM43B,KAAO53B,EAAM63B,KAAO73B,EAAM83B,KAAO93B,EAAM+3B,KAAO/3B,EAAMg4B,KAAOh4B,EAAMi4B,KAAOj4B,EAAMk4B,KAAOl4B,EAAMm4B,KAAOn4B,EAAMo4B,KAAOp4B,EAAMq4B,KAAOr4B,EAAMs4B,KAAOt4B,EAAMu4B,KAAOv4B,EAAMw4B,KAAOx4B,EAAMy4B,KAAOz4B,EAAM04B,KAAO14B,EAAM24B,KAAO34B,EAAM44B,KAAO54B,EAAM64B,KAAO74B,EAAM84B,KAAO94B,EAAM+4B,KAAO/4B,EAAMg5B,KAAOh5B,EAAMi5B,KAAOj5B,EAAMk5B,KAAOl5B,EAAMm5B,KAAOn5B,EAAMo5B,KAAOp5B,EAAMq5B,KAAOr5B,EAAMs5B,KAAOt5B,EAAMu5B,KAAOv5B,EAAMw5B,KAAOx5B,EAAMy5B,KAAOz5B,EAAM05B,KAAO15B,EAAM25B,KAAO35B,EAAM45B,KAAO55B,EAAM65B,KAAO75B,EAAM85B,KAAO95B,EAAM+5B,KAAO/5B,EAAMg6B,KAAOh6B,EAAMi6B,KAAOj6B,EAAMk6B,KAAOl6B,EAAMm6B,KAAOn6B,EAAMo6B,KAAOp6B,EAAMq6B,KAAOr6B,EAAMs6B,KAAOt6B,EAAMu6B,KAAOv6B,EAAMw6B,KAAOx6B,EAAMy6B,KAAOz6B,EAAM06B,KAAO16B,EAAM26B,KAAO36B,EAAM46B,KAAO56B,EAAM66B,KAAO76B,EAAM86B,KAAO96B,EAAM+6B,KAAO/6B,EAAMg7B,KAAOh7B,EAAMi7B,KAAOj7B,EAAMk7B,KAAOl7B,EAAMm7B,KAAOn7B,EAAMo7B,KAAOp7B,EAAMq7B,KAAOr7B,EAAMs7B,KAAOt7B,EAAMu7B,KAAOv7B,EAAMw7B,KAAOx7B,EAAMy7B,KAAOz7B,EAAM07B,KAAO17B,EAAM27B,KAAO37B,EAAM47B,KAAO57B,EAAM67B,KAAO77B,EAAM87B,KAAO97B,EAAM+7B,KAAO/7B,EAAMg8B,KAAOh8B,EAAMi8B,KAAOj8B,EAAMk8B,KAAOl8B,EAAMm8B,KAAOn8B,EAAMo8B,KAAOp8B,EAAMq8B,KAAOr8B,EAAMs8B,KAAOt8B,EAAMu8B,KAAOv8B,EAAMw8B,KAAOx8B,EAAMy8B,KAAOz8B,EAAM08B,KAAO18B,EAAM28B,KAAO38B,EAAM48B,KAAO58B,EAAM68B,KAAO78B,EAAM88B,KAAO98B,EAAM+8B,KAAO/8B,EAAMg9B,KAAOh9B,EAAMi9B,KAAOj9B,EAAMk9B,KAAOl9B,EAAMm9B,KAAOn9B,EAAMo9B,KAAOp9B,EAAMq9B,KAAOr9B,EAAMs9B,KAAOt9B,EAAMu9B,KAAOv9B,EAAMw9B,KAAOx9B,EAAMy9B,KAAOz9B,EAAM09B,KAAO19B,EAAM29B,KAAO39B,EAAM49B,KAAO59B,EAAM69B,KAAO79B,EAAM89B,KAAO99B,EAAM+9B,KAAO/9B,EAAMg+B,KAAOh+B,EAAMi+B,KAAOj+B,EAAMk+B,KAAOl+B,EAAMm+B,KAAOn+B,EAAMo+B,KAAOp+B,EAAMq+B,KAAOr+B,EAAMs+B,KAAOt+B,EAAMu+B,KAAOv+B,EAAMw+B,KAAOx+B,EAAMy+B,KAAOz+B,EAAM0+B,KAAO1+B,EAAM2+B,KAAO3+B,EAAM4+B,KAAO5+B,EAAM6+B,KAAO7+B,EAAM8+B,KAAO9+B,EAAM++B,KAAO/+B,EAAMg/B,KAAOh/B,EAAMi/B,KAAOj/B,EAAMk/B,KAAOl/B,EAAMm/B,KAAOn/B,EAAMo/B,KAAOp/B,EAAMq/B,KAAOr

AG5R,KAAM4R,EAAKuB,EAAGrT,OAAQ,CAC3E,IAAI4/H,EAAQ9tH,EAAG7R,MACX+R,EAAKzT,KAAK2
hI,2BAA2BN,EAAM1qG,YAAaxV,EAAU1N,EAAG0N,QAASzf,EAAQ+R,EAAG/R,MACzFy3D,EAAY,GAAAK
uoE,IAIjB9tH,EAAKwnD,GAHUj6C,IAAYnhB,KAAK6lE,UAAY7lE,KAAAO6gI,GAGTnvG,GAAS1xB,KAAKm
hI,aAAahgH,IAAWzf,EAAOy3D,EAAW8B,GAAYQ,WAA8BN,EAAcvnD,EAAGunD,YACjK,GAAoB,GADkHv
nD,EAAG2c,MAC/H/uB,OAAa,CACnB,IAAIsgI,EAAcT,EAAAMC,MAAQnmE,EAAcn7D,KAAKg4B,IAAIrG,W
AAW0vG,EAAMA,OAAO19G,OAAO,CAACw3C,IACvF0mE,EAAkBA,EAAkBA,EAAgBv9H,IAAIw9H,GAAAe
A,IAInF,MAAOpvF,GAASJ,EAAM,CAAEnwC,MAAOuwC,GAC/B,QACI,IACQn/B,IAAOA,EAAG5R,KAAKuT,GAAAD
,EAAKC,EAAG4Y,SAAS7Y,EAAGtT,KAAKuT,GAEpD,QAAU,GAAIw9B,IAAI,MAAMA,EAAInwC,MAAOuwC,B
0/H,IACAJ,EAAY,CAAC,IAAIryG,GAAOyyG,EAAiBJ,KAAGjD,IACIM,EAAc,IAAIz2G,P,GADP,EAAA
c,IAAMvgI,KAAK2gI,kBACCC,GAAIc,GAExD,QAAUd,EAAIe,KAAKC,GAAAD,EAAKC,EAAGC,KAAKC,GAAAF
UquC,eAAiB,SAAUpf,EAAK5O,GAClD,IAAI3N,EAAQxT,KACQ+vB,EAAIruB,MACEquB,IACpB/G,YAAYx
U,SAAQ,SAAUwS,GAAQ,OAAOxT,EAAMytH,QAAQ/+H,KAAK,CAAEif,QAAS3N,EAAMqyD,UAAWnE,M
AAOslB,EAAM7D,WAAY4M,EAAI5M,iBAAnIy9G,EAAY9/H,KAAUsBAAwB,SAAU3nD,EAAK5O,GAK
zD,GAJAnhB,KAAKgiI,uBAAuBjyG,GAIxB/vB,KAAKuoE,QAAQ05D,sBAAuB,CAAEpC,IAAI7hG,EAASpgC,K
AAKohI,wBAAwBrxG,GACtCmyG,EAAeliI,KAAK0gI,mBAAmB1gI,KAAKmogC,GACjDpgC,KAAKuwC,SAAS
ruC,KAAKggI,GACnBA,EAAapwF,SAAS/hB,EAAI+gB,UAAW/gB,IwgB,YAGjDqwF,EAAY9/H,KAAUA6vC,aAAe,SAAU5nD,EAAK5O,GAClD,IAAI3N,EAAQxT,KACZ,GAAIA,KAAKuoE,QAAQ05D,sBAAuB,CAAEpC,IAAI7hG,EAASpgC,KAAKqhI,kBAAkBrxG,GAC9E,
C,aAAe,SAAU5nD,EAAK5O,GAC5B,IAAI3N,EAAQxT,KAAKuoE,QAAQ05D,sBAAuB,CAAEpC,IAAI7hG,EAASpgC,KAAKqhI,kBAAkBrxG,GAAS,
AOprB,SAAQ,SAAU2tH,GAAQ,OAAOxT,EAAMytH,QAAQ/+H,KAAK,CAAEif,QAAS3N,EAAMqyD,UAAWnE,M
MAAOygI,EAAS,IAAIzgI,KAAKuoE,QAAQ05D,sBAAuB,CAAEpC,IAAI7hG,EAASpgC,KAAKqhI,kBAAkBrxG,GAAS,
AOyhB,WAAY/vB,KAAKuoE,QAAQ05D,sBAAuB,CAAEpC,IAAI7hG,EAASpgC,KAAKqhI,kBAAkBrxG,GAAS,
wF,EAAY9/H,KAAUAukhI,uBAAyB,SAAU3nD,EAAK5O,GAClD,IAAI3N,EAAQxT,KACZ,GAAIA,KAAKuoE,QAAQ05D,sBAAuB,CAAEpC,IAAI7hG,EAASpgC,KAAKqhI,kBAAkBrxG,GAAS,
SAAU4tH,GAC7B5uH,EAAM2tH,QAAQ/+H,KAAK,CAAEif,QAAS3N,EAAMqyD,UAAWnE,MAAOygI,EAAS,IAAIzgI,KAAKuoE,QAAQ05D,sBAAuB,CAAEpC,IAAI7hG,EAASpgC,KAAKqhI,kBAAkBrxG,GAAS,
wB,EAAY9/H,KAAUAqpB,aAAe,SAAU5

oD,EAAK5O,KACtDy/G,EAAY9/H,UAAUmuC,UAAY,SAAUlf,EAAK5O,KACjDy/G,EAAY9/H,UAAUg3E,uBAAyB,SAAU/nD,EAAK5O,KAC9Dy/G,EAAY9/H,UAAUuwC,eAAiB,SAAUhB,EAAK5O,KACtDy/G,EAAY9/H,UAAUqwC,cAAgB,SAAUphB,EAAK5O,KACrDy/G,EAAY9/H,UAAUk2E,WAAa,SAAUjnD,EAAK5O,KAClDy/G,EAAY9/H,UAAU+1E,qBAAuB,SAAU9mD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAU21E,UAAY,SAAU1mD,EAAK5O,KAC1Cy/G,EAAY9/H,UAAUy1E,gBAAkB,SAAUxmD,EAAK5O,KAC1Dy/G,EAAY9/H,UAAUw1E,qBAAuB,SAAUvmD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUu1E,qBAAuB,SAAUtmD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUs1E,qBAAuB,SAAUrmD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUq1E,qBAAuB,SAAUpmD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUo1E,qBAAuB,SAAUnmD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUm1E,qBAAuB,SAAUlmD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUk1E,qBAAuB,SAAUjmD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUi1E,qBAAuB,SAAUhmD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUg1E,qBAAuB,SAAU/lD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAU+0E,qBAAuB,SAAU9lD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAU80E,qBAAuB,SAAU7lD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAU60E,qBAAuB,SAAU5lD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAU40E,qBAAuB,SAAU3lD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAU20E,qBAAuB,SAAU1lD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAU00E,qBAAuB,SAAUzlD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUy0E,qBAAuB,SAAUxlD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUw0E,qBAAuB,SAAUvlD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUu0E,qBAAuB,SAAUtlD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUs0E,qBAAuB,SAAUrlD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUq0E,qBAAuB,SAAUplD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUo0E,qBAAuB,SAAUnlD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUm0E,qBAAuB,SAAUllD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUk0E,qBAAuB,SAAUjlD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUi0E,qBAAuB,SAAUhlD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAUg0E,qBAAuB,SAAU/kD,EAAK5O,KAC5Dy/G,EAAY9/H,UAAU+zE,qBAAuB,SAAU9k

Y,IAEnH,OADAm+E,EAAiBt/H,KAAK6/H,GACfP,GAEXZ,EAAY9/H,UAAUyjI,gBAAkB,SAAUK,GAC9C,IAAIC,EACJ,GAAID,EAAYpjI,OAAS,EAAG,CACxB,IAAIsjI,EAAW,IACV9kI,KAAK6lE,UAAUnlC,QAAUjQ,GAAiBm0G,GAAa/hG,IAAI0gG,GAAS7uH,OACrEowH,EAAS5iI,KAAKqhI,GASjoH,IAAI+nH,GAAS70H,KAAK,cAAc8Y,WAAWtnB,KAAKg+B,WAE3E6mG,GAAW18G,GAAG,EAAW18G,GAAG,GAAG,CACV,IAAI+4H,EAAWrc,EAAWqc,SAAUC,EAAWtc,EAAWsc,SAAUC,EAAWvc,EAAWuc,SAAUC,EAAWxc,EAAWwc,SAAUC,EAAWzc,EAAWyc,SAAUC,EAAW1c,EAAW0c,SAAUC,EAAW3c,EAAW2c,SAAUC,EAAW5c,EAAW4c,SAAUC,EAAW7c,EAAW6c,SAAUC,EAAW9c,EAAW8c,SAAUC,EAAW/c,EAAW+c,SAAUC,EAAWhd,EAAWgd,SAAUC,EAAWjd,EAAWid,SAAUC,EAAWld,EAAWkd,SAAUC,EAAWnd,EAAWmd,SAAUC,EAAWpd,EAAWod,SAAUC,EAAWrd,EAAWqd,SAAUC,EAAWtd,EAAWsd,SAAUC,EAAWvd,EAAWud,SAAUC,EAAWxd,EAAWwd,SAAUC,EAAWzd,EAAWyd,SAAUC,EAAW1d,EAAW0d,SAAUC,EAAW3d,EAAW2d,SAAUC,EAAW5d,EAAW4d,SAAUC,EAAW7d,EAAW6d,SAAUC,EAAW9d,EAAW8d,SAAUC,EAAW/d,EAAW+d,SAAUC,EAAWhe,EAAWge,SAAUC,EAAWje,EAAWie,SAAUC,EAAWle,EAAWke,SAAUC,EAAWne,EAAWme,SAAUC,EAAWpe,EAAWoe,SAAUC,EAAWre,EAAWqe,SAAUC,EAAWte,EAAWse,SAAUC,EAAWve,EAAWue,SAAUC,EAAWxe,EAAWwe,SAAUC,EAAWze,EAAWye,SAAUC,EAAW1e,EAAW0e,SAAUC,EAAW3e,EAAW2e,SAAUC,EAAW5e,EAAW4e,SAAUC,EAAW7e,EAAW6e,SAAUC,EAAW9e,EAAW8e,SAAUC,EAAW/e,EAAW+e,SAAUC,EAAWhf,EAAWgf,SAAUC,EAAWjf,EAAWif,SAAUC,EAAWlf,EAAWkf,SAAUC,EAAWnf,EAAWmf,SAAUC,EAAWpf,EAAWof,SAAUC,EAAWrf,EAAWqf,SAAUC,EAAWtf,EAAWsf,SAAUC,EAAWvf,EAAWuf,SAAUC,EAAWxf,EAAWwf,SAAUC,EAAWzf,EAAWyf,SAAUC,EAAW1f,EAAW0f,SAAUC,EAAW3f,EAAW2f,SAAUC,EAAW5f,EAAW4f,SAAUC,EAAW7f,EAAW6f,SAAUC,EAAW9f,EAAW8f,SAAUC,EAAW/f,EAAW+f,SAAUC,EAAWhg,EAAWgg,SAAUC,EAAWjg,EAAWig,SAAUC,EAAWlg,EAAWkg,SAAUC,EAAWng,EAAWmg,SAAUC,EAAWpg,EAAWog,SAAUC,EAAWrg,EAAWqg,SAAUC,EAAWtg,EAAWsg,SAAUC,EAAWvg,EAAWug,SAAUC,EAAWxg,EAAWwg,SAAUC,EAAWzg,EAAWyg,SAAUC,EAAW1g,EAAW0g,SAAUC,EAAW3g,EAAW2g,SAAUC,EAAW5g,EAAW4g,SAAUC,EAAW7g,EAAW6g,SAAUC,EAAW9g,EAAW8g,SAAUC,EAAW/g,EAAW+g,SAAUC,EAAWhh,EAAWgh,SAAUC,EAAWjh,EAAWih,SAAUC,EAAWlh,EAAWkh,SAAUC,EAAWnh,EAAWmh,SAAUC,EAAWph,EAAWoh,SAAUC,EAAWrh,EAAWqh,SAAUC,EAAWth,EAAWsh,SAAUC,EAAWvh,EAAWuh,SAAUC,EAAWxh,EAAWwh,SAAUC,EAAWzh,EAAWyh,SAAUC,EAAW1h,EAAW0h,SAAUC,EAAW3h,EAAW2h,SAAUC,EAAW5h,EAAW4h,SAAUC,EAAW7h,EAAW6h,SAAUC,EAAW9h,EAAW8h,SAAUC,EAAW/h,EAAW+h,SAAUC,EAAWhi,EAAWgi,SAAUC,EAAWji,EAAWii,SAAUC,EAAWli,EAAWkiEAAYpjI,OAAS,EAAG,CACxB,IAAIsjI,EAAW,IACV9kI,KAAK6lE,UAAUnlC,QAAUjQ,GAAiBm0G,GAAa/hG,IAAI0gG,GAAS7uH,OACrEowH,EAAS5iI,KAAKqhI,GASjoH,IAAI+nH,GAAS70H,KAAK,cAAc8Y,WAAWtnB,KAAKg+B,WAE3E6mG,GAAW18G,GAAG,EAAW18G,GAAG,GAAG,CACV,IAAI+4H,EAAWrc,EAAWqc,SAAUC,EAAWtc,EAAWsc,SAAUC,EAAWvc,EAAWuc,SAAUC,EAAWxc,EAAWwc,SAAUC,EAAWzc,EAAWyc,SAAUC,EAAW1c,EAAW0c,SAAUC,EAAW3c,EAAW2c,SAAUC,EAAW5c,EAAW4c,SAAUC,EAAW7c,EAAW6c,SAAUC,EAAW9c,EAAW8c,SAAUC,EAAW/c,EAAW+c,SAAUC,EAAWhd,EAAWgd,SAAUC,EAAWjd,EAAWid,SAAUC,EAAWld,EAAWkd,SAAUC,EAAWnd,EAAWmd,SAAUC,EAAWpd,EAAWod,SAAUC,EAAWrd,EAAWqd,SAAUC,EAAWtd,EAAWsd,SAAUC,EAAWvd,EAAWud,SAAUC,EAAWxd,EAAWwd,SAAUC,EAAWzd,EAAWyd,SAAUC,EAAW1d,EAAW0d,SAAUC,EAAW3d,EAAW2d,SAAUC,EAAW5d,EAAW4d,SAAUC,EAAW7d,EAAW6d,SAAUC,EAAW9d,EAAW8d,SAAUC,EAAW/d,EAAW+d,SAAUC,EAAWhe,EAAWge,SAAUC,EAAWje,EAAWie,SAAUC,EAAWle,EAAWke,SAAUC,EAAWne,EAAWme,SAAUC,EAAWpe,EAAWoe,SAAUC,EAAWre,EAAWqe,SAAUC,EAAWte,EAAWse,SAAUC,EAAWve,EAAWue,SAAUC,EAAWxe,EAAWwe,SAAUC,EAAWze,EAAWye,SAAUC,EAAW1e,EAAW0e,SAAUC,EAAW3e,EAAW2e,SAAUC,EAAW5e,EAAW4e,SAAUC,EAAW7e,EAAW6e,SAAUC,EAAW9e,EAAW8e,SAAUC,EAAW/e,EAAW+e,SAAUC,EAAWhf,EAAWgf,SAAUC,EAAWjf,EAAWif,SAAUC,EAAWlf,EAAWkf,SAAUC,EAAWnf,EAAWmf,SAAUC,EAAWpf,EAAWof,SAAUC,EAAWrf,EAAWqf,SAAUC,EAAWtf,EAAWsf,SAAUC,EAAWvf,EAAWuf,SAAUC,EAAWxf,EAAWwf,SAAUC,EAAWzf,EAAWyf,SAAUC,EAAW1f,EAAW0f,SAAUC,EAAW3f,EAAW2f,SAAUC,EAAW5f,EAAW4f,SAAUC,EAAW7f,EAAW6f,SAAUC,EAAW9f,EAAW8f,SAAUC,EAAW/f,EAAW+f,SAAUC,EAAWhg,EAAWgg,SAAUC,EAAWjg,EAAWig,SAAUC,EAAWlg,EAAWkg,SAAUC,EAAWng,EAAWmg,SAAUC,EAAWpg,EAAWog,SAAUC,EAAWrg,EAAWqg,SAAUC,EAAWtg,EAAWsg,SAAUC,EAAWvg,EAAWug,SAAUC,EAAWxg,EAAWwg,SAAUC,EAAWzg,EAAWyg,SAAUC,EAAW1g,EAAW0g,SAAUC,EAAW3g,EAAW2g,SAAUC,EAAW5g,EAAW4g,SAAUC,EAAW7g,EAAW6g,SAAUC,EAAW9g,EAAW8g,SAAUC,EAAW/g,EAAW+g,SAAUC,EAAWhh,EAAWgh,SAAUC,EAAWjh,EAAWih,SAAUC,EAAWlh,EAAWkh,SAAUC,EAAWnh,EAAWmh,SAAUC,EAAWph,EAAWoh,SAAUC,EAAWrh,EAAWqh,SAAUC,EAAWth,EAAWsh,SAAUC,EAAWvh,EAAWuh,SAAUC,EAAWxh,EAAWwh,SAAUC,EAAWzh,EAAWyh,SAAUC,EAAW1h,EAAW0h,SAAUC,EAAW3h,EAAW2h,SAAUC,EAAW5h,EAAW4h,SAAUC,EAAW7h,EAAW6h,SAAUC,EAAW9h,EAAW8h,SAAUC,EAAW/h,EAAW+h,SAAUC,EAAWhi,EAAWgi,SAAUC,EAAWji,EAAWii,SAAUC,EAAWli,EAAWkiEAAYpjI,OAAS,EAAG,CACxB,IAAIsjI,EAAW,IACV9kI,KAAK6lE,UAAUnlC,QAAUjQ,GAAiBm0G,GAAa/hG,IAAI0gG,GAAS7uH,OACrEowH,EAAS5iI,KAAKqhI,GASjoH,IAAI+nH,GAAS70H,KAAK,cAAc8Y,WAAWtnB,KAAKg+B,WAE3E6mG,GAAW18G,GAAG,EAAW18G,GAAG,GAAG,CACV,IAAI+4H,EAAWrc,EAAWqc,SAAUC,EAAWtc,EAAWsc,SAAUC,EAAWvc,EAAWuc,SAAUC,EAAWxc,EAAWwc,SAAUC,EAAWzc,EAAWyc,SAAUC,EAAW1c,EAAW0c,SAAUC,EAAW3c,EAAW2c,SAAUC,EAAW5c,EAAW4c,SAAUC,EAAW7c,EAAW6c,SAAUC,EAAW9c,EAAW8c,SAAUC,EAAW/c,EAAW+c,SAAUC,EAAWhd,EAAWgd,SAAUC,EAAWjd,EAAWid,SAAUC,EAAWld,EAAWkd,SAAUC,EAAWnd,EAAWmd,SAAUC,EAAWpd,EAAWod,SAAUC,EAAWrd,EAAWqd,SAAUC,EAAWtd,EAAWsd,SAAUC,EAAWvd,EAAWud,SAAUC,EAAWxd,EAAWwd,SAAUC,EAAWzd,EAAWyd,SAAUC,EAAW1d,EAAW0d,SAAUC,EAAW3d,EAAW2d,SAAUC,EAAW5d,EAAW4d,SAAUC,EAAW7d,EAAW6d,SAAUC,EAAW9d,EAAW8d,SAAUC,EAAW/d,EAAW+d,SAAUC,EAAWhe,EAAWge,SAAUC,EAAWje,EAAWie,SAAUC,EAAWle,EAAWke,SAAUC,EAAWne,EAAWme,SAAUC,EAAWpe,EAAWoe,SAAUC,EAAWre,EAAWqe,SAAUC,EAAWte,EAAWse,SAAUC,EAAWve,EAAWue,SAAUC,EAAWxe,EAAWwe,SAAUC,EAAWze,EAAWye,SAAUC,EAAW1e,EAAW0e,SAAUC,EAAW3e,EAAW2e,SAAUC,EAAW5e,EAAW4e,SAAUC,EAAW7e,EAAW6e,SAAUC,EAAW9e,EAAW8e,SAAUC,EAAW/e,EAAW+e,SAAUC,EAAWhf,EAAWgf,SAAUC,EAAWjf,EAAWif,SAAUC,EAAWlf,EAAWkf,SAAUC,EAAWnf,EAAWmf,SAAUC,EAAWpf,EAAWof,SAAUC,EAAWrf,EAAWqf,SAAUC,EAAWtf,EAAWsf,SAAUC,EAAWvf,EAAWuf,SAAUC,EAAWxf,EAAWwf,SAAUC,EAAWzf,EAAWyf,SAAUC,EAAW1f,EAAW0f,SAAUC,EAAW3f,EAAW2f,SAAUC,EAAW5f,EAAW4f,SAAUC,EAAW7f,EAAW6f,SAAUC,EAAW9f,EAAW8f,SAAUC,EAAW/f,EAAW+f,SAAUC,EAAWhg,EAAWgg,SAAUC,EAAWjg,EAAWig,SAAUC,EAAWlg,EAAWkg,SAAUC,EAAWng,EAAWmg,SAAUC,EAAWpg,EAAWog,SAAUC,EAAWrg,EAAWqg,SAAUC,EAAWtg,EAAWsg,SAAUC,EAAWvg,EAAWug,SAAUC,EAAWxg,EAAWwg,SAAUC,EAAWzg,EAAWyg,SAAUC,EAAW1g,EAAW0g,SAAUC,EAAW3g,EAAW2g,SAAUC,EAAW5g,EAAW4g,SAAUC,EAAW7g,EAAW6g,SAAUC,EAAW9g,EAAW8g,SAAUC,EAAW/g,EAAW+g,SAAUC,EAAWhh,EAAWgh,SAAUC,EAAWjh,EAAWih,SAAUC,EAAWlh,EAAWkh,SAAUC,EAAWnh,EAAWmh,SAAUC,EAAWph,EAAWoh,SAAUC,EAAWrh,EAAWqh,SAAUC,EAAWth,EAAWsh,SAAUC,EAAWvh,EAAWuh,SAAUC,EAAWxh,EAAWwh,SAAUC,EAAWzh,EAAWyh,SAAUC,EAAW1h,EAAW0h,SAAUC,EAAW3h,EAAW2h,SAAUC,EAAW5h,EAAW4h,SAAUC,EAAW7h,EAAW6h,SAAUC,EAAW9h,EAAW8h,SAAUC,EAAW/h,EAAW+h,SAAUC,EAAWhi,EAAWgi,SAAUC,EAAWji,EAAWii,SAAUC,EAAWli,EAAWki

WjmI,KAAK6kD,UAAUlzB,WAAWo0G,EAAQ/tD,UAAUz3C,mBACvDylG,EAAmBhmI,KAAK6kD,UAAUlzB
,WAAWo0G,EAAQ/tD,UAAUx3C,eAInE,IAAI2kG,EAAap0B,EACjB/wG,KAAK+xC,MAAMg/D,GAAa,WAAc,
MAAO,CACzC5tF,WAAY4M,EAAI5M,WAChB4gH,UAAW,EAAsBv/E,EACjCw/E,QAASryG,GAAW2H,GAA
YuC,YAAYlY,OAAO,CAC/C2O,GAAQ6yG,GACR7yG,GAAQkyB,GACR8gF,EACAhzG,GAAQvC,EAAIumD,
gBACZhkD,GAAQizG,GACRjzG,GAAQy1D,GACRA,GA2eOm+C,EA3egBn2G,EA4e/Bo2G,EAAY9lI,OAAOU,
OAAO,MAC9BmlI,EAAWpuH,MAAMtD,SAAQ,SAAUylE,GAC/BksD,EAAUlsD,EAAQvlE,MAAQulE,EAAQv
4E,SAEtCwkI,EAAW/jG,WAAW3tB,SAAQ,SAAU4tH,GACpC/hI,OAAOkxB,KAAK6wG,EAAOpqD,UAAUh4
C,gBAAgBxrB,SAAQ,SAAUE,GAC3D,IAAIhT,EAAQ0gI,EAAOpqD,UAAUh4C,eAAetrB,GACxCy3E,EAAY6
C,EAAUzxH,GAC1ByxH,EAAUzxH,GAAqB,MAAby3E,EAO9B,SASi6C,EAAoB7jE,EAAU8jE,C,GAC
/C,MAlxBe,SAkxBX/jE,GAjxBS,SAixBmBA,EACrB8jE,EAAa,IAAMC,EAAGnBA,EAAZmF,CF,IAAMA
y3E,EAAWzqF,GAASA,QAKrFuwB,GAAW5xB,OAAOkxB,KAAK40G,GAAWvqD,OAAOngE,KAAI,SAAU8mD
D,GAAY,OAAOtwC,GAAW,CAACK,GAAQiC,GAAWjwC,GAAQ6zG,EAAU5jE,WAzfxF91C,GAC9Bm5G,E
AAUpkI,OAASywB,GAAW2zG,GAAan5G,GAC3Co5G,EAAWrkI,OAASywB,GAAW4zG,GAAcp5G,GAC7CjZ,
EAAMgyH,4BAA4Bz0B,EAAW94B,GAC7CguD,EACAD,IAEJZ,eAAgBJ,GAoe5B,IAAuBkB,EACfC,F,
EAAY9/H,UAAUukI,wBAA0B,SAAUt0B,EAAWu0B,EAAQ,EACrEz0B,GAAWwnD,mBACJ/yB,GAAS,UEb,IAAIihF,EAAa,IAAI3rH,IACrBiW,BiW,EAAI8P,QAAQrrB,SAAQ,SAAU07B,GAC1B,IAAIr7B,Ir7B,EACAK,EAAQ,EAAGA,EAAQg7B,EAAOr7B,OAAQK,IAAS,CAC/C,IAAIC,EAAQ+6B,EAAOh7B,GACnB,GAAIC,EAAMN,MAAQA,EAAK,CACrBA,EAAMM,EACN,MAAMD,EAAQ,EAAGA,EAAQ,EAAGA,IAAS,CACnC,IAAIC,EAAQ+6B,EAAOh7B,EAAQ,GAC3B

e9lG,EAAInpB,MAAQq8F,EACjC+1B,EAAgB5kI,KAAK+vB,GAAW,CAACK,GAAQuL,EAAInpB,MAAO4d,GAAQ,UAGhE8vG,EAAOpqD,UAAUt4C,cACjB8kB,GAAS,OAEb,IAAIohF,EAAYxD,EAAOxiG,OAAOnkB,KAAI,SAAU0mH,EAAU5pC,GAClD,IAAIhI,EAAWt+D,GAAW,CAACK,GAAQimE,GAAajmE,GAAQ6vG,EAASvqD,iBAEjE,OAAO,IAAI1rD,GAAgBi2G,EAASvqD,cAAe2Y,EAAUujD,EAAOpqD,UACrB33E,OAAOkxB,KAAKstD,EAAQh/C,SASrrB,SAAQ,SAAUuqE,GAC3C,IAAItgE,EAAWsgE,GAAQ,EAAI,EAAI,EAC/B,OAAOA,EAAQ,EAAIA,EAAQtgE,EAAWsgE,EAAQtgE,EAAWA,GAAY,EAAIA,EAAW,IAAM,IAAM,IAAM

ARAxB,KAAK+xC,MAAM7vC,MAAK,WAAc,MAAO,CACjCihB,WAAYA,EACZ4gH,UAAW,GACXC,QAASryG,GAAW2H,GAAY8C,eAAezY,OAAO,CAClD2O,GAAQ6yG,GACR1pH,QAGD,SAAUiD,GAAQ,OAAOgpH,GAAcvC,EAAYzmH,KAAE9DkiH,EAAY9/H,UAAU+mI,qBAAuB,SAAUlxG,EAAYjB,EAAMklD,GAAcrE,IAAI5tB,EAAOhsC,KAAK2lF,UAAUxmC,MAAMK,SAAUi7E,GAAAe,OAAOA,EAAY1lH,OAASA,KAAcpF,GAAIs3B,EAAK9tB,EAAK4pH,IAAIpiH,EAAOqiH,EAAIC,EAAIC,EAAIC

UjQ,GAAiBk4G,GAAkB9lG,IAAI0gG,GAAS7uH,OAC1EowH,EAAS5iI,KAAKqhI,GAASjoH,IAAI+nH,GAAS70H,KAAK,cAAc8Y,WAAWtnB,KAAKg+B,WAE3E0qG,EAAgBvgH,GAAG,CACf,IAAI+C,GAAQm4G,GAAS3uH,KAAMsN,IAC3B,IAAIkJ,GAAQs4G,GAAe9uH,KAAMsN,IACjC,IAAIkJ,GAAQstC,GAAiBtoB,MAAMx7B,KAAMsN,IAC1C5C5f,EAAS0iI,EAAU6D,EAAkB,CAAC,IAAIv6G,GAAQ,EAAgBj8G,GAEpB,OAAOi8G,GAEX9H,EAAY9/H,EAAUq3E,eAAiB,EAAK5O,KAAKCtDy/G,EAAY9/H,EAAUq3E,eAAiBAUg3E,uBAAyB,SAAU/nD,EAAK5O,KAAC9Dy/G,EAAY9/H,EAAUq3E,eAAiBAUthB,EAAWwC,eAAiBAUuwC,eAAiB,SAAUthB,EAAWwC,eAAiBAUthB,EAAWwC,eAAiBAUqwC,cAAgB,SAAUthB,EAAWwC,eAAiBAUphB,EAAWwC,eAAiBAUk2E,WAAa,SAAUjnD,EAAK5O,KAAC9Dy/G,EAAY9/H,EAAUq3E,eAAiBAUthB,EAAWwC,eAAiBAUjnD,EAAK5O,KAAClDy/G,EAAY9/H,EAAUq3E,eAAiBAU+1E,qBAAuB,SAAUjnD,EAAK5O,KAAC9Dy/G,EAAY9/H,EAAUq3E,eAAiBAUthB,EAAWwC,eAAiBAU21E,WAAa,SAAUjnD,EAAK5O,KAAC9Dy/G,EAAY9/H,EAAUq3E,eAAiBAUthB,EAAWwC,eAAiBAUjnD,EAAK5O,KAAC1Cy/G,EAAY9/H,EAAUq3E,eAAiBAUthB,EAAWwC,eAAiBAUpuB,GAAquBlC,SAAS8G,GAAAc32B,EAAWwC,eAAiBAUjnD,EAAK5O,KAAC9Dy/G,EAAY9/H,EAAUq3E,eAAiBAUthB

H,EACd/pI,KAAKuwB,MAAQ,OAGbvwB,KAAKyV,OAAS,KACdzV,KAAKuwB,MAAQw5G,GAiBrB,OAdAH
,EAAc9oI,UAAU+hB,aAAe,SAAUD,GAC7C,OAAI5iB,KAAK8pI,aAAelnH,EAAMknH,aAG1B9pI,KAAKyV,O
ACEzV,KAAKyV,SAAWmN,EAAMnN,OAEd,MAAfmN,EAAM2N,OAKHzN,GAAiB9iB,KAAKuwB,MAAO3
N,EAAM2N,SAEvCq5G,EA3BuB,GAqClC,SAASI,GAAetlG,EAAY9K,GAChC,IAAIvI,EAAKxc,EAAIuY,
KtY,EACdm1H,EAAgB,GACpB,IACI,IAAK,IAAI12H,EAAKvS,EAAS0jC,EAAW5C,iBAAiB7B,WAAYxsB,EA
AKF,EAAG9R,QAASgS,EAAG9R,KAAM8R,EAAKF,EAAG9R,OAAQ,CACrG,IAAImS,EAAKH,EAAG/R,MAAO,MA
AOihC,EAAW/uB,EAAG+uB,SAAUjjC,EAASkU,EAAGlU,OAAQ,GAAI4+B,EAAeqE,EAASnmB,WAAWod,E
AAUswG,OAAQ,CACrD,IAAIC,EAAeC,GAAqBznG,EAASY,UACjD,IACI,IAAK,IAAI8mG,9G,OAA
M,EAAQpsB,EAASmpI,IAAgBG,EAAmBD,EAAe5oI,QAAS6oI,EAAiB3oI,KAAM2oI,EAAe5oI,OAE
lKwoI,EAAc/nI,KAAKqoI,GADPD,EAAiB5oI,MACYk4B,EAAWl6B,EAAO+5B,YAGnE,MAAOhM,GASL,E
AAM,CAAEjrB,MAAOsrB,GAC/B,QACI,IACQ68G,IAAqBA,EAAiB3oI,OASmT,EAAK1u1H,EAAe38G,SAAS
5Y,EAAGvT,KAAK8oI,GAE5F,QAAU,GAAIj9G,EAAK,MAAMA,EAAIjrB,UAK7C,MAAOqvB,GAASH,EAAM
M,CAAElvB,MAAOqvB,GAC/B,QACI,IACQ/d,IAAOA,EAAG9R,OASkT,EAAK5tB,EAAGga,SAAS7Y,EAAG
tT,KAAKgS,GAEpD,QAAU,GAAI8d,EAAK,MAAMA,EAAIlvB,MAAOkvB,GAAOA,EAAIlvB,OAAOkvB,EAAI
AQz6F,GAClC,IAAIuC,EAAKz9B,EAET,QADe,IAAXk7B,IAAqBA,EAASuC,EAAGz9B,OAAOk7B,EAAS,iBAAXy6F,EAACPz6F,EAAEX,EAAEA,EAAEO,EAAEA,EAAEO,EAAEA,EAAEO

AAcC,IAEpCjC,EAAqBjqI,UAAUmsI,4BAA8B,SAAUta,EAAUpoG,GAC7EvqB,KAAKwrI,2BAA2BlwH,IAAIq
3G,EAAUpoG,IAQlDwgH,EAAqBjqI,UAAUosI,eAAiB,SAAUva,GACtD,IAAIthG,EAAKxc,EACT7U,KAAKmrI
,cAAcxtE,OAAOg1D,GAC1B,IAAIwa,EAAUntI,KAAKurI,eAAelwH,IAAIs3G,GACtC,IAAKwa,EACD,MAAO,
GAEXntI,KAAKurI,eAAe5tE,OAAOg1D,GAC3B,IACI,IAAK,IAAIya,EAAYpsI,EAASmsI,GAAUE,EAAcD,EA
AU3rI,QAAS4rI,EAAY1rI,KAAM0rI,EAAcD,EAAU3rI,OAAQ,CACvH,IAAI0gG,EAASkrC,EAAY3rI,MACzB1
B,KAAKorI,gBAAgBztE,OAAOwkC,GAC5BniG,KAAKqrI,SAAS1tE,OAAOwkC,GACrBniG,KAAKsrI,oBAAo
B3tE,OAAOwkC,IAGxC,MAAO3wE,GAASH,EAAM,CAAElvB,MAAOqvB,GAC/B,QACI,IACQ67G,IAAgBA,
EAAY1rI,OASkT,EAAKu4H,EAAU1/G,SAAS7Y,EAAGtT,KAAK6rI,GAE7E,QAAU,GAAI/7G,EAAK,MAA
MA,EAAIlvB,OAEjC,OAAOgrI,GAGXpC,EAAqBjqI,UAAUwsI,gBAAkB,SAAUt5G,GACvD,IAAIu5G,EAAWv
tI,KAAKkrI,cACpBlrI,KAAKkrI,cAAgB,SAAUx7G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC
zCI,EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAA
8B,IAAnB1wG,EAAQz7B,OACzB,IAAIspI,GAAqBY,EAAc+B,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU8qI,0BAA4B,SAAUF,GACjE,IAAI7rB,EAAS,KAAKirI,gBAAgBvV,eAAegW,GAClD,OA
AO7rB,EAAU,IAAIirB,GAAqBY,EAAc7rB,EAAQ7sD,UAAY,MAUhF+3E,EAAqBjqI,UAAUmrI,gBAAkB,SAA
U3uG,EAAiB5oB,EAAMuoB,GAC9E,OAAOj9B,KAAKgrI,kB3vH,IAAIiiB,EAAiB5oB,EAAMuoB,IAS7D
8tG,EAAqBjqI,UAAU8sI,cAAgB,SAAUp9G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU+sI,eAAiB,SAAUr9G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUgtI,eAAiB,SAAUt9G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUitI,eAAiB,SAAUv9G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUktI,eAAiB,SAAUx9G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUmtI,eAAiB,SAAUz9G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUotI,eAAiB,SAAU19G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUqtI,eAAiB,SAAU39G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUstI,eAAiB,SAAU59G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUutI,eAAiB,SAAU79G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUwtI,eAAiB,SAAU99G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUytI,eAAiB,SAAU/9G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU0tI,eAAiB,SAAUh+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU2tI,eAAiB,SAAUj+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU4tI,eAAiB,SAAUl+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU6tI,eAAiB,SAAUn+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU8tI,eAAiB,SAAUp+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU+tI,eAAiB,SAAUr+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUguI,eAAiB,SAAUt+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUiuI,eAAiB,SAAUv+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUkuI,eAAiB,SAAUx+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUmuI,eAAiB,SAAUz+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUouI,eAAiB,SAAU1+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUquI,eAAiB,SAAU3+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUsuI,eAAiB,SAAU5+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUuuI,eAAiB,SAAU7+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUwuI,eAAiB,SAAU9+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUyuI,eAAiB,SAAU/+G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU0uI,eAAiB,SAAUh/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU2uI,eAAiB,SAAUj/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU4uI,eAAiB,SAAUl/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU6uI,eAAiB,SAAUn/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU8uI,eAAiB,SAAUp/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU+uI,eAAiB,SAAUr/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUgvI,eAAiB,SAAUt/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUivI,eAAiB,SAAUv/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUkvI,eAAiB,SAAUx/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUmvI,eAAiB,SAAUz/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUovI,eAAiB,SAAU1/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUqvI,eAAiB,SAAU3/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUsvI,eAAiB,SAAU5/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUuvI,eAAiB,SAAU7/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUwvI,eAAiB,SAAU9/G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUyvI,eAAiB,SAAU//G,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU0vI,eAAiB,SAAUhgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU2vI,eAAiB,SAAUjgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU4vI,eAAiB,SAAUlgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU6vI,eAAiB,SAAUngH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU8vI,eAAiB,SAAUpgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU+vI,eAAiB,SAAUrgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUgwI,eAAiB,SAAUtgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUiwI,eAAiB,SAAUvgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUkwI,eAAiB,SAAUxgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUmwI,eAAiB,SAAUzgH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUowI,eAAiB,SAAU1gH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUqwI,eAAiB,SAAU3gH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUswI,eAAiB,SAAU5gH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUuwI,eAAiB,SAAU7gH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUwwI,eAAiB,SAAU9gH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUywI,eAAiB,SAAU/gH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU0wI,eAAiB,SAAUhhH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU2wI,eAAiB,SAAUjhH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU4wI,eAAiB,SAAUlhH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU6wI,eAAiB,SAAUnhH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU8wI,eAAiB,SAAUphH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU+wI,eAAiB,SAAUrhH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUgxI,eAAiB,SAAUthH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUixI,eAAiB,SAAUvhH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUkxI,eAAiB,SAAUxhH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUmxI,eAAiB,SAAUzhH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUoxI,eAAiB,SAAU1hH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUqxI,eAAiB,SAAU3hH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUsxI,eAAiB,SAAU5hH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUuxI,eAAiB,SAAU7hH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUwxI,eAAiB,SAAU9hH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAUyxI,eAAiB,SAAU/hH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU0xI,eAAiB,SAAUhiH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU2xI,eAAiB,SAAUjiH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU4xI,eAAiB,SAAUliH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU6xI,eAAiB,SAAUniH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU8xI,eAAiB,SAAUpiH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GAT9C,OAAI+rI,EAAaE,QAAQ1wG,EAAQ,KAU5E,MAEX8tG,
EAAqBjqI,UAAU+xI,eAAiB,SAAUriH,EAAIC,GAAQ,OAAOl3l3G,QAAQC,IAAIg3l3G,EAAIC,
EAAQA,EAAMu7B,EAAQ37B,IAE1B,OAAO,IAAIwpI,GAAqBY,EAAchqI,GA

oBztI,MACzC1B,KAAKorI,gBAAgB9vH,IAAIoxH,EAAevqC,OAAQuqC,GAChDuC,EAAcp+G,IAAI67G,EAAevqC,SAGzC,MAAOzvD,GAASJ,EAAM,CAAEnwC,MAAOuwC,GAC/B,QACI,IACQy8F,IAAwBA,EAAoBxtI,OAASmT,EAAKo6H,EAAkBxhH,SAAS5Y,EAAGvT,KAAK2tI,GAAErG,QAAU,GAAI58F,EAAIwC,EAAEjjC,KAAKyqC

AS0vH,EAAiBC,EAAgB1F,EAAiB2F,GACvD,IAAIp9H,EAAQwN,EAAOzf,KAAKvB,OAASA,KAcjC,OAbAwT,EAAMm9H,eAAiBA,EACvBn9H,EAAMy3H,gBAAkBA,EACxBz3H,EAAMo9H,YAAcA,EAAEpBp9H,EAAM25H,QAAU,GAChB35H,EAAMq9H,cAAgBA,EAAEpBp9H,EAAMs9H,eAAiBA,EAAEpBp9H,EAAMu9H,yBAA2B,IAAIj3H,IACrCtG,EAAMw9H,mBAAqBA,EAAEpBp9H,EAAMy9H,mCAAqC,IAAIn3H,IAC/CtG,CtG,EAAM+W,WAAaomH,EAAe9D,mBAAmB+D,GAC9Cp9H,EAAgNX,OAAhOA7S,EAAU+vI,EAAkB1vH,GAAkB5B0vH,EAAiB5vI,UAAUowI,WAAa,SAAUrxB,GAC9C,IAAIrsG,EAAQ1G

KAAKirI,gBAAgBvV,eAAevzB,GAClD,IAAK0d,EAAS,CAIV,IAAI6sB,EAAiB1sI,KAAK2wI,eAAelF,cAActpC,GACnDuqC,IACA7sB,EAAU,CAAE1d,OAAQuqC,EAAevqC,OAAQnvC,SAAU05E,EAAe15E,WAG5E,OAAO6sD,GAEJ6wB,EAjO0B,CAkOnC98G,IACE0+G,GAAkC,WAClC,SAASA,EAAiBC,EAAcC,GACpC,IAAIC,EAAQ,KACZ,GAAIF,EAAc,CACd,IAAIG,EAAcH,EAAaG,YAC3BC,EAAcJ,EAAaI,YAC3BC,EAAcL,EAAaK,YAC3BC,EAAcN,EAAaM,YAC3BC,EAAcP,EAAaO,YAC3BC,EAAcR,EAAaQ,YAC3BC,EAAcT,EAAaS,YAC3BC,EAAcV,EAAaU,YAC3BC,EAAcX,EAAaW,YAC3BC,EAAcZ,EAAaY,YAC3BC,EAAcb,EAAac,YAC3BC,EAAcf,EAAae,YAC3BC,EAAchB,EAAagB,YAC3BC,EAAcjB,EAAaiB,YAC3BC,EAAclB,EAAakB,YAC3BC,EAAcnB,EAAamB,YAC3BC,EAAcpB,EAAaoB,YAC3BC,EAAcrB,EAAaqB,YAC3BC,EAActB,EAAasB,YAC3BC,EAAcvB,EAAauB,YAC3BC,EAAcxB,EAAawB,YAC3BC,EAAczB,EAAayB,YAC3BC,EAAc1B,EAAa0B,YAC3BC,EAAc3B,EAAa2B,YAC3BC,EAAc5B,EAAa4B,YAC3BC,EAAc7B,EAAa6B,YAC3BC,EAAc9B,EAAa8B,YAC3BC,EAAc/B,EAAa+B,YAC3BC,EAAchC,EAAagC,YAC3BC,EAAcjC,EAAaiC,YAC3BC,EAAclC,EAAakC,YAC3BC,EAAcnC,EAAamC,YAC3BC,EAAcpC,EAAaoC,YAC3BC,EAAcrC,EAAaqC,YAC3BC,EAActC,EAAasC,YAC3BC,EAAcvC,EAAauC,YAC3BC,EAAcxC,EAAawC,YAC3BC,EAAczC,EAAayC,YAC3BC,EAAc1C,EAAa0C,YAC3BC,EAAc3C,EAAa2C,YAC3BC,EAAc5C,EAAa4C,YAC3BC,EAAc7C,EAAa6C,YAC3BC,EAAc9C,EAAa8C,YAC3BC,EAAc/C,EAAa+C,YAC3BC,EAAchD,EAAagD,YAC3BC,EAAcjD,EAAaiD,YAC3BC,EAAclD,EAAakD,YAC3BC,EAAcnD,EAAamD,YAC3BC,EAAcpD,EAAaoD,YAC3BC,EAAcrD,EAAaqD,YAC3BC,EAActD,EAAasD,YAC3BC,EAAcvD,EAAauD,YAC3BC,EAAcxD,EAAawD,YAC3BC,EAAczD,EAAayD,YAC3BC,EAAc1D,EAAa0D,YAC3BC,EAAc3D,EAAa2D,YAC3BC,EAAc5D,EAAa4D,YAC3BC,EAAc7D,EAAa6D,YAC3BC,EAAc9D,EAAa8D,YAC3BC,EAAc/D,EAAa+D,YAC3BC,EAAchE,EAAagE,YAC3BC,EAAcjE,EAAaiE,YAC3BC,EAAclE,EAAakE,YAC3BC,EAAcnE,EAAamE,YAC3BC,EAAcpE,EAAaoE,YAC3BC,EAAcrE,EAAaqE,YAC3BC,EAActE,EAAasE,YAC3BC,EAAcvE,EAAauE,YAC3BC,EAAcxE,EAAawE,YAC3BC,EAAczE,EAAayE,YAC3BC,EAAc1E,EAAa0E,YAC3BC,EAAc3E,EAAa2E,YAC3BC,EAAc5E,EAAa4E,YAC3BC,EAAc7E,EAAa6E,YAC3BC,EAAc9E,EAAa8E,YAC3BC,EAAc/E,EAAa+E,YAC3BC,EAAchF,EAAagF,YAC3BC,EAAcjF,EAAaiF,YAC3BC,EAAclF,EAAakF,YAC3BC,EAAcnF,EAAamF,YAC3BC,EAAcpF,EAAaoF,YAC3BC,EAAcrF,EAAaqF,YAC3BC,EAActF,EAAasF,YAC3BC,EAAcvF,EAAauF,YAC3BC,EAAcxF,EAAawF,YAC3BC,EAAczF,EAAayF,YAC3BC,EAAc1F,EAAa0F,YAC3BC,EAAc3F,EAAa2F,YAC3BC,EAAc5F,EAAa4F,YAC3BC,EAAc7F,EAAa6F,YAC3BC,EAAc9F,EAAa8F,YAC3BC,EAAc/F,EAAa+F,YAC3BC,EAAchG,EAAagG,YAC3BC,EAAcjG,EAAaiG,YAC3BC,EAAclG,EAAakG,YAC3BC,EAAcnG,EAAamG,YAC3BC,EAAcpG,EAAaoG,YAC3BC,EAAcrG,EAAaqG,YAC3BC,EAActG,EAAasG,YAC3BC,EAAcvG,EAAauG,YAC3BC,EAAcxG,EAAawG,YAC3BC,EAAczG,EAAayG,YAC3BC,EAAc1G,EAAa0G,YAC3BC,EAAc3G,EAAa2G,YAC3BC,EAAc5G,EAAa4G,YAC3BC,EAAc7G,EAAa6G,YAC3BC,EAAc9G,EAAa8G,YAC3BC,EAAc/G,EAAa+G,YAC3BC,EAAchH,EAAagH,YAC3BC,EAAcjH,EAAaiH,YAC3BC,EAAclH,EAAakH,YAC3BC,EAAcnH,EAAamH,YAC3BC,EAAcpH,EAAaoH,YAC3BC,EAAcrH,EAAaqH,YAC3BC,EAActH,EAAasH,YAC3BC,EAAcvH,EAAauH,YAC3BC,EAAcxH,EAAawH,YAC3BC,EAAczH,EAAayH,YAC3BC,EAAc1H,EAAa0H,YAC3BC,EAAc3H,EAAa2H,YAC3BC,EAAc5H,EAAa4H,YAC3BC,EAAc7H,EAAa6H,YAC3BC,EAAc9H,EAAa8H,YAC3BC,EAAc/H,EAAa+H,YAC3BC,EAAchI,EAAagI,YAC3BC,EAAcjI,EAAaiI,YAC3BC,EAAclI,EAAakI,YAC3BC,EAAcnI,EAAamI,YAC3BC,EAAcpI,EAAaoI,YAC3BC,EAAcrI,EAAaqI,YAC3BC,EAActI,EAAasI,YAC3BC,EAAcvI,EAAauI,YAC3BC,EAAcxI,EAAawI,YAC3BC,EAAczI,EAAayI,YAC3BC,EAAc1I,EAAa0I,YAC3BC,EAAc3I,EAAa2I,YAC3BC,EAAc5I,EAAa4I,YAC3BC,EAAc7I,EAAa6I,YAC3BC,EAAc9I,EAAa8I,YAC3BC,EAAc/I,EAAa+I,YAC3BC,EAAchJ,EAAagJ,YAC3BC,EAAcjJ,EAAaiJ,YAC3BC,EAAclJ,EAAakJ,YAC3BC,EAAcnJ,EAAamJ,YAC3BC,EAAcpJ,EAAaoJ,YAC3BC,EAAcrJ,EAAaqJ,YAC3BC,EAActJ,EAAasJ,YAC3BC,EAAcvJ,EAAauJ,YAC3BC,EAAcxJ,EAAawJ,YAC3BC,EAAczJ,EAAayJ,YAC3BC,EAAc1J,EAAa0J,YAC3BC,EAAc3J,EAAa2J,YAC3BC,EAAc5J,EAAa4J,YAC3BC,EAAc7J,EAAa6J,YAC3BC,EAAc9J,EAAa8J,YAC3BC,EAAc/J,EAAa+J,YAC3BC,EAAchK,EAAagK,YAC3BC,EAAcjK,EAAaiK,YAC3BC,EAAclK,EAAakK,YAC3BC,EAAcnK,EAAamK,YAC3BC,EAAcpK,EAAaoK,YAC3BC,EAAcrK,EAAaqK,YAC3BC,EAActK,EAAasK,YAC3BC,EAAcvK,EAAauK,YAC3BC,EAAcxK,EAAawK,YAC3BC,EAAczK,EAAayK,YAC3BC,EAAc1K,EAAa0K,YAC3BC,EAAc3K,EAAa2K,YAC3BC,EAAc5K,EAAa4K,YAC3BC,EAAc7K,EAAa6K,YAC3BC,EAAc9K,EAAa8K,YAC3BC,EAAc/K,EAAa+K,YAC3BC,EAAchL,EAAagL,YAC3BC,EAAcjL,EAAaiL,YAC3BC,EAAclL,EAAakL,YAC3BC,EAAcnL,EAAamL,YAC3BC,EAAcpL,EAAaoL,YAC3BC,EAAcrL,EAAaqL,YAC3BC,EAActL,EAAasL,YAC3BC,EAAcvL,EAAauL,YAC3BC,EAAcxL,EAAawL,YAC3BC,EAAczL,EAAayL,YAC3BC,EAAc1L,EAAa0L,YAC3BC,EAAc3L,EAAa2L,YAC3BC,EAAc5L,EAAa4L,YAC3BC,EAAc7L,EAAa6L,YAC3BC,EAAc9L,EAAa8L,YAC3BC,EAAc/L,EAAa+L,YAC3BC,EAAchM,EAAagM,YAC3BC,EAAcjM,EAAaiM,YAC3BC,EAAclM,EAAakM,YAC3BC,EAAcnM,EAAamM,YAC3BC,EAAcpM,EAAaoM,YAC3BC,EAAcrM,EAAaqM,YAC3BC,EAActM,EAAasM,YAC3BC,EAAcvM,EAAauM,YAC3BC,EAAcxM,EAAawM,YAC3BC,EAAczM,EAAayM,YAC3BC,EAAc1M,EAAa0M,YAC3BC,EAAc3M,EAAa2M,YAC3BC,EAAc5M,EAAa4M,YAC3BC,EAAc7M,EAAa6M,YAC3BC,EAAc9M,EAAa8M,YAC3BC,EAAc/M,EAAa+M,YAC3BC,EAAchN,EAAagN,YAC3BC,EAAcjN,EAAaiN,YAC3BC,EAAclN,EAAakN,YAC3BC,EAAcnN,EAAamN,YAC3BC,EAAcpN,EAAaoN,YAC3BC,EAAcrN,EAAaqN,YAC3BC,EAActN,EAAasN,YAC3BC,EAAcvN,EAAauN,YAC3BC,EAAcxN,EAAawN,YAC3BC,EAAczN,EAAayN,YAC3BC,EAAc1N,EAAa0N,YAC3BC,EAAc3N,EAAa2N,YAC3BC,EAAc5N,EAAa4N,YAC3BC,EAAc7N,EAAa6N,YAC3BC,EAAc9N,EAAa8N,YAC3BC,EAAc/N,EAAa+N,YAC3BC,EAAchO,EAAagO,YAC3BC,EAAcjO,EAAaiO,YAC3BC,EAAclO,EAAakO,YAC3BC,EAAcnO,EAAamO,YAC3BC,EAAcpO,EAAaoO,YAC3BC,EAAcrO,EAAaqO,YAC3BC,EAActO,EAAasO,YAC3BC,EAAcvO,EAAauO,YAC3BC,EAAcxO,EAAawO,YAC3BC,EAAczO,EAAayO,YAC3BC,EAAc1O,EAAa0O,YAC3BC,EAAc3O,EAAa2O,YAC3BC,EAAc5O,EAAa4O,YAC3BC,EAAc7O,EAAa6O,YAC3BC,EAAc9O,EAAa8O,YAC3BC,EAAc/O,EAAa+O,YAC3BC,EAAchP,EAAagP,YAC3BC,EAAcjP,EAAaiP,YAC3BC,EAAclP,EAAakP,YAC3BC,EAAcnP,EAAamP,YAC3BC,EAAcpP,EAAaoP,YAC3BC,EAAcrP,EAAaqP,YAC3BC,EAActP,EAAasP,YAC3BC,EAAcvP,EAAauP,YAC3BC,EAAcxP,EAAawP,YAC3BC,EAAczP,EAAayP,YAC3BC,EAAc1P,EAAa0P,YAC3BC,EAAc3P,EAAa2P,YAC3BC,EAAc5P,EAAa4P,YAC3BC,EAAc7P,EAAa6P,YAC3BC,EAAc9P,EAAa8P,YAC3BC,EAAc/P,EAAa+P,YAC3BC,EAAchQ,EAAagQ,YAC3BC,EAAcjQ,EAAaiQ,YAC3BC,EAAclQ,EAAakQ,YAC3BC,EAAcnQ,EAAamQ,YAC3BC,EAAcpQ,EAAaoQ,YAC3BC,EAAcrQ,EAAaqQ,YAC3BC,EAActQ,EAAasQ,YAC3BC,EAAcvQ,EAAauQ,YAC3BC,EAAcxQ,EAAawQ,YAC3BC,EAAczQ,EAAayQ,YAC3BC,EAAc1Q,EAAa0Q,YAC3BC,EAAc3Q,EAAa2Q,YAC3BC,EAAc5Q,EAAa4Q,YAC3BC,EAAc7Q,EAAa6Q,YAC3BC,EAAc9Q,EAAa8Q,YAC3BC,EAAc/Q,EAAa+Q,YAC3BC,EAAchR,EAAagR,YAC3BC,EAAcjR,EAAaiR,YAC3BC,EAAclR,EAAakR,YAC3BC,EAAcnR,EAAamR,YAC3BC,EAAcpR,EAAaoR,YAC3BC,EAAcrR,EAAaqR,YAC3BC,EAActR,EAAasR,YAC3BC,EAAcvR,EAAauR,YAC3BC,EAAcxR,EAAawR,YAC3BC,EAAczR,EAAayR,YAC3BC,EAAc1R,EAAa0R,YAC3BC,EAAc3R,EAAa2R,YAC3BC,EAAc5R,EAAa4R,YAC3BC,EAAc7R,EAAa6R,YAC3BC,EAAc9R,EAAa8R,YAC3BC,EAAc/R,EAAa+R,YAC3BC,EAAchS,EAAagS,YAC3BC,EAAcjS,EAAaiS,YAC3BC,EAAclS,EAAakS,YAC3BC,EAAcnS,EAAamS,YAC3BC,EAAcpS,EAAaoS,YAC3BC,EAAcrS,EAAaqS,YAC3BC,EAActS,EAAasS,YAC3BC,EAAcvS,EAAauS,YAC3BC,EAAcxS,EAAawS,YAC3BC,EAAczS,EAAayS,YAC3BC,EAAc1S,EAAa0S,YAC3BC,EAAc3S,EAAa2S,YAC3BC,EAAc5S,EAAa4S,YAC3BC,EAAc7S,EAAa6S,YAC3BC,EAAc9S,EAAa8S,YAC3BC,EAAc/S,EAAa+S,YAC3BC,EAAchT,EAAagT,YAC3BC,EAAcjT,EAAaiT,YAC3BC,EAAclT,EAAakT,YAC3BC,EAAcnT,EAAamT,YAC3BC,EAAcpT,EAAaoT,YAC3BC,EAAcrT,EAAaqT,YAC3BC,EAActT,EAAasT,YAC3BC,EAAcvT,EAAauT,YAC3BC,EAAcxT,EAAawT,YAC3BC,EAAczT,EAAayT,YAC3BC,EAAc1T,EAAa0T,YAC3BC,EAAc3T,EAAa2T,YAC3BC,EAAc5T,EAAa4T,YAC3BC,EAAc7T,EAAa6T,YAC3BC,EAAc9T,EAAa8T,YAC3BC,EAAc/T,EAAa+T,YAC3BC,EAAchU,EAAagU,YAC3BC,EAAcjU,EAAaiU,YAC3BC,EAAclU,EAAakU,YAC3BC,EAAcnU,EAAamU,YAC3BC,EAAcpU,EAAaoU,YAC3BC,EAAcrU,EAAaqU,YAC3BC,EAActU,EAAasU,YAC3BC,EAAcvU,EAAauU,YAC3BC,EAAcxU,EAAawU,YAC3BC,EAAczU,EAAayU,YAC3BC,EAAc1U,EAAa0U,YAC3BC,EAAc3U,EAAa2U,YAC3BC,EAAc5U,EAAa4U,YAC3BC,EAAc7U,EAAa6U,YAC3BC,EAAc9U,EAAa8U,YAC3BC,EAAc/U,EAAa+U,YAC3BC,EAAchV,EAAagV,YAC3BC,EAAcjV,EAAaiV,YAC3BC,EAAclV,EAAakV,YAC3BC,EAAcnV,EAAamV,YAC3BC,EAAcpV,EAAaoV,YAC3BC,EAAcrV,EAAaqV,YAC3BC,EAActV,EAAasV,YAC3BC,EAAcvV,EAAauV,YAC3BC,EAAcxV,EAAawV,YAC3BC,EAAczV,EAAayV,YAC3BC,EAAc1V,EAAa0V,YAC3BC,EAAc3V,EAAa2V,YAC3BC,EAAc5V,EAAa4V,YAC3BC,EAAc7V,EAAa6V,YAC3BC,EAAc9V,EAAa8V,YAC3BC,EAAc/V,EAAa+V,YAC3BC,EAAchW,EAAagW,YAC3BC,EAAcjW,EAAaiW,YAC3BC,EAAclW,EAAakW,YAC3BC,EAAcnW,EAAamW,YAC3BC,EAAcpW,EAAaoW,YAC3BC,EAAcrW,EAAaqW,YAC3BC,EAActW,EAAasW,YAC3BC,EAAcvW,EAAauW,YAC3BC,EAAcxW,EAAawW,YAC3BC,EAAczW,EAAayW,YAC3BC,EAAc1W,EAAa0W,YAC3BC,EAAc3W,EAAa2W,YAC3BC,EAAc5W,EAAa4W,YAC3BC,EAAc7W,EAAa6W,YAC3BC,EAAc9W,EAAa8W,YAC3BC,EAAc/W,EAAa+W,YAC3BC,EAAchX,EAAagX,YAC3BC,EAAcjX,EAAaiX,YAC3BC,EAAclX,EAAakX,YAC3BC,EAAcnX,EAAamX,YAC3BC,EAAcpX,EAAaoX,YAC3BC,EAAcrX,EAAaqX,YAC3BC,EAActX,EAAasX,YAC3BC,EAAcvX,EAAauX,YAC3BC,EAAcxX,EAAawX,YAC3BC,EAAczX,EAAayX,YAC3BC,EAAc1X,EAAa0X,YAC3BC,EAAc3X,EAAa2X,YAC3BC,EAAc5X,EAAa4X,YAC3BC,EAAc7X,EAAa6X,YAC3BC,EAAc9X,EAAa8X,YAC3BC,EAAc/X,EAAa+X,YAC3BC,EAAchY,EAAagY,YAC3BC,EAAcjY,EAAaiY,YAC3BC,EAAclY,EAAakY,YAC3BC,EAAcnY,EAAamY,YAC3BC,EAAcpY,EAAaoY,YAC3BC,EAAcrY,EAAaqY,YAC3BC,EAActY,EAAasY,YAC3BC,EAAcvY,EAAauY,YAC3BC,EAAcxY,EAAawY,YAC3BC,EAAczY,EAAayY,YAC3BC,EAAc1Y,EAAa0Y,YAC3BC,EAAc3Y,EAAa2Y,YAC3BC,EAAc5Y,EAAa4Y,YAC3BC,EAAc7Y,EAAa6Y,YAC3BC,EAAc9Y,EAAa8Y,YAC3BC,EAAc/Y,EAAa+Y,YAC3BC,EAAchZ,EAAagZ,YAC3BC,EAAcjZ,EAAaiZ,YAC3BC,EAAclZ,EAAakZ,YAC3BC,EAAcnZ,EAAamZ,YAC3BC,EAAcpZ,EAAaoZ,YAC3BC,EAAcrZ,EAAaqZ,YAC3BC,EAActZ,EAAasZ,YAC3BC,EAAcvZ,EAAauZ,YAC3BC,EAAcxZ,EAAawZ,YAC3BC,EAAczZ,EAAayZ,YAC3BC,EAAc1Z,EAAa0Z,YAC3BC,EAAc3Z,EAAa2Z,YAC3BC,EAAc5Z,EAAa4Z,YAC3BC,EAAc7Z,EAAa6Z,YAC3BC,EAAc9Z,EAAa8Z,YAC3BC,EAAc/Z,EAAa+Z,YAC3BC,EAAcha,EAAaga,YAC3BC,EAAcja,EAAaia,YAC3BC,EAAcla,EAAaka,YAC3BC,EAAcna,EAAama,YAC3BC,EAAcpa,EAAaoa,YAC3BC,EAAcra,EAAaqa,YAC3BC,EAActa,EAAasa,YAC3BC,EAAcva,EAAaua,YAC3BC,EAAcxa,EAAawa,YAC3BC,EAAcza,EAAaya,YAC3BC,EAAc1a,EAAa0a,YAC3BC,EAAc3a,EAAa2a,YAC3BC,EAAc5a,EAAa4a,YAC3BC,EAAc7a,EAAa6a,YAC3BC,EAAc9a,EAAa8a,YAC3BC,EAAc/a,EAAa+a,YAC3BC,EAAchb,EAAagb,YAC3BC,EAAcjb,EAAaib,YAC3BC,EAAclb,EAAakb,YAC3BC,EAAcnb,EAAamb,YAC3BC,EAAcpb,EAAaob,YAC3BC,EAAcrb,EAAaqb,YAC3BC,EAActb,EAAasb,YAC3BC,EAAcvb,EAAaub,YAC3BC,EAAcxb,EAAawb,YAC3BC,EAAczb,EAAayb,YAC3BC,EAAc1b,EAAa0b,YAC3BC,EAAc3b,EAAa2b,YAC3BC,EAAc5b,EAAa4b,YAC3BC,EAAc7b,EAAa6b,YAC3BC,EAAc9b,EAAa8b,YAC3BC,EAAc/b,EAAa+b,YAC3BC,EAAchc,EAAagc,YAC3BC,EAAcjc,EAAaic,YAC3BC,EAAclc,EAAakc,YAC3BC,EAAcnc,EAAamc,YAC3BC,EAAcpc,EAAaoc,YAC3BC,EAAcrc,EAAaqc,YAC3BC,EAActc,EAAasc,YAC3BC,EAAcvc,EAAauc,YAC3BC,EAAcxc,EAAawc,YAC3BC,EAAczc,EAAayc,YAC3BC,EAAc1c,EAAa0c,YAC3BC,EAAc3c,EAAa2c,YAC3BC,EAAc5c,EAAa4c,YAC3BC,EAAc7c,EAAa6c,YAC3BC,EAAc9c,EAAa8c,YAC3BC,EAAc/c,EAAa+c,YAC3BC,EAAchd,EAAagd,YAC3BC,EAAcjd,EAAaid,YAC3BC,EAAcld,EAAakd,YAC3BC,EAAcnd,EAAamd,YAC3BC,EAAcpd,EAAaod,YAC3BC,EAAcrd,EAAaqd,YAC3BC,EAActd,EAAasd,YAC3BC,EAAcvd,EAAaud,YAC3BC,EAAcxd,EAAawd,YAC3BC,EAAczd,EAAayd,YAC3BC,EAAc1d,EAAa0d,YAC3BC,EAAc3d,EAAa2d,YAC3BC,EAAc5d,EAAa4d,YAC3BC,EAAc7d,EAAa6d,YAC3BC,EAAc9d,EAAa8d,YAC3BC,EAAc/d,EAAa+d,YAC3BC,EAAche,EAAage,YAC3BC,EAAcje,EAAaie,YAC3BC,EAAcle,EAAake,YAC3BC,EAAcne,EAAame,YAC3BC,EAAcpe,EAAaoe,YAC3BC,EAAcre,EAAaqe,YAC3BC,EAActe,EAAase,YAC3BC,EAAcve,EAAaue,YAC3BC,EAAcxe,EAAawe,YAC3BC,EAAcze,EAAaye,YAC3BC,EAAc1e,EAAa0e,YAC3BC,EAAc3e,EAAa2e,YAC3BC,EAAc5e,EAAa4e,YAC3BC,EAAc7e,EAAa6e,YAC3BC,EAAc9e,EAAa8e,YAC3BC,EAAc/e,EAAa+e,YAC3BC,EAAchf,EAAagf,YAC3BC,EAAcjf,EAAaif,YAC3BC,EAAclf,EAAakf,YAC3BC,EAAcnf,EAAamf,YAC3BC,EAAcpf,EAAaof,YAC3BC,EAAcrf,EAAaqf,YAC3BC,EAActf,EAAasf,YAC3BC,EAAcvf,EAAauf,YAC3BC,EAAcxf,EAAawf,YAC3BC,EAAczf,EAAayf,YAC3BC,EAAc1f,EAAa0f,YAC3BC,EAAc3f,EAAa2f,YAC3BC,EAAc5f,EAAa4f,YAC3BC,EAAc7f,EAAa6f,YAC3BC,EAAc9f,EAAa8f,YAC3BC,EAAc/f,EAAa+f,YAC3BC,EAAchg,EAAagg,YAC3BC,EAAcjg,EAAaig,YAC3BC,EAAclg,EAAakg,YAC3BC,EAAcng,EAAamg,YAC3BC,EAAcpg,EAAaog,YAC3BC,EAAcrg,EAAaqg,YAC3BC,EAActg,EAAasg,YAC3BC,EAAcvg,EAAaug,YAC3BC,EAAcxg,EAAawg,YAC3BC,EAAczg,EAAayg,YAC3BC,EAAc1g,EAAa0g,YAC3BC,EAAc3g,EAAa2g,YAC3BC,EAAc5g,EAAa4g,YAC3BC,EAAc7g,EAAa6g,YAC3BC,EAAc9g,EAAa8g,YAC3BC,EAAc/g,EAAa+g,YAC3BC,EAAchh,EAAagh,YAC3BC,EAAcjh,EAAaih,YAC3BC,EAAclh,EAAakh,YAC3BC,EAAcnh,EAAamh,YAC3BC,EAAcph,EAAaoh,YAC3BC,EAAcrh,EAAaqh,YAC3BC,EAActh,EAAash,YAC3BC,EAAcvh,EAAauh,YAC3BC,EAAcxh,EAAawh,YAC3BC,EAAczh,EAAayh,YAC3BC,EAAc1h,EAAa0h,YAC3BC,EAAc3h,EAAa2h,YAC3BC,EAAc5h,EAAa4h,YAC3BC,EAAc7h,EAAa6h,YAC3BC,EAAc9h,EAAa8h,YAC3BC,EAAc/h,EAAa+h,YAC3BC,EAAchi,EAAagi,YAC3BC,EAAcji,EAAaii,YAC3BC,EAAcli,EAAakiI,YAC3BC,EAAcniI,EAAamiI,YAC3BC,EAAcpiI,EAAaoiI,YAC3BC,EAAcriI,EAAaqiI,YAC3BC,EAActiI,EAAasiI,YAC3BC,EAAcviI,EAAauiI,YAC3BC,EAAcxiI,EAAawiI,YAC3BC,EAAeziI,EAAayiI,aAC5BC,EAAe1iI,EAAa0iI,aAC5BC,EAAe3iI,EAAa2iI,aAC5BC,EAAe5iI,EAAa4iI,aAC5BC,EAAe7iI,EAAa6iI,aAC5BC,EAAe9iI,EAAa8iI,aAC5BC,EAAe/iI,EAAa+iI,aAC5BC,EAAehjI,EAAagjI,aAC5BC,EAAejjI,EAAaijI,aAC5BC,EAAeljI,EAAakjI,aAC5BC,EAAenjI,EAAamjI,aAC5BC,EAAepjI,EAAaojI,aAC5BC,EAAerjI,EAAaqjI,aAC5BC,EAAetjI,EAAasjI,aAC5BC,EAAevjI,EAAaujI,aAC5BC,EAAexjI,EAAawjI,aAC5BC,EAAezjI,EAAayjI,aAC5BC,EAAe1jI,EAAa0jI,aAC5BC,EAAe3jI,EAAa2jI,aAC5BC,EAAe5jI,EAAa4jI,aAC5BC,EAAe7jI,EAAa6jI,aAC5BC,EAAe9jI,EAAa8jI,aAC5BC,EAAe/jI,EAAa+jI,aAC5BC,EAAehkI,EAAagkI,aAC5BC,EAAejkI,EAAaikI,aAC5BC,EAAelkI,EAAakkI,aAC5BC,EAAenkI,EAAamkI,aAC5BC,EAAepkI,EAAaokI,aAC5BC,EAAerkI,EAAaqkI,aAC5BC,EAAetkI,EAAaskI,aAC5BC,EAAevkI,EAAaukI,aAC5BC,EAAexkI,EAAawkI,aAC5BC,EAAezkI,EAAaykI,aAC5BC,EAAe1kI,EAAa0kI,aAC5BC,EAAe3kI,EAAa2kI,aAC5BC,EAAe5kI,EAAa4kI,aAC5BC,EAAe7kI,EAAa6kI,aAC5BC,EAAe9kI,EAAa8kI,aAC5BC,EAAe/kI,EAAa+kI,aAC5BC,EAAehlI,EAAaglI,aAC5BC,EAAejlI,EAAailI,aAC5BC,EAAellI,EAAaklI,aAC5BC,EAAenlI,EAAamlI,aAC5BC,EAAeplI,EAAaolI,aAC5BC,EAAerlI,EAAaqlI,aAC5BC,EAAetlI,EAAaslI,aAC5BC,EAAevlI,EAAaulI,aAC5BC,EAAexlI,EAAawlI,aAC5BC,EAAezlI,EAAaylI,aAC5BC,EAAe1lI,EAAa0lI,aAC5BC,EAAe3lI,EAAa2lI,aAC5BC,EAAe5lI,EAAa4lI,aAC5BC,EAAe7lI,EAAa6lI,aAC5BC,EAAe9lI,EAAa8lI,aAC5BC,EAAe/lI,EAAa+lI,aAC5BC,EAAehmI,EAAagmI,aAC5BC,EAAejmI,EAAaimI,aAC5BC,EAAelmI,EAAakmI,aAC5BC,EAAenmI,EAAammI,aAC5BC,EAAepmI,EAAaomI,aAC5BC,EAAermI,EAAaqmI,aAC5BC,EAAetmI,EAAasmI,aAC5BC,EAAevmI,EAAaumI,aAC5BC,EAAexmI,EAAawmI,aAC5BC,EAAezmI,EAAaymI,aAC5BC,EAAe1mI,EAAa0mI,aAC5BC,EAAe3mI,EAAa2mI,aAC5BC,EAAe5mI,EAAa4mI,aAC5BC,EAAe7mI,EAAa6mI,aAC5BC,EAAe9mI,EAAa8mI,aAC5BC,EAAe/mI,EAAa+mI,aAC5BC,EAAehnI,EAAagnI,aAC5BC,EAAejnI,EAAainI,aAC5BC,EAAelnI,EAAaknI,aAC5BC,EAAennI,EAAamnI,aAC5BC,EAAepnI,EAAaonI,aAC5BC,EAAernI,EAAaqnI,aAC5BC,EAAetnI,EAAasnI,aAC5BC,EAAevnI,EAAaunI,aAC5BC,EAAexnI,EAAawnI,aAC5BC,EAAeznI,EAAaynI,aAC5BC,EAAe1nI,EAAa0nI,aAC5BC,EAAe3nI,EAAa2nI,aAC5BC,EAAe5nI,EAAa4nI,aAC5BC,EAAe7nI,EAAa6nI,aAC5BC,EAAe9nI,EAAa8nI,aAC5BC,EAAe/nI,EAAa+nI,aAC5BC,EAAehoI,EAAagoI,aAC5BC,EAAejoI,EAAaioI,aAC5BC,EAAeloI,EAAakoI,aAC5BC,EAAenoI,EAAamoI,aAC5BC,EAAepoI,EAAaooI,aAC5BC,EAAeroI,EAAaqoI,aAC5BC,EAAetoI,EAAasoI,aAC5BC,EAAevoI,EAAauoI,aAC5BC,EAAexoI,EAAawoI,aAC5BC,EAAezoI,EAAayoI,aAC5BC,EAAe1oI,EAAa0oI,aAC5BC,EAAe3oI,EAAa2oI,aAC5BC,EAAe5oI,EAAa4oI,aAC5BC,EAAe7oI,EAAa6oI,aAC5BC,EAAe9oI,EAAa8oI,aAC5BC,EAAe/oI,EAAa+oI,aAC5BC,EAAehpI,EAAagpI,aAC5BC,EAAejpI,EAAaipI,aAC5BC,EAAelpI,EAAakpI,aAC5BC,EAAenpI,EAAampI,aAC5BC,EAAeppI,EAAaopI,aAC5BC,EAAerpI,EAAaqpI,aAC5BC,EAAetpI,EAAaspI,aAC5BC,EAAevpI,EAAaupI,aAC5BC,EAAexpI,EAAawpI,aAC5BC,EAAezpI,EAAaypI,aAC5BC,EAAe1pI,EAAa0pI,aAC5BC,EAAe3pI,EAAa2pI,aAC5BC,EAAe5pI,EAAa4pI,aAC5BC,EAAe7pI,EAAa6pI,aAC5BC,EAAe9pI,EAAa8pI,aAC5BC,EAAe/pI,EAAa+pI,aAC5BC,EAAehqI,EAAagqI,aAC5BC,EAAejqI,EAAaiqI,aAC5BC,EAAelqI,EAAakqI,aAC5BC,EAAenqI,EAAamqI,aAC5BC,EAAepqI,EAAaoqI,aAC5BC,EAAerqI,EAAaqqI,aAC5BC,EAAetqI,EAAasqI,aAC5BC,EAAevqI,EAAauqI,aAC5BC,EAAexqI,EAAawqI,aAC5BC,EAAezqI,EAAayqI,aAC5BC,EAAe1qI,EAAa0qI,aAC5BC,EAAe3qI,EAAa2qI,aAC5BC,EAAe5qI,EAAa4qI,aAC5BC,EAAe7qI,EAAa6qI,aAC5BC,EAAe9qI,EAAa8qI,aAC5BC,EAAe/qI,EAAa+qI,aAC5BC,EAAehrI,EAAagrI,aAC5BC,EAAejrI,EAAairI,aAC5BC,EAAelrI,EAAakrI,aAC5BC,EAAenrI,EAAamrI,aAC5BC,EAAeprI,EAAaorI,aAC5BC,EAAerrI,EAAaqrI,aAC5BC,EAAetrI,EAAasrI,aAC5BC,EAAevrI,EAAaurI,aAC5BC,EAAexrI,EAAawrI,aAC5BC,EAAezrI,EAAayrI,aAC5BC,EAAe1rI,EAAa0rI,aAC5BC,EAAe3rI,EAAa2rI,aAC5BC,EAAe5rI,EAAa4rI,aAC5BC,EAAe7rI,EAAa6rI,aAC5BC,EAAe9rI,EAAa8rI,aAC5BC,EAAe/rI,EAAa+rI,aAC5BC,EAAehsI,EAAagsI,aAC5BC,EAAejsI,EAAaisI,aAC5BC,EAAelsI,EAAaksI,aAC5BC,EAAensI,EAAamsI,aAC5BC,EAAepsI,EAAaosI,aAC5BC,EAAersI,EAAaqsI,aAC5BC,EAAetsI,EAAassI,aAC5BC,EAAevsI,EAAausI,aAC5BC,EAAexsI,EAAawsI,aAC5BC,EAAezsI,EAAaysI,aAC5BC,EAAe1sI,EAAa0sI,aAC5BC,EAAe3sI,EAAa2sI,aAC5BC,EAAe5sI,EAAa4sI,aAC5BC,EAAe7sI,EAAa6sI,aAC5BC,EAAe9sI,EAAa8sI,aAC5BC,EAAe/sI,EAAa+sI,aAC5BC,EAAehtI,EAAagtI,aAC5BC,EAAejtI,EAAaitI,aAC5BC,EAAeltI,EAAaktI,aAC5BC,EAAentI,EAAamtI,aAC5BC,EAAeptI,EAAaotI,aAC5BC,EAAertI,EAAaqtI,aAC5BC,EAAettI,EAAastI,aAC5BC,EAAevtI,EAAautI,aAC5BC,EAAextI,EAAawtI,aAC5BC,EAAeztI,EAAaytI,aAC5BC,EAAe1tI,EAAa0tI,aAC5BC,EAAe3tI,EAAa2tI,aAC5BC,EAAe5tI,EAAa4tI,aAC5BC,EAAe7tI,EAAa6tI,aAC5BC,EAAe9tI,EAAa8tI,aAC5BC,EAAe/tI,EAAa+tI,aAC5BC,EAAehuI,EAAagtI,aAC5BC,EAAejuI,EAAaitI,aAC5BC,EAAeluI,EAAaktI,aAC5BC,EAAenuI,EAAamtI,aAC5BC,EAAepuI,EAAaotI,aAC5BC,EAAeruI,EAAaqtI,aAC5BC,EAAetuI,EAAastI,aAC5BC,EAAevuI,EAAautI,aAC5BC,EAAexuI,EAAawtI,aAC5BC,EAAezuI,EAAaytI,aAC5BC,EAAe1uI,EAAa0tI,aAC5BC,EAAe3uI,EAAa2tI,aAC5BC,EAAe5uI,EAAa4tI,aAC5BC,EAAe7uI,EAAa6tI,aAC5BC,EAAe9uI,EAAa8tI,aAC5BC,EAAe/uI,EAAa+tI,aAC5BC,EAAehvI,EAAagtI,aAC5BC,EAAejvI,EAAaitI,aAC5BC,EAAelvI,EAAaktI,aAC5BC,EAAenvI,EAAamtI,aAC5BC,EAAepvI,EAAaotI,aAC5BC,EAAervI,EAAaqtI,aAC5BC,EAAetvI,EAAastI,aAC5BC,EAAevvI,EAAautI,aAC5BC,EAAexvI,EAAawtI,aAC5BC

BC,EAAavI,GACvC,IAAIz3H,EAAQwN,EAAOzf,KAAKvB,OAASA,KAGjC,OAFAwT,EAAMggI,YAAcA,EACpBhgI,EAAMy3H,gBAAkBA,EACjBz3H,EA+BX,OApCA7S,EAAU4yI,EAAsBvyH,GAOhCuyH,EAAqBzyI,UAAU2yI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUizI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUkzI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUmzI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUozI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUqzI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUszI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUuzI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUwzI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUyzI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU0zI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU2zI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU4zI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU6zI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU8zI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU+zI,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUg0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUi0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAcvBG,GAAI,CACNF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUk0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUm0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUo0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUq0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUs0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUu0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUw0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUy0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU00I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU20I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU40I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU60I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU80I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU+0I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUg1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUi1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUk1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUm1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUo1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUq1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUs1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUu1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUw1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUy1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU01I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU21I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU41I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU61I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU81I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU+1I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUg2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUi2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUk2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUm2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUo2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUq2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUs2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUu2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUw2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUy2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU02I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU22I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU42I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU62I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU82I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAU+2I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAgBAG,GAAI,CACNF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUg3I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUi3I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUk3I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUm3I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUo3I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUq3I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAgBG,OAAQC,IACxC,GAAIJ,EAAgBI,KAAOH,EAAcG,GAAI,CAC3CF,EAAQE,EACR,MAGJ,OAAOF,EAAQ,EAAIA,EAAQ,EAE7BL,EAAqBzyI,UAAUs3I,YAAc,SAAUC,EAAiBC,GACpE,IAAIC,EAAQ,KACZ,GAAIF,EAAgBG,SAAWF,EAAcE,OAAQ,CACjD,IAAK,IAAIC,EAAI,EAAGA,EAAIJ,EAAg

AM,IAAI3zI,MAAM,6EAA+E0zI,GAE/FG,EAAex2I,KAAKm1I,aAAamB,GACrCI,GAAiB7xF,GACjB2xF,EAAavB,UAAUzgI,SAAQ,SAAUoK,IA7hBzD,SAAS+3H,EAAiB9xF,EAAWprB,GAC1Bg3G,GAA4B5rF,EAAWprB,,EAAWhN,IA8hBzCkqH,CAAiB9xF,EAAWjmC,EAASsE,KAAKuW,oBAI7C48G,EAAYr0C,SAAS,gBAC1B00C,,GAAiB7xF,GAOrB,D,IAAKkD,qBAAvBAxW/

AM,IAAImB,MAAM60D,EAAO/7C,KAAI,SAAUzZ,GAAK,OAAOA,EAAEyX,cAAeH,KAAK,OAE3E,OAAO6
+H,GAEXrE,EAAYhzI,UAAUu3I,sBAAwB,SAAUxjI,EAAIyjI,GACxD,IAAI9kI,EAAQxT,KACRu4I,EAA4B1jI,
EAAG0jI,0BAA2BtB,EAAQpiI,EAAGoiI,MACrEuB,EAAa,IAAI1+H,IACjB21C,EAAa,SAAUkjE,GAIvB,OAHK
6lB,EAAW31G,IAAI8vF,IAChB6lB,EAAWl9H,IAAIq3G,EAAUn/G,EAAM+iI,qBAAqB5jB,IAEjD6lB,EAAWn9
H,IAAIs3G,IAI1B,OAFAskB,EAAMziI,SAAQ,SAAU++B,EAAOl/B,GAAOk/B,EAAMilI,sBAAsBllG,EAAKo/E,SA
AU4lB,EAA2BhlG,EAAKpR,WAAYoR,EAAKjR,MAAOiR,EAAK0hG,UAAW1hG,EAAKoiG,YAAalmF,EAA
Wlc,EAAKo/E,cAC5L2lB,EAAQ9jI,SAAQ,SAAU++B,EAAOl/B,GAAOk/B,EAAMklI,uBAAuBnlG,EAAKo/E,SAA
Up/E,EAAKolG,eAAgBlpF,EAAWlc,EAAKo/E,cAAnHyH,MAAMinD,KAAK+wF,EAAW/4H,UAAxBhE,KAAI
,SAAU0F,GAAW,MAAO,CAAjCwxG,SAAUxxG,EAAQwpC,YAAlBv/B,WAAYhpB,EAAS+e,EAAQ+/B,aAAa9
1B,WAAYjK,EAAQiK,iBAAtE0oH,EAAYhzI,UAAU43I,uBAAyB,SAAU/lB,EAAUgmB,EAAgBx3H,GAC/E,IA
AI3N,EAAQxT,KAAZ24I,EAAenkI,SAAQ,SAAU9U,GAAK,OArymBnD,SASk5I,EAA2B5gH,EAAKpZ,EAAU
i6H,GAC/C,IAAI39H,EAAYyiB,GAAe/e,EAASsE,MAApC+G,EAAar5G,EAASq5G,WAAa,CAAlCr5G,EASq5
G,YAAc,GAC3DD,EAAap5G,EAASo5G,WAAa,CAApC5G,EASo5G,YAAc,GAC3D8gB,EAAiBrnF,GAAW,C
AC5BjyD,QAAWq5I,EAAmBrnB,WAAW,CAAtCuG,KAAMtE,EAASsE,MAAOi/E,EAASsE,KAAMu/E,KAAKu
W,WAAazB,GAAnCiI,UAAa8E,GAAoBnmB,EAASs5G,aAAclgG,GAAxD85B,QAAW/sB,GAAoB3iC,EAAS61
H,EAAYD,GAAahgG,KAAjEjE+gH,EAAcpnH,GAAWkT,GAAcqI,gBAAgBvpB,OAAO,CAAnDm1H,IACnE9gB
AI5M,WAAWlpB,KAAK,IAAI2sB,GAAb3T,EACE,KACA,CAAC,IAAIqT,GAAH,OACAvM,GAAK,CAAnDviB
,EAAQgoB,aAAaoqG,QAAnCpBknB,IACR,GACU,IAAIrqH,GAAY,KAAM,GAAI,IACpC,KAAixmBwCkqH,CAA2B
z3H,EAASzhB,EAAQ8T,EAAM+gI,yBAAxExT,EAAYhzI,UAAU23I,sBAAwB,SAAU9lB,EAAU4lB,EAAgBp2H,
EAAYG,GAAgBH,EAAWG,GAAgB,IAAIo2H,EAAgBv2H,EAAWG,GAAgBo2H,EAAcC,EAAgBD,YAAaE,
EAAYG,EAAO2yG,EAAWu/E,EAAWC,EAAWC,EAAWC,EAAWC,EAAWC,EAAWC,EAAWC,EAAWC,EAAWC,
EAAWC,EAAWC,EAAWC,EAAWC

D,aAAc0lC,GACjEs6B,EAAah/D,GAAuB7hD,OAAO6c,OAAO7c,OAAO6c,OAAO,GAAIlI,GAAO,CAAE0tC,SAAU7d,GAAAc7J,gBAAiB+U,OAAQtwC,EAAQ6hD,gBAAgBrgB,aACtJy4G,EAAwB,IAAI7qH,GAAUna,EAAAM,KAAM,CAAC,IAAI6Z,GAAW,OAAQvM,GAAAe,CAACviB,EAAQgoB,aAAaoqG,QAAS3Q,EAAW1hH,UAAW,GAAI,IAAIkvB,GAAAY,KAAM,GAAAI,IAAAK,ICjLmrH,EAAwB,IAAIhrH,GAAUna,EAAAM,KAAM,CAAC,IAAI6Z,GAAW,GAAAWkrH,EAAAiBz3H,GAAAe,CACviB,EAAQgoB,aAAaoqG,QAASx5G,EAAAIse,aAAc,GAAAI,IAAIjI,GAAAY,KAAM,GAAAI,IAAK,IAE1Lm2B,EAAUz5B,WAAWlpB,KAAKKw3I,EAAAuBG,GAAgrOrCD,CAA4Bz4H,EAASg4H,EAAAmB3lI,EAAAiBylI,MAGjF32G,EAAA9tB,SAAAQ,GACpB,IAAAmsC,EAAAetmI,EAAAMygI,kBAAkB/Z,gBAAvsB,GAAAgBvsB,GACvDmsC,GAAnxmBhB,SAASC,EAAAuBl1F,EAAAW7Y,EAAAMpS,GAAC7C,IAAAllB,EAAAOipB,GAAAeqO,EAAA9tB,SAAAQ,GAAAmsC,EAAAetmI,EAAAMygI,kBAAkB/Z,gBAAhsB,GAAAgBvsB

kO,KAAKuW,WAC9Du5B,SAAUx/C,EAAMygI,kBAAkBzc,oBAAoBxiH,EAAKkO,KAAKuW,eAC5D0I,EAAW1mB,KAAI,SAAUoiB,GAAO,MAAO,CAC3CgiF,QAASrsG,EAAMygI,kBAAkBhd,oBAAoBp5F,GACrDm1B,SAAUx/C,EAAMygI,kBAAkBjd,qBAAqBn5F,OACnDyE,EAAM7mB,KAAI,SAAUoiB,GAAO,MAAO,CACtCgiF,QAASrsG,EAAMygI,kBAAkB9Z,8Z,eAAet8F,GAChDm1B,SAAUx/C,EAAMygI,kBAAkB/Z/Z,gBAAgBr8F,OAC9C9C83G,EAAYl6H,KAAI,SAAUoiB,GAAO,MAAO,CAC5CgiF,QAASrsG,EAAMygI,kBAAkBta,qBAAqBB97F,EAAIskE,QAC1DC1DnvC,SAAUx/C,EAAMygI,kBAAkBta,qBAAqBB97F,EAAIskE,QAAQj/E,UAEnE+3H,EAAkBj7I,KAAK+zI,SAAS8B,sBAChCnD,sCAAI,KAAKu2I,qBAAqBjB,GAAsBge,GAAa,IAC7D2BZ,SAASqmI,EAAmBtK,EAAauK,EAAWlQ,EAAiB0F,EAAgBxD,EAASv6E,EAAQ3D,IAAlCA,CAAuC,GAAIA,CAAAA,EAAQ,CAAC

AenuF,EAAKvS,cACjHjgB,EAASxZ,KAAKk0I,gBAAgBl8H,MAAMqsB,EAAUA,EAASxF,SAASE,QAASoD,EAAYG,EAAO1jB,EAASijB,QAASsC,GAAkBvlB,EAASsE,KAAMmhB,EAAUA,EAASxF,UAAWQ,GAEjL,OADAr/B,KAAK00I,kBAAkBp5H,IAAI+oB,EASnhB,KAAKuW,UAAWjgB,GAC7CA,GAEXs6H,EAAYhzI,UAAUy1I,qBAAuB,SAAU5rF,GACnD,GAAIA,EAAMA,EAAMA,EAAM

M+8G,EAAsBC,GACxE,OAAOO,GAAwBT,GAAiB1G,EAAWp2G,EAAM+8G,EAAsBC,IAE3F,SAASO,GAAw
B7G,GAC7B,GAAIA,EAAgB8G,sBAAwB9G,EAAgB8G,qBAAqB38I,OAE7E,MAAM+yB,GADS8iH,EAAgB8G
,qBAAqB1iI,KAAI,SAAUva,GAAK,MAAO,yCAA2CA,EAAEwT,KAAO,OAASxT,EAAE87B,SAAW,SAAW97
B,EAAEwT,KAAO,iCACjJ4E,KAAK,OAEpC,OAAO+9H,EAsBX,SAAShC,GAAY10G,EAAM+8G,EAAsBC,EA
AkBhrB,GAC/D,IAAIyrB,EAAqB,GACrBj8G,EAAa,GAAbA,GAAoB,EAAqB,GAAbA,GAAoB

,EAAOA,GAAQzuF,EAAQ,GAAM,EAAI,IAAM,IA4BlCwuF,CAAU/1F,GAAUtS,EAGlBooG,CAAYD,GAAS,KAKnC,OAHA18I,EAAuB,oBAAI,EAC3BA,EAAM08I,MAAQA,EACd18I,EAAM8jE,SAAW44E,EAAM54E,SAChB9jE,EAMX,IAAI+8I,GAAe,gBAEfC,GAAa,WACbC,GAAS,CACT1R,WAAY,UAIZ2R,GAAgB,IAAIzuH,IAAI,CAFV,WAEwB,aAAc,OAAQ,KAAM,iBAGtES,GAAS0uH,GAAA59I,EAAA,OAAAA,EAAA,GAAA,SAAA,GAAA,OAAA,GAAA,OAAA,GAAA,O

a7uD,EAASm/I,IAGjDH,IAAephJ,KAAKirI,gBAAgBuE,cAActsH,EAAK8Z,WACvDh9B,KAAKirI,gBAAgBuE,cAAc4R,EAAWpkH,UAAW,CACzD,IAAI6iF,EAAU7/G,KAAKirI,gBAAgBvV,eAAe0rB,GAClD,GAAIvhC,GAAAWA,EAAQ38F,KAAAM,CACzB,IAAIs+H,EAA0BxhJ,KAAKkgJ,wCAAwC7kI,IAAIwkG,EAAQ38F,KAAK8d,aAC5DwgH,EAAwBrtH,MAAK,SAAUstH,GAAgB,OAAOF,EAAiBptH,MAAK,SAAU4tF,GAAO,OAAO0/7hI,SASmiG,UAE9J/hH,KAAKs+F,YAAYojD,GAAoBC,GAAc,SAAWz+H,OAAOwz8Z,KAAKxz8Z,OAAOwz8Z,SAAS,EAAK8Z,WAAW

uI,EAAkBrhJ,MAC7B,GAAIgT,EAAKstF,SAtSD,aAsS8B,CAClC,IAAI7pE,EAAWzjB,EAAKoE,OAAO,EAAGpE,EAAKlT,OAvS/B,YAuS0DA,QAC1DE,OAAQ,EACRy2B,EAAS6pE,SAxSpB,UAySW7pE,EAAWzjB,EAAKoE,OAAO,EAAGqf,EAAS32B,EAAKisI,gBAAgB/oH,EAAK8Z,SAAU9Z,EAAKxxB,OAAQ,EAAKxE,OAAQ,EAAKwE,OAAQ,EAAKxE,OAAQ,EAAKwE,OAAQ,EAAKxE,OAAQ,EAAKwE

,GAAIkvI,GAAYrtH,GACZ,OAAOA,EAEX,GAAIn2B,MAAMyyB,QAAQ0D,GAAa,CAC3B,IAAIstH,EAAW,GACf,IACI,IAAK,IAAI9lC,EAAen9G,EAAS21B,GAAautH,EAAiB/lC,EAAa18G,QAASyiJ,EAAeviJ,KAAMuiJ,EAAiB/lC,EAAa18G,OAAQ,CAC5I,IAAIsiC,EAAOmgH,EAAexiJ,MAE1B,GAAIqiC,EAAK2gH,EAAK2gH,EAAK2gH

YA,EAAS3jJ,OAASkd,EAAKld,QACnCkd,EAAKxc,KAAKwd,MAAMhB,EAAMtc,EAAS+iJ,EAASviJ,MAAM8
b,EAAKld,QAAQia,KAAI,SAAU/Z,GAAS,OAAOu/I,EAASv/I,QAEtG0hJ,EAAQ9nI,IAAI0pI,GAAgB,GAE5B,I
ADA,IAAII,EAAgBjC,GAAe9wE,QAC1B/wE,EAAI,EAAGA,EAAIy/C,EAAWv/C,OAAQF,IACnC8jJ,EAAczlJ,
OAAOohD,EAAWz/C,GAAIod,IAE7C,IACI+jJ,EADAC,EAAWz6C,IAAI,EAAKpd,IAE7C,IACI+jJ,EADAC,EAAWz6C,IAAI,EAEf,IACIA,EAAQu6C,G,GACT9jJ,EAAI,EAAGA,EAAIy/C,EAAWv/C,OAAQF,IACnC8jJ,EAAczlJ,
OACtB0jJ,EAAW5B,EAAeuB,EAAgBxxC,GAE9C,QACI3I,EAAQy6C,EAAEZ,OAAOD,GAGf,QACIjC,EAAQzlF
,OAAOqnF,IAGvB,GAAc,IAAV1B,EAAEA,IAAIA,EAAQ,EAAGA,IAAIA,EAAQ,EAAGA,IAAIA,EAAQ,EAAG

vC,EAAQ2vC,SAE/C,MACJ,KAAKgzF,GACD,OAAI3iI,GAAWA,EAAQzM,KACZ,uDAAyDyM,EAAQzM,KAAO,eAE5E,iDACX,IAvBwB,8BAwBpB,GAAIyM,GAAWA,EAAQzM,KACnB,MAAO,oFAAsFyM,EAAQzM,KAAO,mBAEhH,MACJ,IA3BmB,uBA4Bf,MAAO,uDAEf,OAAOgiC,EAAsGQkvG,CAAAgB/G,EAAAMnoG,QAASmoG,EAAM19H,UACtC09H,EAAM18C,OAAS,QAAAU08H,EAAM18C,OAAzDtzE,KAAKO,IAAM,IAAE7DuxD,EAAW44E,EAAM54E,SACjBxkEkE,EAAOo9I,EAAMp9I,KACbkkJ,EAA2B9G,EAAMp9I,KAAKMsiJ,GACvCA,EAAS,CAAAErtG,QAASqtG,QAAWlnI,EACnCnC,MAAO,CAAAE65B,QAASA,EAASuvB,SAAUA,EAAUxkE,KAAMA,EAAMO,EAAO
,CAACA,QAAQob,GAAa3C8oI,CANV,CACRjvG,QAAS,qCAAuCv1B,EAAQzM,KAAO,IAAC/DuxD,SAAWjkE,EAAW,EAAEikE,SAAIbxkE,KAAKM,EAAM,CAAEi1C,QAAS10C,EAAE00C,QAAS10C,EAAEmf,WAAGjDnf;;;;;;;OAUX,IAAI8jJ,GAAAoC,WACpC,SAASA,EAAAmBnlH,EAAAMqqG,GAAC9BhrI,KAAK2gC,GAAC,KAAAOA,EAAA,EACZ3gC,KAAK,GAAC,IAAAkjB,EAAA,kBAAAA,EAAA,IAAAA,EAAAjsI,IACxB9Z,KAAKgmJ,gBAAAkB,IAAAIlsI,IAAE3B9Z,KAAAqrI,IAAAvxH,IAAA9Z,KAAAwrI,IAAA1xH,IAAA2BAA6B,IAAAI1xH,IAAA2BAA6B,IAAAI1xH,IAAA2BAA6B,IAAAI

QF,IACjCylJ,EAASx1G,KAAKj2B,IAAIqV,EAASrvB,GAAIwlJ,EAAUxlJ,IAE7C,IAAIkY,EAAS0H,EAAQ+O,
mBAAmB7E,EAAY27H,GACpD,OAAOvtI,EAASA,EAAO9X,MAAQ,KAEnC,IAAIulJ,GAAmC,WACnC,SAAS
A,EAAkBn4H,EAAQo4H,EAAUhsI,EAAWq2B,GACpDvxC,KAAK8uB,OAASA,EACd9uB,KAAKknJ,SAAWA,
EAChBlnJ,KAAKkb,UAAYA,EACjBlb,KAAKuxC,KAAOA,EACZvxC,KAAKP,QAAU,GAAKnB,OAHAwnJ,EA
AkBnmJ,UAAUkmJ,yBAA2B,WACnD,OAAO,IAAIC,EAAkBjnJ,KAAMA,KAAKknJ,SAAUlnJ,KAAKkb,UAA
W,IAAIpB,MAEnEmtI,EAX2B,GAAalCE,GACA,SAASA,GAAYzlJ,GACjB1B,KAAK0B,MAAQA,GAkDjB0lJ,G
AAsC,WACtC,SAASA,EAAqBxtH,GAC1B55B,KAAK45B,OAASA,EAAQ55B,KAAKqnJ,SAAW,IAAIC,EAAqBtnJ,KAAK45B,
SAAW,IAAIC,EAAQ75B,KAAKunJ,SAAW,IAAIC,EAAqBxnJ,KAAK45B,OAAOytH,UAAUrnJ,KAAKynJ,SAAW,IAAIC,EAAqB1nJ,KAAK45B,OAAO+tH,UAAU3nJ,KAAK4nJ,SAAW,IAAIC,EAAqB7nJ,KAAK45B,OAAOiuH,UAAU7nJ,KAAK8nJ,SAAW,IAAIC,EAAqB/nJ,KAAK45B,OAAOmuH,UAAU/nJ,KAAKgoJ,SAAW,IAAIC,EAAqBjoJ,KAAK45B,OAAOquH,UAAUjoJ,KAAKkoJ,SAAW,IAAIC,EAAqBnoJ,KAAK45B,OAAOuuH,UAAUnoJ,KAAKooJ,SAAW,IAAIC,EAAqBroJ,KAAK45B,OAAOyuH,UAAUroJ,KAAKsoJ,SAAW,IAAIC,EAAqBvoJ,KAAK45B,OAAO2uH,UAAUvoJ,KAAKwoJ,SAAW,IAAIC,EAAqBzoJ,KAAK45B,OAAO6uH,UAAUzoJ,KAAK0oJ,SAAW,IAAIC,EAAqB3oJ,KAAK45B,OAAO+uH,UAAU3oJ,KAAK4oJ,SAAW,IAAIC,EAAqB7oJ,KAAK45B,OAAOivH,UAAU7oJ,KAAK8oJ,SAAW,IAAIC,EAAqB/oJ,KAAK45B,OAAOmvH,UAAU/oJ,KAAKgpJ,SAAW,IAAIC,EAAqBjpJ,KAAK45B,OAAOqvH,UAAUjpJ,KAAKkpJ,SAAW,IAAIC,EAAqBnpJ,KAAK45B,OAAOuvH,UAAUnpJ,KAAKopJ,SAAW,IAAIC,EAAqBrpJ,KAAK45B,OAAOyvH,UAAUrpJ,KAAKspJ,SAAW,IAAIC,EAAqBvpJ,KAAK45B,OAAO2vH,UAAUvpJ,KAAKwpJ,SAAW,IAAIC,EAAqBzpJ,KAAK45B,OAAO6vH,UAAUzpJ,KAAK0pJ,SAAW,IAAIC,EAAqB3pJ,KAAK45B,OAAO+vH,UAAU3pJ,KAAK4pJ,SAAW,IAAIC,EAAqB7pJ,KAAK45B,OAAOiwH,UAAU7pJ,KAAK8pJ,SAAW,IAAIC,EAAqB/pJ,KAAK45B,OAAOmwH,UAAU/pJ,KAAKgqJ,SAAW,IAAIC,EAAqBjqJ,KAAK45B,OAAOqwH,UAAUjqJ,KAAKkqJ,SAAW,IAAIC,EAAqBnqJ,KAAK45B,OAAOuwH,UAAUnqJ,KAAKoqJ,SAAW,IAAIC,EAAqBrqJ,KAAK45B,OAAOywH,UAAUrqJ,KAAKsqJ,SAAW,IAAIC,EAAqBvqJ,KAAK45B,OAAO2wH,UAAUvqJ,KAAKwqJ,SAAW,IAAIC,EAAqBzqJ,KAAK45B,OAAO6wH,UAAUzqJ,KAAK0qJ,SAAW,IAAIC,EAAqB3qJ,KAAK45B,OAAO+wH,UAAU3qJ,KAAK4qJ,SAAW,IAAIC,EAAqB7qJ,KAAK45B,OAAOixH,UAAU7qJ,KAAK8qJ,SAAW,IAAIC,EAAqB/qJ,KAAK45B,OAAOmxH,UAAU/qJ,KAAKgrJ,SAAW,IAAIC,EAAqBjrJ,KAAK45B,OAAOqxH,UAAUjrJ,KAAKkrJ,SAAW,IAAIC,EAAqBnrJ,KAAK45B,OAAOuxH,UAAUnrJ,KAAKorJ,SAAW,IAAIC,EAAqBrrJ,KAAK45B,OAAOyxH,UAAUrrJ,KAAKsrJ,SAAW,IAAIC,EAAqBvrJ,KAAK45B,OAAO2xH,UAAUvrJ,KAAKwrJ,SAAW,IAAIC,EAAqBzrJ,KAAK45B,OAAO6xH,UAAUzrJ,KAAK0rJ,SAAW,IAAIC,EAAqB3rJ,KAAK45B,OAAO+xH,UAAU3rJ,KAAK4rJ,SAAW,IAAIC,EAAqB7rJ,KAAK45B,OAAOiyH,UAAU7rJ,KAAK8rJ,SAAW,IAAIC,EAAqB/rJ,KAAK45B,OAAOmyH,UAAU/rJ,KAAKgsJ,SAAW,IAAIC,EAAqBjsJ,KAAK45B,OAAOqyH,UAAUjsJ,KAAKksJ,SAAW,IAAIC,EAAqBnsJ,KAAK45B,OAAOuyH,UAAUnsJ,KAAKosJ,SAAW,IAAIC,EAAqBrsJ,KAAK45B,OAAOyyH,UAAUrsJ,KAAKssJ,SAAW,IAAIC,EAAqBvsJ,KAAK45B,OAAO2yH,UAAUvsJ,KAAKwsJ,SAAW,IAAIC,EAAqBzsJ,KAAK45B,OAAO6yH,UAAUzsJ,KAAK0sJ,SAAW,IAAIC,EAAqB3sJ,KAAK45B,OAAO+yH,UAAU3sJ,KAAK4sJ,SAAW,IAAIC,EAAqB7sJ,KAAK45B,OAAOizH,UAAU7sJ,KAAK8sJ,SAAW,IAAIC,EAAqB/sJ,KAAK45B,OAAOmzH,UAAU/sJ,KAAKgtJ,SAAW,IAAIC,EAAqBjtJ,KAAK45B,OAAOqzH,UAAUjtJ,KAAKktJ,SAAW,IAAIC,EAAqBntJ,KAAK45B,OAAOuzH,UAAUntJ,KAAKotJ,SAAW,IAAIC,EAAqBrtJ,KAAK45B,OAAOyzH,UAAUrtJ,KAAKstJ,SAAW,IAAIC,EAAqBvtJ,KAAK45B,OAAO2zH,UAAUvtJ,KAAKwtJ,SAAW,IAAIC,EAAqBztJ,KAAK45B,OAAO6zH,UAAUztJ,KAAK0tJ,SAAW,IAAIC,EAAqB3tJ,KAAK45B,OAAO+zH,UAAU3tJ,KAAK4tJ,SAAW,IAAIC,EAAqB7tJ,KAAK45B,OAAOi0H,UAAU7tJ,KAAK8tJ,SAAW,IAAIC,EAAqB/tJ,KAAK45B,OAAOm0H,UAAU/tJ,KAAKguJ,SAAW,IAAIC,EAAqBjuJ,KAAK45B,OAAOq0H,UAAUjuJ,KAAKkuJ,SAAW,IAAIC,EAAqBnuJ,KAAK45B,OAAOu0H,UAAUnuJ,KAAKouJ,SAAW,IAAIC,EAAqBruJ,KAAK45B,OAAOy0H,UAAUruJ,KAAKsuJ,SAAW,IAAIC,EAAqBvuJ,KAAK45B,OAAO20H,UAAUvuJ,KAAKwuJ,SAAW,IAAIC,EAAqBzuJ,KAAK45B,OAAO60H,UAAUzuJ,KAAK0uJ,SAAW,IAAIC,EAAqB3uJ,KAAK45B,OAAO+0H,UAAU3uJ,KAAK4uJ,SAAW,IAAIC,EAAqB7uJ,KAAK45B,OAAOi1H,UAAU7uJ,KAAK8uJ,SAAW,IAAIC,EAAqB/uJ,KAAK45B,OAAOm1H,UAAU/uJ,KAAKgvJ,SAAW,IAAIC,EAAqBjvJ,KAAK45B,OAAOq1H,UAAUjvJ,KAAKkvJ,SAAW,IAAIC,EAAqBnvJ,KAAK45B,OAAOu1H,UAAUnvJ,KAAKovJ,SAAW,IAAIC,EAAqBrvJ,KAAK45B,OAAOy1H,UAAUrvJ,KAAKsvJ,SAAW,IAAIC,EAAqBvvJ,KAAK45B,OAAO21H,UAAUvvJ,KAAKwvJ,SAAW,IAAIC,EAAqBzvJ,KAAK45B,OAAO61H,UAAUzvJ,KAAK0vJ,SAAW,IAAIC,EAAqB3vJ,KAAK45B,OAAO+1H,UAAU3vJ,KAAK4vJ,SAAW,IAAIC,EAAqB7vJ,KAAK45B,OAAOi2H,UAAU7vJ,KAAK8vJ,SAAW,IAAIC,EAAqB/vJ,KAAK45B,OAAOm2H,UAAU/vJ,KAAKgwJ,SAAW,IAAIC,EAAqBjwJ,KAAK45B,OAAOq2H,UAAUjwJ,KAAKkwJ,SAAW,IAAIC,EAAqBnwJ,KAAK45B,OAAOu2H,UAAUnwJ,KAAKowJ,SAAW,IAAIC,EAAqBrwJ,KAAK45B,OAAOy2H,UAAUrwJ,KAAKswJ,SAAW,IAAIC,EAAqBvwJ,KAAK45B,OAAO22H,UAAUvwJ,KAAKwwJ,SAAW,IAAIC,EAAqBzwJ,KAAK45B,OAAO62H,UAAUzwJ,KAAK0wJ,SAAW,IAAIC,EAAqB3wJ,KAAK45B,OAAO+2H,UAAU3wJ,KAAK4wJ,SAAW,IAAIC,EAAqB7wJ,KAAK45B,OAAOi3H,UAAU7wJ,KAAK8wJ,SAAW,IAAIC,EAAqB/wJ,KAAK45B,OAAOm3H,UAAU/wJ,KAAKgxJ,SAAW,IAAIC,EAAqBjxJ,KAAK45B,OAAOq3H,UAAUjxJ,KAAKkxJ,SAAW,IAAIC,EAAqBnxJ,KAAK45B,OAAOu3H,UAAUnxJ,KAAKoxJ,SAAW,IAAIC,EAAqBrxJ,KAAK45B,OAAOy3H,UAAUrxJ,KAAKsxJ,SAAW,IAAIC,EAAqBvxJ,KAAK45B,OAAO23H,UAAUvxJ,KAAKwxJ,SAAW,IAAIC,EAAqBzxJ,KAAK45B,OAAO63H,UAAUzxJ,KAAK0xJ,SAAW,IAAIC,EAAqB3xJ,KAAK45B,OAAO+3H,UAAU3xJ,KAAK4xJ,SAAW,IAAIC,EAAqB7xJ,KAAK45B,OAAOi4H,UAAU7xJ,KAAK8xJ,SAAW,IAAIC,EAAqB/xJ,KAAK45B,OAAOm4H,UAAU/xJ,KAAKgyJ,SAAW,IAAIC,EAAqBjyJ,KAAK45B,OAAOq4H,UAAUjyJ,KAAKkyJ,SAAW,IAAIC,EAAqBnyJ,KAAK45B,OAAOu4H,UAAUnyJ,KAAKoyJ,SAAW,IAAIC,EAAqBryJ,KAAK45B,OAAOy4H,UAAUryJ,KAAKsyJ,SAAW,IAAIC,EAAqBvyJ,KAAK45B,OAAO24H,UAAUvyJ,KAAKwyJ,SAAW,IAAIC,EAAqBzyJ,KAAK45B,OAAO64H,UAAUzyJ,KAAK0yJ,SAAW,IAAIC,EAAqB3yJ,KAAK45B,OAAO+4H,UAAU3yJ,KAAK4yJ,SAAW,IAAIC,EAAqB7yJ,KAAK45B,OAAOi5H,UAAU7yJ,KAAK8yJ,SAAW,IAAIC,EAAqB/yJ,KAAK45B,OAAOm5H,UAAU/yJ,KAAKgzJ,SAAW,IAAIC,EAAqBjzJ,KAAK45B,OAAOq5H,UAAUjzJ,KAAKkzJ,SAAW,IAAIC,EAAqBnzJ,KAAK45B,OAAOu5H,UAAUnzJ,KAAKozJ,SAAW,IAAIC,EAAqBrzJ,KAAK45B,OAAOy5H,UAAUrzJ,KAAKszJ,SAAW,IAAIC,EAAqBvzJ,KAAK45B,OAAO25H,UAAUvzJ,KAAKwzJ,SAAW,IAAIC,EAAqBzzJ,KAAK45B,OAAO65H,UAAUzzJ,KAAK0zJ,SAAW,IAAIC,EAAqB3zJ,KAAK45B,OAAO+5H,UAAU3zJ,KAAK4zJ,SAAW,IAAIC,EAAqB7zJ,KAAK45B,OAAOi6H,UAAU7zJ,KAAK8zJ,SAAW,IAAIC,EAAqB/zJ,KAAK45B,OAAOm6H,UAAU/zJ,KAAKg0J,SAAW,IAAIC,EAAqBj0J,KAAK45B,OAAOq6H,UAAUj0J,KAAKk0J,SAAW,IAAIC,EAAqBn0J,KAAK45B,OAAOu6H,UAAUn0J,KAAKo0J,SAAW,IAAIC,EAAqBr0J,KAAK45B,OAAOy6H,UAAUr0J,KAAKs0J,SAAW,IAAIC,EAAqBv0J,KAAK45B,OAAO26H,UAAUv0J,KAAKw0J,SAAW,IAAIC,EAAqBz0J,KAAK45B,OAAO66H,UAAUz0J,KAAK00J,SAAW,IAAIC,EAAqB30J,KAAK45B,OAAO+6H,UAAU30J,KAAK40J,SAAW,IAAIC,EAAqB70J,KAAK45B,OAAOi7H,UAAU70J,KAAK80J,SAAW,IAAIC,EAAqB/0J,KAAK45B,OAAOm7H,UAAU/0J,KAAKg1J,SAAW,IAAIC,EAAqBj1J,KAAK45B,OAAOq7H,UAAUj1J,KAAKk1J,SAAW,IAAIC,EAAqBn1J,KAAK45B,OAAOu7H,UAAUn1J,KAAKo1J,SAAW,IAAIC,EAAqBr1J,KAAK45B,OAAOy7H,UAAUr1J,KAAKs1J,SAAW,IAAIC,EAAqBv1J,KAAK45B,OAAO27H,UAAUv1J,KAAKw1J,SAAW,IAAIC,EAAqBz1J,KAAK45B,OAAO67H,UAAUz1J,KAAK01J,SAAW,IAAIC,EAAqB31J,KAAK45B,OAAO+7H,UAAU31J,KAAK41J,SAAW,IAAIC,EAAqB71J,KAAK45B,OAAOi8H,UAAU71J,KAAK81J,SAAW,IAAIC,EAAqB/1J,KAAK45B,OAAOm8H,UAAU/1J,KAAKg2J,SAAW,IAAIC,EAAqBj2J,KAAK45B,OAAOq8H,UAAUj2J,KAAKk2J,SAAW,IAAIC,EAAqBn2J,KAAK45B,OAAOu8H,UAAUn2J,KAAKo2J,SAAW,IAAIC,EAAqBr2J,KAAK45B,OAAOy8H,UAAUr2J,KAAKs2J,SAAW,IAAIC,EAAqBv2J,KAAK45B,OAAO28H,UAAUv2J,KAAKw2J,SAAW,IAAIC,EAAqBz2J,KAAK45B,OAAO68H,UAAUz2J,KAAK02J,SAAW,IAAIC,EAAqB32J,KAAK45B,OAAO+8H,UAAU32J,KAAK42J,SAAW,IAAIC,EAAqB72J,KAAK45B,OAAOi9H,UAAU72J,KAAK82J,SAAW,IAAIC,EAAqB/2J,KAAK45B,OAAOm9H,UAAU/2J,KAAKg3J,SAAW,IAAIC,EAAqBj3J,KAAK45B,OAAOq9H,UAAUj3J,KAAKk3J,SAAW,IAAIC,EAAqBn3J,KAAK45B,OAAOu9H,UAAUn3J,KAAKo3J,SAAW,IAAIC,EAAqBr3J,KAAK45B,OAAOy9H,UAAUr3J,KAAKs3J,SAAW,IAAIC,EAAqBv3J,KAAK45B,OAAO29H,UAAUv3J,KAAKw3J,SAAW,IAAIC,EAAqBz3J,KAAK45B,OAAO69H,UAAUz3J,KAAK03J,SAAW,IAAIC,EAAqB33J,KAAK45B,OAAO+9H,UAAU33J,KAAK43J,SAAW,IAAIC,EAAqB73J,KAAK45B,OAAOi+H,UAAU73J,KAAK83J,SAAW,IAAIC,EAAqB/3J,KAAK45B,OAAOm+H,UAAU/3J,KAAKg4J,SAAW,IAAIC,EAAqBj4J,KAAK45B,OAAOq+H,UAAUj4J,KAAKk4J,SAAW,IAAIC,EAAqBn4J,KAAK45B,OAAOu+H,UAAUn4J,KAAKo4J,SAAW,IAAIC,EAAqBr4J,KAAK45B,OAAOy+H,UAAUr4J,KAAKs4J,SAAW,IAAIC,EAAqBv4J,KAAK45B,OAAO2+H,UAAUv4J,KAAKw4J,SAAW,IAAIC,EAAqBz4J,KAAK45B,OAAO6+H,UAAUz4J,KAAK04J,SAAW,IAAIC,EAAqB34J,KAAK45B,OAAO++H,UAAU34J,KAAK44J,SAAW,IAAIC,EAAqB74J,KAAK45B,OAAOi/H,UAAU74J,KAAK84J,SAAW,IAAIC,EAAqB/4J,KAAK45B,OAAOm/H,UAAU/4J,KAAKg5J,SAAW,IAAIC,EAAqBj5J,KAAK45B,OAAOq/H,UAAUj5J,KAAKk5J,SAAW,IAAIC,EAAqBn5J,KAAK45B,OAAOu/H,UAAUn5J,KAAKo5J,SAAW,IAAIC,EAAqBr5J,KAAK45B,OAAOy/H,UAAUr5J,KAAKs5J,SAAW,IAAIC,EAAqBv5J,KAAK45B,OAAO2/H,UAAUv5J,KAAKw5J,SAAW,IAAIC,EAAqBz5J,KAAK45B,OAAO6/H,UAAUz5J,KAAK05J,SAAW,IAAIC,EAAqB35J,KAAK45B,OAAO+/H,UAAU35J,KAAK45J,SAAW,IAAIC,EAAqB75J,KAAK45B,OAAOigI,UAAU75J,KAAK85J,SAAW,IAAIC,EAAqB/5J,KAAK45B,OAAOmgI,UAAU/5J,KAAKg6J,SAAW,IAAIC,EAAqBj6J,KAAK45B,OAAOqgI,UAAUj6J,KAAKk6J,SAAW,IAAIC,EAAqBn6J,KAAK45B,OAAOugI,UAAUn6J,KAAKo6J,SAAW,IAAIC,EAAqBr6J,KAAK45B,OAAOygI,UAAUr6J,KAAKs6J,SAAW,IAAIC,EAAqBv6J,KAAK45B,OAAO2gI,UAAUv6J,KAAKw6J,SAAW,IAAIC,EAAqBz6J,KAAK45B,OAAO6gI,UAAUz6J,KAAK06J,SAAW,IAAIC,EAAqB36J,KAAK45B,OAAO+gI,UAAU36J,KAAK46J,SAAW,IAAIC,EAAqB76J,KAAK45B,OAAOihI,UAAU76J,KAAK86J,SAAW,IAAIC,EAAqB/6J,KAAK45B,OAAOmhI,UAAU/6J,KAAKg7J,SAAW,IAAIC,EAAqBj7J,KAAK45B,OAAOqhI,UAAUj7J,KAAKk7J,SAAW,IAAIC,EAAqBn7J,KAAK45B,OAAOuhI,UAAUn7J,KAAKo7J,SAAW,IAAIC,EAAqBr7J,KAAK45B,OAAOyhI,UAAUr7J,KAAKs7J,SAAW,IAAIC,EAAqBv7J,KAAK45B,OAAO2hI,UAAUv7J,KAAKw7J,SAAW,IAAIC,EAAqBz7J,KAAK45B,OAAO6hI,UAAUz7J,KAAK07J,SAAW,IAAIC,EAAqB37J,KAAK45B,OAAO+hI,UAAU37J,KAAK47J,SAAW,IAAIC,EAAqB77J,KAAK45B,OAAOiiI,UAAU77J,KAAK87J,SAAW,IAAIC,EAAqB/7J,KAAK45B,OAAOmiI,UAAU/7J,KAAKg8J,SAAW,IAAIC,EAAqBj8J,KAAK45B,OAAOqiI,UAAUj8J,KAAKk8J,SAAW,IAAIC,EAAqBn8J,KAAK45B,OAAOuiI,UAAUn8J,KAAKo8J,SAAW,IAAIC,EAAqBr8J,KAAK45B,OAAOyiI,UAAUr8J,KAAKs8J,SAAW,IAAIC,EAAqBv8J,KAAK45B,OAAO2iI,UAAUv8J,KAAKw8J,SAAW,IAAIC,EAAqBz8J,KAAK45B,OAAO6iI,UAAUz8J,KAAK08J,SAAW,IAAIC,EAAqB38J,KAAK45B,OAAO+iI,UAAU38J,KAAK48J,SAAW,IAAIC,EAAqB78J,KAAK45B,OAAOijI,UAAU78J,KAAK88J,SAAW,IAAIC,EAAqB/8J,KAAK45B,OAAOmjI,UAAU/8J,KAAKg9J,SAAW,IAAIC,EAAqBj9J,KAAK45B,OAAOqjI,UAAUj9J,KAAKk9J,SAAW,IAAIC,EAAqBn9J,KAAK45B,OAAOujI,UAAUn9J,KAAKo9J,SAAW,IAAIC,EAAqBr9J,KAAK45B,OAAOyjI,UAAUr9J,KAAKs9J,SAAW,IAAIC,EAAqBv9J,KAAK45B,OAAO2jI,UAAUv9J,KAAKw9J,SAAW,IAAIC,EAAqBz9J,KAAK45B,OAAO6jI,UAAUz9J,KAAK09J,SAAW,IAAIC,EAAqB39J,KAAK45B,OAAO+jI,UAAU39J,KAAK49J,SAAW,IAAIC,EAAqB79J,KAAK45B,OAAOikI,UAAU79J,KAAK89J,SAAW,IAAIC,EAAqB/9J,KAAK45B,OAAOmkI,UAAU/9J,KAAKg+J,SAAW,IAAIC,EAAqBj+J,KAAK45B,OAAOqkI,UAAUj+J,KAAKk+J,SAAW,IAAIC,EAAqBn+J,KAAK45B,OAAOukI,UAAUn+J,KAAKo+J,SAAW,IAAIC,EAAqBr+J,KAAK45B,OAAOykI,UAAUr+J,KAAKs+J,SAAW,IAAIC,EAAqBv+J,KAAK45B,OAAO2kI,UAAUv+J,KAAKw+J,SAAW,IAAIC,EAAqBz+J,KAAK45B,OAAO6kI,UAAUz+J,KAAK0+J,SAAW,IAAIC,EAAqB3+J,KAAK45B,OAAO+kI,UAAU3+J,KAAK4+J,SAAW,IAAIC,EAAqB7+J,KAAK45B,OAAOilI,UAAU7+J,KAAK8+J,SAAW,IAAIC,EAAqB/+J,KAAK45B,OAAOmlI,UAAU/+J,KAAKg/J,SAAW,IAAIC,EAAqBj/J,KAAK45B,OAAOqlI,UAAUj/J,KAAKk/J,SAAW,IAAIC,EAAqBn/J,KAAK45B,OAAOulI,UAAUn/J,KAAKo/J,SAAW,IAAIC,EAAqBr/J,KAAK45B,OAAOylI,UAAUr/J,KAAKs/J,SAAW,IAAIC,EAAqBv/J,KAAK45B,OAAO2lI,UAAUv/J,KAAKw/J,SAAW,IAAIC,EAAqBz/J,KAAK45B,OAAO6lI,UAAUz/J,KAAK0/J,SAAW,IAAIC,EAAqB3/J,KAAK45B,OAAO+lI,UAAU3/J,KAAK4/J,SAAW,IAAIC,EAAqB7/J,KAAK45B,OAAOimI,UAAU7/J,KAAK8/J,SAAW,IAAIC,EAAqB//J,KAAK45B,OAAOmmI,UAAU//J,KAAKggK,SAAW,IAAIC,EAAqBjgK,KAAK45B,OAAOqmI,UAAUjgK,KAAKkgK,SAAW,IAAIC,EAAqBngK,KAAK45B,OAAOumI,UAAUngK,KAAKogK,SAAW,IAAIC,EAAqBrgK,KAAK45B,OAAOymI,UAAUrgK,KAAKsgK,SAAW,IAAIC,EAAqBvgK,KAAK45B,OAAO2mI,UAAUvgK,KAAKwgK,SAAW,IAAIC,EAAqBzgK,KAAK45B,OAAO6mI,UAAUzgK,KAAK0gK,SAAW,IAAIC,EAAqB3gK,KAAK45B,OAAO+mI,UAAU3gK,KAAK4gK,SAAW,IAAIC,EAAqB7gK,KAAK45B,OAAOinI,UAAU7gK,KAAK8gK,SAAW,IAAIC,EAAqB/gK,KAAK45B,OAAOmnI,UAAU/gK,KAAKghK,SAAW,IAAIC,EAAqBjhK,KAAK45B,OAAOqnI,UAAUjhK,KAAKkhK,SAAW,IAAIC,EAAqBnhK,KAAK45B,OAAOunI,UAAUnhK,KAAKohK,SAAW,IAAIC,EAAqBrhK,KAAK45B,OAAOynI,UAAUrhK,KAAKshK,SAAW,IAAIC,EAAqBvhK,KAAK45B,OAAO2nI,UAAUvhK,KAAKwhK,SAAW,IAAIC,EAAqBzhK,KAAK45B,OAAO6nI,UAAUzhK,KAAK0hK,SAAW,IAAIC,EAAqB3hK,KAAK45B,OAAO+nI,UAAU3hK,KAAK4hK,SAAW,IAAIC,EAAqB7hK,KAAK45B,OAAOioI,UAAU7hK,KAAK8hK,SAAW,IAAIC,EAAqB/hK,KAAK45B,OAAOmoI,UAAU/hK,KAAKgiK,SAAW,IAAIC,EAAqBjiK,KAAK45B,OAAOqoI,UAAUjiK,KAAKkiK,SAAW,IAAIC,EAAqBniK,KAAK45B,OAAOuoI,UAAUniK,KAAKoiK,SAAW,IAAIC,EAAqBriK,KAAK45B,OAAOyoI,UAAUriK,KAAKsiK,SAAW,IAAIC,EAAqBviK,KAAK45B,OAAO2oI,UAAUviK,KAAKwiK,SAAW,IAAIC,EAAqBziK,KAAK45B,OAAO6oI,UAAUziK,KAAK0iK,SAAW,IAAIC,EAAqB3iK,KAAK45B,OAAO+oI,UAAU3iK,KAAK4iK,SAAW,IAAIC,EAAqB7iK,KAAK45B,OAAOipI,UAAU7iK,KAAK8iK,SAAW,IAAIC,EAAqB/iK,KAAK45B,OAAOmpI,UAAU/iK,KAAKgjK,SAAW,IAAIC,EAAqBjjK,KAAK45B,OAAOqpI,UAAUjjK,KAAKkjK,SAAW,IAAIC,EAAqBnjK,KAAK45B,OAAOupI,UAAUnjK,KAAKojK,SAAW,IAAIC,EAAqBrjK,KAAK45B,OAAOypI,UAAUrjK,KAAKsjK,SAAW,IAAIC,EAAqBvjK,KAAK45B,OAAO2pI,UAAUvjK,KAAKwjK,SAAW,IAAIC,EAAqBzjK,KAAK45B,OAAO6pI,UAAUzjK,KAAK0jK,SAAW,IAAIC,EAAqB3jK,KAAK45B,OAAO+pI,UAAU3jK,KAAK4jK,SAAW,IAAIC,EAAqB7jK,KAAK45B,OAAOiqI,UAAU7jK,KAAK8jK,SAAW,IAAIC,EAAqB/jK,KAAK45B,OAAOmqI,UAAU/jK,KAAKgkK,SAAW,IAAIC,EAAqBjkK,KAAK45B,OAAOqqI,UAAUjkK,KAAKkkK,SAAW,IAAIC,EAAqBnkK,KAAK45B,OAAOuqI,UAAUnkK,KAAKokK,SAAW,IAAIC,EAAqBrkK,KAAK45B,OAAOyqI,UAAUrkK,KAAKskK,SAAW,IAAIC,EAAqBvkK,KAAK45B,OAAO2qI,UAAUvkK,KAAKwkK,SAAW,IAAIC,EAAqBzkK,KAAK45B,OAAO6qI,UAAUzkK,KAAK0kK,SAAW,IAAIC,EAAqB3kK,KAAK45B,OAAO+qI,UAAU3kK,KAAK4kK,SAAW,IAAIC,EAAqB7kK,KAAK45B,OAAOirI,UAAU7kK,KAAK8kK,SAAW,IAAIC,EAAqB/kK,KAAK45B,OAAOmrI,UAAU/kK,KAAKglK,SAAW,IAAIC,EAAqBjlK,KAAK45B,OAAOqrI,UAAUjlK,KAAKklK,SAAW,IAAIC,EAAqBnlK,KAAK45B,OAAOurI,UAAUnlK,KAAKolK,SAAW,IAAIC,EAAqBrlK,KAAK45B,OAAOyrI,UAAUrlK,KAAKslK,SAAW,IAAIC,EAAqBvlK,KAAK45B,OAAO2rI,UAAUvlK,KAAKwlK,SAAW,IAAIC,EAAqBzlK,KAAK45B,OAAO6rI,UAAUzlK,KAAK0lK,SAAW,IAAIC,EAAqB3lK,KAAK45B,OAAO+rI,UAAU3lK,KAAK4lK,SAAW,IAAIC,EAAqB7lK,KAAK45B,OAAOisI,UAAU7lK,KAAK8lK,SAAW,IAAIC,EAAqB/lK,KAAK45B,OAAOmsI,UAAU/lK,KAAKgmK,SAAW,IAAIC,EAAqBjmK,KAAK45B,OAAOqsI,UAAUjmK,KAAKkmK,SAAW,IAAIC,EAAqBnmK,KAAK45B,OAAOusI,UAAUnmK,KAAKomK,SAAW,IAAIC,EAAqBrmK,KAAK45B,OAAOysI,UAAUrmK,KAAKsmK,SAAW,IAAIC,EAAqBvmK,KAAK45B,OAAO2sI,UAAUvmK,KAAKwmK,SAAW,IAAIC,EAAqBzmK,KAAK45B,OAAO6sI,UAAUzmK,KAAK0mK,SAAW,IAAIC,EAAqB3mK,KAAK45B,OAAO+sI,UAAU3mK,KAAK4mK,SAAW,IAAIC,EAAqB7mK,KAAK45B,OAAOitI,UAAU7mK,KAAK8mK,SAAW,IAAIC,EAAqB/mK,KAAK45B,OAAOmtI,UAAU/mK,KAAKgnK,SAAW,IAAIC,EAAqBjnK,KAAK45B,OAAOqtI,UAAUjnK,KAAKknK,SAAW,IAAIC,EAAqBnnK,KAAK45B,OAAOutI,UAAUnnK,KAAKonK,SAAW,IAAIC,EAAqBrnK,KAAK45B,OAAOytI,UAAUrnK,KAAKsnK,SAAW,IAAIC,EAAqBvnK,KAAK45B,OAAO2tI,UAAUvnK,KAAKwnK,SAAW,IAAIC,EAAqBznK,KAAK45B,OAAO6tI,UAAUznK,KAAK0nK,SAAW,IAAIC,EAAqB3nK,KAAK45B,OAAO+tI,UAAU3nK,KAAK4nK,SAAW,IAAIC,EAAqB7nK,KAAK45B,OAAOiuI,UAAU7nK,KAAK8nK,SAAW,IAAIC,EAAqB/nK,KAAK45B,OAAOmuI,UAAU/nK,KAAKgoK,SAAW,IAAIC,EAAqBjoK,KAAK45B,OAAOquI,UAAUjoK,KAAKkoK,SAAW,IAAIC,EAAqBnoK,KAAK45B,OAAOuuI,UAAUnoK,KAAKooK,SAAW,IAAIC,EAAqBroK,KAAK45B,OAAOyuI,UAAUroK,KAAKsoK,SAAW,IAAIC,EAAqBvoK,KAAK45B,OAAO2uI,UAAUvoK,KAAKwoK,SAAW,IAAIC,EAAqBzoK,KAAK45B,OAAO6uI,UAAUzoK,KAAK0oK,SAAW,IAAIC,EAAqB3oK,KAAK45B,OAAO+uI,UAAU3oK,KAAK4oK,SAAW,IAAIC,EAAqB7oK,KAAK45B,OAAOivI,UAAU7oK,KAAK8oK,SAAW,IAAIC,EAAqB/oK,KAAK45B,OAAOmvI,UAAU/oK,KAAKgpK,SAAW,IAAIC,EAAqBjpK,KAAK45B,OAAOqvI,UAAUjpK,KAAKkpK,SAAW,IAAIC,EAAqBnpK,KAAK45B,OAAOuvI,UAAUnpK,KAAKopK,SAAW,IAAIC,EAAqBrpK,KAAK45B,OAAOyvI,UAAUrpK,KAAKspK,SAAW,IAAIC,EAAqBvpK,KAAK45B,OAAO2vI,UAAUvpK,KAAKwpK,SAAW,IAAIC,EAAqBzpK,KAAK45B,OAAO6vI,UAAUzpK,KAAK0pK,SAAW,IAAIC,EAAqB3pK,KAAK45B,OAAO+vI,UAAU3pK,KAAK4pK,SAAW,IAAIC,EAAqB7pK,KAAK45B,OAAOiwI,UAAU7pK,KAAK8pK,SAAW,IAAIC,EAAqB/pK,KAAK45B,OAAOmwI,UAAU/pK,KAAKgqK,SAAW,IAAIC,EAAqBjqK,KAAK45B,OAAOqwI,UAAUjqK,KAAKkqK,SAAW,IAAIC,EAAqBnqK,KAAK45B,OAAOuwI,UAAUnqK,KAAKoqK,SAAW,IAAIC,EAAqBrqK,KAAK45B,OAAOywI,UAAUrqK,KAAKsqK,SAAW,IAAIC,EAAqBvqK,KAAK45B,OAAO2wI,UAAUvqK,KAAKwqK,SAAW,IAAIC,EAAqBzqK,KAAK45B,OAAO6wI,UAAUzqK,KAAK0qK,SAAW,IAAIC,EAAqB3qK,KAAK45B,OAAO+wI,UAAU3qK,KAAK4qK,SAAW,IAAIC,EAAqB7qK,KAAK45B,OAAOixI,UAAU7qK,KAAK8qK,SAAW,IAAIC,EAAqB/qK,KAAK45B,OAAOmxI,UAAU/qK,KAAKgrK,SAAW,IAAIC,EAAqBjrK,KAAK45B,OAAOqxI,UAAUjrK,KAAKkrK,SAAW,IAAIC,EAAqBnrK,KAAK45B,OAAOuxI,UAAUnrK,KAAKorK,SAAW,IAAIC,EAAqBrrK,KAAK45B,OAAOyxI,UAAUrrK,KAAKsrK,SAAW,IAAIC,EAAqBvrK,KAAK45B,OAAO2xI,UAAUvrK,KAAKwrK,SAAW,IAAIC,EAAqBzrK,KAAK45B,OAAO6xI,UAAUzrK,KAAK0rK,SAAW,IAAIC,EAAqB3rK,KAAK45B,OAAO+xI,UAAU3rK,KAAK4rK,SAAW,IAAIC,EAAqB7rK,KAAK45B,OAAOiyI,UAAU7rK,KAAK8rK,SAAW,IAAIC,EAAqB/rK,KAAK45B,OAAOmyI,UAAU/rK,KAAKgsK,SAAW,IAAIC,EAAqBjsK,KAAK45B,OAAOqyI,UAAUjsK,KAAKksK,SAAW,IAAIC,EAAqBnsK,KAAK45B,OAAOuyI,UAAUnsK,KAAKosK,SAAW,IAAIC,EAAqBrsK,KAAK45B,OAAOyyI,UAAUrsK,KAAKssK,SAAW,IAAIC,EAAqBvsK,KAAK45B,OAAO2yI,UAAUvsK,KAAKwsK,SAAW,IAAIC,EAAqBzsK,KAAK45B,OAAO6yI,UAAUzsK,KAAK0sK,SAAW,IAAIC,EAAqB3sK,KAAK45B,OAAO+yI,UAAU3sK,KAAK4sK,SAAW,IAAIC,EAAqB7sK,KAAK45B,OAAOizI,UAAU7sK,KAAK8sK,SAAW,IAAIC,EAAqB/sK,KAAK45B,OAAOm

AAM7nJ,KAAM4nJ,EAAWlzI,KAAMmzI,EAAKt2G,MAC1E,OAAOs1G,GAA2BmB,EAAYtpI,EAAMuJ,EAAO0G,KAAMo5H,EAAa9sG,QAI1F,IAAIitG,EAAiBN,EAAW34H,kBAAkBxL,OAAOhI,KAAI,SAAUnG,GAAS,OAAOA,EAAMZ,QAAQF0xD,EAAO,WAGP,IAFA,IAAI5yD,EAAQxT,KACR0e,EAAO,GACFC,EAAI,EAAGA,EAAIF,EAAMG,OAAQD,IAAK,CACnC,IAAIE,EAAOJ,EAAMK,WAAWH,GAC5B,GAAIE,EAAO,IAAM,CACbH,GAAQ,IAAMG,EAAKE,SAAS,IAAIC,cAChC,SAEJ,GAAIH,EAAO,KAAO,CACdH,GAAQ,KAAOG,EAAKE,SAAS,IAAIC,cACjC,SAEJ,GAAIH,EAAO,OAAS,GAAIA,EAAO,MAAQ,CACnCH,GAAQ,MAAQG,EAAKE,SAAS,IAAIC,cACl

KAAK3kB,EAAQqhB,eAAeiF,OACxB,OAAO2F,IAAQtH,IACnB,KAAK3kB,EAAQqhB,eAAemF,aACxB,OAA
OyF,KAAStH,IACpB,QACI,MAAM,IAAIzhB,MAAM,oBAAsBotB,EAAIvE,YAGtD47H,EAAqBtmJ,UAAU8qB,
kBAAoB,SAAUmE,EAAKiI,GAI9D,OAFejI,EAAInI,SAAShB,gBAAgB5mB,KAAMg4B,GAChCjI,Irb,OAG
1B0yI,EAAqBtmJ,UAAU+qB,iBAAmB,SAAUkE,EAAKiI,GAG7D,OAFejI,EAAInI,SAAShB,gBAAgB5mB,KA
AMg4B,GACvCjI,EAAIzM,MAAMsD,gBAAgB5mB,KAAMg4B,KAG/CovH,EAAqBtmJ,UAAUmrB,sBAAwB,S
AAU8D,EAAKiI,GAClE,OAAOh4B,KAAKgwB,oBAAoBD,EAAIhE,QASiM,IAEjDovH,EAAqBtmJ,UAAUur
B,oBAAsB,SAAU0D,EAAKiI,GAChE,IAAIxkB,EAAQxT,KACRwZ,EAAS,GAEb,OADAuW,EAAIhE,QAAQvX
,SAAQ,SAAU0b,GAAS,gBAAgBpT,EAAOwkB,MAC9C9Fxe,GAEX4tI,EAAqBtmJ,UAAU0rB,eAAiB,SAAUuD,EAAK5O,GAC3D,IAAI1B,EASzf,KAAKgwB
,oBAAoBD,EAAIxD,MAAOpL,GACjD,OAAO1B,EAAOA,EAAOje,IAAElC4lJ,EAAqBtmJ,UAAUkvB,oB
AAsB,SAAUhH,EAAagP,GACxE,IAAIxkB,EAAQxT,KACZ,KAAOwZ,EAAOxZ,KAAKwZ,KAAMwkB,GAAGA2Bl2
H,EAAUjS,EAAM0M,EAAY4M,EAAK9W,IAG3E,IAAIsmI,GAAoB,QACpBC,GAAoB,QAkBhB,WAC
C7B,SAASA,EAAYpU,EAAmBC,EAAiBC,EAAgBC,EAAeE,EAAmBvgB,EAAkBjuC,EAAYwiE,EAAeC,EAAi
BviE,EAAUwiE,GAC/KxoJ,KAAKi0I,kBAAoBA,EACzBj0I,KAAKk0I,gBAAkBA,EACvBl0I,KAAKm0I,eAAiB
A,EACtBn0I,KAAKo0I,cAAgBA,EACrBp0I,KAAKs0I,kBAAoBA,EACzBt0I,KAAKu0I,gBAAkBA,EACvBt0I+zH,iBAAmBA,EAAmB/zH,
KAAK8lF,WAAaA,EAClB9lF,KAAKsoJ,cAAgBA,EACrBtoJ,KAAKuoJ,gBAAkBA,EACvBvoJ,KAAKgmF,SAA
WA,EAChBhmF,KAAKwoJ,0BAA4BA,EACjCxoJ,KAAKyoJ,uBAAyBA,EAC9BzoJ,KAAK0oJ,2BAA6BA,EAClC1oJ,KAAK2oJ
AAI5uI,IACtC9Z,KAAK2oJ,+BAAiCA,EACtC3oJ,KAAK4oJ,iBAAmBA,EACxB5oJ,KAAK6oJ,mBAAqBA,EAC1B7oJ,KAAK8oJ
AyB,EAC9B7oJ,KAAK8oJ,mBAAqBA,EAAmBA,EAAmB,EAAI,EAAIA,EAAmB,EAC3E9oJ,KAAK+oJ,qBAAuBA,EAC5B/oJ,KAAKgpJ,
Ut3F,GACjD,OAAOv9B,GAAqB9zB,KAAKgpJ,KAAKC,KAAKjpJ,KAAKkpJ,KAAKC,KAAKnpJ,KAAKopJ,KAAKC,KAAKrpJ,KAAKspJ,KAAKC,KAAKvpJ,KAAKwpJ,KAAKC,KAAKzpJ,KAAK0pJ,KAAKC,KAAK3pJ,KAAK4pJ,KAAKC,KAAK7pJ,KAAK8pJ
,kCAAoC,SAAUv3F,GAChE,OAAO79B,GAAqB9zB,KAAKmpJ,+BAAiCx1F,EAAOw1F,+BAAiCnpJ,KAAKopJ,4BAA8Bz1F,EAAOy1F,4BAA8BppJ,KAAKqpJ,sBAAwB11F,EAAO01F,sBAAwBrpJ,KAAKspJ,2BAA6B31F,EAAO21F,2BAA6BtpJ,KAAKupJ,qBAAuB51F,EAAO41F,qBAAuBvpJ,KAAKwpJ,sBAAwB71F,EAAO61F,sBAAwBxpJ,KAAKypJ,qBAAuB91F,EAAO81F,qBAAuBzpJ,KAAK0pJ,sBAAwB/1F,EAAO+1F,sBAAwB1pJ,KAAK2pJ,qBAAuBh2F,EAAOg2F,qBAAuB3pJ,KAAK4pJ,sBAAwBj2F,EAAOi2F,sBAAwB5pJ,KAAK6pJ,qBAAuBl2F,EAAOk2F,qBAAuB7pJ,KAAK8pJ,sBAAwBn2F,EAAOm2F,sBAAwB9pJ,KAAK+pJ,qBAAuBp2F,EAAOo2F,qBAAuB/pJ,KAAKgqJ,sBAAwBr2F,EAAOq2F,sBAAwBhqJ,KAAKiqJ,qBAAuBt2F,EAAOs2F,qBAAuBjqJ,KAAKkqJ,sBAAwBv2F,EAAOu2F,sBAAwBlqJ,KAAKmqJ,qBAAuBx2F,EAAOw2F,qBAAuBnqJ,KAAKoqJ,sBAAwBz2F,EAAOy2F,sBAAwBpqJ,KAAKqqJ,qBAAuB12F,EAAO02F,qBAAuBrqJ,KAAKsqJ,sBAAwB32F,EAAO22F,sBAAwBtqJ,KAAKuqJ,qBAAuB52F,EAAO42F,qBAAuBvqJ,KAAKwqJ,sBAAwB72F,EAAO62F,sBAAwBxqJ,KAAKyqJ,qBAAuB92F,EAAO82F,qBAAuBzqJ,KAAK0qJ,sBAAwB/2F,EAAO+2F,sBAAwB1qJ,KAAK2qJ,qBAAuBh3F,EAAOg3F,qBAAuB3qJ,KAAK4qJ,sBAAwBj3F,EAAOi3F,sBAAwB5qJ,KAAK6qJ,qBAAuBl3F,EAAOk3F,qBAAuB7qJ,KAAK8qJ,sBAAwBn3F,EAAOm3F,sBAAwB9qJ,KAAK+qJ,qBAAuBp3F,EAAOo3F,qBAAuB/qJ,KAAKgrJ,sBAAwBr3F,EAAOq3F,sBAAwBhrJ,KAAKirJ,qBAAuBt3F,EAAOs3F,qBAAuBjrJ,KAAKkrJ,sBAAwBv3F,EAAOu3F,sBAAwBlrJ,KAAKmrJ,qBAAuBx3F,EAAOw3F,qBAAuBnrJ,KAAKorJ,sBAAwBz3F,EAAOy3F,sBAAwBprJ,KAAKqrJ,qBAAuB13F,EAAO03F,qBAAuBrrJ,KAAKsrJ,sBAAwB33F,EAAO23F,sBAAwBtrJ,KAAKurJ,qBAAuB53F,EAAO43F,qBAAuBvrJ,KAAKwrJ,sBAAwB73F,EAAO63F,sBAAwBxrJ,KAAKyrJ,qBAAuB93F,EAAO83F,qBAAuBzrJ,KAAK0rJ,sBAAwB/3F,EAAO+3F,sBAAwB1rJ,KAAK2rJ,qBAAuBh4F,EAAOg4F,qBAAuB3rJ,KAAK4rJ,sBAAwBj4F,EAAOi4F,sBAAwB5rJ,KAAK6rJ,qBAAuBl4F,EAAOk4F,qBAAuB7rJ,KAAK8rJ,sBAAwBn4F,EAAOm4F,sBAAwB9rJ,KAAK+rJ,qBAAuBp4F,EAAOo4F,qBAAuB/rJ,KAAKgsJ,sBAAwBr4F,EAAOq4F,sBAAwBhsJ,KAAKisJ,qBAAuBt4F,EAAOs4F,qBAAuBjsJ,KAAKksJ,sBAAwBv4F,EAAOu4F,sBAAwBlsJ,KAAKmsJ,qBAAuBx4F,EAAOw4F,qBAAuBnsJ,KAAKosJ,sBAAwBz4F,EAAOy4F,sBAAwBpsJ,KAAKqsJ,qBAAuB14F,EAAO04F,qBAAuBrsJ,KAAKssJ,sBAAwB34F,EAAO24F,sBAAwBtsJ,KAAKusJ,qBAAuB54F,EAAO44F,qBAAuBvsJ,KAAKwsJ,sBAAwB74F,EAAO64F,sBAAwBxsJ,KAAKysJ,qBAAuB94F,EAAO84F,qBAAuBzsJ,KAAK0sJ,sBAAwB/4F,EAAO+4F,sBAAwB1sJ,KAAK2sJ,qBAAuBh5F,EAAOg5F,qBAAuB3sJ,KAAK4sJ,sBAAwBj5F,EAAOi5F,sBAAwB5sJ,KAAK6sJ,qBAAuBl5F,EAAOk5F,qBAAuB7sJ,KAAK8sJ,sBAAwBn5F,EAAOm5F,sBAAwB9sJ,KAAK+sJ,qBAAuBp5F,EAAOo5F,qBAAuB/sJ,KAAKgtJ,sBAAwBr5F,EAAOq5F,sBAAwBhtJ,KAAKitJ,qBAAuBt5F,EAAOs5F,qBAAuBjtJ,KAAKktJ,sBAAwBv5F,EAAOu5F,sBAAwBltJ,KAAKmtJ,qBAAuBx5F,EAAOw5F,qBAAuBntJ,KAAKotJ,sBAAwBz5F,EAAOy5F,sBAAwBptJ,KAAKqtJ,qBAAuB15F,EAAO05F,qBAAuBrtJ,KAAKstJ,sBAAwB35F,EAAO25F,sBAAwBttJ,KAAKutJ,qBAAuB55F,EAAO45F,qBAAuBvtJ,KAAKwtJ,sBAAwB75F,EAAO65F,sBAAwBxtJ,KAAKytJ,qBAAuB95F,EAAO85F,qBAAuBztJ,KAAK0tJ,sBAAwB/5F,EAAO+5F,sBAAwB1tJ,KAAK2tJ,qBAAuBh6F,EAAOg6F,qBAAuB3tJ,KAAK4tJ,sBAAwBj6F,EAAOi6F,sBAAwB5tJ,KAAK6tJ,qBAAuBl6F,EAAOk6F,qBAAuB7tJ,KAAK8tJ,sBAAwBn6F,EAAOm6F,sBAAwB9tJ,KAAK+tJ,qBAAuBp6F,EAAOo6F,qBAAuB/tJ,KAAKguJ,sBAAwBr6F,EAAOq6F,sBAAwBhuJ,KAAKiuJ,qBAAuBt6F,EAAOs6F,qBAAuBjuJ,KAAKkuJ,sBAAwBv6F,EAAOu6F,sBAAwBluJ,KAAKmuJ,qBAAuBx6F,EAAOw6F,qBAAuBnuJ,KAAKouJ,sBAAwBz6F,EAAOy6F,sBAAwBpuJ,KAAKquJ,qBAAuB16F,EAAO06F,qBAAuBruJ,KAAKsuJ,sBAAwB36F,EAAO26F,sBAAwBtuJ,KAAKuuJ,qBAAuB56F,EAAO46F,qBAAuBvuJ,KAAKwuJ,sBAAwB76F,EAAO66F,sBAAwBxuJ,KAAKyuJ,qBAAuB96F,EAAO86F,qBAAuBzuJ,KAAK0uJ,sBAAwB/6F,EAAO+6F,sBAAwB1uJ,KAAK2uJ,qBAAuBh7F,EAAOg7F,qBAAuB3uJ,KAAK4uJ,sBAAwBj7F,EAAOi7F,sBAAwB5uJ,KAAK6uJ,qBAAuBl7F,EAAOk7F,qBAAuB7uJ,KAAK8uJ,sBAAwBn7F,EAAOm7F,sBAAwB9uJ,KAAK+uJ,qBAAuBp7F,EAAOo7F,qBAAuB/uJ,KAAKgvJ,sBAAwBr7F,EAAOq7F,sBAAwBhvJ,KAAKivJ,qBAAuBt7F,EAAOs7F,qBAAuBjvJ,KAAKkvJ,sBAAwBv7F,EAAOu7F,sBAAwBlvJ,KAAKmvJ,qBAAuBx7F,EAAOw7F,qBAAuBnvJ,KAAKovJ,sBAAwBz7F,EAAOy7F,sBAAwBpvJ,KAAKqvJ,qBAAuB17F,EAAO07F,qBAAuBrvJ,KAAKsvJ,sBAAwB37F,EAAO27F,sBAAwBtvJ,KAAKuvJ,qBAAuB57F,EAAO47F,qBAAuBvvJ,KAAKwvJ,sBAAwB77F,EAAO67F,sBAAwBxvJ,KAAKyvJ,qBAAuB97F,EAAO87F,qBAAuBzvJ,KAAK0vJ,sBAAwB/7F,EAAO+7F,sBAAwB1vJ,KAAK2vJ,qBAAuBh8F,EAAOg8F,qBAAuB3vJ,KAAK4vJ,sBAAwBj8F,EAAOi8F,sBAAwB5vJ,KAAK6vJ,qBAAuBl8F,EAAOk8F,qBAAuB7vJ,KAAK8vJ,sBAAwBn8F,EAAOm8F,sBAAwB9vJ,KAAK+vJ,qBAAuBp8F,EAAOo8F,qBAAuB/vJ,KAAKgwJ,sBAAwBr8F,EAAOq8F,sBAAwBhwJ,KAAKiwJ,qBAAuBt8F,EAAOs8F,qBAAuBjwJ,KAAKkwJ,sBAAwBv8F,EAAOu8F,sBAAwBlwJ,KAAKmwJ,qBAAuBx8F,EAAOw8F,qBAAuBnwJ,KAAKowJ,sBAAwBz8F,EAAOy8F,sBAAwBpwJ,KAAKqwJ,qBAAuB18F,EAAO08F,qBAAuBrwJ,KAAKswJ,sBAAwB38F,EAAO28F,sBAAwBtwJ,KAAKuwJ,qBAAuB58F,EAAO48F,qBAAuBvwJ,KAAKwwJ,sBAAwB78F,EAAO68F,sBAAwBxwJ,KAAKywJ,qBAAuB98F,EAAO88F,qBAAuBzwJ,KAAK0wJ,sBAAwB/8F,EAAO+8F,sBAAwB1wJ,KAAK2wJ,qBAAuBh9F,EAAOg9F,qBAAuB3wJ,KAAK4wJ,sBAAwBj9F,EAAOi9F,sBAAwB5wJ,KAAK6wJ,qBAAuBl9F,EAAOk9F,qBAAuB7wJ,KAAK8wJ,sBAAwBn9F,EAAOm9F,sBAAwB9wJ,KAAK+wJ,qBAAuBp9F,EAAOo9F,qBAAuB/wJ,KAAKgxJ,sBAAwBr9F,EAAOq9F,sBAAwBhxJ,KAAKixJ,qBAAuBt9F,EAAOs9F,qBAAuBjxJ,KAAKkxJ,sBAAwBv9F,EAAOu9F,sBAAwBlxJ,KAAKmxJ,qBAAuBx9F,EAAOw9F,qBAAuBnxJ,KAAKoxJ,sBAAwBz9F,EAAOy9F,sBAAwBpxJ,KAAKqxJ,qBAAuB19F,EAAO09F,qBAAuBrxJ,KAAKsxJ,sBAAwB39F,EAAO29F,sBAAwBtxJ,KAAKuxJ,qBAAuB59F,EAAO49F,qBAAuBvxJ,KAAKwxJ,sBAAwB79F,EAAO69F,sBAAwBxxJ,KAAKyxJ,qBAAuB99F,EAAO89F,qBAAuBzxJ,KAAK0xJ,sBAAwB/9F,EAAO+9F,sBAAwB1xJ,KAAK2xJ,qBAAuBh+F,EAAOg+F,qBAAuB3xJ,KAAK4xJ,sBAAwBj+F,EAAOi+F,sBAAwB5xJ,KAAK6xJ,qBAAuBl+F,EAAOk+F,qBAAuB7xJ,KAAK8xJ,sBAAwBn+F,EAAOm+F,sBAAwB9xJ,KAAK+xJ,qBAAuBp+F,EAAOo+F,qBAAuB/xJ,KAAKgyJ,sBAAwBr+F,EAAOq+F,sBAAwBhyJ,KAAKiyJ,qBAAuBt+F,EAAOs+F,qBAAuBjyJ,KAAKkyJ,sBAAwBv+F,EAAOu+F,sBAAwBlyJ,KAAKmyJ,qBAAuBx+F,EAAOw+F,qBAAuBnyJ,KAAKoyJ,sBAAwBz+F,EAAOy+F,sBAAwBpyJ,KAAKqyJ,qBAAuB1+F,EAAO0+F,qBAAuBryJ,KAAKsyJ,sBAAwB3+F,EAAO2+F,sBAAwBtyJ,KAAKuyJ,qBAAuB5+F,EAAO4+F,qBAAuBvyJ,KAAKwyJ,sBAAwB7+F,EAAO6+F,sBAAwBxyJ,KAAKyyJ,qBAAuB9+F,EAAO8+F,qBAAuBzyJ,KAAK0yJ,sBAAwB/+F,EAAO++F,sBAAwB1yJ,KAAK2yJ,qBAAuBh/F,EAAOg/F,qBAAuB3yJ,KAAK4yJ,sBAAwBj/F,EAAOi/F,sBAAwB5yJ,KAAK6yJ,qBAAuBl/F,EAAOk/F,qBAAuB7yJ,KAAK8yJ,sBAAwBn/F,EAAOm/F,sBAAwB9yJ,KAAK+yJ,qBAAuBp/F,EAAOo/F,qBAAuB/yJ,KAAKgzJ,sBAAwBr/F,EAAOq/F,sBAAwBhzJ,KAAKizJ,qBAAuBt/F,EAAOs/F,qBAAuBjzJ,KAAKkzJ,sBAAwBv/F,EAAOu/F,sBAAwBlzJ,KAAKmzJ,qBAAuBx/F,EAAOw/F,qBAAuBnzJ,KAAKozJ,sBAAwBz/F,EAAOy/F,sBAAwBpzJ,KAAKqzJ,qBAAuB1/F,EAAO0/F,qBAAuBrzJ,KAAKszJ,sBAAwB3/F,EAAO2/F,sBAAwBtzJ,KAAKuzJ,qBAAuB5/F,EAAO4/F,qBAAuBvzJ,KAAKwzJ,sBAAwB7/F,EAAO6/F,sBAAwBxzJ,KAAKyzJ,qBAAuB9/F,EAAO8/F,qBAAuBzzJ,KAAK0zJ,sBAAwB//F,EAAO+/F,sBAAwB1zJ,KAAK2zJ,qBAAuBhgG,EAAOggG,qBAAuB3zJ,KAAK4zJ,sBAAwBjgG,EAAOigG,sBAAwB5zJ,KAAK6zJ,qBAAuBlgG,EAAOkgG,qBAAuB7zJ,KAAK8zJ,sBAAwBngG,EAAOmgG,sBAAwB9zJ,KAAK+zJ,qBAAuBpgG,EAAOogG,qBAAuB/zJ,KAAKg0J,sBAAwBrgG,EAAOqgG,sBAAwBh0J,KAAKi0J,qBAAuBtgG,EAAOsgG,qBAAuBj0J,KAAKk0J,sBAAwBvgG,EAAOugG,sBAAwBl0J,KAAKm0J,qBAAuBxgG,EAAOwgG,qBAAuBn0J,KAAKo0J,sBAAwBzgG,EAAOygG,sBAAwBp0J,KAAKq0J,qBAAuB1gG,EAAO0gG,qBAAuBr0J,KAAKs0J,sBAAwB3gG,EAAO2gG,sBAAwBt0J,KAAKu0J,qBAAuB5gG,EAAO4gG,qBAAuBv0J,KAAKw0J,sBAAwB7gG,EAAO6gG,sBAAwBx0J,KAAKy0J,qBAAuB9gG,EAAO8gG,qBAAuBz0J,KAAK00J,sBAAwB/gG,EAAO+gG,sBAAwB10J,KAAK20J,qBAAuBhhG,EAAOghG,qBAAuB30J,KAAK40J,sBAAwBjhG,EAAOihG,sBAAwB50J,KAAK60J,qBAAuBlhG,EAAOkhG,qBAAuB70J,KAAK80J,sBAAwBnhG,EAAOmhG,sBAAwB90J,KAAK+0J,qBAAuBphG,EAAOohG,qBAAuB/0J,KAAKg1J,sBAAwBrhG,EAAOqhG,sBAAwBh1J,KAAKi1J,qBAAuBthG,EAAOshG,qBAAuBj1J,KAAKk1J,sBAAwBvhG,EAAOuhG,sBAAwBl1J,KAAKm1J,qBAAuBxhG,EAAOwhG,qBAAuBn1J,KAAKo1J,sBAAwBzhG,EAAOyhG,sBAAwBp1J,KAAKq1J,qBAAuB1hG,EAAO0hG,qBAAuBr1J,KAAKs1J,sBAAwB3hG,EAAO2hG,sBAAwBt1J,KAAKu1J,qBAAuB5hG,EAAO4hG,qBAAuBv1J,KAAKw1J,sBAAwB7hG,EAAO6hG,sBAAwBx1J,KAAKy1J,qBAAuB9hG,EAAO8hG,qBAAuBz1J,KAAK01J,sBAAwB/hG,EAAO+hG,sBAAwB11J,KAAK21J,qBAAuBhiG,EAAOgiG,qBAAuB31J,KAAK41J,sBAAwBjiG,EAAOiiG,sBAAwB51J,KAAK61J,qBAAuBliG,EAAOkiG,qBAAuB71J,KAAK81J,sBAAwBniG,EAAOmiG,sBAAwB91J,KAAK+1J,qBAAuBpiG,EAAOoiG,qBAAuB/1J,KAAKg2J,sBAAwBriG,EAAOqiG,sBAAwBh2J,KAAKi2J,qBAAuBtiG,EAAOsiG,qBAAuBj2J,KAAKk2J,sBAAwBviG,EAAOuiG,sBAAwBl2J,KAAKm2J,qBAAuBxiG,EAAOwiG,qBAAuBn2J,KAAKo2J,sBAAwBziG,EAAOyiG,sBAAwBp2J,KAAKq2J,qBAAuB1iG,EAAO0iG,qBAAuBr2J,KAAKs2J,sBAAwB3iG,EAAO2iG,sBAAwBt2J,KAAKu2J,qBAAuB5iG,EAAO4iG,qBAAuBv2J,KAAKw2J,sBAAwB7iG,EAAO6iG,sBAAwBx2J,KAAKy2J,qBAAuB9iG,EAAO8iG,qBAAuBz2J,KAAK02J,sBAAwB/iG,EAAO+iG,sBAAwB12J,KAAK22J,qBAAuBhjG,EAAOgjG,qBAAuB32J,KAAK42J,sBAAwBjjG,EAAOijG,sBAAwB52J,KAAK62J,qBAAuBljG,EAAOkjG,qBAAuB72J,KAAK82J,sBAAwBnjG,EAAOmjG,sBAAwB92J,KAAK+2J,qBAAuBpjG,EAAOojG,qBAAuB/2J,KAAKg3J,sBAAwBrjG,EAAOqjG,sBAAwBh3J,KAAKi3J,qBAAuBtjG,EAAOsjG,qBAAuBj3J,KAAKk3J,sBAAwBvjG,EAAOujG,sBAAwBl3J,KAAKm3J,qBAAuBxjG,EAAOwjG,qBAAuBn3J,KAAKo3J,sBAAwBzjG,EAAOyjG,sBAAwBp3J,KAAKq3J,qBAAuB1jG,EAAO0jG,qBAAuBr3J,KAAKs3J,sBAAwB3jG,EAAO2jG,sBAAwBt3J,KAAKu3J,qBAAuB5jG,EAAO4jG,qBAAuBv3J,KAAKw3J,sBAAwB7jG,EAAO6jG,sBAAwBx3J,KAAKy3J,qBAAuB9jG,EAAO8jG,qBAAuBz3J,KAAK03J,sBAAwB/jG,EAAO+jG,sBAAwB13J,KAAK23J,qBAAuBhkG,EAAOgkG,qBAAuB33J,KAAK43J,sBAAwBjkG,EAAOikG,sBAAwB53J,KAAK63J,qBAAuBlkG,EAAOkkG,qBAAuB73J,KAAK83J,sBAAwBnkG,EAAOmkG,sBAAwB93J,KAAK+3J,qBAAuBpkG,EAAOokG,qBAAuB/3J,KAAKg4J,sBAAwBrkG,EAAOqkG,sBAAwBh4J,KAAKi4J,qBAAuBtkG,EAAOskG,qBAAuBj4J,KAAKk4J,sBAAwBvkG,EAAOukG,sBAAwBl4J,KAAKm4J,qBAAuBxkG,EAAOwkG,qBAAuBn4J,KAAKo4J,sBAAwBzkG,EAAOykG,sBAAwBp4J,KAAKq4J,qBAAuB1kG,EAAO0kG,qBAAuBr4J,KAAKs4J,sBAAwB3kG,EAAO2kG,sBAAwBt4J,KAAKu4J,qBAAuB5kG,EAAO4kG,qBAAuBv4J,KAAKw4J,sBAAwB7kG,EAAO6kG,sBAAwBx4J,KAAKy4J,qBAAuB9kG,EAAO8kG,qBAAuBz4J,KAAK04J,sBAAwB/kG,EAAO+kG,sBAAwB14J,KAAK24J,qBAAuBhlG,EAAOglG,qBAAuB34J,KAAK44J,sBAAwBjlG,EAAOilG,sBAAwB54J,KAAK64J,qBAAuBllG,EAAOklG,qBAAuB74J,KAAK84J,sBAAwBnlG,EAAOmlG,sBAAwB94J,KAAK+4J,qBAAuBplG,EAAOolG,qBAAuB/4J,KAAKg5J,sBAAwBrlG,EAAOqlG,sBAAwBh5J,KAAKi5J,qBAAuBtlG,EAAOslG,qBAAuBj5J,KAAKk5J,sBAAwBvlG,EAAOulG,sBAAwBl5J,KAAKm5J,qBAAuBxlG,EAAOwlG,qBAAuBn5J,KAAKo5J,sBAAwBzlG,EAAOylG,sBAAwBp5J,KAAKq5J,qBAAuB1lG,EAAO0lG,qBAAuBr5J,KAAKs5J,sBAAwB3lG,EAAO2lG,sBAAwBt5J,KAAKu5J,qBAAuB5lG,EAAO4lG,qBAAuBv5J,KAAKw5J,sBAAwB7lG,EAAO6lG,sBAAwBx5J,KAAKy5J,qBAAuB9lG,EAAO8lG,qBAAuBz5J,KAAK05J,sBAAwB/lG,EAAO+lG,sBAAwB15J,KAAK25J,qBAAuBhmG,EAAOgmG,qBAAuB35J,KAAK45J,sBAAwBjmG,EAAOimG,sBAAwB55J,KAAK65J,qBAAuBlmG,EAAOkmG,qBAAuB75J,KAAK85J,sBAAwBnmG,EAAOmmG,sBAAwB95J,KAAK+5J,qBAAuBpmG,EAAOomG,qBAAuB/5J,KAAKg6J,sBAAwBrmG,EAAOqmG,sBAAwBh6J,KAAKi6J,qBAAuBtmG,EAAOsmG,qBAAuBj6J,KAAKk6J,sBAAwBvmG,EAAOumG,sBAAwBl6J,KAAKm6J,qBAAuBxmG,EAAOwmG,qBAAuBn6J,KAAKo6J,sBAAwBzmG,EAAOymG,sBAAwBp6J,KAAKq6J,qBAAuB1mG,EAAO0mG,qBAAuBr6J,KAAKs6J,sBAAwB3mG,EAAO2mG,sBAAwBt6J,KAAKu6J,qBAAuB5mG,EAAO4mG,qBAAuBv6J,KAAKw6J,sBAAwB7mG,EAAO6mG,sBAAwBx6J,KAAKy6J,qBAAuB9mG,EAAO8mG,qBAAuBz6J,KAAK06J,sBAAwB/mG,EAAO+mG,sBAAwB16J,KAAK26J,qBAAuBhnG,EAAOgnG,qBAAuB36J,KAAK46J,sBAAwBjnG,EAAOinG,sBAAwB56J,KAAK66J,qBAAuBlnG,EAAOknG,qBAAuB76J,KAAK86J,sBAAwBnnG,EAAOmnG,sBAAwB96J,KAAK+6J,qBAAuBpnG,EAAOonG,qBAAuB/6J,KAAKg7J,sBAAwBrnG,EAAOqnG,sBAAwBh7J,KAAKi7J,qBAAuBtnG,EAAOsnG,qBAAuBj7J,KAAKk7J,sBAAwBvnG,EAAOunG,sBAAwBl7J,KAAKm7J,qBAAuBxnG,EAAOwnG,qBAAuBn7J,KAAKo7J,sBAAwBznG,EAAOynG,sBAAwBp7J,KAAKq7J,qBAAuB1nG,EAAO0nG,qBAAuBr7J,KAAKs7J,sBAAwB3nG,EAAO2nG,sBAAwBt7J,KAAKu7J,qBAAuB5nG,EAAO4nG,qBAAuBv7J,KAAKw7J,sBAAwB7nG,EAAO6nG,sBAAwBx7J,KAAKy7J,qBAAuB9nG,EAAO8nG,qBAAuBz7J,KAAK07J,sBAAwB/nG,EAAO+nG,sBAAwB17J,KAAK27J,qBAAuBhoG,EAAOgoG,qBAAuB37J,KAAK47J,sBAAwBjoG,EAAOioG,sBAAwB57J,KAAK67J,qBAAuBloG,EAAOkoG,qBAAuB77J,KAAK87J,sBAAwBnoG,EAAOmoG,sBAAwB97J,KAAK+7J,qBAAuBpoG,EAAOooG,qBAAuB/7J,KAAKg8J,sBAAwBroG,EAAOqoG,sBAAwBh8J,KAAKi8J,qBAAuBtoG,EAAOsoG,qBAAuBj8J,KAAKk8J,sBAAwBvoG,EAAOuoG,sBAAwBl8J,KAAKm8J,qBAAuBxoG,EAAOwoG,qBAAuBn8J,KAAKo8J,sBAAwBzoG,EAAOyoG,sBAAwBp8J,KAAKq8J,qBAAuB1oG,EAAO0oG,qBAAuBr8J,KAAKs8J,sBAAwB3oG,EAAO2oG,sBAAwBt8J,KAAKu8J,qBAAuB5oG,EAAO4oG,qBAAuBv8J,KAAKw8J,sBAAwB7oG,EAAO6oG,sBAAwBx8J,KAAKy8J,qBAAuB9oG,EAAO8oG,qBAAuBz8J,KAAK08J,sBAAwB/oG,EAAO+oG,sBAAwB18J,KAAK28J,qBAAuBhpG,EAAOgpG,qBAAuB38J,KAAK48J,sBAAwBjpG,EAAOipG,sBAAwB58J,KAAK68J,qBAAuBlpG,EAAOkpG,qBAAuB78J,KAAK88J,sBAAwBnpG,EAAOmpG,sBAAwB98J,KAAK+8J,qBAAuBppG,EAAOopG,qBAAuB/8J,KAAKg9J,sBAAwBrpG,EAAOqpG,sBAAwBh9J,KAAKi9J,qBAAuBtpG,EAAOspG,qBAAuBj9J,KAAKk9J,sBAAwBvpG,EAAOupG,sBAAwBl9J,KAAKm9J,qBAAuBxpG,EAAOwpG,qBAAuBn9J,KAAKo9J,sBAAwBzpG,EAAOypG,sBAAwBp9J,KAAKq9J,qBAAuB1pG,EAAO0pG,qBAAuBr9J,KAAKs9J,sBAAwB3pG,EAAO2pG,sBAAwBt9J,KAAKu9J,qBAAuB5pG,EAAO4pG,qBAAuBv9J,KAAKw9J,sBAAwB7pG,EAAO6pG,sBAAwBx9J,KAAKy9J,qBAAuB9pG,EAAO8pG,qBAAuBz9J,KAAK09J,sBAAwB/pG,EAAO+pG,sBAAwB19J,KAAK29J,qBAAuBhqG,EAAOgqG,qBAAuB39J,KAAK49J,sBAAwBjqG,EAAOiqG,sBAAwB59J,KAAK69J,qBAAuBlqG,EAAOkqG,qBAAuB79J,KAAK89J,sBAAwBnqG,EAAOmqG,sBAAwB99J,KAAK+9J,qBAAuBpqG,EAAOoqG,qBAAuB/9J,KAAKg+J,sBAAwBrqG,EAAOqqG,sBAAwBh+J,KAAKi+J,qBAAuBtqG,EAAOsqG,qBAAuBj+J,KAAKk+J,sBAAwBvqG,EAAOuqG,sBAAwBl+J,KAAKm+J,qBAAuBxqG,EAAOwqG,qBAAuBn+J,KAAKo+J,sBAAwBzqG,EAAOyqG,sBAAwBp+J,KAAKq+J,qBAAuB1qG,EAAO0qG,qBAAuBr+J,KAAKs+J,sBAAwB3qG,EAAO2qG,sBAAwBt+J,KAAKu+J,qBAAuB5qG,EAAO4qG,qBAAuBv+J,KAAKw+J,sBAAwB7qG,EAAO6qG,sBAAwBx+J,KAAKy+J,qBAAuB9qG,EAAO8qG,qBAAuBz+J,KAAK0+J,sBAAwB/qG,EAAO+qG,sBAAwB1+J,KAAK2+J,qBAAuBhrG,EAAOgrG,qBAAuB3+J,KAAK4+J,sBAAwBjrG,EAAOirG,sBAAwB5+J,KAAK6+J,qBAAuBlrG,EAAOkrG,qBAAuB7+J,KAAK8+J,sBAAwBnrG,EAAOmrG,sBAAwB9+J,KAAK++J,qBAAuBprG,EAAOorG,qBAAuB/+J,KAAKg/J,sBAAwBrrG,EAAOqrG,sBAAwBh/J,KAAKi/J,qBAAuBtrG,EAAOsrG,qBAAuBj/J,KAAKk/J,sBAAwBvrG,EAAOurG,sBAAwBl/J,KAAKm/J,qBAAuBxrG,EAAOwrG,qBAAuBn/J,KAAKo/J,sBAAwBzrG,EAAOyrG,sBAAwBp/J,KAAKq/J,qBAAuB1rG,EAAO0rG,qBAAuBr/J,KAAKs/J,sBAAwB3rG,EAAO2rG,sBAAwBt/J,KAAKu/J,qBAAuB5rG,EAAO4rG,qBAAuBv/J,KAAKw/J,sBAAwB7rG,EAAO6rG,sBAAwBx/J,KAAKy/J,qBAAuB9rG,EAAO8rG,qBAAuBz/J,KAAK0/J,sBAAwB/rG,EAAO+rG,sBAAwB1/J,KAAK2/J,qBAAuBhsG,EAAOgsG,qBAAuB3/J,KAAK4/J,sBAAwBjsG,EAAOisG,sBAAwB5/J,KAAK6/J,qBAAuBlsG,EAAOksG,qBAAuB7/J,KAAK8/J,sBAAwBnsG,EAAOmsG,sBAAwB9/J,KAAK+/J,qBAAuBpsG,EAAOosG,qBAAuB//J,KAAKggK,sBAAwBrsG,EAAOqsG,sBAAwBhgK,KAAKigK,qBAAuBtsG,EAAOssG,qBAAuBjgK,KAAKkgK,sBAAwBvsG,EAAOusG,sBAAwBlgK,KAAKmgK,qBAAuBxsG,EAAOwsG,qBAAuBngK,KAAKogK,sBAAwBzsG,EAAOysG,sBAAwBpgK,KAAKqgK,qBAAuB1sG,EAAO0sG,qBAAuBrgK,KAAKsgK,sBAAwB3sG,EAAO2sG,sBAAwBtgK,KAAKugK,qBAAuB5sG,EAAO4sG,qBAAuBvgK,KAAKwgK,sBAAwB7sG,EAAO6sG,sBAAwBxgK,KAAKygK,qBAAuB9sG,EAAO8sG,qBAAuBzgK,KAAK0gK,sBAAwB/sG,EAAO+sG,sBAAwB1gK,KAAK2gK,qBAAuBhtG,EAAOgtG,qBAAuB3gK,KAAK4gK,sBAAwBjtG,EAAOitG,sBAAwB5gK,KAAK6gK,qBAAuBltG,EAAOktG,qBAAuB7gK,KAAK8gK,sBAAwBntG,EAAOmtG,sBAAwB9gK,KAAK+gK,qBAAuBptG,EAAOotG,qBAAuB/gK,KAAKghK,sBAAwBrtG,EAAOqtG,sBAAwBhhK,KAAKihK,qBAAuBttG,EAAOstG,qBAAuBjhK,KAAKkhK,sBAAwBvtG,EAAOutG,sBAAwBlhK,KAAKmhK,qBAAuBxtG,EAAOwtG,qBAAuBnhK,KAAKohK,sBAAwBztG,EAAOytG,sBAAwBphK,KAAKqhK,qBAAuB1tG,EAAO0tG,qBAAuBrhK,KAAKshK,sBAAwB3tG,EAAO2tG,sBAAwBthK,KAAKuhK,qBAAuB5tG,EAAO4tG,qBAAuBvhK,KAAKwhK,sBAAwB7tG,EAAO6tG,sBAAwBxhK,KAAKyhK,qBAAuB9tG,EAAO8tG,qBAAuBzhK,KAAK0hK,sBAAwB/tG,EAAO+tG,sBAAwB1hK,KAAK2hK,qBAAuBhuG,EAAOguG,qBAAuB3hK,KAAK

kBAAkB5Z,sBAAsBx8F,SAEhF/J,GAAc4jG,IAEzB2wB,EAAYvnJ,UAAUy5I,eAAiB,SAAU5oF,GAC7C,IAAIk4F,EAAkB7pJ,KAAK4oJ,uBAAuBvtI,IAAIs2C,GACtD,IAAKk4F,EAAiB,CAClB,IAAInlH,EAAa1kC,KAAKi0I,kBAAkBzc,oBAAoB7lE,GAExD8rB,EAAiBz9E,KAAKwoJ,0BAA0B9jH,EAAWxhB,KAAKuW,WAChEorB,EAAYolG,KACZ1M,EAAgBv9I,KAAKs0I,kBAAkB1iB,QAAQ/sE,EAAWngB,EAAY+4C,GAC1EosE,EAAkB7pJ,KAAKkqJ,gBAAgBzlH,GAAeC,GAAamgB,EAAWngB,EAAY+4C,GAAgB

UAAWQ,IAE/KgpH,EAAYvnJ,UAAUuqJ,4BAA8B,SAAU7xI,EAAQ2xI,GAClE,IAAI33I,EAAQxT,KACZwZ,EAAOoqB,aAAapvB,SAAQ,SAAUsuC,EAAKxhD,GACvC,IAAIkqJ,EAAsBL,EAA+B9vI,IAAIynC,EAAIpkB,WAC7D+sH,EAAkBj4I,EAAMk4I,mCAAmCF,EAAqBL,GACpFroG,EAAIwhB,SAASmnF,OAGrBpD,EAAYvnJ,UAAU4qJ,mCAAqC,SAAUlyI,EAAQ2xI,GAAEzE,OADAnrJ,KAAKqrJ,4B4BA4B7xI,EAAQ2xI,GAAEzE,OAClCnrJ,KAAKkqJ,gBAAgB3lH,GAAAuB/qB,EAAOxE,KAAMhV,GAAK6oJ,EAAOrzI,EAAMhV,EAAK,0J,0BAAOsoJ,EAAOtzI,EAAMhV,EAAK,0J,0BAAOuoJ,EAAOvzI,EAAMhV,EAAK,0J,0BAAOwoJ,EAAOxzI,EAAMhV,EAAK,0J,0BAAOyoJ,EAAOzzI,EAAMhV,EAAK,0J,0BAAO0oJ,EAAO1zI,EAAMhV,EAAK,0J,0BAAO2oJ,EAAO3zI,EAAMhV,EAAK,0J,0BAAO4oJ,EAAO5zI,EAAMhV,EAAK,0J,0BAAO6oJ,EAAO7zI,EAAMhV,EAAK,0J,0BAAO8oJ,EAAO9zI,EAAMhV,EAAK,0J,0BAAO+oJ,EAAO/zI,EAAMhV,EAAK,0J,0BAAOgpJ,EAAOh0I,EAAMhV,EAAK,0J,0BAAOipJ,EAAOj0I,EAAMhV,EAAK,0J,0BAAOkpJ,EAAOl0I,EAAMhV,EAAK,0J,0BAAOmpJ,EAAOn0I,EAAMhV,EAAK,0J,0BAAOopJ,EAAOp0I,EAAMhV,EAAK,0J,0BAAOqpJ,EAAOr0I,EAAMhV,EAAK,0J,0BAAOspJ,EAAOt0I,EAAMhV,EAAK,0J,0BAAOupJ,EAAOv0I,EAAMhV,EAAK,0J,0BAAOwpJ,EAAOx0I,EAAMhV,EAAK,0J,0BAAOypJ,EAAOz0I,EAAMhV,EAAK,0J,0BAAO0pJ,EAAO10I,EAAMhV,EAAK,0J,0BAAO2pJ,EAAO30I,EAAMhV,EAAK,0J,0BAAO4pJ,EAAO50I,EAAMhV,EAAK,0J,0BAAO6pJ,EAAO70I,EAAMhV,EAAK,0J,0BAAO8pJ,EAAO90I,EAAMhV,EAAK,0J,0BAAO+pJ,EAAO/0I,EAAMhV,EAAK,0J,0BAAOgqJ,EAAOh1I,EAAMhV,EAAK,0J,0BAAOiqJ,EAAOj1I,EAAMhV,EAAK,0J,0BAAOkqJ,EAAOl1I,EAAMhV,EAAK,0J,0BAAOmqJ,EAAOn1I,EAAMhV,EAAK,0J,0BAAOoqJ,EAAOp1I,EAAMhV,EAAK,0J,0BAAOqqJ,EAAOr1I,EAAMhV,EAAK,0J,0BAAOsqJ,EAAOt1I,EAAMhV,EAAK,0J,0BAAOuqJ,EAAOv1I,EAAMhV,EAAK,0J,0BAAOwqJ,EAAOx1I,EAAMhV,EAAK,0J,0BAAOyqJ,EAAOz1I,EAAMhV,EAAK,0J,0BAAO0qJ,EAAO11I,EAAMhV,EAAK,0J,0BAAO2qJ,EAAO31I,EAAMhV,EAAK,0J,0BAAO4qJ,EAAO51I,EAAMhV,EAAK,0J,0BAAO6qJ,EAAO71I,EAAMhV,EAAK,0J,0BAAO8qJ,EAAO91I,EAAMhV,EAAK,0J,0BAAO+qJ,EAAO/1I,EAAMhV,EAAK,0J,0BAAOgrJ,EAAOh2I,EAAMhV,EAAK,0J,0BAAOirJ,EAAOj2I,EAAMhV,EAAK,0J,0BAAOkrJ,EAAOl2I,EAAMhV,EAAK,0J,0BAAOmrJ,EAAOn2I,EAAMhV,EAAK,0J,0BAAOorJ,EAAOp2I,EAAMhV,EAAK,0J,0BAAOqrJ,EAAOr2I,EAAMhV,EAAK,0J,0BAAOsrJ,EAAOt2I,EAAMhV,EAAK,0J,0BAAOurJ,EAAOv2I,EAAMhV,EAAK,0J,0BAAOwrJ,EAAOx2I,EAAMhV,EAAK,0J,0BAAOyrJ,EAAOz2I,EAAMhV,EAAK,0J,0BAAO0rJ,EAAO12I,EAAMhV,EAAK,0J,0BAAO2rJ,EAAO32I,EAAMhV,EAAK,0J,0BAAO4rJ,EAAO52I,EAAMhV,EAAK,0J,0BAAO6rJ,EAAO72I,EAAMhV,EAAK,0J,0BAAO8rJ,EAAO92I,EAAMhV,EAAK,0J,0BAAO+rJ,EAAO/2I,EAAMhV,EAAK,0J,0BAAOgsJ,EAAOh3I,EAAMhV,EAAK,0J,0BAAOisJ,EAAOj3I,EAAMhV,EAAK,0J,0BAAOksJ,EAAOl3I,EAAMhV,EAAK,0J,0BAAOmsJ,EAAOn3I,EAAMhV,EAAK,0J,0BAAOosJ,EAAOp3I,EAAMhV,EAAK,0J,0BAAOqsJ,EAAOr3I,EAAMhV,EAAK,0J,0BAAOssJ,EAAOt3I,EAAMhV,EAAK,0J,0BAAOusJ,EAAOv3I,EAAMhV,EAAK,0J,0BAAOwsJ,EAAOx3I,EAAMhV,EAAK,0J,0BAAOysJ,EAAOz3I,EAAMhV,EAAK,0J,0BAAO0sJ,EAAO13I,EAAMhV,EAAK,0J,0BAAO2sJ,EAAO33I,EAAMhV,EAAK,0J,0BAAO4sJ,EAAO53I,EAAMhV,EAAK,0J,0BAAO6sJ,EAAO73I,EAAMhV,EAAK,0J,0BAAO8sJ,EAAO93I,EAAMhV,EAAK,0J,0BAAO+sJ,EAAO/3I,EAAMhV,EAAK,0J,0BAAOgtJ,EAAOh4I,EAAMhV,EAAK,0J,0BAAOitJ,EAAOj4I,EAAMhV,EAAK,0J,0BAAOktJ,EAAOl4I,EAAMhV,EAAK,0J,0BAAOmtJ,EAAOn4I,EAAMhV,EAAK,0J,0BAAOotJ,EAAOp4I,EAAMhV,EAAK,0J,0BAAOqtJ,EAAOr4I,EAAMhV,EAAK,0J,0BAAOstJ,EAAOt4I,EAAMhV,EAAK,0J,0BAAOutJ,EAAOv4I,EAAMhV,EAAK,0J,0BAAOwtJ,EAAOx4I,EAAMhV,EAAK,0J,0BAAOytJ,EAAOz4I,EAAMhV,EAAK,0J,0BAAO0tJ,EAAO14I,EAAMhV,EAAK,0J,0BAAO2tJ,EAAO34I,EAAMhV,EAAK,0J,0BAAO4tJ,EAAO54I,EAAMhV,EAAK,0J,0BAAO6tJ,EAAO74I,EAAMhV,EAAK,0J,0BAAO8tJ,EAAO94I,EAAMhV,EAAK,0J,0BAAO+tJ,EAAO/4I,EAAMhV,EAAK,0J,0BAAOguJ,EAAOh5I,EAAMhV,EAAK,0J,0BAAOiuJ,EAAOj5I,EAAMhV,EAAK,0J,0BAAOkuJ,EAAOl5I,EAAMhV,EAAK,0J,0BAAOmuJ,EAAOn5I,EAAMhV,EAAK,0J,0BAAOouJ,EAAOp5I,EAAMhV,EAAK,0J,0BAAOquJ,EAAOr5I,EAAMhV,EAAK,0J,0BAAOsuJ,EAAOt5I,EAAMhV,EAAK,0J,0BAAOuuJ,EAAOv5I,EAAMhV,EAAK,0J,0BAAOwuJ,EAAOx5I,EAAMhV,EAAK,0J,0BAAOyuJ,EAAOz5I,EAAMhV,EAAK,0J,0BAAO0uJ,EAAO15I,EAAMhV,EAAK,0J,0BAAO2uJ,EAAO35I,EAAMhV,EAAK,0J,0BAAO4uJ,EAAO55I,EAAMhV,EAAK,0J,0BAAO6uJ,EAAO75I,EAAMhV,EAAK,0J,0BAAO8uJ,EAAO95I,EAAMhV,EAAK,0J,0BAAO+uJ,EAAO/5I,EAAMhV,EAAK,0J,0BAAOgvJ,EAAOh6I,EAAMhV,EAAK,0J,0BAAOivJ,EAAOj6I,EAAMhV,EAAK,0J,0BAAOkvJ,EAAOl6I,EAAMhV,EAAK,0J,0BAAOmvJ,EAAOn6I,EAAMhV,EAAK,0J,0BAAOovJ,EAAOp6I,EAAMhV,EAAK,0J,0BAAOqvJ,EAAOr6I,EAAMhV,EAAK,0J,0BAAOsvJ,EAAOt6I,EAAMhV,EAAK,0J,0BAAOuvJ,EAAOv6I,EAAMhV,EAAK,0J,0BAAOwvJ,EAAOx6I,EAAMhV,EAAK,0J,0BAAOyvJ,EAAOz6I,EAAMhV,EAAK,0J,0BAAO0vJ,EAAO16I,EAAMhV,EAAK,0J,0BAAO2vJ,EAAO36I,EAAMhV,EAAK,0J,0BAAO4vJ,EAAO56I,EAAMhV,EAAK,0J,0BAAO6vJ,EAAO76I,EAAMhV,EAAK,0J,0BAAO8vJ,EAAO96I,EAAMhV,EAAK,0J,0BAAO+vJ,EAAO/6I,EAAMhV,EAAK,0J,0BAAOgwJ,EAAOh7I,EAAMhV,EAAK,0J,0BAAOiwJ,EAAOj7I,EAAMhV,EAAK,0J,0BAAOkwJ,EAAOl7I,EAAMhV,EAAK,0J,0BAAOmwJ,EAAOn7I,EAAMhV,EAAK,0J,0BAAOowJ,EAAOp7I,EAAMhV,EAAK,0J,0BAAOqwJ,EAAOr7I,EAAMhV,EAAK,0J,0BAAOswJ,EAAOt7I,EAAMhV,EAAK,0J,0BAAOuwJ,EAAOv7I,EAAMhV,EAAK,0J,0BAAOwwJ,EAAOx7I,EAAMhV,EAAK,0J,0BAAOywJ,EAAOz7I,EAAMhV,EAAK,0J,0BAAO0wJ,EAAO17I,EAAMhV,EAAK,0J,0BAAO2wJ,EAAO37I,EAAMhV,EAAK,0J,0BAAO4wJ,EAAO57I,EAAMhV,EAAK,0J,0BAAO6wJ,EAAO77I,EAAMhV,EAAK,0J,0BAAO8wJ,EAAO97I,EAAMhV,EAAK,0J,0BAAO+wJ,EAAO/7I,EAAMhV,EAAK,0J,0BAAOgxJ,EAAOh8I,EAAMhV,EAAK,0J,0BAAOixJ,EAAOj8I,EAAMhV,EAAK,0J,0BAAOkxJ,EAAOl8I,EAAMhV,EAAK,0J,0BAAOmxJ,EAAOn8I,EAAMhV,EAAK,0J,0BAAOoxJ,EAAOp8I,EAAMhV,EAAK,0J,0BAAOqxJ,EAAOr8I,EAAMhV,EAAK,0J,0BAAOsxJ,EAAOt8I,EAAMhV,EAAK,0J,0BAAOuxJ,EAAOv8I,EAAMhV,EAAK,0J,0BAAOwxJ,EAAOx8I,EAAMhV,EAAK,0J,0BAAOyxJ,EAAOz8I,EAAMhV,EAAK,0J,0BAAO0xJ,EAAO18I,EAAMhV,EAAK,0J,0BAAO2xJ,EAAO38I,EAAMhV,EAAK,0J,0BAAO4xJ,EAAO58I,EAAMhV,EAAK,0J,0BAAO6xJ,EAAO78I,EAAMhV,EAAK,0J,0BAAO8xJ,EAAO98I,EAAMhV,EAAK,0J,0BAAO+xJ,EAAO/8I,EAAMhV,EAAK,0J,0BAAOgyJ,EAAOh9I,EAAMhV,EAAK,0J,0BAAOiyJ,EAAOj9I,EAAMhV,EAAK,0J,0BAAOkyJ,EAAOl9I,EAAMhV,EAAK,0J,0BAAOmyJ,EAAOn9I,EAAMhV,EAAK,0J,0BAAOoyJ,EAAOp9I,EAAMhV,EAAK,0J,0BAAOqyJ,EAAOr9I,EAAMhV,EAAK,0J,0BAAOsyJ,EAAOt9I,EAAMhV,EAAK,0J,0BAAOuyJ,EAAOv9I,EAAMhV,EAAK,0J,0BAAOwyJ,EAAOx9I,EAAMhV,EAAK,0J,0BAAOyyJ,EAAOz9I,EAAMhV,EAAK,0J,0BAAO0yJ,EAAO19I,EAAMhV,EAAK,0J,0BAAO2yJ,EAAO39I,EAAMhV,EAAK,0J,0BAAO4yJ,EAAO59I,EAAMhV,EAAK,0J,0BAAO6yJ,EAAO79I,EAAMhV,EAAK,0J,0BAAO8yJ,EAAO99I,EAAMhV,EAAK,0J,0BAAO+yJ,EAAO/9I,EAAMhV,EAAK,0J,0BAAOgzJ,EAAOh+I,EAAMhV,EAAK,0J,0BAAOizJ,EAAOj+I,EAAMhV,EAAK,0J,0BAAOkzJ,EAAOl+I,EAAMhV,EAAK,0J,0BAAOmzJ,EAAOn+I,EAAMhV,EAAK,0J,0BAAOozJ,EAAOp+I,EAAMhV,EAAK,0J,0BAAOqzJ,EAAOr+I,EAAMhV,EAAK,0J,0BAAOszJ,EAAOt+I,EAAMhV,EAAK,0J,0BAAOuzJ,EAAOv+I,EAAMhV,EAAK,0J,0BAAOwzJ,EAAOx+I,EAAMhV,EAAK,0J,0BAAOyzJ,EAAOz+I,EAAMhV,EAAK,0J,0BAAO0zJ,EAAO1+I,EAAMhV,EAAK,0J,0BAAO2zJ,EAAO3+I,EAAMhV,EAAK,0J,0BAAO4zJ,EAAO5+I,EAAMhV,EAAK,0J,0BAAO6zJ,EAAO7+I,EAAMhV,EAAK,0J,0BAAO8zJ,EAAO9+I,EAAMhV,EAAK,0J,0BAAO+zJ,EAAO/+I,EAAMhV,EAAK,0J,0BAAOg0J,EAAOh/I,EAAMhV,EAAK,0J,0BAAOi0J,EAAOj/I,EAAMhV,EAAK,0J,0BAAOk0J,EAAOl/I,EAAMhV,EAAK,0J,0BAAOm0J,EAAOn/I,EAAMhV,EAAK,0J,0BAAOo0J,EAAOp/I,EAAMhV,EAAK,0J,0BAAOq0J,EAAOr/I,EAAMhV,EAAK,0J,0BAAOs0J,EAAOt/I,EAAMhV,EAAK,0J,0BAAOu0J,EAAOv/I,EAAMhV,EAAK,0J,0BAAOw0J,EAAOx/I,EAAMhV,EAAK,0J,0BAAOy0J,EAAOz/I,EAAMhV,EAAK,0J,0BAAO00J,EAAO1/I,EAAMhV,EAAK,0J,0BAAO20J,EAAO3/I,EAAMhV,EAAK,0J,0BAAO40J,EAAO5/I,EAAMhV,EAAK,0J,0BAAO60J,EAAO7/I,EAAMhV,EAAK,0J,0BAAO80J,EAAO9/I,EAAMhV,EAAK,0J,0BAAO+0J,EAAO//I,EAAMhV,EAAK,0J,0BAAOg1J,EAAOhgJ,EAAMhV,EAAK,0J,0BAAOi1J,EAAOjgJ,EAAMhV,EAAK,0J,0BAAOk1J,EAAOlgJ,EAAMhV,EAAK,0J,0BAAOm1J,EAAOngJ,EAAMhV,EAAK,0J,0BAAOo1J,EAAOpgJ,EAAMhV,EAAK,0J,0BAAOq1J,EAAOrgJ,EAAMhV,EAAK,0J,0BAAOs1J,EAAOtgJ,EAAMhV,EAAK,0J,0BAAOu1J,EAAOvgJ,EAAMhV,EAAK,0J,0BAAOw1J,EAAOxgJ,EAAMhV,EAAK,0J,0BAAOy1J,EAAOzgJ,EAAMhV,EAAK,0J,0BAAO01J,EAAO1gJ,EAAMhV,EAAK,0J,0BAAO21J,EAAO3gJ,EAAMhV,EAAK,0J,0BAAO41J,EAAO5gJ,EAAMhV,EAAK,0J,0BAAO61J,EAAO7gJ,EAAMhV,EAAK,0J,0BAAO81J,EAAO9gJ,EAAMhV,EAAK,0J,0BAAO+1J,EAAO/gJ,EAAMhV,EAAK,0J,0BAAOg2J,EAAOhhJ,EAAMhV,EAAK,0J,0BAAOi2J,EAAOjhJ,EAAMhV,EAAK,0J,0BAAOk2J,EAAOlhJ,EAAMhV,EAAK,0J,0BAAOm2J,EAAOnhJ,EAAMhV,EAAK,0J,0BAAOo2J,EAAOphJ,EAAMhV,EAAK,0J,0BAAOq2J,EAAOrhJ,EAAMhV,EAAK,0J,0BAAOs2J,EAAOthJ,EAAMhV,EAAK,0J,0BAAOu2J,EAAOvhJ,EAAMhV,EAAK,0J,0BAAOw2J,EAAOxhJ,EAAMhV,EAAK,0J,0BAAOy2J,EAAOzhJ,EAAMhV,EAAK,0J,0BAAO02J,EAAO1hJ,EAAMhV,EAAK,0J,0BAAO22J,EAAO3hJ,EAAMhV,EAAK,0J,0BAAO42J,EAAO5hJ,EAAMhV,EAAK,0J,0BAAO62J,EAAO7hJ,EAAMhV,EAAK,0J,0BAAO82J,EAAO9hJ,EAAMhV,EAAK,0J,0BAAO+2J,EAAO/hJ,EAAMhV,EAAK,0J,0BAAOg3J,EAAOhiJ,EAAMhV,EAAK,0J,0BAAOi3J,EAAOjiJ,EAAMhV,EAAK,0J,0BAAOk3J,EAAOliJ,EAAMhV,EAAK,0J,0BAAOm3J,EAAOniJ,EAAMhV,EAAK,0J,0BAAOo3J,EAAOpiJ,EAAMhV,EAAK,0J,0BAAOq3J,EAAOriJ,EAAMhV,EAAK,0J,0BAAOs3J,EAAOtiJ,EAAMhV,EAAK,0J,0BAAOu3J,EAAOviJ,EAAMhV,EAAK,0J,0BAAOw3J,EAAOxiJ,EAAMhV,EAAK,0J,0BAAOy3J,EAAOziJ,EAAMhV,EAAK,0J,0BAAO03J,EAAO1iJ,EAAMhV,EAAK,0J,0BAAO23J,EAAO3iJ,EAAMhV,EAAK,0J,0BAAO43J,EAAO5iJ,EAAMhV,EAAK,0J,0BAAO63J,EAAO7iJ,EAAMhV,EAAK,0J,0BAAO83J,EAAO9iJ,EAAMhV,EAAK,0J,0BAAO+3J,EAAO/iJ,EAAMhV,EAAK,0J,0BAAOg4J,EAAOhjJ,EAAMhV,EAAK,0J,0BAAOi4J,EAAOjjJ,EAAMhV,EAAK,0J,0BAAOk4J,EAAOljJ,EAAMhV,EAAK,0J,0BAAOm4J,EAAOnjJ,EAAMhV,EAAK,0J,0BAAOo4J,EAAOpjJ,EAAMhV,EAAK,0J,0BAAOq4J,EAAOrjJ,EAAMhV,EAAK,0J,0BAAOs4J,EAAOtjJ,EAAMhV,EAAK,0J,0BAAOu4J,EAAOvjJ,EAAMhV,EAAK,0J,0BAAOw4J,EAAOxjJ,EAAMhV,EAAK,0J,0BAAOy4J,EAAOzjJ,EAAMhV,EAAK,0J,0BAAO04J,EAAO1jJ,EAAMhV,EAAK,0J,0BAAO24J,EAAO3jJ,EAAMhV,EAAK,0J,0BAAO44J,EAAO5jJ,EAAMhV,EAAK,0J,0BAAO64J,EAAO7jJ,EAAMhV,EAAK,0J,0BAAO84J,EAAO9jJ,EAAMhV,EAAK,0J,0BAAO+4J,EAAO/jJ,EAAMhV,EAAK,0J,0BAAOg5J,EAAOhkJ,EAAMhV,EAAK,0J,0BAAOi5J,EAAOjkJ,EAAMhV,EAAK,0J,0BAAOk5J,EAAOlkJ,EAAMhV,EAAK,0J,0BAAOm5J,EAAOnkJ,EAAMhV,EAAK,0J,0BAAOo5J,EAAOpkJ,EAAMhV,EAAK,0J,0BAAOq5J,EAAOrkJ,EAAMhV,EAAK,0J,0BAAOs5J,EAAOtkJ,EAAMhV,EAAK,0J,0BAAOu5J,EAAOvkJ,EAAMhV,EAAK,0J,0BAAOw5J,EAAOxkJ,EAAMhV,EAAK,0J,0BAAOy5J,EAAOzkJ,EAAMhV,EAAK,0J,0BAAO05J,EAAO1kJ,EAAMhV,EAAK,0J,0BAAO25J,EAAO3kJ,EAAMhV,EAAK,0J,0BAAO45J,EAAO5kJ,EAAMhV,EAAK,0J,0BAAO65J,EAAO7kJ,EAAMhV,EAAK,0J,0BAAO85J,EAAO9kJ,EAAMhV,EAAK,0J,0BAAO+5J,EAAO/kJ,EAAMhV,EAAK,0J,0BAAOg6J,EAAOhlJ,EAAMhV,EAAK,0J,0BAAOi6J,EAAOjlJ,EAAMhV,EAAK,0J,0BAAOk6J,EAAOllJ,EAAMhV,EAAK,0J,0BAAOm6J,EAAOnlJ,EAAMhV,EAAK,0J,0BAAOo6J,EAAOplJ,EAAMhV,EAAK,0J,0BAAOq6J,EAAOrlJ,EAAMhV,EAAK,0J,0BAAOs6J,EAAOtlJ,EAAMhV,EAAK,0J,0BAAOu6J,EAAOvlJ,EAAMhV,EAAK,0J,0BAAOw6J,EAAOxlJ,EAAMhV,EAAK,0J,0BAAOy6J,EAAOzlJ,EAAMhV,EAAK,0J,0BAAO06J,EAAO1lJ,EAAMhV,EAAK,0J,0BAAO26J,EAAO3lJ,EAAMhV,EAAK,0J,0BAAO46J,EAAO5lJ,EAAMhV,EAAK,0J,0BAAO66J,EAAO7lJ,EAAMhV,EAAK,0J,0BAAO86J,EAAO9lJ,EAAMhV,EAAK,0J,0BAAO+6J,EAAO/lJ,EAAMhV,EAAK,0J,0BAAOg7J,EAAOhmJ,EAAMhV,EAAK,0J,0BAAOi7J,EAAOjmJ,EAAMhV,EAAK,0J,0BAAOk7J,EAAOlmJ,EAAMhV,EAAK,0J,0BAAOm7J,EAAOnmJ,EAAMhV,EAAK,0J,0BAAOo7J,EAAOpmJ,EAAMhV,EAAK,0J,0BAAOq7J,EAAOrmJ,EAAMhV,EAAK,0J,0BAAOs7J,EAAOtmJ,EAAMhV,EAAK,0J,0BAAOu7J,EAAOvmJ,EAAMhV,EAAK,0J,0BAAOw7J,EAAOxmJ,EAAMhV,EAAK,0J,0BAAOy7J,EAAOzmJ,EAAMhV,EAAK,0J,0BAAO07J,EAAO1mJ,EAAMhV,EAAK,0J,0BAAO27J,EAAO3mJ,EAAMhV,EAAK,0J,0BAAO47J,EAAO5mJ,EAAMhV,EAAK,0J,0BAAO67J,EAAO7mJ,EAAMhV,EAAK,0J,0BAAO87J,EAAO9mJ,EAAMhV,EAAK,0J,0BAAO+7J,EAAO/mJ,EAAMhV,EAAK,0J,0BAAOg8J,EAAOhnJ,EAAMhV,EAAK,0J,0BAAOi8J,EAAOjnJ,EAAMhV,EAAK,0J,0BAAOk8J,EAAOlnJ,EAAMhV,EAAK,0J,0BAAOm8J,EAAOnnJ,EAAMhV,EAAK,0J,0BAAOo8J,EAAOpnJ,EAAMhV,EAAK,0J,0BAAOq8J,EAAOrnJ,EAAMhV,EAAK,0J,0BAAOs8J,EAAOtnJ,EAAMhV,EAAK,0J,0BAAOu8J,EAAOvnJ,EAAMhV,EAAK,0J,0BAAOw8J,EAAOxnJ,EAAMhV,EAAK,0J,0BAAOy8J,EAAOznJ,EAAMhV,EAAK,0J,0BAAO08J,EAAO1nJ,EAAMhV,EAAK,0J,0BAAO28J,EAAO3nJ,EAAMhV,EAAK,0J,0BAAO48J,EAAO5nJ,EAAMhV,EAAK,0J,0BAAO68J,EAAO7nJ,EAAMhV,EAAK,0J,0BAAO88J,EAAO9nJ,EAAMhV,EAAK,0J,0BAAO+8J,EAAO/nJ,EAAMhV,EAAK,0J,0BAAOg9J,EAAOhoJ,EAAMhV,EAAK,0J,0BAAOi9J,EAAOjoJ,EAAMhV,EAAK,0J,0BAAOk9J,EAAOloJ,EAAMhV,EAAK,0J,0BAAOm9J,EAAOnoJ,EAAMhV,EAAK,0J,0BAAOo9J,EAAOpoJ,EAAMhV,EAAK,0J,0BAAOq9J,EAAOroJ,EAAMhV,EAAK,0J,0BAAOs9J,EAAOtoJ,EAAMhV,EAAK,0J,0BAAOu9J,EAAOvoJ,EAAMhV,EAAK,0J,0BAAOw9J,EAAOxoJ,EAAMhV,EAAK,0J,0BAAOy9J,EAAOzoJ,EAAMhV,EAAK,0J,0BAAO09J,EAAO1oJ,EAAMhV,EAAK,0J,0BAAO29J,EAAO3oJ,EAAMhV,EAAK,0J,0BAAO49J,EAAO5oJ,EAAMhV,EAAK,0J,0BAAO69J,EAAO7oJ,EAAMhV,EAAK,0J,0BAAO89J,EAAO9oJ,EAAMhV,EAAK,0J,0BAAO+9J,EAAO/oJ,EAAMhV,EAAK,0J,0BAAOg+J,EAAOhpJ,EAAMhV,EAAK,0J,0BAAOi+J,EAAOjpJ,EAAMhV,EAAK,0J,0BAAOk+J,EAAOlpJ,EAAMhV,EAAK,0J,0BAAOm+J,EAAOnpJ,EAAMhV,EAAK,0J,0BAAOo+J,EAAOppJ,EAAMhV,EAAK,0J,0BAAOq+J,EAAOrpJ,EAAMhV,EAAK,0J,0BAAOs+J,EAAOtpJ,EAAMhV,EAAK,0J,0BAAOu+J,EAAOvpJ,EAAMhV,EAAK,0J,0BAAOw+J,EAAOxpJ,EAAMhV,EAAK,0J,0BAAOy+J,EAAOzpJ,EAAMhV,EAAK,0J,0BAAO0+J,EAAO1pJ,EAAMhV,EAAK,0J,0BAAO2+J,EAAO3pJ,EAAMhV,EAAK,0J,0BAAO4+J,EAAO5pJ,EAAMhV,EAAK,0J,0BAAO6+J,EAAO7pJ,EAAMhV,EAAK,0J,0BAAO8+J,EAAO9pJ,EAAMhV,EAAK,0J,0BAAO++J,EAAO/pJ,EAAMhV,EAAK,0J,0BAAOg/J,EAAOhqJ,EAAMhV,EAAK,0J,0BAAOi/J,EAAOjqJ,EAAMhV,EAAK,0J,0BAAOk/J,EAAOlqJ,EAAMhV,EAAK,0J,0BAAOm/J,EAAOnqJ,EAAMhV,EAAK,0J,0BAAOo/J,EAAOpqJ,EAAMhV,EAAK,0J,0BAAOq/J,EAAOrqJ,EAAMhV,EAAK,0J,0BAAOs/J,EAAOtqJ,EAAMhV,EAAK,0J,0BAAOu/J,EAAOvqJ,EAAMhV,EAAK,0J,0BAAOw/J,EAAOxqJ,EAAMhV,EAAK,0J,0BAAOy/J,EAAOzqJ,EAAMhV,EAAK,0J,0BAAO0/J,EAAO1qJ,EAAMhV,EAAK,0J,0BAAO2/J,EAAO3qJ,EAAMhV,EAAK,0J,0BAAO4/J,EAAO5qJ,EAAMhV,EAAK,0J,0BAAO6/J,EAAO7qJ,EAAMhV,EAAK,0J,0BAAO8/J,EAAO9qJ,EAAMhV,EAAK,0J,0BAAO+/J,EAAO/qJ,EAAMhV,EAAK,0J,0BAAOggK,EAAOhrJ,EAAMhV,EAAK,0J,0BAAOigK,EAAOjrJ,EAAMhV,EAAK,0J,0BAAOkgK,EAAOlrJ,EAAMhV,EAAK,0J,0BAAOmgK,EAAOnrJ,EAAMhV,EAAK,0J,0BAAOogK,EAAOprJ,EAAMhV,EAAK,0J,0BAAOqgK,EAAOrrJ,EAAMhV,EAAK,0J,0BAAOsgK,EAAOtrJ,EAAMhV,EAAK,0J,0BAAOugK,EAAOvrJ,EAAMhV,EAAK,0J,0BAAOwgK,EAAOxrJ,EAAMhV,EAAK,0J,0BAAOygK,EAAOzrJ,EAAMhV,EAAK,0J,0BAAO0gK,EAAO1rJ,EAAMhV,EAAK,0J,0BAAO2gK,EAAO3rJ,EAAMhV,EAAK,0J,0BAAO4gK,EAAO5rJ,EAAMhV,EAAK,0J,0BAAO6gK,EAAO7rJ,EAAMhV,EAAK,0J,0BAAO8gK,EAAO9rJ,EAAMhV,EAAK,0J,0BAAO+gK,EAAO/rJ,EAAMhV,EAAK,0J,0BAAOghK,EAAOhsJ,EAAMhV,EAAK,0J,0BAAOihK,EAAOjsJ,EAAMhV,EAAK,0J,0BAAOkhK,EAAOlsJ,EAAMhV,EAAK,0J,0BAAOmhK,EAAOnsJ,EAAMhV,EAAK,0J,0BAAOohK,EAAOpsJ,EAAMhV,EAAK,0J,0BAAOqhK,EAAOrsJ,EAAMhV,EAAK,0J,0BAAOshK,EAAOtsJ,EAAMhV,EAAK,0J,0BAAOuhK,EAAOvsJ,EAAMhV,EAAK,0J,0BAAOwhK,EAAOxsJ,EAAMhV,EAAK,0J,0BAAOyhK,EAAOzsJ,EAAMhV,EAAK,0J,0BAAO0hK,EAAO1sJ,EAAMhV,EAAK,0J,0BAAO2hK,EAAO3sJ,EAAMhV,EAAK,0J,0BAAO4hK,EAAO5sJ,EAAMhV,EAAK,0J,0BAAO6hK,EAAO7sJ,EAAMhV,EAAK,0J,0BAAO8hK,EAAO9sJ,EAAMhV,EAAK,0J,0BAAO+hK,EAAO/sJ,EAAMhV,EAAK,0J,0BAAOgiK,EAAOhtJ,EAAMhV,EAAK,0J,0BAAOiiK,EAAOjtJ,EAAMhV,EAAK,0J,0BAAOkiK,EAAOltJ,EAAMhV,EAAK,0J,0BAAOmiK,EAAOntJ,EAAMhV,EAAK,0J,0BAAOoiK,EAAOptJ,EAAMhV,EAAK,0J,0BAAOqiK,EAAOrtJ,EAAMhV,EAAK,0J,0BAAOsiK,EAAOttJ,EAAMhV,EAAK,0J,0BAAOuiK,EAAOvtJ,EAAMhV,EAAK,0J,0BAAOwiK,EAAOxtJ,EAAMhV,EAAK,0J,0BAAOyiK,EAAOztJ,EAAMhV,EAAK,0J,0BAAO0iK,EAAO1tJ,EAAMhV,EAAK,0J,0BAAO2iK,EAAO3tJ,EAAMhV,EAAK,0J,0BAAO4iK,EAAO5tJ,EAAMhV,EAAK,0J,0BAAO6iK,EAAO7tJ,EAAMhV,EAAK,0J,0BAAO8iK,EAAO9tJ,EAAMhV,EAAK,0J,0BAAO+iK,EAAO/tJ,EAAMhV,EAAK,0J,0BAAOgjK,EAAOhuJ,EAAMhV,EAAK,0J,0BAAOijK,EAAOjuJ,EAAMhV,EAAK,0J,0BAAOkjK,EAAOluJ,EAAMhV,EAAK,0J,0BAAOmjK,EAAOnuJ,EAAMhV,EAAK,0J,0BAAOojK,EAAOpuJ,EAAMhV,EAAK,0J,0BAAOqjK,EAAOruJ,EAAMhV,EAAK,0J,0BAAOsjK,EAAOtuJ,EAAMhV,EAAK,0J,0BAAOujK,EAAOvuJ,EAAMhV,EAAK,0J,0BAAOwjK,EAAOxuJ,EAAMhV,EAAK,0J,0BAAOyjK,EAAOzuJ,EAAMhV,EAAK,0J,0BAAO0jK,EAAO1uJ,EAAMhV,EAAK,0J,0BAAO2jK,EAAO3uJ,EAAMhV,EAAK,0J,0BAAO4jK,EAAO5uJ,EAAMhV,EAAK,0J,0BAAO6jK,EAAO7uJ,EAAMhV,EAAK,0J,0BAAO8jK,EAAO9uJ,EAAMhV,EAAK,0J,0BAAO+jK,EAAO/uJ,EAAMhV,EAAK,0J,0BAAOgkK,EAAOhvJ,EAAMhV,EAAK,0J,0BAAOikK,EAAOjvJ,EAAMhV,EAAK,0J,0BAAOkkK,EAAOlvJ,EAAMhV,EAAK,0J,0BAAOmkK,EAAOnvJ,EAAMhV,EAAK,0J,0BAAOokK,EAAOpvJ,EAAMhV,EAAK,0J,0BAAOqkK,EAAOrvJ,EAAMhV,EAAK,0J,0BAAOskK,EAAOtvJ,EAAMhV,EAAK,0J,0BAAOukK,EAAOvvJ,EAAMhV,EAAK,0J,0BAAOwkK,EAAOxvJ,EAAMhV,EAAK,0J,0BAAOykK,EAAOzvJ,EAAMhV,EAAK,0J,0BAAO0kK,EAAO1vJ,EAAMhV,EAAK,0J,0BAAO2kK,EAAO3vJ,EAAMhV,EAAK,0J,0BAAO4kK,EAAO5vJ,EAAMhV,EAAK,0J,0BAAO6kK,EAAO7vJ,EAAMhV,EAAK,0J,0BAAO8kK,EAAO9vJ,EAAMhV,EAAK,0J,0BAAO+kK,EAAO/vJ,EAAMhV,EAAK,0J,0BAAOglK,EAAOhwJ,EAAMhV,EAAK,0J,0BAAOilK,EAAOjwJ,EAAMhV,EAAK,0J,0BAAOklK,EAAOlwJ,EAAMhV,EAAK,0J,0BAAOmlK,EAAOnwJ,EAAMhV,EAAK,0J,0BAAOolK,EAAOpwJ,EAAMhV,EAAK,0J,0BAAOqlK,EAAOrwJ,EAAMhV,EAAK,0J,0BAAOslK,EAAOtwJ,EAAMhV,EAAK,0J,0BAAOulK,EAAOvwJ,EAAMhV,EAAK,0J,0BAAOwlK,EAAOxwJ,EAAMhV,EAAK,0J,0BAAOylK,EAAOzwJ,EAAMhV,EAAK,0J,0BAAO0lK,EAAO1wJ,EAAMhV,EAAK,0J,0BAAO2lK,EAAO3wJ,EAAMhV,EAAK,0J,0BAAO4lK,EAAO5wJ,EAAMhV,EAAK,0J,0BAAO6lK,EAAO7wJ,EAAMhV,EAAK,0J,0BAAO8lK,EAAO9wJ,EAAMhV,EAAK,0J,0BAAO+lK,EAAO/wJ,EAAMhV,EAAK,0J,0BAAOgmK,EAAOhxJ,EAAMhV,EAAK,0J,0BAAOimK,EAAOjxJ,EAAMhV,EAAK,0J,0BAAOkmK,EAAOlxJ,EAAMhV,EAAK,0J,0BAAOmmK,EAAOnxJ,EAAMhV,EAAK,

AMw/H,GAAgBY,MAAO3mF,EAAMz5C,EAAMw/H,GAAgB+B,WAAYvhI,EAAMw/H,GAAgBgC,YA7E5N,SAAWhC,GACPA,EAAgBA,EAAwB,OAAI,GAAK,SACjDA,EAAgBA,EAA0B,SAAI,GAAK,WACnDA,EAAgBA,EAAwB,OAAI,GAAK,SACjDA,EAAgBA,EAAsB,KAAI,GAAK,OAC/CA,EAAgBA,EAAsB,KAAI,GAAK,OAC/CA,EAAgBA,EAA2B,UAAI,GAAK,YACpDA,EAAgBA,EAA0B,SAAI,GAAK,WAPvDA,EAAgBA,EAAwB,OAAI,GAAK,SACjDA,EAAgBA,EAAsB,KAAI,GAAK,OAC/CA,EAAgBA,EAAsB,KAAI,GAAK,OAC/CA,EAAgBA,EAA2B,UAAI,GAAK,YACpDA,EAAgBA,EAA0B,SAAI,GAAK,WAPvD,CAQGA,KAAoBA,GAAkB,KAAI,GAAK,OAAI,GAAK,SAAI,GAAK,WAAI,GAAK,YAAI,GAAK,WAAI,GAAK,YAAI,GAAK,WAAI,GAAK,Y

OAM3BA,EAAM7uI,MAAQ,SAAUmf,GACpB,IAAIgsE,EAAQ0jD,EAAMiB,eAElB,OADA3kD,EAAM4kD,OAAO5wH,GACNgsE,GAKX0jD,EAAMztJ,UAAU2uJ,OAAS,SAAU5wH,GAC/B,IAAIrrB,EAAQxT,KACR6+B,aAAoB+R,IAEpB/R,EAASiS,UAAUt8B,SAAQ,SAAU2S,GAAQ,OAO3T,EAAM29B,cAAchqB,MAExE0X,EAAS0R,SAAS/7B,SAAQ,SAAU2S,GAAQ,OAAOA,EAAK6nB,IAAIqqB,EAAMvqB,OAAOnoB,EAAK,IAAIA,EAAK,GAAGA,EAAK,GAAGA,EAAK,GAAG

GACjF,IAAI/8C,EAAQwN,EAAOzf,KAAKvB,OAASA,KAWjC,OAVAwT,EAAM+sE,SAAWA,EACjB/sE,EAAM25H,QAAUA,EAChB35H,EAAMmyE,UAAYA,EAClBnyE,EAAM+7I,aAAeA,EACrB/7I,EAAMq3F,MAAQA,EACdr3F,EAAMqrB,SAAWA,EACjBrrB,EAAM+8C,MAAQA,EAAM8qG,UAAY,GAElB9qG,EAAM28I,UAAY,SAAUhpI,GAAQ,OAAOA,EAAKuB1BquI,EAAevuJ,UAAUkuC,MAAQ,SAAUsgT,GAAS,IAAIC,EAAMD,EAAQ,GAAIE,EAAMF,EAAQ,GAAIG,EAAMH,EAAQ,GAAII,EAAMJ,EAAQ,GAAIK,EAAML,EAAQ,GAAIM,EAAMN,EAAQ,GAAIO,EAAMP,EAAQ,GAAIQ,EAAMR,EAAQ,GAAIS,EAAMT,EAAQ,GAAIU,EAAMV,EAAQ,GAAIW,EAAMX,EAAQ,GAAIY,EAAMZ,EAAQ,GAAIa,EAAMb,EAAQ,GAAIc,EAAMd,EAAQ,GAAIe,EAAMf,EAAQ,GAAIgB,EAAMhB,EAAQ,GAAIiB,EAAMjB,EAAQ,GAAIkB,EAAMlB,EAAQ,GAAImB,EAAMnB,EAAQ,GAAIoB,EAAMpB,EAAQ,GAAIqB,EAAMrB,EAAQ,GAAIsB,EAAMtB,EAAQ,GAAIuB,EAAMvB,EAAQ,GAAIwB,EAAMxB,EAAQ,GAAIyB,EAAMzB,EAAQ,GAAI0B,EAAM1B,EAAQ,GAAI2B,EAAM3B,EAAQ,GAAI4B,EAAM5B,EAAQ,GAAI6B,EAAM7B,EAAQ,GAAI8B,EAAM9B,EAAQ,GAAI+B,EAAM/B,EAAQ,GAAIgC,EAAMhC,EAAQ,GAAIiC,EAAMjC,EAAQ,GAAIkC,EAAMlC,EAAQ,GAAImC,EAAMnC,EAAQ,GAAIoC,EAAMpC,EAAQ,GAAIqC,EAAMrC,EAAQ,GAAIsC,EAAMtC,EAAQ,GAAIuC,EAAMvC,EAAQ,GAAIwC,EAAMxC,EAAQ,GAAIyC,EAAMzC,EAAQ,GAAI0C,EAAM1C,EAAQ,GAAI2C,EAAM3C,EAAQ,GAAI4C,EAAM5C,EAAQ,GAAI6C,EAAM7C,EAAQ,GAAI8C,EAAM9C,EAAQ,GAAI+C,EAAM/C,EAAQ,GAAIgD,EAAMhD,EAAQ,GAAIiD,EAAMjD,EAAQ,GAAIkD,EAAMlD,EAAQ,GAAImD,EAAMnD,EAAQ,GAAIoD,EAAMpD,EAAQ,GAAIqD,EAAMrD,EAAQ,GAAIsD,EAAMtD,EAAQ,GAAIuD,EAAMvD,EAAQ,GAAIwD,EAAMxD,EAAQ,GAAIyD,EAAMzD,EAAQ,GAAI0D,EAAM1D,EAAQ,GAAI2D,EAAM3D,EAAQ,GAAI4D,EAAM5D,EAAQ,GAAI6D,EAAM7D,EAAQ,GAAI8D,EAAM9D,EAAQ,GAAI+D,EAAM/D,EAAQ,GAAIgE,EAAMhE,EAAQ,GAAIiE,EAAMjE,EAAQ,GAAIkE,EAAMlE,EAAQ,GAAImE,EAAMnE,EAAQ,GAAIoE,EAAMpE,EAAQ,GAAIqE,EAAMrE,EAAQ,GAAIsE,EAAMtE,EAAQ,GAAIuE,EAAMvE,EAAQ,GAAIwE,EAAMxE,EAAQ,GAAIyE,EAAMzE,EAAQ,GAAI0E,EAAM1E,EAAQ,GAAI2E,EAAM3E,EAAQ,GAAI4E,EAAM5E,EAAQ,GAAI6E,EAAM7E,EAAQ,GAAI8E,EAAM9E,EAAQ,GAAI+E,EAAM/E,EAAQ,GAAIgF,EAAMhF,EAAQ,GAAIiF,EAAMjF,EAAQ,GAAIkF,EAAMlF,EAAQ,GAAImF,EAAMnF,EAAQ,GAAIoF,EAAMpF,EAAQ,GAAIqF,EAAMrF,EAAQ,GAAIsF,EAAMtF,EAAQ,GAAIuF,EAAMvF,EAAQ,GAAIwF,EAAMxF,EAAQ,GAAIyF,EAAMzF,EAAQ,GAAI0F,EAAM1F,EAAQ,GAAI2F,EAAM3F,EAAQ,GAAI4F,EAAM5F,EAAQ,GAAI6F,EAAM7F,EAAQ,GAAI8F,EAAM9F,EAAQ,GAAI+F,EAAM/F,EAAQ,GAAIgG,EAAMhG,EAAQ,GAAIiG,EAAMjG,EAAQ,GAAIkG,EAAMlG,EAAQ,GAAImG,EAAMnG,EAAQ,GAAIoG,EAAMpG,EAAQ,GAAIqG,EAAMrG,EAAQ,GAAIsG,EAAMtG,EAAQ,GAAIuG,EAAMvG,EAAQ,GAAIwG,EAAMxG,EAAQ,GAAIyG,EAAMzG,EAAQ,GAAI0G,EAAM1G,EAAQ,GAAI2G,EAAM3G,EAAQ,GAAI4G,EAAM5G,EAAQ,GAAI6G,EAAM7G,EAAQ,GAAI8G,EAAM9G,EAAQ,GAAI+G,EAAM/G,EAAQ,GAAIgH,EAAMhH,EAAQ,GAAIiH,EAAMjH,EAAQ,GAAIkH,EAAMlH,EAAQ,GAAImH,EAAMnH,EAAQ,GAAIoH,EAAMpH,EAAQ,GAAIqH,EAAMrH,EAAQ,GAAIsH,EAAMtH,EAAQ,GAAIuH,EAAMvH,EAAQ,GAAIwH,EAAMxH,EAAQ,GAAIyH,EAAMzH,EAAQ,GAAI0H,EAAM1H,EAAQ,GAAI2H,EAAM3H,EAAQ,GAAI4H,EAAM5H,EAAQ,GAAI6H,EAAM7H,EAAQ,GAAI8H,EAAM9H,EAAQ,GAAI+H,EAAM/H,EAAQ,GAAIgI,EAAMhI,EAAQ,GAAIiI,EAAMjI,EAAQ,GAAIkI,EAAMlI,EAAQ,GAAImI,EAAMnI,EAAQ,GAAIoI,EAAMpI,EAAQ,GAAIqI,EAAMrI,EAAQ,GAAIsI,EAAMtI,EAAQ,GAAIuI,EAAMvI,EAAQ,GAAIwI,EAAMxI,EAAQ,GAAIyI,EAAMzI,EAAQ,GAAI0I,EAAM1I,EAAQ,GAAI2I,EAAM3I,EAAQ,GAAI4I,EAAM5I,EAAQ,GAAI6I,EAAM7I,EAAQ,GAAI8I,EAAM9I,EAAQ,GAAI+I,EAAM/I,EAAQ,GAAIgJ,EAAMhJ,EAAQ,GAAIiJ,EAAMjJ,EAAQ,GAAIkJ,EAAMlJ,EAAQ,GAAImJ,EAAMnJ,EAAQ,GAAIoJ,EAAMpJ,EAAQ,GAAIqJ,EAAMrJ,EAAQ,GAAIsJ,EAAMtJ,EAAQ,GAAIuJ,EAAMvJ,EAAQ,GAAIwJ,EAAMxJ,EAAQ,GAAIyJ,EAAMzJ,EAAQ,GAAI0J,EAAM1J,EAAQ,GAAI2J,EAAM3J,EAAQ,GAAI4J,EAAM5J,EAAQ,GAAI6J,EAAM7J,EAAQ,GAAI8J,EAAM9J,EAAQ,GAAI+J,EAAM/J,EAAQ,GAAIgK,EAAMhK,EAAQ,GAAIiK,EAAMjK,EAAQ,GAAIkK,EAAMlK,EAAQ,GAAImK,EAAMnK,EAAQ,GAAIoK,EAAMpK,EAAQ,GAAIqK,EAAMrK,EAAQ,GAAIsK,EAAMtK,EAAQ,GAAIuK,EAAMvK,EAAQ,GAAIwK,EAAMxK,EAAQ,GAAIyK,EAAMzK,EAAQ,GAAI0K,EAAM1K,EAAQ,GAAI2K,EAAM3K,EAAQ,GAAI4K,EAAM5K,EAAQ,GAAI6K,EAAM7K,EAAQ,GAAI8K,EAAM9K,EAAQ,GAAI+K,EAAM/K,EAAQ,GAAIgL,EAAMhL,EAAQ,GAAIiL,EAAMjL,EAAQ,GAAIkL,EAAMlL,EAAQ,GAAImL,EAAMnL,EAAQ,GAAIoL,EAAMpL,EAAQ,GAAIqL,EAAMrL,EAAQ,GAAIsL,EAAMtL,EAAQ,GAAIuL,EAAMvL,EAAQ,GAAIwL,EAAMxL,EAAQ,GAAIyL,EAAMzL,EAAQ,GAAI0L,EAAM1L,EAAQ,GAAI2L,EAAM3L,EAAQ,GAAI4L,EAAM5L,EAAQ,GAAI6L,EAAM7L,EAAQ,GAAI8L,EAAM9L,EAAQ,GAAI+L,EAAM/L,EAAQ,GAAIgM,EAAMhM,EAAQ,GAAIiM,EAAMjM,EAAQ,GAAIkM,EAAMlM,EAAQ,GAAImM,EAAMnM,EAAQ,GAAIoM,EAAMpM,EAAQ,GAAIqM,EAAMrM,EAAQ,GAAIsM,EAAMtM,EAAQ,GAAIuM,EAAMvM,EAAQ,GAAIwM,EAAMxM,EAAQ,GAAIyM,EAAMzM,EAAQ,GAAI0M,EAAM1M,EAAQ,GAAI2M,EAAM3M,EAAQ,GAAI4M,EAAM5M,EAAQ,GAAI6M,EAAM7M,EAAQ,GAAI8M,EAAM9M,EAAQ,GAAI+M,EAAM/M,EAAQ,GAAIgN,EAAMhN,EAAQ,GAAIiN,EAAMjN,EAAQ,GAAIkN,EAAMlN,EAAQ,GAAImN,EAAMnN,EAAQ,GAAIoN,EAAMpN,EAAQ,GAAIqN,EAAMrN,EAAQ,GAAIsN,EAAMtN,EAAQ,GAAIuN,EAAMvN,EAAQ,GAAIwN,EAAMxN,EAAQ,GAAIyN,EAAMzN,EAAQ,GAAI0N,EAAM1N,EAAQ,GAAI2N,EAAM3N,EAAQ,GAAI4N,EAAM5N,EAAQ,GAAI6N,EAAM7N,EAAQ,GAAI8N,EAAM9N,EAAQ,GAAI+N,EAAM/N,EAAQ,GAAIgO,EAAMhO,EAAQ,GAAIiO,EAAMjO,EAAQ,GAAIkO,EAAMlO,EAAQ,GAAImO,EAAMnO,EAAQ,GAAIoO,EAAMpO,EAAQ,GAAIqO,EAAMrO,EAAQ,GAAIsO,EAAMtO,EAAQ,GAAIuO,EAAMvO,EAAQ,GAAIwO,EAAMxO,EAAQ,GAAIyO,EAAMzO,EAAQ,GAAI0O,EAAM1O,EAAQ,GAAI2O,EAAM3O,EAAQ,GAAI4O,EAAM5O,EAAQ,GAAI6O,EAAM7O,EAAQ,GAAI8O,EAAM9O,EAAQ,GAAI+O,EAAM/O,EAAQ,GAAIgP,EAAMhP,EAAQ,GAAIiP,EAAMjP,EAAQ,GAAIkP,EAAMlP,EAAQ,GAAImP,EAAMnP,EAAQ,GAAIoP,EAAMpP,EAAQ,GAAIqP,EAAMrP,EAAQ,GAAIsP,EAAMtP,EAAQ,GAAIuP,EAAMvP,EAAQ,GAAIwP,EAAMxP,EAAQ,GAAIyP,EAAMzP,EAAQ,GAAI0P,EAAM1P,EAAQ,GAAI2P,EAAM3P,EAAQ,GAAI4P,EAAM5P,EAAQ,GAAI6P,EAAM7P,EAAQ,GAAI8P,EAAM9P,EAAQ,GAAI+P,EAAM/P,EAAQ,GAAIgQ,EAAMhQ,EAAQ,GAAIiQ,EAAMjQ,EAAQ,GAAIkQ,EAAMlQ,EAAQ,GAAImQ,EAAMnQ,EAAQ,GAAIoQ,EAAMpQ,EAAQ,GAAIqQ,EAAMrQ,EAAQ,GAAIsQ,EAAMtQ,EAAQ,GAAIuQ,EAAMvQ,EAAQ,GAAIwQ,EAAMxQ,EAAQ,GAAIyQ,EAAMzQ,EAAQ,GAAI0Q,EAAM1Q,EAAQ,GAAI2Q,EAAM3Q,EAAQ,GAAI4Q,EAAM5Q,EAAQ,GAAI6Q,EAAM7Q,EAAQ,GAAI8Q,EAAM9Q,EAAQ,GAAI+Q,EAAM/Q,EAAQ,GAAIgR,EAAMhR,EAAQ,GAAIiR,EAAMjR,EAAQ,GAAIkR,EAAMlR,EAAQ,GAAImR,EAAMnR,EAAQ,GAAIoR,EAAMpR,EAAQ,GAAIqR,EAAMrR,EAAQ,GAAIsR,EAAMtR,EAAQ,GAAIuR,EAAMvR,EAAQ,GAAIwR,EAAMxR,EAAQ,GAAIyR,EAAMzR,EAAQ,GAAI0R,EAAM1R,EAAQ,GAAI2R,EAAM3R,EAAQ,GAAI4R,EAAM5R,EAAQ,GAAI6R,EAAM7R,EAAQ,GAAI8R,EAAM9R,EAAQ,GAAI+R,EAAM/R,EAAQ,GAAIgS,EAAMhS,EAAQ,GAAIiS,EAAMjS,EAAQ,GAAIkS,EAAMlS,EAAQ,GAAImS,EAAMnS,EAAQ,GAAIoS,EAAMpS,EAAQ,GAAIqS,EAAMrS,EAAQ,GAAIsS,EAAMtS,EAAQ,GAAIuS,EAAMvS,EAAQ,GAAIwS,EAAMxS,EAAQ,GAAIyS,EAAMzS,EAAQ,GAAI0S,EAAM1S,EAAQ,GAAI2S,EAAM3S,EAAQ,GAAI4S,EAAM5S,EAAQ,GAAI6S,EAAM7S,EAAQ,GAAI8S,EAAM9S,EAAQ,GAAI+S,EAAM/S,EAAQ,GAAIgT,EAAMhT,EAAQ,GAAIiT,EAAMjT,EAAQ,GAAIkT,EAAMlT,EAAQ,GAAImT,EAAMnT,EAAQ,GAAIoT,EAAMpT,EAAQ,GAAIqT,EAAMrT,EAAQ,GAAIsT,EAAMtT,EAAQ,GAAIuT,EAAMvT,EAAQ,GAAIwT,EAAMxT,EAAQ,GAAIyT,EAAMzT,EAAQ,GAAI0T,EAAM1T,EAAQ,GAAI2T,EAAM3T,EAAQ,GAAI4T,EAAM5T,EAAQ,GAAI6T,EAAM7T,EAAQ,GAAI8T,EAAM9T,EAAQ,GAAI+T,EAAM/T,EAAQ,GAAIgU,EAAMhU,EAAQ,GAAIiU,EAAMjU,EAAQ,GAAIkU,EAAMlU,EAAQ,GAAImU,EAAMnU,EAAQ,GAAIoU,EAAMpU,EAAQ,GAAIqU,EAAMrU,EAAQ,GAAIsU,EAAMtU,EAAQ,GAAIuU,EAAMvU,EAAQ,GAAIwU,EAAMxU,EAAQ,GAAIyU,EAAMzU,EAAQ,GAAI0U,EAAM1U,EAAQ,GAAI2U,EAAM3U,EAAQ,GAAI4U,EAAM5U,EAAQ,GAAI6U,EAAM7U,EAAQ,GAAI8U,EAAM9U,EAAQ,GAAI+U,EAAM/U,EAAQ,GAAIgV,EAAMhV,EAAQ,GAAIiV,EAAMjV,EAAQ,GAAIkV,EAAMlV,EAAQ,GAAImV,EAAMnV,EAAQ,GAAIoV,EAAMpV,EAAQ,GAAIqV,EAAMrV,EAAQ,GAAIsV,EAAMtV,EAAQ,GAAIuV,EAAMvV,EAAQ,GAAIwV,EAAMxV,EAAQ,GAAIyV,EAAMzV,EAAQ,GAAI0V,EAAM1V,EAAQ,GAAI2V,EAAM3V,EAAQ,GAAI4V,EAAM5V,EAAQ,GAAI6V,EAAM7V,EAAQ,GAAI8V,EAAM9V,EAAQ,GAAI+V,EAAM/V,EAAQ,GAAIgW,EAAMhW,EAAQ,GAAIiW,EAAMjW,EAAQ,GAAIkW,EAAMlW,EAAQ,GAAImW,EAAMnW,EAAQ,GAAIoW,EAAMpW,EAAQ,GAAIqW,EAAMrW,EAAQ,GAAIsW,EAAMtW,EAAQ,GAAIuW,EAAMvW,EAAQ,GAAIwW,EAAMxW,EAAQ,GAAIyW,EAAMzW,EAAQ,GAAI0W,EAAM1W,EAAQ,GAAI2W,EAAM3W,EAAQ,GAAI4W,EAAM5W,EAAQ,GAAI6W,EAAM7W,EAAQ,GAAI8W,EAAM9W,EAAQ,GAAI+W,EAAM/W,EAAQ,GAAIgX,EAAMhX,EAAQ,GAAIiX,EAAMjX,EAAQ,GAAIkX,EAAMlX,EAAQ,GAAImX,EAAMnX,EAAQ,GAAIoX,EAAMpX,EAAQ,GAAIqX,EAAMrX,EAAQ,GAAIsX,EAAMtX,EAAQ,GAAIuX,EAAMvX,EAAQ,GAAIwX,EAAMxX,EAAQ,GAAIyX,EAAMzX,EAAQ,GAAI0X,EAAM1X,EAAQ,GAAI2X,EAAM3X,EAAQ,GAAI4X,EAAM5X,EAAQ,GAAI6X,EAAM7X,EAAQ,GAAI8X,EAAM9X,EAAQ,GAAI+X,EAAM/X,EAAQ,GAAIgY,EAAMhY,EAAQ,GAAIiY,EAAMjY,EAAQ,GAAIkY,EAAMlY,EAAQ,GAAImY,EAAMnY,EAAQ,GAAIoY,EAAMpY,EAAQ,GAAIqY,EAAMrY,EAAQ,GAAIsY,EAAMtY,EAAQ,GAAIuY,EAAMvY,EAAQ,GAAIwY,EAAMxY,EAAQ,GAAIyY,EAAMzY,EAAQ,GAAI0Y,EAAM1Y,EAAQ,GAAI2Y,EAAM3Y,EAAQ,GAAI4Y,EAAM5Y,EAAQ,GAAI6Y,EAAM7Y,EAAQ,GAAI8Y,EAAM9Y,EAAQ,GAAI+Y,EAAM/Y,EAAQ,GAAIgZ,EAAMhZ,EAAQ,GAAIiZ,EAAMjZ,EAAQ,GAAIkZ,EAAMlZ,EAAQ,GAAImZ,EAAMnZ,EAAQ,GAAIoZ,EAAMpZ,EAAQ,GAAIqZ,EAAMrZ,EAAQ,GAAIsZ,EAAMtZ,EAAQ,GAAIuZ,EAAMvZ,EAAQ,GAAIwZ,EAAMxZ,EAAQ,GAAIyZ,EAAMzZ,EAAQ,GAAI0Z,EAAM1Z,EAAQ,GAAI2Z,EAAM3Z,EAAQ,GAAI4Z,EAAM5Z,EAAQ,GAAI6Z,EAAM7Z,EAAQ,GAAI8Z,EAAM9Z,EAAQ,GAAI+Z,EAAM/Z,EAAQ,GAAIga,EAAMha,EAAQ,GAAIia,EAAMja,EAAQ,GAAIka,EAAMla,EAAQ,GAAIma,EAAMna,EAAQ,GAAIoa,EAAMpa,EAAQ,GAAIqa,EAAMra,EAAQ,GAAIsa,EAAMta,EAAQ,GAAIua,EAAMva,EAAQ,GAAIwa,EAAMxa,EAAQ,GAAIya,EAAMza,EAAQ,GAAI0a,EAAM1a,EAAQ,GAAI2a,EAAM3a,EAAQ,GAAI4a,EAAM5a,EAAQ,GAAI6a,EAAM7a,EAAQ,GAAI8a,EAAM9a,EAAQ,GAAI+a,EAAM/a,EAAQ,GAAIgb,EAAMhb,EAAQ,GAAIib,EAAMjb,EAAQ,GAAIkb,EAAMlb,EAAQ,GAAImb,EAAMnb,EAAQ,GAAIob,EAAMpb,EAAQ,GAAIqb,EAAMrb,EAAQ,GAAIsb,EAAMtb,EAAQ,GAAIub,EAAMvb,EAAQ,GAAIwb,EAAMxb,EAAQ,GAAIyb,EAAMzb,EAAQ,GAAI0b,EAAM1b,EAAQ,GAAI2b,EAAM3b,EAAQ,GAAI4b,EAAM5b,EAAQ,GAAI6b,EAAM7b,EAAQ,GAAI8b,EAAM9b,EAAQ,GAAI+b,EAAM/b,EAAQ,GAAIgc,EAAMhc,EAAQ,GAAIic,EAAMjc,EAAQ,GAAIkc,EAAMlc,EAAQ,GAAImc,EAAMnc,EAAQ,GAAIoc,EAAMpc,EAAQ,GAAIqc,EAAMrc,EAAQ,GAAIsc,EAAMtc,EAAQ,GAAIuc,EAAMvc,EAAQ,GAAIwc,EAAMxc,EAAQ,GAAIyc,EAAMzc,EAAQ,GAAI0c,EAAM1c,EAAQ,GAAI2c,EAAM3c,EAAQ,GAAI4c,EAAM5c,EAAQ,GAAI6c,EAAM7c,EAAQ,GAAI8c,EAAM9c,EAAQ,GAAI+c,EAAM/c,EAAQ,GAAIgd,EAAMhd,EAAQ,GAAIid,EAAMjd,EAAQ,GAAIkd,EAAMld,EAAQ,GAAImd,EAAMnd,EAAQ,GAAIod,EAAMpd,EAAQ,GAAIqd,EAAMrd,EAAQ,GAAIsd,EAAMtd,EAAQ,GAAIud,EAAMvd,EAAQ,GAAIwd,EAAMxd,EAAQ,GAAIyd,EAAMzd,EAAQ,GAAI0d,EAAM1d,EAAQ,GAAI2d,EAAM3d,EAAQ,GAAI4d,EAAM5d,EAAQ,GAAI6d,EAAM7d,EAAQ,GAAI8d,EAAM9d,EAAQ,GAAI+d,EAAM/d,EAAQ,GAAIge,EAAMhe,EAAQ,GAAIie,EAAMje,EAAQ,GAAIke,EAAMle,EAAQ,GAAIme,EAAMne,EAAQ,GAAIoe,EAAMpe,EAAQ,GAAIqe,EAAMre,EAAQ,GAAIse,EAAMte,EAAQ,GAAIue,EAAMve,EAAQ,GAAIwe,EAAMxe,EAAQ,GAAIye,EAAMze,EAAQ,GAAI0e,EAAM1e,EAAQ,GAAI2e,EAAM3e,EAAQ,GAAI4e,EAAM5e,EAAQ,GAAI6e,EAAM7e,EAAQ,GAAI8e,EAAM9e,EAAQ,GAAI+e,EAAM/e,EAAQ,GAAIgf,EAAMhf,EAAQ,GAAIif,EAAMjf,EAAQ,GAAIkf,EAAMlf,EAAQ,GAAImf,EAAMnf,EAAQ,GAAIof,EAAMpf,EAAQ,GAAIqf,EAAMrf,EAAQ,GAAIsf,EAAMtf,EAAQ,GAAIuf,EAAMvf,EAAQ,GAAIwf,EAAMxf,EAAQ,GAAIyf,EAAMzf,EAAQ,GAAI0f,EAAM1f,EAAQ,GAAI2f,EAAM3f,EAAQ,GAAI4f,EAAM5f,EAAQ,GAAI6f,EAAM7f,EAAQ,GAAI8f,EAAM9f,EAAQ,GAAI+f,EAAM/f,EAAQ,GAAIggb,EAAMhgb,EAAQ,GAAIigb,EAAMjgb,EAAQ,GAAIkgb,EAAMlgb,EAAQ,GAAImgb,EAAMngb,EAAQ,GAAIogb,EAAMpgb,EAAQ,GAAIqgb,EAAMrgb,EAAQ,GAAIsgb,EAAMtgb,EAAQ,GAAIugb,EAAMvgb,EAAQ,GAAIwgb,EAAMxgb,EAAQ,GAAIygb,EAAMzgb,EAAQ,GAAI0gb,EAAM1gb,EAAQ,GAAI2gb,EAAM3gb,EAAQ,GAAI4gb,EAAM5gb,EAAQ,GAAI6gb,EAAM7gb,EAAQ,GAAI8gb,EAAM9gb,EAAQ,GAAI+gb,EAAM/gb,EAAQ,GAAIghb,EAAMhhb,EAAQ,GAAIihb,EAAMjhb,EAAQ,GAAIkhb,EAAMlhb,EAAQ,GAAImhb,EAAMnhb,EAAQ,GAAIohb,EAAMphb,EAAQ,GAAIqhb,EAAMrhb,EAAQ,GAAIshb,EAAMthb,EAAQ,GAAIuhb,EAAMvhb,EAAQ,GAAIwhb,EAAMxhb,EAAQ,GAAIyhb,EAAMzhb,EAAQ,GAAI0hb,EAAM1hb,EAAQ,GAAI2hb,EAAM3hb,EAAQ,GAAI4hb,EAAM5hb,EAAQ,GAAI6hb,EAAM7hb,EAAQ,GAAI8hb,EAAM9hb,EAAQ,GAAI+hb,EAAM/hb,EAAQ,GAAIgib,EAAMhib,EAAQ,GAAIiib,EAAMjib,EAAQ,GAAIkib,EAAMlib,EAAQ,GAAImib,EAAMnib,EAAQ,GAAIoib,EAAMpib,EAAQ,GAAIqib,EAAMrib,EAAQ,GAAIsib,EAAMtib,EAAQ,GAAIuib,EAAMvib,EAAQ,GAAIwib,EAAMxib,EAAQ,GAAIyib,EAAMzib,EAAQ,GAAI0ib,EAAM1ib,EAAQ,GAAI2ib,EAAM3ib,EAAQ,GAAI4ib,EAAM5ib,EAAQ,GAAI6ib,EAAM7ib,EAAQ,GAAI8ib,EAAM9ib,EAAQ,GAAI+ib,EAAM/ib,EAAQ,GAAIgjb,EAAMhjb,EAAQ,GAAIijb,EAAMjjb,EAAQ,GAAIkjb,EAAMljb,EAAQ,GAAImjb,EAAMnjb,EAAQ,GAAIojb,EAAMpjb,EAAQ,GAAIqjb,EAAMrjb,EAAQ,GAAIsjb,EAAMtjb,EAAQ,GAAIujb,EAAMvjb,EAAQ,GAAIwjb,EAAMxjb,EAAQ,GAAIyjb,EAAMzjb,EAAQ,GAAI0jb,EAAM1jb,EAAQ,GAAI2jb,EAAM3jb,EAAQ,GAAI4jb,EAAM5jb,EAAQ,GAAI6jb,EAAM7jb,EAAQ,GAAI8jb,EAAM9jb,EAAQ,GAAI+jb,EAAM/jb,EAAQ,GAAIgkb,EAAMhkb,EAAQ,GAAIikb,EAAMjkb,EAAQ,GAAIkkb,EAAMlkb,EAAQ,GAAImkb,EAAMnkb,EAAQ,GAAIokb,EAAMpkb,EAAQ,GAAIqkb,EAAMrkb,EAAQ,GAAIskb,EAAMtkb,EAAQ,GAAIukb,EAAMvkb,EAAQ,GAAIwkb,EAAMxkb,EAAQ,GAAIykb,EAAMzkb,EAAQ,GAAI0kb,EAAM1kb,EAAQ,GAAI2kb,EAAM3kb,EAAQ,GAAI4kb,EAAM5kb,EAAQ,GAAI6kb,EAAM7kb,EAAQ,GAAI8kb,EAAM9kb,EAAQ,GAAI+kb,EAAM/kb,EAAQ,GAAIglb,EAAMhlb,EAAQ,GAAIilb,EAAMjlb,EAAQ,GAAIklb,EAAMllb,EAAQ,GAAImlb,EAAMnlb,EAAQ,GAAIolb,EAAMplb,EAAQ,GAAIqlb,EAAMrlb,EAAQ,GAAIslb,EAAMtlb,EAAQ,GAAIulb,EAAMvlb,EAAQ,GAAIwlb,EAAMxlb,EAAQ,GAAIylb,EAAMzlb,EAAQ,GAAI0lb,EAAM1lb,EAAQ,GAAI2lb,EAAM3lb,EAAQ,GAAI4lb,EAAM5lb,EAAQ,GAAI6lb,EAAM7lb,EAAQ,GAAI8lb,EAAM9lb,EAAQ,GAAI+lb,EAAM/lb,EAAQ,GAAIgmb,EAAMhmb,EAAQ,GAAIimb,EAAMjmb,EAAQ,GAAIkmb,EAAMlmb,EAAQ,GAAImmb,EAAMnmb,EAAQ,GAAIomb,EAAMpmb,EAAQ,GAAIqmb,EAAMrmb,EAAQ,GAAIsmb,EAAMtmb,EAAQ,GAAIumb,EAAMvmb,EAAQ,GAAIwmb,EAAMxmb,EAAQ,GAAIymb,EAAMzmb,EAAQ,GAAI0mb,EAAM1mb,EAAQ,GAAI2mb,EAAM3mb,EAAQ,GAAI4mb,EAAM5mb,EAAQ,GAAI6mb,EAAM7mb,EAAQ,GAAI8mb,EAAM9mb,EAAQ,GAAI+mb,EAAM/mb,EAAQ,GAAIgnb,EAAMhnb,EAAQ,GAAIinb,EAAMjnb,EAAQ,GAAIknb,EAAMlnb,EAAQ,GAAImnb,EAAMnnb,EAAQ,GAAIonb,EAAMpnb,EAAQ,GAAIqnb,EAAMrnb,EAAQ,GAAIsnb,EAAMtnb,EAAQ,GAAIunb,EAAMvnb,EAAQ,GAAIwnb,EAAMxnb,EAAQ,GAAIynb,EAAMznb,EAAQ,GAAI0nb,EAAM1nb,EAAQ,GAAI2nb,EAAM3nb,EAAQ,GAAI4nb,EAAM5nb,EAAQ,GAAI6nb,EAAM7nb,EAAQ,GAAI8nb,EAAM9nb,EAAQ,GAAI+nb,EAAM/nb,EAAQ,GAAIgob,EAAMhob,EAAQ,GAAIiob,EAAMjob,EAAQ,GAAIkob,EAAMlob,EAAQ,GAAImob,EAAMnob,EAAQ,GAAIoob,EAAMpob,EAAQ,GAAIqob,EAAMrob,EAAQ,GAAIsob,EAAMtob,EAAQ,GAAIuob,EAAMvob,EAAQ,GAAIwob,EAAMxob,EAAQ,GAAIyob,EAAMzob,EAAQ,GAAI0ob,EAAM1ob,EAAQ,GAAI2ob,EAAM3ob,EAAQ,GAAI4ob,EAAM5ob,EAAQ,GAAI6ob,EAAM7ob,EAAQ,GAAI8ob,EAAM9ob,EAAQ,GAAI+ob,EAAM/ob,EAAQ,GAAIgpb,EAAMhpb,EAAQ,GAAIipb,EAAMjpb,EAAQ,GAAIkpb,EAAMlpb,EAAQ,GAAImpb,EAAMnpb,EAAQ,GAAIopb,EAAMppb,EAAQ,GAAIqpb,EAAMrpb,EAAQ,GAAIspb,EAAMtpb,EAAQ,GAAIupb,EAAMvpb,EAAQ,GAAIwpb,EAAMxpb,EAAQ,GAAIypb,EAAMzpb,EAAQ,GAAI0pb,EAAM1pb,EAAQ,GAAI2pb,EAAM3pb,EAAQ,GAAI4pb,EAAM5pb,EAAQ,GAAI6pb,EAAM7pb,EAAQ,GAAI8pb,EAAM9pb,EAAQ,GAAI+pb,EAAM/pb,EAAQ,GAAIgqb,EAAMhqb,EAAQ,GAAIiqb,EAAMjqb,EAAQ,GAAIkqb,EAAMlqb,EAAQ,GAAImqb,EAAMnqb,EAAQ,GAAIoqb,EAAMpqb,EAAQ,GAAIqqb,EAAMrqb,EAAQ,GAAIsqb,EAAMtqb,EAAQ,GAAIuqb,EAAMvqb,EAAQ,GAAIwqb,EAAMxqb,EAAQ,GAAIyqb,EAAMzqb,EAAQ,GAAI0qb,EAAM1qb,EAAQ,GAAI2qb,EAAM3qb,EAAQ,GAAI4qb,EAAM5qb,EAAQ,GAAI6qb,EAAM7qb,EAAQ,GAAI8qb,EAAM9qb,EAAQ,GAAI+qb,EAAM/qb,EAAQ,GAAIgrb,EAAMhrb,EAAQ,GAAIirb,EAAMjrb,EAAQ,GAAIkrb,EAAMlrb,EAAQ,GAAImrb,EAAMnrb,EAAQ,GAAIorb,EAAMprb,EAAQ,GAAIqrb,EAAMrrb,EAAQ,GAAIsrb,EAAMtrb,EAAQ,GAAIurb,EAAMvrb,EAAQ,GAAIwrb,EAAMxrb,EAAQ,GAAIyrb,EAAMzrb,EAAQ,GAAI0rb,EAAM1rb,EAAQ,GAAI2rb,EAAM3rb,EAAQ,GAAI4rb,EAAM5rb,EAAQ,GAAI6rb,EAAM7rb,EAAQ,GAAI8rb,EAAM9rb,EAAQ,GAAI+rb,EAAM/rb,EAAQ,GAAIgsb,EAAMhsb,EAAQ,GAAIisb,EAAMjsb,EAAQ,GAAIksb,EAAMlsb,EAAQ,GAAImsb,EAAMnsb,EAAQ,GAAIosb,EAAMpsb,EAAQ,GAAIqsb,EAAMrsb,EAAQ,GAAIssb,EAAMtsb,EAAQ,GAAIusb,EAAMvsb,EAAQ,GAAIwsb,EAAMxsb,EAAQ,GAAIysb,EAAMzsb,EAAQ,GAAI0sb,EAAM1sb,EAAQ,GAAI2sb,EAAM3sb,EAAQ,GAAI4sb,EAAM5sb,EAAQ,GAAI6sb,EAAM7sb,EAAQ,GAAI8sb,EAAM9sb,EAAQ,GAAI+sb,EAAM/sb,EAAQ,GAAIgtb,EAAMhtb,EAAQ,GAAIitb,EAAMjtb,EAAQ,GAAIktb,EAAMltb,EAAQ,GAAImtb,EAAMntb,EAAQ,GAAIotb,EAAMptb,EAAQ,GAAIqtb,EAAMrtb,EAAQ,GAAIstb,EAAMttb,EAAQ,GAAIutb,EAAMvtb,EAAQ,GAAIwtb,EAAMxtb,EAAQ,GAAIytb,EAAMztb,EAAQ,GAAI0tb,EAAM1tb,EAAQ,GAAI2tb,EAAM3tb,EAAQ,GAAI4tb,EAAM5tb,EAAQ,GAAI6tb,EAAM7tb,EAAQ,GAAI8tb,EAAM9tb,EAAQ,GAAI+tb,EAAM/tb,EAAQ,GAAIgub,EAAMhub,EAAQ,GAAIiub,EAAMjub,EAAQ,GAAIkub,EAAMlub,EAAQ,GAAImub,EAAMnub,EAAQ,GAAIoub,EAAMpub,EAAQ,GAAIqub,EAAMrub,EAAQ,GAAIsub,EAAMtub,EAAQ,GAAIuub,EAAMvub,EAAQ,GAAIwub,EAAMxub,EAAQ,GAAIyub,EAAMzub,EAAQ,GAAI0ub,EAAM1ub,EAAQ,GAAI2ub,EAAM3ub,EAAQ,GAAI4ub,EAAM5ub,EAAQ,GAAI6ub,EAAM7ub,EAAQ,GAAI8ub,EAAM9ub,EAAQ,GAAI+ub,EAAM/ub,EAAQ,GAAIgvb,EAAMhvb,EAAQ,GAAIivb,EAAMjvb,EAAQ,GAAIkvb,EAAMlvb,EAAQ,GAAImvb,EAAMnvb,EAAQ,GAAIovb,EAAMpvb,EAAQ,GAAIqvb,EAAMrvb,EAAQ,GAAIsvb,EAAMtvb,EAAQ,GAAIuvb,EAAMvvb,EAAQ,GAAIwvb,EAAMxvb,EAAQ,GAAIyvb,EAAMzvb,EAAQ,GAAI0vb,EAAM1vb,EAAQ,GAAI2vb,EAAM3vb,EAAQ,GAAI4vb,EAAM5vb,EAAQ,GAAI6vb,EAAM7vb,EAAQ,GAAI8vb,EAAM9vb,EAAQ,GAAI+vb,

AAS,MAExCmoI,EAAcxuJ,UAAU2vJ,mBAAqB,SAAU5yH,GACnD,OAAO79B,KAAKwwC,WAAWn1B,IAAAI
wiB,IAAAQ,MAEvCyxH,EAAcxuJ,UAAU4vJ,qBAAuB,SAAU/vE,GACrD,OAAO3gF,KAAKugF,SAASllE,IAAAIsl
E,IAAAY,MAEzC2uE,EAAcxuJ,UAAU6vJ,oBAAsB,SAAU3pI,GACpD,OAAOhnB,KAAKswJ,YAAYj1I,IAAAI2L,I
AAS,MAEzCsoI,EAAcxuJ,UAAU8vJ,oBAAsB,SAAUzuD,GACpD,OAAOniG,KAAKmtI,QAAQ9xH,IAAAI8mF,I
AAW,MAEvCmtD,EAAcxuJ,UAAU+vJ,gBAAkB,SAAUhyH,GAChD,OAAO7+B,KAAKuvJ,aAAaA0I,IAAAIwjB,I
AAa,GAE9CywH,EAAcxuJ,UAAUgwJ,kBAAoB,WACxC,IAAAIx1I,IAAAM,IAAAIsV,IAAEd,OADA5wB,KAAKmiC
,WAAW3tB,SAAQ,SAAUu8I,GAAQ,OAAOA,EAAKv8I,SAAQ,SAAUw8I,GAAO,OAAOA,EAAIC,WAAWF,EAAK
CvFld,MAAMinD,KAAKnsC,EAAAImE,WAE1B6vI,EAAcxuJ,UAAU69E,aAAe,WACnC,OAAOn+E,KAAKmiC,WAAWA,IAAAIsV,IAAEd,OADA5wB

AeA,GACvB5jC,EAAQq0D,MAAQA,GAChBr0D,EAAQ6vJ,cAAgBA,GACxB7vJ,EAAQ2xJ,cAAgBvsH,GACx
BplC,EAAQ6uJ,eAAiBA,GACzB7uJ,EAAQ8jB,YAAcA,GACtB9jB,EAAQ2jB,aAAeA,GACvB3jB,EAAQgnB,Y
AAcA,GACtBhnB,EAAQ+wB,oBAAsBonC,GAC9Bn4D,EAAQo5E,4BAA8BA,GACtCp5E,EAAQiyC,iBAAmB2
1B,GAC3B5nE,EAAQw3E,aAAeA,GACvBx3E,EAAQqrI,qBAAuBA,GAC/BrI,EAAQqgH,eAAiBA,GACzBrgH,
EAAQ2uB,gBAAkBA,GAC1B3uB,EAAQ8iB,YAAcA,GACtB9iB,EAAQ03D,eAAiBA,GACzB13D,EAAQw1D,iBAAmB,
BAAmBA,GAC3Bx1D,EAAQsb,gBAAkBA,GAC1Btb,EAAQkb,oBAAsBA,GAC9Blb,EAAQma,gBAAkBA,GAC1
Bna,EAAQ26C,WAAaA,GACrB36C,EAAQ01F,mBAAqBA,GAC7B11F,EAAQkuB,UAAYA,GACpBluB,EAAQ
8/I,gBAAkBA,GAC1B9/I,EAAQs9B,aAAeA,GACvBt9B,EAAQ29B,kBAAoBA,GAC5B39B,EAAQsrI,qBAAuBA,GAu
BA,GAC/BtrI,EAAQilE,cAAgBA,GACxBjlE,EAAQ4kE,wBAA0BA,GAClC5kE,EAAQinJ,gBAAkBA,GAC1BjnJ
,EAAQ41F,2BAA6BA,GACrC51F,EAAQ+lF,mBAAqBA,GAC7B/lF,EAAQgmF,oBAAsBA,GAC9BhmF,EAAQ
mmF,eAAiBA,GACzBnmF,EAAQsvC,KAAOs3B,GACf5mE,EAAQ42E,QAAUA,GAClB52E,EAAQ40D,aAAeA
,GACvB50D,EAAQiwB,UAAYA,GACpBjwB,EAAQ4xJ,sBAAwB9hH,GAChC9vC,EAAQ6xJ,kBAAoBzhH,GA
C5BpwC,EAAQ8xJ,iBAAmBriH,GAC3BzvC,EAAQ+xJ,eAAiBxgH,GACzBvxC,EAAQgyJ,eAAiBphH,GACzB5
wC,EAAQiyJ,WAAapgH,GACrB7xC,EAAQkyJ,wBAA0BjgH,GAClCjyC,EAAQmyJ,iBAAmBxgH,GAC3B3xC,
EAAQoyJ,gBAAkBjhH,GAC1BnxC,EAAQqyJ,YAAc/iH,GACtBvC,EAAQsyJ,qBAAuBA,GAC/BuB3iH,GAC/B3vC,EAAQu
yJ,gBAAkB9gH,GAC1BzxC,EAAQ8kD,MAAQytC,GAChBvyF,EAAQwiC,kCAAoCA,GAC5CxiC,EAAQ+xE,UAAYA,GACpB/xE,/xE,EAAQ6vB,aAAeA,GACvB7vB,EAAQ4f,KAAOoB,GACfhhB,EAAQm/H,kBAAoBA,GAC5Bn/H,
EAAQsnB,WAAaA,GACrBtnB,EAAQ62D,MAAQA,GAChB72D,EAAQ8rB,kBAAoBA,GAC5B9rB,EAAQwsJ,YAAcA,GACtBxsJ,EAAQwyJ,QAAUxvC,GAClBhjH,EAAQ03E,YAAcA,GACtB13E,EAAQi4D,gBAAkBA,GAC1Bj4D,
EAAQ61B,QAAUA,GAClB71B,EAAQojI,aAAeA,GACvBpjI,EAAQynB,gBAAkBA,GAC1BznB,EAAQkoB,aAAeA,GACvBloB,EAAQqoB,cAAgBA,GACxBroB,EAAQqnB,aAAeA,GACvBrnB,EAAQ8rH,MAAQA,
GAChB9rH,EAAQguH,OAASA,GACjBhuH,EAAQ+8C,kBAAoBA,GAC5B/8C,EAAQ6rH,IAAMA,GACd/8C,EAAQ6rH,EA
AQqvH,IAAMA,GACdrvH,EAAQu2F,UAAYA,GACpBv2F,EAAQu1I,4BAA8BA,GACtCv1I,EAAQ41I,YAAcA,
GACtB51I,EAAQ81I,0BAA4BA,GACpC91I,EAAQg+I,iBAAmBA,GAC3Bh+I,EAAQyyJ,0BA903BR,SAASA,G
AA0B3hI,GAC/B,IAAIrP,EAAU,IAAI4P,GAAElB,OADA5P,EAAQ+O,mBAAmBM,EAAO,MAC3BrP,EAAQ6P,o
BA403BnBtxB,EAAQu+G,6BAA+BA,GACvCv+G,EAAQq+G,6BAA+BA,GACvCr+G,EAAQyiD,uBAAyBA,GACtCjD,EAAQ4lD,kBAAoBA,GAC5B5lD,EAAQkzD,gBAAkBA,GAC1BlzD,EAAQiyD,gBAAkBA,GAC1BjyD,
D,EAAQszD,wBAA0BA,GAClCzzD,EAAQ2+B,qBAAuBA,GAC/B3+B,EAAQo5C,EAAQ6gB,EAAQ0pB,EAAQ6B,EAAQ
7B,GAAe,CAC5BC,qBAAsBrG,EAAkB6tD,SACxCw9C,QAAQ,EACRE,mBAAoBv6C,EAAQu6C,mBAC5BzjF
,oBAAqBkpC,EAAQlpC,oBAC7B0jF,0BAA4BA,GAC5BA,GAAe9nG,
IAAK,SAAU6oB,GAAO,OAAOkuH,EAAahE,aAAalqH,KAAW+pH,EAAa/V,EAAY7wD,GAAlI6xD,EAAmB,IA
AIzjD,GAAS,IAAI7D,IACpCquB,EAAwB,IAAIpjB,GAC5B01D,EAAQ6mE,EAAQ6mE,EAAiBhV
,EAAkBj5B,EAAuBi4B,EAAY1uB,QAAS,IACvHnE,EAAW,EAAWIsO,GAAwBtC,EAAQ6wD,EAAY,IAAIzZ,GA
AiByvB,GAAkB,IAAItoC,GAAkBsoC,GAAkB,IAAI9tB,GAAa8tB,GAAkBjjB,EAAiBhrB,EAAuBkuC,EAAY3k
C,QAASgqB,EAAa0a,EAAiBmE,GAExQG,EAAe,IAAI3vB,GAAaqrB,GAAhuCuE,EAAoB,IAAInyB,GAAkBsoC/3D,
EAAS2lF,GAAvD,MAAO,CAAEnuJ,EAAI+9I,EAAS6pF,EAAiB7nO,EAAI,EAAS6pF,EAAiB5nO,EAAI,EAAG
ktC,EAAY,IAAI7tF,GAAcupF,GAAcuE,EAAcC,EAAmB,IAAI10B,GAAiBmwB,GAAkB,IAAI/8B,GAAmB+8B,
IAAmB3lF,EAAQ+pF,WAAY,IAAI1zB,GAAqBqM,EAAiB0F,GAAcxR/2G,UAAWs0H,Iw1D5CzuJ,EAAQ+mJ,
qBAAuBA,GAAC/B/mJ,EAAQ2pF,yBAA2B2pC,EAAQ3pC,EAAQ2pC,EAAQ1pC,EAAQ0pC,EAAQ,MAAO,CAAE
O,IAAWA;;;;;;;QAi3PtBnyB,EAAQkzJ,gCAArnCR,SAASA,KACL,OAAO,IAAI1G,GAAY,MAAqnC3BxsJ,EAAQm
zJ,sCAznCR,SAASA,KACL,OAAO,IAAI3G,GAAY,IAynCfxsJ,EAAQi/H,2BAA6BA,GACrCj/H,EAAQozJ,SA9koBR,S
AASA,GAAS9gH,EAAQ0B,GAAQ,OAAO1B,EAAS0B,EAAS,EAAI,EAAI1B,EAAS0B,EAAS,EAAI,EAAI1B,
O,IAAID,EAAO,GAAmBX,EAAQ,IAAIW,EAAMX,EAAQ,IAAIW,EAAMX,EAAQ,IAAIW,EAAM

AAS9xI,GAInB8xI,EAAQhyJ,UAAUkuC,MAAQ,SAAUjf,EAAK5O,GACrC,IAAI4gC,EArBhB,SAASsJ,EAAOt7B,GACZ,IAAIujB,EAAQvjB,EAAI5M,WAAWmwB,MAAM6b,OAC7Bvb,EAAM7jB,EAAI5M,WAAWywB,IAAIub,OAS7B,OARIp/B,aAAeg3C,KACXh3C,EAAI2gB,cACJkD,EAAM7jB,EAAI2gB,cAAckD,IAAIub,OAEvBp/B,EAAIwgB,UAAYxgB,EAAIwgB,SAAS/uC,WAAWywB,IAAIub,OAAOp/B

```
= b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\n    }\n    var __assign = function () {\n __assign = Object.assign || function __assign(t) {\n            for (var s,
 i = 1, n = arguments.length; i < n; i++) {\n                s = arguments[i];\n                for (var p in s)\n                    if
(Object.prototype.hasOwnProperty.call(s, p))\n                        t[p] = s[p];\n            }\n            return t;\n        };\n
return __assign.apply(this, arguments);\n    };\n    function __rest(s, e) {\n        var t = {};\n        for (var p in s)\n
  if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\n                t[p] = s[p];\n        if (s != null &&
typeof Object.getOwnPropertySymbols === \"function\")\n            for (var i = 0, p =
Object.getOwnPropertySymbols(s); i < p.length; i++) {\n                if (e.indexOf(p[i]) < 0 &&
Object.prototype.propertyIsEnumerable.call(s, p[i]))\n                    t[p[i]] = s[p[i]];\n            }\n        return t;\n    }\n
function __decorate(decorators, target, key, desc) {\n        var c = arguments.length, r = c < 3 ? target : desc === null
? desc = Object.getOwnPropertyDescriptor(target,
 key) : desc, d;\n        if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\")\n            r =
Reflect.decorate(decorators, target, key, desc);\n        else\n            for (var i = decorators.length - 1; i >= 0; i--)\n
        if (d = decorators[i])\n                    r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\n        return c >
3 && r && Object.defineProperty(target, key, r), r;\n    }\n    function __param(paramIndex, decorator) {\n
return function (target, key) { decorator(target, key, paramIndex); };\n    }\n    function __metadata(metadataKey,
metadataValue) {\n        if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n
return Reflect.metadata(metadataKey, metadataValue);\n    }\n    function __awaiter(thisArg, _arguments, P,
generator) {\n        function adopt(value) { return value instanceof P ? value : new P(function (resolve) {
 resolve(value); }); }\n        return new (P || (P = Promise))(function (resolve, reject) {\n            function
fulfilled(value) { try {\n                step(generator.next(value));\n            }\n            catch (e) {\n                reject(e);\n
        } }\n            function rejected(value) { try {\n                step(generator[\"throw\"](value));\n            }\n
catch (e) {\n                reject(e);\n            } }\n            function step(result) { result.done ? resolve(result.value) :
adopt(result.value).then(fulfilled, rejected); }\n            step((generator = generator.apply(thisArg, _arguments ||
[])).next());\n        });\n    }\n    function __generator(thisArg, body) {\n        var _ = { label: 0, sent: function () { if
(t[0] & 1)\n                throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n        return g = { next: verb(0), \"throw\":
verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] =
 function () { return this; }), g;\n        function verb(n) { return function (v) { return step([n, v]); }; }\n        function
step(op) {\n            if (f)\n                throw new TypeError(\"Generator is already executing.\");\n            while (_)\n
            try {\n                if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"])
&& t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n                    return t;\n                if (y = 0, t)\n
        op = [op[0] & 2, t.value];\n                    switch (op[0]) {\n                        case 0:\n                        case 1:\n
                t = op;\n                            break;\n                        case 4:\n                            _.label++;\n
return { value: op[1], done: false };\n                        case 5:\n                            _.label++;\n                            y =
 op[1];\n                            op = [0];\n                            continue;\n                        case 7:\n                            op =
_.ops.pop();\n                            _.trys.pop();\n                            continue;\n                        default:\n
if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) {\n                                _ = 0;\n
                    continue;\n                            }\n                            if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] <
t[3]))) {\n                                _.label = op[1];\n                                break;\n                            }\n                            if
(op[0] === 6 && _.label < t[1]) {\n                                _.label = t[1];\n                                t = op;\n
  break;\n                            }\n                            if (t && _.label <
 t[2]) {\n                                _.label = t[2];\n                                _.ops.push(op);\n                                break;\n
                }\n                            if (t[2])\n                                _.ops.pop();\n                                _.trys.pop();\n
        continue;\n                }\n                op = body.call(thisArg, _);\n            }\n            catch (e) {\n
      op = [6, e];\n                y = 0;\n            }\n            finally {\n                f = t = 0;\n            }\n            if
(op[0] & 5)\n                throw op[1];\n            return { value: op[0] ? op[1] : void 0, done: true };\n        }\n    }\n
var __createBinding = Object.create ? (function (o, m, k, k2) {\n        if (k2 === undefined)\n            k2 = k;\n
Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n    }) : (function
```

```
(o, m, k, k2) {\n        if (k2 === undefined)\n            k2 = k;\n        o[k2] = m[k];\n    });\n    function __exportStar(m, exports) {\n        for (var p in m)\n            if (p !== \"default\" && !exports.hasOwnProperty(p))\n                __createBinding(exports, m, p);\n    }\n    function __values(o) {\n        var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n        if (m)\n            return m.call(o);\n        if (o && typeof o.length === \"number\")\n            return {\n                next: function () {\n                    if (o && i >= o.length)\n                        o = void 0;\n                    return { value: o && o[i++], done: !o };\n                }\n            };\n        throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n    }\n    function __read(o, n) {\n        var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n        if (!m)\n            return o;\n        var i = m.call(o), r, ar = [], e;\n        try {\n            while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n                ar.push(r.value);\n        }\n        catch (error) {\n            e = { error: error };\n        }\n        finally {\n            try {\n                if (r && !r.done && (m = i[\"return\"]))\n                    m.call(i);\n            }\n            finally {\n                if (e)\n                    throw e.error;\n            }\n        }\n        return ar;\n    }\n    function __spread() {\n        for (var ar = [], i = 0; i < arguments.length; i++)\n            ar = ar.concat(__read(arguments[i]));\n        return ar;\n    }\n    function __spreadArrays() {\n        for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n            s += arguments[i].length;\n        for (var r = Array(s), k = 0, i = 0; i < il; i++)\n            for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n                r[k] = a[j];\n        return r;\n    }\n    ;\n    function __await(v) {\n        return this instanceof __await ? (this.v = v, this) : new __await(v);\n    }\n    function __asyncGenerator(thisArg, _arguments, generator) {\n        if (!Symbol.asyncIterator)\n            throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n        var g = generator.apply(thisArg, _arguments || []), i, q = [];\n        return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\n        function verb(n) { if (g[n])\n            i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n        function resume(n, v) { try {\n            step(g[n](v));\n        }\n        catch (e) {\n            settle(q[0][3], e);\n        } }\n        function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n        function fulfill(value) { resume(\"next\", value); }\n        function reject(value) { resume(\"throw\", value); }\n        function settle(f, v) { if (f(v), q.shift(), q.length)\n            resume(q[0][0], q[0][1]); }\n    }\n    function __asyncDelegator(o) {\n        var i, p;\n        return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n        function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n    }\n    function __asyncValues(o) {\n        if (!Symbol.asyncIterator)\n            throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n        var m = o[Symbol.asyncIterator], i;\n        return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n        function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n        function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n    }\n    function __makeTemplateObject(cooked, raw) {\n        if (Object.defineProperty) {\n            Object.defineProperty(cooked, \"raw\", { value: raw });\n        }\n        else {\n            cooked.raw = raw;\n        }\n        return cooked;\n    }\n    ;\n    var __setModuleDefault = Object.create ? (function (o, v) {\n        Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n    }) : function (o, v) {\n        o[\"default\"] = v;\n    };\n    function __importStar(mod) {\n        if (mod && mod.__esModule)\n            return mod;\n        var result = {};\n        if (mod != null)\n            for (var k in mod)\n                if (Object.hasOwnProperty.call(mod, k))\n                    __createBinding(result, mod, k);\n        __setModuleDefault(result, mod);\n        return result;\n    }\n    function __importDefault(mod) {\n        return (mod && mod.__esModule) ? mod : { default: mod };\n    }\n    function __classPrivateFieldGet(receiver, privateMap) {\n        if (!privateMap.has(receiver)) {\n            throw new TypeError(\"attempted to get private field on non-instance\");\n        }\n        return privateMap.get(receiver);\n    }\n    function __classPrivateFieldSet(receiver, privateMap, value) {\n        if (!privateMap.has(receiver)) {\n
```

throw new TypeError(\"attempted to set private field on non-instance\");\n }\n privateMap.set(receiver, value);\n return value;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n (function (TagContentType) {\n TagContentType[TagContentType[\"RAW_TEXT\"] = 0] = \"RAW_TEXT\";\n TagContentType[TagContentType[\"ESCAPABLE_RAW_TEXT\"] = 1] = \"ESCAPABLE_RAW_TEXT\";\n TagContentType[TagContentType[\"PARSABLE_DATA\"] = 2] = \"PARSABLE_DATA\";\n })(exports.TagContentType || (exports.TagContentType = {}));\n function splitNsName(elementName) {\n if (elementName[0] != ':') {\n return [null, elementName];\n }\n var colonIndex = elementName.indexOf(':', 1);\n if (colonIndex == -1) {\n throw new Error(\"Unsupported format \\\"\" + elementName + \"\\\" expecting \\\":namespace:name\\\"\");\n }\n return [elementName.slice(1, colonIndex), elementName.slice(colonIndex + 1)];\n }\n // `<ng-container>` tags work the same regardless the namespace\n function isNgContainer(tagName) {\n return splitNsName(tagName)[1] === 'ng-container';\n }\n // `<ng-content>` tags work the same regardless the namespace\n function isNgContent(tagName) {\n return splitNsName(tagName)[1] === 'ng-content';\n }\n // `<ng-template>` tags work the same regardless the namespace\n function isNgTemplate(tagName) {\n return splitNsName(tagName)[1] === 'ng-template';\n }\n function getNsPrefix(fullName) {\n return fullName === null ? null : splitNsName(fullName)[0];\n }\n function mergeNsAndName(prefix, localName) {\n return prefix ? \":\" + prefix + \":\" + localName : localName;\n }\n // see https://www.w3.org/TR/html51/syntax.html#named-character-references\n // see https://html.spec.whatwg.org/multipage/entities.json\n // This list is not exhaustive to keep the compiler footprint low.\n // The `{` / `ƫ` syntax should be used when the named character reference does not\n // exist.\n var NAMED_ENTITIES = {\n 'Aacute': '\\u00C1',\n 'aacute': '\\u00E1',\n 'Acirc': '\\u00C2',\n 'acirc': '\\u00E2',\n 'acute': '\\u00B4',\n 'AElig': '\\u00C6',\n 'aelig': '\\u00E6',\n 'Agrave': '\\u00C0',\n 'agrave': '\\u00E0',\n 'alefsym': '\\u2135',\n 'Alpha': '\\u0391',\n 'alpha': '\\u03B1',\n 'amp': '&',\n 'and': '\\u2227',\n 'ang': '\\u2220',\n 'apos': '\\u0027',\n 'Aring': '\\u00C5',\n 'aring': '\\u00E5',\n 'asymp': '\\u2248',\n 'Atilde': '\\u00C3',\n 'atilde': '\\u00E3',\n 'Auml': '\\u00C4',\n 'auml': '\\u00E4',\n 'bdquo': '\\u201E',\n 'Beta': '\\u0392',\n 'beta': '\\u03B2',\n 'brvbar': '\\u00A6',\n 'bull': '\\u2022',\n 'cap': '\\u2229',\n 'Ccedil': '\\u00C7',\n 'ccedil': '\\u00E7',\n 'cedil': '\\u00B8',\n 'cent': '\\u00A2',\n 'Chi': '\\u03A7',\n 'chi': '\\u03C7',\n 'circ': '\\u02C6',\n 'clubs': '\\u2663',\n 'cong': '\\u2245',\n 'copy': '\\u00A9',\n 'crarr': '\\u21B5',\n 'cup': '\\u222A',\n 'curren': '\\u00A4',\n 'dagger': '\\u2020',\n 'Dagger': '\\u2021',\n 'darr': '\\u2193',\n 'dArr': '\\u21D3',\n 'deg': '\\u00B0',\n 'Delta': '\\u0394',\n 'delta': '\\u03B4',\n 'diams': '\\u2666',\n 'divide': '\\u00F7',\n 'Eacute': '\\u00C9',\n 'eacute': '\\u00E9',\n 'Ecirc': '\\u00CA',\n 'ecirc': '\\u00EA',\n 'Egrave': '\\u00C8',\n 'egrave': '\\u00E8',\n 'empty': '\\u2205',\n 'emsp': '\\u2003',\n 'ensp': '\\u2002',\n 'Epsilon': '\\u0395',\n 'epsilon': '\\u03B5',\n 'equiv': '\\u2261',\n 'Eta': '\\u0397',\n 'eta': '\\u03B7',\n 'ETH': '\\u00D0',\n 'eth': '\\u00F0',\n 'Euml': '\\u00CB',\n 'euml': '\\u00EB',\n 'euro': '\\u20AC',\n 'exist': '\\u2203',\n 'fnof': '\\u0192',\n 'forall': '\\u2200',\n 'frac12': '\\u00BD',\n 'frac14': '\\u00BC',\n 'frac34': '\\u00BE',\n 'frasl': '\\u2044',\n 'Gamma': '\\u0393',\n 'gamma': '\\u03B3',\n 'ge': '\\u2265',\n 'gt': '>',\n 'harr': '\\u2194',\n 'hArr': '\\u21D4',\n 'hearts': '\\u2665',\n 'hellip': '\\u2026',\n 'Iacute': '\\u00CD',\n 'iacute': '\\u00ED',\n 'Icirc': '\\u00CE',\n 'icirc': '\\u00EE',\n 'iexcl': '\\u00A1',\n 'Igrave': '\\u00CC',\n 'igrave': '\\u00EC',\n 'image': '\\u2111',\n 'infin': '\\u221E',\n 'int': '\\u222B',\n 'Iota': '\\u0399',\n 'iota': '\\u03B9',\n 'iquest': '\\u00BF',\n 'isin': '\\u2208',\n 'Iuml': '\\u00CF',\n 'iuml': '\\u00EF',\n 'Kappa': '\\u039A',\n 'kappa': '\\u03BA',\n 'Lambda': '\\u039B',\n 'lambda': '\\u03BB',\n 'lang': '\\u27E8',\n 'laquo': '\\u00AB',\n

'larr': '\\u2190',\n 'lArr': '\\u21D0',\n 'lceil': '\\u2308',\n 'ldquo': '\\u201C',\n 'le': '\\u2264',\n 'lfloor': '\\u230A',\n 'lowast': '\\u2217',\n 'loz': '\\u25CA',\n 'lrm': '\\u200E',\n 'lsaquo': '\\u2039',\n 'lsquo': '\\u2018',\n 'lt': '<',\n 'macr': '\\u00AF',\n 'mdash': '\\u2014',\n 'micro': '\\u00B5',\n 'middot': '\\u00B7',\n 'minus': '\\u2212',\n 'Mu': '\\u039C',\n 'mu': '\\u03BC',\n 'nabla': '\\u2207',\n 'nbsp': '\\u00A0',\n 'ndash': '\\u2013',\n 'ne': '\\u2260',\n 'ni': '\\u220B',\n 'not': '\\u00AC',\n 'notin': '\\u2209',\n 'nsub': '\\u2284',\n 'Ntilde': '\\u00D1',\n 'ntilde': '\\u00F1',\n 'Nu': '\\u039D',\n 'nu': '\\u03BD',\n 'Oacute': '\\u00D3',\n 'oacute': '\\u00F3',\n 'Ocirc': '\\u00D4',\n 'ocirc': '\\u00F4',\n 'OElig': '\\u0152',\n 'oelig': '\\u0153',\n 'Ograve': '\\u00D2',\n 'ograve': '\\u00F2',\n 'oline': '\\u203E',\n 'Omega': '\\u03A9',\n 'omega': '\\u03C9',\n 'Omicron': '\\u039F',\n 'omicron': '\\u03BF',\n 'oplus': '\\u2295',\n 'or': '\\u2228',\n 'ordf': '\\u00AA',\n 'ordm': '\\u00BA',\n 'Oslash': '\\u00D8',\n 'oslash': '\\u00F8',\n 'Otilde': '\\u00D5',\n 'otilde': '\\u00F5',\n 'otimes': '\\u2297',\n 'Ouml': '\\u00D6',\n 'ouml': '\\u00F6',\n 'para': '\\u00B6',\n 'permil': '\\u2030',\n 'perp': '\\u22A5',\n 'Phi': '\\u03A6',\n 'phi': '\\u03C6',\n 'Pi': '\\u03A0',\n 'pi': '\\u03C0',\n 'piv': '\\u03D6',\n 'plusmn': '\\u00B1',\n 'pound': '\\u00A3',\n 'prime': '\\u2032',\n 'Prime': '\\u2033',\n 'prod': '\\u220F',\n 'prop': '\\u221D',\n 'Psi': '\\u03A8',\n 'psi': '\\u03C8',\n 'quot': '\\u0022',\n 'radic': '\\u221A',\n 'rang': '\\u27E9',\n 'raquo': '\\u00BB',\n 'rarr': '\\u2192',\n 'rArr': '\\u21D2',\n 'rceil': '\\u2309',\n 'rdquo': '\\u201D',\n 'real': '\\u211C',\n 'reg': '\\u00AE',\n 'rfloor': '\\u230B',\n 'Rho': '\\u03A1',\n 'rho': '\\u03C1',\n 'rlm': '\\u200F',\n 'rsaquo': '\\u203A',\n 'rsquo': '\\u2019',\n 'sbquo': '\\u201A',\n 'Scaron': '\\u0160',\n 'scaron': '\\u0161',\n 'sdot': '\\u22C5',\n 'sect': '\\u00A7',\n 'shy': '\\u00AD',\n 'Sigma': '\\u03A3',\n 'sigma': '\\u03C3',\n 'sigmaf': '\\u03C2',\n 'sim': '\\u223C',\n 'spades': '\\u2660',\n 'sub': '\\u2282',\n 'sube': '\\u2286',\n 'sum': '\\u2211',\n 'sup': '\\u2283',\n 'sup1': '\\u00B9',\n 'sup2': '\\u00B2',\n 'sup3': '\\u00B3',\n 'supe': '\\u2287',\n 'szlig': '\\u00DF',\n 'Tau': '\\u03A4',\n 'tau': '\\u03C4',\n 'there4': '\\u2234',\n 'Theta': '\\u0398',\n 'theta': '\\u03B8',\n 'thetasym': '\\u03D1',\n 'thinsp': '\\u2009',\n 'THORN': '\\u00DE',\n 'thorn': '\\u00FE',\n 'tilde': '\\u02DC',\n 'times': '\\u00D7',\n 'trade': '\\u2122',\n 'Uacute': '\\u00DA',\n 'uacute': '\\u00FA',\n 'uarr': '\\u2191',\n 'uArr': '\\u21D1',\n 'Ucirc': '\\u00DB',\n 'ucirc': '\\u00FB',\n 'Ugrave': '\\u00D9',\n 'ugrave': '\\u00F9',\n 'uml': '\\u00A8',\n 'upsih': '\\u03D2',\n 'Upsilon': '\\u03A5',\n 'upsilon': '\\u03C5',\n 'Uuml': '\\u00DC',\n 'uuml': '\\u00FC',\n 'weierp': '\\u2118',\n 'Xi': '\\u039E',\n 'xi': '\\u03BE',\n 'Yacute': '\\u00DD',\n 'yacute': '\\u00FD',\n 'yen': '\\u00A5',\n 'yuml': '\\u00FF',\n 'Yuml': '\\u0178',\n 'Zeta': '\\u0396',\n 'zeta': '\\u03B6',\n 'zwj': '\\u200D',\n 'zwnj': '\\u200C',\n };\n // The &ngsp; pseudo-entity is denoting a space. see:\n // https://github.com/dart-lang/angular/blob/0bb611387d29d65b5af7f9d2515ab571fd3fbee4/_tests/test/compiler/preserve_whitespace_test.dart\n var NGSP_UNICODE = '\\uE500';\n NAMED_ENTITIES['ngsp'] = NGSP_UNICODE;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var HtmlTagDefinition = /** @class */ (function () {\n function HtmlTagDefinition(_c) {\n var _this = this;\n var _d = _c === void 0 ? {} : _c, closedByChildren = _d.closedByChildren, implicitNamespacePrefix = _d.implicitNamespacePrefix, _e = _d.contentType, contentType = _e === void 0 ? exports.TagContentType.PARSABLE_DATA : _e, _f = _d.closedByParent, closedByParent = _f === void 0 ? false : _f, _g = _d.isVoid, isVoid = _g === void 0 ? false : _g, _h = _d.ignoreFirstLf, ignoreFirstLf = _h === void 0 ? false : _h, _j = _d.preventNamespaceInheritance, preventNamespaceInheritance = _j === void 0 ? false : _j;\n this.closedByChildren = {};\n this.closedByParent = false;\n this.canSelfClose = false;\n if (closedByChildren && closedByChildren.length > 0) {\n closedByChildren.forEach(function (tagName) { return _this.closedByChildren[tagName] = true; });\n }\n this.isVoid = isVoid;\n this.closedByParent

= closedByParent || isVoid;\n this.implicitNamespacePrefix = implicitNamespacePrefix || null;\n this.contentType = contentType;\n this.ignoreFirstLf = ignoreFirstLf;\n this.preventNamespaceInheritance = preventNamespaceInheritance;\n }\n HtmlTagDefinition.prototype.isClosedByChild = function (name) {\n return this.isVoid || name.toLowerCase() in this.closedByChildren;\n };\n return HtmlTagDefinition;\n }());\n var _DEFAULT_TAG_DEFINITION;\n // see https://www.w3.org/TR/html51/syntax.html#optional-tags\n // This implementation does not fully conform to the HTML5 spec.\n var TAG_DEFINITIONS;\n function getHtmlTagDefinition(tagName) {\n var _a, _b;\n if (!TAG_DEFINITIONS) {\n _DEFAULT_TAG_DEFINITION = new HtmlTagDefinition();\n TAG_DEFINITIONS = {\n 'base': new HtmlTagDefinition({ isVoid: true }),\n 'meta': new HtmlTagDefinition({ isVoid: true }),\n 'area': new HtmlTagDefinition({ isVoid: true }),\n 'embed': new HtmlTagDefinition({ isVoid: true }),\n 'link': new HtmlTagDefinition({ isVoid: true }),\n 'img': new HtmlTagDefinition({ isVoid: true }),\n 'input': new HtmlTagDefinition({ isVoid: true }),\n 'param': new HtmlTagDefinition({ isVoid: true }),\n 'hr': new HtmlTagDefinition({ isVoid: true }),\n 'br': new HtmlTagDefinition({ isVoid: true }),\n 'source': new HtmlTagDefinition({ isVoid: true }),\n 'track': new HtmlTagDefinition({ isVoid: true }),\n 'wbr': new HtmlTagDefinition({ isVoid: true }),\n 'p': new HtmlTagDefinition({\n closedByChildren: [\n 'address', 'article', 'aside', 'blockquote', 'div', 'dl', 'fieldset',\n 'footer', 'form', 'h1', 'h2', 'h3', 'h4', 'h5',\n 'h6', 'header', 'hgroup', 'hr', 'main', 'nav', 'ol',\n 'p', 'pre', 'section', 'table', 'ul'\n ],\n closedByParent: true\n }),\n 'thead': new HtmlTagDefinition({ closedByChildren: ['tbody', 'tfoot'] }),\n 'tbody': new HtmlTagDefinition({ closedByChildren: ['tbody', 'tfoot'], closedByParent: true }),\n 'tfoot': new HtmlTagDefinition({ closedByChildren: ['tbody'], closedByParent: true }),\n 'tr': new HtmlTagDefinition({ closedByChildren: ['tr'], closedByParent: true }),\n 'td': new HtmlTagDefinition({ closedByChildren: ['td', 'th'], closedByParent: true }),\n 'th': new HtmlTagDefinition({ closedByChildren: ['td', 'th'], closedByParent: true }),\n 'col': new HtmlTagDefinition({ isVoid: true }),\n 'svg': new HtmlTagDefinition({ implicitNamespacePrefix: 'svg' }),\n 'foreignObject': new HtmlTagDefinition({\n // Usually the implicit namespace here would be redundant since it will be inherited from\n // the parent `svg`, but we have to do it for `foreignObject`, because the way the parser\n // works is that the parent node of an end tag is its own start tag which means that\n // the `preventNamespaceInheritance` on `foreignObject` would have it default to the\n // implicit namespace which is `html`, unless specified otherwise.\n implicitNamespacePrefix: 'svg',\n // We want to prevent children of foreignObject from inheriting its namespace, because\n // the point of the element is to allow nodes from other namespaces to be inserted.\n preventNamespaceInheritance: true,\n }),\n 'math': new HtmlTagDefinition({ implicitNamespacePrefix: 'math' }),\n 'li': new HtmlTagDefinition({ closedByChildren: ['li'], closedByParent: true }),\n 'dt': new HtmlTagDefinition({ closedByChildren: ['dt', 'dd'] }),\n 'dd': new HtmlTagDefinition({ closedByChildren: ['dt', 'dd'], closedByParent: true }),\n 'rb': new HtmlTagDefinition({ closedByChildren: ['rb', 'rt', 'rtc', 'rp'], closedByParent: true }),\n 'rt': new HtmlTagDefinition({ closedByChildren: ['rb', 'rt', 'rtc', 'rp'], closedByParent: true }),\n 'rtc': new HtmlTagDefinition({ closedByChildren: ['rb', 'rtc', 'rp'], closedByParent: true }),\n 'rp': new HtmlTagDefinition({ closedByChildren: ['rb', 'rt', 'rtc', 'rp'], closedByParent: true }),\n 'optgroup': new HtmlTagDefinition({ closedByChildren: ['optgroup'], closedByParent: true }),\n 'option': new HtmlTagDefinition({ closedByChildren: ['option', 'optgroup'], closedByParent: true }),\n 'pre': new HtmlTagDefinition({ ignoreFirstLf: true }),\n 'listing': new HtmlTagDefinition({ ignoreFirstLf: true }),\n 'style': new HtmlTagDefinition({ contentType: exports.TagContentType.RAW_TEXT }),\n 'script': new HtmlTagDefinition({ contentType: exports.TagContentType.RAW_TEXT

```
}),\n            'title': new HtmlTagDefinition({ contentType: exports.TagContentType.ESCAPABLE_RAW_TEXT
}),\n            'textarea': new HtmlTagDefinition({ contentType:
exports.TagContentType.ESCAPABLE_RAW_TEXT, ignoreFirstLf: true }),\n        };\n    }\n    // We have
to make both a case-sensitive and a case-insesitive lookup, because\n    // HTML tag names are case insensitive,
whereas some SVG tags are case sensitive.\n    return (_b = (_a = TAG_DEFINITIONS[tagName]) !== null &&
_a !== void 0 ? _a : TAG_DEFINITIONS[tagName.toLowerCase()]) !== null && _b !== void 0 ? _b :
_DEFAULT_TAG_DEFINITION;\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights
Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the
LICENSE file at https://angular.io/license\n */\nvar _SELECTOR_REGEXP = new RegExp('(\\\\:not\\\\()|' + //
1: \":not(\"\n    '(([\\\\.\\\\#]?)[-\\\\w]+)|'
+ // 2: \"tag\"; 3: \".\"/\"#\";\n    // \"-\" should appear first in the regexp below as FF31 parses \"[.-\\w]\" as a
range\n    // 4: attribute; 5: attribute_string; 6: attribute_value\n    '(?:\\\\[([-
.\\\\w*]+)(?:=([\\\"\\']?)([^\\\\]\\\"\\']*)\\\\5)?\\\\])|' + // \"[name]\", \"[name=value]\",\n    // \"[name=\"value\"]\",\n
  // \"[name='value']\"\n    '(\\\\))|' + // 7: \")\"\n    '(\\\\s*,\\\\s*)', // 8: \",\"\n    'g');\n    /**\n * A css selector
contains an element name,\n * css classes and attribute/value pairs with the purpose\n * of selecting subsets out
of them.\n */\nvar CssSelector = /** @class */ (function () {\n    function CssSelector() {\n
this.element = null;\n        this.classNames = [];\n        /**\n         * The selectors are encoded in pairs
where:\n         * - even locations are attribute names\n         * - odd locations are attribute values.\n         *\n

 * Example:\n         * Selector: `[key1=value1][key2]` would parse to:\n         * ```\n         * ['key1', 'value1',
'key2', '']\n         * ```\n         */\n        this.attrs = [];\n        this.notSelectors = [];\n    }\n
CssSelector.parse = function (selector) {\n        var results = [];\n        var _addResult = function (res, cssSel)
{\n            if (cssSel.notSelectors.length > 0 && !cssSel.element && cssSel.classNames.length == 0 &&\n
    cssSel.attrs.length == 0) {\n                cssSel.element = '*';\n            }\n            res.push(cssSel);\n
};\n        var cssSelector = new CssSelector();\n        var match;\n        var current = cssSelector;\n        var
inNot = false;\n        _SELECTOR_REGEXP.lastIndex = 0;\n        while (match =
_SELECTOR_REGEXP.exec(selector)) {\n            if (match[1 /* NOT */]) {\n                if (inNot) {\n
                throw new Error('Nesting :not in a selector is not allowed');\n                }\n                inNot =
true;\n                current = new CssSelector();\n                cssSelector.notSelectors.push(current);\n            }\n
        var tag = match[2 /* TAG */];\n            if (tag) {\n                var prefix = match[3 /* PREFIX */];\n
      if (prefix === '#') {\n                    // #hash\n                    current.addAttribute('id', tag.substr(1));\n
    }\n                else if (prefix === '.') {\n                    // Class\n
current.addClassName(tag.substr(1));\n                }\n                else {\n                    // Element\n
current.setElement(tag);\n                }\n            }\n            var attribute = match[4 /* ATTRIBUTE */];\n
    if (attribute) {\n
      current.addAttribute(attribute, match[6 /* ATTRIBUTE_VALUE */]);\n            }\n            if (match[7 /*
NOT_END */]) {\n                inNot = false;\n                current = cssSelector;\n            }\n            if
(match[8 /* SEPARATOR */]) {\n                if (inNot) {\n                    throw new Error('Multiple selectors in
:not are not supported');\n                }\n                _addResult(results, cssSelector);\n                cssSelector =
current = new CssSelector();\n            }\n        }\n        _addResult(results, cssSelector);\n        return
results;\n    };\n    CssSelector.prototype.isElementSelector = function () {\n        return
this.hasElementSelector() && this.classNames.length == 0 && this.attrs.length == 0 &&\n
this.notSelectors.length === 0;\n    };\n    CssSelector.prototype.hasElementSelector = function () {\n
return !!this.element;\n
    };\n    CssSelector.prototype.setElement = function (element) {\n        if (element === void 0) { element =
null; }\n        this.element = element;\n    };\n    /** Gets a template string for an element that matches the
selector. */\n    CssSelector.prototype.getMatchingElementTemplate = function () {\n        var tagName =
this.element || 'div';\n        var classAttr = this.classNames.length > 0 ? \" class=\\\"\" + this.classNames.join(' ') +
```

```
\"\\\"\" : ";\n var attrs = ";\n for (var i = 0; i < this.attrs.length; i += 2) {\n var attrName = this.attrs[i];\n var attrValue = this.attrs[i + 1] !== '' ? \"=\\\"\" + this.attrs[i + 1] + \"\\\"\" : ";\n attrs += \" \" + attrName + attrValue;\n }\n return getHtmlTagDefinition(tagName).isVoid ? \"<\" + tagName + classAttr + attrs + \"/>\" :\n \"<\" + tagName + classAttr + attrs + \"></\"
 + tagName + \">\";\n };\n CssSelector.prototype.getAttrs = function () {\n var result = [];\n if (this.classNames.length > 0) {\n result.push('class', this.classNames.join(' '));\n }\n return result.concat(this.attrs);\n };\n CssSelector.prototype.addAttribute = function (name, value) {\n if (value === void 0) { value = ''; }\n this.attrs.push(name, value && value.toLowerCase() || '');\n };\n CssSelector.prototype.addClassName = function (name) {\n this.classNames.push(name.toLowerCase());\n };\n CssSelector.prototype.toString = function () {\n var res = this.element || '';\n if (this.classNames) {\n this.classNames.forEach(function (klass) { return res += \".\" + klass; });\n }\n if (this.attrs) {\n for (var i = 0; i < this.attrs.length; i += 2) {\n var name = this.attrs[i];\n var value = this.attrs[i + 1];\n res += \"[\" + name + (value ? '=' + value : '') + \"]\";\n }\n }\n this.notSelectors.forEach(function (notSelector) { return res += \":not(\" + notSelector + \")\"; });\n return res;\n };\n return CssSelector;\n }());\n /**\n * Reads a list of CssSelectors and allows to calculate which ones\n * are contained in a given CssSelector.\n */\n var SelectorMatcher = /** @class */ (function () {\n function SelectorMatcher() {\n this._elementMap = new Map();\n this._elementPartialMap = new Map();\n this._classMap = new Map();\n this._classPartialMap = new Map();\n this._attrValueMap = new Map();\n this._attrValuePartialMap = new Map();\n this._listContexts = [];\n }\n SelectorMatcher.createNotMatcher = function (notSelectors)
 {\n var notMatcher = new SelectorMatcher();\n notMatcher.addSelectables(notSelectors, null);\n return notMatcher;\n };\n SelectorMatcher.prototype.addSelectables = function (cssSelectors, callbackCtxt) {\n var listContext = null;\n if (cssSelectors.length > 1) {\n listContext = new SelectorListContext(cssSelectors);\n this._listContexts.push(listContext);\n }\n for (var i = 0; i < cssSelectors.length; i++) {\n this._addSelectable(cssSelectors[i], callbackCtxt, listContext);\n }\n };\n /**\n * Add an object that can be found later on by calling `match`.\n * @param cssSelector A css selector\n * @param callbackCtxt An opaque object that will be given to the callback of the `match` function\n */\n SelectorMatcher.prototype._addSelectable = function (cssSelector, callbackCtxt, listContext)
 {\n var matcher = this;\n var element = cssSelector.element;\n var classNames = cssSelector.classNames;\n var attrs = cssSelector.attrs;\n var selectable = new SelectorContext(cssSelector, callbackCtxt, listContext);\n if (element) {\n var isTerminal = attrs.length === 0 && classNames.length === 0;\n if (isTerminal) {\n this._addTerminal(matcher._elementMap, element, selectable);\n }\n else {\n matcher = this._addPartial(matcher._elementPartialMap, element);\n }\n }\n if (classNames) {\n for (var i = 0; i < classNames.length; i++) {\n var isTerminal = attrs.length === 0 && i === classNames.length - 1;\n var className = classNames[i];\n if (isTerminal) {\n this._addTerminal(matcher._classMap,
 className, selectable);\n }\n else {\n matcher = this._addPartial(matcher._classPartialMap, className);\n }\n }\n }\n if (attrs) {\n for (var i = 0; i < attrs.length; i += 2) {\n var isTerminal = i === attrs.length - 2;\n var name = attrs[i];\n var value = attrs[i + 1];\n if (isTerminal) {\n var terminalMap = matcher._attrValueMap;\n var terminalValuesMap = terminalMap.get(name);\n if (!terminalValuesMap) {\n terminalValuesMap = new Map();\n terminalMap.set(name, terminalValuesMap);\n }\n this._addTerminal(terminalValuesMap, value, selectable);\n }\n else {\n
```

```
var partialMap = matcher._attrValuePartialMap;\n var partialValuesMap = partialMap.get(name);\n if (!partialValuesMap) {\n partialValuesMap = new Map();\n partialMap.set(name, partialValuesMap);\n }\n matcher = this._addPartial(partialValuesMap, value);\n }\n }\n };\n SelectorMatcher.prototype._addTerminal = function (map, name, selectable) {\n var terminalList = map.get(name);\n if (!terminalList) {\n terminalList = [];\n map.set(name, terminalList);\n }\n terminalList.push(selectable);\n };\n SelectorMatcher.prototype._addPartial = function (map, name) {\n var matcher = map.get(name);\n if (!matcher) {\n matcher = new SelectorMatcher();\n map.set(name, matcher);\n }\n return matcher;\n };\n /**\n * Find the objects that have been added via `addSelectable`\n * whose css selector is contained in the given css selector.\n * @param cssSelector A css selector\n * @param matchedCallback This callback will be called with the object handed into `addSelectable`\n * @return boolean true if a match was found\n */\n SelectorMatcher.prototype.match = function (cssSelector, matchedCallback) {\n var result = false;\n var element = cssSelector.element;\n var classNames = cssSelector.classNames;\n var attrs = cssSelector.attrs;\n for (var i = 0; i < this._listContexts.length; i++) {\n this._listContexts[i].alreadyMatched = false;\n }\n result = this._matchTerminal(this._elementMap, element, cssSelector, matchedCallback) || result;\n result = this._matchPartial(this._elementPartialMap, element, cssSelector, matchedCallback) ||\n result;\n if (classNames) {\n for (var i = 0; i < classNames.length; i++) {\n var className = classNames[i];\n result =\n this._matchTerminal(this._classMap, className, cssSelector, matchedCallback) || result;\n result =\n this._matchPartial(this._classPartialMap, className, cssSelector, matchedCallback) ||\n result;\n }\n }\n if (attrs) {\n for (var i = 0; i < attrs.length; i += 2) {\n var name = attrs[i];\n var value = attrs[i + 1];\n var terminalValuesMap = this._attrValueMap.get(name);\n if (value) {\n result =\n this._matchTerminal(terminalValuesMap, '', cssSelector, matchedCallback) || result;\n }\n result =\n this._matchTerminal(terminalValuesMap, value, cssSelector, matchedCallback) || result;\n var partialValuesMap = this._attrValuePartialMap.get(name);\n if (value) {\n result = this._matchPartial(partialValuesMap, '', cssSelector, matchedCallback) || result;\n }\n result =\n this._matchPartial(partialValuesMap, value, cssSelector, matchedCallback) || result;\n }\n }\n return result;\n };\n /** @internal */\n SelectorMatcher.prototype._matchTerminal = function (map, name, cssSelector, matchedCallback) {\n if (!map || typeof name !== 'string') {\n return false;\n }\n var selectables = map.get(name) || [];\n var starSelectables = map.get('*');\n if (starSelectables) {\n selectables = selectables.concat(starSelectables);\n }\n if (selectables.length === 0) {\n return false;\n }\n var selectable;\n var result = false;\n for (var i = 0; i < selectables.length; i++) {\n selectable = selectables[i];\n result = selectable.finalize(cssSelector, matchedCallback) || result;\n }\n return result;\n };\n /** @internal */\n SelectorMatcher.prototype._matchPartial = function (map, name, cssSelector, matchedCallback) {\n if (!map || typeof name !== 'string') {\n return false;\n }\n var nestedSelector = map.get(name);\n if (!nestedSelector) {\n return false;\n }\n // TODO(perf): get rid of recursion and measure again\n // TODO(perf): don't pass the whole selector into the recursion,\n // but only the not processed parts\n return nestedSelector.match(cssSelector, matchedCallback);\n };\n return SelectorMatcher;\n }());\n var SelectorListContext = /** @class */ (function () {\n function SelectorListContext(selectors) {\n this.selectors = selectors;\n this.alreadyMatched = false;\n }\n return SelectorListContext;\n }());\n // Store context to pass back selector and context when a selector is matched\n var SelectorContext = /** @class
```

```
*/ (function () {\n        function SelectorContext(selector, cbContext, listContext) {\n            this.selector = selector;\n            this.cbContext = cbContext;\n            this.listContext = listContext;\n            this.notSelectors = selector.notSelectors;\n        }\n        SelectorContext.prototype.finalize = function (cssSelector, callback) {\n            var result = true;\n            if (this.notSelectors.length > 0 && (!this.listContext || !this.listContext.alreadyMatched)) {\n                var notMatcher = SelectorMatcher.createNotMatcher(this.notSelectors);\n                result = !notMatcher.match(cssSelector, null);\n            }\n            if (result && callback && (!this.listContext || !this.listContext.alreadyMatched)) {\n                if (this.listContext) {\n                    this.listContext.alreadyMatched = true;\n                }\n                callback(this.selector, this.cbContext);\n            }\n            return result;\n        };\n        return SelectorContext;\n    }());\n\n    var createInject = makeMetadataFactory('Inject', function (token) { return ({ token: token }); });\n    var createInjectionToken = makeMetadataFactory('InjectionToken', function (desc) { return ({ _desc: desc, prov: undefined }); });\n    var createAttribute = makeMetadataFactory('Attribute', function (attributeName) { return ({ attributeName: attributeName });\n    });\n    var createContentChildren = makeMetadataFactory('ContentChildren', function (selector, data) {\n        if (data === void 0) { data = {}; }\n        return (Object.assign({ selector: selector, first: false, isViewQuery: false, descendants: false }, data));\n    });\n    var createContentChild = makeMetadataFactory('ContentChild', function (selector, data) {\n        if (data === void 0) { data = {}; }\n        return (Object.assign({ selector: selector, first: true, isViewQuery: false, descendants: true }, data));\n    });\n    var createViewChildren = makeMetadataFactory('ViewChildren', function (selector, data) {\n        if (data === void 0) { data = {}; }\n        return (Object.assign({ selector: selector, first: false, isViewQuery: true, descendants: true }, data));\n    });\n    var createViewChild = makeMetadataFactory('ViewChild', function (selector, data) { return (Object.assign({ selector: selector, first: true, isViewQuery: true, descendants: true }, data)); });\n    var createDirective = makeMetadataFactory('Directive', function (dir) {\n        if (dir === void 0) { dir = {}; }\n        return dir;\n    });\n    var ViewEncapsulation;\n    (function (ViewEncapsulation) {\n        ViewEncapsulation[ViewEncapsulation[\"Emulated\"] = 0] = \"Emulated\";\n        // Historically the 1 value was for `Native` encapsulation which has been removed as of v11.\n        ViewEncapsulation[ViewEncapsulation[\"None\"] = 2] = \"None\";\n        ViewEncapsulation[ViewEncapsulation[\"ShadowDom\"] = 3] = \"ShadowDom\";\n    })(ViewEncapsulation || (ViewEncapsulation = {}));\n    var ChangeDetectionStrategy;\n    (function (ChangeDetectionStrategy) {\n        ChangeDetectionStrategy[ChangeDetectionStrategy[\"OnPush\"] = 0] = \"OnPush\";\n        ChangeDetectionStrategy[ChangeDetectionStrategy[\"Default\"] = 1] = \"Default\";\n    })(ChangeDetectionStrategy || (ChangeDetectionStrategy = {}));\n    var createComponent = makeMetadataFactory('Component', function (c) {\n        if (c === void 0) { c = {}; }\n        return (Object.assign({ changeDetection: ChangeDetectionStrategy.Default }, c));\n    });\n    var createPipe = makeMetadataFactory('Pipe', function (p) { return (Object.assign({ pure: true }, p)); });\n    var createInput = makeMetadataFactory('Input', function (bindingPropertyName) { return ({ bindingPropertyName: bindingPropertyName }); });\n    var createOutput = makeMetadataFactory('Output', function (bindingPropertyName) { return ({ bindingPropertyName: bindingPropertyName }); });\n    var createHostBinding = makeMetadataFactory('HostBinding', function (hostPropertyName) { return ({ hostPropertyName: hostPropertyName }); });\n    var createHostListener = makeMetadataFactory('HostListener', function (eventName, args) { return ({ eventName: eventName, args: args }); });\n    var createNgModule = makeMetadataFactory('NgModule', function (ngModule) { return ngModule; });\n    var createInjectable = makeMetadataFactory('Injectable', function (injectable) {\n        if (injectable === void 0) { injectable = {}; }\n        return injectable;\n    });\n    var CUSTOM_ELEMENTS_SCHEMA = {\n        name: 'custom-elements'\n    };\n    var NO_ERRORS_SCHEMA = {\n        name: 'no-errors-schema'\n    };\n    var createOptional = makeMetadataFactory('Optional');\n    var createSelf = makeMetadataFactory('Self');\n    var createSkipSelf = makeMetadataFactory('SkipSelf');\n    var createHost = makeMetadataFactory('Host');\n    var Type = Function;\n    var SecurityContext;\n    (function (SecurityContext) {\n        SecurityContext[SecurityContext[\"NONE\"] = 0] = \"NONE\";\n
```

```
SecurityContext[SecurityContext[\"HTML\"] = 1] = \"HTML\";\n
SecurityContext[SecurityContext[\"STYLE\"] = 2] = \"STYLE\";\n
SecurityContext[SecurityContext[\"SCRIPT\"] = 3] = \"SCRIPT\";\n
SecurityContext[SecurityContext[\"URL\"] = 4] = \"URL\";\n
SecurityContext[SecurityContext[\"RESOURCE_URL\"] = 5] = \"RESOURCE_URL\";\n
    })(SecurityContext || (SecurityContext = {}));\n    var MissingTranslationStrategy;\n    (function
(MissingTranslationStrategy) {\n        MissingTranslationStrategy[MissingTranslationStrategy[\"Error\"] = 0] =
\"Error\";\n        MissingTranslationStrategy[MissingTranslationStrategy[\"Warning\"] = 1] = \"Warning\";\n
MissingTranslationStrategy[MissingTranslationStrategy[\"Ignore\"] = 2] = \"Ignore\";\n
})(MissingTranslationStrategy || (MissingTranslationStrategy = {}));\n    function makeMetadataFactory(name,
props) {\n        // This must be declared as a function, not a fat arrow, so that ES2015 devmode produces code\n
// that works with the static_reflector.ts in the ViewEngine compiler.\n        // In particular,
`_registerDecoratorOrConstructor` assumes that the value returned here can be\n        // new'ed.\n        function
factory() {\n            var args = [];\n            for (var _i = 0; _i < arguments.length; _i++) {\n                args[_i] =
arguments[_i];\n
            }\n            var values = props ? props.apply(void 0, __spread(args)) : {};\n            return Object.assign({
ngMetadataName: name }, values);\n        }\n        factory.isTypeOf = function (obj) { return obj &&
obj.ngMetadataName === name; };\n        factory.ngMetadataName = name;\n        return factory;\n    }\n    function
parserSelectorToSimpleSelector(selector) {\n        var classes = selector.classNames && selector.classNames.length
? __spread([8 /* CLASS */], selector.classNames) :\n            [];\n        var elementName = selector.element &&
selector.element !== '*' ? selector.element : '';\n        return __spread([elementName], selector.attrs, classes);\n    }\n
 function parserSelectorToNegativeSelector(selector) {\n        var classes = selector.classNames &&
selector.classNames.length ? __spread([8 /* CLASS */], selector.classNames) :\n            [];\n        if
(selector.element) {\n            return __spread([\n                1 /*
 NOT */ | 4 /* ELEMENT */, selector.element\n            ], selector.attrs, classes);\n        }\n        else if
(selector.attrs.length) {\n            return __spread([1 /* NOT */ | 2 /* ATTRIBUTE */], selector.attrs, classes);\n
}\n        else {\n            return selector.classNames && selector.classNames.length ? __spread([1 /* NOT */ | 8 /*
CLASS */], selector.classNames) :\n                [];\n        }\n    }\n    function parserSelectorToR3Selector(selector)
{\n        var positive = parserSelectorToSimpleSelector(selector);\n        var negative = selector.notSelectors &&
selector.notSelectors.length ?\n            selector.notSelectors.map(function (notSelector) { return
parserSelectorToNegativeSelector(notSelector); }) :\n            [];\n        return positive.concat.apply(positive,
__spread(negative));\n    }\n    function parseSelectorToR3Selector(selector) {\n        return selector ?
CssSelector.parse(selector).map(parserSelectorToR3Selector) : [];\n    }\n\n
    var core = /*#__PURE__*/Object.freeze({\n        __proto__: null,\n        createInject: createInject,\n
createInjectionToken: createInjectionToken,\n        createAttribute: createAttribute,\n        createContentChildren:
createContentChildren,\n        createContentChild: createContentChild,\n        createViewChildren:
createViewChildren,\n        createViewChild: createViewChild,\n        createDirective: createDirective,\n        get
ViewEncapsulation () { return ViewEncapsulation; },\n        get ChangeDetectionStrategy () { return
ChangeDetectionStrategy; },\n        createComponent: createComponent,\n        createPipe: createPipe,\n
createInput: createInput,\n        createOutput: createOutput,\n        createHostBinding: createHostBinding,\n
createHostListener: createHostListener,\n        createNgModule: createNgModule,\n        createInjectable:
createInjectable,\n        CUSTOM_ELEMENTS_SCHEMA: CUSTOM_ELEMENTS_SCHEMA,\n
NO_ERRORS_SCHEMA: NO_ERRORS_SCHEMA,\n
        createOptional: createOptional,\n        createSelf: createSelf,\n        createSkipSelf: createSkipSelf,\n
createHost: createHost,\n        Type: Type,\n        get SecurityContext () { return SecurityContext; },\n        get
MissingTranslationStrategy () { return MissingTranslationStrategy; },\n        parseSelectorToR3Selector:
parseSelectorToR3Selector\n    });\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n
*\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
```

```
https://angular.io/license\n */\n //// Types\n var TypeModifier;\n (function (TypeModifier) {\n TypeModifier[TypeModifier[\"Const\"] = 0] = \"Const\";\n })(TypeModifier || (TypeModifier = {}));\n var Type$1 = /** @class */ (function () {\n function Type(modifiers) {\n if (modifiers === void 0) { modifiers = []; }\n this.modifiers = modifiers;\n }\n Type.prototype.hasModifier = function (modifier) {\n return this.modifiers.indexOf(modifier) !== -1;\n };\n return Type;\n }());\n (function (BuiltinTypeName) {\n BuiltinTypeName[BuiltinTypeName[\"Dynamic\"] = 0] = \"Dynamic\";\n BuiltinTypeName[BuiltinTypeName[\"Bool\"] = 1] = \"Bool\";\n BuiltinTypeName[BuiltinTypeName[\"String\"] = 2] = \"String\";\n BuiltinTypeName[BuiltinTypeName[\"Int\"] = 3] = \"Int\";\n BuiltinTypeName[BuiltinTypeName[\"Number\"] = 4] = \"Number\";\n BuiltinTypeName[BuiltinTypeName[\"Function\"] = 5] = \"Function\";\n BuiltinTypeName[BuiltinTypeName[\"Inferred\"] = 6] = \"Inferred\";\n BuiltinTypeName[BuiltinTypeName[\"None\"] = 7] = \"None\";\n })(exports.BuiltinTypeName || (exports.BuiltinTypeName = {}));\n var BuiltinType = /** @class */ (function (_super) {\n __extends(BuiltinType, _super);\n function BuiltinType(name, modifiers)
 {\n var _this = _super.call(this, modifiers) || this;\n _this.name = name;\n return _this;\n }\n BuiltinType.prototype.visitType = function (visitor, context) {\n return visitor.visitBuiltinType(this, context);\n };\n return BuiltinType;\n }(Type$1));\n var ExpressionType = /** @class */ (function (_super) {\n __extends(ExpressionType, _super);\n function ExpressionType(value, modifiers, typeParams) {\n if (typeParams === void 0) { typeParams = null; }\n var _this = _super.call(this, modifiers) || this;\n _this.value = value;\n _this.typeParams = typeParams;\n return _this;\n }\n ExpressionType.prototype.visitType = function (visitor, context) {\n return visitor.visitExpressionType(this, context);\n };\n return ExpressionType;\n }(Type$1));\n var ArrayType = /** @class */ (function (_super) {\n __extends(ArrayType, _super);\n function ArrayType(of, modifiers) {\n var _this = _super.call(this, modifiers) || this;\n _this.of = of;\n return _this;\n }\n ArrayType.prototype.visitType = function (visitor, context) {\n return visitor.visitArrayType(this, context);\n };\n return ArrayType;\n }(Type$1));\n var MapType = /** @class */ (function (_super) {\n __extends(MapType, _super);\n function MapType(valueType, modifiers) {\n var _this = _super.call(this, modifiers) || this;\n _this.valueType = valueType || null;\n return _this;\n }\n MapType.prototype.visitType = function (visitor, context) {\n return visitor.visitMapType(this, context);\n };\n return MapType;\n }(Type$1));\n var DYNAMIC_TYPE = new BuiltinType(exports.BuiltinTypeName.Dynamic);\n var INFERRED_TYPE = new BuiltinType(exports.BuiltinTypeName.Inferred);\n var BOOL_TYPE = new BuiltinType(exports.BuiltinTypeName.Bool);\n var INT_TYPE = new BuiltinType(exports.BuiltinTypeName.Int);\n var NUMBER_TYPE = new BuiltinType(exports.BuiltinTypeName.Number);\n var STRING_TYPE = new BuiltinType(exports.BuiltinTypeName.String);\n var FUNCTION_TYPE = new BuiltinType(exports.BuiltinTypeName.Function);\n var NONE_TYPE = new BuiltinType(exports.BuiltinTypeName.None);\n (function (UnaryOperator) {\n UnaryOperator[UnaryOperator[\"Minus\"] = 0] = \"Minus\";\n UnaryOperator[UnaryOperator[\"Plus\"] = 1] = \"Plus\";\n })(exports.UnaryOperator || (exports.UnaryOperator = {}));\n (function (BinaryOperator) {\n BinaryOperator[BinaryOperator[\"Equals\"] = 0] = \"Equals\";\n BinaryOperator[BinaryOperator[\"NotEquals\"] = 1] = \"NotEquals\";\n BinaryOperator[BinaryOperator[\"Identical\"] = 2] = \"Identical\";\n BinaryOperator[BinaryOperator[\"NotIdentical\"] = 3] = \"NotIdentical\";\n BinaryOperator[BinaryOperator[\"Minus\"] = 4] = \"Minus\";\n BinaryOperator[BinaryOperator[\"Plus\"] = 5] = \"Plus\";\n BinaryOperator[BinaryOperator[\"Divide\"] = 6] = \"Divide\";\n BinaryOperator[BinaryOperator[\"Multiply\"] = 7] = \"Multiply\";\n
```

```
BinaryOperator[BinaryOperator[\"Modulo\"] = 8] = \"Modulo\";\n        BinaryOperator[BinaryOperator[\"And\"] =
9] = \"And\";\n        BinaryOperator[BinaryOperator[\"Or\"] = 10] = \"Or\";\n
BinaryOperator[BinaryOperator[\"BitwiseAnd\"] = 11] = \"BitwiseAnd\";\n
BinaryOperator[BinaryOperator[\"Lower\"] = 12] = \"Lower\";\n
BinaryOperator[BinaryOperator[\"LowerEquals\"] = 13] = \"LowerEquals\";\n
BinaryOperator[BinaryOperator[\"Bigger\"] = 14] = \"Bigger\";\n
BinaryOperator[BinaryOperator[\"BiggerEquals\"] = 15] = \"BiggerEquals\";\n    })(exports.BinaryOperator ||
(exports.BinaryOperator = {}));\n    function nullSafeIsEquivalent(base, other) {\n        if (base ==
 null || other == null) {\n            return base == other;\n        }\n        return base.isEquivalent(other);\n    }\n
function areAllEquivalent(base, other) {\n        var len = base.length;\n        if (len !== other.length) {\n            return
false;\n        }\n        for (var i = 0; i < len; i++) {\n            if (!base[i].isEquivalent(other[i])) {\n                return
false;\n            }\n        }\n        return true;\n    }\n    var Expression = /** @class */ (function () {\n        function
Expression(type, sourceSpan) {\n            this.type = type || null;\n            this.sourceSpan = sourceSpan || null;\n
}\n        Expression.prototype.prop = function (name, sourceSpan) {\n            return new ReadPropExpr(this, name,
null, sourceSpan);\n        };\n        Expression.prototype.key = function (index, type, sourceSpan) {\n            return
new ReadKeyExpr(this, index, type, sourceSpan);\n        };\n        Expression.prototype.callMethod = function
 (name, params, sourceSpan) {\n            return new InvokeMethodExpr(this, name, params, null, sourceSpan);\n
};\n        Expression.prototype.callFn = function (params, sourceSpan, pure) {\n            return new
InvokeFunctionExpr(this, params, null, sourceSpan, pure);\n        };\n        Expression.prototype.instantiate =
function (params, type, sourceSpan) {\n            return new InstantiateExpr(this, params, type, sourceSpan);\n
};\n        Expression.prototype.conditional = function (trueCase, falseCase, sourceSpan) {\n            if (falseCase ===
void 0) { falseCase = null; }\n            return new ConditionalExpr(this, trueCase, falseCase, null, sourceSpan);\n
};\n        Expression.prototype.equals = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.Equals, this, rhs, null, sourceSpan);\n        };\n
Expression.prototype.notEquals = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.NotEquals,
 this, rhs, null, sourceSpan);\n        };\n        Expression.prototype.identical = function (rhs, sourceSpan) {\n
return new BinaryOperatorExpr(exports.BinaryOperator.Identical, this, rhs, null, sourceSpan);\n        };\n
Expression.prototype.notIdentical = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.NotIdentical, this, rhs, null, sourceSpan);\n        };\n
Expression.prototype.minus = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.Minus, this, rhs, null, sourceSpan);\n        };\n
Expression.prototype.plus = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.Plus, this, rhs, null, sourceSpan);\n        };\n
Expression.prototype.divide = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.Divide, this, rhs, null, sourceSpan);\n
        };\n        Expression.prototype.multiply = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.Multiply, this, rhs, null, sourceSpan);\n        };\n
Expression.prototype.modulo = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.Modulo, this, rhs, null, sourceSpan);\n        };\n
Expression.prototype.and = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.And, this, rhs, null, sourceSpan);\n        };\n
Expression.prototype.bitwiseAnd = function (rhs, sourceSpan, parens) {\n            if (parens === void 0) { parens =
true; }\n            return new BinaryOperatorExpr(exports.BinaryOperator.BitwiseAnd, this, rhs, null, sourceSpan,
parens);\n        };\n        Expression.prototype.or = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.Or, this, rhs, null, sourceSpan);\n
    };\n        Expression.prototype.lower = function (rhs, sourceSpan) {\n            return new
BinaryOperatorExpr(exports.BinaryOperator.Lower, this, rhs, null, sourceSpan);\n        };\n
```

Expression.prototype.lowerEquals = function (rhs, sourceSpan) {\n return new BinaryOperatorExpr(exports.BinaryOperator.LowerEquals, this, rhs, null, sourceSpan);\n };\n Expression.prototype.bigger = function (rhs, sourceSpan) {\n return new BinaryOperatorExpr(exports.BinaryOperator.Bigger, this, rhs, null, sourceSpan);\n };\n Expression.prototype.biggerEquals = function (rhs, sourceSpan) {\n return new BinaryOperatorExpr(exports.BinaryOperator.BiggerEquals, this, rhs, null, sourceSpan);\n };\n Expression.prototype.isBlank = function (sourceSpan) {\n // Note: We use equals by purpose here to compare to null and undefined in JS.\n // We use the typed null to allow strictNullChecks to narrow types.\n return this.equals(TYPED_NULL_EXPR, sourceSpan);\n };\n Expression.prototype.cast = function (type, sourceSpan) {\n return new CastExpr(this, type, sourceSpan);\n };\n Expression.prototype.toStmt = function () {\n return new ExpressionStatement(this, null);\n };\n return Expression;\n }());\n (function (BuiltinVar) {\n BuiltinVar[BuiltinVar[\"This\"] = 0] = \"This\";\n BuiltinVar[BuiltinVar[\"Super\"] = 1] = \"Super\";\n BuiltinVar[BuiltinVar[\"CatchError\"] = 2] = \"CatchError\";\n BuiltinVar[BuiltinVar[\"CatchStack\"] = 3] = \"CatchStack\";\n })(exports.BuiltinVar || (exports.BuiltinVar = {}));\n var ReadVarExpr = /** @class */ (function (_super) {\n __extends(ReadVarExpr, _super);\n function ReadVarExpr(name, type, sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n if (typeof name === 'string') {\n _this.name = name;\n _this.builtin = null;\n }\n else {\n _this.name = null;\n _this.builtin = name;\n }\n return _this;\n }\n ReadVarExpr.prototype.isEquivalent = function (e) {\n return e instanceof ReadVarExpr && this.name === e.name && this.builtin === e.builtin;\n };\n ReadVarExpr.prototype.isConstant = function () {\n return false;\n };\n ReadVarExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitReadVarExpr(this, context);\n };\n ReadVarExpr.prototype.set = function (value) {\n if (!this.name) {\n throw new Error(\"Built in variable \" + this.builtin + \" can not be assigned to.\");\n }\n return new WriteVarExpr(this.name, value, null, this.sourceSpan);\n };\n return ReadVarExpr;\n }(Expression));\n var TypeofExpr = /** @class */ (function (_super) {\n __extends(TypeofExpr, _super);\n function TypeofExpr(expr, type, sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.expr = expr;\n return _this;\n }\n TypeofExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitTypeofExpr(this, context);\n };\n TypeofExpr.prototype.isEquivalent = function (e) {\n return e instanceof TypeofExpr && e.expr.isEquivalent(this.expr);\n };\n TypeofExpr.prototype.isConstant = function () {\n return this.expr.isConstant();\n };\n return TypeofExpr;\n }(Expression));\n var WrappedNodeExpr = /** @class */ (function (_super) {\n __extends(WrappedNodeExpr, _super);\n function WrappedNodeExpr(node, type, sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.node = node;\n return _this;\n }\n WrappedNodeExpr.prototype.isEquivalent = function (e) {\n return e instanceof WrappedNodeExpr && this.node === e.node;\n };\n WrappedNodeExpr.prototype.isConstant = function () {\n return false;\n };\n WrappedNodeExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitWrappedNodeExpr(this, context);\n };\n return WrappedNodeExpr;\n }(Expression));\n var WriteVarExpr = /** @class */ (function (_super) {\n __extends(WriteVarExpr, _super);\n function WriteVarExpr(name, value, type, sourceSpan) {\n var _this = _super.call(this, type || value.type, sourceSpan) || this;\n _this.name = name;\n _this.value = value;\n return _this;\n }\n WriteVarExpr.prototype.isEquivalent = function (e) {\n return e instanceof WriteVarExpr && this.name === e.name && this.value.isEquivalent(e.value);\n };\n WriteVarExpr.prototype.isConstant = function () {\n return false;\n };\n WriteVarExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitWriteVarExpr(this, context);\n };\n WriteVarExpr.prototype.toDeclStmt = function (type, modifiers) {\n return new DeclareVarStmt(this.name, this.value, type, modifiers, this.sourceSpan);\n };\n WriteVarExpr.prototype.toConstDecl = function () {\n return this.toDeclStmt(INFERRED_TYPE,

[exports.StmtModifier.Final]);\n };\n return WriteVarExpr;\n }(Expression));\n var WriteKeyExpr = /** @class */ (function (_super) {\n __extends(WriteKeyExpr, _super);\n function WriteKeyExpr(receiver, index, value, type, sourceSpan) {\n var _this = _super.call(this, type || value.type, sourceSpan) || this;\n _this.receiver = receiver;\n _this.index = index;\n _this.value = value;\n return _this;\n }\n WriteKeyExpr.prototype.isEquivalent = function (e) {\n return e instanceof WriteKeyExpr && this.receiver.isEquivalent(e.receiver) &&\n this.index.isEquivalent(e.index) && this.value.isEquivalent(e.value);\n };\n WriteKeyExpr.prototype.isConstant = function () {\n return false;\n };\n WriteKeyExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitWriteKeyExpr(this, context);\n };\n return WriteKeyExpr;\n }(Expression));\n var WritePropExpr = /** @class */ (function (_super) {\n __extends(WritePropExpr, _super);\n function WritePropExpr(receiver, name, value, type, sourceSpan) {\n var _this = _super.call(this, type || value.type, sourceSpan) || this;\n _this.receiver = receiver;\n _this.name = name;\n _this.value = value;\n return _this;\n }\n WritePropExpr.prototype.isEquivalent = function (e) {\n return e instanceof WritePropExpr && this.receiver.isEquivalent(e.receiver) &&\n this.name === e.name && this.value.isEquivalent(e.value);\n };\n WritePropExpr.prototype.isConstant = function () {\n return false;\n };\n WritePropExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitWritePropExpr(this, context);\n };\n return WritePropExpr;\n }(Expression));\n (function (BuiltinMethod) {\n BuiltinMethod[BuiltinMethod[\"ConcatArray\"] = 0] = \"ConcatArray\";\n BuiltinMethod[BuiltinMethod[\"SubscribeObservable\"] = 1] = \"SubscribeObservable\";\n BuiltinMethod[BuiltinMethod[\"Bind\"] = 2] = \"Bind\";\n })(exports.BuiltinMethod || (exports.BuiltinMethod = {}));\n var InvokeMethodExpr = /** @class */ (function (_super) {\n __extends(InvokeMethodExpr, _super);\n function InvokeMethodExpr(receiver, method, args, type, sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.receiver = receiver;\n _this.args = args;\n if (typeof method === 'string') {\n _this.name = method;\n _this.builtin = null;\n }\n else {\n _this.name = null;\n _this.builtin = method;\n }\n return _this;\n }\n InvokeMethodExpr.prototype.isEquivalent = function (e) {\n return e instanceof InvokeMethodExpr && this.receiver.isEquivalent(e.receiver) &&\n this.name === e.name && this.builtin === e.builtin && areAllEquivalent(this.args, e.args);\n };\n InvokeMethodExpr.prototype.isConstant = function () {\n return false;\n };\n InvokeMethodExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitInvokeMethodExpr(this, context);\n };\n return InvokeMethodExpr;\n }(Expression));\n var InvokeFunctionExpr = /** @class */ (function (_super) {\n __extends(InvokeFunctionExpr, _super);\n function InvokeFunctionExpr(fn, args, type, sourceSpan, pure) {\n if (pure === void 0) { pure = false; }\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.fn = fn;\n _this.args = args;\n _this.pure = pure;\n return _this;\n }\n InvokeFunctionExpr.prototype.isEquivalent = function (e) {\n return e instanceof InvokeFunctionExpr && this.fn.isEquivalent(e.fn) &&\n areAllEquivalent(this.args, e.args) && this.pure === e.pure;\n };\n InvokeFunctionExpr.prototype.isConstant = function () {\n return false;\n };\n InvokeFunctionExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitInvokeFunctionExpr(this, context);\n };\n return InvokeFunctionExpr;\n }(Expression));\n var InstantiateExpr = /** @class */ (function (_super) {\n __extends(InstantiateExpr, _super);\n function InstantiateExpr(classExpr, args, type, sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.classExpr = classExpr;\n _this.args = args;\n return _this;\n }\n InstantiateExpr.prototype.isEquivalent = function (e) {\n return e instanceof InstantiateExpr && this.classExpr.isEquivalent(e.classExpr) &&\n areAllEquivalent(this.args, e.args);\n };\n InstantiateExpr.prototype.isConstant = function () {\n return false;\n };\n InstantiateExpr.prototype.visitExpression = function (visitor, context) {\n return

visitor.visitInstantiateExpr(this,
 context);\n    };\n    return InstantiateExpr;\n}(Expression));\n var LiteralExpr = /** @class */ (function (_super) {\n    __extends(LiteralExpr, _super);\n    function LiteralExpr(value, type, sourceSpan) {\n        var _this = _super.call(this, type, sourceSpan) || this;\n        _this.value = value;\n        return _this;\n    }\n LiteralExpr.prototype.isEquivalent = function (e) {\n        return e instanceof LiteralExpr && this.value === e.value;\n    };\n    LiteralExpr.prototype.isConstant = function () {\n        return true;\n    };\n LiteralExpr.prototype.visitExpression = function (visitor, context) {\n        return visitor.visitLiteralExpr(this, context);\n    };\n    return LiteralExpr;\n}(Expression));\n var MessagePiece = /** @class */ (function () {\n    function MessagePiece(text, sourceSpan) {\n        this.text = text;\n        this.sourceSpan = sourceSpan;\n
}\n    return MessagePiece;\n}());\n var LiteralPiece = /** @class */ (function (_super) {\n __extends(LiteralPiece, _super);\n    function LiteralPiece() {\n        return _super !== null && _super.apply(this, arguments) || this;\n    }\n    return LiteralPiece;\n}(MessagePiece));\n var PlaceholderPiece = /** @class */ (function (_super) {\n    __extends(PlaceholderPiece, _super);\n    function PlaceholderPiece() {\n        return _super !== null && _super.apply(this, arguments) || this;\n    }\n    return PlaceholderPiece;\n}(MessagePiece));\n var LocalizedString = /** @class */ (function (_super) {\n __extends(LocalizedString, _super);\n    function LocalizedString(metaBlock, messageParts, placeHolderNames, expressions, sourceSpan) {\n        var _this = _super.call(this, STRING_TYPE, sourceSpan) || this;\n        _this.metaBlock = metaBlock;\n        _this.messageParts = messageParts;\n
_this.placeHolderNames = placeHolderNames;\n        _this.expressions = expressions;\n        return _this;\n    }\n    LocalizedString.prototype.isEquivalent = function (e) {\n        // return e instanceof LocalizedString && this.message === e.message;\n        return false;\n    };\n LocalizedString.prototype.isConstant = function () {\n        return false;\n    };\n LocalizedString.prototype.visitExpression = function (visitor, context) {\n        return visitor.visitLocalizedString(this, context);\n    };\n    /**\n     * Serialize the given `meta` and `messagePart` into \"cooked\" and \"raw\" strings that can be used\n     * in a `$localize` tagged string. The format of the metadata is the same as that parsed by\n     * `parseI18nMeta()`.\n     *\n     * @param meta The metadata to serialize\n     * @param messagePart The first part of the tagged string\n     */\n LocalizedString.prototype.serializeI18nHead
 = function () {\n        var MEANING_SEPARATOR = '|';\n        var ID_SEPARATOR = '@@';\n        var LEGACY_ID_INDICATOR = ';\n        var metaBlock = this.metaBlock.description || ';\n        if (this.metaBlock.meaning) {\n            metaBlock = \"\" + this.metaBlock.meaning + MEANING_SEPARATOR + metaBlock;\n        }\n        if (this.metaBlock.customId) {\n            metaBlock = \"\" + metaBlock + ID_SEPARATOR + this.metaBlock.customId;\n        }\n        if (this.metaBlock.legacyIds) {\n this.metaBlock.legacyIds.forEach(function (legacyId) {\n            metaBlock = \"\" + metaBlock + LEGACY_ID_INDICATOR + legacyId;\n            });\n        }\n        return createCookedRawString(metaBlock, this.messageParts[0].text, this.getMessagePartSourceSpan(0));\n    };\n LocalizedString.prototype.getMessagePartSourceSpan = function (i) {\n        var _a, _b;\n
return (_b = (_a = this.messageParts[i]) === null || _a === void 0 ? void 0 : _a.sourceSpan) !== null && _b !== void 0 ? _b : this.sourceSpan;\n    };\n    LocalizedString.prototype.getPlaceholderSourceSpan = function (i) {\n        var _a, _b, _c, _d;\n        return (_d = (_b = (_a = this.placeHolderNames[i]) === null || _a === void 0 ? void 0 : _a.sourceSpan) !== null && _b !== void 0 ? _b : (_c = this.expressions[i]) === null || _c === void 0 ? void 0 : _c.sourceSpan) !== null && _d !== void 0 ? _d : this.sourceSpan;\n    };\n    /**\n     * Serialize the given `placeholderName` and `messagePart` into \"cooked\" and \"raw\" strings that\n     * can be used in a `$localize` tagged string.\n     *\n     * @param placeholderName The placeholder name to serialize\n     * @param messagePart The following message string after this placeholder\n     */\n LocalizedString.prototype.serializeI18nTemplatePart = function (partIndex)

```
{\n var placeholderName = this.placeHolderNames[partIndex - 1].text;\n var messagePart = this.messageParts[partIndex];\n return createCookedRawString(placeholderName, messagePart.text, this.getMessagePartSourceSpan(partIndex));\n };\n return LocalizedString;\n }(Expression));\n var escapeSlashes = function (str) { return str.replace(/\\\\/g, '\\\\\\\\'); };\n var escapeStartingColon = function (str) { return str.replace(/^:/, '\\\\:'); };\n var escapeColons = function (str) { return str.replace(/:/g, '\\\\:'); };\n var escapeForMessagePart = function (str) { return str.replace(/`/g, '\\\\`').replace(/\\${/g, '$\\\\{'); };\n /**\n * Creates a `{cooked, raw}` object from the `metaBlock` and `messagePart`.\n *\n * The `raw` text must have various character sequences escaped:\n * * \"\\\" would otherwise indicate that the next character is a control character.\n * * \"`\" and \"${\" are template string
 control sequences that would otherwise prematurely indicate\n * the end of a message part.\n * * \":\" inside a metablock would prematurely indicate the end of the metablock.\n * * \":\" at the start of a messagePart with no metablock would erroneously indicate the start of a\n * metablock.\n *\n * @param metaBlock Any metadata that should be prepended to the string\n * @param messagePart The message part of the string\n */\n function createCookedRawString(metaBlock, messagePart, range) {\n if (metaBlock === '') {\n return {\n cooked: messagePart,\n raw: escapeForMessagePart(escapeStartingColon(escapeSlashes(messagePart))),\n range: range,\n };\n }\n else {\n return {\n cooked: \":\" + metaBlock + \":\" + messagePart,\n raw: escapeForMessagePart(\":\" + escapeColons(escapeSlashes(metaBlock)) + \":\" + escapeSlashes(messagePart)),\n range: range,\n };\n }\n }\n var ExternalExpr = /** @class */ (function (_super) {\n __extends(ExternalExpr, _super);\n function ExternalExpr(value, type, typeParams, sourceSpan) {\n if (typeParams === void 0) { typeParams = null; }\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.value = value;\n _this.typeParams = typeParams;\n return _this;\n }\n ExternalExpr.prototype.isEquivalent = function (e) {\n return e instanceof ExternalExpr && this.value.name === e.value.name &&\n this.value.moduleName === e.value.moduleName && this.value.runtime === e.value.runtime;\n };\n ExternalExpr.prototype.isConstant = function () {\n return false;\n };\n ExternalExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitExternalExpr(this, context);\n
 };\n return ExternalExpr;\n }(Expression));\n var ExternalReference = /** @class */ (function () {\n function ExternalReference(moduleName, name, runtime) {\n this.moduleName = moduleName;\n this.name = name;\n this.runtime = runtime;\n }\n return ExternalReference;\n }());\n var ConditionalExpr = /** @class */ (function (_super) {\n __extends(ConditionalExpr, _super);\n function ConditionalExpr(condition, trueCase, falseCase, type, sourceSpan) {\n if (falseCase === void 0) { falseCase = null; }\n var _this = _super.call(this, type || trueCase.type, sourceSpan) || this;\n _this.condition = condition;\n _this.falseCase = falseCase;\n _this.trueCase = trueCase;\n return _this;\n }\n ConditionalExpr.prototype.isEquivalent = function (e) {\n return e instanceof ConditionalExpr && this.condition.isEquivalent(e.condition)
 &&\n this.trueCase.isEquivalent(e.trueCase) && nullSafeIsEquivalent(this.falseCase, e.falseCase);\n };\n ConditionalExpr.prototype.isConstant = function () {\n return false;\n };\n ConditionalExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitConditionalExpr(this, context);\n };\n return ConditionalExpr;\n }(Expression));\n var NotExpr = /** @class */ (function (_super) {\n __extends(NotExpr, _super);\n function NotExpr(condition, sourceSpan) {\n var _this = _super.call(this, BOOL_TYPE, sourceSpan) || this;\n _this.condition = condition;\n return _this;\n }\n NotExpr.prototype.isEquivalent = function (e) {\n return e instanceof NotExpr && this.condition.isEquivalent(e.condition);\n };\n NotExpr.prototype.isConstant = function () {\n return false;\n
 };\n NotExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitNotExpr(this, context);\n };\n return NotExpr;\n }(Expression));\n var AssertNotNull = /** @class */ (function (_super) {\n __extends(AssertNotNull, _super);\n function AssertNotNull(condition, sourceSpan) {\n
```

```
var _this = _super.call(this, condition.type, sourceSpan) || this;\n _this.condition = condition;\n return _this;\n }\n AssertNotNull.prototype.isEquivalent = function (e) {\n return e instanceof AssertNotNull && this.condition.isEquivalent(e.condition);\n };\n AssertNotNull.prototype.isConstant = function () {\n return false;\n };\n AssertNotNull.prototype.visitExpression = function (visitor, context) {\n return visitor.visitAssertNotNullExpr(this, context);\n };\n return AssertNotNull;\n }(Expression));\n var CastExpr = /** @class */ (function (_super) {\n __extends(CastExpr, _super);\n function CastExpr(value, type, sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.value = value;\n return _this;\n }\n CastExpr.prototype.isEquivalent = function (e) {\n return e instanceof CastExpr && this.value.isEquivalent(e.value);\n };\n CastExpr.prototype.isConstant = function () {\n return false;\n };\n CastExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitCastExpr(this, context);\n };\n return CastExpr;\n }(Expression));\n var FnParam = /** @class */ (function () {\n function FnParam(name, type) {\n if (type === void 0) { type = null; }\n this.name = name;\n this.type = type;\n }\n FnParam.prototype.isEquivalent = function (param) {\n return this.name === param.name;\n };\n return FnParam;\n }());\n var FunctionExpr = /** @class */ (function (_super) {\n __extends(FunctionExpr, _super);\n function FunctionExpr(params, statements, type, sourceSpan, name) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.params = params;\n _this.statements = statements;\n _this.name = name;\n return _this;\n }\n FunctionExpr.prototype.isEquivalent = function (e) {\n return e instanceof FunctionExpr && areAllEquivalent(this.params, e.params) &&\n areAllEquivalent(this.statements, e.statements);\n };\n FunctionExpr.prototype.isConstant = function () {\n return false;\n };\n FunctionExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitFunctionExpr(this, context);\n };\n FunctionExpr.prototype.toDeclStmt = function (name, modifiers) {\n return new DeclareFunctionStmt(name, this.params, this.statements, this.type, modifiers, this.sourceSpan);\n };\n return FunctionExpr;\n }(Expression));\n var UnaryOperatorExpr = /** @class */ (function (_super) {\n __extends(UnaryOperatorExpr, _super);\n function UnaryOperatorExpr(operator, expr, type, sourceSpan, parens) {\n if (parens === void 0) { parens = true; }\n var _this = _super.call(this, type || NUMBER_TYPE, sourceSpan) || this;\n _this.operator = operator;\n _this.expr = expr;\n _this.parens = parens;\n return _this;\n }\n UnaryOperatorExpr.prototype.isEquivalent = function (e) {\n return e instanceof UnaryOperatorExpr && this.operator === e.operator &&\n this.expr.isEquivalent(e.expr);\n };\n UnaryOperatorExpr.prototype.isConstant = function () {\n return false;\n };\n UnaryOperatorExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitUnaryOperatorExpr(this, context);\n };\n return UnaryOperatorExpr;\n }(Expression));\n var BinaryOperatorExpr = /** @class */ (function (_super) {\n __extends(BinaryOperatorExpr, _super);\n function BinaryOperatorExpr(operator, lhs, rhs, type, sourceSpan, parens) {\n if (parens === void 0) { parens = true; }\n var _this = _super.call(this, type || lhs.type, sourceSpan) || this;\n _this.operator = operator;\n _this.rhs = rhs;\n _this.parens = parens;\n _this.lhs = lhs;\n return _this;\n }\n BinaryOperatorExpr.prototype.isEquivalent = function (e) {\n return e instanceof BinaryOperatorExpr && this.operator === e.operator &&\n this.lhs.isEquivalent(e.lhs) && this.rhs.isEquivalent(e.rhs);\n };\n BinaryOperatorExpr.prototype.isConstant = function () {\n return false;\n };\n BinaryOperatorExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitBinaryOperatorExpr(this, context);\n };\n return BinaryOperatorExpr;\n }(Expression));\n var ReadPropExpr = /** @class */ (function (_super) {\n __extends(ReadPropExpr, _super);\n function ReadPropExpr(receiver, name, type, sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.receiver = receiver;\n _this.name = name;\n return _this;\n }\n
```

```
ReadPropExpr.prototype.isEquivalent = function (e) {\n return e instanceof ReadPropExpr &&
this.receiver.isEquivalent(e.receiver) &&\n this.name === e.name;\n };\n
ReadPropExpr.prototype.isConstant = function () {\n return false;\n };\n
ReadPropExpr.prototype.visitExpression
 = function (visitor, context) {\n return visitor.visitReadPropExpr(this, context);\n };\n
ReadPropExpr.prototype.set = function (value) {\n return new WritePropExpr(this.receiver, this.name, value,
null, this.sourceSpan);\n };\n return ReadPropExpr;\n }(Expression));\n var ReadKeyExpr = /** @class
*/ (function (_super) {\n __extends(ReadKeyExpr, _super);\n function ReadKeyExpr(receiver, index, type,
sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.receiver = receiver;\n
  _this.index = index;\n return _this;\n }\n ReadKeyExpr.prototype.isEquivalent = function (e) {\n
    return e instanceof ReadKeyExpr && this.receiver.isEquivalent(e.receiver) &&\n
this.index.isEquivalent(e.index);\n };\n ReadKeyExpr.prototype.isConstant = function () {\n return
false;\n };\n
     ReadKeyExpr.prototype.visitExpression = function (visitor, context) {\n return
visitor.visitReadKeyExpr(this, context);\n };\n ReadKeyExpr.prototype.set = function (value) {\n
return new WriteKeyExpr(this.receiver, this.index, value, null, this.sourceSpan);\n };\n return
ReadKeyExpr;\n }(Expression));\n var LiteralArrayExpr = /** @class */ (function (_super) {\n
__extends(LiteralArrayExpr, _super);\n function LiteralArrayExpr(entries, type, sourceSpan) {\n var
_this = _super.call(this, type, sourceSpan) || this;\n _this.entries = entries;\n return _this;\n }\n
LiteralArrayExpr.prototype.isConstant = function () {\n return this.entries.every(function (e) { return
e.isConstant(); });\n };\n LiteralArrayExpr.prototype.isEquivalent = function (e) {\n return e
instanceof LiteralArrayExpr && areAllEquivalent(this.entries, e.entries);\n
     };\n LiteralArrayExpr.prototype.visitExpression = function (visitor, context) {\n return
visitor.visitLiteralArrayExpr(this, context);\n };\n return LiteralArrayExpr;\n }(Expression));\n var
LiteralMapEntry = /** @class */ (function () {\n function LiteralMapEntry(key, value, quoted) {\n
this.key = key;\n this.value = value;\n this.quoted = quoted;\n }\n
LiteralMapEntry.prototype.isEquivalent = function (e) {\n return this.key === e.key &&
this.value.isEquivalent(e.value);\n };\n return LiteralMapEntry;\n }());\n var LiteralMapExpr = /**
@class */ (function (_super) {\n __extends(LiteralMapExpr, _super);\n function LiteralMapExpr(entries,
type, sourceSpan) {\n var _this = _super.call(this, type, sourceSpan) || this;\n _this.entries = entries;\n
     _this.valueType = null;\n if (type) {\n _this.valueType
 = type.valueType;\n }\n return _this;\n }\n LiteralMapExpr.prototype.isEquivalent = function
(e) {\n return e instanceof LiteralMapExpr && areAllEquivalent(this.entries, e.entries);\n };\n
LiteralMapExpr.prototype.isConstant = function () {\n return this.entries.every(function (e) { return
e.value.isConstant(); });\n };\n LiteralMapExpr.prototype.visitExpression = function (visitor, context) {\n
    return visitor.visitLiteralMapExpr(this, context);\n };\n return LiteralMapExpr;\n }(Expression));\n
var CommaExpr = /** @class */ (function (_super) {\n __extends(CommaExpr, _super);\n function
CommaExpr(parts, sourceSpan) {\n var _this = _super.call(this, parts[parts.length - 1].type, sourceSpan) ||
this;\n _this.parts = parts;\n return _this;\n }\n CommaExpr.prototype.isEquivalent = function
(e) {\n
      return e instanceof CommaExpr && areAllEquivalent(this.parts, e.parts);\n };\n
CommaExpr.prototype.isConstant = function () {\n return false;\n };\n
CommaExpr.prototype.visitExpression = function (visitor, context) {\n return visitor.visitCommaExpr(this,
context);\n };\n return CommaExpr;\n }(Expression));\n var THIS_EXPR = new
ReadVarExpr(exports.BuiltinVar.This, null, null);\n var SUPER_EXPR = new
ReadVarExpr(exports.BuiltinVar.Super, null, null);\n var CATCH_ERROR_VAR = new
ReadVarExpr(exports.BuiltinVar.CatchError, null, null);\n var CATCH_STACK_VAR = new
ReadVarExpr(exports.BuiltinVar.CatchStack, null, null);\n var NULL_EXPR = new LiteralExpr(null, null,
```

```
null);\n    var TYPED_NULL_EXPR = new LiteralExpr(null, INFERRED_TYPE, null);\n    (function
(StmtModifier) {\n        StmtModifier[StmtModifier[\"Final\"] = 0] = \"Final\";\n
StmtModifier[StmtModifier[\"Private\"] = 1] = \"Private\";\n
        StmtModifier[StmtModifier[\"Exported\"] = 2] = \"Exported\";\n        StmtModifier[StmtModifier[\"Static\"] =
3] = \"Static\";\n    })(exports.StmtModifier || (exports.StmtModifier = {}));\n    var LeadingComment = /** @class
*/ (function () {\n        function LeadingComment(text, multiline, trailingNewline) {\n            this.text = text;\n
 this.multiline = multiline;\n            this.trailingNewline = trailingNewline;\n        }\n
LeadingComment.prototype.toString = function () {\n            return this.multiline ? \" \" + this.text + \" \" :
this.text;\n        };\n        return LeadingComment;\n    }());\n    var JSDocComment = /** @class */ (function
(_super) {\n        __extends(JSDocComment, _super);\n        function JSDocComment(tags) {\n            var _this =
_super.call(this, '', /* multiline */ true, /* trailingNewline */ true) || this;\n            _this.tags = tags;\n            return
_this;\n        }\n        JSDocComment.prototype.toString
 = function () {\n            return serializeTags(this.tags);\n        };\n        return JSDocComment;\n
}(LeadingComment));\n    var Statement = /** @class */ (function () {\n        function Statement(modifiers,
sourceSpan, leadingComments) {\n            if (modifiers === void 0) { modifiers = []; }\n            if (sourceSpan ===
void 0) { sourceSpan = null; }\n            this.modifiers = modifiers;\n            this.sourceSpan = sourceSpan;\n
this.leadingComments = leadingComments;\n        }\n        Statement.prototype.hasModifier = function (modifier)
{\n            return this.modifiers.indexOf(modifier) !== -1;\n        };\n        Statement.prototype.addLeadingComment
= function (leadingComment) {\n            var _a;\n            this.leadingComments = (_a = this.leadingComments) !==
null && _a !== void 0 ? _a : [];\n            this.leadingComments.push(leadingComment);\n        };\n        return
Statement;\n    }());\n    var DeclareVarStmt = /** @class
 */ (function (_super) {\n        __extends(DeclareVarStmt, _super);\n        function DeclareVarStmt(name, value,
type, modifiers, sourceSpan, leadingComments) {\n            var _this = _super.call(this, modifiers, sourceSpan,
leadingComments) || this;\n            _this.name = name;\n            _this.value = value;\n            _this.type = type ||
(value && value.type) || null;\n            return _this;\n        }\n        DeclareVarStmt.prototype.isEquivalent = function
(stmt) {\n            return stmt instanceof DeclareVarStmt && this.name === stmt.name &&\n                (this.value ?
!!stmt.value && this.value.isEquivalent(stmt.value) : !stmt.value);\n        };\n
DeclareVarStmt.prototype.visitStatement = function (visitor, context) {\n            return
visitor.visitDeclareVarStmt(this, context);\n        };\n        return DeclareVarStmt;\n    }(Statement));\n    var
DeclareFunctionStmt = /** @class */ (function (_super) {\n        __extends(DeclareFunctionStmt,
 _super);\n        function DeclareFunctionStmt(name, params, statements, type, modifiers, sourceSpan,
leadingComments) {\n            var _this = _super.call(this, modifiers, sourceSpan, leadingComments) || this;\n
_this.name = name;\n            _this.params = params;\n            _this.statements = statements;\n            _this.type =
type || null;\n            return _this;\n        }\n        DeclareFunctionStmt.prototype.isEquivalent = function (stmt) {\n
    return stmt instanceof DeclareFunctionStmt && areAllEquivalent(this.params, stmt.params) &&\n
areAllEquivalent(this.statements, stmt.statements);\n        };\n        DeclareFunctionStmt.prototype.visitStatement =
function (visitor, context) {\n            return visitor.visitDeclareFunctionStmt(this, context);\n        };\n        return
DeclareFunctionStmt;\n    }(Statement));\n    var ExpressionStatement = /** @class */ (function (_super) {\n
__extends(ExpressionStatement, _super);\n
        function ExpressionStatement(expr, sourceSpan, leadingComments) {\n            var _this = _super.call(this, [],
sourceSpan, leadingComments) || this;\n            _this.expr = expr;\n            return _this;\n        }\n
ExpressionStatement.prototype.isEquivalent = function (stmt) {\n            return stmt instanceof ExpressionStatement
&& this.expr.isEquivalent(stmt.expr);\n        };\n        ExpressionStatement.prototype.visitStatement = function
(visitor, context) {\n            return visitor.visitExpressionStmt(this, context);\n        };\n        return
ExpressionStatement;\n    }(Statement));\n    var ReturnStatement = /** @class */ (function (_super) {\n
__extends(ReturnStatement, _super);\n        function ReturnStatement(value, sourceSpan, leadingComments) {\n
   if (sourceSpan === void 0) { sourceSpan = null; }\n            var _this = _super.call(this, [], sourceSpan,
leadingComments) || this;\n            _this.value = value;\n
```

```
    return _this;\n        }\n        ReturnStatement.prototype.isEquivalent = function (stmt) {\n            return stmt instanceof ReturnStatement && this.value.isEquivalent(stmt.value);\n        };\n        ReturnStatement.prototype.visitStatement = function (visitor, context) {\n            return visitor.visitReturnStmt(this, context);\n        };\n        return ReturnStatement;\n    }(Statement));\n    var AbstractClassPart = /** @class */ (function () {\n        function AbstractClassPart(type, modifiers) {\n            if (type === void 0) { type = null; }\n            if (modifiers === void 0) { modifiers = []; }\n            this.type = type;\n            this.modifiers = modifiers;\n        }\n        AbstractClassPart.prototype.hasModifier = function (modifier) {\n            return this.modifiers.indexOf(modifier) !== -1;\n        };\n        return AbstractClassPart;\n    }());\n    var ClassField = /** @class */ (function (_super) {\n        __extends(ClassField, _super);\n        function ClassField(name, type, modifiers, initializer) {\n            var _this = _super.call(this, type, modifiers) || this;\n            _this.name = name;\n            _this.initializer = initializer;\n            return _this;\n        }\n        ClassField.prototype.isEquivalent = function (f) {\n            return this.name === f.name;\n        };\n        return ClassField;\n    }(AbstractClassPart));\n    var ClassMethod = /** @class */ (function (_super) {\n        __extends(ClassMethod, _super);\n        function ClassMethod(name, params, body, type, modifiers) {\n            var _this = _super.call(this, type, modifiers) || this;\n            _this.name = name;\n            _this.params = params;\n            _this.body = body;\n            return _this;\n        }\n        ClassMethod.prototype.isEquivalent = function (m) {\n            return this.name === m.name && areAllEquivalent(this.body, m.body);\n        };\n        return ClassMethod;\n    }(AbstractClassPart));\n    var ClassGetter = /** @class */ (function (_super) {\n        __extends(ClassGetter, _super);\n        function ClassGetter(name, body, type, modifiers) {\n            var _this = _super.call(this, type, modifiers) || this;\n            _this.name = name;\n            _this.body = body;\n            return _this;\n        }\n        ClassGetter.prototype.isEquivalent = function (m) {\n            return this.name === m.name && areAllEquivalent(this.body, m.body);\n        };\n        return ClassGetter;\n    }(AbstractClassPart));\n    var ClassStmt = /** @class */ (function (_super) {\n        __extends(ClassStmt, _super);\n        function ClassStmt(name, parent, fields, getters, constructorMethod, methods, modifiers, sourceSpan, leadingComments) {\n            var _this = _super.call(this, modifiers, sourceSpan, leadingComments) || this;\n            _this.name = name;\n            _this.parent = parent;\n            _this.fields = fields;\n            _this.getters = getters;\n            _this.constructorMethod = constructorMethod;\n            _this.methods = methods;\n            return _this;\n        }\n        ClassStmt.prototype.isEquivalent = function (stmt) {\n            return stmt instanceof ClassStmt && this.name === stmt.name &&\n                nullSafeIsEquivalent(this.parent, stmt.parent) &&\n                areAllEquivalent(this.fields, stmt.fields) &&\n                areAllEquivalent(this.getters, stmt.getters) &&\n                this.constructorMethod.isEquivalent(stmt.constructorMethod) &&\n                areAllEquivalent(this.methods, stmt.methods);\n        };\n        ClassStmt.prototype.visitStatement = function (visitor, context) {\n            return visitor.visitDeclareClassStmt(this, context);\n        };\n        return ClassStmt;\n    }(Statement));\n    var IfStmt = /** @class */ (function (_super) {\n        __extends(IfStmt, _super);\n        function IfStmt(condition, trueCase, falseCase, sourceSpan, leadingComments)\n            {\n            if (falseCase === void 0) { falseCase = []; }\n            var _this = _super.call(this, [], sourceSpan, leadingComments) || this;\n            _this.condition = condition;\n            _this.trueCase = trueCase;\n            _this.falseCase = falseCase;\n            return _this;\n        }\n        IfStmt.prototype.isEquivalent = function (stmt) {\n            return stmt instanceof IfStmt && this.condition.isEquivalent(stmt.condition) &&\n                areAllEquivalent(this.trueCase, stmt.trueCase) &&\n                areAllEquivalent(this.falseCase, stmt.falseCase);\n        };\n        IfStmt.prototype.visitStatement = function (visitor, context) {\n            return visitor.visitIfStmt(this, context);\n        };\n        return IfStmt;\n    }(Statement));\n    var TryCatchStmt = /** @class */ (function (_super) {\n        __extends(TryCatchStmt, _super);\n        function TryCatchStmt(bodyStmts, catchStmts, sourceSpan, leadingComments) {\n            if (sourceSpan === void 0) { sourceSpan = null; }\n            var _this = _super.call(this, [], sourceSpan, leadingComments) || this;\n            _this.bodyStmts = bodyStmts;\n            _this.catchStmts = catchStmts;\n            return _this;\n        }\n        TryCatchStmt.prototype.isEquivalent = function (stmt) {\n            return stmt instanceof
```

```
TryCatchStmt && areAllEquivalent(this.bodyStmts, stmt.bodyStmts) &&\n
areAllEquivalent(this.catchStmts, stmt.catchStmts);\n    };\n    TryCatchStmt.prototype.visitStatement =
function (visitor, context) {\n        return visitor.visitTryCatchStmt(this, context);\n    };\n    return
TryCatchStmt;\n}(Statement));\n var ThrowStmt = /** @class */ (function (_super) {\n
__extends(ThrowStmt, _super);\n    function ThrowStmt(error, sourceSpan, leadingComments) {\n        if
(sourceSpan === void 0) { sourceSpan = null; }\n        var _this = _super.call(this, [], sourceSpan,
leadingComments)
 || this;\n        _this.error = error;\n        return _this;\n    }\n    ThrowStmt.prototype.isEquivalent = function
(stmt) {\n        return stmt instanceof TryCatchStmt && this.error.isEquivalent(stmt.error);\n    };\n
ThrowStmt.prototype.visitStatement = function (visitor, context) {\n        return visitor.visitThrowStmt(this,
context);\n    };\n    return ThrowStmt;\n}(Statement));\n var AstTransformer = /** @class */ (function ()
{\n    function AstTransformer() {\n    }\n    AstTransformer.prototype.transformExpr = function (expr,
context) {\n        return expr;\n    };\n    AstTransformer.prototype.transformStmt = function (stmt, context)
{\n        return stmt;\n    };\n    AstTransformer.prototype.visitReadVarExpr = function (ast, context) {\n
 return this.transformExpr(ast, context);\n    };\n    AstTransformer.prototype.visitWrappedNodeExpr =
function (ast, context)
 {\n        return this.transformExpr(ast, context);\n    };\n    AstTransformer.prototype.visitTypeofExpr =
function (expr, context) {\n        return this.transformExpr(new TypeofExpr(expr.expr.visitExpression(this,
context), expr.type, expr.sourceSpan), context);\n    };\n    AstTransformer.prototype.visitWriteVarExpr =
function (expr, context) {\n        return this.transformExpr(new WriteVarExpr(expr.name,
expr.value.visitExpression(this, context), expr.type, expr.sourceSpan), context);\n    };\n
AstTransformer.prototype.visitWriteKeyExpr = function (expr, context) {\n        return this.transformExpr(new
WriteKeyExpr(expr.receiver.visitExpression(this, context), expr.index.visitExpression(this, context),
expr.value.visitExpression(this, context), expr.type, expr.sourceSpan), context);\n    };\n
AstTransformer.prototype.visitWritePropExpr = function (expr, context) {\n        return this.transformExpr(new
WritePropExpr(expr.receiver.visitExpression(this,
 context), expr.name, expr.value.visitExpression(this, context), expr.type, expr.sourceSpan), context);\n    };\n
AstTransformer.prototype.visitInvokeMethodExpr = function (ast, context) {\n        var method = ast.builtin ||
ast.name;\n        return this.transformExpr(new InvokeMethodExpr(ast.receiver.visitExpression(this, context),
method, this.visitAllExpressions(ast.args, context), ast.type, ast.sourceSpan), context);\n    };\n
AstTransformer.prototype.visitInvokeFunctionExpr = function (ast, context) {\n        return
this.transformExpr(new InvokeFunctionExpr(ast.fn.visitExpression(this, context), this.visitAllExpressions(ast.args,
context), ast.type, ast.sourceSpan), context);\n    };\n    AstTransformer.prototype.visitInstantiateExpr =
function (ast, context) {\n        return this.transformExpr(new InstantiateExpr(ast.classExpr.visitExpression(this,
context), this.visitAllExpressions(ast.args, context),
 ast.type, ast.sourceSpan), context);\n    };\n    AstTransformer.prototype.visitLiteralExpr = function (ast,
context) {\n        return this.transformExpr(ast, context);\n    };\n
AstTransformer.prototype.visitLocalizedString = function (ast, context) {\n        return this.transformExpr(new
LocalizedString(ast.metaBlock, ast.messageParts, ast.placeHolderNames, this.visitAllExpressions(ast.expressions,
context), ast.sourceSpan), context);\n    };\n    AstTransformer.prototype.visitExternalExpr = function (ast,
context) {\n        return this.transformExpr(ast, context);\n    };\n
AstTransformer.prototype.visitConditionalExpr = function (ast, context) {\n        return this.transformExpr(new
ConditionalExpr(ast.condition.visitExpression(this, context), ast.trueCase.visitExpression(this, context),
ast.falseCase.visitExpression(this, context), ast.type, ast.sourceSpan), context);\n    };\n
AstTransformer.prototype.visitNotExpr
 = function (ast, context) {\n        return this.transformExpr(new NotExpr(ast.condition.visitExpression(this,
context), ast.sourceSpan), context);\n    };\n    AstTransformer.prototype.visitAssertNotNullExpr = function
(ast, context) {\n        return this.transformExpr(new AssertNotNull(ast.condition.visitExpression(this, context),
```

ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitCastExpr = function (ast, context) {\n return this.transformExpr(new CastExpr(ast.value.visitExpression(this, context), ast.type, ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitFunctionExpr = function (ast, context) {\n return this.transformExpr(new FunctionExpr(ast.params, this.visitAllStatements(ast.statements, context), ast.type, ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitUnaryOperatorExpr = function (ast, context) {\n return this.transformExpr(new UnaryOperatorExpr(ast.operator, ast.expr.visitExpression(this, context), ast.type, ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitBinaryOperatorExpr = function (ast, context) {\n return this.transformExpr(new BinaryOperatorExpr(ast.operator, ast.lhs.visitExpression(this, context), ast.rhs.visitExpression(this, context), ast.type, ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitReadPropExpr = function (ast, context) {\n return this.transformExpr(new ReadPropExpr(ast.receiver.visitExpression(this, context), ast.name, ast.type, ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitReadKeyExpr = function (ast, context) {\n return this.transformExpr(new ReadKeyExpr(ast.receiver.visitExpression(this, context), ast.index.visitExpression(this, context), ast.type, ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitLiteralArrayExpr = function (ast, context) {\n return this.transformExpr(new LiteralArrayExpr(this.visitAllExpressions(ast.entries, context), ast.type, ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitLiteralMapExpr = function (ast, context) {\n var _this = this;\n var entries = ast.entries.map(function (entry) { return new LiteralMapEntry(entry.key, entry.value.visitExpression(_this, context), entry.quoted); });\n var mapType = new MapType(ast.valueType);\n return this.transformExpr(new LiteralMapExpr(entries, mapType, ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitCommaExpr = function (ast, context) {\n return this.transformExpr(new CommaExpr(this.visitAllExpressions(ast.parts, context), ast.sourceSpan), context);\n };\n AstTransformer.prototype.visitAllExpressions = function (exprs, context) {\n var _this = this;\n return exprs.map(function (expr) { return expr.visitExpression(_this, context); });\n };\n AstTransformer.prototype.visitDeclareVarStmt = function (stmt, context) {\n var value = stmt.value && stmt.value.visitExpression(this, context);\n return this.transformStmt(new DeclareVarStmt(stmt.name, value, stmt.type, stmt.modifiers, stmt.sourceSpan, stmt.leadingComments), context);\n };\n AstTransformer.prototype.visitDeclareFunctionStmt = function (stmt, context) {\n return this.transformStmt(new DeclareFunctionStmt(stmt.name, stmt.params, this.visitAllStatements(stmt.statements, context), stmt.type, stmt.modifiers, stmt.sourceSpan, stmt.leadingComments), context);\n };\n AstTransformer.prototype.visitExpressionStmt = function (stmt, context) {\n return this.transformStmt(new ExpressionStatement(stmt.expr.visitExpression(this, context), stmt.sourceSpan, stmt.leadingComments), context);\n };\n AstTransformer.prototype.visitReturnStmt = function (stmt, context) {\n return this.transformStmt(new ReturnStatement(stmt.value.visitExpression(this, context), stmt.sourceSpan, stmt.leadingComments), context);\n };\n AstTransformer.prototype.visitDeclareClassStmt = function (stmt, context) {\n var _this = this;\n var parent = stmt.parent.visitExpression(this, context);\n var getters = stmt.getters.map(function (getter) { return new ClassGetter(getter.name, _this.visitAllStatements(getter.body, context), getter.type, getter.modifiers); });\n var ctorMethod = stmt.constructorMethod &&\n new ClassMethod(stmt.constructorMethod.name, stmt.constructorMethod.params, this.visitAllStatements(stmt.constructorMethod.body, context), stmt.constructorMethod.type, stmt.constructorMethod.modifiers);\n var methods = stmt.methods.map(function (method) { return new ClassMethod(method.name, method.params, _this.visitAllStatements(method.body, context), method.type, method.modifiers); });\n return this.transformStmt(new ClassStmt(stmt.name, parent, stmt.fields, getters, ctorMethod, methods, stmt.modifiers, stmt.sourceSpan), context);\n };\n AstTransformer.prototype.visitIfStmt = function (stmt, context) {\n return this.transformStmt(new IfStmt(stmt.condition.visitExpression(this, context), this.visitAllStatements(stmt.trueCase, context), this.visitAllStatements(stmt.falseCase, context), stmt.sourceSpan, stmt.leadingComments), context);\n };\n

AstTransformer.prototype.visitTryCatchStmt = function (stmt, context) {\n return this.transformStmt(new TryCatchStmt(this.visitAllStatements(stmt.bodyStmts, context), this.visitAllStatements(stmt.catchStmts, context), stmt.sourceSpan, stmt.leadingComments), context);\n };\n AstTransformer.prototype.visitThrowStmt = function (stmt, context) {\n return this.transformStmt(new ThrowStmt(stmt.error.visitExpression(this, context),
stmt.sourceSpan, stmt.leadingComments), context);\n };\n AstTransformer.prototype.visitAllStatements = function (stmts, context) {\n var _this = this;\n return stmts.map(function (stmt) { return stmt.visitStatement(_this, context); });\n };\n return AstTransformer;\n }());\n var RecursiveAstVisitor = /** @class */ (function () {\n function RecursiveAstVisitor() {\n }\n RecursiveAstVisitor.prototype.visitType = function (ast, context) {\n return ast;\n };\n RecursiveAstVisitor.prototype.visitExpression = function (ast, context) {\n if (ast.type) {\n ast.type.visitType(this, context);\n }\n return ast;\n };\n RecursiveAstVisitor.prototype.visitBuiltinType = function (type, context) {\n return this.visitType(type, context);\n };\n RecursiveAstVisitor.prototype.visitExpressionType = function (type,
context) {\n var _this = this;\n type.value.visitExpression(this, context);\n if (type.typeParams !== null) {\n type.typeParams.forEach(function (param) { return _this.visitType(param, context); });\n }\n return this.visitType(type, context);\n };\n RecursiveAstVisitor.prototype.visitArrayType = function (type, context) {\n return this.visitType(type, context);\n };\n RecursiveAstVisitor.prototype.visitMapType = function (type, context) {\n return this.visitType(type, context);\n };\n RecursiveAstVisitor.prototype.visitWrappedNodeExpr = function (ast, context) {\n return ast;\n };\n RecursiveAstVisitor.prototype.visitTypeofExpr = function (ast, context) {\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitReadVarExpr = function (ast, context) {\n return this.visitExpression(ast,
context);\n };\n RecursiveAstVisitor.prototype.visitWriteVarExpr = function (ast, context) {\n ast.value.visitExpression(this, context);\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitWriteKeyExpr = function (ast, context) {\n ast.receiver.visitExpression(this, context);\n ast.index.visitExpression(this, context);\n ast.value.visitExpression(this, context);\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitWritePropExpr = function (ast, context) {\n ast.receiver.visitExpression(this, context);\n ast.value.visitExpression(this, context);\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitInvokeMethodExpr = function (ast, context) {\n ast.receiver.visitExpression(this, context);\n this.visitAllExpressions(ast.args, context);\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitInvokeFunctionExpr = function (ast, context) {\n ast.fn.visitExpression(this, context);\n this.visitAllExpressions(ast.args, context);\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitInstantiateExpr = function (ast, context) {\n ast.classExpr.visitExpression(this, context);\n this.visitAllExpressions(ast.args, context);\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitLiteralExpr = function (ast, context) {\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitLocalizedString = function (ast, context) {\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitExternalExpr
= function (ast, context) {\n var _this = this;\n if (ast.typeParams) {\n ast.typeParams.forEach(function (type) { return type.visitType(_this, context); });\n }\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitConditionalExpr = function (ast, context) {\n ast.condition.visitExpression(this, context);\n ast.trueCase.visitExpression(this, context);\n ast.falseCase.visitExpression(this, context);\n return this.visitExpression(ast, context);\n };\n RecursiveAstVisitor.prototype.visitNotExpr = function (ast, context) {\n ast.condition.visitExpression(this, context);\n return this.visitExpression(ast, context);\n };\n

```
RecursiveAstVisitor.prototype.visitAssertNotNullExpr = function (ast, context) {\n
ast.condition.visitExpression(this, context);\n
  return this.visitExpression(ast, context);\n    };\n    RecursiveAstVisitor.prototype.visitCastExpr = function
(ast, context) {\n        ast.value.visitExpression(this, context);\n        return this.visitExpression(ast, context);\n
  };\n    RecursiveAstVisitor.prototype.visitFunctionExpr = function (ast, context) {\n
this.visitAllStatements(ast.statements, context);\n        return this.visitExpression(ast, context);\n    };\n
RecursiveAstVisitor.prototype.visitUnaryOperatorExpr = function (ast, context) {\n
ast.expr.visitExpression(this, context);\n        return this.visitExpression(ast, context);\n    };\n
RecursiveAstVisitor.prototype.visitBinaryOperatorExpr = function (ast, context) {\n
ast.lhs.visitExpression(this, context);\n        ast.rhs.visitExpression(this, context);\n        return
this.visitExpression(ast, context);\n    };\n    RecursiveAstVisitor.prototype.visitReadPropExpr
 = function (ast, context) {\n        ast.receiver.visitExpression(this, context);\n        return
this.visitExpression(ast, context);\n    };\n    RecursiveAstVisitor.prototype.visitReadKeyExpr = function (ast,
context) {\n        ast.receiver.visitExpression(this, context);\n        ast.index.visitExpression(this, context);\n
  return this.visitExpression(ast, context);\n    };\n    RecursiveAstVisitor.prototype.visitLiteralArrayExpr =
function (ast, context) {\n        this.visitAllExpressions(ast.entries, context);\n        return
this.visitExpression(ast, context);\n    };\n    RecursiveAstVisitor.prototype.visitLiteralMapExpr = function (ast,
context) {\n        var _this = this;\n        ast.entries.forEach(function (entry) { return
entry.value.visitExpression(_this, context); });\n        return this.visitExpression(ast, context);\n    };\n
RecursiveAstVisitor.prototype.visitCommaExpr = function
 (ast, context) {\n        this.visitAllExpressions(ast.parts, context);\n        return this.visitExpression(ast,
context);\n    };\n    RecursiveAstVisitor.prototype.visitAllExpressions = function (exprs, context) {\n
var _this = this;\n        exprs.forEach(function (expr) { return expr.visitExpression(_this, context); });\n    };\n
  RecursiveAstVisitor.prototype.visitDeclareVarStmt = function (stmt, context) {\n        if (stmt.value) {\n
 stmt.value.visitExpression(this, context);\n        }\n        if (stmt.type) {\n            stmt.type.visitType(this,
context);\n        }\n        return stmt;\n    };\n    RecursiveAstVisitor.prototype.visitDeclareFunctionStmt =
function (stmt, context) {\n        this.visitAllStatements(stmt.statements, context);\n        if (stmt.type) {\n
   stmt.type.visitType(this, context);\n        }\n        return stmt;\n    };\n
      RecursiveAstVisitor.prototype.visitExpressionStmt = function (stmt, context) {\n
stmt.expr.visitExpression(this, context);\n        return stmt;\n    };\n
RecursiveAstVisitor.prototype.visitReturnStmt = function (stmt, context) {\n        stmt.value.visitExpression(this,
context);\n        return stmt;\n    };\n    RecursiveAstVisitor.prototype.visitDeclareClassStmt = function (stmt,
context) {\n        var _this = this;\n        stmt.parent.visitExpression(this, context);\n
stmt.getters.forEach(function (getter) { return _this.visitAllStatements(getter.body, context); });\n        if
(stmt.constructorMethod) {\n            this.visitAllStatements(stmt.constructorMethod.body, context);\n        }\n
      stmt.methods.forEach(function (method) { return _this.visitAllStatements(method.body, context); });\n
return stmt;\n    };\n    RecursiveAstVisitor.prototype.visitIfStmt = function
 (stmt, context) {\n        stmt.condition.visitExpression(this, context);\n
this.visitAllStatements(stmt.trueCase, context);\n        this.visitAllStatements(stmt.falseCase, context);\n
return stmt;\n    };\n    RecursiveAstVisitor.prototype.visitTryCatchStmt = function (stmt, context) {\n
this.visitAllStatements(stmt.bodyStmts, context);\n        this.visitAllStatements(stmt.catchStmts, context);\n
return stmt;\n    };\n    RecursiveAstVisitor.prototype.visitThrowStmt = function (stmt, context) {\n
stmt.error.visitExpression(this, context);\n        return stmt;\n    };\n
RecursiveAstVisitor.prototype.visitAllStatements = function (stmts, context) {\n        var _this = this;\n
stmts.forEach(function (stmt) { return stmt.visitStatement(_this, context); });\n    };\n    return
RecursiveAstVisitor;\n}());\n function findReadVarNames(stmts) {\n    var visitor
 = new _ReadVarVisitor();\n    visitor.visitAllStatements(stmts, null);\n    return visitor.varNames;\n}\n var
_ReadVarVisitor = /** @class */ (function (_super) {\n    __extends(_ReadVarVisitor, _super);\n    function
```

```
_ReadVarVisitor() {\n            var _this = _super.apply(this, __spread(arguments)) || this;\n            _this.varNames =
new Set();\n            return _this;\n        }\n        _ReadVarVisitor.prototype.visitDeclareFunctionStmt = function
(stmt, context) {\n            // Don't descend into nested functions\n            return stmt;\n        };\n
_ReadVarVisitor.prototype.visitDeclareClassStmt = function (stmt, context) {\n            // Don't descend into nested
classes\n            return stmt;\n        };\n        _ReadVarVisitor.prototype.visitReadVarExpr = function (ast, context)
{\n            if (ast.name) {\n                this.varNames.add(ast.name);\n            }\n            return null;\n        };\n
return _ReadVarVisitor;\n
    }(RecursiveAstVisitor));\n    function collectExternalReferences(stmts) {\n        var visitor = new
_FindExternalReferencesVisitor();\n        visitor.visitAllStatements(stmts, null);\n        return
visitor.externalReferences;\n    }\n    var _FindExternalReferencesVisitor = /** @class */ (function (_super) {\n
__extends(_FindExternalReferencesVisitor, _super);\n        function _FindExternalReferencesVisitor() {\n
var _this = _super.apply(this, __spread(arguments)) || this;\n            _this.externalReferences = [];\n            return
_this;\n        }\n        _FindExternalReferencesVisitor.prototype.visitExternalExpr = function (e, context) {\n
this.externalReferences.push(e.value);\n            return _super.prototype.visitExternalExpr.call(this, e, context);\n
};\n        return _FindExternalReferencesVisitor;\n    }(RecursiveAstVisitor));\n    function
applySourceSpanToStatementIfNeeded(stmt, sourceSpan) {\n        if (!sourceSpan)
 {\n            return stmt;\n        }\n        var transformer = new _ApplySourceSpanTransformer(sourceSpan);\n
return stmt.visitStatement(transformer, null);\n    }\n    function applySourceSpanToExpressionIfNeeded(expr,
sourceSpan) {\n        if (!sourceSpan) {\n            return expr;\n        }\n        var transformer = new
_ApplySourceSpanTransformer(sourceSpan);\n        return expr.visitExpression(transformer, null);\n    }\n    var
_ApplySourceSpanTransformer = /** @class */ (function (_super) {\n
__extends(_ApplySourceSpanTransformer, _super);\n        function _ApplySourceSpanTransformer(sourceSpan)
{\n            var _this = _super.call(this) || this;\n            _this.sourceSpan = sourceSpan;\n            return _this;\n
}\n        _ApplySourceSpanTransformer.prototype._clone = function (obj) {\n            var e_1, _e;\n            var clone
= Object.create(obj.constructor.prototype);\n            try {\n                for (var _f = __values(Object.keys(obj)),
 _g = _f.next(); !_g.done; _g = _f.next()) {\n                    var prop = _g.value;\n                    clone[prop] =
obj[prop];\n                }\n            }\n            catch (e_1_1) { e_1 = { error: e_1_1 }; }\n            finally {\n                try
{\n                    if (_g && !_g.done && (_e = _f.return)) _e.call(_f);\n                }\n                finally { if (e_1) throw
e_1.error; }\n            }\n            return clone;\n        };\n
_ApplySourceSpanTransformer.prototype.transformExpr = function (expr, context) {\n            if (!expr.sourceSpan)
{\n                expr = this._clone(expr);\n                expr.sourceSpan = this.sourceSpan;\n            }\n            return
expr;\n        };\n        _ApplySourceSpanTransformer.prototype.transformStmt = function (stmt, context) {\n
if (!stmt.sourceSpan) {\n                stmt = this._clone(stmt);\n                stmt.sourceSpan = this.sourceSpan;\n
 }\n            return stmt;\n        };\n        return _ApplySourceSpanTransformer;\n    }(AstTransformer));\n    function
leadingComment(text, multiline, trailingNewline) {\n        if (multiline === void 0) { multiline = false; }\n        if
(trailingNewline === void 0) { trailingNewline = true; }\n        return new LeadingComment(text, multiline,
trailingNewline);\n    }\n    function jsDocComment(tags) {\n        if (tags === void 0) { tags = []; }\n        return
new JSDocComment(tags);\n    }\n    function variable(name, type, sourceSpan) {\n        return new
ReadVarExpr(name, type, sourceSpan);\n    }\n    function importExpr(id, typeParams, sourceSpan) {\n        if
(typeParams === void 0) { typeParams = null; }\n        return new ExternalExpr(id, null, typeParams,
sourceSpan);\n    }\n    function importType(id, typeParams, typeModifiers) {\n        return id != null ?
expressionType(importExpr(id, typeParams, null), typeModifiers) : null;\n    }\n    function expressionType(expr,
 typeModifiers, typeParams) {\n        return new ExpressionType(expr, typeModifiers, typeParams);\n    }\n
function typeofExpr(expr) {\n        return new TypeofExpr(expr);\n    }\n    function literalArr(values, type,
sourceSpan) {\n        return new LiteralArrayExpr(values, type, sourceSpan);\n    }\n    function literalMap(values,
type) {\n        if (type === void 0) { type = null; }\n        return new LiteralMapExpr(values.map(function (e) {
return new LiteralMapEntry(e.key, e.value, e.quoted); }), type, null);\n    }\n    function unary(operator, expr, type,
sourceSpan) {\n        return new UnaryOperatorExpr(operator, expr, type, sourceSpan);\n    }\n    function not(expr,
```

```
sourceSpan) {\n        return new NotExpr(expr, sourceSpan);\n    }\n    function assertNotNull(expr, sourceSpan) {\n        return new AssertNotNull(expr, sourceSpan);\n    }\n    function fn(params, body, type, sourceSpan, name) {\n        return new FunctionExpr(params, body, type, sourceSpan,
    name);\n    }\n    function ifStmt(condition, thenClause, elseClause, sourceSpan, leadingComments) {\n        return new IfStmt(condition, thenClause, elseClause, sourceSpan, leadingComments);\n    }\n    function literal(value, type, sourceSpan) {\n        return new LiteralExpr(value, type, sourceSpan);\n    }\n    function localizedString(metaBlock, messageParts, placeholderNames, expressions, sourceSpan) {\n        return new LocalizedString(metaBlock, messageParts, placeholderNames, expressions, sourceSpan);\n    }\n    function isNull(exp) {\n        return exp instanceof LiteralExpr && exp.value === null;\n    }\n    /*\n     * Serializes a `Tag` into a string.\n     * Returns a string like \" @foo {bar} baz\" (note the leading whitespace before `@foo`).\n     */\n    function tagToString(tag) {\n        var out = '';\n        if (tag.tagName) {\n            out += \" @\" + tag.tagName;\n        }\n        if (tag.text) {\n            if (tag.text.match(/\\/\\*|\\*\\//)) {\n                throw new Error('JSDoc text cannot contain \"/*\" and \"*/\"');\n            }\n            out += ' ' + tag.text.replace(/@/g, '\\\\@');\n        }\n        return out;\n    }\n    function serializeTags(tags) {\n        var e_2, _e;\n        if (tags.length === 0)\n            return '';\n        if (tags.length === 1 && tags[0].tagName && !tags[0].text) {\n            // The JSDOC comment is a single simple tag: e.g `/** @tagname */`.\n            return \"*\" + tagToString(tags[0]) + \" \";\n        }\n        var out = '*\\n';\n        try {\n            for (var tags_1 = __values(tags), tags_1_1 = tags_1.next(); !tags_1_1.done; tags_1_1 = tags_1.next()) {\n                var tag = tags_1_1.value;\n                out += ' *';\n                // If the tagToString is multi-line, insert \" * \" prefixes on lines.\n                out += tagToString(tag).replace(/\\n/g, '\\n * ');\n                out += '\\n';\n            }\n        }\n        catch (e_2_1) { e_2 = { error: e_2_1 }; }\n        finally {\n            try {\n                if (tags_1_1 && !tags_1_1.done && (_e = tags_1.return)) _e.call(tags_1);\n            }\n            finally { if (e_2) throw e_2.error; }\n        }\n        out += ' ';\n        return out;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var DASH_CASE_REGEXP = /-+([a-z0-9])/g;\n    function dashCaseToCamelCase(input) {\n        return input.replace(DASH_CASE_REGEXP, function () {\n            var m = [];\n            for (var _i = 0; _i < arguments.length; _i++) {\n                m[_i] = arguments[_i];\n            }\n            return m[1].toUpperCase();\n        });\n    }\n    function splitAtColon(input, defaultValues) {\n        return _splitAt(input, ':', defaultValues);\n    }\n    function splitAtPeriod(input, defaultValues) {\n        return _splitAt(input, '.', defaultValues);\n    }\n    function _splitAt(input, character, defaultValues) {\n        var characterIndex = input.indexOf(character);\n        if (characterIndex == -1)\n            return defaultValues;\n        return [input.slice(0, characterIndex).trim(), input.slice(characterIndex + 1).trim()];\n    }\n    function visitValue(value, visitor, context) {\n        if (Array.isArray(value)) {\n            return visitor.visitArray(value, context);\n        }\n        if (isStrictStringMap(value)) {\n            return visitor.visitStringMap(value, context);\n        }\n        if (value == null || typeof value == 'string' || typeof value == 'number' ||\n            typeof value == 'boolean') {\n            return visitor.visitPrimitive(value, context);\n        }\n        return visitor.visitOther(value, context);\n    }\n    function isDefined(val) {\n        return val !== null && val !== undefined;\n    }\n    function noUndefined(val) {\n        return val === undefined ? null : val;\n    }\n    var ValueTransformer = /** @class */ (function () {\n        function ValueTransformer() {\n        }\n        ValueTransformer.prototype.visitArray = function (arr, context) {\n            var _this = this;\n            return arr.map(function (value) { return visitValue(value, _this, context); });\n        };\n        ValueTransformer.prototype.visitStringMap = function (map, context) {\n            var _this = this;\n            var result = {};\n            Object.keys(map).forEach(function (key) {\n                result[key] = visitValue(map[key], _this, context);\n            });\n            return result;\n        };\n        ValueTransformer.prototype.visitPrimitive = function (value, context) {\n            return value;\n        };\n        ValueTransformer.prototype.visitOther = function (value, context) {\n            return value;\n        };\n        return ValueTransformer;\n    }());\n
```

```
var SyncAsync = {\n assertSync: function (value) {\n if (isPromise(value)) {\n throw new Error(\"Illegal state: value cannot be a promise\");\n }\n return value;\n },\n then: function (value, cb) {\n return isPromise(value) ? value.then(cb) : cb(value);\n },\n all: function (syncAsyncValues) {\n return syncAsyncValues.some(isPromise) ? Promise.all(syncAsyncValues) : syncAsyncValues;\n }\n };\n function error(msg) {\n throw new Error(\"Internal Error: \" + msg);\n }\n function syntaxError(msg, parseErrors) {\n var error = Error(msg);\n error[ERROR_SYNTAX_ERROR] = true;\n if (parseErrors)\n error[ERROR_PARSE_ERRORS] = parseErrors;\n return error;\n }\n var ERROR_SYNTAX_ERROR = 'ngSyntaxError';\n var ERROR_PARSE_ERRORS = 'ngParseErrors';\n function isSyntaxError(error) {\n return error[ERROR_SYNTAX_ERROR];\n }\n function getParseErrors(error) {\n return error[ERROR_PARSE_ERRORS] || [];\n }\n // Escape characters that have a special meaning in Regular Expressions\n function escapeRegExp(s) {\n return s.replace(/([.*+?^=!:${}()|[\\]\\/\\\\])/g, '\\\\$1');\n }\n var STRING_MAP_PROTO = Object.getPrototypeOf({});\n function isStrictStringMap(obj) {\n return typeof obj === 'object' && obj !== null && Object.getPrototypeOf(obj) === STRING_MAP_PROTO;\n }\n function utf8Encode(str) {\n var encoded = [];\n for (var index = 0; index < str.length; index++) {\n var codePoint = str.charCodeAt(index);\n // decode surrogate\n // see https://mathiasbynens.be/notes/javascript-encoding#surrogate-formulae\n if (codePoint >= 0xd800 && codePoint <= 0xdbff && str.length > (index + 1)) {\n var low = str.charCodeAt(index + 1);\n if (low >= 0xdc00 && low <= 0xdfff) {\n index++;\n codePoint = ((codePoint - 0xd800) << 10) + low - 0xdc00 + 0x10000;\n }\n }\n if (codePoint <= 0x7f) {\n encoded.push(codePoint);\n }\n else if (codePoint <= 0x7ff) {\n encoded.push(((codePoint >> 6) & 0x1F) | 0xc0, (codePoint & 0x3f) | 0x80);\n }\n else if (codePoint <= 0xffff) {\n encoded.push((codePoint >> 12) | 0xe0, ((codePoint >> 6) & 0x3f) | 0x80, (codePoint & 0x3f) | 0x80);\n }\n else if (codePoint <= 0x1fffff) {\n encoded.push(((codePoint >> 18) & 0x07) | 0xf0, ((codePoint >> 12) & 0x3f) | 0x80, ((codePoint >> 6) & 0x3f) | 0x80, (codePoint & 0x3f) | 0x80);\n }\n }\n return encoded;\n }\n function stringify(token) {\n if (typeof token === 'string') {\n return token;\n }\n if (Array.isArray(token)) {\n return '[' + token.map(stringify).join(', ') + ']';\n }\n if (token == null) {\n return '' + token;\n }\n if (token.overriddenName) {\n return \"\"\" + token.overriddenName;\n }\n if (token.name) {\n return \"\"\" + token.name;\n }\n if (!token.toString) {\n return 'object';\n }\n // WARNING: do not try to `JSON.stringify(token)` here\n // see https://github.com/angular/angular/issues/23440\n var res = token.toString();\n if (res == null) {\n return '' + res;\n }\n var newLineIndex = res.indexOf('\\n');\n return newLineIndex === -1 ? res : res.substring(0, newLineIndex);\n }\n /**\n * Lazily retrieves the reference value from a forwardRef.\n */\n function resolveForwardRef(type) {\n if (typeof type === 'function' && type.hasOwnProperty('__forward_ref__')) {\n return type();\n }\n else {\n return type;\n }\n }\n /**\n * Determine if the argument is shaped like a Promise\n */\n function isPromise(obj) {\n // allow any Promise/A+ compliant thenable.\n // It's up to the caller to ensure that obj.then conforms to the spec\n return !!obj && typeof obj.then === 'function';\n }\n var Version = /** @class */ (function () {\n function Version(full) {\n this.full = full;\n var splits = full.split('.');\n this.major = splits[0];\n this.minor = splits[1];\n this.patch = splits.slice(2).join('.');\n }\n return Version;\n }());\n var __window = typeof window !== 'undefined' && window;\n var __self = typeof self !== 'undefined' && typeof WorkerGlobalScope !== 'undefined' &&\n self instanceof WorkerGlobalScope && self;\n var __global = typeof global !== 'undefined' && global;\n // Check __global first, because in\n Node tests both __global and __window may be defined and _global\n // should be __global in that case.\n var _global = __global || __window || __self;\n function newArray(size, value) {\n var list = [];\n for (var i = 0; i < size; i++) {\n list.push(value);\n }\n return list;\n }\n /**\n * Partitions a given array into
```

```
2 arrays, based on a boolean value returned by the condition\n     * function.\n     *\n     * @param arr Input array that should be partitioned\n     * @param conditionFn Condition function that is called for each item in a given array and returns a\n     * boolean value.\n     */\n    function partitionArray(arr, conditionFn) {\n        var e_1, _a;\n        var truthy = [];\n        var falsy = [];\n        try {\n            for (var arr_1 = __values(arr), arr_1_1 = arr_1.next(); !arr_1_1.done; arr_1_1 = arr_1.next()) {\n                var item = arr_1_1.value;\n                (conditionFn(item) ? truthy : falsy).push(item);\n            }\n        }\n        catch (e_1_1) { e_1 = { error: e_1_1 }; }\n        finally {\n            try {\n                if (arr_1_1 && !arr_1_1.done && (_a = arr_1.return)) _a.call(arr_1);\n            }\n            finally { if (e_1) throw e_1.error; }\n        }\n        return [truthy, falsy];\n    }\n\n    var CONSTANT_PREFIX = '_c';\n    /**\n     * `ConstantPool` tries to reuse literal factories when two or more literals are identical.\n     * We determine whether literals are identical by creating a key out of their AST using the\n     * `KeyVisitor`. This constant is used to replace dynamic expressions which can't be safely\n     * converted into a key. E.g. given an expression `{foo: bar()}`, since we don't know what\n     * the result of `bar` will be, we create a key that looks like `{foo: <unknown>}`. Note\n     * that we use a variable, rather than something like `null` in order to avoid collisions.\n     */\n    var UNKNOWN_VALUE_KEY = variable('<unknown>');\n    /**\n     * Context to use when producing a key.\n     *\n     * This ensures we see the constant not the reference variable when producing\n     * a key.\n     */\n    var KEY_CONTEXT = {};\n    /**\n     * Generally all primitive values are excluded from the `ConstantPool`, but there is an exclusion\n     * for strings that reach a certain length threshold. This constant defines the length threshold for\n     * strings.\n     */\n    var POOL_INCLUSION_LENGTH_THRESHOLD_FOR_STRINGS = 50;\n    /**\n     * A node that is a place-holder that allows the node to be replaced when the actual\n     * node is known.\n     *\n     * This allows the constant pool to change an expression from a direct reference to\n     * a constant to a shared constant. It returns a fix-up node that is later allowed to\n     * change the referenced expression.\n     */\n    var FixupExpression = /** @class */ (function (_super) {\n        __extends(FixupExpression, _super);\n        function FixupExpression(resolved) {\n            var _this = _super.call(this, resolved.type) || this;\n            _this.resolved = resolved;\n            _this.original = resolved;\n            return _this;\n        }\n        FixupExpression.prototype.visitExpression = function (visitor, context) {\n            if (context === KEY_CONTEXT) {\n                // When producing a key we want to traverse the constant not the\n                // variable used to refer to it.\n                return this.original.visitExpression(visitor, context);\n            }\n            else {\n                return this.resolved.visitExpression(visitor, context);\n            }\n        };\n        FixupExpression.prototype.isEquivalent = function (e) {\n            return e instanceof FixupExpression && this.resolved.isEquivalent(e.resolved);\n        };\n        FixupExpression.prototype.isConstant = function () {\n            return true;\n        };\n        FixupExpression.prototype.fixup = function (expression) {\n            this.resolved = expression;\n            this.shared = true;\n        };\n        return FixupExpression;\n    }(Expression));\n    /**\n     * A constant pool allows a code emitter to share constant in an output context.\n     *\n     * The constant pool also supports sharing access to ivy definitions references.\n     */\n    var ConstantPool = /** @class */ (function () {\n        function ConstantPool(isClosureCompilerEnabled) {\n            if (isClosureCompilerEnabled === void 0) { isClosureCompilerEnabled = false; }\n            this.isClosureCompilerEnabled = isClosureCompilerEnabled;\n            this.statements = [];\n            this.literals = new Map();\n            this.literalFactories = new Map();\n            this.injectorDefinitions = new Map();\n            this.directiveDefinitions = new Map();\n            this.componentDefinitions = new Map();\n            this.pipeDefinitions = new Map();\n            this.nextNameIndex = 0;\n        }\n        ConstantPool.prototype.getConstLiteral = function (literal, forceShared) {\n            if ((literal instanceof LiteralExpr && !isLongStringLiteral(literal)) ||\n                literal instanceof FixupExpression) {\n                // Do no put simple literals into the constant pool or try to produce a constant for a\n                // reference to a constant.\n                return literal;\n            }\n            var key = this.keyOf(literal);\n            var fixup = this.literals.get(key);\n            var newValue = false;\n            if (!fixup) {\n                fixup = new FixupExpression(literal);\n                this.literals.set(key, fixup);\n                newValue = true;\n            }\n            if ((!newValue && !fixup.shared) ||
```

(newValue && forceShared)) {\n // Replace the expression with a variable\n var name = this.freshName();\n var definition = void 0;\n var usage = void 0;\n if (this.isClosureCompilerEnabled && isLongStringLiteral(literal)) {\n // For string literals, Closure will **always** inline the string at\n // **all** usages, duplicating it each time. For large strings, this\n // unnecessarily bloats bundle size. To work around this restriction, we\n // wrap the string in a function, and call that function for each usage.\n // This tricks Closure into using inline logic for functions instead of\n // string literals. Function calls are only inlined if the body is small\n // enough to be worth it. By doing this, very large strings will be\n // shared across multiple usages, rather than duplicating the string at\n // each usage site.\n //\n // const myStr = function() { return \"very very very long string\"; };\n // const usage1 = myStr();\n // const usage2 = myStr();\n definition = variable(name).set(new FunctionExpr([], // Params.\n [\n // Statements.\n new ReturnStatement(literal),\n ]));\n usage = variable(name).callFn([]);\n }\n else {\n // Just declare and use the variable directly, without a function call\n // indirection. This saves a few bytes and avoids an unncessary call.\n definition = variable(name).set(literal);\n usage = variable(name);\n }\n this.statements.push(definition.toDeclStmt(INFERRED_TYPE, [exports.StmtModifier.Final]));\n fixup.fixup(usage);\n }\n return fixup;\n };\n ConstantPool.prototype.getDefinition = function (type, kind, ctx, forceShared) {\n if (forceShared === void 0) { forceShared = false; }\n var definitions = this.definitionsOf(kind);\n var fixup = definitions.get(type);\n var newValue = false;\n if (!fixup) {\n var property = this.propertyNameOf(kind);\n fixup = new FixupExpression(ctx.importExpr(type).prop(property));\n definitions.set(type, fixup);\n newValue = true;\n }\n if ((!newValue && !fixup.shared) || (newValue && forceShared)) {\n var name = this.freshName();\n this.statements.push(variable(name).set(fixup.resolved).toDeclStmt(INFERRED_TYPE, [exports.StmtModifier.Final]));\n fixup.fixup(variable(name));\n }\n return fixup;\n };\n ConstantPool.prototype.getLiteralFactory = function (literal) {\n // Create a pure function that builds an array of a mix of constant and variable expressions\n if (literal instanceof LiteralArrayExpr) {\n var argumentsForKey = literal.entries.map(function (e) { return e.isConstant() ? e : UNKNOWN_VALUE_KEY; });\n var key = this.keyOf(literalArr(argumentsForKey));\n return this._getLiteralFactory(key, literal.entries, function (entries) { return literalArr(entries); });\n }\n else {\n var expressionForKey = literalMap(literal.entries.map(function (e) { return ({\n key: e.key,\n value: e.value.isConstant() ? e.value : UNKNOWN_VALUE_KEY,\n quoted: e.quoted\n }); }));\n var key = this.keyOf(expressionForKey);\n return this._getLiteralFactory(key, literal.entries.map(function (e) { return e.value; }), function (entries) { return literalMap(entries.map(function (value, index) { return ({\n key: literal.entries[index].key,\n value: value,\n quoted: literal.entries[index].quoted\n }); })); });\n }\n };\n ConstantPool.prototype._getLiteralFactory = function (key, values, resultMap) {\n var _this = this;\n var literalFactory = this.literalFactories.get(key);\n var literalFactoryArguments = values.filter((function (e) { return !e.isConstant(); }));\n if (!literalFactory) {\n var resultExpressions = values.map(function (e, index) { return e.isConstant() ? _this.getConstLiteral(e, true) : variable(\"a\" + index); });\n var parameters = resultExpressions.filter(isVariable).map(function (e) { return new FnParam(e.name, DYNAMIC_TYPE); });\n var pureFunctionDeclaration = fn(parameters, [new ReturnStatement(resultMap(resultExpressions))], INFERRED_TYPE);\n var name = this.freshName();\n this.statements.push(variable(name).set(pureFunctionDeclaration).toDeclStmt(INFERRED_TYPE, [\n exports.StmtModifier.Final\n ]));\n literalFactory = variable(name);\n this.literalFactories.set(key, literalFactory);\n }\n return { literalFactory: literalFactory, literalFactoryArguments: literalFactoryArguments };\n };\n /**\n * Produce a unique name.\n *\n

```
 * The name might be unique among different prefixes if any of the prefixes end in\n * a digit so the prefix should be a constant string (not based on user input) and\n * must not end in a digit.\n */\n ConstantPool.prototype.uniqueName = function (prefix) {\n return \"\" + prefix + this.nextNameIndex++;\n };\n ConstantPool.prototype.definitionsOf = function (kind) {\n switch (kind) {\n case 2 /* Component */:\n return this.componentDefinitions;\n case 1 /* Directive */:\n return this.directiveDefinitions;\n case 0 /* Injector */:\n return this.injectorDefinitions;\n case 3 /* Pipe */:\n return this.pipeDefinitions;\n }\n error(\"Unknown definition kind \" + kind);\n return this.componentDefinitions;\n };\n ConstantPool.prototype.propertyNameOf = function (kind) {\n switch (kind) {\n case 2 /* Component */:\n return 'cmp';\n case 1 /* Directive */:\n return 'dir';\n case 0 /* Injector */:\n return 'inj';\n case 3 /* Pipe */:\n return 'pipe';\n }\n error(\"Unknown definition kind \" + kind);\n return '<unknown>';\n };\n ConstantPool.prototype.freshName = function () {\n return this.uniqueName(CONSTANT_PREFIX);\n };\n ConstantPool.prototype.keyOf = function (expression) {\n return expression.visitExpression(new KeyVisitor(), KEY_CONTEXT);\n };\n return ConstantPool;\n }());\n /**\n * Visitor used to determine if 2 expressions are equivalent and can be shared in the\n * `ConstantPool`.\n *\n * When the id (string) generated by the visitor is equal, expressions are considered equivalent.\n */\n var KeyVisitor = /** @class */ (function () {\n function KeyVisitor() {\n this.visitWrappedNodeExpr = invalid;\n this.visitWriteVarExpr = invalid;\n this.visitWriteKeyExpr = invalid;\n this.visitWritePropExpr = invalid;\n this.visitInvokeMethodExpr = invalid;\n this.visitInvokeFunctionExpr = invalid;\n this.visitInstantiateExpr = invalid;\n this.visitConditionalExpr = invalid;\n this.visitNotExpr = invalid;\n this.visitAssertNotNullExpr = invalid;\n this.visitCastExpr = invalid;\n this.visitFunctionExpr = invalid;\n this.visitUnaryOperatorExpr = invalid;\n this.visitBinaryOperatorExpr = invalid;\n this.visitReadPropExpr = invalid;\n this.visitReadKeyExpr = invalid;\n this.visitCommaExpr = invalid;\n this.visitLocalizedString = invalid;\n }\n KeyVisitor.prototype.visitLiteralExpr = function (ast) {\n return \"\" + (typeof ast.value === 'string' ? '\"' + ast.value + '\"' : ast.value);\n };\n KeyVisitor.prototype.visitLiteralArrayExpr = function (ast, context) {\n var _this = this;\n return \"[\" + ast.entries.map(function (entry) { return entry.visitExpression(_this, context); }).join(',') + \"]\";\n };\n KeyVisitor.prototype.visitLiteralMapExpr = function (ast, context) {\n var _this = this;\n var mapKey = function (entry) {\n var quote = entry.quoted ? '\"' : '';\n return \"\" + quote + entry.key + quote;\n };\n var mapEntry = function (entry) { return mapKey(entry) + \":\" + entry.value.visitExpression(_this, context); };\n return \"{\" + ast.entries.map(mapEntry).join(',');\n };\n KeyVisitor.prototype.visitExternalExpr = function (ast) {\n return ast.value.moduleName ? \"EX:\" + ast.value.moduleName + \":\" + ast.value.name :\n \"EX:\" + ast.value.runtime.name;\n };\n KeyVisitor.prototype.visitReadVarExpr = function (node) {\n return \"VAR:\" + node.name;\n };\n KeyVisitor.prototype.visitTypeofExpr = function (node, context) {\n return \"TYPEOF:\" + node.expr.visitExpression(this, context);\n };\n return KeyVisitor;\n }());\n function invalid(arg) {\n throw new Error(\"Invalid state: Visitor \" + this.constructor.name + \" doesn't handle \" + arg.constructor.name);\n }\n function isVariable(e) {\n return e instanceof ReadVarExpr;\n }\n function isLongStringLiteral(expr) {\n return expr instanceof LiteralExpr && typeof expr.value === 'string' &&\n expr.value.length >= POOL_INCLUSION_LENGTH_THRESHOLD_FOR_STRINGS;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var CORE = '@angular/core';\n var Identifiers = /** @class */ (function () {\n function Identifiers() {\n }\n return Identifiers;\n }());\n Identifiers.ANALYZE_FOR_ENTRY_COMPONENTS = {\n name: 'ANALYZE_FOR_ENTRY_COMPONENTS',\n moduleName: CORE,\n };\n Identifiers.ElementRef = {
```

```
name: 'ElementRef', moduleName: CORE };\n    Identifiers.NgModuleRef
 = { name: 'NgModuleRef', moduleName: CORE };\n    Identifiers.ViewContainerRef = { name:
'ViewContainerRef', moduleName: CORE };\n    Identifiers.ChangeDetectorRef = {\n        name:
'ChangeDetectorRef',\n        moduleName: CORE,\n    };\n    Identifiers.QueryList = { name: 'QueryList',
moduleName: CORE };\n    Identifiers.TemplateRef = { name: 'TemplateRef', moduleName: CORE };\n
Identifiers.Renderer2 = { name: 'Renderer2', moduleName: CORE };\n
Identifiers.CodegenComponentFactoryResolver = {\n        name: 'CodegenComponentFactoryResolver',\n
moduleName: CORE,\n    };\n    Identifiers.ComponentFactoryResolver = {\n        name:
'ComponentFactoryResolver',\n        moduleName: CORE,\n    };\n    Identifiers.ComponentFactory = { name:
'ComponentFactory', moduleName: CORE };\n    Identifiers.ComponentRef = { name: 'ComponentRef',
moduleName: CORE };\n    Identifiers.NgModuleFactory = { name: 'NgModuleFactory', moduleName: CORE };\n
Identifiers.createModuleFactory = {\n
        name: 'cmf',\n        moduleName: CORE,\n    };\n    Identifiers.moduleDef = {\n        name: 'mod',\n
moduleName: CORE,\n    };\n    Identifiers.moduleProviderDef = {\n        name: 'mpd',\n        moduleName:
CORE,\n    };\n    Identifiers.RegisterModuleFactoryFn = {\n        name: 'registerModuleFactory',\n
moduleName: CORE,\n    };\n    Identifiers.inject = { name: 'inject', moduleName: CORE };\n
Identifiers.directiveInject = { name: 'directiveInject', moduleName: CORE };\n    Identifiers.INJECTOR = { name:
'INJECTOR', moduleName: CORE };\n    Identifiers.Injector = { name: 'Injector', moduleName: CORE };\n
Identifiers.defineInjectable = { name: 'defineInjectable', moduleName: CORE };\n    Identifiers.InjectableDef = {
name: 'InjectableDef', moduleName: CORE };\n    Identifiers.ViewEncapsulation = {\n        name:
'ViewEncapsulation',\n        moduleName: CORE,\n    };\n    Identifiers.ChangeDetectionStrategy = {\n        name:
'ChangeDetectionStrategy',\n
        moduleName: CORE,\n    };\n    Identifiers.SecurityContext = {\n        name: 'SecurityContext',\n
moduleName: CORE,\n    };\n    Identifiers.LOCALE_ID = { name: 'LOCALE_ID', moduleName: CORE };\n
Identifiers.TRANSLATIONS_FORMAT = {\n        name: 'TRANSLATIONS_FORMAT',\n        moduleName:
CORE,\n    };\n    Identifiers.inlineInterpolate = {\n        name: 'inlineInterpolate',\n        moduleName: CORE,\n
};\n    Identifiers.interpolate = { name: 'interpolate', moduleName: CORE };\n    Identifiers.EMPTY_ARRAY = {
name: 'EMPTY_ARRAY', moduleName: CORE };\n    Identifiers.EMPTY_MAP = { name: 'EMPTY_MAP',
moduleName: CORE };\n    Identifiers.Renderer = { name: 'Renderer', moduleName: CORE };\n
Identifiers.viewDef = { name: 'vid', moduleName: CORE };\n    Identifiers.elementDef = { name: 'eld',
moduleName: CORE };\n    Identifiers.anchorDef = { name: 'and', moduleName: CORE };\n    Identifiers.textDef =
{ name: 'ted', moduleName: CORE };\n
   Identifiers.directiveDef = { name: 'did', moduleName: CORE };\n    Identifiers.providerDef = { name: 'prd',
moduleName: CORE };\n    Identifiers.queryDef = { name: 'qud', moduleName: CORE };\n
Identifiers.pureArrayDef = { name: 'pad', moduleName: CORE };\n    Identifiers.pureObjectDef = { name: 'pod',
moduleName: CORE };\n    Identifiers.purePipeDef = { name: 'ppd', moduleName: CORE };\n    Identifiers.pipeDef
= { name: 'pid', moduleName: CORE };\n    Identifiers.nodeValue = { name: 'nov', moduleName: CORE };\n
Identifiers.ngContentDef = { name: 'ncd', moduleName: CORE };\n    Identifiers.unwrapValue = { name: 'unv',
moduleName: CORE };\n    Identifiers.createRendererType2 = { name: 'crt', moduleName: CORE };\n    // type
only\n    Identifiers.RendererType2 = {\n        name: 'RendererType2',\n        moduleName: CORE,\n    };\n    // type
only\n    Identifiers.ViewDefinition = {\n        name: 'ViewDefinition',\n        moduleName: CORE,\n    };\n
Identifiers.createComponentFactory
 = { name: 'ccf', moduleName: CORE };\n    Identifiers.setClassMetadata = { name: 'setClassMetadata',
moduleName: CORE };\n    function createTokenForReference(reference) {\n        return { identifier: { reference:
reference } };\n    }\n    function createTokenForExternalReference(reflector, reference) {\n        return
createTokenForReference(reflector.resolveExternalReference(reference));\n    }\n\n    /**\n     * @license\n     *
Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style
license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * A token
```

representing the a reference to a static type.\n *\n * This token is unique for a filePath and name and can be used as a hash table key.\n */\n var StaticSymbol = /** @class */ (function () {\n function StaticSymbol(filePath, name, members) {\n this.filePath = filePath;\n this.name = name;\n this.members = members;\n }\n StaticSymbol.prototype.assertNoMembers = function () {\n if (this.members.length) {\n throw new Error(\"Illegal state: symbol without members expected, but got \" + JSON.stringify(this) + \".\");\n }\n };\n return StaticSymbol;\n }());\n /**\n * A cache of static symbol used by the StaticReflector to return the same symbol for the\n * same symbol values.\n */\n var StaticSymbolCache = /** @class */ (function () {\n function StaticSymbolCache() {\n this.cache = new Map();\n }\n StaticSymbolCache.prototype.get = function (declarationFile, name, members) {\n members = members || [];\n var memberSuffix = members.length ? \".\" + members.join('.') : \";\n var key = \"\\\\\"\" + declarationFile + \"\\\\\".\" + name + memberSuffix;\n var result = this.cache.get(key);\n if (!result) {\n result = new StaticSymbol(declarationFile, name, members);\n this.cache.set(key, result);\n }\n return result;\n };\n return StaticSymbolCache;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // group 0: \"[prop] or (event) or @trigger\"\n // group 1: \"prop\" from \"[prop]\"\n // group 2: \"event\" from \"(event)\"\n // group 3: \"@trigger\" from \"@trigger\"\n var HOST_REG_EXP = /^(?:(?:\\[([^\\]]+)\\])|(?:\\(([^\\)]+)\\)))|(\\@[-\\w]+)$/;\n function sanitizeIdentifier(name) {\n return name.replace(/\\W/g, '_');\n }\n var _anonymousTypeIndex = 0;\n function identifierName(compileIdentifier) {\n if (!compileIdentifier || !compileIdentifier.reference) {\n return null;\n }\n var ref = compileIdentifier.reference;\n if (ref instanceof StaticSymbol) {\n return ref.name;\n }\n if (ref['__anonymousType']) {\n return ref['__anonymousType'];\n }\n var identifier = stringify(ref);\n if (identifier.indexOf('(') >= 0) {\n // case: anonymous functions!\n identifier = \"anonymous_\" + _anonymousTypeIndex++;\n ref['__anonymousType'] = identifier;\n }\n else {\n identifier = sanitizeIdentifier(identifier);\n }\n return identifier;\n }\n function identifierModuleUrl(compileIdentifier) {\n var ref = compileIdentifier.reference;\n if (ref instanceof StaticSymbol) {\n return ref.filePath;\n }\n // Runtime type\n return \"./\" + stringify(ref);\n }\n function viewClassName(compType, embeddedTemplateIndex) {\n return \"View_\" + identifierName({ reference: compType }) + \"_\" + embeddedTemplateIndex;\n }\n function rendererTypeName(compType) {\n return \"RenderType_\" + identifierName({ reference: compType });\n }\n function hostViewClassName(compType) {\n return \"HostView_\" + identifierName({ reference: compType });\n }\n function componentFactoryName(compType) {\n return identifierName({ reference: compType }) + \"NgFactory\";\n }\n (function (CompileSummaryKind) {\n CompileSummaryKind[CompileSummaryKind[\"Pipe\"] = 0] = \"Pipe\";\n CompileSummaryKind[CompileSummaryKind[\"Directive\"] = 1] = \"Directive\";\n CompileSummaryKind[CompileSummaryKind[\"NgModule\"] = 2] = \"NgModule\";\n CompileSummaryKind[CompileSummaryKind[\"Injectable\"] = 3] = \"Injectable\";\n })(exports.CompileSummaryKind || (exports.CompileSummaryKind = {}));\n function tokenName(token) {\n return token.value != null ? sanitizeIdentifier(token.value) : identifierName(token.identifier);\n }\n function tokenReference(token) {\n if (token.identifier != null) {\n return token.identifier.reference;\n }\n else {\n return token.value;\n }\n }\n /**\n * Metadata about a stylesheet\n */\n var CompileStylesheetMetadata = /** @class */ (function () {\n function CompileStylesheetMetadata(_a) {\n var _b = _a === void 0 ? {} : _a, moduleUrl = _b.moduleUrl, styles = _b.styles, styleUrls = _b.styleUrls;\n this.moduleUrl = moduleUrl || null;\n this.styles = _normalizeArray(styles);\n this.styleUrls = _normalizeArray(styleUrls);\n }\n return CompileStylesheetMetadata;\n }());\n /**\n * Metadata regarding compilation of a template.\n */\n var CompileTemplateMetadata = /** @class */ (function () {\n function CompileTemplateMetadata(_a) {\n

var encapsulation = _a.encapsulation, template =
_a.template, templateUrl = _a.templateUrl, htmlAst = _a.htmlAst, styles = _a.styles, styleUrls = _a.styleUrls,
externalStylesheets = _a.externalStylesheets, animations = _a.animations, ngContentSelectors =
_a.ngContentSelectors, interpolation = _a.interpolation, isInline = _a.isInline, preserveWhitespaces =
_a.preserveWhitespaces;\n this.encapsulation = encapsulation;\n this.template = template;\n
this.templateUrl = templateUrl;\n this.htmlAst = htmlAst;\n this.styles = _normalizeArray(styles);\n
this.styleUrls = _normalizeArray(styleUrls);\n this.externalStylesheets =
_normalizeArray(externalStylesheets);\n this.animations = animations ? flatten(animations) : [];\n
this.ngContentSelectors = ngContentSelectors || [];\n if (interpolation && interpolation.length != 2) {\n
throw new Error(\"'interpolation' should have a start and an end symbol.\");\n }\n
this.interpolation = interpolation;\n this.isInline = isInline;\n this.preserveWhitespaces =
preserveWhitespaces;\n }\n CompileTemplateMetadata.prototype.toSummary = function () {\n
return {\n ngContentSelectors: this.ngContentSelectors,\n encapsulation: this.encapsulation,\n
styles: this.styles,\n animations: this.animations\n };\n };\n return
CompileTemplateMetadata;\n }());\n /**\n * Metadata regarding compilation of a directive.\n */\n var
CompileDirectiveMetadata = /** @class */ (function () {\n function CompileDirectiveMetadata(_a) {\n
var isHost = _a.isHost, type = _a.type, isComponent = _a.isComponent, selector = _a.selector, exportAs =
_a.exportAs, changeDetection = _a.changeDetection, inputs = _a.inputs, outputs = _a.outputs, hostListeners =
_a.hostListeners, hostProperties = _a.hostProperties, hostAttributes
= _a.hostAttributes, providers = _a.providers, viewProviders = _a.viewProviders, queries = _a.queries, guards =
_a.guards, viewQueries = _a.viewQueries, entryComponents = _a.entryComponents, template = _a.template,
componentViewType = _a.componentViewType, rendererType = _a.rendererType, componentFactory =
_a.componentFactory;\n this.isHost = !!isHost;\n this.type = type;\n this.isComponent =
isComponent;\n this.selector = selector;\n this.exportAs = exportAs;\n this.changeDetection =
changeDetection;\n this.inputs = inputs;\n this.outputs = outputs;\n this.hostListeners =
hostListeners;\n this.hostProperties = hostProperties;\n this.hostAttributes = hostAttributes;\n
this.providers = _normalizeArray(providers);\n this.viewProviders = _normalizeArray(viewProviders);\n
this.queries = _normalizeArray(queries);\n this.guards
= guards;\n this.viewQueries = _normalizeArray(viewQueries);\n this.entryComponents =
_normalizeArray(entryComponents);\n this.template = template;\n this.componentViewType =
componentViewType;\n this.rendererType = rendererType;\n this.componentFactory =
componentFactory;\n }\n CompileDirectiveMetadata.create = function (_a) {\n var isHost =
_a.isHost, type = _a.type, isComponent = _a.isComponent, selector = _a.selector, exportAs = _a.exportAs,
changeDetection = _a.changeDetection, inputs = _a.inputs, outputs = _a.outputs, host = _a.host, providers =
_a.providers, viewProviders = _a.viewProviders, queries = _a.queries, guards = _a.guards, viewQueries =
_a.viewQueries, entryComponents = _a.entryComponents, template = _a.template, componentViewType =
_a.componentViewType, rendererType = _a.rendererType, componentFactory = _a.componentFactory;\n var
hostListeners = {};\n
var hostProperties = {};\n var hostAttributes = {};\n if (host != null) {\n
Object.keys(host).forEach(function (key) {\n var value = host[key];\n var matches =
key.match(HOST_REG_EXP);\n if (matches === null) {\n hostAttributes[key] = value;\n
}\n else if (matches[1] != null) {\n hostProperties[matches[1]] = value;\n
}\n else if (matches[2] != null) {\n hostListeners[matches[2]] = value;\n
}\n });\n }\n var inputsMap = {};\n if (inputs != null) {\n
inputs.forEach(function (bindConfig) {\n // canonical syntax: `dirProp: elProp`\n // if there is
no `:`, use dirProp = elProp\n var parts = splitAtColon(bindConfig,
[bindConfig, bindConfig]);\n inputsMap[parts[0]] = parts[1];\n });\n }\n var
outputsMap = {};\n if (outputs != null) {\n outputs.forEach(function (bindConfig) {\n //

canonical syntax: `dirProp: elProp`\n // if there is no `:`, use dirProp = elProp\n var parts = splitAtColon(bindConfig, [bindConfig, bindConfig]);\n outputsMap[parts[0]] = parts[1];\n });\n }\n return new CompileDirectiveMetadata({\n isHost: isHost,\n type: type,\n isComponent: !!isComponent,\n selector: selector,\n exportAs: exportAs,\n changeDetection: changeDetection,\n inputs: inputsMap,\n outputs: outputsMap,\n hostListeners: hostListeners,\n hostProperties: hostProperties,\n hostAttributes: hostAttributes,\n providers: providers,\n viewProviders: viewProviders,\n queries: queries,\n guards: guards,\n viewQueries: viewQueries,\n entryComponents: entryComponents,\n template: template,\n componentViewType: componentViewType,\n rendererType: rendererType,\n componentFactory: componentFactory,\n });\n };\n CompileDirectiveMetadata.prototype.toSummary = function () {\n return {\n summaryKind: exports.CompileSummaryKind.Directive,\n type: this.type,\n isComponent: this.isComponent,\n selector: this.selector,\n exportAs: this.exportAs,\n inputs: this.inputs,\n outputs: this.outputs,\n hostListeners: this.hostListeners,\n hostProperties: this.hostProperties,\n hostAttributes: this.hostAttributes,\n providers: this.providers,\n viewProviders: this.viewProviders,\n queries: this.queries,\n guards: this.guards,\n viewQueries: this.viewQueries,\n entryComponents: this.entryComponents,\n changeDetection: this.changeDetection,\n template: this.template && this.template.toSummary(),\n componentViewType: this.componentViewType,\n rendererType: this.rendererType,\n componentFactory: this.componentFactory\n };\n };\n return CompileDirectiveMetadata;\n }());\n var CompilePipeMetadata = /** @class */ (function () {\n function CompilePipeMetadata(_a) {\n var type = _a.type, name = _a.name, pure = _a.pure;\n this.type = type;\n this.name = name;\n this.pure = !!pure;\n }\n CompilePipeMetadata.prototype.toSummary = function () {\n return {\n summaryKind: exports.CompileSummaryKind.Pipe,\n type: this.type,\n name: this.name,\n pure: this.pure\n };\n };\n return CompilePipeMetadata;\n }());\n var CompileShallowModuleMetadata = /** @class */ (function () {\n function CompileShallowModuleMetadata() {\n }\n return CompileShallowModuleMetadata;\n }());\n /**\n * Metadata regarding compilation of a module.\n */\n var CompileNgModuleMetadata = /** @class */ (function () {\n function CompileNgModuleMetadata(_a) {\n var type = _a.type, providers = _a.providers, declaredDirectives = _a.declaredDirectives, exportedDirectives = _a.exportedDirectives, declaredPipes = _a.declaredPipes, exportedPipes = _a.exportedPipes, entryComponents = _a.entryComponents, bootstrapComponents = _a.bootstrapComponents, importedModules = _a.importedModules, exportedModules = _a.exportedModules, schemas = _a.schemas, transitiveModule = _a.transitiveModule, id = _a.id;\n this.type = type || null;\n this.declaredDirectives = _normalizeArray(declaredDirectives);\n this.exportedDirectives = _normalizeArray(exportedDirectives);\n this.declaredPipes = _normalizeArray(declaredPipes);\n this.exportedPipes = _normalizeArray(exportedPipes);\n this.providers = _normalizeArray(providers);\n this.entryComponents = _normalizeArray(entryComponents);\n this.bootstrapComponents = _normalizeArray(bootstrapComponents);\n this.importedModules = _normalizeArray(importedModules);\n this.exportedModules = _normalizeArray(exportedModules);\n this.schemas = _normalizeArray(schemas);\n this.id = id || null;\n this.transitiveModule = transitiveModule || null;\n }\n CompileNgModuleMetadata.prototype.toSummary = function () {\n var module = this.transitiveModule;\n return {\n summaryKind: exports.CompileSummaryKind.NgModule,\n type: this.type,\n entryComponents: module.entryComponents,\n providers: module.providers,\n modules: module.modules,\n exportedDirectives: module.exportedDirectives,\n exportedPipes: module.exportedPipes\n };\n };\n return CompileNgModuleMetadata;\n }());\n var TransitiveCompileNgModuleMetadata = /** @class */ (function () {\n function TransitiveCompileNgModuleMetadata() {\n this.directivesSet = new Set();\n

```
this.directives = [];\n this.exportedDirectivesSet = new Set();\n this.exportedDirectives = [];\n this.pipesSet = new Set();\n this.pipes = [];\n this.exportedPipesSet = new Set();\n this.exportedPipes = [];\n this.modulesSet = new Set();\n this.modules = [];\n this.entryComponentsSet = new Set();\n this.entryComponents = [];\n this.providers = [];\n }\n TransitiveCompileNgModuleMetadata.prototype.addProvider = function (provider, module) {\n this.providers.push({ provider: provider, module: module });\n };\n TransitiveCompileNgModuleMetadata.prototype.addDirective = function (id) {\n if (!this.directivesSet.has(id.reference)) {\n this.directivesSet.add(id.reference);\n this.directives.push(id);\n }\n };\n TransitiveCompileNgModuleMetadata.prototype.addExportedDirective = function (id) {\n if (!this.exportedDirectivesSet.has(id.reference)) {\n this.exportedDirectivesSet.add(id.reference);\n this.exportedDirectives.push(id);\n }\n };\n TransitiveCompileNgModuleMetadata.prototype.addPipe = function (id) {\n if (!this.pipesSet.has(id.reference)) {\n this.pipesSet.add(id.reference);\n this.pipes.push(id);\n }\n };\n TransitiveCompileNgModuleMetadata.prototype.addExportedPipe = function (id) {\n if (!this.exportedPipesSet.has(id.reference)) {\n this.exportedPipesSet.add(id.reference);\n this.exportedPipes.push(id);\n }\n };\n TransitiveCompileNgModuleMetadata.prototype.addModule = function (id) {\n if (!this.modulesSet.has(id.reference)) {\n this.modulesSet.add(id.reference);\n this.modules.push(id);\n }\n };\n TransitiveCompileNgModuleMetadata.prototype.addEntryComponent = function (ec) {\n if (!this.entryComponentsSet.has(ec.componentType)) {\n this.entryComponentsSet.add(ec.componentType);\n this.entryComponents.push(ec);\n }\n };\n return TransitiveCompileNgModuleMetadata;\n }());\n function _normalizeArray(obj) {\n return obj || [];\n }\n var ProviderMeta = /** @class */ (function () {\n function ProviderMeta(token, _a) {\n var useClass = _a.useClass, useValue = _a.useValue, useExisting = _a.useExisting, useFactory = _a.useFactory, deps = _a.deps, multi = _a.multi;\n this.token = token;\n this.useClass = useClass || null;\n this.useValue = useValue;\n this.useExisting = useExisting;\n this.useFactory = useFactory || null;\n this.dependencies = deps || null;\n this.multi = !!multi;\n }\n return ProviderMeta;\n }());\n function flatten(list) {\n return list.reduce(function (flat, item) {\n var flatItem = Array.isArray(item) ? flatten(item) : item;\n return flat.concat(flatItem);\n }, []);\n }\n function jitSourceUrl(url) {\n // Note: We need 3 \"/\" so that ng shows up as a separate domain\n // in the chrome dev tools.\n return url.replace(/(\\w+:\/\/[\w:-]+)?(\/+)?/, 'ng:///');\n }\n function templateSourceUrl(ngModuleType, compMeta, templateMeta) {\n var url;\n if (templateMeta.isInline) {\n if (compMeta.type.reference instanceof StaticSymbol) {\n // Note: a .ts file might contain multiple components with inline templates,\n // so we need to give them unique urls, as these will be used for sourcemaps.\n url = compMeta.type.reference.filePath + \".\" + compMeta.type.reference.name + \".html\";\n }\n else {\n url = identifierName(ngModuleType) + \"/\" + identifierName(compMeta.type) + \".html\";\n }\n }\n else {\n url = templateMeta.templateUrl;\n }\n return compMeta.type.reference instanceof StaticSymbol ? url : jitSourceUrl(url);\n }\n function sharedStylesheetJitUrl(meta, id) {\n var pathParts = meta.moduleUrl.split(/\/\\/g);\n var baseName = pathParts[pathParts.length - 1];\n return jitSourceUrl(\"css/\" + id + baseName + \".ngstyle.js\");\n }\n function ngModuleJitUrl(moduleMeta) {\n return jitSourceUrl(identifierName(moduleMeta.type) + \"/module.ngfactory.js\");\n }\n function templateJitUrl(ngModuleType, compMeta) {\n return jitSourceUrl(identifierName(ngModuleType) + \"/\" + identifierName(compMeta.type) + \".ngfactory.js\");\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n *
```

found in the LICENSE file at https://angular.io/license\n */\n var CORE$1 = '@angular/core';\n var Identifiers$1 = /** @class */ (function () {\n function Identifiers()
{\n }\n return Identifiers;\n }());\n /* Methods */\n Identifiers$1.NEW_METHOD = 'factory';\n Identifiers$1.TRANSFORM_METHOD = 'transform';\n Identifiers$1.PATCH_DEPS = 'patchedDeps';\n /* Instructions */\n Identifiers$1.namespaceHTML = { name: 'namespaceHTML', moduleName: CORE$1 };\n Identifiers$1.namespaceMathML = { name: 'namespaceMathML', moduleName: CORE$1 };\n Identifiers$1.namespaceSVG = { name: 'namespaceSVG', moduleName: CORE$1 };\n Identifiers$1.element = { name: 'element', moduleName: CORE$1 };\n Identifiers$1.elementStart = { name: 'elementStart', moduleName: CORE$1 };\n Identifiers$1.elementEnd = { name: 'elementEnd', moduleName: CORE$1 };\n Identifiers$1.advance = { name: 'advance', moduleName: CORE$1 };\n Identifiers$1.syntheticHostProperty = { name: 'syntheticHostProperty', moduleName: CORE$1 };\n Identifiers$1.syntheticHostListener = { name: 'syntheticHostListener', moduleName: CORE$1 };\n
Identifiers$1.attribute = { name: 'attribute', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolate1 = { name: 'attributeInterpolate1', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolate2 = { name: 'attributeInterpolate2', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolate3 = { name: 'attributeInterpolate3', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolate4 = { name: 'attributeInterpolate4', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolate5 = { name: 'attributeInterpolate5', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolate6 = { name: 'attributeInterpolate6', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolate7 = { name: 'attributeInterpolate7', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolate8 = { name: 'attributeInterpolate8', moduleName: CORE$1 };\n Identifiers$1.attributeInterpolateV = { name: 'attributeInterpolateV', moduleName: CORE$1 };\n Identifiers$1.classProp
= { name: 'classProp', moduleName: CORE$1 };\n Identifiers$1.elementContainerStart = { name: 'elementContainerStart', moduleName: CORE$1 };\n Identifiers$1.elementContainerEnd = { name: 'elementContainerEnd', moduleName: CORE$1 };\n Identifiers$1.elementContainer = { name: 'elementContainer', moduleName: CORE$1 };\n Identifiers$1.styleMap = { name: 'styleMap', moduleName: CORE$1 };\n Identifiers$1.styleMapInterpolate1 = { name: 'styleMapInterpolate1', moduleName: CORE$1 };\n Identifiers$1.styleMapInterpolate2 = { name: 'styleMapInterpolate2', moduleName: CORE$1 };\n Identifiers$1.styleMapInterpolate3 = { name: 'styleMapInterpolate3', moduleName: CORE$1 };\n Identifiers$1.styleMapInterpolate4 = { name: 'styleMapInterpolate4', moduleName: CORE$1 };\n Identifiers$1.styleMapInterpolate5 = { name: 'styleMapInterpolate5', moduleName: CORE$1 };\n Identifiers$1.styleMapInterpolate6 = { name: 'styleMapInterpolate6', moduleName: CORE$1 };\n
Identifiers$1.styleMapInterpolate7 = { name: 'styleMapInterpolate7', moduleName: CORE$1 };\n Identifiers$1.styleMapInterpolate8 = { name: 'styleMapInterpolate8', moduleName: CORE$1 };\n Identifiers$1.styleMapInterpolateV = { name: 'styleMapInterpolateV', moduleName: CORE$1 };\n Identifiers$1.classMap = { name: 'classMap', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolate1 = { name: 'classMapInterpolate1', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolate2 = { name: 'classMapInterpolate2', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolate3 = { name: 'classMapInterpolate3', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolate4 = { name: 'classMapInterpolate4', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolate5 = { name: 'classMapInterpolate5', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolate6 = { name: 'classMapInterpolate6', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolate7 = { name: 'classMapInterpolate7', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolate8 = { name: 'classMapInterpolate8', moduleName: CORE$1 };\n Identifiers$1.classMapInterpolateV = { name: 'classMapInterpolateV', moduleName: CORE$1 };\n Identifiers$1.styleProp = { name: 'styleProp', moduleName: CORE$1 };\n Identifiers$1.stylePropInterpolate1 = { name: 'stylePropInterpolate1', moduleName: CORE$1 };\n Identifiers$1.stylePropInterpolate2 = { name: 'stylePropInterpolate2', moduleName: CORE$1 };\n Identifiers$1.stylePropInterpolate3 = { name: 'stylePropInterpolate3', moduleName: CORE$1 };\n

Identifiers$1.stylePropInterpolate4 = { name: 'stylePropInterpolate4', moduleName: CORE$1 };\n
Identifiers$1.stylePropInterpolate5 = { name: 'stylePropInterpolate5', moduleName: CORE$1 };\n
Identifiers$1.stylePropInterpolate6 = { name: 'stylePropInterpolate6', moduleName: CORE$1 };\n
Identifiers$1.stylePropInterpolate7 = { name: 'stylePropInterpolate7',
moduleName: CORE$1 };\n Identifiers$1.stylePropInterpolate8 = { name: 'stylePropInterpolate8', moduleName:
CORE$1 };\n Identifiers$1.stylePropInterpolateV = { name: 'stylePropInterpolateV', moduleName: CORE$1 };\n
Identifiers$1.nextContext = { name: 'nextContext', moduleName: CORE$1 };\n Identifiers$1.templateCreate = {
name: 'template', moduleName: CORE$1 };\n Identifiers$1.text = { name: 'text', moduleName: CORE$1 };\n
Identifiers$1.enableBindings = { name: 'enableBindings', moduleName: CORE$1 };\n
Identifiers$1.disableBindings = { name: 'disableBindings', moduleName: CORE$1 };\n
Identifiers$1.getCurrentView = { name: 'getCurrentView', moduleName: CORE$1 };\n
Identifiers$1.textInterpolate = { name: 'textInterpolate', moduleName: CORE$1 };\n Identifiers$1.textInterpolate1
= { name: 'textInterpolate1', moduleName: CORE$1 };\n Identifiers$1.textInterpolate2 = { name:
'textInterpolate2', moduleName: CORE$1 };\n Identifiers$1.textInterpolate3
= { name: 'textInterpolate3', moduleName: CORE$1 };\n Identifiers$1.textInterpolate4 = { name:
'textInterpolate4', moduleName: CORE$1 };\n Identifiers$1.textInterpolate5 = { name: 'textInterpolate5',
moduleName: CORE$1 };\n Identifiers$1.textInterpolate6 = { name: 'textInterpolate6', moduleName: CORE$1
};\n Identifiers$1.textInterpolate7 = { name: 'textInterpolate7', moduleName: CORE$1 };\n
Identifiers$1.textInterpolate8 = { name: 'textInterpolate8', moduleName: CORE$1 };\n
Identifiers$1.textInterpolateV = { name: 'textInterpolateV', moduleName: CORE$1 };\n Identifiers$1.restoreView
= { name: 'restoreView', moduleName: CORE$1 };\n Identifiers$1.pureFunction0 = { name: 'pureFunction0',
moduleName: CORE$1 };\n Identifiers$1.pureFunction1 = { name: 'pureFunction1', moduleName: CORE$1 };\n
Identifiers$1.pureFunction2 = { name: 'pureFunction2', moduleName: CORE$1 };\n Identifiers$1.pureFunction3 =
{ name: 'pureFunction3',
moduleName: CORE$1 };\n Identifiers$1.pureFunction4 = { name: 'pureFunction4', moduleName: CORE$1 };\n
Identifiers$1.pureFunction5 = { name: 'pureFunction5', moduleName: CORE$1 };\n Identifiers$1.pureFunction6
= { name: 'pureFunction6', moduleName: CORE$1 };\n Identifiers$1.pureFunction7 = { name: 'pureFunction7',
moduleName: CORE$1 };\n Identifiers$1.pureFunction8 = { name: 'pureFunction8', moduleName: CORE$1 };\n
Identifiers$1.pureFunctionV = { name: 'pureFunctionV', moduleName: CORE$1 };\n Identifiers$1.pipeBind1 = {
name: 'pipeBind1', moduleName: CORE$1 };\n Identifiers$1.pipeBind2 = { name: 'pipeBind2', moduleName:
CORE$1 };\n Identifiers$1.pipeBind3 = { name: 'pipeBind3', moduleName: CORE$1 };\n
Identifiers$1.pipeBind4 = { name: 'pipeBind4', moduleName: CORE$1 };\n Identifiers$1.pipeBindV = { name:
'pipeBindV', moduleName: CORE$1 };\n Identifiers$1.hostProperty = { name: 'hostProperty', moduleName:
CORE$1 };\n Identifiers$1.property
= { name: 'property', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate = { name:
'propertyInterpolate', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate1 = { name:
'propertyInterpolate1', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate2 = { name:
'propertyInterpolate2', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate3 = { name:
'propertyInterpolate3', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate4 = { name:
'propertyInterpolate4', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate5 = { name:
'propertyInterpolate5', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate6 = { name:
'propertyInterpolate6', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate7 = { name:
'propertyInterpolate7', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolate8 = { name:
'propertyInterpolate8', moduleName: CORE$1 };\n Identifiers$1.propertyInterpolateV = { name:
'propertyInterpolateV',
moduleName: CORE$1 };\n Identifiers$1.i18n = { name: 'i18n', moduleName: CORE$1 };\n
Identifiers$1.i18nAttributes = { name: 'i18nAttributes', moduleName: CORE$1 };\n Identifiers$1.i18nExp = {
name: 'i18nExp', moduleName: CORE$1 };\n Identifiers$1.i18nStart = { name: 'i18nStart', moduleName:

CORE$1 };\n Identifiers$1.i18nEnd = { name: 'i18nEnd', moduleName: CORE$1 };\n Identifiers$1.i18nApply = { name: 'i18nApply', moduleName: CORE$1 };\n Identifiers$1.i18nPostprocess = { name: 'i18nPostprocess', moduleName: CORE$1 };\n Identifiers$1.pipe = { name: 'pipe', moduleName: CORE$1 };\n Identifiers$1.projection = { name: 'projection', moduleName: CORE$1 };\n Identifiers$1.projectionDef = { name: 'projectionDef', moduleName: CORE$1 };\n Identifiers$1.reference = { name: 'reference', moduleName: CORE$1 };\n Identifiers$1.inject = { name: 'inject', moduleName: CORE$1 };\n Identifiers$1.injectAttribute = { name: 'injectAttribute',
moduleName: CORE$1 };\n Identifiers$1.injectPipeChangeDetectorRef = { name: 'injectPipeChangeDetectorRef', moduleName: CORE$1 };\n Identifiers$1.directiveInject = { name: 'directiveInject', moduleName: CORE$1 };\n Identifiers$1.invalidFactory = { name: 'invalidFactory', moduleName: CORE$1 };\n Identifiers$1.invalidFactoryDep = { name: 'invalidFactoryDep', moduleName: CORE$1 };\n Identifiers$1.templateRefExtractor = { name: 'templateRefExtractor', moduleName: CORE$1 };\n Identifiers$1.resolveWindow = { name: 'resolveWindow', moduleName: CORE$1 };\n Identifiers$1.resolveDocument = { name: 'resolveDocument', moduleName: CORE$1 };\n Identifiers$1.resolveBody = { name: 'resolveBody', moduleName: CORE$1 };\n Identifiers$1.defineComponent = { name: 'defineComponent', moduleName: CORE$1 };\n Identifiers$1.setComponentScope = { name: 'setComponentScope', moduleName: CORE$1 };\n Identifiers$1.ComponentDefWithMeta = {\n name: 'ComponentDefWithMeta',\n moduleName: CORE$1,\n };\n Identifiers$1.FactoryDef = {\n name: 'FactoryDef',\n moduleName: CORE$1,\n };\n Identifiers$1.defineDirective = {\n name: 'defineDirective',\n moduleName: CORE$1,\n };\n Identifiers$1.DirectiveDefWithMeta = {\n name: 'DirectiveDefWithMeta',\n moduleName: CORE$1,\n };\n Identifiers$1.InjectorDef = {\n name: 'InjectorDef',\n moduleName: CORE$1,\n };\n Identifiers$1.defineInjector = {\n name: 'defineInjector',\n moduleName: CORE$1,\n };\n Identifiers$1.NgModuleDefWithMeta = {\n name: 'NgModuleDefWithMeta',\n moduleName: CORE$1,\n };\n Identifiers$1.ModuleWithProviders = {\n name: 'ModuleWithProviders',\n moduleName: CORE$1,\n };\n Identifiers$1.defineNgModule = { name: 'defineNgModule', moduleName: CORE$1 };\n Identifiers$1.setNgModuleScope = { name: 'setNgModuleScope', moduleName: CORE$1 };\n Identifiers$1.PipeDefWithMeta = { name: 'PipeDefWithMeta', moduleName: CORE$1 };\n Identifiers$1.definePipe = { name: 'definePipe', moduleName: CORE$1 };\n Identifiers$1.queryRefresh = { name: 'queryRefresh', moduleName: CORE$1 };\n Identifiers$1.viewQuery = { name: 'viewQuery', moduleName: CORE$1 };\n Identifiers$1.staticViewQuery = { name: 'staticViewQuery', moduleName: CORE$1 };\n Identifiers$1.staticContentQuery = { name: 'staticContentQuery', moduleName: CORE$1 };\n Identifiers$1.loadQuery = { name: 'loadQuery', moduleName: CORE$1 };\n Identifiers$1.contentQuery = { name: 'contentQuery', moduleName: CORE$1 };\n Identifiers$1.NgOnChangesFeature = { name: 'NgOnChangesFeature', moduleName: CORE$1 };\n Identifiers$1.InheritDefinitionFeature = { name: 'InheritDefinitionFeature', moduleName: CORE$1 };\n Identifiers$1.CopyDefinitionFeature = { name: 'CopyDefinitionFeature', moduleName: CORE$1 };\n Identifiers$1.ProvidersFeature = { name: 'ProvidersFeature', moduleName: CORE$1 };\n Identifiers$1.listener = { name: 'listener', moduleName: CORE$1 };\n Identifiers$1.getFactoryOf = {\n name: 'getFactoryOf',\n moduleName: CORE$1,\n };\n Identifiers$1.getInheritedFactory = {\n name: 'getInheritedFactory',\n moduleName: CORE$1,\n };\n // sanitization-related functions\n Identifiers$1.sanitizeHtml = { name: 'sanitizeHtml', moduleName: CORE$1 };\n Identifiers$1.sanitizeStyle = { name: 'sanitizeStyle', moduleName: CORE$1 };\n Identifiers$1.sanitizeResourceUrl = { name: 'sanitizeResourceUrl', moduleName: CORE$1 };\n Identifiers$1.sanitizeScript = { name: 'sanitizeScript', moduleName: CORE$1 };\n Identifiers$1.sanitizeUrl = { name: 'sanitizeUrl', moduleName: CORE$1 };\n Identifiers$1.sanitizeUrlOrResourceUrl = { name: 'sanitizeUrlOrResourceUrl', moduleName: CORE$1 };\n Identifiers$1.trustConstantHtml = {
name: 'trustConstantHtml', moduleName: CORE$1 };\n Identifiers$1.trustConstantScript = { name: 'trustConstantScript', moduleName: CORE$1 };\n Identifiers$1.trustConstantResourceUrl = { name: 'trustConstantResourceUrl', moduleName: CORE$1 };\n\n /**\n * @license\n * Copyright Google LLC All

Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Convert an object map with `Expression` values into a `LiteralMapExpr`.\n */\n function mapToMapExpression(map) {\n var result = Object.keys(map).map(function (key) { return ({\n key: key,\n // The assertion here is because really TypeScript doesn't allow us to express that if the\n // key is present, it will have a value, but this is true in reality.\n value: map[key],\n quoted: false,\n }); });\n return literalMap(result);\n }\n /**\n * Convert metadata into an `Expression` in the given `OutputContext`.\n *\n * This operation will handle arrays, references to symbols, or literal `null` or `undefined`.\n */\n function convertMetaToOutput(meta, ctx) {\n if (Array.isArray(meta)) {\n return literalArr(meta.map(function (entry) { return convertMetaToOutput(entry, ctx); }));\n }\n if (meta instanceof StaticSymbol) {\n return ctx.importExpr(meta);\n }\n if (meta == null) {\n return literal(meta);\n }\n throw new Error(\"Internal error: Unsupported or unknown metadata: \" + meta);\n }\n function typeWithParameters(type, numParams) {\n if (numParams === 0) {\n return expressionType(type);\n }\n var params = [];\n for (var i = 0; i < numParams; i++) {\n params.push(DYNAMIC_TYPE);\n }\n return expressionType(type, undefined, params);\n }\n var ANIMATE_SYMBOL_PREFIX = '@';\n function prepareSyntheticPropertyName(name) {\n return \"\" + ANIMATE_SYMBOL_PREFIX + name;\n }\n function prepareSyntheticListenerName(name, phase) {\n return \"\" + ANIMATE_SYMBOL_PREFIX + name + \".\" + phase;\n }\n function isSyntheticPropertyOrListener(name) {\n return name.charAt(0) == ANIMATE_SYMBOL_PREFIX;\n }\n function getSyntheticPropertyName(name) {\n // this will strip out listener phase values...\n // @foo.start => @foo\n var i = name.indexOf('.');\n name = i > 0 ? name.substring(0, i) : name;\n if (name.charAt(0) !== ANIMATE_SYMBOL_PREFIX) {\n name = ANIMATE_SYMBOL_PREFIX + name;\n }\n return name;\n }\n function prepareSyntheticListenerFunctionName(name, phase) {\n return \"animation_\" + name + \"_\" + phase;\n }\n function jitOnlyGuardedExpression(expr) {\n var ngJitMode = new ExternalExpr({ name: 'ngJitMode', moduleName: null });\n var jitFlagNotDefined = new BinaryOperatorExpr(exports.BinaryOperator.Identical, new TypeofExpr(ngJitMode), literal('undefined'));\n var jitFlagUndefinedOrTrue = new BinaryOperatorExpr(exports.BinaryOperator.Or, jitFlagNotDefined, ngJitMode, /* type */ undefined, \n /* sourceSpan */ undefined, true);\n return new BinaryOperatorExpr(exports.BinaryOperator.And, jitFlagUndefinedOrTrue, expr);\n }\n function wrapReference(value) {\n var wrapped = new WrappedNodeExpr(value);\n return { value: wrapped, type: wrapped };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var Text = /** @class */ (function () {\n function Text(value, sourceSpan) {\n this.value = value;\n this.sourceSpan = sourceSpan;\n }\n Text.prototype.visit = function (visitor) {\n return visitor.visitText(this);\n };\n return Text;\n }());\n var BoundText = /** @class */ (function () {\n function BoundText(value, sourceSpan, i18n) {\n this.value = value;\n this.sourceSpan = sourceSpan;\n this.i18n = i18n;\n }\n BoundText.prototype.visit = function (visitor) {\n return visitor.visitBoundText(this);\n };\n return BoundText;\n }());\n var TextAttribute = /** @class */ (function () {\n function TextAttribute(name, value, sourceSpan, valueSpan, i18n) {\n this.name = name;\n this.value = value;\n this.sourceSpan = sourceSpan;\n this.valueSpan = valueSpan;\n this.i18n = i18n;\n }\n TextAttribute.prototype.visit = function (visitor) {\n return visitor.visitTextAttribute(this);\n };\n return TextAttribute;\n }());\n var BoundAttribute = /** @class */ (function () {\n function BoundAttribute(name, type, securityContext, value, unit, sourceSpan, keySpan, valueSpan, i18n) {\n this.name = name;\n this.type = type;\n this.securityContext = securityContext;\n this.value = value;\n this.unit = unit;\n this.sourceSpan = sourceSpan;\n this.keySpan = keySpan;\n

this.valueSpan = valueSpan;\n this.i18n = i18n;\n }\n BoundAttribute.fromBoundElementProperty = function (prop, i18n) {\n if (prop.keySpan === undefined) {\n throw new Error(\"Unexpected state: keySpan must be defined for bound attributes but was not for \" + prop.name + \": \" + prop.sourceSpan);\n }\n return new BoundAttribute(prop.name, prop.type, prop.securityContext, prop.value, prop.unit, prop.sourceSpan, prop.keySpan, prop.valueSpan,
i18n);\n };\n BoundAttribute.prototype.visit = function (visitor) {\n return visitor.visitBoundAttribute(this);\n };\n return BoundAttribute;\n }());\n var BoundEvent = /** @class */ (function () {\n function BoundEvent(name, type, handler, target, phase, sourceSpan, handlerSpan) {\n this.name = name;\n this.type = type;\n this.handler = handler;\n this.target = target;\n this.phase = phase;\n this.sourceSpan = sourceSpan;\n this.handlerSpan = handlerSpan;\n }\n BoundEvent.fromParsedEvent = function (event) {\n var target = event.type === 0 /* Regular */ ? event.targetOrPhase : null;\n var phase = event.type === 1 /* Animation */ ? event.targetOrPhase : null;\n return new BoundEvent(event.name, event.type, event.handler, target, phase, event.sourceSpan, event.handlerSpan);\n };\n BoundEvent.prototype.visit
= function (visitor) {\n return visitor.visitBoundEvent(this);\n };\n return BoundEvent;\n }());\n var Element = /** @class */ (function () {\n function Element(name, attributes, inputs, outputs, children, references, sourceSpan, startSourceSpan, endSourceSpan, i18n) {\n this.name = name;\n this.attributes = attributes;\n this.inputs = inputs;\n this.outputs = outputs;\n this.children = children;\n this.references = references;\n this.sourceSpan = sourceSpan;\n this.startSourceSpan = startSourceSpan;\n this.endSourceSpan = endSourceSpan;\n this.i18n = i18n;\n }\n Element.prototype.visit = function (visitor) {\n return visitor.visitElement(this);\n };\n return Element;\n }());\n var Template = /** @class */ (function () {\n function Template(tagName, attributes, inputs,
outputs, templateAttrs, children, references, variables, sourceSpan, startSourceSpan, endSourceSpan, i18n) {\n this.tagName = tagName;\n this.attributes = attributes;\n this.inputs = inputs;\n this.outputs = outputs;\n this.templateAttrs = templateAttrs;\n this.children = children;\n this.references = references;\n this.variables = variables;\n this.sourceSpan = sourceSpan;\n this.startSourceSpan = startSourceSpan;\n this.endSourceSpan = endSourceSpan;\n this.i18n = i18n;\n }\n Template.prototype.visit = function (visitor) {\n return visitor.visitTemplate(this);\n };\n return Template;\n }());\n var Content = /** @class */ (function () {\n function Content(selector, attributes, sourceSpan, i18n) {\n this.selector = selector;\n this.attributes = attributes;\n this.sourceSpan = sourceSpan;\n this.i18n = i18n;\n this.name = 'ng-content';\n }\n Content.prototype.visit = function (visitor) {\n return visitor.visitContent(this);\n };\n return Content;\n }());\n var Variable = /** @class */ (function () {\n function Variable(name, value, sourceSpan, keySpan, valueSpan) {\n this.name = name;\n this.value = value;\n this.sourceSpan = sourceSpan;\n this.keySpan = keySpan;\n this.valueSpan = valueSpan;\n }\n Variable.prototype.visit = function (visitor) {\n return visitor.visitVariable(this);\n };\n return Variable;\n }());\n var Reference = /** @class */ (function () {\n function Reference(name, value, sourceSpan, valueSpan) {\n this.name = name;\n this.value = value;\n this.sourceSpan = sourceSpan;\n this.valueSpan = valueSpan;\n }\n Reference.prototype.visit = function (visitor) {\n return visitor.visitReference(this);\n };\n return Reference;\n }());\n var Icu = /** @class */ (function () {\n function Icu(vars, placeholders, sourceSpan, i18n) {\n this.vars = vars;\n this.placeholders = placeholders;\n this.sourceSpan = sourceSpan;\n this.i18n = i18n;\n }\n Icu.prototype.visit = function (visitor) {\n return visitor.visitIcu(this);\n };\n return Icu;\n }());\n var NullVisitor = /** @class */ (function () {\n function NullVisitor() {\n }\n NullVisitor.prototype.visitElement = function (element) { };\n NullVisitor.prototype.visitTemplate = function (template) { };\n NullVisitor.prototype.visitContent = function (content) { };\n NullVisitor.prototype.visitVariable = function (variable) { };\n NullVisitor.prototype.visitReference = function

```
(reference) { };\n NullVisitor.prototype.visitTextAttribute = function (attribute) { };\n
NullVisitor.prototype.visitBoundAttribute = function (attribute) { };\n NullVisitor.prototype.visitBoundEvent =
function (attribute) { };\n NullVisitor.prototype.visitText = function (text) { };\n
NullVisitor.prototype.visitBoundText = function (text) { };\n NullVisitor.prototype.visitIcu = function (icu) {
};\n return NullVisitor;\n }());\n var RecursiveVisitor = /** @class */ (function () {\n function
RecursiveVisitor() {\n }\n RecursiveVisitor.prototype.visitElement = function (element) {\n
visitAll(this, element.attributes);\n visitAll(this, element.children);\n visitAll(this,
element.references);\n };\n RecursiveVisitor.prototype.visitTemplate = function (template) {\n
visitAll(this, template.attributes);\n visitAll(this, template.children);\n
visitAll(this, template.references);\n visitAll(this, template.variables);\n };\n
RecursiveVisitor.prototype.visitContent = function (content) { };\n RecursiveVisitor.prototype.visitVariable =
function (variable) { };\n RecursiveVisitor.prototype.visitReference = function (reference) { };\n
RecursiveVisitor.prototype.visitTextAttribute = function (attribute) { };\n
RecursiveVisitor.prototype.visitBoundAttribute = function (attribute) { };\n
RecursiveVisitor.prototype.visitBoundEvent = function (attribute) { };\n RecursiveVisitor.prototype.visitText =
function (text) { };\n RecursiveVisitor.prototype.visitBoundText = function (text) { };\n
RecursiveVisitor.prototype.visitIcu = function (icu) { };\n return RecursiveVisitor;\n }());\n var
TransformVisitor = /** @class */ (function () {\n function TransformVisitor() {\n }\n
TransformVisitor.prototype.visitElement =
function (element) {\n var newAttributes = transformAll(this, element.attributes);\n var newInputs =
transformAll(this, element.inputs);\n var newOutputs = transformAll(this, element.outputs);\n var
newChildren = transformAll(this, element.children);\n var newReferences = transformAll(this,
element.references);\n if (newAttributes != element.attributes || newInputs != element.inputs ||\n
newOutputs != element.outputs || newChildren != element.children ||\n newReferences !=
element.references) {\n return new Element(element.name, newAttributes, newInputs, newOutputs,
newChildren, newReferences, element.sourceSpan, element.startSourceSpan, element.endSourceSpan);\n }\n
return element;\n };\n TransformVisitor.prototype.visitTemplate = function (template) {\n var
newAttributes = transformAll(this, template.attributes);\n var
newInputs = transformAll(this, template.inputs);\n var newOutputs = transformAll(this, template.outputs);\n
var newTemplateAttrs = transformAll(this, template.templateAttrs);\n var newChildren =
transformAll(this, template.children);\n var newReferences = transformAll(this, template.references);\n
var newVariables = transformAll(this, template.variables);\n if (newAttributes != template.attributes ||
newInputs != template.inputs ||\n newOutputs != template.outputs || newTemplateAttrs !=
template.templateAttrs ||\n newChildren != template.children || newReferences != template.references ||\n
newVariables != template.variables) {\n return new Template(template.tagName, newAttributes,
newInputs, newOutputs, newTemplateAttrs, newChildren, newReferences, newVariables, template.sourceSpan,
template.startSourceSpan, template.endSourceSpan);\n }\n
return template;\n };\n TransformVisitor.prototype.visitContent = function (content) {\n return
content;\n };\n TransformVisitor.prototype.visitVariable = function (variable) {\n return variable;\n
};\n TransformVisitor.prototype.visitReference = function (reference) {\n return reference;\n };\n
TransformVisitor.prototype.visitTextAttribute = function (attribute) {\n return attribute;\n };\n
TransformVisitor.prototype.visitBoundAttribute = function (attribute) {\n return attribute;\n };\n
TransformVisitor.prototype.visitBoundEvent = function (attribute) {\n return attribute;\n };\n
TransformVisitor.prototype.visitText = function (text) {\n return text;\n };\n
TransformVisitor.prototype.visitBoundText = function (text) {\n return text;\n };\n
TransformVisitor.prototype.visitIcu
= function (icu) {\n return icu;\n };\n return TransformVisitor;\n }());\n function visitAll(visitor,
nodes) {\n var e_1, _a, e_2, _b;\n var result = [];\n if (visitor.visit) {\n try {\n for (var
```

nodes_1 = __values(nodes), nodes_1_1 = nodes_1.next(); !nodes_1_1.done; nodes_1_1 = nodes_1.next()) {\n var node = nodes_1_1.value;\n var newNode = visitor.visit(node) || node.visit(visitor);\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (nodes_1_1 && !nodes_1_1.done && (_a = nodes_1.return)) _a.call(nodes_1);\n }\n finally { if (e_1) throw e_1.error; }\n }\n }\n else {\n try {\n for (var nodes_2 = __values(nodes), nodes_2_1 = nodes_2.next(); !nodes_2_1.done; nodes_2_1 = nodes_2.next()) {\n var node = nodes_2_1.value;\n var newNode = node.visit(visitor);\n if (newNode) {\n result.push(newNode);\n }\n }\n }\n catch (e_2_1) { e_2 = { error: e_2_1 }; }\n finally {\n try {\n if (nodes_2_1 && !nodes_2_1.done && (_b = nodes_2.return)) _b.call(nodes_2);\n }\n finally { if (e_2) throw e_2.error; }\n }\n }\n return result;\n }\n function transformAll(visitor, nodes) {\n var e_3, _a;\n var result = [];\n var changed = false;\n try {\n for (var nodes_3 = __values(nodes), nodes_3_1 = nodes_3.next(); !nodes_3_1.done; nodes_3_1 = nodes_3.next()) {\n var node = nodes_3_1.value;\n var newNode = node.visit(visitor);\n if (newNode) {\n result.push(newNode);\n }\n changed = changed || newNode != node;\n }\n }\n catch (e_3_1) { e_3 = { error: e_3_1 }; }\n finally {\n try {\n if (nodes_3_1 && !nodes_3_1.done && (_a = nodes_3.return)) _a.call(nodes_3);\n }\n finally { if (e_3) throw e_3.error; }\n }\n return changed ? result : nodes;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var Message = /** @class */ (function () {\n /**\n * @param nodes message AST\n * @param placeholders maps placeholder names to static content and their source spans\n * @param placeholderToMessage maps placeholder names to messages (used for nested ICU messages)\n * @param meaning\n * @param description\n * @param customId\n */\n function Message(nodes, placeholders, placeholderToMessage, meaning, description, customId) {\n this.nodes = nodes;\n this.placeholders = placeholders;\n this.placeholderToMessage = placeholderToMessage;\n this.meaning = meaning;\n this.description = description;\n this.customId = customId;\n this.id = this.customId;\n /** The ids to use if there are no custom id and if `i18nLegacyMessageIdFormat` is not empty */\n this.legacyIds = [];\n if (nodes.length) {\n this.sources = [{\n filePath: nodes[0].sourceSpan.start.file.url,\n startLine: nodes[0].sourceSpan.start.line + 1,\n startCol: nodes[0].sourceSpan.start.col + 1,\n endLine: nodes[nodes.length - 1].sourceSpan.end.line + 1,\n endCol: nodes[0].sourceSpan.start.col + 1\n }];\n }\n else {\n this.sources = [];\n }\n }\n return Message;\n }());\n var Text$1 = /** @class */ (function () {\n function Text(value, sourceSpan) {\n this.value = value;\n this.sourceSpan = sourceSpan;\n }\n Text.prototype.visit = function (visitor, context) {\n return visitor.visitText(this, context);\n };\n return Text;\n }());\n // TODO(vicb): do we really need this node (vs an array) ?\n var Container = /** @class */ (function () {\n function Container(children, sourceSpan) {\n this.children = children;\n this.sourceSpan = sourceSpan;\n }\n Container.prototype.visit = function (visitor, context) {\n return visitor.visitContainer(this, context);\n };\n return Container;\n }());\n var Icu$1 = /** @class */ (function () {\n function Icu(expression, type, cases, sourceSpan) {\n this.expression = expression;\n this.type = type;\n this.cases = cases;\n this.sourceSpan = sourceSpan;\n }\n Icu.prototype.visit = function (visitor, context) {\n return visitor.visitIcu(this, context);\n };\n return Icu;\n }());\n var TagPlaceholder = /** @class */ (function () {\n function TagPlaceholder(tag, attrs, startName, closeName, children, isVoid, \n // TODO sourceSpan should cover all (we need a startSourceSpan and endSourceSpan)\n sourceSpan, startSourceSpan, endSourceSpan) {\n this.tag = tag;\n this.attrs = attrs;\n this.startName = startName;\n this.closeName = closeName;\n this.children = children;\n this.isVoid = isVoid;\n this.sourceSpan = sourceSpan;\n this.startSourceSpan =

startSourceSpan;\n
this.endSourceSpan = endSourceSpan;\n }\n TagPlaceholder.prototype.visit = function (visitor, context) {\n return visitor.visitTagPlaceholder(this, context);\n };\n return TagPlaceholder;\n }());\n var Placeholder = /** @class */ (function () {\n function Placeholder(value, name, sourceSpan) {\n this.value = value;\n this.name = name;\n this.sourceSpan = sourceSpan;\n }\n Placeholder.prototype.visit = function (visitor, context) {\n return visitor.visitPlaceholder(this, context);\n };\n return Placeholder;\n }());\n var IcuPlaceholder = /** @class */ (function () {\n function IcuPlaceholder(value, name, sourceSpan) {\n this.value = value;\n this.name = name;\n this.sourceSpan = sourceSpan;\n }\n IcuPlaceholder.prototype.visit = function (visitor, context) {\n return visitor.visitIcuPlaceholder(this,
context);\n };\n return IcuPlaceholder;\n }());\n // Clone the AST\n var CloneVisitor = /** @class */ (function () {\n function CloneVisitor() {\n }\n CloneVisitor.prototype.visitText = function (text, context) {\n return new Text$1(text.value, text.sourceSpan);\n };\n CloneVisitor.prototype.visitContainer = function (container, context) {\n var _this = this;\n var children = container.children.map(function (n) { return n.visit(_this, context); });\n return new Container(children, container.sourceSpan);\n };\n CloneVisitor.prototype.visitIcu = function (icu, context) {\n var _this = this;\n var cases = {};\n Object.keys(icu.cases).forEach(function (key) { return cases[key] = icu.cases[key].visit(_this, context); });\n var msg = new Icu$1(icu.expression, icu.type, cases, icu.sourceSpan);\n msg.expressionPlaceholder
= icu.expressionPlaceholder;\n return msg;\n };\n CloneVisitor.prototype.visitTagPlaceholder = function (ph, context) {\n var _this = this;\n var children = ph.children.map(function (n) { return n.visit(_this, context); });\n return new TagPlaceholder(ph.tag, ph.attrs, ph.startName, ph.closeName, children, ph.isVoid, ph.sourceSpan, ph.startSourceSpan, ph.endSourceSpan);\n };\n CloneVisitor.prototype.visitPlaceholder = function (ph, context) {\n return new Placeholder(ph.value, ph.name, ph.sourceSpan);\n };\n CloneVisitor.prototype.visitIcuPlaceholder = function (ph, context) {\n return new IcuPlaceholder(ph.value, ph.name, ph.sourceSpan);\n };\n return CloneVisitor;\n }());\n // Visit all the nodes recursively\n var RecurseVisitor = /** @class */ (function () {\n function RecurseVisitor() {\n }\n RecurseVisitor.prototype.visitText
= function (text, context) { };\n RecurseVisitor.prototype.visitContainer = function (container, context) {\n var _this = this;\n container.children.forEach(function (child) { return child.visit(_this); });\n };\n RecurseVisitor.prototype.visitIcu = function (icu, context) {\n var _this = this;\n Object.keys(icu.cases).forEach(function (k) {\n icu.cases[k].visit(_this);\n });\n };\n RecurseVisitor.prototype.visitTagPlaceholder = function (ph, context) {\n var _this = this;\n ph.children.forEach(function (child) { return child.visit(_this); });\n };\n RecurseVisitor.prototype.visitPlaceholder = function (ph, context) { };\n RecurseVisitor.prototype.visitIcuPlaceholder = function (ph, context) { };\n return RecurseVisitor;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n *
Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Represents a big integer using a buffer of its individual digits, with the least significant\n * digit stored at the beginning of the array (little endian).\n *\n * For performance reasons, each instance is mutable. The addition operation can be done in-place\n * to reduce memory pressure of allocation for the digits array.\n */\n var BigInteger = /** @class */ (function () {\n /**\n * Creates a big integer using its individual digits in little endian storage.\n */\n function BigInteger(digits) {\n this.digits = digits;\n }\n BigInteger.zero = function () {\n return new BigInteger([0]);\n };\n BigInteger.one = function () {\n return new BigInteger([1]);\n };\n /**\n * Creates a clone of this instance.\n
*/\n BigInteger.prototype.clone = function () {\n return new BigInteger(this.digits.slice());\n };\n /**\n * Returns a new big integer with the sum of `this` and `other` as its value. This does not mutate\n

```
 * `this` but instead returns a new instance, unlike `addToSelf`.\n */\n BigInteger.prototype.add = function (other) {\n var result = this.clone();\n result.addToSelf(other);\n return result;\n };\n /**\n * Adds `other` to the instance itself, thereby mutating its value.\n */\n BigInteger.prototype.addToSelf = function (other) {\n var maxNrOfDigits = Math.max(this.digits.length, other.digits.length);\n var carry = 0;\n for (var i = 0; i < maxNrOfDigits; i++) {\n var digitSum = carry;\n if (i < this.digits.length) {\n digitSum += this.digits[i];\n }\n if (i < other.digits.length) {\n digitSum += other.digits[i];\n }\n if (digitSum >= 10) {\n this.digits[i] = digitSum - 10;\n carry = 1;\n }\n else {\n this.digits[i] = digitSum;\n carry = 0;\n }\n }\n // Apply a remaining carry if needed.\n if (carry > 0) {\n this.digits[maxNrOfDigits] = 1;\n }\n };\n /**\n * Builds the decimal string representation of the big integer. As this is stored in\n * little endian, the digits are concatenated in reverse order.\n */\n BigInteger.prototype.toString = function () {\n var res = '';\n for (var i = this.digits.length - 1; i >= 0; i--) {\n res += this.digits[i];\n }\n return res;\n };\n return BigInteger;\n }());\n /**\n * Represents a big integer which is optimized for multiplication operations, as its power-of-twos\n * are memoized. See `multiplyBy()` for details on the multiplication algorithm.\n */\n var BigIntForMultiplication = /** @class */ (function () {\n function BigIntForMultiplication(value) {\n this.powerOfTwos = [value];\n }\n /**\n * Returns the big integer itself.\n */\n BigIntForMultiplication.prototype.getValue = function () {\n return this.powerOfTwos[0];\n };\n /**\n * Computes the value for `num * b`, where `num` is a JS number and `b` is a big integer. The\n * value for `b` is represented by a storage model that is optimized for this computation.\n *\n * This operation is implemented in N(log2(num)) by continuous halving of the number, where the\n * least-significant bit (LSB) is tested in each iteration.
 If the bit is set, the bit's index is\n * used as exponent into the power-of-two multiplication of `b`.\n *\n
  * As an example, consider the multiplication num=42, b=1337. In binary 42 is 0b00101010 and the\n * algorithm unrolls into the following iterations:\n *\n * Iteration | num | LSB | b * 2^iter | Add? | product\n * -----------|------------|------|------------|------|--------\n * 0 | 0b00101010 | 0 | 1337 | No | 0\n * 1 | 0b00010101 | 1 | 2674 | Yes | 2674\n * 2 | 0b00001010 | 0 | 5348 | No | 2674\n * 3 | 0b00000101 | 1 | 10696 | Yes | 13370\n * 4 | 0b00000010 | 0 | 21392 | No | 13370\n * 5 | 0b00000001 | 1 | 42784 | Yes | 56154\n * 6 | 0b00000000 | 0 | 85568 | No | 56154\n *\n * The computed product of 56154 is
 indeed the correct result.\n *\n * The `BigIntForMultiplication` representation for a big integer provides memoized access to the\n * power-of-two values to reduce the workload in computing those values.\n */\n
  BigIntForMultiplication.prototype.multiplyBy = function (num) {\n var product = BigInteger.zero();\n
  this.multiplyByAndAddTo(num, product);\n return product;\n };\n /**\n * See `multiplyBy()` for details. This function allows for the computed product to be added\n * directly to the provided result big integer.\n */\n BigIntForMultiplication.prototype.multiplyByAndAddTo = function (num, result) {\n for (var exponent = 0; num !== 0; num = num >>> 1, exponent++) {\n if (num & 1) {\n var value = this.getMultipliedByPowerOfTwo(exponent);\n result.addToSelf(value);\n }\n }\n
  };\n /**\n * Computes and memoizes the big integer value for `this.number * 2^exponent`.\n */\n
 BigIntForMultiplication.prototype.getMultipliedByPowerOfTwo = function (exponent) {\n // Compute the powers up until the requested exponent, where each value is computed from its\n // predecessor. This is simple as `this.number * 2^(exponent - 1)` only has to be doubled (i.e.\n // added to itself) to reach `this.number * 2^exponent`.\n for (var i = this.powerOfTwos.length; i <= exponent; i++) {\n var previousPower = this.powerOfTwos[i - 1];\n this.powerOfTwos[i] = previousPower.add(previousPower);\n }\n return this.powerOfTwos[exponent];\n };\n return BigIntForMultiplication;\n }());\n /**\n * Represents an exponentiation operation for the provided base, of which exponents are computed and\n *
```

memoized. The results are represented by a `BigIntForMultiplication`
 which is tailored for\n * multiplication operations by memoizing the power-of-twos. This effectively results in a matrix\n * representation that is lazily computed upon request.\n */\n var BigIntExponentiation = /** @class */ (function () {\n function BigIntExponentiation(base) {\n this.base = base;\n this.exponents = [new BigIntForMultiplication(BigInteger.one())];\n }\n /**\n * Compute the value for `this.base^exponent`, resulting in a big integer that is optimized for\n * further multiplication operations.\n */\n BigIntExponentiation.prototype.toThePowerOf = function (exponent) {\n // Compute the results up until the requested exponent, where every value is computed from its\n // predecessor. This is because `this.base^(exponent - 1)` only has to be multiplied by `base`\n // to reach `this.base^exponent`.\n for (var i = this.exponents.length;
 i <= exponent; i++) {\n var value = this.exponents[i - 1].multiplyBy(this.base);\n this.exponents[i] = new BigIntForMultiplication(value);\n }\n return this.exponents[exponent];\n };\n return BigIntExponentiation;\n }());\n\n /**\n * Return the message id or compute it using the XLIFF1 digest.\n */\n function digest(message) {\n return message.id || computeDigest(message);\n }\n /**\n * Compute the message id using the XLIFF1 digest.\n */\n function computeDigest(message) {\n return sha1(serializeNodes(message.nodes).join('') + (\"[\" + message.meaning + \"]\"));\n }\n /**\n * Return the message id or compute it using the XLIFF2/XMB/$localize digest.\n */\n function decimalDigest(message) {\n return message.id || computeDecimalDigest(message);\n }\n /**\n * Compute the message id using the XLIFF2/XMB/$localize digest.\n */\n
 function computeDecimalDigest(message) {\n var visitor = new _SerializerIgnoreIcuExpVisitor();\n var parts = message.nodes.map(function (a) { return a.visit(visitor, null); });\n return computeMsgId(parts.join(''), message.meaning);\n }\n /**\n * Serialize the i18n ast to something xml-like in order to generate an UID.\n *\n * The visitor is also used in the i18n parser tests\n *\n * @internal\n */\n var _SerializerVisitor = /** @class */ (function () {\n function _SerializerVisitor() {\n }\n _SerializerVisitor.prototype.visitText = function (text, context) {\n return text.value;\n };\n _SerializerVisitor.prototype.visitContainer = function (container, context) {\n var _this = this;\n return \"[\" + container.children.map(function (child) { return child.visit(_this); }).join(', ') + \"]\";\n };\n _SerializerVisitor.prototype.visitIcu = function (icu, context) {\n var _this = this;\n var strCases = Object.keys(icu.cases).map(function (k) { return k + \" {\" + icu.cases[k].visit(_this) + \"}\"; });\n return \"{\" + icu.expression + \", \" + icu.type + \", \" + strCases.join(', ') + \"}\";\n };\n _SerializerVisitor.prototype.visitTagPlaceholder = function (ph, context) {\n var _this = this;\n return ph.isVoid ?\n \"<ph tag name=\\\"\" + ph.startName + \"\\\"/>\" :\n \"<ph tag name=\\\"\" + ph.startName + \"\\\">\" + ph.children.map(function (child) { return child.visit(_this); }).join(', ') + \"</ph name=\\\"\" + ph.closeName + \"\\\">\";\n };\n _SerializerVisitor.prototype.visitPlaceholder = function (ph, context) {\n return ph.value ? \"<ph name=\\\"\" + ph.name + \"\\\">\" + ph.value + \"</ph>\" : \"<ph name=\\\"\" + ph.name + \"\\\"/>\";\n };\n _SerializerVisitor.prototype.visitIcuPlaceholder
 = function (ph, context) {\n return \"<ph icu name=\\\"\" + ph.name + \"\\\">\" + ph.value.visit(this) + \"</ph>\";\n };\n return _SerializerVisitor;\n }());\n var serializerVisitor = new _SerializerVisitor();\n function serializeNodes(nodes) {\n return nodes.map(function (a) { return a.visit(serializerVisitor, null); });\n }\n /**\n * Serialize the i18n ast to something xml-like in order to generate an UID.\n *\n * Ignore the ICU expressions so that message IDs stays identical if only the expression changes.\n *\n * @internal\n */\n var _SerializerIgnoreIcuExpVisitor = /** @class */ (function (_super) {\n __extends(_SerializerIgnoreIcuExpVisitor, _super);\n function _SerializerIgnoreIcuExpVisitor() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n _SerializerIgnoreIcuExpVisitor.prototype.visitIcu = function (icu, context) {\n var _this
 = this;\n var strCases = Object.keys(icu.cases).map(function (k) { return k + \" {\" + icu.cases[k].visit(_this) + \"}\"; });\n // Do not take the expression into account\n return \"{\" + icu.type + \", \" + strCases.join(', ') + \"}\";\n };\n return _SerializerIgnoreIcuExpVisitor;\n }(_SerializerVisitor));\n /**\n

```
 * Compute the SHA1 of the given string\n     *\n     * see https://csrc.nist.gov/publications/fips/fips180-4/fips-180-4.pdf\n     *\n     * WARNING: this function has not been designed not tested with security in mind.\n     *          DO NOT USE IT IN A SECURITY SENSITIVE CONTEXT.\n     */\n    function sha1(str) {\n        var utf8 = utf8Encode(str);\n        var words32 = bytesToWords32(utf8, Endian.Big);\n        var len = utf8.length * 8;\n        var w = newArray(80);\n        var a = 0x67452301, b = 0xefcdab89, c = 0x98badcfe, d = 0x10325476, e = 0xc3d2e1f0;\n        words32[len >> 5] |= 0x80 << (24 - len % 32);\n        words32[((len + 64 >> 9) << 4) + 15] = len;\n        for (var i = 0; i < words32.length; i += 16) {\n            var h0 = a, h1 = b, h2 = c, h3 = d, h4 = e;\n            for (var j = 0; j < 80; j++) {\n                if (j < 16) {\n                    w[j] = words32[i + j];\n                }\n                else {\n                    w[j] = rol32(w[j - 3] ^ w[j - 8] ^ w[j - 14] ^ w[j - 16], 1);\n                }\n                var fkVal = fk(j, b, c, d);\n                var f = fkVal[0];\n                var k = fkVal[1];\n                var temp = [rol32(a, 5), f, e, k, w[j]].reduce(add32);\n                e = d;\n                d = c;\n                c = rol32(b, 30);\n                b = a;\n                a = temp;\n            }\n            a = add32(a, h0);\n            b = add32(b, h1);\n            c = add32(c, h2);\n            d = add32(d, h3);\n            e = add32(e, h4);\n        }\n        return bytesToHexString(words32ToByteString([a, b, c, d, e]));\n    }\n    function fk(index, b, c, d) {\n        if (index < 20) {\n            return [(b & c) | (~b & d), 0x5a827999];\n        }\n        if (index < 40) {\n            return [b ^ c ^ d, 0x6ed9eba1];\n        }\n        if (index < 60) {\n            return [(b & c) | (b & d) | (c & d), 0x8f1bbcdc];\n        }\n        return [b ^ c ^ d, 0xca62c1d6];\n    }\n    /**\n     * Compute the fingerprint of the given string\n     *\n     * The output is 64 bit number encoded as a decimal string\n     *\n     * based on:\n     * https://github.com/google/closure-compiler/blob/master/src/com/google/javascript/jscomp/GoogleJsMessageIdGenerator.java\n     */\n    function fingerprint(str) {\n        var utf8 = utf8Encode(str);\n        var hi = hash32(utf8, 0);\n        var lo = hash32(utf8, 102072);\n        if (hi == 0 && (lo == 0 || lo == 1)) {\n            hi = hi ^ 0x130f9bef;\n            lo = lo ^ -0x6b5f56d8;\n        }\n        return [hi, lo];\n    }\n    function computeMsgId(msg, meaning) {\n        if (meaning === void 0) { meaning = ''; }\n        var msgFingerprint = fingerprint(msg);\n        if (meaning) {\n            var meaningFingerprint = fingerprint(meaning);\n            msgFingerprint = add64(rol64(msgFingerprint, 1), meaningFingerprint);\n        }\n        var hi = msgFingerprint[0];\n        var lo = msgFingerprint[1];\n        return wordsToDecimalString(hi & 0x7fffffff, lo);\n    }\n    function hash32(bytes, c) {\n        var a = 0x9e3779b9, b = 0x9e3779b9;\n        var i;\n        var len = bytes.length;\n        for (i = 0; i + 12 <= len; i += 12) {\n            a = add32(a, wordAt(bytes, i, Endian.Little));\n            b = add32(b, wordAt(bytes, i + 4, Endian.Little));\n            c = add32(c, wordAt(bytes, i + 8, Endian.Little));\n            var res = mix(a, b, c);\n            a = res[0], b = res[1], c = res[2];\n        }\n        a = add32(a, wordAt(bytes, i, Endian.Little));\n        b = add32(b, wordAt(bytes, i + 4, Endian.Little));\n        // the first byte of c is reserved for the length\n        c = add32(c, len);\n        c = add32(c, wordAt(bytes, i + 8, Endian.Little) << 8);\n        return mix(a, b, c)[2];\n    }\n    // clang-format off\n    function mix(a, b, c) {\n        a = sub32(a, b);\n        a = sub32(a, c);\n        a ^= c >>> 13;\n        b = sub32(b, c);\n        b = sub32(b, a);\n        b ^= a << 8;\n        c = sub32(c, a);\n        c = sub32(c, b);\n        c ^= b >>> 13;\n        a = sub32(a, b);\n        a = sub32(a, c);\n        a ^= c >>> 12;\n        b = sub32(b, c);\n        b = sub32(b, a);\n        b ^= a << 16;\n        c = sub32(c, a);\n        c = sub32(c, b);\n        c ^= b >>> 5;\n        a = sub32(a, b);\n        a = sub32(a, c);\n        a ^= c >>> 3;\n        b = sub32(b, c);\n        b = sub32(b, a);\n        b ^= a << 10;\n        c = sub32(c, a);\n        c = sub32(c, b);\n        c ^= b >>> 15;\n        return [a, b, c];\n    }\n    // clang-format on\n    //\n    Utils\n    var Endian;\n    (function (Endian) {\n        Endian[Endian[\"Little\"] = 0] = \"Little\";\n        Endian[Endian[\"Big\"] = 1] = \"Big\";\n    })(Endian || (Endian = {}));\n    function add32(a, b) {\n        return add32to64(a, b)[1];\n    }\n    function add32to64(a, b) {\n        var low = (a & 0xffff) + (b & 0xffff);\n        var high = (a >>> 16) + (b >>> 16) + (low >>> 16);\n        return [high >>> 16, (high << 16) | (low & 0xffff)];\n    }\n    function add64(a, b) {\n        var ah = a[0], al = a[1];\n        var bh = b[0], bl = b[1];\n        var result = add32to64(al, bl);\n        var carry = result[0];\n        var l = result[1];\n        var h = add32(add32(ah, bh), carry);\n        return [h, l];\n    }\n    function sub32(a, b) {\n        var low = (a & 0xffff) - (b & 0xffff);\n        var high = (a >> 16) - (b >> 16) + (low >> 16);\n        return (high << 16) | (low & 0xffff);\n    }\n    // Rotate a 32b number left `count` position\n
```

```
function rol32(a,
 count) {\n        return (a << count) | (a >>> (32 - count));\n    }\n    // Rotate a 64b number left `count` position\n
function rol64(num, count) {\n        var hi = num[0], lo = num[1];\n        var h = (hi << count) | (lo >>> (32 -
count));\n        var l = (lo << count) | (hi >>> (32 - count));\n        return [h, l];\n    }\n    function
bytesToWords32(bytes, endian) {\n        var size = (bytes.length + 3) >>> 2;\n        var words32 = [];\n        for (var i
= 0; i < size; i++) {\n            words32[i] = wordAt(bytes, i * 4, endian);\n        }\n        return words32;\n    }\n
function byteAt(bytes, index) {\n        return index >= bytes.length ? 0 : bytes[index];\n    }\n    function
wordAt(bytes, index, endian) {\n        var word = 0;\n        if (endian === Endian.Big) {\n            for (var i = 0; i < 4;
i++) {\n                word += byteAt(bytes, index + i) << (24 - 8 * i);\n            }\n        }\n        else {\n            for (var i
= 0; i < 4; i++) {\n
                word += byteAt(bytes, index + i) << 8 * i;\n            }\n        }\n        return word;\n    }\n    function
words32ToByteString(words32) {\n        return words32.reduce(function (bytes, word) { return
bytes.concat(word32ToByteString(word)); }, []);\n    }\n    function word32ToByteString(word) {\n        var bytes =
[];\n        for (var i = 0; i < 4; i++) {\n            bytes.push((word >>> 8 * (3 - i)) & 0xff);\n        }\n        return bytes;\n
    }\n    function bytesToHexString(bytes) {\n        var hex = '';\n        for (var i = 0; i < bytes.length; i++) {\n
var b = byteAt(bytes, i);\n            hex += (b >>> 4).toString(16) + (b & 0x0f).toString(16);\n        }\n        return
hex.toLowerCase();\n    }\n    /**\n     * Create a shared exponentiation pool for base-256 computations. This shared
pool provides memoized\n     * power-of-256 results with memoized power-of-two computations for efficient
multiplication.\n     *\n     * For our purposes,
 this can be safely stored as a global without memory concerns. The reason is\n     * that we encode two words, so
only need the 0th (for the low word) and 4th (for the high word)\n     * exponent.\n     */\n    var base256 = new
BigIntExponentiation(256);\n    /**\n     * Represents two 32-bit words as a single decimal number. This requires a
big integer storage\n     * model as JS numbers are not accurate enough to represent the 64-bit number.\n     *\n     *
Based on https://www.danvk.org/hex2dec.html\n     */\n    function wordsToDecimalString(hi, lo) {\n        // Encode
the four bytes in lo in the lower digits of the decimal number.\n        // Note: the multiplication results in lo itself but
represented by a big integer using its\n        // decimal digits.\n        var decimal =
base256.toThePowerOf(0).multiplyBy(lo);\n        // Encode the four bytes in hi above the four lo bytes. lo is a
maximum of (2^8)^4, which is why\n        // this multiplication factor is applied.\n
        base256.toThePowerOf(4).multiplyByAndAddTo(hi, decimal);\n        return decimal.toString();\n    }\n\n    var
Serializer = /** @class */ (function () {\n        function Serializer() {\n        }\n        // Creates a name mapper, see
`PlaceholderMapper`\n        // Returning `null` means that no name mapping is used.\n
Serializer.prototype.createNameMapper = function (message) {\n            return null;\n        };\n        return
Serializer;\n    }());\n    /**\n     * A simple mapper that take a function to transform an internal name to a public
name\n     */\n    var SimplePlaceholderMapper = /** @class */ (function (_super) {\n
__extends(SimplePlaceholderMapper, _super);\n        // create a mapping from the message\n        function
SimplePlaceholderMapper(message, mapName) {\n            var _this = _super.call(this) || this;\n
_this.mapName = mapName;\n            _this.internalToPublic = {};\n            _this.publicToNextId = {};\n
  _this.publicToInternal = {};\n            message.nodes.forEach(function (node) { return node.visit(_this); });\n
return _this;\n        }\n        SimplePlaceholderMapper.prototype.toPublicName = function (internalName) {\n
return this.internalToPublic.hasOwnProperty(internalName) ?\n                this.internalToPublic[internalName] :\n
        null;\n        };\n        SimplePlaceholderMapper.prototype.toInternalName = function (publicName) {\n
return this.publicToInternal.hasOwnProperty(publicName) ? this.publicToInternal[publicName] :\n                null;\n
    };\n        SimplePlaceholderMapper.prototype.visitText = function (text, context) {\n            return null;\n
};\n        SimplePlaceholderMapper.prototype.visitTagPlaceholder = function (ph, context) {\n
this.visitPlaceholderName(ph.startName);\n            _super.prototype.visitTagPlaceholder.call(this, ph, context);\n
    this.visitPlaceholderName(ph.closeName);\n
      };\n        SimplePlaceholderMapper.prototype.visitPlaceholder = function (ph, context) {\n
this.visitPlaceholderName(ph.name);\n        };\n        SimplePlaceholderMapper.prototype.visitIcuPlaceholder =
```

```
function (ph, context) {\n            this.visitPlaceholderName(ph.name);\n        };\n        // XMB placeholders could only contains A-Z, 0-9 and _\n        SimplePlaceholderMapper.prototype.visitPlaceholderName = function (internalName) {\n            if (!internalName || this.internalToPublic.hasOwnProperty(internalName)) {\n                return;\n            }\n            var publicName = this.mapName(internalName);\n            if (this.publicToInternal.hasOwnProperty(publicName)) {\n                // Create a new XMB when it has already been used\n                var nextId = this.publicToNextId[publicName];\n                this.publicToNextId[publicName] = nextId + 1;\n                publicName = publicName + \"_\" + nextId;\n            }\n            else {\n                this.publicToNextId[publicName] = 1;\n            }\n            this.internalToPublic[internalName] = publicName;\n            this.publicToInternal[publicName] = internalName;\n        };\n        return SimplePlaceholderMapper;\n    }(RecurseVisitor));\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var _Visitor = /** @class */ (function () {\n        function _Visitor() {\n        }\n        _Visitor.prototype.visitTag = function (tag) {\n            var _this = this;\n            var strAttrs = this._serializeAttributes(tag.attrs);\n            if (tag.children.length == 0) {\n                return \"<\" + tag.name + strAttrs + \"/>\";\n            }\n            var strChildren = tag.children.map(function (node) { return node.visit(_this); });\n            return \"<\" + tag.name + strAttrs + \">\" + strChildren.join('') + \"</\" + tag.name + \">\";\n        };\n        _Visitor.prototype.visitText = function (text) {\n            return text.value;\n        };\n        _Visitor.prototype.visitDeclaration = function (decl) {\n            return \"<?xml\" + this._serializeAttributes(decl.attrs) + \" ?>\";\n        };\n        _Visitor.prototype._serializeAttributes = function (attrs) {\n            var strAttrs = Object.keys(attrs).map(function (name) { return name + \"=\\\"\" + attrs[name] + \"\\\"\"; }).join(' ');\n            return strAttrs.length > 0 ? ' ' + strAttrs : '';\n        };\n        _Visitor.prototype.visitDoctype = function (doctype) {\n            return \"<!DOCTYPE \" + doctype.rootTag + \" [\\n\" + doctype.dtd + \"\\n]>\";\n        };\n        return _Visitor;\n    }());\n    var _visitor = new _Visitor();\n    function serialize(nodes) {\n        return nodes.map(function (node) { return node.visit(_visitor); }).join('');\n    }\n    var Declaration = /** @class */ (function () {\n        function Declaration(unescapedAttrs) {\n            var _this = this;\n            this.attrs = {};\n            Object.keys(unescapedAttrs).forEach(function (k) {\n                _this.attrs[k] = escapeXml(unescapedAttrs[k]);\n            });\n        }\n        Declaration.prototype.visit = function (visitor) {\n            return visitor.visitDeclaration(this);\n        };\n        return Declaration;\n    }());\n    var Doctype = /** @class */ (function () {\n        function Doctype(rootTag, dtd) {\n            this.rootTag = rootTag;\n            this.dtd = dtd;\n        }\n        Doctype.prototype.visit = function (visitor) {\n            return visitor.visitDoctype(this);\n        };\n        return Doctype;\n    }());\n    var Tag = /** @class */ (function () {\n        function Tag(name, unescapedAttrs, children) {\n            var _this = this;\n            if (unescapedAttrs === void 0) { unescapedAttrs = {}; }\n            if (children === void 0) { children = []; }\n            this.name = name;\n            this.children = children;\n            this.attrs = {};\n            Object.keys(unescapedAttrs).forEach(function (k) {\n                _this.attrs[k] = escapeXml(unescapedAttrs[k]);\n            });\n        }\n        Tag.prototype.visit = function (visitor) {\n            return visitor.visitTag(this);\n        };\n        return Tag;\n    }());\n    var Text$2 = /** @class */ (function () {\n        function Text(unescapedValue) {\n            this.value = escapeXml(unescapedValue);\n        }\n        Text.prototype.visit = function (visitor) {\n            return visitor.visitText(this);\n        };\n        return Text;\n    }());\n    var CR = /** @class */ (function (_super) {\n        __extends(CR, _super);\n        function CR(ws) {\n            if (ws === void 0) { ws = 0; }\n            return _super.call(this, \"\\n\" + new Array(ws + 1).join(' ')) || this;\n        }\n        return CR;\n    }(Text$2));\n    var _ESCAPED_CHARS = [\n        [/&/g, '&amp;'],\n        [/\"/g, '&quot;'],\n        [/'/g, '&apos;'],\n        [/</g, '&lt;'],\n        [/>/g, '&gt;'],\n    ];\n    // Escape `_ESCAPED_CHARS` characters in the given text with encoded entities\n    function escapeXml(text) {\n        return _ESCAPED_CHARS.reduce(function (text, entry) { return text.replace(entry[0], entry[1]); }, text);\n    }\n\n    var _MESSAGES_TAG = 'messagebundle';\n    var _MESSAGE_TAG = 'msg';\n    var _PLACEHOLDER_TAG = 'ph';\n    var _EXAMPLE_TAG = 'ex';\n    var _SOURCE_TAG = 'source';\n    var _DOCTYPE = \"<!ELEMENT messagebundle (msg)*>\\n<!ATTLIST messagebundle class CDATA #IMPLIED>\\n\\n<!ELEMENT msg
```

```
(#PCDATA|ph|source)*>\\n<!ATTLIST msg id CDATA #IMPLIED>\\n<!ATTLIST msg seq CDATA
#IMPLIED>\\n<!ATTLIST msg name CDATA #IMPLIED>\\n<!ATTLIST msg desc CDATA
#IMPLIED>\\n<!ATTLIST msg meaning CDATA #IMPLIED>\\n<!ATTLIST msg obsolete (obsolete)
#IMPLIED>\\n<!ATTLIST
 msg xml:space (default|preserve) \\\"default\\\">\\n<!ATTLIST msg is_hidden CDATA
#IMPLIED>\\n\\n<!ELEMENT source (#PCDATA)>\\n\\n<!ELEMENT ph (#PCDATA|ex)*>\\n<!ATTLIST ph
name CDATA #REQUIRED>\\n\\n<!ELEMENT ex (#PCDATA)>\";\n    var Xmb = /** @class */ (function
(_super) {\n        __extends(Xmb, _super);\n        function Xmb() {\n            return _super !== null &&
_super.apply(this, arguments) || this;\n        }\n        Xmb.prototype.write = function (messages, locale) {\n            var
exampleVisitor = new ExampleVisitor();\n            var visitor = new _Visitor$1();\n            var rootNode = new
Tag(_MESSAGES_TAG);\n            messages.forEach(function (message) {\n                var attrs = { id: message.id
};\n                if (message.description) {\n                    attrs['desc'] = message.description;\n                }\n                if
(message.meaning) {\n                    attrs['meaning'] = message.meaning;\n                }\n
                var sourceTags = [];\n                message.sources.forEach(function (source) {\n
sourceTags.push(new Tag(_SOURCE_TAG, {}, [new Text$2(source.filePath + \":\" + source.startLine +
(source.endLine !== source.startLine ? ',' + source.endLine : ''))]));\n                });\n
rootNode.children.push(new CR(2), new Tag(_MESSAGE_TAG, attrs, __spread(sourceTags,
visitor.serialize(message.nodes))));\n            });\n            rootNode.children.push(new CR());\n            return
serialize([\n                new Declaration({ version: '1.0', encoding: 'UTF-8' }),\n                new CR(),\n                new
Doctype(_MESSAGES_TAG, _DOCTYPE),\n                new CR(),\n
exampleVisitor.addDefaultExamples(rootNode),\n                new CR(),\n            ]);\n        };\n
Xmb.prototype.load = function (content, url) {\n            throw new Error('Unsupported');\n        };\n
Xmb.prototype.digest = function (message)
 {\n            return digest$1(message);\n        };\n        Xmb.prototype.createNameMapper = function (message) {\n
        return new SimplePlaceholderMapper(message, toPublicName);\n        };\n        return Xmb;\n    }(Serializer));\n
 var _Visitor$1 = /** @class */ (function () {\n        function _Visitor() {\n        }\n        _Visitor.prototype.visitText
= function (text, context) {\n            return [new Text$2(text.value)];\n        };\n
_Visitor.prototype.visitContainer = function (container, context) {\n            var _this = this;\n            var nodes =
[];\n            container.children.forEach(function (node) { return nodes.push.apply(nodes,
__spread(node.visit(_this))); });\n            return nodes;\n        };\n        _Visitor.prototype.visitIcu = function (icu,
context) {\n            var _this = this;\n            var nodes = [new Text$2(\"{\" + icu.expressionPlaceholder + \", \" +
icu.type + \", \")];\n            Object.keys(icu.cases).forEach(function
 (c) {\n                nodes.push.apply(nodes, __spread([new Text$2(c + \" {\")], icu.cases[c].visit(_this), [new
Text$2(\"} \")]));\n            });\n            nodes.push(new Text$2(\"}\"));\n            return nodes;\n        };\n
_Visitor.prototype.visitTagPlaceholder = function (ph, context) {\n            var startTagAsText = new Text$2(\"<\" +
ph.tag + \">\");\n            var startEx = new Tag(_EXAMPLE_TAG, {}, [startTagAsText]);\n            // TC requires
PH to have a non empty EX, and uses the text node to show the \"original\" value.\n            var startTagPh = new
Tag(_PLACEHOLDER_TAG, { name: ph.startName }, [startEx, startTagAsText]);\n            if (ph.isVoid) {\n
    // void tags have no children nor closing tags\n                return [startTagPh];\n            }\n            var
closeTagAsText = new Text$2(\"</\" + ph.tag + \">\");\n            var closeEx = new Tag(_EXAMPLE_TAG, {},
[closeTagAsText]);\n            // TC requires
 PH to have a non empty EX, and uses the text node to show the \"original\" value.\n            var closeTagPh = new
Tag(_PLACEHOLDER_TAG, { name: ph.closeName }, [closeEx, closeTagAsText]);\n            return
__spread([startTagPh], this.serialize(ph.children), [closeTagPh]);\n        };\n        _Visitor.prototype.visitPlaceholder
= function (ph, context) {\n            var interpolationAsText = new Text$2(\"{{\" + ph.value + \"}}\");\n            //
Example tag needs to be not-empty for TC.\n            var exTag = new Tag(_EXAMPLE_TAG, {},
[interpolationAsText]);\n            return [\n                // TC requires PH to have a non empty EX, and uses the text
node to show the \"original\" value.\n                new Tag(_PLACEHOLDER_TAG, { name: ph.name }, [exTag,
```

```
interpolationAsText])\n            ];\n        };\n        _Visitor.prototype.visitIcuPlaceholder = function (ph, context) {\n
    var icuExpression = ph.value.expression;\n            var icuType = ph.value.type;\n
        var icuCases = Object.keys(ph.value.cases).map(function (value) { return value + ' {...}'; }).join(' ');\n
var icuAsText = new Text$2(\"{\" + icuExpression + \", \" + icuType + \", \" + icuCases + \"}\");\n            var exTag
= new Tag(_EXAMPLE_TAG, {}, [icuAsText]);\n            return [\n                // TC requires PH to have a non empty
EX, and uses the text node to show the \"original\" value.\n                new Tag(_PLACEHOLDER_TAG, { name:
ph.name }, [exTag, icuAsText])\n            ];\n        };\n        _Visitor.prototype.serialize = function (nodes) {\n
var _this = this;\n            return [].concat.apply([], __spread(nodes.map(function (node) { return node.visit(_this);
})));\n        };\n        return _Visitor;\n    }());\n    function digest$1(message) {\n        return
decimalDigest(message);\n    }\n    // TC requires at least one non-empty example on placeholders\n    var
ExampleVisitor = /** @class */ (function () {\n
  function ExampleVisitor() {\n        }\n        ExampleVisitor.prototype.addDefaultExamples = function (node) {\n
    node.visit(this);\n            return node;\n        };\n        ExampleVisitor.prototype.visitTag = function (tag) {\n
  var _this = this;\n            if (tag.name === _PLACEHOLDER_TAG) {\n                if (!tag.children ||
tag.children.length == 0) {\n                    var exText = new Text$2(tag.attrs['name'] || '...');\n                    tag.children
= [new Tag(_EXAMPLE_TAG, {}, [exText])];\n                }\n            }\n            else if (tag.children) {\n
tag.children.forEach(function (node) { return node.visit(_this); });\n            }\n        };\n
ExampleVisitor.prototype.visitText = function (text) { };\n        ExampleVisitor.prototype.visitDeclaration =
function (decl) { };\n        ExampleVisitor.prototype.visitDoctype = function (doctype) { };\n        return
ExampleVisitor;\n    }());\n    // XMB/XTB placeholders
 can only contain A-Z, 0-9 and _\n    function toPublicName(internalName) {\n        return
internalName.toUpperCase().replace(/[^A-Z0-9_]/g, '_');\n    }\n\n    /* Closure variables holding messages must be
named `MSG_[A-Z0-9]+` */\n    var CLOSURE_TRANSLATION_VAR_PREFIX = 'MSG_';\n    /**\n     * Prefix
for non-`goog.getMsg` i18n-related vars.\n     * Note: the prefix uses lowercase characters intentionally due to a
Closure behavior that\n     * considers variables like `I18N_0` as constants and throws an error when their value
changes.\n     */\n    var TRANSLATION_VAR_PREFIX = 'i18n_';\n    /** Name of the i18n attributes **/\n    var
I18N_ATTR = 'i18n';\n    var I18N_ATTR_PREFIX = 'i18n-';\n    /** Prefix of var expressions used in ICUs */\n
var I18N_ICU_VAR_PREFIX = 'VAR_';\n    /** Prefix of ICU expressions for post processing */\n    var
I18N_ICU_MAPPING_PREFIX = 'I18N_EXP_';\n    /** Placeholder wrapper for i18n expressions **/\n    var
I18N_PLACEHOLDER_SYMBOL =
 ';\n    function isI18nAttribute(name) {\n        return name === I18N_ATTR ||
name.startsWith(I18N_ATTR_PREFIX);\n    }\n    function isI18nRootNode(meta) {\n        return meta instanceof
Message;\n    }\n    function isSingleI18nIcu(meta) {\n        return isI18nRootNode(meta) && meta.nodes.length
=== 1 && meta.nodes[0] instanceof Icu$1;\n    }\n    function hasI18nMeta(node) {\n        return !!node.i18n;\n
}\n    function hasI18nAttrs(element) {\n        return element.attrs.some(function (attr) { return
isI18nAttribute(attr.name); });\n    }\n    function icuFromI18nMessage(message) {\n        return
message.nodes[0];\n    }\n    function wrapI18nPlaceholder(content, contextId) {\n        if (contextId === void 0) {
contextId = 0; }\n        var blockId = contextId > 0 ? \":\" + contextId : ';\n        return \"\\" +
I18N_PLACEHOLDER_SYMBOL + content + blockId + I18N_PLACEHOLDER_SYMBOL;\n    }\n    function
assembleI18nBoundString(strings, bindingStartIndex, contextId) {\n
    if (bindingStartIndex === void 0) { bindingStartIndex = 0; }\n        if (contextId === void 0) { contextId = 0;
}\n        if (!strings.length)\n            return ';\n        var acc = ';\n        var lastIdx = strings.length - 1;\n        for (var i
= 0; i < lastIdx; i++) {\n            acc += \"\\" + strings[i] + wrapI18nPlaceholder(bindingStartIndex + i, contextId);\n
  }\n        acc += strings[lastIdx];\n        return acc;\n    }\n    function getSeqNumberGenerator(startsAt) {\n        if
(startsAt === void 0) { startsAt = 0; }\n        var current = startsAt;\n        return function () { return current++; };\n
}\n    function placeholdersToParams(placeholders) {\n        var params = {};\n        placeholders.forEach(function
(values, key) {\n            params[key] = literal(values.length > 1 ? \"[\" + values.join('|') + \"]\" : values[0]);\n
});\n        return params;\n    }\n    function updatePlaceholderMap(map, name) {\n        var values = [];\n
```

```
for (var _i = 2; _i < arguments.length; _i++) {\n values[_i - 2] = arguments[_i];\n }\n var current = map.get(name) || [];\n current.push.apply(current, __spread(values));\n map.set(name, current);\n }\n function assembleBoundTextPlaceholders(meta, bindingStartIndex, contextId) {\n if (bindingStartIndex === void 0) { bindingStartIndex = 0; }\n if (contextId === void 0) { contextId = 0; }\n var startIdx = bindingStartIndex;\n var placeholders = new Map();\n var node = meta instanceof Message ? meta.nodes.find(function (node) { return node instanceof Container; }) : meta;\n if (node) {\n node\n .children\n .filter(function (child) { return child instanceof Placeholder; })\n.forEach(function (child, idx) {\n var content = wrapI18nPlaceholder(startIdx + idx, contextId);\n updatePlaceholderMap(placeholders, child.name,
 content);\n });\n }\n return placeholders;\n }\n /**\n * Format the placeholder names in a map of placeholders to expressions.\n *\n * The placeholder names are converted from \"internal\" format (e.g. `START_TAG_DIV_1`) to \"external\"\n * format (e.g. `startTagDiv_1`).\n *\n * @param params A map of placeholder names to expressions.\n * @param useCamelCase whether to camelCase the placeholder name when formatting.\n * @returns A new map of formatted placeholder names to expressions.\n */\n function i18nFormatPlaceholderNames(params, useCamelCase) {\n if (params === void 0) { params = {}; }\n var _params = {};\n if (params && Object.keys(params).length) {\n Object.keys(params).forEach(function (key) { return _params[formatI18nPlaceholderName(key, useCamelCase)] = params[key]; });\n }\n return _params;\n }\n /**\n * Converts internal placeholder names to public-facing
 format\n * (for example to use in goog.getMsg call).\n * Example: `START_TAG_DIV_1` is converted to `startTagDiv_1`.\n *\n * @param name The placeholder name that should be formatted\n * @returns Formatted placeholder name\n */\n function formatI18nPlaceholderName(name, useCamelCase) {\n if (useCamelCase === void 0) { useCamelCase = true; }\n var publicName = toPublicName(name);\n if (!useCamelCase) {\n return publicName;\n }\n var chunks = publicName.split('_');\n if (chunks.length === 1) {\n // if no \"_\" found - just lowercase the value\n return name.toLowerCase();\n }\n var postfix;\n // eject last element if it's a number\n if (/^\\d+$/.test(chunks[chunks.length - 1])) {\n postfix = chunks.pop();\n }\n var raw = chunks.shift().toLowerCase();\n if (chunks.length) {\n raw += chunks.map(function (c)
 { return c.charAt(0).toUpperCase() + c.slice(1).toLowerCase(); }).join('');\n }\n return postfix ? raw + \"_\" + postfix : raw;\n }\n /**\n * Generates a prefix for translation const name.\n *\n * @param extra Additional local prefix that should be injected into translation var name\n * @returns Complete translation const prefix\n */\n function getTranslationConstPrefix(extra) {\n return (\"\" + CLOSURE_TRANSLATION_VAR_PREFIX + extra).toUpperCase();\n }\n /**\n * Generate AST to declare a variable. E.g. `var I18N_1;`.\n * @param variable the name of the variable to declare.\n */\n function declareI18nVariable(variable) {\n return new DeclareVarStmt(variable.name, undefined, INFERRED_TYPE, undefined, variable.sourceSpan);\n }\n\n /**\n * Checks whether an object key contains potentially unsafe chars, thus the key should be wrapped in\n * quotes. Note: we do not wrap all keys into quotes, as it may
 have impact on minification and may\n * bot work in some cases when object keys are mangled by minifier.\n *\n * TODO(FW-1136): this is a temporary solution, we need to come up with a better way of working with\n * inputs that contain potentially unsafe chars.\n */\n var UNSAFE_OBJECT_KEY_NAME_REGEXP = /[-.]/;\n /** Name of the temporary to use during data binding */\n var TEMPORARY_NAME = '_t';\n /** Name of the context parameter passed into a template function */\n var CONTEXT_NAME = 'ctx';\n /** Name of the RenderFlag passed into a template function */\n var RENDER_FLAGS = 'rf';\n /** The prefix reference variables */\n var REFERENCE_PREFIX = '_r';\n /** The name of the implicit context reference */\n var IMPLICIT_REFERENCE = '$implicit';\n /** Non bindable attribute name **/\n var NON_BINDABLE_ATTR = 'ngNonBindable';\n /**\n * Creates an allocator for a temporary variable.\n *\n * A variable declaration is
 added to the statements the first time the allocator is invoked.\n */\n function temporaryAllocator(statements, name) {\n var temp = null;\n return function () {\n if (!temp) {\n statements.push(new
```

DeclareVarStmt(TEMPORARY_NAME, undefined, DYNAMIC_TYPE));\n temp = variable(name);\n }\n return temp;\n };\n }\n function unsupported(feature) {\n if (this) {\n throw new Error(\"Builder \" + this.constructor.name + \" doesn't support \" + feature + \" yet\");\n }\n throw new Error(\"Feature \" + feature + \" is not supported yet\");\n }\n function invalid$1(arg) {\n throw new Error(\"Invalid state: Visitor \" + this.constructor.name + \" doesn't handle \" + arg.constructor.name);\n }\n function asLiteral(value) {\n if (Array.isArray(value)) {\n return literalArr(value.map(asLiteral));\n }\n return literal(value,
INFERRED_TYPE);\n }\n function conditionallyCreateMapObjectLiteral(keys, keepDeclared) {\n if (Object.getOwnPropertyNames(keys).length > 0) {\n return mapToExpression(keys, keepDeclared);\n }\n return null;\n }\n function mapToExpression(map, keepDeclared) {\n return literalMap(Object.getOwnPropertyNames(map).map(function (key) {\n var _a, _b;\n // canonical syntax: `dirProp: publicProp`\n // if there is no `:`, use dirProp = elProp\n var value = map[key];\n var declaredName;\n var publicName;\n var minifiedName;\n if (Array.isArray(value)) {\n _a = __read(value, 2), publicName = _a[0], declaredName = _a[1];\n }\n else {\n _b = __read(splitAtColon(key, [key, value]), 2), declaredName = _b[0], publicName = _b[1];\n }\n minifiedName = declaredName;\n return {\n key: minifiedName,\n // put quotes around keys that contain potentially unsafe characters\n quoted: UNSAFE_OBJECT_KEY_NAME_REGEXP.test(minifiedName),\n value: (keepDeclared && publicName !== declaredName) ?\n literalArr([asLiteral(publicName), asLiteral(declaredName)]) :\n asLiteral(publicName)\n };\n }));\n }\n /**\n * Remove trailing null nodes as they are implied.\n */\n function trimTrailingNulls(parameters) {\n while (isNull(parameters[parameters.length - 1])) {\n parameters.pop();\n }\n return parameters;\n }\n function getQueryPredicate(query, constantPool) {\n if (Array.isArray(query.predicate)) {\n var predicate_1 = [];\n query.predicate.forEach(function (selector) {\n // Each item in predicates array may contain strings with comma-separated refs\n // (for
ex. 'ref, ref1, ..., refN'), thus we extract individual refs and store them\n // as separate array entities\n var selectors = selector.split(',').map(function (token) { return literal(token.trim()); });\n predicate_1.push.apply(predicate_1, __spread(selectors));\n });\n return constantPool.getConstLiteral(literalArr(predicate_1), true);\n }\n else {\n return query.predicate;\n }\n }\n var DefinitionMap = /** @class */ (function () {\n function DefinitionMap() {\n this.values = [];\n }\n DefinitionMap.prototype.set = function (key, value) {\n if (value) {\n this.values.push({ key: key, value: value, quoted: false });\n }\n };\n DefinitionMap.prototype.toLiteralMap = function () {\n return literalMap(this.values);\n };\n return DefinitionMap;\n }());\n /**\n * Extract
a map of properties to values for a given element or template node, which can be used\n * by the directive matching machinery.\n *\n * @param elOrTpl the element or template in question\n * @return an object set up for directive matching. For attributes on the element/template, this\n * object maps a property name to its (static) value. For any bindings, this map simply maps the\n * property name to an empty string.\n */\n function getAttrsForDirectiveMatching(elOrTpl) {\n var attributesMap = {};\n if (elOrTpl instanceof Template && elOrTpl.tagName !== 'ng-template') {\n elOrTpl.templateAttrs.forEach(function (a) { return attributesMap[a.name] = ''; });\n }\n else {\n elOrTpl.attributes.forEach(function (a) {\n if (!isI18nAttribute(a.name)) {\n attributesMap[a.name] = a.value;\n }\n });\n elOrTpl.inputs.forEach(function (i) {\n attributesMap[i.name] = '';\n });\n elOrTpl.outputs.forEach(function (o) {\n attributesMap[o.name] = '';\n });\n }\n return attributesMap;\n }\n /** Returns a call expression to a chained instruction, e.g. `property(params[0])(params[1])`. */\n function chainedInstruction(reference, calls, span) {\n var expression = importExpr(reference, null, span);\n if (calls.length > 0) {\n for (var i = 0; i < calls.length; i++) {\n expression = expression.callFn(calls[i], span);\n }\n }\n else {\n

```
    // Add a blank invocation, in case the `calls` array is empty.\n            expression = expression.callFn([], span);\n        }\n        return expression;\n    }\n    /**\n     * Gets the number of arguments expected to be passed to a generated instruction in the case of\n     * interpolation instructions.\n     * @param interpolation An interpolation ast\n     */\n    function getInterpolationArgsLength(interpolation) {\n        var expressions = interpolation.expressions, strings = interpolation.strings;\n        if (expressions.length === 1 && strings.length === 2 && strings[0] === '' && strings[1] === '') {\n            // If the interpolation has one interpolated value, but the prefix and suffix are both empty\n            // strings, we only pass one argument, to a special instruction like `propertyInterpolate` or\n            // `textInterpolate`.\n            return 1;\n        }\n        else {\n            return expressions.length + strings.length;\n        }\n    }\n\n    var R3FactoryDelegateType;\n    (function (R3FactoryDelegateType) {\n        R3FactoryDelegateType[R3FactoryDelegateType[\"Class\"] = 0] = \"Class\";\n        R3FactoryDelegateType[R3FactoryDelegateType[\"Function\"] = 1] = \"Function\";\n        R3FactoryDelegateType[R3FactoryDelegateType[\"Factory\"] = 2] = \"Factory\";\n    })(R3FactoryDelegateType || (R3FactoryDelegateType = {}));\n    (function (R3FactoryTarget) {\n        R3FactoryTarget[R3FactoryTarget[\"Directive\"] = 0] = \"Directive\";\n        R3FactoryTarget[R3FactoryTarget[\"Component\"] = 1] = \"Component\";\n        R3FactoryTarget[R3FactoryTarget[\"Injectable\"] = 2] = \"Injectable\";\n        R3FactoryTarget[R3FactoryTarget[\"Pipe\"] = 3] = \"Pipe\";\n        R3FactoryTarget[R3FactoryTarget[\"NgModule\"] = 4] = \"NgModule\";\n    })(exports.R3FactoryTarget || (exports.R3FactoryTarget = {}));\n    (function (R3ResolvedDependencyType) {\n        /**\n         * A normal token dependency.\n         */\n        R3ResolvedDependencyType[R3ResolvedDependencyType[\"Token\"] = 0] = \"Token\";\n        /**\n         * The dependency is for an attribute.\n         *\n         * The token expression is a string representing the attribute name.\n         */\n        R3ResolvedDependencyType[R3ResolvedDependencyType[\"Attribute\"] = 1] = \"Attribute\";\n        /**\n         * Injecting the `ChangeDetectorRef` token. Needs special handling when injected into a pipe.\n         */\n        R3ResolvedDependencyType[R3ResolvedDependencyType[\"ChangeDetectorRef\"] = 2] = \"ChangeDetectorRef\";\n        /**\n         * An invalid dependency (no token could be determined). An error should be thrown at runtime.\n         */\n        R3ResolvedDependencyType[R3ResolvedDependencyType[\"Invalid\"] = 3] = \"Invalid\";\n    })(exports.R3ResolvedDependencyType || (exports.R3ResolvedDependencyType = {}));\n    /**\n     * Construct a factory function expression for the given `R3FactoryMetadata`.\n     */\n    function compileFactoryFunction(meta) {\n        var t = variable('t');\n        var statements = [];\n        var ctorDepsType = NONE_TYPE;\n        // The type to instantiate via constructor invocation. If there is no delegated factory, meaning\n        // this type is always created by constructor invocation, then this is the type-to-create\n        // parameter provided by the user (t) if specified, or the current type if not. If there is a\n        // delegated factory (which is used to create the current type) then this is only the type-to-\n        // create parameter (t).\n        var typeForCtor = !isDelegatedMetadata(meta) ?\n            new BinaryOperatorExpr(exports.BinaryOperator.Or, t, meta.internalType) :\n            t;\n        var ctorExpr = null;\n        if (meta.deps !== null) {\n            // There is a constructor (either explicitly or implicitly defined).\n            if (meta.deps !== 'invalid') {\n                ctorExpr = new InstantiateExpr(typeForCtor, injectDependencies(meta.deps, meta.injectFn, meta.target === exports.R3FactoryTarget.Pipe));\n                ctorDepsType = createCtorDepsType(meta.deps);\n            }\n        }\n        else {\n            var baseFactory = variable(\"\\u0275\" + meta.name + \"_BaseFactory\");\n            var getInheritedFactory = importExpr(Identifiers$1.getInheritedFactory);\n            var baseFactoryStmt = baseFactory\n                .set(getInheritedFactory.callFn([meta.internalType], /* sourceSpan */ undefined, /* pure */ true))\n                .toDeclStmt(INFERRED_TYPE, [exports.StmtModifier.Exported, exports.StmtModifier.Final]);\n            statements.push(baseFactoryStmt);\n            // There is no constructor, use the base class' factory to construct typeForCtor.\n            ctorExpr = baseFactory.callFn([typeForCtor]);\n        }\n        var ctorExprFinal = ctorExpr;\n        var body = [];\n        var retExpr = null;\n        function makeConditionalFactory(nonCtorExpr) {\n            var r = variable('r');\n            body.push(r.set(NULL_EXPR).toDeclStmt());\n            var ctorStmt = null;\n            if (ctorExprFinal !== null) {\n
```

```
ctorStmt = r.set(ctorExprFinal).toStmt();\n }\n else {\n ctorStmt = importExpr(Identifiers$1.invalidFactory).callFn([]).toStmt();\n }\n body.push(ifStmt(t, [ctorStmt], [r.set(nonCtorExpr).toStmt()]));\n return r;\n }\n if (isDelegatedMetadata(meta) && meta.delegateType === R3FactoryDelegateType.Factory) {\n var delegateFactory = variable(\"\\u0275\" + meta.name + \"_BaseFactory\");\n var getFactoryOf = importExpr(Identifiers$1.getFactoryOf);\n if (meta.delegate.isEquivalent(meta.internalType)) {\n throw new Error(\"Illegal state: compiling factory that delegates to itself\");\n }\n var delegateFactoryStmt = delegateFactory.set(getFactoryOf.callFn([meta.delegate])).toDeclStmt(INFERRED_TYPE, [\n exports.StmtModifier.Exported, exports.StmtModifier.Final\n ]);\n statements.push(delegateFactoryStmt);\n retExpr = makeConditionalFactory(delegateFactory.callFn([]));\n }\n else if (isDelegatedMetadata(meta)) {\n // This type is created with a delegated factory. If a type parameter is not specified, call\n // the factory instead.\n var delegateArgs = injectDependencies(meta.delegateDeps, meta.injectFn, meta.target === exports.R3FactoryTarget.Pipe);\n // Either call `new delegate(...)` or `delegate(...)` depending on meta.delegateType.\n var factoryExpr = new (meta.delegateType === R3FactoryDelegateType.Class ?\n InstantiateExpr :\n InvokeFunctionExpr)(meta.delegate, delegateArgs);\n retExpr = makeConditionalFactory(factoryExpr);\n }\n else if (isExpressionFactoryMetadata(meta)) {\n // TODO(alxhub): decide whether to lower the value here or in the caller\n retExpr = makeConditionalFactory(meta.expression);\n }\n else {\n retExpr = ctorExpr;\n }\n if (retExpr !== null) {\n body.push(new ReturnStatement(retExpr));\n }\n else {\n body.push(importExpr(Identifiers$1.invalidFactory).callFn([]).toStmt());\n }\n return {\n factory: fn([new FnParam('t', DYNAMIC_TYPE)], body, INFERRED_TYPE, undefined, meta.name + \"_Factory\"),\n statements: statements,\n type: expressionType(importExpr(Identifiers$1.FactoryDef, [typeWithParameters(meta.type.type, meta.typeArgumentCount), ctorDepsType]))\n };\n }\n function injectDependencies(deps, injectFn, isPipe) {\n return deps.map(function (dep, index) { return compileInjectDependency(dep, injectFn, isPipe, index); });\n }\n function compileInjectDependency(dep, injectFn, isPipe, index) {\n // Interpret the dependency according to its resolved type.\n switch (dep.resolved) {\n case exports.R3ResolvedDependencyType.Token:\n case exports.R3ResolvedDependencyType.ChangeDetectorRef:\n // Build up the injection flags according to the metadata.\n var flags = 0 /* Default */ | (dep.self ? 2 /* Self */ : 0) |\n (dep.skipSelf ? 4 /* SkipSelf */ : 0) | (dep.host ? 1 /* Host */ : 0) |\n (dep.optional ? 8 /* Optional */ : 0);\n // If this dependency is optional or otherwise has non-default flags, then additional\n // parameters describing how to inject the dependency must be passed to the inject function\n // that's being used.\n var flagsParam = (flags !== 0 /* Default */ || dep.optional) ? literal(flags) : null;\n // We have a separate instruction for injecting ChangeDetectorRef into a pipe.\n if (isPipe && dep.resolved === exports.R3ResolvedDependencyType.ChangeDetectorRef) {\n return importExpr(Identifiers$1.injectPipeChangeDetectorRef).callFn(flagsParam ? [flagsParam] : []);\n }\n // Build up the arguments to the injectFn call.\n var injectArgs = [dep.token];\n if (flagsParam) {\n injectArgs.push(flagsParam);\n }\n return importExpr(injectFn).callFn(injectArgs);\n case exports.R3ResolvedDependencyType.Attribute:\n // In the case of attributes, the attribute name in question is given as the token.\n return importExpr(Identifiers$1.injectAttribute).callFn([dep.token]);\n case exports.R3ResolvedDependencyType.Invalid:\n return importExpr(Identifiers$1.invalidFactoryDep).callFn([literal(index)]);\n default:\n return unsupported(\"Unknown R3ResolvedDependencyType: \" + exports.R3ResolvedDependencyType[dep.resolved]);\n }\n }\n function createCtorDepsType(deps) {\n var hasTypes = false;\n var attributeTypes = deps.map(function (dep) {\n var type = createCtorDepType(dep);\n if (type !== null) {\n hasTypes = true;\n return
```

```
type;\n            }\n            else {\n                return literal(null);\n            }\n        });\n        if (hasTypes) {\n
return expressionType(literalArr(attributeTypes));\n        }\n        else {\n            return NONE_TYPE;\n        }\n
}\n    function createCtorDepType(dep) {\n        var entries = [];\n        if (dep.resolved ===
exports.R3ResolvedDependencyType.Attribute) {\n            if (dep.attribute !== null) {\n                entries.push({
key: 'attribute', value: dep.attribute, quoted: false });\n            }\n        }\n        if (dep.optional) {\n
entries.push({ key: 'optional', value: literal(true), quoted: false });\n        }\n        if (dep.host) {\n
entries.push({ key: 'host', value: literal(true), quoted: false });\n        }\n        if (dep.self) {\n            entries.push({
key: 'self', value: literal(true), quoted: false });\n        }\n        if (dep.skipSelf) {\n            entries.push({ key:
'skipSelf', value: literal(true), quoted: false });\n        }\n        return entries.length > 0 ? literalMap(entries) : null;\n
}\n    /**\n     * A helper function useful for extracting `R3DependencyMetadata` from a Render2\n     *
`CompileTypeMetadata` instance.\n     */\n    function dependenciesFromGlobalMetadata(type, outputCtx, reflector)
{\n        var e_1, _a;\n        // Use the `CompileReflector` to look up references to some well-known Angular types.
These will\n        // be compared with the token to statically determine whether the token has significance to\n        //
Angular, and set the correct `R3ResolvedDependencyType` as a result.\n        var injectorRef =
reflector.resolveExternalReference(Identifiers.Injector);\n        // Iterate through the type's DI dependencies and
produce `R3DependencyMetadata` for each of them.\n        var deps = [];\n        try {\n            for (var _b =
__values(type.diDeps), _c = _b.next(); !_c.done; _c = _b.next()) {\n
        var dependency = _c.value;\n                if (dependency.token) {\n                    var tokenRef =
tokenReference(dependency.token);\n                    var resolved = dependency.isAttribute ?\n
exports.R3ResolvedDependencyType.Attribute :\n                        exports.R3ResolvedDependencyType.Token;\n
                // In the case of most dependencies, the token will be a reference to a type. Sometimes,\n                    //
however, it can be a string, in the case of older Angular code or @Attribute injection.\n                    var token =
tokenRef instanceof StaticSymbol ? outputCtx.importExpr(tokenRef) : literal(tokenRef);\n                    // Construct
the dependency.\n                    deps.push({\n                        token: token,\n                        attribute: null,\n
    resolved: resolved,\n                        host: !!dependency.isHost,\n                        optional:
!!dependency.isOptional,\n
                    self: !!dependency.isSelf,\n                        skipSelf: !!dependency.isSkipSelf,\n                    });\n
    }\n                else {\n                    unsupported('dependency without a token');\n                }\n            }\n        }\n
  catch (e_1_1) { e_1 = { error: e_1_1 }; }\n        finally {\n            try {\n                if (_c && !_c.done && (_a =
_b.return)) _a.call(_b);\n            }\n            finally { if (e_1) throw e_1.error; }\n        }\n        return deps;\n    }\n
function isDelegatedMetadata(meta) {\n        return meta.delegateType !== undefined;\n    }\n    function
isExpressionFactoryMetadata(meta) {\n        return meta.expression !== undefined;\n    }\n\n    /**\n     * @license\n
   * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style
license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n
    function compileInjectable(meta) {\n        var result = null;\n        var factoryMeta = {\n            name:
meta.name,\n            type: meta.type,\n            internalType: meta.internalType,\n            typeArgumentCount:
meta.typeArgumentCount,\n            deps: [],\n            injectFn: Identifiers.inject,\n            target:
exports.R3FactoryTarget.Injectable,\n        };\n        if (meta.useClass !== undefined) {\n            // meta.useClass has
two modes of operation. Either deps are specified, in which case `new` is\n            // used to instantiate the class with
dependencies injected, or deps are not specified and\n            // the factory of the class is used to instantiate it.\n
  //\n            // A special case exists for useClass: Type where Type is the injectable type itself and no\n            //
deps are specified, in which case 'useClass' is effectively ignored.\n            var useClassOnSelf =
meta.useClass.isEquivalent(meta.internalType);\n
            var deps = undefined;\n            if (meta.userDeps !== undefined) {\n                deps = meta.userDeps;\n
}\n            if (deps !== undefined) {\n                // factory: () => new meta.useClass(...deps)\n                result =
compileFactoryFunction(Object.assign(Object.assign({}, factoryMeta), { delegate: meta.useClass, delegateDeps:
deps, delegateType: R3FactoryDelegateType.Class }));\n            }\n            else if (useClassOnSelf) {\n
result = compileFactoryFunction(factoryMeta);\n            }\n            else {\n                result =
```

```
delegateToFactory(meta.type.value, meta.useClass);\n            }\n        }\n        else if (meta.useFactory !== undefined) {\n            if (meta.userDeps !== undefined) {\n                result = compileFactoryFunction(Object.assign(Object.assign({}, factoryMeta), { delegate: meta.useFactory, delegateDeps: meta.userDeps || [], delegateType: R3FactoryDelegateType.Function }));\n            }\n            else {\n                result = {\n                    statements: [],\n                    factory: fn([], [new ReturnStatement(meta.useFactory.callFn([]))])\n                };\n            }\n        }\n        else if (meta.useValue !== undefined) {\n            // Note: it's safe to use `meta.useValue` instead of the `USE_VALUE in meta` check used for\n            // client code because meta.useValue is an Expression which will be defined even if the actual\n            // value is undefined.\n            result = compileFactoryFunction(Object.assign(Object.assign({}, factoryMeta), { expression: meta.useValue }));\n        }\n        else if (meta.useExisting !== undefined) {\n            // useExisting is an `inject` call on the existing token.\n            result = compileFactoryFunction(Object.assign(Object.assign({}, factoryMeta), { expression: importExpr(Identifiers.inject).callFn([meta.useExisting]) }));\n        }\n        else {\n            result = delegateToFactory(meta.type.value, meta.internalType);\n        }\n        var token = meta.internalType;\n        var injectableProps = { token: token, factory: result.factory };\n        // Only generate providedIn property if it has a non-null value\n        if (meta.providedIn.value !== null) {\n            injectableProps.providedIn = meta.providedIn;\n        }\n        var expression = importExpr(Identifiers.defineInjectable).callFn([mapToMapExpression(injectableProps)]);\n        var type = new ExpressionType(importExpr(Identifiers.InjectableDef, [typeWithParameters(meta.type.type, meta.typeArgumentCount)]));\n        return {\n            expression: expression,\n            type: type,\n            statements: result.statements,\n        };\n    }\n    function delegateToFactory(type, internalType) {\n        return {\n            statements: [],\n            // If types are the same, we can generate `factory: type.fac`\n            // If types are different, we have to generate a wrapper function to ensure\n            // the internal type has been resolved (`factory: function(t) { return type.fac(t); }`)\n            factory: type.node === internalType.node ?\n                internalType.prop('fac') :\n                fn([new FnParam('t', DYNAMIC_TYPE)], [new ReturnStatement(internalType.callMethod('fac', [variable('t')]))])\n        };\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    function assertArrayOfStrings(identifier, value) {\n        if (value == null) {\n            return;\n        }\n        if (!Array.isArray(value)) {\n            throw new Error(\"Expected '\" + identifier + \"' to be an array of strings.\");\n        }\n        for (var i = 0; i < value.length; i += 1) {\n            if (typeof value[i] !== 'string') {\n                throw new Error(\"Expected '\" + identifier + \"' to be an array of strings.\");\n            }\n        }\n    }\n    var UNUSABLE_INTERPOLATION_REGEXPS = [\n        /^\\s*$/,\n        /[<>]/,\n        /^[{}]$/,\n        /&(#|[a-z])/i,\n        /^\\/\\//,\n    ];\n    function assertInterpolationSymbols(identifier, value) {\n        if (value != null &&\n            !(Array.isArray(value) && value.length == 2)) {\n            throw new Error(\"Expected '\" + identifier + \"' to be an array, [start, end].\");\n        }\n        else if (value != null) {\n            var start_1 = value[0];\n            var end_1 = value[1];\n            // Check for unusable interpolation symbols\n            UNUSABLE_INTERPOLATION_REGEXPS.forEach(function (regexp) {\n                if (regexp.test(start_1) || regexp.test(end_1)) {\n                    throw new Error(\"['\" + start_1 + \"', '\" + end_1 + \"'] contains unusable interpolation symbol.\");\n                }\n            });\n        }\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var InterpolationConfig = /** @class */ (function () {\n        function InterpolationConfig(start, end) {\n            this.start = start;\n            this.end = end;\n        }\n        InterpolationConfig.fromArray = function (markers) {\n            if (!markers) {\n                return DEFAULT_INTERPOLATION_CONFIG;\n            }\n            assertInterpolationSymbols('interpolation', markers);\n            return new InterpolationConfig(markers[0], markers[1]);\n        };\n        return InterpolationConfig;\n    }());\n    var DEFAULT_INTERPOLATION_CONFIG
```

```
= new InterpolationConfig('{{', '}}');\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style
 license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    //
https://docs.google.com/document/d/1U1RGAehQwRypUTovF1KRlpiOFze0b-_2gc6fAH0KY0k/edit\n    var
VERSION = 3;\n    var JS_B64_PREFIX = '# sourceMappingURL=data:application/jsonbase64,';\n    var
SourceMapGenerator = /** @class */ (function () {\n        function SourceMapGenerator(file) {\n            if (file ===
void 0) { file = null; }\n            this.file = file;\n            this.sourcesContent = new Map();\n            this.lines = [];\n
        this.lastCol0 = 0;\n            this.hasMappings = false;\n        }\n        // The content is `null` when the content is
expected to be loaded using the URL\n        SourceMapGenerator.prototype.addSource = function (url, content) {\n
        if (content === void 0) { content = null; }\n            if (!this.sourcesContent.has(url)) {\n
this.sourcesContent.set(url, content);\n            }\n            return this;\n
        };\n        SourceMapGenerator.prototype.addLine = function () {\n            this.lines.push([]);\n
this.lastCol0 = 0;\n            return this;\n        };\n        SourceMapGenerator.prototype.addMapping = function (col0,
sourceUrl, sourceLine0, sourceCol0) {\n            if (!this.currentLine) {\n                throw new Error(\"A line must be
added before mappings can be added\");\n            }\n            if (sourceUrl != null &&
!this.sourcesContent.has(sourceUrl)) {\n                throw new Error(\"Unknown source file \\\"\" + sourceUrl +
\"\\\"\");\n            }\n            if (col0 == null) {\n                throw new Error(\"The column in the generated code must
be provided\");\n            }\n            if (col0 < this.lastCol0) {\n                throw new Error(\"Mapping should be
added in output order\");\n            }\n            if (sourceUrl && (sourceLine0 == null || sourceCol0 == null)) {\n
    throw new Error(\"The source
 location must be provided when a source url is provided\");\n            }\n            this.hasMappings = true;\n
this.lastCol0 = col0;\n            this.currentLine.push({ col0: col0, sourceUrl: sourceUrl, sourceLine0: sourceLine0,
sourceCol0: sourceCol0 });\n            return this;\n        };\n
Object.defineProperty(SourceMapGenerator.prototype, \"currentLine\", {\n            /**\n             * @internal strip
this from published d.ts files due to\n             * https://github.com/microsoft/TypeScript/issues/36216\n             */\n
        get: function () {\n                return this.lines.slice(-1)[0];\n            },\n            enumerable: false,\n
configurable: true\n        });\n        SourceMapGenerator.prototype.toJSON = function () {\n            var _this = this;\n
        if (!this.hasMappings) {\n                return null;\n            }\n            var sourcesIndex = new Map();\n
var sources = [];\n
 var sourcesContent = [];\n            Array.from(this.sourcesContent.keys()).forEach(function (url, i) {\n
sourcesIndex.set(url, i);\n                sources.push(url);\n                sourcesContent.push(_this.sourcesContent.get(url)
|| null);\n            });\n            var mappings = '';\n            var lastCol0 = 0;\n            var lastSourceIndex = 0;\n
var lastSourceLine0 = 0;\n            var lastSourceCol0 = 0;\n            this.lines.forEach(function (segments) {\n
  lastCol0 = 0;\n                mappings += segments\n                    .map(function (segment) {\n                    // zero-
based starting column of the line in the generated code\n                    var segAsStr = toBase64VLQ(segment.col0 -
lastCol0);\n                    lastCol0 = segment.col0;\n                    if (segment.sourceUrl != null) {\n                        //
zero-based index into the “sources” list\n                        segAsStr +=\n
                toBase64VLQ(sourcesIndex.get(segment.sourceUrl) - lastSourceIndex);\n
lastSourceIndex = sourcesIndex.get(segment.sourceUrl);\n                        // the zero-based starting line in the
original source\n                        segAsStr += toBase64VLQ(segment.sourceLine0 - lastSourceLine0);\n
 lastSourceLine0 = segment.sourceLine0;\n                        // the zero-based starting column in the original source\n
                segAsStr += toBase64VLQ(segment.sourceCol0 - lastSourceCol0);\n                        lastSourceCol0 =
segment.sourceCol0;\n                    }\n                    return segAsStr;\n                })\n                .join(',');\n
mappings += ';';\n            });\n            mappings = mappings.slice(0, -1);\n            return {\n                'file': this.file ||
'',\n                'version': VERSION,\n                'sourceRoot': '',\n                'sources':
 sources,\n                'sourcesContent': sourcesContent,\n                'mappings': mappings,\n            };\n        };\n
SourceMapGenerator.prototype.toJsComment = function () {\n            return this.hasMappings ? '//' +
JS_B64_PREFIX + toBase64String(JSON.stringify(this, null, 0)) :\n                '';\n        };\n        return
```

```
SourceMapGenerator;\n    }());\n    function toBase64String(value) {\n        var b64 = '';\n        var encoded =
utf8Encode(value);\n        for (var i = 0; i < encoded.length;) {\n            var i1 = encoded[i++];\n            var i2 = i <
encoded.length ? encoded[i++] : null;\n            var i3 = i < encoded.length ? encoded[i++] : null;\n            b64 +=
toBase64Digit(i1 >> 2);\n            b64 += toBase64Digit(((i1 & 3) << 4) | (i2 === null ? 0 : i2 >> 4));\n            b64
+= i2 === null ? '=' : toBase64Digit(((i2 & 15) << 2) | (i3 === null ? 0 : i3 >> 6));\n            b64 += i2 === null || i3
=== null ? '=' : toBase64Digit(i3
 & 63);\n        }\n        return b64;\n    }\n    function toBase64VLQ(value) {\n        value = value < 0 ? ((-value) <<
1) + 1 : value << 1;\n        var out = '';\n        do {\n            var digit = value & 31;\n            value = value >> 5;\n
  if (value > 0) {\n                digit = digit | 32;\n            }\n            out += toBase64Digit(digit);\n        } while (value
> 0);\n        return out;\n    }\n    var B64_DIGITS =
'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/';\n    function
toBase64Digit(value) {\n        if (value < 0 || value >= 64) {\n            throw new Error(\"Can only encode value in
the range [0, 63]\");\n        }\n        return B64_DIGITS[value];\n    }\n\n    var
_SINGLE_QUOTE_ESCAPE_STRING_RE = /'|\\\\|\\n|\\r|\\$/g;\n    var _LEGAL_IDENTIFIER_RE = /^[$A-Z_][0-
9A-Z_$]*$/i;\n    var _INDENT_WITH = '  ';\n    var CATCH_ERROR_VAR$1 = variable('error', null, null);\n
var CATCH_STACK_VAR$1 = variable('stack', null,
 null);\n    var _EmittedLine = /** @class */ (function () {\n        function _EmittedLine(indent) {\n
this.indent = indent;\n            this.partsLength = 0;\n            this.parts = [];\n            this.srcSpans = [];\n        }\n
return _EmittedLine;\n    }());\n    var EmitterVisitorContext = /** @class */ (function () {\n        function
EmitterVisitorContext(_indent) {\n            this._indent = _indent;\n            this._classes = [];\n
this._preambleLineCount = 0;\n            this._lines = [new _EmittedLine(_indent)];\n        }\n
EmitterVisitorContext.createRoot = function () {\n            return new EmitterVisitorContext(0);\n        };\n
Object.defineProperty(EmitterVisitorContext.prototype, \"_currentLine\", {\n            /**\n             * @internal strip
this from published d.ts files due to\n             * https://github.com/microsoft/TypeScript/issues/36216\n             */\n
        get: function () {\n
            return this._lines[this._lines.length - 1];\n            },\n            enumerable: false,\n            configurable: true\n
 });\n        EmitterVisitorContext.prototype.println = function (from, lastPart) {\n            if (lastPart === void 0) {
lastPart = ''; }\n            this.print(from || null, lastPart, true);\n        };\n
EmitterVisitorContext.prototype.lineIsEmpty = function () {\n            return this._currentLine.parts.length === 0;\n
    };\n        EmitterVisitorContext.prototype.lineLength = function () {\n            return this._currentLine.indent *
_INDENT_WITH.length + this._currentLine.partsLength;\n        };\n        EmitterVisitorContext.prototype.print =
function (from, part, newLine) {\n            if (newLine === void 0) { newLine = false; }\n            if (part.length > 0)
{\n                this._currentLine.parts.push(part);\n                this._currentLine.partsLength += part.length;\n
this._currentLine.srcSpans.push(from
 && from.sourceSpan || null);\n            }\n            if (newLine) {\n                this._lines.push(new
_EmittedLine(this._indent));\n            }\n        };\n        EmitterVisitorContext.prototype.removeEmptyLastLine =
function () {\n            if (this.lineIsEmpty()) {\n                this._lines.pop();\n            }\n        };\n
EmitterVisitorContext.prototype.incIndent = function () {\n            this._indent++;\n            if (this.lineIsEmpty())
{\n                this._currentLine.indent = this._indent;\n            }\n        };\n
EmitterVisitorContext.prototype.decIndent = function () {\n            this._indent--;\n            if (this.lineIsEmpty()) {\n
                this._currentLine.indent = this._indent;\n            }\n        };\n
EmitterVisitorContext.prototype.pushClass = function (clazz) {\n            this._classes.push(clazz);\n        };\n
EmitterVisitorContext.prototype.popClass = function () {\n
  return this._classes.pop();\n        };\n        Object.defineProperty(EmitterVisitorContext.prototype, \"currentClass\",
{\n            get: function () {\n                return this._classes.length > 0 ? this._classes[this._classes.length - 1] : null;\n
        },\n            enumerable: false,\n            configurable: true\n        });\n
EmitterVisitorContext.prototype.toSource = function () {\n            return this.sourceLines\n                .map(function
(l) { return l.parts.length > 0 ? _createIndent(l.indent) + l.parts.join('') : ''; })\n                .join('\\n');\n        };\n
```

EmitterVisitorContext.prototype.toSourceMapGenerator = function (genFilePath, startsAtLine) {\n if (startsAtLine === void 0) { startsAtLine = 0; }\n var map = new SourceMapGenerator(genFilePath);\n var firstOffsetMapped = false;\n var mapFirstOffsetIfNeeded = function () {\n if (!firstOffsetMapped) {\n // Add a single space so that tools won't try to load the file from disk.\n // Note: We are using virtual urls like `ng:///`, so we have to\n // provide a content here.\n map.addSource(genFilePath, ' ').addMapping(0, genFilePath, 0, 0);\n firstOffsetMapped = true;\n }\n };\n for (var i = 0; i < startsAtLine; i++) {\n map.addLine();\n mapFirstOffsetIfNeeded();\n }\n this.sourceLines.forEach(function (line, lineIdx) {\n map.addLine();\n var spans = line.srcSpans;\n var parts = line.parts;\n var col0 = line.indent * _INDENT_WITH.length;\n var spanIdx = 0;\n // skip leading parts without source spans\n while (spanIdx < spans.length && !spans[spanIdx]) {\n col0 += parts[spanIdx].length;\n spanIdx++;\n }\n if (spanIdx < spans.length && lineIdx === 0 && col0 === 0) {\n firstOffsetMapped = true;\n }\n else {\n mapFirstOffsetIfNeeded();\n }\n while (spanIdx < spans.length) {\n var span = spans[spanIdx];\n var source = span.start.file;\n var sourceLine = span.start.line;\n var sourceCol = span.start.col;\n map.addSource(source.url, source.content)\n .addMapping(col0, source.url, sourceLine, sourceCol);\n col0 += parts[spanIdx].length;\n spanIdx++;\n // assign parts without span or the same span to the previous segment\n while (spanIdx < spans.length && (span === spans[spanIdx] || !spans[spanIdx])) {\n col0 += parts[spanIdx].length;\n spanIdx++;\n }\n }\n });\n return map;\n };\n EmitterVisitorContext.prototype.setPreambleLineCount = function (count) {\n return this._preambleLineCount = count;\n };\n EmitterVisitorContext.prototype.spanOf = function (line, column) {\n var emittedLine = this._lines[line - this._preambleLineCount];\n if (emittedLine) {\n var columnsLeft = column - _createIndent(emittedLine.indent).length;\n for (var partIndex = 0; partIndex < emittedLine.parts.length; partIndex++) {\n var part = emittedLine.parts[partIndex];\n if (part.length > columnsLeft) {\n return emittedLine.srcSpans[partIndex];\n }\n columnsLeft -= part.length;\n }\n }\n return null;\n };\n Object.defineProperty(EmitterVisitorContext.prototype, \"sourceLines\", {\n /**\n * @internal strip this from published d.ts files due to\n * https://github.com/microsoft/TypeScript/issues/36216\n */\n get: function () {\n if (this._lines.length && this._lines[this._lines.length - 1].parts.length === 0) {\n return this._lines.slice(0, -1);\n }\n return this._lines;\n },\n enumerable: false,\n configurable: true\n });\n return EmitterVisitorContext;\n }());\n var AbstractEmitterVisitor = /** @class */ (function () {\n function AbstractEmitterVisitor(_escapeDollarInStrings) {\n this._escapeDollarInStrings = _escapeDollarInStrings;\n }\n AbstractEmitterVisitor.prototype.printLeadingComments = function (stmt, ctx) {\n var e_1, _a;\n if (stmt.leadingComments === undefined) {\n return;\n }\n try {\n for (var _b = __values(stmt.leadingComments), _c = _b.next(); !_c.done; _c = _b.next()) {\n var comment = _c.value;\n if (comment instanceof JSDocComment) {\n ctx.print(stmt, \"/*\" + comment.toString() + \"*/\", comment.trailingNewline);\n }\n else {\n if (comment.multiline) {\n ctx.print(stmt, \"/* \" + comment.text + \" */\", comment.trailingNewline);\n }\n else {\n comment.text.split('\\n').forEach(function (line) {\n ctx.println(stmt, \"// \" + line);\n });\n }\n }\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n }\n finally { if (e_1) throw e_1.error; }\n }\n };\n AbstractEmitterVisitor.prototype.visitExpressionStmt = function (stmt, ctx) {\n this.printLeadingComments(stmt, ctx);\n stmt.expr.visitExpression(this, ctx);\n

```
ctx.println(stmt, ';');\n        return null;\n    };\n    AbstractEmitterVisitor.prototype.visitReturnStmt = function
(stmt, ctx) {\n        this.printLeadingComments(stmt, ctx);\n        ctx.print(stmt, \"return \");\n
stmt.value.visitExpression(this, ctx);\n        ctx.println(stmt, ';');\n        return null;\n    };\n
AbstractEmitterVisitor.prototype.visitIfStmt = function (stmt, ctx) {\n        this.printLeadingComments(stmt,
ctx);\n        ctx.print(stmt, \"if (\");\n        stmt.condition.visitExpression(this, ctx);\n        ctx.print(stmt, \")
{\");\n
        var hasElseCase = stmt.falseCase != null && stmt.falseCase.length > 0;\n        if (stmt.trueCase.length <=
1 && !hasElseCase) {\n            ctx.print(stmt, \" \");\n            this.visitAllStatements(stmt.trueCase, ctx);\n
    ctx.removeEmptyLastLine();\n            ctx.print(stmt, \" \");\n        }\n        else {\n
ctx.println();\n            ctx.incIndent();\n            this.visitAllStatements(stmt.trueCase, ctx);\n
ctx.decIndent();\n            if (hasElseCase) {\n                ctx.println(stmt, \"} else {\");\n
ctx.incIndent();\n                this.visitAllStatements(stmt.falseCase, ctx);\n                ctx.decIndent();\n
}\n        }\n        ctx.println(stmt, \"}\");\n        return null;\n    };\n
AbstractEmitterVisitor.prototype.visitThrowStmt = function (stmt, ctx) {\n        this.printLeadingComments(stmt,
 ctx);\n        ctx.print(stmt, \"throw \");\n        stmt.error.visitExpression(this, ctx);\n        ctx.println(stmt,
\";\");\n        return null;\n    };\n    AbstractEmitterVisitor.prototype.visitWriteVarExpr = function (expr, ctx)
{\n        var lineWasEmpty = ctx.lineIsEmpty();\n        if (!lineWasEmpty) {\n            ctx.print(expr, '(');\n
    }\n        ctx.print(expr, expr.name + \" = \");\n        expr.value.visitExpression(this, ctx);\n        if
(!lineWasEmpty) {\n            ctx.print(expr, ')');\n        }\n        return null;\n    };\n
AbstractEmitterVisitor.prototype.visitWriteKeyExpr = function (expr, ctx) {\n        var lineWasEmpty =
ctx.lineIsEmpty();\n        if (!lineWasEmpty) {\n            ctx.print(expr, '(');\n        }\n
expr.receiver.visitExpression(this, ctx);\n        ctx.print(expr, \"[\");\n        expr.index.visitExpression(this,
ctx);\n
        ctx.print(expr, \"] = \");\n        expr.value.visitExpression(this, ctx);\n        if (!lineWasEmpty) {\n
  ctx.print(expr, ')');\n        }\n        return null;\n    };\n
AbstractEmitterVisitor.prototype.visitWritePropExpr = function (expr, ctx) {\n        var lineWasEmpty =
ctx.lineIsEmpty();\n        if (!lineWasEmpty) {\n            ctx.print(expr, '(');\n        }\n
expr.receiver.visitExpression(this, ctx);\n        ctx.print(expr, \".\" + expr.name + \" = \");\n
expr.value.visitExpression(this, ctx);\n        if (!lineWasEmpty) {\n            ctx.print(expr, ')');\n        }\n
return null;\n    };\n    AbstractEmitterVisitor.prototype.visitInvokeMethodExpr = function (expr, ctx) {\n
expr.receiver.visitExpression(this, ctx);\n        var name = expr.name;\n        if (expr.builtin != null) {\n
name = this.getBuiltinMethodName(expr.builtin);\n
        if (name == null) {\n            // some builtins just mean to skip the call.\n            return null;\n
    }\n        }\n        ctx.print(expr, \".\" + name + \"(\");\n        this.visitAllExpressions(expr.args, ctx,
\",\");\n        ctx.print(expr, \")\");\n        return null;\n    };\n
AbstractEmitterVisitor.prototype.visitInvokeFunctionExpr = function (expr, ctx) {\n
expr.fn.visitExpression(this, ctx);\n        ctx.print(expr, \"(\");\n        this.visitAllExpressions(expr.args, ctx,
',');\n        ctx.print(expr, \")\");\n        return null;\n    };\n
AbstractEmitterVisitor.prototype.visitWrappedNodeExpr = function (ast, ctx) {\n        throw new Error('Abstract
emitter cannot visit WrappedNodeExpr.');\n    };\n    AbstractEmitterVisitor.prototype.visitTypeofExpr =
function (expr, ctx) {\n        ctx.print(expr, 'typeof ');\n
        expr.expr.visitExpression(this, ctx);\n    };\n    AbstractEmitterVisitor.prototype.visitReadVarExpr =
function (ast, ctx) {\n        var varName = ast.name;\n        if (ast.builtin != null) {\n            switch
(ast.builtin) {\n                case exports.BuiltinVar.Super:\n                    varName = 'super';\n
break;\n                case exports.BuiltinVar.This:\n                    varName = 'this';\n                    break;\n
    case exports.BuiltinVar.CatchError:\n                    varName = CATCH_ERROR_VAR$1.name;\n
 break;\n                case exports.BuiltinVar.CatchStack:\n                    varName =
CATCH_STACK_VAR$1.name;\n                    break;\n                default:\n                    throw new
```

```
Error(\"Unknown builtin variable \" + ast.builtin);\n }\n }\n ctx.print(ast, varName);\n return null;\n };\n AbstractEmitterVisitor.prototype.visitInstantiateExpr = function (ast, ctx) {\n ctx.print(ast, \"new \");\n ast.classExpr.visitExpression(this, ctx);\n ctx.print(ast, \"(\");\n this.visitAllExpressions(ast.args, ctx, ',');\n ctx.print(ast, \")\");\n return null;\n };\n AbstractEmitterVisitor.prototype.visitLiteralExpr = function (ast, ctx) {\n var value = ast.value;\n if (typeof value === 'string') {\n ctx.print(ast, escapeIdentifier(value, this._escapeDollarInStrings));\n }\n else {\n ctx.print(ast, \"\" + value);\n }\n return null;\n };\n AbstractEmitterVisitor.prototype.visitLocalizedString = function (ast, ctx) {\n var head = ast.serializeI18nHead();\n ctx.print(ast, '$localize `' + head.raw);\n for (var i = 1; i < ast.messageParts.length; i++) {\n ctx.print(ast, '${');\n ast.expressions[i - 1].visitExpression(this, ctx);\n ctx.print(ast, \"}\" + ast.serializeI18nTemplatePart(i).raw);\n }\n ctx.print(ast, '`');\n return null;\n };\n AbstractEmitterVisitor.prototype.visitConditionalExpr = function (ast, ctx) {\n ctx.print(ast, \"(\");\n ast.condition.visitExpression(this, ctx);\n ctx.print(ast, '? ');\n ast.trueCase.visitExpression(this, ctx);\n ctx.print(ast, ': ');\n ast.falseCase.visitExpression(this, ctx);\n ctx.print(ast, \")\");\n return null;\n };\n AbstractEmitterVisitor.prototype.visitNotExpr = function (ast, ctx) {\n ctx.print(ast, '!');\n ast.condition.visitExpression(this, ctx);\n return null;\n };\n AbstractEmitterVisitor.prototype.visitAssertNotNullExpr = function (ast, ctx) {\n ast.condition.visitExpression(this, ctx);\n return null;\n };\n AbstractEmitterVisitor.prototype.visitUnaryOperatorExpr = function (ast, ctx) {\n var opStr;\n switch (ast.operator) {\n case exports.UnaryOperator.Plus:\n opStr = '+';\n break;\n case exports.UnaryOperator.Minus:\n opStr = '-';\n break;\n default:\n throw new Error(\"Unknown operator \" + ast.operator);\n }\n if (ast.parens)\n ctx.print(ast, \"(\");\n ctx.print(ast, opStr);\n ast.expr.visitExpression(this, ctx);\n if (ast.parens)\n ctx.print(ast, \")\");\n return null;\n };\n AbstractEmitterVisitor.prototype.visitBinaryOperatorExpr = function (ast, ctx) {\n var opStr;\n switch (ast.operator) {\n case exports.BinaryOperator.Equals:\n opStr = '==';\n break;\n case exports.BinaryOperator.Identical:\n opStr = '===';\n break;\n case exports.BinaryOperator.NotEquals:\n opStr = '!=';\n break;\n case exports.BinaryOperator.NotIdentical:\n opStr = '!==';\n break;\n case exports.BinaryOperator.And:\n opStr = '&&';\n break;\n case exports.BinaryOperator.BitwiseAnd:\n opStr = '&';\n break;\n case exports.BinaryOperator.Or:\n opStr = '||';\n break;\n case exports.BinaryOperator.Plus:\n opStr = '+';\n break;\n case exports.BinaryOperator.Minus:\n opStr = '-';\n break;\n case exports.BinaryOperator.Divide:\n opStr = '/';\n break;\n case exports.BinaryOperator.Multiply:\n opStr = '*';\n break;\n case exports.BinaryOperator.Modulo:\n opStr = '%';\n break;\n case exports.BinaryOperator.Lower:\n opStr = '<';\n break;\n case exports.BinaryOperator.LowerEquals:\n opStr = '<=';\n break;\n case exports.BinaryOperator.Bigger:\n opStr = '>';\n break;\n case exports.BinaryOperator.BiggerEquals:\n opStr = '>=';\n break;\n default:\n throw new Error(\"Unknown operator \" + ast.operator);\n }\n if (ast.parens)\n ctx.print(ast, \"(\");\n ast.lhs.visitExpression(this, ctx);\n ctx.print(ast, \" \" + opStr + \" \");\n ast.rhs.visitExpression(this, ctx);\n if (ast.parens)\n ctx.print(ast, \")\");\n return null;\n };\n AbstractEmitterVisitor.prototype.visitReadPropExpr = function (ast, ctx) {\n ast.receiver.visitExpression(this, ctx);\n ctx.print(ast, \".\");\n ctx.print(ast, ast.name);\n return null;\n };\n AbstractEmitterVisitor.prototype.visitReadKeyExpr = function (ast, ctx) {\n ast.receiver.visitExpression(this, ctx);\n ctx.print(ast, \"[\");\n
```

```
ast.index.visitExpression(this, ctx);\n            ctx.print(ast, \"]\");\n            return null;\n        };\n
AbstractEmitterVisitor.prototype.visitLiteralArrayExpr = function (ast, ctx) {\n            ctx.print(ast,
 \"[\");\n            this.visitAllExpressions(ast.entries, ctx, ',');\n            ctx.print(ast, \"]\");\n            return null;\n
};\n        AbstractEmitterVisitor.prototype.visitLiteralMapExpr = function (ast, ctx) {\n            var _this = this;\n
  ctx.print(ast, \"{\");\n            this.visitAllObjects(function (entry) {\n                ctx.print(ast,
escapeIdentifier(entry.key, _this._escapeDollarInStrings, entry.quoted) + \":\");\n
entry.value.visitExpression(_this, ctx);\n            }, ast.entries, ctx, ',');\n            ctx.print(ast, \"}\");\n            return
null;\n        };\n        AbstractEmitterVisitor.prototype.visitCommaExpr = function (ast, ctx) {\n            ctx.print(ast,
'(');\n            this.visitAllExpressions(ast.parts, ctx, ',');\n            ctx.print(ast, ')');\n            return null;\n        };\n
AbstractEmitterVisitor.prototype.visitAllExpressions = function (expressions, ctx, separator) {\n
      var _this = this;\n            this.visitAllObjects(function (expr) { return expr.visitExpression(_this, ctx); },
expressions, ctx, separator);\n        };\n        AbstractEmitterVisitor.prototype.visitAllObjects = function (handler,
expressions, ctx, separator) {\n            var incrementedIndent = false;\n            for (var i = 0; i < expressions.length;
i++) {\n                if (i > 0) {\n                    if (ctx.lineLength() > 80) {\n                        ctx.print(null, separator,
true);\n                        if (!incrementedIndent) {\n                            // continuation are marked with double indent.\n
                    ctx.incIndent();\n                        ctx.incIndent();\n                        incrementedIndent = true;\n
                }\n                    }\n                    else {\n                        ctx.print(null, separator, false);\n                    }\n
      }\n                handler(expressions[i]);\n
          }\n            if (incrementedIndent) {\n                // continuation are marked with double indent.\n
ctx.decIndent();\n                ctx.decIndent();\n            }\n        };\n
AbstractEmitterVisitor.prototype.visitAllStatements = function (statements, ctx) {\n            var _this = this;\n
statements.forEach(function (stmt) { return stmt.visitStatement(_this, ctx); });\n        };\n        return
AbstractEmitterVisitor;\n    }());\n    function escapeIdentifier(input, escapeDollar, alwaysQuote) {\n        if
(alwaysQuote === void 0) { alwaysQuote = true; }\n        if (input == null) {\n            return null;\n        }\n        var
body = input.replace(_SINGLE_QUOTE_ESCAPE_STRING_RE, function () {\n            var match = [];\n
for (var _i = 0; _i < arguments.length; _i++) {\n                match[_i] = arguments[_i];\n            }\n            if
(match[0] == '$') {\n                return escapeDollar
 ? '\\\\$' : '$';\n            }\n            else if (match[0] == '\\n') {\n                return '\\\\n';\n            }\n            else if
(match[0] == '\\r') {\n                return '\\\\r';\n            }\n            else {\n                return \"\\\\\" + match[0];\n
}\n        });\n        var requiresQuotes = alwaysQuote || !_LEGAL_IDENTIFIER_RE.test(body);\n        return
requiresQuotes ? \"'\" + body + \"'\" : body;\n    }\n    function _createIndent(count) {\n        var res = '';\n        for
(var i = 0; i < count; i++) {\n            res += _INDENT_WITH;\n        }\n        return res;\n    }\n\n    var
AbstractJsEmitterVisitor = /** @class */ (function (_super) {\n        __extends(AbstractJsEmitterVisitor, _super);\n
    function AbstractJsEmitterVisitor() {\n            return _super.call(this, false) || this;\n        }\n
AbstractJsEmitterVisitor.prototype.visitDeclareClassStmt = function (stmt, ctx) {\n            var _this = this;\n
     ctx.pushClass(stmt);\n            this._visitClassConstructor(stmt, ctx);\n            if (stmt.parent != null) {\n
ctx.print(stmt, stmt.name + \".prototype = Object.create(\");\n                stmt.parent.visitExpression(this, ctx);\n
    ctx.println(stmt, \".prototype);\");\n            }\n            stmt.getters.forEach(function (getter) { return
_this._visitClassGetter(stmt, getter, ctx); });\n            stmt.methods.forEach(function (method) { return
_this._visitClassMethod(stmt, method, ctx); });\n            ctx.popClass();\n            return null;\n        };\n
AbstractJsEmitterVisitor.prototype._visitClassConstructor = function (stmt, ctx) {\n            ctx.print(stmt, \"function
\" + stmt.name + \"(\");\n            if (stmt.constructorMethod != null) {\n
this._visitParams(stmt.constructorMethod.params, ctx);\n            }\n            ctx.println(stmt, \") {\");\n
ctx.incIndent();\n            if (stmt.constructorMethod
 != null) {\n                if (stmt.constructorMethod.body.length > 0) {\n                    ctx.println(stmt, \"var self =
this;\");\n                    this.visitAllStatements(stmt.constructorMethod.body, ctx);\n                }\n            }\n
ctx.decIndent();\n            ctx.println(stmt, \"}\");\n        };\n        AbstractJsEmitterVisitor.prototype._visitClassGetter
= function (stmt, getter, ctx) {\n            ctx.println(stmt, \"Object.defineProperty(\" + stmt.name + \".prototype, '\" +
```

```
getter.name + \"', { get: function() {\");\n ctx.incIndent();\n if (getter.body.length > 0) {\n ctx.println(stmt, \"var self = this;\");\n this.visitAllStatements(getter.body, ctx);\n }\n ctx.decIndent();\n ctx.println(stmt, \"}});\");\n };\n AbstractJsEmitterVisitor.prototype._visitClassMethod = function (stmt, method, ctx) {\n ctx.print(stmt, stmt.name
 + \".prototype.\" + method.name + \" = function(\");\n this._visitParams(method.params, ctx);\n ctx.println(stmt, \") {\");\n ctx.incIndent();\n if (method.body.length > 0) {\n ctx.println(stmt, \"var self = this;\");\n this.visitAllStatements(method.body, ctx);\n }\n ctx.decIndent();\n ctx.println(stmt, \"};\");\n };\n AbstractJsEmitterVisitor.prototype.visitWrappedNodeExpr = function (ast, ctx) {\n throw new Error('Cannot emit a WrappedNodeExpr in Javascript.');\n };\n AbstractJsEmitterVisitor.prototype.visitReadVarExpr = function (ast, ctx) {\n if (ast.builtin === exports.BuiltinVar.This) {\n ctx.print(ast, 'self');\n }\n else if (ast.builtin === exports.BuiltinVar.Super) {\n throw new Error(\"'super' needs to be handled at a parent ast node, not at the variable level!\");\n
    }\n else {\n _super.prototype.visitReadVarExpr.call(this, ast, ctx);\n }\n return null;\n };\n AbstractJsEmitterVisitor.prototype.visitDeclareVarStmt = function (stmt, ctx) {\n ctx.print(stmt, \"var \" + stmt.name);\n if (stmt.value) {\n ctx.print(stmt, ' = ');\n stmt.value.visitExpression(this, ctx);\n }\n ctx.println(stmt, \";\");\n return null;\n };\n AbstractJsEmitterVisitor.prototype.visitCastExpr = function (ast, ctx) {\n ast.value.visitExpression(this, ctx);\n return null;\n };\n AbstractJsEmitterVisitor.prototype.visitInvokeFunctionExpr = function (expr, ctx) {\n var fnExpr = expr.fn;\n if (fnExpr instanceof ReadVarExpr && fnExpr.builtin === exports.BuiltinVar.Super) {\n ctx.currentClass.parent.visitExpression(this, ctx);\n ctx.print(expr, \".call(this\");\n if (expr.args.length > 0) {\n ctx.print(expr, \", \");\n this.visitAllExpressions(expr.args, ctx, ',');\n }\n ctx.print(expr, \")\");\n }\n else {\n _super.prototype.visitInvokeFunctionExpr.call(this, expr, ctx);\n }\n return null;\n };\n AbstractJsEmitterVisitor.prototype.visitFunctionExpr = function (ast, ctx) {\n ctx.print(ast, \"function\" + (ast.name ? ' ' + ast.name : '') + \"(\");\n this._visitParams(ast.params, ctx);\n ctx.println(ast, \") {\");\n
    ctx.incIndent();\n this.visitAllStatements(ast.statements, ctx);\n ctx.decIndent();\n ctx.print(ast, \"}\");\n return null;\n };\n AbstractJsEmitterVisitor.prototype.visitDeclareFunctionStmt = function (stmt, ctx) {\n ctx.print(stmt, \"function
 \" + stmt.name + \"(\");\n this._visitParams(stmt.params, ctx);\n ctx.println(stmt, \") {\");\n ctx.incIndent();\n this.visitAllStatements(stmt.statements, ctx);\n ctx.decIndent();\n ctx.println(stmt, \"}\");\n return null;\n };\n AbstractJsEmitterVisitor.prototype.visitTryCatchStmt = function (stmt, ctx) {\n ctx.println(stmt, \"try {\");\n ctx.incIndent();\n this.visitAllStatements(stmt.bodyStmts, ctx);\n ctx.decIndent();\n ctx.println(stmt, \"} catch (\" + CATCH_ERROR_VAR$1.name + \") {\");\n ctx.incIndent();\n var catchStmts = [CATCH_STACK_VAR$1.set(CATCH_ERROR_VAR$1.prop('stack')).toDeclStmt(null, [\n exports.StmtModifier.Final\n ])].concat(stmt.catchStmts);\n this.visitAllStatements(catchStmts, ctx);\n ctx.decIndent();\n ctx.println(stmt, \"}\");\n
    return null;\n };\n AbstractJsEmitterVisitor.prototype.visitLocalizedString = function (ast, ctx) {\n
  var _this = this;\n // The following convoluted piece of code is effectively the downlevelled equivalent of\n // ```\n // $localize `...`\n // ```\n // which is effectively like:\n // ```\n // $localize(__makeTemplateObject(cooked, raw), expression1, expression2, ...);\n // ```\n //\n // The `$localize` function expects a \"template object\", which is an array of \"cooked\" strings\n // plus a `raw` property that contains an array of \"raw\" strings.\n //\n // In some environments a helper function called `__makeTemplateObject(cooked, raw)` might be\n // available, in which case we use that. Otherwise we must create our own helper function\n // inline.\n //\n
```

```
// In the inline function, if `Object.defineProperty` is available we use that to attach the\n // `raw` array.\n ctx.print(ast, '$localize((this&&this.__makeTemplateObject||function(e,t){return Object.defineProperty?Object.defineProperty(e,\"raw\",{value:t}):e.raw=t,e})(');\n var parts = [ast.serializeI18nHead()];\n for (var i = 1; i < ast.messageParts.length; i++) {\n parts.push(ast.serializeI18nTemplatePart(i));\n }\n ctx.print(ast, \"[\" + parts.map(function (part) { return escapeIdentifier(part.cooked, false); }).join(', ') + \"], \");\n ctx.print(ast, \"[\" + parts.map(function (part) { return escapeIdentifier(part.raw, false); }).join(', ') + \"])\");\n ast.expressions.forEach(function (expression) {\n ctx.print(ast, ', ');\n expression.visitExpression(_this, ctx);\n });\n ctx.print(ast, ')');\n return null;\n };\n AbstractJsEmitterVisitor.prototype._visitParams = function (params, ctx) {\n this.visitAllObjects(function (param) { return ctx.print(null, param.name); }, params, ctx, ',');\n };\n AbstractJsEmitterVisitor.prototype.getBuiltinMethodName = function (method) {\n var name;\n switch (method) {\n case exports.BuiltinMethod.ConcatArray:\n name = 'concat';\n break;\n case exports.BuiltinMethod.SubscribeObservable:\n name = 'subscribe';\n break;\n case exports.BuiltinMethod.Bind:\n name = 'bind';\n break;\n default:\n throw new Error(\"Unknown builtin method: \" + method);\n }\n return name;\n };\n return AbstractJsEmitterVisitor;\n }(AbstractEmitterVisitor));\n\n /**\n * A helper class to manage the
 evaluation of JIT generated code.\n */\n var JitEvaluator = /** @class */ (function () {\n function JitEvaluator() {\n }\n /**\n *\n * @param sourceUrl The URL of the generated code.\n * @param statements An array of Angular statement AST nodes to be evaluated.\n * @param reflector A helper used when converting the statements to executable code.\n * @param createSourceMaps If true then create a source-map for the generated code and include it\n * inline as a source-map comment.\n * @returns A map of all the variables in the generated code.\n */\n JitEvaluator.prototype.evaluateStatements = function (sourceUrl, statements, reflector, createSourceMaps) {\n var converter = new JitEmitterVisitor(reflector);\n var ctx = EmitterVisitorContext.createRoot();\n // Ensure generated code is in strict mode\n if (statements.length > 0 && !isUseStrictStatement(statements[0]))
 {\n statements = __spread([\n literal('use strict').toStmt()\n ], statements);\n }\n converter.visitAllStatements(statements, ctx);\n converter.createReturnStmt(ctx);\n return this.evaluateCode(sourceUrl, ctx, converter.getArgs(), createSourceMaps);\n };\n /**\n * Evaluate a piece of JIT generated code.\n * @param sourceUrl The URL of this generated code.\n * @param ctx A context object that contains an AST of the code to be evaluated.\n * @param vars A map containing the names and values of variables that the evaluated code might\n * reference.\n * @param createSourceMap If true then create a source-map for the generated code and include it\n * inline as a source-map comment.\n * @returns The result of evaluating the code.\n */\n JitEvaluator.prototype.evaluateCode = function (sourceUrl,
 ctx, vars, createSourceMap) {\n var fnBody = \"\\\"use strict\\\";\" + ctx.toSource() + \"\\n//# sourceURL=\" + sourceUrl;\n var fnArgNames = [];\n var fnArgValues = [];\n for (var argName in vars) {\n fnArgValues.push(vars[argName]);\n fnArgNames.push(argName);\n }\n if (createSourceMap) {\n // using `new Function(...)` generates a header, 1 line of no arguments, 2 lines otherwise\n // E.g. ```\n // function anonymous(a,b,c\n // /**/) { ... }```\n // We don't want to hard code this fact, so we auto detect it via an empty function first.\n var emptyFn = new (Function.bind.apply(Function, __spread([void 0], fnArgNames.concat('return null;'))))().toString();\n var headerLines = emptyFn.slice(0, emptyFn.indexOf('return null;')).split('\\n').length - 1;\n fnBody += \"\\n\"
 + ctx.toSourceMapGenerator(sourceUrl, headerLines).toJsComment();\n }\n var fn = new (Function.bind.apply(Function, __spread([void 0], fnArgNames.concat(fnBody))))();\n return this.executeFunction(fn, fnArgValues);\n };\n /**\n * Execute a JIT generated function by calling it.\n *\n * This method can be overridden in tests to capture the functions that are generated\n * by this
```

```
`JitEvaluator` class.\n         *\n         * @param fn A function to execute.\n         * @param args The arguments to pass to the function being executed.\n         * @returns The return value of the executed function.\n         */\n JitEvaluator.prototype.executeFunction = function (fn, args) {\n             return fn.apply(void 0, __spread(args));\n };\n         return JitEvaluator;\n     }());\n     /**\n      * An Angular AST visitor that converts AST nodes into executable JavaScript code.\n      */\n     var JitEmitterVisitor
 = /** @class */ (function (_super) {\n         __extends(JitEmitterVisitor, _super);\n         function JitEmitterVisitor(reflector) {\n             var _this = _super.call(this) || this;\n             _this.reflector = reflector;\n _this._evalArgNames = [];\n             _this._evalArgValues = [];\n             _this._evalExportedVars = [];\n return _this;\n         }\n         JitEmitterVisitor.prototype.createReturnStmt = function (ctx) {\n             var stmt = new ReturnStatement(new LiteralMapExpr(this._evalExportedVars.map(function (resultVar) { return new LiteralMapEntry(resultVar, variable(resultVar), false); })));\n             stmt.visitStatement(this, ctx);\n         };\n JitEmitterVisitor.prototype.getArgs = function () {\n             var result = {};\n             for (var i = 0; i < this._evalArgNames.length; i++) {\n                 result[this._evalArgNames[i]] = this._evalArgValues[i];\n             }\n         return result;\n         };\n         JitEmitterVisitor.prototype.visitExternalExpr = function (ast, ctx) {\n this._emitReferenceToExternal(ast, this.reflector.resolveExternalReference(ast.value), ctx);\n             return null;\n   };\n         JitEmitterVisitor.prototype.visitWrappedNodeExpr = function (ast, ctx) {\n this._emitReferenceToExternal(ast, ast.node, ctx);\n             return null;\n         };\n JitEmitterVisitor.prototype.visitDeclareVarStmt = function (stmt, ctx) {\n             if (stmt.hasModifier(exports.StmtModifier.Exported)) {\n                 this._evalExportedVars.push(stmt.name);\n }\n             return _super.prototype.visitDeclareVarStmt.call(this, stmt, ctx);\n         };\n JitEmitterVisitor.prototype.visitDeclareFunctionStmt = function (stmt, ctx) {\n             if (stmt.hasModifier(exports.StmtModifier.Exported)) {\n                 this._evalExportedVars.push(stmt.name);\n }\n             return _super.prototype.visitDeclareFunctionStmt.call(this,
 stmt, ctx);\n         };\n         JitEmitterVisitor.prototype.visitDeclareClassStmt = function (stmt, ctx) {\n             if (stmt.hasModifier(exports.StmtModifier.Exported)) {\n                 this._evalExportedVars.push(stmt.name);\n }\n             return _super.prototype.visitDeclareClassStmt.call(this, stmt, ctx);\n         };\n JitEmitterVisitor.prototype._emitReferenceToExternal = function (ast, value, ctx) {\n             var id = this._evalArgValues.indexOf(value);\n             if (id === -1) {\n                 id = this._evalArgValues.length;\n this._evalArgValues.push(value);\n                 var name = identifierName({ reference: value }) || 'val';\n this._evalArgNames.push(\"jit_\" + name + \"_\" + id);\n             }\n             ctx.print(ast, this._evalArgNames[id]);\n     };\n         return JitEmitterVisitor;\n     }(AbstractJsEmitterVisitor));\n     function isUseStrictStatement(statement) {\n         return
 statement.isEquivalent(literal('use strict').toStmt());\n     }\n\n     /**\n      * @license\n      * Copyright Google LLC All Rights Reserved.\n      *\n      * Use of this source code is governed by an MIT-style license that can be\n      * found in the LICENSE file at https://angular.io/license\n      */\n     var $EOF = 0;\n     var $BSPACE = 8;\n     var $TAB = 9;\n     var $LF = 10;\n     var $VTAB = 11;\n     var $FF = 12;\n     var $CR = 13;\n     var $SPACE = 32;\n     var $BANG = 33;\n     var $DQ = 34;\n     var $HASH = 35;\n     var $$ = 36;\n     var $PERCENT = 37;\n     var $AMPERSAND = 38;\n     var $SQ = 39;\n     var $LPAREN = 40;\n     var $RPAREN = 41;\n     var $STAR = 42;\n     var $PLUS = 43;\n     var $COMMA = 44;\n     var $MINUS = 45;\n     var $PERIOD = 46;\n     var $SLASH = 47;\n     var $COLON = 58;\n     var $SEMICOLON = 59;\n     var $LT = 60;\n     var $EQ = 61;\n     var $GT = 62;\n     var $QUESTION = 63;\n     var $0 = 48;\n     var $7 = 55;\n     var $9 = 57;\n     var $A = 65;\n     var
  $E = 69;\n     var $F = 70;\n     var $X = 88;\n     var $Z = 90;\n     var $LBRACKET = 91;\n     var $BACKSLASH = 92;\n     var $RBRACKET = 93;\n     var $CARET = 94;\n     var $_ = 95;\n     var $a = 97;\n     var $b = 98;\n     var $e = 101;\n     var $f = 102;\n     var $n = 110;\n     var $r = 114;\n     var $t = 116;\n     var $u = 117;\n     var $v = 118;\n     var $x = 120;\n     var $z = 122;\n     var $LBRACE = 123;\n     var $BAR = 124;\n     var $RBRACE = 125;\n     var $NBSP = 160;\n     var $PIPE = 124;\n     var $TILDA = 126;\n     var $AT = 64;\n     var $BT = 96;\n     function isWhitespace(code) {\n         return (code >= $TAB && code <= $SPACE) || (code == $NBSP);\n     }\n     function
```

```
isDigit(code) {\n        return $0 <= code && code <= $9;\n    }\n    function isAsciiLetter(code) {\n        return code >= $a && code <= $z || code >= $A && code <= $Z;\n    }\n    function isAsciiHexDigit(code) {\n        return code >= $a && code <= $f || code >= $A && code <= $F || isDigit(code);\n    }\n    function isNewLine(code) {\n        return code === $LF || code === $CR;\n    }\n    function isOctalDigit(code) {\n        return $0 <= code && code <= $7;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var ParseLocation = /** @class */ (function () {\n        function ParseLocation(file, offset, line, col) {\n            this.file = file;\n            this.offset = offset;\n            this.line = line;\n            this.col = col;\n        }\n        ParseLocation.prototype.toString = function () {\n            return this.offset != null ? this.file.url + \"@\" + this.line + \":\" + this.col : this.file.url;\n        };\n        ParseLocation.prototype.moveBy = function (delta) {\n            var source = this.file.content;\n            var len = source.length;\n            var offset = this.offset;\n            var line = this.line;\n            var col = this.col;\n            while (offset > 0 && delta < 0) {\n                offset--;\n                delta++;\n                var ch = source.charCodeAt(offset);\n                if (ch == $LF) {\n                    line--;\n                    var priorLine = source.substr(0, offset - 1).lastIndexOf(String.fromCharCode($LF));\n                    col = priorLine > 0 ? offset - priorLine : offset;\n                }\n                else {\n                    col--;\n                }\n            }\n            while (offset < len && delta > 0) {\n                var ch = source.charCodeAt(offset);\n                offset++;\n                delta--;\n                if (ch == $LF) {\n                    line++;\n                    col = 0;\n                }\n                else {\n                    col++;\n                }\n            }\n            return new ParseLocation(this.file, offset, line, col);\n        };\n        // Return the source around the location\n        // Up to `maxChars` or `maxLines` on each side of the location\n        ParseLocation.prototype.getContext = function (maxChars, maxLines) {\n            var content = this.file.content;\n            var startOffset = this.offset;\n            if (startOffset != null) {\n                if (startOffset > content.length - 1) {\n                    startOffset = content.length - 1;\n                }\n                var endOffset = startOffset;\n                var ctxChars = 0;\n                var ctxLines = 0;\n                while (ctxChars < maxChars && startOffset > 0) {\n                    startOffset--;\n                    ctxChars++;\n                    if (content[startOffset] == '\\n') {\n                        if (++ctxLines == maxLines) {\n                            break;\n                        }\n                    }\n                }\n                ctxChars = 0;\n                ctxLines = 0;\n                while (ctxChars < maxChars && endOffset < content.length - 1) {\n                    endOffset++;\n                    ctxChars++;\n                    if (content[endOffset] == '\\n') {\n                        if (++ctxLines == maxLines) {\n                            break;\n                        }\n                    }\n                }\n                return {\n                    before: content.substring(startOffset, this.offset),\n                    after: content.substring(this.offset, endOffset + 1),\n                };\n            }\n            return null;\n        };\n        return ParseLocation;\n    }());\n    var ParseSourceFile = /** @class */ (function () {\n        function ParseSourceFile(content, url) {\n            this.content = content;\n            this.url = url;\n        }\n        return ParseSourceFile;\n    }());\n    var ParseSourceSpan = /** @class */ (function () {\n        /**\n         * Create an object that holds information about spans of tokens/nodes captured during\n         * lexing/parsing of text.\n         *\n         * @param start\n         * The location of the start of the span (having skipped leading trivia).\n         * Skipping leading trivia makes source-spans more \"user friendly\", since things like HTML\n         * elements will appear to begin at the start of the opening tag, rather than at the start of any\n         * leading trivia, which could include newlines.\n         *\n         * @param end\n         * The location of the end of the span.\n         *\n         * @param fullStart\n         * The start of the token without skipping the leading trivia.\n         * This is used by tooling that splits tokens further, such as extracting Angular interpolations\n         * from text tokens. Such tooling creates new source-spans relative to the original token's\n         * source-span. If leading trivia characters have been skipped then the new source-spans may be\n         * incorrectly offset.\n         *\n         * @param details\n         * Additional information (such as identifier names) that should be associated with the span.\n         */\n        function ParseSourceSpan(start, end, fullStart, details) {\n            if (fullStart === void 0) { fullStart = start; }\n            if (details === void 0) { details = null; }\n            this.start = start;\n            this.end = end;\n            this.fullStart = fullStart;\n            this.details = details;\n        }\n        ParseSourceSpan.prototype.toString = function () {\n            return this.start.file.content.substring(this.start.offset,
```

this.end.offset);\n };\n return ParseSourceSpan;\n }());\n (function (ParseErrorLevel) {\n ParseErrorLevel[ParseErrorLevel[\"WARNING\"] = 0] = \"WARNING\";\n ParseErrorLevel[ParseErrorLevel[\"ERROR\"] = 1] = \"ERROR\";\n })(exports.ParseErrorLevel || (exports.ParseErrorLevel = {}));\n var ParseError = /** @class */ (function () {\n function ParseError(span, msg, level) {\n if (level === void 0) { level = exports.ParseErrorLevel.ERROR; }\n this.span = span;\n this.msg = msg;\n this.level = level;\n }\n ParseError.prototype.contextualMessage = function () {\n var ctx = this.span.start.getContext(100, 3);\n return ctx ? this.msg + \" (\\\"\" + ctx.before + \"[\" + exports.ParseErrorLevel[this.level] + \" ->]\" + ctx.after + \"\\\")\" :\n this.msg;\n };\n ParseError.prototype.toString = function () {\n var details = this.span.details ? \", \" + this.span.details : '';\n return this.contextualMessage() + \": \" + this.span.start + details;\n };\n return ParseError;\n }());\n function typeSourceSpan(kind, type) {\n var moduleUrl = identifierModuleUrl(type);\n var sourceFileName = moduleUrl != null ? \"in \" + kind + \" \" + identifierName(type)\n + \" in \" + moduleUrl :\n \"in \" + kind + \" \" + identifierName(type);\n var sourceFile = new ParseSourceFile('', sourceFileName);\n return new ParseSourceSpan(new ParseLocation(sourceFile, -1, -1, -1), new ParseLocation(sourceFile, -1, -1, -1));\n }\n /**\n * Generates Source Span object for a given R3 Type for JIT mode.\n *\n * @param kind Component or Directive.\n * @param typeName name of the Component or Directive.\n * @param sourceUrl reference to Component or Directive source.\n * @returns instance of ParseSourceSpan that represent a given Component or Directive.\n */\n function r3JitTypeSourceSpan(kind, typeName, sourceUrl) {\n var sourceFileName = \"in \" + kind + \" \" + typeName + \" in \" + sourceUrl;\n var sourceFile = new ParseSourceFile('', sourceFileName);\n return new ParseSourceSpan(new ParseLocation(sourceFile, -1, -1, -1), new ParseLocation(sourceFile, -1, -1, -1));\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Implementation of `CompileReflector` which resolves references to @angular/core\n * symbols at runtime, according to a consumer-provided mapping.\n *\n * Only supports `resolveExternalReference`, all other methods throw.\n */\n var R3JitReflector = /** @class */ (function () {\n function R3JitReflector(context) {\n this.context = context;\n }\n R3JitReflector.prototype.resolveExternalReference = function (ref) {\n // This reflector only handles @angular/core imports.\n if (ref.moduleName !== '@angular/core') {\n throw new Error(\"Cannot resolve external reference to \" + ref.moduleName + \", only references to @angular/core are supported.\");\n }\n if (!this.context.hasOwnProperty(ref.name)) {\n throw new Error(\"No value provided for @angular/core symbol '\" + ref.name + \"'.\");\n }\n return this.context[ref.name];\n };\n R3JitReflector.prototype.parameters = function (typeOrFunc) {\n throw new Error('Not implemented.');\n };\n R3JitReflector.prototype.annotations = function (typeOrFunc) {\n throw new Error('Not implemented.');\n };\n R3JitReflector.prototype.shallowAnnotations = function (typeOrFunc) {\n throw new Error('Not implemented.');\n };\n R3JitReflector.prototype.tryAnnotations = function (typeOrFunc) {\n throw new Error('Not implemented.');\n };\n R3JitReflector.prototype.propMetadata = function (typeOrFunc) {\n throw new Error('Not implemented.');\n };\n R3JitReflector.prototype.hasLifecycleHook = function (type, lcProperty) {\n throw new Error('Not implemented.');\n };\n R3JitReflector.prototype.guards = function (typeOrFunc) {\n throw new Error('Not implemented.');\n };\n R3JitReflector.prototype.componentModuleUrl = function (type, cmpMetadata) {\n throw new Error('Not implemented.');\n };\n return R3JitReflector;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function mapEntry(key, value) {\n return { key: key, value: value, quoted: false };\n }\n function mapLiteral(obj, quoted) {\n if (quoted === void 0) { quoted = false; }\n return literalMap(Object.keys(obj).map(function (key) { return ({\n key: key,\n

```
quoted: quoted,\n            value: obj[key],\n        });
 }));\n    }\n\n    /**\n     * Construct an `R3NgModuleDef` for the given `R3NgModuleMetadata`.\n     */\n
function compileNgModule(meta) {\n        var internalType = meta.internalType, moduleType = meta.type,
bootstrap = meta.bootstrap, declarations = meta.declarations, imports = meta.imports, exports = meta.exports,
schemas = meta.schemas, containsForwardDecls = meta.containsForwardDecls, emitInline = meta.emitInline, id =
meta.id;\n        var additionalStatements = [];\n        var definitionMap = { type: internalType };\n        // Only
generate the keys in the metadata if the arrays have values.\n        if (bootstrap.length) {\n
definitionMap.bootstrap = refsToArray(bootstrap, containsForwardDecls);\n        }\n        // If requested to emit
scope information inline, pass the declarations, imports and exports to\n        // the `defineNgModule` call. The JIT
compilation uses this.\n        if (emitInline) {\n            if (declarations.length) {\n
    definitionMap.declarations = refsToArray(declarations, containsForwardDecls);\n            }\n            if
(imports.length) {\n                definitionMap.imports = refsToArray(imports, containsForwardDecls);\n            }\n
    if (exports.length) {\n                definitionMap.exports = refsToArray(exports, containsForwardDecls);\n
}\n        }\n        // If not emitting inline, the scope information is not passed into `defineNgModule` as it would\n
// prevent tree-shaking of the declarations, imports and exports references.\n        else {\n            var
setNgModuleScopeCall = generateSetNgModuleScopeCall(meta);\n            if (setNgModuleScopeCall !== null) {\n
            additionalStatements.push(setNgModuleScopeCall);\n            }\n        }\n        if (schemas &&
schemas.length) {\n            definitionMap.schemas = literalArr(schemas.map(function (ref) { return ref.value; }));\n
    }\n        if (id) {\n            definitionMap.id
 = id;\n        }\n        var expression =
importExpr(Identifiers$1.defineNgModule).callFn([mapToMapExpression(definitionMap)]);\n        var type = new
ExpressionType(importExpr(Identifiers$1.NgModuleDefWithMeta, [\n            new
ExpressionType(moduleType.type), tupleTypeOf(declarations), tupleTypeOf(imports),\n
tupleTypeOf(exports)\n        ]));\n        return { expression: expression, type: type, additionalStatements:
additionalStatements };\n    }\n    /**\n     * Generates a function call to `setNgModuleScope` with all necessary
information so that the\n     * transitive module scope can be computed during runtime in JIT mode. This call is
marked pure\n     * such that the references to declarations, imports and exports may be elided causing these\n     *
symbols to become tree-shakeable.\n     */\n    function generateSetNgModuleScopeCall(meta) {\n        var
moduleType = meta.adjacentType, declarations = meta.declarations, imports = meta.imports, exports
 = meta.exports, containsForwardDecls = meta.containsForwardDecls;\n        var scopeMap = {};\n        if
(declarations.length) {\n            scopeMap.declarations = refsToArray(declarations, containsForwardDecls);\n
}\n        if (imports.length) {\n            scopeMap.imports = refsToArray(imports, containsForwardDecls);\n        }\n
   if (exports.length) {\n            scopeMap.exports = refsToArray(exports, containsForwardDecls);\n        }\n        if
(Object.keys(scopeMap).length === 0) {\n            return null;\n        }\n        // setNgModuleScope(...)\n        var
fnCall = new InvokeFunctionExpr(\n        /* fn */ importExpr(Identifiers$1.setNgModuleScope), \n        /* args */
[moduleType, mapToMapExpression(scopeMap)]);\n        // (ngJitMode guard) && setNgModuleScope(...)\n
var guardedCall = jitOnlyGuardedExpression(fnCall);\n        // function() { (ngJitMode guard) &&
setNgModuleScope(...); }\n        var iife = new FunctionExpr(\n        /* params
 */ [], \n        /* statements */ [guardedCall.toStmt()]);\n        // (function() { (ngJitMode guard) &&
setNgModuleScope(...); })()\n        var iifeCall = new InvokeFunctionExpr(\n        /* fn */ iife, \n        /* args */ []);\n
     return iifeCall.toStmt();\n    }\n    function compileInjector(meta) {\n        var result =
compileFactoryFunction({\n            name: meta.name,\n            type: meta.type,\n            internalType:
meta.internalType,\n            typeArgumentCount: 0,\n            deps: meta.deps,\n            injectFn:
Identifiers$1.inject,\n            target: exports.R3FactoryTarget.NgModule,\n        });\n        var definitionMap = {\n
    factory: result.factory,\n        };\n        if (meta.providers !== null) {\n            definitionMap.providers =
meta.providers;\n        }\n        if (meta.imports.length > 0) {\n            definitionMap.imports =
literalArr(meta.imports);\n        }\n        var expression =
importExpr(Identifiers$1.defineInjector).callFn([mapToMapExpression(definitionMap)]);\n
```

```
    var type = new ExpressionType(importExpr(Identifiers$1.InjectorDef, [new
ExpressionType(meta.type.type)]));\n    return { expression: expression, type: type, statements: result.statements
};\n  }\n  // TODO(alxhub): integrate this with `compileNgModule`. Currently the two are separate operations.\n
function compileNgModuleFromRender2(ctx, ngModule, injectableCompiler) {\n    var className =
identifierName(ngModule.type);\n    var rawImports = ngModule.rawImports ? [ngModule.rawImports] : [];\n
var rawExports = ngModule.rawExports ? [ngModule.rawExports] : [];\n    var injectorDefArg = mapLiteral({\n
    'factory': injectableCompiler.factoryFor({ type: ngModule.type, symbol: ngModule.type.reference }, ctx),\n
  'providers': convertMetaToOutput(ngModule.rawProviders, ctx),\n        'imports':
convertMetaToOutput(__spread(rawImports, rawExports), ctx),\n    });\n
  var injectorDef = importExpr(Identifiers$1.defineInjector).callFn([injectorDefArg]);\n
ctx.statements.push(new ClassStmt(\n    /* name */ className, \n    /* parent */ null, \n    /* fields */ [new
ClassField(\n        /* name */ 'inj', \n        /* type */ INFERRED_TYPE, \n        /* modifiers */
[exports.StmtModifier.Static], \n        /* initializer */ injectorDef)], \n    /* getters */ [], \n    /*
constructorMethod */ new ClassMethod(null, [], []), \n    /* methods */ []));\n  }\n  function
accessExportScope(module) {\n    var selectorScope = new ReadPropExpr(module, 'mod');\n    return new
ReadPropExpr(selectorScope, 'exported');\n  }\n  function tupleTypeOf(exp) {\n    var types =
exp.map(function (ref) { return typeofExpr(ref.type); });\n    return exp.length > 0 ?
expressionType(literalArr(types)) : NONE_TYPE;\n  }\n  function refsToArray(refs, shouldForwardDeclare) {\n
  var values = literalArr(refs.map(function
 (ref) { return ref.value; }));\n    return shouldForwardDeclare ? fn([], [new ReturnStatement(values)]) : values;\n
}\n\n  /**\n   * @license\n   * Copyright Google LLC All Rights Reserved.\n   *\n   * Use of this source code
is governed by an MIT-style license that can be\n   * found in the LICENSE file at https://angular.io/license\n
*/\n  function compilePipeFromMetadata(metadata) {\n    var definitionMapValues = [];\n    // e.g. `name:
'myPipe'`\n    definitionMapValues.push({ key: 'name', value: literal(metadata.pipeName), quoted: false });\n
// e.g. `type: MyPipe`\n    definitionMapValues.push({ key: 'type', value: metadata.type.value, quoted: false });\n
  // e.g. `pure: true`\n    definitionMapValues.push({ key: 'pure', value: literal(metadata.pure), quoted: false });\n
  var expression = importExpr(Identifiers$1.definePipe).callFn([literalMap(definitionMapValues)]);\n    var type
= new ExpressionType(importExpr(Identifiers$1.PipeDefWithMeta,
 [\n        typeWithParameters(metadata.type.type, metadata.typeArgumentCount),\n        new
ExpressionType(new LiteralExpr(metadata.pipeName)),\n    ]));\n    return { expression: expression, type: type
};\n  }\n  /**\n   * Write a pipe definition to the output context.\n   */\n  function
compilePipeFromRender2(outputCtx, pipe, reflector) {\n    var name = identifierName(pipe.type);\n    if
(!name) {\n        return error(\"Cannot resolve the name of \" + pipe.type);\n    }\n    var type =
outputCtx.importExpr(pipe.type.reference);\n    var metadata = {\n        name: name,\n        type:
wrapReference(type),\n        internalType: type,\n        pipeName: pipe.name,\n        typeArgumentCount:
0,\n        deps: dependenciesFromGlobalMetadata(pipe.type, outputCtx, reflector),\n        pure: pipe.pure,\n
};\n    var res = compilePipeFromMetadata(metadata);\n
    var factoryRes = compileFactoryFunction(Object.assign(Object.assign({}, metadata), { injectFn:
Identifiers$1.directiveInject, target: exports.R3FactoryTarget.Pipe }));\n    var definitionField =
outputCtx.constantPool.propertyNameOf(3 /* Pipe */);\n    var ngFactoryDefStatement = new ClassStmt(\n
/* name */ name, \n    /* parent */ null, \n    /* fields */\n    [new ClassField(\n        /* name */ 'fac', \n
 /* type */ INFERRED_TYPE, \n        /* modifiers */ [exports.StmtModifier.Static], \n        /* initializer */
factoryRes.factory)], \n    /* getters */ [], \n    /* constructorMethod */ new ClassMethod(null, [], []), \n    /*
methods */ []);\n    var pipeDefStatement = new ClassStmt(\n    /* name */ name, \n    /* parent */ null, \n
/* fields */ [new ClassField(\n        /* name */ definitionField, \n        /* type */ INFERRED_TYPE, \n        /*
modifiers */ [exports.StmtModifier.Static],
 \n        /* initializer */ res.expression)], \n    /* getters */ [], \n    /* constructorMethod */ new
ClassMethod(null, [], []), \n    /* methods */ []);\n    outputCtx.statements.push(ngFactoryDefStatement,
```

pipeDefStatement);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var ParserError = /** @class */ (function () {\n function ParserError(message, input, errLocation, ctxLocation) {\n this.input = input;\n this.errLocation = errLocation;\n this.ctxLocation = ctxLocation;\n this.message = \"Parser Error: \" + message + \" \" + errLocation + \" [\" + input + \"] in \" + ctxLocation;\n }\n return ParserError;\n }());\n var ParseSpan = /** @class */ (function () {\n function ParseSpan(start, end) {\n this.start = start;\n this.end = end;\n }\n ParseSpan.prototype.toAbsolute = function (absoluteOffset) {\n return new AbsoluteSourceSpan(absoluteOffset + this.start, absoluteOffset + this.end);\n };\n return ParseSpan;\n }());\n var AST = /** @class */ (function () {\n function AST(span, \n /**\n * Absolute location of the expression AST in a source code file.\n */\n sourceSpan) {\n this.span = span;\n this.sourceSpan = sourceSpan;\n }\n AST.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return null;\n };\n AST.prototype.toString = function () {\n return 'AST';\n };\n return AST;\n }());\n var ASTWithName = /** @class */ (function (_super) {\n __extends(ASTWithName, _super);\n function ASTWithName(span, sourceSpan, nameSpan) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.nameSpan = nameSpan;\n return _this;\n }\n return ASTWithName;\n }(AST));\n /**\n * Represents a quoted expression of the form:\n *\n * quote = prefix `:` uninterpretedExpression\n * prefix = identifier\n * uninterpretedExpression = arbitrary string\n *\n * A quoted expression is meant to be pre-processed by an AST transformer that\n * converts it into another AST that no longer contains quoted expressions.\n * It is meant to allow third-party developers to extend Angular template\n * expression language. The `uninterpretedExpression` part of the quote is\n * therefore not interpreted by the Angular's own expression parser.\n */\n var Quote = /** @class */ (function (_super) {\n __extends(Quote, _super);\n function Quote(span, sourceSpan, prefix, uninterpretedExpression, location) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.prefix = prefix;\n _this.uninterpretedExpression = uninterpretedExpression;\n _this.location = location;\n return _this;\n }\n Quote.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitQuote(this, context);\n };\n Quote.prototype.toString = function () {\n return 'Quote';\n };\n return Quote;\n }(AST));\n var EmptyExpr = /** @class */ (function (_super) {\n __extends(EmptyExpr, _super);\n function EmptyExpr() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n EmptyExpr.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n // do nothing\n };\n return EmptyExpr;\n }(AST));\n var ImplicitReceiver = /** @class */ (function (_super) {\n __extends(ImplicitReceiver, _super);\n function ImplicitReceiver() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n ImplicitReceiver.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitImplicitReceiver(this, context);\n };\n return ImplicitReceiver;\n }(AST));\n /**\n * Receiver when something is accessed through `this` (e.g. `this.foo`). Note that this class\n * inherits from `ImplicitReceiver`, because accessing something through `this` is treated the\n * same as accessing it implicitly inside of an Angular template (e.g. `[attr.title]=\"this.title\"` is the same as `[attr.title]=\"title\"`). Inheriting allows for the `this` accesses to be treated\n * the same as implicit ones, except for a couple of exceptions like `$event` and `$any`.\n * TODO: we should find a way for this class not to extend from `ImplicitReceiver` in the future.\n */\n var ThisReceiver = /** @class */ (function (_super) {\n __extends(ThisReceiver, _super);\n function ThisReceiver() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n ThisReceiver.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n var _a;\n return (_a = visitor.visitThisReceiver) === null || _a === void 0 ? void 0 : _a.call(visitor, this, context);\n };\n return ThisReceiver;\n }(ImplicitReceiver));\n /**\n * Multiple expressions separated

by a semicolon.\n */\n var Chain = /** @class */ (function (_super) {\n __extends(Chain, _super);\n function Chain(span, sourceSpan, expressions) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.expressions
= expressions;\n return _this;\n }\n Chain.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitChain(this, context);\n };\n return Chain;\n }(AST));\n var Conditional = /** @class */ (function (_super) {\n __extends(Conditional, _super);\n function Conditional(span, sourceSpan, condition, trueExp, falseExp) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.condition = condition;\n _this.trueExp = trueExp;\n _this.falseExp = falseExp;\n return _this;\n }\n Conditional.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitConditional(this, context);\n };\n return Conditional;\n }(AST));\n var PropertyRead = /** @class */ (function (_super) {\n
__extends(PropertyRead, _super);\n function PropertyRead(span, sourceSpan, nameSpan, receiver, name) {\n var _this = _super.call(this, span, sourceSpan, nameSpan) || this;\n _this.receiver = receiver;\n _this.name = name;\n return _this;\n }\n PropertyRead.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitPropertyRead(this, context);\n };\n return PropertyRead;\n }(ASTWithName));\n var PropertyWrite = /** @class */ (function (_super) {\n
__extends(PropertyWrite, _super);\n function PropertyWrite(span, sourceSpan, nameSpan, receiver, name, value) {\n var _this = _super.call(this, span, sourceSpan, nameSpan) || this;\n _this.receiver = receiver;\n _this.name = name;\n _this.value = value;\n return _this;\n }\n PropertyWrite.prototype.visit
= function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitPropertyWrite(this, context);\n };\n return PropertyWrite;\n }(ASTWithName));\n var SafePropertyRead = /** @class */ (function (_super) {\n __extends(SafePropertyRead, _super);\n function SafePropertyRead(span, sourceSpan, nameSpan, receiver, name) {\n var _this = _super.call(this, span, sourceSpan, nameSpan) || this;\n _this.receiver = receiver;\n _this.name = name;\n return _this;\n }\n SafePropertyRead.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitSafePropertyRead(this, context);\n };\n return SafePropertyRead;\n }(ASTWithName));\n var KeyedRead = /** @class */ (function (_super) {\n __extends(KeyedRead, _super);\n function KeyedRead(span, sourceSpan,
obj, key) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.obj = obj;\n _this.key = key;\n return _this;\n }\n KeyedRead.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitKeyedRead(this, context);\n };\n return KeyedRead;\n }(AST));\n var KeyedWrite = /** @class */ (function (_super) {\n __extends(KeyedWrite, _super);\n function KeyedWrite(span, sourceSpan, obj, key, value) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.obj = obj;\n _this.key = key;\n _this.value = value;\n return _this;\n }\n KeyedWrite.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitKeyedWrite(this, context);\n };\n return
KeyedWrite;\n }(AST));\n var BindingPipe = /** @class */ (function (_super) {\n __extends(BindingPipe, _super);\n function BindingPipe(span, sourceSpan, exp, name, args, nameSpan) {\n var _this = _super.call(this, span, sourceSpan, nameSpan) || this;\n _this.exp = exp;\n _this.name = name;\n _this.args = args;\n return _this;\n }\n BindingPipe.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitPipe(this, context);\n };\n return BindingPipe;\n }(ASTWithName));\n var LiteralPrimitive = /** @class */ (function (_super) {\n
__extends(LiteralPrimitive, _super);\n function LiteralPrimitive(span, sourceSpan, value) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.value = value;\n return _this;\n }\n LiteralPrimitive.prototype.visit

= function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitLiteralPrimitive(this, context);\n };\n return LiteralPrimitive;\n }(AST));\n var LiteralArray = /** @class */ (function (_super) {\n __extends(LiteralArray, _super);\n function LiteralArray(span, sourceSpan, expressions) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.expressions = expressions;\n return _this;\n }\n LiteralArray.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitLiteralArray(this, context);\n };\n return LiteralArray;\n }(AST));\n var LiteralMap = /** @class */ (function (_super) {\n __extends(LiteralMap, _super);\n function LiteralMap(span, sourceSpan, keys, values) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.keys = keys;\n _this.values = values;\n return _this;\n }\n LiteralMap.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitLiteralMap(this, context);\n };\n return LiteralMap;\n }(AST));\n var Interpolation = /** @class */ (function (_super) {\n __extends(Interpolation, _super);\n function Interpolation(span, sourceSpan, strings, expressions) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.strings = strings;\n _this.expressions = expressions;\n return _this;\n }\n Interpolation.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitInterpolation(this, context);\n };\n return Interpolation;\n }(AST));\n var Binary = /** @class */ (function (_super) {\n __extends(Binary, _super);\n function Binary(span, sourceSpan, operation, left, right) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.operation = operation;\n _this.left = left;\n _this.right = right;\n return _this;\n }\n Binary.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitBinary(this, context);\n };\n return Binary;\n }(AST));\n /**\n * For backwards compatibility reasons, `Unary` inherits from `Binary` and mimics the binary AST\n * node that was originally used. This inheritance relation can be deleted in some future major,\n * after consumers have been given a chance to fully support Unary.\n */\n var Unary = /** @class */ (function (_super) {\n __extends(Unary, _super);\n /**\n * During the deprecation period this constructor is private, to avoid consumers from creating\n * a `Unary` with the fallback properties for `Binary`.\n */\n function Unary(span, sourceSpan, operator, expr, binaryOp, binaryLeft, binaryRight) {\n var _this = _super.call(this, span, sourceSpan, binaryOp, binaryLeft, binaryRight) || this;\n _this.operator = operator;\n _this.expr = expr;\n return _this;\n }\n /**\n * Creates a unary minus expression \"-x\", represented as `Binary` using \"0 - x\".\n */\n Unary.createMinus = function (span, sourceSpan, expr) {\n return new Unary(span, sourceSpan, '-', expr, '-', new LiteralPrimitive(span, sourceSpan, 0), expr);\n };\n /**\n * Creates a unary plus expression \"+x\", represented as `Binary` using \"x - 0\".\n */\n Unary.createPlus = function (span, sourceSpan, expr) {\n return new Unary(span, sourceSpan, '+', expr, '-', expr, new LiteralPrimitive(span, sourceSpan, 0));\n };\n Unary.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n if (visitor.visitUnary !== undefined) {\n return visitor.visitUnary(this, context);\n }\n return visitor.visitBinary(this, context);\n };\n return Unary;\n }(Binary));\n var PrefixNot = /** @class */ (function (_super) {\n __extends(PrefixNot, _super);\n function PrefixNot(span, sourceSpan, expression) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.expression = expression;\n return _this;\n }\n PrefixNot.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitPrefixNot(this, context);\n };\n return PrefixNot;\n }(AST));\n var NonNullAssert = /** @class */ (function (_super) {\n __extends(NonNullAssert, _super);\n function NonNullAssert(span, sourceSpan, expression) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.expression = expression;\n return _this;\n }\n NonNullAssert.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitNonNullAssert(this, context);\n };\n return NonNullAssert;\n }(AST));\n var MethodCall =

```
/** @class */ (function (_super) {\n __extends(MethodCall, _super);\n function MethodCall(span, sourceSpan, nameSpan, receiver, name, args) {\n var _this = _super.call(this, span, sourceSpan, nameSpan) || this;\n _this.receiver = receiver;\n _this.name = name;\n _this.args = args;\n return _this;\n }\n MethodCall.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitMethodCall(this, context);\n };\n return MethodCall;\n }(ASTWithName));\n var SafeMethodCall = /** @class */ (function (_super) {\n __extends(SafeMethodCall, _super);\n function SafeMethodCall(span, sourceSpan, nameSpan, receiver, name, args) {\n var _this = _super.call(this, span, sourceSpan, nameSpan) || this;\n _this.receiver = receiver;\n _this.name = name;\n _this.args = args;\n return _this;\n }\n SafeMethodCall.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitSafeMethodCall(this, context);\n };\n return SafeMethodCall;\n }(ASTWithName));\n var FunctionCall = /** @class */ (function (_super) {\n __extends(FunctionCall, _super);\n function FunctionCall(span, sourceSpan, target, args) {\n var _this = _super.call(this, span, sourceSpan) || this;\n _this.target = target;\n _this.args = args;\n return _this;\n }\n FunctionCall.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n return visitor.visitFunctionCall(this, context);\n };\n return FunctionCall;\n }(AST));\n /**\n * Records the absolute position of a text span in a source file, where `start` and `end` are the\n * starting and ending byte offsets, respectively, of the text span in a source file.\n */\n var AbsoluteSourceSpan = /** @class */ (function () {\n function AbsoluteSourceSpan(start, end) {\n this.start = start;\n this.end = end;\n }\n return AbsoluteSourceSpan;\n }());\n var ASTWithSource = /** @class */ (function (_super) {\n __extends(ASTWithSource, _super);\n function ASTWithSource(ast, source, location, absoluteOffset, errors) {\n var _this = _super.call(this, new ParseSpan(0, source === null ? 0 : source.length), new AbsoluteSourceSpan(absoluteOffset, source === null ? absoluteOffset : absoluteOffset + source.length)) || this;\n _this.ast = ast;\n _this.source = source;\n _this.location = location;\n _this.errors = errors;\n return _this;\n }\n ASTWithSource.prototype.visit = function (visitor, context) {\n if (context === void 0) { context = null; }\n if (visitor.visitASTWithSource) {\n return visitor.visitASTWithSource(this, context);\n }\n return this.ast.visit(visitor, context);\n };\n ASTWithSource.prototype.toString = function () {\n return this.source + \" in \" + this.location;\n };\n return ASTWithSource;\n }(AST));\n var VariableBinding = /** @class */ (function () {\n /**\n * @param sourceSpan entire span of the binding.\n * @param key name of the LHS along with its span.\n * @param value optional value for the RHS along with its span.\n */\n function VariableBinding(sourceSpan, key, value) {\n this.sourceSpan = sourceSpan;\n this.key = key;\n this.value = value;\n }\n return VariableBinding;\n }());\n var ExpressionBinding = /** @class */ (function () {\n /**\n * @param sourceSpan entire span of the binding.\n * @param key binding name, like ngForOf, ngForTrackBy, ngIf, along with its\n * span. Note that the length of the span may not be the same as\n * `key.source.length`. For example,\n * 1. key.source = ngFor, key.span is for \"ngFor\"\n * 2. key.source = ngForOf, key.span is for \"of\"\n * 3. key.source = ngForTrackBy, key.span is for \"trackBy\"\n * @param value optional expression for the RHS.\n */\n function ExpressionBinding(sourceSpan, key, value) {\n this.sourceSpan = sourceSpan;\n this.key = key;\n this.value = value;\n }\n return ExpressionBinding;\n }());\n var RecursiveAstVisitor$1 = /** @class */ (function () {\n function RecursiveAstVisitor() {\n }\n RecursiveAstVisitor.prototype.visit = function (ast, context) {\n // The default implementation just visits every node.\n // Classes that extend RecursiveAstVisitor should override this function\n // to selectively visit the specified node.\n ast.visit(this, context);\n };\n RecursiveAstVisitor.prototype.visitUnary = function (ast, context) {\n this.visit(ast.expr, context);\n };\n RecursiveAstVisitor.prototype.visitBinary = function (ast, context) {\n this.visit(ast.left, context);\n
```

this.visit(ast.right, context);\n };\n RecursiveAstVisitor.prototype.visitChain = function (ast, context) {\n this.visitAll(ast.expressions, context);\n };\n RecursiveAstVisitor.prototype.visitConditional = function (ast, context) {\n this.visit(ast.condition, context);\n this.visit(ast.trueExp, context);\n this.visit(ast.falseExp, context);\n };\n RecursiveAstVisitor.prototype.visitPipe = function (ast, context) {\n this.visit(ast.exp, context);\n this.visitAll(ast.args, context);\n };\n RecursiveAstVisitor.prototype.visitFunctionCall = function (ast, context) {\n if (ast.target) {\n this.visit(ast.target, context);\n }\n this.visitAll(ast.args, context);\n };\n RecursiveAstVisitor.prototype.visitImplicitReceiver = function (ast, context) { };\n RecursiveAstVisitor.prototype.visitThisReceiver
= function (ast, context) { };\n RecursiveAstVisitor.prototype.visitInterpolation = function (ast, context) {\n this.visitAll(ast.expressions, context);\n };\n RecursiveAstVisitor.prototype.visitKeyedRead = function (ast, context) {\n this.visit(ast.obj, context);\n this.visit(ast.key, context);\n };\n RecursiveAstVisitor.prototype.visitKeyedWrite = function (ast, context) {\n this.visit(ast.obj, context);\n this.visit(ast.key, context);\n this.visit(ast.value, context);\n };\n RecursiveAstVisitor.prototype.visitLiteralArray = function (ast, context) {\n this.visitAll(ast.expressions, context);\n };\n RecursiveAstVisitor.prototype.visitLiteralMap = function (ast, context) {\n this.visitAll(ast.values, context);\n };\n RecursiveAstVisitor.prototype.visitLiteralPrimitive = function (ast, context) { };\n RecursiveAstVisitor.prototype.visitMethodCall
= function (ast, context) {\n this.visit(ast.receiver, context);\n this.visitAll(ast.args, context);\n };\n RecursiveAstVisitor.prototype.visitPrefixNot = function (ast, context) {\n this.visit(ast.expression, context);\n };\n RecursiveAstVisitor.prototype.visitNonNullAssert = function (ast, context) {\n this.visit(ast.expression, context);\n };\n RecursiveAstVisitor.prototype.visitPropertyRead = function (ast, context) {\n this.visit(ast.receiver, context);\n };\n RecursiveAstVisitor.prototype.visitPropertyWrite
= function (ast, context) {\n this.visit(ast.receiver, context);\n this.visit(ast.value, context);\n };\n RecursiveAstVisitor.prototype.visitSafePropertyRead = function (ast, context) {\n this.visit(ast.receiver, context);\n };\n RecursiveAstVisitor.prototype.visitSafeMethodCall
= function (ast, context) {\n this.visit(ast.receiver, context);\n this.visitAll(ast.args, context);\n };\n RecursiveAstVisitor.prototype.visitQuote = function (ast, context) { };\n // This is not part of the AstVisitor interface, just a helper method\n RecursiveAstVisitor.prototype.visitAll = function (asts, context) {\n var e_1, _b;\n try {\n for (var asts_1 = __values(asts), asts_1_1 = asts_1.next(); !asts_1_1.done; asts_1_1 = asts_1.next()) {\n var ast = asts_1_1.value;\n this.visit(ast, context);\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (asts_1_1 && !asts_1_1.done && (_b = asts_1.return)) _b.call(asts_1);\n }\n finally { if (e_1) throw e_1.error; }\n }\n };\n return RecursiveAstVisitor;\n }());\n var AstTransformer$1 = /** @class */ (function () {\n function AstTransformer() {\n }\n AstTransformer.prototype.visitImplicitReceiver = function (ast, context) {\n return ast;\n };\n AstTransformer.prototype.visitThisReceiver = function (ast, context) {\n return ast;\n };\n AstTransformer.prototype.visitInterpolation = function (ast, context) {\n return new Interpolation(ast.span, ast.sourceSpan, ast.strings, this.visitAll(ast.expressions));\n };\n AstTransformer.prototype.visitLiteralPrimitive = function (ast, context) {\n return new LiteralPrimitive(ast.span, ast.sourceSpan, ast.value);\n };\n AstTransformer.prototype.visitPropertyRead = function (ast, context) {\n return new PropertyRead(ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name);\n };\n AstTransformer.prototype.visitPropertyWrite
= function (ast, context) {\n return new PropertyWrite(ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name, ast.value.visit(this));\n };\n AstTransformer.prototype.visitSafePropertyRead = function (ast, context) {\n return new SafePropertyRead(ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name);\n };\n AstTransformer.prototype.visitMethodCall = function (ast, context) {\n return new MethodCall(ast.span,

ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name, this.visitAll(ast.args));\n };\n AstTransformer.prototype.visitSafeMethodCall = function (ast, context) {\n return new SafeMethodCall(ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name, this.visitAll(ast.args));\n };\n AstTransformer.prototype.visitFunctionCall = function (ast, context) {\n return new FunctionCall(ast.span, ast.sourceSpan,\n ast.target.visit(this), this.visitAll(ast.args));\n };\n AstTransformer.prototype.visitLiteralArray = function (ast, context) {\n return new LiteralArray(ast.span, ast.sourceSpan, this.visitAll(ast.expressions));\n };\n AstTransformer.prototype.visitLiteralMap = function (ast, context) {\n return new LiteralMap(ast.span, ast.sourceSpan, ast.keys, this.visitAll(ast.values));\n };\n AstTransformer.prototype.visitUnary = function (ast, context) {\n switch (ast.operator) {\n case '+':\n return Unary.createPlus(ast.span, ast.sourceSpan, ast.expr.visit(this));\n case '-':\n return Unary.createMinus(ast.span, ast.sourceSpan, ast.expr.visit(this));\n default:\n throw new Error(\"Unknown unary operator \" + ast.operator);\n }\n };\n AstTransformer.prototype.visitBinary = function (ast, context) {\n return new Binary(ast.span, ast.sourceSpan, ast.operation, ast.left.visit(this), ast.right.visit(this));\n };\n AstTransformer.prototype.visitPrefixNot = function (ast, context) {\n return new PrefixNot(ast.span, ast.sourceSpan, ast.expression.visit(this));\n };\n AstTransformer.prototype.visitNonNullAssert = function (ast, context) {\n return new NonNullAssert(ast.span, ast.sourceSpan, ast.expression.visit(this));\n };\n AstTransformer.prototype.visitConditional = function (ast, context) {\n return new Conditional(ast.span, ast.sourceSpan, ast.condition.visit(this), ast.trueExp.visit(this), ast.falseExp.visit(this));\n };\n AstTransformer.prototype.visitPipe = function (ast, context) {\n return new BindingPipe(ast.span, ast.sourceSpan, ast.exp.visit(this), ast.name, this.visitAll(ast.args), ast.nameSpan);\n };\n AstTransformer.prototype.visitKeyedRead = function (ast, context) {\n return new KeyedRead(ast.span, ast.sourceSpan, ast.obj.visit(this), ast.key.visit(this));\n };\n AstTransformer.prototype.visitKeyedWrite = function (ast, context) {\n return new KeyedWrite(ast.span, ast.sourceSpan, ast.obj.visit(this), ast.key.visit(this), ast.value.visit(this));\n };\n AstTransformer.prototype.visitAll = function (asts) {\n var res = [];\n for (var i = 0; i < asts.length; ++i) {\n res[i] = asts[i].visit(this);\n }\n return res;\n };\n AstTransformer.prototype.visitChain = function (ast, context) {\n return new Chain(ast.span, ast.sourceSpan, this.visitAll(ast.expressions));\n };\n AstTransformer.prototype.visitQuote = function (ast, context) {\n return new Quote(ast.span, ast.sourceSpan, ast.prefix, ast.uninterpretedExpression, ast.location);\n };\n return AstTransformer;\n }());\n // A transformer that only creates new nodes if the transformer makes a change or\n // a change is made a child node.\n var AstMemoryEfficientTransformer = /** @class */ (function () {\n function AstMemoryEfficientTransformer() {\n }\n AstMemoryEfficientTransformer.prototype.visitImplicitReceiver = function (ast, context) {\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitThisReceiver = function (ast, context) {\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitInterpolation = function (ast, context) {\n var expressions = this.visitAll(ast.expressions);\n if (expressions !== ast.expressions)\n return new Interpolation(ast.span, ast.sourceSpan, ast.strings, expressions);\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitLiteralPrimitive = function (ast, context) {\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitPropertyRead = function (ast, context) {\n var receiver = ast.receiver.visit(this);\n if (receiver !== ast.receiver) {\n return new PropertyRead(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitPropertyWrite = function (ast, context) {\n var receiver = ast.receiver.visit(this);\n var value = ast.value.visit(this);\n if (receiver !== ast.receiver || value !== ast.value) {\n return new PropertyWrite(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name, value);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitSafePropertyRead = function (ast, context) {\n var receiver =

ast.receiver.visit(this);\n if (receiver !== ast.receiver) {\n return new SafePropertyRead(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitMethodCall = function (ast, context) {\n var receiver = ast.receiver.visit(this);\n var args = this.visitAll(ast.args);\n if (receiver !== ast.receiver || args !== ast.args) {\n return new MethodCall(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name, args);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitSafeMethodCall = function (ast, context) {\n var receiver = ast.receiver.visit(this);\n var args = this.visitAll(ast.args);\n if (receiver !== ast.receiver || args !== ast.args) {\n return new SafeMethodCall(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name, args);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitFunctionCall = function (ast, context) {\n var target = ast.target && ast.target.visit(this);\n var args = this.visitAll(ast.args);\n if (target !== ast.target || args !== ast.args) {\n return new FunctionCall(ast.span, ast.sourceSpan, target, args);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitLiteralArray = function (ast, context) {\n var expressions = this.visitAll(ast.expressions);\n if (expressions !== ast.expressions) {\n return new LiteralArray(ast.span, ast.sourceSpan, expressions);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitLiteralMap = function (ast, context) {\n var values = this.visitAll(ast.values);\n if (values !== ast.values) {\n return new LiteralMap(ast.span, ast.sourceSpan,\n ast.keys, values);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitUnary = function (ast, context) {\n var expr = ast.expr.visit(this);\n if (expr !== ast.expr) {\n switch (ast.operator) {\n case '+':\n return Unary.createPlus(ast.span, ast.sourceSpan, expr);\n case '-':\n return Unary.createMinus(ast.span, ast.sourceSpan, expr);\n default:\n throw new Error(\"Unknown unary operator \" + ast.operator);\n }\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitBinary = function (ast, context) {\n var left = ast.left.visit(this);\n var right = ast.right.visit(this);\n if (left !== ast.left || right !== ast.right) {\n return new Binary(ast.span, ast.sourceSpan,\n ast.operation, left, right);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitPrefixNot = function (ast, context) {\n var expression = ast.expression.visit(this);\n if (expression !== ast.expression) {\n return new PrefixNot(ast.span, ast.sourceSpan, expression);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitNonNullAssert = function (ast, context) {\n var expression = ast.expression.visit(this);\n if (expression !== ast.expression) {\n return new NonNullAssert(ast.span, ast.sourceSpan, expression);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitConditional = function (ast, context) {\n var condition = ast.condition.visit(this);\n var trueExp = ast.trueExp.visit(this);\n var falseExp = ast.falseExp.visit(this);\n if (condition !== ast.condition || trueExp !== ast.trueExp || falseExp !== ast.falseExp) {\n return new Conditional(ast.span, ast.sourceSpan, condition, trueExp, falseExp);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitPipe = function (ast, context) {\n var exp = ast.exp.visit(this);\n var args = this.visitAll(ast.args);\n if (exp !== ast.exp || args !== ast.args) {\n return new BindingPipe(ast.span, ast.sourceSpan, exp, ast.name, args, ast.nameSpan);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitKeyedRead = function (ast, context) {\n var obj = ast.obj.visit(this);\n var key = ast.key.visit(this);\n if (obj !== ast.obj || key !== ast.key) {\n return new KeyedRead(ast.span, ast.sourceSpan, obj, key);\n }\n return ast;\n };\n AstMemoryEfficientTransformer.prototype.visitKeyedWrite = function (ast, context) {\n var obj = ast.obj.visit(this);\n var key = ast.key.visit(this);\n var value = ast.value.visit(this);\n if

```
(obj !== ast.obj || key !== ast.key || value !== ast.value) {\n            return new KeyedWrite(ast.span, ast.sourceSpan, obj, key, value);\n        }\n        return ast;\n    };\n AstMemoryEfficientTransformer.prototype.visitAll = function (asts) {\n        var res = [];\n        var modified = false;\n        for (var i = 0; i < asts.length; ++i) {\n            var original = asts[i];\n            var value = original.visit(this);\n            res[i] = value;\n            modified = modified || value !== original;\n        }\n        return modified ? res : asts;\n    };\n    AstMemoryEfficientTransformer.prototype.visitChain = function (ast, context) {\n        var expressions = this.visitAll(ast.expressions);\n        if (expressions !== ast.expressions) {\n            return new Chain(ast.span, ast.sourceSpan, expressions);\n        }\n        return ast;\n    };\n AstMemoryEfficientTransformer.prototype.visitQuote = function (ast, context) {\n        return ast;\n    };\n    return AstMemoryEfficientTransformer;\n}());\n// Bindings\nvar ParsedProperty = /** @class */ (function () {\n    function ParsedProperty(name, expression, type, \n    // TODO(atscott): `keySpan` should really be required but allows `undefined` so VE does\n    // not need to be updated. Make `keySpan` required when VE is removed.\n    sourceSpan, keySpan, valueSpan) {\n        this.name = name;\n        this.expression = expression;\n        this.type = type;\n        this.sourceSpan = sourceSpan;\n        this.keySpan = keySpan;\n        this.valueSpan = valueSpan;\n        this.isLiteral = this.type === exports.ParsedPropertyType.LITERAL_ATTR;\n        this.isAnimation = this.type === exports.ParsedPropertyType.ANIMATION;\n    }\n    return ParsedProperty;\n}());\n(function (ParsedPropertyType) {\n    ParsedPropertyType[ParsedPropertyType[\"DEFAULT\"] = 0] = \"DEFAULT\";\n    ParsedPropertyType[ParsedPropertyType[\"LITERAL_ATTR\"] = 1] = \"LITERAL_ATTR\";\n    ParsedPropertyType[ParsedPropertyType[\"ANIMATION\"] = 2] = \"ANIMATION\";\n})(exports.ParsedPropertyType || (exports.ParsedPropertyType = {}));\nvar ParsedEvent = /** @class */ (function () {\n    // Regular events have a target\n    // Animation events have a phase\n    function ParsedEvent(name, targetOrPhase, type, handler, sourceSpan, handlerSpan) {\n        this.name = name;\n        this.targetOrPhase = targetOrPhase;\n        this.type = type;\n        this.handler = handler;\n        this.sourceSpan = sourceSpan;\n        this.handlerSpan = handlerSpan;\n    }\n    return ParsedEvent;\n}());\n/**\n * ParsedVariable represents a variable declaration in a microsyntax expression.\n */\nvar ParsedVariable = /** @class */ (function () {\n    function ParsedVariable(name, value, sourceSpan, keySpan, valueSpan) {\n        this.name = name;\n        this.value = value;\n        this.sourceSpan = sourceSpan;\n        this.keySpan = keySpan;\n        this.valueSpan = valueSpan;\n    }\n    return ParsedVariable;\n}());\nvar BoundElementProperty = /** @class */ (function () {\n    function BoundElementProperty(name, type, securityContext, value, unit, sourceSpan, keySpan, valueSpan) {\n        this.name = name;\n        this.type = type;\n        this.securityContext = securityContext;\n        this.value = value;\n        this.unit = unit;\n        this.sourceSpan = sourceSpan;\n        this.keySpan = keySpan;\n        this.valueSpan = valueSpan;\n    }\n    return BoundElementProperty;\n}());\n\nvar EventHandlerVars = /** @class */ (function () {\n    function EventHandlerVars() {\n    }\n    return EventHandlerVars;\n}());\nEventHandlerVars.event = variable('$event');\nvar ConvertActionBindingResult = /** @class */ (function () {\n    function ConvertActionBindingResult(\n    /**\n     * Render2 compatible statements,\n     */\n    stmts, \n    /**\n     * Variable name used with render2 compatible statements.\n     */\n    allowDefault) {\n        this.stmts = stmts;\n        this.allowDefault = allowDefault;\n        /**\n         * This is bit of a hack. It converts statements which render2 expects to statements which are\n         * expected by render3.\n         *\n         * Example: `<div click=\"doSomething($event)\">` will generate:\n         *\n         * Render3:\n         *\n         * ```\n         * const pd_b:any = ((<any>ctx.doSomething($event)) !== false);\n         * return pd_b;\n         * ```\n         *\n         * but render2 expects:\n         * ```\n         * return ctx.doSomething($event);\n         * ```\n         */\n        // TODO(misko): remove this hack once we no longer support ViewEngine.\n        this.render3Stmts = stmts.map(function (statement) {\n            if (statement instanceof DeclareVarStmt &&
```

```
statement.name == allowDefault.name &&\n                    statement.value instanceof BinaryOperatorExpr) {\n
        var lhs = statement.value.lhs;\n                    return new ReturnStatement(lhs.value);\n                }\n
return statement;\n            });\n        }\n        return ConvertActionBindingResult;\n    }());\n    /**\n     * Converts the
given expression AST into an executable output AST, assuming the expression is\n     * used
 in an action binding (e.g. an event handler).\n     */\n    function convertActionBinding(localResolver,
implicitReceiver, action, bindingId, interpolationFunction, baseSourceSpan, implicitReceiverAccesses, globals) {\n
    if (!localResolver) {\n            localResolver = new DefaultLocalResolver(globals);\n        }\n        var
actionWithoutBuiltins = convertPropertyBindingBuiltins({\n            createLiteralArrayConverter: function
(argCount) {\n                // Note: no caching for literal arrays in actions.\n                return function (args) { return
literalArr(args); };\n            },\n            createLiteralMapConverter: function (keys) {\n                // Note: no caching
for literal maps in actions.\n                return function (values) {\n                    var entries = keys.map(function (k, i)
{ return ({\n                        key: k.key,\n                        value: values[i],\n                        quoted: k.quoted,\n
    });
 });\n                    return literalMap(entries);\n                };\n            },\n            createPipeConverter: function (name)
{\n                throw new Error(\"Illegal State: Actions are not allowed to contain pipes. Pipe: \" + name);\n            }\n
        }, action);\n        var visitor = new _AstToIrVisitor(localResolver, implicitReceiver, bindingId,
interpolationFunction, baseSourceSpan, implicitReceiverAccesses);\n        var actionStmts = [];\n
flattenStatements(actionWithoutBuiltins.visit(visitor, _Mode.Statement), actionStmts);\n
prependTemporaryDecls(visitor.temporaryCount, bindingId, actionStmts);\n        if (visitor.usesImplicitReceiver)
{\n            localResolver.notifyImplicitReceiverUse();\n        }\n        var lastIndex = actionStmts.length - 1;\n
var preventDefaultVar = null;\n        if (lastIndex >= 0) {\n            var lastStatement = actionStmts[lastIndex];\n
  var returnExpr = convertStmtIntoExpression(lastStatement);\n
            if (returnExpr) {\n                // Note: We need to cast the result of the method call to dynamic,\n                //
as it might be a void method!\n                preventDefaultVar = createPreventDefaultVar(bindingId);\n
actionStmts[lastIndex] =\n
preventDefaultVar.set(returnExpr.cast(DYNAMIC_TYPE).notIdentical(literal(false)))\n
.toDeclStmt(null, [exports.StmtModifier.Final]);\n            }\n        }\n        return new
ConvertActionBindingResult(actionStmts, preventDefaultVar);\n    }\n    function
convertPropertyBindingBuiltins(converterFactory, ast) {\n        return convertBuiltins(converterFactory, ast);\n    }\n
  var ConvertPropertyBindingResult = /** @class */ (function () {\n        function
ConvertPropertyBindingResult(stmts, currValExpr) {\n            this.stmts = stmts;\n            this.currValExpr =
currValExpr;\n        }\n        return ConvertPropertyBindingResult;\n    }());\n
 var BindingForm;\n    (function (BindingForm) {\n        // The general form of binding expression, supports all
expressions.\n        BindingForm[BindingForm[\"General\"] = 0] = \"General\";\n        // Try to generate a simple
binding (no temporaries or statements)\n        // otherwise generate a general binding\n
BindingForm[BindingForm[\"TrySimple\"] = 1] = \"TrySimple\";\n        // Inlines assignment of temporaries into the
generated expression. The result may still\n        // have statements attached for declarations of temporary
variables.\n        // This is the only relevant form for Ivy, the other forms are only used in ViewEngine.\n
BindingForm[BindingForm[\"Expression\"] = 2] = \"Expression\";\n    })(BindingForm || (BindingForm = {}));\n
/**\n     * Converts the given expression AST into an executable output AST, assuming the expression\n     * is used
in property binding. The expression has to be preprocessed via\n     * `convertPropertyBindingBuiltins`.\n
     */\n    function convertPropertyBinding(localResolver, implicitReceiver, expressionWithoutBuiltins, bindingId,
form, interpolationFunction) {\n        if (!localResolver) {\n            localResolver = new DefaultLocalResolver();\n
    }\n        var visitor = new _AstToIrVisitor(localResolver, implicitReceiver, bindingId, interpolationFunction);\n
 var outputExpr = expressionWithoutBuiltins.visit(visitor, _Mode.Expression);\n        var stmts =
getStatementsFromVisitor(visitor, bindingId);\n        if (visitor.usesImplicitReceiver) {\n
localResolver.notifyImplicitReceiverUse();\n        }\n        if (visitor.temporaryCount === 0 && form ==
BindingForm.TrySimple) {\n            return new ConvertPropertyBindingResult([], outputExpr);\n        }\n        else
```

```
if (form === BindingForm.Expression) {\n            return new ConvertPropertyBindingResult(stmts, outputExpr);\n    }\n        var currValExpr = createCurrValueExpr(bindingId);\n
stmts.push(currValExpr.set(outputExpr).toDeclStmt(DYNAMIC_TYPE,
 [exports.StmtModifier.Final]));\n        return new ConvertPropertyBindingResult(stmts, currValExpr);\n    }\n
/**\n     * Given some expression, such as a binding or interpolation expression, and a context expression to\n     *
look values up on, visit each facet of the given expression resolving values from the context\n     * expression such
that a list of arguments can be derived from the found values that can be used as\n     * arguments to an external
update instruction.\n     *\n     * @param localResolver The resolver to use to look up expressions by name
appropriately\n     * @param contextVariableExpression The expression representing the context variable used to
create\n     * the final argument expressions\n     * @param expressionWithArgumentsToExtract The expression to
visit to figure out what values need to\n     * be resolved and what arguments list to build.\n     * @param bindingId
A name prefix used to create temporary
 variable names if they're needed for the\n     * arguments generated\n     * @returns An array of expressions that can
be passed as arguments to instruction expressions like\n     * `o.importExpr(R3.propertyInterpolate).callFn(result)`\n
   */\n    function convertUpdateArguments(localResolver, contextVariableExpression,
expressionWithArgumentsToExtract, bindingId) {\n        var visitor = new _AstToIrVisitor(localResolver,
contextVariableExpression, bindingId, undefined);\n        var outputExpr =
expressionWithArgumentsToExtract.visit(visitor, _Mode.Expression);\n        if (visitor.usesImplicitReceiver) {\n
    localResolver.notifyImplicitReceiverUse();\n        }\n        var stmts = getStatementsFromVisitor(visitor,
bindingId);\n        // Removing the first argument, because it was a length for ViewEngine, not Ivy.\n        var args =
outputExpr.args.slice(1);\n        if (expressionWithArgumentsToExtract instanceof Interpolation) {\n            // If
we're dealing
 with an interpolation of 1 value with an empty prefix and suffix, reduce the\n            // args returned to just the
value, because we're going to pass it to a special instruction.\n            var strings =
expressionWithArgumentsToExtract.strings;\n            if (args.length === 3 && strings[0] === '' && strings[1] ===
'') {\n                // Single argument interpolate instructions.\n                args = [args[1]];\n            }\n            else if
(args.length >= 19) {\n                // 19 or more arguments must be passed to the `interpolateV`-style instructions,
which accept\n                // an array of arguments\n                args = [literalArr(args)];\n            }\n        }\n        return
{ stmts: stmts, args: args };\n    }\n    function getStatementsFromVisitor(visitor, bindingId) {\n        var stmts = [];\n
    for (var i = 0; i < visitor.temporaryCount; i++) {\n            stmts.push(temporaryDeclaration(bindingId, i));\n
}\n        return
 stmts;\n    }\n    function convertBuiltins(converterFactory, ast) {\n        var visitor = new
_BuiltinAstConverter(converterFactory);\n        return ast.visit(visitor);\n    }\n    function
temporaryName(bindingId, temporaryNumber) {\n        return \"tmp_\" + bindingId + \"_\" + temporaryNumber;\n
}\n    function temporaryDeclaration(bindingId, temporaryNumber) {\n        return new
DeclareVarStmt(temporaryName(bindingId, temporaryNumber), NULL_EXPR);\n    }\n    function
prependTemporaryDecls(temporaryCount, bindingId, statements) {\n        for (var i = temporaryCount - 1; i >= 0; i--
) {\n            statements.unshift(temporaryDeclaration(bindingId, i));\n        }\n    }\n    var _Mode;\n    (function
(_Mode) {\n        _Mode[_Mode[\"Statement\"] = 0] = \"Statement\";\n        _Mode[_Mode[\"Expression\"] = 1] =
\"Expression\";\n    })(_Mode || (_Mode = {}));\n    function ensureStatementMode(mode, ast) {\n        if (mode !==
_Mode.Statement) {\n            throw new Error(\"Expected
 a statement, but saw \" + ast);\n        }\n    }\n    function ensureExpressionMode(mode, ast) {\n        if (mode !==
_Mode.Expression) {\n            throw new Error(\"Expected an expression, but saw \" + ast);\n        }\n    }\n
function convertToStatementIfNeeded(mode, expr) {\n        if (mode === _Mode.Statement) {\n            return
expr.toStmt();\n        }\n        else {\n            return expr;\n        }\n    }\n    var _BuiltinAstConverter = /** @class */
(function (_super) {\n        __extends(_BuiltinAstConverter, _super);\n        function
_BuiltinAstConverter(_converterFactory) {\n            var _this = _super.call(this) || this;\n
_this._converterFactory = _converterFactory;\n            return _this;\n        }\n
```

```
_BuiltinAstConverter.prototype.visitPipe = function (ast, context) {\n var _this = this;\n var args = __spread([ast.exp], ast.args).map(function (ast) { return ast.visit(_this, context); });\n return new BuiltinFunctionCall(ast.span, ast.sourceSpan, args, this._converterFactory.createPipeConverter(ast.name, args.length));\n };\n _BuiltinAstConverter.prototype.visitLiteralArray = function (ast, context) {\n var _this = this;\n var args = ast.expressions.map(function (ast) { return ast.visit(_this, context); });\n return new BuiltinFunctionCall(ast.span, ast.sourceSpan, args, this._converterFactory.createLiteralArrayConverter(ast.expressions.length));\n };\n _BuiltinAstConverter.prototype.visitLiteralMap = function (ast, context) {\n var _this = this;\n var args = ast.values.map(function (ast) { return ast.visit(_this, context); });\n return new BuiltinFunctionCall(ast.span, ast.sourceSpan, args, this._converterFactory.createLiteralMapConverter(ast.keys));\n };\n return _BuiltinAstConverter;\n }(AstTransformer$1));\n var _AstToIrVisitor = /** @class */ (function () {\n function _AstToIrVisitor(_localResolver, _implicitReceiver, bindingId, interpolationFunction, baseSourceSpan, implicitReceiverAccesses) {\n this._localResolver = _localResolver;\n this._implicitReceiver = _implicitReceiver;\n this.bindingId = bindingId;\n this.interpolationFunction = interpolationFunction;\n this.baseSourceSpan = baseSourceSpan;\n this.implicitReceiverAccesses = implicitReceiverAccesses;\n this._nodeMap = new Map();\n this._resultMap = new Map();\n this._currentTemporary = 0;\n this.temporaryCount = 0;\n this.usesImplicitReceiver = false;\n }\n _AstToIrVisitor.prototype.visitUnary = function (ast, mode) {\n var op;\n switch (ast.operator) {\n case '+':\n op = exports.UnaryOperator.Plus;\n break;\n case '-':\n op = exports.UnaryOperator.Minus;\n break;\n default:\n throw new Error(\"Unsupported operator \" + ast.operator);\n }\n return convertToStatementIfNeeded(mode, new UnaryOperatorExpr(op, this._visit(ast.expr, _Mode.Expression), undefined, this.convertSourceSpan(ast.span)));\n };\n _AstToIrVisitor.prototype.visitBinary = function (ast, mode) {\n var op;\n switch (ast.operation) {\n case '+':\n op = exports.BinaryOperator.Plus;\n break;\n case '-':\n op = exports.BinaryOperator.Minus;\n break;\n case '*':\n op = exports.BinaryOperator.Multiply;\n break;\n case '/':\n op = exports.BinaryOperator.Divide;\n break;\n case '%':\n op = exports.BinaryOperator.Modulo;\n break;\n case '&&':\n op = exports.BinaryOperator.And;\n break;\n case '||':\n op = exports.BinaryOperator.Or;\n break;\n case '==':\n op = exports.BinaryOperator.Equals;\n break;\n case '!=':\n op = exports.BinaryOperator.NotEquals;\n break;\n case '===':\n op = exports.BinaryOperator.Identical;\n break;\n case '!==':\n op = exports.BinaryOperator.NotIdentical;\n break;\n case '<':\n op = exports.BinaryOperator.Lower;\n break;\n case '>':\n op = exports.BinaryOperator.Bigger;\n break;\n case '<=':\n op = exports.BinaryOperator.LowerEquals;\n break;\n case '>=':\n op = exports.BinaryOperator.BiggerEquals;\n break;\n default:\n throw new Error(\"Unsupported operation \" + ast.operation);\n }\n return convertToStatementIfNeeded(mode, new BinaryOperatorExpr(op, this._visit(ast.left, _Mode.Expression), this._visit(ast.right, _Mode.Expression), undefined, this.convertSourceSpan(ast.span)));\n };\n _AstToIrVisitor.prototype.visitChain = function (ast, mode) {\n ensureStatementMode(mode, ast);\n return this.visitAll(ast.expressions, mode);\n };\n _AstToIrVisitor.prototype.visitConditional = function (ast, mode) {\n var value = this._visit(ast.condition, _Mode.Expression);\n return convertToStatementIfNeeded(mode, value.conditional(this._visit(ast.trueExp, _Mode.Expression), this._visit(ast.falseExp,
```

```
_Mode.Expression), this.convertSourceSpan(ast.span)));\n        };\n        _AstToIrVisitor.prototype.visitPipe =
function (ast, mode) {\n            throw new Error(\"Illegal state: Pipes should have been converted into functions.
Pipe: \" + ast.name);\n        };\n        _AstToIrVisitor.prototype.visitFunctionCall = function (ast, mode) {\n
var convertedArgs = this.visitAll(ast.args, _Mode.Expression);\n            var fnResult;\n            if (ast instanceof
BuiltinFunctionCall) {\n                fnResult = ast.converter(convertedArgs);\n            }\n            else {\n
fnResult = this._visit(ast.target, _Mode.Expression)\n                    .callFn(convertedArgs,
this.convertSourceSpan(ast.span));\n            }\n            return convertToStatementIfNeeded(mode, fnResult);\n
};\n        _AstToIrVisitor.prototype.visitImplicitReceiver = function (ast, mode) {\n
ensureExpressionMode(mode, ast);\n            this.usesImplicitReceiver
= true;\n            return this._implicitReceiver;\n        };\n        _AstToIrVisitor.prototype.visitThisReceiver =
function (ast, mode) {\n            return this.visitImplicitReceiver(ast, mode);\n        };\n
_AstToIrVisitor.prototype.visitInterpolation = function (ast, mode) {\n            ensureExpressionMode(mode, ast);\n
        var args = [literal(ast.expressions.length)];\n            for (var i = 0; i < ast.strings.length - 1; i++) {\n
args.push(literal(ast.strings[i]));\n                args.push(this._visit(ast.expressions[i], _Mode.Expression));\n
}\n            args.push(literal(ast.strings[ast.strings.length - 1]));\n            if (this.interpolationFunction) {\n
return this.interpolationFunction(args);\n            }\n            return ast.expressions.length <= 9 ?\n
importExpr(Identifiers.inlineInterpolate).callFn(args) :\n                importExpr(Identifiers.interpolate).callFn([\n
                args[0], literalArr(args.slice(1), undefined, this.convertSourceSpan(ast.span))\n                ]);\n        };\n
    _AstToIrVisitor.prototype.visitKeyedRead = function (ast, mode) {\n            var leftMostSafe =
this.leftMostSafeNode(ast);\n            if (leftMostSafe) {\n                return this.convertSafeAccess(ast, leftMostSafe,
mode);\n            }\n            else {\n                return convertToStatementIfNeeded(mode, this._visit(ast.obj,
_Mode.Expression).key(this._visit(ast.key, _Mode.Expression)));\n            }\n        };\n
_AstToIrVisitor.prototype.visitKeyedWrite = function (ast, mode) {\n            var obj = this._visit(ast.obj,
_Mode.Expression);\n            var key = this._visit(ast.key, _Mode.Expression);\n            var value =
this._visit(ast.value, _Mode.Expression);\n            return convertToStatementIfNeeded(mode,
obj.key(key).set(value));\n        };\n        _AstToIrVisitor.prototype.visitLiteralArray = function
 (ast, mode) {\n            throw new Error(\"Illegal State: literal arrays should have been converted into functions\");\n
    };\n        _AstToIrVisitor.prototype.visitLiteralMap = function (ast, mode) {\n            throw new Error(\"Illegal
State: literal maps should have been converted into functions\");\n        };\n
_AstToIrVisitor.prototype.visitLiteralPrimitive = function (ast, mode) {\n            // For literal values of null,
undefined, true, or false allow type interference\n            // to infer the type.\n            var type = ast.value === null ||
ast.value === undefined || ast.value === true || ast.value === true ?\n                INFERRED_TYPE :\n
undefined;\n            return convertToStatementIfNeeded(mode, literal(ast.value, type,
this.convertSourceSpan(ast.span)));\n        };\n        _AstToIrVisitor.prototype._getLocal = function (name, receiver)
{\n            var _a;\n            if (((_a = this._localResolver.globals) === null
 || _a === void 0 ? void 0 : _a.has(name)) && receiver instanceof ThisReceiver) {\n                return null;\n
}\n            return this._localResolver.getLocal(name);\n        };\n        _AstToIrVisitor.prototype.visitMethodCall =
function (ast, mode) {\n            if (ast.receiver instanceof ImplicitReceiver &&\n                !(ast.receiver instanceof
ThisReceiver) && ast.name === '$any') {\n                var args = this.visitAll(ast.args, _Mode.Expression);\n
 if (args.length != 1) {\n                    throw new Error(\"Invalid call to $any, expected 1 argument but received \" +
(args.length || 'none'));\n                }\n                return args[0].cast(DYNAMIC_TYPE,
this.convertSourceSpan(ast.span));\n            }\n            var leftMostSafe = this.leftMostSafeNode(ast);\n            if
(leftMostSafe) {\n                return this.convertSafeAccess(ast, leftMostSafe, mode);\n            }\n            else {\n
        var args =
 this.visitAll(ast.args, _Mode.Expression);\n                var prevUsesImplicitReceiver = this.usesImplicitReceiver;\n
          var result = null;\n                var receiver = this._visit(ast.receiver, _Mode.Expression);\n                if (receiver
=== this._implicitReceiver) {\n                    var varExpr = this._getLocal(ast.name, ast.receiver);\n                    if
(varExpr) {\n                        // Restore the previous \"usesImplicitReceiver\" state since the implicit\n
```

```
// receiver has been replaced with a resolved local expression.\n                this.usesImplicitReceiver = prevUsesImplicitReceiver;\n                result = varExpr.callFn(args);\n this.addImplicitReceiverAccess(ast.name);\n            }\n        }\n        if (result == null) {\n result = receiver.callMethod(ast.name, args, this.convertSourceSpan(ast.span));\n        }\n        return convertToStatementIfNeeded(mode, result);\n    }\n    };\n _AstToIrVisitor.prototype.visitPrefixNot = function (ast, mode) {\n        return convertToStatementIfNeeded(mode, not(this._visit(ast.expression, _Mode.Expression)));\n    };\n _AstToIrVisitor.prototype.visitNonNullAssert = function (ast, mode) {\n        return convertToStatementIfNeeded(mode, assertNotNull(this._visit(ast.expression, _Mode.Expression)));\n    };\n _AstToIrVisitor.prototype.visitPropertyRead = function (ast, mode) {\n        var leftMostSafe = this.leftMostSafeNode(ast);\n        if (leftMostSafe) {\n            return this.convertSafeAccess(ast, leftMostSafe, mode);\n        }\n        else {\n            var result = null;\n            var prevUsesImplicitReceiver = this.usesImplicitReceiver;\n            var receiver = this._visit(ast.receiver, _Mode.Expression);\n            if (receiver === this._implicitReceiver)
 {\n                result = this._getLocal(ast.name, ast.receiver);\n                if (result) {\n                    // Restore the previous \"usesImplicitReceiver\" state since the implicit\n                    // receiver has been replaced with a resolved local expression.\n                    this.usesImplicitReceiver = prevUsesImplicitReceiver;\n this.addImplicitReceiverAccess(ast.name);\n                }\n            }\n            if (result == null) {\n result = receiver.prop(ast.name);\n            }\n            return convertToStatementIfNeeded(mode, result);\n        }\n    };\n    _AstToIrVisitor.prototype.visitPropertyWrite = function (ast, mode) {\n        var receiver = this._visit(ast.receiver, _Mode.Expression);\n        var prevUsesImplicitReceiver = this.usesImplicitReceiver;\n    var varExpr = null;\n        if (receiver === this._implicitReceiver)
 {\n            var localExpr = this._getLocal(ast.name, ast.receiver);\n            if (localExpr) {\n                if (localExpr instanceof ReadPropExpr) {\n                    // If the local variable is a property read expression, it's a reference\n                    // to a 'context.property' value and will be used as the target of the\n                    // write expression.\n                    varExpr = localExpr;\n                    // Restore the previous \"usesImplicitReceiver\" state since the implicit\n                    // receiver has been replaced with a resolved local expression.\n this.usesImplicitReceiver = prevUsesImplicitReceiver;\n                    this.addImplicitReceiverAccess(ast.name);\n                }\n                else {\n                    // Otherwise it's an error.\n                    var receiver_1 = ast.name;\n                    var value = (ast.value
 instanceof PropertyRead) ? ast.value.name : undefined;\n                    throw new Error(\"Cannot assign value \\\"\" + value + \"\\\" to template variable \\\"\" + receiver_1 + \"\\\". Template variables are read-only.\");\n                }\n            }\n        }\n        // If no local expression could be produced, use the original receiver's\n        // property as the target.\n        if (varExpr === null) {\n            varExpr = receiver.prop(ast.name);\n        }\n        return convertToStatementIfNeeded(mode, varExpr.set(this._visit(ast.value, _Mode.Expression)));\n    };\n _AstToIrVisitor.prototype.visitSafePropertyRead = function (ast, mode) {\n        return this.convertSafeAccess(ast, this.leftMostSafeNode(ast), mode);\n    };\n _AstToIrVisitor.prototype.visitSafeMethodCall = function (ast, mode) {\n        return this.convertSafeAccess(ast, this.leftMostSafeNode(ast), mode);\n    };\n    _AstToIrVisitor.prototype.visitAll = function (asts, mode) {\n        var _this = this;\n        return asts.map(function (ast) { return _this._visit(ast, mode); });\n    };\n    _AstToIrVisitor.prototype.visitQuote = function (ast, mode) {\n        throw new Error(\"Quotes are not supported for evaluation!\\n    Statement: \" + ast.uninterpretedExpression + \" located at \" + ast.location);\n    };\n    _AstToIrVisitor.prototype._visit = function (ast, mode) {\n        var result = this._resultMap.get(ast);\n        if (result)\n            return result;\n    return (this._nodeMap.get(ast) || ast).visit(this, mode);\n    };\n _AstToIrVisitor.prototype.convertSafeAccess = function (ast, leftMostSafe, mode) {\n        // If the expression contains a safe access node on the left it needs to be converted to\n        // an expression that guards the access to the member by checking the receiver for blank. As\n
```

```
// execution proceeds from left to right, the left most part of the expression must be guarded\n // first but, because member access is left associative, the right side of the expression is at\n // the top of the AST. The desired result requires lifting a copy of the left part of the\n // expression up to test it for blank before generating the unguarded version.\n // Consider, for example the following expression: a?.b.c?.d.e\n // This results in the ast:\n //  .\n //  / \\\n //  ?.  e\n //  / \\\n //  .  d\n //  / \\\n //  ?.  c\n //  /  / \\\n //  a  b\n // The following tree should be generated:\n //\n //  /---- ? ----\\\n //  /  |  \\\n //  a  /--- ? ---\\  null\n //  /  |  \\\n //  .  .  null\n //  / \\  / \\\n //  .  c  .  e\n //  / \\  / \\\n //  a  b  .  d\n //  / \\\n //  .  c\n //  / \\\n //  a  b\n //\n // Notice that the first guard condition is the left hand of the left most safe access node\n // which comes in as leftMostSafe to this routine.\n var guardedExpression = this._visit(leftMostSafe.receiver, _Mode.Expression);\n var temporary = undefined;\n if (this.needsTemporary(leftMostSafe.receiver)) {\n // If the expression has method calls or pipes then we need to save the result into a\n // temporary variable to avoid calling stateful or impure code more than once.\n temporary = this.allocateTemporary();\n // Preserve the result in the temporary variable\n guardedExpression = temporary.set(guardedExpression);\n // Ensure all further references to the guarded expression refer to the temporary instead.\n this._resultMap.set(leftMostSafe.receiver, temporary);\n }\n var condition = guardedExpression.isBlank();\n // Convert the ast to an unguarded access to the receiver's member. The map will substitute\n // leftMostNode with its unguarded version in the call to `this.visit()`.\n if (leftMostSafe instanceof SafeMethodCall) {\n this._nodeMap.set(leftMostSafe, new MethodCall(leftMostSafe.span, leftMostSafe.sourceSpan, leftMostSafe.nameSpan, leftMostSafe.receiver, leftMostSafe.name, leftMostSafe.args));\n }\n else {\n this._nodeMap.set(leftMostSafe, new PropertyRead(leftMostSafe.span, leftMostSafe.sourceSpan, leftMostSafe.nameSpan, leftMostSafe.receiver, leftMostSafe.name));\n }\n // Recursively convert the node now without the guarded member access.\n var access = this._visit(ast, _Mode.Expression);\n // Remove the mapping. This is not strictly required as the converter only traverses each node\n // once but is safer if the conversion is changed to traverse the nodes more than once.\n this._nodeMap.delete(leftMostSafe);\n // If we allocated a temporary, release it.\n if (temporary) {\n this.releaseTemporary(temporary);\n }\n // Produce the conditional\n return convertToStatementIfNeeded(mode, condition.conditional(literal(null), access));\n };\n // Given an expression of the form a?.b.c?.d.e then the left most safe node is\n // the (a?.b). The . and ?. are left associative thus can be rewritten as:\n // ((((a?.c).b).c)?.d).e. This returns the most deeply nested safe read or\n // safe method call as this needs to be transformed initially to:\n //  a == null ? null : a.c.b.c?.d.e\n // then to:\n //  a == null ? null : a.b.c == null ? null : a.b.c.d.e\n _AstToIrVisitor.prototype.leftMostSafeNode = function (ast) {\n var _this = this;\n var visit = function (visitor, ast) {\n return (_this._nodeMap.get(ast) || ast).visit(visitor);\n };\n return ast.visit({\n visitUnary: function (ast) {\n return null;\n },\n visitBinary: function (ast) {\n return null;\n },\n visitChain: function (ast) {\n return null;\n },\n visitConditional: function (ast) {\n return null;\n },\n visitFunctionCall: function (ast) {\n return null;\n },\n visitImplicitReceiver: function (ast) {\n return null;\n },\n visitThisReceiver: function (ast) {\n return null;\n },\n visitInterpolation: function (ast) {\n return null;\n },\n visitKeyedRead: function (ast) {\n return visit(this, ast.obj);\n },\n visitKeyedWrite: function (ast) {\n return null;\n },\n visitLiteralArray: function (ast) {\n return null;\n },\n visitLiteralMap: function (ast) {\n return null;\n },\n visitLiteralPrimitive: function (ast) {\n return null;\n },\n visitMethodCall: function (ast) {\n return visit(this, ast.receiver);\n },\n visitPipe: function (ast) {\n return null;\n
```

```
},\n visitPrefixNot: function (ast) {\n return null;\n },\n visitNonNullAssert: function (ast) {\n return null;\n },\n visitPropertyRead: function (ast) {\n return visit(this, ast.receiver);\n },\n visitPropertyWrite: function (ast) {\n return null;\n },\n visitQuote: function (ast) {\n return null;\n },\n visitSafeMethodCall: function (ast) {\n return visit(this, ast.receiver) || ast;\n },\n visitSafePropertyRead: function (ast) {\n return visit(this, ast.receiver) || ast;\n }\n });\n };\n // Returns true of the AST includes a method or a pipe indicating that, if the\n // expression is used as the
 target of a safe property or method access then\n // the expression should be stored into a temporary variable.\n _AstToIrVisitor.prototype.needsTemporary = function (ast) {\n var _this = this;\n var visit = function (visitor, ast) {\n return ast && (_this._nodeMap.get(ast) || ast).visit(visitor);\n };\n var visitSome = function (visitor, ast) {\n return ast.some(function (ast) { return visit(visitor, ast); });\n };\n return ast.visit({\n visitUnary: function (ast) {\n return visit(this, ast.expr);\n },\n visitBinary: function (ast) {\n return visit(this, ast.left) || visit(this, ast.right);\n },\n visitChain: function (ast) {\n return false;\n },\n visitConditional: function (ast) {\n return visit(this,
 ast.condition) || visit(this, ast.trueExp) || visit(this, ast.falseExp);\n },\n visitFunctionCall: function (ast) {\n return true;\n },\n visitImplicitReceiver: function (ast) {\n return false;\n },\n visitThisReceiver: function (ast) {\n return false;\n },\n visitInterpolation: function (ast) {\n return visitSome(this, ast.expressions);\n },\n visitKeyedRead: function (ast) {\n return false;\n },\n visitKeyedWrite: function (ast) {\n return false;\n },\n visitLiteralArray: function (ast) {\n return true;\n },\n visitLiteralMap: function (ast) {\n return true;\n },\n visitLiteralPrimitive: function (ast) {\n return false;\n },\n visitMethodCall: function (ast) {\n return true;\n },\n visitPipe: function (ast) {\n return true;\n },\n visitPrefixNot: function (ast) {\n return visit(this, ast.expression);\n },\n visitNonNullAssert: function (ast) {\n return visit(this, ast.expression);\n },\n visitPropertyRead: function (ast) {\n return false;\n },\n visitPropertyWrite: function (ast) {\n return false;\n },\n visitQuote: function (ast) {\n return false;\n },\n visitSafeMethodCall: function (ast) {\n return true;\n },\n visitSafePropertyRead: function (ast) {\n return false;\n }\n });\n };\n _AstToIrVisitor.prototype.allocateTemporary = function () {\n var tempNumber = this._currentTemporary++;\n this.temporaryCount = Math.max(this._currentTemporary, this.temporaryCount);\n return new ReadVarExpr(temporaryName(this.bindingId, tempNumber));\n };\n _AstToIrVisitor.prototype.releaseTemporary = function (temporary) {\n this._currentTemporary--;\n if (temporary.name != temporaryName(this.bindingId, this._currentTemporary)) {\n throw new Error(\"Temporary \" + temporary.name + \" released out of order\");\n }\n };\n /**\n * Creates an absolute `ParseSourceSpan` from the relative `ParseSpan`.\n *\n * `ParseSpan` objects are relative to the start of the expression.\n * This method converts these to full `ParseSourceSpan`
 objects that\n * show where the span is within the overall source file.\n *\n * @param span the relative span to convert.\n * @returns a `ParseSourceSpan` for the given span or null if no\n * `baseSourceSpan` was provided to this class.\n */\n _AstToIrVisitor.prototype.convertSourceSpan = function (span) {\n if (this.baseSourceSpan) {\n var start = this.baseSourceSpan.start.moveBy(span.start);\n var end = this.baseSourceSpan.start.moveBy(span.end);\n var fullStart = this.baseSourceSpan.fullStart.moveBy(span.start);\n return new ParseSourceSpan(start, end, fullStart);\n }\n else {\n return null;\n }\n };\n /** Adds the name of an AST to the list of implicit receiver accesses. */\n _AstToIrVisitor.prototype.addImplicitReceiverAccess = function (name) {\n if
```

(this.implicitReceiverAccesses)
{\n this.implicitReceiverAccesses.add(name);\n }\n };\n return _AstToIrVisitor;\n }());\n function flattenStatements(arg, output) {\n if (Array.isArray(arg)) {\n arg.forEach(function (entry) { return flattenStatements(entry, output); });\n }\n else {\n output.push(arg);\n }\n }\n var DefaultLocalResolver = /** @class */ (function () {\n function DefaultLocalResolver(globals) {\n this.globals = globals;\n }\n DefaultLocalResolver.prototype.notifyImplicitReceiverUse = function () { };\n DefaultLocalResolver.prototype.getLocal = function (name) {\n if (name === EventHandlerVars.event.name) {\n return EventHandlerVars.event;\n }\n return null;\n };\n return DefaultLocalResolver;\n }());\n function createCurrValueExpr(bindingId) {\n return variable(\"currVal_\" + bindingId); // fix syntax highlighting: `\n }\n function createPreventDefaultVar(bindingId) {\n return variable(\"pd_\" + bindingId);\n }\n function convertStmtIntoExpression(stmt) {\n if (stmt instanceof ExpressionStatement) {\n return stmt.expr;\n }\n else if (stmt instanceof ReturnStatement) {\n return stmt.value;\n }\n return null;\n }\n var BuiltinFunctionCall = /** @class */ (function (_super) {\n __extends(BuiltinFunctionCall, _super);\n function BuiltinFunctionCall(span, sourceSpan, args, converter) {\n var _this = _super.call(this, span, sourceSpan, null, args) || this;\n _this.args = args;\n _this.converter = converter;\n return _this;\n }\n return BuiltinFunctionCall;\n }(FunctionCall));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * This file is a port of shadowCSS from webcomponents.js to TypeScript.\n *\n * Please make sure to keep to edits in sync with the source file.\n *\n * Source:\n * https://github.com/webcomponents/webcomponentsjs/blob/4efecd7e0e/src/ShadowCSS/ShadowCSS.js\n *\n * The original file level comment is reproduced below\n */\n /*\n This is a limited shim for ShadowDOM css styling.\n https://dvcs.w3.org/hg/webcomponents/raw-file/tip/spec/shadow/index.html#styles\n\n The intention here is to support only the styling features which can be\n relatively simply implemented. The goal is to allow users to avoid the\n most obvious pitfalls and do so without compromising performance significantly.\n For ShadowDOM styling that's not covered here, a set of best practices\n can be provided that should allow users to accomplish more complex styling.\n\n The following is a list of specific ShadowDOM styling features and a brief\n discussion of the approach used to shim.\n\n Shimmed features:\n\n * :host, :host-context: ShadowDOM allows styling of the shadowRoot's host\n element using the :host rule. To shim this feature, the :host styles are\n reformatted and prefixed with a given scope name and promoted to a\n document level stylesheet.\n For example, given a scope name of .foo, a rule like this:\n\n :host {\n background: red;\n }\n }\n\n becomes:\n\n .foo {\n background: red;\n }\n\n * encapsulation: Styles defined within ShadowDOM, apply only to\n dom inside the ShadowDOM. Polymer uses one of two techniques to implement\n this feature.\n\n By default, rules are prefixed with the host element tag name\n as a descendant selector. This ensures styling does not leak out of the 'top'\n of the element's ShadowDOM. For example,\n\n div {\n font-weight: bold;\n }\n\n becomes:\n\n x-foo div {\n font-weight: bold;\n }\n\n becomes:\n\n\n Alternatively, if WebComponents.ShadowCSS.strictStyling is set to true then\n selectors are scoped by adding an attribute selector suffix to each\n simple selector that contains the host element tag name. Each element\n in the element's ShadowDOM template is also given the scope attribute.\n Thus, these rules match only elements that have the scope attribute.\n For example, given a scope name of x-foo, a rule like this:\n\n div {\n font-weight: bold;\n }\n\n becomes:\n\n div[x-foo] {\n font-weight: bold;\n }\n\n Note that elements that are dynamically added to a scope must have the scope\n selector added to them manually.\n\n * upper/lower bound encapsulation: Styles which are defined

```
 outside a\n      shadowRoot should not cross the ShadowDOM boundary and should not apply\n      inside a shadowRoot.\n\n      This styling behavior is not emulated. Some possible ways to do this that\n      were rejected due to complexity and/or performance concerns include: (1) reset\n      every possible property for every possible selector for a given scope name;\n      (2) re-implement css in javascript.\n\n      As an alternative, users should make sure to use selectors\n      specific to the scope in which they are working.\n\n      * ::distributed: This behavior is not emulated. It's often not necessary\n      to style the contents of a specific insertion point and instead, descendants\n      of the host element can be styled selectively. Users can also create an\n      extra node around an insertion point and style that node's contents\n      via descendent selectors. For example, with a shadowRoot like this:\n\n      <style>\n        ::content(div) {\n          background:
 red;\n        }\n      </style>\n      <content></content>\n\n      could become:\n\n      <style>\n        / *@polyfill .content-container div * /\n        ::content(div) {\n          background: red;\n        }\n      </style>\n      <div class=\"content-container\">\n        <content></content>\n      </div>\n\n      Note the use of @polyfill in the comment above a ShadowDOM specific style\n      declaration. This is a directive to the styling shim to use the selector\n      in comments in lieu of the next selector when running under polyfill.\n    */\n    var ShadowCss = /**\n    @class */ (function () {\n        function ShadowCss() {\n            this.strictStyling = true;\n        }\n        /*\n        * Shim some cssText with the given selector. Returns cssText that can\n        * be included in the document via WebComponents.ShadowCSS.addCssToDocument(css).\n        *\n        * When strictStyling is true:\n        * - selector is the attribute
 added to all elements inside the host,\n        * - hostSelector is the attribute added to the host itself.\n        */\n        ShadowCss.prototype.shimCssText = function (cssText, selector, hostSelector) {\n            if (hostSelector === void 0) { hostSelector = ''; }\n            var commentsWithHash = extractCommentsWithHash(cssText);\n            cssText = stripComments(cssText);\n            cssText = this._insertDirectives(cssText);\n            var scopedCssText = this._scopeCssText(cssText, selector, hostSelector);\n            return __spread([scopedCssText], commentsWithHash).join('\\n');\n        };\n        ShadowCss.prototype._insertDirectives = function (cssText) {\n
  cssText = this._insertPolyfillDirectivesInCssText(cssText);\n            return this._insertPolyfillRulesInCssText(cssText);\n        };\n        /*\n        * Process styles to convert native ShadowDOM rules that will trip\n        * up the css parser; we rely on decorating the stylesheet with
 inert rules.\n        *\n        * For example, we convert this rule:\n        *\n        * polyfill-next-selector { content: ':host menu-item'; }\n        * ::content menu-item {\n        *\n        * to this:\n        *\n        * scopeName menu-item {\n        *\n        **/\n        ShadowCss.prototype._insertPolyfillDirectivesInCssText = function (cssText) {\n
        // Difference with webcomponents.js: does not handle comments\n            return cssText.replace(_cssContentNextSelectorRe, function () {\n                var m = [];\n                for (var _i = 0; _i < arguments.length; _i++) {\n                    m[_i] = arguments[_i];\n                }\n                return m[2] + '{';\n            });\n        };\n        /*\n        * Process styles to add rules which will only apply under the polyfill\n        *\n        * For example, we convert this rule:\n        *\n        * polyfill-rule {\n        *   content: ':host menu-item';\n        * ...\n        * }\n        *\n        * to this:\n        *\n        * scopeName menu-item {...}\n        *\n        **/\n        ShadowCss.prototype._insertPolyfillRulesInCssText = function (cssText) {\n            // Difference with webcomponents.js: does not handle comments\n            return cssText.replace(_cssContentRuleRe, function () {\n
            var m = [];\n                for (var _i = 0; _i < arguments.length; _i++) {\n                    m[_i] = arguments[_i];\n
            }\n                var rule = m[0].replace(m[1], '').replace(m[2], '');\n                return m[4] + rule;\n            });\n
        };\n        /* Ensure styles are scoped. Pseudo-scoping takes a rule like:\n        *\n        *  .foo {... }\n        *\n        * and converts this to\n        *\n        *  scopeName .foo { ... }\n        */\n        ShadowCss.prototype._scopeCssText = function (cssText, scopeSelector, hostSelector) {\n            var unscopedRules = this._extractUnscopedRulesFromCssText(cssText);\n
            // replace :host and :host-context -shadowcsshost and -shadowcsshost respectively\n            cssText = this._insertPolyfillHostInCssText(cssText);\n            cssText = this._convertColonHost(cssText);\n            cssText = this._convertColonHostContext(cssText);\n            cssText = this._convertShadowDOMSelectors(cssText);\n            if (scopeSelector) {\n                cssText = this._scopeSelectors(cssText, scopeSelector, hostSelector);\n            }\n
```

```
    cssText = cssText + '\\n' + unscopedRules;\n            return cssText.trim();\n        };\n        /*\n         * Process styles to add rules which will only apply under the polyfill\n         * and do not process via CSSOM. (CSSOM is destructive to rules on rare\n         * occasions, e.g. -webkit-calc on Safari.)\n         * For example, we convert this rule:\n         *\n         * @polyfill-unscoped-rule {\n         *   content: 'menu-item';\n         * ...
         }\n         *\n         * to this:\n         *\n         * menu-item {...}\n         *\n         **/\n
ShadowCss.prototype._extractUnscopedRulesFromCssText = function (cssText) {\n            // Difference with webcomponents.js: does not handle comments\n            var r = '';\n            var m;\n
_cssContentUnscopedRuleRe.lastIndex = 0;\n            while ((m = _cssContentUnscopedRuleRe.exec(cssText)) !== null) {\n                var rule = m[0].replace(m[2], '').replace(m[1], m[4]);\n                r += rule + '\\n\\n';\n            }\n
    return r;\n        };\n        /*\n         * convert a rule like :host(.foo) > .bar { }\n         *\n         * to\n         *\n         * .foo<scopeName> > .bar\n         */\n        ShadowCss.prototype._convertColonHost = function (cssText) {\n
return this._convertColonRule(cssText, _cssColonHostRe, this._colonHostPartReplacer);\n        };\n        /*\n         * convert a rule like :host-context(.foo) >
 .bar { }\n         *\n         * to\n         *\n         * .foo<scopeName> > .bar, .foo scopeName > .bar { }\n         *\n         * and\n         *\n         * :host-context(.foo:host) .bar { ... }\n         *\n         * to\n         *\n         * .foo<scopeName>
 .bar { ... }\n         */\n        ShadowCss.prototype._convertColonHostContext = function (cssText) {\n            return this._convertColonRule(cssText, _cssColonHostContextRe, this._colonHostContextPartReplacer);\n        };\n
ShadowCss.prototype._convertColonRule = function (cssText, regExp, partReplacer) {\n            // m[1] = :host(-context), m[2] = contents of (), m[3] rest of rule\n            return cssText.replace(regExp, function () {\n                var m = [];\n                for (var _i = 0; _i < arguments.length; _i++) {\n                    m[_i] = arguments[_i];\n
}\n                if (m[2]) {\n                    var parts = m[2].split(',');\n                    var r = [];\n
                for (var i = 0; i < parts.length; i++) {\n                        var p = parts[i].trim();\n                        if (!p)\n
                        break;\n                        r.push(partReplacer(_polyfillHostNoCombinator, p, m[3]));\n                    }\n
            return r.join(',');\n                }\n                else {\n                    return _polyfillHostNoCombinator + m[3];\n
        }\n            });\n        };\n        ShadowCss.prototype._colonHostContextPartReplacer = function (host, part, suffix) {\n            if (part.indexOf(_polyfillHost) > -1) {\n                return this._colonHostPartReplacer(host, part, suffix);\n            }\n            else {\n                return host + part + suffix + ', ' + part + ' ' + host + suffix;\n            }\n
    };\n        ShadowCss.prototype._colonHostPartReplacer = function (host, part, suffix) {\n            return host + part.replace(_polyfillHost, '') + suffix;\n
    };\n        /*\n         * Convert combinators like ::shadow and pseudo-elements like ::content\n         * by replacing with space.\n         */\n        ShadowCss.prototype._convertShadowDOMSelectors = function (cssText) {\n
return _shadowDOMSelectorsRe.reduce(function (result, pattern) { return result.replace(pattern, ' '); }, cssText);\n
    };\n        // change a selector like 'div' to 'name div'\n        ShadowCss.prototype._scopeSelectors = function (cssText, scopeSelector, hostSelector) {\n            var _this = this;\n            return processRules(cssText, function (rule) {\n                var selector = rule.selector;\n                var content = rule.content;\n                if (rule.selector[0] != '@') {\n                    selector =\n                        _this._scopeSelector(rule.selector, scopeSelector, hostSelector, _this.strictStyling);\n                }\n                else if (rule.selector.startsWith('@media') || rule.selector.startsWith('@supports')
 ||\n                    rule.selector.startsWith('@page') || rule.selector.startsWith('@document')) {\n                    content = _this._scopeSelectors(rule.content, scopeSelector, hostSelector);\n                }\n                return new CssRule(selector, content);\n            });\n        };\n        ShadowCss.prototype._scopeSelector = function (selector, scopeSelector, hostSelector, strict) {\n            var _this = this;\n            return selector.split(',')\n
.map(function (part) { return part.trim().split(_shadowDeepSelectors); })\n                .map(function (deepParts) {\n
            var _a = __read(deepParts), shallowPart = _a[0], otherParts = _a.slice(1);\n                var applyScope = function (shallowPart) {\n                    if (_this._selectorNeedsScoping(shallowPart, scopeSelector)) {\n
 return strict ?\n                            _this._applyStrictSelectorScope(shallowPart, scopeSelector, hostSelector)
 :\n                            _this._applySelectorScope(shallowPart, scopeSelector, hostSelector);\n                    }\n
    else {\n                        return shallowPart;\n                    }\n                };\n                return
```

```
__spread([applyScope(shallowPart)], otherParts).join(' ');\n            })\n            .join(', ');\n        };\n
ShadowCss.prototype._selectorNeedsScoping = function (selector, scopeSelector) {\n            var re =
this._makeScopeMatcher(scopeSelector);\n            return !re.test(selector);\n        };\n
ShadowCss.prototype._makeScopeMatcher = function (scopeSelector) {\n            var lre = /\\[/g;\n            var rre =
/\\]/g;\n            scopeSelector = scopeSelector.replace(lre, '\\\\[').replace(rre, '\\\\]');\n            return new RegExp('^(' +
scopeSelector + ')' + _selectorReSuffix, 'm');\n        };\n        ShadowCss.prototype._applySelectorScope = function
(selector, scopeSelector,
 hostSelector) {\n            // Difference from webcomponents.js: scopeSelector could not be an array\n            return
this._applySimpleSelectorScope(selector, scopeSelector, hostSelector);\n        };\n        // scope via name and
[is=name]\n        ShadowCss.prototype._applySimpleSelectorScope = function (selector, scopeSelector,
hostSelector) {\n            // In Android browser, the lastIndex is not reset when the regex is used in String.replace()\n
        _polyfillHostRe.lastIndex = 0;\n            if (_polyfillHostRe.test(selector)) {\n                var replaceBy_1 =
this.strictStyling ? \"[\" + hostSelector + \"]\" : scopeSelector;\n                return selector\n
.replace(_polyfillHostNoCombinatorRe, function (hnc, selector) {\n                    return
selector.replace(/([^:]*)(:*)(.*)/, function (_, before, colon, after) {\n                        return before + replaceBy_1 +
colon + after;\n                    });\n                })\n
                .replace(_polyfillHostRe, replaceBy_1 + ' ');\n            }\n            return scopeSelector + ' ' + selector;\n
};\n        // return a selector with [name] suffix on each simple selector\n        // e.g. .foo.bar > .zot becomes
.foo[name].bar[name] > .zot[name]  /** @internal */\n        ShadowCss.prototype._applyStrictSelectorScope =
function (selector, scopeSelector, hostSelector) {\n            var _this = this;\n            var isRe = /\\[is=([^\\]]*)\\]/g;\n
        scopeSelector = scopeSelector.replace(isRe, function (_) {\n                var parts = [];\n                for (var _i = 1;
_i < arguments.length; _i++) {\n                    parts[_i - 1] = arguments[_i];\n                }\n                return parts[0];\n
        });\n            var attrName = '[' + scopeSelector + ']';\n            var _scopeSelectorPart = function (p) {\n
var scopedP = p.trim();\n                if (!scopedP) {\n                    return '';\n
                }\n                if (p.indexOf(_polyfillHostNoCombinator) > -1) {\n                    scopedP =
_this._applySimpleSelectorScope(p, scopeSelector, hostSelector);\n                }\n                else {\n                    //
remove :host since it should be unnecessary\n                    var t = p.replace(_polyfillHostRe, '');\n                    if
(t.length > 0) {\n                        var matches = t.match(/([^:]*)(:*)(.*)/);\n                        if (matches) {\n
    scopedP = matches[1] + attrName + matches[2] + matches[3];\n                        }\n                    }\n                }\n
            return scopedP;\n            };\n            var safeContent = new SafeSelector(selector);\n            selector =
safeContent.content();\n            var scopedSelector = '';\n            var startIndex = 0;\n            var res;\n            var sep
= /( |>|\\+|~(?!=))\\s*/g;\n            // If a selector appears before :host
 it should not be shimmed as it\n            // matches on ancestor elements and not on elements in the host's shadow\n
        // `:host-context(div)` is transformed to\n            // `-shadowcsshost-no-combinatordiv, div -shadowcsshost-no-
combinator`\n            // the `div` is not part of the component in the 2nd selectors and should not be scoped.\n
// Historically `component-tag:host` was matching the component so we also want to preserve\n            // this
behavior to avoid breaking legacy apps (it should not match).\n            // The behavior should be:\n            // -
`tag:host` -> `tag[h]` (this is to avoid breaking legacy apps, should not match anything)\n            // - `tag :host` ->
`tag [h]` (`tag` is not scoped because it's considered part of a\n            //   `:host-context(tag)`)\n            var hasHost =
selector.indexOf(_polyfillHostNoCombinator) > -1;\n            // Only scope parts after the first `-shadowcsshost-no-
combinator` when it
 is present\n            var shouldScope = !hasHost;\n            while ((res = sep.exec(selector)) !== null) {\n                var
separator = res[1];\n                var part_1 = selector.slice(startIndex, res.index).trim();\n                shouldScope =
shouldScope || part_1.indexOf(_polyfillHostNoCombinator) > -1;\n                var scopedPart = shouldScope ?
_scopeSelectorPart(part_1) : part_1;\n                scopedSelector += scopedPart + \" \" + separator + \" \";\n
startIndex = sep.lastIndex;\n            }\n            var part = selector.substring(startIndex);\n            shouldScope =
shouldScope || part.indexOf(_polyfillHostNoCombinator) > -1;\n            scopedSelector += shouldScope ?
_scopeSelectorPart(part) : part;\n            // replace the placeholders with their original values\n            return
```

```
safeContent.restore(scopedSelector);\n        };\n        ShadowCss.prototype._insertPolyfillHostInCssText = function (selector) {\n            return selector.replace(_colonHostContextRe, _polyfillHostContext)\n                .replace(_colonHostRe, _polyfillHost);\n        };\n        return ShadowCss;\n    }());\n    var SafeSelector = /** @class */ (function () {\n        function SafeSelector(selector) {\n            var _this = this;\n            this.placeholders = [];\n            this.index = 0;\n            // Replaces attribute selectors with placeholders.\n            // The WS in [attr=\"va lue\"] would otherwise be interpreted as a selector separator.\n            selector = selector.replace(/(\\[[^\\]]*\\])/g, function (_, keep) {\n                var replaceBy = \"__ph-\" + _this.index + \"__\";\n                _this.placeholders.push(keep);\n                _this.index++;\n                return replaceBy;\n            });\n            // Replaces the expression in `:nth-child(2n + 1)` with a placeholder.\n            // WS and \"+\" would otherwise be interpreted as selector separators.\n            this._content = selector.replace(/(:nth-[-\\w]+)(\\([^)]+\\))/g, function (_, pseudo, exp) {\n                var replaceBy = \"__ph-\" + _this.index + \"__\";\n                _this.placeholders.push(exp);\n                _this.index++;\n                return pseudo + replaceBy;\n            });\n        }\n        SafeSelector.prototype.restore = function (content) {\n            var _this = this;\n            return content.replace(/__ph-(\\d+)__/g, function (ph, index) { return _this.placeholders[+index]; });\n        };\n        SafeSelector.prototype.content = function () {\n            return this._content;\n        };\n        return SafeSelector;\n    }());\n    var _cssContentNextSelectorRe = /polyfill-next-selector[^}]*content:[\\s]*?(['\"])(.*?)\\1[;\\s]*}([^{]*?){/gim;\n    var _cssContentRuleRe = /(polyfill-rule)[^}]*(content:[\\s]*(['\"])(.*?)\\3)[;\\s]*[^}]*}/gim;\n    var _cssContentUnscopedRuleRe = /(polyfill-unscoped-rule)[^}]*(content:[\\s]*(['\"])(.*?)\\3)[;\\s]*[^}]*}/gim;\n    var _polyfillHost = '-shadowcsshost';\n    // note: :host-context pre-processed to -shadowcsshostcontext.\n    var _polyfillHostContext = '-shadowcsscontext';\n    var _parenSuffix = ')(?:\\\\((' +\n        '(?:\\\\([^)(]*\\\\)|[^)(]*)+?' +\n        ')\\\\))?([^,{]*)';\n    var _cssColonHostRe = new RegExp('(' + _polyfillHost + _parenSuffix, 'gim');\n    var _cssColonHostContextRe = new RegExp('(' + _polyfillHostContext + _parenSuffix, 'gim');\n    var _polyfillHostNoCombinator = _polyfillHost + '-no-combinator';\n    var _polyfillHostNoCombinatorRe = /-shadowcsshost-no-combinator([^\\s]*)/;\n    var _shadowDOMSelectorsRe = [\n        /::shadow/g,\n        /::content/g,\n        // Deprecated selectors\n        /\\/shadow-deep\\//g,\n        /\\/shadow\\//g,\n    ];\n    // The deep combinator is deprecated in the CSS spec\n    // Support for `>>>`, `deep`, `::ng-deep` is then also deprecated and will be removed in the future.\n    // see https://github.com/angular/angular/pull/17677\n    var _shadowDeepSelectors = /(?:>>>)|(?:\\/deep\\/)|(?:::ng-deep)/g;\n    var _selectorReSuffix = '([>\\\\s~+\\[.,{:][\\\\s\\\\S]*)?$';\n    var _polyfillHostRe = /-shadowcsshost/gim;\n    var _colonHostRe = /:host/gim;\n    var _colonHostContextRe = /:host-context/gim;\n    var _commentRe = /\\/\\*\\s*[\\s\\S]*?\\*\\//g;\n    function stripComments(input) {\n        return input.replace(_commentRe, '');\n    }\n    var _commentWithHashRe = /\\/\\*\\s*#\\s*source(Mapping)?URL=[\\s\\S]+?\\*\\//g;\n    function extractCommentsWithHash(input) {\n        return input.match(_commentWithHashRe) || [];\n    }\n    var BLOCK_PLACEHOLDER = '%BLOCK%';\n    var QUOTE_PLACEHOLDER = '%QUOTED%';\n    var _ruleRe = /(\\s*)([^;\\{\\}]+?)(\\s*)((?:{%BLOCK%}?\\s*;?)|(?:\\s*;))/g;\n    var _quotedRe = /%QUOTED%/g;\n    var CONTENT_PAIRS = new Map([['{', '}']]);\n    var QUOTE_PAIRS = new Map([[\"\\\"\", \"\\\"\"], [\"'\", \"'\"]]);\n    var CssRule = /** @class */ (function () {\n        function CssRule(selector, content) {\n            this.selector = selector;\n            this.content = content;\n        }\n        return CssRule;\n    }());\n    function processRules(input, ruleCallback) {\n        var inputWithEscapedQuotes = escapeBlocks(input, QUOTE_PAIRS, QUOTE_PLACEHOLDER);\n        var inputWithEscapedBlocks = escapeBlocks(inputWithEscapedQuotes.escapedString, CONTENT_PAIRS, BLOCK_PLACEHOLDER);\n        var nextBlockIndex = 0;\n        var nextQuoteIndex = 0;\n        return inputWithEscapedBlocks.escapedString\n            .replace(_ruleRe, function () {\n                var m = [];\n                for (var _i = 0; _i < arguments.length; _i++) {\n                    m[_i] = arguments[_i];\n                }\n                var selector = m[2];\n                var content = '';\n                var suffix = m[4];\n                var contentPrefix = '';\n                if (suffix && suffix.startsWith('{' + BLOCK_PLACEHOLDER)) {\n                    content = inputWithEscapedBlocks.blocks[nextBlockIndex++];\n
```

```
            suffix = suffix.substring(BLOCK_PLACEHOLDER.length + 1);\n                contentPrefix = '{';\n
}\n            var rule = ruleCallback(new CssRule(selector, content));\n            return \"\\" + m[1] + rule.selector + m[3]
+ contentPrefix + rule.content + suffix;\n        })\n            .replace(_quotedRe, function () { return
inputWithEscapedQuotes.blocks[nextQuoteIndex++]; });\n    }\n    var StringWithEscapedBlocks = /** @class */
(function () {\n        function StringWithEscapedBlocks(escapedString, blocks) {\n            this.escapedString =
escapedString;\n            this.blocks = blocks;\n        }\n        return StringWithEscapedBlocks;\n    }());\n    function
escapeBlocks(input, charPairs, placeholder) {\n        var resultParts = [];\n        var escapedBlocks = [];\n        var
openCharCount = 0;\n        var nonBlockStartIndex = 0;\n        var blockStartIndex = -1;\n        var openChar;\n
var closeChar;\n        for (var i =
 0; i < input.length; i++) {\n            var char = input[i];\n            if (char === '\\\\') {\n                i++;\n            }\n
  else if (char === closeChar) {\n                openCharCount--;\n                if (openCharCount === 0) {\n
escapedBlocks.push(input.substring(blockStartIndex, i));\n                    resultParts.push(placeholder);\n
nonBlockStartIndex = i;\n                    blockStartIndex = -1;\n                    openChar = closeChar = undefined;\n
        }\n            }\n            else if (char === openChar) {\n                openCharCount++;\n            }\n            else if
(openCharCount === 0 && charPairs.has(char)) {\n                openChar = char;\n                closeChar =
charPairs.get(char);\n                openCharCount = 1;\n                blockStartIndex = i + 1;\n
resultParts.push(input.substring(nonBlockStartIndex, blockStartIndex));\n            }\n
 }\n        if (blockStartIndex !== -1) {\n            escapedBlocks.push(input.substring(blockStartIndex));\n
resultParts.push(placeholder);\n        }\n        else {\n
resultParts.push(input.substring(nonBlockStartIndex));\n        }\n        return new
StringWithEscapedBlocks(resultParts.join(''), escapedBlocks);\n    }\n\n    /**\n     * @license\n     * Copyright
Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can
be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var COMPONENT_VARIABLE =
'%COMP%';\n    var HOST_ATTR = \"_nghost-\" + COMPONENT_VARIABLE;\n    var CONTENT_ATTR =
\"_ngcontent-\" + COMPONENT_VARIABLE;\n    var StylesCompileDependency = /** @class */ (function () {\n
    function StylesCompileDependency(name, moduleUrl, setValue) {\n            this.name = name;\n
this.moduleUrl = moduleUrl;\n            this.setValue = setValue;\n        }\n
        return StylesCompileDependency;\n    }());\n    var CompiledStylesheet = /** @class */ (function () {\n
function CompiledStylesheet(outputCtx, stylesVar, dependencies, isShimmed, meta) {\n            this.outputCtx =
outputCtx;\n            this.stylesVar = stylesVar;\n            this.dependencies = dependencies;\n            this.isShimmed
= isShimmed;\n            this.meta = meta;\n        }\n        return CompiledStylesheet;\n    }());\n    var StyleCompiler =
/** @class */ (function () {\n        function StyleCompiler(_urlResolver) {\n            this._urlResolver =
_urlResolver;\n            this._shadowCss = new ShadowCss();\n        }\n
StyleCompiler.prototype.compileComponent = function (outputCtx, comp) {\n            var template =
comp.template;\n            return this._compileStyles(outputCtx, comp, new CompileStylesheetMetadata({\n
styles: template.styles,\n                styleUrls: template.styleUrls,\n                moduleUrl:
 identifierModuleUrl(comp.type)\n            }), this.needsStyleShim(comp), true);\n        };\n
StyleCompiler.prototype.compileStyles = function (outputCtx, comp, stylesheet, shim) {\n            if (shim === void
0) { shim = this.needsStyleShim(comp); }\n            return this._compileStyles(outputCtx, comp, stylesheet, shim,
false);\n        };\n        StyleCompiler.prototype.needsStyleShim = function (comp) {\n            return
comp.template.encapsulation === ViewEncapsulation.Emulated;\n        };\n
StyleCompiler.prototype._compileStyles = function (outputCtx, comp, stylesheet, shim, isComponentStylesheet) {\n
        var _this = this;\n            var styleExpressions = stylesheet.styles.map(function (plainStyle) { return
literal(_this._shimIfNeeded(plainStyle, shim)); });\n            var dependencies = [];\n
stylesheet.styleUrls.forEach(function (styleUrl) {\n                var exprIndex = styleExpressions.length;\n                //
Note: This
 placeholder will be filled later.\n                styleExpressions.push(null);\n                dependencies.push(new
StylesCompileDependency(getStylesVarName(null), styleUrl, function (value) { return styleExpressions[exprIndex]
```

```
= outputCtx.importExpr(value); }));\n            });\n            // styles variable contains plain strings and arrays of other styles arrays (recursive),\n            // so we set its type to dynamic.\n            var stylesVar = getStylesVarName(isComponentStylesheet ? comp : null);\n            var stmt = variable(stylesVar)\n            .set(literalArr(styleExpressions, new ArrayType(DYNAMIC_TYPE, [TypeModifier.Const])))\n            .toDeclStmt(null, isComponentStylesheet ? [exports.StmtModifier.Final] : [\n                exports.StmtModifier.Final, exports.StmtModifier.Exported\n            ]);\n            outputCtx.statements.push(stmt);\n            return new CompiledStylesheet(outputCtx, stylesVar, dependencies, shim, stylesheet);\n        };\n        StyleCompiler.prototype._shimIfNeeded = function (style, shim) {\n            return shim ? this._shadowCss.shimCssText(style, CONTENT_ATTR, HOST_ATTR) : style;\n        };\n        return StyleCompiler;\n    }());\n    function getStylesVarName(component) {\n        var result = \"styles\";\n        if (component) {\n            result += \"_\" + identifierName(component.type);\n        }\n        return result;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * A path is an ordered set of elements. Typically a path is to  a\n     * particular offset in a source file. The head of the list is the top\n     * most node. The tail is the node that contains the offset directly.\n     *\n     * For example, the expression `a + b + c` might have an ast that looks\n     *\n     like:\n     *     +\n     *    / \\\n     *   a   +\n     *      / \\\n     *     b   c\n     *\n     * The path to the node at offset 9 would be `['+' at 1-10, '+' at 7-10,\n     * 'c' at 9-10]` and the path the node at offset 1 would be\n     * `['+' at 1-10, 'a' at 1-2]`.\n     */\n    var AstPath = /** @class */ (function () {\n        function AstPath(path, position) {\n            if (position === void 0) { position = -1; }\n            this.path = path;\n            this.position = position;\n        }\n        Object.defineProperty(AstPath.prototype, \"empty\", {\n            get: function () {\n                return !this.path || !this.path.length;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(AstPath.prototype, \"head\", {\n            get: function () {\n                return this.path[0];\n            },\n            enumerable: false,\n            configurable: true\n        });\n        Object.defineProperty(AstPath.prototype, \"tail\", {\n            get: function () {\n                return this.path[this.path.length - 1];\n            },\n            enumerable: false,\n            configurable: true\n        });\n        AstPath.prototype.parentOf = function (node) {\n            return node && this.path[this.path.indexOf(node) - 1];\n        };\n        AstPath.prototype.childOf = function (node) {\n            return this.path[this.path.indexOf(node) + 1];\n        };\n        AstPath.prototype.first = function (ctor) {\n            for (var i = this.path.length - 1; i >= 0; i--) {\n                var item = this.path[i];\n                if (item instanceof ctor)\n                    return item;\n            }\n        };\n        AstPath.prototype.push = function (node) {\n            this.path.push(node);\n        };\n        AstPath.prototype.pop = function () {\n            return this.path.pop();\n        };\n        return AstPath;\n    }());\n\n    var NodeWithI18n = /** @class */ (function () {\n        function NodeWithI18n(sourceSpan, i18n) {\n            this.sourceSpan = sourceSpan;\n            this.i18n = i18n;\n        }\n        return NodeWithI18n;\n    }());\n    var Text$3 = /** @class */ (function (_super) {\n        __extends(Text, _super);\n        function Text(value, sourceSpan, i18n) {\n            var _this = _super.call(this, sourceSpan, i18n) || this;\n            _this.value = value;\n            return _this;\n        }\n        Text.prototype.visit = function (visitor, context) {\n            return visitor.visitText(this, context);\n        };\n        return Text;\n    }(NodeWithI18n));\n    var Expansion = /** @class */ (function (_super) {\n        __extends(Expansion, _super);\n        function Expansion(switchValue, type, cases, sourceSpan, switchValueSourceSpan, i18n) {\n            var _this = _super.call(this, sourceSpan, i18n) || this;\n            _this.switchValue = switchValue;\n            _this.type = type;\n            _this.cases = cases;\n            _this.switchValueSourceSpan = switchValueSourceSpan;\n            return _this;\n        }\n        Expansion.prototype.visit = function (visitor, context) {\n            return visitor.visitExpansion(this, context);\n        };\n        return Expansion;\n    }(NodeWithI18n));\n    var ExpansionCase = /** @class */ (function () {\n        function ExpansionCase(value, expression, sourceSpan, valueSourceSpan, expSourceSpan) {\n            this.value = value;\n            this.expression = expression;\n            this.sourceSpan = sourceSpan;\n            this.valueSourceSpan = valueSourceSpan;\n            this.expSourceSpan = expSourceSpan;\n        }\n        ExpansionCase.prototype.visit = function (visitor, context) {\n            return
```

visitor.visitExpansionCase(this, context);\n };\n return ExpansionCase;\n }());\n var Attribute = /** @class */ (function (_super) {\n __extends(Attribute, _super);\n function Attribute(name, value, sourceSpan, valueSpan, i18n) {\n var _this = _super.call(this, sourceSpan, i18n) || this;\n _this.name = name;\n _this.value = value;\n _this.valueSpan = valueSpan;\n return _this;\n }\n Attribute.prototype.visit = function (visitor, context) {\n return visitor.visitAttribute(this, context);\n };\n return Attribute;\n }(NodeWithI18n));\n var Element$1 = /** @class */ (function (_super) {\n __extends(Element, _super);\n function Element(name, attrs, children, sourceSpan, startSourceSpan, endSourceSpan, i18n) {\n if (endSourceSpan === void 0) { endSourceSpan = null; }\n var _this = _super.call(this, sourceSpan, i18n) || this;\n _this.name = name;\n _this.attrs = attrs;\n _this.children = children;\n _this.startSourceSpan = startSourceSpan;\n _this.endSourceSpan = endSourceSpan;\n return _this;\n }\n Element.prototype.visit = function (visitor, context) {\n return visitor.visitElement(this, context);\n };\n return Element;\n }(NodeWithI18n));\n var Comment = /** @class */ (function () {\n function Comment(value, sourceSpan) {\n this.value = value;\n this.sourceSpan = sourceSpan;\n }\n Comment.prototype.visit = function (visitor, context) {\n return visitor.visitComment(this, context);\n };\n return Comment;\n }());\n function visitAll$1(visitor, nodes, context) {\n if (context === void 0) { context = null; }\n var result = [];\n var visit = visitor.visit ?\n function (ast) { return visitor.visit(ast, context) || ast.visit(visitor, context); } :\n function (ast) { return ast.visit(visitor, context); };\n nodes.forEach(function (ast) {\n var astResult = visit(ast);\n if (astResult) {\n result.push(astResult);\n }\n });\n return result;\n }\n var RecursiveVisitor$1 = /** @class */ (function () {\n function RecursiveVisitor() {\n }\n RecursiveVisitor.prototype.visitElement = function (ast, context) {\n this.visitChildren(context, function (visit) {\n visit(ast.attrs);\n visit(ast.children);\n });\n };\n RecursiveVisitor.prototype.visitAttribute = function (ast, context) { };\n RecursiveVisitor.prototype.visitText = function (ast, context) { };\n RecursiveVisitor.prototype.visitComment = function (ast, context) { };\n RecursiveVisitor.prototype.visitExpansion = function (ast, context) {\n return this.visitChildren(context, function (visit) {\n visit(ast.cases);\n });\n };\n RecursiveVisitor.prototype.visitExpansionCase = function (ast, context) { };\n RecursiveVisitor.prototype.visitChildren = function (context, cb) {\n var results = [];\n var t = this;\n function visit(children) {\n if (children)\n results.push(visitAll$1(t, children, context));\n }\n cb(visit);\n return Array.prototype.concat.apply([], results);\n };\n return RecursiveVisitor;\n }());\n function spanOf(ast) {\n var start = ast.sourceSpan.start.offset;\n var end = ast.sourceSpan.end.offset;\n if (ast instanceof Element$1) {\n if (ast.endSourceSpan) {\n end = ast.endSourceSpan.end.offset;\n }\n else if (ast.children && ast.children.length) {\n end = spanOf(ast.children[ast.children.length - 1]).end;\n }\n }\n return { start: start, end: end };\n }\n function findNode(nodes, position) {\n var path = [];\n var visitor = new /** @class */ (function (_super) {\n __extends(class_1, _super);\n function class_1() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n class_1.prototype.visit = function (ast, context) {\n var span = spanOf(ast);\n if (span.start <= position && position < span.end) {\n path.push(ast);\n }\n else {\n // Returning a value here will result in the children being skipped.\n return true;\n }\n };\n return class_1;\n }(RecursiveVisitor$1));\n visitAll$1(visitor, nodes);\n return new AstPath(path, position);\n }\n\n var TokenType;\n (function (TokenType) {\n TokenType[TokenType[\"TAG_OPEN_START\"] = 0] = \"TAG_OPEN_START\";\n TokenType[TokenType[\"TAG_OPEN_END\"] = 1] = \"TAG_OPEN_END\";\n TokenType[TokenType[\"TAG_OPEN_END_VOID\"] = 2] = \"TAG_OPEN_END_VOID\";\n TokenType[TokenType[\"TAG_CLOSE\"] = 3] = \"TAG_CLOSE\";\n TokenType[TokenType[\"INCOMPLETE_TAG_OPEN\"] = 4] = \"INCOMPLETE_TAG_OPEN\";\n

```
TokenType[TokenType[\"TEXT\"] = 5] = \"TEXT\";\n
TokenType[TokenType[\"ESCAPABLE_RAW_TEXT\"] = 6] = \"ESCAPABLE_RAW_TEXT\";\n
TokenType[TokenType[\"RAW_TEXT\"] = 7] = \"RAW_TEXT\";\n
TokenType[TokenType[\"COMMENT_START\"] = 8] = \"COMMENT_START\";\n
TokenType[TokenType[\"COMMENT_END\"] = 9] = \"COMMENT_END\";\n
TokenType[TokenType[\"CDATA_START\"] = 10] = \"CDATA_START\";\n
TokenType[TokenType[\"CDATA_END\"] = 11] = \"CDATA_END\";\n
TokenType[TokenType[\"ATTR_NAME\"] = 12] = \"ATTR_NAME\";\n
TokenType[TokenType[\"ATTR_QUOTE\"] = 13] = \"ATTR_QUOTE\";\n
TokenType[TokenType[\"ATTR_VALUE\"] = 14] = \"ATTR_VALUE\";\n
TokenType[TokenType[\"DOC_TYPE\"] = 15] = \"DOC_TYPE\";\n
    TokenType[TokenType[\"EXPANSION_FORM_START\"] = 16] = \"EXPANSION_FORM_START\";\n
TokenType[TokenType[\"EXPANSION_CASE_VALUE\"] = 17] = \"EXPANSION_CASE_VALUE\";\n
TokenType[TokenType[\"EXPANSION_CASE_EXP_START\"] = 18] =
\"EXPANSION_CASE_EXP_START\";\n      TokenType[TokenType[\"EXPANSION_CASE_EXP_END\"] =
19] = \"EXPANSION_CASE_EXP_END\";\n      TokenType[TokenType[\"EXPANSION_FORM_END\"] = 20]
= \"EXPANSION_FORM_END\";\n      TokenType[TokenType[\"EOF\"] = 21] = \"EOF\";\n  })(TokenType ||
(TokenType = {}));\n  var Token = /** @class */ (function () {\n      function Token(type, parts, sourceSpan) {\n
      this.type = type;\n          this.parts = parts;\n          this.sourceSpan = sourceSpan;\n      }\n      return
Token;\n  }());\n  var TokenError = /** @class */ (function (_super) {\n      __extends(TokenError, _super);\n
  function TokenError(errorMsg, tokenType, span) {\n          var _this = _super.call(this, span, errorMsg)
  || this;\n          _this.tokenType = tokenType;\n          return _this;\n      }\n      return TokenError;\n
}(ParseError));\n  var TokenizeResult = /** @class */ (function () {\n      function TokenizeResult(tokens, errors,
nonNormalizedIcuExpressions) {\n          this.tokens = tokens;\n          this.errors = errors;\n
this.nonNormalizedIcuExpressions = nonNormalizedIcuExpressions;\n      }\n      return TokenizeResult;\n
}());\n  function tokenize(source, url, getTagDefinition, options) {\n      if (options === void 0) { options = {}; }\n
    var tokenizer = new _Tokenizer(new ParseSourceFile(source, url), getTagDefinition, options);\n
tokenizer.tokenize();\n      return new TokenizeResult(mergeTextTokens(tokenizer.tokens), tokenizer.errors,
tokenizer.nonNormalizedIcuExpressions);\n  }\n  var _CR_OR_CRLF_REGEXP = /\\r\\n?/g;\n  function
_unexpectedCharacterErrorMsg(charCode) {\n      var char = charCode === $EOF
  ? 'EOF' : String.fromCharCode(charCode);\n      return \"Unexpected character \\\"\" + char + \"\\\"\";\n  }\n
function _unknownEntityErrorMsg(entitySrc) {\n      return \"Unknown entity \\\"\" + entitySrc + \"\\\" - use the
\\\"&#<decimal>;\\\" or  \\\"&#x<hex>;\\\" syntax\";\n  }\n  function _unparsableEntityErrorMsg(type, entityStr)
{\n      return \"Unable to parse entity \\\"\" + entityStr + \"\\\" - \" + type + \" character reference entities must end
with \\\";\\\"\";\n  }\n  var CharacterReferenceType;\n  (function (CharacterReferenceType) {\n
CharacterReferenceType[\"HEX\"] = \"hexadecimal\";\n      CharacterReferenceType[\"DEC\"] = \"decimal\";\n
})(CharacterReferenceType || (CharacterReferenceType = {}));\n  var _ControlFlowError = /** @class */ (function
() {\n      function _ControlFlowError(error) {\n          this.error = error;\n      }\n      return
_ControlFlowError;\n  }());\n  // See https://www.w3.org/TR/html51/syntax.html#writing-html-documents\n
  var _Tokenizer = /** @class */ (function () {\n      /**\n       * @param _file The html source file being
tokenized.\n       * @param _getTagDefinition A function that will retrieve a tag definition for a given tag name.\n
   * @param options Configuration of the tokenization.\n       */\n      function _Tokenizer(_file,
_getTagDefinition, options) {\n          this._getTagDefinition = _getTagDefinition;\n          this._currentTokenStart
= null;\n          this._currentTokenType = null;\n          this._expansionCaseStack = [];\n
this._inInterpolation = false;\n          this.tokens = [];\n          this.errors = [];\n
this.nonNormalizedIcuExpressions = [];\n          this._tokenizeIcu = options.tokenizeExpansionForms || false;\n
  this._interpolationConfig = options.interpolationConfig || DEFAULT_INTERPOLATION_CONFIG;\n
this._leadingTriviaCodePoints =\n              options.leadingTriviaChars
```

```
 && options.leadingTriviaChars.map(function (c) { return c.codePointAt(0) || 0; });\n            var range =
options.range || { endPos: _file.content.length, startPos: 0, startLine: 0, startCol: 0 };\n            this._cursor =
options.escapedString ? new EscapedCharacterCursor(_file, range) :\n                new PlainCharacterCursor(_file,
range);\n            this._preserveLineEndings = options.preserveLineEndings || false;\n            this._escapedString =
options.escapedString || false;\n            this._i18nNormalizeLineEndingsInICUs =
options.i18nNormalizeLineEndingsInICUs || false;\n            try {\n                this._cursor.init();\n            }\n
catch (e) {\n                this.handleError(e);\n            }\n        }\n        _Tokenizer.prototype._processCarriageReturns
= function (content) {\n            if (this._preserveLineEndings) {\n                return content;\n            }\n            //
https://www.w3.org/TR/html51/syntax.html#preprocessing-the-input-stream\n
            // In order to keep the original position in the source, we can not\n            // pre-process it.\n            // Instead
CRs are processed right before instantiating the tokens.\n            return content.replace(_CR_OR_CRLF_REGEXP,
'\\n');\n        };\n        _Tokenizer.prototype.tokenize = function () {\n            while (this._cursor.peek() !== $EOF)
{\n                var start = this._cursor.clone();\n                try {\n                    if (this._attemptCharCode($LT)) {\n
                if (this._attemptCharCode($BANG)) {\n                        if (this._attemptCharCode($LBRACKET)) {\n
                            this._consumeCdata(start);\n                        }\n                        else if
(this._attemptCharCode($MINUS)) {\n                            this._consumeComment(start);\n                        }\n
                    else {\n                            this._consumeDocType(start);\n
                        }\n                    }\n                    else if (this._attemptCharCode($SLASH)) {\n
this._consumeTagClose(start);\n                    }\n                    else {\n
this._consumeTagOpen(start);\n                    }\n                }\n                else if (!(this._tokenizeIcu &&
this._tokenizeExpansionForm())) {\n                    this._consumeText();\n                }\n            }\n
catch (e) {\n                this.handleError(e);\n            }\n        }\n        this._beginToken(TokenType.EOF);\n
        this._endToken([]);\n        };\n        /**\n         * @returns whether an ICU token has been created\n         *
@internal\n         */\n        _Tokenizer.prototype._tokenizeExpansionForm = function () {\n            if
(this.isExpansionFormStart()) {\n                this._consumeExpansionFormStart();\n
                return true;\n            }\n            if (isExpansionCaseStart(this._cursor.peek()) &&
this._isInExpansionForm()) {\n                this._consumeExpansionCaseStart();\n                return true;\n            }\n
    if (this._cursor.peek() === $RBRACE) {\n                if (this._isInExpansionCase()) {\n
this._consumeExpansionCaseEnd();\n                    return true;\n                }\n                if
(this._isInExpansionForm()) {\n                    this._consumeExpansionFormEnd();\n                    return true;\n
  }\n            }\n            return false;\n        };\n        _Tokenizer.prototype._beginToken = function (type, start) {\n
    if (start === void 0) { start = this._cursor.clone(); }\n            this._currentTokenStart = start;\n
this._currentTokenType = type;\n        };\n        _Tokenizer.prototype._endToken = function (parts, end) {\n            if
(this._currentTokenStart
 === null) {\n                throw new TokenError('Programming error - attempted to end a token when there was no
start to the token', this._currentTokenType, this._cursor.getSpan(end));\n            }\n            if
(this._currentTokenType === null) {\n                throw new TokenError('Programming error - attempted to end a
token which has no token type', null, this._cursor.getSpan(this._currentTokenStart));\n            }\n            var token =
new Token(this._currentTokenType, parts, this._cursor.getSpan(this._currentTokenStart,
this._leadingTriviaCodePoints));\n            this.tokens.push(token);\n            this._currentTokenStart = null;\n
this._currentTokenType = null;\n            return token;\n        };\n        _Tokenizer.prototype._createError = function
(msg, span) {\n            if (this._isInExpansionForm()) {\n                msg += \" (Do you have an unescaped \\\"{\\\" in
your template? Use \\\"{{ '{' }}\\\") to escape it.)\";\n
            }\n            var error = new TokenError(msg, this._currentTokenType, span);\n            this._currentTokenStart
= null;\n            this._currentTokenType = null;\n            return new _ControlFlowError(error);\n        };\n
_Tokenizer.prototype.handleError = function (e) {\n            if (e instanceof CursorError) {\n                e =
this._createError(e.msg, this._cursor.getSpan(e.cursor));\n            }\n            if (e instanceof _ControlFlowError) {\n
                this.errors.push(e.error);\n            }\n            else {\n                throw e;\n            }\n        };\n
```

```
_Tokenizer.prototype._attemptCharCode = function (charCode) {\n            if (this._cursor.peek() === charCode) {\n                this._cursor.advance();\n                return true;\n            }\n            return false;\n        };\n    _Tokenizer.prototype._attemptCharCodeCaseInsensitive = function (charCode) {\n            if (compareCharCodeCaseInsensitive(this._cursor.peek(),\n     charCode)) {\n                this._cursor.advance();\n                return true;\n            }\n            return false;\n        };\n    _Tokenizer.prototype._requireCharCode = function (charCode) {\n            var location = this._cursor.clone();\n        if (!this._attemptCharCode(charCode)) {\n                throw\n    this._createError(_unexpectedCharacterErrorMsg(this._cursor.peek()), this._cursor.getSpan(location));\n            }\n        };\n        _Tokenizer.prototype._attemptStr = function (chars) {\n            var len = chars.length;\n            if (this._cursor.charsLeft() < len) {\n                return false;\n            }\n            var initialPosition =\n    this._cursor.clone();\n            for (var i = 0; i < len; i++) {\n                if\n    (!this._attemptCharCode(chars.charCodeAt(i))) {\n                    // If attempting to parse the string fails, we want to\n    reset the parser\n                    // to where it was before the\n     attempt\n                    this._cursor = initialPosition;\n                    return false;\n                }\n            }\n    return true;\n        };\n        _Tokenizer.prototype._attemptStrCaseInsensitive = function (chars) {\n            for (var i\n    = 0; i < chars.length; i++) {\n                if (!this._attemptCharCodeCaseInsensitive(chars.charCodeAt(i))) {\n        return false;\n                }\n            }\n            return true;\n        };\n        _Tokenizer.prototype._requireStr =\n    function (chars) {\n            var location = this._cursor.clone();\n            if (!this._attemptStr(chars)) {\n    throw this._createError(_unexpectedCharacterErrorMsg(this._cursor.peek()), this._cursor.getSpan(location));\n            }\n        };\n        _Tokenizer.prototype._attemptCharCodeUntilFn = function (predicate) {\n            while\n    (!predicate(this._cursor.peek())) {\n                this._cursor.advance();\n            }\n        };\n        _Tokenizer.prototype._requireCharCodeUntilFn = function (predicate, len) {\n            var start =\n    this._cursor.clone();\n            this._attemptCharCodeUntilFn(predicate);\n            if (this._cursor.diff(start) < len) {\n                throw this._createError(_unexpectedCharacterErrorMsg(this._cursor.peek()), this._cursor.getSpan(start));\n            }\n        };\n        _Tokenizer.prototype._attemptUntilChar = function (char) {\n            while\n    (this._cursor.peek() !== char) {\n                this._cursor.advance();\n            }\n        };\n    _Tokenizer.prototype._readChar = function (decodeEntities) {\n            if (decodeEntities && this._cursor.peek()\n    === $AMPERSAND) {\n                return this._decodeEntity();\n            }\n            else {\n                // Don't rely\n    upon reading directly from `_input` as the actual char value\n                // may have been generated from an escape\n    sequence.\n                var char = String.fromCodePoint(this._cursor.peek());\n                this._cursor.advance();\n                return char;\n            }\n        };\n    _Tokenizer.prototype._decodeEntity = function () {\n            var start = this._cursor.clone();\n    this._cursor.advance();\n            if (this._attemptCharCode($HASH)) {\n                var isHex =\n    this._attemptCharCode($x) || this._attemptCharCode($X);\n                var codeStart = this._cursor.clone();\n    this._attemptCharCodeUntilFn(isDigitEntityEnd);\n                if (this._cursor.peek() != $SEMICOLON) {\n        // Advance cursor to include the peeked character in the string provided to the error\n                    // message.\n                this._cursor.advance();\n                    var entityType = isHex ? CharacterReferenceType.HEX :\n    CharacterReferenceType.DEC;\n                    throw this._createError(_unparsableEntityErrorMsg(entityType,\n    this._cursor.getChars(start)), this._cursor.getSpan());\n                }\n                var strNum = this._cursor.getChars(codeStart);\n                this._cursor.advance();\n    try {\n                    var charCode = parseInt(strNum, isHex ? 16 : 10);\n                    return\n    String.fromCharCode(charCode);\n                }\n                catch (_a) {\n                    throw\n    this._createError(_unknownEntityErrorMsg(this._cursor.getChars(start)), this._cursor.getSpan());\n                }\n            }\n            else {\n                var nameStart = this._cursor.clone();\n    this._attemptCharCodeUntilFn(isNamedEntityEnd);\n                if (this._cursor.peek() != $SEMICOLON) {\n            this._cursor = nameStart;\n                    return '&';\n                }\n                var name =\n    this._cursor.getChars(nameStart);\n                this._cursor.advance();\n                var char =\n    NAMED_ENTITIES[name];\n                if (!char) {\n
```

```
 throw this._createError(_unknownEntityErrorMsg(name), this._cursor.getSpan(start));\n            }\n
return char;\n        }\n    };\n    _Tokenizer.prototype._consumeRawText = function (decodeEntities,
endMarkerPredicate) {\n        this._beginToken(decodeEntities ? TokenType.ESCAPABLE_RAW_TEXT :
TokenType.RAW_TEXT);\n        var parts = [];\n        while (true) {\n            var tagCloseStart =
this._cursor.clone();\n            var foundEndMarker = endMarkerPredicate();\n            this._cursor =
tagCloseStart;\n            if (foundEndMarker) {\n                break;\n            }\n
parts.push(this._readChar(decodeEntities));\n        }\n        return
this._endToken([this._processCarriageReturns(parts.join(''))]);\n    };\n
_Tokenizer.prototype._consumeComment = function (start) {\n        var _this = this;\n
this._beginToken(TokenType.COMMENT_START, start);\n
    this._requireCharCode($MINUS);\n        this._endToken([]);\n        this._consumeRawText(false,
function () { return _this._attemptStr('-->'); });\n        this._beginToken(TokenType.COMMENT_END);\n
this._requireStr('-->');\n        this._endToken([]);\n    };\n    _Tokenizer.prototype._consumeCdata = function
(start) {\n        var _this = this;\n        this._beginToken(TokenType.CDATA_START, start);\n
this._requireStr('CDATA[');\n        this._endToken([]);\n        this._consumeRawText(false, function () { return
_this._attemptStr(']]>'); });\n        this._beginToken(TokenType.CDATA_END);\n        this._requireStr(']]>');\n
    this._endToken([]);\n    };\n    _Tokenizer.prototype._consumeDocType = function (start) {\n
this._beginToken(TokenType.DOC_TYPE, start);\n        var contentStart = this._cursor.clone();\n
this._attemptUntilChar($GT);\n        var content
 = this._cursor.getChars(contentStart);\n        this._cursor.advance();\n        this._endToken([content]);\n
};\n    _Tokenizer.prototype._consumePrefixAndName = function () {\n        var nameOrPrefixStart =
this._cursor.clone();\n        var prefix = '';\n        while (this._cursor.peek() !== $COLON &&
!isPrefixEnd(this._cursor.peek())) {\n            this._cursor.advance();\n        }\n        var nameStart;\n        if
(this._cursor.peek() === $COLON) {\n            prefix = this._cursor.getChars(nameOrPrefixStart);\n
this._cursor.advance();\n            nameStart = this._cursor.clone();\n        }\n        else {\n            nameStart
= nameOrPrefixStart;\n        }\n        this._requireCharCodeUntilFn(isNameEnd, prefix === '' ? 0 : 1);\n
var name = this._cursor.getChars(nameStart);\n        return [prefix, name];\n    };\n
_Tokenizer.prototype._consumeTagOpen
 = function (start) {\n        var tagName;\n        var prefix;\n        var openTagToken;\n        try {\n
if (!isAsciiLetter(this._cursor.peek())) {\n            throw
this._createError(_unexpectedCharacterErrorMsg(this._cursor.peek()), this._cursor.getSpan(start));\n        }\n
    openTagToken = this._consumeTagOpenStart(start);\n        prefix = openTagToken.parts[0];\n
tagName = openTagToken.parts[1];\n        this._attemptCharCodeUntilFn(isNotWhitespace);\n        while
(this._cursor.peek() !== $SLASH && this._cursor.peek() !== $GT &&\n            this._cursor.peek() !== $LT)
{\n            this._consumeAttributeName();\n            this._attemptCharCodeUntilFn(isNotWhitespace);\n
        if (this._attemptCharCode($EQ)) {\n                this._attemptCharCodeUntilFn(isNotWhitespace);\n
            this._consumeAttributeValue();\n
            }\n            this._attemptCharCodeUntilFn(isNotWhitespace);\n        }\n
this._consumeTagOpenEnd();\n        }\n        catch (e) {\n            if (e instanceof _ControlFlowError) {\n
    if (openTagToken) {\n                // We errored before we could close the opening tag, so it is
incomplete.\n                openTagToken.type = TokenType.INCOMPLETE_TAG_OPEN;\n            }\n
    else {\n                // When the start tag is invalid, assume we want a \"<\" as text.\n                // Back
to back text tokens are merged at the end.\n                this._beginToken(TokenType.TEXT, start);\n
 this._endToken(['<']);\n            }\n            return;\n        }\n        throw e;\n    }\n    var
contentTokenType = this._getTagDefinition(tagName).contentType;\n
    if (contentTokenType === exports.TagContentType.RAW_TEXT) {\n
this._consumeRawTextWithTagClose(prefix, tagName, false);\n    }\n    else if (contentTokenType ===
exports.TagContentType.ESCAPABLE_RAW_TEXT) {\n        this._consumeRawTextWithTagClose(prefix,
```

```
tagName, true);\n            }\n        };\n        _Tokenizer.prototype._consumeRawTextWithTagClose = function
(prefix, tagName, decodeEntities) {\n            var _this = this;\n            var textToken =
this._consumeRawText(decodeEntities, function () {\n                if (!_this._attemptCharCode($LT))\n
return false;\n                if (!_this._attemptCharCode($SLASH))\n                    return false;\n
_this._attemptCharCodeUntilFn(isNotWhitespace);\n                if (!_this._attemptStrCaseInsensitive(tagName))\n
                return false;\n                _this._attemptCharCodeUntilFn(isNotWhitespace);\n                return
_this._attemptCharCode($GT);\n
            });\n            this._beginToken(TokenType.TAG_CLOSE);\n            this._requireCharCodeUntilFn(function
(code) { return code === $GT; }, 3);\n            this._cursor.advance(); // Consume the `>`\n
this._endToken([prefix, tagName]);\n        };\n        _Tokenizer.prototype._consumeTagOpenStart = function (start)
{\n            this._beginToken(TokenType.TAG_OPEN_START, start);\n            var parts =
this._consumePrefixAndName();\n            return this._endToken(parts);\n        };\n
_Tokenizer.prototype._consumeAttributeName = function () {\n            var attrNameStart = this._cursor.peek();\n
    if (attrNameStart === $SQ || attrNameStart === $DQ) {\n                throw
this._createError(_unexpectedCharacterErrorMsg(attrNameStart), this._cursor.getSpan());\n            }\n
this._beginToken(TokenType.ATTR_NAME);\n            var prefixAndName = this._consumePrefixAndName();\n
     this._endToken(prefixAndName);\n
        };\n        _Tokenizer.prototype._consumeAttributeValue = function () {\n            var value;\n            if
(this._cursor.peek() === $SQ || this._cursor.peek() === $DQ) {\n
this._beginToken(TokenType.ATTR_QUOTE);\n                var quoteChar = this._cursor.peek();\n
this._cursor.advance();\n                this._endToken([String.fromCodePoint(quoteChar)]);\n
this._beginToken(TokenType.ATTR_VALUE);\n                var parts = [];\n                while (this._cursor.peek() !==
quoteChar) {\n                    parts.push(this._readChar(true));\n                }\n                value = parts.join('');\n
this._endToken([this._processCarriageReturns(value)]);\n
this._beginToken(TokenType.ATTR_QUOTE);\n                this._cursor.advance();\n
this._endToken([String.fromCodePoint(quoteChar)]);\n            }\n            else {\n
this._beginToken(TokenType.ATTR_VALUE);\n
                var valueStart = this._cursor.clone();\n                this._requireCharCodeUntilFn(isNameEnd, 1);\n
value = this._cursor.getChars(valueStart);\n                this._endToken([this._processCarriageReturns(value)]);\n
    }\n        };\n        _Tokenizer.prototype._consumeTagOpenEnd = function () {\n            var tokenType =
this._attemptCharCode($SLASH) ? TokenType.TAG_OPEN_END_VOID : TokenType.TAG_OPEN_END;\n
    this._beginToken(tokenType);\n            this._requireCharCode($GT);\n            this._endToken([]);\n        };\n
_Tokenizer.prototype._consumeTagClose = function (start) {\n            this._beginToken(TokenType.TAG_CLOSE,
start);\n            this._attemptCharCodeUntilFn(isNotWhitespace);\n            var prefixAndName =
this._consumePrefixAndName();\n            this._attemptCharCodeUntilFn(isNotWhitespace);\n
this._requireCharCode($GT);\n            this._endToken(prefixAndName);\n
    };\n        _Tokenizer.prototype._consumeExpansionFormStart = function () {\n
this._beginToken(TokenType.EXPANSION_FORM_START);\n            this._requireCharCode($LBRACE);\n
    this._endToken([]);\n            this._expansionCaseStack.push(TokenType.EXPANSION_FORM_START);\n
this._beginToken(TokenType.RAW_TEXT);\n            var condition = this._readUntil($COMMA);\n            var
normalizedCondition = this._processCarriageReturns(condition);\n            if
(this._i18nNormalizeLineEndingsInICUs) {\n                // We explicitly want to normalize line endings for this
text.\n                this._endToken([normalizedCondition]);\n            }\n            else {\n                // We are not
normalizing line endings.\n                var conditionToken = this._endToken([condition]);\n                if
(normalizedCondition !== condition) {\n                    this.nonNormalizedIcuExpressions.push(conditionToken);\n
            }\n            }\n
            this._requireCharCode($COMMA);\n            this._attemptCharCodeUntilFn(isNotWhitespace);\n
this._beginToken(TokenType.RAW_TEXT);\n            var type = this._readUntil($COMMA);\n
```

```
this._endToken([type]);\n            this._requireCharCode($COMMA);\n
this._attemptCharCodeUntilFn(isNotWhitespace);\n        };\n
_Tokenizer.prototype._consumeExpansionCaseStart = function () {\n
this._beginToken(TokenType.EXPANSION_CASE_VALUE);\n            var value =
this._readUntil($LBRACE).trim();\n            this._endToken([value]);\n
this._attemptCharCodeUntilFn(isNotWhitespace);\n
this._beginToken(TokenType.EXPANSION_CASE_EXP_START);\n            this._requireCharCode($LBRACE);\n
        this._endToken([]);\n            this._attemptCharCodeUntilFn(isNotWhitespace);\n
this._expansionCaseStack.push(TokenType.EXPANSION_CASE_EXP_START);\n        };\n
_Tokenizer.prototype._consumeExpansionCaseEnd
 = function () {\n            this._beginToken(TokenType.EXPANSION_CASE_EXP_END);\n
this._requireCharCode($RBRACE);\n            this._endToken([]);\n
this._attemptCharCodeUntilFn(isNotWhitespace);\n            this._expansionCaseStack.pop();\n        };\n
_Tokenizer.prototype._consumeExpansionFormEnd = function () {\n
this._beginToken(TokenType.EXPANSION_FORM_END);\n            this._requireCharCode($RBRACE);\n
this._endToken([]);\n            this._expansionCaseStack.pop();\n        };\n        _Tokenizer.prototype._consumeText =
function () {\n            var start = this._cursor.clone();\n            this._beginToken(TokenType.TEXT, start);\n
var parts = [];\n            do {\n                if (this._interpolationConfig &&
this._attemptStr(this._interpolationConfig.start)) {\n                    parts.push(this._interpolationConfig.start);\n
      this._inInterpolation = true;\n                }\n
       else if (this._interpolationConfig && this._inInterpolation &&\n
this._attemptStr(this._interpolationConfig.end)) {\n                    parts.push(this._interpolationConfig.end);\n
    this._inInterpolation = false;\n                }\n                else {\n                    parts.push(this._readChar(true));\n
     }\n            } while (!this._isTextEnd());\n            this._endToken([this._processCarriageReturns(parts.join(''))]);\n
     };\n        _Tokenizer.prototype._isTextEnd = function () {\n            if (this._cursor.peek() === $LT ||
this._cursor.peek() === $EOF) {\n                return true;\n            }\n            if (this._tokenizeIcu &&
!this._inInterpolation) {\n                if (this.isExpansionFormStart()) {\n                    // start of an expansion form\n
            return true;\n                }\n                if (this._cursor.peek() === $RBRACE && this._isInExpansionCase())
{\n
             // end of and expansion case\n                    return true;\n                }\n            }\n            return false;\n
};\n        _Tokenizer.prototype._readUntil = function (char) {\n            var start = this._cursor.clone();\n
this._attemptUntilChar(char);\n            return this._cursor.getChars(start);\n        };\n
_Tokenizer.prototype._isInExpansionCase = function () {\n            return this._expansionCaseStack.length > 0
&&\n                this._expansionCaseStack[this._expansionCaseStack.length - 1] ===\n
TokenType.EXPANSION_CASE_EXP_START;\n        };\n        _Tokenizer.prototype._isInExpansionForm =
function () {\n            return this._expansionCaseStack.length > 0 &&\n
this._expansionCaseStack[this._expansionCaseStack.length - 1] ===\n
TokenType.EXPANSION_FORM_START;\n        };\n        _Tokenizer.prototype.isExpansionFormStart = function
() {\n            if (this._cursor.peek()
 !== $LBRACE) {\n                return false;\n            }\n            if (this._interpolationConfig) {\n                var start =
this._cursor.clone();\n                var isInterpolation = this._attemptStr(this._interpolationConfig.start);\n
this._cursor = start;\n                return !isInterpolation;\n            }\n            return true;\n        };\n        return
_Tokenizer;\n    }());\n    function isNotWhitespace(code) {\n        return !isWhitespace(code) || code === $EOF;\n
}\n    function isNameEnd(code) {\n        return isWhitespace(code) || code === $GT || code === $LT ||\n
code === $SLASH || code === $SQ || code === $DQ || code === $EQ;\n    }\n    function isPrefixEnd(code) {\n
return (code < $a || $z < code) && (code < $A || $Z < code) &&\n            (code < $0 || code > $9);\n    }\n    function
isDigitEntityEnd(code) {\n        return code == $SEMICOLON || code == $EOF || !isAsciiHexDigit(code);\n    }\n
```

```
    function isNamedEntityEnd(code) {\n        return code == $SEMICOLON || code == $EOF ||
!isAsciiLetter(code);\n    }\n    function isExpansionCaseStart(peek) {\n        return peek !== $RBRACE;\n    }\n
function compareCharCodeCaseInsensitive(code1, code2) {\n        return toUpperCaseCharCode(code1) ==
toUpperCaseCharCode(code2);\n    }\n    function toUpperCaseCharCode(code) {\n        return code >= $a && code
<= $z ? code - $a + $A : code;\n    }\n    function mergeTextTokens(srcTokens) {\n        var dstTokens = [];\n
var lastDstToken = undefined;\n        for (var i = 0; i < srcTokens.length; i++) {\n            var token = srcTokens[i];\n
        if (lastDstToken && lastDstToken.type == TokenType.TEXT && token.type == TokenType.TEXT) {\n
    lastDstToken.parts[0] += token.parts[0];\n                lastDstToken.sourceSpan.end = token.sourceSpan.end;\n
  }\n            else {\n                lastDstToken = token;\n                dstTokens.push(lastDstToken);\n
            }\n        }\n        return dstTokens;\n    }\n    var PlainCharacterCursor = /** @class */ (function () {\n
function PlainCharacterCursor(fileOrCursor, range) {\n            if (fileOrCursor instanceof PlainCharacterCursor) {\n
            this.file = fileOrCursor.file;\n                this.input = fileOrCursor.input;\n                this.end =
fileOrCursor.end;\n                var state = fileOrCursor.state;\n                // Note: avoid using `{...fileOrCursor.state}`
here as that has a severe performance penalty.\n                // In ES5 bundles the object spread operator is translated
into the `__assign` helper, which\n                // is not optimized by VMs as efficiently as a raw object literal. Since
this constructor is\n                // called in tight loops, this difference matters.\n                this.state = {\n
peek: state.peek,\n                    offset: state.offset,\n                    line: state.line,\n
                    column: state.column,\n                };\n            }\n            else {\n                if (!range) {\n
throw new Error('Programming error: the range argument must be provided with a file argument.');\n                }\n
            this.file = fileOrCursor;\n                this.input = fileOrCursor.content;\n                this.end = range.endPos;\n
            this.state = {\n                    peek: -1,\n                    offset: range.startPos,\n                    line: range.startLine,\n
                column: range.startCol,\n                };\n            }\n        }\n        PlainCharacterCursor.prototype.clone =
function () {\n            return new PlainCharacterCursor(this);\n        };\n        PlainCharacterCursor.prototype.peek =
function () {\n            return this.state.peek;\n        };\n        PlainCharacterCursor.prototype.charsLeft = function ()
{\n            return this.end - this.state.offset;\n
        };\n        PlainCharacterCursor.prototype.diff = function (other) {\n            return this.state.offset -
other.state.offset;\n        };\n        PlainCharacterCursor.prototype.advance = function () {\n
this.advanceState(this.state);\n        };\n        PlainCharacterCursor.prototype.init = function () {\n
this.updatePeek(this.state);\n        };\n        PlainCharacterCursor.prototype.getSpan = function (start,
leadingTriviaCodePoints) {\n            start = start || this;\n            var fullStart = start;\n            if
(leadingTriviaCodePoints) {\n                while (this.diff(start) > 0 &&
leadingTriviaCodePoints.indexOf(start.peek()) !== -1) {\n                    if (fullStart === start) {\n                        start
= start.clone();\n                    }\n                    start.advance();\n                }\n            }\n            var startLocation =
this.locationFromCursor(start);\n            var endLocation = this.locationFromCursor(this);\n
            var fullStartLocation = fullStart !== start ? this.locationFromCursor(fullStart) : startLocation;\n            return
new ParseSourceSpan(startLocation, endLocation, fullStartLocation);\n        };\n
PlainCharacterCursor.prototype.getChars = function (start) {\n            return this.input.substring(start.state.offset,
this.state.offset);\n        };\n        PlainCharacterCursor.prototype.charAt = function (pos) {\n            return
this.input.charCodeAt(pos);\n        };\n        PlainCharacterCursor.prototype.advanceState = function (state) {\n
 if (state.offset >= this.end) {\n                this.state = state;\n                throw new CursorError('Unexpected character
\"EOF\"', this);\n            }\n            var currentChar = this.charAt(state.offset);\n            if (currentChar === $LF) {\n
            state.line++;\n                state.column = 0;\n            }\n            else if (!isNewLine(currentChar))
 {\n                state.column++;\n            }\n            state.offset++;\n            this.updatePeek(state);\n        };\n
PlainCharacterCursor.prototype.updatePeek = function (state) {\n            state.peek = state.offset >= this.end ? $EOF
: this.charAt(state.offset);\n        };\n        PlainCharacterCursor.prototype.locationFromCursor = function (cursor)
{\n            return new ParseLocation(cursor.file, cursor.state.offset, cursor.state.line, cursor.state.column);\n        };\n
    return PlainCharacterCursor;\n    }());\n    var EscapedCharacterCursor = /** @class */ (function (_super) {\n
 __extends(EscapedCharacterCursor, _super);\n        function EscapedCharacterCursor(fileOrCursor, range) {\n
```

```
  var _this = this;\n          if (fileOrCursor instanceof EscapedCharacterCursor) {\n              _this = _super.call(this, fileOrCursor) || this;\n              _this.internalState = Object.assign({}, fileOrCursor.internalState);\n
  }\n          else {\n              _this = _super.call(this, fileOrCursor, range) || this;\n              _this.internalState = _this.state;\n          }\n          return _this;\n      }\n      EscapedCharacterCursor.prototype.advance = function () {\n          this.state = this.internalState;\n          _super.prototype.advance.call(this);\n          this.processEscapeSequence();\n      };\n      EscapedCharacterCursor.prototype.init = function () {\n          _super.prototype.init.call(this);\n          this.processEscapeSequence();\n      };\n      EscapedCharacterCursor.prototype.clone = function () {\n          return new EscapedCharacterCursor(this);\n      };\n      EscapedCharacterCursor.prototype.getChars = function (start) {\n          var cursor = start.clone();\n          var chars = '';\n          while (cursor.internalState.offset < this.internalState.offset) {\n              chars += String.fromCodePoint(cursor.peek());\n              cursor.advance();\n          }\n          return chars;\n      };\n      /**\n       * Process the escape sequence that starts at the current position in the text.\n       *\n       * This method is called to ensure that `peek` has the unescaped value of escape sequences.\n       */\n      EscapedCharacterCursor.prototype.processEscapeSequence = function () {\n          var _this = this;\n          var peek = function () { return _this.internalState.peek; };\n          if (peek() === $BACKSLASH) {\n              // We have hit an escape sequence so we need the internal state to become independent\n              // of the external state.\n              this.internalState = Object.assign({}, this.state);\n              // Move past the backslash\n              this.advanceState(this.internalState);\n              // First check for standard control char sequences\n              if (peek() === $n) {\n                  this.state.peek = $LF;\n              }\n              else if (peek() === $r) {\n                  this.state.peek = $CR;\n              }\n              else if (peek() === $v) {\n                  this.state.peek = $VTAB;\n              }\n              else if (peek() === $t) {\n                  this.state.peek = $TAB;\n              }\n              else if (peek() === $b) {\n                  this.state.peek = $BSPACE;\n              }\n              else if (peek() === $f) {\n                  this.state.peek = $FF;\n              }\n              // Now consider more complex sequences\n              else if (peek() === $u) {\n                  // Unicode code-point sequence\n                  this.advanceState(this.internalState); // advance past the `u` char\n                  if (peek() === $LBRACE) {\n                      // Variable length Unicode, e.g. `\\x{123}`\n                      this.advanceState(this.internalState); // advance past the `{` char\n                      // Advance past the variable number of hex digits until we hit a `}` char\n                      var digitStart = this.clone();\n                      var length = 0;\n                      while (peek() !== $RBRACE) {\n                          this.advanceState(this.internalState);\n                          length++;\n                      }\n                      this.state.peek = this.decodeHexDigits(digitStart, length);\n                  }\n                  else {\n                      // Fixed length Unicode, e.g. `\\u1234`\n                      var digitStart = this.clone();\n                      this.advanceState(this.internalState);\n                      this.advanceState(this.internalState);\n                      this.advanceState(this.internalState);\n                      this.state.peek = this.decodeHexDigits(digitStart, 4);\n
  }\n              }\n              else if (peek() === $x) {\n                  // Hex char code, e.g. `\\x2F`\n                  this.advanceState(this.internalState); // advance past the `x` char\n                  var digitStart = this.clone();\n                  this.advanceState(this.internalState);\n                  this.state.peek = this.decodeHexDigits(digitStart, 2);\n              }\n              else if (isOctalDigit(peek())) {\n                  // Octal char code, e.g. `\\012`,\n                  var octal = '';\n                  var length = 0;\n                  var previous = this.clone();\n                  while (isOctalDigit(peek()) && length < 3) {\n                      previous = this.clone();\n                      octal += String.fromCodePoint(peek());\n                      this.advanceState(this.internalState);\n                      length++;\n                  }\n                  this.state.peek = parseInt(octal, 8);\n                  // Backup one char\n                  this.internalState = previous.internalState;\n              }\n              else if (isNewLine(this.internalState.peek)) {\n                  // Line continuation `\\` followed by a new line\n                  this.advanceState(this.internalState); // advance over the newline\n                  this.state = this.internalState;\n              }\n              else {\n                  // If none of the `if` blocks were executed then we just have an escaped normal character.\n                  // In that case we just, effectively, skip the backslash from the character.\n                  this.state.peek = this.internalState.peek;\n
```

```
}\n        }\n    };\n    EscapedCharacterCursor.prototype.decodeHexDigits = function (start, length) {\n
    var hex = this.input.substr(start.internalState.offset, length);\n        var charCode = parseInt(hex, 16);\n
if (!isNaN(charCode)) {\n            return charCode;\n
    }\n        else {\n            start.state = start.internalState;\n            throw new CursorError('Invalid
hexadecimal escape sequence', start);\n        }\n    };\n    return EscapedCharacterCursor;\n
}(PlainCharacterCursor));\n var CursorError = /** @class */ (function () {\n    function CursorError(msg,
cursor) {\n        this.msg = msg;\n        this.cursor = cursor;\n    }\n    return CursorError;\n }());\n\n var
TreeError = /** @class */ (function (_super) {\n    __extends(TreeError, _super);\n    function
TreeError(elementName, span, msg) {\n        var _this = _super.call(this, span, msg) || this;\n
_this.elementName = elementName;\n        return _this;\n    }\n    TreeError.create = function (elementName,
span, msg) {\n        return new TreeError(elementName, span, msg);\n    };\n    return TreeError;\n
}(ParseError));\n var ParseTreeResult = /** @class */
 (function () {\n    function ParseTreeResult(rootNodes, errors) {\n        this.rootNodes = rootNodes;\n
this.errors = errors;\n    }\n    return ParseTreeResult;\n }());\n var Parser = /** @class */ (function () {\n
 function Parser(getTagDefinition) {\n        this.getTagDefinition = getTagDefinition;\n    }\n
Parser.prototype.parse = function (source, url, options) {\n        var tokenizeResult = tokenize(source, url,
this.getTagDefinition, options);\n        var parser = new _TreeBuilder(tokenizeResult.tokens,
this.getTagDefinition);\n        parser.build();\n        return new ParseTreeResult(parser.rootNodes,
tokenizeResult.errors.concat(parser.errors));\n    };\n    return Parser;\n }());\n var _TreeBuilder = /**
@class */ (function () {\n    function _TreeBuilder(tokens, getTagDefinition) {\n        this.tokens = tokens;\n
    this.getTagDefinition = getTagDefinition;\n
  this._index = -1;\n        this._elementStack = [];\n        this.rootNodes = [];\n        this.errors = [];\n
this._advance();\n    }\n    _TreeBuilder.prototype.build = function () {\n        while (this._peek.type !==
TokenType.EOF) {\n            if (this._peek.type === TokenType.TAG_OPEN_START ||\n
this._peek.type === TokenType.INCOMPLETE_TAG_OPEN) {\n
this._consumeStartTag(this._advance());\n            }\n            else if (this._peek.type ===
TokenType.TAG_CLOSE) {\n                this._consumeEndTag(this._advance());\n            }\n            else if
(this._peek.type === TokenType.CDATA_START) {\n                this._closeVoidElement();\n
this._consumeCdata(this._advance());\n            }\n            else if (this._peek.type ===
TokenType.COMMENT_START) {\n                this._closeVoidElement();\n
this._consumeComment(this._advance());\n
        }\n            else if (this._peek.type === TokenType.TEXT || this._peek.type ===
TokenType.RAW_TEXT ||\n                this._peek.type === TokenType.ESCAPABLE_RAW_TEXT) {\n
   this._closeVoidElement();\n                this._consumeText(this._advance());\n            }\n            else if
(this._peek.type === TokenType.EXPANSION_FORM_START) {\n
this._consumeExpansion(this._advance());\n            }\n            else {\n                // Skip all other tokens...\n
        this._advance();\n            }\n        }\n    };\n    _TreeBuilder.prototype._advance = function () {\n
    var prev = this._peek;\n        if (this._index < this.tokens.length - 1) {\n            // Note: there is always an
EOF token at the end\n            this._index++;\n        }\n        this._peek = this.tokens[this._index];\n
return prev;\n
    };\n    _TreeBuilder.prototype._advanceIf = function (type) {\n        if (this._peek.type === type) {\n
   return this._advance();\n        }\n        return null;\n    };\n    _TreeBuilder.prototype._consumeCdata =
function (_startToken) {\n        this._consumeText(this._advance());\n
this._advanceIf(TokenType.CDATA_END);\n    };\n    _TreeBuilder.prototype._consumeComment = function
(token) {\n        var text = this._advanceIf(TokenType.RAW_TEXT);\n
this._advanceIf(TokenType.COMMENT_END);\n        var value = text != null ? text.parts[0].trim() : null;\n
 this._addToParent(new Comment(value, token.sourceSpan));\n    };\n
_TreeBuilder.prototype._consumeExpansion = function (token) {\n        var switchValue = this._advance();\n
```

```
 var type = this._advance();\n            var cases = [];\n            // read =\n            while (this._peek.type ===
TokenType.EXPANSION_CASE_VALUE)
 {\n                var expCase = this._parseExpansionCase();\n                if (!expCase)\n                    return; // error\n
        cases.push(expCase);\n            }\n            // read the final }\n            if (this._peek.type !==
TokenType.EXPANSION_FORM_END) {\n                this.errors.push(TreeError.create(null,
this._peek.sourceSpan, \"Invalid ICU message. Missing '}'.\"));\n                return;\n            }\n            var
sourceSpan = new ParseSourceSpan(token.sourceSpan.start, this._peek.sourceSpan.end,
token.sourceSpan.fullStart);\n            this._addToParent(new Expansion(switchValue.parts[0], type.parts[0], cases,
sourceSpan, switchValue.sourceSpan));\n            this._advance();\n        };\n
_TreeBuilder.prototype._parseExpansionCase = function () {\n            var value = this._advance();\n            // read
{\n            if (this._peek.type !== TokenType.EXPANSION_CASE_EXP_START) {\n
this.errors.push(TreeError.create(null,
 this._peek.sourceSpan, \"Invalid ICU message. Missing '{'.\"));\n                return null;\n            }\n            // read
until }\n            var start = this._advance();\n            var exp = this._collectExpansionExpTokens(start);\n            if
(!exp)\n                return null;\n            var end = this._advance();\n            exp.push(new Token(TokenType.EOF, [],
end.sourceSpan));\n            // parse everything in between { and }\n            var expansionCaseParser = new
_TreeBuilder(exp, this.getTagDefinition);\n            expansionCaseParser.build();\n            if
(expansionCaseParser.errors.length > 0) {\n                this.errors = this.errors.concat(expansionCaseParser.errors);\n
            return null;\n            }\n            var sourceSpan = new ParseSourceSpan(value.sourceSpan.start,
end.sourceSpan.end, value.sourceSpan.fullStart);\n            var expSourceSpan = new
ParseSourceSpan(start.sourceSpan.start, end.sourceSpan.end,
 start.sourceSpan.fullStart);\n            return new ExpansionCase(value.parts[0], expansionCaseParser.rootNodes,
sourceSpan, value.sourceSpan, expSourceSpan);\n        };\n
_TreeBuilder.prototype._collectExpansionExpTokens = function (start) {\n            var exp = [];\n            var
expansionFormStack = [TokenType.EXPANSION_CASE_EXP_START];\n            while (true) {\n                if
(this._peek.type === TokenType.EXPANSION_FORM_START ||\n                    this._peek.type ===
TokenType.EXPANSION_CASE_EXP_START) {\n                    expansionFormStack.push(this._peek.type);\n
        }\n                if (this._peek.type === TokenType.EXPANSION_CASE_EXP_END) {\n                    if
(lastOnStack(expansionFormStack, TokenType.EXPANSION_CASE_EXP_START)) {\n
expansionFormStack.pop();\n                        if (expansionFormStack.length == 0)\n                            return exp;\n
            }\n
  else {\n                        this.errors.push(TreeError.create(null, start.sourceSpan, \"Invalid ICU message. Missing
'}'.\"));\n                        return null;\n                    }\n                }\n                if (this._peek.type ===
TokenType.EXPANSION_FORM_END) {\n                    if (lastOnStack(expansionFormStack,
TokenType.EXPANSION_FORM_START)) {\n                        expansionFormStack.pop();\n                    }\n
        else {\n                        this.errors.push(TreeError.create(null, start.sourceSpan, \"Invalid ICU message. Missing
'}'.\"));\n                        return null;\n                    }\n                }\n                if (this._peek.type === TokenType.EOF)
{\n                    this.errors.push(TreeError.create(null, start.sourceSpan, \"Invalid ICU message. Missing '}'.\"));\n
            return null;\n                }\n                exp.push(this._advance());\n            }\n        };\n
_TreeBuilder.prototype._consumeText
 = function (token) {\n            var text = token.parts[0];\n            if (text.length > 0 && text[0] == '\\n') {\n
var parent = this._getParentElement();\n                if (parent != null && parent.children.length == 0 &&\n
 this.getTagDefinition(parent.name).ignoreFirstLf) {\n                    text = text.substring(1);\n                }\n            }\n
        if (text.length > 0) {\n                this._addToParent(new Text$3(text, token.sourceSpan));\n            }\n        };\n
    _TreeBuilder.prototype._closeVoidElement = function () {\n            var el = this._getParentElement();\n
if (el && this.getTagDefinition(el.name).isVoid) {\n                this._elementStack.pop();\n            }\n        };\n
_TreeBuilder.prototype._consumeStartTag = function (startTagToken) {\n            var _a =
__read(startTagToken.parts, 2), prefix = _a[0], name = _a[1];\n            var attrs = [];\n
```

```
while (this._peek.type === TokenType.ATTR_NAME) {\n attrs.push(this._consumeAttr(this._advance()));\n }\n var fullName = this._getElementFullName(prefix, name, this._getParentElement());\n var selfClosing = false;\n // Note: There could have been a tokenizer error\n // so that we don't get a token for the end tag...\n if (this._peek.type === TokenType.TAG_OPEN_END_VOID) {\n this._advance();\n selfClosing = true;\n var tagDef = this.getTagDefinition(fullName);\n if (!(tagDef.canSelfClose || getNsPrefix(fullName) !== null || tagDef.isVoid)) {\n this.errors.push(TreeError.create(fullName, startTagToken.sourceSpan, \"Only void and foreign elements can be self closed \\\"\" + startTagToken.parts[1] + \"\\\"\"));\n }\n }\n else if (this._peek.type === TokenType.TAG_OPEN_END) {\n this._advance();\n selfClosing = false;\n }\n var end = this._peek.sourceSpan.start;\n var span = new ParseSourceSpan(startTagToken.sourceSpan.start, end, startTagToken.sourceSpan.fullStart);\n // Create a separate `startSpan` because `span` will be modified when there is an `end` span.\n var startSpan = new ParseSourceSpan(startTagToken.sourceSpan.start, end, startTagToken.sourceSpan.fullStart);\n var el = new Element$1(fullName, attrs, [], span, startSpan, undefined);\n this._pushElement(el);\n if (selfClosing) {\n // Elements that are self-closed have their `endSourceSpan` set to the full span, as the\n // element start tag also represents the end tag.\n this._popElement(fullName, span);\n }\n else if (startTagToken.type === TokenType.INCOMPLETE_TAG_OPEN) {\n // We already know the opening tag\n is not complete, so it is unlikely it has a corresponding\n // close tag. Let's optimistically parse it as a full element and emit an error.\n this._popElement(fullName, null);\n this.errors.push(TreeError.create(fullName, span, \"Opening tag \\\"\" + fullName + \"\\\" not terminated.\"));\n }\n };\n _TreeBuilder.prototype._pushElement = function (el) {\n var parentEl = this._getParentElement();\n if (parentEl && this.getTagDefinition(parentEl.name).isClosedByChild(el.name)) {\n this._elementStack.pop();\n }\n this._addToParent(el);\n this._elementStack.push(el);\n };\n _TreeBuilder.prototype._consumeEndTag = function (endTagToken) {\n var fullName = this._getElementFullName(endTagToken.parts[0], endTagToken.parts[1], this._getParentElement());\n if (this.getTagDefinition(fullName).isVoid) {\n this.errors.push(TreeError.create(fullName, endTagToken.sourceSpan, \"Void elements do not have end tags \\\"\" + endTagToken.parts[1] + \"\\\"\"));\n }\n else if (!this._popElement(fullName, endTagToken.sourceSpan)) {\n var errMsg = \"Unexpected closing tag \\\"\" + fullName + \"\\\". It may happen when the tag has already been closed by another tag. For more info see https://www.w3.org/TR/html5/syntax.html#closing-elements-that-have-implied-end-tags\";\n this.errors.push(TreeError.create(fullName, endTagToken.sourceSpan, errMsg));\n }\n };\n /**\n * Closes the nearest element with the tag name `fullName` in the parse tree.\n * `endSourceSpan` is the span of the closing tag, or null if the element does\n * not have a closing tag (for example, this happens when an incomplete\n * opening tag is recovered).\n */\n _TreeBuilder.prototype._popElement = function (fullName, endSourceSpan) {\n for (var stackIndex = this._elementStack.length - 1; stackIndex >= 0; stackIndex--) {\n var el = this._elementStack[stackIndex];\n if (el.name == fullName) {\n // Record the parse span with the element that is being closed. Any elements that are\n // removed from the element stack at this point are closed implicitly, so they won't get\n // an end source span (as there is no explicit closing element).\n el.endSourceSpan = endSourceSpan;\n el.sourceSpan.end = endSourceSpan !== null ? endSourceSpan.end : el.sourceSpan.end;\n this._elementStack.splice(stackIndex, this._elementStack.length - stackIndex);\n return true;\n }\n if (!this.getTagDefinition(el.name).closedByParent) {\n return false;\n }\n }\n return false;\n };\n _TreeBuilder.prototype._consumeAttr = function (attrName) {\n var fullName = mergeNsAndName(attrName.parts[0], attrName.parts[1]);\n var end = attrName.sourceSpan.end;\n var
```

value = '';\n var valueSpan = undefined;\n if (this._peek.type === TokenType.ATTR_QUOTE) {\n this._advance();\n }\n if (this._peek.type === TokenType.ATTR_VALUE) {\n var valueToken = this._advance();\n value = valueToken.parts[0];\n end = valueToken.sourceSpan.end;\n valueSpan = valueToken.sourceSpan;\n }\n if (this._peek.type === TokenType.ATTR_QUOTE) {\n var quoteToken = this._advance();\n end = quoteToken.sourceSpan.end;\n }\n return new Attribute(fullName, value, new ParseSourceSpan(attrName.sourceSpan.start, end, attrName.sourceSpan.fullStart), valueSpan);\n };\n _TreeBuilder.prototype._getParentElement = function () {\n return this._elementStack.length > 0 ? this._elementStack[this._elementStack.length - 1] : null;\n };\n _TreeBuilder.prototype._addToParent = function (node) {\n var parent = this._getParentElement();\n if (parent != null) {\n parent.children.push(node);\n }\n else {\n this.rootNodes.push(node);\n }\n };\n _TreeBuilder.prototype._getElementFullName = function (prefix, localName, parentElement) {\n if (prefix === '') {\n prefix = this.getTagDefinition(localName).implicitNamespacePrefix || '';\n if (prefix === '' && parentElement != null) {\n var parentTagName = splitNsName(parentElement.name)[1];\n var parentTagDefinition = this.getTagDefinition(parentTagName);\n if (!parentTagDefinition.preventNamespaceInheritance)\n {\n prefix = getNsPrefix(parentElement.name);\n }\n }\n }\n return mergeNsAndName(prefix, localName);\n };\n return _TreeBuilder;\n }());\n function lastOnStack(stack, element) {\n return stack.length > 0 && stack[stack.length - 1] === element;\n }\n\n var HtmlParser = /** @class */ (function (_super) {\n __extends(HtmlParser, _super);\n function HtmlParser() {\n return _super.call(this, getHtmlTagDefinition) || this;\n }\n HtmlParser.prototype.parse = function (source, url, options) {\n return _super.prototype.parse.call(this, source, url, options);\n };\n return HtmlParser;\n }(Parser));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var PRESERVE_WS_ATTR_NAME = 'ngPreserveWhitespaces';\n var SKIP_WS_TRIM_TAGS = new Set(['pre', 'template', 'textarea', 'script', 'style']);\n // Equivalent to \\s with \\u00a0 (non-breaking space) excluded.\n // Based on https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp\n var WS_CHARS = '\\f\\n\\r\\t\\v\\u1680\\u180e\\u2000-\\u200a\\u2028\\u2029\\u202f\\u205f\\u3000\\ufeff';\n var NO_WS_REGEXP = new RegExp(\"[^\" + WS_CHARS + \"]\");\n var WS_REPLACE_REGEXP = new RegExp(\"[\" + WS_CHARS + \"]{2,}\", 'g');\n function hasPreserveWhitespacesAttr(attrs) {\n return attrs.some(function (attr) { return attr.name === PRESERVE_WS_ATTR_NAME; });\n }\n /**\n * Angular Dart introduced &ngsp; as a placeholder for non-removable space, see:\n * https://github.com/dart-lang/angular/blob/0bb611387d29d65b5af7f9d2515ab571fd3fbee4/_tests/test/compiler/preserve_whitespace_test.dart#L25-L32\n * In Angular Dart &ngsp; is converted to the 0xE500 PUA (Private Use Areas) unicode character\n * and later on replaced by a space. We are re-implementing the same idea here.\n */\n function replaceNgsp(value) {\n // lexer is replacing the &ngsp; pseudo-entity with NGSP_UNICODE\n return value.replace(new RegExp(NGSP_UNICODE, 'g'), ' ');\n }\n /**\n * This visitor can walk HTML parse tree and remove / trim text nodes using the following rules:\n * - consider spaces, tabs and new lines as whitespace characters;\n * - drop text nodes consisting of whitespace characters only;\n * - for all other text nodes replace consecutive whitespace characters with one space;\n * - convert &ngsp; pseudo-entity to a single space;\n *\n * Removal and trimming of whitespaces have positive performance impact (less code to generate\n * while compiling templates, faster view creation). At the same time it can be \"destructive\"\n * in some cases (whitespaces can influence layout). Because of the potential of breaking layout\n * this visitor is not activated by default in Angular 5 and people need to explicitly opt-in for\n * whitespace removal. The default option for whitespace removal will be revisited in Angular 6\n * and might be changed to \"on\" by default.\n */\n var WhitespaceVisitor = /** @class */ (function () {\n function WhitespaceVisitor() {\n }\n

WhitespaceVisitor.prototype.visitElement = function (element, context) {\n if (SKIP_WS_TRIM_TAGS.has(element.name) || hasPreserveWhitespacesAttr(element.attrs)) {\n // don't descent into elements where we need to preserve whitespaces\n // but still visit all attributes to eliminate one used as a market to preserve WS\n return new Element$1(element.name, visitAll$1(this, element.attrs), element.children, element.sourceSpan, element.startSourceSpan, element.endSourceSpan, element.i18n);\n }\n return new Element$1(element.name, element.attrs, visitAllWithSiblings(this, element.children), element.sourceSpan, element.startSourceSpan, element.endSourceSpan, element.i18n);\n };\n WhitespaceVisitor.prototype.visitAttribute = function (attribute, context) {\n return attribute.name !== PRESERVE_WS_ATTR_NAME ? attribute : null;\n };\n WhitespaceVisitor.prototype.visitText = function (text, context) {\n var isNotBlank = text.value.match(NO_WS_REGEXP);\n var hasExpansionSibling = context &&\n (context.prev instanceof Expansion || context.next instanceof Expansion);\n if (isNotBlank || hasExpansionSibling) {\n return new Text$3(replaceNgsp(text.value).replace(WS_REPLACE_REGEXP, ' '), text.sourceSpan, text.i18n);\n }\n return null;\n };\n WhitespaceVisitor.prototype.visitComment = function (comment, context) {\n return comment;\n };\n WhitespaceVisitor.prototype.visitExpansion = function (expansion, context) {\n return expansion;\n };\n WhitespaceVisitor.prototype.visitExpansionCase = function (expansionCase, context) {\n return expansionCase;\n };\n return WhitespaceVisitor;\n }());\n function removeWhitespaces(htmlAstWithErrors) {\n return new ParseTreeResult(visitAll$1(new WhitespaceVisitor(), htmlAstWithErrors.rootNodes), htmlAstWithErrors.errors);\n }\n function visitAllWithSiblings(visitor, nodes) {\n var result = [];\n nodes.forEach(function (ast, i) {\n var context = { prev: nodes[i - 1], next: nodes[i + 1] };\n var astResult = ast.visit(visitor, context);\n if (astResult) {\n result.push(astResult);\n }\n });\n return result;\n }\n\n // http://cldr.unicode.org/index/cldr-spec/plural-rules\n var PLURAL_CASES = ['zero', 'one', 'two', 'few', 'many', 'other'];\n /**\n * Expands special forms into elements.\n *\n * For example,\n *\n * ```\n * { messages.length, plural,\n * =0 {zero}\n * =1 {one}\n * other {more than one}\n * }\n * ```\n *\n * will be expanded into\n *\n * ```\n * <ng-container [ngPlural]=\"messages.length\">\n * <ng-template ngPluralCase=\"=0\">zero</ng-template>\n * <ng-template ngPluralCase=\"=1\">one</ng-template>\n * <ng-template ngPluralCase=\"other\">more than one</ng-template>\n * </ng-container>\n * ```\n */\n function expandNodes(nodes) {\n var expander = new _Expander();\n return new ExpansionResult(visitAll$1(expander, nodes), expander.isExpanded, expander.errors);\n }\n var ExpansionResult = /** @class */ (function () {\n function ExpansionResult(nodes, expanded, errors) {\n this.nodes = nodes;\n this.expanded = expanded;\n this.errors = errors;\n }\n return ExpansionResult;\n }());\n var ExpansionError = /** @class */ (function (_super) {\n __extends(ExpansionError, _super);\n function ExpansionError(span, errorMsg) {\n return _super.call(this, span, errorMsg) || this;\n }\n return ExpansionError;\n }(ParseError));\n /**\n * Expand expansion forms (plural, select) to directives\n *\n * @internal\n */\n var _Expander = /** @class */ (function () {\n function _Expander() {\n this.isExpanded = false;\n this.errors = [];\n }\n _Expander.prototype.visitElement = function (element, context) {\n return new Element$1(element.name, element.attrs, visitAll$1(this, element.children), element.sourceSpan, element.startSourceSpan, element.endSourceSpan);\n };\n _Expander.prototype.visitAttribute = function (attribute, context) {\n return attribute;\n };\n _Expander.prototype.visitText = function (text, context) {\n return text;\n };\n _Expander.prototype.visitComment = function (comment, context) {\n return comment;\n };\n _Expander.prototype.visitExpansion = function (icu, context) {\n this.isExpanded = true;\n return icu.type == 'plural' ? _expandPluralForm(icu, this.errors) :\n _expandDefaultForm(icu, this.errors);\n };\n _Expander.prototype.visitExpansionCase = function (icuCase, context) {\n throw new Error('Should not be reached');\n };\n return _Expander;\n }());\n // Plural forms are expanded to `NgPlural` and `NgPluralCase`s\n function _expandPluralForm(ast, errors) {\n var children =

ast.cases.map(function (c) {\n if (PLURAL_CASES.indexOf(c.value) == -1 && !c.value.match(/^=\\d+$/)) {\n errors.push(new ExpansionError(c.valueSourceSpan,
\"Plural cases should be \\\"=<number>\\\" or one of \" + PLURAL_CASES.join(', ')));\n }\n var expansionResult = expandNodes(c.expression);\n errors.push.apply(errors,
__spread(expansionResult.errors));\n return new Element$1(\"ng-template\", [new Attribute('ngPluralCase', \"\" + c.value, c.valueSourceSpan)], expansionResult.nodes, c.sourceSpan, c.sourceSpan, c.sourceSpan);\n });\n var switchAttr = new Attribute('[ngPlural]', ast.switchValue, ast.switchValueSourceSpan);\n return new Element$1('ng-container', [switchAttr], children, ast.sourceSpan, ast.sourceSpan, ast.sourceSpan);\n }\n // ICU messages (excluding plural form) are expanded to `NgSwitch` and `NgSwitchCase`s\n function _expandDefaultForm(ast, errors) {\n var children = ast.cases.map(function (c) {\n var expansionResult = expandNodes(c.expression);\n errors.push.apply(errors, __spread(expansionResult.errors));\n if (c.value === 'other') {\n // other is the default case when no values match\n return new Element$1(\"ng-template\", [new Attribute('ngSwitchDefault', '', c.valueSourceSpan)], expansionResult.nodes, c.sourceSpan, c.sourceSpan, c.sourceSpan);\n }\n return new Element$1(\"ng-template\", [new Attribute('ngSwitchCase', \"\" + c.value, c.valueSourceSpan)], expansionResult.nodes, c.sourceSpan, c.sourceSpan, c.sourceSpan);\n });\n var switchAttr = new Attribute('[ngSwitch]', ast.switchValue, ast.switchValueSourceSpan);\n return new Element$1('ng-container', [switchAttr], children, ast.sourceSpan, ast.sourceSpan, ast.sourceSpan);\n }\n\n var _a;\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * A segment of text within the template.\n */\n var TextAst = /** @class */ (function () {\n function TextAst(value, ngContentIndex, sourceSpan) {\n this.value = value;\n this.ngContentIndex = ngContentIndex;\n this.sourceSpan = sourceSpan;\n }\n TextAst.prototype.visit = function (visitor, context) {\n return visitor.visitText(this, context);\n };\n return TextAst;\n }());\n /**\n * A bound expression within the text of a template.\n */\n var BoundTextAst = /** @class */ (function () {\n function BoundTextAst(value, ngContentIndex, sourceSpan) {\n this.value = value;\n this.ngContentIndex = ngContentIndex;\n this.sourceSpan = sourceSpan;\n }\n BoundTextAst.prototype.visit = function (visitor, context) {\n return visitor.visitBoundText(this, context);\n };\n return BoundTextAst;\n }());\n /**\n * A plain attribute on an element.\n */\n var AttrAst = /** @class */ (function () {\n function AttrAst(name, value, sourceSpan) {\n this.name = name;\n this.value = value;\n this.sourceSpan = sourceSpan;\n }\n AttrAst.prototype.visit = function (visitor, context) {\n return visitor.visitAttr(this, context);\n };\n return AttrAst;\n }());\n var BoundPropertyMapping = (_a = {},\n _a[4 /* Animation */] = 4 /* Animation */,\n _a[1 /* Attribute */] = 1 /* Attribute */,\n _a[2 /* Class */] = 2 /* Class */,\n _a[0 /* Property */] = 0 /* Property */,\n _a[3 /* Style */] = 3 /* Style */,\n _a);\n /**\n * A binding for an element property (e.g. `[property]=\"expression\"`) or an animation trigger (e.g.\n * `[@trigger]=\"stateExp\"`)\n */\n var BoundElementPropertyAst = /** @class */ (function () {\n function BoundElementPropertyAst(name,
type, securityContext, value, unit, sourceSpan) {\n this.name = name;\n this.type = type;\n this.securityContext = securityContext;\n this.value = value;\n this.unit = unit;\n this.sourceSpan = sourceSpan;\n this.isAnimation = this.type === 4 /* Animation */;\n }\n BoundElementPropertyAst.fromBoundProperty = function (prop) {\n var type = BoundPropertyMapping[prop.type];\n return new BoundElementPropertyAst(prop.name, type, prop.securityContext, prop.value, prop.unit, prop.sourceSpan);\n };\n BoundElementPropertyAst.prototype.visit = function (visitor, context) {\n return visitor.visitElementProperty(this, context);\n };\n return BoundElementPropertyAst;\n }());\n /**\n * A binding for an element event (e.g. `(event)=\"handler()\"`) or an animation trigger event (e.g.\n * `(@trigger.phase)=\"callback($event)\"`).\n

```
*/\n    var BoundEventAst = /** @class */ (function () {\n        function BoundEventAst(name, target, phase, handler, sourceSpan, handlerSpan) {\n            this.name = name;\n            this.target = target;\n            this.phase = phase;\n            this.handler = handler;\n            this.sourceSpan = sourceSpan;\n            this.handlerSpan = handlerSpan;\n            this.fullName = BoundEventAst.calcFullName(this.name, this.target, this.phase);\n            this.isAnimation = !!this.phase;\n        }\n        BoundEventAst.calcFullName = function (name, target, phase) {\n            if (target) {\n                return target + \":\" + name;\n            }\n            if (phase) {\n                return \"@\" + name + \".\" + phase;\n            }\n            return name;\n        };\n        BoundEventAst.fromParsedEvent = function (event) {\n            var target = event.type === 0 /* Regular */ ? event.targetOrPhase : null;\n            var phase = event.type
 === 1 /* Animation */ ? event.targetOrPhase : null;\n            return new BoundEventAst(event.name, target, phase, event.handler, event.sourceSpan, event.handlerSpan);\n        };\n        BoundEventAst.prototype.visit = function (visitor, context) {\n            return visitor.visitEvent(this, context);\n        };\n        return BoundEventAst;\n    }());\n    /**\n     * A reference declaration on an element (e.g. `let someName=\"expression\"`).\n     */\n    var ReferenceAst = /** @class */ (function () {\n        function ReferenceAst(name, value, originalValue, sourceSpan) {\n            this.name = name;\n            this.value = value;\n            this.originalValue = originalValue;\n            this.sourceSpan = sourceSpan;\n        }\n        ReferenceAst.prototype.visit = function (visitor, context) {\n            return visitor.visitReference(this, context);\n        };\n        return ReferenceAst;\n    }());\n    /**\n     * A variable declaration on a <ng-template>
 (e.g. `var-someName=\"someLocalName\"`).\n     */\n    var VariableAst = /** @class */ (function () {\n        function VariableAst(name, value, sourceSpan, valueSpan) {\n            this.name = name;\n            this.value = value;\n            this.sourceSpan = sourceSpan;\n            this.valueSpan = valueSpan;\n        }\n        VariableAst.fromParsedVariable = function (v) {\n            return new VariableAst(v.name, v.value, v.sourceSpan, v.valueSpan);\n        };\n        VariableAst.prototype.visit = function (visitor, context) {\n            return visitor.visitVariable(this, context);\n        };\n        return VariableAst;\n    }());\n    /**\n     * An element declaration in a template.\n     */\n    var ElementAst = /** @class */ (function () {\n        function ElementAst(name, attrs, inputs, outputs, references, directives, providers, hasViewContainer, queryMatches, children, ngContentIndex, sourceSpan, endSourceSpan) {\n            this.name = name;\n            this.attrs
 = attrs;\n            this.inputs = inputs;\n            this.outputs = outputs;\n            this.references = references;\n            this.directives = directives;\n            this.providers = providers;\n            this.hasViewContainer = hasViewContainer;\n            this.queryMatches = queryMatches;\n            this.children = children;\n            this.ngContentIndex = ngContentIndex;\n            this.sourceSpan = sourceSpan;\n            this.endSourceSpan = endSourceSpan;\n        }\n        ElementAst.prototype.visit = function (visitor, context) {\n            return visitor.visitElement(this, context);\n        };\n        return ElementAst;\n    }());\n    /**\n     * A `<ng-template>` element included in an Angular template.\n     */\n    var EmbeddedTemplateAst = /** @class */ (function () {\n        function EmbeddedTemplateAst(attrs, outputs, references, variables, directives, providers, hasViewContainer, queryMatches, children, ngContentIndex, sourceSpan)
 {\n            this.attrs = attrs;\n            this.outputs = outputs;\n            this.references = references;\n            this.variables = variables;\n            this.directives = directives;\n            this.providers = providers;\n            this.hasViewContainer = hasViewContainer;\n            this.queryMatches = queryMatches;\n            this.children = children;\n            this.ngContentIndex = ngContentIndex;\n            this.sourceSpan = sourceSpan;\n        }\n        EmbeddedTemplateAst.prototype.visit = function (visitor, context) {\n            return visitor.visitEmbeddedTemplate(this, context);\n        };\n        return EmbeddedTemplateAst;\n    }());\n    /**\n     * A directive property with a bound value (e.g. `*ngIf=\"condition\").\n     */\n    var BoundDirectivePropertyAst = /** @class */ (function () {\n        function BoundDirectivePropertyAst(directiveName, templateName, value, sourceSpan) {\n            this.directiveName = directiveName;\n
        this.templateName = templateName;\n            this.value = value;\n            this.sourceSpan = sourceSpan;\n        }\n        BoundDirectivePropertyAst.prototype.visit = function (visitor, context) {\n            return visitor.visitDirectiveProperty(this, context);\n        };\n        return BoundDirectivePropertyAst;\n    }());\n    /**\n
```

```
* A directive declared on an element.\n     */\n    var DirectiveAst = /** @class */ (function () {\n        function DirectiveAst(directive, inputs, hostProperties, hostEvents, contentQueryStartId, sourceSpan) {\n            this.directive = directive;\n            this.inputs = inputs;\n            this.hostProperties = hostProperties;\n            this.hostEvents = hostEvents;\n            this.contentQueryStartId = contentQueryStartId;\n            this.sourceSpan = sourceSpan;\n        }\n        DirectiveAst.prototype.visit = function (visitor, context) {\n            return visitor.visitDirective(this, context);\n        };\n        return DirectiveAst;\n    }());\n    /**\n     * A provider declared on an element\n     */\n    var ProviderAst = /** @class */ (function () {\n        function ProviderAst(token, multiProvider, eager, providers, providerType, lifecycleHooks, sourceSpan, isModule) {\n            this.token = token;\n            this.multiProvider = multiProvider;\n            this.eager = eager;\n            this.providers = providers;\n            this.providerType = providerType;\n            this.lifecycleHooks = lifecycleHooks;\n            this.sourceSpan = sourceSpan;\n            this.isModule = isModule;\n        }\n        ProviderAst.prototype.visit = function (visitor, context) {\n            // No visit method in the visitor for now...\n            return null;\n        };\n        return ProviderAst;\n    }());\n    (function (ProviderAstType) {\n        ProviderAstType[ProviderAstType[\"PublicService\"] = 0] = \"PublicService\";\n        ProviderAstType[ProviderAstType[\"PrivateService\"]\n = 1] = \"PrivateService\";\n        ProviderAstType[ProviderAstType[\"Component\"] = 2] = \"Component\";\n        ProviderAstType[ProviderAstType[\"Directive\"] = 3] = \"Directive\";\n        ProviderAstType[ProviderAstType[\"Builtin\"] = 4] = \"Builtin\";\n    })(exports.ProviderAstType || (exports.ProviderAstType = {}));\n    /**\n     * Position where content is to be projected (instance of `<ng-content>` in a template).\n     */\n    var NgContentAst = /** @class */ (function () {\n        function NgContentAst(index, ngContentIndex, sourceSpan) {\n            this.index = index;\n            this.ngContentIndex = ngContentIndex;\n            this.sourceSpan = sourceSpan;\n        }\n        NgContentAst.prototype.visit = function (visitor, context) {\n            return visitor.visitNgContent(this, context);\n        };\n        return NgContentAst;\n    }());\n    /**\n     * A visitor that accepts each node but doesn't do anything. It is intended to be used\n     * as\n the base class for a visitor that is only interested in a subset of the node types.\n     */\n    var NullTemplateVisitor = /** @class */ (function () {\n        function NullTemplateVisitor() {\n        }\n        NullTemplateVisitor.prototype.visitNgContent = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitEmbeddedTemplate = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitElement = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitReference = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitVariable = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitEvent = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitElementProperty = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitAttr = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitBoundText = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitText\n = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitDirective = function (ast, context) { };\n        NullTemplateVisitor.prototype.visitDirectiveProperty = function (ast, context) { };\n        return NullTemplateVisitor;\n    }());\n    /**\n     * Base class that can be used to build a visitor that visits each node\n     * in an template ast recursively.\n     */\n    var RecursiveTemplateAstVisitor = /** @class */ (function (_super) {\n        __extends(RecursiveTemplateAstVisitor, _super);\n        function RecursiveTemplateAstVisitor() {\n            return _super.call(this) || this;\n        }\n        // Nodes with children\n        RecursiveTemplateAstVisitor.prototype.visitEmbeddedTemplate = function (ast, context) {\n            return this.visitChildren(context, function (visit) {\n                visit(ast.attrs);\n                visit(ast.references);\n                visit(ast.variables);\n                visit(ast.directives);\n                visit(ast.providers);\n                visit(ast.children);\n            });\n        };\n        RecursiveTemplateAstVisitor.prototype.visitElement = function (ast, context) {\n            return this.visitChildren(context, function (visit) {\n                visit(ast.attrs);\n                visit(ast.inputs);\n
```

```
visit(ast.outputs);\n visit(ast.references);\n visit(ast.directives);\n visit(ast.providers);\n visit(ast.children);\n });\n };\n RecursiveTemplateAstVisitor.prototype.visitDirective = function (ast, context) {\n return this.visitChildren(context, function (visit) {\n visit(ast.inputs);\n visit(ast.hostProperties);\n visit(ast.hostEvents);\n });\n };\n RecursiveTemplateAstVisitor.prototype.visitChildren = function (context, cb) {\n var results = [];\n var
 t = this;\n function visit(children) {\n if (children && children.length)\n results.push(templateVisitAll(t, children, context));\n }\n cb(visit);\n return Array.prototype.concat.apply([], results);\n };\n return RecursiveTemplateAstVisitor;\n }(NullTemplateVisitor));\n /**\n * Visit every node in a list of {@link TemplateAst}s with the given {@link TemplateAstVisitor}.\n */\n function templateVisitAll(visitor, asts, context) {\n if (context === void 0) { context = null; }\n var result = [];\n var visit = visitor.visit ?\n function (ast) { return visitor.visit(ast, context) || ast.visit(visitor, context); } :\n function (ast) { return ast.visit(visitor, context); };\n asts.forEach(function (ast) {\n var astResult = visit(ast);\n if (astResult) {\n result.push(astResult);\n }\n });\n return result;\n }\n\n var ProviderError = /** @class */ (function (_super) {\n __extends(ProviderError, _super);\n function ProviderError(message, span) {\n return _super.call(this, span, message) || this;\n }\n return ProviderError;\n }(ParseError));\n var ProviderViewContext = /** @class */ (function () {\n function ProviderViewContext(reflector, component) {\n var _this = this;\n this.reflector = reflector;\n this.component = component;\n this.errors = [];\n this.viewQueries = _getViewQueries(component);\n this.viewProviders = new Map();\n component.viewProviders.forEach(function (provider) {\n if (_this.viewProviders.get(tokenReference(provider.token)) == null) {\n _this.viewProviders.set(tokenReference(provider.token), true);\n }\n });\n }\n return ProviderViewContext;\n }());\n var ProviderElementContext = /** @class */ (function () {\n function ProviderElementContext(viewContext, _parent, _isViewRoot, _directiveAsts, attrs, refs, isTemplate, contentQueryStartId, _sourceSpan) {\n var _this = this;\n this.viewContext = viewContext;\n this._parent = _parent;\n this._isViewRoot = _isViewRoot;\n this._directiveAsts = _directiveAsts;\n this._sourceSpan = _sourceSpan;\n this._transformedProviders = new Map();\n this._seenProviders = new Map();\n this._queriedTokens = new Map();\n this.transformedHasViewContainer = false;\n this._attrs = {};\n attrs.forEach(function (attrAst) { return _this._attrs[attrAst.name] = attrAst.value; });\n var directivesMeta = _directiveAsts.map(function (directiveAst) { return directiveAst.directive; });\n this._allProviders =\n _resolveProvidersFromDirectives(directivesMeta, _sourceSpan, viewContext.errors);\n this._contentQueries = _getContentQueries(contentQueryStartId, directivesMeta);\n Array.from(this._allProviders.values()).forEach(function (provider) {\n _this._addQueryReadsTo(provider.token, provider.token, _this._queriedTokens);\n });\n if (isTemplate) {\n var templateRefId = createTokenForExternalReference(this.viewContext.reflector, Identifiers.TemplateRef);\n this._addQueryReadsTo(templateRefId, templateRefId, this._queriedTokens);\n }\n refs.forEach(function (refAst) {\n var defaultQueryValue = refAst.value ||\n createTokenForExternalReference(_this.viewContext.reflector, Identifiers.ElementRef);\n _this._addQueryReadsTo({ value: refAst.name }, defaultQueryValue, _this._queriedTokens);\n });\n if (this._queriedTokens.get(this.viewContext.reflector.resolveExternalReference(Identifiers.ViewContainerRef))) {\n this.transformedHasViewContainer = true;\n }\n // create the providers that we know are eager first\n Array.from(this._allProviders.values()).forEach(function (provider) {\n var eager = provider.eager || _this._queriedTokens.get(tokenReference(provider.token));\n if (eager) {\n _this._getOrCreateLocalProvider(provider.providerType, provider.token, true);\n }\n });\n }\n
```

```
ProviderElementContext.prototype.afterElement = function () {\n var _this = this;\n // collect lazy providers\n Array.from(this._allProviders.values()).forEach(function (provider) {\n _this._getOrCreateLocalProvider(provider.providerType, provider.token, false);\n });\n };\n Object.defineProperty(ProviderElementContext.prototype, \"transformProviders\", {\n get: function () {\n // Note: Maps keep their insertion order.\n var lazyProviders = [];\n var eagerProviders = [];\n this._transformedProviders.forEach(function (provider) {\n if (provider.eager) {\n eagerProviders.push(provider);\n }\n else {\n lazyProviders.push(provider);\n }\n });\n return lazyProviders.concat(eagerProviders);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ProviderElementContext.prototype, \"transformedDirectiveAsts\", {\n get: function () {\n var sortedProviderTypes = this.transformProviders.map(function (provider) { return provider.token.identifier; });\n var sortedDirectives = this._directiveAsts.slice();\n sortedDirectives.sort(function (dir1, dir2) { return sortedProviderTypes.indexOf(dir1.directive.type) -\n sortedProviderTypes.indexOf(dir2.directive.type); });\n return sortedDirectives;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(ProviderElementContext.prototype, \"queryMatches\", {\n get: function () {\n var allMatches = [];\n this._queriedTokens.forEach(function (matches) {\n allMatches.push.apply(allMatches, __spread(matches));\n });\n return allMatches;\n },\n enumerable: false,\n configurable: true\n });\n ProviderElementContext.prototype._addQueryReadsTo = function (token, defaultValue, queryReadTokens) {\n this._getQueriesFor(token).forEach(function (query) {\n var queryValue = query.meta.read || defaultValue;\n var tokenRef = tokenReference(queryValue);\n var queryMatches = queryReadTokens.get(tokenRef);\n if (!queryMatches) {\n queryMatches = [];\n queryReadTokens.set(tokenRef, queryMatches);\n }\n queryMatches.push({ queryId: query.queryId, value: queryValue });\n });\n };\n ProviderElementContext.prototype._getQueriesFor = function (token) {\n var result = [];\n var currentEl = this;\n var distance = 0;\n var queries;\n while (currentEl !== null) {\n queries = currentEl._contentQueries.get(tokenReference(token));\n if (queries) {\n result.push.apply(result, __spread(queries.filter(function (query) { return query.meta.descendants || distance <= 1; })));\n }\n if (currentEl._directiveAsts.length > 0) {\n distance++;\n }\n currentEl = currentEl._parent;\n }\n queries = this.viewContext.viewQueries.get(tokenReference(token));\n if (queries) {\n result.push.apply(result, __spread(queries));\n }\n return result;\n };\n ProviderElementContext.prototype._getOrCreateLocalProvider = function (requestingProviderType, token, eager) {\n var _this = this;\n var resolvedProvider = this._allProviders.get(tokenReference(token));\n if (!resolvedProvider ||\n ((requestingProviderType === exports.ProviderAstType.Directive ||\n requestingProviderType === exports.ProviderAstType.PublicService) &&\n resolvedProvider.providerType === exports.ProviderAstType.PrivateService) ||\n ((requestingProviderType === exports.ProviderAstType.PrivateService ||\n requestingProviderType === exports.ProviderAstType.PublicService) &&\n resolvedProvider.providerType === exports.ProviderAstType.Builtin)) {\n return null;\n }\n var transformedProviderAst = this._transformedProviders.get(tokenReference(token));\n if (transformedProviderAst) {\n return transformedProviderAst;\n }\n if (this._seenProviders.get(tokenReference(token)) != null) {\n this.viewContext.errors.push(new ProviderError(\"Cannot instantiate cyclic dependency! \" + tokenName(token), this._sourceSpan));\n return null;\n }\n this._seenProviders.set(tokenReference(token), true);\n var transformedProviders = resolvedProvider.providers.map(function (provider) {\n var transformedUseValue = provider.useValue;\n var transformedUseExisting = provider.useExisting;\n var transformedDeps
```

```
 = undefined;\n                if (provider.useExisting != null) {\n                    var existingDiDep =
_this._getDependency(resolvedProvider.providerType, { token: provider.useExisting }, eager);\n                    if
(existingDiDep.token != null) {\n                        transformedUseExisting = existingDiDep.token;\n                    }\n
                else {\n                        transformedUseExisting = null;\n                        transformedUseValue =
existingDiDep.value;\n                    }\n                }\n                else if (provider.useFactory) {\n                    var deps
= provider.deps || provider.useFactory.diDeps;\n                    transformedDeps =\n                        deps.map(function
(dep) { return _this._getDependency(resolvedProvider.providerType, dep, eager); });\n                }\n                else if
(provider.useClass) {\n                    var deps = provider.deps || provider.useClass.diDeps;\n
 transformedDeps =\n                        deps.map(function (dep) { return
_this._getDependency(resolvedProvider.providerType, dep, eager); });\n                }\n                return
_transformProvider(provider, {\n                    useExisting: transformedUseExisting,\n                    useValue:
transformedUseValue,\n                    deps: transformedDeps\n                });\n            });\n
transformedProviderAst =\n                _transformProviderAst(resolvedProvider, { eager: eager, providers:
transformedProviders });\n            this._transformedProviders.set(tokenReference(token),
transformedProviderAst);\n            return transformedProviderAst;\n        };\n
ProviderElementContext.prototype._getLocalDependency = function (requestingProviderType, dep, eager) {\n
 if (eager === void 0) { eager = false; }\n            if (dep.isAttribute) {\n                var attrValue =
this._attrs[dep.token.value];\n                return { isValue:
 true, value: attrValue == null ? null : attrValue };\n            }\n            if (dep.token != null) {\n                // access
builtints\n                if ((requestingProviderType === exports.ProviderAstType.Directive ||\n
requestingProviderType === exports.ProviderAstType.Component)) {\n                    if (tokenReference(dep.token)
===\n                        this.viewContext.reflector.resolveExternalReference(Identifiers.Renderer) ||\n
tokenReference(dep.token) ===\n
this.viewContext.reflector.resolveExternalReference(Identifiers.ElementRef) ||\n
tokenReference(dep.token) ===\n
this.viewContext.reflector.resolveExternalReference(Identifiers.ChangeDetectorRef) ||\n
tokenReference(dep.token) ===\n
this.viewContext.reflector.resolveExternalReference(Identifiers.TemplateRef)) {\n                        return
 dep;\n                    }\n                    if (tokenReference(dep.token) ===\n
this.viewContext.reflector.resolveExternalReference(Identifiers.ViewContainerRef)) {\n
this.transformedHasViewContainer = true;\n                    }\n                }\n                // access the injector\n
if (tokenReference(dep.token) ===\n
this.viewContext.reflector.resolveExternalReference(Identifiers.Injector)) {\n                    return dep;\n                }\n
                // access providers\n                if (this._getOrCreateLocalProvider(requestingProviderType, dep.token,
eager) != null) {\n                    return dep;\n                }\n            }\n            return null;\n        };\n
ProviderElementContext.prototype._getDependency = function (requestingProviderType, dep, eager) {\n            if
(eager === void 0) { eager = false; }\n            var currElement = this;\n
        var currEager = eager;\n            var result = null;\n            if (!dep.isSkipSelf) {\n                result =
this._getLocalDependency(requestingProviderType, dep, eager);\n            }\n            if (dep.isSelf) {\n                if
(!result && dep.isOptional) {\n                    result = { isValue: true, value: null };\n                }\n            }\n
else {\n                // check parent elements\n                while (!result && currElement._parent) {\n                    var
prevElement = currElement;\n                    currElement = currElement._parent;\n                    if
(prevElement._isViewRoot) {\n                        currEager = false;\n                    }\n                    result =
currElement._getLocalDependency(exports.ProviderAstType.PublicService, dep, currEager);\n                }\n
 // check @Host restriction\n                if (!result) {\n                    if (!dep.isHost ||
this.viewContext.component.isHost
 ||\n                        this.viewContext.component.type.reference === tokenReference(dep.token) ||\n
this.viewContext.viewProviders.get(tokenReference(dep.token)) != null) {\n                        result = dep;\n
```

}\n else {\n result = dep.isOptional ? { isValue: true, value: null } : null;\n }\n }\n }\n if (!result) {\n this.viewContext.errors.push(new ProviderError(\"No provider for \" + tokenName(dep.token), this._sourceSpan));\n }\n return result;\n };\n return ProviderElementContext;\n }());\n var NgModuleProviderAnalyzer = /** @class */ (function () {\n function NgModuleProviderAnalyzer(reflector, ngModule, extraProviders, sourceSpan) {\n var _this = this;\n this.reflector = reflector;\n this._transformedProviders = new Map();\n this._seenProviders = new Map();\n this._errors = [];\n this._allProviders = new Map();\n ngModule.transitiveModule.modules.forEach(function (ngModuleType) {\n var ngModuleProvider = { token: { identifier: ngModuleType }, useClass: ngModuleType };\n _resolveProviders([ngModuleProvider], exports.ProviderAstType.PublicService, true, sourceSpan, _this._errors, _this._allProviders, /* isModule */ true);\n });\n _resolveProviders(ngModule.transitiveModule.providers.map(function (entry) { return entry.provider; }).concat(extraProviders), exports.ProviderAstType.PublicService, false, sourceSpan, this._errors, this._allProviders, \n /* isModule */ false);\n }\n NgModuleProviderAnalyzer.prototype.parse = function () {\n var _this = this;\n Array.from(this._allProviders.values()).forEach(function (provider) {\n _this._getOrCreateLocalProvider(provider.token, provider.eager);\n });\n if (this._errors.length > 0) {\n var errorString = this._errors.join('\\n');\n throw new Error(\"Provider parse errors:\\n\" + errorString);\n }\n // Note: Maps keep their insertion order.\n var lazyProviders = [];\n var eagerProviders = [];\n this._transformedProviders.forEach(function (provider) {\n if (provider.eager) {\n eagerProviders.push(provider);\n }\n else {\n lazyProviders.push(provider);\n }\n });\n return lazyProviders.concat(eagerProviders);\n };\n NgModuleProviderAnalyzer.prototype._getOrCreateLocalProvider = function (token, eager) {\n var _this = this;\n var resolvedProvider = this._allProviders.get(tokenReference(token));\n if (!resolvedProvider) {\n return null;\n }\n var transformedProviderAst = this._transformedProviders.get(tokenReference(token));\n if (transformedProviderAst) {\n return transformedProviderAst;\n }\n if (this._seenProviders.get(tokenReference(token)) != null) {\n this._errors.push(new ProviderError(\"Cannot instantiate cyclic dependency! \" + tokenName(token), resolvedProvider.sourceSpan));\n return null;\n }\n this._seenProviders.set(tokenReference(token), true);\n var transformedProviders = resolvedProvider.providers.map(function (provider) {\n var transformedUseValue = provider.useValue;\n var transformedUseExisting = provider.useExisting;\n var transformedDeps = undefined;\n if (provider.useExisting != null) {\n var existingDiDep = _this._getDependency({ token: provider.useExisting }, eager, resolvedProvider.sourceSpan);\n if (existingDiDep.token != null) {\n transformedUseExisting = existingDiDep.token;\n }\n else {\n transformedUseExisting = null;\n transformedUseValue = existingDiDep.value;\n }\n }\n else if (provider.useFactory) {\n var deps = provider.deps || provider.useFactory.diDeps;\n transformedDeps =\n deps.map(function (dep) { return _this._getDependency(dep, eager, resolvedProvider.sourceSpan); });\n }\n else if (provider.useClass) {\n var deps = provider.deps || provider.useClass.diDeps;\n transformedDeps =\n deps.map(function (dep) { return _this._getDependency(dep, eager, resolvedProvider.sourceSpan); });\n }\n return _transformProvider(provider, {\n useExisting: transformedUseExisting,\n useValue: transformedUseValue,\n deps: transformedDeps\n });\n });\n transformedProviderAst =\n _transformProviderAst(resolvedProvider, { eager: eager, providers: transformedProviders });\n this._transformedProviders.set(tokenReference(token),

```
transformedProviderAst);\n            return transformedProviderAst;\n        };\n
NgModuleProviderAnalyzer.prototype._getDependency = function (dep, eager, requestorSourceSpan) {\n            if
(eager === void 0) { eager = false; }\n            var foundLocal = false;\n            if (!dep.isSkipSelf && dep.token !=
null) {\n                // access the injector\n                if (tokenReference(dep.token) ===\n
this.reflector.resolveExternalReference(Identifiers.Injector) ||\n                    tokenReference(dep.token)
 ===\n                        this.reflector.resolveExternalReference(Identifiers.ComponentFactoryResolver)) {\n
 foundLocal = true;\n                    // access providers\n                }\n                else if
(this._getOrCreateLocalProvider(dep.token, eager) != null) {\n                    foundLocal = true;\n                }\n
}\n            return dep;\n        };\n        return NgModuleProviderAnalyzer;\n    }());\n    function
_transformProvider(provider, _a) {\n        var useExisting = _a.useExisting, useValue = _a.useValue, deps =
_a.deps;\n        return {\n            token: provider.token,\n            useClass: provider.useClass,\n            useExisting:
useExisting,\n            useFactory: provider.useFactory,\n            useValue: useValue,\n            deps: deps,\n
multi: provider.multi\n        };\n    }\n    function _transformProviderAst(provider, _a) {\n        var eager = _a.eager,
providers = _a.providers;\n
        return new ProviderAst(provider.token, provider.multiProvider, provider.eager || eager, providers,
provider.providerType, provider.lifecycleHooks, provider.sourceSpan, provider.isModule);\n    }\n    function
_resolveProvidersFromDirectives(directives, sourceSpan, targetErrors) {\n        var providersByToken = new
Map();\n        directives.forEach(function (directive) {\n            var dirProvider = { token: { identifier: directive.type
}, useClass: directive.type };\n            _resolveProviders([dirProvider], directive.isComponent ?
exports.ProviderAstType.Component : exports.ProviderAstType.Directive, true, sourceSpan, targetErrors,
providersByToken, /* isModule */ false);\n        });\n        // Note: directives need to be able to overwrite providers
of a component!\n        var directivesWithComponentFirst = directives.filter(function (dir) { return dir.isComponent;
}).concat(directives.filter(function (dir) { return !dir.isComponent; }));\n
directivesWithComponentFirst.forEach(function
 (directive) {\n            _resolveProviders(directive.providers, exports.ProviderAstType.PublicService, false,
sourceSpan, targetErrors, providersByToken, /* isModule */ false);\n
_resolveProviders(directive.viewProviders, exports.ProviderAstType.PrivateService, false, sourceSpan, targetErrors,
providersByToken, /* isModule */ false);\n        });\n        return providersByToken;\n    }\n    function
_resolveProviders(providers, providerType, eager, sourceSpan, targetErrors, targetProvidersByToken, isModule) {\n
    providers.forEach(function (provider) {\n            var resolvedProvider =
targetProvidersByToken.get(tokenReference(provider.token));\n            if (resolvedProvider != null &&
!!resolvedProvider.multiProvider !== !!provider.multi) {\n                targetErrors.push(new ProviderError(\"Mixing
multi and non multi provider is not possible for token \" + tokenName(resolvedProvider.token), sourceSpan));\n
  }\n
    if (!resolvedProvider) {\n                var lifecycleHooks = provider.token.identifier &&\n
provider.token.identifier.lifecycleHooks ?\n                    provider.token.identifier.lifecycleHooks :\n                    [];\n
            var isUseValue = !(provider.useClass || provider.useExisting || provider.useFactory);\n
resolvedProvider = new ProviderAst(provider.token, !!provider.multi, eager || isUseValue, [provider], providerType,
lifecycleHooks, sourceSpan, isModule);\n                targetProvidersByToken.set(tokenReference(provider.token),
resolvedProvider);\n            }\n            else {\n                if (!provider.multi) {\n
resolvedProvider.providers.length = 0;\n                }\n                resolvedProvider.providers.push(provider);\n
}\n        });\n    }\n    function _getViewQueries(component) {\n        // Note: queries start with id 1 so we can use the
number in a Bloom filter!\n
        var viewQueryId = 1;\n        var viewQueries = new Map();\n        if (component.viewQueries) {\n
component.viewQueries.forEach(function (query) { return _addQueryToTokenMap(viewQueries, { meta: query,
queryId: viewQueryId++ }); });\n        }\n        return viewQueries;\n    }\n    function
_getContentQueries(contentQueryStartId, directives) {\n        var contentQueryId = contentQueryStartId;\n        var
contentQueries = new Map();\n        directives.forEach(function (directive, directiveIndex) {\n            if
```

```
(directive.queries) {\n                directive.queries.forEach(function (query) { return
_addQueryToTokenMap(contentQueries, { meta: query, queryId: contentQueryId++ }); });\n            }\n        });\n
 return contentQueries;\n    }\n    function _addQueryToTokenMap(map, query) {\n
query.meta.selectors.forEach(function (token) {\n            var entry = map.get(tokenReference(token));\n            if
(!entry) {\n                entry = [];\n
                map.set(tokenReference(token), entry);\n            }\n            entry.push(query);\n        });\n    }\n\n    /**\n
* @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by
an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var
StyleWithImports = /** @class */ (function () {\n        function StyleWithImports(style, styleUrls) {\n
this.style = style;\n            this.styleUrls = styleUrls;\n        }\n        return StyleWithImports;\n    }());\n    function
isStyleUrlResolvable(url) {\n        if (url == null || url.length === 0 || url[0] == '/')\n            return false;\n        var
schemeMatch = url.match(URL_WITH_SCHEMA_REGEXP);\n        return schemeMatch === null ||
schemeMatch[1] == 'package' || schemeMatch[1] == 'asset';\n    }\n    /**\n     * Rewrites stylesheets by resolving
and removing the @import urls that\n     *
 are either relative or don't have a `package:` scheme\n     */\n    function extractStyleUrls(resolver, baseUrl,
cssText) {\n        var foundUrls = [];\n        var modifiedCssText =
cssText.replace(CSS_STRIPPABLE_COMMENT_REGEXP, '')\n            .replace(CSS_IMPORT_REGEXP,
function () {\n            var m = [];\n            for (var _i = 0; _i < arguments.length; _i++) {\n                m[_i] =
arguments[_i];\n            }\n            var url = m[1] || m[2];\n            if (!isStyleUrlResolvable(url)) {\n                // Do
not attempt to resolve non-package absolute URLs with URI\n                // scheme\n                return m[0];\n
}\n            foundUrls.push(resolver.resolve(baseUrl, url));\n            return '';\n        });\n        return new
StyleWithImports(modifiedCssText, foundUrls);\n    }\n    var CSS_IMPORT_REGEXP =
/@import\\s+(?:url\\()?\\s*(?:(?:['\"]([^\"]*))|([^;\\)\\s]*))[^;]*;?/g;\n    var
CSS_STRIPPABLE_COMMENT_REGEXP =
/\\/\\*(?!#\\s*(?:sourceURL|sourceMappingURL)=)[\\s\\S]+?\\*\\//g;\n
    var URL_WITH_SCHEMA_REGEXP = /^([^:/?#]+):/;\n\n    var PROPERTY_PARTS_SEPARATOR = '.';\n
var ATTRIBUTE_PREFIX = 'attr';\n    var CLASS_PREFIX = 'class';\n    var STYLE_PREFIX = 'style';\n    var
TEMPLATE_ATTR_PREFIX = '*';\n    var ANIMATE_PROP_PREFIX = 'animate-';\n    /**\n     * Parses bindings
in templates and in the directive host area.\n     */\n    var BindingParser = /** @class */ (function () {\n
function BindingParser(_exprParser, _interpolationConfig, _schemaRegistry, pipes, errors) {\n
this._exprParser = _exprParser;\n            this._interpolationConfig = _interpolationConfig;\n
this._schemaRegistry = _schemaRegistry;\n            this.errors = errors;\n            this.pipesByName = null;\n
this._usedPipes = new Map();\n            // When the `pipes` parameter is `null`, do not check for used pipes\n
// This is used in IVY when we might not know the available pipes
 at compile time\n            if (pipes) {\n                var pipesByName_1 = new Map();\n
pipes.forEach(function (pipe) { return pipesByName_1.set(pipe.name, pipe); });\n                this.pipesByName =
pipesByName_1;\n            }\n        }\n        Object.defineProperty(BindingParser.prototype, \"interpolationConfig\",
{\n            get: function () {\n                return this._interpolationConfig;\n            },\n            enumerable: false,\n
    configurable: true\n        });\n        BindingParser.prototype.getUsedPipes = function () {\n            return
Array.from(this._usedPipes.values());\n        };\n        BindingParser.prototype.createBoundHostProperties =
function (dirMeta, sourceSpan) {\n            var _this = this;\n            if (dirMeta.hostProperties) {\n                var
boundProps_1 = [];\n                Object.keys(dirMeta.hostProperties).forEach(function (propName) {\n
var expression = dirMeta.hostProperties[propName];\n
                if (typeof expression === 'string') {\n                    _this.parsePropertyBinding(propName, expression,
true, sourceSpan, sourceSpan.start.offset, undefined, [], \n                    // Use the `sourceSpan` for  `keySpan`.
This isn't really accurate, but neither is the\n                    // sourceSpan, as it represents the sourceSpan of the host
itself rather than the\n                    // source of the host binding (which doesn't exist in the template). Regardless,\n
                    // neither of these values are used in Ivy but are only here to satisfy the function\n                    //
```

signature. This should likely be refactored in the future so that `sourceSpan`\n // isn't being used inaccurately.\n boundProps_1, sourceSpan);\n }\n else {\n _this._reportError(\"Value of the host property binding \\\"\"
+ propName + \"\\\" needs to be a string representing an expression but got \\\"\" + expression + \"\\\" (\" + typeof expression + \")\", sourceSpan);\n }\n });\n return boundProps_1;\n }\n return null;\n };\n BindingParser.prototype.createDirectiveHostPropertyAsts = function (dirMeta, elementSelector, sourceSpan) {\n var _this = this;\n var boundProps = this.createBoundHostProperties(dirMeta, sourceSpan);\n return boundProps &&\n boundProps.map(function (prop) { return _this.createBoundElementProperty(elementSelector, prop); });\n };\n BindingParser.prototype.createDirectiveHostEventAsts = function (dirMeta, sourceSpan) {\n var _this = this;\n if (dirMeta.hostListeners) {\n var targetEvents_1 = [];\n Object.keys(dirMeta.hostListeners).forEach(function (propName) {\n var expression = dirMeta.hostListeners[propName];\n if (typeof expression === 'string') {\n // TODO: pass a more accurate handlerSpan for this event.\n _this.parseEvent(propName, expression, sourceSpan, sourceSpan, [], targetEvents_1);\n }\n else {\n _this._reportError(\"Value of the host listener \\\"\" + propName + \"\\\" needs to be a string representing an expression but got \\\"\" + expression + \"\\\" (\" + typeof expression + \")\", sourceSpan);\n }\n });\n return targetEvents_1;\n }\n return null;\n };\n BindingParser.prototype.parseInterpolation = function (value, sourceSpan) {\n var sourceInfo = sourceSpan.start.toString();\n try {\n var ast = this._exprParser.parseInterpolation(value, sourceInfo, sourceSpan.start.offset, this._interpolationConfig);\n if (ast)\n this._reportExpressionParserErrors(ast.errors, sourceSpan);\n this._checkPipes(ast, sourceSpan);\n return ast;\n }\n catch (e) {\n this._reportError(\"\" + e, sourceSpan);\n return this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, sourceSpan.start.offset);\n }\n };\n /**\n * Similar to `parseInterpolation`, but treats the provided string as a single expression\n * element that would normally appear within the interpolation prefix and suffix (`{{` and `}}`).\n * This is used for parsing the switch expression in ICUs.\n */\n BindingParser.prototype.parseInterpolationExpression = function (expression, sourceSpan) {\n var sourceInfo = sourceSpan.start.toString();\n try {\n var ast = this._exprParser.parseInterpolationExpression(expression,
sourceInfo, sourceSpan.start.offset);\n if (ast)\n this._reportExpressionParserErrors(ast.errors, sourceSpan);\n this._checkPipes(ast, sourceSpan);\n return ast;\n }\n catch (e) {\n this._reportError(\"\" + e, sourceSpan);\n return this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, sourceSpan.start.offset);\n }\n };\n /**\n * Parses the bindings in a microsyntax expression, and converts them to\n * `ParsedProperty` or `ParsedVariable`.\n *\n * @param tplKey template binding name\n * @param tplValue template binding value\n * @param sourceSpan span of template binding relative to entire the template\n * @param absoluteValueOffset start of the tplValue relative to the entire template\n * @param targetMatchableAttrs potential attributes to match in the template\n * @param
targetProps target property bindings in the template\n * @param targetVars target variables in the template\n */\n BindingParser.prototype.parseInlineTemplateBinding = function (tplKey, tplValue, sourceSpan, absoluteValueOffset, targetMatchableAttrs, targetProps, targetVars, isIvyAst) {\n var e_1, _a;\n var absoluteKeyOffset = sourceSpan.start.offset + TEMPLATE_ATTR_PREFIX.length;\n var bindings = this._parseTemplateBindings(tplKey, tplValue, sourceSpan, absoluteKeyOffset, absoluteValueOffset);\n try {\n for (var bindings_1 = __values(bindings), bindings_1_1 = bindings_1.next(); !bindings_1_1.done; bindings_1_1 = bindings_1.next()) {\n var binding = bindings_1_1.value;\n // sourceSpan is for the entire HTML attribute. bindingSpan is for a particular\n // binding within the microsyntax expression so it's more narrow than sourceSpan.\n

```
var bindingSpan = moveParseSourceSpan(sourceSpan, binding.sourceSpan);\n var key = binding.key.source;\n var keySpan = moveParseSourceSpan(sourceSpan, binding.key.span);\n if (binding instanceof VariableBinding) {\n var value = binding.value ? binding.value.source : '$implicit';\n var valueSpan = binding.value ? moveParseSourceSpan(sourceSpan, binding.value.span) : undefined;\n targetVars.push(new ParsedVariable(key, value, bindingSpan, keySpan, valueSpan));\n }\n else if (binding.value) {\n var srcSpan = isIvyAst ? bindingSpan : sourceSpan;\n var valueSpan = moveParseSourceSpan(sourceSpan, binding.value.ast.sourceSpan);\n this._parsePropertyAst(key, binding.value, srcSpan, keySpan, valueSpan, targetMatchableAttrs, targetProps);\n }\n else {\n targetMatchableAttrs.push([key, " /* value */]);\n // Since this is a literal attribute with no RHS, source span should be\n // just the key span.\n this.parseLiteralAttr(key, null /* value */, keySpan, absoluteValueOffset, undefined /* valueSpan */, targetMatchableAttrs, targetProps, keySpan);\n }\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (bindings_1_1 && !bindings_1_1.done && (_a = bindings_1.return)) _a.call(bindings_1);\n }\n finally { if (e_1) throw e_1.error; }\n }\n };\n /**\n * Parses the bindings in a microsyntax expression, e.g.\n * ```\n * <tag *tplKey=\"let value1 = prop; let value2 = localVar\">\n * ```\n *\n *
@param tplKey template binding name\n * @param tplValue template binding value\n * @param sourceSpan span of template binding relative to entire the template\n * @param absoluteKeyOffset start of the `tplKey`\n * @param absoluteValueOffset start of the `tplValue`\n */\n BindingParser.prototype._parseTemplateBindings = function (tplKey, tplValue, sourceSpan, absoluteKeyOffset, absoluteValueOffset) {\n var _this = this;\n var sourceInfo = sourceSpan.start.toString();\n try {\n var bindingsResult = this._exprParser.parseTemplateBindings(tplKey, tplValue, sourceInfo, absoluteKeyOffset, absoluteValueOffset);\n this._reportExpressionParserErrors(bindingsResult.errors, sourceSpan);\n bindingsResult.templateBindings.forEach(function (binding) {\n if (binding.value instanceof ASTWithSource) {\n _this._checkPipes(binding.value, sourceSpan);\n }\n });\n bindingsResult.warnings.forEach(function (warning) {\n _this._reportError(warning, sourceSpan, exports.ParseErrorLevel.WARNING);\n });\n return bindingsResult.templateBindings;\n }\n catch (e) {\n this._reportError(\"\" + e, sourceSpan);\n return [];\n }\n };\n BindingParser.prototype.parseLiteralAttr = function (name, value, sourceSpan, absoluteOffset, valueSpan, targetMatchableAttrs, \n // TODO(atscott): keySpan is only optional here so VE template parser implementation does not\n // have to change This should be required when VE is removed.\n targetProps, keySpan) {\n if (isAnimationLabel(name)) {\n name = name.substring(1);\n if (value) {\n this._reportError(\"Assigning animation triggers via @prop=\\\"exp\\\"
attributes with an expression is invalid.\" +\n \" Use property bindings (e.g. [@prop]=\\\"exp\\\") or use an attribute without a value (e.g. @prop) instead.\", sourceSpan, exports.ParseErrorLevel.ERROR);\n }\n this._parseAnimation(name, value, sourceSpan, absoluteOffset, keySpan, valueSpan, targetMatchableAttrs, targetProps);\n }\n else {\n targetProps.push(new ParsedProperty(name, this._exprParser.wrapLiteralPrimitive(value, '', absoluteOffset), exports.ParsedPropertyType.LITERAL_ATTR, sourceSpan, keySpan, valueSpan));\n }\n };\n BindingParser.prototype.parsePropertyBinding = function (name, expression, isHost, sourceSpan, absoluteOffset, valueSpan, \n // TODO(atscott): keySpan is only optional here so VE template parser implementation does not\n // have to change This should be required when VE is removed.\n targetMatchableAttrs, targetProps, keySpan)
{\n if (name.length === 0) {\n this._reportError(\"Property name is missing in binding\", sourceSpan);\n }\n var isAnimationProp = false;\n if (name.startsWith(ANIMATE_PROP_PREFIX)) {\n isAnimationProp = true;\n name =
```

```
name.substring(ANIMATE_PROP_PREFIX.length);\n }\n else if (isAnimationLabel(name)) {\n isAnimationProp = true;\n name = name.substring(1);\n }\n if (isAnimationProp) {\n this._parseAnimation(name, expression, sourceSpan, absoluteOffset, keySpan, valueSpan, targetMatchableAttrs, targetProps);\n }\n else {\n this._parsePropertyAst(name, this._parseBinding(expression, isHost, valueSpan || sourceSpan, absoluteOffset), sourceSpan, keySpan, valueSpan, targetMatchableAttrs, targetProps);\n }\n };\n BindingParser.prototype.parsePropertyInterpolation = function (name, value, sourceSpan, valueSpan, targetMatchableAttrs, \n // TODO(atscott): keySpan is only optional here so VE template parser implementation does not\n // have to change This should be required when VE is removed.\n targetProps, keySpan) {\n var expr = this.parseInterpolation(value, valueSpan || sourceSpan);\n if (expr) {\n this._parsePropertyAst(name, expr, sourceSpan, keySpan, valueSpan, targetMatchableAttrs, targetProps);\n return true;\n }\n return false;\n };\n BindingParser.prototype._parsePropertyAst = function (name, ast, sourceSpan, keySpan, valueSpan, targetMatchableAttrs, targetProps) {\n targetMatchableAttrs.push([name, ast.source]);\n targetProps.push(new ParsedProperty(name, ast, exports.ParsedPropertyType.DEFAULT, sourceSpan, keySpan, valueSpan));\n };\n BindingParser.prototype._parseAnimation = function (name, expression, sourceSpan, absoluteOffset, keySpan, valueSpan, targetMatchableAttrs, targetProps) {\n if (name.length === 0) {\n this._reportError('Animation trigger is missing', sourceSpan);\n }\n // This will occur when a @trigger is not paired with an expression.\n // For animations it is valid to not have an expression since */void\n // states will be applied by angular when the element is attached/detached\n var ast = this._parseBinding(expression || 'undefined', false, valueSpan || sourceSpan, absoluteOffset);\n targetMatchableAttrs.push([name, ast.source]);\n targetProps.push(new ParsedProperty(name, ast, exports.ParsedPropertyType.ANIMATION, sourceSpan, keySpan, valueSpan));\n };\n BindingParser.prototype._parseBinding = function (value, isHostBinding, sourceSpan, absoluteOffset) {\n var sourceInfo = (sourceSpan && sourceSpan.start || '(unknown)').toString();\n try {\n var ast = isHostBinding ?\n this._exprParser.parseSimpleBinding(value, sourceInfo, absoluteOffset, this._interpolationConfig) :\n this._exprParser.parseBinding(value, sourceInfo, absoluteOffset, this._interpolationConfig);\n if (ast)\n this._reportExpressionParserErrors(ast.errors, sourceSpan);\n this._checkPipes(ast, sourceSpan);\n return ast;\n }\n catch (e) {\n this._reportError(\"\"\" + e, sourceSpan);\n return this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, absoluteOffset);\n }\n };\n BindingParser.prototype.createBoundElementProperty = function (elementSelector, boundProp, skipValidation, mapPropertyName) {\n if (skipValidation === void 0) { skipValidation = false; }\n if (mapPropertyName === void 0) { mapPropertyName = true; }\n if (boundProp.isAnimation) {\n return new BoundElementProperty(boundProp.name, 4 /* Animation */, SecurityContext.NONE, boundProp.expression, null, boundProp.sourceSpan, boundProp.keySpan, boundProp.valueSpan);\n }\n var unit = null;\n var bindingType = undefined;\n var boundPropertyName = null;\n var parts = boundProp.name.split(PROPERTY_PARTS_SEPARATOR);\n var securityContexts = undefined;\n // Check for special cases (prefix style, attr, class)\n if (parts.length > 1) {\n if (parts[0] == ATTRIBUTE_PREFIX) {\n boundPropertyName = parts.slice(1).join(PROPERTY_PARTS_SEPARATOR);\n if (!skipValidation) {\n this._validatePropertyOrAttributeName(boundPropertyName, boundProp.sourceSpan, true);\n }\n securityContexts = calcPossibleSecurityContexts(this._schemaRegistry, elementSelector, boundPropertyName, true);\n var nsSeparatorIdx = boundPropertyName.indexOf(':');\n if (nsSeparatorIdx > -1) {\n var ns = boundPropertyName.substring(0, nsSeparatorIdx);\n var name = boundPropertyName.substring(nsSeparatorIdx + 1);\n boundPropertyName = mergeNsAndName(ns, name);\n }\n bindingType = 1 /* Attribute */;\n }\n else if (parts[0] == CLASS_PREFIX) {\n boundPropertyName = parts[1];\n bindingType = 2 /* Class */;\n
```

```
securityContexts = [SecurityContext.NONE];\n }\n else if (parts[0] == STYLE_PREFIX) {\n unit = parts.length > 2 ? parts[2] : null;\n boundPropertyName = parts[1];\n bindingType = 3 /* Style */;\n securityContexts = [SecurityContext.STYLE];\n }\n }\n // If not a special case, use the full property name\n if (boundPropertyName === null) {\n var mappedPropName = this._schemaRegistry.getMappedPropName(boundProp.name);\n boundPropertyName = mapPropertyName ? mappedPropName : boundProp.name;\n securityContexts = calcPossibleSecurityContexts(this._schemaRegistry, elementSelector, mappedPropName, false);\n bindingType = 0 /* Property */;\n if (!skipValidation) {\n this._validatePropertyOrAttributeName(mappedPropName, boundProp.sourceSpan, false);\n }\n }\n return new BoundElementProperty(boundPropertyName, bindingType, securityContexts[0], boundProp.expression, unit, boundProp.sourceSpan, boundProp.keySpan, boundProp.valueSpan);\n };\n BindingParser.prototype.parseEvent = function (name, expression, sourceSpan, handlerSpan, targetMatchableAttrs, targetEvents) {\n if (name.length === 0) {\n this._reportError(\"Event name is missing in binding\", sourceSpan);\n }\n if (isAnimationLabel(name)) {\n name = name.substr(1);\n this._parseAnimationEvent(name, expression, sourceSpan, handlerSpan, targetEvents);\n }\n else {\n this._parseRegularEvent(name, expression, sourceSpan, handlerSpan, targetMatchableAttrs, targetEvents);\n }\n };\n BindingParser.prototype.calcPossibleSecurityContexts = function (selector, propName, isAttribute) {\n var prop = this._schemaRegistry.getMappedPropName(propName);\n return calcPossibleSecurityContexts(this._schemaRegistry, selector, prop, isAttribute);\n };\n BindingParser.prototype._parseAnimationEvent = function (name, expression, sourceSpan, handlerSpan, targetEvents) {\n var matches = splitAtPeriod(name, [name, '']);\n var eventName = matches[0];\n var phase = matches[1].toLowerCase();\n if (phase) {\n switch (phase) {\n case 'start':\n case 'done':\n var ast = this._parseAction(expression, handlerSpan);\n targetEvents.push(new ParsedEvent(eventName, phase, 1 /* Animation */, ast, sourceSpan, handlerSpan));\n break;\n default:\n this._reportError(\"The provided animation output phase value \\\"\" + phase + \"\\\" for \\\"@\" + eventName + \"\\\" is not supported (use start or done)\", sourceSpan);\n break;\n }\n }\n else {\n this._reportError(\"The animation trigger output event (@\" + eventName + \") is missing its phase value name (start or done are currently supported)\", sourceSpan);\n }\n };\n BindingParser.prototype._parseRegularEvent = function (name, expression, sourceSpan, handlerSpan, targetMatchableAttrs, targetEvents) {\n // long format: 'target: eventName'\n var _a = __read(splitAtColon(name, [null, name]), 2), target = _a[0], eventName = _a[1];\n var ast = this._parseAction(expression, handlerSpan);\n targetMatchableAttrs.push([name, ast.source]);\n targetEvents.push(new ParsedEvent(eventName, target, 0 /* Regular */, ast, sourceSpan, handlerSpan));\n // Don't detect directives for event names for now,\n // so don't add the event name to the matchableAttrs\n };\n BindingParser.prototype._parseAction = function (value, sourceSpan) {\n var sourceInfo = (sourceSpan && sourceSpan.start || '(unknown)').toString();\n var absoluteOffset = (sourceSpan && sourceSpan.start) ? sourceSpan.start.offset : 0;\n try {\n var ast = this._exprParser.parseAction(value, sourceInfo, absoluteOffset, this._interpolationConfig);\n if (ast) {\n this._reportExpressionParserErrors(ast.errors, sourceSpan);\n }\n if (!ast || ast.ast instanceof EmptyExpr) {\n this._reportError(\"Empty expressions are not allowed\", sourceSpan);\n return this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, absoluteOffset);\n }\n this._checkPipes(ast, sourceSpan);\n return ast;\n }\n catch (e) {\n this._reportError(\"\" + e, sourceSpan);\n return this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, absoluteOffset);\n }\n };\n BindingParser.prototype._reportError = function (message, sourceSpan, level) {\n if (level === void 0) { level = exports.ParseErrorLevel.ERROR; }\n
```

this.errors.push(new
ParseError(sourceSpan, message, level));\n };\n BindingParser.prototype._reportExpressionParserErrors =
function (errors, sourceSpan) {\n var e_2, _a;\n try {\n for (var errors_1 = __values(errors),
errors_1_1 = errors_1.next(); !errors_1_1.done; errors_1_1 = errors_1.next()) {\n var error =
errors_1_1.value;\n this._reportError(error.message, sourceSpan);\n }\n }\n catch
(e_2_1) { e_2 = { error: e_2_1 }; }\n finally {\n try {\n if (errors_1_1 &&
!errors_1_1.done && (_a = errors_1.return)) _a.call(errors_1);\n }\n finally { if (e_2) throw
e_2.error; }\n }\n };\n // Make sure all the used pipes are known in `this.pipesByName`\n
BindingParser.prototype._checkPipes = function (ast, sourceSpan) {\n var _this = this;\n if
(ast && this.pipesByName) {\n var collector = new PipeCollector();\n ast.visit(collector);\n
collector.pipes.forEach(function (ast, pipeName) {\n var pipeMeta =
_this.pipesByName.get(pipeName);\n if (!pipeMeta) {\n _this._reportError(\"The pipe '\"
+ pipeName + \"' could not be found\", new ParseSourceSpan(sourceSpan.start.moveBy(ast.span.start),
sourceSpan.start.moveBy(ast.span.end)));\n }\n else {\n
_this._usedPipes.set(pipeName, pipeMeta);\n }\n });\n }\n };\n /**\n *
@param propName the name of the property / attribute\n * @param sourceSpan\n * @param isAttr true
when binding to an attribute\n */\n BindingParser.prototype._validatePropertyOrAttributeName = function
(propName, sourceSpan, isAttr) {\n var report
= isAttr ? this._schemaRegistry.validateAttribute(propName) :\n
this._schemaRegistry.validateProperty(propName);\n if (report.error) {\n
this._reportError(report.msg, sourceSpan, exports.ParseErrorLevel.ERROR);\n }\n };\n return
BindingParser;\n }());\n var PipeCollector = /** @class */ (function (_super) {\n __extends(PipeCollector,
_super);\n function PipeCollector() {\n var _this = _super.apply(this, __spread(arguments)) || this;\n
_this.pipes = new Map();\n return _this;\n }\n PipeCollector.prototype.visitPipe = function (ast,
context) {\n this.pipes.set(ast.name, ast);\n ast.exp.visit(this);\n this.visitAll(ast.args, context);\n
return null;\n };\n return PipeCollector;\n }(RecursiveAstVisitor$1));\n function
isAnimationLabel(name) {\n return name[0] == '@';\n }\n function
calcPossibleSecurityContexts(registry, selector, propName, isAttribute) {\n var ctxs = [];\n
CssSelector.parse(selector).forEach(function (selector) {\n var elementNames = selector.element ?
[selector.element] : registry.allKnownElementNames();\n var notElementNames = new
Set(selector.notSelectors.filter(function (selector) { return selector.isElementSelector(); })\n .map(function
(selector) { return selector.element; }));\n var possibleElementNames = elementNames.filter(function
(elementName) { return !notElementNames.has(elementName); });\n ctxs.push.apply(ctxs,
__spread(possibleElementNames.map(function (elementName) { return registry.securityContext(elementName,
propName, isAttribute); })));\n });\n return ctxs.length === 0 ? [SecurityContext.NONE] : Array.from(new
Set(ctxs)).sort();\n }\n /**\n * Compute a new ParseSourceSpan based off an original `sourceSpan` by using\n
* absolute
offsets from the specified `absoluteSpan`.\n *\n * @param sourceSpan original source span\n * @param
absoluteSpan absolute source span to move to\n */\n function moveParseSourceSpan(sourceSpan,
absoluteSpan) {\n // The difference of two absolute offsets provide the relative offset\n var startDiff =
absoluteSpan.start - sourceSpan.start.offset;\n var endDiff = absoluteSpan.end - sourceSpan.end.offset;\n
return new ParseSourceSpan(sourceSpan.start.moveBy(startDiff), sourceSpan.end.moveBy(endDiff),
sourceSpan.fullStart.moveBy(startDiff), sourceSpan.details);\n }\n\n /**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can
be\n * found in the LICENSE file at https://angular.io/license\n */\n var NG_CONTENT_SELECT_ATTR =
'select';\n var LINK_ELEMENT = 'link';\n var LINK_STYLE_REL_ATTR = 'rel';\n var
LINK_STYLE_HREF_ATTR

```
 = 'href';\n    var LINK_STYLE_REL_VALUE = 'stylesheet';\n    var STYLE_ELEMENT = 'style';\n    var
SCRIPT_ELEMENT = 'script';\n    var NG_NON_BINDABLE_ATTR = 'ngNonBindable';\n    var
NG_PROJECT_AS = 'ngProjectAs';\n    function preparseElement(ast) {\n        var selectAttr = null;\n        var
hrefAttr = null;\n        var relAttr = null;\n        var nonBindable = false;\n        var projectAs = '';\n
ast.attrs.forEach(function (attr) {\n            var lcAttrName = attr.name.toLowerCase();\n            if (lcAttrName ==
NG_CONTENT_SELECT_ATTR) {\n                selectAttr = attr.value;\n            }\n            else if (lcAttrName ==
LINK_STYLE_HREF_ATTR) {\n                hrefAttr = attr.value;\n            }\n            else if (lcAttrName ==
LINK_STYLE_REL_ATTR) {\n                relAttr = attr.value;\n            }\n            else if (attr.name ==
NG_NON_BINDABLE_ATTR) {\n                nonBindable = true;\n            }\n            else if (attr.name ==
NG_PROJECT_AS)
 {\n                if (attr.value.length > 0) {\n                    projectAs = attr.value;\n                }\n            }\n        });\n
selectAttr = normalizeNgContentSelect(selectAttr);\n        var nodeName = ast.name.toLowerCase();\n        var type
= PreparsedElementType.OTHER;\n        if (isNgContent(nodeName)) {\n            type =
PreparsedElementType.NG_CONTENT;\n        }\n        else if (nodeName == STYLE_ELEMENT) {\n            type
= PreparsedElementType.STYLE;\n        }\n        else if (nodeName == SCRIPT_ELEMENT) {\n            type =
PreparsedElementType.SCRIPT;\n        }\n        else if (nodeName == LINK_ELEMENT && relAttr ==
LINK_STYLE_REL_VALUE) {\n            type = PreparsedElementType.STYLESHEET;\n        }\n        return new
PreparsedElement(type, selectAttr, hrefAttr, nonBindable, projectAs);\n    }\n    var PreparsedElementType;\n
(function (PreparsedElementType) {\n        PreparsedElementType[PreparsedElementType[\"NG_CONTENT\"]
 = 0] = \"NG_CONTENT\";\n        PreparsedElementType[PreparsedElementType[\"STYLE\"] = 1] = \"STYLE\";\n
    PreparsedElementType[PreparsedElementType[\"STYLESHEET\"] = 2] = \"STYLESHEET\";\n
PreparsedElementType[PreparsedElementType[\"SCRIPT\"] = 3] = \"SCRIPT\";\n
PreparsedElementType[PreparsedElementType[\"OTHER\"] = 4] = \"OTHER\";\n    })(PreparsedElementType ||
(PreparsedElementType = {}));\n    var PreparsedElement = /** @class */ (function () {\n        function
PreparsedElement(type, selectAttr, hrefAttr, nonBindable, projectAs) {\n            this.type = type;\n
this.selectAttr = selectAttr;\n            this.hrefAttr = hrefAttr;\n            this.nonBindable = nonBindable;\n
this.projectAs = projectAs;\n        }\n        return PreparsedElement;\n    }());\n    function
normalizeNgContentSelect(selectAttr) {\n        if (selectAttr === null || selectAttr.length === 0) {\n            return
'*';\n        }\n        return selectAttr;\n
    }\n\n    var BIND_NAME_REGEXP = /^(?:(?:(?:(?:bind-)|(let-)|(ref-|#)|(on-)|(bindon-
)|(@))(.*))|\\[\\(([^\\)]+)\\)\\]|\\[([^\\]]+)\\]|\\(([^\\)]+)\\))$/;\n    // Group 1 = \"bind-\"\n    var KW_BIND_IDX = 1;\n
 // Group 2 = \"let-\"\n    var KW_LET_IDX = 2;\n    // Group 3 = \"ref-/#\"\n    var KW_REF_IDX = 3;\n    // Group
4 = \"on-\"\n    var KW_ON_IDX = 4;\n    // Group 5 = \"bindon-\"\n    var KW_BINDON_IDX = 5;\n    // Group 6
= \"@\"\n    var KW_AT_IDX = 6;\n    // Group 7 = the identifier after \"bind-\", \"let-\", \"ref-/#\", \"on-\", \"bindon-
\" or \"@\"\n    var IDENT_KW_IDX = 7;\n    // Group 8 = identifier inside [()]\n    var
IDENT_BANANA_BOX_IDX = 8;\n    // Group 9 = identifier inside []\n    var IDENT_PROPERTY_IDX = 9;\n
// Group 10 = identifier inside ()\n    var IDENT_EVENT_IDX = 10;\n    var TEMPLATE_ATTR_PREFIX$1 =
'*';\n    var CLASS_ATTR = 'class';\n    var _TEXT_CSS_SELECTOR;\n    function TEXT_CSS_SELECTOR() {\n
    if (!_TEXT_CSS_SELECTOR) {\n
    _TEXT_CSS_SELECTOR = CssSelector.parse('*')[0];\n        }\n        return _TEXT_CSS_SELECTOR;\n    }\n
var TemplateParseError = /** @class */ (function (_super) {\n        __extends(TemplateParseError, _super);\n
function TemplateParseError(message, span, level) {\n            return _super.call(this, span, message, level) || this;\n
    }\n        return TemplateParseError;\n    }(ParseError));\n    var TemplateParseResult = /** @class */ (function ()
{\n        function TemplateParseResult(templateAst, usedPipes, errors) {\n            this.templateAst = templateAst;\n
        this.usedPipes = usedPipes;\n            this.errors = errors;\n        }\n        return TemplateParseResult;\n    }());\n
var TemplateParser = /** @class */ (function () {\n        function TemplateParser(_config, _reflector, _exprParser,
_schemaRegistry, _htmlParser, _console, transforms) {\n            this._config = _config;\n            this._reflector =
_reflector;\n            this._exprParser
```

```
= _exprParser;\n this._schemaRegistry = _schemaRegistry;\n this._htmlParser = _htmlParser;\n
this._console = _console;\n this.transforms = transforms;\n }\n
Object.defineProperty(TemplateParser.prototype, \"expressionParser\", {\n get: function () {\n
return this._exprParser;\n },\n enumerable: false,\n configurable: true\n });\n
TemplateParser.prototype.parse = function (component, template, directives, pipes, schemas, templateUrl,
preserveWhitespaces) {\n var _a;\n var result = this.tryParse(component, template, directives, pipes,
schemas, templateUrl, preserveWhitespaces);\n var warnings = result.errors.filter(function (error) { return
error.level === exports.ParseErrorLevel.WARNING; });\n var errors = result.errors.filter(function (error) {
return error.level === exports.ParseErrorLevel.ERROR; });\n
if (warnings.length > 0) {\n (_a = this._console) === null || _a === void 0 ? void 0 :
_a.warn(\"Template parse warnings:\\n\\n\" + warnings.join('\\n'));\n }\n if (errors.length > 0) {\n
var errorString = errors.join('\\n');\n throw syntaxError(\"Template parse errors:\\n\\n\" + errorString,
errors);\n }\n return { template: result.templateAst, pipes: result.usedPipes };\n };\n
TemplateParser.prototype.tryParse = function (component, template, directives, pipes, schemas, templateUrl,
preserveWhitespaces) {\n var htmlParseResult = typeof template === 'string' ?\n
this._htmlParser.parse(template, templateUrl, {\n tokenizeExpansionForms: true,\n
interpolationConfig: this.getInterpolationConfig(component)\n }) :\n template;\n if
(!preserveWhitespaces) {\n htmlParseResult
= removeWhitespaces(htmlParseResult);\n }\n return
this.tryParseHtml(this.expandHtml(htmlParseResult), component, directives, pipes, schemas);\n };\n
TemplateParser.prototype.tryParseHtml = function (htmlAstWithErrors, component, directives, pipes, schemas) {\n
var result;\n var errors = htmlAstWithErrors.errors;\n var usedPipes = [];\n if
(htmlAstWithErrors.rootNodes.length > 0) {\n var uniqDirectives =
removeSummaryDuplicates(directives);\n var uniqPipes = removeSummaryDuplicates(pipes);\n
var providerViewContext = new ProviderViewContext(this._reflector, component);\n var
interpolationConfig = undefined;\n if (component.template && component.template.interpolation) {\n
interpolationConfig = {\n start: component.template.interpolation[0],\n end:
component.template.interpolation[1]\n
};\n }\n var bindingParser = new BindingParser(this._exprParser,
interpolationConfig, this._schemaRegistry, uniqPipes, errors);\n var parseVisitor = new
TemplateParseVisitor(this._reflector, this._config, providerViewContext, uniqDirectives, bindingParser,
this._schemaRegistry, schemas, errors);\n result = visitAll$1(parseVisitor, htmlAstWithErrors.rootNodes,
EMPTY_ELEMENT_CONTEXT);\n errors.push.apply(errors, __spread(providerViewContext.errors));\n
usedPipes.push.apply(usedPipes, __spread(bindingParser.getUsedPipes()));\n }\n else {\n
result = [];\n }\n this._assertNoReferenceDuplicationOnTemplate(result, errors);\n if
(errors.length > 0) {\n return new TemplateParseResult(result, usedPipes, errors);\n }\n if
(this.transforms) {\n
this.transforms.forEach(function (transform) {\n result = templateVisitAll(transform, result);\n
});\n }\n return new TemplateParseResult(result, usedPipes, errors);\n };\n
TemplateParser.prototype.expandHtml = function (htmlAstWithErrors, forced) {\n if (forced === void 0) {
forced = false; }\n var errors = htmlAstWithErrors.errors;\n if (errors.length == 0 || forced) {\n
// Transform ICU messages to angular directives\n var expandedHtmlAst =
expandNodes(htmlAstWithErrors.rootNodes);\n errors.push.apply(errors,
__spread(expandedHtmlAst.errors));\n htmlAstWithErrors = new
ParseTreeResult(expandedHtmlAst.nodes, errors);\n }\n return htmlAstWithErrors;\n };\n
TemplateParser.prototype.getInterpolationConfig = function (component) {\n if (component.template) {\n
return
```

```
InterpolationConfig.fromArray(component.template.interpolation);\n }\n return undefined;\n };\n
/** @internal */\n TemplateParser.prototype._assertNoReferenceDuplicationOnTemplate = function (result,
errors) {\n var existingReferences = [];\n result.filter(function (element) { return !!element.references;
})\n .forEach(function (element) { return element.references.forEach(function (reference) {\n var
name = reference.name;\n if (existingReferences.indexOf(name) < 0) {\n
existingReferences.push(name);\n }\n else {\n var error = new
TemplateParseError(\"Reference \\\"#\" + name + \"\\\" is defined several times\", reference.sourceSpan,
exports.ParseErrorLevel.ERROR);\n errors.push(error);\n }\n }); });\n };\n
return TemplateParser;\n }());\n var
TemplateParseVisitor = /** @class */ (function () {\n function TemplateParseVisitor(reflector, config,
providerViewContext, directives, _bindingParser, _schemaRegistry, _schemas, _targetErrors) {\n var _this =
this;\n this.reflector = reflector;\n this.config = config;\n this.providerViewContext =
providerViewContext;\n this._bindingParser = _bindingParser;\n this._schemaRegistry =
_schemaRegistry;\n this._schemas = _schemas;\n this._targetErrors = _targetErrors;\n
this.selectorMatcher = new SelectorMatcher();\n this.directivesIndex = new Map();\n
this.ngContentCount = 0;\n // Note: queries start with id 1 so we can use the number in a Bloom filter!\n
this.contentQueryStartId = providerViewContext.component.viewQueries.length + 1;\n
directives.forEach(function (directive, index) {\n var selector = CssSelector.parse(directive.selector);\n
_this.selectorMatcher.addSelectables(selector, directive);\n _this.directivesIndex.set(directive,
index);\n });\n }\n TemplateParseVisitor.prototype.visitExpansion = function (expansion, context)
{\n return null;\n };\n TemplateParseVisitor.prototype.visitExpansionCase = function
(expansionCase, context) {\n return null;\n };\n TemplateParseVisitor.prototype.visitText = function
(text, parent) {\n var ngContentIndex = parent.findNgContentIndex(TEXT_CSS_SELECTOR());\n var
valueNoNgsp = replaceNgsp(text.value);\n var expr = this._bindingParser.parseInterpolation(valueNoNgsp,
text.sourceSpan);\n return expr ? new BoundTextAst(expr, ngContentIndex, text.sourceSpan) :\n
new TextAst(valueNoNgsp, ngContentIndex, text.sourceSpan);\n };\n
TemplateParseVisitor.prototype.visitAttribute = function
(attribute, context) {\n return new AttrAst(attribute.name, attribute.value, attribute.sourceSpan);\n };\n
TemplateParseVisitor.prototype.visitComment = function (comment, context) {\n return null;\n };\n
TemplateParseVisitor.prototype.visitElement = function (element, parent) {\n var _this = this;\n var
queryStartIndex = this.contentQueryStartId;\n var elName = element.name;\n var preparsedElement =
preparseElement(element);\n if (preparsedElement.type === PreparsedElementType.SCRIPT ||\n
preparsedElement.type === PreparsedElementType.STYLE) {\n // Skipping <script> for security reasons\n
// Skipping <style> as we already processed them\n // in the StyleCompiler\n return
null;\n }\n if (preparsedElement.type === PreparsedElementType.STYLESHEET &&\n
isStyleUrlResolvable(preparsedElement.hrefAttr))
{\n // Skipping stylesheets with either relative urls or package scheme as we already processed\n
// them in the StyleCompiler\n return null;\n }\n var matchableAttrs = [];\n var
elementOrDirectiveProps = [];\n var elementOrDirectiveRefs = [];\n var elementVars = [];\n var
events = [];\n var templateElementOrDirectiveProps = [];\n var templateMatchableAttrs = [];\n
var templateElementVars = [];\n var hasInlineTemplates = false;\n var attrs = [];\n var
isTemplateElement = isNgTemplate(element.name);\n element.attrs.forEach(function (attr) {\n var
parsedVariables = [];\n var hasBinding = _this._parseAttr(isTemplateElement, attr, matchableAttrs,
elementOrDirectiveProps, events, elementOrDirectiveRefs, elementVars);\n
elementVars.push.apply(elementVars,
__spread(parsedVariables.map(function (v) { return VariableAst.fromParsedVariable(v); })));\n var
templateValue;\n var templateKey;\n var normalizedName =
_this._normalizeAttributeName(attr.name);\n if
```

```
(normalizedName.startsWith(TEMPLATE_ATTR_PREFIX$1)) {\n templateValue = attr.value;\n templateKey = normalizedName.substring(TEMPLATE_ATTR_PREFIX$1.length);\n }\n var hasTemplateBinding = templateValue != null;\n if (hasTemplateBinding) {\n if (hasInlineTemplates) {\n _this._reportError(\"Can't have multiple template bindings on one element. Use only one attribute prefixed with *\", attr.sourceSpan);\n }\n hasInlineTemplates = true;\n var parsedVariables_1 = [];\n var absoluteOffset = (attr.valueSpan || attr.sourceSpan).start.offset;\n _this._bindingParser.parseInlineTemplateBinding(templateKey, templateValue, attr.sourceSpan, absoluteOffset, templateMatchableAttrs, templateElementOrDirectiveProps, parsedVariables_1, false /* isIvyAst */);\n templateElementVars.push.apply(templateElementVars, __spread(parsedVariables_1.map(function (v) { return VariableAst.fromParsedVariable(v); })));\n }\n if (!hasBinding && !hasTemplateBinding) {\n // don't include the bindings as attributes as well in the AST\n attrs.push(_this.visitAttribute(attr, null));\n matchableAttrs.push([attr.name, attr.value]);\n }\n });\n var elementCssSelector = createElementCssSelector(elName, matchableAttrs);\n var _b = this._parseDirectives(this.selectorMatcher, elementCssSelector), directiveMetas = _b.directives, matchElement = _b.matchElement;\n var references = [];\n var boundDirectivePropNames = new Set();\n var directiveAsts = this._createDirectiveAsts(isTemplateElement, element.name, directiveMetas, elementOrDirectiveProps, elementOrDirectiveRefs, element.sourceSpan, references, boundDirectivePropNames);\n var elementProps = this._createElementPropertyAsts(element.name, elementOrDirectiveProps, boundDirectivePropNames);\n var isViewRoot = parent.isTemplateElement || hasInlineTemplates;\n var providerContext = new ProviderElementContext(this.providerViewContext, parent.providerContext, isViewRoot, directiveAsts, attrs, references, isTemplateElement, queryStartIndex, element.sourceSpan);\n var children = visitAll$1(preparsedElement.nonBindable ? NON_BINDABLE_VISITOR : this, element.children, ElementContext.create(isTemplateElement, directiveAsts, isTemplateElement ? parent.providerContext : providerContext));\n providerContext.afterElement();\n // Override the actual selector when the `ngProjectAs` attribute is provided\n var projectionSelector = preparsedElement.projectAs != '' ?\n CssSelector.parse(preparsedElement.projectAs)[0] :\n elementCssSelector;\n var ngContentIndex = parent.findNgContentIndex(projectionSelector);\n var parsedElement;\n if (preparsedElement.type === PreparsedElementType.NG_CONTENT) {\n // `<ng-content>` element\n if (element.children && !element.children.every(_isEmptyTextNode)) {\n this._reportError(\"<ng-content> element cannot have content.\", element.sourceSpan);\n }\n parsedElement = new NgContentAst(this.ngContentCount++, hasInlineTemplates ? null : ngContentIndex, element.sourceSpan);\n }\n else if (isTemplateElement) {\n // `<ng-template>` element\n this._assertAllEventsPublishedByDirectives(directiveAsts, events);\n this._assertNoComponentsNorElementBindingsOnTemplate(directiveAsts, elementProps, element.sourceSpan);\n parsedElement = new EmbeddedTemplateAst(attrs, events, references, elementVars, providerContext.transformedDirectiveAsts, providerContext.transformProviders, providerContext.transformedHasViewContainer, providerContext.queryMatches, children, hasInlineTemplates ? null : ngContentIndex, element.sourceSpan);\n }\n else {\n // element other than `<ng-content>` and `<ng-template>`\n this._assertElementExists(matchElement, element);\n this._assertOnlyOneComponent(directiveAsts, element.sourceSpan);\n var ngContentIndex_1 = hasInlineTemplates ? null : parent.findNgContentIndex(projectionSelector);\n parsedElement = new ElementAst(elName, attrs, elementProps, events, references, providerContext.transformedDirectiveAsts, providerContext.transformProviders, providerContext.transformedHasViewContainer, providerContext.queryMatches, children, hasInlineTemplates ? null : ngContentIndex_1, element.sourceSpan, element.endSourceSpan || null);\n }\n if (hasInlineTemplates) {\n // The element as a *-attribute\n var templateQueryStartIndex =
```

this.contentQueryStartId;\n var templateSelector = createElementCssSelector('ng-template', templateMatchableAttrs);\n var directives = this._parseDirectives(this.selectorMatcher, templateSelector).directives;\n var templateBoundDirectivePropNames = new Set();\n var templateDirectiveAsts = this._createDirectiveAsts(true, elName, directives, templateElementOrDirectiveProps, [], element.sourceSpan, [], templateBoundDirectivePropNames);\n var templateElementProps = this._createElementPropertyAsts(elName, templateElementOrDirectiveProps, templateBoundDirectivePropNames);\n this._assertNoComponentsNorElementBindingsOnTemplate(templateDirectiveAsts, templateElementProps, element.sourceSpan);\n var templateProviderContext = new ProviderElementContext(this.providerViewContext, parent.providerContext, parent.isTemplateElement, templateDirectiveAsts, [], [], true, templateQueryStartIndex, element.sourceSpan);\n templateProviderContext.afterElement();\n parsedElement = new EmbeddedTemplateAst([], [], [], templateElementVars, templateProviderContext.transformedDirectiveAsts, templateProviderContext.transformProviders, templateProviderContext.transformedHasViewContainer, templateProviderContext.queryMatches, [parsedElement], ngContentIndex, element.sourceSpan);\n }\n return parsedElement;\n };\n TemplateParseVisitor.prototype._parseAttr = function (isTemplateElement, attr, targetMatchableAttrs, targetProps, targetEvents, targetRefs, targetVars) {\n var name = this._normalizeAttributeName(attr.name);\n var value = attr.value;\n var srcSpan = attr.sourceSpan;\n var absoluteOffset = attr.valueSpan ? attr.valueSpan.start.offset : srcSpan.start.offset;\n var boundEvents = [];\n var bindParts = name.match(BIND_NAME_REGEXP);\n var hasBinding = false;\n if (bindParts !== null) {\n hasBinding = true;\n if (bindParts[KW_BIND_IDX] != null) {\n this._bindingParser.parsePropertyBinding(bindParts[IDENT_KW_IDX], value, false, srcSpan, absoluteOffset, attr.valueSpan, targetMatchableAttrs, targetProps);\n }\n else if (bindParts[KW_LET_IDX]) {\n if (isTemplateElement) {\n var identifier = bindParts[IDENT_KW_IDX];\n this._parseVariable(identifier, value, srcSpan, targetVars);\n }\n else {\n this._reportError(\"\\\"let-\\\" is only supported on ng-template elements.\", srcSpan);\n }\n }\n else if (bindParts[KW_REF_IDX]) {\n var identifier = bindParts[IDENT_KW_IDX];\n this._parseReference(identifier, value, srcSpan, targetRefs);\n }\n else if (bindParts[KW_ON_IDX]) {\n this._bindingParser.parseEvent(bindParts[IDENT_KW_IDX], value, srcSpan, attr.valueSpan || srcSpan, targetMatchableAttrs, boundEvents);\n }\n else if (bindParts[KW_BINDON_IDX]) {\n this._bindingParser.parsePropertyBinding(bindParts[IDENT_KW_IDX], value, false, srcSpan, absoluteOffset, attr.valueSpan, targetMatchableAttrs, targetProps);\n this._parseAssignmentEvent(bindParts[IDENT_KW_IDX], value, srcSpan, attr.valueSpan || srcSpan, targetMatchableAttrs, boundEvents);\n }\n else if (bindParts[KW_AT_IDX]) {\n this._bindingParser.parseLiteralAttr(name, value, srcSpan, absoluteOffset, attr.valueSpan, targetMatchableAttrs, targetProps);\n }\n else if (bindParts[IDENT_BANANA_BOX_IDX]) {\n this._bindingParser.parsePropertyBinding(bindParts[IDENT_BANANA_BOX_IDX], value, false, srcSpan, absoluteOffset, attr.valueSpan, targetMatchableAttrs, targetProps);\n this._parseAssignmentEvent(bindParts[IDENT_BANANA_BOX_IDX], value, srcSpan, attr.valueSpan || srcSpan, targetMatchableAttrs, boundEvents);\n }\n else if (bindParts[IDENT_PROPERTY_IDX]) {\n this._bindingParser.parsePropertyBinding(bindParts[IDENT_PROPERTY_IDX], value, false, srcSpan, absoluteOffset, attr.valueSpan, targetMatchableAttrs, targetProps);\n }\n else if (bindParts[IDENT_EVENT_IDX]) {\n this._bindingParser.parseEvent(bindParts[IDENT_EVENT_IDX],

value, srcSpan, attr.valueSpan || srcSpan, targetMatchableAttrs, boundEvents);\n }\n }\n else {\n hasBinding = this._bindingParser.parsePropertyInterpolation(name, value, srcSpan, attr.valueSpan, targetMatchableAttrs, targetProps);\n }\n if (!hasBinding) {\n this._bindingParser.parseLiteralAttr(name, value, srcSpan, absoluteOffset, attr.valueSpan, targetMatchableAttrs, targetProps);\n }\n targetEvents.push.apply(targetEvents, __spread(boundEvents.map(function (e) { return BoundEventAst.fromParsedEvent(e); })));\n return hasBinding;\n };\n TemplateParseVisitor.prototype._normalizeAttributeName = function (attrName) {\n return /^data-/i.test(attrName) ? attrName.substring(5) : attrName;\n };\n TemplateParseVisitor.prototype._parseVariable = function (identifier, value, sourceSpan, targetVars)
{\n if (identifier.indexOf('-') > -1) {\n this._reportError(\"\\\"-\\\" is not allowed in variable names\", sourceSpan);\n }\n else if (identifier.length === 0) {\n this._reportError(\"Variable does not have a name\", sourceSpan);\n }\n targetVars.push(new VariableAst(identifier, value, sourceSpan));\n };\n TemplateParseVisitor.prototype._parseReference = function (identifier, value, sourceSpan, targetRefs) {\n if (identifier.indexOf('-') > -1) {\n this._reportError(\"\\\"-\\\" is not allowed in reference names\", sourceSpan);\n }\n else if (identifier.length === 0) {\n this._reportError(\"Reference does not have a name\", sourceSpan);\n }\n targetRefs.push(new ElementOrDirectiveRef(identifier, value, sourceSpan));\n };\n TemplateParseVisitor.prototype._parseAssignmentEvent = function (name, expression, sourceSpan, valueSpan, targetMatchableAttrs, targetEvents) {\n this._bindingParser.parseEvent(name + \"Change\", expression + \"=$event\", sourceSpan, valueSpan, targetMatchableAttrs, targetEvents);\n };\n TemplateParseVisitor.prototype._parseDirectives = function (selectorMatcher, elementCssSelector) {\n var _this = this;\n // Need to sort the directives so that we get consistent results throughout,\n // as selectorMatcher uses Maps inside.\n // Also deduplicate directives as they might match more than one time!\n var directives = newArray(this.directivesIndex.size);\n // Whether any directive selector matches on the element name\n var matchElement = false;\n selectorMatcher.match(elementCssSelector, function (selector, directive) {\n directives[_this.directivesIndex.get(directive)] = directive;\n matchElement = matchElement || selector.hasElementSelector();\n });\n return {\n directives: directives.filter(function (dir) { return !!dir; }),\n matchElement: matchElement,\n };\n };\n TemplateParseVisitor.prototype._createDirectiveAsts = function (isTemplateElement, elementName, directives, props, elementOrDirectiveRefs, elementSourceSpan, targetReferences, targetBoundDirectivePropNames) {\n var _this = this;\n var matchedReferences = new Set();\n var component = null;\n var directiveAsts = directives.map(function (directive) {\n var sourceSpan = new ParseSourceSpan(elementSourceSpan.start, elementSourceSpan.end, elementSourceSpan.fullStart, \"Directive \" + identifierName(directive.type));\n if (directive.isComponent) {\n component = directive;\n }\n var directiveProperties = [];\n var boundProperties
= _this._bindingParser.createDirectiveHostPropertyAsts(directive, elementName, sourceSpan);\n var hostProperties = boundProperties.map(function (prop) { return BoundElementPropertyAst.fromBoundProperty(prop); });\n // Note: We need to check the host properties here as well,\n // as we don't know the element name in the DirectiveWrapperCompiler yet.\n hostProperties = _this._checkPropertiesInSchema(elementName, hostProperties);\n var parsedEvents = _this._bindingParser.createDirectiveHostEventAsts(directive, sourceSpan);\n _this._createDirectivePropertyAsts(directive.inputs, props, directiveProperties, targetBoundDirectivePropNames);\n elementOrDirectiveRefs.forEach(function (elOrDirRef) {\n if ((elOrDirRef.value.length === 0 && directive.isComponent) ||\n (elOrDirRef.isReferenceToDirective(directive))) {\n targetReferences.push(new
ReferenceAst(elOrDirRef.name, createTokenForReference(directive.type.reference), elOrDirRef.value, elOrDirRef.sourceSpan));\n matchedReferences.add(elOrDirRef.name);\n }\n

```
});\n            var hostEvents = parsedEvents.map(function (e) { return BoundEventAst.fromParsedEvent(e); });\n
        var contentQueryStartId = _this.contentQueryStartId;\n            _this.contentQueryStartId +=
directive.queries.length;\n            return new DirectiveAst(directive, directiveProperties, hostProperties,
hostEvents, contentQueryStartId, sourceSpan);\n        });\n        elementOrDirectiveRefs.forEach(function
(elOrDirRef) {\n            if (elOrDirRef.value.length > 0) {\n                if
(!matchedReferences.has(elOrDirRef.name)) {\n                    _this._reportError(\"There is no directive with
\\\"exportAs\\\" set to \\\"\" + elOrDirRef.value + \"\\\"\", elOrDirRef.sourceSpan);\n
            }\n            }\n            else if (!component) {\n                var refToken = null;\n                if
(isTemplateElement) {\n                    refToken = createTokenForExternalReference(_this.reflector,
Identifiers.TemplateRef);\n                }\n                targetReferences.push(new ReferenceAst(elOrDirRef.name,
refToken, elOrDirRef.value, elOrDirRef.sourceSpan));\n            }\n        });\n        return directiveAsts;\n
};\n    TemplateParseVisitor.prototype._createDirectivePropertyAsts = function (directiveProperties, boundProps,
targetBoundDirectiveProps, targetBoundDirectivePropNames) {\n        if (directiveProperties) {\n            var
boundPropsByName_1 = new Map();\n            boundProps.forEach(function (boundProp) {\n                var
prevValue = boundPropsByName_1.get(boundProp.name);\n                if (!prevValue || prevValue.isLiteral) {\n

    // give [a]=\"b\" a higher precedence than a=\"b\" on the same element\n
boundPropsByName_1.set(boundProp.name, boundProp);\n                }\n            });\n
Object.keys(directiveProperties).forEach(function (dirProp) {\n                var elProp =
directiveProperties[dirProp];\n                var boundProp = boundPropsByName_1.get(elProp);\n                //
Bindings are optional, so this binding only needs to be set up if an expression is given.\n                if (boundProp)
{\n                    targetBoundDirectivePropNames.add(boundProp.name);\n                    if
(!isEmptyExpression(boundProp.expression)) {\n                        targetBoundDirectiveProps.push(new
BoundDirectivePropertyAst(dirProp, boundProp.name, boundProp.expression, boundProp.sourceSpan));\n
    }\n                }\n            });\n        }\n    };\n
TemplateParseVisitor.prototype._createElementPropertyAsts
 = function (elementName, props, boundDirectivePropNames) {\n        var _this = this;\n        var
boundElementProps = [];\n        props.forEach(function (prop) {\n            if (!prop.isLiteral &&
!boundDirectivePropNames.has(prop.name)) {\n                var boundProp =
_this._bindingParser.createBoundElementProperty(elementName, prop);\n
boundElementProps.push(BoundElementPropertyAst.fromBoundProperty(boundProp));\n            }\n        });\n
    return this._checkPropertiesInSchema(elementName, boundElementProps);\n    };\n
TemplateParseVisitor.prototype._findComponentDirectives = function (directives) {\n        return
directives.filter(function (directive) { return directive.directive.isComponent; });\n    };\n
TemplateParseVisitor.prototype._findComponentDirectiveNames = function (directives) {\n        return
this._findComponentDirectives(directives)\n
        .map(function (directive) { return identifierName(directive.directive.type); });\n    };\n
TemplateParseVisitor.prototype._assertOnlyOneComponent = function (directives, sourceSpan) {\n        var
componentTypeNames = this._findComponentDirectiveNames(directives);\n        if
(componentTypeNames.length > 1) {\n            this._reportError(\"More than one component matched on this
element.\\n\" +\n                \"Make sure that only one component's selector can match a given element.\\n\" +\n
        (\"Conflicting components: \" + componentTypeNames.join(',')), sourceSpan);\n        }\n    };\n
/**\n     * Make sure that non-angular tags conform to the schemas.\n     *\n     * Note: An element is
considered an angular tag when at least one directive selector matches the\n     * tag name.\n     *\n     *
@param matchElement Whether any directive has matched on the tag name\n     * @param element
 the html element\n     */\n    TemplateParseVisitor.prototype._assertElementExists = function (matchElement,
element) {\n        var elName = element.name.replace(/^:xhtml:/, '');\n        if (!matchElement &&
!this._schemaRegistry.hasElement(elName, this._schemas)) {\n            var errorMsg = \"'\" + elName + \"' is not a
```

known element:\\n\";\n errorMsg += \"1. If '\" + elName + \"' is an Angular component, then verify that it is part of this module.\\n\";\n if (elName.indexOf('-') > -1) {\n errorMsg += \"2. If '\" + elName + \"' is a Web Component then add 'CUSTOM_ELEMENTS_SCHEMA' to the '@NgModule.schemas' of this component to suppress this message.\";\n }\n else {\n errorMsg +=\n \"2. To allow any element add 'NO_ERRORS_SCHEMA' to the '@NgModule.schemas' of this component.\";\n }\n this._reportError(errorMsg,\n element.sourceSpan);\n }\n };\n TemplateParseVisitor.prototype._assertNoComponentsNorElementBindingsOnTemplate = function (directives, elementProps, sourceSpan) {\n var _this = this;\n var componentTypeNames = this._findComponentDirectiveNames(directives);\n if (componentTypeNames.length > 0) {\n this._reportError(\"Components on an embedded template: \" + componentTypeNames.join(','), sourceSpan);\n }\n elementProps.forEach(function (prop) {\n _this._reportError(\"Property binding \" + prop.name + \" not used by any directive on an embedded template. Make sure that the property name is spelled correctly and all directives are listed in the \\\"@NgModule.declarations\\\".\", sourceSpan);\n });\n };\n TemplateParseVisitor.prototype._assertAllEventsPublishedByDirectives = function (directives, events) {\n var _this = this;\n var allDirectiveEvents\n = new Set();\n directives.forEach(function (directive) {\n Object.keys(directive.directive.outputs).forEach(function (k) {\n var eventName = directive.directive.outputs[k];\n allDirectiveEvents.add(eventName);\n });\n });\n events.forEach(function (event) {\n if (event.target != null || !allDirectiveEvents.has(event.name)) {\n _this._reportError(\"Event binding \" + event\n .fullName + \" not emitted by any directive on an embedded template. Make sure that the event name is spelled correctly and all directives are listed in the \\\"@NgModule.declarations\\\".\", event.sourceSpan);\n }\n });\n };\n TemplateParseVisitor.prototype._checkPropertiesInSchema = function (elementName, boundProps) {\n var _this = this;\n // Note: We can't filter out empty expressions\n before this method,\n // as we still want to validate them!\n return boundProps.filter(function (boundProp) {\n if (boundProp.type === 0 /* Property */ &&\n !_this._schemaRegistry.hasProperty(elementName, boundProp.name, _this._schemas)) {\n var errorMsg = \"Can't bind to '\" + boundProp.name + \"' since it isn't a known property of '\" + elementName + \"'.\";\n if (elementName.startsWith('ng-')) {\n errorMsg +=\n \"\\n1. If '\" + boundProp\n .name + \"' is an Angular directive, then add 'CommonModule' to the '@NgModule.imports' of this component.\" +\n \"\\n2. To allow any property add 'NO_ERRORS_SCHEMA' to the '@NgModule.schemas' of this component.\";\n }\n else if (elementName.indexOf('-') > -1) {\n errorMsg +=\n \"\\n1. If '\" + elementName + \"' is an Angular component and it has '\" + boundProp.name + \"' input, then verify that it is part of this module.\" +\n (\"\\n2. If '\" + elementName + \"' is a Web Component then add 'CUSTOM_ELEMENTS_SCHEMA' to the '@NgModule.schemas' of this component to suppress this message.\") +\n \"\\n3. To allow any property add 'NO_ERRORS_SCHEMA' to the '@NgModule.schemas' of this component.\";\n }\n _this._reportError(errorMsg, boundProp.sourceSpan);\n }\n return !isEmptyExpression(boundProp.value);\n });\n };\n TemplateParseVisitor.prototype._reportError = function (message, sourceSpan, level) {\n if (level === void 0) { level = exports.ParseErrorLevel.ERROR; }\n this._targetErrors.push(new ParseError(sourceSpan, message, level));\n };\n return TemplateParseVisitor;\n }());\n var NonBindableVisitor = /** @class */ (function () {\n function NonBindableVisitor() {\n }\n NonBindableVisitor.prototype.visitElement = function (ast, parent) {\n var preparsedElement = preparseElement(ast);\n if (preparsedElement.type === PreparsedElementType.SCRIPT ||\n preparsedElement.type === PreparsedElementType.STYLE ||\n preparsedElement.type === PreparsedElementType.STYLESHEET) {\n // Skipping <script> for security

```
reasons\n            // Skipping <style> and stylesheets as we already processed them\n            // in the StyleCompiler\n            return null;\n        }\n        var attrNameAndValues = ast.attrs.map(function (attr) { return [attr.name, attr.value]; });\n        var selector = createElementCssSelector(ast.name, attrNameAndValues);\n        var ngContentIndex = parent.findNgContentIndex(selector);\n        var children = visitAll$1(this, ast.children, EMPTY_ELEMENT_CONTEXT);\n        return new ElementAst(ast.name, visitAll$1(this, ast.attrs), [], [], [], [], [], false, [], children, ngContentIndex, ast.sourceSpan, ast.endSourceSpan);\n    };\n    NonBindableVisitor.prototype.visitComment = function (comment, context) {\n        return null;\n    };\n    NonBindableVisitor.prototype.visitAttribute = function (attribute, context) {\n        return new AttrAst(attribute.name, attribute.value, attribute.sourceSpan);\n    };\n    NonBindableVisitor.prototype.visitText = function (text, parent) {\n        var ngContentIndex = parent.findNgContentIndex(TEXT_CSS_SELECTOR());\n        return new TextAst(text.value, ngContentIndex, text.sourceSpan);\n    };\n    NonBindableVisitor.prototype.visitExpansion = function (expansion, context) {\n        return expansion;\n    };\n    NonBindableVisitor.prototype.visitExpansionCase = function (expansionCase, context) {\n        return expansionCase;\n    };\n    return NonBindableVisitor;\n}());\n/**\n * A reference to an element or directive in a template. E.g., the reference in this template:\n *\n * <div #myMenu=\"coolMenu\">\n *\n * would be {name: 'myMenu', value: 'coolMenu', sourceSpan: ...}\n */\nvar ElementOrDirectiveRef = /** @class */ (function () {\n    function ElementOrDirectiveRef(name, value, sourceSpan) {\n        this.name = name;\n        this.value = value;\n        this.sourceSpan = sourceSpan;\n    }\n    /** Gets whether this is a reference to the given directive. */\n    ElementOrDirectiveRef.prototype.isReferenceToDirective = function (directive) {\n        return splitExportAs(directive.exportAs).indexOf(this.value) !== -1;\n    };\n    return ElementOrDirectiveRef;\n}());\n/** Splits a raw, potentially comma-delimited `exportAs` value into an array of names. */\nfunction splitExportAs(exportAs) {\n    return exportAs ? exportAs.split(',').map(function (e) { return e.trim(); }) : [];\n}\nfunction splitClasses(classAttrValue) {\n    return classAttrValue.trim().split(/\\s+/g);\n}\nvar ElementContext = /** @class */ (function () {\n    function ElementContext(isTemplateElement, _ngContentIndexMatcher, _wildcardNgContentIndex, providerContext) {\n        this.isTemplateElement = isTemplateElement;\n        this._ngContentIndexMatcher = _ngContentIndexMatcher;\n        this._wildcardNgContentIndex = _wildcardNgContentIndex;\n        this.providerContext = providerContext;\n    }\n    ElementContext.create = function (isTemplateElement, directives, providerContext) {\n        var matcher = new SelectorMatcher();\n        var wildcardNgContentIndex = null;\n        var component = directives.find(function (directive) { return directive.directive.isComponent; });\n        if (component) {\n            var ngContentSelectors = component.directive.template.ngContentSelectors;\n            for (var i = 0; i < ngContentSelectors.length; i++) {\n                var selector = ngContentSelectors[i];\n                if (selector === '*') {\n                    wildcardNgContentIndex = i;\n                }\n                else {\n                    matcher.addSelectables(CssSelector.parse(ngContentSelectors[i]), i);\n                }\n            }\n        }\n        return new ElementContext(isTemplateElement, matcher, wildcardNgContentIndex, providerContext);\n    };\n    ElementContext.prototype.findNgContentIndex = function (selector) {\n        var ngContentIndices = [];\n        this._ngContentIndexMatcher.match(selector, function (selector, ngContentIndex) {\n            ngContentIndices.push(ngContentIndex);\n        });\n        ngContentIndices.sort();\n        if (this._wildcardNgContentIndex != null) {\n            ngContentIndices.push(this._wildcardNgContentIndex);\n        }\n        return ngContentIndices.length > 0 ? ngContentIndices[0] : null;\n    };\n    return ElementContext;\n}());\nfunction createElementCssSelector(elementName, attributes) {\n    var cssSelector = new CssSelector();\n    var elNameNoNs = splitNsName(elementName)[1];\n    cssSelector.setElement(elNameNoNs);\n    for (var i = 0; i < attributes.length; i++) {\n        var attrName = attributes[i][0];\n        var attrNameNoNs = splitNsName(attrName)[1];\n        var attrValue = attributes[i][1];\n        cssSelector.addAttribute(attrNameNoNs, attrValue);\n        if (attrName.toLowerCase() == CLASS_ATTR) {\n            var classes = splitClasses(attrValue);\n            classes.forEach(function (className) { return cssSelector.addClassName(className); });\n        }\n    }\n    return
```

```
cssSelector;\n    }\n    var EMPTY_ELEMENT_CONTEXT = new ElementContext(true, new SelectorMatcher(), null, null);\n    var NON_BINDABLE_VISITOR = new NonBindableVisitor();\n    function _isEmptyTextNode(node) {\n        return node instanceof Text$3 && node.value.trim().length == 0;\n    }\n function removeSummaryDuplicates(items) {\n        var map = new Map();\n        items.forEach(function (item) {\n            if (!map.get(item.type.reference)) {\n                map.set(item.type.reference, item);\n            }\n        });\n return Array.from(map.values());\n    }\n    function isEmptyExpression(ast) {\n        if (ast instanceof ASTWithSource) {\n            ast = ast.ast;\n        }\n        return ast instanceof EmptyExpr;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     * Parses string representation of a style and converts it into object literal.\n     *\n     * @param value string representation of style as used in the `style` attribute in HTML.\n     *   Example: `color: red; height: auto`.\n     * @returns An array of style property name and value pairs, e.g. `['color', 'red', 'height',\n     * 'auto']`\n     */\n    function parse(value) {\n        // we use a string array here instead of a string map\n        // because a string-map is not guaranteed to retain the\n        // order of the entries whereas a string array can be\n        // constructed in a [key, value, key, value] format.\n        var styles = [];\n        var i = 0;\n        var parenDepth = 0;\n        var quote = 0 /* QuoteNone */;\n        var valueStart = 0;\n        var propStart = 0;\n        var currentProp = null;\n        var valueHasQuotes = false;\n        while (i < value.length) {\n            var token = value.charCodeAt(i++);\n            switch (token) {\n                case 40 /* OpenParen */:\n                    parenDepth++;\n                    break;\n                case 41 /* CloseParen */:\n                    parenDepth--;\n                    break;\n                case 39 /* QuoteSingle */:\n                    // valueStart needs to be there since prop values don't\n                    // have quotes in CSS\n                    valueHasQuotes = valueHasQuotes || valueStart > 0;\n                    if (quote === 0 /* QuoteNone */) {\n                        quote = 39 /* QuoteSingle */;\n                    }\n                    else if (quote === 39 /* QuoteSingle */ &&\n                        value.charCodeAt(i - 1) !== 92 /* BackSlash */) {\n                        quote = 0 /* QuoteNone */;\n                    }\n                    break;\n                case 34 /* QuoteDouble */:\n                    // same logic as above\n                    valueHasQuotes = valueHasQuotes || valueStart > 0;\n                    if (quote === 0 /* QuoteNone */) {\n                        quote = 34 /* QuoteDouble */;\n                    }\n                    else if (quote === 34 /* QuoteDouble */ && value.charCodeAt(i - 1) !== 92 /* BackSlash */) {\n                        quote = 0 /* QuoteNone */;\n                    }\n                    break;\n                case 58 /* Colon */:\n                    if (!currentProp && parenDepth === 0 && quote === 0 /* QuoteNone */) {\n                        currentProp = hyphenate(value.substring(propStart, i - 1).trim());\n                        valueStart = i;\n                    }\n                    break;\n                case 59 /* Semicolon */:\n                    if (currentProp && valueStart > 0 && parenDepth === 0 && quote === 0 /* QuoteNone */) {\n                        var styleVal = value.substring(valueStart, i - 1).trim();\n                        styles.push(currentProp, valueHasQuotes ? stripUnnecessaryQuotes(styleVal) : styleVal);\n                        propStart = i;\n                        valueStart = 0;\n                        currentProp = null;\n                        valueHasQuotes = false;\n                    }\n                    break;\n            }\n        }\n        if (currentProp && valueStart) {\n            var styleVal = value.substr(valueStart).trim();\n            styles.push(currentProp, valueHasQuotes ? stripUnnecessaryQuotes(styleVal) : styleVal);\n        }\n        return styles;\n    }\n    function stripUnnecessaryQuotes(value) {\n        var qS = value.charCodeAt(0);\n        var qE = value.charCodeAt(value.length - 1);\n        if (qS == qE && (qS == 39 /* QuoteSingle */ || qS == 34 /* QuoteDouble */)) {\n            var tempValue = value.substring(1, value.length - 1);\n            // special case to avoid using a multi-quoted string that was just chomped\n            // (e.g. `font-family: \"Verdana\", \"sans-serif\"`)\n            if (tempValue.indexOf('\\'') == -1 && tempValue.indexOf('\"') == -1) {\n                value = tempValue;\n            }\n        }\n        return value;\n    }\n    function hyphenate(value) {\n        return value\n            .replace(/[a-z][A-Z]/g, function (v) {\n                return v.charAt(0) + '-' + v.charAt(1);\n            })\n            .toLowerCase();\n    }\n\n    var IMPORTANT_FLAG = '!important';\n    /**\n     * Minimum amount of binding slots required in the runtime for style/class bindings.\n     *\n     * Styling in Angular uses up two slots in the runtime LView/TData data structures to\n     * record binding data, property information and metadata.\n     *\n
```

```
* When a binding is registered it will place the following information in the `LView`:\n *\n * slot 1) binding value\n * slot 2) cached value (all other values collected before it in string form)\n *\n * When a binding is registered it will place the following information in the `TData`:\n *\n * slot 1) prop name\n * slot 2) binding index
 that points to the previous style/class binding (and some extra config\n * values)\n *\n * Let's imagine we have a binding that looks like so:\n *\n * ```\n * <div [style.width]=\"x\" [style.height]=\"y\">\n * ```\n *\n * Our `LView` and `TData` data-structures look like so:\n *\n * ```typescript\n * LView = [\n * // ...\n * x, // value of x\n * \"width: x\",\n *\n * y, // value of y\n * \"width: x; height: y\",\n * // ...\n * ];\n *\n * TData = [\n * // ...\n * \"width\", // binding slot 20\n * 0,\n *\n * \"height\",\n * 20,\n * // ...\n * ];\n * ```\n *\n * */\n var MIN_STYLING_BINDING_SLOTS_REQUIRED = 2;\n /**\n * Produces creation/update instructions for all styling bindings (class and style)\n *\n * It also produces the creation instruction to register all initial styling values\n * (which are all the static
 class=\"...\" and style=\"...\" attribute values that exist\n * on an element within a template).\n *\n * The builder class below handles producing instructions for the following cases:\n *\n * - Static style/class attributes (style=\"...\" and class=\"...\")\n * - Dynamic style/class map bindings ([style]=\"map\" and [class]=\"map|string\")\n * - Dynamic style/class property bindings ([style.prop]=\"exp\" and [class.name]=\"exp\")\n *\n * Due to the complex relationship of all of these cases, the instructions generated\n * for these attributes/properties/bindings must be done so in the correct order. The\n * order which these must be generated is as follows:\n *\n * if (createMode) {\n * styling(...)\n * }\n * if (updateMode) {\n * styleMap(...)\n * classMap(...)\n * styleProp(...)\n * classProp(...)\n * }\n *\n * The creation/update methods within the builder class produce these
 instructions.\n */\n var StylingBuilder = /** @class */ (function () {\n function StylingBuilder(_directiveExpr) {\n this._directiveExpr = _directiveExpr;\n /** Whether or not there are any static styling values present */\n this._hasInitialValues = false;\n /**\n * Whether or not there are any styling bindings present\n * (i.e. `[style]`, `[class]`, `[style.prop]` or `[class.name]`)\n */\n this.hasBindings = false;\n this.hasBindingsWithPipes = false;\n /** the input for [class] (if it exists) */\n this._classMapInput = null;\n /** the input for [style] (if it exists) */\n this._styleMapInput = null;\n /** an array of each [style.prop] input */\n this._singleStyleInputs = null;\n /** an array of each [class.name] input */\n this._singleClassInputs = null;\n this._lastStylingInput
 = null;\n this._firstStylingInput = null;\n // maps are used instead of hash maps because a Map will\n // retain the ordering of the keys\n /**\n * Represents the location of each style binding in the template\n * (e.g. `<div [style.width]=\"w\" [style.height]=\"h\">` implies\n * that `width=0` and `height=1`)\n */\n this._stylesIndex = new Map();\n /**\n * Represents the location of each class binding in the template\n * (e.g. `<div [class.big]=\"b\" [class.hidden]=\"h\">` implies\n * that `big=0` and `hidden=1`)\n */\n this._classesIndex = new Map();\n this._initialStyleValues = [];\n this._initialClassValues = [];\n }\n /**\n * Registers a given input to the styling builder to be later used when producing AOT code.\n *\n * The code below will only
 accept the input if it is somehow tied to styling (whether it be\n * style/class bindings or static style/class attributes).\n */\n StylingBuilder.prototype.registerBoundInput = function (input) {\n // [attr.style] or [attr.class] are skipped in the code below,\n // they should not be treated as styling-based bindings since\n // they are intended to be written directly to the attr and\n // will therefore skip all style/class resolution that is present\n // with style=\"\", [style]=\"\" and [style.prop]=\"\", class=\"\",\n // [class.prop]=\"\". [class]=\"\" assignments\n var binding = null;\n var name = input.name;\n switch (input.type) {\n case 0 /* Property */:\n binding = this.registerInputBasedOnName(name, input.value, input.sourceSpan);\n break;\n case 3 /* Style */:\n binding
```

```
= this.registerStyleInput(name, false, input.value, input.sourceSpan, input.unit);\n                break;\n
case 2 /* Class */:\n                binding = this.registerClassInput(name, false, input.value, input.sourceSpan);\n
break;\n            }\n            return binding ? true : false;\n        };\n
StylingBuilder.prototype.registerInputBasedOnName = function (name, expression, sourceSpan) {\n            var
binding = null;\n            var prefix = name.substring(0, 6);\n            var isStyle = name === 'style' || prefix ===
'style.' || prefix === 'style!';\n            var isClass = !isStyle && (name === 'class' || prefix === 'class.' || prefix ===
'class!');\n            if (isStyle || isClass) {\n                var isMapBased = name.charAt(5) !== '.'; // style.prop or
class.prop makes this a no\n                var property = name.substr(isMapBased ? 5 : 6); // the dot explains why
there's a +1\n                if (isStyle)
{\n                    binding = this.registerStyleInput(property, isMapBased, expression, sourceSpan);\n                }\n
else {\n                    binding = this.registerClassInput(property, isMapBased, expression, sourceSpan);\n
}\n            }\n            return binding;\n        };\n        StylingBuilder.prototype.registerStyleInput = function (name,
isMapBased, value, sourceSpan, suffix) {\n            if (isEmptyExpression(value)) {\n                return null;\n
}\n            name = normalizePropName(name);\n            var _a = parseProperty(name), property = _a.property,
hasOverrideFlag = _a.hasOverrideFlag, bindingSuffix = _a.suffix;\n            suffix = typeof suffix === 'string' &&
suffix.length !== 0 ? suffix : bindingSuffix;\n            var entry = { name: property, suffix: suffix, value: value,
sourceSpan: sourceSpan, hasOverrideFlag: hasOverrideFlag };\n            if (isMapBased) {\n
this._styleMapInput
= entry;\n            }\n            else {\n                (this._singleStyleInputs = this._singleStyleInputs || []).push(entry);\n
registerIntoMap(this._stylesIndex, property);\n            }\n            this._lastStylingInput = entry;\n
this._firstStylingInput = this._firstStylingInput || entry;\n            this._checkForPipes(value);\n
this.hasBindings = true;\n            return entry;\n        };\n        StylingBuilder.prototype.registerClassInput = function
(name, isMapBased, value, sourceSpan) {\n            if (isEmptyExpression(value)) {\n                return null;\n
}\n            var _a = parseProperty(name), property = _a.property, hasOverrideFlag = _a.hasOverrideFlag;\n
var entry = { name: property, value: value, sourceSpan: sourceSpan, hasOverrideFlag: hasOverrideFlag, suffix: null
};\n            if (isMapBased) {\n                if (this._classMapInput) {\n                    throw new Error('[class]
and [className] bindings cannot be used on the same element simultaneously');\n                }\n
this._classMapInput = entry;\n            }\n            else {\n                (this._singleClassInputs = this._singleClassInputs
|| []).push(entry);\n                registerIntoMap(this._classesIndex, property);\n            }\n            this._lastStylingInput
= entry;\n            this._firstStylingInput = this._firstStylingInput || entry;\n            this._checkForPipes(value);\n
this.hasBindings = true;\n            return entry;\n        };\n        StylingBuilder.prototype._checkForPipes = function
(value) {\n            if ((value instanceof ASTWithSource) && (value.ast instanceof BindingPipe)) {\n
this.hasBindingsWithPipes = true;\n            }\n        };\n        /**\n         * Registers the element's static style string
value to the builder.\n         *\n         * @param value the style string (e.g. `width:100px; height:200px;`)\n
*/\n        StylingBuilder.prototype.registerStyleAttr = function (value) {\n            this._initialStyleValues =
parse(value);\n            this._hasInitialValues = true;\n        };\n        /**\n         * Registers the element's static class
string value to the builder.\n         *\n         * @param value the className string (e.g. `disabled gold zoom`)\n
*/\n        StylingBuilder.prototype.registerClassAttr = function (value) {\n            this._initialClassValues =
value.trim().split(/\\s+/g);\n            this._hasInitialValues = true;\n        };\n        /**\n         * Appends all styling-
related expressions to the provided attrs array.\n         *\n         * @param attrs an existing array where each of the
styling expressions\n         * will be inserted into.\n         */\n
StylingBuilder.prototype.populateInitialStylingAttrs = function (attrs) {\n            // [CLASS_MARKER, 'foo', 'bar',
'baz' ...]\n            if (this._initialClassValues.length)
{\n                attrs.push(literal(1 /* Classes */));\n                for (var i = 0; i < this._initialClassValues.length; i++)
{\n                    attrs.push(literal(this._initialClassValues[i]));\n                }\n            }\n            //
[STYLE_MARKER, 'width', '200px', 'height', '100px', ...]\n            if (this._initialStyleValues.length) {\n
attrs.push(literal(2 /* Styles */));\n                for (var i = 0; i < this._initialStyleValues.length; i += 2) {\n
attrs.push(literal(this._initialStyleValues[i]), literal(this._initialStyleValues[i + 1]));\n                }\n            }\n
```

```
};\n        /**\n         * Builds an instruction with all the expressions and parameters for `elementHostAttrs`.\n
*\n         * The instruction generation code below is used for producing the AOT statement code which is\n         *
responsible for registering initial styles (within a directive hostBindings' creation block),\n
         * as well as any of the provided attribute values, to the directive host element.\n         */\n
StylingBuilder.prototype.assignHostAttrs = function (attrs, definitionMap) {\n            if (this._directiveExpr &&
(attrs.length || this._hasInitialValues)) {\n                this.populateInitialStylingAttrs(attrs);\n
definitionMap.set('hostAttrs', literalArr(attrs));\n            }\n        };\n        /**\n         * Builds an instruction with all
the expressions and parameters for `classMap`.\n         *\n         * The instruction data will contain all expressions for
`classMap` to function\n         * which includes the `[class]` expression params.\n         */\n
StylingBuilder.prototype.buildClassMapInstruction = function (valueConverter) {\n            if (this._classMapInput)
{\n                return this._buildMapBasedInstruction(valueConverter, true, this._classMapInput);\n            }\n
return null;\n        };\n        /**\n
         * Builds an instruction with all the expressions and parameters for `styleMap`.\n         *\n         * The
instruction data will contain all expressions for `styleMap` to function\n         * which includes the `[style]`
expression params.\n         */\n        StylingBuilder.prototype.buildStyleMapInstruction = function (valueConverter)
{\n            if (this._styleMapInput) {\n                return this._buildMapBasedInstruction(valueConverter, false,
this._styleMapInput);\n            }\n            return null;\n        };\n
StylingBuilder.prototype._buildMapBasedInstruction = function (valueConverter, isClassBased, stylingInput) {\n
    // each styling binding value is stored in the LView\n            // map-based bindings allocate two slots: one for
the\n            // previous binding value and another for the previous\n            // className or style attribute value.\n
     var totalBindingSlotsRequired = MIN_STYLING_BINDING_SLOTS_REQUIRED;\n
          // these values must be outside of the update block so that they can\n            // be evaluated (the AST visit
call) during creation time so that any\n            // pipes can be picked up in time before the template is built\n
var mapValue = stylingInput.value.visit(valueConverter);\n            var reference;\n            if (mapValue instanceof
Interpolation) {\n                totalBindingSlotsRequired += mapValue.expressions.length;\n                reference =
isClassBased ? getClassMapInterpolationExpression(mapValue) :\n
getStyleMapInterpolationExpression(mapValue);\n            }\n            else {\n                reference = isClassBased ?
Identifiers$1.classMap : Identifiers$1.styleMap;\n            }\n            return {\n                reference: reference,\n
   calls: [{\n                    supportsInterpolation: true,\n                    sourceSpan: stylingInput.sourceSpan,\n
          allocateBindingSlots:
 totalBindingSlotsRequired,\n                    params: function (convertFn) {\n                        var convertResult =
convertFn(mapValue);\n                        var params = Array.isArray(convertResult) ? convertResult :
[convertResult];\n                        return params;\n                    }\n                }]\n            };\n        };\n
StylingBuilder.prototype._buildSingleInputs = function (reference, inputs, valueConverter,
getInterpolationExpressionFn, isClassBased) {\n            var instructions = [];\n            inputs.forEach(function
(input) {\n                var previousInstruction = instructions[instructions.length - 1];\n                var value =
input.value.visit(valueConverter);\n                var referenceForCall = reference;\n                // each styling binding
value is stored in the LView\n                // but there are two values stored for each binding:\n                //   1) the
value
 itself\n                //   2) an intermediate value (concatenation of style up to this point).\n                //      We need to
store the intermediate value so that we don't allocate\n                //      the strings on each CD.\n                var
totalBindingSlotsRequired = MIN_STYLING_BINDING_SLOTS_REQUIRED;\n                if (value instanceof
Interpolation) {\n                    totalBindingSlotsRequired += value.expressions.length;\n                    if
(getInterpolationExpressionFn) {\n                        referenceForCall = getInterpolationExpressionFn(value);\n
    }\n                }\n                var call = {\n                    sourceSpan: input.sourceSpan,\n
allocateBindingSlots: totalBindingSlotsRequired,\n                    supportsInterpolation:
!!getInterpolationExpressionFn,\n                    params: function (convertFn) {\n                        // params =>
stylingProp(propName, value, suffix)\n
```

```
var params = [];\n params.push(literal(input.name));\n var convertResult = convertFn(value);\n if (Array.isArray(convertResult)) {\n params.push.apply(params, __spread(convertResult));\n }\n else {\n params.push(convertResult);\n }\n // [style.prop] bindings may use suffix values (e.g. px, em, etc...), therefore,\n // if that is detected then we need to pass that in as an optional param.\n if (!isClassBased && input.suffix !== null) {\n params.push(literal(input.suffix));\n }\n return params;\n }\n };\n // If we ended up generating a call to the same instruction as the previous styling property\n // we can chain the calls together safely to save some bytes, otherwise we have to generate\n // a separate instruction call. This is primarily a concern with interpolation instructions\n // where we may start off with one `reference`, but end up using another based on the\n // number of interpolations.\n if (previousInstruction && previousInstruction.reference === referenceForCall) {\n previousInstruction.calls.push(call);\n }\n else {\n instructions.push({ reference: referenceForCall, calls: [call] });\n }\n });\n return instructions;\n };\n StylingBuilder.prototype._buildClassInputs = function (valueConverter) {\n if (this._singleClassInputs) {\n return this._buildSingleInputs(Identifiers$1.classProp, this._singleClassInputs, valueConverter, null, true);\n\n }\n return [];\n };\n StylingBuilder.prototype._buildStyleInputs = function (valueConverter) {\n if (this._singleStyleInputs) {\n return this._buildSingleInputs(Identifiers$1.styleProp, this._singleStyleInputs, valueConverter, getStylePropInterpolationExpression, false);\n }\n return [];\n };\n /**\n * Constructs all instructions which contain the expressions that will be placed\n * into the update block of a template function or a directive hostBindings function.\n */\n StylingBuilder.prototype.buildUpdateLevelInstructions = function (valueConverter) {\n var instructions = [];\n if (this.hasBindings) {\n var styleMapInstruction = this.buildStyleMapInstruction(valueConverter);\n if (styleMapInstruction) {\n instructions.push(styleMapInstruction);\n }\n var classMapInstruction = this.buildClassMapInstruction(valueConverter);\n if (classMapInstruction) {\n instructions.push(classMapInstruction);\n }\n instructions.push.apply(instructions, __spread(this._buildStyleInputs(valueConverter)));\n instructions.push.apply(instructions, __spread(this._buildClassInputs(valueConverter)));\n }\n return instructions;\n };\n return StylingBuilder;\n }());\n function registerIntoMap(map, key) {\n if (!map.has(key)) {\n map.set(key, map.size);\n }\n }\n function parseProperty(name) {\n var hasOverrideFlag = false;\n var overrideIndex = name.indexOf(IMPORTANT_FLAG);\n if (overrideIndex !== -1) {\n name = overrideIndex > 0 ? name.substring(0, overrideIndex) : '';\n hasOverrideFlag = true;\n }\n var suffix = null;\n var property = name;\n var unitIndex = name.lastIndexOf('.');\n if (unitIndex > 0) {\n suffix = name.substr(unitIndex + 1);\n property = name.substring(0, unitIndex);\n }\n return { property: property, suffix: suffix, hasOverrideFlag: hasOverrideFlag };\n }\n /**\n * Gets the instruction to generate for an interpolated class map.\n * @param interpolation An Interpolation AST\n */\n function getClassMapInterpolationExpression(interpolation) {\n switch (getInterpolationArgsLength(interpolation)) {\n case 1:\n return Identifiers$1.classMap;\n case 3:\n return Identifiers$1.classMapInterpolate1;\n case 5:\n return Identifiers$1.classMapInterpolate2;\n case 7:\n return Identifiers$1.classMapInterpolate3;\n case 9:\n return Identifiers$1.classMapInterpolate4;\n case 11:\n return Identifiers$1.classMapInterpolate5;\n case 13:\n return Identifiers$1.classMapInterpolate6;\n case 15:\n return Identifiers$1.classMapInterpolate7;\n case 17:\n return Identifiers$1.classMapInterpolate8;\n default:\n return Identifiers$1.classMapInterpolateV;\n }\n }\n /**\n * Gets the instruction to generate for an interpolated style map.\n * @param interpolation An Interpolation AST\n */\n function
```

getStyleMapInterpolationExpression(interpolation) {\n switch (getInterpolationArgsLength(interpolation)) {\n case 1:\n return Identifiers$1.styleMap;\n case 3:\n return Identifiers$1.styleMapInterpolate1;\n case 5:\n return Identifiers$1.styleMapInterpolate2;\n case 7:\n return Identifiers$1.styleMapInterpolate3;\n case 9:\n return Identifiers$1.styleMapInterpolate4;\n case 11:\n return Identifiers$1.styleMapInterpolate5;\n case 13:\n return Identifiers$1.styleMapInterpolate6;\n case 15:\n return Identifiers$1.styleMapInterpolate7;\n case 17:\n return Identifiers$1.styleMapInterpolate8;\n default:\n return Identifiers$1.styleMapInterpolateV;\n }\n }\n /**\n * Gets the instruction to generate for an interpolated style prop.\n * @param interpolation An Interpolation AST\n */\n function getStylePropInterpolationExpression(interpolation) {\n switch (getInterpolationArgsLength(interpolation)) {\n case 1:\n return Identifiers$1.styleProp;\n case 3:\n return Identifiers$1.stylePropInterpolate1;\n case 5:\n return Identifiers$1.stylePropInterpolate2;\n case 7:\n return Identifiers$1.stylePropInterpolate3;\n case 9:\n return Identifiers$1.stylePropInterpolate4;\n case 11:\n return Identifiers$1.stylePropInterpolate5;\n case 13:\n return Identifiers$1.stylePropInterpolate6;\n case 15:\n return Identifiers$1.stylePropInterpolate7;\n case 17:\n return Identifiers$1.stylePropInterpolate8;\n default:\n return Identifiers$1.stylePropInterpolateV;\n }\n }\n function normalizePropName(prop) {\n return hyphenate(prop);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n (function (TokenType) {\n TokenType[TokenType[\"Character\"] = 0] = \"Character\";\n TokenType[TokenType[\"Identifier\"] = 1] = \"Identifier\";\n TokenType[TokenType[\"Keyword\"] = 2] = \"Keyword\";\n TokenType[TokenType[\"String\"] = 3] = \"String\";\n TokenType[TokenType[\"Operator\"] = 4] = \"Operator\";\n TokenType[TokenType[\"Number\"] = 5] = \"Number\";\n TokenType[TokenType[\"Error\"] = 6] = \"Error\";\n })(exports.TokenType || (exports.TokenType = {}));\n var KEYWORDS = ['var', 'let', 'as', 'null', 'undefined', 'true', 'false', 'if', 'else', 'this'];\n var Lexer = /** @class */ (function () {\n function Lexer() {\n }\n Lexer.prototype.tokenize = function (text) {\n var scanner = new _Scanner(text);\n var tokens = [];\n var token = scanner.scanToken();\n while (token != null) {\n tokens.push(token);\n token = scanner.scanToken();\n }\n return tokens;\n };\n return Lexer;\n }());\n var Token$1 = /** @class */ (function () {\n function Token(index, end, type, numValue, strValue) {\n this.index = index;\n this.end = end;\n this.type = type;\n this.numValue = numValue;\n this.strValue = strValue;\n }\n Token.prototype.isCharacter = function (code) {\n return this.type == exports.TokenType.Character && this.numValue == code;\n };\n Token.prototype.isNumber = function () {\n return this.type == exports.TokenType.Number;\n };\n Token.prototype.isString = function () {\n return this.type == exports.TokenType.String;\n };\n Token.prototype.isOperator = function (operator) {\n return this.type == exports.TokenType.Operator && this.strValue == operator;\n };\n Token.prototype.isIdentifier = function () {\n return this.type == exports.TokenType.Identifier;\n };\n Token.prototype.isKeyword = function () {\n return this.type == exports.TokenType.Keyword;\n };\n Token.prototype.isKeywordLet = function () {\n return this.type == exports.TokenType.Keyword && this.strValue == 'let';\n };\n Token.prototype.isKeywordAs = function () {\n return this.type == exports.TokenType.Keyword && this.strValue == 'as';\n };\n Token.prototype.isKeywordNull = function () {\n return this.type == exports.TokenType.Keyword && this.strValue == 'null';\n };\n Token.prototype.isKeywordUndefined = function () {\n return this.type == exports.TokenType.Keyword && this.strValue == 'undefined';\n };\n Token.prototype.isKeywordTrue = function () {\n return this.type == exports.TokenType.Keyword && this.strValue == 'true';\n };\n Token.prototype.isKeywordFalse = function () {\n return this.type ==

```
exports.TokenType.Keyword && this.strValue == 'false';\n        };\n
        Token.prototype.isKeywordThis = function () {\n            return this.type == exports.TokenType.Keyword &&
this.strValue == 'this';\n        };\n        Token.prototype.isError = function () {\n            return this.type ==
exports.TokenType.Error;\n        };\n        Token.prototype.toNumber = function () {\n            return this.type ==
exports.TokenType.Number ? this.numValue : -1;\n        };\n        Token.prototype.toString = function () {\n
switch (this.type) {\n                case exports.TokenType.Character:\n                case exports.TokenType.Identifier:\n
            case exports.TokenType.Keyword:\n                case exports.TokenType.Operator:\n                case
exports.TokenType.String:\n                case exports.TokenType.Error:\n                    return this.strValue;\n
case exports.TokenType.Number:\n                    return this.numValue.toString();\n                default:\n
return null;\n
            }\n        };\n        return Token;\n    }());\n    function newCharacterToken(index, end, code) {\n        return
new Token$1(index, end, exports.TokenType.Character, code, String.fromCharCode(code));\n    }\n    function
newIdentifierToken(index, end, text) {\n        return new Token$1(index, end, exports.TokenType.Identifier, 0,
text);\n    }\n    function newKeywordToken(index, end, text) {\n        return new Token$1(index, end,
exports.TokenType.Keyword, 0, text);\n    }\n    function newOperatorToken(index, end, text) {\n        return new
Token$1(index, end, exports.TokenType.Operator, 0, text);\n    }\n    function newStringToken(index, end, text) {\n
    return new Token$1(index, end, exports.TokenType.String, 0, text);\n    }\n    function newNumberToken(index,
end, n) {\n        return new Token$1(index, end, exports.TokenType.Number, n, '');\n    }\n    function
newErrorToken(index, end, message) {\n        return new Token$1(index, end, exports.TokenType.Error,
 0, message);\n    }\n    var EOF = new Token$1(-1, -1, exports.TokenType.Character, 0, '');\n    var _Scanner = /**
@class */ (function () {\n        function _Scanner(input) {\n            this.input = input;\n            this.peek = 0;\n
this.index = -1;\n            this.length = input.length;\n            this.advance();\n        }\n
_Scanner.prototype.advance = function () {\n            this.peek = ++this.index >= this.length ? $EOF :
this.input.charCodeAt(this.index);\n        };\n        _Scanner.prototype.scanToken = function () {\n            var input =
this.input, length = this.length;\n            var peek = this.peek, index = this.index;\n            // Skip whitespace.\n
while (peek <= $SPACE) {\n                if (++index >= length) {\n                    peek = $EOF;\n                    break;\n
            }\n                else {\n                    peek = input.charCodeAt(index);\n                }\n            }\n
        this.peek = peek;\n            this.index = index;\n            if (index >= length) {\n                return null;\n            }\n
        // Handle identifiers and numbers.\n            if (isIdentifierStart(peek))\n                return this.scanIdentifier();\n
        if (isDigit(peek))\n                return this.scanNumber(index);\n            var start = index;\n            switch (peek)
{\n                case $PERIOD:\n                    this.advance();\n                    return isDigit(this.peek) ?
this.scanNumber(start) :\n                        newCharacterToken(start, this.index, $PERIOD);\n                case
$LPAREN:\n                case $RPAREN:\n                case $LBRACE:\n                case $RBRACE:\n                case
$LBRACKET:\n                case $RBRACKET:\n                case $COMMA:\n                case $COLON:\n
case $SEMICOLON:\n                    return this.scanCharacter(start, peek);\n                case $SQ:\n
                case $DQ:\n                    return this.scanString();\n                case $HASH:\n                case $PLUS:\n
    case $MINUS:\n                case $STAR:\n                case $SLASH:\n                case $PERCENT:\n                case
$CARET:\n                    return this.scanOperator(start, String.fromCharCode(peek));\n                case
$QUESTION:\n                    return this.scanComplexOperator(start, '?', $PERIOD, '.');\n                case $LT:\n
    case $GT:\n                    return this.scanComplexOperator(start, String.fromCharCode(peek), $EQ, '=');\n
case $BANG:\n                case $EQ:\n                    return this.scanComplexOperator(start,
String.fromCharCode(peek), $EQ, '=', $EQ, '=');\n                case $AMPERSAND:\n                    return
this.scanComplexOperator(start, '&', $AMPERSAND, '&');\n                case $BAR:\n                    return
this.scanComplexOperator(start, '|',
 $BAR, '|');\n                case $NBSP:\n                    while (isWhitespace(this.peek))\n                        this.advance();\n
                return this.scanToken();\n            }\n            this.advance();\n            return this.error(\"Unexpected
character [\" + String.fromCharCode(peek) + \"]\", 0);\n        };\n        _Scanner.prototype.scanCharacter = function
(start, code) {\n            this.advance();\n            return newCharacterToken(start, this.index, code);\n        };\n
```

```
_Scanner.prototype.scanOperator = function (start, str) {\n this.advance();\n return newOperatorToken(start, this.index, str);\n };\n /**\n * Tokenize a 2/3 char long operator\n *\n * @param start start index in the expression\n * @param one first symbol (always part of the operator)\n * @param twoCode code point for the second symbol\n * @param two second symbol (part of the operator when
the second code point matches)\n * @param threeCode code point for the third symbol\n * @param three third symbol (part of the operator when provided and matches source expression)\n */\n _Scanner.prototype.scanComplexOperator = function (start, one, twoCode, two, threeCode, three) {\n this.advance();\n var str = one;\n if (this.peek == twoCode) {\n this.advance();\n str += two;\n }\n if (threeCode != null && this.peek == threeCode) {\n this.advance();\n str += three;\n }\n return newOperatorToken(start, this.index, str);\n };\n _Scanner.prototype.scanIdentifier = function () {\n var start = this.index;\n this.advance();\n while (isIdentifierPart(this.peek))\n this.advance();\n var str = this.input.substring(start, this.index);\n return KEYWORDS.indexOf(str)
> -1 ? newKeywordToken(start, this.index, str) :\n newIdentifierToken(start, this.index, str);\n };\n _Scanner.prototype.scanNumber = function (start) {\n var simple = (this.index === start);\n this.advance(); // Skip initial digit.\n while (true) {\n if (isDigit(this.peek)) {\n // Do nothing.\n }\n else if (this.peek == $PERIOD) {\n simple = false;\n }\n else if (isExponentStart(this.peek)) {\n this.advance();\n if (isExponentSign(this.peek))\n this.advance();\n if (!isDigit(this.peek))\n return this.error('Invalid exponent', -1);\n simple = false;\n }\n else {\n break;\n }\n this.advance();\n }\n var str = this.input.substring(start, this.index);\n var value = simple ? parseIntAutoRadix(str) : parseFloat(str);\n return newNumberToken(start, this.index, value);\n };\n _Scanner.prototype.scanString = function () {\n var start = this.index;\n var quote = this.peek;\n this.advance(); // Skip initial quote.\n var buffer = '';\n var marker = this.index;\n var input = this.input;\n while (this.peek != quote) {\n if (this.peek == $BACKSLASH) {\n buffer += input.substring(marker, this.index);\n this.advance();\n var unescapedCode = void 0;\n // Workaround for TS2.1-introduced type strictness\n this.peek = this.peek;\n if (this.peek == $u) {\n // 4 character hex code for unicode character.\n var hex = input.substring(this.index + 1, this.index + 5);\n if (/^[0-9a-f]+$/i.test(hex)) {\n unescapedCode = parseInt(hex, 16);\n }\n else {\n return this.error(\"Invalid unicode escape [\\\\u\" + hex + \"]\", 0);\n }\n for (var i = 0; i < 5; i++) {\n this.advance();\n }\n }\n else {\n unescapedCode = unescape(this.peek);\n this.advance();\n }\n buffer += String.fromCharCode(unescapedCode);\n marker = this.index;\n }\n else if (this.peek == $EOF) {\n return this.error('Unterminated quote', 0);\n }\n else {\n this.advance();\n }\n }\n var last = input.substring(marker, this.index);\n this.advance(); // Skip terminating quote.\n return newStringToken(start, this.index, buffer + last);\n };\n _Scanner.prototype.error = function (message, offset) {\n var position = this.index + offset;\n return newErrorToken(position, this.index, \"Lexer Error: \" + message + \" at column \" + position + \" in expression [\" + this.input + \"]\");\n };\n return _Scanner;\n }());\n function isIdentifierStart(code) {\n return ($a <= code && code <= $z) || ($A <= code && code <= $Z) ||\n (code == $_) || (code == $$);\n }\n function isIdentifier(input) {\n if (input.length == 0)\n return false;\n var scanner = new _Scanner(input);\n if (!isIdentifierStart(scanner.peek))\n return false;\n scanner.advance();\n while (scanner.peek !== $EOF)
```

```
{\n            if (!isIdentifierPart(scanner.peek))\n                return false;\n            scanner.advance();\n        }\n    return true;\n    }\n    function isIdentifierPart(code) {\n        return isAsciiLetter(code) || isDigit(code) || (code == $_) ||\n            (code == $$);\n    }\n    function isExponentStart(code) {\n        return code == $e || code == $E;\n    }\n    function isExponentSign(code) {\n        return code == $MINUS || code == $PLUS;\n    }\n    function isQuote(code) {\n        return code === $SQ || code === $DQ || code === $BT;\n    }\n    function unescape(code) {\n        switch (code) {\n            case $n:\n                return $LF;\n            case $f:\n                return $FF;\n            case $r:\n                return $CR;\n            case $t:\n                return $TAB;\n            case $v:\n                return $VTAB;\n            default:\n                return code;\n        }\n    }\n    function parseIntAutoRadix(text) {\n        var result = parseInt(text);\n        if (isNaN(result)) {\n            throw new Error('Invalid integer literal when parsing ' + text);\n        }\n        return result;\n    }\n\n    var SplitInterpolation = /** @class */ (function () {\n        function SplitInterpolation(strings, expressions, offsets) {\n            this.strings = strings;\n            this.expressions = expressions;\n            this.offsets = offsets;\n        }\n        return SplitInterpolation;\n    }());\n    var TemplateBindingParseResult = /** @class */ (function () {\n        function TemplateBindingParseResult(templateBindings, warnings, errors) {\n            this.templateBindings = templateBindings;\n            this.warnings = warnings;\n            this.errors = errors;\n        }\n        return TemplateBindingParseResult;\n    }());\n    var defaultInterpolateRegExp = _createInterpolateRegExp(DEFAULT_INTERPOLATION_CONFIG);\n    function _getInterpolateRegExp(config) {\n        if (config === DEFAULT_INTERPOLATION_CONFIG) {\n            return defaultInterpolateRegExp;\n        }\n        else {\n            return _createInterpolateRegExp(config);\n        }\n    }\n    function _createInterpolateRegExp(config) {\n        var pattern = escapeRegExp(config.start) + '([\\\\s\\\\S]*?)' + escapeRegExp(config.end);\n        return new RegExp(pattern, 'g');\n    }\n    var Parser$1 = /** @class */ (function () {\n        function Parser(_lexer) {\n            this._lexer = _lexer;\n            this.errors = [];\n            this.simpleExpressionChecker = SimpleExpressionChecker;\n        }\n        Parser.prototype.parseAction = function (input, location, absoluteOffset, interpolationConfig) {\n            if (interpolationConfig === void 0) { interpolationConfig = DEFAULT_INTERPOLATION_CONFIG; }\n            this._checkNoInterpolation(input, location, interpolationConfig);\n            var sourceToLex = this._stripComments(input);\n            var tokens = this._lexer.tokenize(this._stripComments(input));\n            var ast = new _ParseAST(input, location, absoluteOffset, tokens, sourceToLex.length, true, this.errors, input.length - sourceToLex.length)\n                .parseChain();\n            return new ASTWithSource(ast, input, location, absoluteOffset, this.errors);\n        };\n        Parser.prototype.parseBinding = function (input, location, absoluteOffset, interpolationConfig) {\n            if (interpolationConfig === void 0) { interpolationConfig = DEFAULT_INTERPOLATION_CONFIG; }\n            var ast = this._parseBindingAst(input, location, absoluteOffset, interpolationConfig);\n            return new ASTWithSource(ast, input, location, absoluteOffset, this.errors);\n        };\n        Parser.prototype.checkSimpleExpression = function (ast) {\n            var checker = new this.simpleExpressionChecker();\n            ast.visit(checker);\n            return checker.errors;\n        };\n        Parser.prototype.parseSimpleBinding = function (input, location, absoluteOffset, interpolationConfig) {\n            if (interpolationConfig === void 0) { interpolationConfig = DEFAULT_INTERPOLATION_CONFIG; }\n            var ast = this._parseBindingAst(input, location, absoluteOffset, interpolationConfig);\n            var errors = this.checkSimpleExpression(ast);\n            if (errors.length > 0) {\n                this._reportError(\"Host binding expression cannot contain \" + errors.join(' '), input, location);\n            }\n            return new ASTWithSource(ast, input, location, absoluteOffset, this.errors);\n        };\n        Parser.prototype._reportError = function (message, input, errLocation, ctxLocation) {\n            this.errors.push(new ParserError(message, input, errLocation, ctxLocation));\n        };\n        Parser.prototype._parseBindingAst = function (input, location, absoluteOffset, interpolationConfig) {\n            // Quotes expressions use 3rd-party expression language. We don't want to use\n            // our lexer or parser for that, so we check for that ahead of time.\n            var quote = this._parseQuote(input, location, absoluteOffset);\n            if (quote != null) {\n                return quote;\n            }\n            this._checkNoInterpolation(input, location, interpolationConfig);\n            var sourceToLex =
```

this._stripComments(input);\n var tokens = this._lexer.tokenize(sourceToLex);\n return new _ParseAST(input, location, absoluteOffset, tokens, sourceToLex.length, false, this.errors, input.length - sourceToLex.length)\n .parseChain();\n };\n Parser.prototype._parseQuote = function (input, location, absoluteOffset) {\n if (input == null)\n return null;\n var prefixSeparatorIndex = input.indexOf(':');\n if (prefixSeparatorIndex == -1)\n return null;\n var prefix = input.substring(0, prefixSeparatorIndex).trim();\n if (!isIdentifier(prefix))\n return null;\n var uninterpretedExpression = input.substring(prefixSeparatorIndex + 1);\n var span = new ParseSpan(0, input.length);\n return new Quote(span, span.toAbsolute(absoluteOffset), prefix, uninterpretedExpression, location);\n };\n /**\n * Parse microsyntax template expression and return a list of bindings or\n * parsing errors in case the given expression is invalid.\n *\n * For example,\n * ```\n * <div *ngFor=\"let item of items\">\n * ^ ^ absoluteValueOffset for `templateValue`\n * absoluteKeyOffset for `templateKey`\n * ```\n * contains three bindings:\n * 1. ngFor -> null\n * 2. item -> NgForOfContext.$implicit\n * 3. ngForOf -> items\n *\n * This is apparent from the de-sugared template:\n * ```\n * <ng-template ngFor let-item [ngForOf]=\"items\">\n * ```\n *\n * @param templateKey name of directive, without the * prefix. For example: ngIf, ngFor\n * @param templateValue RHS of the microsyntax attribute\n * @param templateUrl template filename if it's external, component filename if it's inline\n * @param absoluteKeyOffset start of the `templateKey`\n * @param absoluteValueOffset start of the `templateValue`\n */\n Parser.prototype.parseTemplateBindings = function (templateKey, templateValue, templateUrl, absoluteKeyOffset, absoluteValueOffset) {\n var tokens = this._lexer.tokenize(templateValue);\n var parser = new _ParseAST(templateValue, templateUrl, absoluteValueOffset, tokens, templateValue.length, false /* parseAction */, this.errors, 0 /* relative offset */);\n return parser.parseTemplateBindings({\n source: templateKey,\n span: new AbsoluteSourceSpan(absoluteKeyOffset, absoluteKeyOffset + templateKey.length),\n });\n };\n Parser.prototype.parseInterpolation = function (input, location, absoluteOffset, interpolationConfig) {\n if (interpolationConfig === void 0) { interpolationConfig = DEFAULT_INTERPOLATION_CONFIG; }\n var _a = this.splitInterpolation(input, location, interpolationConfig), strings = _a.strings, expressions = _a.expressions, offsets = _a.offsets;\n if (expressions.length === 0)\n return null;\n var expressionNodes = [];\n for (var i = 0; i < expressions.length; ++i) {\n var expressionText = expressions[i].text;\n var sourceToLex = this._stripComments(expressionText);\n var tokens = this._lexer.tokenize(sourceToLex);\n var ast = new _ParseAST(input, location, absoluteOffset, tokens, sourceToLex.length, false, this.errors, offsets[i] + (expressionText.length - sourceToLex.length))\n .parseChain();\n expressionNodes.push(ast);\n }\n return this.createInterpolationAst(strings.map(function (s) { return s.text; }), expressionNodes, input, location, absoluteOffset);\n };\n /**\n * Similar to `parseInterpolation`, but treats the provided string as a single expression\n * element that would normally appear within the interpolation prefix and suffix (`{{` and `}}`).\n * This is used for parsing the switch expression in ICUs.\n */\n Parser.prototype.parseInterpolationExpression = function (expression, location, absoluteOffset) {\n var sourceToLex = this._stripComments(expression);\n var tokens = this._lexer.tokenize(sourceToLex);\n var ast = new _ParseAST(expression, location, absoluteOffset, tokens, sourceToLex.length, \n /* parseAction */ false, this.errors, 0)\n .parseChain();\n var strings = ["", ""]; // The prefix and suffix strings are both empty\n return this.createInterpolationAst(strings, [ast], expression, location, absoluteOffset);\n };\n Parser.prototype.createInterpolationAst = function (strings, expressions, input, location, absoluteOffset) {\n var span = new ParseSpan(0, input.length);\n var interpolation = new Interpolation(span, span.toAbsolute(absoluteOffset), strings, expressions);\n return new ASTWithSource(interpolation, input, location, absoluteOffset, this.errors);\n };\n /**\n * Splits a string of text into \"raw\" text segments and expressions present in interpolations in\n * the string.\n * Returns

```
`null` if there are no interpolations, otherwise a\n * `SplitInterpolation` with splits that look like\n * <raw text> <expression> <raw text> ... <raw text> <expression> <raw text>\n */\n Parser.prototype.splitInterpolation = function (input, location, interpolationConfig) {\n if (interpolationConfig === void 0) { interpolationConfig = DEFAULT_INTERPOLATION_CONFIG; }\n var strings = [];\n var expressions = [];\n var offsets = [];\n var i = 0;\n var atInterpolation = false;\n var extendLastString = false;\n var interpStart = interpolationConfig.start, interpEnd = interpolationConfig.end;\n while (i < input.length) {\n if (!atInterpolation) {\n // parse until starting {{\n var start = i;\n i = input.indexOf(interpStart, i);\n if (i === -1) {\n i = input.length;\n }\n var text = input.substring(start, i);\n strings.push({ text: text, start: start, end: i });\n atInterpolation = true;\n }\n else {\n // parse from starting {{ to ending }} while ignoring content inside quotes.\n var fullStart = i;\n var exprStart = fullStart + interpStart.length;\n var exprEnd = this._getExpressiondEndIndex(input, interpEnd, exprStart);\n if (exprEnd === -1) {\n // Could not find the end of the interpolation; do not parse an expression.\n // Instead we should extend the content on the last raw string.\n atInterpolation = false;\n extendLastString = true;\n break;\n }\n var fullEnd = exprEnd + interpEnd.length;\n var text = input.substring(exprStart, exprEnd);\n if (text.trim().length > 0) {\n expressions.push({ text: text, start: fullStart, end: fullEnd });\n }\n else {\n this._reportError('Blank expressions are not allowed in interpolated strings', input, \"at column \" + i + \" in\", location);\n expressions.push({ text: '$implicit', start: fullStart, end: fullEnd });\n }\n offsets.push(exprStart);\n i = fullEnd;\n atInterpolation = false;\n }\n }\n if (!atInterpolation) {\n // If we are now at a text section, add the remaining content as a raw string.\n if (extendLastString) {\n var piece = strings[strings.length - 1];\n piece.text += input.substring(i);\n piece.end = input.length;\n }\n else {\n strings.push({ text: input.substring(i), start: i, end: input.length });\n }\n }\n return new SplitInterpolation(strings, expressions, offsets);\n };\n Parser.prototype.wrapLiteralPrimitive = function (input, location, absoluteOffset) {\n var span = new ParseSpan(0, input == null ? 0 : input.length);\n return new ASTWithSource(new LiteralPrimitive(span, span.toAbsolute(absoluteOffset), input), input, location, absoluteOffset, this.errors);\n };\n Parser.prototype._stripComments = function (input) {\n var i = this._commentStart(input);\n return i != null ? input.substring(0, i).trim() : input;\n };\n Parser.prototype._commentStart = function (input) {\n var outerQuote = null;\n for (var i = 0; i < input.length - 1; i++) {\n var char = input.charCodeAt(i);\n var nextChar = input.charCodeAt(i + 1);\n if (char === $SLASH && nextChar == $SLASH && outerQuote == null)\n return i;\n if (outerQuote === char) {\n outerQuote = null;\n }\n else if (outerQuote == null && isQuote(char)) {\n outerQuote = char;\n }\n }\n return null;\n };\n Parser.prototype._checkNoInterpolation = function (input, location, interpolationConfig) {\n var regexp = _getInterpolateRegExp(interpolationConfig);\n var parts = input.split(regexp);\n if (parts.length > 1) {\n this._reportError(\"Got interpolation (\" + interpolationConfig.start + interpolationConfig.end + \") where expression was expected\", input, \"at column \" + this._findInterpolationErrorColumn(parts, 1, interpolationConfig) + \" in\", location);\n }\n };\n Parser.prototype._findInterpolationErrorColumn = function (parts, partInErrIdx, interpolationConfig) {\n var errLocation = '';\n for (var j = 0; j < partInErrIdx; j++) {\n errLocation += j % 2 === 0 ?\n parts[j] :\n \"\" + interpolationConfig.start + parts[j] + interpolationConfig.end;\n }\n return errLocation.length;\n };\n /**\n * Finds the index of the end of an interpolation expression\n * while ignoring comments and quoted content.\n */\n
```

```
Parser.prototype._getExpressiondEndIndex = function (input, expressionEnd, start) {\n var currentQuote = null;\n var escapeCount = 0;\n for (var i = start; i < input.length; i++) {\n var char = input[i];\n // Skip the characters inside quotes. Note that we only care about the\n // outer-most quotes matching up and we need to account for escape characters.\n if (isQuote(input.charCodeAt(i)) && (currentQuote === null || currentQuote === char) &&\n escapeCount % 2 === 0) {\n currentQuote = currentQuote
 === null ? char : null;\n }\n else if (currentQuote === null) {\n if (input.startsWith(expressionEnd, i)) {\n return i;\n }\n // Nothing else in the expression matters after we've\n // hit a comment so look directly for the end token.\n if (input.startsWith('//', i)) {\n return input.indexOf(expressionEnd, i);\n }\n }\n escapeCount = char === '\\\\' ? escapeCount + 1 : 0;\n }\n return -1;\n };\n return Parser;\n }());\n var IvyParser = /** @class */ (function (_super) {\n __extends(IvyParser, _super);\n function IvyParser() {\n var _this = _super.apply(this, __spread(arguments)) || this;\n _this.simpleExpressionChecker = IvySimpleExpressionChecker;\n return _this;\n }\n return IvyParser;\n }(Parser$1));\n /** Describes a stateful context an expression parser is in. */\n var ParseContextFlags;\n (function (ParseContextFlags) {\n ParseContextFlags[ParseContextFlags[\"None\"] = 0] = \"None\";\n /**\n * A Writable context is one in which a value may be written to an lvalue.\n * For example, after we see a property access, we may expect a write to the\n * property via the \"=\" operator.\n * prop\n * ^ possible \"=\" after\n */\n ParseContextFlags[ParseContextFlags[\"Writable\"] = 1] = \"Writable\";\n })(ParseContextFlags || (ParseContextFlags = {}));\n var _ParseAST = /** @class */ (function () {\n function _ParseAST(input, location, absoluteOffset, tokens, inputLength, parseAction, errors, offset) {\n this.input = input;\n this.location = location;\n this.absoluteOffset = absoluteOffset;\n this.tokens = tokens;\n this.inputLength = inputLength;\n this.parseAction = parseAction;\n this.errors = errors;\n this.offset = offset;\n this.rparensExpected = 0;\n this.rbracketsExpected = 0;\n this.rbracesExpected = 0;\n this.context = ParseContextFlags.None;\n // Cache of expression start and input indeces to the absolute source span they map to, used to\n // prevent creating superfluous source spans in `sourceSpan`.\n // A serial of the expression start and input index is used for mapping because both are stateful\n // and may change for subsequent expressions visited by the parser.\n this.sourceSpanCache = new Map();\n this.index = 0;\n }\n _ParseAST.prototype.peek = function (offset) {\n var i = this.index + offset;\n return i < this.tokens.length ? this.tokens[i] : EOF;\n };\n Object.defineProperty(_ParseAST.prototype,
 \"next\", {\n get: function () {\n return this.peek(0);\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(_ParseAST.prototype, \"atEOF\", {\n /** Whether all the parser input has been processed. */\n get: function () {\n return this.index >= this.tokens.length;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(_ParseAST.prototype, \"inputIndex\", {\n /**\n * Index of the next token to be processed, or the end of the last token if all have been\n * processed.\n */\n get: function () {\n return this.atEOF ? this.currentEndIndex : this.next.index + this.offset;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(_ParseAST.prototype,
 \"currentEndIndex\", {\n /**\n * End index of the last processed token, or the start of the first token if none have been\n * processed.\n */\n get: function () {\n if (this.index > 0) {\n var curToken = this.peek(-1);\n return curToken.end + this.offset;\n }\n // No tokens have been processed yet; return the next token's start or the length of the input\n // if there is no token.\n if (this.tokens.length === 0) {\n return this.inputLength + this.offset;\n }\n return this.next.index + this.offset;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(_ParseAST.prototype, \"currentAbsoluteOffset\", {\n /**\n * Returns the absolute offset of the start of the
```

```
 current token.\n           */\n          get: function () {\n              return this.absoluteOffset + this.inputIndex;\n
},\n          enumerable: false,\n          configurable: true\n      });\n      _ParseAST.prototype.span = function
(start) {\n          return new ParseSpan(start, this.currentEndIndex);\n      };\n
_ParseAST.prototype.sourceSpan = function (start) {\n          var serial = start + \"@\" + this.inputIndex;\n          if
(!this.sourceSpanCache.has(serial)) {\n              this.sourceSpanCache.set(serial,
this.span(start).toAbsolute(this.absoluteOffset));\n          }\n          return this.sourceSpanCache.get(serial);\n
};\n      _ParseAST.prototype.advance = function () {\n          this.index++;\n      };\n      /**\n       * Executes a
callback in the provided context.\n       */\n      _ParseAST.prototype.withContext = function (context, cb) {\n
  this.context |= context;\n
  var ret = cb();\n          this.context ^= context;\n          return ret;\n      };\n
_ParseAST.prototype.consumeOptionalCharacter = function (code) {\n          if (this.next.isCharacter(code)) {\n
      this.advance();\n              return true;\n          }\n          else {\n              return false;\n          }\n      };\n
  _ParseAST.prototype.peekKeywordLet = function () {\n          return this.next.isKeywordLet();\n      };\n
_ParseAST.prototype.peekKeywordAs = function () {\n          return this.next.isKeywordAs();\n      };\n      /**\n
     * Consumes an expected character, otherwise emits an error about the missing expected character\n       * and
skips over the token stream until reaching a recoverable point.\n       *\n       * See `this.error` and `this.skip` for
more details.\n       */\n      _ParseAST.prototype.expectCharacter = function (code) {\n          if
(this.consumeOptionalCharacter(code))\n              return;\n          this.error(\"Missing expected \" + String.fromCharCode(code));\n      };\n
_ParseAST.prototype.consumeOptionalOperator = function (op) {\n          if (this.next.isOperator(op)) {\n
this.advance();\n              return true;\n          }\n          else {\n              return false;\n          }\n      };\n
_ParseAST.prototype.expectOperator = function (operator) {\n          if
(this.consumeOptionalOperator(operator))\n              return;\n          this.error(\"Missing expected operator \" +
operator);\n      };\n      _ParseAST.prototype.prettyPrintToken = function (tok) {\n          return tok === EOF ?
'end of input' : \"token \" + tok;\n      };\n      _ParseAST.prototype.expectIdentifierOrKeyword = function () {\n
    var n = this.next;\n          if (!n.isIdentifier() && !n.isKeyword()) {\n              this.error(\"Unexpected \" +
this.prettyPrintToken(n)
 + \", expected identifier or keyword\");\n              return '';\n          }\n          this.advance();\n          return
n.toString();\n      };\n      _ParseAST.prototype.expectIdentifierOrKeywordOrString = function () {\n          var n
= this.next;\n          if (!n.isIdentifier() && !n.isKeyword() && !n.isString()) {\n              this.error(\"Unexpected
\" + this.prettyPrintToken(n) + \", expected identifier, keyword, or string\");\n              return '';\n          }\n
this.advance();\n          return n.toString();\n      };\n      _ParseAST.prototype.parseChain = function () {\n
var exprs = [];\n          var start = this.inputIndex;\n          while (this.index < this.tokens.length) {\n              var
expr = this.parsePipe();\n              exprs.push(expr);\n              if
(this.consumeOptionalCharacter($SEMICOLON)) {\n                  if (!this.parseAction) {\n
this.error('Binding
 expression cannot contain chained expression');\n                  }\n                  while
(this.consumeOptionalCharacter($SEMICOLON)) {\n                  } // read all semicolons\n              }\n
else if (this.index < this.tokens.length) {\n                  this.error(\"Unexpected token '\" + this.next + \"'\");\n
 }\n          }\n          if (exprs.length == 0)\n              return new EmptyExpr(this.span(start),
this.sourceSpan(start));\n          if (exprs.length == 1)\n              return exprs[0];\n          return new
Chain(this.span(start), this.sourceSpan(start), exprs);\n      };\n      _ParseAST.prototype.parsePipe = function ()
{\n          var result = this.parseExpression();\n          if (this.consumeOptionalOperator('|')) {\n              if
(this.parseAction) {\n                  this.error('Cannot have a pipe in an action expression');\n              }\n
do {\n
    var nameStart = this.inputIndex;\n                  var name = this.expectIdentifierOrKeyword();\n                  var
nameSpan = this.sourceSpan(nameStart);\n                  var args = [];\n                  while
(this.consumeOptionalCharacter($COLON)) {\n                      args.push(this.parseExpression());\n                  }\n
```

```
            var start = result.span.start;\n                result =\n                    new BindingPipe(this.span(start),
this.sourceSpan(start), result, name, args, nameSpan);\n            } while (this.consumeOptionalOperator('|'));\n
  }\n        return result;\n    };\n    _ParseAST.prototype.parseExpression = function () {\n        return
this.parseConditional();\n    };\n    _ParseAST.prototype.parseConditional = function () {\n        var start =
this.inputIndex;\n        var result = this.parseLogicalOr();\n        if (this.consumeOptionalOperator('?')) {\n
        var yes = this.parsePipe();\n            var no = void 0;\n            if
(!this.consumeOptionalCharacter($COLON)) {\n                var end = this.inputIndex;\n                var expression
= this.input.substring(start, end);\n                this.error(\"Conditional expression \" + expression + \" requires all 3
expressions\");\n                no = new EmptyExpr(this.span(start), this.sourceSpan(start));\n            }\n
else {\n                no = this.parsePipe();\n            }\n            return new Conditional(this.span(start),
this.sourceSpan(start), result, yes, no);\n        }\n        else {\n            return result;\n        }\n    };\n
_ParseAST.prototype.parseLogicalOr = function () {\n        // '||'\n        var result = this.parseLogicalAnd();\n
    while (this.consumeOptionalOperator('||')) {\n            var right = this.parseLogicalAnd();\n
     var start = result.span.start;\n            result = new Binary(this.span(start), this.sourceSpan(start), '||', result,
right);\n        }\n        return result;\n    };\n    _ParseAST.prototype.parseLogicalAnd = function () {\n
  // '&&'\n        var result = this.parseEquality();\n        while (this.consumeOptionalOperator('&&')) {\n
var right = this.parseEquality();\n            var start = result.span.start;\n            result = new
Binary(this.span(start), this.sourceSpan(start), '&&', result, right);\n        }\n        return result;\n    };\n
_ParseAST.prototype.parseEquality = function () {\n        // '==','!=','===','!=='\n        var result =
this.parseRelational();\n        while (this.next.type == exports.TokenType.Operator) {\n            var operator =
this.next.strValue;\n            switch (operator) {\n                case '==':\n                case '===':\n
            case '!=':\n                case '!==':\n                    this.advance();\n                    var right =
this.parseRelational();\n                    var start = result.span.start;\n                    result = new
Binary(this.span(start), this.sourceSpan(start), operator, result, right);\n                    continue;\n            }\n
    break;\n        }\n        return result;\n    };\n    _ParseAST.prototype.parseRelational = function () {\n
  // '<', '>', '<=', '>='\n        var result = this.parseAdditive();\n        while (this.next.type ==
exports.TokenType.Operator) {\n            var operator = this.next.strValue;\n            switch (operator) {\n
      case '<':\n                case '>':\n                case '<=':\n                case '>=':\n                    this.advance();\n
                var right = this.parseAdditive();\n
                  var start = result.span.start;\n                    result = new Binary(this.span(start),
this.sourceSpan(start), operator, result, right);\n                    continue;\n            }\n            break;\n        }\n
        return result;\n    };\n    _ParseAST.prototype.parseAdditive = function () {\n        // '+', '-'\n        var
result = this.parseMultiplicative();\n        while (this.next.type == exports.TokenType.Operator) {\n            var
operator = this.next.strValue;\n            switch (operator) {\n                case '+':\n                case '-':\n
    this.advance();\n                    var right = this.parseMultiplicative();\n                    var start =
result.span.start;\n                    result = new Binary(this.span(start), this.sourceSpan(start), operator, result,
right);\n                    continue;\n            }\n
        break;\n        }\n        return result;\n    };\n    _ParseAST.prototype.parseMultiplicative = function ()
{\n        // '*', '%', '/'\n        var result = this.parsePrefix();\n        while (this.next.type ==
exports.TokenType.Operator) {\n            var operator = this.next.strValue;\n            switch (operator) {\n
      case '*':\n                case '%':\n                case '/':\n                    this.advance();\n                    var right =
this.parsePrefix();\n                    var start = result.span.start;\n                    result = new Binary(this.span(start),
this.sourceSpan(start), operator, result, right);\n                    continue;\n            }\n            break;\n        }\n
        return result;\n    };\n    _ParseAST.prototype.parsePrefix = function () {\n        if (this.next.type ==
exports.TokenType.Operator) {\n
 var start = this.inputIndex;\n            var operator = this.next.strValue;\n            var result = void 0;\n
switch (operator) {\n                case '+':\n                    this.advance();\n                    result =
this.parsePrefix();\n                    return Unary.createPlus(this.span(start), this.sourceSpan(start), result);\n
```

```
  case '-':\n                this.advance();\n                result = this.parsePrefix();\n                return
Unary.createMinus(this.span(start), this.sourceSpan(start), result);\n            case '!':\n
this.advance();\n                result = this.parsePrefix();\n                return new PrefixNot(this.span(start),
this.sourceSpan(start), result);\n            }\n        }\n        return this.parseCallChain();\n    };\n
_ParseAST.prototype.parseCallChain = function () {\n        var _this
 = this;\n        var result = this.parsePrimary();\n        var resultStart = result.span.start;\n        while (true) {\n
            if (this.consumeOptionalCharacter($PERIOD)) {\n                result =
this.parseAccessMemberOrMethodCall(result, false);\n            }\n            else if
(this.consumeOptionalOperator('?.')) {\n                result = this.parseAccessMemberOrMethodCall(result, true);\n
            }\n            else if (this.consumeOptionalCharacter($LBRACKET)) {\n
this.withContext(ParseContextFlags.Writable, function () {\n                _this.rbracketsExpected++;\n
   var key = _this.parsePipe();\n                if (key instanceof EmptyExpr) {\n                    _this.error(\"Key
access cannot be empty\");\n                }\n                _this.rbracketsExpected--;\n
_this.expectCharacter($RBRACKET);\n
            if (_this.consumeOptionalOperator('=')) {\n                    var value = _this.parseConditional();\n
            result = new KeyedWrite(_this.span(resultStart), _this.sourceSpan(resultStart), result, key, value);\n
        }\n                else {\n                    result =\n                        new
KeyedRead(_this.span(resultStart), _this.sourceSpan(resultStart), result, key);\n                }\n            });\n
            }\n            else if (this.consumeOptionalCharacter($LPAREN)) {\n                this.rparensExpected++;\n
                var args = this.parseCallArguments();\n                this.rparensExpected--;\n
this.expectCharacter($RPAREN);\n                result =\n                    new FunctionCall(this.span(resultStart),
this.sourceSpan(resultStart), result, args);\n            }\n            else if (this.consumeOptionalOperator('!'))
 {\n                result = new NonNullAssert(this.span(resultStart), this.sourceSpan(resultStart), result);\n
}\n            else {\n                return result;\n            }\n        }\n    };\n
_ParseAST.prototype.parsePrimary = function () {\n        var start = this.inputIndex;\n        if
(this.consumeOptionalCharacter($LPAREN)) {\n            this.rparensExpected++;\n            var result =
this.parsePipe();\n            this.rparensExpected--;\n            this.expectCharacter($RPAREN);\n            return
result;\n        }\n        else if (this.next.isKeywordNull()) {\n            this.advance();\n            return new
LiteralPrimitive(this.span(start), this.sourceSpan(start), null);\n        }\n        else if
(this.next.isKeywordUndefined()) {\n            this.advance();\n            return new
LiteralPrimitive(this.span(start), this.sourceSpan(start),
 void 0);\n        }\n        else if (this.next.isKeywordTrue()) {\n            this.advance();\n            return new
LiteralPrimitive(this.span(start), this.sourceSpan(start), true);\n        }\n        else if (this.next.isKeywordFalse())
{\n            this.advance();\n            return new LiteralPrimitive(this.span(start), this.sourceSpan(start), false);\n
    }\n        else if (this.next.isKeywordThis()) {\n            this.advance();\n            return new
ThisReceiver(this.span(start), this.sourceSpan(start));\n        }\n        else if
(this.consumeOptionalCharacter($LBRACKET)) {\n            this.rbracketsExpected++;\n            var elements =
this.parseExpressionList($RBRACKET);\n            this.rbracketsExpected--;\n
this.expectCharacter($RBRACKET);\n            return new LiteralArray(this.span(start), this.sourceSpan(start),
elements);\n        }\n
    else if (this.next.isCharacter($LBRACE)) {\n            return this.parseLiteralMap();\n        }\n        else if
(this.next.isIdentifier()) {\n            return this.parseAccessMemberOrMethodCall(new
ImplicitReceiver(this.span(start), this.sourceSpan(start)), false);\n        }\n        else if (this.next.isNumber()) {\n
            var value = this.next.toNumber();\n            this.advance();\n            return new
LiteralPrimitive(this.span(start), this.sourceSpan(start), value);\n        }\n        else if (this.next.isString()) {\n
        var literalValue = this.next.toString();\n            this.advance();\n            return new
LiteralPrimitive(this.span(start), this.sourceSpan(start), literalValue);\n        }\n        else if (this.index >=
this.tokens.length) {\n            this.error(\"Unexpected end of expression: \" + this.input);\n            return new
```

```
EmptyExpr(this.span(start), this.sourceSpan(start));\n
        }\n        else {\n            this.error(\"Unexpected token \" + this.next);\n            return new
EmptyExpr(this.span(start), this.sourceSpan(start));\n        }\n    };\n
_ParseAST.prototype.parseExpressionList = function (terminator) {\n        var result = [];\n        if
(!this.next.isCharacter(terminator)) {\n            do {\n                result.push(this.parsePipe());\n            } while
(this.consumeOptionalCharacter($COMMA));\n        }\n        return result;\n    };\n
_ParseAST.prototype.parseLiteralMap = function () {\n        var keys = [];\n        var values = [];\n        var
start = this.inputIndex;\n        this.expectCharacter($LBRACE);\n        if
(!this.consumeOptionalCharacter($RBRACE)) {\n            this.rbracesExpected++;\n            do {\n
var quoted = this.next.isString();\n                var key = this.expectIdentifierOrKeywordOrString();\n
                keys.push({ key: key, quoted: quoted });\n                this.expectCharacter($COLON);\n
values.push(this.parsePipe());\n            } while (this.consumeOptionalCharacter($COMMA));\n
this.rbracesExpected--;\n            this.expectCharacter($RBRACE);\n        }\n        return new
LiteralMap(this.span(start), this.sourceSpan(start), keys, values);\n    };\n
_ParseAST.prototype.parseAccessMemberOrMethodCall = function (receiver, isSafe) {\n        if (isSafe === void
0) { isSafe = false; }\n        var start = receiver.span.start;\n        var nameStart = this.inputIndex;\n        var id
= this.expectIdentifierOrKeyword();\n        var nameSpan = this.sourceSpan(nameStart);\n        if
(this.consumeOptionalCharacter($LPAREN)) {\n            this.rparensExpected++;\n            var args =
this.parseCallArguments();\n
 this.expectCharacter($RPAREN);\n            this.rparensExpected--;\n            var span = this.span(start);\n
   var sourceSpan = this.sourceSpan(start);\n            return isSafe ? new SafeMethodCall(span, sourceSpan,
nameSpan, receiver, id, args) :\n                new MethodCall(span, sourceSpan, nameSpan, receiver, id, args);\n
   }\n        else {\n            if (isSafe) {\n                if (this.consumeOptionalOperator('=')) {\n
this.error('The \\'?.\\' operator cannot be used in the assignment');\n                return new
EmptyExpr(this.span(start), this.sourceSpan(start));\n                }\n                else {\n                    return new
SafePropertyRead(this.span(start), this.sourceSpan(start), nameSpan, receiver, id);\n                }\n            }\n
        else {\n                if (this.consumeOptionalOperator('=')) {\n                    if
 (!this.parseAction) {\n                        this.error('Bindings cannot contain assignments');\n                        return
new EmptyExpr(this.span(start), this.sourceSpan(start));\n                    }\n                    var value =
this.parseConditional();\n                    return new PropertyWrite(this.span(start), this.sourceSpan(start),
nameSpan, receiver, id, value);\n                }\n                else {\n                    return new
PropertyRead(this.span(start), this.sourceSpan(start), nameSpan, receiver, id);\n                }\n            }\n
}\n    };\n    _ParseAST.prototype.parseCallArguments = function () {\n        if
(this.next.isCharacter($RPAREN))\n            return [];\n        var positionals = [];\n        do {\n
positionals.push(this.parsePipe());\n        } while (this.consumeOptionalCharacter($COMMA));\n        return
positionals;\n    };\n
    /**\n     * Parses an identifier, a keyword, a string with an optional `-` in between,\n     * and returns the
string along with its absolute source span.\n     */\n    _ParseAST.prototype.expectTemplateBindingKey =
function () {\n        var result = '';\n        var operatorFound = false;\n        var start =
this.currentAbsoluteOffset;\n        do {\n            result += this.expectIdentifierOrKeywordOrString();\n
operatorFound = this.consumeOptionalOperator('-');\n            if (operatorFound) {\n                result += '-';\n
    }\n        } while (operatorFound);\n        return {\n            source: result,\n            span: new
AbsoluteSourceSpan(start, start + result.length),\n        };\n    };\n    /**\n     * Parse microsyntax template
expression and return a list of bindings or\n     * parsing errors in case the given expression is invalid.\n     *\n
     * For example,\n     * ```\n     *   <div *ngFor=\"let item of items; index as i; trackBy: func\">\n     *
```\n     * contains five bindings:\n     * 1. ngFor -> null\n     * 2. item -> NgForOfContext.$implicit\n     *
3. ngForOf -> items\n     * 4. i -> NgForOfContext.index\n     * 5. ngForTrackBy -> func\n     *\n     * For
a full description of the microsyntax grammar, see\n     *
```
```

https://gist.github.com/mhevery/d3530294cff2e4a1b3fe15ff75d08855\n *\n * @param templateKey name of the microsyntax directive, like ngIf, ngFor,\n * without the *, along with its absolute span.\n */\n _ParseAST.prototype.parseTemplateBindings = function (templateKey) {\n var bindings = [];\n // The first binding is for the template key itself\n // In *ngFor=\"let item of items\", key = \"ngFor\", value = null\n // In *ngIf=\"cond | pipe\", key = \"ngIf\", value = \"cond | pipe\"\n bindings.push.apply(bindings, __spread(this.parseDirectiveKeywordBindings(templateKey)));\n while (this.index < this.tokens.length) {\n // If it starts with 'let', then this must be variable declaration\n var letBinding = this.parseLetBinding();\n if (letBinding) {\n bindings.push(letBinding);\n }\n else {\n // Two possible cases here, either `value \"as\" key` or\n // \"directive-keyword expression\". We don't know which case, but both\n // \"value\" and \"directive-keyword\" are template binding key, so consume\n // the key first.\n var key = this.expectTemplateBindingKey();\n // Peek at the next token, if it is \"as\" then this must be variable\n // declaration.\n var binding = this.parseAsBinding(key);\n if (binding) {\n bindings.push(binding);\n }\n else {\n // Otherwise the key must be a directive keyword, like \"of\". Transform\n // the key to actual key. Eg. of -> ngForOf, trackBy -> ngForTrackBy\n key.source =\n templateKey.source + key.source.charAt(0).toUpperCase() + key.source.substring(1);\n bindings.push.apply(bindings, __spread(this.parseDirectiveKeywordBindings(key)));\n }\n }\n this.consumeStatementTerminator();\n }\n return new TemplateBindingParseResult(bindings, [] /* warnings */, this.errors);\n };\n /**\n * Parse a directive keyword, followed by a mandatory expression.\n * For example, \"of items\", \"trackBy: func\".\n * The bindings are: ngForOf -> items, ngForTrackBy -> func\n * There could be an optional \"as\" binding that follows the expression.\n * For example,\n * ```\n * *ngFor=\"let item of items | slice:0:1 as collection\".\n * ^^ ^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^\n * keyword bound target optional 'as' binding\n * ```\n *\n * @param key binding key, for example, ngFor, ngIf, ngForOf, along with its\n * absolute span.\n */\n _ParseAST.prototype.parseDirectiveKeywordBindings = function (key) {\n var bindings = [];\n this.consumeOptionalCharacter($COLON); // trackBy: trackByFunction\n var value = this.getDirectiveBoundTarget();\n var spanEnd = this.currentAbsoluteOffset;\n // The binding could optionally be followed by \"as\". For example,\n // *ngIf=\"cond | pipe as x\". In this case, the key in the \"as\" binding\n // is \"x\" and the value is the template key itself (\"ngIf\"). Note that the\n // 'key' in the current context now becomes the \"value\" in the next binding.\n var asBinding = this.parseAsBinding(key);\n if (!asBinding) {\n this.consumeStatementTerminator();\n spanEnd = this.currentAbsoluteOffset;\n }\n var sourceSpan = new AbsoluteSourceSpan(key.span.start, spanEnd);\n bindings.push(new ExpressionBinding(sourceSpan, key, value));\n if (asBinding) {\n bindings.push(asBinding);\n }\n return bindings;\n };\n /**\n * Return the expression AST for the bound target of a directive keyword\n * binding. For example,\n * ```\n * *ngIf=\"condition | pipe\"\n * ^^^^^^^^^^^^^^^^ bound target for \"ngIf\"\n * *ngFor=\"let item of items\"\n * ^^^^^ bound target for \"ngForOf\"\n * ```\n */\n _ParseAST.prototype.getDirectiveBoundTarget = function () {\n if (this.next === EOF || this.peekKeywordAs() || this.peekKeywordLet()) {\n return null;\n }\n var ast = this.parsePipe(); // example: \"condition | async\"\n var _a = ast.span, start = _a.start, end = _a.end;\n var value = this.input.substring(start, end);\n return new ASTWithSource(ast, value, this.location, this.absoluteOffset + start, this.errors);\n };\n /**\n * Return the binding for a variable declared using `as`. Note that the order\n * of the key-value pair in this declaration is reversed. For example,\n * ```\n * *ngFor=\"let item of items; index as i\"\n * ^^^^^ ^\n * value key\n * ```\n *\n * @param value name of the value in the declaration,

\"ngIf\" in the example\n * above, along with its absolute span.\n */\n _ParseAST.prototype.parseAsBinding = function (value) {\n if (!this.peekKeywordAs()) {\n return null;\n }\n this.advance(); // consume the 'as' keyword\n var key = this.expectTemplateBindingKey();\n this.consumeStatementTerminator();\n var sourceSpan = new AbsoluteSourceSpan(value.span.start, this.currentAbsoluteOffset);\n return new VariableBinding(sourceSpan, key, value);\n };\n /**\n * Return the binding for a variable declared using `let`. For example,\n * ```\n * *ngFor=\"let item of items; let i=index;\"\n * ^^^^^^^^ ^^^^^^^^^^^^\n * ```\n * In the first binding, `item` is bound to `NgForOfContext.$implicit`.\n * In the second binding, `i` is bound to `NgForOfContext.index`.\n */\n _ParseAST.prototype.parseLetBinding = function () {\n if (!this.peekKeywordLet()) {\n return null;\n }\n var spanStart = this.currentAbsoluteOffset;\n this.advance(); // consume the 'let' keyword\n var key = this.expectTemplateBindingKey();\n var value = null;\n if (this.consumeOptionalOperator('=')) {\n value = this.expectTemplateBindingKey();\n }\n this.consumeStatementTerminator();\n var sourceSpan = new AbsoluteSourceSpan(spanStart, this.currentAbsoluteOffset);\n return new VariableBinding(sourceSpan, key, value);\n };\n /**\n * Consume the optional statement terminator: semicolon or comma.\n */\n _ParseAST.prototype.consumeStatementTerminator = function () {\n this.consumeOptionalCharacter($SEMICOLON) || this.consumeOptionalCharacter($COMMA);\n };\n /**\n * Records an error and skips over the token stream until reaching a recoverable point. See\n * `this.skip` for more details on token skipping.\n */\n _ParseAST.prototype.error = function (message, index) {\n if (index === void 0) { index = null; }\n this.errors.push(new ParserError(message, this.input, this.locationText(index), this.location));\n this.skip();\n };\n _ParseAST.prototype.locationText = function (index) {\n if (index === void 0) { index = null; }\n if (index == null)\n index = this.index;\n return (index < this.tokens.length) ? \"at column \" + (this.tokens[index].index + 1) + \" in\" :\n \"at the end of the expression\";\n };\n /**\n * Error recovery should skip tokens until it encounters a recovery point. skip() treats\n * the end of input and a ';' as unconditionally a recovery point. It also treats ')',\n * '}' and ']' as conditional recovery points if one of calling productions is expecting\n * one of these symbols. This allows skip() to recover from errors such as '(a.) + 1' allowing\n * more of the AST to be retained (it doesn't skip any tokens as the ')' is retained because\n * of the '(' begins an '(' <expr> ')' production). The recovery points of grouping symbols\n * must be conditional as they must be skipped if none of the calling productions are not\n * expecting the closing token else we will never make progress in the case of an\n * extraneous group closing symbol (such as a stray ')'). This is not the case for ';' because\n * parseChain() is always the root production and it expects a ';'.\n *\n * Furthermore, the presence of a stateful context can add more recovery points.\n * - in a `Writable` context, we are able to recover after seeing the `=` operator, which\n * signals the presence of an independent rvalue expression following the `=` operator.\n *\n * If a production expects one of these token it increments the corresponding nesting count,\n * and then decrements it just prior to checking if the token is in the input.\n */\n _ParseAST.prototype.skip = function () {\n var n = this.next;\n while (this.index < this.tokens.length && !n.isCharacter($SEMICOLON) &&\n (this.rparensExpected <= 0 || !n.isCharacter($RPAREN)) &&\n (this.rbracesExpected <= 0 || !n.isCharacter($RBRACE)) &&\n (this.rbracketsExpected <= 0 || !n.isCharacter($RBRACKET)) &&\n (!(this.context & ParseContextFlags.Writable) || !n.isOperator('='))) {\n if (this.next.isError()) {\n this.errors.push(new ParserError(this.next.toString(), this.input, this.locationText(), this.location));\n }\n this.advance();\n n = this.next;\n }\n };\n return _ParseAST;\n }());\n var SimpleExpressionChecker = /** @class */ (function () {\n function SimpleExpressionChecker() {\n this.errors = [];\n }\n SimpleExpressionChecker.prototype.visitImplicitReceiver = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitThisReceiver = function (ast, context) { };\n

SimpleExpressionChecker.prototype.visitInterpolation = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitLiteralPrimitive = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitPropertyRead = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitPropertyWrite = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitSafePropertyRead = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitMethodCall = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitSafeMethodCall = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitFunctionCall = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitLiteralArray = function (ast, context) {\n this.visitAll(ast.expressions, context);\n };\n SimpleExpressionChecker.prototype.visitLiteralMap = function (ast, context) {\n this.visitAll(ast.values, context);\n };\n SimpleExpressionChecker.prototype.visitUnary = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitBinary = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitPrefixNot = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitNonNullAssert = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitConditional = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitPipe = function (ast, context) {\n this.errors.push('pipes');\n };\n SimpleExpressionChecker.prototype.visitKeyedRead = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitKeyedWrite = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitAll = function (asts, context) {\n var _this = this;\n return asts.map(function (node) { return node.visit(_this, context); });\n };\n SimpleExpressionChecker.prototype.visitChain = function (ast, context) { };\n SimpleExpressionChecker.prototype.visitQuote = function (ast, context) { };\n return SimpleExpressionChecker;\n }());\n /**\n * This class implements SimpleExpressionChecker used in View Engine and performs more strict checks\n * to make sure host bindings do not contain pipes. In View Engine, having pipes in host bindings is\n * not supported as well, but in some cases (like `!(value | async)`) the error is not triggered at\n * compile time. In order to preserve View Engine behavior, more strict checks are introduced for\n * Ivy mode only.\n */\n var IvySimpleExpressionChecker = /** @class */ (function (_super) {\n __extends(IvySimpleExpressionChecker, _super);\n function IvySimpleExpressionChecker() {\n var _this = _super.apply(this, __spread(arguments)) || this;\n _this.errors = [];\n return _this;\n }\n IvySimpleExpressionChecker.prototype.visitPipe = function () {\n this.errors.push('pipes');\n };\n return IvySimpleExpressionChecker;\n }(RecursiveAstVisitor$1));\n\n //
==========\n //
==========\n // ========== S T O P - S T O P - S T O P - S T O P - S T O P - S T O P ==========\n //
==========\n //
==========\n //\n // DO NOT EDIT THIS LIST OF SECURITY SENSITIVE PROPERTIES WITHOUT A SECURITY REVIEW!\n // Reach out to mprobst for details.\n //\n //
==========\n /** Map from tagName|propertyName SecurityContext. Properties applying to all tags use '*'. */\n var _SECURITY_SCHEMA;\n function SECURITY_SCHEMA() {\n if (!_SECURITY_SCHEMA) {\n _SECURITY_SCHEMA = {};\n // Case is insignificant below, all element and attribute names are

lower-cased for lookup.\n registerContext(SecurityContext.HTML, [\n 'iframe|srcdoc',\n '*|innerHTML',\n '*|outerHTML',\n ]);\n registerContext(SecurityContext.STYLE, ['*|style']);\n // NB: no SCRIPT contexts here, they are never allowed due to the parser stripping them.\n registerContext(SecurityContext.URL, [\n '*|formAction', 'area|href', 'area|ping', 'audio|src', 'a|href',\n 'a|ping', 'blockquote|cite', 'body|background', 'del|cite', 'form|action',\n 'img|src', 'img|srcset', 'input|src', 'ins|cite', 'q|cite',\n 'source|src', 'source|srcset', 'track|src', 'video|poster', 'video|src',\n ]);\n registerContext(SecurityContext.RESOURCE_URL, [\n 'applet|code',\n 'applet|codebase',\n 'base|href',\n 'embed|src',\n 'frame|src',\n 'head|profile',\n 'html|manifest',\n 'iframe|src',\n 'link|href',\n 'media|src',\n 'object|codebase',\n 'object|data',\n 'script|src',\n ]);\n }\n return _SECURITY_SCHEMA;\n }\n function registerContext(ctx, specs) {\n var e_1, _a;\n try {\n for (var specs_1 = __values(specs), specs_1_1 = specs_1.next(); !specs_1_1.done; specs_1_1 = specs_1.next()) {\n var spec = specs_1_1.value;\n _SECURITY_SCHEMA[spec.toLowerCase()] = ctx;\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (specs_1_1 && !specs_1_1.done && (_a = specs_1.return)) _a.call(specs_1);\n }\n finally { if (e_1) throw e_1.error; }\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var ElementSchemaRegistry = /** @class */ (function () {\n function ElementSchemaRegistry() {\n }\n return ElementSchemaRegistry;\n }());\n\n var BOOLEAN = 'boolean';\n var NUMBER = 'number';\n var STRING = 'string';\n var OBJECT = 'object';\n /**\n * This array represents the DOM schema. It encodes inheritance, properties, and events.\n *\n * ## Overview\n *\n * Each line represents one kind of element. The `element_inheritance` and properties are joined\n * using `element_inheritance|properties` syntax.\n *\n * ## Element Inheritance\n *\n * The `element_inheritance` can be further subdivided as `element1,element2,...^parentElement`.\n * Here the individual elements are separated by `,` (commas). Every element in the list\n * has identical properties.\n *\n * An `element` may inherit additional properties from `parentElement` If no `^parentElement` is\n * specified then `\"\"` (blank) element is assumed.\n *\n * NOTE: The blank element inherits from root `[Element]` element, the super element of all\n * elements.\n *\n * NOTE an element prefix such as `:svg:` has no special meaning to the schema.\n *\n * ## Properties\n *\n * Each element has a set of properties separated by `,` (commas). Each property can be prefixed\n * by a special character designating its type:\n *\n * - (no prefix): property is a string.\n * - `*`: property represents an event.\n * - `!`: property is a boolean.\n * - `#`: property is a number.\n * - `%`: property is an object.\n *\n * ## Query\n *\n * The class creates an internal squas representation which allows to easily answer the query of\n * if a given property exist on a given element.\n *\n * NOTE: We don't yet support querying for types or events.\n * NOTE: This schema is auto extracted from `schema_extractor.ts` located in the test folder,\n * see dom_element_schema_registry_spec.ts\n */\n //\n ==========\n //\n ========== S T O P - S T O P - S T O P - S T O P - S T O P - S T O P ==========\n //\n ==========\n //\n ==========\n //\n // DO NOT EDIT THIS DOM SCHEMA WITHOUT A SECURITY REVIEW!\n //\n // Newly added properties must be security reviewed and assigned an appropriate

SecurityContext in\n    // dom_security_schema.ts. Reach out to mprobst & rjamet for details.\n    //\n    //
==========
==========\n    var SCHEMA = [\n
'[Element]|textContent,%classList,className,id,innerHTML,*beforecopy,*beforecut,*beforepaste,*copy,*cut,*past
e,*search,*selectstart,*webkitfullscreenchange,*webkitfullscreenerror,*wheel,outerHTML,#scrollLeft,#scrollTop,sl
ot'
 +\n            /* added manually to avoid breaking changes */\n
',*message,*mozfullscreenchange,*mozfullscreenerror,*mozpointerlockchange,*mozpointerlockerror,*webglcontex
tcreationerror,*webglcontextlost,*webglcontextrestored',\n
'[HTMLElement]^[Element]|accessKey,contentEditable,dir,!draggable,!hidden,innerText,lang,*abort,*auxclick,*blu
r,*cancel,*canplay,*canplaythrough,*change,*click,*close,*contextmenu,*cuechange,*dblclick,*drag,*dragend,*dr
agenter,*dragleave,*dragover,*dragstart,*drop,*durationchange,*emptied,*ended,*error,*focus,*gotpointercapture,
*input,*invalid,*keydown,*keypress,*keyup,*load,*loadeddata,*loadedmetadata,*loadstart,*lostpointercapture,*mo
usedown,*mouseenter,*mouseleave,*mousemove,*mouseout,*mouseover,*mouseup,*mousewheel,*pause,*play,*p
laying,*pointercancel,*pointerdown,*pointerenter,*pointerleave,*pointermove,*pointerout,*pointerover,*pointerup,
*progress,*ratechange,*reset,*resize,*scroll,*seeked,*seeking,*select,*show,*stalled,*submit,*suspend,*timeupdat
e,*toggle,*volumechange,*waiting,outerText,!spellcheck,%style,#tabIndex,title,!translate',\n
'abbr,address,article,aside,b,bdi,bdo,cite,code,dd,dfn,dt,em,figcaption,figure,footer,header,i,kbd,main,mark,nav,nosc
ript,rb,rp,rt,rtc,ruby,s,samp,section,small,strong,sub,sup,u,var,wbr^[HTMLElement]|accessKey,contentEditable,dir,!
draggable,!hidden,innerText,lang,*abort,*auxclick,*blur,*cancel,*canplay,*canplaythrough,*change,*click,*close,*
contextmenu,*cuechange,*dblclick,*drag,*dragend,*dragenter,*dragleave,*dragover,*dragstart,*drop,*durationcha
nge,*emptied,*ended,*error,*focus,*gotpointercapture,*input,*invalid,*keydown,*keypress,*keyup,*load,*loadedd
ata,*loadedmetadata,*loadstart,*lostpointercapture,*mousedown,*mouseenter,*mouseleave,*mousemove,*mouseou
t,*mouseover,*mouseup,*mousewheel,*pause,*play,*playing,*pointercancel,*pointerdown,*pointerenter,*pointerle
ave,*pointermove,*pointerout,*pointerover,*pointerup,*progress,*ratechange,*reset,*resize,*scroll,*seeked,*seekin
g,*select,*show,*stalled,*submit,*suspend,*timeupdate,*toggle,*volumechange,*waiting,outerText,!spellcheck,%st
yle,#tabIndex,title,!translate',\n
'media^[HTMLElement]|!autoplay,!controls,%controlsList,%crossOrigin,#currentTime,!defaultMuted,#defaultPlayb
ackRate,!disableRemotePlayback,!loop,!muted,*encrypted,*waitingforkey,#playbackRate,preload,src,%srcObject,#
volume',\n
':svg:^[HTMLElement]|*abort,*auxclick,*blur,*cancel,*canplay,*canplaythrough,*change,*click,*close,*contextm
enu,*cuechange,*dblclick,*drag,*dragend,*dragenter,*dragleave,*dragover,*dragstart,*drop,*durationchange,*emp
tied,*ended,*error,*focus,*gotpointercapture,*input,*invalid,*keydown,*keypress,*keyup,*load,*loadeddata,*loade
dmetadata,*loadstart,*lostpointercapture,*mousedown,*mouseenter,*mouseleave,*mousemove,*mouseout,*mouseo
ver,*mouseup,*mousewheel,*pause,*play,*playing,*pointercancel,*pointerdown,*pointerenter,*pointerleave,*point
ermove,*pointerout,*pointerover,*pointerup,*progress,*ratechange,*reset,*resize,*scroll,*seeked,*seeking,*select,*
show,*stalled,*submit,*suspend,*timeupdate,*toggle,*volumechange,*waiting,%style,#tabIndex',\n
        ':svg:graphics^:svg:|',\n        ':svg:animation^:svg:|*begin,*end,*repeat',\n        ':svg:geometry^:svg:|',\n
':svg:componentTransferFunction^:svg:|',\n        ':svg:gradient^:svg:|',\n        ':svg:textContent^:svg:graphics|',\n
':svg:textPositioning^:svg:textContent|',\n
'a^[HTMLElement]|charset,coords,download,hash,host,hostname,href,hreflang,name,password,pathname,ping,port,
protocol,referrerPolicy,rel,rev,search,shape,target,text,type,username',\n
'area^[HTMLElement]|alt,coords,download,hash,host,hostname,href,!noHref,password,pathname,ping,port,protocol,
referrerPolicy,rel,search,shape,target,username',\n        'audio^media|',\n
    'br^[HTMLElement]|clear',\n        'base^[HTMLElement]|href,target',\n
'body^[HTMLElement]|aLink,background,bgColor,link,*beforeunload,*blur,*error,*focus,*hashchange,*languagec
hange,*load,*message,*offline,*online,*pagehide,*pageshow,*popstate,*rejectionhandled,*resize,*scroll,*storage,*
unhandledrejection,*unload,text,vLink',\n

'button^[HTMLElement]|!autofocus,!disabled,formAction,formEnctype,formMethod,!formNoValidate,formTarget,name,type,value',\n 'canvas^[HTMLElement]|#height,#width',\n 'content^[HTMLElement]|select',\n 'dl^[HTMLElement]|!compact',\n 'datalist^[HTMLElement]|',\n 'details^[HTMLElement]|!open',\n 'dialog^[HTMLElement]|!open,returnValue',\n 'dir^[HTMLElement]|!compact',\n 'div^[HTMLElement]|align',\n 'embed^[HTMLElement]|align,height,name,src,type,width',\n 'fieldset^[HTMLElement]|!disabled,name',\n 'font^[HTMLElement]|color,face,size',\n 'form^[HTMLElement]|acceptCharset,action,autocomplete,encoding,enctype,method,name,!noValidate,target',\n 'frame^[HTMLElement]|frameBorder,longDesc,marginHeight,marginWidth,name,!noResize,scrolling,src',\n 'frameset^[HTMLElement]|cols,*beforeunload,*blur,*error,*focus,*hashchange,*languagechange,*load,*message,*offline,*online,*pagehide,*pageshow,*popstate,*rejectionhandled,*resize,*scroll,*storage,*unhandledrejection,*unload,rows',\n 'hr^[HTMLElement]|align,color,!noShade,size,width',\n 'head^[HTMLElement]|',\n 'h1,h2,h3,h4,h5,h6^[HTMLElement]|align',\n 'html^[HTMLElement]|version',\n 'iframe^[HTMLElement]|align,!allowFullscreen,frameBorder,height,longDesc,marginHeight,marginWidth,name,referrerPolicy,%sandbox,scrolling,src,srcdoc,width',\n 'img^[HTMLElement]|align,alt,border,%crossOrigin,#height,#hspace,!isMap,longDesc,lowsrc,name,referrerPolicy,sizes,src,srcset,useMap,#vspace,#width',\n 'input^[HTMLElement]|accept,align,alt,autocapitalize,autocomplete,!autofocus,!checked,!defaultChecked,defaultValue,dirName,!disabled,%files,formAction,formEnctype,formMethod,!formNoValidate,formTarget,#height,!incremental,!indeterminate,max,#maxLength,min,#minLength,!multiple,name,pattern,placeholder,!readOnly,!required,selectionDirection,#selectionEnd,#selectionStart,#size,src,step,type,useMap,value,%valueAsDate,#valueAsNumber,#width',\n 'li^[HTMLElement]|type,#value',\n 'label^[HTMLElement]|htmlFor',\n 'legend^[HTMLElement]|align',\n 'link^[HTMLElement]|as,charset,%crossOrigin,!disabled,href,hreflang,integrity,media,referrerPolicy,rel,%relList,rev,%sizes,target,type',\n 'map^[HTMLElement]|name',\n 'marquee^[HTMLElement]|behavior,bgColor,direction,height,#hspace,#loop,#scrollAmount,#scrollDelay,!trueSpeed,#vspace,width',\n 'menu^[HTMLElement]|!compact',\n 'meta^[HTMLElement]|content,httpEquiv,name,scheme',\n 'meter^[HTMLElement]|#high,#low,#max,#min,#optimum,#value',\n 'ins,del^[HTMLElement]|cite,dateTime',\n 'ol^[HTMLElement]|!compact,!reversed,#start,type',\n 'object^[HTMLElement]|align,archive,border,code,codeBase,codeType,data,!declare,height,#hspace,name,standby,type,useMap,#vspace,width',\n 'optgroup^[HTMLElement]|!disabled,label',\n 'option^[HTMLElement]|!defaultSelected,!disabled,label,!selected,text,value',\n 'output^[HTMLElement]|defaultValue,%htmlFor,name,value',\n 'p^[HTMLElement]|align',\n 'param^[HTMLElement]|name,type,value,valueType',\n 'picture^[HTMLElement]|',\n 'pre^[HTMLElement]|#width',\n 'progress^[HTMLElement]|#max,#value',\n 'q,blockquote,cite^[HTMLElement]|',\n 'script^[HTMLElement]|!async,charset,%crossOrigin,!defer,event,htmlFor,integrity,src,text,type',\n 'select^[HTMLElement]|!autofocus,!disabled,#length,!multiple,name,!required,#selectedIndex,#size,value',\n 'shadow^[HTMLElement]|',\n 'slot^[HTMLElement]|name',\n 'source^[HTMLElement]|media,sizes,src,srcset,type',\n 'span^[HTMLElement]|',\n 'style^[HTMLElement]|!disabled,media,type',\n 'caption^[HTMLElement]|align',\n 'th,td^[HTMLElement]|abbr,align,axis,bgColor,ch,chOff,#colSpan,headers,height,!noWrap,#rowSpan,scope,vAlign,width',\n 'col,colgroup^[HTMLElement]|align,ch,chOff,#span,vAlign,width',\n 'table^[HTMLElement]|align,bgColor,border,%caption,cellPadding,cellSpacing,frame,rules,summary,%tFoot,%tHead,width',\n 'tr^[HTMLElement]|align,bgColor,ch,chOff,vAlign',\n 'tfoot,thead,tbody^[HTMLElement]|align,ch,chOff,vAlign',\n 'template^[HTMLElement]|',\n

```
'textarea^[HTMLElement]|autocapitalize,!autofocus,#cols,defaultValue,dirName,!disabled,#maxLength,#minLength
,name,placeholder,!readOnly,!required,#rows,selectionDirection,#selectionEnd,#selectionStart,value,wrap',\n
'title^[HTMLElement]|text',\n        'track^[HTMLElement]|!default,kind,label,src,srclang',\n
'ul^[HTMLElement]|!compact,type',\n
      'unknown^[HTMLElement]|',\n        'video^media|#height,poster,#width',\n        ':svg:a^:svg:graphics|',\n
':svg:animate^:svg:animation|',\n        ':svg:animateMotion^:svg:animation|',\n
':svg:animateTransform^:svg:animation|',\n        ':svg:circle^:svg:geometry|',\n        ':svg:clipPath^:svg:graphics|',\n
  ':svg:defs^:svg:graphics|',\n        ':svg:desc^:svg:|',\n        ':svg:discard^:svg:|',\n        ':svg:ellipse^:svg:geometry|',\n
    ':svg:feBlend^:svg:|',\n        ':svg:feColorMatrix^:svg:|',\n        ':svg:feComponentTransfer^:svg:|',\n
':svg:feComposite^:svg:|',\n        ':svg:feConvolveMatrix^:svg:|',\n        ':svg:feDiffuseLighting^:svg:|',\n
':svg:feDisplacementMap^:svg:|',\n        ':svg:feDistantLight^:svg:|',\n        ':svg:feDropShadow^:svg:|',\n
':svg:feFlood^:svg:|',\n        ':svg:feFuncA^:svg:componentTransferFunction|',\n
':svg:feFuncB^:svg:componentTransferFunction|',\n
 ':svg:feFuncG^:svg:componentTransferFunction|',\n        ':svg:feFuncR^:svg:componentTransferFunction|',\n
':svg:feGaussianBlur^:svg:|',\n        ':svg:feImage^:svg:|',\n        ':svg:feMerge^:svg:|',\n
':svg:feMergeNode^:svg:|',\n        ':svg:feMorphology^:svg:|',\n        ':svg:feOffset^:svg:|',\n
':svg:fePointLight^:svg:|',\n        ':svg:feSpecularLighting^:svg:|',\n        ':svg:feSpotLight^:svg:|',\n
':svg:feTile^:svg:|',\n        ':svg:feTurbulence^:svg:|',\n        ':svg:filter^:svg:|',\n
':svg:foreignObject^:svg:graphics|',\n        ':svg:g^:svg:graphics|',\n        ':svg:image^:svg:graphics|',\n
':svg:line^:svg:geometry|',\n        ':svg:linearGradient^:svg:gradient|',\n        ':svg:mpath^:svg:|',\n
':svg:marker^:svg:|',\n        ':svg:mask^:svg:|',\n        ':svg:metadata^:svg:|',\n        ':svg:path^:svg:geometry|',\n
':svg:pattern^:svg:|',\n        ':svg:polygon^:svg:geometry|',\n        ':svg:polyline^:svg:geometry|',\n
      ':svg:radialGradient^:svg:gradient|',\n        ':svg:rect^:svg:geometry|',\n
':svg:svg^:svg:graphics|#currentScale,#zoomAndPan',\n        ':svg:script^:svg:|type',\n
':svg:set^:svg:animation|',\n        ':svg:stop^:svg:|',\n        ':svg:style^:svg:|!disabled,media,title,type',\n
':svg:switch^:svg:graphics|',\n        ':svg:symbol^:svg:|',\n        ':svg:tspan^:svg:textPositioning|',\n
':svg:text^:svg:textPositioning|',\n        ':svg:textPath^:svg:textContent|',\n        ':svg:title^:svg:|',\n
':svg:use^:svg:graphics|',\n        ':svg:view^:svg:|#zoomAndPan',\n        'data^[HTMLElement]|value',\n
'keygen^[HTMLElement]|!autofocus,challenge,!disabled,form,keytype,name',\n
'menuitem^[HTMLElement]|type,label,icon,!disabled,!checked,radiogroup,!default',\n
'summary^[HTMLElement]|',\n        'time^[HTMLElement]|dateTime',\n        ':svg:cursor^:svg:|',\n    ];\n    var
_ATTR_TO_PROP = {\n        'class': 'className',\n
    'for': 'htmlFor',\n        'formaction': 'formAction',\n        'innerHtml': 'innerHTML',\n        'readonly': 'readOnly',\n
  'tabindex': 'tabIndex',\n    };\n    var DomElementSchemaRegistry = /** @class */ (function (_super) {\n
__extends(DomElementSchemaRegistry, _super);\n        function DomElementSchemaRegistry() {\n            var
_this = _super.call(this) || this;\n            _this._schema = {};\n            SCHEMA.forEach(function (encodedType) {\n
            var type = {};\n                var _a = __read(encodedType.split('|'), 2), strType = _a[0], strProperties =
_a[1];\n                var properties = strProperties.split(',');\n                var _b = __read(strType.split('^'), 2), typeNames
= _b[0], superName = _b[1];\n                typeNames.split(',').forEach(function (tag) { return
_this._schema[tag.toLowerCase()] = type; });\n                var superType = superName &&
_this._schema[superName.toLowerCase()];\n                if (superType)
 {\n                    Object.keys(superType).forEach(function (prop) {\n                        type[prop] = superType[prop];\n
                });\n            }\n            properties.forEach(function (property) {\n                if (property.length > 0)
{\n                    switch (property[0]) {\n                        case '*':\n                            // We don't yet support
events.\n                            // If ever allowing to bind to events, GO THROUGH A SECURITY REVIEW,
allowing events\n                            // will\n                            // almost certainly introduce bad XSS
vulnerabilities.\n                            // type[property.substring(1)] = EVENT;\n                            break;\n
            case '!':\n                            type[property.substring(1)] = BOOLEAN;\n                            break;\n
```

```
case '#':\n
type[property.substring(1)] = NUMBER;\n break;\n case '%':\n
type[property.substring(1)] = OBJECT;\n break;\n default:\n
type[property] = STRING;\n }\n }\n });\n });\n return
_this;\n }\n DomElementSchemaRegistry.prototype.hasProperty = function (tagName, propName,
schemaMetas) {\n if (schemaMetas.some(function (schema) { return schema.name ===
NO_ERRORS_SCHEMA.name; })) {\n return true;\n }\n if (tagName.indexOf('-') > -1) {\n
if (isNgContainer(tagName) || isNgContent(tagName)) {\n return false;\n }\n if
(schemaMetas.some(function (schema) { return schema.name === CUSTOM_ELEMENTS_SCHEMA.name; }))
{\n // Can't tell now as we don't know which properties a custom element will get\n // once
it is instantiated\n return true;\n }\n }\n var elementProperties =
this._schema[tagName.toLowerCase()] || this._schema['unknown'];\n return
!!elementProperties[propName];\n };\n DomElementSchemaRegistry.prototype.hasElement = function
(tagName, schemaMetas) {\n if (schemaMetas.some(function (schema) { return schema.name ===
NO_ERRORS_SCHEMA.name; })) {\n return true;\n }\n if (tagName.indexOf('-') > -1) {\n
if (isNgContainer(tagName) || isNgContent(tagName)) {\n return true;\n }\n if
(schemaMetas.some(function (schema) { return schema.name === CUSTOM_ELEMENTS_SCHEMA.name; }))
{\n // Allow any custom elements\n return true;\n
}\n }\n return !!this._schema[tagName.toLowerCase()];\n };\n /**\n *
securityContext returns the security context for the given property on the given DOM tag.\n *\n * Tag and
property name are statically known and cannot change at runtime, i.e. it is not\n * possible to bind a value into
a changing attribute or tag name.\n *\n * The filtering is based on a list of allowed tags|attributes. All
attributes in the schema\n * above are assumed to have the 'NONE' security context, i.e. that they are safe
inert\n * string values. Only specific well known attack vectors are assigned their appropriate context.\n
*/\n DomElementSchemaRegistry.prototype.securityContext = function (tagName, propName, isAttribute) {\n
if (isAttribute) {\n // NB: For security purposes, use the mapped property name, not the attribute
name.\n propName = this.getMappedPropName(propName);\n
}\n // Make sure comparisons are case insensitive, so that case differences between attribute and\n
// property names do not have a security impact.\n tagName = tagName.toLowerCase();\n propName
= propName.toLowerCase();\n var ctx = SECURITY_SCHEMA()[tagName + '|' + propName];\n if
(ctx) {\n return ctx;\n }\n ctx = SECURITY_SCHEMA()['*|' + propName];\n return
ctx ? ctx : SecurityContext.NONE;\n };\n DomElementSchemaRegistry.prototype.getMappedPropName =
function (propName) {\n return _ATTR_TO_PROP[propName] || propName;\n };\n
DomElementSchemaRegistry.prototype.getDefaultComponentElementName = function () {\n return 'ng-
component';\n };\n DomElementSchemaRegistry.prototype.validateProperty = function (name) {\n if
(name.toLowerCase().startsWith('on')) {\n
var msg = \"Binding to event property '\" + name + \"' is disallowed for security reasons, \" +\n
(\"please use (\" + name.slice(2) + \")=...\") +\n (\"\\nIf '\" + name + \"' is a directive input, make sure the
directive is imported by the\") +\n \" current module.\";\n return { error: true, msg: msg };\n
}\n else {\n return { error: false };\n }\n };\n
DomElementSchemaRegistry.prototype.validateAttribute = function (name) {\n if
(name.toLowerCase().startsWith('on')) {\n var msg = \"Binding to event attribute '\" + name + \"' is
disallowed for security reasons, \" +\n (\"please use (\" + name.slice(2) + \")=...\");\n return {
error: true, msg: msg };\n }\n else {\n return { error: false };\n }\n };\n
DomElementSchemaRegistry.prototype.allKnownElementNames
= function () {\n return Object.keys(this._schema);\n };\n
DomElementSchemaRegistry.prototype.normalizeAnimationStyleProperty = function (propName) {\n return
dashCaseToCamelCase(propName);\n };\n
```

```
DomElementSchemaRegistry.prototype.normalizeAnimationStyleValue = function (camelCaseProp,
userProvidedProp, val) {\n var unit = '';\n var strVal = val.toString().trim();\n var errorMsg =
null;\n if (_isPixelDimensionStyle(camelCaseProp) && val !== 0 && val !== '0') {\n if (typeof val
=== 'number') {\n unit = 'px';\n }\n else {\n var valAndSuffixMatch =
val.match(/^[+-]?[\\d\\.]+([a-z]*)$/);\n if (valAndSuffixMatch && valAndSuffixMatch[1].length == 0)
{\n errorMsg = \"Please provide a CSS unit value for \" + userProvidedProp + \":\" + val;\n
}\n }\n }\n return { error: errorMsg, value: strVal + unit };\n };\n return
DomElementSchemaRegistry;\n }(ElementSchemaRegistry));\n function _isPixelDimensionStyle(prop) {\n
switch (prop) {\n case 'width':\n case 'height':\n case 'minWidth':\n case 'minHeight':\n
case 'maxWidth':\n case 'maxHeight':\n case 'left':\n case 'top':\n case 'bottom':\n
case 'right':\n case 'fontSize':\n case 'outlineWidth':\n case 'outlineOffset':\n case
'paddingTop':\n case 'paddingLeft':\n case 'paddingBottom':\n case 'paddingRight':\n case
'marginTop':\n case 'marginLeft':\n case 'marginBottom':\n case 'marginRight':\n case
'borderRadius':\n case 'borderWidth':\n
case 'borderTopWidth':\n case 'borderLeftWidth':\n case 'borderRightWidth':\n case
'borderBottomWidth':\n case 'textIndent':\n return true;\n default:\n return false;\n
}\n }\n\n var BIND_NAME_REGEXP$1 = /^(?:(?:(?:(?:bind-)|(let-)|(ref-|#)|(on-)|(bindon-
)|(@))(.*))|\\[\\(([^\\)]+)\\)\\]|\\[([^\\]]+)\\]|\\(([^\\)]+)\\))$/;\n // Group 1 = \"bind-\"\n var KW_BIND_IDX$1 =
1;\n // Group 2 = \"let-\"\n var KW_LET_IDX$1 = 2;\n // Group 3 = \"ref-/#\"\n var KW_REF_IDX$1 = 3;\n
// Group 4 = \"on-\"\n var KW_ON_IDX$1 = 4;\n // Group 5 = \"bindon-\"\n var KW_BINDON_IDX$1 =
5;\n // Group 6 = \"@\"\n var KW_AT_IDX$1 = 6;\n // Group 7 = the identifier after \"bind-\", \"let-\", \"ref-
/#\", \"on-\", \"bindon-\" or \"@\"\n var IDENT_KW_IDX$1 = 7;\n // Group 8 = identifier inside [()]\n var
IDENT_BANANA_BOX_IDX$1 = 8;\n // Group 9 = identifier inside []\n
var IDENT_PROPERTY_IDX$1 = 9;\n // Group 10 = identifier inside ()\n var IDENT_EVENT_IDX$1 =
10;\n var TEMPLATE_ATTR_PREFIX$2 = '*';\n function htmlAstToRender3Ast(htmlNodes, bindingParser)
{\n var transformer = new HtmlAstToIvyAst(bindingParser);\n var ivyNodes = visitAll$1(transformer,
htmlNodes);\n // Errors might originate in either the binding parser or the html to ivy transformer\n var
allErrors = bindingParser.errors.concat(transformer.errors);\n return {\n nodes: ivyNodes,\n errors:
allErrors,\n styleUrls: transformer.styleUrls,\n styles: transformer.styles,\n ngContentSelectors:
transformer.ngContentSelectors,\n };\n }\n var HtmlAstToIvyAst = /** @class */ (function () {\n
function HtmlAstToIvyAst(bindingParser) {\n this.bindingParser = bindingParser;\n this.errors = [];\n
this.styles = [];\n this.styleUrls =
[];\n this.ngContentSelectors = [];\n this.inI18nBlock = false;\n }\n // HTML visitor\n
HtmlAstToIvyAst.prototype.visitElement = function (element) {\n var e_1, _a;\n var _this = this;\n
var isI18nRootElement = isI18nRootNode(element.i18n);\n if (isI18nRootElement) {\n if
(this.inI18nBlock) {\n this.reportError('Cannot mark an element as translatable inside of a translatable
section. Please remove the nested i18n marker.', element.sourceSpan);\n }\n this.inI18nBlock =
true;\n }\n var preparsedElement = preparseElement(element);\n if (preparsedElement.type ===
PreparsedElementType.SCRIPT) {\n return null;\n }\n else if (preparsedElement.type ===
PreparsedElementType.STYLE) {\n var contents = textContents(element);\n if (contents !== null)
{\n
this.styles.push(contents);\n }\n return null;\n }\n else if
(preparsedElement.type === PreparsedElementType.STYLESHEET &&\n
isStyleUrlResolvable(preparsedElement.hrefAttr)) {\n this.styleUrls.push(preparsedElement.hrefAttr);\n
return null;\n }\n // Whether the element is a `<ng-template>`\n var isTemplateElement =
isNgTemplate(element.name);\n var parsedProperties = [];\n var boundEvents = [];\n var
variables = [];\n var references = [];\n var attributes = [];\n var i18nAttrsMeta = {};\n var
templateParsedProperties = [];\n var templateVariables = [];\n // Whether the element has any *-
```

```
attribute\n            var elementHasInlineTemplate = false;\n            try {\n                for (var _b =
__values(element.attrs), _c = _b.next(); !_c.done;
 _c = _b.next()) {\n                    var attribute = _c.value;\n                    var hasBinding = false;\n                    var
normalizedName = normalizeAttributeName(attribute.name);\n                    // `*attr` defines template bindings\n
            var isTemplateBinding = false;\n                    if (attribute.i18n) {\n
i18nAttrsMeta[attribute.name] = attribute.i18n;\n                    }\n                    if
(normalizedName.startsWith(TEMPLATE_ATTR_PREFIX$2)) {\n                        // *-attributes\n                        if
(elementHasInlineTemplate) {\n                            this.reportError(\"Can't have multiple template bindings on one
element. Use only one attribute prefixed with *\", attribute.sourceSpan);\n                        }\n
isTemplateBinding = true;\n                        elementHasInlineTemplate = true;\n                        var templateValue =
attribute.value;\n
                var templateKey = normalizedName.substring(TEMPLATE_ATTR_PREFIX$2.length);\n
var parsedVariables = [];\n                        var absoluteValueOffset = attribute.valueSpan ?\n
attribute.valueSpan.start.offset :\n                            // If there is no value span the attribute does not have a value,
like `attr` in\n                            //`<div attr></div>`. In this case, point to one character beyond the last character of\n
                        // the attribute name.\n                            attribute.sourceSpan.start.offset + attribute.name.length;\n
                this.bindingParser.parseInlineTemplateBinding(templateKey, templateValue, attribute.sourceSpan,
absoluteValueOffset, [], templateParsedProperties, parsedVariables, true /* isIvyAst */);\n
templateVariables.push.apply(templateVariables, __spread(parsedVariables.map(function (v) { return new
Variable(v.name,
 v.value, v.sourceSpan, v.keySpan, v.valueSpan); })));\n                    }\n                    else {\n                        // Check
for variables, events, property bindings, interpolation\n                        hasBinding =
this.parseAttribute(isTemplateElement, attribute, [], parsedProperties, boundEvents, variables, references);\n
    }\n                    if (!hasBinding && !isTemplateBinding) {\n                        // don't include the bindings as
attributes as well in the AST\n                        attributes.push(this.visitAttribute(attribute));\n                    }\n
}\n            }\n            catch (e_1_1) { e_1 = { error: e_1_1 }; }\n            finally {\n                try {\n                    if (_c
&& !_c.done && (_a = _b.return)) _a.call(_b);\n                }\n                finally { if (e_1) throw e_1.error; }\n
}\n            var children = visitAll$1(preparsedElement.nonBindable ? NON_BINDABLE_VISITOR$1
 : this, element.children);\n            var parsedElement;\n            if (preparsedElement.type ===
PreparsedElementType.NG_CONTENT) {\n                // `<ng-content>`\n                if (element.children &&\n
        !element.children.every(function (node) { return isEmptyTextNode(node) || isCommentNode(node); })) {\n
            this.reportError(\"<ng-content> element cannot have content.\", element.sourceSpan);\n                }\n
 var selector = preparsedElement.selectAttr;\n                var attrs = element.attrs.map(function (attr) { return
_this.visitAttribute(attr); });\n                parsedElement = new Content(selector, attrs, element.sourceSpan,
element.i18n);\n                this.ngContentSelectors.push(selector);\n            }\n            else if (isTemplateElement)
{\n                // `<ng-template>`\n                var attrs = this.extractAttributes(element.name, parsedProperties,
i18nAttrsMeta);\n                parsedElement
 = new Template(element.name, attributes, attrs.bound, boundEvents, [ /* no template attributes */], children,
references, variables, element.sourceSpan, element.startSourceSpan, element.endSourceSpan, element.i18n);\n
 }\n            else {\n                var attrs = this.extractAttributes(element.name, parsedProperties, i18nAttrsMeta);\n
        parsedElement = new Element(element.name, attributes, attrs.bound, boundEvents, children, references,
element.sourceSpan, element.startSourceSpan, element.endSourceSpan, element.i18n);\n            }\n            if
(elementHasInlineTemplate) {\n                // If this node is an inline-template (e.g. has *ngFor) then we need to
create a template\n                // node that contains this node.\n                // Moreover, if the node is an element, then
we need to hoist its attributes to the template\n                // node for matching against content projection selectors.\n
            var attrs = this.extractAttributes('ng-template',
 templateParsedProperties, i18nAttrsMeta);\n                var templateAttrs_1 = [];\n
attrs.literal.forEach(function (attr) { return templateAttrs_1.push(attr); });\n                attrs.bound.forEach(function
```

(attr) { return templateAttrs_1.push(attr); });\n var hoistedAttrs = parsedElement instanceof Element ?\n {\n attributes: parsedElement.attributes,\n inputs: parsedElement.inputs,\n outputs: parsedElement.outputs,\n } :\n { attributes: [], inputs: [], outputs: [] };\n // For <ng-template>s with structural directives on them, avoid passing i18n information to\n // the wrapping template to prevent unnecessary i18n instructions from being generated. The\n // necessary i18n meta information will be extracted from child elements.\n var i18n = isTemplateElement && isI18nRootElement ? undefined : element.i18n;\n // TODO(pk): test for this case\n parsedElement = new Template(parsedElement.name, hoistedAttrs.attributes, hoistedAttrs.inputs, hoistedAttrs.outputs, templateAttrs_1, [parsedElement], [ /* no references */], templateVariables, element.sourceSpan, element.startSourceSpan, element.endSourceSpan, i18n);\n }\n if (isI18nRootElement) {\n this.inI18nBlock = false;\n }\n return parsedElement;\n };\n HtmlAstToIvyAst.prototype.visitAttribute = function (attribute) {\n return new TextAttribute(attribute.name, attribute.value, attribute.sourceSpan, attribute.valueSpan, attribute.i18n);\n };\n HtmlAstToIvyAst.prototype.visitText = function (text) {\n return this._visitTextWithInterpolation(text.value, text.sourceSpan, text.i18n);\n };\n HtmlAstToIvyAst.prototype.visitExpansion = function (expansion) {\n var _this = this;\n if (!expansion.i18n) {\n // do not generate Icu in case it was created\n // outside of i18n block in a template\n return null;\n }\n if (!isI18nRootNode(expansion.i18n)) {\n throw new Error(\"Invalid type \\\"\" + expansion.i18n.constructor + \"\\\" for \\\"i18n\\\" property of \" + expansion.sourceSpan.toString() + \". Expected a \\\"Message\\\"\");\n }\n var message = expansion.i18n;\n var vars = {};\n var placeholders = {};\n // extract VARs from ICUs - we process them separately while\n // assembling resulting message via goog.getMsg function, since\n // we need to pass them to top-level goog.getMsg call\n Object.keys(message.placeholders).forEach(function (key) {\n var value = message.placeholders[key];\n if (key.startsWith(I18N_ICU_VAR_PREFIX)) {\n // Currently when the `plural` or `select` keywords in an ICU contain trailing spaces (e.g.\n // `{count, select , ...}`), these spaces are also included into the key names in ICU vars\n // (e.g. \"VAR_SELECT \"). These trailing spaces are not desirable, since they will later be\n // converted into `_` symbols while normalizing placeholder names, which might lead to\n // mismatches at runtime (i.e. placeholder will not be replaced with the correct value).\n var formattedKey = key.trim();\n var ast = _this.bindingParser.parseInterpolationExpression(value.text, value.sourceSpan);\n vars[formattedKey] = new BoundText(ast, value.sourceSpan);\n }\n else {\n placeholders[key] = _this._visitTextWithInterpolation(value.text, value.sourceSpan);\n }\n });\n return new Icu(vars, placeholders, expansion.sourceSpan, message);\n };\n HtmlAstToIvyAst.prototype.visitExpansionCase = function (expansionCase) {\n return null;\n };\n HtmlAstToIvyAst.prototype.visitComment = function (comment) {\n return null;\n };\n // convert view engine `ParsedProperty` to a format suitable for IVY\n HtmlAstToIvyAst.prototype.extractAttributes = function (elementName, properties, i18nPropsMeta) {\n var _this = this;\n var bound = [];\n var literal = [];\n properties.forEach(function (prop) {\n var i18n = i18nPropsMeta[prop.name];\n if (prop.isLiteral) {\n literal.push(new TextAttribute(prop.name, prop.expression.source || '', prop.sourceSpan, undefined, i18n));\n }\n else {\n // Note that validation is skipped and property mapping is disabled\n // due to the fact that we need to make sure a given prop is not an\n // input of a directive and directive matching happens at runtime.\n var bep = _this.bindingParser.createBoundElementProperty(elementName, prop, /* skipValidation */ true, /* mapPropertyName */ false);\n bound.push(BoundAttribute.fromBoundElementProperty(bep, i18n));\n }\n });\n return { bound: bound, literal: literal };\n };\n HtmlAstToIvyAst.prototype.parseAttribute = function (isTemplateElement, attribute, matchableAttributes, parsedProperties, boundEvents, variables, references) {\n var name =

```
normalizeAttributeName(attribute.name);\n            var value = attribute.value;\n            var srcSpan =
attribute.sourceSpan;\n            var absoluteOffset = attribute.valueSpan ? attribute.valueSpan.start.offset :
srcSpan.start.offset;\n            function createKeySpan(srcSpan,
 prefix, identifier) {\n                // We need to adjust the start location for the keySpan to account for the removed
'data-'\n                // prefix from `normalizeAttributeName`.\n                var normalizationAdjustment =
attribute.name.length - name.length;\n                var keySpanStart = srcSpan.start.moveBy(prefix.length +
normalizationAdjustment);\n                var keySpanEnd = keySpanStart.moveBy(identifier.length);\n                return
new ParseSourceSpan(keySpanStart, keySpanEnd, keySpanStart, identifier);\n            }\n            var bindParts =
name.match(BIND_NAME_REGEXP$1);\n            var hasBinding = false;\n            if (bindParts) {\n
hasBinding = true;\n                if (bindParts[KW_BIND_IDX$1] != null) {\n                    var identifier =
bindParts[IDENT_KW_IDX$1];\n                    var keySpan = createKeySpan(srcSpan,
bindParts[KW_BIND_IDX$1], identifier);\n                    this.bindingParser.parsePropertyBinding(identifier,
 value, false, srcSpan, absoluteOffset, attribute.valueSpan, matchableAttributes, parsedProperties, keySpan);\n
    }\n                else if (bindParts[KW_LET_IDX$1]) {\n                    if (isTemplateElement) {\n                        var
identifier = bindParts[IDENT_KW_IDX$1];\n                        var keySpan = createKeySpan(srcSpan,
bindParts[KW_LET_IDX$1], identifier);\n                        this.parseVariable(identifier, value, srcSpan, keySpan,
attribute.valueSpan, variables);\n                    }\n                    else {\n                        this.reportError(\"\\\"let-\\\" is
only supported on ng-template elements.\", srcSpan);\n                    }\n                }\n                else if
(bindParts[KW_REF_IDX$1]) {\n                    var identifier = bindParts[IDENT_KW_IDX$1];\n
this.parseReference(identifier, value, srcSpan, attribute.valueSpan, references);\n                }\n
        else if (bindParts[KW_ON_IDX$1]) {\n                    var events = [];\n                    var identifier =
bindParts[IDENT_KW_IDX$1];\n                    this.bindingParser.parseEvent(identifier, value, srcSpan,
attribute.valueSpan || srcSpan, matchableAttributes, events);\n                    addEvents(events, boundEvents);\n
    }\n                else if (bindParts[KW_BINDON_IDX$1]) {\n                    var identifier =
bindParts[IDENT_KW_IDX$1];\n                    var keySpan = createKeySpan(srcSpan,
bindParts[KW_BINDON_IDX$1], identifier);\n                    this.bindingParser.parsePropertyBinding(identifier,
value, false, srcSpan, absoluteOffset, attribute.valueSpan, matchableAttributes, parsedProperties, keySpan);\n
        this.parseAssignmentEvent(identifier, value, srcSpan, attribute.valueSpan, matchableAttributes,
boundEvents);\n                }\n                else if (bindParts[KW_AT_IDX$1]) {\n                    var keySpan =
createKeySpan(srcSpan,
 '', name);\n                    this.bindingParser.parseLiteralAttr(name, value, srcSpan, absoluteOffset,
attribute.valueSpan, matchableAttributes, parsedProperties, keySpan);\n                }\n                else if
(bindParts[IDENT_BANANA_BOX_IDX$1]) {\n                    var keySpan = createKeySpan(srcSpan, '[(',
bindParts[IDENT_BANANA_BOX_IDX$1]);\n
this.bindingParser.parsePropertyBinding(bindParts[IDENT_BANANA_BOX_IDX$1], value, false, srcSpan,
absoluteOffset, attribute.valueSpan, matchableAttributes, parsedProperties, keySpan);\n
this.parseAssignmentEvent(bindParts[IDENT_BANANA_BOX_IDX$1], value, srcSpan, attribute.valueSpan,
matchableAttributes, boundEvents);\n                }\n                else if (bindParts[IDENT_PROPERTY_IDX$1]) {\n
            var keySpan = createKeySpan(srcSpan, '[', bindParts[IDENT_PROPERTY_IDX$1]);\n
this.bindingParser.parsePropertyBinding(bindParts[IDENT_PROPERTY_IDX$1],
 value, false, srcSpan, absoluteOffset, attribute.valueSpan, matchableAttributes, parsedProperties, keySpan);\n
    }\n                else if (bindParts[IDENT_EVENT_IDX$1]) {\n                    var events = [];\n
this.bindingParser.parseEvent(bindParts[IDENT_EVENT_IDX$1], value, srcSpan, attribute.valueSpan || srcSpan,
matchableAttributes, events);\n                    addEvents(events, boundEvents);\n                }\n            }\n            else
{\n                var keySpan = createKeySpan(srcSpan, '' /* prefix */, name);\n                hasBinding =
this.bindingParser.parsePropertyInterpolation(name, value, srcSpan, attribute.valueSpan, matchableAttributes,
parsedProperties, keySpan);\n            }\n            return hasBinding;\n        };\n
HtmlAstToIvyAst.prototype._visitTextWithInterpolation = function (value, sourceSpan, i18n) {\n            var
```

valueNoNgsp = replaceNgsp(value);\n var expr = this.bindingParser.parseInterpolation(valueNoNgsp, sourceSpan);\n return expr ? new BoundText(expr, sourceSpan, i18n) : new Text(valueNoNgsp, sourceSpan);\n };\n HtmlAstToIvyAst.prototype.parseVariable = function (identifier, value, sourceSpan, keySpan, valueSpan, variables) {\n if (identifier.indexOf('-') > -1) {\n this.reportError(\"\\\"-\\\" is not allowed in variable names\", sourceSpan);\n }\n else if (identifier.length === 0) {\n this.reportError(\"Variable does not have a name\", sourceSpan);\n }\n variables.push(new Variable(identifier, value, sourceSpan, keySpan, valueSpan));\n };\n HtmlAstToIvyAst.prototype.parseReference = function (identifier, value, sourceSpan, valueSpan, references) {\n if (identifier.indexOf('-') > -1) {\n this.reportError(\"\\\"-\\\" is not allowed in reference names\", sourceSpan);\n }\n else if (identifier.length === 0) {\n this.reportError(\"Reference does not have a name\", sourceSpan);\n }\n references.push(new Reference(identifier, value, sourceSpan, valueSpan));\n };\n HtmlAstToIvyAst.prototype.parseAssignmentEvent = function (name, expression, sourceSpan, valueSpan, targetMatchableAttrs, boundEvents) {\n var events = [];\n this.bindingParser.parseEvent(name + \"Change\", expression + \"=$event\", sourceSpan, valueSpan || sourceSpan, targetMatchableAttrs, events);\n addEvents(events, boundEvents);\n };\n HtmlAstToIvyAst.prototype.reportError = function (message, sourceSpan, level) {\n if (level === void 0) { level = exports.ParseErrorLevel.ERROR; }\n this.errors.push(new ParseError(sourceSpan, message, level));\n };\n return HtmlAstToIvyAst;\n }());\n var NonBindableVisitor$1 = /** @class */ (function () {\n function NonBindableVisitor() {\n }\n NonBindableVisitor.prototype.visitElement = function (ast) {\n var preparsedElement = preparseElement(ast);\n if (preparsedElement.type === PreparsedElementType.SCRIPT ||\n preparsedElement.type === PreparsedElementType.STYLE ||\n preparsedElement.type === PreparsedElementType.STYLESHEET) {\n // Skipping <script> for security reasons\n // Skipping <style> and stylesheets as we already processed them\n // in the StyleCompiler\n return null;\n }\n var children = visitAll$1(this, ast.children, null);\n return new Element(ast.name, visitAll$1(this, ast.attrs), \n /* inputs */ [], /* outputs */ [], children, /* references */ [], ast.sourceSpan, ast.startSourceSpan, ast.endSourceSpan);\n };\n NonBindableVisitor.prototype.visitComment = function (comment) {\n return null;\n };\n NonBindableVisitor.prototype.visitAttribute = function (attribute) {\n return new TextAttribute(attribute.name, attribute.value, attribute.sourceSpan, undefined, attribute.i18n);\n };\n NonBindableVisitor.prototype.visitText = function (text) {\n return new Text(text.value, text.sourceSpan);\n };\n NonBindableVisitor.prototype.visitExpansion = function (expansion) {\n return null;\n };\n NonBindableVisitor.prototype.visitExpansionCase = function (expansionCase) {\n return null;\n };\n return NonBindableVisitor;\n }());\n var NON_BINDABLE_VISITOR$1 = new NonBindableVisitor$1();\n function normalizeAttributeName(attrName) {\n return /^data-/i.test(attrName) ? attrName.substring(5) : attrName;\n }\n function addEvents(events, boundEvents) {\n boundEvents.push.apply(boundEvents, __spread(events.map(function (e) { return BoundEvent.fromParsedEvent(e); })));\n }\n function isEmptyTextNode(node) {\n return node instanceof Text$3 && node.value.trim().length == 0;\n }\n function isCommentNode(node) {\n return node instanceof Comment;\n }\n function textContents(node) {\n if (node.children.length !== 1 || !(node.children[0] instanceof Text$3)) {\n return null;\n }\n else {\n return node.children[0].value;\n }\n }\n\n var TagType;\n (function (TagType) {\n TagType[TagType[\"ELEMENT\"] = 0] = \"ELEMENT\";\n TagType[TagType[\"TEMPLATE\"] = 1] = \"TEMPLATE\";\n })(TagType || (TagType = {}));\n /**\n * Generates an object that is used as a shared state between parent and all child contexts.\n */\n function setupRegistry() {\n return { getUniqueId: getSeqNumberGenerator(), icus: new Map() };\n }\n /**\n * I18nContext is a helper class which keeps track of all i18n-related aspects\n * (accumulates placeholders, bindings, etc) between i18nStart and i18nEnd instructions.\n *\n * When we enter a nested template, the top-level context is being passed down\n * to the nested component, which uses this context to generate a child

instance\n * of I18nContext class (to handle nested template) and at the end, reconciles it back\n * with the parent context.\n *\n * @param index Instruction index of i18nStart, which initiates this context\n * @param ref Reference to a translation const that represents the content if thus context\n * @param level Nestng level defined for child contexts\n * @param templateIndex Instruction index of a template which this context belongs to\n * @param meta Meta information (id, meaning, description, etc) associated with this context\n */\n var I18nContext = /** @class */ (function () {\n function I18nContext(index, ref, level, templateIndex, meta, registry) {\n if (level === void 0) { level = 0; }\n if (templateIndex === void 0) { templateIndex = null; }\n this.index = index;\n this.ref = ref;\n this.level = level;\n this.templateIndex = templateIndex;\n this.meta = meta;\n this.registry = registry;\n this.bindings = new Set();\n this.placeholders = new Map();\n this.isEmitted = false;\n this._unresolvedCtxCount = 0;\n this._registry = registry || setupRegistry();\n this.id = this._registry.getUniqueId();\n }\n I18nContext.prototype.appendTag = function (type, node, index, closed) {\n if (node.isVoid && closed) {\n return; // ignore \"close\" for void tags\n }\n var ph = node.isVoid || !closed ? node.startName : node.closeName;\n var content = { type: type, index: index, ctx: this.id, isVoid: node.isVoid, closed: closed };\n updatePlaceholderMap(this.placeholders, ph, content);\n };\n Object.defineProperty(I18nContext.prototype, \"icus\", {\n get: function () {\n return this._registry.icus;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(I18nContext.prototype, \"isRoot\", {\n get: function () {\n return this.level === 0;\n },\n enumerable: false,\n configurable: true\n });\n Object.defineProperty(I18nContext.prototype, \"isResolved\", {\n get: function () {\n return this._unresolvedCtxCount === 0;\n },\n enumerable: false,\n configurable: true\n });\n I18nContext.prototype.getSerializedPlaceholders = function () {\n var result = new Map();\n this.placeholders.forEach(function (values, key) { return result.set(key, values.map(serializePlaceholderValue)); });\n return result;\n };\n // public API to accumulate i18n-related content\n I18nContext.prototype.appendBinding = function (binding) {\n this.bindings.add(binding);\n };\n I18nContext.prototype.appendIcu = function (name, ref) {\n updatePlaceholderMap(this._registry.icus, name, ref);\n };\n I18nContext.prototype.appendBoundText = function (node) {\n var _this = this;\n var phs = assembleBoundTextPlaceholders(node, this.bindings.size, this.id);\n phs.forEach(function (values, key) { return updatePlaceholderMap.apply(void 0, __spread([_this.placeholders, key], values)); });\n };\n I18nContext.prototype.appendTemplate = function (node, index) {\n // add open and close tags at the same time,\n // since we process nested templates separately\n this.appendTag(TagType.TEMPLATE, node, index, false);\n this.appendTag(TagType.TEMPLATE, node, index, true);\n this._unresolvedCtxCount++;\n };\n I18nContext.prototype.appendElement = function (node, index, closed) {\n this.appendTag(TagType.ELEMENT, node, index, closed);\n };\n I18nContext.prototype.appendProjection = function (node, index) {\n // Add open and close tags at the same time, since `<ng-content>` has no content,\n // so when we come across `<ng-content>` we can register both open and close tags.\n // Note: runtime i18n logic doesn't distinguish `<ng-content>` tag placeholders and\n // regular element tag placeholders, so we generate element placeholders for both types.\n this.appendTag(TagType.ELEMENT, node, index, false);\n this.appendTag(TagType.ELEMENT, node, index, true);\n };\n /**\n * Generates an instance of a child context based on the root one,\n * when we enter a nested template within I18n section.\n *\n * @param index Instruction index of corresponding i18nStart, which initiates this context\n * @param templateIndex Instruction index of a template which this context belongs to\n * @param meta Meta information (id, meaning, description, etc) associated with this context\n *\n * @returns I18nContext instance\n */\n I18nContext.prototype.forkChildContext = function (index, templateIndex, meta) {\n return new I18nContext(index, this.ref, this.level + 1, templateIndex, meta, this._registry);\n };\n /**\n * Reconciles child context into parent one once the end of the i18n block is reached (i18nEnd).\n *\n *

```
@param context Child I18nContext instance to be reconciled with parent context.\n        */\n
I18nContext.prototype.reconcileChildContext = function (context) {\n            var _this = this;\n            // set the right
context id for open and close\n            //
 template tags, so we can use it as sub-block ids\n            ['start', 'close'].forEach(function (op) {\n                var key
= context.meta[op + \"Name\"];\n                var phs = _this.placeholders.get(key) || [];\n                var tag =
phs.find(findTemplateFn(_this.id, context.templateIndex));\n                if (tag) {\n                    tag.ctx = context.id;\n
            }\n            });\n            // reconcile placeholders\n            var childPhs = context.placeholders;\n
childPhs.forEach(function (values, key) {\n                var phs = _this.placeholders.get(key);\n                if (!phs) {\n
                _this.placeholders.set(key, values);\n                    return;\n                }\n                // try to find matching
template...\n                var tmplIdx = phs.findIndex(findTemplateFn(context.id, context.templateIndex));\n
if (tmplIdx >= 0) {\n                    // ... if found - replace it with nested
 template content\n                    var isCloseTag = key.startsWith('CLOSE');\n                    var isTemplateTag =
key.endsWith('NG-TEMPLATE');\n                    if (isTemplateTag) {\n                        // current template's content is
placed before or after\n                        // parent template tag, depending on the open/close atrribute\n
phs.splice.apply(phs, __spread([tmplIdx + (isCloseTag ? 0 : 1), 0], values));\n                    }\n                    else {\n
                var idx = isCloseTag ? values.length - 1 : 0;\n                        values[idx].tmpl = phs[tmplIdx];\n
    phs.splice.apply(phs, __spread([tmplIdx, 1], values));\n                    }\n                }\n                else {\n
// ... otherwise just append content to placeholder value\n                    phs.push.apply(phs, __spread(values));\n
    }\n                _this.placeholders.set(key, phs);\n
            });\n            this._unresolvedCtxCount--;\n        };\n        return I18nContext;\n    }());\n    //\n    // Helper
methods\n    //\n    function wrap(symbol, index, contextId, closed) {\n        var state = closed ? '/' : '';\n        return
wrapI18nPlaceholder(\"\" + state + symbol + index, contextId);\n    }\n    function wrapTag(symbol, _a, closed) {\n
   var index = _a.index, ctx = _a.ctx, isVoid = _a.isVoid;\n        return isVoid ? wrap(symbol, index, ctx) +
wrap(symbol, index, ctx, true) :\n            wrap(symbol, index, ctx, closed);\n    }\n    function findTemplateFn(ctx,
templateIndex) {\n        return function (token) { return typeof token === 'object' && token.type ===
TagType.TEMPLATE &&\n            token.index === templateIndex && token.ctx === ctx; };\n    }\n    function
serializePlaceholderValue(value) {\n        var element = function (data, closed) { return wrapTag('#', data, closed);
};\n        var template = function (data, closed) { return
 wrapTag('*', data, closed); };\n        var projection = function (data, closed) { return wrapTag('!', data, closed); };\n
   switch (value.type) {\n            case TagType.ELEMENT:\n                // close element tag\n                if
(value.closed) {\n                    return element(value, true) + (value.tmpl ? template(value.tmpl, true) : '');\n
}\n                // open element tag that also initiates a template\n                if (value.tmpl) {\n                    return
template(value.tmpl) + element(value) +\n                        (value.isVoid ? template(value.tmpl, true) : '');\n
}\n                return element(value);\n            case TagType.TEMPLATE:\n                return template(value,
value.closed);\n            default:\n                return value;\n        }\n    }\n\n    /**\n     * @license\n     * Copyright
Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license
 that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var IcuSerializerVisitor = /**
@class */ (function () {\n        function IcuSerializerVisitor() {\n        }\n
IcuSerializerVisitor.prototype.visitText = function (text) {\n            return text.value;\n        };\n
IcuSerializerVisitor.prototype.visitContainer = function (container) {\n            var _this = this;\n            return
container.children.map(function (child) { return child.visit(_this); }).join('');\n        };\n
IcuSerializerVisitor.prototype.visitIcu = function (icu) {\n            var _this = this;\n            var strCases =
Object.keys(icu.cases).map(function (k) { return k + \" {\" + icu.cases[k].visit(_this) + \"}\"; });\n            var result =
\"{\" + icu.expressionPlaceholder + \", \" + icu.type + \", \" + strCases.join(' ') + \"}\";\n            return result;\n
};\n        IcuSerializerVisitor.prototype.visitTagPlaceholder = function
 (ph) {\n            var _this = this;\n            return ph.isVoid ?\n                this.formatPh(ph.startName) :\n                \"\"
+ this.formatPh(ph.startName) + ph.children.map(function (child) { return child.visit(_this); }).join('') +
this.formatPh(ph.closeName);\n        };\n        IcuSerializerVisitor.prototype.visitPlaceholder = function (ph) {\n
```

```
return this.formatPh(ph.name);\n };\n IcuSerializerVisitor.prototype.visitIcuPlaceholder = function (ph, context) {\n return this.formatPh(ph.name);\n };\n IcuSerializerVisitor.prototype.formatPh = function (value) {\n return \"{\" + formatI18nPlaceholderName(value, /* useCamelCase */ false) + \"}\";\n };\n return IcuSerializerVisitor;\n }());\n var serializer = new IcuSerializerVisitor();\n function serializeIcuNode(icu) {\n return icu.visit(serializer);\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n
*\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var TAG_TO_PLACEHOLDER_NAMES = {\n 'A': 'LINK',\n 'B': 'BOLD_TEXT',\n 'BR': 'LINE_BREAK',\n 'EM': 'EMPHASISED_TEXT',\n 'H1': 'HEADING_LEVEL1',\n 'H2': 'HEADING_LEVEL2',\n 'H3': 'HEADING_LEVEL3',\n 'H4': 'HEADING_LEVEL4',\n 'H5': 'HEADING_LEVEL5',\n 'H6': 'HEADING_LEVEL6',\n 'HR': 'HORIZONTAL_RULE',\n 'I': 'ITALIC_TEXT',\n 'LI': 'LIST_ITEM',\n 'LINK': 'MEDIA_LINK',\n 'OL': 'ORDERED_LIST',\n 'P': 'PARAGRAPH',\n 'Q': 'QUOTATION',\n 'S': 'STRIKETHROUGH_TEXT',\n 'SMALL': 'SMALL_TEXT',\n 'SUB': 'SUBSTRIPT',\n 'SUP': 'SUPERSCRIPT',\n 'TBODY': 'TABLE_BODY',\n 'TD': 'TABLE_CELL',\n 'TFOOT': 'TABLE_FOOTER',\n 'TH': 'TABLE_HEADER_CELL',\n 'THEAD': 'TABLE_HEADER',\n 'TR': 'TABLE_ROW',\n 'TT': 'MONOSPACED_TEXT',\n 'U': 'UNDERLINED_TEXT',\n 'UL': 'UNORDERED_LIST',\n };\n /**\n * Creates unique names for placeholder with different content.\n *\n * Returns the same placeholder name when the content is identical.\n */\n var PlaceholderRegistry = /** @class */ (function () {\n function PlaceholderRegistry() {\n // Count the occurrence of the base name top generate a unique name\n this._placeHolderNameCounts = {};\n // Maps signature to placeholder names\n this._signatureToName = {};\n }\n PlaceholderRegistry.prototype.getStartTagPlaceholderName = function (tag, attrs, isVoid) {\n var signature = this._hashTag(tag, attrs, isVoid);\n if (this._signatureToName[signature]) {\n return this._signatureToName[signature];\n }\n var upperTag = tag.toUpperCase();\n var baseName = TAG_TO_PLACEHOLDER_NAMES[upperTag] || \"TAG_\" + upperTag;\n var name = this._generateUniqueName(isVoid ? baseName : \"START_\" + baseName);\n this._signatureToName[signature] = name;\n return name;\n };\n PlaceholderRegistry.prototype.getCloseTagPlaceholderName = function (tag) {\n var signature = this._hashClosingTag(tag);\n if (this._signatureToName[signature]) {\n return this._signatureToName[signature];\n }\n var upperTag = tag.toUpperCase();\n var baseName = TAG_TO_PLACEHOLDER_NAMES[upperTag] || \"TAG_\" + upperTag;\n var name = this._generateUniqueName(\"CLOSE_\" + baseName);\n this._signatureToName[signature] = name;\n return name;\n };\n PlaceholderRegistry.prototype.getPlaceholderName = function (name, content) {\n var upperName = name.toUpperCase();\n var signature = \"PH: \" + upperName + \"=\" + content;\n if (this._signatureToName[signature]) {\n return this._signatureToName[signature];\n }\n var uniqueName = this._generateUniqueName(upperName);\n this._signatureToName[signature] = uniqueName;\n return uniqueName;\n };\n PlaceholderRegistry.prototype.getUniquePlaceholder = function (name) {\n return this._generateUniqueName(name.toUpperCase());\n };\n // Generate a hash for a tag - does not take attribute order into account\n PlaceholderRegistry.prototype._hashTag = function (tag, attrs, isVoid) {\n var start = \"<\" + tag;\n var strAttrs = Object.keys(attrs).sort().map(function (name) { return \" \" + name + \"=\" + attrs[name]; }).join('');\n var end = isVoid ? '/>' : \"></\" + tag + \">\";\n return start + strAttrs + end;\n };\n PlaceholderRegistry.prototype._hashClosingTag = function (tag) {\n return this._hashTag(\"/\" + tag, {}, false);\n };\n PlaceholderRegistry.prototype._generateUniqueName = function (base) {\n var seen = this._placeHolderNameCounts.hasOwnProperty(base);\n if (!seen) {\n this._placeHolderNameCounts[base] = 1;\n return base;\n }\n var id =
```

```
this._placeHolderNameCounts[base];\n            this._placeHolderNameCounts[base] = id + 1;\n            return base + \"_\" + id;\n        };\n        return PlaceholderRegistry;\n    }());\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var _expParser = new Parser$1(new Lexer());\n    /**\n     * Returns a function converting html nodes to an i18n Message given an interpolationConfig\n     */\n    function createI18nMessageFactory(interpolationConfig)
    {\n        var visitor = new _I18nVisitor(_expParser, interpolationConfig);\n        return function (nodes, meaning, description, customId, visitNodeFn) { return visitor.toI18nMessage(nodes, meaning, description, customId, visitNodeFn); };\n    }\n    function noopVisitNodeFn(_html, i18n) {\n        return i18n;\n    }\n    var _I18nVisitor = /** @class */ (function () {\n        function _I18nVisitor(_expressionParser, _interpolationConfig) {\n            this._expressionParser = _expressionParser;\n            this._interpolationConfig = _interpolationConfig;\n        }\n        _I18nVisitor.prototype.toI18nMessage = function (nodes, meaning, description, customId, visitNodeFn) {\n            if (meaning === void 0) { meaning = ''; }\n            if (description === void 0) { description = ''; }\n            if (customId === void 0) { customId = ''; }\n            var context = {\n                isIcu: nodes.length == 1 && nodes[0] instanceof Expansion,\n                icuDepth: 0,\n                placeholderRegistry: new PlaceholderRegistry(),\n                placeholderToContent: {},\n                placeholderToMessage: {},\n                visitNodeFn: visitNodeFn || noopVisitNodeFn,\n            };\n            var i18nodes = visitAll$1(this, nodes, context);\n            return new Message(i18nodes, context.placeholderToContent, context.placeholderToMessage, meaning, description, customId);\n        };\n        _I18nVisitor.prototype.visitElement = function (el, context) {\n            var _a;\n            var children = visitAll$1(this, el.children, context);\n            var attrs = {};\n            el.attrs.forEach(function (attr) {\n                // Do not visit the attributes, translatable ones are top-level ASTs\n                attrs[attr.name] = attr.value;\n            });\n            var isVoid = getHtmlTagDefinition(el.name).isVoid;\n            var startPhName = context.placeholderRegistry.getStartTagPlaceholderName(el.name,
            attrs, isVoid);\n            context.placeholderToContent[startPhName] = {\n                text: el.startSourceSpan.toString(),\n                sourceSpan: el.startSourceSpan,\n            };\n            var closePhName = '';\n            if (!isVoid) {\n                closePhName = context.placeholderRegistry.getCloseTagPlaceholderName(el.name);\n                context.placeholderToContent[closePhName] = {\n                    text: \"</\" + el.name + \">\",\n                    sourceSpan: (_a = el.endSourceSpan) !== null && _a !== void 0 ? _a : el.sourceSpan,\n                };\n            }\n            var node = new TagPlaceholder(el.name, attrs, startPhName, closePhName, children, isVoid, el.sourceSpan, el.startSourceSpan, el.endSourceSpan);\n            return context.visitNodeFn(el, node);\n        };\n        _I18nVisitor.prototype.visitAttribute = function (attribute, context) {\n            var node = this._visitTextWithInterpolation(attribute.value,
            attribute.valueSpan || attribute.sourceSpan, context, attribute.i18n);\n            return context.visitNodeFn(attribute, node);\n        };\n        _I18nVisitor.prototype.visitText = function (text, context) {\n            var node = this._visitTextWithInterpolation(text.value, text.sourceSpan, context, text.i18n);\n            return context.visitNodeFn(text, node);\n        };\n        _I18nVisitor.prototype.visitComment = function (comment, context) {\n            return null;\n        };\n        _I18nVisitor.prototype.visitExpansion = function (icu, context) {\n            var _this = this;\n            context.icuDepth++;\n            var i18nIcuCases = {};\n            var i18nIcu = new Icu$1(icu.switchValue, icu.type, i18nIcuCases, icu.sourceSpan);\n            icu.cases.forEach(function (caze) {\n                i18nIcuCases[caze.value] = new Container(caze.expression.map(function (node) { return node.visit(_this, context); }), caze.expSourceSpan);\n            });\n            context.icuDepth--;\n            if (context.isIcu || context.icuDepth > 0) {\n                // Returns an ICU node when:\n                // - the message (vs a part of the message) is an ICU message, or\n                // - the ICU message is nested.\n                var expPh = context.placeholderRegistry.getUniquePlaceholder(\"VAR_\" + icu.type);\n                i18nIcu.expressionPlaceholder = expPh;\n                context.placeholderToContent[expPh] = {\n                    text: icu.switchValue,\n                    sourceSpan: icu.switchValueSourceSpan,\n                };\n                return
```

context.visitNodeFn(icu, i18nIcu);\n }\n // Else returns a placeholder\n // ICU placeholders should not be replaced with their original content but with the their\n // translations.\n // TODO(vicb): add a html.Node -> i18n.Message cache to avoid having to re-create the msg\n var phName = context.placeholderRegistry.getPlaceholderName('ICU', icu.sourceSpan.toString());\n context.placeholderToMessage[phName] = this.toI18nMessage([icu], '', '', '', undefined);\n var node = new IcuPlaceholder(i18nIcu, phName, icu.sourceSpan);\n return context.visitNodeFn(icu, node);\n };\n _I18nVisitor.prototype.visitExpansionCase = function (_icuCase, _context) {\n throw new Error('Unreachable code');\n };\n /**\n * Split the, potentially interpolated, text up into text and placeholder pieces.\n *\n * @param text The potentially interpolated string to be split.\n * @param sourceSpan The span of the whole of the `text` string.\n * @param context The current context of the visitor, used to compute and store placeholders.\n * @param previousI18n Any i18n metadata associated with this `text` from a previous pass.\n */\n _I18nVisitor.prototype._visitTextWithInterpolation = function (text, sourceSpan, context, previousI18n) {\n var _b = this._expressionParser.splitInterpolation(text, sourceSpan.start.toString(), this._interpolationConfig), strings = _b.strings, expressions = _b.expressions;\n // No expressions, return a single text.\n if (expressions.length === 0) {\n return new Text$1(text, sourceSpan);\n }\n // Return a sequence of `Text` and `Placeholder` nodes grouped in a `Container`.\n var nodes = [];\n for (var i = 0; i < strings.length - 1; i++) {\n this._addText(nodes, strings[i], sourceSpan);\n this._addPlaceholder(nodes, context, expressions[i], sourceSpan);\n }\n // The last index contains no expression\n this._addText(nodes, strings[strings.length - 1], sourceSpan);\n // Whitespace removal may have invalidated the interpolation source-spans.\n reusePreviousSourceSpans(nodes, previousI18n);\n return new Container(nodes, sourceSpan);\n };\n /**\n * Create a new `Text` node from the `textPiece` and add it to the `nodes` collection.\n *\n * @param nodes The nodes to which the created `Text` node should be added.\n * @param textPiece The text and relative span information for this `Text` node.\n * @param interpolationSpan The span of the whole interpolated text.\n */\n _I18nVisitor.prototype._addText = function (nodes, textPiece, interpolationSpan) {\n if (textPiece.text.length > 0) {\n // No need to add empty strings\n var stringSpan = getOffsetSourceSpan(interpolationSpan, textPiece);\n nodes.push(new Text$1(textPiece.text, stringSpan));\n }\n };\n /**\n * Create a new `Placeholder` node from the `expression` and add it to the `nodes` collection.\n *\n * @param nodes The nodes to which the created `Text` node should be added.\n * @param context The current context of the visitor, used to compute and store placeholders.\n * @param expression The expression text and relative span information for this `Placeholder`\n * node.\n * @param interpolationSpan The span of the whole interpolated text.\n */\n _I18nVisitor.prototype._addPlaceholder = function (nodes, context, expression, interpolationSpan) {\n var sourceSpan = getOffsetSourceSpan(interpolationSpan, expression);\n var baseName = extractPlaceholderName(expression.text) || 'INTERPOLATION';\n var phName = context.placeholderRegistry.getPlaceholderName(baseName, expression.text);\n var text = this._interpolationConfig.start + expression.text + this._interpolationConfig.end;\n context.placeholderToContent[phName] = { text: text, sourceSpan: sourceSpan };\n nodes.push(new Placeholder(expression.text, phName, sourceSpan));\n };\n return _I18nVisitor;\n }());\n /**\n * Re-use the source-spans from `previousI18n` metadata for the `nodes`.\n *\n * Whitespace removal can invalidate the source-spans of interpolation nodes, so we\n * reuse the source-span stored from a previous pass before the whitespace was removed.\n *\n * @param nodes The `Text` and `Placeholder` nodes to be processed.\n * @param previousI18n Any i18n metadata for these `nodes` stored from a previous pass.\n */\n function reusePreviousSourceSpans(nodes, previousI18n) {\n if (previousI18n instanceof Message) {\n // The `previousI18n` is an i18n `Message`, so we are processing an `Attribute` with i18n\n // metadata. The

`Message` should consist only of a single `Container` that contains the\n // parts (`Text` and `Placeholder`) to process.\n assertSingleContainerMessage(previousI18n);\n previousI18n = previousI18n.nodes[0];\n }\n if (previousI18n instanceof Container) {\n // The `previousI18n` is a `Container`, which means that this is a second i18n extraction pass\n // after whitespace has been removed from the AST ndoes.\n assertEquivalentNodes(previousI18n.children, nodes);\n // Reuse the source-spans from the first pass.\n for (var i = 0; i < nodes.length; i++) {\n nodes[i].sourceSpan = previousI18n.children[i].sourceSpan;\n }\n }\n }\n /**\n * Asserts that the `message` contains exactly one `Container` node.\n */\n function assertSingleContainerMessage(message) {\n var nodes = message.nodes;\n if (nodes.length !== 1 || !(nodes[0] instanceof Container)) {\n throw new Error('Unexpected previous i18n message - expected it to consist of only a single `Container` node.');\n }\n }\n /**\n * Asserts that the `previousNodes` and `node` collections have the same number of elements and\n * corresponding elements have the same node type.\n */\n function assertEquivalentNodes(previousNodes, nodes) {\n if (previousNodes.length !== nodes.length) {\n throw new Error('The number of i18n message children changed between first and second pass.');\n }\n if (previousNodes.some(function (node, i) { return nodes[i].constructor !== node.constructor; })) {\n throw new Error('The types of the i18n message children changed between first and second pass.');\n }\n }\n /**\n * Create a new `ParseSourceSpan` from the `sourceSpan`, offset by the `start` and `end` values.\n */\n function getOffsetSourceSpan(sourceSpan, _b) {\n var start = _b.start, end = _b.end;\n return new ParseSourceSpan(sourceSpan.fullStart.moveBy(start), sourceSpan.fullStart.moveBy(end));\n }\n var _CUSTOM_PH_EXP = /\\/\\/[\\s\\S]*i18n[\\s\\S]*\\([\\s\\S]*ph[\\s\\S]*=[\\s\\S]*(\"|')([\\s\\S]*?)\\1[\\s\\S]*\\)/g;\n function extractPlaceholderName(input) {\n return input.split(_CUSTOM_PH_EXP)[2];\n }\n\n var setI18nRefs = function (htmlNode, i18nNode) {\n if (htmlNode instanceof NodeWithI18n) {\n if (i18nNode instanceof IcuPlaceholder && htmlNode.i18n instanceof Message) {\n // This html node represents an ICU but this is a second processing pass, and the legacy id\n // was computed in the previous pass and stored in the `i18n` property as a message.\n // We are about to wipe out that property so capture the previous message to be reused when\n // generating the message for this ICU later. See `_generateI18nMessage()`.\n i18nNode.previousMessage = htmlNode.i18n;\n }\n htmlNode.i18n = i18nNode;\n }\n return i18nNode;\n };\n /**\n * This visitor walks over HTML parse tree and converts information stored in\n * i18n-related attributes (\"i18n\" and \"i18n-*\") into i18n meta object that is\n * stored with other element's and attribute's information.\n */\n var I18nMetaVisitor = /** @class */ (function () {\n function I18nMetaVisitor(interpolationConfig, keepI18nAttrs, enableI18nLegacyMessageIdFormat) {\n if (interpolationConfig === void 0) { interpolationConfig = DEFAULT_INTERPOLATION_CONFIG; }\n if (keepI18nAttrs === void 0) { keepI18nAttrs = false; }\n if (enableI18nLegacyMessageIdFormat === void 0) { enableI18nLegacyMessageIdFormat = false; }\n this.interpolationConfig = interpolationConfig;\n this.keepI18nAttrs = keepI18nAttrs;\n this.enableI18nLegacyMessageIdFormat = enableI18nLegacyMessageIdFormat;\n // whether visited nodes contain i18n information\n this.hasI18nMeta = false;\n // i18n message generation factory\n this._createI18nMessage = createI18nMessageFactory(this.interpolationConfig);\n }\n I18nMetaVisitor.prototype._generateI18nMessage = function (nodes, meta, visitNodeFn) {\n if (meta === void 0) { meta = ''; }\n var _a = this._parseMetadata(meta), meaning = _a.meaning, description = _a.description, customId = _a.customId;\n var message = this._createI18nMessage(nodes, meaning, description, customId, visitNodeFn);\n this._setMessageId(message, meta);\n this._setLegacyIds(message, meta);\n return message;\n };\n I18nMetaVisitor.prototype.visitElement = function (element) {\n var e_1, _a, e_2, _b;\n if (hasI18nAttrs(element)) {\n this.hasI18nMeta = true;\n var attrs = [];\n var attrsMeta = {};\n try {\n for (var _c = __values(element.attrs), _d = _c.next(); !_d.done; _d = _c.next()) {\n var attr

```
= _d.value;\n                if (attr.name === I18N_ATTR) {\n                    // root 'i18n' node attribute\n
            var i18n_1 = element.i18n || attr.value;\n                    var message =
this._generateI18nMessage(element.children, i18n_1, setI18nRefs);\n                    // do not assign empty i18n
meta\n                    if (message.nodes.length) {\n                        element.i18n = message;\n
}\n                }\n                else if (attr.name.startsWith(I18N_ATTR_PREFIX)) {\n                    //
'i18n-*' attributes\n                    var key = attr.name.slice(I18N_ATTR_PREFIX.length);\n
attrsMeta[key] = attr.value;\n                }\n                else {\n                    // non-i18n attributes\n
            attrs.push(attr);\n                }\n
            }\n            }\n            catch (e_1_1) { e_1 = { error: e_1_1 }; }\n            finally {\n                try
{\n                    if (_d && !_d.done && (_a = _c.return)) _a.call(_c);\n                }\n                finally { if
(e_1) throw e_1.error; }\n            }\n            // set i18n meta for attributes\n            if
(Object.keys(attrsMeta).length) {\n                try {\n                    for (var attrs_1 = __values(attrs), attrs_1_1 =
attrs_1.next(); !attrs_1_1.done; attrs_1_1 = attrs_1.next()) {\n                        var attr = attrs_1_1.value;\n
        var meta = attrsMeta[attr.name];\n                        // do not create translation for empty attributes\n
        if (meta !== undefined && attr.value) {\n                            attr.i18n = this._generateI18nMessage([attr],
attr.i18n || meta);\n                        }\n
            }\n                }\n                catch (e_2_1) { e_2 = { error: e_2_1 }; }\n                finally {\n
    try {\n                        if (attrs_1_1 && !attrs_1_1.done && (_b = attrs_1.return)) _b.call(attrs_1);\n
  }\n                    finally { if (e_2) throw e_2.error; }\n                }\n            }\n            if
(!this.keepI18nAttrs) {\n                // update element's attributes,\n                // keeping only non-i18n related
ones\n                element.attrs = attrs;\n            }\n        }\n        visitAll$1(this, element.children,
element.i18n);\n        return element;\n    };\n    I18nMetaVisitor.prototype.visitExpansion = function
(expansion, currentMessage) {\n        var message;\n        var meta = expansion.i18n;\n        this.hasI18nMeta
= true;\n        if (meta instanceof IcuPlaceholder) {\n
  // set ICU placeholder name (e.g. \"ICU_1\"),\n            // generated while processing root element contents,\n
      // so we can reference it when we output translation\n            var name = meta.name;\n            message =
this._generateI18nMessage([expansion], meta);\n            var icu = icuFromI18nMessage(message);\n
icu.name = name;\n        }\n        else {\n            // ICU is a top level message, try to use metadata from
container element if provided via\n            // `context` argument. Note: context may not be available for
standalone ICUs (without\n            // wrapping element), so fallback to ICU metadata in this case.\n
message = this._generateI18nMessage([expansion], currentMessage || meta);\n        }\n        expansion.i18n =
message;\n        return expansion;\n    };\n    I18nMetaVisitor.prototype.visitText = function (text) {\n
return text;\n
    };\n    I18nMetaVisitor.prototype.visitAttribute = function (attribute) {\n        return attribute;\n    };\n
I18nMetaVisitor.prototype.visitComment = function (comment) {\n        return comment;\n    };\n
I18nMetaVisitor.prototype.visitExpansionCase = function (expansionCase) {\n        return expansionCase;\n
};\n    /**\n     * Parse the general form `meta` passed into extract the explicit metadata needed to create a\n
* `Message`.\n     *\n     * There are three possibilities for the `meta` variable\n     * 1) a string from an `i18n`
template attribute: parse it to extract the metadata values.\n     * 2) a `Message` from a previous processing pass:
reuse the metadata values in the message.\n     * 4) other: ignore this and just process the message metadata as
normal\n     *\n     * @param meta the bucket that holds information about the message\n     * @returns the
parsed metadata.\n
     */\n    I18nMetaVisitor.prototype._parseMetadata = function (meta) {\n        return typeof meta ===
'string' ? parseI18nMeta(meta) :\n            meta instanceof Message ? meta : {};\n    };\n    /**\n     *
Generate (or restore) message id if not specified already.\n     */\n    I18nMetaVisitor.prototype._setMessageId
= function (message, meta) {\n        if (!message.id) {\n            message.id = meta instanceof Message &&
meta.id || decimalDigest(message);\n        }\n    };\n    /**\n     * Update the `message` with a `legacyId` if
necessary.\n     *\n     * @param message the message whose legacy id should be set\n     * @param meta
```

```
information about the message being processed\n         */\n         I18nMetaVisitor.prototype._setLegacyIds = function
(message, meta) {\n             if (this.enableI18nLegacyMessageIdFormat) {\n                 message.legacyIds =
[computeDigest(message), computeDecimalDigest(message)];\n
         }\n             else if (typeof meta !== 'string') {\n                 // This occurs if we are doing the 2nd pass after
whitespace removal (see `parseTemplate()` in\n                 // `packages/compiler/src/render3/view/template.ts`).\n
        // In that case we want to reuse the legacy message generated in the 1st pass (see\n                 //
`setI18nRefs()`).\n                 var previousMessage = meta instanceof Message ?\n                     meta :\n
meta instanceof IcuPlaceholder ? meta.previousMessage : undefined;\n                 message.legacyIds =
previousMessage ? previousMessage.legacyIds : [];\n             }\n         };\n         return I18nMetaVisitor;\n     }());\n
/** I18n separators for metadata **/\n     var I18N_MEANING_SEPARATOR = '|';\n     var I18N_ID_SEPARATOR
= '@@';\n     /**\n      * Parses i18n metas like:\n      *  - \"@@id\",\n      *  - \"description[@@id]\",\n      *  -
\"meaning|description[@@id]\"\n      *
 and returns an object with parsed output.\n      *\n      * @param meta String that represents i18n meta\n      *
@returns Object with id, meaning and description fields\n      */\n     function parseI18nMeta(meta) {\n         var _a,
_b;\n         if (meta === void 0) { meta = ''; }\n         var customId;\n         var meaning;\n         var description;\n
meta = meta.trim();\n         if (meta) {\n             var idIndex = meta.indexOf(I18N_ID_SEPARATOR);\n             var
descIndex = meta.indexOf(I18N_MEANING_SEPARATOR);\n             var meaningAndDesc = void 0;\n             _a
= __read((idIndex > -1) ? [meta.slice(0, idIndex), meta.slice(idIndex + 2)] : [meta, ''], 2), meaningAndDesc = _a[0],
customId = _a[1];\n             _b = __read((descIndex > -1) ?\n                 [meaningAndDesc.slice(0, descIndex),
meaningAndDesc.slice(descIndex + 1)] :\n                 ['', meaningAndDesc], 2), meaning = _b[0], description =
_b[1];\n         }\n         return { customId: customId, meaning: meaning,
 description: description };\n     }\n     // Converts i18n meta information for a message (id, description, meaning)\n
// to a JsDoc statement formatted as expected by the Closure compiler.\n     function i18nMetaToJSDoc(meta) {\n
var tags = [];\n         if (meta.description) {\n             tags.push({ tagName: \"desc\" /* Desc */, text: meta.description
});\n         }\n         if (meta.meaning) {\n             tags.push({ tagName: \"meaning\" /* Meaning */, text: meta.meaning
});\n         }\n         return tags.length == 0 ? null : jsDocComment(tags);\n     }\n\n     /** Closure uses
`goog.getMsg(message)` to lookup translations */\n     var GOOG_GET_MSG = 'goog.getMsg';\n     function
createGoogleGetMsgStatements(variable$1, message, closureVar, params) {\n         var messageString =
serializeI18nMessageForGetMsg(message);\n         var args = [literal(messageString)];\n         if
(Object.keys(params).length) {\n             args.push(mapLiteral(params, true));\n         }\n
     // /**\n         //  * @desc description of message\n         //  * @meaning meaning of message\n         //  */\n         //
const MSG_... = goog.getMsg(..);\n         // I18N_X = MSG_...;\n         var googGetMsgStmt =
closureVar.set(variable(GOOG_GET_MSG).callFn(args)).toConstDecl();\n         var metaComment =
i18nMetaToJSDoc(message);\n         if (metaComment !== null) {\n
googGetMsgStmt.addLeadingComment(metaComment);\n         }\n         var i18nAssignmentStmt = new
ExpressionStatement(variable$1.set(closureVar));\n         return [googGetMsgStmt, i18nAssignmentStmt];\n     }\n
/**\n      * This visitor walks over i18n tree and generates its string representation, including ICUs and\n      *
placeholders in `{$placeholder}` (for plain messages) or `{PLACEHOLDER}` (inside ICUs) format.\n      */\n     var
GetMsgSerializerVisitor = /** @class */ (function () {\n         function GetMsgSerializerVisitor() {\n         }\n
GetMsgSerializerVisitor.prototype.formatPh = function
 (value) {\n             return \"{$\" + formatI18nPlaceholderName(value) + \"}\";\n         };\n
GetMsgSerializerVisitor.prototype.visitText = function (text) {\n             return text.value;\n         };\n
GetMsgSerializerVisitor.prototype.visitContainer = function (container) {\n             var _this = this;\n             return
container.children.map(function (child) { return child.visit(_this); }).join('');\n         };\n
GetMsgSerializerVisitor.prototype.visitIcu = function (icu) {\n             return serializeIcuNode(icu);\n         };\n
GetMsgSerializerVisitor.prototype.visitTagPlaceholder = function (ph) {\n             var _this = this;\n             return
ph.isVoid ?\n                 this.formatPh(ph.startName) :\n                 \"\" + this.formatPh(ph.startName) +
ph.children.map(function (child) { return child.visit(_this); }).join('') + this.formatPh(ph.closeName);\n         };\n
```

```
GetMsgSerializerVisitor.prototype.visitPlaceholder = function (ph)
 {\n        return this.formatPh(ph.name);\n    };\n    GetMsgSerializerVisitor.prototype.visitIcuPlaceholder =
function (ph, context) {\n        return this.formatPh(ph.name);\n    };\n    return GetMsgSerializerVisitor;\n
}());\n var serializerVisitor$1 = new GetMsgSerializerVisitor();\n function
serializeI18nMessageForGetMsg(message) {\n    return message.nodes.map(function (node) { return
node.visit(serializerVisitor$1, null); }).join('');\n }\n\n function createLocalizeStatements(variable, message,
params) {\n    var _c = serializeI18nMessageForLocalize(message), messageParts = _c.messageParts,
placeHolders = _c.placeHolders;\n    var sourceSpan = getSourceSpan(message);\n    var expressions =
placeHolders.map(function (ph) { return params[ph.text]; });\n    var localizedString$1 =
localizedString(message, messageParts, placeHolders, expressions, sourceSpan);\n    var variableInitialization =
variable.set(localizedString$1);\n
    return [new ExpressionStatement(variableInitialization)];\n }\n /**\n * This visitor walks over an i18n
tree, capturing literal strings and placeholders.\n *\n * The result can be used for generating the `$localize`
tagged template literals.\n */\n var LocalizeSerializerVisitor = /** @class */ (function () {\n    function
LocalizeSerializerVisitor() {\n    }\n    LocalizeSerializerVisitor.prototype.visitText = function (text, context)
{\n        if (context[context.length - 1] instanceof LiteralPiece) {\n            // Two literal pieces in a row means
that there was some comment node in-between.\n            context[context.length - 1].text += text.value;\n
}\n        else {\n            context.push(new LiteralPiece(text.value, text.sourceSpan));\n        }\n    };\n
LocalizeSerializerVisitor.prototype.visitContainer = function (container, context) {\n        var _this = this;\n
        container.children.forEach(function (child) { return child.visit(_this, context); });\n    };\n
LocalizeSerializerVisitor.prototype.visitIcu = function (icu, context) {\n        context.push(new
LiteralPiece(serializeIcuNode(icu), icu.sourceSpan));\n    };\n
LocalizeSerializerVisitor.prototype.visitTagPlaceholder = function (ph, context) {\n        var _this = this;\n
var _a, _b;\n        context.push(this.createPlaceholderPiece(ph.startName, (_a = ph.startSourceSpan) !== null &&
_a !== void 0 ? _a : ph.sourceSpan));\n        if (!ph.isVoid) {\n            ph.children.forEach(function (child) {
return child.visit(_this, context); });\n            context.push(this.createPlaceholderPiece(ph.closeName, (_b =
ph.endSourceSpan) !== null && _b !== void 0 ? _b : ph.sourceSpan));\n        }\n    };\n
LocalizeSerializerVisitor.prototype.visitPlaceholder = function (ph, context) {\n
context.push(this.createPlaceholderPiece(ph.name,
 ph.sourceSpan));\n    };\n    LocalizeSerializerVisitor.prototype.visitIcuPlaceholder = function (ph, context) {\n
        context.push(this.createPlaceholderPiece(ph.name, ph.sourceSpan));\n    };\n
LocalizeSerializerVisitor.prototype.createPlaceholderPiece = function (name, sourceSpan) {\n        return new
PlaceholderPiece(formatI18nPlaceholderName(name, /* useCamelCase */ false), sourceSpan);\n    };\n    return
LocalizeSerializerVisitor;\n }());\n var serializerVisitor$2 = new LocalizeSerializerVisitor();\n /**\n *
Serialize an i18n message into two arrays: messageParts and placeholders.\n *\n * These arrays will be used to
generate `$localize` tagged template literals.\n *\n * @param message The message to be serialized.\n *
@returns an object containing the messageParts and placeholders.\n */\n function
serializeI18nMessageForLocalize(message) {\n    var pieces = [];\n
    message.nodes.forEach(function (node) { return node.visit(serializerVisitor$2, pieces); });\n    return
processMessagePieces(pieces);\n }\n function getSourceSpan(message) {\n    var startNode =
message.nodes[0];\n    var endNode = message.nodes[message.nodes.length - 1];\n    return new
ParseSourceSpan(startNode.sourceSpan.start, endNode.sourceSpan.end, startNode.sourceSpan.fullStart,
startNode.sourceSpan.details);\n }\n /**\n * Convert the list of serialized MessagePieces into two arrays.\n
*\n * One contains the literal string pieces and the other the placeholders that will be replaced by\n *
expressions when rendering `$localize` tagged template literals.\n *\n * @param pieces The pieces to
process.\n * @returns an object containing the messageParts and placeholders.\n */\n function
processMessagePieces(pieces) {\n    var messageParts = [];\n    var placeHolders = [];\n    if (pieces[0]
instanceof PlaceholderPiece)
```

```
{\n            // The first piece was a placeholder so we need to add an initial empty message part.\n
messageParts.push(createEmptyMessagePart(pieces[0].sourceSpan.start));\n        }\n        for (var i = 0; i <
pieces.length; i++) {\n            var part = pieces[i];\n            if (part instanceof LiteralPiece) {\n
messageParts.push(part);\n            }\n            else {\n                placeHolders.push(part);\n                if (pieces[i - 1]
instanceof PlaceholderPiece) {\n                    // There were two placeholders in a row, so we need to add an empty
message part.\n                    messageParts.push(createEmptyMessagePart(pieces[i - 1].sourceSpan.end));\n
}\n            }\n        }\n        if (pieces[pieces.length - 1] instanceof PlaceholderPiece) {\n            // The last piece was
a placeholder so we need to add a final empty message part.\n
messageParts.push(createEmptyMessagePart(pieces[pieces.length
 - 1].sourceSpan.end));\n        }\n        return { messageParts: messageParts, placeHolders: placeHolders };\n    }\n
function createEmptyMessagePart(location) {\n        return new LiteralPiece('', new ParseSourceSpan(location,
location));\n    }\n\n    // Selector attribute name of `<ng-content>`\n    var NG_CONTENT_SELECT_ATTR$1 =
'select';\n    // Attribute name of `ngProjectAs`.\n    var NG_PROJECT_AS_ATTR_NAME = 'ngProjectAs';\n    //
Global symbols available only inside event bindings.\n    var EVENT_BINDING_SCOPE_GLOBALS = new
Set(['$event']);\n    // List of supported global targets for event listeners\n    var GLOBAL_TARGET_RESOLVERS
= new Map([['window', Identifiers$1.resolveWindow], ['document', Identifiers$1.resolveDocument], ['body',
Identifiers$1.resolveBody]]);\n    var LEADING_TRIVIA_CHARS = [' ', '\\n', '\\r', '\\t'];\n    //  if (rf & flags) { .. }\n
 function renderFlagCheckIfStmt(flags, statements) {\n        return
ifStmt(variable(RENDER_FLAGS).bitwiseAnd(literal(flags),
 null, false), statements);\n    }\n    function prepareEventListenerParameters(eventAst, handlerName, scope) {\n
if (handlerName === void 0) { handlerName = null; }\n        if (scope === void 0) { scope = null; }\n        var type =
eventAst.type, name = eventAst.name, target = eventAst.target, phase = eventAst.phase, handler =
eventAst.handler;\n        if (target && !GLOBAL_TARGET_RESOLVERS.has(target)) {\n            throw new
Error(\"Unexpected global target '\" + target + \"' defined for '\" + name + \"' event.\\n        Supported list of global
targets: \" + Array.from(GLOBAL_TARGET_RESOLVERS.keys()) + \".\");\n        }\n        var
eventArgumentName = '$event';\n        var implicitReceiverAccesses = new Set();\n        var implicitReceiverExpr =
(scope === null || scope.bindingLevel === 0) ?\n            variable(CONTEXT_NAME) :\n
scope.getOrCreateSharedContextVar(0);\n        var bindingExpr = convertActionBinding(scope,
implicitReceiverExpr,
 handler, 'b', function () { return error('Unexpected interpolation'); }, eventAst.handlerSpan,
implicitReceiverAccesses, EVENT_BINDING_SCOPE_GLOBALS);\n        var statements = [];\n        if (scope) {\n
            statements.push.apply(statements, __spread(scope.restoreViewStatement()));\n
statements.push.apply(statements, __spread(scope.variableDeclarations()));\n        }\n
statements.push.apply(statements, __spread(bindingExpr.render3Stmts));\n        var eventName = type === 1 /*
Animation */ ? prepareSyntheticListenerName(name, phase) : name;\n        var fnName = handlerName &&
sanitizeIdentifier(handlerName);\n        var fnArgs = [];\n        if
(implicitReceiverAccesses.has(eventArgumentName)) {\n            fnArgs.push(new FnParam(eventArgumentName,
DYNAMIC_TYPE));\n        }\n        var handlerFn = fn(fnArgs, statements, INFERRED_TYPE, null, fnName);\n
  var params = [literal(eventName), handlerFn];\n        if (target) {\n            params.push(literal(false),
 // `useCapture` flag, defaults to `false`\n            importExpr(GLOBAL_TARGET_RESOLVERS.get(target)));\n
}\n        return params;\n    }\n    function createComponentDefConsts() {\n        return { prepareStatements: [],
constExpressions: [] };\n    }\n    var TemplateDefinitionBuilder = /** @class */ (function () {\n        function
TemplateDefinitionBuilder(constantPool, parentBindingScope, level, contextName, i18nContext, templateIndex,
templateName, directiveMatcher, directives, pipeTypeByName, pipes, _namespace, relativeContextFilePath,
i18nUseExternalIds, _constants) {\n            var _this = this;\n            if (level === void 0) { level = 0; }\n            if
(_constants === void 0) { _constants = createComponentDefConsts(); }\n            this.constantPool = constantPool;\n
            this.level = level;\n            this.contextName = contextName;\n            this.i18nContext = i18nContext;\n
 this.templateIndex = templateIndex;\n
```

```
        this.templateName = templateName;\n        this.directiveMatcher = directiveMatcher;\n
this.directives = directives;\n        this.pipeTypeByName = pipeTypeByName;\n        this.pipes = pipes;\n
this._namespace = _namespace;\n        this.i18nUseExternalIds = i18nUseExternalIds;\n        this._constants =
_constants;\n        this._dataIndex = 0;\n        this._bindingContext = 0;\n        this._prefixCode = [];\n
/**\n         * List of callbacks to generate creation mode instructions. We store them here as we process\n         *
the template so bindings in listeners are resolved only once all nodes have been visited.\n         * This ensures all
local refs and context variables are available for matching.\n         */\n        this._creationCodeFns = [];\n
/**\n         * List of callbacks to generate update mode instructions. We store them here as we process\n
   * the template so bindings are resolved only once all nodes have been visited. This ensures\n         * all local
refs and context variables are available for matching.\n         */\n        this._updateCodeFns = [];\n        /**
Index of the currently-selected node. */\n        this._currentIndex = 0;\n        /** Temporary variable
declarations generated from visiting pipes, literals, etc. */\n        this._tempVariables = [];\n        /**\n         *
List of callbacks to build nested templates. Nested templates must not be visited until\n         * after the parent
template has finished visiting all of its nodes. This ensures that all\n         * local ref bindings in nested templates
are able to find local ref values if the refs\n         * are defined after the template declaration.\n         */\n
this._nestedTemplateFns = [];\n        this._unsupported = unsupported;\n        // i18n context local to this
template\n
        this.i18n = null;\n        // Number of slots to reserve for pureFunctions\n        this._pureFunctionSlots =
0;\n        // Number of binding slots\n        this._bindingSlots = 0;\n        // Projection slots found in the
template. Projection slots can distribute projected\n        // nodes based on a selector, or can just use the wildcard
selector to match\n        // all nodes which aren't matching any selector.\n        this._ngContentReservedSlots =
[];\n        // Number of non-default selectors found in all parent templates of this template. We need to\n        //
track it to properly adjust projection slot index in the `projection` instruction.\n
this._ngContentSelectorsOffset = 0;\n        // Expression that should be used as implicit receiver when converting
template\n        // expressions to output AST.\n        this._implicitReceiverExpr = null;\n        // These should
be handled in the
 template or element directly.\n        this.visitReference = invalid$1;\n        this.visitVariable = invalid$1;\n
  this.visitTextAttribute = invalid$1;\n        this.visitBoundAttribute = invalid$1;\n        this.visitBoundEvent =
invalid$1;\n        this._bindingScope = parentBindingScope.nestedScope(level);\n        // Turn the relative
context file path into an identifier by replacing non-alphanumeric\n        // characters with underscores.\n
this.fileBasedI18nSuffix = relativeContextFilePath.replace(/[^A-Za-z0-9]/g, '_') + '_';\n        this._valueConverter
= new ValueConverter(constantPool, function () { return _this.allocateDataSlot(); }, function (numSlots) { return
_this.allocatePureFunctionSlots(numSlots); }, function (name, localName, slot, value) {\n            var pipeType =
pipeTypeByName.get(name);\n            if (pipeType) {\n                _this.pipes.add(pipeType);\n            }\n

    _this._bindingScope.set(_this.level, localName, value);\n            _this.creationInstruction(null,
Identifiers$1.pipe, [literal(slot), literal(name)]);\n        });\n    }\n
TemplateDefinitionBuilder.prototype.buildTemplateFunction = function (nodes, variables,
ngContentSelectorsOffset, i18n) {\n        var _this = this;\n        if (ngContentSelectorsOffset === void 0) {
ngContentSelectorsOffset = 0; }\n        this._ngContentSelectorsOffset = ngContentSelectorsOffset;\n        if
(this._namespace !== Identifiers$1.namespaceHTML) {\n            this.creationInstruction(null,
this._namespace);\n        }\n        // Create variable bindings\n        variables.forEach(function (v) { return
_this.registerContextVariables(v); });\n        // Initiate i18n context in case:\n        // - this template has parent
i18n context\n        // - or the template has i18n meta associated with it,\n        //   but it's not initiated
 by the Element (e.g. <ng-template i18n>)\n        var initI18nContext = this.i18nContext ||\n
(isI18nRootNode(i18n) && !isSingleI18nIcu(i18n) &&\n            !(isSingleElementTemplate(nodes) &&
nodes[0].i18n === i18n));\n        var selfClosingI18nInstruction = hasTextChildrenOnly(nodes);\n        if
(initI18nContext) {\n            this.i18nStart(null, i18n, selfClosingI18nInstruction);\n        }\n        // This is
```

the initial pass through the nodes of this template. In this pass, we\n // queue all creation mode and update mode instructions for generation in the second\n // pass. It's necessary to separate the passes to ensure local refs are defined before\n // resolving bindings. We also count bindings in this pass as we walk bound expressions.\n visitAll(this, nodes);\n // Add total binding count to pure function count so pure function instructions are\n // generated
with the correct slot offset when update instructions are processed.\n this._pureFunctionSlots += this._bindingSlots;\n // Pipes are walked in the first pass (to enqueue `pipe()` creation instructions and\n // `pipeBind` update instructions), so we have to update the slot offsets manually\n // to account for bindings.\n this._valueConverter.updatePipeSlotOffsets(this._bindingSlots);\n // Nested templates must be processed before creation instructions so template()\n // instructions can be generated with the correct internal const count.\n this._nestedTemplateFns.forEach(function (buildTemplateFn) { return buildTemplateFn(); });\n // Output the `projectionDef` instruction when some `<ng-content>` tags are present.\n // The `projectionDef` instruction is only emitted for the component template and\n // is skipped for nested templates (<ng-template> tags).\n
if (this.level === 0 && this._ngContentReservedSlots.length) {\n var parameters = [];\n // By default the `projectionDef` instructions creates one slot for the wildcard\n // selector if no parameters are passed. Therefore we only want to allocate a new\n // array for the projection slots if the default projection slot is not sufficient.\n if (this._ngContentReservedSlots.length > 1 || this._ngContentReservedSlots[0] !== '*') {\n var r3ReservedSlots = this._ngContentReservedSlots.map(function (s) { return s !== '*' ? parseSelectorToR3Selector(s) : s; });\n parameters.push(this.constantPool.getConstLiteral(asLiteral(r3ReservedSlots), true));\n }\n // Since we accumulate ngContent selectors while processing template elements,\n // we *prepend* `projectionDef` to creation instructions block, to put it before\n // any
`projection` instructions\n this.creationInstruction(null, Identifiers$1.projectionDef, parameters, /* prepend */ true);\n }\n if (initI18nContext) {\n this.i18nEnd(null, selfClosingI18nInstruction);\n }\n // Generate all the creation mode instructions (e.g. resolve bindings in listeners)\n var creationStatements = this._creationCodeFns.map(function (fn) { return fn(); });\n // Generate all the update mode instructions (e.g. resolve property or text bindings)\n var updateStatements = this._updateCodeFns.map(function (fn) { return fn(); });\n // Variable declaration must occur after binding resolution so we can generate context\n // instructions that build on each other.\n // e.g. const b = nextContext().$implicit(); const b = nextContext();\n var creationVariables = this._bindingScope.viewSnapshotStatements();\n var updateVariables
= this._bindingScope.variableDeclarations().concat(this._tempVariables);\n var creationBlock = creationStatements.length > 0 ?\n [renderFlagCheckIfStmt(1 /* Create */, creationVariables.concat(creationStatements))] :\n [];\n var updateBlock = updateStatements.length > 0 ?\n [renderFlagCheckIfStmt(2 /* Update */, updateVariables.concat(updateStatements))] :\n [];\n return fn(\n // i.e. (rf: RenderFlags, ctx: any)\n [new FnParam(RENDER_FLAGS, NUMBER_TYPE), new FnParam(CONTEXT_NAME, null)], __spread(this._prefixCode, creationBlock, updateBlock), INFERRED_TYPE, null, this.templateName);\n };\n // LocalResolver\n TemplateDefinitionBuilder.prototype.getLocal = function (name) {\n return this._bindingScope.get(name);\n };\n // LocalResolver\n TemplateDefinitionBuilder.prototype.notifyImplicitReceiverUse = function () {\n
this._bindingScope.notifyImplicitReceiverUse();\n };\n TemplateDefinitionBuilder.prototype.i18nTranslate = function (message, params, ref, transformFn) {\n var _c;\n if (params === void 0) { params = {}; }\n var _ref = ref || this.i18nGenerateMainBlockVar();\n // Closure Compiler requires const names to start with `MSG_` but disallows any other const to\n // start with `MSG_`. We define a variable starting with `MSG_` just for the `goog.getMsg` call\n var closureVar = this.i18nGenerateClosureVar(message.id);\n var statements = getTranslationDeclStmts(message, _ref,

```
closureVar, params, transformFn);\n            (_c = this._constants.prepareStatements).push.apply(_c,
__spread(statements));\n            return _ref;\n        };\n
TemplateDefinitionBuilder.prototype.registerContextVariables = function (variable$1) {\n            var scopedName =
this._bindingScope.freshReferenceName();\n
            var retrievalLevel = this.level;\n            var lhs = variable(variable$1.name + scopedName);\n
this._bindingScope.set(retrievalLevel, variable$1.name, lhs, 1 /* CONTEXT */, function (scope, relativeLevel) {\n
            var rhs;\n                if (scope.bindingLevel === retrievalLevel) {\n                    // e.g. ctx\n                    rhs =
variable(CONTEXT_NAME);\n                }\n                else {\n                    var sharedCtxVar =
scope.getSharedContextName(retrievalLevel);\n                    // e.g. ctx_r0   OR  x(2);\n                    rhs =
sharedCtxVar ? sharedCtxVar : generateNextContextExpr(relativeLevel);\n                }\n                // e.g. const
$item$ = x(2).$implicit;\n                return [lhs.set(rhs.prop(variable$1.value ||
IMPLICIT_REFERENCE)).toConstDecl()];\n            });\n        };\n
TemplateDefinitionBuilder.prototype.i18nAppendBindings = function (expressions) {\n            var _this
 = this;\n            if (expressions.length > 0) {\n                expressions.forEach(function (expression) { return
_this.i18n.appendBinding(expression); });\n            }\n        };\n
TemplateDefinitionBuilder.prototype.i18nBindProps = function (props) {\n            var _this = this;\n            var
bound = {};\n            Object.keys(props).forEach(function (key) {\n                var prop = props[key];\n                if
(prop instanceof Text) {\n                    bound[key] = literal(prop.value);\n                }\n                else {\n
var value = prop.value.visit(_this._valueConverter);\n                    _this.allocateBindingSlots(value);\n                    if
(value instanceof Interpolation) {\n                        var strings = value.strings, expressions = value.expressions;\n
            var _c = _this.i18n, id = _c.id, bindings = _c.bindings;\n                        var label =
assembleI18nBoundString(strings, bindings.size,
 id);\n                        _this.i18nAppendBindings(expressions);\n                        bound[key] = literal(label);\n
    }\n                }\n            });\n            return bound;\n        };\n        // Generates top level vars for i18n blocks (i.e.
`i18n_N`).\n        TemplateDefinitionBuilder.prototype.i18nGenerateMainBlockVar = function () {\n            return
variable(this.constantPool.uniqueName(TRANSLATION_VAR_PREFIX));\n        };\n        // Generates vars with
Closure-specific names for i18n blocks (i.e. `MSG_XXX`).\n
TemplateDefinitionBuilder.prototype.i18nGenerateClosureVar = function (messageId) {\n            var name;\n
var suffix = this.fileBasedI18nSuffix.toUpperCase();\n            if (this.i18nUseExternalIds) {\n                var prefix =
getTranslationConstPrefix(\"EXTERNAL_\");\n                var uniqueSuffix =
this.constantPool.uniqueName(suffix);\n                name = \"\" + prefix + sanitizeIdentifier(messageId)
 + \"$$\" + uniqueSuffix;\n            }\n            else {\n                var prefix = getTranslationConstPrefix(suffix);\n
     name = this.constantPool.uniqueName(prefix);\n            }\n            return variable(name);\n        };\n
TemplateDefinitionBuilder.prototype.i18nUpdateRef = function (context) {\n            var icus = context.icus, meta =
context.meta, isRoot = context.isRoot, isResolved = context.isResolved, isEmitted = context.isEmitted;\n            if
(isRoot && isResolved && !isEmitted && !isSingleI18nIcu(meta)) {\n                context.isEmitted = true;\n
 var placeholders = context.getSerializedPlaceholders();\n                var icuMapping_1 = {};\n                var
params_1 = placeholders.size ? placeholdersToParams(placeholders) : {};\n                if (icus.size) {\n
icus.forEach(function (refs, key) {\n                    if (refs.length === 1) {\n                        //
 if we have one ICU defined for a given\n                        // placeholder - just output its reference\n
params_1[key] = refs[0];\n                    }\n                    else {\n                        // ... otherwise we need to
activate post-processing\n                        // to replace ICU placeholders with proper values\n                        var
placeholder = wrapI18nPlaceholder(\"\" + I18N_ICU_MAPPING_PREFIX + key);\n
params_1[key] = literal(placeholder);\n                        icuMapping_1[key] = literalArr(refs);\n                    }\n
                });\n                }\n                // translation requires post processing in 2 cases:\n                // - if we have
placeholders with multiple values (ex. `START_DIV`: [#1, #2, ...])\n                // - if we have multiple ICUs that
refer to the same placeholder name\n                var needsPostprocessing =
```

```
 Array.from(placeholders.values()).some(function (value) { return value.length > 1; }) ||\n
Object.keys(icuMapping_1).length;\n            var transformFn = void 0;\n            if (needsPostprocessing) {\n
        transformFn = function (raw) {\n                var args = [raw];\n                if
(Object.keys(icuMapping_1).length) {\n                    args.push(mapLiteral(icuMapping_1, true));\n
  }\n                return instruction(null, Identifiers$1.i18nPostprocess, args);\n            };\n        }\n
   this.i18nTranslate(meta, params_1, context.ref, transformFn);\n        }\n    };\n
TemplateDefinitionBuilder.prototype.i18nStart = function (span, meta, selfClosing) {\n        if (span === void 0)
{ span = null; }\n        var index = this.allocateDataSlot();\n        this.i18n = this.i18nContext ?\n
this.i18nContext.forkChildContext(index,
 this.templateIndex, meta) :\n            new I18nContext(index, this.i18nGenerateMainBlockVar(), 0,
this.templateIndex, meta);\n        // generate i18nStart instruction\n        var _c = this.i18n, id = _c.id, ref =
_c.ref;\n        var params = [literal(index), this.addToConsts(ref)];\n        if (id > 0) {\n            // do not push
3rd argument (sub-block id)\n            // into i18nStart call for top level i18n context\n
params.push(literal(id));\n        }\n        this.creationInstruction(span, selfClosing ? Identifiers$1.i18n :
Identifiers$1.i18nStart, params);\n    };\n    TemplateDefinitionBuilder.prototype.i18nEnd = function (span,
selfClosing) {\n        var _this = this;\n        if (span === void 0) { span = null; }\n        if (!this.i18n) {\n
    throw new Error('i18nEnd is executed with no i18n context present');\n        }\n        if (this.i18nContext)
 {\n            this.i18nContext.reconcileChildContext(this.i18n);\n
this.i18nUpdateRef(this.i18nContext);\n        }\n        else {\n            this.i18nUpdateRef(this.i18n);\n
}\n        // setup accumulated bindings\n        var _c = this.i18n, index = _c.index, bindings = _c.bindings;\n
  if (bindings.size) {\n            var chainBindings_1 = [];\n            bindings.forEach(function (binding) {\n
      chainBindings_1.push({ sourceSpan: span, value: function () { return _this.convertPropertyBinding(binding); }
});\n            });\n            // for i18n block, advance to the most recent element index (by taking the current
number of\n            // elements and subtracting one) before invoking `i18nExp` instructions, to make sure the\n
       // necessary lifecycle hooks of components/directives are properly flushed.\n
this.updateInstructionChainWithAdvance(this.getConstCount()
 - 1, Identifiers$1.i18nExp, chainBindings_1);\n            this.updateInstruction(span, Identifiers$1.i18nApply,
[literal(index)]);\n        }\n        if (!selfClosing) {\n            this.creationInstruction(span,
Identifiers$1.i18nEnd);\n        }\n        this.i18n = null; // reset local i18n context\n    };\n
TemplateDefinitionBuilder.prototype.i18nAttributesInstruction = function (nodeIndex, attrs, sourceSpan) {\n
var _this = this;\n        var hasBindings = false;\n        var i18nAttrArgs = [];\n        var bindings = [];\n
attrs.forEach(function (attr) {\n            var message = attr.i18n;\n            var converted =
attr.value.visit(_this._valueConverter);\n            _this.allocateBindingSlots(converted);\n            if (converted
instanceof Interpolation) {\n                var placeholders = assembleBoundTextPlaceholders(message);\n
 var params =
 placeholdersToParams(placeholders);\n                i18nAttrArgs.push(literal(attr.name),
_this.i18nTranslate(message, params));\n                converted.expressions.forEach(function (expression) {\n
        hasBindings = true;\n                    bindings.push({\n                        sourceSpan: sourceSpan,\n
       value: function () { return _this.convertPropertyBinding(expression); },\n                    });\n                });\n
          }\n        });\n        if (bindings.length > 0) {\n
this.updateInstructionChainWithAdvance(nodeIndex, Identifiers$1.i18nExp, bindings);\n        }\n        if
(i18nAttrArgs.length > 0) {\n            var index = literal(this.allocateDataSlot());\n            var constIndex =
this.addToConsts(literalArr(i18nAttrArgs));\n            this.creationInstruction(sourceSpan,
Identifiers$1.i18nAttributes, [index, constIndex]);\n
    if (hasBindings) {\n                this.updateInstruction(sourceSpan, Identifiers$1.i18nApply, [index]);\n
}\n        }\n    };\n    TemplateDefinitionBuilder.prototype.getNamespaceInstruction = function
(namespaceKey) {\n        switch (namespaceKey) {\n            case 'math':\n                return
Identifiers$1.namespaceMathML;\n            case 'svg':\n                return Identifiers$1.namespaceSVG;\n
```

```
 default:\n                return Identifiers$1.namespaceHTML;\n            }\n        };\n
TemplateDefinitionBuilder.prototype.addNamespaceInstruction = function (nsInstruction, element) {\n
this._namespace = nsInstruction;\n            this.creationInstruction(element.startSourceSpan, nsInstruction);\n
};\n        /**\n         * Adds an update instruction for an interpolated property or attribute, such as\n         *
`prop=\"{{value}}\"` or `attr.title=\"{{value}}\"`\n         */\n
        TemplateDefinitionBuilder.prototype.interpolatedUpdateInstruction = function (instruction, elementIndex,
attrName, input, value, params) {\n            var _this = this;\n
this.updateInstructionWithAdvance(elementIndex, input.sourceSpan, instruction, function () { return
__spread([literal(attrName)], _this.getUpdateInstructionArguments(value), params); });\n        };\n
TemplateDefinitionBuilder.prototype.visitContent = function (ngContent) {\n            var slot =
this.allocateDataSlot();\n            var projectionSlotIdx = this._ngContentSelectorsOffset +
this._ngContentReservedSlots.length;\n            var parameters = [literal(slot)];\n
this._ngContentReservedSlots.push(ngContent.selector);\n            var nonContentSelectAttributes =
ngContent.attributes.filter(function (attr) { return attr.name.toLowerCase() !==
NG_CONTENT_SELECT_ATTR$1; });\n            var attributes = this.getAttributeExpressions(ngContent.name,
nonContentSelectAttributes,
 [], []);\n            if (attributes.length > 0) {\n                parameters.push(literal(projectionSlotIdx),
literalArr(attributes));\n            }\n            else if (projectionSlotIdx !== 0) {\n
parameters.push(literal(projectionSlotIdx));\n            }\n            this.creationInstruction(ngContent.sourceSpan,
Identifiers$1.projection, parameters);\n            if (this.i18n) {\n                this.i18n.appendProjection(ngContent.i18n,
slot);\n            }\n        };\n        TemplateDefinitionBuilder.prototype.visitElement = function (element) {\n
var e_1, _c;\n            var _this = this;\n            var _a, _b;\n            var elementIndex = this.allocateDataSlot();\n
 var stylingBuilder = new StylingBuilder(null);\n            var isNonBindableMode = false;\n            var
isI18nRootElement = isI18nRootNode(element.i18n) && !isSingleI18nIcu(element.i18n);\n            var outputAttrs
= [];\n            var _d = __read(splitNsName(element.name),
 2), namespaceKey = _d[0], elementName = _d[1];\n            var isNgContainer$1 = isNgContainer(element.name);\n
        try {\n                // Handle styling, i18n, ngNonBindable attributes\n                for (var _e =
__values(element.attributes), _f = _e.next(); !_f.done; _f = _e.next()) {\n                    var attr = _f.value;\n
 var name = attr.name, value = attr.value;\n                    if (name === NON_BINDABLE_ATTR) {\n
isNonBindableMode = true;\n                    }\n                    else if (name === 'style') {\n
stylingBuilder.registerStyleAttr(value);\n                    }\n                    else if (name === 'class') {\n
stylingBuilder.registerClassAttr(value);\n                    }\n                    else {\n                        outputAttrs.push(attr);\n
                }\n                }\n            }\n            catch (e_1_1) {
 e_1 = { error: e_1_1 }; }\n            finally {\n                try {\n                    if (_f && !_f.done && (_c = _e.return))
_c.call(_e);\n                }\n                finally { if (e_1) throw e_1.error; }\n            }\n            // Match directives on
non i18n attributes\n            this.matchDirectives(element.name, element);\n            // Regular element or ng-
container creation mode\n            var parameters = [literal(elementIndex)];\n            if (!isNgContainer$1) {\n
  parameters.push(literal(elementName));\n            }\n            // Add the attributes\n            var allOtherInputs = [];\n
        var boundI18nAttrs = [];\n            element.inputs.forEach(function (input) {\n                var stylingInputWasSet
= stylingBuilder.registerBoundInput(input);\n                if (!stylingInputWasSet) {\n                    if (input.type === 0
/* Property */ && input.i18n) {\n                        boundI18nAttrs.push(input);\n
                }\n                    else {\n                        allOtherInputs.push(input);\n                    }\n                }\n
});\n            // add attributes for directive and projection matching purposes\n            var attributes =
this.getAttributeExpressions(element.name, outputAttrs, allOtherInputs, element.outputs, stylingBuilder, [],
boundI18nAttrs);\n            parameters.push(this.addAttrsToConsts(attributes));\n            // local refs (ex.: <div #foo
#bar=\"baz\">)\n            var refs = this.prepareRefsArray(element.references);\n
parameters.push(this.addToConsts(refs));\n            var wasInNamespace = this._namespace;\n            var
currentNamespace = this.getNamespaceInstruction(namespaceKey);\n            // If the namespace is changing now,
```

include an instruction to change it\n // during element creation.\n if (currentNamespace !== wasInNamespace) {\n this.addNamespaceInstruction(currentNamespace, element);\n }\n if (this.i18n) {\n this.i18n.appendElement(element.i18n, elementIndex);\n }\n // Note that we do not append text node instructions and ICUs inside i18n section,\n // so we exclude them while calculating whether current element has children\n var hasChildren = (!isI18nRootElement && this.i18n) ? !hasTextChildrenOnly(element.children) :\n element.children.length > 0;\n var createSelfClosingInstruction = !stylingBuilder.hasBindingsWithPipes &&\n element.outputs.length === 0 && boundI18nAttrs.length === 0 && !hasChildren;\n var createSelfClosingI18nInstruction = !createSelfClosingInstruction && hasTextChildrenOnly(element.children);\n if (createSelfClosingInstruction) {\n this.creationInstruction(element.sourceSpan, isNgContainer$1 ? Identifiers$1.elementContainer : Identifiers$1.element, trimTrailingNulls(parameters));\n }\n else {\n this.creationInstruction(element.startSourceSpan, isNgContainer$1 ? Identifiers$1.elementContainerStart : Identifiers$1.elementStart, trimTrailingNulls(parameters));\n if (isNonBindableMode) {\n this.creationInstruction(element.startSourceSpan, Identifiers$1.disableBindings);\n }\n if (boundI18nAttrs.length > 0) {\n this.i18nAttributesInstruction(elementIndex, boundI18nAttrs, (_a = element.startSourceSpan) !== null && _a !== void 0 ? _a : element.sourceSpan);\n }\n // Generate Listeners (outputs)\n if (element.outputs.length > 0) {\n var listeners = element.outputs.map(function (outputAst) { return ({\n sourceSpan: outputAst.sourceSpan,\n params: _this.prepareListenerParameter(element.name, outputAst, elementIndex)\n }); });\n this.creationInstructionChain(Identifiers$1.listener, listeners);\n }\n // Note: it's important to keep i18n/i18nStart instructions after i18nAttributes and\n // listeners, to make sure i18nAttributes instruction targets current element at runtime.\n if (isI18nRootElement) {\n this.i18nStart(element.startSourceSpan, element.i18n, createSelfClosingI18nInstruction);\n }\n }\n // the code here will collect all update-level styling instructions and add them to the\n // update block of the template function AOT code. Instructions like `styleProp`,\n // `styleMap`, `classMap`, `classProp`\n // are all generated and assigned in the code below.\n var stylingInstructions = stylingBuilder.buildUpdateLevelInstructions(this._valueConverter);\n var limit = stylingInstructions.length - 1;\n for (var i = 0; i <= limit; i++) {\n var instruction_1 = stylingInstructions[i];\n this._bindingSlots += this.processStylingUpdateInstruction(elementIndex, instruction_1);\n }\n // the reason why `undefined` is used is because the renderer understands this as a\n // special value to symbolize that there is no RHS to this binding\n // TODO (matsko): revisit this once FW-959 is approached\n var emptyValueBindInstruction = literal(undefined);\n var propertyBindings = [];\n var attributeBindings = [];\n // Generate element input bindings\n allOtherInputs.forEach(function (input) {\n var inputType = input.type;\n if (inputType === 4 /* Animation */) {\n var value_1 = input.value.visit(_this._valueConverter);\n // animation bindings can be presented in the following formats:\n // 1. [@binding]=\"fooExp\"\n // 2. [@binding]=\"{value:fooExp, params:{...}}\"\n // 3. [@binding]\n // 4. @binding\n // All formats will be valid for when a synthetic binding is created.\n // The reasoning for this is because the renderer should get each\n // synthetic binding value in the order of the array that they are\n // defined in...\n var hasValue_1 = value_1 instanceof LiteralPrimitive ? !!value_1.value : true;\n _this.allocateBindingSlots(value_1);\n propertyBindings.push({\n name: prepareSyntheticPropertyName(input.name),\n sourceSpan: input.sourceSpan,\n value: function () { return hasValue_1 ? _this.convertPropertyBinding(value_1) : emptyValueBindInstruction; }\n });\n }\n else {\n // we must skip attributes with associated i18n context, since these attributes are handled\n // separately and corresponding `i18nExp` and `i18nApply` instructions will be generated\n if

```
(input.i18n)\n                return;\n            var value_2 = input.value.visit(_this._valueConverter);\n
  if (value_2 !== undefined) {\n                var params_2 = [];\n                var _c =
__read(splitNsName(input.name), 2), attrNamespace = _c[0], attrName_1 = _c[1];\n                var
isAttributeBinding = inputType === 1 /* Attribute */;\n                var sanitizationRef =
resolveSanitizationFn(input.securityContext, isAttributeBinding);\n                if (sanitizationRef)\n
    params_2.push(sanitizationRef);\n                if (attrNamespace) {\n                var namespaceLiteral =
literal(attrNamespace);\n
                if (sanitizationRef) {\n                params_2.push(namespaceLiteral);\n
}\n                else {\n                // If there wasn't a sanitization ref, we need to add\n
  // an extra param so that we can pass in the namespace.\n                params_2.push(literal(null),
namespaceLiteral);\n                }\n                }\n                _this.allocateBindingSlots(value_2);\n
            if (inputType === 0 /* Property */) {\n                if (value_2 instanceof Interpolation) {\n
            // prop=\"{{value}}\" and friends\n
_this.interpolatedUpdateInstruction(getPropertyInterpolationExpression(value_2), elementIndex, attrName_1, input,
value_2, params_2);\n                }\n
      else {\n                // [prop]=\"value\"\n                // Collect all the properties so that we can
chain into a single function at the end.\n                propertyBindings.push({\n                name:
attrName_1,\n                sourceSpan: input.sourceSpan,\n                value: function () {
return _this.convertPropertyBinding(value_2); },\n                params: params_2\n
});\n                }\n                }\n                else if (inputType === 1 /* Attribute */) {\n
  if (value_2 instanceof Interpolation && getInterpolationArgsLength(value_2) > 1) {\n                //
attr.name=\"text{{value}}\" and friends\n
_this.interpolatedUpdateInstruction(getAttributeInterpolationExpression(value_2), elementIndex,
 attrName_1, input, value_2, params_2);\n                }\n                else {\n                var
boundValue_1 = value_2 instanceof Interpolation ? value_2.expressions[0] : value_2;\n                //
[attr.name]=\"value\" or attr.name=\"{{value}}\"\n                // Collect the attribute bindings so that they
can be chained at the end.\n                attributeBindings.push({\n                name:
attrName_1,\n                sourceSpan: input.sourceSpan,\n                value: function () {
return _this.convertPropertyBinding(boundValue_1); },\n                params: params_2\n
   });\n                }\n                }\n                else {\n                // class prop\n
_this.updateInstructionWithAdvance(elementIndex,
 input.sourceSpan, Identifiers$1.classProp, function () {\n                return __spread([\n
  literal(elementIndex), literal(attrName_1), _this.convertPropertyBinding(value_2)\n                ],
params_2);\n                });\n                }\n                }\n                }\n                });\n            if
(propertyBindings.length > 0) {\n                this.updateInstructionChainWithAdvance(elementIndex,
Identifiers$1.property, propertyBindings);\n            }\n            if (attributeBindings.length > 0) {\n
this.updateInstructionChainWithAdvance(elementIndex, Identifiers$1.attribute, attributeBindings);\n            }\n
  // Traverse element child nodes\n            visitAll(this, element.children);\n            if (!isI18nRootElement &&
this.i18n) {\n                this.i18n.appendElement(element.i18n, elementIndex, true);\n
 }\n            if (!createSelfClosingInstruction) {\n                // Finish element construction mode.\n                var span
= (_b = element.endSourceSpan) !== null && _b !== void 0 ? _b : element.sourceSpan;\n                if
(isI18nRootElement) {\n                    this.i18nEnd(span, createSelfClosingI18nInstruction);\n                }\n
if (isNonBindableMode) {\n                    this.creationInstruction(span, Identifiers$1.enableBindings);\n                }\n
            this.creationInstruction(span, isNgContainer$1 ? Identifiers$1.elementContainerEnd :
Identifiers$1.elementEnd);\n            }\n        };\n        TemplateDefinitionBuilder.prototype.visitTemplate = function
(template) {\n            var _this = this;\n            var _a;\n            var NG_TEMPLATE_TAG_NAME = 'ng-
template';\n            var templateIndex = this.allocateDataSlot();\n            if (this.i18n) {\n
this.i18n.appendTemplate(template.i18n, templateIndex);\n
```

```
}\n var tagName = sanitizeIdentifier(template.tagName || '');\n var contextName = \"\" +
this.contextName + (tagName ? '_' + tagName : '') + \"_\" + templateIndex;\n var templateName =
contextName + \"_Template\";\n var parameters = [\n literal(templateIndex),\n
variable(templateName),\n // We don't care about the tag's namespace here, because we infer\n //
it based on the parent nodes inside the template instruction.\n literal(template.tagName ?
splitNsName(template.tagName)[1] : template.tagName),\n ];\n // find directives matching on a given
<ng-template> node\n this.matchDirectives(NG_TEMPLATE_TAG_NAME, template);\n // prepare
attributes parameter (including attributes used for directive matching)\n var attrsExprs =
this.getAttributeExpressions(NG_TEMPLATE_TAG_NAME, template.attributes, template.inputs,
template.outputs, undefined /* styles */, template.templateAttrs);\n
parameters.push(this.addAttrsToConsts(attrsExprs));\n // local refs (ex.: <ng-template #foo>)\n if
(template.references && template.references.length) {\n var refs =
this.prepareRefsArray(template.references);\n parameters.push(this.addToConsts(refs));\n
parameters.push(importExpr(Identifiers$1.templateRefExtractor));\n }\n // Create the template
function\n var templateVisitor = new TemplateDefinitionBuilder(this.constantPool, this._bindingScope,
this.level + 1, contextName, this.i18n, templateIndex, templateName, this.directiveMatcher, this.directives,
this.pipeTypeByName, this.pipes, this._namespace, this.fileBasedI18nSuffix, this.i18nUseExternalIds,
this._constants);\n // Nested templates must not be visited until after their parent templates have completed\n
// processing, so
they are queued here until after the initial pass. Otherwise, we wouldn't\n // be able to support bindings in
nested templates to local refs that occur after the\n // template definition. e.g. <div *ngIf=\"showing\">{{ foo
}}</div> <div #foo></div>\n this._nestedTemplateFns.push(function () {\n var _c;\n var
templateFunctionExpr = templateVisitor.buildTemplateFunction(template.children, template.variables,
_this._ngContentReservedSlots.length + _this._ngContentSelectorsOffset, template.i18n);\n
_this.constantPool.statements.push(templateFunctionExpr.toDeclStmt(templateName));\n if
(templateVisitor._ngContentReservedSlots.length) {\n (_c =
_this._ngContentReservedSlots).push.apply(_c, __spread(templateVisitor._ngContentReservedSlots));\n
}\n });\n // e.g. template(1, MyComp_Template_1)\n
this.creationInstruction(template.sourceSpan,
Identifiers$1.templateCreate, function () {\n parameters.splice(2, 0,
literal(templateVisitor.getConstCount()), literal(templateVisitor.getVarCount()));\n return
trimTrailingNulls(parameters);\n });\n // handle property bindings e.g. property('ngForOf', ctx.items),
et al;\n this.templatePropertyBindings(templateIndex, template.templateAttrs);\n // Only add normal
input/output binding instructions on explicit <ng-template> elements.\n if (template.tagName ===
NG_TEMPLATE_TAG_NAME) {\n var _c = __read(partitionArray(template.inputs, hasI18nMeta), 2),
i18nInputs = _c[0], inputs = _c[1];\n // Add i18n attributes that may act as inputs to directives. If such
attributes are present,\n // generate `i18nAttributes` instruction. Note: we generate it only for explicit <ng-
template>\n // elements, in case of inline templates, corresponding instructions
will be generated in the\n // nested template function.\n if (i18nInputs.length > 0) {\n
this.i18nAttributesInstruction(templateIndex, i18nInputs, (_a = template.startSourceSpan) !== null && _a !== void
0 ? _a : template.sourceSpan);\n }\n // Add the input bindings\n if (inputs.length > 0) {\n
this.templatePropertyBindings(templateIndex, inputs);\n }\n // Generate listeners for
directive output\n if (template.outputs.length > 0) {\n var listeners =
template.outputs.map(function (outputAst) { return ({\n sourceSpan: outputAst.sourceSpan,\n
params: _this.prepareListenerParameter('ng_template', outputAst, templateIndex)\n }); });\n
this.creationInstructionChain(Identifiers$1.listener, listeners);\n }\n
}\n };\n TemplateDefinitionBuilder.prototype.visitBoundText = function (text) {\n var _this =
this;\n if (this.i18n) {\n var value_3 = text.value.visit(this._valueConverter);\n
```

this.allocateBindingSlots(value_3);\n if (value_3 instanceof Interpolation) {\n this.i18n.appendBoundText(text.i18n);\n this.i18nAppendBindings(value_3.expressions);\n }\n return;\n }\n var nodeIndex = this.allocateDataSlot();\n this.creationInstruction(text.sourceSpan, Identifiers$1.text, [literal(nodeIndex)]);\n var value = text.value.visit(this._valueConverter);\n this.allocateBindingSlots(value);\n if (value instanceof Interpolation) {\n this.updateInstructionWithAdvance(nodeIndex, text.sourceSpan, getTextInterpolationExpression(value), function () { return _this.getUpdateInstructionArguments(value); });\n }\n else {\n error('Text nodes should be interpolated and never bound directly.');\n }\n };\n TemplateDefinitionBuilder.prototype.visitText = function (text) {\n // when a text element is located within a translatable\n // block, we exclude this text element from instructions set,\n // since it will be captured in i18n content and processed at runtime\n if (!this.i18n) {\n this.creationInstruction(text.sourceSpan, Identifiers$1.text, [literal(this.allocateDataSlot()), literal(text.value)]);\n }\n };\n TemplateDefinitionBuilder.prototype.visitIcu = function (icu) {\n var initWasInvoked = false;\n // if an ICU was created outside of i18n block, we still treat\n // it as a translatable entity and invoke i18nStart and i18nEnd\n // to generate i18n context and the necessary instructions\n if (!this.i18n) {\n initWasInvoked = true;\n this.i18nStart(null, icu.i18n, true);\n }\n var i18n = this.i18n;\n var vars = this.i18nBindProps(icu.vars);\n var placeholders = this.i18nBindProps(icu.placeholders);\n // output ICU directly and keep ICU reference in context\n var message = icu.i18n;\n // we always need post-processing function for ICUs, to make sure that:\n // - all placeholders in a form of {PLACEHOLDER} are replaced with actual values (note:\n // `goog.getMsg` does not process ICUs and uses the `{PLACEHOLDER}` format for placeholders\n // inside ICUs)\n // - all ICU vars (such as `VAR_SELECT` or `VAR_PLURAL`) are replaced with correct values\n var transformFn = function (raw) {\n var params = Object.assign(Object.assign({}, vars), placeholders);\n var formatted = i18nFormatPlaceholderNames(params, /* useCamelCase */ false);\n return instruction(null, Identifiers$1.i18nPostprocess, [raw, mapLiteral(formatted, true)]);\n };\n // in case the whole i18n message is a single ICU - we do not need to\n // create a separate top-level translation, we can use the root ref instead\n // and make this ICU a top-level translation\n // note: ICU placeholders are replaced with actual values in `i18nPostprocess` function\n // separately, so we do not pass placeholders into `i18nTranslate` function.\n if (isSingleI18nIcu(i18n.meta)) {\n this.i18nTranslate(message, /* placeholders */ {}, i18n.ref, transformFn);\n }\n else {\n // output ICU directly and keep ICU reference in context\n var ref = this.i18nTranslate(message, /* placeholders */ {}, /* ref */ undefined, transformFn);\n i18n.appendIcu(icuFromI18nMessage(message).name, ref);\n }\n if (initWasInvoked) {\n this.i18nEnd(null, true);\n }\n return null;\n };\n TemplateDefinitionBuilder.prototype.allocateDataSlot = function () {\n return this._dataIndex++;\n };\n TemplateDefinitionBuilder.prototype.getConstCount = function () {\n return this._dataIndex;\n };\n TemplateDefinitionBuilder.prototype.getVarCount = function () {\n return this._pureFunctionSlots;\n };\n TemplateDefinitionBuilder.prototype.getConsts = function () {\n return this._constants;\n };\n TemplateDefinitionBuilder.prototype.getNgContentSelectors = function () {\n return this._ngContentReservedSlots.length ?\n this.constantPool.getConstLiteral(asLiteral(this._ngContentReservedSlots), true) :\n null;\n };\n TemplateDefinitionBuilder.prototype.bindingContext = function () {\n return \"\" + this._bindingContext++;\n };\n TemplateDefinitionBuilder.prototype.templatePropertyBindings = function (templateIndex, attrs) {\n var _this = this;\n var propertyBindings = [];\n attrs.forEach(function (input) {\n if (input instanceof BoundAttribute) {\n var value_4 = input.value.visit(_this._valueConverter);\n if (value_4 !== undefined) {\n _this.allocateBindingSlots(value_4);\n if (value_4 instanceof Interpolation) {\n // Params typically contain attribute namespace and value sanitizer,

which is applicable\n // for regular HTML elements, but not applicable for <ng-template> (since props act as\n // inputs to directives), so keep params array empty.\n var params = [];\n // prop=\"{{value}}\" case\n _this.interpolatedUpdateInstruction(getPropertyInterpolationExpression(value_4), templateIndex, input.name, input, value_4, params);\n }\n else {\n // [prop]=\"value\" case\n propertyBindings.push({\n name: input.name,\n sourceSpan: input.sourceSpan,\n value: function () { return _this.convertPropertyBinding(value_4); }\n });\n }\n }\n });\n if (propertyBindings.length > 0) {\n this.updateInstructionChainWithAdvance(templateIndex, Identifiers$1.property, propertyBindings);\n }\n };\n // Bindings must only be resolved after all local refs have been visited, so all\n // instructions are queued in callbacks that execute once the initial pass has completed.\n // Otherwise, we wouldn't be able to support local refs that are defined after their\n // bindings. e.g. {{ foo }} <div #foo> \n TemplateDefinitionBuilder.prototype.instructionFn = function (fns, span, reference, paramsOrFn, prepend) {\n if (prepend === void 0) { prepend = false; }\n fns[prepend ? 'unshift' : 'push'](function () {\n var params = Array.isArray(paramsOrFn) ? paramsOrFn : paramsOrFn();\n return instruction(span, reference, params).toStmt();\n });\n };\n TemplateDefinitionBuilder.prototype.processStylingUpdateInstruction = function (elementIndex, instruction) {\n var _this = this;\n var allocateBindingSlots = 0;\n if (instruction) {\n var calls_1 = [];\n instruction.calls.forEach(function (call) {\n allocateBindingSlots += call.allocateBindingSlots;\n calls_1.push({\n sourceSpan: call.sourceSpan,\n value: function () {\n return call.params(function (value) { return (call.supportsInterpolation && value instanceof Interpolation) ?\n _this.getUpdateInstructionArguments(value) :\n _this.convertPropertyBinding(value); });\n }\n });\n });\n this.updateInstructionChainWithAdvance(elementIndex, instruction.reference, calls_1);\n }\n return allocateBindingSlots;\n };\n TemplateDefinitionBuilder.prototype.creationInstruction = function (span, reference, paramsOrFn, prepend) {\n this.instructionFn(this._creationCodeFns, span, reference, paramsOrFn || [], prepend);\n };\n TemplateDefinitionBuilder.prototype.creationInstructionChain = function (reference, calls) {\n var span = calls.length ? calls[0].sourceSpan : null;\n this._creationCodeFns.push(function () {\n return chainedInstruction(reference, calls.map(function (call) { return call.params(); }), span).toStmt();\n });\n };\n TemplateDefinitionBuilder.prototype.updateInstructionWithAdvance = function (nodeIndex, span, reference, paramsOrFn) {\n this.addAdvanceInstructionIfNecessary(nodeIndex, span);\n this.updateInstruction(span, reference, paramsOrFn);\n };\n TemplateDefinitionBuilder.prototype.updateInstruction = function (span, reference, paramsOrFn) {\n this.instructionFn(this._updateCodeFns, span, reference, paramsOrFn || []);\n };\n TemplateDefinitionBuilder.prototype.updateInstructionChain = function (reference, bindings) {\n var span = bindings.length ? bindings[0].sourceSpan : null;\n this._updateCodeFns.push(function () {\n var calls = bindings.map(function (property) {\n var value = property.value();\n var fnParams = Array.isArray(value) ? value : [value];\n if (property.params) {\n fnParams.push.apply(fnParams, __spread(property.params));\n }\n if (property.name) {\n // We want the property name to always be the first function parameter.\n fnParams.unshift(literal(property.name));\n }\n return fnParams;\n });\n return chainedInstruction(reference, calls, span).toStmt();\n });\n };\n TemplateDefinitionBuilder.prototype.updateInstructionChainWithAdvance = function (nodeIndex, reference, bindings) {\n this.addAdvanceInstructionIfNecessary(nodeIndex, bindings.length ? bindings[0].sourceSpan

```
 : null);\n            this.updateInstructionChain(reference, bindings);\n        };\n
TemplateDefinitionBuilder.prototype.addAdvanceInstructionIfNecessary = function (nodeIndex, span) {\n            if
(nodeIndex !== this._currentIndex) {\n                var delta = nodeIndex - this._currentIndex;\n                if (delta < 1)
{\n                    throw new Error('advance instruction can only go forwards');\n                }\n
this.instructionFn(this._updateCodeFns, span, Identifiers$1.advance, [literal(delta)]);\n                this._currentIndex
= nodeIndex;\n            }\n        };\n        TemplateDefinitionBuilder.prototype.allocatePureFunctionSlots = function
(numSlots) {\n            var originalSlots = this._pureFunctionSlots;\n            this._pureFunctionSlots += numSlots;\n
        return originalSlots;\n        };\n        TemplateDefinitionBuilder.prototype.allocateBindingSlots = function
(value) {\n            this._bindingSlots
 += value instanceof Interpolation ? value.expressions.length : 1;\n        };\n        /**\n         * Gets an expression that
refers to the implicit receiver. The implicit\n         * receiver is always the root level context.\n         */\n
TemplateDefinitionBuilder.prototype.getImplicitReceiverExpr = function () {\n            if
(this._implicitReceiverExpr) {\n                return this._implicitReceiverExpr;\n            }\n            return
this._implicitReceiverExpr = this.level === 0 ?\n                variable(CONTEXT_NAME) :\n
this._bindingScope.getOrCreateSharedContextVar(0);\n        };\n
TemplateDefinitionBuilder.prototype.convertPropertyBinding = function (value) {\n            var _c;\n            var
convertedPropertyBinding = convertPropertyBinding(this, this.getImplicitReceiverExpr(), value,
this.bindingContext(), BindingForm.Expression, function () { return error('Unexpected interpolation'); });\n
var valExpr = convertedPropertyBinding.currValExpr;\n
            (_c = this._tempVariables).push.apply(_c, __spread(convertedPropertyBinding.stmts));\n            return
valExpr;\n        };\n        /**\n         * Gets a list of argument expressions to pass to an update instruction expression.
Also updates\n         * the temp variables state with temp variables that were identified as needing to be created\n
 * while visiting the arguments.\n         * @param value The original expression we will be resolving an arguments
list from.\n         */\n        TemplateDefinitionBuilder.prototype.getUpdateInstructionArguments = function (value)
{\n            var _c;\n            var _d = convertUpdateArguments(this, this.getImplicitReceiverExpr(), value,
this.bindingContext()), args = _d.args, stmts = _d.stmts;\n            (_c = this._tempVariables).push.apply(_c,
__spread(stmts));\n            return args;\n        };\n        TemplateDefinitionBuilder.prototype.matchDirectives =
function (elementName,
 elOrTpl) {\n            var _this = this;\n            if (this.directiveMatcher) {\n                var selector =
createCssSelector(elementName, getAttrsForDirectiveMatching(elOrTpl));\n
this.directiveMatcher.match(selector, function (cssSelector, staticType) {\n
_this.directives.add(staticType);\n                });\n            }\n        };\n        /**\n         * Prepares all attribute
expression values for the `TAttributes` array.\n         *\n         * The purpose of this function is to properly construct
an attributes array that\n         * is passed into the `elementStart` (or just `element`) functions. Because there\n         *
are many different types of attributes, the array needs to be constructed in a\n         * special way so that
`elementStart` can properly evaluate them.\n         *\n         * The format looks like this:\n         *\n         * ```\n
* attrs = [prop, value, prop2, value2,\n         *   PROJECT_AS, selector,\n
         *   CLASSES, class1, class2,\n         *   STYLES, style1, value1, style2, value2,\n         *   BINDINGS, name1,
name2, name3,\n         *   TEMPLATE, name4, name5, name6,\n         *   I18N, name7, name8, ...]\n         * ```\n
 *\n         * Note that this function will fully ignore all synthetic (@foo) attribute values\n         * because those
values are intended to always be generated as property instructions.\n         */\n
TemplateDefinitionBuilder.prototype.getAttributeExpressions = function (elementName, renderAttributes, inputs,
outputs, styles, templateAttrs, boundI18nAttrs) {\n            var e_2, _c;\n            if (templateAttrs === void 0) {
templateAttrs = []; }\n            if (boundI18nAttrs === void 0) { boundI18nAttrs = []; }\n            var alreadySeen =
new Set();\n            var attrExprs = [];\n            var ngProjectAsAttr;\n            try {\n                for (var
renderAttributes_1 = __values(renderAttributes), renderAttributes_1_1
 = renderAttributes_1.next(); !renderAttributes_1_1.done; renderAttributes_1_1 = renderAttributes_1.next()) {\n
            var attr = renderAttributes_1_1.value;\n                    if (attr.name === NG_PROJECT_AS_ATTR_NAME)
```

{\n ngProjectAsAttr = attr;\n }\n // Note that static i18n attributes aren't in the i18n array,\n // because they're treated in the same way as regular attributes.\n if (attr.i18n) {\n attrExprs.push(literal(attr.name), this.i18nTranslate(attr.i18n));\n }\n else {\n attrExprs.push.apply(attrExprs, __spread(getAttributeNameLiterals(attr.name), [trustedConstAttribute(elementName, attr)]));\n }\n }\n }\n catch (e_2_1) { e_2 = { error: e_2_1 }; }\n finally {\n try {\n if (renderAttributes_1_1 && !renderAttributes_1_1.done && (_c = renderAttributes_1.return)) _c.call(renderAttributes_1);\n }\n finally { if (e_2) throw e_2.error; }\n }\n // Keep ngProjectAs next to the other name, value pairs so we can verify that we match\n // ngProjectAs marker in the attribute name slot.\n if (ngProjectAsAttr) {\n attrExprs.push.apply(attrExprs, __spread(getNgProjectAsLiteral(ngProjectAsAttr)));\n }\n function addAttrExpr(key, value) {\n if (typeof key === 'string') {\n if (!alreadySeen.has(key)) {\n attrExprs.push.apply(attrExprs, __spread(getAttributeNameLiterals(key)));\n value !== undefined && attrExprs.push(value);\n alreadySeen.add(key);\n }\n }\n else {\n attrExprs.push(literal(key));\n }\n }\n // it's important that this occurs before BINDINGS and TEMPLATE because once `elementStart`\n // comes across the BINDINGS or TEMPLATE markers then it will continue reading each value as\n // as single property value cell by cell.\n if (styles) {\n styles.populateInitialStylingAttrs(attrExprs);\n }\n if (inputs.length || outputs.length) {\n var attrsLengthBeforeInputs = attrExprs.length;\n for (var i = 0; i < inputs.length; i++) {\n var input = inputs[i];\n // We don't want the animation and attribute bindings in the\n // attributes array since they aren't used for directive matching.\n if (input.type !== 4 /* Animation */ && input.type !== 1 /* Attribute */) {\n addAttrExpr(input.name);\n }\n }\n for (var i = 0; i < outputs.length; i++) {\n var output = outputs[i];\n if (output.type !== 1 /* Animation */) {\n addAttrExpr(output.name);\n }\n }\n // this is a cheap way of adding the marker only after all the input/output\n // values have been filtered (by not including the animation ones) and added\n // to the expressions. The marker is important because it tells the runtime\n // code that this is where attributes without values start...\n if (attrExprs.length !== attrsLengthBeforeInputs) {\n attrExprs.splice(attrsLengthBeforeInputs, 0, literal(3 /* Bindings */));\n }\n }\n if (templateAttrs.length) {\n attrExprs.push(literal(4 /* Template */));\n templateAttrs.forEach(function (attr) { return addAttrExpr(attr.name); });\n }\n if (boundI18nAttrs.length) {\n attrExprs.push(literal(6 /* I18n */));\n boundI18nAttrs.forEach(function (attr) { return addAttrExpr(attr.name); });\n }\n return attrExprs;\n };\n TemplateDefinitionBuilder.prototype.addToConsts = function (expression) {\n if (isNull(expression)) {\n return TYPED_NULL_EXPR;\n }\n var consts = this._constants.constExpressions;\n // Try to reuse a literal that's already in the array, if possible.\n for (var i = 0; i < consts.length; i++) {\n if (consts[i].isEquivalent(expression)) {\n return literal(i);\n }\n }\n return literal(consts.push(expression) - 1);\n };\n TemplateDefinitionBuilder.prototype.addAttrsToConsts = function (attrs) {\n return attrs.length > 0 ? this.addToConsts(literalArr(attrs)) : TYPED_NULL_EXPR;\n };\n TemplateDefinitionBuilder.prototype.prepareRefsArray = function (references) {\n var _this = this;\n if (!references || references.length === 0) {\n return TYPED_NULL_EXPR;\n }\n var refsParam = flatten(references.map(function (reference) {\n var slot = _this.allocateDataSlot();\n // Generate the update temporary.\n var variableName = _this._bindingScope.freshReferenceName();\n var retrievalLevel = _this.level;\n var lhs = variable(variableName);\n _this._bindingScope.set(retrievalLevel, reference.name, lhs, 0 /* DEFAULT */, function (scope, relativeLevel) {\n // e.g. nextContext(2);\n var nextContextStmt = relativeLevel > 0 ? [generateNextContextExpr(relativeLevel).toStmt()] : [];\n // e.g. const $foo$ = reference(1);\n

```
var refExpr
 = lhs.set(importExpr(Identifiers$1.reference).callFn([literal(slot)]));\n                return
nextContextStmt.concat(refExpr.toConstDecl());\n            }, true);\n            return [reference.name,
reference.value];\n        }));\n        return asLiteral(refsParam);\n    };\n
TemplateDefinitionBuilder.prototype.prepareListenerParameter = function (tagName, outputAst, index) {\n
var _this = this;\n        return function () {\n            var eventName = outputAst.name;\n            var
bindingFnName = outputAst.type === 1 /* Animation */ ?\n                // synthetic @listener.foo values are treated
the exact same as are standard listeners\n                prepareSyntheticListenerFunctionName(eventName,
outputAst.phase) :\n                sanitizeIdentifier(eventName);\n            var handlerName = _this.templateName
+ \"_\" + tagName + \"_\" + bindingFnName + \"_\" + index + \"_listener\";\n
    var scope = _this._bindingScope.nestedScope(_this._bindingScope.bindingLevel,
EVENT_BINDING_SCOPE_GLOBALS);\n            return prepareEventListenerParameters(outputAst,
handlerName, scope);\n        };\n    };\n    return TemplateDefinitionBuilder;\n}());\n var ValueConverter
= /** @class */ (function (_super) {\n    __extends(ValueConverter, _super);\n    function
ValueConverter(constantPool, allocateSlot, allocatePureFunctionSlots, definePipe) {\n        var _this =
_super.call(this) || this;\n        _this.constantPool = constantPool;\n        _this.allocateSlot = allocateSlot;\n
_this.allocatePureFunctionSlots = allocatePureFunctionSlots;\n        _this.definePipe = definePipe;\n
_this._pipeBindExprs = [];\n        return _this;\n    }\n    // AstMemoryEfficientTransformer\n
ValueConverter.prototype.visitPipe = function (pipe, context) {\n        // Allocate a slot to create the pipe\n
        var slot = this.allocateSlot();\n        var slotPseudoLocal = \"PIPE:\" + slot;\n        // Allocate one slot for
the result plus one slot per pipe argument\n        var pureFunctionSlot = this.allocatePureFunctionSlots(2 +
pipe.args.length);\n        var target = new PropertyRead(pipe.span, pipe.sourceSpan, pipe.nameSpan, new
ImplicitReceiver(pipe.span, pipe.sourceSpan), slotPseudoLocal);\n        var _c = pipeBindingCallInfo(pipe.args),
identifier = _c.identifier, isVarLength = _c.isVarLength;\n        this.definePipe(pipe.name, slotPseudoLocal, slot,
importExpr(identifier));\n        var args = __spread([pipe.exp], pipe.args);\n        var convertedArgs =
isVarLength ?\n            this.visitAll([new LiteralArray(pipe.span, pipe.sourceSpan, args)]) :\n
this.visitAll(args);\n        var pipeBindExpr = new FunctionCall(pipe.span, pipe.sourceSpan, target, __spread([\n
        new LiteralPrimitive(pipe.span, pipe.sourceSpan,
 slot),\n            new LiteralPrimitive(pipe.span, pipe.sourceSpan, pureFunctionSlot)\n        ], convertedArgs));\n
        this._pipeBindExprs.push(pipeBindExpr);\n        return pipeBindExpr;\n    };\n
ValueConverter.prototype.updatePipeSlotOffsets = function (bindingSlots) {\n
this._pipeBindExprs.forEach(function (pipe) {\n            // update the slot offset arg (index 1) to account for
binding slots\n            var slotOffset = pipe.args[1];\n            slotOffset.value += bindingSlots;\n        });\n
};\n    ValueConverter.prototype.visitLiteralArray = function (array, context) {\n        var _this = this;\n
return new BuiltinFunctionCall(array.span, array.sourceSpan, this.visitAll(array.expressions), function (values) {\n
        // If the literal has calculated (non-literal) elements transform it into\n            // calls to literal factories that
compose the literal and
 will cache intermediate\n            // values.\n            var literal = literalArr(values);\n            return
getLiteralFactory(_this.constantPool, literal, _this.allocatePureFunctionSlots);\n        });\n    };\n
ValueConverter.prototype.visitLiteralMap = function (map, context) {\n        var _this = this;\n        return new
BuiltinFunctionCall(map.span, map.sourceSpan, this.visitAll(map.values), function (values) {\n            // If the
literal has calculated (non-literal) elements  transform it into\n            // calls to literal factories that compose the
literal and will cache intermediate\n            // values.\n            var literal = literalMap(values.map(function
(value, index) { return ({ key: map.keys[index].key, value: value, quoted: map.keys[index].quoted }); }));\n
return getLiteralFactory(_this.constantPool, literal, _this.allocatePureFunctionSlots);\n        });\n    };\n
return
 ValueConverter;\n}(AstMemoryEfficientTransformer));\n// Pipes always have at least one parameter, the
value they operate on\nvar pipeBindingIdentifiers = [Identifiers$1.pipeBind1, Identifiers$1.pipeBind2,
```

```
Identifiers$1.pipeBind3, Identifiers$1.pipeBind4];\n    function pipeBindingCallInfo(args) {\n        var identifier = pipeBindingIdentifiers[args.length];\n        return {\n            identifier: identifier || Identifiers$1.pipeBindV,\n            isVarLength: !identifier,\n        };\n    }\n    var pureFunctionIdentifiers = [\n        Identifiers$1.pureFunction0, Identifiers$1.pureFunction1, Identifiers$1.pureFunction2, Identifiers$1.pureFunction3, Identifiers$1.pureFunction4,\n        Identifiers$1.pureFunction5, Identifiers$1.pureFunction6, Identifiers$1.pureFunction7, Identifiers$1.pureFunction8\n    ];\n    function pureFunctionCallInfo(args) {\n        var identifier = pureFunctionIdentifiers[args.length];\n        return {\n            identifier: identifier || Identifiers$1.pureFunctionV,\n            isVarLength: !identifier,\n        };\n    }\n    function instruction(span, reference, params) {\n        return importExpr(reference, null, span).callFn(params, span);\n    }\n    // e.g. x(2);\n    function generateNextContextExpr(relativeLevelDiff) {\n        return importExpr(Identifiers$1.nextContext)\n            .callFn(relativeLevelDiff > 1 ? [literal(relativeLevelDiff)] : []);\n    }\n    function getLiteralFactory(constantPool, literal$1, allocateSlots) {\n        var _c = constantPool.getLiteralFactory(literal$1), literalFactory = _c.literalFactory, literalFactoryArguments = _c.literalFactoryArguments;\n        // Allocate 1 slot for the result plus 1 per argument\n        var startSlot = allocateSlots(1 + literalFactoryArguments.length);\n        var _d = pureFunctionCallInfo(literalFactoryArguments), identifier = _d.identifier, isVarLength = _d.isVarLength;\n        // Literal factories are pure functions that only need to be re-invoked\n        when the parameters\n        // change.\n        var args = [literal(startSlot), literalFactory];\n        if (isVarLength) {\n            args.push(literalArr(literalFactoryArguments));\n        }\n        else {\n            args.push.apply(args, __spread(literalFactoryArguments));\n        }\n        return importExpr(identifier).callFn(args);\n    }\n    /**\n     * Gets an array of literals that can be added to an expression\n     * to represent the name and namespace of an attribute. E.g.\n     * `:xlink:href` turns into `[AttributeMarker.NamespaceURI, 'xlink', 'href']`.\n     *\n     * @param name Name of the attribute, including the namespace.\n     */\n    function getAttributeNameLiterals(name) {\n        var _c = __read(splitNsName(name), 2), attributeNamespace = _c[0], attributeName = _c[1];\n        var nameLiteral = literal(attributeName);\n        if (attributeNamespace) {\n            return [\n                literal(0 /* NamespaceURI */), literal(attributeNamespace),\n                nameLiteral\n            ];\n        }\n        return [nameLiteral];\n    }\n    /** The prefix used to get a shared context in BindingScope's map. */\n    var SHARED_CONTEXT_KEY = '$$shared_ctx$$';\n    var BindingScope = /** @class */ (function () {\n        function BindingScope(bindingLevel, parent, globals) {\n            var e_3, _c;\n            if (bindingLevel === void 0) { bindingLevel = 0; }\n            if (parent === void 0) { parent = null; }\n            this.bindingLevel = bindingLevel;\n            this.parent = parent;\n            this.globals = globals;\n            /** Keeps a map from local variables to their BindingData. */\n            this.map = new Map();\n            this.referenceNameIndex = 0;\n            this.restoreViewVariable = null;\n            if (globals !== undefined) {\n                try {\n                    for (var globals_1 = __values(globals), globals_1_1 = globals_1.next(); !globals_1_1.done; globals_1_1 = globals_1.next()) {\n                        var name = globals_1_1.value;\n                        this.set(0, name, variable(name));\n                    }\n                }\n                catch (e_3_1) { e_3 = { error: e_3_1 }; }\n                finally {\n                    try {\n                        if (globals_1_1 && !globals_1_1.done && (_c = globals_1.return)) _c.call(globals_1);\n                    }\n                    finally { if (e_3) throw e_3.error; }\n                }\n            }\n        }\n        BindingScope.createRootScope = function () {\n            return new BindingScope();\n        };\n        BindingScope.prototype.get = function (name) {\n            var current = this;\n            while (current) {\n                var value = current.map.get(name);\n                if (value != null) {\n                    if (current !== this) {\n                        // make a local copy and reset the `declare` state\n                        value = {\n                            retrievalLevel: value.retrievalLevel,\n                            lhs: value.lhs,\n                            declareLocalCallback: value.declareLocalCallback,\n                            declare: false,\n                            priority: value.priority,\n                            localRef: value.localRef\n                        };\n                        // Cache the value locally.\n                        this.map.set(name, value);\n                        // Possibly generate a shared context var\n                        this.maybeGenerateSharedContextVar(value);\n                        this.maybeRestoreView(value.retrievalLevel, value.localRef);\n                    }\n                    if (value.declareLocalCallback && !value.declare) {\n
```

```
value.declare = true;\n                }\n                return value.lhs;\n            }\n            current = current.parent;\n        }\n        // If we get to this point,
 we are looking for a property on the top level component\n        // - If level === 0, we are on the top and don't need to re-declare `ctx`.\n        // - If level > 0, we are in an embedded view. We need to retrieve the name of the\n        // local var we used to store the component context, e.g. const $comp$ = x();\n        return this.bindingLevel === 0 ? null : this.getComponentProperty(name);\n    };\n    /**\n     * Create a local variable for later reference.\n     *\n     * @param retrievalLevel The level from which this value can be retrieved\n     * @param name Name of the variable.\n     * @param lhs AST representing the left hand side of the `let lhs = rhs;`.\n     * @param priority The sorting priority of this var\n     * @param declareLocalCallback The callback to invoke when declaring this local var\n     * @param localRef Whether or not this is a local ref\n     */\n    BindingScope.prototype.set = function
 (retrievalLevel, name, lhs, priority /* DEFAULT */, declareLocalCallback, localRef) {\n        if (priority === void 0) { priority = 0; }\n        if (this.map.has(name)) {\n            if (localRef) {\n                // Do not throw an error if it's a local ref and do not update existing value,\n                // so the first defined ref is always returned.\n                return this;\n            }\n            error(\"The name \" + name + \" is already defined in scope to be \" + this.map.get(name));\n        }\n        this.map.set(name, {\n            retrievalLevel: retrievalLevel,\n            lhs: lhs,\n            declare: false,\n            declareLocalCallback: declareLocalCallback,\n            priority: priority,\n            localRef: localRef || false\n        });\n        return this;\n    };\n    // Implemented as part of LocalResolver.\n    BindingScope.prototype.getLocal = function
 (name) {\n        return this.get(name);\n    };\n    // Implemented as part of LocalResolver.\n    BindingScope.prototype.notifyImplicitReceiverUse = function () {\n        if (this.bindingLevel !== 0) {\n            // Since the implicit receiver is accessed in an embedded view, we need to\n            // ensure that we declare a shared context variable for the current template\n            // in the update variables.\n            this.map.get(SHARED_CONTEXT_KEY + 0).declare = true;\n        }\n    };\n    BindingScope.prototype.nestedScope = function (level, globals) {\n        var newScope = new BindingScope(level, this, globals);\n        if (level > 0)\n            newScope.generateSharedContextVar(0);\n        return newScope;\n    };\n    /**\n     * Gets or creates a shared context variable and returns its expression. Note that\n     * this does not mean that the shared variable will be declared.
 Variables in the\n     * binding scope will be only declared if they are used.\n     */\n    BindingScope.prototype.getOrCreateSharedContextVar = function (retrievalLevel) {\n        var bindingKey = SHARED_CONTEXT_KEY + retrievalLevel;\n        if (!this.map.has(bindingKey)) {\n            this.generateSharedContextVar(retrievalLevel);\n        }\n        // Shared context variables are always generated as \"ReadVarExpr\".\n        return this.map.get(bindingKey).lhs;\n    };\n    BindingScope.prototype.getSharedContextName = function (retrievalLevel) {\n        var sharedCtxObj = this.map.get(SHARED_CONTEXT_KEY + retrievalLevel);\n        // Shared context variables are always generated as \"ReadVarExpr\".\n        return sharedCtxObj && sharedCtxObj.declare ? sharedCtxObj.lhs : null;\n    };\n    BindingScope.prototype.maybeGenerateSharedContextVar = function (value) {\n        if (value.priority === 1 /* CONTEXT
 */ &&\n            value.retrievalLevel < this.bindingLevel) {\n            var sharedCtxObj = this.map.get(SHARED_CONTEXT_KEY + value.retrievalLevel);\n            if (sharedCtxObj) {\n                sharedCtxObj.declare = true;\n            }\n            else {\n                this.generateSharedContextVar(value.retrievalLevel);\n            }\n        }\n    };\n    BindingScope.prototype.generateSharedContextVar = function (retrievalLevel) {\n        var lhs = variable(CONTEXT_NAME + this.freshReferenceName());\n        this.map.set(SHARED_CONTEXT_KEY + retrievalLevel, {\n            retrievalLevel: retrievalLevel,\n            lhs: lhs,\n            declareLocalCallback: function (scope, relativeLevel) {\n                // const ctx_r0 = nextContext(2);\n                return [lhs.set(generateNextContextExpr(relativeLevel)).toConstDecl()];\n            },\n            declare: false,\n
```

```
        priority: 2 /* SHARED_CONTEXT */,\n                localRef: false\n            });\n        };\n
BindingScope.prototype.getComponentProperty = function (name) {\n            var componentValue =
this.map.get(SHARED_CONTEXT_KEY + 0);\n            componentValue.declare = true;\n
this.maybeRestoreView(0, false);\n            return componentValue.lhs.prop(name);\n        };\n
BindingScope.prototype.maybeRestoreView = function (retrievalLevel, localRefLookup) {\n            // We want to
restore the current view in listener fns if:\n            // 1 - we are accessing a value in a parent view, which requires
walking the view tree rather\n            // than using the ctx arg. In this case, the retrieval and binding level will be
different.\n            // 2 - we are looking up a local ref, which requires restoring the view where the local\n            //
ref is stored\n            if (this.isListenerScope() && (retrievalLevel < this.bindingLevel || localRefLookup))
 {\n                if (!this.parent.restoreViewVariable) {\n                    // parent saves variable to generate a shared `const
$s$ = getCurrentView();` instruction\n                    this.parent.restoreViewVariable =
variable(this.parent.freshReferenceName());\n                }\n                this.restoreViewVariable =
this.parent.restoreViewVariable;\n            }\n        };\n        BindingScope.prototype.restoreViewStatement =
function () {\n            // restoreView($state$);\n            return this.restoreViewVariable ?\n
[instruction(null, Identifiers$1.restoreView, [this.restoreViewVariable]).toStmt()] :\n                [];\n        };\n
BindingScope.prototype.viewSnapshotStatements = function () {\n            // const $state$ = getCurrentView();\n
  var getCurrentViewInstruction = instruction(null, Identifiers$1.getCurrentView, []);\n            return
this.restoreViewVariable ?\n                [this.restoreViewVariable.set(getCurrentViewInstruction).toConstDecl()]
 :\n                [];\n        };\n        BindingScope.prototype.isListenerScope = function () {\n            return this.parent
&& this.parent.bindingLevel === this.bindingLevel;\n        };\n        BindingScope.prototype.variableDeclarations =
function () {\n            var _this = this;\n            var currentContextLevel = 0;\n            return
Array.from(this.map.values())\n                .filter(function (value) { return value.declare; })\n                .sort(function
(a, b) { return b.retrievalLevel - a.retrievalLevel || b.priority - a.priority; })\n                .reduce(function (stmts, value)
{\n                var levelDiff = _this.bindingLevel - value.retrievalLevel;\n                var currStmts =
value.declareLocalCallback(_this, levelDiff - currentContextLevel);\n                currentContextLevel = levelDiff;\n
            return stmts.concat(currStmts);\n            }, []);\n        };\n        BindingScope.prototype.freshReferenceName
 = function () {\n            var current = this;\n            // Find the top scope as it maintains the global reference count\n
        while (current.parent)\n                current = current.parent;\n            var ref = \"\" + REFERENCE_PREFIX +
current.referenceNameIndex++;\n            return ref;\n        };\n        return BindingScope;\n    }());\n    /**\n     *
Creates a `CssSelector` given a tag name and a map of attributes\n     */\n    function
createCssSelector(elementName, attributes) {\n        var cssSelector = new CssSelector();\n        var
elementNameNoNs = splitNsName(elementName)[1];\n        cssSelector.setElement(elementNameNoNs);\n
Object.getOwnPropertyNames(attributes).forEach(function (name) {\n            var nameNoNs =
splitNsName(name)[1];\n            var value = attributes[name];\n            cssSelector.addAttribute(nameNoNs,
value);\n            if (name.toLowerCase() === 'class') {\n                var classes =
 value.trim().split(/\s+/);\n                classes.forEach(function (className) { return
cssSelector.addClassName(className); });\n            }\n        });\n        return cssSelector;\n    }\n    /**\n     * Creates
an array of expressions out of an `ngProjectAs` attributes\n     * which can be added to the instruction parameters.\n
 */\n    function getNgProjectAsLiteral(attribute) {\n        // Parse the attribute value into a CssSelectorList. Note that
we only take the\n        // first selector, because we don't support multiple selectors in ngProjectAs.\n        var
parsedR3Selector = parseSelectorToR3Selector(attribute.value)[0];\n        return [literal(5 /* ProjectAs */),
asLiteral(parsedR3Selector)];\n    }\n    /**\n     * Gets the instruction to generate for an interpolated property\n     *
@param interpolation An Interpolation AST\n     */\n    function getPropertyInterpolationExpression(interpolation)
{\n        switch (getInterpolationArgsLength(interpolation)) {\n
            case 1:\n                return Identifiers$1.propertyInterpolate;\n            case 3:\n                return
Identifiers$1.propertyInterpolate1;\n            case 5:\n                return Identifiers$1.propertyInterpolate2;\n
case 7:\n                return Identifiers$1.propertyInterpolate3;\n            case 9:\n                return
Identifiers$1.propertyInterpolate4;\n            case 11:\n                return Identifiers$1.propertyInterpolate5;\n
```

```
case 13:\n return Identifiers$1.propertyInterpolate6;\n case 15:\n return Identifiers$1.propertyInterpolate7;\n case 17:\n return Identifiers$1.propertyInterpolate8;\n default:\n return Identifiers$1.propertyInterpolateV;\n }\n }\n /**\n * Gets the instruction to generate for an interpolated attribute\n * @param interpolation An Interpolation AST\n */\n function getAttributeInterpolationExpression(interpolation)
{\n switch (getInterpolationArgsLength(interpolation)) {\n case 3:\n return Identifiers$1.attributeInterpolate1;\n case 5:\n return Identifiers$1.attributeInterpolate2;\n case 7:\n return Identifiers$1.attributeInterpolate3;\n case 9:\n return Identifiers$1.attributeInterpolate4;\n case 11:\n return Identifiers$1.attributeInterpolate5;\n case 13:\n return Identifiers$1.attributeInterpolate6;\n case 15:\n return Identifiers$1.attributeInterpolate7;\n case 17:\n return Identifiers$1.attributeInterpolate8;\n default:\n return Identifiers$1.attributeInterpolateV;\n }\n }\n /**\n * Gets the instruction to generate for interpolated text.\n * @param interpolation An Interpolation AST\n */\n function getTextInterpolationExpression(interpolation) {\n switch (getInterpolationArgsLength(interpolation)) {\n case 1:\n return Identifiers$1.textInterpolate;\n case 3:\n return Identifiers$1.textInterpolate1;\n case 5:\n return Identifiers$1.textInterpolate2;\n case 7:\n return Identifiers$1.textInterpolate3;\n case 9:\n return Identifiers$1.textInterpolate4;\n case 11:\n return Identifiers$1.textInterpolate5;\n case 13:\n return Identifiers$1.textInterpolate6;\n case 15:\n return Identifiers$1.textInterpolate7;\n case 17:\n return Identifiers$1.textInterpolate8;\n default:\n return Identifiers$1.textInterpolateV;\n }\n }\n /**\n * Parse a template into render3 `Node`s and additional metadata, with no other dependencies.\n *\n * @param template text of the template to parse\n * @param templateUrl URL to use for source mapping of the parsed template\n * @param options options to modify how the template is parsed\n */\n function parseTemplate(template, templateUrl, options) {\n if (options === void 0) { options = {}; }\n var interpolationConfig = options.interpolationConfig, preserveWhitespaces = options.preserveWhitespaces, enableI18nLegacyMessageIdFormat = options.enableI18nLegacyMessageIdFormat;\n var bindingParser = makeBindingParser(interpolationConfig);\n var htmlParser = new HtmlParser();\n var parseResult = htmlParser.parse(template, templateUrl, Object.assign(Object.assign({ leadingTriviaChars: LEADING_TRIVIA_CHARS }, options), { tokenizeExpansionForms: true }));\n if (parseResult.errors && parseResult.errors.length > 0) {\n // TODO(ayazhafiz): we may not always want to bail out at this point (e.g. in\n
// the context of a language service).\n return {\n interpolationConfig: interpolationConfig,\n preserveWhitespaces: preserveWhitespaces,\n template: template,\n errors: parseResult.errors,\n nodes: [],\n styleUrls: [],\n styles: [],\n ngContentSelectors: []\n };\n }\n var rootNodes = parseResult.rootNodes;\n // process i18n meta information (scan attributes, generate ids)\n // before we run whitespace removal process, because existing i18n\n // extraction process (ng extract-i18n) relies on a raw content to generate\n // message ids\n var i18nMetaVisitor = new I18nMetaVisitor(interpolationConfig, /* keepI18nAttrs */ !preserveWhitespaces, enableI18nLegacyMessageIdFormat);\n rootNodes = visitAll$1(i18nMetaVisitor, rootNodes);\n if (!preserveWhitespaces) {\n rootNodes = visitAll$1(new WhitespaceVisitor(), rootNodes);\n // run i18n meta visitor again in case whitespaces are removed (because that might affect\n // generated i18n message content) and first pass indicated that i18n content is present in a\n // template. During this pass i18n IDs generated at the first pass will be preserved, so we can\n // mimic existing extraction process (ng extract-i18n)\n if (i18nMetaVisitor.hasI18nMeta) {\n rootNodes = visitAll$1(new I18nMetaVisitor(interpolationConfig, /* keepI18nAttrs */ false), rootNodes);\n }\n }\n var _c = htmlAstToRender3Ast(rootNodes, bindingParser), nodes = _c.nodes, errors = _c.errors, styleUrls = _c.styleUrls, styles = _c.styles, ngContentSelectors = _c.ngContentSelectors;\n return {\n interpolationConfig: interpolationConfig,\n preserveWhitespaces: preserveWhitespaces,\n errors:
```

```
errors.length > 0 ? errors
 : null,\n            template: template,\n            nodes: nodes,\n            styleUrls: styleUrls,\n            styles: styles,\n
  ngContentSelectors: ngContentSelectors\n        };\n    }\n    var elementRegistry = new
DomElementSchemaRegistry();\n    /**\n     * Construct a `BindingParser` with a default configuration.\n     */\n
function makeBindingParser(interpolationConfig) {\n        if (interpolationConfig === void 0) { interpolationConfig
= DEFAULT_INTERPOLATION_CONFIG; }\n        return new BindingParser(new IvyParser(new Lexer()),
interpolationConfig, elementRegistry, null, []);\n    }\n    function resolveSanitizationFn(context, isAttribute) {\n
switch (context) {\n            case SecurityContext.HTML:\n                return
importExpr(Identifiers$1.sanitizeHtml);\n            case SecurityContext.SCRIPT:\n                return
importExpr(Identifiers$1.sanitizeScript);\n            case SecurityContext.STYLE:\n                // the compiler
 does not fill in an instruction for [style.prop?] binding\n                // values because the style algorithm knows
internally what props are subject\n                // to sanitization (only [attr.style] values are explicitly sanitized)\n
    return isAttribute ? importExpr(Identifiers$1.sanitizeStyle) : null;\n            case SecurityContext.URL:\n
return importExpr(Identifiers$1.sanitizeUrl);\n            case SecurityContext.RESOURCE_URL:\n                return
importExpr(Identifiers$1.sanitizeResourceUrl);\n            default:\n                return null;\n        }\n    }\n    function
trustedConstAttribute(tagName, attr) {\n        var value = asLiteral(attr.value);\n        switch
(elementRegistry.securityContext(tagName, attr.name, /* isAttribute */ true)) {\n            case
SecurityContext.HTML:\n                return importExpr(Identifiers$1.trustConstantHtml).callFn([value],
attr.valueSpan);\n            case SecurityContext.SCRIPT:\n
            return importExpr(Identifiers$1.trustConstantScript).callFn([value], attr.valueSpan);\n            case
SecurityContext.RESOURCE_URL:\n                return
importExpr(Identifiers$1.trustConstantResourceUrl).callFn([value], attr.valueSpan);\n            default:\n
return value;\n        }\n    }\n    function isSingleElementTemplate(children) {\n        return children.length === 1
&& children[0] instanceof Element;\n    }\n    function isTextNode(node) {\n        return node instanceof Text || node
instanceof BoundText || node instanceof Icu;\n    }\n    function hasTextChildrenOnly(children) {\n        return
children.every(isTextNode);\n    }\n    /** Name of the global variable that is used to determine if we use Closure
translations or not */\n    var NG_I18N_CLOSURE_MODE = 'ngI18nClosureMode';\n    /**\n     * Generate
statements that define a given translation message.\n     *\n     * ```\n     * var I18N_1;\n     * if (typeof
ngI18nClosureMode !== undefined
 && ngI18nClosureMode) {\n     *     var MSG_EXTERNAL_XXX = goog.getMsg(\n     *         \"Some message
with {$interpolation}!\",\n     *         { \"interpolation\": \"\\uFFFD0\\uFFFD\" }\n     *     );\n     *     I18N_1 =
MSG_EXTERNAL_XXX;\n     * }\n     * else {\n     *     I18N_1 = $localize`Some message with
${'\\uFFFD0\\uFFFD'}!`;\n     * }\n     * ```\n     *\n     * @param message The original i18n AST message node\n
* @param variable The variable that will be assigned the translation, e.g. `I18N_1`.\n     * @param closureVar The
variable for Closure `goog.getMsg` calls, e.g. `MSG_EXTERNAL_XXX`.\n     * @param params Object mapping
placeholder names to their values (e.g.\n     * `{ \"interpolation\": \"\\uFFFD0\\uFFFD\" }`).\n     * @param
transformFn Optional transformation function that will be applied to the translation (e.g.\n     * post-processing).\n
* @returns An array of statements that defined a given translation.\n     */\n    function
getTranslationDeclStmts(message,
 variable, closureVar, params, transformFn) {\n        if (params === void 0) { params = {}; }\n        var statements =
[\n            declareI18nVariable(variable),\n            ifStmt(createClosureModeGuard(),
createGoogleGetMsgStatements(variable, message, closureVar, i18nFormatPlaceholderNames(params, /*
useCamelCase */ true)), createLocalizeStatements(variable, message, i18nFormatPlaceholderNames(params, /*
useCamelCase */ false))),\n        ];\n        if (transformFn) {\n            statements.push(new
ExpressionStatement(variable.set(transformFn(variable))));\n        }\n        return statements;\n    }\n    /**\n     *
Create the expression that will be used to guard the closure mode block\n     * It is equivalent to:\n     *\n     * ```\n
* typeof ngI18nClosureMode !== undefined && ngI18nClosureMode\n     * ```\n     */\n    function
createClosureModeGuard() {\n        return typeofExpr(variable(NG_I18N_CLOSURE_MODE))\n
```

```
.notIdentical(literal('undefined',
 STRING_TYPE))\n            .and(variable(NG_I18N_CLOSURE_MODE));\n    }\n\n    var EMPTY_ARRAY =
[];\n    // This regex matches any binding names that contain the \"attr.\" prefix, e.g. \"attr.required\"\n    // If there is
a match, the first matching group will contain the attribute name to bind.\n    var ATTR_REGEX =
/attr\\.([^\\]]+)/;\n    function baseDirectiveFields(meta, constantPool, bindingParser) {\n        var definitionMap =
new DefinitionMap();\n        var selectors = parseSelectorToR3Selector(meta.selector);\n        // e.g. `type:
MyDirective`\n        definitionMap.set('type', meta.internalType);\n        // e.g. `selectors: [['', 'someDir', '']]`\n        if
(selectors.length > 0) {\n            definitionMap.set('selectors', asLiteral(selectors));\n        }\n        if
(meta.queries.length > 0) {\n            // e.g. `contentQueries: (rf, ctx, dirIndex) => { ... }\n
definitionMap.set('contentQueries', createContentQueriesFunction(meta.queries,
 constantPool, meta.name));\n        }\n        if (meta.viewQueries.length) {\n            definitionMap.set('viewQuery',
createViewQueriesFunction(meta.viewQueries, constantPool, meta.name));\n        }\n        // e.g. `hostBindings: (rf,
ctx) => { ... }\n        definitionMap.set('hostBindings', createHostBindingsFunction(meta.host,
meta.typeSourceSpan, bindingParser, constantPool, meta.selector || '', meta.name, definitionMap));\n        // e.g
'inputs: {a: 'a'}`\n        definitionMap.set('inputs', conditionallyCreateMapObjectLiteral(meta.inputs, true));\n        //
e.g 'outputs: {a: 'a'}`\n        definitionMap.set('outputs', conditionallyCreateMapObjectLiteral(meta.outputs));\n
if (meta.exportAs !== null) {\n            definitionMap.set('exportAs', literalArr(meta.exportAs.map(function (e) {
return literal(e); })));\n        }\n        return definitionMap;\n    }\n    /**\n     * Add features to the definition map.\n
*/\n    function addFeatures(definitionMap, meta)
 {\n        // e.g. `features: [NgOnChangesFeature]`\n        var features = [];\n        var providers = meta.providers;\n
 var viewProviders = meta.viewProviders;\n        if (providers || viewProviders) {\n            var args = [providers ||
new LiteralArrayExpr([])];\n            if (viewProviders) {\n                args.push(viewProviders);\n            }\n
features.push(importExpr(Identifiers$1.ProvidersFeature).callFn(args));\n        }\n        if (meta.usesInheritance) {\n
        features.push(importExpr(Identifiers$1.InheritDefinitionFeature));\n        }\n        if (meta.fullInheritance) {\n
       features.push(importExpr(Identifiers$1.CopyDefinitionFeature));\n        }\n        if
(meta.lifecycle.usesOnChanges) {\n            features.push(importExpr(Identifiers$1.NgOnChangesFeature));\n
}\n        if (features.length) {\n            definitionMap.set('features', literalArr(features));\n        }\n    }\n    /**\n     *
Compile a directive
 for the render3 runtime as defined by the `R3DirectiveMetadata`.\n     */\n    function
compileDirectiveFromMetadata(meta, constantPool, bindingParser) {\n        var definitionMap =
baseDirectiveFields(meta, constantPool, bindingParser);\n        addFeatures(definitionMap, meta);\n        var
expression = importExpr(Identifiers$1.defineDirective).callFn([definitionMap.toLiteralMap()]);\n        var
typeParams = createDirectiveTypeParams(meta);\n        var type =
expressionType(importExpr(Identifiers$1.DirectiveDefWithMeta, typeParams));\n        return { expression:
expression, type: type };\n    }\n    /**\n     * Compile a component for the render3 runtime as defined by the
`R3ComponentMetadata`.\n     */\n    function compileComponentFromMetadata(meta, constantPool, bindingParser)
{\n        var e_1, _a;\n        var definitionMap = baseDirectiveFields(meta, constantPool, bindingParser);\n
addFeatures(definitionMap, meta);\n        var selector = meta.selector && CssSelector.parse(meta.selector);\n
        var firstSelector = selector && selector[0];\n        // e.g. `attr: [\"class\", \".my.app\"]`\n        // This is optional
an only included if the first selector of a component specifies attributes.\n        if (firstSelector) {\n            var
selectorAttributes = firstSelector.getAttrs();\n            if (selectorAttributes.length) {\n
definitionMap.set('attrs', constantPool.getConstLiteral(literalArr(selectorAttributes.map(function (value) { return
value != null ? literal(value) : literal(undefined); })), \n                /* forceShared */ true));\n            }\n        }\n        //
Generate the CSS matcher that recognize directive\n        var directiveMatcher = null;\n        if
(meta.directives.length > 0) {\n            var matcher = new SelectorMatcher();\n            try {\n                for (var _b =
__values(meta.directives), _c = _b.next(); !_c.done; _c = _b.next()) {\n                    var _d = _c.value, selector_1
 = _d.selector, expression_1 = _d.expression;\n                    matcher.addSelectables(CssSelector.parse(selector_1),
expression_1);\n                }\n            }\n            catch (e_1_1) { e_1 = { error: e_1_1 }; }\n            finally {\n
```

```
try {\n if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n }\n finally { if (e_1) throw e_1.error; }\n }\n directiveMatcher = matcher;\n }\n // e.g. `template: function MyComponent_Template(_ctx, _cm) {...}`\n var templateTypeName = meta.name;\n var templateName = templateTypeName ? templateTypeName + \"_Template\" : null;\n var directivesUsed = new Set();\n var pipesUsed = new Set();\n var changeDetection = meta.changeDetection;\n var template = meta.template;\n var templateBuilder = new TemplateDefinitionBuilder(constantPool, BindingScope.createRootScope(), 0, templateTypeName, null,
null, templateName, directiveMatcher, directivesUsed, meta.pipes, pipesUsed, Identifiers$1.namespaceHTML, meta.relativeContextFilePath, meta.i18nUseExternalIds);\n var templateFunctionExpression = templateBuilder.buildTemplateFunction(template.nodes, []);\n // We need to provide this so that dynamically generated components know what\n // projected content blocks to pass through to the component when it is instantiated.\n var ngContentSelectors = templateBuilder.getNgContentSelectors();\n if (ngContentSelectors) {\n definitionMap.set('ngContentSelectors', ngContentSelectors);\n }\n // e.g. `decls: 2`\n definitionMap.set('decls', literal(templateBuilder.getConstCount()));\n // e.g. `vars: 2`\n definitionMap.set('vars', literal(templateBuilder.getVarCount()));\n // Generate `consts` section of ComponentDef:\n // - either as an array:\n // `consts: [['one', 'two'], ['three', 'four']]`\n // - or as a factory function in case additional statements are present (to support i18n):\n // `consts: function() { var i18n_0; if (ngI18nClosureMode) {...} else {...} return [i18n_0]; }`\n var _e = templateBuilder.getConsts(), constExpressions = _e.constExpressions, prepareStatements = _e.prepareStatements;\n if (constExpressions.length > 0) {\n var constsExpr = literalArr(constExpressions);\n // Prepare statements are present - turn `consts` into a function.\n if (prepareStatements.length > 0) {\n constsExpr = fn([], __spread(prepareStatements, [new ReturnStatement(constsExpr)]));\n }\n definitionMap.set('consts', constsExpr);\n }\n definitionMap.set('template', templateFunctionExpression);\n // e.g. `directives: [MyDirective]`\n if (directivesUsed.size) {\n var directivesExpr = literalArr(Array.from(directivesUsed));\n if (meta.wrapDirectivesAndPipesInClosure) {\n directivesExpr = fn([], [new ReturnStatement(directivesExpr)]);\n }\n definitionMap.set('directives', directivesExpr);\n }\n // e.g. `pipes: [MyPipe]`\n if (pipesUsed.size) {\n var pipesExpr = literalArr(Array.from(pipesUsed));\n if (meta.wrapDirectivesAndPipesInClosure) {\n pipesExpr = fn([], [new ReturnStatement(pipesExpr)]);\n }\n definitionMap.set('pipes', pipesExpr);\n }\n if (meta.encapsulation === null) {\n meta.encapsulation = ViewEncapsulation.Emulated;\n }\n // e.g. `styles: [str1, str2]`\n if (meta.styles && meta.styles.length) {\n var styleValues = meta.encapsulation == ViewEncapsulation.Emulated ?\n compileStyles(meta.styles, CONTENT_ATTR, HOST_ATTR) :\n meta.styles;\n var strings = styleValues.map(function (str) { return constantPool.getConstLiteral(literal(str)); });\n definitionMap.set('styles', literalArr(strings));\n }\n else if (meta.encapsulation === ViewEncapsulation.Emulated) {\n // If there is no style, don't generate css selectors on elements\n meta.encapsulation = ViewEncapsulation.None;\n }\n // Only set view encapsulation if it's not the default value\n if (meta.encapsulation !== ViewEncapsulation.Emulated) {\n definitionMap.set('encapsulation', literal(meta.encapsulation));\n }\n // e.g. `animation: [trigger('123', [])]`\n if (meta.animations !== null) {\n definitionMap.set('data', literalMap([{ key: 'animation', value: meta.animations, quoted: false }]));\n }\n // Only set the change detection flag if it's defined and it's not the default.\n if (changeDetection != null && changeDetection !== ChangeDetectionStrategy.Default) {\n definitionMap.set('changeDetection', literal(changeDetection));\n }\n var expression = importExpr(Identifiers$1.defineComponent).callFn([definitionMap.toLiteralMap()]);\n var typeParams = createDirectiveTypeParams(meta);\n typeParams.push(stringArrayAsType(meta.template.ngContentSelectors));\n var type = expressionType(importExpr(Identifiers$1.ComponentDefWithMeta, typeParams));\n return { expression: expression, type: type };\n }\n /**\n * A wrapper around `compileDirective` which depends on render2 global
```

```
analysis data as its input\n     * instead of the `R3DirectiveMetadata`.\n     *\n     * `R3DirectiveMetadata` is computed from `CompileDirectiveMetadata` and other statically reflected\n     * information.\n     */\n    function compileDirectiveFromRender2(outputCtx, directive, reflector, bindingParser) {\n        var name = identifierName(directive.type);\n        name || error(\"Cannot resolver the name of \" + directive.type);\n        var definitionField
 = outputCtx.constantPool.propertyNameOf(1 /* Directive */);\n        var meta = directiveMetadataFromGlobalMetadata(directive, outputCtx, reflector);\n        var res = compileDirectiveFromMetadata(meta, outputCtx.constantPool, bindingParser);\n        var factoryRes = compileFactoryFunction(Object.assign(Object.assign({}, meta), { injectFn: Identifiers$1.directiveInject, target: exports.R3FactoryTarget.Directive }));\n        var ngFactoryDefStatement = new ClassStmt(name, null, [new ClassField('fac', INFERRED_TYPE, [exports.StmtModifier.Static], factoryRes.factory)], [], new ClassMethod(null, [], []), []);\n        var directiveDefStatement = new ClassStmt(name, null, [new ClassField(definitionField, INFERRED_TYPE, [exports.StmtModifier.Static], res.expression)], [], new ClassMethod(null, [], []), []);\n        // Create the partial class to be merged with the actual class.\n        outputCtx.statements.push(ngFactoryDefStatement, directiveDefStatement);\n    }\n    /**\n     * A
 wrapper around `compileComponent` which depends on render2 global analysis data as its input\n     * instead of the `R3DirectiveMetadata`.\n     *\n     * `R3ComponentMetadata` is computed from `CompileDirectiveMetadata` and other statically reflected\n     * information.\n     */\n    function compileComponentFromRender2(outputCtx, component, render3Ast, reflector, bindingParser, directiveTypeBySel, pipeTypeByName) {\n        var name = identifierName(component.type);\n        name || error(\"Cannot resolver the name of \" + component.type);\n        var definitionField = outputCtx.constantPool.propertyNameOf(2 /* Component */);\n        var summary = component.toSummary();\n        // Compute the R3ComponentMetadata from the CompileDirectiveMetadata\n        var meta = Object.assign(Object.assign({}, directiveMetadataFromGlobalMetadata(component, outputCtx, reflector)), { selector: component.selector, template: { nodes: render3Ast.nodes, ngContentSelectors: render3Ast.ngContentSelectors
 }, directives: [], pipes: typeMapToExpressionMap(pipeTypeByName, outputCtx), viewQueries: queriesFromGlobalMetadata(component.viewQueries, outputCtx), wrapDirectivesAndPipesInClosure: false, styles: (summary.template && summary.template.styles) || EMPTY_ARRAY, encapsulation: (summary.template && summary.template.encapsulation) || ViewEncapsulation.Emulated, interpolation: DEFAULT_INTERPOLATION_CONFIG, animations: null, viewProviders: component.viewProviders.length > 0 ? new WrappedNodeExpr(component.viewProviders) : null, relativeContextFilePath: '', i18nUseExternalIds: true });\n
        var res = compileComponentFromMetadata(meta, outputCtx.constantPool, bindingParser);\n        var factoryRes = compileFactoryFunction(Object.assign(Object.assign({}, meta), { injectFn: Identifiers$1.directiveInject, target: exports.R3FactoryTarget.Directive }));\n        var ngFactoryDefStatement = new ClassStmt(name, null, [new ClassField('fac', INFERRED_TYPE, [exports.StmtModifier.Static], factoryRes.factory)],
 [], new ClassMethod(null, [], []), []);\n        var componentDefStatement = new ClassStmt(name, null, [new ClassField(definitionField, INFERRED_TYPE, [exports.StmtModifier.Static], res.expression)], [], new ClassMethod(null, [], []), []);\n        // Create the partial class to be merged with the actual class.\n        outputCtx.statements.push(ngFactoryDefStatement, componentDefStatement);\n    }\n    /**\n     * Compute `R3DirectiveMetadata` given `CompileDirectiveMetadata` and a `CompileReflector`.\n     */\n    function directiveMetadataFromGlobalMetadata(directive, outputCtx, reflector) {\n        // The global-analysis based Ivy mode in ngc is no longer utilized/supported.\n        throw new Error('unsupported');\n    }\n    /**\n     * Convert `CompileQueryMetadata` into `R3QueryMetadata`.\n     */\n    function queriesFromGlobalMetadata(queries, outputCtx) {\n        return queries.map(function (query) {\n            var read = null;\n            if (query.read
 && query.read.identifier) {\n                read = outputCtx.importExpr(query.read.identifier.reference);\n            }\n
        return {\n                propertyName: query.propertyName,\n                first: query.first,\n                predicate: selectorsFromGlobalMetadata(query.selectors, outputCtx),\n                descendants: query.descendants,\n                read: read,\n                static: !!query.static\n            };\n        });\n    }\n    /**\n     * Convert
```

`CompileTokenMetadata` for query selectors into either an expression for a predicate\n * type, or a list of string predicates.\n */\n function selectorsFromGlobalMetadata(selectors, outputCtx) {\n if (selectors.length > 1 || (selectors.length == 1 && selectors[0].value)) {\n var selectorStrings = selectors.map(function (value) { return value.value; });\n selectorStrings.some(function (value) { return !value; }) &&\n error('Found a type among
the string selectors expected');\n return outputCtx.constantPool.getConstLiteral(literalArr(selectorStrings.map(function (value) { return literal(value); })));\n }\n if (selectors.length == 1) {\n var first = selectors[0];\n if (first.identifier) {\n return outputCtx.importExpr(first.identifier.reference);\n }\n }\n error('Unexpected query form');\n return NULL_EXPR;\n }\n function prepareQueryParams(query, constantPool) {\n var parameters = [getQueryPredicate(query, constantPool), literal(query.descendants)];\n if (query.read) {\n parameters.push(query.read);\n }\n return parameters;\n }\n function convertAttributesToExpressions(attributes) {\n var e_2, _a;\n var values = [];\n try {\n for (var _b = __values(Object.getOwnPropertyNames(attributes)), _c = _b.next(); !_c.done; _c = _b.next()) {\n var key = _c.value;\n var value = attributes[key];\n values.push(literal(key), value);\n }\n }\n catch (e_2_1) { e_2 = { error: e_2_1 }; }\n finally {\n try {\n if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n }\n finally { if (e_2) throw e_2.error; }\n }\n return values;\n }\n // Define and update any content queries\n function createContentQueriesFunction(queries, constantPool, name) {\n var e_3, _a;\n var createStatements = [];\n var updateStatements = [];\n var tempAllocator = temporaryAllocator(updateStatements, TEMPORARY_NAME);\n try {\n for (var queries_1 = __values(queries), queries_1_1 = queries_1.next(); !queries_1_1.done; queries_1_1 = queries_1.next()) {\n var query = queries_1_1.value;\n var queryInstruction = query.static ? Identifiers$1.staticContentQuery : Identifiers$1.contentQuery;\n // creation, e.g. r3.contentQuery(dirIndex, somePredicate, true, null);\n createStatements.push(importExpr(queryInstruction)\n .callFn(__spread([variable('dirIndex')], prepareQueryParams(query, constantPool)))\n .toStmt());\n // update, e.g. (r3.queryRefresh(tmp = r3.loadQuery()) && (ctx.someDir = tmp));\n var temporary = tempAllocator();\n var getQueryList = importExpr(Identifiers$1.loadQuery).callFn([]);\n var refresh = importExpr(Identifiers$1.queryRefresh).callFn([temporary.set(getQueryList)]);\n var updateDirective = variable(CONTEXT_NAME)\n .prop(query.propertyName)\n .set(query.first ? temporary.prop('first') : temporary);\n updateStatements.push(refresh.and(updateDirective).toStmt());\n }\n }\n catch (e_3_1) { e_3 = { error: e_3_1 }; }\n finally {\n try {\n if (queries_1_1 && !queries_1_1.done && (_a = queries_1.return)) _a.call(queries_1);\n }\n finally { if (e_3) throw e_3.error; }\n }\n var contentQueriesFnName = name ? name + \"_ContentQueries\" : null;\n return fn([\n new FnParam(RENDER_FLAGS, NUMBER_TYPE), new FnParam(CONTEXT_NAME, null),\n new FnParam('dirIndex', null)\n ], [\n renderFlagCheckIfStmt(1 /* Create */, createStatements),\n renderFlagCheckIfStmt(2 /* Update */, updateStatements)\n ], INFERRED_TYPE, null, contentQueriesFnName);\n }\n function stringAsType(str) {\n return expressionType(literal(str));\n }\n function stringMapAsType(map) {\n var mapValues = Object.keys(map).map(function (key) {\n var value = Array.isArray(map[key]) ? map[key][0] : map[key];\n return {\n key: key,\n value: literal(value),\n quoted: true,\n };\n });\n return expressionType(literalMap(mapValues));\n }\n function stringArrayAsType(arr) {\n return arr.length > 0 ? expressionType(literalArr(arr.map(function (value) { return literal(value); }))) :\n NONE_TYPE;\n }\n function createDirectiveTypeParams(meta) {\n // On the type side, remove newlines from the selector as it will need to fit into a TypeScript\n // string literal, which must be on one line.\n var selectorForType = meta.selector !== null ? meta.selector.replace(/\\n/g, '') : null;\n return [\n typeWithParameters(meta.type.type, meta.typeArgumentCount),\n selectorForType !== null ? stringAsType(selectorForType) : NONE_TYPE,\n meta.exportAs !== null ?

```
stringArrayAsType(meta.exportAs) : NONE_TYPE,\n            stringMapAsType(meta.inputs),\n
stringMapAsType(meta.outputs),\n            stringArrayAsType(meta.queries.map(function
 (q) { return q.propertyName; })),\n        ];\n    }\n    // Define and update any view queries\n    function
createViewQueriesFunction(viewQueries, constantPool, name) {\n        var createStatements = [];\n        var
updateStatements = [];\n        var tempAllocator = temporaryAllocator(updateStatements,
TEMPORARY_NAME);\n        viewQueries.forEach(function (query) {\n            var queryInstruction = query.static
? Identifiers$1.staticViewQuery : Identifiers$1.viewQuery;\n            // creation, e.g. r3.viewQuery(somePredicate,
true);\n            var queryDefinition = importExpr(queryInstruction).callFn(prepareQueryParams(query,
constantPool));\n            createStatements.push(queryDefinition.toStmt());\n            // update, e.g.
(r3.queryRefresh(tmp = r3.loadQuery()) && (ctx.someDir = tmp));\n            var temporary = tempAllocator();\n
  var getQueryList = importExpr(Identifiers$1.loadQuery).callFn([]);\n            var refresh =
importExpr(Identifiers$1.queryRefresh).callFn([temporary.set(getQueryList)]);\n
            var updateDirective = variable(CONTEXT_NAME)\n                .prop(query.propertyName)\n
.set(query.first ? temporary.prop('first') : temporary);\n
updateStatements.push(refresh.and(updateDirective).toStmt());\n        });\n        var viewQueryFnName = name ?
name + \"_Query\" : null;\n        return fn([new FnParam(RENDER_FLAGS, NUMBER_TYPE), new
FnParam(CONTEXT_NAME, null)], [\n            renderFlagCheckIfStmt(1 /* Create */, createStatements),\n
renderFlagCheckIfStmt(2 /* Update */, updateStatements)\n        ], INFERRED_TYPE, null, viewQueryFnName);\n
  }\n    // Return a host binding function or null if one is not necessary.\n    function
createHostBindingsFunction(hostBindingsMetadata, typeSourceSpan, bindingParser, constantPool, selector, name,
definitionMap) {\n        var bindingContext = variable(CONTEXT_NAME);\n        var styleBuilder = new
StylingBuilder(bindingContext);\n
        var _a = hostBindingsMetadata.specialAttributes, styleAttr = _a.styleAttr, classAttr = _a.classAttr;\n        if
(styleAttr !== undefined) {\n            styleBuilder.registerStyleAttr(styleAttr);\n        }\n        if (classAttr !==
undefined) {\n            styleBuilder.registerClassAttr(classAttr);\n        }\n        var createStatements = [];\n        var
updateStatements = [];\n        var hostBindingSourceSpan = typeSourceSpan;\n        var directiveSummary =
metadataAsSummary(hostBindingsMetadata);\n        // Calculate host event bindings\n        var eventBindings =
bindingParser.createDirectiveHostEventAsts(directiveSummary, hostBindingSourceSpan);\n        if (eventBindings
&& eventBindings.length) {\n            var listeners = createHostListeners(eventBindings, name);\n
createStatements.push.apply(createStatements, __spread(listeners));\n        }\n        // Calculate the host property
bindings\n        var bindings = bindingParser.createBoundHostProperties(directiveSummary,
 hostBindingSourceSpan);\n        var allOtherBindings = [];\n        // We need to calculate the total amount of
binding slots required by\n        // all the instructions together before any value conversions happen.\n        // Value
conversions may require additional slots for interpolation and\n        // bindings with pipes. These calculates happen
after this block.\n        var totalHostVarsCount = 0;\n        bindings && bindings.forEach(function (binding) {\n
  var stylingInputWasSet = styleBuilder.registerInputBasedOnName(binding.name, binding.expression,
hostBindingSourceSpan);\n            if (stylingInputWasSet) {\n                totalHostVarsCount +=
MIN_STYLING_BINDING_SLOTS_REQUIRED;\n            }\n            else {\n
allOtherBindings.push(binding);\n                totalHostVarsCount++;\n            }\n        });\n        var
valueConverter;\n        var getValueConverter = function () {\n
            if (!valueConverter) {\n                var hostVarsCountFn = function (numSlots) {\n                    var
originalVarsCount = totalHostVarsCount;\n                    totalHostVarsCount += numSlots;\n                    return
originalVarsCount;\n                };\n                valueConverter = new ValueConverter(constantPool, function () {
return error('Unexpected node'); }, // new nodes are illegal here\n                    hostVarsCountFn, function () { return
error('Unexpected pipe'); }); // pipes are illegal here\n            }\n            return valueConverter;\n        };\n        var
propertyBindings = [];\n        var attributeBindings = [];\n        var syntheticHostBindings = [];\n
allOtherBindings.forEach(function (binding) {\n            // resolve literal arrays and literal objects\n            var value
= binding.expression.visit(getValueConverter());\n            var bindingExpr = bindingFn(bindingContext, value);\n
```

```
var _a = getBindingNameAndInstruction(binding),
 bindingName = _a.bindingName, instruction = _a.instruction, isAttribute = _a.isAttribute;\n            var
securityContexts = bindingParser.calcPossibleSecurityContexts(selector, bindingName, isAttribute)\n
.filter(function (context) { return context !== SecurityContext.NONE; });\n            var sanitizerFn = null;\n            if
(securityContexts.length) {\n                if (securityContexts.length === 2 &&\n
securityContexts.indexOf(SecurityContext.URL) > -1 &&\n
securityContexts.indexOf(SecurityContext.RESOURCE_URL) > -1) {\n                    // Special case for some URL
attributes (such as \"src\" and \"href\") that may be a part\n                    // of different security contexts. In this case
we use special santitization function and\n                    // select the actual sanitizer at runtime based on a tag name
that is provided while\n                    // invoking sanitization function.\n
                    sanitizerFn = importExpr(Identifiers$1.sanitizeUrlOrResourceUrl);\n                }\n                else {\n
                sanitizerFn = resolveSanitizationFn(securityContexts[0], isAttribute);\n                }\n            }\n            var
instructionParams = [literal(bindingName), bindingExpr.currValExpr];\n            if (sanitizerFn) {\n
instructionParams.push(sanitizerFn);\n            }\n            updateStatements.push.apply(updateStatements,
__spread(bindingExpr.stmts));\n            if (instruction === Identifiers$1.hostProperty) {\n
propertyBindings.push(instructionParams);\n            }\n            else if (instruction === Identifiers$1.attribute) {\n
                attributeBindings.push(instructionParams);\n            }\n            else if (instruction ===
Identifiers$1.syntheticHostProperty) {\n                syntheticHostBindings.push(instructionParams);\n            }\n
 else {\n
   updateStatements.push(importExpr(instruction).callFn(instructionParams).toStmt());\n            }\n        });\n        if
(propertyBindings.length > 0) {\n            updateStatements.push(chainedInstruction(Identifiers$1.hostProperty,
propertyBindings).toStmt());\n        }\n        if (attributeBindings.length > 0) {\n
updateStatements.push(chainedInstruction(Identifiers$1.attribute, attributeBindings).toStmt());\n        }\n        if
(syntheticHostBindings.length > 0) {\n
updateStatements.push(chainedInstruction(Identifiers$1.syntheticHostProperty, syntheticHostBindings).toStmt());\n
    }\n        // since we're dealing with directives/components and both have hostBinding\n        // functions, we need
to generate a special hostAttrs instruction that deals\n        // with both the assignment of styling as well as static
attributes to the host\n        // element. The instruction below will instruct all initial styling (styling\n        // that is
inside
 of a host binding within a directive/component) to be attached\n        // to the host element alongside any of the
provided host attributes that were\n        // collected earlier.\n        var hostAttrs =
convertAttributesToExpressions(hostBindingsMetadata.attributes);\n        styleBuilder.assignHostAttrs(hostAttrs,
definitionMap);\n        if (styleBuilder.hasBindings) {\n            // finally each binding that was registered in the
statement above will need to be added to\n            // the update block of a component/directive
templateFn/hostBindingsFn so that the bindings\n            // are evaluated and updated for the element.\n
styleBuilder.buildUpdateLevelInstructions(getValueConverter()).forEach(function (instruction) {\n                if
(instruction.calls.length > 0) {\n                    var calls_1 = [];\n                    instruction.calls.forEach(function (call)
{\n                        // we subtract a value of `1` here because the binding slot
 was already allocated\n                        // at the top of this method when all the input bindings were counted.\n
            totalHostVarsCount +=\n                            Math.max(call.allocateBindingSlots -
MIN_STYLING_BINDING_SLOTS_REQUIRED, 0);\n                        calls_1.push(convertStylingCall(call,
bindingContext, bindingFn));\n                    });\n
updateStatements.push(chainedInstruction(instruction.reference, calls_1).toStmt());\n                }\n            });\n
}\n        if (totalHostVarsCount) {\n            definitionMap.set('hostVars', literal(totalHostVarsCount));\n        }\n
if (createStatements.length > 0 || updateStatements.length > 0) {\n            var hostBindingsFnName = name ? name +
\"_HostBindings\" : null;\n            var statements = [];\n            if (createStatements.length > 0) {\n
statements.push(renderFlagCheckIfStmt(1 /* Create */, createStatements));\n            }\n
```

```
if (updateStatements.length > 0) {\n statements.push(renderFlagCheckIfStmt(2 /* Update */, updateStatements));\n }\n return fn([new FnParam(RENDER_FLAGS, NUMBER_TYPE), new FnParam(CONTEXT_NAME, null)], statements, INFERRED_TYPE, null, hostBindingsFnName);\n }\n return null;\n }\n function bindingFn(implicit, value) {\n return convertPropertyBinding(null, implicit, value, 'b', BindingForm.Expression, function () { return error('Unexpected interpolation'); });\n }\n function convertStylingCall(call, bindingContext, bindingFn) {\n return call.params(function (value) { return bindingFn(bindingContext, value).currValExpr; });\n }\n function getBindingNameAndInstruction(binding) {\n var bindingName = binding.name;\n var instruction;\n // Check to see if this is an attr binding or a property binding\n var attrMatches = bindingName.match(ATTR_REGEX);\n if (attrMatches) {\n bindingName = attrMatches[1];\n instruction = Identifiers$1.attribute;\n }\n else {\n if (binding.isAnimation) {\n bindingName = prepareSyntheticPropertyName(bindingName);\n // host bindings that have a synthetic property (e.g. @foo) should always be rendered\n // in the context of the component and not the parent. Therefore there is a special\n // compatibility instruction available for this purpose.\n instruction = Identifiers$1.syntheticHostProperty;\n }\n else {\n instruction = Identifiers$1.hostProperty;\n }\n }\n return { bindingName: bindingName, instruction: instruction, isAttribute: !!attrMatches };\n }\n function createHostListeners(eventBindings, name) {\n var listeners = [];\n var syntheticListeners = [];\n var instructions = [];\n eventBindings.forEach(function (binding) {\n var bindingName = binding.name && sanitizeIdentifier(binding.name);\n var bindingFnName = binding.type === 1 /* Animation */ ?\n prepareSyntheticListenerFunctionName(bindingName, binding.targetOrPhase) :\n bindingName;\n var handlerName = name && bindingName ? name + \"_\" + bindingFnName + \"_HostBindingHandler\" : null;\n var params = prepareEventListenerParameters(BoundEvent.fromParsedEvent(binding), handlerName);\n if (binding.type == 1 /* Animation */) {\n syntheticListeners.push(params);\n }\n else {\n listeners.push(params);\n }\n });\n if (syntheticListeners.length > 0) {\n instructions.push(chainedInstruction(Identifiers$1.syntheticHostListener, syntheticListeners).toStmt());\n }\n if (listeners.length > 0) {\n instructions.push(chainedInstruction(Identifiers$1.listener, listeners).toStmt());\n }\n return instructions;\n }\n function metadataAsSummary(meta) {\n // clang-format off\n return {\n // This is used by the BindingParser, which only deals with listeners and properties. There's no\n // need to pass attributes to it.\n hostAttributes: {},\n hostListeners: meta.listeners,\n hostProperties: meta.properties,\n };\n // clang-format on\n }\n function typeMapToExpressionMap(map, outputCtx) {\n // Convert each map entry into another entry where the value is an expression importing the type.\n var entries = Array.from(map).map(function (_a) {\n var _b = __read(_a, 2), key = _b[0], type = _b[1];\n return [key, outputCtx.importExpr(type)];\n });\n return new Map(entries);\n }\n var HOST_REG_EXP$1 = /^(?:\\[([^\\]]+)\\])|(?:\\(([^\\)]+)\\))$/;\n function parseHostBindings(host)
{\n var e_4, _a;\n var attributes = {};\n var listeners = {};\n var properties = {};\n var specialAttributes = {};\n try {\n for (var _b = __values(Object.keys(host)), _c = _b.next(); !_c.done; _c = _b.next()) {\n var key = _c.value;\n var value = host[key];\n var matches = key.match(HOST_REG_EXP$1);\n if (matches === null) {\n switch (key) {\n case 'class':\n if (typeof value !== 'string') {\n // TODO(alxhub): make this a diagnostic.\n throw new Error(\"Class binding must be string\");\n }\n specialAttributes.classAttr = value;\n break;\n case 'style':\n if (typeof value !== 'string') {\n // TODO(alxhub): make this a diagnostic.\n throw new Error(\"Style binding must be string\");\n }\n specialAttributes.styleAttr = value;\n break;\n default:\n if (typeof value === 'string') {\n attributes[key] = literal(value);\n }\n else {\n attributes[key] = value;\n }\n }\n }\n else if (matches[1 /* Binding */] != null) {\n if (typeof
```

value !== 'string') {\n // TODO(alxhub): make this a diagnostic.\n throw new Error(\"Property binding must be string\");\n }\n // synthetic properties (the ones that have a `@` as a prefix)\n // are still treated the same as regular properties. Therefore\n // there is no point in storing them in a separate map.\n properties[matches[1 /* Binding */]] = value;\n }\n else if (matches[2 /* Event */] != null) {\n if (typeof value !== 'string') {\n // TODO(alxhub): make this a diagnostic.\n throw new Error(\"Event binding must be string\");\n }\n listeners[matches[2 /* Event */]] = value;\n }\n }\n }\n catch (e_4_1) { e_4 = { error: e_4_1 }; }\n finally {\n try {\n if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n }\n finally { if (e_4) throw e_4.error; }\n }\n return { attributes: attributes, listeners: listeners, properties: properties, specialAttributes: specialAttributes };\n }\n /**\n * Verifies host bindings and returns the list of errors (if any). Empty array indicates that a\n * given set of host bindings has no errors.\n *\n * @param bindings set of host bindings to verify.\n * @param sourceSpan source span where host bindings were defined.\n * @returns array of errors associated with a given set of host bindings.\n */\n function verifyHostBindings(bindings, sourceSpan) {\n var summary = metadataAsSummary(bindings);\n // TODO: abstract out host bindings verification logic and use it instead of\n // creating events and properties ASTs to detect errors (FW-996)\n var bindingParser = makeBindingParser();\n bindingParser.createDirectiveHostEventAsts(summary, sourceSpan);\n bindingParser.createBoundHostProperties(summary, sourceSpan);\n return bindingParser.errors;\n }\n function compileStyles(styles, selector, hostSelector) {\n var shadowCss = new ShadowCss();\n return styles.map(function (style) {\n return shadowCss.shimCssText(style, selector, hostSelector);\n });\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * An interface for retrieving documents by URL that the compiler uses\n * to load templates.\n */\n var ResourceLoader = /** @class */ (function () {\n function ResourceLoader() {\n }\n ResourceLoader.prototype.get = function (url) {\n return '';\n };\n return ResourceLoader;\n }());\n\n var CompilerFacadeImpl = /** @class */ (function () {\n function CompilerFacadeImpl(jitEvaluator) {\n if (jitEvaluator === void 0) { jitEvaluator = new JitEvaluator(); }\n this.jitEvaluator = jitEvaluator;\n this.R3ResolvedDependencyType = exports.R3ResolvedDependencyType;\n this.R3FactoryTarget = exports.R3FactoryTarget;\n this.ResourceLoader = ResourceLoader;\n this.elementSchemaRegistry = new DomElementSchemaRegistry();\n }\n CompilerFacadeImpl.prototype.compilePipe = function (angularCoreEnv, sourceMapUrl, facade) {\n var metadata = {\n name: facade.name,\n type: wrapReference$1(facade.type),\n internalType: new WrappedNodeExpr(facade.type),\n typeArgumentCount: facade.typeArgumentCount,\n deps: convertR3DependencyMetadataArray(facade.deps),\n pipeName: facade.pipeName,\n pure: facade.pure,\n };\n var res = compilePipeFromMetadata(metadata);\n return this.jitExpression(res.expression, angularCoreEnv, sourceMapUrl, []);\n };\n CompilerFacadeImpl.prototype.compileInjectable = function (angularCoreEnv, sourceMapUrl, facade) {\n var _a = compileInjectable({\n name: facade.name,\n type: wrapReference$1(facade.type),\n internalType: new WrappedNodeExpr(facade.type),\n typeArgumentCount: facade.typeArgumentCount,\n providedIn: computeProvidedIn(facade.providedIn),\n useClass: wrapExpression(facade, USE_CLASS),\n useFactory: wrapExpression(facade, USE_FACTORY),\n useValue: wrapExpression(facade, USE_VALUE),\n useExisting: wrapExpression(facade, USE_EXISTING),\n userDeps: convertR3DependencyMetadataArray(facade.userDeps) || undefined,\n }), expression = _a.expression, statements = _a.statements;\n return this.jitExpression(expression, angularCoreEnv, sourceMapUrl, statements);\n };\n CompilerFacadeImpl.prototype.compileInjector = function (angularCoreEnv,

sourceMapUrl, facade) {\n
var meta = {\n name: facade.name,\n type: wrapReference$1(facade.type),\n
internalType: new WrappedNodeExpr(facade.type),\n deps:
convertR3DependencyMetadataArray(facade.deps),\n providers: new
WrappedNodeExpr(facade.providers),\n imports: facade.imports.map(function (i) { return new
WrappedNodeExpr(i); }),\n };\n var res = compileInjector(meta);\n return
this.jitExpression(res.expression, angularCoreEnv, sourceMapUrl, res.statements);\n };\n
CompilerFacadeImpl.prototype.compileNgModule = function (angularCoreEnv, sourceMapUrl, facade) {\n
var meta = {\n type: wrapReference$1(facade.type),\n internalType: new
WrappedNodeExpr(facade.type),\n adjacentType: new WrappedNodeExpr(facade.type),\n
bootstrap: facade.bootstrap.map(wrapReference$1),\n declarations:
facade.declarations.map(wrapReference$1),\n
imports: facade.imports.map(wrapReference$1),\n exports:
facade.exports.map(wrapReference$1),\n emitInline: true,\n containsForwardDecls: false,\n
schemas: facade.schemas ? facade.schemas.map(wrapReference$1) : null,\n id: facade.id ? new
WrappedNodeExpr(facade.id) : null,\n };\n var res = compileNgModule(meta);\n return
this.jitExpression(res.expression, angularCoreEnv, sourceMapUrl, []);\n };\n
CompilerFacadeImpl.prototype.compileDirective = function (angularCoreEnv, sourceMapUrl, facade) {\n
var constantPool = new ConstantPool();\n var bindingParser = makeBindingParser();\n var meta =
convertDirectiveFacadeToMetadata(facade);\n var res = compileDirectiveFromMetadata(meta, constantPool,
bindingParser);\n return this.jitExpression(res.expression, angularCoreEnv,
sourceMapUrl, constantPool.statements);\n };\n CompilerFacadeImpl.prototype.compileComponent =
function (angularCoreEnv, sourceMapUrl, facade) {\n // The ConstantPool is a requirement of the JIT'er.\n
var constantPool = new ConstantPool();\n var interpolationConfig = facade.interpolation ?\n
InterpolationConfig.fromArray(facade.interpolation) :\n DEFAULT_INTERPOLATION_CONFIG;\n
// Parse the template and check for errors.\n var template = parseTemplate(facade.template, sourceMapUrl, {
preserveWhitespaces: facade.preserveWhitespaces, interpolationConfig: interpolationConfig });\n if
(template.errors !== null) {\n var errors = template.errors.map(function (err) { return err.toString();
}).join(', ');\n throw new Error(\"Errors during JIT compilation of template for \" + facade.name + \": \" +
errors);\n }\n // Compile the component
metadata, including template, into an expression.\n // TODO(alxhub): implement inputs, outputs, queries,
etc.\n var metadata = Object.assign(Object.assign(Object.assign({}, facade),
convertDirectiveFacadeToMetadata(facade)), { selector: facade.selector ||
this.elementSchemaRegistry.getDefaultComponentElementName(), template: template,
wrapDirectivesAndPipesInClosure: false, styles: __spread(facade.styles, template.styles), encapsulation:
facade.encapsulation, interpolation: interpolationConfig, changeDetection: facade.changeDetection, animations:
facade.animations != null ? new WrappedNodeExpr(facade.animations) : null, viewProviders: facade.viewProviders
!= null ? new WrappedNodeExpr(facade.viewProviders) :\n null, relativeContextFilePath: '',
i18nUseExternalIds: true });\n var res = compileComponentFromMetadata(metadata, constantPool,
makeBindingParser(interpolationConfig));\n var jitExpressionSourceMap = \"ng:///\"
+ facade.name + \".js\";\n return this.jitExpression(res.expression, angularCoreEnv,
jitExpressionSourceMap, constantPool.statements);\n };\n CompilerFacadeImpl.prototype.compileFactory
= function (angularCoreEnv, sourceMapUrl, meta) {\n var factoryRes = compileFactoryFunction({\n
name: meta.name,\n type: wrapReference$1(meta.type),\n internalType: new
WrappedNodeExpr(meta.type),\n typeArgumentCount: meta.typeArgumentCount,\n deps:
convertR3DependencyMetadataArray(meta.deps),\n injectFn: meta.injectFn === 'directiveInject' ?
Identifiers.directiveInject :\n Identifiers.inject,\n target: meta.target,\n });\n return
this.jitExpression(factoryRes.factory, angularCoreEnv, sourceMapUrl, factoryRes.statements);\n };\n

CompilerFacadeImpl.prototype.createParseSourceSpan = function (kind, typeName, sourceUrl) {\n return r3JitTypeSourceSpan(kind, typeName, sourceUrl);\n };\n /**\n * JIT compiles an expression and returns the result of executing that expression.\n *\n * @param def the definition which will be compiled and executed to get the value to patch\n * @param context an object map of @angular/core symbol names to symbols which will be available\n * in the context of the compiled expression\n * @param sourceUrl a URL to use for the source map of the compiled expression\n * @param preStatements a collection of statements that should be evaluated before the expression.\n */\n CompilerFacadeImpl.prototype.jitExpression = function (def, context, sourceUrl, preStatements) {\n // The ConstantPool may contain Statements which declare variables used in the final expression.\n // Therefore, its statements need to precede the actual JIT operation. The final statement is a\n // declaration of $def which is set to the expression being compiled.\n var statements = __spread(preStatements, [\n new DeclareVarStmt('$def', def, undefined, [exports.StmtModifier.Exported]),\n ]);\n var res = this.jitEvaluator.evaluateStatements(sourceUrl, statements, new R3JitReflector(context), /* enableSourceMaps */ true);\n return res['$def'];\n };\n return CompilerFacadeImpl;\n }());\n var USE_CLASS = Object.keys({ useClass: null })[0];\n var USE_FACTORY = Object.keys({ useFactory: null })[0];\n var USE_VALUE = Object.keys({ useValue: null })[0];\n var USE_EXISTING = Object.keys({ useExisting: null })[0];\n var wrapReference$1 = function (value) {\n var wrapped = new WrappedNodeExpr(value);\n return { value: wrapped, type: wrapped };\n };\n function convertToR3QueryMetadata(facade) {\n return Object.assign(Object.assign({}, facade), { predicate: Array.isArray(facade.predicate) ? facade.predicate :\n new WrappedNodeExpr(facade.predicate), read: facade.read ? new WrappedNodeExpr(facade.read) : null, static: facade.static });\n }\n function convertDirectiveFacadeToMetadata(facade) {\n var inputsFromMetadata = parseInputOutputs(facade.inputs || []);\n var outputsFromMetadata = parseInputOutputs(facade.outputs || []);\n var propMetadata = facade.propMetadata;\n var inputsFromType = {};\n var outputsFromType = {};\n var _loop_1 = function (field) {\n if (propMetadata.hasOwnProperty(field)) {\n propMetadata[field].forEach(function (ann) {\n if (isInput(ann)) {\n inputsFromType[field] =\n ann.bindingPropertyName ? [ann.bindingPropertyName, field] : field;\n }\n else if (isOutput(ann)) {\n outputsFromType[field] = ann.bindingPropertyName\n || field;\n }\n });\n }\n };\n for (var field in propMetadata) {\n _loop_1(field);\n }\n return Object.assign(Object.assign({}, facade), { typeSourceSpan: facade.typeSourceSpan, type: wrapReference$1(facade.type), internalType: new WrappedNodeExpr(facade.type), deps: convertR3DependencyMetadataArray(facade.deps), host: extractHostBindings(facade.propMetadata, facade.typeSourceSpan, facade.host), inputs: Object.assign(Object.assign({}, inputsFromMetadata), inputsFromType), outputs: Object.assign(Object.assign({}, outputsFromMetadata), outputsFromType), queries: facade.queries.map(convertToR3QueryMetadata), providers: facade.providers != null ? new WrappedNodeExpr(facade.providers) : null, viewQueries: facade.viewQueries.map(convertToR3QueryMetadata), fullInheritance: false });\n }\n function wrapExpression(obj, property) {\n if (obj.hasOwnProperty(property)) {\n return new WrappedNodeExpr(obj[property]);\n }\n else {\n return undefined;\n }\n }\n function computeProvidedIn(providedIn) {\n if (providedIn == null || typeof providedIn === 'string') {\n return new LiteralExpr(providedIn);\n }\n else {\n return new WrappedNodeExpr(providedIn);\n }\n }\n function convertR3DependencyMetadata(facade) {\n var tokenExpr;\n if (facade.token === null) {\n tokenExpr = new LiteralExpr(null);\n }\n else if (facade.resolved === exports.R3ResolvedDependencyType.Attribute) {\n tokenExpr = new LiteralExpr(facade.token);\n }\n else {\n tokenExpr = new WrappedNodeExpr(facade.token);\n }\n return {\n token: tokenExpr,\n attribute: null,\n resolved: facade.resolved,\n host: facade.host,\n optional: facade.optional,\n self:

```
facade.self,\n            skipSelf: facade.skipSelf,\n        };\n    }\n    function
convertR3DependencyMetadataArray(facades) {\n        return facades == null ? null :
facades.map(convertR3DependencyMetadata);\n    }\n    function extractHostBindings(propMetadata, sourceSpan,
host) {\n        // First parse the declarations from the metadata.\n        var bindings = parseHostBindings(host || {});\n
    // After that check host bindings for errors\n        var errors = verifyHostBindings(bindings, sourceSpan);\n        if
(errors.length) {\n            throw new Error(errors.map(function (error) { return error.msg; }).join('\\n'));\n        }\n
 var _loop_2 = function (field) {\n            if (propMetadata.hasOwnProperty(field)) {\n
propMetadata[field].forEach(function (ann) {\n                if (isHostBinding(ann)) {\n
bindings.properties[ann.hostPropertyName || field] = field;\n                }\n                else if
 (isHostListener(ann)) {\n                    bindings.listeners[ann.eventName || field] = field + \"(\" + (ann.args ||
[]).join(',') + \")\";\n                }\n            });\n        };\n        // Next, loop over the properties of the
object, looking for @HostBinding and @HostListener.\n        for (var field in propMetadata) {\n
_loop_2(field);\n        }\n        return bindings;\n    }\n    function isHostBinding(value) {\n        return
value.ngMetadataName === 'HostBinding';\n    }\n    function isHostListener(value) {\n        return
value.ngMetadataName === 'HostListener';\n    }\n    function isInput(value) {\n        return value.ngMetadataName
=== 'Input';\n    }\n    function isOutput(value) {\n        return value.ngMetadataName === 'Output';\n    }\n
function parseInputOutputs(values) {\n        return values.reduce(function (map, value) {\n            var _a =
__read(value.split(',').map(function (piece) { return piece.trim();
 }), 2), field = _a[0], property = _a[1];\n            map[field] = property || field;\n            return map;\n        }, {});\n
}\n    function publishFacade(global) {\n        var ng = global.ng || (global.ng = {});\n        ng.compilerFacade = new
CompilerFacadeImpl();\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n
 * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at
https://angular.io/license\n     */\n    var VERSION$1 = new Version('11.0.5');\n\n    /**\n     * @license\n     *
Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style
license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var CompilerConfig =
/** @class */ (function () {\n        function CompilerConfig(_a) {\n            var _b = _a === void 0 ? {} : _a, _c =
_b.defaultEncapsulation, defaultEncapsulation
 = _c === void 0 ? ViewEncapsulation.Emulated : _c, _d = _b.useJit, useJit = _d === void 0 ? true : _d, _e =
_b.jitDevMode, jitDevMode = _e === void 0 ? false : _e, _f = _b.missingTranslation, missingTranslation = _f ===
void 0 ? null : _f, preserveWhitespaces = _b.preserveWhitespaces, strictInjectionParameters =
_b.strictInjectionParameters;\n            this.defaultEncapsulation = defaultEncapsulation;\n            this.useJit =
!!useJit;\n            this.jitDevMode = !!jitDevMode;\n            this.missingTranslation = missingTranslation;\n
this.preserveWhitespaces = preserveWhitespacesDefault(noUndefined(preserveWhitespaces));\n
this.strictInjectionParameters = strictInjectionParameters === true;\n        }\n        return CompilerConfig;\n    }());\n
  function preserveWhitespacesDefault(preserveWhitespacesOption, defaultSetting) {\n        if (defaultSetting ===
void 0) { defaultSetting = false; }\n        return preserveWhitespacesOption === null ? defaultSetting
 : preserveWhitespacesOption;\n    }\n\n    var DirectiveNormalizer = /** @class */ (function () {\n        function
DirectiveNormalizer(_resourceLoader, _urlResolver, _htmlParser, _config) {\n            this._resourceLoader =
_resourceLoader;\n            this._urlResolver = _urlResolver;\n            this._htmlParser = _htmlParser;\n
this._config = _config;\n            this._resourceLoaderCache = new Map();\n        }\n
DirectiveNormalizer.prototype.clearCache = function () {\n            this._resourceLoaderCache.clear();\n        };\n
DirectiveNormalizer.prototype.clearCacheFor = function (normalizedDirective) {\n            var _this = this;\n
if (!normalizedDirective.isComponent) {\n                return;\n            }\n            var template =
normalizedDirective.template;\n            this._resourceLoaderCache.delete(template.templateUrl);\n
template.externalStylesheets.forEach(function (stylesheet) {\n
  _this._resourceLoaderCache.delete(stylesheet.moduleUrl);\n            });\n        };\n
DirectiveNormalizer.prototype._fetch = function (url) {\n            var result = this._resourceLoaderCache.get(url);\n
        if (!result) {\n                result = this._resourceLoader.get(url);\n                this._resourceLoaderCache.set(url,
```

result);\n }\n return result;\n };\n DirectiveNormalizer.prototype.normalizeTemplate = function (prenormData) {\n var _this = this;\n if (isDefined(prenormData.template)) {\n if (isDefined(prenormData.templateUrl)) {\n throw syntaxError(\"\"\" + stringify(prenormData\n .componentType) + \"' component cannot define both template and templateUrl\");\n }\n if (typeof prenormData.template !== 'string') {\n throw syntaxError(\"The template specified for component \" + stringify(prenormData.componentType)\n + \" is not a string\");\n }\n }\n else if (isDefined(prenormData.templateUrl)) {\n if (typeof prenormData.templateUrl !== 'string') {\n throw syntaxError(\"The templateUrl specified for component \" + stringify(prenormData.componentType) + \" is not a string\");\n }\n }\n else {\n throw syntaxError(\"No template specified for component \" + stringify(prenormData.componentType));\n }\n if (isDefined(prenormData.preserveWhitespaces) &&\n typeof prenormData.preserveWhitespaces !== 'boolean') {\n throw syntaxError(\"The preserveWhitespaces option for component \" + stringify(prenormData.componentType) + \" must be a boolean\");\n }\n return SyncAsync.then(this._preParseTemplate(prenormData), function (preparsedTemplate) { return _this._normalizeTemplateMetadata(prenormData, preparsedTemplate); });\n };\n DirectiveNormalizer.prototype._preParseTemplate = function (prenomData) {\n var _this = this;\n var template;\n var templateUrl;\n if (prenomData.template != null) {\n template = prenomData.template;\n templateUrl = prenomData.moduleUrl;\n }\n else {\n templateUrl = this._urlResolver.resolve(prenomData.moduleUrl, prenomData.templateUrl);\n template = this._fetch(templateUrl);\n }\n return SyncAsync.then(template, function (template) { return _this._preparseLoadedTemplate(prenomData, template, templateUrl); });\n };\n DirectiveNormalizer.prototype._preparseLoadedTemplate = function (prenormData, template, templateAbsUrl) {\n var isInline = !!prenormData.template;\n var interpolationConfig = InterpolationConfig.fromArray(prenormData.interpolation);\n var templateUrl = templateSourceUrl({ reference: prenormData.ngModuleType }, { type: { reference: prenormData.componentType } }, { isInline: isInline, templateUrl: templateAbsUrl });\n var rootNodesAndErrors = this._htmlParser.parse(template, templateUrl, { tokenizeExpansionForms: true, interpolationConfig: interpolationConfig });\n if (rootNodesAndErrors.errors.length > 0) {\n var errorString = rootNodesAndErrors.errors.join('\\n');\n throw syntaxError(\"Template parse errors:\\n\" + errorString);\n }\n var templateMetadataStyles = this._normalizeStylesheet(new CompileStylesheetMetadata({ styles: prenormData.styles, moduleUrl: prenormData.moduleUrl }));\n var visitor = new TemplatePreparseVisitor();\n visitAll$1(visitor, rootNodesAndErrors.rootNodes);\n var templateStyles = this._normalizeStylesheet(new CompileStylesheetMetadata({ styles: visitor.styles, styleUrls: visitor.styleUrls,\n moduleUrl: templateAbsUrl }));\n var styles = templateMetadataStyles.styles.concat(templateStyles.styles);\n var inlineStyleUrls = templateMetadataStyles.styleUrls.concat(templateStyles.styleUrls);\n var styleUrls = this\n ._normalizeStylesheet(new CompileStylesheetMetadata({ styleUrls: prenormData.styleUrls, moduleUrl: prenormData.moduleUrl }))\n .styleUrls;\n return {\n template: template,\n templateUrl: templateAbsUrl,\n isInline: isInline,\n htmlAst: rootNodesAndErrors,\n styles: styles,\n inlineStyleUrls: inlineStyleUrls,\n styleUrls: styleUrls,\n ngContentSelectors: visitor.ngContentSelectors,\n };\n };\n DirectiveNormalizer.prototype._normalizeTemplateMetadata = function (prenormData, preparsedTemplate) {\n var _this = this;\n return SyncAsync.then(this._loadMissingExternalStylesheets(preparsedTemplate.styleUrls.concat(preparsedTemplate.inlineStyleUrls)),\n function (externalStylesheets) { return _this._normalizeLoadedTemplateMetadata(prenormData, preparsedTemplate, externalStylesheets); });\n };\n

DirectiveNormalizer.prototype._normalizeLoadedTemplateMetadata = function (prenormData, preparsedTemplate, stylesheets) {\n var _this = this;\n // Algorithm:\n // - produce exactly 1 entry per original styleUrl in\n // CompileTemplateMetadata.externalStylesheets with all styles inlined\n // - inline all styles that are referenced by the template into CompileTemplateMetadata.styles.\n // Reason: be able to determine how many stylesheets there are even without loading\n // the template nor the stylesheets, so we can create a stub for TypeScript always synchronously\n // (as resource loading may be async)\n var styles = __spread(preparsedTemplate.styles);\n this._inlineStyles(preparsedTemplate.inlineStyleUrls, stylesheets, styles);\n var styleUrls = preparsedTemplate.styleUrls;\n var externalStylesheets = styleUrls.map(function (styleUrl) {\n var stylesheet = stylesheets.get(styleUrl);\n var styles = __spread(stylesheet.styles);\n _this._inlineStyles(stylesheet.styleUrls, stylesheets, styles);\n return new CompileStylesheetMetadata({ moduleUrl: styleUrl, styles: styles });\n });\n var encapsulation = prenormData.encapsulation;\n if (encapsulation == null) {\n encapsulation = this._config.defaultEncapsulation;\n }\n if (encapsulation === ViewEncapsulation.Emulated && styles.length === 0 &&\n styleUrls.length === 0) {\n encapsulation = ViewEncapsulation.None;\n }\n return new CompileTemplateMetadata({\n encapsulation: encapsulation,\n template: preparsedTemplate.template,\n templateUrl: preparsedTemplate.templateUrl,\n htmlAst: preparsedTemplate.htmlAst,\n styles: styles,\n styleUrls: styleUrls,\n ngContentSelectors: preparsedTemplate.ngContentSelectors,\n animations: prenormData.animations,\n interpolation: prenormData.interpolation,\n isInline: preparsedTemplate.isInline,\n externalStylesheets: externalStylesheets,\n preserveWhitespaces: preserveWhitespacesDefault(prenormData.preserveWhitespaces, this._config.preserveWhitespaces),\n });\n };\n DirectiveNormalizer.prototype._inlineStyles = function (styleUrls, stylesheets, targetStyles) {\n var _this = this;\n styleUrls.forEach(function (styleUrl) {\n var stylesheet = stylesheets.get(styleUrl);\n stylesheet.styles.forEach(function (style) { return targetStyles.push(style); });\n _this._inlineStyles(stylesheet.styleUrls, stylesheets, targetStyles);\n });\n };\n DirectiveNormalizer.prototype._loadMissingExternalStylesheets = function (styleUrls, loadedStylesheets) {\n var _this = this;\n if (loadedStylesheets === void 0) { loadedStylesheets = new Map(); }\n return SyncAsync.then(SyncAsync.all(styleUrls.filter(function (styleUrl) { return !loadedStylesheets.has(styleUrl); })\n .map(function (styleUrl) { return SyncAsync.then(_this._fetch(styleUrl), function (loadedStyle) {\n var stylesheet = _this._normalizeStylesheet(new CompileStylesheetMetadata({ styles: [loadedStyle], moduleUrl: styleUrl }));\n loadedStylesheets.set(styleUrl, stylesheet);\n return _this._loadMissingExternalStylesheets(stylesheet.styleUrls, loadedStylesheets);\n }); })), function (_) { return loadedStylesheets; });\n };\n DirectiveNormalizer.prototype._normalizeStylesheet = function (stylesheet) {\n var _this = this;\n var moduleUrl = stylesheet.moduleUrl;\n var allStyleUrls = stylesheet.styleUrls.filter(isStyleUrlResolvable)\n .map(function (url) { return _this._urlResolver.resolve(moduleUrl, url); });\n var allStyles = stylesheet.styles.map(function (style) {\n var styleWithImports = extractStyleUrls(_this._urlResolver, moduleUrl, style);\n allStyleUrls.push.apply(allStyleUrls, __spread(styleWithImports.styleUrls));\n return styleWithImports.style;\n });\n return new CompileStylesheetMetadata({ styles: allStyles, styleUrls: allStyleUrls, moduleUrl: moduleUrl });\n };\n return DirectiveNormalizer;\n }());\n var TemplatePreparseVisitor = /** @class */ (function () {\n function TemplatePreparseVisitor() {\n this.ngContentSelectors = [];\n this.styles = [];\n this.styleUrls = [];\n this.ngNonBindableStackCount = 0;\n }\n TemplatePreparseVisitor.prototype.visitElement = function (ast, context) {\n var preparsedElement = preparseElement(ast);\n switch (preparsedElement.type) {\n case PreparsedElementType.NG_CONTENT:\n if (this.ngNonBindableStackCount === 0) {\n

this.ngContentSelectors.push(preparsedElement.selectAttr);\n }\n break;\n case PreparsedElementType.STYLE:\n var textContent_1 = '';\n ast.children.forEach(function (child) {\n if (child instanceof Text$3) {\n textContent_1 += child.value;\n }\n });\n this.styles.push(textContent_1);\n break;\n case PreparsedElementType.STYLESHEET:\n this.styleUrls.push(preparsedElement.hrefAttr);\n break;\n default:\n break;\n }\n if (preparsedElement.nonBindable) {\n this.ngNonBindableStackCount++;\n }\n visitAll$1(this, ast.children);\n if (preparsedElement.nonBindable) {\n this.ngNonBindableStackCount--;\n }\n return null;\n };\n TemplatePreparseVisitor.prototype.visitExpansion = function (ast, context) {\n visitAll$1(this, ast.cases);\n };\n TemplatePreparseVisitor.prototype.visitExpansionCase = function (ast, context) {\n visitAll$1(this, ast.expression);\n };\n TemplatePreparseVisitor.prototype.visitComment = function (ast, context) {\n return null;\n };\n TemplatePreparseVisitor.prototype.visitAttribute = function (ast, context) {\n return null;\n };\n TemplatePreparseVisitor.prototype.visitText = function (ast, context) {\n return null;\n };\n return TemplatePreparseVisitor;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var QUERY_METADATA_IDENTIFIERS = [\n createViewChild,\n createViewChildren,\n createContentChild,\n createContentChildren,\n ];\n /*\n * Resolve a `Type` for {@link Directive}.\n *\n * This interface can be overridden by the application developer to create custom behavior.\n *\n * See {@link Compiler}\n */\n var DirectiveResolver = /** @class */ (function () {\n function DirectiveResolver(_reflector)\n {\n this._reflector = _reflector;\n }\n DirectiveResolver.prototype.isDirective = function (type) {\n var typeMetadata = this._reflector.annotations(resolveForwardRef(type));\n return typeMetadata && typeMetadata.some(isDirectiveMetadata);\n };\n DirectiveResolver.prototype.resolve = function (type, throwIfNotFound) {\n if (throwIfNotFound === void 0) { throwIfNotFound = true; }\n var typeMetadata = this._reflector.annotations(resolveForwardRef(type));\n if (typeMetadata) {\n var metadata = findLast(typeMetadata, isDirectiveMetadata);\n if (metadata) {\n var propertyMetadata = this._reflector.propMetadata(type);\n var guards = this._reflector.guards(type);\n return this._mergeWithPropertyMetadata(metadata, propertyMetadata, guards, type);\n }\n }\n if (throwIfNotFound)\n {\n throw new Error(\"No Directive annotation found on \" + stringify(type));\n }\n return null;\n };\n DirectiveResolver.prototype._mergeWithPropertyMetadata = function (dm, propertyMetadata, guards, directiveType) {\n var inputs = [];\n var outputs = [];\n var host = {};\n var queries = {};\n Object.keys(propertyMetadata).forEach(function (propName) {\n var input = findLast(propertyMetadata[propName], function (a) { return createInput.isTypeOf(a); });\n if (input) {\n if (input.bindingPropertyName) {\n inputs.push(propName + \": \" + input.bindingPropertyName);\n }\n else {\n inputs.push(propName);\n }\n }\n var output = findLast(propertyMetadata[propName], function (a) { return createOutput.isTypeOf(a);\n });\n if (output) {\n if (output.bindingPropertyName) {\n outputs.push(propName + \": \" + output.bindingPropertyName);\n }\n else {\n outputs.push(propName);\n }\n }\n var hostBindings = propertyMetadata[propName].filter(function (a) { return createHostBinding.isTypeOf(a); });\n hostBindings.forEach(function (hostBinding) {\n if (hostBinding.hostPropertyName) {\n var startWith = hostBinding.hostPropertyName[0];\n if (startWith === '(') {\n throw new Error(\"@HostBinding can not bind to events. Use @HostListener instead.\");\n }\n else if (startWith === '[') {\n throw new Error(\"@HostBinding parameter should be a property

name, 'class.<name>',
or 'attr.<name>'.\");\n }\n host[\"[\" + hostBinding.hostPropertyName + \"]\"] = propName;\n }\n else {\n host[\"[\" + propName + \"]\"] = propName;\n }\n });\n var hostListeners = propertyMetadata[propName].filter(function (a) { return createHostListener.isTypeOf(a); });\n hostListeners.forEach(function (hostListener) {\n var args = hostListener.args || [];\n host[\"(\" + hostListener.eventName + \")\"] = propName + \"(\" + args.join(',') + \")\";\n });\n var query = findLast(propertyMetadata[propName], function (a) { return QUERY_METADATA_IDENTIFIERS.some(function (i) { return i.isTypeOf(a); }); });\n if (query) {\n queries[propName] = query;\n }\n });\n return this._merge(dm,
inputs, outputs, host, queries, guards, directiveType);\n };\n DirectiveResolver.prototype._extractPublicName = function (def) {\n return splitAtColon(def, [null, def])[1].trim();\n };\n DirectiveResolver.prototype._dedupeBindings = function (bindings) {\n var names = new Set();\n var publicNames = new Set();\n var reversedResult = [];\n // go last to first to allow later entries to overwrite previous entries\n for (var i = bindings.length - 1; i >= 0; i--) {\n var binding = bindings[i];\n var name = this._extractPublicName(binding);\n publicNames.add(name);\n if (!names.has(name)) {\n names.add(name);\n reversedResult.push(binding);\n }\n }\n return reversedResult.reverse();\n };\n DirectiveResolver.prototype._merge = function (directive,
inputs, outputs, host, queries, guards, directiveType) {\n var mergedInputs = this._dedupeBindings(directive.inputs ? directive.inputs.concat(inputs) : inputs);\n var mergedOutputs = this._dedupeBindings(directive.outputs ? directive.outputs.concat(outputs) : outputs);\n var mergedHost = directive.host ? Object.assign(Object.assign({}, directive.host), host) : host;\n var mergedQueries = directive.queries ? Object.assign(Object.assign({}, directive.queries), queries) : queries;\n if (createComponent.isTypeOf(directive)) {\n var comp = directive;\n return createComponent({\n selector: comp.selector,\n inputs: mergedInputs,\n outputs: mergedOutputs,\n host: mergedHost,\n exportAs: comp.exportAs,\n moduleId: comp.moduleId,\n queries: mergedQueries,\n changeDetection: comp.changeDetection,\n providers: comp.providers,\n viewProviders: comp.viewProviders,\n entryComponents: comp.entryComponents,\n template: comp.template,\n templateUrl: comp.templateUrl,\n styles: comp.styles,\n styleUrls: comp.styleUrls,\n encapsulation: comp.encapsulation,\n animations: comp.animations,\n interpolation: comp.interpolation,\n preserveWhitespaces: directive.preserveWhitespaces,\n });\n }\n else {\n return createDirective({\n selector: directive.selector,\n inputs: mergedInputs,\n outputs: mergedOutputs,\n host: mergedHost,\n exportAs: directive.exportAs,\n queries: mergedQueries,\n providers: directive.providers,\n guards: guards\n });\n }\n };\n return DirectiveResolver;\n }());\n function isDirectiveMetadata(type) {\n return createDirective.isTypeOf(type) || createComponent.isTypeOf(type);\n }\n function findLast(arr, condition) {\n for (var i = arr.length - 1; i >= 0; i--) {\n if (condition(arr[i])) {\n return arr[i];\n }\n }\n return null;\n }\n\n /**\n * An i18n error.\n */\n var I18nError = /** @class */ (function (_super) {\n __extends(I18nError, _super);\n function I18nError(span, msg) {\n return _super.call(this, span, msg) || this;\n }\n return I18nError;\n }(ParseError));\n\n var _I18N_ATTR = 'i18n';\n var _I18N_ATTR_PREFIX = 'i18n-';\n var _I18N_COMMENT_PREFIX_REGEXP = /^i18n:?/;\n var MEANING_SEPARATOR = '|';\n var ID_SEPARATOR
= '@@';\n var i18nCommentsWarned = false;\n /**\n * Extract translatable messages from an html AST\n */\n function extractMessages(nodes, interpolationConfig, implicitTags, implicitAttrs) {\n var visitor = new _Visitor$2(implicitTags, implicitAttrs);\n return visitor.extract(nodes, interpolationConfig);\n }\n function mergeTranslations(nodes, translations, interpolationConfig, implicitTags, implicitAttrs) {\n var visitor = new

```
_Visitor$2(implicitTags, implicitAttrs);\n        return visitor.merge(nodes, translations, interpolationConfig);\n    }\n
 var ExtractionResult = /** @class */ (function () {\n        function ExtractionResult(messages, errors) {\n
this.messages = messages;\n            this.errors = errors;\n        }\n        return ExtractionResult;\n    }());\n    var
_VisitorMode;\n    (function (_VisitorMode) {\n        _VisitorMode[_VisitorMode[\"Extract\"] = 0] = \"Extract\";\n
    _VisitorMode[_VisitorMode[\"Merge\"]
 = 1] = \"Merge\";\n    })(_VisitorMode || (_VisitorMode = {}));\n    /**\n     * This Visitor is used:\n     * 1. to
extract all the translatable strings from an html AST (see `extract()`),\n     * 2. to replace the translatable strings with
the actual translations (see `merge()`)\n     *\n     * @internal\n     */\n    var _Visitor$2 = /** @class */ (function ()
{\n        function _Visitor(_implicitTags, _implicitAttrs) {\n            this._implicitTags = _implicitTags;\n
this._implicitAttrs = _implicitAttrs;\n        }\n        /**\n         * Extracts the messages from the tree\n         */\n
_Visitor.prototype.extract = function (nodes, interpolationConfig) {\n            var _this = this;\n
this._init(_VisitorMode.Extract, interpolationConfig);\n            nodes.forEach(function (node) { return
node.visit(_this, null); });\n            if (this._inI18nBlock) {\n                this._reportError(nodes[nodes.length - 1],
'Unclosed block');\n
        }\n            return new ExtractionResult(this._messages, this._errors);\n        };\n        /**\n         * Returns a
tree where all translatable nodes are translated\n         */\n        _Visitor.prototype.merge = function (nodes,
translations, interpolationConfig) {\n            this._init(_VisitorMode.Merge, interpolationConfig);\n
this._translations = translations;\n            // Construct a single fake root element\n            var wrapper = new
Element$1('wrapper', [], nodes, undefined, undefined, undefined);\n            var translatedNode = wrapper.visit(this,
null);\n            if (this._inI18nBlock) {\n                this._reportError(nodes[nodes.length - 1], 'Unclosed block');\n
    }\n            return new ParseTreeResult(translatedNode.children, this._errors);\n        };\n
_Visitor.prototype.visitExpansionCase = function (icuCase, context) {\n            // Parse cases for translatable html
attributes\n            var expression
 = visitAll$1(this, icuCase.expression, context);\n            if (this._mode === _VisitorMode.Merge) {\n
return new ExpansionCase(icuCase.value, expression, icuCase.sourceSpan, icuCase.valueSourceSpan,
icuCase.expSourceSpan);\n            }\n        };\n        _Visitor.prototype.visitExpansion = function (icu, context) {\n
      this._mayBeAddBlockChildren(icu);\n            var wasInIcu = this._inIcu;\n            if (!this._inIcu) {\n
// nested ICU messages should not be extracted but top-level translated as a whole\n                if
(this._isInTranslatableSection) {\n                    this._addMessage([icu]);\n                }\n                this._inIcu = true;\n
        }\n            var cases = visitAll$1(this, icu.cases, context);\n            if (this._mode === _VisitorMode.Merge)
{\n                icu = new Expansion(icu.switchValue, icu.type, cases, icu.sourceSpan, icu.switchValueSourceSpan);\n
        }\n            this._inIcu
 = wasInIcu;\n            return icu;\n        };\n        _Visitor.prototype.visitComment = function (comment, context) {\n
        var isOpening = _isOpeningComment(comment);\n            if (isOpening && this._isInTranslatableSection) {\n
            this._reportError(comment, 'Could not start a block inside a translatable section');\n                return;\n
 }\n            var isClosing = _isClosingComment(comment);\n            if (isClosing && !this._inI18nBlock) {\n
  this._reportError(comment, 'Trying to close an unopened block');\n                return;\n            }\n            if
(!this._inI18nNode && !this._inIcu) {\n                if (!this._inI18nBlock) {\n                    if (isOpening) {\n
      // deprecated from v5 you should use <ng-container i18n> instead of i18n comments\n                        if
(!i18nCommentsWarned && console && console.warn) {\n                            i18nCommentsWarned = true;\n
                var details = comment.sourceSpan.details ? \", \" + comment.sourceSpan.details : '';\n
 // TODO(ocombe): use a log service once there is a public one available\n                            console.warn(\"I18n
comments are deprecated, use an <ng-container> element instead (\" + comment.sourceSpan.start + details +
\")\");\n                        }\n                        this._inI18nBlock = true;\n                        this._blockStartDepth =
this._depth;\n                        this._blockChildren = [];\n                        this._blockMeaningAndDesc =\n
    comment.value.replace(_I18N_COMMENT_PREFIX_REGEXP, '').trim();\n
this._openTranslatableSection(comment);\n                    }\n                }\n                else {\n                    if (isClosing)
{\n                        if (this._depth == this._blockStartDepth) {\n
```

```
this._closeTranslatableSection(comment,
 this._blockChildren);\n                    this._inI18nBlock = false;\n                    var message =
this._addMessage(this._blockChildren, this._blockMeaningAndDesc);\n                    // merge attributes in
sections\n                    var nodes = this._translateMessage(comment, message);\n                    return
visitAll$1(this, nodes);\n                }\n                else {\n                    this._reportError(comment,
'I18N blocks should not cross element boundaries');\n                    return;\n                }\n            }\n
        }\n        };\n        _Visitor.prototype.visitText = function (text, context) {\n            if
(this._isInTranslatableSection) {\n                this._mayBeAddBlockChildren(text);\n            }\n            return text;\n
    };\n        _Visitor.prototype.visitElement = function (el, context) {\n
            var _this = this;\n            this._mayBeAddBlockChildren(el);\n            this._depth++;\n            var
wasInI18nNode = this._inI18nNode;\n            var wasInImplicitNode = this._inImplicitNode;\n            var
childNodes = [];\n            var translatedChildNodes = undefined;\n            // Extract:\n            // - top level nodes
with the (implicit) \"i18n\" attribute if not already in a section\n            // - ICU messages\n            var i18nAttr =
_getI18nAttr(el);\n            var i18nMeta = i18nAttr ? i18nAttr.value : '';\n            var isImplicit =
this._implicitTags.some(function (tag) { return el.name === tag; }) && !this._inIcu &&\n
!this._isInTranslatableSection;\n            var isTopLevelImplicit = !wasInImplicitNode && isImplicit;\n
this._inImplicitNode = wasInImplicitNode || isImplicit;\n            if (!this._isInTranslatableSection && !this._inIcu)
{\n                if (i18nAttr || isTopLevelImplicit) {\n
            this._inI18nNode = true;\n                    var message = this._addMessage(el.children, i18nMeta);\n
translatedChildNodes = this._translateMessage(el, message);\n                }\n                if (this._mode ==
_VisitorMode.Extract) {\n                    var isTranslatable = i18nAttr || isTopLevelImplicit;\n                    if
(isTranslatable)\n                        this._openTranslatableSection(el);\n                    visitAll$1(this, el.children);\n
            if (isTranslatable)\n                        this._closeTranslatableSection(el, el.children);\n                }\n            }\n
    else {\n                if (i18nAttr || isTopLevelImplicit) {\n                    this._reportError(el, 'Could not mark an
element as translatable inside a translatable section');\n                }\n                if (this._mode ==
_VisitorMode.Extract) {\n                    // Descend into child nodes for extraction\n
        visitAll$1(this, el.children);\n                }\n            }\n            if (this._mode === _VisitorMode.Merge) {\n
  var visitNodes = translatedChildNodes || el.children;\n                visitNodes.forEach(function (child) {\n
var visited = child.visit(_this, context);\n                    if (visited && !_this._isInTranslatableSection) {\n
  // Do not add the children from translatable sections (= i18n blocks here)\n                        // They will be added
later in this loop when the block closes (i.e. on `<!-- /i18n -->`)\n                        childNodes =
childNodes.concat(visited);\n                    }\n                });\n            }\n            this._visitAttributesOf(el);\n
this._depth--;\n            this._inI18nNode = wasInI18nNode;\n            this._inImplicitNode = wasInImplicitNode;\n
        if (this._mode === _VisitorMode.Merge) {\n                var translatedAttrs = this._translateAttributes(el);\n
                return new Element$1(el.name, translatedAttrs, childNodes, el.sourceSpan, el.startSourceSpan,
el.endSourceSpan);\n            }\n            return null;\n        };\n        _Visitor.prototype.visitAttribute = function
(attribute, context) {\n            throw new Error('unreachable code');\n        };\n        _Visitor.prototype._init =
function (mode, interpolationConfig) {\n            this._mode = mode;\n            this._inI18nBlock = false;\n
this._inI18nNode = false;\n            this._depth = 0;\n            this._inIcu = false;\n
this._msgCountAtSectionStart = undefined;\n            this._errors = [];\n            this._messages = [];\n
this._inImplicitNode = false;\n            this._createI18nMessage = createI18nMessageFactory(interpolationConfig);\n
    };\n        // looks for translatable attributes\n        _Visitor.prototype._visitAttributesOf = function (el) {\n
var _this = this;\n
        var explicitAttrNameToValue = {};\n            var implicitAttrNames = this._implicitAttrs[el.name] || [];\n
 el.attrs.filter(function (attr) { return attr.name.startsWith(_I18N_ATTR_PREFIX); })\n                .forEach(function
(attr) { return explicitAttrNameToValue[attr.name.slice(_I18N_ATTR_PREFIX.length)] =\n                attr.value;
});\n            el.attrs.forEach(function (attr) {\n                if (attr.name in explicitAttrNameToValue) {\n
_this._addMessage([attr], explicitAttrNameToValue[attr.name]);\n                }\n                else if
```

```
(implicitAttrNames.some(function (name) { return attr.name === name; })) {\n
_this._addMessage([attr]);\n                }\n            });\n        };\n        // add a translatable message\n
_Visitor.prototype._addMessage = function (ast, msgMeta) {\n            if (ast.length == 0 ||\n                ast.length ==
1 && ast[0] instanceof Attribute && !ast[0].value)
 {\n                // Do not create empty messages\n                return null;\n            }\n            var _a =
_parseMessageMeta(msgMeta), meaning = _a.meaning, description = _a.description, id = _a.id;\n            var
message = this._createI18nMessage(ast, meaning, description, id);\n            this._messages.push(message);\n
return message;\n        };\n        // Translates the given message given the `TranslationBundle`\n        // This is used
for translating elements / blocks - see `_translateAttributes` for attributes\n        // no-op when called in extraction
mode (returns [])\n        _Visitor.prototype._translateMessage = function (el, message) {\n            if (message &&
this._mode === _VisitorMode.Merge) {\n                var nodes = this._translations.get(message);\n                if
(nodes) {\n                    return nodes;\n                }\n                this._reportError(el, \"Translation unavailable for
message id=\\\"\" + this._translations.digest(message)
 + \"\\\"\");\n            }\n            return [];\n        };\n        // translate the attributes of an element and remove i18n
specific attributes\n        _Visitor.prototype._translateAttributes = function (el) {\n            var _this = this;\n
var attributes = el.attrs;\n            var i18nParsedMessageMeta = {};\n            attributes.forEach(function (attr) {\n
        if (attr.name.startsWith(_I18N_ATTR_PREFIX)) {\n
i18nParsedMessageMeta[attr.name.slice(_I18N_ATTR_PREFIX.length)] =\n
_parseMessageMeta(attr.value);\n                }\n            });\n            var translatedAttributes = [];\n
attributes.forEach(function (attr) {\n                if (attr.name === _I18N_ATTR ||
attr.name.startsWith(_I18N_ATTR_PREFIX)) {\n                    // strip i18n specific attributes\n                    return;\n
            }\n                if (attr.value && attr.value != '' && i18nParsedMessageMeta.hasOwnProperty(attr.name))
 {\n                    var _a = i18nParsedMessageMeta[attr.name], meaning = _a.meaning, description = _a.description,
id = _a.id;\n                    var message = _this._createI18nMessage([attr], meaning, description, id);\n                    var
nodes = _this._translations.get(message);\n                    if (nodes) {\n                        if (nodes.length == 0) {\n
                translatedAttributes.push(new Attribute(attr.name, '', attr.sourceSpan));\n                        }\n
else if (nodes[0] instanceof Text$3) {\n                            var value = nodes[0].value;\n
translatedAttributes.push(new Attribute(attr.name, value, attr.sourceSpan));\n                        }\n                        else
{\n                            _this._reportError(el, \"Unexpected translation for attribute \\\"\" + attr.name + \"\\\" (id=\\\"\" +
(id || _this._translations.digest(message))
 + \"\\\")\");\n                        }\n                    }\n                    else {\n                        _this._reportError(el,
\"Translation unavailable for attribute \\\"\" + attr.name + \"\\\" (id=\\\"\" + (id || _this._translations.digest(message))
+ \"\\\")\");\n                    }\n                }\n                else {\n                    translatedAttributes.push(attr);\n
}\n            });\n            return translatedAttributes;\n        };\n        /**\n         * Add the node as a child of the block
when:\n         * - we are in a block,\n         * - we are not inside a ICU message (those are handled separately),\n
* - the node is a \"direct child\" of the block\n         */\n        _Visitor.prototype._mayBeAddBlockChildren =
function (node) {\n            if (this._inI18nBlock && !this._inIcu && this._depth == this._blockStartDepth) {\n
    this._blockChildren.push(node);\n            }\n        };\n        /**\n
         * Marks the start of a section, see `_closeTranslatableSection`\n         */\n
_Visitor.prototype._openTranslatableSection = function (node) {\n            if (this._isInTranslatableSection) {\n
    this._reportError(node, 'Unexpected section start');\n            }\n            else {\n
this._msgCountAtSectionStart = this._messages.length;\n            }\n        };\n
Object.defineProperty(_Visitor.prototype, \"_isInTranslatableSection\", {\n            /**\n             * A translatable
section could be:\n             * - the content of translatable element,\n             * - nodes between `<!-- i18n -->` and
`<!-- /i18n -->` comments\n             */\n            get: function () {\n                return this._msgCountAtSectionStart
!== void 0;\n            },\n            enumerable: false,\n            configurable: true\n        });\n        /**\n         *
Terminates a section.\n         *\n         * If a section has only one
```

```
significant children (comments not significant) then we should not\n * keep the message from this children:\n *\n * `<p i18n=\"meaning|description\">{ICU message}</p>` would produce two messages:\n * - one for the <p> content with meaning and description,\n * - another one for the ICU message.\n *\n * In this case the last message is discarded as it contains less information (the AST is\n * otherwise identical).\n *\n * Note that we should still keep messages extracted from attributes inside the section (ie in the\n * ICU message here)\n */\n _Visitor.prototype._closeTranslatableSection = function (node, directChildren) {\n if (!this._isInTranslatableSection) {\n this._reportError(node, 'Unexpected section end');\n return;\n }\n var startIndex = this._msgCountAtSectionStart;\n var significantChildren = directChildren.reduce(function
(count, node) { return count + (node instanceof Comment ? 0 : 1); }, 0);\n if (significantChildren == 1) {\n for (var i = this._messages.length - 1; i >= startIndex; i--) {\n var ast = this._messages[i].nodes;\n if (!(ast.length == 1 && ast[0] instanceof Text$1)) {\n this._messages.splice(i, 1);\n break;\n }\n }\n }\n this._msgCountAtSectionStart = undefined;\n };\n _Visitor.prototype._reportError = function (node, msg) {\n this._errors.push(new I18nError(node.sourceSpan, msg));\n };\n return _Visitor;\n }());\n function _isOpeningComment(n) {\n return !!(n instanceof Comment && n.value && n.value.startsWith('i18n'));\n }\n function _isClosingComment(n) {\n return !!(n instanceof Comment && n.value && n.value === '/i18n');\n }\n function _getI18nAttr(p) {\n return p.attrs.find(function (attr) { return attr.name === _I18N_ATTR; }) || null;\n }\n function _parseMessageMeta(i18n) {\n if (!i18n)\n return { meaning: '', description: '', id: '' };\n var idIndex = i18n.indexOf(ID_SEPARATOR);\n var descIndex = i18n.indexOf(MEANING_SEPARATOR);\n var _a = __read((idIndex > -1) ? [i18n.slice(0, idIndex), i18n.slice(idIndex + 2)] : [i18n, ''], 2), meaningAndDesc = _a[0], id = _a[1];\n var _b = __read((descIndex > -1) ?\n [meaningAndDesc.slice(0, descIndex), meaningAndDesc.slice(descIndex + 1)] :\n ['', meaningAndDesc], 2), meaning = _b[0], description = _b[1];\n return { meaning: meaning, description: description, id: id.trim() };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var XmlTagDefinition = /** @class */ (function () {\n function XmlTagDefinition() {\n this.closedByParent = false;\n this.contentType = exports.TagContentType.PARSABLE_DATA;\n this.isVoid = false;\n this.ignoreFirstLf = false;\n this.canSelfClose = true;\n this.preventNamespaceInheritance = false;\n }\n XmlTagDefinition.prototype.requireExtraParent = function (currentParent) {\n return false;\n };\n XmlTagDefinition.prototype.isClosedByChild = function (name) {\n return false;\n };\n return XmlTagDefinition;\n }());\n var _TAG_DEFINITION = new XmlTagDefinition();\n function getXmlTagDefinition(tagName) {\n return _TAG_DEFINITION;\n }\n\n var XmlParser = /** @class */ (function (_super) {\n __extends(XmlParser, _super);\n function XmlParser() {\n return _super.call(this,
getXmlTagDefinition) || this;\n }\n XmlParser.prototype.parse = function (source, url, options) {\n return _super.prototype.parse.call(this, source, url, options);\n };\n return XmlParser;\n }(Parser));\n\n var _VERSION = '1.2';\n var _XMLNS = 'urn:oasis:names:tc:xliff:document:1.2';\n // TODO(vicb): make this a param (s/_/-/)\n var _DEFAULT_SOURCE_LANG = 'en';\n var _PLACEHOLDER_TAG$1 = 'x';\n var _MARKER_TAG = 'mrk';\n var _FILE_TAG = 'file';\n var _SOURCE_TAG$1 = 'source';\n var _SEGMENT_SOURCE_TAG = 'seg-source';\n var _ALT_TRANS_TAG = 'alt-trans';\n var _TARGET_TAG = 'target';\n var _UNIT_TAG = 'trans-unit';\n var _CONTEXT_GROUP_TAG = 'context-group';\n var _CONTEXT_TAG = 'context';\n // https://docs.oasis-open.org/xliff/v1.2/os/xliff-core.html\n // https://docs.oasis-open.org/xliff/v1.2/xliff-profile-html/xliff-profile-html-1.2.html\n var Xliff = /** @class */ (function (_super) {\n __extends(Xliff, _super);\n function Xliff() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n Xliff.prototype.write = function (messages, locale) {\n var visitor = new _WriteVisitor();\n var transUnits = [];\n messages.forEach(function (message) {\n var _a;\n
```

```
var contextTags = [];\n message.sources.forEach(function (source) {\n var contextGroupTag = new Tag(_CONTEXT_GROUP_TAG, { purpose: 'location' });\n contextGroupTag.children.push(new CR(10), new Tag(_CONTEXT_TAG, { 'context-type': 'sourcefile' }, [new Text$2(source.filePath)]), new CR(10), new Tag(_CONTEXT_TAG, { 'context-type': 'linenumber' }, [new Text$2(\"\" + source.startLine)]), new CR(8));\n contextTags.push(new CR(8), contextGroupTag);\n });\n var transUnit = new Tag(_UNIT_TAG, { id: message.id, datatype: 'html' });\n (_a = transUnit.children).push.apply(_a, __spread([new CR(8), new Tag(_SOURCE_TAG$1, {}, visitor.serialize(message.nodes))], contextTags));\n if (message.description) {\n transUnit.children.push(new CR(8), new Tag('note', { priority: '1', from: 'description' }, [new Text$2(message.description)]));\n }\n if (message.meaning) {\n transUnit.children.push(new CR(8), new Tag('note', { priority: '1', from: 'meaning' }, [new Text$2(message.meaning)]));\n }\n transUnit.children.push(new CR(6));\n transUnits.push(new CR(6), transUnit);\n });\n var body = new Tag('body', {}, __spread(transUnits, [new CR(4)]));\n var file = new Tag('file', {\n 'source-language': locale || _DEFAULT_SOURCE_LANG,\n datatype: 'plaintext',\n original: 'ng2.template',\n }, [new CR(4), body, new CR(2)]);\n var xliff = new Tag('xliff', { version: _VERSION, xmlns: _XMLNS }, [new CR(2), file, new CR()]);\n return serialize([\n new Declaration({ version: '1.0', encoding: 'UTF-8' }), new CR(), xliff, new CR()\n ]);\n };\n Xliff.prototype.load = function (content, url) {\n // xliff to xml nodes\n var xliffParser = new XliffParser();\n var _a = xliffParser.parse(content, url), locale = _a.locale, msgIdToHtml = _a.msgIdToHtml, errors = _a.errors;\n // xml nodes to i18n nodes\n var i18nNodesByMsgId = {};\n var converter = new XmlToI18n();\n Object.keys(msgIdToHtml).forEach(function (msgId) {\n var _a = converter.convert(msgIdToHtml[msgId], url), i18nNodes = _a.i18nNodes, e = _a.errors;\n errors.push.apply(errors, __spread(e));\n i18nNodesByMsgId[msgId] = i18nNodes;\n });\n if (errors.length) {\n throw new Error(\"xliff parse errors:\\n\\n\" + errors.join('\\n'));\n }\n return { locale: locale, i18nNodesByMsgId: i18nNodesByMsgId };\n };\n Xliff.prototype.digest = function (message) {\n return digest(message);\n };\n return Xliff;\n }(Serializer));\n var _WriteVisitor = /** @class */ (function () {\n function _WriteVisitor() {\n }\n _WriteVisitor.prototype.visitText = function (text, context) {\n return [new Text$2(text.value)];\n };\n _WriteVisitor.prototype.visitContainer = function (container, context) {\n var _this = this;\n var nodes = [];\n container.children.forEach(function (node) { return nodes.push.apply(nodes, __spread(node.visit(_this))); });\n return nodes;\n };\n _WriteVisitor.prototype.visitIcu = function (icu, context) {\n var _this = this;\n var nodes = [new Text$2(\"{\" + icu.expressionPlaceholder + \", \" + icu.type + \", \")];\n Object.keys(icu.cases).forEach(function (c) {\n nodes.push.apply(nodes, __spread([new Text$2(c + \" {\")], icu.cases[c].visit(_this), [new Text$2(\"} \")]));\n });\n nodes.push(new Text$2(\"}\"));\n return nodes;\n };\n _WriteVisitor.prototype.visitTagPlaceholder = function (ph, context) {\n var ctype = getCtypeForTag(ph.tag);\n if (ph.isVoid) {\n // void tags have no children nor closing tags\n return [new Tag(_PLACEHOLDER_TAG$1, { id: ph.startName, ctype: ctype, 'equiv-text': \"<\" + ph.tag + \"/>\" })];\n }\n var startTagPh = new Tag(_PLACEHOLDER_TAG$1, { id: ph.startName, ctype: ctype, 'equiv-text': \"<\" + ph.tag + \">\" });\n var closeTagPh = new Tag(_PLACEHOLDER_TAG$1, { id: ph.closeName, ctype: ctype, 'equiv-text': \"</\" + ph.tag + \">\" });\n return __spread([startTagPh], this.serialize(ph.children), [closeTagPh]);\n };\n _WriteVisitor.prototype.visitPlaceholder = function (ph, context) {\n return [new Tag(_PLACEHOLDER_TAG$1, { id: ph.name, 'equiv-text': \"{{\" + ph.value + \"}}\" })];\n };\n _WriteVisitor.prototype.visitIcuPlaceholder = function (ph, context) {\n var equivText = \"{\" + ph.value.expression + \", \" + ph.value.type + \", \" + Object.keys(ph.value.cases).map(function (value) { return value + ' {...}'; }).join(' ') + \"}\";\n return [new Tag(_PLACEHOLDER_TAG$1, { id: ph.name, 'equiv-text':
```

```
equivText })];\n        };\n        _WriteVisitor.prototype.serialize = function (nodes) {\n            var _this = this;\n
return [].concat.apply([], __spread(nodes.map(function (node) { return node.visit(_this); })));\n        };\n        return
_WriteVisitor;\n    }());\n    // TODO(vicb): add error management
(structure)\n    // Extract messages as xml nodes from the xliff file\n    var XliffParser = /** @class */ (function ()
{\n        function XliffParser() {\n            this._locale = null;\n        }\n        XliffParser.prototype.parse = function
(xliff, url) {\n            this._unitMlString = null;\n            this._msgIdToHtml = {};\n            var xml = new
XmlParser().parse(xliff, url);\n            this._errors = xml.errors;\n            visitAll$1(this, xml.rootNodes, null);\n
return {\n                msgIdToHtml: this._msgIdToHtml,\n                errors: this._errors,\n                locale:
this._locale,\n            };\n        };\n        XliffParser.prototype.visitElement = function (element, context) {\n
switch (element.name) {\n                case _UNIT_TAG:\n                    this._unitMlString = null;\n                    var
idAttr = element.attrs.find(function (attr) { return attr.name === 'id'; });\n                    if (!idAttr)
{\n                        this._addError(element, \"<\" + _UNIT_TAG + \"> misses the \\\"id\\\" attribute\");\n
}\n                    else {\n                        var id = idAttr.value;\n                        if
(this._msgIdToHtml.hasOwnProperty(id)) {\n                            this._addError(element, \"Duplicated translations for
msg \" + id);\n                        }\n                        else {\n                            visitAll$1(this, element.children, null);\n
                            if (typeof this._unitMlString === 'string') {\n                                this._msgIdToHtml[id] =
this._unitMlString;\n                            }\n                            else {\n                                this._addError(element,
\"Message \" + id + \" misses a translation\");\n                            }\n                    }\n                    }\n
break;\n                // ignore those tags\n                case
_SOURCE_TAG$1:\n                case _SEGMENT_SOURCE_TAG:\n                case _ALT_TRANS_TAG:\n
break;\n                case _TARGET_TAG:\n                    var innerTextStart =
element.startSourceSpan.end.offset;\n                    var innerTextEnd = element.endSourceSpan.start.offset;\n
var content = element.startSourceSpan.start.file.content;\n                    var innerText =
content.slice(innerTextStart, innerTextEnd);\n                    this._unitMlString = innerText;\n                    break;\n
case _FILE_TAG:\n                    var localeAttr = element.attrs.find(function (attr) { return attr.name ===
'target-language'; });\n                    if (localeAttr) {\n                        this._locale = localeAttr.value;\n                    }\n
                    visitAll$1(this, element.children, null);\n                    break;\n                default:\n                    //
TODO(vicb): assert file structure,
xliff version\n                    // For now only recurse on unhandled nodes\n                    visitAll$1(this,
element.children, null);\n            }\n        };\n        XliffParser.prototype.visitAttribute = function (attribute, context)
{ };\n        XliffParser.prototype.visitText = function (text, context) { };\n        XliffParser.prototype.visitComment =
function (comment, context) { };\n        XliffParser.prototype.visitExpansion = function (expansion, context) { };\n
XliffParser.prototype.visitExpansionCase = function (expansionCase, context) { };\n
XliffParser.prototype._addError = function (node, message) {\n            this._errors.push(new
I18nError(node.sourceSpan, message));\n        };\n        return XliffParser;\n    }());\n    // Convert ml nodes (xliff
syntax) to i18n nodes\n    var XmlToI18n = /** @class */ (function () {\n        function XmlToI18n() {\n        }\n
XmlToI18n.prototype.convert = function (message, url) {\n
var xmlIcu = new XmlParser().parse(message, url, { tokenizeExpansionForms: true });\n            this._errors =
xmlIcu.errors;\n            var i18nNodes = this._errors.length > 0 || xmlIcu.rootNodes.length == 0 ?\n                [] :
[].concat.apply([], __spread(visitAll$1(this, xmlIcu.rootNodes)));\n            return {\n                i18nNodes:
i18nNodes,\n                errors: this._errors,\n            };\n        };\n        XmlToI18n.prototype.visitText = function
(text, context) {\n            return new Text$1(text.value, text.sourceSpan);\n        };\n
XmlToI18n.prototype.visitElement = function (el, context) {\n            if (el.name === _PLACEHOLDER_TAG$1)
{\n                var nameAttr = el.attrs.find(function (attr) { return attr.name === 'id'; });\n                if (nameAttr) {\n
                    return new Placeholder('', nameAttr.value, el.sourceSpan);\n                }\n                this._addError(el, \"<\"
+ _PLACEHOLDER_TAG$1 + \"> misses the
\\\"id\\\" attribute\");\n                return null;\n            }\n            if (el.name === _MARKER_TAG) {\n
return [].concat.apply([], __spread(visitAll$1(this, el.children)));\n            }\n            this._addError(el, \"Unexpected
```

tag\");\n return null;\n };\n XmlToI18n.prototype.visitExpansion = function (icu, context) {\n var caseMap = {};\n visitAll$1(this, icu.cases).forEach(function (c) {\n caseMap[c.value] = new Container(c.nodes, icu.sourceSpan);\n });\n return new Icu$1(icu.switchValue, icu.type, caseMap, icu.sourceSpan);\n };\n XmlToI18n.prototype.visitExpansionCase = function (icuCase, context) {\n return {\n value: icuCase.value,\n nodes: visitAll$1(this, icuCase.expression),\n };\n };\n XmlToI18n.prototype.visitComment = function (comment, context) { };\n XmlToI18n.prototype.visitAttribute
= function (attribute, context) { };\n XmlToI18n.prototype._addError = function (node, message) {\n this._errors.push(new I18nError(node.sourceSpan, message));\n };\n return XmlToI18n;\n }());\n function getCtypeForTag(tag) {\n switch (tag.toLowerCase()) {\n case 'br':\n return 'lb';\n case 'img':\n return 'image';\n default:\n return \"x-\" + tag;\n }\n }\n\n var _VERSION$1 = '2.0';\n var _XMLNS$1 = 'urn:oasis:names:tc:xliff:document:2.0';\n // TODO(vicb): make this a param (s/_/-/)\n var _DEFAULT_SOURCE_LANG$1 = 'en';\n var _PLACEHOLDER_TAG$2 = 'ph';\n var _PLACEHOLDER_SPANNING_TAG = 'pc';\n var _MARKER_TAG$1 = 'mrk';\n var _XLIFF_TAG = 'xliff';\n var _SOURCE_TAG$2 = 'source';\n var _TARGET_TAG$1 = 'target';\n var _UNIT_TAG$1 = 'unit';\n // https://docs.oasis-open.org/xliff/xliff-core/v2.0/os/xliff-core-v2.0-os.html\n var Xliff2 = /** @class */ (function (_super) {\n __extends(Xliff2, _super);\n function Xliff2() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n Xliff2.prototype.write = function (messages, locale) {\n var visitor = new _WriteVisitor$1();\n var units = [];\n messages.forEach(function (message) {\n var unit = new Tag(_UNIT_TAG$1, { id: message.id });\n var notes = new Tag('notes');\n if (message.description || message.meaning) {\n if (message.description) {\n notes.children.push(new CR(8), new Tag('note', { category: 'description' }, [new Text$2(message.description)]));\n }\n if (message.meaning) {\n notes.children.push(new CR(8), new Tag('note', { category: 'meaning' }, [new Text$2(message.meaning)]));\n }\n }\n message.sources.forEach(function (source) {\n notes.children.push(new CR(8), new Tag('note', { category: 'location' }, [\n new Text$2(source.filePath + \":\" + source.startLine + (source.endLine !== source.startLine ? ',' + source.endLine : ''))\n ]));\n });\n notes.children.push(new CR(6));\n unit.children.push(new CR(6), notes);\n var segment = new Tag('segment');\n segment.children.push(new CR(8), new Tag(_SOURCE_TAG$2, {}, visitor.serialize(message.nodes)), new CR(6));\n unit.children.push(new CR(6), segment, new CR(4));\n units.push(new CR(4), unit);\n });\n var file = new Tag('file', { 'original': 'ng.template', id: 'ngi18n' }, __spread(units, [new CR(2)]));\n var xliff = new Tag(_XLIFF_TAG, { version: _VERSION$1, xmlns: _XMLNS$1, srcLang: locale || _DEFAULT_SOURCE_LANG$1 }, [new CR(2), file, new CR()]);\n return serialize([\n new Declaration({ version: '1.0', encoding: 'UTF-8' }), new CR(), xliff, new CR()\n ]);\n };\n Xliff2.prototype.load = function (content, url) {\n // xliff to xml nodes\n var xliff2Parser = new Xliff2Parser();\n var _a = xliff2Parser.parse(content, url), locale = _a.locale, msgIdToHtml = _a.msgIdToHtml, errors = _a.errors;\n // xml nodes to i18n nodes\n var i18nNodesByMsgId = {};\n var converter = new XmlToI18n$1();\n Object.keys(msgIdToHtml).forEach(function (msgId) {\n var _a = converter.convert(msgIdToHtml[msgId], url), i18nNodes = _a.i18nNodes, e = _a.errors;\n errors.push.apply(errors, __spread(e));\n i18nNodesByMsgId[msgId] = i18nNodes;\n });\n if (errors.length) {\n throw new Error(\"xliff2 parse errors:\\n\\n\" + errors.join('\\n'));\n }\n return { locale: locale, i18nNodesByMsgId: i18nNodesByMsgId };\n };\n Xliff2.prototype.digest = function (message) {\n return decimalDigest(message);\n };\n return Xliff2;\n }(Serializer));\n var _WriteVisitor$1 = /** @class */ (function () {\n function _WriteVisitor() {\n }\n _WriteVisitor.prototype.visitText = function (text, context) {\n return [new Text$2(text.value)];\n };\n _WriteVisitor.prototype.visitContainer = function (container, context) {\n

```
var _this = this;\n            var nodes = [];\n            container.children.forEach(function (node) { return
nodes.push.apply(nodes, __spread(node.visit(_this))); });\n            return nodes;\n        };\n
_WriteVisitor.prototype.visitIcu = function (icu, context) {\n            var _this = this;\n            var nodes = [new
Text$2(\"{\" + icu.expressionPlaceholder
 + \", \" + icu.type + \", \")];\n            Object.keys(icu.cases).forEach(function (c) {\n
nodes.push.apply(nodes, __spread([new Text$2(c + \" {\")], icu.cases[c].visit(_this), [new Text$2(\"} \")]));\n
});\n            nodes.push(new Text$2(\"}\"));\n            return nodes;\n        };\n
_WriteVisitor.prototype.visitTagPlaceholder = function (ph, context) {\n            var _this = this;\n            var type =
getTypeForTag(ph.tag);\n            if (ph.isVoid) {\n                var tagPh = new Tag(_PLACEHOLDER_TAG$2, {\n
                    id: (this._nextPlaceholderId++).toString(),\n                    equiv: ph.startName,\n                    type: type,\n
                    disp: \"<\" + ph.tag + \"/>\",\n                });\n                return [tagPh];\n            }\n            var tagPc = new
Tag(_PLACEHOLDER_SPANNING_TAG, {\n                id: (this._nextPlaceholderId++).toString(),\n
equivStart: ph.startName,\n
                    equivEnd: ph.closeName,\n                type: type,\n                dispStart: \"<\" + ph.tag + \">\",\n
dispEnd: \"</\" + ph.tag + \">\",\n            });\n            var nodes = [].concat.apply([],
__spread(ph.children.map(function (node) { return node.visit(_this); })));\n            if (nodes.length) {\n
nodes.forEach(function (node) { return tagPc.children.push(node); });\n            }\n            else {\n
tagPc.children.push(new Text$2(''));\n            }\n            return [tagPc];\n        };\n
_WriteVisitor.prototype.visitPlaceholder = function (ph, context) {\n            var idStr =
(this._nextPlaceholderId++).toString();\n            return [new Tag(_PLACEHOLDER_TAG$2, {\n                id:
idStr,\n                    equiv: ph.name,\n                    disp: \"{{\" + ph.value + \"}}\",\n                })];\n        };\n
_WriteVisitor.prototype.visitIcuPlaceholder = function (ph, context)
 {\n            var cases = Object.keys(ph.value.cases).map(function (value) { return value + ' {...}'; }).join(' ');\n
var idStr = (this._nextPlaceholderId++).toString();\n            return [new Tag(_PLACEHOLDER_TAG$2, { id: idStr,
equiv: ph.name, disp: \"{\" + ph.value.expression + \", \" + ph.value.type + \", \" + cases + \"}\" })];\n        };\n
_WriteVisitor.prototype.serialize = function (nodes) {\n            var _this = this;\n            this._nextPlaceholderId =
0;\n            return [].concat.apply([], __spread(nodes.map(function (node) { return node.visit(_this); })));\n        };\n
    return _WriteVisitor;\n    }());\n    // Extract messages as xml nodes from the xliff file\n    var Xliff2Parser = /**
@class */ (function () {\n        function Xliff2Parser() {\n            this._locale = null;\n        }\n
Xliff2Parser.prototype.parse = function (xliff, url) {\n            this._unitMlString = null;\n            this._msgIdToHtml
= {};\n
            var xml = new XmlParser().parse(xliff, url);\n            this._errors = xml.errors;\n            visitAll$1(this,
xml.rootNodes, null);\n            return {\n                msgIdToHtml: this._msgIdToHtml,\n                errors:
this._errors,\n                locale: this._locale,\n            };\n        };\n        Xliff2Parser.prototype.visitElement =
function (element, context) {\n            switch (element.name) {\n                case _UNIT_TAG$1:\n
this._unitMlString = null;\n                    var idAttr = element.attrs.find(function (attr) { return attr.name === 'id';
});\n                    if (!idAttr) {\n                        this._addError(element, \"<\" + _UNIT_TAG$1 + \"> misses the
\\\"id\\\" attribute\");\n                    }\n                    else {\n                        var id = idAttr.value;\n                        if
(this._msgIdToHtml.hasOwnProperty(id)) {\n                            this._addError(element, \"Duplicated
 translations for msg \" + id);\n                        }\n                        else {\n                            visitAll$1(this,
element.children, null);\n                            if (typeof this._unitMlString === 'string') {\n
this._msgIdToHtml[id] = this._unitMlString;\n                            }\n                            else {\n
this._addError(element, \"Message \" + id + \" misses a translation\");\n                            }\n                        }\n
        }\n                    break;\n                case _SOURCE_TAG$2:\n                    // ignore source message\n
break;\n                case _TARGET_TAG$1:\n                    var innerTextStart =
element.startSourceSpan.end.offset;\n                    var innerTextEnd = element.endSourceSpan.start.offset;\n
    var content = element.startSourceSpan.start.file.content;\n
```

```
var innerText = content.slice(innerTextStart, innerTextEnd);\n this._unitMlString = innerText;\n break;\n case _XLIFF_TAG:\n var localeAttr = element.attrs.find(function (attr) { return attr.name === 'trgLang'; });\n if (localeAttr) {\n this._locale = localeAttr.value;\n }\n var versionAttr = element.attrs.find(function (attr) { return attr.name === 'version'; });\n if (versionAttr) {\n var version = versionAttr.value;\n if (version !== '2.0') {\n this._addError(element, \"The XLIFF file version \" + version + \" is not compatible with XLIFF 2.0 serializer\");\n }\n else {\n visitAll$1(this, element.children, null);\n }\n }\n break;\n default:\n visitAll$1(this, element.children, null);\n }\n };\n Xliff2Parser.prototype.visitAttribute = function (attribute, context) { };\n Xliff2Parser.prototype.visitText = function (text, context) { };\n Xliff2Parser.prototype.visitComment = function (comment, context) { };\n Xliff2Parser.prototype.visitExpansion = function (expansion, context) { };\n Xliff2Parser.prototype.visitExpansionCase = function (expansionCase, context) { };\n Xliff2Parser.prototype._addError = function (node, message) {\n this._errors.push(new I18nError(node.sourceSpan, message));\n };\n return Xliff2Parser;\n }());\n // Convert ml nodes (xliff syntax) to i18n nodes\n var XmlToI18n$1 = /** @class */ (function () {\n function XmlToI18n() {\n }\n XmlToI18n.prototype.convert = function (message, url) {\n var xmlIcu = new XmlParser().parse(message, url, { tokenizeExpansionForms: true });\n this._errors = xmlIcu.errors;\n var i18nNodes = this._errors.length > 0 || xmlIcu.rootNodes.length == 0 ?\n [] : [].concat.apply([], __spread(visitAll$1(this, xmlIcu.rootNodes)));\n return {\n i18nNodes: i18nNodes,\n errors: this._errors,\n };\n };\n XmlToI18n.prototype.visitText = function (text, context) {\n return new Text$1(text.value, text.sourceSpan);\n };\n XmlToI18n.prototype.visitElement = function (el, context) {\n var _this = this;\n switch (el.name) {\n case _PLACEHOLDER_TAG$2:\n var nameAttr = el.attrs.find(function (attr) { return attr.name === 'equiv'; });\n if (nameAttr) {\n return [new Placeholder('', nameAttr.value, el.sourceSpan)];\n }\n this._addError(el, \"<\" + _PLACEHOLDER_TAG$2 + \"> misses the \\\"equiv\\\" attribute\");\n break;\n case _PLACEHOLDER_SPANNING_TAG:\n var startAttr = el.attrs.find(function (attr) { return attr.name === 'equivStart'; });\n var endAttr = el.attrs.find(function (attr) { return attr.name === 'equivEnd'; });\n if (!startAttr) {\n this._addError(el, \"<\" + _PLACEHOLDER_TAG$2 + \"> misses the \\\"equivStart\\\" attribute\");\n }\n else if (!endAttr) {\n this._addError(el, \"<\" + _PLACEHOLDER_TAG$2 + \"> misses the \\\"equivEnd\\\" attribute\");\n }\n else {\n var startId = startAttr.value;\n var endId = endAttr.value;\n var nodes = [];\n return nodes.concat.apply(nodes, __spread([new Placeholder('', startId, el.sourceSpan)], el.children.map(function (node) { return node.visit(_this, null); }), [new Placeholder('', endId, el.sourceSpan)]));\n }\n break;\n case _MARKER_TAG$1:\n return [].concat.apply([], __spread(visitAll$1(this, el.children)));\n default:\n this._addError(el, \"Unexpected tag\");\n }\n return null;\n };\n XmlToI18n.prototype.visitExpansion = function (icu, context) {\n var caseMap = {};\n visitAll$1(this, icu.cases).forEach(function (c) {\n caseMap[c.value] = new Container(c.nodes, icu.sourceSpan);\n });\n return new Icu$1(icu.switchValue, icu.type, caseMap, icu.sourceSpan);\n };\n XmlToI18n.prototype.visitExpansionCase = function (icuCase, context) {\n return {\n value: icuCase.value,\n nodes: [].concat.apply([], __spread(visitAll$1(this, icuCase.expression))),\n };\n };\n XmlToI18n.prototype.visitComment = function (comment, context) { };\n XmlToI18n.prototype.visitAttribute = function (attribute, context) { };\n XmlToI18n.prototype._addError = function (node, message) {\n this._errors.push(new I18nError(node.sourceSpan, message));\n };\n return XmlToI18n;\n }());\n function getTypeForTag(tag) {\n switch (tag.toLowerCase()) {\n case 'br':\n case 'b':\n case 'i':\n case 'u':\n return 'fmt';\n case 'img':\n return 'image';\n case 'a':\n return
```

```
'link';\n            default:\n                return 'other';\n        }\n    }\n\n    var _TRANSLATIONS_TAG =
'translationbundle';\n    var _TRANSLATION_TAG = 'translation';\n    var _PLACEHOLDER_TAG$3 = 'ph';\n
var Xtb = /** @class */ (function (_super) {\n
 __extends(Xtb, _super);\n        function Xtb() {\n            return _super !== null && _super.apply(this, arguments) ||
this;\n        }\n        Xtb.prototype.write = function (messages, locale) {\n            throw new Error('Unsupported');\n
   };\n        Xtb.prototype.load = function (content, url) {\n            // xtb to xml nodes\n            var xtbParser = new
XtbParser();\n            var _a = xtbParser.parse(content, url), locale = _a.locale, msgIdToHtml = _a.msgIdToHtml,
errors = _a.errors;\n            // xml nodes to i18n nodes\n            var i18nNodesByMsgId = {};\n            var converter
= new XmlToI18n$2();\n            // Because we should be able to load xtb files that rely on features not supported by
angular,\n            // we need to delay the conversion of html to i18n nodes so that non angular messages are not\n
   // converted\n            Object.keys(msgIdToHtml).forEach(function (msgId) {\n                var valueFn = function ()
{\n
                var _a = converter.convert(msgIdToHtml[msgId], url), i18nNodes = _a.i18nNodes, errors = _a.errors;\n
            if (errors.length) {\n                    throw new Error(\"xtb parse errors:\\n\\n\" + errors.join('\\n'));\n
}\n                return i18nNodes;\n                };\n                createLazyProperty(i18nNodesByMsgId, msgId,
valueFn);\n            });\n            if (errors.length) {\n                throw new Error(\"xtb parse errors:\\n\\n\" +
errors.join('\\n'));\n            }\n            return { locale: locale, i18nNodesByMsgId: i18nNodesByMsgId };\n        };\n
    Xtb.prototype.digest = function (message) {\n            return digest$1(message);\n        };\n
Xtb.prototype.createNameMapper = function (message) {\n            return new SimplePlaceholderMapper(message,
toPublicName);\n        };\n        return Xtb;\n    }(Serializer));\n    function createLazyProperty(messages, id,
valueFn) {\n        Object.defineProperty(messages,
 id, {\n            configurable: true,\n            enumerable: true,\n            get: function () {\n                var value =
valueFn();\n                Object.defineProperty(messages, id, { enumerable: true, value: value });\n                return
value;\n            },\n            set: function (_) {\n                throw new Error('Could not overwrite an XTB
translation');\n            },\n        });\n    }\n    // Extract messages as xml nodes from the xtb file\n    var XtbParser =
/** @class */ (function () {\n        function XtbParser() {\n            this._locale = null;\n        }\n
XtbParser.prototype.parse = function (xtb, url) {\n            this._bundleDepth = 0;\n            this._msgIdToHtml =
{};\n            // We can not parse the ICU messages at this point as some messages might not originate\n            //
from Angular that could not be lex'd.\n            var xml = new XmlParser().parse(xtb, url);\n            this._errors
 = xml.errors;\n            visitAll$1(this, xml.rootNodes);\n            return {\n                msgIdToHtml:
this._msgIdToHtml,\n                errors: this._errors,\n                locale: this._locale,\n            };\n        };\n
XtbParser.prototype.visitElement = function (element, context) {\n            switch (element.name) {\n                case
_TRANSLATIONS_TAG:\n                    this._bundleDepth++;\n                    if (this._bundleDepth > 1) {\n
        this._addError(element, \"<\" + _TRANSLATIONS_TAG + \"> elements can not be nested\");\n
}\n                    var langAttr = element.attrs.find(function (attr) { return attr.name === 'lang'; });\n                    if
(langAttr) {\n                        this._locale = langAttr.value;\n                    }\n                    visitAll$1(this,
element.children, null);\n                    this._bundleDepth--;\n                    break;\n                case
_TRANSLATION_TAG:\n
                    var idAttr = element.attrs.find(function (attr) { return attr.name === 'id'; });\n                    if (!idAttr) {\n
                    this._addError(element, \"<\" + _TRANSLATION_TAG + \"> misses the \\\"id\\\" attribute\");\n
        }\n                    else {\n                        var id = idAttr.value;\n                        if
(this._msgIdToHtml.hasOwnProperty(id)) {\n                            this._addError(element, \"Duplicated translations for
msg \" + id);\n                        }\n                        else {\n                            var innerTextStart =
element.startSourceSpan.end.offset;\n                            var innerTextEnd = element.endSourceSpan.start.offset;\n
                    var content = element.startSourceSpan.start.file.content;\n                            var innerText =
content.slice(innerTextStart, innerTextEnd);\n                            this._msgIdToHtml[id] = innerText;\n
                    }\n                    }\n                    break;\n                default:\n                    this._addError(element,
'Unexpected tag');\n            }\n        };\n        XtbParser.prototype.visitAttribute = function (attribute, context) { };\n
```

```
XtbParser.prototype.visitText = function (text, context) { };\n XtbParser.prototype.visitComment = function (comment, context) { };\n XtbParser.prototype.visitExpansion = function (expansion, context) { };\n XtbParser.prototype.visitExpansionCase = function (expansionCase, context) { };\n XtbParser.prototype._addError = function (node, message) {\n this._errors.push(new I18nError(node.sourceSpan, message));\n };\n return XtbParser;\n }());\n // Convert ml nodes (xtb syntax) to i18n nodes\n var XmlToI18n$2 = /** @class */ (function () {\n function XmlToI18n() {\n }\n XmlToI18n.prototype.convert = function (message, url) {\n var xmlIcu = new XmlParser().parse(message, url, { tokenizeExpansionForms: true });\n this._errors = xmlIcu.errors;\n var i18nNodes = this._errors.length > 0 || xmlIcu.rootNodes.length == 0 ?\n [] :\n visitAll$1(this, xmlIcu.rootNodes);\n return {\n i18nNodes: i18nNodes,\n errors: this._errors,\n };\n };\n XmlToI18n.prototype.visitText = function (text, context) {\n return new Text$1(text.value, text.sourceSpan);\n };\n XmlToI18n.prototype.visitExpansion = function (icu, context) {\n var caseMap = {};\n visitAll$1(this, icu.cases).forEach(function (c) {\n caseMap[c.value] = new Container(c.nodes, icu.sourceSpan);\n });\n return new Icu$1(icu.switchValue, icu.type, caseMap, icu.sourceSpan);\n };\n XmlToI18n.prototype.visitExpansionCase = function (icuCase, context)\n {\n return {\n value: icuCase.value,\n nodes: visitAll$1(this, icuCase.expression),\n };\n };\n XmlToI18n.prototype.visitElement = function (el, context) {\n if (el.name === _PLACEHOLDER_TAG$3) {\n var nameAttr = el.attrs.find(function (attr) { return attr.name === 'name'; });\n if (nameAttr) {\n return new Placeholder('', nameAttr.value, el.sourceSpan);\n }\n this._addError(el, \"<\" + _PLACEHOLDER_TAG$3 + \"> misses the \\\"name\\\" attribute\");\n }\n else {\n this._addError(el, \"Unexpected tag\");\n }\n return null;\n };\n XmlToI18n.prototype.visitComment = function (comment, context) { };\n XmlToI18n.prototype.visitAttribute = function (attribute, context) { };\n XmlToI18n.prototype._addError = function (node, message) {\n this._errors.push(new I18nError(node.sourceSpan, message));\n };\n return XmlToI18n;\n }());\n\n /**\n * A container for translated messages\n */\n var TranslationBundle = /** @class */ (function () {\n function TranslationBundle(_i18nNodesByMsgId, locale, digest, mapperFactory, missingTranslationStrategy, console) {\n if (_i18nNodesByMsgId === void 0) { _i18nNodesByMsgId = {}; }\n if (missingTranslationStrategy === void 0) { missingTranslationStrategy = MissingTranslationStrategy.Warning; }\n this._i18nNodesByMsgId = _i18nNodesByMsgId;\n this.digest = digest;\n this.mapperFactory = mapperFactory;\n this._i18nToHtml = new I18nToHtmlVisitor(_i18nNodesByMsgId, locale, digest, mapperFactory, missingTranslationStrategy, console);\n }\n // Creates a `TranslationBundle` by parsing the given `content` with the `serializer`.\n TranslationBundle.load = function (content, url, serializer, missingTranslationStrategy, console) {\n var _a = serializer.load(content, url), locale = _a.locale, i18nNodesByMsgId = _a.i18nNodesByMsgId;\n var digestFn = function (m) { return serializer.digest(m); };\n var mapperFactory = function (m) { return serializer.createNameMapper(m); };\n return new TranslationBundle(i18nNodesByMsgId, locale, digestFn, mapperFactory, missingTranslationStrategy, console);\n };\n // Returns the translation as HTML nodes from the given source message.\n TranslationBundle.prototype.get = function (srcMsg) {\n var html = this._i18nToHtml.convert(srcMsg);\n if (html.errors.length) {\n throw new Error(html.errors.join('\\n'));\n }\n return html.nodes;\n };\n TranslationBundle.prototype.has = function (srcMsg) {\n return this.digest(srcMsg) in this._i18nNodesByMsgId;\n };\n return TranslationBundle;\n }());\n var I18nToHtmlVisitor = /** @class */ (function () {\n function I18nToHtmlVisitor(_i18nNodesByMsgId, _locale, _digest, _mapperFactory, _missingTranslationStrategy, _console) {\n if (_i18nNodesByMsgId === void 0) { _i18nNodesByMsgId = {}; }\n this._i18nNodesByMsgId = _i18nNodesByMsgId;\n this._locale = _locale;\n this._digest = _digest;\n this._mapperFactory = _mapperFactory;\n this._missingTranslationStrategy =
```

```
_missingTranslationStrategy;\n            this._console = _console;\n            this._contextStack = [];\n
this._errors = [];\n        }\n        I18nToHtmlVisitor.prototype.convert = function (srcMsg) {\n
this._contextStack.length = 0;\n            this._errors.length = 0;\n            // i18n to text\n            var text =
this._convertToText(srcMsg);\n            // text to html\n            var url = srcMsg.nodes[0].sourceSpan.start.file.url;\n

 var html = new HtmlParser().parse(text, url, { tokenizeExpansionForms: true });\n            return {\n                nodes:
html.rootNodes,\n                errors: __spread(this._errors, html.errors),\n            };\n        };\n
I18nToHtmlVisitor.prototype.visitText = function (text, context) {\n            // `convert()` uses an `HtmlParser` to
return `html.Node`s\n            // we should then make sure that any special characters are escaped\n            return
escapeXml(text.value);\n        };\n        I18nToHtmlVisitor.prototype.visitContainer = function (container, context)
{\n            var _this = this;\n            return container.children.map(function (n) { return n.visit(_this); }).join('');\n
};\n        I18nToHtmlVisitor.prototype.visitIcu = function (icu, context) {\n            var _this = this;\n            var
cases = Object.keys(icu.cases).map(function (k) { return k + \" {\" + icu.cases[k].visit(_this) + \"}\"; });\n            //
TODO(vicb): Once
 all format switch to using expression placeholders\n            // we should throw when the placeholder is not in the
source message\n            var exp = this._srcMsg.placeholders.hasOwnProperty(icu.expression) ?\n
this._srcMsg.placeholders[icu.expression].text :\n                icu.expression;\n            return \"{\" + exp + \", \" +
icu.type + \", \" + cases.join(' ') + \"}\";\n        };\n        I18nToHtmlVisitor.prototype.visitPlaceholder = function (ph,
context) {\n            var phName = this._mapper(ph.name);\n            if
(this._srcMsg.placeholders.hasOwnProperty(phName)) {\n                return
this._srcMsg.placeholders[phName].text;\n            }\n            if
(this._srcMsg.placeholderToMessage.hasOwnProperty(phName)) {\n                return
this._convertToText(this._srcMsg.placeholderToMessage[phName]);\n            }\n            this._addError(ph,
\"Unknown placeholder \\\"\" + ph.name + \"\\\"\");\n            return '';\n        };\n
    // Loaded message contains only placeholders (vs tag and icu placeholders).\n        // However when a translation
can not be found, we need to serialize the source message\n        // which can contain tag placeholders\n
I18nToHtmlVisitor.prototype.visitTagPlaceholder = function (ph, context) {\n            var _this = this;\n            var
tag = \"\" + ph.tag;\n            var attrs = Object.keys(ph.attrs).map(function (name) { return name + \"=\\\"\" +
ph.attrs[name] + \"\\\"\"; }).join(' ');\n            if (ph.isVoid) {\n                return \"<\" + tag + \" \" + attrs + \"/>\";\n
    }\n            var children = ph.children.map(function (c) { return c.visit(_this); }).join('');\n            return \"<\" +
tag + \" \" + attrs + \">\" + children + \"</\" + tag + \">\";\n        };\n        // Loaded message contains only
placeholders (vs tag and icu placeholders).\n        // However when a translation can not be found, we need to
serialize the source message\n
        // which can contain tag placeholders\n        I18nToHtmlVisitor.prototype.visitIcuPlaceholder = function (ph,
context) {\n            // An ICU placeholder references the source message to be serialized\n            return
this._convertToText(this._srcMsg.placeholderToMessage[ph.name]);\n        };\n        /**\n         * Convert a source
message to a translated text string:\n         * - text nodes are replaced with their translation,\n         * - placeholders
are replaced with their content,\n         * - ICU nodes are converted to ICU expressions.\n         */\n
I18nToHtmlVisitor.prototype._convertToText = function (srcMsg) {\n            var _this = this;\n            var id =
this._digest(srcMsg);\n            var mapper = this._mapperFactory ? this._mapperFactory(srcMsg) : null;\n            var
nodes;\n            this._contextStack.push({ msg: this._srcMsg, mapper: this._mapper });\n            this._srcMsg =
srcMsg;\n            if (this._i18nNodesByMsgId.hasOwnProperty(id))
 {\n                // When there is a translation use its nodes as the source\n                // And create a mapper to convert
serialized placeholder names to internal names\n                nodes = this._i18nNodesByMsgId[id];\n
this._mapper = function (name) { return mapper ? mapper.toInternalName(name) : name; };\n            }\n            else
{\n                // When no translation has been found\n                // - report an error / a warning / nothing,\n                //
- use the nodes from the original message\n                // - placeholders are already internal and need no mapper\n
        if (this._missingTranslationStrategy === MissingTranslationStrategy.Error) {\n                var ctx =
```

```
this._locale ? \" for locale \\\"\" + this._locale + \"\\\"\" : ";\n                this._addError(srcMsg.nodes[0], \"Missing translation for message \\\"\" + id + \"\\\"\" + ctx);\n            }\n            else if (this._console &&\n                this._missingTranslationStrategy === MissingTranslationStrategy.Warning) {\n                var ctx = this._locale ? \" for locale \\\"\" + this._locale + \"\\\"\" : ";\n                this._console.warn(\"Missing translation for message \\\"\" + id + \"\\\"\" + ctx);\n            }\n            nodes = srcMsg.nodes;\n            this._mapper = function (name) { return name; };\n        }\n        var text = nodes.map(function (node) { return node.visit(_this); }).join('');\n        var context = this._contextStack.pop();\n        this._srcMsg = context.msg;\n        this._mapper = context.mapper;\n        return text;\n    };\n    I18nToHtmlVisitor.prototype._addError = function (el, msg) {\n        this._errors.push(new I18nError(el.sourceSpan, msg));\n    };\n    return I18nToHtmlVisitor;\n}());\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nvar I18NHtmlParser = /** @class */ (function () {\n    function I18NHtmlParser(_htmlParser, translations, translationsFormat, missingTranslation, console) {\n        if (missingTranslation === void 0) { missingTranslation = MissingTranslationStrategy.Warning; }\n        this._htmlParser = _htmlParser;\n        if (translations) {\n            var serializer = createSerializer(translationsFormat);\n            this._translationBundle =\n                TranslationBundle.load(translations, 'i18n', serializer, missingTranslation, console);\n        }\n        else {\n            this._translationBundle =\n                new TranslationBundle({}, null, digest, undefined, missingTranslation, console);\n        }\n    }\n    I18NHtmlParser.prototype.parse = function (source, url, options) {\n        if (options === void 0) { options = {}; }\n        var interpolationConfig = options.interpolationConfig || DEFAULT_INTERPOLATION_CONFIG;\n        var parseResult = this._htmlParser.parse(source, url, Object.assign({ interpolationConfig: interpolationConfig }, options));\n        if (parseResult.errors.length) {\n            return new ParseTreeResult(parseResult.rootNodes, parseResult.errors);\n        }\n        return mergeTranslations(parseResult.rootNodes, this._translationBundle, interpolationConfig, [], {});\n    };\n    return I18NHtmlParser;\n}());\nfunction createSerializer(format) {\n    format = (format || 'xlf').toLowerCase();\n    switch (format) {\n        case 'xmb':\n            return new Xmb();\n        case 'xtb':\n            return new Xtb();\n        case 'xliff2':\n        case 'xlf2':\n            return new Xliff2();\n        case 'xliff':\n        case 'xlf':\n        default:\n            return new Xliff();\n    }\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nvar QUOTED_KEYS = '$quoted$';\nfunction convertValueToOutputAst(ctx, value, type) {\n    if (type === void 0) { type = null; }\n    return visitValue(value, new _ValueOutputAstTransformer(ctx), type);\n}\nvar _ValueOutputAstTransformer = /** @class */ (function () {\n    function _ValueOutputAstTransformer(ctx) {\n        this.ctx = ctx;\n    }\n    _ValueOutputAstTransformer.prototype.visitArray = function (arr, type) {\n        var values = [];\n        // Note Array.map() must not be used to convert the values because it will\n        // skip over empty elements in arrays constructed using `new Array(length)`,\n        // resulting in `undefined` elements. This breaks the type guarantee that\n        // all values in `o.LiteralArrayExpr` are of type `o.Expression`.\n        // See test case in `value_util_spec.ts`.\n        for (var i = 0; i < arr.length; ++i) {\n            values.push(visitValue(arr[i], this, null /* context */));\n        }\n        return literalArr(values, type);\n    };\n    _ValueOutputAstTransformer.prototype.visitStringMap = function (map, type) {\n        var _this = this;\n        var entries = [];\n        var quotedSet = new Set(map && map[QUOTED_KEYS]);\n        Object.keys(map).forEach(function (key) {\n            entries.push(new LiteralMapEntry(key, visitValue(map[key], _this, null), quotedSet.has(key)));\n        });\n        return new LiteralMapExpr(entries, type);\n    };\n    _ValueOutputAstTransformer.prototype.visitPrimitive = function (value, type) {\n        return literal(value, type);\n    };\n    _ValueOutputAstTransformer.prototype.visitOther = function (value, type) {\n        if (value instanceof Expression) {\n            return value;\n        }\n        else {\n            return
```

```
this.ctx.importExpr(value);\n        }\n    };\n    return _ValueOutputAstTransformer;\n}());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function mapEntry$1(key, value) {\n    return { key: key, value: value, quoted: false };\n}\n var InjectableCompiler = /** @class */ (function () {\n    function InjectableCompiler(reflector, alwaysGenerateDef) {\n        this.reflector = reflector;\n        this.alwaysGenerateDef = alwaysGenerateDef;\n        this.tokenInjector = reflector.resolveExternalReference(Identifiers.Injector);\n    }\n    InjectableCompiler.prototype.depsArray = function (deps, ctx) {\n        var _this = this;\n        return deps.map(function (dep) {\n            var token = dep;\n            var args = [token];\n            var flags = 0 /* Default */;\n            if (Array.isArray(dep)) {\n                for (var i = 0; i < dep.length; i++) {\n                    var v = dep[i];\n                    if (v) {\n                        if (v.ngMetadataName === 'Optional') {\n                            flags |= 8 /* Optional */;\n                        }\n                        else if (v.ngMetadataName === 'SkipSelf') {\n                            flags |= 4 /* SkipSelf */;\n                        }\n                        else if (v.ngMetadataName === 'Self') {\n                            flags |= 2 /* Self */;\n                        }\n                        else if (v.ngMetadataName === 'Inject') {\n                            token = v.token;\n                        }\n                        else {\n                            token = v;\n                        }\n                    }\n                }\n            }\n            var tokenExpr;\n            if (typeof token === 'string') {\n                tokenExpr = literal(token);\n            }\n            else if (token === _this.tokenInjector) {\n                tokenExpr = importExpr(Identifiers.INJECTOR);\n            }\n            else {\n                tokenExpr = ctx.importExpr(token);\n            }\n            if (flags !== 0 /* Default */) {\n                args = [tokenExpr, literal(flags)];\n            }\n            else {\n                args = [tokenExpr];\n            }\n            return importExpr(Identifiers.inject).callFn(args);\n        });\n    };\n    InjectableCompiler.prototype.factoryFor = function (injectable, ctx) {\n        var retValue;\n        if (injectable.useExisting) {\n            retValue = importExpr(Identifiers.inject).callFn([ctx.importExpr(injectable.useExisting)]);\n        }\n        else if (injectable.useFactory) {\n            var deps = injectable.deps || [];\n            if (deps.length > 0) {\n                retValue = ctx.importExpr(injectable.useFactory).callFn(this.depsArray(deps, ctx));\n            }\n            else {\n                return ctx.importExpr(injectable.useFactory);\n            }\n        }\n        else if (injectable.useValue) {\n            retValue = convertValueToOutputAst(ctx, injectable.useValue);\n        }\n        else {\n            var clazz = injectable.useClass || injectable.symbol;\n            var depArgs = this.depsArray(this.reflector.parameters(clazz), ctx);\n            retValue = new InstantiateExpr(ctx.importExpr(clazz), depArgs);\n        }\n        return fn([], [new ReturnStatement(retValue)], undefined, undefined, injectable.symbol.name + '_Factory');\n    };\n    InjectableCompiler.prototype.injectableDef = function (injectable, ctx) {\n        var providedIn = NULL_EXPR;\n        if (injectable.providedIn !== undefined) {\n            if (injectable.providedIn === null) {\n                providedIn = NULL_EXPR;\n            }\n            else if (typeof injectable.providedIn === 'string') {\n                providedIn = literal(injectable.providedIn);\n            }\n            else {\n                providedIn = ctx.importExpr(injectable.providedIn);\n            }\n        }\n        var def = [\n            mapEntry$1('factory', this.factoryFor(injectable, ctx)),\n            mapEntry$1('token', ctx.importExpr(injectable.type.reference)),\n            mapEntry$1('providedIn', providedIn),\n        ];\n        return importExpr(Identifiers.defineInjectable).callFn([literalMap(def)]);\n    };\n    InjectableCompiler.prototype.compile = function (injectable, ctx) {\n        if (this.alwaysGenerateDef || injectable.providedIn !== undefined) {\n            var className = identifierName(injectable.type);\n            var clazz = new ClassStmt(className, null, [\n                new ClassField('prov', INFERRED_TYPE, [exports.StmtModifier.Static], this.injectableDef(injectable, ctx)),\n            ], [], new ClassMethod(null, [], []), []);\n            ctx.statements.push(clazz);\n        }\n    };\n    return InjectableCompiler;\n}());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var STRIP_SRC_FILE_SUFFIXES = /(\\.ts|\\.d\\.ts|\\.js|\\.jsx|\\.tsx)$/;\n
```

```
var GENERATED_FILE = /\\.ngfactory\\.|\\.ngsummary\\./;\n    var JIT_SUMMARY_FILE =
/\\.ngsummary\\./;\n    var JIT_SUMMARY_NAME = /NgSummary$/;\n    function ngfactoryFilePath(filePath,
forceSourceFile) {\n        if (forceSourceFile === void 0) { forceSourceFile = false; }\n        var urlWithSuffix =
splitTypescriptSuffix(filePath, forceSourceFile);\n        return urlWithSuffix[0] + \".ngfactory\" +
normalizeGenFileSuffix(urlWithSuffix[1]);\n    }\n    function stripGeneratedFileSuffix(filePath) {\n        return
filePath.replace(GENERATED_FILE, '.');\n    }\n    function isGeneratedFile(filePath) {\n        return
GENERATED_FILE.test(filePath);\n    }\n    function splitTypescriptSuffix(path, forceSourceFile) {\n        if
(forceSourceFile === void 0) { forceSourceFile = false; }\n        if (path.endsWith('.d.ts')) {\n            return
[path.slice(0, -5), forceSourceFile ? '.ts' : '.d.ts'];\n        }\n        var lastDot = path.lastIndexOf('.');\n
        if (lastDot !== -1) {\n            return [path.substring(0, lastDot), path.substring(lastDot)];\n        }\n        return
[path, ''];\n    }\n    function normalizeGenFileSuffix(srcFileSuffix) {\n        return srcFileSuffix === '.tsx' ? '.ts' :
srcFileSuffix;\n    }\n    function summaryFileName(fileName) {\n        var fileNameWithoutSuffix =
fileName.replace(STRIP_SRC_FILE_SUFFIXES, '');\n        return fileNameWithoutSuffix + \".ngsummary.json\";\n
    }\n    function summaryForJitFileName(fileName, forceSourceFile) {\n        if (forceSourceFile === void 0) {
forceSourceFile = false; }\n        var urlWithSuffix = splitTypescriptSuffix(stripGeneratedFileSuffix(fileName),
forceSourceFile);\n        return urlWithSuffix[0] + \".ngsummary\" + urlWithSuffix[1];\n    }\n    function
stripSummaryForJitFileSuffix(filePath) {\n        return filePath.replace(JIT_SUMMARY_FILE, '.');\n    }\n
function summaryForJitName(symbolName) {\n        return symbolName + \"NgSummary\";\n
    }\n    function stripSummaryForJitNameSuffix(symbolName) {\n        return
symbolName.replace(JIT_SUMMARY_NAME, '');\n    }\n    var LOWERED_SYMBOL = /\\u0275\\d+/;\n
function isLoweredSymbol(name) {\n        return LOWERED_SYMBOL.test(name);\n    }\n    function
createLoweredSymbol(id) {\n        return \"\\u0275\" + id;\n    }\n\n    /**\n     * @license\n     * Copyright Google
LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n     */\n    var LifecycleHooks;\n    (function
(LifecycleHooks) {\n        LifecycleHooks[LifecycleHooks[\"OnInit\"] = 0] = \"OnInit\";\n
LifecycleHooks[LifecycleHooks[\"OnDestroy\"] = 1] = \"OnDestroy\";\n
LifecycleHooks[LifecycleHooks[\"DoCheck\"] = 2] = \"DoCheck\";\n
LifecycleHooks[LifecycleHooks[\"OnChanges\"] = 3] = \"OnChanges\";\n
LifecycleHooks[LifecycleHooks[\"AfterContentInit\"]
 = 4] = \"AfterContentInit\";\n        LifecycleHooks[LifecycleHooks[\"AfterContentChecked\"] = 5] =
\"AfterContentChecked\";\n        LifecycleHooks[LifecycleHooks[\"AfterViewInit\"] = 6] = \"AfterViewInit\";\n
LifecycleHooks[LifecycleHooks[\"AfterViewChecked\"] = 7] = \"AfterViewChecked\";\n    })(LifecycleHooks ||
(LifecycleHooks = {}));\n    var LIFECYCLE_HOOKS_VALUES = [\n        LifecycleHooks.OnInit,
LifecycleHooks.OnDestroy, LifecycleHooks.DoCheck, LifecycleHooks.OnChanges,\n
LifecycleHooks.AfterContentInit, LifecycleHooks.AfterContentChecked, LifecycleHooks.AfterViewInit,\n
LifecycleHooks.AfterViewChecked\n    ];\n    function hasLifecycleHook(reflector, hook, token) {\n        return
reflector.hasLifecycleHook(token, getHookName(hook));\n    }\n    function getAllLifecycleHooks(reflector, token)
{\n        return LIFECYCLE_HOOKS_VALUES.filter(function (hook) { return hasLifecycleHook(reflector, hook,
token); });\n    }\n    function getHookName(hook)
 {\n        switch (hook) {\n            case LifecycleHooks.OnInit:\n                return 'ngOnInit';\n            case
LifecycleHooks.OnDestroy:\n                return 'ngOnDestroy';\n            case LifecycleHooks.DoCheck:\n
return 'ngDoCheck';\n            case LifecycleHooks.OnChanges:\n                return 'ngOnChanges';\n            case
LifecycleHooks.AfterContentInit:\n                return 'ngAfterContentInit';\n            case
LifecycleHooks.AfterContentChecked:\n                return 'ngAfterContentChecked';\n            case
LifecycleHooks.AfterViewInit:\n                return 'ngAfterViewInit';\n            case
LifecycleHooks.AfterViewChecked:\n                return 'ngAfterViewChecked';\n            default:\n                // This
default case is not needed by TypeScript compiler, as the switch is exhaustive.\n                // However Closure
Compiler does not understand that and reports an error in typed mode.\n                // The `throw
```

new Error` below works around the problem, and the unexpected: never variable\n // makes sure tsc still checks this code is unreachable.\n var unexpected = hook;\n throw new Error(\"unexpected \" + unexpected);\n }\n }\n\n var ERROR_COMPONENT_TYPE = 'ngComponentType';\n // Design notes:\n // - don't lazily create metadata:\n // For some metadata, we need to do async work sometimes,\n // so the user has to kick off this loading.\n // But we want to report errors even when the async work is\n // not required to check that the user would have been able\n // to wait correctly.\n var CompileMetadataResolver = /** @class */ (function () {\n function CompileMetadataResolver(_config, _htmlParser, _ngModuleResolver, _directiveResolver, _pipeResolver, _summaryResolver, _schemaRegistry, _directiveNormalizer, _console, _staticSymbolCache, _reflector, _errorCollector) {\n this._config = _config;\n this._htmlParser = _htmlParser;\n this._ngModuleResolver = _ngModuleResolver;\n this._directiveResolver = _directiveResolver;\n this._pipeResolver = _pipeResolver;\n this._summaryResolver = _summaryResolver;\n this._schemaRegistry = _schemaRegistry;\n this._directiveNormalizer = _directiveNormalizer;\n this._console = _console;\n this._staticSymbolCache = _staticSymbolCache;\n this._reflector = _reflector;\n this._errorCollector = _errorCollector;\n this._nonNormalizedDirectiveCache = new Map();\n this._directiveCache = new Map();\n this._summaryCache = new Map();\n this._pipeCache = new Map();\n this._ngModuleCache = new Map();\n this._ngModuleOfTypes = new Map();\n this._shallowModuleCache = new Map();\n }\n CompileMetadataResolver.prototype.getReflector = function ()\n {\n return this._reflector;\n };\n CompileMetadataResolver.prototype.clearCacheFor = function (type) {\n var dirMeta = this._directiveCache.get(type);\n this._directiveCache.delete(type);\n this._nonNormalizedDirectiveCache.delete(type);\n this._summaryCache.delete(type);\n this._pipeCache.delete(type);\n this._ngModuleOfTypes.delete(type);\n // Clear all of the NgModule as they contain transitive information!\n this._ngModuleCache.clear();\n if (dirMeta) {\n this._directiveNormalizer.clearCacheFor(dirMeta);\n }\n };\n CompileMetadataResolver.prototype.clearCache = function () {\n this._directiveCache.clear();\n this._nonNormalizedDirectiveCache.clear();\n this._summaryCache.clear();\n this._pipeCache.clear();\n this._ngModuleCache.clear();\n this._ngModuleOfTypes.clear();\n this._directiveNormalizer.clearCache();\n };\n CompileMetadataResolver.prototype._createProxyClass = function (baseType, name) {\n var delegate = null;\n var proxyClass = function () {\n if (!delegate) {\n throw new Error(\"Illegal state: Class \" + name + \" for type \" + stringify(baseType) + \" is not compiled yet!\");\n }\n return delegate.apply(this, arguments);\n };\n proxyClass.setDelegate = function (d) {\n delegate = d;\n proxyClass.prototype = d.prototype;\n };\n // Make stringify work correctly\n proxyClass.overriddenName = name;\n return proxyClass;\n };\n CompileMetadataResolver.prototype.getGeneratedClass = function (dirType, name) {\n if (dirType instanceof StaticSymbol) {\n return this._staticSymbolCache.get(ngfactoryFilePath(dirType.filePath), name);\n }\n else {\n return this._createProxyClass(dirType, name);\n }\n };\n CompileMetadataResolver.prototype.getComponentViewClass = function (dirType) {\n return this.getGeneratedClass(dirType, viewClassName(dirType, 0));\n };\n CompileMetadataResolver.prototype.getHostComponentViewClass = function (dirType) {\n return this.getGeneratedClass(dirType, hostViewClassName(dirType));\n };\n CompileMetadataResolver.prototype.getHostComponentType = function (dirType) {\n var name = identifierName({ reference: dirType }) + \"_Host\";\n if (dirType instanceof StaticSymbol) {\n return this._staticSymbolCache.get(dirType.filePath, name);\n }\n return this._createProxyClass(dirType, name);\n };\n CompileMetadataResolver.prototype.getRendererType = function (dirType) {\n

```
if (dirType instanceof StaticSymbol) {\n return this._staticSymbolCache.get(ngfactoryFilePath(dirType.filePath), rendererTypeName(dirType));\n }\n else {\n // returning an object as proxy,\n // that we fill later during runtime compilation.\n return {};\n }\n };\n CompileMetadataResolver.prototype.getComponentFactory = function (selector, dirType, inputs, outputs) {\n if (dirType instanceof StaticSymbol) {\n return this._staticSymbolCache.get(ngfactoryFilePath(dirType.filePath), componentFactoryName(dirType));\n }\n else {\n var hostView = this.getHostComponentViewClass(dirType);\n // Note: ngContentSelectors will be filled later once the template is\n // loaded.\n var createComponentFactory = this._reflector.resolveExternalReference(Identifiers.createComponentFactory);\n return createComponentFactory(selector, dirType, hostView, inputs, outputs, []);\n }\n };\n CompileMetadataResolver.prototype.initComponentFactory = function (factory, ngContentSelectors) {\n var _a;\n if (!(factory instanceof StaticSymbol)) {\n (_a = factory.ngContentSelectors).push.apply(_a, __spread(ngContentSelectors));\n }\n };\n CompileMetadataResolver.prototype._loadSummary = function (type, kind) {\n var typeSummary = this._summaryCache.get(type);\n if (!typeSummary) {\n var summary = this._summaryResolver.resolveSummary(type);\n typeSummary = summary ? summary.type : null;\n this._summaryCache.set(type, typeSummary || null);\n }\n return typeSummary && typeSummary.summaryKind === kind ? typeSummary : null;\n };\n CompileMetadataResolver.prototype.getHostComponentMetadata = function (compMeta, hostViewType) {\n var hostType = this.getHostComponentType(compMeta.type.reference);\n if (!hostViewType) {\n hostViewType = this.getHostComponentViewClass(hostType);\n }\n // Note: ! is ok here as this method should only be called with normalized directive\n // metadata, which always fills in the selector.\n var template = CssSelector.parse(compMeta.selector)[0].getMatchingElementTemplate();\n var templateUrl = '';\n var htmlAst = this._htmlParser.parse(template, templateUrl);\n return CompileDirectiveMetadata.create({\n isHost: true,\n type: { reference: hostType, diDeps: [], lifecycleHooks: [] },\n template: new CompileTemplateMetadata({\n encapsulation: ViewEncapsulation.None,\n template: template,\n templateUrl: templateUrl,\n htmlAst: htmlAst,\n styles: [],\n styleUrls: [],\n ngContentSelectors: [],\n animations: [],\n isInline: true,\n externalStylesheets: [],\n interpolation: null,\n preserveWhitespaces: false,\n }),\n exportAs: null,\n changeDetection: ChangeDetectionStrategy.Default,\n inputs: [],\n outputs: [],\n host: {},\n isComponent: true,\n selector: '*',\n providers: [],\n viewProviders: [],\n queries: [],\n guards: {},\n viewQueries: [],\n componentViewType: hostViewType,\n rendererType: { id: '__Host__', encapsulation: ViewEncapsulation.None, styles: [], data: {} },\n entryComponents: [],\n componentFactory: null\n });\n };\n CompileMetadataResolver.prototype.loadDirectiveMetadata = function (ngModuleType, directiveType, isSync) {\n var _this = this;\n if (this._directiveCache.has(directiveType)) {\n return null;\n }\n directiveType = resolveForwardRef(directiveType);\n var _a = this.getNonNormalizedDirectiveMetadata(directiveType), annotation = _a.annotation, metadata = _a.metadata;\n var createDirectiveMetadata = function (templateMetadata) {\n var normalizedDirMeta = new CompileDirectiveMetadata({\n isHost: false,\n type: metadata.type,\n isComponent: metadata.isComponent,\n selector: metadata.selector,\n exportAs: metadata.exportAs,\n changeDetection: metadata.changeDetection,\n inputs: metadata.inputs,\n outputs: metadata.outputs,\n hostListeners: metadata.hostListeners,\n hostProperties: metadata.hostProperties,\n hostAttributes: metadata.hostAttributes,\n providers: metadata.providers,\n viewProviders: metadata.viewProviders,\n queries: metadata.queries,\n guards: metadata.guards,\n viewQueries: metadata.viewQueries,\n
```

```
entryComponents: metadata.entryComponents,\n componentViewType:
metadata.componentViewType,\n rendererType: metadata.rendererType,\n
componentFactory: metadata.componentFactory,\n template: templateMetadata\n });\n
if (templateMetadata) {\n _this.initComponentFactory(metadata.componentFactory,
templateMetadata.ngContentSelectors);\n }\n _this._directiveCache.set(directiveType,
normalizedDirMeta);\n _this._summaryCache.set(directiveType, normalizedDirMeta.toSummary());\n
return null;\n };\n if (metadata.isComponent) {\n var template = metadata.template;\n
var templateMeta = this._directiveNormalizer.normalizeTemplate({\n ngModuleType:
ngModuleType,\n componentType: directiveType,\n moduleUrl:
this._reflector.componentModuleUrl(directiveType, annotation),\n encapsulation:
template.encapsulation,\n template: template.template,\n templateUrl:
template.templateUrl,\n styles: template.styles,\n styleUrls: template.styleUrls,\n
animations: template.animations,\n interpolation: template.interpolation,\n
preserveWhitespaces: template.preserveWhitespaces\n
});\n if (isPromise(templateMeta) && isSync) {\n
this._reportError(componentStillLoadingError(directiveType), directiveType);\n return null;\n
}\n return SyncAsync.then(templateMeta, createDirectiveMetadata);\n }\n else {\n
// directive\n createDirectiveMetadata(null);\n return null;\n }\n };\n
CompileMetadataResolver.prototype.getNonNormalizedDirectiveMetadata = function (directiveType) {\n
var _this = this;\n directiveType = resolveForwardRef(directiveType);\n if (!directiveType) {\n
return null;\n }\n var cacheEntry = this._nonNormalizedDirectiveCache.get(directiveType);\n
if (cacheEntry) {\n return cacheEntry;\n }\n var dirMeta =
this._directiveResolver.resolve(directiveType,
false);\n if (!dirMeta) {\n return null;\n }\n var nonNormalizedTemplateMetadata =
undefined;\n if (createComponent.isTypeOf(dirMeta)) {\n // component\n var compMeta =
dirMeta;\n assertArrayOfStrings('styles', compMeta.styles);\n assertArrayOfStrings('styleUrls',
compMeta.styleUrls);\n assertInterpolationSymbols('interpolation', compMeta.interpolation);\n
var animations = compMeta.animations;\n nonNormalizedTemplateMetadata = new
CompileTemplateMetadata({\n encapsulation: noUndefined(compMeta.encapsulation),\n
template: noUndefined(compMeta.template),\n templateUrl: noUndefined(compMeta.templateUrl),\n
htmlAst: null,\n styles: compMeta.styles || [],\n styleUrls: compMeta.styleUrls || [],\n
animations:
animations || [],\n interpolation: noUndefined(compMeta.interpolation),\n isInline:
!!compMeta.template,\n externalStylesheets: [],\n ngContentSelectors: [],\n
preserveWhitespaces: noUndefined(dirMeta.preserveWhitespaces),\n });\n }\n var
changeDetectionStrategy = null;\n var viewProviders = [];\n var entryComponentMetadata = [];\n
var selector = dirMeta.selector;\n if (createComponent.isTypeOf(dirMeta)) {\n // Component\n
var compMeta = dirMeta;\n changeDetectionStrategy = compMeta.changeDetection;\n if
(compMeta.viewProviders) {\n viewProviders = this._getProvidersMetadata(compMeta.viewProviders,
entryComponentMetadata, \"viewProviders for \\\"\" + stringifyType(directiveType) + \"\\\"\", [], directiveType);\n

}\n if (compMeta.entryComponents) {\n entryComponentMetadata =
flattenAndDedupeArray(compMeta.entryComponents)\n .map(function (type) { return
_this._getEntryComponentMetadata(type); })\n .concat(entryComponentMetadata);\n }\n
if (!selector) {\n selector = this._schemaRegistry.getDefaultComponentElementName();\n
}\n }\n else {\n // Directive\n if (!selector) {\n selector = null;\n
}\n }\n var providers = [];\n if (dirMeta.providers != null) {\n providers =
this._getProvidersMetadata(dirMeta.providers, entryComponentMetadata, \"providers for \\\"\" +
```

```
stringifyType(directiveType) + \"\\\"\", [], directiveType);\n            }\n            var queries = [];\n            var
viewQueries = [];\n            if (dirMeta.queries
 != null) {\n                queries = this._getQueriesMetadata(dirMeta.queries, false, directiveType);\n
viewQueries = this._getQueriesMetadata(dirMeta.queries, true, directiveType);\n            }\n            var metadata =
CompileDirectiveMetadata.create({\n                isHost: false,\n                selector: selector,\n                exportAs:
noUndefined(dirMeta.exportAs),\n                isComponent: !!nonNormalizedTemplateMetadata,\n                type:
this._getTypeMetadata(directiveType),\n                template: nonNormalizedTemplateMetadata,\n
changeDetection: changeDetectionStrategy,\n                inputs: dirMeta.inputs || [],\n                outputs:
dirMeta.outputs || [],\n                host: dirMeta.host || {},\n                providers: providers || [],\n
viewProviders: viewProviders || [],\n                queries: queries || [],\n                guards: dirMeta.guards || {},\n
 viewQueries:
 viewQueries || [],\n                entryComponents: entryComponentMetadata,\n                componentViewType:
nonNormalizedTemplateMetadata ? this.getComponentViewClass(directiveType) :\n                    null,\n
rendererType: nonNormalizedTemplateMetadata ? this.getRendererType(directiveType) : null,\n
componentFactory: null\n            });\n            if (nonNormalizedTemplateMetadata) {\n
metadata.componentFactory =\n                    this.getComponentFactory(selector, directiveType, metadata.inputs,
metadata.outputs);\n            }\n            cacheEntry = { metadata: metadata, annotation: dirMeta };\n
this._nonNormalizedDirectiveCache.set(directiveType, cacheEntry);\n            return cacheEntry;\n        };\n
/**\n         * Gets the metadata for the given directive.\n         * This assumes
`loadNgModuleDirectiveAndPipeMetadata` has been called first.\n         */\n
CompileMetadataResolver.prototype.getDirectiveMetadata
 = function (directiveType) {\n            var dirMeta = this._directiveCache.get(directiveType);\n            if (!dirMeta)
{\n                this._reportError(syntaxError(\"Illegal state: getDirectiveMetadata can only be called after
loadNgModuleDirectiveAndPipeMetadata for a module that declares it. Directive \" + stringifyType(directiveType)
+ \".\"), directiveType);\n            }\n            return dirMeta;\n        };\n
CompileMetadataResolver.prototype.getDirectiveSummary = function (dirType) {\n            var dirSummary =
this._loadSummary(dirType, exports.CompileSummaryKind.Directive);\n            if (!dirSummary) {\n
this._reportError(syntaxError(\"Illegal state: Could not load the summary for directive \" + stringifyType(dirType) +
\".\"), dirType);\n            }\n            return dirSummary;\n        };\n
CompileMetadataResolver.prototype.isDirective = function (type) {\n            return !!this._loadSummary(type,
 exports.CompileSummaryKind.Directive) ||\n                this._directiveResolver.isDirective(type);\n        };\n
CompileMetadataResolver.prototype.isAbstractDirective = function (type) {\n            var summary =
this._loadSummary(type, exports.CompileSummaryKind.Directive);\n            if (summary &&
!summary.isComponent) {\n                return !summary.selector;\n            }\n            var meta =
this._directiveResolver.resolve(type, false);\n            if (meta && !createComponent.isTypeOf(meta)) {\n
return !meta.selector;\n            }\n            return false;\n        };\n        CompileMetadataResolver.prototype.isPipe =
function (type) {\n            return !!this._loadSummary(type, exports.CompileSummaryKind.Pipe) ||\n
this._pipeResolver.isPipe(type);\n        };\n        CompileMetadataResolver.prototype.isNgModule = function (type)
{\n            return !!this._loadSummary(type, exports.CompileSummaryKind.NgModule)
 ||\n                this._ngModuleResolver.isNgModule(type);\n        };\n
CompileMetadataResolver.prototype.getNgModuleSummary = function (moduleType, alreadyCollecting) {\n
if (alreadyCollecting === void 0) { alreadyCollecting = null; }\n            var moduleSummary =
this._loadSummary(moduleType, exports.CompileSummaryKind.NgModule);\n            if (!moduleSummary) {\n
        var moduleMeta = this.getNgModuleMetadata(moduleType, false, alreadyCollecting);\n
moduleSummary = moduleMeta ? moduleMeta.toSummary() : null;\n                if (moduleSummary) {\n
this._summaryCache.set(moduleType, moduleSummary);\n                }\n            }\n            return
moduleSummary;\n        };\n        /**\n         * Loads the declared directives and pipes of an NgModule.\n         */\n
  CompileMetadataResolver.prototype.loadNgModuleDirectiveAndPipeMetadata = function (moduleType, isSync,
```

```
throwIfNotFound) {\n            var
 _this = this;\n            if (throwIfNotFound === void 0) { throwIfNotFound = true; }\n            var ngModule =
this.getNgModuleMetadata(moduleType, throwIfNotFound);\n            var loading = [];\n            if (ngModule) {\n
          ngModule.declaredDirectives.forEach(function (id) {\n                  var promise =
_this.loadDirectiveMetadata(moduleType, id.reference, isSync);\n                  if (promise) {\n
loading.push(promise);\n                  }\n              });\n              ngModule.declaredPipes.forEach(function (id) {
return _this._loadPipeMetadata(id.reference); });\n            }\n            return Promise.all(loading);\n        };\n
CompileMetadataResolver.prototype.getShallowModuleMetadata = function (moduleType) {\n            var
compileMeta = this._shallowModuleCache.get(moduleType);\n            if (compileMeta) {\n                return
compileMeta;\n            }\n            var ngModuleMeta = findLast(this._reflector.shallowAnnotations(moduleType),
 createNgModule.isTypeOf);\n            compileMeta = {\n                type: this._getTypeMetadata(moduleType),\n
        rawExports: ngModuleMeta.exports,\n                rawImports: ngModuleMeta.imports,\n                rawProviders:
ngModuleMeta.providers,\n            };\n            this._shallowModuleCache.set(moduleType, compileMeta);\n
return compileMeta;\n        };\n        CompileMetadataResolver.prototype.getNgModuleMetadata = function
(moduleType, throwIfNotFound, alreadyCollecting) {\n            var _this = this;\n            if (throwIfNotFound ===
void 0) { throwIfNotFound = true; }\n            if (alreadyCollecting === void 0) { alreadyCollecting = null; }\n
moduleType = resolveForwardRef(moduleType);\n            var compileMeta =
this._ngModuleCache.get(moduleType);\n            if (compileMeta) {\n                return compileMeta;\n            }\n
      var meta = this._ngModuleResolver.resolve(moduleType,
 throwIfNotFound);\n            if (!meta) {\n                return null;\n            }\n            var declaredDirectives = [];\n
     var exportedNonModuleIdentifiers = [];\n            var declaredPipes = [];\n            var importedModules = [];\n
    var exportedModules = [];\n            var providers = [];\n            var entryComponents = [];\n            var
bootstrapComponents = [];\n            var schemas = [];\n            if (meta.imports) {\n
flattenAndDedupeArray(meta.imports).forEach(function (importedType) {\n                  var importedModuleType
= undefined;\n                  if (isValidType(importedType)) {\n                      importedModuleType =
importedType;\n                  }\n                  else if (importedType && importedType.ngModule) {\n
var moduleWithProviders = importedType;\n                      importedModuleType =
moduleWithProviders.ngModule;\n
                  if (moduleWithProviders.providers) {\n                      providers.push.apply(providers,
__spread(_this._getProvidersMetadata(moduleWithProviders.providers, entryComponents, \"provider for the
NgModule '\" + stringifyType(importedModuleType) + \"'\", [], importedType)));\n                  }\n
}\n                  if (importedModuleType) {\n                      if (_this._checkSelfImport(moduleType,
importedModuleType))\n                          return;\n                      if (!alreadyCollecting)\n
alreadyCollecting = new Set();\n                      if (alreadyCollecting.has(importedModuleType)) {\n
_this._reportError(syntaxError(_this._getTypeDescriptor(importedModuleType) + \" '\" +
stringifyType(importedType) + \"' is imported recursively by the module '\" + stringifyType(moduleType) + \"'.\"),
moduleType);\n                          return;\n
              }\n                      alreadyCollecting.add(importedModuleType);\n                      var
importedModuleSummary = _this.getNgModuleSummary(importedModuleType, alreadyCollecting);\n
 alreadyCollecting.delete(importedModuleType);\n                      if (!importedModuleSummary) {\n
 _this._reportError(syntaxError(\"Unexpected \" + _this._getTypeDescriptor(importedType) + \" '\" +
stringifyType(importedType) + \"' imported by the module '\" + stringifyType(moduleType) + \"'. Please add a
@NgModule annotation.\"), moduleType);\n                          return;\n                      }\n
importedModules.push(importedModuleSummary);\n                  }\n                  else {\n
_this._reportError(syntaxError(\"Unexpected value '\" + stringifyType(importedType) + \"' imported by the module
'\" + stringifyType(moduleType) + \"'\"), moduleType);\n
        return;\n                  }\n              });\n          }\n          if (meta.exports) {\n
flattenAndDedupeArray(meta.exports).forEach(function (exportedType) {\n                  if
```

(!isValidType(exportedType)) {\n _this._reportError(syntaxError(\"Unexpected value '\" + stringifyType(exportedType) + \"' exported by the module '\" + stringifyType(moduleType) + \"'\"), moduleType);\n return;\n }\n if (!alreadyCollecting)\n alreadyCollecting = new Set();\n if (alreadyCollecting.has(exportedType)) {\n _this._reportError(syntaxError(_this._getTypeDescriptor(exportedType) + \" '\" + stringify(exportedType) + \"' is exported recursively by the module '\" + stringifyType(moduleType) + \"'\"), moduleType);\n return;\n }\n alreadyCollecting.add(exportedType);\n var exportedModuleSummary = _this.getNgModuleSummary(exportedType, alreadyCollecting);\n alreadyCollecting.delete(exportedType);\n if (exportedModuleSummary) {\n exportedModules.push(exportedModuleSummary);\n }\n else {\n exportedNonModuleIdentifiers.push(_this._getIdentifierMetadata(exportedType));\n }\n });\n }\n // Note: This will be modified later, so we rely on\n // getting a new instance every time!\n var transitiveModule = this._getTransitiveNgModuleMetadata(importedModules, exportedModules);\n if (meta.declarations) {\n flattenAndDedupeArray(meta.declarations).forEach(function (declaredType) {\n if (!isValidType(declaredType)) {\n _this._reportError(syntaxError(\"Unexpected value '\" + stringifyType(declaredType)\n + \"' declared by the module '\" + stringifyType(moduleType) + \"'\"), moduleType);\n return;\n }\n var declaredIdentifier = _this._getIdentifierMetadata(declaredType);\n if (_this.isDirective(declaredType)) {\n if (_this.isAbstractDirective(declaredType)) {\n _this._reportError(syntaxError(\"Directive \" + stringifyType(declaredType) + \" has no selector, please add it!\"), declaredType);\n }\n transitiveModule.addDirective(declaredIdentifier);\n declaredDirectives.push(declaredIdentifier);\n _this._addTypeToModule(declaredType, moduleType);\n }\n else if (_this.isPipe(declaredType)) {\n transitiveModule.addPipe(declaredIdentifier);\n transitiveModule.pipes.push(declaredIdentifier);\n declaredPipes.push(declaredIdentifier);\n _this._addTypeToModule(declaredType, moduleType);\n }\n else {\n _this._reportError(syntaxError(\"Unexpected \" + _this._getTypeDescriptor(declaredType) + \" '\" + stringifyType(declaredType) + \"' declared by the module '\" + stringifyType(moduleType) + \"'. Please add a @Pipe/@Directive/@Component annotation.\"), moduleType);\n return;\n }\n });\n }\n var exportedDirectives = [];\n var exportedPipes = [];\n exportedNonModuleIdentifiers.forEach(function (exportedId) {\n if (transitiveModule.directivesSet.has(exportedId.reference)) {\n exportedDirectives.push(exportedId);\n transitiveModule.addExportedDirective(exportedId);\n }\n else if (transitiveModule.pipesSet.has(exportedId.reference)) {\n exportedPipes.push(exportedId);\n transitiveModule.addExportedPipe(exportedId);\n }\n else {\n _this._reportError(syntaxError(\"Can't export \" + _this._getTypeDescriptor(exportedId.reference) + \" \" + stringifyType(exportedId.reference) + \" from \" + stringifyType(moduleType) + \" as it was neither declared nor imported!\"), moduleType);\n return;\n }\n });\n // The providers of the module have to go last\n // so that they overwrite any other provider we already added.\n if (meta.providers) {\n providers.push.apply(providers, __spread(this._getProvidersMetadata(meta.providers, entryComponents, \"provider for the NgModule '\" + stringifyType(moduleType) + \"'\", [], moduleType)));\n }\n if (meta.entryComponents) {\n entryComponents.push.apply(entryComponents, __spread(flattenAndDedupeArray(meta.entryComponents)\n .map(function (type) { return _this._getEntryComponentMetadata(type); })));\n }\n if (meta.bootstrap) {\n flattenAndDedupeArray(meta.bootstrap).forEach(function (type) {\n if (!isValidType(type)) {\n _this._reportError(syntaxError(\"Unexpected value '\" + stringifyType(type) + \"' used in the bootstrap property of module '\" + stringifyType(moduleType) + \"'\"), moduleType);\n return;\n }\n bootstrapComponents.push(_this._getIdentifierMetadata(type));\n });\n }\n entryComponents.push.apply(entryComponents,

```
__spread(bootstrapComponents.map(function (type) { return _this._getEntryComponentMetadata(type.reference); })));\n            if (meta.schemas) {\n                schemas.push.apply(schemas, __spread(flattenAndDedupeArray(meta.schemas)));\n            }\n            compileMeta = new CompileNgModuleMetadata({\n                type: this._getTypeMetadata(moduleType),\n                providers: providers,\n                entryComponents: entryComponents,\n                bootstrapComponents: bootstrapComponents,\n                schemas: schemas,\n                declaredDirectives: declaredDirectives,\n                exportedDirectives: exportedDirectives,\n                declaredPipes: declaredPipes,\n                exportedPipes: exportedPipes,\n                importedModules: importedModules,\n                exportedModules: exportedModules,\n                transitiveModule: transitiveModule,\n                id: meta.id || null,\n            });\n            entryComponents.forEach(function (id) { return transitiveModule.addEntryComponent(id); });\n            providers.forEach(function (provider) { return transitiveModule.addProvider(provider, compileMeta.type); });\n            transitiveModule.addModule(compileMeta.type);\n            this._ngModuleCache.set(moduleType, compileMeta);\n            return compileMeta;\n        };\n        CompileMetadataResolver.prototype._checkSelfImport = function (moduleType, importedModuleType) {\n            if (moduleType === importedModuleType) {\n                this._reportError(syntaxError(\"'\" + stringifyType(moduleType) + \"' module can't import itself\"), moduleType);\n                return true;\n            }\n            return false;\n        };\n        CompileMetadataResolver.prototype._getTypeDescriptor = function (type) {\n            if (isValidType(type)) {\n                if (this.isDirective(type)) {\n                    return 'directive';\n                }\n                if (this.isPipe(type)) {\n                    return 'pipe';\n                }\n                if (this.isNgModule(type)) {\n                    return 'module';\n                }\n            }\n            if (type.provide) {\n                return 'provider';\n            }\n            return 'value';\n        };\n        CompileMetadataResolver.prototype._addTypeToModule = function (type, moduleType) {\n            var oldModule = this._ngModuleOfTypes.get(type);\n            if (oldModule && oldModule !== moduleType) {\n                this._reportError(syntaxError(\"Type \" + stringifyType(type) + \" is part of the declarations of 2 modules: \" + stringifyType(oldModule) + \" and \" + stringifyType(moduleType) + \"! \" +\n                    (\"Please consider moving \" + stringifyType(type) + \" to a higher module that imports \" + stringifyType(oldModule) + \" and \" + stringifyType(moduleType) + \". \") +\n                    (\"You can also create a new NgModule that exports and includes \" + stringifyType(type) + \" then import that NgModule in \" + stringifyType(oldModule) + \" and \" + stringifyType(moduleType) + \".\")), moduleType);\n                return;\n            }\n            this._ngModuleOfTypes.set(type, moduleType);\n        };\n        CompileMetadataResolver.prototype._getTransitiveNgModuleMetadata = function (importedModules, exportedModules) {\n            // collect `providers` / `entryComponents` from all imported and all exported modules\n            var result = new TransitiveCompileNgModuleMetadata();\n            var modulesByToken = new Map();\n            importedModules.concat(exportedModules).forEach(function (modSummary) {\n                modSummary.modules.forEach(function (mod) { return result.addModule(mod); });\n                modSummary.entryComponents.forEach(function (comp) { return result.addEntryComponent(comp); });\n                var addedTokens = new Set();\n                modSummary.providers.forEach(function (entry) {\n                    var tokenRef = tokenReference(entry.provider.token);\n                    var prevModules = modulesByToken.get(tokenRef);\n                    if (!prevModules) {\n                        prevModules = new Set();\n                        modulesByToken.set(tokenRef, prevModules);\n                    }\n                    var moduleRef = entry.module.reference;\n                    // Note: the providers of one module may still contain multiple providers\n                    // per token (e.g. for multi providers), and we need to preserve these.\n                    if (addedTokens.has(tokenRef) || !prevModules.has(moduleRef)) {\n                        prevModules.add(moduleRef);\n                        addedTokens.add(tokenRef);\n                        result.addProvider(entry.provider, entry.module);\n                    }\n                });\n            });\n            exportedModules.forEach(function (modSummary) {\n                modSummary.exportedDirectives.forEach(function (id) { return result.addExportedDirective(id); });\n                modSummary.exportedPipes.forEach(function (id) { return result.addExportedPipe(id); });\n
```

```
});\n importedModules.forEach(function (modSummary) {\n modSummary.exportedDirectives.forEach(function (id) { return result.addDirective(id); });\n modSummary.exportedPipes.forEach(function (id) { return result.addPipe(id); });\n });\n return result;\n };\n CompileMetadataResolver.prototype._getIdentifierMetadata = function (type) {\n type = resolveForwardRef(type);\n return { reference: type };\n };\n CompileMetadataResolver.prototype.isInjectable = function (type) {\n var annotations = this._reflector.tryAnnotations(type);\n return annotations.some(function (ann) { return createInjectable.isTypeOf(ann); });\n };\n CompileMetadataResolver.prototype.getInjectableSummary = function (type) {\n return {\n summaryKind: exports.CompileSummaryKind.Injectable,\n type: this._getTypeMetadata(type, null, false)\n };\n };\n CompileMetadataResolver.prototype.getInjectableMetadata = function (type, dependencies, throwOnUnknownDeps) {\n if (dependencies === void 0) { dependencies = null; }\n if (throwOnUnknownDeps === void 0) { throwOnUnknownDeps = true; }\n var typeSummary = this._loadSummary(type, exports.CompileSummaryKind.Injectable);\n var typeMetadata = typeSummary ?\n typeSummary.type :\n this._getTypeMetadata(type, dependencies, throwOnUnknownDeps);\n var annotations = this._reflector.annotations(type).filter(function (ann) { return createInjectable.isTypeOf(ann); });\n if (annotations.length === 0) {\n return null;\n }\n var meta = annotations[annotations.length - 1];\n return {\n symbol: type,\n type: typeMetadata,\n providedIn: meta.providedIn,\n useValue: meta.useValue,\n useClass: meta.useClass,\n useExisting: meta.useExisting,\n useFactory: meta.useFactory,\n deps: meta.deps,\n };\n };\n CompileMetadataResolver.prototype._getTypeMetadata = function (type, dependencies, throwOnUnknownDeps) {\n if (dependencies === void 0) { dependencies = null; }\n if (throwOnUnknownDeps === void 0) { throwOnUnknownDeps = true; }\n var identifier = this._getIdentifierMetadata(type);\n return {\n reference: identifier.reference,\n diDeps: this._getDependenciesMetadata(identifier.reference, dependencies, throwOnUnknownDeps),\n lifecycleHooks: getAllLifecycleHooks(this._reflector, identifier.reference),\n };\n };\n CompileMetadataResolver.prototype._getFactoryMetadata = function (factory, dependencies) {\n if (dependencies === void 0) { dependencies = null; }\n factory = resolveForwardRef(factory);\n return { reference: factory, diDeps: this._getDependenciesMetadata(factory, dependencies) };\n };\n /**\n * Gets the metadata for the given pipe.\n * This assumes `loadNgModuleDirectiveAndPipeMetadata` has been called first.\n */\n CompileMetadataResolver.prototype.getPipeMetadata = function (pipeType) {\n var pipeMeta = this._pipeCache.get(pipeType);\n if (!pipeMeta) {\n this._reportError(syntaxError(\"Illegal state: getPipeMetadata can only be called after loadNgModuleDirectiveAndPipeMetadata for a module that declares it. Pipe \" + stringifyType(pipeType) + \".\"), pipeType);\n }\n return pipeMeta || null;\n };\n CompileMetadataResolver.prototype.getPipeSummary = function (pipeType) {\n var pipeSummary = this._loadSummary(pipeType, exports.CompileSummaryKind.Pipe);\n if (!pipeSummary) {\n this._reportError(syntaxError(\"Illegal state: Could not load the summary for pipe \" + stringifyType(pipeType) + \".\"), pipeType);\n }\n return pipeSummary;\n };\n CompileMetadataResolver.prototype.getOrLoadPipeMetadata = function (pipeType) {\n var pipeMeta = this._pipeCache.get(pipeType);\n if (!pipeMeta) {\n pipeMeta = this._loadPipeMetadata(pipeType);\n }\n return pipeMeta;\n };\n CompileMetadataResolver.prototype._loadPipeMetadata = function (pipeType) {\n pipeType = resolveForwardRef(pipeType);\n var pipeAnnotation = this._pipeResolver.resolve(pipeType);\n var pipeMeta = new CompilePipeMetadata({\n type: this._getTypeMetadata(pipeType),\n name: pipeAnnotation.name,\n pure: !!pipeAnnotation.pure\n });\n this._pipeCache.set(pipeType, pipeMeta);\n this._summaryCache.set(pipeType, pipeMeta.toSummary());\n return pipeMeta;\n };\n CompileMetadataResolver.prototype._getDependenciesMetadata = function (typeOrFunc, dependencies,
```

```
throwOnUnknownDeps) {\n            var _this = this;\n            if (throwOnUnknownDeps === void 0) {
throwOnUnknownDeps = true; }\n            var hasUnknownDeps = false;\n            var params = dependencies ||
this._reflector.parameters(typeOrFunc) || [];\n            var dependenciesMetadata = params.map(function (param) {\n
            var isAttribute = false;\n                var isHost = false;\n                var isSelf = false;\n                var isSkipSelf
= false;\n                var isOptional = false;\n                var token = null;\n                if (Array.isArray(param)) {\n
        param.forEach(function (paramEntry) {\n                    if (createHost.isTypeOf(paramEntry)) {\n
      isHost =
 true;\n                    }\n                    else if (createSelf.isTypeOf(paramEntry)) {\n                        isSelf =
true;\n                    }\n                    else if (createSkipSelf.isTypeOf(paramEntry)) {\n
isSkipSelf = true;\n                    }\n                    else if (createOptional.isTypeOf(paramEntry)) {\n
    isOptional = true;\n                    }\n                    else if (createAttribute.isTypeOf(paramEntry)) {\n
        isAttribute = true;\n                        token = paramEntry.attributeName;\n                    }\n
else if (createInject.isTypeOf(paramEntry)) {\n                        token = paramEntry.token;\n                    }\n
            else if (createInjectionToken.isTypeOf(paramEntry) ||\n                        paramEntry instanceof
StaticSymbol) {\n
            token = paramEntry;\n                    }\n                    else if (isValidType(paramEntry) && token == null)
{\n                        token = paramEntry;\n                    }\n                });\n                }\n                else {\n
      token = param;\n                }\n                if (token == null) {\n                    hasUnknownDeps = true;\n
return {};\n                }\n                return {\n                    isAttribute: isAttribute,\n                    isHost: isHost,\n
            isSelf: isSelf,\n                    isSkipSelf: isSkipSelf,\n                    isOptional: isOptional,\n                    token:
_this._getTokenMetadata(token)\n                };\n            });\n            if (hasUnknownDeps) {\n                var
depsTokens = dependenciesMetadata.map(function (dep) { return dep.token ? stringifyType(dep.token) : '?';
}).join(', ');\n                var message
 = \"Can't resolve all parameters for \" + stringifyType(typeOrFunc) + \": (\" + depsTokens + \").\";\n                if
(throwOnUnknownDeps || this._config.strictInjectionParameters) {\n
this._reportError(syntaxError(message), typeOrFunc);\n                }\n            }\n            return
dependenciesMetadata;\n        };\n        CompileMetadataResolver.prototype._getTokenMetadata = function (token)
{\n            token = resolveForwardRef(token);\n            var compileToken;\n            if (typeof token === 'string') {\n
            compileToken = { value: token };\n            }\n            else {\n                compileToken = { identifier: {
reference: token } };\n            }\n            return compileToken;\n        };\n
CompileMetadataResolver.prototype._getProvidersMetadata = function (providers, targetEntryComponents,
debugInfo, compileProviders, type) {\n            var _this = this;\n            if (compileProviders === void 0)
 { compileProviders = []; }\n            providers.forEach(function (provider, providerIdx) {\n                if
(Array.isArray(provider)) {\n                    _this._getProvidersMetadata(provider, targetEntryComponents,
debugInfo, compileProviders);\n                }\n                else {\n                    provider =
resolveForwardRef(provider);\n                    var providerMeta = undefined;\n                    if (provider && typeof
provider === 'object' && provider.hasOwnProperty('provide')) {\n
_this._validateProvider(provider);\n                        providerMeta = new ProviderMeta(provider.provide, provider);\n
                }\n                    else if (isValidType(provider)) {\n                        providerMeta = new
ProviderMeta(provider, { useClass: provider });\n                    }\n                    else if (provider === void 0) {\n
            _this._reportError(syntaxError(\"Encountered undefined provider! Usually
 this means you have a circular dependencies. This might be caused by using 'barrel' index.ts files.\"));\n
  return;\n                    }\n                    else {\n                        var providersInfo = providers\n
.reduce(function (soFar, seenProvider, seenProviderIdx) {\n                            if (seenProviderIdx < providerIdx) {\n
                    soFar.push(\"\" + stringifyType(seenProvider));\n                            }\n                            else if
(seenProviderIdx == providerIdx) {\n                                soFar.push(\"?\" + stringifyType(seenProvider) + \"?\");\n
                    }\n                            else if (seenProviderIdx == providerIdx + 1) {\n
soFar.push('...');\n                            }\n                            return soFar;\n                        }, [])\n                        .join(',
```

');\n
_this._reportError(syntaxError(\"Invalid \" + (debugInfo ?\n debugInfo :\n 'provider') + \" - only instances of Provider and Type are allowed, got: [\" + providersInfo + \"]\"), type);\n return;\n }\n if (providerMeta.token ===\n _this._reflector.resolveExternalReference(Identifiers.ANALYZE_FOR_ENTRY_COMPONENTS)) {\n targetEntryComponents.push.apply(targetEntryComponents, __spread(_this._getEntryComponentsFromProvider(providerMeta, type)));\n }\n else {\n compileProviders.push(_this.getProviderMetadata(providerMeta));\n }\n }\n });\n return compileProviders;\n };\n CompileMetadataResolver.prototype._validateProvider = function (provider) {\n if (provider.hasOwnProperty('useClass') && provider.useClass == null) {\n this._reportError(syntaxError(\"Invalid provider for \" + stringifyType(provider.provide) + \". useClass cannot be \" + provider.useClass + \".\\n Usually it happens when:\\n 1. There's a circular dependency (might be caused by using index.ts (barrel) files).\\n 2. Class was used before it was declared. Use forwardRef in this case.\"));\n }\n };\n CompileMetadataResolver.prototype._getEntryComponentsFromProvider = function (provider, type) {\n var _this = this;\n var components = [];\n var collectedIdentifiers = [];\n if (provider.useFactory || provider.useExisting || provider.useClass) {\n this._reportError(syntaxError(\"The ANALYZE_FOR_ENTRY_COMPONENTS token only supports useValue!\"), type);\n return [];\n }\n if (!provider.multi) {\n this._reportError(syntaxError(\"The ANALYZE_FOR_ENTRY_COMPONENTS token only supports 'multi = true'!\"), type);\n return [];\n }\n extractIdentifiers(provider.useValue, collectedIdentifiers);\n collectedIdentifiers.forEach(function (identifier) {\n var entry = _this._getEntryComponentMetadata(identifier.reference, false);\n if (entry) {\n components.push(entry);\n }\n });\n return components;\n };\n CompileMetadataResolver.prototype._getEntryComponentMetadata = function (dirType, throwIfNotFound) {\n if (throwIfNotFound === void 0) { throwIfNotFound = true; }\n var dirMeta = this.getNonNormalizedDirectiveMetadata(dirType);\n if (dirMeta && dirMeta.metadata.isComponent) {\n return { componentType: dirType, componentFactory: dirMeta.metadata.componentFactory };\n }\n var dirSummary = this._loadSummary(dirType, exports.CompileSummaryKind.Directive);\n if (dirSummary && dirSummary.isComponent) {\n return { componentType: dirType, componentFactory: dirSummary.componentFactory };\n }\n if (throwIfNotFound) {\n throw syntaxError(dirType.name + \" cannot be used as an entry component.\");\n }\n return null;\n };\n CompileMetadataResolver.prototype._getInjectableTypeMetadata = function (type, dependencies) {\n if (dependencies === void 0) { dependencies = null; }\n var typeSummary = this._loadSummary(type, exports.CompileSummaryKind.Injectable);\n if (typeSummary) {\n return typeSummary.type;\n }\n return this._getTypeMetadata(type, dependencies);\n };\n CompileMetadataResolver.prototype.getProviderMetadata = function (provider) {\n var compileDeps = undefined;\n var compileTypeMetadata = null;\n var compileFactoryMetadata = null;\n var token = this._getTokenMetadata(provider.token);\n if (provider.useClass) {\n compileTypeMetadata =\n this._getInjectableTypeMetadata(provider.useClass, provider.dependencies);\n compileDeps = compileTypeMetadata.diDeps;\n if (provider.token === provider.useClass) {\n // use the compileTypeMetadata as it contains information about lifecycleHooks...\n token = { identifier: compileTypeMetadata };\n }\n }\n else if (provider.useFactory) {\n compileFactoryMetadata = this._getFactoryMetadata(provider.useFactory, provider.dependencies);\n compileDeps = compileFactoryMetadata.diDeps;\n }\n return {\n token: token,\n useClass: compileTypeMetadata,\n useValue: provider.useValue,\n

```
useFactory: compileFactoryMetadata,\n useExisting: provider.useExisting ? this._getTokenMetadata(provider.useExisting) : undefined,\n deps: compileDeps,\n multi: provider.multi\n };\n };\n CompileMetadataResolver.prototype._getQueriesMetadata = function (queries, isViewQuery, directiveType) {\n var _this = this;\n var res = [];\n Object.keys(queries).forEach(function (propertyName) {\n var query = queries[propertyName];\n if (query.isViewQuery === isViewQuery) {\n res.push(_this._getQueryMetadata(query, propertyName, directiveType));\n }\n });\n return res;\n };\n CompileMetadataResolver.prototype._queryVarBindings = function (selector) {\n return selector.split(/\\s*,\\s*/);\n };\n CompileMetadataResolver.prototype._getQueryMetadata = function (q, propertyName,
 typeOrFunc) {\n var _this = this;\n var selectors;\n if (typeof q.selector === 'string') {\n selectors =\n this._queryVarBindings(q.selector).map(function (varName) { return _this._getTokenMetadata(varName); });\n }\n else {\n if (!q.selector) {\n this._reportError(syntaxError(\"Can't construct a query for the property \\\"\" + propertyName + \"\\\" of \\\"\" + stringifyType(typeOrFunc) + \"\\\"\" since the query selector wasn't defined.\"), typeOrFunc);\n selectors = [];\n }\n else {\n selectors = [this._getTokenMetadata(q.selector)];\n }\n }\n return {\n selectors: selectors,\n first: q.first,\n descendants: q.descendants,\n propertyName: propertyName,\n read: q.read ? this._getTokenMetadata(q.read)
 : null,\n static: q.static\n };\n };\n CompileMetadataResolver.prototype._reportError = function (error, type, otherType) {\n if (this._errorCollector) {\n this._errorCollector(error, type);\n if (otherType) {\n this._errorCollector(error, otherType);\n }\n }\n else {\n throw error;\n }\n };\n return CompileMetadataResolver;\n }());\n function flattenArray(tree, out) {\n if (out === void 0) { out = []; }\n if (tree) {\n for (var i = 0; i < tree.length; i++) {\n var item = resolveForwardRef(tree[i]);\n if (Array.isArray(item)) {\n flattenArray(item, out);\n }\n else {\n out.push(item);\n }\n }\n }\n return out;\n }\n function
 dedupeArray(array) {\n if (array) {\n return Array.from(new Set(array));\n }\n return [];\n }\n function flattenAndDedupeArray(tree) {\n return dedupeArray(flattenArray(tree));\n }\n function isValidType(value) {\n return (value instanceof StaticSymbol) || (value instanceof Type);\n }\n function extractIdentifiers(value, targetIdentifiers) {\n visitValue(value, new _CompileValueConverter(), targetIdentifiers);\n }\n var _CompileValueConverter = /** @class */ (function (_super) {\n __extends(_CompileValueConverter, _super);\n function _CompileValueConverter() {\n return _super !== null && _super.apply(this, arguments) || this;\n }\n _CompileValueConverter.prototype.visitOther = function (value, targetIdentifiers) {\n targetIdentifiers.push({ reference: value });\n };\n return _CompileValueConverter;\n }(ValueTransformer));\n function stringifyType(type)
 {\n if (type instanceof StaticSymbol) {\n return type.name + \" in \" + type.filePath;\n }\n else {\n return stringify(type);\n }\n }\n /**\n * Indicates that a component is still being loaded in a synchronous compile.\n */\n function componentStillLoadingError(compType) {\n var error = Error(\"Can't compile synchronously as \" + stringify(compType) + \" is still being loaded!\");\n error[ERROR_COMPONENT_TYPE] = compType;\n return error;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function providerDef(ctx, providerAst) {\n var flags = 0 /* None */;\n if (!providerAst.eager) {\n flags |= 4096 /* LazyProvider */;\n }\n if (providerAst.providerType
 === exports.ProviderAstType.PrivateService) {\n flags |= 8192 /* PrivateProvider */;\n }\n if (providerAst.isModule) {\n flags |= 1073741824 /* TypeModuleProvider */;\n }\n providerAst.lifecycleHooks.forEach(function (lifecycleHook) {\n // for regular providers, we only support ngOnDestroy\n if (lifecycleHook === LifecycleHooks.OnDestroy ||\n providerAst.providerType
```

```
=== exports.ProviderAstType.Directive ||\n providerAst.providerType ===
exports.ProviderAstType.Component) {\n flags |= lifecycleHookToNodeFlag(lifecycleHook);\n }\n
});\n var _a = providerAst.multiProvider ?\n multiProviderDef(ctx, flags, providerAst.providers) :\n
singleProviderDef(ctx, flags, providerAst.providerType, providerAst.providers[0]), providerExpr =
_a.providerExpr, providerFlags = _a.flags, depsExpr = _a.depsExpr;\n return {\n
providerExpr: providerExpr,\n flags: providerFlags,\n depsExpr: depsExpr,\n tokenExpr:
tokenExpr(ctx, providerAst.token),\n };\n }\n function multiProviderDef(ctx, flags, providers) {\n var
allDepDefs = [];\n var allParams = [];\n var exprs = providers.map(function (provider, providerIndex) {\n
var expr;\n if (provider.useClass) {\n var depExprs = convertDeps(providerIndex, provider.deps
|| provider.useClass.diDeps);\n expr =
ctx.importExpr(provider.useClass.reference).instantiate(depExprs);\n }\n else if (provider.useFactory)
{\n var depExprs = convertDeps(providerIndex, provider.deps || provider.useFactory.diDeps);\n
expr = ctx.importExpr(provider.useFactory.reference).callFn(depExprs);\n }\n else if
(provider.useExisting) {\n var depExprs = convertDeps(providerIndex, [{ token:
provider.useExisting }]);\n expr = depExprs[0];\n }\n else {\n expr =
convertValueToOutputAst(ctx, provider.useValue);\n }\n return expr;\n });\n var
providerExpr = fn(allParams, [new ReturnStatement(literalArr(exprs))], INFERRED_TYPE);\n return {\n
providerExpr: providerExpr,\n flags: flags | 1024 /* TypeFactoryProvider */,\n depsExpr:
literalArr(allDepDefs)\n };\n function convertDeps(providerIndex, deps) {\n return
deps.map(function (dep, depIndex) {\n var paramName = \"p\" + providerIndex + \"_\" + depIndex;\n
allParams.push(new FnParam(paramName, DYNAMIC_TYPE));\n allDepDefs.push(depDef(ctx,
dep));\n return variable(paramName);\n });\n }\n }\n function singleProviderDef(ctx, flags,
providerType, providerMeta) {\n var providerExpr;\n
var deps;\n if (providerType === exports.ProviderAstType.Directive || providerType ===
exports.ProviderAstType.Component) {\n providerExpr =
ctx.importExpr(providerMeta.useClass.reference);\n flags |= 16384 /* TypeDirective */;\n deps =
providerMeta.deps || providerMeta.useClass.diDeps;\n }\n else {\n if (providerMeta.useClass) {\n
providerExpr = ctx.importExpr(providerMeta.useClass.reference);\n flags |= 512 /*
TypeClassProvider */;\n deps = providerMeta.deps || providerMeta.useClass.diDeps;\n }\n
else if (providerMeta.useFactory) {\n providerExpr =
ctx.importExpr(providerMeta.useFactory.reference);\n flags |= 1024 /* TypeFactoryProvider */;\n
deps = providerMeta.deps || providerMeta.useFactory.diDeps;\n }\n else if (providerMeta.useExisting)
{\n providerExpr = NULL_EXPR;\n
flags |= 2048 /* TypeUseExistingProvider */;\n deps = [{ token: providerMeta.useExisting }];\n
}\n else {\n providerExpr = convertValueToOutputAst(ctx, providerMeta.useValue);\n
flags |= 256 /* TypeValueProvider */;\n deps = [];\n }\n }\n var depsExpr =
literalArr(deps.map(function (dep) { return depDef(ctx, dep); }));\n return { providerExpr: providerExpr, flags:
flags, depsExpr: depsExpr };\n }\n function tokenExpr(ctx, tokenMeta) {\n return tokenMeta.identifier ?
ctx.importExpr(tokenMeta.identifier.reference) :\n literal(tokenMeta.value);\n }\n function depDef(ctx,
dep) {\n // Note: the following fields have already been normalized out by provider_analyzer:\n // -
isAttribute, isHost\n var expr = dep.isValue ? convertValueToOutputAst(ctx, dep.value) : tokenExpr(ctx,
dep.token);\n var flags = 0 /*
None */;\n if (dep.isSkipSelf) {\n flags |= 1 /* SkipSelf */;\n }\n if (dep.isOptional) {\n
flags |= 2 /* Optional */;\n }\n if (dep.isSelf) {\n flags |= 4 /* Self */;\n }\n if (dep.isValue)
{\n flags |= 8 /* Value */;\n }\n return flags === 0 /* None */ ? expr : literalArr([literal(flags),
expr]);\n }\n function lifecycleHookToNodeFlag(lifecycleHook) {\n var nodeFlag = 0 /* None */;\n
switch (lifecycleHook) {\n case LifecycleHooks.AfterContentChecked:\n nodeFlag = 2097152 /*
AfterContentChecked */;\n break;\n case LifecycleHooks.AfterContentInit:\n nodeFlag =
```

```
1048576 /* AfterContentInit */;\n                break;\n            case LifecycleHooks.AfterViewChecked:\n
nodeFlag = 8388608 /* AfterViewChecked */;\n                break;\n            case LifecycleHooks.AfterViewInit:\n
                nodeFlag = 4194304 /* AfterViewInit */;\n                break;\n            case LifecycleHooks.DoCheck:\n
        nodeFlag = 262144 /* DoCheck */;\n                break;\n            case LifecycleHooks.OnChanges:\n
nodeFlag = 524288 /* OnChanges */;\n                break;\n            case LifecycleHooks.OnDestroy:\n
nodeFlag = 131072 /* OnDestroy */;\n                break;\n            case LifecycleHooks.OnInit:\n                nodeFlag =
65536 /* OnInit */;\n                break;\n        }\n        return nodeFlag;\n    }\n    function
componentFactoryResolverProviderDef(reflector, ctx, flags, entryComponents) {\n        var
entryComponentFactories = entryComponents.map(function (entryComponent) { return
ctx.importExpr(entryComponent.componentFactory); });\n        var token =
createTokenForExternalReference(reflector, Identifiers.ComponentFactoryResolver);\n        var classMeta = {\n
  diDeps: [\n
    { isValue: true, value: literalArr(entryComponentFactories) },\n                { token: token, isSkipSelf: true,
isOptional: true },\n                { token: createTokenForExternalReference(reflector, Identifiers.NgModuleRef) },\n
      ],\n            lifecycleHooks: [],\n            reference:
reflector.resolveExternalReference(Identifiers.CodegenComponentFactoryResolver)\n        };\n        var _a =
singleProviderDef(ctx, flags, exports.ProviderAstType.PrivateService, {\n            token: token,\n            multi:
false,\n            useClass: classMeta,\n        }), providerExpr = _a.providerExpr, providerFlags = _a.flags, depsExpr =
_a.depsExpr;\n        return { providerExpr: providerExpr, flags: providerFlags, depsExpr: depsExpr, tokenExpr:
tokenExpr(ctx, token) };\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n
  * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file
 at https://angular.io/license\n     */\n    var NgModuleCompileResult = /** @class */ (function () {\n        function
NgModuleCompileResult(ngModuleFactoryVar) {\n            this.ngModuleFactoryVar = ngModuleFactoryVar;\n
 }\n        return NgModuleCompileResult;\n    }());\n    var LOG_VAR = variable('_l');\n    var NgModuleCompiler
= /** @class */ (function () {\n        function NgModuleCompiler(reflector) {\n            this.reflector = reflector;\n
 }\n        NgModuleCompiler.prototype.compile = function (ctx, ngModuleMeta, extraProviders) {\n            var
sourceSpan = typeSourceSpan('NgModule', ngModuleMeta.type);\n            var entryComponentFactories =
ngModuleMeta.transitiveModule.entryComponents;\n            var bootstrapComponents =
ngModuleMeta.bootstrapComponents;\n            var providerParser = new NgModuleProviderAnalyzer(this.reflector,
ngModuleMeta, extraProviders, sourceSpan);\n            var providerDefs =
[componentFactoryResolverProviderDef(this.reflector,
 ctx, 0 /* None */, entryComponentFactories)]\n                .concat(providerParser.parse().map(function (provider) {
return providerDef(ctx, provider); }))\n                .map(function (_a) {\n                    var providerExpr =
_a.providerExpr, depsExpr = _a.depsExpr, flags = _a.flags, tokenExpr = _a.tokenExpr;\n                    return
importExpr(Identifiers.moduleProviderDef).callFn([\n                        literal(flags), tokenExpr, providerExpr,
depsExpr\n                    ]);\n                });\n            var ngModuleDef =
importExpr(Identifiers.moduleDef).callFn([literalArr(providerDefs)]);\n            var ngModuleDefFactory = fn([new
FnParam(LOG_VAR.name)], [new ReturnStatement(ngModuleDef)], INFERRED_TYPE);\n            var
ngModuleFactoryVar = identifierName(ngModuleMeta.type) + \"NgFactory\";\n
this._createNgModuleFactory(ctx, ngModuleMeta.type.reference,
importExpr(Identifiers.createModuleFactory).callFn([\n                    ctx.importExpr(ngModuleMeta.type.reference),\n
                literalArr(bootstrapComponents.map(function (id) { return ctx.importExpr(id.reference); })),\n
ngModuleDefFactory\n                ]));\n            if (ngModuleMeta.id) {\n                var id = typeof ngModuleMeta.id
=== 'string' ? literal(ngModuleMeta.id) :\n                    ctx.importExpr(ngModuleMeta.id);\n                var
registerFactoryStmt = importExpr(Identifiers.RegisterModuleFactoryFn)\n                    .callFn([id,
variable(ngModuleFactoryVar)])\n                    .toStmt();\n                ctx.statements.push(registerFactoryStmt);\n
    }\n            return new NgModuleCompileResult(ngModuleFactoryVar);\n        };\n
NgModuleCompiler.prototype.createStub = function (ctx, ngModuleReference) {\n
```

```
this._createNgModuleFactory(ctx, ngModuleReference, NULL_EXPR);\n        };\n
NgModuleCompiler.prototype._createNgModuleFactory = function (ctx, reference, value) {\n            var
ngModuleFactoryVar
 = identifierName({ reference: reference }) + \"NgFactory\";\n            var ngModuleFactoryStmt =
variable(ngModuleFactoryVar)\n                .set(value)\n
.toDeclStmt(importType(Identifiers.NgModuleFactory, [expressionType(ctx.importExpr(reference))],
[TypeModifier.Const]), [exports.StmtModifier.Final, exports.StmtModifier.Exported]);\n
ctx.statements.push(ngModuleFactoryStmt);\n        };\n        return NgModuleCompiler;\n    }());\n\n    /**\n     *
@license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an
MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    /**\n     *
Resolves types to {@link NgModule}.\n     */\n    var NgModuleResolver = /** @class */ (function () {\n
function NgModuleResolver(_reflector) {\n            this._reflector = _reflector;\n        }\n
NgModuleResolver.prototype.isNgModule = function
 (type) {\n            return this._reflector.annotations(type).some(createNgModule.isTypeOf);\n        };\n
NgModuleResolver.prototype.resolve = function (type, throwIfNotFound) {\n            if (throwIfNotFound === void
0) { throwIfNotFound = true; }\n            var ngModuleMeta = findLast(this._reflector.annotations(type),
createNgModule.isTypeOf);\n            if (ngModuleMeta) {\n                return ngModuleMeta;\n            }\n
else {\n                if (throwIfNotFound) {\n                    throw new Error(\"No NgModule metadata found for '\" +
stringify(type) + \"'.\");\n                }\n                return null;\n            }\n        };\n        return NgModuleResolver;\n
}());\n\n    function debugOutputAstAsTypeScript(ast) {\n        var converter = new _TsEmitterVisitor();\n        var
ctx = EmitterVisitorContext.createRoot();\n        var asts = Array.isArray(ast) ? ast : [ast];\n
asts.forEach(function (ast) {\n            if (ast
 instanceof Statement) {\n                ast.visitStatement(converter, ctx);\n            }\n            else if (ast instanceof
Expression) {\n                ast.visitExpression(converter, ctx);\n            }\n            else if (ast instanceof Type$1) {\n
            ast.visitType(converter, ctx);\n            }\n            else {\n                throw new Error(\"Don't know how to
print debug info for \" + ast);\n            }\n        });\n        return ctx.toSource();\n    }\n    var TypeScriptEmitter = /**
@class */ (function () {\n        function TypeScriptEmitter() {\n        }\n
TypeScriptEmitter.prototype.emitStatementsAndContext = function (genFilePath, stmts, preamble,
emitSourceMaps, referenceFilter, importFilter) {\n            if (preamble === void 0) { preamble = ''; }\n            if
(emitSourceMaps === void 0) { emitSourceMaps = true; }\n            var converter = new
_TsEmitterVisitor(referenceFilter, importFilter);\n            var ctx = EmitterVisitorContext.createRoot();\n
            converter.visitAllStatements(stmts, ctx);\n            var preambleLines = preamble ? preamble.split('\\n') : [];\n
        converter.reexports.forEach(function (reexports, exportedModuleName) {\n                var reexportsCode =
reexports.map(function (reexport) { return reexport.name + \" as \" + reexport.as; }).join(',');\n
preambleLines.push(\"export {\" + reexportsCode + \"} from '\" + exportedModuleName + \"';\");\n            });\n
  converter.importsWithPrefixes.forEach(function (prefix, importedModuleName) {\n                // Note: can't write
the real word for import as it screws up system.js auto detection...\n                preambleLines.push(\"imp\" +\n
      (\"ort * as \" + prefix + \" from '\" + importedModuleName + \"';\"));\n            });\n            var sm =
emitSourceMaps ?\n                ctx.toSourceMapGenerator(genFilePath, preambleLines.length).toJsComment() :\n

    ';\n            var lines = __spread(preambleLines, [ctx.toSource(), sm]);\n            if (sm) {\n                // always add
a newline at the end, as some tools have bugs without it.\n                lines.push('');\n            }\n
ctx.setPreambleLineCount(preambleLines.length);\n            return { sourceText: lines.join('\\n'), context: ctx };\n
};\n        TypeScriptEmitter.prototype.emitStatements = function (genFilePath, stmts, preamble) {\n            if
(preamble === void 0) { preamble = ''; }\n            return this.emitStatementsAndContext(genFilePath, stmts,
preamble).sourceText;\n        };\n        return TypeScriptEmitter;\n    }());\n    var _TsEmitterVisitor = /** @class */
(function (_super) {\n        __extends(_TsEmitterVisitor, _super);\n        function _TsEmitterVisitor(referenceFilter,
importFilter) {\n            var _this = _super.call(this, false) || this;\n            _this.referenceFilter = referenceFilter;\n
```

```
    _this.importFilter
 = importFilter;\n            _this.typeExpression = 0;\n            _this.importsWithPrefixes = new Map();\n
_this.reexports = new Map();\n            return _this;\n        }\n        _TsEmitterVisitor.prototype.visitType = function
(t, ctx, defaultType) {\n            if (defaultType === void 0) { defaultType = 'any'; }\n            if (t) {\n
this.typeExpression++;\n                t.visitType(this, ctx);\n                this.typeExpression--;\n            }\n            else
{\n                ctx.print(null, defaultType);\n            }\n        };\n        _TsEmitterVisitor.prototype.visitLiteralExpr =
function (ast, ctx) {\n            var value = ast.value;\n            if (value == null && ast.type != INFERRED_TYPE) {\n
                ctx.print(ast, \"(\" + value + \" as any)\");\n                return null;\n            }\n            return
_super.prototype.visitLiteralExpr.call(this, ast, ctx);\n        };\n        // Temporary workaround
 to support strictNullCheck enabled consumers of ngc emit.\n        // In SNC mode, [] have the type never[], so we
cast here to any[].\n        // TODO: narrow the cast to a more explicit type, or use a pattern that does not\n        // start
with [].concat. see https://github.com/angular/angular/pull/11846\n
_TsEmitterVisitor.prototype.visitLiteralArrayExpr = function (ast, ctx) {\n            if (ast.entries.length === 0) {\n
        ctx.print(ast, '(');\n            }\n            var result = _super.prototype.visitLiteralArrayExpr.call(this, ast, ctx);\n
    if (ast.entries.length === 0) {\n                ctx.print(ast, ' as any[])');\n            }\n            return result;\n        };\n
 _TsEmitterVisitor.prototype.visitExternalExpr = function (ast, ctx) {\n            this._visitIdentifier(ast.value,
ast.typeParams, ctx);\n            return null;\n        };\n        _TsEmitterVisitor.prototype.visitAssertNotNullExpr =
function (ast, ctx) {\n
        var result = _super.prototype.visitAssertNotNullExpr.call(this, ast, ctx);\n            ctx.print(ast, '!');\n
return result;\n        };\n        _TsEmitterVisitor.prototype.visitDeclareVarStmt = function (stmt, ctx) {\n            if
(stmt.hasModifier(exports.StmtModifier.Exported) && stmt.value instanceof ExternalExpr &&\n
!stmt.type) {\n                // check for a reexport\n                var _a = stmt.value.value, name = _a.name, moduleName
= _a.moduleName;\n                if (moduleName) {\n                    var reexports = this.reexports.get(moduleName);\n
                if (!reexports) {\n                        reexports = [];\n                        this.reexports.set(moduleName,
reexports);\n                    }\n                    reexports.push({ name: name, as: stmt.name });\n                    return null;\n
                }\n            }\n            if (stmt.hasModifier(exports.StmtModifier.Exported)) {\n
  ctx.print(stmt, \"export \");\n            }\n            if (stmt.hasModifier(exports.StmtModifier.Final)) {\n
ctx.print(stmt, \"const\");\n            }\n            else {\n                ctx.print(stmt, \"var\");\n            }\n
ctx.print(stmt, \" \" + stmt.name);\n            this._printColonType(stmt.type, ctx);\n            if (stmt.value) {\n
ctx.print(stmt, \" = \");\n                stmt.value.visitExpression(this, ctx);\n            }\n            ctx.println(stmt, \";\");\n
        return null;\n        };\n        _TsEmitterVisitor.prototype.visitWrappedNodeExpr = function (ast, ctx) {\n
throw new Error('Cannot visit a WrappedNodeExpr when outputting Typescript.');\n        };\n
_TsEmitterVisitor.prototype.visitCastExpr = function (ast, ctx) {\n            ctx.print(ast, \"(<\");\n
ast.type.visitType(this, ctx);\n            ctx.print(ast, \">\");\n            ast.value.visitExpression(this, ctx);\n
            ctx.print(ast, \")\");\n            return null;\n        };\n        _TsEmitterVisitor.prototype.visitInstantiateExpr =
function (ast, ctx) {\n            ctx.print(ast, \"new \");\n            this.typeExpression++;\n
ast.classExpr.visitExpression(this, ctx);\n            this.typeExpression--;\n            ctx.print(ast, \"(\");\n
this.visitAllExpressions(ast.args, ctx, ',');\n            ctx.print(ast, \")\");\n            return null;\n        };\n
_TsEmitterVisitor.prototype.visitDeclareClassStmt = function (stmt, ctx) {\n            var _this = this;\n
ctx.pushClass(stmt);\n            if (stmt.hasModifier(exports.StmtModifier.Exported)) {\n                ctx.print(stmt,
\"export \");\n            }\n            ctx.print(stmt, \"class \" + stmt.name);\n            if (stmt.parent != null) {\n
ctx.print(stmt, \" extends \");\n                this.typeExpression++;\n                stmt.parent.visitExpression(this,
 ctx);\n                this.typeExpression--;\n            }\n            ctx.println(stmt, \" {\");\n            ctx.incIndent();\n
stmt.fields.forEach(function (field) { return _this._visitClassField(field, ctx); });\n            if (stmt.constructorMethod
!= null) {\n                this._visitClassConstructor(stmt, ctx);\n            }\n            stmt.getters.forEach(function (getter)
{ return _this._visitClassGetter(getter, ctx); });\n            stmt.methods.forEach(function (method) { return
_this._visitClassMethod(method, ctx); });\n            ctx.decIndent();\n            ctx.println(stmt, \"}\");\n
ctx.popClass();\n            return null;\n        };\n        _TsEmitterVisitor.prototype._visitClassField = function (field,
```

ctx) {\n if (field.hasModifier(exports.StmtModifier.Private)) {\n // comment out as a workaround for #10967\n ctx.print(null, \"/*private*/ \");\n }\n if (field.hasModifier(exports.StmtModifier.Static))\n {\n ctx.print(null, 'static ');\n }\n ctx.print(null, field.name);\n this._printColonType(field.type, ctx);\n if (field.initializer) {\n ctx.print(null, ' = ');\n field.initializer.visitExpression(this, ctx);\n }\n ctx.println(null, \";\");\n };\n _TsEmitterVisitor.prototype._visitClassGetter = function (getter, ctx) {\n if (getter.hasModifier(exports.StmtModifier.Private)) {\n ctx.print(null, \"private \");\n }\n ctx.print(null, \"get \" + getter.name + \"()\");\n this._printColonType(getter.type, ctx);\n ctx.println(null, \" {\");\n ctx.incIndent();\n this.visitAllStatements(getter.body, ctx);\n ctx.decIndent();\n ctx.println(null, \"}\");\n };\n _TsEmitterVisitor.prototype._visitClassConstructor =\n function (stmt, ctx) {\n ctx.print(stmt, \"constructor(\");\n this._visitParams(stmt.constructorMethod.params, ctx);\n ctx.println(stmt, \") {\");\n ctx.incIndent();\n this.visitAllStatements(stmt.constructorMethod.body, ctx);\n ctx.decIndent();\n ctx.println(stmt, \"}\");\n };\n _TsEmitterVisitor.prototype._visitClassMethod = function (method, ctx) {\n if (method.hasModifier(exports.StmtModifier.Private)) {\n ctx.print(null, \"private \");\n }\n ctx.print(null, method.name + \"(\");\n this._visitParams(method.params, ctx);\n ctx.print(null, \")\");\n this._printColonType(method.type, ctx, 'void');\n ctx.println(null, \" {\");\n ctx.incIndent();\n this.visitAllStatements(method.body, ctx);\n ctx.decIndent();\n ctx.println(null, \"}\");\n };\n _TsEmitterVisitor.prototype.visitFunctionExpr\n = function (ast, ctx) {\n if (ast.name) {\n ctx.print(ast, 'function ');\n ctx.print(ast, ast.name);\n }\n ctx.print(ast, \"(\");\n this._visitParams(ast.params, ctx);\n ctx.print(ast, \")\");\n this._printColonType(ast.type, ctx, 'void');\n if (!ast.name) {\n ctx.print(ast, \" => \");\n }\n ctx.println(ast, '{');\n ctx.incIndent();\n this.visitAllStatements(ast.statements, ctx);\n ctx.decIndent();\n ctx.print(ast, \"}\");\n return null;\n };\n _TsEmitterVisitor.prototype.visitDeclareFunctionStmt = function (stmt, ctx) {\n if (stmt.hasModifier(exports.StmtModifier.Exported)) {\n ctx.print(stmt, \"export \");\n }\n ctx.print(stmt, \"function \" + stmt.name + \"(\");\n this._visitParams(stmt.params,\n ctx);\n ctx.print(stmt, \")\");\n this._printColonType(stmt.type, ctx, 'void');\n ctx.println(stmt, \" {\");\n ctx.incIndent();\n this.visitAllStatements(stmt.statements, ctx);\n ctx.decIndent();\n ctx.println(stmt, \"}\");\n return null;\n };\n _TsEmitterVisitor.prototype.visitTryCatchStmt = function (stmt, ctx) {\n ctx.println(stmt, \"try {\");\n ctx.incIndent();\n this.visitAllStatements(stmt.bodyStmts, ctx);\n ctx.decIndent();\n ctx.println(stmt, \"} catch (\" + CATCH_ERROR_VAR$1.name + \") {\");\n ctx.incIndent();\n var catchStmts = [CATCH_STACK_VAR$1.set(CATCH_ERROR_VAR$1.prop('stack', null)).toDeclStmt(null, [\n exports.StmtModifier.Final\n ])].concat(stmt.catchStmts);\n this.visitAllStatements(catchStmts, ctx);\n ctx.decIndent();\n ctx.println(stmt, \"}\");\n return null;\n };\n _TsEmitterVisitor.prototype.visitBuiltinType = function (type, ctx) {\n var typeStr;\n switch (type.name) {\n case exports.BuiltinTypeName.Bool:\n typeStr = 'boolean';\n break;\n case exports.BuiltinTypeName.Dynamic:\n typeStr = 'any';\n break;\n case exports.BuiltinTypeName.Function:\n typeStr = 'Function';\n break;\n case exports.BuiltinTypeName.Number:\n typeStr = 'number';\n break;\n case exports.BuiltinTypeName.Int:\n typeStr = 'number';\n break;\n case exports.BuiltinTypeName.String:\n typeStr = 'string';\n break;\n case exports.BuiltinTypeName.None:\n

```
typeStr = 'never';\n break;\n default:\n throw new Error(\"Unsupported builtin type \" + type.name);\n }\n ctx.print(null, typeStr);\n return null;\n };\n _TsEmitterVisitor.prototype.visitExpressionType = function (ast, ctx) {\n var _this = this;\n ast.value.visitExpression(this, ctx);\n if (ast.typeParams !== null) {\n ctx.print(null, '<');\n this.visitAllObjects(function (type) { return _this.visitType(type, ctx); }, ast.typeParams, ctx, ',');\n ctx.print(null, '>');\n }\n return null;\n };\n _TsEmitterVisitor.prototype.visitArrayType = function (type, ctx) {\n this.visitType(type.of, ctx);\n ctx.print(null, \"[]\");\n return null;\n };\n _TsEmitterVisitor.prototype.visitMapType = function (type, ctx)
{\n ctx.print(null, \"{[key: string]:\");\n this.visitType(type.valueType, ctx);\n ctx.print(null, \"}\");\n return null;\n };\n _TsEmitterVisitor.prototype.getBuiltinMethodName = function (method) {\n var name;\n switch (method) {\n case exports.BuiltinMethod.ConcatArray:\n name = 'concat';\n break;\n case exports.BuiltinMethod.SubscribeObservable:\n name = 'subscribe';\n break;\n case exports.BuiltinMethod.Bind:\n name = 'bind';\n break;\n default:\n throw new Error(\"Unknown builtin method: \" + method);\n }\n return name;\n };\n _TsEmitterVisitor.prototype._visitParams = function (params, ctx) {\n var _this = this;\n this.visitAllObjects(function (param)
{\n ctx.print(null, param.name);\n _this._printColonType(param.type, ctx);\n }, params, ctx, ',');\n };\n _TsEmitterVisitor.prototype._visitIdentifier = function (value, typeParams, ctx) {\n var _this = this;\n var name = value.name, moduleName = value.moduleName;\n if (this.referenceFilter && this.referenceFilter(value)) {\n ctx.print(null, '(null as any)');\n return;\n }\n if (moduleName && (!this.importFilter || !this.importFilter(value))) {\n var prefix = this.importsWithPrefixes.get(moduleName);\n if (prefix == null) {\n prefix = \"i\" + this.importsWithPrefixes.size;\n this.importsWithPrefixes.set(moduleName, prefix);\n }\n ctx.print(null, prefix + \".\");\n }\n ctx.print(null, name);\n if (this.typeExpression > 0)
{\n // If we are in a type expression that refers to a generic type then supply\n // the required type parameters. If there were not enough type parameters\n // supplied, supply any as the type. Outside a type expression the reference\n // should not supply type parameters and be treated as a simple value reference\n // to the constructor function itself.\n var suppliedParameters = typeParams || [];\n if (suppliedParameters.length > 0) {\n ctx.print(null, \"<\");\n this.visitAllObjects(function (type) { return type.visitType(_this, ctx); }, typeParams, ctx, ',');\n ctx.print(null, \">\");\n }\n }\n };\n _TsEmitterVisitor.prototype._printColonType = function (type, ctx, defaultType) {\n if (type !== INFERRED_TYPE) {\n ctx.print(null, ':');\n this.visitType(type, ctx, defaultType);\n }\n };\n return _TsEmitterVisitor;\n }(AbstractEmitterVisitor));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Resolve a `Type` for {@link Pipe}.\n *\n * This interface can be overridden by the application developer to create custom behavior.\n *\n * See {@link Compiler}\n */\n var PipeResolver = /** @class */ (function ()
{\n function PipeResolver(_reflector) {\n this._reflector = _reflector;\n }\n PipeResolver.prototype.isPipe = function (type) {\n var typeMetadata = this._reflector.annotations(resolveForwardRef(type));\n return typeMetadata && typeMetadata.some(createPipe.isTypeOf);\n };\n /**\n * Return {@link Pipe}
for a given `Type`.\n */\n PipeResolver.prototype.resolve = function (type, throwIfNotFound) {\n if (throwIfNotFound === void 0) { throwIfNotFound = true; }\n var metas = this._reflector.annotations(resolveForwardRef(type));\n if (metas) {\n var annotation = findLast(metas, createPipe.isTypeOf);\n if (annotation) {\n return annotation;\n }\n }\n if (throwIfNotFound) {\n throw new Error(\"No Pipe decorator found on \" + stringify(type));\n }\n return null;\n };\n return PipeResolver;\n }());\n\n /**\n * Generates code that is used to type check templates.\n */\n var TypeCheckCompiler = /** @class */ (function ()
```

{\n function TypeCheckCompiler(options, reflector) {\n this.options = options;\n this.reflector = reflector;\n }\n /**\n * Important notes:\n * - This must not produce new `import` statements, but only refer to types outside\n * of the file via the variables provided via externalReferenceVars.\n * This allows Typescript to reuse the old program's structure as no imports have changed.\n * - This must not produce any exports, as this would pollute the .d.ts file\n * and also violate the point above.\n */\n TypeCheckCompiler.prototype.compileComponent = function (componentId, component, template, usedPipes, externalReferenceVars, ctx) {\n var _this = this;\n var pipes = new Map();\n usedPipes.forEach(function (p) { return pipes.set(p.name, p.type.reference); });\n var embeddedViewCount = 0;\n var viewBuilderFactory = function (parent, guards) {\n var embeddedViewIndex = embeddedViewCount++;\n return new ViewBuilder(_this.options, _this.reflector, externalReferenceVars, parent, component.type.reference, component.isHost, embeddedViewIndex, pipes, guards, ctx, viewBuilderFactory);\n };\n var visitor = viewBuilderFactory(null, []);\n visitor.visitAll([], template);\n return visitor.build(componentId);\n };\n return TypeCheckCompiler;\n }());\n var DYNAMIC_VAR_NAME = '_any';\n var TypeCheckLocalResolver = /** @class */ (function () {\n function TypeCheckLocalResolver() {\n }\n TypeCheckLocalResolver.prototype.notifyImplicitReceiverUse = function () { };\n TypeCheckLocalResolver.prototype.getLocal = function (name) {\n if (name === EventHandlerVars.event.name) {\n // References to the event should not be type-checked.\n // TODO(chuckj): determine a better type for the event.\n return variable(DYNAMIC_VAR_NAME);\n }\n return null;\n };\n return TypeCheckLocalResolver;\n }());\n var defaultResolver = new TypeCheckLocalResolver();\n var ViewBuilder = /** @class */ (function () {\n function ViewBuilder(options, reflector, externalReferenceVars, parent, component, isHostComponent, embeddedViewIndex, pipes, guards, ctx, viewBuilderFactory) {\n this.options = options;\n this.reflector = reflector;\n this.externalReferenceVars = externalReferenceVars;\n this.parent = parent;\n this.component = component;\n this.isHostComponent = isHostComponent;\n this.embeddedViewIndex = embeddedViewIndex;\n this.pipes = pipes;\n this.guards = guards;\n this.ctx = ctx;\n this.viewBuilderFactory = viewBuilderFactory;\n this.refOutputVars = new Map();\n this.variables = [];\n this.children = [];\n this.updates = [];\n this.actions = [];\n }\n ViewBuilder.prototype.getOutputVar = function (type) {\n var varName;\n if (type === this.component && this.isHostComponent) {\n varName = DYNAMIC_VAR_NAME;\n }\n else if (type instanceof StaticSymbol) {\n varName = this.externalReferenceVars.get(type);\n }\n else {\n varName = DYNAMIC_VAR_NAME;\n }\n if (!varName) {\n throw new Error(\"Illegal State: referring to a type without a variable \" + JSON.stringify(type));\n }\n return varName;\n };\n ViewBuilder.prototype.getTypeGuardExpressions = function (ast) {\n var e_1, _a, e_2, _b;\n var result = __spread(this.guards);\n try {\n for (var _c = __values(ast.directives), _d = _c.next(); !_d.done; _d = _c.next()) {\n var directive = _d.value;\n try {\n for (var _e = (e_2 = void 0, __values(directive.inputs)), _f = _e.next(); !_f.done; _f = _e.next()) {\n var input = _f.value;\n var guard = directive.directive.guards[input.directiveName];\n if (guard) {\n var useIf = guard === 'UseIf';\n result.push({\n guard: guard,\n useIf: useIf,\n expression: {\n context: this.component,\n value: input.value,\n sourceSpan: input.sourceSpan,\n },\n });\n }\n }\n }\n catch (e_2_1) { e_2 = { error: e_2_1 }; }\n finally {\n try {\n if (_f && !_f.done && (_b = _e.return)) _b.call(_e);\n }\n finally { if (e_2) throw e_2.error; }\n }\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (_d && !_d.done && (_a = _c.return)) _a.call(_c);\n }\n finally { if (e_1) throw e_1.error; }\n }\n return result;\n };\n

```
ViewBuilder.prototype.visitAll = function (variables, astNodes) {\n            this.variables = variables;\n templateVisitAll(this, astNodes);\n        };\n        ViewBuilder.prototype.build = function (componentId, targetStatements) {\n            var e_3, _a;\n            var _this = this;\n            if (targetStatements === void 0) { targetStatements = []; }\n            this.children.forEach(function (child) { return child.build(componentId, targetStatements); });\n            var viewStmts = [variable(DYNAMIC_VAR_NAME).set(NULL_EXPR).toDeclStmt(DYNAMIC_TYPE)];\n            var bindingCount = 0;\n            this.updates.forEach(function (expression) {\n                var _a = _this.preprocessUpdateExpression(expression), sourceSpan = _a.sourceSpan, context = _a.context, value = _a.value;\n                var bindingId = \"\" + bindingCount++;\n                var nameResolver = context === _this.component ? _this : defaultResolver;\n                var _b = convertPropertyBinding(nameResolver, variable(_this.getOutputVar(context)), value, bindingId, BindingForm.General), stmts = _b.stmts, currValExpr = _b.currValExpr;\n                stmts.push(new ExpressionStatement(currValExpr));\n viewStmts.push.apply(viewStmts, __spread(stmts.map(function (stmt) { return applySourceSpanToStatementIfNeeded(stmt, sourceSpan); })));\n            });\n            this.actions.forEach(function (_a) {\n    var sourceSpan = _a.sourceSpan, context = _a.context, value = _a.value;\n                var bindingId = \"\" + bindingCount++;\n                var nameResolver = context === _this.component ? _this : defaultResolver;\n var stmts = convertActionBinding(nameResolver, variable(_this.getOutputVar(context)), value, bindingId).stmts;\n            viewStmts.push.apply(viewStmts, __spread(stmts.map(function (stmt) { return applySourceSpanToStatementIfNeeded(stmt, sourceSpan); })));\n            });\n            if (this.guards.length) {\n     var guardExpression = undefined;\n                try {\n                    for (var _b = __values(this.guards), _c = _b.next(); !_c.done; _c = _b.next()) {\n                        var guard = _c.value;\n                        var _d = this.preprocessUpdateExpression(guard.expression), context = _d.context, value = _d.value;\n                        var bindingId = \"\" + bindingCount++;\n                        var nameResolver = context === this.component ? this : defaultResolver;\n                        // We only support support simple expressions and ignore others as they\n                        // are unlikely to affect type narrowing.\n                        var _e = convertPropertyBinding(nameResolver, variable(this.getOutputVar(context)), value, bindingId, BindingForm.TrySimple), stmts = _e.stmts, currValExpr = _e.currValExpr;\n                        if (stmts.length == 0) {\n                            var guardClause = guard.useIf ? currValExpr : this.ctx.importExpr(guard.guard).callFn([currValExpr]);\n                            guardExpression = guardExpression ? guardExpression.and(guardClause) : guardClause;\n                        }\n                    }\n                }\n                catch (e_3_1) { e_3 = { error: e_3_1 }; }\n                finally {\n                    try {\n                        if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n    }\n                    finally { if (e_3) throw e_3.error; }\n                }\n                if (guardExpression) {\n viewStmts = [new IfStmt(guardExpression, viewStmts)];\n                }\n            }\n            var viewName = \"_View_\" + componentId + \"_\" + this.embeddedViewIndex;\n            var viewFactory = new DeclareFunctionStmt(viewName, [], viewStmts);\n            targetStatements.push(viewFactory);\n            return targetStatements;\n        };\n        ViewBuilder.prototype.visitBoundText = function (ast, context) {\n            var _this = this;\n            var astWithSource = ast.value;\n            var inter = astWithSource.ast;\n inter.expressions.forEach(function (expr) { return _this.updates.push({ context: _this.component, value: expr, sourceSpan: ast.sourceSpan }); });\n        };\n        ViewBuilder.prototype.visitEmbeddedTemplate = function (ast, context) {\n            this.visitElementOrTemplate(ast);\n      // Note: The old view compiler used to use an `any` type\n            // for the context in any embedded view.\n  // We keep this behaivor behind a flag for now.\n            if (this.options.fullTemplateTypeCheck) {\n                // Find any applicable type guards. For example, NgIf has a type guard on ngIf\n                // (see NgIf.ngIfTypeGuard) that can be used to indicate that a template is only\n                // stamped out if ngIf is truthy so any bindings in the template can assume that,\n                // if a nullable type is used for ngIf, that expression is not null or undefined.\n            var guards = this.getTypeGuardExpressions(ast);\n                var childVisitor = this.viewBuilderFactory(this,
```

```
guards);\n            this.children.push(childVisitor);\n            childVisitor.visitAll(ast.variables, ast.children);\n    }\n    };\n    ViewBuilder.prototype.visitElement = function (ast, context) {\n        var
 _this = this;\n        this.visitElementOrTemplate(ast);\n        var inputDefs = [];\n        var
updateRendererExpressions = [];\n        var outputDefs = [];\n        ast.inputs.forEach(function (inputAst) {\n
        _this.updates.push({ context: _this.component, value: inputAst.value, sourceSpan: inputAst.sourceSpan });\n
    });\n        templateVisitAll(this, ast.children);\n    };\n    ViewBuilder.prototype.visitElementOrTemplate
= function (ast) {\n        var _this = this;\n        ast.directives.forEach(function (dirAst) {\n
_this.visitDirective(dirAst);\n        });\n        ast.references.forEach(function (ref) {\n            var
outputVarType = null;\n            // Note: The old view compiler used to use an `any` type\n            // for
directives exposed via `exportAs`.\n            // We keep this behaivor behind a flag for now.\n            if
(ref.value && ref.value.identifier
 && _this.options.fullTemplateTypeCheck) {\n                outputVarType = ref.value.identifier.reference;\n
    }\n            else {\n                outputVarType = exports.BuiltinTypeName.Dynamic;\n            }\n
_this.refOutputVars.set(ref.name, outputVarType);\n        });\n        ast.outputs.forEach(function (outputAst)
{\n            _this.actions.push({ context: _this.component, value: outputAst.handler, sourceSpan:
outputAst.sourceSpan });\n        });\n    };\n    ViewBuilder.prototype.visitDirective = function (dirAst) {\n
    var _this = this;\n        var dirType = dirAst.directive.type.reference;\n        dirAst.inputs.forEach(function
(input) { return _this.updates.push({ context: _this.component, value: input.value, sourceSpan: input.sourceSpan });
});\n        // Note: The old view compiler used to use an `any` type\n        // for expressions in host properties /
events.\n
        // We keep this behaivor behind a flag for now.\n        if (this.options.fullTemplateTypeCheck) {\n
 dirAst.hostProperties.forEach(function (inputAst) { return _this.updates.push({ context: dirType, value:
inputAst.value, sourceSpan: inputAst.sourceSpan }); });\n            dirAst.hostEvents.forEach(function
(hostEventAst) { return _this.actions.push({\n                context: dirType,\n                value:
hostEventAst.handler,\n                sourceSpan: hostEventAst.sourceSpan\n            }); });\n        }\n    };\n
  ViewBuilder.prototype.notifyImplicitReceiverUse = function () { };\n    ViewBuilder.prototype.getLocal =
function (name) {\n        if (name == EventHandlerVars.event.name) {\n            return
variable(this.getOutputVar(exports.BuiltinTypeName.Dynamic));\n        }\n        for (var currBuilder = this;
currBuilder; currBuilder = currBuilder.parent) {\n            var outputVarType
 = void 0;\n            // check references\n            outputVarType = currBuilder.refOutputVars.get(name);\n
   if (outputVarType == null) {\n                // check variables\n                var varAst =
currBuilder.variables.find(function (varAst) { return varAst.name === name; });\n                if (varAst) {\n
        outputVarType = exports.BuiltinTypeName.Dynamic;\n                }\n            }\n            if
(outputVarType != null) {\n                return variable(this.getOutputVar(outputVarType));\n            }\n
}\n        return null;\n    };\n    ViewBuilder.prototype.pipeOutputVar = function (name) {\n        var pipe =
this.pipes.get(name);\n        if (!pipe) {\n            throw new Error(\"Illegal State: Could not find pipe \" + name
+ \" in template of \" + this.component);\n        }\n        return this.getOutputVar(pipe);\n    };\n
    ViewBuilder.prototype.preprocessUpdateExpression = function (expression) {\n        var _this = this;\n
return {\n            sourceSpan: expression.sourceSpan,\n            context: expression.context,\n            value:
convertPropertyBindingBuiltins({\n                createLiteralArrayConverter: function (argCount) { return function
(args) {\n                    var arr = literalArr(args);\n                    // Note: The old view compiler used to use an
`any` type\n                    // for arrays.\n                    return _this.options.fullTemplateTypeCheck ? arr :
arr.cast(DYNAMIC_TYPE);\n                }; },\n                createLiteralMapConverter: function (keys) { return
function (values) {\n                    var entries = keys.map(function (k, i) { return ({\n                        key: k.key,\n
                        value: values[i],\n                        quoted: k.quoted,\n
                }); });\n                    var map = literalMap(entries);\n                    // Note: The old view compiler
used to use an `any` type\n                    // for maps.\n                    return _this.options.fullTemplateTypeCheck ?
map : map.cast(DYNAMIC_TYPE);\n                }; },\n                createPipeConverter: function (name,
```

```
argCount) { return function (args) {\n                    // Note: The old view compiler used to use an `any` type\n
            // for pipes.\n                    var pipeExpr = _this.options.fullTemplateTypeCheck ?\n
variable(_this.pipeOutputVar(name)) :\n
variable(_this.getOutputVar(exports.BuiltinTypeName.Dynamic));\n                    return
pipeExpr.callMethod('transform', args);\n                }; },\n                }, expression.value)\n            };\n        };\n
ViewBuilder.prototype.visitNgContent = function
 (ast, context) { };\n        ViewBuilder.prototype.visitText = function (ast, context) { };\n
ViewBuilder.prototype.visitDirectiveProperty = function (ast, context) { };\n
ViewBuilder.prototype.visitReference = function (ast, context) { };\n        ViewBuilder.prototype.visitVariable =
function (ast, context) { };\n        ViewBuilder.prototype.visitEvent = function (ast, context) { };\n
ViewBuilder.prototype.visitElementProperty = function (ast, context) { };\n        ViewBuilder.prototype.visitAttr =
function (ast, context) { };\n        return ViewBuilder;\n    }());\n\n    var CLASS_ATTR$1 = 'class';\n    var
STYLE_ATTR = 'style';\n    var IMPLICIT_TEMPLATE_VAR = '\\$implicit';\n    var ViewCompileResult = /**
@class */ (function () {\n        function ViewCompileResult(viewClassVar, rendererTypeVar) {\n
this.viewClassVar = viewClassVar;\n            this.rendererTypeVar = rendererTypeVar;\n        }\n        return
ViewCompileResult;\n    }());\n
    var ViewCompiler = /** @class */ (function () {\n        function ViewCompiler(_reflector) {\n
this._reflector = _reflector;\n        }\n        ViewCompiler.prototype.compileComponent = function (outputCtx,
component, template, styles, usedPipes) {\n            var _a;\n            var _this = this;\n            var
embeddedViewCount = 0;\n            var renderComponentVarName = undefined;\n            if (!component.isHost) {\n
                var template_1 = component.template;\n                var customRenderData = [];\n                if
(template_1.animations && template_1.animations.length) {\n                    customRenderData.push(new
LiteralMapEntry('animation', convertValueToOutputAst(outputCtx, template_1.animations), true));\n                }\n
            var renderComponentVar = variable(rendererTypeName(component.type.reference));\n
renderComponentVarName = renderComponentVar.name;\n
outputCtx.statements.push(renderComponentVar\n
                    .set(importExpr(Identifiers.createRendererType2).callFn([new LiteralMapExpr([\n                        new
LiteralMapEntry('encapsulation', literal(template_1.encapsulation), false),\n                        new
LiteralMapEntry('styles', styles, false),\n                        new LiteralMapEntry('data', new
LiteralMapExpr(customRenderData), false)\n                    ])]))\n
.toDeclStmt(importType(Identifiers.RendererType2), [exports.StmtModifier.Final,
exports.StmtModifier.Exported]));\n            }\n            var viewBuilderFactory = function (parent) {\n                var
embeddedViewIndex = embeddedViewCount++;\n                return new ViewBuilder$1(_this._reflector, outputCtx,
parent, component, embeddedViewIndex, usedPipes, viewBuilderFactory);\n            };\n            var visitor =
viewBuilderFactory(null);\n            visitor.visitAll([], template);\n            (_a = outputCtx.statements).push.apply(_a,
__spread(visitor.build()));\n
            return new ViewCompileResult(visitor.viewName, renderComponentVarName);\n        };\n        return
ViewCompiler;\n    }());\n    var LOG_VAR$1 = variable('_l');\n    var VIEW_VAR = variable('_v');\n    var
CHECK_VAR = variable('_ck');\n    var COMP_VAR = variable('_co');\n    var EVENT_NAME_VAR =
variable('en');\n    var ALLOW_DEFAULT_VAR = variable(\"ad\");\n    var ViewBuilder$1 = /** @class */
(function () {\n        function ViewBuilder(reflector, outputCtx, parent, component, embeddedViewIndex,
usedPipes, viewBuilderFactory) {\n            this.reflector = reflector;\n            this.outputCtx = outputCtx;\n
this.parent = parent;\n            this.component = component;\n            this.embeddedViewIndex =
embeddedViewIndex;\n            this.usedPipes = usedPipes;\n            this.viewBuilderFactory =
viewBuilderFactory;\n            this.nodes = [];\n            this.purePipeNodeIndices = Object.create(null);\n            //
Need
 Object.create so that we don't have builtin values...\n            this.refNodeIndices = Object.create(null);\n
this.variables = [];\n            this.children = [];\n            // TODO(tbosch): The old view compiler used to use an `any`
```

```
type\n            // for the context in any embedded view. We keep this behaivor for now\n            // to be able to introduce the new view compiler without too many errors.\n            this.compType = this.embeddedViewIndex > 0 ?\n                DYNAMIC_TYPE :\n                expressionType(outputCtx.importExpr(this.component.type.reference));\n            this.viewName = viewClassName(this.component.type.reference, this.embeddedViewIndex);\n        }\n        ViewBuilder.prototype.visitAll = function (variables, astNodes) {\n            var _this = this;\n            this.variables = variables;\n            // create the pipes for the pure pipes immediately, so that we know their indices.\n            if (!this.parent) {\n                this.usedPipes.forEach(function (pipe) {\n                    if (pipe.pure) {\n                        _this.purePipeNodeIndices[pipe.name] = _this._createPipe(null, pipe);\n                    }\n                });\n            }\n            if (!this.parent) {\n                this.component.viewQueries.forEach(function (query, queryIndex) {\n                    // Note: queries start with id 1 so we can use the number in a Bloom filter!\n                    var queryId = queryIndex + 1;\n                    var bindingType = query.first ? 0 /* First */ : 1 /* All */;\n                    var flags = 134217728 /* TypeViewQuery */ | calcStaticDynamicQueryFlags(query);\n                    _this.nodes.push(function () { return ({\n                        sourceSpan: null,\n                        nodeFlags: flags,\n                        nodeDef: importExpr(Identifiers.queryDef).callFn([\n                            literal(flags), literal(queryId),\n                            new LiteralMapExpr([new LiteralMapEntry(query.propertyName, literal(bindingType), false)])\n                        ])\n                    }); });\n                });\n            }\n            templateVisitAll(this, astNodes);\n            if (this.parent && (astNodes.length === 0 || needsAdditionalRootNode(astNodes))) {\n                // if the view is an embedded view, then we need to add an additional root node in some cases\n                this.nodes.push(function () { return ({\n                    sourceSpan: null,\n                    nodeFlags: 1 /* TypeElement */,\n                    nodeDef: importExpr(Identifiers.anchorDef).callFn([\n                        literal(0 /* None */), NULL_EXPR, NULL_EXPR, literal(0)\n                    ])\n                }); });\n            }\n        };\n        ViewBuilder.prototype.build = function (targetStatements) {\n            if (targetStatements === void 0) { targetStatements = []; }\n            this.children.forEach(function (child) { return child.build(targetStatements); });\n            var _a = this._createNodeExpressions(), updateRendererStmts = _a.updateRendererStmts, updateDirectivesStmts = _a.updateDirectivesStmts, nodeDefExprs = _a.nodeDefExprs;\n            var updateRendererFn = this._createUpdateFn(updateRendererStmts);\n            var updateDirectivesFn = this._createUpdateFn(updateDirectivesStmts);\n            var viewFlags = 0 /* None */;\n            if (!this.parent && this.component.changeDetection === ChangeDetectionStrategy.OnPush) {\n                viewFlags |= 2 /* OnPush */;\n            }\n            var viewFactory = new DeclareFunctionStmt(this.viewName, [new FnParam(LOG_VAR$1.name)], [new ReturnStatement(importExpr(Identifiers.viewDef).callFn([\n                literal(viewFlags),\n                literalArr(nodeDefExprs),\n                updateDirectivesFn,\n                updateRendererFn,\n            ]))], importType(Identifiers.ViewDefinition), this.embeddedViewIndex === 0 ? [exports.StmtModifier.Exported] : []);\n            targetStatements.push(viewFactory);\n            return targetStatements;\n        };\n        ViewBuilder.prototype._createUpdateFn = function (updateStmts) {\n            var updateFn;\n            if (updateStmts.length > 0) {\n                var preStmts = [];\n                if (!this.component.isHost && findReadVarNames(updateStmts).has(COMP_VAR.name)) {\n                    preStmts.push(COMP_VAR.set(VIEW_VAR.prop('component')).toDeclStmt(this.compType));\n                }\n                updateFn = fn([\n                    new FnParam(CHECK_VAR.name, INFERRED_TYPE),\n                    new FnParam(VIEW_VAR.name, INFERRED_TYPE)\n                ], __spread(preStmts, updateStmts), INFERRED_TYPE);\n            }\n            else {\n                updateFn = NULL_EXPR;\n            }\n            return updateFn;\n        };\n        ViewBuilder.prototype.visitNgContent = function (ast, context) {\n            // ngContentDef(ngContentIndex: number, index: number): NodeDef;\n            this.nodes.push(function () { return ({\n                sourceSpan: ast.sourceSpan,\n                nodeFlags: 8 /* TypeNgContent */,\n                nodeDef: importExpr(Identifiers.ngContentDef)\n                    .callFn([literal(ast.ngContentIndex), literal(ast.index)])\n            }); });\n        };\n        ViewBuilder.prototype.visitText = function (ast, context) {\n
```

```
// Static text nodes have no check function\n var checkIndex = -1;\n this.nodes.push(function () { return ({\n sourceSpan: ast.sourceSpan,\n nodeFlags: 2 /* TypeText */,\n nodeDef: importExpr(Identifiers.textDef).callFn([\n literal(checkIndex),\n literal(ast.ngContentIndex),\n literalArr([literal(ast.value)]),\n ])\n }); });\n };\n ViewBuilder.prototype.visitBoundText
 = function (ast, context) {\n var _this = this;\n var nodeIndex = this.nodes.length;\n // reserve the space in the nodeDefs array\n this.nodes.push(null);\n var astWithSource = ast.value;\n var inter = astWithSource.ast;\n var updateRendererExpressions = inter.expressions.map(function (expr, bindingIndex) { return _this._preprocessUpdateExpression({ nodeIndex: nodeIndex, bindingIndex: bindingIndex, sourceSpan: ast.sourceSpan, context: COMP_VAR, value: expr }); });\n // Check index is the same as the node index during compilation\n // They might only differ at runtime\n var checkIndex = nodeIndex;\n this.nodes[nodeIndex] = function () { return ({\n sourceSpan: ast.sourceSpan,\n nodeFlags: 2 /* TypeText */,\n nodeDef: importExpr(Identifiers.textDef).callFn([\n literal(checkIndex),\n literal(ast.ngContentIndex),\n literalArr(inter.strings.map(function (s) { return literal(s); })),\n ]),\n updateRenderer: updateRendererExpressions\n }); };\n };\n ViewBuilder.prototype.visitEmbeddedTemplate = function (ast, context) {\n var _this = this;\n var nodeIndex = this.nodes.length;\n // reserve the space in the nodeDefs array\n this.nodes.push(null);\n var _a = this._visitElementOrTemplate(nodeIndex, ast), flags = _a.flags, queryMatchesExpr = _a.queryMatchesExpr, hostEvents = _a.hostEvents;\n var childVisitor = this.viewBuilderFactory(this);\n this.children.push(childVisitor);\n childVisitor.visitAll(ast.variables, ast.children);\n var childCount = this.nodes.length - nodeIndex - 1;\n // anchorDef(\n // flags: NodeFlags, matchedQueries: [string, QueryValueType][],
 ngContentIndex: number,\n // childCount: number, handleEventFn?: ElementHandleEventFn, templateFactory?:\n // ViewDefinitionFactory): NodeDef;\n this.nodes[nodeIndex] = function () { return ({\n sourceSpan: ast.sourceSpan,\n nodeFlags: 1 /* TypeElement */ | flags,\n nodeDef: importExpr(Identifiers.anchorDef).callFn([\n literal(flags),\n queryMatchesExpr,\n literal(ast.ngContentIndex),\n literal(childCount),\n _this._createElementHandleEventFn(nodeIndex, hostEvents),\n variable(childVisitor.viewName),\n ])\n }); };\n };\n ViewBuilder.prototype.visitElement = function (ast, context) {\n var _this = this;\n var nodeIndex = this.nodes.length;\n // reserve the space in the nodeDefs array so we can add children\n
 this.nodes.push(null);\n // Using a null element name creates an anchor.\n var elName = isNgContainer(ast.name) ? null : ast.name;\n var _a = this._visitElementOrTemplate(nodeIndex, ast), flags = _a.flags, usedEvents = _a.usedEvents, queryMatchesExpr = _a.queryMatchesExpr, dirHostBindings = _a.hostBindings, hostEvents = _a.hostEvents;\n var inputDefs = [];\n var updateRendererExpressions = [];\n var outputDefs = [];\n if (elName) {\n var hostBindings = ast.inputs\n .map(function (inputAst) { return ({\n context: COMP_VAR,\n inputAst: inputAst,\n dirAst: null,\n }); })\n .concat(dirHostBindings);\n if (hostBindings.length) {\n updateRendererExpressions =\n hostBindings.map(function (hostBinding, bindingIndex) { return _this._preprocessUpdateExpression({\n context: hostBinding.context,\n nodeIndex: nodeIndex,\n bindingIndex: bindingIndex,\n sourceSpan: hostBinding.inputAst.sourceSpan,\n value: hostBinding.inputAst.value\n }); });\n inputDefs = hostBindings.map(function (hostBinding) { return elementBindingDef(hostBinding.inputAst, hostBinding.dirAst); });\n }\n outputDefs = usedEvents.map(function (_a) {\n var _b = __read(_a, 2), target = _b[0], eventName = _b[1];\n return literalArr([literal(target), literal(eventName)]);\n });\n }\n templateVisitAll(this, ast.children);\n var childCount = this.nodes.length - nodeIndex - 1;\n var compAst = ast.directives.find(function (dirAst) { return dirAst.directive.isComponent;
```

```
});\n var compRendererType = NULL_EXPR;\n var compView = NULL_EXPR;\n if (compAst) {\n compView = this.outputCtx.importExpr(compAst.directive.componentViewType);\n compRendererType = this.outputCtx.importExpr(compAst.directive.rendererType);\n }\n // Check index is the same as the node index during compilation\n // They might only differ at runtime\n var checkIndex = nodeIndex;\n this.nodes[nodeIndex] = function () { return ({\n sourceSpan: ast.sourceSpan,\n nodeFlags: 1 /* TypeElement */ | flags,\n nodeDef: importExpr(Identifiers.elementDef).callFn([\n literal(checkIndex),\n literal(flags),\n queryMatchesExpr,\n literal(ast.ngContentIndex),\n literal(childCount),\n literal(elName),\n elName
? fixedAttrsDef(ast) : NULL_EXPR,\n inputDefs.length ? literalArr(inputDefs) : NULL_EXPR,\n outputDefs.length ? literalArr(outputDefs) : NULL_EXPR,\n _this._createElementHandleEventFn(nodeIndex, hostEvents),\n compView,\n compRendererType,\n ]),\n updateRenderer: updateRendererExpressions\n }); };\n };\n ViewBuilder.prototype._visitElementOrTemplate = function (nodeIndex, ast) {\n var _this = this;\n var flags = 0 /* None */;\n if (ast.hasViewContainer) {\n flags |= 16777216 /* EmbeddedViews */;\n }\n var usedEvents = new Map();\n ast.outputs.forEach(function (event) {\n var _a = elementEventNameAndTarget(event, null), name = _a.name, target = _a.target;\n usedEvents.set(elementEventFullName(target, name), [target, name]);\n });\n ast.directives.forEach(function (dirAst) {\n dirAst.hostEvents.forEach(function (event) {\n var _a = elementEventNameAndTarget(event, dirAst), name = _a.name, target = _a.target;\n usedEvents.set(elementEventFullName(target, name), [target, name]);\n });\n });\n var hostBindings = [];\n var hostEvents = [];\n this._visitComponentFactoryResolverProvider(ast.directives);\n ast.providers.forEach(function (providerAst) {\n var dirAst = undefined;\n ast.directives.forEach(function (localDirAst) {\n if (localDirAst.directive.type.reference === tokenReference(providerAst.token)) {\n dirAst = localDirAst;\n }\n });\n if (dirAst) {\n var _a = _this._visitDirective(providerAst, dirAst, ast.references, ast.queryMatches,
usedEvents), dirHostBindings = _a.hostBindings, dirHostEvents = _a.hostEvents;\n hostBindings.push.apply(hostBindings, __spread(dirHostBindings));\n hostEvents.push.apply(hostEvents, __spread(dirHostEvents));\n }\n else {\n _this._visitProvider(providerAst, ast.queryMatches);\n }\n });\n var queryMatchExprs = [];\n ast.queryMatches.forEach(function (match) {\n var valueType = undefined;\n if (tokenReference(match.value) ===\n _this.reflector.resolveExternalReference(Identifiers.ElementRef)) {\n valueType = 0 /* ElementRef */;\n }\n else if (tokenReference(match.value) ===\n _this.reflector.resolveExternalReference(Identifiers.ViewContainerRef)) {\n valueType = 3 /* ViewContainerRef */;\n }\n else if (tokenReference(match.value) ===\n _this.reflector.resolveExternalReference(Identifiers.TemplateRef)) {\n valueType = 2 /* TemplateRef */;\n }\n if (valueType != null) {\n queryMatchExprs.push(literalArr([literal(match.queryId), literal(valueType)]));\n }\n });\n ast.references.forEach(function (ref) {\n var valueType = undefined;\n if (!ref.value) {\n valueType = 1 /* RenderElement */;\n }\n else if (tokenReference(ref.value) ===\n _this.reflector.resolveExternalReference(Identifiers.TemplateRef)) {\n valueType = 2 /* TemplateRef */;\n }\n if (valueType != null) {\n _this.refNodeIndices[ref.name] = nodeIndex;\n queryMatchExprs.push(literalArr([literal(ref.name), literal(valueType)]));\n }\n });\n ast.outputs.forEach(function (outputAst) {\n hostEvents.push({ context: COMP_VAR, eventAst: outputAst, dirAst: null });\n });\n return {\n flags: flags,\n usedEvents: Array.from(usedEvents.values()),\n queryMatchesExpr: queryMatchExprs.length ?
```

```
literalArr(queryMatchExprs) : NULL_EXPR,\n hostBindings: hostBindings,\n hostEvents:
hostEvents\n };\n };\n ViewBuilder.prototype._visitDirective = function (providerAst, dirAst, refs,
queryMatches, usedEvents) {\n var _this = this;\n var nodeIndex = this.nodes.length;\n //
reserve the space in the nodeDefs array so we can add children\n this.nodes.push(null);\n
dirAst.directive.queries.forEach(function (query, queryIndex) {\n var queryId =
dirAst.contentQueryStartId + queryIndex;\n
var flags = 67108864 /* TypeContentQuery */ | calcStaticDynamicQueryFlags(query);\n var
bindingType = query.first ? 0 /* First */ : 1 /* All */;\n _this.nodes.push(function () { return ({\n
sourceSpan: dirAst.sourceSpan,\n nodeFlags: flags,\n nodeDef:
importExpr(Identifiers.queryDef).callFn([\n literal(flags), literal(queryId),\n new
LiteralMapExpr([new LiteralMapEntry(query.propertyName, literal(bindingType), false)])\n
]),\n
}); });\n });\n // Note: the operation below might also create new nodeDefs,\n // but we don't
want them to be a child of a directive,\n // as they might be a provider/pipe on their own.\n // I.e. we
only allow queries as children of directives nodes.\n var childCount = this.nodes.length - nodeIndex - 1;\n
var _a = this._visitProviderOrDirective(providerAst, queryMatches), flags = _a.flags, queryMatchExprs =
_a.queryMatchExprs, providerExpr = _a.providerExpr, depsExpr = _a.depsExpr;\n refs.forEach(function (ref)
{\n if (ref.value && tokenReference(ref.value) === tokenReference(providerAst.token)) {\n
_this.refNodeIndices[ref.name] = nodeIndex;\n queryMatchExprs.push(literalArr([literal(ref.name),
literal(4 /* Provider */)]));\n }\n });\n if (dirAst.directive.isComponent) {\n flags |=
32768 /* Component */;\n }\n var inputDefs = dirAst.inputs.map(function (inputAst, inputIndex) {\n
var mapValue = literalArr([literal(inputIndex), literal(inputAst.directiveName)]);\n // Note: it's
important to not quote the key so that we can capture renames by minifiers!\n return new
LiteralMapEntry(inputAst.directiveName,
mapValue, false);\n });\n var outputDefs = [];\n var dirMeta = dirAst.directive;\n
Object.keys(dirMeta.outputs).forEach(function (propName) {\n var eventName =
dirMeta.outputs[propName];\n if (usedEvents.has(eventName)) {\n // Note: it's important to not
quote the key so that we can capture renames by minifiers!\n outputDefs.push(new
LiteralMapEntry(propName, literal(eventName), false));\n }\n });\n var
updateDirectiveExpressions = [];\n if (dirAst.inputs.length || (flags & (262144 /* DoCheck */ | 65536 /*
OnInit */)) > 0) {\n updateDirectiveExpressions =\n dirAst.inputs.map(function (input,
bindingIndex) { return _this._preprocessUpdateExpression({\n nodeIndex: nodeIndex,\n
bindingIndex: bindingIndex,\n sourceSpan: input.sourceSpan,\n
context: COMP_VAR,\n value: input.value\n }); });\n }\n var
dirContextExpr = importExpr(Identifiers.nodeValue).callFn([VIEW_VAR, literal(nodeIndex)]);\n var
hostBindings = dirAst.hostProperties.map(function (inputAst) { return ({\n context: dirContextExpr,\n
dirAst: dirAst,\n inputAst: inputAst,\n }); });\n var hostEvents =
dirAst.hostEvents.map(function (hostEventAst) { return ({\n context: dirContextExpr,\n
eventAst: hostEventAst,\n dirAst: dirAst,\n }); });\n // Check index is the same as the node
index during compilation\n // They might only differ at runtime\n var checkIndex = nodeIndex;\n
this.nodes[nodeIndex] = function () { return ({\n sourceSpan: dirAst.sourceSpan,\n nodeFlags:
16384 /* TypeDirective */ | flags,\n nodeDef: importExpr(Identifiers.directiveDef).callFn([\n
literal(checkIndex),\n literal(flags),\n queryMatchExprs.length ?
literalArr(queryMatchExprs) : NULL_EXPR,\n literal(childCount),\n providerExpr,\n
depsExpr,\n inputDefs.length ? new LiteralMapExpr(inputDefs) : NULL_EXPR,\n
outputDefs.length ? new LiteralMapExpr(outputDefs) : NULL_EXPR,\n ]),\n updateDirectives:
updateDirectiveExpressions,\n directive: dirAst.directive.type,\n }); };\n return {
hostBindings: hostBindings, hostEvents: hostEvents };\n };\n ViewBuilder.prototype._visitProvider =
function (providerAst, queryMatches) {\n this._addProviderNode(this._visitProviderOrDirective(providerAst,
```

```
queryMatches));\n        };\n
 ViewBuilder.prototype._visitComponentFactoryResolverProvider = function (directives) {\n            var
componentDirMeta = directives.find(function (dirAst) { return dirAst.directive.isComponent; });\n            if
(componentDirMeta && componentDirMeta.directive.entryComponents.length) {\n                var _a =
componentFactoryResolverProviderDef(this.reflector, this.outputCtx, 8192 /* PrivateProvider */,
componentDirMeta.directive.entryComponents), providerExpr = _a.providerExpr, depsExpr = _a.depsExpr, flags =
_a.flags, tokenExpr = _a.tokenExpr;\n                this._addProviderNode({\n                    providerExpr:
providerExpr,\n                    depsExpr: depsExpr,\n                    flags: flags,\n                    tokenExpr: tokenExpr,\n
            queryMatchExprs: [],\n                    sourceSpan: componentDirMeta.sourceSpan\n                });\n
}\n        };\n        ViewBuilder.prototype._addProviderNode = function (data) {\n            //
 providerDef(\n            //   flags: NodeFlags, matchedQueries: [string, QueryValueType][], token:any,\n            //
value: any, deps: ([DepFlags, any] | any)[]): NodeDef;\n            this.nodes.push(function () { return ({\n
sourceSpan: data.sourceSpan,\n                nodeFlags: data.flags,\n                nodeDef:
importExpr(Identifiers.providerDef).callFn([\n                    literal(data.flags),\n
data.queryMatchExprs.length ? literalArr(data.queryMatchExprs) : NULL_EXPR,\n                    data.tokenExpr,
data.providerExpr, data.depsExpr\n                ])\n            }); });\n        };\n
ViewBuilder.prototype._visitProviderOrDirective = function (providerAst, queryMatches) {\n            var flags = 0 /*
None */;\n            var queryMatchExprs = [];\n            queryMatches.forEach(function (match) {\n                if
(tokenReference(match.value) === tokenReference(providerAst.token)) {\n
queryMatchExprs.push(literalArr([literal(match.queryId),
 literal(4 /* Provider */)]));\n                }\n            });\n            var _a = providerDef(this.outputCtx, providerAst),
providerExpr = _a.providerExpr, depsExpr = _a.depsExpr, providerFlags = _a.flags, tokenExpr = _a.tokenExpr;\n
    return {\n                flags: flags | providerFlags,\n                queryMatchExprs: queryMatchExprs,\n
providerExpr: providerExpr,\n                depsExpr: depsExpr,\n                tokenExpr: tokenExpr,\n
sourceSpan: providerAst.sourceSpan\n            };\n        };\n        ViewBuilder.prototype.getLocal = function (name)
{\n            if (name == EventHandlerVars.event.name) {\n                return EventHandlerVars.event;\n            }\n
   var currViewExpr = VIEW_VAR;\n            for (var currBuilder = this; currBuilder; currBuilder =
currBuilder.parent,\n                currViewExpr = currViewExpr.prop('parent').cast(DYNAMIC_TYPE)) {\n
            // check references\n                var refNodeIndex = currBuilder.refNodeIndices[name];\n                if
(refNodeIndex != null) {\n                    return importExpr(Identifiers.nodeValue).callFn([currViewExpr,
literal(refNodeIndex)]);\n                }\n                // check variables\n                var varAst =
currBuilder.variables.find(function (varAst) { return varAst.name === name; });\n                if (varAst) {\n
  var varValue = varAst.value || IMPLICIT_TEMPLATE_VAR;\n                    return
currViewExpr.prop('context').prop(varValue);\n                }\n            }\n            return null;\n        };\n
ViewBuilder.prototype.notifyImplicitReceiverUse = function () {\n            // Not needed in View Engine as View
Engine walks through the generated\n            // expressions to figure out if the implicit receiver is used and needs\n
        // to be generated as part of the pre-update statements.\n        };\n
         ViewBuilder.prototype._createLiteralArrayConverter = function (sourceSpan, argCount) {\n            if
(argCount === 0) {\n                var valueExpr_1 = importExpr(Identifiers.EMPTY_ARRAY);\n                return
function () { return valueExpr_1; };\n            }\n            var checkIndex = this.nodes.length;\n
this.nodes.push(function () { return ({\n                sourceSpan: sourceSpan,\n                nodeFlags: 32 /*
TypePureArray */,\n                nodeDef: importExpr(Identifiers.pureArrayDef).callFn([\n
literal(checkIndex),\n                    literal(argCount),\n                ])\n            }); });\n            return function (args) {
return callCheckStmt(checkIndex, args); };\n        };\n        ViewBuilder.prototype._createLiteralMapConverter =
function (sourceSpan, keys) {\n            if (keys.length === 0) {\n                var valueExpr_2 =
importExpr(Identifiers.EMPTY_MAP);\n                return function () { return
 valueExpr_2; };\n            }\n            var map = literalMap(keys.map(function (e, i) { return
(Object.assign(Object.assign({}, e), { value: literal(i) })); }));\n            var checkIndex = this.nodes.length;\n
```

```
this.nodes.push(function () { return ({\n sourceSpan: sourceSpan,\n nodeFlags: 64 /* TypePureObject */,\n nodeDef: importExpr(Identifiers.pureObjectDef).callFn([\n literal(checkIndex),\n map,\n ])\n }); });\n return function (args) { return callCheckStmt(checkIndex, args); };\n };\n ViewBuilder.prototype._createPipeConverter = function (expression, name, argCount) {\n var pipe = this.usedPipes.find(function (pipeSummary) { return pipeSummary.name === name; });\n if (pipe.pure) {\n var checkIndex_1 = this.nodes.length;\n this.nodes.push(function () { return ({\n sourceSpan: expression.sourceSpan,\n nodeFlags: 128 /* TypePurePipe */,\n nodeDef: importExpr(Identifiers.purePipeDef).callFn([\n literal(checkIndex_1),\n literal(argCount),\n ])\n }); });\n // find underlying pipe in the component view\n var compViewExpr = VIEW_VAR;\n var compBuilder = this;\n while (compBuilder.parent) {\n compBuilder = compBuilder.parent;\n compViewExpr = compViewExpr.prop('parent').cast(DYNAMIC_TYPE);\n }\n var pipeNodeIndex = compBuilder.purePipeNodeIndices[name];\n var pipeValueExpr_1 = importExpr(Identifiers.nodeValue).callFn([compViewExpr, literal(pipeNodeIndex)]);\n return function (args) { return callUnwrapValue(expression.nodeIndex, expression.bindingIndex, callCheckStmt(checkIndex_1, [pipeValueExpr_1].concat(args))); };\n }\n else {\n var nodeIndex = this._createPipe(expression.sourceSpan, pipe);\n var nodeValueExpr_1 = importExpr(Identifiers.nodeValue).callFn([VIEW_VAR, literal(nodeIndex)]);\n return function (args) { return callUnwrapValue(expression.nodeIndex, expression.bindingIndex, nodeValueExpr_1.callMethod('transform', args)); };\n }\n };\n ViewBuilder.prototype._createPipe = function (sourceSpan, pipe) {\n var _this = this;\n var nodeIndex = this.nodes.length;\n var flags = 0 /* None */;\n pipe.type.lifecycleHooks.forEach(function (lifecycleHook) {\n // for pipes, we only support ngOnDestroy\n if (lifecycleHook === LifecycleHooks.OnDestroy) {\n flags |= lifecycleHookToNodeFlag(lifecycleHook);\n }\n });\n var depExprs = pipe.type.diDeps.map(function (diDep) { return depDef(_this.outputCtx, diDep); });\n // function pipeDef(\n // flags: NodeFlags, ctor: any, deps: ([DepFlags, any] | any)[]): NodeDef\n this.nodes.push(function () { return ({\n sourceSpan: sourceSpan,\n nodeFlags: 16 /* TypePipe */,\n nodeDef: importExpr(Identifiers.pipeDef).callFn([\n literal(flags),\n _this.outputCtx.importExpr(pipe.type.reference), literalArr(depExprs)\n ])\n }); });\n return nodeIndex;\n };\n /**\n * For the AST in `UpdateExpression.value`:\n * - create nodes for pipes, literal arrays and, literal maps,\n * - update the AST to replace pipes, literal arrays and, literal maps with calls to check fn.\n *\n * WARNING: This might create new nodeDefs (for pipes and literal arrays and literal maps)!\n */\n ViewBuilder.prototype._preprocessUpdateExpression = function (expression) {\n var _this = this;\n return {\n nodeIndex: expression.nodeIndex,\n bindingIndex: expression.bindingIndex,\n sourceSpan: expression.sourceSpan,\n context: expression.context,\n value: convertPropertyBindingBuiltins({\n createLiteralArrayConverter: function (argCount) { return _this._createLiteralArrayConverter(expression.sourceSpan, argCount); },\n createLiteralMapConverter: function (keys) { return _this._createLiteralMapConverter(expression.sourceSpan, keys); },\n createPipeConverter: function (name, argCount) { return _this._createPipeConverter(expression, name, argCount); }\n }, expression.value)\n };\n };\n ViewBuilder.prototype._createNodeExpressions = function () {\n var self = this;\n var updateBindingCount = 0;\n var updateRendererStmts = [];\n var updateDirectivesStmts = [];\n var nodeDefExprs = this.nodes.map(function (factory, nodeIndex) {\n var _a = factory(), nodeDef = _a.nodeDef, nodeFlags = _a.nodeFlags, updateDirectives = _a.updateDirectives, updateRenderer = _a.updateRenderer, sourceSpan = _a.sourceSpan;\n if (updateRenderer) {\n
```

```
updateRendererStmts.push.apply(updateRendererStmts, __spread(createUpdateStatements(nodeIndex, sourceSpan, updateRenderer, false)));\n }\n if (updateDirectives) {\n updateDirectivesStmts.push.apply(updateDirectivesStmts, __spread(createUpdateStatements(nodeIndex, sourceSpan, updateDirectives, (nodeFlags & (262144 /* DoCheck */ | 65536 /* OnInit */)) > 0)));\n }\n // We use a comma expression to call the log function before\n // the nodeDef function, but still use the result of the nodeDef function\n // as the value.\n // Note: We only add the logger to elements / text nodes,\n // so we don't generate too much code.\n var logWithNodeDef = nodeFlags & 3 /* CatRenderNode */ ?\n new CommaExpr([LOG_VAR$1.callFn([]).callFn([]), nodeDef]) :\n nodeDef;\n return applySourceSpanToExpressionIfNeeded(logWithNodeDef, sourceSpan);\n });\n return { updateRendererStmts: updateRendererStmts, updateDirectivesStmts: updateDirectivesStmts, nodeDefExprs: nodeDefExprs };\n function createUpdateStatements(nodeIndex, sourceSpan, expressions, allowEmptyExprs) {\n var updateStmts = [];\n var exprs = expressions.map(function (_a) {\n var sourceSpan = _a.sourceSpan, context = _a.context, value = _a.value;\n var bindingId = \"\" + updateBindingCount++;\n var nameResolver = context === COMP_VAR ? self : null;\n var _b = convertPropertyBinding(nameResolver, context, value, bindingId, BindingForm.General), stmts = _b.stmts, currValExpr = _b.currValExpr;\n updateStmts.push.apply(updateStmts, __spread(stmts.map(function (stmt) { return applySourceSpanToStatementIfNeeded(stmt, sourceSpan); })));\n return applySourceSpanToExpressionIfNeeded(currValExpr, sourceSpan);\n });\n if (expressions.length || allowEmptyExprs) {\n updateStmts.push(applySourceSpanToStatementIfNeeded(callCheckStmt(nodeIndex, exprs).toStmt(), sourceSpan));\n }\n return updateStmts;\n }\n };\n ViewBuilder.prototype._createElementHandleEventFn = function (nodeIndex, handlers) {\n var _this = this;\n var handleEventStmts = [];\n var handleEventBindingCount = 0;\n handlers.forEach(function (_a) {\n var context = _a.context, eventAst = _a.eventAst, dirAst = _a.dirAst;\n var bindingId = \"\" + handleEventBindingCount++;\n var nameResolver = context === COMP_VAR ? _this : null;\n var _b = convertActionBinding(nameResolver, context, eventAst.handler, bindingId), stmts = _b.stmts, allowDefault = _b.allowDefault;\n var trueStmts = stmts;\n if (allowDefault) {\n trueStmts.push(ALLOW_DEFAULT_VAR.set(allowDefault.and(ALLOW_DEFAULT_VAR)).toStmt());\n }\n var _c = elementEventNameAndTarget(eventAst, dirAst), eventTarget = _c.target, eventName = _c.name;\n var fullEventName = elementEventFullName(eventTarget, eventName);\n handleEventStmts.push(applySourceSpanToStatementIfNeeded(new IfStmt(literal(fullEventName).identical(EVENT_NAME_VAR), trueStmts), eventAst.sourceSpan));\n });\n var handleEventFn;\n if (handleEventStmts.length > 0) {\n var preStmts = [ALLOW_DEFAULT_VAR.set(literal(true)).toDeclStmt(BOOL_TYPE)];\n if (!this.component.isHost && findReadVarNames(handleEventStmts).has(COMP_VAR.name)) {\n preStmts.push(COMP_VAR.set(VIEW_VAR.prop('component')).toDeclStmt(this.compType));\n }\n handleEventFn = fn([\n new FnParam(VIEW_VAR.name, INFERRED_TYPE),\n new FnParam(EVENT_NAME_VAR.name, INFERRED_TYPE),\n new FnParam(EventHandlerVars.event.name, INFERRED_TYPE)\n ], __spread(preStmts, handleEventStmts, [new ReturnStatement(ALLOW_DEFAULT_VAR)]), INFERRED_TYPE);\n }\n else {\n handleEventFn = NULL_EXPR;\n }\n return handleEventFn;\n };\n ViewBuilder.prototype.visitDirective = function (ast, context) { };\n ViewBuilder.prototype.visitDirectiveProperty
```

```
 = function (ast, context) { };\n        ViewBuilder.prototype.visitReference = function (ast, context) { };\n
ViewBuilder.prototype.visitVariable = function (ast, context) { };\n        ViewBuilder.prototype.visitEvent =
function (ast, context) { };\n        ViewBuilder.prototype.visitElementProperty = function (ast, context) { };\n
ViewBuilder.prototype.visitAttr = function (ast, context) { };\n        return ViewBuilder;\n    }());\n    function
needsAdditionalRootNode(astNodes) {\n        var lastAstNode = astNodes[astNodes.length - 1];\n        if
(lastAstNode instanceof EmbeddedTemplateAst) {\n            return lastAstNode.hasViewContainer;\n        }\n        if
(lastAstNode instanceof ElementAst) {\n            if (isNgContainer(lastAstNode.name) &&
lastAstNode.children.length) {\n                return needsAdditionalRootNode(lastAstNode.children);\n            }\n
  return lastAstNode.hasViewContainer;\n        }\n        return lastAstNode instanceof
 NgContentAst;\n    }\n    function elementBindingDef(inputAst, dirAst) {\n        var inputType = inputAst.type;\n
  switch (inputType) {\n            case 1 /* Attribute */:\n                return literalArr([\n                    literal(1 /*
TypeElementAttribute */), literal(inputAst.name),\n                    literal(inputAst.securityContext)\n                ]);\n
    case 0 /* Property */:\n                return literalArr([\n                    literal(8 /* TypeProperty */),
literal(inputAst.name),\n                    literal(inputAst.securityContext)\n                ]);\n            case 4 /* Animation
*/:\n                var bindingType = 8 /* TypeProperty */ |\n                    (dirAst && dirAst.directive.isComponent ? 32
/* SyntheticHostProperty */ :\n                        16 /* SyntheticProperty */);\n                return literalArr([\n
literal(bindingType), literal('@' + inputAst.name), literal(inputAst.securityContext)\n
            ]);\n            case 2 /* Class */:\n                return literalArr([literal(2 /* TypeElementClass */),
literal(inputAst.name), NULL_EXPR]);\n            case 3 /* Style */:\n                return literalArr([\n
literal(4 /* TypeElementStyle */), literal(inputAst.name), literal(inputAst.unit)\n                ]);\n            default:\n
      // This default case is not needed by TypeScript compiler, as the switch is exhaustive.\n                // However
Closure Compiler does not understand that and reports an error in typed mode.\n                // The `throw new Error`
below works around the problem, and the unexpected: never variable\n                // makes sure tsc still checks this
code is unreachable.\n                var unexpected = inputType;\n                throw new Error(\"unexpected \" +
unexpected);\n        }\n    }\n    function fixedAttrsDef(elementAst) {\n        var mapResult = Object.create(null);\n
  elementAst.attrs.forEach(function
 (attrAst) {\n            mapResult[attrAst.name] = attrAst.value;\n        });\n
elementAst.directives.forEach(function (dirAst) {\n
Object.keys(dirAst.directive.hostAttributes).forEach(function (name) {\n                var value =
dirAst.directive.hostAttributes[name];\n                var prevValue = mapResult[name];\n                mapResult[name]
= prevValue != null ? mergeAttributeValue(name, prevValue, value) : value;\n            });\n        });\n        // Note:
We need to sort to get a defined output order\n        // for tests and for caching generated artifacts...\n        return
literalArr(Object.keys(mapResult).sort().map(function (attrName) { return literalArr([literal(attrName),
literal(mapResult[attrName])]); }));\n    }\n    function mergeAttributeValue(attrName, attrValue1, attrValue2) {\n
  if (attrName == CLASS_ATTR$1 || attrName == STYLE_ATTR) {\n            return attrValue1 + \" \" +
attrValue2;\n        }\n
  else {\n            return attrValue2;\n        }\n    }\n    function callCheckStmt(nodeIndex, exprs) {\n        if
(exprs.length > 10) {\n            return CHECK_VAR.callFn([VIEW_VAR, literal(nodeIndex), literal(1 /* Dynamic
*/), literalArr(exprs)]);\n        }\n        else {\n            return CHECK_VAR.callFn(__spread([VIEW_VAR,
literal(nodeIndex), literal(0 /* Inline */)], exprs));\n        }\n    }\n    function callUnwrapValue(nodeIndex,
bindingIdx, expr) {\n        return importExpr(Identifiers.unwrapValue).callFn([\n            VIEW_VAR,
literal(nodeIndex), literal(bindingIdx), expr\n        ]);\n    }\n    function elementEventNameAndTarget(eventAst,
dirAst) {\n        if (eventAst.isAnimation) {\n            return {\n                name: \"@\" + eventAst.name + \".\" +
eventAst.phase,\n                target: dirAst && dirAst.directive.isComponent ? 'component' : null\n            };\n
}\n        else {\n            return eventAst;\n        }\n    }\n    function
 calcStaticDynamicQueryFlags(query) {\n        var flags = 0 /* None */;\n        // Note: We only make queries static
that query for a single item and the user specifically\n        // set the to be static. This is because of backwards
compatibility with the old view compiler...\n        if (query.first && query.static) {\n            flags |= 268435456 /*
```

```
StaticQuery */;\n        }\n        else {\n            flags |= 536870912 /* DynamicQuery */;\n        }\n        return flags;\n    }\n    function elementEventFullName(target, name) {\n        return target ? target + \":\" + name : name;\n    }\n\n    /**\n     * A container for message extracted from the templates.\n     */\n    var MessageBundle = /** @class */ (function () {\n        function MessageBundle(_htmlParser, _implicitTags, _implicitAttrs, _locale) {\n            if (_locale === void 0) { _locale = null; }\n            this._htmlParser = _htmlParser;\n            this._implicitTags = _implicitTags;\n            this._implicitAttrs
    = _implicitAttrs;\n            this._locale = _locale;\n            this._messages = [];\n        }\n        MessageBundle.prototype.updateFromTemplate = function (html, url, interpolationConfig) {\n            var _a;\n            var htmlParserResult = this._htmlParser.parse(html, url, { tokenizeExpansionForms: true, interpolationConfig: interpolationConfig });\n            if (htmlParserResult.errors.length) {\n                return htmlParserResult.errors;\n            }\n            var i18nParserResult = extractMessages(htmlParserResult.rootNodes, interpolationConfig, this._implicitTags, this._implicitAttrs);\n            if (i18nParserResult.errors.length) {\n                return i18nParserResult.errors;\n            }\n            (_a = this._messages).push.apply(_a, __spread(i18nParserResult.messages));\n            return [];\n        };\n        // Return the message in the internal format\n        // The public (serialized) format might be different, see
    the `write` method.\n        MessageBundle.prototype.getMessages = function () {\n            return this._messages;\n        };\n        MessageBundle.prototype.write = function (serializer, filterSources) {\n            var messages = {};\n            var mapperVisitor = new MapPlaceholderNames();\n            // Deduplicate messages based on their ID\n            this._messages.forEach(function (message) {\n                var _a;\n                var id = serializer.digest(message);\n                if (!messages.hasOwnProperty(id)) {\n                    messages[id] = message;\n                }\n                else {\n                    (_a = messages[id].sources).push.apply(_a, __spread(message.sources));\n                }\n            });\n            // Transform placeholder names using the serializer mapping\n            var msgList =
    Object.keys(messages).map(function (id) {\n                var mapper = serializer.createNameMapper(messages[id]);\n                var
    src = messages[id];\n                var nodes = mapper ? mapperVisitor.convert(src.nodes, mapper) : src.nodes;\n                var transformedMessage = new Message(nodes, {}, {}, src.meaning, src.description, id);\n                transformedMessage.sources = src.sources;\n                if (filterSources) {\n                    transformedMessage.sources.forEach(function (source) { return source.filePath = filterSources(source.filePath); });\n                }\n                return transformedMessage;\n            });\n            return serializer.write(msgList, this._locale);\n        };\n        return MessageBundle;\n    }());\n    // Transform an i18n AST by renaming the placeholder nodes with the given mapper\n    var MapPlaceholderNames = /** @class */ (function (_super) {\n        __extends(MapPlaceholderNames, _super);\n        function MapPlaceholderNames() {\n            return _super !== null && _super.apply(this, arguments) || this;\n        }\n        MapPlaceholderNames.prototype.convert
    = function (nodes, mapper) {\n            var _this = this;\n            return mapper ? nodes.map(function (n) { return n.visit(_this, mapper); }) : nodes;\n        };\n        MapPlaceholderNames.prototype.visitTagPlaceholder = function (ph, mapper) {\n            var _this = this;\n            var startName = mapper.toPublicName(ph.startName);\n            var closeName = ph.closeName ? mapper.toPublicName(ph.closeName) : ph.closeName;\n            var children = ph.children.map(function (n) { return n.visit(_this, mapper); });\n            return new TagPlaceholder(ph.tag, ph.attrs, startName, closeName, children, ph.isVoid, ph.sourceSpan, ph.startSourceSpan, ph.endSourceSpan);\n        };\n        MapPlaceholderNames.prototype.visitPlaceholder = function (ph, mapper) {\n            return new
    Placeholder(ph.value, mapper.toPublicName(ph.name), ph.sourceSpan);\n        };\n        MapPlaceholderNames.prototype.visitIcuPlaceholder = function (ph, mapper) {\n            return new IcuPlaceholder(ph.value, mapper.toPublicName(ph.name), ph.sourceSpan);\n        };\n        return MapPlaceholderNames;\n    }(CloneVisitor));\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    var GeneratedFile = /** @class */ (function () {\n        function GeneratedFile(srcFileUrl, genFileUrl, sourceOrStmts) {\n            this.srcFileUrl = srcFileUrl;\n            this.genFileUrl = genFileUrl;\n            if (typeof sourceOrStmts === 'string') {\n                this.source =
```

sourceOrStmts;\n this.stmts = null;\n }\n else {\n this.source = null;\n this.stmts = sourceOrStmts;\n }\n }\n GeneratedFile.prototype.isEquivalent = function (other) {\n if (this.genFileUrl !== other.genFileUrl) {\n return false;\n }\n if (this.source) {\n return this.source === other.source;\n }\n if (other.stmts == null) {\n return false;\n }\n // Note: the constructor guarantees that if this.source is not filled,\n // then this.stmts is.\n return areAllEquivalent(this.stmts, other.stmts);\n };\n return GeneratedFile;\n }());\n function toTypeScript(file, preamble) {\n if (preamble === void 0) { preamble = ''; }\n if (!file.stmts) {\n throw new Error(\"Illegal state: No stmts present on GeneratedFile \" + file.genFileUrl);\n }\n return new TypeScriptEmitter().emitStatements(file.genFileUrl, file.stmts, preamble);\n }\n\n function listLazyRoutes(moduleMeta, reflector) {\n var e_1, _a, e_2, _b;\n var allLazyRoutes = [];\n try {\n for (var _c = __values(moduleMeta.transitiveModule.providers), _d = _c.next(); !_d.done; _d = _c.next()) {\n var _e = _d.value, provider = _e.provider, module = _e.module;\n if (tokenReference(provider.token) === reflector.ROUTES) {\n var loadChildren = _collectLoadChildren(provider.useValue);\n try {\n for (var loadChildren_1 = (e_2 = void 0, __values(loadChildren)), loadChildren_1_1 = loadChildren_1.next(); !loadChildren_1_1.done; loadChildren_1_1 = loadChildren_1.next()) {\n var route = loadChildren_1_1.value;\n allLazyRoutes.push(parseLazyRoute(route, reflector, module.reference));\n }\n }\n catch (e_2_1) { e_2 = { error: e_2_1 }; }\n finally {\n try {\n if (loadChildren_1_1 && !loadChildren_1_1.done && (_b = loadChildren_1.return)) _b.call(loadChildren_1);\n }\n finally { if (e_2) throw e_2.error; }\n }\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (_d && !_d.done && (_a = _c.return)) _a.call(_c);\n }\n finally { if (e_1) throw e_1.error; }\n }\n return allLazyRoutes;\n }\n function _collectLoadChildren(routes, target) {\n var e_3, _a;\n if (target === void 0) { target = []; }\n if (typeof routes === 'string') {\n target.push(routes);\n }\n else if (Array.isArray(routes)) {\n try {\n for (var routes_1 = __values(routes), routes_1_1 = routes_1.next(); !routes_1_1.done; routes_1_1 = routes_1.next()) {\n var route = routes_1_1.value;\n _collectLoadChildren(route, target);\n }\n }\n catch (e_3_1) { e_3 = { error: e_3_1 }; }\n finally {\n try {\n if (routes_1_1 && !routes_1_1.done && (_a = routes_1.return)) _a.call(routes_1);\n }\n finally { if (e_3) throw e_3.error; }\n }\n }\n else if (routes.loadChildren) {\n _collectLoadChildren(routes.loadChildren, target);\n }\n else if (routes.children) {\n _collectLoadChildren(routes.children, target);\n }\n return target;\n }\n function parseLazyRoute(route, reflector, module) {\n var _a = __read(route.split('#'), 2), routePath = _a[0], routeName = _a[1];\n var referencedModule = reflector.resolveExternalReference({\n moduleName: routePath,\n name: routeName,\n }, module ? module.filePath : undefined);\n return { route: route, module: module || referencedModule, referencedModule: referencedModule };\n }\n\n var TS = /^(?!.*\\.d\\.ts$).*\\.ts$/;\n var ResolvedStaticSymbol = /** @class */ (function () {\n function ResolvedStaticSymbol(symbol, metadata) {\n this.symbol = symbol;\n this.metadata = metadata;\n }\n return ResolvedStaticSymbol;\n }());\n var SUPPORTED_SCHEMA_VERSION = 4;\n /**\n * This class is responsible for loading metadata per symbol,\n * and normalizing references between symbols.\n *\n * Internally, it only uses symbols without members,\n * and deduces the values for symbols with members based\n * on these symbols.\n */\n var StaticSymbolResolver = /** @class */ (function () {\n function StaticSymbolResolver(host, staticSymbolCache, summaryResolver, errorRecorder) {\n this.host = host;\n this.staticSymbolCache = staticSymbolCache;\n this.summaryResolver = summaryResolver;\n this.errorRecorder = errorRecorder;\n this.metadataCache = new Map();\n // Note: this will only contain StaticSymbols without members!\n this.resolvedSymbols = new Map();\n // Note: this will only contain StaticSymbols without members!\n

```
this.importAs = new Map();\n            this.symbolResourcePaths = new Map();\n            this.symbolFromFile = new
Map();\n            this.knownFileNameToModuleNames = new Map();\n        }\n
StaticSymbolResolver.prototype.resolveSymbol = function (staticSymbol) {\n            if
(staticSymbol.members.length > 0) {\n                return this._resolveSymbolMembers(staticSymbol);\n            }\n
    // Note: always ask for a summary first,\n            // as we might have read shallow metadata via a .d.ts file\n
// for the symbol.\n            var resultFromSummary = this._resolveSymbolFromSummary(staticSymbol);\n            if
(resultFromSummary) {\n                return resultFromSummary;\n            }\n
    var resultFromCache = this.resolvedSymbols.get(staticSymbol);\n            if (resultFromCache) {\n                return
resultFromCache;\n            }\n            // Note: Some users use libraries that were not compiled with ngc, i.e. they
don't\n            // have summaries, only .d.ts files. So we always need to check both, the summary\n            // and
metadata.\n            this._createSymbolsOf(staticSymbol.filePath);\n            return
this.resolvedSymbols.get(staticSymbol);\n        };\n        /**\n         * getImportAs produces a symbol that can be
used to import the given symbol.\n         * The import might be different than the symbol if the symbol is exported
from\n         * a library with a summary; in which case we want to import the symbol from the\n         * ngfactory re-
export instead of directly to avoid introducing a direct dependency\n         * on an otherwise indirect dependency.\n
     *\n         * @param staticSymbol the symbol for which to generate
 a import symbol\n         */\n        StaticSymbolResolver.prototype.getImportAs = function (staticSymbol,
useSummaries) {\n            if (useSummaries === void 0) { useSummaries = true; }\n            if
(staticSymbol.members.length) {\n                var baseSymbol = this.getStaticSymbol(staticSymbol.filePath,
staticSymbol.name);\n                var baseImportAs = this.getImportAs(baseSymbol, useSummaries);\n
return baseImportAs ?\n                    this.getStaticSymbol(baseImportAs.filePath, baseImportAs.name,
staticSymbol.members) :\n                    null;\n            }\n            var summarizedFileName =
stripSummaryForJitFileSuffix(staticSymbol.filePath);\n            if (summarizedFileName !== staticSymbol.filePath)
{\n                var summarizedName = stripSummaryForJitNameSuffix(staticSymbol.name);\n                var
baseSymbol = this.getStaticSymbol(summarizedFileName, summarizedName, staticSymbol.members);\n
var baseImportAs
 = this.getImportAs(baseSymbol, useSummaries);\n                return baseImportAs ?
this.getStaticSymbol(summaryForJitFileName(baseImportAs.filePath), summaryForJitName(baseImportAs.name),
baseSymbol.members) :\n                    null;\n            }\n            var result = (useSummaries &&
this.summaryResolver.getImportAs(staticSymbol)) || null;\n            if (!result) {\n                result =
this.importAs.get(staticSymbol);\n            }\n            return result;\n        };\n        /**\n         * getResourcePath
produces the path to the original location of the symbol and should\n         * be used to determine the relative
location of resource references recorded in\n         * symbol metadata.\n         */\n
StaticSymbolResolver.prototype.getResourcePath = function (staticSymbol) {\n            return
this.symbolResourcePaths.get(staticSymbol) || staticSymbol.filePath;\n        };\n        /**\n         * getTypeArity
returns the number of generic type parameters
 the given symbol\n         * has. If the symbol is not a type the result is null.\n         */\n
StaticSymbolResolver.prototype.getTypeArity = function (staticSymbol) {\n            // If the file is a
factory/ngsummary file, don't resolve the symbol as doing so would\n            // cause the metadata for an
factory/ngsummary file to be loaded which doesn't exist.\n            // All references to generated classes must include
the correct arity whenever\n            // generating code.\n            if (isGeneratedFile(staticSymbol.filePath)) {\n
    return null;\n            }\n            var resolvedSymbol =
unwrapResolvedMetadata(this.resolveSymbol(staticSymbol));\n            while (resolvedSymbol &&
resolvedSymbol.metadata instanceof StaticSymbol) {\n                resolvedSymbol =
unwrapResolvedMetadata(this.resolveSymbol(resolvedSymbol.metadata));\n            }\n            return
(resolvedSymbol && resolvedSymbol.metadata && resolvedSymbol.metadata.arity)
 || null;\n        };\n        StaticSymbolResolver.prototype.getKnownModuleName = function (filePath) {\n
return this.knownFileNameToModuleNames.get(filePath) || null;\n        };\n
```

```
StaticSymbolResolver.prototype.recordImportAs = function (sourceSymbol, targetSymbol) {\n
sourceSymbol.assertNoMembers();\n            targetSymbol.assertNoMembers();\n
this.importAs.set(sourceSymbol, targetSymbol);\n        };\n
StaticSymbolResolver.prototype.recordModuleNameForFileName = function (fileName, moduleName) {\n
this.knownFileNameToModuleNames.set(fileName, moduleName);\n        };\n        /**\n
* Invalidate all information derived from the given file and return the\n         * static symbols contained in the file.\n         *\n         *
@param fileName the file to invalidate\n         */\n        StaticSymbolResolver.prototype.invalidateFile = function
(fileName) {\n            var e_1, _a;\n            this.metadataCache.delete(fileName);\n
            var symbols = this.symbolFromFile.get(fileName);\n            if (!symbols) {\n                return [];\n            }\n
        this.symbolFromFile.delete(fileName);\n            try {\n                for (var symbols_1 = __values(symbols),
symbols_1_1 = symbols_1.next(); !symbols_1_1.done; symbols_1_1 = symbols_1.next()) {\n                    var
symbol = symbols_1_1.value;\n                    this.resolvedSymbols.delete(symbol);\n
this.importAs.delete(symbol);\n                    this.symbolResourcePaths.delete(symbol);\n                }\n            }\n
    catch (e_1_1) { e_1 = { error: e_1_1 }; }\n            finally {\n                try {\n                    if (symbols_1_1 &&
!symbols_1_1.done && (_a = symbols_1.return)) _a.call(symbols_1);\n                }\n                finally { if (e_1)
throw e_1.error; }\n            }\n            return symbols;\n        };\n        /** @internal */\n
StaticSymbolResolver.prototype.ignoreErrorsFor
 = function (cb) {\n            var recorder = this.errorRecorder;\n            this.errorRecorder = function () { };\n
try {\n                return cb();\n            }\n            finally {\n                this.errorRecorder = recorder;\n            }\n
};\n        StaticSymbolResolver.prototype._resolveSymbolMembers = function (staticSymbol) {\n            var
members = staticSymbol.members;\n            var baseResolvedSymbol =
this.resolveSymbol(this.getStaticSymbol(staticSymbol.filePath, staticSymbol.name));\n            if
(!baseResolvedSymbol) {\n                return null;\n            }\n            var baseMetadata =
unwrapResolvedMetadata(baseResolvedSymbol.metadata);\n            if (baseMetadata instanceof StaticSymbol) {\n
            return new ResolvedStaticSymbol(staticSymbol, this.getStaticSymbol(baseMetadata.filePath,
baseMetadata.name, members));\n            }\n            else if (baseMetadata
 && baseMetadata.__symbolic === 'class') {\n                if (baseMetadata.statics && members.length === 1) {\n
            return new ResolvedStaticSymbol(staticSymbol, baseMetadata.statics[members[0]]);\n                }\n
}\n            else {\n                var value = baseMetadata;\n                for (var i = 0; i < members.length && value; i++)
{\n                    value = value[members[i]];\n                }\n                return new ResolvedStaticSymbol(staticSymbol,
value);\n            }\n            return null;\n        };\n
StaticSymbolResolver.prototype._resolveSymbolFromSummary = function (staticSymbol) {\n            var summary
= this.summaryResolver.resolveSummary(staticSymbol);\n            return summary ? new
ResolvedStaticSymbol(staticSymbol, summary.metadata) : null;\n        };\n        /**\n         * getStaticSymbol
produces a Type whose metadata is known but whose implementation is not loaded.\n         * All types passed to
 the StaticResolver should be pseudo-types returned by this method.\n         *\n         * @param declarationFile the
absolute path of the file where the symbol is declared\n         * @param name the name of the type.\n         *
@param members a symbol for a static member of the named type\n         */\n
StaticSymbolResolver.prototype.getStaticSymbol = function (declarationFile, name, members) {\n            return
this.staticSymbolCache.get(declarationFile, name, members);\n        };\n        /**\n         * hasDecorators checks a
file's metadata for the presence of decorators without evaluating the\n         * metadata.\n         *\n         * @param
filePath the absolute path to examine for decorators.\n         * @returns true if any class in the file has a decorator.\n
     */\n        StaticSymbolResolver.prototype.hasDecorators = function (filePath) {\n            var metadata =
this.getModuleMetadata(filePath);\n            if (metadata['metadata']) {\n
       return Object.keys(metadata['metadata']).some(function (metadataKey) {\n                    var entry =
metadata['metadata'][metadataKey];\n                    return entry && entry.__symbolic === 'class' &&
entry.decorators;\n                });\n            }\n            return false;\n        };\n
StaticSymbolResolver.prototype.getSymbolsOf = function (filePath) {\n            var summarySymbols =
```

```
this.summaryResolver.getSymbolsOf(filePath);\n            if (summarySymbols) {\n                return summarySymbols;\n            }\n            // Note: Some users use libraries that were not compiled with ngc, i.e. they don't\n            // have summaries, only .d.ts files, but `summaryResolver.isLibraryFile` returns true.\n            this._createSymbolsOf(filePath);\n            return this.symbolFromFile.get(filePath) || [];\n        };\n        StaticSymbolResolver.prototype._createSymbolsOf = function (filePath) {\n            var e_2, _a, e_3, _b;\n            var
 _this = this;\n            if (this.symbolFromFile.has(filePath)) {\n                return;\n            }\n            var resolvedSymbols = [];\n            var metadata = this.getModuleMetadata(filePath);\n            if (metadata['importAs']) {\n                // Index bundle indices should use the importAs module name defined\n                // in the bundle.\n                this.knownFileNameToModuleNames.set(filePath, metadata['importAs']);\n            }\n            // handle the symbols in one of the re-export location\n            if (metadata['exports']) {\n                var _loop_1 = function (moduleExport) {\n                    // handle the symbols in the list of explicitly re-exported symbols.\n                    if (moduleExport.export) {\n                        moduleExport.export.forEach(function (exportSymbol) {\n
 var symbolName;\n                            if (typeof exportSymbol === 'string') {\n
  symbolName = exportSymbol;\n                            }\n                            else {\n                                symbolName = exportSymbol.as;\n                            }\n                            symbolName = unescapeIdentifier(symbolName);\n
                var symName = symbolName;\n                            if (typeof exportSymbol !== 'string') {\n
   symName = unescapeIdentifier(exportSymbol.name);\n                            }\n                            var resolvedModule = _this.resolveModule(moduleExport.from, filePath);\n                            if (resolvedModule) {\n
var targetSymbol = _this.getStaticSymbol(resolvedModule, symName);\n                                var sourceSymbol = _this.getStaticSymbol(filePath, symbolName);\n
resolvedSymbols.push(_this.createExport(sourceSymbol, targetSymbol));\n                            }\n
                });\n                    }\n                    else {\n                        // Handle the symbols loaded by 'export *' directives.\n
                    var resolvedModule = this_1.resolveModule(moduleExport.from, filePath);\n                        if (resolvedModule && resolvedModule !== filePath) {\n                            var nestedExports = this_1.getSymbolsOf(resolvedModule);\n                            nestedExports.forEach(function (targetSymbol) {\n
                    var sourceSymbol = _this.getStaticSymbol(filePath, targetSymbol.name);\n
resolvedSymbols.push(_this.createExport(sourceSymbol, targetSymbol));\n                            });\n                        }\n
                }\n                };\n                var this_1 = this;\n                try {\n                    for (var _c = __values(metadata['exports']), _d = _c.next(); !_d.done; _d = _c.next()) {\n                        var moduleExport
 = _d.value;\n                        _loop_1(moduleExport);\n                    }\n                }\n                catch (e_2_1) { e_2 = { error: e_2_1 }; }\n                finally {\n                    try {\n                        if (_d && !_d.done && (_a = _c.return)) _a.call(_c);\n                    }\n                    finally { if (e_2) throw e_2.error; }\n                }\n            }\n            // handle the actual metadata. Has to be after the exports\n            // as there might be collisions in the names, and we want the symbols\n            // of the current module to win ofter reexports.\n            if (metadata['metadata']) {\n
    // handle direct declarations of the symbol\n                var topLevelSymbolNames_1 = new Set(Object.keys(metadata['metadata']).map(unescapeIdentifier));\n                var origins_1 = metadata['origins'] || {};\n                Object.keys(metadata['metadata']).forEach(function (metadataKey) {\n
        var symbolMeta = metadata['metadata'][metadataKey];\n                    var name = unescapeIdentifier(metadataKey);\n                    var symbol = _this.getStaticSymbol(filePath, name);\n                    var origin = origins_1.hasOwnProperty(metadataKey) && origins_1[metadataKey];\n                    if (origin) {\n
                // If the symbol is from a bundled index, use the declaration location of the\n                        // symbol so relative references (such as './my.html') will be calculated\n                        // correctly.\n                        var originFilePath = _this.resolveModule(origin, filePath);\n                        if (!originFilePath) {\n                            _this.reportError(new Error(\"Couldn't resolve original symbol for \" + origin + \" from \" + _this.host.getOutputName(filePath)));\n                        }\n                        else {\n                            _this.symbolResourcePaths.set(symbol, originFilePath);\n
```

```
}\n }\n resolvedSymbols.push(_this.createResolvedSymbol(symbol, filePath,
topLevelSymbolNames_1, symbolMeta));\n });\n }\n var uniqueSymbols = new Set();\n
try {\n for (var resolvedSymbols_1 = __values(resolvedSymbols), resolvedSymbols_1_1 =
resolvedSymbols_1.next(); !resolvedSymbols_1_1.done; resolvedSymbols_1_1 = resolvedSymbols_1.next()) {\n
var resolvedSymbol = resolvedSymbols_1_1.value;\n
this.resolvedSymbols.set(resolvedSymbol.symbol, resolvedSymbol);\n
uniqueSymbols.add(resolvedSymbol.symbol);\n }\n }\n catch (e_3_1) { e_3 = { error: e_3_1
}; }\n finally {\n try {\n if (resolvedSymbols_1_1 && !resolvedSymbols_1_1.done &&
(_b = resolvedSymbols_1.return)) _b.call(resolvedSymbols_1);\n }\n
finally { if (e_3) throw e_3.error; }\n }\n this.symbolFromFile.set(filePath,
Array.from(uniqueSymbols));\n };\n StaticSymbolResolver.prototype.createResolvedSymbol = function
(sourceSymbol, topLevelPath, topLevelSymbolNames, metadata) {\n var _this = this;\n // For classes
that don't have Angular summaries / metadata,\n // we only keep their arity, but nothing else\n // (e.g.
their constructor parameters).\n // We do this to prevent introducing deep imports\n // as we didn't
generate .ngfactory.ts files with proper reexports.\n var isTsFile = TS.test(sourceSymbol.filePath);\n if
(this.summaryResolver.isLibraryFile(sourceSymbol.filePath) && !isTsFile && metadata &&\n
metadata['__symbolic'] === 'class') {\n var transformedMeta_1 = { __symbolic: 'class', arity:
metadata.arity };\n return new ResolvedStaticSymbol(sourceSymbol,
transformedMeta_1);\n }\n var _originalFileMemo;\n var getOriginalName = function () {\n
if (!_originalFileMemo) {\n // Guess what the original file name is from the reference. If it has a
`.d.ts` extension\n // replace it with `.ts`. If it already has `.ts` just leave it in place. If it doesn't have\n
// .ts or .d.ts, append `.ts'. Also, if it is in `node_modules`, trim the `node_module`\n // location
as it is not important to finding the file.\n _originalFileMemo =\n
_this.host.getOutputName(topLevelPath.replace(/((\\.ts)|(\\.d\\.ts)|)$/, '.ts')\n
.replace(/^.*node_modules[/\\\\]/, ''));\n }\n return _originalFileMemo;\n };\n var
self = this;\n var ReferenceTransformer = /** @class */ (function (_super) {\n
__extends(ReferenceTransformer, _super);\n function ReferenceTransformer() {\n return
_super !== null && _super.apply(this, arguments) || this;\n }\n
ReferenceTransformer.prototype.visitStringMap = function (map, functionParams) {\n var symbolic =
map['__symbolic'];\n if (symbolic === 'function') {\n var oldLen =
functionParams.length;\n functionParams.push.apply(functionParams, __spread((map['parameters'] ||
[])));\n var result = _super.prototype.visitStringMap.call(this, map, functionParams);\n
functionParams.length = oldLen;\n return result;\n }\n else if (symbolic ===
'reference') {\n var module = map['module'];\n var name = map['name'] ?
unescapeIdentifier(map['name']) : map['name'];\n
if (!name) {\n return null;\n }\n var filePath = void 0;\n
if (module) {\n filePath = self.resolveModule(module, sourceSymbol.filePath);\n
if (!filePath) {\n return {\n __symbolic: 'error',\n
message: \"Could not resolve \" + module + \" relative to \" + self.host.getMetadataFor(sourceSymbol.filePath)
+ \".\",\n line: map['line'],\n character: map['character'],\n
fileName: getOriginalName()\n };\n }\n return {\n
__symbolic: 'resolved',\n symbol: self.getStaticSymbol(filePath,
name),\n line: map['line'],\n character: map['character'],\n
fileName: getOriginalName()\n };\n }\n else if
(functionParams.indexOf(name) >= 0) {\n // reference to a function parameter\n
return { __symbolic: 'reference', name: name };\n }\n else {\n if
(topLevelSymbolNames.has(name)) {\n return self.getStaticSymbol(topLevelPath, name);\n
}\n // ambient value\n null;\n }\n }\n
```

```
    else if (symbolic === 'error') {\n                return Object.assign(Object.assign({}, map), { fileName:
getOriginalName() });\n
            }\n            else {\n                return _super.prototype.visitStringMap.call(this, map,
functionParams);\n            }\n        };\n        return ReferenceTransformer;\n
}(ValueTransformer));\n        var transformedMeta = visitValue(metadata, new ReferenceTransformer(), []);\n
    var unwrappedTransformedMeta = unwrapResolvedMetadata(transformedMeta);\n        if
(unwrappedTransformedMeta instanceof StaticSymbol) {\n            return this.createExport(sourceSymbol,
unwrappedTransformedMeta);\n        }\n        return new ResolvedStaticSymbol(sourceSymbol,
transformedMeta);\n    };\n    StaticSymbolResolver.prototype.createExport = function (sourceSymbol,
targetSymbol) {\n        sourceSymbol.assertNoMembers();\n        targetSymbol.assertNoMembers();\n        if
(this.summaryResolver.isLibraryFile(sourceSymbol.filePath) &&\n
this.summaryResolver.isLibraryFile(targetSymbol.filePath))
 {\n            // This case is for an ng library importing symbols from a plain ts library\n            // transitively.\n
        // Note: We rely on the fact that we discover symbols in the direction\n            // from source files to library
files\n            this.importAs.set(targetSymbol, this.getImportAs(sourceSymbol) || sourceSymbol);\n        }\n
  return new ResolvedStaticSymbol(sourceSymbol, targetSymbol);\n    };\n
StaticSymbolResolver.prototype.reportError = function (error, context, path) {\n        if (this.errorRecorder) {\n
        this.errorRecorder(error, (context && context.filePath) || path);\n        }\n        else {\n            throw
error;\n        }\n    };\n    /**\n     * @param module an absolute path to a module file.\n     */\n
StaticSymbolResolver.prototype.getModuleMetadata = function (module) {\n        var moduleMetadata
 = this.metadataCache.get(module);\n        if (!moduleMetadata) {\n            var moduleMetadatas =
this.host.getMetadataFor(module);\n            if (moduleMetadatas) {\n                var maxVersion_1 = -1;\n
      moduleMetadatas.forEach(function (md) {\n                    if (md && md['version'] > maxVersion_1) {\n
            maxVersion_1 = md['version'];\n                        moduleMetadata = md;\n                    }\n
});\n            }\n            if (!moduleMetadata) {\n                moduleMetadata =\n                    { __symbolic:
'module', version: SUPPORTED_SCHEMA_VERSION, module: module, metadata: {} };\n            }\n
if (moduleMetadata['version'] != SUPPORTED_SCHEMA_VERSION) {\n                var errorMessage =
moduleMetadata['version'] == 2 ?\n                    \"Unsupported metadata version \" + moduleMetadata['version'] +
\" for
 module \" + module + \". This module should be compiled with a newer version of ngc\" :\n
\"Metadata version mismatch for module \" + this.host.getOutputName(module) + \", found version \" +
moduleMetadata['version'] + \", expected \" + SUPPORTED_SCHEMA_VERSION;\n
this.reportError(new Error(errorMessage));\n            }\n            this.metadataCache.set(module,
moduleMetadata);\n        }\n        return moduleMetadata;\n    };\n
StaticSymbolResolver.prototype.getSymbolByModule = function (module, symbolName, containingFile) {\n
var filePath = this.resolveModule(module, containingFile);\n        if (!filePath) {\n            this.reportError(new
Error(\"Could not resolve module \" + module + (containingFile ? ' relative to ' +
this.host.getOutputName(containingFile) : '')));\n            return this.getStaticSymbol(\"ERROR:\" + module,
symbolName);\n        }\n        return this.getStaticSymbol(filePath,
 symbolName);\n    };\n    StaticSymbolResolver.prototype.resolveModule = function (module, containingFile)
{\n        try {\n            return this.host.moduleNameToFileName(module, containingFile);\n        }\n
catch (e) {\n            console.error(\"Could not resolve module '\" + module + \"' relative to file \" +
containingFile);\n            this.reportError(e, undefined, containingFile);\n        }\n        return null;\n    };\n
    return StaticSymbolResolver;\n}());\n// Remove extra underscore from escaped identifier.\n// See
https://github.com/Microsoft/TypeScript/blob/master/src/compiler/utilities.ts\nfunction
unescapeIdentifier(identifier) {\n    return identifier.startsWith('___') ? identifier.substr(1) : identifier;\n}\n
function unwrapResolvedMetadata(metadata) {\n    if (metadata && metadata.__symbolic === 'resolved') {\n
  return metadata.symbol;\n
```

```
}\n        return metadata;\n    }\n\n    function serializeSummaries(srcFileName, forJitCtx, summaryResolver,
symbolResolver, symbols, types, createExternalSymbolReexports) {\n        if (createExternalSymbolReexports ===
void 0) { createExternalSymbolReexports = false; }\n        var toJsonSerializer = new
ToJsonSerializer(symbolResolver, summaryResolver, srcFileName);\n        // for symbols, we use everything except
for the class metadata itself\n        // (we keep the statics though), as the class metadata is contained in the\n        //
CompileTypeSummary.\n        symbols.forEach(function (resolvedSymbol) { return toJsonSerializer.addSummary({
symbol: resolvedSymbol.symbol, metadata: resolvedSymbol.metadata }); });\n        // Add type summaries.\n
types.forEach(function (_a) {\n            var summary = _a.summary, metadata = _a.metadata;\n
toJsonSerializer.addSummary({ symbol: summary.type.reference, metadata: undefined, type: summary });\n
});\n
    var _a = toJsonSerializer.serialize(createExternalSymbolReexports), json = _a.json, exportAs = _a.exportAs;\n
  if (forJitCtx) {\n            var forJitSerializer_1 = new ForJitSerializer(forJitCtx, symbolResolver,
summaryResolver);\n            types.forEach(function (_a) {\n                var summary = _a.summary, metadata =
_a.metadata;\n                forJitSerializer_1.addSourceType(summary, metadata);\n            });\n
toJsonSerializer.unprocessedSymbolSummariesBySymbol.forEach(function (summary) {\n                if
(summaryResolver.isLibraryFile(summary.symbol.filePath) && summary.type) {\n
forJitSerializer_1.addLibType(summary.type);\n                }\n            });\n
forJitSerializer_1.serialize(exportAs);\n        }\n        return { json: json, exportAs: exportAs };\n    }\n    function
deserializeSummaries(symbolCache, summaryResolver, libraryFileName, json) {\n        var deserializer = new
FromJsonDeserializer(symbolCache,
 summaryResolver);\n        return deserializer.deserialize(libraryFileName, json);\n    }\n    function
createForJitStub(outputCtx, reference) {\n        return createSummaryForJitFunction(outputCtx, reference,
NULL_EXPR);\n    }\n    function createSummaryForJitFunction(outputCtx, reference, value) {\n        var fnName =
summaryForJitName(reference.name);\n        outputCtx.statements.push(fn([], [new ReturnStatement(value)], new
ArrayType(DYNAMIC_TYPE)).toDeclStmt(fnName, [\n            exports.StmtModifier.Final,
exports.StmtModifier.Exported\n        ]));\n    }\n    var ToJsonSerializer = /** @class */ (function (_super) {\n
__extends(ToJsonSerializer, _super);\n        function ToJsonSerializer(symbolResolver, summaryResolver,
srcFileName) {\n            var _this = _super.call(this) || this;\n            _this.symbolResolver = symbolResolver;\n
  _this.summaryResolver = summaryResolver;\n            _this.srcFileName = srcFileName;\n            // Note:
 This only contains symbols without members.\n            _this.symbols = [];\n            _this.indexBySymbol = new
Map();\n            _this.reexportedBy = new Map();\n            // This now contains a `__symbol: number` in the place
of\n            // StaticSymbols, but otherwise has the same shape as the original objects.\n
_this.processedSummaryBySymbol = new Map();\n            _this.processedSummaries = [];\n
_this.unprocessedSymbolSummariesBySymbol = new Map();\n            _this.moduleName =
symbolResolver.getKnownModuleName(srcFileName);\n            return _this;\n        }\n
ToJsonSerializer.prototype.addSummary = function (summary) {\n            var _this = this;\n            var
unprocessedSummary = this.unprocessedSymbolSummariesBySymbol.get(summary.symbol);\n            var
processedSummary = this.processedSummaryBySymbol.get(summary.symbol);\n            if (!unprocessedSummary)
{\n                unprocessedSummary = { symbol: summary.symbol,
 metadata: undefined };\n                this.unprocessedSymbolSummariesBySymbol.set(summary.symbol,
unprocessedSummary);\n                processedSummary = { symbol: this.processValue(summary.symbol, 0 /* None
*/) };\n                this.processedSummaries.push(processedSummary);\n
this.processedSummaryBySymbol.set(summary.symbol, processedSummary);\n            }\n            if
(!unprocessedSummary.metadata && summary.metadata) {\n                var metadata_1 = summary.metadata || {};\n
            if (metadata_1.__symbolic === 'class') {\n                    // For classes, we keep everything except their class
decorators.\n                    // We need to keep e.g. the ctor args, method names, method decorators\n                    // so
that the class can be extended in another compilation unit.\n                    // We don't keep the class decorators as\n
            // 1) they refer to data\n                    //   that should not cause a
```

```
 rebuild of downstream compilation units\n                //   (e.g. inline templates of @Component, or
@NgModule.declarations)\n                // 2) their data is already captured in TypeSummaries, e.g.
DirectiveSummary.\n                var clone_1 = {};\n                Object.keys(metadata_1).forEach(function
(propName) {\n                    if (propName !== 'decorators') {\n                        clone_1[propName] =
metadata_1[propName];\n                    }\n                });\n                metadata_1 = clone_1;\n            }\n
      else if (isCall(metadata_1)) {\n                if (!isFunctionCall(metadata_1) &&
!isMethodCallOnVariable(metadata_1)) {\n                    // Don't store complex calls as we won't be able to
simplify them anyways later on.\n                    metadata_1 = {\n                        __symbolic: 'error',\n
       message: 'Complex function calls are not supported.',\n
                    };\n                }\n            }\n            // Note: We need to keep storing ctor calls for e.g.\n
  // `export const x = new InjectionToken(...)`\n                unprocessedSummary.metadata = metadata_1;\n
processedSummary.metadata = this.processValue(metadata_1, 1 /* ResolveValue */);\n                if (metadata_1
instanceof StaticSymbol &&\n                    this.summaryResolver.isLibraryFile(metadata_1.filePath)) {\n
var declarationSymbol = this.symbols[this.indexBySymbol.get(metadata_1)];\n                    if
(!isLoweredSymbol(declarationSymbol.name)) {\n                        // Note: symbols that were introduced during
codegen in the user file can have a reexport\n                        // if a user used `export *`. However, we can't rely on
this as tsickle will change\n                        // `export *` into named exports, using only the information from the
typechecker.\n
                    // As we introduce the new symbols after typecheck, Tsickle does not know about them,\n
  // and omits them when expanding `export *`.\n                        // So we have to keep reexporting these symbols
manually via .ngfactory files.\n                        this.reexportedBy.set(declarationSymbol, summary.symbol);\n
    }\n                }\n            }\n            if (!unprocessedSummary.type && summary.type) {\n
unprocessedSummary.type = summary.type;\n                // Note: We don't add the summaries of all referenced
symbols as for the ResolvedSymbols,\n                // as the type summaries already contain the transitive data that
they require\n                // (in a minimal way).\n                processedSummary.type =
this.processValue(summary.type, 0 /* None */);\n                // except for reexported directives / pipes, so we need to
store\n                // their summaries explicitly.\n
            if (summary.type.summaryKind === exports.CompileSummaryKind.NgModule) {\n                    var
ngModuleSummary = summary.type;\n
ngModuleSummary.exportedDirectives.concat(ngModuleSummary.exportedPipes).forEach(function (id) {\n
        var symbol = id.reference;\n                        if (_this.summaryResolver.isLibraryFile(symbol.filePath) &&\n
                !_this.unprocessedSymbolSummariesBySymbol.has(symbol)) {\n                            var summary_1 =
_this.summaryResolver.resolveSummary(symbol);\n                            if (summary_1) {\n
_this.addSummary(summary_1);\n                        }\n                    });\n                }\n            }\n
  };\n        /**\n         * @param createExternalSymbolReexports Whether external static symbols should be re-
exported.\n         * This can be enabled if external symbols should
 be re-exported by the current module in\n         * order to avoid dynamically generated module dependencies which
can break strict dependency\n         * enforcements (as in Google3). Read more here:
https://github.com/angular/angular/issues/25644\n         */\n        ToJsonSerializer.prototype.serialize = function
(createExternalSymbolReexports) {\n            var _this = this;\n            var exportAs = [];\n            var json =
JSON.stringify({\n                moduleName: this.moduleName,\n                summaries: this.processedSummaries,\n
        symbols: this.symbols.map(function (symbol, index) {\n                    symbol.assertNoMembers();\n
 var importAs = undefined;\n                    if (_this.summaryResolver.isLibraryFile(symbol.filePath)) {\n
  var reexportSymbol = _this.reexportedBy.get(symbol);\n                        if (reexportSymbol) {\n                            //
In case the given external static symbol
 is already manually exported by the\n                            // user, we just proxy the external static symbol reference to
the manual export.\n                            // This ensures that the AOT compiler imports the external symbol through
the\n                            // user export and does not introduce another dependency which is not needed.\n
```

```
importAs = _this.indexBySymbol.get(reexportSymbol);\n }\n else if (createExternalSymbolReexports) {\n // In this case, the given external static symbol is *not* manually exported by\n // the user, and we manually create a re-export in the factory file so that we\n // don't introduce another module dependency. This is useful when running within\n // Bazel so that the AOT compiler does not introduce any module dependencies\n // which can break the strict dependency enforcement. (e.g. as in Google3)\n // Read more about this here: https://github.com/angular/angular/issues/25644\n var summary = _this.unprocessedSymbolSummariesBySymbol.get(symbol);\n if (!summary || !summary.metadata || summary.metadata.__symbolic !== 'interface') {\n importAs = symbol.name + \"_\" + index;\n exportAs.push({ symbol: symbol, exportAs: importAs });\n }\n }\n }\n return {\n __symbol: index,\n name: symbol.name,\n filePath: _this.summaryResolver.toSummaryFileName(symbol.filePath, _this.srcFileName),\n importAs: importAs\n };\n })\n });\n return { json: json, exportAs: exportAs };\n };\n ToJsonSerializer.prototype.processValue = function (value, flags) {\n return visitValue(value, this, flags);\n };\n ToJsonSerializer.prototype.visitOther = function (value, context) {\n if (value instanceof StaticSymbol) {\n var baseSymbol = this.symbolResolver.getStaticSymbol(value.filePath, value.name);\n var index = this.visitStaticSymbol(baseSymbol, context);\n return { __symbol: index, members: value.members };\n }\n };\n /**\n * Strip line and character numbers from ngsummaries.\n * Emitting them causes white spaces changes to retrigger upstream\n * recompilations in bazel.\n * TODO: find out a way to have line and character numbers in errors without\n * excessive recompilation in bazel.\n */\n ToJsonSerializer.prototype.visitStringMap = function (map, context) {\n if (map['__symbolic'] === 'resolved') {\n return visitValue(map['symbol'], this, context);\n }\n if (map['__symbolic'] === 'error') {\n delete map['line'];\n delete map['character'];\n }\n return _super.prototype.visitStringMap.call(this, map, context);\n };\n /**\n * Returns null if the options.resolveValue is true, and the summary for the symbol\n * resolved to a type or could not be resolved.\n */\n ToJsonSerializer.prototype.visitStaticSymbol = function (baseSymbol, flags) {\n var index = this.indexBySymbol.get(baseSymbol);\n var summary = null;\n if (flags & 1 /* ResolveValue */ &&\n this.summaryResolver.isLibraryFile(baseSymbol.filePath)) {\n if (this.unprocessedSymbolSummariesBySymbol.has(baseSymbol)) {\n // the summary for this symbol was already added\n // -> nothing to do.\n return index;\n }\n summary = this.loadSummary(baseSymbol);\n if (summary && summary.metadata instanceof StaticSymbol) {\n // The summary is a reexport\n index = this.visitStaticSymbol(summary.metadata, flags);\n // reset the summary as it is just a reexport, so we don't want to store it.\n summary = null;\n }\n }\n else if (index != null) {\n // Note: == on purpose to compare with undefined!\n // No summary and the symbol is already added -> nothing to do.\n return index;\n }\n // Note: == on purpose to compare with undefined!\n if (index == null) {\n index = this.symbols.length;\n this.symbols.push(baseSymbol);\n }\n this.indexBySymbol.set(baseSymbol, index);\n if (summary) {\n this.addSummary(summary);\n }\n return index;\n };\n ToJsonSerializer.prototype.loadSummary = function (symbol) {\n var summary = this.summaryResolver.resolveSummary(symbol);\n if (!summary) {\n // some symbols might originate from a plain typescript library\n // that just exported .d.ts and .metadata.json files, i.e. where no summary\n // files were created.\n var resolvedSymbol = this.symbolResolver.resolveSymbol(symbol);\n if (resolvedSymbol) {\n summary = { symbol: resolvedSymbol.symbol, metadata: resolvedSymbol.metadata };\n }\n }\n return summary;\n };\n return ToJsonSerializer;\n }(ValueTransformer));\n var ForJitSerializer = /** @class */ (function ()
```

{\n function ForJitSerializer(outputCtx, symbolResolver, summaryResolver)
{\n this.outputCtx = outputCtx;\n this.symbolResolver = symbolResolver;\n
this.summaryResolver = summaryResolver;\n this.data = [];\n }\n
ForJitSerializer.prototype.addSourceType = function (summary, metadata) {\n this.data.push({ summary:
summary, metadata: metadata, isLibrary: false });\n };\n ForJitSerializer.prototype.addLibType = function
(summary) {\n this.data.push({ summary: summary, metadata: null, isLibrary: true });\n };\n
ForJitSerializer.prototype.serialize = function (exportAsArr) {\n var e_1, _a, e_2, _b, e_3, _c;\n var
_this = this;\n var exportAsBySymbol = new Map();\n try {\n for (var exportAsArr_1 =
__values(exportAsArr), exportAsArr_1_1 = exportAsArr_1.next(); !exportAsArr_1_1.done; exportAsArr_1_1 =
exportAsArr_1.next()) {\n var _d = exportAsArr_1_1.value, symbol = _d.symbol,
exportAs = _d.exportAs;\n exportAsBySymbol.set(symbol, exportAs);\n }\n }\n
catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (exportAsArr_1_1 &&
!exportAsArr_1_1.done && (_a = exportAsArr_1.return)) _a.call(exportAsArr_1);\n }\n finally {
if (e_1) throw e_1.error; }\n }\n var ngModuleSymbols = new Set();\n try {\n for (var
_e = __values(this.data), _f = _e.next(); !_f.done; _f = _e.next()) {\n var _g = _f.value, summary =
_g.summary, metadata = _g.metadata, isLibrary = _g.isLibrary;\n if (summary.summaryKind ===
exports.CompileSummaryKind.NgModule) {\n // collect the symbols that refer to NgModule
classes.\n // Note: we can't just rely on `summary.type.summaryKind` to determine this as\n

// we don't add the summaries of all referenced symbols when we serialize type summaries.\n // See
serializeSummaries for details.\n ngModuleSymbols.add(summary.type.reference);\n
var modSummary = summary;\n try {\n for (var _h = (e_3 = void 0,
__values(modSummary.modules)), _j = _h.next(); !_j.done; _j = _h.next()) {\n var mod =
_j.value;\n ngModuleSymbols.add(mod.reference);\n }\n }\n
catch (e_3_1) { e_3 = { error: e_3_1 }; }\n finally {\n try {\n
if (_j && !_j.done && (_c = _h.return)) _c.call(_h);\n }\n finally { if (e_3)
throw e_3.error; }\n }\n }\n
if (!isLibrary) {\n var fnName = summaryForJitName(summary.type.reference.name);\n
createSummaryForJitFunction(this.outputCtx, summary.type.reference,
this.serializeSummaryWithDeps(summary, metadata));\n }\n }\n }\n catch
(e_2_1) { e_2 = { error: e_2_1 }; }\n finally {\n try {\n if (_f && !_f.done && (_b =
_e.return)) _b.call(_e);\n }\n finally { if (e_2) throw e_2.error; }\n }\n
ngModuleSymbols.forEach(function (ngModuleSymbol) {\n if
(_this.summaryResolver.isLibraryFile(ngModuleSymbol.filePath)) {\n var exportAs =
exportAsBySymbol.get(ngModuleSymbol) || ngModuleSymbol.name;\n var jitExportAsName =
summaryForJitName(exportAs);\n _this.outputCtx.statements.push(variable(jitExportAsName)\n

.set(_this.serializeSummaryRef(ngModuleSymbol))\n .toDeclStmt(null,
[exports.StmtModifier.Exported]));\n }\n });\n };\n
ForJitSerializer.prototype.serializeSummaryWithDeps = function (summary, metadata) {\n var _this = this;\n
var expressions = [this.serializeSummary(summary)];\n var providers = [];\n if (metadata
instanceof CompileNgModuleMetadata) {\n expressions.push.apply(expressions, __spread(\n //
For directives / pipes, we only add the declared ones,\n // and rely on transitively importing NgModules to
get the transitive\n // summaries.\n metadata.declaredDirectives.concat(metadata.declaredPipes)\n
.map(function (type) { return type.reference; })\n // For modules,\n // we also add
the summaries for modules\n // from libraries.\n
// This is ok as we produce reexports for all transitive modules.\n
.concat(metadata.transitiveModule.modules.map(function (type) { return type.reference; })\n

.filter(function (ref) { return ref !== metadata.type.reference; }))\n .map(function (ref) { return _this.serializeSummaryRef(ref); })));\n // Note: We don't use `NgModuleSummary.providers`, as that one is transitive,\n // and we already have transitive modules.\n providers = metadata.providers;\n }\n else if (summary.summaryKind === exports.CompileSummaryKind.Directive) {\n var dirSummary = summary;\n providers = dirSummary.providers.concat(dirSummary.viewProviders);\n }\n // Note: We can't just refer to the `ngsummary.ts` files for `useClass` providers (as we do for\n // declaredDirectives / declaredPipes), as we allow\n // providers without ctor arguments to skip the `@Injectable` decorator,\n // i.e. we didn't generate .ngsummary.ts files for these.\n expressions.push.apply(expressions, __spread(providers.filter(function (provider) { return !!provider.useClass; }).map(function (provider) { return _this.serializeSummary({\n summaryKind: exports.CompileSummaryKind.Injectable,\n type: provider.useClass\n }); })));\n return literalArr(expressions);\n };\n ForJitSerializer.prototype.serializeSummaryRef = function (typeSymbol) {\n var jitImportedSymbol = this.symbolResolver.getStaticSymbol(summaryForJitFileName(typeSymbol.filePath), summaryForJitName(typeSymbol.name));\n return this.outputCtx.importExpr(jitImportedSymbol);\n };\n ForJitSerializer.prototype.serializeSummary = function (data) {\n var outputCtx = this.outputCtx;\n var Transformer = /** @class */ (function () {\n function Transformer() {\n }\n Transformer.prototype.visitArray = function (arr, context) {\n var _this = this;\n return literalArr(arr.map(function (entry) { return visitValue(entry, _this, context); }));\n };\n Transformer.prototype.visitStringMap = function (map, context) {\n var _this = this;\n return new LiteralMapExpr(Object.keys(map).map(function (key) { return new LiteralMapEntry(key, visitValue(map[key], _this, context), false); }));\n };\n Transformer.prototype.visitPrimitive = function (value, context) {\n return literal(value);\n };\n Transformer.prototype.visitOther = function (value, context) {\n if (value instanceof StaticSymbol) {\n return outputCtx.importExpr(value);\n }\n else {\n throw new Error(\"Illegal State: Encountered value \" + value);\n }\n };\n return Transformer;\n }());\n return visitValue(data, new Transformer(), null);\n };\n return ForJitSerializer;\n }());\n var FromJsonDeserializer = /** @class */ (function (_super) {\n __extends(FromJsonDeserializer, _super);\n function FromJsonDeserializer(symbolCache, summaryResolver) {\n var _this = _super.call(this) || this;\n _this.symbolCache = symbolCache;\n _this.summaryResolver = summaryResolver;\n return _this;\n }\n FromJsonDeserializer.prototype.deserialize = function (libraryFileName, json) {\n var _this = this;\n var data = JSON.parse(json);\n var allImportAs = [];\n this.symbols = data.symbols.map(function (serializedSymbol) { return _this.symbolCache.get(_this.summaryResolver.fromSummaryFileName(serializedSymbol.filePath, libraryFileName), serializedSymbol.name); });\n data.symbols.forEach(function (serializedSymbol, index) {\n var symbol = _this.symbols[index];\n var importAs = serializedSymbol.importAs;\n if (typeof importAs === 'number') {\n allImportAs.push({ symbol: symbol, importAs: _this.symbols[importAs] });\n }\n else if (typeof importAs === 'string') {\n allImportAs.push({ symbol: symbol, importAs: _this.symbolCache.get(ngfactoryFilePath(libraryFileName), importAs) });\n }\n });\n var summaries = visitValue(data.summaries, this, null);\n return { moduleName: data.moduleName, summaries: summaries, importAs: allImportAs };\n };\n FromJsonDeserializer.prototype.visitStringMap = function (map, context) {\n if ('__symbol' in map) {\n var baseSymbol = this.symbols[map['__symbol']];\n var members = map['members'];\n return members.length ? this.symbolCache.get(baseSymbol.filePath, baseSymbol.name, members) :\n baseSymbol;\n }\n else {\n return _super.prototype.visitStringMap.call(this, map, context);\n }\n };\n return FromJsonDeserializer;\n

```
}(ValueTransformer));\n    function isCall(metadata) {\n        return metadata && metadata.__symbolic === 'call';\n    }\n    function isFunctionCall(metadata) {\n        return isCall(metadata) &&
unwrapResolvedMetadata(metadata.expression) instanceof StaticSymbol;\n    }\n    function
isMethodCallOnVariable(metadata) {\n        return isCall(metadata) && metadata.expression &&
metadata.expression.__symbolic === 'select' &&\n
unwrapResolvedMetadata(metadata.expression.expression) instanceof StaticSymbol;\n
    }\n\n    var AotCompiler = /** @class */ (function () {\n        function AotCompiler(_config, _options, _host,
reflector, _metadataResolver, _templateParser, _styleCompiler, _viewCompiler, _typeCheckCompiler,
_ngModuleCompiler, _injectableCompiler, _outputEmitter, _summaryResolver, _symbolResolver) {\n
this._config = _config;\n            this._options = _options;\n            this._host = _host;\n            this.reflector =
reflector;\n            this._metadataResolver = _metadataResolver;\n            this._templateParser = _templateParser;\n
        this._styleCompiler = _styleCompiler;\n            this._viewCompiler = _viewCompiler;\n
this._typeCheckCompiler = _typeCheckCompiler;\n            this._ngModuleCompiler = _ngModuleCompiler;\n
this._injectableCompiler = _injectableCompiler;\n            this._outputEmitter = _outputEmitter;\n
this._summaryResolver = _summaryResolver;\n            this._symbolResolver = _symbolResolver;\n
            this._templateAstCache = new Map();\n            this._analyzedFiles = new Map();\n
this._analyzedFilesForInjectables = new Map();\n        }\n        AotCompiler.prototype.clearCache = function () {\n
        this._metadataResolver.clearCache();\n        };\n        AotCompiler.prototype.analyzeModulesSync = function
(rootFiles) {\n            var _this = this;\n            var analyzeResult = analyzeAndValidateNgModules(rootFiles,
this._host, this._symbolResolver, this._metadataResolver);\n            analyzeResult.ngModules.forEach(function
(ngModule) { return _this._metadataResolver.loadNgModuleDirectiveAndPipeMetadata(ngModule.type.reference,
true); });\n            return analyzeResult;\n        };\n        AotCompiler.prototype.analyzeModulesAsync = function
(rootFiles) {\n            var _this = this;\n            var analyzeResult = analyzeAndValidateNgModules(rootFiles,
this._host, this._symbolResolver, this._metadataResolver);\n            return Promise\n
                .all(analyzeResult.ngModules.map(function (ngModule) { return
_this._metadataResolver.loadNgModuleDirectiveAndPipeMetadata(ngModule.type.reference, false); }))\n
.then(function () { return analyzeResult; });\n        };\n        AotCompiler.prototype._analyzeFile = function
(fileName) {\n            var analyzedFile = this._analyzedFiles.get(fileName);\n            if (!analyzedFile) {\n
analyzedFile =\n                    analyzeFile(this._host, this._symbolResolver, this._metadataResolver, fileName);\n
        this._analyzedFiles.set(fileName, analyzedFile);\n            }\n            return analyzedFile;\n        };\n
AotCompiler.prototype._analyzeFileForInjectables = function (fileName) {\n            var analyzedFile =
this._analyzedFilesForInjectables.get(fileName);\n            if (!analyzedFile) {\n                analyzedFile =
analyzeFileForInjectables(this._host, this._symbolResolver, this._metadataResolver,
 fileName);\n                this._analyzedFilesForInjectables.set(fileName, analyzedFile);\n            }\n            return
analyzedFile;\n        };\n        AotCompiler.prototype.findGeneratedFileNames = function (fileName) {\n            var
_this = this;\n            var genFileNames = [];\n            var file = this._analyzeFile(fileName);\n            // Make sure
we create a .ngfactory if we have a injectable/directive/pipe/NgModule\n            // or a reference to a non source
file.\n            // Note: This is overestimating the required .ngfactory files as the real calculation is harder.\n            //
Only do this for StubEmitFlags.Basic, as adding a type check block\n            // does not change this file (as we
generate type check blocks based on NgModules).\n            if (this._options.allowEmptyCodegenFiles ||
file.directives.length || file.pipes.length ||\n                file.injectables.length || file.ngModules.length ||
file.exportsNonSourceFiles) {\n
                genFileNames.push(ngfactoryFilePath(file.fileName, true));\n                if
(this._options.enableSummariesForJit) {\n                    genFileNames.push(summaryForJitFileName(file.fileName,
true));\n                }\n            }\n            var fileSuffix = normalizeGenFileSuffix(splitTypescriptSuffix(file.fileName,
true)[1]);\n            file.directives.forEach(function (dirSymbol) {\n                var compMeta =
_this._metadataResolver.getNonNormalizedDirectiveMetadata(dirSymbol).metadata;\n                if
(!compMeta.isComponent) {\n                    return;\n                }\n                // Note: compMeta is a component and
```

```
therefore template is non null.\n                compMeta.template.styleUrls.forEach(function (styleUrl) {\n
var normalizedUrl = _this._host.resourceNameToFileName(styleUrl, file.fileName);\n                if
(!normalizedUrl) {\n                    throw syntaxError(\"Couldn't resolve resource \" + styleUrl
 + \" relative to \" + file.fileName);\n                }\n                var needsShim =
(compMeta.template.encapsulation ||\n                    _this._config.defaultEncapsulation) ===
ViewEncapsulation.Emulated;\n                genFileNames.push(_stylesModuleUrl(normalizedUrl, needsShim,
fileSuffix));\n                if (_this._options.allowEmptyCodegenFiles) {\n
genFileNames.push(_stylesModuleUrl(normalizedUrl, !needsShim, fileSuffix));\n                }\n            });\n
  });\n            return genFileNames;\n        };\n        AotCompiler.prototype.emitBasicStub = function (genFileName,
originalFileName) {\n            var outputCtx = this._createOutputContext(genFileName);\n            if
(genFileName.endsWith('.ngfactory.ts')) {\n                if (!originalFileName) {\n                    throw new
Error(\"Assertion error: require the original file for .ngfactory.ts stubs. File: \" + genFileName);\n
            }\n                var originalFile = this._analyzeFile(originalFileName);\n
this._createNgFactoryStub(outputCtx, originalFile, 1 /* Basic */);\n            }\n            else if
(genFileName.endsWith('.ngsummary.ts')) {\n                if (this._options.enableSummariesForJit) {\n                    if
(!originalFileName) {\n                        throw new Error(\"Assertion error: require the original file for .ngsummary.ts
stubs. File: \" + genFileName);\n                    }\n                    var originalFile =
this._analyzeFile(originalFileName);\n                    _createEmptyStub(outputCtx);\n
originalFile.ngModules.forEach(function (ngModule) {\n                        // create exports that user code can
reference\n                        createForJitStub(outputCtx, ngModule.type.reference);\n                    });\n                }\n
    }\n            else if (genFileName.endsWith('.ngstyle.ts')) {\n
  _createEmptyStub(outputCtx);\n            }\n            // Note: for the stubs, we don't need a property srcFileUrl,\n
  // as later on in emitAllImpls we will create the proper GeneratedFiles with the\n            // correct srcFileUrl.\n
  // This is good as e.g. for .ngstyle.ts files we can't derive\n            // the url of components based on the
genFileUrl.\n            return this._codegenSourceModule('unknown', outputCtx);\n        };\n
AotCompiler.prototype.emitTypeCheckStub = function (genFileName, originalFileName) {\n            var originalFile
= this._analyzeFile(originalFileName);\n            var outputCtx = this._createOutputContext(genFileName);\n
if (genFileName.endsWith('.ngfactory.ts')) {\n                this._createNgFactoryStub(outputCtx, originalFile, 2 /*
TypeCheck */);\n            }\n            return outputCtx.statements.length > 0 ?\n
this._codegenSourceModule(originalFile.fileName, outputCtx) :\n
            null;\n        };\n        AotCompiler.prototype.loadFilesAsync = function (fileNames, tsFiles) {\n            var
_this = this;\n            var files = fileNames.map(function (fileName) { return _this._analyzeFile(fileName); });\n
  var loadingPromises = [];\n            files.forEach(function (file) { return file.ngModules.forEach(function
(ngModule) { return
loadingPromises.push(_this._metadataResolver.loadNgModuleDirectiveAndPipeMetadata(ngModule.type.reference
, false)); }); });\n            var analyzedInjectables = tsFiles.map(function (tsFile) { return
_this._analyzeFileForInjectables(tsFile); });\n            return Promise.all(loadingPromises).then(function (_) { return
({\n                analyzedModules: mergeAndValidateNgFiles(files),\n                analyzedInjectables:
analyzedInjectables,\n            }); });\n        };\n        AotCompiler.prototype.loadFilesSync = function (fileNames,
tsFiles) {\n            var _this = this;\n            var files
 = fileNames.map(function (fileName) { return _this._analyzeFile(fileName); });\n            files.forEach(function
(file) { return file.ngModules.forEach(function (ngModule) { return
_this._metadataResolver.loadNgModuleDirectiveAndPipeMetadata(ngModule.type.reference, true); }); });\n
var analyzedInjectables = tsFiles.map(function (tsFile) { return _this._analyzeFileForInjectables(tsFile); });\n
return {\n                analyzedModules: mergeAndValidateNgFiles(files),\n                analyzedInjectables:
analyzedInjectables,\n            };\n        };\n        AotCompiler.prototype._createNgFactoryStub = function
(outputCtx, file, emitFlags) {\n            var _this = this;\n            var componentId = 0;\n
file.ngModules.forEach(function (ngModuleMeta, ngModuleIndex) {\n                // Note: the code below needs to
```

executed for StubEmitFlags.Basic and StubEmitFlags.TypeCheck,\n // so we don't change the .ngfactory file too much\n when adding the type-check block.\n // create exports that user code can reference\n _this._ngModuleCompiler.createStub(outputCtx, ngModuleMeta.type.reference);\n // add references to the symbols from the metadata.\n // These can be used by the type check block for components,\n // and they also cause TypeScript to include these files into the program too,\n // which will make them part of the analyzedFiles.\n var externalReferences = __spread(ngModuleMeta.transitiveModule.directives.map(function (d) { return d.reference; }), ngModuleMeta.transitiveModule.pipes.map(function (d) { return d.reference; }), ngModuleMeta.importedModules.map(function (m) { return m.type.reference; }), ngModuleMeta.exportedModules.map(function (m) { return m.type.reference; }), _this._externalIdentifierReferences([Identifiers.TemplateRef, Identifiers.ElementRef]));\n var externalReferenceVars = new Map();\n externalReferences.forEach(function (ref, typeIndex) {\n externalReferenceVars.set(ref, \"_decl\" + ngModuleIndex + \"_\" + typeIndex);\n });\n externalReferenceVars.forEach(function (varName, reference) {\n outputCtx.statements.push(variable(varName)\n .set(NULL_EXPR.cast(DYNAMIC_TYPE))\n .toDeclStmt(expressionType(outputCtx.importExpr(reference, /* typeParams */ null, /* useSummaries */ false))));\n });\n if (emitFlags & 2 /* TypeCheck */) {\n // add the type-check block for all components of the NgModule\n ngModuleMeta.declaredDirectives.forEach(function (dirId) {\n var compMeta = _this._metadataResolver.getDirectiveMetadata(dirId.reference);\n if (!compMeta.isComponent) {\n return;\n }\n componentId++;\n _this._createTypeCheckBlock(outputCtx, compMeta.type.reference.name + \"_Host_\" + componentId, ngModuleMeta, _this._metadataResolver.getHostComponentMetadata(compMeta), [compMeta.type], externalReferenceVars);\n _this._createTypeCheckBlock(outputCtx, compMeta.type.reference.name + \"_\" + componentId, ngModuleMeta, compMeta, ngModuleMeta.transitiveModule.directives, externalReferenceVars);\n });\n }\n });\n if (outputCtx.statements.length === 0) {\n _createEmptyStub(outputCtx);\n }\n };\n AotCompiler.prototype._externalIdentifierReferences = function (references) {\n var e_1, _a;\n var result = [];\n try {\n for (var references_1 = __values(references), references_1_1 = references_1.next(); !references_1_1.done; references_1_1 = references_1.next()) {\n var reference = references_1_1.value;\n var token = createTokenForExternalReference(this.reflector, reference);\n if (token.identifier) {\n result.push(token.identifier.reference);\n }\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (references_1_1 && !references_1_1.done && (_a = references_1.return)) _a.call(references_1);\n }\n finally { if (e_1) throw e_1.error; }\n }\n return result;\n };\n AotCompiler.prototype._createTypeCheckBlock = function (ctx, componentId, moduleMeta, compMeta, directives, externalReferenceVars) {\n var _a;\n var _b = this._parseTemplate(compMeta, moduleMeta, directives), parsedTemplate = _b.template, usedPipes = _b.pipes;\n (_a = ctx.statements).push.apply(_a, __spread(this._typeCheckCompiler.compileComponent(componentId, compMeta, parsedTemplate, usedPipes, externalReferenceVars, ctx)));\n };\n AotCompiler.prototype.emitMessageBundle = function (analyzeResult, locale) {\n var _this = this;\n var errors = [];\n var htmlParser = new HtmlParser();\n // TODO(vicb): implicit tags & attributes\n var messageBundle = new MessageBundle(htmlParser, [], {}, locale);\n analyzeResult.files.forEach(function (file) {\n var compMetas = [];\n file.directives.forEach(function (directiveType) {\n var dirMeta = _this._metadataResolver.getDirectiveMetadata(directiveType);\n if (dirMeta && dirMeta.isComponent) {\n compMetas.push(dirMeta);\n }\n });\n

```
compMetas.forEach(function (compMeta) {\n                var html = compMeta.template.template;\n
            // Template URL points to either an HTML or TS file depending on whether\n                // the file is
used with `templateUrl:` or `template:`, respectively.\n                var templateUrl =
compMeta.template.templateUrl;\n                var interpolationConfig =
InterpolationConfig.fromArray(compMeta.template.interpolation);\n                errors.push.apply(errors,
__spread(messageBundle.updateFromTemplate(html, templateUrl, interpolationConfig)));\n            });\n
});\n        if (errors.length) {\n            throw new Error(errors.map(function (e) { return e.toString();
}).join('\\n'));\n        }\n        return messageBundle;\n    };\n
AotCompiler.prototype.emitAllPartialModules = function (_a, r3Files) {\n        var _this = this;\n        var
ngModuleByPipeOrDirective = _a.ngModuleByPipeOrDirective, files = _a.files;\n        var contextMap = new
Map();\n
    var getContext = function (fileName) {\n            if (!contextMap.has(fileName)) {\n
contextMap.set(fileName, _this._createOutputContext(fileName));\n            }\n            return
contextMap.get(fileName);\n        };\n        files.forEach(function (file) { return
_this._compilePartialModule(file.fileName, ngModuleByPipeOrDirective, file.directives, file.pipes, file.ngModules,
file.injectables, getContext(file.fileName)); });\n        r3Files.forEach(function (file) { return
_this._compileShallowModules(file.fileName, file.shallowModules, getContext(file.fileName)); });\n        return
Array.from(contextMap.values())\n            .map(function (context) { return ({\n            fileName:
context.genFilePath,\n            statements: __spread(context.constantPool.statements, context.statements),\n
}); });\n    };\n    AotCompiler.prototype._compileShallowModules = function (fileName, shallowModules,
 context) {\n        var _this = this;\n        shallowModules.forEach(function (module) { return
compileNgModuleFromRender2(context, module, _this._injectableCompiler); });\n    };\n
AotCompiler.prototype._compilePartialModule = function (fileName, ngModuleByPipeOrDirective, directives,
pipes, ngModules, injectables, context) {\n        var _this = this;\n        var errors = [];\n        var
schemaRegistry = new DomElementSchemaRegistry();\n        var hostBindingParser = new
BindingParser(this._templateParser.expressionParser, DEFAULT_INTERPOLATION_CONFIG, schemaRegistry,
[], errors);\n        // Process all components and directives\n        directives.forEach(function (directiveType) {\n
        var directiveMetadata = _this._metadataResolver.getDirectiveMetadata(directiveType);\n            if
(directiveMetadata.isComponent) {\n                var module = ngModuleByPipeOrDirective.get(directiveType);\n

   module ||\n                error(\"Cannot determine the module for component '\" +
identifierName(directiveMetadata.type) + \"'\");\n                var htmlAst = directiveMetadata.template.htmlAst;\n
            var preserveWhitespaces = directiveMetadata.template.preserveWhitespaces;\n                if
(!preserveWhitespaces) {\n                    htmlAst = removeWhitespaces(htmlAst);\n                }\n                var
render3Ast = htmlAstToRender3Ast(htmlAst.rootNodes, hostBindingParser);\n                // Map of StaticType by
directive selectors\n                var directiveTypeBySel_1 = new Map();\n                var directives_1 =
module.transitiveModule.directives.map(function (dir) { return
_this._metadataResolver.getDirectiveSummary(dir.reference); });\n                directives_1.forEach(function
(directive) {\n                    if (directive.selector) {\n                        directiveTypeBySel_1.set(directive.selector,
 directive.type.reference);\n                    }\n                });\n                // Map of StaticType by pipe names\n
            var pipeTypeByName_1 = new Map();\n                var pipes_1 =
module.transitiveModule.pipes.map(function (pipe) { return
_this._metadataResolver.getPipeSummary(pipe.reference); });\n                pipes_1.forEach(function (pipe) {\n
            pipeTypeByName_1.set(pipe.name, pipe.type.reference);\n                });\n
compileComponentFromRender2(context, directiveMetadata, render3Ast, _this.reflector, hostBindingParser,
directiveTypeBySel_1, pipeTypeByName_1);\n            }\n            else {\n
compileDirectiveFromRender2(context, directiveMetadata, _this.reflector, hostBindingParser);\n            }\n
});\n        pipes.forEach(function (pipeType) {\n            var pipeMetadata =
```

```
_this._metadataResolver.getPipeMetadata(pipeType);\n
            if (pipeMetadata) {\n                compilePipeFromRender2(context, pipeMetadata, _this.reflector);\n
    }\n        });\n        injectables.forEach(function (injectable) { return
_this._injectableCompiler.compile(injectable, context); });\n    };\n
AotCompiler.prototype.emitAllPartialModules2 = function (files) {\n        var _this = this;\n        // Using
reduce like this is a select many pattern (where map is a select pattern)\n        return files.reduce(function (r, file)
{\n            r.push.apply(r, __spread(_this._emitPartialModule2(file.fileName, file.injectables)));\n            return
r;\n        }, []);\n    };\n    AotCompiler.prototype._emitPartialModule2 = function (fileName, injectables) {\n
    var _this = this;\n        var context = this._createOutputContext(fileName);\n
injectables.forEach(function (injectable) { return _this._injectableCompiler.compile(injectable,
 context); });\n        if (context.statements && context.statements.length > 0) {\n            return [{ fileName:
fileName, statements: __spread(context.constantPool.statements, context.statements) }];\n        }\n        return
[];\n    };\n    AotCompiler.prototype.emitAllImpls = function (analyzeResult) {\n        var _this = this;\n
  var ngModuleByPipeOrDirective = analyzeResult.ngModuleByPipeOrDirective, files = analyzeResult.files;\n
 var sourceModules = files.map(function (file) { return _this._compileImplFile(file.fileName,
ngModuleByPipeOrDirective, file.directives, file.pipes, file.ngModules, file.injectables); });\n        return
flatten(sourceModules);\n    };\n    AotCompiler.prototype._compileImplFile = function (srcFileUrl,
ngModuleByPipeOrDirective, directives, pipes, ngModules, injectables) {\n        var _this = this;\n        var
fileSuffix = normalizeGenFileSuffix(splitTypescriptSuffix(srcFileUrl,
 true)[1]);\n        var generatedFiles = [];\n        var outputCtx =
this._createOutputContext(ngfactoryFilePath(srcFileUrl, true));\n        generatedFiles.push.apply(generatedFiles,
__spread(this._createSummary(srcFileUrl, directives, pipes, ngModules, injectables, outputCtx)));\n        //
compile all ng modules\n        ngModules.forEach(function (ngModuleMeta) { return
_this._compileModule(outputCtx, ngModuleMeta); });\n        // compile components\n
directives.forEach(function (dirType) {\n            var compMeta =
_this._metadataResolver.getDirectiveMetadata(dirType);\n            if (!compMeta.isComponent) {\n
return;\n            }\n            var ngModule = ngModuleByPipeOrDirective.get(dirType);\n            if
(!ngModule) {\n                throw new Error(\"Internal Error: cannot determine the module for component \" +
identifierName(compMeta.type) + \"!\");\n
        }\n            // compile styles\n            var componentStylesheet =
_this._styleCompiler.compileComponent(outputCtx, compMeta);\n            // Note: compMeta is a component and
therefore template is non null.\n            compMeta.template.externalStylesheets.forEach(function (stylesheetMeta)
{\n                // Note: fill non shim and shim style files as they might\n                // be shared by component with
and without ViewEncapsulation.\n                var shim = _this._styleCompiler.needsStyleShim(compMeta);\n
      generatedFiles.push(_this._codegenStyles(srcFileUrl, compMeta, stylesheetMeta, shim, fileSuffix));\n
   if (_this._options.allowEmptyCodegenFiles) {\n
generatedFiles.push(_this._codegenStyles(srcFileUrl, compMeta, stylesheetMeta, !shim, fileSuffix));\n
}\n            });\n            // compile components\n            var compViewVars =
_this._compileComponent(outputCtx,
 compMeta, ngModule, ngModule.transitiveModule.directives, componentStylesheet, fileSuffix);\n
_this._compileComponentFactory(outputCtx, compMeta, ngModule, fileSuffix);\n        });\n        if
(outputCtx.statements.length > 0 || this._options.allowEmptyCodegenFiles) {\n            var srcModule =
this._codegenSourceModule(srcFileUrl, outputCtx);\n            generatedFiles.unshift(srcModule);\n        }\n
  return generatedFiles;\n    };\n    AotCompiler.prototype._createSummary = function (srcFileName,
directives, pipes, ngModules, injectables, ngFactoryCtx) {\n        var _this = this;\n        var symbolSummaries
= this._symbolResolver.getSymbolsOf(srcFileName)\n            .map(function (symbol) { return
_this._symbolResolver.resolveSymbol(symbol); });\n        var typeData = __spread(ngModules.map(function
(meta) { return ({\n            summary: _this._metadataResolver.getNgModuleSummary(meta.type.reference),\n
```

```
            metadata: _this._metadataResolver.getNgModuleMetadata(meta.type.reference)\n            }); }),
directives.map(function (ref) { return ({\n                summary: _this._metadataResolver.getDirectiveSummary(ref),\n
            metadata: _this._metadataResolver.getDirectiveMetadata(ref)\n            }); }), pipes.map(function (ref) {
return ({\n                summary: _this._metadataResolver.getPipeSummary(ref),\n                metadata:
_this._metadataResolver.getPipeMetadata(ref)\n            }); }), injectables.map(function (ref) { return ({\n
summary: _this._metadataResolver.getInjectableSummary(ref.symbol),\n                metadata:
_this._metadataResolver.getInjectableSummary(ref.symbol).type\n            }); }));\n            var forJitOutputCtx =
this._options.enableSummariesForJit ?\n
this._createOutputContext(summaryForJitFileName(srcFileName, true)) :\n                null;\n            var
 _a = serializeSummaries(srcFileName, forJitOutputCtx, this._summaryResolver, this._symbolResolver,
symbolSummaries, typeData, this._options.createExternalSymbolFactoryReexports), json = _a.json, exportAs =
_a.exportAs;\n            exportAs.forEach(function (entry) {\n
ngFactoryCtx.statements.push(variable(entry.exportAs).set(ngFactoryCtx.importExpr(entry.symbol)).toDeclStmt(nu
ll, [\n                    exports.StmtModifier.Exported\n                ]));\n            });\n            var summaryJson = new
GeneratedFile(srcFileName, summaryFileName(srcFileName), json);\n            var result = [summaryJson];\n
if (forJitOutputCtx) {\n                result.push(this._codegenSourceModule(srcFileName, forJitOutputCtx));\n
}\n            return result;\n        };\n        AotCompiler.prototype._compileModule = function (outputCtx, ngModule)
{\n            var providers = [];\n            if (this._options.locale) {\n                var normalizedLocale
 = this._options.locale.replace(/_/g, '-');\n                providers.push({\n                    token:
createTokenForExternalReference(this.reflector, Identifiers.LOCALE_ID),\n                    useValue:
normalizedLocale,\n                });\n            }\n            if (this._options.i18nFormat) {\n                providers.push({\n
            token: createTokenForExternalReference(this.reflector, Identifiers.TRANSLATIONS_FORMAT),\n
        useValue: this._options.i18nFormat\n                });\n            }\n
this._ngModuleCompiler.compile(outputCtx, ngModule, providers);\n        };\n
AotCompiler.prototype._compileComponentFactory = function (outputCtx, compMeta, ngModule, fileSuffix) {\n
    var hostMeta = this._metadataResolver.getHostComponentMetadata(compMeta);\n            var
hostViewFactoryVar = this._compileComponent(outputCtx, hostMeta, ngModule, [compMeta.type], null,
fileSuffix)\n                .viewClassVar;\n
        var compFactoryVar = componentFactoryName(compMeta.type.reference);\n            var inputsExprs = [];\n
    for (var propName in compMeta.inputs) {\n                var templateName = compMeta.inputs[propName];\n
    // Don't quote so that the key gets minified...\n                inputsExprs.push(new LiteralMapEntry(propName,
literal(templateName), false));\n            }\n            var outputsExprs = [];\n            for (var propName in
compMeta.outputs) {\n                var templateName = compMeta.outputs[propName];\n                // Don't quote so
that the key gets minified...\n                outputsExprs.push(new LiteralMapEntry(propName, literal(templateName),
false));\n            }\n            outputCtx.statements.push(variable(compFactoryVar)\n
.set(importExpr(Identifiers.createComponentFactory).callFn([\n                literal(compMeta.selector),
outputCtx.importExpr(compMeta.type.reference),\n                variable(hostViewFactoryVar),
 new LiteralMapExpr(inputsExprs),\n                new LiteralMapExpr(outputsExprs),\n
literalArr(compMeta.template.ngContentSelectors.map(function (selector) { return literal(selector); }))\n            ]))\n
            .toDeclStmt(importType(Identifiers.ComponentFactory,
[expressionType(outputCtx.importExpr(compMeta.type.reference))], [TypeModifier.Const]),
[exports.StmtModifier.Final, exports.StmtModifier.Exported]));\n        };\n
AotCompiler.prototype._compileComponent = function (outputCtx, compMeta, ngModule, directiveIdentifiers,
componentStyles, fileSuffix) {\n            var _a = this._parseTemplate(compMeta, ngModule, directiveIdentifiers),
parsedTemplate = _a.template, usedPipes = _a.pipes;\n            var stylesExpr = componentStyles ?
variable(componentStyles.stylesVar) : literalArr([]);\n            var viewResult =
this._viewCompiler.compileComponent(outputCtx, compMeta, parsedTemplate, stylesExpr, usedPipes);\n            if
(componentStyles)
```

{\n _resolveStyleStatements(this._symbolResolver, componentStyles, this._styleCompiler.needsStyleShim(compMeta), fileSuffix);\n }\n return viewResult;\n };\n AotCompiler.prototype._parseTemplate = function (compMeta, ngModule, directiveIdentifiers) {\n var _this = this;\n if (this._templateAstCache.has(compMeta.type.reference)) {\n return this._templateAstCache.get(compMeta.type.reference);\n }\n var preserveWhitespaces = compMeta.template.preserveWhitespaces;\n var directives = directiveIdentifiers.map(function (dir) { return _this._metadataResolver.getDirectiveSummary(dir.reference); });\n var pipes = ngModule.transitiveModule.pipes.map(function (pipe) { return _this._metadataResolver.getPipeSummary(pipe.reference); });\n var result = this._templateParser.parse(compMeta, compMeta.template.htmlAst, directives, pipes, ngModule.schemas, templateSourceUrl(ngModule.type, compMeta, compMeta.template), preserveWhitespaces);\n this._templateAstCache.set(compMeta.type.reference, result);\n return result;\n };\n AotCompiler.prototype._createOutputContext = function (genFilePath) {\n var _this = this;\n var importExpr$1 = function (symbol, typeParams, useSummaries) {\n if (typeParams === void 0) { typeParams = null; }\n if (useSummaries === void 0) { useSummaries = true; }\n if (!(symbol instanceof StaticSymbol)) {\n throw new Error(\"Internal error: unknown identifier \" + JSON.stringify(symbol));\n }\n var arity = _this._symbolResolver.getTypeArity(symbol) || 0;\n var _a = _this._symbolResolver.getImportAs(symbol, useSummaries) || symbol, filePath = _a.filePath, name = _a.name, members = _a.members;\n var importModule = _this._fileNameToModuleName(filePath, genFilePath);\n // It should be good enough to compare filePath to genFilePath and if they are equal\n // there is a self reference. However, ngfactory files generate to .ts but their\n // symbols have .d.ts so a simple compare is insufficient. They should be canonical\n // and is tracked by #17705.\n var selfReference = _this._fileNameToModuleName(genFilePath, genFilePath);\n var moduleName = importModule === selfReference ? null : importModule;\n // If we are in a type expression that refers to a generic type then supply\n // the required type parameters. If there were not enough type parameters\n // supplied, supply any as the type. Outside a type expression the reference\n // should not supply type parameters and be treated as a simple value reference\n // to the constructor function itself.\n var suppliedTypeParams = typeParams || [];\n var missingTypeParamsCount = arity - suppliedTypeParams.length;\n var allTypeParams = suppliedTypeParams.concat(newArray(missingTypeParamsCount, DYNAMIC_TYPE));\n return members.reduce(function (expr, memberName) { return expr.prop(memberName); }, importExpr(new ExternalReference(moduleName, name, null), allTypeParams));\n };\n return { statements: [], genFilePath: genFilePath, importExpr: importExpr$1, constantPool: new ConstantPool() };\n };\n AotCompiler.prototype._fileNameToModuleName = function (importedFilePath, containingFilePath) {\n return this._summaryResolver.getKnownModuleName(importedFilePath) ||\n this._symbolResolver.getKnownModuleName(importedFilePath) ||\n this._host.fileNameToModuleName(importedFilePath, containingFilePath);\n };\n AotCompiler.prototype._codegenStyles = function (srcFileUrl, compMeta, stylesheetMetadata, isShimmed, fileSuffix) {\n var outputCtx = this._createOutputContext(_stylesModuleUrl(stylesheetMetadata.moduleUrl, isShimmed, fileSuffix));\n var compiledStylesheet = this._styleCompiler.compileStyles(outputCtx, compMeta, stylesheetMetadata, isShimmed);\n _resolveStyleStatements(this._symbolResolver, compiledStylesheet, isShimmed, fileSuffix);\n return this._codegenSourceModule(srcFileUrl, outputCtx);\n };\n AotCompiler.prototype._codegenSourceModule = function (srcFileUrl, ctx) {\n return new GeneratedFile(srcFileUrl, ctx.genFilePath, ctx.statements);\n };\n AotCompiler.prototype.listLazyRoutes = function (entryRoute, analyzedModules) {\n var e_2, _a, e_3, _b;\n var self = this;\n if (entryRoute) {\n var symbol = parseLazyRoute(entryRoute, this.reflector).referencedModule;\n return visitLazyRoute(symbol);\n

```
}\n    else if (analyzedModules) {\n        var allLazyRoutes = [];\n        try {\n            for (var _c = __values(analyzedModules.ngModules), _d = _c.next(); !_d.done; _d = _c.next()) {\n                var ngModule = _d.value;\n                var lazyRoutes = listLazyRoutes(ngModule, this.reflector);\n                try {\n                    for (var lazyRoutes_1 = (e_3 = void 0, __values(lazyRoutes)), lazyRoutes_1_1 = lazyRoutes_1.next(); !lazyRoutes_1_1.done; lazyRoutes_1_1 = lazyRoutes_1.next()) {\n                        var lazyRoute = lazyRoutes_1_1.value;\n                        allLazyRoutes.push(lazyRoute);\n                    }\n                }\n                catch (e_3_1) { e_3 = { error: e_3_1 }; }\n                finally {\n                    try {\n                        if (lazyRoutes_1_1 && !lazyRoutes_1_1.done && (_b = lazyRoutes_1.return)) _b.call(lazyRoutes_1);\n                    }\n                    finally { if (e_3) throw e_3.error; }\n                }\n            }\n            catch (e_2_1) { e_2 = { error: e_2_1 }; }\n            finally {\n                try {\n                    if (_d && !_d.done && (_a = _c.return)) _a.call(_c);\n                }\n                finally { if (e_2) throw e_2.error; }\n            }\n            return allLazyRoutes;\n        }\n        else {\n            throw new Error(\"Either route or analyzedModules has to be specified!\");\n        }\n    }\n    function visitLazyRoute(symbol, seenRoutes, allLazyRoutes) {\n        var e_4, _a;\n        if (seenRoutes === void 0) { seenRoutes = new Set(); }\n        if (allLazyRoutes === void 0) { allLazyRoutes = []; }\n        // Support pointing to default exports,\n        but stop recursing there,\n        // as the StaticReflector does not yet support default exports.\n        if (seenRoutes.has(symbol) || !symbol.name) {\n            return allLazyRoutes;\n        }\n        seenRoutes.add(symbol);\n        var lazyRoutes = listLazyRoutes(self._metadataResolver.getNgModuleMetadata(symbol, true), self.reflector);\n        try {\n            for (var lazyRoutes_2 = __values(lazyRoutes), lazyRoutes_2_1 = lazyRoutes_2.next(); !lazyRoutes_2_1.done; lazyRoutes_2_1 = lazyRoutes_2.next()) {\n                var lazyRoute = lazyRoutes_2_1.value;\n                allLazyRoutes.push(lazyRoute);\n                visitLazyRoute(lazyRoute.referencedModule, seenRoutes, allLazyRoutes);\n            }\n        }\n        catch (e_4_1) { e_4 = { error: e_4_1 }; }\n        finally {\n            try {\n                if (lazyRoutes_2_1 && !lazyRoutes_2_1.done && (_a = lazyRoutes_2.return)) _a.call(lazyRoutes_2);\n            }\n            finally { if (e_4) throw e_4.error; }\n        }\n        return allLazyRoutes;\n    }\n};\n    return AotCompiler;\n}());\n    function _createEmptyStub(outputCtx) {\n    // Note: We need to produce at least one import statement so that\n    // TypeScript knows that the file is an es6 module. Otherwise our generated\n    // exports / imports won't be emitted properly by TypeScript.\n    outputCtx.statements.push(importExpr(Identifiers.ComponentFactory).toStmt());\n}\n    function _resolveStyleStatements(symbolResolver, compileResult, needsShim, fileSuffix) {\n    compileResult.dependencies.forEach(function (dep) {\n        dep.setValue(symbolResolver.getStaticSymbol(_stylesModuleUrl(dep.moduleUrl, needsShim, fileSuffix), dep.name));\n    });\n}\n    function _stylesModuleUrl(stylesheetUrl, shim, suffix) {\n    return \"\" + stylesheetUrl + (shim ? '.shim' : '') + \".ngstyle\" + suffix;\n}\n    function analyzeNgModules(fileNames, host, staticSymbolResolver, metadataResolver) {\n    var files = _analyzeFilesIncludingNonProgramFiles(fileNames, host, staticSymbolResolver, metadataResolver);\n    return mergeAnalyzedFiles(files);\n}\n    function analyzeAndValidateNgModules(fileNames, host, staticSymbolResolver, metadataResolver) {\n    return validateAnalyzedModules(analyzeNgModules(fileNames, host, staticSymbolResolver, metadataResolver));\n}\n    function validateAnalyzedModules(analyzedModules) {\n    if (analyzedModules.symbolsMissingModule && analyzedModules.symbolsMissingModule.length) {\n        var messages = analyzedModules.symbolsMissingModule.map(function (s) { return \"Cannot determine the module for class \" + s.name + \" in \" + s.filePath + \"! Add \" + s.name + \" to the NgModule to fix it.\"; });\n        throw syntaxError(messages.join('\\n'));\n    }\n    return analyzedModules;\n}\n    // Analyzes all of the program files,\n    // including files that are not part of the program\n    // but are referenced by an NgModule.\n    function _analyzeFilesIncludingNonProgramFiles(fileNames, host, staticSymbolResolver, metadataResolver) {\n    var
```

```
seenFiles = new Set();\n        var files = [];\n        var visitFile = function (fileName) {\n            if
(seenFiles.has(fileName) || !host.isSourceFile(fileName)) {\n                return false;\n            }\n
seenFiles.add(fileName);\n            var analyzedFile = analyzeFile(host, staticSymbolResolver, metadataResolver,
fileName);\n            files.push(analyzedFile);\n            analyzedFile.ngModules.forEach(function (ngModule) {\n
        ngModule.transitiveModule.modules.forEach(function (modMeta) { return
visitFile(modMeta.reference.filePath); });\n            });\n        };\n        fileNames.forEach(function
 (fileName) { return visitFile(fileName); });\n        return files;\n    }\n    function analyzeFile(host,
staticSymbolResolver, metadataResolver, fileName) {\n        var abstractDirectives = [];\n        var directives = [];\n
    var pipes = [];\n        var injectables = [];\n        var ngModules = [];\n        var hasDecorators =
staticSymbolResolver.hasDecorators(fileName);\n        var exportsNonSourceFiles = false;\n        var
isDeclarationFile = fileName.endsWith('.d.ts');\n        // Don't analyze .d.ts files that have no decorators as a
shortcut\n        // to speed up the analysis. This prevents us from\n        // resolving the references in these files.\n
// Note: exportsNonSourceFiles is only needed when compiling with summaries,\n        // which is not the case when
.d.ts files are treated as input files.\n        if (!isDeclarationFile || hasDecorators) {\n
staticSymbolResolver.getSymbolsOf(fileName).forEach(function (symbol) {\n
      var resolvedSymbol = staticSymbolResolver.resolveSymbol(symbol);\n            var symbolMeta =
resolvedSymbol.metadata;\n            if (!symbolMeta || symbolMeta.__symbolic === 'error') {\n
return;\n            }\n            var isNgSymbol = false;\n            if (symbolMeta.__symbolic === 'class') {\n
        if (metadataResolver.isDirective(symbol)) {\n                isNgSymbol = true;\n                // This
directive either has a selector or doesn't. Selector-less directives get tracked\n                // in abstractDirectives,
not directives. The compiler doesn't deal with selector-less\n                // directives at all, really, other than to
persist their metadata. This is done so that\n                // apps will have an easier time migrating to Ivy, which
requires the selector-less\n                // annotations to be applied.\n                if
(!metadataResolver.isAbstractDirective(symbol))
 {\n                    // The directive is an ordinary directive.\n                    directives.push(symbol);\n
      }\n                else {\n                    // The directive has no selector and is an \"abstract\" directive, so
track it\n                    // accordingly.\n                    abstractDirectives.push(symbol);\n                }\n
          }\n            else if (metadataResolver.isPipe(symbol)) {\n                isNgSymbol = true;\n
    pipes.push(symbol);\n            }\n            else if (metadataResolver.isNgModule(symbol)) {\n
   var ngModule = metadataResolver.getNgModuleMetadata(symbol, false);\n                if (ngModule) {\n
            isNgSymbol = true;\n                    ngModules.push(ngModule);\n                }\n
              }\n            else if (metadataResolver.isInjectable(symbol)) {\n                isNgSymbol = true;\n
                var injectable = metadataResolver.getInjectableMetadata(symbol, null, false);\n                if
(injectable) {\n                    injectables.push(injectable);\n                }\n            }\n        }\n
  if (!isNgSymbol) {\n            exportsNonSourceFiles =\n                exportsNonSourceFiles ||
isValueExportingNonSourceFile(host, symbolMeta);\n        }\n    });\n    }\n    return {\n
fileName: fileName,\n        directives: directives,\n        abstractDirectives: abstractDirectives,\n        pipes:
pipes,\n        ngModules: ngModules,\n        injectables: injectables,\n        exportsNonSourceFiles:
exportsNonSourceFiles,\n    };\n}\n    function analyzeFileForInjectables(host,
 staticSymbolResolver, metadataResolver, fileName) {\n    var injectables = [];\n    var shallowModules = [];\n
   if (staticSymbolResolver.hasDecorators(fileName)) {\n
staticSymbolResolver.getSymbolsOf(fileName).forEach(function (symbol) {\n            var resolvedSymbol =
staticSymbolResolver.resolveSymbol(symbol);\n            var symbolMeta = resolvedSymbol.metadata;\n
if (!symbolMeta || symbolMeta.__symbolic === 'error') {\n                return;\n            }\n            if
(symbolMeta.__symbolic === 'class') {\n                if (metadataResolver.isInjectable(symbol)) {\n
var injectable = metadataResolver.getInjectableMetadata(symbol, null, false);\n                    if (injectable) {\n
                injectables.push(injectable);\n                }\n            }\n            else if
(metadataResolver.isNgModule(symbol)) {\n
```

```
var module = metadataResolver.getShallowModuleMetadata(symbol);\n if (module) {\n shallowModules.push(module);\n }\n }\n }\n });\n }\n return { fileName: fileName, injectables: injectables, shallowModules: shallowModules };\n }\n function isValueExportingNonSourceFile(host, metadata) {\n var exportsNonSourceFiles = false;\n var Visitor = /** @class */ (function () {\n function Visitor() {\n }\n Visitor.prototype.visitArray = function (arr, context) {\n var _this = this;\n arr.forEach(function (v) { return visitValue(v, _this, context); });\n };\n Visitor.prototype.visitStringMap = function (map, context) {\n var _this = this;\n Object.keys(map).forEach(function (key) { return visitValue(map[key], _this, context); });\n };\n Visitor.prototype.visitPrimitive = function (value, context) { };\n Visitor.prototype.visitOther = function (value, context) {\n if (value instanceof StaticSymbol && !host.isSourceFile(value.filePath)) {\n exportsNonSourceFiles = true;\n }\n };\n return Visitor;\n }());\n visitValue(metadata, new Visitor(), null);\n return exportsNonSourceFiles;\n }\n function mergeAnalyzedFiles(analyzedFiles) {\n var allNgModules = [];\n var ngModuleByPipeOrDirective = new Map();\n var allPipesAndDirectives = new Set();\n analyzedFiles.forEach(function (af) {\n af.ngModules.forEach(function (ngModule) {\n allNgModules.push(ngModule);\n ngModule.declaredDirectives.forEach(function (d) { return ngModuleByPipeOrDirective.set(d.reference, ngModule); });\n ngModule.declaredPipes.forEach(function (p) { return ngModuleByPipeOrDirective.set(p.reference, ngModule); });\n });\n af.directives.forEach(function (d) { return allPipesAndDirectives.add(d); });\n af.pipes.forEach(function (p) { return allPipesAndDirectives.add(p); });\n });\n var symbolsMissingModule = [];\n allPipesAndDirectives.forEach(function (ref) {\n if (!ngModuleByPipeOrDirective.has(ref)) {\n symbolsMissingModule.push(ref);\n }\n });\n return {\n ngModules: allNgModules,\n ngModuleByPipeOrDirective: ngModuleByPipeOrDirective,\n symbolsMissingModule: symbolsMissingModule,\n files: analyzedFiles\n };\n }\n function mergeAndValidateNgFiles(files) {\n return validateAnalyzedModules(mergeAnalyzedFiles(files));\n }\n\n var FORMATTED_MESSAGE = 'ngFormattedMessage';\n function indentStr(level) {\n if (level <= 0)\n return '';\n if (level < 6)\n return ['', ' ', '  ', '   ', '    ', '     '][level];\n var half = indentStr(Math.floor(level / 2));\n return half + half + (level % 2 === 1 ? ' ' : '');\n }\n function formatChain(chain, indent) {\n var e_1, _a;\n if (indent === void 0) { indent = 0; }\n if (!chain)\n return '';\n var position = chain.position ?\n chain.position.fileName + '(' + (chain.position.line + 1) + ',' + (chain.position.column + 1) + ')' :\n '';\n var prefix = position && indent === 0 ? position + ': ' : '';\n var postfix = position && indent !== 0 ? ' at ' + position : '';\n var message = '\"' + prefix + chain.message + postfix;\n if (chain.next) {\n try {\n for (var _b = __values(chain.next), _c = _b.next(); !_c.done; _c = _b.next()) {\n var kid = _c.value;\n message += '\\n' + formatChain(kid,\n indent + 2);\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (_c && !_c.done && (_a = _b.return)) _a.call(_b);\n }\n finally { if (e_1) throw e_1.error; }\n }\n }\n return '\"' + indentStr(indent) + message;\n }\n function formattedError(chain) {\n var message = formatChain(chain) + '.';\n var error = syntaxError(message);\n error[FORMATTED_MESSAGE] = true;\n error.chain = chain;\n error.position = chain.position;\n return error;\n }\n function isFormattedError(error) {\n return !!error[FORMATTED_MESSAGE];\n }\n\n var ANGULAR_CORE = '@angular/core';\n var ANGULAR_ROUTER = '@angular/router';\n var HIDDEN_KEY = /^\\$.*\\$$/;\n var IGNORE = {\n __symbolic: 'ignore'\n };\n var USE_VALUE$1 = 'useValue';\n var PROVIDE = 'provide';\n\n var REFERENCE_SET = new Set([USE_VALUE$1, 'useFactory', 'data', 'id', 'loadChildren']);\n var TYPEGUARD_POSTFIX = 'TypeGuard';\n var USE_IF = 'UseIf';\n function shouldIgnore(value) {\n return value && value.__symbolic == 'ignore';\n }\n /**\n * A static reflector implements enough of the Reflector API that is necessary to compile\n * templates statically.\n */\n var StaticReflector = /** @class */ (function () {\n function StaticReflector(summaryResolver, symbolResolver, knownMetadataClasses,
```

knownMetadataFunctions, errorRecorder) {\n var _this = this;\n if (knownMetadataClasses === void 0) { knownMetadataClasses = []; }\n if (knownMetadataFunctions === void 0) { knownMetadataFunctions = []; }\n this.summaryResolver = summaryResolver;\n this.symbolResolver = symbolResolver;\n this.errorRecorder = errorRecorder;\n this.annotationCache = new Map();\n this.shallowAnnotationCache
= new Map();\n this.propertyCache = new Map();\n this.parameterCache = new Map();\n this.methodCache = new Map();\n this.staticCache = new Map();\n this.conversionMap = new Map();\n this.resolvedExternalReferences = new Map();\n this.annotationForParentClassWithSummaryKind = new Map();\n this.initializeConversionMap();\n knownMetadataClasses.forEach(function (kc) { return _this._registerDecoratorOrConstructor(_this.getStaticSymbol(kc.filePath, kc.name), kc.ctor); });\n knownMetadataFunctions.forEach(function (kf) { return _this._registerFunction(_this.getStaticSymbol(kf.filePath, kf.name), kf.fn); });\n this.annotationForParentClassWithSummaryKind.set(exports.CompileSummaryKind.Directive, [createDirective, createComponent]);\n this.annotationForParentClassWithSummaryKind.set(exports.CompileSummaryKind.Pipe, [createPipe]);\n this.annotationForParentClassWithSummaryKind.set(exports.CompileSummaryKind.NgModule, [createNgModule]);\n this.annotationForParentClassWithSummaryKind.set(exports.CompileSummaryKind.Injectable, [createInjectable, createPipe, createDirective, createComponent, createNgModule]);\n }\n StaticReflector.prototype.componentModuleUrl = function (typeOrFunc) {\n var staticSymbol = this.findSymbolDeclaration(typeOrFunc);\n return this.symbolResolver.getResourcePath(staticSymbol);\n };\n /**\n * Invalidate the specified `symbols` on program change.\n * @param symbols\n */\n StaticReflector.prototype.invalidateSymbols = function (symbols) {\n var e_1, _a;\n try {\n for (var symbols_1 = __values(symbols), symbols_1_1 = symbols_1.next(); !symbols_1_1.done; symbols_1_1 = symbols_1.next()) {\n var symbol = symbols_1_1.value;\n this.annotationCache.delete(symbol);\n this.shallowAnnotationCache.delete(symbol);\n this.propertyCache.delete(symbol);\n this.parameterCache.delete(symbol);\n this.methodCache.delete(symbol);\n this.staticCache.delete(symbol);\n this.conversionMap.delete(symbol);\n }\n }\n catch (e_1_1) { e_1 = { error: e_1_1 }; }\n finally {\n try {\n if (symbols_1_1 && !symbols_1_1.done && (_a = symbols_1.return)) _a.call(symbols_1);\n }\n finally { if (e_1) throw e_1.error; }\n }\n };\n StaticReflector.prototype.resolveExternalReference = function (ref, containingFile) {\n var key = undefined;\n if (!containingFile) {\n key = ref.moduleName + \":\" + ref.name;\n var declarationSymbol_1 = this.resolvedExternalReferences.get(key);\n if (declarationSymbol_1)\n return declarationSymbol_1;\n }\n var refSymbol = this.symbolResolver.getSymbolByModule(ref.moduleName, ref.name, containingFile);\n var declarationSymbol = this.findSymbolDeclaration(refSymbol);\n if (!containingFile) {\n this.symbolResolver.recordModuleNameForFileName(refSymbol.filePath, ref.moduleName);\n this.symbolResolver.recordImportAs(declarationSymbol, refSymbol);\n }\n if (key) {\n this.resolvedExternalReferences.set(key, declarationSymbol);\n }\n return declarationSymbol;\n };\n StaticReflector.prototype.findDeclaration = function (moduleUrl, name, containingFile) {\n return this.findSymbolDeclaration(this.symbolResolver.getSymbolByModule(moduleUrl, name, containingFile));\n };\n StaticReflector.prototype.tryFindDeclaration
= function (moduleUrl, name, containingFile) {\n var _this = this;\n return this.symbolResolver.ignoreErrorsFor(function () { return _this.findDeclaration(moduleUrl, name, containingFile); });\n };\n StaticReflector.prototype.findSymbolDeclaration = function (symbol) {\n var resolvedSymbol = this.symbolResolver.resolveSymbol(symbol);\n if (resolvedSymbol) {\n var

```
resolvedMetadata = resolvedSymbol.metadata;\n            if (resolvedMetadata && resolvedMetadata.__symbolic
=== 'resolved') {\n                resolvedMetadata = resolvedMetadata.symbol;\n            }\n            if
(resolvedMetadata instanceof StaticSymbol) {\n                return
this.findSymbolDeclaration(resolvedSymbol.metadata);\n            }\n        }\n        return symbol;\n    };\n
  StaticReflector.prototype.tryAnnotations = function (type) {\n        var originalRecorder = this.errorRecorder;\n
        this.errorRecorder = function (error, fileName) { };\n        try {\n            return this.annotations(type);\n
    }\n        finally {\n            this.errorRecorder = originalRecorder;\n        }\n    };\n
StaticReflector.prototype.annotations = function (type) {\n        var _this = this;\n        return
this._annotations(type, function (type, decorators) { return _this.simplify(type, decorators); },
this.annotationCache);\n    };\n    StaticReflector.prototype.shallowAnnotations = function (type) {\n        var
_this = this;\n        return this._annotations(type, function (type, decorators) { return _this.simplify(type,
decorators, true); }, this.shallowAnnotationCache);\n    };\n    StaticReflector.prototype._annotations = function
(type, simplify, annotationCache) {\n        var annotations = annotationCache.get(type);\n        if (!annotations)
{\n            annotations = [];\n
            var classMetadata = this.getTypeMetadata(type);\n            var parentType = this.findParentType(type,
classMetadata);\n            if (parentType) {\n                var parentAnnotations = this.annotations(parentType);\n
            annotations.push.apply(annotations, __spread(parentAnnotations));\n            }\n            var
ownAnnotations_1 = [];\n            if (classMetadata['decorators']) {\n                ownAnnotations_1 =
simplify(type, classMetadata['decorators']);\n                if (ownAnnotations_1) {\n
annotations.push.apply(annotations, __spread(ownAnnotations_1));\n                }\n            }\n            if
(parentType && !this.summaryResolver.isLibraryFile(type.filePath) &&\n
this.summaryResolver.isLibraryFile(parentType.filePath)) {\n                var summary =
this.summaryResolver.resolveSummary(parentType);\n                if (summary
 && summary.type) {\n                    var requiredAnnotationTypes =
this.annotationForParentClassWithSummaryKind.get(summary.type.summaryKind);\n                    var
typeHasRequiredAnnotation = requiredAnnotationTypes.some(function (requiredType) { return
ownAnnotations_1.some(function (ann) { return requiredType.isTypeOf(ann); }); });\n                    if
(!typeHasRequiredAnnotation) {\n                        this.reportError(formatMetadataError(metadataError(\"Class \"
+ type.name + \" in \" + type.filePath + \" extends from a \" +
exports.CompileSummaryKind[summary.type.summaryKind] + \" in another compilation unit without duplicating
the decorator\", \n                        /* summary */ undefined, \"Please add a \" +
requiredAnnotationTypes.map(function (type) { return type.ngMetadataName; })\n                            .join(' or ') +
\" decorator to the class\"), type), type);\n                    }\n                }\n
    }\n            annotationCache.set(type, annotations.filter(function (ann) { return !!ann; }));\n        }\n
return annotations;\n    };\n    StaticReflector.prototype.propMetadata = function (type) {\n        var _this =
this;\n        var propMetadata = this.propertyCache.get(type);\n        if (!propMetadata) {\n            var
classMetadata = this.getTypeMetadata(type);\n            propMetadata = {};\n            var parentType =
this.findParentType(type, classMetadata);\n            if (parentType) {\n                var parentPropMetadata_1 =
this.propMetadata(parentType);\n                Object.keys(parentPropMetadata_1).forEach(function (parentProp)
{\n                    propMetadata[parentProp] = parentPropMetadata_1[parentProp];\n                });\n            }\n
        var members_1 = classMetadata['members'] || {};\n            Object.keys(members_1).forEach(function
(propName)
 {\n                var propData = members_1[propName];\n                var prop = propData\n
.find(function (a) { return a['__symbolic'] == 'property' || a['__symbolic'] == 'method'; });\n                var
decorators = [];\n                // hasOwnProperty() is used here to make sure we do not look up methods\n
 // on `Object.prototype`.\n                if (propMetadata === null || propMetadata === void 0 ? void 0 :
propMetadata.hasOwnProperty(propName)) {\n                    decorators.push.apply(decorators,
__spread(propMetadata[propName]));\n                }\n                propMetadata[propName] = decorators;\n
```

```
if (prop && prop['decorators']) {\n decorators.push.apply(decorators, __spread(_this.simplify(type, prop['decorators'])));\n }\n });\n this.propertyCache.set(type, propMetadata);\n }\n return propMetadata;\n };\n StaticReflector.prototype.parameters = function (type) {\n var _this = this;\n if (!(type instanceof StaticSymbol)) {\n this.reportError(new Error(\"parameters received \" + JSON.stringify(type) + \" which is not a StaticSymbol\"), type);\n return [];\n }\n try {\n var parameters_1 = this.parameterCache.get(type);\n if (!parameters_1) {\n var classMetadata = this.getTypeMetadata(type);\n var parentType = this.findParentType(type, classMetadata);\n var members = classMetadata ? classMetadata['members'] : null;\n var ctorData = members ? members['__ctor__'] : null;\n if (ctorData) {\n var ctor = ctorData.find(function (a) { return a['__symbolic'] == 'constructor'; });\n var rawParameterTypes = ctor['parameters']
|| [];\n var parameterDecorators_1 = this.simplify(type, ctor['parameterDecorators'] || []);\n parameters_1 = [];\n rawParameterTypes.forEach(function (rawParamType, index) {\n var nestedResult = [];\n var paramType = _this.trySimplify(type, rawParamType);\n if (paramType)\n nestedResult.push(paramType);\n var decorators = parameterDecorators_1 ? parameterDecorators_1[index] : null;\n if (decorators) {\n nestedResult.push.apply(nestedResult, __spread(decorators));\n }\n parameters_1.push(nestedResult);\n });\n }\n else if (parentType) {\n parameters_1 = this.parameters(parentType);\n }\n if (!parameters_1) {\n parameters_1 = [];\n }\n this.parameterCache.set(type, parameters_1);\n }\n return parameters_1;\n }\n catch (e) {\n console.error(\"Failed on type \" + JSON.stringify(type) + \" with error \" + e);\n throw e;\n }\n };\n StaticReflector.prototype._methodNames = function (type) {\n var methodNames = this.methodCache.get(type);\n if (!methodNames) {\n var classMetadata = this.getTypeMetadata(type);\n methodNames = {};\n var parentType = this.findParentType(type, classMetadata);\n if (parentType) {\n var parentMethodNames_1 = this._methodNames(parentType);\n Object.keys(parentMethodNames_1).forEach(function (parentProp) {\n methodNames[parentProp] = parentMethodNames_1[parentProp];\n });\n }\n var members_2 = classMetadata['members'] || {};\n Object.keys(members_2).forEach(function (propName) {\n var propData = members_2[propName];\n var isMethod = propData.some(function (a) { return a['__symbolic'] == 'method'; });\n methodNames[propName] = methodNames[propName] || isMethod;\n });\n this.methodCache.set(type, methodNames);\n }\n return methodNames;\n };\n StaticReflector.prototype._staticMembers = function (type) {\n var staticMembers = this.staticCache.get(type);\n if (!staticMembers) {\n var classMetadata = this.getTypeMetadata(type);\n var staticMemberData = classMetadata['statics'] || {};\n staticMembers = Object.keys(staticMemberData);\n this.staticCache.set(type, staticMembers);\n }\n return staticMembers;\n };\n StaticReflector.prototype.findParentType = function (type, classMetadata) {\n var parentType = this.trySimplify(type, classMetadata['extends']);\n if (parentType instanceof StaticSymbol) {\n return parentType;\n }\n };\n StaticReflector.prototype.hasLifecycleHook = function (type, lcProperty) {\n if (!(type instanceof StaticSymbol)) {\n this.reportError(new Error(\"hasLifecycleHook received \" + JSON.stringify(type) + \" which is not a StaticSymbol\"), type);\n }\n try {\n return !!this._methodNames(type)[lcProperty];\n }\n catch (e) {\n console.error(\"Failed on type \" + JSON.stringify(type) + \" with error \" + e);\n throw e;\n }\n };\n StaticReflector.prototype.guards
```

```
 = function (type) {\n            var e_2, _a;\n            if (!(type instanceof StaticSymbol)) {\n
this.reportError(new Error(\"guards received \" + JSON.stringify(type) + \" which is not a StaticSymbol\"), type);\n
            return {};\n            }\n            var staticMembers = this._staticMembers(type);\n            var result = {};\n
  try {\n                for (var staticMembers_1 = __values(staticMembers), staticMembers_1_1 =
staticMembers_1.next(); !staticMembers_1_1.done; staticMembers_1_1 = staticMembers_1.next()) {\n
var name = staticMembers_1_1.value;\n                    if (name.endsWith(TYPEGUARD_POSTFIX)) {\n
  var property = name.substr(0, name.length - TYPEGUARD_POSTFIX.length);\n                        var value = void
0;\n                        if (property.endsWith(USE_IF)) {\n                            property = name.substr(0, property.length -
USE_IF.length);\n
            value = USE_IF;\n                        }\n                        else {\n                            value =
this.getStaticSymbol(type.filePath, type.name, [name]);\n                        }\n                        result[property] =
value;\n                    }\n                }\n            }\n            catch (e_2_1) { e_2 = { error: e_2_1 }; }\n            finally {\n
            try {\n                    if (staticMembers_1_1 && !staticMembers_1_1.done && (_a = staticMembers_1.return))
_a.call(staticMembers_1);\n                }\n                finally { if (e_2) throw e_2.error; }\n            }\n            return
result;\n        };\n        StaticReflector.prototype._registerDecoratorOrConstructor = function (type, ctor) {\n
this.conversionMap.set(type, function (context, args) { return new (ctor.bind.apply(ctor, __spread([void 0], args)))(); });\n
};\n        StaticReflector.prototype._registerFunction = function (type, fn) {\n
    this.conversionMap.set(type, function (context, args) { return fn.apply(undefined, args); });\n        };\n
StaticReflector.prototype.initializeConversionMap = function () {\n
this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Injectable'), createInjectable);\n
  this.injectionToken = this.findDeclaration(ANGULAR_CORE, 'InjectionToken');\n            this.opaqueToken =
this.findDeclaration(ANGULAR_CORE, 'OpaqueToken');\n            this.ROUTES =
this.tryFindDeclaration(ANGULAR_ROUTER, 'ROUTES');\n
this.ANALYZE_FOR_ENTRY_COMPONENTS =\n                this.findDeclaration(ANGULAR_CORE,
'ANALYZE_FOR_ENTRY_COMPONENTS');\n
this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Host'), createHost);\n
this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Self'), createSelf);\n
this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'SkipSelf'),
 createSkipSelf);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Inject'),
createInject);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Optional'),
createOptional);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE,
'Attribute'), createAttribute);\n
this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'ContentChild'),
createContentChild);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE,
'ContentChildren'), createContentChildren);\n
this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'ViewChild'), createViewChild);\n
      this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'ViewChildren'),
createViewChildren);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE,
'Input'), createInput);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE,
 'Output'), createOutput);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE,
'Pipe'), createPipe);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE,
'HostBinding'), createHostBinding);\n
this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'HostListener'),
createHostListener);\n            this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE,
'Directive'), createDirective);\n
this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Component'), createComponent);\n
        this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'NgModule'),
createNgModule);\n            // Note: Some metadata classes can be used directly with Provider.deps.\n
```

this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Host'), createHost);\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Self'), createSelf);\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'SkipSelf'), createSkipSelf);\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Optional'), createOptional);\n };\n /**\n * getStaticSymbol produces a Type whose metadata is known but whose implementation is not loaded.\n * All types passed to the StaticResolver should be pseudo-types returned by this method.\n *\n * @param declarationFile the absolute path of the file where the symbol is declared\n * @param name the name of the type.\n */\n StaticReflector.prototype.getStaticSymbol = function (declarationFile, name, members) {\n return this.symbolResolver.getStaticSymbol(declarationFile, name, members);\n };\n /**\n * Simplify but discard any errors\n */\n StaticReflector.prototype.trySimplify = function (context, value) {\n var originalRecorder = this.errorRecorder;\n this.errorRecorder = function (error, fileName) { };\n var result = this.simplify(context, value);\n this.errorRecorder = originalRecorder;\n return result;\n };\n /** @internal */\n StaticReflector.prototype.simplify = function (context, value, lazy) {\n if (lazy === void 0) { lazy = false; }\n var self = this;\n var scope = BindingScope$1.empty;\n var calling = new Map();\n var rootContext = context;\n function simplifyInContext(context, value, depth, references) {\n function resolveReferenceValue(staticSymbol) {\n var resolvedSymbol = self.symbolResolver.resolveSymbol(staticSymbol);\n return resolvedSymbol ? resolvedSymbol.metadata : null;\n }\n function simplifyEagerly(value) {\n return simplifyInContext(context, value, depth, 0);\n }\n function simplifyLazily(value) {\n return simplifyInContext(context, value, depth, references + 1);\n }\n function simplifyNested(nestedContext, value) {\n if (nestedContext === context) {\n // If the context hasn't changed let the exception propagate unmodified.\n return simplifyInContext(nestedContext, value, depth + 1, references);\n }\n try {\n return simplifyInContext(nestedContext, value, depth + 1, references);\n }\n catch (e) {\n if (isMetadataError(e)) {\n // Propagate the message text up but add a message to the chain that explains how we got\n // here.\n // e.chain implies e.symbol\n var summaryMsg = e.chain ? 'references \\'' + e.symbol.name + '\\'' : errorSummary(e);\n var summary = '\"' + nestedContext.name + '\" ' + summaryMsg;\n var chain = { message: summary, position: e.position, next: e.chain };\n // TODO(chuckj): retrieve the position information indirectly from the collectors node\n // map if the metadata is from a .ts file.\n self.error({\n message: e.message,\n advise: e.advise,\n context: e.context,\n chain: chain,\n symbol: nestedContext\n }, context);\n }\n else {\n // It is probably an internal error.\n throw e;\n }\n }\n }\n function simplifyCall(functionSymbol, targetFunction, args, targetExpression) {\n if (targetFunction && targetFunction['__symbolic'] == 'function') {\n if (calling.get(functionSymbol)) {\n self.error({\n message: 'Recursion is not supported',\n summary: \"called '\" + functionSymbol.name + \"' recursively\",\n value: targetFunction\n }, functionSymbol);\n }\n try {\n var value_1 = targetFunction['value'];\n if (value_1 && (depth != 0 || value_1.__symbolic != 'error')) {\n var parameters = targetFunction['parameters'];\n var defaults = targetFunction.defaults;\n args = args.map(function (arg) { return simplifyNested(context, arg); })\n .map(function (arg) { return shouldIgnore(arg) ? undefined : arg; });\n if (defaults && defaults.length > args.length) {\n args.push.apply(args, __spread(defaults.slice(args.length).map(function (value) { return simplify(value); })));\n

```
}\n calling.set(functionSymbol, true);\n var functionScope =
BindingScope$1.build();\n for (var i = 0; i < parameters.length; i++) {\n
functionScope.define(parameters[i], args[i]);\n }\n var oldScope = scope;\n
var result_1;\n try {\n
scope = functionScope.done();\n result_1 =
simplifyNested(functionSymbol, value_1);\n }\n finally {\n
scope = oldScope;\n }\n return result_1;\n }\n
}\n finally {\n calling.delete(functionSymbol);\n }\n }\n
if (depth === 0) {\n // If depth is 0 we are evaluating the top level expression that is
describing element\n // decorator. In this case, it is a decorator we don't understand, such as a
custom\n // non-angular decorator, and we should just ignore it.\n return IGNORE;\n
}\n
var position = undefined;\n if (targetExpression && targetExpression.__symbolic == 'resolved') {\n
var line = targetExpression.line;\n var character = targetExpression.character;\n
var fileName = targetExpression.fileName;\n if (fileName != null && line != null && character
!= null) {\n position = { fileName: fileName, line: line, column: character };\n }\n
}\n self.error({\n message: FUNCTION_CALL_NOT_SUPPORTED,\n
context: functionSymbol,\n value: targetFunction,\n position: position\n
}, context);\n }\n function simplify(expression) {\n var e_3, _a, e_4, _b;\n
if (isPrimitive(expression)) {\n
return expression;\n }\n if (Array.isArray(expression)) {\n var result_2 =
[];\n try {\n for (var expression_1 = __values(expression), expression_1_1 =
expression_1.next(); !expression_1_1.done; expression_1_1 = expression_1.next()) {\n var item
= expression_1_1.value;\n // Check for a spread expression\n if (item &&
item.__symbolic === 'spread') {\n // We call with references as 0 because we require the
actual value and cannot\n // tolerate a reference here.\n var spreadArray
= simplifyEagerly(item.expression);\n if (Array.isArray(spreadArray)) {\n
try {\n for
(var spreadArray_1 = (e_4 = void 0, __values(spreadArray)), spreadArray_1_1 = spreadArray_1.next();
!spreadArray_1_1.done; spreadArray_1_1 = spreadArray_1.next()) {\n var spreadItem
= spreadArray_1_1.value;\n result_2.push(spreadItem);\n
}\n }\n catch (e_4_1) { e_4 = { error: e_4_1 }; }\n
finally {\n try {\n if (spreadArray_1_1 &&
!spreadArray_1_1.done && (_b = spreadArray_1.return)) _b.call(spreadArray_1);\n }\n
finally { if (e_4) throw e_4.error; }\n }\n
continue;\n
}\n }\n var value_2 = simplify(item);\n if
(shouldIgnore(value_2)) {\n continue;\n }\n
result_2.push(value_2);\n }\n }\n catch (e_3_1) { e_3 = { error: e_3_1
}; }\n finally {\n try {\n if (expression_1_1 &&
!expression_1_1.done && (_a = expression_1.return)) _a.call(expression_1);\n }\n
finally { if (e_3) throw e_3.error; }\n }\n return result_2;\n }\n
if (expression instanceof StaticSymbol) {\n // Stop simplification at builtin symbols or if we are in a
reference context
and\n // the symbol doesn't have members.\n if (expression === self.injectionToken ||
self.conversionMap.has(expression) ||\n (references > 0 && !expression.members.length)) {\n
return expression;\n }\n else {\n var staticSymbol =
expression;\n var declarationValue = resolveReferenceValue(staticSymbol);\n if
```

```
(declarationValue != null) {\n                    return simplifyNested(staticSymbol, declarationValue);\n
        }\n                    else {\n                    return staticSymbol;\n                }\n                }\n
            }\n                if (expression) {\n                    if (expression['__symbolic']) {\n                        var
staticSymbol =
 void 0;\n                    switch (expression['__symbolic']) {\n                        case 'binop':\n
    var left = simplify(expression['left']);\n                        if (shouldIgnore(left))\n
return left;\n                        var right = simplify(expression['right']);\n                        if
(shouldIgnore(right))\n                        return right;\n                        switch (expression['operator'])
{\n                        case '&&':\n                        return left && right;\n
case '||':\n                        return left || right;\n                        case '|':\n
return left | right;\n                        case '^':\n
                    return left ^ right;\n                        case '&':\n                        return left &
right;\n                        case '==':\n                        return left == right;\n
case '!=':\n                        return left != right;\n                        case '===':\n
        return left === right;\n                        case '!==':\n                        return left !== right;\n
                    case '<':\n                        return left < right;\n                        case '>':\n
                        return left > right;\n                        case '<=':\n                        return
left <= right;\n
                        case '>=':\n                        return left >= right;\n                        case
'<<':\n                        return left << right;\n                        case '>>':\n
 return left >> right;\n                        case '+':\n                        return left + right;\n
            case '-':\n                        return left - right;\n                        case '*':\n
             return left * right;\n                        case '/':\n                        return left / right;\n
                    case '%':\n                        return left % right;\n                    }\n
             return null;\n                    case 'if':\n                    var condition =
simplify(expression['condition']);\n                    return condition ? simplify(expression['thenExpression'])
:\n                    simplify(expression['elseExpression']);\n                    case 'pre':\n
      var operand = simplify(expression['operand']);\n                    if (shouldIgnore(operand))\n
            return operand;\n                    switch (expression['operator']) {\n                    case
'+':\n                    return operand;\n                    case '-':\n
return -operand;\n                    case '!':\n                    return !operand;\n
                    case '~':\n                    return ~operand;\n                }\n
            return null;\n                    case 'index':\n                    var indexTarget =
simplifyEagerly(expression['expression']);\n                    var index =
simplifyEagerly(expression['index']);\n                    if (indexTarget && isPrimitive(index))\n
            return indexTarget[index];\n                    return null;\n                    case 'select':\n
             var member = expression['member'];\n                    var selectContext = context;\n
          var selectTarget = simplify(expression['expression']);\n                    if (selectTarget instanceof
StaticSymbol) {\n
                    var members = selectTarget.members.concat(member);\n                    selectContext
=\n                    self.getStaticSymbol(selectTarget.filePath, selectTarget.name, members);\n
             var declarationValue = resolveReferenceValue(selectContext);\n                    if
(declarationValue != null) {\n                    return simplifyNested(selectContext, declarationValue);\n
                    }\n                    else {\n                    return selectContext;\n
                }\n                }\n                if (selectTarget && isPrimitive(member))\n
                return simplifyNested(selectContext, selectTarget[member]);\n                return null;\n
                    case 'reference':\n                    // Note: This only has to deal with variable references,
as symbol references have\n                    // been converted into 'resolved'\n                    // in the
```

```
StaticSymbolResolver.\n                var name = expression['name'];\n                var
localValue = scope.resolve(name);\n                if (localValue != BindingScope$1.missing) {\n
return localValue;\n                }\n                break;\n                case
'resolved':\n                try {\n                return simplify(expression.symbol);\n
}\n                catch (e) {\n                // If an error is reported
 evaluating the symbol record the position of the\n                // reference in the error so it can\n
// be reported in the error message generated from the exception.\n                if
(isMetadataError(e) && expression.fileName != null &&\n                expression.line != null &&
expression.character != null) {\n                e.position = {\n                fileName:
expression.fileName,\n                line: expression.line,\n                column:
expression.character\n                };\n                }\n                throw
e;\n                }\n                case 'class':\n                return
 context;\n                case 'function':\n                return context;\n                case
'new':\n                case 'call':\n                // Determine if the function is a built-in conversion\n
staticSymbol = simplifyInContext(context, expression['expression'], depth + 1, /* references */
0);\n                if (staticSymbol instanceof StaticSymbol) {\n                if (staticSymbol
=== self.injectionToken || staticSymbol === self.opaqueToken) {\n                // if somebody calls
new InjectionToken, don't create an InjectionToken,\n                // but rather return the symbol to
which the InjectionToken is assigned to.\n                // OpaqueToken is supported too as it is
required by the language service to\n                // support v4 and prior versions of Angular.\n                return context;\n
}\n                var argExpressions = expression['arguments'] || [];\n
var converter = self.conversionMap.get(staticSymbol);\n                if (converter) {\n
var args = argExpressions.map(function (arg) { return simplifyNested(context, arg); })\n
.map(function (arg) { return shouldIgnore(arg) ? undefined : arg; });\n
return converter(context, args);\n                }\n                else {\n
// Determine if the function is one we can simplify.\n
 var targetFunction = resolveReferenceValue(staticSymbol);\n                return
simplifyCall(staticSymbol, targetFunction, argExpressions, expression['expression']);\n                }\n
}\n                return IGNORE;\n                case 'error':\n
var message = expression.message;\n                if (expression['line'] != null) {\n
 self.error({\n                message: message,\n                context:
expression.context,\n                value: expression,\n                position: {\n
fileName: expression['fileName'],\n                line: expression['line'],\n
column: expression['character']\n                }\n                },
context);\n                }\n                else {\n                self.error({ message:
message, context: expression.context }, context);\n                }\n                return
IGNORE;\n                case 'ignore':\n                return expression;\n                }\n
return null;\n                }\n                return mapStringMap(expression, function (value, name) {\n
if (REFERENCE_SET.has(name)) {\n                if (name === USE_VALUE$1 &&
PROVIDE in expression) {\n                // If this is a provider expression, check for special tokens that
need the
 value\n                // during analysis.\n                var provide =
simplify(expression.provide);\n                if (provide === self.ROUTES || provide ==
self.ANALYZE_FOR_ENTRY_COMPONENTS) {\n                return simplify(value);\n
}\n                }\n                return simplifyLazily(value);\n                }\n
return simplify(value);\n                });\n                }\n                return IGNORE;\n                }\n
return simplify(value);\n                }\n                var result;\n                try {\n                result = simplifyInContext(context,
```

```
value, 0, lazy ? 1 : 0);\n            }\n            catch (e) {\n                if (this.errorRecorder) {\n
this.reportError(e, context);\n                }\n
    else {\n                    throw formatMetadataError(e, context);\n                }\n            }\n            if
(shouldIgnore(result)) {\n                return undefined;\n            }\n            return result;\n        };\n
StaticReflector.prototype.getTypeMetadata = function (type) {\n            var resolvedSymbol =
this.symbolResolver.resolveSymbol(type);\n            return resolvedSymbol && resolvedSymbol.metadata ?
resolvedSymbol.metadata :\n                { __symbolic: 'class' };\n        };\n        StaticReflector.prototype.reportError
= function (error, context, path) {\n            if (this.errorRecorder) {\n
this.errorRecorder(formatMetadataError(error, context), (context && context.filePath) || path);\n            }\n
else {\n                throw error;\n            }\n        };\n        StaticReflector.prototype.error = function (_a,
reportingContext) {\n            var message = _a.message, summary = _a.summary, advise =
 _a.advise, position = _a.position, context = _a.context, value = _a.value, symbol = _a.symbol, chain = _a.chain;\n
     this.reportError(metadataError(message, summary, advise, position, symbol, context, chain),
reportingContext);\n        };\n        return StaticReflector;\n    }());\n    var METADATA_ERROR =
'ngMetadataError';\n    function metadataError(message, summary, advise, position, symbol, context, chain) {\n
var error = syntaxError(message);\n        error[METADATA_ERROR] = true;\n        if (advise)\n            error.advise
= advise;\n        if (position)\n            error.position = position;\n        if (summary)\n            error.summary =
summary;\n        if (context)\n            error.context = context;\n        if (chain)\n            error.chain = chain;\n        if
(symbol)\n            error.symbol = symbol;\n        return error;\n    }\n    function isMetadataError(error) {\n
return !!error[METADATA_ERROR];\n    }\n    var REFERENCE_TO_NONEXPORTED_CLASS
 = 'Reference to non-exported class';\n    var VARIABLE_NOT_INITIALIZED = 'Variable not initialized';\n    var
DESTRUCTURE_NOT_SUPPORTED = 'Destructuring not supported';\n    var COULD_NOT_RESOLVE_TYPE
= 'Could not resolve type';\n    var FUNCTION_CALL_NOT_SUPPORTED = 'Function call not supported';\n    var
REFERENCE_TO_LOCAL_SYMBOL = 'Reference to a local symbol';\n    var LAMBDA_NOT_SUPPORTED =
'Lambda not supported';\n    function expandedMessage(message, context) {\n        switch (message) {\n            case
REFERENCE_TO_NONEXPORTED_CLASS:\n                if (context && context.className) {\n
return \"References to a non-exported class are not supported in decorators but \" + context.className + \" was
referenced.\";\n                }\n                break;\n            case VARIABLE_NOT_INITIALIZED:\n                return
'Only initialized variables and constants can be referenced in decorators because the value of this variable is needed
 by the template compiler';\n            case DESTRUCTURE_NOT_SUPPORTED:\n                return 'Referencing an
exported destructured variable or constant is not supported in decorators and this value is needed by the template
compiler';\n            case COULD_NOT_RESOLVE_TYPE:\n                if (context && context.typeName) {\n
       return \"Could not resolve type \" + context.typeName;\n                }\n                break;\n            case
FUNCTION_CALL_NOT_SUPPORTED:\n                if (context && context.name) {\n                    return
\"Function calls are not supported in decorators but '\" + context.name + \"' was called\";\n                }\n
return 'Function calls are not supported in decorators';\n            case REFERENCE_TO_LOCAL_SYMBOL:\n
    if (context && context.name) {\n                    return \"Reference to a local (non-exported) symbols are not
supported in decorators but '\" + context.name + \"' was referenced\";\n
                }\n                break;\n            case LAMBDA_NOT_SUPPORTED:\n                return \"Function
expressions are not supported in decorators\";\n        }\n        return message;\n    }\n    function
messageAdvise(message, context) {\n        switch (message) {\n            case
REFERENCE_TO_NONEXPORTED_CLASS:\n                if (context && context.className) {\n
return \"Consider exporting '\" + context.className + \"'\";\n                }\n                break;\n            case
DESTRUCTURE_NOT_SUPPORTED:\n                return 'Consider simplifying to avoid destructuring';\n
case REFERENCE_TO_LOCAL_SYMBOL:\n                if (context && context.name) {\n                    return
\"Consider exporting '\" + context.name + \"'\";\n                }\n                break;\n            case
LAMBDA_NOT_SUPPORTED:\n                return \"Consider changing the function expression into an exported
function\";\n        }\n
```

```
    return undefined;\n    }\n    function errorSummary(error) {\n        if (error.summary) {\n            return
error.summary;\n        }\n        switch (error.message) {\n            case
REFERENCE_TO_NONEXPORTED_CLASS:\n                if (error.context && error.context.className) {\n
        return \"references non-exported class \" + error.context.className;\n                }\n                break;\n
case VARIABLE_NOT_INITIALIZED:\n                return 'is not initialized';\n            case
DESTRUCTURE_NOT_SUPPORTED:\n                return 'is a destructured variable';\n            case
COULD_NOT_RESOLVE_TYPE:\n                return 'could not be resolved';\n            case
FUNCTION_CALL_NOT_SUPPORTED:\n                if (error.context && error.context.name) {\n
return \"calls '\" + error.context.name + \"'\";\n                }\n                return \"calls a function\";\n            case
REFERENCE_TO_LOCAL_SYMBOL:\n
        if (error.context && error.context.name) {\n                    return \"references local variable \" +
error.context.name;\n                }\n                return \"references a local variable\";\n        }\n        return 'contains the
error';\n    }\n    function mapStringMap(input, transform) {\n        if (!input)\n            return {};\n        var result =
{};\n        Object.keys(input).forEach(function (key) {\n            var value = transform(input[key], key);\n            if
(!shouldIgnore(value)) {\n                if (HIDDEN_KEY.test(key)) {\n                    Object.defineProperty(result, key,
{ enumerable: false, configurable: true, value: value });\n                }\n                else {\n                    result[key] =
value;\n                }\n            }\n        });\n        return result;\n    }\n    function isPrimitive(o) {\n        return o ===
null || (typeof o !== 'function' && typeof o !== 'object');\n    }\n    var BindingScope$1 = /** @class
 */ (function () {\n        function BindingScope() {\n        }\n        BindingScope.build = function () {\n            var
current = new Map();\n            return {\n                define: function (name, value) {\n                    current.set(name,
value);\n                    return this;\n                },\n                done: function () {\n                    return current.size > 0 ?
new PopulatedScope(current) : BindingScope.empty;\n                }\n            };\n        };\n        return BindingScope;\n
    }());\n    BindingScope$1.missing = {};\n    BindingScope$1.empty = { resolve: function (name) { return
BindingScope$1.missing; } };\n    var PopulatedScope = /** @class */ (function (_super) {\n
__extends(PopulatedScope, _super);\n        function PopulatedScope(bindings) {\n            var _this =
_super.call(this) || this;\n            _this.bindings = bindings;\n            return _this;\n        }\n
PopulatedScope.prototype.resolve = function
 (name) {\n            return this.bindings.has(name) ? this.bindings.get(name) : BindingScope$1.missing;\n        };\n
  return PopulatedScope;\n    }(BindingScope$1));\n    function formatMetadataMessageChain(chain, advise) {\n
var expanded = expandedMessage(chain.message, chain.context);\n        var nesting = chain.symbol ? \" in '\" +
chain.symbol.name + \"'\" : \";\n        var message = \"'\" + expanded + nesting;\n        var position = chain.position;\n
    var next = chain.next ?\n            formatMetadataMessageChain(chain.next, advise) :\n            advise ? { message:
advise } : undefined;\n        return { message: message, position: position, next: next ? [next] : undefined };\n    }\n
function formatMetadataError(e, context) {\n        if (isMetadataError(e)) {\n            // Produce a formatted version
of the and leaving enough information in the original error\n            // to recover the formatting information to
eventually produce a diagnostic
 error message.\n            var position = e.position;\n            var chain = {\n                message: \"Error during
template compile of '\" + context.name + \"'\",\n                position: position,\n                next: { message: e.message,
next: e.chain, context: e.context, symbol: e.symbol }\n            };\n            var advise = e.advise ||
messageAdvise(e.message, e.context);\n            return formattedError(formatMetadataMessageChain(chain,
advise));\n        }\n        return e;\n    }\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights
Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the
LICENSE file at https://angular.io/license\n     */\n    var AotSummaryResolver = /** @class */ (function () {\n
function AotSummaryResolver(host, staticSymbolCache) {\n            this.host = host;\n
this.staticSymbolCache = staticSymbolCache;\n            // Note: this will
 only contain StaticSymbols without members!\n            this.summaryCache = new Map();\n
this.loadedFilePaths = new Map();\n            // Note: this will only contain StaticSymbols without members!\n
this.importAs = new Map();\n            this.knownFileNameToModuleNames = new Map();\n        }\n
```

```
AotSummaryResolver.prototype.isLibraryFile = function (filePath) {\n            // Note: We need to strip the .ngfactory. file path,\n            // so this method also works for generated files\n            // (for which host.isSourceFile will always return false).\n            return !this.host.isSourceFile(stripGeneratedFileSuffix(filePath));\n        };\n AotSummaryResolver.prototype.toSummaryFileName = function (filePath, referringSrcFileName) {\n            return this.host.toSummaryFileName(filePath, referringSrcFileName);\n        };\n AotSummaryResolver.prototype.fromSummaryFileName = function (fileName, referringLibFileName) {\n    return this.host.fromSummaryFileName(fileName, referringLibFileName);\n        };\n AotSummaryResolver.prototype.resolveSummary = function (staticSymbol) {\n            var rootSymbol = staticSymbol.members.length ?\n                this.staticSymbolCache.get(staticSymbol.filePath, staticSymbol.name) :\n                staticSymbol;\n            var summary = this.summaryCache.get(rootSymbol);\n            if (!summary) {\n                this._loadSummaryFile(staticSymbol.filePath);\n                summary = this.summaryCache.get(staticSymbol);\n            }\n            return (rootSymbol === staticSymbol && summary) || null;\n        };\n        AotSummaryResolver.prototype.getSymbolsOf = function (filePath) {\n            if (this._loadSummaryFile(filePath)) {\n                return Array.from(this.summaryCache.keys()).filter(function (symbol) { return symbol.filePath === filePath; });\n            }\n            return null;\n        };\n AotSummaryResolver.prototype.getImportAs = function (staticSymbol) {\n            staticSymbol.assertNoMembers();\n            return this.importAs.get(staticSymbol);\n        };\n        /**\n         * Converts a file path to a module name that can be used as an `import`.\n         */\n        AotSummaryResolver.prototype.getKnownModuleName = function (importedFilePath) {\n            return this.knownFileNameToModuleNames.get(importedFilePath) || null;\n        };\n    AotSummaryResolver.prototype.addSummary = function (summary) {\n this.summaryCache.set(summary.symbol, summary);\n        };\n AotSummaryResolver.prototype._loadSummaryFile = function (filePath) {\n            var _this = this;\n            var hasSummary = this.loadedFilePaths.get(filePath);\n            if (hasSummary != null) {\n                return hasSummary;\n            }\n            var json = null;\n            if (this.isLibraryFile(filePath)) {\n                var summaryFilePath = summaryFileName(filePath);\n                try {\n                    json = this.host.loadSummary(summaryFilePath);\n                }\n                catch (e) {\n                    console.error(\"Error loading summary file \" + summaryFilePath);\n                    throw e;\n                }\n            }\n            hasSummary = json != null;\n            this.loadedFilePaths.set(filePath, hasSummary);\n            if (json) {\n                var _a = deserializeSummaries(this.staticSymbolCache, this, filePath, json), moduleName = _a.moduleName, summaries = _a.summaries, importAs = _a.importAs;\n                summaries.forEach(function (summary) { return _this.summaryCache.set(summary.symbol, summary); });\n                if (moduleName) {\n                    this.knownFileNameToModuleNames.set(filePath, moduleName);\n                }\n importAs.forEach(function (importAs) {\n                    _this.importAs.set(importAs.symbol, importAs.importAs);\n                });\n            }\n            return hasSummary;\n        };\n        return AotSummaryResolver;\n    }());\n\n    /**\n     * @license\n     * Copyright Google LLC All Rights Reserved.\n     *\n     * Use of this source code is governed by an MIT-style license that can be\n     * found in the LICENSE file at https://angular.io/license\n     */\n    function createAotUrlResolver(host) {\n        return {\n            resolve: function (basePath, url) {\n                var filePath = host.resourceNameToFileName(url, basePath);\n                if (!filePath) {\n                    throw syntaxError(\"Couldn't resolve resource \" + url + \" from \" + basePath);\n                }\n                return filePath;\n            }\n        };\n    }\n    /**\n     * Creates a new AotCompiler based on options and a host.\n     */\n    function createAotCompiler(compilerHost, options, errorCollector) {\n        var translations = options.translations || '';\n var urlResolver = createAotUrlResolver(compilerHost);\n        var symbolCache = new StaticSymbolCache();\n        var summaryResolver = new AotSummaryResolver(compilerHost, symbolCache);\n        var symbolResolver = new StaticSymbolResolver(compilerHost, symbolCache, summaryResolver);\n        var staticReflector = new StaticReflector(summaryResolver, symbolResolver, [], [], errorCollector);\n        var htmlParser;\n        if
```

```
(!!options.enableIvy) {\n            // Ivy handles i18n at the compiler level so we must use a regular parser\n
htmlParser = new HtmlParser();\n        }\n        else {\n            htmlParser = new I18NHtmlParser(new HtmlParser(),
translations, options.i18nFormat, options.missingTranslation, console);\n        }\n        var config = new
CompilerConfig({\n            defaultEncapsulation: ViewEncapsulation.Emulated,\n            useJit: false,\n
missingTranslation: options.missingTranslation,\n            preserveWhitespaces: options.preserveWhitespaces,\n
    strictInjectionParameters: options.strictInjectionParameters,\n        });\n        var normalizer = new
DirectiveNormalizer({ get: function (url) { return compilerHost.loadResource(url); } }, urlResolver, htmlParser,
config);\n        var expressionParser = new Parser$1(new Lexer());\n        var elementSchemaRegistry = new
DomElementSchemaRegistry();\n        var tmplParser = new TemplateParser(config, staticReflector,
expressionParser, elementSchemaRegistry, htmlParser, console, []);\n        var resolver = new
CompileMetadataResolver(config, htmlParser, new NgModuleResolver(staticReflector), new
DirectiveResolver(staticReflector), new PipeResolver(staticReflector), summaryResolver, elementSchemaRegistry,
normalizer, console, symbolCache, staticReflector, errorCollector);\n        // TODO(vicb): do not pass
options.i18nFormat here\n        var viewCompiler = new ViewCompiler(staticReflector);\n        var
typeCheckCompiler = new TypeCheckCompiler(options, staticReflector);\n
    var compiler = new AotCompiler(config, options, compilerHost, staticReflector, resolver, tmplParser, new
StyleCompiler(urlResolver), viewCompiler, typeCheckCompiler, new NgModuleCompiler(staticReflector), new
InjectableCompiler(staticReflector, !!options.enableIvy), new TypeScriptEmitter(), summaryResolver,
symbolResolver);\n        return { compiler: compiler, reflector: staticReflector };\n    }\n\n    var SummaryResolver =
/** @class */ (function () {\n        function SummaryResolver() {\n        }\n        return SummaryResolver;\n
}());\n    var JitSummaryResolver = /** @class */ (function () {\n        function JitSummaryResolver() {\n
this._summaries = new Map();\n        }\n        JitSummaryResolver.prototype.isLibraryFile = function () {\n
return false;\n        };\n        JitSummaryResolver.prototype.toSummaryFileName = function (fileName) {\n
return fileName;\n        };\n        JitSummaryResolver.prototype.fromSummaryFileName = function
 (fileName) {\n            return fileName;\n        };\n        JitSummaryResolver.prototype.resolveSummary = function
(reference) {\n            return this._summaries.get(reference) || null;\n        };\n
JitSummaryResolver.prototype.getSymbolsOf = function () {\n            return [];\n        };\n
JitSummaryResolver.prototype.getImportAs = function (reference) {\n            return reference;\n        };\n
JitSummaryResolver.prototype.getKnownModuleName = function (fileName) {\n            return null;\n        };\n
JitSummaryResolver.prototype.addSummary = function (summary) {\n
this._summaries.set(summary.symbol, summary);\n        };\n        return JitSummaryResolver;\n    }());\n\n
function interpretStatements(statements, reflector) {\n        var ctx = new _ExecutionContext(null, null, null, new
Map());\n        var visitor = new StatementInterpreter(reflector);\n        visitor.visitAllStatements(statements, ctx);\n
    var
 result = {};\n        ctx.exports.forEach(function (exportName) {\n            result[exportName] =
ctx.vars.get(exportName);\n        });\n        return result;\n    }\n    function _executeFunctionStatements(varNames,
varValues, statements, ctx, visitor) {\n        var childCtx = ctx.createChildWihtLocalVars();\n        for (var i = 0; i <
varNames.length; i++) {\n            childCtx.vars.set(varNames[i], varValues[i]);\n        }\n        var result =
visitor.visitAllStatements(statements, childCtx);\n        return result ? result.value : null;\n    }\n    var
_ExecutionContext = /** @class */ (function () {\n        function _ExecutionContext(parent, instance, className,
vars) {\n            this.parent = parent;\n            this.instance = instance;\n            this.className = className;\n
this.vars = vars;\n            this.exports = [];\n        }\n        _ExecutionContext.prototype.createChildWihtLocalVars =
function () {\n            return new _ExecutionContext(this,
 this.instance, this.className, new Map());\n        };\n        return _ExecutionContext;\n    }());\n    var ReturnValue
= /** @class */ (function () {\n        function ReturnValue(value) {\n            this.value = value;\n        }\n        return
ReturnValue;\n    }());\n    function createDynamicClass(_classStmt, _ctx, _visitor) {\n        var propertyDescriptors
= {};\n        _classStmt.getters.forEach(function (getter) {\n            // Note: use `function` instead of arrow function
to capture `this`\n            propertyDescriptors[getter.name] = {\n                configurable: false,\n                get:
```

```
function () {\n                var instanceCtx = new _ExecutionContext(_ctx, this, _classStmt.name, _ctx.vars);\n
        return _executeFunctionStatements([], [], getter.body, instanceCtx, _visitor);\n            }\n        };\n
});\n        _classStmt.methods.forEach(function (method) {\n            var paramNames =
method.params.map(function
 (param) { return param.name; });\n            // Note: use `function` instead of arrow function to capture `this`\n
propertyDescriptors[method.name] = {\n                writable: false,\n                configurable: false,\n                value:
function () {\n                var args = [];\n                    for (var _i = 0; _i < arguments.length; _i++) {\n
args[_i] = arguments[_i];\n                }\n                    var instanceCtx = new _ExecutionContext(_ctx, this,
_classStmt.name, _ctx.vars);\n                    return _executeFunctionStatements(paramNames, args, method.body,
instanceCtx, _visitor);\n                }\n            };\n        });\n        var ctorParamNames =
_classStmt.constructorMethod.params.map(function (param) { return param.name; });\n        // Note: use `function`
instead of arrow function to capture `this`\n        var ctor = function () {\n            var _this = this;\n            var args
 = [];\n            for (var _i = 0; _i < arguments.length; _i++) {\n                args[_i] = arguments[_i];\n            }\n
var instanceCtx = new _ExecutionContext(_ctx, this, _classStmt.name, _ctx.vars);\n
_classStmt.fields.forEach(function (field) {\n                _this[field.name] = undefined;\n            });\n
_executeFunctionStatements(ctorParamNames, args, _classStmt.constructorMethod.body, instanceCtx, _visitor);\n
    };\n        var superClass = _classStmt.parent ? _classStmt.parent.visitExpression(_visitor, _ctx) : Object;\n
ctor.prototype = Object.create(superClass.prototype, propertyDescriptors);\n        return ctor;\n    }\n    var
StatementInterpreter = /** @class */ (function () {\n        function StatementInterpreter(reflector) {\n
this.reflector = reflector;\n        }\n        StatementInterpreter.prototype.debugAst = function (ast) {\n            return
debugOutputAstAsTypeScript(ast);\n        };\n
    StatementInterpreter.prototype.visitDeclareVarStmt = function (stmt, ctx) {\n            var initialValue = stmt.value
? stmt.value.visitExpression(this, ctx) : undefined;\n            ctx.vars.set(stmt.name, initialValue);\n            if
(stmt.hasModifier(exports.StmtModifier.Exported)) {\n                ctx.exports.push(stmt.name);\n            }\n
return null;\n        };\n        StatementInterpreter.prototype.visitWriteVarExpr = function (expr, ctx) {\n            var
value = expr.value.visitExpression(this, ctx);\n            var currCtx = ctx;\n            while (currCtx != null) {\n
 if (currCtx.vars.has(expr.name)) {\n                    currCtx.vars.set(expr.name, value);\n                    return value;\n
        }\n                currCtx = currCtx.parent;\n            }\n            throw new Error(\"Not declared variable \" +
expr.name);\n        };\n        StatementInterpreter.prototype.visitWrappedNodeExpr = function (ast, ctx) {\n
            throw new Error('Cannot interpret a WrappedNodeExpr.');\n        };\n
StatementInterpreter.prototype.visitTypeofExpr = function (ast, ctx) {\n            throw new Error('Cannot interpret a
TypeofExpr');\n        };\n        StatementInterpreter.prototype.visitReadVarExpr = function (ast, ctx) {\n            var
varName = ast.name;\n            if (ast.builtin != null) {\n                switch (ast.builtin) {\n                    case
exports.BuiltinVar.Super:\n                        return Object.getPrototypeOf(ctx.instance);\n                    case
exports.BuiltinVar.This:\n                        return ctx.instance;\n                    case exports.BuiltinVar.CatchError:\n
                varName = CATCH_ERROR_VAR$2;\n                        break;\n                    case
exports.BuiltinVar.CatchStack:\n                        varName = CATCH_STACK_VAR$2;\n                        break;\n
            default:\n                        throw new
 Error(\"Unknown builtin variable \" + ast.builtin);\n                }\n            }\n            var currCtx = ctx;\n            while
(currCtx != null) {\n                if (currCtx.vars.has(varName)) {\n                    return currCtx.vars.get(varName);\n
        }\n                currCtx = currCtx.parent;\n            }\n            throw new Error(\"Not declared variable \" +
varName);\n        };\n        StatementInterpreter.prototype.visitWriteKeyExpr = function (expr, ctx) {\n            var
receiver = expr.receiver.visitExpression(this, ctx);\n            var index = expr.index.visitExpression(this, ctx);\n
var value = expr.value.visitExpression(this, ctx);\n            receiver[index] = value;\n            return value;\n        };\n
    StatementInterpreter.prototype.visitWritePropExpr = function (expr, ctx) {\n            var receiver =
expr.receiver.visitExpression(this, ctx);\n            var value = expr.value.visitExpression(this, ctx);\n
            receiver[expr.name] = value;\n            return value;\n        };\n
StatementInterpreter.prototype.visitInvokeMethodExpr = function (expr, ctx) {\n            var receiver =
```

```
expr.receiver.visitExpression(this, ctx);\n var args = this.visitAllExpressions(expr.args, ctx);\n var result;\n if (expr.builtin != null) {\n switch (expr.builtin) {\n case exports.BuiltinMethod.ConcatArray:\n result = receiver.concat.apply(receiver, __spread(args));\n break;\n case exports.BuiltinMethod.SubscribeObservable:\n result = receiver.subscribe({ next: args[0] });\n break;\n case exports.BuiltinMethod.Bind:\n result = receiver.bind.apply(receiver, __spread(args));\n break;\n default:\n throw new Error(\"Unknown builtin method \" + expr.builtin);\n }\n }\n else {\n result = receiver[expr.name].apply(receiver, args);\n }\n return result;\n };\n StatementInterpreter.prototype.visitInvokeFunctionExpr = function (stmt, ctx) {\n var args = this.visitAllExpressions(stmt.args, ctx);\n var fnExpr = stmt.fn;\n if (fnExpr instanceof ReadVarExpr && fnExpr.builtin === exports.BuiltinVar.Super) {\n ctx.instance.constructor.prototype.constructor.apply(ctx.instance, args);\n return null;\n }\n else {\n var fn = stmt.fn.visitExpression(this, ctx);\n return fn.apply(null, args);\n }\n };\n StatementInterpreter.prototype.visitReturnStmt = function (stmt, ctx) {\n return new ReturnValue(stmt.value.visitExpression(this, ctx));\n };\n StatementInterpreter.prototype.visitDeclareClassStmt = function (stmt, ctx) {\n var clazz = createDynamicClass(stmt, ctx, this);\n ctx.vars.set(stmt.name, clazz);\n if (stmt.hasModifier(exports.StmtModifier.Exported)) {\n ctx.exports.push(stmt.name);\n }\n return null;\n };\n StatementInterpreter.prototype.visitExpressionStmt = function (stmt, ctx) {\n return stmt.expr.visitExpression(this, ctx);\n };\n StatementInterpreter.prototype.visitIfStmt = function (stmt, ctx) {\n var condition = stmt.condition.visitExpression(this, ctx);\n if (condition) {\n return this.visitAllStatements(stmt.trueCase, ctx);\n }\n else if (stmt.falseCase != null) {\n return this.visitAllStatements(stmt.falseCase, ctx);\n }\n return null;\n };\n StatementInterpreter.prototype.visitTryCatchStmt = function (stmt, ctx) {\n try {\n return this.visitAllStatements(stmt.bodyStmts, ctx);\n }\n catch (e) {\n var childCtx = ctx.createChildWihtLocalVars();\n childCtx.vars.set(CATCH_ERROR_VAR$2, e);\n childCtx.vars.set(CATCH_STACK_VAR$2, e.stack);\n return this.visitAllStatements(stmt.catchStmts, childCtx);\n }\n };\n StatementInterpreter.prototype.visitThrowStmt = function (stmt, ctx) {\n throw stmt.error.visitExpression(this, ctx);\n };\n StatementInterpreter.prototype.visitInstantiateExpr = function (ast, ctx) {\n var args = this.visitAllExpressions(ast.args, ctx);\n var clazz = ast.classExpr.visitExpression(this, ctx);\n return new (clazz.bind.apply(clazz, __spread([void 0], args)))();\n };\n StatementInterpreter.prototype.visitLiteralExpr = function (ast, ctx) {\n return ast.value;\n };\n StatementInterpreter.prototype.visitLocalizedString = function (ast, context) {\n return null;\n };\n StatementInterpreter.prototype.visitExternalExpr = function (ast, ctx) {\n return this.reflector.resolveExternalReference(ast.value);\n };\n StatementInterpreter.prototype.visitConditionalExpr = function (ast, ctx) {\n if (ast.condition.visitExpression(this, ctx)) {\n return ast.trueCase.visitExpression(this, ctx);\n }\n else if (ast.falseCase != null) {\n return ast.falseCase.visitExpression(this, ctx);\n }\n return null;\n };\n StatementInterpreter.prototype.visitNotExpr = function (ast, ctx) {\n return !ast.condition.visitExpression(this, ctx);\n };\n StatementInterpreter.prototype.visitAssertNotNullExpr = function (ast, ctx) {\n return ast.condition.visitExpression(this, ctx);\n };\n StatementInterpreter.prototype.visitCastExpr = function (ast, ctx) {\n return ast.value.visitExpression(this, ctx);\n };\n StatementInterpreter.prototype.visitFunctionExpr = function (ast, ctx) {\n var paramNames = ast.params.map(function (param) { return param.name; });\n return _declareFn(paramNames, ast.statements, ctx, this);\n };\n StatementInterpreter.prototype.visitDeclareFunctionStmt = function (stmt, ctx) {\n var paramNames = stmt.params.map(function (param) { return param.name; });\n ctx.vars.set(stmt.name,
```

_declareFn(paramNames, stmt.statements, ctx, this));\n if (stmt.hasModifier(exports.StmtModifier.Exported)) {\n ctx.exports.push(stmt.name);\n }\n return null;\n };\n StatementInterpreter.prototype.visitUnaryOperatorExpr = function (ast, ctx) {\n var _this = this;\n var rhs = function () { return ast.expr.visitExpression(_this, ctx); };\n switch (ast.operator) {\n case exports.UnaryOperator.Plus:\n return +rhs();\n case exports.UnaryOperator.Minus:\n return -rhs();\n default:\n throw new Error(\"Unknown operator \" + ast.operator);\n }\n };\n StatementInterpreter.prototype.visitBinaryOperatorExpr = function (ast, ctx) {\n var _this = this;\n var lhs = function () { return ast.lhs.visitExpression(_this, ctx); };\n var rhs = function () { return ast.rhs.visitExpression(_this, ctx); };\n switch (ast.operator) {\n case exports.BinaryOperator.Equals:\n return lhs() == rhs();\n case exports.BinaryOperator.Identical:\n return lhs() === rhs();\n case exports.BinaryOperator.NotEquals:\n return lhs() != rhs();\n case exports.BinaryOperator.NotIdentical:\n return lhs() !== rhs();\n case exports.BinaryOperator.And:\n return lhs() && rhs();\n case exports.BinaryOperator.Or:\n return lhs() || rhs();\n case exports.BinaryOperator.Plus:\n return lhs() + rhs();\n case exports.BinaryOperator.Minus:\n return lhs() - rhs();\n case exports.BinaryOperator.Divide:\n return lhs() / rhs();\n case exports.BinaryOperator.Multiply:\n return lhs() * rhs();\n case exports.BinaryOperator.Modulo:\n return lhs() % rhs();\n case exports.BinaryOperator.Lower:\n return lhs() < rhs();\n case exports.BinaryOperator.LowerEquals:\n return lhs() <= rhs();\n case exports.BinaryOperator.Bigger:\n return lhs() > rhs();\n case exports.BinaryOperator.BiggerEquals:\n return lhs() >= rhs();\n default:\n throw new Error(\"Unknown operator \" + ast.operator);\n }\n };\n StatementInterpreter.prototype.visitReadPropExpr = function (ast, ctx) {\n var result;\n var receiver = ast.receiver.visitExpression(this, ctx);\n result = receiver[ast.name];\n return result;\n };\n StatementInterpreter.prototype.visitReadKeyExpr = function (ast, ctx) {\n var receiver = ast.receiver.visitExpression(this, ctx);\n var prop = ast.index.visitExpression(this, ctx);\n return receiver[prop];\n };\n StatementInterpreter.prototype.visitLiteralArrayExpr = function (ast, ctx) {\n return this.visitAllExpressions(ast.entries, ctx);\n };\n StatementInterpreter.prototype.visitLiteralMapExpr = function (ast, ctx) {\n var _this = this;\n var result = {};\n ast.entries.forEach(function (entry) { return result[entry.key] = entry.value.visitExpression(_this, ctx); });\n return result;\n };\n StatementInterpreter.prototype.visitCommaExpr = function (ast, context) {\n var values = this.visitAllExpressions(ast.parts, context);\n return values[values.length - 1];\n };\n StatementInterpreter.prototype.visitAllExpressions = function (expressions, ctx) {\n var _this = this;\n return expressions.map(function (expr) { return expr.visitExpression(_this, ctx); });\n };\n StatementInterpreter.prototype.visitAllStatements = function (statements, ctx) {\n for (var i = 0; i < statements.length; i++) {\n var stmt = statements[i];\n var val = stmt.visitStatement(this, ctx);\n if (val instanceof ReturnValue) {\n return val;\n }\n }\n return null;\n };\n return StatementInterpreter;\n }());\n function _declareFn(varNames, statements, ctx, visitor) {\n return function () {\n var args = [];\n for (var _i = 0; _i < arguments.length; _i++) {\n args[_i] = arguments[_i];\n }\n return _executeFunctionStatements(varNames, args, statements, ctx, visitor);\n };\n }\n var CATCH_ERROR_VAR$2 = 'error';\n var CATCH_STACK_VAR$2 = 'stack';\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * An internal module of the Angular compiler that begins with component types,\n * extracts templates, and eventually

produces a compiled
 version of the component\n     * ready for linking into an application.\n     *\n     * @security  When compiling templates at runtime, you must ensure that the entire template comes\n     * from a trusted source. Attacker-controlled data introduced by a template could expose your\n     * application to XSS risks.  For more detail, see the [Security Guide](https://g.co/ng/security).\n     */\n    var JitCompiler = /** @class */ (function () {\n        function JitCompiler(_metadataResolver, _templateParser, _styleCompiler, _viewCompiler, _ngModuleCompiler, _summaryResolver, _reflector, _jitEvaluator, _compilerConfig, _console, getExtraNgModuleProviders) {\n            this._metadataResolver = _metadataResolver;\n            this._templateParser = _templateParser;\n            this._styleCompiler = _styleCompiler;\n            this._viewCompiler = _viewCompiler;\n            this._ngModuleCompiler = _ngModuleCompiler;\n            this._summaryResolver = _summaryResolver;\n            this._reflector = _reflector;\n            this._jitEvaluator = _jitEvaluator;\n            this._compilerConfig = _compilerConfig;\n            this._console = _console;\n            this.getExtraNgModuleProviders = getExtraNgModuleProviders;\n            this._compiledTemplateCache = new Map();\n            this._compiledHostTemplateCache = new Map();\n            this._compiledDirectiveWrapperCache = new Map();\n            this._compiledNgModuleCache = new Map();\n            this._sharedStylesheetCount = 0;\n            this._addedAotSummaries = new Set();\n        }\n        JitCompiler.prototype.compileModuleSync = function (moduleType) {\n            return SyncAsync.assertSync(this._compileModuleAndComponents(moduleType, true));\n        };\n        JitCompiler.prototype.compileModuleAsync = function (moduleType) {\n            return Promise.resolve(this._compileModuleAndComponents(moduleType, false));\n        };\n        JitCompiler.prototype.compileModuleAndAllComponentsSync
 = function (moduleType) {\n            return SyncAsync.assertSync(this._compileModuleAndAllComponents(moduleType, true));\n        };\n        JitCompiler.prototype.compileModuleAndAllComponentsAsync = function (moduleType) {\n            return Promise.resolve(this._compileModuleAndAllComponents(moduleType, false));\n        };\n        JitCompiler.prototype.getComponentFactory = function (component) {\n            var summary = this._metadataResolver.getDirectiveSummary(component);\n            return summary.componentFactory;\n        };\n        JitCompiler.prototype.loadAotSummaries = function (summaries) {\n            this.clearCache();\n            this._addAotSummaries(summaries);\n        };\n        JitCompiler.prototype._addAotSummaries = function (fn) {\n            if (this._addedAotSummaries.has(fn)) {\n                return;\n            }\n            this._addedAotSummaries.add(fn);\n            var summaries = fn();\n            for (var i = 0; i < summaries.length; i++) {\n                var entry = summaries[i];\n                if (typeof entry === 'function') {\n                    this._addAotSummaries(entry);\n                }\n                else {\n                    var summary = entry;\n                    this._summaryResolver.addSummary({ symbol: summary.type.reference, metadata: null, type: summary });\n                }\n            }\n        };\n        JitCompiler.prototype.hasAotSummary = function (ref) {\n            return !!this._summaryResolver.resolveSummary(ref);\n        };\n        JitCompiler.prototype._filterJitIdentifiers = function (ids) {\n            var _this = this;\n            return ids.map(function (mod) { return mod.reference; }).filter(function (ref) { return !_this.hasAotSummary(ref); });\n        };\n        JitCompiler.prototype._compileModuleAndComponents = function (moduleType, isSync) {\n            var _this = this;\n            return SyncAsync.then(this._loadModules(moduleType, isSync),
 function () {\n                _this._compileComponents(moduleType, null);\n                return _this._compileModule(moduleType);\n            });\n        };\n        JitCompiler.prototype._compileModuleAndAllComponents = function (moduleType, isSync) {\n            var _this = this;\n            return SyncAsync.then(this._loadModules(moduleType, isSync), function () {\n                var componentFactories = [];\n                _this._compileComponents(moduleType, componentFactories);\n                return {\n                    ngModuleFactory: _this._compileModule(moduleType),\n                    componentFactories: componentFactories\n                };\n            });\n        };\n        JitCompiler.prototype._loadModules = function (mainModule, isSync) {\n            var _this = this;\n            var loading = [];\n            var mainNgModule = this._metadataResolver.getNgModuleMetadata(mainModule);\n            // Note: for runtime compilation, we want to

transitively
compile all modules,\n // so we also need to load the declared directives / pipes for all nested modules.\n this._filterJitIdentifiers(mainNgModule.transitiveModule.modules).forEach(function (nestedNgModule) {\n // getNgModuleMetadata only returns null if the value passed in is not an NgModule\n var moduleMeta = _this._metadataResolver.getNgModuleMetadata(nestedNgModule);\n _this._filterJitIdentifiers(moduleMeta.declaredDirectives).forEach(function (ref) {\n var promise = _this._metadataResolver.loadDirectiveMetadata(moduleMeta.type.reference, ref, isSync);\n if (promise) {\n loading.push(promise);\n }\n });\n _this._filterJitIdentifiers(moduleMeta.declaredPipes)\n .forEach(function (ref) { return _this._metadataResolver.getOrLoadPipeMetadata(ref); });\n });\n return SyncAsync.all(loading);\n };\n JitCompiler.prototype._compileModule = function (moduleType) {\n var ngModuleFactory = this._compiledNgModuleCache.get(moduleType);\n if (!ngModuleFactory) {\n var moduleMeta = this._metadataResolver.getNgModuleMetadata(moduleType);\n // Always provide a bound Compiler\n var extraProviders = this.getExtraNgModuleProviders(moduleMeta.type.reference);\n var outputCtx = createOutputContext();\n var compileResult = this._ngModuleCompiler.compile(outputCtx, moduleMeta, extraProviders);\n ngModuleFactory = this._interpretOrJit(ngModuleJitUrl(moduleMeta), outputCtx.statements)[compileResult.ngModuleFactoryVar];\n this._compiledNgModuleCache.set(moduleMeta.type.reference, ngModuleFactory);\n }\n return ngModuleFactory;\n };\n /**\n * @internal\n */\n JitCompiler.prototype._compileComponents = function (mainModule, allComponentFactories) {\n var _this = this;\n var ngModule = this._metadataResolver.getNgModuleMetadata(mainModule);\n var moduleByJitDirective = new Map();\n var templates = new Set();\n var transJitModules = this._filterJitIdentifiers(ngModule.transitiveModule.modules);\n transJitModules.forEach(function (localMod) {\n var localModuleMeta = _this._metadataResolver.getNgModuleMetadata(localMod);\n _this._filterJitIdentifiers(localModuleMeta.declaredDirectives).forEach(function (dirRef) {\n moduleByJitDirective.set(dirRef, localModuleMeta);\n var dirMeta = _this._metadataResolver.getDirectiveMetadata(dirRef);\n if (dirMeta.isComponent) {\n templates.add(_this._createCompiledTemplate(dirMeta, localModuleMeta));\n if (allComponentFactories) {\n var template = _this._createCompiledHostTemplate(dirMeta.type.reference, localModuleMeta);\n templates.add(template);\n allComponentFactories.push(dirMeta.componentFactory);\n }\n }\n });\n });\n transJitModules.forEach(function (localMod) {\n var localModuleMeta = _this._metadataResolver.getNgModuleMetadata(localMod);\n _this._filterJitIdentifiers(localModuleMeta.declaredDirectives).forEach(function (dirRef) {\n var dirMeta = _this._metadataResolver.getDirectiveMetadata(dirRef);\n if (dirMeta.isComponent) {\n dirMeta.entryComponents.forEach(function (entryComponentType) {\n var moduleMeta = moduleByJitDirective.get(entryComponentType.componentType);\n templates.add(_this._createCompiledHostTemplate(entryComponentType.componentType, moduleMeta));\n });\n }\n });\n localModuleMeta.entryComponents.forEach(function (entryComponentType) {\n if (!_this.hasAotSummary(entryComponentType.componentType)) {\n var moduleMeta = moduleByJitDirective.get(entryComponentType.componentType);\n templates.add(_this._createCompiledHostTemplate(entryComponentType.componentType, moduleMeta));\n }\n });\n });\n templates.forEach(function (template) { return _this._compileTemplate(template); });\n };\n JitCompiler.prototype.clearCacheFor = function (type) {\n this._compiledNgModuleCache.delete(type);\n this._metadataResolver.clearCacheFor(type);\n

this._compiledHostTemplateCache.delete(type);\n var compiledTemplate = this._compiledTemplateCache.get(type);\n if (compiledTemplate) {\n this._compiledTemplateCache.delete(type);\n }\n };\n JitCompiler.prototype.clearCache = function () {\n // Note: don't clear the _addedAotSummaries, as they don't change!\n this._metadataResolver.clearCache();\n this._compiledTemplateCache.clear();\n this._compiledHostTemplateCache.clear();\n this._compiledNgModuleCache.clear();\n };\n JitCompiler.prototype._createCompiledHostTemplate = function (compType, ngModule) {\n if (!ngModule) {\n throw new Error(\"Component \" + stringify(compType) + \" is not part of any NgModule or the module has not been imported into your module.\");\n }\n var compiledTemplate = this._compiledHostTemplateCache.get(compType);\n if (!compiledTemplate) {\n var compMeta = this._metadataResolver.getDirectiveMetadata(compType);\n assertComponent(compMeta);\n var hostMeta = this._metadataResolver.getHostComponentMetadata(compMeta, compMeta.componentFactory.viewDefFactory);\n compiledTemplate =\n new CompiledTemplate(true, compMeta.type, hostMeta, ngModule, [compMeta.type]);\n this._compiledHostTemplateCache.set(compType, compiledTemplate);\n }\n return compiledTemplate;\n };\n JitCompiler.prototype._createCompiledTemplate = function (compMeta, ngModule) {\n var compiledTemplate = this._compiledTemplateCache.get(compMeta.type.reference);\n if (!compiledTemplate) {\n assertComponent(compMeta);\n compiledTemplate = new CompiledTemplate(false, compMeta.type, compMeta, ngModule, ngModule.transitiveModule.directives);\n this._compiledTemplateCache.set(compMeta.type.reference, compiledTemplate);\n }\n return compiledTemplate;\n };\n JitCompiler.prototype._compileTemplate = function (template) {\n var _this = this;\n if (template.isCompiled) {\n return;\n }\n var compMeta = template.compMeta;\n var externalStylesheetsByModuleUrl = new Map();\n var outputContext = createOutputContext();\n var componentStylesheet = this._styleCompiler.compileComponent(outputContext, compMeta);\n compMeta.template.externalStylesheets.forEach(function (stylesheetMeta) {\n var compiledStylesheet = _this._styleCompiler.compileStyles(createOutputContext(), compMeta, stylesheetMeta);\n externalStylesheetsByModuleUrl.set(stylesheetMeta.moduleUrl, compiledStylesheet);\n });\n this._resolveStylesCompileResult(componentStylesheet, externalStylesheetsByModuleUrl);\n var pipes = template.ngModule.transitiveModule.pipes.map(function (pipe) { return _this._metadataResolver.getPipeSummary(pipe.reference);\n });\n var _a = this._parseTemplate(compMeta, template.ngModule, template.directives), parsedTemplate = _a.template, usedPipes = _a.pipes;\n var compileResult = this._viewCompiler.compileComponent(outputContext, compMeta, parsedTemplate, variable(componentStylesheet.stylesVar), usedPipes);\n var evalResult = this._interpretOrJit(templateJitUrl(template.ngModule.type, template.compMeta), outputContext.statements);\n var viewClass = evalResult[compileResult.viewClassVar];\n var rendererType = evalResult[compileResult.rendererTypeVar];\n template.compiled(viewClass, rendererType);\n };\n JitCompiler.prototype._parseTemplate = function (compMeta, ngModule, directiveIdentifiers) {\n var _this = this;\n // Note: ! is ok here as components always have a template.\n var preserveWhitespaces = compMeta.template.preserveWhitespaces;\n var directives = directiveIdentifiers.map(function (dir) { return _this._metadataResolver.getDirectiveSummary(dir.reference); });\n var pipes = ngModule.transitiveModule.pipes.map(function (pipe) { return _this._metadataResolver.getPipeSummary(pipe.reference); });\n return this._templateParser.parse(compMeta, compMeta.template.htmlAst, directives, pipes, ngModule.schemas, templateSourceUrl(ngModule.type, compMeta, compMeta.template), preserveWhitespaces);\n };\n JitCompiler.prototype._resolveStylesCompileResult =

function (result, externalStylesheetsByModuleUrl) {\n var _this = this;\n result.dependencies.forEach(function (dep, i) {\n var nestedCompileResult = externalStylesheetsByModuleUrl.get(dep.moduleUrl);\n var nestedStylesArr = _this._resolveAndEvalStylesCompileResult(nestedCompileResult, externalStylesheetsByModuleUrl);\n dep.setValue(nestedStylesArr);\n });\n };\n JitCompiler.prototype._resolveAndEvalStylesCompileResult = function (result, externalStylesheetsByModuleUrl) {\n this._resolveStylesCompileResult(result, externalStylesheetsByModuleUrl);\n return this._interpretOrJit(sharedStylesheetJitUrl(result.meta, this._sharedStylesheetCount++), result.outputCtx.statements)[result.stylesVar];\n };\n JitCompiler.prototype._interpretOrJit = function (sourceUrl, statements) {\n if (!this._compilerConfig.useJit) {\n return interpretStatements(statements, this._reflector);\n }\n else {\n return this._jitEvaluator.evaluateStatements(sourceUrl, statements, this._reflector, this._compilerConfig.jitDevMode);\n }\n };\n return JitCompiler;\n }());\n var CompiledTemplate = /** @class */ (function () {\n function CompiledTemplate(isHost, compType, compMeta, ngModule, directives) {\n this.isHost = isHost;\n this.compType = compType;\n this.compMeta = compMeta;\n this.ngModule = ngModule;\n this.directives = directives;\n this._viewClass = null;\n this.isCompiled = false;\n }\n CompiledTemplate.prototype.compiled = function (viewClass, rendererType) {\n this._viewClass = viewClass;\n this.compMeta.componentViewType.setDelegate(viewClass);\n for (var prop in rendererType) {\n this.compMeta.rendererType[prop] = rendererType[prop];\n }\n this.isCompiled = true;\n };\n return CompiledTemplate;\n }());\n function assertComponent(meta) {\n if (!meta.isComponent) {\n throw new Error(\"Could not compile '\" + identifierName(meta.type) + \"' because it is not a component.\");\n }\n }\n function createOutputContext() {\n var importExpr$1 = function (symbol) { return importExpr({ name: identifierName(symbol), moduleName: null, runtime: symbol }); };\n return { statements: [], genFilePath: '', importExpr: importExpr$1, constantPool: new ConstantPool() };\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Provides access to reflection data about symbols that the compiler needs.\n */\n var CompileReflector = /** @class */ (function () {\n function CompileReflector() {\n }\n return CompileReflector;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Create a {@link UrlResolver} with no package prefix.\n */\n function createUrlResolverWithoutPackagePrefix() {\n return new UrlResolver();\n }\n function createOfflineCompileUrlResolver() {\n return new UrlResolver('.');\n }\n var UrlResolver = /** @class */ (function () {\n function UrlResolverImpl(_packagePrefix) {\n if (_packagePrefix === void 0) { _packagePrefix = null; }\n this._packagePrefix = _packagePrefix;\n }\n /**\n * Resolves the `url` given the `baseUrl`:\n * - when the `url` is null, the `baseUrl` is returned,\n * - if `url` is relative ('path/to/here', './path/to/here'), the resolved url is a combination of\n * `baseUrl` and `url`,\n * - if `url` is absolute (it has a scheme: 'http://', 'https://' or start with '/'), the `url` is\n * returned as is (ignoring the `baseUrl`)\n */\n UrlResolverImpl.prototype.resolve = function (baseUrl, url) {\n var resolvedUrl = url;\n if (baseUrl != null && baseUrl.length > 0) {\n resolvedUrl = _resolveUrl(baseUrl, resolvedUrl);\n }\n var resolvedParts = _split(resolvedUrl);\n var prefix = this._packagePrefix;\n if (prefix != null && resolvedParts != null &&\n resolvedParts[_ComponentIndex.Scheme] == 'package') {\n var path = resolvedParts[_ComponentIndex.Path];\n prefix = prefix.replace(/\\/+$/, '');\n path = path.replace(/^\\/+/, '');\n return prefix + \"/\" + path;\n }\n return resolvedUrl;\n };\n return UrlResolverImpl;\n }());\n /**\n * Extract the scheme of a URL.\n */\n function getUrlScheme(url) {\n var match = _split(url);\n return (match && match[_ComponentIndex.Scheme]) || '';\n }\n // The

```
code below is adapted from Traceur:\n    // https://github.com/google/traceur-compiler/blob/9511c1dafa972bf0de1202a8a863bad02f0f95a8/src/runtime/url.js\n    /**\n     * Builds a URI string from already-encoded parts.\n     *\n     * No encoding is performed.  Any component may be omitted as either null or\n     * undefined.\n     *\n     * @param opt_scheme The scheme such as 'http'.\n     * @param opt_userInfo The user name before the '@'.\n     * @param opt_domain The domain such as 'www.google.com', already\n     *     URI-encoded.\n     * @param opt_port The port number.\n     * @param opt_path The path, already URI-encoded.  If it is not\n     *     empty, it must begin with a slash.\n     * @param opt_queryData The URI-encoded query data.\n     * @param opt_fragment The URI-encoded fragment identifier.\n     * @return The fully combined URI.\n     */\n    function _buildFromEncodedParts(opt_scheme, opt_userInfo, opt_domain, opt_port, opt_path, opt_queryData, opt_fragment) {\n        var out = [];\n        if (opt_scheme != null) {\n            out.push(opt_scheme + ':');\n        }\n        if (opt_domain != null) {\n            out.push('//');\n            if (opt_userInfo != null) {\n                out.push(opt_userInfo + '@');\n            }\n            out.push(opt_domain);\n            if (opt_port != null) {\n                out.push(':' + opt_port);\n            }\n        }\n        if (opt_path != null) {\n            out.push(opt_path);\n        }\n        if (opt_queryData != null) {\n            out.push('?' + opt_queryData);\n        }\n        if (opt_fragment != null) {\n            out.push('#' + opt_fragment);\n        }\n        return out.join('');\n    }\n    /**\n     * A regular expression for breaking a URI into its component parts.\n     *\n     * {@link https://tools.ietf.org/html/rfc3986#appendix-B} says\n     * As the \"first-match-wins\" algorithm is identical to the \"greedy\"\n     * disambiguation method used by POSIX regular expressions, it is natural and\n     * commonplace to use a regular expression for parsing the potential five\n     * components of a URI reference.\n     *\n     * The following line is the regular expression for breaking-down a\n     * well-formed URI reference into its components.\n     *\n     * <pre>\n     * ^(([^:/?#]+):)?(//([^/?#]*))?([^?#]*)(\\?([^#]*))?(#(.*))?\n     *  12            3  4          5       6  7        8 9\n     * </pre>\n     *\n     * The numbers in the second line above are only to assist readability; they\n     * indicate the reference points for each subexpression (i.e., each paired\n     * parenthesis). We refer to the value matched for subexpression <n> as $<n>.\n     * For example, matching the above expression to\n     * <pre>\n     * http://www.ics.uci.edu/pub/ietf/uri/#Related\n     * </pre>\n     * results in the following subexpression matches:\n     * <pre>\n     *    $1 = http:\n     *    $2 = http\n     *    $3 = //www.ics.uci.edu\n     *    $4 = www.ics.uci.edu\n     *    $5 = /pub/ietf/uri/\n     *    $6 = <undefined>\n     *    $7 = <undefined>\n     *    $8 = #Related\n     *    $9 = Related\n     * </pre>\n     * where <undefined> indicates that the component is not present, as is the\n     * case for the query component in the above example. Therefore, we can\n     * determine the value of the five components as\n     * <pre>\n     *    scheme    = $2\n     *    authority = $4\n     *    path      = $5\n     *    query     = $7\n     *    fragment  = $9\n     * </pre>\n     *\n     * The regular expression has been modified slightly to expose the\n     * userInfo, domain, and port separately from the authority.\n     * The modified version yields\n     * <pre>\n     *    $1 = http              scheme\n     *    $2 = <undefined>       userInfo -\\\n     *    $3 = www.ics.uci.edu   domain     | authority\n     *    $4 = <undefined>       port     -/\n     *    $5 = /pub/ietf/uri/    path\n     *    $6 = <undefined>       query without ?\n     *    $7 = Related           fragment without #\n     * </pre>\n     * @internal\n     */\n    var _splitRe = new RegExp('^' +\n        '(?:' +\n        '([^:/?#.]+)' + // scheme - ignore special characters\n        // used by other URL parts such as :,\n        // ?, /, #, and .\n        ':)?' +\n        '(?://' +\n        '(?:([^/?#]*)@)?' + // userInfo\n        '([\\\\w\\\\d\\\\-\\\\u0100-\\\\uffff.%]*)' + // domain - restrict to letters,\n        // digits, dashes, dots, percent\n        // escapes, and unicode characters.\n        '(?::([0-9]+))?' + // port\n        ')?' +\n        '([^?#]+)?' + // path\n        '(?:\\\\?([^#]*))?' + // query\n        '(?:#(.*))?' + // fragment\n        '$');\n    /**\n     * The index of each URI component in the return value of goog.uri.utils.split.\n     * @enum {number}\n     */\n    var _ComponentIndex;\n    (function (_ComponentIndex) {\n        _ComponentIndex[_ComponentIndex[\"Scheme\"] = 1] = \"Scheme\";\n        _ComponentIndex[_ComponentIndex[\"UserInfo\"] = 2] = \"UserInfo\";\n        _ComponentIndex[_ComponentIndex[\"Domain\"] = 3] = \"Domain\";\n        _ComponentIndex[_ComponentIndex[\"Port\"] = 4] = \"Port\";\n        _ComponentIndex[_ComponentIndex[\"Path\"] = 5] = \"Path\";\n
```

```
_ComponentIndex[_ComponentIndex[\"QueryData\"] = 6] = \"QueryData\";\n
_ComponentIndex[_ComponentIndex[\"Fragment\"] = 7] = \"Fragment\";\n    })(_ComponentIndex ||
(_ComponentIndex = {}));\n    /**\n     * Splits a URI into its component parts.\n     *\n     * Each component can be
accessed via the component indices; for example:\n     * <pre>\n     *
goog.uri.utils.split(someStr)[goog.uri.utils.CompontentIndex.QUERY_DATA];\n     * </pre>\n     *\n     * @param
uri The URI string to examine.\n     * @return Each component still URI-encoded.\n     *     Each component that is
present will contain the encoded value, whereas\n     *     components that are not present will be undefined or
empty, depending\n     *     on the browser's regular expression implementation.  Never null, since\n     *     arbitrary
strings may
 still look like path names.\n     */\n    function _split(uri) {\n        return uri.match(_splitRe);\n    }\n    /**\n     *
Removes dot segments in given path component, as described in\n     * RFC 3986, section 5.2.4.\n     *\n     *
@param path A non-empty path component.\n     * @return Path component with removed dot segments.\n     */\n
function _removeDotSegments(path) {\n        if (path == '/')\n            return '/';\n        var leadingSlash = path[0] ==
'/' ? '/' : '';\n        var trailingSlash = path[path.length - 1] === '/' ? '/' : '';\n        var segments = path.split('/');\n        var
out = [];\n        var up = 0;\n        for (var pos = 0; pos < segments.length; pos++) {\n            var segment =
segments[pos];\n            switch (segment) {\n                case '':\n                case '.':\n                    break;\n
case '..':\n                    if (out.length > 0) {\n                        out.pop();\n                    }\n
                else {\n                        up++;\n                    }\n                    break;\n                default:\n
out.push(segment);\n            }\n        }\n        if (leadingSlash == '') {\n            while (up-- > 0) {\n
out.unshift('..');\n            }\n            if (out.length === 0)\n                out.push('.');\n        }\n        return leadingSlash +
out.join('/') + trailingSlash;\n    }\n    /**\n     * Takes an array of the parts from split and canonicalizes the path
part\n     * and then joins all the parts.\n     */\n    function _joinAndCanonicalizePath(parts) {\n        var path =
parts[_ComponentIndex.Path];\n        path = path == null ? '' : _removeDotSegments(path);\n
parts[_ComponentIndex.Path] = path;\n        return _buildFromEncodedParts(parts[_ComponentIndex.Scheme],
parts[_ComponentIndex.UserInfo], parts[_ComponentIndex.Domain], parts[_ComponentIndex.Port], path,
parts[_ComponentIndex.QueryData],
 parts[_ComponentIndex.Fragment]);\n    }\n    /**\n     * Resolves a URL.\n     * @param base The URL acting as
the base URL.\n     * @param to The URL to resolve.\n     */\n    function _resolveUrl(base, url) {\n        var parts =
_split(encodeURI(url));\n        var baseParts = _split(base);\n        if (parts[_ComponentIndex.Scheme] != null) {\n
        return _joinAndCanonicalizePath(parts);\n        }\n        else {\n            parts[_ComponentIndex.Scheme] =
baseParts[_ComponentIndex.Scheme];\n        }\n        for (var i = _ComponentIndex.Scheme; i <=
_ComponentIndex.Port; i++) {\n            if (parts[i] == null) {\n                parts[i] = baseParts[i];\n            }\n        }\n
    if (parts[_ComponentIndex.Path][0] == '/') {\n            return _joinAndCanonicalizePath(parts);\n        }\n        var
path = baseParts[_ComponentIndex.Path];\n        if (path == null)\n            path = '/';\n        var index =
path.lastIndexOf('/');\n        path = path.substring(0,
 index + 1) + parts[_ComponentIndex.Path];\n        parts[_ComponentIndex.Path] = path;\n        return
_joinAndCanonicalizePath(parts);\n    }\n\n    var Extractor = /** @class */ (function () {\n        function
Extractor(host, staticSymbolResolver, messageBundle, metadataResolver) {\n            this.host = host;\n
this.staticSymbolResolver = staticSymbolResolver;\n            this.messageBundle = messageBundle;\n
this.metadataResolver = metadataResolver;\n        }\n        Extractor.prototype.extract = function (rootFiles) {\n
  var _this = this;\n            var _a = analyzeAndValidateNgModules(rootFiles, this.host, this.staticSymbolResolver,
this.metadataResolver), files = _a.files, ngModules = _a.ngModules;\n            return Promise\n
.all(ngModules.map(function (ngModule) { return
_this.metadataResolver.loadNgModuleDirectiveAndPipeMetadata(ngModule.type.reference, false); }))\n
.then(function () {\n
        var errors = [];\n                files.forEach(function (file) {\n                    var compMetas = [];\n
file.directives.forEach(function (directiveType) {\n                        var dirMeta =
_this.metadataResolver.getDirectiveMetadata(directiveType);\n                        if (dirMeta &&
```

dirMeta.isComponent) {\n compMetas.push(dirMeta);\n }\n });\n compMetas.forEach(function (compMeta) {\n var html = compMeta.template.template;\n // Template URL points to either an HTML or TS file depending on\n // whether the file is used with `templateUrl:` or `template:`,\n // respectively.\n var templateUrl = compMeta.template.templateUrl;\n var interpolationConfig = InterpolationConfig.fromArray(compMeta.template.interpolation);\n errors.push.apply(errors, __spread(_this.messageBundle.updateFromTemplate(html, templateUrl, interpolationConfig)));\n });\n });\n if (errors.length) {\n throw new Error(errors.map(function (e) { return e.toString(); }).join('\\n'));\n }\n return _this.messageBundle;\n });\n };\n Extractor.create = function (host, locale) {\n var htmlParser = new HtmlParser();\n var urlResolver = createAotUrlResolver(host);\n var symbolCache = new StaticSymbolCache();\n var summaryResolver = new AotSummaryResolver(host, symbolCache);\n var staticSymbolResolver = new StaticSymbolResolver(host, symbolCache, summaryResolver);\n var staticReflector = new StaticReflector(summaryResolver, staticSymbolResolver);\n var config = new CompilerConfig({ defaultEncapsulation: ViewEncapsulation.Emulated, useJit: false });\n var normalizer = new DirectiveNormalizer({ get: function (url) { return host.loadResource(url); } }, urlResolver, htmlParser, config);\n var elementSchemaRegistry = new DomElementSchemaRegistry();\n var resolver = new CompileMetadataResolver(config, htmlParser, new NgModuleResolver(staticReflector), new DirectiveResolver(staticReflector), new PipeResolver(staticReflector), summaryResolver, elementSchemaRegistry, normalizer, console, symbolCache, staticReflector);\n // TODO(vicb): implicit tags & attributes\n var messageBundle = new MessageBundle(htmlParser, [], {}, locale);\n var extractor = new Extractor(host, staticSymbolResolver, messageBundle, resolver);\n return { extractor: extractor, staticReflector: staticReflector };\n };\n return Extractor;\n }());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Processes `Target`s with a given set of directives and performs a binding operation, which\n * returns an object similar to TypeScript's `ts.TypeChecker` that contains knowledge about the\n * target.\n */\n var R3TargetBinder = /** @class */ (function () {\n function R3TargetBinder(directiveMatcher) {\n this.directiveMatcher = directiveMatcher;\n }\n /**\n * Perform a binding operation on the given `Target` and return a `BoundTarget` which contains\n * metadata about the types referenced in the template.\n */\n R3TargetBinder.prototype.bind = function (target) {\n if (!target.template) {\n // TODO(alxhub): handle targets which contain things like HostBindings, etc.\n throw new Error('Binding without a template not yet supported');\n }\n // First, parse the template into a `Scope` structure. This operation captures the syntactic\n // scopes in the template and makes them available for later use.\n var scope = Scope.apply(target.template);\n // Use the `Scope` to extract the entities present at every level of the template.\n var templateEntities = extractTemplateEntities(scope);\n // Next, perform directive matching on the template using the `DirectiveBinder`. This returns:\n // - directives: Map of nodes (elements & ng-templates) to the directives on them.\n // - bindings: Map of inputs, outputs, and attributes to the directive/element that claims\n // them. TODO(alxhub): handle multiple directives claiming an input/output/etc.\n // - references: Map of #references to their targets.\n var _b = DirectiveBinder.apply(target.template, this.directiveMatcher), directives = _b.directives, bindings = _b.bindings, references = _b.references;\n // Finally, run the TemplateBinder to bind references, variables, and other entities within the\n // template. This extracts all the metadata that doesn't depend on directive matching.\n var _c = TemplateBinder.apply(target.template, scope), expressions = _c.expressions, symbols = _c.symbols, nestingLevel = _c.nestingLevel, usedPipes = _c.usedPipes;\n return new R3BoundTarget(target, directives, bindings, references, expressions, symbols, nestingLevel, templateEntities, usedPipes);\n };\n return R3TargetBinder;\n }());\n /**\n * Represents a binding scope within a

```
template.\n     *\n     * Any variables, references, or other named entities declared within the template will\n     * be captured and available by name in `namedEntities`. Additionally, child templates will\n     * be analyzed and have their child `Scope`s available in `childScopes`.\n     */\n
  var Scope = /** @class */ (function () {\n        function Scope(parentScope, template) {\n            this.parentScope = parentScope;\n            this.template = template;\n            /**\n             * Named members of the `Scope`, such as `Reference`s or `Variable`s.\n             */\n            this.namedEntities = new Map();\n            /**\n             * Child `Scope`s for immediately nested `Template`s.\n             */\n            this.childScopes = new Map();\n        }\n        Scope.newRootScope = function () {\n            return new Scope(null, null);\n        };\n        /**\n         * Process a template (either as a `Template` sub-template with variables, or a plain array of\n         * template `Node`s) and construct its `Scope`.\n         */\n        Scope.apply = function (template) {\n            var scope = Scope.newRootScope();\n            scope.ingest(template);\n            return scope;\n        };\n        /**\n         * Internal method to process the
 template and populate the `Scope`.\n         */\n        Scope.prototype.ingest = function (template) {\n            var _this = this;\n            if (template instanceof Template) {\n                // Variables on an <ng-template> are defined in the inner scope.\n                template.variables.forEach(function (node) { return _this.visitVariable(node); });\n                // Process the nodes of the template.\n                template.children.forEach(function (node) { return node.visit(_this); });\n            }\n            else {\n                // No overarching `Template` instance, so process the nodes directly.\n                template.forEach(function (node) { return node.visit(_this); });\n            }\n        };\n        Scope.prototype.visitElement = function (element) {\n            var _this = this;\n            // `Element`s in the template may have `Reference`s which are captured in the scope.\n            element.references.forEach(function (node) { return
 _this.visitReference(node); });\n            // Recurse into the `Element`'s children.\n            element.children.forEach(function (node) { return node.visit(_this); });\n        };\n        Scope.prototype.visitTemplate = function (template) {\n            var _this = this;\n            // References on a <ng-template> are defined in the outer scope, so capture them before\n            // processing the template's child scope.\n            template.references.forEach(function (node) { return _this.visitReference(node); });\n            // Next, create an inner scope and process the template within it.\n            var scope = new Scope(this, template);\n            scope.ingest(template);\n            this.childScopes.set(template, scope);\n        };\n        Scope.prototype.visitVariable = function (variable) {\n            // Declare the variable if it's not already.\n            this.maybeDeclare(variable);\n        };\n        Scope.prototype.visitReference = function (reference)
 {\n            // Declare the variable if it's not already.\n            this.maybeDeclare(reference);\n        };\n        // Unused visitors.\n        Scope.prototype.visitContent = function (content) { };\n        Scope.prototype.visitBoundAttribute = function (attr) { };\n        Scope.prototype.visitBoundEvent = function (event) { };\n        Scope.prototype.visitBoundText = function (text) { };\n        Scope.prototype.visitText = function (text) { };\n        Scope.prototype.visitTextAttribute = function (attr) { };\n        Scope.prototype.visitIcu = function (icu) { };\n        Scope.prototype.maybeDeclare = function (thing) {\n            // Declare something with a name, as long as that name isn't taken.\n            if (!this.namedEntities.has(thing.name)) {\n                this.namedEntities.set(thing.name, thing);\n            }\n        };\n        /**\n         * Look up a variable within this `Scope`.\n         *\n         * This can recurse into a parent `Scope`
 if it's available.\n         */\n        Scope.prototype.lookup = function (name) {\n            if (this.namedEntities.has(name)) {\n                // Found in the local scope.\n                return this.namedEntities.get(name);\n            }\n            else if (this.parentScope !== null) {\n                // Not in the local scope, but there's a parent scope so check there.\n                return this.parentScope.lookup(name);\n            }\n            else {\n                // At the top level and it wasn't found.\n                return null;\n            }\n        };\n        /**\n         * Get the child scope for a `Template`.\n         *\n         * This should always be defined.\n         */\n        Scope.prototype.getChildScope = function (template) {\n            var res = this.childScopes.get(template);\n            if (res === undefined) {\n                throw new Error(\"Assertion error: child scope for \" + template + \" not found\");\n            }\n
```

```
return res;\n    };\n    return Scope;\n}());\n/**\n * Processes a template and matches directives on nodes (elements and templates).\n *\n * Usually used via the static `apply()` method.\n */\nvar DirectiveBinder = /** @class */ (function () {\n    function DirectiveBinder(matcher, directives, bindings, references) {\n        this.matcher = matcher;\n        this.directives = directives;\n        this.bindings = bindings;\n        this.references = references;\n    }\n    /**\n     * Process a template (list of `Node`s) and perform directive matching against each node.\n     *\n     * @param template the list of template `Node`s to match (recursively).\n     * @param selectorMatcher a `SelectorMatcher` containing the directives that are in scope for\n     * this template.\n     * @returns three maps which contain information about directives in the template: the\n     * `directives` map
 which lists directives matched on each node, the `bindings` map which\n     * indicates which directives claimed which bindings (inputs, outputs, etc), and the `references`\n     * map which resolves #references (`Reference`s) within the template to the named directive or\n     * template node.\n     */\n    DirectiveBinder.apply = function (template, selectorMatcher) {\n        var directives = new Map();\n        var bindings = new Map();\n        var references = new Map();\n        var matcher = new DirectiveBinder(selectorMatcher, directives, bindings, references);\n        matcher.ingest(template);\n        return { directives: directives, bindings: bindings, references: references };\n    };\n    DirectiveBinder.prototype.ingest = function (template) {\n        var _this = this;\n        template.forEach(function (node) { return node.visit(_this); });\n    };\n    DirectiveBinder.prototype.visitElement = function
 (element) {\n        this.visitElementOrTemplate(element.name, element);\n    };\n    DirectiveBinder.prototype.visitTemplate = function (template) {\n        this.visitElementOrTemplate('ng-template', template);\n    };\n    DirectiveBinder.prototype.visitElementOrTemplate = function (elementName, node) {\n        var _this = this;\n        // First, determine the HTML shape of the node for the purpose of directive matching.\n        // Do this by building up a `CssSelector` for the node.\n        var cssSelector = createCssSelector(elementName, getAttrsForDirectiveMatching(node));\n        // Next, use the `SelectorMatcher` to get the list of directives on the node.\n        var directives = [];\n        this.matcher.match(cssSelector, function (_, directive) { return directives.push(directive); });\n        if (directives.length > 0) {\n            this.directives.set(node, directives);\n        }\n        // Resolve
 any references that are created on this node.\n        node.references.forEach(function (ref) {\n            var dirTarget = null;\n            // If the reference expression is empty, then it matches the \"primary\" directive on the node\n            // (if there is one). Otherwise it matches the host node itself (either an element or\n            // <ng-template> node).\n            if (ref.value.trim() === '') {\n                // This could be a reference to a component if there is one.\n                dirTarget = directives.find(function (dir) { return dir.isComponent; }) || null;\n            }\n            else {\n                // This should be a reference to a directive exported via exportAs.\n                dirTarget =\n                    directives.find(function (dir) { return dir.exportAs !== null && dir.exportAs.some(function (value) { return value === ref.value; }); }) ||\n                        null;\n                // Check if a matching directive was found.\n                if (dirTarget === null) {\n                    // No matching directive was found - this reference points to an unknown target. Leave it\n                    // unmapped.\n                    return;\n                }\n            }\n            if (dirTarget !== null) {\n                // This reference points to a directive.\n                _this.references.set(ref, { directive: dirTarget, node: node });\n            }\n            else {\n                // This reference points to the node itself.\n                _this.references.set(ref, node);\n            }\n        });\n        var setAttributeBinding = function (attribute, ioType) {\n            var dir = directives.find(function (dir) { return dir[ioType].hasBindingPropertyName(attribute.name); });\n            var binding = dir !== undefined ? dir : node;\n            _this.bindings.set(attribute, binding);\n        };\n        // Node inputs (bound attributes) and text attributes can be bound to an\n        // input on a directive.\n        node.inputs.forEach(function (input) { return setAttributeBinding(input, 'inputs'); });\n        node.attributes.forEach(function (attr) { return setAttributeBinding(attr, 'inputs'); });\n        if (node instanceof Template) {\n            node.templateAttrs.forEach(function (attr) { return setAttributeBinding(attr, 'inputs'); });\n        }\n        // Node
```

outputs (bound events) can be bound to an output on a directive.\n node.outputs.forEach(function (output) { return setAttributeBinding(output, 'outputs'); });\n // Recurse into the node's children.\n node.children.forEach(function (child) { return child.visit(_this); });\n };\n // Unused visitors.\n DirectiveBinder.prototype.visitContent = function (content) { };\n DirectiveBinder.prototype.visitVariable = function (variable) { };\n DirectiveBinder.prototype.visitReference = function (reference) { };\n DirectiveBinder.prototype.visitTextAttribute = function (attribute) { };\n DirectiveBinder.prototype.visitBoundAttribute = function (attribute) { };\n DirectiveBinder.prototype.visitBoundEvent = function (attribute) { };\n DirectiveBinder.prototype.visitBoundAttributeOrEvent = function (node) { };\n DirectiveBinder.prototype.visitText = function (text) { };\n DirectiveBinder.prototype.visitBoundText = function (text) { };\n DirectiveBinder.prototype.visitIcu = function (icu) { };\n return DirectiveBinder;\n }());\n /**\n * Processes a template and extract metadata about expressions and symbols within.\n *\n * This is a companion to the `DirectiveBinder` that doesn't require knowledge of directives matched\n * within the template in order to operate.\n *\n * Expressions are visited by the superclass `RecursiveAstVisitor`, with custom logic provided\n * by overridden methods from that visitor.\n */\n var TemplateBinder = /** @class */ (function (_super) {\n __extends(TemplateBinder, _super);\n function TemplateBinder(bindings, symbols, usedPipes, nestingLevel, scope, template, level) {\n var _this = _super.call(this) || this;\n _this.bindings = bindings;\n _this.symbols = symbols;\n _this.usedPipes = usedPipes;\n _this.nestingLevel = nestingLevel;\n _this.scope = scope;\n _this.template = template;\n _this.level = level;\n _this.pipesUsed = [];\n // Save a bit of processing time by constructing this closure in advance.\n _this.visitNode = function (node) { return node.visit(_this); };\n return _this;\n }\n // This method is defined to reconcile the type of TemplateBinder\n // since both\n // RecursiveAstVisitor and Visitor define the visit() method in their\n // interfaces.\n TemplateBinder.prototype.visit = function (node, context) {\n if (node instanceof AST) {\n node.visit(this, context);\n }\n else {\n node.visit(this);\n }\n };\n /**\n * Process a template and extract metadata about expressions and symbols within.\n *\n * @param template the nodes of the template to process\n * @param scope the `Scope` of the template being processed.\n * @returns three maps which contain metadata about the template: `expressions` which interprets\n * special `AST` nodes in expressions as pointing to references or variables declared within the\n * template, `symbols` which maps those variables and references to the nested `Template` which\n * declares them, if any, and `nestingLevel` which associates\n * each `Template` with a integer\n * nesting level (how many levels deep within the template structure the `Template` is), starting\n * at 1.\n */\n TemplateBinder.apply = function (template, scope) {\n var expressions = new Map();\n var symbols = new Map();\n var nestingLevel = new Map();\n var usedPipes = new Set();\n // The top-level template has nesting level 0.\n var binder = new TemplateBinder(expressions, symbols, usedPipes, nestingLevel, scope, template instanceof Template ? template : null, 0);\n binder.ingest(template);\n return { expressions: expressions, symbols: symbols, nestingLevel: nestingLevel, usedPipes: usedPipes };\n };\n TemplateBinder.prototype.ingest = function (template) {\n if (template instanceof Template) {\n // For <ng-template>s, process only variables and child nodes. Inputs, outputs, templateAttrs,\n // and references were all processed in the scope of the containing template.\n template.variables.forEach(this.visitNode);\n template.children.forEach(this.visitNode);\n // Set the nesting level.\n this.nestingLevel.set(template, this.level);\n }\n else {\n // Visit each node from the top-level template.\n template.forEach(this.visitNode);\n }\n };\n TemplateBinder.prototype.visitElement = function (element) {\n // Visit the inputs, outputs, and children of the element.\n element.inputs.forEach(this.visitNode);\n element.outputs.forEach(this.visitNode);\n element.children.forEach(this.visitNode);\n };\n TemplateBinder.prototype.visitTemplate = function

(template) {\n // First, visit inputs, outputs and template attributes of the template node.\n template.inputs.forEach(this.visitNode);\n template.outputs.forEach(this.visitNode);\n template.templateAttrs.forEach(this.visitNode);\n // References are also evaluated in the outer context.\n template.references.forEach(this.visitNode);\n // Next, recurse into the template using its scope, and bumping the nesting level up by one.\n var childScope = this.scope.getChildScope(template);\n var binder = new TemplateBinder(this.bindings, this.symbols, this.usedPipes, this.nestingLevel, childScope, template, this.level + 1);\n binder.ingest(template);\n };\n TemplateBinder.prototype.visitVariable = function (variable) {\n // Register the `Variable` as a symbol in the current `Template`.\n if (this.template !== null) {\n this.symbols.set(variable, this.template);\n }\n };\n TemplateBinder.prototype.visitReference = function (reference) {\n // Register the `Reference` as a symbol in the current `Template`.\n if (this.template !== null) {\n this.symbols.set(reference, this.template);\n }\n };\n // Unused template visitors\n TemplateBinder.prototype.visitText = function (text) { };\n TemplateBinder.prototype.visitContent = function (content) { };\n TemplateBinder.prototype.visitTextAttribute = function (attribute) { };\n TemplateBinder.prototype.visitIcu = function (icu) {\n var _this = this;\n Object.keys(icu.vars).forEach(function (key) { return icu.vars[key].visit(_this); });\n Object.keys(icu.placeholders).forEach(function (key) { return icu.placeholders[key].visit(_this); });\n };\n // The remaining visitors are concerned with processing AST expressions within template bindings\n TemplateBinder.prototype.visitBoundAttribute = function (attribute) {\n attribute.value.visit(this);\n };\n TemplateBinder.prototype.visitBoundEvent = function (event) {\n event.handler.visit(this);\n };\n TemplateBinder.prototype.visitBoundText = function (text) {\n text.value.visit(this);\n };\n TemplateBinder.prototype.visitPipe = function (ast, context) {\n this.usedPipes.add(ast.name);\n return _super.prototype.visitPipe.call(this, ast, context);\n };\n // These five types of AST expressions can refer to expression roots, which could be variables\n // or references in the current scope.\n TemplateBinder.prototype.visitPropertyRead = function (ast, context) {\n this.maybeMap(context, ast, ast.name);\n return _super.prototype.visitPropertyRead.call(this, ast, context);\n };\n TemplateBinder.prototype.visitSafePropertyRead = function (ast, context) {\n this.maybeMap(context, ast, ast.name);\n return _super.prototype.visitSafePropertyRead.call(this, ast, context);\n };\n TemplateBinder.prototype.visitPropertyWrite = function (ast, context) {\n this.maybeMap(context, ast, ast.name);\n return _super.prototype.visitPropertyWrite.call(this, ast, context);\n };\n TemplateBinder.prototype.visitMethodCall = function (ast, context) {\n this.maybeMap(context, ast, ast.name);\n return _super.prototype.visitMethodCall.call(this, ast, context);\n };\n TemplateBinder.prototype.visitSafeMethodCall = function (ast, context) {\n this.maybeMap(context, ast, ast.name);\n return _super.prototype.visitSafeMethodCall.call(this, ast, context);\n };\n TemplateBinder.prototype.maybeMap = function (scope, ast, name) {\n // If the receiver of the expression isn't the `ImplicitReceiver`, this isn't the root of an\n // `AST` expression that maps to a `Variable` or `Reference`.\n if (!(ast.receiver instanceof ImplicitReceiver)) {\n return;\n }\n // Check whether the name exists in the current scope. If so, map it. Otherwise, the name is\n // probably a property on the top-level component context.\n var target = this.scope.lookup(name);\n if (target !== null) {\n this.bindings.set(ast, target);\n }\n };\n return TemplateBinder;\n }(RecursiveAstVisitor$1));\n /**\n * Metadata container for a `Target` that allows queries for specific bits of metadata.\n *\n * See `BoundTarget` for documentation on the individual methods.\n */\n var R3BoundTarget = /** @class */ (function () {\n function R3BoundTarget(target, directives, bindings, references, exprTargets, symbols, nestingLevel, templateEntities, usedPipes) {\n this.target = target;\n this.directives = directives;\n this.bindings = bindings;\n this.references = references;\n this.exprTargets = exprTargets;\n this.symbols = symbols;\n this.nestingLevel = nestingLevel;\n this.templateEntities = templateEntities;\n

```
this.usedPipes = usedPipes;\n    }\n    R3BoundTarget.prototype.getEntitiesInTemplateScope = function (template) {\n        var _a;\n        return (_a = this.templateEntities.get(template)) !== null && _a !== void 0 ? _a : new Set();\n    };\n    R3BoundTarget.prototype.getDirectivesOfNode = function (node) {\n        return this.directives.get(node) || null;\n    };\n    R3BoundTarget.prototype.getReferenceTarget = function (ref) {\n        return this.references.get(ref) || null;\n    };\n    R3BoundTarget.prototype.getConsumerOfBinding = function (binding) {\n        return this.bindings.get(binding) || null;\n    };\n    R3BoundTarget.prototype.getExpressionTarget = function (expr) {\n        return this.exprTargets.get(expr) || null;\n    };\n    R3BoundTarget.prototype.getTemplateOfSymbol = function (symbol) {\n        return this.symbols.get(symbol) || null;\n    };\n    R3BoundTarget.prototype.getNestingLevel = function (template) {\n        return this.nestingLevel.get(template) || 0;\n    };\n    R3BoundTarget.prototype.getUsedDirectives = function () {\n        var set = new Set();\n        this.directives.forEach(function (dirs) { return dirs.forEach(function (dir) { return set.add(dir); }); });\n        return Array.from(set.values());\n    };\n    R3BoundTarget.prototype.getUsedPipes = function () {\n        return Array.from(this.usedPipes);\n    };\n    return R3BoundTarget;\n}());\nfunction extractTemplateEntities(rootScope) {\n    var e_1, _b, e_2, _c;\n    var entityMap = new Map();\n    function extractScopeEntities(scope) {\n        if (entityMap.has(scope.template)) {\n            return entityMap.get(scope.template);\n        }\n        var currentEntities = scope.namedEntities;\n        var templateEntities;\n        if (scope.parentScope !== null) {\n            templateEntities = new Map(__spread(extractScopeEntities(scope.parentScope), currentEntities));\n        }\n        else {\n            templateEntities = new Map(currentEntities);\n        }\n        entityMap.set(scope.template, templateEntities);\n        return templateEntities;\n    }\n    var scopesToProcess = [rootScope];\n    while (scopesToProcess.length > 0) {\n        var scope = scopesToProcess.pop();\n        try {\n            for (var _d = (e_1 = void 0, __values(scope.childScopes.values())), _e = _d.next(); !_e.done; _e = _d.next()) {\n                var childScope = _e.value;\n                scopesToProcess.push(childScope);\n            }\n        }\n        catch (e_1_1) { e_1 = { error: e_1_1 }; }\n        finally {\n            try {\n                if (_e && !_e.done && (_b = _d.return)) _b.call(_d);\n            }\n            finally { if (e_1) throw e_1.error; }\n        }\n        extractScopeEntities(scope);\n    }\n    var templateEntities = new Map();\n    try {\n        for (var entityMap_1 = __values(entityMap), entityMap_1_1 = entityMap_1.next(); !entityMap_1_1.done; entityMap_1_1 = entityMap_1.next()) {\n            var _f = __read(entityMap_1_1.value, 2), template = _f[0], entities = _f[1];\n            templateEntities.set(template, new Set(entities.values()));\n        }\n    }\n    catch (e_2_1) { e_2 = { error: e_2_1 }; }\n    finally {\n        try {\n            if (entityMap_1_1 && !entityMap_1_1.done && (_c = entityMap_1.return)) _c.call(entityMap_1);\n        }\n        finally { if (e_2) throw e_2.error; }\n    }\n    return templateEntities;\n}\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n// This file only reexports content of the `src` folder. Keep it that way.\n// This function call has a global side effects and publishes the compiler into global namespace for\n// the late binding of the Compiler to the @angular/core for jit compilation.\npublishFacade(_global);\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n// This file only reexports content of the `src` folder. Keep it that way.\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of\n this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexports.AST = AST;\nexports.ASTWithName = ASTWithName;\nexports.ASTWithSource = ASTWithSource;\nexports.AbsoluteSourceSpan = AbsoluteSourceSpan;\nexports.AotCompiler = AotCompiler;\nexports.AotSummaryResolver = AotSummaryResolver;\n
```

exports.ArrayType = ArrayType;\n exports.AssertNotNull = AssertNotNull;\n exports.AstMemoryEfficientTransformer = AstMemoryEfficientTransformer;\n exports.AstPath = AstPath;\n exports.AstTransformer = AstTransformer$1;\n exports.AttrAst = AttrAst;\n exports.Attribute = Attribute;\n exports.Binary = Binary;\n exports.BinaryOperatorExpr = BinaryOperatorExpr;\n exports.BindingPipe = BindingPipe;\n exports.BoundDirectivePropertyAst = BoundDirectivePropertyAst;\n exports.BoundElementProperty = BoundElementProperty;\n exports.BoundElementPropertyAst = BoundElementPropertyAst;\n exports.BoundEventAst = BoundEventAst;\n exports.BoundTextAst = BoundTextAst;\n exports.BuiltinType = BuiltinType;\n exports.CONTENT_ATTR = CONTENT_ATTR;\n exports.CUSTOM_ELEMENTS_SCHEMA = CUSTOM_ELEMENTS_SCHEMA;\n exports.CastExpr = CastExpr;\n exports.Chain = Chain;\n exports.ClassField = ClassField;\n exports.ClassMethod = ClassMethod;\n exports.ClassStmt = ClassStmt;\n exports.CommaExpr = CommaExpr;\n exports.Comment = Comment;\n exports.CompileDirectiveMetadata = CompileDirectiveMetadata;\n exports.CompileMetadataResolver = CompileMetadataResolver;\n exports.CompileNgModuleMetadata = CompileNgModuleMetadata;\n exports.CompilePipeMetadata = CompilePipeMetadata;\n exports.CompileReflector = CompileReflector;\n exports.CompileShallowModuleMetadata = CompileShallowModuleMetadata;\n exports.CompileStylesheetMetadata = CompileStylesheetMetadata;\n exports.CompileTemplateMetadata = CompileTemplateMetadata;\n exports.CompiledStylesheet = CompiledStylesheet;\n exports.CompilerConfig = CompilerConfig;\n exports.Conditional = Conditional;\n exports.ConditionalExpr = ConditionalExpr;\n exports.ConstantPool = ConstantPool;\n exports.CssSelector = CssSelector;\n exports.DEFAULT_INTERPOLATION_CONFIG = DEFAULT_INTERPOLATION_CONFIG;\n exports.DYNAMIC_TYPE = DYNAMIC_TYPE;\n exports.DeclareFunctionStmt = DeclareFunctionStmt;\n exports.DeclareVarStmt = DeclareVarStmt;\n exports.DirectiveAst = DirectiveAst;\n exports.DirectiveNormalizer = DirectiveNormalizer;\n exports.DirectiveResolver = DirectiveResolver;\n exports.DomElementSchemaRegistry = DomElementSchemaRegistry;\n exports.EOF = EOF;\n exports.ERROR_COMPONENT_TYPE = ERROR_COMPONENT_TYPE;\n exports.Element = Element$1;\n exports.ElementAst = ElementAst;\n exports.ElementSchemaRegistry = ElementSchemaRegistry;\n exports.EmbeddedTemplateAst = EmbeddedTemplateAst;\n exports.EmitterVisitorContext = EmitterVisitorContext;\n exports.EmptyExpr = EmptyExpr;\n exports.Expansion = Expansion;\n exports.ExpansionCase = ExpansionCase;\n exports.Expression = Expression;\n exports.ExpressionBinding = ExpressionBinding;\n exports.ExpressionStatement = ExpressionStatement;\n exports.ExpressionType = ExpressionType;\n exports.ExternalExpr = ExternalExpr;\n exports.ExternalReference = ExternalReference;\n exports.Extractor = Extractor;\n exports.FunctionCall = FunctionCall;\n exports.FunctionExpr = FunctionExpr;\n exports.GeneratedFile = GeneratedFile;\n exports.HOST_ATTR = HOST_ATTR;\n exports.HtmlParser = HtmlParser;\n exports.HtmlTagDefinition = HtmlTagDefinition;\n exports.I18NHtmlParser = I18NHtmlParser;\n exports.Identifiers = Identifiers;\n exports.IfStmt = IfStmt;\n exports.ImplicitReceiver = ImplicitReceiver;\n exports.InstantiateExpr = InstantiateExpr;\n exports.Interpolation = Interpolation;\n exports.InterpolationConfig = InterpolationConfig;\n exports.InvokeFunctionExpr = InvokeFunctionExpr;\n exports.InvokeMethodExpr = InvokeMethodExpr;\n exports.IvyParser = IvyParser;\n exports.JSDocComment = JSDocComment;\n exports.JitCompiler = JitCompiler;\n exports.JitEvaluator = JitEvaluator;\n exports.JitSummaryResolver = JitSummaryResolver;\n exports.KeyedRead = KeyedRead;\n exports.KeyedWrite = KeyedWrite;\n exports.LeadingComment = LeadingComment;\n exports.Lexer = Lexer;\n exports.LiteralArray = LiteralArray;\n exports.LiteralArrayExpr = LiteralArrayExpr;\n exports.LiteralExpr = LiteralExpr;\n exports.LiteralMap = LiteralMap;\n exports.LiteralMapExpr = LiteralMapExpr;\n exports.LiteralPrimitive = LiteralPrimitive;\n exports.LocalizedString = LocalizedString;\n exports.MapType = MapType;\n exports.MessageBundle = MessageBundle;\n exports.MethodCall = MethodCall;\n exports.NAMED_ENTITIES = NAMED_ENTITIES;\n

exports.NGSP_UNICODE = NGSP_UNICODE;\n exports.NONE_TYPE = NONE_TYPE;\n exports.NO_ERRORS_SCHEMA = NO_ERRORS_SCHEMA;\n exports.NgContentAst = NgContentAst;\n exports.NgModuleCompiler = NgModuleCompiler;\n exports.NgModuleResolver = NgModuleResolver;\n exports.NodeWithI18n = NodeWithI18n;\n exports.NonNullAssert = NonNullAssert;\n exports.NotExpr = NotExpr;\n exports.NullTemplateVisitor = NullTemplateVisitor;\n exports.ParseError = ParseError;\n exports.ParseLocation = ParseLocation;\n exports.ParseSourceFile = ParseSourceFile;\n exports.ParseSourceSpan = ParseSourceSpan;\n exports.ParseSpan = ParseSpan;\n exports.ParseTreeResult = ParseTreeResult;\n exports.ParsedEvent = ParsedEvent;\n exports.ParsedProperty = ParsedProperty;\n exports.ParsedVariable = ParsedVariable;\n exports.Parser = Parser$1;\n exports.ParserError = ParserError;\n exports.PipeResolver = PipeResolver;\n exports.PrefixNot = PrefixNot;\n exports.PropertyRead = PropertyRead;\n exports.PropertyWrite = PropertyWrite;\n exports.ProviderAst = ProviderAst;\n exports.ProviderMeta = ProviderMeta;\n exports.Quote = Quote;\n exports.R3BoundTarget = R3BoundTarget;\n exports.R3Identifiers = Identifiers$1;\n exports.R3TargetBinder = R3TargetBinder;\n exports.ReadKeyExpr = ReadKeyExpr;\n exports.ReadPropExpr = ReadPropExpr;\n exports.ReadVarExpr = ReadVarExpr;\n exports.RecursiveAstVisitor = RecursiveAstVisitor$1;\n exports.RecursiveTemplateAstVisitor = RecursiveTemplateAstVisitor;\n exports.RecursiveVisitor = RecursiveVisitor$1;\n exports.ReferenceAst = ReferenceAst;\n exports.ResolvedStaticSymbol = ResolvedStaticSymbol;\n exports.ResourceLoader = ResourceLoader;\n exports.ReturnStatement = ReturnStatement;\n exports.STRING_TYPE = STRING_TYPE;\n exports.SafeMethodCall = SafeMethodCall;\n exports.SafePropertyRead = SafePropertyRead;\n exports.SelectorContext = SelectorContext;\n exports.SelectorListContext = SelectorListContext;\n exports.SelectorMatcher = SelectorMatcher;\n exports.Serializer = Serializer;\n exports.SplitInterpolation = SplitInterpolation;\n exports.Statement = Statement;\n exports.StaticReflector = StaticReflector;\n exports.StaticSymbol = StaticSymbol;\n exports.StaticSymbolCache = StaticSymbolCache;\n exports.StaticSymbolResolver = StaticSymbolResolver;\n exports.StyleCompiler = StyleCompiler;\n exports.StylesCompileDependency = StylesCompileDependency;\n exports.SummaryResolver = SummaryResolver;\n exports.TemplateBindingParseResult = TemplateBindingParseResult;\n exports.TemplateParseError = TemplateParseError;\n exports.TemplateParseResult = TemplateParseResult;\n exports.TemplateParser = TemplateParser;\n exports.Text = Text$3;\n exports.TextAst = TextAst;\n exports.ThisReceiver = ThisReceiver;\n exports.ThrowStmt = ThrowStmt;\n exports.TmplAstBoundAttribute = BoundAttribute;\n exports.TmplAstBoundEvent = BoundEvent;\n exports.TmplAstBoundText = BoundText;\n exports.TmplAstContent = Content;\n exports.TmplAstElement = Element;\n exports.TmplAstIcu = Icu;\n exports.TmplAstRecursiveVisitor = RecursiveVisitor;\n exports.TmplAstReference = Reference;\n exports.TmplAstTemplate = Template;\n exports.TmplAstText = Text;\n exports.TmplAstTextAttribute = TextAttribute;\n exports.TmplAstVariable = Variable;\n exports.Token = Token$1;\n exports.TransitiveCompileNgModuleMetadata = TransitiveCompileNgModuleMetadata;\n exports.TreeError = TreeError;\n exports.TryCatchStmt = TryCatchStmt;\n exports.Type = Type$1;\n exports.TypeScriptEmitter = TypeScriptEmitter;\n exports.TypeofExpr = TypeofExpr;\n exports.Unary = Unary;\n exports.UnaryOperatorExpr = UnaryOperatorExpr;\n exports.UrlResolver = UrlResolver;\n exports.VERSION = VERSION$1;\n exports.VariableAst = VariableAst;\n exports.VariableBinding = VariableBinding;\n exports.Version = Version;\n exports.ViewCompiler = ViewCompiler;\n exports.WrappedNodeExpr = WrappedNodeExpr;\n exports.WriteKeyExpr = WriteKeyExpr;\n exports.WritePropExpr = WritePropExpr;\n exports.WriteVarExpr = WriteVarExpr;\n exports.Xliff = Xliff;\n exports.Xliff2 = Xliff2;\n exports.Xmb = Xmb;\n exports.XmlParser = XmlParser;\n exports.Xtb = Xtb;\n exports._ParseAST = _ParseAST;\n exports.analyzeAndValidateNgModules = analyzeAndValidateNgModules;\n exports.analyzeFile = analyzeFile;\n exports.analyzeFileForInjectables = analyzeFileForInjectables;\n exports.analyzeNgModules = analyzeNgModules;\n exports.collectExternalReferences = collectExternalReferences;\n exports.compileComponentFromMetadata

= compileComponentFromMetadata;\n    exports.compileDirectiveFromMetadata =
compileDirectiveFromMetadata;\n    exports.compileFactoryFunction = compileFactoryFunction;\n
exports.compileInjectable = compileInjectable;\n    exports.compileInjector = compileInjector;\n
exports.compileNgModule = compileNgModule;\n    exports.compilePipeFromMetadata =
compilePipeFromMetadata;\n    exports.componentFactoryName = componentFactoryName;\n
exports.computeMsgId = computeMsgId;\n    exports.core = core;\n    exports.createAotCompiler =
createAotCompiler;\n    exports.createAotUrlResolver = createAotUrlResolver;\n
exports.createElementCssSelector = createElementCssSelector;\n    exports.createLoweredSymbol =
createLoweredSymbol;\n    exports.createOfflineCompileUrlResolver = createOfflineCompileUrlResolver;\n
exports.createUrlResolverWithoutPackagePrefix = createUrlResolverWithoutPackagePrefix;\n
exports.debugOutputAstAsTypeScript = debugOutputAstAsTypeScript;\n    exports.findNode
= findNode;\n    exports.flatten = flatten;\n    exports.formattedError = formattedError;\n
exports.getHtmlTagDefinition = getHtmlTagDefinition;\n    exports.getNsPrefix = getNsPrefix;\n
exports.getParseErrors = getParseErrors;\n    exports.getUrlScheme = getUrlScheme;\n
exports.hostViewClassName = hostViewClassName;\n    exports.identifierModuleUrl = identifierModuleUrl;\n
exports.identifierName = identifierName;\n    exports.isEmptyExpression = isEmptyExpression;\n
exports.isFormattedError = isFormattedError;\n    exports.isIdentifier = isIdentifier;\n    exports.isLoweredSymbol =
isLoweredSymbol;\n    exports.isNgContainer = isNgContainer;\n    exports.isNgContent = isNgContent;\n
exports.isNgTemplate = isNgTemplate;\n    exports.isQuote = isQuote;\n    exports.isSyntaxError = isSyntaxError;\n
exports.jsDocComment = jsDocComment;\n    exports.leadingComment = leadingComment;\n
exports.literalMap = literalMap;\n    exports.makeBindingParser = makeBindingParser;\n
exports.mergeAnalyzedFiles = mergeAnalyzedFiles;\n    exports.mergeNsAndName = mergeNsAndName;\n
exports.ngModuleJitUrl = ngModuleJitUrl;\n    exports.parseHostBindings = parseHostBindings;\n
exports.parseTemplate = parseTemplate;\n    exports.preserveWhitespacesDefault = preserveWhitespacesDefault;\n
exports.publishFacade = publishFacade;\n    exports.r3JitTypeSourceSpan = r3JitTypeSourceSpan;\n
exports.removeSummaryDuplicates = removeSummaryDuplicates;\n    exports.rendererTypeName =
rendererTypeName;\n    exports.sanitizeIdentifier = sanitizeIdentifier;\n    exports.sharedStylesheetJitUrl =
sharedStylesheetJitUrl;\n    exports.splitClasses = splitClasses;\n    exports.splitNsName = splitNsName;\n
exports.syntaxError = syntaxError;\n    exports.templateJitUrl = templateJitUrl;\n    exports.templateSourceUrl =
templateSourceUrl;\n    exports.templateVisitAll = templateVisitAll;\n    exports.toTypeScript = toTypeScript;\n
exports.tokenName = tokenName;\n
exports.tokenReference = tokenReference;\n    exports.typeSourceSpan = typeSourceSpan;\n
exports.unescapeIdentifier = unescapeIdentifier;\n    exports.unwrapResolvedMetadata =
unwrapResolvedMetadata;\n    exports.verifyHostBindings = verifyHostBindings;\n    exports.viewClassName =
viewClassName;\n    exports.visitAll = visitAll$1;\n\n    Object.defineProperty(exports, '__esModule', { value: true
});\n\n}));\n//# sourceMappingURL=compiler.umd.js.map\n"]}

Found in path(s):
* /compiler-11-0-5-tgz/package/bundles/compiler.umd.min.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"compiler.js","sources":["../../../../../../packages/compiler/src/ml_parser/tags.ts","../../../../../../packages/compiler/src/ml_parser/html_tags.ts","../../../../../../packages/compiler/src/selector.ts","../../../../../../packages/compiler/src/core.ts","../../../../../../packages/compiler/src/output/output_ast.ts","../../../../../../packages/compiler/src/util.ts","../../../../../../packages/compiler/src/constant_pool.ts","../../../../../../packages/compiler/src/identifiers.ts","../../../../../../packages/compiler/src/aot/static_symbol.ts","../../../../../../packages/compiler/src/compile_metadata.ts","../../../../../../packages/compiler/src/render3/r3_identifiers.ts","../../../../../../packages/compiler/src/render3/util.ts","../../../../../../packages/compiler/src/render3/r3_ast.ts","../../../../../../packages/compiler/src/i18n/i18n_ast.ts","../../../../../../packages/co

mpiler/src/i18n/big_integer.ts","../../../../../../packages/compiler/src/i18n/digest.ts","../../../../../../packages/compiler/src/i18n/serializers/serializer.ts","../../../../../../packages/compiler/src/i18n/serializers/xml_helper.ts","../../../../../../packages/compiler/src/i18n/serializers/xmb.ts","../../../../../../packages/compiler/src/render3/view/i18n/util.ts","../../../../../../packages/compiler/src/render3/view/util.ts","../../../../../../packages/compiler/src/render3/r3_factory.ts","../../../../../../packages/compiler/src/injectable_compiler_2.ts","../../../../../../packages/compiler/src/assertions.ts","../../../../../../packages/compiler/src/ml_parser/interpolation_config.ts","../../../../../../packages/compiler/src/output/source_map.ts","../../../../../../packages/compiler/src/output/abstract_emitter.ts","../../../../../../packages/compiler/src/output/abstract_js_emitter.ts","../../../../../../packages/compiler/src/output/output_jit.ts","../../../../../../packages/compiler/src/chars.ts","../../../../../../packages/compiler/src/parse_util.ts","../../../../../../packages/compiler/src/render3/r3_jit.ts","../../../../../../packages/compiler/src/output/map_util.ts","../../../../../../packages/compiler/src/render3/r3_module_compiler.ts","../../../../../../packages/compiler/src/render3/r3_pipe_compiler.ts","../../../../../../packages/compiler/src/expression_parser/ast.ts","../../../../../../packages/compiler/src/compiler_util/expression_converter.ts","../../../../../../packages/compiler/src/shadow_css.ts","../../../../../../packages/compiler/src/style_compiler.ts","../../../../../../packages/compiler/src/ast_path.ts","../../../../../../packages/compiler/src/ml_parser/ast.ts","../../../../../../packages/compiler/src/ml_parser/lexer.ts","../../../../../../packages/compiler/src/ml_parser/parser.ts","../../../../../../packages/compiler/src/ml_parser/html_parser.ts","../../../../../../packages/compiler/src/ml_parser/html_whitespaces.ts","../../../../../../packages/compiler/src/ml_parser/icu_ast_expander.ts","../../../../../../packages/compiler/src/template_parser/template_ast.ts","../../../../../../packages/compiler/src/provider_analyzer.ts","../../../../../../packages/compiler/src/style_url_resolver.ts","../../../../../../packages/compiler/src/template_parser/binding_parser.ts","../../../../../../packages/compiler/src/template_parser/template_preparser.ts","../../../../../../packages/compiler/src/template_parser/template_parser.ts","../../../../../../packages/compiler/src/render3/view/style_parser.ts","../../../../../../packages/compiler/src/render3/view/styling_builder.ts","../../../../../../packages/compiler/src/expression_parser/lexer.ts","../../../../../../packages/compiler/src/expression_parser/parser.ts","../../../../../../packages/compiler/src/schema/dom_security_schema.ts","../../../../../../packages/compiler/src/schema/element_schema_registry.ts","../../../../../../packages/compiler/src/schema/dom_element_schema_registry.ts","../../../../../../packages/compiler/src/render3/r3_template_transform.ts","../../../../../../packages/compiler/src/render3/view/i18n/context.ts","../../../../../../packages/compiler/src/render3/view/i18n/icu_serializer.ts","../../../../../../packages/compiler/src/i18n/serializers/placeholder.ts","../../../../../../packages/compiler/src/i18n/i18n_parser.ts","../../../../../../packages/compiler/src/render3/view/i18n/meta.ts","../../../../../../packages/compiler/src/render3/view/i18n/get_msg_utils.ts","../../../../../../packages/compiler/src/render3/view/i18n/localize_utils.ts","../../../../../../packages/compiler/src/render3/view/template.ts","../../../../../../packages/compiler/src/render3/view/compiler.ts","../../../../../../packages/compiler/src/resource_loader.ts","../../../../../../packages/compiler/src/jit_compiler_facade.ts","../../../../../../packages/compiler/src/version.ts","../../../../../../packages/compiler/src/config.ts","../../../../../../packages/compiler/src/directive_normalizer.ts","../../../../../../packages/compiler/src/directive_resolver.ts","../../../../../../packages/compiler/src/i18n/parse_util.ts","../../../../../../packages/compiler/src/i18n/extractor_merger.ts","../../../../../../packages/compiler/src/ml_parser/xml_tags.ts","../../../../../../packages/compiler/src/ml_parser/xml_parser.ts","../../../../../../packages/compiler/src/i18n/serializers/xliff.ts","../../../../../../packages/compiler/src/i18n/serializers/xliff2.ts","../../../../../../packages/compiler/src/i18n/serializers/xtb.ts","../../../../../../packages/compiler/src/i18n/translation_bundle.ts","../../../../../../packages/compiler/src/i18n/i18n_html_parser.ts","../../../../../../packages/compiler/src/output/value_util.ts","../../../../../../packages/compiler/src/injectable_compiler.ts","../../../../../../packages/compiler/src/aot/util.ts","../../../../../../packages/compiler/src/lifecycle_reflector.ts","../../../../../../packages/compiler/src/metadata_resolver.ts","../../../../../../packages/compiler/src/view_compiler/provider_compiler.ts","../../../../../../packages/compiler/src/ng_module_compiler.ts","../../../../../../packages/compiler/src/ng_module_resolver.ts","../../../../../../packages/compiler/src/output/ts_emitter.ts","../../../../../../packages/compiler/src/pipe_resolver.ts","../../../../../../packages/compiler/src/view_compiler/type_check_compiler.ts","../../../../../../packages/compiler/src/view_compiler/view_compiler.ts","../../../../../../packages/compiler/src/i18n/message_bundle.ts","../../../../../../packages/compiler/src/aot/generated_file.ts","../../../../../../packages/compiler/src/aot/lazy_routes.ts","../../../../../../packages/compiler/src/aot/static_symbol_resolver.ts","../../../../../../packages/compiler/src/aot/summary_serializer.ts","../../../../../../packages/compiler/src/aot/compiler.ts","../../../../../../packages/compiler/src/aot/formatted_error.ts","../../../../../../packages/compiler/src/aot/static_reflector.ts","../../../../../../packages/compiler/src/aot/summary_resolver.ts","../../../../../../packages/compil

er/src/aot/compiler_factory.ts","../../../../../../packages/compiler/src/aot/compiler_options.ts","../../../../../../packages/compiler/src/aot/compiler_host.ts","../../../../../../packages/compiler/src/aot/partial_module.ts","../../../../../../packages/compiler/src/summary_resolver.ts","../../../../../../packages/compiler/src/output/output_interpreter.ts","../../../../../../packages/compiler/src/jit/compiler.ts","../../../../../../packages/compiler/src/compile_reflector.ts","../../../../../../packages/compiler/src/url_resolver.ts","../../../../../../packages/compiler/src/i18n/extractor.ts","../../../../../../packages/compiler/src/i18n/index.ts","../../../../../../packages/compiler/src/render3/view/api.ts","../../../../../../packages/compiler/src/render3/view/t2_api.ts","../../../../../../packages/compiler/src/render3/view/t2_binder.ts","../../../../../../packages/compiler/src/compiler.ts","../../../../../../packages/compiler/public_api.ts","../../../../../../packages/compiler/compiler.ts","../../../../../../packages/compiler/index.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport enum TagContentType {\n RAW_TEXT,\n ESCAPABLE_RAW_TEXT,\n PARSABLE_DATA\n}\n\nexport interface TagDefinition {\n closedByParent: boolean;\n implicitNamespacePrefix: string|null;\n contentType: TagContentType;\n isVoid: boolean;\n ignoreFirstLf: boolean;\n canSelfClose: boolean;\n preventNamespaceInheritance: boolean;\n\n isClosedByChild(name: string): boolean;\n}\n\nexport function splitNsName(elementName: string): [string|null, string] {\n if (elementName[0] != ':') {\n return [null, elementName];\n }\n\n const colonIndex = elementName.indexOf(':', 1);\n\n if (colonIndex == -1) {\n throw new Error(`Unsupported format \"${elementName}\" expecting \":namespace:name\"`);\n }\n\n return [elementName.slice(1, colonIndex), elementName.slice(colonIndex + 1)];\n}\n\n// `<ng-container>` tags work the same regardless the namespace\nexport function isNgContainer(tagName: string): boolean {\n return splitNsName(tagName)[1] === 'ng-container';\n}\n\n// `<ng-content>` tags work the same regardless the namespace\nexport function isNgContent(tagName: string): boolean {\n return splitNsName(tagName)[1] === 'ng-content';\n}\n\n// `<ng-template>` tags work the same regardless the namespace\nexport function isNgTemplate(tagName: string): boolean {\n return splitNsName(tagName)[1] === 'ng-template';\n}\n\nexport function getNsPrefix(fullName: string): string;\nexport function getNsPrefix(fullName: null): null;\nexport function getNsPrefix(fullName: string|null): string|null {\n return fullName === null ? null : splitNsName(fullName)[0];\n}\n\nexport function mergeNsAndName(prefix: string, localName: string): string {\n return prefix ? `:${prefix}:${localName}` : localName;\n}\n\n// see https://www.w3.org/TR/html51/syntax.html#named-character-references\n// see https://html.spec.whatwg.org/multipage/entities.json\n// This list is not exhaustive to keep the compiler footprint low.\n// The `{` / `ƫ` syntax should be used when the named character reference does not\n// exist.\nexport const NAMED_ENTITIES: {[k: string]: string} = {\n 'Aacute': '\\u00C1',\n 'aacute': '\\u00E1',\n 'Acirc': '\\u00C2',\n 'acirc': '\\u00E2',\n 'acute': '\\u00B4',\n 'AElig': '\\u00C6',\n 'aelig': '\\u00E6',\n 'Agrave': '\\u00C0',\n 'agrave': '\\u00E0',\n 'alefsym': '\\u2135',\n 'Alpha': '\\u0391',\n 'alpha': '\\u03B1',\n 'amp': '&',\n 'and': '\\u2227',\n 'ang': '\\u2220',\n 'apos': '\\u0027',\n 'Aring': '\\u00C5',\n 'aring': '\\u00E5',\n 'asymp': '\\u2248',\n 'Atilde': '\\u00C3',\n 'atilde': '\\u00E3',\n 'Auml': '\\u00C4',\n 'auml': '\\u00E4',\n 'bdquo': '\\u201E',\n 'Beta': '\\u0392',\n 'beta': '\\u03B2',\n 'brvbar': '\\u00A6',\n 'bull': '\\u2022',\n 'cap': '\\u2229',\n 'Ccedil': '\\u00C7',\n 'ccedil': '\\u00E7',\n 'cedil': '\\u00B8',\n 'cent': '\\u00A2',\n 'Chi': '\\u03A7',\n 'chi': '\\u03C7',\n 'circ': '\\u02C6',\n 'clubs': '\\u2663',\n 'cong': '\\u2245',\n 'copy': '\\u00A9',\n 'crarr': '\\u21B5',\n 'cup': '\\u222A',\n 'curren': '\\u00A4',\n 'dagger': '\\u2020',\n 'Dagger': '\\u2021',\n 'darr': '\\u2193',\n 'dArr': '\\u21D3',\n 'deg': '\\u00B0',\n 'Delta': '\\u0394',\n 'delta': '\\u03B4',\n 'diams': '\\u2666',\n 'divide': '\\u00F7',\n 'Eacute': '\\u00C9',\n 'eacute': '\\u00E9',\n 'Ecirc': '\\u00CA',\n 'ecirc': '\\u00EA',\n 'Egrave': '\\u00C8',\n 'egrave': '\\u00E8',\n 'empty': '\\u2205',\n 'emsp': '\\u2003',\n 'ensp': '\\u2002',\n 'Epsilon': '\\u0395',\n 'epsilon': '\\u03B5',\n 'equiv': '\\u2261',\n 'Eta': '\\u0397',\n 'eta': '\\u03B7',\n 'ETH': '\\u00D0',\n 'eth': '\\u00F0',\n 'Euml': '\\u00CB',\n 'euml': '\\u00EB',\n 'euro': '\\u20AC',\n 'exist': '\\u2203',\n 'fnof': '\\u0192',\n 'forall': '\\u2200',\n 'frac12': '\\u00BD',\n 'frac14': '\\u00BC',\n 'frac34': '\\u00BE',\n 'frasl': '\\u2044',\n 'Gamma': '\\u0393',\n 'gamma': '\\u03B3',\n 'ge': '\\u2265',\n 'gt': '>',\n 'harr': '\\u2194',\n 'hArr': '\\u21D4',\n 'hearts': '\\u2665',\n 'hellip': '\\u2026',\n 'Iacute': '\\u00CD',\n 'iacute': '\\u00ED',\n

'Icirc': '\\u00CE',\n 'icirc': '\\u00EE',\n 'iexcl': '\\u00A1',\n 'Igrave': '\\u00CC',\n 'igrave': '\\u00EC',\n 'image': '\\u2111',\n 'infin': '\\u221E',\n 'int': '\\u222B',\n 'Iota': '\\u0399',\n 'iota': '\\u03B9',\n 'iquest': '\\u00BF',\n 'isin': '\\u2208',\n 'Iuml': '\\u00CF',\n 'iuml': '\\u00EF',\n 'Kappa': '\\u039A',\n 'kappa': '\\u03BA',\n 'Lambda': '\\u039B',\n 'lambda': '\\u03BB',\n 'lang': '\\u27E8',\n 'laquo': '\\u00AB',\n 'larr': '\\u2190',\n 'lArr': '\\u21D0',\n 'lceil': '\\u2308',\n 'ldquo': '\\u201C',\n 'le': '\\u2264',\n 'lfloor': '\\u230A',\n 'lowast': '\\u2217',\n 'loz': '\\u25CA',\n 'lrm': '\\u200E',\n 'lsaquo': '\\u2039',\n 'lsquo': '\\u2018',\n 'lt': '<',\n 'macr': '\\u00AF',\n 'mdash': '\\u2014',\n 'micro': '\\u00B5',\n 'middot': '\\u00B7',\n 'minus': '\\u2212',\n 'Mu': '\\u039C',\n 'mu': '\\u03BC',\n 'nabla': '\\u2207',\n 'nbsp': '\\u00A0',\n 'ndash': '\\u2013',\n 'ne': '\\u2260',\n 'ni': '\\u220B',\n 'not': '\\u00AC',\n 'notin': '\\u2209',\n 'nsub': '\\u2284',\n 'Ntilde': '\\u00D1',\n 'ntilde': '\\u00F1',\n 'Nu': '\\u039D',\n 'nu': '\\u03BD',\n 'Oacute': '\\u00D3',\n 'oacute': '\\u00F3',\n 'Ocirc': '\\u00D4',\n 'ocirc': '\\u00F4',\n 'OElig': '\\u0152',\n 'oelig': '\\u0153',\n 'Ograve': '\\u00D2',\n 'ograve': '\\u00F2',\n 'oline': '\\u203E',\n 'Omega': '\\u03A9',\n 'omega': '\\u03C9',\n 'Omicron': '\\u039F',\n 'omicron': '\\u03BF',\n 'oplus': '\\u2295',\n 'or': '\\u2228',\n 'ordf': '\\u00AA',\n 'ordm': '\\u00BA',\n 'Oslash': '\\u00D8',\n 'oslash': '\\u00F8',\n 'Otilde': '\\u00D5',\n 'otilde': '\\u00F5',\n 'otimes': '\\u2297',\n 'Ouml': '\\u00D6',\n 'ouml': '\\u00F6',\n 'para': '\\u00B6',\n 'permil': '\\u2030',\n 'perp': '\\u22A5',\n 'Phi': '\\u03A6',\n 'phi': '\\u03C6',\n 'Pi': '\\u03A0',\n 'pi': '\\u03C0',\n 'piv': '\\u03D6',\n 'plusmn': '\\u00B1',\n 'pound': '\\u00A3',\n 'prime': '\\u2032',\n 'Prime': '\\u2033',\n 'prod': '\\u220F',\n 'prop': '\\u221D',\n 'Psi': '\\u03A8',\n 'psi': '\\u03C8',\n 'quot': '\\u0022',\n 'radic': '\\u221A',\n 'rang': '\\u27E9',\n 'raquo': '\\u00BB',\n 'rarr': '\\u2192',\n 'rArr': '\\u21D2',\n 'rceil': '\\u2309',\n 'rdquo': '\\u201D',\n 'real': '\\u211C',\n 'reg': '\\u00AE',\n 'rfloor': '\\u230B',\n 'Rho': '\\u03A1',\n 'rho': '\\u03C1',\n 'rlm': '\\u200F',\n 'rsaquo': '\\u203A',\n 'rsquo': '\\u2019',\n 'sbquo': '\\u201A',\n 'Scaron': '\\u0160',\n 'scaron': '\\u0161',\n 'sdot': '\\u22C5',\n 'sect': '\\u00A7',\n 'shy': '\\u00AD',\n 'Sigma': '\\u03A3',\n 'sigma': '\\u03C3',\n 'sigmaf': '\\u03C2',\n 'sim': '\\u223C',\n 'spades': '\\u2660',\n 'sub': '\\u2282',\n 'sube': '\\u2286',\n 'sum': '\\u2211',\n 'sup': '\\u2283',\n 'sup1': '\\u00B9',\n 'sup2': '\\u00B2',\n 'sup3': '\\u00B3',\n 'supe': '\\u2287',\n 'szlig': '\\u00DF',\n 'Tau': '\\u03A4',\n 'tau': '\\u03C4',\n 'there4': '\\u2234',\n 'Theta': '\\u0398',\n 'theta': '\\u03B8',\n 'thetasym': '\\u03D1',\n 'thinsp': '\\u2009',\n 'THORN': '\\u00DE',\n 'thorn': '\\u00FE',\n 'tilde': '\\u02DC',\n 'times': '\\u00D7',\n 'trade': '\\u2122',\n 'Uacute': '\\u00DA',\n 'uacute': '\\u00FA',\n 'uarr': '\\u2191',\n 'uArr': '\\u21D1',\n 'Ucirc': '\\u00DB',\n 'ucirc': '\\u00FB',\n 'Ugrave': '\\u00D9',\n 'ugrave': '\\u00F9',\n 'uml': '\\u00A8',\n 'upsih': '\\u03D2',\n 'Upsilon': '\\u03A5',\n 'upsilon': '\\u03C5',\n 'Uuml': '\\u00DC',\n 'uuml': '\\u00FC',\n 'weierp': '\\u2118',\n 'Xi': '\\u039E',\n 'xi': '\\u03BE',\n 'Yacute': '\\u00DD',\n 'yacute': '\\u00FD',\n 'yen': '\\u00A5',\n 'yuml': '\\u00FF',\n 'Yuml': '\\u0178',\n 'Zeta': '\\u0396',\n 'zeta': '\\u03B6',\n 'zwj': '\\u200D',\n 'zwnj': '\\u200C',\n};\n\n// The &ngsp; pseudo-entity is denoting a space. see:\n// https://github.com/dart-lang/angular/blob/0bb611387d29d65b5af7f9d2515ab571fd3fbee4/_tests/test/compiler/preserve_whitespace_test.dart\nexport const NGSP_UNICODE = '\\uE500';\n\nNAMED_ENTITIES['ngsp'] = NGSP_UNICODE;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {TagContentType, TagDefinition} from './tags';\n\nexport class HtmlTagDefinition implements TagDefinition {\n private closedByChildren: {[key: string]: boolean} = {};\n\n closedByParent: boolean = false;\n implicitNamespacePrefix: string|null;\n contentType: TagContentType;\n isVoid: boolean;\n ignoreFirstLf: boolean;\n canSelfClose: boolean = false;\n preventNamespaceInheritance: boolean;\n\n constructor({\n closedByChildren,\n implicitNamespacePrefix,\n contentType = TagContentType.PARSABLE_DATA,\n closedByParent = false,\n isVoid = false,\n ignoreFirstLf = false,\n preventNamespaceInheritance = false\n }: {\n closedByChildren?: string[],\n closedByParent?: boolean,\n implicitNamespacePrefix?: string,\n contentType?: TagContentType,\n isVoid?: boolean,\n ignoreFirstLf?: boolean,\n preventNamespaceInheritance?: boolean\n } = {}) {\n if (closedByChildren && closedByChildren.length > 0) {\n closedByChildren.forEach(tagName => this.closedByChildren[tagName] = true);\n }\n this.isVoid = isVoid;\n this.closedByParent = closedByParent || isVoid;\n this.implicitNamespacePrefix = implicitNamespacePrefix || null;\n this.contentType = contentType;\n

```
this.ignoreFirstLf = ignoreFirstLf;\n    this.preventNamespaceInheritance = preventNamespaceInheritance;\n  }\n\n
isClosedByChild(name: string): boolean {\n    return
 this.isVoid || name.toLowerCase() in this.closedByChildren;\n  }\n}\n\nlet _DEFAULT_TAG_DEFINITION!:
HtmlTagDefinition;\n\n// see https://www.w3.org/TR/html51/syntax.html#optional-tags\n// This implementation
does not fully conform to the HTML5 spec.\nlet TAG_DEFINITIONS!: {[key: string]:
HtmlTagDefinition};\n\nexport function getHtmlTagDefinition(tagName: string): HtmlTagDefinition {\n  if
(!TAG_DEFINITIONS) {\n    _DEFAULT_TAG_DEFINITION = new HtmlTagDefinition();\n
TAG_DEFINITIONS = {\n      'base': new HtmlTagDefinition({isVoid: true}),\n      'meta': new
HtmlTagDefinition({isVoid: true}),\n      'area': new HtmlTagDefinition({isVoid: true}),\n      'embed': new
HtmlTagDefinition({isVoid: true}),\n      'link': new HtmlTagDefinition({isVoid: true}),\n      'img': new
HtmlTagDefinition({isVoid: true}),\n      'input': new HtmlTagDefinition({isVoid: true}),\n      'param': new
HtmlTagDefinition({isVoid: true}),\n      'hr': new HtmlTagDefinition({isVoid: true}),\n      'br':
 new HtmlTagDefinition({isVoid: true}),\n      'source': new HtmlTagDefinition({isVoid: true}),\n      'track': new
HtmlTagDefinition({isVoid: true}),\n      'wbr': new HtmlTagDefinition({isVoid: true}),\n      'p': new
HtmlTagDefinition({\n        closedByChildren: [\n          'address', 'article', 'aside',   'blockquote', 'div',  'dl',
'fieldset',\n          'footer',  'form',    'h1',     'h2',     'h3',   'h4',  'h5',\n          'h6',     'header',  'hgroup',  'hr',
'main', 'nav', 'ol',\n          'p',      'pre',     'section', 'table',     'ul'\n        ],\n        closedByParent: true\n      }),\n
'thead': new HtmlTagDefinition({closedByChildren: ['tbody', 'tfoot']}),\n      'tbody': new
HtmlTagDefinition({closedByChildren: ['tbody', 'tfoot'], closedByParent: true}),\n      'tfoot': new
HtmlTagDefinition({closedByChildren: ['tbody'], closedByParent: true}),\n      'tr': new
HtmlTagDefinition({closedByChildren: ['tr'], closedByParent: true}),\n      'td': new
 HtmlTagDefinition({closedByChildren: ['td', 'th'], closedByParent: true}),\n      'th': new
HtmlTagDefinition({closedByChildren: ['td', 'th'], closedByParent: true}),\n      'col': new
HtmlTagDefinition({isVoid: true}),\n      'svg': new HtmlTagDefinition({implicitNamespacePrefix: 'svg'}),\n
'foreignObject': new HtmlTagDefinition({\n        // Usually the implicit namespace here would be redundant since it
will be inherited from\n        // the parent `svg`, but we have to do it for `foreignObject`, because the way the
parser\n        // works is that the parent node of an end tag is its own start tag which means that\n        // the
`preventNamespaceInheritance` on `foreignObject` would have it default to the\n        // implicit namespace which is
`html`, unless specified otherwise.\n        implicitNamespacePrefix: 'svg',\n        // We want to prevent children of
foreignObject from inheriting its namespace, because\n        // the point of the element is to allow nodes from
 other namespaces to be inserted.\n        preventNamespaceInheritance: true,\n      }),\n      'math': new
HtmlTagDefinition({implicitNamespacePrefix: 'math'}),\n      'li': new HtmlTagDefinition({closedByChildren: ['li'],
closedByParent: true}),\n      'dt': new HtmlTagDefinition({closedByChildren: ['dt', 'dd']}),\n      'dd': new
HtmlTagDefinition({closedByChildren: ['dt', 'dd'], closedByParent: true}),\n      'rb': new HtmlTagDefinition(\n
{closedByChildren: ['rb', 'rt', 'rtc', 'rp'], closedByParent: true}),\n      'rt': new HtmlTagDefinition(\n
{closedByChildren: ['rb', 'rt', 'rtc', 'rp'], closedByParent: true}),\n      'rtc': new
HtmlTagDefinition({closedByChildren: ['rb', 'rtc', 'rp'], closedByParent: true}),\n      'rp': new HtmlTagDefinition(\n
    {closedByChildren: ['rb', 'rt', 'rtc', 'rp'], closedByParent: true}),\n      'optgroup': new
HtmlTagDefinition({closedByChildren: ['optgroup'], closedByParent: true}),\n      'option':\n          new
HtmlTagDefinition({closedByChildren:
 ['option', 'optgroup'], closedByParent: true}),\n      'pre': new HtmlTagDefinition({ignoreFirstLf: true}),\n
'listing': new HtmlTagDefinition({ignoreFirstLf: true}),\n      'style': new HtmlTagDefinition({contentType:
TagContentType.RAW_TEXT}),\n      'script': new HtmlTagDefinition({contentType:
TagContentType.RAW_TEXT}),\n      'title': new HtmlTagDefinition({contentType:
TagContentType.ESCAPABLE_RAW_TEXT}),\n      'textarea': new HtmlTagDefinition(\n          {contentType:
TagContentType.ESCAPABLE_RAW_TEXT, ignoreFirstLf: true}),\n    };\n  }\n  // We have to make both a case-
sensitive and a case-insesitive lookup, because\n  // HTML tag names are case insensitive, whereas some SVG tags
are case sensitive.\n  return TAG_DEFINITIONS[tagName] ?? TAG_DEFINITIONS[tagName.toLowerCase()] ??\n
```

```
_DEFAULT_TAG_DEFINITION;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
 that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getHtmlTagDefinition} from './ml_parser/html_tags';\n\nconst _SELECTOR_REGEXP = new RegExp(\n    '(\\\\:not\\\\()|' +               // 1: \":not(\"\n        '(([\\\\.\\\\#]?)[-\\\\w]+)|' +  // 2: \"tag\"; 3: \".\"/\"#\";\n        // \"-\" should appear first in the regexp below as FF31 parses \"[.-\\w]\" as a range\n        // 4: attribute; 5: attribute_string; 6: attribute_value\n        '(?:\\\\[([-.\\\\w*]+)(?:=([\\\"\\']?)([^\\\\]\\\"\\']*)\\\\5)?\\\\])|' +  // \"[name]\", \"[name=value]\",\n        // \"[name=\"value\"]\",\n                                                // \"[name='value']\"\n        '(\\\\))|' +                                // 7: \")\"\n        '(\\\\s*,\\\\s*)',                           // 8: \",\"\n    'g');\n\n/**\n * These offsets should match the match-groups
 in `_SELECTOR_REGEXP` offsets.\n */\nconst enum SelectorRegexp {\n  ALL = 0,  // The whole match\n  NOT = 1,\n  TAG = 2,\n  PREFIX = 3,\n  ATTRIBUTE = 4,\n  ATTRIBUTE_STRING = 5,\n  ATTRIBUTE_VALUE = 6,\n  NOT_END = 7,\n  SEPARATOR = 8,\n}\n/**\n * A css selector contains an element name,\n * css classes and attribute/value pairs with the purpose\n * of selecting subsets out of them.\n */\nexport class CssSelector {\n  element: string|null = null;\n  classNames: string[] = [];\n  /**\n   * The selectors are encoded in pairs where:\n   * - even locations are attribute names\n   * - odd locations are attribute values.\n   *\n   * Example:\n   * Selector: `[key1=value1][key2]` would parse to:\n   * ```\n   * ['key1', 'value1', 'key2', '']\n   * ```\n   */\n  attrs: string[] = [];\n  notSelectors: CssSelector[] = [];\n\n  static parse(selector: string): CssSelector[] {\n    const results: CssSelector[] = [];\n    const _addResult = (res: CssSelector[], cssSel: CssSelector) => {\n      if (cssSel.notSelectors.length > 0 && !cssSel.element && cssSel.classNames.length == 0 &&\n          cssSel.attrs.length == 0) {\n        cssSel.element = '*';\n      }\n      res.push(cssSel);\n    };\n    let cssSelector = new CssSelector();\n    let match: string[]|null;\n    let current = cssSelector;\n    let inNot = false;\n    _SELECTOR_REGEXP.lastIndex = 0;\n    while (match = _SELECTOR_REGEXP.exec(selector)) {\n      if (match[SelectorRegexp.NOT]) {\n        if (inNot) {\n          throw new Error('Nesting :not in a selector is not allowed');\n        }\n        inNot = true;\n        current = new CssSelector();\n        cssSelector.notSelectors.push(current);\n      }\n      const tag = match[SelectorRegexp.TAG];\n      if (tag) {\n        const prefix = match[SelectorRegexp.PREFIX];\n        if (prefix === '#') {\n          // #hash\n          current.addAttribute('id', tag.substr(1));\n        } else if (prefix === '.') {\n          // Class\n          current.addClassName(tag.substr(1));\n        } else {\n          // Element\n          current.setElement(tag);\n        }\n      }\n      const attribute = match[SelectorRegexp.ATTRIBUTE];\n      if (attribute) {\n        current.addAttribute(attribute, match[SelectorRegexp.ATTRIBUTE_VALUE]);\n      }\n      if (match[SelectorRegexp.NOT_END]) {\n        inNot = false;\n        current = cssSelector;\n      }\n      if (match[SelectorRegexp.SEPARATOR]) {\n        if (inNot) {\n          throw new Error('Multiple selectors in :not are not supported');\n        }\n        _addResult(results, cssSelector);\n        cssSelector = current = new CssSelector();\n      }\n    }\n    _addResult(results, cssSelector);\n    return results;\n  }\n\n  isElementSelector(): boolean {\n    return this.hasElementSelector() && this.classNames.length == 0 &&\n        this.attrs.length == 0 &&\n        this.notSelectors.length === 0;\n  }\n\n  hasElementSelector(): boolean {\n    return !!this.element;\n  }\n\n  setElement(element:
 string|null = null) {\n    this.element = element;\n  }\n\n  /** Gets a template string for an element that matches the selector. */\n  getMatchingElementTemplate(): string {\n    const tagName = this.element || 'div';\n    const classAttr = this.classNames.length > 0 ? ` class=\"${this.classNames.join(' ')}\"` : '';\n\n    let attrs = '';\n    for (let i = 0; i < this.attrs.length; i += 2) {\n      const attrName = this.attrs[i];\n      const attrValue = this.attrs[i + 1] !== '' ? `=\"${this.attrs[i + 1]}\"` : '';\n      attrs += ` ${attrName}${attrValue}`;\n    }\n\n    return getHtmlTagDefinition(tagName).isVoid ? `<${tagName}${classAttr}${attrs}/>` :\n        `<${tagName}${classAttr}${attrs}></${tagName}>`;\n  }\n\n  getAttrs(): string[] {\n    const result: string[] = [];\n    if (this.classNames.length > 0) {\n      result.push('class', this.classNames.join(' '));\n    }\n    return result.concat(this.attrs);\n  }\n\n  addAttribute(name:
```

```
string, value: string = '') {\n    this.attrs.push(name, value && value.toLowerCase() || '');\n  }\n\n
addClassName(name: string) {\n    this.classNames.push(name.toLowerCase());\n  }\n\n  toString(): string {\n    let
res: string = this.element || '';\n    if (this.classNames) {\n      this.classNames.forEach(klass => res += `.${klass}`);\n
  }\n    if (this.attrs) {\n      for (let i = 0; i < this.attrs.length; i += 2) {\n        const name = this.attrs[i];\n        const
value = this.attrs[i + 1];\n        res += `[${name}${value ? '=' + value : ''}]`;\n      }\n    }\n
this.notSelectors.forEach(notSelector => res += `:not(${notSelector})`);\n    return res;\n  }\n}\n\n/**\n * Reads a
list of CssSelectors and allows to calculate which ones\n * are contained in a given CssSelector.\n */\nexport class
SelectorMatcher<T = any> {\n  static createNotMatcher(notSelectors: CssSelector[]): SelectorMatcher<null> {\n
const notMatcher = new SelectorMatcher<null>();\n    notMatcher.addSelectables(notSelectors,
null);\n    return notMatcher;\n  }\n\n  private _elementMap = new Map<string, SelectorContext<T>[]>();\n  private
_elementPartialMap = new Map<string, SelectorMatcher<T>>();\n  private _classMap = new Map<string,
SelectorContext<T>[]>();\n  private _classPartialMap = new Map<string, SelectorMatcher<T>>();\n  private
_attrValueMap = new Map<string, Map<string, SelectorContext<T>[]>>();\n  private _attrValuePartialMap = new
Map<string, Map<string, SelectorMatcher<T>>>();\n  private _listContexts: SelectorListContext[] = [];\n\n
addSelectables(cssSelectors: CssSelector[], callbackCtxt?: T) {\n    let listContext: SelectorListContext = null!;\n
if (cssSelectors.length > 1) {\n      listContext = new SelectorListContext(cssSelectors);\n
this._listContexts.push(listContext);\n    }\n    for (let i = 0; i < cssSelectors.length; i++) {\n
this._addSelectable(cssSelectors[i], callbackCtxt as T, listContext);\n    }\n  }\n\n  /**\n   * Add an object that
can be found later on by calling `match`.\n   * @param cssSelector A css selector\n   * @param callbackCtxt An
opaque object that will be given to the callback of the `match` function\n   */\n  private _addSelectable(\n
cssSelector: CssSelector, callbackCtxt: T, listContext: SelectorListContext) {\n    let matcher: SelectorMatcher<T>
= this;\n    const element = cssSelector.element;\n    const classNames = cssSelector.classNames;\n    const attrs =
cssSelector.attrs;\n    const selectable = new SelectorContext(cssSelector, callbackCtxt, listContext);\n\n    if
(element) {\n      const isTerminal = attrs.length === 0 && classNames.length === 0;\n      if (isTerminal) {\n
this._addTerminal(matcher._elementMap, element, selectable);\n      } else {\n        matcher =
this._addPartial(matcher._elementPartialMap, element);\n      }\n    }\n\n    if (classNames) {\n      for (let i = 0; i <
classNames.length; i++) {\n        const isTerminal = attrs.length === 0 && i === classNames.length
- 1;\n        const className = classNames[i];\n        if (isTerminal) {\n          this._addTerminal(matcher._classMap,
className, selectable);\n        } else {\n          matcher = this._addPartial(matcher._classPartialMap, className);\n
  }\n      }\n    }\n\n    if (attrs) {\n      for (let i = 0; i < attrs.length; i += 2) {\n        const isTerminal = i ===
attrs.length - 2;\n        const name = attrs[i];\n        const value = attrs[i + 1];\n        if (isTerminal) {\n          const
terminalMap = matcher._attrValueMap;\n          let terminalValuesMap = terminalMap.get(name);\n          if
(!terminalValuesMap) {\n            terminalValuesMap = new Map<string, SelectorContext<T>[]>();\n
terminalMap.set(name, terminalValuesMap);\n          }\n          this._addTerminal(terminalValuesMap, value,
selectable);\n        } else {\n          const partialMap = matcher._attrValuePartialMap;\n          let partialValuesMap =
partialMap.get(name);\n
if (!partialValuesMap) {\n            partialValuesMap = new Map<string, SelectorMatcher<T>>();\n
partialMap.set(name, partialValuesMap);\n          }\n          matcher = this._addPartial(partialValuesMap, value);\n
  }\n      }\n    }\n  }\n\n  private _addTerminal(\n      map: Map<string, SelectorContext<T>[]>, name: string,
selectable: SelectorContext<T>) {\n    let terminalList = map.get(name);\n    if (!terminalList) {\n      terminalList =
[];\n      map.set(name, terminalList);\n    }\n    terminalList.push(selectable);\n  }\n\n  private _addPartial(map:
Map<string, SelectorMatcher<T>>, name: string): SelectorMatcher<T> {\n    let matcher = map.get(name);\n    if
(!matcher) {\n      matcher = new SelectorMatcher<T>();\n      map.set(name, matcher);\n    }\n    return matcher;\n
}\n\n  /**\n   * Find the objects that have been added via `addSelectable`\n   * whose css selector is contained in the
given css selector.\n   * @param cssSelector A css selector\n   *
 @param matchedCallback This callback will be called with the object handed into `addSelectable`\n   * @return
boolean true if a match was found\n   */\n  match(cssSelector: CssSelector, matchedCallback: ((c: CssSelector, a: T)
=> void)|null): boolean {\n    let result = false;\n    const element = cssSelector.element!;\n    const classNames =
```

cssSelector.classNames;\n const attrs = cssSelector.attrs;\n\n for (let i = 0; i < this._listContexts.length; i++) {\n this._listContexts[i].alreadyMatched = false;\n }\n\n result = this._matchTerminal(this._elementMap, element, cssSelector, matchedCallback) || result;\n result = this._matchPartial(this._elementPartialMap, element, cssSelector, matchedCallback) ||\n result;\n\n if (classNames) {\n for (let i = 0; i < classNames.length; i++) {\n const className = classNames[i];\n result =\n this._matchTerminal(this._classMap, className, cssSelector, matchedCallback) || result;\n result\n =\n this._matchPartial(this._classPartialMap, className, cssSelector, matchedCallback) ||\n result;\n }\n }\n\n if (attrs) {\n for (let i = 0; i < attrs.length; i += 2) {\n const name = attrs[i];\n const value = attrs[i + 1];\n\n const terminalValuesMap = this._attrValueMap.get(name)!;\n if (value) {\n result =\n this._matchTerminal(terminalValuesMap, '', cssSelector, matchedCallback) || result;\n }\n result =\n this._matchTerminal(terminalValuesMap, value, cssSelector, matchedCallback) || result;\n\n const partialValuesMap = this._attrValuePartialMap.get(name)!;\n if (value) {\n result = this._matchPartial(partialValuesMap, '', cssSelector, matchedCallback) || result;\n }\n result =\n this._matchPartial(partialValuesMap, value, cssSelector, matchedCallback) || result;\n }\n }\n return result;\n }\n\n /** @internal\n */\n _matchTerminal(\n map: Map<string, SelectorContext<T>[]>, name: string, cssSelector: CssSelector,\n matchedCallback: ((c: CssSelector, a: any) => void)|null): boolean {\n if (!map || typeof name !== 'string') {\n return false;\n }\n\n let selectables: SelectorContext<T>[] = map.get(name) || [];\n const starSelectables: SelectorContext<T>[] = map.get('*')!;\n if (starSelectables) {\n selectables = selectables.concat(starSelectables);\n }\n if (selectables.length === 0) {\n return false;\n }\n let selectable: SelectorContext<T>;\n let result = false;\n for (let i = 0; i < selectables.length; i++) {\n selectable = selectables[i];\n result = selectable.finalize(cssSelector, matchedCallback) || result;\n }\n return result;\n }\n\n /** @internal */\n _matchPartial(\n map: Map<string, SelectorMatcher<T>>, name: string, cssSelector: CssSelector,\n matchedCallback: ((c: CssSelector, a: any) => void)|null):\n boolean {\n if (!map || typeof name !== 'string') {\n return false;\n }\n\n const nestedSelector = map.get(name);\n if (!nestedSelector) {\n return false;\n }\n // TODO(perf): get rid of recursion and measure again\n // TODO(perf): don't pass the whole selector into the recursion,\n // but only the not processed parts\n return nestedSelector.match(cssSelector, matchedCallback);\n }\n}\n\n\nexport class SelectorListContext {\n alreadyMatched: boolean = false;\n\n constructor(public selectors: CssSelector[]) {}\n}\n\n// Store context to pass back selector and context when a selector is matched\nexport class SelectorContext<T = any> {\n notSelectors: CssSelector[];\n\n constructor(\n public selector: CssSelector, public cbContext: T, public listContext: SelectorListContext) {\n this.notSelectors = selector.notSelectors;\n }\n\n finalize(cssSelector: CssSelector, callback: ((c: CssSelector, a: T) => void)|null): boolean {\n let result = true;\n if (this.notSelectors.length > 0 && (!this.listContext || !this.listContext.alreadyMatched)) {\n const notMatcher = SelectorMatcher.createNotMatcher(this.notSelectors);\n result = !notMatcher.match(cssSelector, null);\n }\n if (result && callback && (!this.listContext || !this.listContext.alreadyMatched)) {\n if (this.listContext) {\n this.listContext.alreadyMatched = true;\n }\n callback(this.selector, this.cbContext);\n }\n return result;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// Attention:\n// This file duplicates types and values from @angular/core\n// so that we are able to make @angular/compiler independent of @angular/core.\n// This is important to prevent a build cycle, as @angular/core needs to\n// be compiled with the compiler.\n\nimport {CssSelector} from './selector';\n\nexport interface Inject {\n token: any;\n}\nexport const createInject = makeMetadataFactory<Inject>('Inject', (token: any) => ({token}));\nexport const createInjectionToken = makeMetadataFactory<object>(\n 'InjectionToken', (desc: string) => ({_desc: desc, prov: undefined}));\n\nexport interface Attribute {\n attributeName: string;\n}\nexport const createAttribute =\n makeMetadataFactory<Attribute>('Attribute', (attributeName: string) => ({attributeName}));\n\nexport interface Query {\n descendants: boolean;\n first: boolean;\n read: any;\n isViewQuery: boolean;\n selector: any;\n static?:

boolean;\n}\n\nexport const createContentChildren = makeMetadataFactory<Query>(\n 'ContentChildren',\n (selector?: any, data: any = {}) =>\n ({selector, first: false, isViewQuery: false, descendants: false, ...data}));\nexport const createContentChild = makeMetadataFactory<Query>(\n 'ContentChild',\n (selector?: any, data:
any = {}) =>\n ({selector, first: true, isViewQuery: false, descendants: true, ...data}));\nexport const createViewChildren = makeMetadataFactory<Query>(\n 'ViewChildren',\n (selector?: any, data: any = {}) =>\n ({selector, first: false, isViewQuery: true, descendants: true, ...data}));\nexport const createViewChild = makeMetadataFactory<Query>(\n 'ViewChild',\n (selector: any, data: any) =>\n ({selector, first: true, isViewQuery: true, descendants: true, ...data}));\n\nexport interface Directive {\n selector?: string;\n inputs?: string[];\n outputs?: string[];\n host?: {[key: string]: string};\n providers?: Provider[];\n exportAs?: string;\n queries?: {[key: string]: any};\n guards?: {[key: string]: any};\n}\nexport const createDirective =\n makeMetadataFactory<Directive>('Directive', (dir: Directive = {}) => dir);\n\nexport interface Component extends Directive {\n changeDetection?: ChangeDetectionStrategy;\n viewProviders?: Provider[];\n
moduleId?: string;\n templateUrl?: string;\n template?: string;\n styleUrls?: string[];\n styles?: string[];\n animations?: any[];\n encapsulation?: ViewEncapsulation;\n interpolation?: [string, string];\n entryComponents?: Array<Type|any[]>;\n preserveWhitespaces?: boolean;\n}\nexport enum ViewEncapsulation {\n Emulated = 0,\n // Historically the 1 value was for `Native` encapsulation which has been removed as of v11.\n None = 2,\n ShadowDom = 3\n}\n\nexport enum ChangeDetectionStrategy {\n OnPush = 0,\n Default = 1\n}\n\nexport const createComponent = makeMetadataFactory<Component>(\n 'Component', (c: Component = {}) =>
({changeDetection: ChangeDetectionStrategy.Default, ...c}));\n\nexport interface Pipe {\n name: string;\n pure?: boolean;\n}\nexport const createPipe = makeMetadataFactory<Pipe>('Pipe', (p: Pipe) => ({pure: true, ...p}));\n\nexport interface Input {\n bindingPropertyName?: string;\n}\nexport const createInput =\n makeMetadataFactory<Input>('Input',
(bindingPropertyName?: string) => ({bindingPropertyName}));\n\nexport interface Output {\n bindingPropertyName?: string;\n}\nexport const createOutput = makeMetadataFactory<Output>(\n 'Output', (bindingPropertyName?: string) => ({bindingPropertyName}));\n\nexport interface HostBinding {\n hostPropertyName?: string;\n}\nexport const createHostBinding = makeMetadataFactory<HostBinding>(\n 'HostBinding', (hostPropertyName?: string) => ({hostPropertyName}));\n\nexport interface HostListener {\n eventName?: string;\n args?: string[];\n}\nexport const createHostListener =
makeMetadataFactory<HostListener>(\n 'HostListener', (eventName?: string, args?: string[]) => ({eventName, args}));\n\nexport interface NgModule {\n providers?: Provider[];\n declarations?: Array<Type|any[]>;\n imports?: Array<Type|ModuleWithProviders|any[]>;\n exports?: Array<Type|any[]>;\n entryComponents?: Array<Type|any[]>;\n bootstrap?: Array<Type|any[]>;\n schemas?: Array<SchemaMetadata|any[]>;\n
id?: string;\n}\nexport const createNgModule =\n makeMetadataFactory<NgModule>('NgModule', (ngModule: NgModule) => ngModule);\n\nexport interface ModuleWithProviders {\n ngModule: Type;\n providers?: Provider[];\n}\nexport interface Injectable {\n providedIn?: Type|'root'|any;\n useClass?: Type|any;\n useExisting?: Type|any;\n useValue?: any;\n useFactory?: Type|any;\n deps?: Array<Type|any[]>;\n}\nexport const createInjectable =\n makeMetadataFactory('Injectable', (injectable: Injectable = {}) => injectable);\nexport interface SchemaMetadata {\n name: string;\n}\n\nexport const CUSTOM_ELEMENTS_SCHEMA: SchemaMetadata = {\n name: 'custom-elements'\n};\n\nexport const NO_ERRORS_SCHEMA: SchemaMetadata = {\n name: 'no-errors-schema'\n};\n\nexport const createOptional = makeMetadataFactory('Optional');\nexport const createSelf = makeMetadataFactory('Self');\nexport const createSkipSelf = makeMetadataFactory('SkipSelf');\nexport const createHost = makeMetadataFactory('Host');\n\nexport
interface Type extends Function {\n new(...args: any[]): any;\n}\nexport const Type = Function;\n\nexport enum SecurityContext {\n NONE = 0,\n HTML = 1,\n STYLE = 2,\n SCRIPT = 3,\n URL = 4,\n RESOURCE_URL = 5,\n}\n\nexport type Provider = any;\n\nexport const enum NodeFlags {\n None = 0,\n TypeElement = 1 << 0,\n TypeText = 1 << 1,\n ProjectedTemplate = 1 << 2,\n CatRenderNode = TypeElement | TypeText,\n TypeNgContent = 1 << 3,\n TypePipe = 1 << 4,\n TypePureArray = 1 << 5,\n TypePureObject = 1 << 6,\n

TypePurePipe = 1 << 7,\n  CatPureExpression = TypePureArray | TypePureObject | TypePurePipe,\n TypeValueProvider = 1 << 8,\n  TypeClassProvider = 1 << 9,\n  TypeFactoryProvider = 1 << 10,\n TypeUseExistingProvider = 1 << 11,\n  LazyProvider = 1 << 12,\n  PrivateProvider = 1 << 13,\n  TypeDirective = 1 << 14,\n  Component = 1 << 15,\n  CatProviderNoDirective =\n      TypeValueProvider | TypeClassProvider | TypeFactoryProvider | TypeUseExistingProvider,\n
  CatProvider = CatProviderNoDirective | TypeDirective,\n  OnInit = 1 << 16,\n  OnDestroy = 1 << 17,\n  DoCheck = 1 << 18,\n  OnChanges = 1 << 19,\n  AfterContentInit = 1 << 20,\n  AfterContentChecked = 1 << 21,\n AfterViewInit = 1 << 22,\n  AfterViewChecked = 1 << 23,\n  EmbeddedViews = 1 << 24,\n  ComponentView = 1 << 25,\n  TypeContentQuery = 1 << 26,\n  TypeViewQuery = 1 << 27,\n  StaticQuery = 1 << 28,\n  DynamicQuery = 1 << 29,\n  TypeModuleProvider = 1 << 30,\n  CatQuery = TypeContentQuery | TypeViewQuery,\n\n  // mutually exclusive values...\n  Types = CatRenderNode | TypeNgContent | TypePipe | CatPureExpression | CatProvider | CatQuery\n}\n\nexport const enum DepFlags {\n  None = 0,\n  SkipSelf = 1 << 0,\n  Optional = 1 << 1,\n  Self = 1 << 2,\n  Value = 1 << 3,\n}\n\n/**\n * Injection flags for DI.\n */\nexport const enum InjectFlags {\n  Default = 0,\n\n  /**\n   * Specifies that an injector should retrieve a dependency from any injector until reaching the\n   * host element
  of the current component. (Only used with Element Injector)\n   */\n  Host = 1 << 0,\n  /** Don't descend into ancestors of the node requesting injection. */\n  Self = 1 << 1,\n  /** Skip the node that is requesting injection. */\n SkipSelf = 1 << 2,\n  /** Inject `defaultValue` instead if token not found. */\n  Optional = 1 << 3,\n}\n\nexport const enum ArgumentType {\n  Inline = 0,\n  Dynamic = 1\n}\n\nexport const enum BindingFlags {\n TypeElementAttribute = 1 << 0,\n  TypeElementClass = 1 << 1,\n  TypeElementStyle = 1 << 2,\n  TypeProperty = 1 << 3,\n  SyntheticProperty = 1 << 4,\n  SyntheticHostProperty = 1 << 5,\n  CatSyntheticProperty = SyntheticProperty | SyntheticHostProperty,\n\n  // mutually exclusive values...\n  Types = TypeElementAttribute | TypeElementClass | TypeElementStyle | TypeProperty\n}\n\nexport const enum QueryBindingType {\n  First = 0,\n All = 1\n}\n\nexport const enum QueryValueType {\n  ElementRef = 0,\n  RenderElement = 1,\n  TemplateRef = 2,\n  ViewContainerRef
  = 3,\n  Provider = 4\n}\n\nexport const enum ViewFlags {\n  None = 0,\n  OnPush = 1 << 1,\n}\n\nexport enum MissingTranslationStrategy {\n  Error = 0,\n  Warning = 1,\n  Ignore = 2,\n}\n\nexport interface MetadataFactory<T> {\n  (...args: any[]): T;\n  isTypeOf(obj: any): obj is T;\n  ngMetadataName: string;\n}\n\nfunction makeMetadataFactory<T>(name: string, props?: (...args: any[]) => T): MetadataFactory<T> {\n  // This must be declared as a function, not a fat arrow, so that ES2015 devmode produces code\n  // that works with the static_reflector.ts in the ViewEngine compiler.\n  // In particular, `_registerDecoratorOrConstructor` assumes that the value returned here can be\n  // new'ed.\n  function factory(...args: any[]) {\n    const values = props ? props(...args) : {};\n    return {\n      ngMetadataName: name,\n      ...values,\n    };\n  }\n  (factory as any).isTypeOf = (obj: any) => obj && obj.ngMetadataName === name;\n  (factory as any).ngMetadataName = name;\n
  return factory as any;\n}\n\nexport interface Route {\n  children?: Route[];\n  loadChildren?: string|Type|any;\n}\n\n/**\n * Flags used to generate R3-style CSS Selectors. They are pasted from\n * core/src/render3/projection.ts because they cannot be referenced directly.\n */\nexport const enum SelectorFlags {\n /** Indicates this is the beginning of a new negative selector */\n  NOT = 0b0001,\n\n  /** Mode for matching attributes */\n  ATTRIBUTE = 0b0010,\n\n  /** Mode for matching tag names */\n  ELEMENT = 0b0100,\n\n  /** Mode for matching class names */\n  CLASS = 0b1000,\n}\n\n// These are a copy the CSS types from core/src/render3/interfaces/projection.ts\n// They are duplicated here as they cannot be directly referenced from core.\nexport type R3CssSelector = (string|SelectorFlags)[];\nexport type R3CssSelectorList = R3CssSelector[];\n\nfunction parserSelectorToSimpleSelector(selector: CssSelector): R3CssSelector {\n  const classes = selector.classNames && selector.classNames.length
  ?\n      [SelectorFlags.CLASS, ...selector.classNames] :\n      [];\n  const elementName = selector.element && selector.element !== '*' ? selector.element : '';\n  return [elementName, ...selector.attrs, ...classes];\n}\n\nfunction parserSelectorToNegativeSelector(selector: CssSelector): R3CssSelector {\n  const classes = selector.classNames

&& selector.classNames.length ?\n [SelectorFlags.CLASS, ...selector.classNames] :\n [];\n\n if (selector.element) {\n return [\n SelectorFlags.NOT | SelectorFlags.ELEMENT, selector.element, ...selector.attrs, ...classes\n ];\n } else if (selector.attrs.length) {\n return [SelectorFlags.NOT | SelectorFlags.ATTRIBUTE, ...selector.attrs, ...classes];\n } else {\n return selector.classNames && selector.classNames.length ?\n [SelectorFlags.NOT | SelectorFlags.CLASS, ...selector.classNames] :\n [];\n }\n}\n\nfunction parserSelectorToR3Selector(selector: CssSelector): R3CssSelector {\n const positive = parserSelectorToSimpleSelector(selector);\n\n const negative: R3CssSelectorList = selector.notSelectors && selector.notSelectors.length ?\n selector.notSelectors.map(notSelector => parserSelectorToNegativeSelector(notSelector)) :\n [];\n\n return positive.concat(...negative);\n}\n\nexport function parseSelectorToR3Selector(selector: string|null): R3CssSelectorList {\n return selector ? CssSelector.parse(selector).map(parserSelectorToR3Selector) : [];\n}\n\n// Pasted from render3/interfaces/definition since it cannot be referenced directly\n/**\n * Flags passed into template functions to determine which blocks (i.e. creation, update)\n * should be executed.\n *\n * Typically, a template runs both the creation block and the update block on initialization and\n * subsequent runs only execute the update block. However, dynamically created views require that\n * the creation block be executed separately from the update block (for backwards compat).\n */\nexport const enum RenderFlags {\n /* Whether to run the creation block (e.g. create elements and directives) */\n Create = 0b01,\n\n /* Whether to run the update block (e.g. refresh bindings) */\n Update = 0b10\n}\n\n// Pasted from render3/interfaces/node.ts\n/**\n * A set of marker values to be used in the attributes arrays. These markers indicate that some\n * items are not regular attributes and the processing should be adapted accordingly.\n */\nexport const enum AttributeMarker {\n /**\n * Marker indicates that the following 3 values in the attributes array are:\n * namespaceUri, attributeName, attributeValue\n * in that order.\n */\n NamespaceURI = 0,\n\n /**\n * Signals class declaration.\n *\n * Each value following `Classes` designates a class name to include on the element.\n * ## Example:\n *\n * Given:\n * ```\n * <div class=\"foo bar baz\">...<d/vi>\n * ```\n *\n * the generated code is:\n * ```\n * var _c1 = [AttributeMarker.Classes, 'foo', 'bar', 'baz'];\n * ```\n */\n Classes = 1,\n\n /**\n * Signals style declaration.\n *\n * Each pair of values following `Styles` designates a style name and value to include on the\n * element.\n * ## Example:\n *\n * Given:\n * ```\n * <div style=\"width:100px; height:200px; color:red\">...</div>\n * ```\n *\n * the generated code is:\n * ```\n * var _c1 = [AttributeMarker.Styles, 'width', '100px', 'height'. '200px', 'color', 'red'];\n * ```\n */\n Styles = 2,\n\n /**\n * Signals that the following attribute names were extracted from input or output bindings.\n *\n * For example, given the following HTML:\n *\n * ```\n * <div moo=\"car\" [foo]=\"exp\" (bar)=\"doSth()\">\n * ```\n *\n * the generated code is:\n *\n * ```\n * var _c1 = ['moo', 'car', AttributeMarker.Bindings, 'foo', 'bar'];\n * ```\n */\n Bindings = 3,\n\n /**\n * Signals that the following attribute names were hoisted from an inline-template declaration.\n *\n * For example, given the following HTML:\n *\n * ```\n * <div *ngFor=\"let value of values; trackBy:trackBy\" dirA [dirB]=\"value\">\n * ```\n *\n * the generated code for the `template()` instruction would include:\n *\n * ```\n * ['dirA', '', AttributeMarker.Bindings, 'dirB', AttributeMarker.Template, 'ngFor', 'ngForOf',\n * 'ngForTrackBy', 'let-value']\n * ```\n *\n * while the generated code for the `element()` instruction inside the template function would\n * include:\n *\n * ```\n * ['dirA', '', AttributeMarker.Bindings, 'dirB']\n * ```\n */\n Template = 4,\n\n /**\n * Signals that the following attribute is `ngProjectAs` and its value is a parsed `CssSelector`.\n *\n * For example, given the following HTML:\n *\n * ```\n * <h1 attr=\"value\" ngProjectAs=\"[title]\">\n * ```\n *\n * the generated code for the `element()` instruction would include:\n *\n * ```\n * ['attr', 'value', AttributeMarker.ProjectAs, ['', 'title', '']]\n * ```\n */\n ProjectAs = 5,\n\n /**\n * Signals that the following attribute will be translated by runtime i18n\n *\n * For example, given the following HTML:\n *\n * ```\n * <div moo=\"car\" foo=\"value\" i18n-foo [bar]=\"binding\" i18n-bar>\n * ```\n *\n * the generated code is:\n *\n * ```\n * var _c1 = ['moo', 'car', AttributeMarker.I18n, 'foo', 'bar'];\n */\n I18n = 6,\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the

LICENSE file at https://angular.io/license\n */\n\n\nimport {ParseSourceSpan} from '../parse_util';\nimport {I18nMeta} from '../render3/view/i18n/meta';\n\n//// Types\nexport enum TypeModifier {\n Const\n}\n\nexport abstract class Type {\n constructor(public modifiers: TypeModifier[] = []) {}\n abstract visitType(visitor: TypeVisitor, context: any): any;\n\n hasModifier(modifier: TypeModifier): boolean {\n return this.modifiers.indexOf(modifier) !== -1;\n }\n}\n\nexport enum BuiltinTypeName {\n Dynamic,\n Bool,\n String,\n Int,\n Number,\n Function,\n Inferred,\n None,\n}\n\nexport class BuiltinType extends Type {\n constructor(public name: BuiltinTypeName, modifiers?: TypeModifier[]) {\n super(modifiers);\n }\n visitType(visitor: TypeVisitor, context: any): any {\n return visitor.visitBuiltinType(this, context);\n }\n}\n\nexport class ExpressionType extends Type {\n constructor(\n public value: Expression, modifiers?: TypeModifier[], public typeParams: Type[]|null = null) {\n super(modifiers);\n }\n visitType(visitor: TypeVisitor, context: any): any {\n return visitor.visitExpressionType(this, context);\n }\n}\n\n\nexport class ArrayType extends Type {\n constructor(public of: Type, modifiers?: TypeModifier[]) {\n super(modifiers);\n }\n visitType(visitor: TypeVisitor, context: any): any {\n return visitor.visitArrayType(this, context);\n }\n}\n\n\nexport class MapType extends Type {\n public valueType: Type|null;\n constructor(valueType: Type|null|undefined, modifiers?: TypeModifier[]) {\n super(modifiers);\n this.valueType = valueType || null;\n }\n visitType(visitor: TypeVisitor, context: any): any {\n return visitor.visitMapType(this, context);\n }\n}\n\nexport const DYNAMIC_TYPE = new BuiltinType(BuiltinTypeName.Dynamic);\nexport const INFERRED_TYPE = new BuiltinType(BuiltinTypeName.Inferred);\nexport const BOOL_TYPE = new BuiltinType(BuiltinTypeName.Bool);\nexport const INT_TYPE = new BuiltinType(BuiltinTypeName.Int);\nexport const NUMBER_TYPE = new BuiltinType(BuiltinTypeName.Number);\nexport const STRING_TYPE = new BuiltinType(BuiltinTypeName.String);\nexport const FUNCTION_TYPE = new BuiltinType(BuiltinTypeName.Function);\nexport const NONE_TYPE = new BuiltinType(BuiltinTypeName.None);\n\nexport interface TypeVisitor {\n visitBuiltinType(type: BuiltinType, context: any): any;\n visitExpressionType(type: ExpressionType, context: any): any;\n visitArrayType(type: ArrayType, context: any): any;\n visitMapType(type: MapType, context: any): any;\n}\n\n///// Expressions\n\nexport enum UnaryOperator {\n Minus,\n Plus,\n}\n\nexport enum BinaryOperator {\n Equals,\n NotEquals,\n Identical,\n NotIdentical,\n Minus,\n Plus,\n Divide,\n Multiply,\n Modulo,\n And,\n Or,\n BitwiseAnd,\n Lower,\n LowerEquals,\n Bigger,\n BiggerEquals\n}\n\nexport function nullSafeIsEquivalent<T extends {isEquivalent(other: T): boolean}>(\n base: T|null, other: T|null) {\n if (base == null || other == null) {\n return base == other;\n }\n return base.isEquivalent(other);\n}\n\nexport function areAllEquivalent<T extends {isEquivalent(other: T): boolean}>(\n base: T[], other: T[]) {\n const len = base.length;\n if (len !== other.length) {\n return false;\n }\n for (let i = 0; i < len; i++) {\n if (!base[i].isEquivalent(other[i])) {\n return false;\n }\n }\n return true;\n}\n\nexport abstract class Expression {\n public type: Type|null;\n public sourceSpan: ParseSourceSpan|null;\n\n constructor(type: Type|null|undefined, sourceSpan?: ParseSourceSpan|null) {\n this.type = type || null;\n this.sourceSpan = sourceSpan || null;\n }\n\n abstract visitExpression(visitor: ExpressionVisitor, context: any): any;\n\n /**\n * Calculates whether this expression produces the same value as the given expression.\n * Note: We don't check Types nor ParseSourceSpans nor function arguments.\n */\n abstract isEquivalent(e: Expression): boolean;\n\n /**\n * Return true if the expression is constant.\n */\n abstract isConstant(): boolean;\n\n prop(name: string, sourceSpan?: ParseSourceSpan|null): ReadPropExpr {\n return new ReadPropExpr(this, name, null, sourceSpan);\n }\n\n key(index: Expression, type?: Type|null, sourceSpan?: ParseSourceSpan|null): ReadKeyExpr {\n return new ReadKeyExpr(this, index, type, sourceSpan);\n }\n\n callMethod(name: string|BuiltinMethod, params: Expression[], sourceSpan?: ParseSourceSpan|null):\n InvokeMethodExpr {\n return new InvokeMethodExpr(this, name, params, null, sourceSpan);\n }\n\n callFn(params: Expression[], sourceSpan?: ParseSourceSpan|null, pure?: boolean):\n InvokeFunctionExpr {\n return new InvokeFunctionExpr(this, params, null, sourceSpan, pure);\n }\n\n instantiate(params: Expression[], type?: Type|null, sourceSpan?: ParseSourceSpan|null):\n InstantiateExpr {\n return new InstantiateExpr(this, params, type, sourceSpan);\n }\n\n conditional(\n trueCase: Expression, falseCase: Expression|null = null,\n

sourceSpan?: ParseSourceSpan|null): ConditionalExpr {\n return new ConditionalExpr(this, trueCase, falseCase, null, sourceSpan);\n }\n\n equals(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Equals, this, rhs, null, sourceSpan);\n }\n notEquals(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.NotEquals, this, rhs, null, sourceSpan);\n }\n identical(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Identical, this, rhs, null, sourceSpan);\n }\n notIdentical(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.NotIdentical, this, rhs, null, sourceSpan);\n }\n minus(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Minus, this, rhs, null, sourceSpan);\n }\n plus(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Plus, this, rhs, null, sourceSpan);\n }\n divide(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new
BinaryOperatorExpr(BinaryOperator.Divide, this, rhs, null, sourceSpan);\n }\n multiply(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Multiply, this, rhs, null, sourceSpan);\n }\n modulo(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Modulo, this, rhs, null, sourceSpan);\n }\n and(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.And, this, rhs, null, sourceSpan);\n }\n bitwiseAnd(rhs: Expression, sourceSpan?: ParseSourceSpan|null, parens: boolean = true):\n BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.BitwiseAnd, this, rhs, null, sourceSpan, parens);\n }\n or(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Or, this, rhs, null, sourceSpan);\n }\n lower(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Lower, this, rhs, null, sourceSpan);\n }\n lowerEquals(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.LowerEquals, this, rhs, null, sourceSpan);\n }\n bigger(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.Bigger, this, rhs, null, sourceSpan);\n }\n biggerEquals(rhs: Expression, sourceSpan?: ParseSourceSpan|null): BinaryOperatorExpr {\n return new BinaryOperatorExpr(BinaryOperator.BiggerEquals, this, rhs, null, sourceSpan);\n }\n isBlank(sourceSpan?: ParseSourceSpan|null): Expression {\n // Note: We use equals by purpose here to compare to null and undefined in JS.\n // We use the typed null to allow strictNullChecks to narrow types.\n return this.equals(TYPED_NULL_EXPR, sourceSpan);\n }\n cast(type: Type, sourceSpan?: ParseSourceSpan|null): Expression {\n return new CastExpr(this, type, sourceSpan);\n }\n\n toStmt(): Statement {\n return new ExpressionStatement(this, null);\n }\n}\n\nexport enum BuiltinVar {\n This,\n Super,\n CatchError,\n CatchStack\n}\n\nexport class ReadVarExpr extends Expression {\n public name: string|null;\n public builtin: BuiltinVar|null;\n\n constructor(name: string|BuiltinVar, type?: Type|null, sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n if (typeof name === 'string') {\n this.name = name;\n this.builtin = null;\n } else {\n this.name = null;\n this.builtin = name;\n }\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof ReadVarExpr && this.name === e.name && this.builtin === e.builtin;\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitReadVarExpr(this, context);\n }\n\n set(value: Expression): WriteVarExpr {\n if (!this.name) {\n throw new Error(`Built in variable ${this.builtin} can not be assigned to.`);\n }\n return new WriteVarExpr(this.name, value, null, this.sourceSpan);\n }\n}\n\nexport class TypeofExpr extends Expression {\n constructor(public expr: Expression, type?: Type|null, sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n }\n\n

visitExpression(visitor: ExpressionVisitor, context: any) {\n return visitor.visitTypeofExpr(this, context);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof TypeofExpr && e.expr.isEquivalent(this.expr);\n }\n\n isConstant(): boolean {\n return this.expr.isConstant();\n }\n}\n\nexport class WrappedNodeExpr<T> extends Expression {\n constructor(public node: T, type?: Type|null, sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof WrappedNodeExpr && this.node === e.node;\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitWrappedNodeExpr(this, context);\n }\n}\n\nexport class WriteVarExpr extends Expression {\n public value: Expression;\n constructor(\n public name: string, value: Expression, type?: Type|null, sourceSpan?: ParseSourceSpan|null) {\n super(type || value.type, sourceSpan);\n this.value = value;\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof WriteVarExpr && this.name === e.name && this.value.isEquivalent(e.value);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitWriteVarExpr(this, context);\n }\n\n toDeclStmt(type?: Type|null, modifiers?: StmtModifier[]): DeclareVarStmt {\n return new DeclareVarStmt(this.name, this.value, type, modifiers, this.sourceSpan);\n }\n\n toConstDecl():
DeclareVarStmt {\n return this.toDeclStmt(INFERRED_TYPE, [StmtModifier.Final]);\n }\n}\n\nexport class WriteKeyExpr extends Expression {\n public value: Expression;\n constructor(\n public receiver: Expression, public index: Expression, value: Expression, type?: Type|null,\n sourceSpan?: ParseSourceSpan|null) {\n super(type || value.type, sourceSpan);\n this.value = value;\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof WriteKeyExpr && this.receiver.isEquivalent(e.receiver) &&\n this.index.isEquivalent(e.index) && this.value.isEquivalent(e.value);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitWriteKeyExpr(this, context);\n }\n}\n\n\nexport class WritePropExpr extends Expression {\n public value: Expression;\n constructor(\n public receiver: Expression, public name: string, value: Expression, type?: Type|null,\n sourceSpan?:
ParseSourceSpan|null) {\n super(type || value.type, sourceSpan);\n this.value = value;\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof WritePropExpr && this.receiver.isEquivalent(e.receiver) &&\n this.name === e.name && this.value.isEquivalent(e.value);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitWritePropExpr(this, context);\n }\n}\n\nexport enum BuiltinMethod {\n ConcatArray,\n SubscribeObservable,\n Bind\n}\n\nexport class InvokeMethodExpr extends Expression {\n public name: string|null;\n public builtin: BuiltinMethod|null;\n constructor(\n public receiver: Expression, method: string|BuiltinMethod, public args: Expression[],\n type?: Type|null, sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n if (typeof method === 'string') {\n this.name = method;\n this.builtin = null;\n } else {\n this.name = null;\n this.builtin = <BuiltinMethod>method;\n }\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof InvokeMethodExpr && this.receiver.isEquivalent(e.receiver) &&\n this.name === e.name && this.builtin === e.builtin && areAllEquivalent(this.args, e.args);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitInvokeMethodExpr(this, context);\n }\n}\n\n\nexport class InvokeFunctionExpr extends Expression {\n constructor(\n public fn: Expression, public args: Expression[], type?: Type|null,\n sourceSpan?: ParseSourceSpan|null, public pure = false) {\n super(type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof InvokeFunctionExpr && this.fn.isEquivalent(e.fn) &&\n areAllEquivalent(this.args, e.args) && this.pure === e.pure;\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor:
ExpressionVisitor, context: any): any {\n return visitor.visitInvokeFunctionExpr(this, context);\n }\n}\n\n\nexport class InstantiateExpr extends Expression {\n constructor(\n public classExpr: Expression, public args: Expression[], type?: Type|null,\n sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof InstantiateExpr &&

```
this.classExpr.isEquivalent(e.classExpr) &&\n        areAllEquivalent(this.args, e.args);\n  }\n\n  isConstant() {\n    return false;\n  }\n\n  visitExpression(visitor: ExpressionVisitor, context: any): any {\n    return visitor.visitInstantiateExpr(this, context);\n  }\n}\n\n\nexport class LiteralExpr extends Expression {\n  constructor(\n      public value: number|string|boolean|null|undefined, type?: Type|null,\n      sourceSpan?: ParseSourceSpan|null) {\n    super(type, sourceSpan);\n  }\n\n  isEquivalent(e: Expression): boolean {\n    return e instanceof
 LiteralExpr && this.value === e.value;\n  }\n\n  isConstant() {\n    return true;\n  }\n\n  visitExpression(visitor: ExpressionVisitor, context: any): any {\n    return visitor.visitLiteralExpr(this, context);\n  }\n}\n\nexport abstract class MessagePiece {\n  constructor(public text: string, public sourceSpan: ParseSourceSpan) {}\n}\nexport class LiteralPiece extends MessagePiece {}\nexport class PlaceholderPiece extends MessagePiece {}\n\nexport class LocalizedString extends Expression {\n  constructor(\n      readonly metaBlock: I18nMeta, readonly messageParts: LiteralPiece[],\n      readonly placeHolderNames: PlaceholderPiece[], readonly expressions: Expression[],\n      sourceSpan?: ParseSourceSpan|null) {\n    super(STRING_TYPE, sourceSpan);\n  }\n\n  isEquivalent(e: Expression): boolean {\n    // return e instanceof LocalizedString && this.message === e.message;\n    return false;\n  }\n\n  isConstant() {\n    return false;\n  }\n\n  visitExpression(visitor: ExpressionVisitor,
 context: any): any {\n    return visitor.visitLocalizedString(this, context);\n  }\n\n  /**\n   * Serialize the given `meta` and `messagePart` into \"cooked\" and \"raw\" strings that can be used\n   * in a `$localize` tagged string. The format of the metadata is the same as that parsed by\n   * `parseI18nMeta()`.\n   *\n   * @param meta The metadata to serialize\n   * @param messagePart The first part of the tagged string\n   */\n  serializeI18nHead(): CookedRawString {\n    const MEANING_SEPARATOR = '|';\n    const ID_SEPARATOR = '@@';\n    const LEGACY_ID_INDICATOR = '␟';\n\n    let metaBlock = this.metaBlock.description || '';\n    if (this.metaBlock.meaning) {\n      metaBlock = `${this.metaBlock.meaning}${MEANING_SEPARATOR}${metaBlock}`;\n    }\n    if (this.metaBlock.customId) {\n      metaBlock = `${metaBlock}${ID_SEPARATOR}${this.metaBlock.customId}`;\n    }\n    if (this.metaBlock.legacyIds) {\n      this.metaBlock.legacyIds.forEach(legacyId => {\n        metaBlock = `${metaBlock}${LEGACY_ID_INDICATOR}${legacyId}`;\n      });\n    }\n    return createCookedRawString(\n        metaBlock, this.messageParts[0].text,
 this.getMessagePartSourceSpan(0));\n  }\n\n  getMessagePartSourceSpan(i: number): ParseSourceSpan|null {\n    return this.messageParts[i]?.sourceSpan ?? this.sourceSpan;\n  }\n\n  getPlaceholderSourceSpan(i: number): ParseSourceSpan {\n    return this.placeHolderNames[i]?.sourceSpan ?? this.expressions[i]?.sourceSpan ??\n        this.sourceSpan;\n  }\n\n  /**\n   * Serialize the given `placeholderName` and `messagePart` into \"cooked\" and \"raw\" strings that\n   * can be used in a `$localize` tagged string.\n   *\n   * @param placeholderName The placeholder name to serialize\n   * @param messagePart The following message string after this placeholder\n   */\n  serializeI18nTemplatePart(partIndex: number): CookedRawString {\n    const placeholderName = this.placeHolderNames[partIndex - 1].text;\n    const messagePart = this.messageParts[partIndex];\n    return createCookedRawString(\n        placeholderName, messagePart.text,
 this.getMessagePartSourceSpan(partIndex));\n  }\n}\n\n/**\n * A structure to hold the cooked and raw strings of a template literal element, along with its\n * source-span range.\n */\nexport interface CookedRawString {\n  cooked: string;\n  raw: string;\n  range: ParseSourceSpan|null;\n}\n\nconst escapeSlashes = (str: string): string => str.replace(/\\\\/g, '\\\\\\\\');\nconst escapeStartingColon = (str: string): string => str.replace(/^:/, '\\\\:');\nconst escapeColons = (str: string): string => str.replace(/:/g, '\\\\:');\nconst escapeForMessagePart = (str: string): string =>\n    str.replace(/`/g, '\\\\`').replace(/\\${/g, '$\\\\{');\n\n/**\n * Creates a `{cooked, raw}` object from the `metaBlock` and `messagePart`.\n *\n * The `raw` text must have various character sequences escaped:\n * * \"\\\" would otherwise indicate that the next character is a control character.\n * * \"`\" and \"${\" are template
 string control sequences that would otherwise prematurely indicate\n *   the end of a message part.\n * * \":\" inside a metablock would prematurely indicate the end of the metablock.\n * * \":\" at the start of a messagePart with no metablock would erroneously indicate the start of a\n *   metablock.\n *\n * @param metaBlock Any metadata that should be prepended to the string\n * @param messagePart The message part of the string\n */\nfunction
```

createCookedRawString(\n metaBlock: string, messagePart: string, range: ParseSourceSpan|null): CookedRawString {\n if (metaBlock === '') {\n return {\n cooked: messagePart,\n raw: escapeForMessagePart(escapeStartingColon(escapeSlashes(messagePart))),\n range,\n };\n } else {\n return {\n cooked: `:${metaBlock}:${messagePart}`,\n raw: escapeForMessagePart(\n `:${escapeColons(escapeSlashes(metaBlock))}:${escapeSlashes(messagePart)}`),\n range,\n };\n }\n}\n\nexport class ExternalExpr extends Expression {\n constructor(\n public value: ExternalReference, type?: Type|null, public typeParams: Type[]|null = null,\n sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof ExternalExpr && this.value.name === e.value.name &&\n this.value.moduleName === e.value.moduleName && this.value.runtime === e.value.runtime;\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitExternalExpr(this, context);\n }\n}\n\nexport class ExternalReference {\n constructor(public moduleName: string|null, public name: string|null, public runtime?: any|null) {\n }\n // Note: no isEquivalent method here as we use this as an interface too.\n}\n\nexport class ConditionalExpr extends Expression {\n public trueCase: Expression;\n\n constructor(\n public condition: Expression, trueCase: Expression, public falseCase: Expression|null = null,\n type?: Type|null, sourceSpan?: ParseSourceSpan|null) {\n super(type || trueCase.type, sourceSpan);\n this.trueCase = trueCase;\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof ConditionalExpr && this.condition.isEquivalent(e.condition) &&\n this.trueCase.isEquivalent(e.trueCase) && nullSafeIsEquivalent(this.falseCase, e.falseCase);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitConditionalExpr(this, context);\n }\n}\n\n\nexport class NotExpr extends Expression {\n constructor(public condition: Expression, sourceSpan?: ParseSourceSpan|null) {\n super(BOOL_TYPE, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof NotExpr &&\n this.condition.isEquivalent(e.condition);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any):\n any {\n return visitor.visitNotExpr(this, context);\n }\n}\n\nexport class AssertNotNull extends Expression {\n constructor(public condition: Expression, sourceSpan?: ParseSourceSpan|null) {\n super(condition.type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof AssertNotNull &&\n this.condition.isEquivalent(e.condition);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitAssertNotNullExpr(this, context);\n }\n}\n\nexport class CastExpr extends Expression {\n constructor(public value: Expression, type?: Type|null, sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof CastExpr && this.value.isEquivalent(e.value);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitCastExpr(this, context);\n }\n}\n\n\nexport class FnParam {\n constructor(public name: string, public type: Type|null = null) {}\n\n isEquivalent(param: FnParam): boolean {\n return this.name === param.name;\n }\n}\n\n\nexport class FunctionExpr extends Expression {\n constructor(\n public params: FnParam[], public statements: Statement[], type?: Type|null,\n sourceSpan?: ParseSourceSpan|null, public name?: string|null) {\n super(type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof FunctionExpr &&\n areAllEquivalent(this.params, e.params) &&\n areAllEquivalent(this.statements, e.statements);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitFunctionExpr(this, context);\n }\n\n toDeclStmt(name: string, modifiers?: StmtModifier[]): DeclareFunctionStmt {\n return new DeclareFunctionStmt(\n name, this.params, this.statements, this.type, modifiers, this.sourceSpan);\n }\n}\n\n\nexport class UnaryOperatorExpr extends Expression {\n constructor(\n public operator: UnaryOperator, public expr: Expression, type?: Type|null,\n sourceSpan?: ParseSourceSpan|null, public parens: boolean = true) {\n super(type || NUMBER_TYPE, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof UnaryOperatorExpr && this.operator === e.operator &&\n this.expr.isEquivalent(e.expr);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor:

ExpressionVisitor, context: any): any {\n return visitor.visitUnaryOperatorExpr(this, context);\n }\n}\n\n\nexport class BinaryOperatorExpr extends Expression {\n public lhs: Expression;\n constructor(\n public operator: BinaryOperator, lhs: Expression, public rhs: Expression, type?: Type|null,\n sourceSpan?: ParseSourceSpan|null, public parens: boolean = true) {\n super(type || lhs.type, sourceSpan);\n this.lhs = lhs;\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof BinaryOperatorExpr && this.operator === e.operator &&\n this.lhs.isEquivalent(e.lhs) && this.rhs.isEquivalent(e.rhs);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitBinaryOperatorExpr(this, context);\n }\n}\n\n\nexport class ReadPropExpr extends Expression {\n constructor(\n public receiver: Expression, public name: string, type?: Type|null,\n sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof ReadPropExpr && this.receiver.isEquivalent(e.receiver) &&\n this.name === e.name;\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitReadPropExpr(this, context);\n }\n\n set(value: Expression): WritePropExpr {\n return new WritePropExpr(this.receiver, this.name, value, null, this.sourceSpan);\n }\n}\n\n\nexport class ReadKeyExpr extends Expression {\n constructor(\n public receiver: Expression, public index: Expression, type?: Type|null,\n sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof ReadKeyExpr && this.receiver.isEquivalent(e.receiver) &&\n this.index.isEquivalent(e.index);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitReadKeyExpr(this, context);\n }\n\n set(value: Expression): WriteKeyExpr {\n return new WriteKeyExpr(this.receiver, this.index, value, null, this.sourceSpan);\n }\n}\n\n\nexport class LiteralArrayExpr extends Expression {\n public entries: Expression[];\n constructor(entries: Expression[], type?: Type|null, sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n this.entries = entries;\n }\n\n isConstant() {\n return this.entries.every(e => e.isConstant());\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof LiteralArrayExpr &&\n areAllEquivalent(this.entries, e.entries);\n }\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitLiteralArrayExpr(this, context);\n }\n}\n\n\nexport class LiteralMapEntry {\n constructor(public key: string, public value: Expression, public quoted: boolean) {}\n isEquivalent(e: LiteralMapEntry): boolean {\n return this.key === e.key && this.value.isEquivalent(e.value);\n }\n}\n\n\nexport class LiteralMapExpr extends Expression {\n public valueType: Type|null = null;\n constructor(\n public entries: LiteralMapEntry[], type?: MapType|null, sourceSpan?: ParseSourceSpan|null) {\n super(type, sourceSpan);\n if (type) {\n this.valueType = type.valueType;\n }\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof LiteralMapExpr && areAllEquivalent(this.entries, e.entries);\n }\n\n isConstant() {\n return this.entries.every(e => e.value.isConstant());\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitLiteralMapExpr(this, context);\n }\n}\n\n\nexport class CommaExpr extends Expression {\n constructor(public parts: Expression[], sourceSpan?: ParseSourceSpan|null) {\n super(parts[parts.length - 1].type, sourceSpan);\n }\n\n isEquivalent(e: Expression): boolean {\n return e instanceof CommaExpr &&\n areAllEquivalent(this.parts, e.parts);\n }\n\n isConstant() {\n return false;\n }\n\n visitExpression(visitor: ExpressionVisitor, context: any): any {\n return visitor.visitCommaExpr(this, context);\n }\n}\n\n\nexport interface ExpressionVisitor {\n visitReadVarExpr(ast: ReadVarExpr, context: any): any;\n visitWriteVarExpr(expr: WriteVarExpr, context: any): any;\n visitWriteKeyExpr(expr: WriteKeyExpr, context: any): any;\n visitWritePropExpr(expr: WritePropExpr, context: any): any;\n visitInvokeMethodExpr(ast: InvokeMethodExpr, context: any): any;\n visitInvokeFunctionExpr(ast: InvokeFunctionExpr, context: any): any;\n visitInstantiateExpr(ast: InstantiateExpr, context: any): any;\n visitLiteralExpr(ast: LiteralExpr, context: any): any;\n visitLocalizedString(ast: LocalizedString, context: any): any;\n visitExternalExpr(ast: ExternalExpr, context: any): any;\n visitConditionalExpr(ast: ConditionalExpr, context: any): any;\n visitNotExpr(ast: NotExpr, context: any): any;\n visitAssertNotNullExpr(ast: AssertNotNull, context: any): any;\n visitCastExpr(ast: CastExpr, context: any): any;\n visitFunctionExpr(ast: FunctionExpr, context: any): any;\n visitUnaryOperatorExpr(ast: UnaryOperatorExpr, context: any): any;\n visitBinaryOperatorExpr(ast: BinaryOperatorExpr, context: any): any;\n

visitReadPropExpr(ast: ReadPropExpr, context: any): any;\n  visitReadKeyExpr(ast: ReadKeyExpr,
 context: any): any;\n  visitLiteralArrayExpr(ast: LiteralArrayExpr, context: any): any;\n  visitLiteralMapExpr(ast:
LiteralMapExpr, context: any): any;\n  visitCommaExpr(ast: CommaExpr, context: any): any;\n
visitWrappedNodeExpr(ast: WrappedNodeExpr<any>, context: any): any;\n  visitTypeofExpr(ast: TypeofExpr,
context: any): any;\n}\n\nexport const THIS_EXPR = new ReadVarExpr(BuiltinVar.This, null, null);\nexport const
SUPER_EXPR = new ReadVarExpr(BuiltinVar.Super, null, null);\nexport const CATCH_ERROR_VAR = new
ReadVarExpr(BuiltinVar.CatchError, null, null);\nexport const CATCH_STACK_VAR = new
ReadVarExpr(BuiltinVar.CatchStack, null, null);\nexport const NULL_EXPR = new LiteralExpr(null, null,
null);\nexport const TYPED_NULL_EXPR = new LiteralExpr(null, INFERRED_TYPE, null);\n\n////
Statements\nexport enum StmtModifier {\n  Final,\n  Private,\n  Exported,\n  Static,\n}\n\nexport class
LeadingComment {\n  constructor(public text: string, public multiline: boolean, public trailingNewline:
 boolean) {}\n  toString() {\n    return this.multiline ? ` ${this.text} ` : this.text;\n  }\n}\nexport class
JSDocComment extends LeadingComment {\n  constructor(public tags: JSDocTag[]) {\n    super('', /* multiline */
true, /* trailingNewline */ true);\n  }\n  toString(): string {\n    return serializeTags(this.tags);\n  }\n}\n\nexport
abstract class Statement {\n  constructor(\n      public modifiers: StmtModifier[] = [], public sourceSpan:
ParseSourceSpan|null = null,\n      public leadingComments?: LeadingComment[]) {}\n  /**\n   * Calculates whether
this statement produces the same value as the given statement.\n   * Note: We don't check Types nor
ParseSourceSpans nor function arguments.\n   */\n  abstract isEquivalent(stmt: Statement): boolean;\n\n  abstract
visitStatement(visitor: StatementVisitor, context: any): any;\n\n  hasModifier(modifier: StmtModifier): boolean {\n
return this.modifiers.indexOf(modifier) !== -1;\n  }\n\n  addLeadingComment(leadingComment:
LeadingComment):
 void {\n    this.leadingComments = this.leadingComments ?? [];\n
this.leadingComments.push(leadingComment);\n  }\n}\n\nexport class DeclareVarStmt extends Statement {\n
public type: Type|null;\n  constructor(\n      public name: string, public value?: Expression, type?: Type|null,
modifiers?: StmtModifier[],\n      sourceSpan?: ParseSourceSpan|null, leadingComments?: LeadingComment[]) {\n
super(modifiers, sourceSpan, leadingComments);\n    this.type = type || (value && value.type) || null;\n  }\n
isEquivalent(stmt: Statement): boolean {\n    return stmt instanceof DeclareVarStmt && this.name === stmt.name
&&\n        (this.value ? !!stmt.value && this.value.isEquivalent(stmt.value) : !stmt.value);\n  }\n
visitStatement(visitor: StatementVisitor, context: any): any {\n    return visitor.visitDeclareVarStmt(this, context);\n
}\n}\n\nexport class DeclareFunctionStmt extends Statement {\n  public type: Type|null;\n  constructor(\n      public
name: string, public params:
 FnParam[], public statements: Statement[],\n      type?: Type|null, modifiers?: StmtModifier[], sourceSpan?:
ParseSourceSpan|null,\n      leadingComments?: LeadingComment[]) {\n    super(modifiers, sourceSpan,
leadingComments);\n    this.type = type || null;\n  }\n  isEquivalent(stmt: Statement): boolean {\n    return stmt
instanceof DeclareFunctionStmt && areAllEquivalent(this.params, stmt.params) &&\n
areAllEquivalent(this.statements, stmt.statements);\n  }\n  visitStatement(visitor: StatementVisitor, context: any):
any {\n    return visitor.visitDeclareFunctionStmt(this, context);\n  }\n}\n\nexport class ExpressionStatement
extends Statement {\n  constructor(\n      public expr: Expression, sourceSpan?: ParseSourceSpan|null,\n
leadingComments?: LeadingComment[]) {\n    super([], sourceSpan, leadingComments);\n  }\n  isEquivalent(stmt:
Statement): boolean {\n    return stmt instanceof ExpressionStatement && this.expr.isEquivalent(stmt.expr);\n  }\n
visitStatement(visitor:
 StatementVisitor, context: any): any {\n    return visitor.visitExpressionStmt(this, context);\n  }\n}\n\n\nexport class
ReturnStatement extends Statement {\n  constructor(\n      public value: Expression, sourceSpan:
ParseSourceSpan|null = null,\n      leadingComments?: LeadingComment[]) {\n    super([], sourceSpan,
leadingComments);\n  }\n  isEquivalent(stmt: Statement): boolean {\n    return stmt instanceof ReturnStatement &&
this.value.isEquivalent(stmt.value);\n  }\n  visitStatement(visitor: StatementVisitor, context: any): any {\n    return
visitor.visitReturnStmt(this, context);\n  }\n}\n\nexport class AbstractClassPart {\n  constructor(public type:
Type|null = null, public modifiers: StmtModifier[] = []) {}\n  hasModifier(modifier: StmtModifier): boolean {\n

return this.modifiers.indexOf(modifier) !== -1;\n  }\n}\n\nexport class ClassField extends AbstractClassPart {\n constructor(\n      public name: string, type?: Type|null, modifiers?: StmtModifier[],\n      public
 initializer?: Expression) {\n    super(type, modifiers);\n  }\n  isEquivalent(f: ClassField) {\n    return this.name ===
f.name;\n  }\n}\n\n\nexport class ClassMethod extends AbstractClassPart {\n  constructor(\n      public name:
string|null, public params: FnParam[], public body: Statement[],\n      type?: Type|null, modifiers?: StmtModifier[])
{\n    super(type, modifiers);\n  }\n  isEquivalent(m: ClassMethod) {\n    return this.name === m.name &&
areAllEquivalent(this.body, m.body);\n  }\n}\n\n\nexport class ClassGetter extends AbstractClassPart {\n
constructor(\n      public name: string, public body: Statement[], type?: Type|null, modifiers?: StmtModifier[]) {\n
super(type, modifiers);\n  }\n  isEquivalent(m: ClassGetter) {\n    return this.name === m.name &&
areAllEquivalent(this.body, m.body);\n  }\n}\n\n\nexport class ClassStmt extends Statement {\n  constructor(\n
public name: string, public parent: Expression|null, public fields: ClassField[],\n      public getters:
 ClassGetter[], public constructorMethod: ClassMethod,\n      public methods: ClassMethod[], modifiers?:
StmtModifier[], sourceSpan?: ParseSourceSpan|null,\n      leadingComments?: LeadingComment[]) {\n
super(modifiers, sourceSpan, leadingComments);\n  }\n  isEquivalent(stmt: Statement): boolean {\n    return stmt
instanceof ClassStmt && this.name === stmt.name &&\n        nullSafeIsEquivalent(this.parent, stmt.parent) &&\n
    areAllEquivalent(this.fields, stmt.fields) &&\n        areAllEquivalent(this.getters, stmt.getters) &&\n
this.constructorMethod.isEquivalent(stmt.constructorMethod) &&\n        areAllEquivalent(this.methods,
stmt.methods);\n  }\n  visitStatement(visitor: StatementVisitor, context: any): any {\n    return
visitor.visitDeclareClassStmt(this, context);\n  }\n}\n\n\nexport class IfStmt extends Statement {\n  constructor(\n
public condition: Expression, public trueCase: Statement[],\n      public falseCase: Statement[] = [], sourceSpan?:
ParseSourceSpan|null,\n
      leadingComments?: LeadingComment[]) {\n    super([], sourceSpan, leadingComments);\n  }\n
isEquivalent(stmt: Statement): boolean {\n    return stmt instanceof IfStmt &&
this.condition.isEquivalent(stmt.condition) &&\n        areAllEquivalent(this.trueCase, stmt.trueCase) &&\n
areAllEquivalent(this.falseCase, stmt.falseCase);\n  }\n  visitStatement(visitor: StatementVisitor, context: any): any
{\n    return visitor.visitIfStmt(this, context);\n  }\n}\n\nexport class TryCatchStmt extends Statement {\n
constructor(\n      public bodyStmts: Statement[], public catchStmts: Statement[],\n      sourceSpan:
ParseSourceSpan|null = null, leadingComments?: LeadingComment[]) {\n    super([], sourceSpan,
leadingComments);\n  }\n  isEquivalent(stmt: Statement): boolean {\n    return stmt instanceof TryCatchStmt &&
areAllEquivalent(this.bodyStmts, stmt.bodyStmts) &&\n        areAllEquivalent(this.catchStmts, stmt.catchStmts);\n
}\n  visitStatement(visitor: StatementVisitor,
 context: any): any {\n    return visitor.visitTryCatchStmt(this, context);\n  }\n}\n\n\nexport class ThrowStmt
extends Statement {\n  constructor(\n      public error: Expression, sourceSpan: ParseSourceSpan|null = null,\n
leadingComments?: LeadingComment[]) {\n    super([], sourceSpan, leadingComments);\n  }\n  isEquivalent(stmt:
ThrowStmt): boolean {\n    return stmt instanceof TryCatchStmt && this.error.isEquivalent(stmt.error);\n  }\n
visitStatement(visitor: StatementVisitor, context: any): any {\n    return visitor.visitThrowStmt(this, context);\n
}\n}\n\nexport interface StatementVisitor {\n  visitDeclareVarStmt(stmt: DeclareVarStmt, context: any): any;\n
visitDeclareFunctionStmt(stmt: DeclareFunctionStmt, context: any): any;\n  visitExpressionStmt(stmt:
ExpressionStatement, context: any): any;\n  visitReturnStmt(stmt: ReturnStatement, context: any): any;\n
visitDeclareClassStmt(stmt: ClassStmt, context: any): any;\n  visitIfStmt(stmt: IfStmt, context: any): any;\n
 visitTryCatchStmt(stmt: TryCatchStmt, context: any): any;\n  visitThrowStmt(stmt: ThrowStmt, context: any):
any;\n}\n\nexport class AstTransformer implements StatementVisitor, ExpressionVisitor {\n  transformExpr(expr:
Expression, context: any): Expression {\n    return expr;\n  }\n\n  transformStmt(stmt: Statement, context: any):
Statement {\n    return stmt;\n  }\n\n  visitReadVarExpr(ast: ReadVarExpr, context: any): any {\n    return
this.transformExpr(ast, context);\n  }\n\n  visitWrappedNodeExpr(ast: WrappedNodeExpr<any>, context: any): any
{\n    return this.transformExpr(ast, context);\n  }\n\n  visitTypeofExpr(expr: TypeofExpr, context: any): any {\n
return this.transformExpr(\n        new TypeofExpr(expr.expr.visitExpression(this, context), expr.type,
expr.sourceSpan),\n        context);\n  }\n\n  visitWriteVarExpr(expr: WriteVarExpr, context: any): any {\n    return

```
this.transformExpr(\n new WriteVarExpr(\n expr.name, expr.value.visitExpression(this, context),
expr.type, expr.sourceSpan),\n context);\n }\n\n visitWriteKeyExpr(expr: WriteKeyExpr, context: any): any
{\n return this.transformExpr(\n new WriteKeyExpr(\n expr.receiver.visitExpression(this, context),
expr.index.visitExpression(this, context),\n expr.value.visitExpression(this, context), expr.type,
expr.sourceSpan),\n context);\n }\n\n visitWritePropExpr(expr: WritePropExpr, context: any): any {\n return
this.transformExpr(\n new WritePropExpr(\n expr.receiver.visitExpression(this, context), expr.name,\n
expr.value.visitExpression(this, context), expr.type, expr.sourceSpan),\n context);\n }\n\n
visitInvokeMethodExpr(ast: InvokeMethodExpr, context: any): any {\n const method = ast.builtin || ast.name;\n
return this.transformExpr(\n new InvokeMethodExpr(\n ast.receiver.visitExpression(this, context),
method!,\n this.visitAllExpressions(ast.args, context),
ast.type, ast.sourceSpan),\n context);\n }\n\n visitInvokeFunctionExpr(ast: InvokeFunctionExpr, context:
any): any {\n return this.transformExpr(\n new InvokeFunctionExpr(\n ast.fn.visitExpression(this,
context), this.visitAllExpressions(ast.args, context),\n ast.type, ast.sourceSpan),\n context);\n }\n\n
visitInstantiateExpr(ast: InstantiateExpr, context: any): any {\n return this.transformExpr(\n new
InstantiateExpr(\n ast.classExpr.visitExpression(this, context),\n this.visitAllExpressions(ast.args,
context), ast.type, ast.sourceSpan),\n context);\n }\n\n visitLiteralExpr(ast: LiteralExpr, context: any): any {\n
return this.transformExpr(ast, context);\n }\n\n visitLocalizedString(ast: LocalizedString, context: any): any {\n
return this.transformExpr(\n new LocalizedString(\n ast.metaBlock, ast.messageParts,
ast.placeHolderNames,\n this.visitAllExpressions(ast.expressions,
context), ast.sourceSpan),\n context);\n }\n\n visitExternalExpr(ast: ExternalExpr, context: any): any {\n
return this.transformExpr(ast, context);\n }\n\n visitConditionalExpr(ast: ConditionalExpr, context: any): any {\n
return this.transformExpr(\n new ConditionalExpr(\n ast.condition.visitExpression(this, context),\n
ast.trueCase.visitExpression(this, context),\n ast.falseCase!.visitExpression(this, context), ast.type,
ast.sourceSpan),\n context);\n }\n\n visitNotExpr(ast: NotExpr, context: any): any {\n return
this.transformExpr(\n new NotExpr(ast.condition.visitExpression(this, context), ast.sourceSpan), context);\n
}\n\n visitAssertNotNullExpr(ast: AssertNotNull, context: any): any {\n return this.transformExpr(\n new
AssertNotNull(ast.condition.visitExpression(this, context), ast.sourceSpan), context);\n }\n\n visitCastExpr(ast:
CastExpr, context: any): any {\n return
this.transformExpr(\n new CastExpr(ast.value.visitExpression(this, context), ast.type, ast.sourceSpan),
context);\n }\n\n visitFunctionExpr(ast: FunctionExpr, context: any): any {\n return this.transformExpr(\n
new FunctionExpr(\n ast.params, this.visitAllStatements(ast.statements, context), ast.type, ast.sourceSpan),\n
context);\n }\n\n visitUnaryOperatorExpr(ast: UnaryOperatorExpr, context: any): any {\n return
this.transformExpr(\n new UnaryOperatorExpr(\n ast.operator, ast.expr.visitExpression(this, context),
ast.type, ast.sourceSpan),\n context);\n }\n\n visitBinaryOperatorExpr(ast: BinaryOperatorExpr, context: any):
any {\n return this.transformExpr(\n new BinaryOperatorExpr(\n ast.operator,
ast.lhs.visitExpression(this, context),\n ast.rhs.visitExpression(this, context), ast.type, ast.sourceSpan),\n
context);\n }\n\n visitReadPropExpr(ast: ReadPropExpr, context: any): any
{\n return this.transformExpr(\n new ReadPropExpr(\n ast.receiver.visitExpression(this, context),
ast.name, ast.type, ast.sourceSpan),\n context);\n }\n\n visitReadKeyExpr(ast: ReadKeyExpr, context: any):
any {\n return this.transformExpr(\n new ReadKeyExpr(\n ast.receiver.visitExpression(this, context),
ast.index.visitExpression(this, context),\n ast.type, ast.sourceSpan),\n context);\n }\n\n
visitLiteralArrayExpr(ast: LiteralArrayExpr, context: any): any {\n return this.transformExpr(\n new
LiteralArrayExpr(\n this.visitAllExpressions(ast.entries, context), ast.type, ast.sourceSpan),\n context);\n
}\n\n visitLiteralMapExpr(ast: LiteralMapExpr, context: any): any {\n const entries = ast.entries.map(\n
(entry): LiteralMapEntry => new LiteralMapEntry(\n entry.key, entry.value.visitExpression(this, context),
entry.quoted));\n const mapType = new MapType(ast.valueType);\n
return this.transformExpr(new LiteralMapExpr(entries, mapType, ast.sourceSpan), context);\n }\n
visitCommaExpr(ast: CommaExpr, context: any): any {\n return this.transformExpr(\n new
```

```
CommaExpr(this.visitAllExpressions(ast.parts, context), ast.sourceSpan), context);\n  }\n
visitAllExpressions(exprs: Expression[], context: any): Expression[] {\n    return exprs.map(expr =>
expr.visitExpression(this, context));\n  }\n\n  visitDeclareVarStmt(stmt: DeclareVarStmt, context: any): any {\n
const value = stmt.value && stmt.value.visitExpression(this, context);\n    return this.transformStmt(\n        new
DeclareVarStmt(\n            stmt.name, value, stmt.type, stmt.modifiers, stmt.sourceSpan, stmt.leadingComments),\n
    context);\n  }\n  visitDeclareFunctionStmt(stmt: DeclareFunctionStmt, context: any): any {\n    return
this.transformStmt(\n        new DeclareFunctionStmt(\n            stmt.name, stmt.params,
this.visitAllStatements(stmt.statements, context), stmt.type,\n
          stmt.modifiers, stmt.sourceSpan, stmt.leadingComments),\n        context);\n  }\n\n  visitExpressionStmt(stmt:
ExpressionStatement, context: any): any {\n    return this.transformStmt(\n        new ExpressionStatement(\n
stmt.expr.visitExpression(this, context), stmt.sourceSpan, stmt.leadingComments),\n        context);\n  }\n\n
visitReturnStmt(stmt: ReturnStatement, context: any): any {\n    return this.transformStmt(\n        new
ReturnStatement(\n            stmt.value.visitExpression(this, context), stmt.sourceSpan, stmt.leadingComments),\n
context);\n  }\n\n  visitDeclareClassStmt(stmt: ClassStmt, context: any): any {\n    const parent =
stmt.parent!.visitExpression(this, context);\n    const getters = stmt.getters.map(\n        getter => new ClassGetter(\n
      getter.name, this.visitAllStatements(getter.body, context), getter.type,\n            getter.modifiers));\n    const
ctorMethod = stmt.constructorMethod &&\n        new ClassMethod(stmt.constructorMethod.name,
 stmt.constructorMethod.params,\n                this.visitAllStatements(stmt.constructorMethod.body, context),\n
              stmt.constructorMethod.type, stmt.constructorMethod.modifiers);\n    const methods =
stmt.methods.map(\n        method => new ClassMethod(\n            method.name, method.params,
this.visitAllStatements(method.body, context), method.type,\n            method.modifiers));\n    return
this.transformStmt(\n        new ClassStmt(\n            stmt.name, parent, stmt.fields, getters, ctorMethod, methods,
stmt.modifiers,\n            stmt.sourceSpan),\n        context);\n  }\n\n  visitIfStmt(stmt: IfStmt, context: any): any {\n
return this.transformStmt(\n        new IfStmt(\n            stmt.condition.visitExpression(this, context),\n
this.visitAllStatements(stmt.trueCase, context),\n            this.visitAllStatements(stmt.falseCase, context),
stmt.sourceSpan,\n            stmt.leadingComments),\n
      context);\n  }\n\n  visitTryCatchStmt(stmt: TryCatchStmt, context: any): any {\n    return this.transformStmt(\n
    new TryCatchStmt(\n            this.visitAllStatements(stmt.bodyStmts, context),\n
this.visitAllStatements(stmt.catchStmts, context), stmt.sourceSpan,\n            stmt.leadingComments),\n
context);\n  }\n\n  visitThrowStmt(stmt: ThrowStmt, context: any): any {\n    return this.transformStmt(\n        new
ThrowStmt(\n            stmt.error.visitExpression(this, context), stmt.sourceSpan, stmt.leadingComments),\n
context);\n  }\n\n  visitAllStatements(stmts: Statement[], context: any): Statement[] {\n    return stmts.map(stmt =>
stmt.visitStatement(this, context));\n  }\n}\n\n\nexport class RecursiveAstVisitor implements StatementVisitor,
ExpressionVisitor {\n  visitType(ast: Type, context: any): any {\n    return ast;\n  }\n  visitExpression(ast:
Expression, context: any): any {\n    if (ast.type) {\n      ast.type.visitType(this, context);\n
  }\n    return ast;\n  }\n  visitBuiltinType(type: BuiltinType, context: any): any {\n    return this.visitType(type,
context);\n  }\n  visitExpressionType(type: ExpressionType, context: any): any {\n    type.value.visitExpression(this,
context);\n    if (type.typeParams !== null) {\n      type.typeParams.forEach(param => this.visitType(param,
context));\n    }\n    return this.visitType(type, context);\n  }\n  visitArrayType(type: ArrayType, context: any): any
{\n    return this.visitType(type, context);\n  }\n  visitMapType(type: MapType, context: any): any {\n    return
this.visitType(type, context);\n  }\n  visitWrappedNodeExpr(ast: WrappedNodeExpr<any>, context: any): any {\n
return ast;\n  }\n  visitTypeofExpr(ast: TypeofExpr, context: any): any {\n    return this.visitExpression(ast,
context);\n  }\n  visitReadVarExpr(ast: ReadVarExpr, context: any): any {\n    return this.visitExpression(ast,
context);\n  }\n  visitWriteVarExpr(ast: WriteVarExpr, context: any): any
 {\n    ast.value.visitExpression(this, context);\n    return this.visitExpression(ast, context);\n  }\n
visitWriteKeyExpr(ast: WriteKeyExpr, context: any): any {\n    ast.receiver.visitExpression(this, context);\n
ast.index.visitExpression(this, context);\n    ast.value.visitExpression(this, context);\n    return
this.visitExpression(ast, context);\n  }\n  visitWritePropExpr(ast: WritePropExpr, context: any): any {\n
```

ast.receiver.visitExpression(this, context);\n ast.value.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitInvokeMethodExpr(ast: InvokeMethodExpr, context: any): any {\n ast.receiver.visitExpression(this, context);\n this.visitAllExpressions(ast.args, context);\n return this.visitExpression(ast, context);\n }\n visitInvokeFunctionExpr(ast: InvokeFunctionExpr, context: any): any {\n ast.fn.visitExpression(this, context);\n this.visitAllExpressions(ast.args, context);\n return this.visitExpression(ast, context);\n }\n visitInstantiateExpr(ast: InstantiateExpr, context: any): any {\n ast.classExpr.visitExpression(this, context);\n this.visitAllExpressions(ast.args, context);\n return this.visitExpression(ast, context);\n }\n visitLiteralExpr(ast: LiteralExpr, context: any): any {\n return this.visitExpression(ast, context);\n }\n visitLocalizedString(ast: LocalizedString, context: any): any {\n return this.visitExpression(ast, context);\n }\n visitExternalExpr(ast: ExternalExpr, context: any): any {\n if (ast.typeParams) {\n ast.typeParams.forEach(type => type.visitType(this, context));\n }\n return this.visitExpression(ast, context);\n }\n visitConditionalExpr(ast: ConditionalExpr, context: any): any {\n ast.condition.visitExpression(this, context);\n ast.trueCase.visitExpression(this, context);\n ast.falseCase!.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitNotExpr(ast: NotExpr, context: any): any {\n ast.condition.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitAssertNotNullExpr(ast: AssertNotNull, context: any): any {\n ast.condition.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitCastExpr(ast: CastExpr, context: any): any {\n ast.value.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitFunctionExpr(ast: FunctionExpr, context: any): any {\n this.visitAllStatements(ast.statements, context);\n return this.visitExpression(ast, context);\n }\n visitUnaryOperatorExpr(ast: UnaryOperatorExpr, context: any): any {\n ast.expr.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitBinaryOperatorExpr(ast: BinaryOperatorExpr, context: any): any {\n ast.lhs.visitExpression(this, context);\n ast.rhs.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitReadPropExpr(ast: ReadPropExpr, context: any): any {\n ast.receiver.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitReadKeyExpr(ast: ReadKeyExpr, context: any): any {\n ast.receiver.visitExpression(this, context);\n ast.index.visitExpression(this, context);\n return this.visitExpression(ast, context);\n }\n visitLiteralArrayExpr(ast: LiteralArrayExpr, context: any): any {\n this.visitAllExpressions(ast.entries, context);\n return this.visitExpression(ast, context);\n }\n visitLiteralMapExpr(ast: LiteralMapExpr, context: any): any {\n ast.entries.forEach((entry) => entry.value.visitExpression(this, context));\n return this.visitExpression(ast, context);\n }\n visitCommaExpr(ast: CommaExpr, context: any): any {\n this.visitAllExpressions(ast.parts, context);\n return this.visitExpression(ast, context);\n }\n visitAllExpressions(exprs: Expression[], context: any): void {\n exprs.forEach(expr => expr.visitExpression(this, context));\n }\n\n visitDeclareVarStmt(stmt: DeclareVarStmt, context: any): any {\n if (stmt.value) {\n stmt.value.visitExpression(this, context);\n }\n if (stmt.type) {\n stmt.type.visitType(this, context);\n }\n return stmt;\n }\n visitDeclareFunctionStmt(stmt: DeclareFunctionStmt, context: any): any {\n this.visitAllStatements(stmt.statements, context);\n if (stmt.type) {\n stmt.type.visitType(this, context);\n }\n return stmt;\n }\n visitExpressionStmt(stmt: ExpressionStatement, context: any): any {\n stmt.expr.visitExpression(this, context);\n return stmt;\n }\n visitReturnStmt(stmt: ReturnStatement, context: any): any {\n stmt.value.visitExpression(this, context);\n return stmt;\n }\n visitDeclareClassStmt(stmt: ClassStmt, context: any): any {\n stmt.parent!.visitExpression(this, context);\n stmt.getters.forEach(getter => this.visitAllStatements(getter.body, context));\n if (stmt.constructorMethod) {\n this.visitAllStatements(stmt.constructorMethod.body, context);\n }\n stmt.methods.forEach(method => this.visitAllStatements(method.body, context));\n return stmt;\n }\n visitIfStmt(stmt: IfStmt, context: any): any {\n stmt.condition.visitExpression(this, context);\n this.visitAllStatements(stmt.trueCase, context);\n this.visitAllStatements(stmt.falseCase, context);\n return stmt;\n }\n visitTryCatchStmt(stmt: TryCatchStmt, context: any): any {\n this.visitAllStatements(stmt.bodyStmts, context);\n

this.visitAllStatements(stmt.catchStmts, context);\n    return stmt;\n  }\n  visitThrowStmt(stmt: ThrowStmt, context: any): any {\n    stmt.error.visitExpression(this, context);\n    return stmt;\n  }\n  visitAllStatements(stmts: Statement[], context: any): void {\n    stmts.forEach(stmt => stmt.visitStatement(this, context));\n  }\n}\n\nexport function findReadVarNames(stmts: Statement[]): Set<string> {\n  const visitor = new _ReadVarVisitor();\n  visitor.visitAllStatements(stmts, null);\n  return visitor.varNames;\n}\n\nclass _ReadVarVisitor extends RecursiveAstVisitor {\n  varNames = new Set<string>();\n  visitDeclareFunctionStmt(stmt: DeclareFunctionStmt, context: any): any {\n    // Don't descend into nested functions\n    return stmt;\n  }\n  visitDeclareClassStmt(stmt: ClassStmt, context: any): any {\n    // Don't descend into nested classes\n    return stmt;\n  }\n  visitReadVarExpr(ast: ReadVarExpr, context: any): any {\n    if (ast.name) {\n      this.varNames.add(ast.name);\n    }\n    return null;\n  }\n}\n\nexport function collectExternalReferences(stmts: Statement[]): ExternalReference[] {\n  const visitor = new _FindExternalReferencesVisitor();\n  visitor.visitAllStatements(stmts, null);\n  return visitor.externalReferences;\n}\n\nclass _FindExternalReferencesVisitor extends RecursiveAstVisitor {\n  externalReferences: ExternalReference[] = [];\n  visitExternalExpr(e: ExternalExpr, context: any) {\n    this.externalReferences.push(e.value);\n    return super.visitExternalExpr(e, context);\n  }\n}\n\nexport function applySourceSpanToStatementIfNeeded(\n    stmt: Statement, sourceSpan: ParseSourceSpan|null): Statement {\n  if (!sourceSpan) {\n    return stmt;\n  }\n  const transformer = new _ApplySourceSpanTransformer(sourceSpan);\n  return stmt.visitStatement(transformer, null);\n}\n\nexport function applySourceSpanToExpressionIfNeeded(\n    expr: Expression, sourceSpan: ParseSourceSpan|null): Expression {\n  if (!sourceSpan) {\n    return expr;\n  }\n  const transformer = new _ApplySourceSpanTransformer(sourceSpan);\n  return expr.visitExpression(transformer, null);\n}\n\nclass _ApplySourceSpanTransformer extends AstTransformer {\n  constructor(private sourceSpan: ParseSourceSpan) {\n    super();\n  }\n  private _clone(obj: any): any {\n    const clone = Object.create(obj.constructor.prototype);\n    for (let prop of Object.keys(obj)) {\n      clone[prop] = obj[prop];\n    }\n    return clone;\n  }\n\n  transformExpr(expr: Expression, context: any): Expression {\n    if (!expr.sourceSpan) {\n      expr = this._clone(expr);\n      expr.sourceSpan = this.sourceSpan;\n    }\n    return expr;\n  }\n\n  transformStmt(stmt: Statement, context: any): Statement {\n    if (!stmt.sourceSpan) {\n      stmt = this._clone(stmt);\n      stmt.sourceSpan = this.sourceSpan;\n    }\n    return stmt;\n  }\n}\n\nexport function leadingComment(\n    text: string, multiline: boolean = false, trailingNewline: boolean = true): LeadingComment {\n  return new LeadingComment(text, multiline, trailingNewline);\n}\n\nexport function jsDocComment(tags: JSDocTag[] = []): JSDocComment {\n  return new JSDocComment(tags);\n}\n\nexport function variable(\n    name: string, type?: Type|null, sourceSpan?: ParseSourceSpan|null): ReadVarExpr {\n  return new ReadVarExpr(name, type, sourceSpan);\n}\n\nexport function importExpr(\n    id: ExternalReference, typeParams: Type[]|null = null,\n    sourceSpan?: ParseSourceSpan|null):\n  ExternalExpr {\n  return new ExternalExpr(id, null, typeParams, sourceSpan);\n}\n\nexport function importType(\n  id: ExternalReference, typeParams?: Type[]|null,\n    typeModifiers?: TypeModifier[]): ExpressionType|null {\n  return id != null ? expressionType(importExpr(id, typeParams, null), typeModifiers) : null;\n}\n\nexport function expressionType(\n    expr: Expression, typeModifiers?: TypeModifier[], typeParams?: Type[]|null): ExpressionType {\n  return new ExpressionType(expr, typeModifiers, typeParams);\n}\n\nexport function typeofExpr(expr: Expression) {\n  return new TypeofExpr(expr);\n}\n\nexport function literalArr(\n    values: Expression[], type?: Type|null, sourceSpan?: ParseSourceSpan|null): LiteralArrayExpr {\n  return new LiteralArrayExpr(values, type, sourceSpan);\n}\n\nexport function literalMap(\n    values: {key: string, quoted: boolean, value: Expression}[],\n    type: MapType|null = null): LiteralMapExpr {\n  return new LiteralMapExpr(\n    values.map(e => new LiteralMapEntry(e.key, e.value, e.quoted)), type, null);\n}\n\nexport function unary(\n    operator: UnaryOperator, expr: Expression, type?: Type,\n    sourceSpan?: ParseSourceSpan|null):\n  UnaryOperatorExpr {\n  return new UnaryOperatorExpr(operator, expr, type, sourceSpan);\n}\n\nexport function not(expr: Expression, sourceSpan?: ParseSourceSpan|null): NotExpr {\n  return new NotExpr(expr, sourceSpan);\n}\n\nexport function assertNotNull(expr: Expression, sourceSpan?: ParseSourceSpan|null):\n  AssertNotNull {\n  return new AssertNotNull(expr, sourceSpan);\n}\n\nexport function fn(\n    params: FnParam[],

body: Statement[], type?: Type|null, sourceSpan?: ParseSourceSpan|null,\n name?: string|null): FunctionExpr {\n return new FunctionExpr(params, body, type, sourceSpan, name);\n}\n\nexport function ifStmt(\n condition: Expression, thenClause: Statement[], elseClause?: Statement[],\n sourceSpan?: ParseSourceSpan, leadingComments?: LeadingComment[]) {\n return new IfStmt(condition, thenClause, elseClause, sourceSpan, leadingComments);\n}\n\nexport function literal(\n value: any, type?: Type|null, sourceSpan?: ParseSourceSpan|null): LiteralExpr {\n return new LiteralExpr(value, type, sourceSpan);\n}\n\nexport function localizedString(\n metaBlock: I18nMeta, messageParts: LiteralPiece[], placeholderNames: PlaceholderPiece[],\n expressions: Expression[], sourceSpan?: ParseSourceSpan|null): LocalizedString {\n return new LocalizedString(metaBlock, messageParts, placeholderNames, expressions, sourceSpan);\n}\n\nexport function isNull(exp: Expression): boolean {\n return exp instanceof LiteralExpr && exp.value === null;\n}\n\n// The list of JSDoc tags that we currently support. Extend it if needed.\nexport const enum JSDocTagName {\n Desc = 'desc',\n Id = 'id',\n Meaning = 'meaning',\n}\n\n/*\n * TypeScript has an API for JSDoc already, but it's not exposed.\n * https://github.com/Microsoft/TypeScript/issues/7393\n * For now we create types that are similar to theirs so that migrating\n * to their API will be easier. See e.g. `ts.JSDocTag` and `ts.JSDocComment`.\n */\nexport type JSDocTag = {\n // `tagName` is e.g. \"param\" in an `@param` declaration\n tagName: JSDocTagName|string,\n // Any remaining text on the tag, e.g. the description\n text?: string,\n}|{\n // no `tagName` for plain text documentation that occurs before any `@param` lines\n tagName?: undefined, text: string,\n};\n\n/*\n * Serializes a `Tag` into a string.\n * Returns a string like \" @foo {bar} baz\" (note the leading whitespace before `@foo`).\n */\nfunction tagToString(tag: JSDocTag): string {\n let out = '';\n if (tag.tagName) {\n out += ` @${tag.tagName}`;\n }\n if (tag.text) {\n if (tag.text.match(/\\/*|*\\//)) {\n throw new Error('JSDoc text cannot contain \"/*\" and \"*/\"');\n }\n out += ' ' + tag.text.replace(/@/g, '\\\\@');\n }\n return out;\n}\n\nfunction serializeTags(tags: JSDocTag[]): string {\n if (tags.length === 0) return '';\n\n if (tags.length === 1 && tags[0].tagName && !tags[0].text) {\n // The JSDOC comment is a single simple tag: e.g `/** @tagname */`.\n return `*${tagToString(tags[0])} `;\n }\n\n let out = '*\\n';\n for (const tag of tags) {\n out += ' *';\n // If the tagToString is multi-line, insert \" * \" prefixes on lines.\n out += tagToString(tag).replace(/\\n/g, '\\n * ');\n out += '\\n';\n }\n out += ' ';\n return out;\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ConstantPool} from './constant_pool';\nimport * as o from './output/output_ast';\nimport {ParseError} from './parse_util';\n\nconst DASH_CASE_REGEXP = /-+([a-z0-9])/g;\n\nexport function dashCaseToCamelCase(input: string): string {\n return input.replace(DASH_CASE_REGEXP, (...m: any[]) => m[1].toUpperCase());\n}\n\nexport function splitAtColon(input: string, defaultValues: string[]): string[] {\n return _splitAt(input, ':', defaultValues);\n}\n\nexport function splitAtPeriod(input: string, defaultValues: string[]): string[] {\n return _splitAt(input, '.', defaultValues);\n}\n\nfunction _splitAt(input: string, character: string, defaultValues: string[]): string[] {\n const characterIndex = input.indexOf(character);\n if (characterIndex == -1) return defaultValues;\n return [input.slice(0, characterIndex).trim(), input.slice(characterIndex + 1).trim()];\n}\n\nexport function visitValue(value: any, visitor: ValueVisitor, context: any): any {\n if (Array.isArray(value)) {\n return visitor.visitArray(<any[]>value, context);\n }\n\n if (isStrictStringMap(value)) {\n return visitor.visitStringMap(<{[key: string]: any}>value, context);\n }\n\n if (value == null || typeof value == 'string' || typeof value == 'number' ||\n typeof value == 'boolean') {\n return visitor.visitPrimitive(value, context);\n }\n\n return visitor.visitOther(value, context);\n}\n\nexport function isDefined(val: any): boolean {\n return val !== null && val !== undefined;\n}\n\nexport function noUndefined<T>(val: T|undefined): T {\n return val === undefined ? null! : val;\n}\n\nexport interface ValueVisitor {\n visitArray(arr: any[], context: any): any;\n visitStringMap(map: {[key: string]: any}, context: any): any;\n visitPrimitive(value: any, context: any): any;\n visitOther(value: any, context: any): any;\n}\n\nexport class ValueTransformer implements ValueVisitor {\n visitArray(arr: any[], context: any): any {\n return arr.map(value => visitValue(value, this, context));\n }\n visitStringMap(map: {[key: string]: any}, context: any):

any {\n  const result: {[key: string]: any} = {};\n  Object.keys(map).forEach(key => {\n  result[key] = visitValue(map[key], this, context);\n  });\n  return result;\n }\n visitPrimitive(value: any, context: any): any {\n  return value;\n }\n visitOther(value: any, context: any): any {\n  return value;\n }\n}\n\nexport type SyncAsync<T> = T|Promise<T>;\n\nexport const SyncAsync = {\n assertSync: <T>(value: SyncAsync<T>): T => {\n  if (isPromise(value)) {\n  throw new Error(`Illegal state: value cannot be a promise`);\n  }\n  return value;\n },\n then: <T, R>(value: SyncAsync<T>, cb: (value: T) => R | Promise<R>| SyncAsync<R>):\n SyncAsync<R> => {\n  return isPromise(value) ? value.then(cb) : cb(value);\n },\n all: <T>(syncAsyncValues: SyncAsync<T>[]): SyncAsync<T[]> => {\n  return syncAsyncValues.some(isPromise) ? Promise.all(syncAsyncValues) : syncAsyncValues as T[];\n }\n};\n\nexport function error(msg: string): never {\n throw new Error(`Internal Error: ${msg}`);\n}\n\nexport function syntaxError(msg: string, parseErrors?: ParseError[]): Error {\n const error = Error(msg);\n (error as any)[ERROR_SYNTAX_ERROR] = true;\n if (parseErrors) (error as any)[ERROR_PARSE_ERRORS] = parseErrors;\n return error;\n}\n\nconst ERROR_SYNTAX_ERROR = 'ngSyntaxError';\nconst ERROR_PARSE_ERRORS = 'ngParseErrors';\n\nexport function isSyntaxError(error: Error): boolean {\n return (error as any)[ERROR_SYNTAX_ERROR];\n}\n\nexport function getParseErrors(error: Error): ParseError[] {\n return (error as any)[ERROR_PARSE_ERRORS] || [];\n}\n\n// Escape characters that have a special meaning in Regular Expressions\nexport function escapeRegExp(s: string): string {\n return s.replace(/([.*+?^=!:${}()|[\\]\\/\\\\])/g, '\\\\$1');\n}\n\nconst STRING_MAP_PROTO = Object.getPrototypeOf({});\nfunction isStrictStringMap(obj: any): boolean {\n return typeof obj === 'object' && obj !== null && Object.getPrototypeOf(obj) === STRING_MAP_PROTO;\n}\n\nexport type Byte = number;\n\nexport function utf8Encode(str: string): Byte[] {\n let encoded: Byte[] = [];\n for (let index = 0; index < str.length; index++) {\n  let codePoint = str.charCodeAt(index);\n\n  // decode surrogate\n  // see https://mathiasbynens.be/notes/javascript-encoding#surrogate-formulae\n  if (codePoint >= 0xd800 && codePoint <= 0xdbff && str.length > (index + 1)) {\n  const low = str.charCodeAt(index + 1);\n  if (low >= 0xdc00 && low <= 0xdfff) {\n  index++;\n  codePoint = ((codePoint - 0xd800) << 10) + low - 0xdc00 + 0x10000;\n  }\n  }\n\n  if (codePoint <= 0x7f) {\n  encoded.push(codePoint);\n  } else if (codePoint <= 0x7ff) {\n  encoded.push(((codePoint >> 6) & 0x1F) | 0xc0, (codePoint & 0x3f) | 0x80);\n  } else if (codePoint <= 0xffff) {\n  encoded.push(\n  (codePoint >> 12) | 0xe0, ((codePoint >> 6) & 0x3f) | 0x80, (codePoint & 0x3f) | 0x80);\n  } else if (codePoint <= 0x1fffff) {\n  encoded.push(\n  ((codePoint >> 18) & 0x07) | 0xf0, ((codePoint >> 12) & 0x3f) | 0x80,\n  ((codePoint >> 6) & 0x3f) | 0x80, (codePoint & 0x3f) | 0x80);\n  }\n }\n\n return encoded;\n}\n\nexport interface OutputContext {\n genFilePath: string;\n statements: o.Statement[];\n constantPool: ConstantPool;\n importExpr(reference: any, typeParams?: o.Type[]|null, useSummaries?: boolean): o.Expression;\n}\n\nexport function stringify(token: any): string {\n if (typeof token === 'string') {\n  return token;\n }\n\n if (Array.isArray(token)) {\n  return '[' + token.map(stringify).join(', ') + ']';\n }\n\n if (token == null) {\n  return '' + token;\n }\n\n if (token.overriddenName) {\n  return `${token.overriddenName}`;\n }\n\n if (token.name) {\n  return `${token.name}`;\n }\n\n if (!token.toString) {\n  return 'object';\n }\n\n // WARNING: do not try to `JSON.stringify(token)` here\n // see https://github.com/angular/angular/issues/23440\n const res = token.toString();\n\n if (res == null) {\n  return '' + res;\n }\n\n const newLineIndex = res.indexOf('\\n');\n return newLineIndex === -1 ? res : res.substring(0, newLineIndex);\n}\n\n/**\n * Lazily retrieves the reference value from a forwardRef.\n */\nexport function resolveForwardRef(type: any): any {\n if (typeof type === 'function' && type.hasOwnProperty('__forward_ref__')) {\n  return type();\n } else {\n  return type;\n }\n}\n\n/**\n * Determine if the argument is shaped like a Promise\n */\nexport function isPromise<T = any>(obj: any): obj is Promise<T> {\n // allow any Promise/A+ compliant thenable.\n // It's up to the caller to ensure that obj.then conforms to the spec\n return !!obj && typeof obj.then === 'function';\n}\n\nexport class Version {\n public readonly major: string;\n public readonly minor: string;\n public readonly patch: string;\n\n constructor(public full: string) {\n  const splits = full.split('.');\n  this.major = splits[0];\n  this.minor = splits[1];\n  this.patch = splits.slice(2).join('.');\n }\n}\n\nexport interface Console {\n log(message: string): void;\n

warn(message: string): void;\n}\n\n\ndeclare var WorkerGlobalScope: any;\n// CommonJS / Node have global context exposed as \"global\" variable.\n// We don't want to include the whole node.d.ts this this compilation unit so we'll just fake\n// the global \"global\" var for now.\ndeclare var global: any;\nconst __window = typeof window !== 'undefined' && window;\nconst __self = typeof self !== 'undefined' && typeof WorkerGlobalScope !== 'undefined' &&\n self instanceof WorkerGlobalScope && self;\nconst __global = typeof global !== 'undefined' && global;\n\n// Check __global first, because in Node tests both __global and __window may be defined and _global\n// should be __global in that case.\nconst _global: {[name: string]: any} = __global || __window || __self;\nexport {_global as global};\n\nexport function newArray<T = any>(size: number): T[];\nexport function newArray<T>(size: number, value: T): T[];\nexport function newArray<T>(size: number, value?: T): T[] {\n const list: T[] = [];\n for (let i = 0; i < size; i++) {\n list.push(value!);\n }\n return list;\n}\n\n/**\n * Partitions a given array into 2 arrays, based on a boolean value returned by the condition\n * function.\n *\n * @param arr Input array that should be partitioned\n * @param conditionFn Condition function that is called for each item in a given array and returns a\n * boolean value.\n */\nexport function partitionArray<T, F = T>(\n arr: (T|F)[], conditionFn: (value: T|F) => boolean): [T[], F[]] {\n const truthy: T[] = [];\n const falsy: F[] = [];\n for (const item of arr) {\n (conditionFn(item) ? truthy : falsy).push(item as any);\n }\n return [truthy, falsy];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as o from './output/output_ast';\nimport {error, OutputContext} from './util';\n\nconst CONSTANT_PREFIX = '_c';\n\n/**\n * `ConstantPool` tries to reuse literal factories when two or more literals are identical.\n * We determine whether literals are identical by creating a key out of their AST using the\n * `KeyVisitor`. This constant is used to replace dynamic expressions which can't be safely\n * converted into a key. E.g. given an expression `{foo: bar()}`, since we don't know what\n * the result of `bar` will be, we create a key that looks like `{foo: <unknown>}`. Note\n * that we use a variable, rather than something like `null` in order to avoid collisions.\n */\nconst UNKNOWN_VALUE_KEY = o.variable('<unknown>');\n\nexport const enum DefinitionKind {\n Injector,\n Directive,\n Component,\n Pipe\n}\n\n/**\n * Context to use when producing a key.\n *\n * This ensures we see the constant not the reference variable when producing\n * a key.\n */\nconst KEY_CONTEXT = {};\n\n/**\n * Generally all primitive values are excluded from the `ConstantPool`, but there is an exclusion\n * for strings that reach a certain length threshold. This constant defines the length threshold for\n * strings.\n */\nconst POOL_INCLUSION_LENGTH_THRESHOLD_FOR_STRINGS = 50;\n\n/**\n * A node that is a place-holder that allows the node to be replaced when the actual\n * node is known.\n *\n * This allows the constant pool to change an expression from a direct reference to\n * a constant to a shared constant. It returns a fix-up node that is later allowed to\n * change the referenced expression.\n */\nclass FixupExpression extends o.Expression {\n private original: o.Expression;\n\n // TODO(issue/24571): remove '!'.\n shared!: boolean;\n\n constructor(public resolved: o.Expression) {\n super(resolved.type);\n this.original = resolved;\n }\n\n visitExpression(visitor: o.ExpressionVisitor, context: any): any {\n if (context === KEY_CONTEXT) {\n // When producing a key we want to traverse the constant not the\n // variable used to refer to it.\n return this.original.visitExpression(visitor, context);\n } else {\n return this.resolved.visitExpression(visitor, context);\n }\n }\n\n isEquivalent(e: o.Expression): boolean {\n return e instanceof FixupExpression && this.resolved.isEquivalent(e.resolved);\n }\n\n isConstant() {\n return true;\n }\n\n fixup(expression: o.Expression) {\n this.resolved = expression;\n this.shared = true;\n }\n}\n\n/**\n * A constant pool allows a code emitter to share constant in an output context.\n *\n * The constant pool also supports sharing access to ivy definitions references.\n */\nexport class ConstantPool {\n statements: o.Statement[] = [];\n private literals = new Map<string, FixupExpression>();\n private literalFactories = new Map<string, o.Expression>();\n private injectorDefinitions = new Map<any, FixupExpression>();\n private directiveDefinitions = new Map<any, FixupExpression>();\n private componentDefinitions = new Map<any, FixupExpression>();\n private pipeDefinitions = new Map<any, FixupExpression>();\n\n private nextNameIndex = 0;\n\n constructor(private readonly isClosureCompilerEnabled: boolean = false) {}\n\n getConstLiteral(literal: o.Expression, forceShared?: boolean): o.Expression {\n if ((literal instanceof o.LiteralExpr &&

```
!isLongStringLiteral(literal)) ||\n        literal instanceof FixupExpression) {\n      // Do no put simple literals into the constant pool or try to produce a constant for a\n      // reference to a constant.\n      return literal;\n    }\n    const key = this.keyOf(literal);\n    let fixup = this.literals.get(key);\n    let newValue = false;\n    if (!fixup) {\n      fixup = new FixupExpression(literal);\n      this.literals.set(key, fixup);\n      newValue = true;\n    }\n\n    if ((!newValue && !fixup.shared) || (newValue && forceShared)) {\n      // Replace the expression with a variable\n      const name = this.freshName();\n      let definition: o.WriteVarExpr;\n      let usage: o.Expression;\n      if (this.isClosureCompilerEnabled && isLongStringLiteral(literal)) {\n        // For string literals, Closure will **always** inline the string at\n        // **all** usages, duplicating it each time. For large strings, this\n        // unnecessarily bloats bundle size. To work around this restriction, we\n        // wrap the string in a function, and call that function for each usage.\n        // This tricks Closure into using inline logic for functions instead of\n        // string literals. Function calls are only inlined if the body is small\n        // enough to be worth it. By doing this, very large strings will be\n        // shared across multiple usages, rather than duplicating the string at\n        // each usage site.\n        //\n        // const myStr = function() { return \"very very very long string\"; };\n        // const usage1 = myStr();\n        // const usage2 = myStr();\n        definition = o.variable(name).set(new o.FunctionExpr(\n            [],  // Params.\n            [\n              // Statements.\n              new o.ReturnStatement(literal),\n            ],\n        ));\n        usage = o.variable(name).callFn([]);\n      } else {\n        // Just declare and use the variable directly, without a function call\n        // indirection. This saves a few bytes and avoids an unncessary call.\n        definition = o.variable(name).set(literal);\n        usage = o.variable(name);\n      }\n\n      this.statements.push(definition.toDeclStmt(o.INFERRED_TYPE, [o.StmtModifier.Final]));\n      fixup.fixup(usage);\n    }\n\n    return fixup;\n  }\n\n  getDefinition(type: any, kind: DefinitionKind, ctx: OutputContext, forceShared: boolean = false):\n      o.Expression {\n    const definitions = this.definitionsOf(kind);\n    let fixup = definitions.get(type);\n    let newValue = false;\n    if (!fixup) {\n      const property = this.propertyNameOf(kind);\n      fixup = new FixupExpression(ctx.importExpr(type).prop(property));\n      definitions.set(type, fixup);\n      newValue = true;\n    }\n\n    if ((!newValue && !fixup.shared) || (newValue && forceShared)) {\n      const name = this.freshName();\n      this.statements.push(\n          o.variable(name).set(fixup.resolved).toDeclStmt(o.INFERRED_TYPE, [o.StmtModifier.Final]));\n      fixup.fixup(o.variable(name));\n    }\n    return fixup;\n  }\n\n  getLiteralFactory(literal: o.LiteralArrayExpr|o.LiteralMapExpr):\n      {literalFactory: o.Expression, literalFactoryArguments: o.Expression[]} {\n    // Create a pure function that builds an array of a mix of constant and variable expressions\n    if (literal instanceof o.LiteralArrayExpr) {\n      const argumentsForKey = literal.entries.map(e => e.isConstant() ? e : UNKNOWN_VALUE_KEY);\n      const key = this.keyOf(o.literalArr(argumentsForKey));\n      return this._getLiteralFactory(key, literal.entries, entries => o.literalArr(entries));\n    } else {\n      const expressionForKey = o.literalMap(\n          literal.entries.map(e => ({\n                key: e.key,\n                value: e.value.isConstant() ? e.value : UNKNOWN_VALUE_KEY,\n                quoted: e.quoted\n              })));\n      const key = this.keyOf(expressionForKey);\n      return this._getLiteralFactory(\n          key, literal.entries.map(e => e.value),\n          entries => o.literalMap(entries.map((value, index) => ({\n                                    key: literal.entries[index].key,\n                                    value,\n                                    quoted: literal.entries[index].quoted\n                                  }))));\n    }\n  }\n\n  private _getLiteralFactory(\n      key: string, values: o.Expression[], resultMap:\n      (parameters: o.Expression[]) => o.Expression):\n      {literalFactory: o.Expression, literalFactoryArguments: o.Expression[]} {\n    let literalFactory = this.literalFactories.get(key);\n    const literalFactoryArguments = values.filter((e => !e.isConstant()));\n\n    if (!literalFactory) {\n      const resultExpressions = values.map(\n          (e, index) => e.isConstant() ? this.getConstLiteral(e, true) : o.variable(`a${index}`));\n      const parameters =\n          resultExpressions.filter(isVariable).map(e => new o.FnParam(e.name!, o.DYNAMIC_TYPE));\n      const pureFunctionDeclaration =\n          o.fn(parameters, [new o.ReturnStatement(resultMap(resultExpressions))],
```

```
o.INFERRED_TYPE);\n      const name = this.freshName();\n      this.statements.push(\n
o.variable(name).set(pureFunctionDeclaration).toDeclStmt(o.INFERRED_TYPE, [\n            o.StmtModifier.Final\n
      ]));\n      literalFactory = o.variable(name);\n      this.literalFactories.set(key, literalFactory);\n    }\n    return
{literalFactory, literalFactoryArguments};\n  }\n\n  /**\n   * Produce a unique name.\n   *\n   * The name might be
unique among different prefixes if any of the prefixes end in\n   * a digit so the prefix should be a constant string
 (not based on user input) and\n   * must not end in a digit.\n   */\n  uniqueName(prefix: string): string {\n    return
`${prefix}${this.nextNameIndex++}`;\n  }\n\n  private definitionsOf(kind: DefinitionKind): Map<any,
FixupExpression> {\n    switch (kind) {\n      case DefinitionKind.Component:\n        return
this.componentDefinitions;\n      case DefinitionKind.Directive:\n        return this.directiveDefinitions;\n      case
DefinitionKind.Injector:\n        return this.injectorDefinitions;\n      case DefinitionKind.Pipe:\n        return
this.pipeDefinitions;\n    }\n    error(`Unknown definition kind ${kind}`);\n    return this.componentDefinitions;\n
}\n\n  public propertyNameOf(kind: DefinitionKind): string {\n    switch (kind) {\n      case
DefinitionKind.Component:\n        return 'cmp';\n      case DefinitionKind.Directive:\n        return 'dir';\n      case
DefinitionKind.Injector:\n        return 'inj';\n      case DefinitionKind.Pipe:\n        return 'pipe';\n
  }\n    error(`Unknown definition kind ${kind}`);\n    return '<unknown>';\n  }\n\n  private freshName(): string {\n
return this.uniqueName(CONSTANT_PREFIX);\n  }\n\n  private keyOf(expression: o.Expression) {\n    return
expression.visitExpression(new KeyVisitor(), KEY_CONTEXT);\n  }\n}\n\n/**\n * Visitor used to determine if 2
expressions are equivalent and can be shared in the\n * `ConstantPool`.\n *\n * When the id (string) generated by the
visitor is equal, expressions are considered equivalent.\n */\nclass KeyVisitor implements o.ExpressionVisitor {\n
visitLiteralExpr(ast: o.LiteralExpr): string {\n    return `${typeof ast.value === 'string' ? '\"' + ast.value + '\"' :
ast.value}`;\n  }\n\n  visitLiteralArrayExpr(ast: o.LiteralArrayExpr, context: object): string {\n    return
`[${ast.entries.map(entry => entry.visitExpression(this, context)).join(',')}]`;\n  }\n\n  visitLiteralMapExpr(ast:
o.LiteralMapExpr, context: object): string {\n    const mapKey = (entry: o.LiteralMapEntry)
 => {\n      const quote = entry.quoted ? '\"' : '';\n      return `${quote}${entry.key}${quote}`;\n    };\n    const
mapEntry = (entry: o.LiteralMapEntry) =>\n        `${mapKey(entry)}:${entry.value.visitExpression(this,
context)}`;\n    return `{${ast.entries.map(mapEntry).join(',')}`;\n  }\n\n  visitExternalExpr(ast: o.ExternalExpr):
string {\n    return ast.value.moduleName ? `EX:${ast.value.moduleName}:${ast.value.name}` :\n
   `EX:${ast.value.runtime.name}`;\n  }\n\n  visitReadVarExpr(node: o.ReadVarExpr) {\n    return
`VAR:${node.name}`;\n  }\n\n  visitTypeofExpr(node: o.TypeofExpr, context: any): string {\n    return
`TYPEOF:${node.expr.visitExpression(this, context)}`;\n  }\n\n  visitWrappedNodeExpr = invalid;\n
visitWriteVarExpr = invalid;\n  visitWriteKeyExpr = invalid;\n  visitWritePropExpr = invalid;\n
visitInvokeMethodExpr = invalid;\n  visitInvokeFunctionExpr = invalid;\n  visitInstantiateExpr = invalid;\n
visitConditionalExpr = invalid;\n
  visitNotExpr = invalid;\n  visitAssertNotNullExpr = invalid;\n  visitCastExpr = invalid;\n  visitFunctionExpr =
invalid;\n  visitUnaryOperatorExpr = invalid;\n  visitBinaryOperatorExpr = invalid;\n  visitReadPropExpr =
invalid;\n  visitReadKeyExpr = invalid;\n  visitCommaExpr = invalid;\n  visitLocalizedString =
invalid;\n}\n\nfunction invalid<T>(this: o.ExpressionVisitor, arg: o.Expression|o.Statement): never {\n  throw new
Error(\n      `Invalid state: Visitor ${this.constructor.name} doesn't handle ${arg.constructor.name}`);\n}\n\nfunction
isVariable(e: o.Expression): e is o.ReadVarExpr {\n  return e instanceof o.ReadVarExpr;\n}\n\nfunction
isLongStringLiteral(expr: o.Expression): boolean {\n  return expr instanceof o.LiteralExpr && typeof expr.value
=== 'string' &&\n      expr.value.length >=
POOL_INCLUSION_LENGTH_THRESHOLD_FOR_STRINGS;\n}\n","/**\n * @license\n * Copyright Google
LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that
 can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileTokenMetadata} from
'./compile_metadata';\nimport {CompileReflector} from './compile_reflector';\nimport * as o from
'./output/output_ast';\n\nconst CORE = '@angular/core';\n\nexport class Identifiers {\n  static
ANALYZE_FOR_ENTRY_COMPONENTS: o.ExternalReference = {\n    name:
'ANALYZE_FOR_ENTRY_COMPONENTS',\n    moduleName: CORE,\n\n  };\n  static ElementRef:
```

o.ExternalReference = {name: 'ElementRef', moduleName: CORE};\n  static NgModuleRef: o.ExternalReference = {name: 'NgModuleRef', moduleName: CORE};\n  static ViewContainerRef: o.ExternalReference = {name: 'ViewContainerRef', moduleName: CORE};\n  static ChangeDetectorRef: o.ExternalReference = {\n    name: 'ChangeDetectorRef',\n    moduleName: CORE,\n\n  };\n  static QueryList: o.ExternalReference = {name: 'QueryList', moduleName: CORE};\n  static TemplateRef: o.ExternalReference = {name: 'TemplateRef', moduleName: CORE};\n  static Renderer2: o.ExternalReference = {name: 'Renderer2', moduleName: CORE};\n  static CodegenComponentFactoryResolver: o.ExternalReference = {\n    name: 'CodegenComponentFactoryResolver',\n    moduleName: CORE,\n\n  };\n  static ComponentFactoryResolver: o.ExternalReference = {\n    name: 'ComponentFactoryResolver',\n    moduleName: CORE,\n\n  };\n  static ComponentFactory: o.ExternalReference = {name: 'ComponentFactory', moduleName: CORE};\n  static ComponentRef: o.ExternalReference = {name: 'ComponentRef', moduleName: CORE};\n  static NgModuleFactory: o.ExternalReference = {name: 'NgModuleFactory', moduleName: CORE};\n  static createModuleFactory: o.ExternalReference = {\n    name: 'cmf',\n    moduleName: CORE,\n\n  };\n  static moduleDef: o.ExternalReference = {\n    name: 'mod',\n    moduleName: CORE,\n\n  };\n  static moduleProviderDef: o.ExternalReference = {\n    name: 'mpd',\n    moduleName: CORE,\n\n  };\n  static RegisterModuleFactoryFn: o.ExternalReference = {\n    name: 'registerModuleFactory',\n    moduleName: CORE,\n\n  };\n  static inject: o.ExternalReference = {name: 'inject', moduleName: CORE};\n  static directiveInject: o.ExternalReference = {name: 'directiveInject', moduleName: CORE};\n  static INJECTOR: o.ExternalReference = {name: 'INJECTOR', moduleName: CORE};\n  static Injector: o.ExternalReference = {name: 'Injector', moduleName: CORE};\n  static defineInjectable: o.ExternalReference = {name: 'defineInjectable', moduleName: CORE};\n  static InjectableDef: o.ExternalReference = {name: 'InjectableDef', moduleName: CORE};\n  static ViewEncapsulation: o.ExternalReference = {\n    name: 'ViewEncapsulation',\n    moduleName: CORE,\n\n  };\n  static ChangeDetectionStrategy: o.ExternalReference = {\n    name: 'ChangeDetectionStrategy',\n    moduleName: CORE,\n\n  };\n  static SecurityContext: o.ExternalReference = {\n    name: 'SecurityContext',\n    moduleName: CORE,\n\n  };\n  static LOCALE_ID: o.ExternalReference = {name: 'LOCALE_ID', moduleName: CORE};\n  static TRANSLATIONS_FORMAT: o.ExternalReference = {\n    name: 'TRANSLATIONS_FORMAT',\n    moduleName: CORE,\n\n  };\n  static inlineInterpolate: o.ExternalReference = {\n    name: 'inlineInterpolate',\n    moduleName: CORE,\n  };\n  static interpolate: o.ExternalReference = {name: 'interpolate', moduleName: CORE};\n  static EMPTY_ARRAY: o.ExternalReference = {name: 'EMPTY_ARRAY', moduleName: CORE};\n  static EMPTY_MAP: o.ExternalReference = {name: 'EMPTY_MAP', moduleName: CORE};\n  static Renderer: o.ExternalReference = {name: 'Renderer', moduleName: CORE};\n  static viewDef: o.ExternalReference = {name: 'vid', moduleName: CORE};\n  static elementDef: o.ExternalReference = {name: 'eld', moduleName: CORE};\n  static anchorDef: o.ExternalReference = {name: 'and', moduleName: CORE};\n  static textDef: o.ExternalReference = {name: 'ted', moduleName: CORE};\n  static directiveDef: o.ExternalReference = {name: 'did', moduleName: CORE};\n  static providerDef: o.ExternalReference = {name: 'prd', moduleName: CORE};\n  static queryDef: o.ExternalReference = {name: 'qud', moduleName: CORE};\n  static pureArrayDef: o.ExternalReference = {name: 'pad', moduleName: CORE};\n  static pureObjectDef: o.ExternalReference = {name: 'pod', moduleName: CORE};\n  static purePipeDef: o.ExternalReference = {name: 'ppd', moduleName: CORE};\n  static pipeDef: o.ExternalReference = {name: 'pid', moduleName: CORE};\n  static nodeValue: o.ExternalReference = {name: 'nov', moduleName: CORE};\n  static ngContentDef: o.ExternalReference = {name: 'ncd', moduleName: CORE};\n  static unwrapValue: o.ExternalReference = {name: 'unv', moduleName: CORE};\n  static createRendererType2: o.ExternalReference = {name: 'crt', moduleName: CORE};\n  // type only\n  static RendererType2: o.ExternalReference = {\n    name: 'RendererType2',\n    moduleName: CORE,\n\n  };\n  // type only\n  static ViewDefinition: o.ExternalReference = {\n    name: 'ViewDefinition',\n    moduleName: CORE,\n  };\n  static createComponentFactory: o.ExternalReference = {name: 'ccf', moduleName: CORE};\n  static setClassMetadata: o.ExternalReference = {name: 'setClassMetadata', moduleName: CORE};\n}\n\nexport function createTokenForReference(reference: any): CompileTokenMetadata {\n  return {identifier: {reference:

reference}};\n}\n\nexport function createTokenForExternalReference(\n  reflector: CompileReflector, reference: o.ExternalReference): CompileTokenMetadata {\n  return createTokenForReference(reflector.resolveExternalReference(reference));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A token representing the a reference to a static type.\n *\n * This token is unique for a filePath and name and can be used as a hash table key.\n */\nexport class StaticSymbol {\n  constructor(public filePath: string,
  public name: string, public members: string[]) {}\n\n  assertNoMembers() {\n    if (this.members.length) {\n      throw new Error(\n          `Illegal state: symbol without members expected, but got ${JSON.stringify(this)}.`);\n    }\n  }\n}\n\n/**\n * A cache of static symbol used by the StaticReflector to return the same symbol for the\n * same symbol values.\n */\nexport class StaticSymbolCache {\n  private cache = new Map<string, StaticSymbol>();\n\n  get(declarationFile: string, name: string, members?: string[]): StaticSymbol {\n    members = members || [];\n    const memberSuffix = members.length ? `.${members.join('.')}` : '';\n    const key = `\"${declarationFile}\".${name}${memberSuffix}`;\n    let result = this.cache.get(key);\n    if (!result) {\n      result = new StaticSymbol(declarationFile, name, members);\n      this.cache.set(key, result);\n    }\n    return result;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
  code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {StaticSymbol} from './aot/static_symbol';\nimport {ChangeDetectionStrategy, SchemaMetadata, Type, ViewEncapsulation} from './core';\nimport {LifecycleHooks} from './lifecycle_reflector';\nimport {ParseTreeResult as HtmlParseTreeResult} from './ml_parser/parser';\nimport {splitAtColon, stringify} from './util';\n\n// group 0: \"[prop] or (event) or @trigger\"\n// group 1: \"prop\" from \"[prop]\"\n// group 2: \"event\" from \"(event)\"\n// group 3: \"@trigger\" from \"@trigger\"\nconst HOST_REG_EXP = /^(?:(?:\\[([^\\]]+)\\])|(?:\\(([^\\)]+)\\)))|(\\@[-\\w]+)$/;\n\nexport function sanitizeIdentifier(name: string): string {\n  return name.replace(/\\W/g, '_');\n}\n\nlet _anonymousTypeIndex = 0;\n\nexport function identifierName(compileIdentifier: CompileIdentifierMetadata|null|undefined): string|\n    null {\n  if (!compileIdentifier || !compileIdentifier.reference)
  {\n    return null;\n  }\n  const ref = compileIdentifier.reference;\n  if (ref instanceof StaticSymbol) {\n    return ref.name;\n  }\n  if (ref['__anonymousType']) {\n    return ref['__anonymousType'];\n  }\n  let identifier = stringify(ref);\n  if (identifier.indexOf('(') >= 0) {\n    // case: anonymous functions!\n    identifier = `anonymous_${_anonymousTypeIndex++}`;\n    ref['__anonymousType'] = identifier;\n  } else {\n    identifier = sanitizeIdentifier(identifier);\n  }\n  return identifier;\n}\n\nexport function identifierModuleUrl(compileIdentifier: CompileIdentifierMetadata): string {\n  const ref = compileIdentifier.reference;\n  if (ref instanceof StaticSymbol) {\n    return ref.filePath;\n  }\n  // Runtime type\n  return `./${stringify(ref)}`;\n}\n\nexport function viewClassName(compType: any, embeddedTemplateIndex: number): string {\n  return `View_${identifierName({reference: compType})}_${embeddedTemplateIndex}`;\n}\n\nexport function rendererTypeName(compType:
  any): string {\n  return `RenderType_${identifierName({reference: compType})}`;\n}\n\nexport function hostViewClassName(compType: any): string {\n  return `HostView_${identifierName({reference: compType})}`;\n}\n\nexport function componentFactoryName(compType: any): string {\n  return `${identifierName({reference: compType})}NgFactory`;\n}\n\nexport interface ProxyClass {\n  setDelegate(delegate: any): void;\n}\n\nexport interface CompileIdentifierMetadata {\n  reference: any;\n}\n\nexport enum CompileSummaryKind {\n  Pipe,\n  Directive,\n  NgModule,\n  Injectable\n}\n\n/**\n * A CompileSummary is the data needed to use a directive / pipe / module\n * in other modules / components. However, this data is not enough to compile\n * the directive / module itself.\n */\nexport interface CompileTypeSummary {\n  summaryKind: CompileSummaryKind|null;\n  type: CompileTypeMetadata;\n}\n\nexport interface CompileDiDependencyMetadata {\n  isAttribute?: boolean;\n  isSelf?: boolean;\n  isHost?: boolean;\n
  isSkipSelf?: boolean;\n  isOptional?: boolean;\n  isValue?: boolean;\n  token?: CompileTokenMetadata;\n  value?: any;\n}\n\nexport interface CompileProviderMetadata {\n  token: CompileTokenMetadata;\n  useClass?:

CompileTypeMetadata;\n  useValue?: any;\n  useExisting?: CompileTokenMetadata;\n  useFactory?: CompileFactoryMetadata;\n  deps?: CompileDiDependencyMetadata[];\n  multi?: boolean;\n}\n\nexport interface CompileFactoryMetadata extends CompileIdentifierMetadata {\n  diDeps: CompileDiDependencyMetadata[];\n  reference: any;\n}\n\nexport function tokenName(token: CompileTokenMetadata) {\n  return token.value != null ? sanitizeIdentifier(token.value) : identifierName(token.identifier);\n}\n\nexport function tokenReference(token: CompileTokenMetadata) {\n  if (token.identifier != null) {\n    return token.identifier.reference;\n  } else {\n    return token.value;\n  }\n}\n\nexport interface CompileTokenMetadata {\n  value?: any;\n  identifier?: CompileIdentifierMetadata|CompileTypeMetadata;\n}\n\nexport
 interface CompileInjectableMetadata {\n  symbol: StaticSymbol;\n  type: CompileTypeMetadata;\n\n  providedIn?: StaticSymbol;\n\n  useValue?: any;\n  useClass?: StaticSymbol;\n  useExisting?: StaticSymbol;\n  useFactory?: StaticSymbol;\n  deps?: any[];\n}\n\n/**\n * Metadata regarding compilation of a type.\n */\nexport interface CompileTypeMetadata extends CompileIdentifierMetadata {\n  diDeps: CompileDiDependencyMetadata[];\n  lifecycleHooks: LifecycleHooks[];\n  reference: any;\n}\n\nexport interface CompileQueryMetadata {\n  selectors: Array<CompileTokenMetadata>;\n  descendants: boolean;\n  first: boolean;\n  propertyName: string;\n  read: CompileTokenMetadata;\n  static?: boolean;\n}\n\n/**\n * Metadata about a stylesheet\n */\nexport class CompileStylesheetMetadata {\n  moduleUrl: string|null;\n  styles: string[];\n  styleUrls: string[];\n  constructor(\n      {moduleUrl, styles, styleUrls}:\n          {moduleUrl?: string, styles?: string[], styleUrls?: string[]} = {}) {\n    this.moduleUrl = moduleUrl || null;\n    this.styles = _normalizeArray(styles);\n    this.styleUrls = _normalizeArray(styleUrls);\n  }\n}\n\n/**\n * Summary Metadata regarding compilation of a template.\n */\nexport interface CompileTemplateSummary {\n  ngContentSelectors: string[];\n  encapsulation: ViewEncapsulation|null;\n  styles: string[];\n  animations: any[]|null;\n}\n\n/**\n * Metadata regarding compilation of a template.\n */\nexport class CompileTemplateMetadata {\n  encapsulation: ViewEncapsulation|null;\n  template: string|null;\n  templateUrl: string|null;\n  htmlAst: HtmlParseTreeResult|null;\n  isInline: boolean;\n  styles: string[];\n  styleUrls: string[];\n  externalStylesheets: CompileStylesheetMetadata[];\n  animations: any[];\n  ngContentSelectors: string[];\n  interpolation: [string, string]|null;\n  preserveWhitespaces: boolean;\n  constructor({\n    encapsulation,\n    template,\n    templateUrl,\n    htmlAst,\n    styles,\n    styleUrls,\n    externalStylesheets,\n    animations,\n    ngContentSelectors,\n    interpolation,\n    isInline,\n    preserveWhitespaces\n  }: {\n    encapsulation: ViewEncapsulation|null,\n    template: string|null,\n    templateUrl: string|null,\n    htmlAst: HtmlParseTreeResult|null,\n    styles: string[],\n    styleUrls: string[],\n    externalStylesheets: CompileStylesheetMetadata[],\n    ngContentSelectors: string[],\n    animations: any[],\n    interpolation: [string, string]|null,\n    isInline: boolean,\n    preserveWhitespaces: boolean\n  }) {\n    this.encapsulation = encapsulation;\n    this.template = template;\n    this.templateUrl = templateUrl;\n    this.htmlAst = htmlAst;\n    this.styles = _normalizeArray(styles);\n    this.styleUrls = _normalizeArray(styleUrls);\n    this.externalStylesheets = _normalizeArray(externalStylesheets);\n    this.animations = animations ? flatten(animations) : [];\n    this.ngContentSelectors = ngContentSelectors || [];\n    if (interpolation
 && interpolation.length != 2) {\n      throw new Error(`'interpolation' should have a start and an end symbol.`);\n    }\n    this.interpolation = interpolation;\n    this.isInline = isInline;\n    this.preserveWhitespaces = preserveWhitespaces;\n  }\n\n  toSummary(): CompileTemplateSummary {\n    return {\n      ngContentSelectors: this.ngContentSelectors,\n      encapsulation: this.encapsulation,\n      styles: this.styles,\n      animations: this.animations\n    };\n  }\n}\n\nexport interface CompileEntryComponentMetadata {\n  componentType: any;\n  componentFactory: StaticSymbol|object;\n}\n\n// Note: This should only use interfaces as nested data types\n// as we need to be able to serialize this from/to JSON!\nexport interface CompileDirectiveSummary extends CompileTypeSummary {\n  type: CompileTypeMetadata;\n  isComponent: boolean;\n  selector: string|null;\n  exportAs: string|null;\n  inputs: {[key: string]: string};\n  outputs: {[key: string]: string};\n  hostListeners: {[key: string]: string};\n  hostProperties: {[key: string]: string};\n  hostAttributes: {[key: string]: string};\n  providers: CompileProviderMetadata[];\n  viewProviders: CompileProviderMetadata[];\n  queries: CompileQueryMetadata[];\n  guards: {[key: string]: any};\n  viewQueries: CompileQueryMetadata[];\n  entryComponents: CompileEntryComponentMetadata[];\n  changeDetection: ChangeDetectionStrategy|null;\n  template:

CompileTemplateSummary|null;\n componentViewType: StaticSymbol|ProxyClass|null;\n rendererType: StaticSymbol|object|null;\n componentFactory: StaticSymbol|object|null;\n}\n\n/**\n * Metadata regarding compilation of a directive.\n */\nexport class CompileDirectiveMetadata {\n static create({\n isHost,\n type,\n isComponent,\n selector,\n exportAs,\n changeDetection,\n inputs,\n outputs,\n host,\n providers,\n viewProviders,\n queries,\n guards,\n viewQueries,\n entryComponents,\n template,\n componentViewType,\n rendererType,\n componentFactory\n }: {\n isHost: boolean,\n type: CompileTypeMetadata,\n isComponent: boolean,\n selector: string|null,\n exportAs: string|null,\n changeDetection: ChangeDetectionStrategy|null,\n inputs: string[],\n outputs: string[],\n host: {[key: string]: string},\n providers: CompileProviderMetadata[],\n viewProviders: CompileProviderMetadata[],\n queries: CompileQueryMetadata[],\n guards: {[key: string]: any};\n viewQueries: CompileQueryMetadata[],\n entryComponents: CompileEntryComponentMetadata[],\n template: CompileTemplateMetadata,\n componentViewType: StaticSymbol|ProxyClass|null,\n rendererType: StaticSymbol|object|null,\n componentFactory: StaticSymbol|object|null,\n }): CompileDirectiveMetadata {\n const hostListeners: {[key: string]: string} = {};\n const hostProperties: {[key: string]: string} = {};\n const hostAttributes: {[key: string]: string} = {};\n if (host != null) {\n Object.keys(host).forEach(key => {\n const value = host[key];\n const matches = key.match(HOST_REG_EXP);\n if (matches === null) {\n hostAttributes[key] = value;\n } else if (matches[1] != null) {\n hostProperties[matches[1]] = value;\n } else if (matches[2] != null) {\n hostListeners[matches[2]] = value;\n }\n });\n }\n const inputsMap: {[key: string]: string} = {};\n if (inputs != null) {\n inputs.forEach((bindConfig: string) => {\n // canonical syntax: `dirProp: elProp`\n // if there is no `:`, use dirProp = elProp\n const parts = splitAtColon(bindConfig, [bindConfig, bindConfig]);\n inputsMap[parts[0]] = parts[1];\n });\n }\n const outputsMap: {[key: string]: string} = {};\n if (outputs != null) {\n outputs.forEach((bindConfig: string) => {\n // canonical syntax: `dirProp: elProp`\n // if there is no `:`, use dirProp = elProp\n const parts = splitAtColon(bindConfig, [bindConfig, bindConfig]);\n outputsMap[parts[0]] = parts[1];\n });\n }\n\n return new CompileDirectiveMetadata({\n isHost,\n type,\n isComponent: !!isComponent,\n selector,\n exportAs,\n changeDetection,\n inputs: inputsMap,\n outputs: outputsMap,\n hostListeners,\n hostProperties,\n hostAttributes,\n providers,\n viewProviders,\n queries,\n guards,\n viewQueries,\n entryComponents,\n template,\n componentViewType,\n rendererType,\n componentFactory,\n });\n }\n isHost: boolean;\n type: CompileTypeMetadata;\n isComponent: boolean;\n selector: string|null;\n exportAs: string|null;\n changeDetection: ChangeDetectionStrategy|null;\n inputs: {[key: string]: string};\n outputs: {[key: string]: string};\n hostListeners: {[key: string]: string};\n hostProperties: {[key: string]: string};\n hostAttributes: {[key: string]: string};\n providers: CompileProviderMetadata[];\n viewProviders: CompileProviderMetadata[];\n queries: CompileQueryMetadata[];\n guards: {[key: string]: any};\n viewQueries: CompileQueryMetadata[];\n entryComponents: CompileEntryComponentMetadata[];\n\n template: CompileTemplateMetadata|null;\n\n componentViewType: StaticSymbol|ProxyClass|null;\n rendererType: StaticSymbol|object|null;\n componentFactory: StaticSymbol|object|null;\n\n constructor({\n isHost,\n type,\n isComponent,\n selector,\n exportAs,\n changeDetection,\n inputs,\n outputs,\n hostListeners,\n hostProperties,\n hostAttributes,\n providers,\n viewProviders,\n queries,\n guards,\n viewQueries,\n entryComponents,\n template,\n componentViewType,\n rendererType,\n componentFactory\n }: {\n isHost: boolean,\n type: CompileTypeMetadata,\n isComponent: boolean,\n selector: string|null,\n exportAs: string|null,\n changeDetection: ChangeDetectionStrategy|null,\n inputs: {[key: string]: string},\n outputs: {[key: string]: string},\n hostListeners: {[key: string]: string},\n hostProperties: {[key: string]: string},\n hostAttributes: {[key: string]: string},\n providers: CompileProviderMetadata[],\n viewProviders: CompileProviderMetadata[],\n queries: CompileQueryMetadata[],\n guards: {[key: string]: any},\n viewQueries: CompileQueryMetadata[],\n entryComponents: CompileEntryComponentMetadata[],\n template: CompileTemplateMetadata|null,\n componentViewType: StaticSymbol|ProxyClass|null,\n rendererType: StaticSymbol|object|null,\n

componentFactory: StaticSymbol|object|null,\n  }) {\n    this.isHost = !!isHost;\n    this.type = type;\n
this.isComponent = isComponent;\n    this.selector = selector;\n    this.exportAs = exportAs;\n
this.changeDetection = changeDetection;\n    this.inputs = inputs;\n    this.outputs = outputs;\n    this.hostListeners =
hostListeners;\n    this.hostProperties
= hostProperties;\n    this.hostAttributes = hostAttributes;\n    this.providers = _normalizeArray(providers);\n
this.viewProviders = _normalizeArray(viewProviders);\n    this.queries = _normalizeArray(queries);\n    this.guards
= guards;\n    this.viewQueries = _normalizeArray(viewQueries);\n    this.entryComponents =
_normalizeArray(entryComponents);\n    this.template = template;\n\n    this.componentViewType =
componentViewType;\n    this.rendererType = rendererType;\n    this.componentFactory = componentFactory;\n
}\n\n  toSummary(): CompileDirectiveSummary {\n    return {\n      summaryKind:
CompileSummaryKind.Directive,\n      type: this.type,\n      isComponent: this.isComponent,\n      selector:
this.selector,\n      exportAs: this.exportAs,\n      inputs: this.inputs,\n      outputs: this.outputs,\n      hostListeners:
this.hostListeners,\n      hostProperties: this.hostProperties,\n      hostAttributes: this.hostAttributes,\n      providers:
this.providers,\n
      viewProviders: this.viewProviders,\n      queries: this.queries,\n      guards: this.guards,\n      viewQueries:
this.viewQueries,\n      entryComponents: this.entryComponents,\n      changeDetection: this.changeDetection,\n
template: this.template && this.template.toSummary(),\n      componentViewType: this.componentViewType,\n
rendererType: this.rendererType,\n      componentFactory: this.componentFactory\n    };\n  }\n}\n\nexport interface
CompilePipeSummary extends CompileTypeSummary {\n  type: CompileTypeMetadata;\n  name: string;\n  pure:
boolean;\n}\n\nexport class CompilePipeMetadata {\n  type: CompileTypeMetadata;\n  name: string;\n  pure:
boolean;\n\n  constructor({type, name, pure}: {\n    type: CompileTypeMetadata,\n    name: string,\n    pure:
boolean,\n  }) {\n    this.type = type;\n    this.name = name;\n    this.pure = !!pure;\n  }\n\n  toSummary():
CompilePipeSummary {\n    return {\n      summaryKind: CompileSummaryKind.Pipe,\n      type: this.type,\n
      name: this.name,\n      pure: this.pure\n    };\n  }\n}\n\n// Note: This should only use interfaces as nested data
types\n// as we need to be able to serialize this from/to JSON!\nexport interface CompileNgModuleSummary
extends CompileTypeSummary {\n  type: CompileTypeMetadata;\n\n  // Note: This is transitive over the exported
modules.\n  exportedDirectives: CompileIdentifierMetadata[];\n  // Note: This is transitive over the exported
modules.\n  exportedPipes: CompileIdentifierMetadata[];\n\n  // Note: This is transitive.\n  entryComponents:
CompileEntryComponentMetadata[];\n  // Note: This is transitive.\n  providers: {provider:
CompileProviderMetadata, module: CompileIdentifierMetadata}[];\n  // Note: This is transitive.\n  modules:
CompileTypeMetadata[];\n}\n\nexport class CompileShallowModuleMetadata {\n  // TODO(issue/24571): remove
'!'.\n  type!: CompileTypeMetadata;\n\n  rawExports: any;\n  rawImports: any;\n  rawProviders: any;\n}\n\n/**\n *
Metadata regarding compilation
 of a module.\n */\nexport class CompileNgModuleMetadata {\n  type: CompileTypeMetadata;\n
declaredDirectives: CompileIdentifierMetadata[];\n  exportedDirectives: CompileIdentifierMetadata[];\n
declaredPipes: CompileIdentifierMetadata[];\n\n  exportedPipes: CompileIdentifierMetadata[];\n  entryComponents:
CompileEntryComponentMetadata[];\n  bootstrapComponents: CompileIdentifierMetadata[];\n  providers:
CompileProviderMetadata[];\n\n  importedModules: CompileNgModuleSummary[];\n  exportedModules:
CompileNgModuleSummary[];\n  schemas: SchemaMetadata[];\n  id: string|null;\n\n  transitiveModule:
TransitiveCompileNgModuleMetadata;\n\n  constructor({\n    type,\n    providers,\n    declaredDirectives,\n
exportedDirectives,\n    declaredPipes,\n    exportedPipes,\n    entryComponents,\n    bootstrapComponents,\n
importedModules,\n    exportedModules,\n    schemas,\n    transitiveModule,\n    id\n  }: {\n    type:
CompileTypeMetadata,\n    providers: CompileProviderMetadata[],\n
   declaredDirectives: CompileIdentifierMetadata[],\n    exportedDirectives: CompileIdentifierMetadata[],\n
declaredPipes: CompileIdentifierMetadata[],\n    exportedPipes: CompileIdentifierMetadata[],\n
entryComponents: CompileEntryComponentMetadata[],\n    bootstrapComponents: CompileIdentifierMetadata[],\n
importedModules: CompileNgModuleSummary[],\n    exportedModules: CompileNgModuleSummary[],\n
transitiveModule: TransitiveCompileNgModuleMetadata,\n    schemas: SchemaMetadata[],\n    id: string|null\n  })

{\n this.type = type || null;\n this.declaredDirectives = _normalizeArray(declaredDirectives);\n this.exportedDirectives = _normalizeArray(exportedDirectives);\n this.declaredPipes = _normalizeArray(declaredPipes);\n this.exportedPipes = _normalizeArray(exportedPipes);\n this.providers = _normalizeArray(providers);\n this.entryComponents = _normalizeArray(entryComponents);\n this.bootstrapComponents = _normalizeArray(bootstrapComponents);\n this.importedModules = _normalizeArray(importedModules);\n this.exportedModules = _normalizeArray(exportedModules);\n this.schemas = _normalizeArray(schemas);\n this.id = id || null;\n this.transitiveModule = transitiveModule || null;\n }\n\n toSummary(): CompileNgModuleSummary {\n const module = this.transitiveModule!;\n return {\n summaryKind: CompileSummaryKind.NgModule,\n type: this.type,\n entryComponents: module.entryComponents,\n providers: module.providers,\n modules: module.modules,\n exportedDirectives: module.exportedDirectives,\n exportedPipes: module.exportedPipes\n };\n }\n}\n\nexport class TransitiveCompileNgModuleMetadata {\n directivesSet = new Set<any>();\n directives: CompileIdentifierMetadata[] = [];\n exportedDirectivesSet = new Set<any>();\n exportedDirectives: CompileIdentifierMetadata[] = [];\n pipesSet = new Set<any>();\n pipes: CompileIdentifierMetadata[] = [];\n exportedPipesSet = new Set<any>();\n exportedPipes: CompileIdentifierMetadata[] = [];\n modulesSet = new Set<any>();\n modules: CompileTypeMetadata[] = [];\n entryComponentsSet = new Set<any>();\n entryComponents: CompileEntryComponentMetadata[] = [];\n\n providers: {provider: CompileProviderMetadata, module: CompileIdentifierMetadata}[] = [];\n\n addProvider(provider: CompileProviderMetadata, module: CompileIdentifierMetadata) {\n this.providers.push({provider: provider, module: module});\n }\n\n addDirective(id: CompileIdentifierMetadata) {\n if (!this.directivesSet.has(id.reference)) {\n this.directivesSet.add(id.reference);\n this.directives.push(id);\n }\n }\n addExportedDirective(id: CompileIdentifierMetadata) {\n if (!this.exportedDirectivesSet.has(id.reference)) {\n this.exportedDirectivesSet.add(id.reference);\n this.exportedDirectives.push(id);\n }\n }\n addPipe(id: CompileIdentifierMetadata) {\n if (!this.pipesSet.has(id.reference)) {\n this.pipesSet.add(id.reference);\n this.pipes.push(id);\n }\n }\n addExportedPipe(id: CompileIdentifierMetadata) {\n if (!this.exportedPipesSet.has(id.reference)) {\n this.exportedPipesSet.add(id.reference);\n this.exportedPipes.push(id);\n }\n }\n addModule(id: CompileTypeMetadata) {\n if (!this.modulesSet.has(id.reference)) {\n this.modulesSet.add(id.reference);\n this.modules.push(id);\n }\n }\n addEntryComponent(ec: CompileEntryComponentMetadata) {\n if (!this.entryComponentsSet.has(ec.componentType)) {\n this.entryComponentsSet.add(ec.componentType);\n this.entryComponents.push(ec);\n }\n }\n}\n\nfunction _normalizeArray(obj: any[]|undefined|null): any[] {\n return obj || [];\n}\n\nexport class ProviderMeta {\n token: any;\n useClass: Type|null;\n useValue: any;\n useExisting: any;\n useFactory: Function|null;\n dependencies: Object[]|null;\n multi: boolean;\n\n constructor(token: any, {useClass, useValue, useExisting, useFactory,\n deps, multi}: {\n useClass?: Type,\n useValue?: any,\n useExisting?: any,\n useFactory?: Function|null,\n deps?: Object[]|null,\n multi?: boolean\n }) {\n this.token = token;\n this.useClass = useClass || null;\n this.useValue = useValue;\n this.useExisting = useExisting;\n this.useFactory = useFactory || null;\n this.dependencies = deps || null;\n this.multi = !!multi;\n }\n}\n\nexport function flatten<T>(list: Array<T|T[]>): T[] {\n return list.reduce((flat: any[], item: T|T[]): T[] => {\n const flatItem = Array.isArray(item) ? flatten(item) : item;\n return (<T[]>flat).concat(flatItem);\n }, []);\n}\n\nfunction jitSourceUrl(url: string) {\n // Note: We need 3 \"/\" so that ng shows up as a separate domain\n // in the chrome dev tools.\n return url.replace(/(\\w+:\/\/[\w:-]+)?(\/+)?/, 'ng:///');\n}\n\nexport function templateSourceUrl(\n ngModuleType: CompileIdentifierMetadata,\n compMeta: {type: CompileIdentifierMetadata},\n templateMeta: {isInline: boolean, templateUrl: string|null}) {\n let url: string;\n if (templateMeta.isInline) {\n if (compMeta.type.reference instanceof StaticSymbol) {\n // Note: a .ts file might contain multiple components with inline templates,\n // so we need to give them unique urls, as these will be used for sourcemaps.\n url = `${compMeta.type.reference.filePath}.${compMeta.type.reference.name}.html`;\n } else {\n url =

`${identifierName(ngModuleType)}/${identifierName(compMeta.type)}.html`;\n }\n } else {\n url = templateMeta.templateUrl!;\n }\n return compMeta.type.reference instanceof StaticSymbol ? url : jitSourceUrl(url);\n}\n\nexport function sharedStylesheetJitUrl(meta: CompileStylesheetMetadata, id: number) {\n const pathParts = meta.moduleUrl!.split(/\\/\\\\/g);\n const baseName = pathParts[pathParts.length - 1];\n return jitSourceUrl(`css/${id}${baseName}.ngstyle.js`);\n}\n\nexport function ngModuleJitUrl(moduleMeta: CompileNgModuleMetadata): string {\n return jitSourceUrl(`${identifierName(moduleMeta.type)}/module.ngfactory.js`);\n}\n\nexport function templateJitUrl(\n ngModuleType: CompileIdentifierMetadata, compMeta: CompileDirectiveMetadata): string {\n return jitSourceUrl(\n `${identifierName(ngModuleType)}/${identifierName(compMeta.type)}.ngfactory.js`);\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as o from '../output/output_ast';\n\nconst CORE = '@angular/core';\n\nexport class Identifiers {\n /* Methods */\n static NEW_METHOD = 'factory';\n static TRANSFORM_METHOD = 'transform';\n static PATCH_DEPS = 'patchedDeps';\n\n /* Instructions */\n static namespaceHTML: o.ExternalReference = {name: 'namespaceHTML', moduleName: CORE};\n\n static namespaceMathML: o.ExternalReference = {name: 'namespaceMathML', moduleName: CORE};\n\n static namespaceSVG: o.ExternalReference = {name: 'namespaceSVG', moduleName: CORE};\n\n static element: o.ExternalReference = {name: 'element', moduleName: CORE};\n\n static elementStart: o.ExternalReference = {name: 'elementStart', moduleName: CORE};\n\n static elementEnd: o.ExternalReference = {name: 'elementEnd', moduleName: CORE};\n\n static advance: o.ExternalReference = {name: 'advance', moduleName: CORE};\n\n static syntheticHostProperty:\n o.ExternalReference = {name: 'syntheticHostProperty', moduleName: CORE};\n\n static syntheticHostListener:\n o.ExternalReference = {name: 'syntheticHostListener', moduleName: CORE};\n\n static attribute: o.ExternalReference = {name: 'attribute', moduleName: CORE};\n\n static attributeInterpolate1:\n o.ExternalReference = {name: 'attributeInterpolate1', moduleName: CORE};\n static attributeInterpolate2:\n o.ExternalReference = {name: 'attributeInterpolate2', moduleName: CORE};\n static attributeInterpolate3:\n o.ExternalReference = {name: 'attributeInterpolate3', moduleName: CORE};\n static attributeInterpolate4:\n o.ExternalReference = {name: 'attributeInterpolate4', moduleName: CORE};\n static attributeInterpolate5:\n o.ExternalReference = {name: 'attributeInterpolate5', moduleName: CORE};\n static attributeInterpolate6:\n o.ExternalReference = {name: 'attributeInterpolate6', moduleName: CORE};\n static attributeInterpolate7:\n o.ExternalReference = {name: 'attributeInterpolate7', moduleName: CORE};\n static attributeInterpolate8:\n o.ExternalReference = {name: 'attributeInterpolate8', moduleName: CORE};\n static attributeInterpolateV:\n o.ExternalReference = {name: 'attributeInterpolateV', moduleName: CORE};\n\n static classProp: o.ExternalReference = {name: 'classProp', moduleName: CORE};\n\n static elementContainerStart:\n o.ExternalReference = {name: 'elementContainerStart', moduleName: CORE};\n\n static elementContainerEnd:\n o.ExternalReference = {name: 'elementContainerEnd', moduleName: CORE};\n\n static elementContainer: o.ExternalReference = {name: 'elementContainer', moduleName: CORE};\n\n static styleMap: o.ExternalReference = {name: 'styleMap', moduleName: CORE};\n\n static styleMapInterpolate1:\n o.ExternalReference = {name: 'styleMapInterpolate1', moduleName: CORE};\n static styleMapInterpolate2:\n o.ExternalReference = {name: 'styleMapInterpolate2', moduleName: CORE};\n static styleMapInterpolate3:\n o.ExternalReference = {name: 'styleMapInterpolate3', moduleName: CORE};\n static styleMapInterpolate4:\n o.ExternalReference = {name: 'styleMapInterpolate4', moduleName: CORE};\n static styleMapInterpolate5:\n o.ExternalReference = {name: 'styleMapInterpolate5', moduleName: CORE};\n static styleMapInterpolate6:\n o.ExternalReference = {name: 'styleMapInterpolate6', moduleName: CORE};\n\n static styleMapInterpolate7:\n o.ExternalReference = {name: 'styleMapInterpolate7', moduleName: CORE};\n static styleMapInterpolate8:\n o.ExternalReference = {name: 'styleMapInterpolate8', moduleName: CORE};\n static styleMapInterpolateV:\n o.ExternalReference = {name: 'styleMapInterpolateV', moduleName: CORE};\n\n

static classMap: o.ExternalReference = {name: 'classMap', moduleName: CORE};\n\n  static classMapInterpolate1:\n      o.ExternalReference = {name: 'classMapInterpolate1', moduleName: CORE};\n  static classMapInterpolate2:\n      o.ExternalReference = {name: 'classMapInterpolate2', moduleName: CORE};\n  static classMapInterpolate3:\n      o.ExternalReference = {name: 'classMapInterpolate3', moduleName: CORE};\n  static classMapInterpolate4:\n      o.ExternalReference = {name: 'classMapInterpolate4', moduleName: CORE};\n  static classMapInterpolate5:\n      o.ExternalReference = {name: 'classMapInterpolate5', moduleName: CORE};\n  static classMapInterpolate6:\n      o.ExternalReference = {name: 'classMapInterpolate6', moduleName: CORE};\n  static classMapInterpolate7:\n      o.ExternalReference = {name: 'classMapInterpolate7', moduleName: CORE};\n  static classMapInterpolate8:\n      o.ExternalReference = {name: 'classMapInterpolate8', moduleName: CORE};\n  static classMapInterpolateV:\n      o.ExternalReference = {name: 'classMapInterpolateV', moduleName: CORE};\n\n  static styleProp: o.ExternalReference = {name: 'styleProp', moduleName: CORE};\n\n  static stylePropInterpolate1:\n      o.ExternalReference = {name: 'stylePropInterpolate1', moduleName: CORE};\n  static stylePropInterpolate2:\n      o.ExternalReference = {name: 'stylePropInterpolate2', moduleName: CORE};\n  static stylePropInterpolate3:\n      o.ExternalReference = {name: 'stylePropInterpolate3', moduleName: CORE};\n  static stylePropInterpolate4:\n      o.ExternalReference = {name: 'stylePropInterpolate4', moduleName: CORE};\n  static stylePropInterpolate5:\n      o.ExternalReference = {name: 'stylePropInterpolate5', moduleName: CORE};\n  static stylePropInterpolate6:\n      o.ExternalReference = {name: 'stylePropInterpolate6', moduleName: CORE};\n  static stylePropInterpolate7:\n      o.ExternalReference = {name: 'stylePropInterpolate7', moduleName: CORE};\n  static stylePropInterpolate8:\n      o.ExternalReference = {name: 'stylePropInterpolate8', moduleName: CORE};\n  static stylePropInterpolateV:\n      o.ExternalReference = {name: 'stylePropInterpolateV', moduleName: CORE};\n\n  static nextContext: o.ExternalReference = {name: 'nextContext', moduleName: CORE};\n\n  static templateCreate: o.ExternalReference = {name: 'template', moduleName: CORE};\n\n  static text: o.ExternalReference = {name: 'text', moduleName: CORE};\n\n  static enableBindings: o.ExternalReference = {name: 'enableBindings', moduleName: CORE};\n\n  static disableBindings: o.ExternalReference = {name: 'disableBindings', moduleName: CORE};\n\n  static getCurrentView: o.ExternalReference = {name: 'getCurrentView', moduleName: CORE};\n\n  static textInterpolate: o.ExternalReference = {name: 'textInterpolate', moduleName: CORE};\n  static textInterpolate1: o.ExternalReference = {name: 'textInterpolate1', moduleName: CORE};\n  static textInterpolate2: o.ExternalReference = {name: 'textInterpolate2', moduleName: CORE};\n  static textInterpolate3: o.ExternalReference = {name: 'textInterpolate3', moduleName: CORE};\n  static textInterpolate4: o.ExternalReference = {name: 'textInterpolate4', moduleName: CORE};\n  static textInterpolate5: o.ExternalReference = {name: 'textInterpolate5', moduleName: CORE};\n  static textInterpolate6: o.ExternalReference = {name: 'textInterpolate6', moduleName: CORE};\n  static textInterpolate7: o.ExternalReference = {name: 'textInterpolate7', moduleName: CORE};\n  static textInterpolate8: o.ExternalReference = {name: 'textInterpolate8', moduleName: CORE};\n  static textInterpolateV: o.ExternalReference = {name: 'textInterpolateV', moduleName: CORE};\n\n  static restoreView: o.ExternalReference = {name: 'restoreView', moduleName: CORE};\n\n  static pureFunction0: o.ExternalReference = {name: 'pureFunction0', moduleName: CORE};\n  static pureFunction1: o.ExternalReference = {name: 'pureFunction1', moduleName: CORE};\n  static pureFunction2: o.ExternalReference = {name: 'pureFunction2', moduleName: CORE};\n  static pureFunction3: o.ExternalReference = {name: 'pureFunction3', moduleName: CORE};\n  static pureFunction4: o.ExternalReference = {name: 'pureFunction4', moduleName: CORE};\n  static pureFunction5: o.ExternalReference = {name: 'pureFunction5', moduleName: CORE};\n  static pureFunction6: o.ExternalReference = {name: 'pureFunction6', moduleName: CORE};\n  static pureFunction7: o.ExternalReference = {name: 'pureFunction7', moduleName: CORE};\n  static pureFunction8: o.ExternalReference = {name: 'pureFunction8', moduleName: CORE};\n  static pureFunctionV: o.ExternalReference = {name: 'pureFunctionV', moduleName: CORE};\n\n  static pipeBind1: o.ExternalReference = {name: 'pipeBind1', moduleName: CORE};\n  static pipeBind2: o.ExternalReference = {name: 'pipeBind2', moduleName: CORE};\n  static pipeBind3: o.ExternalReference = {name: 'pipeBind3', moduleName: CORE};\n  static pipeBind4: o.ExternalReference = {name: 'pipeBind4',

moduleName: CORE};\n  static pipeBindV: o.ExternalReference = {name: 'pipeBindV', moduleName: CORE};\n\n static hostProperty: o.ExternalReference = {name: 'hostProperty', moduleName: CORE};\n\n  static property: o.ExternalReference = {name: 'property', moduleName: CORE};\n\n  static propertyInterpolate:\n o.ExternalReference = {name: 'propertyInterpolate', moduleName: CORE};\n  static propertyInterpolate1:\n o.ExternalReference = {name: 'propertyInterpolate1', moduleName: CORE};\n  static propertyInterpolate2:\n o.ExternalReference = {name: 'propertyInterpolate2',
 moduleName: CORE};\n  static propertyInterpolate3:\n  o.ExternalReference = {name: 'propertyInterpolate3',
moduleName: CORE};\n  static propertyInterpolate4:\n  o.ExternalReference = {name: 'propertyInterpolate4',
moduleName: CORE};\n  static propertyInterpolate5:\n  o.ExternalReference = {name: 'propertyInterpolate5',
moduleName: CORE};\n  static propertyInterpolate6:\n  o.ExternalReference = {name: 'propertyInterpolate6',
moduleName: CORE};\n  static propertyInterpolate7:\n  o.ExternalReference = {name: 'propertyInterpolate7',
moduleName: CORE};\n  static propertyInterpolate8:\n  o.ExternalReference = {name: 'propertyInterpolate8',
moduleName: CORE};\n  static propertyInterpolateV:\n  o.ExternalReference = {name: 'propertyInterpolateV',
moduleName: CORE};\n\n  static i18n: o.ExternalReference = {name: 'i18n', moduleName: CORE};\n  static i18nAttributes: o.ExternalReference = {name: 'i18nAttributes', moduleName: CORE};\n
  static i18nExp: o.ExternalReference = {name: 'i18nExp', moduleName: CORE};\n  static i18nStart: o.ExternalReference = {name: 'i18nStart', moduleName: CORE};\n  static i18nEnd: o.ExternalReference = {name: 'i18nEnd', moduleName: CORE};\n  static i18nApply: o.ExternalReference = {name: 'i18nApply', moduleName: CORE};\n  static i18nPostprocess: o.ExternalReference = {name: 'i18nPostprocess', moduleName: CORE};\n\n static pipe: o.ExternalReference = {name: 'pipe', moduleName: CORE};\n\n  static projection: o.ExternalReference = {name: 'projection', moduleName: CORE};\n  static projectionDef: o.ExternalReference = {name: 'projectionDef', moduleName: CORE};\n\n  static reference: o.ExternalReference = {name: 'reference', moduleName: CORE};\n\n static inject: o.ExternalReference = {name: 'inject', moduleName: CORE};\n\n  static injectAttribute: o.ExternalReference = {name: 'injectAttribute', moduleName: CORE};\n\n  static injectPipeChangeDetectorRef:\n  o.ExternalReference
 = {name: 'injectPipeChangeDetectorRef', moduleName: CORE};\n\n  static directiveInject: o.ExternalReference = {name: 'directiveInject', moduleName: CORE};\n  static invalidFactory: o.ExternalReference = {name: 'invalidFactory', moduleName: CORE};\n  static invalidFactoryDep: o.ExternalReference = {name: 'invalidFactoryDep', moduleName: CORE};\n\n  static templateRefExtractor:\n  o.ExternalReference = {name: 'templateRefExtractor', moduleName: CORE};\n\n  static resolveWindow: o.ExternalReference = {name: 'resolveWindow', moduleName: CORE};\n  static resolveDocument: o.ExternalReference = {name: 'resolveDocument', moduleName: CORE};\n  static resolveBody: o.ExternalReference = {name: 'resolveBody', moduleName: CORE};\n\n  static defineComponent: o.ExternalReference = {name: 'defineComponent', moduleName: CORE};\n\n  static setComponentScope: o.ExternalReference = {name: 'setComponentScope', moduleName: CORE};\n\n  static ComponentDefWithMeta: o.ExternalReference
 = {\n    name: 'ComponentDefWithMeta',\n    moduleName: CORE,\n  };\n\n  static FactoryDef: o.ExternalReference = {\n    name: 'FactoryDef',\n    moduleName: CORE,\n  };\n\n  static defineDirective: o.ExternalReference = {\n    name: 'defineDirective',\n    moduleName: CORE,\n  };\n\n  static DirectiveDefWithMeta: o.ExternalReference = {\n    name: 'DirectiveDefWithMeta',\n    moduleName: CORE,\n  };\n\n  static InjectorDef: o.ExternalReference = {\n    name: 'InjectorDef',\n    moduleName: CORE,\n  };\n\n  static defineInjector: o.ExternalReference = {\n    name: 'defineInjector',\n    moduleName: CORE,\n  };\n\n  static NgModuleDefWithMeta: o.ExternalReference = {\n    name: 'NgModuleDefWithMeta',\n    moduleName: CORE,\n  };\n\n  static ModuleWithProviders: o.ExternalReference = {\n    name: 'ModuleWithProviders',\n    moduleName: CORE,\n  };\n\n  static defineNgModule: o.ExternalReference = {name: 'defineNgModule', moduleName: CORE};\n  static setNgModuleScope:
 o.ExternalReference = {name: 'setNgModuleScope', moduleName: CORE};\n\n  static PipeDefWithMeta: o.ExternalReference = {name: 'PipeDefWithMeta', moduleName: CORE};\n\n  static definePipe: o.ExternalReference = {name: 'definePipe', moduleName: CORE};\n\n  static queryRefresh: o.ExternalReference =

{name: 'queryRefresh', moduleName: CORE};\n  static viewQuery: o.ExternalReference = {name: 'viewQuery', moduleName: CORE};\n  static staticViewQuery: o.ExternalReference = {name: 'staticViewQuery', moduleName: CORE};\n  static staticContentQuery: o.ExternalReference = {name: 'staticContentQuery', moduleName: CORE};\n  static loadQuery: o.ExternalReference = {name: 'loadQuery', moduleName: CORE};\n  static contentQuery: o.ExternalReference = {name: 'contentQuery', moduleName: CORE};\n\n  static NgOnChangesFeature: o.ExternalReference = {name: 'NgOnChangesFeature', moduleName: CORE};\n\n  static InheritDefinitionFeature:\n      o.ExternalReference = {name: 'InheritDefinitionFeature',\n  moduleName: CORE};\n\n  static CopyDefinitionFeature:\n      o.ExternalReference = {name: 'CopyDefinitionFeature', moduleName: CORE};\n\n  static ProvidersFeature: o.ExternalReference = {name: 'ProvidersFeature', moduleName: CORE};\n\n  static listener: o.ExternalReference = {name: 'listener', moduleName: CORE};\n\n  static getFactoryOf: o.ExternalReference = {\n    name: 'getFactoryOf',\n  moduleName: CORE,\n  };\n\n  static getInheritedFactory: o.ExternalReference = {\n    name: 'getInheritedFactory',\n    moduleName: CORE,\n  };\n\n  // sanitization-related functions\n  static sanitizeHtml: o.ExternalReference = {name: 'sanitizeHtml', moduleName: CORE};\n  static sanitizeStyle: o.ExternalReference = {name: 'sanitizeStyle', moduleName: CORE};\n  static sanitizeResourceUrl:\n      o.ExternalReference = {name: 'sanitizeResourceUrl', moduleName: CORE};\n  static sanitizeScript: o.ExternalReference = {name: 'sanitizeScript', moduleName: CORE};\n
  static sanitizeUrl: o.ExternalReference = {name: 'sanitizeUrl', moduleName: CORE};\n  static sanitizeUrlOrResourceUrl:\n      o.ExternalReference = {name: 'sanitizeUrlOrResourceUrl', moduleName: CORE};\n  static trustConstantHtml: o.ExternalReference = {name: 'trustConstantHtml', moduleName: CORE};\n  static trustConstantScript:\n      o.ExternalReference = {name: 'trustConstantScript', moduleName: CORE};\n  static trustConstantResourceUrl:\n      o.ExternalReference = {name: 'trustConstantResourceUrl', moduleName: CORE};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {StaticSymbol} from '../aot/static_symbol';\nimport * as o from '../output/output_ast';\nimport {OutputContext} from '../util';\n\n/**\n * Convert an object map with `Expression` values into a `LiteralMapExpr`.\n */\nexport function mapToMapExpression(map:
 {[key: string]: o.Expression|undefined}): o.LiteralMapExpr {\n  const result = Object.keys(map).map(\n      key => ({\n        key,\n        // The assertion here is because really TypeScript doesn't allow us to express that if the\n        // key is present, it will have a value, but this is true in reality.\n        value: map[key]!,\n        quoted: false,\n      }));\n  return o.literalMap(result);\n}\n\n/**\n * Convert metadata into an `Expression` in the given `OutputContext`.\n *\n * This operation will handle arrays, references to symbols, or literal `null` or `undefined`.\n */\nexport function convertMetaToOutput(meta: any, ctx: OutputContext): o.Expression {\n  if (Array.isArray(meta)) {\n    return o.literalArr(meta.map(entry => convertMetaToOutput(entry, ctx)));\n  }\n  if (meta instanceof StaticSymbol) {\n    return ctx.importExpr(meta);\n  }\n  if (meta == null) {\n    return o.literal(meta);\n  }\n\n  throw new Error(`Internal error: Unsupported or
 unknown metadata: ${meta}`);\n}\n\nexport function typeWithParameters(type: o.Expression, numParams: number): o.ExpressionType {\n  if (numParams === 0) {\n    return o.expressionType(type);\n  }\n  const params: o.Type[] = [];\n  for (let i = 0; i < numParams; i++) {\n    params.push(o.DYNAMIC_TYPE);\n  }\n  return o.expressionType(type, undefined, params);\n}\n\nexport interface R3Reference {\n  value: o.Expression;\n  type: o.Expression;\n}\n\nconst ANIMATE_SYMBOL_PREFIX = '@';\nexport function prepareSyntheticPropertyName(name: string) {\n  return `${ANIMATE_SYMBOL_PREFIX}${name}`;\n}\n\nexport function prepareSyntheticListenerName(name: string, phase: string) {\n  return `${ANIMATE_SYMBOL_PREFIX}${name}.${phase}`;\n}\n\nexport function isSyntheticPropertyOrListener(name: string) {\n  return name.charAt(0) == ANIMATE_SYMBOL_PREFIX;\n}\n\nexport function getSyntheticPropertyName(name: string) {\n  // this will strip out listener phase values...\n  // @foo.start => @foo\n  const i =

name.indexOf('.');\n  name = i > 0 ? name.substring(0, i) : name;\n  if (name.charAt(0) !== ANIMATE_SYMBOL_PREFIX) {\n    name = ANIMATE_SYMBOL_PREFIX + name;\n  }\n  return name;\n}\n\nexport function prepareSyntheticListenerFunctionName(name: string, phase: string) {\n  return `animation_${name}_${phase}`;\n}\n\nexport function jitOnlyGuardedExpression(expr: o.Expression): o.Expression {\n  const ngJitMode = new o.ExternalExpr({name: 'ngJitMode', moduleName: null});\n  const jitFlagNotDefined = new o.BinaryOperatorExpr(\n      o.BinaryOperator.Identical, new o.TypeofExpr(ngJitMode), o.literal('undefined'));\n  const jitFlagUndefinedOrTrue = new o.BinaryOperatorExpr(\n      o.BinaryOperator.Or, jitFlagNotDefined, ngJitMode, /* type */ undefined,\n      /* sourceSpan */ undefined, true);\n  return new o.BinaryOperatorExpr(o.BinaryOperator.And, jitFlagUndefinedOrTrue, expr);\n}\n\nexport function wrapReference(value: any): R3Reference {\n  const wrapped = new o.WrappedNodeExpr(value);\n  return {value: wrapped, type: wrapped};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {SecurityContext} from '../core';\nimport {AST, BindingType, BoundElementProperty, ParsedEvent, ParsedEventType} from '../expression_parser/ast';\nimport {I18nMeta} from '../i18n/i18n_ast';\nimport {ParseSourceSpan} from '../parse_util';\n\nexport interface Node {\n  sourceSpan: ParseSourceSpan;\n  visit<Result>(visitor: Visitor<Result>): Result;\n}\n\nexport class Text implements Node {\n  constructor(public value: string, public sourceSpan: ParseSourceSpan) {}\n  visit<Result>(visitor: Visitor<Result>): Result {\n    return visitor.visitText(this);\n  }\n}\n\nexport class BoundText implements Node {\n  constructor(public value: AST, public sourceSpan: ParseSourceSpan, public i18n?: I18nMeta) {}\n  visit<Result>(visitor: Visitor<Result>): Result {\n    return visitor.visitBoundText(this);\n  }\n}\n\nexport class TextAttribute implements Node {\n  constructor(\n      public name: string, public value: string, public sourceSpan: ParseSourceSpan,\n      public valueSpan?: ParseSourceSpan, public i18n?: I18nMeta) {}\n  visit<Result>(visitor: Visitor<Result>): Result {\n    return visitor.visitTextAttribute(this);\n  }\n}\n\nexport class BoundAttribute implements Node {\n  constructor(\n      public name: string, public type: BindingType, public securityContext: SecurityContext,\n      public value: AST, public unit: string|null, public sourceSpan: ParseSourceSpan,\n      readonly keySpan: ParseSourceSpan, public valueSpan: ParseSourceSpan|undefined,\n      public i18n: I18nMeta|undefined) {}\n\n  static fromBoundElementProperty(prop: BoundElementProperty, i18n?: I18nMeta): BoundAttribute {\n    if (prop.keySpan === undefined) {\n      throw new Error(\n          `Unexpected state: keySpan must be defined for bound attributes but was not for ${\n              prop.name}: ${prop.sourceSpan}`);\n    }\n    return new BoundAttribute(\n        prop.name, prop.type, prop.securityContext, prop.value, prop.unit, prop.sourceSpan,\n        prop.keySpan, prop.valueSpan, i18n);\n  }\n\n  visit<Result>(visitor: Visitor<Result>): Result {\n    return visitor.visitBoundAttribute(this);\n  }\n}\n\nexport class BoundEvent implements Node {\n  constructor(\n      public name: string, public type: ParsedEventType, public handler: AST,\n      public target: string|null, public phase: string|null, public sourceSpan: ParseSourceSpan,\n      public handlerSpan: ParseSourceSpan) {}\n\n  static fromParsedEvent(event: ParsedEvent) {\n    const target: string|null = event.type === ParsedEventType.Regular ? event.targetOrPhase : null;\n    const phase: string|null =\n        event.type === ParsedEventType.Animation ? event.targetOrPhase : null;\n    return new BoundEvent(\n        event.name, event.type, event.handler, target, phase, event.sourceSpan, event.handlerSpan);\n  }\n\n  visit<Result>(visitor: Visitor<Result>): Result {\n    return visitor.visitBoundEvent(this);\n  }\n}\n\nexport class Element implements Node {\n  constructor(\n      public name: string, public attributes: TextAttribute[], public inputs: BoundAttribute[],\n      public outputs: BoundEvent[], public children: Node[], public references: Reference[],\n      public sourceSpan: ParseSourceSpan, public startSourceSpan: ParseSourceSpan,\n      public endSourceSpan: ParseSourceSpan|null, public i18n?: I18nMeta) {}\n  visit<Result>(visitor: Visitor<Result>): Result {\n    return visitor.visitElement(this);\n  }\n}\n\nexport class Template implements Node {\n  constructor(\n      public tagName: string, public attributes: TextAttribute[], public inputs: BoundAttribute[],\n      public outputs: BoundEvent[], public templateAttrs: (BoundAttribute|TextAttribute)[],\n      public children: Node[], public references: Reference[], public

variables: Variable[],\n public sourceSpan: ParseSourceSpan, public startSourceSpan: ParseSourceSpan,\n public endSourceSpan: ParseSourceSpan|null, public i18n?: I18nMeta) {}\n visit<Result>(visitor: Visitor<Result>): Result {\n return visitor.visitTemplate(this);\n }\n}\n\nexport class Content implements Node {\n readonly name = 'ng-content';\n\n constructor(\n public selector: string, public attributes: TextAttribute[],\n public sourceSpan: ParseSourceSpan, public i18n?: I18nMeta) {}\n visit<Result>(visitor: Visitor<Result>): Result {\n return visitor.visitContent(this);\n }\n}\n\nexport class Variable implements Node {\n constructor(\n public name: string, public value: string, public sourceSpan: ParseSourceSpan,\n readonly keySpan: ParseSourceSpan, public valueSpan?: ParseSourceSpan) {}\n visit<Result>(visitor: Visitor<Result>): Result {\n return visitor.visitVariable(this);\n }\n}\n\nexport class Reference implements Node {\n constructor(\n public name: string, public value: string, public sourceSpan: ParseSourceSpan,\n public valueSpan?: ParseSourceSpan) {}\n visit<Result>(visitor: Visitor<Result>): Result {\n return visitor.visitReference(this);\n }\n}\n\nexport class Icu implements Node {\n constructor(\n public vars: {[name: string]: BoundText},\n public placeholders: {[name: string]: Text|BoundText}, public sourceSpan: ParseSourceSpan,\n public i18n?: I18nMeta) {}\n visit<Result>(visitor: Visitor<Result>): Result {\n return visitor.visitIcu(this);\n }\n}\n\nexport interface Visitor<Result = any> {\n // Returning a truthy value from `visit()` will prevent `visitAll()` from the call to the typed\n // method and result returned will become the result included in `visitAll()`s result array.\n visit?(node: Node): Result;\n\n visitElement(element: Element): Result;\n visitTemplate(template: Template): Result;\n visitContent(content: Content): Result;\n visitVariable(variable: Variable): Result;\n visitReference(reference: Reference): Result;\n visitTextAttribute(attribute: TextAttribute): Result;\n visitBoundAttribute(attribute: BoundAttribute): Result;\n visitBoundEvent(attribute: BoundEvent): Result;\n visitText(text: Text): Result;\n visitBoundText(text: BoundText): Result;\n visitIcu(icu: Icu): Result;\n}\n\nexport class NullVisitor implements Visitor<void> {\n visitElement(element: Element): void {}\n visitTemplate(template: Template): void {}\n visitContent(content: Content): void {}\n visitVariable(variable: Variable): void {}\n visitReference(reference: Reference): void {}\n visitTextAttribute(attribute: TextAttribute): void {}\n visitBoundAttribute(attribute: BoundAttribute): void {}\n visitBoundEvent(attribute: BoundEvent): void {}\n visitText(text: Text): void {}\n visitBoundText(text: BoundText): void {}\n visitIcu(icu: Icu): void {}\n}\n\nexport class RecursiveVisitor implements Visitor<void> {\n visitElement(element: Element): void {\n visitAll(this, element.attributes);\n visitAll(this, element.children);\n visitAll(this, element.references);\n }\n visitTemplate(template: Template): void {\n visitAll(this, template.attributes);\n visitAll(this, template.children);\n visitAll(this, template.references);\n visitAll(this, template.variables);\n }\n visitContent(content: Content): void {}\n visitVariable(variable: Variable): void {}\n visitReference(reference: Reference): void {}\n visitTextAttribute(attribute: TextAttribute): void {}\n visitBoundAttribute(attribute: BoundAttribute): void {}\n visitBoundEvent(attribute: BoundEvent): void {}\n visitText(text: Text): void {}\n visitBoundText(text: BoundText): void {}\n visitIcu(icu: Icu): void {}\n}\n\nexport class TransformVisitor implements Visitor<Node> {\n visitElement(element: Element): Node {\n const newAttributes = transformAll(this, element.attributes);\n const newInputs = transformAll(this, element.inputs);\n const newOutputs = transformAll(this, element.outputs);\n const newChildren = transformAll(this, element.children);\n const newReferences = transformAll(this, element.references);\n if (newAttributes != element.attributes || newInputs != element.inputs ||\n newOutputs != element.outputs || newChildren != element.children ||\n newReferences != element.references) {\n return new Element(\n element.name, newAttributes, newInputs, newOutputs, newChildren, newReferences,\n element.sourceSpan, element.startSourceSpan, element.endSourceSpan);\n }\n return element;\n }\n\n visitTemplate(template: Template): Node {\n const newAttributes = transformAll(this, template.attributes);\n const newInputs = transformAll(this, template.inputs);\n const newOutputs = transformAll(this, template.outputs);\n const newTemplateAttrs = transformAll(this, template.templateAttrs);\n const newChildren = transformAll(this, template.children);\n const newReferences = transformAll(this, template.references);\n const newVariables = transformAll(this, template.variables);\n if (newAttributes != template.attributes || newInputs != template.inputs ||\n newOutputs

!= template.outputs || newTemplateAttrs != template.templateAttrs ||\n newChildren != template.children || newReferences != template.references ||\n newVariables != template.variables) {\n return new Template(\n template.tagName, newAttributes, newInputs, newOutputs, newTemplateAttrs, newChildren,\n newReferences, newVariables, template.sourceSpan, template.startSourceSpan,\n template.endSourceSpan);\n }\n return template;\n }\n\n visitContent(content: Content): Node {\n return content;\n }\n\n visitVariable(variable: Variable): Node {\n return variable;\n }\n visitReference(reference: Reference): Node {\n return reference;\n }\n visitTextAttribute(attribute: TextAttribute): Node {\n return attribute;\n }\n visitBoundAttribute(attribute: BoundAttribute): Node {\n return attribute;\n }\n visitBoundEvent(attribute: BoundEvent): Node {\n return attribute;\n }\n visitText(text: Text): Node {\n return text;\n }\n visitBoundText(text: BoundText): Node {\n return text;\n }\n visitIcu(icu: Icu): Node {\n return icu;\n }\n}\n\nexport function visitAll<Result>(visitor: Visitor<Result>, nodes: Node[]): Result[] {\n const result: Result[] = [];\n if (visitor.visit) {\n for (const node of nodes) {\n const newNode = visitor.visit(node) || node.visit(visitor);\n }\n } else {\n for (const node of nodes) {\n const newNode = node.visit(visitor);\n if (newNode) {\n result.push(newNode);\n }\n }\n return result;\n}\n\nexport function transformAll<Result extends Node>(\n visitor: Visitor<Node>, nodes: Result[]): Result[] {\n const result: Result[] = [];\n let changed = false;\n for (const node of nodes) {\n const newNode = node.visit(visitor);\n if (newNode) {\n result.push(newNode as Result);\n }\n changed = changed || newNode != node;\n }\n return changed ? result : nodes;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ParseSourceSpan} from '../parse_util';\n\n/**\n * Describes the text contents of a placeholder as it appears in an ICU expression, including its\n * source span information.\n */\nexport interface MessagePlaceholder {\n /** The text contents of the placeholder */\n text: string;\n\n /** The source span of the placeholder */\n sourceSpan: ParseSourceSpan;\n}\n\nexport class Message {\n sources: MessageSpan[];\n id: string = this.customId;\n /** The ids to use if there are no custom id and if `i18nLegacyMessageIdFormat` is not empty */\n legacyIds: string[] = [];\n\n\n /**\n * @param nodes message AST\n * @param placeholders maps placeholder names to static content and their source spans\n * @param placeholderToMessage maps placeholder names to messages (used for nested ICU messages)\n * @param meaning\n * @param description\n * @param customId\n */\n constructor(\n public nodes: Node[], public placeholders: {[phName: string]: MessagePlaceholder},\n public placeholderToMessage: {[phName: string]: Message}, public meaning: string,\n public description: string, public customId: string) {\n if (nodes.length) {\n this.sources = [{\n filePath: nodes[0].sourceSpan.start.file.url,\n startLine: nodes[0].sourceSpan.start.line + 1,\n startCol: nodes[0].sourceSpan.start.col + 1,\n endLine: nodes[nodes.length - 1].sourceSpan.end.line + 1,\n endCol: nodes[0].sourceSpan.start.col + 1\n }];\n } else {\n this.sources = [];\n }\n }\n}\n\n// line and columns indexes are 1 based\nexport interface MessageSpan {\n filePath: string;\n startLine: number;\n startCol: number;\n endLine: number;\n endCol: number;\n}\n\nexport interface Node {\n sourceSpan: ParseSourceSpan;\n visit(visitor: Visitor, context?: any): any;\n}\n\nexport class Text implements Node {\n constructor(public value: string, public sourceSpan: ParseSourceSpan) {}\n\n visit(visitor: Visitor, context?: any): any {\n return visitor.visitText(this, context);\n }\n}\n\n// TODO(vicb): do we really need this node (vs an array) ?\nexport class Container implements Node {\n constructor(public children: Node[], public sourceSpan: ParseSourceSpan) {}\n\n visit(visitor: Visitor, context?: any): any {\n return visitor.visitContainer(this, context);\n }\n}\n\nexport class Icu implements Node {\n // TODO(issue/24571): remove '!'.\n public expressionPlaceholder!: string;\n constructor(\n public expression: string, public type: string, public cases: {[k: string]: Node},\n public sourceSpan: ParseSourceSpan) {}\n\n visit(visitor: Visitor, context?: any): any {\n return visitor.visitIcu(this, context);\n }\n}\n\nexport class TagPlaceholder implements Node {\n constructor(\n public tag: string, public attrs: {[k: string]: string}, public startName: string,\n public closeName: string, public children: Node[], public isVoid: boolean,\n // TODO sourceSpan should cover all (we need a startSourceSpan and endSourceSpan)\n

```
public sourceSpan: ParseSourceSpan, public startSourceSpan: ParseSourceSpan|null,\n      public endSourceSpan: ParseSourceSpan|null) {}\n\n  visit(visitor: Visitor, context?: any): any {\n    return visitor.visitTagPlaceholder(this, context);\n  }\n}\n\nexport class Placeholder implements Node {\n  constructor(public value: string, public name: string, public sourceSpan: ParseSourceSpan) {}\n\n  visit(visitor: Visitor, context?: any): any {\n    return visitor.visitPlaceholder(this, context);\n  }\n}\n\nexport class IcuPlaceholder
 implements Node {\n  /** Used to capture a message computed from a previous processing pass (see `setI18nRefs()`). */\n  previousMessage?: Message;\n  constructor(public value: Icu, public name: string, public sourceSpan: ParseSourceSpan) {}\n\n  visit(visitor: Visitor, context?: any): any {\n    return visitor.visitIcuPlaceholder(this, context);\n  }\n}\n\n/**\n * Each HTML node that is affect by an i18n tag will also have an `i18n` property that is of type\n * `I18nMeta`.\n * This information is either a `Message`, which indicates it is the root of an i18n message, or a\n * `Node`, which indicates is it part of a containing `Message`.\n */\nexport type I18nMeta = Message|Node;\n\nexport interface Visitor {\n  visitText(text: Text, context?: any): any;\n  visitContainer(container: Container, context?: any): any;\n  visitIcu(icu: Icu, context?: any): any;\n  visitTagPlaceholder(ph: TagPlaceholder, context?: any): any;\n  visitPlaceholder(ph: Placeholder, context?: any): any;\n
  visitIcuPlaceholder(ph: IcuPlaceholder, context?: any): any;\n}\n\n// Clone the AST\nexport class CloneVisitor implements Visitor {\n  visitText(text: Text, context?: any): Text {\n    return new Text(text.value, text.sourceSpan);\n  }\n\n  visitContainer(container: Container, context?: any): Container {\n    const children = container.children.map(n => n.visit(this, context));\n    return new Container(children, container.sourceSpan);\n  }\n\n  visitIcu(icu: Icu, context?: any): Icu {\n    const cases: {[k: string]: Node} = {};\n    Object.keys(icu.cases).forEach(key => cases[key] = icu.cases[key].visit(this, context));\n    const msg = new Icu(icu.expression, icu.type, cases, icu.sourceSpan);\n    msg.expressionPlaceholder = icu.expressionPlaceholder;\n    return msg;\n  }\n\n  visitTagPlaceholder(ph: TagPlaceholder, context?: any): TagPlaceholder {\n    const children = ph.children.map(n => n.visit(this, context));\n    return new TagPlaceholder(\n        ph.tag, ph.attrs, ph.startName,
 ph.closeName, children, ph.isVoid, ph.sourceSpan,\n        ph.startSourceSpan, ph.endSourceSpan);\n  }\n\n  visitPlaceholder(ph: Placeholder, context?: any): Placeholder {\n    return new Placeholder(ph.value, ph.name, ph.sourceSpan);\n  }\n\n  visitIcuPlaceholder(ph: IcuPlaceholder, context?: any): IcuPlaceholder {\n    return new IcuPlaceholder(ph.value, ph.name, ph.sourceSpan);\n  }\n}\n\n// Visit all the nodes recursively\nexport class RecurseVisitor implements Visitor {\n  visitText(text: Text, context?: any): any {}\n\n  visitContainer(container: Container, context?: any): any {\n    container.children.forEach(child => child.visit(this));\n  }\n\n  visitIcu(icu: Icu, context?: any): any {\n    Object.keys(icu.cases).forEach(k => {\n      icu.cases[k].visit(this);\n    });\n  }\n\n  visitTagPlaceholder(ph: TagPlaceholder, context?: any): any {\n    ph.children.forEach(child => child.visit(this));\n  }\n\n  visitPlaceholder(ph: Placeholder, context?: any): any {}\n\n  visitIcuPlaceholder(ph:
 IcuPlaceholder, context?: any): any {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Represents a big integer using a buffer of its individual digits, with the least significant\n * digit stored at the beginning of the array (little endian).\n *\n * For performance reasons, each instance is mutable. The addition operation can be done in-place\n * to reduce memory pressure of allocation for the digits array.\n */\nexport class BigInteger {\n  static zero(): BigInteger {\n    return new BigInteger([0]);\n  }\n\n  static one(): BigInteger {\n    return new BigInteger([1]);\n  }\n\n  /**\n   * Creates a big integer using its individual digits in little endian storage.\n   */\n  private constructor(private readonly digits: number[]) {}\n\n  /**\n   * Creates a clone of this instance.\n   */\n  clone():
 BigInteger {\n    return new BigInteger(this.digits.slice());\n  }\n\n  /**\n   * Returns a new big integer with the sum of `this` and `other` as its value. This does not mutate\n   * `this` but instead returns a new instance, unlike `addToSelf`.\n   */\n  add(other: BigInteger): BigInteger {\n    const result = this.clone();\n    result.addToSelf(other);\n    return result;\n  }\n\n  /**\n   * Adds `other` to the instance itself, thereby mutating its value.\n   */\n  addToSelf(other: BigInteger): void {\n    const maxNrOfDigits = Math.max(this.digits.length, other.digits.length);\n    let carry = 0;\n    for (let i = 0; i < maxNrOfDigits; i++) {\n      let digitSum = carry;\n      if
```

(i < this.digits.length) {\n digitSum += this.digits[i];\n }\n if (i < other.digits.length) {\n digitSum += other.digits[i];\n }\n\n if (digitSum >= 10) {\n this.digits[i] = digitSum - 10;\n carry = 1;\n } else {\n this.digits[i] = digitSum;\n

carry = 0;\n }\n }\n\n // Apply a remaining carry if needed.\n if (carry > 0) {\n this.digits[maxNrOfDigits] = 1;\n }\n }\n\n /**\n * Builds the decimal string representation of the big integer. As this is stored in\n * little endian, the digits are concatenated in reverse order.\n */\n toString(): string {\n let res = '';\n for (let i = this.digits.length - 1; i >= 0; i--) {\n res += this.digits[i];\n }\n return res;\n }\n}\n\n/**\n * Represents a big integer which is optimized for multiplication operations, as its power-of-twos\n * are memoized. See `multiplyBy()` for details on the multiplication algorithm.\n */\nexport class BigIntForMultiplication {\n /**\n * Stores all memoized power-of-twos, where each index represents `this.number * 2^index`.\n */\n private readonly powerOfTwos: BigInteger[];\n\n constructor(value: BigInteger) {\n this.powerOfTwos = [value];\n }\n\n /**\n * Returns the big integer itself.\n

*/\n getValue(): BigInteger {\n return this.powerOfTwos[0];\n }\n\n /**\n * Computes the value for `num * b`, where `num` is a JS number and `b` is a big integer. The\n * value for `b` is represented by a storage model that is optimized for this computation.\n *\n * This operation is implemented in N(log2(num)) by continuous halving of the number, where the\n * least-significant bit (LSB) is tested in each iteration. If the bit is set, the bit's index is\n * used as exponent into the power-of-two multiplication of `b`.\n *\n * As an example, consider the multiplication num=42, b=1337. In binary 42 is 0b00101010 and the\n * algorithm unrolls into the following iterations:\n *\n * Iteration | num | LSB | b * 2^iter | Add? | product\n * -----------|------------|------|------------|------|--------\n * 0 | 0b00101010 | 0 | 1337 | No | 0\n * 1 | 0b00010101 | 1 | 2674 | Yes | 2674\n * 2 | 0b00001010

| 0 | 5348 | No | 2674\n * 3 | 0b00000101 | 1 | 10696 | Yes | 13370\n * 4 | 0b00000010 | 0 | 21392 | No | 13370\n * 5 | 0b00000001 | 1 | 42784 | Yes | 56154\n * 6 | 0b00000000 | 0 | 85568 | No | 56154\n *\n * The computed product of 56154 is indeed the correct result.\n *\n * The `BigIntForMultiplication` representation for a big integer provides memoized access to the\n * power-of-two values to reduce the workload in computing those values.\n */\n multiplyBy(num: number): BigInteger {\n const product = BigInteger.zero();\n this.multiplyByAndAddTo(num, product);\n return product;\n }\n\n /**\n * See `multiplyBy()` for details. This function allows for the computed product to be added\n * directly to the provided result big integer.\n */\n multiplyByAndAddTo(num: number, result: BigInteger): void {\n for (let exponent = 0; num !== 0; num = num >>> 1, exponent++)

{\n if (num & 1) {\n const value = this.getMultipliedByPowerOfTwo(exponent);\n result.addToSelf(value);\n }\n }\n }\n\n /**\n * Computes and memoizes the big integer value for `this.number * 2^exponent`.\n */\n private getMultipliedByPowerOfTwo(exponent: number): BigInteger {\n // Compute the powers up until the requested exponent, where each value is computed from its\n // predecessor. This is simple as `this.number * 2^(exponent - 1)` only has to be doubled (i.e.\n // added to itself) to reach `this.number * 2^exponent`.\n for (let i = this.powerOfTwos.length; i <= exponent; i++) {\n const previousPower = this.powerOfTwos[i - 1];\n this.powerOfTwos[i] = previousPower.add(previousPower);\n }\n return this.powerOfTwos[exponent];\n }\n}\n\n/**\n * Represents an exponentiation operation for the provided base, of which exponents are computed and\n * memoized. The results are represented by a `BigIntForMultiplication` which is tailored for\n * multiplication operations by memoizing the power-of-twos. This effectively results in a matrix\n * representation that is lazily computed upon request.\n */\nexport class BigIntExponentiation {\n private readonly exponents = [new BigIntForMultiplication(BigInteger.one())];\n\n constructor(private readonly base: number) {}\n\n /**\n * Compute the value for `this.base^exponent`, resulting in a big integer that is optimized for\n * further multiplication operations.\n */\n toThePowerOf(exponent: number): BigIntForMultiplication {\n // Compute the results up until the requested exponent, where every value is computed from its\n // predecessor. This is because `this.base^(exponent - 1)` only has to be multiplied by `base`\n // to reach `this.base^exponent`.\n for (let i = this.exponents.length; i <= exponent; i++) {\n const value = this.exponents[i - 1].multiplyBy(this.base);\n this.exponents[i] = new BigIntForMultiplication(value);\n

}\n return this.exponents[exponent];\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Byte, newArray, utf8Encode} from '../util';\nimport {BigIntExponentiation} from './big_integer';\n\nimport * as i18n from './i18n_ast';\n\n/**\n * Return the message id or compute it using the XLIFF1 digest.\n */\nexport function digest(message: i18n.Message): string {\n return message.id || computeDigest(message);\n}\n\n/**\n * Compute the message id using the XLIFF1 digest.\n */\nexport function computeDigest(message: i18n.Message): string {\n return sha1(serializeNodes(message.nodes).join('') + `[${message.meaning}]`);\n}\n\n/**\n * Return the message id or compute it using the XLIFF2/XMB/$localize digest.\n */\nexport function decimalDigest(message: i18n.Message): string {\n return message.id || computeDecimalDigest(message);\n}\n\n/**\n * Compute the message id using the XLIFF2/XMB/$localize digest.\n */\nexport function computeDecimalDigest(message: i18n.Message): string {\n const visitor = new _SerializerIgnoreIcuExpVisitor();\n const parts = message.nodes.map(a => a.visit(visitor, null));\n return computeMsgId(parts.join(''), message.meaning);\n}\n\n/**\n * Serialize the i18n ast to something xml-like in order to generate an UID.\n *\n * The visitor is also used in the i18n parser tests\n *\n * @internal\n */\nclass _SerializerVisitor implements i18n.Visitor {\n visitText(text: i18n.Text, context: any): any {\n return text.value;\n }\n\n visitContainer(container: i18n.Container, context: any): any {\n return `[${container.children.map(child => child.visit(this)).join(', ')}]`;\n }\n\n visitIcu(icu: i18n.Icu, context: any): any {\n const strCases =\n Object.keys(icu.cases).map((k: string) => `${k} {${icu.cases[k].visit(this)}}`);\n return `{${icu.expression}, ${icu.type},\n ${strCases.join(', ')}}`;\n }\n\n visitTagPlaceholder(ph: i18n.TagPlaceholder, context: any): any {\n return ph.isVoid ?\n `<ph tag name=\"${ph.startName}\"/>` :\n `<ph tag name=\"${ph.startName}\">${\n ph.children.map(child => child.visit(this)).join(', ')}</ph name=\"${ph.closeName}\">`;\n }\n\n visitPlaceholder(ph: i18n.Placeholder, context: any): any {\n return ph.value ? `<ph name=\"${ph.name}\">${ph.value}</ph>` : `<ph name=\"${ph.name}\"/>`;\n }\n\n visitIcuPlaceholder(ph: i18n.IcuPlaceholder, context?: any): any {\n return `<ph icu name=\"${ph.name}\">${ph.value.visit(this)}</ph>`;\n }\n}\n\nconst serializerVisitor = new _SerializerVisitor();\n\nexport function serializeNodes(nodes: i18n.Node[]): string[] {\n return nodes.map(a => a.visit(serializerVisitor, null));\n}\n\n/**\n * Serialize the i18n ast to something xml-like in order to generate an UID.\n *\n * Ignore the ICU expressions so that message IDs stays identical if only\n the expression changes.\n *\n * @internal\n */\nclass _SerializerIgnoreIcuExpVisitor extends _SerializerVisitor {\n visitIcu(icu: i18n.Icu, context: any): any {\n let strCases = Object.keys(icu.cases).map((k: string) => `${k} {${icu.cases[k].visit(this)}}`);\n // Do not take the expression into account\n return `{${icu.type}, ${strCases.join(', ')}}`;\n }\n}\n\n\n/**\n * Compute the SHA1 of the given string\n *\n * see https://csrc.nist.gov/publications/fips/fips180-4/fips-180-4.pdf\n *\n * WARNING: this function has not been designed not tested with security in mind.\n * DO NOT USE IT IN A SECURITY SENSITIVE CONTEXT.\n */\nexport function sha1(str: string): string {\n const utf8 = utf8Encode(str);\n const words32 = bytesToWords32(utf8, Endian.Big);\n const len = utf8.length * 8;\n\n const w = newArray(80);\n let a = 0x67452301, b = 0xefcdab89, c = 0x98badcfe, d = 0x10325476, e = 0xc3d2e1f0;\n\n words32[len >> 5] |= 0x80 << (24 - len % 32);\n words32[((len +\n 64 >> 9) << 4) + 15] = len;\n\n for (let i = 0; i < words32.length; i += 16) {\n const h0 = a, h1 = b, h2 = c, h3 = d, h4 = e;\n\n for (let j = 0; j < 80; j++) {\n if (j < 16) {\n w[j] = words32[i + j];\n } else {\n w[j] = rol32(w[j - 3] ^ w[j - 8] ^ w[j - 14] ^ w[j - 16], 1);\n }\n\n const fkVal = fk(j, b, c, d);\n const f = fkVal[0];\n const k = fkVal[1];\n const temp = [rol32(a, 5), f, e, k, w[j]].reduce(add32);\n e = d;\n d = c;\n c = rol32(b, 30);\n b = a;\n a = temp;\n }\n a = add32(a, h0);\n b = add32(b, h1);\n c = add32(c, h2);\n d = add32(d, h3);\n e = add32(e, h4);\n }\n\n return bytesToHexString(words32ToByteString([a, b, c, d, e]));\n}\n\nfunction fk(index: number, b: number, c: number, d: number): [number, number] {\n if (index < 20) {\n return [(b & c) | (~b & d), 0x5a827999];\n }\n\n if (index < 40) {\n return [b ^ c ^ d, 0x6ed9eba1];\n }\n\n if

(index < 60) {\n
  return [(b & c) | (b & d) | (c & d), 0x8f1bbcdc];\n  }\n\n  return [b ^ c ^ d, 0xca62c1d6];\n}\n\n/**\n * Compute the fingerprint of the given string\n *\n * The output is 64 bit number encoded as a decimal string\n *\n * based on:\n * https://github.com/google/closure-compiler/blob/master/src/com/google/javascript/jscomp/GoogleJsMessageIdGenerator.java\n */\nexport function fingerprint(str: string): [number, number] {\n  const utf8 = utf8Encode(str);\n\n  let hi = hash32(utf8, 0);\n  let lo = hash32(utf8, 102072);\n\n  if (hi == 0 && (lo == 0 || lo == 1)) {\n    hi = hi ^ 0x130f9bef;\n    lo = lo ^ -0x6b5f56d8;\n  }\n\n  return [hi, lo];\n}\n\nexport function computeMsgId(msg: string, meaning: string = ''): string {\n  let msgFingerprint = fingerprint(msg);\n\n  if (meaning) {\n    const meaningFingerprint = fingerprint(meaning);\n    msgFingerprint = add64(rol64(msgFingerprint, 1), meaningFingerprint);\n  }\n\n  const hi = msgFingerprint[0];\n  const lo = msgFingerprint[1];\n\n
  return wordsToDecimalString(hi & 0x7fffffff, lo);\n}\n\nfunction hash32(bytes: Byte[], c: number): number {\n  let a = 0x9e3779b9, b = 0x9e3779b9;\n  let i: number;\n\n  const len = bytes.length;\n\n  for (i = 0; i + 12 <= len; i += 12) {\n    a = add32(a, wordAt(bytes, i, Endian.Little));\n    b = add32(b, wordAt(bytes, i + 4, Endian.Little));\n    c = add32(c, wordAt(bytes, i + 8, Endian.Little));\n    const res = mix(a, b, c);\n    a = res[0], b = res[1], c = res[2];\n  }\n\n  a = add32(a, wordAt(bytes, i, Endian.Little));\n  b = add32(b, wordAt(bytes, i + 4, Endian.Little));\n  // the first byte of c is reserved for the length\n  c = add32(c, len);\n  c = add32(c, wordAt(bytes, i + 8, Endian.Little) << 8);\n\n  return mix(a, b, c)[2];\n}\n\n// clang-format off\nfunction mix(a: number, b: number, c: number): [number, number, number] {\n  a = sub32(a, b); a = sub32(a, c); a ^= c >>> 13;\n  b = sub32(b, c); b = sub32(b, a); b ^= a << 8;\n  c = sub32(c, a); c = sub32(c, b); c ^= b >>>
  13;\n  a = sub32(a, b); a = sub32(a, c); a ^= c >>> 12;\n  b = sub32(b, c); b = sub32(b, a); b ^= a << 16;\n  c = sub32(c, a); c = sub32(c, b); c ^= b >>> 5;\n  a = sub32(a, b); a = sub32(a, c); a ^= c >>> 3;\n  b = sub32(b, c); b = sub32(b, a); b ^= a << 10;\n  c = sub32(c, a); c = sub32(c, b); c ^= b >>> 15;\n  return [a, b, c];\n}\n// clang-format on\n\n// Utils\n\nenum Endian {\n  Little,\n  Big,\n}\n\nfunction add32(a: number, b: number): number {\n  return add32to64(a, b)[1];\n}\n\nfunction add32to64(a: number, b: number): [number, number] {\n  const low = (a & 0xffff) + (b & 0xffff);\n  const high = (a >>> 16) + (b >>> 16) + (low >>> 16);\n  return [high >>> 16, (high << 16) | (low & 0xffff)];\n}\n\nfunction add64(a: [number, number], b: [number, number]): [number, number] {\n  const ah = a[0], al = a[1];\n  const bh = b[0], bl = b[1];\n  const result = add32to64(al, bl);\n  const carry = result[0];\n  const l = result[1];\n  const h = add32(add32(ah, bh), carry);\n  return [h,
  l];\n}\n\nfunction sub32(a: number, b: number): number {\n  const low = (a & 0xffff) - (b & 0xffff);\n  const high = (a >> 16) - (b >> 16) + (low >> 16);\n  return (high << 16) | (low & 0xffff);\n}\n\n// Rotate a 32b number left `count` position\nfunction rol32(a: number, count: number): number {\n  return (a << count) | (a >>> (32 - count));\n}\n\n// Rotate a 64b number left `count` position\nfunction rol64(num: [number, number], count: number): [number, number] {\n  const hi = num[0], lo = num[1];\n  const h = (hi << count) | (lo >>> (32 - count));\n  const l = (lo << count) | (hi >>> (32 - count));\n  return [h, l];\n}\n\nfunction bytesToWords32(bytes: Byte[], endian: Endian): number[] {\n  const size = (bytes.length + 3) >>> 2;\n  const words32 = [];\n\n  for (let i = 0; i < size; i++) {\n    words32[i] = wordAt(bytes, i * 4, endian);\n  }\n\n  return words32;\n}\n\nfunction byteAt(bytes: Byte[], index: number): Byte {\n  return index >= bytes.length ? 0 : bytes[index];\n}\n\nfunction
  wordAt(bytes: Byte[], index: number, endian: Endian): number {\n  let word = 0;\n  if (endian === Endian.Big) {\n   for (let i = 0; i < 4; i++) {\n     word += byteAt(bytes, index + i) << (24 - 8 * i);\n    }\n  } else {\n    for (let i = 0; i < 4; i++) {\n     word += byteAt(bytes, index + i) << 8 * i;\n    }\n  }\n  return word;\n}\n\nfunction words32ToByteString(words32: number[]): Byte[] {\n  return words32.reduce((bytes, word) => bytes.concat(word32ToByteString(word)), [] as Byte[]);\n}\n\nfunction word32ToByteString(word: number): Byte[] {\n  let bytes: Byte[] = [];\n  for (let i = 0; i < 4; i++) {\n    bytes.push((word >>> 8 * (3 - i)) & 0xff);\n  }\n  return bytes;\n}\n\nfunction bytesToHexString(bytes: Byte[]): string {\n  let hex: string = '';\n  for (let i = 0; i < bytes.length; i++) {\n    const b = byteAt(bytes, i);\n    hex += (b >>> 4).toString(16) + (b & 0x0f).toString(16);\n  }\n  return hex.toLowerCase();\n}\n\n/**\n * Create a shared exponentiation pool for

base-256 computations. This shared pool provides memoized\n * power-of-256 results with memoized power-of-two computations for efficient multiplication.\n *\n * For our purposes, this can be safely stored as a global without memory concerns. The reason is\n * that we encode two words, so only need the 0th (for the low word) and 4th (for the high word)\n * exponent.\n */\nconst base256 = new BigIntExponentiation(256);\n\n/**\n * Represents two 32-bit words as a single decimal number. This requires a big integer storage\n * model as JS numbers are not accurate enough to represent the 64-bit number.\n *\n * Based on https://www.danvk.org/hex2dec.html\n */\nfunction wordsToDecimalString(hi: number, lo: number): string {\n  // Encode the four bytes in lo in the lower digits of the decimal number.\n  // Note: the multiplication results in lo itself but represented by a big integer using its\n  // decimal digits.\n  const decimal = base256.toThePowerOf(0).multiplyBy(lo);\n\n  // Encode the four bytes in hi above the four lo bytes. lo is a maximum of (2^8)^4, which is why\n  // this multiplication factor is applied.\n  base256.toThePowerOf(4).multiplyByAndAddTo(hi, decimal);\n\n  return decimal.toString();\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as i18n from '../i18n_ast';\n\nexport abstract class Serializer {\n  // - The `placeholders` and `placeholderToMessage` properties are irrelevant in the input messages\n  // - The `id` contains the message id that the serializer is expected to use\n  // - Placeholder names are already map to public names using the provided mapper\n  abstract write(messages: i18n.Message[], locale: string|null): string;\n\n  abstract load(content: string, url: string):\n      {locale: string|null, i18nNodesByMsgId: {[msgId: string]: i18n.Node[]}};\n\n  abstract digest(message:\n  i18n.Message): string;\n\n  // Creates a name mapper, see `PlaceholderMapper`\n  // Returning `null` means that no name mapping is used.\n  createNameMapper(message: i18n.Message): PlaceholderMapper|null {\n    return null;\n  }\n}\n\n/**\n * A `PlaceholderMapper` converts placeholder names from internal to serialized representation and\n * back.\n *\n * It should be used for serialization format that put constraints on the placeholder names.\n */\nexport interface PlaceholderMapper {\n  toPublicName(internalName: string): string|null;\n\n  toInternalName(publicName: string): string|null;\n}\n\n/**\n * A simple mapper that take a function to transform an internal name to a public name\n */\nexport class SimplePlaceholderMapper extends i18n.RecurseVisitor implements PlaceholderMapper {\n  private internalToPublic: {[k: string]: string} = {};\n  private publicToNextId: {[k: string]: number} = {};\n  private publicToInternal: {[k: string]: string} = {};\n\n  // create a mapping from the message\n  constructor(message: i18n.Message, private mapName: (name: string) => string) {\n    super();\n    message.nodes.forEach(node => node.visit(this));\n  }\n\n  toPublicName(internalName: string): string|null {\n    return this.internalToPublic.hasOwnProperty(internalName) ?\n        this.internalToPublic[internalName] :\n        null;\n  }\n\n  toInternalName(publicName: string): string|null {\n    return this.publicToInternal.hasOwnProperty(publicName) ? this.publicToInternal[publicName] :\n                                                              null;\n  }\n\n  visitText(text: i18n.Text, context?: any): any {\n    return null;\n  }\n\n  visitTagPlaceholder(ph: i18n.TagPlaceholder, context?: any): any {\n    this.visitPlaceholderName(ph.startName);\n    super.visitTagPlaceholder(ph, context);\n    this.visitPlaceholderName(ph.closeName);\n  }\n\n  visitPlaceholder(ph: i18n.Placeholder, context?: any): any {\n    this.visitPlaceholderName(ph.name);\n  }\n\n  visitIcuPlaceholder(ph:\n  i18n.IcuPlaceholder, context?: any): any {\n    this.visitPlaceholderName(ph.name);\n  }\n\n  // XMB placeholders could only contains A-Z, 0-9 and _\n  private visitPlaceholderName(internalName: string): void {\n    if (!internalName || this.internalToPublic.hasOwnProperty(internalName)) {\n      return;\n    }\n\n    let publicName = this.mapName(internalName);\n\n    if (this.publicToInternal.hasOwnProperty(publicName)) {\n      // Create a new XMB when it has already been used\n      const nextId = this.publicToNextId[publicName];\n      this.publicToNextId[publicName] = nextId + 1;\n      publicName = `${publicName}_${nextId}`;\n    } else {\n      this.publicToNextId[publicName] = 1;\n    }\n\n    this.internalToPublic[internalName] = publicName;\n    this.publicToInternal[publicName] = internalName;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found

in the LICENSE file at https://angular.io/license\n */\n\nexport interface IVisitor {\n visitTag(tag: Tag): any;\n visitText(text: Text): any;\n visitDeclaration(decl: Declaration): any;\n visitDoctype(doctype: Doctype): any;\n}\n\nclass _Visitor implements IVisitor {\n visitTag(tag: Tag): string {\n const strAttrs = this._serializeAttributes(tag.attrs);\n\n if (tag.children.length == 0) {\n return `<${tag.name}${strAttrs}/>`;\n }\n\n const strChildren = tag.children.map(node => node.visit(this));\n return `<${tag.name}${strAttrs}>${strChildren.join('')}</${tag.name}>`;\n }\n\n visitText(text: Text): string {\n return text.value;\n }\n\n visitDeclaration(decl: Declaration): string {\n return `<?xml${this._serializeAttributes(decl.attrs)} ?>`;\n }\n\n private _serializeAttributes(attrs: {[k: string]: string}) {\n const strAttrs = Object.keys(attrs).map((name: string) => `${name}=\"${attrs[name]}\"`).join(' ');\n return strAttrs.length > 0 ? ' ' + strAttrs : '';\n }\n\n visitDoctype(doctype: Doctype): any {\n return `<!DOCTYPE ${doctype.rootTag} [\n${doctype.dtd}\n]>`;\n }\n}\n\nconst _visitor = new _Visitor();\n\nexport function serialize(nodes: Node[]): string {\n return nodes.map((node: Node): string => node.visit(_visitor)).join('');\n}\n\nexport interface Node {\n visit(visitor: IVisitor): any;\n}\n\nexport class Declaration implements Node {\n public attrs: {[k: string]: string} = {};\n\n constructor(unescapedAttrs: {[k: string]: string}) {\n Object.keys(unescapedAttrs).forEach((k: string) => {\n this.attrs[k] = escapeXml(unescapedAttrs[k]);\n });\n }\n\n visit(visitor: IVisitor): any {\n return visitor.visitDeclaration(this);\n }\n}\n\nexport class Doctype implements Node {\n constructor(public rootTag: string, public dtd: string) {}\n\n visit(visitor: IVisitor): any {\n return visitor.visitDoctype(this);\n }\n}\n\nexport class Tag implements Node {\n public attrs: {[k: string]: string} = {};\n\n constructor(\n public name: string, unescapedAttrs: {[k: string]: string} = {},\n public children: Node[] = []) {\n Object.keys(unescapedAttrs).forEach((k: string) => {\n this.attrs[k] = escapeXml(unescapedAttrs[k]);\n });\n }\n\n visit(visitor: IVisitor): any {\n return visitor.visitTag(this);\n }\n}\n\nexport class Text implements Node {\n value: string;\n constructor(unescapedValue: string) {\n this.value = escapeXml(unescapedValue);\n }\n\n visit(visitor: IVisitor): any {\n return visitor.visitText(this);\n }\n}\n\nexport class CR extends Text {\n constructor(ws: number = 0) {\n super(`\n${new Array(ws + 1).join(' ')}`);\n }\n}\n\nconst _ESCAPED_CHARS: [RegExp, string][] = [\n [/&/g, '&'],\n [/\"/g, '"'],\n [/'/g, '''],\n [/</g, '<'],\n [/>/g, '>'],\n];\n\n// Escape `_ESCAPED_CHARS` characters in the given text with encoded entities\nexport function escapeXml(text: string): string {\n return _ESCAPED_CHARS.reduce(\n (text: string, entry: [RegExp, string]) => text.replace(entry[0], entry[1]), text);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {decimalDigest} from '../digest';\nimport * as i18n from '../i18n_ast';\n\nimport {PlaceholderMapper, Serializer, SimplePlaceholderMapper} from './serializer';\nimport * as xml from './xml_helper';\n\nconst _MESSAGES_TAG = 'messagebundle';\nconst _MESSAGE_TAG = 'msg';\nconst _PLACEHOLDER_TAG = 'ph';\nconst _EXAMPLE_TAG = 'ex';\nconst _SOURCE_TAG = 'source';\n\nconst _DOCTYPE = `<!ELEMENT messagebundle (msg)*>\n<!ATTLIST messagebundle class CDATA #IMPLIED>\n\n<!ELEMENT msg (#PCDATA|ph|source)*>\n<!ATTLIST msg id CDATA #IMPLIED>\n<!ATTLIST msg seq CDATA #IMPLIED>\n<!ATTLIST msg name CDATA #IMPLIED>\n<!ATTLIST msg desc CDATA #IMPLIED>\n<!ATTLIST msg meaning CDATA #IMPLIED>\n<!ATTLIST msg obsolete (obsolete) #IMPLIED>\n<!ATTLIST msg xml:space (default|preserve) \"default\">\n<!ATTLIST msg is_hidden CDATA #IMPLIED>\n\n<!ELEMENT source (#PCDATA)>\n\n<!ELEMENT ph (#PCDATA|ex)*>\n<!ATTLIST ph name CDATA #REQUIRED>\n\n<!ELEMENT ex (#PCDATA)>`;\n\nexport class Xmb extends Serializer {\n write(messages: i18n.Message[], locale: string|null): string {\n const exampleVisitor = new ExampleVisitor();\n const visitor = new _Visitor();\n let rootNode = new xml.Tag(_MESSAGES_TAG);\n\n messages.forEach(message => {\n const attrs: {[k: string]: string} = {id: message.id};\n\n if (message.description) {\n attrs['desc'] = message.description;\n }\n\n if (message.meaning) {\n attrs['meaning'] = message.meaning;\n }\n\n let sourceTags: xml.Tag[] = [];\n message.sources.forEach((source: i18n.MessageSpan) => {\n

```
sourceTags.push(new xml.Tag(\n            _SOURCE_TAG, {},\n            [new
xml.Text(`${source.filePath}:${source.startLine}${\n
                source.endLine !== source.startLine ? ',' + source.endLine : ''}`)]));\n      });\n\n
rootNode.children.push(\n          new xml.CR(2),\n          new xml.Tag(_MESSAGE_TAG, attrs, [...sourceTags,
...visitor.serialize(message.nodes)]));\n    });\n\n    rootNode.children.push(new xml.CR());\n\n    return
xml.serialize([\n      new xml.Declaration({version: '1.0', encoding: 'UTF-8'}),\n      new xml.CR(),\n      new
xml.Doctype(_MESSAGES_TAG, _DOCTYPE),\n      new xml.CR(),\n
exampleVisitor.addDefaultExamples(rootNode),\n      new xml.CR(),\n    ]);\n  }\n\n  load(content: string, url:
string):\n      {locale: string, i18nNodesByMsgId: {[msgId: string]: i18n.Node[]}} {\n    throw new
Error('Unsupported');\n  }\n\n  digest(message: i18n.Message): string {\n    return digest(message);\n  }\n\n\n
createNameMapper(message: i18n.Message): PlaceholderMapper {\n    return new
SimplePlaceholderMapper(message, toPublicName);\n
  }\n}\n\nclass _Visitor implements i18n.Visitor {\n  visitText(text: i18n.Text, context?: any): xml.Node[] {\n
return [new xml.Text(text.value)];\n  }\n\n  visitContainer(container: i18n.Container, context: any): xml.Node[] {\n
const nodes: xml.Node[] = [];\n    container.children.forEach((node: i18n.Node) =>
nodes.push(...node.visit(this)));\n    return nodes;\n  }\n\n  visitIcu(icu: i18n.Icu, context?: any): xml.Node[] {\n
const nodes = [new xml.Text(`{${icu.expressionPlaceholder}, ${icu.type}, `)];\n\n
Object.keys(icu.cases).forEach((c: string) => {\n      nodes.push(new xml.Text(`${c} {`), ...icu.cases[c].visit(this),
new xml.Text(`} `));\n    });\n\n    nodes.push(new xml.Text(`}`));\n\n    return nodes;\n  }\n\n
visitTagPlaceholder(ph: i18n.TagPlaceholder, context?: any): xml.Node[] {\n    const startTagAsText = new
xml.Text(`<${ph.tag}>`);\n    const startEx = new xml.Tag(_EXAMPLE_TAG, {}, [startTagAsText]);\n    // TC
requires PH to have a non empty EX, and uses the
 text node to show the \"original\" value.\n    const startTagPh =\n        new xml.Tag(_PLACEHOLDER_TAG,
{name: ph.startName}, [startEx, startTagAsText]);\n    if (ph.isVoid) {\n      // void tags have no children nor closing
tags\n      return [startTagPh];\n    }\n\n    const closeTagAsText = new xml.Text(`</${ph.tag}>`);\n    const closeEx
= new xml.Tag(_EXAMPLE_TAG, {}, [closeTagAsText]);\n    // TC requires PH to have a non empty EX, and uses
the text node to show the \"original\" value.\n    const closeTagPh =\n        new xml.Tag(_PLACEHOLDER_TAG,
{name: ph.closeName}, [closeEx, closeTagAsText]);\n\n    return [startTagPh, ...this.serialize(ph.children),
closeTagPh];\n  }\n\n  visitPlaceholder(ph: i18n.Placeholder, context?: any): xml.Node[] {\n    const
interpolationAsText = new xml.Text(`{{${ph.value}}}`);\n    // Example tag needs to be not-empty for TC.\n
const exTag = new xml.Tag(_EXAMPLE_TAG, {}, [interpolationAsText]);\n    return [\n      // TC requires PH to
have
 a non empty EX, and uses the text node to show the \"original\" value.\n      new xml.Tag(_PLACEHOLDER_TAG,
{name: ph.name}, [exTag, interpolationAsText])\n    ];\n  }\n\n  visitIcuPlaceholder(ph: i18n.IcuPlaceholder,
context?: any): xml.Node[] {\n    const icuExpression = ph.value.expression;\n    const icuType = ph.value.type;\n
const icuCases = Object.keys(ph.value.cases).map((value: string) => value + ' {...}').join(' ');\n    const icuAsText =
new xml.Text(`{${icuExpression}, ${icuType}, ${icuCases}}`);\n    const exTag = new
xml.Tag(_EXAMPLE_TAG, {}, [icuAsText]);\n    return [\n      // TC requires PH to have a non empty EX, and
uses the text node to show the \"original\" value.\n      new xml.Tag(_PLACEHOLDER_TAG, {name: ph.name},
[exTag, icuAsText])\n    ];\n  }\n\n  serialize(nodes: i18n.Node[]): xml.Node[] {\n    return
[].concat(...nodes.map(node => node.visit(this)));\n  }\n}\n\nexport function digest(message: i18n.Message): string
{\n  return decimalDigest(message);\n}\n\n//
 TC requires at least one non-empty example on placeholders\nclass ExampleVisitor implements xml.IVisitor {\n
addDefaultExamples(node: xml.Node): xml.Node {\n    node.visit(this);\n    return node;\n  }\n\n  visitTag(tag:
xml.Tag): void {\n    if (tag.name === _PLACEHOLDER_TAG) {\n      if (!tag.children || tag.children.length == 0)
{\n        const exText = new xml.Text(tag.attrs['name'] || '...');\n        tag.children = [new
xml.Tag(_EXAMPLE_TAG, {}, [exText])];\n      }\n    } else if (tag.children) {\n      tag.children.forEach(node =>
node.visit(this));\n    }\n  }\n\n  visitText(text: xml.Text): void {}\n  visitDeclaration(decl: xml.Declaration): void
```

{}\n  visitDoctype(doctype: xml.Doctype): void {}\n}\n\n// XMB/XTB placeholders can only contain A-Z, 0-9 and _\nexport function toPublicName(internalName: string): string {\n  return internalName.toUpperCase().replace(/[^A-Z0-9_]/g, '_');\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this
 source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport * as i18n from '../../../i18n/i18n_ast';\nimport {toPublicName} from '../../../i18n/serializers/xmb';\nimport * as html from '../../../ml_parser/ast';\nimport * as o from '../../../output/output_ast';\nimport * as t from '../../r3_ast';\n\n/* Closure variables holding messages must be named `MSG_[A-Z0-9]+` */\nconst CLOSURE_TRANSLATION_VAR_PREFIX = 'MSG_';\n\n/**\n * Prefix for non-`goog.getMsg` i18n-related vars.\n * Note: the prefix uses lowercase characters intentionally due to a Closure behavior that\n * considers variables like `I18N_0` as constants and throws an error when their value changes.\n */\nexport const TRANSLATION_VAR_PREFIX = 'i18n_';\n\n/** Name of the i18n attributes **/\nexport const I18N_ATTR = 'i18n';\nexport const I18N_ATTR_PREFIX = 'i18n-';\n\n/** Prefix of var expressions used in ICUs */\nexport const I18N_ICU_VAR_PREFIX = 'VAR_';\n\n/**
 Prefix of ICU expressions for post processing */\nexport const I18N_ICU_MAPPING_PREFIX = 'I18N_EXP_';\n\n/** Placeholder wrapper for i18n expressions **/\nexport const I18N_PLACEHOLDER_SYMBOL = '';\n\nexport function isI18nAttribute(name: string): boolean {\n  return name === I18N_ATTR || name.startsWith(I18N_ATTR_PREFIX);\n}\n\nexport function isI18nRootNode(meta?: i18n.I18nMeta): meta is i18n.Message {\n  return meta instanceof i18n.Message;\n}\n\nexport function isSingleI18nIcu(meta?: i18n.I18nMeta): boolean {\n  return isI18nRootNode(meta) && meta.nodes.length === 1 && meta.nodes[0] instanceof i18n.Icu;\n}\n\nexport function hasI18nMeta(node: t.Node&{i18n?: i18n.I18nMeta}): boolean {\n  return !!node.i18n;\n}\n\nexport function hasI18nAttrs(element: html.Element): boolean {\n  return element.attrs.some((attr: html.Attribute) => isI18nAttribute(attr.name));\n}\n\nexport function icuFromI18nMessage(message: i18n.Message) {\n  return message.nodes[0] as i18n.IcuPlaceholder;\n}\n\nexport
 function wrapI18nPlaceholder(content: string|number, contextId: number = 0): string {\n  const blockId = contextId > 0 ? `:${contextId}` : '';\n  return `${I18N_PLACEHOLDER_SYMBOL}${content}${blockId}${I18N_PLACEHOLDER_SYMBOL}`;\n}\n\nexport function assembleI18nBoundString(\n    strings: string[], bindingStartIndex: number = 0, contextId: number = 0): string {\n  if (!strings.length) return '';\n  let acc = '';\n  const lastIdx = strings.length - 1;\n  for (let i = 0; i < lastIdx; i++) {\n    acc += `${strings[i]}${wrapI18nPlaceholder(bindingStartIndex + i, contextId)}`;\n  }\n  acc += strings[lastIdx];\n  return acc;\n}\n\nexport function getSeqNumberGenerator(startsAt: number = 0): () => number {\n  let current = startsAt;\n  return () => current++;\n}\n\nexport function placeholdersToParams(placeholders: Map<string, string[]>):\n    {[name: string]: o.LiteralExpr} {\n  const params: {[name: string]: o.LiteralExpr} = {};\n  placeholders.forEach((values: string[], key:
 string) => {\n    params[key] = o.literal(values.length > 1 ? `[${values.join('|')}]` : values[0]);\n  });\n  return params;\n}\n\nexport function updatePlaceholderMap(map: Map<string, any[]>, name: string, ...values: any[]) {\n const current = map.get(name) || [];\n  current.push(...values);\n  map.set(name, current);\n}\n\nexport function assembleBoundTextPlaceholders(\n    meta: i18n.I18nMeta, bindingStartIndex: number = 0, contextId: number = 0): Map<string, any[]> {\n  const startIdx = bindingStartIndex;\n  const placeholders = new Map<string, any>();\n  const node =\n      meta instanceof i18n.Message ? meta.nodes.find(node => node instanceof i18n.Container) : meta;\n  if (node) {\n    (node as i18n.Container)\n        .children\n        .filter((child: i18n.Node): child is i18n.Placeholder => child instanceof i18n.Placeholder)\n        .forEach((child: i18n.Placeholder, idx: number) => {\n          const content = wrapI18nPlaceholder(startIdx + idx, contextId);\n          updatePlaceholderMap(placeholders, child.name, content);\n        });\n  }\n  return placeholders;\n}\n\n/**\n * Format the placeholder names in a map of placeholders to expressions.\n *\n * The placeholder names are converted from \"internal\" format (e.g. `START_TAG_DIV_1`) to \"external\"\n * format (e.g. `startTagDiv_1`).\n *\n * @param params A map of placeholder names to expressions.\n * @param useCamelCase whether to camelCase the placeholder name when formatting.\n * @returns A new map of formatted placeholder names to expressions.\n */\nexport function

i18nFormatPlaceholderNames(\n params: {[name: string]: o.Expression} = {}, useCamelCase: boolean) {\n const _params: {[key: string]: o.Expression} = {};\n if (params && Object.keys(params).length) {\n Object.keys(params).forEach(\n key => _params[formatI18nPlaceholderName(key, useCamelCase)] = params[key]);\n }\n return _params;\n}\n\n/**\n * Converts internal placeholder names to public-facing format\n * (for example
to use in goog.getMsg call).\n * Example: `START_TAG_DIV_1` is converted to `startTagDiv_1`.\n *\n * @param name The placeholder name that should be formatted\n * @returns Formatted placeholder name\n */\nexport function formatI18nPlaceholderName(name: string, useCamelCase: boolean = true): string {\n const publicName = toPublicName(name);\n if (!useCamelCase) {\n return publicName;\n }\n const chunks = publicName.split('_');\n if (chunks.length === 1) {\n // if no \"_\" found - just lowercase the value\n return name.toLowerCase();\n }\n let postfix;\n // eject last element if it's a number\n if (/^\\d+$/.test(chunks[chunks.length - 1])) {\n postfix = chunks.pop();\n }\n let raw = chunks.shift()!.toLowerCase();\n if (chunks.length) {\n raw += chunks.map(c => c.charAt(0).toUpperCase() + c.slice(1).toLowerCase()).join('');\n }\n return postfix ? `${raw}_${postfix}` : raw;\n}\n\n/**\n * Generates a prefix for translation const name.\n *\n * @param extra Additional
local prefix that should be injected into translation var name\n * @returns Complete translation const prefix\n */\nexport function getTranslationConstPrefix(extra: string): string {\n return `${CLOSURE_TRANSLATION_VAR_PREFIX}${extra}`.toUpperCase();\n}\n\n/**\n * Generate AST to declare a variable. E.g. `var I18N_1;`.\n * @param variable the name of the variable to declare.\n */\nexport function declareI18nVariable(variable: o.ReadVarExpr): o.Statement {\n return new o.DeclareVarStmt(\n variable.name!, undefined, o.INFERRED_TYPE, undefined, variable.sourceSpan);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ConstantPool} from '../../constant_pool';\nimport {Interpolation} from '../../expression_parser/ast';\nimport * as o from '../../output/output_ast';\nimport {ParseSourceSpan} from '../../parse_util';\nimport
{splitAtColon} from '../../util';\nimport * as t from '../r3_ast';\n\nimport {R3QueryMetadata} from './api';\nimport {isI18nAttribute} from './i18n/util';\n\n\n/**\n * Checks whether an object key contains potentially unsafe chars,
thus the key should be wrapped in\n * quotes. Note: we do not wrap all keys into quotes, as it may have impact on minification and may\n * bot work in some cases when object keys are mangled by minifier.\n *\n * TODO(FW-1136): this is a temporary solution, we need to come up with a better way of working with\n * inputs that contain potentially unsafe chars.\n */\nconst UNSAFE_OBJECT_KEY_NAME_REGEXP = /[-.]/;\n\n/** Name of the temporary to use during data binding */\nexport const TEMPORARY_NAME = '_t';\n\n/** Name of the context parameter passed into a template function */\nexport const CONTEXT_NAME = 'ctx';\n\n/** Name of the RenderFlag passed into a template function */\nexport const RENDER_FLAGS = 'rf';\n\n/** The prefix reference variables
*/\nexport const REFERENCE_PREFIX = '_r';\n\n/** The name of the implicit context reference */\nexport const IMPLICIT_REFERENCE = '$implicit';\n\n/** Non bindable attribute name **/\nexport const NON_BINDABLE_ATTR = 'ngNonBindable';\n\n\n/**\n * Creates an allocator for a temporary variable.\n *\n * A variable declaration is added to the statements the first time the allocator is invoked.\n */\nexport function temporaryAllocator(statements: o.Statement[], name: string): () => o.ReadVarExpr {\n let temp: o.ReadVarExpr|null = null;\n return () => {\n if (!temp) {\n statements.push(new o.DeclareVarStmt(TEMPORARY_NAME, undefined, o.DYNAMIC_TYPE));\n temp = o.variable(name);\n }\n return temp;\n };\n}\n\n\nexport function unsupported(this: void|Function, feature: string): never {\n if (this) {\n throw new Error(`Builder ${this.constructor.name} doesn't support ${feature} yet`);\n }\n throw new Error(`Feature ${feature} is not supported yet`);\n}\n\n\nexport function
invalid<T>(this: t.Visitor, arg: o.Expression|o.Statement|t.Node): never {\n throw new Error(\n `Invalid state: Visitor ${this.constructor.name} doesn't handle ${arg.constructor.name}`);\n}\n\nexport function asLiteral(value: any): o.Expression {\n if (Array.isArray(value)) {\n return o.literalArr(value.map(asLiteral));\n }\n return

o.literal(value, o.INFERRED_TYPE);\n}\n\nexport function conditionallyCreateMapObjectLiteral(\n keys: {[key: string]: string|string[]}, keepDeclared?: boolean): o.Expression|null {\n if (Object.getOwnPropertyNames(keys).length > 0) {\n return mapToExpression(keys, keepDeclared);\n }\n return null;\n}\n\nfunction mapToExpression(\n map: {[key: string]: string|string[]}, keepDeclared?: boolean): o.Expression {\n return o.literalMap(Object.getOwnPropertyNames(map).map(key => {\n // canonical syntax: `dirProp: publicProp`\n // if there is no `:`, use dirProp = elProp\n const value = map[key];\n let declaredName: string;\n
let publicName: string;\n let minifiedName: string;\n if (Array.isArray(value)) {\n [publicName, declaredName] = value;\n } else {\n [declaredName, publicName] = splitAtColon(key, [key, value]);\n }\n minifiedName = declaredName;\n return {\n key: minifiedName,\n // put quotes around keys that contain potentially unsafe characters\n quoted: UNSAFE_OBJECT_KEY_NAME_REGEXP.test(minifiedName),\n value: (keepDeclared && publicName !== declaredName) ?\n o.literalArr([asLiteral(publicName), asLiteral(declaredName)]) :\n asLiteral(publicName)\n };\n }));\n}\n\n/**\n * Remove trailing null nodes as they are implied.\n */\nexport function trimTrailingNulls(parameters: o.Expression[]): o.Expression[] {\n while (o.isNull(parameters[parameters.length - 1])) {\n parameters.pop();\n }\n return parameters;\n}\n\nexport function getQueryPredicate(\n query: R3QueryMetadata, constantPool: ConstantPool): o.Expression {\n
if (Array.isArray(query.predicate)) {\n let predicate: o.Expression[] = [];\n query.predicate.forEach((selector: string): void => {\n // Each item in predicates array may contain strings with comma-separated refs\n // (for ex. 'ref, ref1, ..., refN'), thus we extract individual refs and store them\n // as separate array entities\n const selectors = selector.split(',').map(token => o.literal(token.trim()));\n predicate.push(...selectors);\n });\n return constantPool.getConstLiteral(o.literalArr(predicate), true);\n } else {\n return query.predicate;\n }\n}\n\nexport class DefinitionMap {\n values: {key: string, quoted: boolean, value: o.Expression}[] = [];\n\n set(key: string, value: o.Expression|null): void {\n if (value) {\n this.values.push({key, value, quoted: false});\n }\n }\n\n toLiteralMap(): o.LiteralMapExpr {\n return o.literalMap(this.values);\n }\n}\n\n/**\n * Extract a map of properties to values for a given element
or template node, which can be used\n * by the directive matching machinery.\n *\n * @param elOrTpl the element or template in question\n * @return an object set up for directive matching. For attributes on the element/template, this\n * object maps a property name to its (static) value. For any bindings, this map simply maps the\n * property name to an empty string.\n */\nexport function getAttrsForDirectiveMatching(elOrTpl: t.Element|\n t.Template): {[name: string]: string} {\n const attributesMap: {[name: string]: string} = {};\n\n\n if (elOrTpl instanceof t.Template && elOrTpl.tagName !== 'ng-template') {\n elOrTpl.templateAttrs.forEach(a => attributesMap[a.name] = '');\n } else {\n elOrTpl.attributes.forEach(a => {\n if (!isI18nAttribute(a.name)) {\n attributesMap[a.name] = a.value;\n }\n });\n\n elOrTpl.inputs.forEach(i => {\n attributesMap[i.name] = '';\n });\n elOrTpl.outputs.forEach(o
=> {\n attributesMap[o.name] = '';\n });\n }\n\n return attributesMap;\n}\n\n/** Returns a call expression to a chained instruction, e.g. `property(params[0])(params[1])`. */\nexport function chainedInstruction(\n reference: o.ExternalReference, calls: o.Expression[][], span?: ParseSourceSpan|null) {\n let expression = o.importExpr(reference, null, span) as o.Expression;\n\n if (calls.length > 0) {\n for (let i = 0; i < calls.length; i++) {\n expression = expression.callFn(calls[i], span);\n }\n } else {\n // Add a blank invocation, in case the `calls` array is empty.\n expression = expression.callFn([], span);\n }\n\n return expression;\n}\n\n/**\n * Gets the number of arguments expected to be passed to a generated instruction in the case of\n * interpolation instructions.\n * @param interpolation An interpolation ast\n */\nexport function getInterpolationArgsLength(interpolation: Interpolation) {\n const {expressions, strings} = interpolation;\n if (expressions.length === 1 && strings.length === 2 && strings[0] === '' && strings[1] === '') {\n // If the interpolation has one interpolated value, but the prefix and suffix are both empty\n // strings, we only pass one argument, to a special instruction like `propertyInterpolate` or\n // `textInterpolate`.\n return 1;\n } else {\n return expressions.length + strings.length;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the

LICENSE file at https://angular.io/license\n */\n\nimport {StaticSymbol} from '../aot/static_symbol';\nimport {CompileTypeMetadata, tokenReference} from '../compile_metadata';\nimport {CompileReflector} from '../compile_reflector';\nimport {InjectFlags} from '../core';\nimport {Identifiers} from '../identifiers';\nimport * as o from '../output/output_ast';\nimport {Identifiers as R3} from '../render3/r3_identifiers';\nimport {OutputContext} from '../util';\n\nimport {R3Reference, typeWithParameters} from './util';\nimport {unsupported} from './view/util';\n\n\n\n/**\n * Metadata required by the factory generator to generate a `factory` function for a type.\n */\nexport interface R3ConstructorFactoryMetadata {\n /**\n * String name of the type being generated (used to name the factory function).\n */\n name: string;\n\n /**\n * An expression representing the interface type being constructed.\n */\n type: R3Reference;\n\n /**\n * An expression representing the constructor type, intended for use within a class definition\n * itself.\n *\n * This can differ from the outer `type` if the class is being compiled by ngcc and is inside\n * an IIFE structure that uses a different name internally.\n */\n internalType: o.Expression;\n\n /** Number of arguments for the `type`. */\n typeArgumentCount: number;\n\n /**\n * Regardless of whether `fnOrClass` is a constructor function or a user-defined factory, it\n * may have 0 or more parameters, which will be injected according to the `R3DependencyMetadata`\n * for those parameters. If this is `null`, then the type's constructor is nonexistent and will\n * be inherited from `fnOrClass` which is interpreted as the current type. If this is `'invalid'`,\n * then one or more of the parameters wasn't resolvable and any attempt to use these deps will\n * result in a runtime error.\n */\n deps: R3DependencyMetadata[]|'invalid'|null;\n\n /**\n * An expression for the function which will be used to inject dependencies. The API of this\n * function could be different, and other options control how it will be invoked.\n */\n injectFn: o.ExternalReference;\n\n /**\n * Type of the target being created by the factory.\n */\n target: R3FactoryTarget;\n}\n\nexport enum R3FactoryDelegateType {\n Class,\n Function,\n Factory,\n}\n\nexport interface R3DelegatedFactoryMetadata extends R3ConstructorFactoryMetadata {\n delegate: o.Expression;\n delegateType: R3FactoryDelegateType.Factory;\n}\n\nexport interface R3DelegatedFnOrClassMetadata extends R3ConstructorFactoryMetadata {\n delegate: o.Expression;\n delegateType: R3FactoryDelegateType.Class|R3FactoryDelegateType.Function;\n delegateDeps: R3DependencyMetadata[];\n}\n\nexport interface R3ExpressionFactoryMetadata extends R3ConstructorFactoryMetadata {\n expression: o.Expression;\n}\n\nexport type R3FactoryMetadata = R3ConstructorFactoryMetadata|R3DelegatedFactoryMetadata|\nR3DelegatedFnOrClassMetadata|R3ExpressionFactoryMetadata;\n\nexport enum R3FactoryTarget {\n Directive = 0,\n Component = 1,\n Injectable = 2,\n Pipe = 3,\n NgModule = 4,\n}\n\n/**\n * Resolved type of a dependency.\n *\n * Occasionally, dependencies will have special significance which is known statically. In that\n * case the `R3ResolvedDependencyType` informs the factory generator that a particular dependency\n * should be generated specially (usually by calling a special injection function instead of the\n * standard one).\n */\nexport enum R3ResolvedDependencyType {\n /**\n * A normal token dependency.\n */\n Token = 0,\n\n /**\n * The dependency is for an attribute.\n *\n * The token expression is a string representing the attribute name.\n */\n Attribute = 1,\n\n /**\n * Injecting the `ChangeDetectorRef` token. Needs special handling when injected into a pipe.\n */\n ChangeDetectorRef = 2,\n\n /**\n * An invalid dependency (no token could be determined). An error should be thrown at runtime.\n */\n Invalid = 3,\n}\n\n/**\n * Metadata representing a single dependency to be injected into a constructor or function call.\n */\nexport interface R3DependencyMetadata {\n /**\n * An expression representing the token or value to be injected.\n */\n token: o.Expression;\n\n /**\n * If an @Attribute decorator is present, this is the literal type of the attribute name, or\n * the unknown type if no literal type is available (e.g. the attribute name is an expression).\n * Will be null otherwise.\n */\n attribute: o.Expression|null;\n\n /**\n * An enum indicating whether this dependency has special meaning to Angular and needs to be\n * injected specially.\n */\n resolved: R3ResolvedDependencyType;\n\n /**\n * Whether the dependency has an @Host qualifier.\n */\n host: boolean;\n\n /**\n * Whether the dependency has an @Optional qualifier.\n */\n optional: boolean;\n\n /**\n * Whether the dependency has an @Self qualifier.\n */\n self: boolean;\n\n /**\n * Whether the dependency has an @SkipSelf qualifier.\n */\n skipSelf: boolean;\n}\n\nexport

```
interface R3FactoryFn {\n  factory: o.Expression;\n  statements: o.Statement[];\n  type:
o.ExpressionType;\n}\n\n/**\n * Construct a factory function expression for the given `R3FactoryMetadata`.\n
*/\nexport function compileFactoryFunction(meta: R3FactoryMetadata): R3FactoryFn {\n  const t = o.variable('t');\n
  const statements: o.Statement[] = [];\n  let ctorDepsType: o.Type = o.NONE_TYPE;\n\n  // The type to instantiate
via constructor invocation. If there is no delegated factory, meaning\n  // this type is always created by constructor
invocation, then this is the type-to-create\n  // parameter provided by the user (t) if specified, or the current type if
not. If there is a\n  // delegated factory (which is used to create the current type) then this is only the type-to-\n  //
create parameter (t).\n  const typeForCtor = !isDelegatedMetadata(meta) ?\n      new
o.BinaryOperatorExpr(o.BinaryOperator.Or, t, meta.internalType) :\n      t;\n\n  let ctorExpr: o.Expression|null =
null;\n  if (meta.deps !== null) {\n    // There is a constructor (either explicitly or implicitly defined).\n    if
(meta.deps !== 'invalid') {\n      ctorExpr = new o.InstantiateExpr(\n          typeForCtor,\n
injectDependencies(meta.deps, meta.injectFn, meta.target === R3FactoryTarget.Pipe));\n\n      ctorDepsType
  = createCtorDepsType(meta.deps);\n    }\n  } else {\n    const baseFactory =
o.variable(`${meta.name}_BaseFactory`);\n    const getInheritedFactory = o.importExpr(R3.getInheritedFactory);\n
  const baseFactoryStmt =\n        baseFactory\n            .set(getInheritedFactory.callFn(\n
[meta.internalType], /* sourceSpan */ undefined, /* pure */ true))\n            .toDeclStmt(o.INFERRED_TYPE,
[o.StmtModifier.Exported, o.StmtModifier.Final]);\n    statements.push(baseFactoryStmt);\n\n    // There is no
constructor, use the base class' factory to construct typeForCtor.\n    ctorExpr =
baseFactory.callFn([typeForCtor]);\n  }\n  const ctorExprFinal = ctorExpr;\n\n  const body: o.Statement[] = [];\n  let
retExpr: o.Expression|null = null;\n\n  function makeConditionalFactory(nonCtorExpr: o.Expression):
o.ReadVarExpr {\n    const r = o.variable('r');\n    body.push(r.set(o.NULL_EXPR).toDeclStmt());\n    let ctorStmt:
o.Statement|null = null;\n    if (ctorExprFinal !== null)
  {\n      ctorStmt = r.set(ctorExprFinal).toStmt();\n    } else {\n      ctorStmt =
o.importExpr(R3.invalidFactory).callFn([]).toStmt();\n    }\n    body.push(o.ifStmt(t, [ctorStmt],
[r.set(nonCtorExpr).toStmt()]));\n    return r;\n  }\n\n  if (isDelegatedMetadata(meta) && meta.delegateType ===
R3FactoryDelegateType.Factory) {\n    const delegateFactory = o.variable(`${meta.name}_BaseFactory`);\n    const
getFactoryOf = o.importExpr(R3.getFactoryOf);\n    if (meta.delegate.isEquivalent(meta.internalType)) {\n
throw new Error(`Illegal state: compiling factory that delegates to itself`);\n    }\n    const delegateFactoryStmt =\n
  delegateFactory.set(getFactoryOf.callFn([meta.delegate])).toDeclStmt(o.INFERRED_TYPE, [\n
o.StmtModifier.Exported, o.StmtModifier.Final\n        ]);\n\n    statements.push(delegateFactoryStmt);\n    retExpr =
makeConditionalFactory(delegateFactory.callFn([]));\n  } else if (isDelegatedMetadata(meta)) {\n    // This type is
created with a
  delegated factory. If a type parameter is not specified, call\n    // the factory instead.\n    const delegateArgs =\n
injectDependencies(meta.delegateDeps, meta.injectFn, meta.target === R3FactoryTarget.Pipe);\n    // Either call
`new delegate(...)` or `delegate(...)` depending on meta.delegateType.\n    const factoryExpr = new (\n
meta.delegateType === R3FactoryDelegateType.Class ?\n            o.InstantiateExpr :\n
o.InvokeFunctionExpr)(meta.delegate, delegateArgs);\n    retExpr = makeConditionalFactory(factoryExpr);\n  } else
if (isExpressionFactoryMetadata(meta)) {\n    // TODO(alxhub): decide whether to lower the value here or in the
caller\n    retExpr = makeConditionalFactory(meta.expression);\n  } else {\n    retExpr = ctorExpr;\n  }\n\n  if
(retExpr !== null) {\n    body.push(new o.ReturnStatement(retExpr));\n  } else {\n
body.push(o.importExpr(R3.invalidFactory).callFn([]).toStmt());\n  }\n\n  return {\n    factory: o.fn(\n        [new
o.FnParam('t',
  o.DYNAMIC_TYPE)], body, o.INFERRED_TYPE, undefined,\n        `${meta.name}_Factory`),\n    statements,\n
type: o.expressionType(o.importExpr(\n        R3.FactoryDef, [typeWithParameters(meta.type.type,
meta.typeArgumentCount), ctorDepsType]))\n  };\n}\n\nfunction injectDependencies(\n    deps:
R3DependencyMetadata[], injectFn: o.ExternalReference, isPipe: boolean): o.Expression[] {\n  return
deps.map((dep, index) => compileInjectDependency(dep, injectFn, isPipe, index));\n}\n\nfunction
compileInjectDependency(\n    dep: R3DependencyMetadata, injectFn: o.ExternalReference, isPipe: boolean,\n
```

index: number): o.Expression {\n  // Interpret the dependency according to its resolved type.\n  switch (dep.resolved) {\n    case R3ResolvedDependencyType.Token:\n    case R3ResolvedDependencyType.ChangeDetectorRef:\n      // Build up the injection flags according to the metadata.\n      const flags = InjectFlags.Default | (dep.self ? InjectFlags.Self : 0) |\n          (dep.skipSelf ? InjectFlags.SkipSelf\n : 0) | (dep.host ? InjectFlags.Host : 0) |\n          (dep.optional ? InjectFlags.Optional : 0);\n\n      // If this dependency is optional or otherwise has non-default flags, then additional\n      // parameters describing how to inject the dependency must be passed to the inject function\n      // that's being used.\n      let flagsParam: o.LiteralExpr|null =\n          (flags !== InjectFlags.Default || dep.optional) ? o.literal(flags) : null;\n\n      // We have a separate instruction for injecting ChangeDetectorRef into a pipe.\n      if (isPipe && dep.resolved === R3ResolvedDependencyType.ChangeDetectorRef) {\n        return o.importExpr(R3.injectPipeChangeDetectorRef).callFn(flagsParam ? [flagsParam] : []);\n      }\n\n      // Build up the arguments to the injectFn call.\n      const injectArgs = [dep.token];\n      if (flagsParam) {\n        injectArgs.push(flagsParam);\n      }\n      return o.importExpr(injectFn).callFn(injectArgs);\n    case R3ResolvedDependencyType.Attribute:\n      // In the case of attributes, the attribute name in question is given as the token.\n      return o.importExpr(R3.injectAttribute).callFn([dep.token]);\n    case R3ResolvedDependencyType.Invalid:\n      return o.importExpr(R3.invalidFactoryDep).callFn([o.literal(index)]);\n    default:\n      return unsupported(\n          `Unknown R3ResolvedDependencyType: ${R3ResolvedDependencyType[dep.resolved]}`);\n  }\n}\n\nfunction createCtorDepsType(deps: R3DependencyMetadata[]): o.Type {\n  let hasTypes = false;\n  const attributeTypes = deps.map(dep => {\n    const type = createCtorDepType(dep);\n    if (type !== null) {\n      hasTypes = true;\n      return type;\n    } else {\n      return o.literal(null);\n    }\n  });\n\n  if (hasTypes) {\n    return o.expressionType(o.literalArr(attributeTypes));\n  } else {\n    return o.NONE_TYPE;\n  }\n}\n\nfunction createCtorDepType(dep: R3DependencyMetadata): o.LiteralMapExpr|null {\n  const entries: {key: string, quoted: boolean, value: o.Expression}[] = [];\n\n  if (dep.resolved === R3ResolvedDependencyType.Attribute) {\n    if (dep.attribute !== null) {\n      entries.push({key: 'attribute', value: dep.attribute, quoted: false});\n    }\n  }\n  if (dep.optional) {\n    entries.push({key: 'optional', value: o.literal(true), quoted: false});\n  }\n  if (dep.host) {\n    entries.push({key: 'host', value: o.literal(true), quoted: false});\n  }\n  if (dep.self) {\n    entries.push({key: 'self', value: o.literal(true), quoted: false});\n  }\n  if (dep.skipSelf) {\n    entries.push({key: 'skipSelf', value: o.literal(true), quoted: false});\n  }\n\n  return entries.length > 0 ? o.literalMap(entries) : null;\n}\n\n/**\n * A helper function useful for extracting `R3DependencyMetadata` from a Render2\n * `CompileTypeMetadata` instance.\n */\nexport function dependenciesFromGlobalMetadata(\n    type: CompileTypeMetadata, outputCtx: OutputContext,\n    reflector: CompileReflector): R3DependencyMetadata[] {\n  //\n Use the `CompileReflector` to look up references to some well-known Angular types. These will\n  // be compared with the token to statically determine whether the token has significance to\n  // Angular, and set the correct `R3ResolvedDependencyType` as a result.\n  const injectorRef = reflector.resolveExternalReference(Identifiers.Injector);\n\n  // Iterate through the type's DI dependencies and produce `R3DependencyMetadata` for each of them.\n  const deps: R3DependencyMetadata[] = [];\n  for (let dependency of type.diDeps) {\n    if (dependency.token) {\n      const tokenRef = tokenReference(dependency.token);\n      let resolved: R3ResolvedDependencyType = dependency.isAttribute ?\n          R3ResolvedDependencyType.Attribute :\n          R3ResolvedDependencyType.Token;\n\n      // In the case of most dependencies, the token will be a reference to a type. Sometimes,\n      // however, it can be a string, in the case of older Angular code or @Attribute injection.\n      const token\n =\n          tokenRef instanceof StaticSymbol ? outputCtx.importExpr(tokenRef) : o.literal(tokenRef);\n\n      // Construct the dependency.\n      deps.push({\n        token,\n        attribute: null,\n        resolved,\n        host: !!dependency.isHost,\n        optional: !!dependency.isOptional,\n        self: !!dependency.isSelf,\n        skipSelf: !!dependency.isSkipSelf,\n      });\n    } else {\n      unsupported('dependency without a token');\n    }\n  }\n\n  return deps;\n}\n\nfunction isDelegatedMetadata(meta: R3FactoryMetadata): meta is R3DelegatedFactoryMetadata|\n R3DelegatedFnOrClassMetadata {\n  return (meta as any).delegateType !== undefined;\n}\n\nfunction

isExpressionFactoryMetadata(meta: R3FactoryMetadata): meta is R3ExpressionFactoryMetadata {\n return (meta as any).expression !== undefined;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Identifiers} from './identifiers';\nimport * as o from './output/output_ast';\nimport {compileFactoryFunction, R3DependencyMetadata, R3FactoryDelegateType, R3FactoryMetadata, R3FactoryTarget} from './render3/r3_factory';\nimport {mapToMapExpression, R3Reference, typeWithParameters} from './render3/util';\n\nexport interface InjectableDef {\n expression: o.Expression;\n type: o.Type;\n statements: o.Statement[];\n}\n\nexport interface R3InjectableMetadata {\n name: string;\n type: R3Reference;\n internalType: o.Expression;\n typeArgumentCount: number;\n providedIn: o.Expression;\n useClass?: o.Expression;\n useFactory?: o.Expression;\n useExisting?: o.Expression;\n useValue?: o.Expression;\n userDeps?: R3DependencyMetadata[];\n}\n\nexport function compileInjectable(meta: R3InjectableMetadata): InjectableDef {\n let result: {factory: o.Expression, statements: o.Statement[]}|null = null;\n\n const factoryMeta: R3FactoryMetadata = {\n name: meta.name,\n type: meta.type,\n internalType: meta.internalType,\n typeArgumentCount: meta.typeArgumentCount,\n deps: [],\n injectFn: Identifiers.inject,\n target: R3FactoryTarget.Injectable,\n };\n\n if (meta.useClass !== undefined) {\n // meta.useClass has two modes of operation. Either deps are specified, in which case `new` is\n // used to instantiate the class with dependencies injected, or deps are not specified and\n // the factory of the class is used to instantiate it.\n //\n // A special case exists for useClass: Type where Type is the injectable type itself and no\n // deps are specified, in which case 'useClass' is effectively ignored.\n\n const useClassOnSelf = meta.useClass.isEquivalent(meta.internalType);\n let deps: R3DependencyMetadata[]|undefined = undefined;\n if (meta.userDeps !== undefined) {\n deps = meta.userDeps;\n }\n if (deps !== undefined) {\n // factory: () => new meta.useClass(...deps)\n result = compileFactoryFunction({\n ...factoryMeta,\n delegate: meta.useClass,\n delegateDeps: deps,\n delegateType: R3FactoryDelegateType.Class,\n });\n } else if (useClassOnSelf) {\n result = compileFactoryFunction(factoryMeta);\n } else {\n result = delegateToFactory(\n meta.type.value as o.WrappedNodeExpr<any>, meta.useClass as o.WrappedNodeExpr<any>);\n }\n } else if (meta.useFactory !== undefined) {\n if (meta.userDeps !== undefined) {\n result = compileFactoryFunction({\n ...factoryMeta,\n delegate: meta.useFactory,\n delegateDeps: meta.userDeps || [],\n delegateType: R3FactoryDelegateType.Function,\n });\n } else {\n result = {\n statements: [],\n factory: o.fn([], [new o.ReturnStatement(meta.useFactory.callFn([]))])\n };\n }\n } else if (meta.useValue !== undefined) {\n // Note: it's safe to use `meta.useValue` instead of the `USE_VALUE in meta` check used for\n // client code because meta.useValue is an Expression which will be defined even if the actual\n // value is undefined.\n result = compileFactoryFunction({\n ...factoryMeta,\n expression: meta.useValue,\n });\n } else if (meta.useExisting !== undefined) {\n // useExisting is an `inject` call on the existing token.\n result = compileFactoryFunction({\n ...factoryMeta,\n expression: o.importExpr(Identifiers.inject).callFn([meta.useExisting]),\n });\n } else {\n result = delegateToFactory(\n meta.type.value as o.WrappedNodeExpr<any>, meta.internalType as o.WrappedNodeExpr<any>);\n }\n\n const token = meta.internalType;\n\n const injectableProps: {[key: string]: o.Expression} = {token, factory: result.factory};\n\n // Only generate providedIn property if it has a non-null value\n if ((meta.providedIn as o.LiteralExpr).value !== null) {\n injectableProps.providedIn = meta.providedIn;\n }\n\n const expression =\n o.importExpr(Identifiers.defineInjectable).callFn([mapToMapExpression(injectableProps)]);\n const type = new o.ExpressionType(o.importExpr(\n Identifiers.InjectableDef, [typeWithParameters(meta.type.type, meta.typeArgumentCount)]));\n\n return {\n expression,\n type,\n statements: result.statements,\n };\n}\n\nfunction delegateToFactory(type: o.WrappedNodeExpr<any>, internalType: o.WrappedNodeExpr<any>) {\n return {\n statements: [],\n // If types are the same, we can generate `factory: type.fac`\n // If types are different, we have to generate a wrapper function to ensure\n // the internal type has been resolved (`factory: function(t) { return type.fac(t); }`)\n factory: type.node === internalType.node ?\n internalType.prop('fac') :\n

o.fn([new o.FnParam('t', o.DYNAMIC_TYPE)], [new o.ReturnStatement(internalType.callMethod(\n 'fac', [o.variable('t')]))])\n };\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport function assertArrayOfStrings(identifier: string, value: any) {\n if (value == null) {\n return;\n }\n if (!Array.isArray(value)) {\n throw new Error(`Expected '${identifier}' to be an array of strings.`);\n }\n for (let i = 0; i < value.length; i += 1) {\n if (typeof value[i] !== 'string') {\n throw new Error(`Expected '${identifier}' to be an array of strings.`);\n }\n }\n}\n\nconst UNUSABLE_INTERPOLATION_REGEXPS = [\n /^\\s*$/, // empty\n /[<>]/, // html tag\n /^[{}]$/, // i18n expansion\n /&(#|[a-z])/i, // character reference,\n /^\\\\\\/, // comment\n];\n\nexport function assertInterpolationSymbols(identifier: string, value: any): void {\n if (value != null && !(Array.isArray(value) && value.length == 2)) {\n throw new Error(`Expected '${identifier}' to be an array, [start, end].`);\n } else if (value != null) {\n const start = value[0] as string;\n const end = value[1] as string;\n // Check for unusable interpolation symbols\n UNUSABLE_INTERPOLATION_REGEXPS.forEach(regexp => {\n if (regexp.test(start) || regexp.test(end)) {\n throw new Error(`['${start}', '${end}'] contains unusable interpolation symbol.`);\n }\n });\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {assertInterpolationSymbols} from '../assertions';\n\nexport class InterpolationConfig {\n static fromArray(markers: [string, string]|null): InterpolationConfig {\n if (!markers) {\n return DEFAULT_INTERPOLATION_CONFIG;\n }\n\n assertInterpolationSymbols('interpolation', markers);\n\n return new InterpolationConfig(markers[0], markers[1]);\n }\n\n constructor(public start: string, public end: string) {}\n}\n\nexport const DEFAULT_INTERPOLATION_CONFIG: InterpolationConfig =\n new InterpolationConfig('{{', '}}');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {utf8Encode} from '../util';\n\n// https://docs.google.com/document/d/1U1RGAehQwRypUTovF1KRlpiOFze0b-_2gc6fAH0KY0k/edit\nconst VERSION = 3;\n\nconst JS_B64_PREFIX = '# sourceMappingURL=data:application/jsonbase64,';\n\ntype Segment = {\n col0: number,\n sourceUrl?: string,\n sourceLine0?: number,\n sourceCol0?: number,\n};\n\nexport type SourceMap = {\n version: number,\n file?: string,\n sourceRoot: string,\n sources: string[],\n sourcesContent: (string|null)[],\n mappings: string,\n};\n\nexport class SourceMapGenerator {\n private sourcesContent: Map<string, string|null> = new Map();\n private lines: Segment[][] = [];\n private lastCol0: number = 0;\n private hasMappings = false;\n\n constructor(private file: string|null = null) {}\n\n // The content is `null` when the content is expected to be loaded using the URL\n addSource(url: string, content: string|null = null): this {\n if (!this.sourcesContent.has(url)) {\n this.sourcesContent.set(url, content);\n }\n return this;\n }\n\n addLine(): this {\n this.lines.push([]);\n this.lastCol0 = 0;\n return this;\n }\n\n addMapping(col0: number, sourceUrl?: string, sourceLine0?: number, sourceCol0?: number): this {\n if (!this.currentLine) {\n throw new Error(`A line must be added before mappings can be added`);\n }\n if (sourceUrl != null && !this.sourcesContent.has(sourceUrl)) {\n throw new Error(`Unknown source file \"${sourceUrl}\"`);\n }\n if (col0 == null) {\n throw new Error(`The column in the generated code must be provided`);\n }\n if (col0 < this.lastCol0) {\n throw new Error(`Mapping should be added in output order`);\n }\n if (sourceUrl && (sourceLine0 == null || sourceCol0 == null)) {\n throw new Error(`The source location must be provided when a source url is provided`);\n }\n\n this.hasMappings = true;\n this.lastCol0 = col0;\n this.currentLine.push({col0, sourceUrl, sourceLine0, sourceCol0});\n return this;\n }\n\n /**\n * @internal strip this from published d.ts files due to\n * https://github.com/microsoft/TypeScript/issues/36216\n */\n private get currentLine(): Segment[]|null {\n return this.lines.slice(-1)[0];\n }\n\n toJSON(): SourceMap|null {\n if (!this.hasMappings) {\n return null;\n }\n\n const sourcesIndex = new Map<string, number>();\n const sources: string[] = [];\n const sourcesContent:

(string|null)[] = [];\n\n  Array.from(this.sourcesContent.keys()).forEach((url:
 string, i: number) => {\n    sourcesIndex.set(url, i);\n    sources.push(url);\n
sourcesContent.push(this.sourcesContent.get(url) || null);\n  });\n\n  let mappings: string = '';\n  let lastCol0:
number = 0;\n  let lastSourceIndex: number = 0;\n  let lastSourceLine0: number = 0;\n  let lastSourceCol0:
number = 0;\n\n  this.lines.forEach(segments => {\n    lastCol0 = 0;\n\n    mappings += segments\n
.map(segment => {\n                  // zero-based starting column of the line in the generated code\n
let segAsStr = toBase64VLQ(segment.col0 - lastCol0);\n                  lastCol0 = segment.col0;\n\n
if (segment.sourceUrl != null) {\n                    // zero-based index into the “sources” list\n
segAsStr +=\n                      toBase64VLQ(sourcesIndex.get(segment.sourceUrl)! - lastSourceIndex);\n
        lastSourceIndex
 = sourcesIndex.get(segment.sourceUrl)!;\n                    // the zero-based starting line in the original source\n
            segAsStr += toBase64VLQ(segment.sourceLine0! - lastSourceLine0);\n                    lastSourceLine0
= segment.sourceLine0!;\n                    // the zero-based starting column in the original source\n
segAsStr += toBase64VLQ(segment.sourceCol0! - lastSourceCol0);\n                    lastSourceCol0 =
segment.sourceCol0!;\n                  }\n\n                  return segAsStr;\n                })\n
.join(',');\n    mappings += ';';\n  });\n\n  mappings = mappings.slice(0, -1);\n\n  return {\n    'file': this.file || '',\n
    'version': VERSION,\n    'sourceRoot': '',\n    'sources': sources,\n    'sourcesContent': sourcesContent,\n
'mappings': mappings,\n  };\n }\n\n  toJsComment(): string {\n  return this.hasMappings
 ? '//' + JS_B64_PREFIX + toBase64String(JSON.stringify(this, null, 0)) :\n                  '';\n }\n}\n\nexport
function toBase64String(value: string): string {\n  let b64 = '';\n  const encoded = utf8Encode(value);\n  for (let i =
0; i < encoded.length;) {\n    const i1 = encoded[i++];\n    const i2 = i < encoded.length ? encoded[i++] : null;\n
const i3 = i < encoded.length ? encoded[i++] : null;\n    b64 += toBase64Digit(i1 >> 2);\n    b64 +=
toBase64Digit(((i1 & 3) << 4) | (i2 === null ? 0 : i2 >> 4));\n    b64 += i2 === null ? '=' : toBase64Digit(((i2 & 15)
<< 2) | (i3 === null ? 0 : i3 >> 6));\n    b64 += i2 === null || i3 === null ? '=' : toBase64Digit(i3 & 63);\n  }\n\n
return b64;\n}\n\nfunction toBase64VLQ(value: number): string {\n  value = value < 0 ? ((-value) << 1) + 1 : value
<< 1;\n\n  let out = '';\n  do {\n    let digit = value & 31;\n    value = value >> 5;\n    if (value > 0) {\n      digit = digit
| 32;\n    }\n    out += toBase64Digit(digit);\n
 } while (value > 0);\n\n  return out;\n}\n\nconst B64_DIGITS =
'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/';\n\nfunction
toBase64Digit(value: number): string {\n  if (value < 0 || value >= 64) {\n    throw new Error(`Can only encode
value in the range [0, 63]`);\n  }\n\n  return B64_DIGITS[value];\n}\n","/**\n * @license\n * Copyright Google
LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found
in the LICENSE file at https://angular.io/license\n */\n\nimport {ParseSourceSpan} from '../parse_util';\nimport * as
o from './output_ast';\nimport {SourceMapGenerator} from './source_map';\n\nconst
_SINGLE_QUOTE_ESCAPE_STRING_RE = /'|\\\\|\\n|\\r|\\$/g;\nconst _LEGAL_IDENTIFIER_RE = /^[$A-Z_][0-
9A-Z_$]*$/i;\nconst _INDENT_WITH = '  ';\nexport const CATCH_ERROR_VAR = o.variable('error', null,
null);\nexport const CATCH_STACK_VAR = o.variable('stack', null, null);\n\nexport interface OutputEmitter {\n
emitStatements(genFilePath:
 string, stmts: o.Statement[], preamble?: string|null): string;\n}\n\nclass _EmittedLine {\n  partsLength = 0;\n  parts:
string[] = [];\n  srcSpans: (ParseSourceSpan|null)[] = [];\n  constructor(public indent: number) {}\n}\n\nexport class
EmitterVisitorContext {\n  static createRoot(): EmitterVisitorContext {\n    return new EmitterVisitorContext(0);\n
}\n\n  private _lines: _EmittedLine[];\n  private _classes: o.ClassStmt[] = [];\n  private _preambleLineCount = 0;\n\n
constructor(private _indent: number) {\n    this._lines = [new _EmittedLine(_indent)];\n  }\n\n  /**\n   * @internal
strip this from published d.ts files due to\n   * https://github.com/microsoft/TypeScript/issues/36216\n   */\n  private
get _currentLine(): _EmittedLine {\n    return this._lines[this._lines.length - 1];\n  }\n\n  println(from?: {sourceSpan:
ParseSourceSpan|null}|null, lastPart: string = ''): void {\n    this.print(from || null, lastPart, true);\n  }\n\n
lineIsEmpty(): boolean {\n    return

```
this._currentLine.parts.length === 0;\n  }\n\n  lineLength(): number {\n    return this._currentLine.indent *
_INDENT_WITH.length + this._currentLine.partsLength;\n  }\n\n  print(from: {sourceSpan:
ParseSourceSpan|null}|null, part: string, newLine: boolean = false) {\n    if (part.length > 0) {\n
this._currentLine.parts.push(part);\n      this._currentLine.partsLength += part.length;\n
this._currentLine.srcSpans.push(from && from.sourceSpan || null);\n    }\n    if (newLine) {\n
this._lines.push(new _EmittedLine(this._indent));\n    }\n  }\n\n  removeEmptyLastLine() {\n    if
(this.lineIsEmpty()) {\n      this._lines.pop();\n    }\n  }\n\n  incIndent() {\n    this._indent++;\n    if
(this.lineIsEmpty()) {\n      this._currentLine.indent = this._indent;\n    }\n  }\n\n  decIndent() {\n    this._indent--;\n
if (this.lineIsEmpty()) {\n      this._currentLine.indent = this._indent;\n    }\n  }\n\n  pushClass(clazz: o.ClassStmt)
{\n    this._classes.push(clazz);\n  }\n\n
  popClass(): o.ClassStmt {\n    return this._classes.pop()!;\n  }\n\n  get currentClass(): o.ClassStmt|null {\n    return
this._classes.length > 0 ? this._classes[this._classes.length - 1] : null;\n  }\n\n  toSource(): string {\n    return
this.sourceLines\n        .map(l => l.parts.length > 0 ? _createIndent(l.indent) + l.parts.join('') : '')\n        .join('\\n');\n
}\n\n  toSourceMapGenerator(genFilePath: string, startsAtLine: number = 0): SourceMapGenerator {\n    const map
= new SourceMapGenerator(genFilePath);\n\n    let firstOffsetMapped = false;\n    const mapFirstOffsetIfNeeded =
() => {\n      if (!firstOffsetMapped) {\n        // Add a single space so that tools won't try to load the file from disk.\n
    // Note: We are using virtual urls like `ng:///`, so we have to\n        // provide a content here.\n
map.addSource(genFilePath, ' ').addMapping(0, genFilePath, 0, 0);\n        firstOffsetMapped = true;\n      }\n    };\n\n
  for (let i = 0; i < startsAtLine;
 i++) {\n      map.addLine();\n      mapFirstOffsetIfNeeded();\n    }\n\n    this.sourceLines.forEach((line, lineIdx) =>
{\n      map.addLine();\n\n      const spans = line.srcSpans;\n      const parts = line.parts;\n      let col0 = line.indent *
_INDENT_WITH.length;\n      let spanIdx = 0;\n      // skip leading parts without source spans\n      while (spanIdx <
spans.length && !spans[spanIdx]) {\n        col0 += parts[spanIdx].length;\n        spanIdx++;\n      }\n      if (spanIdx
< spans.length && lineIdx === 0 && col0 === 0) {\n        firstOffsetMapped = true;\n      } else {\n
mapFirstOffsetIfNeeded();\n      }\n\n      while (spanIdx < spans.length) {\n        const span = spans[spanIdx]!;\n
const source = span.start.file;\n        const sourceLine = span.start.line;\n        const sourceCol = span.start.col;\n
map.addSource(source.url, source.content)\n            .addMapping(col0, source.url, sourceLine, sourceCol);\n\n
col0 += parts[spanIdx].length;\n
        spanIdx++;\n\n        // assign parts without span or the same span to the previous segment\n        while (spanIdx
< spans.length && (span === spans[spanIdx] || !spans[spanIdx])) {\n          col0 += parts[spanIdx].length;\n
spanIdx++;\n        }\n      }\n    });\n\n    return map;\n  }\n\n  setPreambleLineCount(count: number) {\n    return
this._preambleLineCount = count;\n  }\n\n  spanOf(line: number, column: number): ParseSourceSpan|null {\n
const emittedLine = this._lines[line - this._preambleLineCount];\n    if (emittedLine) {\n      let columnsLeft =
column - _createIndent(emittedLine.indent).length;\n      for (let partIndex = 0; partIndex < emittedLine.parts.length;
partIndex++) {\n        const part = emittedLine.parts[partIndex];\n        if (part.length > columnsLeft) {\n          return
emittedLine.srcSpans[partIndex];\n        }\n        columnsLeft -= part.length;\n      }\n    }\n    return null;\n  }\n\n
/**\n   * @internal strip this from
 published d.ts files due to\n   * https://github.com/microsoft/TypeScript/issues/36216\n   */\n  private get
sourceLines(): _EmittedLine[] {\n    if (this._lines.length && this._lines[this._lines.length - 1].parts.length === 0)
{\n      return this._lines.slice(0, -1);\n    }\n    return this._lines;\n  }\n}\n\nexport abstract class
AbstractEmitterVisitor implements o.StatementVisitor, o.ExpressionVisitor {\n  constructor(private
_escapeDollarInStrings: boolean) {}\n\n  protected printLeadingComments(stmt: o.Statement, ctx:
EmitterVisitorContext): void {\n    if (stmt.leadingComments === undefined) {\n      return;\n    }\n    for (const
comment of stmt.leadingComments) {\n      if (comment instanceof o.JSDocComment) {\n        ctx.print(stmt,
`/*${comment.toString()}*/`, comment.trailingNewline);\n      } else {\n        if (comment.multiline) {\n
ctx.print(stmt, `/* ${comment.text} */`, comment.trailingNewline);\n        } else {\n
comment.text.split('\\n').forEach((line)
```

```
=> {\n ctx.println(stmt, `// ${line}`);\n });\n }\n }\n }\n\n visitExpressionStmt(stmt:
o.ExpressionStatement, ctx: EmitterVisitorContext): any {\n this.printLeadingComments(stmt, ctx);\n
stmt.expr.visitExpression(this, ctx);\n ctx.println(stmt, ';');\n return null;\n }\n\n visitReturnStmt(stmt:
o.ReturnStatement, ctx: EmitterVisitorContext): any {\n this.printLeadingComments(stmt, ctx);\n ctx.print(stmt,
`return `);\n stmt.value.visitExpression(this, ctx);\n ctx.println(stmt, ';');\n return null;\n }\n\n abstract
visitCastExpr(ast: o.CastExpr, context: any): any;\n\n abstract visitDeclareClassStmt(stmt: o.ClassStmt, ctx:
EmitterVisitorContext): any;\n\n visitIfStmt(stmt: o.IfStmt, ctx: EmitterVisitorContext): any {\n
this.printLeadingComments(stmt, ctx);\n ctx.print(stmt, `if (`);\n stmt.condition.visitExpression(this, ctx);\n
ctx.print(stmt, `) {`);\n const hasElseCase = stmt.falseCase !=
null && stmt.falseCase.length > 0;\n if (stmt.trueCase.length <= 1 && !hasElseCase) {\n ctx.print(stmt, ` `);\n
this.visitAllStatements(stmt.trueCase, ctx);\n ctx.removeEmptyLastLine();\n ctx.print(stmt, ` `);\n } else
{\n ctx.println();\n ctx.incIndent();\n this.visitAllStatements(stmt.trueCase, ctx);\n ctx.decIndent();\n
if (hasElseCase) {\n ctx.println(stmt, `} else {`);\n ctx.incIndent();\n
this.visitAllStatements(stmt.falseCase, ctx);\n ctx.decIndent();\n }\n }\n ctx.println(stmt, `}`);\n return
null;\n }\n\n abstract visitTryCatchStmt(stmt: o.TryCatchStmt, ctx: EmitterVisitorContext): any;\n\n
visitThrowStmt(stmt: o.ThrowStmt, ctx: EmitterVisitorContext): any {\n this.printLeadingComments(stmt, ctx);\n
ctx.print(stmt, `throw `);\n stmt.error.visitExpression(this, ctx);\n ctx.println(stmt, `;`);\n return null;\n }\n\n
abstract visitDeclareVarStmt(stmt: o.DeclareVarStmt,
ctx: EmitterVisitorContext): any;\n\n visitWriteVarExpr(expr: o.WriteVarExpr, ctx: EmitterVisitorContext): any
{\n const lineWasEmpty = ctx.lineIsEmpty();\n if (!lineWasEmpty) {\n ctx.print(expr, '(');\n }\n
ctx.print(expr, `${expr.name} = `);\n expr.value.visitExpression(this, ctx);\n if (!lineWasEmpty) {\n
ctx.print(expr, ')');\n }\n return null;\n }\n visitWriteKeyExpr(expr: o.WriteKeyExpr, ctx:
EmitterVisitorContext): any {\n const lineWasEmpty = ctx.lineIsEmpty();\n if (!lineWasEmpty) {\n
ctx.print(expr, '(');\n }\n expr.receiver.visitExpression(this, ctx);\n ctx.print(expr, `[`);\n
expr.index.visitExpression(this, ctx);\n ctx.print(expr, `] = `);\n expr.value.visitExpression(this, ctx);\n if
(!lineWasEmpty) {\n ctx.print(expr, ')');\n }\n return null;\n }\n visitWritePropExpr(expr: o.WritePropExpr,
ctx: EmitterVisitorContext): any {\n const lineWasEmpty = ctx.lineIsEmpty();\n if (!lineWasEmpty)
{\n ctx.print(expr, '(');\n }\n expr.receiver.visitExpression(this, ctx);\n ctx.print(expr, `.${expr.name} =
`);\n expr.value.visitExpression(this, ctx);\n if (!lineWasEmpty) {\n ctx.print(expr, ')');\n }\n return null;\n
}\n visitInvokeMethodExpr(expr: o.InvokeMethodExpr, ctx: EmitterVisitorContext): any {\n
expr.receiver.visitExpression(this, ctx);\n let name = expr.name;\n if (expr.builtin != null) {\n name =
this.getBuiltinMethodName(expr.builtin);\n if (name == null) {\n // some builtins just mean to skip the
call.\n return null;\n }\n }\n ctx.print(expr, `.${name}(`);\n this.visitAllExpressions(expr.args, ctx,
`,`);\n ctx.print(expr, `)`);\n return null;\n }\n\n abstract getBuiltinMethodName(method: o.BuiltinMethod):
string;\n\n visitInvokeFunctionExpr(expr: o.InvokeFunctionExpr, ctx: EmitterVisitorContext): any {\n
expr.fn.visitExpression(this, ctx);\n ctx.print(expr, `(`);\n this.visitAllExpressions(expr.args,
ctx, ',');\n ctx.print(expr, `)`);\n return null;\n }\n visitWrappedNodeExpr(ast: o.WrappedNodeExpr<any>, ctx:
EmitterVisitorContext): any {\n throw new Error('Abstract emitter cannot visit WrappedNodeExpr.');\n }\n
visitTypeofExpr(expr: o.TypeofExpr, ctx: EmitterVisitorContext): any {\n ctx.print(expr, 'typeof ');\n
expr.expr.visitExpression(this, ctx);\n }\n visitReadVarExpr(ast: o.ReadVarExpr, ctx: EmitterVisitorContext): any
{\n let varName = ast.name!;\n if (ast.builtin != null) {\n switch (ast.builtin) {\n case
o.BuiltinVar.Super:\n varName = 'super';\n break;\n case o.BuiltinVar.This:\n varName =
'this';\n break;\n case o.BuiltinVar.CatchError:\n varName = CATCH_ERROR_VAR.name!;\n
break;\n case o.BuiltinVar.CatchStack:\n varName = CATCH_STACK_VAR.name!;\n break;\n
default:\n throw new Error(`Unknown builtin
variable ${ast.builtin}`);\n }\n }\n ctx.print(ast, varName);\n return null;\n }\n visitInstantiateExpr(ast:
o.InstantiateExpr, ctx: EmitterVisitorContext): any {\n ctx.print(ast, `new `);\n
ast.classExpr.visitExpression(this, ctx);\n ctx.print(ast, `(`);\n this.visitAllExpressions(ast.args, ctx, ',');\n
```

```
ctx.print(ast, `)`);\n    return null;\n  }\n\n  visitLiteralExpr(ast: o.LiteralExpr, ctx: EmitterVisitorContext): any {\n
const value = ast.value;\n    if (typeof value === 'string') {\n      ctx.print(ast, escapeIdentifier(value,
this._escapeDollarInStrings));\n    } else {\n      ctx.print(ast, `${value}`);\n    }\n    return null;\n  }\n\n
visitLocalizedString(ast: o.LocalizedString, ctx: EmitterVisitorContext): any {\n    const head =
ast.serializeI18nHead();\n    ctx.print(ast, '$localize `' + head.raw);\n    for (let i = 1; i < ast.messageParts.length; i++)
{\n      ctx.print(ast, '${');\n      ast.expressions[i - 1].visitExpression(this,
ctx);\n      ctx.print(ast, `}${ast.serializeI18nTemplatePart(i).raw}`);\n    }\n    ctx.print(ast, '`');\n    return null;\n
}\n\n  abstract visitExternalExpr(ast: o.ExternalExpr, ctx: EmitterVisitorContext): any;\n\n
visitConditionalExpr(ast: o.ConditionalExpr, ctx: EmitterVisitorContext): any {\n    ctx.print(ast, `(`);\n
ast.condition.visitExpression(this, ctx);\n    ctx.print(ast, '? ');\n    ast.trueCase.visitExpression(this, ctx);\n
ctx.print(ast, ': ');\n    ast.falseCase!.visitExpression(this, ctx);\n    ctx.print(ast, `)`);\n    return null;\n  }\n
visitNotExpr(ast: o.NotExpr, ctx: EmitterVisitorContext): any {\n    ctx.print(ast, '!');\n
ast.condition.visitExpression(this, ctx);\n    return null;\n  }\n  visitAssertNotNullExpr(ast: o.AssertNotNull, ctx:
EmitterVisitorContext): any {\n    ast.condition.visitExpression(this, ctx);\n    return null;\n  }\n  abstract
visitFunctionExpr(ast: o.FunctionExpr, ctx: EmitterVisitorContext): any;\n  abstract visitDeclareFunctionStmt(stmt:
o.DeclareFunctionStmt, context: any): any;\n\n  visitUnaryOperatorExpr(ast: o.UnaryOperatorExpr, ctx:
EmitterVisitorContext): any {\n    let opStr: string;\n    switch (ast.operator) {\n      case o.UnaryOperator.Plus:\n
opStr = '+';\n        break;\n      case o.UnaryOperator.Minus:\n        opStr = '-';\n        break;\n      default:\n        throw
new Error(`Unknown operator ${ast.operator}`);\n    }\n    if (ast.parens) ctx.print(ast, `(`);\n    ctx.print(ast,
opStr);\n    ast.expr.visitExpression(this, ctx);\n    if (ast.parens) ctx.print(ast, `)`);\n    return null;\n  }\n\n
visitBinaryOperatorExpr(ast: o.BinaryOperatorExpr, ctx: EmitterVisitorContext): any {\n    let opStr: string;\n
switch (ast.operator) {\n      case o.BinaryOperator.Equals:\n        opStr = '==';\n        break;\n      case
o.BinaryOperator.Identical:\n        opStr = '===';\n        break;\n      case o.BinaryOperator.NotEquals:\n        opStr =
'!=';\n        break;\n      case
o.BinaryOperator.NotIdentical:\n        opStr = '!==';\n        break;\n      case o.BinaryOperator.And:\n        opStr =
'&&';\n        break;\n      case o.BinaryOperator.BitwiseAnd:\n        opStr = '&';\n        break;\n      case
o.BinaryOperator.Or:\n        opStr = '||';\n        break;\n      case o.BinaryOperator.Plus:\n        opStr = '+';\n
break;\n      case o.BinaryOperator.Minus:\n        opStr = '-';\n        break;\n      case o.BinaryOperator.Divide:\n
opStr = '/';\n        break;\n      case o.BinaryOperator.Multiply:\n        opStr = '*';\n        break;\n      case
o.BinaryOperator.Modulo:\n        opStr = '%';\n        break;\n      case o.BinaryOperator.Lower:\n        opStr = '<';\n
break;\n      case o.BinaryOperator.LowerEquals:\n        opStr = '<=';\n        break;\n      case
o.BinaryOperator.Bigger:\n        opStr = '>';\n        break;\n      case o.BinaryOperator.BiggerEquals:\n        opStr =
'>=';\n        break;\n      default:\n
      throw new Error(`Unknown operator ${ast.operator}`);\n    }\n    if (ast.parens) ctx.print(ast, `(`);\n
ast.lhs.visitExpression(this, ctx);\n    ctx.print(ast, ` ${opStr} `);\n    ast.rhs.visitExpression(this, ctx);\n    if
(ast.parens) ctx.print(ast, `)`);\n    return null;\n  }\n\n  visitReadPropExpr(ast: o.ReadPropExpr, ctx:
EmitterVisitorContext): any {\n    ast.receiver.visitExpression(this, ctx);\n    ctx.print(ast, `.`);\n    ctx.print(ast,
ast.name);\n    return null;\n  }\n  visitReadKeyExpr(ast: o.ReadKeyExpr, ctx: EmitterVisitorContext): any {\n
ast.receiver.visitExpression(this, ctx);\n    ctx.print(ast, `[`);\n    ast.index.visitExpression(this, ctx);\n    ctx.print(ast,
`]`);\n    return null;\n  }\n  visitLiteralArrayExpr(ast: o.LiteralArrayExpr, ctx: EmitterVisitorContext): any {\n
ctx.print(ast, `[`);\n    this.visitAllExpressions(ast.entries, ctx, ',');\n    ctx.print(ast, `]`);\n    return null;\n  }\n
visitLiteralMapExpr(ast: o.LiteralMapExpr, ctx: EmitterVisitorContext):
 any {\n    ctx.print(ast, `{`);\n    this.visitAllObjects(entry => {\n      ctx.print(ast, `${escapeIdentifier(entry.key,
this._escapeDollarInStrings, entry.quoted)}:`);\n      entry.value.visitExpression(this, ctx);\n    }, ast.entries, ctx,
',');\n    ctx.print(ast, `}`);\n    return null;\n  }\n  visitCommaExpr(ast: o.CommaExpr, ctx: EmitterVisitorContext):
any {\n    ctx.print(ast, '(');\n    this.visitAllExpressions(ast.parts, ctx, ',');\n    ctx.print(ast, ')');\n    return null;\n  }\n
visitAllExpressions(expressions: o.Expression[], ctx: EmitterVisitorContext, separator: string):\n      void {\n
this.visitAllObjects(expr => expr.visitExpression(this, ctx), expressions, ctx, separator);\n  }\n\n
```

visitAllObjects<T>(\n handler: (t: T) => void, expressions: T[], ctx: EmitterVisitorContext,\n separator: string): void {\n let incrementedIndent = false;\n for (let i = 0; i < expressions.length; i++) {\n if (i > 0) {\n if (ctx.lineLength()\n > 80) {\n ctx.print(null, separator, true);\n if (!incrementedIndent) {\n // continuation are marked with double indent.\n ctx.incIndent();\n ctx.incIndent();\n incrementedIndent = true;\n }\n } else {\n ctx.print(null, separator, false);\n }\n }\n handler(expressions[i]);\n }\n if (incrementedIndent) {\n // continuation are marked with double indent.\n ctx.decIndent();\n ctx.decIndent();\n }\n }\n\n visitAllStatements(statements: o.Statement[], ctx: EmitterVisitorContext): void {\n statements.forEach((stmt) => stmt.visitStatement(this, ctx));\n }\n}\n\nexport function escapeIdentifier(\n input: string, escapeDollar: boolean, alwaysQuote: boolean = true): any {\n if (input == null) {\n return null;\n }\n const body = input.replace(_SINGLE_QUOTE_ESCAPE_STRING_RE, (...match: string[]) => {\n if (match[0] == '$') {\n return escapeDollar\n ? '\\\\$' : '$';\n } else if (match[0] == '\\n') {\n return '\\\\n';\n } else if (match[0] == '\\r') {\n return '\\\\r';\n } else {\n return `\\\\${match[0]}`;\n }\n });\n const requiresQuotes = alwaysQuote ||\n!_LEGAL_IDENTIFIER_RE.test(body);\n return requiresQuotes ? `'${body}'` : body;\n}\n\nfunction _createIndent(count: number): string {\n let res = '';\n for (let i = 0; i < count; i++) {\n res += _INDENT_WITH;\n }\n return res;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {AbstractEmitterVisitor, CATCH_ERROR_VAR, CATCH_STACK_VAR, EmitterVisitorContext, escapeIdentifier} from './abstract_emitter';\nimport * as o from './output_ast';\n\nexport abstract class AbstractJsEmitterVisitor extends AbstractEmitterVisitor {\n constructor() {\n super(false);\n }\n visitDeclareClassStmt(stmt: o.ClassStmt, ctx: EmitterVisitorContext): any {\n ctx.pushClass(stmt);\n this._visitClassConstructor(stmt, ctx);\n\n if (stmt.parent != null) {\n ctx.print(stmt, `${stmt.name}.prototype = Object.create(`);\n stmt.parent.visitExpression(this, ctx);\n ctx.println(stmt, `.prototype);`);\n }\n stmt.getters.forEach((getter) => this._visitClassGetter(stmt, getter, ctx));\n stmt.methods.forEach((method) => this._visitClassMethod(stmt, method, ctx));\n ctx.popClass();\n return null;\n }\n\n private _visitClassConstructor(stmt: o.ClassStmt, ctx: EmitterVisitorContext) {\n ctx.print(stmt, `function ${stmt.name}(`);\n if (stmt.constructorMethod != null) {\n this._visitParams(stmt.constructorMethod.params, ctx);\n }\n ctx.println(stmt, `) {`);\n ctx.incIndent();\n if (stmt.constructorMethod != null) {\n if (stmt.constructorMethod.body.length > 0) {\n ctx.println(stmt, `var self = this;`);\n this.visitAllStatements(stmt.constructorMethod.body, ctx);\n }\n }\n ctx.decIndent();\n ctx.println(stmt, `}`);\n }\n\n private _visitClassGetter(stmt: o.ClassStmt, getter: o.ClassGetter, ctx: EmitterVisitorContext) {\n ctx.println(\n stmt,\n `Object.defineProperty(${stmt.name}.prototype, '${getter.name}', { get: function() {`);\n ctx.incIndent();\n if (getter.body.length > 0) {\n ctx.println(stmt, `var self = this;`);\n this.visitAllStatements(getter.body, ctx);\n }\n ctx.decIndent();\n ctx.println(stmt, `}});`);\n }\n\n private _visitClassMethod(stmt: o.ClassStmt, method: o.ClassMethod, ctx: EmitterVisitorContext) {\n ctx.print(stmt, `${stmt.name}.prototype.${method.name} = function(`);\n this._visitParams(method.params, ctx);\n ctx.println(stmt, `) {`);\n ctx.incIndent();\n if (method.body.length > 0) {\n ctx.println(stmt, `var self = this;`);\n this.visitAllStatements(method.body, ctx);\n }\n ctx.decIndent();\n ctx.println(stmt, `};`);\n }\n\n visitWrappedNodeExpr(ast: o.WrappedNodeExpr<any>, ctx: EmitterVisitorContext): any {\n throw new Error('Cannot emit a WrappedNodeExpr in Javascript.');\n }\n\n visitReadVarExpr(ast: o.ReadVarExpr, ctx: EmitterVisitorContext): string|null {\n if (ast.builtin === o.BuiltinVar.This) {\n ctx.print(ast, 'self');\n } else if (ast.builtin === o.BuiltinVar.Super) {\n throw new Error(\n `'super' needs to be handled at a parent ast node, not at the variable level!`);\n } else {\n super.visitReadVarExpr(ast, ctx);\n }\n return null;\n }\n visitDeclareVarStmt(stmt: o.DeclareVarStmt, ctx: EmitterVisitorContext): any {\n ctx.print(stmt, `var ${stmt.name}`);\n if (stmt.value) {\n ctx.print(stmt, ' = ');\n stmt.value.visitExpression(this, ctx);\n }\n ctx.println(stmt, `;`);\n return null;\n }\n visitCastExpr(ast:

o.CastExpr, ctx: EmitterVisitorContext): any {\n ast.value.visitExpression(this,
ctx);\n return null;\n }\n visitInvokeFunctionExpr(expr: o.InvokeFunctionExpr, ctx: EmitterVisitorContext):
string|null {\n const fnExpr = expr.fn;\n if (fnExpr instanceof o.ReadVarExpr && fnExpr.builtin ===
o.BuiltinVar.Super) {\n ctx.currentClass!.parent!.visitExpression(this, ctx);\n ctx.print(expr, `.call(this`);\n
if (expr.args.length > 0) {\n ctx.print(expr, `, `);\n this.visitAllExpressions(expr.args, ctx, ',');\n }\n
ctx.print(expr, `)`);\n } else {\n super.visitInvokeFunctionExpr(expr, ctx);\n }\n return null;\n }\n
visitFunctionExpr(ast: o.FunctionExpr, ctx: EmitterVisitorContext): any {\n ctx.print(ast, `function${ast.name ? ' '
+ ast.name : ''}(`);\n this._visitParams(ast.params, ctx);\n ctx.println(ast, `) {`);\n ctx.incIndent();\n
this.visitAllStatements(ast.statements, ctx);\n ctx.decIndent();\n ctx.print(ast, `}`);\n return null;\n }\n
visitDeclareFunctionStmt(stmt:
o.DeclareFunctionStmt, ctx: EmitterVisitorContext): any {\n ctx.print(stmt, `function ${stmt.name}(`);\n
this._visitParams(stmt.params, ctx);\n ctx.println(stmt, `) {`);\n ctx.incIndent();\n
this.visitAllStatements(stmt.statements, ctx);\n ctx.decIndent();\n ctx.println(stmt, `}`);\n return null;\n }\n
visitTryCatchStmt(stmt: o.TryCatchStmt, ctx: EmitterVisitorContext): any {\n ctx.println(stmt, `try {`);\n
ctx.incIndent();\n this.visitAllStatements(stmt.bodyStmts, ctx);\n ctx.decIndent();\n ctx.println(stmt, `} catch
(${CATCH_ERROR_VAR.name}) {`);\n ctx.incIndent();\n const catchStmts =\n
[<o.Statement>CATCH_STACK_VAR.set(CATCH_ERROR_VAR.prop('stack')).toDeclStmt(null, [\n
o.StmtModifier.Final\n ])].concat(stmt.catchStmts);\n this.visitAllStatements(catchStmts, ctx);\n
ctx.decIndent();\n ctx.println(stmt, `}`);\n return null;\n }\n\n visitLocalizedString(ast: o.LocalizedString, ctx:
EmitterVisitorContext):
any {\n // The following convoluted piece of code is effectively the downlevelled equivalent of\n // ```\n //
$localize `...`\n // ```\n // which is effectively like:\n // ```\n // $localize(__makeTemplateObject(cooked,
raw), expression1, expression2, ...);\n // ```\n //\n // The `$localize` function expects a \"template object\",
which is an array of \"cooked\" strings\n // plus a `raw` property that contains an array of \"raw\" strings.\n //\n
// In some environments a helper function called `__makeTemplateObject(cooked, raw)` might be\n // available, in
which case we use that. Otherwise we must create our own helper function\n // inline.\n //\n // In the inline
function, if `Object.defineProperty` is available we use that to attach the\n // `raw` array.\n ctx.print(\n ast,\n
'$localize((this&&this.__makeTemplateObject||function(e,t){return
Object.defineProperty?Object.defineProperty(e,\"raw\",{value:t}):e.raw=t,e})(');\n
const parts = [ast.serializeI18nHead()];\n for (let i = 1; i < ast.messageParts.length; i++) {\n
parts.push(ast.serializeI18nTemplatePart(i));\n }\n ctx.print(ast, `[${parts.map(part =>
escapeIdentifier(part.cooked, false)).join(', ')}], `);\n ctx.print(ast, `[${parts.map(part => escapeIdentifier(part.raw,
false)).join(', ')}])`);\n ast.expressions.forEach(expression => {\n ctx.print(ast, ', ');\n
expression.visitExpression(this, ctx);\n });\n ctx.print(ast, ')');\n return null;\n }\n\n private
_visitParams(params: o.FnParam[], ctx: EmitterVisitorContext): void {\n this.visitAllObjects(param =>
ctx.print(null, param.name), params, ctx, ',');\n }\n\n getBuiltinMethodName(method: o.BuiltinMethod): string {\n
let name: string;\n switch (method) {\n case o.BuiltinMethod.ConcatArray:\n name = 'concat';\n
break;\n case o.BuiltinMethod.SubscribeObservable:\n name = 'subscribe';\n
break;\n case o.BuiltinMethod.Bind:\n name = 'bind';\n break;\n default:\n throw new
Error(`Unknown builtin method: ${method}`);\n }\n return name;\n }\n}\n","/**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n\nimport {identifierName} from
'../compile_metadata';\nimport {CompileReflector} from '../compile_reflector';\n\nimport {EmitterVisitorContext}
from './abstract_emitter';\nimport {AbstractJsEmitterVisitor} from './abstract_js_emitter';\nimport * as o from
'./output_ast';\n\n/**\n * A helper class to manage the evaluation of JIT generated code.\n */\nexport class
JitEvaluator {\n /**\n *\n * @param sourceUrl The URL of the generated code.\n * @param statements An
array of Angular statement AST nodes to be evaluated.\n * @param reflector A helper used when converting the
statements

to executable code.\n * @param createSourceMaps If true then create a source-map for the generated code and include it\n * inline as a source-map comment.\n * @returns A map of all the variables in the generated code.\n */\n evaluateStatements(\n sourceUrl: string, statements: o.Statement[], reflector: CompileReflector,\n createSourceMaps: boolean): {[key: string]: any} {\n const converter = new JitEmitterVisitor(reflector);\n const ctx = EmitterVisitorContext.createRoot();\n // Ensure generated code is in strict mode\n if (statements.length > 0 && !isUseStrictStatement(statements[0])) {\n statements = [\n o.literal('use strict').toStmt(),\n ...statements,\n ];\n }\n converter.visitAllStatements(statements, ctx);\n converter.createReturnStmt(ctx);\n return this.evaluateCode(sourceUrl, ctx, converter.getArgs(), createSourceMaps);\n }\n\n /**\n * Evaluate a piece of JIT generated code.\n * @param sourceUrl
The URL of this generated code.\n * @param ctx A context object that contains an AST of the code to be evaluated.\n * @param vars A map containing the names and values of variables that the evaluated code might\n * reference.\n * @param createSourceMap If true then create a source-map for the generated code and include it\n * inline as a source-map comment.\n * @returns The result of evaluating the code.\n */\n evaluateCode(\n sourceUrl: string, ctx: EmitterVisitorContext, vars: {[key: string]: any},\n createSourceMap: boolean): any {\n let fnBody = `\"use strict\";${ctx.toSource()}\n//# sourceURL=${sourceUrl}`;\n const fnArgNames: string[] = [];\n const fnArgValues: any[] = [];\n for (const argName in vars) {\n fnArgValues.push(vars[argName]);\n fnArgNames.push(argName);\n }\n if (createSourceMap) {\n // using `new Function(...)` generates a header, 1 line of no arguments, 2 lines otherwise\n // E.g. ```\n // function
anonymous(a,b,c\n // /**/) { ... }```\n // We don't want to hard code this fact, so we auto detect it via an empty function first.\n const emptyFn = new Function(...fnArgNames.concat('return null;')).toString();\n const headerLines = emptyFn.slice(0, emptyFn.indexOf('return null;')).split('\n').length - 1;\n fnBody += `\n${ctx.toSourceMapGenerator(sourceUrl, headerLines).toJsComment()}`;\n }\n const fn = new Function(...fnArgNames.concat(fnBody));\n return this.executeFunction(fn, fnArgValues);\n }\n\n /**\n * Execute a JIT generated function by calling it.\n *\n * This method can be overridden in tests to capture the functions that are generated\n * by this `JitEvaluator` class.\n *\n * @param fn A function to execute.\n * @param args The arguments to pass to the function being executed.\n * @returns The return value of the executed function.\n */\n executeFunction(fn: Function, args: any[]) {\n return fn(...args);\n }\n}\n\n/**\n
* An Angular AST visitor that converts AST nodes into executable JavaScript code.\n */\nexport class JitEmitterVisitor extends AbstractJsEmitterVisitor {\n private _evalArgNames: string[] = [];\n private _evalArgValues: any[] = [];\n private _evalExportedVars: string[] = [];\n\n constructor(private reflector: CompileReflector) {\n super();\n }\n\n createReturnStmt(ctx: EmitterVisitorContext) {\n const stmt = new o.ReturnStatement(new o.LiteralMapExpr(this._evalExportedVars.map(\n resultVar => new o.LiteralMapEntry(resultVar, o.variable(resultVar), false))));\n stmt.visitStatement(this, ctx);\n }\n\n getArgs(): {[key: string]: any} {\n const result: {[key: string]: any} = {};\n for (let i = 0; i < this._evalArgNames.length; i++) {\n result[this._evalArgNames[i]] = this._evalArgValues[i];\n }\n return result;\n }\n\n visitExternalExpr(ast: o.ExternalExpr, ctx: EmitterVisitorContext): any {\n this._emitReferenceToExternal(ast, this.reflector.resolveExternalReference(ast.value),
ctx);\n return null;\n }\n\n visitWrappedNodeExpr(ast: o.WrappedNodeExpr<any>, ctx: EmitterVisitorContext): any {\n this._emitReferenceToExternal(ast, ast.node, ctx);\n return null;\n }\n\n visitDeclareVarStmt(stmt: o.DeclareVarStmt, ctx: EmitterVisitorContext): any {\n if (stmt.hasModifier(o.StmtModifier.Exported)) {\n this._evalExportedVars.push(stmt.name);\n }\n return super.visitDeclareVarStmt(stmt, ctx);\n }\n\n visitDeclareFunctionStmt(stmt: o.DeclareFunctionStmt, ctx: EmitterVisitorContext): any {\n if (stmt.hasModifier(o.StmtModifier.Exported)) {\n this._evalExportedVars.push(stmt.name);\n }\n return super.visitDeclareFunctionStmt(stmt, ctx);\n }\n\n visitDeclareClassStmt(stmt: o.ClassStmt, ctx: EmitterVisitorContext): any {\n if (stmt.hasModifier(o.StmtModifier.Exported)) {\n this._evalExportedVars.push(stmt.name);\n }\n return super.visitDeclareClassStmt(stmt, ctx);\n }\n\n private _emitReferenceToExternal(ast: o.Expression, value: any, ctx: EmitterVisitorContext):\n void {\n let id = this._evalArgValues.indexOf(value);\n if (id === -1) {\n id = this._evalArgValues.length;\n

this._evalArgValues.push(value);\n const name = identifierName({reference: value}) || 'val';\n this._evalArgNames.push(`jit_${name}_${id}`);\n }\n ctx.print(ast, this._evalArgNames[id]);\n }\n}\n\n\nfunction isUseStrictStatement(statement: o.Statement): boolean {\n return statement.isEquivalent(o.literal('use strict').toStmt());\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport const $EOF = 0;\nexport const $BSPACE = 8;\nexport const $TAB = 9;\nexport const $LF = 10;\nexport const $VTAB = 11;\nexport const $FF = 12;\nexport const $CR = 13;\nexport const $SPACE = 32;\nexport
const $BANG = 33;\nexport const $DQ = 34;\nexport const $HASH = 35;\nexport const $$ = 36;\nexport const $PERCENT = 37;\nexport const $AMPERSAND = 38;\nexport const $SQ = 39;\nexport const $LPAREN = 40;\nexport const $RPAREN = 41;\nexport const $STAR = 42;\nexport const $PLUS = 43;\nexport const $COMMA = 44;\nexport const $MINUS = 45;\nexport const $PERIOD = 46;\nexport const $SLASH = 47;\nexport const $COLON = 58;\nexport const $SEMICOLON = 59;\nexport const $LT = 60;\nexport const $EQ = 61;\nexport const $GT = 62;\nexport const $QUESTION = 63;\n\nexport const $0 = 48;\nexport const $7 = 55;\nexport const $9 = 57;\n\nexport const $A = 65;\nexport const $E = 69;\nexport const $F = 70;\nexport const $X = 88;\nexport const $Z = 90;\n\nexport const $LBRACKET = 91;\nexport const $BACKSLASH = 92;\nexport const $RBRACKET = 93;\nexport const $CARET = 94;\nexport const $_ = 95;\n\nexport const $a = 97;\nexport const $b = 98;\nexport const $e = 101;\nexport const $f = 102;\nexport const $n =
110;\nexport const $r = 114;\nexport const $t = 116;\nexport const $u = 117;\nexport const $v = 118;\nexport const $x = 120;\nexport const $z = 122;\n\nexport const $LBRACE = 123;\nexport const $BAR = 124;\nexport const $RBRACE = 125;\nexport const $NBSP = 160;\n\nexport const $PIPE = 124;\nexport const $TILDA = 126;\nexport const $AT = 64;\n\nexport const $BT = 96;\n\nexport function isWhitespace(code: number): boolean {\n return (code >= $TAB && code <= $SPACE) || (code == $NBSP);\n}\n\nexport function isDigit(code: number): boolean {\n return $0 <= code && code <= $9;\n}\n\nexport function isAsciiLetter(code: number): boolean {\n return code >= $a && code <= $z || code >= $A && code <= $Z;\n}\n\nexport function isAsciiHexDigit(code: number): boolean {\n return code >= $a && code <= $f || code >= $A && code <= $F || isDigit(code);\n}\n\nexport function isNewLine(code: number): boolean {\n return code === $LF || code === $CR;\n}\n\nexport function isOctalDigit(code: number): boolean
{\n return $0 <= code && code <= $7;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport * as chars from './chars';\nimport {CompileIdentifierMetadata, identifierModuleUrl, identifierName} from './compile_metadata';\n\nexport class ParseLocation {\n constructor(\n public file: ParseSourceFile, public offset: number, public line: number,\n public col: number) {}\n\n toString(): string {\n return this.offset != null ? `${this.file.url}@${this.line}:${this.col}` : this.file.url;\n }\n\n moveBy(delta: number): ParseLocation {\n const source = this.file.content;\n const len = source.length;\n let offset = this.offset;\n let line = this.line;\n let col = this.col;\n while (offset > 0 && delta < 0) {\n offset--;\n delta++;\n const ch = source.charCodeAt(offset);\n if (ch == chars.$LF) {\n line--;\n const priorLine = source.substr(0, offset - 1).lastIndexOf(String.fromCharCode(chars.$LF));\n col = priorLine > 0 ? offset - priorLine : offset;\n } else {\n col--;\n }\n }\n while (offset < len && delta > 0) {\n const ch = source.charCodeAt(offset);\n offset++;\n delta--;\n if (ch == chars.$LF) {\n line++;\n col = 0;\n } else {\n col++;\n }\n }\n return new ParseLocation(this.file, offset, line, col);\n }\n\n // Return the source around the location\n // Up to `maxChars` or `maxLines` on each side of the location\n getContext(maxChars: number, maxLines: number): {before: string, after: string}|null {\n const content = this.file.content;\n let startOffset = this.offset;\n\n if (startOffset != null) {\n if (startOffset > content.length - 1) {\n startOffset = content.length - 1;\n }\n let endOffset = startOffset;\n
let ctxChars = 0;\n let ctxLines = 0;\n\n while (ctxChars < maxChars && startOffset > 0) {\n startOffset--;\n ctxChars++;\n if (content[startOffset] == '\\n') {\n if (++ctxLines == maxLines) {\n

break;\n }\n }\n }\n\n ctxChars = 0;\n ctxLines = 0;\n while (ctxChars < maxChars && endOffset < content.length - 1) {\n endOffset++;\n ctxChars++;\n if (content[endOffset] == '\\n') {\n if (++ctxLines == maxLines) {\n break;\n }\n }\n }\n\n return {\n before: content.substring(startOffset, this.offset),\n after: content.substring(this.offset, endOffset + 1),\n };\n }\n\n return null;\n }\n}\n\nexport class ParseSourceFile {\n constructor(public content: string, public url: string) {}\n}\n\nexport class ParseSourceSpan {\n /**\n * Create an object that holds information about spans of tokens/nodes captured during\n * lexing/parsing of text.\n *\n * @param start\n * The location of the start of the span (having skipped leading trivia).\n * Skipping leading trivia makes source-spans more \"user friendly\", since things like HTML\n * elements will appear to begin at the start of the opening tag, rather than at the start of any\n * leading trivia, which could include newlines.\n *\n * @param end\n * The location of the end of the span.\n *\n * @param fullStart\n * The start of the token without skipping the leading trivia.\n * This is used by tooling that splits tokens further, such as extracting Angular interpolations\n * from text tokens. Such tooling creates new source-spans relative to the original token's\n * source-span. If leading trivia characters have been skipped then the new source-spans may be\n * incorrectly offset.\n *\n * @param details\n * Additional information (such as identifier names) that should be associated with the span.\n */\n constructor(\n public start: ParseLocation, public end: ParseLocation,\n public fullStart: ParseLocation = start, public details: string|null = null) {}\n\n toString(): string {\n return this.start.file.content.substring(this.start.offset, this.end.offset);\n }\n}\n\nexport enum ParseErrorLevel {\n WARNING,\n ERROR,\n}\n\nexport class ParseError {\n constructor(\n public span: ParseSourceSpan, public msg: string,\n public level: ParseErrorLevel = ParseErrorLevel.ERROR) {}\n\n contextualMessage(): string {\n const ctx = this.span.start.getContext(100, 3);\n return ctx ? `${this.msg} (\"${ctx.before}[${ParseErrorLevel[this.level]} ->]${ctx.after}\")` :\n this.msg;\n }\n\n toString(): string {\n const details = this.span.details ? `, ${this.span.details}` : '';\n return `${this.contextualMessage()}: ${this.span.start}${details}`;\n }\n}\n\nexport function typeSourceSpan(kind: string, type: CompileIdentifierMetadata): ParseSourceSpan {\n const moduleUrl = identifierModuleUrl(type);\n const sourceFileName = moduleUrl != null ? `in ${kind} ${identifierName(type)} in ${moduleUrl}` :\n `in ${kind} ${identifierName(type)}`;\n const sourceFile = new ParseSourceFile('', sourceFileName);\n return new ParseSourceSpan(\n new ParseLocation(sourceFile, -1, -1, -1), new ParseLocation(sourceFile, -1, -1, -1));\n}\n\n/**\n * Generates Source Span object for a given R3 Type for JIT mode.\n *\n * @param kind Component or Directive.\n * @param typeName name of the Component or Directive.\n * @param sourceUrl reference to Component or Directive source.\n * @returns instance of ParseSourceSpan that represent a given Component or Directive.\n */\nexport function r3JitTypeSourceSpan(\n kind: string, typeName: string, sourceUrl: string): ParseSourceSpan {\n const sourceFileName = `in ${kind} ${typeName} in ${sourceUrl}`;\n const sourceFile = new ParseSourceFile('', sourceFileName);\n return new ParseSourceSpan(\n new ParseLocation(sourceFile, -1, -1, -1), new ParseLocation(sourceFile, -1, -1, -1));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileReflector} from '../compile_reflector';\nimport * as o from '../output/output_ast';\n\n/**\n * Implementation of `CompileReflector` which resolves references to @angular/core\n * symbols at runtime, according to a consumer-provided mapping.\n *\n * Only supports `resolveExternalReference`, all other methods throw.\n */\nexport class R3JitReflector implements CompileReflector {\n constructor(private context: {[key: string]: any}) {}\n\n resolveExternalReference(ref: o.ExternalReference): any {\n // This reflector only handles @angular/core imports.\n if (ref.moduleName !== '@angular/core') {\n throw new Error(`Cannot resolve external reference to ${\n ref.moduleName}, only references to @angular/core are supported.`);\n }\n if (!this.context.hasOwnProperty(ref.name!)) {\n throw new Error(`No value provided for @angular/core symbol '${ref.name!}'.`);\n }\n return this.context[ref.name!];\n }\n\n parameters(typeOrFunc: any): any[][] {\n throw new Error('Not implemented.');\n }\n\n annotations(typeOrFunc: any): any[] {\n throw new Error('Not

implemented.');\n  }\n\n  shallowAnnotations(typeOrFunc: any): any[] {\n    throw new Error('Not implemented.');\n  }\n\n  tryAnnotations(typeOrFunc: any): any[] {\n    throw new Error('Not implemented.');\n  }\n\n  propMetadata(typeOrFunc: any): {[key: string]: any[];} {\n    throw new Error('Not implemented.');\n  }\n\n  hasLifecycleHook(type: any, lcProperty: string): boolean {\n    throw new Error('Not implemented.');\n  }\n\n  guards(typeOrFunc: any): {[key: string]: any;} {\n    throw new Error('Not implemented.');\n  }\n\n  componentModuleUrl(type: any, cmpMetadata: any): string {\n    throw new Error('Not implemented.');\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as o from './output_ast';\n\nexport type MapEntry = {\n  key: string,\n  quoted: boolean,\n  value: o.Expression\n};\n\nexport type MapLiteral = MapEntry[];\n\nexport function mapEntry(key: string, value: o.Expression): MapEntry {\n  return {key, value, quoted: false};\n}\n\nexport function mapLiteral(\n    obj: {[key: string]: o.Expression}, quoted: boolean = false): o.Expression {\n  return o.literalMap(Object.keys(obj).map(key => ({\n                                                  key,\n                                                  quoted,\n                                                  value: obj[key],\n                                                })));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileShallowModuleMetadata, identifierName} from '../compile_metadata';\nimport {InjectableCompiler} from '../injectable_compiler';\nimport {mapLiteral} from '../output/map_util';\nimport * as o from '../output/output_ast';\nimport {OutputContext} from '../util';\n\nimport {compileFactoryFunction, R3DependencyMetadata, R3FactoryTarget} from './r3_factory';\nimport {Identifiers as R3} from './r3_identifiers';\nimport {convertMetaToOutput, jitOnlyGuardedExpression, mapToMapExpression, R3Reference} from './util';\n\nexport interface R3NgModuleDef {\n  expression: o.Expression;\n  type: o.Type;\n  additionalStatements: o.Statement[];\n}\n\n/**\n * Metadata required by the module compiler to generate a module def (`mod`) for a type.\n */\nexport interface R3NgModuleMetadata {\n  /**\n   * An expression representing the module type being compiled.\n   */\n  type: R3Reference;\n\n  /**\n   * An expression representing the module type being compiled, intended for use within a class\n   * definition itself.\n   *\n   * This can differ from the outer `type` if the class is being compiled by ngcc and is inside\n   * an IIFE structure that uses a different name internally.\n   */\n  internalType: o.Expression;\n\n  /**\n   * An expression intended for use by statements that are adjacent (i.e. tightly coupled) to but\n   * not internal to a class definition.\n   *\n   * This can differ from the outer `type` if the class is being compiled by ngcc and is inside\n   * an IIFE structure that uses a different name internally.\n   */\n  adjacentType: o.Expression;\n\n  /**\n   * An array of expressions representing the bootstrap components specified by the module.\n   */\n  bootstrap: R3Reference[];\n\n  /**\n   * An array of expressions representing the directives and pipes declared by the module.\n   */\n  declarations: R3Reference[];\n\n  /**\n   * An array of expressions representing the imports of the module.\n   */\n  imports: R3Reference[];\n\n  /**\n   * An array of expressions representing the exports of the module.\n   */\n  exports: R3Reference[];\n\n  /**\n   * Whether to emit the selector scope values (declarations, imports, exports) inline into the\n   * module definition, or to generate additional statements which patch them on. Inline emission\n   * does not allow components to be tree-shaken, but is useful for JIT mode.\n   */\n  emitInline: boolean;\n\n  /**\n   * Whether to generate closure wrappers for bootstrap, declarations, imports, and exports.\n   */\n  containsForwardDecls: boolean;\n\n  /**\n   * The set of schemas that declare elements to be allowed in the NgModule.\n   */\n  schemas: R3Reference[]|null;\n\n  /** Unique ID or expression representing the unique ID of an NgModule. */\n  id: o.Expression|null;\n}\n\n/**\n * Construct an `R3NgModuleDef` for the given `R3NgModuleMetadata`.\n */\nexport function compileNgModule(meta: R3NgModuleMetadata): R3NgModuleDef {\n  const {\n    internalType,\n    type: moduleType,\n    bootstrap,\n    declarations,\n    imports,\n    exports,\n    schemas,\n    containsForwardDecls,\n    emitInline,\n    id\n  } = meta;\n\n  const additionalStatements: o.Statement[] = [];\n  const definitionMap = {type: internalType} as {\n    type: o.Expression,\n    bootstrap: o.Expression,\n    declarations: o.Expression,\n    imports: o.Expression,\n    exports: o.Expression,\n    schemas: o.LiteralArrayExpr,\n    id: o.Expression\n  };\n\n  // Only

generate the keys in the metadata if the arrays have values.\n  if (bootstrap.length) {\n    definitionMap.bootstrap = refsToArray(bootstrap, containsForwardDecls);\n  }\n\n  // If requested to emit scope information inline, pass the declarations, imports and exports to\n  // the `defineNgModule` call. The JIT compilation uses this.\n  if (emitInline) {\n    if (declarations.length) {\n      definitionMap.declarations = refsToArray(declarations, containsForwardDecls);\n    }\n\n    if (imports.length) {\n      definitionMap.imports = refsToArray(imports, containsForwardDecls);\n    }\n\n    if (exports.length) {\n      definitionMap.exports = refsToArray(exports, containsForwardDecls);\n    }\n  }\n\n  // If not emitting inline, the scope information is not passed into `defineNgModule` as it would\n  // prevent tree-shaking of the declarations, imports and exports references.\n  else {\n    const setNgModuleScopeCall = generateSetNgModuleScopeCall(meta);\n    if (setNgModuleScopeCall !== null) {\n      additionalStatements.push(setNgModuleScopeCall);\n    }\n  }\n\n  if (schemas && schemas.length) {\n    definitionMap.schemas = o.literalArr(schemas.map(ref => ref.value));\n  }\n\n  if (id) {\n    definitionMap.id = id;\n  }\n\n  const expression = o.importExpr(R3.defineNgModule).callFn([mapToMapExpression(definitionMap)]);\n  const type = new o.ExpressionType(o.importExpr(R3.NgModuleDefWithMeta, [\n    new o.ExpressionType(moduleType.type), tupleTypeOf(declarations), tupleTypeOf(imports),\n    tupleTypeOf(exports)\n  ]));\n\n\n  return {expression, type, additionalStatements};\n}\n\n/**\n * Generates a function call to `setNgModuleScope` with all necessary information so that the\n * transitive module scope can be computed during runtime in JIT mode. This call is marked pure\n * such that the references to declarations, imports and exports may be elided causing these\n * symbols to become tree-shakeable.\n */\nfunction generateSetNgModuleScopeCall(meta: R3NgModuleMetadata): o.Statement|null {\n  const {adjacentType: moduleType, declarations, imports, exports, containsForwardDecls} = meta;\n\n  const scopeMap = {} as {\n    declarations: o.Expression,\n    imports: o.Expression,\n    exports: o.Expression,\n  };\n\n  if (declarations.length) {\n    scopeMap.declarations = refsToArray(declarations,\n      containsForwardDecls);\n  }\n\n  if (imports.length) {\n    scopeMap.imports = refsToArray(imports, containsForwardDecls);\n  }\n\n  if (exports.length) {\n    scopeMap.exports = refsToArray(exports, containsForwardDecls);\n  }\n\n  if (Object.keys(scopeMap).length === 0) {\n    return null;\n  }\n\n  // setNgModuleScope(...)\n  const fnCall = new o.InvokeFunctionExpr(\n      /* fn */ o.importExpr(R3.setNgModuleScope),\n      /* args */[moduleType, mapToMapExpression(scopeMap)]);\n\n  // (ngJitMode guard) && setNgModuleScope(...)\n  const guardedCall = jitOnlyGuardedExpression(fnCall);\n\n  // function() { (ngJitMode guard) && setNgModuleScope(...); }\n  const iife = new o.FunctionExpr(\n      /* params */[],\n      /* statements */[guardedCall.toStmt()]);\n\n  // (function() { (ngJitMode guard) && setNgModuleScope(...); })()\n  const iifeCall = new o.InvokeFunctionExpr(\n      /* fn */ iife,\n      /* args */[]);\n\n  return iifeCall.toStmt();\n}\n\nexport interface R3InjectorDef {\n  expression: o.Expression;\n  type: o.Type;\n  statements: o.Statement[];\n}\n\nexport interface R3InjectorMetadata {\n  name: string;\n  type: R3Reference;\n  internalType: o.Expression;\n  deps: R3DependencyMetadata[]|null;\n  providers: o.Expression|null;\n  imports: o.Expression[];\n}\n\nexport function compileInjector(meta: R3InjectorMetadata): R3InjectorDef {\n  const result = compileFactoryFunction({\n    name: meta.name,\n    type: meta.type,\n    internalType: meta.internalType,\n    typeArgumentCount: 0,\n    deps: meta.deps,\n    injectFn: R3.inject,\n    target: R3FactoryTarget.NgModule,\n  });\n  const definitionMap = {\n    factory: result.factory,\n  } as {factory: o.Expression, providers: o.Expression, imports: o.Expression};\n\n  if (meta.providers !== null) {\n    definitionMap.providers = meta.providers;\n  }\n\n  if (meta.imports.length > 0) {\n    definitionMap.imports = o.literalArr(meta.imports);\n  }\n\n  const expression = o.importExpr(R3.defineInjector).callFn([mapToMapExpression(definitionMap)]);\n  const type =\n      new o.ExpressionType(o.importExpr(R3.InjectorDef, [new o.ExpressionType(meta.type.type)]));\n  return {expression, type, statements: result.statements};\n}\n\n// TODO(alxhub): integrate this with `compileNgModule`. Currently the two are separate operations.\nexport function compileNgModuleFromRender2(\n    ctx: OutputContext, ngModule: CompileShallowModuleMetadata,\n    injectableCompiler: InjectableCompiler): void {\n  const className = identifierName(ngModule.type)!;\n\n  const

rawImports = ngModule.rawImports ? [ngModule.rawImports] : [];\n  const rawExports = ngModule.rawExports ? [ngModule.rawExports] : [];\n\n  const injectorDefArg = mapLiteral({\n    'factory':\n injectableCompiler.factoryFor({type: ngModule.type, symbol: ngModule.type.reference}, ctx),\n    'providers': convertMetaToOutput(ngModule.rawProviders, ctx),\n    'imports': convertMetaToOutput([...rawImports, ...rawExports], ctx),\n  });\n\n
  const injectorDef = o.importExpr(R3.defineInjector).callFn([injectorDefArg]);\n\n  ctx.statements.push(new o.ClassStmt(\n      /* name */ className,\n      /* parent */ null,\n      /* fields */[new o.ClassField(\n          /* name */ 'inj',\n          /* type */ o.INFERRED_TYPE,\n          /* modifiers */[o.StmtModifier.Static],\n          /* initializer */ injectorDef,\n          )],\n      /* getters */[],\n      /* constructorMethod */ new o.ClassMethod(null, [], []),\n      /* methods */[]));\n}\n\nfunction accessExportScope(module: o.Expression): o.Expression {\n  const selectorScope = new o.ReadPropExpr(module, 'mod');\n  return new o.ReadPropExpr(selectorScope, 'exported');\n}\n\nfunction tupleTypeOf(exp: R3Reference[]): o.Type {\n  const types = exp.map(ref => o.typeofExpr(ref.type));\n  return exp.length > 0 ? o.expressionType(o.literalArr(types)) : o.NONE_TYPE;\n}\n\nfunction refsToArray(refs: R3Reference[], shouldForwardDeclare: boolean): o.Expression {\n  const values = o.literalArr(refs.map(ref => ref.value));\n  return shouldForwardDeclare ? o.fn([], [new o.ReturnStatement(values)]) : values;\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompilePipeMetadata, identifierName} from '../compile_metadata';\nimport {CompileReflector} from '../compile_reflector';\nimport {DefinitionKind} from '../constant_pool';\nimport * as o from '../output/output_ast';\nimport {error, OutputContext} from '../util';\n\nimport {compileFactoryFunction, dependenciesFromGlobalMetadata, R3DependencyMetadata, R3FactoryTarget} from './r3_factory';\nimport {Identifiers as R3} from './r3_identifiers';\nimport {R3Reference, typeWithParameters, wrapReference} from './util';\n\nexport interface R3PipeMetadata {\n  /**\n   * Name of the pipe type.\n   */\n  name: string;\n\n  /**\n   * An expression representing
 a reference to the pipe itself.\n   */\n  type: R3Reference;\n\n  /**\n   * An expression representing the pipe being compiled, intended for use within a class definition\n   * itself.\n   *\n   * This can differ from the outer `type` if the class is being compiled by ngcc and is inside an\n   * IIFE structure that uses a different name internally.\n   */\n  internalType: o.Expression;\n\n  /**\n   * Number of generic type parameters of the type itself.\n   */\n  typeArgumentCount: number;\n\n  /**\n   * Name of the pipe.\n   */\n  pipeName: string;\n\n  /**\n   * Dependencies of the pipe's constructor.\n   */\n  deps: R3DependencyMetadata[]|null;\n\n  /**\n   * Whether the pipe is marked as pure.\n   */\n  pure: boolean;\n}\n\nexport function compilePipeFromMetadata(metadata: R3PipeMetadata) {\n  const definitionMapValues: {key: string, quoted: boolean, value: o.Expression}[] = [];\n\n  // e.g. `name: 'myPipe'`\n  definitionMapValues.push({key: 'name', value: o.literal(metadata.pipeName),
 quoted: false});\n\n  // e.g. `type: MyPipe`\n  definitionMapValues.push({key: 'type', value: metadata.type.value, quoted: false});\n\n  // e.g. `pure: true`\n  definitionMapValues.push({key: 'pure', value: o.literal(metadata.pure), quoted: false});\n\n  const expression = o.importExpr(R3.definePipe).callFn([o.literalMap(definitionMapValues)]);\n  const type = new o.ExpressionType(o.importExpr(R3.PipeDefWithMeta, [\n    typeWithParameters(metadata.type.type, metadata.typeArgumentCount),\n    new o.ExpressionType(new o.LiteralExpr(metadata.pipeName)),\n  ]));\n\n  return {expression, type};\n}\n\n/**\n * Write a pipe definition to the output context.\n */\nexport function compilePipeFromRender2(\n    outputCtx: OutputContext, pipe: CompilePipeMetadata, reflector: CompileReflector) {\n  const name = identifierName(pipe.type);\n\n  if (!name) {\n    return error(`Cannot resolve the name of ${pipe.type}`);\n  }\n\n  const type = outputCtx.importExpr(pipe.type.reference);\n  const
 metadata: R3PipeMetadata = {\n    name,\n    type: wrapReference(type),\n    internalType: type,\n    pipeName: pipe.name,\n    typeArgumentCount: 0,\n    deps: dependenciesFromGlobalMetadata(pipe.type, outputCtx, reflector),\n    pure: pipe.pure,\n  };\n  const res = compilePipeFromMetadata(metadata);\n  const factoryRes = compileFactoryFunction(\n      {...metadata, injectFn: R3.directiveInject, target: R3FactoryTarget.Pipe});\n  const definitionField = outputCtx.constantPool.propertyNameOf(DefinitionKind.Pipe);\n  const ngFactoryDefStatement =

new o.ClassStmt(\n /* name */ name,\n /* parent */ null,\n /* fields */\n [new o.ClassField(\n /* name */ 'fac',\n /* type */ o.INFERRED_TYPE,\n /* modifiers */[o.StmtModifier.Static],\n /* initializer */ factoryRes.factory)],\n /* getters */[],\n /* constructorMethod */ new o.ClassMethod(null, [], []),\n /* methods */[]);\n const pipeDefStatement = new o.ClassStmt(\n /* name */ name,\n /* parent */ null,\n /* fields */[new o.ClassField(\n /* name */ definitionField,\n /* type */ o.INFERRED_TYPE,\n /* modifiers */[o.StmtModifier.Static],\n /* initializer */ res.expression)],\n /* getters */[],\n /* constructorMethod */ new o.ClassMethod(null, [], []),\n /* methods */[]);\n\n outputCtx.statements.push(ngFactoryDefStatement, pipeDefStatement);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {SecurityContext} from '../core';\nimport {ParseSourceSpan} from '../parse_util';\n\nexport class ParserError {\n public message: string;\n constructor(\n message: string, public input: string, public errLocation: string, public ctxLocation?: any) {\n this.message = `Parser Error: ${message} ${errLocation} [${input}] in ${ctxLocation}`;\n }\n}\n\nexport class ParseSpan {\n constructor(public start: number, public end: number) {}\n toAbsolute(absoluteOffset: number): AbsoluteSourceSpan {\n return new AbsoluteSourceSpan(absoluteOffset + this.start, absoluteOffset + this.end);\n }\n}\n\nexport class AST {\n constructor(\n public span: ParseSpan,\n /**\n * Absolute location of the expression AST in a source code file.\n */\n public sourceSpan: AbsoluteSourceSpan) {}\n visit(visitor: AstVisitor, context: any = null): any {\n return null;\n }\n toString(): string {\n return 'AST';\n }\n}\n\nexport abstract class ASTWithName extends AST {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public nameSpan: AbsoluteSourceSpan) {\n super(span, sourceSpan);\n }\n}\n\n/**\n * Represents a quoted expression of the form:\n *\n * quote = prefix `:` uninterpretedExpression\n * prefix = identifier\n * uninterpretedExpression = arbitrary string\n *\n * A quoted expression is meant to be pre-processed by an AST transformer that\n * converts it into another AST that no longer contains quoted expressions.\n * It is meant to allow third-party developers to extend Angular template\n * expression language. The `uninterpretedExpression` part of the quote is\n * therefore not interpreted by the Angular's own expression parser.\n */\nexport class Quote extends AST {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public prefix: string,\n public uninterpretedExpression: string, public location: any) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitQuote(this, context);\n }\n toString(): string {\n return 'Quote';\n }\n}\n\nexport class EmptyExpr extends AST {\n visit(visitor: AstVisitor, context: any = null) {\n // do nothing\n }\n}\n\nexport class ImplicitReceiver extends AST {\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitImplicitReceiver(this, context);\n }\n}\n\n/**\n * Receiver when something is accessed through `this` (e.g. `this.foo`). Note that this class\n * inherits from `ImplicitReceiver`, because accessing something through `this` is treated the\n * same as accessing it implicitly inside of an Angular template (e.g. `[attr.title]=\"this.title\"`\n * is the same as `[attr.title]=\"title\"`.). Inheriting allows for the `this` accesses to be treated\n * the same as implicit ones, except for a couple of exceptions like `$event` and `$any`.\n * TODO: we should find a way for this class not to extend from `ImplicitReceiver` in the future.\n */\nexport class ThisReceiver extends ImplicitReceiver {\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitThisReceiver?.(this, context);\n }\n}\n\n/**\n * Multiple expressions separated by a semicolon.\n */\nexport class Chain extends AST {\n constructor(span: ParseSpan, sourceSpan: AbsoluteSourceSpan,\n public expressions: any[]) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitChain(this, context);\n }\n}\n\nexport class Conditional extends AST {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public condition: AST, public trueExp: AST,\n public falseExp: AST) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitConditional(this, context);\n }\n}\n\nexport class PropertyRead extends ASTWithName {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, nameSpan: AbsoluteSourceSpan,\n public receiver: AST, public name: string) {\n super(span, sourceSpan, nameSpan);\n }\n visit(visitor: AstVisitor,

context: any = null): any {\n return visitor.visitPropertyRead(this, context);\n }\n}\n\nexport class PropertyWrite extends ASTWithName {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, nameSpan: AbsoluteSourceSpan,\n public receiver: AST, public name: string, public value: AST) {\n super(span, sourceSpan, nameSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitPropertyWrite(this, context);\n }\n}\n\nexport class SafePropertyRead extends ASTWithName {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, nameSpan: AbsoluteSourceSpan,\n public receiver: AST, public name: string) {\n super(span, sourceSpan, nameSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitSafePropertyRead(this, context);\n }\n}\n\nexport class KeyedRead extends AST {\n constructor(span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public obj: AST, public key: AST) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitKeyedRead(this, context);\n }\n}\n\nexport class KeyedWrite extends AST {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public obj: AST, public key: AST,\n public value: AST) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitKeyedWrite(this, context);\n }\n}\n\nexport class BindingPipe extends ASTWithName {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public exp: AST, public name: string,\n public args: any[], nameSpan: AbsoluteSourceSpan) {\n super(span, sourceSpan, nameSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitPipe(this, context);\n }\n}\n\nexport class LiteralPrimitive extends AST {\n constructor(span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public value: any) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitLiteralPrimitive(this, context);\n }\n}\n\nexport class LiteralArray extends AST {\n constructor(span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public expressions: any[]) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitLiteralArray(this, context);\n }\n}\n\nexport type LiteralMapKey = {\n key: string; quoted: boolean;\n};\n\nexport class LiteralMap extends AST {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public keys: LiteralMapKey[],\n public values: any[]) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitLiteralMap(this, context);\n }\n}\n\nexport class Interpolation extends AST {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public strings: any[],\n public expressions: any[]) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitInterpolation(this, context);\n }\n}\n\nexport class Binary extends AST {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public operation: string, public left: AST,\n public right: AST) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitBinary(this, context);\n }\n}\n\n/**\n * For backwards compatibility reasons, `Unary` inherits from `Binary` and mimics the binary AST\n * node that was originally used. This inheritance relation can be deleted in some future major,\n * after consumers have been given a chance to fully support Unary.\n */\nexport class Unary extends Binary {\n // Redeclare the properties that are inherited from `Binary` as `never`, as consumers should not\n // depend on these fields when operating on `Unary`.\n left: never;\n right: never;\n operation: never;\n\n /**\n * Creates a unary minus expression \"-x\", represented as `Binary` using \"0 - x\".\n */\n static createMinus(span: ParseSpan, sourceSpan: AbsoluteSourceSpan, expr: AST): Unary {\n return new Unary(\n span, sourceSpan, '-', expr, '-', new LiteralPrimitive(span, sourceSpan, 0), expr);\n }\n\n /**\n * Creates a unary plus expression \"+x\", represented as `Binary` using \"x - 0\".\n */\n static createPlus(span: ParseSpan, sourceSpan: AbsoluteSourceSpan, expr: AST): Unary {\n return new Unary(\n span, sourceSpan, '+', expr, '-', expr, new LiteralPrimitive(span, sourceSpan, 0));\n }\n\n /**\n * During the deprecation period this constructor is private, to avoid consumers from creating\n * a `Unary` with the fallback properties for `Binary`.\n */\n private constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public operator: string, public expr: AST,\n binaryOp: string, binaryLeft: AST, binaryRight: AST) {\n super(span, sourceSpan, binaryOp, binaryLeft, binaryRight);\n }\n\n visit(visitor: AstVisitor, context: any = null): any {\n if (visitor.visitUnary !== undefined) {\n

return visitor.visitUnary(this, context);\n }\n return visitor.visitBinary(this, context);\n }\n}\n\nexport class PrefixNot extends AST {\n constructor(span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public expression: AST) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitPrefixNot(this, context);\n }\n}\n\nexport class NonNullAssert extends AST {\n constructor(span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public expression: AST) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitNonNullAssert(this, context);\n }\n}\n\nexport class MethodCall extends ASTWithName {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, nameSpan: AbsoluteSourceSpan,\n public receiver: AST, public name: string, public args: any[]) {\n super(span, sourceSpan, nameSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitMethodCall(this, context);\n }\n}\n\nexport class SafeMethodCall extends ASTWithName {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, nameSpan: AbsoluteSourceSpan,\n public receiver: AST, public name: string, public args: any[]) {\n super(span, sourceSpan, nameSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitSafeMethodCall(this, context);\n }\n}\n\nexport class FunctionCall extends AST {\n constructor(\n span: ParseSpan, sourceSpan: AbsoluteSourceSpan, public target: AST|null,\n public args: any[]) {\n super(span, sourceSpan);\n }\n visit(visitor: AstVisitor, context: any = null): any {\n return visitor.visitFunctionCall(this, context);\n }\n}\n\n/**\n * Records the absolute position of a text span in a source file, where `start` and `end` are the\n * starting and ending byte offsets, respectively, of the text span in a source file.\n */\nexport class AbsoluteSourceSpan
{\n constructor(public readonly start: number, public readonly end: number) {}\n}\n\nexport class ASTWithSource extends AST {\n constructor(\n public ast: AST, public source: string|null, public location: string, absoluteOffset: number,\n public errors: ParserError[]) {\n super(\n new ParseSpan(0, source === null ? 0 : source.length),\n new AbsoluteSourceSpan(\n absoluteOffset, source === null ? absoluteOffset : absoluteOffset + source.length));\n }\n visit(visitor: AstVisitor, context: any = null): any {\n if (visitor.visitASTWithSource) {\n return visitor.visitASTWithSource(this, context);\n }\n return this.ast.visit(visitor, context);\n }\n toString(): string {\n return `${this.source} in ${this.location}`;\n }\n}\n\n/**\n * TemplateBinding refers to a particular key-value pair in a microsyntax\n * expression. A few examples are:\n *\n * |----------------------|--------------|---------|--------------|\n * |
expression | key | value | binding type |\n * |----------------------|--------------|---------|--------------|\n * | 1. let item | item | null | variable |\n * | 2. of items | ngForOf | items | expression |\n * | 3. let x = y | x | y | variable |\n * | 4. index as i | i | index | variable |\n * | 5. trackBy: func | ngForTrackBy | func | expression |\n * | 6. *ngIf=\"cond\" | ngIf | cond | expression |\n * |----------------------|--------------|---------|--------------|\n *\n * (6) is a notable exception because it is a binding from the template key in\n * the LHS of a HTML attribute to the expression in the RHS. All other bindings\n * in the example above are derived solely from the RHS.\n */\nexport type TemplateBinding = VariableBinding|ExpressionBinding;\n\nexport class VariableBinding {\n /**\n * @param sourceSpan entire span of the
binding.\n * @param key name of the LHS along with its span.\n * @param value optional value for the RHS along with its span.\n */\n constructor(\n public readonly sourceSpan: AbsoluteSourceSpan,\n public readonly key: TemplateBindingIdentifier,\n public readonly value: TemplateBindingIdentifier|null) {}\n}\n\nexport class ExpressionBinding {\n /**\n * @param sourceSpan entire span of the binding.\n * @param key binding name, like ngForOf, ngForTrackBy, ngIf, along with its\n * span. Note that the length of the span may not be the same as\n * `key.source.length`. For example,\n * 1. key.source = ngFor, key.span is for \"ngFor\"\n * 2. key.source = ngForOf, key.span is for \"of\"\n * 3. key.source = ngForTrackBy, key.span is for \"trackBy\"\n * @param value optional expression for the RHS.\n */\n constructor(\n public readonly sourceSpan: AbsoluteSourceSpan,\n public readonly key: TemplateBindingIdentifier, public readonly value: ASTWithSource|null)

{}\n}\n\nexport interface TemplateBindingIdentifier {\n source: string;\n span: AbsoluteSourceSpan;\n}\n\nexport interface AstVisitor {\n /**\n * The `visitUnary` method is declared as optional for backwards compatibility. In an upcoming\n * major release, this method will be made required.\n */\n visitUnary?(ast: Unary, context: any): any;\n visitBinary(ast: Binary, context: any): any;\n visitChain(ast: Chain, context: any): any;\n visitConditional(ast: Conditional, context: any): any;\n visitFunctionCall(ast: FunctionCall, context: any): any;\n /**\n * The `visitThisReceiver` method is declared as optional for backwards compatibility.\n * In an upcoming major release, this method will be made required.\n */\n visitThisReceiver?(ast: ThisReceiver, context: any): any;\n visitImplicitReceiver(ast: ImplicitReceiver, context: any): any;\n visitInterpolation(ast: Interpolation, context: any): any;\n visitKeyedRead(ast: KeyedRead, context: any): any;\n visitKeyedWrite(ast: KeyedWrite, context: any): any;\n visitLiteralArray(ast: LiteralArray, context: any): any;\n visitLiteralMap(ast: LiteralMap, context: any): any;\n visitLiteralPrimitive(ast: LiteralPrimitive, context: any): any;\n visitMethodCall(ast: MethodCall, context: any): any;\n visitPipe(ast: BindingPipe, context: any): any;\n visitPrefixNot(ast: PrefixNot, context: any): any;\n visitNonNullAssert(ast: NonNullAssert, context: any): any;\n visitPropertyRead(ast: PropertyRead, context: any): any;\n visitPropertyWrite(ast: PropertyWrite, context: any): any;\n visitQuote(ast: Quote, context: any): any;\n visitSafeMethodCall(ast: SafeMethodCall, context: any): any;\n visitSafePropertyRead(ast: SafePropertyRead, context: any): any;\n visitASTWithSource?(ast: ASTWithSource, context: any): any;\n /**\n * This function is optionally defined to allow classes that implement this\n * interface to selectively decide if the specified `ast` should be visited.\n *\n @param ast node to visit\n * @param context context that gets passed to the node and all its children\n */\n visit?(ast: AST, context?: any): any;\n}\n\nexport class RecursiveAstVisitor implements AstVisitor {\n visit(ast: AST, context?: any): any {\n // The default implementation just visits every node.\n // Classes that extend RecursiveAstVisitor should override this function\n // to selectively visit the specified node.\n ast.visit(this, context);\n }\n visitUnary(ast: Unary, context: any): any {\n this.visit(ast.expr, context);\n }\n visitBinary(ast: Binary, context: any): any {\n this.visit(ast.left, context);\n this.visit(ast.right, context);\n }\n visitChain(ast: Chain, context: any): any {\n this.visitAll(ast.expressions, context);\n }\n visitConditional(ast: Conditional, context: any): any {\n this.visit(ast.condition, context);\n this.visit(ast.trueExp, context);\n this.visit(ast.falseExp, context);\n }\n visitPipe(ast: BindingPipe, context: any): any {\n this.visit(ast.exp, context);\n this.visitAll(ast.args, context);\n }\n visitFunctionCall(ast: FunctionCall, context: any): any {\n if (ast.target) {\n this.visit(ast.target, context);\n }\n this.visitAll(ast.args, context);\n }\n visitImplicitReceiver(ast: ThisReceiver, context: any): any {}\n visitThisReceiver(ast: ThisReceiver, context: any): any {}\n visitInterpolation(ast: Interpolation, context: any): any {\n this.visitAll(ast.expressions, context);\n }\n visitKeyedRead(ast: KeyedRead, context: any): any {\n this.visit(ast.obj, context);\n this.visit(ast.key, context);\n }\n visitKeyedWrite(ast: KeyedWrite, context: any): any {\n this.visit(ast.obj, context);\n this.visit(ast.key, context);\n this.visit(ast.value, context);\n }\n visitLiteralArray(ast: LiteralArray, context: any): any {\n this.visitAll(ast.expressions, context);\n }\n visitLiteralMap(ast: LiteralMap, context: any): any {\n this.visitAll(ast.values, context);\n }\n visitLiteralPrimitive(ast: LiteralPrimitive, context: any): any {}\n visitMethodCall(ast: MethodCall, context: any): any {\n this.visit(ast.receiver, context);\n this.visitAll(ast.args, context);\n }\n visitPrefixNot(ast: PrefixNot, context: any): any {\n this.visit(ast.expression, context);\n }\n visitNonNullAssert(ast: NonNullAssert, context: any): any {\n this.visit(ast.expression, context);\n }\n visitPropertyRead(ast: PropertyRead, context: any): any {\n this.visit(ast.receiver, context);\n }\n visitPropertyWrite(ast: PropertyWrite, context: any): any {\n this.visit(ast.receiver, context);\n this.visit(ast.value, context);\n }\n visitSafePropertyRead(ast: SafePropertyRead, context: any): any {\n this.visit(ast.receiver, context);\n }\n visitSafeMethodCall(ast: SafeMethodCall, context: any): any {\n this.visit(ast.receiver, context);\n this.visitAll(ast.args, context);\n }\n visitQuote(ast: Quote, context: any): any {}\n // This is not part of the AstVisitor interface, just a helper method\n visitAll(asts: AST[], context: any): any {\n for (const ast of asts) {\n this.visit(ast, context);\n }\n }\n}\n\nexport class AstTransformer implements AstVisitor {\n visitImplicitReceiver(ast: ImplicitReceiver, context: any): AST {\n

return ast;\n  }\n\n  visitThisReceiver(ast: ThisReceiver, context: any): AST {\n    return ast;\n  }\n\n  visitInterpolation(ast: Interpolation, context: any): AST {\n    return new Interpolation(ast.span, ast.sourceSpan, ast.strings, this.visitAll(ast.expressions));\n  }\n\n  visitLiteralPrimitive(ast: LiteralPrimitive, context: any): AST {\n    return new LiteralPrimitive(ast.span, ast.sourceSpan, ast.value);\n  }\n\n  visitPropertyRead(ast: PropertyRead, context: any): AST {\n    return new PropertyRead(\n        ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name);\n  }\n\n  visitPropertyWrite(ast: PropertyWrite, context: any): AST {\n    return new PropertyWrite(\n        ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name,\n        ast.value.visit(this));\n  }\n\n  visitSafePropertyRead(ast: SafePropertyRead, context: any): AST {\n    return new SafePropertyRead(\n        ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name);\n  }\n\n  visitMethodCall(ast: MethodCall, context: any): AST {\n    return new MethodCall(\n        ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name,\n        this.visitAll(ast.args));\n  }\n\n  visitSafeMethodCall(ast: SafeMethodCall, context: any): AST {\n    return new SafeMethodCall(\n        ast.span, ast.sourceSpan, ast.nameSpan, ast.receiver.visit(this), ast.name,\n        this.visitAll(ast.args));\n  }\n\n  visitFunctionCall(ast: FunctionCall, context: any): AST {\n    return new FunctionCall(\n        ast.span, ast.sourceSpan, ast.target!.visit(this), this.visitAll(ast.args));\n  }\n\n  visitLiteralArray(ast: LiteralArray, context: any): AST {\n    return new LiteralArray(ast.span, ast.sourceSpan, this.visitAll(ast.expressions));\n  }\n\n  visitLiteralMap(ast: LiteralMap, context: any): AST {\n    return new LiteralMap(ast.span, ast.sourceSpan, ast.keys, this.visitAll(ast.values));\n  }\n\n  visitUnary(ast: Unary, context: any): AST {\n    switch (ast.operator) {\n      case '+':\n        return Unary.createPlus(ast.span, ast.sourceSpan, ast.expr.visit(this));\n      case '-':\n        return Unary.createMinus(ast.span, ast.sourceSpan, ast.expr.visit(this));\n      default:\n        throw new Error(`Unknown unary operator ${ast.operator}`);\n    }\n  }\n\n  visitBinary(ast: Binary, context: any): AST {\n    return new Binary(\n        ast.span, ast.sourceSpan, ast.operation, ast.left.visit(this), ast.right.visit(this));\n  }\n\n  visitPrefixNot(ast: PrefixNot, context: any): AST {\n    return new PrefixNot(ast.span, ast.sourceSpan, ast.expression.visit(this));\n  }\n\n  visitNonNullAssert(ast: NonNullAssert, context: any): AST {\n    return new NonNullAssert(ast.span, ast.sourceSpan, ast.expression.visit(this));\n  }\n\n  visitConditional(ast: Conditional, context: any): AST {\n    return new Conditional(\n        ast.span, ast.sourceSpan, ast.condition.visit(this), ast.trueExp.visit(this),\n        ast.falseExp.visit(this));\n  }\n\n  visitPipe(ast: BindingPipe, context: any): AST {\n    return new BindingPipe(\n        ast.span, ast.sourceSpan, ast.exp.visit(this), ast.name, this.visitAll(ast.args),\n        ast.nameSpan);\n  }\n\n  visitKeyedRead(ast: KeyedRead, context: any): AST {\n    return new KeyedRead(ast.span, ast.sourceSpan, ast.obj.visit(this), ast.key.visit(this));\n  }\n\n  visitKeyedWrite(ast: KeyedWrite, context: any): AST {\n    return new KeyedWrite(\n        ast.span, ast.sourceSpan, ast.obj.visit(this), ast.key.visit(this), ast.value.visit(this));\n  }\n\n  visitAll(asts: any[]): any[] {\n    const res = [];\n    for (let i = 0; i < asts.length; ++i) {\n      res[i] = asts[i].visit(this);\n    }\n    return res;\n  }\n\n  visitChain(ast: Chain, context: any): AST {\n    return new Chain(ast.span, ast.sourceSpan, this.visitAll(ast.expressions));\n  }\n\n  visitQuote(ast: Quote, context: any): AST {\n    return new Quote(\n        ast.span, ast.sourceSpan, ast.prefix, ast.uninterpretedExpression, ast.location);\n  }\n}\n\n// A transformer that only creates new nodes if the transformer makes a change or\n// a change is made a child node.\nexport class AstMemoryEfficientTransformer implements AstVisitor {\n  visitImplicitReceiver(ast: ImplicitReceiver, context: any): AST {\n    return ast;\n  }\n\n  visitThisReceiver(ast: ThisReceiver, context: any): AST {\n    return ast;\n  }\n\n  visitInterpolation(ast: Interpolation, context: any): Interpolation {\n    const expressions = this.visitAll(ast.expressions);\n    if (expressions !== ast.expressions)\n      return new Interpolation(ast.span, ast.sourceSpan, ast.strings, expressions);\n    return ast;\n  }\n\n  visitLiteralPrimitive(ast: LiteralPrimitive, context: any): AST {\n    return ast;\n  }\n\n  visitPropertyRead(ast: PropertyRead, context: any): AST {\n    const receiver = ast.receiver.visit(this);\n    if (receiver !== ast.receiver) {\n      return new PropertyRead(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name);\n    }\n    return ast;\n  }\n\n  visitPropertyWrite(ast: PropertyWrite, context: any): AST {\n    const receiver = ast.receiver.visit(this);\n    const value = ast.value.visit(this);\n    if (receiver !== ast.receiver || value !== ast.value) {\n      return new PropertyWrite(ast.span, ast.sourceSpan, ast.nameSpan, receiver,

```
ast.name, value);\n    }\n    return ast;\n  }\n\n  visitSafePropertyRead(ast: SafePropertyRead, context: any): AST {\n
  const receiver = ast.receiver.visit(this);\n    if (receiver !== ast.receiver) {\n      return new
SafePropertyRead(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name);\n
    }\n    return ast;\n  }\n\n  visitMethodCall(ast: MethodCall, context: any): AST {\n    const receiver =
ast.receiver.visit(this);\n    const args = this.visitAll(ast.args);\n    if (receiver !== ast.receiver || args !== ast.args) {\n
    return new MethodCall(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name, args);\n    }\n    return ast;\n
}\n\n  visitSafeMethodCall(ast: SafeMethodCall, context: any): AST {\n    const receiver = ast.receiver.visit(this);\n
  const args = this.visitAll(ast.args);\n    if (receiver !== ast.receiver || args !== ast.args) {\n      return new
SafeMethodCall(ast.span, ast.sourceSpan, ast.nameSpan, receiver, ast.name, args);\n    }\n    return ast;\n  }\n\n
visitFunctionCall(ast: FunctionCall, context: any): AST {\n    const target = ast.target && ast.target.visit(this);\n
const args = this.visitAll(ast.args);\n    if (target !== ast.target || args !== ast.args) {\n      return new
FunctionCall(ast.span, ast.sourceSpan, target, args);\n
    }\n    return ast;\n  }\n\n  visitLiteralArray(ast: LiteralArray, context: any): AST {\n    const expressions =
this.visitAll(ast.expressions);\n    if (expressions !== ast.expressions) {\n      return new LiteralArray(ast.span,
ast.sourceSpan, expressions);\n    }\n    return ast;\n  }\n\n  visitLiteralMap(ast: LiteralMap, context: any): AST {\n
const values = this.visitAll(ast.values);\n    if (values !== ast.values) {\n      return new LiteralMap(ast.span,
ast.sourceSpan, ast.keys, values);\n    }\n    return ast;\n  }\n\n  visitUnary(ast: Unary, context: any): AST {\n    const
expr = ast.expr.visit(this);\n    if (expr !== ast.expr) {\n      switch (ast.operator) {\n        case '+':\n          return
Unary.createPlus(ast.span, ast.sourceSpan, expr);\n        case '-':\n          return Unary.createMinus(ast.span,
ast.sourceSpan, expr);\n        default:\n          throw new Error(`Unknown unary operator ${ast.operator}`);\n      }\n
}\n    return ast;\n  }\n\n  visitBinary(ast:
  Binary, context: any): AST {\n    const left = ast.left.visit(this);\n    const right = ast.right.visit(this);\n    if (left !==
ast.left || right !== ast.right) {\n      return new Binary(ast.span, ast.sourceSpan, ast.operation, left, right);\n    }\n
return ast;\n  }\n\n  visitPrefixNot(ast: PrefixNot, context: any): AST {\n    const expression =
ast.expression.visit(this);\n    if (expression !== ast.expression) {\n      return new PrefixNot(ast.span,
ast.sourceSpan, expression);\n    }\n    return ast;\n  }\n\n  visitNonNullAssert(ast: NonNullAssert, context: any):
AST {\n    const expression = ast.expression.visit(this);\n    if (expression !== ast.expression) {\n      return new
NonNullAssert(ast.span, ast.sourceSpan, expression);\n    }\n    return ast;\n  }\n\n  visitConditional(ast: Conditional,
context: any): AST {\n    const condition = ast.condition.visit(this);\n    const trueExp = ast.trueExp.visit(this);\n
const falseExp = ast.falseExp.visit(this);\n    if
  (condition !== ast.condition || trueExp !== ast.trueExp || falseExp !== ast.falseExp) {\n      return new
Conditional(ast.span, ast.sourceSpan, condition, trueExp, falseExp);\n    }\n    return ast;\n  }\n\n  visitPipe(ast:
BindingPipe, context: any): AST {\n    const exp = ast.exp.visit(this);\n    const args = this.visitAll(ast.args);\n    if
(exp !== ast.exp || args !== ast.args) {\n      return new BindingPipe(ast.span, ast.sourceSpan, exp, ast.name, args,
ast.nameSpan);\n    }\n    return ast;\n  }\n\n  visitKeyedRead(ast: KeyedRead, context: any): AST {\n    const obj =
ast.obj.visit(this);\n    const key = ast.key.visit(this);\n    if (obj !== ast.obj || key !== ast.key) {\n      return new
KeyedRead(ast.span, ast.sourceSpan, obj, key);\n    }\n    return ast;\n  }\n\n  visitKeyedWrite(ast: KeyedWrite,
context: any): AST {\n    const obj = ast.obj.visit(this);\n    const key = ast.key.visit(this);\n    const value =
ast.value.visit(this);\n    if (obj !== ast.obj || key !== ast.key
  || value !== ast.value) {\n      return new KeyedWrite(ast.span, ast.sourceSpan, obj, key, value);\n    }\n    return
ast;\n  }\n\n  visitAll(asts: any[]): any[] {\n    const res = [];\n    let modified = false;\n    for (let i = 0; i < asts.length;
++i) {\n      const original = asts[i];\n      const value = original.visit(this);\n      res[i] = value;\n      modified =
modified || value !== original;\n    }\n    return modified ? res : asts;\n  }\n\n  visitChain(ast: Chain, context: any):
AST {\n    const expressions = this.visitAll(ast.expressions);\n    if (expressions !== ast.expressions) {\n      return
new Chain(ast.span, ast.sourceSpan, expressions);\n    }\n    return ast;\n  }\n\n  visitQuote(ast: Quote, context: any):
AST {\n    return ast;\n  }\n}\n\n// Bindings\n\nexport class ParsedProperty {\n  public readonly isLiteral: boolean;\n
public readonly isAnimation: boolean;\n\n  constructor(\n      public name: string, public expression:
ASTWithSource, public type: ParsedPropertyType,\n
```

```
// TODO(atscott): `keySpan` should really be required but allows `undefined` so VE does\n // not need to be updated. Make `keySpan` required when VE is removed.\n public sourceSpan: ParseSourceSpan, readonly keySpan: ParseSourceSpan|undefined,\n public valueSpan: ParseSourceSpan|undefined) {\n this.isLiteral = this.type === ParsedPropertyType.LITERAL_ATTR;\n this.isAnimation = this.type === ParsedPropertyType.ANIMATION;\n }\n}\n\nexport enum ParsedPropertyType {\n DEFAULT,\n LITERAL_ATTR,\n ANIMATION\n}\n\nexport const enum ParsedEventType {\n // DOM or Directive event\n Regular,\n // Animation specific event\n Animation,\n}\n\nexport class ParsedEvent {\n // Regular events have a target\n // Animation events have a phase\n constructor(\n public name: string, public targetOrPhase: string, public type: ParsedEventType,\n public handler: ASTWithSource, public sourceSpan: ParseSourceSpan,\n public handlerSpan: ParseSourceSpan)
{}\n}\n\n/**\n * ParsedVariable represents a variable declaration in a microsyntax expression.\n */\nexport class ParsedVariable {\n constructor(\n public readonly name: string, public readonly value: string,\n public readonly sourceSpan: ParseSourceSpan, public readonly keySpan: ParseSourceSpan,\n public readonly valueSpan?: ParseSourceSpan) {}\n}\n\nexport const enum BindingType {\n // A regular binding to a property (e.g. `[property]=\"expression\"`).\n Property,\n // A binding to an element attribute (e.g. `[attr.name]=\"expression\"`).\n Attribute,\n // A binding to a CSS class (e.g. `[class.name]=\"condition\"`).\n Class,\n // A binding to a style rule (e.g. `[style.rule]=\"expression\"`).\n Style,\n // A binding to an animation reference (e.g. `[animate.key]=\"expression\"`).\n Animation,\n}\n\nexport class BoundElementProperty {\n constructor(\n public name: string, public type: BindingType, public securityContext: SecurityContext,\n public value: ASTWithSource, public unit: string|null, public sourceSpan: ParseSourceSpan,\n readonly keySpan: ParseSourceSpan|undefined, public valueSpan: ParseSourceSpan|undefined) {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as cdAst from '../expression_parser/ast';\nimport {Identifiers} from '../identifiers';\nimport * as o from '../output/output_ast';\nimport {ParseSourceSpan} from '../parse_util';\n\nexport class EventHandlerVars {\n static event = o.variable('$event');\n}\n\nexport interface LocalResolver {\n getLocal(name: string): o.Expression|null;\n notifyImplicitReceiverUse(): void;\n globals?: Set<string>;\n}\n\nexport class ConvertActionBindingResult {\n /**\n * Store statements which are render3 compatible.\n */\n render3Stmts: o.Statement[];\n constructor(\n /**\n
* Render2 compatible statements,\n */\n public stmts: o.Statement[],\n /**\n * Variable name used with render2 compatible statements.\n */\n public allowDefault: o.ReadVarExpr) {\n /**\n * This is bit of a hack. It converts statements which render2 expects to statements which are\n * expected by render3.\n *\n * Example: `<div click=\"doSomething($event)\">` will generate:\n *\n * Render3:\n * ```\n * const pd_b:any = ((<any>ctx.doSomething($event)) !== false);\n * return pd_b;\n * ```\n *\n * but render2 expects:\n * ```\n * return ctx.doSomething($event);\n * ```\n */\n // TODO(misko): remove this hack once we no longer support ViewEngine.\n this.render3Stmts = stmts.map((statement: o.Statement) => {\n if (statement instanceof o.DeclareVarStmt && statement.name == allowDefault.name &&\n statement.value instanceof o.BinaryOperatorExpr) {\n const lhs = statement.value.lhs as o.CastExpr;\n return new o.ReturnStatement(lhs.value);\n }\n return statement;\n });\n }\n}\n\nexport type InterpolationFunction = (args: o.Expression[]) => o.Expression;\n\n/**\n * Converts the given expression AST into an executable output AST, assuming the expression is\n * used in an action binding (e.g. an event handler).\n */\nexport function convertActionBinding(\n localResolver: LocalResolver|null, implicitReceiver: o.Expression, action: cdAst.AST,\n bindingId: string, interpolationFunction?: InterpolationFunction,\n baseSourceSpan?: ParseSourceSpan, implicitReceiverAccesses?: Set<string>,\n globals?: Set<string>): ConvertActionBindingResult {\n if (!localResolver) {\n localResolver = new DefaultLocalResolver(globals);\n }\n const actionWithoutBuiltins = convertPropertyBindingBuiltins(\n {\n createLiteralArrayConverter: (argCount: number) => {\n // Note: no caching for literal arrays in actions.\n
```

```
return (args: o.Expression[]) => o.literalArr(args);\n },\n createLiteralMapConverter: (keys: {key: string, quoted: boolean}[]) => {\n // Note: no caching for literal maps in actions.\n return (values: o.Expression[]) => {\n const entries = keys.map((k, i) => ({\n key: k.key,\n value: values[i],\n quoted: k.quoted,\n }));\n return o.literalMap(entries);\n };\n },\n createPipeConverter: (name: string) => {\n throw new Error(`Illegal State: Actions are not allowed to contain pipes. Pipe: ${name}`);\n }\n },\n action);\n\nconst visitor = new _AstToIrVisitor(\n localResolver, implicitReceiver, bindingId, interpolationFunction, baseSourceSpan,\n implicitReceiverAccesses);\n const actionStmts: o.Statement[] = [];\n flattenStatements(actionWithoutBuiltins.visit(visitor, _Mode.Statement), actionStmts);\n prependTemporaryDecls(visitor.temporaryCount, bindingId, actionStmts);\n\nif (visitor.usesImplicitReceiver) {\n localResolver.notifyImplicitReceiverUse();\n }\n\n const lastIndex = actionStmts.length - 1;\n let preventDefaultVar: o.ReadVarExpr = null!;\n if (lastIndex >= 0) {\n const lastStatement = actionStmts[lastIndex];\n const returnExpr = convertStmtIntoExpression(lastStatement);\n if (returnExpr) {\n // Note: We need to cast the result of the method call to dynamic,\n // as it might be a void method!\n preventDefaultVar = createPreventDefaultVar(bindingId);\n actionStmts[lastIndex] =\n preventDefaultVar.set(returnExpr.cast(o.DYNAMIC_TYPE).notIdentical(o.literal(false)))\n .toDeclStmt(null, [o.StmtModifier.Final]);\n }\n }\n return new ConvertActionBindingResult(actionStmts, preventDefaultVar);\n}\n\nexport interface BuiltinConverter {\n (args: o.Expression[]): o.Expression;\n}\n\nexport interface BuiltinConverterFactory {\n createLiteralArrayConverter(argCount: number): BuiltinConverter;\n createLiteralMapConverter(keys: {key: string, quoted: boolean}[]): BuiltinConverter;\n createPipeConverter(name: string, argCount: number): BuiltinConverter;\n}\n\nexport function convertPropertyBindingBuiltins(\n converterFactory: BuiltinConverterFactory, ast: cdAst.AST): cdAst.AST {\n return convertBuiltins(converterFactory, ast);\n}\n\nexport class ConvertPropertyBindingResult {\n constructor(public stmts: o.Statement[], public currValExpr: o.Expression) {}\n}\n\nexport enum BindingForm {\n // The general form of binding expression, supports all expressions.\n General,\n\n // Try to generate a simple binding (no temporaries or statements)\n // otherwise generate a general binding\n TrySimple,\n\n // Inlines assignment of temporaries into the generated expression. The result may still\n // have statements attached for declarations of temporary variables.\n // This is the only relevant form for Ivy, the other forms are only used in ViewEngine.\n Expression,\n}\n\n/**\n * Converts the given expression AST into an executable output AST, assuming the expression\n * is used in property binding. The expression has to be preprocessed via\n * `convertPropertyBindingBuiltins`.\n */\nexport function convertPropertyBinding(\n localResolver: LocalResolver|null, implicitReceiver: o.Expression,\n expressionWithoutBuiltins: cdAst.AST, bindingId: string, form: BindingForm,\n interpolationFunction?: InterpolationFunction): ConvertPropertyBindingResult {\n if (!localResolver) {\n localResolver = new DefaultLocalResolver();\n }\n const visitor =\n new _AstToIrVisitor(localResolver, implicitReceiver, bindingId, interpolationFunction);\n const outputExpr: o.Expression = expressionWithoutBuiltins.visit(visitor, _Mode.Expression);\n const stmts: o.Statement[] = getStatementsFromVisitor(visitor, bindingId);\n\n if (visitor.usesImplicitReceiver) {\n localResolver.notifyImplicitReceiverUse();\n }\n\n if (visitor.temporaryCount === 0 && form == BindingForm.TrySimple) {\n return new ConvertPropertyBindingResult([], outputExpr);\n } else if (form === BindingForm.Expression) {\n return new ConvertPropertyBindingResult(stmts, outputExpr);\n }\n\n const currValExpr = createCurrValueExpr(bindingId);\n stmts.push(currValExpr.set(outputExpr).toDeclStmt(o.DYNAMIC_TYPE, [o.StmtModifier.Final]));\n return new ConvertPropertyBindingResult(stmts, currValExpr);\n}\n\n/**\n * Given some expression, such as a binding or interpolation expression, and a context expression to\n * look values up on, visit each facet of the given expression resolving values from the context\n * expression such that a list of arguments can be derived from the found values that can be used as\n * arguments to an external update instruction.\n *\n * @param localResolver The resolver to use to look up
```

expressions by name appropriately\n * @param contextVariableExpression The expression representing the context variable used to create\n * the final argument expressions\n * @param expressionWithArgumentsToExtract The expression to visit to figure out what values need to\n * be resolved and what arguments list to build.\n * @param bindingId A name prefix used to create temporary variable names if they're needed for the\n * arguments generated\n * @returns An array of expressions that can be passed as arguments to instruction expressions like\n * `o.importExpr(R3.propertyInterpolate).callFn(result)`\n */\nexport function convertUpdateArguments(\n localResolver: LocalResolver, contextVariableExpression: o.Expression,\n expressionWithArgumentsToExtract: cdAst.AST, bindingId: string) {\n const visitor =\n new _AstToIrVisitor(localResolver, contextVariableExpression, bindingId, undefined);\n const outputExpr: o.InvokeFunctionExpr =\n expressionWithArgumentsToExtract.visit(visitor, _Mode.Expression);\n\n if (visitor.usesImplicitReceiver) {\n localResolver.notifyImplicitReceiverUse();\n }\n\n const stmts = getStatementsFromVisitor(visitor, bindingId);\n\n // Removing the first argument, because it was a length for ViewEngine, not Ivy.\n let args = outputExpr.args.slice(1);\n if (expressionWithArgumentsToExtract instanceof cdAst.Interpolation) {\n // If we're dealing with an interpolation of 1 value with an empty prefix and suffix, reduce the\n // args returned to just the value, because we're going to pass it to a special instruction.\n const strings = expressionWithArgumentsToExtract.strings;\n if (args.length === 3 && strings[0] === '' && strings[1] === '') {\n // Single argument interpolate instructions.\n args = [args[1]];\n } else if (args.length >= 19) {\n // 19 or more arguments must be passed to the `interpolateV`-style instructions, which accept\n // an array of arguments\n args = [o.literalArr(args)];\n }\n }\n return {stmts, args};\n}\n\nfunction getStatementsFromVisitor(visitor: _AstToIrVisitor, bindingId: string) {\n const stmts: o.Statement[] = [];\n for (let i = 0; i < visitor.temporaryCount; i++) {\n stmts.push(temporaryDeclaration(bindingId, i));\n }\n return stmts;\n}\n\nfunction convertBuiltins(converterFactory: BuiltinConverterFactory, ast: cdAst.AST): cdAst.AST {\n const visitor = new _BuiltinAstConverter(converterFactory);\n return ast.visit(visitor);\n}\n\nfunction temporaryName(bindingId: string, temporaryNumber: number): string {\n return `tmp_${bindingId}_${temporaryNumber}`;\n}\n\nexport function temporaryDeclaration(bindingId: string, temporaryNumber: number): o.Statement {\n return new o.DeclareVarStmt(temporaryName(bindingId, temporaryNumber), o.NULL_EXPR);\n}\n\nfunction prependTemporaryDecls(\n temporaryCount: number, bindingId: string, statements: o.Statement[]) {\n for (let i = temporaryCount - 1; i >= 0; i--) {\n statements.unshift(temporaryDeclaration(bindingId, i));\n }\n}\n\nenum _Mode {\n Statement,\n Expression\n}\n\nfunction ensureStatementMode(mode: _Mode, ast: cdAst.AST) {\n if (mode !== _Mode.Statement) {\n throw new Error(`Expected a statement, but saw ${ast}`);\n }\n}\n\nfunction ensureExpressionMode(mode: _Mode, ast: cdAst.AST) {\n if (mode !== _Mode.Expression) {\n throw new Error(`Expected an expression, but saw ${ast}`);\n }\n}\n\nfunction convertToStatementIfNeeded(mode: _Mode, expr: o.Expression): o.Expression|o.Statement {\n if (mode === _Mode.Statement) {\n return expr.toStmt();\n } else {\n return expr;\n }\n}\n\nclass _BuiltinAstConverter extends cdAst.AstTransformer {\n constructor(private _converterFactory: BuiltinConverterFactory) {\n super();\n }\n visitPipe(ast: cdAst.BindingPipe, context: any): any {\n const args = [ast.exp, ...ast.args].map(ast => ast.visit(this, context));\n return new BuiltinFunctionCall(\n ast.span, ast.sourceSpan, args,\n this._converterFactory.createPipeConverter(ast.name, args.length));\n }\n visitLiteralArray(ast: cdAst.LiteralArray, context: any): any {\n const args = ast.expressions.map(ast => ast.visit(this, context));\n return new BuiltinFunctionCall(\n ast.span, ast.sourceSpan, args,\n this._converterFactory.createLiteralArrayConverter(ast.expressions.length));\n }\n visitLiteralMap(ast: cdAst.LiteralMap, context: any): any {\n const args = ast.values.map(ast => ast.visit(this, context));\n\n return new BuiltinFunctionCall(\n ast.span, ast.sourceSpan, args,\n this._converterFactory.createLiteralMapConverter(ast.keys));\n }\n}\n\nclass _AstToIrVisitor implements cdAst.AstVisitor {\n private _nodeMap = new Map<cdAst.AST, cdAst.AST>();\n private _resultMap = new Map<cdAst.AST, o.Expression>();\n private _currentTemporary: number = 0;\n public temporaryCount: number = 0;\n public usesImplicitReceiver: boolean = false;\n\n constructor(\n private

```
 _localResolver: LocalResolver, private _implicitReceiver: o.Expression,\n      private bindingId: string, private interpolationFunction: InterpolationFunction|undefined,\n      private baseSourceSpan?: ParseSourceSpan, private implicitReceiverAccesses?: Set<string>) {}\n\n  visitUnary(ast: cdAst.Unary, mode: _Mode): any {\n    let op: o.UnaryOperator;\n    switch (ast.operator) {\n      case '+':\n        op = o.UnaryOperator.Plus;\n        break;\n      case '-':\n        op = o.UnaryOperator.Minus;\n        break;\n      default:\n        throw new Error(`Unsupported operator ${ast.operator}`);\n    }\n\n    return convertToStatementIfNeeded(\n        mode,\n        new o.UnaryOperatorExpr(\n            op, this._visit(ast.expr, _Mode.Expression), undefined,\n            this.convertSourceSpan(ast.span)));\n  }\n\n  visitBinary(ast: cdAst.Binary, mode: _Mode): any {\n    let op: o.BinaryOperator;\n    switch (ast.operation) {\n      case '+':\n        op = o.BinaryOperator.Plus;\n        break;\n      case '-':\n        op = o.BinaryOperator.Minus;\n        break;\n      case '*':\n        op = o.BinaryOperator.Multiply;\n        break;\n      case '/':\n        op = o.BinaryOperator.Divide;\n        break;\n      case '%':\n        op = o.BinaryOperator.Modulo;\n        break;\n      case '&&':\n        op = o.BinaryOperator.And;\n        break;\n      case '||':\n        op = o.BinaryOperator.Or;\n        break;\n      case '==':\n        op = o.BinaryOperator.Equals;\n        break;\n      case '!=':\n        op = o.BinaryOperator.NotEquals;\n        break;\n      case '===':\n        op = o.BinaryOperator.Identical;\n        break;\n      case '!==':\n        op = o.BinaryOperator.NotIdentical;\n        break;\n      case '<':\n        op = o.BinaryOperator.Lower;\n        break;\n      case '>':\n        op = o.BinaryOperator.Bigger;\n        break;\n      case '<=':\n        op = o.BinaryOperator.LowerEquals;\n        break;\n      case '>=':\n        op = o.BinaryOperator.BiggerEquals;\n        break;\n      default:\n        throw new Error(`Unsupported operation ${ast.operation}`);\n    }\n\n    return convertToStatementIfNeeded(\n        mode,\n        new o.BinaryOperatorExpr(\n            op, this._visit(ast.left, _Mode.Expression), this._visit(ast.right, _Mode.Expression),\n            undefined, this.convertSourceSpan(ast.span)));\n  }\n\n  visitChain(ast: cdAst.Chain, mode: _Mode): any {\n    ensureStatementMode(mode, ast);\n    return this.visitAll(ast.expressions, mode);\n  }\n\n  visitConditional(ast: cdAst.Conditional, mode: _Mode): any {\n    const value: o.Expression = this._visit(ast.condition, _Mode.Expression);\n    return convertToStatementIfNeeded(\n        mode,\n        value.conditional(\n            this._visit(ast.trueExp, _Mode.Expression), this._visit(ast.falseExp, _Mode.Expression),\n            this.convertSourceSpan(ast.span)));\n  }\n\n  visitPipe(ast: cdAst.BindingPipe, mode: _Mode): any {\n    throw new Error(\n        `Illegal state: Pipes should have been converted into functions. Pipe: ${ast.name}`);\n  }\n\n  visitFunctionCall(ast: cdAst.FunctionCall, mode: _Mode): any {\n    const convertedArgs = this.visitAll(ast.args, _Mode.Expression);\n    let fnResult: o.Expression;\n    if (ast instanceof BuiltinFunctionCall) {\n      fnResult = ast.converter(convertedArgs);\n    } else {\n      fnResult = this._visit(ast.target!, _Mode.Expression)\n                     .callFn(convertedArgs, this.convertSourceSpan(ast.span));\n    }\n    return convertToStatementIfNeeded(mode, fnResult);\n  }\n\n  visitImplicitReceiver(ast: cdAst.ImplicitReceiver, mode: _Mode): any {\n    ensureExpressionMode(mode, ast);\n    this.usesImplicitReceiver = true;\n    return this._implicitReceiver;\n  }\n\n  visitThisReceiver(ast: cdAst.ThisReceiver, mode: _Mode): any {\n    return this.visitImplicitReceiver(ast, mode);\n  }\n\n  visitInterpolation(ast: cdAst.Interpolation, mode: _Mode): any {\n    ensureExpressionMode(mode, ast);\n    const args = [o.literal(ast.expressions.length)];\n    for (let i = 0; i < ast.strings.length - 1; i++) {\n      args.push(o.literal(ast.strings[i]));\n      args.push(this._visit(ast.expressions[i], _Mode.Expression));\n    }\n    args.push(o.literal(ast.strings[ast.strings.length - 1]));\n\n    if (this.interpolationFunction) {\n      return this.interpolationFunction(args);\n    }\n    return ast.expressions.length <= 9 ?\n        o.importExpr(Identifiers.inlineInterpolate).callFn(args) :\n        o.importExpr(Identifiers.interpolate).callFn([\n          args[0], o.literalArr(args.slice(1), undefined, this.convertSourceSpan(ast.span))\n        ]);\n  }\n\n  visitKeyedRead(ast: cdAst.KeyedRead, mode: _Mode): any {\n    const leftMostSafe = this.leftMostSafeNode(ast);\n    if (leftMostSafe) {\n      return this.convertSafeAccess(ast, leftMostSafe, mode);\n    } else {\n      return convertToStatementIfNeeded(\n          mode, this._visit(ast.obj, _Mode.Expression).key(this._visit(ast.key,
```

```
_Mode.Expression)));\n    }\n  }\n\n  visitKeyedWrite(ast: cdAst.KeyedWrite, mode: _Mode): any {\n    const obj: o.Expression = this._visit(ast.obj, _Mode.Expression);\n    const key: o.Expression = this._visit(ast.key, _Mode.Expression);\n    const value: o.Expression = this._visit(ast.value, _Mode.Expression);\n    return convertToStatementIfNeeded(mode, obj.key(key).set(value));\n  }\n\n  visitLiteralArray(ast: cdAst.LiteralArray, mode: _Mode): any {\n    throw new Error(`Illegal State: literal arrays should have been converted into functions`);\n  }\n\n  visitLiteralMap(ast: cdAst.LiteralMap, mode: _Mode): any {\n    throw new Error(`Illegal State: literal maps should have been converted into functions`);\n  }\n\n  visitLiteralPrimitive(ast: cdAst.LiteralPrimitive, mode: _Mode): any {\n    // For literal values of null, undefined, true, or false allow type interference\n    // to infer the type.\n    const type =\n        ast.value === null || ast.value === undefined || ast.value === true || ast.value === true ?\n        o.INFERRED_TYPE :\n        undefined;\n    return convertToStatementIfNeeded(\n        mode, o.literal(ast.value, type, this.convertSourceSpan(ast.span)));\n  }\n\n  private _getLocal(name: string, receiver: cdAst.AST): o.Expression|null {\n    if (this._localResolver.globals?.has(name) && receiver instanceof cdAst.ThisReceiver) {\n      return null;\n    }\n\n    return this._localResolver.getLocal(name);\n  }\n\n  visitMethodCall(ast: cdAst.MethodCall, mode: _Mode): any {\n    if (ast.receiver instanceof cdAst.ImplicitReceiver &&\n        !(ast.receiver instanceof cdAst.ThisReceiver) && ast.name === '$any') {\n      const args = this.visitAll(ast.args, _Mode.Expression) as any[];\n      if (args.length != 1) {\n        throw new Error(\n            `Invalid call to $any, expected 1 argument but received ${args.length || 'none'}`);\n      }\n      return (args[0] as o.Expression).cast(o.DYNAMIC_TYPE, this.convertSourceSpan(ast.span));\n    }\n\n    const leftMostSafe = this.leftMostSafeNode(ast);\n    if (leftMostSafe) {\n      return this.convertSafeAccess(ast, leftMostSafe, mode);\n    } else {\n      const args = this.visitAll(ast.args, _Mode.Expression);\n      const prevUsesImplicitReceiver = this.usesImplicitReceiver;\n      let result: any = null;\n      const receiver = this._visit(ast.receiver, _Mode.Expression);\n      if (receiver === this._implicitReceiver) {\n        const varExpr = this._getLocal(ast.name, ast.receiver);\n        if (varExpr) {\n          // Restore the previous \"usesImplicitReceiver\" state since the implicit\n          // receiver has been replaced with a resolved local expression.\n          this.usesImplicitReceiver = prevUsesImplicitReceiver;\n          result = varExpr.callFn(args);\n        } else {\n          this.addImplicitReceiverAccess(ast.name);\n        }\n      }\n      if (result == null) {\n        result = receiver.callMethod(ast.name, args, this.convertSourceSpan(ast.span));\n      }\n      return convertToStatementIfNeeded(mode, result);\n    }\n  }\n\n  visitPrefixNot(ast: cdAst.PrefixNot, mode: _Mode): any {\n    return convertToStatementIfNeeded(mode, o.not(this._visit(ast.expression, _Mode.Expression)));\n  }\n\n  visitNonNullAssert(ast: cdAst.NonNullAssert, mode: _Mode): any {\n    return convertToStatementIfNeeded(\n        mode, o.assertNotNull(this._visit(ast.expression, _Mode.Expression)));\n  }\n\n  visitPropertyRead(ast: cdAst.PropertyRead, mode: _Mode): any {\n    const leftMostSafe = this.leftMostSafeNode(ast);\n    if (leftMostSafe) {\n      return this.convertSafeAccess(ast, leftMostSafe, mode);\n    } else {\n      let result: any = null;\n      const prevUsesImplicitReceiver = this.usesImplicitReceiver;\n      const receiver = this._visit(ast.receiver, _Mode.Expression);\n      if (receiver === this._implicitReceiver) {\n        result = this._getLocal(ast.name, ast.receiver);\n        if (result) {\n          // Restore the previous \"usesImplicitReceiver\" state since the implicit\n          // receiver has been replaced with a resolved local expression.\n          this.usesImplicitReceiver = prevUsesImplicitReceiver;\n          this.addImplicitReceiverAccess(ast.name);\n        }\n      }\n      if (result == null) {\n        result = receiver.prop(ast.name);\n      }\n      return convertToStatementIfNeeded(mode, result);\n    }\n  }\n\n  visitPropertyWrite(ast: cdAst.PropertyWrite, mode: _Mode): any {\n    const receiver: o.Expression = this._visit(ast.receiver, _Mode.Expression);\n    const prevUsesImplicitReceiver = this.usesImplicitReceiver;\n\n    let varExpr: o.ReadPropExpr|null = null;\n    if (receiver === this._implicitReceiver) {\n      const localExpr = this._getLocal(ast.name, ast.receiver);\n      if (localExpr) {\n        if (localExpr instanceof o.ReadPropExpr) {\n          // If the local variable is a property read expression, it's a reference\n          // to a 'context.property' value and will be used as the target of the\n          // write expression.\n          varExpr = localExpr;\n          // Restore the previous \"usesImplicitReceiver\" state since the implicit\n          // receiver has been replaced with a resolved local
```

```
expression.\n          this.usesImplicitReceiver = prevUsesImplicitReceiver;\n
this.addImplicitReceiverAccess(ast.name);\n        } else {\n          // Otherwise it's an error.\n          const receiver =
ast.name;\n          const value = (ast.value instanceof cdAst.PropertyRead) ? ast.value.name : undefined;\n
throw new Error(`Cannot assign value \"${value}\" to template variable \"${\n              receiver}\". Template
variables are read-only.`);\n        }\n      }\n    }\n    // If no local expression could be produced, use the original
receiver's\n    // property as the target.\n    if (varExpr === null) {\n      varExpr = receiver.prop(ast.name);\n    }\n
return convertToStatementIfNeeded(mode, varExpr.set(this._visit(ast.value,
 _Mode.Expression)));\n  }\n\n  visitSafePropertyRead(ast: cdAst.SafePropertyRead, mode: _Mode): any {\n
return this.convertSafeAccess(ast, this.leftMostSafeNode(ast), mode);\n  }\n\n  visitSafeMethodCall(ast:
cdAst.SafeMethodCall, mode: _Mode): any {\n    return this.convertSafeAccess(ast, this.leftMostSafeNode(ast),
mode);\n  }\n\n  visitAll(asts: cdAst.AST[], mode: _Mode): any {\n    return asts.map(ast => this._visit(ast,
mode));\n  }\n\n  visitQuote(ast: cdAst.Quote, mode: _Mode): any {\n    throw new Error(`Quotes are not supported
for evaluation!\n        Statement: ${ast.uninterpretedExpression} located at ${ast.location}`);\n  }\n\n  private
_visit(ast: cdAst.AST, mode: _Mode): any {\n    const result = this._resultMap.get(ast);\n    if (result) return result;\n
  return (this._nodeMap.get(ast) || ast).visit(this, mode);\n  }\n\n  private convertSafeAccess(\n      ast: cdAst.AST,
leftMostSafe: cdAst.SafeMethodCall|cdAst.SafePropertyRead, mode: _Mode): any
 {\n    // If the expression contains a safe access node on the left it needs to be converted to\n    // an expression that
guards the access to the member by checking the receiver for blank. As\n    // execution proceeds from left to right,
the left most part of the expression must be guarded\n    // first but, because member access is left associative, the
right side of the expression is at\n    // the top of the AST. The desired result requires lifting a copy of the left part of
the\n    // expression up to test it for blank before generating the unguarded version.\n\n    // Consider, for example
the following expression: a?.b.c?.d.e\n\n    // This results in the ast:\n    //         .\n    //        / \\\n    //       ?.   e\n    //
/  \\\n    //     .    d\n    //    / \\\n    //   ?.   c\n    //  /  \\\n    // a     b\n\n    // The following tree should be generated:\n
//\n    //        /---- ? ----\\\n    //       /     |      \\\n    //      a   /--- ? ---\\  null\n
//       /     |     \\\n    //      .      .     null\n    //     / \\    / \\\n    //    . c    .   e\n    //   / \\    / \\\n    //  a   b  .    d\n    //
/ \\\n    //       .    c\n    //      / \\\n    //     a    b\n    //\n    // Notice that the first guard condition is the left hand of the
left most safe access node\n    // which comes in as leftMostSafe to this routine.\n\n    let guardedExpression =
this._visit(leftMostSafe.receiver, _Mode.Expression);\n    let temporary: o.ReadVarExpr = undefined!;\n    if
(this.needsTemporary(leftMostSafe.receiver)) {\n      // If the expression has method calls or pipes then we need to
save the result into a\n      // temporary variable to avoid calling stateful or impure code more than once.\n
temporary = this.allocateTemporary();\n\n      // Preserve the result in the temporary variable\n
guardedExpression = temporary.set(guardedExpression);\n\n      // Ensure all further references to the guarded
expression refer
 to the temporary instead.\n      this._resultMap.set(leftMostSafe.receiver, temporary);\n    }\n    const condition =
guardedExpression.isBlank();\n\n    // Convert the ast to an unguarded access to the receiver's member. The map will
substitute\n    // leftMostNode with its unguarded version in the call to `this.visit()`.\n    if (leftMostSafe instanceof
cdAst.SafeMethodCall) {\n      this._nodeMap.set(\n          leftMostSafe,\n          new cdAst.MethodCall(\n
leftMostSafe.span, leftMostSafe.sourceSpan, leftMostSafe.nameSpan,\n              leftMostSafe.receiver,
leftMostSafe.name, leftMostSafe.args));\n    } else {\n      this._nodeMap.set(\n          leftMostSafe,\n          new
cdAst.PropertyRead(\n              leftMostSafe.span, leftMostSafe.sourceSpan, leftMostSafe.nameSpan,\n
leftMostSafe.receiver, leftMostSafe.name));\n    }\n\n    // Recursively convert the node now without the guarded
member access.\n    const access = this._visit(ast, _Mode.Expression);\n\n
    // Remove the mapping. This is not strictly required as the converter only traverses each node\n    // once but is
safer if the conversion is changed to traverse the nodes more than once.\n    this._nodeMap.delete(leftMostSafe);\n\n
  // If we allocated a temporary, release it.\n    if (temporary) {\n      this.releaseTemporary(temporary);\n    }\n\n    //
Produce the conditional\n    return convertToStatementIfNeeded(mode, condition.conditional(o.literal(null),
access));\n  }\n\n  // Given an expression of the form a?.b.c?.d.e then the left most safe node is\n  // the (a?.b). The .
and ?. are left associative thus can be rewritten as:\n  // ((((a?.c).b).c)?.d).e. This returns the most deeply nested safe
```

read or\n  // safe method call as this needs to be transformed initially to:\n  //   a == null ? null : a.c.b.c?.d.e\n  // then to:\n  //   a == null ? null : a.b.c == null ? null : a.b.c.d.e\n  private leftMostSafeNode(ast: cdAst.AST): cdAst.SafePropertyRead|cdAst.SafeMethodCall
 {\n    const visit = (visitor: cdAst.AstVisitor, ast: cdAst.AST): any => {\n      return (this._nodeMap.get(ast) || ast).visit(visitor);\n    };\n    return ast.visit({\n      visitUnary(ast: cdAst.Unary) {\n        return null;\n      },\n      visitBinary(ast: cdAst.Binary) {\n        return null;\n      },\n      visitChain(ast: cdAst.Chain) {\n        return null;\n      },\n      visitConditional(ast: cdAst.Conditional) {\n        return null;\n      },\n      visitFunctionCall(ast: cdAst.FunctionCall) {\n        return null;\n      },\n      visitImplicitReceiver(ast: cdAst.ImplicitReceiver) {\n        return null;\n      },\n      visitThisReceiver(ast: cdAst.ThisReceiver) {\n        return null;\n      },\n      visitInterpolation(ast: cdAst.Interpolation) {\n        return null;\n      },\n      visitKeyedRead(ast: cdAst.KeyedRead) {\n        return visit(this, ast.obj);\n      },\n      visitKeyedWrite(ast: cdAst.KeyedWrite) {\n        return null;\n      },\n

      visitLiteralArray(ast: cdAst.LiteralArray) {\n        return null;\n      },\n      visitLiteralMap(ast: cdAst.LiteralMap) {\n        return null;\n      },\n      visitLiteralPrimitive(ast: cdAst.LiteralPrimitive) {\n        return null;\n      },\n      visitMethodCall(ast: cdAst.MethodCall) {\n        return visit(this, ast.receiver);\n      },\n      visitPipe(ast: cdAst.BindingPipe) {\n        return null;\n      },\n      visitPrefixNot(ast: cdAst.PrefixNot) {\n        return null;\n      },\n      visitNonNullAssert(ast: cdAst.NonNullAssert) {\n        return null;\n      },\n      visitPropertyRead(ast: cdAst.PropertyRead) {\n        return visit(this, ast.receiver);\n      },\n      visitPropertyWrite(ast: cdAst.PropertyWrite) {\n        return null;\n      },\n      visitQuote(ast: cdAst.Quote) {\n        return null;\n      },\n      visitSafeMethodCall(ast: cdAst.SafeMethodCall) {\n        return visit(this, ast.receiver) || ast;\n      },\n      visitSafePropertyRead(ast: cdAst.SafePropertyRead) {\n        return visit(this, ast.receiver) || ast;\n      }\n    });\n  }\n\n  // Returns true of the AST includes a method or a pipe indicating that, if the\n  // expression is used as the target of a safe property or method access then\n  // the expression should be stored into a temporary variable.\n  private needsTemporary(ast: cdAst.AST): boolean {\n    const visit = (visitor: cdAst.AstVisitor, ast: cdAst.AST): boolean => {\n      return ast && (this._nodeMap.get(ast) || ast).visit(visitor);\n    };\n    const visitSome = (visitor: cdAst.AstVisitor, ast: cdAst.AST[]): boolean => {\n      return ast.some(ast => visit(visitor, ast));\n    };\n    return ast.visit({\n      visitUnary(ast: cdAst.Unary): boolean {\n        return visit(this, ast.expr);\n      },\n      visitBinary(ast: cdAst.Binary): boolean {\n        return visit(this, ast.left) || visit(this, ast.right);\n      },\n      visitChain(ast: cdAst.Chain) {\n        return false;\n      },\n

      visitConditional(ast: cdAst.Conditional): boolean {\n        return visit(this, ast.condition) || visit(this, ast.trueExp) || visit(this, ast.falseExp);\n      },\n      visitFunctionCall(ast: cdAst.FunctionCall) {\n        return true;\n      },\n      visitImplicitReceiver(ast: cdAst.ImplicitReceiver) {\n        return false;\n      },\n      visitThisReceiver(ast: cdAst.ThisReceiver) {\n        return false;\n      },\n      visitInterpolation(ast: cdAst.Interpolation) {\n        return visitSome(this, ast.expressions);\n      },\n      visitKeyedRead(ast: cdAst.KeyedRead) {\n        return false;\n      },\n      visitKeyedWrite(ast: cdAst.KeyedWrite) {\n        return false;\n      },\n      visitLiteralArray(ast: cdAst.LiteralArray) {\n        return true;\n      },\n      visitLiteralMap(ast: cdAst.LiteralMap) {\n        return true;\n      },\n      visitLiteralPrimitive(ast: cdAst.LiteralPrimitive) {\n        return false;\n      },\n      visitMethodCall(ast: cdAst.MethodCall)
 {\n        return true;\n      },\n      visitPipe(ast: cdAst.BindingPipe) {\n        return true;\n      },\n      visitPrefixNot(ast: cdAst.PrefixNot) {\n        return visit(this, ast.expression);\n      },\n      visitNonNullAssert(ast: cdAst.PrefixNot) {\n        return visit(this, ast.expression);\n      },\n      visitPropertyRead(ast: cdAst.PropertyRead) {\n        return false;\n      },\n      visitPropertyWrite(ast: cdAst.PropertyWrite) {\n        return false;\n      },\n      visitQuote(ast: cdAst.Quote) {\n        return false;\n      },\n      visitSafeMethodCall(ast: cdAst.SafeMethodCall) {\n        return true;\n      },\n      visitSafePropertyRead(ast: cdAst.SafePropertyRead) {\n        return false;\n      }\n    });\n  }\n\n  private allocateTemporary(): o.ReadVarExpr {\n    const tempNumber = this._currentTemporary++;\n    this.temporaryCount = Math.max(this._currentTemporary, this.temporaryCount);\n    return new o.ReadVarExpr(temporaryName(this.bindingId, tempNumber));\n

}\n\n private releaseTemporary(temporary: o.ReadVarExpr) {\n this._currentTemporary--;\n if (temporary.name != temporaryName(this.bindingId, this._currentTemporary)) {\n throw new Error(`Temporary ${temporary.name} released out of order`);\n }\n }\n\n /**\n * Creates an absolute `ParseSourceSpan` from the relative `ParseSpan`.\n *\n * `ParseSpan` objects are relative to the start of the expression.\n * This method converts these to full `ParseSourceSpan` objects that\n * show where the span is within the overall source file.\n *\n * @param span the relative span to convert.\n * @returns a `ParseSourceSpan` for the given span or null if no\n * `baseSourceSpan` was provided to this class.\n */\n private convertSourceSpan(span: cdAst.ParseSpan) {\n if (this.baseSourceSpan) {\n const start = this.baseSourceSpan.start.moveBy(span.start);\n const end = this.baseSourceSpan.start.moveBy(span.end);\n const fullStart = this.baseSourceSpan.fullStart.moveBy(span.start);\n return new ParseSourceSpan(start, end, fullStart);\n } else {\n return null;\n }\n }\n\n /** Adds the name of an AST to the list of implicit receiver accesses. */\n private addImplicitReceiverAccess(name: string) {\n if (this.implicitReceiverAccesses) {\n this.implicitReceiverAccesses.add(name);\n }\n }\n}\n\nfunction flattenStatements(arg: any, output: o.Statement[]) {\n if (Array.isArray(arg)) {\n (<any[]>arg).forEach((entry) => flattenStatements(entry, output));\n } else {\n output.push(arg);\n }\n}\n\nclass DefaultLocalResolver implements LocalResolver {\n constructor(public globals?: Set<string>) {}\n notifyImplicitReceiverUse(): void {}\n getLocal(name: string): o.Expression|null {\n if (name === EventHandlerVars.event.name) {\n return EventHandlerVars.event;\n }\n return null;\n }\n}\n\nfunction createCurrValueExpr(bindingId: string): o.ReadVarExpr {\n return o.variable(`currVal_${bindingId}`);
// fix syntax highlighting: `\n}\n\nfunction createPreventDefaultVar(bindingId: string): o.ReadVarExpr {\n return o.variable(`pd_${bindingId}`);\n}\n\nfunction convertStmtIntoExpression(stmt: o.Statement): o.Expression|null {\n if (stmt instanceof o.ExpressionStatement) {\n return stmt.expr;\n } else if (stmt instanceof o.ReturnStatement) {\n return stmt.value;\n }\n return null;\n}\n\nexport class BuiltinFunctionCall extends cdAst.FunctionCall {\n constructor(\n span: cdAst.ParseSpan, sourceSpan: cdAst.AbsoluteSourceSpan, public args: cdAst.AST[],\n public converter: BuiltinConverter) {\n super(span, sourceSpan, null, args);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * This file is a port of shadowCSS from webcomponents.js to TypeScript.\n *\n * Please make
sure to keep to edits in sync with the source file.\n *\n * Source:\n * https://github.com/webcomponents/webcomponentsjs/blob/4efecd7e0e/src/ShadowCSS/ShadowCSS.js\n *\n * The original file level comment is reproduced below\n */\n\n/*\n This is a limited shim for ShadowDOM css styling.\n https://dvcs.w3.org/hg/webcomponents/raw-file/tip/spec/shadow/index.html#styles\n\n The intention here is to support only the styling features which can be\n relatively simply implemented. The goal is to allow users to avoid the\n most obvious pitfalls and do so without compromising performance significantly.\n For ShadowDOM styling that's not covered here, a set of best practices\n can be provided that should allow users to accomplish more complex styling.\n\n The following is a list of specific ShadowDOM styling features and a brief\n discussion of the approach used to shim.\n\n Shimmed features:\n\n * :host, :host-context: ShadowDOM allows styling of the shadowRoot's host\n element using
the :host rule. To shim this feature, the :host styles are\n reformatted and prefixed with a given scope name and promoted to a\n document level stylesheet.\n For example, given a scope name of .foo, a rule like this:\n\n :host {\n background: red;\n }\n }\n\n becomes:\n\n .foo {\n background: red;\n }\n\n * encapsulation: Styles defined within ShadowDOM, apply only to\n dom inside the ShadowDOM. Polymer uses one of two techniques to implement\n this feature.\n\n By default, rules are prefixed with the host element tag name\n as a descendant selector. This ensures styling does not leak out of the 'top'\n of the element's ShadowDOM. For example,\n\n div {\n font-weight: bold;\n }\n\n becomes:\n\n x-foo div {\n font-weight: bold;\n }\n\n becomes:\n\n\n Alternatively, if WebComponents.ShadowCSS.strictStyling is set to true then\n selectors are scoped by adding an attribute selector suffix to each\n simple selector that contains

the host element tag name. Each element\n in the element's ShadowDOM template is also given the scope attribute.\n Thus, these rules match only elements that have the scope attribute.\n For example, given a scope name of x-foo, a rule like this:\n\n div {\n font-weight: bold;\n }\n\n becomes:\n\n div[x-foo] {\n font-weight: bold;\n }\n\n Note that elements that are dynamically added to a scope must have the scope\n selector added to them manually.\n\n * upper/lower bound encapsulation: Styles which are defined outside a\n shadowRoot should not cross the ShadowDOM boundary and should not apply\n inside a shadowRoot.\n\n This styling behavior is not emulated. Some possible ways to do this that\n were rejected due to complexity and/or performance concerns include: (1) reset\n every possible property for every possible selector for a given scope name;\n (2) re-implement css in javascript.\n\n As an alternative, users should make sure to use selectors\n specific to the scope in which they are working.\n\n * ::distributed: This behavior is not emulated. It's often not necessary\n to style the contents of a specific insertion point and instead, descendants\n of the host element can be styled selectively. Users can also create an\n extra node around an insertion point and style that node's contents\n via descendent selectors. For example, with a shadowRoot like this:\n\n <style>\n ::content(div) {\n background: red;\n }\n </style>\n <content></content>\n\n could become:\n\n <style>\n / *@polyfill .content-container div * /\n ::content(div) {\n background: red;\n }\n </style>\n <div class=\"content-container\">\n <content></content>\n \n\n Note the use of @polyfill in the comment above a ShadowDOM specific style\n declaration. This is a directive to the styling shim to use the selector\n in comments in lieu of the next selector when running under polyfill.\n*/\n\nexport
class ShadowCss {\n strictStyling: boolean = true;\n\n constructor() {}\n\n /*\n * Shim some cssText with the given selector. Returns cssText that can\n * be included in the document via WebComponents.ShadowCSS.addCssToDocument(css).\n *\n * When strictStyling is true:\n * - selector is the attribute added to all elements inside the host,\n * - hostSelector is the attribute added to the host itself.\n */\n shimCssText(cssText: string, selector: string, hostSelector: string = ''): string {\n const commentsWithHash = extractCommentsWithHash(cssText);\n cssText = stripComments(cssText);\n cssText = this._insertDirectives(cssText);\n\n const scopedCssText = this._scopeCssText(cssText, selector, hostSelector);\n return [scopedCssText, ...commentsWithHash].join('\\n');\n }\n\n private _insertDirectives(cssText: string): string {\n cssText = this._insertPolyfillDirectivesInCssText(cssText);\n return this._insertPolyfillRulesInCssText(cssText);\n
}\n\n /*\n * Process styles to convert native ShadowDOM rules that will trip\n * up the css parser; we rely on decorating the stylesheet with inert rules.\n *\n * For example, we convert this rule:\n *\n * polyfill-next-selector { content: ':host menu-item'; }\n * ::content menu-item {\n *\n * to this:\n *\n * scopeName menu-item {\n *\n **/\n private _insertPolyfillDirectivesInCssText(cssText: string): string {\n // Difference with webcomponents.js: does not handle comments\n return cssText.replace(_cssContentNextSelectorRe, function(...m: string[]) {\n return m[2] + '{';\n });\n }\n\n /*\n * Process styles to add rules which will only apply under the polyfill\n *\n * For example, we convert this rule:\n *\n * polyfill-rule {\n * content: ':host menu-item';\n * ...\n * }\n *\n * to this:\n *\n * scopeName menu-item {...}\n *\n **/\n private _insertPolyfillRulesInCssText(cssText: string): string {\n
// Difference with webcomponents.js: does not handle comments\n return cssText.replace(_cssContentRuleRe, (...m: string[]) => {\n const rule = m[0].replace(m[1], '').replace(m[2], '');\n return m[4] + rule;\n });\n }\n\n /* Ensure styles are scoped. Pseudo-scoping takes a rule like:\n *\n * .foo {... }\n *\n * and converts this to\n *\n * scopeName .foo { ... }\n */\n private _scopeCssText(cssText: string, scopeSelector: string, hostSelector: string): string {\n const unscopedRules = this._extractUnscopedRulesFromCssText(cssText);\n // replace :host and :host-context -shadowcsshost and -shadowcsshost respectively\n cssText = this._insertPolyfillHostInCssText(cssText);\n cssText = this._convertColonHost(cssText);\n cssText = this._convertColonHostContext(cssText);\n cssText = this._convertShadowDOMSelectors(cssText);\n if (scopeSelector) {\n cssText = this._scopeSelectors(cssText, scopeSelector, hostSelector);\n }\n cssText = cssText + '\\n' + unscopedRules;\n return cssText.trim();\n }\n\n /*\n * Process styles to add rules which will only apply under the polyfill\n * and do not process via CSSOM. (CSSOM is destructive to rules on rare\n *

```
occasions, e.g. -webkit-calc on Safari.)\n   * For example, we convert this rule:\n   *\n   * @polyfill-unscoped-rule {\n   *   content: 'menu-item';\n   * ... }\n   *\n   * to this:\n   *\n   * menu-item {...}\n   *\n   **/\n  private _extractUnscopedRulesFromCssText(cssText: string): string {\n    // Difference with webcomponents.js: does not handle comments\n    let r = '';\n    let m: RegExpExecArray|null;\n    _cssContentUnscopedRuleRe.lastIndex = 0;\n while ((m = _cssContentUnscopedRuleRe.exec(cssText)) !== null) {\n      const rule = m[0].replace(m[2], '').replace(m[1], m[4]);\n      r += rule + '\\n\\n';\n    }\n    return r;\n  }\n\n  /*\n   * convert a rule like :host(.foo) > .bar { }\n   *\n   * to\n   *\n   * .foo<scopeName> > .bar\n   */\n  private _convertColonHost(cssText: string): string {\n    return this._convertColonRule(cssText, _cssColonHostRe, this._colonHostPartReplacer);\n  }\n\n  /*\n   * convert a rule like :host-context(.foo) > .bar { }\n   *\n   * to\n   *\n   * .foo<scopeName> > .bar, .foo scopeName > .bar { }\n   *\n   * and\n   *\n   * :host-context(.foo:host) .bar { ... }\n   *\n   * to\n   *\n   * .foo<scopeName> .bar { ... }\n   */\n  private _convertColonHostContext(cssText: string): string {\n    return this._convertColonRule(\n        cssText, _cssColonHostContextRe, this._colonHostContextPartReplacer);\n  }\n\n  private _convertColonRule(cssText: string, regExp: RegExp, partReplacer: Function): string {\n    // m[1] = :host(-context), m[2] = contents of (), m[3] rest of rule\n    return cssText.replace(regExp, function(...m: string[]) {\n      if (m[2]) {\n        const parts = m[2].split(',');\n        const r: string[] = [];\n        for (let i = 0; i < parts.length; i++) {\n          const p = parts[i].trim();\n          if (!p) break;\n          r.push(partReplacer(_polyfillHostNoCombinator, p, m[3]));\n        }\n        return r.join(',');\n      } else {\n        return _polyfillHostNoCombinator + m[3];\n      }\n    });\n  }\n\n  private _colonHostContextPartReplacer(host: string, part: string, suffix: string): string {\n    if (part.indexOf(_polyfillHost) > -1) {\n      return this._colonHostPartReplacer(host, part, suffix);\n    } else {\n      return host + part + suffix + ', ' + part + ' ' + host + suffix;\n    }\n  }\n\n  private _colonHostPartReplacer(host: string, part: string, suffix: string): string {\n    return host + part.replace(_polyfillHost, '') + suffix;\n  }\n\n  /*\n   * Convert combinators like ::shadow and pseudo-elements like ::content\n   * by replacing with space.\n   */\n  private _convertShadowDOMSelectors(cssText: string): string {\n    return _shadowDOMSelectorsRe.reduce((result, pattern) => result.replace(pattern, ' '), cssText);\n  }\n\n  // change a selector like 'div' to 'name div'\n  private _scopeSelectors(cssText: string, scopeSelector: string, hostSelector: string): string {\n    return processRules(cssText, (rule: CssRule) => {\n      let selector = rule.selector;\n      let content = rule.content;\n      if (rule.selector[0] != '@') {\n        selector =\n            this._scopeSelector(rule.selector, scopeSelector, hostSelector, this.strictStyling);\n      } else if (\n          rule.selector.startsWith('@media') || rule.selector.startsWith('@supports') ||\n          rule.selector.startsWith('@page') || rule.selector.startsWith('@document')) {\n        content = this._scopeSelectors(rule.content, scopeSelector, hostSelector);\n      }\n      return new CssRule(selector, content);\n    });\n  }\n\n  private _scopeSelector(\n      selector: string, scopeSelector: string, hostSelector: string, strict: boolean): string {\n    return selector.split(',')\n        .map(part => part.trim().split(_shadowDeepSelectors))\n        .map((deepParts) => {\n          const [shallowPart, ...otherParts] = deepParts;\n          const applyScope =\n              (shallowPart: string) => {\n                if (this._selectorNeedsScoping(shallowPart, scopeSelector)) {\n                  return strict ?\n                      this._applyStrictSelectorScope(shallowPart, scopeSelector, hostSelector) :\n                      this._applySelectorScope(shallowPart, scopeSelector, hostSelector);\n                } else {\n                  return shallowPart;\n                }\n              };\n          return [applyScope(shallowPart), ...otherParts].join(' ');\n        })\n        .join(', ');\n  }\n\n  private _selectorNeedsScoping(selector: string, scopeSelector: string): boolean {\n    const re = this._makeScopeMatcher(scopeSelector);\n    return !re.test(selector);\n  }\n\n  private _makeScopeMatcher(scopeSelector: string): RegExp {\n    const lre = /\\[/g;\n    const rre = /\\]/g;\n    scopeSelector = scopeSelector.replace(lre, '\\\\[').replace(rre, '\\\\]');\n    return new RegExp('^(' + scopeSelector + ')' + _selectorReSuffix, 'm');\n  }\n\n  private _applySelectorScope(selector: string, scopeSelector: string, hostSelector: string):\n      string {\n    // Difference from webcomponents.js: scopeSelector could not be an array\n    return this._applySimpleSelectorScope(selector, scopeSelector, hostSelector);\n  }\n\n  // scope via name and [is=name]\n  private _applySimpleSelectorScope(selector: string, scopeSelector: string, hostSelector: string):\n      string {\n    // In
```

Android browser, the lastIndex is not reset when the regex is used in String.replace()\n _polyfillHostRe.lastIndex = 0;\n if (_polyfillHostRe.test(selector)) {\n const replaceBy = this.strictStyling ? `[${hostSelector}]` : scopeSelector;\n return selector\n .replace(\n _polyfillHostNoCombinatorRe,\n (hnc, selector) => {\n return selector.replace(\n /([^:]*)(:*)(.*)/,\n (_: string, before: string, colon: string, after: string) => {\n return before + replaceBy + colon + after;\n });\n })\n .replace(_polyfillHostRe, replaceBy + ' ');\n }\n\n return scopeSelector + ' ' + selector;\n }\n\n // return a selector with [name] suffix on each simple selector\n // e.g. .foo.bar > .zot becomes .foo[name].bar[name] > .zot[name] /** @internal */\n private _applyStrictSelectorScope(selector: string, scopeSelector: string, hostSelector: string):\n string {\n const isRe = /\\[is=([^\\]]*)\\]/g;\n scopeSelector = scopeSelector.replace(isRe, (_: string, ...parts: string[]) => parts[0]);\n\n const attrName = '[' + scopeSelector + ']';\n\n const _scopeSelectorPart = (p: string) => {\n let scopedP = p.trim();\n\n if (!scopedP) {\n return '';\n }\n\n if (p.indexOf(_polyfillHostNoCombinator) > -1) {\n scopedP = this._applySimpleSelectorScope(p, scopeSelector, hostSelector);\n } else {\n // remove :host since it should be unnecessary\n const t = p.replace(_polyfillHostRe, '');\n if (t.length > 0) {\n const matches = t.match(/([^:]*)(:*)(.*)/);\n if (matches) {\n scopedP = matches[1] + attrName + matches[2] + matches[3];\n }\n }\n }\n\n return scopedP;\n };\n\n const safeContent = new SafeSelector(selector);\n selector = safeContent.content();\n\n let scopedSelector = '';\n let startIndex = 0;\n let res: RegExpExecArray|null;\n const sep = /( |>|\\+|~(?!=))\\s*/g;\n\n // If a selector appears before :host it should not be shimmed as it\n // matches on ancestor elements and not on elements in the host's shadow\n // `:host-context(div)` is transformed to\n // `-shadowcsshost-no-combinatordiv, div -shadowcsshost-no-combinator`\n // the `div` is not part of the component in the 2nd selectors and should not be scoped.\n\n // Historically `component-tag:host` was matching the component so we also want to preserve\n // this behavior to avoid breaking legacy apps (it should not match).\n // The behavior should be:\n // - `tag:host` -> `tag[h]` (this is to avoid breaking legacy apps, should not match anything)\n // - `tag :host` -> `tag [h]` (`tag` is not scoped because it's considered part of a\n // `:host-context(tag)`)\n const hasHost = selector.indexOf(_polyfillHostNoCombinator) > -1;\n // Only scope parts after the first `-shadowcsshost-no-combinator` when it is present\n let shouldScope = !hasHost;\n\n while ((res = sep.exec(selector)) !== null) {\n const separator = res[1];\n const part = selector.slice(startIndex, res.index).trim();\n shouldScope = shouldScope || part.indexOf(_polyfillHostNoCombinator) > -1;\n const scopedPart = shouldScope ? _scopeSelectorPart(part) : part;\n scopedSelector += `${scopedPart} ${separator} `;\n startIndex = sep.lastIndex;\n }\n\n const part = selector.substring(startIndex);\n shouldScope = shouldScope || part.indexOf(_polyfillHostNoCombinator) > -1;\n scopedSelector += shouldScope ? _scopeSelectorPart(part) : part;\n\n // replace the placeholders with their original values\n return safeContent.restore(scopedSelector);\n }\n\n private _insertPolyfillHostInCssText(selector: string): string {\n return selector.replace(_colonHostContextRe, _polyfillHostContext)\n .replace(_colonHostRe, _polyfillHost);\n }\n}\n\nclass SafeSelector {\n private placeholders: string[] = [];\n private index = 0;\n private _content: string;\n\n constructor(selector: string) {\n // Replaces attribute selectors with placeholders.\n // The WS in [attr=\"va lue\"] would otherwise be interpreted as a selector separator.\n selector = selector.replace(/(\\[[^\\]]*\\])/g, (_, keep) => {\n const replaceBy = `__ph-${this.index}__`;\n this.placeholders.push(keep);\n this.index++;\n return replaceBy;\n });\n\n // Replaces the expression in `:nth-child(2n + 1)` with a placeholder.\n // WS and \"+\" would otherwise be interpreted as selector separators.\n this._content = selector.replace(/(:nth-[-\\w]+)(\\([^)]+\\))/g, (_, pseudo, exp) => {\n const replaceBy = `__ph-${this.index}__`;\n this.placeholders.push(exp);\n this.index++;\n return pseudo + replaceBy;\n });\n }\n\n restore(content: string): string {\n return content.replace(/__ph-(\\d+)__/g, (ph, index) => this.placeholders[+index]);\n }\n\n content(): string {\n return this._content;\n }\n}\n\nconst _cssContentNextSelectorRe =\n /polyfill-next-selector[^}]*content:[\\s]*?(['\"])(.*?)\\1[;\\s]*}([^{]*?){/gim;\nconst _cssContentRuleRe = /(polyfill-

rule)[^}]*(content:[\\s]*(['\"])(.*?)\\3)[;\\s]*[^}]*}/gim;\nconst _cssContentUnscopedRuleRe =\n /(polyfill-unscoped-rule)[^}]*(content:[\\s]*(['\"])(.*?)\\3)[;\\s]*[^}]*}/gim;\nconst _polyfillHost
= '-shadowcsshost';\n// note: :host-context pre-processed to -shadowcsshostcontext.\nconst _polyfillHostContext =
'-shadowcsscontext';\nconst _parenSuffix = ')(?:\\\\((' +\n '(?:\\\\([^)(]*\\\\)|[^)(]*)+?' +\n ')\\\\))?([^,{]*)';\nconst
_cssColonHostRe = new RegExp('(' + _polyfillHost + _parenSuffix, 'gim');\nconst _cssColonHostContextRe = new
RegExp('(' + _polyfillHostContext + _parenSuffix, 'gim');\nconst _polyfillHostNoCombinator = _polyfillHost + '-
no-combinator';\nconst _polyfillHostNoCombinatorRe = /-shadowcsshost-no-combinator([^\\s]*)/;\nconst
_shadowDOMSelectorsRe = [\n /::shadow/g,\n /::content/g,\n // Deprecated selectors\n /\\/shadow-deep\\//g,\n
/\\/shadow\\//g,\n];\n\n// The deep combinator is deprecated in the CSS spec\n// Support for `>>>`, `deep`, `::ng-
deep` is then also deprecated and will be removed in the future.\n// see
https://github.com/angular/angular/pull/17677\nconst _shadowDeepSelectors = /(?:>>>)|(?:\\/deep\\/)|(?:::ng-
deep)/g;\nconst _selectorReSuffix
= '([>\\\\s~+\\[.,{:][\\\\s\\\\S]*)?$';\nconst _polyfillHostRe = /-shadowcsshost/gim;\nconst _colonHostRe =
/:host/gim;\nconst _colonHostContextRe = /:host-context/gim;\n\nconst _commentRe =
/\\/*\\s*[\\s\\S]*?*\\//g;\n\nfunction stripComments(input: string): string {\n return input.replace(_commentRe,
'');\n}\n\nconst _commentWithHashRe = /\\/*\\s*#\\s*source(Mapping)?URL=[\\s\\S]+?*\\//g;\n\nfunction
extractCommentsWithHash(input: string): string[] {\n return input.match(_commentWithHashRe) || [];\n}\n\nconst
BLOCK_PLACEHOLDER = '%BLOCK%';\nconst QUOTE_PLACEHOLDER = '%QUOTED%';\nconst _ruleRe =
/(\\s*)([^;\\{\\}]+?)(\\s*)((?:{%BLOCK%}?\\s*;?)|(?:\\s*;))/g;\nconst _quotedRe = /%QUOTED%/g;\nconst
CONTENT_PAIRS = new Map([['{', '}']]);\nconst QUOTE_PAIRS = new Map([[`\"`, `\"`], [`'`, `'`]]);\n\nexport
class CssRule {\n constructor(public selector: string, public content: string) {}\n}\n\nexport function
processRules(input: string, ruleCallback: (rule: CssRule) =>
CssRule): string {\n const inputWithEscapedQuotes = escapeBlocks(input, QUOTE_PAIRS,
QUOTE_PLACEHOLDER);\n const inputWithEscapedBlocks =\n
escapeBlocks(inputWithEscapedQuotes.escapedString, CONTENT_PAIRS, BLOCK_PLACEHOLDER);\n let
nextBlockIndex = 0;\n let nextQuoteIndex = 0;\n return inputWithEscapedBlocks.escapedString\n .replace(\n
_ruleRe,\n (...m: string[]) => {\n const selector = m[2];\n let content = '';\n let suffix =
m[4];\n let contentPrefix = '';\n if (suffix && suffix.startsWith('{' + BLOCK_PLACEHOLDER)) {\n
content = inputWithEscapedBlocks.blocks[nextBlockIndex++];\n suffix =
suffix.substring(BLOCK_PLACEHOLDER.length + 1);\n contentPrefix = '{';\n }\n const rule
= ruleCallback(new CssRule(selector, content));\n return
`${m[1]}${rule.selector}${m[3]}${contentPrefix}${rule.content}${suffix}`;\n })\n .replace(_quotedRe,
() => inputWithEscapedQuotes.blocks[nextQuoteIndex++]);\n}\n\nclass StringWithEscapedBlocks {\n
constructor(public escapedString: string, public blocks: string[]) {}\n}\n\nfunction escapeBlocks(\n input: string,
charPairs: Map<string, string>, placeholder: string): StringWithEscapedBlocks {\n const resultParts: string[] = [];\n
const escapedBlocks: string[] = [];\n let openCharCount = 0;\n let nonBlockStartIndex = 0;\n let blockStartIndex =
-1;\n let openChar: string|undefined;\n let closeChar: string|undefined;\n for (let i = 0; i < input.length; i++) {\n
const char = input[i];\n if (char === '\\\\') {\n i++;\n } else if (char === closeChar) {\n openCharCount--;\n
if (openCharCount === 0) {\n escapedBlocks.push(input.substring(blockStartIndex, i));\n
resultParts.push(placeholder);\n nonBlockStartIndex = i;\n blockStartIndex = -1;\n openChar =
closeChar = undefined;\n }\n } else if (char ===
openChar) {\n openCharCount++;\n } else if (openCharCount === 0 && charPairs.has(char)) {\n openChar
= char;\n closeChar = charPairs.get(char);\n openCharCount = 1;\n blockStartIndex = i + 1;\n
resultParts.push(input.substring(nonBlockStartIndex, blockStartIndex));\n }\n }\n if (blockStartIndex !== -1) {\n
escapedBlocks.push(input.substring(blockStartIndex));\n resultParts.push(placeholder);\n } else {\n
resultParts.push(input.substring(nonBlockStartIndex));\n }\n return new
StringWithEscapedBlocks(resultParts.join(''), escapedBlocks);\n}\n","/**\n * @license\n * Copyright Google LLC
All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in

the LICENSE file at https://angular.io/license\n */\n\nimport {CompileDirectiveMetadata, CompileIdentifierMetadata, CompileStylesheetMetadata, identifierModuleUrl, identifierName} from './compile_metadata';\nimport {ViewEncapsulation} from './core';\nimport * as o from './output/output_ast';\nimport {ShadowCss} from './shadow_css';\nimport {UrlResolver} from './url_resolver';\nimport {OutputContext} from './util';\n\nconst COMPONENT_VARIABLE = '%COMP%';\nexport const HOST_ATTR = `_nghost-${COMPONENT_VARIABLE}`;\nexport const CONTENT_ATTR = `_ngcontent-${COMPONENT_VARIABLE}`;\n\nexport class StylesCompileDependency {\n constructor(\n public name: string, public moduleUrl: string, public setValue: (value: any) => void) {}\n}\n\nexport class CompiledStylesheet {\n constructor(\n public outputCtx: OutputContext, public stylesVar: string,\n public dependencies: StylesCompileDependency[], public isShimmed: boolean,\n public meta: CompileStylesheetMetadata) {}\n}\n\nexport class StyleCompiler {\n private _shadowCss: ShadowCss = new ShadowCss();\n\n constructor(private _urlResolver: UrlResolver) {}\n\n compileComponent(outputCtx: OutputContext, comp: CompileDirectiveMetadata): CompiledStylesheet {\n const template = comp.template !;\n return this._compileStyles(\n outputCtx, comp, new CompileStylesheetMetadata({\n styles: template.styles,\n styleUrls: template.styleUrls,\n moduleUrl: identifierModuleUrl(comp.type)\n }),\n this.needsStyleShim(comp), true);\n }\n\n compileStyles(\n outputCtx: OutputContext, comp: CompileDirectiveMetadata,\n stylesheet: CompileStylesheetMetadata,\n shim: boolean = this.needsStyleShim(comp)): CompiledStylesheet {\n return this._compileStyles(outputCtx, comp, stylesheet, shim, false);\n }\n\n needsStyleShim(comp: CompileDirectiveMetadata): boolean {\n return comp.template !.encapsulation === ViewEncapsulation.Emulated;\n }\n\n private _compileStyles(\n outputCtx: OutputContext, comp: CompileDirectiveMetadata,\n stylesheet: CompileStylesheetMetadata, shim: boolean,\n isComponentStylesheet: boolean): CompiledStylesheet {\n const styleExpressions: o.Expression[] =\n stylesheet.styles.map(plainStyle => o.literal(this._shimIfNeeded(plainStyle, shim)));\n const dependencies: StylesCompileDependency[] = [];\n stylesheet.styleUrls.forEach((styleUrl) => {\n const exprIndex = styleExpressions.length;\n // Note: This placeholder will be filled later.\n styleExpressions.push(null!);\n dependencies.push(new StylesCompileDependency(\n getStylesVarName(null), styleUrl,\n (value) => styleExpressions[exprIndex] = outputCtx.importExpr(value)));\n });\n // styles variable contains plain strings and arrays of other styles arrays (recursive),\n // so we set its type to dynamic.\n const stylesVar = getStylesVarName(isComponentStylesheet ? comp : null);\n const stmt = o.variable(stylesVar)\n .set(o.literalArr(\n styleExpressions, new o.ArrayType(o.DYNAMIC_TYPE, [o.TypeModifier.Const])))\n .toDeclStmt(null, isComponentStylesheet ? [o.StmtModifier.Final] : [\n o.StmtModifier.Final, o.StmtModifier.Exported\n ]);\n outputCtx.statements.push(stmt);\n return new CompiledStylesheet(outputCtx, stylesVar, dependencies, shim, stylesheet);\n }\n\n private _shimIfNeeded(style: string, shim: boolean): string {\n return shim ? this._shadowCss.shimCssText(style, CONTENT_ATTR, HOST_ATTR) : style;\n }\n}\n\nfunction getStylesVarName(component: CompileDirectiveMetadata|null): string {\n let result = `styles`;\n if (component) {\n result += `_${identifierName(component.type)}`;\n }\n return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * A path is an ordered set of elements. Typically a path is to a\n * particular offset in a source file. The head of the list is the top\n * most node. The tail is the node that contains the offset directly.\n *\n * For example, the expression `a + b + c` might have an ast that looks\n * like:\n * + \n * / \\\n * a + \n * / \\\n * b c\n *\n * The path to the node at offset 9 would be `['+' at 1-10, '+' at 7-10,\n * 'c' at 9-10]` and the path the node at offset 1 would be\n * `['+' at 1-10, 'a' at 1-2]`.\n */\nexport class AstPath<T> {\n constructor(private path: T[], public position: number = -1) {}\n\n get empty(): boolean {\n return !this.path || !this.path.length;\n }\n get head(): T|undefined {\n return this.path[0];\n }\n get tail(): T|undefined {\n return this.path[this.path.length - 1];\n }\n\n parentOf(node: T|undefined): T|undefined {\n return node && this.path[this.path.indexOf(node) - 1];\n }\n childOf(node: T): T|undefined {\n return

this.path[this.path.indexOf(node) + 1];\n  }\n\n  first<N extends T>(ctor: {new(...args: any[]): N}): N|undefined {\n for (let i = this.path.length - 1;
 i >= 0; i--) {\n      let item = this.path[i];\n      if (item instanceof ctor) return <N>item;\n    }\n  }\n\n  push(node: T) {\n    this.path.push(node);\n  }\n\n  pop(): T {\n    return this.path.pop()!;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AstPath} from '../ast_path';\nimport {I18nMeta} from '../i18n/i18n_ast';\nimport {ParseSourceSpan} from '../parse_util';\n\nexport interface Node {\n  sourceSpan: ParseSourceSpan;\n  visit(visitor: Visitor, context: any): any;\n}\n\nexport abstract class NodeWithI18n implements Node {\n  constructor(public sourceSpan: ParseSourceSpan, public i18n?: I18nMeta) {}\n  abstract visit(visitor: Visitor, context: any): any;\n}\n\nexport class Text extends NodeWithI18n {\n constructor(public value: string, sourceSpan: ParseSourceSpan, i18n?: I18nMeta) {\n    super(sourceSpan, i18n);\n  }\n  visit(visitor: Visitor, context: any): any {\n    return visitor.visitText(this, context);\n  }\n}\n\nexport class Expansion extends NodeWithI18n {\n  constructor(\n      public switchValue: string, public type: string, public cases: ExpansionCase[],\n      sourceSpan: ParseSourceSpan, public switchValueSourceSpan: ParseSourceSpan, i18n?: I18nMeta) {\n    super(sourceSpan, i18n);\n  }\n  visit(visitor: Visitor, context: any): any {\n    return visitor.visitExpansion(this, context);\n  }\n}\n\nexport class ExpansionCase implements Node {\n  constructor(\n public value: string, public expression: Node[], public sourceSpan: ParseSourceSpan,\n      public valueSourceSpan: ParseSourceSpan, public expSourceSpan: ParseSourceSpan) {}\n\n  visit(visitor: Visitor, context: any): any {\n return visitor.visitExpansionCase(this, context);\n  }\n}\n\nexport class Attribute extends NodeWithI18n {\n constructor(\n      public name: string, public value: string, sourceSpan:
 ParseSourceSpan,\n      public valueSpan?: ParseSourceSpan, i18n?: I18nMeta) {\n    super(sourceSpan, i18n);\n }\n  visit(visitor: Visitor, context: any): any {\n    return visitor.visitAttribute(this, context);\n  }\n}\n\nexport class Element extends NodeWithI18n {\n  constructor(\n      public name: string, public attrs: Attribute[], public children: Node[],\n      sourceSpan: ParseSourceSpan, public startSourceSpan: ParseSourceSpan,\n      public endSourceSpan: ParseSourceSpan|null = null, i18n?: I18nMeta) {\n    super(sourceSpan, i18n);\n  }\n  visit(visitor: Visitor, context: any): any {\n    return visitor.visitElement(this, context);\n  }\n}\n\nexport class Comment implements Node {\n constructor(public value: string|null, public sourceSpan: ParseSourceSpan) {}\n  visit(visitor: Visitor, context: any): any {\n    return visitor.visitComment(this, context);\n  }\n}\n\nexport interface Visitor {\n  // Returning a truthy value from `visit()` will prevent `visitAll()` from
 the call to the typed\n  // method and result returned will become the result included in `visitAll()`s result array.\n visit?(node: Node, context: any): any;\n\n  visitElement(element: Element, context: any): any;\n visitAttribute(attribute: Attribute, context: any): any;\n  visitText(text: Text, context: any): any;\n visitComment(comment: Comment, context: any): any;\n  visitExpansion(expansion: Expansion, context: any): any;\n  visitExpansionCase(expansionCase: ExpansionCase, context: any): any;\n}\n\nexport function visitAll(visitor: Visitor, nodes: Node[], context: any = null): any[] {\n  const result: any[] = [];\n\n  const visit =
 visitor.visit ?\n      (ast: Node) => visitor.visit!(ast, context) || ast.visit(visitor, context) :\n      (ast: Node) => ast.visit(visitor, context);\n  nodes.forEach(ast => {\n    const astResult = visit(ast);\n    if (astResult) {\n result.push(astResult);\n    }\n  });\n  return result;\n}\n\nexport class RecursiveVisitor implements Visitor {\n  constructor() {}\n\n  visitElement(ast: Element, context: any): any {\n    this.visitChildren(context, visit => {\n
   visit(ast.attrs);\n      visit(ast.children);\n    });\n  }\n\n  visitAttribute(ast: Attribute, context: any): any {}\n visitText(ast: Text, context: any): any {}\n  visitComment(ast: Comment, context: any): any {}\n\n visitExpansion(ast: Expansion, context: any): any {\n    return this.visitChildren(context, visit => {\n visit(ast.cases);\n    });\n  }\n\n  visitExpansionCase(ast: ExpansionCase, context: any): any {}\n\n  private visitChildren<T extends Node>(\n      context: any, cb: (visit: (<V extends Node>(children: V[]|undefined) => void)) => void) {\n    let results: any[][] = [];\n    let t = this;\n    function visit<T extends Node>(children: T[]|undefined) {\n      if (children) results.push(visitAll(t, children, context));\n    }\n    cb(visit);\n    return Array.prototype.concat.apply([], results);\n  }\n}\n\nexport type HtmlAstPath = AstPath<Node>;\n\nfunction

spanOf(ast: Node) {\n  const start = ast.sourceSpan.start.offset;\n  let end = ast.sourceSpan.end.offset;\n  if (ast instanceof Element) {\n    if (ast.endSourceSpan) {\n      end = ast.endSourceSpan.end.offset;\n    } else if (ast.children && ast.children.length) {\n      end = spanOf(ast.children[ast.children.length - 1]).end;\n    }\n  }\n  return {start, end};\n}\n\nexport function findNode(nodes: Node[], position: number): HtmlAstPath {\n  const path: Node[] = [];\n\n  const visitor = new class extends RecursiveVisitor {\n    visit(ast: Node, context: any): any {\n      const span = spanOf(ast);\n      if (span.start <= position && position < span.end) {\n        path.push(ast);\n      } else {\n        // Returning a value here will result in the children being skipped.\n        return true;\n      }\n    }\n  };\n\n  visitAll(visitor, nodes);\n\n  return new AstPath<Node>(path, position);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as chars from '../chars';\nimport {ParseError, ParseLocation, ParseSourceFile, ParseSourceSpan} from '../parse_util';\n\nimport {DEFAULT_INTERPOLATION_CONFIG, InterpolationConfig} from './interpolation_config';\nimport {NAMED_ENTITIES, TagContentType, TagDefinition} from './tags';\n\nexport enum TokenType {\n  TAG_OPEN_START,\n  TAG_OPEN_END,\n  TAG_OPEN_END_VOID,\n  TAG_CLOSE,\n  INCOMPLETE_TAG_OPEN,\n  TEXT,\n  ESCAPABLE_RAW_TEXT,\n  RAW_TEXT,\n  COMMENT_START,\n  COMMENT_END,\n  CDATA_START,\n  CDATA_END,\n  ATTR_NAME,\n  ATTR_QUOTE,\n  ATTR_VALUE,\n  DOC_TYPE,\n  EXPANSION_FORM_START,\n  EXPANSION_CASE_VALUE,\n  EXPANSION_CASE_EXP_START,\n  EXPANSION_CASE_EXP_END,\n  EXPANSION_FORM_END,\n  EOF\n}\n\nexport class Token {\n  constructor(\n      public type: TokenType|null, public parts: string[], public sourceSpan: ParseSourceSpan) {}\n}\n\nexport class TokenError extends ParseError {\n  constructor(errorMsg: string, public tokenType: TokenType|null, span: ParseSourceSpan) {\n    super(span, errorMsg);\n  }\n}\n\nexport class TokenizeResult {\n  constructor(\n      public tokens: Token[], public errors: TokenError[],\n      public nonNormalizedIcuExpressions: Token[]) {}\n}\n\nexport interface LexerRange {\n  startPos: number;\n  startLine: number;\n  startCol: number;\n  endPos: number;\n}\n\n/**\n * Options that modify how the text is tokenized.\n */\nexport interface TokenizeOptions {\n  /** Whether to tokenize ICU messages (considered as text nodes when false). */\n  tokenizeExpansionForms?: boolean;\n  /** How to tokenize interpolation markers. */\n  interpolationConfig?: InterpolationConfig;\n  /**\n   * The start and end point of the text to parse within the `source` string.\n   * The entire `source` string is parsed if this is not provided.\n   * */\n  range?: LexerRange;\n  /**\n   * If this text is stored in a JavaScript string, then we have to deal with escape sequences.\n   *\n   * **Example 1:**\n   *\n   * ```\n   * \"abc\\\"def\\nghi\"\n   * ```\n   *\n   * - The `\\\"` must be converted to `\"`.\n   * - The `\\n` must be converted to a new line character in a token,\n   *   but it should not increment the current line for source mapping.\n   *\n   * **Example 2:**\n   *\n   * ```\n   * \"abc\\\n   *   def\"\n   * ```\n   *\n   * The line continuation (`\\` followed by a newline) should be removed from a token\n   * but the new line should increment the current line for source mapping.\n   */\n  escapedString?: boolean;\n  /**\n   * If this text is stored in an external template (e.g. via `templateUrl`) then we need to decide\n   * whether or not to normalize the line-endings (from `\\r\\n` to `\\n`) when processing ICU\n   * expressions.\n   *\n   * If `true` then we will normalize ICU expression line endings.\n   * The default is `false`, but this will be switched in a future\n   major release.\n   */\n  i18nNormalizeLineEndingsInICUs?: boolean;\n  /**\n   * An array of characters that should be considered as leading trivia.\n   * Leading trivia are characters that are not important to the developer, and so should not be\n   * included in source-map segments.  A common example is whitespace.\n   */\n  leadingTriviaChars?: string[];\n  /**\n   * If true, do not convert CRLF to LF.\n   */\n  preserveLineEndings?: boolean;\n}\n\nexport function tokenize(\n    source: string, url: string, getTagDefinition: (tagName: string) => TagDefinition,\n    options: TokenizeOptions = {}): TokenizeResult {\n  const tokenizer = new _Tokenizer(new ParseSourceFile(source, url), getTagDefinition, options);\n  tokenizer.tokenize();\n  return new TokenizeResult(\n      mergeTextTokens(tokenizer.tokens), tokenizer.errors, tokenizer.nonNormalizedIcuExpressions);\n}\n\nconst _CR_OR_CRLF_REGEXP = /\\r\\n?/g;\n\nfunction _unexpectedCharacterErrorMsg(charCode: number): string {\n  const

char = charCode === chars.$EOF ? 'EOF' : String.fromCharCode(charCode);\n  return `Unexpected character \"${char}\"`;\n}\n\nfunction _unknownEntityErrorMsg(entitySrc: string): string {\n  return `Unknown entity \"${entitySrc}\" - use the \"&#<decimal>;\" or  \"&#x<hex>;\" syntax`;\n}\n\nfunction _unparsableEntityErrorMsg(type: CharacterReferenceType, entityStr: string): string {\n  return `Unable to parse entity \"${entityStr}\" - ${\n      type} character reference entities must end with \";\"`;\n}\n\nenum CharacterReferenceType {\n  HEX = 'hexadecimal',\n  DEC = 'decimal',\n}\n\nclass _ControlFlowError {\n constructor(public error: TokenError) {}\n}\n\n// See https://www.w3.org/TR/html51/syntax.html#writing-html-documents\nclass _Tokenizer {\n  private _cursor: CharacterCursor;\n  private _tokenizeIcu: boolean;\n  private _interpolationConfig: InterpolationConfig;\n  private _leadingTriviaCodePoints: number[]|undefined;\n  private _currentTokenStart: CharacterCursor|null = null;\n
  private _currentTokenType: TokenType|null = null;\n  private _expansionCaseStack: TokenType[] = [];\n  private _inInterpolation: boolean = false;\n  private readonly _preserveLineEndings: boolean;\n  private readonly _escapedString: boolean;\n  private readonly _i18nNormalizeLineEndingsInICUs: boolean;\n  tokens: Token[] = [];\n  errors: TokenError[] = [];\n  nonNormalizedIcuExpressions: Token[] = [];\n\n  /**\n   * @param _file The html source file being tokenized.\n   * @param _getTagDefinition A function that will retrieve a tag definition for a given tag name.\n   * @param options Configuration of the tokenization.\n   */\n  constructor(\n      _file: ParseSourceFile, private _getTagDefinition: (tagName: string) => TagDefinition,\n      options: TokenizeOptions) {\n    this._tokenizeIcu = options.tokenizeExpansionForms || false;\n    this._interpolationConfig = options.interpolationConfig || DEFAULT_INTERPOLATION_CONFIG;\n    this._leadingTriviaCodePoints =\n options.leadingTriviaChars\n  && options.leadingTriviaChars.map(c => c.codePointAt(0) || 0);\n    const range =\n        options.range || {endPos: _file.content.length, startPos: 0, startLine: 0, startCol: 0};\n    this._cursor = options.escapedString ? new EscapedCharacterCursor(_file, range) :\n                                           new PlainCharacterCursor(_file, range);\n    this._preserveLineEndings = options.preserveLineEndings || false;\n    this._escapedString = options.escapedString || false;\n    this._i18nNormalizeLineEndingsInICUs = options.i18nNormalizeLineEndingsInICUs || false;\n    try {\n      this._cursor.init();\n    } catch (e) {\n      this.handleError(e);\n    }\n  }\n\n  private _processCarriageReturns(content: string): string {\n    if (this._preserveLineEndings) {\n      return content;\n    }\n    // https://www.w3.org/TR/html51/syntax.html#preprocessing-the-input-stream\n    // In order to keep the original position in the source, we can not\n    // pre-process it.\n
    // Instead CRs are processed right before instantiating the tokens.\n    return content.replace(_CR_OR_CRLF_REGEXP, '\\n');\n  }\n\n  tokenize(): void {\n    while (this._cursor.peek() !== chars.$EOF) {\n      const start = this._cursor.clone();\n      try {\n        if (this._attemptCharCode(chars.$LT)) {\n          if (this._attemptCharCode(chars.$BANG)) {\n            if (this._attemptCharCode(chars.$LBRACKET)) {\n              this._consumeCdata(start);\n            } else if (this._attemptCharCode(chars.$MINUS)) {\n              this._consumeComment(start);\n            } else {\n              this._consumeDocType(start);\n            }\n          } else if (this._attemptCharCode(chars.$SLASH)) {\n            this._consumeTagClose(start);\n          } else {\n            this._consumeTagOpen(start);\n          }\n        } else if (!(this._tokenizeIcu && this._tokenizeExpansionForm())) {\n          this._consumeText();\n        }\n      } catch (e) {\n        this.handleError(e);\n
      }\n    }\n    this._beginToken(TokenType.EOF);\n    this._endToken([]);\n  }\n\n  /**\n   * @returns whether an ICU token has been created\n   * @internal\n   */\n  private _tokenizeExpansionForm(): boolean {\n    if (this.isExpansionFormStart()) {\n      this._consumeExpansionFormStart();\n      return true;\n    }\n\n    if (isExpansionCaseStart(this._cursor.peek()) && this._isInExpansionForm()) {\n      this._consumeExpansionCaseStart();\n      return true;\n    }\n\n    if (this._cursor.peek() === chars.$RBRACE) {\n      if (this._isInExpansionCase()) {\n        this._consumeExpansionCaseEnd();\n        return true;\n      }\n\n      if (this._isInExpansionForm()) {\n        this._consumeExpansionFormEnd();\n        return true;\n      }\n    }\n\n    return false;\n  }\n\n  private _beginToken(type: TokenType, start = this._cursor.clone()) {\n    this._currentTokenStart = start;\n    this._currentTokenType = type;\n  }\n\n  private _endToken(parts: string[], end?: CharacterCursor):

```
Token {\n    if (this._currentTokenStart === null) {\n      throw new TokenError(\n          'Programming error - attempted to end a token when there was no start to the token',\n          this._currentTokenType, this._cursor.getSpan(end));\n    }\n    if (this._currentTokenType === null) {\n      throw new TokenError(\n          'Programming error - attempted to end a token which has no token type', null,\n          this._cursor.getSpan(this._currentTokenStart));\n    }\n    const token = new Token(\n        this._currentTokenType, parts,\n        this._cursor.getSpan(this._currentTokenStart, this._leadingTriviaCodePoints));\n    this.tokens.push(token);\n    this._currentTokenStart = null;\n    this._currentTokenType = null;\n    return token;\n  }\n\n  private _createError(msg: string, span: ParseSourceSpan): _ControlFlowError {\n    if (this._isInExpansionForm()) {\n      msg += ` (Do you have an unescaped \"{\" in your template? Use \"{{ '{' }}\") to escape it.)`;\n    }\n    const error = new TokenError(msg, this._currentTokenType, span);\n    this._currentTokenStart = null;\n    this._currentTokenType = null;\n    return new _ControlFlowError(error);\n  }\n\n  private handleError(e: any) {\n    if (e instanceof CursorError) {\n      e = this._createError(e.msg, this._cursor.getSpan(e.cursor));\n    }\n    if (e instanceof _ControlFlowError) {\n      this.errors.push(e.error);\n    } else {\n      throw e;\n    }\n  }\n\n  private _attemptCharCode(charCode: number): boolean {\n    if (this._cursor.peek() === charCode) {\n      this._cursor.advance();\n      return true;\n    }\n    return false;\n  }\n\n  private _attemptCharCodeCaseInsensitive(charCode: number): boolean {\n    if (compareCharCodeCaseInsensitive(this._cursor.peek(), charCode)) {\n      this._cursor.advance();\n      return true;\n    }\n    return false;\n  }\n\n  private _requireCharCode(charCode: number) {\n    const location = this._cursor.clone();\n    if (!this._attemptCharCode(charCode))\n    {\n      throw this._createError(\n          _unexpectedCharacterErrorMsg(this._cursor.peek()), this._cursor.getSpan(location));\n    }\n  }\n\n  private _attemptStr(chars: string): boolean {\n    const len = chars.length;\n    if (this._cursor.charsLeft() < len) {\n      return false;\n    }\n    const initialPosition = this._cursor.clone();\n    for (let i = 0; i < len; i++) {\n      if (!this._attemptCharCode(chars.charCodeAt(i))) {\n        // If attempting to parse the string fails, we want to reset the parser\n        // to where it was before the attempt\n        this._cursor = initialPosition;\n        return false;\n      }\n    }\n    return true;\n  }\n\n  private _attemptStrCaseInsensitive(chars: string): boolean {\n    for (let i = 0; i < chars.length; i++) {\n      if (!this._attemptCharCodeCaseInsensitive(chars.charCodeAt(i))) {\n        return false;\n      }\n    }\n    return true;\n  }\n\n  private _requireStr(chars: string) {\n    const location = this._cursor.clone();\n    if (!this._attemptStr(chars)) {\n      throw this._createError(\n          _unexpectedCharacterErrorMsg(this._cursor.peek()), this._cursor.getSpan(location));\n    }\n  }\n\n  private _attemptCharCodeUntilFn(predicate: (code: number) => boolean) {\n    while (!predicate(this._cursor.peek())) {\n      this._cursor.advance();\n    }\n  }\n\n  private _requireCharCodeUntilFn(predicate: (code: number) => boolean, len: number) {\n    const start = this._cursor.clone();\n    this._attemptCharCodeUntilFn(predicate);\n    if (this._cursor.diff(start) < len) {\n      throw this._createError(\n          _unexpectedCharacterErrorMsg(this._cursor.peek()), this._cursor.getSpan(start));\n    }\n  }\n\n  private _attemptUntilChar(char: number) {\n    while (this._cursor.peek() !== char) {\n      this._cursor.advance();\n    }\n  }\n\n  private _readChar(decodeEntities: boolean): string {\n    if (decodeEntities && this._cursor.peek() === chars.$AMPERSAND) {\n      return this._decodeEntity();\n    } else {\n      // Don't rely upon reading directly from `_input` as the actual char value\n      // may have been generated from an escape sequence.\n      const char = String.fromCodePoint(this._cursor.peek());\n      this._cursor.advance();\n      return char;\n    }\n  }\n\n  private _decodeEntity(): string {\n    const start = this._cursor.clone();\n    this._cursor.advance();\n    if (this._attemptCharCode(chars.$HASH)) {\n      const isHex = this._attemptCharCode(chars.$x) || this._attemptCharCode(chars.$X);\n      const codeStart = this._cursor.clone();\n      this._attemptCharCodeUntilFn(isDigitEntityEnd);\n      if (this._cursor.peek() != chars.$SEMICOLON) {\n        // Advance cursor to include the peeked character in the string provided to the error\n        // message.\n        this._cursor.advance();\n        const entityType = isHex ? CharacterReferenceType.HEX : CharacterReferenceType.DEC;\n        throw this._createError(\n            _unparsableEntityErrorMsg(entityType,
```

this._cursor.getChars(start)),\n this._cursor.getSpan());\n }\n const strNum = this._cursor.getChars(codeStart);\n this._cursor.advance();\n try {\n const charCode = parseInt(strNum, isHex ? 16 : 10);\n return String.fromCharCode(charCode);\n } catch {\n throw this._createError(\n _unknownEntityErrorMsg(this._cursor.getChars(start)), this._cursor.getSpan());\n }\n } else {\n const nameStart = this._cursor.clone();\n this._attemptCharCodeUntilFn(isNamedEntityEnd);\n if (this._cursor.peek() != chars.$SEMICOLON) {\n this._cursor = nameStart;\n return '&';\n }\n const name = this._cursor.getChars(nameStart);\n this._cursor.advance();\n const char = NAMED_ENTITIES[name];\n if (!char) {\n throw this._createError(_unknownEntityErrorMsg(name), this._cursor.getSpan(start));\n }\n return char;\n }\n }\n\n private _consumeRawText(decodeEntities: boolean, endMarkerPredicate: () => boolean): Token {\n this._beginToken(decodeEntities ? TokenType.ESCAPABLE_RAW_TEXT : TokenType.RAW_TEXT);\n const parts: string[] = [];\n while (true) {\n const tagCloseStart = this._cursor.clone();\n const foundEndMarker = endMarkerPredicate();\n this._cursor = tagCloseStart;\n if (foundEndMarker) {\n break;\n }\n parts.push(this._readChar(decodeEntities));\n }\n return this._endToken([this._processCarriageReturns(parts.join(''))]);\n }\n\n private _consumeComment(start: CharacterCursor) {\n this._beginToken(TokenType.COMMENT_START, start);\n this._requireCharCode(chars.$MINUS);\n this._endToken([]);\n this._consumeRawText(false, () => this._attemptStr('-->'));\n this._beginToken(TokenType.COMMENT_END);\n this._requireStr('-->');\n this._endToken([]);\n }\n\n private _consumeCdata(start: CharacterCursor) {\n this._beginToken(TokenType.CDATA_START, start);\n this._requireStr('CDATA[');\n this._endToken([]);\n this._consumeRawText(false, () => this._attemptStr(']]>'));\n this._beginToken(TokenType.CDATA_END);\n this._requireStr(']]>');\n this._endToken([]);\n }\n\n private _consumeDocType(start: CharacterCursor) {\n this._beginToken(TokenType.DOC_TYPE, start);\n const contentStart = this._cursor.clone();\n this._attemptUntilChar(chars.$GT);\n const content = this._cursor.getChars(contentStart);\n this._cursor.advance();\n this._endToken([content]);\n }\n\n private _consumePrefixAndName(): string[] {\n const nameOrPrefixStart = this._cursor.clone();\n let prefix: string = '';\n while (this._cursor.peek() !== chars.$COLON && !isPrefixEnd(this._cursor.peek())) {\n this._cursor.advance();\n }\n let nameStart: CharacterCursor;\n if (this._cursor.peek() === chars.$COLON) {\n prefix = this._cursor.getChars(nameOrPrefixStart);\n this._cursor.advance();\n nameStart = this._cursor.clone();\n } else {\n nameStart = nameOrPrefixStart;\n }\n this._requireCharCodeUntilFn(isNameEnd, prefix === '' ? 0 : 1);\n const name = this._cursor.getChars(nameStart);\n return [prefix, name];\n }\n\n private _consumeTagOpen(start: CharacterCursor) {\n let tagName: string;\n let prefix: string;\n let openTagToken: Token|undefined;\n try {\n if (!chars.isAsciiLetter(this._cursor.peek())) {\n throw this._createError(\n _unexpectedCharacterErrorMsg(this._cursor.peek()), this._cursor.getSpan(start));\n }\n\n openTagToken = this._consumeTagOpenStart(start);\n prefix = openTagToken.parts[0];\n tagName = openTagToken.parts[1];\n this._attemptCharCodeUntilFn(isNotWhitespace);\n while (this._cursor.peek() !== chars.$SLASH && this._cursor.peek() !== chars.$GT &&\n this._cursor.peek() !== chars.$LT) {\n this._consumeAttributeName();\n this._attemptCharCodeUntilFn(isNotWhitespace);\n if (this._attemptCharCode(chars.$EQ)) {\n this._attemptCharCodeUntilFn(isNotWhitespace);\n this._consumeAttributeValue();\n this._attemptCharCodeUntilFn(isNotWhitespace);\n }\n this._consumeTagOpenEnd();\n } catch (e) {\n if (e instanceof _ControlFlowError) {\n if (openTagToken) {\n // We errored before we could close the opening tag, so it is incomplete.\n openTagToken.type = TokenType.INCOMPLETE_TAG_OPEN;\n } else {\n // When the start tag is invalid, assume we want a \"<\" as text.\n // Back to back text tokens are merged at the end.\n this._beginToken(TokenType.TEXT, start);\n this._endToken(['<']);\n }\n return;\n }\n\n throw e;\n }\n\n const contentTokenType = this._getTagDefinition(tagName).contentType;\n\n if (contentTokenType ===

```
TagContentType.RAW_TEXT) {\n      this._consumeRawTextWithTagClose(prefix,
 tagName, false);\n    } else if (contentTokenType === TagContentType.ESCAPABLE_RAW_TEXT) {\n
this._consumeRawTextWithTagClose(prefix, tagName, true);\n    }\n  }\n\n  private
_consumeRawTextWithTagClose(prefix: string, tagName: string, decodeEntities: boolean) {\n    const textToken =
this._consumeRawText(decodeEntities, () => {\n      if (!this._attemptCharCode(chars.$LT)) return false;\n      if
(!this._attemptCharCode(chars.$SLASH)) return false;\n      this._attemptCharCodeUntilFn(isNotWhitespace);\n
if (!this._attemptStrCaseInsensitive(tagName)) return false;\n
this._attemptCharCodeUntilFn(isNotWhitespace);\n      return this._attemptCharCode(chars.$GT);\n    });\n
this._beginToken(TokenType.TAG_CLOSE);\n    this._requireCharCodeUntilFn(code => code === chars.$GT,
3);\n    this._cursor.advance();  // Consume the `>`\n    this._endToken([prefix, tagName]);\n  }\n\n  private
_consumeTagOpenStart(start: CharacterCursor) {\n    this._beginToken(TokenType.TAG_OPEN_START,
 start);\n    const parts = this._consumePrefixAndName();\n    return this._endToken(parts);\n  }\n\n  private
_consumeAttributeName() {\n    const attrNameStart = this._cursor.peek();\n    if (attrNameStart === chars.$SQ ||
attrNameStart === chars.$DQ) {\n      throw this._createError(_unexpectedCharacterErrorMsg(attrNameStart),
this._cursor.getSpan());\n    }\n    this._beginToken(TokenType.ATTR_NAME);\n    const prefixAndName =
this._consumePrefixAndName();\n    this._endToken(prefixAndName);\n  }\n\n  private _consumeAttributeValue()
{\n    let value: string;\n    if (this._cursor.peek() === chars.$SQ || this._cursor.peek() === chars.$DQ) {\n
this._beginToken(TokenType.ATTR_QUOTE);\n      const quoteChar = this._cursor.peek();\n
this._cursor.advance();\n      this._endToken([String.fromCodePoint(quoteChar)]);\n
this._beginToken(TokenType.ATTR_VALUE);\n      const parts: string[] = [];\n      while (this._cursor.peek() !==
quoteChar) {\n        parts.push(this._readChar(true));\n
    }\n      value = parts.join('');\n      this._endToken([this._processCarriageReturns(value)]);\n
this._beginToken(TokenType.ATTR_QUOTE);\n      this._cursor.advance();\n
this._endToken([String.fromCodePoint(quoteChar)]);\n    } else {\n
this._beginToken(TokenType.ATTR_VALUE);\n      const valueStart = this._cursor.clone();\n
this._requireCharCodeUntilFn(isNameEnd, 1);\n      value = this._cursor.getChars(valueStart);\n
this._endToken([this._processCarriageReturns(value)]);\n    }\n  }\n\n  private _consumeTagOpenEnd() {\n    const
tokenType =\n        this._attemptCharCode(chars.$SLASH) ? TokenType.TAG_OPEN_END_VOID :
TokenType.TAG_OPEN_END;\n    this._beginToken(tokenType);\n    this._requireCharCode(chars.$GT);\n
this._endToken([]);\n  }\n\n  private _consumeTagClose(start: CharacterCursor) {\n
this._beginToken(TokenType.TAG_CLOSE, start);\n    this._attemptCharCodeUntilFn(isNotWhitespace);\n    const
prefixAndName = this._consumePrefixAndName();\n
   this._attemptCharCodeUntilFn(isNotWhitespace);\n    this._requireCharCode(chars.$GT);\n
this._endToken(prefixAndName);\n  }\n\n  private _consumeExpansionFormStart() {\n
this._beginToken(TokenType.EXPANSION_FORM_START);\n    this._requireCharCode(chars.$LBRACE);\n
this._endToken([]);\n\n    this._expansionCaseStack.push(TokenType.EXPANSION_FORM_START);\n\n
this._beginToken(TokenType.RAW_TEXT);\n    const condition = this._readUntil(chars.$COMMA);\n    const
normalizedCondition = this._processCarriageReturns(condition);\n    if (this._i18nNormalizeLineEndingsInICUs)
{\n      // We explicitly want to normalize line endings for this text.\n      this._endToken([normalizedCondition]);\n
} else {\n      // We are not normalizing line endings.\n      const conditionToken = this._endToken([condition]);\n
if (normalizedCondition !== condition) {\n        this.nonNormalizedIcuExpressions.push(conditionToken);\n      }\n
}\n    this._requireCharCode(chars.$COMMA);\n
   this._attemptCharCodeUntilFn(isNotWhitespace);\n\n    this._beginToken(TokenType.RAW_TEXT);\n    const
type = this._readUntil(chars.$COMMA);\n    this._endToken([type]);\n
this._requireCharCode(chars.$COMMA);\n    this._attemptCharCodeUntilFn(isNotWhitespace);\n  }\n\n  private
_consumeExpansionCaseStart() {\n    this._beginToken(TokenType.EXPANSION_CASE_VALUE);\n    const
value = this._readUntil(chars.$LBRACE).trim();\n    this._endToken([value]);\n
this._attemptCharCodeUntilFn(isNotWhitespace);\n\n
```

this._beginToken(TokenType.EXPANSION_CASE_EXP_START);\n
this._requireCharCode(chars.$LBRACE);\n  this._endToken([]);\n
this._attemptCharCodeUntilFn(isNotWhitespace);\n\n
this._expansionCaseStack.push(TokenType.EXPANSION_CASE_EXP_START);\n  }\n\n  private
_consumeExpansionCaseEnd() {\n  this._beginToken(TokenType.EXPANSION_CASE_EXP_END);\n
this._requireCharCode(chars.$RBRACE);\n  this._endToken([]);\n
this._attemptCharCodeUntilFn(isNotWhitespace);\n\n
  this._expansionCaseStack.pop();\n  }\n\n  private _consumeExpansionFormEnd() {\n
this._beginToken(TokenType.EXPANSION_FORM_END);\n  this._requireCharCode(chars.$RBRACE);\n
this._endToken([]);\n\n  this._expansionCaseStack.pop();\n  }\n\n  private _consumeText() {\n  const start =
this._cursor.clone();\n  this._beginToken(TokenType.TEXT, start);\n  const parts: string[] = [];\n\n  do {\n  if
(this._interpolationConfig && this._attemptStr(this._interpolationConfig.start)) {\n
parts.push(this._interpolationConfig.start);\n  this._inInterpolation = true;\n  } else if (\n
this._interpolationConfig && this._inInterpolation &&\n  this._attemptStr(this._interpolationConfig.end)) {\n
  parts.push(this._interpolationConfig.end);\n  this._inInterpolation = false;\n  } else {\n
parts.push(this._readChar(true));\n  }\n  } while (!this._isTextEnd());\n\n
this._endToken([this._processCarriageReturns(parts.join(''))]);\n
  }\n\n  private _isTextEnd(): boolean {\n  if (this._cursor.peek() === chars.$LT || this._cursor.peek() ===
chars.$EOF) {\n  return true;\n  }\n\n  if (this._tokenizeIcu && !this._inInterpolation) {\n  if
(this.isExpansionFormStart()) {\n  // start of an expansion form\n  return true;\n  }\n\n  if
(this._cursor.peek() === chars.$RBRACE && this._isInExpansionCase()) {\n  // end of and expansion case\n
 return true;\n  }\n  }\n\n  return false;\n  }\n\n  private _readUntil(char: number): string {\n  const start =
this._cursor.clone();\n  this._attemptUntilChar(char);\n  return this._cursor.getChars(start);\n  }\n\n  private
_isInExpansionCase(): boolean {\n  return this._expansionCaseStack.length > 0 &&\n
this._expansionCaseStack[this._expansionCaseStack.length - 1] ===\n
TokenType.EXPANSION_CASE_EXP_START;\n  }\n\n  private _isInExpansionForm(): boolean {\n  return
this._expansionCaseStack.length
 > 0 &&\n  this._expansionCaseStack[this._expansionCaseStack.length - 1] ===\n
TokenType.EXPANSION_FORM_START;\n  }\n\n  private isExpansionFormStart(): boolean {\n  if
(this._cursor.peek() !== chars.$LBRACE) {\n  return false;\n  }\n  if (this._interpolationConfig) {\n  const
start = this._cursor.clone();\n  const isInterpolation = this._attemptStr(this._interpolationConfig.start);\n
this._cursor = start;\n  return !isInterpolation;\n  }\n  return true;\n  }\n}\n\nfunction isNotWhitespace(code:
number): boolean {\n  return !chars.isWhitespace(code) || code === chars.$EOF;\n}\n\nfunction isNameEnd(code:
number): boolean {\n  return chars.isWhitespace(code) || code === chars.$GT || code === chars.$LT ||\n  code
=== chars.$SLASH || code === chars.$SQ || code === chars.$DQ || code === chars.$EQ;\n}\n\nfunction
isPrefixEnd(code: number): boolean {\n  return (code < chars.$a || chars.$z < code) && (code < chars.$A || chars.$Z
< code) &&\n
  (code < chars.$0 || code > chars.$9);\n}\n\nfunction isDigitEntityEnd(code: number): boolean {\n  return code
== chars.$SEMICOLON || code == chars.$EOF || !chars.isAsciiHexDigit(code);\n}\n\nfunction
isNamedEntityEnd(code: number): boolean {\n  return code == chars.$SEMICOLON || code == chars.$EOF ||
!chars.isAsciiLetter(code);\n}\n\nfunction isExpansionCaseStart(peek: number): boolean {\n  return peek !==
chars.$RBRACE;\n}\n\nfunction compareCharCodeCaseInsensitive(code1: number, code2: number): boolean {\n
return toUpperCaseCharCode(code1) == toUpperCaseCharCode(code2);\n}\n\nfunction
toUpperCaseCharCode(code: number): number {\n  return code >= chars.$a && code <= chars.$z ? code - chars.$a
+ chars.$A : code;\n}\n\nfunction mergeTextTokens(srcTokens: Token[]): Token[] {\n  const dstTokens: Token[] =
[];\n  let lastDstToken: Token|undefined = undefined;\n  for (let i = 0; i < srcTokens.length; i++) {\n  const token =
srcTokens[i];\n  if (lastDstToken && lastDstToken.type

== TokenType.TEXT && token.type == TokenType.TEXT) {\n lastDstToken.parts[0]! += token.parts[0];\n lastDstToken.sourceSpan.end = token.sourceSpan.end;\n } else {\n lastDstToken = token;\n dstTokens.push(lastDstToken);\n }\n }\n\n return dstTokens;\n}\n\n\n/**\n * The _Tokenizer uses objects of this type to move through the input text,\n * extracting \"parsed characters\". These could be more than one actual character\n * if the text contains escape sequences.\n */\ninterface CharacterCursor {\n /** Initialize the cursor. */\n init(): void;\n /** The parsed character at the current cursor position. */\n peek(): number;\n /** Advance the cursor by one parsed character. */\n advance(): void;\n /** Get a span from the marked start point to the current point. */\n getSpan(start?: this, leadingTriviaCodePoints?: number[]): ParseSourceSpan;\n /** Get the parsed characters from the marked start point to the current point. */\n getChars(start: this): string;\n /** The number of characters left before the end of the cursor. */\n charsLeft(): number;\n /** The number of characters between `this` cursor and `other` cursor. */\n diff(other: this): number;\n /** Make a copy of this cursor */\n clone(): CharacterCursor;\n}\n\ninterface CursorState {\n peek: number;\n offset: number;\n line: number;\n column: number;\n}\n\nclass PlainCharacterCursor implements CharacterCursor {\n protected state: CursorState;\n protected file: ParseSourceFile;\n protected input: string;\n protected end: number;\n\n constructor(fileOrCursor: PlainCharacterCursor);\n constructor(fileOrCursor: ParseSourceFile, range: LexerRange);\n constructor(fileOrCursor: ParseSourceFile|PlainCharacterCursor, range?: LexerRange) {\n if (fileOrCursor instanceof PlainCharacterCursor) {\n this.file = fileOrCursor.file;\n this.input = fileOrCursor.input;\n this.end = fileOrCursor.end;\n\n const state = fileOrCursor.state;\n // Note: avoid using `{...fileOrCursor.state}` here as that has a severe performance penalty.\n // In ES5 bundles the object spread operator is translated into the `__assign` helper, which\n // is not optimized by VMs as efficiently as a raw object literal. Since this constructor is\n // called in tight loops, this difference matters.\n this.state = {\n peek: state.peek,\n offset: state.offset,\n line: state.line,\n column: state.column,\n };\n } else {\n if (!range) {\n throw new Error(\n 'Programming error: the range argument must be provided with a file argument.');\n }\n this.file = fileOrCursor;\n this.input = fileOrCursor.content;\n this.end = range.endPos;\n this.state = {\n peek: -1,\n offset: range.startPos,\n line: range.startLine,\n column: range.startCol,\n };\n }\n }\n\n clone(): PlainCharacterCursor {\n return new PlainCharacterCursor(this);\n }\n\n peek() {\n return this.state.peek;\n }\n charsLeft() {\n return this.end - this.state.offset;\n }\n diff(other: this) {\n return this.state.offset - other.state.offset;\n }\n\n advance(): void {\n this.advanceState(this.state);\n }\n\n init(): void {\n this.updatePeek(this.state);\n }\n\n getSpan(start?: this, leadingTriviaCodePoints?: number[]): ParseSourceSpan {\n start = start || this;\n let fullStart = start;\n if (leadingTriviaCodePoints) {\n while (this.diff(start) > 0 && leadingTriviaCodePoints.indexOf(start.peek()) !== -1) {\n if (fullStart === start) {\n start = start.clone() as this;\n }\n start.advance();\n }\n }\n const startLocation = this.locationFromCursor(start);\n const endLocation = this.locationFromCursor(this);\n const fullStartLocation =\n fullStart !== start ? this.locationFromCursor(fullStart) : startLocation;\n return new ParseSourceSpan(startLocation, endLocation,\n fullStartLocation);\n }\n\n getChars(start: this): string {\n return this.input.substring(start.state.offset, this.state.offset);\n }\n\n charAt(pos: number): number {\n return this.input.charCodeAt(pos);\n }\n\n protected advanceState(state: CursorState) {\n if (state.offset >= this.end) {\n this.state = state;\n throw new CursorError('Unexpected character \"EOF\"', this);\n }\n const currentChar = this.charAt(state.offset);\n if (currentChar === chars.$LF) {\n state.line++;\n state.column = 0;\n } else if (!chars.isNewLine(currentChar)) {\n state.column++;\n }\n state.offset++;\n this.updatePeek(state);\n }\n\n protected updatePeek(state: CursorState): void {\n state.peek = state.offset >= this.end ? chars.$EOF : this.charAt(state.offset);\n }\n\n private locationFromCursor(cursor: this): ParseLocation {\n return new ParseLocation(\n cursor.file, cursor.state.offset, cursor.state.line, cursor.state.column);\n }\n}\n\nclass EscapedCharacterCursor extends PlainCharacterCursor {\n protected internalState: CursorState;\n\n constructor(fileOrCursor: EscapedCharacterCursor);\n constructor(fileOrCursor: ParseSourceFile, range: LexerRange);\n constructor(fileOrCursor: ParseSourceFile|EscapedCharacterCursor, range?: LexerRange) {\n if

(fileOrCursor instanceof EscapedCharacterCursor) {\n super(fileOrCursor);\n this.internalState = {...fileOrCursor.internalState};\n } else {\n super(fileOrCursor, range!);\n this.internalState = this.state;\n }\n }\n\n advance(): void {\n this.state = this.internalState;\n super.advance();\n this.processEscapeSequence();\n }\n\n init(): void {\n super.init();\n this.processEscapeSequence();\n }\n\n clone(): EscapedCharacterCursor {\n return new EscapedCharacterCursor(this);\n }\n\n getChars(start: this): string {\n const cursor = start.clone();\n let chars = '';\n while (cursor.internalState.offset < this.internalState.offset) {\n chars += String.fromCodePoint(cursor.peek());\n cursor.advance();\n }\n return chars;\n }\n\n /**\n * Process the escape sequence that starts at the current position in the text.\n *\n * This method is called to ensure that `peek` has the unescaped value of escape sequences.\n */\n protected processEscapeSequence(): void {\n const peek = () => this.internalState.peek;\n\n if (peek() === chars.$BACKSLASH) {\n // We have hit an escape sequence so we need the internal state to become independent\n // of the external state.\n this.internalState = {...this.state};\n\n // Move past the backslash\n this.advanceState(this.internalState);\n\n // First check for standard control char sequences\n if (peek() === chars.$n) {\n this.state.peek = chars.$LF;\n } else if (peek() === chars.$r) {\n this.state.peek = chars.$CR;\n } else if (peek() === chars.$v) {\n this.state.peek = chars.$VTAB;\n } else if (peek() === chars.$t) {\n this.state.peek = chars.$TAB;\n } else if (peek() === chars.$b) {\n this.state.peek = chars.$BSPACE;\n } else if (peek() === chars.$f) {\n this.state.peek = chars.$FF;\n }\n\n // Now consider more complex sequences\n else if (peek() === chars.$u) {\n // Unicode code-point sequence\n this.advanceState(this.internalState); // advance past the `u` char\n if (peek() === chars.$LBRACE) {\n // Variable length Unicode, e.g. `\\x{123}`\n this.advanceState(this.internalState); // advance past the `{` char\n // Advance past the variable number of hex digits until we hit a `}` char\n const digitStart = this.clone();\n let length = 0;\n while (peek() !== chars.$RBRACE) {\n this.advanceState(this.internalState);\n length++;\n }\n this.state.peek = this.decodeHexDigits(digitStart, length);\n } else {\n // Fixed length Unicode, e.g. `\\u1234`\n const digitStart = this.clone();\n this.advanceState(this.internalState);\n this.advanceState(this.internalState);\n this.advanceState(this.internalState);\n this.state.peek = this.decodeHexDigits(digitStart, 4);\n }\n }\n\n else if (peek() === chars.$x) {\n // Hex char code, e.g. `\\x2F`\n this.advanceState(this.internalState); // advance past the `x` char\n const digitStart = this.clone();\n this.advanceState(this.internalState);\n this.state.peek = this.decodeHexDigits(digitStart, 2);\n }\n\n else if (chars.isOctalDigit(peek())) {\n // Octal char code, e.g. `\\012`,\n let octal = '';\n let length = 0;\n let previous = this.clone();\n while (chars.isOctalDigit(peek()) && length < 3) {\n previous = this.clone();\n octal += String.fromCodePoint(peek());\n this.advanceState(this.internalState);\n length++;\n }\n this.state.peek = parseInt(octal, 8);\n // Backup one char\n this.internalState = previous.internalState;\n }\n\n else if (chars.isNewLine(this.internalState.peek)) {\n // Line continuation `\\` followed by a new line\n this.advanceState(this.internalState); // advance over the newline\n this.state = this.internalState;\n }\n\n else {\n // If none of the `if` blocks were executed then we just have an escaped normal character.\n // In that case we just, effectively, skip the backslash from the character.\n this.state.peek = this.internalState.peek;\n }\n }\n\n protected decodeHexDigits(start: EscapedCharacterCursor, length: number): number {\n const hex = this.input.substr(start.internalState.offset, length);\n const charCode = parseInt(hex, 16);\n if (!isNaN(charCode)) {\n return charCode;\n } else {\n start.state = start.internalState;\n throw new CursorError('Invalid hexadecimal escape sequence', start);\n }\n }\n}\n\nexport class CursorError {\n constructor(public msg: string, public cursor: CharacterCursor) {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ParseError, ParseSourceSpan} from '../parse_util';\n\nimport * as html from './ast';\nimport * as lex from './lexer';\nimport {getNsPrefix, mergeNsAndName, splitNsName, TagDefinition}

```
from './tags';\n\nexport class TreeError extends ParseError {\n  static create(elementName: string|null, span: ParseSourceSpan, msg: string): TreeError {\n    return new TreeError(elementName, span, msg);\n  }\n\n  constructor(public elementName: string|null, span: ParseSourceSpan, msg: string) {\n    super(span, msg);\n  }\n}\n\nexport
 class ParseTreeResult {\n  constructor(public rootNodes: html.Node[], public errors: ParseError[]) {}\n}\n\nexport class Parser {\n  constructor(public getTagDefinition: (tagName: string) => TagDefinition) {}\n\n  parse(source: string, url: string, options?: lex.TokenizeOptions): ParseTreeResult {\n    const tokenizeResult = lex.tokenize(source, url, this.getTagDefinition, options);\n    const parser = new _TreeBuilder(tokenizeResult.tokens, this.getTagDefinition);\n    parser.build();\n    return new ParseTreeResult(\n      parser.rootNodes,\n      (tokenizeResult.errors as ParseError[]).concat(parser.errors),\n    );\n  }\n}\n\nclass _TreeBuilder {\n  private _index: number = -1;\n  // `_peek` will be initialized by the call to `advance()` in the constructor.\n  private _peek!: lex.Token;\n  private _elementStack: html.Element[] = [];\n\n  rootNodes: html.Node[] = [];\n  errors: TreeError[] = [];\n\n  constructor(\n      private tokens: lex.Token[], private getTagDefinition:
 (tagName: string) => TagDefinition) {\n    this._advance();\n  }\n\n  build(): void {\n    while (this._peek.type !== lex.TokenType.EOF) {\n      if (this._peek.type === lex.TokenType.TAG_OPEN_START ||\n          this._peek.type === lex.TokenType.INCOMPLETE_TAG_OPEN) {\n        this._consumeStartTag(this._advance());\n      } else if (this._peek.type === lex.TokenType.TAG_CLOSE) {\n        this._consumeEndTag(this._advance());\n      } else if (this._peek.type === lex.TokenType.CDATA_START) {\n        this._closeVoidElement();\n        this._consumeCdata(this._advance());\n      } else if (this._peek.type === lex.TokenType.COMMENT_START) {\n        this._closeVoidElement();\n        this._consumeComment(this._advance());\n      } else if (\n          this._peek.type === lex.TokenType.TEXT || this._peek.type === lex.TokenType.RAW_TEXT ||\n          this._peek.type === lex.TokenType.ESCAPABLE_RAW_TEXT) {\n        this._closeVoidElement();\n        this._consumeText(this._advance());\n
      } else if (this._peek.type === lex.TokenType.EXPANSION_FORM_START) {\n        this._consumeExpansion(this._advance());\n      } else {\n        // Skip all other tokens...\n        this._advance();\n      }\n    }\n  }\n\n  private _advance(): lex.Token {\n    const prev = this._peek;\n    if (this._index < this.tokens.length - 1) {\n      // Note: there is always an EOF token at the end\n      this._index++;\n    }\n    this._peek = this.tokens[this._index];\n    return prev;\n  }\n\n  private _advanceIf(type: lex.TokenType): lex.Token|null {\n    if (this._peek.type === type) {\n      return this._advance();\n    }\n    return null;\n  }\n\n  private _consumeCdata(_startToken: lex.Token) {\n    this._consumeText(this._advance());\n    this._advanceIf(lex.TokenType.CDATA_END);\n  }\n\n  private _consumeComment(token: lex.Token) {\n    const text = this._advanceIf(lex.TokenType.RAW_TEXT);\n    this._advanceIf(lex.TokenType.COMMENT_END);\n    const value = text != null ? text.parts[0].trim()
 : null;\n    this._addToParent(new html.Comment(value, token.sourceSpan));\n  }\n\n  private _consumeExpansion(token: lex.Token) {\n    const switchValue = this._advance();\n\n    const type = this._advance();\n    const cases: html.ExpansionCase[] = [];\n\n    // read =\n    while (this._peek.type === lex.TokenType.EXPANSION_CASE_VALUE) {\n      const expCase = this._parseExpansionCase();\n      if (!expCase) return;  // error\n      cases.push(expCase);\n    }\n\n    // read the final }\n    if (this._peek.type !== lex.TokenType.EXPANSION_FORM_END) {\n      this.errors.push(\n          TreeError.create(null, this._peek.sourceSpan, `Invalid ICU message. Missing '}'.`));\n      return;\n    }\n    const sourceSpan = new ParseSourceSpan(\n        token.sourceSpan.start, this._peek.sourceSpan.end, token.sourceSpan.fullStart);\n    this._addToParent(new html.Expansion(\n        switchValue.parts[0], type.parts[0], cases, sourceSpan, switchValue.sourceSpan));\n\n    this._advance();\n
  }\n\n  private _parseExpansionCase(): html.ExpansionCase|null {\n    const value = this._advance();\n\n    // read {\n    if (this._peek.type !== lex.TokenType.EXPANSION_CASE_EXP_START) {\n      this.errors.push(\n          TreeError.create(null, this._peek.sourceSpan, `Invalid ICU message. Missing '{'.`));\n      return null;\n    }\n\n    // read until }\n    const start = this._advance();\n\n    const exp = this._collectExpansionExpTokens(start);\n    if (!exp)
```

```
return null;\n\n    const end = this._advance();\n    exp.push(new lex.Token(lex.TokenType.EOF, [],
end.sourceSpan));\n\n    // parse everything in between { and }\n    const expansionCaseParser = new
_TreeBuilder(exp, this.getTagDefinition);\n    expansionCaseParser.build();\n    if
(expansionCaseParser.errors.length > 0) {\n      this.errors = this.errors.concat(expansionCaseParser.errors);\n
return null;\n    }\n\n    const sourceSpan =\n        new ParseSourceSpan(value.sourceSpan.start, end.sourceSpan.end,
 value.sourceSpan.fullStart);\n    const expSourceSpan =\n        new ParseSourceSpan(start.sourceSpan.start,
end.sourceSpan.end, start.sourceSpan.fullStart);\n    return new html.ExpansionCase(\n        value.parts[0],
expansionCaseParser.rootNodes, sourceSpan, value.sourceSpan, expSourceSpan);\n  }\n\n  private
_collectExpansionExpTokens(start: lex.Token): lex.Token[]|null {\n    const exp: lex.Token[] = [];\n    const
expansionFormStack = [lex.TokenType.EXPANSION_CASE_EXP_START];\n\n    while (true) {\n      if
(this._peek.type === lex.TokenType.EXPANSION_FORM_START ||\n          this._peek.type ===
lex.TokenType.EXPANSION_CASE_EXP_START) {\n        expansionFormStack.push(this._peek.type);\n
}\n\n      if (this._peek.type === lex.TokenType.EXPANSION_CASE_EXP_END) {\n        if
(lastOnStack(expansionFormStack, lex.TokenType.EXPANSION_CASE_EXP_START)) {\n
expansionFormStack.pop();\n          if (expansionFormStack.length == 0) return exp;\n\n        } else {\n
    this.errors.push(\n              TreeError.create(null, start.sourceSpan, `Invalid ICU message. Missing '}'.`));\n
return null;\n        }\n      }\n\n      if (this._peek.type === lex.TokenType.EXPANSION_FORM_END) {\n        if
(lastOnStack(expansionFormStack, lex.TokenType.EXPANSION_FORM_START)) {\n
expansionFormStack.pop();\n        } else {\n          this.errors.push(\n              TreeError.create(null, start.sourceSpan,
`Invalid ICU message. Missing '}'.`));\n          return null;\n        }\n      }\n\n      if (this._peek.type ===
lex.TokenType.EOF) {\n        this.errors.push(\n            TreeError.create(null, start.sourceSpan, `Invalid ICU
message. Missing '}'.`));\n        return null;\n      }\n\n      exp.push(this._advance());\n    }\n  }\n\n  private
_consumeText(token: lex.Token) {\n    let text = token.parts[0];\n    if (text.length > 0 && text[0] == '\\n') {\n
const parent = this._getParentElement();\n      if (parent != null && parent.children.length
 == 0 &&\n          this.getTagDefinition(parent.name).ignoreFirstLf) {\n        text = text.substring(1);\n      }\n    }\n\n
  if (text.length > 0) {\n      this._addToParent(new html.Text(text, token.sourceSpan));\n    }\n  }\n\n  private
_closeVoidElement(): void {\n    const el = this._getParentElement();\n    if (el &&
this.getTagDefinition(el.name).isVoid) {\n      this._elementStack.pop();\n    }\n  }\n\n  private
_consumeStartTag(startTagToken: lex.Token) {\n    const [prefix, name] = startTagToken.parts;\n    const attrs:
html.Attribute[] = [];\n    while (this._peek.type === lex.TokenType.ATTR_NAME) {\n
attrs.push(this._consumeAttr(this._advance()));\n    }\n    const fullName = this._getElementFullName(prefix, name,
this._getParentElement());\n    let selfClosing = false;\n    // Note: There could have been a tokenizer error\n    // so
that we don't get a token for the end tag...\n    if (this._peek.type === lex.TokenType.TAG_OPEN_END_VOID) {\n
    this._advance();\n
      selfClosing = true;\n      const tagDef = this.getTagDefinition(fullName);\n      if (!(tagDef.canSelfClose ||
getNsPrefix(fullName) !== null || tagDef.isVoid)) {\n        this.errors.push(TreeError.create(\n            fullName,
startTagToken.sourceSpan,\n            `Only void and foreign elements can be self closed
\"${startTagToken.parts[1]}\"`));\n      }\n    } else if (this._peek.type === lex.TokenType.TAG_OPEN_END) {\n
this._advance();\n      selfClosing = false;\n    }\n    const end = this._peek.sourceSpan.start;\n    const span = new
ParseSourceSpan(\n        startTagToken.sourceSpan.start, end, startTagToken.sourceSpan.fullStart);\n    // Create a
separate `startSpan` because `span` will be modified when there is an `end` span.\n    const startSpan = new
ParseSourceSpan(\n        startTagToken.sourceSpan.start, end, startTagToken.sourceSpan.fullStart);\n    const el =
new html.Element(fullName, attrs, [], span, startSpan, undefined);\n    this._pushElement(el);\n
    if (selfClosing) {\n      // Elements that are self-closed have their `endSourceSpan` set to the full span, as the\n
// element start tag also represents the end tag.\n      this._popElement(fullName, span);\n    } else if
(startTagToken.type === lex.TokenType.INCOMPLETE_TAG_OPEN) {\n      // We already know the opening tag
is not complete, so it is unlikely it has a corresponding\n      // close tag. Let's optimistically parse it as a full element
and emit an error.\n      this._popElement(fullName, null);\n      this.errors.push(\n          TreeError.create(fullName,
```

span, `Opening tag \"${fullName}\" not terminated.`));\n }\n }\n\n private _pushElement(el: html.Element) {\n const parentEl = this._getParentElement();\n\n if (parentEl &&
this.getTagDefinition(parentEl.name).isClosedByChild(el.name)) {\n this._elementStack.pop();\n }\n\n this._addToParent(el);\n this._elementStack.push(el);\n }\n\n private _consumeEndTag(endTagToken:
lex.Token)
{\n const fullName = this._getElementFullName(\n endTagToken.parts[0], endTagToken.parts[1],
this._getParentElement());\n\n if (this.getTagDefinition(fullName).isVoid) {\n
this.errors.push(TreeError.create(\n fullName, endTagToken.sourceSpan,\n `Void elements do not have
end tags \"${endTagToken.parts[1]}\"`));\n } else if (!this._popElement(fullName, endTagToken.sourceSpan)) {\n
const errMsg = `Unexpected closing tag \"${\n fullName}\". It may happen when the tag has already been
closed by another tag. For more info see https://www.w3.org/TR/html5/syntax.html#closing-elements-that-have-
implied-end-tags`;\n this.errors.push(TreeError.create(fullName, endTagToken.sourceSpan, errMsg));\n }\n
}\n\n /**\n * Closes the nearest element with the tag name `fullName` in the parse tree.\n * `endSourceSpan` is
the span of the closing tag, or null if the element does\n * not have a closing tag (for example, this happens
when an incomplete\n * opening tag is recovered).\n */\n private _popElement(fullName: string,
endSourceSpan: ParseSourceSpan|null): boolean {\n for (let stackIndex = this._elementStack.length - 1;
stackIndex >= 0; stackIndex--) {\n const el = this._elementStack[stackIndex];\n if (el.name == fullName) {\n
// Record the parse span with the element that is being closed. Any elements that are\n // removed from the
element stack at this point are closed implicitly, so they won't get\n // an end source span (as there is no explicit
closing element).\n el.endSourceSpan = endSourceSpan;\n el.sourceSpan.end = endSourceSpan !== null ?
endSourceSpan.end : el.sourceSpan.end;\n\n this._elementStack.splice(stackIndex, this._elementStack.length -
stackIndex);\n return true;\n }\n\n if (!this.getTagDefinition(el.name).closedByParent) {\n return
false;\n }\n }\n return false;\n }\n\n private _consumeAttr(attrName:
lex.Token): html.Attribute {\n const fullName = mergeNsAndName(attrName.parts[0], attrName.parts[1]);\n let
end = attrName.sourceSpan.end;\n let value = '';\n let valueSpan: ParseSourceSpan = undefined!;\n if
(this._peek.type === lex.TokenType.ATTR_QUOTE) {\n this._advance();\n }\n if (this._peek.type ===
lex.TokenType.ATTR_VALUE) {\n const valueToken = this._advance();\n value = valueToken.parts[0];\n
end = valueToken.sourceSpan.end;\n valueSpan = valueToken.sourceSpan;\n }\n if (this._peek.type ===
lex.TokenType.ATTR_QUOTE) {\n const quoteToken = this._advance();\n end =
quoteToken.sourceSpan.end;\n }\n return new html.Attribute(\n fullName, value,\n new
ParseSourceSpan(attrName.sourceSpan.start, end, attrName.sourceSpan.fullStart),\n valueSpan);\n }\n\n
private _getParentElement(): html.Element|null {\n return this._elementStack.length > 0 ?
this._elementStack[this._elementStack.length
- 1] : null;\n }\n\n private _addToParent(node: html.Node) {\n const parent = this._getParentElement();\n if
(parent != null) {\n parent.children.push(node);\n } else {\n this.rootNodes.push(node);\n }\n }\n\n
private _getElementFullName(prefix: string, localName: string, parentElement: html.Element|null):\n string {\n
if (prefix === '') {\n prefix = this.getTagDefinition(localName).implicitNamespacePrefix || '';\n if (prefix ===
'' && parentElement != null) {\n const parentTagName = splitNsName(parentElement.name)[1];\n const
parentTagDefinition = this.getTagDefinition(parentTagName);\n if
(!parentTagDefinition.preventNamespaceInheritance) {\n prefix = getNsPrefix(parentElement.name);\n
}\n }\n }\n\n return mergeNsAndName(prefix, localName);\n }\n}\n\nfunction lastOnStack(stack: any[],
element: any): boolean {\n return stack.length > 0 && stack[stack.length - 1] === element;\n}\n","/**\n
* @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an
MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport
{getHtmlTagDefinition} from './html_tags';\nimport {TokenizeOptions} from './lexer';\nimport {Parser,
ParseTreeResult} from './parser';\n\nexport {ParseTreeResult, TreeError} from './parser';\n\nexport class HtmlParser
extends Parser {\n constructor() {\n super(getHtmlTagDefinition);\n }\n\n parse(source: string, url: string,
options?: TokenizeOptions): ParseTreeResult {\n return super.parse(source, url, options);\n }\n}\n","/**\n *

@license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as html from './ast';\nimport {ParseTreeResult} from './parser';\nimport {NGSP_UNICODE} from './tags';\n\nexport const PRESERVE_WS_ATTR_NAME = 'ngPreserveWhitespaces';\n\nconst SKIP_WS_TRIM_TAGS = new Set(['pre', 'template', 'textarea', 'script', 'style']);\n\n// Equivalent to \\s with \\u00a0 (non-breaking space) excluded.\n// Based on https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp\nconst WS_CHARS = ' \\f\\n\\r\\t\\v\\u1680\\u180e\\u2000-\\u200a\\u2028\\u2029\\u202f\\u205f\\u3000\\ufeff';\nconst NO_WS_REGEXP = new RegExp(`[^${WS_CHARS}]`);\nconst WS_REPLACE_REGEXP = new RegExp(`[${WS_CHARS}]{2,}`, 'g');\n\nfunction hasPreserveWhitespacesAttr(attrs: html.Attribute[]): boolean {\n  return attrs.some((attr: html.Attribute) => attr.name === PRESERVE_WS_ATTR_NAME);\n}\n\n/**\n * Angular Dart introduced &ngsp; as a placeholder for non-removable space, see:\n * https://github.com/dart-lang/angular/blob/0bb611387d29d65b5af7f9d2515ab571fd3fbee4/_tests/test/compiler/preserve_whitespace_test.dart#L25-L32\n * In Angular Dart &ngsp; is converted to the 0xE500 PUA (Private Use Areas) unicode character\n * and later on replaced by a space. We are re-implementing the same idea here.\n */\nexport function replaceNgsp(value: string): string {\n  // lexer is replacing the &ngsp; pseudo-entity with NGSP_UNICODE\n  return value.replace(new RegExp(NGSP_UNICODE, 'g'), ' ');\n}\n\n/**\n * This visitor can walk HTML parse tree and remove / trim text nodes using the following rules:\n * - consider spaces, tabs and new lines as whitespace characters;\n * - drop text nodes consisting of whitespace characters only;\n * - for all other text nodes replace consecutive whitespace characters with one space;\n * - convert &ngsp; pseudo-entity to a single space;\n *\n * Removal and trimming of whitespaces have positive performance impact (less code to generate\n * while compiling templates, faster view creation). At the same time it can be \"destructive\"\n * in some cases (whitespaces can influence layout). Because of the potential of breaking layout\n * this visitor is not activated by default in Angular 5 and people need to explicitly opt-in for\n * whitespace removal. The default option for whitespace removal will be revisited in Angular 6\n * and might be changed to \"on\" by default.\n */\nexport class WhitespaceVisitor implements html.Visitor {\n  visitElement(element: html.Element, context: any): any {\n    if (SKIP_WS_TRIM_TAGS.has(element.name) || hasPreserveWhitespacesAttr(element.attrs)) {\n      // don't descent into elements where we need to preserve whitespaces\n      // but still visit all attributes to eliminate one used as a market to preserve WS\n      return new html.Element(\n          element.name, html.visitAll(this, element.attrs), element.children, element.sourceSpan,\n          element.startSourceSpan, element.endSourceSpan, element.i18n);\n    }\n\n    return new html.Element(\n        element.name, element.attrs, visitAllWithSiblings(this, element.children),\n        element.sourceSpan, element.startSourceSpan, element.endSourceSpan, element.i18n);\n  }\n\n  visitAttribute(attribute: html.Attribute, context: any): any {\n    return attribute.name !== PRESERVE_WS_ATTR_NAME ? attribute : null;\n  }\n\n  visitText(text: html.Text, context: SiblingVisitorContext|null): any {\n    const isNotBlank = text.value.match(NO_WS_REGEXP);\n    const hasExpansionSibling = context &&\n        (context.prev instanceof html.Expansion || context.next instanceof html.Expansion);\n\n    if (isNotBlank || hasExpansionSibling) {\n      return new html.Text(\n replaceNgsp(text.value).replace(WS_REPLACE_REGEXP, ' '), text.sourceSpan, text.i18n);\n    }\n\n    return null;\n  }\n\n  visitComment(comment: html.Comment, context: any): any {\n    return comment;\n  }\n\n  visitExpansion(expansion: html.Expansion, context: any): any {\n    return expansion;\n  }\n\n  visitExpansionCase(expansionCase: html.ExpansionCase, context: any): any {\n    return expansionCase;\n  }\n}\n\nexport function removeWhitespaces(htmlAstWithErrors: ParseTreeResult): ParseTreeResult {\n  return new ParseTreeResult(\n      html.visitAll(new WhitespaceVisitor(), htmlAstWithErrors.rootNodes),\n      htmlAstWithErrors.errors);\n}\n\ninterface SiblingVisitorContext {\n  prev: html.Node|undefined;\n  next: html.Node|undefined;\n}\n\nfunction visitAllWithSiblings(visitor: WhitespaceVisitor, nodes: html.Node[]): any[] {\n  const result: any[] = [];\n\n  nodes.forEach((ast, i) => {\n    const context: SiblingVisitorContext = {prev: nodes[i - 1], next: nodes[i + 1]};\n    const astResult = ast.visit(visitor, context);\n    if (astResult) {\n      result.push(astResult);\n    }\n  });\n  return result;\n}\n","/**\n * @license\n * Copyright

Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ParseError, ParseSourceSpan} from '../parse_util';\n\nimport * as html from './ast';\n\n// http://cldr.unicode.org/index/cldr-spec/plural-rules\nconst PLURAL_CASES: string[] = ['zero', 'one', 'two', 'few', 'many', 'other'];\n\n/**\n * Expands special forms into elements.\n *\n * For example,\n *\n * ```\n * { messages.length, plural,\n *   =0 {zero}\n *   =1 {one}\n *   other {more than one}\n * }\n * ```\n *\n * will be expanded into\n *\n * ```\n * <ng-container [ngPlural]=\"messages.length\">\n *   <ng-template ngPluralCase=\"=0\">zero</ng-template>\n *   <ng-template ngPluralCase=\"=1\">one</ng-template>\n *   <ng-template ngPluralCase=\"other\">more than one</ng-template>\n * </ng-container>\n * ```\n */\nexport function expandNodes(nodes: html.Node[]): ExpansionResult {\n const expander = new _Expander();\n return new ExpansionResult(html.visitAll(expander, nodes), expander.isExpanded, expander.errors);\n}\n\nexport class ExpansionResult {\n constructor(public nodes: html.Node[], public expanded: boolean, public errors: ParseError[]) {}\n}\n\nexport class ExpansionError extends ParseError {\n constructor(span: ParseSourceSpan, errorMsg: string) {\n super(span, errorMsg);\n }\n}\n\n/**\n * Expand expansion forms (plural, select) to directives\n *\n * @internal\n */\nclass _Expander implements html.Visitor {\n isExpanded: boolean = false;\n errors: ParseError[] = [];\n\n visitElement(element: html.Element, context: any): any {\n return new html.Element(\n element.name, element.attrs, html.visitAll(this, element.children), element.sourceSpan,\n element.startSourceSpan, element.endSourceSpan);\n }\n\n visitAttribute(attribute: html.Attribute, context: any): any {\n return attribute;\n }\n\n visitText(text: html.Text, context: any): any {\n return text;\n }\n\n visitComment(comment: html.Comment, context: any): any {\n return comment;\n }\n\n visitExpansion(icu: html.Expansion, context: any): any {\n this.isExpanded = true;\n return icu.type == 'plural' ? _expandPluralForm(icu, this.errors) :\n _expandDefaultForm(icu, this.errors);\n }\n\n visitExpansionCase(icuCase: html.ExpansionCase, context: any): any {\n throw new Error('Should not be reached');\n }\n}\n\n// Plural forms are expanded to `NgPlural` and `NgPluralCase`s\nfunction _expandPluralForm(ast: html.Expansion, errors: ParseError[]): html.Element {\n const children = ast.cases.map(c => {\n if (PLURAL_CASES.indexOf(c.value) == -1 && !c.value.match(/^=\\d+$/)) {\n errors.push(new ExpansionError(\n c.valueSourceSpan,\n `Plural cases should be \"=<number>\" or one of ${PLURAL_CASES.join(', ')}`));\n }\n\n const expansionResult = expandNodes(c.expression);\n errors.push(...expansionResult.errors);\n\n return new html.Element(\n `ng-template`, [new html.Attribute('ngPluralCase', `${c.value}`, c.valueSourceSpan)],\n expansionResult.nodes, c.sourceSpan, c.sourceSpan, c.sourceSpan);\n });\n const switchAttr = new html.Attribute('[ngPlural]', ast.switchValue, ast.switchValueSourceSpan);\n\n return new html.Element(\n 'ng-container', [switchAttr], children, ast.sourceSpan, ast.sourceSpan, ast.sourceSpan);\n}\n\n// ICU messages (excluding plural form) are expanded to `NgSwitch` and `NgSwitchCase`s\nfunction _expandDefaultForm(ast: html.Expansion, errors: ParseError[]): html.Element {\n const children = ast.cases.map(c => {\n const expansionResult = expandNodes(c.expression);\n errors.push(...expansionResult.errors);\n\n if (c.value === 'other') {\n // other is the default case when no values match\n return new html.Element(\n `ng-template`, [new html.Attribute('ngSwitchDefault', '', c.valueSourceSpan)],\n expansionResult.nodes, c.sourceSpan, c.sourceSpan, c.sourceSpan);\n }\n\n return new html.Element(\n `ng-template`, [new html.Attribute('ngSwitchCase', `${c.value}`, c.valueSourceSpan)],\n expansionResult.nodes, c.sourceSpan, c.sourceSpan, c.sourceSpan);\n });\n const switchAttr = new html.Attribute('[ngSwitch]',\n ast.switchValue, ast.switchValueSourceSpan);\n return new html.Element(\n 'ng-container', [switchAttr], children, ast.sourceSpan, ast.sourceSpan, ast.sourceSpan);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AstPath} from '../ast_path';\nimport {CompileDirectiveSummary, CompileProviderMetadata, CompileTokenMetadata} from '../compile_metadata';\nimport {SecurityContext} from '../core';\nimport {ASTWithSource, BindingType,

BoundElementProperty, ParsedEvent, ParsedEventType, ParsedVariable} from '../expression_parser/ast';\nimport {LifecycleHooks} from '../lifecycle_reflector';\nimport {ParseSourceSpan} from '../parse_util';\n\n\n\n/**\n * An Abstract Syntax Tree node representing part of a parsed Angular template.\n */\nexport interface TemplateAst {\n /**\n * The source span from which
this node was parsed.\n */\n sourceSpan: ParseSourceSpan;\n\n /**\n * Visit this node and possibly transform it.\n */\n visit(visitor: TemplateAstVisitor, context: any): any;\n}\n\n/**\n * A segment of text within the template.\n */\nexport class TextAst implements TemplateAst {\n constructor(\n public value: string, public ngContentIndex: number, public sourceSpan: ParseSourceSpan) {}\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitText(this, context);\n }\n}\n\n/**\n * A bound expression within the text of a template.\n */\nexport class BoundTextAst implements TemplateAst {\n constructor(\n public value: ASTWithSource, public ngContentIndex: number,\n public sourceSpan: ParseSourceSpan) {}\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitBoundText(this, context);\n }\n}\n\n/**\n * A plain attribute on an element.\n */\nexport class AttrAst implements TemplateAst {\n constructor(public
name: string, public value: string, public sourceSpan: ParseSourceSpan) {}\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitAttr(this, context);\n }\n}\n\nexport const enum PropertyBindingType {\n // A normal binding to a property (e.g. `[property]=\"expression\"`).\n Property,\n // A binding to an element attribute (e.g. `[attr.name]=\"expression\"`).\n Attribute,\n // A binding to a CSS class (e.g. `[class.name]=\"condition\"`).\n Class,\n // A binding to a style rule (e.g. `[style.rule]=\"expression\"`).\n Style,\n // A binding to an animation reference (e.g. `[animate.key]=\"expression\"`).\n Animation,\n}\n\nconst BoundPropertyMapping = {\n [BindingType.Animation]: PropertyBindingType.Animation,\n [BindingType.Attribute]: PropertyBindingType.Attribute,\n [BindingType.Class]: PropertyBindingType.Class,\n [BindingType.Property]: PropertyBindingType.Property,\n [BindingType.Style]: PropertyBindingType.Style,\n};\n\n/**\n * A binding
for an element property (e.g. `[property]=\"expression\"`) or an animation trigger (e.g.\n * `[@trigger]=\"stateExp\"`)\n */\nexport class BoundElementPropertyAst implements TemplateAst {\n readonly isAnimation: boolean;\n\n constructor(\n public name: string, public type: PropertyBindingType,\n public securityContext: SecurityContext, public value: ASTWithSource,\n public unit: string|null, public sourceSpan: ParseSourceSpan) {\n this.isAnimation = this.type === PropertyBindingType.Animation;\n }\n\n static fromBoundProperty(prop: BoundElementProperty) {\n const type = BoundPropertyMapping[prop.type];\n return new BoundElementPropertyAst(\n prop.name, type, prop.securityContext, prop.value, prop.unit, prop.sourceSpan);\n }\n\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitElementProperty(this, context);\n }\n}\n\n/**\n * A binding for an element event (e.g. `(event)=\"handler()\"`) or an animation trigger event
(e.g.\n * `(@trigger.phase)=\"callback($event)\"`).\n */\nexport class BoundEventAst implements TemplateAst {\n readonly fullName: string;\n readonly isAnimation: boolean;\n\n constructor(\n public name: string, public target: string|null, public phase: string|null,\n public handler: ASTWithSource, public sourceSpan: ParseSourceSpan,\n public handlerSpan: ParseSourceSpan) {\n this.fullName = BoundEventAst.calcFullName(this.name, this.target, this.phase);\n this.isAnimation = !!this.phase;\n }\n\n static calcFullName(name: string, target: string|null, phase: string|null): string {\n if (target) {\n return `${target}:${name}`;\n }\n if (phase) {\n return `@${name}.${phase}`;\n }\n\n return name;\n }\n\n static fromParsedEvent(event: ParsedEvent) {\n const target: string|null = event.type === ParsedEventType.Regular ? event.targetOrPhase : null;\n const phase: string|null =\n event.type === ParsedEventType.Animation ? event.targetOrPhase
: null;\n return new BoundEventAst(\n event.name, target, phase, event.handler, event.sourceSpan, event.handlerSpan);\n }\n\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitEvent(this, context);\n }\n}\n\n/**\n * A reference declaration on an element (e.g. `let someName=\"expression\"`).\n */\nexport class ReferenceAst implements TemplateAst {\n constructor(\n public name: string, public value: CompileTokenMetadata, public originalValue: string,\n public sourceSpan: ParseSourceSpan) {}\n visit(visitor:

TemplateAstVisitor, context: any): any {\n return visitor.visitReference(this, context);\n }\n}\n\n/**\n * A variable declaration on a <ng-template> (e.g. `var-someName=\"someLocalName\"`).\n */\nexport class VariableAst implements TemplateAst {\n constructor(\n public readonly name: string, public readonly value: string,\n public readonly sourceSpan: ParseSourceSpan, public readonly valueSpan?:
ParseSourceSpan) {}\n\n static fromParsedVariable(v: ParsedVariable) {\n return new VariableAst(v.name, v.value, v.sourceSpan, v.valueSpan);\n }\n\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitVariable(this, context);\n }\n}\n\n/**\n * An element declaration in a template.\n */\nexport class ElementAst implements TemplateAst {\n constructor(\n public name: string, public attrs: AttrAst[], public inputs: BoundElementPropertyAst[],\n public outputs: BoundEventAst[], public references: ReferenceAst[],\n public directives: DirectiveAst[], public providers: ProviderAst[],\n public hasViewContainer: boolean, public queryMatches: QueryMatch[],\n public children: TemplateAst[], public ngContentIndex: number|null,\n public sourceSpan: ParseSourceSpan, public endSourceSpan: ParseSourceSpan|null) {}\n\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitElement(this, context);\n }\n}\n\n/**\n * A `<ng-template>` element included in an Angular template.\n */\nexport class EmbeddedTemplateAst implements TemplateAst {\n constructor(\n public attrs: AttrAst[], public outputs: BoundEventAst[], public references: ReferenceAst[],\n public variables: VariableAst[], public directives: DirectiveAst[],\n public providers: ProviderAst[], public hasViewContainer: boolean,\n public queryMatches: QueryMatch[], public children: TemplateAst[],\n public ngContentIndex: number, public sourceSpan: ParseSourceSpan) {}\n\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitEmbeddedTemplate(this, context);\n }\n}\n\n/**\n * A directive property with a bound value (e.g. `*ngIf=\"condition\").\n */\nexport class BoundDirectivePropertyAst implements TemplateAst {\n constructor(\n public directiveName: string, public templateName: string, public value: ASTWithSource,\n public sourceSpan: ParseSourceSpan) {}\n visit(visitor: TemplateAstVisitor,
context: any): any {\n return visitor.visitDirectiveProperty(this, context);\n }\n}\n\n/**\n * A directive declared on an element.\n */\nexport class DirectiveAst implements TemplateAst {\n constructor(\n public directive: CompileDirectiveSummary, public inputs: BoundDirectivePropertyAst[],\n public hostProperties: BoundElementPropertyAst[], public hostEvents: BoundEventAst[],\n public contentQueryStartId: number, public sourceSpan: ParseSourceSpan) {}\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitDirective(this, context);\n }\n}\n\n/**\n * A provider declared on an element\n */\nexport class ProviderAst implements TemplateAst {\n constructor(\n public token: CompileTokenMetadata, public multiProvider: boolean, public eager: boolean,\n public providers: CompileProviderMetadata[], public providerType: ProviderAstType,\n public lifecycleHooks: LifecycleHooks[], public sourceSpan: ParseSourceSpan,\n
readonly isModule: boolean) {}\n\n visit(visitor: TemplateAstVisitor, context: any): any {\n // No visit method in the visitor for now...\n return null;\n }\n}\n\nexport enum ProviderAstType {\n PublicService,\n PrivateService,\n Component,\n Directive,\n Builtin\n}\n\n/**\n * Position where content is to be projected (instance of `<ng-content>` in a template).\n */\nexport class NgContentAst implements TemplateAst {\n constructor(\n public index: number, public ngContentIndex: number, public sourceSpan: ParseSourceSpan) {}\n visit(visitor: TemplateAstVisitor, context: any): any {\n return visitor.visitNgContent(this, context);\n }\n}\n\nexport interface QueryMatch {\n queryId: number;\n value: CompileTokenMetadata;\n}\n\n/**\n * A visitor for {@link TemplateAst} trees that will process each node.\n */\nexport interface TemplateAstVisitor {\n // Returning a truthy value from `visit()` will prevent `templateVisitAll()` from the call to\n // the typed method
and result returned will become the result included in `visitAll()`s\n // result array.\n visit?(ast: TemplateAst, context: any): any;\n\n visitNgContent(ast: NgContentAst, context: any): any;\n visitEmbeddedTemplate(ast: EmbeddedTemplateAst, context: any): any;\n visitElement(ast: ElementAst, context: any): any;\n visitReference(ast: ReferenceAst, context: any): any;\n visitVariable(ast: VariableAst, context: any): any;\n visitEvent(ast: BoundEventAst, context: any): any;\n visitElementProperty(ast: BoundElementPropertyAst, context: any): any;\n visitAttr(ast: AttrAst, context: any): any;\n visitBoundText(ast: BoundTextAst, context: any): any;\n

visitText(ast: TextAst, context: any): any;\n  visitDirective(ast: DirectiveAst, context: any): any;\n  visitDirectiveProperty(ast: BoundDirectivePropertyAst, context: any): any;\n}\n\n/**\n * A visitor that accepts each node but doesn't do anything. It is intended to be used\n * as the base class for a visitor that is only interested  in a subset of the node types.\n */\nexport class NullTemplateVisitor implements TemplateAstVisitor {\n  visitNgContent(ast: NgContentAst, context: any): void {}\n  visitEmbeddedTemplate(ast: EmbeddedTemplateAst, context: any): void {}\n  visitElement(ast: ElementAst, context: any): void {}\n  visitReference(ast: ReferenceAst, context: any): void {}\n  visitVariable(ast: VariableAst, context: any): void {}\n  visitEvent(ast: BoundEventAst, context: any): void {}\n  visitElementProperty(ast: BoundElementPropertyAst, context: any): void {}\n  visitAttr(ast: AttrAst, context: any): void {}\n  visitBoundText(ast: BoundTextAst, context: any): void {}\n  visitText(ast: TextAst, context: any): void {}\n  visitDirective(ast: DirectiveAst, context: any): void {}\n  visitDirectiveProperty(ast: BoundDirectivePropertyAst, context: any): void {}\n}\n\n/**\n * Base class that can be used to build a visitor that visits each node\n * in an template ast recursively.\n */\nexport class RecursiveTemplateAstVisitor  extends NullTemplateVisitor implements TemplateAstVisitor {\n  constructor() {\n    super();\n  }\n\n  // Nodes with children\n  visitEmbeddedTemplate(ast: EmbeddedTemplateAst, context: any): any {\n    return this.visitChildren(context, visit => {\n      visit(ast.attrs);\n      visit(ast.references);\n      visit(ast.variables);\n      visit(ast.directives);\n      visit(ast.providers);\n      visit(ast.children);\n    });\n  }\n\n  visitElement(ast: ElementAst, context: any): any {\n    return this.visitChildren(context, visit => {\n      visit(ast.attrs);\n      visit(ast.inputs);\n      visit(ast.outputs);\n      visit(ast.references);\n      visit(ast.directives);\n      visit(ast.providers);\n      visit(ast.children);\n    });\n  }\n\n  visitDirective(ast: DirectiveAst, context: any): any {\n    return this.visitChildren(context, visit => {\n      visit(ast.inputs);\n      visit(ast.hostProperties);\n      visit(ast.hostEvents);\n    });\n  }\n\n  protected visitChildren(\n      context: any,\n      cb: (visit: (<V extends TemplateAst>(children: V[]|undefined) => void)) => void) {\n    let results: any[][] = [];\n    let t = this;\n    function visit<T extends TemplateAst>(children: T[]|undefined) {\n      if (children && children.length) results.push(templateVisitAll(t, children, context));\n    }\n    cb(visit);\n    return Array.prototype.concat.apply([], results);\n  }\n}\n\n/**\n * Visit every node in a list of {@link TemplateAst}s with the given {@link TemplateAstVisitor}.\n */\nexport function templateVisitAll(\n    visitor: TemplateAstVisitor, asts: TemplateAst[], context: any = null): any[] {\n  const result: any[] = [];\n  const visit = visitor.visit ?\n      (ast: TemplateAst) => visitor.visit!(ast, context) || ast.visit(visitor, context) :\n      (ast: TemplateAst) => ast.visit(visitor, context);\n  asts.forEach(ast => {\n    const astResult = visit(ast);\n    if (astResult) {\n      result.push(astResult);\n    }\n  });\n  return result;\n}\n\nexport type TemplateAstPath = AstPath<TemplateAst>;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {CompileDiDependencyMetadata, CompileDirectiveMetadata, CompileDirectiveSummary, CompileNgModuleMetadata, CompileProviderMetadata, CompileQueryMetadata, CompileTokenMetadata, CompileTypeMetadata, tokenName, tokenReference} from './compile_metadata';\nimport {CompileReflector} from './compile_reflector';\nimport {createTokenForExternalReference, Identifiers} from './identifiers';\nimport {ParseError, ParseSourceSpan} from './parse_util';\nimport {AttrAst, DirectiveAst, ProviderAst, ProviderAstType, QueryMatch, ReferenceAst} from './template_parser/template_ast';\n\nexport class ProviderError extends ParseError {\n  constructor(message: string, span: ParseSourceSpan) {\n    super(span, message);\n  }\n}\n\nexport interface QueryWithId {\n  meta: CompileQueryMetadata;\n  queryId: number;\n}\n\nexport class ProviderViewContext {\n  /**\n   * @internal\n   */\n  viewQueries: Map<any, QueryWithId[]>;\n  /**\n   * @internal\n   */\n  viewProviders: Map<any, boolean>;\n  errors: ProviderError[] = [];\n\n  constructor(public reflector: CompileReflector, public component: CompileDirectiveMetadata) {\n    this.viewQueries = _getViewQueries(component);\n    this.viewProviders = new Map<any, boolean>();\n    component.viewProviders.forEach((provider) => {\n      if (this.viewProviders.get(tokenReference(provider.token)) == null) {\n        this.viewProviders.set(tokenReference(provider.token), true);\n      }\n    });\n  }\n}\n\nexport class

```
ProviderElementContext {\n  private _contentQueries: Map<any, QueryWithId[]>;\n\n  private
_transformedProviders = new Map<any, ProviderAst>();\n  private _seenProviders = new Map<any, boolean>();\n
private _allProviders: Map<any, ProviderAst>;\n  private
 _attrs: {[key: string]: string};\n  private _queriedTokens = new Map<any, QueryMatch[]>();\n\n  public readonly
transformedHasViewContainer: boolean = false;\n\n  constructor(\n      public viewContext: ProviderViewContext,
private _parent: ProviderElementContext,\n      private _isViewRoot: boolean, private _directiveAsts:
DirectiveAst[], attrs: AttrAst[],\n      refs: ReferenceAst[], isTemplate: boolean, contentQueryStartId: number,\n
private _sourceSpan: ParseSourceSpan) {\n    this._attrs = {};\n    attrs.forEach((attrAst) => this._attrs[attrAst.name]
= attrAst.value);\n    const directivesMeta = _directiveAsts.map(directiveAst => directiveAst.directive);\n
this._allProviders =\n        _resolveProvidersFromDirectives(directivesMeta, _sourceSpan, viewContext.errors);\n
this._contentQueries = _getContentQueries(contentQueryStartId, directivesMeta);\n
Array.from(this._allProviders.values()).forEach((provider) => {\n      this._addQueryReadsTo(provider.token,
provider.token,
 this._queriedTokens);\n    });\n    if (isTemplate) {\n      const templateRefId =\n
createTokenForExternalReference(this.viewContext.reflector, Identifiers.TemplateRef);\n
this._addQueryReadsTo(templateRefId, templateRefId, this._queriedTokens);\n    }\n    refs.forEach((refAst) => {\n
    let defaultQueryValue = refAst.value ||\n          createTokenForExternalReference(this.viewContext.reflector,
Identifiers.ElementRef);\n      this._addQueryReadsTo({value: refAst.name}, defaultQueryValue,
this._queriedTokens);\n    });\n    if (this._queriedTokens.get(\n
this.viewContext.reflector.resolveExternalReference(Identifiers.ViewContainerRef))) {\n
this.transformedHasViewContainer = true;\n    }\n\n    // create the providers that we know are eager first\n
Array.from(this._allProviders.values()).forEach((provider) => {\n      const eager = provider.eager ||
this._queriedTokens.get(tokenReference(provider.token));\n      if (eager) {\n
this._getOrCreateLocalProvider(provider.providerType,
 provider.token, true);\n      }\n    });\n  }\n\n  afterElement() {\n    // collect lazy providers\n
Array.from(this._allProviders.values()).forEach((provider) => {\n
this._getOrCreateLocalProvider(provider.providerType, provider.token, false);\n    });\n  }\n\n  get
transformProviders(): ProviderAst[] {\n    // Note: Maps keep their insertion order.\n    const lazyProviders:
ProviderAst[] = [];\n    const eagerProviders: ProviderAst[] = [];\n    this._transformedProviders.forEach(provider
=> {\n      if (provider.eager) {\n        eagerProviders.push(provider);\n      } else {\n
lazyProviders.push(provider);\n      }\n    });\n    return lazyProviders.concat(eagerProviders);\n  }\n\n  get
transformedDirectiveAsts(): DirectiveAst[] {\n    const sortedProviderTypes = this.transformProviders.map(provider
=> provider.token.identifier);\n    const sortedDirectives = this._directiveAsts.slice();\n    sortedDirectives.sort(\n
      (dir1, dir2) => sortedProviderTypes.indexOf(dir1.directive.type) -\n
sortedProviderTypes.indexOf(dir2.directive.type));\n    return sortedDirectives;\n  }\n\n  get queryMatches():
QueryMatch[] {\n    const allMatches: QueryMatch[] = [];\n    this._queriedTokens.forEach((matches:
QueryMatch[]) => {\n      allMatches.push(...matches);\n    });\n    return allMatches;\n  }\n\n  private
_addQueryReadsTo(\n      token: CompileTokenMetadata, defaultValue: CompileTokenMetadata,\n
queryReadTokens: Map<any, QueryMatch[]>) {\n    this._getQueriesFor(token).forEach((query) => {\n      const
queryValue = query.meta.read || defaultValue;\n      const tokenRef = tokenReference(queryValue);\n      let
queryMatches = queryReadTokens.get(tokenRef);\n      if (!queryMatches) {\n        queryMatches = [];\n
queryReadTokens.set(tokenRef, queryMatches);\n      }\n      queryMatches.push({queryId: query.queryId, value:
queryValue});\n    });\n  }\n\n  private _getQueriesFor(token:
 CompileTokenMetadata): QueryWithId[] {\n    const result: QueryWithId[] = [];\n    let currentEl:
ProviderElementContext = this;\n    let distance = 0;\n    let queries: QueryWithId[]|undefined;\n    while (currentEl
!== null) {\n      queries = currentEl._contentQueries.get(tokenReference(token));\n      if (queries) {\n
result.push(...queries.filter((query) => query.meta.descendants || distance <= 1));\n      }\n      if
(currentEl._directiveAsts.length > 0) {\n        distance++;\n      }\n      currentEl = currentEl._parent;\n    }\n
```

```
queries = this.viewContext.viewQueries.get(tokenReference(token));\n    if (queries) {\n      result.push(...queries);\n    }\n    return result;\n  }\n\n\n  private _getOrCreateLocalProvider(\n      requestingProviderType: ProviderAstType, token: CompileTokenMetadata,\n      eager: boolean): ProviderAst|null {\n    const resolvedProvider = this._allProviders.get(tokenReference(token));\n    if (!resolvedProvider ||\n        ((requestingProviderType === ProviderAstType.Directive ||\n          requestingProviderType === ProviderAstType.PublicService) &&\n resolvedProvider.providerType === ProviderAstType.PrivateService) ||\n        ((requestingProviderType === ProviderAstType.PrivateService ||\n          requestingProviderType === ProviderAstType.PublicService) &&\n resolvedProvider.providerType === ProviderAstType.Builtin)) {\n      return null;\n    }\n    let transformedProviderAst = this._transformedProviders.get(tokenReference(token));\n    if (transformedProviderAst) {\n      return transformedProviderAst;\n    }\n    if (this._seenProviders.get(tokenReference(token)) != null) {\n this.viewContext.errors.push(new ProviderError(\n          `Cannot instantiate cyclic dependency! ${tokenName(token)}`, this._sourceSpan));\n      return null;\n    }\n this._seenProviders.set(tokenReference(token), true);\n    const transformedProviders = resolvedProvider.providers.map((provider) => {\n      let transformedUseValue = provider.useValue;\n      let transformedUseExisting = provider.useExisting!;\n      let transformedDeps: CompileDiDependencyMetadata[] = undefined!;\n      if (provider.useExisting != null) {\n        const existingDiDep = this._getDependency(\n            resolvedProvider.providerType, {token: provider.useExisting}, eager)!;\n        if (existingDiDep.token != null) {\n          transformedUseExisting = existingDiDep.token;\n        } else {\n transformedUseExisting = null!;\n          transformedUseValue = existingDiDep.value;\n        }\n      } else if (provider.useFactory) {\n        const deps = provider.deps || provider.useFactory.diDeps;\n        transformedDeps =\n            deps.map((dep) => this._getDependency(resolvedProvider.providerType, dep, eager)!);\n      } else if (provider.useClass) {\n        const deps = provider.deps || provider.useClass.diDeps;\n        transformedDeps =\n            deps.map((dep) => this._getDependency(resolvedProvider.providerType,\n dep, eager)!);\n      }\n      return _transformProvider(provider, {\n        useExisting: transformedUseExisting,\n useValue: transformedUseValue,\n        deps: transformedDeps\n      });\n    });\n    transformedProviderAst =\n _transformProviderAst(resolvedProvider, {eager: eager, providers: transformedProviders});\n this._transformedProviders.set(tokenReference(token), transformedProviderAst);\n    return transformedProviderAst;\n  }\n\n  private _getLocalDependency(\n      requestingProviderType: ProviderAstType, dep: CompileDiDependencyMetadata,\n      eager: boolean = false): CompileDiDependencyMetadata|null {\n    if (dep.isAttribute) {\n      const attrValue = this._attrs[dep.token!.value];\n      return {isValue: true, value: attrValue == null ? null : attrValue};\n    }\n\n    if (dep.token != null) {\n      // access builtints\n      if ((requestingProviderType === ProviderAstType.Directive ||\n           requestingProviderType === ProviderAstType.Component))
 {\n        if (tokenReference(dep.token) ===\n this.viewContext.reflector.resolveExternalReference(Identifiers.Renderer) ||\n            tokenReference(dep.token) ===\n                this.viewContext.reflector.resolveExternalReference(Identifiers.ElementRef) ||\n tokenReference(dep.token) ===\n                this.viewContext.reflector.resolveExternalReference(\n Identifiers.ChangeDetectorRef) ||\n            tokenReference(dep.token) ===\n this.viewContext.reflector.resolveExternalReference(Identifiers.TemplateRef)) {\n          return dep;\n        }\n        if (tokenReference(dep.token) ===\n this.viewContext.reflector.resolveExternalReference(Identifiers.ViewContainerRef)) {\n          (this as {transformedHasViewContainer: boolean}).transformedHasViewContainer = true;\n        }\n      }\n      // access the injector\n      if (tokenReference(dep.token) ===\n this.viewContext.reflector.resolveExternalReference(Identifiers.Injector))
 {\n        return dep;\n      }\n      // access providers\n      if (this._getOrCreateLocalProvider(requestingProviderType, dep.token, eager) != null) {\n        return dep;\n      }\n    }\n    return null;\n  }\n\n  private _getDependency(\n      requestingProviderType: ProviderAstType, dep: CompileDiDependencyMetadata,\n      eager: boolean = false): CompileDiDependencyMetadata|null {\n    let
```

```
currElement: ProviderElementContext = this;\n    let currEager: boolean = eager;\n    let result:
CompileDiDependencyMetadata|null = null;\n    if (!dep.isSkipSelf) {\n      result =
this._getLocalDependency(requestingProviderType, dep, eager);\n    }\n    if (dep.isSelf) {\n      if (!result &&
dep.isOptional) {\n        result = {isValue: true, value: null};\n      }\n    } else {\n      // check parent elements\n
while (!result && currElement._parent) {\n        const prevElement = currElement;\n        currElement =
currElement._parent;\n
        if (prevElement._isViewRoot) {\n          currEager = false;\n        }\n        result =
currElement._getLocalDependency(ProviderAstType.PublicService, dep, currEager);\n      }\n      // check @Host
restriction\n      if (!result) {\n        if (!dep.isHost || this.viewContext.component.isHost ||\n
this.viewContext.component.type.reference === tokenReference(dep.token!) ||\n
this.viewContext.viewProviders.get(tokenReference(dep.token!)) != null) {\n          result = dep;\n        } else {\n
 result = dep.isOptional ? {isValue: true, value: null} : null;\n        }\n      }\n    }\n    if (!result) {\n
this.viewContext.errors.push(\n          new ProviderError(`No provider for ${tokenName(dep.token!)}`,
this._sourceSpan));\n    }\n    return result;\n  }\n}\n\nexport class NgModuleProviderAnalyzer {\n  private
_transformedProviders = new Map<any, ProviderAst>();\n  private _seenProviders = new Map<any, boolean>();\n
private _allProviders:
 Map<any, ProviderAst>;\n  private _errors: ProviderError[] = [];\n\n  constructor(\n      private reflector:
CompileReflector, ngModule: CompileNgModuleMetadata,\n      extraProviders: CompileProviderMetadata[],
sourceSpan: ParseSourceSpan) {\n    this._allProviders = new Map<any, ProviderAst>();\n
ngModule.transitiveModule.modules.forEach((ngModuleType: CompileTypeMetadata) => {\n      const
ngModuleProvider = {token: {identifier: ngModuleType}, useClass: ngModuleType};\n      _resolveProviders(\n
  [ngModuleProvider], ProviderAstType.PublicService, true, sourceSpan, this._errors,\n          this._allProviders, /*
isModule */ true);\n    });\n    _resolveProviders(\n        ngModule.transitiveModule.providers.map(entry =>
entry.provider).concat(extraProviders),\n        ProviderAstType.PublicService, false, sourceSpan, this._errors,
this._allProviders,\n        /* isModule */ false);\n  }\n\n  parse(): ProviderAst[] {\n
Array.from(this._allProviders.values()).forEach((provider)
 => {\n      this._getOrCreateLocalProvider(provider.token, provider.eager);\n    });\n    if (this._errors.length > 0)
{\n      const errorString = this._errors.join('\\n');\n      throw new Error(`Provider parse errors:\\n${errorString}`);\n
}\n    // Note: Maps keep their insertion order.\n    const lazyProviders: ProviderAst[] = [];\n    const eagerProviders:
ProviderAst[] = [];\n    this._transformedProviders.forEach(provider => {\n      if (provider.eager) {\n
eagerProviders.push(provider);\n      } else {\n        lazyProviders.push(provider);\n      }\n    });\n    return
lazyProviders.concat(eagerProviders);\n  }\n\n  private _getOrCreateLocalProvider(token: CompileTokenMetadata,
eager: boolean): ProviderAst|null {\n    const resolvedProvider = this._allProviders.get(tokenReference(token));\n
if (!resolvedProvider) {\n      return null;\n    }\n    let transformedProviderAst =
this._transformedProviders.get(tokenReference(token));\n    if (transformedProviderAst)
 {\n      return transformedProviderAst;\n    }\n    if (this._seenProviders.get(tokenReference(token)) != null) {\n
this._errors.push(new ProviderError(\n          `Cannot instantiate cyclic dependency! ${tokenName(token)}`,\n
resolvedProvider.sourceSpan));\n      return null;\n    }\n    this._seenProviders.set(tokenReference(token), true);\n
const transformedProviders = resolvedProvider.providers.map((provider) => {\n      let transformedUseValue =
provider.useValue;\n      let transformedUseExisting = provider.useExisting!;\n      let transformedDeps:
CompileDiDependencyMetadata[] = undefined!;\n      if (provider.useExisting != null) {\n        const existingDiDep
=\n            this._getDependency({token: provider.useExisting}, eager, resolvedProvider.sourceSpan);\n        if
(existingDiDep.token != null) {\n          transformedUseExisting = existingDiDep.token;\n        } else {\n
transformedUseExisting = null!;\n          transformedUseValue
 = existingDiDep.value;\n        }\n      } else if (provider.useFactory) {\n        const deps = provider.deps ||
provider.useFactory.diDeps;\n        transformedDeps =\n            deps.map((dep) => this._getDependency(dep, eager,
resolvedProvider.sourceSpan));\n      } else if (provider.useClass) {\n        const deps = provider.deps ||
provider.useClass.diDeps;\n        transformedDeps =\n            deps.map((dep) => this._getDependency(dep, eager,
```

```
resolvedProvider.sourceSpan));\n    }\n    return _transformProvider(provider, {\n      useExisting:
transformedUseExisting,\n      useValue: transformedUseValue,\n      deps: transformedDeps\n    });\n  });\n
transformedProviderAst =\n      _transformProviderAst(resolvedProvider, {eager: eager, providers:
transformedProviders});\n  this._transformedProviders.set(tokenReference(token), transformedProviderAst);\n
return transformedProviderAst;\n  }\n\n  private _getDependency(\n    dep: CompileDiDependencyMetadata,
  eager: boolean = false,\n    requestorSourceSpan: ParseSourceSpan): CompileDiDependencyMetadata {\n  let
foundLocal = false;\n  if (!dep.isSkipSelf && dep.token != null) {\n    // access the injector\n    if
(tokenReference(dep.token) ===\n          this.reflector.resolveExternalReference(Identifiers.Injector) ||\n
tokenReference(dep.token) ===\n
this.reflector.resolveExternalReference(Identifiers.ComponentFactoryResolver)) {\n      foundLocal = true;\n    //
access providers\n    } else if (this._getOrCreateLocalProvider(dep.token, eager) != null) {\n      foundLocal =
true;\n    }\n  }\n  return dep;\n  }\n}\n\nfunction _transformProvider(\n  provider: CompileProviderMetadata,\n
  {useExisting, useValue, deps}:\n      {useExisting: CompileTokenMetadata, useValue: any, deps:
CompileDiDependencyMetadata[]}) {\n  return {\n    token: provider.token,\n    useClass: provider.useClass,\n
useExisting: useExisting,\n
  useFactory: provider.useFactory,\n    useValue: useValue,\n    deps: deps,\n    multi: provider.multi\n
};\n}\n\nfunction _transformProviderAst(\n    provider: ProviderAst,\n    {eager, providers}: {eager: boolean,
providers: CompileProviderMetadata[]}): ProviderAst {\n  return new ProviderAst(\n      provider.token,
provider.multiProvider, provider.eager || eager, providers,\n      provider.providerType, provider.lifecycleHooks,
provider.sourceSpan, provider.isModule);\n}\n\nfunction _resolveProvidersFromDirectives(\n    directives:
CompileDirectiveSummary[], sourceSpan: ParseSourceSpan,\n    targetErrors: ParseError[]): Map<any,
ProviderAst> {\n  const providersByToken = new Map<any, ProviderAst>();\n  directives.forEach((directive) =>
{\n    const dirProvider:\n        CompileProviderMetadata = {token: {identifier: directive.type}, useClass:
directive.type};\n    _resolveProviders(\n        [dirProvider],\n        directive.isComponent ?
ProviderAstType.Component : ProviderAstType.Directive,
  true,\n        sourceSpan, targetErrors, providersByToken, /* isModule */ false);\n  });\n\n  // Note: directives need to
be able to overwrite providers of a component!\n  const directivesWithComponentFirst =\n      directives.filter(dir
=> dir.isComponent).concat(directives.filter(dir => !dir.isComponent));\n
directivesWithComponentFirst.forEach((directive) => {\n    _resolveProviders(\n        directive.providers,
ProviderAstType.PublicService, false, sourceSpan, targetErrors,\n        providersByToken, /* isModule */ false);\n
_resolveProviders(\n        directive.viewProviders, ProviderAstType.PrivateService, false, sourceSpan,
targetErrors,\n        providersByToken, /* isModule */ false);\n  });\n  return providersByToken;\n}\n\nfunction
_resolveProviders(\n    providers: CompileProviderMetadata[], providerType: ProviderAstType, eager: boolean,\n
sourceSpan: ParseSourceSpan, targetErrors: ParseError[],\n    targetProvidersByToken: Map<any, ProviderAst>,
isModule:
  boolean) {\n  providers.forEach((provider) => {\n    let resolvedProvider =
targetProvidersByToken.get(tokenReference(provider.token));\n    if (resolvedProvider != null &&
!!resolvedProvider.multiProvider !== !!provider.multi) {\n      targetErrors.push(new ProviderError(\n          `Mixing
multi and non multi provider is not possible for token ${\n              tokenName(resolvedProvider.token)}`,\n
sourceSpan));\n    }\n    if (!resolvedProvider) {\n      const lifecycleHooks = provider.token.identifier &&\n
(<CompileTypeMetadata>provider.token.identifier).lifecycleHooks ?\n
(<CompileTypeMetadata>provider.token.identifier).lifecycleHooks :\n          [];\n      const isUseValue =
!(provider.useClass || provider.useExisting || provider.useFactory);\n      resolvedProvider = new ProviderAst(\n
provider.token, !!provider.multi, eager || isUseValue, [provider], providerType,\n          lifecycleHooks, sourceSpan,
isModule);\n      targetProvidersByToken.set(tokenReference(provider.token),
  resolvedProvider);\n    } else {\n      if (!provider.multi) {\n        resolvedProvider.providers.length = 0;\n      }\n
resolvedProvider.providers.push(provider);\n    }\n  });\n}\n\n\nfunction _getViewQueries(component:
CompileDirectiveMetadata): Map<any, QueryWithId[]> {\n  // Note: queries start with id 1 so we can use the
```

number in a Bloom filter!\n  let viewQueryId = 1;\n  const viewQueries = new Map<any, QueryWithId[]>();\n  if (component.viewQueries) {\n    component.viewQueries.forEach(\n        (query) => _addQueryToTokenMap(viewQueries, {meta: query, queryId: viewQueryId++}));\n  }\n  return viewQueries;\n}\n\nfunction _getContentQueries(\n    contentQueryStartId: number, directives: CompileDirectiveSummary[]): Map<any, QueryWithId[]> {\n  let contentQueryId = contentQueryStartId;\n  const contentQueries = new Map<any, QueryWithId[]>();\n  directives.forEach((directive, directiveIndex) => {\n    if (directive.queries) {\n      directive.queries.forEach(\n          (query) => _addQueryToTokenMap(contentQueries, {meta: query, queryId: contentQueryId++}));\n    }\n  });\n  return contentQueries;\n}\n\nfunction _addQueryToTokenMap(map: Map<any, QueryWithId[]>, query: QueryWithId) {\n  query.meta.selectors.forEach((token: CompileTokenMetadata) => {\n    let entry = map.get(tokenReference(token));\n    if (!entry) {\n      entry = [];\n      map.set(tokenReference(token), entry);\n    }\n    entry.push(query);\n  });\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// Some of the code comes from WebComponents.JS\n// https://github.com/webcomponents/webcomponentsjs/blob/master/src/HTMLImports/path.js\n\nimport {UrlResolver} from './url_resolver';\n\nexport class StyleWithImports {\n  constructor(public style: string, public styleUrls: string[])\n  {}\n}\n\nexport function isStyleUrlResolvable(url: string): boolean {\n  if (url == null || url.length === 0 || url[0] == '/') return false;\n  const schemeMatch = url.match(URL_WITH_SCHEMA_REGEXP);\n  return schemeMatch === null || schemeMatch[1] == 'package' || schemeMatch[1] == 'asset';\n}\n\n/**\n * Rewrites stylesheets by resolving and removing the @import urls that\n * are either relative or don't have a `package:` scheme\n */\nexport function extractStyleUrls(\n    resolver: UrlResolver, baseUrl: string, cssText: string): StyleWithImports {\n  const foundUrls: string[] = [];\n\n  const modifiedCssText = cssText.replace(CSS_STRIPPABLE_COMMENT_REGEXP, '')\n          .replace(CSS_IMPORT_REGEXP, (...m: string[]) => {\n                const url = m[1] || m[2];\n                if (!isStyleUrlResolvable(url)) {\n                  // Do not attempt to resolve non-package absolute URLs with URI\n                  // scheme\n                  return m[0];\n                }\n                foundUrls.push(resolver.resolve(baseUrl, url));\n                return '';\n              });\n  return new StyleWithImports(modifiedCssText, foundUrls);\n}\n\nconst CSS_IMPORT_REGEXP = /@import\\s+(?:url\\()?\\s*(?:(?:['\"]([^\"]*))|([^;\\)\\s]*))[^;]*;?/g;\nconst CSS_STRIPPABLE_COMMENT_REGEXP = /\\/*(?!#\\s*(?:sourceURL|sourceMappingURL)=)[\\s\\S]+?*\\//g;\nconst URL_WITH_SCHEMA_REGEXP = /^([^:/?#]+):/;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileDirectiveSummary, CompilePipeSummary} from '../compile_metadata';\nimport {SecurityContext} from '../core';\nimport {AbsoluteSourceSpan, ASTWithSource, BindingPipe, BindingType, BoundElementProperty,
 EmptyExpr, ParsedEvent, ParsedEventType, ParsedProperty, ParsedPropertyType, ParsedVariable, ParserError, RecursiveAstVisitor, TemplateBinding, VariableBinding} from '../expression_parser/ast';\nimport {Parser} from '../expression_parser/parser';\nimport {InterpolationConfig} from '../ml_parser/interpolation_config';\nimport {mergeNsAndName} from '../ml_parser/tags';\nimport {ParseError, ParseErrorLevel, ParseLocation, ParseSourceSpan} from '../parse_util';\nimport {ElementSchemaRegistry} from '../schema/element_schema_registry';\nimport {CssSelector} from '../selector';\nimport {splitAtColon, splitAtPeriod} from '../util';\n\nconst PROPERTY_PARTS_SEPARATOR = '.';\nconst ATTRIBUTE_PREFIX = 'attr';\nconst CLASS_PREFIX = 'class';\nconst STYLE_PREFIX = 'style';\nconst TEMPLATE_ATTR_PREFIX = '*';\nconst ANIMATE_PROP_PREFIX = 'animate-';\n\n/**\n * Parses bindings in templates and in the directive host area.\n */\nexport class BindingParser {\n  pipesByName: Map<string, CompilePipeSummary>|null

= null;\n\n  private _usedPipes: Map<string, CompilePipeSummary> = new Map();\n\n  constructor(\n      private _exprParser: Parser, private _interpolationConfig: InterpolationConfig,\n      private _schemaRegistry: ElementSchemaRegistry, pipes: CompilePipeSummary[]|null,\n      public errors: ParseError[]) {\n    // When the `pipes` parameter is `null`, do not check for used pipes\n    // This is used in IVY when we might not know the available pipes at compile time\n    if (pipes) {\n      const pipesByName: Map<string, CompilePipeSummary> = new Map();\n      pipes.forEach(pipe => pipesByName.set(pipe.name, pipe));\n      this.pipesByName = pipesByName;\n    }\n  }\n\n  get interpolationConfig(): InterpolationConfig {\n    return this._interpolationConfig;\n  }\n\n  getUsedPipes(): CompilePipeSummary[] {\n    return Array.from(this._usedPipes.values());\n  }\n\n  createBoundHostProperties(dirMeta: CompileDirectiveSummary, sourceSpan: ParseSourceSpan):\n      ParsedProperty[]|null\n  {\n    if (dirMeta.hostProperties) {\n      const boundProps: ParsedProperty[] = [];\n      Object.keys(dirMeta.hostProperties).forEach(propName => {\n        const expression = dirMeta.hostProperties[propName];\n        if (typeof expression === 'string') {\n          this.parsePropertyBinding(\n              propName, expression, true, sourceSpan, sourceSpan.start.offset, undefined, [],\n              // Use the `sourceSpan` for  `keySpan`. This isn't really accurate, but neither is the\n              // sourceSpan, as it represents the sourceSpan of the host itself rather than the\n              // source of the host binding (which doesn't exist in the template). Regardless,\n              // neither of these values are used in Ivy but are only here to satisfy the function\n              // signature. This should likely be refactored in the future so that `sourceSpan`\n              // isn't being used inaccurately.\n              boundProps, sourceSpan);\n        } else {\n          this._reportError(\n              `Value of the host property binding \"${\n                  propName}\" needs to be a string representing an expression but got \"${\n                  expression}\" (${typeof expression})`,\n              sourceSpan);\n        }\n      });\n      return boundProps;\n    }\n    return null;\n  }\n\n  createDirectiveHostPropertyAsts(\n      dirMeta: CompileDirectiveSummary, elementSelector: string,\n      sourceSpan: ParseSourceSpan): BoundElementProperty[]|null {\n    const boundProps = this.createBoundHostProperties(dirMeta, sourceSpan);\n    return boundProps &&\n        boundProps.map((prop) => this.createBoundElementProperty(elementSelector, prop));\n  }\n\n  createDirectiveHostEventAsts(dirMeta: CompileDirectiveSummary, sourceSpan: ParseSourceSpan):\n      ParsedEvent[]|null {\n    if (dirMeta.hostListeners) {\n      const targetEvents: ParsedEvent[] = [];\n      Object.keys(dirMeta.hostListeners).forEach(propName => {\n        const expression = dirMeta.hostListeners[propName];\n        if (typeof expression === 'string') {\n          // TODO: pass a more accurate handlerSpan for this event.\n          this.parseEvent(propName, expression, sourceSpan, sourceSpan, [], targetEvents);\n        } else {\n          this._reportError(\n              `Value of the host listener \"${\n                  propName}\" needs to be a string representing an expression but got \"${\n                  expression}\" (${typeof expression})`,\n              sourceSpan);\n        }\n      });\n      return targetEvents;\n    }\n    return null;\n  }\n\n  parseInterpolation(value: string, sourceSpan: ParseSourceSpan): ASTWithSource {\n    const sourceInfo = sourceSpan.start.toString();\n\n    try {\n      const ast = this._exprParser.parseInterpolation(\n          value, sourceInfo, sourceSpan.start.offset, this._interpolationConfig)!;\n      if (ast) this._reportExpressionParserErrors(ast.errors, sourceSpan);\n      this._checkPipes(ast, sourceSpan);\n      return ast;\n    } catch (e) {\n      this._reportError(`${e}`, sourceSpan);\n      return this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, sourceSpan.start.offset);\n    }\n  }\n\n  /**\n   * Similar to `parseInterpolation`, but treats the provided string as a single expression\n   * element that would normally appear within the interpolation prefix and suffix (`{{` and `}}`).\n   * This is used for parsing the switch expression in ICUs.\n   */\n  parseInterpolationExpression(expression: string, sourceSpan: ParseSourceSpan): ASTWithSource {\n    const sourceInfo = sourceSpan.start.toString();\n\n    try {\n      const ast = this._exprParser.parseInterpolationExpression(\n          expression, sourceInfo, sourceSpan.start.offset);\n      if (ast) this._reportExpressionParserErrors(ast.errors, sourceSpan);\n      this._checkPipes(ast, sourceSpan);\n      return ast;\n    } catch (e) {\n      this._reportError(`${e}`, sourceSpan);\n      return this._exprParser.wrapLiteralPrimitive('ERROR',

```
 sourceInfo, sourceSpan.start.offset);\n    }\n  }\n\n  /**\n   * Parses the bindings in a microsyntax expression, and converts them to\n   * `ParsedProperty` or `ParsedVariable`.\n   *\n   * @param tplKey template binding name\n   * @param tplValue template binding value\n   * @param sourceSpan span of template binding relative to entire the template\n   * @param absoluteValueOffset start of the tplValue relative to the entire template\n   * @param targetMatchableAttrs potential attributes to match in the template\n   * @param targetProps target property bindings in the template\n   * @param targetVars target variables in the template\n   */\n  parseInlineTemplateBinding(\n      tplKey: string, tplValue: string, sourceSpan: ParseSourceSpan, absoluteValueOffset: number,\n      targetMatchableAttrs: string[][], targetProps: ParsedProperty[], targetVars: ParsedVariable[],\n      isIvyAst: boolean) {\n    const absoluteKeyOffset = sourceSpan.start.offset\n     + TEMPLATE_ATTR_PREFIX.length;\n    const bindings = this._parseTemplateBindings(\n        tplKey, tplValue, sourceSpan, absoluteKeyOffset, absoluteValueOffset);\n\n    for (const binding of bindings) {\n      // sourceSpan is for the entire HTML attribute. bindingSpan is for a particular\n      // binding within the microsyntax expression so it's more narrow than sourceSpan.\n      const bindingSpan = moveParseSourceSpan(sourceSpan, binding.sourceSpan);\n      const key = binding.key.source;\n      const keySpan = moveParseSourceSpan(sourceSpan, binding.key.span);\n      if (binding instanceof VariableBinding) {\n        const value = binding.value ? binding.value.source : '$implicit';\n        const valueSpan =\n            binding.value ? moveParseSourceSpan(sourceSpan, binding.value.span) : undefined;\n        targetVars.push(new ParsedVariable(key, value, bindingSpan, keySpan, valueSpan));\n      } else if (binding.value) {\n        const srcSpan = isIvyAst ? bindingSpan : sourceSpan;\n
        const valueSpan = moveParseSourceSpan(sourceSpan, binding.value.ast.sourceSpan);\n
this._parsePropertyAst(\n            key, binding.value, srcSpan, keySpan, valueSpan, targetMatchableAttrs, targetProps);\n      } else {\n        targetMatchableAttrs.push([key, " /* value */]);\n        // Since this is a literal attribute with no RHS, source span should be\n        // just the key span.\n        this.parseLiteralAttr(\n            key, null /* value */, keySpan, absoluteValueOffset, undefined /* valueSpan */,\n            targetMatchableAttrs, targetProps, keySpan);\n      }\n    }\n  }\n\n  /**\n   * Parses the bindings in a microsyntax expression, e.g.\n   * ```\n   *    <tag *tplKey=\"let value1 = prop; let value2 = localVar\">\n   * ```\n   *\n   * @param tplKey template binding name\n   * @param tplValue template binding value\n   * @param sourceSpan span of template binding relative to entire the template\n   * @param absoluteKeyOffset start of the `tplKey`\n
   * @param absoluteValueOffset start of the `tplValue`\n   */\n  private _parseTemplateBindings(\n      tplKey: string, tplValue: string, sourceSpan: ParseSourceSpan, absoluteKeyOffset: number,\n      absoluteValueOffset: number): TemplateBinding[] {\n    const sourceInfo = sourceSpan.start.toString();\n\n    try {\n      const bindingsResult = this._exprParser.parseTemplateBindings(\n          tplKey, tplValue, sourceInfo, absoluteKeyOffset, absoluteValueOffset);\n      this._reportExpressionParserErrors(bindingsResult.errors, sourceSpan);\n      bindingsResult.templateBindings.forEach((binding) => {\n        if (binding.value instanceof ASTWithSource) {\n
          this._checkPipes(binding.value, sourceSpan);\n        }\n      });\n      bindingsResult.warnings.forEach((warning) => {\n        this._reportError(warning, sourceSpan, ParseErrorLevel.WARNING);\n      });\n      return bindingsResult.templateBindings;\n    } catch (e) {\n      this._reportError(`${e}`, sourceSpan);\n
      return [];\n    }\n  }\n\n  parseLiteralAttr(\n      name: string, value: string|null, sourceSpan: ParseSourceSpan, absoluteOffset: number,\n      valueSpan: ParseSourceSpan|undefined, targetMatchableAttrs: string[][],\n      // TODO(atscott): keySpan is only optional here so VE template parser implementation does not\n      // have to change This should be required when VE is removed.\n      targetProps: ParsedProperty[], keySpan?: ParseSourceSpan) {\n    if (isAnimationLabel(name)) {\n      name = name.substring(1);\n      if (value) {\n        this._reportError(\n            `Assigning animation triggers via @prop=\"exp\" attributes with an expression is invalid.` +\n                ` Use property bindings (e.g. [@prop]=\"exp\") or use an attribute without a value (e.g. @prop) instead.`,\n            sourceSpan, ParseErrorLevel.ERROR);\n      }\n      this._parseAnimation(\n          name, value, sourceSpan, absoluteOffset, keySpan, valueSpan, targetMatchableAttrs,\n
      targetProps);\n    } else {\n      targetProps.push(new ParsedProperty(\n          name, this._exprParser.wrapLiteralPrimitive(value, '', absoluteOffset),\n          ParsedPropertyType.LITERAL_ATTR,
```

```
sourceSpan, keySpan, valueSpan));\n    }\n  }\n\n  parsePropertyBinding(\n      name: string, expression: string,
isHost: boolean, sourceSpan: ParseSourceSpan,\n      absoluteOffset: number, valueSpan:
ParseSourceSpan|undefined,\n      // TODO(atscott): keySpan is only optional here so VE template parser
implementation does not\n      // have to change This should be required when VE is removed.\n
targetMatchableAttrs: string[][], targetProps: ParsedProperty[], keySpan?: ParseSourceSpan) {\n    if (name.length
=== 0) {\n      this._reportError(`Property name is missing in binding`, sourceSpan);\n    }\n\n    let isAnimationProp
= false;\n    if (name.startsWith(ANIMATE_PROP_PREFIX)) {\n      isAnimationProp = true;\n      name =
name.substring(ANIMATE_PROP_PREFIX.length);\n    } else
 if (isAnimationLabel(name)) {\n      isAnimationProp = true;\n      name = name.substring(1);\n    }\n\n    if
(isAnimationProp) {\n      this._parseAnimation(\n          name, expression, sourceSpan, absoluteOffset, keySpan,
valueSpan, targetMatchableAttrs,\n          targetProps);\n    } else {\n      this._parsePropertyAst(\n          name,
this._parseBinding(expression, isHost, valueSpan || sourceSpan, absoluteOffset),\n          sourceSpan, keySpan,
valueSpan, targetMatchableAttrs, targetProps);\n    }\n  }\n\n  parsePropertyInterpolation(\n      name: string, value:
string, sourceSpan: ParseSourceSpan,\n      valueSpan: ParseSourceSpan|undefined, targetMatchableAttrs:
string[][],\n      // TODO(atscott): keySpan is only optional here so VE template parser implementation does not\n
// have to change This should be required when VE is removed.\n      targetProps: ParsedProperty[], keySpan?:
ParseSourceSpan): boolean {\n    const expr = this.parseInterpolation(value, valueSpan
 || sourceSpan);\n    if (expr) {\n      this._parsePropertyAst(\n          name, expr, sourceSpan, keySpan, valueSpan,
targetMatchableAttrs, targetProps);\n      return true;\n    }\n    return false;\n  }\n\n  private _parsePropertyAst(\n
name: string, ast: ASTWithSource, sourceSpan: ParseSourceSpan,\n      keySpan: ParseSourceSpan|undefined,
valueSpan: ParseSourceSpan|undefined,\n      targetMatchableAttrs: string[][], targetProps: ParsedProperty[]) {\n
targetMatchableAttrs.push([name, ast.source!]);\n    targetProps.push(\n        new ParsedProperty(name, ast,
ParsedPropertyType.DEFAULT, sourceSpan, keySpan, valueSpan));\n  }\n\n  private _parseAnimation(\n      name:
string, expression: string|null, sourceSpan: ParseSourceSpan, absoluteOffset: number,\n      keySpan:
ParseSourceSpan|undefined, valueSpan: ParseSourceSpan|undefined,\n      targetMatchableAttrs: string[][],
targetProps: ParsedProperty[]) {\n    if (name.length === 0) {\n      this._reportError('Animation trigger
 is missing', sourceSpan);\n    }\n\n    // This will occur when a @trigger is not paired with an expression.\n    // For
animations it is valid to not have an expression since */void\n    // states will be applied by angular when the element
is attached/detached\n    const ast = this._parseBinding(\n        expression || 'undefined', false, valueSpan ||
sourceSpan, absoluteOffset);\n    targetMatchableAttrs.push([name, ast.source!]);\n    targetProps.push(new
ParsedProperty(\n        name, ast, ParsedPropertyType.ANIMATION, sourceSpan, keySpan, valueSpan));\n  }\n\n
private _parseBinding(\n      value: string, isHostBinding: boolean, sourceSpan: ParseSourceSpan,\n
absoluteOffset: number): ASTWithSource {\n    const sourceInfo = (sourceSpan && sourceSpan.start ||
'(unknown)').toString();\n\n    try {\n      const ast = isHostBinding ?\n          this._exprParser.parseSimpleBinding(\n
          value, sourceInfo, absoluteOffset, this._interpolationConfig) :\n          this._exprParser.parseBinding(\n
            value, sourceInfo, absoluteOffset, this._interpolationConfig);\n      if (ast)
this._reportExpressionParserErrors(ast.errors, sourceSpan);\n      this._checkPipes(ast, sourceSpan);\n      return
ast;\n    } catch (e) {\n      this._reportError(`${e}`, sourceSpan);\n      return
this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, absoluteOffset);\n    }\n  }\n\n
createBoundElementProperty(\n      elementSelector: string, boundProp: ParsedProperty, skipValidation: boolean =
false,\n      mapPropertyName: boolean = true): BoundElementProperty {\n    if (boundProp.isAnimation) {\n
return new BoundElementProperty(\n          boundProp.name, BindingType.Animation, SecurityContext.NONE,
boundProp.expression, null,\n          boundProp.sourceSpan, boundProp.keySpan, boundProp.valueSpan);\n    }\n\n
let unit: string|null = null;\n    let bindingType: BindingType = undefined!;\n    let boundPropertyName: string|null =
null;\n    const parts
 = boundProp.name.split(PROPERTY_PARTS_SEPARATOR);\n    let securityContexts: SecurityContext[] =
undefined!;\n\n    // Check for special cases (prefix style, attr, class)\n    if (parts.length > 1) {\n      if (parts[0] ==
ATTRIBUTE_PREFIX) {\n        boundPropertyName = parts.slice(1).join(PROPERTY_PARTS_SEPARATOR);\n
```

```
    if (!skipValidation) {\n          this._validatePropertyOrAttributeName(boundPropertyName,
boundProp.sourceSpan, true);\n        }\n        securityContexts = calcPossibleSecurityContexts(\n
this._schemaRegistry, elementSelector, boundPropertyName, true);\n\n        const nsSeparatorIdx =
boundPropertyName.indexOf(':');\n        if (nsSeparatorIdx > -1) {\n          const ns =
boundPropertyName.substring(0, nsSeparatorIdx);\n          const name =
boundPropertyName.substring(nsSeparatorIdx + 1);\n          boundPropertyName = mergeNsAndName(ns, name);\n
    }\n\n        bindingType = BindingType.Attribute;\n      } else if (parts[0] == CLASS_PREFIX)
 {\n        boundPropertyName = parts[1];\n        bindingType = BindingType.Class;\n        securityContexts =
[SecurityContext.NONE];\n      } else if (parts[0] == STYLE_PREFIX) {\n        unit = parts.length > 2 ? parts[2] :
null;\n        boundPropertyName = parts[1];\n        bindingType = BindingType.Style;\n        securityContexts =
[SecurityContext.STYLE];\n      }\n    }\n\n    // If not a special case, use the full property name\n    if
(boundPropertyName === null) {\n      const mappedPropName =
this._schemaRegistry.getMappedPropName(boundProp.name);\n      boundPropertyName = mapPropertyName ?
mappedPropName : boundProp.name;\n      securityContexts = calcPossibleSecurityContexts(\n
this._schemaRegistry, elementSelector, mappedPropName, false);\n      bindingType = BindingType.Property;\n
if (!skipValidation) {\n        this._validatePropertyOrAttributeName(mappedPropName, boundProp.sourceSpan,
false);\n      }\n    }\n\n    return new BoundElementProperty(\n
        boundPropertyName, bindingType, securityContexts[0], boundProp.expression, unit,\n
boundProp.sourceSpan, boundProp.keySpan, boundProp.valueSpan);\n  }\n\n  parseEvent(\n      name: string,
expression: string, sourceSpan: ParseSourceSpan, handlerSpan: ParseSourceSpan,\n      targetMatchableAttrs:
string[][], targetEvents: ParsedEvent[]) {\n    if (name.length === 0) {\n      this._reportError(`Event name is missing
in binding`, sourceSpan);\n    }\n\n    if (isAnimationLabel(name)) {\n      name = name.substr(1);\n
this._parseAnimationEvent(name, expression, sourceSpan, handlerSpan, targetEvents);\n    } else {\n
this._parseRegularEvent(\n          name, expression, sourceSpan, handlerSpan, targetMatchableAttrs,
targetEvents);\n    }\n  }\n\n  calcPossibleSecurityContexts(selector: string, propName: string, isAttribute:
boolean):\n      SecurityContext[] {\n    const prop = this._schemaRegistry.getMappedPropName(propName);\n
return calcPossibleSecurityContexts(this._schemaRegistry,
 selector, prop, isAttribute);\n  }\n\n  private _parseAnimationEvent(\n      name: string, expression: string,
sourceSpan: ParseSourceSpan, handlerSpan: ParseSourceSpan,\n      targetEvents: ParsedEvent[]) {\n    const
matches = splitAtPeriod(name, [name, '']);\n    const eventName = matches[0];\n    const phase =
matches[1].toLowerCase();\n    if (phase) {\n      switch (phase) {\n        case 'start':\n        case 'done':\n          const
ast = this._parseAction(expression, handlerSpan);\n          targetEvents.push(new ParsedEvent(\n
eventName, phase, ParsedEventType.Animation, ast, sourceSpan, handlerSpan));\n          break;\n\n        default:\n
    this._reportError(\n              `The provided animation output phase value \"${phase}\" for \"@${\n
eventName}\" is not supported (use start or done)`,\n              sourceSpan);\n          break;\n      }\n    } else {\n
this._reportError(\n          `The animation
 trigger output event (@${\n              eventName}) is missing its phase value name (start or done are currently
supported)`,\n          sourceSpan);\n    }\n  }\n\n  private _parseRegularEvent(\n      name: string, expression: string,
sourceSpan: ParseSourceSpan, handlerSpan: ParseSourceSpan,\n      targetMatchableAttrs: string[][], targetEvents:
ParsedEvent[]) {\n    // long format: 'target: eventName'\n    const [target, eventName] = splitAtColon(name, [null!,
name]);\n    const ast = this._parseAction(expression, handlerSpan);\n    targetMatchableAttrs.push([name!,
ast.source!]);\n    targetEvents.push(\n        new ParsedEvent(eventName, target, ParsedEventType.Regular, ast,
sourceSpan, handlerSpan));\n    // Don't detect directives for event names for now,\n    // so don't add the event name
to the matchableAttrs\n  }\n\n  private _parseAction(value: string, sourceSpan: ParseSourceSpan): ASTWithSource
{\n    const sourceInfo = (sourceSpan && sourceSpan.start || '(unknown').toString();\n
    const absoluteOffset = (sourceSpan && sourceSpan.start) ? sourceSpan.start.offset : 0;\n\n    try {\n      const ast =
this._exprParser.parseAction(\n          value, sourceInfo, absoluteOffset, this._interpolationConfig);\n      if (ast) {\n
    this._reportExpressionParserErrors(ast.errors, sourceSpan);\n      }\n      if (!ast || ast.ast instanceof EmptyExpr)
```

{\n this._reportError(`Empty expressions are not allowed`, sourceSpan);\n return this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, absoluteOffset);\n }\n this._checkPipes(ast, sourceSpan);\n return ast;\n } catch (e) {\n this._reportError(`${e}`, sourceSpan);\n return this._exprParser.wrapLiteralPrimitive('ERROR', sourceInfo, absoluteOffset);\n }\n }\n\n private _reportError(\n message: string, sourceSpan: ParseSourceSpan,\n level: ParseErrorLevel = ParseErrorLevel.ERROR) {\n this.errors.push(new ParseError(sourceSpan, message, level));\n }\n\n private _reportExpressionParserErrors(errors: ParserError[], sourceSpan: ParseSourceSpan) {\n for (const error of errors) {\n this._reportError(error.message, sourceSpan);\n }\n }\n\n // Make sure all the used pipes are known in `this.pipesByName`\n private _checkPipes(ast: ASTWithSource, sourceSpan: ParseSourceSpan): void {\n if (ast && this.pipesByName) {\n const collector = new PipeCollector();\n ast.visit(collector);\n collector.pipes.forEach((ast, pipeName) => {\n const pipeMeta = this.pipesByName!.get(pipeName);\n if (!pipeMeta) {\n this._reportError(\n `The pipe '${pipeName}' could not be found`,\n new ParseSourceSpan(\n sourceSpan.start.moveBy(ast.span.start), sourceSpan.start.moveBy(ast.span.end)));\n } else {\n this._usedPipes.set(pipeName, pipeMeta);\n }\n });\n }\n }\n\n /**\n * @param propName the name of the property / attribute\n * @param sourceSpan\n * @param isAttr true when binding to an attribute\n */\n private _validatePropertyOrAttributeName(\n propName: string, sourceSpan: ParseSourceSpan, isAttr: boolean): void {\n const report = isAttr ? this._schemaRegistry.validateAttribute(propName) :\n this._schemaRegistry.validateProperty(propName);\n if (report.error) {\n this._reportError(report.msg!, sourceSpan, ParseErrorLevel.ERROR);\n }\n }\n}\n\nexport class PipeCollector extends RecursiveAstVisitor {\n pipes = new Map<string, BindingPipe>();\n visitPipe(ast: BindingPipe, context: any): any {\n this.pipes.set(ast.name, ast);\n ast.exp.visit(this);\n this.visitAll(ast.args, context);\n return null;\n }\n}\n\nfunction isAnimationLabel(name: string): boolean {\n return name[0] == '@';\n}\n\nexport function calcPossibleSecurityContexts(\n registry: ElementSchemaRegistry, selector: string, propName: string,\n isAttribute: boolean): SecurityContext[]\n {\n const ctxs: SecurityContext[] = [];\n CssSelector.parse(selector).forEach((selector) => {\n const elementNames = selector.element ? [selector.element] : registry.allKnownElementNames();\n const notElementNames =\n new Set(selector.notSelectors.filter(selector => selector.isElementSelector())\n .map((selector) => selector.element));\n const possibleElementNames =\n elementNames.filter(elementName => !notElementNames.has(elementName));\n\n ctxs.push(...possibleElementNames.map(\n elementName => registry.securityContext(elementName, propName, isAttribute)));\n });\n return ctxs.length === 0 ? [SecurityContext.NONE] : Array.from(new Set(ctxs)).sort();\n}\n\n/**\n * Compute a new ParseSourceSpan based off an original `sourceSpan` by using\n * absolute offsets from the specified `absoluteSpan`.\n *\n * @param sourceSpan original source span\n * @param absoluteSpan absolute source span to move to\n */\nfunction moveParseSourceSpan(\n sourceSpan: ParseSourceSpan, absoluteSpan: AbsoluteSourceSpan): ParseSourceSpan {\n // The difference of two absolute offsets provide the relative offset\n const startDiff = absoluteSpan.start - sourceSpan.start.offset;\n const endDiff = absoluteSpan.end - sourceSpan.end.offset;\n return new ParseSourceSpan(\n sourceSpan.start.moveBy(startDiff), sourceSpan.end.moveBy(endDiff),\n sourceSpan.fullStart.moveBy(startDiff), sourceSpan.details);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as html from '../ml_parser/ast';\nimport {isNgContent} from '../ml_parser/tags';\n\nconst NG_CONTENT_SELECT_ATTR = 'select';\nconst LINK_ELEMENT = 'link';\nconst LINK_STYLE_REL_ATTR = 'rel';\nconst LINK_STYLE_HREF_ATTR = 'href';\nconst LINK_STYLE_REL_VALUE = 'stylesheet';\nconst STYLE_ELEMENT = 'style';\nconst SCRIPT_ELEMENT = 'script';\nconst NG_NON_BINDABLE_ATTR = 'ngNonBindable';\nconst NG_PROJECT_AS = 'ngProjectAs';\n\nexport function preparseElement(ast: html.Element): PreparsedElement {\n let selectAttr: string = null!;\n let hrefAttr: string = null!;\n let relAttr: string = null!;\n let nonBindable = false;\n

let projectAs = '';\n  ast.attrs.forEach(attr => {\n    const lcAttrName = attr.name.toLowerCase();\n    if (lcAttrName == NG_CONTENT_SELECT_ATTR) {\n      selectAttr = attr.value;\n    } else if (lcAttrName == LINK_STYLE_HREF_ATTR) {\n      hrefAttr = attr.value;\n    } else if (lcAttrName == LINK_STYLE_REL_ATTR) {\n      relAttr = attr.value;\n    } else if (attr.name == NG_NON_BINDABLE_ATTR) {\n      nonBindable = true;\n    } else if (attr.name == NG_PROJECT_AS) {\n      if (attr.value.length > 0) {\n        projectAs = attr.value;\n      }\n    }\n  });\n  selectAttr = normalizeNgContentSelect(selectAttr);\n  const nodeName = ast.name.toLowerCase();\n  let type = PreparsedElementType.OTHER;\n  if (isNgContent(nodeName)) {\n    type = PreparsedElementType.NG_CONTENT;\n  } else if (nodeName == STYLE_ELEMENT) {\n    type = PreparsedElementType.STYLE;\n  } else if (nodeName == SCRIPT_ELEMENT) {\n    type = PreparsedElementType.SCRIPT;\n  } else if (nodeName == LINK_ELEMENT && relAttr == LINK_STYLE_REL_VALUE) {\n    type = PreparsedElementType.STYLESHEET;\n  }\n  return new PreparsedElement(type, selectAttr, hrefAttr, nonBindable, projectAs);\n}\n\nexport enum PreparsedElementType {\n  NG_CONTENT,\n  STYLE,\n  STYLESHEET,\n  SCRIPT,\n  OTHER\n}\n\nexport class PreparsedElement {\n  constructor(\n      public type: PreparsedElementType, public selectAttr: string, public hrefAttr: string,\n      public nonBindable: boolean, public projectAs: string) {}\n}\n\n\nfunction normalizeNgContentSelect(selectAttr: string): string {\n  if (selectAttr === null || selectAttr.length === 0) {\n    return '*';\n  }\n  return selectAttr;\n}\n","/**\n * @license\n * Copyright
 Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileDirectiveMetadata, CompileDirectiveSummary, CompilePipeSummary, CompileTokenMetadata, CompileTypeMetadata, identifierName} from '../compile_metadata';\nimport {CompileReflector} from '../compile_reflector';\nimport {CompilerConfig} from '../config';\nimport {SchemaMetadata} from '../core';\nimport {AST, ASTWithSource, EmptyExpr, ParsedEvent, ParsedProperty, ParsedVariable} from '../expression_parser/ast';\nimport {Parser} from '../expression_parser/parser';\nimport {createTokenForExternalReference, createTokenForReference, Identifiers} from '../identifiers';\nimport * as html from '../ml_parser/ast';\nimport {HtmlParser, ParseTreeResult} from '../ml_parser/html_parser';\nimport {removeWhitespaces, replaceNgsp} from '../ml_parser/html_whitespaces';\nimport {expandNodes} from '../ml_parser/icu_ast_expander';\nimport
 {InterpolationConfig} from '../ml_parser/interpolation_config';\nimport {isNgTemplate, splitNsName} from '../ml_parser/tags';\nimport {ParseError, ParseErrorLevel, ParseSourceSpan} from '../parse_util';\nimport {ProviderElementContext, ProviderViewContext} from '../provider_analyzer';\nimport {ElementSchemaRegistry} from '../schema/element_schema_registry';\nimport {CssSelector, SelectorMatcher} from '../selector';\nimport {isStyleUrlResolvable} from '../style_url_resolver';\nimport {Console, newArray, syntaxError} from '../util';\n\nimport {BindingParser} from './binding_parser';\nimport * as t from './template_ast';\nimport {PreparsedElementType, preparseElement} from './template_preparser';\n\nconst BIND_NAME_REGEXP =\n /^(?:(?:(?:(?:(bind-)|(let-)|(ref-|#)|(on-)|(bindon-)|(@))(.*))|\\[\\(([^\\)]+)\\)\\]|\\[([^\\]]+)\\]|\\(([^\\)]+)\\))$/;\n\n// Group 1 = \"bind-\"\nconst KW_BIND_IDX = 1;\n// Group 2 = \"let-\"\nconst KW_LET_IDX = 2;\n// Group 3 = \"ref-/#\"\nconst
 KW_REF_IDX = 3;\n// Group 4 = \"on-\"\nconst KW_ON_IDX = 4;\n// Group 5 = \"bindon-\"\nconst KW_BINDON_IDX = 5;\n// Group 6 = \"@\"\nconst KW_AT_IDX = 6;\n// Group 7 = the identifier after \"bind-\", \"let-\", \"ref-/#\", \"on-\", \"bindon-\" or \"@\"\nconst IDENT_KW_IDX = 7;\n// Group 8 = identifier inside [()]\nconst IDENT_BANANA_BOX_IDX = 8;\n// Group 9 = identifier inside []\nconst IDENT_PROPERTY_IDX = 9;\n// Group 10 = identifier inside ()\nconst IDENT_EVENT_IDX = 10;\n\nconst TEMPLATE_ATTR_PREFIX = '*';\nconst CLASS_ATTR = 'class';\n\nlet _TEXT_CSS_SELECTOR!: CssSelector;\n\nfunction TEXT_CSS_SELECTOR(): CssSelector {\n  if (!_TEXT_CSS_SELECTOR) {\n    _TEXT_CSS_SELECTOR = CssSelector.parse('*')[0];\n  }\n  return _TEXT_CSS_SELECTOR;\n}\n\nexport class TemplateParseError extends ParseError {\n  constructor(message: string, span: ParseSourceSpan, level: ParseErrorLevel) {\n    super(span, message, level);\n  }\n}\n\nexport class TemplateParseResult {\n  constructor(\n

public templateAst?: t.TemplateAst[], public usedPipes?: CompilePipeSummary[],\n public errors?: ParseError[]) {}\n}\n\nexport class TemplateParser {\n constructor(\n private _config: CompilerConfig, private _reflector: CompileReflector,\n private _exprParser: Parser, private _schemaRegistry: ElementSchemaRegistry,\n private _htmlParser: HtmlParser, private _console: Console|null,\n public transforms: t.TemplateAstVisitor[]) {}\n\n public get expressionParser() {\n return this._exprParser;\n }\n\n parse(\n component: CompileDirectiveMetadata, template: string|ParseTreeResult,\n directives: CompileDirectiveSummary[], pipes: CompilePipeSummary[], schemas: SchemaMetadata[],\n templateUrl: string,\n preserveWhitespaces: boolean): {template: t.TemplateAst[], pipes: CompilePipeSummary[]} {\n const result = this.tryParse(\n component, template, directives, pipes, schemas, templateUrl, preserveWhitespaces);\n const warnings = result.errors!.filter(error => error.level === ParseErrorLevel.WARNING);\n\n const errors = result.errors!.filter(error => error.level === ParseErrorLevel.ERROR);\n\n if (warnings.length > 0) {\n this._console?.warn(`Template parse warnings:\\n${warnings.join('\\n')}`);\n }\n\n if (errors.length > 0) {\n const errorString = errors.join('\\n');\n throw syntaxError(`Template parse errors:\\n${errorString}`, errors);\n }\n\n return {template: result.templateAst!, pipes: result.usedPipes!};\n }\n\n tryParse(\n component: CompileDirectiveMetadata, template: string|ParseTreeResult,\n directives: CompileDirectiveSummary[], pipes: CompilePipeSummary[], schemas: SchemaMetadata[],\n templateUrl: string, preserveWhitespaces: boolean): TemplateParseResult {\n let htmlParseResult = typeof template === 'string' ?\n this._htmlParser!.parse(template, templateUrl, {\n tokenizeExpansionForms: true,\n interpolationConfig: this.getInterpolationConfig(component)\n }) :\n template;\n\n if (!preserveWhitespaces) {\n htmlParseResult = removeWhitespaces(htmlParseResult);\n }\n\n return this.tryParseHtml(\n this.expandHtml(htmlParseResult), component, directives, pipes, schemas);\n }\n\n tryParseHtml(\n htmlAstWithErrors: ParseTreeResult, component: CompileDirectiveMetadata,\n directives: CompileDirectiveSummary[], pipes: CompilePipeSummary[],\n schemas: SchemaMetadata[]): TemplateParseResult {\n let result: t.TemplateAst[];\n const errors = htmlAstWithErrors.errors;\n const usedPipes: CompilePipeSummary[] = [];\n if (htmlAstWithErrors.rootNodes.length > 0) {\n const uniqDirectives = removeSummaryDuplicates(directives);\n const uniqPipes = removeSummaryDuplicates(pipes);\n const providerViewContext = new ProviderViewContext(this._reflector, component);\n let interpolationConfig: InterpolationConfig = undefined!;\n if (component.template && component.template.interpolation) {\n interpolationConfig = {\n start: component.template.interpolation[0],\n end: component.template.interpolation[1]\n };\n }\n const bindingParser = new BindingParser(\n this._exprParser, interpolationConfig!, this._schemaRegistry, uniqPipes, errors);\n const parseVisitor = new TemplateParseVisitor(\n this._reflector, this._config, providerViewContext, uniqDirectives, bindingParser,\n this._schemaRegistry, schemas, errors);\n result = html.visitAll(parseVisitor, htmlAstWithErrors.rootNodes, EMPTY_ELEMENT_CONTEXT);\n errors.push(...providerViewContext.errors);\n usedPipes.push(...bindingParser.getUsedPipes());\n } else {\n result = [];\n }\n this._assertNoReferenceDuplicationOnTemplate(result, errors);\n\n if (errors.length > 0) {\n return new TemplateParseResult(result, usedPipes, errors);\n }\n\n if (this.transforms) {\n this.transforms.forEach((transform: t.TemplateAstVisitor) => {\n result = t.templateVisitAll(transform, result);\n });\n }\n\n return new TemplateParseResult(result, usedPipes, errors);\n }\n\n expandHtml(htmlAstWithErrors: ParseTreeResult, forced: boolean = false): ParseTreeResult {\n const errors: ParseError[] = htmlAstWithErrors.errors;\n\n if (errors.length == 0 || forced) {\n // Transform ICU messages to angular directives\n const expandedHtmlAst = expandNodes(htmlAstWithErrors.rootNodes);\n errors.push(...expandedHtmlAst.errors);\n htmlAstWithErrors = new ParseTreeResult(expandedHtmlAst.nodes, errors);\n }\n return htmlAstWithErrors;\n }\n\n getInterpolationConfig(component: CompileDirectiveMetadata): InterpolationConfig|undefined {\n if (component.template) {\n return InterpolationConfig.fromArray(component.template.interpolation);\n }\n return undefined;\n }\n\n /**\n @internal */\n _assertNoReferenceDuplicationOnTemplate(result:

```
t.TemplateAst[], errors: TemplateParseError[]):\n      void {\n    const existingReferences: string[] = [];\n\n
result.filter(element => !!(<any>element).references)\n        .forEach(element =>
(<any>element).references.forEach((reference: t.ReferenceAst) => {\n          const name = reference.name;\n          if
(existingReferences.indexOf(name) < 0) {\n            existingReferences.push(name);\n          } else {\n            const
error = new TemplateParseError(\n                `Reference \"#${name}\" is defined several times`,
reference.sourceSpan,\n                ParseErrorLevel.ERROR);\n            errors.push(error);\n          }\n        }));\n
}\n}\n\nclass TemplateParseVisitor implements html.Visitor {\n  selectorMatcher = new SelectorMatcher();\n
directivesIndex = new Map<CompileDirectiveSummary, number>();\n  ngContentCount = 0;\n
contentQueryStartId: number;\n\n  constructor(\n      private reflector: CompileReflector, private config:
CompilerConfig,\n
      public providerViewContext: ProviderViewContext, directives: CompileDirectiveSummary[],\n      private
_bindingParser: BindingParser, private _schemaRegistry: ElementSchemaRegistry,\n      private _schemas:
SchemaMetadata[], private _targetErrors: TemplateParseError[]) {\n    // Note: queries start with id 1 so we can use
the number in a Bloom filter!\n    this.contentQueryStartId = providerViewContext.component.viewQueries.length +
1;\n    directives.forEach((directive, index) => {\n      const selector = CssSelector.parse(directive.selector!);\n
this.selectorMatcher.addSelectables(selector, directive);\n      this.directivesIndex.set(directive, index);\n    });\n
}\n\n  visitExpansion(expansion: html.Expansion, context: any): any {\n    return null;\n  }\n\n
visitExpansionCase(expansionCase: html.ExpansionCase, context: any): any {\n    return null;\n  }\n\n
visitText(text: html.Text, parent: ElementContext): any {\n    const ngContentIndex =
parent.findNgContentIndex(TEXT_CSS_SELECTOR())!;\n
    const valueNoNgsp = replaceNgsp(text.value);\n    const expr =
this._bindingParser.parseInterpolation(valueNoNgsp, text.sourceSpan);\n    return expr ? new t.BoundTextAst(expr,
ngContentIndex, text.sourceSpan) :\n                  new t.TextAst(valueNoNgsp, ngContentIndex, text.sourceSpan);\n
}\n\n  visitAttribute(attribute: html.Attribute, context: any): any {\n    return new t.AttrAst(attribute.name,
attribute.value, attribute.sourceSpan);\n  }\n\n  visitComment(comment: html.Comment, context: any): any {\n
return null;\n  }\n\n  visitElement(element: html.Element, parent: ElementContext): any {\n    const queryStartIndex
= this.contentQueryStartId;\n    const elName = element.name;\n    const preparsedElement =
preparseElement(element);\n    if (preparsedElement.type === PreparsedElementType.SCRIPT ||\n
preparsedElement.type === PreparsedElementType.STYLE) {\n      // Skipping <script> for security reasons\n      //
Skipping <style>
 as we already processed them\n      // in the StyleCompiler\n      return null;\n    }\n    if (preparsedElement.type ===
PreparsedElementType.STYLESHEET &&\n        isStyleUrlResolvable(preparsedElement.hrefAttr)) {\n      //
Skipping stylesheets with either relative urls or package scheme as we already processed\n      // them in the
StyleCompiler\n      return null;\n    }\n\n    const matchableAttrs: [string, string][] = [];\n    const
elementOrDirectiveProps: ParsedProperty[] = [];\n    const elementOrDirectiveRefs: ElementOrDirectiveRef[] =
[];\n    const elementVars: t.VariableAst[] = [];\n    const events: t.BoundEventAst[] = [];\n\n    const
templateElementOrDirectiveProps: ParsedProperty[] = [];\n    const templateMatchableAttrs: [string, string][] = [];\n
  const templateElementVars: t.VariableAst[] = [];\n\n    let hasInlineTemplates = false;\n    const attrs: t.AttrAst[] =
[];\n    const isTemplateElement = isNgTemplate(element.name);\n\n    element.attrs.forEach(attr =>
 {\n      const parsedVariables: ParsedVariable[] = [];\n      const hasBinding = this._parseAttr(\n
isTemplateElement, attr, matchableAttrs, elementOrDirectiveProps, events,\n          elementOrDirectiveRefs,
elementVars);\n      elementVars.push(...parsedVariables.map(v => t.VariableAst.fromParsedVariable(v)));\n\n
let templateValue: string|undefined;\n      let templateKey: string|undefined;\n      const normalizedName =
this._normalizeAttributeName(attr.name);\n\n      if (normalizedName.startsWith(TEMPLATE_ATTR_PREFIX))
{\n        templateValue = attr.value;\n        templateKey =
normalizedName.substring(TEMPLATE_ATTR_PREFIX.length);\n      }\n\n      const hasTemplateBinding =
templateValue != null;\n      if (hasTemplateBinding) {\n        if (hasInlineTemplates) {\n          this._reportError(\n
        `Can't have multiple template bindings on one element. Use only one attribute prefixed with *`,\n
```

```
attr.sourceSpan);\n        }\n        hasInlineTemplates
 = true;\n        const parsedVariables: ParsedVariable[] = [];\n        const absoluteOffset = (attr.valueSpan ||
attr.sourceSpan).start.offset;\n        this._bindingParser.parseInlineTemplateBinding(\n            templateKey!,
templateValue!, attr.sourceSpan, absoluteOffset, templateMatchableAttrs,\n
templateElementOrDirectiveProps, parsedVariables, false /* isIvyAst */);\n
templateElementVars.push(...parsedVariables.map(v => t.VariableAst.fromParsedVariable(v)));\n      }\n\n      if
(!hasBinding && !hasTemplateBinding) {\n        // don't include the bindings as attributes as well in the AST\n
attrs.push(this.visitAttribute(attr, null));\n        matchableAttrs.push([attr.name, attr.value]);\n      }\n    });\n\n
const elementCssSelector = createElementCssSelector(elName, matchableAttrs);\n    const {directives:
directiveMetas, matchElement} =\n        this._parseDirectives(this.selectorMatcher, elementCssSelector);\n    const
references: t.ReferenceAst[]
 = [];\n    const boundDirectivePropNames = new Set<string>();\n    const directiveAsts =
this._createDirectiveAsts(\n        isTemplateElement, element.name, directiveMetas, elementOrDirectiveProps,\n
elementOrDirectiveRefs, element.sourceSpan, references, boundDirectivePropNames);\n    const elementProps:
t.BoundElementPropertyAst[] = this._createElementPropertyAsts(\n        element.name, elementOrDirectiveProps,
boundDirectivePropNames);\n    const isViewRoot = parent.isTemplateElement || hasInlineTemplates;\n\n    const
providerContext = new ProviderElementContext(\n        this.providerViewContext, parent.providerContext!,
isViewRoot, directiveAsts, attrs,\n        references, isTemplateElement, queryStartIndex, element.sourceSpan);\n\n
const children: t.TemplateAst[] = html.visitAll(\n        preparsedElement.nonBindable ?
NON_BINDABLE_VISITOR : this, element.children,\n        ElementContext.create(\n            isTemplateElement,
directiveAsts,\n
    isTemplateElement ? parent.providerContext! : providerContext));\n    providerContext.afterElement();\n    //
Override the actual selector when the `ngProjectAs` attribute is provided\n    const projectionSelector =
preparsedElement.projectAs != '' ?\n        CssSelector.parse(preparsedElement.projectAs)[0] :\n
elementCssSelector;\n    const ngContentIndex = parent.findNgContentIndex(projectionSelector)!;\n    let
parsedElement: t.TemplateAst;\n\n    if (preparsedElement.type === PreparsedElementType.NG_CONTENT) {\n
// `<ng-content>` element\n      if (element.children && !element.children.every(_isEmptyTextNode)) {\n
this._reportError(`<ng-content> element cannot have content.`, element.sourceSpan);\n      }\n\n      parsedElement =
new t.NgContentAst(\n          this.ngContentCount++, hasInlineTemplates ? null! : ngContentIndex,
element.sourceSpan);\n    } else if (isTemplateElement) {\n      // `<ng-template>` element\n
this._assertAllEventsPublishedByDirectives(directiveAsts,
 events);\n      this._assertNoComponentsNorElementBindingsOnTemplate(\n          directiveAsts, elementProps,
element.sourceSpan);\n\n      parsedElement = new t.EmbeddedTemplateAst(\n          attrs, events, references,
elementVars, providerContext.transformedDirectiveAsts,\n          providerContext.transformProviders,
providerContext.transformedHasViewContainer,\n          providerContext.queryMatches, children,
hasInlineTemplates ? null! : ngContentIndex,\n          element.sourceSpan);\n    } else {\n      // element other than
`<ng-content>` and `<ng-template>`\n      this._assertElementExists(matchElement, element);\n
this._assertOnlyOneComponent(directiveAsts, element.sourceSpan);\n\n      const ngContentIndex =\n
hasInlineTemplates ? null : parent.findNgContentIndex(projectionSelector);\n      parsedElement = new
t.ElementAst(\n          elName, attrs, elementProps, events, references, providerContext.transformedDirectiveAsts,\n
      providerContext.transformProviders,
 providerContext.transformedHasViewContainer,\n          providerContext.queryMatches, children,
hasInlineTemplates ? null : ngContentIndex,\n          element.sourceSpan, element.endSourceSpan || null);\n    }\n\n
if (hasInlineTemplates) {\n      // The element as a *-attribute\n      const templateQueryStartIndex =
this.contentQueryStartId;\n      const templateSelector = createElementCssSelector('ng-template',
templateMatchableAttrs);\n      const {directives} = this._parseDirectives(this.selectorMatcher, templateSelector);\n
  const templateBoundDirectivePropNames = new Set<string>();\n      const templateDirectiveAsts =
this._createDirectiveAsts(\n          true, elName, directives, templateElementOrDirectiveProps, [],
```

```
element.sourceSpan, [],\n templateBoundDirectivePropNames);\n const templateElementProps:
t.BoundElementPropertyAst[] = this._createElementPropertyAsts(\n elName,
templateElementOrDirectiveProps, templateBoundDirectivePropNames);\n
this._assertNoComponentsNorElementBindingsOnTemplate(\n templateDirectiveAsts,
templateElementProps, element.sourceSpan);\n const templateProviderContext = new
ProviderElementContext(\n this.providerViewContext, parent.providerContext!, parent.isTemplateElement,\n
templateDirectiveAsts, [], [], true, templateQueryStartIndex, element.sourceSpan);\n
templateProviderContext.afterElement();\n\n parsedElement = new t.EmbeddedTemplateAst(\n [], [], [],
templateElementVars, templateProviderContext.transformedDirectiveAsts,\n
templateProviderContext.transformProviders,\n templateProviderContext.transformedHasViewContainer,
templateProviderContext.queryMatches,\n [parsedElement], ngContentIndex, element.sourceSpan);\n }\n\n
return parsedElement;\n }\n\n private _parseAttr(\n isTemplateElement: boolean, attr: html.Attribute,
targetMatchableAttrs: string[][],\n targetProps:
ParsedProperty[], targetEvents: t.BoundEventAst[],\n targetRefs: ElementOrDirectiveRef[], targetVars:
t.VariableAst[]): boolean {\n const name = this._normalizeAttributeName(attr.name);\n const value =
attr.value;\n const srcSpan = attr.sourceSpan;\n const absoluteOffset = attr.valueSpan ?
attr.valueSpan.start.offset : srcSpan.start.offset;\n\n const boundEvents: ParsedEvent[] = [];\n const bindParts =
name.match(BIND_NAME_REGEXP);\n let hasBinding = false;\n\n if (bindParts !== null) {\n hasBinding =
true;\n if (bindParts[KW_BIND_IDX] != null) {\n this._bindingParser.parsePropertyBinding(\n
bindParts[IDENT_KW_IDX], value, false, srcSpan, absoluteOffset, attr.valueSpan,\n targetMatchableAttrs,
targetProps);\n\n } else if (bindParts[KW_LET_IDX]) {\n if (isTemplateElement) {\n const identifier =
bindParts[IDENT_KW_IDX];\n this._parseVariable(identifier, value, srcSpan, targetVars);\n
} else {\n this._reportError(`\"let-\" is only supported on ng-template elements.`, srcSpan);\n }\n\n }
else if (bindParts[KW_REF_IDX]) {\n const identifier = bindParts[IDENT_KW_IDX];\n
this._parseReference(identifier, value, srcSpan, targetRefs);\n\n } else if (bindParts[KW_ON_IDX]) {\n
this._bindingParser.parseEvent(\n bindParts[IDENT_KW_IDX], value, srcSpan, attr.valueSpan || srcSpan,\n
targetMatchableAttrs, boundEvents);\n\n } else if (bindParts[KW_BINDON_IDX]) {\n
this._bindingParser.parsePropertyBinding(\n bindParts[IDENT_KW_IDX], value, false, srcSpan,
absoluteOffset, attr.valueSpan,\n targetMatchableAttrs, targetProps);\n this._parseAssignmentEvent(\n
bindParts[IDENT_KW_IDX], value, srcSpan, attr.valueSpan || srcSpan,\n targetMatchableAttrs,
boundEvents);\n\n } else if (bindParts[KW_AT_IDX]) {\n this._bindingParser.parseLiteralAttr(\n
name, value, srcSpan, absoluteOffset, attr.valueSpan, targetMatchableAttrs,\n targetProps);\n\n }
else if (bindParts[IDENT_BANANA_BOX_IDX]) {\n this._bindingParser.parsePropertyBinding(\n
bindParts[IDENT_BANANA_BOX_IDX], value, false, srcSpan, absoluteOffset, attr.valueSpan,\n
targetMatchableAttrs, targetProps);\n this._parseAssignmentEvent(\n
bindParts[IDENT_BANANA_BOX_IDX], value, srcSpan, attr.valueSpan || srcSpan,\n targetMatchableAttrs,
boundEvents);\n\n } else if (bindParts[IDENT_PROPERTY_IDX]) {\n
this._bindingParser.parsePropertyBinding(\n bindParts[IDENT_PROPERTY_IDX], value, false, srcSpan,
absoluteOffset, attr.valueSpan,\n targetMatchableAttrs, targetProps);\n\n } else if
(bindParts[IDENT_EVENT_IDX]) {\n this._bindingParser.parseEvent(\n
bindParts[IDENT_EVENT_IDX], value, srcSpan, attr.valueSpan || srcSpan,\n targetMatchableAttrs,
boundEvents);\n }\n } else {\n hasBinding = this._bindingParser.parsePropertyInterpolation(\n name,
value, srcSpan, attr.valueSpan, targetMatchableAttrs, targetProps);\n }\n\n if (!hasBinding) {\n
this._bindingParser.parseLiteralAttr(\n name, value, srcSpan, absoluteOffset, attr.valueSpan,
targetMatchableAttrs, targetProps);\n }\n\n targetEvents.push(...boundEvents.map(e =>
t.BoundEventAst.fromParsedEvent(e)));\n\n return hasBinding;\n }\n\n private
_normalizeAttributeName(attrName: string): string {\n return /^data-/i.test(attrName) ? attrName.substring(5) :
attrName;\n }\n\n private _parseVariable(\n identifier: string, value: string, sourceSpan: ParseSourceSpan,
```

```
targetVars: t.VariableAst[]) {\n    if (identifier.indexOf('-') > -1) {\n      this._reportError(`\"-\" is not allowed in variable names`, sourceSpan);\n    } else if (identifier.length === 0) {\n      this._reportError(`Variable does not have a name`,
 sourceSpan);\n    }\n\n    targetVars.push(new t.VariableAst(identifier, value, sourceSpan));\n  }\n\n  private _parseReference(\n      identifier: string, value: string, sourceSpan: ParseSourceSpan,\n      targetRefs: ElementOrDirectiveRef[]) {\n    if (identifier.indexOf('-') > -1) {\n      this._reportError(`\"-\" is not allowed in reference names`, sourceSpan);\n    } else if (identifier.length === 0) {\n      this._reportError(`Reference does not have a name`, sourceSpan);\n    }\n\n    targetRefs.push(new ElementOrDirectiveRef(identifier, value, sourceSpan));\n  }\n\n  private _parseAssignmentEvent(\n      name: string, expression: string, sourceSpan: ParseSourceSpan, valueSpan: ParseSourceSpan,\n      targetMatchableAttrs: string[][], targetEvents: ParsedEvent[]) {\n    this._bindingParser.parseEvent(\n        `${name}Change`, `${expression}=$event`, sourceSpan, valueSpan, targetMatchableAttrs,\n        targetEvents);\n  }\n\n  private _parseDirectives(selectorMatcher: SelectorMatcher,
 elementCssSelector: CssSelector):\n      {directives: CompileDirectiveSummary[], matchElement: boolean} {\n    // Need to sort the directives so that we get consistent results throughout,\n    // as selectorMatcher uses Maps inside.\n
 // Also deduplicate directives as they might match more than one time!\n    const directives = newArray(this.directivesIndex.size);\n    // Whether any directive selector matches on the element name\n    let matchElement = false;\n\n    selectorMatcher.match(elementCssSelector, (selector, directive) => {\n      directives[this.directivesIndex.get(directive)!] = directive;\n      matchElement = matchElement || selector.hasElementSelector();\n    });\n\n    return {\n      directives: directives.filter(dir => !!dir),\n      matchElement,\n    };\n  }\n\n  private _createDirectiveAsts(\n      isTemplateElement: boolean, elementName: string, directives: CompileDirectiveSummary[],\n      props: ParsedProperty[], elementOrDirectiveRefs: ElementOrDirectiveRef[],\n
    elementSourceSpan: ParseSourceSpan, targetReferences: t.ReferenceAst[],\n      targetBoundDirectivePropNames: Set<string>): t.DirectiveAst[] {\n    const matchedReferences = new Set<string>();\n    let component: CompileDirectiveSummary = null!;\n\n    const directiveAsts = directives.map((directive) => {\n      const sourceSpan = new ParseSourceSpan(\n          elementSourceSpan.start, elementSourceSpan.end, elementSourceSpan.fullStart,\n          `Directive ${identifierName(directive.type)}`);\n\n      if (directive.isComponent) {\n        component = directive;\n      }\n      const directiveProperties: t.BoundDirectivePropertyAst[] = [];\n      const boundProperties =\n          this._bindingParser.createDirectiveHostPropertyAsts(directive, elementName, sourceSpan)!;\n\n      let hostProperties =\n          boundProperties.map(prop => t.BoundElementPropertyAst.fromBoundProperty(prop));\n      // Note: We need to check the host properties here as well,\n      //
 as we don't know the element name in the DirectiveWrapperCompiler yet.\n      hostProperties = this._checkPropertiesInSchema(elementName, hostProperties);\n      const parsedEvents = this._bindingParser.createDirectiveHostEventAsts(directive, sourceSpan)!;\n      this._createDirectivePropertyAsts(\n          directive.inputs, props, directiveProperties, targetBoundDirectivePropNames);\n      elementOrDirectiveRefs.forEach((elOrDirRef) => {\n        if ((elOrDirRef.value.length === 0 && directive.isComponent) ||\n            (elOrDirRef.isReferenceToDirective(directive))) {\n          targetReferences.push(new t.ReferenceAst(\n              elOrDirRef.name, createTokenForReference(directive.type.reference), elOrDirRef.value,\n              elOrDirRef.sourceSpan));\n          matchedReferences.add(elOrDirRef.name);\n        }\n      });\n      const hostEvents = parsedEvents.map(e => t.BoundEventAst.fromParsedEvent(e));\n      const contentQueryStartId = this.contentQueryStartId;\n
 this.contentQueryStartId += directive.queries.length;\n      return new t.DirectiveAst(\n          directive, directiveProperties, hostProperties, hostEvents, contentQueryStartId,\n          sourceSpan);\n    });\n\n    elementOrDirectiveRefs.forEach((elOrDirRef) => {\n      if (elOrDirRef.value.length > 0) {\n        if (!matchedReferences.has(elOrDirRef.name)) {\n          this._reportError(\n              `There is no directive with \"exportAs\" set to \"${elOrDirRef.value}\"`,\n              elOrDirRef.sourceSpan);\n        }\n      } else if (!component)
```

```
{\n        let refToken: CompileTokenMetadata = null!;\n        if (isTemplateElement) {\n          refToken = createTokenForExternalReference(this.reflector, Identifiers.TemplateRef);\n        }\n        targetReferences.push(\n            new t.ReferenceAst(elOrDirRef.name, refToken, elOrDirRef.value, elOrDirRef.sourceSpan));\n      }\n    });\n    return directiveAsts;\n  }\n\n  private _createDirectivePropertyAsts(\n      directiveProperties: {[key: string]: string}, boundProps: ParsedProperty[],\n      targetBoundDirectiveProps: t.BoundDirectivePropertyAst[],\n      targetBoundDirectivePropNames: Set<string>) {\n    if (directiveProperties) {\n      const boundPropsByName = new Map<string, ParsedProperty>();\n      boundProps.forEach(boundProp => {\n        const prevValue = boundPropsByName.get(boundProp.name);\n        if (!prevValue || prevValue.isLiteral) {\n          // give [a]=\"b\" a higher precedence than a=\"b\" on the same element\n          boundPropsByName.set(boundProp.name, boundProp);\n        }\n      });\n\n      Object.keys(directiveProperties).forEach(dirProp => {\n        const elProp = directiveProperties[dirProp];\n        const boundProp = boundPropsByName.get(elProp);\n\n        // Bindings are optional, so this binding only needs to be set up if an expression is given.\n        if (boundProp) {\n          targetBoundDirectivePropNames.add(boundProp.name);\n          if (!isEmptyExpression(boundProp.expression)) {\n            targetBoundDirectiveProps.push(new t.BoundDirectivePropertyAst(\n                dirProp, boundProp.name, boundProp.expression, boundProp.sourceSpan));\n          }\n        }\n      });\n    }\n  }\n\n  private _createElementPropertyAsts(\n      elementName: string, props: ParsedProperty[],\n      boundDirectivePropNames: Set<string>): t.BoundElementPropertyAst[] {\n    const boundElementProps: t.BoundElementPropertyAst[] = [];\n\n    props.forEach((prop: ParsedProperty) => {\n      if (!prop.isLiteral && !boundDirectivePropNames.has(prop.name)) {\n        const boundProp =\n            this._bindingParser.createBoundElementProperty(elementName, prop);\n        boundElementProps.push(t.BoundElementPropertyAst.fromBoundProperty(boundProp));\n      }\n    });\n    return this._checkPropertiesInSchema(elementName, boundElementProps);\n  }\n\n  private _findComponentDirectives(directives: t.DirectiveAst[]): t.DirectiveAst[] {\n    return directives.filter(directive => directive.directive.isComponent);\n  }\n\n  private _findComponentDirectiveNames(directives: t.DirectiveAst[]): string[] {\n    return this._findComponentDirectives(directives)\n        .map(directive => identifierName(directive.directive.type)!);\n  }\n\n  private _assertOnlyOneComponent(directives: t.DirectiveAst[], sourceSpan: ParseSourceSpan) {\n    const componentTypeNames = this._findComponentDirectiveNames(directives);\n    if (componentTypeNames.length > 1) {\n      this._reportError(\n          `More than one component matched on this element.\\n` +\n          `Make sure that only one component's selector can match a given element.\\n` +\n          `Conflicting components: ${componentTypeNames.join(',')}`,\n          sourceSpan);\n    }\n  }\n\n  /**\n   * Make sure that non-angular tags conform to the schemas.\n   *\n   * Note: An element is considered an angular tag when at least one directive selector matches the\n   * tag name.\n   *\n   * @param matchElement Whether any directive has matched on the tag name\n   * @param element the html element\n   */\n  private _assertElementExists(matchElement: boolean, element: html.Element) {\n    const elName = element.name.replace(/^:xhtml:/, '');\n\n    if (!matchElement && !this._schemaRegistry.hasElement(elName, this._schemas)) {\n      let errorMsg = `'${elName}' is not a known element:\\n`;\n      errorMsg += `1. If '${elName}' is an Angular component, then verify that it is part of this module.\\n`;\n      if (elName.indexOf('-') > -1) {\n        errorMsg += `2. If '${elName}' is a Web Component then add 'CUSTOM_ELEMENTS_SCHEMA' to the '@NgModule.schemas' of this component to suppress this message.`;\n      } else {\n        errorMsg +=\n            `2. To allow any element add 'NO_ERRORS_SCHEMA' to the '@NgModule.schemas' of this component.`;\n      }\n      this._reportError(errorMsg, element.sourceSpan);\n    }\n  }\n\n  private _assertNoComponentsNorElementBindingsOnTemplate(\n      directives: t.DirectiveAst[], elementProps: t.BoundElementPropertyAst[],\n      sourceSpan: ParseSourceSpan) {\n    const componentTypeNames: string[] = this._findComponentDirectiveNames(directives);\n    if (componentTypeNames.length > 0) {\n      this._reportError(\n          `Components on an embedded template: ${componentTypeNames.join(',')}`, sourceSpan);\n    }\n    elementProps.forEach(prop => {\n
```

this._reportError(\n `Property binding ${\n prop.name} not used by any directive on an embedded template. Make sure that the property name is spelled correctly and all directives are listed in the \"@NgModule.declarations\".`,\n sourceSpan);\n });\n }\n\n private _assertAllEventsPublishedByDirectives(\n directives: t.DirectiveAst[], events: t.BoundEventAst[]) {\n const allDirectiveEvents = new Set<string>();\n\n directives.forEach(directive => {\n Object.keys(directive.directive.outputs).forEach(k => {\n const eventName = directive.directive.outputs[k];\n allDirectiveEvents.add(eventName);\n });\n });\n\n events.forEach(event => {\n if (event.target != null || !allDirectiveEvents.has(event.name)) {\n this._reportError(\n `Event binding ${\n event\n .fullName} not emitted by any directive on an embedded template. Make sure that the event name is spelled correctly and all directives are listed in the \"@NgModule.declarations\".`,\n event.sourceSpan);\n }\n });\n }\n\n private _checkPropertiesInSchema(elementName: string, boundProps: t.BoundElementPropertyAst[]):\n t.BoundElementPropertyAst[] {\n // Note: We can't filter out empty expressions before this method,\n // as we still want to validate them!\n return boundProps.filter((boundProp) => {\n if (boundProp.type === t.PropertyBindingType.Property &&\n !this._schemaRegistry.hasProperty(elementName, boundProp.name, this._schemas)) {\n let errorMsg = `Can't bind to '${boundProp.name}' since it isn't a known property of '${\n elementName}'.`;\n if (elementName.startsWith('ng-')) {\n errorMsg +=\n `\\n1. If '${\n boundProp\n .name}' is an Angular directive, then add 'CommonModule' to the '@NgModule.imports' of this component.` +\n `\\n2. To allow any property add 'NO_ERRORS_SCHEMA' to the '@NgModule.schemas' of this component.`;\n } else if (elementName.indexOf('-') > -1) {\n errorMsg +=\n `\\n1. If '${elementName}' is an Angular component and it has '${\n boundProp.name}' input, then verify that it is part of this module.` +\n `\\n2. If '${\n elementName}' is a Web Component then add 'CUSTOM_ELEMENTS_SCHEMA' to the '@NgModule.schemas' of this component to suppress this message.` +\n `\\n3. To allow any property add 'NO_ERRORS_SCHEMA' to the '@NgModule.schemas' of this component.`;\n }\n this._reportError(errorMsg, boundProp.sourceSpan);\n }\n return !isEmptyExpression(boundProp.value);\n });\n }\n\n private _reportError(\n message: string, sourceSpan: ParseSourceSpan,\n level: ParseErrorLevel = ParseErrorLevel.ERROR) {\n this._targetErrors.push(new ParseError(sourceSpan, message, level));\n }\n}\n\nclass NonBindableVisitor implements html.Visitor {\n visitElement(ast: html.Element, parent: ElementContext): t.ElementAst|null {\n const preparsedElement = preparseElement(ast);\n if (preparsedElement.type === PreparsedElementType.SCRIPT ||\n preparsedElement.type === PreparsedElementType.STYLE ||\n preparsedElement.type === PreparsedElementType.STYLESHEET) {\n // Skipping <script> for security reasons\n // Skipping <style> and stylesheets as we already processed them\n // in the StyleCompiler\n return null;\n }\n\n const attrNameAndValues = ast.attrs.map((attr): [string, string] => [attr.name, attr.value]);\n const selector = createElementCssSelector(ast.name, attrNameAndValues);\n const ngContentIndex = parent.findNgContentIndex(selector);\n const children: t.TemplateAst[] = html.visitAll(this, ast.children, EMPTY_ELEMENT_CONTEXT);\n return new t.ElementAst(\n ast.name, html.visitAll(this, ast.attrs), [], [], [], [], false, [], children,\n ngContentIndex, ast.sourceSpan, ast.endSourceSpan);\n }\n visitComment(comment: html.Comment, context: any): any {\n return null;\n }\n\n visitAttribute(attribute: html.Attribute, context: any): t.AttrAst {\n return new t.AttrAst(attribute.name, attribute.value, attribute.sourceSpan);\n }\n\n visitText(text: html.Text, parent: ElementContext): t.TextAst {\n const ngContentIndex = parent.findNgContentIndex(TEXT_CSS_SELECTOR())!;\n return new t.TextAst(text.value, ngContentIndex, text.sourceSpan);\n }\n\n visitExpansion(expansion: html.Expansion, context: any): any {\n return expansion;\n }\n\n visitExpansionCase(expansionCase: html.ExpansionCase, context: any): any {\n return expansionCase;\n }\n}\n\n/**\n * A reference to an element or directive in a template. E.g., the reference in this template:\n *\n * <div #myMenu=\"coolMenu\">\n *\n * would be {name: 'myMenu', value: 'coolMenu', sourceSpan: ...}\n */\nclass

```
ElementOrDirectiveRef {\n  constructor(public name: string, public value: string, public sourceSpan:
ParseSourceSpan) {}\n\n  /** Gets whether this is a reference to the given directive. */\n
isReferenceToDirective(directive: CompileDirectiveSummary) {\n    return
splitExportAs(directive.exportAs).indexOf(this.value) !== -1;\n  }\n}\n\n/** Splits a raw, potentially comma-
delimited `exportAs` value into an array of names. */\nfunction splitExportAs(exportAs: string|null): string[] {\n
return exportAs ? exportAs.split(',').map(e => e.trim()) : [];\n}\n\nexport
 function splitClasses(classAttrValue: string): string[] {\n  return classAttrValue.trim().split(/\\s+/g);\n}\n\nclass
ElementContext {\n  static create(\n      isTemplateElement: boolean, directives: t.DirectiveAst[],\n
providerContext: ProviderElementContext): ElementContext {\n    const matcher = new SelectorMatcher();\n    let
wildcardNgContentIndex: number = null!;\n    const component = directives.find(directive =>
directive.directive.isComponent);\n    if (component) {\n      const ngContentSelectors =
component.directive.template !.ngContentSelectors;\n      for (let i = 0; i < ngContentSelectors.length; i++) {\n
const selector = ngContentSelectors[i];\n        if (selector === '*') {\n          wildcardNgContentIndex = i;\n        }
else {\n          matcher.addSelectables(CssSelector.parse(ngContentSelectors[i]), i);\n        }\n      }\n    }\n    return
new ElementContext(isTemplateElement, matcher, wildcardNgContentIndex, providerContext);\n  }\n
constructor(\n
     public isTemplateElement: boolean, private _ngContentIndexMatcher: SelectorMatcher,\n      private
_wildcardNgContentIndex: number|null,\n      public providerContext: ProviderElementContext|null) {}\n\n
findNgContentIndex(selector: CssSelector): number|null {\n    const ngContentIndices: number[] = [];\n
this._ngContentIndexMatcher.match(selector, (selector, ngContentIndex) => {\n
ngContentIndices.push(ngContentIndex);\n    });\n    ngContentIndices.sort();\n    if (this._wildcardNgContentIndex
!= null) {\n      ngContentIndices.push(this._wildcardNgContentIndex);\n    }\n    return ngContentIndices.length > 0
? ngContentIndices[0] : null;\n  }\n}\n\nexport function createElementCssSelector(\n    elementName: string,
attributes: [string, string][]): CssSelector {\n  const cssSelector = new CssSelector();\n  const elNameNoNs =
splitNsName(elementName)[1];\n\n  cssSelector.setElement(elNameNoNs);\n\n  for (let i = 0; i < attributes.length;
i++) {\n    const attrName = attributes[i][0];\n
   const attrNameNoNs = splitNsName(attrName)[1];\n    const attrValue = attributes[i][1];\n\n
cssSelector.addAttribute(attrNameNoNs, attrValue);\n    if (attrName.toLowerCase() == CLASS_ATTR) {\n
const classes = splitClasses(attrValue);\n      classes.forEach(className =>
cssSelector.addClassName(className));\n    }\n  }\n  return cssSelector;\n}\n\nconst
EMPTY_ELEMENT_CONTEXT = new ElementContext(true, new SelectorMatcher(), null, null);\nconst
NON_BINDABLE_VISITOR = new NonBindableVisitor();\n\nfunction _isEmptyTextNode(node: html.Node):
boolean {\n  return node instanceof html.Text && node.value.trim().length == 0;\n}\n\nexport function
removeSummaryDuplicates<T extends {type: CompileTypeMetadata}>(items: T[]): T[] {\n  const map = new
Map<any, T>();\n\n  items.forEach((item) => {\n    if (!map.get(item.type.reference)) {\n
map.set(item.type.reference, item);\n    }\n  });\n\n  return Array.from(map.values());\n}\n\nexport function
isEmptyExpression(ast:
 AST): boolean {\n  if (ast instanceof ASTWithSource) {\n    ast = ast.ast;\n  }\n  return ast instanceof
EmptyExpr;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
*/\n\nconst enum Char {\n  OpenParen = 40,\n  CloseParen = 41,\n  Colon = 58,\n  Semicolon = 59,\n  BackSlash =
92,\n  QuoteNone = 0,  // indicating we are not inside a quote\n  QuoteDouble = 34,\n  QuoteSingle =
39,\n}\n\n\n/**\n * Parses string representation of a style and converts it into object literal.\n *\n * @param value
string representation of style as used in the `style` attribute in HTML.\n *   Example: `color: red; height: auto`.\n *
@returns An array of style property name and value pairs, e.g. `['color', 'red', 'height',\n * 'auto']`\n */\nexport
function parse(value: string): string[] {\n  // we use a string array here instead of a string map\n
  // because a string-map is not guaranteed to retain the\n  // order of the entries whereas a string array can be\n  //
constructed in a [key, value, key, value] format.\n  const styles: string[] = [];\n\n  let i = 0;\n  let parenDepth = 0;\n
```

let quote: Char = Char.QuoteNone;\n  let valueStart = 0;\n  let propStart = 0;\n  let currentProp: string|null = null;\n  let valueHasQuotes = false;\n  while (i < value.length) {\n    const token = value.charCodeAt(i++) as Char;\n    switch (token) {\n      case Char.OpenParen:\n        parenDepth++;\n        break;\n      case Char.CloseParen:\n        parenDepth--;\n        break;\n      case Char.QuoteSingle:\n        // valueStart needs to be there since prop values don't\n        // have quotes in CSS\n        valueHasQuotes = valueHasQuotes || valueStart > 0;\n        if (quote === Char.QuoteNone) {\n          quote = Char.QuoteSingle;\n        } else if (quote === Char.QuoteSingle && value.charCodeAt(i - 1) !== Char.BackSlash) {\n
    quote = Char.QuoteNone;\n        }\n        break;\n      case Char.QuoteDouble:\n        // same logic as above\n        valueHasQuotes = valueHasQuotes || valueStart > 0;\n        if (quote === Char.QuoteNone) {\n          quote = Char.QuoteDouble;\n        } else if (quote === Char.QuoteDouble && value.charCodeAt(i - 1) !== Char.BackSlash) {\n          quote = Char.QuoteNone;\n        }\n        break;\n      case Char.Colon:\n        if (!currentProp && parenDepth === 0 && quote === Char.QuoteNone) {\n          currentProp = hyphenate(value.substring(propStart, i - 1).trim());\n          valueStart = i;\n        }\n        break;\n      case Char.Semicolon:\n        if (currentProp && valueStart > 0 && parenDepth === 0 && quote === Char.QuoteNone) {\n          const styleVal = value.substring(valueStart, i - 1).trim();\n          styles.push(currentProp, valueHasQuotes ? stripUnnecessaryQuotes(styleVal) : styleVal);\n          propStart = i;\n          valueStart = 0;\n
  currentProp = null;\n          valueHasQuotes = false;\n        }\n        break;\n    }\n  }\n\n  if (currentProp && valueStart) {\n    const styleVal = value.substr(valueStart).trim();\n    styles.push(currentProp, valueHasQuotes ? stripUnnecessaryQuotes(styleVal) : styleVal);\n  }\n\n  return styles;\n}\n\nexport function stripUnnecessaryQuotes(value: string): string {\n  const qS = value.charCodeAt(0);\n  const qE = value.charCodeAt(value.length - 1);\n  if (qS == qE && (qS == Char.QuoteSingle || qS == Char.QuoteDouble)) {\n
  const tempValue = value.substring(1, value.length - 1);\n    // special case to avoid using a multi-quoted string that was just chomped\n    // (e.g. `font-family: \"Verdana\", \"sans-serif\"`)\n    if (tempValue.indexOf('\\'') == -1 && tempValue.indexOf('\"') == -1) {\n      value = tempValue;\n    }\n  }\n  return value;\n}\n\nexport function hyphenate(value: string): string {\n  return value\n      .replace(\n          /[a-z][A-Z]/g,\n          v => {\n
            return v.charAt(0) + '-' + v.charAt(1);\n          })\n      .toLowerCase();\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AttributeMarker} from '../../core';\nimport {AST, ASTWithSource, BindingPipe, BindingType, Interpolation} from '../../expression_parser/ast';\nimport * as o from '../../output/output_ast';\nimport {ParseSourceSpan} from '../../parse_util';\nimport {isEmptyExpression} from '../../template_parser/template_parser';\nimport * as t from '../r3_ast';\nimport {Identifiers as R3} from '../r3_identifiers';\n\nimport {hyphenate, parse as parseStyle} from './style_parser';\nimport {ValueConverter} from './template';\nimport {DefinitionMap, getInterpolationArgsLength} from './util';\n\nconst IMPORTANT_FLAG = '!important';\n\n/**\n * Minimum amount of binding slots required in the runtime for
 style/class bindings.\n *\n * Styling in Angular uses up two slots in the runtime LView/TData data structures to\n * record binding data, property information and metadata.\n *\n * When a binding is registered it will place the following information in the `LView`:\n *\n * slot 1) binding value\n * slot 2) cached value (all other values collected before it in string form)\n *\n * When a binding is registered it will place the following information in the `TData`:\n *\n * slot 1) prop name\n * slot 2) binding index that points to the previous style/class binding (and some extra config\n * values)\n *\n * Let's imagine we have a binding that looks like so:\n *\n * ```\n * <div [style.width]=\"x\" [style.height]=\"y\">\n * ```\n *\n * Our `LView` and `TData` data-structures look like so:\n *\n * ```typescript\n * LView = [\n *   // ...\n *   x, // value of x\n *   \"width: x\",\n *\n *   y, // value of y\n *   \"width: x; height: y\",\n *   // ...\n * ];\n *\n * TData = [\n *   // ...\n
 *   \"width\", // binding slot 20\n *   0,\n *\n *   \"height\",\n *   20,\n *   // ...\n * ];\n * ```\n *\n * */\nexport const MIN_STYLING_BINDING_SLOTS_REQUIRED = 2;\n\n/**\n * A styling expression summary that is to be processed by the compiler\n */\nexport interface StylingInstruction {\n  reference: o.ExternalReference;\n  /** Calls to individual styling instructions. Used when chaining calls to the same instruction. */\n  calls: StylingInstructionCall[];\n}\n\nexport interface StylingInstructionCall {\n  sourceSpan: ParseSourceSpan|null;\n

```
supportsInterpolation: boolean;\n  allocateBindingSlots: number;\n  params: ((convertFn: (value: any) => o.Expression | o.Expression[]) => o.Expression[]);\n}\n\n/**\n * An internal record of the input data for a styling binding\n */\ninterface BoundStylingEntry {\n  hasOverrideFlag: boolean;\n  name: string|null;\n  suffix: string|null;\n  sourceSpan: ParseSourceSpan;\n  value: AST;\n}\n\n/**\n * Produces creation/update instructions for all
 styling bindings (class and style)\n *\n * It also produces the creation instruction to register all initial styling values\n * (which are all the static class=\"...\" and style=\"...\" attribute values that exist\n * on an element within a template).\n *\n * The builder class below handles producing instructions for the following cases:\n *\n * - Static style/class attributes (style=\"...\" and class=\"...\")\n * - Dynamic style/class map bindings ([style]=\"map\" and [class]=\"map|string\")\n * - Dynamic style/class property bindings ([style.prop]=\"exp\" and [class.name]=\"exp\")\n *\n * Due to the complex relationship of all of these cases, the instructions generated\n * for these attributes/properties/bindings must be done so in the correct order. The\n * order which these must be generated is as follows:\n *\n * if (createMode) {\n *   styling(...)\n * }\n * if (updateMode) {\n *   styleMap(...)\n *   classMap(...)\n *   styleProp(...)\n *   classProp(...)\n * }\n *\n * The creation/update
 methods within the builder class produce these instructions.\n */\nexport class StylingBuilder {\n  /** Whether or not there are any static styling values present */\n  private _hasInitialValues = false;\n  /**\n   *  Whether or not there are any styling bindings present\n   *  (i.e. `[style]`, `[class]`, `[style.prop]` or `[class.name]`)\n   */\n  public hasBindings = false;\n  public hasBindingsWithPipes = false;\n\n  /** the input for [class] (if it exists) */\n  private _classMapInput: BoundStylingEntry|null = null;\n  /** the input for [style] (if it exists) */\n  private _styleMapInput: BoundStylingEntry|null = null;\n  /** an array of each [style.prop] input */\n  private _singleStyleInputs: BoundStylingEntry[]|null = null;\n  /** an array of each [class.name] input */\n  private _singleClassInputs: BoundStylingEntry[]|null = null;\n  private _lastStylingInput: BoundStylingEntry|null = null;\n  private _firstStylingInput: BoundStylingEntry|null = null;\n\n  // maps are
 used instead of hash maps because a Map will\n  // retain the ordering of the keys\n\n  /**\n   * Represents the location of each style binding in the template\n   * (e.g. `<div [style.width]=\"w\" [style.height]=\"h\">` implies\n   * that `width=0` and `height=1`)\n   */\n  private _stylesIndex = new Map<string, number>();\n\n  /**\n   * Represents the location of each class binding in the template\n   * (e.g. `<div [class.big]=\"b\" [class.hidden]=\"h\">` implies\n   * that `big=0` and `hidden=1`)\n   */\n  private _classesIndex = new Map<string, number>();\n  private _initialStyleValues: string[] = [];\n  private _initialClassValues: string[] = [];\n\n  constructor(private _directiveExpr: o.Expression|null) {}\n\n  /**\n   * Registers a given input to the styling builder to be later used when producing AOT code.\n   *\n   * The code below will only accept the input if it is somehow tied to styling (whether it be\n   * style/class bindings or static style/class attributes).\n   */\n
  registerBoundInput(input: t.BoundAttribute): boolean {\n    // [attr.style] or [attr.class] are skipped in the code below,\n    // they should not be treated as styling-based bindings since\n    // they are intended to be written directly to the attr and\n    // will therefore skip all style/class resolution that is present\n    // with style=\"\", [style]=\"\" and [style.prop]=\"\", class=\"\",\n    // [class.prop]=\"\". [class]=\"\" assignments\n    let binding: BoundStylingEntry|null = null;\n    let name = input.name;\n    switch (input.type) {\n      case BindingType.Property:\n        binding = this.registerInputBasedOnName(name, input.value, input.sourceSpan);\n        break;\n      case BindingType.Style:\n        binding = this.registerStyleInput(name, false, input.value, input.sourceSpan, input.unit);\n        break;\n      case BindingType.Class:\n        binding = this.registerClassInput(name, false, input.value, input.sourceSpan);\n        break;\n    }\n    return binding
 ? true : false;\n  }\n\n  registerInputBasedOnName(name: string, expression: AST, sourceSpan: ParseSourceSpan) {\n    let binding: BoundStylingEntry|null = null;\n    const prefix = name.substring(0, 6);\n    const isStyle = name === 'style' || prefix === 'style.' || prefix === 'style!';\n    const isClass = !isStyle && (name === 'class' || prefix === 'class.' || prefix === 'class!');\n    if (isStyle || isClass) {\n      const isMapBased = name.charAt(5) !== '.';        // style.prop or class.prop makes this a no\n      const property = name.substr(isMapBased ? 5 : 6);  // the dot explains why there's a +1\n      if (isStyle) {\n        binding = this.registerStyleInput(property, isMapBased, expression, sourceSpan);\n      } else {\n        binding = this.registerClassInput(property, isMapBased, expression,
```

```
sourceSpan);\n      }\n    }\n    return binding;\n  }\n\n  registerStyleInput(\n      name: string, isMapBased: boolean,
value: AST, sourceSpan: ParseSourceSpan,\n      suffix?:
 string|null): BoundStylingEntry|null {\n    if (isEmptyExpression(value)) {\n      return null;\n    }\n    name =
normalizePropName(name);\n    const {property, hasOverrideFlag, suffix: bindingSuffix} = parseProperty(name);\n
 suffix = typeof suffix === 'string' && suffix.length !== 0 ? suffix : bindingSuffix;\n    const entry:\n
BoundStylingEntry = {name: property, suffix: suffix, value, sourceSpan, hasOverrideFlag};\n    if (isMapBased) {\n
    this._styleMapInput = entry;\n    } else {\n      (this._singleStyleInputs = this._singleStyleInputs ||
[]).push(entry);\n      registerIntoMap(this._stylesIndex, property);\n    }\n    this._lastStylingInput = entry;\n
this._firstStylingInput = this._firstStylingInput || entry;\n    this._checkForPipes(value);\n    this.hasBindings =
true;\n    return entry;\n  }\n\n  registerClassInput(name: string, isMapBased: boolean, value: AST, sourceSpan:
ParseSourceSpan):\n      BoundStylingEntry|null {\n    if (isEmptyExpression(value))
 {\n      return null;\n    }\n    const {property, hasOverrideFlag} = parseProperty(name);\n    const entry:\n
BoundStylingEntry = {name: property, value, sourceSpan, hasOverrideFlag, suffix: null};\n    if (isMapBased) {\n
if (this._classMapInput) {\n        throw new Error(\n            '[class] and [className] bindings cannot be used on the
same element simultaneously');\n      }\n      this._classMapInput = entry;\n    } else {\n      (this._singleClassInputs =
this._singleClassInputs || []).push(entry);\n      registerIntoMap(this._classesIndex, property);\n    }\n
this._lastStylingInput = entry;\n    this._firstStylingInput = this._firstStylingInput || entry;\n
this._checkForPipes(value);\n    this.hasBindings = true;\n    return entry;\n  }\n\n  private _checkForPipes(value:
AST) {\n    if ((value instanceof ASTWithSource) && (value.ast instanceof BindingPipe)) {\n
this.hasBindingsWithPipes = true;\n    }\n  }\n\n  /**\n   * Registers the element's static
 style string value to the builder.\n   *\n   * @param value the style string (e.g. `width:100px; height:200px;`)\n   */\n
registerStyleAttr(value: string) {\n    this._initialStyleValues = parseStyle(value);\n    this._hasInitialValues = true;\n
}\n\n  /**\n   * Registers the element's static class string value to the builder.\n   *\n   * @param value the className
string (e.g. `disabled gold zoom`)\n   */\n  registerClassAttr(value: string) {\n    this._initialClassValues =
value.trim().split(/\\s+/g);\n    this._hasInitialValues = true;\n  }\n\n  /**\n   * Appends all styling-related expressions
to the provided attrs array.\n   *\n   * @param attrs an existing array where each of the styling expressions\n   * will
be inserted into.\n   */\n  populateInitialStylingAttrs(attrs: o.Expression[]): void {\n    // [CLASS_MARKER, 'foo',
'bar', 'baz' ...]\n    if (this._initialClassValues.length) {\n      attrs.push(o.literal(AttributeMarker.Classes));\n      for
(let i = 0; i < this._initialClassValues.length;
 i++) {\n        attrs.push(o.literal(this._initialClassValues[i]));\n      }\n    }\n\n    // [STYLE_MARKER, 'width',
'200px', 'height', '100px', ...]\n    if (this._initialStyleValues.length) {\n
attrs.push(o.literal(AttributeMarker.Styles));\n      for (let i = 0; i < this._initialStyleValues.length; i += 2) {\n
attrs.push(\n            o.literal(this._initialStyleValues[i]), o.literal(this._initialStyleValues[i + 1]));\n      }\n    }\n
}\n\n  /**\n   * Builds an instruction with all the expressions and parameters for `elementHostAttrs`.\n   *\n   * The
instruction generation code below is used for producing the AOT statement code which is\n   * responsible for
registering initial styles (within a directive hostBindings' creation block),\n   * as well as any of the provided
attribute values, to the directive host element.\n   */\n  assignHostAttrs(attrs: o.Expression[], definitionMap:
DefinitionMap): void {\n    if (this._directiveExpr && (attrs.length
 || this._hasInitialValues)) {\n      this.populateInitialStylingAttrs(attrs);\n      definitionMap.set('hostAttrs',
o.literalArr(attrs));\n    }\n  }\n\n  /**\n   * Builds an instruction with all the expressions and parameters for
`classMap`.\n   *\n   * The instruction data will contain all expressions for `classMap` to function\n   * which
includes the `[class]` expression params.\n   */\n  buildClassMapInstruction(valueConverter: ValueConverter):
StylingInstruction|null {\n    if (this._classMapInput) {\n      return this._buildMapBasedInstruction(valueConverter,
true, this._classMapInput);\n    }\n    return null;\n  }\n\n  /**\n   * Builds an instruction with all the expressions and
parameters for `styleMap`.\n   *\n   * The instruction data will contain all expressions for `styleMap` to function\n
* which includes the `[style]` expression params.\n   */\n  buildStyleMapInstruction(valueConverter:
ValueConverter): StylingInstruction|null {\n    if (this._styleMapInput)
```

```
{\n      return this._buildMapBasedInstruction(valueConverter, false, this._styleMapInput);\n    }\n    return null;\n  }\n\n  private _buildMapBasedInstruction(\n      valueConverter: ValueConverter, isClassBased: boolean,\n  stylingInput: BoundStylingEntry): StylingInstruction {\n    // each styling binding value is stored in the LView\n    // map-based bindings allocate two slots: one for the\n    // previous binding value and another for the previous\n    // className or style attribute value.\n    let totalBindingSlotsRequired =
MIN_STYLING_BINDING_SLOTS_REQUIRED;\n\n    // these values must be outside of the update block so that they can\n    // be evaluated (the AST visit call) during creation time so that any\n    // pipes can be picked up in time before the template is built\n    const mapValue = stylingInput.value.visit(valueConverter);\n    let reference:
o.ExternalReference;\n    if (mapValue instanceof Interpolation) {\n      totalBindingSlotsRequired +=
mapValue.expressions.length;\n
      reference = isClassBased ? getClassMapInterpolationExpression(mapValue) :\n
getStyleMapInterpolationExpression(mapValue);\n    } else {\n      reference = isClassBased ? R3.classMap :
R3.styleMap;\n    }\n\n    return {\n      reference,\n      calls: [{\n        supportsInterpolation: true,\n        sourceSpan:
stylingInput.sourceSpan,\n        allocateBindingSlots: totalBindingSlotsRequired,\n        params: (convertFn: (value:
any) => o.Expression|o.Expression[]) => {\n          const convertResult = convertFn(mapValue);\n          const
params = Array.isArray(convertResult) ? convertResult : [convertResult];\n          return params;\n        }\n      }]\n
};\n  }\n\n  private _buildSingleInputs(\n      reference: o.ExternalReference, inputs: BoundStylingEntry[],
valueConverter: ValueConverter,\n      getInterpolationExpressionFn: ((value: Interpolation) =>
o.ExternalReference)|null,\n      isClassBased: boolean): StylingInstruction[]
  {\n    const instructions: StylingInstruction[] = [];\n\n    inputs.forEach(input => {\n      const previousInstruction:
StylingInstruction|undefined =\n          instructions[instructions.length - 1];\n      const value =
input.value.visit(valueConverter);\n      let referenceForCall = reference;\n\n      // each styling binding value is
stored in the LView\n      // but there are two values stored for each binding:\n      //   1) the value itself\n      //   2) an
intermediate value (concatenation of style up to this point).\n      //      We need to store the intermediate value so that
we don't allocate\n      //      the strings on each CD.\n      let totalBindingSlotsRequired =
MIN_STYLING_BINDING_SLOTS_REQUIRED;\n\n      if (value instanceof Interpolation) {\n
totalBindingSlotsRequired += value.expressions.length;\n\n        if (getInterpolationExpressionFn) {\n
referenceForCall = getInterpolationExpressionFn(value);\n        }\n      }\n\n      const call
  = {\n        sourceSpan: input.sourceSpan,\n        allocateBindingSlots: totalBindingSlotsRequired,\n
supportsInterpolation: !!getInterpolationExpressionFn,\n        params: (convertFn: (value: any) => o.Expression |
o.Expression[]) => {\n          // params => stylingProp(propName, value, suffix)\n          const params:
o.Expression[] = [];\n          params.push(o.literal(input.name));\n\n          const convertResult = convertFn(value);\n
        if (Array.isArray(convertResult)) {\n            params.push(...convertResult);\n          } else {\n
params.push(convertResult);\n          }\n\n          // [style.prop] bindings may use suffix values (e.g. px, em, etc...),
therefore,\n          // if that is detected then we need to pass that in as an optional param.\n          if (!isClassBased
&& input.suffix !== null) {\n            params.push(o.literal(input.suffix));\n          }\n\n          return params;\n
}\n      };\n\n      // If we ended up generating
  a call to the same instruction as the previous styling property\n      // we can chain the calls together safely to save
some bytes, otherwise we have to generate\n      // a separate instruction call. This is primarily a concern with
interpolation instructions\n      // where we may start off with one `reference`, but end up using another based on
the\n      // number of interpolations.\n      if (previousInstruction && previousInstruction.reference ===
referenceForCall) {\n        previousInstruction.calls.push(call);\n      } else {\n        instructions.push({reference:
referenceForCall, calls: [call]});\n      }\n    });\n\n    return instructions;\n  }\n\n  private
_buildClassInputs(valueConverter: ValueConverter): StylingInstruction[] {\n    if (this._singleClassInputs) {\n
return this._buildSingleInputs(\n          R3.classProp, this._singleClassInputs, valueConverter, null, true);\n    }\n
return [];\n  }\n\n  private _buildStyleInputs(valueConverter: ValueConverter):
  StylingInstruction[] {\n    if (this._singleStyleInputs) {\n      return this._buildSingleInputs(\n          R3.styleProp,
this._singleStyleInputs, valueConverter,\n          getStylePropInterpolationExpression, false);\n    }\n    return [];\n
```

}\n\n  /**\n   * Constructs all instructions which contain the expressions that will be placed\n   * into the update block of a template function or a directive hostBindings function.\n   */\n buildUpdateLevelInstructions(valueConverter: ValueConverter) {\n    const instructions: StylingInstruction[] = [];\n  if (this.hasBindings) {\n      const styleMapInstruction = this.buildStyleMapInstruction(valueConverter);\n      if (styleMapInstruction) {\n        instructions.push(styleMapInstruction);\n      }\n      const classMapInstruction = this.buildClassMapInstruction(valueConverter);\n      if (classMapInstruction) {\n instructions.push(classMapInstruction);\n      }\n      instructions.push(...this._buildStyleInputs(valueConverter));\n      instructions.push(...this._buildClassInputs(valueConverter));\n    }\n    return instructions;\n  }\n}\n\nfunction registerIntoMap(map: Map<string, number>, key: string) {\n  if (!map.has(key)) {\n    map.set(key, map.size);\n  }\n}\n\nexport function parseProperty(name: string):\n    {property: string, suffix: string|null, hasOverrideFlag: boolean} {\n  let hasOverrideFlag = false;\n  const overrideIndex = name.indexOf(IMPORTANT_FLAG);\n  if (overrideIndex !== -1) {\n    name = overrideIndex > 0 ? name.substring(0, overrideIndex) : '';\n    hasOverrideFlag = true;\n  }\n\n  let suffix: string|null = null;\n  let property = name;\n  const unitIndex = name.lastIndexOf('.');\n  if (unitIndex > 0) {\n    suffix = name.substr(unitIndex + 1);\n    property = name.substring(0, unitIndex);\n  }\n\n  return {property, suffix, hasOverrideFlag};\n}\n\n/**\n * Gets the instruction to generate for an interpolated class map.\n * @param interpolation An Interpolation AST\n */\nfunction getClassMapInterpolationExpression(interpolation: Interpolation): o.ExternalReference {\n  switch (getInterpolationArgsLength(interpolation)) {\n    case 1:\n      return R3.classMap;\n    case 3:\n      return R3.classMapInterpolate1;\n    case 5:\n      return R3.classMapInterpolate2;\n    case 7:\n      return R3.classMapInterpolate3;\n    case 9:\n      return R3.classMapInterpolate4;\n    case 11:\n      return R3.classMapInterpolate5;\n    case 13:\n      return R3.classMapInterpolate6;\n    case 15:\n      return R3.classMapInterpolate7;\n    case 17:\n      return R3.classMapInterpolate8;\n    default:\n      return R3.classMapInterpolateV;\n  }\n}\n\n/**\n * Gets the instruction to generate for an interpolated style map.\n * @param interpolation An Interpolation AST\n */\nfunction getStyleMapInterpolationExpression(interpolation: Interpolation): o.ExternalReference {\n  switch (getInterpolationArgsLength(interpolation)) {\n    case 1:\n      return R3.styleMap;\n    case 3:\n      return R3.styleMapInterpolate1;\n    case 5:\n      return R3.styleMapInterpolate2;\n    case 7:\n      return R3.styleMapInterpolate3;\n    case 9:\n      return R3.styleMapInterpolate4;\n    case 11:\n      return R3.styleMapInterpolate5;\n    case 13:\n      return R3.styleMapInterpolate6;\n    case 15:\n      return R3.styleMapInterpolate7;\n    case 17:\n      return R3.styleMapInterpolate8;\n    default:\n      return R3.styleMapInterpolateV;\n  }\n}\n\n/**\n * Gets the instruction to generate for an interpolated style prop.\n * @param interpolation An Interpolation AST\n */\nfunction getStylePropInterpolationExpression(interpolation: Interpolation) {\n  switch (getInterpolationArgsLength(interpolation)) {\n    case 1:\n      return R3.styleProp;\n    case 3:\n      return R3.stylePropInterpolate1;\n    case 5:\n      return R3.stylePropInterpolate2;\n    case 7:\n      return R3.stylePropInterpolate3;\n    case 9:\n      return R3.stylePropInterpolate4;\n    case 11:\n      return R3.stylePropInterpolate5;\n    case 13:\n      return R3.stylePropInterpolate6;\n    case 15:\n      return R3.stylePropInterpolate7;\n    case 17:\n      return R3.stylePropInterpolate8;\n    default:\n      return R3.stylePropInterpolateV;\n  }\n}\n\nfunction normalizePropName(prop: string): string {\n  return hyphenate(prop);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as chars from '../chars';\n\nexport enum TokenType {\n  Character,\n  Identifier,\n  Keyword,\n  String,\n  Operator,\n  Number,\n  Error\n}\n\nconst KEYWORDS = ['var', 'let', 'as', 'null', 'undefined', 'true', 'false', 'if', 'else', 'this'];\n\nexport class Lexer {\n  tokenize(text: string): Token[] {\n    const scanner = new _Scanner(text);\n    const tokens: Token[] = [];\n    let token = scanner.scanToken();\n    while (token != null) {\n      tokens.push(token);\n      token = scanner.scanToken();\n    }\n    return tokens;\n  }\n}\n\nexport class Token {\n  constructor(\n      public index: number, public end: number, public type: TokenType, public numValue: number,\n      public strValue: string) {}\n\n  isCharacter(code: number): boolean {\n    return this.type == TokenType.Character && this.numValue == code;\n  }\n\n  isNumber(): boolean {\n    return this.type ==

```
TokenType.Number;\n  }\n\n  isString(): boolean {\n    return this.type == TokenType.String;\n  }\n\n
isOperator(operator: string): boolean {\n    return this.type == TokenType.Operator && this.strValue == operator;\n
}\n\n  isIdentifier(): boolean {\n    return this.type == TokenType.Identifier;\n  }\n\n  isKeyword(): boolean {\n
return this.type == TokenType.Keyword;\n  }\n\n  isKeywordLet(): boolean {\n    return this.type ==
TokenType.Keyword && this.strValue == 'let';\n  }\n\n  isKeywordAs(): boolean {\n    return this.type ==
TokenType.Keyword
 && this.strValue == 'as';\n  }\n\n  isKeywordNull(): boolean {\n    return this.type == TokenType.Keyword &&
this.strValue == 'null';\n  }\n\n  isKeywordUndefined(): boolean {\n    return this.type == TokenType.Keyword &&
this.strValue == 'undefined';\n  }\n\n  isKeywordTrue(): boolean {\n    return this.type == TokenType.Keyword &&
this.strValue == 'true';\n  }\n\n  isKeywordFalse(): boolean {\n    return this.type == TokenType.Keyword &&
this.strValue == 'false';\n  }\n\n  isKeywordThis(): boolean {\n    return this.type == TokenType.Keyword &&
this.strValue == 'this';\n  }\n\n  isError(): boolean {\n    return this.type == TokenType.Error;\n  }\n\n  toNumber():
number {\n    return this.type == TokenType.Number ? this.numValue : -1;\n  }\n\n  toString(): string|null {\n
switch (this.type) {\n      case TokenType.Character:\n      case TokenType.Identifier:\n      case
TokenType.Keyword:\n      case TokenType.Operator:\n      case TokenType.String:\n      case TokenType.Error:\n
        return this.strValue;\n      case TokenType.Number:\n        return this.numValue.toString();\n      default:\n
return null;\n    }\n  }\n}\n\nfunction newCharacterToken(index: number, end: number, code: number): Token {\n
return new Token(index, end, TokenType.Character, code, String.fromCharCode(code));\n}\n\nfunction
newIdentifierToken(index: number, end: number, text: string): Token {\n  return new Token(index, end,
TokenType.Identifier, 0, text);\n}\n\nfunction newKeywordToken(index: number, end: number, text: string): Token
{\n  return new Token(index, end, TokenType.Keyword, 0, text);\n}\n\nfunction newOperatorToken(index: number,
end: number, text: string): Token {\n  return new Token(index, end, TokenType.Operator, 0, text);\n}\n\nfunction
newStringToken(index: number, end: number, text: string): Token {\n  return new Token(index, end,
TokenType.String, 0, text);\n}\n\nfunction newNumberToken(index: number, end: number, n: number): Token {\n
return
 new Token(index, end, TokenType.Number, n, '');\n}\n\nfunction newErrorToken(index: number, end: number,
message: string): Token {\n  return new Token(index, end, TokenType.Error, 0, message);\n}\n\nexport const EOF:
Token = new Token(-1, -1, TokenType.Character, 0, '');\n\nclass _Scanner {\n  length: number;\n  peek: number =
0;\n  index: number = -1;\n\n  constructor(public input: string) {\n    this.length = input.length;\n    this.advance();\n
}\n\n  advance() {\n    this.peek = ++this.index >= this.length ? chars.$EOF : this.input.charCodeAt(this.index);\n
}\n\n  scanToken(): Token|null {\n    const input = this.input, length = this.length;\n    let peek = this.peek, index =
this.index;\n\n    // Skip whitespace.\n    while (peek <= chars.$SPACE) {\n      if (++index >= length) {\n        peek
= chars.$EOF;\n        break;\n      } else {\n        peek = input.charCodeAt(index);\n      }\n    }\n\n    this.peek =
peek;\n    this.index = index;\n\n    if (index >= length) {\n
      return null;\n    }\n\n    // Handle identifiers and numbers.\n    if (isIdentifierStart(peek)) return
this.scanIdentifier();\n    if (chars.isDigit(peek)) return this.scanNumber(index);\n\n    const start: number = index;\n
 switch (peek) {\n      case chars.$PERIOD:\n        this.advance();\n        return chars.isDigit(this.peek) ?
this.scanNumber(start) :\n                                  newCharacterToken(start, this.index, chars.$PERIOD);\n
case chars.$LPAREN:\n      case chars.$RPAREN:\n      case chars.$LBRACE:\n      case chars.$RBRACE:\n
case chars.$LBRACKET:\n      case chars.$RBRACKET:\n      case chars.$COMMA:\n      case chars.$COLON:\n
 case chars.$SEMICOLON:\n        return this.scanCharacter(start, peek);\n      case chars.$SQ:\n      case
chars.$DQ:\n        return this.scanString();\n      case chars.$HASH:\n      case chars.$PLUS:\n      case
chars.$MINUS:\n      case chars.$STAR:\n      case chars.$SLASH:\n      case chars.$PERCENT:\n
      case chars.$CARET:\n        return this.scanOperator(start, String.fromCharCode(peek));\n      case
chars.$QUESTION:\n        return this.scanComplexOperator(start, '?', chars.$PERIOD, '.');\n      case chars.$LT:\n
case chars.$GT:\n        return this.scanComplexOperator(start, String.fromCharCode(peek), chars.$EQ, '=');\n
case chars.$BANG:\n      case chars.$EQ:\n        return this.scanComplexOperator(\n            start,
String.fromCharCode(peek), chars.$EQ, '=', chars.$EQ, '=');\n      case chars.$AMPERSAND:\n        return
```

this.scanComplexOperator(start, '&', chars.$AMPERSAND, '&');\n case chars.$BAR:\n return this.scanComplexOperator(start, '|', chars.$BAR, '|');\n case chars.$NBSP:\n while (chars.isWhitespace(this.peek)) this.advance();\n return this.scanToken();\n }\n\n this.advance();\n return this.error(`Unexpected character [${String.fromCharCode(peek)}]`, 0);\n }\n\n scanCharacter(start: number, code: number): Token
{\n this.advance();\n return newCharacterToken(start, this.index, code);\n }\n\n\n scanOperator(start: number, str: string): Token {\n this.advance();\n return newOperatorToken(start, this.index, str);\n }\n\n /**\n * Tokenize a 2/3 char long operator\n *\n * @param start start index in the expression\n * @param one first symbol (always part of the operator)\n * @param twoCode code point for the second symbol\n * @param two second symbol (part of the operator when the second code point matches)\n * @param threeCode code point for the third symbol\n * @param three third symbol (part of the operator when provided and matches source expression)\n */\n scanComplexOperator(\n start: number, one: string, twoCode: number, two: string, threeCode?: number,\n three?: string): Token {\n this.advance();\n let str: string = one;\n if (this.peek == twoCode) {\n this.advance();\n str += two;\n }\n if (threeCode != null && this.peek
== threeCode) {\n this.advance();\n str += three;\n }\n return newOperatorToken(start, this.index, str);\n }\n\n scanIdentifier(): Token {\n const start: number = this.index;\n this.advance();\n while (isIdentifierPart(this.peek)) this.advance();\n const str: string = this.input.substring(start, this.index);\n return KEYWORDS.indexOf(str) > -1 ? newKeywordToken(start, this.index, str) :\n newIdentifierToken(start, this.index, str);\n }\n\n scanNumber(start: number): Token {\n let simple: boolean = (this.index === start);\n this.advance(); // Skip initial digit.\n while (true) {\n if (chars.isDigit(this.peek)) {\n // Do nothing.\n } else if (this.peek == chars.$PERIOD) {\n simple = false;\n } else if (isExponentStart(this.peek)) {\n this.advance();\n if (isExponentSign(this.peek)) this.advance();\n if (!chars.isDigit(this.peek)) return this.error('Invalid
exponent', -1);\n simple = false;\n } else {\n break;\n }\n this.advance();\n }\n const str: string = this.input.substring(start, this.index);\n const value: number = simple ? parseIntAutoRadix(str) : parseFloat(str);\n return newNumberToken(start, this.index, value);\n }\n\n scanString(): Token {\n const start: number = this.index;\n const quote: number = this.peek;\n this.advance(); // Skip initial quote.\n\n let buffer: string = '';\n let marker: number = this.index;\n const input: string = this.input;\n\n while (this.peek != quote) {\n if (this.peek == chars.$BACKSLASH) {\n buffer += input.substring(marker, this.index);\n this.advance();\n let unescapedCode: number;\n // Workaround for TS2.1-introduced type strictness\n this.peek = this.peek;\n if (this.peek == chars.$u) {\n // 4 character hex code for unicode character.\n const hex: string = input.substring(this.index
+ 1, this.index + 5);\n if (/^[0-9a-f]+$/i.test(hex)) {\n unescapedCode = parseInt(hex, 16);\n } else {\n return this.error(`Invalid unicode escape [\\\\u${hex}]`, 0);\n }\n for (let i: number = 0; i < 5; i++) {\n this.advance();\n }\n } else {\n unescapedCode = unescape(this.peek);\n this.advance();\n }\n buffer += String.fromCharCode(unescapedCode);\n marker = this.index;\n } else if (this.peek == chars.$EOF) {\n return this.error('Unterminated quote', 0);\n } else {\n this.advance();\n }\n }\n\n const last: string = input.substring(marker, this.index);\n this.advance(); // Skip terminating quote.\n\n return newStringToken(start, this.index, buffer + last);\n }\n\n error(message: string, offset: number): Token {\n const position: number = this.index + offset;\n return newErrorToken(\n position,
this.index,\n `Lexer Error: ${message} at column ${position} in expression [${this.input}]`);\n }\n}\n\n\nfunction isIdentifierStart(code: number): boolean {\n return (chars.$a <= code && code <= chars.$z) || (chars.$A <= code && code <= chars.$Z) ||\n (code == chars.$_) || (code == chars.$$);\n}\n\nexport function isIdentifier(input: string): boolean {\n if (input.length == 0) return false;\n const scanner = new _Scanner(input);\n if (!isIdentifierStart(scanner.peek)) return false;\n scanner.advance();\n while (scanner.peek !== chars.$EOF) {\n if (!isIdentifierPart(scanner.peek)) return false;\n scanner.advance();\n }\n return true;\n}\n\nfunction isIdentifierPart(code: number): boolean {\n return chars.isAsciiLetter(code) || chars.isDigit(code) || (code ==

chars.$_) ||\n (code == chars.$$);\n}\n\nfunction isExponentStart(code: number): boolean {\n return code == chars.$e || code == chars.$E;\n}\n\nfunction isExponentSign(code: number): boolean {\n return code == chars.$MINUS || code == chars.$PLUS;\n}\n\nexport function isQuote(code: number): boolean {\n return code === chars.$SQ || code === chars.$DQ || code === chars.$BT;\n}\n\nfunction unescape(code: number): number {\n switch (code) {\n case chars.$n:\n return chars.$LF;\n case chars.$f:\n return chars.$FF;\n case chars.$r:\n return chars.$CR;\n case chars.$t:\n return chars.$TAB;\n case chars.$v:\n return chars.$VTAB;\n default:\n return code;\n }\n}\n\nfunction parseIntAutoRadix(text: string): number {\n const result: number = parseInt(text);\n if (isNaN(result)) {\n throw new Error('Invalid integer literal when parsing ' + text);\n }\n return result;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as chars from '../chars';\nimport {DEFAULT_INTERPOLATION_CONFIG, InterpolationConfig} from '../ml_parser/interpolation_config';\nimport {escapeRegExp} from '../util';\n\nimport {AbsoluteSourceSpan, AST, AstVisitor, ASTWithSource, Binary, BindingPipe, Chain, Conditional, EmptyExpr, ExpressionBinding, FunctionCall, ImplicitReceiver, Interpolation, KeyedRead, KeyedWrite, LiteralArray, LiteralMap, LiteralMapKey, LiteralPrimitive, MethodCall, NonNullAssert, ParserError, ParseSpan, PrefixNot, PropertyRead, PropertyWrite, Quote, RecursiveAstVisitor, SafeMethodCall, SafePropertyRead, TemplateBinding, TemplateBindingIdentifier, ThisReceiver, Unary, VariableBinding} from './ast';\nimport {EOF, isIdentifier, isQuote, Lexer, Token, TokenType} from './lexer';\n\nexport interface InterpolationPiece {\n text: string;\n start: number;\n end: number;\n}\nexport class SplitInterpolation {\n constructor(\n public strings: InterpolationPiece[], public expressions: InterpolationPiece[],\n public offsets: number[]) {}\n}\n\nexport class TemplateBindingParseResult {\n constructor(\n public templateBindings: TemplateBinding[], public warnings: string[],\n public errors: ParserError[]) {}\n}\n\nconst defaultInterpolateRegExp = _createInterpolateRegExp(DEFAULT_INTERPOLATION_CONFIG);\nfunction _getInterpolateRegExp(config: InterpolationConfig): RegExp {\n if (config === DEFAULT_INTERPOLATION_CONFIG) {\n return defaultInterpolateRegExp;\n } else {\n return _createInterpolateRegExp(config);\n }\n}\n\nfunction _createInterpolateRegExp(config: InterpolationConfig): RegExp {\n const pattern = escapeRegExp(config.start) + '([\\\\s\\\\S]*?)' + escapeRegExp(config.end);\n return new RegExp(pattern, 'g');\n}\n\nexport class Parser {\n private errors: ParserError[] = [];\n\n constructor(private _lexer: Lexer) {}\n\n simpleExpressionChecker = SimpleExpressionChecker;\n\n parseAction(\n input: string, location: string, absoluteOffset: number,\n interpolationConfig: InterpolationConfig = DEFAULT_INTERPOLATION_CONFIG):\n ASTWithSource {\n this._checkNoInterpolation(input, location, interpolationConfig);\n const sourceToLex = this._stripComments(input);\n const tokens = this._lexer.tokenize(this._stripComments(input));\n const ast = new _ParseAST(\n input, location, absoluteOffset, tokens, sourceToLex.length, true, this.errors,\n input.length - sourceToLex.length)\n .parseChain();\n return new ASTWithSource(ast, input, location, absoluteOffset, this.errors);\n }\n\n parseBinding(\n input: string, location: string, absoluteOffset: number,\n interpolationConfig: InterpolationConfig = DEFAULT_INTERPOLATION_CONFIG):\n ASTWithSource {\n const ast = this._parseBindingAst(input, location, absoluteOffset, interpolationConfig);\n return new ASTWithSource(ast, input, location, absoluteOffset, this.errors);\n }\n\n private checkSimpleExpression(ast: AST): string[] {\n const checker = new this.simpleExpressionChecker();\n ast.visit(checker);\n return checker.errors;\n }\n\n parseSimpleBinding(\n input: string, location: string, absoluteOffset: number,\n interpolationConfig: InterpolationConfig =\nDEFAULT_INTERPOLATION_CONFIG): ASTWithSource {\n const ast = this._parseBindingAst(input, location, absoluteOffset, interpolationConfig);\n const errors = this.checkSimpleExpression(ast);\n if (errors.length > 0) {\n this._reportError(\n `Host binding expression cannot contain ${errors.join(' ')}`, input, location);\n }\n return new ASTWithSource(ast, input, location, absoluteOffset, this.errors);\n }\n\n private _reportError(message: string, input: string, errLocation: string, ctxLocation?: string) {\n this.errors.push(new ParserError(message, input, errLocation, ctxLocation));\n }\n\n private _parseBindingAst(\n

```
input: string, location: string, absoluteOffset: number,\n      interpolationConfig: InterpolationConfig): AST {\n
  // Quotes expressions use 3rd-party expression language. We don't want to use\n    // our lexer or parser for that, so
we check for that ahead of time.\n    const quote = this._parseQuote(input, location, absoluteOffset);\n\n    if (quote
!= null) {\n      return quote;\n    }\n\n    this._checkNoInterpolation(input, location, interpolationConfig);\n    const
sourceToLex = this._stripComments(input);\n    const tokens = this._lexer.tokenize(sourceToLex);\n    return new
_ParseAST(\n                input, location, absoluteOffset, tokens, sourceToLex.length, false, this.errors,\n
input.length - sourceToLex.length)\n        .parseChain();\n  }\n\n  private _parseQuote(input: string|null, location:
string, absoluteOffset: number): AST|null {\n    if (input == null) return null;\n    const prefixSeparatorIndex =
input.indexOf(':');\n    if (prefixSeparatorIndex == -1) return null;\n    const prefix = input.substring(0,
prefixSeparatorIndex).trim();\n    if (!isIdentifier(prefix))
  return null;\n    const uninterpretedExpression = input.substring(prefixSeparatorIndex + 1);\n    const span = new
ParseSpan(0, input.length);\n    return new Quote(\n        span, span.toAbsolute(absoluteOffset), prefix,
uninterpretedExpression, location);\n  }\n\n  /**\n   * Parse microsyntax template expression and return a list of
bindings or\n   * parsing errors in case the given expression is invalid.\n   *\n   * For example,\n   * ```\n   *   <div
*ngFor=\"let item of items\">\n   *         ^      ^ absoluteValueOffset for `templateValue`\n   *
absoluteKeyOffset for `templateKey`\n   * ```\n   * contains three bindings:\n   * 1. ngFor -> null\n   * 2. item ->
NgForOfContext.$implicit\n   * 3. ngForOf -> items\n   *\n   * This is apparent from the de-sugared template:\n   *
```\n   *   <ng-template ngFor let-item [ngForOf]=\"items\">\n   * ```\n   *\n   * @param templateKey name of
directive, without the * prefix. For example: ngIf, ngFor\n   * @param templateValue RHS
  of the microsyntax attribute\n   * @param templateUrl template filename if it's external, component filename if it's
inline\n   * @param absoluteKeyOffset start of the `templateKey`\n   * @param absoluteValueOffset start of the
`templateValue`\n   */\n  parseTemplateBindings(\n      templateKey: string, templateValue: string, templateUrl:
string, absoluteKeyOffset: number,\n      absoluteValueOffset: number): TemplateBindingParseResult {\n    const
tokens = this._lexer.tokenize(templateValue);\n    const parser = new _ParseAST(\n        templateValue,
templateUrl, absoluteValueOffset, tokens, templateValue.length,\n        false /* parseAction */, this.errors, 0 /*
relative offset */);\n    return parser.parseTemplateBindings({\n      source: templateKey,\n      span: new
AbsoluteSourceSpan(absoluteKeyOffset, absoluteKeyOffset + templateKey.length),\n    });\n  }\n\n
parseInterpolation(\n      input: string, location: string, absoluteOffset: number,\n      interpolationConfig:
InterpolationConfig
  = DEFAULT_INTERPOLATION_CONFIG): ASTWithSource|null {\n    const {strings, expressions, offsets} =\n
    this.splitInterpolation(input, location, interpolationConfig);\n    if (expressions.length === 0) return null;\n\n
const expressionNodes: AST[] = [];\n\n    for (let i = 0; i < expressions.length; ++i) {\n      const expressionText =
expressions[i].text;\n      const sourceToLex = this._stripComments(expressionText);\n      const tokens =
this._lexer.tokenize(sourceToLex);\n      const ast = new _ParseAST(\n                  input, location, absoluteOffset,
tokens, sourceToLex.length, false,\n                  this.errors, offsets[i] + (expressionText.length -
sourceToLex.length))\n                  .parseChain();\n      expressionNodes.push(ast);\n    }\n\n    return
this.createInterpolationAst(\n        strings.map(s => s.text), expressionNodes, input, location, absoluteOffset);\n
}\n\n  /**\n   * Similar to `parseInterpolation`, but treats the provided
  string as a single expression\n   * element that would normally appear within the interpolation prefix and suffix
(`{{` and `}}`).\n   * This is used for parsing the switch expression in ICUs.\n   */\n
parseInterpolationExpression(expression: string, location: string, absoluteOffset: number):\n      ASTWithSource {\n
    const sourceToLex = this._stripComments(expression);\n    const tokens = this._lexer.tokenize(sourceToLex);\n
const ast = new _ParseAST(\n                  expression, location, absoluteOffset, tokens, sourceToLex.length,\n
      /* parseAction */ false, this.errors, 0)\n                  .parseChain();\n    const strings = ['', ''];  // The prefix and
suffix strings are both empty\n    return this.createInterpolationAst(strings, [ast], expression, location,
absoluteOffset);\n  }\n\n  private createInterpolationAst(\n      strings: string[], expressions: AST[], input: string,
location: string,\n      absoluteOffset: number): ASTWithSource {\n
```
```

```
    const span = new ParseSpan(0, input.length);\n    const interpolation =\n        new Interpolation(span, span.toAbsolute(absoluteOffset), strings, expressions);\n    return new ASTWithSource(interpolation, input, location, absoluteOffset, this.errors);\n  }\n\n  /**\n   * Splits a string of text into \"raw\" text segments and expressions present in interpolations in\n   * the string.\n   * Returns `null` if there are no interpolations, otherwise a\n   * `SplitInterpolation` with splits that look like\n   *   <raw text> <expression> <raw text> ... <raw text> <expression> <raw text>\n   */\n  splitInterpolation(\n      input: string, location: string,\n      interpolationConfig: InterpolationConfig = DEFAULT_INTERPOLATION_CONFIG): SplitInterpolation {\n    const strings: InterpolationPiece[] = [];\n    const expressions: InterpolationPiece[] = [];\n    const offsets: number[] = [];\n    let i = 0;\n    let atInterpolation = false;\n    let extendLastString = false;\n    let {start: interpStart, end: interpEnd} = interpolationConfig;\n    while (i < input.length) {\n      if (!atInterpolation) {\n        // parse until starting {{\n        const start = i;\n        i = input.indexOf(interpStart, i);\n        if (i === -1) {\n          i = input.length;\n        }\n        const text = input.substring(start, i);\n        strings.push({text, start, end: i});\n\n        atInterpolation = true;\n      } else {\n        // parse from starting {{ to ending }} while ignoring content inside quotes.\n        const fullStart = i;\n        const exprStart = fullStart + interpStart.length;\n        const exprEnd = this._getExpressiondEndIndex(input, interpEnd, exprStart);\n        if (exprEnd === -1) {\n          // Could not find the end of the interpolation; do not parse an expression.\n          // Instead we should extend the content on the last raw string.\n          atInterpolation = false;\n          extendLastString = true;\n          break;\n        }\n        const fullEnd = exprEnd + interpEnd.length;\n\n        const text = input.substring(exprStart, exprEnd);\n        if (text.trim().length > 0) {\n          expressions.push({text, start: fullStart, end: fullEnd});\n        } else {\n          this._reportError(\n              'Blank expressions are not allowed in interpolated strings', input,\n              `at column ${i} in`, location);\n          expressions.push({text: '$implicit', start: fullStart, end: fullEnd});\n        }\n        offsets.push(exprStart);\n\n        i = fullEnd;\n        atInterpolation = false;\n      }\n    }\n    if (!atInterpolation) {\n      // If we are now at a text section, add the remaining content as a raw string.\n      if (extendLastString) {\n        const piece = strings[strings.length - 1];\n        piece.text += input.substring(i);\n        piece.end = input.length;\n      } else {\n        strings.push({text: input.substring(i), start: i, end: input.length});\n      }\n    }\n    return new SplitInterpolation(strings, expressions, offsets);\n  }\n\n  wrapLiteralPrimitive(input: string|null, location: string, absoluteOffset: number):\n      ASTWithSource {\n    const span = new ParseSpan(0, input == null ? 0 : input.length);\n    return new ASTWithSource(\n        new LiteralPrimitive(span, span.toAbsolute(absoluteOffset), input), input, location,\n        absoluteOffset, this.errors);\n  }\n\n  private _stripComments(input: string): string {\n    const i = this._commentStart(input);\n    return i != null ? input.substring(0, i).trim() : input;\n  }\n\n  private _commentStart(input: string): number|null {\n    let outerQuote: number|null = null;\n    for (let i = 0; i < input.length - 1; i++) {\n      const char = input.charCodeAt(i);\n      const nextChar = input.charCodeAt(i + 1);\n\n      if (char === chars.$SLASH && nextChar == chars.$SLASH && outerQuote == null) return i;\n\n      if (outerQuote === char) {\n        outerQuote = null;\n      } else if (outerQuote == null && isQuote(char)) {\n        outerQuote = char;\n      }\n    }\n    return null;\n  }\n\n  private _checkNoInterpolation(\n      input: string, location: string, interpolationConfig: InterpolationConfig): void {\n    const regexp = _getInterpolateRegExp(interpolationConfig);\n    const parts = input.split(regexp);\n    if (parts.length > 1) {\n      this._reportError(\n          `Got interpolation (${interpolationConfig.start}${\n              interpolationConfig.end}) where expression was expected`,\n          input,\n          `at column ${this._findInterpolationErrorColumn(parts, 1, interpolationConfig)} in`,\n          location);\n    }\n  }\n\n  private _findInterpolationErrorColumn(\n      parts: string[], partInErrIdx: number, interpolationConfig: InterpolationConfig): number {\n    let errLocation = '';\n    for (let j = 0; j < partInErrIdx; j++) {\n      errLocation += j % 2 === 0 ?\n          parts[j] :\n          `${interpolationConfig.start}${parts[j]}${interpolationConfig.end}`;\n    }\n\n    return errLocation.length;\n  }\n\n  /**\n   * Finds the index of the end of an interpolation expression\n   * while ignoring comments and quoted content.\n   */\n  private _getExpressiondEndIndex(input: string, expressionEnd: string, start: number): number {\n    let currentQuote: string|null = null;\n    let escapeCount = 0;\n    for (let i = start; i < input.length; i++) {\n      const char = input[i];\n      // Skip the characters inside quotes. Note
```

that we only care about the\n // outer-most quotes matching up and we need to account for escape characters.\n if (isQuote(input.charCodeAt(i)) && (currentQuote === null || currentQuote === char) &&\n escapeCount % 2 === 0) {\n currentQuote = currentQuote === null ? char : null;\n } else if (currentQuote === null) {\n if (input.startsWith(expressionEnd, i)) {\n return i;\n }\n // Nothing else in the expression matters after we've\n // hit a comment so look
directly for the end token.\n if (input.startsWith('//', i)) {\n return input.indexOf(expressionEnd, i);\n }\n }\n escapeCount = char === '\\\\' ? escapeCount + 1 : 0;\n }\n return -1;\n }\n}\n\nexport class IvyParser extends Parser {\n simpleExpressionChecker = IvySimpleExpressionChecker;\n}\n\n/** Describes a stateful context an expression parser is in. */\nenum ParseContextFlags {\n None = 0,\n /**\n * A Writable context is one in which a value may be written to an lvalue.\n * For example, after we see a property access, we may expect a write to the\n * property via the \"=\" operator.\n * prop\n * ^ possible \"=\" after\n */\n Writable = 1,\n}\n\nexport class _ParseAST {\n private rparensExpected = 0;\n private rbracketsExpected = 0;\n private rbracesExpected = 0;\n private context = ParseContextFlags.None;\n\n // Cache of expression start and input indeces to the absolute source span they map to, used to\n
// prevent creating superfluous source spans in `sourceSpan`.\n // A serial of the expression start and input index is used for mapping because both are stateful\n // and may change for subsequent expressions visited by the parser.\n private sourceSpanCache = new Map<string, AbsoluteSourceSpan>();\n\n index: number = 0;\n\n constructor(\n public input: string, public location: string, public absoluteOffset: number,\n public tokens: Token[], public inputLength: number, public parseAction: boolean,\n private errors: ParserError[], private offset: number) {}\n\n peek(offset: number): Token {\n const i = this.index + offset;\n return i < this.tokens.length ? this.tokens[i] : EOF;\n }\n\n get next(): Token {\n return this.peek(0);\n }\n\n /** Whether all the parser input has been processed. */\n get atEOF(): boolean {\n return this.index >= this.tokens.length;\n }\n\n /**\n * Index of the next token to be processed, or the end of the last token if all
have been\n * processed.\n */\n get inputIndex(): number {\n return this.atEOF ? this.currentEndIndex : this.next.index + this.offset;\n }\n\n /**\n * End index of the last processed token, or the start of the first token if none have been\n * processed.\n */\n get currentEndIndex(): number {\n if (this.index > 0) {\n const curToken = this.peek(-1);\n return curToken.end + this.offset;\n }\n // No tokens have been processed yet; return the next token's start or the length of the input\n // if there is no token.\n if (this.tokens.length === 0) {\n return this.inputLength + this.offset;\n }\n return this.next.index + this.offset;\n }\n\n /**\n * Returns the absolute offset of the start of the current token.\n */\n get currentAbsoluteOffset(): number {\n return this.absoluteOffset + this.inputIndex;\n }\n\n span(start: number) {\n return new ParseSpan(start, this.currentEndIndex);\n }\n\n sourceSpan(start: number): AbsoluteSourceSpan
{\n const serial = `${start}@${this.inputIndex}`;\n if (!this.sourceSpanCache.has(serial)) {\n this.sourceSpanCache.set(serial, this.span(start).toAbsolute(this.absoluteOffset));\n }\n return this.sourceSpanCache.get(serial)!;\n }\n\n advance() {\n this.index++;\n }\n\n /**\n * Executes a callback in the provided context.\n */\n private withContext<T>(context: ParseContextFlags, cb: () => T): T {\n this.context |= context;\n const ret = cb();\n this.context ^= context;\n return ret;\n }\n\n consumeOptionalCharacter(code: number): boolean {\n if (this.next.isCharacter(code)) {\n this.advance();\n return true;\n } else {\n return false;\n }\n }\n\n peekKeywordLet(): boolean {\n return this.next.isKeywordLet();\n }\n peekKeywordAs(): boolean {\n return this.next.isKeywordAs();\n }\n\n /**\n * Consumes an expected character, otherwise emits an error about the missing expected character\n *
and skips over the token stream until reaching a recoverable point.\n *\n * See `this.error` and `this.skip` for more details.\n */\n expectCharacter(code: number) {\n if (this.consumeOptionalCharacter(code)) return;\n this.error(`Missing expected ${String.fromCharCode(code)}`);\n }\n\n consumeOptionalOperator(op: string): boolean {\n if (this.next.isOperator(op)) {\n this.advance();\n return true;\n } else {\n return false;\n }\n }\n\n expectOperator(operator: string) {\n if (this.consumeOptionalOperator(operator)) return;\n this.error(`Missing expected operator ${operator}`);\n }\n\n prettyPrintToken(tok: Token): string {\n return tok === EOF ? 'end of input' : `token ${tok}`;\n }\n\n expectIdentifierOrKeyword(): string {\n const n = this.next;\n

```
if (!n.isIdentifier() && !n.isKeyword()) {\n      this.error(`Unexpected ${this.prettyPrintToken(n)}, expected
identifier or keyword`);\n      return '';\n    }\n    this.advance();\n
    return n.toString() as string;\n  }\n\n  expectIdentifierOrKeywordOrString(): string {\n    const n = this.next;\n    if
(!n.isIdentifier() && !n.isKeyword() && !n.isString()) {\n      this.error(`Unexpected ${this.prettyPrintToken(n)},
expected identifier, keyword, or string`);\n      return '';\n    }\n    this.advance();\n    return n.toString() as string;\n
}\n\n  parseChain(): AST {\n    const exprs: AST[] = [];\n    const start = this.inputIndex;\n    while (this.index <
this.tokens.length) {\n      const expr = this.parsePipe();\n      exprs.push(expr);\n\n      if
(this.consumeOptionalCharacter(chars.$SEMICOLON)) {\n        if (!this.parseAction) {\n          this.error('Binding
expression cannot contain chained expression');\n        }\n        while
(this.consumeOptionalCharacter(chars.$SEMICOLON)) {\n        }  // read all semicolons\n      } else if (this.index <
this.tokens.length) {\n        this.error(`Unexpected token '${this.next}'`);\n      }\n    }\n    if (exprs.length
 == 0) return new EmptyExpr(this.span(start), this.sourceSpan(start));\n    if (exprs.length == 1) return exprs[0];\n
return new Chain(this.span(start), this.sourceSpan(start), exprs);\n  }\n\n  parsePipe(): AST {\n    let result =
this.parseExpression();\n    if (this.consumeOptionalOperator('|')) {\n      if (this.parseAction) {\n
this.error('Cannot have a pipe in an action expression');\n      }\n\n      do {\n        const nameStart =
this.inputIndex;\n        const name = this.expectIdentifierOrKeyword();\n        const nameSpan =
this.sourceSpan(nameStart);\n        const args: AST[] = [];\n        while
(this.consumeOptionalCharacter(chars.$COLON)) {\n          args.push(this.parseExpression());\n        }\n        const
{start} = result.span;\n        result =\n            new BindingPipe(this.span(start), this.sourceSpan(start), result, name,
args, nameSpan);\n      } while (this.consumeOptionalOperator('|'));\n    }\n\n    return result;\n  }\n\n
parseExpression():
 AST {\n    return this.parseConditional();\n  }\n\n  parseConditional(): AST {\n    const start = this.inputIndex;\n
const result = this.parseLogicalOr();\n\n    if (this.consumeOptionalOperator('?')) {\n      const yes =
this.parsePipe();\n      let no: AST;\n      if (!this.consumeOptionalCharacter(chars.$COLON)) {\n        const end =
this.inputIndex;\n        const expression = this.input.substring(start, end);\n        this.error(`Conditional expression
${expression} requires all 3 expressions`);\n        no = new EmptyExpr(this.span(start), this.sourceSpan(start));\n
} else {\n        no = this.parsePipe();\n      }\n      return new Conditional(this.span(start), this.sourceSpan(start),
result, yes, no);\n    } else {\n      return result;\n    }\n  }\n\n  parseLogicalOr(): AST {\n    // '||'\n    let result =
this.parseLogicalAnd();\n    while (this.consumeOptionalOperator('||')) {\n      const right = this.parseLogicalAnd();\n
    const {start} = result.span;\n
      result = new Binary(this.span(start), this.sourceSpan(start), '||', result, right);\n    }\n    return result;\n  }\n\n
parseLogicalAnd(): AST {\n    // '&&'\n    let result = this.parseEquality();\n    while
(this.consumeOptionalOperator('&&')) {\n      const right = this.parseEquality();\n      const {start} = result.span;\n
result = new Binary(this.span(start), this.sourceSpan(start), '&&', result, right);\n    }\n    return result;\n  }\n\n
parseEquality(): AST {\n    // '==','!=','===','!=='\n    let result = this.parseRelational();\n    while (this.next.type ==
TokenType.Operator) {\n      const operator = this.next.strValue;\n      switch (operator) {\n        case '==':\n        case
'===':\n        case '!=':\n        case '!==':\n          this.advance();\n          const right = this.parseRelational();\n
const {start} = result.span;\n          result = new Binary(this.span(start), this.sourceSpan(start), operator, result,
right);\n          continue;\n
      }\n      break;\n    }\n    return result;\n  }\n\n  parseRelational(): AST {\n    // '<', '>', '<=', '>='\n    let result =
this.parseAdditive();\n    while (this.next.type == TokenType.Operator) {\n      const operator = this.next.strValue;\n
  switch (operator) {\n        case '<':\n        case '>':\n        case '<=':\n        case '>=':\n          this.advance();\n
const right = this.parseAdditive();\n          const {start} = result.span;\n          result = new Binary(this.span(start),
this.sourceSpan(start), operator, result, right);\n          continue;\n      }\n      break;\n    }\n    return result;\n  }\n\n
parseAdditive(): AST {\n    // '+', '-'\n    let result = this.parseMultiplicative();\n    while (this.next.type ==
TokenType.Operator) {\n      const operator = this.next.strValue;\n      switch (operator) {\n        case '+':\n        case
'-':\n          this.advance();\n          let right = this.parseMultiplicative();\n          const {start}
```

= result.span;\n result = new Binary(this.span(start), this.sourceSpan(start), operator, result, right);\n continue;\n }\n break;\n }\n return result;\n }\n\n parseMultiplicative(): AST {\n // '*', '%', '/'\n let result = this.parsePrefix();\n while (this.next.type == TokenType.Operator) {\n const operator = this.next.strValue;\n switch (operator) {\n case '*':\n case '%':\n case '/':\n this.advance();\n let right = this.parsePrefix();\n const {start} = result.span;\n result = new Binary(this.span(start), this.sourceSpan(start), operator, result, right);\n continue;\n }\n break;\n }\n return result;\n }\n\n parsePrefix(): AST {\n if (this.next.type == TokenType.Operator) {\n const start = this.inputIndex;\n const operator = this.next.strValue;\n let result: AST;\n switch (operator) {\n case '+':\n this.advance();\n result = this.parsePrefix();\n return Unary.createPlus(this.span(start), this.sourceSpan(start), result);\n case '-':\n this.advance();\n result = this.parsePrefix();\n return Unary.createMinus(this.span(start), this.sourceSpan(start), result);\n case '!':\n this.advance();\n result = this.parsePrefix();\n return new PrefixNot(this.span(start), this.sourceSpan(start), result);\n }\n }\n return this.parseCallChain();\n }\n\n parseCallChain(): AST {\n let result = this.parsePrimary();\n const resultStart = result.span.start;\n while (true) {\n if (this.consumeOptionalCharacter(chars.$PERIOD)) {\n result = this.parseAccessMemberOrMethodCall(result, false);\n\n } else if (this.consumeOptionalOperator('?.')) {\n result = this.parseAccessMemberOrMethodCall(result, true);\n\n } else if (this.consumeOptionalCharacter(chars.$LBRACKET)) {\n this.withContext(ParseContextFlags.Writable, () => {\n this.rbracketsExpected++;\n const key = this.parsePipe();\n if (key instanceof EmptyExpr) {\n this.error(`Key access cannot be empty`);\n }\n this.rbracketsExpected--;\n this.expectCharacter(chars.$RBRACKET);\n if (this.consumeOptionalOperator('=')) {\n const value = this.parseConditional();\n result = new KeyedWrite(\n this.span(resultStart), this.sourceSpan(resultStart), result, key, value);\n } else {\n result =\n new KeyedRead(this.span(resultStart), this.sourceSpan(resultStart), result, key);\n }\n });\n } else if (this.consumeOptionalCharacter(chars.$LPAREN)) {\n this.rparensExpected++;\n const args = this.parseCallArguments();\n this.rparensExpected--;\n this.expectCharacter(chars.$RPAREN);\n result =\n new FunctionCall(this.span(resultStart), this.sourceSpan(resultStart), result, args);\n\n } else if (this.consumeOptionalOperator('!')) {\n result = new NonNullAssert(this.span(resultStart), this.sourceSpan(resultStart), result);\n\n } else {\n return result;\n }\n }\n }\n\n parsePrimary(): AST {\n const start = this.inputIndex;\n if (this.consumeOptionalCharacter(chars.$LPAREN)) {\n this.rparensExpected++;\n const result = this.parsePipe();\n this.rparensExpected--;\n this.expectCharacter(chars.$RPAREN);\n return result;\n\n } else if (this.next.isKeywordNull()) {\n this.advance();\n return new LiteralPrimitive(this.span(start), this.sourceSpan(start), null);\n\n } else if (this.next.isKeywordUndefined()) {\n this.advance();\n return new LiteralPrimitive(this.span(start), this.sourceSpan(start), void 0);\n\n } else if (this.next.isKeywordTrue()) {\n this.advance();\n return new LiteralPrimitive(this.span(start), this.sourceSpan(start), true);\n\n } else if (this.next.isKeywordFalse()) {\n this.advance();\n return new LiteralPrimitive(this.span(start), this.sourceSpan(start), false);\n\n } else if (this.next.isKeywordThis()) {\n this.advance();\n return new ThisReceiver(this.span(start), this.sourceSpan(start));\n } else if (this.consumeOptionalCharacter(chars.$LBRACKET)) {\n this.rbracketsExpected++;\n const elements = this.parseExpressionList(chars.$RBRACKET);\n this.rbracketsExpected--;\n this.expectCharacter(chars.$RBRACKET);\n return new LiteralArray(this.span(start), this.sourceSpan(start), elements);\n\n } else if (this.next.isCharacter(chars.$LBRACE)) {\n return this.parseLiteralMap();\n\n } else if (this.next.isIdentifier()) {\n return this.parseAccessMemberOrMethodCall(\n new ImplicitReceiver(this.span(start), this.sourceSpan(start)), false);\n\n } else if (this.next.isNumber()) {\n const value = this.next.toNumber();\n this.advance();\n return new LiteralPrimitive(this.span(start), this.sourceSpan(start), value);\n\n } else if (this.next.isString()) {\n const literalValue = this.next.toString();\n this.advance();\n return new LiteralPrimitive(this.span(start), this.sourceSpan(start), literalValue);\n\n } else if (this.index >= this.tokens.length) {\n this.error(`Unexpected end of expression: ${this.input}`);\n return new

```
EmptyExpr(this.span(start), this.sourceSpan(start));\n    } else {\n      this.error(`Unexpected token ${this.next}`);\n
  return new EmptyExpr(this.span(start), this.sourceSpan(start));\n    }\n  }\n\n  parseExpressionList(terminator:
number): AST[] {\n    const result: AST[] = [];\n    if (!this.next.isCharacter(terminator)) {\n      do {\n
result.push(this.parsePipe());\n      } while (this.consumeOptionalCharacter(chars.$COMMA));\n    }\n    return
result;\n  }\n\n  parseLiteralMap(): LiteralMap {\n
    const keys: LiteralMapKey[] = [];\n    const values: AST[] = [];\n    const start = this.inputIndex;\n
this.expectCharacter(chars.$LBRACE);\n    if (!this.consumeOptionalCharacter(chars.$RBRACE)) {\n
this.rbracesExpected++;\n      do {\n        const quoted = this.next.isString();\n        const key =
this.expectIdentifierOrKeywordOrString();\n        keys.push({key, quoted});\n
this.expectCharacter(chars.$COLON);\n        values.push(this.parsePipe());\n      } while
(this.consumeOptionalCharacter(chars.$COMMA));\n      this.rbracesExpected--;\n
this.expectCharacter(chars.$RBRACE);\n    }\n    return new LiteralMap(this.span(start), this.sourceSpan(start),
keys, values);\n  }\n\n  parseAccessMemberOrMethodCall(receiver: AST, isSafe: boolean = false): AST {\n    const
start = receiver.span.start;\n    const nameStart = this.inputIndex;\n    const id = this.expectIdentifierOrKeyword();\n
  const nameSpan = this.sourceSpan(nameStart);\n\n    if (this.consumeOptionalCharacter(chars.$LPAREN))
  {\n      this.rparensExpected++;\n      const args = this.parseCallArguments();\n
this.expectCharacter(chars.$RPAREN);\n      this.rparensExpected--;\n      const span = this.span(start);\n      const
sourceSpan = this.sourceSpan(start);\n      return isSafe ? new SafeMethodCall(span, sourceSpan, nameSpan,
receiver, id, args) :\n                     new MethodCall(span, sourceSpan, nameSpan, receiver, id, args);\n\n    } else {\n
    if (isSafe) {\n        if (this.consumeOptionalOperator('=')) {\n          this.error('The \\'?.\\' operator cannot be used
in the assignment');\n          return new EmptyExpr(this.span(start), this.sourceSpan(start));\n        } else {\n
return new SafePropertyRead(\n              this.span(start), this.sourceSpan(start), nameSpan, receiver, id);\n        }\n
  } else {\n        if (this.consumeOptionalOperator('=')) {\n          if (!this.parseAction) {\n            this.error('Bindings
cannot contain assignments');\n
            return new EmptyExpr(this.span(start), this.sourceSpan(start));\n          }\n\n          const value =
this.parseConditional();\n          return new PropertyWrite(\n              this.span(start), this.sourceSpan(start),
nameSpan, receiver, id, value);\n        } else {\n          return new PropertyRead(this.span(start),
this.sourceSpan(start), nameSpan, receiver, id);\n        }\n      }\n    }\n  }\n\n  parseCallArguments(): BindingPipe[]
{\n    if (this.next.isCharacter(chars.$RPAREN)) return [];\n    const positionals: AST[] = [];\n    do {\n
positionals.push(this.parsePipe());\n    } while (this.consumeOptionalCharacter(chars.$COMMA));\n    return
positionals as BindingPipe[];\n  }\n\n  /**\n   * Parses an identifier, a keyword, a string with an optional `-` in
between,\n   * and returns the string along with its absolute source span.\n   */\n  expectTemplateBindingKey():
TemplateBindingIdentifier {\n    let result = '';\n    let operatorFound = false;\n
    const start = this.currentAbsoluteOffset;\n    do {\n      result += this.expectIdentifierOrKeywordOrString();\n
operatorFound = this.consumeOptionalOperator('-');\n      if (operatorFound) {\n        result += '-';\n      }\n    } while
(operatorFound);\n    return {\n      source: result,\n      span: new AbsoluteSourceSpan(start, start + result.length),\n
};\n  }\n\n  /**\n   * Parse microsyntax template expression and return a list of bindings or\n   * parsing errors in
case the given expression is invalid.\n   *\n   * For example,\n   * ```\n   *   <div *ngFor=\"let item of items; index as
i; trackBy: func\">\n   * ```\n   * contains five bindings:\n   * 1. ngFor -> null\n   * 2. item ->
NgForOfContext.$implicit\n   * 3. ngForOf -> items\n   * 4. i -> NgForOfContext.index\n   * 5. ngForTrackBy ->
func\n   *\n   * For a full description of the microsyntax grammar, see\n   *
https://gist.github.com/mhevery/d3530294cff2e4a1b3fe15ff75d08855\n   *\n   * @param templateKey
  name of the microsyntax directive, like ngIf, ngFor,\n   * without the *, along with its absolute span.\n   */\n
parseTemplateBindings(templateKey: TemplateBindingIdentifier): TemplateBindingParseResult {\n    const
bindings: TemplateBinding[] = [];\n\n    // The first binding is for the template key itself\n    // In *ngFor=\"let item
of items\", key = \"ngFor\", value = null\n    // In *ngIf=\"cond | pipe\", key = \"ngIf\", value = \"cond | pipe\"\n
bindings.push(...this.parseDirectiveKeywordBindings(templateKey));\n\n    while (this.index < this.tokens.length)
{\n      // If it starts with 'let', then this must be variable declaration\n      const letBinding = this.parseLetBinding();\n
```

```
if (letBinding) {\n bindings.push(letBinding);\n } else {\n // Two possible cases here, either `value \"as\" key` or\n // \"directive-keyword expression\". We don't know which case, but both\n // \"value\" and \"directive-keyword\" are template binding key,
 so consume\n // the key first.\n const key = this.expectTemplateBindingKey();\n // Peek at the next token, if it is \"as\" then this must be variable\n // declaration.\n const binding = this.parseAsBinding(key);\n if (binding) {\n bindings.push(binding);\n } else {\n // Otherwise the key must be a directive keyword, like \"of\". Transform\n // the key to actual key. Eg. of -> ngForOf, trackBy -> ngForTrackBy\n key.source =\n templateKey.source + key.source.charAt(0).toUpperCase() + key.source.substring(1);\n bindings.push(...this.parseDirectiveKeywordBindings(key));\n }\n }\n this.consumeStatementTerminator();\n }\n\n return new TemplateBindingParseResult(bindings, [] /* warnings */, this.errors);\n }\n\n /**\n * Parse a directive keyword, followed by a mandatory expression.\n * For example, \"of items\", \"trackBy: func\".\n * The bindings are:
 ngForOf -> items, ngForTrackBy -> func\n * There could be an optional \"as\" binding that follows the expression.\n * For example,\n * ```\n * *ngFor=\"let item of items | slice:0:1 as collection\".\n * ^^ ^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^^\n * keyword bound target optional 'as' binding\n * ```\n *\n * @param key binding key, for example, ngFor, ngIf, ngForOf, along with its\n * absolute span.\n */\n private parseDirectiveKeywordBindings(key: TemplateBindingIdentifier): TemplateBinding[] {\n const bindings: TemplateBinding[] = [];\n this.consumeOptionalCharacter(chars.$COLON); // trackBy: trackByFunction\n const value = this.getDirectiveBoundTarget();\n let spanEnd = this.currentAbsoluteOffset;\n // The binding could optionally be followed by \"as\". For example,\n // *ngIf=\"cond | pipe as x\". In this case, the key in the \"as\" binding\n // is \"x\" and the value is the template key itself (\"ngIf\").
 Note that the\n // 'key' in the current context now becomes the \"value\" in the next binding.\n const asBinding = this.parseAsBinding(key);\n if (!asBinding) {\n this.consumeStatementTerminator();\n spanEnd = this.currentAbsoluteOffset;\n }\n const sourceSpan = new AbsoluteSourceSpan(key.span.start, spanEnd);\n bindings.push(new ExpressionBinding(sourceSpan, key, value));\n if (asBinding) {\n bindings.push(asBinding);\n }\n return bindings;\n }\n\n /**\n * Return the expression AST for the bound target of a directive keyword\n * binding. For example,\n * ```\n * *ngIf=\"condition | pipe\"\n * ^^^^^^^^^^^^^^^^ bound target for \"ngIf\"\n * *ngFor=\"let item of items\"\n * ^^^^^ bound target for \"ngForOf\"\n * ```\n */\n private getDirectiveBoundTarget(): ASTWithSource|null {\n if (this.next === EOF || this.peekKeywordAs() || this.peekKeywordLet()) {\n return null;\n }\n const ast = this.parsePipe(); // example: \"condition | async\"\n const {start, end} = ast.span;\n const value = this.input.substring(start, end);\n return new ASTWithSource(ast, value, this.location, this.absoluteOffset + start, this.errors);\n }\n\n /**\n * Return the binding for a variable declared using `as`. Note that the order\n * of the key-value pair in this declaration is reversed. For example,\n * ```\n * *ngFor=\"let item of items; index as i\"\n * ^^^^^ ^\n * value key\n * ```\n *\n * @param value name of the value in the declaration, \"ngIf\" in the example\n * above, along with its absolute span.\n */\n private parseAsBinding(value: TemplateBindingIdentifier): TemplateBinding|null {\n if (!this.peekKeywordAs()) {\n return null;\n }\n this.advance(); // consume the 'as' keyword\n const key = this.expectTemplateBindingKey();\n this.consumeStatementTerminator();\n
  const sourceSpan = new AbsoluteSourceSpan(value.span.start, this.currentAbsoluteOffset);\n return new VariableBinding(sourceSpan, key, value);\n }\n\n /**\n * Return the binding for a variable declared using `let`. For example,\n * ```\n * *ngFor=\"let item of items; let i=index;\"\n * ^^^^^^^ ^^^^^^^^^^\n * ```\n * In the first binding, `item` is bound to `NgForOfContext.$implicit`.\n * In the second binding, `i` is bound to `NgForOfContext.index`.\n */\n private parseLetBinding(): TemplateBinding|null {\n if (!this.peekKeywordLet()) {\n return null;\n }\n const spanStart = this.currentAbsoluteOffset;\n this.advance(); // consume the 'let' keyword\n const key = this.expectTemplateBindingKey();\n let value: TemplateBindingIdentifier|null = null;\n if (this.consumeOptionalOperator('=')) {\n value = this.expectTemplateBindingKey();\n }\n this.consumeStatementTerminator();\n const sourceSpan =
```

new AbsoluteSourceSpan(spanStart, this.currentAbsoluteOffset);\n return new VariableBinding(sourceSpan, key, value);\n }\n\n /**\n * Consume the optional statement terminator: semicolon or comma.\n */\n private consumeStatementTerminator() {\n this.consumeOptionalCharacter(chars.$SEMICOLON) || this.consumeOptionalCharacter(chars.$COMMA);\n }\n\n /**\n * Records an error and skips over the token stream until reaching a recoverable point. See\n * `this.skip` for more details on token skipping.\n */\n error(message: string, index: number|null = null) {\n this.errors.push(new ParserError(message, this.input, this.locationText(index), this.location));\n this.skip();\n }\n\n private locationText(index: number|null = null) {\n if (index == null) index = this.index;\n return (index < this.tokens.length) ? `at column ${this.tokens[index].index + 1} in` :\n `at the end of the expression`;\n }\n\n /**\n * Error recovery should skip tokens until it encounters a recovery point. skip() treats\n * the end of input and a ';' as unconditionally a recovery point. It also treats ')',\n * '}' and ']' as conditional recovery points if one of calling productions is expecting\n * one of these symbols. This allows skip() to recover from errors such as '(a.) + 1' allowing\n * more of the AST to be retained (it doesn't skip any tokens as the ')' is retained because\n * of the '(' begins an '(' <expr> ')' production). The recovery points of grouping symbols\n * must be conditional as they must be skipped if none of the calling productions are not\n * expecting the closing token else we will never make progress in the case of an\n * extraneous group closing symbol (such as a stray ')'). This is not the case for ';' because\n * parseChain() is always the root production and it expects a ';'.\n *\n * Furthermore, the presence of a stateful context can add more recovery points.\n * - in a `Writable` context, we are able to recover after seeing the `=` operator, which\n * signals the presence of an independent rvalue expression following the `=` operator.\n *\n * If a production expects one of these token it increments the corresponding nesting count,\n * and then decrements it just prior to checking if the token is in the input.\n */\n private skip() {\n let n = this.next;\n while (this.index < this.tokens.length &&\n !n.isCharacter(chars.$SEMICOLON) &&\n (this.rparensExpected <= 0 || !n.isCharacter(chars.$RPAREN)) &&\n (this.rbracesExpected <= 0 || !n.isCharacter(chars.$RBRACE)) &&\n (this.rbracketsExpected <= 0 || !n.isCharacter(chars.$RBRACKET)) &&\n (!(this.context & ParseContextFlags.Writable) || !n.isOperator('='))) {\n if (this.next.isError()) {\n this.errors.push(\n new ParserError(this.next.toString()!, this.input, this.locationText(), this.location));\n }\n this.advance();\n n = this.next;\n }\n }\n}\n\nclass SimpleExpressionChecker implements AstVisitor {\n errors: string[] = [];\n\n visitImplicitReceiver(ast: ImplicitReceiver, context: any) {}\n\n visitThisReceiver(ast: ThisReceiver, context: any) {}\n\n visitInterpolation(ast: Interpolation, context: any) {}\n\n visitLiteralPrimitive(ast: LiteralPrimitive, context: any) {}\n\n visitPropertyRead(ast: PropertyRead, context: any) {}\n\n visitPropertyWrite(ast: PropertyWrite, context: any) {}\n\n visitSafePropertyRead(ast: SafePropertyRead, context: any) {}\n\n visitMethodCall(ast: MethodCall, context: any) {}\n\n visitSafeMethodCall(ast: SafeMethodCall, context: any) {}\n\n visitFunctionCall(ast: FunctionCall, context: any) {}\n\n visitLiteralArray(ast: LiteralArray, context: any) {\n this.visitAll(ast.expressions, context);\n }\n\n visitLiteralMap(ast: LiteralMap, context: any) {\n this.visitAll(ast.values, context);\n }\n\n visitUnary(ast: Unary, context: any) {}\n\n visitBinary(ast: Binary, context: any) {}\n\n visitPrefixNot(ast: PrefixNot, context: any) {}\n\n visitNonNullAssert(ast: NonNullAssert, context: any) {}\n\n visitConditional(ast: Conditional, context: any) {}\n\n visitPipe(ast: BindingPipe, context: any) {\n this.errors.push('pipes');\n }\n\n visitKeyedRead(ast: KeyedRead, context: any) {}\n\n visitKeyedWrite(ast: KeyedWrite, context: any) {}\n\n visitAll(asts: any[], context: any): any[] {\n return asts.map(node => node.visit(this, context));\n }\n\n visitChain(ast: Chain, context: any) {}\n\n visitQuote(ast: Quote, context: any) {}\n}\n\n/**\n * This class implements SimpleExpressionChecker used in View Engine and performs more strict checks\n * to make sure host bindings do not contain pipes. In View Engine, having pipes in host bindings is\n * not supported as well, but in some cases (like `!(value | async)`) the error is not triggered at\n * compile time. In order to preserve View Engine behavior, more strict checks are introduced for\n * Ivy mode only.\n */\nclass IvySimpleExpressionChecker extends RecursiveAstVisitor implements SimpleExpressionChecker {\n errors: string[] = [];\n\n visitPipe() {\n this.errors.push('pipes');\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is

governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {SecurityContext} from '../core';\n\n// ================================================================================================\n// ================================================================================================\n// ========== S T O P - S T O P - S T O P - S T O P - S T O P - S T O P ==========\n// ================================================================================================\n// ================================================================================================\n// ================================================================================================\n// ================================================================================================\n// DO NOT EDIT THIS LIST OF SECURITY SENSITIVE PROPERTIES WITHOUT A SECURITY REVIEW!\n// Reach out to mprobst for details.\n// ================================================================================================\n// ================================================================================================\n\n/** Map from tagName|propertyName SecurityContext. Properties applying to all tags use '*'. */\nlet _SECURITY_SCHEMA!: {[k: string]: SecurityContext};\n\nexport function SECURITY_SCHEMA(): {[k: string]: SecurityContext} {\n if (!_SECURITY_SCHEMA) {\n _SECURITY_SCHEMA = {};\n // Case is insignificant below, all element and attribute names are lower-cased for lookup.\n\n registerContext(SecurityContext.HTML, [\n 'iframe|srcdoc',\n '*|innerHTML',\n '*|outerHTML',\n ]);\n registerContext(SecurityContext.STYLE, ['*|style']);\n // NB: no SCRIPT contexts here, they are never allowed due to the parser stripping them.\n registerContext(SecurityContext.URL, [\n '*|formAction', 'area|href',\n 'area|ping', 'audio|src', 'a|href',\n 'a|ping', 'blockquote|cite', 'body|background', 'del|cite', 'form|action',\n 'img|src', 'img|srcset', 'input|src', 'ins|cite', 'q|cite',\n 'source|src', 'source|srcset', 'track|src', 'video|poster', 'video|src',\n ]);\n registerContext(SecurityContext.RESOURCE_URL, [\n 'applet|code',\n 'applet|codebase',\n 'base|href',\n 'embed|src',\n 'frame|src',\n 'head|profile',\n 'html|manifest',\n 'iframe|src',\n 'link|href',\n 'media|src',\n 'object|codebase',\n 'object|data',\n 'script|src',\n ]);\n }\n return _SECURITY_SCHEMA;\n}\n\nfunction registerContext(ctx: SecurityContext, specs: string[]) {\n for (const spec of specs) _SECURITY_SCHEMA[spec.toLowerCase()] = ctx;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that
can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {SchemaMetadata, SecurityContext} from '../core';\n\nexport abstract class ElementSchemaRegistry {\n abstract hasProperty(tagName: string, propName: string, schemaMetas: SchemaMetadata[]): boolean;\n abstract hasElement(tagName: string, schemaMetas: SchemaMetadata[]): boolean;\n abstract securityContext(elementName: string, propName: string, isAttribute: boolean):\n SecurityContext;\n abstract allKnownElementNames(): string[];\n abstract getMappedPropName(propName: string): string;\n abstract getDefaultComponentElementName(): string;\n abstract validateProperty(name: string): {error: boolean, msg?: string};\n abstract validateAttribute(name: string): {error: boolean, msg?: string};\n abstract normalizeAnimationStyleProperty(propName: string): string;\n abstract normalizeAnimationStyleValue(\n camelCaseProp: string, userProvidedProp: string,\n val: string|number): {error: string, value:
string};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CUSTOM_ELEMENTS_SCHEMA, NO_ERRORS_SCHEMA, SchemaMetadata, SecurityContext} from '../core';\n\nimport {isNgContainer, isNgContent} from '../ml_parser/tags';\nimport {dashCaseToCamelCase} from '../util';\n\nimport {SECURITY_SCHEMA} from './dom_security_schema';\nimport {ElementSchemaRegistry} from './element_schema_registry';\n\nconst BOOLEAN = 'boolean';\nconst NUMBER = 'number';\nconst STRING = 'string';\nconst OBJECT = 'object';\n\n/**\n * This array represents the DOM schema. It encodes inheritance, properties, and events.\n *\n * ## Overview\n *\n * Each line represents one kind of element.

The `element_inheritance` and properties are joined\n * using `element_inheritance|properties` syntax.\n *\n * ## Element Inheritance\n *\n * The `element_inheritance`
can be further subdivided as `element1,element2,...^parentElement`.\n * Here the individual elements are separated by `,` (commas). Every element in the list\n * has identical properties.\n *\n * An `element` may inherit additional properties from `parentElement` If no `^parentElement` is\n * specified then `\"\"` (blank) element is assumed.\n *\n * NOTE: The blank element inherits from root `[Element]` element, the super element of all\n * elements.\n *\n * NOTE an element prefix such as `:svg:` has no special meaning to the schema.\n *\n * ## Properties\n *\n * Each element has a set of properties separated by `,` (commas). Each property can be prefixed\n * by a special character designating its type:\n *\n * - (no prefix): property is a string.\n * - `*`: property represents an event.\n * - `!`: property is a boolean.\n * - `#`: property is a number.\n * - `%`: property is an object.\n *\n * ## Query\n *\n * The class creates an internal squas representation which allows to
easily answer the query of\n * if a given property exist on a given element.\n *\n * NOTE: We don't yet support querying for types or events.\n * NOTE: This schema is auto extracted from `schema_extractor.ts` located in the test folder,\n * see dom_element_schema_registry_spec.ts\n */\n\n//
==========\n//
==========\n// ========== S T O P - S T O P - S T O P - S T O P - S T O P - S T O P ==========\n//
==========\n//
==========\n//
==========\n//\n// DO NOT EDIT THIS DOM SCHEMA WITHOUT A SECURITY REVIEW!\n//\n// Newly added properties must be security reviewed and assigned an appropriate SecurityContext in\n// dom_security_schema.ts.
Reach out to mprobst & rjamet for details.\n//\n//
==========\n\nconst SCHEMA: string[] = [\n
'[Element]|textContent,%classList,classNName,id,innerHTML,*beforecopy,*beforecut,*beforepaste,*copy,*cut,*paste,*search,*selectstart,*webkitfullscreenchange,*webkitfullscreenerror,*wheel,outerHTML,#scrollLeft,#scrollTop,slot' +\n /* added manually to avoid breaking changes */\n
',*message,*mozfullscreenchange,*mozfullscreenerror,*mozpointerlockchange,*mozpointerlockerror,*webglcontextcreationerror,*webglcontextlost,*webglcontextrestored',\n
'[HTMLElement]^[Element]|accessKey,contentEditable,dir,!draggable,!hidden,innerText,lang,*abort,*auxclick,*blur,*cancel,*canplay,*canplaythrough,*change,*click,*close,*contextmenu,*cuechange,*dblclick,*drag,*dragend,*dragenter,*dragleave,*dragover,*dragstart,*drop,*durationchange,*emptied,*ended,*error,*focus,*gotpointercapture,*input,*invalid,*keydown,*keypress,*keyup,*load,*loadeddata,*loadedmetadata,*loadstart,*lostpointercapture,*mousedown,*mouseenter,*mouseleave,*mousemove,*mouseout,*mouseover,*mouseup,*mousewheel,*pause,*play,*playing,*pointercancel,*pointerdown,*pointerenter,*pointerleave,*pointermove,*pointerout,*pointerover,*pointerup,*progress,*ratechange,*reset,*resize,*scroll,*seeked,*seeking,*select,*show,*stalled,*submit,*suspend,*timeupdate,*toggle,*volumechange,*waiting,outerText,!spellcheck,%style,#tabIndex,title,!translate',\n
'abbr,address,article,aside,b,bdi,bdo,cite,code,dd,dfn,dt,em,figcaption,figure,footer,header,i,kbd,main,mark,nav,noscript,rb,rp,rt,rtc,ruby,s,samp,section,small,strong,sub,sup,u,var,wbr^[HTMLElement]|accessKey,contentEditable,dir,!draggable,!hidden,innerText,lang,*abort,*auxclick,*blur,*cancel,*canplay,*canplaythrough,*change,*click,*close,*contextmenu,*cuechange,*dblclick,*drag,*dragend,*dragenter,*dragleave,*dragover,*dragstart,*drop,*durationchange,*emptied,*ended,*error,*focus,*gotpointercapture,*input,*invalid,*keydown,*keypress,*keyup,*load,*loadeddata,*loadedmetadata,*loadstart,*lostpointercapture,*mousedown,*mouseenter,*mouseleave,*mousemove,*mouseout,*mouseover,*mouseup,*mousewheel,*pause,*play,*playing,*pointercancel,*pointerdown,*pointerenter,*pointerle

ave,*pointermove,*pointerout,*pointerover,*pointerup,*progress,*ratechange,*reset,*resize,*scroll,*seeked,*seeking,*select,*show,*stalled,*submit,*suspend,*timeupdate,*toggle,*volumechange,*waiting,outerText,!spellcheck,%style,#tabIndex,title,!translate',\n
'media^[HTMLElement]|!autoplay,!controls,%controlsList,%crossOrigin,#currentTime,!defaultMuted,#defaultPlaybackRate,!disableRemotePlayback,!loop,!muted,*encrypted,*waitingforkey,#playbackRate,preload,src,%srcObject,#volume',\n
':svg:^[HTMLElement]|*abort,*auxclick,*blur,*cancel,*canplay,*canplaythrough,*change,*click,*close,*contextmenu,*cuechange,*dblclick,*drag,*dragend,*dragenter,*dragleave,*dragover,*dragstart,*drop,*durationchange,*emptied,*ended,*error,*focus,*gotpointercapture,*input,*invalid,*keydown,*keypress,*keyup,*load,*loadeddata,*loadedmetadata,*loadstart,*lostpointercapture,*mousedown,*mouseenter,*mouseleave,*mousemove,*mouseout,*mouseover,*mouseup,*mousewheel,*pause,*play,*playing,*pointercancel,*pointerdown,*pointerenter,*pointerleave,*pointermove,*pointerout,*pointerover,*pointerup,*progress,*ratechange,*reset,*resize,*scroll,*seeked,*seeking,*select,*show,*stalled,*submit,*suspend,*timeupdate,*toggle,*volumechange,*waiting,%style,#tabIndex',\n
':svg:graphics^:svg:|',\n ':svg:animation^:svg:|*begin,*end,*repeat',\n ':svg:geometry^:svg:|',\n
':svg:componentTransferFunction^:svg:|',\n ':svg:gradient^:svg:|',\n ':svg:textContent^:svg:graphics|',\n
':svg:textPositioning^:svg:textContent|',\n
'a^[HTMLElement]|charset,coords,download,hash,host,hostname,href,hreflang,name,password,pathname,ping,port,protocol,referrerPolicy,rel,rev,search,shape,target,text,type,username',\n
'area^[HTMLElement]|alt,coords,download,hash,host,hostname,href,!noHref,password,pathname,ping,port,protocol,referrerPolicy,rel,search,shape,target,username',\n
'audio^media|',\n 'br^[HTMLElement]|clear',\n 'base^[HTMLElement]|href,target',\n
'body^[HTMLElement]|aLink,background,bgColor,link,*beforeunload,*blur,*error,*focus,*hashchange,*languagechange,*load,*message,*offline,*online,*pagehide,*pageshow,*popstate,*rejectionhandled,*resize,*scroll,*storage,*unhandledrejection,*unload,text,vLink',\n
'button^[HTMLElement]|!autofocus,!disabled,formAction,formEnctype,formMethod,!formNoValidate,formTarget,name,type,value',\n 'canvas^[HTMLElement]|#height,#width',\n 'content^[HTMLElement]|select',\n
'dl^[HTMLElement]|!compact',\n 'datalist^[HTMLElement]|',\n 'details^[HTMLElement]|!open',\n
'dialog^[HTMLElement]|!open,returnValue',\n 'dir^[HTMLElement]|!compact',\n 'div^[HTMLElement]|align',\n
'embed^[HTMLElement]|align,height,name,src,type,width',\n 'fieldset^[HTMLElement]|!disabled,name',\n
'font^[HTMLElement]|color,face,size',\n
'form^[HTMLElement]|acceptCharset,action,autocomplete,encoding,enctype,method,name,!noValidate,target',\n
'frame^[HTMLElement]|frameBorder,longDesc,marginHeight,marginWidth,name,!noResize,scrolling,src',\n
'frameset^[HTMLElement]|cols,*beforeunload,*blur,*error,*focus,*hashchange,*languagechange,*load,*message,*offline,*online,*pagehide,*pageshow,*popstate,*rejectionhandled,*resize,*scroll,*storage,*unhandledrejection,*unload,rows',\n 'hr^[HTMLElement]|align,color,!noShade,size,width',\n 'head^[HTMLElement]|',\n
'h1,h2,h3,h4,h5,h6^[HTMLElement]|align',\n 'html^[HTMLElement]|version',\n
'iframe^[HTMLElement]|align,!allowFullscreen,frameBorder,height,longDesc,marginHeight,marginWidth,name,referrerPolicy,%sandbox,scrolling,src,srcdoc,width',\n
'img^[HTMLElement]|align,alt,border,%crossOrigin,#height,#hspace,!isMap,longDesc,lowsrc,name,referrerPolicy,sizes,src,srcset,useMap,#vspace,#width',\n
'input^[HTMLElement]|accept,align,alt,autocapitalize,autocomplete,!autofocus,!checked,!defaultChecked,defaultValue,dirName,!disabled,%files,formAction,formEnctype,formMethod,!formNoValidate,formTarget,#height,!incremental,!indeterminate,max,#maxLength,min,#minLength,!multiple,name,pattern,placeholder,!readOnly,!required,selectionDirection,#selectionEnd,#selectionStart,#size,src,step,type,useMap,value,%valueAsDate,#valueAsNumber,#width',\n
'li^[HTMLElement]|type,#value',\n 'label^[HTMLElement]|htmlFor',\n 'legend^[HTMLElement]|align',\n
'link^[HTMLElement]|as,charset,%crossOrigin,!disabled,href,hreflang,integrity,media,referrerPolicy,rel,%relList,rev,%sizes,target,type',\n 'map^[HTMLElement]|name',\n

'marquee^[HTMLElement]|behavior,bgColor,direction,height,#hspace,#loop,#scrollAmount,#scrollDelay,!trueSpeed,#vspace,width',\n 'menu^[HTMLElement]|!compact',\n
'meta^[HTMLElement]|content,httpEquiv,name,scheme',\n
'meter^[HTMLElement]|#high,#low,#max,#min,#optimum,#value',\n 'ins,del^[HTMLElement]|cite,dateTime',\n
'ol^[HTMLElement]|!compact,!reversed,#start,type',\n
'object^[HTMLElement]|align,archive,border,code,codeBase,codeType,data,!declare,height,#hspace,name,standby,type,useMap,#vspace,width',\n 'optgroup^[HTMLElement]|!disabled,label',\n
'option^[HTMLElement]|!defaultSelected,!disabled,label,!selected,text,value',\n
'output^[HTMLElement]|defaultValue,%htmlFor,name,value',\n 'p^[HTMLElement]|align',\n
'param^[HTMLElement]|name,type,value,valueType',\n 'picture^[HTMLElement]|',\n
'pre^[HTMLElement]|#width',\n 'progress^[HTMLElement]|#max,#value',\n
'q,blockquote,cite^[HTMLElement]|',\n
'script^[HTMLElement]|!async,charset,%crossOrigin,!defer,event,htmlFor,integrity,src,text,type',\n
'select^[HTMLElement]|!autofocus,!disabled,#length,!multiple,name,!required,#selectedIndex,#size,value',\n
'shadow^[HTMLElement]|',\n 'slot^[HTMLElement]|name',\n
'source^[HTMLElement]|media,sizes,src,srcset,type',\n 'span^[HTMLElement]|',\n
'style^[HTMLElement]|!disabled,media,type',\n 'caption^[HTMLElement]|align',\n
'th,td^[HTMLElement]|abbr,align,axis,bgColor,ch,chOff,#colSpan,headers,height,!noWrap,#rowSpan,scope,vAlign,width',\n 'col,colgroup^[HTMLElement]|align,ch,chOff,#span,vAlign,width',\n
'table^[HTMLElement]|align,bgColor,border,%caption,cellPadding,cellSpacing,frame,rules,summary,%tFoot,%tHead,width',\n 'tr^[HTMLElement]|align,bgColor,ch,chOff,vAlign',\n
'tfoot,thead,tbody^[HTMLElement]|align,ch,chOff,vAlign',\n 'template^[HTMLElement]|',\n
'textarea^[HTMLElement]|autocapitalize,!autofocus,#cols,defaultValue,dirName,!disabled,#maxLength,#minLength,name,placeholder,!readOnly,!required,#rows,selectionDirection,#selectionEnd,#selectionStart,value,wrap',\n
'title^[HTMLElement]|text',\n 'track^[HTMLElement]|!default,kind,label,src,srclang',\n
'ul^[HTMLElement]|!compact,type',\n 'unknown^[HTMLElement]|',\n 'video^media|#height,poster,#width',\n
':svg:a^:svg:graphics|',\n ':svg:animate^:svg:animation|',\n ':svg:animateMotion^:svg:animation|',\n
':svg:animateTransform^:svg:animation|',\n
':svg:circle^:svg:geometry|',\n ':svg:clipPath^:svg:graphics|',\n ':svg:defs^:svg:graphics|',\n ':svg:desc^:svg:|',\n
':svg:discard^:svg:|',\n ':svg:ellipse^:svg:geometry|',\n ':svg:feBlend^:svg:|',\n ':svg:feColorMatrix^:svg:|',\n
':svg:feComponentTransfer^:svg:|',\n ':svg:feComposite^:svg:|',\n ':svg:feConvolveMatrix^:svg:|',\n
':svg:feDiffuseLighting^:svg:|',\n ':svg:feDisplacementMap^:svg:|',\n ':svg:feDistantLight^:svg:|',\n
':svg:feDropShadow^:svg:|',\n ':svg:feFlood^:svg:|',\n ':svg:feFuncA^:svg:componentTransferFunction|',\n
':svg:feFuncB^:svg:componentTransferFunction|',\n ':svg:feFuncG^:svg:componentTransferFunction|',\n
':svg:feFuncR^:svg:componentTransferFunction|',\n ':svg:feGaussianBlur^:svg:|',\n ':svg:feImage^:svg:|',\n
':svg:feMerge^:svg:|',\n ':svg:feMergeNode^:svg:|',\n ':svg:feMorphology^:svg:|',\n ':svg:feOffset^:svg:|',\n
':svg:fePointLight^:svg:|',\n ':svg:feSpecularLighting^:svg:|',\n ':svg:feSpotLight^:svg:|',\n ':svg:feTile^:svg:|',\n
':svg:feTurbulence^:svg:|',\n ':svg:filter^:svg:|',\n ':svg:foreignObject^:svg:graphics|',\n ':svg:g^:svg:graphics|',\n
':svg:image^:svg:graphics|',\n ':svg:line^:svg:geometry|',\n ':svg:linearGradient^:svg:gradient|',\n
':svg:mpath^:svg:|',\n ':svg:marker^:svg:|',\n ':svg:mask^:svg:|',\n ':svg:metadata^:svg:|',\n
':svg:path^:svg:geometry|',\n ':svg:pattern^:svg:|',\n ':svg:polygon^:svg:geometry|',\n
':svg:polyline^:svg:geometry|',\n ':svg:radialGradient^:svg:gradient|',\n ':svg:rect^:svg:geometry|',\n
':svg:svg^:svg:graphics|#currentScale,#zoomAndPan',\n ':svg:script^:svg:|type',\n ':svg:set^:svg:animation|',\n
':svg:stop^:svg:|',\n ':svg:style^:svg:|!disabled,media,title,type',\n ':svg:switch^:svg:graphics|',\n
':svg:symbol^:svg:|',\n ':svg:tspan^:svg:textPositioning|',\n ':svg:text^:svg:textPositioning|',\n
':svg:textPath^:svg:textContent|',\n ':svg:title^:svg:|',\n ':svg:use^:svg:graphics|',\n
':svg:view^:svg:|#zoomAndPan',\n 'data^[HTMLElement]|value',\n

```
'keygen^[HTMLElement]|!autofocus,challenge,!disabled,form,keytype,name',\n
'menuitem^[HTMLElement]|type,label,icon,!disabled,!checked,radiogroup,!default',\n
'summary^[HTMLElement]|',\n  'time^[HTMLElement]|dateTime',\n  ':svg:cursor^:svg:|',\n];\n\nconst
_ATTR_TO_PROP: {[name: string]: string} = {\n  'class': 'className',\n  'for': 'htmlFor',\n  'formaction':
'formAction',\n  'innerHtml': 'innerHTML',\n  'readonly': 'readOnly',\n  'tabindex': 'tabIndex',\n};\n\nexport class
DomElementSchemaRegistry extends ElementSchemaRegistry {\n  private _schema: {[element: string]: {[property:
string]: string}} = {};\n\n  constructor() {\n    super();\n    SCHEMA.forEach(encodedType => {\n      const type:
{[property: string]: string} = {};\n      const [strType, strProperties] = encodedType.split('|');\n      const properties =
strProperties.split(',');\n      const [typeNames, superName] = strType.split('^');\n      typeNames.split(',').forEach(tag
=> this._schema[tag.toLowerCase()]
 = type);\n      const superType = superName && this._schema[superName.toLowerCase()];\n      if (superType) {\n
    Object.keys(superType).forEach((prop: string) => {\n          type[prop] = superType[prop];\n        });\n      }\n
properties.forEach((property: string) => {\n        if (property.length > 0) {\n          switch (property[0]) {\n
case '*':\n            // We don't yet support events.\n            // If ever allowing to bind to events, GO THROUGH A
SECURITY REVIEW, allowing events\n            // will\n            // almost certainly introduce bad XSS
vulnerabilities.\n            // type[property.substring(1)] = EVENT;\n            break;\n          case '!':\n
type[property.substring(1)] = BOOLEAN;\n            break;\n          case '#':\n            type[property.substring(1)] =
NUMBER;\n            break;\n          case '%':\n            type[property.substring(1)] = OBJECT;\n            break;\n
          default:\n            type[property] = STRING;\n          }\n        }\n      });\n    });\n  }\n\n
hasProperty(tagName: string, propName: string, schemaMetas: SchemaMetadata[]): boolean {\n    if
(schemaMetas.some((schema) => schema.name === NO_ERRORS_SCHEMA.name)) {\n      return true;\n    }\n\n
if (tagName.indexOf('-') > -1) {\n      if (isNgContainer(tagName) || isNgContent(tagName)) {\n        return false;\n
  }\n\n      if (schemaMetas.some((schema) => schema.name === CUSTOM_ELEMENTS_SCHEMA.name)) {\n
// Can't tell now as we don't know which properties a custom element will get\n        // once it is instantiated\n
return true;\n      }\n    }\n\n    const elementProperties = this._schema[tagName.toLowerCase()] ||
this._schema['unknown'];\n    return !!elementProperties[propName];\n  }\n\n  hasElement(tagName: string,
schemaMetas: SchemaMetadata[]): boolean {\n    if (schemaMetas.some((schema) => schema.name ===
NO_ERRORS_SCHEMA.name)) {\n
  return true;\n    }\n\n    if (tagName.indexOf('-') > -1) {\n      if (isNgContainer(tagName) || isNgContent(tagName))
{\n        return true;\n      }\n\n      if (schemaMetas.some((schema) => schema.name ===
CUSTOM_ELEMENTS_SCHEMA.name)) {\n        // Allow any custom elements\n        return true;\n      }\n
}\n\n    return !!this._schema[tagName.toLowerCase()];\n  }\n\n  /**\n   * securityContext returns the security
context for the given property on the given DOM tag.\n   *\n   * Tag and property name are statically known and
cannot change at runtime, i.e. it is not\n   * possible to bind a value into a changing attribute or tag name.\n   *\n   *
The filtering is based on a list of allowed tags|attributes. All attributes in the schema\n   * above are assumed to have
the 'NONE' security context, i.e. that they are safe inert\n   * string values. Only specific well known attack vectors
are assigned their appropriate context.\n   */\n  securityContext(tagName: string, propName: string,
 isAttribute: boolean): SecurityContext {\n    if (isAttribute) {\n      // NB: For security purposes, use the mapped
property name, not the attribute name.\n      propName = this.getMappedPropName(propName);\n    }\n\n    // Make
sure comparisons are case insensitive, so that case differences between attribute and\n    // property names do not
have a security impact.\n    tagName = tagName.toLowerCase();\n    propName = propName.toLowerCase();\n    let
ctx = SECURITY_SCHEMA()[tagName + '|' + propName];\n    if (ctx) {\n      return ctx;\n    }\n    ctx =
SECURITY_SCHEMA()['*|' + propName];\n    return ctx ? ctx : SecurityContext.NONE;\n  }\n\n
getMappedPropName(propName: string): string {\n    return _ATTR_TO_PROP[propName] || propName;\n  }\n\n
getDefaultComponentElementName(): string {\n    return 'ng-component';\n  }\n\n  validateProperty(name: string):
{error: boolean, msg?: string} {\n    if (name.toLowerCase().startsWith('on')) {\n      const msg = `Binding to event
property
```

'${name}' is disallowed for security reasons, ` +\n `please use (${name.slice(2)})=...` +\n `\\nIf '${name}' is a directive input, make sure the directive is imported by the` +\n ` current module.`;\n return {error: true, msg: msg};\n } else {\n return {error: false};\n }\n }\n\n validateAttribute(name: string): {error: boolean, msg?: string} {\n if (name.toLowerCase().startsWith('on')) {\n const msg = `Binding to event attribute '${name}' is disallowed for security reasons, ` +\n `please use (${name.slice(2)})=...`;\n return {error: true, msg: msg};\n } else {\n return {error: false};\n }\n }\n\n allKnownElementNames(): string[] {\n return Object.keys(this._schema);\n }\n\n normalizeAnimationStyleProperty(propName: string): string {\n return dashCaseToCamelCase(propName);\n }\n\n normalizeAnimationStyleValue(camelCaseProp: string, userProvidedProp: string, val: string|number):\n {error: string, value: string} {\n let unit: string = '';\n const strVal = val.toString().trim();\n let errorMsg: string = null!;\n\n if (_isPixelDimensionStyle(camelCaseProp) && val !== 0 && val !== '0') {\n if (typeof val === 'number') {\n unit = 'px';\n } else {\n const valAndSuffixMatch = val.match(/^[+-]?[\\d\\.]+([a-z]*)$/);\n if (valAndSuffixMatch && valAndSuffixMatch[1].length == 0) {\n errorMsg = `Please provide a CSS unit value for ${userProvidedProp}:${val}`;\n }\n }\n }\n return {error: errorMsg, value: strVal + unit};\n }\n}\n\nfunction _isPixelDimensionStyle(prop: string): boolean {\n switch (prop) {\n case 'width':\n case 'height':\n case 'minWidth':\n case 'minHeight':\n case 'maxWidth':\n case 'maxHeight':\n case 'left':\n case 'top':\n case 'bottom':\n case 'right':\n case 'fontSize':\n case 'outlineWidth':\n case 'outlineOffset':\n case 'paddingTop':\n case 'paddingLeft':\n case 'paddingBottom':\n case 'paddingRight':\n case 'marginTop':\n case 'marginLeft':\n case 'marginBottom':\n case 'marginRight':\n case 'borderRadius':\n case 'borderWidth':\n case 'borderTopWidth':\n case 'borderLeftWidth':\n case 'borderRightWidth':\n case 'borderBottomWidth':\n case 'textIndent':\n return true;\n\n default:\n return false;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ParsedEvent, ParsedProperty, ParsedVariable} from '../expression_parser/ast';\nimport * as i18n from '../i18n/i18n_ast';\nimport * as html from '../ml_parser/ast';\nimport {replaceNgsp} from '../ml_parser/html_whitespaces';\nimport {isNgTemplate} from '../ml_parser/tags';\nimport {ParseError, ParseErrorLevel, ParseSourceSpan} from '../parse_util';\nimport {isStyleUrlResolvable} from '../style_url_resolver';\nimport {BindingParser} from '../template_parser/binding_parser';\nimport {PreparsedElementType, preparseElement} from '../template_parser/template_preparser';\nimport {syntaxError} from '../util';\n\nimport * as t from './r3_ast';\nimport {I18N_ICU_VAR_PREFIX, isI18nRootNode} from './view/i18n/util';\n\nconst BIND_NAME_REGEXP =\n /^(?:(?:(?:(?:(bind-)|(let-)|(ref-|#)|(on-)|(bindon-)|(@))(.*))|\\[\\(([^\\)]+)\\)\\]|\\[([[^\\]]+)\\]|\\(([[^\\)]+)\\))$/;\n\n// Group 1 = \"bind-\"\nconst KW_BIND_IDX = 1;\n// Group 2 = \"let-\"\nconst KW_LET_IDX = 2;\n// Group 3 = \"ref-/#\"\nconst KW_REF_IDX = 3;\n// Group 4 = \"on-\"\nconst KW_ON_IDX = 4;\n// Group 5 = \"bindon-\"\nconst KW_BINDON_IDX = 5;\n// Group 6 = \"@\"\nconst KW_AT_IDX = 6;\n// Group 7 = the identifier after \"bind-\", \"let-\", \"ref-/#\", \"on-\", \"bindon-\" or \"@\"\nconst IDENT_KW_IDX = 7;\n// Group 8 = identifier inside [()]\nconst IDENT_BANANA_BOX_IDX = 8;\n// Group 9 = identifier inside []\nconst IDENT_PROPERTY_IDX = 9;\n// Group 10 = identifier inside ()\nconst IDENT_EVENT_IDX = 10;\n\nconst TEMPLATE_ATTR_PREFIX = '*';\n\n// Result of the html AST to Ivy AST transformation\nexport interface Render3ParseResult {\n nodes: t.Node[];\n errors: ParseError[];\n styles: string[];\n styleUrls: string[];\n ngContentSelectors: string[];\n}\n\nexport function htmlAstToRender3Ast(\n htmlNodes: html.Node[], bindingParser: BindingParser): Render3ParseResult {\n const transformer = new HtmlAstToIvyAst(bindingParser);\n const ivyNodes = html.visitAll(transformer, htmlNodes);\n\n // Errors might originate in either the binding parser or the html to ivy transformer\n const allErrors = bindingParser.errors.concat(transformer.errors);\n\n return {\n nodes: ivyNodes,\n errors: allErrors,\n styleUrls: transformer.styleUrls,\n styles: transformer.styles,\n ngContentSelectors: transformer.ngContentSelectors,\n };\n}\n\nclass HtmlAstToIvyAst implements

```
html.Visitor {\n  errors: ParseError[] = [];\n  styles: string[] = [];\n  styleUrls: string[] = [];\n  ngContentSelectors: string[] = [];\n  private inI18nBlock: boolean = false;\n\n  constructor(private bindingParser: BindingParser) {}\n\n // HTML visitor\n  visitElement(element: html.Element): t.Node|null {\n    const isI18nRootElement = isI18nRootNode(element.i18n);\n    if (isI18nRootElement) {\n      if (this.inI18nBlock) {\n        this.reportError(\n            'Cannot mark an element as translatable inside of a translatable section. Please remove the nested i18n marker.',\n            element.sourceSpan);\n      }\n      this.inI18nBlock = true;\n    }\n    const preparsedElement = preparseElement(element);\n    if (preparsedElement.type === PreparsedElementType.SCRIPT) {\n      return null;\n    } else if (preparsedElement.type === PreparsedElementType.STYLE) {\n      const contents = textContents(element);\n      if (contents !== null) {\n        this.styles.push(contents);\n      }\n      return null;\n    } else if (\n        preparsedElement.type === PreparsedElementType.STYLESHEET &&\n        isStyleUrlResolvable(preparsedElement.hrefAttr)) {\n      this.styleUrls.push(preparsedElement.hrefAttr);\n      return null;\n    }\n\n    // Whether the element is a `<ng-template>`\n    const isTemplateElement = isNgTemplate(element.name);\n\n    const parsedProperties: ParsedProperty[] = [];\n    const boundEvents: t.BoundEvent[] = [];\n    const variables: t.Variable[] = [];\n    const references: t.Reference[] = [];\n    const attributes: t.TextAttribute[] = [];\n    const i18nAttrsMeta: {[key: string]: i18n.I18nMeta} = {};\n\n    const templateParsedProperties: ParsedProperty[] = [];\n    const templateVariables: t.Variable[] = [];\n\n    // Whether the element has any *-attribute\n    let elementHasInlineTemplate = false;\n\n    for (const attribute of element.attrs) {\n      let hasBinding = false;\n      const normalizedName = normalizeAttributeName(attribute.name);\n\n      // `*attr` defines template bindings\n      let isTemplateBinding = false;\n\n      if (attribute.i18n) {\n        i18nAttrsMeta[attribute.name] = attribute.i18n;\n      }\n\n      if (normalizedName.startsWith(TEMPLATE_ATTR_PREFIX)) {\n        // *-attributes\n        if (elementHasInlineTemplate) {\n          this.reportError(\n              `Can't have multiple template bindings on one element. Use only one attribute prefixed with *`,\n              attribute.sourceSpan);\n        }\n        isTemplateBinding = true;\n        elementHasInlineTemplate = true;\n        const templateValue = attribute.value;\n        const templateKey = normalizedName.substring(TEMPLATE_ATTR_PREFIX.length);\n\n        const parsedVariables: ParsedVariable[] = [];\n        const absoluteValueOffset = attribute.valueSpan ?\n            attribute.valueSpan.start.offset :\n            // If there is no value span the attribute does not have a value, like `attr` in\n            //`<div attr></div>`. In this case, point to one character beyond the last character of\n            // the attribute name.\n            attribute.sourceSpan.start.offset + attribute.name.length;\n\n        this.bindingParser.parseInlineTemplateBinding(\n            templateKey, templateValue, attribute.sourceSpan, absoluteValueOffset, [],\n            templateParsedProperties, parsedVariables, true /* isIvyAst */);\n        templateVariables.push(...parsedVariables.map(\n            v => new t.Variable(v.name, v.value, v.sourceSpan, v.keySpan, v.valueSpan)));\n      } else {\n        // Check for variables, events, property bindings, interpolation\n        hasBinding = this.parseAttribute(\n            isTemplateElement, attribute, [], parsedProperties, boundEvents, variables, references);\n      }\n\n      if (!hasBinding && !isTemplateBinding) {\n        // don't include the bindings as attributes as well in the AST\n        attributes.push(this.visitAttribute(attribute) as t.TextAttribute);\n      }\n    }\n\n    const children: t.Node[] =\n        html.visitAll(preparsedElement.nonBindable ? NON_BINDABLE_VISITOR : this, element.children);\n\n    let parsedElement: t.Node|undefined;\n    if (preparsedElement.type === PreparsedElementType.NG_CONTENT) {\n      // `<ng-content>`\n      if (element.children &&\n          !element.children.every(\n              (node: html.Node) => isEmptyTextNode(node) || isCommentNode(node))) {\n        this.reportError(`<ng-content> element cannot have content.`, element.sourceSpan);\n      }\n      const selector = preparsedElement.selectAttr;\n      const attrs: t.TextAttribute[] = element.attrs.map(attr => this.visitAttribute(attr));\n      parsedElement = new t.Content(selector, attrs, element.sourceSpan, element.i18n);\n\n      this.ngContentSelectors.push(selector);\n    } else if (isTemplateElement) {\n      // `<ng-template>`\n      const attrs = this.extractAttributes(element.name, parsedProperties, i18nAttrsMeta);\n\n
```

```
parsedElement = new t.Template(\n element.name, attributes, attrs.bound, boundEvents, [/* no template attributes */],\n children, references, variables, element.sourceSpan, element.startSourceSpan,\n element.endSourceSpan, element.i18n);\n } else {\n const attrs = this.extractAttributes(element.name, parsedProperties, i18nAttrsMeta);\n parsedElement = new t.Element(\n element.name, attributes, attrs.bound, boundEvents, children, references,\n element.sourceSpan, element.startSourceSpan, element.endSourceSpan, element.i18n);\n }\n\n if (elementHasInlineTemplate) {\n // If this node is an inline-template (e.g. has *ngFor) then we need to create a template\n // node that contains this node.\n // Moreover, if the node is an element, then we need to hoist its attributes to the template\n // node for matching against content projection selectors.\n const attrs = this.extractAttributes('ng-template', templateParsedProperties, i18nAttrsMeta);\n const templateAttrs: (t.TextAttribute|t.BoundAttribute)[] = [];\n attrs.literal.forEach(attr => templateAttrs.push(attr));\n attrs.bound.forEach(attr => templateAttrs.push(attr));\n const hoistedAttrs = parsedElement instanceof t.Element ?\n {\n attributes: parsedElement.attributes,\n inputs: parsedElement.inputs,\n outputs: parsedElement.outputs,\n } :\n {attributes: [], inputs: [], outputs: []};\n\n // For <ng-template>s with structural directives on them, avoid passing i18n information to\n // the wrapping template to prevent unnecessary i18n instructions from being generated. The\n // necessary i18n meta information will be extracted from child elements.\n const i18n = isTemplateElement && isI18nRootElement ? undefined : element.i18n;\n\n // TODO(pk): test for this case\n parsedElement = new t.Template(\n (parsedElement as t.Element | t.Content).name, hoistedAttrs.attributes,\n hoistedAttrs.inputs, hoistedAttrs.outputs, templateAttrs, [parsedElement],\n [/* no references */], templateVariables, element.sourceSpan, element.startSourceSpan,\n element.endSourceSpan, i18n);\n }\n if (isI18nRootElement) {\n this.inI18nBlock = false;\n }\n return parsedElement;\n }\n\n visitAttribute(attribute: html.Attribute): t.TextAttribute {\n return new t.TextAttribute(\n attribute.name, attribute.value, attribute.sourceSpan, attribute.valueSpan, attribute.i18n);\n }\n\n visitText(text: html.Text): t.Node {\n return this._visitTextWithInterpolation(text.value, text.sourceSpan, text.i18n);\n }\n\n visitExpansion(expansion: html.Expansion): t.Icu|null {\n if (!expansion.i18n) {\n // do not generate Icu in case it was created\n // outside of i18n block in a template\n return null;\n }\n if (!isI18nRootNode(expansion.i18n)) {\n throw new Error(`Invalid type \"${expansion.i18n.constructor}\" for \"i18n\" property of ${\n expansion.sourceSpan.toString()}. Expected a \"Message\"`);\n }\n const message = expansion.i18n;\n const vars: {[name: string]: t.BoundText} = {};\n const placeholders: {[name: string]: t.Text|t.BoundText} = {};\n // extract VARs from ICUs - we process them separately while\n // assembling resulting message via goog.getMsg function, since\n // we need to pass them to top-level goog.getMsg call\n Object.keys(message.placeholders).forEach(key => {\n const value = message.placeholders[key];\n if (key.startsWith(I18N_ICU_VAR_PREFIX)) {\n // Currently when the `plural` or `select` keywords in an ICU contain trailing spaces (e.g.\n // `{count, select , ...}`), these spaces are also included into the key names in ICU vars\n // (e.g. \"VAR_SELECT \"). These trailing spaces are not desirable, since they will later be\n // converted into `_` symbols while normalizing placeholder names, which might lead to\n // mismatches at runtime (i.e. placeholder will not be replaced with the correct value).\n const formattedKey = key.trim();\n\n const ast = this.bindingParser.parseInterpolationExpression(value.text, value.sourceSpan);\n\n vars[formattedKey] = new t.BoundText(ast, value.sourceSpan);\n } else {\n placeholders[key] = this._visitTextWithInterpolation(value.text, value.sourceSpan);\n }\n });\n return new t.Icu(vars, placeholders, expansion.sourceSpan, message);\n }\n\n visitExpansionCase(expansionCase: html.ExpansionCase): null {\n return null;\n }\n\n visitComment(comment: html.Comment): null {\n return null;\n }\n\n // convert view engine `ParsedProperty` to a format suitable for IVY\n private extractAttributes(\n elementName: string, properties: ParsedProperty[],\n i18nPropsMeta: {[key: string]: i18n.I18nMeta}):\n {bound: t.BoundAttribute[],
```

```
literal: t.TextAttribute[]} {\n    const bound: t.BoundAttribute[] = [];\n    const literal: t.TextAttribute[] = [];\n\n
properties.forEach(prop => {\n      const i18n = i18nPropsMeta[prop.name];\n      if (prop.isLiteral) {\n
literal.push(new t.TextAttribute(\n            prop.name, prop.expression.source || '', prop.sourceSpan, undefined,
i18n));\n      } else {\n        // Note that validation is skipped and property mapping is disabled\n        // due to the fact
that we need to make sure a given prop is not an\n        // input of a directive and directive matching happens at
runtime.\n        const bep = this.bindingParser.createBoundElementProperty(\n            elementName, prop, /*
skipValidation */ true, /* mapPropertyName */ false);\n
bound.push(t.BoundAttribute.fromBoundElementProperty(bep, i18n));\n      }\n    });\n\n    return {bound, literal};\n
}\n\n  private parseAttribute(\n      isTemplateElement: boolean, attribute: html.Attribute, matchableAttributes:
string[][],\n      parsedProperties: ParsedProperty[], boundEvents: t.BoundEvent[], variables: t.Variable[],\n
references: t.Reference[]) {\n    const name = normalizeAttributeName(attribute.name);\n    const value =
attribute.value;\n    const srcSpan = attribute.sourceSpan;\n    const absoluteOffset =\n        attribute.valueSpan ?
attribute.valueSpan.start.offset : srcSpan.start.offset;\n\n    function createKeySpan(srcSpan: ParseSourceSpan,
prefix: string, identifier: string) {\n      // We need to adjust the start location for the keySpan to account for the
removed 'data-'\n      // prefix from `normalizeAttributeName`.\n      const normalizationAdjustment =
attribute.name.length - name.length;\n      const keySpanStart = srcSpan.start.moveBy(prefix.length +
normalizationAdjustment);\n      const keySpanEnd = keySpanStart.moveBy(identifier.length);\n      return new
ParseSourceSpan(keySpanStart, keySpanEnd, keySpanStart, identifier);\n    }\n\n    const bindParts
= name.match(BIND_NAME_REGEXP);\n    let hasBinding = false;\n\n    if (bindParts) {\n      hasBinding =
true;\n      if (bindParts[KW_BIND_IDX] != null) {\n        const identifier = bindParts[IDENT_KW_IDX];\n
const keySpan = createKeySpan(srcSpan, bindParts[KW_BIND_IDX], identifier);\n
this.bindingParser.parsePropertyBinding(\n            identifier, value, false, srcSpan, absoluteOffset,
attribute.valueSpan,\n            matchableAttributes, parsedProperties, keySpan);\n\n      } else if
(bindParts[KW_LET_IDX]) {\n        if (isTemplateElement) {\n          const identifier =
bindParts[IDENT_KW_IDX];\n          const keySpan = createKeySpan(srcSpan, bindParts[KW_LET_IDX],
identifier);\n          this.parseVariable(identifier, value, srcSpan, keySpan, attribute.valueSpan, variables);\n        }
else {\n          this.reportError(`\"let-\" is only supported on ng-template elements.`, srcSpan);\n        }\n\n      } else if
(bindParts[KW_REF_IDX]) {\n        const identifier
= bindParts[IDENT_KW_IDX];\n        this.parseReference(identifier, value, srcSpan, attribute.valueSpan,
references);\n      } else if (bindParts[KW_ON_IDX]) {\n        const events: ParsedEvent[] = [];\n        const
identifier = bindParts[IDENT_KW_IDX];\n        this.bindingParser.parseEvent(\n            identifier, value, srcSpan,
attribute.valueSpan || srcSpan, matchableAttributes,\n            events);\n        addEvents(events, boundEvents);\n      }
else if (bindParts[KW_BINDON_IDX]) {\n        const identifier = bindParts[IDENT_KW_IDX];\n        const
keySpan = createKeySpan(srcSpan, bindParts[KW_BINDON_IDX], identifier);\n
this.bindingParser.parsePropertyBinding(\n            identifier, value, false, srcSpan, absoluteOffset,
attribute.valueSpan,\n            matchableAttributes, parsedProperties, keySpan);\n        this.parseAssignmentEvent(\n
        identifier, value, srcSpan, attribute.valueSpan, matchableAttributes, boundEvents);\n      } else if
(bindParts[KW_AT_IDX])
 {\n        const keySpan = createKeySpan(srcSpan, '', name);\n        this.bindingParser.parseLiteralAttr(\n
name, value, srcSpan, absoluteOffset, attribute.valueSpan, matchableAttributes,\n            parsedProperties,
keySpan);\n\n      } else if (bindParts[IDENT_BANANA_BOX_IDX]) {\n        const keySpan =
createKeySpan(srcSpan, '[(', bindParts[IDENT_BANANA_BOX_IDX]);\n
this.bindingParser.parsePropertyBinding(\n            bindParts[IDENT_BANANA_BOX_IDX], value, false, srcSpan,
absoluteOffset,\n            attribute.valueSpan, matchableAttributes, parsedProperties, keySpan);\n
this.parseAssignmentEvent(\n            bindParts[IDENT_BANANA_BOX_IDX], value, srcSpan,
attribute.valueSpan,\n            matchableAttributes, boundEvents);\n\n      } else if
(bindParts[IDENT_PROPERTY_IDX]) {\n        const keySpan = createKeySpan(srcSpan, '[',
bindParts[IDENT_PROPERTY_IDX]);\n        this.bindingParser.parsePropertyBinding(\n
```

```
bindParts[IDENT_PROPERTY_IDX],
 value, false, srcSpan, absoluteOffset,\n            attribute.valueSpan, matchableAttributes, parsedProperties,
keySpan);\n\n      } else if (bindParts[IDENT_EVENT_IDX]) {\n        const events: ParsedEvent[] = [];\n
this.bindingParser.parseEvent(\n            bindParts[IDENT_EVENT_IDX], value, srcSpan, attribute.valueSpan ||
srcSpan,\n            matchableAttributes, events);\n        addEvents(events, boundEvents);\n      }\n    } else {\n
const keySpan = createKeySpan(srcSpan, '' /* prefix */, name);\n      hasBinding =
this.bindingParser.parsePropertyInterpolation(\n          name, value, srcSpan, attribute.valueSpan,
matchableAttributes, parsedProperties,\n          keySpan);\n    }\n\n    return hasBinding;\n  }\n\n  private
_visitTextWithInterpolation(\n      value: string, sourceSpan: ParseSourceSpan, i18n?: i18n.I18nMeta):
t.Text|t.BoundText {\n    const valueNoNgsp = replaceNgsp(value);\n    const expr =
this.bindingParser.parseInterpolation(valueNoNgsp,
 sourceSpan);\n    return expr ? new t.BoundText(expr, sourceSpan, i18n) : new t.Text(valueNoNgsp, sourceSpan);\n
}\n\n  private parseVariable(\n      identifier: string, value: string, sourceSpan: ParseSourceSpan, keySpan:
ParseSourceSpan,\n      valueSpan: ParseSourceSpan|undefined, variables: t.Variable[]) {\n    if (identifier.indexOf('-
') > -1) {\n      this.reportError(`"-" is not allowed in variable names`, sourceSpan);\n    } else if (identifier.length
=== 0) {\n      this.reportError(`Variable does not have a name`, sourceSpan);\n    }\n\n    variables.push(new
t.Variable(identifier, value, sourceSpan, keySpan, valueSpan));\n  }\n\n  private parseReference(\n      identifier:
string, value: string, sourceSpan: ParseSourceSpan,\n      valueSpan: ParseSourceSpan|undefined, references:
t.Reference[]) {\n    if (identifier.indexOf('-') > -1) {\n      this.reportError(`"-" is not allowed in reference names`,
sourceSpan);\n    } else if (identifier.length === 0) {\n      this.reportError(`Reference
 does not have a name`, sourceSpan);\n    }\n\n    references.push(new t.Reference(identifier, value, sourceSpan,
valueSpan));\n  }\n\n  private parseAssignmentEvent(\n      name: string, expression: string, sourceSpan:
ParseSourceSpan,\n      valueSpan: ParseSourceSpan|undefined, targetMatchableAttrs: string[][],\n      boundEvents:
t.BoundEvent[]) {\n    const events: ParsedEvent[] = [];\n    this.bindingParser.parseEvent(\n        `${name}Change`,
`${expression}=$event`, sourceSpan, valueSpan || sourceSpan,\n        targetMatchableAttrs, events);\n
addEvents(events, boundEvents);\n  }\n\n  private reportError(\n      message: string, sourceSpan:
ParseSourceSpan,\n      level: ParseErrorLevel = ParseErrorLevel.ERROR) {\n    this.errors.push(new
ParseError(sourceSpan, message, level));\n  }\n}\n\nclass NonBindableVisitor implements html.Visitor {\n
visitElement(ast: html.Element): t.Element|null {\n    const preparsedElement = preparseElement(ast);\n    if
 (preparsedElement.type === PreparsedElementType.SCRIPT ||\n        preparsedElement.type ===
PreparsedElementType.STYLE ||\n        preparsedElement.type === PreparsedElementType.STYLESHEET) {\n
// Skipping <script> for security reasons\n      // Skipping <style> and stylesheets as we already processed them\n
// in the StyleCompiler\n      return null;\n    }\n\n    const children: t.Node[] = html.visitAll(this, ast.children, null);\n
  return new t.Element(\n        ast.name, html.visitAll(this, ast.attrs) as t.TextAttribute[],\n        /* inputs */[], /*
outputs */[], children,  /* references */[], ast.sourceSpan,\n        ast.startSourceSpan, ast.endSourceSpan);\n  }\n\n
visitComment(comment: html.Comment): any {\n    return null;\n  }\n\n  visitAttribute(attribute: html.Attribute):
t.TextAttribute {\n    return new t.TextAttribute(\n        attribute.name, attribute.value, attribute.sourceSpan,
undefined, attribute.i18n);\n  }\n\n  visitText(text: html.Text): t.Text {\n
    return new t.Text(text.value, text.sourceSpan);\n  }\n\n  visitExpansion(expansion: html.Expansion): any {\n
return null;\n  }\n\n  visitExpansionCase(expansionCase: html.ExpansionCase): any {\n    return null;\n
}\n}\n\nconst NON_BINDABLE_VISITOR = new NonBindableVisitor();\n\nfunction
normalizeAttributeName(attrName: string): string {\n  return /^data-/i.test(attrName) ? attrName.substring(5) :
attrName;\n}\n\nfunction addEvents(events: ParsedEvent[], boundEvents: t.BoundEvent[]) {\n
boundEvents.push(...events.map(e => t.BoundEvent.fromParsedEvent(e)));\n}\n\nfunction isEmptyTextNode(node:
html.Node): boolean {\n  return node instanceof html.Text && node.value.trim().length == 0;\n}\n\nfunction
isCommentNode(node: html.Node): boolean {\n  return node instanceof html.Comment;\n}\n\nfunction
textContents(node: html.Element): string|null {\n  if (node.children.length !== 1 || !(node.children[0] instanceof
html.Text)) {\n    return null;\n  } else {\n    return (node.children[0]
```

as html.Text).value;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AST} from '../../../expression_parser/ast';\nimport * as i18n from '../../../i18n/i18n_ast';\nimport * as o from '../../../output/output_ast';\n\nimport {assembleBoundTextPlaceholders, getSeqNumberGenerator, updatePlaceholderMap, wrapI18nPlaceholder} from './util';\n\nenum TagType {\n  ELEMENT,\n  TEMPLATE,\n}\n\n/**\n * Generates an object that is used as a shared state between parent and all child contexts.\n */\nfunction setupRegistry() {\n  return {getUniqueId: getSeqNumberGenerator(), icus: new Map<string, any[]>()};\n}\n\n/**\n * I18nContext is a helper class which keeps track of all i18n-related aspects\n * (accumulates placeholders, bindings, etc) between i18nStart and i18nEnd instructions.\n *\n * When we enter a nested template,
 the top-level context is being passed down\n * to the nested component, which uses this context to generate a child instance\n * of I18nContext class (to handle nested template) and at the end, reconciles it back\n * with the parent context.\n *\n * @param index Instruction index of i18nStart, which initiates this context\n * @param ref Reference to a translation const that represents the content if thus context\n * @param level Nestng level defined for child contexts\n * @param templateIndex Instruction index of a template which this context belongs to\n * @param meta Meta information (id, meaning, description, etc) associated with this context\n */\nexport class I18nContext {\n  public readonly id: number;\n  public bindings = new Set<AST>();\n  public placeholders = new Map<string, any[]>();\n  public isEmitted: boolean = false;\n\n  private _registry!: any;\n  private _unresolvedCtxCount: number = 0;\n\n  constructor(\n      readonly index: number, readonly ref: o.ReadVarExpr, readonly
 level: number = 0,\n      readonly templateIndex: number|null = null, readonly meta: i18n.I18nMeta,\n      private registry?: any) {\n    this._registry = registry || setupRegistry();\n    this.id = this._registry.getUniqueId();\n  }\n\n  private appendTag(type: TagType, node: i18n.TagPlaceholder, index: number, closed?: boolean) {\n    if (node.isVoid && closed) {\n      return;  // ignore \"close\" for void tags\n    }\n    const ph = node.isVoid || !closed ? node.startName : node.closeName;\n    const content = {type, index, ctx: this.id, isVoid: node.isVoid, closed};\n    updatePlaceholderMap(this.placeholders, ph, content);\n  }\n\n  get icus() {\n    return this._registry.icus;\n  }\n  get isRoot() {\n    return this.level === 0;\n  }\n  get isResolved() {\n    return this._unresolvedCtxCount === 0;\n  }\n\n  getSerializedPlaceholders() {\n    const result = new Map<string, any[]>();\n    this.placeholders.forEach(\n        (values, key) => result.set(key, values.map(serializePlaceholderValue)));\n
    return result;\n  }\n\n  // public API to accumulate i18n-related content\n  appendBinding(binding: AST) {\n    this.bindings.add(binding);\n  }\n  appendIcu(name: string, ref: o.Expression) {\n    updatePlaceholderMap(this._registry.icus, name, ref);\n  }\n  appendBoundText(node: i18n.I18nMeta) {\n    const phs = assembleBoundTextPlaceholders(node, this.bindings.size, this.id);\n    phs.forEach((values, key) => updatePlaceholderMap(this.placeholders, key, ...values));\n  }\n  appendTemplate(node: i18n.I18nMeta, index: number) {\n    // add open and close tags at the same time,\n    // since we process nested templates separately\n    this.appendTag(TagType.TEMPLATE, node as i18n.TagPlaceholder, index, false);\n    this.appendTag(TagType.TEMPLATE, node as i18n.TagPlaceholder, index, true);\n    this._unresolvedCtxCount++;\n  }\n  appendElement(node: i18n.I18nMeta, index: number, closed?: boolean) {\n    this.appendTag(TagType.ELEMENT, node as i18n.TagPlaceholder,
 index, closed);\n  }\n  appendProjection(node: i18n.I18nMeta, index: number) {\n    // Add open and close tags at the same time, since `<ng-content>` has no content,\n    // so when we come across `<ng-content>` we can register both open and close tags.\n    // Note: runtime i18n logic doesn't distinguish `<ng-content>` tag placeholders and\n    // regular element tag placeholders, so we generate element placeholders for both types.\n    this.appendTag(TagType.ELEMENT, node as i18n.TagPlaceholder, index, false);\n    this.appendTag(TagType.ELEMENT, node as i18n.TagPlaceholder, index, true);\n  }\n\n  /**\n   * Generates an instance of a child context based on the root one,\n   * when we enter a nested template within I18n section.\n   *\n   * @param index Instruction index of corresponding i18nStart, which initiates this context\n   * @param templateIndex Instruction index of a template which this context belongs to\n   * @param meta Meta information (id, meaning, description,

etc) associated with this context\n *\n * @returns I18nContext instance\n */\n forkChildContext(index: number, templateIndex: number, meta: i18n.I18nMeta) {\n return new I18nContext(index, this.ref, this.level + 1, templateIndex, meta, this._registry);\n }\n\n /**\n * Reconciles child context into parent one once the end of the i18n block is reached (i18nEnd).\n *\n * @param context Child I18nContext instance to be reconciled with parent context.\n */\n reconcileChildContext(context: I18nContext) {\n // set the right context id for open and close\n // template tags, so we can use it as sub-block ids\n ['start', 'close'].forEach((op: string) => {\n const key = (context.meta as any)[`${op}Name`];\n const phs = this.placeholders.get(key) || [];\n const tag = phs.find(findTemplateFn(this.id, context.templateIndex));\n if (tag) {\n tag.ctx = context.id;\n }\n });\n\n // reconcile placeholders\n const childPhs = context.placeholders;\n childPhs.forEach((values: any[], key: string) => {\n const phs = this.placeholders.get(key);\n if (!phs) {\n this.placeholders.set(key, values);\n return;\n }\n // try to find matching template...\n const tmplIdx = phs.findIndex(findTemplateFn(context.id, context.templateIndex));\n if (tmplIdx >= 0) {\n // ... if found - replace it with nested template content\n const isCloseTag = key.startsWith('CLOSE');\n const isTemplateTag = key.endsWith('NG-TEMPLATE');\n if (isTemplateTag) {\n // current template's content is placed before or after\n // parent template tag, depending on the open/close atrribute\n phs.splice(tmplIdx + (isCloseTag ? 0 : 1), 0, ...values);\n } else {\n const idx = isCloseTag ? values.length - 1 : 0;\n values[idx].tmpl = phs[tmplIdx];\n phs.splice(tmplIdx, 1, ...values);\n }\n } else {\n // ... otherwise\n just append content to placeholder value\n phs.push(...values);\n }\n this.placeholders.set(key, phs);\n });\n this._unresolvedCtxCount--;\n }\n}\n\n//\n// Helper methods\n//\n\nfunction wrap(symbol: string, index: number, contextId: number, closed?: boolean): string {\n const state = closed ? '/' : '';\n return wrapI18nPlaceholder(`${state}${symbol}${index}`, contextId);\n}\n\nfunction wrapTag(symbol: string, {index, ctx, isVoid}: any, closed?: boolean): string {\n return isVoid ? wrap(symbol, index, ctx) + wrap(symbol, index, ctx, true) :\n wrap(symbol, index, ctx, closed);\n}\n\nfunction findTemplateFn(ctx: number, templateIndex: number|null) {\n return (token: any) => typeof token === 'object' && token.type === TagType.TEMPLATE &&\n token.index === templateIndex && token.ctx === ctx;\n}\n\nfunction serializePlaceholderValue(value: any): string {\n const element = (data: any, closed?: boolean) => wrapTag('#', data, closed);\n const template = (data: any, closed?: boolean) => wrapTag('*', data, closed);\n const projection = (data: any, closed?: boolean) => wrapTag('!', data, closed);\n\n switch (value.type) {\n case TagType.ELEMENT:\n // close element tag\n if (value.closed) {\n return element(value, true) + (value.tmpl ? template(value.tmpl, true) : '');\n }\n // open element tag that also initiates a template\n if (value.tmpl) {\n return template(value.tmpl) + element(value) +\n (value.isVoid ? template(value.tmpl, true) : '');\n }\n return element(value);\n\n case TagType.TEMPLATE:\n return template(value, value.closed);\n\n default:\n return value;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as i18n from '../../../i18n/i18n_ast';\n\nimport {formatI18nPlaceholderName} from './util';\n\nclass IcuSerializerVisitor implements i18n.Visitor {\n visitText(text: i18n.Text): any {\n return text.value;\n }\n\n visitContainer(container: i18n.Container): any {\n return container.children.map(child => child.visit(this)).join('');\n }\n\n visitIcu(icu: i18n.Icu): any {\n const strCases =\n Object.keys(icu.cases).map((k: string) => `${k} {${icu.cases[k].visit(this)}}`);\n const result = `{${icu.expressionPlaceholder}, ${icu.type}, ${strCases.join(' ')}}`;\n return result;\n }\n\n visitTagPlaceholder(ph: i18n.TagPlaceholder): any {\n return ph.isVoid ?\n this.formatPh(ph.startName) :\n `${this.formatPh(ph.startName)}${ph.children.map(child => child.visit(this)).join('')}${\n this.formatPh(ph.closeName)}`;\n }\n\n visitPlaceholder(ph: i18n.Placeholder): any {\n return this.formatPh(ph.name);\n }\n\n visitIcuPlaceholder(ph: i18n.IcuPlaceholder, context?: any): any {\n return this.formatPh(ph.name);\n }\n\n private formatPh(value: string): string {\n return `{${formatI18nPlaceholderName(value, /* useCamelCase */ false)}}`;\n }\n}\n\nconst serializer = new IcuSerializerVisitor();\n\nexport function serializeIcuNode(icu: i18n.Icu): string {\n return

icu.visit(serializer);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nconst TAG_TO_PLACEHOLDER_NAMES: {[k: string]: string} = {\n  'A': 'LINK',\n  'B': 'BOLD_TEXT',\n  'BR': 'LINE_BREAK',\n  'EM': 'EMPHASISED_TEXT',\n  'H1': 'HEADING_LEVEL1',\n  'H2': 'HEADING_LEVEL2',\n  'H3': 'HEADING_LEVEL3',\n  'H4': 'HEADING_LEVEL4',\n  'H5': 'HEADING_LEVEL5',\n  'H6': 'HEADING_LEVEL6',\n  'HR': 'HORIZONTAL_RULE',\n  'I': 'ITALIC_TEXT',\n  'LI': 'LIST_ITEM',\n  'LINK': 'MEDIA_LINK',\n  'OL': 'ORDERED_LIST',\n  'P': 'PARAGRAPH',\n  'Q': 'QUOTATION',\n  'S': 'STRIKETHROUGH_TEXT',\n  'SMALL': 'SMALL_TEXT',\n  'SUB': 'SUBSTRIPT',\n  'SUP': 'SUPERSCRIPT',\n  'TBODY': 'TABLE_BODY',\n  'TD': 'TABLE_CELL',\n  'TFOOT': 'TABLE_FOOTER',\n  'TH': 'TABLE_HEADER_CELL',\n  'THEAD': 'TABLE_HEADER',\n  'TR': 'TABLE_ROW',\n  'TT': 'MONOSPACED_TEXT',\n  'U': 'UNDERLINED_TEXT',\n  'UL': 'UNORDERED_LIST',\n};\n\n/**\n * Creates unique names for placeholder with different content.\n *\n * Returns the same placeholder name when the content is identical.\n */\nexport class PlaceholderRegistry {\n  // Count the occurrence of the base name top generate a unique name\n  private _placeHolderNameCounts: {[k: string]: number} = {};\n  // Maps signature to placeholder names\n  private _signatureToName: {[k: string]: string} = {};\n\n  getStartTagPlaceholderName(tag: string, attrs: {[k: string]: string}, isVoid: boolean): string {\n    const signature = this._hashTag(tag, attrs, isVoid);\n    if (this._signatureToName[signature]) {\n      return this._signatureToName[signature];\n    }\n\n    const upperTag = tag.toUpperCase();\n    const baseName = TAG_TO_PLACEHOLDER_NAMES[upperTag] || `TAG_${upperTag}`;\n    const name = this._generateUniqueName(isVoid ? baseName : `START_${baseName}`);\n\n    this._signatureToName[signature] = name;\n\n    return name;\n  }\n\n  getCloseTagPlaceholderName(tag: string): string {\n    const signature = this._hashClosingTag(tag);\n    if (this._signatureToName[signature]) {\n      return this._signatureToName[signature];\n    }\n\n    const upperTag = tag.toUpperCase();\n    const baseName = TAG_TO_PLACEHOLDER_NAMES[upperTag] || `TAG_${upperTag}`;\n    const name = this._generateUniqueName(`CLOSE_${baseName}`);\n\n    this._signatureToName[signature] = name;\n\n    return name;\n  }\n\n  getPlaceholderName(name: string, content: string): string {\n    const upperName = name.toUpperCase();\n    const signature = `PH: ${upperName}=${content}`;\n    if (this._signatureToName[signature]) {\n      return this._signatureToName[signature];\n    }\n\n    const uniqueName = this._generateUniqueName(upperName);\n    this._signatureToName[signature] = uniqueName;\n\n    return uniqueName;\n  }\n\n  getUniquePlaceholder(name: string): string {\n    return this._generateUniqueName(name.toUpperCase());\n  }\n\n  // Generate a hash for a tag - does not take attribute order into account\n  private _hashTag(tag: string, attrs: {[k: string]: string}, isVoid: boolean): string {\n    const start = `<${tag}`;\n    const strAttrs = Object.keys(attrs).sort().map((name) => ` ${name}=${attrs[name]}`).join('');\n    const end = isVoid ? '/>' : `></${tag}>`;\n\n    return start + strAttrs + end;\n  }\n\n  private _hashClosingTag(tag: string): string {\n    return this._hashTag(`/${tag}`, {}, false);\n  }\n\n  private _generateUniqueName(base: string): string {\n    const seen = this._placeHolderNameCounts.hasOwnProperty(base);\n    if (!seen) {\n      this._placeHolderNameCounts[base] = 1;\n      return base;\n    }\n\n    const id = this._placeHolderNameCounts[base];\n    this._placeHolderNameCounts[base] = id + 1;\n    return `${base}_${id}`;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Lexer as ExpressionLexer} from '../expression_parser/lexer';\nimport {InterpolationPiece, Parser as ExpressionParser} from '../expression_parser/parser';\nimport * as html from '../ml_parser/ast';\nimport {getHtmlTagDefinition} from '../ml_parser/html_tags';\nimport {InterpolationConfig} from '../ml_parser/interpolation_config';\nimport {ParseSourceSpan} from '../parse_util';\n\nimport * as i18n from './i18n_ast';\nimport {PlaceholderRegistry} from './serializers/placeholder';\n\nconst _expParser = new ExpressionParser(new ExpressionLexer());\n\nexport type VisitNodeFn = (html: html.Node, i18n: i18n.Node) =>

```
i18n.Node;\n\nexport
 interface I18nMessageFactory {\n  (nodes: html.Node[], meaning: string|undefined, description: string|undefined,\n
customId: string|undefined, visitNodeFn?: VisitNodeFn): i18n.Message;\n}\n\n/**\n * Returns a function converting
html nodes to an i18n Message given an interpolationConfig\n */\nexport function
createI18nMessageFactory(interpolationConfig: InterpolationConfig):\n    I18nMessageFactory {\n  const visitor =
new _I18nVisitor(_expParser, interpolationConfig);\n  return (nodes, meaning, description, customId, visitNodeFn)
=>\n            visitor.toI18nMessage(nodes, meaning, description, customId, visitNodeFn);\n}\n\ninterface
I18nMessageVisitorContext {\n  isIcu: boolean;\n  icuDepth: number;\n  placeholderRegistry:
PlaceholderRegistry;\n  placeholderToContent: {[phName: string]: i18n.MessagePlaceholder};\n
placeholderToMessage: {[phName: string]: i18n.Message};\n  visitNodeFn: VisitNodeFn;\n}\n\nfunction
noopVisitNodeFn(_html: html.Node, i18n: i18n.Node): i18n.Node {\n
 return i18n;\n}\n\nclass _I18nVisitor implements html.Visitor {\n  constructor(\n      private _expressionParser:
ExpressionParser,\n      private _interpolationConfig: InterpolationConfig) {}\n\n  public toI18nMessage(\n
nodes: html.Node[], meaning = '', description = '', customId = '',\n      visitNodeFn: VisitNodeFn|undefined):
i18n.Message {\n    const context: I18nMessageVisitorContext = {\n      isIcu: nodes.length == 1 && nodes[0]
instanceof html.Expansion,\n      icuDepth: 0,\n      placeholderRegistry: new PlaceholderRegistry(),\n
placeholderToContent: {},\n      placeholderToMessage: {},\n      visitNodeFn: visitNodeFn || noopVisitNodeFn,\n
};\n\n    const i18nodes: i18n.Node[] = html.visitAll(this, nodes, context);\n\n    return new i18n.Message(\n
i18nodes, context.placeholderToContent, context.placeholderToMessage, meaning, description,\n        customId);\n
}\n\n  visitElement(el: html.Element, context: I18nMessageVisitorContext): i18n.Node {\n    const
 children = html.visitAll(this, el.children, context);\n    const attrs: {[k: string]: string} = {};\n    el.attrs.forEach(attr
=> {\n      // Do not visit the attributes, translatable ones are top-level ASTs\n      attrs[attr.name] = attr.value;\n
});\n\n    const isVoid: boolean = getHtmlTagDefinition(el.name).isVoid;\n    const startPhName =\n
context.placeholderRegistry.getStartTagPlaceholderName(el.name, attrs, isVoid);\n
context.placeholderToContent[startPhName] = {\n      text: el.startSourceSpan.toString(),\n      sourceSpan:
el.startSourceSpan,\n    };\n\n    let closePhName = '';\n\n    if (!isVoid) {\n      closePhName =
context.placeholderRegistry.getCloseTagPlaceholderName(el.name);\n
context.placeholderToContent[closePhName] = {\n        text: `</${el.name}>`,\n        sourceSpan: el.endSourceSpan
?? el.sourceSpan,\n      };\n    }\n\n    const node = new i18n.TagPlaceholder(\n        el.name, attrs, startPhName,
closePhName, children, isVoid, el.sourceSpan,\n
        el.startSourceSpan, el.endSourceSpan);\n    return context.visitNodeFn(el, node);\n  }\n\n
visitAttribute(attribute: html.Attribute, context: I18nMessageVisitorContext): i18n.Node {\n    const node =
this._visitTextWithInterpolation(\n        attribute.value, attribute.valueSpan || attribute.sourceSpan, context,
attribute.i18n);\n    return context.visitNodeFn(attribute, node);\n  }\n\n  visitText(text: html.Text, context:
I18nMessageVisitorContext): i18n.Node {\n    const node = this._visitTextWithInterpolation(text.value,
text.sourceSpan, context, text.i18n);\n    return context.visitNodeFn(text, node);\n  }\n\n  visitComment(comment:
html.Comment, context: I18nMessageVisitorContext): i18n.Node|null {\n    return null;\n  }\n\n  visitExpansion(icu:
html.Expansion, context: I18nMessageVisitorContext): i18n.Node {\n    context.icuDepth++;\n    const
i18nIcuCases: {[k: string]: i18n.Node} = {};\n    const i18nIcu = new i18n.Icu(icu.switchValue, icu.type,
i18nIcuCases, icu.sourceSpan);\n
    icu.cases.forEach((caze): void => {\n      i18nIcuCases[caze.value] = new i18n.Container(\n
caze.expression.map((node) => node.visit(this, context)), caze.expSourceSpan);\n    });\n    context.icuDepth--;\n\n
if (context.isIcu || context.icuDepth > 0) {\n      // Returns an ICU node when:\n      // - the message (vs a part of the
message) is an ICU message, or\n      // - the ICU message is nested.\n      const expPh =
context.placeholderRegistry.getUniquePlaceholder(`VAR_${icu.type}`);\n      i18nIcu.expressionPlaceholder =
expPh;\n      context.placeholderToContent[expPh] = {\n        text: icu.switchValue,\n        sourceSpan:
icu.switchValueSourceSpan,\n      };\n      return context.visitNodeFn(icu, i18nIcu);\n    }\n\n    // Else returns a
placeholder\n    // ICU placeholders should not be replaced with their original content but with the their\n    //
```

translations.\n // TODO(vicb): add a html.Node -> i18n.Message cache to avoid having to re-create the msg\n const phName = context.placeholderRegistry.getPlaceholderName('ICU', icu.sourceSpan.toString());\n context.placeholderToMessage[phName] = this.toI18nMessage([icu], '', '', '', undefined);\n const node = new i18n.IcuPlaceholder(i18nIcu, phName, icu.sourceSpan);\n return context.visitNodeFn(icu, node);\n }\n\n visitExpansionCase(_icuCase: html.ExpansionCase, _context: I18nMessageVisitorContext): i18n.Node {\n throw new Error('Unreachable code');\n }\n\n /**\n * Split the, potentially interpolated, text up into text and placeholder pieces.\n *\n * @param text The potentially interpolated string to be split.\n * @param sourceSpan The span of the whole of the `text` string.\n * @param context The current context of the visitor, used to compute and store placeholders.\n * @param previousI18n Any i18n metadata associated with this `text` from a previous pass.\n */\n private _visitTextWithInterpolation(\n text: string, sourceSpan: ParseSourceSpan, context: I18nMessageVisitorContext,\n previousI18n: i18n.I18nMeta|undefined): i18n.Node {\n const {strings, expressions} = this._expressionParser.splitInterpolation(\n text, sourceSpan.start.toString(), this._interpolationConfig);\n\n // No expressions, return a single text.\n if (expressions.length === 0) {\n return new i18n.Text(text, sourceSpan);\n }\n\n // Return a sequence of `Text` and `Placeholder` nodes grouped in a `Container`.\n const nodes: i18n.Node[] = [];\n for (let i = 0; i < strings.length - 1; i++) {\n this._addText(nodes, strings[i], sourceSpan);\n this._addPlaceholder(nodes, context, expressions[i], sourceSpan);\n }\n // The last index contains no expression\n this._addText(nodes, strings[strings.length - 1], sourceSpan);\n\n // Whitespace removal may have invalidated the interpolation source-spans.\n reusePreviousSourceSpans(nodes, previousI18n);\n\n return new i18n.Container(nodes, sourceSpan);\n }\n\n /**\n * Create a new `Text` node from the `textPiece` and add it to the `nodes` collection.\n *\n * @param nodes The nodes to which the created `Text` node should be added.\n * @param textPiece The text and relative span information for this `Text` node.\n * @param interpolationSpan The span of the whole interpolated text.\n */\n private _addText(\n nodes: i18n.Node[], textPiece: InterpolationPiece, interpolationSpan: ParseSourceSpan): void {\n if (textPiece.text.length > 0) {\n // No need to add empty strings\n const stringSpan = getOffsetSourceSpan(interpolationSpan, textPiece);\n nodes.push(new i18n.Text(textPiece.text, stringSpan));\n }\n }\n\n /**\n * Create a new `Placeholder` node from the `expression` and add it to the `nodes` collection.\n *\n * @param nodes The nodes to which the created `Text` node should be added.\n * @param context The current context of the visitor, used to compute and store placeholders.\n * @param expression The expression text and relative span information for this `Placeholder`\n * node.\n * @param interpolationSpan The span of the whole interpolated text.\n */\n private _addPlaceholder(\n nodes: i18n.Node[], context: I18nMessageVisitorContext, expression: InterpolationPiece,\n interpolationSpan: ParseSourceSpan): void {\n const sourceSpan = getOffsetSourceSpan(interpolationSpan, expression);\n const baseName = extractPlaceholderName(expression.text) || 'INTERPOLATION';\n const phName = context.placeholderRegistry.getPlaceholderName(baseName, expression.text);\n const text = this._interpolationConfig.start + expression.text + this._interpolationConfig.end;\n context.placeholderToContent[phName] = {text, sourceSpan};\n nodes.push(new i18n.Placeholder(expression.text, phName, sourceSpan));\n }\n}\n\n/**\n * Re-use the source-spans from `previousI18n` metadata for the `nodes`.\n *\n * Whitespace removal can invalidate the source-spans of interpolation nodes, so we\n * reuse the source-span stored from a previous pass before the whitespace was removed.\n *\n * @param nodes The `Text` and `Placeholder` nodes to be processed.\n * @param previousI18n Any i18n metadata for these `nodes` stored from a previous pass.\n */\nfunction reusePreviousSourceSpans(nodes: i18n.Node[], previousI18n: i18n.I18nMeta|undefined): void {\n if (previousI18n instanceof i18n.Message) {\n // The `previousI18n` is an i18n `Message`, so we are processing an `Attribute` with i18n\n // metadata. The `Message` should consist only of a single `Container` that contains the\n // parts (`Text` and `Placeholder`) to process.\n assertSingleContainerMessage(previousI18n);\n previousI18n = previousI18n.nodes[0];\n }\n\n if (previousI18n instanceof i18n.Container) {\n // The `previousI18n` is a `Container`, which means that this is a second i18n extraction pass\n // after whitespace has been removed from the AST ndoes.\n assertEquivalentNodes(previousI18n.children,

```
nodes);\n\n    // Reuse the source-spans from the first pass.\n    for (let i = 0; i < nodes.length; i++) {\n
nodes[i].sourceSpan = previousI18n.children[i].sourceSpan;\n    }\n  }\n}\n\n/**\n * Asserts that the `message`
contains exactly one `Container` node.\n */\nfunction assertSingleContainerMessage(message: i18n.Message): void
{\n  const nodes = message.nodes;\n  if (nodes.length !== 1 || !(nodes[0] instanceof i18n.Container)) {\n    throw
new Error(\n        'Unexpected previous i18n message - expected it to consist of only a single `Container` node.');\n
}\n}\n\n/**\n * Asserts that the `previousNodes` and `node` collections have the same number of elements and\n *
corresponding elements have the same node type.\n */\nfunction assertEquivalentNodes(previousNodes:
i18n.Node[], nodes: i18n.Node[]): void {\n  if (previousNodes.length !== nodes.length) {\n    throw new Error('The
number of i18n message children changed between first and
second pass.');\n  }\n  if (previousNodes.some((node, i) => nodes[i].constructor !== node.constructor)) {\n    throw
new Error(\n        'The types of the i18n message children changed between first and second pass.');\n  }\n}\n\n/**\n
* Create a new `ParseSourceSpan` from the `sourceSpan`, offset by the `start` and `end` values.\n */\nfunction
getOffsetSourceSpan(\n    sourceSpan: ParseSourceSpan, {start, end}: InterpolationPiece): ParseSourceSpan {\n
return new ParseSourceSpan(sourceSpan.fullStart.moveBy(start), sourceSpan.fullStart.moveBy(end));\n}\n\nconst
_CUSTOM_PH_EXP =\n
/\\/\\/[\\s\\S]*i18n[\\s\\S]*\\([\\s\\S]*ph[\\s\\S]*=[\\s\\S]*('|")([\\s\\S]*?)\\1[\\s\\S]*\\)/g;\n\nfunction
extractPlaceholderName(input: string): string {\n  return input.split(_CUSTOM_PH_EXP)[2];\n}\n","/**\n *
@license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-
style license that can be\n * found in the LICENSE file at https://angular.io/license\n
 */\n\nimport {computeDecimalDigest, computeDigest, decimalDigest} from '../../../i18n/digest';\nimport * as i18n
from '../../../i18n/i18n_ast';\nimport {createI18nMessageFactory, VisitNodeFn} from
'../../../i18n/i18n_parser';\nimport * as html from '../../../ml_parser/ast';\nimport
{DEFAULT_INTERPOLATION_CONFIG, InterpolationConfig} from
'../../../ml_parser/interpolation_config';\nimport * as o from '../../../output/output_ast';\n\nimport {hasI18nAttrs,
I18N_ATTR, I18N_ATTR_PREFIX, icuFromI18nMessage} from './util';\n\nexport type I18nMeta = {\n  id?:
string,\n  customId?: string,\n  legacyIds?: string[],\n  description?: string,\n  meaning?: string\n};\n\n\nconst
setI18nRefs: VisitNodeFn = (htmlNode, i18nNode) => {\n  if (htmlNode instanceof html.NodeWithI18n) {\n    if
(i18nNode instanceof i18n.IcuPlaceholder && htmlNode.i18n instanceof i18n.Message) {\n      // This html node
represents an ICU but this is a second processing pass, and the legacy id\n      // was computed in the previous
 pass and stored in the `i18n` property as a message.\n      // We are about to wipe out that property so capture the
previous message to be reused when\n      // generating the message for this ICU later. See
`_generateI18nMessage()`.\n      i18nNode.previousMessage = htmlNode.i18n;\n    }\n    htmlNode.i18n =
i18nNode;\n  }\n  return i18nNode;\n};\n\n/**\n * This visitor walks over HTML parse tree and converts
information stored in\n * i18n-related attributes (\"i18n\" and \"i18n-*\") into i18n meta object that is\n * stored with
other element's and attribute's information.\n */\nexport class I18nMetaVisitor implements html.Visitor {\n  //
whether visited nodes contain i18n information\n  public hasI18nMeta: boolean = false;\n\n  // i18n message
generation factory\n  private _createI18nMessage = createI18nMessageFactory(this.interpolationConfig);\n\n
constructor(\n      private interpolationConfig: InterpolationConfig = DEFAULT_INTERPOLATION_CONFIG,\n
 private keepI18nAttrs
 = false, private enableI18nLegacyMessageIdFormat = false) {}\n\n  private _generateI18nMessage(\n      nodes:
html.Node[], meta: string|i18n.I18nMeta = '',\n      visitNodeFn?: VisitNodeFn): i18n.Message {\n    const {meaning,
description, customId} = this._parseMetadata(meta);\n    const message = this._createI18nMessage(nodes, meaning,
description, customId, visitNodeFn);\n    this._setMessageId(message, meta);\n    this._setLegacyIds(message,
meta);\n    return message;\n  }\n\n  visitElement(element: html.Element): any {\n    if (hasI18nAttrs(element)) {\n
this.hasI18nMeta = true;\n      const attrs: html.Attribute[] = [];\n      const attrsMeta: {[key: string]: string} = {};\n\n
    for (const attr of element.attrs) {\n        if (attr.name === I18N_ATTR) {\n          // root 'i18n' node attribute\n
const i18n = element.i18n || attr.value;\n          const message = this._generateI18nMessage(element.children, i18n,
setI18nRefs);\n          // do not assign empty
```

```
i18n meta\n        if (message.nodes.length) {\n          element.i18n = message;\n        }\n\n      } else if
(attr.name.startsWith(I18N_ATTR_PREFIX)) {\n        // 'i18n-*' attributes\n        const key =
attr.name.slice(I18N_ATTR_PREFIX.length);\n        attrsMeta[key] = attr.value;\n\n      } else {\n        // non-
i18n attributes\n        attrs.push(attr);\n      }\n    }\n\n    // set i18n meta for attributes\n    if
(Object.keys(attrsMeta).length) {\n      for (const attr of attrs) {\n        const meta = attrsMeta[attr.name];\n        //
do not create translation for empty attributes\n        if (meta !== undefined && attr.value) {\n          attr.i18n =
this._generateI18nMessage([attr], attr.i18n || meta);\n        }\n      }\n    }\n\n    if (!this.keepI18nAttrs) {\n      //
update element's attributes,\n      // keeping only non-i18n related ones\n      element.attrs = attrs;\n    }\n  }\n
html.visitAll(this, element.children,
  element.i18n);\n  return element;\n }\n\n visitExpansion(expansion: html.Expansion, currentMessage:
i18n.Message|undefined): any {\n  let message;\n  const meta = expansion.i18n;\n  this.hasI18nMeta = true;\n
if (meta instanceof i18n.IcuPlaceholder) {\n    // set ICU placeholder name (e.g. \"ICU_1\"),\n    // generated while
processing root element contents,\n    // so we can reference it when we output translation\n    const name =
meta.name;\n    message = this._generateI18nMessage([expansion], meta);\n    const icu =
icuFromI18nMessage(message);\n    icu.name = name;\n  } else {\n    // ICU is a top level message, try to use
metadata from container element if provided via\n    // `context` argument. Note: context may not be available for
standalone ICUs (without\n    // wrapping element), so fallback to ICU metadata in this case.\n    message =
this._generateI18nMessage([expansion], currentMessage || meta);\n  }\n  expansion.i18n
  = message;\n  return expansion;\n }\n\n visitText(text: html.Text): any {\n  return text;\n }\n
visitAttribute(attribute: html.Attribute): any {\n  return attribute;\n }\n visitComment(comment: html.Comment):
any {\n  return comment;\n }\n visitExpansionCase(expansionCase: html.ExpansionCase): any {\n  return
expansionCase;\n }\n\n /**\n  * Parse the general form `meta` passed into extract the explicit metadata needed to
create a\n  * `Message`.\n  *\n  * There are three possibilities for the `meta` variable\n  * 1) a string from an `i18n`
template attribute: parse it to extract the metadata values.\n  * 2) a `Message` from a previous processing pass: reuse
the metadata values in the message.\n  * 4) other: ignore this and just process the message metadata as normal\n
*\n  * @param meta the bucket that holds information about the message\n  * @returns the parsed metadata.\n
*/\n private _parseMetadata(meta: string|i18n.I18nMeta): I18nMeta {\n  return
  typeof meta === 'string' ? parseI18nMeta(meta) :\n                                meta instanceof i18n.Message ? meta :
{};\n }\n\n /**\n  * Generate (or restore) message id if not specified already.\n  */\n private
_setMessageId(message: i18n.Message, meta: string|i18n.I18nMeta): void {\n  if (!message.id) {\n    message.id =
meta instanceof i18n.Message && meta.id || decimalDigest(message);\n  }\n }\n\n /**\n  * Update the `message`
with a `legacyId` if necessary.\n  *\n  * @param message the message whose legacy id should be set\n  * @param
meta information about the message being processed\n  */\n private _setLegacyIds(message: i18n.Message, meta:
string|i18n.I18nMeta): void {\n  if (this.enableI18nLegacyMessageIdFormat) {\n    message.legacyIds =
[computeDigest(message), computeDecimalDigest(message)];\n  } else if (typeof meta !== 'string') {\n    // This
occurs if we are doing the 2nd pass after whitespace removal (see `parseTemplate()` in\n
  // `packages/compiler/src/render3/view/template.ts`).\n    // In that case we want to reuse the legacy message
generated in the 1st pass (see\n    // `setI18nRefs()`).\n    const previousMessage = meta instanceof i18n.Message
?\n        meta :\n        meta instanceof i18n.IcuPlaceholder ? meta.previousMessage : undefined;\n
message.legacyIds = previousMessage ? previousMessage.legacyIds : [];\n  }\n }\n}\n\n/** I18n separators for
metadata **/\nconst I18N_MEANING_SEPARATOR = '|';\nconst I18N_ID_SEPARATOR = '@@';\n\n/**\n * Parses i18n metas like:\n *  - \"@@id\",\n *  - \"description[@@id]\",\n *  - \"meaning|description[@@id]\"\n * and
returns an object with parsed output.\n *\n * @param meta String that represents i18n meta\n * @returns Object
with id, meaning and description fields\n */\nexport function parseI18nMeta(meta: string = ''): I18nMeta {\n  let
customId: string|undefined;\n  let meaning: string|undefined;\n  let description: string|undefined;\n\n  meta
  = meta.trim();\n  if (meta) {\n    const idIndex = meta.indexOf(I18N_ID_SEPARATOR);\n    const descIndex =
meta.indexOf(I18N_MEANING_SEPARATOR);\n    let meaningAndDesc: string;\n    [meaningAndDesc,
customId] =\n        (idIndex > -1) ? [meta.slice(0, idIndex), meta.slice(idIndex + 2)] : [meta, ''];\n    [meaning,
```

description] = (descIndex > -1) ?\n [meaningAndDesc.slice(0, descIndex), meaningAndDesc.slice(descIndex + 1)] :\n ['', meaningAndDesc];\n }\n\n return {customId, meaning, description};\n}\n\n// Converts i18n meta information for a message (id, description, meaning)\n// to a JsDoc statement formatted as expected by the Closure compiler.\nexport function i18nMetaToJSDoc(meta: I18nMeta): o.JSDocComment|null {\n const tags: o.JSDocTag[] = [];\n if (meta.description) {\n tags.push({tagName: o.JSDocTagName.Desc, text: meta.description});\n }\n if (meta.meaning) {\n tags.push({tagName: o.JSDocTagName.Meaning, text: meta.meaning});\n }\n return tags.length
 == 0 ? null : o.jsDocComment(tags);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport * as i18n from '../../../i18n/i18n_ast';\nimport {mapLiteral} from '../../../output/map_util';\nimport * as o from '../../../output/output_ast';\n\nimport {serializeIcuNode} from './icu_serializer';\nimport {i18nMetaToJSDoc} from './meta';\nimport {formatI18nPlaceholderName} from './util';\n\n/** Closure uses `goog.getMsg(message)` to lookup translations */\nconst GOOG_GET_MSG = 'goog.getMsg';\n\nexport function createGoogleGetMsgStatements(\n variable: o.ReadVarExpr, message: i18n.Message, closureVar: o.ReadVarExpr,\n params: {[name: string]: o.Expression}): o.Statement[] {\n const messageString = serializeI18nMessageForGetMsg(message);\n const args = [o.literal(messageString) as o.Expression];\n if (Object.keys(params).length)
 {\n args.push(mapLiteral(params, true));\n }\n\n // /**\n // * @desc description of message\n // * @meaning meaning of message\n // */\n // const MSG_... = goog.getMsg(..);\n // I18N_X = MSG_...;\n const googGetMsgStmt = closureVar.set(o.variable(GOOG_GET_MSG).callFn(args)).toConstDecl();\n const metaComment = i18nMetaToJSDoc(message);\n if (metaComment !== null) {\n googGetMsgStmt.addLeadingComment(metaComment);\n }\n const i18nAssignmentStmt = new o.ExpressionStatement(variable.set(closureVar));\n return [googGetMsgStmt, i18nAssignmentStmt];\n}\n\n/**\n * This visitor walks over i18n tree and generates its string representation, including ICUs and\n * placeholders in `{$placeholder}` (for plain messages) or `{PLACEHOLDER}` (inside ICUs) format.\n */\nclass GetMsgSerializerVisitor implements i18n.Visitor {\n private formatPh(value: string): string {\n return `{$${formatI18nPlaceholderName(value)}}`;\n }\n\n visitText(text: i18n.Text): any {\n return text.value;\n }\n\n visitContainer(container: i18n.Container): any {\n return container.children.map(child => child.visit(this)).join('');\n }\n\n visitIcu(icu: i18n.Icu): any {\n return serializeIcuNode(icu);\n }\n\n visitTagPlaceholder(ph: i18n.TagPlaceholder): any {\n return ph.isVoid ?\n this.formatPh(ph.startName) :\n `${this.formatPh(ph.startName)}${ph.children.map(child => child.visit(this)).join('')}${\n this.formatPh(ph.closeName)}`;\n }\n\n visitPlaceholder(ph: i18n.Placeholder): any {\n return this.formatPh(ph.name);\n }\n\n visitIcuPlaceholder(ph: i18n.IcuPlaceholder, context?: any): any {\n return this.formatPh(ph.name);\n }\n}\n\nconst serializerVisitor = new GetMsgSerializerVisitor();\n\nexport function serializeI18nMessageForGetMsg(message: i18n.Message): string {\n return message.nodes.map(node => node.visit(serializerVisitor, null)).join('');\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport * as i18n from '../../../i18n/i18n_ast';\nimport * as o from '../../../output/output_ast';\nimport {ParseLocation, ParseSourceSpan} from '../../../parse_util';\n\nimport {serializeIcuNode} from './icu_serializer';\nimport {formatI18nPlaceholderName} from './util';\n\nexport function createLocalizeStatements(\n variable: o.ReadVarExpr, message: i18n.Message,\n params: {[name: string]: o.Expression}): o.Statement[] {\n const {messageParts, placeHolders} = serializeI18nMessageForLocalize(message);\n const sourceSpan = getSourceSpan(message);\n const expressions = placeHolders.map(ph => params[ph.text]);\n const localizedString =\n o.localizedString(message, messageParts, placeHolders, expressions, sourceSpan);\n const variableInitialization = variable.set(localizedString);\n return [new o.ExpressionStatement(variableInitialization)];\n}\n\n/**\n

* This visitor walks over an i18n tree, capturing literal strings and placeholders.\n *\n * The result can be used for generating the `$localize` tagged template literals.\n */\nclass LocalizeSerializerVisitor implements i18n.Visitor {\n visitText(text: i18n.Text, context: o.MessagePiece[]): any {\n if (context[context.length - 1] instanceof o.LiteralPiece) {\n // Two literal pieces in a row means that there was some comment node in-between.\n context[context.length - 1].text += text.value;\n } else {\n context.push(new o.LiteralPiece(text.value, text.sourceSpan));\n }\n }\n\n visitContainer(container: i18n.Container, context: o.MessagePiece[]): any {\n container.children.forEach(child => child.visit(this, context));\n }\n\n visitIcu(icu: i18n.Icu, context: o.MessagePiece[]): any {\n context.push(new o.LiteralPiece(serializeIcuNode(icu), icu.sourceSpan));\n }\n\n visitTagPlaceholder(ph: i18n.TagPlaceholder, context: o.MessagePiece[]): any {\n context.push(this.createPlaceholderPiece(ph.startName, ph.startSourceSpan ?? ph.sourceSpan));\n if (!ph.isVoid) {\n ph.children.forEach(child => child.visit(this, context));\n context.push(this.createPlaceholderPiece(ph.closeName, ph.endSourceSpan ?? ph.sourceSpan));\n }\n }\n\n visitPlaceholder(ph: i18n.Placeholder, context: o.MessagePiece[]): any {\n context.push(this.createPlaceholderPiece(ph.name, ph.sourceSpan));\n }\n\n visitIcuPlaceholder(ph: i18n.IcuPlaceholder, context?: any): any {\n context.push(this.createPlaceholderPiece(ph.name, ph.sourceSpan));\n }\n\n private createPlaceholderPiece(name: string, sourceSpan: ParseSourceSpan): o.PlaceholderPiece {\n return new o.PlaceholderPiece(\n formatI18nPlaceholderName(name, /* useCamelCase */ false), sourceSpan);\n }\n}\n\nconst serializerVisitor = new LocalizeSerializerVisitor();\n\n/**\n * Serialize an i18n message into two arrays: messageParts and placeholders.\n *\n * These arrays will be used to generate `$localize` tagged template literals.\n *\n * @param message The message to be serialized.\n * @returns an object containing the messageParts and placeholders.\n */\nexport function serializeI18nMessageForLocalize(message: i18n.Message):\n {messageParts: o.LiteralPiece[], placeHolders: o.PlaceholderPiece[]} {\n const pieces: o.MessagePiece[] = [];\n message.nodes.forEach(node => node.visit(serializerVisitor, pieces));\n return processMessagePieces(pieces);\n}\n\nfunction getSourceSpan(message: i18n.Message): ParseSourceSpan {\n const startNode = message.nodes[0];\n const endNode = message.nodes[message.nodes.length - 1];\n return new ParseSourceSpan(\n startNode.sourceSpan.start, endNode.sourceSpan.end, startNode.sourceSpan.fullStart,\n startNode.sourceSpan.details);\n}\n\n/**\n * Convert the list of serialized MessagePieces into two arrays.\n *\n * One contains the literal string pieces and the other the placeholders that will\n be replaced by\n * expressions when rendering `$localize` tagged template literals.\n *\n * @param pieces The pieces to process.\n * @returns an object containing the messageParts and placeholders.\n */\nfunction processMessagePieces(pieces: o.MessagePiece[]):\n {messageParts: o.LiteralPiece[], placeHolders: o.PlaceholderPiece[]} {\n const messageParts: o.LiteralPiece[] = [];\n const placeHolders: o.PlaceholderPiece[] = [];\n\n if (pieces[0] instanceof o.PlaceholderPiece) {\n // The first piece was a placeholder so we need to add an initial empty message part.\n messageParts.push(createEmptyMessagePart(pieces[0].sourceSpan.start));\n }\n\n for (let i = 0; i < pieces.length; i++) {\n const part = pieces[i];\n if (part instanceof o.LiteralPiece) {\n messageParts.push(part);\n } else {\n placeHolders.push(part);\n if (pieces[i - 1] instanceof o.PlaceholderPiece) {\n // There were two placeholders in a row, so we need to add an empty message part.\n messageParts.push(createEmptyMessagePart(pieces[i - 1].sourceSpan.end));\n }\n }\n }\n if (pieces[pieces.length - 1] instanceof o.PlaceholderPiece) {\n // The last piece was a placeholder so we need to add a final empty message part.\n messageParts.push(createEmptyMessagePart(pieces[pieces.length - 1].sourceSpan.end));\n }\n return {messageParts, placeHolders};\n}\n\nfunction createEmptyMessagePart(location: ParseLocation): o.LiteralPiece {\n return new o.LiteralPiece('', new ParseSourceSpan(location, location));\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {flatten, sanitizeIdentifier} from '../../compile_metadata';\nimport {BindingForm, BuiltinFunctionCall, convertActionBinding, convertPropertyBinding, convertUpdateArguments, LocalResolver} from '../../compiler_util/expression_converter';\nimport

{ConstantPool} from '../../constant_pool';\nimport * as core from '../../core';\nimport {AST, AstMemoryEfficientTransformer, BindingPipe, BindingType, FunctionCall, ImplicitReceiver, Interpolation, LiteralArray, LiteralMap, LiteralPrimitive, ParsedEventType, PropertyRead, ThisReceiver} from '../../expression_parser/ast';\nimport {Lexer} from '../../expression_parser/lexer';\nimport {IvyParser} from '../../expression_parser/parser';\nimport * as i18n from '../../i18n/i18n_ast';\nimport * as html from '../../ml_parser/ast';\nimport {HtmlParser} from '../../ml_parser/html_parser';\nimport {WhitespaceVisitor} from '../../ml_parser/html_whitespaces';\nimport {DEFAULT_INTERPOLATION_CONFIG, InterpolationConfig} from '../../ml_parser/interpolation_config';\nimport {LexerRange} from '../../ml_parser/lexer';\nimport {isNgContainer as checkIsNgContainer, splitNsName} from '../../ml_parser/tags';\nimport {mapLiteral} from '../../output/map_util';\nimport * as o from '../../output/output_ast';\nimport {ParseError, ParseSourceSpan} from '../../parse_util';\nimport {DomElementSchemaRegistry} from '../../schema/dom_element_schema_registry';\nimport {CssSelector, SelectorMatcher} from '../../selector';\nimport {BindingParser} from '../../template_parser/binding_parser';\nimport {error, partitionArray} from '../../util';\nimport * as t from '../r3_ast';\nimport {Identifiers as R3} from '../r3_identifiers';\nimport {htmlAstToRender3Ast} from '../r3_template_transform';\nimport {prepareSyntheticListenerFunctionName, prepareSyntheticListenerName, prepareSyntheticPropertyName} from '../util';\n\nimport {I18nContext} from './i18n/context';\nimport {createGoogleGetMsgStatements} from './i18n/get_msg_utils';\nimport {createLocalizeStatements} from './i18n/localize_utils';\nimport {I18nMetaVisitor} from './i18n/meta';\nimport {assembleBoundTextPlaceholders, assembleI18nBoundString, declareI18nVariable, getTranslationConstPrefix, hasI18nMeta, I18N_ICU_MAPPING_PREFIX, i18nFormatPlaceholderNames, icuFromI18nMessage, isI18nRootNode, isSingleI18nIcu, placeholdersToParams, TRANSLATION_VAR_PREFIX, wrapI18nPlaceholder} from './i18n/util';\nimport {StylingBuilder, StylingInstruction} from './styling_builder';\nimport {asLiteral, chainedInstruction, CONTEXT_NAME, getAttrsForDirectiveMatching, getInterpolationArgsLength, IMPLICIT_REFERENCE, invalid, NON_BINDABLE_ATTR, REFERENCE_PREFIX, RENDER_FLAGS, trimTrailingNulls, unsupported} from './util';\n\n\n\n// Selector attribute name of `<ng-content>`\nconst NG_CONTENT_SELECT_ATTR = 'select';\n\n// Attribute name of `ngProjectAs`.\nconst NG_PROJECT_AS_ATTR_NAME = 'ngProjectAs';\n\n// Global symbols available only inside event bindings.\nconst EVENT_BINDING_SCOPE_GLOBALS = new Set<string>(['$event']);\n\n// List of supported global targets for event listeners\nconst GLOBAL_TARGET_RESOLVERS = new Map<string, o.ExternalReference>(\n    [['window', R3.resolveWindow], ['document', R3.resolveDocument], ['body', R3.resolveBody]]);\n\nexport const LEADING_TRIVIA_CHARS = [' ', '\\n', '\\r', '\\t'];\n\n//  if (rf & flags) { .. }\nexport function renderFlagCheckIfStmt(\n    flags: core.RenderFlags, statements: o.Statement[]): o.IfStmt {\n  return o.ifStmt(o.variable(RENDER_FLAGS).bitwiseAnd(o.literal(flags), null, false), statements);\n}\n\nexport function prepareEventListenerParameters(\n    eventAst: t.BoundEvent, handlerName: string|null = null,\n    scope: BindingScope|null = null): o.Expression[] {\n  const {type, name, target, phase, handler} = eventAst;\n  if (target && !GLOBAL_TARGET_RESOLVERS.has(target)) {\n    throw new Error(`Unexpected global target '${target}' defined for '${name}' event.\n        Supported list of global targets: ${Array.from(GLOBAL_TARGET_RESOLVERS.keys())}.`);\n  }\n\n  const eventArgumentName = '$event';\n  const implicitReceiverAccesses = new Set<string>();\n  const implicitReceiverExpr = (scope === null || scope.bindingLevel === 0) ?\n      o.variable(CONTEXT_NAME) :\n      scope.getOrCreateSharedContextVar(0);\n  const bindingExpr = convertActionBinding(\n      scope, implicitReceiverExpr, handler, 'b', () => error('Unexpected interpolation'),\n      eventAst.handlerSpan, implicitReceiverAccesses, EVENT_BINDING_SCOPE_GLOBALS);\n  const statements = [];\n  if (scope) {\n    statements.push(...scope.restoreViewStatement());\n    statements.push(...scope.variableDeclarations());\n  }\n  statements.push(...bindingExpr.render3Stmts);\n\n  const eventName: string =\n      type === ParsedEventType.Animation ? prepareSyntheticListenerName(name, phase!) : name;\n  const fnName = handlerName && sanitizeIdentifier(handlerName);\n  const fnArgs: o.FnParam[] = [];\n\n  if

```
(implicitReceiverAccesses.has(eventArgumentName)) {\n    fnArgs.push(new o.FnParam(eventArgumentName,
o.DYNAMIC_TYPE));\n  }\n\n  const handlerFn = o.fn(fnArgs, statements, o.INFERRED_TYPE, null, fnName);\n
const params: o.Expression[] = [o.literal(eventName), handlerFn];\n  if (target) {\n    params.push(\n
        o.literal(false),  // `useCapture` flag, defaults to `false`\n
o.importExpr(GLOBAL_TARGET_RESOLVERS.get(target)!));\n  }\n  return params;\n}\n\n// Collects
information needed to generate `consts` field of the ComponentDef.\n// When a constant requires some pre-
processing, the `prepareStatements` section\n// contains corresponding statements.\nexport interface
ComponentDefConsts {\n  prepareStatements: o.Statement[];\n  constExpressions: o.Expression[];\n}\n\nfunction
createComponentDefConsts(): ComponentDefConsts {\n  return {prepareStatements: [], constExpressions:
[]};\n}\n\nexport class TemplateDefinitionBuilder implements t.Visitor<void>, LocalResolver {\n  private
_dataIndex = 0;\n  private _bindingContext = 0;\n  private _prefixCode: o.Statement[] = [];\n  /**\n    * List of
callbacks to generate creation mode instructions. We store them here as we process\n    * the template so bindings in
listeners are resolved only once all nodes have been visited.\n
    * This ensures all local refs and context variables are available for matching.\n    */\n  private _creationCodeFns:
(() => o.Statement)[] = [];\n  /**\n    * List of callbacks to generate update mode instructions. We store them here as
we process\n    * the template so bindings are resolved only once all nodes have been visited. This ensures\n    * all
local refs and context variables are available for matching.\n    */\n  private _updateCodeFns: (() => o.Statement)[] =
[];\n\n  /** Index of the currently-selected node. */\n  private _currentIndex: number = 0;\n\n  /** Temporary
variable declarations generated from visiting pipes, literals, etc. */\n  private _tempVariables: o.Statement[] = [];\n
/**\n    * List of callbacks to build nested templates. Nested templates must not be visited until\n    * after the parent
template has finished visiting all of its nodes. This ensures that all\n    * local ref bindings in nested templates are
able to find local ref values if the refs\n    * are defined
 after the template declaration.\n    */\n  private _nestedTemplateFns: (() => void)[] = [];\n  /**\n    * This scope
contains local variables declared in the update mode block of the template.\n    * (e.g. refs and context vars in
bindings)\n    */\n  private _bindingScope: BindingScope;\n  private _valueConverter: ValueConverter;\n  private
_unsupported = unsupported;\n\n  // i18n context local to this template\n  private i18n: I18nContext|null = null;\n\n
// Number of slots to reserve for pureFunctions\n  private _pureFunctionSlots = 0;\n\n  // Number of binding slots\n
private _bindingSlots = 0;\n\n  private fileBasedI18nSuffix: string;\n\n  // Projection slots found in the template.
Projection slots can distribute projected\n  // nodes based on a selector, or can just use the wildcard selector to
match\n  // all nodes which aren't matching any selector.\n  private _ngContentReservedSlots: (string|'*')[] = [];\n\n
// Number of non-default selectors found in all parent templates
 of this template. We need to\n  // track it to properly adjust projection slot index in the `projection` instruction.\n
private _ngContentSelectorsOffset = 0;\n\n  // Expression that should be used as implicit receiver when converting
template\n  // expressions to output AST.\n  private _implicitReceiverExpr: o.ReadVarExpr|null = null;\n\n
constructor(\n      private constantPool: ConstantPool, parentBindingScope: BindingScope, private level = 0,\n
private contextName: string|null, private i18nContext: I18nContext|null,\n      private templateIndex: number|null,
private templateName: string|null,\n      private directiveMatcher: SelectorMatcher|null, private directives:
Set<o.Expression>,\n      private pipeTypeByName: Map<string, o.Expression>, private pipes: Set<o.Expression>,\n
    private _namespace: o.ExternalReference, relativeContextFilePath: string,\n      private i18nUseExternalIds:
boolean,\n      private _constants: ComponentDefConsts = createComponentDefConsts())
 {\n    this._bindingScope = parentBindingScope.nestedScope(level);\n\n    // Turn the relative context file path into
an identifier by replacing non-alphanumeric\n    // characters with underscores.\n    this.fileBasedI18nSuffix =
relativeContextFilePath.replace(/[^A-Za-z0-9]/g, '_') + '_';\n\n    this._valueConverter = new ValueConverter(\n
constantPool, () => this.allocateDataSlot(),\n        (numSlots: number) =>
this.allocatePureFunctionSlots(numSlots),\n        (name, localName, slot, value: o.Expression) => {\n          const
pipeType = pipeTypeByName.get(name);\n          if (pipeType) {\n            this.pipes.add(pipeType);\n          }\n
this._bindingScope.set(this.level, localName, value);\n          this.creationInstruction(null, R3.pipe, [o.literal(slot),
o.literal(name)]);\n        });\n  }\n\n  buildTemplateFunction(\n      nodes: t.Node[], variables: t.Variable[],
```

```
ngContentSelectorsOffset: number = 0,\n      i18n?: i18n.I18nMeta): o.FunctionExpr {\n
this._ngContentSelectorsOffset
 = ngContentSelectorsOffset;\n\n    if (this._namespace !== R3.namespaceHTML) {\n
this.creationInstruction(null, this._namespace);\n    }\n\n    // Create variable bindings\n    variables.forEach(v =>
this.registerContextVariables(v));\n\n    // Initiate i18n context in case:\n    // - this template has parent i18n
context\n    // - or the template has i18n meta associated with it,\n    //    but it's not initiated by the Element (e.g. <ng-
template i18n>)\n    const initI18nContext = this.i18nContext ||\n        (isI18nRootNode(i18n) &&
!isSingleI18nIcu(i18n) &&\n         !(isSingleElementTemplate(nodes) && nodes[0].i18n === i18n));\n    const
selfClosingI18nInstruction = hasTextChildrenOnly(nodes);\n    if (initI18nContext) {\n      this.i18nStart(null, i18n!,
selfClosingI18nInstruction);\n    }\n\n    // This is the initial pass through the nodes of this template. In this pass,
we\n    // queue all creation mode and update mode instructions for generation
 in the second\n    // pass. It's necessary to separate the passes to ensure local refs are defined before\n    // resolving
bindings. We also count bindings in this pass as we walk bound expressions.\n    t.visitAll(this, nodes);\n\n    // Add
total binding count to pure function count so pure function instructions are\n    // generated with the correct slot
offset when update instructions are processed.\n    this._pureFunctionSlots += this._bindingSlots;\n\n    // Pipes are
walked in the first pass (to enqueue `pipe()` creation instructions and\n    // `pipeBind` update instructions), so we
have to update the slot offsets manually\n    // to account for bindings.\n
this._valueConverter.updatePipeSlotOffsets(this._bindingSlots);\n\n    // Nested templates must be processed before
creation instructions so template()\n    // instructions can be generated with the correct internal const count.\n
this._nestedTemplateFns.forEach(buildTemplateFn => buildTemplateFn());\n\n    // Output
 the `projectionDef` instruction when some `<ng-content>` tags are present.\n    // The `projectionDef` instruction is
only emitted for the component template and\n    // is skipped for nested templates (<ng-template> tags).\n    if
(this.level === 0 && this._ngContentReservedSlots.length) {\n      const parameters: o.Expression[] = [];\n\n      //
By default the `projectionDef` instructions creates one slot for the wildcard\n      // selector if no parameters are
passed. Therefore we only want to allocate a new\n      // array for the projection slots if the default projection slot is
not sufficient.\n      if (this._ngContentReservedSlots.length > 1 || this._ngContentReservedSlots[0] !== '*') {\n
const r3ReservedSlots = this._ngContentReservedSlots.map(\n           s => s !== '*' ?
core.parseSelectorToR3Selector(s) : s);\n
parameters.push(this.constantPool.getConstLiteral(asLiteral(r3ReservedSlots), true));\n      }\n\n      // Since we
accumulate ngContent selectors
 while processing template elements,\n      // we *prepend* `projectionDef` to creation instructions block, to put it
before\n      // any `projection` instructions\n      this.creationInstruction(null, R3.projectionDef, parameters, /*
prepend */ true);\n    }\n\n    if (initI18nContext) {\n      this.i18nEnd(null, selfClosingI18nInstruction);\n    }\n\n    //
Generate all the creation mode instructions (e.g. resolve bindings in listeners)\n    const creationStatements =
this._creationCodeFns.map((fn: () => o.Statement) => fn());\n\n    // Generate all the update mode instructions (e.g.
resolve property or text bindings)\n    const updateStatements = this._updateCodeFns.map((fn: () => o.Statement)
=> fn());\n\n    //  Variable declaration must occur after binding resolution so we can generate context\n    //
instructions that build on each other.\n    // e.g. const b = nextContext().$implicit(); const b = nextContext();\n
const creationVariables = this._bindingScope.viewSnapshotStatements();\n
   const updateVariables = this._bindingScope.variableDeclarations().concat(this._tempVariables);\n\n    const
creationBlock = creationStatements.length > 0 ?\n        [renderFlagCheckIfStmt(\n            core.RenderFlags.Create,
creationVariables.concat(creationStatements))] :\n        [];\n\n    const updateBlock = updateStatements.length > 0
?\n        [renderFlagCheckIfStmt(core.RenderFlags.Update, updateVariables.concat(updateStatements))] :\n
[];\n\n    return o.fn(\n        // i.e. (rf: RenderFlags, ctx: any)\n        [new o.FnParam(RENDER_FLAGS,
o.NUMBER_TYPE), new o.FnParam(CONTEXT_NAME, null)],\n        [\n          // Temporary variable declarations
for query refresh (i.e. let _t: any;)\n          ...this._prefixCode,\n          // Creating mode (i.e. if (rf &
RenderFlags.Create) { ... })\n          ...creationBlock,\n          // Binding and refresh mode (i.e. if (rf &
RenderFlags.Update) {...})\n          ...updateBlock,\n        ],\n        o.INFERRED_TYPE,
```

```
null, this.templateName);\n  }\n\n  // LocalResolver\n  getLocal(name: string): o.Expression|null {\n    return this._bindingScope.get(name);\n  }\n\n  // LocalResolver\n  notifyImplicitReceiverUse(): void {\n this._bindingScope.notifyImplicitReceiverUse();\n  }\n\n  private i18nTranslate(\n      message: i18n.Message, params: {[name: string]: o.Expression} = {}, ref?: o.ReadVarExpr,\n      transformFn?: (raw: o.ReadVarExpr) => o.Expression): o.ReadVarExpr {\n    const _ref = ref || this.i18nGenerateMainBlockVar();\n    // Closure Compiler requires const names to start with `MSG_` but disallows any other const to\n    // start with `MSG_`. We define a variable starting with `MSG_` just for the `goog.getMsg` call\n    const closureVar = this.i18nGenerateClosureVar(message.id);\n    const statements = getTranslationDeclStmts(message, _ref, closureVar, params, transformFn);\n    this._constants.prepareStatements.push(...statements);\n    return _ref;\n  }\n\n  private registerContextVariables(variable: t.Variable) {\n    const scopedName = this._bindingScope.freshReferenceName();\n    const retrievalLevel = this.level;\n    const lhs = o.variable(variable.name + scopedName);\n    this._bindingScope.set(\n        retrievalLevel, variable.name, lhs, DeclarationPriority.CONTEXT,\n        (scope: BindingScope, relativeLevel: number) => {\n          let rhs: o.Expression;\n          if (scope.bindingLevel === retrievalLevel) {\n            // e.g. ctx\n            rhs = o.variable(CONTEXT_NAME);\n          } else {\n            const sharedCtxVar = scope.getSharedContextName(retrievalLevel);\n            // e.g. ctx_r0   OR  x(2);\n            rhs = sharedCtxVar ? sharedCtxVar : generateNextContextExpr(relativeLevel);\n          }\n          // e.g. const $item$ = x(2).$implicit;\n          return [lhs.set(rhs.prop(variable.value || IMPLICIT_REFERENCE)).toConstDecl()];\n        });\n  }\n\n  private i18nAppendBindings(expressions: AST[]) {\n    if (expressions.length > 0) {\n      expressions.forEach(expression => this.i18n!.appendBinding(expression));\n    }\n  }\n\n  private i18nBindProps(props: {[key: string]: t.Text|t.BoundText}): {[key: string]: o.Expression} {\n    const bound: {[key: string]: o.Expression} = {};\n    Object.keys(props).forEach(key => {\n      const prop = props[key];\n      if (prop instanceof t.Text) {\n        bound[key] = o.literal(prop.value);\n      } else {\n        const value = prop.value.visit(this._valueConverter);\n        this.allocateBindingSlots(value);\n        if (value instanceof Interpolation) {\n          const {strings, expressions} = value;\n          const {id, bindings} = this.i18n!;\n          const label = assembleI18nBoundString(strings, bindings.size, id);\n          this.i18nAppendBindings(expressions);\n          bound[key] = o.literal(label);\n        }\n      }\n    });\n    return bound;\n  }\n\n  // Generates top level vars for i18n blocks (i.e. `i18n_N`).\n  private i18nGenerateMainBlockVar(): o.ReadVarExpr {\n    return o.variable(this.constantPool.uniqueName(TRANSLATION_VAR_PREFIX));\n  }\n\n  // Generates vars with Closure-specific names for i18n blocks (i.e. `MSG_XXX`).\n  private i18nGenerateClosureVar(messageId: string): o.ReadVarExpr {\n    let name: string;\n    const suffix = this.fileBasedI18nSuffix.toUpperCase();\n    if (this.i18nUseExternalIds) {\n      const prefix = getTranslationConstPrefix(`EXTERNAL_`);\n      const uniqueSuffix = this.constantPool.uniqueName(suffix);\n      name = `${prefix}${sanitizeIdentifier(messageId)}$$$${uniqueSuffix}`;\n    } else {\n      const prefix = getTranslationConstPrefix(suffix);\n      name = this.constantPool.uniqueName(prefix);\n    }\n    return o.variable(name);\n  }\n\n  private i18nUpdateRef(context: I18nContext): void {\n    const {icus, meta, isRoot, isResolved, isEmitted} = context;\n    if (isRoot && isResolved && !isEmitted && !isSingleI18nIcu(meta)) {\n      context.isEmitted = true;\n      const placeholders = context.getSerializedPlaceholders();\n      let icuMapping: {[name: string]: o.Expression} = {};\n      let params: {[name: string]: o.Expression} =\n          placeholders.size ? placeholdersToParams(placeholders) : {};\n      if (icus.size) {\n        icus.forEach((refs: o.Expression[], key: string) => {\n          if (refs.length === 1) {\n            // if we have one ICU defined for a given\n            // placeholder - just output its reference\n            params[key] = refs[0];\n          } else {\n            // ... otherwise we need to activate post-processing\n            // to replace ICU placeholders with proper values\n            const placeholder: string = wrapI18nPlaceholder(`${I18N_ICU_MAPPING_PREFIX}${key}`);\n            params[key] = o.literal(placeholder);\n            icuMapping[key] = o.literalArr(refs);\n          }\n        });\n      }\n\n      // translation requires post processing in 2 cases:\n      // - if we have placeholders with multiple values
```

```
(ex. `START_DIV`: [#1, #2, ...])\n      // - if we have multiple ICUs that refer to the same placeholder name\n
const needsPostprocessing =\n          Array.from(placeholders.values()).some((value: string[]) => value.length > 1)
||\n          Object.keys(icuMapping).length;\n\n      let transformFn;\n      if (needsPostprocessing) {\n
transformFn = (raw: o.ReadVarExpr) => {\n          const args: o.Expression[] = [raw];\n          if
(Object.keys(icuMapping).length) {\n            args.push(mapLiteral(icuMapping, true));\n          }\n          return
instruction(null, R3.i18nPostprocess, args);\n        };\n      }\n      this.i18nTranslate(meta as i18n.Message, params,
context.ref, transformFn);\n    }\n  }\n\n  private i18nStart(span: ParseSourceSpan|null = null, meta: i18n.I18nMeta,
selfClosing?: boolean):\n      void {\n    const index = this.allocateDataSlot();\n    this.i18n = this.i18nContext ?\n
this.i18nContext.forkChildContext(index, this.templateIndex!,
 meta) :\n          new I18nContext(index, this.i18nGenerateMainBlockVar(), 0, this.templateIndex, meta);\n\n    //
generate i18nStart instruction\n    const {id, ref} = this.i18n;\n    const params: o.Expression[] = [o.literal(index),
this.addToConsts(ref)];\n    if (id > 0) {\n      // do not push 3rd argument (sub-block id)\n      // into i18nStart call for
top level i18n context\n      params.push(o.literal(id));\n    }\n    this.creationInstruction(span, selfClosing ? R3.i18n :
R3.i18nStart, params);\n  }\n\n  private i18nEnd(span: ParseSourceSpan|null = null, selfClosing?: boolean): void {\n
  if (!this.i18n) {\n      throw new Error('i18nEnd is executed with no i18n context present');\n    }\n\n    if
(this.i18nContext) {\n      this.i18nContext.reconcileChildContext(this.i18n);\n
this.i18nUpdateRef(this.i18nContext);\n    } else {\n      this.i18nUpdateRef(this.i18n);\n    }\n\n    // setup
accumulated bindings\n    const {index, bindings} = this.i18n;\n    if (bindings.size)
 {\n      const chainBindings: ChainableBindingInstruction[] = [];\n      bindings.forEach(binding => {\n
chainBindings.push({sourceSpan: span, value: () => this.convertPropertyBinding(binding)});\n      });\n      // for
i18n block, advance to the most recent element index (by taking the current number of\n      // elements and
subtracting one) before invoking `i18nExp` instructions, to make sure the\n      // necessary lifecycle hooks of
components/directives are properly flushed.\n      this.updateInstructionChainWithAdvance(this.getConstCount() - 1,
R3.i18nExp, chainBindings);\n      this.updateInstruction(span, R3.i18nApply, [o.literal(index)]);\n    }\n    if
(!selfClosing) {\n      this.creationInstruction(span, R3.i18nEnd);\n    }\n    this.i18n = null;  // reset local i18n
context\n  }\n\n  private i18nAttributesInstruction(\n      nodeIndex: number, attrs: t.BoundAttribute[], sourceSpan:
ParseSourceSpan): void {\n    let hasBindings: boolean = false;\n    const i18nAttrArgs:
 o.Expression[] = [];\n    const bindings: ChainableBindingInstruction[] = [];\n    attrs.forEach(attr => {\n      const
message = attr.i18n! as i18n.Message;\n      const converted = attr.value.visit(this._valueConverter);\n
this.allocateBindingSlots(converted);\n      if (converted instanceof Interpolation) {\n        const placeholders =
assembleBoundTextPlaceholders(message);\n        const params = placeholdersToParams(placeholders);\n
i18nAttrArgs.push(o.literal(attr.name), this.i18nTranslate(message, params));\n
converted.expressions.forEach(expression => {\n          hasBindings = true;\n          bindings.push({\n
sourceSpan,\n            value: () => this.convertPropertyBinding(expression),\n          });\n        });\n      }\n    });\n    if
(bindings.length > 0) {\n      this.updateInstructionChainWithAdvance(nodeIndex, R3.i18nExp, bindings);\n    }\n
if (i18nAttrArgs.length > 0) {\n      const index: o.Expression = o.literal(this.allocateDataSlot());\n
    const constIndex = this.addToConsts(o.literalArr(i18nAttrArgs));\n      this.creationInstruction(sourceSpan,
R3.i18nAttributes, [index, constIndex]);\n      if (hasBindings) {\n        this.updateInstruction(sourceSpan,
R3.i18nApply, [index]);\n      }\n    }\n  }\n\n  private getNamespaceInstruction(namespaceKey: string|null) {\n
switch (namespaceKey) {\n      case 'math':\n        return R3.namespaceMathML;\n      case 'svg':\n        return
R3.namespaceSVG;\n      default:\n        return R3.namespaceHTML;\n    }\n  }\n\n  private
addNamespaceInstruction(nsInstruction: o.ExternalReference, element: t.Element) {\n    this._namespace =
nsInstruction;\n    this.creationInstruction(element.startSourceSpan, nsInstruction);\n  }\n\n  /**\n   * Adds an update
instruction for an interpolated property or attribute, such as\n   * `prop=\"{{value}}\"` or `attr.title=\"{{value}}\"`\n
*/\n  private interpolatedUpdateInstruction(\n      instruction: o.ExternalReference,
 elementIndex: number, attrName: string,\n      input: t.BoundAttribute, value: any, params: any[]) {\n
this.updateInstructionWithAdvance(\n          elementIndex, input.sourceSpan, instruction,\n          () =>
[o.literal(attrName), ...this.getUpdateInstructionArguments(value), ...params]);\n  }\n\n  visitContent(ngContent:
```

t.Content) {\n const slot = this.allocateDataSlot();\n const projectionSlotIdx = this._ngContentSelectorsOffset + this._ngContentReservedSlots.length;\n const parameters: o.Expression[] = [o.literal(slot)];\n\n this._ngContentReservedSlots.push(ngContent.selector);\n\n const nonContentSelectAttributes =\n ngContent.attributes.filter(attr => attr.name.toLowerCase() !== NG_CONTENT_SELECT_ATTR);\n const attributes =\n this.getAttributeExpressions(ngContent.name, nonContentSelectAttributes, [], []);\n\n if (attributes.length > 0) {\n parameters.push(o.literal(projectionSlotIdx), o.literalArr(attributes));\n } else if (projectionSlotIdx
!== 0) {\n parameters.push(o.literal(projectionSlotIdx));\n }\n\n this.creationInstruction(ngContent.sourceSpan, R3.projection, parameters);\n if (this.i18n) {\n this.i18n.appendProjection(ngContent.i18n!, slot);\n }\n }\n\n visitElement(element: t.Element) {\n const elementIndex = this.allocateDataSlot();\n const stylingBuilder = new StylingBuilder(null);\n\n let isNonBindableMode: boolean = false;\n const isI18nRootElement: boolean =\n isI18nRootNode(element.i18n) && !isSingleI18nIcu(element.i18n);\n\n const outputAttrs: t.TextAttribute[] = [];\n const [namespaceKey, elementName] = splitNsName(element.name);\n const isNgContainer = checkIsNgContainer(element.name);\n\n // Handle styling, i18n, ngNonBindable attributes\n for (const attr of element.attributes) {\n const {name, value} = attr;\n if (name === NON_BINDABLE_ATTR) {\n isNonBindableMode = true;\n } else if (name === 'style') {\n stylingBuilder.registerStyleAttr(value);\n } else if (name === 'class') {\n stylingBuilder.registerClassAttr(value);\n } else {\n outputAttrs.push(attr);\n }\n }\n\n // Match directives on non i18n attributes\n this.matchDirectives(element.name, element);\n\n // Regular element or ng-container creation mode\n const parameters: o.Expression[] = [o.literal(elementIndex)];\n if (!isNgContainer) {\n parameters.push(o.literal(elementName));\n }\n\n // Add the attributes\n const allOtherInputs: t.BoundAttribute[] = [];\n const boundI18nAttrs: t.BoundAttribute[] = [];\n\n element.inputs.forEach(input => {\n const stylingInputWasSet = stylingBuilder.registerBoundInput(input);\n if (!stylingInputWasSet) {\n if (input.type === BindingType.Property && input.i18n) {\n boundI18nAttrs.push(input);\n } else {\n allOtherInputs.push(input);\n }\n }\n });\n\n // add attributes
for directive and projection matching purposes\n const attributes: o.Expression[] = this.getAttributeExpressions(\n element.name, outputAttrs, allOtherInputs, element.outputs, stylingBuilder, [],\n boundI18nAttrs);\n parameters.push(this.addAttrsToConsts(attributes));\n\n // local refs (ex.: <div #foo #bar=\"baz\">)\n const refs = this.prepareRefsArray(element.references);\n parameters.push(this.addToConsts(refs));\n\n const wasInNamespace = this._namespace;\n const currentNamespace = this.getNamespaceInstruction(namespaceKey);\n\n // If the namespace is changing now, include an instruction to change it\n // during element creation.\n if (currentNamespace !== wasInNamespace) {\n this.addNamespaceInstruction(currentNamespace, element);\n }\n\n if (this.i18n) {\n this.i18n.appendElement(element.i18n!, elementIndex);\n }\n\n // Note that we do not append text node instructions and ICUs inside i18n section,\n // so we
exclude them while calculating whether current element has children\n const hasChildren = (!isI18nRootElement && this.i18n) ? !hasTextChildrenOnly(element.children) :\n element.children.length > 0;\n\n const createSelfClosingInstruction = !stylingBuilder.hasBindingsWithPipes &&\n element.outputs.length === 0 && boundI18nAttrs.length === 0 && !hasChildren;\n const createSelfClosingI18nInstruction =\n !createSelfClosingInstruction &&
hasTextChildrenOnly(element.children);\n\n if (createSelfClosingInstruction) {\n this.creationInstruction(\n element.sourceSpan, isNgContainer ? R3.elementContainer : R3.element,\n trimTrailingNulls(parameters));\n } else {\n this.creationInstruction(\n element.startSourceSpan, isNgContainer ? R3.elementContainerStart : R3.elementStart,\n trimTrailingNulls(parameters));\n\n if (isNonBindableMode) {\n this.creationInstruction(element.startSourceSpan,
R3.disableBindings);\n }\n\n if (boundI18nAttrs.length > 0) {\n this.i18nAttributesInstruction(\n elementIndex, boundI18nAttrs, element.startSourceSpan ?? element.sourceSpan);\n }\n\n // Generate

```
Listeners (outputs)\n      if (element.outputs.length > 0) {\n        const listeners = element.outputs.map(\n (outputAst: t.BoundEvent) => ({\n              sourceSpan: outputAst.sourceSpan,\n              params: this.prepareListenerParameter(element.name, outputAst, elementIndex)\n            }));\n this.creationInstructionChain(R3.listener, listeners);\n      }\n\n      // Note: it's important to keep i18n/i18nStart instructions after i18nAttributes and\n      // listeners, to make sure i18nAttributes instruction targets current element at runtime.\n      if (isI18nRootElement) {\n        this.i18nStart(element.startSourceSpan, element.i18n!, createSelfClosingI18nInstruction);\n      }\n    }\n\n
  // the code here will collect all update-level styling instructions and add them to the\n    // update block of the template function AOT code. Instructions like `styleProp`,\n    // `styleMap`, `classMap`, `classProp`\n    // are all generated and assigned in the code below.\n    const stylingInstructions = stylingBuilder.buildUpdateLevelInstructions(this._valueConverter);\n    const limit = stylingInstructions.length - 1;\n    for (let i = 0; i <= limit; i++) {\n      const instruction = stylingInstructions[i];\n      this._bindingSlots += this.processStylingUpdateInstruction(elementIndex, instruction);\n    }\n\n    // the reason why `undefined` is used is because the renderer understands this as a\n    // special value to symbolize that there is no RHS to this binding\n    // TODO (matsko): revisit this once FW-959 is approached\n    const emptyValueBindInstruction = o.literal(undefined);\n    const propertyBindings: ChainableBindingInstruction[] = [];\n    const attributeBindings: ChainableBindingInstruction[] = [];\n\n    // Generate element input bindings\n    allOtherInputs.forEach(input => {\n      const inputType = input.type;\n      if (inputType === BindingType.Animation) {\n        const value = input.value.visit(this._valueConverter);\n        // animation bindings can be presented in the following formats:\n        // 1. [@binding]=\"fooExp\"\n        // 2. [@binding]=\"{value:fooExp, params:{...}}\"\n        // 3. [@binding]\n        // 4. @binding\n        // All formats will be valid for when a synthetic binding is created.\n        // The reasoning for this is because the renderer should get each\n        // synthetic binding value in the order of the array that they are\n        // defined in...\n        const hasValue = value instanceof LiteralPrimitive ? !!value.value : true;\n this.allocateBindingSlots(value);\n\n        propertyBindings.push({\n          name: prepareSyntheticPropertyName(input.name),\n          sourceSpan: input.sourceSpan,\n          value: () => hasValue ? this.convertPropertyBinding(value) : emptyValueBindInstruction\n        });\n      } else {\n        // we must skip attributes with associated i18n context, since these attributes are handled\n        // separately and corresponding `i18nExp` and `i18nApply` instructions will be generated\n        if (input.i18n) return;\n\n        const value = input.value.visit(this._valueConverter);\n        if (value !== undefined) {\n          const params: any[] = [];\n          const [attrNamespace, attrName] = splitNsName(input.name);\n          const isAttributeBinding = inputType === BindingType.Attribute;\n          const sanitizationRef = resolveSanitizationFn(input.securityContext, isAttributeBinding);\n          if (sanitizationRef) params.push(sanitizationRef);\n          if (attrNamespace) {\n            const namespaceLiteral = o.literal(attrNamespace);\n\n            if (sanitizationRef) {\n              params.push(namespaceLiteral);\n
        } else {\n              // If there wasn't a sanitization ref, we need to add\n              // an extra param so that we can pass in the namespace.\n              params.push(o.literal(null), namespaceLiteral);\n            }\n          }\n          this.allocateBindingSlots(value);\n\n          if (inputType === BindingType.Property) {\n            if (value instanceof Interpolation) {\n              // prop=\"{{value}}\" and friends\n              this.interpolatedUpdateInstruction(\n                getPropertyInterpolationExpression(value), elementIndex, attrName, input, value,\n                params);\n            } else {\n              // [prop]=\"value\"\n              // Collect all the properties so that we can chain into a single function at the end.\n              propertyBindings.push({\n                name: attrName,\n                sourceSpan: input.sourceSpan,\n                value: () => this.convertPropertyBinding(value),\n                params\n              });\n            }\n          } else if (inputType === BindingType.Attribute) {\n            if (value instanceof Interpolation && getInterpolationArgsLength(value) > 1) {\n              // attr.name=\"text{{value}}\" and friends\n              this.interpolatedUpdateInstruction(\n                getAttributeInterpolationExpression(value), elementIndex, attrName, input, value,\n                params);\n            } else {\n              const boundValue = value instanceof Interpolation ? value.expressions[0] : value;\n              // [attr.name]=\"value\" or attr.name=\"{{value}}\"\n              // Collect the attribute bindings so that they can be chained at the end.\n              attributeBindings.push({\n
```

```
name: attrName,\n                sourceSpan: input.sourceSpan,\n                value: () =>
this.convertPropertyBinding(boundValue),\n                params\n            });\n          }\n        } else {\n          //
class prop\n
    this.updateInstructionWithAdvance(elementIndex, input.sourceSpan, R3.classProp, () => {\n              return [\n
        o.literal(elementIndex), o.literal(attrName), this.convertPropertyBinding(value),\n                ...params\n
];\n            });\n          }\n        }\n      }\n    });\n\n    if (propertyBindings.length > 0) {\n
this.updateInstructionChainWithAdvance(elementIndex, R3.property, propertyBindings);\n    }\n\n    if
(attributeBindings.length > 0) {\n      this.updateInstructionChainWithAdvance(elementIndex, R3.attribute,
attributeBindings);\n    }\n\n    // Traverse element child nodes\n    t.visitAll(this, element.children);\n\n    if
(!isI18nRootElement && this.i18n) {\n      this.i18n.appendElement(element.i18n!, elementIndex, true);\n    }\n\n
if (!createSelfClosingInstruction) {\n      // Finish element construction mode.\n      const span =
element.endSourceSpan ?? element.sourceSpan;\n      if (isI18nRootElement) {\n        this.i18nEnd(span,
 createSelfClosingI18nInstruction);\n      }\n      if (isNonBindableMode) {\n        this.creationInstruction(span,
R3.enableBindings);\n      }\n      this.creationInstruction(span, isNgContainer ? R3.elementContainerEnd :
R3.elementEnd);\n    }\n  }\n\n\n  visitTemplate(template: t.Template) {\n    const NG_TEMPLATE_TAG_NAME
= 'ng-template';\n    const templateIndex = this.allocateDataSlot();\n\n    if (this.i18n) {\n
this.i18n.appendTemplate(template.i18n!, templateIndex);\n    }\n\n    const tagName =
sanitizeIdentifier(template.tagName || '');\n    const contextName = `${this.contextName}${tagName ? '_' + tagName
: ''}_${templateIndex}`;\n    const templateName = `${contextName}_Template`;\n\n    const parameters:
o.Expression[] = [\n      o.literal(templateIndex),\n      o.variable(templateName),\n\n      // We don't care about the
tag's namespace here, because we infer\n      // it based on the parent nodes inside the template instruction.\n
o.literal(template.tagName
 ? splitNsName(template.tagName)[1] : template.tagName),\n    ];\n\n    // find directives matching on a given <ng-
template> node\n    this.matchDirectives(NG_TEMPLATE_TAG_NAME, template);\n\n    // prepare attributes
parameter (including attributes used for directive matching)\n    const attrsExprs: o.Expression[] =
this.getAttributeExpressions(\n        NG_TEMPLATE_TAG_NAME, template.attributes, template.inputs,
template.outputs,\n        undefined /* styles */, template.templateAttrs);\n
parameters.push(this.addAttrsToConsts(attrsExprs));\n\n    // local refs (ex.: <ng-template #foo>)\n    if
(template.references && template.references.length) {\n      const refs =
this.prepareRefsArray(template.references);\n      parameters.push(this.addToConsts(refs));\n
parameters.push(o.importExpr(R3.templateRefExtractor));\n    }\n\n    // Create the template function\n    const
templateVisitor = new TemplateDefinitionBuilder(\n        this.constantPool, this._bindingScope,
 this.level + 1, contextName, this.i18n,\n        templateIndex, templateName, this.directiveMatcher, this.directives,
this.pipeTypeByName,\n        this.pipes, this._namespace, this.fileBasedI18nSuffix, this.i18nUseExternalIds,\n
this._constants);\n\n    // Nested templates must not be visited until after their parent templates have completed\n    //
processing, so they are queued here until after the initial pass. Otherwise, we wouldn't\n    // be able to support
bindings in nested templates to local refs that occur after the\n    // template definition. e.g. <div
*ngIf=\"showing\">{{ foo }}</div>  <div #foo></div>\n    this._nestedTemplateFns.push(() => {\n      const
templateFunctionExpr = templateVisitor.buildTemplateFunction(\n          template.children, template.variables,\n
  this._ngContentReservedSlots.length + this._ngContentSelectorsOffset, template.i18n);\n
this.constantPool.statements.push(templateFunctionExpr.toDeclStmt(templateName));\n      if
(templateVisitor._ngContentReservedSlots.length)
 {\n        this._ngContentReservedSlots.push(...templateVisitor._ngContentReservedSlots);\n      }\n    });\n\n    // e.g.
template(1, MyComp_Template_1)\n    this.creationInstruction(template.sourceSpan, R3.templateCreate, () => {\n
 parameters.splice(\n          2, 0, o.literal(templateVisitor.getConstCount()),\n
o.literal(templateVisitor.getVarCount()));\n      return trimTrailingNulls(parameters);\n    });\n\n    // handle property
bindings e.g. property('ngForOf', ctx.items), et al;\n    this.templatePropertyBindings(templateIndex,
template.templateAttrs);\n\n    // Only add normal input/output binding instructions on explicit <ng-template>
```

```
elements.\n    if (template.tagName === NG_TEMPLATE_TAG_NAME) {\n      const [i18nInputs, inputs] =\n partitionArray<t.BoundAttribute, t.BoundAttribute>(template.inputs, hasI18nMeta);\n\n      // Add i18n attributes that may act as inputs to directives. If such attributes are
 present,\n      // generate `i18nAttributes` instruction. Note: we generate it only for explicit <ng-template>\n      // elements, in case of inline templates, corresponding instructions will be generated in the\n      // nested template function.\n      if (i18nInputs.length > 0) {\n        this.i18nAttributesInstruction(\n            templateIndex, i18nInputs, template.startSourceSpan ?? template.sourceSpan);\n      }\n\n      // Add the input bindings\n      if (inputs.length > 0) {\n        this.templatePropertyBindings(templateIndex, inputs);\n      }\n\n      // Generate listeners for directive output\n      if (template.outputs.length > 0) {\n        const listeners = template.outputs.map(\n            (outputAst: t.BoundEvent) => ({\n              sourceSpan: outputAst.sourceSpan,\n              params: this.prepareListenerParameter('ng_template', outputAst, templateIndex)\n            }));\n        this.creationInstructionChain(R3.listener, listeners);\n      }\n    }\n  }\n\n
  // These should be handled in the template or element directly.\n  readonly visitReference = invalid;\n  readonly visitVariable = invalid;\n  readonly visitTextAttribute = invalid;\n  readonly visitBoundAttribute = invalid;\n  readonly visitBoundEvent = invalid;\n\n  visitBoundText(text: t.BoundText) {\n    if (this.i18n) {\n      const value = text.value.visit(this._valueConverter);\n      this.allocateBindingSlots(value);\n      if (value instanceof Interpolation) {\n        this.i18n.appendBoundText(text.i18n!);\n        this.i18nAppendBindings(value.expressions);\n      }\n      return;\n    }\n\n    const nodeIndex = this.allocateDataSlot();\n\n    this.creationInstruction(text.sourceSpan, R3.text, [o.literal(nodeIndex)]);\n\n    const value = text.value.visit(this._valueConverter);\n    this.allocateBindingSlots(value);\n\n    if (value instanceof Interpolation) {\n      this.updateInstructionWithAdvance(\n          nodeIndex, text.sourceSpan, getTextInterpolationExpression(value),\n          () => this.getUpdateInstructionArguments(value));\n    } else {\n      error('Text nodes should be interpolated and never bound directly.');\n    }\n  }\n\n  visitText(text: t.Text) {\n    // when a text element is located within a translatable\n    // block, we exclude this text element from instructions set,\n    // since it will be captured in i18n content and processed at runtime\n    if (!this.i18n) {\n      this.creationInstruction(\n          text.sourceSpan, R3.text, [o.literal(this.allocateDataSlot()), o.literal(text.value)]);\n    }\n  }\n\n  visitIcu(icu: t.Icu) {\n    let initWasInvoked = false;\n\n    // if an ICU was created outside of i18n block, we still treat\n    // it as a translatable entity and invoke i18nStart and i18nEnd\n    // to generate i18n context and the necessary instructions\n    if (!this.i18n) {\n      initWasInvoked = true;\n      this.i18nStart(null, icu.i18n!, true);\n    }\n\n    const i18n = this.i18n!;\n    const vars = this.i18nBindProps(icu.vars);\n
    const placeholders = this.i18nBindProps(icu.placeholders);\n\n    // output ICU directly and keep ICU reference in context\n    const message = icu.i18n! as i18n.Message;\n\n    // we always need post-processing function for ICUs, to make sure that:\n    // - all placeholders in a form of {PLACEHOLDER} are replaced with actual values (note:\n    // `goog.getMsg` does not process ICUs and uses the `{PLACEHOLDER}` format for placeholders\n    // inside ICUs)\n    // - all ICU vars (such as `VAR_SELECT` or `VAR_PLURAL`) are replaced with correct values\n    const transformFn = (raw: o.ReadVarExpr) => {\n      const params = {...vars, ...placeholders};\n      const formatted = i18nFormatPlaceholderNames(params, /* useCamelCase */ false);\n      return instruction(null, R3.i18nPostprocess, [raw, mapLiteral(formatted, true)]);\n    };\n\n    // in case the whole i18n message is a single ICU - we do not need to\n    // create a separate top-level translation, we can
 use the root ref instead\n    // and make this ICU a top-level translation\n    // note: ICU placeholders are replaced with actual values in `i18nPostprocess` function\n    // separately, so we do not pass placeholders into `i18nTranslate` function.\n    if (isSingleI18nIcu(i18n.meta)) {\n      this.i18nTranslate(message, /* placeholders */ {}, i18n.ref, transformFn);\n    } else {\n      // output ICU directly and keep ICU reference in context\n      const ref =\n          this.i18nTranslate(message, /* placeholders */ {}, /* ref */ undefined, transformFn);\n      i18n.appendIcu(icuFromI18nMessage(message).name, ref);\n    }\n\n    if (initWasInvoked) {\n      this.i18nEnd(null, true);\n    }\n    return null;\n  }\n\n  private allocateDataSlot() {\n    return this._dataIndex++;\n  }\n\n  getConstCount() {\n    return this._dataIndex;\n  }\n\n  getVarCount() {\n    return this._pureFunctionSlots;\n  }\n\n  getConsts(): ComponentDefConsts {\n    return this._constants;\n  }\n\n  getNgContentSelectors():
```

```
o.Expression|null {\n    return this._ngContentReservedSlots.length ?\n
this.constantPool.getConstLiteral(asLiteral(this._ngContentReservedSlots), true) :\n        null;\n  }\n\n  private
bindingContext() {\n    return `${this._bindingContext++}`;\n  }\n\n  private templatePropertyBindings(\n
templateIndex: number, attrs: (t.BoundAttribute|t.TextAttribute)[]) {\n    const propertyBindings:
ChainableBindingInstruction[] = [];\n    attrs.forEach(input => {\n      if (input instanceof t.BoundAttribute) {\n
const value = input.value.visit(this._valueConverter);\n\n        if (value !== undefined) {\n
this.allocateBindingSlots(value);\n          if (value instanceof Interpolation) {\n            // Params typically contain
attribute namespace and value sanitizer, which is applicable\n            // for regular HTML elements, but not
applicable for <ng-template> (since props act as\n            // inputs to directives), so keep params array empty.\n
            const params: any[] = [];\n\n            // prop=\"{{value}}\" case\n            this.interpolatedUpdateInstruction(\n
              getPropertyInterpolationExpression(value), templateIndex, input.name, input, value,\n                params);\n
      } else {\n            // [prop]=\"value\" case\n            propertyBindings.push({\n              name: input.name,\n
  sourceSpan: input.sourceSpan,\n              value: () => this.convertPropertyBinding(value)\n            });\n          }\n
  }\n      }\n    });\n\n    if (propertyBindings.length > 0) {\n
this.updateInstructionChainWithAdvance(templateIndex, R3.property, propertyBindings);\n    }\n  }\n\n  // Bindings
must only be resolved after all local refs have been visited, so all\n  // instructions are queued in callbacks that
execute once the initial pass has completed.\n  // Otherwise, we wouldn't be able to support local refs that are
defined after their\n  // bindings. e.g. {{ foo }}
  <div #foo></div>\n  private instructionFn(\n      fns: (() => o.Statement)[], span: ParseSourceSpan|null, reference:
o.ExternalReference,\n      paramsOrFn: o.Expression[]|(() => o.Expression[]), prepend: boolean = false): void {\n
fns[prepend ? 'unshift' : 'push'](() => {\n      const params = Array.isArray(paramsOrFn) ? paramsOrFn :
paramsOrFn();\n      return instruction(span, reference, params).toStmt();\n    });\n  }\n\n  private
processStylingUpdateInstruction(\n      elementIndex: number, instruction: StylingInstruction|null) {\n    let
allocateBindingSlots = 0;\n    if (instruction) {\n      const calls: ChainableBindingInstruction[] = [];\n\n
instruction.calls.forEach(call => {\n        allocateBindingSlots += call.allocateBindingSlots;\n        calls.push({\n
  sourceSpan: call.sourceSpan,\n          value: () => {\n            return call.params(\n                    value =>
(call.supportsInterpolation && value instanceof Interpolation) ?\n
            this.getUpdateInstructionArguments(value) :\n                    this.convertPropertyBinding(value)) as
o.Expression[];\n          }\n        });\n      });\n\n      this.updateInstructionChainWithAdvance(elementIndex,
instruction.reference, calls);\n    }\n\n    return allocateBindingSlots;\n  }\n\n  private creationInstruction(\n      span:
ParseSourceSpan|null, reference: o.ExternalReference,\n      paramsOrFn?: o.Expression[]|(() => o.Expression[]),
prepend?: boolean) {\n    this.instructionFn(this._creationCodeFns, span, reference, paramsOrFn || [], prepend);\n
}\n\n  private creationInstructionChain(reference: o.ExternalReference, calls: {\n    sourceSpan:
ParseSourceSpan|null,\n    params: () => o.Expression[]\n  }[]) {\n    const span = calls.length ? calls[0].sourceSpan :
null;\n    this._creationCodeFns.push(() => {\n      return chainedInstruction(reference, calls.map(call =>
call.params()), span).toStmt();\n    });\n  }\n\n  private updateInstructionWithAdvance(\n
    nodeIndex: number, span: ParseSourceSpan|null, reference: o.ExternalReference,\n      paramsOrFn?:
o.Expression[]|(() => o.Expression[])) {\n    this.addAdvanceInstructionIfNecessary(nodeIndex, span);\n
this.updateInstruction(span, reference, paramsOrFn);\n  }\n\n  private updateInstruction(\n      span:
ParseSourceSpan|null, reference: o.ExternalReference,\n      paramsOrFn?: o.Expression[]|(() => o.Expression[]))
{\n    this.instructionFn(this._updateCodeFns, span, reference, paramsOrFn || []);\n  }\n\n  private
updateInstructionChain(\n      reference: o.ExternalReference, bindings: ChainableBindingInstruction[]) {\n    const
span = bindings.length ? bindings[0].sourceSpan : null;\n\n    this._updateCodeFns.push(() => {\n      const calls =
bindings.map(property => {\n        const value = property.value();\n        const fnParams = Array.isArray(value) ?
value : [value];\n        if (property.params) {\n          fnParams.push(...property.params);\n        }\n
    if (property.name) {\n          // We want the property name to always be the first function parameter.\n
fnParams.unshift(o.literal(property.name));\n        }\n        return fnParams;\n      });\n\n      return
chainedInstruction(reference, calls, span).toStmt();\n    });\n  }\n\n  private updateInstructionChainWithAdvance(\n
```

```
  nodeIndex: number, reference: o.ExternalReference, bindings: ChainableBindingInstruction[]) {\n
this.addAdvanceInstructionIfNecessary(\n        nodeIndex, bindings.length ? bindings[0].sourceSpan : null);\n
this.updateInstructionChain(reference, bindings);\n  }\n\n  private addAdvanceInstructionIfNecessary(nodeIndex:
number, span: ParseSourceSpan|null) {\n    if (nodeIndex !== this._currentIndex) {\n      const delta = nodeIndex -
this._currentIndex;\n\n      if (delta < 1) {\n        throw new Error('advance instruction can only go forwards');\n
}\n\n      this.instructionFn(this._updateCodeFns, span, R3.advance, [o.literal(delta)]);\n
    this._currentIndex = nodeIndex;\n    }\n  }\n\n  private allocatePureFunctionSlots(numSlots: number): number
{\n    const originalSlots = this._pureFunctionSlots;\n    this._pureFunctionSlots += numSlots;\n    return
originalSlots;\n  }\n\n  private allocateBindingSlots(value: AST|null) {\n    this._bindingSlots += value instanceof
Interpolation ? value.expressions.length : 1;\n  }\n\n  /**\n   * Gets an expression that refers to the implicit receiver.
The implicit\n   * receiver is always the root level context.\n   */\n  private getImplicitReceiverExpr():
o.ReadVarExpr {\n    if (this._implicitReceiverExpr) {\n      return this._implicitReceiverExpr;\n    }\n\n    return
this._implicitReceiverExpr = this.level === 0 ?\n        o.variable(CONTEXT_NAME) :\n
this._bindingScope.getOrCreateSharedContextVar(0);\n  }\n\n  private convertPropertyBinding(value: AST):
o.Expression {\n    const convertedPropertyBinding = convertPropertyBinding(\n        this,
this.getImplicitReceiverExpr(),
 value, this.bindingContext(), BindingForm.Expression,\n        () => error('Unexpected interpolation'));\n    const
valExpr = convertedPropertyBinding.currValExpr;\n
this._tempVariables.push(...convertedPropertyBinding.stmts);\n    return valExpr;\n  }\n\n  /**\n   * Gets a list of
argument expressions to pass to an update instruction expression. Also updates\n   * the temp variables state with
temp variables that were identified as needing to be created\n   * while visiting the arguments.\n   * @param value
The original expression we will be resolving an arguments list from.\n   */\n  private
getUpdateInstructionArguments(value: AST): o.Expression[] {\n    const {args, stmts} =\n
convertUpdateArguments(this, this.getImplicitReceiverExpr(), value, this.bindingContext());\n\n
this._tempVariables.push(...stmts);\n    return args;\n  }\n\n  private matchDirectives(elementName: string, elOrTpl:
t.Element|t.Template) {\n    if (this.directiveMatcher) {\n      const
 selector = createCssSelector(elementName, getAttrsForDirectiveMatching(elOrTpl));\n
this.directiveMatcher.match(selector, (cssSelector, staticType) => {\n        this.directives.add(staticType);\n      });\n
 }\n  }\n\n  /**\n   * Prepares all attribute expression values for the `TAttributes` array.\n   *\n   * The purpose of this
function is to properly construct an attributes array that\n   * is passed into the `elementStart` (or just `element`)
functions. Because there\n   * are many different types of attributes, the array needs to be constructed in a\n   *
special way so that `elementStart` can properly evaluate them.\n   *\n   * The format looks like this:\n   *\n   * ```\n
* attrs = [prop, value, prop2, value2,\n   *   PROJECT_AS, selector,\n   *   CLASSES, class1, class2,\n   *
STYLES, style1, value1, style2, value2,\n   *   BINDINGS, name1, name2, name3,\n   *   TEMPLATE, name4,
name5, name6,\n   *   I18N, name7, name8, ...]\n   * ```\n   *\n   * Note that this function
 will fully ignore all synthetic (@foo) attribute values\n   * because those values are intended to always be generated
as property instructions.\n   */\n  private getAttributeExpressions(\n      elementName: string, renderAttributes:
t.TextAttribute[], inputs: t.BoundAttribute[],\n      outputs: t.BoundEvent[], styles?: StylingBuilder,\n
templateAttrs: (t.BoundAttribute|t.TextAttribute)[] = [],\n      boundI18nAttrs: t.BoundAttribute[] = []):
o.Expression[] {\n    const alreadySeen = new Set<string>();\n    const attrExprs: o.Expression[] = [];\n    let
ngProjectAsAttr: t.TextAttribute|undefined;\n\n    for (const attr of renderAttributes) {\n      if (attr.name ===
NG_PROJECT_AS_ATTR_NAME) {\n        ngProjectAsAttr = attr;\n      }\n\n      // Note that static i18n attributes
aren't in the i18n array,\n      // because they're treated in the same way as regular attributes.\n      if (attr.i18n) {\n
attrExprs.push(o.literal(attr.name), this.i18nTranslate(attr.i18n
 as i18n.Message));\n      } else {\n        attrExprs.push(\n            ...getAttributeNameLiterals(attr.name),
trustedConstAttribute(elementName, attr));\n      }\n    }\n\n    // Keep ngProjectAs next to the other name, value
pairs so we can verify that we match\n    // ngProjectAs marker in the attribute name slot.\n    if (ngProjectAsAttr)
{\n      attrExprs.push(...getNgProjectAsLiteral(ngProjectAsAttr));\n    }\n\n    function addAttrExpr(key:
```

string|number, value?: o.Expression): void {\n if (typeof key === 'string') {\n if (!alreadySeen.has(key)) {\n attrExprs.push(...getAttributeNameLiterals(key));\n value !== undefined && attrExprs.push(value);\n alreadySeen.add(key);\n }\n } else {\n attrExprs.push(o.literal(key));\n }\n }\n\n // it's important that this occurs before BINDINGS and TEMPLATE because once `elementStart`\n // comes across the BINDINGS or TEMPLATE markers then it will continue reading each value\n as\n // as single property value cell by cell.\n if (styles) {\n styles.populateInitialStylingAttrs(attrExprs);\n }\n\n if (inputs.length || outputs.length) {\n const attrsLengthBeforeInputs = attrExprs.length;\n\n for (let i = 0; i < inputs.length; i++) {\n const input = inputs[i];\n // We don't want the animation and attribute bindings in the\n // attributes array since they aren't used for directive matching.\n if (input.type !== BindingType.Animation && input.type !== BindingType.Attribute) {\n addAttrExpr(input.name);\n }\n }\n\n for (let i = 0; i < outputs.length; i++) {\n const output = outputs[i];\n if (output.type !== ParsedEventType.Animation) {\n addAttrExpr(output.name);\n }\n }\n\n // this is a cheap way of adding the marker only after all the input/output\n // values have been filtered (by not including the animation ones) and added\n //\n to the expressions. The marker is important because it tells the runtime\n // code that this is where attributes without values start...\n if (attrExprs.length !== attrsLengthBeforeInputs) {\n attrExprs.splice(attrsLengthBeforeInputs, 0, o.literal(core.AttributeMarker.Bindings));\n }\n }\n\n if (templateAttrs.length) {\n attrExprs.push(o.literal(core.AttributeMarker.Template));\n templateAttrs.forEach(attr => addAttrExpr(attr.name));\n }\n\n if (boundI18nAttrs.length) {\n attrExprs.push(o.literal(core.AttributeMarker.I18n));\n boundI18nAttrs.forEach(attr => addAttrExpr(attr.name));\n }\n\n return attrExprs;\n }\n\n private addToConsts(expression: o.Expression): o.LiteralExpr {\n if (o.isNull(expression)) {\n return o.TYPED_NULL_EXPR;\n }\n\n const consts = this._constants.constExpressions;\n\n // Try to reuse a literal that's already in the array, if possible.\n for (let i = 0; i < consts.length; i++) {\n if (consts[i].isEquivalent(expression)) {\n return o.literal(i);\n }\n }\n\n return o.literal(consts.push(expression) - 1);\n }\n\n private addAttrsToConsts(attrs: o.Expression[]): o.LiteralExpr {\n return attrs.length > 0 ? this.addToConsts(o.literalArr(attrs)) : o.TYPED_NULL_EXPR;\n }\n\n private prepareRefsArray(references: t.Reference[]): o.Expression {\n if (!references || references.length === 0) {\n return o.TYPED_NULL_EXPR;\n }\n\n const refsParam = flatten(references.map(reference => {\n const slot = this.allocateDataSlot();\n // Generate the update temporary.\n const variableName = this._bindingScope.freshReferenceName();\n const retrievalLevel = this.level;\n const lhs = o.variable(variableName);\n this._bindingScope.set(\n retrievalLevel, reference.name, lhs,\n DeclarationPriority.DEFAULT, (scope: BindingScope, relativeLevel: number) => {\n // e.g. nextContext(2);\n const nextContextStmt =\n relativeLevel > 0 ? [generateNextContextExpr(relativeLevel).toStmt()] : [];\n\n // e.g. const $foo$ = reference(1);\n const refExpr = lhs.set(o.importExpr(R3.reference).callFn([o.literal(slot)]));\n return nextContextStmt.concat(refExpr.toConstDecl());\n }, true);\n return [reference.name, reference.value];\n }));\n\n return asLiteral(refsParam);\n }\n\n private prepareListenerParameter(tagName: string, outputAst: t.BoundEvent, index: number):\n () => o.Expression[] {\n return () => {\n const eventName: string = outputAst.name;\n const bindingFnName = outputAst.type === ParsedEventType.Animation ?\n // synthetic @listener.foo values are treated the exact same as are standard listeners\n prepareSyntheticListenerFunctionName(eventName, outputAst.phase!) :\n sanitizeIdentifier(eventName);\n const handlerName = `${this.templateName}_${tagName}_${bindingFnName}_${index}_listener`;\n const scope = this._bindingScope.nestedScope(\n this._bindingScope.bindingLevel, EVENT_BINDING_SCOPE_GLOBALS);\n return prepareEventListenerParameters(outputAst, handlerName, scope);\n };\n }\n}\n\nexport class ValueConverter extends AstMemoryEfficientTransformer {\n private _pipeBindExprs: FunctionCall[] = [];\n\n constructor(\n private constantPool: ConstantPool, private allocateSlot:

() => number,\n private allocatePureFunctionSlots: (numSlots: number) => number,\n private definePipe:\n (name: string, localName: string, slot: number, value: o.Expression) => void) {\n super();\n }\n\n // AstMemoryEfficientTransformer\n visitPipe(pipe: BindingPipe, context: any): AST {\n // Allocate a slot to create the pipe\n const slot = this.allocateSlot();\n const slotPseudoLocal = `PIPE:${slot}`;\n // Allocate one slot for the result plus one slot per pipe argument\n const pureFunctionSlot = this.allocatePureFunctionSlots(2 + pipe.args.length);\n const target = new PropertyRead(\n pipe.span, pipe.sourceSpan, pipe.nameSpan, new ImplicitReceiver(pipe.span, pipe.sourceSpan),\n slotPseudoLocal);\n const {identifier, isVarLength} = pipeBindingCallInfo(pipe.args);\n this.definePipe(pipe.name, slotPseudoLocal, slot, o.importExpr(identifier));\n const args: AST[] = [pipe.exp, ...pipe.args];\n const convertedArgs: AST[] = isVarLength ?\n this.visitAll([new LiteralArray(pipe.span, pipe.sourceSpan, args)]) :\n this.visitAll(args);\n\n const pipeBindExpr = new FunctionCall(pipe.span, pipe.sourceSpan, target, [\n new LiteralPrimitive(pipe.span, pipe.sourceSpan, slot),\n new LiteralPrimitive(pipe.span, pipe.sourceSpan, pureFunctionSlot),\n ...convertedArgs,\n ]);\n this._pipeBindExprs.push(pipeBindExpr);\n return pipeBindExpr;\n }\n\n updatePipeSlotOffsets(bindingSlots: number) {\n this._pipeBindExprs.forEach((pipe: FunctionCall) => {\n // update the slot offset arg (index 1) to account for binding slots\n const slotOffset = pipe.args[1] as LiteralPrimitive;\n (slotOffset.value as number) += bindingSlots;\n });\n }\n\n visitLiteralArray(array: LiteralArray, context: any): AST {\n return new BuiltinFunctionCall(\n array.span, array.sourceSpan, this.visitAll(array.expressions), values => {\n // If the literal has calculated (non-literal) elements transform it into\n // calls to literal factories that compose the literal and will cache intermediate\n // values.\n const literal = o.literalArr(values);\n return getLiteralFactory(this.constantPool, literal, this.allocatePureFunctionSlots);\n });\n }\n\n visitLiteralMap(map: LiteralMap, context: any): AST {\n return new BuiltinFunctionCall(map.span, map.sourceSpan, this.visitAll(map.values), values => {\n // If the literal has calculated (non-literal) elements\n transform it into\n // calls to literal factories that compose the literal and will cache intermediate\n // values.\n const literal = o.literalMap(values.map(\n (value, index) => ({key: map.keys[index].key, value, quoted: map.keys[index].quoted})));\n return getLiteralFactory(this.constantPool, literal, this.allocatePureFunctionSlots);\n });\n }\n}\n\n// Pipes always have at least one parameter, the value they operate on\nconst pipeBindingIdentifiers = [R3.pipeBind1, R3.pipeBind2, R3.pipeBind3, R3.pipeBind4];\n\nfunction pipeBindingCallInfo(args: o.Expression[]) {\n const identifier = pipeBindingIdentifiers[args.length];\n return {\n identifier: identifier || R3.pipeBindV,\n isVarLength: !identifier,\n };\n}\n\nconst pureFunctionIdentifiers = [\n R3.pureFunction0, R3.pureFunction1, R3.pureFunction2, R3.pureFunction3, R3.pureFunction4,\n R3.pureFunction5, R3.pureFunction6, R3.pureFunction7, R3.pureFunction8\n];\n\nfunction pureFunctionCallInfo(args:\n o.Expression[]) {\n const identifier = pureFunctionIdentifiers[args.length];\n return {\n identifier: identifier || R3.pureFunctionV,\n isVarLength: !identifier,\n };\n}\n\nfunction instruction(\n span: ParseSourceSpan|null, reference: o.ExternalReference,\n params: o.Expression[]): o.Expression {\n return o.importExpr(reference, null, span).callFn(params, span);\n}\n\n// e.g. x(2);\nfunction generateNextContextExpr(relativeLevelDiff: number): o.Expression {\n return o.importExpr(R3.nextContext)\n .callFn(relativeLevelDiff > 1 ? [o.literal(relativeLevelDiff)] : []);\n}\n\nfunction getLiteralFactory(\n constantPool: ConstantPool, literal: o.LiteralArrayExpr|o.LiteralMapExpr,\n allocateSlots: (numSlots: number) => number): o.Expression {\n const {literalFactory, literalFactoryArguments} = constantPool.getLiteralFactory(literal);\n // Allocate 1 slot for the result plus 1 per argument\n const startSlot = allocateSlots(1 + literalFactoryArguments.length);\n const {identifier, isVarLength} = pureFunctionCallInfo(literalFactoryArguments);\n\n // Literal factories are pure functions that only need to be re-invoked when the parameters\n // change.\n const args = [o.literal(startSlot), literalFactory];\n\n if (isVarLength) {\n args.push(o.literalArr(literalFactoryArguments));\n } else {\n args.push(...literalFactoryArguments);\n }\n\n return o.importExpr(identifier).callFn(args);\n}\n\n/**\n * Gets an array of literals that can be added to an expression\n * to represent the name and namespace of an attribute. E.g.\n * `:xlink:href` turns into `[AttributeMarker.NamespaceURI, 'xlink', 'href']`.\n *\n * @param name Name of the

attribute, including the namespace.\n */\nfunction getAttributeNameLiterals(name: string): o.LiteralExpr[] {\n  const [attributeNamespace, attributeName] = splitNsName(name);\n  const nameLiteral = o.literal(attributeName);\n\n  if (attributeNamespace) {\n    return [\n      o.literal(core.AttributeMarker.NamespaceURI),
  o.literal(attributeNamespace), nameLiteral\n    ];\n  }\n\n  return [nameLiteral];\n}\n\n/**\n * Function which is executed whenever a variable is referenced for the first time in a given\n * scope.\n *\n * It is expected that the function creates the `const localName = expression`; statement.\n */\nexport type DeclareLocalVarCallback = (scope: BindingScope, relativeLevel: number) => o.Statement[];\n\n/** The prefix used to get a shared context in BindingScope's map. */\nconst SHARED_CONTEXT_KEY = '$$shared_ctx$$';\n\n/**\n * This is used when one refers to variable such as: 'let abc = nextContext(2).$implicit`.\n * - key to the map is the string literal `\"abc\"`.\n * - value `retrievalLevel` is the level from which this value can be retrieved, which is 2 levels\n * up in example.\n * - value `lhs` is the left hand side which is an AST representing `abc`.\n * - value `declareLocalCallback` is a callback that is invoked when declaring the local.\n * - value `declare`
  is true if this value needs to be declared.\n * - value `localRef` is true if we are storing a local reference\n * - value `priority` dictates the sorting priority of this var declaration compared\n * to other var declarations on the same retrieval level. For example, if there is a\n * context variable and a local ref accessing the same parent view, the context var\n * declaration should always come before the local ref declaration.\n */\ntype BindingData = {\n  retrievalLevel: number; lhs: o.Expression;\n  declareLocalCallback?: DeclareLocalVarCallback; declare: boolean; priority: number;\n  localRef: boolean;\n};\n\n/**\n * The sorting priority of a local variable declaration. Higher numbers\n * mean the declaration will appear first in the generated code.\n */\nconst enum DeclarationPriority {\n  DEFAULT = 0,\n  CONTEXT = 1,\n  SHARED_CONTEXT = 2\n}\n\nexport class BindingScope implements LocalResolver {\n  /** Keeps a map from local variables to their BindingData. */\n  private
  map = new Map<string, BindingData>();\n  private referenceNameIndex = 0;\n  private restoreViewVariable: o.ReadVarExpr|null = null;\n  static createRootScope(): BindingScope {\n    return new BindingScope();\n  }\n\n  private constructor(\n      public bindingLevel: number = 0, private parent: BindingScope|null = null,\n      public globals?: Set<string>) {\n    if (globals !== undefined) {\n      for (const name of globals) {\n        this.set(0, name, o.variable(name));\n      }\n    }\n  }\n\n  get(name: string): o.Expression|null {\n    let current: BindingScope|null = this;\n    while (current) {\n      let value = current.map.get(name);\n      if (value != null) {\n        if (current !== this) {\n          // make a local copy and reset the `declare` state\n          value = {\n            retrievalLevel: value.retrievalLevel,\n            lhs: value.lhs,\n            declareLocalCallback: value.declareLocalCallback,\n            declare: false,\n            priority: value.priority,\n            localRef: value.localRef\n          };\n\n          // Cache the value locally.\n          this.map.set(name, value);\n          // Possibly generate a shared context var\n          this.maybeGenerateSharedContextVar(value);\n          this.maybeRestoreView(value.retrievalLevel, value.localRef);\n        }\n\n        if (value.declareLocalCallback && !value.declare) {\n          value.declare = true;\n        }\n        return value.lhs;\n      }\n      current = current.parent;\n    }\n\n    // If we get to this point, we are looking for a property on the top level component\n    // - If level === 0, we are on the top and don't need to re-declare `ctx`.\n    // - If level > 0, we are in an embedded view. We need to retrieve the name of the\n    // local var we used to store the component context, e.g. const $comp$ = x();\n    return this.bindingLevel === 0 ? null : this.getComponentProperty(name);\n  }\n\n  /**\n   * Create a local variable for later reference.\n
   *\n   * @param retrievalLevel The level from which this value can be retrieved\n   * @param name Name of the variable.\n   * @param lhs AST representing the left hand side of the `let lhs = rhs;`.\n   * @param priority The sorting priority of this var\n   * @param declareLocalCallback The callback to invoke when declaring this local var\n   * @param localRef Whether or not this is a local ref\n   */\n  set(retrievalLevel: number, name: string, lhs: o.Expression,\n      priority: number = DeclarationPriority.DEFAULT,\n      declareLocalCallback?: DeclareLocalVarCallback, localRef?: true): BindingScope {\n    if (this.map.has(name)) {\n      if (localRef) {\n        // Do not throw an error if it's a local ref and do not update existing value,\n        // so the first defined ref is always returned.\n        return this;\n      }\n      error(`The name ${name} is already defined in scope to be ${this.map.get(name)}`);\n    }\n    this.map.set(name, {\n      retrievalLevel: retrievalLevel,\n

```
lhs: lhs,\n      declare: false,\n      declareLocalCallback: declareLocalCallback,\n      priority: priority,\n
localRef: localRef || false\n    });\n    return this;\n  }\n\n  // Implemented as part of LocalResolver.\n
getLocal(name: string): (o.Expression|null) {\n    return this.get(name);\n  }\n\n  // Implemented as part of
LocalResolver.\n  notifyImplicitReceiverUse(): void {\n    if (this.bindingLevel !== 0) {\n      // Since the implicit
receiver is accessed in an embedded view, we need to\n      // ensure that we declare a shared context variable for the
current template\n      // in the update variables.\n      this.map.get(SHARED_CONTEXT_KEY + 0)!.declare =
true;\n    }\n  }\n\n  nestedScope(level: number, globals?: Set<string>): BindingScope {\n    const newScope = new
BindingScope(level, this, globals);\n    if (level > 0) newScope.generateSharedContextVar(0);\n    return
newScope;\n  }\n\n  /**\n   * Gets or creates a shared context variable and returns
 its expression. Note that\n   * this does not mean that the shared variable will be declared. Variables in the\n   *
binding scope will be only declared if they are used.\n   */\n  getOrCreateSharedContextVar(retrievalLevel:
number): o.ReadVarExpr {\n    const bindingKey = SHARED_CONTEXT_KEY + retrievalLevel;\n    if
(!this.map.has(bindingKey)) {\n      this.generateSharedContextVar(retrievalLevel);\n    }\n    // Shared context
variables are always generated as \"ReadVarExpr\".\n    return this.map.get(bindingKey)!.lhs as o.ReadVarExpr;\n
}\n\n  getSharedContextName(retrievalLevel: number): o.ReadVarExpr|null {\n    const sharedCtxObj =
this.map.get(SHARED_CONTEXT_KEY + retrievalLevel);\n    // Shared context variables are always generated as
\"ReadVarExpr\".\n    return sharedCtxObj && sharedCtxObj.declare ? sharedCtxObj.lhs as o.ReadVarExpr : null;\n
}\n\n  maybeGenerateSharedContextVar(value: BindingData) {\n    if (value.priority ===
DeclarationPriority.CONTEXT &&\n        value.retrievalLevel
 < this.bindingLevel) {\n      const sharedCtxObj = this.map.get(SHARED_CONTEXT_KEY +
value.retrievalLevel);\n      if (sharedCtxObj) {\n        sharedCtxObj.declare = true;\n      } else {\n
this.generateSharedContextVar(value.retrievalLevel);\n      }\n    }\n  }\n\n
generateSharedContextVar(retrievalLevel: number) {\n    const lhs = o.variable(CONTEXT_NAME +
this.freshReferenceName());\n    this.map.set(SHARED_CONTEXT_KEY + retrievalLevel, {\n      retrievalLevel:
retrievalLevel,\n      lhs: lhs,\n      declareLocalCallback: (scope: BindingScope, relativeLevel: number) => {\n        //
const ctx_r0 = nextContext(2);\n        return [lhs.set(generateNextContextExpr(relativeLevel)).toConstDecl()];\n
},\n      declare: false,\n      priority: DeclarationPriority.SHARED_CONTEXT,\n      localRef: false\n    });\n  }\n\n
getComponentProperty(name: string): o.Expression {\n    const componentValue =
this.map.get(SHARED_CONTEXT_KEY + 0)!;\n    componentValue.declare
 = true;\n    this.maybeRestoreView(0, false);\n    return componentValue.lhs.prop(name);\n  }\n\n
maybeRestoreView(retrievalLevel: number, localRefLookup: boolean) {\n    // We want to restore the current view
in listener fns if:\n    // 1 - we are accessing a value in a parent view, which requires walking the view tree rather\n
// than using the ctx arg. In this case, the retrieval and binding level will be different.\n    // 2 - we are looking up a
local ref, which requires restoring the view where the local\n    // ref is stored\n    if (this.isListenerScope() &&
(retrievalLevel < this.bindingLevel || localRefLookup)) {\n      if (!this.parent!.restoreViewVariable) {\n        //
parent saves variable to generate a shared `const $s$ = getCurrentView();` instruction\n
this.parent!.restoreViewVariable = o.variable(this.parent!.freshReferenceName());\n      }\n
this.restoreViewVariable = this.parent!.restoreViewVariable;\n    }\n  }\n\n  restoreViewStatement(): o.Statement[]
 {\n    // restoreView($state$);\n    return this.restoreViewVariable ?\n        [instruction(null, R3.restoreView,
[this.restoreViewVariable]).toStmt()] :\n        [];\n  }\n\n  viewSnapshotStatements(): o.Statement[] {\n    // const
$state$ = getCurrentView();\n    const getCurrentViewInstruction = instruction(null, R3.getCurrentView, []);\n
return this.restoreViewVariable ?\n        [this.restoreViewVariable.set(getCurrentViewInstruction).toConstDecl()]
:\n        [];\n  }\n\n  isListenerScope() {\n    return this.parent && this.parent.bindingLevel === this.bindingLevel;\n
}\n\n  variableDeclarations(): o.Statement[] {\n    let currentContextLevel = 0;\n    return
Array.from(this.map.values())\n               .filter(value => value.declare)\n               .sort((a, b) => b.retrievalLevel -
a.retrievalLevel || b.priority - a.priority)\n               .reduce((stmts: o.Statement[], value: BindingData) => {\n
 const levelDiff = this.bindingLevel - value.retrievalLevel;\n
```

```
const currStmts =\n value.declareLocalCallback!(this, levelDiff - currentContextLevel);\n currentContextLevel = levelDiff;\n return stmts.concat(currStmts);\n }, []) as o.Statement[];\n }\n\n\n freshReferenceName(): string {\n let current: BindingScope = this;\n // Find the top scope as it maintains the global reference count\n while (current.parent) current = current.parent;\n const ref = `${REFERENCE_PREFIX}${current.referenceNameIndex++}`;\n return ref;\n }\n}\n\n/**\n * Creates a `CssSelector` given a tag name and a map of attributes\n */\nexport function createCssSelector(\n elementName: string, attributes: {[name: string]: string}): CssSelector {\n const cssSelector = new CssSelector();\n const elementNameNoNs = splitNsName(elementName)[1];\n\n cssSelector.setElement(elementNameNoNs);\n\n Object.getOwnPropertyNames(attributes).forEach((name) => {\n const nameNoNs = splitNsName(name)[1];\n const value = attributes[name];\n\n cssSelector.addAttribute(nameNoNs, value);\n if (name.toLowerCase() === 'class') {\n const classes = value.trim().split(/\\s+/);\n classes.forEach(className => cssSelector.addClassName(className));\n }\n });\n\n return cssSelector;\n}\n\n/**\n * Creates an array of expressions out of an `ngProjectAs` attributes\n * which can be added to the instruction parameters.\n */\nfunction getNgProjectAsLiteral(attribute: t.TextAttribute): o.Expression[] {\n // Parse the attribute value into a CssSelectorList. Note that we only take the\n // first selector, because we don't support multiple selectors in ngProjectAs.\n const parsedR3Selector = core.parseSelectorToR3Selector(attribute.value)[0];\n return [o.literal(core.AttributeMarker.ProjectAs), asLiteral(parsedR3Selector)];\n}\n\n/**\n * Gets the instruction to generate for an interpolated property\n * @param interpolation An Interpolation AST\n */\nfunction getPropertyInterpolationExpression(interpolation: Interpolation) {\n switch (getInterpolationArgsLength(interpolation)) {\n case 1:\n return R3.propertyInterpolate;\n case 3:\n return R3.propertyInterpolate1;\n case 5:\n return R3.propertyInterpolate2;\n case 7:\n return R3.propertyInterpolate3;\n case 9:\n return R3.propertyInterpolate4;\n case 11:\n return R3.propertyInterpolate5;\n case 13:\n return R3.propertyInterpolate6;\n case 15:\n return R3.propertyInterpolate7;\n case 17:\n return R3.propertyInterpolate8;\n default:\n return R3.propertyInterpolateV;\n }\n}\n\n/**\n * Gets the instruction to generate for an interpolated attribute\n * @param interpolation An Interpolation AST\n */\nfunction getAttributeInterpolationExpression(interpolation: Interpolation) {\n switch (getInterpolationArgsLength(interpolation)) {\n case 3:\n return R3.attributeInterpolate1;\n case 5:\n return R3.attributeInterpolate2;\n case 7:\n return R3.attributeInterpolate3;\n case 9:\n return R3.attributeInterpolate4;\n case 11:\n return R3.attributeInterpolate5;\n case 13:\n return R3.attributeInterpolate6;\n case 15:\n return R3.attributeInterpolate7;\n case 17:\n return R3.attributeInterpolate8;\n default:\n return R3.attributeInterpolateV;\n }\n}\n\n/**\n * Gets the instruction to generate for interpolated text.\n * @param interpolation An Interpolation AST\n */\nfunction getTextInterpolationExpression(interpolation: Interpolation): o.ExternalReference {\n switch (getInterpolationArgsLength(interpolation)) {\n case 1:\n return R3.textInterpolate;\n case 3:\n return R3.textInterpolate1;\n case 5:\n return R3.textInterpolate2;\n case 7:\n return R3.textInterpolate3;\n case 9:\n return R3.textInterpolate4;\n case 11:\n return R3.textInterpolate5;\n case 13:\n return R3.textInterpolate6;\n case 15:\n return R3.textInterpolate7;\n case 17:\n return R3.textInterpolate8;\n default:\n return R3.textInterpolateV;\n }\n}\n\n/**\n * Options that can be used to modify how a template is parsed by `parseTemplate()`.\n */\nexport interface ParseTemplateOptions {\n /**\n * Include whitespace nodes in the parsed output.\n */\n preserveWhitespaces?: boolean;\n /**\n * How to parse interpolation markers.\n */\n interpolationConfig?: InterpolationConfig;\n /**\n * The start and end point of the text to parse within the `source` string.\n * The entire `source` string is parsed if this is not provided.\n * */\n range?: LexerRange;\n /**\n * If this text is stored in a JavaScript string, then we have to deal with escape sequences.\n *\n * **Example 1:**\n *\n * ```\n * \"abc\\\"def\\nghi\"\n * ```\n *\n * - The `\\\"` must be converted to `\"`.\n * - The `\\n` must be converted to a new line character in
```

a token,\n * but it should not increment the current line for source mapping.\n *\n * **Example 2:**\n *\n * ```\n * \"abc\\\n * def\"\n * ```\n *\n * The line continuation (`\\` followed by a newline) should be removed from a token\n * but the new line should increment the current line for source mapping.\n */\n escapedString?: boolean;\n /**\n * An array of characters that should be considered as leading trivia.\n * Leading trivia are characters that are not important to the developer, and so should not be\n * included in source-map segments. A common example is whitespace.\n */\n leadingTriviaChars?: string[];\n\n /**\n * Render `$localize` message ids with additional legacy message ids.\n *\n * This option defaults to `true` but in the future the defaul will be flipped.\n *\n * For now set this option to false if you have migrated the translation files to use the new\n * `$localize` message id format and you are not using compile
time translation merging.\n */\n enableI18nLegacyMessageIdFormat?: boolean;\n /**\n * If this text is stored in an external template (e.g. via `templateUrl`) then we need to decide\n * whether or not to normalize the line-endings (from `\\r\\n` to `\\n`) when processing ICU\n * expressions.\n *\n * If `true` then we will normalize ICU expression line endings.\n * The default is `false`, but this will be switched in a future major release.\n */\n i18nNormalizeLineEndingsInICUs?: boolean;\n}\n\n/**\n * Parse a template into render3 `Node`s and additional metadata, with no other dependencies.\n *\n * @param template text of the template to parse\n * @param templateUrl URL to use for source mapping of the parsed template\n * @param options options to modify how the template is parsed\n */\nexport function parseTemplate(\n template: string, templateUrl: string, options: ParseTemplateOptions = {}): ParsedTemplate {\n const {interpolationConfig, preserveWhitespaces, enableI18nLegacyMessageIdFormat}
= options;\n const bindingParser = makeBindingParser(interpolationConfig);\n const htmlParser = new HtmlParser();\n const parseResult = htmlParser.parse(\n template, templateUrl,\n {leadingTriviaChars: LEADING_TRIVIA_CHARS, ...options, tokenizeExpansionForms: true});\n\n if (parseResult.errors && parseResult.errors.length > 0) {\n // TODO(ayazhafiz): we may not always want to bail out at this point (e.g. in\n // the context of a language service).\n return {\n interpolationConfig,\n preserveWhitespaces,\n template,\n errors: parseResult.errors,\n nodes: [],\n styleUrls: [],\n styles: [],\n ngContentSelectors: []\n };\n }\n\n let rootNodes: html.Node[] = parseResult.rootNodes;\n\n // process i18n meta information (scan attributes, generate ids)\n // before we run whitespace removal process, because existing i18n\n // extraction process (ng extract-i18n) relies on a raw content to generate\n
// message ids\n const i18nMetaVisitor = new I18nMetaVisitor(\n interpolationConfig, /* keepI18nAttrs */ !preserveWhitespaces,\n enableI18nLegacyMessageIdFormat);\n rootNodes = html.visitAll(i18nMetaVisitor, rootNodes);\n\n if (!preserveWhitespaces) {\n rootNodes = html.visitAll(new WhitespaceVisitor(), rootNodes);\n\n // run i18n meta visitor again in case whitespaces are removed (because that might affect\n // generated i18n message content) and first pass indicated that i18n content is present in a\n // template. During this pass i18n IDs generated at the first pass will be preserved, so we can\n // mimic existing extraction process (ng extract-i18n)\n if (i18nMetaVisitor.hasI18nMeta) {\n rootNodes = html.visitAll(\n new I18nMetaVisitor(interpolationConfig, /* keepI18nAttrs */ false), rootNodes);\n }\n }\n\n const {nodes, errors, styleUrls, styles, ngContentSelectors} =\n htmlAstToRender3Ast(rootNodes, bindingParser);\n\n
return {\n interpolationConfig,\n preserveWhitespaces,\n errors: errors.length > 0 ? errors : null,\n template,\n nodes,\n styleUrls,\n styles,\n ngContentSelectors\n };\n}\n\nconst elementRegistry = new DomElementSchemaRegistry();\n\n/**\n * Construct a `BindingParser` with a default configuration.\n */\nexport function makeBindingParser(\n interpolationConfig: InterpolationConfig = DEFAULT_INTERPOLATION_CONFIG): BindingParser {\n return new BindingParser(\n new IvyParser(new Lexer()), interpolationConfig, elementRegistry, null, []);\n}\n\nexport function resolveSanitizationFn(context: core.SecurityContext, isAttribute?: boolean) {\n switch (context) {\n case core.SecurityContext.HTML:\n return o.importExpr(R3.sanitizeHtml);\n case core.SecurityContext.SCRIPT:\n return o.importExpr(R3.sanitizeScript);\n case core.SecurityContext.STYLE:\n // the compiler does not fill in an instruction for [style.prop?] binding\n // values

```
because the style algorithm knows internally what props are subject\n      // to sanitization (only [attr.style] values are explicitly sanitized)\n      return isAttribute ? o.importExpr(R3.sanitizeStyle) : null;\n    case core.SecurityContext.URL:\n      return o.importExpr(R3.sanitizeUrl);\n    case core.SecurityContext.RESOURCE_URL:\n      return o.importExpr(R3.sanitizeResourceUrl);\n    default:\n      return null;\n  }\n}\n\nfunction trustedConstAttribute(tagName: string, attr: t.TextAttribute): o.Expression {\n  const value = asLiteral(attr.value);\n  switch (elementRegistry.securityContext(tagName, attr.name, /* isAttribute */ true)) {\n    case core.SecurityContext.HTML:\n      return o.importExpr(R3.trustConstantHtml).callFn([value], attr.valueSpan);\n    case core.SecurityContext.SCRIPT:\n      return o.importExpr(R3.trustConstantScript).callFn([value], attr.valueSpan);\n    case core.SecurityContext.RESOURCE_URL:\n      return o.importExpr(R3.trustConstantResourceUrl).callFn([value], attr.valueSpan);\n    default:\n      return value;\n  }\n}\n\nfunction isSingleElementTemplate(children: t.Node[]): children is[t.Element] {\n  return children.length === 1 && children[0] instanceof t.Element;\n}\n\nfunction isTextNode(node: t.Node): boolean {\n  return node instanceof t.Text || node instanceof t.BoundText || node instanceof t.Icu;\n}\n\nfunction hasTextChildrenOnly(children: t.Node[]): boolean {\n  return children.every(isTextNode);\n}\n\ninterface ChainableBindingInstruction {\n  name?: string;\n  sourceSpan: ParseSourceSpan|null;\n  value: () => o.Expression | o.Expression[];\n  params?: any[];\n}\n\n/** Name of the global variable that is used to determine if we use Closure translations or not */\nconst NG_I18N_CLOSURE_MODE = 'ngI18nClosureMode';\n\n/**\n * Generate statements that define a given translation message.\n *\n * ```\n * var I18N_1;\n * if (typeof ngI18nClosureMode !== undefined && ngI18nClosureMode) {\n *     var MSG_EXTERNAL_XXX = goog.getMsg(\n *         \"Some message with {$interpolation}!\",\n *         { \"interpolation\": \"\\uFFFD0\\uFFFD\" }\n *     );\n *     I18N_1 = MSG_EXTERNAL_XXX;\n * }\n * else {\n *     I18N_1 = $localize`Some message with ${'\\uFFFD0\\uFFFD'}!`;\n * }\n * ```\n *\n * @param message The original i18n AST message node\n * @param variable The variable that will be assigned the translation, e.g. `I18N_1`.\n * @param closureVar The variable for Closure `goog.getMsg` calls, e.g. `MSG_EXTERNAL_XXX`.\n * @param params Object mapping placeholder names to their values (e.g.\n * `{ \"interpolation\": \"\\uFFFD0\\uFFFD\" }`).\n * @param transformFn Optional transformation function that will be applied to the translation (e.g.\n * post-processing).\n * @returns An array of statements that defined a given translation.\n */\nexport function getTranslationDeclStmts(\n    message: i18n.Message, variable: o.ReadVarExpr, closureVar: o.ReadVarExpr,\n    params: {[name: string]: o.Expression} = {},\n    transformFn?: (raw: o.ReadVarExpr) => o.Expression): o.Statement[] {\n  const statements: o.Statement[] = [\n    declareI18nVariable(variable),\n    o.ifStmt(\n        createClosureModeGuard(),\n        createGoogleGetMsgStatements(\n            variable, message, closureVar,\n            i18nFormatPlaceholderNames(params, /* useCamelCase */ true)),\n        createLocalizeStatements(\n            variable, message, i18nFormatPlaceholderNames(params, /* useCamelCase */ false))),\n  ];\n\n  if (transformFn) {\n    statements.push(new o.ExpressionStatement(variable.set(transformFn(variable))));\n  }\n\n  return statements;\n}\n\n/**\n * Create the expression that will be used to guard the closure mode block\n * It is equivalent to:\n *\n * ```\n * typeof ngI18nClosureMode !== undefined && ngI18nClosureMode\n * ```\n */\nfunction createClosureModeGuard(): o.BinaryOperatorExpr {\n  return o.typeofExpr(o.variable(NG_I18N_CLOSURE_MODE))\n      .notIdentical(o.literal('undefined', o.STRING_TYPE))\n      .and(o.variable(NG_I18N_CLOSURE_MODE));\n}\n\n/**\n * Information about the template which was extracted during parsing.\n *\n * This contains the actual parsed template as well as any metadata collected during its parsing,\n * some of which might be useful for re-parsing the template with different options.\n */\nexport interface ParsedTemplate {\n  /**\n   * Include whitespace nodes in the parsed output.\n   */\n  preserveWhitespaces?: boolean;\n\n  /**\n   * How to parse interpolation markers.\n   */\n  interpolationConfig?: InterpolationConfig;\n\n  /**\n   * The string contents of the template.\n   *\n   * This is the \"logical\" template string, after expansion of any escaped characters (for inline\n   * templates). This may differ from the actual
```

template bytes as they appear in the .ts file.\n */\n template: string;\n\n /**\n * Any errors from parsing the template the first time.\n *\n * `null` if there are no errors. Otherwise, the array of errors is guaranteed to be non-empty.\n */\n errors: ParseError[]|null;\n\n /**\n * The template AST, parsed from the template.\n */\n nodes: t.Node[];\n\n /**\n * Any styleUrls extracted from the metadata.\n */\n styleUrls: string[];\n\n /**\n * Any inline styles extracted from the metadata.\n */\n styles: string[];\n\n /**\n * Any ng-content selectors extracted from the template.\n */\n ngContentSelectors: string[];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {StaticSymbol} from '../../aot/static_symbol';\nimport {CompileDirectiveMetadata, CompileDirectiveSummary, CompileQueryMetadata, CompileTokenMetadata, identifierName, sanitizeIdentifier} from '../../compile_metadata';\nimport {CompileReflector} from '../../compile_reflector';\nimport {BindingForm, convertPropertyBinding} from '../../compiler_util/expression_converter';\nimport {ConstantPool, DefinitionKind} from '../../constant_pool';\nimport * as core from '../../core';\nimport {AST, ParsedEvent, ParsedEventType, ParsedProperty} from '../../expression_parser/ast';\nimport {DEFAULT_INTERPOLATION_CONFIG} from '../../ml_parser/interpolation_config';\nimport * as o from '../../output/output_ast';\nimport {ParseError, ParseSourceSpan} from '../../parse_util';\nimport {CssSelector, SelectorMatcher} from '../../selector';\nimport {ShadowCss} from '../../shadow_css';\nimport {CONTENT_ATTR, HOST_ATTR} from '../../style_compiler';\nimport {BindingParser} from '../../template_parser/binding_parser';\nimport {error, OutputContext} from '../../util';\nimport {BoundEvent} from '../r3_ast';\nimport {compileFactoryFunction, R3DependencyMetadata, R3FactoryTarget, R3ResolvedDependencyType} from '../r3_factory';\nimport {Identifiers as R3} from '../r3_identifiers';\nimport {Render3ParseResult} from '../r3_template_transform';\nimport {prepareSyntheticListenerFunctionName, prepareSyntheticPropertyName, typeWithParameters} from '../util';\n\nimport {R3ComponentDef, R3ComponentMetadata, R3DirectiveDef, R3DirectiveMetadata, R3HostMetadata, R3QueryMetadata} from './api';\nimport {MIN_STYLING_BINDING_SLOTS_REQUIRED, StylingBuilder, StylingInstructionCall} from './styling_builder';\nimport {BindingScope, makeBindingParser, prepareEventListenerParameters, renderFlagCheckIfStmt, resolveSanitizationFn, TemplateDefinitionBuilder, ValueConverter} from './template';\nimport {asLiteral, chainedInstruction, conditionallyCreateMapObjectLiteral, CONTEXT_NAME, DefinitionMap, getQueryPredicate, RENDER_FLAGS, TEMPORARY_NAME, temporaryAllocator} from './util';\n\nconst EMPTY_ARRAY: any[] = [];\n\n// This regex matches any binding names that contain the \"attr.\" prefix, e.g. \"attr.required\"\n// If there is a match, the first matching group will contain the attribute name to bind.\nconst ATTR_REGEX = /attr\\.([^\\]]+)/;\n\nfunction baseDirectiveFields(\n meta: R3DirectiveMetadata, constantPool: ConstantPool,\n bindingParser: BindingParser): DefinitionMap {\n const definitionMap = new DefinitionMap();\n const selectors = core.parseSelectorToR3Selector(meta.selector);\n\n // e.g. `type: MyDirective`\n definitionMap.set('type', meta.internalType);\n\n // e.g. `selectors: [['', 'someDir', '']]`\n if (selectors.length > 0) {\n definitionMap.set('selectors', asLiteral(selectors));\n }\n\n if (meta.queries.length > 0) {\n // e.g. `contentQueries: (rf, ctx, dirIndex) => { ... }\n definitionMap.set(\n 'contentQueries', createContentQueriesFunction(meta.queries, constantPool, meta.name));\n }\n\n if (meta.viewQueries.length) {\n definitionMap.set(\n 'viewQuery', createViewQueriesFunction(meta.viewQueries, constantPool, meta.name));\n }\n\n // e.g. `hostBindings: (rf, ctx) => { ... }\n definitionMap.set(\n 'hostBindings',\n createHostBindingsFunction(\n meta.host,\n meta.typeSourceSpan, bindingParser, constantPool, meta.selector || '',\n meta.name, definitionMap));\n\n // e.g 'inputs: {a: 'a'}`\n definitionMap.set('inputs', conditionallyCreateMapObjectLiteral(meta.inputs, true));\n\n // e.g 'outputs: {a: 'a'}`\n definitionMap.set('outputs', conditionallyCreateMapObjectLiteral(meta.outputs));\n\n if (meta.exportAs !== null) {\n definitionMap.set('exportAs', o.literalArr(meta.exportAs.map(e => o.literal(e))));\n }\n\n return definitionMap;\n}\n\n/**\n * Add features to the definition map.\n */\nfunction addFeatures(definitionMap: DefinitionMap, meta: R3DirectiveMetadata|R3ComponentMetadata) {\n // e.g.

```
`features: [NgOnChangesFeature]`\n  const features: o.Expression[] = [];\n\n  const providers = meta.providers;\n
const viewProviders = (meta as R3ComponentMetadata).viewProviders;\n  if (providers || viewProviders) {\n
const args = [providers || new o.LiteralArrayExpr([])];\n    if (viewProviders) {\n      args.push(viewProviders);\n
    }\n    features.push(o.importExpr(R3.ProvidersFeature).callFn(args));\n  }\n\n  if (meta.usesInheritance) {\n
features.push(o.importExpr(R3.InheritDefinitionFeature));\n  }\n  if (meta.fullInheritance) {\n
features.push(o.importExpr(R3.CopyDefinitionFeature));\n  }\n  if (meta.lifecycle.usesOnChanges) {\n
features.push(o.importExpr(R3.NgOnChangesFeature));\n  }\n  if (features.length) {\n    definitionMap.set('features',
o.literalArr(features));\n  }\n}\n\n/**\n * Compile a directive for the render3 runtime as defined by the
`R3DirectiveMetadata`.\n */\nexport function compileDirectiveFromMetadata(\n    meta: R3DirectiveMetadata,
constantPool: ConstantPool,\n    bindingParser: BindingParser): R3DirectiveDef {\n  const definitionMap =
baseDirectiveFields(meta, constantPool, bindingParser);\n  addFeatures(definitionMap, meta);\n  const expression =
o.importExpr(R3.defineDirective).callFn([definitionMap.toLiteralMap()]);\n\n  const typeParams =
createDirectiveTypeParams(meta);\n
  const type = o.expressionType(o.importExpr(R3.DirectiveDefWithMeta, typeParams));\n\n  return {expression,
type};\n}\n\n/**\n * Compile a component for the render3 runtime as defined by the `R3ComponentMetadata`.\n
*/\nexport function compileComponentFromMetadata(\n    meta: R3ComponentMetadata, constantPool:
ConstantPool,\n    bindingParser: BindingParser): R3ComponentDef {\n  const definitionMap =
baseDirectiveFields(meta, constantPool, bindingParser);\n  addFeatures(definitionMap, meta);\n\n  const selector =
meta.selector && CssSelector.parse(meta.selector);\n  const firstSelector = selector && selector[0];\n\n  // e.g. `attr:
[\"class\", \".my.app\"]`\n  // This is optional an only included if the first selector of a component specifies
attributes.\n  if (firstSelector) {\n    const selectorAttributes = firstSelector.getAttrs();\n    if
(selectorAttributes.length) {\n      definitionMap.set(\n          'attrs',\n          constantPool.getConstLiteral(\n
o.literalArr(selectorAttributes.map(\n
              value => value != null ? o.literal(value) : o.literal(undefined))),\n              /* forceShared */ true));\n    }\n
}\n\n  // Generate the CSS matcher that recognize directive\n  let directiveMatcher: SelectorMatcher|null = null;\n\n
if (meta.directives.length > 0) {\n    const matcher = new SelectorMatcher();\n    for (const {selector, expression} of
meta.directives) {\n      matcher.addSelectables(CssSelector.parse(selector), expression);\n    }\n    directiveMatcher
= matcher;\n  }\n\n  // e.g. `template: function MyComponent_Template(_ctx, _cm) {...}`\n  const
templateTypeName = meta.name;\n  const templateName = templateTypeName ?
`${templateTypeName}_Template` : null;\n\n  const directivesUsed = new Set<o.Expression>();\n  const pipesUsed
= new Set<o.Expression>();\n  const changeDetection = meta.changeDetection;\n\n  const template =
meta.template;\n  const templateBuilder = new TemplateDefinitionBuilder(\n      constantPool,
 BindingScope.createRootScope(), 0, templateTypeName, null, null, templateName,\n      directiveMatcher,
directivesUsed, meta.pipes, pipesUsed, R3.namespaceHTML,\n      meta.relativeContextFilePath,
meta.i18nUseExternalIds);\n\n  const templateFunctionExpression =
templateBuilder.buildTemplateFunction(template.nodes, []);\n\n  // We need to provide this so that dynamically
generated components know what\n  // projected content blocks to pass through to the component when it is
instantiated.\n  const ngContentSelectors = templateBuilder.getNgContentSelectors();\n  if (ngContentSelectors) {\n
 definitionMap.set('ngContentSelectors', ngContentSelectors);\n  }\n\n  // e.g. `decls: 2`\n  definitionMap.set('decls',
o.literal(templateBuilder.getConstCount()));\n\n  // e.g. `vars: 2`\n  definitionMap.set('vars',
o.literal(templateBuilder.getVarCount()));\n\n  // Generate `consts` section of ComponentDef:\n  // - either as an
array:\n  //   `consts: [['one', 'two'], ['three', 'four']]`\n
  // - or as a factory function in case additional statements are present (to support i18n):\n  //   `consts: function() {
var i18n_0; if (ngI18nClosureMode) {...} else {...} return [i18n_0]; }`\n  const {constExpressions,
prepareStatements} = templateBuilder.getConsts();\n  if (constExpressions.length > 0) {\n    let constsExpr:
o.LiteralArrayExpr|o.FunctionExpr = o.literalArr(constExpressions);\n    // Prepare statements are present - turn
`consts` into a function.\n    if (prepareStatements.length > 0) {\n      constsExpr = o.fn([], [...prepareStatements, new
o.ReturnStatement(constsExpr)]);\n    }\n    definitionMap.set('consts', constsExpr);\n  }\n\n
```

```
definitionMap.set('template', templateFunctionExpression);\n\n  // e.g. `directives: [MyDirective]`\n  if (directivesUsed.size) {\n    let directivesExpr: o.Expression = o.literalArr(Array.from(directivesUsed));\n    if (meta.wrapDirectivesAndPipesInClosure) {\n      directivesExpr = o.fn([], [new o.ReturnStatement(directivesExpr)]);\n    }\n    definitionMap.set('directives', directivesExpr);\n  }\n\n  // e.g. `pipes: [MyPipe]`\n  if (pipesUsed.size) {\n    let pipesExpr: o.Expression = o.literalArr(Array.from(pipesUsed));\n    if (meta.wrapDirectivesAndPipesInClosure) {\n      pipesExpr = o.fn([], [new o.ReturnStatement(pipesExpr)]);\n    }\n    definitionMap.set('pipes', pipesExpr);\n  }\n\n  if (meta.encapsulation === null) {\n    meta.encapsulation = core.ViewEncapsulation.Emulated;\n  }\n\n  // e.g. `styles: [str1, str2]`\n  if (meta.styles && meta.styles.length) {\n    const styleValues = meta.encapsulation == core.ViewEncapsulation.Emulated ?\n        compileStyles(meta.styles, CONTENT_ATTR, HOST_ATTR) :\n        meta.styles;\n    const strings = styleValues.map(str => constantPool.getConstLiteral(o.literal(str)));\n    definitionMap.set('styles', o.literalArr(strings));\n  } else if (meta.encapsulation === core.ViewEncapsulation.Emulated) {\n    // If there is no style, don't generate css selectors on elements\n    meta.encapsulation = core.ViewEncapsulation.None;\n  }\n\n  // Only set view encapsulation if it's not the default value\n  if (meta.encapsulation !== core.ViewEncapsulation.Emulated) {\n    definitionMap.set('encapsulation', o.literal(meta.encapsulation));\n  }\n\n  // e.g. `animation: [trigger('123', [])]`\n  if (meta.animations !== null) {\n    definitionMap.set(\n        'data', o.literalMap([{key: 'animation', value: meta.animations, quoted: false}]));\n  }\n\n  // Only set the change detection flag if it's defined and it's not the default.\n  if (changeDetection != null && changeDetection !== core.ChangeDetectionStrategy.Default) {\n    definitionMap.set('changeDetection', o.literal(changeDetection));\n  }\n\n  const expression = o.importExpr(R3.defineComponent).callFn([definitionMap.toLiteralMap()]);\n\n\n  const typeParams = createDirectiveTypeParams(meta);\n  typeParams.push(stringArrayAsType(meta.template.ngContentSelectors));\n  const type = o.expressionType(o.importExpr(R3.ComponentDefWithMeta,\n      typeParams));\n\n  return {expression, type};\n}\n\n/**\n * A wrapper around `compileDirective` which depends on render2 global analysis data as its input\n * instead of the `R3DirectiveMetadata`.\n *\n * `R3DirectiveMetadata` is computed from `CompileDirectiveMetadata` and other statically reflected\n * information.\n */\nexport function compileDirectiveFromRender2(\n    outputCtx: OutputContext, directive: CompileDirectiveMetadata, reflector: CompileReflector,\n    bindingParser: BindingParser) {\n  const name = identifierName(directive.type)!;\n  name || error(`Cannot resolver the name of ${directive.type}`);\n\n  const definitionField = outputCtx.constantPool.propertyNameOf(DefinitionKind.Directive);\n\n  const meta = directiveMetadataFromGlobalMetadata(directive, outputCtx, reflector);\n  const res = compileDirectiveFromMetadata(meta, outputCtx.constantPool, bindingParser);\n  const factoryRes = compileFactoryFunction(\n      {...meta, injectFn: R3.directiveInject,\n      target: R3FactoryTarget.Directive});\n  const ngFactoryDefStatement = new o.ClassStmt(\n      name, null,\n      [new o.ClassField('fac', o.INFERRED_TYPE, [o.StmtModifier.Static], factoryRes.factory)], [],\n      new o.ClassMethod(null, [], []), []);\n  const directiveDefStatement = new o.ClassStmt(\n      name, null,\n      [new o.ClassField(definitionField, o.INFERRED_TYPE, [o.StmtModifier.Static], res.expression)],\n      [], new o.ClassMethod(null, [], []), []);\n\n  // Create the partial class to be merged with the actual class.\n  outputCtx.statements.push(ngFactoryDefStatement, directiveDefStatement);\n}\n\n/**\n * A wrapper around `compileComponent` which depends on render2 global analysis data as its input\n * instead of the `R3DirectiveMetadata`.\n *\n * `R3ComponentMetadata` is computed from `CompileDirectiveMetadata` and other statically reflected\n * information.\n */\nexport function compileComponentFromRender2(\n    outputCtx: OutputContext, component:
    CompileDirectiveMetadata, render3Ast: Render3ParseResult,\n    reflector: CompileReflector, bindingParser:
    BindingParser, directiveTypeBySel: Map<string, any>,\n    pipeTypeByName: Map<string, any>) {\n  const name = identifierName(component.type)!;\n  name || error(`Cannot resolver the name of ${component.type}`);\n\n  const definitionField = outputCtx.constantPool.propertyNameOf(DefinitionKind.Component);\n\n  const summary = component.toSummary();\n\n  // Compute the R3ComponentMetadata from the CompileDirectiveMetadata\n  const
```

```
meta: R3ComponentMetadata = {\n    ...directiveMetadataFromGlobalMetadata(component, outputCtx, reflector),\n
 selector: component.selector,\n    template: {nodes: render3Ast.nodes, ngContentSelectors:
render3Ast.ngContentSelectors},\n    directives: [],\n    pipes: typeMapToExpressionMap(pipeTypeByName,
outputCtx),\n    viewQueries: queriesFromGlobalMetadata(component.viewQueries, outputCtx),\n
wrapDirectivesAndPipesInClosure: false,\n    styles: (summary.template
 && summary.template.styles) || EMPTY_ARRAY,\n    encapsulation:\n        (summary.template &&
summary.template.encapsulation) || core.ViewEncapsulation.Emulated,\n    interpolation:
DEFAULT_INTERPOLATION_CONFIG,\n    animations: null,\n    viewProviders:\n
component.viewProviders.length > 0 ? new o.WrappedNodeExpr(component.viewProviders) : null,\n
relativeContextFilePath: '',\n    i18nUseExternalIds: true,\n  };\n  const res =
compileComponentFromMetadata(meta, outputCtx.constantPool, bindingParser);\n  const factoryRes =
compileFactoryFunction(\n      {...meta, injectFn: R3.directiveInject, target: R3FactoryTarget.Directive});\n  const
ngFactoryDefStatement = new o.ClassStmt(\n      name, null,\n      [new o.ClassField('fac', o.INFERRED_TYPE,
[o.StmtModifier.Static], factoryRes.factory)], [],\n      new o.ClassMethod(null, [], []), []);\n  const
componentDefStatement = new o.ClassStmt(\n      name, null,\n      [new o.ClassField(definitionField,
o.INFERRED_TYPE,
 [o.StmtModifier.Static], res.expression)],\n      [], new o.ClassMethod(null, [], []), []);\n\n  // Create the partial class
to be merged with the actual class.\n  outputCtx.statements.push(ngFactoryDefStatement,
componentDefStatement);\n}\n\n/**\n * Compute `R3DirectiveMetadata` given `CompileDirectiveMetadata` and a
`CompileReflector`.\n */\nfunction directiveMetadataFromGlobalMetadata(\n    directive:
CompileDirectiveMetadata, outputCtx: OutputContext,\n    reflector: CompileReflector): R3DirectiveMetadata {\n
// The global-analysis based Ivy mode in ngc is no longer utilized/supported.\n  throw new
Error('unsupported');\n}\n\n/**\n * Convert `CompileQueryMetadata` into `R3QueryMetadata`.\n */\nfunction
queriesFromGlobalMetadata(\n    queries: CompileQueryMetadata[], outputCtx: OutputContext):
R3QueryMetadata[] {\n  return queries.map(query => {\n    let read: o.Expression|null = null;\n    if (query.read &&
query.read.identifier) {\n      read = outputCtx.importExpr(query.read.identifier.reference);\n
    }\n    return {\n      propertyName: query.propertyName,\n      first: query.first,\n      predicate:
selectorsFromGlobalMetadata(query.selectors, outputCtx),\n      descendants: query.descendants,\n      read,\n
static: !!query.static\n    };\n  });\n}\n\n/**\n * Convert `CompileTokenMetadata` for query selectors into either an
expression for a predicate\n * type, or a list of string predicates.\n */\nfunction selectorsFromGlobalMetadata(\n
selectors: CompileTokenMetadata[], outputCtx: OutputContext): o.Expression|string[] {\n  if (selectors.length > 1 ||
(selectors.length == 1 && selectors[0].value)) {\n    const selectorStrings = selectors.map(value => value.value as
string);\n    selectorStrings.some(value => !value) &&\n        error('Found a type among the string selectors
expected');\n    return outputCtx.constantPool.getConstLiteral(\n        o.literalArr(selectorStrings.map(value =>
o.literal(value))));\n  }\n\n  if (selectors.length == 1)
 {\n    const first = selectors[0];\n    if (first.identifier) {\n      return
outputCtx.importExpr(first.identifier.reference);\n    }\n  }\n\n  error('Unexpected query form');\n  return
o.NULL_EXPR;\n}\n\nfunction prepareQueryParams(query: R3QueryMetadata, constantPool: ConstantPool):
o.Expression[] {\n  const parameters = [getQueryPredicate(query, constantPool), o.literal(query.descendants)];\n  if
(query.read) {\n    parameters.push(query.read);\n  }\n  return parameters;\n}\n\nfunction
convertAttributesToExpressions(attributes: {[name: string]: o.Expression}):\n    o.Expression[] {\n  const values:
o.Expression[] = [];\n  for (let key of Object.getOwnPropertyNames(attributes)) {\n    const value =
attributes[key];\n    values.push(o.literal(key), value);\n  }\n  return values;\n}\n\n// Define and update any content
queries\nfunction createContentQueriesFunction(\n    queries: R3QueryMetadata[], constantPool: ConstantPool,
name?: string): o.Expression {\n  const createStatements: o.Statement[]
 = [];\n  const updateStatements: o.Statement[] = [];\n  const tempAllocator = temporaryAllocator(updateStatements,
TEMPORARY_NAME);\n\n  for (const query of queries) {\n    const queryInstruction = query.static ?
R3.staticContentQuery : R3.contentQuery;\n\n    // creation, e.g. r3.contentQuery(dirIndex, somePredicate, true,
```

null);\n createStatements.push(\n o.importExpr(queryInstruction)\n .callFn([o.variable('dirIndex'), ...prepareQueryParams(query, constantPool) as any])\n .toStmt());\n\n // update, e.g. (r3.queryRefresh(tmp = r3.loadQuery()) && (ctx.someDir = tmp));\n const temporary = tempAllocator();\n const getQueryList = o.importExpr(R3.loadQuery).callFn([]);\n const refresh = o.importExpr(R3.queryRefresh).callFn([temporary.set(getQueryList)]);\n const updateDirective = o.variable(CONTEXT_NAME)\n .prop(query.propertyName)\n .set(query.first ? temporary.prop('first')\n : temporary);\n updateStatements.push(refresh.and(updateDirective).toStmt());\n }\n\n const contentQueriesFnName = name ? `${name}_ContentQueries` : null;\n return o.fn(\n [\n new o.FnParam(RENDER_FLAGS, o.NUMBER_TYPE), new o.FnParam(CONTEXT_NAME, null),\n new o.FnParam('dirIndex', null)\n ],\n [\n renderFlagCheckIfStmt(core.RenderFlags.Create, createStatements),\n renderFlagCheckIfStmt(core.RenderFlags.Update, updateStatements)\n ],\n o.INFERRED_TYPE, null, contentQueriesFnName);\n}\n\nfunction stringAsType(str: string): o.Type {\n return o.expressionType(o.literal(str));\n}\n\nfunction stringMapAsType(map: {[key: string]: string|string[]}): o.Type {\n const mapValues = Object.keys(map).map(key => {\n const value = Array.isArray(map[key]) ? map[key][0] : map[key];\n return {\n key,\n value: o.literal(value),\n quoted: true,\n };\n });\n return o.expressionType(o.literalMap(mapValues));\n}\n\nfunction stringArrayAsType(arr: ReadonlyArray<string|null>): o.Type {\n return arr.length > 0 ? o.expressionType(o.literalArr(arr.map(value => o.literal(value)))) :\n o.NONE_TYPE;\n}\n\nfunction createDirectiveTypeParams(meta: R3DirectiveMetadata): o.Type[] {\n // On the type side, remove newlines from the selector as it will need to fit into a TypeScript\n // string literal, which must be on one line.\n const selectorForType = meta.selector !== null ? meta.selector.replace(/\\n/g, '') : null;\n\n return [\n typeWithParameters(meta.type.type, meta.typeArgumentCount),\n selectorForType !== null ? stringAsType(selectorForType) : o.NONE_TYPE,\n meta.exportAs !== null ? stringArrayAsType(meta.exportAs) : o.NONE_TYPE,\n stringMapAsType(meta.inputs),\n stringMapAsType(meta.outputs),\n stringArrayAsType(meta.queries.map(q => q.propertyName)),\n ];\n}\n\n// Define and update any view queries\nfunction createViewQueriesFunction(\n viewQueries: R3QueryMetadata[], constantPool: ConstantPool, name?: string): o.Expression {\n const createStatements: o.Statement[] = [];\n const updateStatements: o.Statement[] = [];\n const tempAllocator = temporaryAllocator(updateStatements, TEMPORARY_NAME);\n\n viewQueries.forEach((query: R3QueryMetadata) => {\n const queryInstruction = query.static ? R3.staticViewQuery : R3.viewQuery;\n\n // creation, e.g. r3.viewQuery(somePredicate, true);\n const queryDefinition =\n o.importExpr(queryInstruction).callFn(prepareQueryParams(query, constantPool));\n createStatements.push(queryDefinition.toStmt());\n\n // update, e.g. (r3.queryRefresh(tmp = r3.loadQuery()) && (ctx.someDir = tmp));\n const temporary = tempAllocator();\n const getQueryList = o.importExpr(R3.loadQuery).callFn([]);\n const refresh = o.importExpr(R3.queryRefresh).callFn([temporary.set(getQueryList)]);\n const updateDirective = o.variable(CONTEXT_NAME)\n .prop(query.propertyName)\n .set(query.first ? temporary.prop('first') : temporary);\n updateStatements.push(refresh.and(updateDirective).toStmt());\n });\n\n const viewQueryFnName = name ? `${name}_Query` : null;\n return o.fn(\n [new o.FnParam(RENDER_FLAGS, o.NUMBER_TYPE), new o.FnParam(CONTEXT_NAME, null)],\n [\n renderFlagCheckIfStmt(core.RenderFlags.Create, createStatements),\n renderFlagCheckIfStmt(core.RenderFlags.Update, updateStatements)\n ],\n o.INFERRED_TYPE, null, viewQueryFnName);\n}\n\n// Return a host binding function or null if one is not necessary.\nfunction createHostBindingsFunction(\n hostBindingsMetadata: R3HostMetadata, typeSourceSpan: ParseSourceSpan,\n bindingParser: BindingParser, constantPool: ConstantPool, selector: string, name: string,\n definitionMap: DefinitionMap): o.Expression|null {\n const bindingContext = o.variable(CONTEXT_NAME);\n const styleBuilder = new StylingBuilder(bindingContext);\n\n

```
  const {styleAttr, classAttr} = hostBindingsMetadata.specialAttributes;\n  if (styleAttr !== undefined) {\n
styleBuilder.registerStyleAttr(styleAttr);\n  }\n  if (classAttr !== undefined) {\n
styleBuilder.registerClassAttr(classAttr);\n  }\n\n  const createStatements: o.Statement[] = [];\n  const
updateStatements: o.Statement[] = [];\n\n  const hostBindingSourceSpan = typeSourceSpan;\n  const
directiveSummary = metadataAsSummary(hostBindingsMetadata);\n\n  // Calculate host event bindings\n  const
eventBindings =\n      bindingParser.createDirectiveHostEventAsts(directiveSummary, hostBindingSourceSpan);\n
if (eventBindings && eventBindings.length) {\n    const listeners = createHostListeners(eventBindings, name);\n
createStatements.push(...listeners);\n  }\n\n  // Calculate the host property bindings\n  const bindings =
bindingParser.createBoundHostProperties(directiveSummary, hostBindingSourceSpan);\n  const allOtherBindings:
ParsedProperty[] = [];\n\n  // We need
  to calculate the total amount of binding slots required by\n  // all the instructions together before any value
conversions happen.\n  // Value conversions may require additional slots for interpolation and\n  // bindings with
pipes. These calculates happen after this block.\n  let totalHostVarsCount = 0;\n  bindings &&
bindings.forEach((binding: ParsedProperty) => {\n    const stylingInputWasSet =
styleBuilder.registerInputBasedOnName(\n        binding.name, binding.expression, hostBindingSourceSpan);\n    if
(stylingInputWasSet) {\n      totalHostVarsCount += MIN_STYLING_BINDING_SLOTS_REQUIRED;\n    } else
{\n      allOtherBindings.push(binding);\n      totalHostVarsCount++;\n    }\n  });\n\n  let valueConverter:
ValueConverter;\n  const getValueConverter = () => {\n    if (!valueConverter) {\n      const hostVarsCountFn =
(numSlots: number): number => {\n        const originalVarsCount = totalHostVarsCount;\n        totalHostVarsCount
+= numSlots;\n        return originalVarsCount;\n
      };\n      valueConverter = new ValueConverter(\n          constantPool,\n          () => error('Unexpected node'),  //
new nodes are illegal here\n          hostVarsCountFn,\n          () => error('Unexpected pipe'));  // pipes are illegal
here\n    }\n    return valueConverter;\n  };\n\n  const propertyBindings: o.Expression[][] = [];\n  const
attributeBindings: o.Expression[][] = [];\n  const syntheticHostBindings: o.Expression[][] = [];\n
allOtherBindings.forEach((binding: ParsedProperty) => {\n    // resolve literal arrays and literal objects\n    const
value = binding.expression.visit(getValueConverter());\n    const bindingExpr = bindingFn(bindingContext,
value);\n\n    const {bindingName, instruction, isAttribute} = getBindingNameAndInstruction(binding);\n\n    const
securityContexts =\n        bindingParser.calcPossibleSecurityContexts(selector, bindingName, isAttribute)\n
.filter(context => context !== core.SecurityContext.NONE);\n\n    let sanitizerFn: o.ExternalExpr|null
 = null;\n    if (securityContexts.length) {\n      if (securityContexts.length === 2 &&\n
securityContexts.indexOf(core.SecurityContext.URL) > -1 &&\n
securityContexts.indexOf(core.SecurityContext.RESOURCE_URL) > -1) {\n        // Special case for some URL
attributes (such as \"src\" and \"href\") that may be a part\n        // of different security contexts. In this case we use
special santitization function and\n        // select the actual sanitizer at runtime based on a tag name that is provided
while\n        // invoking sanitization function.\n        sanitizerFn = o.importExpr(R3.sanitizeUrlOrResourceUrl);\n
} else {\n        sanitizerFn = resolveSanitizationFn(securityContexts[0], isAttribute);\n      }\n    }\n    const
instructionParams = [o.literal(bindingName), bindingExpr.currValExpr];\n    if (sanitizerFn) {\n
instructionParams.push(sanitizerFn);\n    }\n\n    updateStatements.push(...bindingExpr.stmts);\n\n    if (instruction
 === R3.hostProperty) {\n      propertyBindings.push(instructionParams);\n    } else if (instruction === R3.attribute)
{\n      attributeBindings.push(instructionParams);\n    } else if (instruction === R3.syntheticHostProperty) {\n
syntheticHostBindings.push(instructionParams);\n    } else {\n
updateStatements.push(o.importExpr(instruction).callFn(instructionParams).toStmt());\n    }\n  });\n\n  if
(propertyBindings.length > 0) {\n    updateStatements.push(chainedInstruction(R3.hostProperty,
propertyBindings).toStmt());\n  }\n\n  if (attributeBindings.length > 0) {\n
updateStatements.push(chainedInstruction(R3.attribute, attributeBindings).toStmt());\n  }\n\n  if
(syntheticHostBindings.length > 0) {\n    updateStatements.push(\n
chainedInstruction(R3.syntheticHostProperty, syntheticHostBindings).toStmt());\n  }\n\n  // since we're dealing with
directives/components and both have hostBinding\n  // functions, we need to generate a special hostAttrs instruction
```

```
that deals\n
  // with both the assignment of styling as well as static attributes to the host\n  // element. The instruction below will instruct all initial styling (styling\n  // that is inside of a host binding within a directive/component) to be attached\n  // to the host element alongside any of the provided host attributes that were\n  // collected earlier.\n  const hostAttrs = convertAttributesToExpressions(hostBindingsMetadata.attributes);\n  styleBuilder.assignHostAttrs(hostAttrs, definitionMap);\n\n  if (styleBuilder.hasBindings) {\n    // finally each binding that was registered in the statement above will need to be added to\n    // the update block of a component/directive templateFn/hostBindingsFn so that the bindings\n    // are evaluated and updated for the element.\n    styleBuilder.buildUpdateLevelInstructions(getValueConverter()).forEach(instruction => {\n      if (instruction.calls.length > 0) {\n        const calls: o.Expression[][] = [];\n\n        instruction.calls.forEach(call => {\n          // we subtract a value of `1` here because the binding slot was already allocated\n          // at the top of this method when all the input bindings were counted.\n          totalHostVarsCount +=\n              Math.max(call.allocateBindingSlots - MIN_STYLING_BINDING_SLOTS_REQUIRED, 0);\n          calls.push(convertStylingCall(call, bindingContext, bindingFn));\n        });\n\n        updateStatements.push(chainedInstruction(instruction.reference, calls).toStmt());\n      }\n    });\n  }\n\n  if (totalHostVarsCount) {\n    definitionMap.set('hostVars', o.literal(totalHostVarsCount));\n  }\n\n  if (createStatements.length > 0 || updateStatements.length > 0) {\n    const hostBindingsFnName = name ? `${name}_HostBindings` : null;\n    const statements: o.Statement[] = [];\n    if (createStatements.length > 0) {\n      statements.push(renderFlagCheckIfStmt(core.RenderFlags.Create, createStatements));\n    }\n    if (updateStatements.length > 0) {\n      statements.push(renderFlagCheckIfStmt(core.RenderFlags.Update, updateStatements));\n    }\n    return o.fn(\n        [new o.FnParam(RENDER_FLAGS, o.NUMBER_TYPE), new o.FnParam(CONTEXT_NAME, null)], statements,\n        o.INFERRED_TYPE, null, hostBindingsFnName);\n  }\n\n  return null;\n}\n\nfunction bindingFn(implicit: any, value: AST) {\n  return convertPropertyBinding(\n      null, implicit, value, 'b', BindingForm.Expression, () => error('Unexpected interpolation'));\n}\n\nfunction convertStylingCall(\n    call: StylingInstructionCall, bindingContext: any, bindingFn: Function) {\n  return call.params(value => bindingFn(bindingContext, value).currValExpr);\n}\n\nfunction getBindingNameAndInstruction(binding: ParsedProperty):\n    {bindingName: string, instruction: o.ExternalReference, isAttribute: boolean} {\n  let bindingName = binding.name;\n  let instruction!: o.ExternalReference;\n\n  // Check to see if this is an attr binding or a property binding\n  const attrMatches = bindingName.match(ATTR_REGEX);\n
  if (attrMatches) {\n    bindingName = attrMatches[1];\n    instruction = R3.attribute;\n  } else {\n    if (binding.isAnimation) {\n      bindingName = prepareSyntheticPropertyName(bindingName);\n      // host bindings that have a synthetic property (e.g. @foo) should always be rendered\n      // in the context of the component and not the parent. Therefore there is a special\n      // compatibility instruction available for this purpose.\n      instruction = R3.syntheticHostProperty;\n    } else {\n      instruction = R3.hostProperty;\n    }\n  }\n\n  return {bindingName, instruction, isAttribute: !!attrMatches};\n}\n\nfunction createHostListeners(eventBindings: ParsedEvent[], name?: string): o.Statement[] {\n  const listeners: o.Expression[][] = [];\n  const syntheticListeners: o.Expression[][] = [];\n  const instructions: o.Statement[] = [];\n\n  eventBindings.forEach(binding => {\n    let bindingName = binding.name && sanitizeIdentifier(binding.name);\n    const bindingFnName
  = binding.type === ParsedEventType.Animation ?\n        prepareSyntheticListenerFunctionName(bindingName, binding.targetOrPhase) :\n        bindingName;\n    const handlerName = name && bindingName ? `${name}_${bindingFnName}_HostBindingHandler` : null;\n    const params = prepareEventListenerParameters(BoundEvent.fromParsedEvent(binding), handlerName);\n\n    if (binding.type == ParsedEventType.Animation) {\n      syntheticListeners.push(params);\n    } else {\n      listeners.push(params);\n    }\n  });\n\n  if (syntheticListeners.length > 0) {\n    instructions.push(chainedInstruction(R3.syntheticHostListener, syntheticListeners).toStmt());\n  }\n\n  if (listeners.length > 0) {\n    instructions.push(chainedInstruction(R3.listener, listeners).toStmt());\n  }\n\n  return instructions;\n}\n\nfunction metadataAsSummary(meta: R3HostMetadata): CompileDirectiveSummary {\n  // clang-format off\n  return {\n    //
```

This is used by the BindingParser, which only deals with listeners
 and properties. There's no\n    // need to pass attributes to it.\n    hostAttributes: {},\n    hostListeners: meta.listeners,\n    hostProperties: meta.properties,\n  } as CompileDirectiveSummary;\n  // clang-format on\n}\n\n\nfunction typeMapToExpressionMap(\n    map: Map<string, StaticSymbol>, outputCtx: OutputContext): Map<string, o.Expression> {\n  // Convert each map entry into another entry where the value is an expression importing the type.\n  const entries = Array.from(map).map(\n      ([key, type]): [string, o.Expression] => [key, outputCtx.importExpr(type)]);\n  return new Map(entries);\n}\n\nconst HOST_REG_EXP = /^(?:\\[([^\\]]+)\\])|(?:\\(([^\\)]+)\\))$/;\n// Represents the groups in the above regex.\nconst enum HostBindingGroup {\n  // group 1: \"prop\" from \"[prop]\", or \"attr.role\" from \"[attr.role]\", or @anim from [@anim]\n  Binding = 1,\n\n  // group 2: \"event\" from \"(event)\"\n  Event = 2,\n}\n\n// Defines Host Bindings structure that contains attributes, listeners,
 and properties,\n// parsed from the `host` object defined for a Type.\nexport interface ParsedHostBindings {\n  attributes: {[key: string]: o.Expression};\n  listeners: {[key: string]: string};\n  properties: {[key: string]: string};\n  specialAttributes: {styleAttr?: string; classAttr?: string;};\n}\n\nexport function parseHostBindings(host: {[key: string]: string|o.Expression}): ParsedHostBindings {\n  const attributes: {[key: string]: o.Expression} = {};\n  const listeners: {[key: string]: string} = {};\n  const properties: {[key: string]: string} = {};\n  const specialAttributes: {styleAttr?: string; classAttr?: string;} = {};\n\n  for (const key of Object.keys(host)) {\n    const value = host[key];\n    const matches = key.match(HOST_REG_EXP);\n\n    if (matches === null) {\n      switch (key) {\n        case 'class':\n          if (typeof value !== 'string') {\n            // TODO(alxhub): make this a diagnostic.\n            throw new Error(`Class binding must be string`);\n          }\n          specialAttributes.classAttr = value;\n          break;\n        case 'style':\n          if (typeof value !== 'string') {\n            // TODO(alxhub): make this a diagnostic.\n            throw new Error(`Style binding must be string`);\n          }\n          specialAttributes.styleAttr = value;\n          break;\n        default:\n          if (typeof value === 'string') {\n            attributes[key] = o.literal(value);\n          } else {\n            attributes[key] = value;\n          }\n      }\n    } else if (matches[HostBindingGroup.Binding] != null) {\n      if (typeof value !== 'string') {\n        // TODO(alxhub): make this a diagnostic.\n        throw new Error(`Property binding must be string`);\n      }\n      // synthetic properties (the ones that have a `@` as a prefix)\n      // are still treated the same as regular properties. Therefore\n      // there is no point in storing them in a separate map.\n      properties[matches[HostBindingGroup.Binding]]
 = value;\n    } else if (matches[HostBindingGroup.Event] != null) {\n      if (typeof value !== 'string') {\n        // TODO(alxhub): make this a diagnostic.\n        throw new Error(`Event binding must be string`);\n      }\n      listeners[matches[HostBindingGroup.Event]] = value;\n    }\n  }\n\n  return {attributes, listeners, properties, specialAttributes};\n}\n\n/**\n * Verifies host bindings and returns the list of errors (if any). Empty array indicates that a\n * given set of host bindings has no errors.\n *\n * @param bindings set of host bindings to verify.\n * @param sourceSpan source span where host bindings were defined.\n * @returns array of errors associated with a given set of host bindings.\n */\nexport function verifyHostBindings(\n    bindings: ParsedHostBindings, sourceSpan: ParseSourceSpan): ParseError[] {\n  const summary = metadataAsSummary(bindings);\n  // TODO: abstract out host bindings verification logic and use it instead of\n  // creating events
 and properties ASTs to detect errors (FW-996)\n  const bindingParser = makeBindingParser();\n  bindingParser.createDirectiveHostEventAsts(summary, sourceSpan);\n  bindingParser.createBoundHostProperties(summary, sourceSpan);\n  return bindingParser.errors;\n}\n\nfunction compileStyles(styles: string[], selector: string, hostSelector: string): string[] {\n  const shadowCss = new ShadowCss();\n  return styles.map(style => {\n    return shadowCss!.shimCssText(style, selector, hostSelector);\n  });\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * An interface for retrieving documents by URL that the compiler uses\n * to load templates.\n */\nexport class ResourceLoader {\n  get(url: string): Promise<string>|string {\n    return '';\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n *

Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {CompilerFacade, CoreEnvironment, ExportedCompilerFacade, R3ComponentMetadataFacade, R3DependencyMetadataFacade, R3DirectiveMetadataFacade, R3FactoryDefMetadataFacade, R3InjectableMetadataFacade, R3InjectorMetadataFacade, R3NgModuleMetadataFacade, R3PipeMetadataFacade, R3QueryMetadataFacade, StringMap, StringMapWithRename} from './compiler_facade_interface';\nimport {ConstantPool} from './constant_pool';\nimport {HostBinding, HostListener, Input, Output, Type} from './core';\nimport {Identifiers} from './identifiers';\nimport {compileInjectable} from './injectable_compiler_2';\nimport {DEFAULT_INTERPOLATION_CONFIG, InterpolationConfig} from './ml_parser/interpolation_config';\nimport {DeclareVarStmt, Expression, LiteralExpr, Statement, StmtModifier, WrappedNodeExpr} from './output/output_ast';\nimport {JitEvaluator} from './output/output_jit';\nimport {ParseError, ParseSourceSpan, r3JitTypeSourceSpan} from './parse_util';\nimport {compileFactoryFunction, R3DependencyMetadata, R3FactoryTarget, R3ResolvedDependencyType} from './render3/r3_factory';\nimport {R3JitReflector} from './render3/r3_jit';\nimport {compileInjector, compileNgModule, R3InjectorMetadata, R3NgModuleMetadata} from './render3/r3_module_compiler';\nimport {compilePipeFromMetadata, R3PipeMetadata} from './render3/r3_pipe_compiler';\nimport {R3Reference} from './render3/util';\nimport {R3DirectiveMetadata, R3QueryMetadata} from './render3/view/api';\nimport {compileComponentFromMetadata, compileDirectiveFromMetadata, ParsedHostBindings, parseHostBindings, verifyHostBindings} from './render3/view/compiler';\nimport {makeBindingParser, parseTemplate} from './render3/view/template';\nimport {ResourceLoader} from './resource_loader';\nimport {DomElementSchemaRegistry} from './schema/dom_element_schema_registry';\n\nexport class CompilerFacadeImpl implements CompilerFacade {\n  R3ResolvedDependencyType = R3ResolvedDependencyType as any;\n  R3FactoryTarget = R3FactoryTarget as any;\n  ResourceLoader = ResourceLoader;\n  private elementSchemaRegistry = new DomElementSchemaRegistry();\n\n  constructor(private jitEvaluator = new JitEvaluator()) {}\n\n  compilePipe(angularCoreEnv: CoreEnvironment, sourceMapUrl: string, facade: R3PipeMetadataFacade):\n      any {\n    const metadata: R3PipeMetadata = {\n      name: facade.name,\n      type: wrapReference(facade.type),\n      internalType: new WrappedNodeExpr(facade.type),\n      typeArgumentCount: facade.typeArgumentCount,\n      deps: convertR3DependencyMetadataArray(facade.deps),\n      pipeName: facade.pipeName,\n      pure: facade.pure,\n    };\n    const res = compilePipeFromMetadata(metadata);\n    return this.jitExpression(res.expression, angularCoreEnv, sourceMapUrl, []);\n  }\n\n  compileInjectable(\n      angularCoreEnv: CoreEnvironment, sourceMapUrl: string,\n      facade: R3InjectableMetadataFacade):\n      any {\n    const {expression, statements} = compileInjectable({\n      name: facade.name,\n      type: wrapReference(facade.type),\n      internalType: new WrappedNodeExpr(facade.type),\n      typeArgumentCount: facade.typeArgumentCount,\n      providedIn: computeProvidedIn(facade.providedIn),\n      useClass: wrapExpression(facade, USE_CLASS),\n      useFactory: wrapExpression(facade, USE_FACTORY),\n      useValue: wrapExpression(facade, USE_VALUE),\n      useExisting: wrapExpression(facade, USE_EXISTING),\n      userDeps: convertR3DependencyMetadataArray(facade.userDeps) || undefined,\n    });\n\n    return this.jitExpression(expression, angularCoreEnv, sourceMapUrl, statements);\n  }\n\n  compileInjector(\n      angularCoreEnv: CoreEnvironment, sourceMapUrl: string,\n      facade: R3InjectorMetadataFacade): any {\n    const meta: R3InjectorMetadata = {\n      name: facade.name,\n      type: wrapReference(facade.type),\n      internalType: new WrappedNodeExpr(facade.type),\n      deps: convertR3DependencyMetadataArray(facade.deps),\n      providers: new WrappedNodeExpr(facade.providers),\n      imports: facade.imports.map(i => new WrappedNodeExpr(i)),\n    };\n    const res = compileInjector(meta);\n    return this.jitExpression(res.expression, angularCoreEnv, sourceMapUrl, res.statements);\n  }\n\n  compileNgModule(\n      angularCoreEnv: CoreEnvironment, sourceMapUrl: string,\n      facade: R3NgModuleMetadataFacade): any {\n    const meta: R3NgModuleMetadata = {\n      type: wrapReference(facade.type),\n      internalType: new WrappedNodeExpr(facade.type),\n      adjacentType: new WrappedNodeExpr(facade.type),\n      bootstrap: facade.bootstrap.map(wrapReference),\n      declarations:

```
facade.declarations.map(wrapReference),\n      imports: facade.imports.map(wrapReference),\n      exports:
facade.exports.map(wrapReference),\n      emitInline: true,\n      containsForwardDecls: false,\n      schemas:
facade.schemas ? facade.schemas.map(wrapReference)
 : null,\n      id: facade.id ? new WrappedNodeExpr(facade.id) : null,\n    };\n    const res =
compileNgModule(meta);\n    return this.jitExpression(res.expression, angularCoreEnv, sourceMapUrl, []);\n  }\n\n
compileDirective(\n      angularCoreEnv: CoreEnvironment, sourceMapUrl: string,\n      facade:
R3DirectiveMetadataFacade): any {\n    const constantPool = new ConstantPool();\n    const bindingParser =
makeBindingParser();\n\n    const meta: R3DirectiveMetadata = convertDirectiveFacadeToMetadata(facade);\n
const res = compileDirectiveFromMetadata(meta, constantPool, bindingParser);\n    return this.jitExpression(\n
res.expression, angularCoreEnv, sourceMapUrl, constantPool.statements);\n  }\n\n  compileComponent(\n
angularCoreEnv: CoreEnvironment, sourceMapUrl: string,\n      facade: R3ComponentMetadataFacade): any {\n    //
The ConstantPool is a requirement of the JIT'er.\n    const constantPool = new ConstantPool();\n\n    const
interpolationConfig = facade.interpolation
 ?\n        InterpolationConfig.fromArray(facade.interpolation) :\n        DEFAULT_INTERPOLATION_CONFIG;\n
// Parse the template and check for errors.\n    const template = parseTemplate(\n        facade.template,
sourceMapUrl,\n        {preserveWhitespaces: facade.preserveWhitespaces, interpolationConfig});\n    if
(template.errors !== null) {\n      const errors = template.errors.map(err => err.toString()).join(', ');\n      throw new
Error(`Errors during JIT compilation of template for ${facade.name}: ${errors}`);\n    }\n\n    // Compile the
component metadata, including template, into an expression.\n    // TODO(alxhub): implement inputs, outputs,
queries, etc.\n    const metadata = {\n      ...facade as R3ComponentMetadataFacadeNoPropAndWhitespace,\n
...convertDirectiveFacadeToMetadata(facade),\n      selector: facade.selector ||
this.elementSchemaRegistry.getDefaultComponentElementName(),\n      template,\n
wrapDirectivesAndPipesInClosure: false,\n
 styles: [...facade.styles, ...template.styles],\n      encapsulation: facade.encapsulation as any,\n      interpolation:
interpolationConfig,\n      changeDetection: facade.changeDetection,\n      animations: facade.animations != null ?
new WrappedNodeExpr(facade.animations) : null,\n      viewProviders: facade.viewProviders != null ? new
WrappedNodeExpr(facade.viewProviders) :\n                                                null,\n      relativeContextFilePath:
'',\n      i18nUseExternalIds: true,\n    };\n    const res = compileComponentFromMetadata(\n        metadata,
constantPool, makeBindingParser(interpolationConfig));\n    const jitExpressionSourceMap =
`ng:///${facade.name}.js`;\n    return this.jitExpression(\n        res.expression, angularCoreEnv,
jitExpressionSourceMap, constantPool.statements);\n  }\n\n  compileFactory(\n      angularCoreEnv:
CoreEnvironment, sourceMapUrl: string, meta: R3FactoryDefMetadataFacade) {\n    const factoryRes =
compileFactoryFunction({\n
    name: meta.name,\n      type: wrapReference(meta.type),\n      internalType: new
WrappedNodeExpr(meta.type),\n      typeArgumentCount: meta.typeArgumentCount,\n      deps:
convertR3DependencyMetadataArray(meta.deps),\n      injectFn: meta.injectFn === 'directiveInject' ?
Identifiers.directiveInject :\n                                                Identifiers.inject,\n      target: meta.target,\n    });\n
return this.jitExpression(\n        factoryRes.factory, angularCoreEnv, sourceMapUrl, factoryRes.statements);\n  }\n\n
createParseSourceSpan(kind: string, typeName: string, sourceUrl: string): ParseSourceSpan {\n    return
r3JitTypeSourceSpan(kind, typeName, sourceUrl);\n  }\n\n  /**\n   * JIT compiles an expression and returns the
result of executing that expression.\n   *\n   * @param def the definition which will be compiled and executed to get
the value to patch\n   * @param context an object map of @angular/core symbol names to symbols which will be
available\n   *
 in the context of the compiled expression\n   * @param sourceUrl a URL to use for the source map of the compiled
expression\n   * @param preStatements a collection of statements that should be evaluated before the expression.\n
*/\n  private jitExpression(\n      def: Expression, context: {[key: string]: any}, sourceUrl: string,\n      preStatements:
Statement[]): any {\n    // The ConstantPool may contain Statements which declare variables used in the final
expression.\n    // Therefore, its statements need to precede the actual JIT operation. The final statement is a\n    //
```

declaration of $def which is set to the expression being compiled.\n const statements: Statement[] = [\n ...preStatements,\n new DeclareVarStmt('$def', def, undefined, [StmtModifier.Exported]),\n ];\n\n const res = this.jitEvaluator.evaluateStatements(\n sourceUrl, statements, new R3JitReflector(context), /* enableSourceMaps */ true);\n return res['$def'];\n }\n}\n\n// This seems to be needed to placate TS v3.0 only\ntype R3ComponentMetadataFacadeNoPropAndWhitespace = Pick<\n R3ComponentMetadataFacade,\n Exclude<Exclude<keyof R3ComponentMetadataFacade, 'preserveWhitespaces'>, 'propMetadata'>>;\n\nconst USE_CLASS = Object.keys({useClass: null})[0];\nconst USE_FACTORY = Object.keys({useFactory: null})[0];\nconst USE_VALUE = Object.keys({useValue: null})[0];\nconst USE_EXISTING = Object.keys({useExisting: null})[0];\n\nconst wrapReference = function(value: any): R3Reference {\n const wrapped = new WrappedNodeExpr(value);\n return {value: wrapped, type: wrapped};\n};\n\nfunction convertToR3QueryMetadata(facade: R3QueryMetadataFacade): R3QueryMetadata {\n return {\n ...facade,\n predicate: Array.isArray(facade.predicate) ? facade.predicate :\n new WrappedNodeExpr(facade.predicate),\n read: facade.read ? new WrappedNodeExpr(facade.read) : null,\n static: facade.static\n };\n}\n\nfunction convertDirectiveFacadeToMetadata(facade: R3DirectiveMetadataFacade): R3DirectiveMetadata {\n const inputsFromMetadata = parseInputOutputs(facade.inputs || []);\n const outputsFromMetadata = parseInputOutputs(facade.outputs || []);\n const propMetadata = facade.propMetadata;\n const inputsFromType: StringMapWithRename = {};\n const outputsFromType: StringMap = {};\n for (const field in propMetadata) {\n if (propMetadata.hasOwnProperty(field)) {\n propMetadata[field].forEach(ann => {\n if (isInput(ann)) {\n inputsFromType[field] =\n ann.bindingPropertyName ? [ann.bindingPropertyName, field] : field;\n } else if (isOutput(ann)) {\n outputsFromType[field] = ann.bindingPropertyName || field;\n }\n });\n }\n }\n\n return {\n ...facade as R3DirectiveMetadataFacadeNoPropAndWhitespace,\n typeSourceSpan: facade.typeSourceSpan,\n type: wrapReference(facade.type),\n internalType: new WrappedNodeExpr(facade.type),\n deps: convertR3DependencyMetadataArray(facade.deps),\n host: extractHostBindings(facade.propMetadata, facade.typeSourceSpan, facade.host),\n inputs: {...inputsFromMetadata, ...inputsFromType},\n outputs: {...outputsFromMetadata, ...outputsFromType},\n queries: facade.queries.map(convertToR3QueryMetadata),\n providers: facade.providers != null ? new WrappedNodeExpr(facade.providers) : null,\n viewQueries: facade.viewQueries.map(convertToR3QueryMetadata),\n fullInheritance: false,\n };\n}\n\n// This seems to be needed to placate TS v3.0 only\ntype R3DirectiveMetadataFacadeNoPropAndWhitespace =\n Pick<R3DirectiveMetadataFacade, Exclude<keyof R3DirectiveMetadataFacade, 'propMetadata'>>;\n\nfunction wrapExpression(obj: any, property: string): WrappedNodeExpr<any>|undefined {\n if (obj.hasOwnProperty(property)) {\n return new WrappedNodeExpr(obj[property]);\n } else {\n return undefined;\n }\n}\n\nfunction computeProvidedIn(providedIn: Type|string|null|undefined): Expression {\n if (providedIn == null || typeof providedIn === 'string') {\n return new LiteralExpr(providedIn);\n } else {\n return new WrappedNodeExpr(providedIn);\n }\n}\n\nfunction convertR3DependencyMetadata(facade: R3DependencyMetadataFacade): R3DependencyMetadata {\n let tokenExpr;\n if (facade.token === null) {\n tokenExpr = new LiteralExpr(null);\n } else if (facade.resolved === R3ResolvedDependencyType.Attribute) {\n tokenExpr = new LiteralExpr(facade.token);\n } else {\n tokenExpr = new WrappedNodeExpr(facade.token);\n }\n return {\n token: tokenExpr,\n attribute: null,\n resolved: facade.resolved,\n host: facade.host,\n optional: facade.optional,\n self: facade.self,\n skipSelf: facade.skipSelf,\n };\n}\n\nfunction convertR3DependencyMetadataArray(facades: R3DependencyMetadataFacade[]|null|\n undefined): R3DependencyMetadata[]|null {\n return facades == null ? null : facades.map(convertR3DependencyMetadata);\n}\n\nfunction extractHostBindings(\n propMetadata: {[key: string]: any[]}, sourceSpan: ParseSourceSpan,\n host?: {[key: string]: string}): ParsedHostBindings {\n // First parse the declarations from the metadata.\n const bindings = parseHostBindings(host || {});\n\n // After that check host bindings for errors\n const errors = verifyHostBindings(bindings, sourceSpan);\n if (errors.length) {\n throw new Error(errors.map((error: ParseError)

=> error.msg).join('\\n'));\n  }\n\n  // Next, loop over the properties of the object, looking for @HostBinding and @HostListener.\n  for (const field in propMetadata) {\n    if (propMetadata.hasOwnProperty(field)) {\n propMetadata[field].forEach(ann => {\n        if (isHostBinding(ann)) {\n bindings.properties[ann.hostPropertyName || field] = field;\n        } else if (isHostListener(ann)) {\n bindings.listeners[ann.eventName || field] = `${field}(${(ann.args || []).join(',')})`;\n    }\n      });\n    }\n  }\n\n  return bindings;\n}\n\nfunction isHostBinding(value: any): value is HostBinding {\n return value.ngMetadataName === 'HostBinding';\n}\n\nfunction isHostListener(value: any): value is HostListener {\n  return value.ngMetadataName === 'HostListener';\n}\n\n\nfunction isInput(value: any): value is Input {\n return value.ngMetadataName === 'Input';\n}\n\nfunction isOutput(value: any): value is Output {\n  return value.ngMetadataName === 'Output';\n}\n\nfunction parseInputOutputs(values: string[]): StringMap {\n  return values.reduce((map, value) => {\n    const [field, property] = value.split(',').map(piece => piece.trim());\n map[field] = property || field;\n    return map;\n  }, {} as StringMap);\n}\n\nexport function publishFacade(global: any) {\n  const ng: ExportedCompilerFacade = global.ng || (global.ng = {});\n  ng.compilerFacade = new CompilerFacadeImpl();\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from './util';\n\nexport const VERSION = new Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {MissingTranslationStrategy, ViewEncapsulation} from './core';\nimport {noUndefined} from './util';\n\nexport class CompilerConfig {\n  public defaultEncapsulation: ViewEncapsulation|null;\n  public useJit: boolean;\n  public jitDevMode: boolean;\n  public missingTranslation: MissingTranslationStrategy|null;\n  public preserveWhitespaces: boolean;\n  public strictInjectionParameters: boolean;\n\n  constructor({\n defaultEncapsulation = ViewEncapsulation.Emulated,\n    useJit = true,\n    jitDevMode = false,\n    missingTranslation = null,\n    preserveWhitespaces,\n strictInjectionParameters\n  }: {\n    defaultEncapsulation?: ViewEncapsulation,\n    useJit?: boolean,\n jitDevMode?: boolean,\n    missingTranslation?: MissingTranslationStrategy|null,\n    preserveWhitespaces?: boolean,\n    strictInjectionParameters?: boolean,\n  } = {}) {\n    this.defaultEncapsulation = defaultEncapsulation;\n    this.useJit = !!useJit;\n    this.jitDevMode = !!jitDevMode;\n    this.missingTranslation = missingTranslation;\n    this.preserveWhitespaces = preserveWhitespacesDefault(noUndefined(preserveWhitespaces));\n    this.strictInjectionParameters = strictInjectionParameters === true;\n  }\n}\n\nexport function preserveWhitespacesDefault(\n preserveWhitespacesOption: boolean|null, defaultSetting = false): boolean {\n  return preserveWhitespacesOption === null ? defaultSetting : preserveWhitespacesOption;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileDirectiveMetadata, CompileStylesheetMetadata, CompileTemplateMetadata, templateSourceUrl} from './compile_metadata';\nimport {CompilerConfig, preserveWhitespacesDefault} from './config';\nimport {ViewEncapsulation} from './core';\nimport * as html from './ml_parser/ast';\nimport {HtmlParser} from './ml_parser/html_parser';\nimport {InterpolationConfig} from './ml_parser/interpolation_config';\nimport {ParseTreeResult as HtmlParseTreeResult} from './ml_parser/parser';\nimport {ResourceLoader} from './resource_loader';\nimport {extractStyleUrls, isStyleUrlResolvable} from './style_url_resolver';\nimport {PreparsedElementType, preparseElement} from './template_parser/template_preparser';\nimport {UrlResolver} from './url_resolver';\nimport {isDefined, stringify, SyncAsync, syntaxError} from './util';\n\nexport\n interface PrenormalizedTemplateMetadata {\n  ngModuleType: any;\n  componentType: any;\n  moduleUrl: string;\n  template: string|null;\n  templateUrl: string|null;\n  styles: string[];\n  styleUrls: string[];\n  interpolation: [string, string]|null;\n  encapsulation: ViewEncapsulation|null;\n  animations: any[];\n  preserveWhitespaces: boolean|null;\n}\n\nexport class DirectiveNormalizer {\n  private _resourceLoaderCache = new Map<string,

```
SyncAsync<string>>();\n\n  constructor(\n      private _resourceLoader: ResourceLoader, private _urlResolver:
UrlResolver,\n      private _htmlParser: HtmlParser, private _config: CompilerConfig) {}\n\n  clearCache(): void {\n
 this._resourceLoaderCache.clear();\n  }\n\n  clearCacheFor(normalizedDirective: CompileDirectiveMetadata): void
{\n    if (!normalizedDirective.isComponent) {\n      return;\n    }\n    const template = normalizedDirective.template
!;\n    this._resourceLoaderCache.delete(template.templateUrl!);\n
template.externalStylesheets.forEach((stylesheet)
 => {\n      this._resourceLoaderCache.delete(stylesheet.moduleUrl!);\n    });\n  }\n\n  private _fetch(url: string):
SyncAsync<string> {\n    let result = this._resourceLoaderCache.get(url);\n    if (!result) {\n      result =
this._resourceLoader.get(url);\n      this._resourceLoaderCache.set(url, result);\n    }\n    return result;\n  }\n\n
normalizeTemplate(prenormData: PrenormalizedTemplateMetadata):\n      SyncAsync<CompileTemplateMetadata>
{\n    if (isDefined(prenormData.template)) {\n      if (isDefined(prenormData.templateUrl)) {\n        throw
syntaxError(`'${\n            stringify(prenormData\n                .componentType)}' component cannot define both
template and templateUrl`);\n      }\n      if (typeof prenormData.template !== 'string') {\n        throw
syntaxError(`The template specified for component ${\n            stringify(prenormData.componentType)} is not a
string`);\n      }\n    } else if (isDefined(prenormData.templateUrl))
 {\n      if (typeof prenormData.templateUrl !== 'string') {\n        throw syntaxError(`The templateUrl specified for
component ${\n            stringify(prenormData.componentType)} is not a string`);\n      }\n    } else {\n      throw
syntaxError(\n          `No template specified for component ${stringify(prenormData.componentType)}`);\n    }\n\n
if (isDefined(prenormData.preserveWhitespaces) &&\n        typeof prenormData.preserveWhitespaces !==
'boolean') {\n      throw syntaxError(`The preserveWhitespaces option for component ${\n
stringify(prenormData.componentType)} must be a boolean`);\n    }\n\n    return SyncAsync.then(\n
this._preParseTemplate(prenormData),\n        (preparsedTemplate) =>
this._normalizeTemplateMetadata(prenormData, preparsedTemplate));\n  }\n\n  private
_preParseTemplate(prenomData: PrenormalizedTemplateMetadata):\n      SyncAsync<PreparsedTemplate> {\n    let
template: SyncAsync<string>;\n    let templateUrl: string;\n
 if (prenomData.template != null) {\n      template = prenomData.template;\n      templateUrl =
prenomData.moduleUrl;\n    } else {\n      templateUrl = this._urlResolver.resolve(prenomData.moduleUrl,
prenomData.templateUrl!);\n      template = this._fetch(templateUrl);\n    }\n    return SyncAsync.then(\n
template, (template) => this._preparseLoadedTemplate(prenomData, template, templateUrl));\n  }\n\n  private
_preparseLoadedTemplate(\n      prenormData: PrenormalizedTemplateMetadata, template: string,\n
templateAbsUrl: string): PreparsedTemplate {\n    const isInline = !!prenormData.template;\n    const
interpolationConfig = InterpolationConfig.fromArray(prenormData.interpolation!);\n    const templateUrl =
templateSourceUrl(\n        {reference: prenormData.ngModuleType}, {type: {reference:
prenormData.componentType}},\n        {isInline, templateUrl: templateAbsUrl});\n    const rootNodesAndErrors =
this._htmlParser.parse(\n        template, templateUrl, {tokenizeExpansionForms:
 true, interpolationConfig});\n    if (rootNodesAndErrors.errors.length > 0) {\n      const errorString =
rootNodesAndErrors.errors.join('\\n');\n      throw syntaxError(`Template parse errors:\\n${errorString}`);\n    }\n\n
const templateMetadataStyles = this._normalizeStylesheet(new CompileStylesheetMetadata(\n        {styles:
prenormData.styles, moduleUrl: prenormData.moduleUrl}));\n\n    const visitor = new TemplatePreparseVisitor();\n
  html.visitAll(visitor, rootNodesAndErrors.rootNodes);\n    const templateStyles = this._normalizeStylesheet(new
CompileStylesheetMetadata(\n        {styles: visitor.styles, styleUrls: visitor.styleUrls, moduleUrl:
templateAbsUrl}));\n\n    const styles = templateMetadataStyles.styles.concat(templateStyles.styles);\n\n    const
inlineStyleUrls = templateMetadataStyles.styleUrls.concat(templateStyles.styleUrls);\n    const styleUrls = this\n
            ._normalizeStylesheet(new CompileStylesheetMetadata(\n
          {styleUrls: prenormData.styleUrls, moduleUrl: prenormData.moduleUrl}))\n                .styleUrls;\n
return {\n      template,\n      templateUrl: templateAbsUrl,\n      isInline,\n      htmlAst: rootNodesAndErrors,\n
styles,\n      inlineStyleUrls,\n      styleUrls,\n      ngContentSelectors: visitor.ngContentSelectors,\n    };\n  }\n\n
private _normalizeTemplateMetadata(\n      prenormData: PrenormalizedTemplateMetadata,\n
```

```
preparsedTemplate: PreparsedTemplate): SyncAsync<CompileTemplateMetadata> {\n    return SyncAsync.then(\n    this._loadMissingExternalStylesheets(\n preparsedTemplate.styleUrls.concat(preparsedTemplate.inlineStyleUrls)),\n        (externalStylesheets) =>
this._normalizeLoadedTemplateMetadata(\n            prenormData, preparsedTemplate, externalStylesheets));\n  }\n\n private _normalizeLoadedTemplateMetadata(\n      prenormData: PrenormalizedTemplateMetadata,
preparsedTemplate: PreparsedTemplate,\n      stylesheets:
 Map<string, CompileStylesheetMetadata>): CompileTemplateMetadata {\n    // Algorithm:\n    // - produce exactly 1 entry per original styleUrl in\n    // CompileTemplateMetadata.externalStylesheets with all styles inlined\n    // - inline all styles that are referenced by the template into CompileTemplateMetadata.styles.\n    // Reason: be able to determine how many stylesheets there are even without loading\n    // the template nor the stylesheets, so we can create a stub for TypeScript always synchronously\n    // (as resource loading may be async)\n\n    const styles = [...preparsedTemplate.styles];\n    this._inlineStyles(preparsedTemplate.inlineStyleUrls, stylesheets, styles);\n const styleUrls = preparsedTemplate.styleUrls;\n\n    const externalStylesheets = styleUrls.map(styleUrl => {\n const stylesheet = stylesheets.get(styleUrl)!;\n      const styles = [...stylesheet.styles];\n this._inlineStyles(stylesheet.styleUrls, stylesheets, styles);\n      return new
CompileStylesheetMetadata({moduleUrl:
 styleUrl, styles: styles});\n    });\n\n    let encapsulation = prenormData.encapsulation;\n    if (encapsulation == null) {\n      encapsulation = this._config.defaultEncapsulation;\n    }\n    if (encapsulation ===
ViewEncapsulation.Emulated && styles.length === 0 &&\n        styleUrls.length === 0) {\n      encapsulation = ViewEncapsulation.None;\n    }\n    return new CompileTemplateMetadata({\n      encapsulation,\n      template: preparsedTemplate.template,\n      templateUrl: preparsedTemplate.templateUrl,\n      htmlAst: preparsedTemplate.htmlAst,\n      styles,\n      styleUrls,\n      ngContentSelectors:
preparsedTemplate.ngContentSelectors,\n      animations: prenormData.animations,\n      interpolation:
prenormData.interpolation,\n      isInline: preparsedTemplate.isInline,\n      externalStylesheets,\n
preserveWhitespaces: preserveWhitespacesDefault(\n          prenormData.preserveWhitespaces,
this._config.preserveWhitespaces),\n
  });\n  }\n\n  private _inlineStyles(\n      styleUrls: string[], stylesheets: Map<string, CompileStylesheetMetadata>,\n
    targetStyles: string[]) {\n    styleUrls.forEach(styleUrl => {\n      const stylesheet = stylesheets.get(styleUrl)!;\n stylesheet.styles.forEach(style => targetStyles.push(style));\n      this._inlineStyles(stylesheet.styleUrls, stylesheets, targetStyles);\n    });\n  }\n\n  private _loadMissingExternalStylesheets(\n      styleUrls: string[],\n loadedStylesheets:\n          Map<string, CompileStylesheetMetadata> = new Map<string,
CompileStylesheetMetadata>()):\n      SyncAsync<Map<string, CompileStylesheetMetadata>> {\n    return
SyncAsync.then(\n        SyncAsync.all(styleUrls.filter((styleUrl) => !loadedStylesheets.has(styleUrl))\n
  .map(\n                    styleUrl => SyncAsync.then(\n                        this._fetch(styleUrl),\n
        (loadedStyle) => {\n
              const stylesheet =\n                  this._normalizeStylesheet(new
CompileStylesheetMetadata(\n                      {styles: [loadedStyle], moduleUrl: styleUrl}));\n
               loadedStylesheets.set(styleUrl, stylesheet);\n                  return
this._loadMissingExternalStylesheets(\n                      stylesheet.styleUrls, loadedStylesheets);\n
            })),\n        (_) => loadedStylesheets);\n  }\n\n  private _normalizeStylesheet(stylesheet:
CompileStylesheetMetadata): CompileStylesheetMetadata {\n    const moduleUrl = stylesheet.moduleUrl!;\n    const allStyleUrls = stylesheet.styleUrls.filter(isStyleUrlResolvable)\n                    .map(url =>
this._urlResolver.resolve(moduleUrl, url));\n\n    const allStyles = stylesheet.styles.map(style => {\n      const styleWithImports = extractStyleUrls(this._urlResolver, moduleUrl,
 style);\n      allStyleUrls.push(...styleWithImports.styleUrls);\n      return styleWithImports.style;\n    });\n\n    return new CompileStylesheetMetadata(\n        {styles: allStyles, styleUrls: allStyleUrls, moduleUrl: moduleUrl});\n
}\n}\n\ninterface PreparsedTemplate {\n  template: string;\n  templateUrl: string;\n  isInline: boolean;\n  htmlAst:
HtmlParseTreeResult;\n  styles: string[];\n  inlineStyleUrls: string[];\n  styleUrls: string[];\n  ngContentSelectors:
```

string[];\n}\n\nclass TemplatePreparseVisitor implements html.Visitor {\n ngContentSelectors: string[] = [];\n styles: string[] = [];\n styleUrls: string[] = [];\n ngNonBindableStackCount: number = 0;\n\n visitElement(ast: html.Element, context: any): any {\n const preparsedElement = preparseElement(ast);\n switch (preparsedElement.type) {\n case PreparsedElementType.NG_CONTENT:\n if (this.ngNonBindableStackCount === 0) {\n this.ngContentSelectors.push(preparsedElement.selectAttr);\n }\n break;\n case PreparsedElementType.STYLE:\n let textContent = '';\n ast.children.forEach(child => {\n if (child instanceof html.Text) {\n textContent += child.value;\n }\n });\n this.styles.push(textContent);\n break;\n case PreparsedElementType.STYLESHEET:\n this.styleUrls.push(preparsedElement.hrefAttr);\n break;\n default:\n break;\n }\n if (preparsedElement.nonBindable) {\n this.ngNonBindableStackCount++;\n }\n html.visitAll(this, ast.children);\n if (preparsedElement.nonBindable) {\n this.ngNonBindableStackCount--;\n }\n return null;\n }\n\n visitExpansion(ast: html.Expansion, context: any): any {\n html.visitAll(this, ast.cases);\n }\n\n visitExpansionCase(ast: html.ExpansionCase, context: any): any {\n html.visitAll(this, ast.expression);\n }\n\n visitComment(ast: html.Comment, context: any): any {\n return null;\n }\n visitAttribute(ast: html.Attribute, context: any): any {\n return null;\n }\n visitText(ast: html.Text, context: any): any {\n return null;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileReflector} from './compile_reflector';\nimport {Component, createComponent, createContentChild, createContentChildren, createDirective, createHostBinding, createHostListener, createInput, createOutput, createViewChild, createViewChildren, Directive, Type} from './core';\nimport {resolveForwardRef, splitAtColon, stringify} from './util';\n\nconst QUERY_METADATA_IDENTIFIERS = [\n createViewChild,\n createViewChildren,\n createContentChild,\n createContentChildren,\n];\n\n/*\n * Resolve a `Type` for {@link Directive}.\n *\n * This interface can be overridden by the application developer to create custom behavior.\n *\n * See {@link Compiler}\n */\nexport class DirectiveResolver {\n constructor(private _reflector: CompileReflector) {}\n\n isDirective(type: Type) {\n const typeMetadata = this._reflector.annotations(resolveForwardRef(type));\n return typeMetadata && typeMetadata.some(isDirectiveMetadata);\n }\n\n /**\n * Return {@link Directive} for a given `Type`.\n */\n resolve(type: Type): Directive;\n resolve(type: Type, throwIfNotFound: true): Directive;\n resolve(type: Type, throwIfNotFound: boolean): Directive|null;\n resolve(type: Type, throwIfNotFound = true): Directive|null {\n const typeMetadata = this._reflector.annotations(resolveForwardRef(type));\n if (typeMetadata) {\n const metadata = findLast(typeMetadata, isDirectiveMetadata);\n if (metadata) {\n const propertyMetadata = this._reflector.propMetadata(type);\n const guards = this._reflector.guards(type);\n return this._mergeWithPropertyMetadata(metadata, propertyMetadata, guards, type);\n }\n }\n\n if (throwIfNotFound) {\n throw new Error(`No Directive annotation found on ${stringify(type)}`);\n }\n\n return null;\n }\n\n private _mergeWithPropertyMetadata(\n dm: Directive, propertyMetadata: {[key: string]: any[]}, guards: {[key: string]: any},\n directiveType: Type): Directive {\n const inputs: string[] = [];\n const outputs: string[] = [];\n const host: {[key: string]: string} = {};\n const queries: {[key: string]: any} = {};\n Object.keys(propertyMetadata).forEach((propName: string) => {\n const input = findLast(propertyMetadata[propName], (a) => createInput.isTypeOf(a));\n if (input) {\n if (input.bindingPropertyName) {\n inputs.push(`${propName}: ${input.bindingPropertyName}`);\n } else {\n inputs.push(propName);\n }\n }\n const output = findLast(propertyMetadata[propName], (a) => createOutput.isTypeOf(a));\n if (output) {\n if (output.bindingPropertyName) {\n outputs.push(`${propName}: ${output.bindingPropertyName}`);\n } else {\n outputs.push(propName);\n }\n }\n const hostBindings = propertyMetadata[propName].filter(a => createHostBinding.isTypeOf(a));\n hostBindings.forEach(hostBinding => {\n if (hostBinding.hostPropertyName) {\n const startWith = hostBinding.hostPropertyName[0];\n if (startWith === '(') {\n throw new Error(`@HostBinding can not bind to events. Use @HostListener

instead.`);\n } else if (startWith === '[') {\n throw new Error(\n `@HostBinding parameter should be a property name, 'class.<name>', or 'attr.<name>'.`);\n }\n host[`[${hostBinding.hostPropertyName}]`] = propName;\n } else {\n host[`[${propName}]`] = propName;\n }\n });\n const hostListeners = propertyMetadata[propName].filter(a => createHostListener.isTypeOf(a));\n
hostListeners.forEach(hostListener => {\n const args = hostListener.args || [];\n host[`(${hostListener.eventName})`] = `${propName}(${args.join(',')})`;\n });\n const query = findLast(\n propertyMetadata[propName], (a) => QUERY_METADATA_IDENTIFIERS.some(i => i.isTypeOf(a)));\n if (query) {\n queries[propName] = query;\n }\n });\n return this._merge(dm, inputs, outputs, host, queries, guards, directiveType);\n }\n\n private _extractPublicName(def: string) {\n return splitAtColon(def, [null!, def])[1].trim();\n }\n\n private _dedupeBindings(bindings: string[]): string[] {\n const names = new Set<string>();\n const publicNames = new Set<string>();\n const reversedResult: string[] = [];\n // go last to first to allow later entries to overwrite previous entries\n for (let i = bindings.length - 1; i >= 0; i--) {\n const binding = bindings[i];\n const name = this._extractPublicName(binding);\n
publicNames.add(name);\n if (!names.has(name)) {\n names.add(name);\n reversedResult.push(binding);\n }\n }\n return reversedResult.reverse();\n }\n\n private _merge(\n directive: Directive, inputs: string[], outputs: string[], host: {[key: string]: string},\n queries: {[key: string]: any}, guards: {[key: string]: any}, directiveType: Type): Directive {\n const mergedInputs =\n this._dedupeBindings(directive.inputs ? directive.inputs.concat(inputs) : inputs);\n const mergedOutputs =\n this._dedupeBindings(directive.outputs ? directive.outputs.concat(outputs) : outputs);\n const mergedHost = directive.host ? {...directive.host, ...host} : host;\n const mergedQueries = directive.queries ? {...directive.queries, ...queries} : queries;\n if (createComponent.isTypeOf(directive)) {\n const comp = directive as Component;\n return createComponent({\n selector: comp.selector,\n inputs: mergedInputs,\n
outputs: mergedOutputs,\n host: mergedHost,\n exportAs: comp.exportAs,\n moduleId: comp.moduleId,\n queries: mergedQueries,\n changeDetection: comp.changeDetection,\n providers: comp.providers,\n viewProviders: comp.viewProviders,\n entryComponents: comp.entryComponents,\n template: comp.template,\n templateUrl: comp.templateUrl,\n styles: comp.styles,\n styleUrls: comp.styleUrls,\n encapsulation: comp.encapsulation,\n animations: comp.animations,\n interpolation: comp.interpolation,\n preserveWhitespaces: directive.preserveWhitespaces,\n });\n } else {\n return createDirective({\n selector: directive.selector,\n inputs: mergedInputs,\n outputs: mergedOutputs,\n host: mergedHost,\n exportAs: directive.exportAs,\n queries: mergedQueries,\n providers: directive.providers,\n guards\n });\n
}\n }\n}\n\nfunction isDirectiveMetadata(type: any): type is Directive {\n return createDirective.isTypeOf(type) || createComponent.isTypeOf(type);\n}\n\nexport function findLast<T>(arr: T[], condition: (value: T) => boolean): T|null {\n for (let i = arr.length - 1; i >= 0; i--) {\n if (condition(arr[i])) {\n return arr[i];\n }\n }\n return null;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ParseError, ParseSourceSpan} from '../parse_util';\n\n/**\n * An i18n error.\n */\nexport class I18nError extends ParseError {\n constructor(span: ParseSourceSpan, msg: string) {\n super(span, msg);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as html from '../ml_parser/ast';\nimport {InterpolationConfig} from '../ml_parser/interpolation_config';\nimport {ParseTreeResult} from '../ml_parser/parser';\n\nimport * as i18n from './i18n_ast';\nimport {createI18nMessageFactory, I18nMessageFactory} from './i18n_parser';\nimport {I18nError} from './parse_util';\nimport {TranslationBundle} from './translation_bundle';\n\nconst _I18N_ATTR = 'i18n';\nconst _I18N_ATTR_PREFIX = 'i18n-';\nconst _I18N_COMMENT_PREFIX_REGEXP = /^i18n:?/;\nconst MEANING_SEPARATOR = '|';\nconst ID_SEPARATOR = '@@';\nlet i18nCommentsWarned = false;\n\n/**\n * Extract translatable messages from an html AST\n */\nexport function extractMessages(\n nodes: html.Node[],

```
interpolationConfig: InterpolationConfig, implicitTags: string[],\n    implicitAttrs: {[k: string]: string[]}): ExtractionResult {\n  const visitor = new _Visitor(implicitTags, implicitAttrs);\n  return visitor.extract(nodes, interpolationConfig);\n}\n\nexport function mergeTranslations(\n    nodes: html.Node[], translations: TranslationBundle, interpolationConfig: InterpolationConfig,\n    implicitTags: string[], implicitAttrs: {[k: string]: string[]}): ParseTreeResult {\n  const visitor = new _Visitor(implicitTags, implicitAttrs);\n  return visitor.merge(nodes, translations, interpolationConfig);\n}\n\nexport class ExtractionResult {\n  constructor(public messages: i18n.Message[], public errors: I18nError[]) {}\n}\n\nenum _VisitorMode {\n  Extract,\n  Merge\n}\n\n/**\n * This Visitor is used:\n * 1. to extract all the translatable strings from an html AST (see `extract()`),\n * 2. to replace the translatable strings with the actual translations (see `merge()`)\n *\n * @internal\n */\nclass _Visitor implements html.Visitor {\n  // TODO(issue/24571): remove '!'.\n  private _depth!: number;\n\n  // <el i18n>...</el>\n  // TODO(issue/24571): remove '!'.\n  private _inI18nNode!: boolean;\n  // TODO(issue/24571): remove '!'.\n  private _inImplicitNode!: boolean;\n\n  // <!--i18n-->...<!--/i18n-->\n  // TODO(issue/24571): remove '!'.\n  private _inI18nBlock!: boolean;\n  // TODO(issue/24571): remove '!'.\n  private _blockMeaningAndDesc!: string;\n  // TODO(issue/24571): remove '!'.\n  private _blockChildren!: html.Node[];\n  // TODO(issue/24571): remove '!'.\n  private _blockStartDepth!: number;\n\n  // {<icu message>}\n  // TODO(issue/24571): remove '!'.\n  private _inIcu!: boolean;\n\n  // set to void 0 when not in a section\n  private _msgCountAtSectionStart: number|undefined;\n  // TODO(issue/24571): remove '!'.\n  private _errors!: I18nError[];\n  // TODO(issue/24571): remove '!'.\n  private _mode!: _VisitorMode;\n\n  // _VisitorMode.Extract only\n  // TODO(issue/24571): remove '!'.\n  private _messages!: i18n.Message[];\n\n  // _VisitorMode.Merge only\n  // TODO(issue/24571): remove '!'.\n  private _translations!: TranslationBundle;\n  // TODO(issue/24571): remove '!'.\n  private _createI18nMessage!: I18nMessageFactory;\n\n\n  constructor(private _implicitTags: string[], private _implicitAttrs: {[k: string]: string[]}) {}\n\n  /**\n   * Extracts the messages from the tree\n   */\n  extract(nodes: html.Node[], interpolationConfig: InterpolationConfig): ExtractionResult {\n    this._init(_VisitorMode.Extract, interpolationConfig);\n\n    nodes.forEach(node => node.visit(this, null));\n\n    if (this._inI18nBlock) {\n      this._reportError(nodes[nodes.length - 1], 'Unclosed block');\n    }\n\n    return new ExtractionResult(this._messages, this._errors);\n  }\n\n  /**\n   * Returns a tree where all translatable nodes are translated\n   */\n  merge(\n      nodes: html.Node[], translations: TranslationBundle,\n      interpolationConfig: InterpolationConfig): ParseTreeResult {\n    this._init(_VisitorMode.Merge, interpolationConfig);\n    this._translations = translations;\n\n    // Construct a single fake root element\n    const wrapper = new html.Element('wrapper', [], nodes, undefined!, undefined!, undefined);\n\n    const translatedNode = wrapper.visit(this, null);\n\n    if (this._inI18nBlock) {\n      this._reportError(nodes[nodes.length - 1], 'Unclosed block');\n    }\n\n    return new ParseTreeResult(translatedNode.children, this._errors);\n  }\n\n  visitExpansionCase(icuCase: html.ExpansionCase, context: any): any {\n    // Parse cases for translatable html attributes\n    const expression = html.visitAll(this, icuCase.expression, context);\n\n    if (this._mode === _VisitorMode.Merge) {\n      return new html.ExpansionCase(\n          icuCase.value, expression, icuCase.sourceSpan, icuCase.valueSourceSpan,\n          icuCase.expSourceSpan);\n    }\n  }\n\n  visitExpansion(icu: html.Expansion, context: any): html.Expansion {\n    this._mayBeAddBlockChildren(icu);\n\n    const wasInIcu = this._inIcu;\n\n    if (!this._inIcu) {\n      // nested ICU messages should not be extracted but top-level translated as a whole\n      if (this._isInTranslatableSection) {\n        this._addMessage([icu]);\n      }\n      this._inIcu = true;\n    }\n\n    const cases = html.visitAll(this, icu.cases, context);\n\n    if (this._mode === _VisitorMode.Merge) {\n      icu = new html.Expansion(\n          icu.switchValue, icu.type, cases, icu.sourceSpan, icu.switchValueSourceSpan);\n    }\n\n    this._inIcu = wasInIcu;\n\n    return icu;\n  }\n\n  visitComment(comment: html.Comment, context: any): any {\n    const isOpening = _isOpeningComment(comment);\n\n    if (isOpening && this._isInTranslatableSection) {\n      this._reportError(comment, 'Could not start a block inside a translatable section');\n      return;\n    }\n\n    const isClosing = _isClosingComment(comment);\n\n    if (isClosing && !this._inI18nBlock) {\n      this._reportError(comment, 'Trying to close an unopened block');\n      return;\n    }\n\n    if (!this._inI18nNode &&
```

```
!this._inIcu) {\n      if (!this._inI18nBlock) {\n        if (isOpening) {\n          // deprecated from v5 you should use <ng-container i18n> instead
 of i18n comments\n          if (!i18nCommentsWarned && <any>console && <any>console.warn) {\n i18nCommentsWarned = true;\n            const details = comment.sourceSpan.details ? `, ${comment.sourceSpan.details}` : '';\n            // TODO(ocombe): use a log service once there is a public one available\n            console.warn(`I18n comments are deprecated, use an <ng-container> element instead (${\n   comment.sourceSpan.start}${details})`);\n          }\n          this._inI18nBlock = true;\n          this._blockStartDepth = this._depth;\n          this._blockChildren = [];\n          this._blockMeaningAndDesc =\n comment.value!.replace(_I18N_COMMENT_PREFIX_REGEXP, '').trim();\n this._openTranslatableSection(comment);\n        }\n      } else {\n        if (isClosing) {\n          if (this._depth == this._blockStartDepth) {\n            this._closeTranslatableSection(comment, this._blockChildren);\n this._inI18nBlock = false;\n
            const message = this._addMessage(this._blockChildren, this._blockMeaningAndDesc)!;\n            // merge attributes in sections\n            const nodes = this._translateMessage(comment, message);\n            return html.visitAll(this, nodes);\n          } else {\n            this._reportError(comment, 'I18N blocks should not cross element boundaries');\n            return;\n          }\n        }\n      }\n    }\n  }\n\n  visitText(text: html.Text, context: any): html.Text {\n    if (this._isInTranslatableSection) {\n      this._mayBeAddBlockChildren(text);\n    }\n    return text;\n  }\n\n  visitElement(el: html.Element, context: any): html.Element|null {\n this._mayBeAddBlockChildren(el);\n    this._depth++;\n    const wasInI18nNode = this._inI18nNode;\n    const wasInImplicitNode = this._inImplicitNode;\n    let childNodes: html.Node[] = [];\n    let translatedChildNodes: html.Node[] = undefined!;\n\n    // Extract:\n    // - top level nodes with the (implicit) \"i18n\"
 attribute if not already in a section\n    // - ICU messages\n    const i18nAttr = _getI18nAttr(el);\n    const i18nMeta = i18nAttr ? i18nAttr.value : '';\n    const isImplicit = this._implicitTags.some(tag => el.name === tag) &&\n        !this._inIcu &&\n        !this._isInTranslatableSection;\n    const isTopLevelImplicit = !wasInImplicitNode && isImplicit;\n    this._inImplicitNode = wasInImplicitNode || isImplicit;\n\n    if (!this._isInTranslatableSection && !this._inIcu) {\n      if (i18nAttr || isTopLevelImplicit) {\n        this._inI18nNode = true;\n        const message = this._addMessage(el.children, i18nMeta)!;\n        translatedChildNodes = this._translateMessage(el, message);\n      }\n\n      if (this._mode == _VisitorMode.Extract) {\n        const isTranslatable = i18nAttr || isTopLevelImplicit;\n        if (isTranslatable) this._openTranslatableSection(el);\n        html.visitAll(this, el.children);\n        if (isTranslatable) this._closeTranslatableSection(el, el.children);\n      }\n    } else {\n      if (i18nAttr || isTopLevelImplicit) {\n        this._reportError(\n            el, 'Could not mark an element as translatable inside a translatable section');\n      }\n\n      if (this._mode == _VisitorMode.Extract) {\n        // Descend into child nodes for extraction\n        html.visitAll(this, el.children);\n      }\n    }\n\n    if (this._mode === _VisitorMode.Merge) {\n      const visitNodes = translatedChildNodes || el.children;\n      visitNodes.forEach(child => {\n        const visited = child.visit(this, context);\n        if (visited && !this._isInTranslatableSection) {\n          // Do not add the children from translatable sections (= i18n blocks here)\n          // They will be added later in this loop when the block closes (i.e. on `<!-- /i18n -->`)\n          childNodes = childNodes.concat(visited);\n        }\n      });\n    }\n\n    this._visitAttributesOf(el);\n\n    this._depth--;\n    this._inI18nNode = wasInI18nNode;\n    this._inImplicitNode
 = wasInImplicitNode;\n\n    if (this._mode === _VisitorMode.Merge) {\n      const translatedAttrs = this._translateAttributes(el);\n      return new html.Element(\n          el.name, translatedAttrs, childNodes, el.sourceSpan, el.startSourceSpan,\n          el.endSourceSpan);\n    }\n    return null;\n  }\n\n  visitAttribute(attribute: html.Attribute, context: any): any {\n    throw new Error('unreachable code');\n  }\n\n  private _init(mode: _VisitorMode, interpolationConfig: InterpolationConfig): void {\n    this._mode = mode;\n    this._inI18nBlock = false;\n    this._inI18nNode = false;\n    this._depth = 0;\n    this._inIcu = false;\n    this._msgCountAtSectionStart = undefined;\n    this._errors = [];\n    this._messages = [];\n    this._inImplicitNode = false;\n    this._createI18nMessage = createI18nMessageFactory(interpolationConfig);\n  }\n\n  // looks for translatable attributes\n  private _visitAttributesOf(el: html.Element): void {\n    const explicitAttrNameToValue:
```

```
{[k: string]: string} = {};\n    const implicitAttrNames: string[] = this._implicitAttrs[el.name] || [];\n\n
el.attrs.filter(attr => attr.name.startsWith(_I18N_ATTR_PREFIX))\n        .forEach(\n            attr =>
explicitAttrNameToValue[attr.name.slice(_I18N_ATTR_PREFIX.length)] =\n                attr.value);\n\n
el.attrs.forEach(attr => {\n      if (attr.name in explicitAttrNameToValue) {\n        this._addMessage([attr],
explicitAttrNameToValue[attr.name]);\n      } else if (implicitAttrNames.some(name => attr.name === name)) {\n
  this._addMessage([attr]);\n      }\n    });\n  }\n\n  // add a translatable message\n  private _addMessage(ast:
html.Node[], msgMeta?: string): i18n.Message|null {\n    if (ast.length == 0 ||\n        ast.length == 1 && ast[0]
instanceof html.Attribute && !(<html.Attribute>ast[0]).value) {\n      // Do not create empty messages\n      return
null;\n    }\n\n    const {meaning, description, id} = _parseMessageMeta(msgMeta);\n    const message
 = this._createI18nMessage(ast, meaning, description, id);\n    this._messages.push(message);\n    return message;\n
}\n\n  // Translates the given message given the `TranslationBundle`\n  // This is used for translating elements /
blocks - see `_translateAttributes` for attributes\n  // no-op when called in extraction mode (returns [])\n  private
_translateMessage(el: html.Node, message: i18n.Message): html.Node[] {\n    if (message && this._mode ===
_VisitorMode.Merge) {\n      const nodes = this._translations.get(message);\n\n      if (nodes) {\n        return nodes;\n
    }\n\n      this._reportError(\n          el, `Translation unavailable for message
id=\"${this._translations.digest(message)}\"`);\n    }\n\n    return [];\n  }\n\n  // translate the attributes of an element
and remove i18n specific attributes\n  private _translateAttributes(el: html.Element): html.Attribute[] {\n    const
attributes = el.attrs;\n    const i18nParsedMessageMeta:\n        {[name: string]: {meaning:
 string, description: string, id: string}} = {};\n\n    attributes.forEach(attr => {\n      if
(attr.name.startsWith(_I18N_ATTR_PREFIX)) {\n
i18nParsedMessageMeta[attr.name.slice(_I18N_ATTR_PREFIX.length)] =\n
_parseMessageMeta(attr.value);\n      }\n    });\n\n    const translatedAttributes: html.Attribute[] = [];\n\n
attributes.forEach((attr) => {\n      if (attr.name === _I18N_ATTR || attr.name.startsWith(_I18N_ATTR_PREFIX))
{\n        // strip i18n specific attributes\n        return;\n      }\n\n      if (attr.value && attr.value != '' &&
i18nParsedMessageMeta.hasOwnProperty(attr.name)) {\n        const {meaning, description, id} =
i18nParsedMessageMeta[attr.name];\n        const message: i18n.Message = this._createI18nMessage([attr], meaning,
description, id);\n        const nodes = this._translations.get(message);\n        if (nodes) {\n          if (nodes.length ==
0) {\n            translatedAttributes.push(new html.Attribute(attr.name, '', attr.sourceSpan));\n
        } else if (nodes[0] instanceof html.Text) {\n            const value = (nodes[0] as html.Text).value;\n
translatedAttributes.push(new html.Attribute(attr.name, value, attr.sourceSpan));\n          } else {\n
this._reportError(\n                el,\n                `Unexpected translation for attribute \"${attr.name}\" (id=\"${\n
    id || this._translations.digest(message)}\")`);\n          }\n        } else {\n          this._reportError(\n              el,\n
    `Translation unavailable for attribute \"${attr.name}\" (id=\"${\n                id ||
this._translations.digest(message)}\")`);\n        }\n      } else {\n        translatedAttributes.push(attr);\n      }\n    });\n\n
  return translatedAttributes;\n  }\n\n\n  /**\n   * Add the node as a child of the block when:\n   * - we are in a
block,\n   * - we are not inside a ICU message (those are handled separately),\n   * - the node is a \"direct child\" of
the
 block\n   */\n  private _mayBeAddBlockChildren(node: html.Node): void {\n    if (this._inI18nBlock &&
!this._inIcu && this._depth == this._blockStartDepth) {\n      this._blockChildren.push(node);\n    }\n  }\n\n  /**\n
* Marks the start of a section, see `_closeTranslatableSection`\n   */\n  private _openTranslatableSection(node:
html.Node): void {\n    if (this._isInTranslatableSection) {\n      this._reportError(node, 'Unexpected section start');\n
  } else {\n      this._msgCountAtSectionStart = this._messages.length;\n    }\n  }\n\n  /**\n   * A translatable section
could be:\n   * - the content of translatable element,\n   * - nodes between `<!-- i18n -->` and `<!-- /i18n -->`
comments\n   */\n  private get _isInTranslatableSection(): boolean {\n    return this._msgCountAtSectionStart !==
void 0;\n  }\n\n  /**\n   * Terminates a section.\n   *\n   * If a section has only one significant children (comments
not significant) then we should not\n   * keep the message from this children:\n
   *\n   * `<p i18n=\"meaning|description\">{ICU message}</p>` would produce two messages:\n   * - one for the
<p> content with meaning and description,\n   * - another one for the ICU message.\n   *\n   * In this case the last
```

message is discarded as it contains less information (the AST is\n * otherwise identical).\n *\n * Note that we should still keep messages extracted from attributes inside the section (ie in the\n * ICU message here)\n */\n private _closeTranslatableSection(node: html.Node, directChildren: html.Node[]): void {\n if (!this._isInTranslatableSection) {\n this._reportError(node, 'Unexpected section end');\n return;\n }\n\n const startIndex = this._msgCountAtSectionStart;\n const significantChildren: number = directChildren.reduce(\n (count: number, node: html.Node): number => count + (node instanceof html.Comment ? 0 : 1),\n 0);\n\n if (significantChildren == 1) {\n for (let i = this._messages.length - 1; i >= startIndex!; i--) {\n const ast = this._messages[i].nodes;\n if (!(ast.length == 1 && ast[0] instanceof i18n.Text)) {\n this._messages.splice(i, 1);\n break;\n }\n }\n }\n\n this._msgCountAtSectionStart = undefined;\n }\n\n private _reportError(node: html.Node, msg: string): void {\n this._errors.push(new I18nError(node.sourceSpan, msg));\n }\n}\n\nfunction _isOpeningComment(n: html.Node): boolean {\n return !!(n instanceof html.Comment && n.value && n.value.startsWith('i18n'));\n}\n\nfunction _isClosingComment(n: html.Node): boolean {\n return !!(n instanceof html.Comment && n.value && n.value === '/i18n');\n}\n\nfunction _getI18nAttr(p: html.Element): html.Attribute|null {\n return p.attrs.find(attr => attr.name === _I18N_ATTR) || null;\n}\n\nfunction _parseMessageMeta(i18n?: string): {meaning: string, description: string, id: string} {\n if (!i18n) return {meaning: '', description: '', id: ''};\n\n const idIndex = i18n.indexOf(ID_SEPARATOR);\n const descIndex = i18n.indexOf(MEANING_SEPARATOR);\n const [meaningAndDesc, id] =\n (idIndex > -1) ? [i18n.slice(0, idIndex), i18n.slice(idIndex + 2)] : [i18n, ''];\n const [meaning, description] = (descIndex > -1) ?\n [meaningAndDesc.slice(0, descIndex), meaningAndDesc.slice(descIndex + 1)] :\n ['', meaningAndDesc];\n\n return {meaning, description, id: id.trim()};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {TagContentType, TagDefinition} from './tags';\n\nexport class XmlTagDefinition implements TagDefinition {\n closedByParent: boolean = false;\n // TODO(issue/24571): remove '!'.\n requiredParents!: {[key: string]: boolean};\n // TODO(issue/24571): remove '!'.\n parentToAdd!: string;\n // TODO(issue/24571): remove '!'.\n implicitNamespacePrefix!: string;\n contentType: TagContentType = TagContentType.PARSABLE_DATA;\n isVoid: boolean = false;\n ignoreFirstLf: boolean = false;\n canSelfClose: boolean = true;\n preventNamespaceInheritance: boolean = false;\n\n requireExtraParent(currentParent: string): boolean {\n return false;\n }\n\n isClosedByChild(name: string): boolean {\n return false;\n }\n}\n\nconst _TAG_DEFINITION = new XmlTagDefinition();\n\nexport function getXmlTagDefinition(tagName: string): XmlTagDefinition {\n return _TAG_DEFINITION;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {TokenizeOptions} from './lexer';\nimport {Parser, ParseTreeResult} from './parser';\nimport {getXmlTagDefinition} from './xml_tags';\n\nexport {ParseTreeResult, TreeError} from './parser';\n\nexport class XmlParser extends Parser {\n constructor() {\n super(getXmlTagDefinition);\n }\n\n parse(source: string, url: string, options?: TokenizeOptions): ParseTreeResult {\n return super.parse(source, url, options);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as ml from '../../ml_parser/ast';\nimport {XmlParser} from '../../ml_parser/xml_parser';\nimport {digest} from '../digest';\nimport * as i18n from '../i18n_ast';\nimport {I18nError} from '../parse_util';\n\nimport {Serializer} from './serializer';\nimport * as xml from './xml_helper';\n\nconst _VERSION = '1.2';\nconst _XMLNS = 'urn:oasis:names:tc:xliff:document:1.2';\n// TODO(vicb): make this a param (s/_/-/)\nconst _DEFAULT_SOURCE_LANG = 'en';\nconst _PLACEHOLDER_TAG = 'x';\nconst _MARKER_TAG = 'mrk';\n\nconst _FILE_TAG = 'file';\nconst _SOURCE_TAG = 'source';\nconst _SEGMENT_SOURCE_TAG = 'seg-source';\nconst _ALT_TRANS_TAG = 'alt-trans';\nconst _TARGET_TAG = 'target';\nconst _UNIT_TAG = 'trans-unit';\nconst _CONTEXT_GROUP_TAG = 'context-group';\nconst _CONTEXT_TAG = 'context';\n\n//

https://docs.oasis-open.org/xliff/v1.2/os/xliff-core.html\n// https://docs.oasis-open.org/xliff/v1.2/xliff-profile-html/xliff-profile-html-1.2.html\nexport class Xliff extends Serializer {\n  write(messages: i18n.Message[], locale: string|null): string {\n    const visitor = new _WriteVisitor();\n    const transUnits: xml.Node[] = [];\n\n    messages.forEach(message => {\n      let contextTags: xml.Node[] = [];\n      message.sources.forEach((source: i18n.MessageSpan) => {\n        let contextGroupTag = new xml.Tag(_CONTEXT_GROUP_TAG, {purpose: 'location'});\n        contextGroupTag.children.push(\n            new xml.CR(10),\n            new xml.Tag(\n                _CONTEXT_TAG, {'context-type': 'sourcefile'}, [new xml.Text(source.filePath)]),\n            new xml.CR(10),\n            new
                xml.Tag(_CONTEXT_TAG, {'context-type': 'linenumber'}, [new xml.Text(\n                    `${source.startLine}`)]),\n            new xml.CR(8));\n        contextTags.push(new xml.CR(8), contextGroupTag);\n      });\n\n      const transUnit = new xml.Tag(_UNIT_TAG, {id: message.id, datatype: 'html'});\n      transUnit.children.push(\n          new xml.CR(8), new xml.Tag(_SOURCE_TAG, {}, visitor.serialize(message.nodes)),\n          ...contextTags);\n\n      if (message.description) {\n        transUnit.children.push(\n            new xml.CR(8),\n            new xml.Tag(\n                'note', {priority: '1', from: 'description'}, [new xml.Text(message.description)]));\n      }\n\n      if (message.meaning) {\n        transUnit.children.push(\n            new xml.CR(8),\n            new xml.Tag('note', {priority: '1', from: 'meaning'}, [new xml.Text(message.meaning)]));\n      }\n\n      transUnit.children.push(new xml.CR(6));\n\n      transUnits.push(new xml.CR(6), transUnit);\n    });\n\n    const body = new xml.Tag('body', {}, [...transUnits, new xml.CR(4)]);\n    const file = new xml.Tag(\n        'file', {\n          'source-language': locale || _DEFAULT_SOURCE_LANG,\n          datatype: 'plaintext',\n          original: 'ng2.template',\n        },\n        [new xml.CR(4), body, new xml.CR(2)]);\n    const xliff = new xml.Tag(\n        'xliff', {version: _VERSION, xmlns: _XMLNS}, [new xml.CR(2), file, new xml.CR()]);\n\n    return xml.serialize([\n      new xml.Declaration({version: '1.0', encoding: 'UTF-8'}), new xml.CR(), xliff, new xml.CR()\n    ]);\n  }\n\n  load(content: string, url: string):\n      {locale: string, i18nNodesByMsgId: {[msgId: string]: i18n.Node[]}} {\n    // xliff to xml nodes\n    const xliffParser = new XliffParser();\n    const {locale, msgIdToHtml, errors} = xliffParser.parse(content, url);\n\n    // xml nodes to i18n nodes\n    const i18nNodesByMsgId: {[msgId: string]: i18n.Node[]}
    = {};\n    const converter = new XmlToI18n();\n\n    Object.keys(msgIdToHtml).forEach(msgId => {\n      const {i18nNodes, errors: e} = converter.convert(msgIdToHtml[msgId], url);\n      errors.push(...e);\n      i18nNodesByMsgId[msgId] = i18nNodes;\n    });\n\n    if (errors.length) {\n      throw new Error(`xliff parse errors:\\n${errors.join('\\n')}`);\n    }\n\n    return {locale: locale!, i18nNodesByMsgId};\n  }\n\n  digest(message: i18n.Message): string {\n    return digest(message);\n  }\n}\n\nclass _WriteVisitor implements i18n.Visitor {\n  visitText(text: i18n.Text, context?: any): xml.Node[] {\n    return [new xml.Text(text.value)];\n  }\n\n  visitContainer(container: i18n.Container, context?: any): xml.Node[] {\n    const nodes: xml.Node[] = [];\n    container.children.forEach((node: i18n.Node) => nodes.push(...node.visit(this)));\n    return nodes;\n  }\n\n  visitIcu(icu: i18n.Icu, context?: any): xml.Node[] {\n    const nodes = [new
    xml.Text(`{${icu.expressionPlaceholder},
    ${icu.type}, `)];\n\n    Object.keys(icu.cases).forEach((c: string) => {\n      nodes.push(new xml.Text(`${c} {`), ...icu.cases[c].visit(this), new xml.Text(`} `));\n    });\n\n    nodes.push(new xml.Text(`}`));\n\n    return nodes;\n  }\n\n  visitTagPlaceholder(ph: i18n.TagPlaceholder, context?: any): xml.Node[] {\n    const ctype = getCtypeForTag(ph.tag);\n\n    if (ph.isVoid) {\n      // void tags have no children nor closing tags\n      return [new xml.Tag(\n          _PLACEHOLDER_TAG, {id: ph.startName, ctype, 'equiv-text': `<${ph.tag}/>`})];\n    }\n\n    const startTagPh =\n        new xml.Tag(_PLACEHOLDER_TAG, {id: ph.startName, ctype, 'equiv-text': `<${ph.tag}>`});\n    const closeTagPh =\n        new xml.Tag(_PLACEHOLDER_TAG, {id: ph.closeName, ctype, 'equiv-text': `</${ph.tag}>`});\n\n    return [startTagPh, ...this.serialize(ph.children), closeTagPh];\n  }\n\n  visitPlaceholder(ph: i18n.Placeholder, context?: any): xml.Node[] {\n    return [new xml.Tag(_PLACEHOLDER_TAG,
    {id: ph.name, 'equiv-text': `{{${ph.value}}}`})];\n  }\n\n  visitIcuPlaceholder(ph: i18n.IcuPlaceholder, context?: any): xml.Node[] {\n    const equivText = `{${ph.value.expression}, ${ph.value.type}, ${\n

```
Object.keys(ph.value.cases).map((value: string) => value + ' {...}').join(' ')}}`;\n    return [new
xml.Tag(_PLACEHOLDER_TAG, {id: ph.name, 'equiv-text': equivText})];\n  }\n\n  serialize(nodes: i18n.Node[]):
xml.Node[] {\n    return [].concat(...nodes.map(node => node.visit(this)));\n  }\n}\n\n// TODO(vicb): add error
management (structure)\n// Extract messages as xml nodes from the xliff file\nclass XliffParser implements
ml.Visitor {\n  // TODO(issue/24571): remove '!'.\n  private _unitMlString!: string|null;\n  // TODO(issue/24571):
remove '!'.\n  private _errors!: I18nError[];\n  // TODO(issue/24571): remove '!'.\n  private _msgIdToHtml!:
{[msgId: string]: string};\n  private _locale: string|null = null;\n\n  parse(xliff: string, url: string) {\n
this._unitMlString =
 null;\n    this._msgIdToHtml = {};\n\n    const xml = new XmlParser().parse(xliff, url);\n\n    this._errors =
xml.errors;\n    ml.visitAll(this, xml.rootNodes, null);\n\n    return {\n      msgIdToHtml: this._msgIdToHtml,\n
errors: this._errors,\n      locale: this._locale,\n    };\n  }\n\n  visitElement(element: ml.Element, context: any): any
{\n    switch (element.name) {\n      case _UNIT_TAG:\n        this._unitMlString = null!;\n        const idAttr =
element.attrs.find((attr) => attr.name === 'id');\n        if (!idAttr) {\n          this._addError(element,
`<${_UNIT_TAG}> misses the \"id\" attribute`);\n        } else {\n          const id = idAttr.value;\n          if
(this._msgIdToHtml.hasOwnProperty(id)) {\n            this._addError(element, `Duplicated translations for msg
${id}`);\n          } else {\n            ml.visitAll(this, element.children, null);\n            if (typeof this._unitMlString ===
'string') {\n              this._msgIdToHtml[id] = this._unitMlString;\n
            } else {\n              this._addError(element, `Message ${id} misses a translation`);\n            }\n          }\n
}\n        break;\n\n      // ignore those tags\n      case _SOURCE_TAG:\n      case _SEGMENT_SOURCE_TAG:\n
case _ALT_TRANS_TAG:\n        break;\n\n      case _TARGET_TAG:\n        const innerTextStart =
element.startSourceSpan.end.offset;\n        const innerTextEnd = element.endSourceSpan!.start.offset;\n        const
content = element.startSourceSpan.start.file.content;\n        const innerText = content.slice(innerTextStart,
innerTextEnd);\n        this._unitMlString = innerText;\n        break;\n\n      case _FILE_TAG:\n        const localeAttr
= element.attrs.find((attr) => attr.name === 'target-language');\n        if (localeAttr) {\n          this._locale =
localeAttr.value;\n        }\n        ml.visitAll(this, element.children, null);\n        break;\n\n      default:\n        //
TODO(vicb): assert file structure, xliff version\n
        // For now only recurse on unhandled nodes\n        ml.visitAll(this, element.children, null);\n    }\n  }\n\n
visitAttribute(attribute: ml.Attribute, context: any): any {}\n\n  visitText(text: ml.Text, context: any): any {}\n\n
visitComment(comment: ml.Comment, context: any): any {}\n\n  visitExpansion(expansion: ml.Expansion, context:
any): any {}\n\n  visitExpansionCase(expansionCase: ml.ExpansionCase, context: any): any {}\n\n  private
_addError(node: ml.Node, message: string): void {\n    this._errors.push(new I18nError(node.sourceSpan,
message));\n  }\n}\n\n// Convert ml nodes (xliff syntax) to i18n nodes\nclass XmlToI18n implements ml.Visitor {\n
// TODO(issue/24571): remove '!'.\n  private _errors!: I18nError[];\n\n  convert(message: string, url: string) {\n
const xmlIcu = new XmlParser().parse(message, url, {tokenizeExpansionForms: true});\n    this._errors =
xmlIcu.errors;\n\n    const i18nNodes = this._errors.length > 0 || xmlIcu.rootNodes.length == 0 ?\n
 [] :\n        [].concat(...ml.visitAll(this, xmlIcu.rootNodes));\n\n    return {\n      i18nNodes: i18nNodes,\n      errors:
this._errors,\n    };\n  }\n\n  visitText(text: ml.Text, context: any) {\n    return new i18n.Text(text.value,
text.sourceSpan);\n  }\n\n  visitElement(el: ml.Element, context: any): i18n.Placeholder|ml.Node[]|null {\n    if
(el.name === _PLACEHOLDER_TAG) {\n      const nameAttr = el.attrs.find((attr) => attr.name === 'id');\n      if
(nameAttr) {\n        return new i18n.Placeholder('', nameAttr.value, el.sourceSpan);\n      }\n\n      this._addError(el,
`<${_PLACEHOLDER_TAG}> misses the \"id\" attribute`);\n      return null;\n    }\n\n    if (el.name ===
_MARKER_TAG) {\n      return [].concat(...ml.visitAll(this, el.children));\n    }\n\n    this._addError(el,
`Unexpected tag`);\n    return null;\n  }\n\n  visitExpansion(icu: ml.Expansion, context: any) {\n    const caseMap:
{[value: string]: i18n.Node} = {};\n\n    ml.visitAll(this, icu.cases).forEach((c: any)
 => {\n      caseMap[c.value] = new i18n.Container(c.nodes, icu.sourceSpan);\n    });\n\n    return new
i18n.Icu(icu.switchValue, icu.type, caseMap, icu.sourceSpan);\n  }\n\n  visitExpansionCase(icuCase:
ml.ExpansionCase, context: any): any {\n    return {\n      value: icuCase.value,\n      nodes: ml.visitAll(this,
icuCase.expression),\n    };\n  }\n\n  visitComment(comment: ml.Comment, context: any) {}\n\n
```

```
visitAttribute(attribute: ml.Attribute, context: any) {}\n\n  private _addError(node: ml.Node, message: string): void {\n    this._errors.push(new I18nError(node.sourceSpan, message));\n  }\n}\n\nfunction getCtypeForTag(tag: string): string {\n  switch (tag.toLowerCase()) {\n    case 'br':\n      return 'lb';\n    case 'img':\n      return 'image';\n    default:\n      return `x-${tag}`;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
 */\n\nimport * as ml from '../../ml_parser/ast';\nimport {XmlParser} from '../../ml_parser/xml_parser';\nimport {decimalDigest} from '../digest';\nimport * as i18n from '../i18n_ast';\nimport {I18nError} from '../parse_util';\n\nimport {Serializer} from './serializer';\nimport * as xml from './xml_helper';\n\nconst _VERSION = '2.0';\nconst _XMLNS = 'urn:oasis:names:tc:xliff:document:2.0';\n// TODO(vicb): make this a param (s/_/-/)\nconst _DEFAULT_SOURCE_LANG = 'en';\nconst _PLACEHOLDER_TAG = 'ph';\nconst _PLACEHOLDER_SPANNING_TAG = 'pc';\nconst _MARKER_TAG = 'mrk';\n\nconst _XLIFF_TAG = 'xliff';\nconst _SOURCE_TAG = 'source';\nconst _TARGET_TAG = 'target';\nconst _UNIT_TAG = 'unit';\n\n// https://docs.oasis-open.org/xliff/xliff-core/v2.0/os/xliff-core-v2.0-os.html\nexport class Xliff2 extends Serializer {\n  write(messages: i18n.Message[], locale: string|null): string {\n    const visitor = new _WriteVisitor();\n    const units: xml.Node[] = [];\n\n    messages.forEach(message
 => {\n      const unit = new xml.Tag(_UNIT_TAG, {id: message.id});\n      const notes = new xml.Tag('notes');\n\n
  if (message.description || message.meaning) {\n        if (message.description) {\n          notes.children.push(\n
  new xml.CR(8),\n            new xml.Tag('note', {category: 'description'}, [new xml.Text(message.description)]));\n
    }\n\n        if (message.meaning) {\n          notes.children.push(\n            new xml.CR(8),\n            new
xml.Tag('note', {category: 'meaning'}, [new xml.Text(message.meaning)]));\n        }\n      }\n\n
message.sources.forEach((source: i18n.MessageSpan) => {\n        notes.children.push(new xml.CR(8), new
xml.Tag('note', {category: 'location'}, [\n          new xml.Text(`${source.filePath}:${source.startLine}${\n
source.endLine !== source.startLine ? ',' + source.endLine : ''}`)\n        ]));\n      });\n\n      notes.children.push(new
xml.CR(6));\n      unit.children.push(new
 xml.CR(6), notes);\n\n      const segment = new xml.Tag('segment');\n\n      segment.children.push(\n          new
xml.CR(8), new xml.Tag(_SOURCE_TAG, {}, visitor.serialize(message.nodes)),\n          new xml.CR(6));\n\n
unit.children.push(new xml.CR(6), segment, new xml.CR(4));\n\n      units.push(new xml.CR(4), unit);\n    });\n\n
const file =\n        new xml.Tag('file', {'original': 'ng.template', id: 'ngi18n'}, [...units, new xml.CR(2)]);\n\n    const
xliff = new xml.Tag(\n        _XLIFF_TAG, {version: _VERSION, xmlns: _XMLNS, srcLang: locale ||
_DEFAULT_SOURCE_LANG},\n        [new xml.CR(2), file, new xml.CR()]);\n\n    return xml.serialize([\n      new
xml.Declaration({version: '1.0', encoding: 'UTF-8'}), new xml.CR(), xliff, new xml.CR()\n    ]);\n  }\n\n
load(content: string, url: string):\n      {locale: string, i18nNodesByMsgId: {[msgId: string]: i18n.Node[]}} {\n    //
xliff to xml nodes\n    const xliff2Parser = new Xliff2Parser();\n    const {locale, msgIdToHtml,
 errors} = xliff2Parser.parse(content, url);\n\n    // xml nodes to i18n nodes\n    const i18nNodesByMsgId: {[msgId:
string]: i18n.Node[]} = {};\n    const converter = new XmlToI18n();\n\n
Object.keys(msgIdToHtml).forEach(msgId => {\n      const {i18nNodes, errors: e} =
converter.convert(msgIdToHtml[msgId], url);\n      errors.push(...e);\n      i18nNodesByMsgId[msgId] =
i18nNodes;\n    });\n\n    if (errors.length) {\n      throw new Error(`xliff2 parse errors:\n${errors.join('\n')}`);\n
}\n\n    return {locale: locale!, i18nNodesByMsgId};\n  }\n\n  digest(message: i18n.Message): string {\n    return
decimalDigest(message);\n  }\n}\n\nclass _WriteVisitor implements i18n.Visitor {\n  // TODO(issue/24571):
remove '!'.\n  private _nextPlaceholderId!: number;\n\n  visitText(text: i18n.Text, context?: any): xml.Node[] {\n
return [new xml.Text(text.value)];\n  }\n\n  visitContainer(container: i18n.Container, context?: any): xml.Node[] {\n
  const nodes: xml.Node[] = [];\n    container.children.forEach((node:
 i18n.Node) => nodes.push(...node.visit(this)));\n    return nodes;\n  }\n\n  visitIcu(icu: i18n.Icu, context?: any):
xml.Node[] {\n    const nodes = [new xml.Text(`{${icu.expressionPlaceholder}, ${icu.type}, `)];\n\n
Object.keys(icu.cases).forEach((c: string) => {\n      nodes.push(new xml.Text(`${c} {`), ...icu.cases[c].visit(this),
new xml.Text(`} `));\n    });\n\n    nodes.push(new xml.Text(`}`));\n\n    return nodes;\n  }\n\n
```

```
visitTagPlaceholder(ph: i18n.TagPlaceholder, context?: any): xml.Node[] {\n    const type =
getTypeForTag(ph.tag);\n\n    if (ph.isVoid) {\n      const tagPh = new xml.Tag(_PLACEHOLDER_TAG, {\n
id: (this._nextPlaceholderId++).toString(),\n        equiv: ph.startName,\n        type: type,\n        disp:
`<${ph.tag}/>`,\n      });\n      return [tagPh];\n    }\n\n    const tagPc = new
xml.Tag(_PLACEHOLDER_SPANNING_TAG, {\n      id: (this._nextPlaceholderId++).toString(),\n      equivStart:
ph.startName,\n      equivEnd:
 ph.closeName,\n      type: type,\n      dispStart: `<${ph.tag}>`,\n      dispEnd: `</${ph.tag}>`,\n    });\n    const
nodes: xml.Node[] = [].concat(...ph.children.map(node => node.visit(this)));\n    if (nodes.length) {\n
nodes.forEach((node: xml.Node) => tagPc.children.push(node));\n    } else {\n      tagPc.children.push(new
xml.Text(''));\n    }\n\n    return [tagPc];\n  }\n\n  visitPlaceholder(ph: i18n.Placeholder, context?: any): xml.Node[]
{\n    const idStr = (this._nextPlaceholderId++).toString();\n    return [new xml.Tag(_PLACEHOLDER_TAG, {\n
id: idStr,\n      equiv: ph.name,\n      disp: `{{${ph.value}}}`,\n    })];\n  }\n\n  visitIcuPlaceholder(ph:
i18n.IcuPlaceholder, context?: any): xml.Node[] {\n    const cases = Object.keys(ph.value.cases).map((value: string)
=> value + ' {...}').join(' ');\n    const idStr = (this._nextPlaceholderId++).toString();\n    return [new xml.Tag(\n
_PLACEHOLDER_TAG,\n        {id: idStr, equiv: ph.name, disp: `{${ph.value.expression},
 ${ph.value.type}, ${cases}}`})];\n  }\n\n  serialize(nodes: i18n.Node[]): xml.Node[] {\n    this._nextPlaceholderId
= 0;\n    return [].concat(...nodes.map(node => node.visit(this)));\n  }\n}\n\n// Extract messages as xml nodes from
the xliff file\nclass Xliff2Parser implements ml.Visitor {\n  // TODO(issue/24571): remove '!'.\n  private
_unitMlString!: string|null;\n  // TODO(issue/24571): remove '!'.\n  private _errors!: I18nError[];\n  //
TODO(issue/24571): remove '!'.\n  private _msgIdToHtml!: {[msgId: string]: string};\n  private _locale: string|null
= null;\n\n  parse(xliff: string, url: string) {\n    this._unitMlString = null;\n    this._msgIdToHtml = {};\n\n    const
xml = new XmlParser().parse(xliff, url);\n\n    this._errors = xml.errors;\n    ml.visitAll(this, xml.rootNodes,
null);\n\n    return {\n      msgIdToHtml: this._msgIdToHtml,\n      errors: this._errors,\n      locale: this._locale,\n
};\n  }\n\n  visitElement(element: ml.Element, context: any): any {\n
    switch (element.name) {\n      case _UNIT_TAG:\n        this._unitMlString = null;\n        const idAttr =
element.attrs.find((attr) => attr.name === 'id');\n        if (!idAttr) {\n          this._addError(element,
`<${_UNIT_TAG}> misses the \"id\" attribute`);\n        } else {\n          const id = idAttr.value;\n          if
(this._msgIdToHtml.hasOwnProperty(id)) {\n            this._addError(element, `Duplicated translations for msg
${id}`);\n          } else {\n            ml.visitAll(this, element.children, null);\n            if (typeof this._unitMlString ===
'string') {\n              this._msgIdToHtml[id] = this._unitMlString;\n            } else {\n              this._addError(element,
`Message ${id} misses a translation`);\n            }\n          }\n        }\n        break;\n\n      case _SOURCE_TAG:\n
// ignore source message\n        break;\n\n      case _TARGET_TAG:\n        const innerTextStart =
element.startSourceSpan.end.offset;\n        const innerTextEnd
 = element.endSourceSpan!.start.offset;\n        const content = element.startSourceSpan.start.file.content;\n        const
innerText = content.slice(innerTextStart, innerTextEnd);\n        this._unitMlString = innerText;\n        break;\n\n
case _XLIFF_TAG:\n        const localeAttr = element.attrs.find((attr) => attr.name === 'trgLang');\n        if
(localeAttr) {\n          this._locale = localeAttr.value;\n        }\n\n        const versionAttr = element.attrs.find((attr) =>
attr.name === 'version');\n        if (versionAttr) {\n          const version = versionAttr.value;\n          if (version !==
'2.0') {\n            this._addError(\n                element,\n                `The XLIFF file version ${version} is not
compatible with XLIFF 2.0 serializer`);\n          } else {\n            ml.visitAll(this, element.children, null);\n          }\n
      }\n        break;\n      default:\n        ml.visitAll(this, element.children, null);\n    }\n  }\n\n  visitAttribute(attribute:
 ml.Attribute, context: any): any {}\n\n  visitText(text: ml.Text, context: any): any {}\n\n  visitComment(comment:
ml.Comment, context: any): any {}\n\n  visitExpansion(expansion: ml.Expansion, context: any): any {}\n\n
visitExpansionCase(expansionCase: ml.ExpansionCase, context: any): any {}\n\n  private _addError(node:
ml.Node, message: string): void {\n    this._errors.push(new I18nError(node.sourceSpan, message));\n  }\n}\n\n//
Convert ml nodes (xliff syntax) to i18n nodes\nclass XmlToI18n implements ml.Visitor {\n  // TODO(issue/24571):
remove '!'.\n  private _errors!: I18nError[];\n\n  convert(message: string, url: string) {\n    const xmlIcu = new
XmlParser().parse(message, url, {tokenizeExpansionForms: true});\n    this._errors = xmlIcu.errors;\n\n    const
```

```
i18nNodes = this._errors.length > 0 || xmlIcu.rootNodes.length == 0 ?\n      [] :\n      [].concat(...ml.visitAll(this, xmlIcu.rootNodes));\n\n    return {\n      i18nNodes,\n      errors: this._errors,\n    };\n  }\n\n  visitText(text: ml.Text, context: any) {\n    return new i18n.Text(text.value, text.sourceSpan);\n  }\n\n  visitElement(el: ml.Element, context: any): i18n.Node[]|null {\n    switch (el.name) {\n      case _PLACEHOLDER_TAG:\n        const nameAttr = el.attrs.find((attr) => attr.name === 'equiv');\n        if (nameAttr) {\n          return [new i18n.Placeholder('', nameAttr.value, el.sourceSpan)];\n        }\n\n        this._addError(el, `<${_PLACEHOLDER_TAG}> misses the \"equiv\" attribute`);\n        break;\n      case _PLACEHOLDER_SPANNING_TAG:\n        const startAttr = el.attrs.find((attr) => attr.name === 'equivStart');\n        const endAttr = el.attrs.find((attr) => attr.name === 'equivEnd');\n\n        if (!startAttr) {\n          this._addError(el, `<${_PLACEHOLDER_TAG}> misses the \"equivStart\" attribute`);\n        } else if (!endAttr) {\n          this._addError(el, `<${_PLACEHOLDER_TAG}> misses the \"equivEnd\" attribute`);\n        } else {\n          const startId\n = startAttr.value;\n          const endId = endAttr.value;\n\n          const nodes: i18n.Node[] = [];\n\n          return nodes.concat(\n              new i18n.Placeholder('', startId, el.sourceSpan),\n              ...el.children.map(node => node.visit(this, null)),\n              new i18n.Placeholder('', endId, el.sourceSpan));\n        }\n        break;\n      case _MARKER_TAG:\n        return [].concat(...ml.visitAll(this, el.children));\n      default:\n        this._addError(el, `Unexpected tag`);\n    }\n\n    return null;\n  }\n\n  visitExpansion(icu: ml.Expansion, context: any) {\n    const caseMap: {[value: string]: i18n.Node} = {};\n\n    ml.visitAll(this, icu.cases).forEach((c: any) => {\n      caseMap[c.value] = new i18n.Container(c.nodes, icu.sourceSpan);\n    });\n\n    return new i18n.Icu(icu.switchValue, icu.type, caseMap, icu.sourceSpan);\n  }\n\n  visitExpansionCase(icuCase: ml.ExpansionCase, context: any): any {\n    return {\n      value: icuCase.value,\n      nodes: [].concat(...ml.visitAll(this, icuCase.expression)),\n    };\n  }\n\n  visitComment(comment: ml.Comment, context: any) {}\n\n  visitAttribute(attribute: ml.Attribute, context: any) {}\n\n  private _addError(node: ml.Node, message: string): void {\n    this._errors.push(new I18nError(node.sourceSpan, message));\n  }\n}\n\nfunction getTypeForTag(tag: string): string {\n  switch (tag.toLowerCase()) {\n    case 'br':\n    case 'b':\n    case 'i':\n    case 'u':\n      return 'fmt';\n    case 'img':\n      return 'image';\n    case 'a':\n      return 'link';\n    default:\n      return 'other';\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as ml from '../../ml_parser/ast';\nimport {XmlParser} from '../../ml_parser/xml_parser';\nimport * as i18n from '../i18n_ast';\nimport {I18nError} from '../parse_util';\n\nimport {PlaceholderMapper, Serializer, SimplePlaceholderMapper} from './serializer';\nimport {digest, toPublicName} from './xmb';\n\nconst _TRANSLATIONS_TAG = 'translationbundle';\nconst _TRANSLATION_TAG = 'translation';\nconst _PLACEHOLDER_TAG = 'ph';\n\nexport class Xtb extends Serializer {\n  write(messages: i18n.Message[], locale: string|null): string {\n    throw new Error('Unsupported');\n  }\n\n  load(content: string, url: string):\n      {locale: string, i18nNodesByMsgId: {[msgId: string]: i18n.Node[]}} {\n    // xtb to xml nodes\n    const xtbParser = new XtbParser();\n    const {locale, msgIdToHtml, errors} = xtbParser.parse(content, url);\n\n    // xml nodes to i18n nodes\n    const i18nNodesByMsgId: {[msgId: string]: i18n.Node[]} = {};\n    const converter = new XmlToI18n();\n\n    // Because we should be able to load xtb files that rely on features not supported by angular,\n    // we need to delay the conversion of html to i18n nodes so that non angular messages
 are not\n    // converted\n    Object.keys(msgIdToHtml).forEach(msgId => {\n      const valueFn = function() {\n        const {i18nNodes, errors} = converter.convert(msgIdToHtml[msgId], url);\n        if (errors.length) {\n          throw new Error(`xtb parse errors:\\n${errors.join('\\n')}`);\n        }\n        return i18nNodes;\n      };\n      createLazyProperty(i18nNodesByMsgId, msgId, valueFn);\n    });\n\n    if (errors.length) {\n      throw new Error(`xtb parse errors:\\n${errors.join('\\n')}`);\n    }\n\n    return {locale: locale!, i18nNodesByMsgId};\n  }\n\n  digest(message: i18n.Message): string {\n    return digest(message);\n  }\n\n  createNameMapper(message: i18n.Message): PlaceholderMapper {\n    return new SimplePlaceholderMapper(message, toPublicName);\n  }\n}\n\nfunction createLazyProperty(messages: any, id: string, valueFn: () => any) {\n  Object.defineProperty(messages, id, {\n    configurable: true,\n    enumerable: true,\n    get: function() {\n      const
```

value
= valueFn();\n Object.defineProperty(messages, id, {enumerable: true, value});\n return value;\n },\n set:
_ => {\n throw new Error('Could not overwrite an XTB translation');\n },\n });\n}\n\n// Extract messages as
xml nodes from the xtb file\nclass XtbParser implements ml.Visitor {\n // TODO(issue/24571): remove '!'.\n
private _bundleDepth!: number;\n // TODO(issue/24571): remove '!'.\n private _errors!: I18nError[];\n //
TODO(issue/24571): remove '!'.\n private _msgIdToHtml!: {[msgId: string]: string};\n private _locale: string|null
= null;\n\n parse(xtb: string, url: string) {\n this._bundleDepth = 0;\n this._msgIdToHtml = {};\n\n // We can
not parse the ICU messages at this point as some messages might not originate\n // from Angular that could not be
lex'd.\n const xml = new XmlParser().parse(xtb, url);\n\n this._errors = xml.errors;\n ml.visitAll(this,
xml.rootNodes);\n\n return {\n msgIdToHtml: this._msgIdToHtml,\n
errors: this._errors,\n locale: this._locale,\n };\n }\n\n visitElement(element: ml.Element, context: any):
any {\n switch (element.name) {\n case _TRANSLATIONS_TAG:\n this._bundleDepth++;\n if
(this._bundleDepth > 1) {\n this._addError(element, `<${_TRANSLATIONS_TAG}> elements can not be
nested`);\n }\n const langAttr = element.attrs.find((attr) => attr.name === 'lang');\n if (langAttr) {\n
this._locale = langAttr.value;\n }\n ml.visitAll(this, element.children, null);\n this._bundleDepth--;\n
break;\n\n case _TRANSLATION_TAG:\n const idAttr = element.attrs.find((attr) => attr.name === 'id');\n
if (!idAttr) {\n this._addError(element, `<${_TRANSLATION_TAG}> misses the \"id\" attribute`);\n
} else {\n const id = idAttr.value;\n if (this._msgIdToHtml.hasOwnProperty(id)) {\n
this._addError(element, `Duplicated translations
for msg ${id}`);\n } else {\n const innerTextStart = element.startSourceSpan.end.offset;\n const
innerTextEnd = element.endSourceSpan!.start.offset;\n const content =
element.startSourceSpan.start.file.content;\n const innerText = content.slice(innerTextStart!,
innerTextEnd!);\n this._msgIdToHtml[id] = innerText;\n }\n }\n break;\n\n default:\n
this._addError(element, 'Unexpected tag');\n }\n }\n\n visitAttribute(attribute: ml.Attribute, context: any): any
{}\n\n visitText(text: ml.Text, context: any): any {}\n\n visitComment(comment: ml.Comment, context: any): any
{}\n\n visitExpansion(expansion: ml.Expansion, context: any): any {}\n\n visitExpansionCase(expansionCase:
ml.ExpansionCase, context: any): any {}\n\n private _addError(node: ml.Node, message: string): void {\n
this._errors.push(new I18nError(node.sourceSpan, message));\n }\n}\n\n// Convert ml nodes (xtb syntax)
to i18n nodes\nclass XmlToI18n implements ml.Visitor {\n // TODO(issue/24571): remove '!'.\n private _errors!:
I18nError[];\n\n convert(message: string, url: string) {\n const xmlIcu = new XmlParser().parse(message, url,
{tokenizeExpansionForms: true});\n this._errors = xmlIcu.errors;\n\n const i18nNodes = this._errors.length > 0 ||
xmlIcu.rootNodes.length == 0 ?\n [] :\n ml.visitAll(this, xmlIcu.rootNodes);\n\n return {\n
i18nNodes,\n errors: this._errors,\n };\n }\n\n visitText(text: ml.Text, context: any) {\n return new
i18n.Text(text.value, text.sourceSpan);\n }\n\n visitExpansion(icu: ml.Expansion, context: any) {\n const
caseMap: {[value: string]: i18n.Node} = {};\n\n ml.visitAll(this, icu.cases).forEach(c => {\n caseMap[c.value]
= new i18n.Container(c.nodes, icu.sourceSpan);\n });\n\n return new i18n.Icu(icu.switchValue, icu.type,
caseMap, icu.sourceSpan);\n }\n\n visitExpansionCase(icuCase: ml.ExpansionCase,
context: any): any {\n return {\n value: icuCase.value,\n nodes: ml.visitAll(this, icuCase.expression),\n
};\n }\n\n visitElement(el: ml.Element, context: any): i18n.Placeholder|null {\n if (el.name ===
_PLACEHOLDER_TAG) {\n const nameAttr = el.attrs.find((attr) => attr.name === 'name');\n if (nameAttr)
{\n return new i18n.Placeholder('', nameAttr.value, el.sourceSpan);\n }\n\n this._addError(el,
`<${_PLACEHOLDER_TAG}> misses the \"name\" attribute`);\n } else {\n this._addError(el, `Unexpected
tag`);\n }\n return null;\n }\n\n visitComment(comment: ml.Comment, context: any) {}\n\n
visitAttribute(attribute: ml.Attribute, context: any) {}\n\n private _addError(node: ml.Node, message: string): void
{\n this._errors.push(new I18nError(node.sourceSpan, message));\n }\n}\n","/**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found

```
 in the LICENSE file at https://angular.io/license\n */\n\nimport {MissingTranslationStrategy} from
'../core';\nimport * as html from '../ml_parser/ast';\nimport {HtmlParser} from '../ml_parser/html_parser';\nimport
{Console} from '../util';\n\nimport * as i18n from './i18n_ast';\nimport {I18nError} from './parse_util';\nimport
{PlaceholderMapper, Serializer} from './serializers/serializer';\nimport {escapeXml} from
'./serializers/xml_helper';\n\n\n/**\n * A container for translated messages\n */\nexport class TranslationBundle {\n
private _i18nToHtml: I18nToHtmlVisitor;\n\n  constructor(\n      private _i18nNodesByMsgId: {[msgId: string]:
i18n.Node[]} = {}, locale: string|null,\n      public digest: (m: i18n.Message) => string,\n      public mapperFactory?:
(m: i18n.Message) => PlaceholderMapper,\n      missingTranslationStrategy: MissingTranslationStrategy =
MissingTranslationStrategy.Warning,\n      console?: Console) {\n    this._i18nToHtml = new I18nToHtmlVisitor(\n
    _i18nNodesByMsgId,
 locale, digest, mapperFactory!, missingTranslationStrategy, console);\n  }\n\n  // Creates a `TranslationBundle` by
parsing the given `content` with the `serializer`.\n  static load(\n      content: string, url: string, serializer: Serializer,\n
   missingTranslationStrategy: MissingTranslationStrategy,\n      console?: Console): TranslationBundle {\n    const
{locale, i18nNodesByMsgId} = serializer.load(content, url);\n    const digestFn = (m: i18n.Message) =>
serializer.digest(m);\n    const mapperFactory = (m: i18n.Message) => serializer.createNameMapper(m)!;\n    return
new TranslationBundle(\n        i18nNodesByMsgId, locale, digestFn, mapperFactory, missingTranslationStrategy,
console);\n  }\n\n  // Returns the translation as HTML nodes from the given source message.\n  get(srcMsg:
i18n.Message): html.Node[] {\n    const html = this._i18nToHtml.convert(srcMsg);\n\n    if (html.errors.length) {\n
  throw new Error(html.errors.join('\\n'));\n    }\n\n    return
 html.nodes;\n  }\n\n  has(srcMsg: i18n.Message): boolean {\n    return this.digest(srcMsg) in
this._i18nNodesByMsgId;\n  }\n}\n\nclass I18nToHtmlVisitor implements i18n.Visitor {\n  // TODO(issue/24571):
remove '!'.\n  private _srcMsg!: i18n.Message;\n  private _contextStack: {msg: i18n.Message, mapper: (name:
string) => string}[] = [];\n  private _errors: I18nError[] = [];\n  // TODO(issue/24571): remove '!'.\n  private
_mapper!: (name: string) => string;\n\n  constructor(\n      private _i18nNodesByMsgId: {[msgId: string]:
i18n.Node[]} = {}, private _locale: string|null,\n      private _digest: (m: i18n.Message) => string,\n      private
_mapperFactory: (m: i18n.Message) => PlaceholderMapper,\n      private _missingTranslationStrategy:
MissingTranslationStrategy, private _console?: Console) {\n  }\n\n  convert(srcMsg: i18n.Message): {nodes:
html.Node[], errors: I18nError[]} {\n    this._contextStack.length = 0;\n    this._errors.length = 0;\n\n    // i18n to
text\n    const text = this._convertToText(srcMsg);\n\n
   // text to html\n    const url = srcMsg.nodes[0].sourceSpan.start.file.url;\n    const html = new
HtmlParser().parse(text, url, {tokenizeExpansionForms: true});\n\n    return {\n      nodes: html.rootNodes,\n
errors: [...this._errors, ...html.errors],\n    };\n  }\n\n  visitText(text: i18n.Text, context?: any): string {\n    //
`convert()` uses an `HtmlParser` to return `html.Node`s\n    // we should then make sure that any special characters
are escaped\n    return escapeXml(text.value);\n  }\n\n  visitContainer(container: i18n.Container, context?: any): any
{\n    return container.children.map(n => n.visit(this)).join('');\n  }\n\n  visitIcu(icu: i18n.Icu, context?: any): any {\n
 const cases = Object.keys(icu.cases).map(k => `${k} {${icu.cases[k].visit(this)}}`);\n\n    // TODO(vicb): Once all
format switch to using expression placeholders\n    // we should throw when the placeholder is not in the source
message\n    const exp = this._srcMsg.placeholders.hasOwnProperty(icu.expression)
 ?\n        this._srcMsg.placeholders[icu.expression].text :\n        icu.expression;\n\n    return `{${exp}, ${icu.type},
${cases.join(' ')}}`;\n  }\n\n  visitPlaceholder(ph: i18n.Placeholder, context?: any): string {\n    const phName =
this._mapper(ph.name);\n    if (this._srcMsg.placeholders.hasOwnProperty(phName)) {\n      return
this._srcMsg.placeholders[phName].text;\n    }\n\n    if
(this._srcMsg.placeholderToMessage.hasOwnProperty(phName)) {\n      return
this._convertToText(this._srcMsg.placeholderToMessage[phName]);\n    }\n\n    this._addError(ph, `Unknown
placeholder \"${ph.name}\"`);\n    return '';\n  }\n\n  // Loaded message contains only placeholders (vs tag and icu
placeholders).\n  // However when a translation can not be found, we need to serialize the source message\n  //
which can contain tag placeholders\n  visitTagPlaceholder(ph: i18n.TagPlaceholder, context?: any): string {\n
const tag = `${ph.tag}`;\n    const attrs
```

```
= Object.keys(ph.attrs).map(name => `${name}=\"${ph.attrs[name]}\"`).join(' ');\n    if (ph.isVoid) {\n      return `<${tag} ${attrs}/>`;\n    }\n    const children = ph.children.map((c: i18n.Node) => c.visit(this)).join('');\n    return `<${tag} ${attrs}>${children}</${tag}>`;\n  }\n\n  // Loaded message contains only placeholders (vs tag and icu placeholders).\n  // However when a translation can not be found, we need to serialize the source message\n  // which can contain tag placeholders\n  visitIcuPlaceholder(ph: i18n.IcuPlaceholder, context?: any): string {\n    // An ICU placeholder references the source message to be serialized\n    return this._convertToText(this._srcMsg.placeholderToMessage[ph.name]);\n  }\n\n  /**\n   * Convert a source message to a translated text string:\n   * - text nodes are replaced with their translation,\n   * - placeholders are replaced with their content,\n   * - ICU nodes are converted to ICU expressions.\n   */\n  private _convertToText(srcMsg: i18n.Message): string {\n    const id = this._digest(srcMsg);\n    const mapper = this._mapperFactory ? this._mapperFactory(srcMsg) : null;\n    let nodes: i18n.Node[];\n\n    this._contextStack.push({msg: this._srcMsg, mapper: this._mapper});\n    this._srcMsg = srcMsg;\n\n    if (this._i18nNodesByMsgId.hasOwnProperty(id)) {\n      // When there is a translation use its nodes as the source\n      // And create a mapper to convert serialized placeholder names to internal names\n      nodes = this._i18nNodesByMsgId[id];\n      this._mapper = (name: string) => mapper ? mapper.toInternalName(name)! : name;\n    } else {\n      // When no translation has been found\n      // - report an error / a warning / nothing,\n      // - use the nodes from the original message\n      // - placeholders are already internal and need no mapper\n      if (this._missingTranslationStrategy === MissingTranslationStrategy.Error) {\n        const ctx = this._locale ? ` for locale \"${this._locale}\"` : '';\n        this._addError(srcMsg.nodes[0], `Missing translation for message \"${id}\"${ctx}`);\n      } else if (\n          this._console &&\n          this._missingTranslationStrategy === MissingTranslationStrategy.Warning) {\n        const ctx = this._locale ? ` for locale \"${this._locale}\"` : '';\n        this._console.warn(`Missing translation for message \"${id}\"${ctx}`);\n      }\n      nodes = srcMsg.nodes;\n      this._mapper = (name: string) => name;\n    }\n    const text = nodes.map(node => node.visit(this)).join('');\n    const context = this._contextStack.pop()!;\n    this._srcMsg = context.msg;\n    this._mapper = context.mapper;\n    return text;\n  }\n\n  private _addError(el: i18n.Node, msg: string) {\n    this._errors.push(new I18nError(el.sourceSpan, msg));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {MissingTranslationStrategy} from '../core';\nimport {HtmlParser} from '../ml_parser/html_parser';\nimport {DEFAULT_INTERPOLATION_CONFIG} from '../ml_parser/interpolation_config';\nimport {TokenizeOptions} from '../ml_parser/lexer';\nimport {ParseTreeResult} from '../ml_parser/parser';\nimport {Console} from '../util';\n\nimport {digest} from './digest';\nimport {mergeTranslations} from './extractor_merger';\nimport {Serializer} from './serializers/serializer';\nimport {Xliff} from './serializers/xliff';\nimport {Xliff2} from './serializers/xliff2';\nimport {Xmb} from './serializers/xmb';\nimport {Xtb} from './serializers/xtb';\nimport {TranslationBundle} from './translation_bundle';\n\nexport class I18NHtmlParser implements HtmlParser {\n  // @override\n  getTagDefinition: any;\n\n  private _translationBundle: TranslationBundle;\n\n  constructor(\n      private _htmlParser: HtmlParser, translations?: string, translationsFormat?: string,\n      missingTranslation: MissingTranslationStrategy\n      = MissingTranslationStrategy.Warning,\n      console?: Console) {\n    if (translations) {\n      const serializer = createSerializer(translationsFormat);\n      this._translationBundle =\n          TranslationBundle.load(translations, 'i18n', serializer, missingTranslation, console);\n    } else {\n      this._translationBundle =\n          new TranslationBundle({}, null, digest, undefined, missingTranslation, console);\n    }\n  }\n\n  parse(source: string, url: string, options: TokenizeOptions = {}): ParseTreeResult {\n    const interpolationConfig = options.interpolationConfig || DEFAULT_INTERPOLATION_CONFIG;\n    const parseResult = this._htmlParser.parse(source, url, {interpolationConfig, ...options});\n\n    if (parseResult.errors.length) {\n      return new ParseTreeResult(parseResult.rootNodes, parseResult.errors);\n    }\n\n    return mergeTranslations(\n        parseResult.rootNodes, this._translationBundle, interpolationConfig, [], {});\n  }\n}\n\nfunction createSerializer(format?: string): Serializer {\n  format = (format || 'xlf').toLowerCase();\n\n  switch (format) {\n    case 'xmb':\n      return new Xmb();\n    case 'xtb':\n      return new Xtb();\n    case 'xliff2':\n    case 'xlf2':\n      return
```

new Xliff2();\n  case 'xliff':\n  case 'xlf':\n  default:\n  return new Xliff();\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {OutputContext, ValueTransformer, visitValue} from '../util';\n\nimport * as o from './output_ast';\n\nexport const QUOTED_KEYS = '$quoted$';\n\nexport function convertValueToOutputAst(\n  ctx: OutputContext, value: any, type: o.Type|null = null): o.Expression {\n  return visitValue(value, new _ValueOutputAstTransformer(ctx), type);\n}\n\nclass _ValueOutputAstTransformer implements ValueTransformer {\n  constructor(private ctx: OutputContext) {}\n  visitArray(arr: any[], type: o.Type): o.Expression {\n  const values: o.Expression[] = [];\n  // Note Array.map() must not be used to convert the values because it will\n  // skip over empty elements in arrays constructed using `new Array(length)`,\n  // resulting in `undefined` elements. This breaks the type guarantee that\n  // all values in `o.LiteralArrayExpr` are of type `o.Expression`.\n  // See test case in `value_util_spec.ts`.\n  for (let i = 0; i < arr.length; ++i) {\n  values.push(visitValue(arr[i], this, null /* context */));\n  }\n  return o.literalArr(values, type);\n  }\n\n  visitStringMap(map: {[key: string]: any}, type: o.MapType): o.Expression {\n  const entries: o.LiteralMapEntry[] = [];\n  const quotedSet = new Set<string>(map && map[QUOTED_KEYS]);\n  Object.keys(map).forEach(key => {\n  entries.push(\n  new o.LiteralMapEntry(key, visitValue(map[key], this, null), quotedSet.has(key)));\n  });\n  return new o.LiteralMapExpr(entries, type);\n  }\n\n  visitPrimitive(value: any, type: o.Type): o.Expression {\n  return o.literal(value, type);\n  }\n\n  visitOther(value: any, type: o.Type): o.Expression {\n  if (value instanceof o.Expression) {\n  return value;\n  } else {\n  return this.ctx.importExpr(value);\n  }\n}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\nimport {StaticSymbol} from './aot/static_symbol';\nimport {CompileInjectableMetadata, CompileNgModuleMetadata, CompileProviderMetadata, identifierName} from './compile_metadata';\nimport {CompileReflector} from './compile_reflector';\nimport {InjectFlags, NodeFlags} from './core';\nimport {Identifiers} from './identifiers';\nimport * as o from './output/output_ast';\nimport {convertValueToOutputAst} from './output/value_util';\nimport {typeSourceSpan} from './parse_util';\nimport {NgModuleProviderAnalyzer} from './provider_analyzer';\nimport {OutputContext} from './util';\nimport {componentFactoryResolverProviderDef, depDef, providerDef} from './view_compiler/provider_compiler';\n\n\ntype MapEntry = {\n  key: string,\n  quoted: boolean,\n  value: o.Expression\n};\ntype MapLiteral = MapEntry[];\n\n\nfunction mapEntry(key: string, value: o.Expression): MapEntry {\n  return {key, value, quoted: false};\n}\n\n\nexport class InjectableCompiler {\n  private tokenInjector: StaticSymbol;\n  constructor(private reflector: CompileReflector, private alwaysGenerateDef: boolean) {\n  this.tokenInjector = reflector.resolveExternalReference(Identifiers.Injector);\n  }\n\n  private depsArray(deps: any[], ctx: OutputContext): o.Expression[] {\n  return deps.map(dep => {\n  let token = dep;\n  let args = [token];\n  let flags: InjectFlags = InjectFlags.Default;\n  if (Array.isArray(dep)) {\n  for (let i = 0; i < dep.length; i++) {\n  const v = dep[i];\n  if (v) {\n  if (v.ngMetadataName === 'Optional') {\n  flags |= InjectFlags.Optional;\n  } else if (v.ngMetadataName === 'SkipSelf') {\n  flags |= InjectFlags.SkipSelf;\n  } else if (v.ngMetadataName === 'Self') {\n  flags |= InjectFlags.Self;\n  } else if (v.ngMetadataName === 'Inject') {\n  token = v.token;\n  } else {\n  token = v;\n  }\n  }\n  }\n  }\n\n  let tokenExpr: o.Expression;\n  if (typeof token === 'string') {\n  tokenExpr = o.literal(token);\n  } else if (token === this.tokenInjector) {\n  tokenExpr = o.importExpr(Identifiers.INJECTOR);\n  } else {\n  tokenExpr = ctx.importExpr(token);\n  }\n\n  if (flags !== InjectFlags.Default) {\n  args = [tokenExpr, o.literal(flags)];\n  } else {\n  args = [tokenExpr];\n  }\n\n  return o.importExpr(Identifiers.inject).callFn(args);\n  });\n  }\n\n  factoryFor(injectable: CompileInjectableMetadata, ctx: OutputContext): o.Expression {\n  let retValue: o.Expression;\n  if (injectable.useExisting) {\n  retValue = o.importExpr(Identifiers.inject).callFn([ctx.importExpr(injectable.useExisting)]);\n  } else if

(injectable.useFactory) {\n const deps = injectable.deps || [];\n if (deps.length > 0) {\n retValue = ctx.importExpr(injectable.useFactory).callFn(this.depsArray(deps, ctx));\n } else {\n return ctx.importExpr(injectable.useFactory);\n }\n } else if (injectable.useValue) {\n retValue = convertValueToOutputAst(ctx, injectable.useValue);\n } else {\n const clazz = injectable.useClass || injectable.symbol;\n const depArgs = this.depsArray(this.reflector.parameters(clazz), ctx);\n retValue = new o.InstantiateExpr(ctx.importExpr(clazz), depArgs);\n }\n return o.fn(\n [], [new o.ReturnStatement(retValue)], undefined, undefined,\n injectable.symbol.name + '_Factory');\n }\n\n injectableDef(injectable: CompileInjectableMetadata, ctx: OutputContext): o.Expression {\n let providedIn: o.Expression = o.NULL_EXPR;\n if (injectable.providedIn !== undefined) {\n if (injectable.providedIn === null) {\n providedIn = o.NULL_EXPR;\n } else if (typeof injectable.providedIn === 'string') {\n providedIn = o.literal(injectable.providedIn);\n } else {\n providedIn = ctx.importExpr(injectable.providedIn);\n }\n }\n const def: MapLiteral = [\n mapEntry('factory', this.factoryFor(injectable, ctx)),\n mapEntry('token', ctx.importExpr(injectable.type.reference)),\n mapEntry('providedIn', providedIn),\n ];\n return o.importExpr(Identifiers.defineInjectable).callFn([o.literalMap(def)]);\n }\n\n compile(injectable: CompileInjectableMetadata, ctx: OutputContext): void {\n if (this.alwaysGenerateDef || injectable.providedIn !== undefined) {\n const className = identifierName(injectable.type)!;\n const clazz = new o.ClassStmt(\n className, null,\n [\n new o.ClassField(\n 'prov', o.INFERRED_TYPE, [o.StmtModifier.Static],\n this.injectableDef(injectable, ctx)),\n ],\n [], new o.ClassMethod(null, [], []), []);\n ctx.statements.push(clazz);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nconst STRIP_SRC_FILE_SUFFIXES = /(\\.ts|\\.d\\.ts|\\.js|\\.jsx|\\.tsx)$/;\nconst GENERATED_FILE = /\\.ngfactory\\.|\\.ngsummary\\./;\nconst JIT_SUMMARY_FILE = /\\.ngsummary\\./;\nconst JIT_SUMMARY_NAME = /NgSummary$/;\n\nexport function ngfactoryFilePath(filePath: string, forceSourceFile = false): string {\n const urlWithSuffix = splitTypescriptSuffix(filePath, forceSourceFile);\n return `${urlWithSuffix[0]}.ngfactory${normalizeGenFileSuffix(urlWithSuffix[1])}`;\n}\n\nexport function stripGeneratedFileSuffix(filePath: string): string {\n return filePath.replace(GENERATED_FILE, '.');\n}\n\nexport function isGeneratedFile(filePath: string): boolean {\n return GENERATED_FILE.test(filePath);\n}\n\nexport function splitTypescriptSuffix(path: string, forceSourceFile = false): string[] {\n if (path.endsWith('.d.ts')) {\n return [path.slice(0, -5), forceSourceFile ? '.ts' : '.d.ts'];\n }\n\n const lastDot = path.lastIndexOf('.');\n\n if (lastDot !== -1) {\n return [path.substring(0, lastDot), path.substring(lastDot)];\n }\n\n return [path, ''];\n}\n\nexport function normalizeGenFileSuffix(srcFileSuffix: string): string {\n return srcFileSuffix === '.tsx' ? '.ts' : srcFileSuffix;\n}\n\nexport function summaryFileName(fileName: string): string {\n const fileNameWithoutSuffix = fileName.replace(STRIP_SRC_FILE_SUFFIXES, '');\n return `${fileNameWithoutSuffix}.ngsummary.json`;\n}\n\nexport function summaryForJitFileName(fileName: string, forceSourceFile = false): string {\n const urlWithSuffix = splitTypescriptSuffix(stripGeneratedFileSuffix(fileName), forceSourceFile);\n return `${urlWithSuffix[0]}.ngsummary${urlWithSuffix[1]}`;\n}\n\nexport function stripSummaryForJitFileSuffix(filePath: string): string {\n return filePath.replace(JIT_SUMMARY_FILE, '.');\n}\n\nexport function summaryForJitName(symbolName: string): string {\n return `${symbolName}NgSummary`;\n}\n\nexport function stripSummaryForJitNameSuffix(symbolName: string): string {\n return symbolName.replace(JIT_SUMMARY_NAME, '');\n}\n\nconst LOWERED_SYMBOL = /\\u0275\\d+/;\n\nexport function isLoweredSymbol(name: string) {\n return LOWERED_SYMBOL.test(name);\n}\n\nexport function createLoweredSymbol(id: number): string {\n return `\\u0275${id}`;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileReflector} from './compile_reflector';\n\nexport enum

LifecycleHooks {\n  OnInit,\n  OnDestroy,\n  DoCheck,\n  OnChanges,\n  AfterContentInit,\n AfterContentChecked,\n  AfterViewInit,\n  AfterViewChecked\n}\n\nexport const LIFECYCLE_HOOKS_VALUES = [\n  LifecycleHooks.OnInit, LifecycleHooks.OnDestroy, LifecycleHooks.DoCheck, LifecycleHooks.OnChanges,\n  LifecycleHooks.AfterContentInit, LifecycleHooks.AfterContentChecked, LifecycleHooks.AfterViewInit,\n LifecycleHooks.AfterViewChecked\n];\n\nexport function hasLifecycleHook(\n  reflector: CompileReflector, hook: LifecycleHooks, token: any): boolean {\n  return reflector.hasLifecycleHook(token, getHookName(hook));\n}\n\nexport function getAllLifecycleHooks(reflector: CompileReflector, token: any): LifecycleHooks[] {\n  return LIFECYCLE_HOOKS_VALUES.filter(hook => hasLifecycleHook(reflector, hook, token));\n}\n\nfunction getHookName(hook: LifecycleHooks): string {\n  switch (hook) {\n    case LifecycleHooks.OnInit:\n      return 'ngOnInit';\n    case LifecycleHooks.OnDestroy:\n      return 'ngOnDestroy';\n    case LifecycleHooks.DoCheck:\n      return 'ngDoCheck';\n    case LifecycleHooks.OnChanges:\n      return 'ngOnChanges';\n    case LifecycleHooks.AfterContentInit:\n      return 'ngAfterContentInit';\n    case LifecycleHooks.AfterContentChecked:\n      return 'ngAfterContentChecked';\n    case LifecycleHooks.AfterViewInit:\n      return 'ngAfterViewInit';\n    case LifecycleHooks.AfterViewChecked:\n      return 'ngAfterViewChecked';\n    default:\n      // This default case is not needed by TypeScript compiler, as the switch is exhaustive.\n      // However Closure Compiler does not understand that and reports an error in typed mode.\n      // The `throw new Error` below works around the problem, and the unexpected: never variable\n      // makes sure tsc
 still checks this code is unreachable.\n      const unexpected: never = hook;\n      throw new Error(`unexpected ${unexpected}`);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {StaticSymbol, StaticSymbolCache} from './aot/static_symbol';\nimport {ngfactoryFilePath} from './aot/util';\nimport {assertArrayOfStrings, assertInterpolationSymbols} from './assertions';\nimport * as cpl from './compile_metadata';\nimport {CompileReflector} from './compile_reflector';\nimport {CompilerConfig} from './config';\nimport {ChangeDetectionStrategy, Component, createAttribute, createComponent, createHost, createInject, createInjectable, createInjectionToken, createNgModule, createOptional, createSelf, createSkipSelf, Directive, Injectable, ModuleWithProviders, Provider, Query, SchemaMetadata, Type, ViewEncapsulation} from
 './core';\nimport {DirectiveNormalizer} from './directive_normalizer';\nimport {DirectiveResolver, findLast} from './directive_resolver';\nimport {Identifiers} from './identifiers';\nimport {getAllLifecycleHooks} from './lifecycle_reflector';\nimport {HtmlParser} from './ml_parser/html_parser';\nimport {NgModuleResolver} from './ng_module_resolver';\nimport {PipeResolver} from './pipe_resolver';\nimport {ElementSchemaRegistry} from './schema/element_schema_registry';\nimport {CssSelector} from './selector';\nimport {SummaryResolver} from './summary_resolver';\nimport {Console, isPromise, noUndefined, resolveForwardRef, stringify, SyncAsync, syntaxError, ValueTransformer, visitValue} from './util';\n\nexport type ErrorCollector = (error: any, type?: any) => void;\n\nexport const ERROR_COMPONENT_TYPE = 'ngComponentType';\n\n// Design notes:\n// - don't lazily create metadata:\n//   For some metadata, we need to do async work sometimes,\n//   so the user has to kick off this loading.\n//
  But we want to report errors even when the async work is\n//   not required to check that the user would have been able\n//   to wait correctly.\nexport class CompileMetadataResolver {\n  private _nonNormalizedDirectiveCache =\n    new Map<Type, {annotation: Directive, metadata: cpl.CompileDirectiveMetadata}>();\n  private _directiveCache = new Map<Type, cpl.CompileDirectiveMetadata>();\n  private _summaryCache = new Map<Type, cpl.CompileTypeSummary|null>();\n  private _pipeCache = new Map<Type, cpl.CompilePipeMetadata>();\n  private _ngModuleCache = new Map<Type, cpl.CompileNgModuleMetadata>();\n  private _ngModuleOfTypes = new Map<Type, Type>();\n  private _shallowModuleCache = new Map<Type, cpl.CompileShallowModuleMetadata>();\n\n  constructor(\n      private _config: CompilerConfig, private _htmlParser: HtmlParser,\n      private _ngModuleResolver: NgModuleResolver, private _directiveResolver:

```
DirectiveResolver,\n      private _pipeResolver: PipeResolver, private _summaryResolver:
 SummaryResolver<any>,\n      private _schemaRegistry: ElementSchemaRegistry,\n      private
_directiveNormalizer: DirectiveNormalizer, private _console: Console,\n      private _staticSymbolCache:
StaticSymbolCache, private _reflector: CompileReflector,\n      private _errorCollector?: ErrorCollector) {}\n\n
getReflector(): CompileReflector {\n    return this._reflector;\n  }\n\n  clearCacheFor(type: Type) {\n    const
dirMeta = this._directiveCache.get(type);\n    this._directiveCache.delete(type);\n
this._nonNormalizedDirectiveCache.delete(type);\n    this._summaryCache.delete(type);\n
this._pipeCache.delete(type);\n    this._ngModuleOfTypes.delete(type);\n    // Clear all of the NgModule as they
contain transitive information!\n    this._ngModuleCache.clear();\n    if (dirMeta) {\n
this._directiveNormalizer.clearCacheFor(dirMeta);\n    }\n  }\n\n  clearCache(): void {\n
this._directiveCache.clear();\n    this._nonNormalizedDirectiveCache.clear();\n    this._summaryCache.clear();\n
   this._pipeCache.clear();\n    this._ngModuleCache.clear();\n    this._ngModuleOfTypes.clear();\n
this._directiveNormalizer.clearCache();\n  }\n\n  private _createProxyClass(baseType: any, name: string):
cpl.ProxyClass {\n    let delegate: any = null;\n    const proxyClass: cpl.ProxyClass = <any>function(this: unknown)
{\n      if (!delegate) {\n        throw new Error(\n            `Illegal state: Class ${name} for type ${stringify(baseType)}
is not compiled yet!`);\n      }\n      return delegate.apply(this, arguments);\n    };\n    proxyClass.setDelegate = (d) =>
{\n      delegate = d;\n      (<any>proxyClass).prototype = d.prototype;\n    };\n    // Make stringify work correctly\n
(<any>proxyClass).overriddenName = name;\n    return proxyClass;\n  }\n\n  private getGeneratedClass(dirType:
any, name: string): StaticSymbol|cpl.ProxyClass {\n    if (dirType instanceof StaticSymbol) {\n      return
this._staticSymbolCache.get(ngfactoryFilePath(dirType.filePath),
 name);\n    } else {\n      return this._createProxyClass(dirType, name);\n    }\n  }\n\n  private
getComponentViewClass(dirType: any): StaticSymbol|cpl.ProxyClass {\n    return this.getGeneratedClass(dirType,
cpl.viewClassName(dirType, 0));\n  }\n\n  getHostComponentViewClass(dirType: any):
StaticSymbol|cpl.ProxyClass {\n    return this.getGeneratedClass(dirType, cpl.hostViewClassName(dirType));\n
}\n\n  getHostComponentType(dirType: any): StaticSymbol|cpl.ProxyClass {\n    const name =
`${cpl.identifierName({reference: dirType})}_Host`;\n    if (dirType instanceof StaticSymbol) {\n      return
this._staticSymbolCache.get(dirType.filePath, name);\n    }\n\n    return this._createProxyClass(dirType, name);\n
}\n\n  private getRendererType(dirType: any): StaticSymbol|object {\n    if (dirType instanceof StaticSymbol) {\n
return this._staticSymbolCache.get(\n          ngfactoryFilePath(dirType.filePath),
cpl.rendererTypeName(dirType));\n    } else {\n      // returning an object
 as proxy,\n      // that we fill later during runtime compilation.\n      return <any>{};\n    }\n  }\n\n  private
getComponentFactory(\n      selector: string, dirType: any, inputs: {[key: string]: string}|null,\n      outputs: {[key:
string]: string}): StaticSymbol|object {\n    if (dirType instanceof StaticSymbol) {\n      return
this._staticSymbolCache.get(\n          ngfactoryFilePath(dirType.filePath), cpl.componentFactoryName(dirType));\n
 } else {\n      const hostView = this.getHostComponentViewClass(dirType);\n      // Note: ngContentSelectors will
be filled later once the template is\n      // loaded.\n      const createComponentFactory =\n
this._reflector.resolveExternalReference(Identifiers.createComponentFactory);\n      return
createComponentFactory(selector, dirType, <any>hostView, inputs, outputs, []);\n    }\n  }\n\n  private
initComponentFactory(factory: StaticSymbol|object, ngContentSelectors: string[]) {\n    if (!(factory instanceof
StaticSymbol))
 {\n      (factory as any).ngContentSelectors.push(...ngContentSelectors);\n    }\n  }\n\n  private _loadSummary(type:
any, kind: cpl.CompileSummaryKind): cpl.CompileTypeSummary|null {\n    let typeSummary =
this._summaryCache.get(type);\n    if (!typeSummary) {\n      const summary =
this._summaryResolver.resolveSummary(type);\n      typeSummary = summary ? summary.type : null;\n
this._summaryCache.set(type, typeSummary || null);\n    }\n    return typeSummary &&
typeSummary.summaryKind === kind ? typeSummary : null;\n  }\n\n  getHostComponentMetadata(\n
compMeta: cpl.CompileDirectiveMetadata,\n      hostViewType?: StaticSymbol|cpl.ProxyClass):
cpl.CompileDirectiveMetadata {\n    const hostType = this.getHostComponentType(compMeta.type.reference);\n
```

```
if (!hostViewType) {\n hostViewType = this.getHostComponentViewClass(hostType);\n }\n // Note: ! is ok here as this method should only be called with normalized directive\n // metadata, which always fills in the selector.\n const template = CssSelector.parse(compMeta.selector!)[0].getMatchingElementTemplate();\n const templateUrl = '';\n const htmlAst = this._htmlParser.parse(template, templateUrl);\n return cpl.CompileDirectiveMetadata.create({\n isHost: true,\n type: {reference: hostType, diDeps: [], lifecycleHooks: []},\n template: new cpl.CompileTemplateMetadata({\n encapsulation: ViewEncapsulation.None,\n template,\n templateUrl,\n htmlAst,\n styles: [],\n styleUrls: [],\n ngContentSelectors: [],\n animations: [],\n isInline: true,\n externalStylesheets: [],\n interpolation: null,\n preserveWhitespaces: false,\n }),\n exportAs: null,\n changeDetection: ChangeDetectionStrategy.Default,\n inputs: [],\n outputs: [],\n host: {},\n isComponent: true,\n selector: '*',\n providers: [],\n viewProviders: [],\n queries: [],\n guards: {},\n viewQueries: [],\n componentViewType: hostViewType,\n rendererType: {id: '__Host__', encapsulation: ViewEncapsulation.None, styles: [], data: {}} as\n object,\n entryComponents: [],\n componentFactory: null\n });\n }\n\n loadDirectiveMetadata(ngModuleType: any, directiveType: any, isSync: boolean): SyncAsync<null> {\n if (this._directiveCache.has(directiveType)) {\n return null;\n }\n directiveType = resolveForwardRef(directiveType);\n const {annotation, metadata} = this.getNonNormalizedDirectiveMetadata(directiveType)!;\n\n const createDirectiveMetadata = (templateMetadata: cpl.CompileTemplateMetadata|null) => {\n const normalizedDirMeta = new cpl.CompileDirectiveMetadata({\n isHost: false,\n type: metadata.type,\n isComponent: metadata.isComponent,\n selector: metadata.selector,\n exportAs: metadata.exportAs,\n changeDetection: metadata.changeDetection,\n inputs: metadata.inputs,\n outputs: metadata.outputs,\n hostListeners: metadata.hostListeners,\n hostProperties: metadata.hostProperties,\n hostAttributes: metadata.hostAttributes,\n providers: metadata.providers,\n viewProviders: metadata.viewProviders,\n queries: metadata.queries,\n guards: metadata.guards,\n viewQueries: metadata.viewQueries,\n entryComponents: metadata.entryComponents,\n componentViewType: metadata.componentViewType,\n rendererType: metadata.rendererType,\n componentFactory: metadata.componentFactory,\n template: templateMetadata\n });\n if (templateMetadata) {\n this.initComponentFactory(metadata.componentFactory!, templateMetadata.ngContentSelectors);\n }\n this._directiveCache.set(directiveType, normalizedDirMeta);\n this._summaryCache.set(directiveType, normalizedDirMeta.toSummary());\n return null;\n };\n\n if (metadata.isComponent)\n {\n const template = metadata.template !;\n const templateMeta = this._directiveNormalizer.normalizeTemplate({\n ngModuleType,\n componentType: directiveType,\n moduleUrl: this._reflector.componentModuleUrl(directiveType, annotation),\n encapsulation: template.encapsulation,\n template: template.template,\n templateUrl: template.templateUrl,\n styles: template.styles,\n styleUrls: template.styleUrls,\n animations: template.animations,\n interpolation: template.interpolation,\n preserveWhitespaces: template.preserveWhitespaces\n });\n if (isPromise(templateMeta) && isSync) {\n this._reportError(componentStillLoadingError(directiveType), directiveType);\n return null;\n }\n return SyncAsync.then(templateMeta, createDirectiveMetadata);\n } else {\n // directive\n createDirectiveMetadata(null);\n return null;\n }\n }\n\n getNonNormalizedDirectiveMetadata(directiveType:\n any):\n {annotation: Directive, metadata: cpl.CompileDirectiveMetadata}|null {\n directiveType = resolveForwardRef(directiveType);\n if (!directiveType) {\n return null;\n }\n let cacheEntry = this._nonNormalizedDirectiveCache.get(directiveType);\n if (cacheEntry) {\n return cacheEntry;\n }\n const dirMeta = this._directiveResolver.resolve(directiveType, false);\n if (!dirMeta) {\n return null;\n }\n let nonNormalizedTemplateMetadata: cpl.CompileTemplateMetadata = undefined!;\n\n if (createComponent.isTypeOf(dirMeta)) {\n // component\n const compMeta = dirMeta as Component;\n assertArrayOfStrings('styles', compMeta.styles);\n assertArrayOfStrings('styleUrls', compMeta.styleUrls);\n
```

```
assertInterpolationSymbols('interpolation', compMeta.interpolation);\n\n      const animations =
compMeta.animations;\n\n      nonNormalizedTemplateMetadata = new cpl.CompileTemplateMetadata({\n
encapsulation:
 noUndefined(compMeta.encapsulation),\n        template: noUndefined(compMeta.template),\n        templateUrl:
noUndefined(compMeta.templateUrl),\n        htmlAst: null,\n        styles: compMeta.styles || [],\n        styleUrls:
compMeta.styleUrls || [],\n        animations: animations || [],\n        interpolation:
noUndefined(compMeta.interpolation),\n        isInline: !!compMeta.template,\n        externalStylesheets: [],\n
ngContentSelectors: [],\n        preserveWhitespaces: noUndefined(dirMeta.preserveWhitespaces),\n      });\n    }\n\n
let changeDetectionStrategy: ChangeDetectionStrategy = null!;\n    let viewProviders:
cpl.CompileProviderMetadata[] = [];\n    let entryComponentMetadata: cpl.CompileEntryComponentMetadata[] =
[];\n    let selector = dirMeta.selector;\n\n    if (createComponent.isTypeOf(dirMeta)) {\n      // Component\n
const compMeta = dirMeta as Component;\n      changeDetectionStrategy = compMeta.changeDetection!;\n      if
(compMeta.viewProviders)
 {\n        viewProviders = this._getProvidersMetadata(\n            compMeta.viewProviders,
entryComponentMetadata,\n            `viewProviders for \"${stringifyType(directiveType)}\"`, [], directiveType);\n
}\n      if (compMeta.entryComponents) {\n        entryComponentMetadata =
flattenAndDedupeArray(compMeta.entryComponents)\n                                .map((type) =>
this._getEntryComponentMetadata(type)!)\n                                .concat(entryComponentMetadata);\n      }\n
if (!selector) {\n        selector = this._schemaRegistry.getDefaultComponentElementName();\n      }\n    } else {\n
// Directive\n      if (!selector) {\n        selector = null!;\n      }\n    }\n\n    let providers:
cpl.CompileProviderMetadata[] = [];\n    if (dirMeta.providers != null) {\n      providers =
this._getProvidersMetadata(\n          dirMeta.providers, entryComponentMetadata,\n          `providers for
\"${stringifyType(directiveType)}\"`, [],
 directiveType);\n    }\n    let queries: cpl.CompileQueryMetadata[] = [];\n    let viewQueries:
cpl.CompileQueryMetadata[] = [];\n    if (dirMeta.queries != null) {\n      queries =
this._getQueriesMetadata(dirMeta.queries, false, directiveType);\n      viewQueries =
this._getQueriesMetadata(dirMeta.queries, true, directiveType);\n    }\n\n    const metadata =
cpl.CompileDirectiveMetadata.create({\n      isHost: false,\n      selector: selector,\n      exportAs:
noUndefined(dirMeta.exportAs),\n      isComponent: !!nonNormalizedTemplateMetadata,\n      type:
this._getTypeMetadata(directiveType),\n      template: nonNormalizedTemplateMetadata,\n      changeDetection:
changeDetectionStrategy,\n      inputs: dirMeta.inputs || [],\n      outputs: dirMeta.outputs || [],\n      host: dirMeta.host
|| {},\n      providers: providers || [],\n      viewProviders: viewProviders || [],\n      queries: queries || [],\n      guards:
dirMeta.guards || {},\n      viewQueries: viewQueries || [],\n
 entryComponents: entryComponentMetadata,\n      componentViewType: nonNormalizedTemplateMetadata ?
this.getComponentViewClass(directiveType) :\n                                null,\n      rendererType:
nonNormalizedTemplateMetadata ? this.getRendererType(directiveType) : null,\n      componentFactory: null\n
});\n    if (nonNormalizedTemplateMetadata) {\n      metadata.componentFactory =\n
this.getComponentFactory(selector, directiveType, metadata.inputs, metadata.outputs);\n    }\n    cacheEntry =
{metadata, annotation: dirMeta};\n    this._nonNormalizedDirectiveCache.set(directiveType, cacheEntry);\n    return
cacheEntry;\n  }\n\n  /**\n   * Gets the metadata for the given directive.\n   * This assumes
`loadNgModuleDirectiveAndPipeMetadata` has been called first.\n   */\n  getDirectiveMetadata(directiveType:
any): cpl.CompileDirectiveMetadata {\n    const dirMeta = this._directiveCache.get(directiveType)!;\n    if
(!dirMeta) {\n      this._reportError(\n          syntaxError(\n              `Illegal state: getDirectiveMetadata can only be called after
loadNgModuleDirectiveAndPipeMetadata for a module that declares it. Directive ${\n
stringifyType(directiveType)}.`),\n          directiveType);\n    }\n    return dirMeta;\n  }\n\n
getDirectiveSummary(dirType: any): cpl.CompileDirectiveSummary {\n    const dirSummary =\n
<cpl.CompileDirectiveSummary>this._loadSummary(dirType, cpl.CompileSummaryKind.Directive);\n    if
```

(!dirSummary) {\n this._reportError(\n syntaxError(\n `Illegal state: Could not load the summary for directive ${stringifyType(dirType)}.`),\n dirType);\n }\n return dirSummary;\n }\n\n isDirective(type: any) {\n return !!this._loadSummary(type, cpl.CompileSummaryKind.Directive) ||\n this._directiveResolver.isDirective(type);\n }\n\n isAbstractDirective(type: any): boolean {\n const summary =\n this._loadSummary(type, cpl.CompileSummaryKind.Directive)\n as cpl.CompileDirectiveSummary;\n if (summary && !summary.isComponent) {\n return !summary.selector;\n }\n\n const meta = this._directiveResolver.resolve(type, false);\n if (meta && !createComponent.isTypeOf(meta)) {\n return !meta.selector;\n }\n\n return false;\n }\n\n isPipe(type: any) {\n return !!this._loadSummary(type, cpl.CompileSummaryKind.Pipe) ||\n this._pipeResolver.isPipe(type);\n }\n\n isNgModule(type: any) {\n return !!this._loadSummary(type, cpl.CompileSummaryKind.NgModule) ||\n this._ngModuleResolver.isNgModule(type);\n }\n\n getNgModuleSummary(moduleType: any, alreadyCollecting: Set<any>|null = null):\n cpl.CompileNgModuleSummary|null {\n let moduleSummary: cpl.CompileNgModuleSummary|null =\n <cpl.CompileNgModuleSummary>this._loadSummary(moduleType, cpl.CompileSummaryKind.NgModule);\n if (!moduleSummary) {\n const moduleMeta = this.getNgModuleMetadata(moduleType, false,\n alreadyCollecting);\n moduleSummary = moduleMeta ? moduleMeta.toSummary() : null;\n if (moduleSummary) {\n this._summaryCache.set(moduleType, moduleSummary);\n }\n }\n return moduleSummary;\n }\n\n /**\n * Loads the declared directives and pipes of an NgModule.\n */\n loadNgModuleDirectiveAndPipeMetadata(moduleType: any, isSync: boolean, throwIfNotFound = true):\n Promise<any> {\n const ngModule = this.getNgModuleMetadata(moduleType, throwIfNotFound);\n const loading: Promise<any>[] = [];\n if (ngModule) {\n ngModule.declaredDirectives.forEach((id) => {\n const promise = this.loadDirectiveMetadata(moduleType, id.reference, isSync);\n if (promise) {\n loading.push(promise);\n }\n });\n ngModule.declaredPipes.forEach((id) =>\n this._loadPipeMetadata(id.reference));\n }\n return Promise.all(loading);\n }\n\n getShallowModuleMetadata(moduleType: any): cpl.CompileShallowModuleMetadata|null\n {\n let compileMeta = this._shallowModuleCache.get(moduleType);\n if (compileMeta) {\n return compileMeta;\n }\n\n const ngModuleMeta =\n findLast(this._reflector.shallowAnnotations(moduleType), createNgModule.isTypeOf);\n\n compileMeta = {\n type: this._getTypeMetadata(moduleType),\n rawExports: ngModuleMeta.exports,\n rawImports: ngModuleMeta.imports,\n rawProviders: ngModuleMeta.providers,\n };\n\n this._shallowModuleCache.set(moduleType, compileMeta);\n return compileMeta;\n }\n\n getNgModuleMetadata(\n moduleType: any, throwIfNotFound = true,\n alreadyCollecting: Set<any>|null = null): cpl.CompileNgModuleMetadata|null {\n moduleType = resolveForwardRef(moduleType);\n let compileMeta = this._ngModuleCache.get(moduleType);\n if (compileMeta) {\n return compileMeta;\n }\n const meta = this._ngModuleResolver.resolve(moduleType, throwIfNotFound);\n if (!meta) {\n return null;\n }\n const declaredDirectives: cpl.CompileIdentifierMetadata[] = [];\n const exportedNonModuleIdentifiers: cpl.CompileIdentifierMetadata[] = [];\n const declaredPipes: cpl.CompileIdentifierMetadata[] = [];\n const importedModules: cpl.CompileNgModuleSummary[] = [];\n const exportedModules: cpl.CompileNgModuleSummary[] = [];\n const providers: cpl.CompileProviderMetadata[] = [];\n const entryComponents: cpl.CompileEntryComponentMetadata[] = [];\n const bootstrapComponents: cpl.CompileIdentifierMetadata[] = [];\n const schemas: SchemaMetadata[] = [];\n\n if (meta.imports) {\n flattenAndDedupeArray(meta.imports).forEach((importedType) => {\n let importedModuleType: Type = undefined!;\n if (isValidType(importedType)) {\n importedModuleType = importedType;\n } else if (importedType && importedType.ngModule) {\n const moduleWithProviders: ModuleWithProviders = importedType;\n importedModuleType = moduleWithProviders.ngModule;\n\n if (moduleWithProviders.providers) {\n providers.push(...this._getProvidersMetadata(\n moduleWithProviders.providers, entryComponents,\n `provider for the NgModule '${stringifyType(importedModuleType)}'`, [],\n importedType));\n }\n }\n\n if

```
(importedModuleType) {\n if (this._checkSelfImport(moduleType, importedModuleType)) return;\n if (!alreadyCollecting) alreadyCollecting = new Set();\n if (alreadyCollecting.has(importedModuleType)) {\n this._reportError(\n syntaxError(`${this._getTypeDescriptor(importedModuleType)} '${\n stringifyType(importedType)}' is imported recursively by the module '${\n stringifyType(moduleType)}'.`),\n moduleType);\n return;\n }\n alreadyCollecting.add(importedModuleType);\n const importedModuleSummary =\n this.getNgModuleSummary(importedModuleType,
 alreadyCollecting);\n alreadyCollecting.delete(importedModuleType);\n if (!importedModuleSummary) {\n this._reportError(\n syntaxError(`Unexpected ${this._getTypeDescriptor(importedType)} '${\n stringifyType(importedType)}' imported by the module '${\n stringifyType(moduleType)}'. Please add a @NgModule annotation.`),\n moduleType);\n return;\n }\n importedModules.push(importedModuleSummary);\n } else {\n this._reportError(\n syntaxError(\n `Unexpected value '${stringifyType(importedType)}' imported by the module '${\n stringifyType(moduleType)}'`),\n moduleType);\n return;\n }\n });\n }\n\n if (meta.exports) {\n flattenAndDedupeArray(meta.exports).forEach((exportedType) => {\n if (!isValidType(exportedType))
 {\n this._reportError(\n syntaxError(\n `Unexpected value '${stringifyType(exportedType)}' exported by the module '${\n stringifyType(moduleType)}'`),\n moduleType);\n return;\n }\n if (!alreadyCollecting) alreadyCollecting = new Set();\n if (alreadyCollecting.has(exportedType)) {\n this._reportError(\n syntaxError(`${this._getTypeDescriptor(exportedType)} '${\n stringify(exportedType)}' is exported recursively by the module '${\n stringifyType(moduleType)}'`),\n moduleType);\n return;\n }\n alreadyCollecting.add(exportedType);\n const exportedModuleSummary = this.getNgModuleSummary(exportedType, alreadyCollecting);\n alreadyCollecting.delete(exportedType);\n if (exportedModuleSummary) {\n exportedModules.push(exportedModuleSummary);\n } else {\n exportedNonModuleIdentifiers.push(this._getIdentifierMetadata(exportedType));\n }\n });\n }\n\n // Note: This will be modified later, so we rely on\n // getting a new instance every time!\n const transitiveModule = this._getTransitiveNgModuleMetadata(importedModules, exportedModules);\n if (meta.declarations) {\n flattenAndDedupeArray(meta.declarations).forEach((declaredType) => {\n if (!isValidType(declaredType)) {\n this._reportError(\n syntaxError(\n `Unexpected value '${stringifyType(declaredType)}' declared by the module '${\n stringifyType(moduleType)}'`),\n moduleType);\n return;\n }\n const declaredIdentifier = this._getIdentifierMetadata(declaredType);\n if (this.isDirective(declaredType)) {\n if (this.isAbstractDirective(declaredType)) {\n this._reportError(\n syntaxError(\n `Directive
 ${stringifyType(declaredType)} has no selector, please add it!`),\n declaredType);\n }\n transitiveModule.addDirective(declaredIdentifier);\n declaredDirectives.push(declaredIdentifier);\n this._addTypeToModule(declaredType, moduleType);\n } else if (this.isPipe(declaredType)) {\n transitiveModule.addPipe(declaredIdentifier);\n transitiveModule.pipes.push(declaredIdentifier);\n declaredPipes.push(declaredIdentifier);\n this._addTypeToModule(declaredType, moduleType);\n } else {\n this._reportError(\n syntaxError(`Unexpected ${this._getTypeDescriptor(declaredType)} '${\n stringifyType(declaredType)}' declared by the module '${\n stringifyType(\n moduleType)}'. Please add a @Pipe/@Directive/@Component annotation.`),\n moduleType);\n return;\n }\n });\n }\n\n const exportedDirectives:
 cpl.CompileIdentifierMetadata[] = [];\n const exportedPipes: cpl.CompileIdentifierMetadata[] = [];\n exportedNonModuleIdentifiers.forEach((exportedId) => {\n if (transitiveModule.directivesSet.has(exportedId.reference)) {\n exportedDirectives.push(exportedId);\n transitiveModule.addExportedDirective(exportedId);\n } else if (transitiveModule.pipesSet.has(exportedId.reference)) {\n exportedPipes.push(exportedId);\n
```

```
transitiveModule.addExportedPipe(exportedId);\n      } else {\n        this._reportError(\n          syntaxError(`Can't export ${this._getTypeDescriptor(exportedId.reference)} ${\n              stringifyType(exportedId.reference)} from ${\n              stringifyType(moduleType)} as it was neither declared nor imported!`),\n          moduleType);\n        return;\n      }\n    });\n\n    // The providers of the module have to go last\n    // so that they overwrite any other provider we already added.\n
    if (meta.providers) {\n      providers.push(...this._getProvidersMetadata(\n          meta.providers, entryComponents,\n          `provider for the NgModule '${stringifyType(moduleType)}'`, [], moduleType));\n    }\n\n    if (meta.entryComponents) {\n      entryComponents.push(...flattenAndDedupeArray(meta.entryComponents)\n                               .map(type => this._getEntryComponentMetadata(type)!));\n    }\n\n    if (meta.bootstrap) {\n      flattenAndDedupeArray(meta.bootstrap).forEach(type => {\n        if (!isValidType(type)) {\n          this._reportError(\n              syntaxError(`Unexpected value '${\n                  stringifyType(type)}' used in the bootstrap property of module '${\n                  stringifyType(moduleType)}'`),\n              moduleType);\n          return;\n        }\n        bootstrapComponents.push(this._getIdentifierMetadata(type));\n      });\n    }\n\n    entryComponents.push(\n        ...bootstrapComponents.map(type => this._getEntryComponentMetadata(type.reference)!));\n\n
    if (meta.schemas) {\n      schemas.push(...flattenAndDedupeArray(meta.schemas));\n    }\n\n    compileMeta = new cpl.CompileNgModuleMetadata({\n      type: this._getTypeMetadata(moduleType),\n      providers,\n      entryComponents,\n      bootstrapComponents,\n      schemas,\n      declaredDirectives,\n      exportedDirectives,\n      declaredPipes,\n      exportedPipes,\n      importedModules,\n      exportedModules,\n      transitiveModule,\n      id: meta.id || null,\n    });\n\n    entryComponents.forEach((id) => transitiveModule.addEntryComponent(id));\n    providers.forEach((provider) => transitiveModule.addProvider(provider, compileMeta!.type));\n    transitiveModule.addModule(compileMeta.type);\n    this._ngModuleCache.set(moduleType, compileMeta);\n    return compileMeta;\n  }\n\n  private _checkSelfImport(moduleType: Type, importedModuleType: Type): boolean {\n    if (moduleType === importedModuleType) {\n      this._reportError(\n          syntaxError(`'${stringifyType(moduleType)}' module can't import itself`), moduleType);\n      return true;\n    }\n    return false;\n  }\n\n  private _getTypeDescriptor(type: Type): string {\n    if (isValidType(type)) {\n      if (this.isDirective(type)) {\n        return 'directive';\n      }\n\n      if (this.isPipe(type)) {\n        return 'pipe';\n      }\n\n      if (this.isNgModule(type)) {\n        return 'module';\n      }\n    }\n\n    if ((type as any).provide) {\n      return 'provider';\n    }\n\n    return 'value';\n  }\n\n\n  private _addTypeToModule(type: Type, moduleType: Type) {\n    const oldModule = this._ngModuleOfTypes.get(type);\n    if (oldModule && oldModule !== moduleType) {\n      this._reportError(\n          syntaxError(\n              `Type ${stringifyType(type)} is part of the declarations of 2 modules: ${\n                  stringifyType(oldModule)} and ${stringifyType(moduleType)}! ` +\n              `Please consider moving ${stringifyType(type)}
 to a higher module that imports ${\n                  stringifyType(oldModule)} and ${stringifyType(moduleType)}. ` +\n              `You can also create a new NgModule that exports and includes ${\n                  stringifyType(type)} then import that NgModule in ${\n                  stringifyType(oldModule)} and ${stringifyType(moduleType)}.`),\n          moduleType);\n      return;\n    }\n    this._ngModuleOfTypes.set(type, moduleType);\n  }\n\n  private _getTransitiveNgModuleMetadata(\n      importedModules: cpl.CompileNgModuleSummary[],\n      exportedModules: cpl.CompileNgModuleSummary[]): cpl.TransitiveCompileNgModuleMetadata {\n    // collect `providers` / `entryComponents` from all imported and all exported modules\n    const result = new cpl.TransitiveCompileNgModuleMetadata();\n    const modulesByToken = new Map<any, Set<any>>();\n    importedModules.concat(exportedModules).forEach((modSummary) => {\n      modSummary.modules.forEach((mod) => result.addModule(mod));\n      modSummary.entryComponents.forEach((comp) => result.addEntryComponent(comp));\n      const addedTokens = new Set<any>();\n      modSummary.providers.forEach((entry) => {\n        const tokenRef = cpl.tokenReference(entry.provider.token);\n        let prevModules = modulesByToken.get(tokenRef);\n        if (!prevModules) {\n          prevModules = new Set<any>();\n          modulesByToken.set(tokenRef, prevModules);\n
```

```
}\n const moduleRef = entry.module.reference;\n // Note: the providers of one module may still contain multiple providers\n // per token (e.g. for multi providers), and we need to preserve these.\n if (addedTokens.has(tokenRef) || !prevModules.has(moduleRef)) {\n prevModules.add(moduleRef);\n addedTokens.add(tokenRef);\n result.addProvider(entry.provider, entry.module);\n }\n });\n });\n exportedModules.forEach((modSummary) => {\n modSummary.exportedDirectives.forEach((id) => result.addExportedDirective(id));\n
modSummary.exportedPipes.forEach((id) => result.addExportedPipe(id));\n });\n importedModules.forEach((modSummary) => {\n modSummary.exportedDirectives.forEach((id) => result.addDirective(id));\n modSummary.exportedPipes.forEach((id) => result.addPipe(id));\n });\n return result;\n }\n\n private _getIdentifierMetadata(type: Type): cpl.CompileIdentifierMetadata {\n type = resolveForwardRef(type);\n return {reference: type};\n }\n\n isInjectable(type: any): boolean {\n const annotations = this._reflector.tryAnnotations(type);\n return annotations.some(ann => createInjectable.isTypeOf(ann));\n }\n\n getInjectableSummary(type: any): cpl.CompileTypeSummary {\n return {\n summaryKind: cpl.CompileSummaryKind.Injectable,\n type: this._getTypeMetadata(type, null, false)\n };\n }\n\n getInjectableMetadata(\n type: any, dependencies: any[]|null = null,\n throwOnUnknownDeps: boolean = true): cpl.CompileInjectableMetadata|null
{\n const typeSummary = this._loadSummary(type, cpl.CompileSummaryKind.Injectable);\n const typeMetadata = typeSummary ?\n typeSummary.type :\n this._getTypeMetadata(type, dependencies, throwOnUnknownDeps);\n\n const annotations: Injectable[] =\n this._reflector.annotations(type).filter(ann => createInjectable.isTypeOf(ann));\n\n if (annotations.length === 0) {\n return null;\n }\n\n const meta = annotations[annotations.length - 1];\n return {\n symbol: type,\n type: typeMetadata,\n providedIn: meta.providedIn,\n useValue: meta.useValue,\n useClass: meta.useClass,\n useExisting: meta.useExisting,\n useFactory: meta.useFactory,\n deps: meta.deps,\n };\n }\n\n private _getTypeMetadata(type: Type, dependencies: any[]|null = null, throwOnUnknownDeps = true):\n cpl.CompileTypeMetadata {\n const identifier = this._getIdentifierMetadata(type);\n return {\n reference: identifier.reference,\n diDeps: this._getDependenciesMetadata(identifier.reference, dependencies, throwOnUnknownDeps),\n lifecycleHooks: getAllLifecycleHooks(this._reflector, identifier.reference),\n };\n }\n\n private _getFactoryMetadata(factory: Function, dependencies: any[]|null = null):\n cpl.CompileFactoryMetadata {\n factory = resolveForwardRef(factory);\n return {reference: factory, diDeps: this._getDependenciesMetadata(factory, dependencies)};\n }\n\n /**\n * Gets the metadata for the given pipe.\n * This assumes `loadNgModuleDirectiveAndPipeMetadata` has been called first.\n */\n getPipeMetadata(pipeType: any): cpl.CompilePipeMetadata|null {\n const pipeMeta = this._pipeCache.get(pipeType);\n if (!pipeMeta) {\n this._reportError(\n syntaxError(\n `Illegal state: getPipeMetadata can only be called after loadNgModuleDirectiveAndPipeMetadata for a module that declares it. Pipe ${\n stringifyType(pipeType)}.`),\n
pipeType);\n }\n return pipeMeta || null;\n }\n\n getPipeSummary(pipeType: any): cpl.CompilePipeSummary {\n const pipeSummary =\n <cpl.CompilePipeSummary>this._loadSummary(pipeType, cpl.CompileSummaryKind.Pipe);\n if (!pipeSummary) {\n this._reportError(\n syntaxError(\n `Illegal state: Could not load the summary for pipe ${stringifyType(pipeType)}.`),\n pipeType);\n }\n return pipeSummary;\n }\n\n getOrLoadPipeMetadata(pipeType: any): cpl.CompilePipeMetadata {\n let pipeMeta = this._pipeCache.get(pipeType);\n if (!pipeMeta) {\n pipeMeta = this._loadPipeMetadata(pipeType);\n }\n return pipeMeta;\n }\n\n private _loadPipeMetadata(pipeType: any): cpl.CompilePipeMetadata {\n pipeType = resolveForwardRef(pipeType);\n const pipeAnnotation = this._pipeResolver.resolve(pipeType)!;\n\n const pipeMeta = new cpl.CompilePipeMetadata({\n type: this._getTypeMetadata(pipeType),\n
name: pipeAnnotation.name,\n pure: !!pipeAnnotation.pure\n });\n this._pipeCache.set(pipeType, pipeMeta);\n this._summaryCache.set(pipeType, pipeMeta.toSummary());\n return pipeMeta;\n }\n\n private _getDependenciesMetadata(\n typeOrFunc: Type|Function, dependencies: any[]|null,\n
```

```
throwOnUnknownDeps = true): cpl.CompileDiDependencyMetadata[] {\n    let hasUnknownDeps = false;\n    const params = dependencies || this._reflector.parameters(typeOrFunc) || [];\n\n    const dependenciesMetadata: cpl.CompileDiDependencyMetadata[] = params.map((param) => {\n      let isAttribute = false;\n      let isHost = false;\n      let isSelf = false;\n      let isSkipSelf = false;\n      let isOptional = false;\n      let token: any = null;\n      if (Array.isArray(param)) {\n        param.forEach((paramEntry: any) => {\n          if (createHost.isTypeOf(paramEntry)) {\n            isHost = true;\n          } else if (createSelf.isTypeOf(paramEntry)) {\n

        isSelf = true;\n          } else if (createSkipSelf.isTypeOf(paramEntry)) {\n            isSkipSelf = true;\n          } else if (createOptional.isTypeOf(paramEntry)) {\n            isOptional = true;\n          } else if (createAttribute.isTypeOf(paramEntry)) {\n            isAttribute = true;\n            token = (paramEntry as any).attributeName;\n          } else if (createInject.isTypeOf(paramEntry)) {\n            token = (paramEntry as any).token;\n          } else if (\n              createInjectionToken.isTypeOf(paramEntry) ||\n              (paramEntry as any) instanceof StaticSymbol) {\n            token = paramEntry;\n          } else if (isValidType(paramEntry) && token == null) {\n            token = paramEntry;\n          }\n        });\n      } else {\n        token = param;\n      }\n      if (token == null) {\n        hasUnknownDeps = true;\n        return {};\n      }\n\n      return {\n        isAttribute,\n        isHost,\n    isSelf,\n        isSkipSelf,\n

        isOptional,\n        token: this._getTokenMetadata(token)\n      };\n    });\n\n    if (hasUnknownDeps) {\n      const depsTokens =\n          dependenciesMetadata.map((dep) => dep.token ? stringifyType(dep.token) : '?').join(', ');\n      const message =\n          `Can't resolve all parameters for ${stringifyType(typeOrFunc)}: (${depsTokens}).`;\n      if (throwOnUnknownDeps || this._config.strictInjectionParameters) {\n        this._reportError(syntaxError(message), typeOrFunc);\n      }\n    }\n\n    return dependenciesMetadata;\n  }\n\n  private _getTokenMetadata(token: any): cpl.CompileTokenMetadata {\n    token = resolveForwardRef(token);\n    let compileToken: cpl.CompileTokenMetadata;\n    if (typeof token === 'string') {\n      compileToken = {value: token};\n    } else {\n      compileToken = {identifier: {reference: token}};\n    }\n    return compileToken;\n  }\n\n  private _getProvidersMetadata(\n      providers: Provider[], targetEntryComponents: cpl.CompileEntryComponentMetadata[],\n

      debugInfo?: string, compileProviders: cpl.CompileProviderMetadata[] = [],\n      type?: any): cpl.CompileProviderMetadata[] {\n    providers.forEach((provider: any, providerIdx: number) => {\n      if (Array.isArray(provider)) {\n        this._getProvidersMetadata(provider, targetEntryComponents, debugInfo, compileProviders);\n      } else {\n        provider = resolveForwardRef(provider);\n        let providerMeta: cpl.ProviderMeta = undefined!;\n        if (provider && typeof provider === 'object' && provider.hasOwnProperty('provide')) {\n          this._validateProvider(provider);\n          providerMeta = new cpl.ProviderMeta(provider.provide, provider);\n        } else if (isValidType(provider)) {\n          providerMeta = new cpl.ProviderMeta(provider, {useClass: provider});\n        } else if (provider === void 0) {\n          this._reportError(syntaxError(\n              `Encountered undefined provider! Usually this means you have a circular dependencies.
 This might be caused by using 'barrel' index.ts files.`));\n          return;\n        } else {\n          const providersInfo =\n              providers\n                  .reduce(\n                      (soFar: string[], seenProvider: any, seenProviderIdx: number) => {\n                        if (seenProviderIdx < providerIdx) {\n                          soFar.push(`${stringifyType(seenProvider)}`);\n                        } else if (seenProviderIdx == providerIdx) {\n                          soFar.push(`?${stringifyType(seenProvider)}?`);\n                        } else if (seenProviderIdx == providerIdx + 1) {\n                          soFar.push('...');\n                        }\n                        return soFar;\n                      },\n                      [])\n                  .join(', ');\n          this._reportError(\n              syntaxError(`Invalid ${\n                  debugInfo ?\n                      debugInfo :\n                      'provider'}
 - only instances of Provider and Type are allowed, got: [${\n                  providersInfo}]`),\n              type);\n          return;\n        }\n        if (providerMeta.token ===\n            this._reflector.resolveExternalReference(Identifiers.ANALYZE_FOR_ENTRY_COMPONENTS)) {\n          targetEntryComponents.push(...this._getEntryComponentsFromProvider(providerMeta, type));\n        } else {\n
```

```
compileProviders.push(this.getProviderMetadata(providerMeta));\n      }\n    }\n  });\n  return compileProviders;\n }\n\n private _validateProvider(provider: any): void {\n  if (provider.hasOwnProperty('useClass') && provider.useClass == null) {\n    this._reportError(syntaxError(`Invalid provider for ${\n        stringifyType(provider.provide)}. useClass cannot be ${provider.useClass}.\n        Usually it happens when:\n        1. There's a circular dependency (might be caused by using index.ts (barrel) files).\n        2. Class was used before it was
 declared. Use forwardRef in this case.`));\n  }\n }\n\n private _getEntryComponentsFromProvider(provider: cpl.ProviderMeta, type?: any):\n    cpl.CompileEntryComponentMetadata[] {\n  const components: cpl.CompileEntryComponentMetadata[] = [];\n  const collectedIdentifiers: cpl.CompileIdentifierMetadata[] = [];\n\n  if (provider.useFactory || provider.useExisting || provider.useClass) {\n    this._reportError(\n        syntaxError(`The ANALYZE_FOR_ENTRY_COMPONENTS token only supports useValue!`), type);\n    return [];\n  }\n\n  if (!provider.multi) {\n    this._reportError(\n        syntaxError(`The ANALYZE_FOR_ENTRY_COMPONENTS token only supports 'multi = true'!`),\n        type);\n    return [];\n  }\n\n  extractIdentifiers(provider.useValue, collectedIdentifiers);\n  collectedIdentifiers.forEach((identifier) => {\n    const entry = this._getEntryComponentMetadata(identifier.reference, false);\n    if (entry) {\n      components.push(entry);\n
    }\n  });\n  return components;\n }\n\n private _getEntryComponentMetadata(dirType: any, throwIfNotFound = true):\n    cpl.CompileEntryComponentMetadata|null {\n  const dirMeta = this.getNonNormalizedDirectiveMetadata(dirType);\n  if (dirMeta && dirMeta.metadata.isComponent) {\n    return {componentType: dirType, componentFactory: dirMeta.metadata.componentFactory!};\n  }\n  const dirSummary =\n      <cpl.CompileDirectiveSummary>this._loadSummary(dirType, cpl.CompileSummaryKind.Directive);\n  if (dirSummary && dirSummary.isComponent) {\n    return {componentType: dirType, componentFactory: dirSummary.componentFactory!};\n  }\n  if (throwIfNotFound) {\n    throw syntaxError(`${dirType.name} cannot be used as an entry component.`);\n  }\n  return null;\n }\n\n private _getInjectableTypeMetadata(type: Type, dependencies: any[]|null = null):\n    cpl.CompileTypeMetadata {\n  const typeSummary = this._loadSummary(type, cpl.CompileSummaryKind.Injectable);\n
  if (typeSummary) {\n    return typeSummary.type;\n  }\n  return this._getTypeMetadata(type, dependencies);\n }\n\n getProviderMetadata(provider: cpl.ProviderMeta): cpl.CompileProviderMetadata {\n  let compileDeps: cpl.CompileDiDependencyMetadata[] = undefined!;\n  let compileTypeMetadata: cpl.CompileTypeMetadata = null!;\n  let compileFactoryMetadata: cpl.CompileFactoryMetadata = null!;\n  let token: cpl.CompileTokenMetadata = this._getTokenMetadata(provider.token);\n\n  if (provider.useClass) {\n    compileTypeMetadata =\n        this._getInjectableTypeMetadata(provider.useClass, provider.dependencies);\n    compileDeps = compileTypeMetadata.diDeps;\n    if (provider.token === provider.useClass) {\n      // use the compileTypeMetadata as it contains information about lifecycleHooks...\n      token = {identifier: compileTypeMetadata};\n    }\n  } else if (provider.useFactory) {\n    compileFactoryMetadata = this._getFactoryMetadata(provider.useFactory,
 provider.dependencies);\n    compileDeps = compileFactoryMetadata.diDeps;\n  }\n\n  return {\n    token: token,\n    useClass: compileTypeMetadata,\n    useValue: provider.useValue,\n    useFactory: compileFactoryMetadata,\n    useExisting: provider.useExisting ? this._getTokenMetadata(provider.useExisting) : undefined,\n    deps: compileDeps,\n    multi: provider.multi\n  };\n }\n\n private _getQueriesMetadata(\n    queries: {[key: string]: Query}, isViewQuery: boolean,\n    directiveType: Type): cpl.CompileQueryMetadata[] {\n  const res: cpl.CompileQueryMetadata[] = [];\n\n  Object.keys(queries).forEach((propertyName: string) => {\n    const query = queries[propertyName];\n    if (query.isViewQuery === isViewQuery) {\n      res.push(this._getQueryMetadata(query, propertyName, directiveType));\n    }\n  });\n\n  return res;\n }\n\n private _queryVarBindings(selector: any): string[] {\n  return selector.split(/\\s*,\\s*/);\n
 }\n\n private _getQueryMetadata(q: Query, propertyName: string, typeOrFunc: Type|Function):\n    cpl.CompileQueryMetadata {\n  let selectors: cpl.CompileTokenMetadata[];\n  if (typeof q.selector === 'string') {\n    selectors =\n        this._queryVarBindings(q.selector).map(varName =>
```

this._getTokenMetadata(varName));\n } else {\n if (!q.selector) {\n this._reportError(\n syntaxError(`Can't construct a query for the property \"${propertyName}\" of \"${\n stringifyType(typeOrFunc)}\" since the query selector wasn't defined.`),\n typeOrFunc);\n selectors = [];\n } else {\n selectors = [this._getTokenMetadata(q.selector)];\n }\n }\n\n return {\n selectors,\n first: q.first,\n descendants: q.descendants,\n propertyName,\n read: q.read ? this._getTokenMetadata(q.read) : null!,\n static: q.static\n };\n }\n\n private _reportError(error: any, type?: any, otherType?:
any) {\n if (this._errorCollector) {\n this._errorCollector(error, type);\n if (otherType) {\n this._errorCollector(error, otherType);\n }\n } else {\n throw error;\n }\n }\n}\n\nfunction flattenArray(tree: any[], out: Array<any> = []): Array<any> {\n if (tree) {\n for (let i = 0; i < tree.length; i++) {\n const item = resolveForwardRef(tree[i]);\n if (Array.isArray(item)) {\n flattenArray(item, out);\n } else {\n out.push(item);\n }\n }\n }\n return out;\n}\n\nfunction dedupeArray(array: any[]): Array<any> {\n if (array) {\n return Array.from(new Set(array));\n }\n return [];\n}\n\nfunction flattenAndDedupeArray(tree: any[]): Array<any> {\n return dedupeArray(flattenArray(tree));\n}\n\nfunction isValidType(value: any): boolean {\n return (value instanceof StaticSymbol) || (value instanceof Type);\n}\n\nfunction extractIdentifiers(value: any, targetIdentifiers: cpl.CompileIdentifierMetadata[])
{\n visitValue(value, new _CompileValueConverter(), targetIdentifiers);\n}\n\nclass _CompileValueConverter extends ValueTransformer {\n visitOther(value: any, targetIdentifiers: cpl.CompileIdentifierMetadata[]): any {\n targetIdentifiers.push({reference: value});\n }\n}\n\nfunction stringifyType(type: any): string {\n if (type instanceof StaticSymbol) {\n return `${type.name} in ${type.filePath}`;\n } else {\n return stringify(type);\n }\n}\n\n/**\n * Indicates that a component is still being loaded in a synchronous compile.\n */\nfunction componentStillLoadingError(compType: Type) {\n const error =\n Error(`Can't compile synchronously as ${stringify(compType)} is still being loaded!`);\n (error as any)[ERROR_COMPONENT_TYPE] = compType;\n return error;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileDiDependencyMetadata, CompileEntryComponentMetadata, CompileProviderMetadata, CompileTokenMetadata} from '../compile_metadata';\nimport {CompileReflector} from '../compile_reflector';\nimport {DepFlags, NodeFlags} from '../core';\nimport {createTokenForExternalReference, Identifiers} from '../identifiers';\nimport {LifecycleHooks} from '../lifecycle_reflector';\nimport * as o from '../output/output_ast';\nimport {convertValueToOutputAst} from '../output/value_util';\nimport {ProviderAst, ProviderAstType} from '../template_parser/template_ast';\nimport {OutputContext} from '../util';\n\nexport function providerDef(ctx: OutputContext, providerAst: ProviderAst): {\n providerExpr: o.Expression,\n flags: NodeFlags,\n depsExpr: o.Expression,\n tokenExpr: o.Expression\n} {\n let flags = NodeFlags.None;\n if (!providerAst.eager) {\n flags |= NodeFlags.LazyProvider;\n }\n if (providerAst.providerType === ProviderAstType.PrivateService) {\n flags |= NodeFlags.PrivateProvider;\n }\n if (providerAst.isModule) {\n flags |= NodeFlags.TypeModuleProvider;\n }\n providerAst.lifecycleHooks.forEach((lifecycleHook) => {\n // for regular providers, we only support ngOnDestroy\n if (lifecycleHook === LifecycleHooks.OnDestroy ||\n providerAst.providerType === ProviderAstType.Directive ||\n providerAst.providerType === ProviderAstType.Component) {\n flags |= lifecycleHookToNodeFlag(lifecycleHook);\n }\n });\n const {providerExpr, flags: providerFlags, depsExpr} = providerAst.multiProvider ?\n multiProviderDef(ctx, flags, providerAst.providers) :\n singleProviderDef(ctx, flags, providerAst.providerType, providerAst.providers[0]);\n return {\n providerExpr,\n flags: providerFlags,\n depsExpr,\n tokenExpr: tokenExpr(ctx, providerAst.token),\n };\n}\n\nfunction multiProviderDef(\n ctx: OutputContext, flags: NodeFlags, providers: CompileProviderMetadata[]):\n {providerExpr: o.Expression, flags: NodeFlags, depsExpr: o.Expression} {\n const allDepDefs: o.Expression[] = [];\n const allParams: o.FnParam[] = [];\n const exprs = providers.map((provider, providerIndex) => {\n let expr: o.Expression;\n if (provider.useClass) {\n const depExprs = convertDeps(providerIndex, provider.deps || provider.useClass.diDeps);\n expr = ctx.importExpr(provider.useClass.reference).instantiate(depExprs);\n }

```
else if (provider.useFactory) {\n      const depExprs = convertDeps(providerIndex, provider.deps ||
provider.useFactory.diDeps);\n      expr = ctx.importExpr(provider.useFactory.reference).callFn(depExprs);\n    }
else if (provider.useExisting) {\n      const depExprs = convertDeps(providerIndex, [{token:
provider.useExisting}]);\n      expr = depExprs[0];\n    } else {\n      expr = convertValueToOutputAst(ctx,
provider.useValue);\n    }\n    return expr;\n  });\n  const providerExpr =\n      o.fn(allParams, [new
o.ReturnStatement(o.literalArr(exprs))], o.INFERRED_TYPE);\n
  return {\n    providerExpr,\n    flags: flags | NodeFlags.TypeFactoryProvider,\n    depsExpr:
o.literalArr(allDepDefs)\n  };\n\n  function convertDeps(providerIndex: number, deps:
CompileDiDependencyMetadata[]) {\n    return deps.map((dep, depIndex) => {\n      const paramName =
`p${providerIndex}_${depIndex}`;\n      allParams.push(new o.FnParam(paramName, o.DYNAMIC_TYPE));\n
allDepDefs.push(depDef(ctx, dep));\n      return o.variable(paramName);\n    });\n  }\n}\n\nfunction
singleProviderDef(\n    ctx: OutputContext, flags: NodeFlags, providerType: ProviderAstType,\n    providerMeta:
CompileProviderMetadata):\n    {providerExpr: o.Expression, flags: NodeFlags, depsExpr: o.Expression} {\n  let
providerExpr: o.Expression;\n  let deps: CompileDiDependencyMetadata[];\n  if (providerType ===
ProviderAstType.Directive || providerType === ProviderAstType.Component) {\n    providerExpr =
ctx.importExpr(providerMeta.useClass!.reference);\n    flags |= NodeFlags.TypeDirective;\n    deps
 = providerMeta.deps || providerMeta.useClass!.diDeps;\n  } else {\n    if (providerMeta.useClass) {\n
providerExpr = ctx.importExpr(providerMeta.useClass.reference);\n      flags |= NodeFlags.TypeClassProvider;\n
deps = providerMeta.deps || providerMeta.useClass.diDeps;\n    } else if (providerMeta.useFactory) {\n
providerExpr = ctx.importExpr(providerMeta.useFactory.reference);\n      flags |=
NodeFlags.TypeFactoryProvider;\n      deps = providerMeta.deps || providerMeta.useFactory.diDeps;\n    } else if
(providerMeta.useExisting) {\n      providerExpr = o.NULL_EXPR;\n      flags |=
NodeFlags.TypeUseExistingProvider;\n      deps = [{token: providerMeta.useExisting}];\n    } else {\n
providerExpr = convertValueToOutputAst(ctx, providerMeta.useValue);\n      flags |=
NodeFlags.TypeValueProvider;\n      deps = [];\n    }\n  }\n  const depsExpr = o.literalArr(deps.map(dep =>
depDef(ctx, dep)));\n  return {providerExpr, flags, depsExpr};\n}\n\nfunction tokenExpr(ctx:
 OutputContext, tokenMeta: CompileTokenMetadata): o.Expression {\n  return tokenMeta.identifier ?
ctx.importExpr(tokenMeta.identifier.reference) :\n                                o.literal(tokenMeta.value);\n}\n\nexport
function depDef(ctx: OutputContext, dep: CompileDiDependencyMetadata): o.Expression {\n  // Note: the
following fields have already been normalized out by provider_analyzer:\n  // - isAttribute, isHost\n  const expr =
dep.isValue ? convertValueToOutputAst(ctx, dep.value) : tokenExpr(ctx, dep.token!);\n  let flags =
DepFlags.None;\n  if (dep.isSkipSelf) {\n    flags |= DepFlags.SkipSelf;\n  }\n  if (dep.isOptional) {\n    flags |=
DepFlags.Optional;\n  }\n  if (dep.isSelf) {\n    flags |= DepFlags.Self;\n  }\n  if (dep.isValue) {\n    flags |=
DepFlags.Value;\n  }\n  return flags === DepFlags.None ? expr : o.literalArr([o.literal(flags), expr]);\n}\n\nexport
function lifecycleHookToNodeFlag(lifecycleHook: LifecycleHooks): NodeFlags {\n  let nodeFlag =
NodeFlags.None;\n
  switch (lifecycleHook) {\n    case LifecycleHooks.AfterContentChecked:\n      nodeFlag =
NodeFlags.AfterContentChecked;\n      break;\n    case LifecycleHooks.AfterContentInit:\n      nodeFlag =
NodeFlags.AfterContentInit;\n      break;\n    case LifecycleHooks.AfterViewChecked:\n      nodeFlag =
NodeFlags.AfterViewChecked;\n      break;\n    case LifecycleHooks.AfterViewInit:\n      nodeFlag =
NodeFlags.AfterViewInit;\n      break;\n    case LifecycleHooks.DoCheck:\n      nodeFlag = NodeFlags.DoCheck;\n
  break;\n    case LifecycleHooks.OnChanges:\n      nodeFlag = NodeFlags.OnChanges;\n      break;\n    case
LifecycleHooks.OnDestroy:\n      nodeFlag = NodeFlags.OnDestroy;\n      break;\n    case LifecycleHooks.OnInit:\n
    nodeFlag = NodeFlags.OnInit;\n      break;\n  }\n  return nodeFlag;\n}\n\nexport function
componentFactoryResolverProviderDef(\n    reflector: CompileReflector, ctx: OutputContext, flags: NodeFlags,\n
entryComponents: CompileEntryComponentMetadata[]): {\n
  providerExpr: o.Expression,\n  flags: NodeFlags,\n  depsExpr: o.Expression,\n  tokenExpr: o.Expression\n} {\n
const entryComponentFactories =\n      entryComponents.map((entryComponent) =>
```

ctx.importExpr(entryComponent.componentFactory));\n  const token = createTokenForExternalReference(reflector, Identifiers.ComponentFactoryResolver);\n  const classMeta = {\n    diDeps: [\n      {isValue: true, value: o.literalArr(entryComponentFactories)},\n      {token: token, isSkipSelf: true, isOptional: true},\n      {token: createTokenForExternalReference(reflector, Identifiers.NgModuleRef)},\n    ],\n    lifecycleHooks: [],\n    reference: reflector.resolveExternalReference(Identifiers.CodegenComponentFactoryResolver)\n  };\n  const {providerExpr, flags: providerFlags, depsExpr} =\n      singleProviderDef(ctx, flags, ProviderAstType.PrivateService, {\n        token,\n        multi: false,\n        useClass: classMeta,\n      });\n  return {providerExpr, flags: providerFlags, depsExpr, tokenExpr:
 tokenExpr(ctx, token)};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileNgModuleMetadata, CompileProviderMetadata, identifierName} from './compile_metadata';\nimport {CompileReflector} from './compile_reflector';\nimport {NodeFlags} from './core';\nimport {Identifiers} from './identifiers';\nimport * as o from './output/output_ast';\nimport {typeSourceSpan} from './parse_util';\nimport {NgModuleProviderAnalyzer} from './provider_analyzer';\nimport {OutputContext} from './util';\nimport {componentFactoryResolverProviderDef, depDef, providerDef} from './view_compiler/provider_compiler';\n\nexport class NgModuleCompileResult {\n  constructor(public ngModuleFactoryVar: string) {}\n}\n\nconst LOG_VAR = o.variable('_l');\n\nexport class NgModuleCompiler {\n  constructor(private reflector: CompileReflector)
 {}\n  compile(\n      ctx: OutputContext, ngModuleMeta: CompileNgModuleMetadata,\n      extraProviders: CompileProviderMetadata[]): NgModuleCompileResult {\n    const sourceSpan = typeSourceSpan('NgModule', ngModuleMeta.type);\n    const entryComponentFactories = ngModuleMeta.transitiveModule.entryComponents;\n    const bootstrapComponents = ngModuleMeta.bootstrapComponents;\n    const providerParser =\n        new NgModuleProviderAnalyzer(this.reflector, ngModuleMeta, extraProviders, sourceSpan);\n    const providerDefs =\n        [componentFactoryResolverProviderDef(\n             this.reflector, ctx, NodeFlags.None, entryComponentFactories)]\n            .concat(providerParser.parse().map((provider) => providerDef(ctx, provider)))\n            .map(({providerExpr, depsExpr, flags, tokenExpr}) => {\n              return o.importExpr(Identifiers.moduleProviderDef).callFn([\n                o.literal(flags), tokenExpr, providerExpr, depsExpr\n              ]);\n            });\n\n
 const ngModuleDef = o.importExpr(Identifiers.moduleDef).callFn([o.literalArr(providerDefs)]);\n    const ngModuleDefFactory =\n        o.fn([new o.FnParam(LOG_VAR.name!)], [new o.ReturnStatement(ngModuleDef)], o.INFERRED_TYPE);\n\n    const ngModuleFactoryVar = `${identifierName(ngModuleMeta.type)}NgFactory`;\n    this._createNgModuleFactory(\n        ctx, ngModuleMeta.type.reference,\n        o.importExpr(Identifiers.createModuleFactory).callFn([\n          ctx.importExpr(ngModuleMeta.type.reference),\n          o.literalArr(bootstrapComponents.map(id => ctx.importExpr(id.reference))),\n          ngModuleDefFactory\n        ]));\n\n    if (ngModuleMeta.id) {\n      const id = typeof ngModuleMeta.id === 'string' ? o.literal(ngModuleMeta.id) :\n                                                       ctx.importExpr(ngModuleMeta.id);\n      const registerFactoryStmt =\n          o.importExpr(Identifiers.RegisterModuleFactoryFn)\n              .callFn([id, o.variable(ngModuleFactoryVar)])\n              .toStmt();\n      ctx.statements.push(registerFactoryStmt);\n    }\n\n    return new NgModuleCompileResult(ngModuleFactoryVar);\n  }\n\n  createStub(ctx: OutputContext, ngModuleReference: any) {\n    this._createNgModuleFactory(ctx, ngModuleReference, o.NULL_EXPR);\n  }\n\n  private _createNgModuleFactory(ctx: OutputContext, reference: any, value: o.Expression) {\n    const ngModuleFactoryVar = `${identifierName({reference: reference})}NgFactory`;\n    const ngModuleFactoryStmt =\n        o.variable(ngModuleFactoryVar)\n            .set(value)\n            .toDeclStmt(\n                o.importType(\n                    Identifiers.NgModuleFactory, [o.expressionType(ctx.importExpr(reference))!],\n                    [o.TypeModifier.Const]),\n                [o.StmtModifier.Final, o.StmtModifier.Exported]);\n\n    ctx.statements.push(ngModuleFactoryStmt);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this

```
 source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\nimport {CompileReflector} from './compile_reflector';\nimport {createNgModule,
NgModule, Type} from './core';\nimport {findLast} from './directive_resolver';\nimport {stringify} from
'./util';\n\n\n/**\n * Resolves types to {@link NgModule}.\n */\nexport class NgModuleResolver {\n
constructor(private _reflector: CompileReflector) {}\n\n  isNgModule(type: any) {\n    return
this._reflector.annotations(type).some(createNgModule.isTypeOf);\n  }\n\n  resolve(type: Type, throwIfNotFound =
true): NgModule|null {\n    const ngModuleMeta: NgModule =\n        findLast(this._reflector.annotations(type),
createNgModule.isTypeOf);\n\n    if (ngModuleMeta) {\n      return ngModuleMeta;\n    } else {\n      if
(throwIfNotFound) {\n        throw new Error(`No NgModule metadata found for '${stringify(type)}'.`);\n      }\n
return null;\n    }\n  }\n}\n","/**\n * @license\n
 * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AbstractEmitterVisitor,
CATCH_ERROR_VAR, CATCH_STACK_VAR, EmitterVisitorContext, OutputEmitter} from
'./abstract_emitter';\nimport * as o from './output_ast';\n\nexport function debugOutputAstAsTypeScript(ast:
o.Statement|o.Expression|o.Type|any[]): string {\n  const converter = new _TsEmitterVisitor();\n  const ctx =
EmitterVisitorContext.createRoot();\n  const asts: any[] = Array.isArray(ast) ? ast : [ast];\n\n  asts.forEach((ast) =>
{\n    if (ast instanceof o.Statement) {\n      ast.visitStatement(converter, ctx);\n    } else if (ast instanceof
o.Expression) {\n      ast.visitExpression(converter, ctx);\n    } else if (ast instanceof o.Type) {\n
ast.visitType(converter, ctx);\n    } else {\n      throw new Error(`Don't know how to print debug info for ${ast}`);\n
}\n  });\n
  return ctx.toSource();\n}\n\nexport type ReferenceFilter = (reference: o.ExternalReference) => boolean;\n\nexport
class TypeScriptEmitter implements OutputEmitter {\n  emitStatementsAndContext(\n      genFilePath: string, stmts:
o.Statement[], preamble: string = '',\n      emitSourceMaps: boolean = true, referenceFilter?: ReferenceFilter,\n
importFilter?: ReferenceFilter): {sourceText: string, context: EmitterVisitorContext} {\n    const converter = new
_TsEmitterVisitor(referenceFilter, importFilter);\n\n    const ctx = EmitterVisitorContext.createRoot();\n\n
converter.visitAllStatements(stmts, ctx);\n\n    const preambleLines = preamble ? preamble.split('\\n') : [];\n
converter.reexports.forEach((reexports, exportedModuleName) => {\n      const reexportsCode =\n
reexports.map(reexport => `${reexport.name} as ${reexport.as}`).join(',');\n      preambleLines.push(`export
{${reexportsCode}} from '${exportedModuleName}';`);\n    });\n\n
converter.importsWithPrefixes.forEach((prefix,
 importedModuleName) => {\n      // Note: can't write the real word for import as it screws up system.js auto
detection...\n      preambleLines.push(\n          `imp` +\n          `ort * as ${prefix} from
'${importedModuleName}';`);\n    });\n\n    const sm = emitSourceMaps ?\n
ctx.toSourceMapGenerator(genFilePath, preambleLines.length).toJsComment() :\n        '';\n    const lines =
[...preambleLines, ctx.toSource(), sm];\n    if (sm) {\n      // always add a newline at the end, as some tools have bugs
without it.\n      lines.push('');\n    }\n    ctx.setPreambleLineCount(preambleLines.length);\n    return {sourceText:
lines.join('\\n'), context: ctx};\n  }\n\n  emitStatements(genFilePath: string, stmts: o.Statement[], preamble: string =
'') {\n    return this.emitStatementsAndContext(genFilePath, stmts, preamble).sourceText;\n  }\n}\n\n\nclass
_TsEmitterVisitor extends AbstractEmitterVisitor implements o.TypeVisitor {\n  private typeExpression = 0;\n\n
  constructor(private referenceFilter?: ReferenceFilter, private importFilter?: ReferenceFilter) {\n    super(false);\n
}\n\n  importsWithPrefixes = new Map<string, string>();\n  reexports = new Map<string, {name: string, as:
string}[]>();\n\n  visitType(t: o.Type|null, ctx: EmitterVisitorContext, defaultType: string = 'any') {\n    if (t) {\n
this.typeExpression++;\n      t.visitType(this, ctx);\n      this.typeExpression--;\n    } else {\n      ctx.print(null,
defaultType);\n    }\n  }\n\n  visitLiteralExpr(ast: o.LiteralExpr, ctx: EmitterVisitorContext): any {\n    const value =
ast.value;\n    if (value == null && ast.type != o.INFERRED_TYPE) {\n      ctx.print(ast, `(${value} as any)`);\n
return null;\n    }\n    return super.visitLiteralExpr(ast, ctx);\n  }\n\n\n  // Temporary workaround to support
strictNullCheck enabled consumers of ngc emit.\n  // In SNC mode, [] have the type never[], so we cast here to
any[].\n  // TODO: narrow the cast to a more explicit type, or
```

```
use a pattern that does not\n  // start with [].concat. see https://github.com/angular/angular/pull/11846\n visitLiteralArrayExpr(ast: o.LiteralArrayExpr, ctx: EmitterVisitorContext): any {\n    if (ast.entries.length === 0) {\n      ctx.print(ast, '(');\n    }\n    const result = super.visitLiteralArrayExpr(ast, ctx);\n    if (ast.entries.length === 0) {\n      ctx.print(ast, ' as any[])');\n    }\n    return result;\n  }\n\n  visitExternalExpr(ast: o.ExternalExpr, ctx: EmitterVisitorContext): any {\n    this._visitIdentifier(ast.value, ast.typeParams, ctx);\n    return null;\n  }\n\n visitAssertNotNullExpr(ast: o.AssertNotNull, ctx: EmitterVisitorContext): any {\n    const result = super.visitAssertNotNullExpr(ast, ctx);\n    ctx.print(ast, '!');\n    return result;\n  }\n\n  visitDeclareVarStmt(stmt: o.DeclareVarStmt, ctx: EmitterVisitorContext): any {\n    if (stmt.hasModifier(o.StmtModifier.Exported) && stmt.value instanceof o.ExternalExpr &&\n        !stmt.type) {\n      // check
 for a reexport\n      const {name, moduleName} = stmt.value.value;\n      if (moduleName) {\n        let reexports = this.reexports.get(moduleName);\n        if (!reexports) {\n          reexports = [];\n          this.reexports.set(moduleName, reexports);\n        }\n        reexports.push({name: name!, as: stmt.name});\n        return null;\n      }\n    }\n    if (stmt.hasModifier(o.StmtModifier.Exported)) {\n      ctx.print(stmt, `export `);\n    }\n    if (stmt.hasModifier(o.StmtModifier.Final)) {\n      ctx.print(stmt, `const`);\n    } else {\n      ctx.print(stmt, `var`);\n    }\n    ctx.print(stmt, ` ${stmt.name}`);\n    this._printColonType(stmt.type, ctx);\n    if (stmt.value) {\n      ctx.print(stmt, ` = `);\n      stmt.value.visitExpression(this, ctx);\n    }\n    ctx.println(stmt, `;`);\n    return null;\n  }\n\n  visitWrappedNodeExpr(ast: o.WrappedNodeExpr<any>, ctx: EmitterVisitorContext): never {\n    throw new Error('Cannot visit a WrappedNodeExpr when outputting Typescript.');\n
  }\n\n  visitCastExpr(ast: o.CastExpr, ctx: EmitterVisitorContext): any {\n    ctx.print(ast, `(<`);\n    ast.type!.visitType(this, ctx);\n    ctx.print(ast, `>`);\n    ast.value.visitExpression(this, ctx);\n    ctx.print(ast, `)`);\n    return null;\n  }\n\n  visitInstantiateExpr(ast: o.InstantiateExpr, ctx: EmitterVisitorContext): any {\n    ctx.print(ast, `new `);\n    this.typeExpression++;\n    ast.classExpr.visitExpression(this, ctx);\n    this.typeExpression--;\n    ctx.print(ast, `(`);\n    this.visitAllExpressions(ast.args, ctx, ',');\n    ctx.print(ast, `)`);\n    return null;\n  }\n\n  visitDeclareClassStmt(stmt: o.ClassStmt, ctx: EmitterVisitorContext): any {\n    ctx.pushClass(stmt);\n    if (stmt.hasModifier(o.StmtModifier.Exported)) {\n      ctx.print(stmt, `export `);\n    }\n    ctx.print(stmt, `class ${stmt.name}`);\n    if (stmt.parent != null) {\n      ctx.print(stmt, ` extends `);\n      this.typeExpression++;\n      stmt.parent.visitExpression(this,
 ctx);\n      this.typeExpression--;\n    }\n    ctx.println(stmt, ` {`);\n    ctx.incIndent();\n    stmt.fields.forEach((field) => this._visitClassField(field, ctx));\n    if (stmt.constructorMethod != null) {\n      this._visitClassConstructor(stmt, ctx);\n    }\n    stmt.getters.forEach((getter) => this._visitClassGetter(getter, ctx));\n    stmt.methods.forEach((method) => this._visitClassMethod(method, ctx));\n    ctx.decIndent();\n    ctx.println(stmt, `}`);\n    ctx.popClass();\n    return null;\n  }\n\n  private _visitClassField(field: o.ClassField, ctx: EmitterVisitorContext) {\n    if (field.hasModifier(o.StmtModifier.Private)) {\n      // comment out as a workaround for #10967\n      ctx.print(null, `/*private*/ `);\n    }\n    if (field.hasModifier(o.StmtModifier.Static)) {\n      ctx.print(null, 'static ');\n    }\n    ctx.print(null, field.name);\n    this._printColonType(field.type, ctx);\n    if (field.initializer) {\n      ctx.print(null, ' = ');\n      field.initializer.visitExpression(this,
 ctx);\n    }\n    ctx.println(null, `;`);\n  }\n\n  private _visitClassGetter(getter: o.ClassGetter, ctx: EmitterVisitorContext) {\n    if (getter.hasModifier(o.StmtModifier.Private)) {\n      ctx.print(null, `private `);\n    }\n
  ctx.print(null, `get ${getter.name}()`);\n    this._printColonType(getter.type, ctx);\n    ctx.println(null, ` {`);\n    ctx.incIndent();\n    this.visitAllStatements(getter.body, ctx);\n    ctx.decIndent();\n    ctx.println(null, `}`);\n  }\n\n  private _visitClassConstructor(stmt: o.ClassStmt, ctx: EmitterVisitorContext) {\n    ctx.print(stmt, `constructor(`);\n
  this._visitParams(stmt.constructorMethod.params, ctx);\n    ctx.println(stmt, `) {`);\n    ctx.incIndent();\n    this.visitAllStatements(stmt.constructorMethod.body, ctx);\n    ctx.decIndent();\n    ctx.println(stmt, `}`);\n  }\n\n  private _visitClassMethod(method: o.ClassMethod, ctx: EmitterVisitorContext) {\n    if (method.hasModifier(o.StmtModifier.Private)) {\n
    ctx.print(null, `private `);\n    }\n    ctx.print(null, `${method.name}(`);\n    this._visitParams(method.params, ctx);\n    ctx.print(null, `)`);\n    this._printColonType(method.type, ctx, 'void');\n    ctx.println(null, ` {`);\n    ctx.incIndent();\n    this.visitAllStatements(method.body, ctx);\n    ctx.decIndent();\n    ctx.println(null, `}`);\n  }\n\n
```

visitFunctionExpr(ast: o.FunctionExpr, ctx: EmitterVisitorContext): any {\n if (ast.name) {\n ctx.print(ast, 'function ');\n ctx.print(ast, ast.name);\n }\n ctx.print(ast, `(`);\n this._visitParams(ast.params, ctx);\n ctx.print(ast, `)`);\n this._printColonType(ast.type, ctx, 'void');\n if (!ast.name) {\n ctx.print(ast, ` => `);\n }\n ctx.println(ast, '{');\n ctx.incIndent();\n this.visitAllStatements(ast.statements, ctx);\n ctx.decIndent();\n ctx.print(ast, `}`);\n\n return null;\n }\n\n visitDeclareFunctionStmt(stmt: o.DeclareFunctionStmt, ctx: EmitterVisitorContext):
any {\n if (stmt.hasModifier(o.StmtModifier.Exported)) {\n ctx.print(stmt, `export `);\n }\n ctx.print(stmt, `function ${stmt.name}(`);\n this._visitParams(stmt.params, ctx);\n ctx.print(stmt, `)`);\n this._printColonType(stmt.type, ctx, 'void');\n ctx.println(stmt, ` {`);\n ctx.incIndent();\n this.visitAllStatements(stmt.statements, ctx);\n ctx.decIndent();\n ctx.println(stmt, `}`);\n return null;\n }\n\n visitTryCatchStmt(stmt: o.TryCatchStmt, ctx: EmitterVisitorContext): any {\n ctx.println(stmt, `try {`);\n ctx.incIndent();\n this.visitAllStatements(stmt.bodyStmts, ctx);\n ctx.decIndent();\n ctx.println(stmt, `} catch (${CATCH_ERROR_VAR.name}) {`);\n ctx.incIndent();\n const catchStmts =\n [<o.Statement>CATCH_STACK_VAR.set(CATCH_ERROR_VAR.prop('stack', null)).toDeclStmt(null, [\n o.StmtModifier.Final\n ])].concat(stmt.catchStmts);\n this.visitAllStatements(catchStmts, ctx);\n ctx.decIndent();\n
ctx.println(stmt, `}`);\n return null;\n }\n\n visitBuiltinType(type: o.BuiltinType, ctx: EmitterVisitorContext): any {\n let typeStr: string;\n switch (type.name) {\n case o.BuiltinTypeName.Bool:\n typeStr = 'boolean';\n break;\n case o.BuiltinTypeName.Dynamic:\n typeStr = 'any';\n break;\n case o.BuiltinTypeName.Function:\n typeStr = 'Function';\n break;\n case o.BuiltinTypeName.Number:\n typeStr = 'number';\n break;\n case o.BuiltinTypeName.Int:\n typeStr = 'number';\n break;\n case o.BuiltinTypeName.String:\n typeStr = 'string';\n break;\n case o.BuiltinTypeName.None:\n typeStr = 'never';\n break;\n default:\n throw new Error(`Unsupported builtin type ${type.name}`);\n }\n ctx.print(null, typeStr);\n return null;\n }\n\n visitExpressionType(ast: o.ExpressionType, ctx: EmitterVisitorContext): any {\n ast.value.visitExpression(this,
ctx);\n if (ast.typeParams !== null) {\n ctx.print(null, '<');\n this.visitAllObjects(type => this.visitType(type, ctx), ast.typeParams, ctx, ',');\n ctx.print(null, '>');\n }\n return null;\n }\n\n visitArrayType(type: o.ArrayType, ctx: EmitterVisitorContext): any {\n this.visitType(type.of, ctx);\n ctx.print(null, `[]`);\n return null;\n }\n\n visitMapType(type: o.MapType, ctx: EmitterVisitorContext): any {\n ctx.print(null, `{[key: string]:`);\n this.visitType(type.valueType, ctx);\n ctx.print(null, `}`);\n return null;\n }\n\n getBuiltinMethodName(method: o.BuiltinMethod): string {\n let name: string;\n switch (method) {\n case o.BuiltinMethod.ConcatArray:\n name = 'concat';\n break;\n case o.BuiltinMethod.SubscribeObservable:\n name = 'subscribe';\n break;\n case o.BuiltinMethod.Bind:\n name = 'bind';\n break;\n default:\n throw new
Error(`Unknown builtin method: ${method}`);\n }\n return name;\n }\n\n private _visitParams(params: o.FnParam[], ctx: EmitterVisitorContext): void {\n this.visitAllObjects(param => {\n ctx.print(null, param.name);\n this._printColonType(param.type, ctx);\n }, params, ctx, ',');\n }\n\n private _visitIdentifier(\n value: o.ExternalReference, typeParams: o.Type[]|null, ctx: EmitterVisitorContext): void {\n const {name, moduleName} = value;\n if (this.referenceFilter && this.referenceFilter(value)) {\n ctx.print(null, '(null as any)');\n return;\n }\n if (moduleName && (!this.importFilter || !this.importFilter(value))) {\n let prefix = this.importsWithPrefixes.get(moduleName);\n if (prefix == null) {\n prefix = `i${this.importsWithPrefixes.size}`;\n this.importsWithPrefixes.set(moduleName, prefix);\n }\n ctx.print(null, `${prefix}.`);\n }\n ctx.print(null, name!);\n\n if (this.typeExpression
> 0) {\n // If we are in a type expression that refers to a generic type then supply\n // the required type parameters. If there were not enough type parameters\n // supplied, supply any as the type. Outside a type expression the reference\n // should not supply type parameters and be treated as a simple value reference\n // to the constructor function itself.\n const suppliedParameters = typeParams || [];\n if (suppliedParameters.length > 0) {\n ctx.print(null, `<`);\n this.visitAllObjects(type => type.visitType(this,

ctx), typeParams!, ctx, ',');\n ctx.print(null, `>`);\n }\n }\n }\n\n private _printColonType(type: o.Type|null, ctx: EmitterVisitorContext, defaultType?: string) {\n if (type !== o.INFERRED_TYPE) {\n ctx.print(null, ':');\n this.visitType(type, ctx, defaultType);\n }\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileReflector} from './compile_reflector';\nimport {createPipe, Pipe, Type} from './core';\nimport {findLast} from './directive_resolver';\nimport {resolveForwardRef, stringify} from './util';\n\n/**\n * Resolve a `Type` for {@link Pipe}.\n *\n * This interface can be overridden by the application developer to create custom behavior.\n *\n * See {@link Compiler}\n */\nexport class PipeResolver {\n constructor(private _reflector: CompileReflector) {}\n\n isPipe(type: Type) {\n const typeMetadata = this._reflector.annotations(resolveForwardRef(type));\n return typeMetadata && typeMetadata.some(createPipe.isTypeOf);\n }\n\n /**\n * Return {@link Pipe} for a given `Type`.\n */\n resolve(type: Type, throwIfNotFound = true): Pipe|null {\n const metas = this._reflector.annotations(resolveForwardRef(type));\n if (metas) {\n const annotation = findLast(metas, createPipe.isTypeOf);\n if (annotation) {\n return annotation;\n }\n }\n if (throwIfNotFound) {\n throw new Error(`No Pipe decorator found on ${stringify(type)}`);\n }\n return null;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AotCompilerOptions} from '../aot/compiler_options';\nimport {StaticReflector} from '../aot/static_reflector';\nimport {StaticSymbol} from '../aot/static_symbol';\nimport {CompileDirectiveMetadata, CompilePipeSummary} from '../compile_metadata';\nimport {BindingForm, convertActionBinding, convertPropertyBinding, convertPropertyBindingBuiltins, EventHandlerVars, LocalResolver} from '../compiler_util/expression_converter';\nimport {AST, ASTWithSource, Interpolation} from '../expression_parser/ast';\nimport * as o from '../output/output_ast';\nimport {ParseSourceSpan} from '../parse_util';\nimport {AttrAst, BoundDirectivePropertyAst, BoundElementPropertyAst, BoundEventAst, BoundTextAst, DirectiveAst, ElementAst, EmbeddedTemplateAst, NgContentAst, ReferenceAst, TemplateAst, TemplateAstVisitor, templateVisitAll, TextAst, VariableAst} from '../template_parser/template_ast';\nimport {OutputContext} from '../util';\n\n\n/**\n * Generates code that is used to type check templates.\n */\nexport class TypeCheckCompiler {\n constructor(private options: AotCompilerOptions, private reflector: StaticReflector) {}\n\n /**\n * Important notes:\n * - This must not produce new `import` statements, but only refer to types outside\n * of the file via the variables provided via externalReferenceVars.\n * This allows Typescript to reuse the old program's structure as no imports have changed.\n * - This must not produce any exports, as this would pollute the .d.ts file\n * and also violate the point above.\n */\n compileComponent(\n componentId: string, component: CompileDirectiveMetadata, template: TemplateAst[],\n usedPipes: CompilePipeSummary[], externalReferenceVars: Map<StaticSymbol, string>,\n ctx: OutputContext): o.Statement[] {\n const pipes = new Map<string, StaticSymbol>();\n usedPipes.forEach(p => pipes.set(p.name, p.type.reference));\n let embeddedViewCount = 0;\n const viewBuilderFactory =\n (parent: ViewBuilder|null, guards: GuardExpression[]): ViewBuilder => {\n const embeddedViewIndex = embeddedViewCount++;\n return new ViewBuilder(\n this.options, this.reflector, externalReferenceVars, parent, component.type.reference,\n component.isHost, embeddedViewIndex, pipes, guards, ctx, viewBuilderFactory);\n };\n\n const visitor = viewBuilderFactory(null, []);\n visitor.visitAll([], template);\n\n return visitor.build(componentId);\n }\n}\n\ninterface GuardExpression {\n guard: StaticSymbol;\n useIf: boolean;\n expression: Expression;\n}\n\ninterface ViewBuilderFactory {\n (parent: ViewBuilder, guards: GuardExpression[]): ViewBuilder;\n}\n\n// Note: This is used as key in Map and should therefore be\n// unique per value.\ntype OutputVarType = o.BuiltinTypeName|StaticSymbol;\n\ninterface Expression {\n context: OutputVarType;\n sourceSpan: ParseSourceSpan;\n value: AST;\n}\n\nconst DYNAMIC_VAR_NAME =

'_any';\n\nclass TypeCheckLocalResolver implements LocalResolver {\n  notifyImplicitReceiverUse(): void {}\n getLocal(name: string): o.Expression|null {\n    if (name === EventHandlerVars.event.name) {\n      // References to the event should not be type-checked.\n      // TODO(chuckj): determine a better type for the event.\n      return o.variable(DYNAMIC_VAR_NAME);\n    }\n    return null;\n  }\n}\n\nconst defaultResolver = new TypeCheckLocalResolver();\n\nclass ViewBuilder implements TemplateAstVisitor, LocalResolver {\n  private refOutputVars = new Map<string, OutputVarType>();\n
 private variables: VariableAst[] = [];\n  private children: ViewBuilder[] = [];\n  private updates: Expression[] = [];\n private actions: Expression[] = [];\n\n  constructor(\n      private options: AotCompilerOptions, private reflector: StaticReflector,\n      private externalReferenceVars: Map<StaticSymbol, string>, private parent: ViewBuilder|null,\n      private component: StaticSymbol, private isHostComponent: boolean,\n      private embeddedViewIndex: number, private pipes: Map<string, StaticSymbol>,\n      private guards: GuardExpression[], private ctx: OutputContext,\n      private viewBuilderFactory: ViewBuilderFactory) {}\n\n  private getOutputVar(type: o.BuiltinTypeName|StaticSymbol): string {\n    let varName: string|undefined;\n    if (type === this.component && this.isHostComponent) {\n      varName = DYNAMIC_VAR_NAME;\n    } else if (type instanceof StaticSymbol) {\n      varName = this.externalReferenceVars.get(type);\n    } else {\n      varName = DYNAMIC_VAR_NAME;\n
    }\n    if (!varName) {\n      throw new Error(\n          `Illegal State: referring to a type without a variable ${JSON.stringify(type)}`);\n    }\n    return varName;\n  }\n\n  private getTypeGuardExpressions(ast: EmbeddedTemplateAst): GuardExpression[] {\n    const result = [...this.guards];\n    for (let directive of ast.directives) {\n      for (let input of directive.inputs) {\n        const guard = directive.directive.guards[input.directiveName];\n        if (guard) {\n          const useIf = guard === 'UseIf';\n          result.push({\n            guard,\n            useIf,\n            expression: {\n              context: this.component,\n              value: input.value,\n              sourceSpan: input.sourceSpan,\n            },\n          });\n        }\n      }\n    }\n    return result;\n  }\n\n  visitAll(variables: VariableAst[], astNodes: TemplateAst[]) {\n    this.variables = variables;\n    templateVisitAll(this, astNodes);\n  }\n\n  build(componentId: string, targetStatements:
 o.Statement[] = []): o.Statement[] {\n    this.children.forEach((child) => child.build(componentId, targetStatements));\n    let viewStmts: o.Statement[] =\n        [o.variable(DYNAMIC_VAR_NAME).set(o.NULL_EXPR).toDeclStmt(o.DYNAMIC_TYPE)];\n    let bindingCount = 0;\n    this.updates.forEach((expression) => {\n      const {sourceSpan, context, value} = this.preprocessUpdateExpression(expression);\n      const bindingId = `${bindingCount++}`;\n      const nameResolver = context === this.component ? this : defaultResolver;\n      const {stmts, currValExpr} = convertPropertyBinding(\n          nameResolver, o.variable(this.getOutputVar(context)), value, bindingId,\n          BindingForm.General);\n      stmts.push(new o.ExpressionStatement(currValExpr));\n      viewStmts.push(...stmts.map(\n          (stmt: o.Statement) => o.applySourceSpanToStatementIfNeeded(stmt, sourceSpan)));\n    });\n\n    this.actions.forEach(({sourceSpan, context, value}) => {\n      const bindingId
 = `${bindingCount++}`;\n      const nameResolver = context === this.component ? this : defaultResolver;\n      const {stmts} = convertActionBinding(\n          nameResolver, o.variable(this.getOutputVar(context)), value, bindingId);\n      viewStmts.push(...stmts.map(\n          (stmt: o.Statement) => o.applySourceSpanToStatementIfNeeded(stmt, sourceSpan)));\n    });\n\n    if (this.guards.length) {\n      let guardExpression: o.Expression|undefined = undefined;\n      for (const guard of this.guards) {\n        const {context, value} = this.preprocessUpdateExpression(guard.expression);\n        const bindingId = `${bindingCount++}`;\n        const nameResolver = context === this.component ? this : defaultResolver;\n        // We only support support simple expressions and ignore others as they\n        // are unlikely to affect type narrowing.\n        const {stmts, currValExpr} = convertPropertyBinding(\n            nameResolver, o.variable(this.getOutputVar(context)), value, bindingId,\n
            BindingForm.TrySimple);\n        if (stmts.length == 0) {\n          const guardClause =\n              guard.useIf ? currValExpr : this.ctx.importExpr(guard.guard).callFn([currValExpr]);\n          guardExpression = guardExpression ? guardExpression.and(guardClause) : guardClause;\n        }\n      }\n      if (guardExpression) {\n        viewStmts =

```
[new o.IfStmt(guardExpression, viewStmts)];\n      }\n    }\n\n    const viewName =
`_View_${componentId}_${this.embeddedViewIndex}`;\n    const viewFactory = new
o.DeclareFunctionStmt(viewName, [], viewStmts);\n    targetStatements.push(viewFactory);\n    return
targetStatements;\n  }\n\n  visitBoundText(ast: BoundTextAst, context: any): any {\n    const astWithSource =
<ASTWithSource>ast.value;\n    const inter = <Interpolation>astWithSource.ast;\n\n    inter.expressions.forEach(\n
    (expr) =>\n            this.updates.push({context: this.component, value: expr, sourceSpan: ast.sourceSpan}));\n
}\n\n  visitEmbeddedTemplate(ast:
 EmbeddedTemplateAst, context: any): any {\n    this.visitElementOrTemplate(ast);\n    // Note: The old view
compiler used to use an `any` type\n    // for the context in any embedded view.\n    // We keep this behaivor behind
a flag for now.\n    if (this.options.fullTemplateTypeCheck) {\n      // Find any applicable type guards. For example,
NgIf has a type guard on ngIf\n      // (see NgIf.ngIfTypeGuard) that can be used to indicate that a template is only\n
   // stamped out if ngIf is truthy so any bindings in the template can assume that,\n      // if a nullable type is used for
ngIf, that expression is not null or undefined.\n      const guards = this.getTypeGuardExpressions(ast);\n      const
childVisitor = this.viewBuilderFactory(this, guards);\n      this.children.push(childVisitor);\n
childVisitor.visitAll(ast.variables, ast.children);\n    }\n  }\n\n  visitElement(ast: ElementAst, context: any): any {\n
this.visitElementOrTemplate(ast);\n\n    let
 inputDefs: o.Expression[] = [];\n    let updateRendererExpressions: Expression[] = [];\n    let outputDefs:
o.Expression[] = [];\n    ast.inputs.forEach((inputAst) => {\n      this.updates.push(\n          {context: this.component,
value: inputAst.value, sourceSpan: inputAst.sourceSpan});\n    });\n\n    templateVisitAll(this, ast.children);\n  }\n\n
private visitElementOrTemplate(ast: {\n    outputs: BoundEventAst[],\n    directives: DirectiveAst[],\n    references:
ReferenceAst[],\n  }) {\n    ast.directives.forEach((dirAst) => {\n      this.visitDirective(dirAst);\n    });\n\n
ast.references.forEach((ref) => {\n      let outputVarType: OutputVarType = null!;\n      // Note: The old view
compiler used to use an `any` type\n      // for directives exposed via `exportAs`.\n      // We keep this behaivor
behind a flag for now.\n      if (ref.value && ref.value.identifier && this.options.fullTemplateTypeCheck) {\n
outputVarType = ref.value.identifier.reference;\n      } else {\n
        outputVarType = o.BuiltinTypeName.Dynamic;\n      }\n      this.refOutputVars.set(ref.name,
outputVarType);\n    });\n    ast.outputs.forEach((outputAst) => {\n      this.actions.push(\n          {context:
this.component, value: outputAst.handler, sourceSpan: outputAst.sourceSpan});\n    });\n  }\n\n
visitDirective(dirAst: DirectiveAst) {\n    const dirType = dirAst.directive.type.reference;\n
dirAst.inputs.forEach(\n        (input) => this.updates.push(\n            {context: this.component, value: input.value,
sourceSpan: input.sourceSpan}));\n    // Note: The old view compiler used to use an `any` type\n    // for expressions
in host properties / events.\n    // We keep this behaivor behind a flag for now.\n    if
(this.options.fullTemplateTypeCheck) {\n      dirAst.hostProperties.forEach(\n          (inputAst) =>
this.updates.push(\n              {context: dirType, value: inputAst.value, sourceSpan: inputAst.sourceSpan}));\n
dirAst.hostEvents.forEach((hostEventAst)
 => this.actions.push({\n        context: dirType,\n        value: hostEventAst.handler,\n        sourceSpan:
hostEventAst.sourceSpan\n      }));\n    }\n  }\n\n  notifyImplicitReceiverUse(): void {}\n  getLocal(name: string):
o.Expression|null {\n    if (name == EventHandlerVars.event.name) {\n      return
o.variable(this.getOutputVar(o.BuiltinTypeName.Dynamic));\n    }\n    for (let currBuilder: ViewBuilder|null = this;
currBuilder; currBuilder = currBuilder.parent) {\n      let outputVarType: OutputVarType|undefined;\n      // check
references\n      outputVarType = currBuilder.refOutputVars.get(name);\n      if (outputVarType == null) {\n        //
check variables\n        const varAst = currBuilder.variables.find((varAst) => varAst.name === name);\n        if
(varAst) {\n          outputVarType = o.BuiltinTypeName.Dynamic;\n        }\n      }\n      if (outputVarType != null)
{\n        return o.variable(this.getOutputVar(outputVarType));\n      }\n    }\n    return null;\n  }\n\n
  private pipeOutputVar(name: string): string {\n    const pipe = this.pipes.get(name);\n    if (!pipe) {\n      throw new
Error(\n          `Illegal State: Could not find pipe ${name} in template of ${this.component}`);\n    }\n    return
this.getOutputVar(pipe);\n  }\n\n  private preprocessUpdateExpression(expression: Expression): Expression {\n
return {\n      sourceSpan: expression.sourceSpan,\n      context: expression.context,\n      value:
```

convertPropertyBindingBuiltins(\n {\n createLiteralArrayConverter: (argCount: number) => (args: o.Expression[]) => {\n const arr = o.literalArr(args);\n // Note: The old view compiler used to use an `any` type\n // for arrays.\n return this.options.fullTemplateTypeCheck ? arr : arr.cast(o.DYNAMIC_TYPE);\n },\n createLiteralMapConverter: (keys: {key: string, quoted: boolean}[]) =>\n (values: o.Expression[]) => {\n const entries = keys.map((k, i) => ({\n key: k.key,\n value: values[i],\n quoted: k.quoted,\n }));\n const map = o.literalMap(entries);\n // Note: The old view compiler used to use an `any` type\n // for maps.\n return this.options.fullTemplateTypeCheck ? map : map.cast(o.DYNAMIC_TYPE);\n },\n createPipeConverter: (name: string, argCount: number) => (args: o.Expression[]) => {\n // Note: The old view compiler used to use an `any` type\n // for pipes.\n const pipeExpr = this.options.fullTemplateTypeCheck ?\n o.variable(this.pipeOutputVar(name)) :\n o.variable(this.getOutputVar(o.BuiltinTypeName.Dynamic));\n return pipeExpr.callMethod('transform', args);\n },\n },\n expression.value)\n };\n }\n\n visitNgContent(ast: NgContentAst, context: any): any {}\n visitText(ast: TextAst, context: any): any {}\n visitDirectiveProperty(ast: BoundDirectivePropertyAst, context: any): any {}\n visitReference(ast: ReferenceAst, context: any): any {}\n visitVariable(ast: VariableAst, context: any): any {}\n visitEvent(ast: BoundEventAst, context: any): any {}\n visitElementProperty(ast: BoundElementPropertyAst, context: any): any {}\n visitAttr(ast: AttrAst, context: any): any {}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileDirectiveMetadata, CompilePipeSummary, CompileQueryMetadata, rendererTypeName, tokenReference, viewClassName} from '../compile_metadata';\nimport {CompileReflector} from '../compile_reflector';\nimport {BindingForm, BuiltinConverter, convertActionBinding, convertPropertyBinding, convertPropertyBindingBuiltins, EventHandlerVars, LocalResolver} from '../compiler_util/expression_converter';\nimport {ArgumentType, BindingFlags, ChangeDetectionStrategy, NodeFlags, QueryBindingType, QueryValueType, ViewFlags} from '../core';\nimport {AST, ASTWithSource, Interpolation} from '../expression_parser/ast';\nimport {Identifiers} from '../identifiers';\nimport {LifecycleHooks} from '../lifecycle_reflector';\nimport {isNgContainer} from '../ml_parser/tags';\nimport * as o from '../output/output_ast';\nimport {convertValueToOutputAst} from '../output/value_util';\nimport {ParseSourceSpan} from '../parse_util';\nimport {AttrAst, BoundDirectivePropertyAst, BoundElementPropertyAst, BoundEventAst, BoundTextAst, DirectiveAst, ElementAst, EmbeddedTemplateAst, NgContentAst, PropertyBindingType, ProviderAst, QueryMatch, ReferenceAst, TemplateAst, TemplateAstVisitor, templateVisitAll, TextAst, VariableAst}\n from '../template_parser/template_ast';\nimport {OutputContext} from '../util';\n\nimport {componentFactoryResolverProviderDef, depDef, lifecycleHookToNodeFlag, providerDef} from './provider_compiler';\n\nconst CLASS_ATTR = 'class';\nconst STYLE_ATTR = 'style';\nconst IMPLICIT_TEMPLATE_VAR = '\\$implicit';\n\nexport class ViewCompileResult {\n constructor(public viewClassVar: string, public rendererTypeVar: string) {}\n}\n\nexport class ViewCompiler {\n constructor(private _reflector: CompileReflector) {}\n\n compileComponent(\n outputCtx: OutputContext, component: CompileDirectiveMetadata, template: TemplateAst[],\n styles: o.Expression, usedPipes: CompilePipeSummary[]): ViewCompileResult {\n let embeddedViewCount = 0;\n\n let renderComponentVarName: string = undefined!;\n if (!component.isHost) {\n const template = component.template !;\n const customRenderData: o.LiteralMapEntry[] = [];\n if (template.animations && template.animations.length)\n {\n customRenderData.push(new o.LiteralMapEntry(\n 'animation', convertValueToOutputAst(outputCtx, template.animations), true));\n }\n\n const renderComponentVar = o.variable(rendererTypeName(component.type.reference));\n renderComponentVarName = renderComponentVar.name!;\n outputCtx.statements.push(\n renderComponentVar\n

```
.set(o.importExpr(Identifiers.createRendererType2).callFn([new o.LiteralMapExpr([\n new
o.LiteralMapEntry('encapsulation', o.literal(template.encapsulation), false),\n new
o.LiteralMapEntry('styles', styles, false),\n new o.LiteralMapEntry('data', new
o.LiteralMapExpr(customRenderData), false)\n ])]))\n .toDeclStmt(\n
o.importType(Identifiers.RendererType2),\n [o.StmtModifier.Final, o.StmtModifier.Exported]));\n }\n\n
 const viewBuilderFactory = (parent: ViewBuilder|null): ViewBuilder => {\n
 const embeddedViewIndex = embeddedViewCount++;\n return new ViewBuilder(\n this._reflector,
outputCtx, parent, component, embeddedViewIndex, usedPipes,\n viewBuilderFactory);\n };\n\n const
visitor = viewBuilderFactory(null);\n visitor.visitAll([], template);\n\n
outputCtx.statements.push(...visitor.build());\n\n return new ViewCompileResult(visitor.viewName,
renderComponentVarName);\n }\n}\n\ninterface ViewBuilderFactory {\n (parent: ViewBuilder):
ViewBuilder;\n}\n\ninterface UpdateExpression {\n context: o.Expression;\n nodeIndex: number;\n bindingIndex:
number;\n sourceSpan: ParseSourceSpan;\n value: AST;\n}\n\nconst LOG_VAR = o.variable('_l');\nconst
VIEW_VAR = o.variable('_v');\nconst CHECK_VAR = o.variable('_ck');\nconst COMP_VAR =
o.variable('_co');\nconst EVENT_NAME_VAR = o.variable('en');\nconst ALLOW_DEFAULT_VAR =
o.variable(`ad`);\n\nclass ViewBuilder implements TemplateAstVisitor, LocalResolver {\n private compType:
o.Type;\n
 private nodes: (() => {\n sourceSpan: ParseSourceSpan | null,\n nodeDef: o.Expression,\n nodeFlags:
NodeFlags,\n updateDirectives?: UpdateExpression[],\n updateRenderer?: UpdateExpression[]\n })[] = [];\n
private purePipeNodeIndices: {[pipeName: string]: number} = Object.create(null);\n // Need Object.create so that
we don't have builtin values...\n private refNodeIndices: {[refName: string]: number} = Object.create(null);\n
private variables: VariableAst[] = [];\n private children: ViewBuilder[] = [];\n\n public readonly viewName:
string;\n\n constructor(\n private reflector: CompileReflector, private outputCtx: OutputContext,\n private
parent: ViewBuilder|null, private component: CompileDirectiveMetadata,\n private embeddedViewIndex:
number, private usedPipes: CompilePipeSummary[],\n private viewBuilderFactory: ViewBuilderFactory) {\n //
TODO(tbosch): The old view compiler used to use an `any` type\n // for the context in any embedded
 view. We keep this behaivor for now\n // to be able to introduce the new view compiler without too many
errors.\n this.compType = this.embeddedViewIndex > 0 ?\n o.DYNAMIC_TYPE :\n
o.expressionType(outputCtx.importExpr(this.component.type.reference))!;\n this.viewName =
viewClassName(this.component.type.reference, this.embeddedViewIndex);\n }\n\n visitAll(variables:
VariableAst[], astNodes: TemplateAst[]) {\n this.variables = variables;\n // create the pipes for the pure pipes
immediately, so that we know their indices.\n if (!this.parent) {\n this.usedPipes.forEach((pipe) => {\n if
(pipe.pure) {\n this.purePipeNodeIndices[pipe.name] = this._createPipe(null, pipe);\n }\n });\n }\n\n
if (!this.parent) {\n this.component.viewQueries.forEach((query, queryIndex) => {\n // Note: queries start
with id 1 so we can use the number in a Bloom filter!\n const queryId = queryIndex + 1;\n const
bindingType
 = query.first ? QueryBindingType.First : QueryBindingType.All;\n const flags = NodeFlags.TypeViewQuery |
calcStaticDynamicQueryFlags(query);\n this.nodes.push(() => ({\n sourceSpan: null,\n
 nodeFlags: flags,\n nodeDef: o.importExpr(Identifiers.queryDef).callFn([\n
o.literal(flags), o.literal(queryId),\n new o.LiteralMapExpr([new o.LiteralMapEntry(\n
 query.propertyName, o.literal(bindingType), false)])\n ])\n }));\n });\n }\n
templateVisitAll(this, astNodes);\n if (this.parent && (astNodes.length === 0 ||
needsAdditionalRootNode(astNodes))) {\n // if the view is an embedded view, then we need to add an additional
root node in some cases\n this.nodes.push(() => ({\n sourceSpan: null,\n nodeFlags:
 NodeFlags.TypeElement,\n nodeDef: o.importExpr(Identifiers.anchorDef).callFn([\n
o.literal(NodeFlags.None), o.NULL_EXPR, o.NULL_EXPR, o.literal(0)\n ])\n }));\n
}\n }\n\n build(targetStatements: o.Statement[] = []): o.Statement[] {\n this.children.forEach((child) =>
child.build(targetStatements));\n\n const {updateRendererStmts, updateDirectivesStmts, nodeDefExprs} =\n
```

```
this._createNodeExpressions();\n\n    const updateRendererFn = this._createUpdateFn(updateRendererStmts);\n
const updateDirectivesFn = this._createUpdateFn(updateDirectivesStmts);\n\n\n    let viewFlags =
ViewFlags.None;\n    if (!this.parent && this.component.changeDetection === ChangeDetectionStrategy.OnPush)
{\n      viewFlags |= ViewFlags.OnPush;\n    }\n    const viewFactory = new o.DeclareFunctionStmt(\n
this.viewName, [new o.FnParam(LOG_VAR.name!)],\n        [new
o.ReturnStatement(o.importExpr(Identifiers.viewDef).callFn([\n
        o.literal(viewFlags),\n          o.literalArr(nodeDefExprs),\n          updateDirectivesFn,\n
updateRendererFn,\n        ]))],\n        o.importType(Identifiers.ViewDefinition),\n        this.embeddedViewIndex ===
0 ? [o.StmtModifier.Exported] : []);\n\n    targetStatements.push(viewFactory);\n    return targetStatements;\n  }\n\n
private _createUpdateFn(updateStmts: o.Statement[]): o.Expression {\n    let updateFn: o.Expression;\n    if
(updateStmts.length > 0) {\n      const preStmts: o.Statement[] = [];\n      if (!this.component.isHost &&
o.findReadVarNames(updateStmts).has(COMP_VAR.name!)) {\n
preStmts.push(COMP_VAR.set(VIEW_VAR.prop('component')).toDeclStmt(this.compType));\n      }\n
updateFn = o.fn(\n          [\n            new o.FnParam(CHECK_VAR.name!, o.INFERRED_TYPE),\n            new
o.FnParam(VIEW_VAR.name!, o.INFERRED_TYPE)\n          ],\n          [...preStmts, ...updateStmts],
o.INFERRED_TYPE);\n    } else
 {\n      updateFn = o.NULL_EXPR;\n    }\n    return updateFn;\n  }\n\n  visitNgContent(ast: NgContentAst, context:
any): any {\n    // ngContentDef(ngContentIndex: number, index: number): NodeDef;\n    this.nodes.push(() => ({\n
              sourceSpan: ast.sourceSpan,\n                  nodeFlags: NodeFlags.TypeNgContent,\n
nodeDef: o.importExpr(Identifiers.ngContentDef)\n                      .callFn([o.literal(ast.ngContentIndex),
o.literal(ast.index)])\n                  }));\n  }\n\n  visitText(ast: TextAst, context: any): any {\n    // Static text nodes
have no check function\n    const checkIndex = -1;\n    this.nodes.push(() => ({\n                  sourceSpan:
ast.sourceSpan,\n                  nodeFlags: NodeFlags.TypeText,\n                  nodeDef:
o.importExpr(Identifiers.textDef).callFn([\n                    o.literal(checkIndex),\n
o.literal(ast.ngContentIndex),\n
    o.literalArr([o.literal(ast.value)]),\n                  ])\n                  }));\n  }\n\n  visitBoundText(ast:
BoundTextAst, context: any): any {\n    const nodeIndex = this.nodes.length;\n    // reserve the space in the
nodeDefs array\n    this.nodes.push(null!);\n\n    const astWithSource = <ASTWithSource>ast.value;\n    const inter
= <Interpolation>astWithSource.ast;\n\n    const updateRendererExpressions = inter.expressions.map(\n        (expr,
bindingIndex) => this._preprocessUpdateExpression(\n            {nodeIndex, bindingIndex, sourceSpan:
ast.sourceSpan, context: COMP_VAR, value: expr}));\n\n    // Check index is the same as the node index during
compilation\n    // They might only differ at runtime\n    const checkIndex = nodeIndex;\n\n    this.nodes[nodeIndex]
= () => ({\n      sourceSpan: ast.sourceSpan,\n      nodeFlags: NodeFlags.TypeText,\n      nodeDef:
o.importExpr(Identifiers.textDef).callFn([\n        o.literal(checkIndex),\n        o.literal(ast.ngContentIndex),\n
        o.literalArr(inter.strings.map(s => o.literal(s))),\n      ]),\n      updateRenderer: updateRendererExpressions\n
});\n  }\n\n  visitEmbeddedTemplate(ast: EmbeddedTemplateAst, context: any): any {\n    const nodeIndex =
this.nodes.length;\n    // reserve the space in the nodeDefs array\n    this.nodes.push(null!);\n\n    const {flags,
queryMatchesExpr, hostEvents} = this._visitElementOrTemplate(nodeIndex, ast);\n\n    const childVisitor =
this.viewBuilderFactory(this);\n    this.children.push(childVisitor);\n    childVisitor.visitAll(ast.variables,
ast.children);\n\n    const childCount = this.nodes.length - nodeIndex - 1;\n\n    // anchorDef(\n    //   flags:
NodeFlags, matchedQueries: [string, QueryValueType][], ngContentIndex: number,\n    //   childCount: number,
handleEventFn?: ElementHandleEventFn, templateFactory?:\n    //   ViewDefinitionFactory): NodeDef;\n
this.nodes[nodeIndex] = () => ({\n      sourceSpan: ast.sourceSpan,\n      nodeFlags: NodeFlags.TypeElement
| flags,\n      nodeDef: o.importExpr(Identifiers.anchorDef).callFn([\n        o.literal(flags),\n
queryMatchesExpr,\n        o.literal(ast.ngContentIndex),\n        o.literal(childCount),\n
this._createElementHandleEventFn(nodeIndex, hostEvents),\n        o.variable(childVisitor.viewName),\n      ])\n
});\n  }\n\n  visitElement(ast: ElementAst, context: any): any {\n    const nodeIndex = this.nodes.length;\n    //
reserve the space in the nodeDefs array so we can add children\n    this.nodes.push(null!);\n\n    // Using a null
```

```
element name creates an anchor.\n    const elName: string|null = isNgContainer(ast.name) ? null : ast.name;\n\n
const {flags, usedEvents, queryMatchesExpr, hostBindings: dirHostBindings, hostEvents} =\n
this._visitElementOrTemplate(nodeIndex, ast);\n\n    let inputDefs: o.Expression[] = [];\n    let
updateRendererExpressions: UpdateExpression[] = [];\n    let outputDefs: o.Expression[] = [];\n    if (elName) {\n
const
 hostBindings: any[] = ast.inputs\n                                .map((inputAst) => ({\n
context: COMP_VAR as o.Expression,\n                                inputAst,\n                                dirAst:
null as any,\n                                }))\n                                .concat(dirHostBindings);\n      if
(hostBindings.length) {\n        updateRendererExpressions =\n            hostBindings.map((hostBinding,
bindingIndex) => this._preprocessUpdateExpression({\n                context: hostBinding.context,\n
nodeIndex,\n                bindingIndex,\n                sourceSpan: hostBinding.inputAst.sourceSpan,\n                value:
hostBinding.inputAst.value\n                }));\n        inputDefs = hostBindings.map(\n                hostBinding =>
elementBindingDef(hostBinding.inputAst, hostBinding.dirAst));\n      }\n      outputDefs = usedEvents.map(\n
([target,
 eventName]) => o.literalArr([o.literal(target), o.literal(eventName)]));\n    }\n\n    templateVisitAll(this,
ast.children);\n\n    const childCount = this.nodes.length - nodeIndex - 1;\n\n    const compAst =
ast.directives.find(dirAst => dirAst.directive.isComponent);\n    let compRendererType = o.NULL_EXPR as
o.Expression;\n    let compView = o.NULL_EXPR as o.Expression;\n    if (compAst) {\n      compView =
this.outputCtx.importExpr(compAst.directive.componentViewType);\n      compRendererType =
this.outputCtx.importExpr(compAst.directive.rendererType);\n    }\n\n    // Check index is the same as the node
index during compilation\n    // They might only differ at runtime\n    const checkIndex = nodeIndex;\n\n
this.nodes[nodeIndex] = () => ({\n      sourceSpan: ast.sourceSpan,\n      nodeFlags: NodeFlags.TypeElement |
flags,\n      nodeDef: o.importExpr(Identifiers.elementDef).callFn([\n        o.literal(checkIndex),\n
o.literal(flags),\n        queryMatchesExpr,\n
 o.literal(ast.ngContentIndex),\n        o.literal(childCount),\n        o.literal(elName),\n        elName ?
fixedAttrsDef(ast) : o.NULL_EXPR,\n        inputDefs.length ? o.literalArr(inputDefs) : o.NULL_EXPR,\n
outputDefs.length ? o.literalArr(outputDefs) : o.NULL_EXPR,\n
this._createElementHandleEventFn(nodeIndex, hostEvents),\n        compView,\n        compRendererType,\n      ]),\n
    updateRenderer: updateRendererExpressions\n    });\n  }\n\n  private _visitElementOrTemplate(nodeIndex:
number, ast: {\n    hasViewContainer: boolean,\n    outputs: BoundEventAst[],\n    directives: DirectiveAst[],\n
providers: ProviderAst[],\n    references: ReferenceAst[],\n    queryMatches: QueryMatch[]\n  }): {\n    flags:
NodeFlags,\n    usedEvents: [string|null, string][],\n    queryMatchesExpr: o.Expression,\n    hostBindings:\n
{context: o.Expression, inputAst: BoundElementPropertyAst, dirAst: DirectiveAst}[],\n    hostEvents: {context:
o.Expression, eventAst: BoundEventAst,
 dirAst: DirectiveAst}[],\n  } {\n    let flags = NodeFlags.None;\n    if (ast.hasViewContainer) {\n      flags |=
NodeFlags.EmbeddedViews;\n    }\n    const usedEvents = new Map<string, [string | null, string]>();\n
ast.outputs.forEach((event) => {\n      const {name, target} = elementEventNameAndTarget(event, null);\n
usedEvents.set(elementEventFullName(target, name), [target, name]);\n    });\n    ast.directives.forEach((dirAst) =>
{\n      dirAst.hostEvents.forEach((event) => {\n        const {name, target} = elementEventNameAndTarget(event,
dirAst);\n        usedEvents.set(elementEventFullName(target, name), [target, name]);\n      });\n    });\n    const
hostBindings:\n        {context: o.Expression, inputAst: BoundElementPropertyAst, dirAst: DirectiveAst}[] = [];\n
const hostEvents: {context: o.Expression, eventAst: BoundEventAst, dirAst: DirectiveAst}[] = [];\n
this._visitComponentFactoryResolverProvider(ast.directives);\n\n    ast.providers.forEach(providerAst
 => {\n      let dirAst: DirectiveAst = undefined!;\n      ast.directives.forEach(localDirAst => {\n        if
(localDirAst.directive.type.reference === tokenReference(providerAst.token)) {\n          dirAst = localDirAst;\n
}\n      });\n      if (dirAst) {\n        const {hostBindings: dirHostBindings, hostEvents: dirHostEvents} =\n
this._visitDirective(providerAst, dirAst, ast.references, ast.queryMatches, usedEvents);\n
hostBindings.push(...dirHostBindings);\n        hostEvents.push(...dirHostEvents);\n      } else {\n
```

```
this._visitProvider(providerAst, ast.queryMatches);\n    }\n  });\n\n  let queryMatchExprs: o.Expression[] = [];\n
 ast.queryMatches.forEach((match) => {\n    let valueType: QueryValueType = undefined!;\n    if
(tokenReference(match.value) ===\n        this.reflector.resolveExternalReference(Identifiers.ElementRef)) {\n
valueType = QueryValueType.ElementRef;\n    } else if (\n        tokenReference(match.value)
 ===\n        this.reflector.resolveExternalReference(Identifiers.ViewContainerRef)) {\n      valueType =
QueryValueType.ViewContainerRef;\n    } else if (\n        tokenReference(match.value) ===\n
this.reflector.resolveExternalReference(Identifiers.TemplateRef)) {\n      valueType =
QueryValueType.TemplateRef;\n    }\n    if (valueType != null) {\n
queryMatchExprs.push(o.literalArr([o.literal(match.queryId), o.literal(valueType)]));\n    }\n  });\n
ast.references.forEach((ref) => {\n    let valueType: QueryValueType = undefined!;\n    if (!ref.value) {\n
valueType = QueryValueType.RenderElement;\n    } else if (\n        tokenReference(ref.value) ===\n
this.reflector.resolveExternalReference(Identifiers.TemplateRef)) {\n      valueType =
QueryValueType.TemplateRef;\n    }\n    if (valueType != null) {\n      this.refNodeIndices[ref.name] =
nodeIndex;\n      queryMatchExprs.push(o.literalArr([o.literal(ref.name),
 o.literal(valueType)]));\n    }\n  });\n  ast.outputs.forEach((outputAst) => {\n    hostEvents.push({context:
COMP_VAR, eventAst: outputAst, dirAst: null!});\n  });\n\n  return {\n    flags,\n    usedEvents:
Array.from(usedEvents.values()),\n    queryMatchesExpr: queryMatchExprs.length ?
o.literalArr(queryMatchExprs) : o.NULL_EXPR,\n    hostBindings,\n    hostEvents: hostEvents\n  };\n }\n\n
private _visitDirective(\n    providerAst: ProviderAst, dirAst: DirectiveAst, refs: ReferenceAst[],\n
queryMatches: QueryMatch[], usedEvents: Map<string, any>): {\n  hostBindings:\n      {context: o.Expression,
inputAst: BoundElementPropertyAst, dirAst: DirectiveAst}[],\n  hostEvents: {context: o.Expression, eventAst:
BoundEventAst, dirAst: DirectiveAst}[]\n } {\n  const nodeIndex = this.nodes.length;\n  // reserve the space in
the nodeDefs array so we can add children\n  this.nodes.push(null!);\n\n  dirAst.directive.queries.forEach((query,
queryIndex)
 => {\n    const queryId = dirAst.contentQueryStartId + queryIndex;\n    const flags =
NodeFlags.TypeContentQuery | calcStaticDynamicQueryFlags(query);\n    const bindingType = query.first ?
QueryBindingType.First : QueryBindingType.All;\n    this.nodes.push(() => ({\n                sourceSpan:
dirAst.sourceSpan,\n                nodeFlags: flags,\n                nodeDef:
o.importExpr(Identifiers.queryDef).callFn([\n                    o.literal(flags), o.literal(queryId),\n
new o.LiteralMapExpr([new o.LiteralMapEntry(\n                        query.propertyName, o.literal(bindingType),
false)])\n                ]),\n            }));\n  });\n\n  // Note: the operation below might also create new
nodeDefs,\n  // but we don't want them to be a child of a directive,\n  // as they might be a provider/pipe on their
own.\n  // I.e. we only allow queries as children of directives nodes.\n
  const childCount = this.nodes.length - nodeIndex - 1;\n\n  let {flags, queryMatchExprs, providerExpr, depsExpr}
=\n      this._visitProviderOrDirective(providerAst, queryMatches);\n\n  refs.forEach((ref) => {\n    if (ref.value
&& tokenReference(ref.value) === tokenReference(providerAst.token)) {\n      this.refNodeIndices[ref.name] =
nodeIndex;\n      queryMatchExprs.push(\n          o.literalArr([o.literal(ref.name),
o.literal(QueryValueType.Provider)]));\n    }\n  });\n\n  if (dirAst.directive.isComponent) {\n    flags |=
NodeFlags.Component;\n  }\n\n  const inputDefs = dirAst.inputs.map((inputAst, inputIndex) => {\n    const
mapValue = o.literalArr([o.literal(inputIndex), o.literal(inputAst.directiveName)]);\n    // Note: it's important to not
quote the key so that we can capture renames by minifiers!\n    return new
o.LiteralMapEntry(inputAst.directiveName, mapValue, false);\n  });\n\n  const outputDefs: o.LiteralMapEntry[] =
[];\n  const dirMeta
 = dirAst.directive;\n  Object.keys(dirMeta.outputs).forEach((propName) => {\n    const eventName =
dirMeta.outputs[propName];\n    if (usedEvents.has(eventName)) {\n      // Note: it's important to not quote the
key so that we can capture renames by minifiers!\n      outputDefs.push(new o.LiteralMapEntry(propName,
o.literal(eventName), false));\n    }\n  });\n  let updateDirectiveExpressions: UpdateExpression[] = [];\n  if
(dirAst.inputs.length || (flags & (NodeFlags.DoCheck | NodeFlags.OnInit)) > 0) {\n    updateDirectiveExpressions
```

```
=\n dirAst.inputs.map((input, bindingIndex) => this._preprocessUpdateExpression({\n nodeIndex,\n bindingIndex,\n sourceSpan: input.sourceSpan,\n context: COMP_VAR,\n value: input.value\n }));\n }\n\n const dirContextExpr =\n o.importExpr(Identifiers.nodeValue).callFn([VIEW_VAR, o.literal(nodeIndex)]);\n const hostBindings = dirAst.hostProperties.map((inputAst)\n => ({\n context: dirContextExpr,\n dirAst,\n inputAst,\n }));\n const hostEvents = dirAst.hostEvents.map((hostEventAst) => ({\n context: dirContextExpr,\n eventAst: hostEventAst,\n dirAst,\n }));\n\n // Check index is the same as the node index during compilation\n // They might only differ at runtime\n const checkIndex = nodeIndex;\n\n this.nodes[nodeIndex] = () => ({\n sourceSpan: dirAst.sourceSpan,\n nodeFlags: NodeFlags.TypeDirective | flags,\n nodeDef: o.importExpr(Identifiers.directiveDef).callFn([\n o.literal(checkIndex),\n o.literal(flags),\n queryMatchExprs.length ? o.literalArr(queryMatchExprs) : o.NULL_EXPR,\n o.literal(childCount),\n providerExpr,\n depsExpr,\n inputDefs.length ? new o.LiteralMapExpr(inputDefs) : o.NULL_EXPR,\n outputDefs.length ? new o.LiteralMapExpr(outputDefs) : o.NULL_EXPR,\n ]),\n updateDirectives: updateDirectiveExpressions,\n directive: dirAst.directive.type,\n });\n\n return {hostBindings, hostEvents};\n }\n\n private _visitProvider(providerAst: ProviderAst, queryMatches: QueryMatch[]): void {\n this._addProviderNode(this._visitProviderOrDirective(providerAst, queryMatches));\n }\n\n private _visitComponentFactoryResolverProvider(directives: DirectiveAst[]) {\n const componentDirMeta = directives.find(dirAst => dirAst.directive.isComponent);\n if (componentDirMeta && componentDirMeta.directive.entryComponents.length) {\n const {providerExpr, depsExpr, flags, tokenExpr} = componentFactoryResolverProviderDef(\n this.reflector, this.outputCtx, NodeFlags.PrivateProvider,\n componentDirMeta.directive.entryComponents);\n this._addProviderNode({\n providerExpr,\n depsExpr,\n flags,\n tokenExpr,\n queryMatchExprs: [],\n sourceSpan: componentDirMeta.sourceSpan\n });\n }\n }\n\n private _addProviderNode(data: {\n flags: NodeFlags,\n queryMatchExprs: o.Expression[],\n providerExpr: o.Expression,\n depsExpr: o.Expression,\n tokenExpr: o.Expression,\n sourceSpan: ParseSourceSpan\n }) {\n // providerDef(\n // flags: NodeFlags, matchedQueries: [string, QueryValueType][], token:any,\n // value: any, deps: ([DepFlags, any] | any)[]): NodeDef;\n this.nodes.push(\n () => ({\n sourceSpan: data.sourceSpan,\n nodeFlags: data.flags,\n nodeDef: o.importExpr(Identifiers.providerDef).callFn([\n o.literal(data.flags),\n data.queryMatchExprs.length ? o.literalArr(data.queryMatchExprs)\n : o.NULL_EXPR,\n data.tokenExpr, data.providerExpr, data.depsExpr\n ])\n }));\n }\n\n private _visitProviderOrDirective(providerAst: ProviderAst, queryMatches: QueryMatch[]): {\n flags: NodeFlags,\n tokenExpr: o.Expression,\n sourceSpan: ParseSourceSpan,\n queryMatchExprs: o.Expression[],\n providerExpr: o.Expression,\n depsExpr: o.Expression\n } {\n let flags = NodeFlags.None;\n let queryMatchExprs: o.Expression[] = [];\n\n queryMatches.forEach((match) => {\n if (tokenReference(match.value) === tokenReference(providerAst.token)) {\n queryMatchExprs.push(\n o.literalArr([o.literal(match.queryId), o.literal(QueryValueType.Provider)]));\n }\n });\n const {providerExpr, depsExpr, flags: providerFlags, tokenExpr} =\n providerDef(this.outputCtx, providerAst);\n return {\n flags: flags | providerFlags,\n queryMatchExprs,\n providerExpr,\n depsExpr,\n tokenExpr,\n sourceSpan: providerAst.sourceSpan\n };\n }\n\n getLocal(name: string): o.Expression|null {\n if (name == EventHandlerVars.event.name) {\n return EventHandlerVars.event;\n }\n let currViewExpr: o.Expression = VIEW_VAR;\n for (let currBuilder: ViewBuilder|null = this; currBuilder; currBuilder = currBuilder.parent,\n currViewExpr = currViewExpr.prop('parent').cast(o.DYNAMIC_TYPE)) {\n // check references\n const refNodeIndex = currBuilder.refNodeIndices[name];\n if (refNodeIndex != null) {\n return
```

```
o.importExpr(Identifiers.nodeValue).callFn([currViewExpr, o.literal(refNodeIndex)]);\n      }\n\n      // check variables\n      const varAst = currBuilder.variables.find((varAst) => varAst.name === name);\n      if (varAst) {\n        const varValue = varAst.value || IMPLICIT_TEMPLATE_VAR;\n        return currViewExpr.prop('context').prop(varValue);\n      }\n    }\n    return null;\n  }\n\n  notifyImplicitReceiverUse(): void {\n    // Not needed in View Engine as View Engine walks through the generated\n    // expressions to figure out if the implicit receiver is used and needs\n    // to be generated as part of the pre-update statements.\n  }\n\n  private _createLiteralArrayConverter(sourceSpan: ParseSourceSpan, argCount: number):\n      BuiltinConverter {\n    if (argCount === 0) {\n      const valueExpr = o.importExpr(Identifiers.EMPTY_ARRAY);\n      return () => valueExpr;\n    }\n\n    const checkIndex = this.nodes.length;\n\n    this.nodes.push(() => ({\n                      sourceSpan,\n                      nodeFlags: NodeFlags.TypePureArray,\n                      nodeDef: o.importExpr(Identifiers.pureArrayDef).callFn([\n        o.literal(checkIndex),\n                        o.literal(argCount),\n                      ])\n                    }));\n\n    return (args: o.Expression[]) => callCheckStmt(checkIndex, args);\n  }\n\n  private _createLiteralMapConverter(\n      sourceSpan: ParseSourceSpan, keys: {key: string, quoted: boolean}[]): BuiltinConverter {\n    if (keys.length === 0) {\n      const valueExpr = o.importExpr(Identifiers.EMPTY_MAP);\n      return () => valueExpr;\n    }\n\n    const map = o.literalMap(keys.map((e, i) => ({...e, value: o.literal(i)})));\n    const checkIndex = this.nodes.length;\n    this.nodes.push(() => ({\n                      sourceSpan,\n                      nodeFlags: NodeFlags.TypePureObject,\n                      nodeDef: o.importExpr(Identifiers.pureObjectDef).callFn([\n                        o.literal(checkIndex),\n        map,\n                      ])\n                    }));\n\n    return (args: o.Expression[]) => callCheckStmt(checkIndex, args);\n  }\n\n  private _createPipeConverter(expression: UpdateExpression, name: string, argCount: number):\n      BuiltinConverter {\n    const pipe = this.usedPipes.find((pipeSummary) => pipeSummary.name === name)!;\n    if (pipe.pure) {\n      const checkIndex = this.nodes.length;\n      this.nodes.push(() => ({\n                        sourceSpan: expression.sourceSpan,\n                        nodeFlags: NodeFlags.TypePurePipe,\n                        nodeDef: o.importExpr(Identifiers.purePipeDef).callFn([\n                          o.literal(checkIndex),\n          o.literal(argCount),\n                        ])\n                      }));\n\n      // find underlying pipe in the component view\n      let compViewExpr: o.Expression = VIEW_VAR;\n      let compBuilder: ViewBuilder = this;\n      while (compBuilder.parent) {\n        compBuilder = compBuilder.parent;\n        compViewExpr = compViewExpr.prop('parent').cast(o.DYNAMIC_TYPE);\n      }\n      const pipeNodeIndex = compBuilder.purePipeNodeIndices[name];\n      const pipeValueExpr: o.Expression =\n          o.importExpr(Identifiers.nodeValue).callFn([compViewExpr, o.literal(pipeNodeIndex)]);\n\n      return (args: o.Expression[])\n          => callUnwrapValue(\n                expression.nodeIndex, expression.bindingIndex,\n                callCheckStmt(checkIndex, [pipeValueExpr].concat(args)));\n    } else {\n      const nodeIndex =\n          this._createPipe(expression.sourceSpan, pipe);\n      const nodeValueExpr =\n          o.importExpr(Identifiers.nodeValue).callFn([VIEW_VAR, o.literal(nodeIndex)]);\n\n      return (args: o.Expression[]) => callUnwrapValue(\n                expression.nodeIndex, expression.bindingIndex,\n                nodeValueExpr.callMethod('transform', args));\n    }\n  }\n\n  private _createPipe(sourceSpan: ParseSourceSpan|null, pipe: CompilePipeSummary): number {\n    const nodeIndex = this.nodes.length;\n    let flags = NodeFlags.None;\n    pipe.type.lifecycleHooks.forEach((lifecycleHook) => {\n      // for pipes, we only support ngOnDestroy\n      if (lifecycleHook === LifecycleHooks.OnDestroy) {\n        flags |= lifecycleHookToNodeFlag(lifecycleHook);\n      }\n    });\n\n    const depExprs = pipe.type.diDeps.map((diDep) => depDef(this.outputCtx, diDep));\n    // function pipeDef(\n    //   flags: NodeFlags, ctor: any, deps: ([DepFlags, any] | any)[]): NodeDef\n    this.nodes.push(\n        () => ({\n          sourceSpan,\n          nodeFlags: NodeFlags.TypePipe,\n          nodeDef: o.importExpr(Identifiers.pipeDef).callFn([\n            o.literal(flags), this.outputCtx.importExpr(pipe.type.reference), o.literalArr(depExprs)\n          ])\n        }));\n    return nodeIndex;\n  }\n\n  /**\n   * For the AST in `UpdateExpression.value`:\n   * - create nodes for pipes, literal arrays and, literal maps,\n   * - update the AST to replace pipes, literal arrays and, literal maps with calls to check fn.\n   *\n   * WARNING: This might create new nodeDefs (for pipes and literal arrays and literal maps)!\n   */\n
```

```
private _preprocessUpdateExpression(expression: UpdateExpression): UpdateExpression {\n    return {\n nodeIndex: expression.nodeIndex,\n      bindingIndex: expression.bindingIndex,\n
      sourceSpan: expression.sourceSpan,\n      context: expression.context,\n      value:
convertPropertyBindingBuiltins(\n          {\n            createLiteralArrayConverter: (argCount: number) =>\n
this._createLiteralArrayConverter(expression.sourceSpan, argCount),\n            createLiteralMapConverter: (keys:
{key: string, quoted: boolean}[]) =>\n                this._createLiteralMapConverter(expression.sourceSpan, keys),\n
    createPipeConverter: (name: string, argCount: number) =>\n                this._createPipeConverter(expression,
name, argCount)\n          },\n          expression.value)\n    };\n  }\n\n  private _createNodeExpressions(): {\n
updateRendererStmts: o.Statement[],\n    updateDirectivesStmts: o.Statement[],\n    nodeDefExprs: o.Expression[]\n
} {\n    const self = this;\n    let updateBindingCount = 0;\n    const updateRendererStmts: o.Statement[] = [];\n
const updateDirectivesStmts: o.Statement[] = [];\n    const
 nodeDefExprs = this.nodes.map((factory, nodeIndex) => {\n      const {nodeDef, nodeFlags, updateDirectives,
updateRenderer, sourceSpan} = factory();\n      if (updateRenderer) {\n        updateRendererStmts.push(\n
...createUpdateStatements(nodeIndex, sourceSpan, updateRenderer, false));\n      }\n      if (updateDirectives) {\n
updateDirectivesStmts.push(...createUpdateStatements(\n            nodeIndex, sourceSpan, updateDirectives,\n
(nodeFlags & (NodeFlags.DoCheck | NodeFlags.OnInit)) > 0));\n      }\n      // We use a comma expression to call
the log function before\n      // the nodeDef function, but still use the result of the nodeDef function\n      // as the
value.\n      // Note: We only add the logger to elements / text nodes,\n      // so we don't generate too much code.\n
const logWithNodeDef = nodeFlags & NodeFlags.CatRenderNode ?\n          new
o.CommaExpr([LOG_VAR.callFn([]).callFn([]), nodeDef]) :\n          nodeDef;\n      return
 o.applySourceSpanToExpressionIfNeeded(logWithNodeDef, sourceSpan);\n    });\n    return
{updateRendererStmts, updateDirectivesStmts, nodeDefExprs};\n\n    function createUpdateStatements(\n
nodeIndex: number, sourceSpan: ParseSourceSpan|null, expressions: UpdateExpression[],\n        allowEmptyExprs:
boolean): o.Statement[] {\n      const updateStmts: o.Statement[] = [];\n      const exprs =
expressions.map(({sourceSpan, context, value}) => {\n        const bindingId = `${updateBindingCount++}`;\n
const nameResolver = context === COMP_VAR ? self : null;\n        const {stmts, currValExpr} =\n
convertPropertyBinding(nameResolver, context, value, bindingId, BindingForm.General);\n
updateStmts.push(...stmts.map(\n            (stmt: o.Statement) => o.applySourceSpanToStatementIfNeeded(stmt,
sourceSpan)));\n        return o.applySourceSpanToExpressionIfNeeded(currValExpr, sourceSpan);\n      });\n      if
(expressions.length || allowEmptyExprs) {\n        updateStmts.push(o.applySourceSpanToStatementIfNeeded(\n
          callCheckStmt(nodeIndex, exprs).toStmt(), sourceSpan));\n      }\n      return updateStmts;\n    }\n  }\n\n
private _createElementHandleEventFn(\n      nodeIndex: number,\n      handlers: {context: o.Expression, eventAst:
BoundEventAst, dirAst: DirectiveAst}[]) {\n    const handleEventStmts: o.Statement[] = [];\n    let
handleEventBindingCount = 0;\n    handlers.forEach(({context, eventAst, dirAst}) => {\n      const bindingId =
`${handleEventBindingCount++}`;\n      const nameResolver = context === COMP_VAR ? this : null;\n      const
{stmts, allowDefault} =\n          convertActionBinding(nameResolver, context, eventAst.handler, bindingId);\n
const trueStmts = stmts;\n      if (allowDefault) {\n
trueStmts.push(ALLOW_DEFAULT_VAR.set(allowDefault.and(ALLOW_DEFAULT_VAR)).toStmt());\n      }\n
  const {target: eventTarget, name: eventName} = elementEventNameAndTarget(eventAst, dirAst);\n      const
fullEventName
 = elementEventFullName(eventTarget, eventName);\n
handleEventStmts.push(o.applySourceSpanToStatementIfNeeded(\n          new
o.IfStmt(o.literal(fullEventName).identical(EVENT_NAME_VAR), trueStmts),\n          eventAst.sourceSpan));\n
});\n    let handleEventFn: o.Expression;\n    if (handleEventStmts.length > 0) {\n      const preStmts: o.Statement[]
=\n          [ALLOW_DEFAULT_VAR.set(o.literal(true)).toDeclStmt(o.BOOL_TYPE)];\n      if
(!this.component.isHost && o.findReadVarNames(handleEventStmts).has(COMP_VAR.name!)) {\n
preStmts.push(COMP_VAR.set(VIEW_VAR.prop('component')).toDeclStmt(this.compType));\n      }\n
handleEventFn = o.fn(\n          [\n            new o.FnParam(VIEW_VAR.name!, o.INFERRED_TYPE),\n            new
```

o.FnParam(EVENT_NAME_VAR.name!, o.INFERRED_TYPE),\n new o.FnParam(EventHandlerVars.event.name!, o.INFERRED_TYPE)\n ],\n [...preStmts, ...handleEventStmts, new o.ReturnStatement(ALLOW_DEFAULT_VAR)],\n o.INFERRED_TYPE);\n } else {\n handleEventFn = o.NULL_EXPR;\n }\n return handleEventFn;\n }\n\n visitDirective(ast: DirectiveAst, context: {usedEvents: Set<string>}): any {}\n visitDirectiveProperty(ast: BoundDirectivePropertyAst, context: any): any {}\n visitReference(ast: ReferenceAst, context: any): any {}\n visitVariable(ast: VariableAst, context: any): any {}\n visitEvent(ast: BoundEventAst, context: any): any {}\n visitElementProperty(ast: BoundElementPropertyAst, context: any): any {}\n visitAttr(ast: AttrAst, context: any): any {}\n}\n\nfunction needsAdditionalRootNode(astNodes: TemplateAst[]): boolean {\n const lastAstNode = astNodes[astNodes.length - 1];\n if (lastAstNode instanceof EmbeddedTemplateAst) {\n return lastAstNode.hasViewContainer;\n }\n\n if (lastAstNode instanceof ElementAst) {\n if (isNgContainer(lastAstNode.name) && lastAstNode.children.length) {\n return needsAdditionalRootNode(lastAstNode.children);\n }\n return lastAstNode.hasViewContainer;\n }\n\n return lastAstNode instanceof NgContentAst;\n}\n\n\nfunction elementBindingDef(inputAst: BoundElementPropertyAst, dirAst: DirectiveAst): o.Expression {\n const inputType = inputAst.type;\n switch (inputType) {\n case PropertyBindingType.Attribute:\n return o.literalArr([\n o.literal(BindingFlags.TypeElementAttribute), o.literal(inputAst.name),\n o.literal(inputAst.securityContext)\n ]);\n case PropertyBindingType.Property:\n return o.literalArr([\n o.literal(BindingFlags.TypeProperty), o.literal(inputAst.name),\n o.literal(inputAst.securityContext)\n ]);\n case PropertyBindingType.Animation:\n const bindingType = BindingFlags.TypeProperty |\n (dirAst && dirAst.directive.isComponent ? BindingFlags.SyntheticHostProperty :\n BindingFlags.SyntheticProperty);\n return o.literalArr([\n o.literal(bindingType), o.literal('@' + inputAst.name), o.literal(inputAst.securityContext)\n ]);\n case PropertyBindingType.Class:\n return o.literalArr(\n [o.literal(BindingFlags.TypeElementClass), o.literal(inputAst.name), o.NULL_EXPR]);\n case PropertyBindingType.Style:\n return o.literalArr([\n o.literal(BindingFlags.TypeElementStyle), o.literal(inputAst.name), o.literal(inputAst.unit)\n ]);\n default:\n // This default case is not needed by TypeScript compiler, as the switch is exhaustive.\n // However Closure Compiler does not understand that and reports an error in typed mode.\n // The `throw new Error` below works around the problem, and the unexpected: never variable\n // makes sure tsc still checks this code is unreachable.\n const unexpected: never = inputType;\n throw new Error(`unexpected ${unexpected}`);\n }\n}\n\n\nfunction fixedAttrsDef(elementAst: ElementAst): o.Expression {\n const mapResult: {[key: string]: string} = Object.create(null);\n elementAst.attrs.forEach(attrAst => {\n mapResult[attrAst.name] = attrAst.value;\n });\n elementAst.directives.forEach(dirAst => {\n Object.keys(dirAst.directive.hostAttributes).forEach(name => {\n const value = dirAst.directive.hostAttributes[name];\n const prevValue = mapResult[name];\n mapResult[name] = prevValue != null ? mergeAttributeValue(name, prevValue, value) : value;\n });\n });\n // Note: We need to sort to get a defined output order\n // for tests and for caching generated artifacts...\n return o.literalArr(Object.keys(mapResult).sort().map(\n (attrName) => o.literalArr([o.literal(attrName), o.literal(mapResult[attrName])])));\n}\n\nfunction mergeAttributeValue(attrName: string, attrValue1: string, attrValue2: string): string {\n if (attrName == CLASS_ATTR || attrName == STYLE_ATTR) {\n return `${attrValue1} ${attrValue2}`;\n } else {\n return attrValue2;\n }\n}\n\nfunction callCheckStmt(nodeIndex: number, exprs: o.Expression[]): o.Expression {\n if (exprs.length > 10) {\n return CHECK_VAR.callFn(\n [VIEW_VAR, o.literal(nodeIndex), o.literal(ArgumentType.Dynamic), o.literalArr(exprs)]);\n } else {\n return CHECK_VAR.callFn(\n [VIEW_VAR, o.literal(nodeIndex), o.literal(ArgumentType.Inline), ...exprs]);\n }\n}\n\nfunction callUnwrapValue(nodeIndex: number, bindingIdx: number, expr: o.Expression): o.Expression {\n return o.importExpr(Identifiers.unwrapValue).callFn([\n VIEW_VAR, o.literal(nodeIndex), o.literal(bindingIdx), expr\n ]);\n}\n\nfunction elementEventNameAndTarget(\n eventAst: BoundEventAst, dirAst: DirectiveAst|null): {name: string, target: string|null} {\n if (eventAst.isAnimation) {\n return {\n name:

`@${eventAst.name}.${eventAst.phase}`,\n target: dirAst && dirAst.directive.isComponent ? 'component' : null\n };\n } else {\n return eventAst;\n }\n}\n\nfunction calcStaticDynamicQueryFlags(query: CompileQueryMetadata) {\n let flags
= NodeFlags.None;\n // Note: We only make queries static that query for a single item and the user specifically\n // set the to be static. This is because of backwards compatibility with the old view compiler...\n if (query.first && query.static) {\n flags |= NodeFlags.StaticQuery;\n } else {\n flags |= NodeFlags.DynamicQuery;\n }\n return flags;\n}\n\nexport function elementEventFullName(target: string|null, name: string): string {\n return target ? `${target}:${name}` : name;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {HtmlParser} from '../ml_parser/html_parser';\nimport {InterpolationConfig} from '../ml_parser/interpolation_config';\nimport {ParseError} from '../parse_util';\n\nimport {extractMessages} from './extractor_merger';\nimport * as i18n from './i18n_ast';\nimport {PlaceholderMapper, Serializer} from './serializers/serializer';\n\n\n/**\n * A container for message extracted from the templates.\n */\nexport class MessageBundle {\n private _messages: i18n.Message[] = [];\n\n constructor(\n private _htmlParser: HtmlParser, private _implicitTags: string[],\n private _implicitAttrs: {[k: string]: string[]}, private _locale: string|null = null) {}\n\n updateFromTemplate(html: string, url: string, interpolationConfig: InterpolationConfig):\n ParseError[] {\n const htmlParserResult =\n this._htmlParser.parse(html, url, {tokenizeExpansionForms: true, interpolationConfig});\n\n if (htmlParserResult.errors.length) {\n return htmlParserResult.errors;\n }\n\n const i18nParserResult = extractMessages(\n htmlParserResult.rootNodes, interpolationConfig, this._implicitTags, this._implicitAttrs);\n\n if (i18nParserResult.errors.length) {\n return i18nParserResult.errors;\n }\n\n this._messages.push(...i18nParserResult.messages);\n
return [];\n }\n\n // Return the message in the internal format\n // The public (serialized) format might be different, see the `write` method.\n getMessages(): i18n.Message[] {\n return this._messages;\n }\n\n write(serializer: Serializer, filterSources?: (path: string) => string): string {\n const messages: {[id: string]: i18n.Message} = {};\n const mapperVisitor = new MapPlaceholderNames();\n\n // Deduplicate messages based on their ID\n this._messages.forEach(message => {\n const id = serializer.digest(message);\n if (!messages.hasOwnProperty(id)) {\n messages[id] = message;\n } else {\n messages[id].sources.push(...message.sources);\n }\n });\n\n // Transform placeholder names using the serializer mapping\n const msgList = Object.keys(messages).map(id => {\n const mapper = serializer.createNameMapper(messages[id]);\n const src = messages[id];\n const nodes = mapper ? mapperVisitor.convert(src.nodes,
mapper) : src.nodes;\n let transformedMessage = new i18n.Message(nodes, {}, {}, src.meaning, src.description, id);\n transformedMessage.sources = src.sources;\n if (filterSources) {\n transformedMessage.sources.forEach(\n (source: i18n.MessageSpan) => source.filePath = filterSources(source.filePath));\n }\n return transformedMessage;\n });\n\n return serializer.write(msgList, this._locale);\n }\n}\n\n\n// Transform an i18n AST by renaming the placeholder nodes with the given mapper\nclass MapPlaceholderNames extends i18n.CloneVisitor {\n convert(nodes: i18n.Node[], mapper: PlaceholderMapper): i18n.Node[] {\n return mapper ? nodes.map(n => n.visit(this, mapper)) : nodes;\n }\n\n visitTagPlaceholder(ph: i18n.TagPlaceholder, mapper: PlaceholderMapper): i18n.TagPlaceholder {\n const startName = mapper.toPublicName(ph.startName)!;\n const closeName = ph.closeName ? mapper.toPublicName(ph.closeName)! : ph.closeName;\n
const children = ph.children.map(n => n.visit(this, mapper));\n return new i18n.TagPlaceholder(\n ph.tag, ph.attrs, startName, closeName, children, ph.isVoid, ph.sourceSpan,\n ph.startSourceSpan, ph.endSourceSpan);\n }\n\n visitPlaceholder(ph: i18n.Placeholder, mapper: PlaceholderMapper): i18n.Placeholder {\n return new i18n.Placeholder(ph.value, mapper.toPublicName(ph.name)!, ph.sourceSpan);\n }\n\n visitIcuPlaceholder(ph: i18n.IcuPlaceholder, mapper: PlaceholderMapper): i18n.IcuPlaceholder {\n return new i18n.IcuPlaceholder(ph.value, mapper.toPublicName(ph.name)!, ph.sourceSpan);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license

that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {areAllEquivalent, Statement} from '../output/output_ast';\nimport {TypeScriptEmitter} from '../output/ts_emitter';\n\nexport class GeneratedFile {\n
public source: string|null;\n public stmts: Statement[]|null;\n\n constructor(\n public srcFileUrl: string, public genFileUrl: string, sourceOrStmts: string|Statement[]) {\n if (typeof sourceOrStmts === 'string') {\n this.source = sourceOrStmts;\n this.stmts = null;\n } else {\n this.source = null;\n this.stmts = sourceOrStmts;\n }\n }\n\n isEquivalent(other: GeneratedFile): boolean {\n if (this.genFileUrl !== other.genFileUrl) {\n return false;\n }\n if (this.source) {\n return this.source === other.source;\n }\n if (other.stmts == null) {\n return false;\n }\n // Note: the constructor guarantees that if this.source is not filled,\n // then this.stmts is.\n return areAllEquivalent(this.stmts!, other.stmts!);\n }\n}\n\nexport function toTypeScript(file: GeneratedFile, preamble: string = ''): string {\n if (!file.stmts) {\n throw new Error(`Illegal state: No stmts present on GeneratedFile ${file.genFileUrl}`);\n
}\n return new TypeScriptEmitter().emitStatements(file.genFileUrl, file.stmts, preamble);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileNgModuleMetadata, tokenReference} from '../compile_metadata';\nimport {Route} from '../core';\n\nimport {StaticReflector} from './static_reflector';\nimport {StaticSymbol} from './static_symbol';\n\nexport interface LazyRoute {\n module: StaticSymbol;\n route: string;\n referencedModule: StaticSymbol;\n}\n\nexport function listLazyRoutes(\n moduleMeta: CompileNgModuleMetadata, reflector: StaticReflector): LazyRoute[] {\n const allLazyRoutes: LazyRoute[] = [];\n for (const {provider, module} of moduleMeta.transitiveModule.providers) {\n if (tokenReference(provider.token) === reflector.ROUTES) {\n const loadChildren = _collectLoadChildren(provider.useValue);\n
for (const route of loadChildren) {\n allLazyRoutes.push(parseLazyRoute(route, reflector, module.reference));\n }\n }\n }\n return allLazyRoutes;\n}\n\nfunction _collectLoadChildren(routes: string|Route|Route[], target: string[] = []): string[] {\n if (typeof routes === 'string') {\n target.push(routes);\n } else if (Array.isArray(routes)) {\n for (const route of routes) {\n _collectLoadChildren(route, target);\n }\n } else if (routes.loadChildren) {\n _collectLoadChildren(routes.loadChildren, target);\n } else if (routes.children) {\n _collectLoadChildren(routes.children, target);\n }\n return target;\n}\n\nexport function parseLazyRoute(\n route: string, reflector: StaticReflector, module?: StaticSymbol): LazyRoute {\n const [routePath, routeName] = route.split('#');\n const referencedModule = reflector.resolveExternalReference(\n {\n moduleName: routePath,\n name: routeName,\n },\n module
? module.filePath : undefined);\n return {route: route, module: module || referencedModule, referencedModule};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {SummaryResolver} from '../summary_resolver';\nimport {ValueTransformer, visitValue} from '../util';\n\nimport {StaticSymbol, StaticSymbolCache} from './static_symbol';\nimport {isGeneratedFile, stripSummaryForJitFileSuffix, stripSummaryForJitNameSuffix, summaryForJitFileName, summaryForJitName} from './util';\n\nconst TS = /^(?!.*\\.d\\.ts$).*\\.ts$/;\n\nexport class ResolvedStaticSymbol {\n constructor(public symbol: StaticSymbol, public metadata: any) {}\n}\n\n/**\n * The host of the SymbolResolverHost disconnects the implementation from TypeScript / other\n * language\n * services and from underlying file systems.\n */\nexport interface StaticSymbolResolverHost
{\n /**\n * Return a ModuleMetadata for the given module.\n * Angular CLI will produce this metadata for a module whenever a .d.ts files is\n * produced and the module has exported variables or classes with decorators. Module metadata can\n * also be produced directly from TypeScript sources by using MetadataCollector in tools/metadata.\n *\n * @param modulePath is a string identifier for a module as an absolute path.\n * @returns the metadata for the given module.\n */\n getMetadataFor(modulePath: string): {[key: string]: any}[]|undefined;\n\n /**\n * Converts a module name that is used in an `import` to a file path.\n * I.e.\n * `path/to/containingFile.ts` containing `import {...} from 'module-name'`.\n */\n

```
moduleNameToFileName(moduleName: string, containingFile?: string): string|null;\n\n  /**\n   * Get a file suitable for display to the user that should be relative to the project directory\n   * or the current directory.\n   */\n  getOutputName(filePath:
 string): string;\n}\n\nconst SUPPORTED_SCHEMA_VERSION = 4;\n\n/**\n * This class is responsible for loading metadata per symbol,\n * and normalizing references between symbols.\n *\n * Internally, it only uses symbols without members,\n * and deduces the values for symbols with members based\n * on these symbols.\n */\nexport class StaticSymbolResolver {\n  private metadataCache = new Map<string, {[key: string]: any}>();\n  // Note: this will only contain StaticSymbols without members!\n  private resolvedSymbols = new Map<StaticSymbol, ResolvedStaticSymbol>();\n  // Note: this will only contain StaticSymbols without members!\n  private importAs = new Map<StaticSymbol, StaticSymbol>();\n  private symbolResourcePaths = new Map<StaticSymbol, string>();\n  private symbolFromFile = new Map<string, StaticSymbol[]>();\n  private knownFileNameToModuleNames = new Map<string, string>();\n\n  constructor(\n      private host: StaticSymbolResolverHost, private staticSymbolCache:
 StaticSymbolCache,\n      private summaryResolver: SummaryResolver<StaticSymbol>,\n      private errorRecorder?: (error: any, fileName?: string) => void) {}\n\n  resolveSymbol(staticSymbol: StaticSymbol): ResolvedStaticSymbol {\n    if (staticSymbol.members.length > 0) {\n      return this._resolveSymbolMembers(staticSymbol)!;\n    }\n    // Note: always ask for a summary first,\n    // as we might have read shallow metadata via a .d.ts file\n    // for the symbol.\n    const resultFromSummary = this._resolveSymbolFromSummary(staticSymbol)!;\n    if (resultFromSummary) {\n      return resultFromSummary;\n    }\n    const resultFromCache = this.resolvedSymbols.get(staticSymbol);\n    if (resultFromCache) {\n      return resultFromCache;\n    }\n    // Note: Some users use libraries that were not compiled with ngc, i.e. they don't\n    // have summaries, only .d.ts files. So we always need to check both, the summary\n    // and metadata.\n    this._createSymbolsOf(staticSymbol.filePath);\n
    return this.resolvedSymbols.get(staticSymbol)!;\n  }\n\n  /**\n   * getImportAs produces a symbol that can be used to import the given symbol.\n   * The import might be different than the symbol if the symbol is exported from\n   * a library with a summary; in which case we want to import the symbol from the\n   * ngfactory re-export instead of directly to avoid introducing a direct dependency\n   * on an otherwise indirect dependency.\n   *\n   * @param staticSymbol the symbol for which to generate a import symbol\n   */\n  getImportAs(staticSymbol: StaticSymbol, useSummaries: boolean = true): StaticSymbol|null {\n    if (staticSymbol.members.length) {\n      const baseSymbol = this.getStaticSymbol(staticSymbol.filePath, staticSymbol.name);\n      const baseImportAs = this.getImportAs(baseSymbol, useSummaries);\n      return baseImportAs ?\n          this.getStaticSymbol(baseImportAs.filePath, baseImportAs.name, staticSymbol.members) :\n          null;\n    }\n    const summarizedFileName
 = stripSummaryForJitFileSuffix(staticSymbol.filePath);\n    if (summarizedFileName !== staticSymbol.filePath) {\n      const summarizedName = stripSummaryForJitNameSuffix(staticSymbol.name);\n      const baseSymbol =\n          this.getStaticSymbol(summarizedFileName, summarizedName, staticSymbol.members);\n      const baseImportAs = this.getImportAs(baseSymbol, useSummaries);\n      return baseImportAs ? this.getStaticSymbol(\n                                summaryForJitFileName(baseImportAs.filePath),\n                                summaryForJitName(baseImportAs.name), baseSymbol.members) :\n                                null;\n    }\n    let result = (useSummaries && this.summaryResolver.getImportAs(staticSymbol)) || null;\n    if (!result) {\n      result = this.importAs.get(staticSymbol)!;\n    }\n    return result;\n  }\n\n  /**\n   * getResourcePath produces the path to the original location of the symbol and should\n   * be used to determine the relative location
 of resource references recorded in\n   * symbol metadata.\n   */\n  getResourcePath(staticSymbol: StaticSymbol): string {\n    return this.symbolResourcePaths.get(staticSymbol) || staticSymbol.filePath;\n  }\n\n  /**\n   * getTypeArity returns the number of generic type parameters the given symbol\n   * has. If the symbol is not a type the result is null.\n   */\n  getTypeArity(staticSymbol: StaticSymbol): number|null {\n    // If the file is a factory/ngsummary file, don't resolve the symbol as doing so would\n    // cause the metadata for an factory/ngsummary file to be loaded which doesn't exist.\n    // All references to generated classes must include the correct arity whenever\n    // generating code.\n    if (isGeneratedFile(staticSymbol.filePath)) {\n      return null;\n
```

```
}\n    let resolvedSymbol = unwrapResolvedMetadata(this.resolveSymbol(staticSymbol));\n    while (resolvedSymbol && resolvedSymbol.metadata instanceof StaticSymbol) {\n      resolvedSymbol = unwrapResolvedMetadata(this.resolveSymbol(resolvedSymbol.metadata));\n    }\n    return (resolvedSymbol && resolvedSymbol.metadata && resolvedSymbol.metadata.arity) || null;\n  }\n\n  getKnownModuleName(filePath: string): string|null {\n    return this.knownFileNameToModuleNames.get(filePath) || null;\n  }\n\n  recordImportAs(sourceSymbol: StaticSymbol, targetSymbol: StaticSymbol) {\n    sourceSymbol.assertNoMembers();\n    targetSymbol.assertNoMembers();\n    this.importAs.set(sourceSymbol, targetSymbol);\n  }\n\n  recordModuleNameForFileName(fileName: string, moduleName: string) {\n    this.knownFileNameToModuleNames.set(fileName, moduleName);\n  }\n\n  /**\n   * Invalidate all information derived from the given file and return the\n   * static symbols contained in the file.\n   *\n   * @param fileName the file to invalidate\n   */\n  invalidateFile(fileName: string): StaticSymbol[] {\n    this.metadataCache.delete(fileName);\n    const symbols = this.symbolFromFile.get(fileName);\n    if (!symbols) {\n      return [];\n    }\n    this.symbolFromFile.delete(fileName);\n    for (const symbol of symbols) {\n      this.resolvedSymbols.delete(symbol);\n      this.importAs.delete(symbol);\n      this.symbolResourcePaths.delete(symbol);\n    }\n    return symbols;\n  }\n\n  /** @internal */\n  ignoreErrorsFor<T>(cb: () => T) {\n    const recorder = this.errorRecorder;\n    this.errorRecorder = () => {};\n    try {\n      return cb();\n    } finally {\n      this.errorRecorder = recorder;\n    }\n  }\n\n  private _resolveSymbolMembers(staticSymbol: StaticSymbol): ResolvedStaticSymbol|null {\n    const members = staticSymbol.members;\n    const baseResolvedSymbol =\n        this.resolveSymbol(this.getStaticSymbol(staticSymbol.filePath, staticSymbol.name));\n    if (!baseResolvedSymbol) {\n      return null;\n    }\n    let baseMetadata = unwrapResolvedMetadata(baseResolvedSymbol.metadata);\n    if (baseMetadata instanceof StaticSymbol) {\n      return new ResolvedStaticSymbol(\n          staticSymbol, this.getStaticSymbol(baseMetadata.filePath, baseMetadata.name, members));\n    } else if (baseMetadata && baseMetadata.__symbolic === 'class') {\n      if (baseMetadata.statics && members.length === 1) {\n        return new ResolvedStaticSymbol(staticSymbol, baseMetadata.statics[members[0]]);\n      }\n    } else {\n      let value = baseMetadata;\n      for (let i = 0; i < members.length && value; i++) {\n        value = value[members[i]];\n      }\n      return new ResolvedStaticSymbol(staticSymbol, value);\n    }\n    return null;\n  }\n\n  private _resolveSymbolFromSummary(staticSymbol: StaticSymbol): ResolvedStaticSymbol|null {\n    const summary = this.summaryResolver.resolveSummary(staticSymbol);\n    return summary ? new ResolvedStaticSymbol(staticSymbol, summary.metadata) : null;\n  }\n\n  /**\n   * getStaticSymbol produces a Type whose metadata is known but whose implementation is not loaded.\n   * All types passed to the StaticResolver should be pseudo-types returned\n   by this method.\n   *\n   * @param declarationFile the absolute path of the file where the symbol is declared\n   * @param name the name of the type.\n   * @param members a symbol for a static member of the named type\n   */\n  getStaticSymbol(declarationFile: string, name: string, members?: string[]): StaticSymbol {\n    return this.staticSymbolCache.get(declarationFile, name, members);\n  }\n\n  /**\n   * hasDecorators checks a file's metadata for the presence of decorators without evaluating the\n   * metadata.\n   *\n   * @param filePath the absolute path to examine for decorators.\n   * @returns true if any class in the file has a decorator.\n   */\n  hasDecorators(filePath: string): boolean {\n    const metadata = this.getModuleMetadata(filePath);\n    if (metadata['metadata']) {\n      return Object.keys(metadata['metadata']).some((metadataKey) => {\n        const entry = metadata['metadata'][metadataKey];\n        return entry && entry.__symbolic === 'class' && entry.decorators;\n      });\n    }\n    return false;\n  }\n\n  getSymbolsOf(filePath: string): StaticSymbol[] {\n    const summarySymbols = this.summaryResolver.getSymbolsOf(filePath);\n    if (summarySymbols) {\n      return summarySymbols;\n    }\n    // Note: Some users use libraries that were not compiled with ngc, i.e. they don't\n    // have summaries, only .d.ts files, but `summaryResolver.isLibraryFile` returns true.\n    this._createSymbolsOf(filePath);\n    return this.symbolFromFile.get(filePath) || [];\n  }\n\n  private _createSymbolsOf(filePath: string) {\n    if (this.symbolFromFile.has(filePath)) {\n      return;\n    }\n    const resolvedSymbols: ResolvedStaticSymbol[] = [];\n    const metadata = this.getModuleMetadata(filePath);\n    if (metadata['importAs']) {\n      // Index bundle indices
```

```
should use the importAs module name defined\n      // in the bundle.\n
this.knownFileNameToModuleNames.set(filePath, metadata['importAs']);\n    }\n    // handle the symbols in one of
 the re-export location\n    if (metadata['exports']) {\n      for (const moduleExport of metadata['exports']) {\n        //
handle the symbols in the list of explicitly re-exported symbols.\n        if (moduleExport.export) {\n
moduleExport.export.forEach((exportSymbol: any) => {\n            let symbolName: string;\n            if (typeof
exportSymbol === 'string') {\n              symbolName = exportSymbol;\n            } else {\n              symbolName =
exportSymbol.as;\n            }\n            symbolName = unescapeIdentifier(symbolName);\n            let symName =
symbolName;\n            if (typeof exportSymbol !== 'string') {\n              symName =
unescapeIdentifier(exportSymbol.name);\n            }\n            const resolvedModule =
this.resolveModule(moduleExport.from, filePath);\n            if (resolvedModule) {\n              const targetSymbol =
this.getStaticSymbol(resolvedModule, symName);\n              const sourceSymbol = this.getStaticSymbol(filePath,
 symbolName);\n              resolvedSymbols.push(this.createExport(sourceSymbol, targetSymbol));\n            }\n
});\n        } else {\n          // Handle the symbols loaded by 'export *' directives.\n          const resolvedModule =
this.resolveModule(moduleExport.from, filePath);\n          if (resolvedModule && resolvedModule !== filePath) {\n
          const nestedExports = this.getSymbolsOf(resolvedModule);\n            nestedExports.forEach((targetSymbol)
=> {\n              const sourceSymbol = this.getStaticSymbol(filePath, targetSymbol.name);\n
resolvedSymbols.push(this.createExport(sourceSymbol, targetSymbol));\n            });\n          }\n        }\n      }\n
}\n\n    // handle the actual metadata. Has to be after the exports\n    // as there might be collisions in the names, and
we want the symbols\n    // of the current module to win ofter reexports.\n    if (metadata['metadata']) {\n      //
handle direct declarations of the symbol\n
  const topLevelSymbolNames =\n          new
Set<string>(Object.keys(metadata['metadata']).map(unescapeIdentifier));\n      const origins: {[index: string]: string}
= metadata['origins'] || {};\n      Object.keys(metadata['metadata']).forEach((metadataKey) => {\n        const
symbolMeta = metadata['metadata'][metadataKey];\n        const name = unescapeIdentifier(metadataKey);\n\n
const symbol = this.getStaticSymbol(filePath, name);\n\n        const origin = origins.hasOwnProperty(metadataKey)
&& origins[metadataKey];\n        if (origin) {\n          // If the symbol is from a bundled index, use the declaration
location of the\n          // symbol so relative references (such as './my.html') will be calculated\n          // correctly.\n
    const originFilePath = this.resolveModule(origin, filePath);\n          if (!originFilePath) {\n
this.reportError(new Error(`Couldn't resolve original symbol for ${origin} from ${\n
this.host.getOutputName(filePath)}`));\n
          } else {\n            this.symbolResourcePaths.set(symbol, originFilePath);\n          }\n        }\n
resolvedSymbols.push(\n            this.createResolvedSymbol(symbol, filePath, topLevelSymbolNames,
symbolMeta));\n      });\n    }\n    const uniqueSymbols = new Set<StaticSymbol>();\n    for (const resolvedSymbol
of resolvedSymbols) {\n      this.resolvedSymbols.set(resolvedSymbol.symbol, resolvedSymbol);\n
uniqueSymbols.add(resolvedSymbol.symbol);\n    }\n    this.symbolFromFile.set(filePath,
Array.from(uniqueSymbols));\n  }\n\n  private createResolvedSymbol(\n      sourceSymbol: StaticSymbol,
topLevelPath: string, topLevelSymbolNames: Set<string>,\n      metadata: any): ResolvedStaticSymbol {\n    // For
classes that don't have Angular summaries / metadata,\n    // we only keep their arity, but nothing else\n    // (e.g.
their constructor parameters).\n    // We do this to prevent introducing deep imports\n    // as we didn't generate
.ngfactory.ts
 files with proper reexports.\n    const isTsFile = TS.test(sourceSymbol.filePath);\n    if
(this.summaryResolver.isLibraryFile(sourceSymbol.filePath) && !isTsFile && metadata &&\n
metadata['__symbolic'] === 'class') {\n      const transformedMeta = {__symbolic: 'class', arity: metadata.arity};\n
return new ResolvedStaticSymbol(sourceSymbol, transformedMeta);\n    }\n\n    let _originalFileMemo:
string|undefined;\n    const getOriginalName: () => string = () => {\n      if (!_originalFileMemo) {\n        // Guess
what the original file name is from the reference. If it has a `.d.ts` extension\n        // replace it with `.ts`. If it already
has `.ts` just leave it in place. If it doesn't have\n        // .ts or .d.ts, append `.ts'. Also, if it is in `node_modules`, trim
the `node_module`\n        // location as it is not important to finding the file.\n        _originalFileMemo =\n
```

```
this.host.getOutputName(topLevelPath.replace(/((\\.ts)|(\\.d\\.ts)|)$/, '.ts')\n
                                .replace(/^.*node_modules[/\\\\]/, ''));\n      }\n      return _originalFileMemo;\n    };\n\n
const self = this;\n\n    class ReferenceTransformer extends ValueTransformer {\n      visitStringMap(map: {[key:
string]: any}, functionParams: string[]): any {\n        const symbolic = map['__symbolic'];\n        if (symbolic ===
'function') {\n          const oldLen = functionParams.length;\n          functionParams.push(...(map['parameters'] ||
[]));\n          const result = super.visitStringMap(map, functionParams);\n          functionParams.length = oldLen;\n
    return result;\n        } else if (symbolic === 'reference') {\n          const module = map['module'];\n          const
name = map['name'] ? unescapeIdentifier(map['name']) : map['name'];\n          if (!name) {\n            return null;\n
  }\n          let filePath: string;\n          if (module) {\n            filePath = self.resolveModule(module,
sourceSymbol.filePath)!;\n
          if (!filePath) {\n            return {\n              __symbolic: 'error',\n              message: `Could not resolve
${module} relative to ${\n                  self.host.getMetadataFor(sourceSymbol.filePath)}.`,\n              line:
map['line'],\n              character: map['character'],\n              fileName: getOriginalName()\n            };\n
}\n          return {\n            __symbolic: 'resolved',\n            symbol: self.getStaticSymbol(filePath, name),\n
  line: map['line'],\n            character: map['character'],\n            fileName: getOriginalName()\n          };\n
} else if (functionParams.indexOf(name) >= 0) {\n          // reference to a function parameter\n          return
{__symbolic: 'reference', name: name};\n        } else {\n          if (topLevelSymbolNames.has(name)) {\n
return self.getStaticSymbol(topLevelPath, name);\n          }\n          // ambient value\n
          null;\n        }\n      } else if (symbolic === 'error') {\n        return {...map, fileName:
getOriginalName()};\n      } else {\n        return super.visitStringMap(map, functionParams);\n      }\n    }\n
}\n    const transformedMeta = visitValue(metadata, new ReferenceTransformer(), []);\n    let
unwrappedTransformedMeta = unwrapResolvedMetadata(transformedMeta);\n    if (unwrappedTransformedMeta
instanceof StaticSymbol) {\n      return this.createExport(sourceSymbol, unwrappedTransformedMeta);\n    }\n
return new ResolvedStaticSymbol(sourceSymbol, transformedMeta);\n  }\n\n  private createExport(sourceSymbol:
StaticSymbol, targetSymbol: StaticSymbol):\n      ResolvedStaticSymbol {\n    sourceSymbol.assertNoMembers();\n
  targetSymbol.assertNoMembers();\n    if (this.summaryResolver.isLibraryFile(sourceSymbol.filePath) &&\n
this.summaryResolver.isLibraryFile(targetSymbol.filePath)) {\n      // This case is for an ng library importing
symbols
 from a plain ts library\n      // transitively.\n      // Note: We rely on the fact that we discover symbols in the
direction\n      // from source files to library files\n      this.importAs.set(targetSymbol,
this.getImportAs(sourceSymbol) || sourceSymbol);\n    }\n    return new ResolvedStaticSymbol(sourceSymbol,
targetSymbol);\n  }\n\n  private reportError(error: Error, context?: StaticSymbol, path?: string) {\n    if
(this.errorRecorder) {\n      this.errorRecorder(error, (context && context.filePath) || path);\n    } else {\n      throw
error;\n    }\n  }\n\n  /**\n   * @param module an absolute path to a module file.\n   */\n  private
getModuleMetadata(module: string): {[key: string]: any} {\n    let moduleMetadata =
this.metadataCache.get(module);\n    if (!moduleMetadata) {\n      const moduleMetadatas =
this.host.getMetadataFor(module);\n      if (moduleMetadatas) {\n        let maxVersion = -1;\n
moduleMetadatas.forEach((md) => {\n          if (md && md['version']
 > maxVersion) {\n            maxVersion = md['version'];\n            moduleMetadata = md;\n          }\n        });\n      }\n
    if (!moduleMetadata) {\n        moduleMetadata =\n            {__symbolic: 'module', version:
SUPPORTED_SCHEMA_VERSION, module: module, metadata: {}};\n      }\n      if (moduleMetadata['version'] !=
SUPPORTED_SCHEMA_VERSION) {\n        const errorMessage = moduleMetadata['version'] == 2 ?\n
`Unsupported metadata version ${moduleMetadata['version']} for module ${\n                module}. This module
should be compiled with a newer version of ngc` :\n            `Metadata version mismatch for module ${\n
this.host.getOutputName(module)}, found version ${\n                moduleMetadata['version']}, expected
${SUPPORTED_SCHEMA_VERSION}`;\n        this.reportError(new Error(errorMessage));\n      }\n
this.metadataCache.set(module, moduleMetadata);\n    }\n    return moduleMetadata;\n  }\n\n\n
getSymbolByModule(module: string,
```

symbolName: string, containingFile?: string): StaticSymbol {\n const filePath = this.resolveModule(module, containingFile);\n if (!filePath) {\n this.reportError(new Error(`Could not resolve module ${module}${\n containingFile ? ' relative to ' + this.host.getOutputName(containingFile) : ''}`));\n return this.getStaticSymbol(`ERROR:${module}`, symbolName);\n }\n return this.getStaticSymbol(filePath, symbolName);\n }\n\n private resolveModule(module: string, containingFile?: string): string|null {\n try {\n return this.host.moduleNameToFileName(module, containingFile);\n } catch (e) {\n console.error(`Could not resolve module '${module}' relative to file ${containingFile}`);\n this.reportError(e, undefined, containingFile);\n }\n return null;\n }\n}\n\n// Remove extra underscore from escaped identifier.\n// See https://github.com/Microsoft/TypeScript/blob/master/src/compiler/utilities.ts\nexport function unescapeIdentifier(identifier: string): string {\n return identifier.startsWith('___') ? identifier.substr(1) : identifier;\n}\n\nexport function unwrapResolvedMetadata(metadata: any): any {\n if (metadata && metadata.__symbolic === 'resolved') {\n return metadata.symbol;\n }\n return metadata;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {CompileDirectiveMetadata, CompileDirectiveSummary, CompileNgModuleMetadata, CompileNgModuleSummary, CompilePipeMetadata, CompileProviderMetadata, CompileSummaryKind, CompileTypeMetadata, CompileTypeSummary} from '../compile_metadata';\nimport * as o from '../output/output_ast';\nimport {Summary, SummaryResolver} from '../summary_resolver';\nimport {OutputContext, ValueTransformer, ValueVisitor, visitValue} from '../util';\n\nimport {StaticSymbol, StaticSymbolCache} from './static_symbol';\nimport {ResolvedStaticSymbol, StaticSymbolResolver, unwrapResolvedMetadata} from './static_symbol_resolver';\nimport {isLoweredSymbol, ngfactoryFilePath, summaryForJitFileName, summaryForJitName} from './util';\n\nexport function serializeSummaries(\n srcFileName: string, forJitCtx: OutputContext|null,\n summaryResolver: SummaryResolver<StaticSymbol>, symbolResolver: StaticSymbolResolver,\n symbols: ResolvedStaticSymbol[], types: {\n summary: CompileTypeSummary,\n metadata: CompileNgModuleMetadata|CompileDirectiveMetadata|CompilePipeMetadata|\n CompileTypeMetadata\n }[],\n createExternalSymbolReexports =\n false): {json: string, exportAs: {symbol: StaticSymbol, exportAs: string}[]} {\n const toJsonSerializer = new ToJsonSerializer(symbolResolver, summaryResolver, srcFileName);\n\n // for symbols, we use everything except for the class metadata itself\n // (we keep the statics though), as the class metadata is contained in the\n // CompileTypeSummary.\n symbols.forEach(\n (resolvedSymbol) => toJsonSerializer.addSummary(\n {symbol: resolvedSymbol.symbol, metadata: resolvedSymbol.metadata}));\n\n // Add type summaries.\n types.forEach(({summary, metadata}) => {\n toJsonSerializer.addSummary(\n {symbol: summary.type.reference, metadata: undefined, type: summary});\n });\n const {json, exportAs} = toJsonSerializer.serialize(createExternalSymbolReexports);\n if (forJitCtx) {\n const forJitSerializer = new ForJitSerializer(forJitCtx, symbolResolver, summaryResolver);\n types.forEach(({summary, metadata}) => {\n forJitSerializer.addSourceType(summary, metadata);\n });\n toJsonSerializer.unprocessedSymbolSummariesBySymbol.forEach((summary) => {\n if (summaryResolver.isLibraryFile(summary.symbol.filePath) && summary.type) {\n forJitSerializer.addLibType(summary.type);\n }\n });\n forJitSerializer.serialize(exportAs);\n }\n return {json, exportAs};\n}\n\nexport function deserializeSummaries(\n symbolCache: StaticSymbolCache, summaryResolver: SummaryResolver<StaticSymbol>,\n libraryFileName: string, json: string): {\n moduleName: string|null,\n summaries: Summary<StaticSymbol>[],\n importAs: {symbol: StaticSymbol, importAs: StaticSymbol}[]\n} {\n const deserializer = new FromJsonDeserializer(symbolCache, summaryResolver);\n return deserializer.deserialize(libraryFileName, json);\n}\n\nexport function createForJitStub(outputCtx: OutputContext, reference: StaticSymbol) {\n return createSummaryForJitFunction(outputCtx, reference, o.NULL_EXPR);\n}\n\nfunction createSummaryForJitFunction(\n outputCtx: OutputContext, reference:

```
StaticSymbol, value: o.Expression) {\n  const fnName = summaryForJitName(reference.name);\n
outputCtx.statements.push(\n      o.fn([], [new o.ReturnStatement(value)], new
o.ArrayType(o.DYNAMIC_TYPE)).toDeclStmt(fnName, [\n        o.StmtModifier.Final, o.StmtModifier.Exported\n
  ]));\n}\n\nconst enum SerializationFlags
 {\n  None = 0,\n  ResolveValue = 1,\n}\n\nclass ToJsonSerializer extends ValueTransformer {\n  // Note: This only
contains symbols without members.\n  private symbols: StaticSymbol[] = [];\n  private indexBySymbol = new
Map<StaticSymbol, number>();\n  private reexportedBy = new Map<StaticSymbol, StaticSymbol>();\n  // This now
contains a `__symbol: number` in the place of\n  // StaticSymbols, but otherwise has the same shape as the original
objects.\n  private processedSummaryBySymbol = new Map<StaticSymbol, any>();\n  private processedSummaries:
any[] = [];\n  private moduleName: string|null;\n\n  unprocessedSymbolSummariesBySymbol = new
Map<StaticSymbol, Summary<StaticSymbol>>();\n\n  constructor(\n      private symbolResolver:
StaticSymbolResolver,\n      private summaryResolver: SummaryResolver<StaticSymbol>, private srcFileName:
string) {\n    super();\n    this.moduleName = symbolResolver.getKnownModuleName(srcFileName);\n  }\n\n
addSummary(summary: Summary<StaticSymbol>)
 {\n    let unprocessedSummary = this.unprocessedSymbolSummariesBySymbol.get(summary.symbol);\n    let
processedSummary = this.processedSummaryBySymbol.get(summary.symbol);\n    if (!unprocessedSummary) {\n
 unprocessedSummary = {symbol: summary.symbol, metadata: undefined};\n
this.unprocessedSymbolSummariesBySymbol.set(summary.symbol, unprocessedSummary);\n
processedSummary = {symbol: this.processValue(summary.symbol, SerializationFlags.None)};\n
this.processedSummaries.push(processedSummary);\n      this.processedSummaryBySymbol.set(summary.symbol,
processedSummary);\n    }\n    if (!unprocessedSummary.metadata && summary.metadata) {\n      let metadata =
summary.metadata || {};\n      if (metadata.__symbolic === 'class') {\n        // For classes, we keep everything except
their class decorators.\n        // We need to keep e.g. the ctor args, method names, method decorators\n        // so that
the class can be extended in another compilation unit.\n        //
 We don't keep the class decorators as\n        // 1) they refer to data\n        //   that should not cause a rebuild of
downstream compilation units\n        //   (e.g. inline templates of @Component, or @NgModule.declarations)\n
// 2) their data is already captured in TypeSummaries, e.g. DirectiveSummary.\n        const clone: {[key: string]:
any} = {};\n        Object.keys(metadata).forEach((propName) => {\n          if (propName !== 'decorators') {\n
clone[propName] = metadata[propName];\n          }\n        });\n        metadata = clone;\n      } else if
(isCall(metadata)) {\n        if (!isFunctionCall(metadata) && !isMethodCallOnVariable(metadata)) {\n          // Don't
store complex calls as we won't be able to simplify them anyways later on.\n          metadata = {\n
__symbolic: 'error',\n            message: 'Complex function calls are not supported.',\n          };\n        }\n      }\n      //
Note: We need to keep storing ctor calls for e.g.\n
      // `export const x = new InjectionToken(...)`\n      unprocessedSummary.metadata = metadata;\n
processedSummary.metadata = this.processValue(metadata, SerializationFlags.ResolveValue);\n      if (metadata
instanceof StaticSymbol &&\n          this.summaryResolver.isLibraryFile(metadata.filePath)) {\n        const
declarationSymbol = this.symbols[this.indexBySymbol.get(metadata)!];\n        if
(!isLoweredSymbol(declarationSymbol.name)) {\n          // Note: symbols that were introduced during codegen in
the user file can have a reexport\n          // if a user used `export *`. However, we can't rely on this as tsickle will
change\n          // `export *` into named exports, using only the information from the typechecker.\n          // As we
introduce the new symbols after typecheck, Tsickle does not know about them,\n          // and omits them when
expanding `export *`.\n          // So we have to keep reexporting these symbols manually via .ngfactory files.\n
this.reexportedBy.set(declarationSymbol,
 summary.symbol);\n        }\n      }\n    }\n    if (!unprocessedSummary.type && summary.type) {\n
unprocessedSummary.type = summary.type;\n      // Note: We don't add the summaries of all referenced symbols as
for the ResolvedSymbols,\n      // as the type summaries already contain the transitive data that they require\n      //
(in a minimal way).\n      processedSummary.type = this.processValue(summary.type, SerializationFlags.None);\n
// except for reexported directives / pipes, so we need to store\n      // their summaries explicitly.\n      if
```

(summary.type.summaryKind === CompileSummaryKind.NgModule) {\n const ngModuleSummary = <CompileNgModuleSummary>summary.type;\n ngModuleSummary.exportedDirectives.concat(ngModuleSummary.exportedPipes).forEach((id) => {\n const symbol: StaticSymbol = id.reference;\n if (this.summaryResolver.isLibraryFile(symbol.filePath) &&\n !this.unprocessedSymbolSummariesBySymbol.has(symbol))
{\n const summary = this.summaryResolver.resolveSummary(symbol);\n if (summary) {\n this.addSummary(summary);\n }\n }\n });\n }\n }\n\n /**\n * @param createExternalSymbolReexports Whether external static symbols should be re-exported.\n * This can be enabled if external symbols should be re-exported by the current module in\n * order to avoid dynamically generated module dependencies which can break strict dependency\n * enforcements (as in Google3). Read more here: https://github.com/angular/angular/issues/25644\n */\n serialize(createExternalSymbolReexports: boolean):\n {json: string, exportAs: {symbol: StaticSymbol, exportAs: string}[]} {\n const exportAs: {symbol: StaticSymbol, exportAs: string}[] = [];\n const json = JSON.stringify({\n moduleName: this.moduleName,\n summaries: this.processedSummaries,\n symbols: this.symbols.map((symbol, index)
=> {\n symbol.assertNoMembers();\n let importAs: string|number = undefined!;\n if (this.summaryResolver.isLibraryFile(symbol.filePath)) {\n const reexportSymbol = this.reexportedBy.get(symbol);\n if (reexportSymbol) {\n // In case the given external static symbol is already manually exported by the\n // user, we just proxy the external static symbol reference to the manual export.\n // This ensures that the AOT compiler imports the external symbol through the\n // user export and does not introduce another dependency which is not needed.\n importAs = this.indexBySymbol.get(reexportSymbol)!;\n } else if (createExternalSymbolReexports) {\n // In this case, the given external static symbol is *not* manually exported by\n // the user, and we manually create a re-export in the factory file so that we\n // don't introduce another module dependency. This
is useful when running within\n // Bazel so that the AOT compiler does not introduce any module dependencies\n // which can break the strict dependency enforcement. (e.g. as in Google3)\n // Read more about this here: https://github.com/angular/angular/issues/25644\n const summary = this.unprocessedSymbolSummariesBySymbol.get(symbol);\n if (!summary || !summary.metadata || summary.metadata.__symbolic !== 'interface') {\n importAs = `${symbol.name}_${index}`;\n exportAs.push({symbol, exportAs: importAs});\n }\n }\n }\n return {\n __symbol: index,\n name: symbol.name,\n filePath: this.summaryResolver.toSummaryFileName(symbol.filePath, this.srcFileName),\n importAs: importAs\n };\n })\n });\n return {json, exportAs};\n }\n\n private processValue(value: any, flags: SerializationFlags): any {\n return visitValue(value,
this, flags);\n }\n\n visitOther(value: any, context: any): any {\n if (value instanceof StaticSymbol) {\n let baseSymbol = this.symbolResolver.getStaticSymbol(value.filePath, value.name);\n const index = this.visitStaticSymbol(baseSymbol, context);\n return {__symbol: index, members: value.members};\n }\n }\n\n /**\n * Strip line and character numbers from ngsummaries.\n * Emitting them causes white spaces changes to retrigger upstream\n * recompilations in bazel.\n * TODO: find out a way to have line and character numbers in errors without\n * excessive recompilation in bazel.\n */\n visitStringMap(map: {[key: string]: any}, context: any): any {\n if (map['__symbolic'] === 'resolved') {\n return visitValue(map['symbol'], this, context);\n }\n if (map['__symbolic'] === 'error') {\n delete map['line'];\n delete map['character'];\n }\n return super.visitStringMap(map, context);\n }\n\n /**\n * Returns null if the options.resolveValue
is true, and the summary for the symbol\n * resolved to a type or could not be resolved.\n */\n private visitStaticSymbol(baseSymbol: StaticSymbol, flags: SerializationFlags): number {\n let index: number|undefined|null = this.indexBySymbol.get(baseSymbol);\n let summary: Summary<StaticSymbol>|null = null;\n if (flags & SerializationFlags.ResolveValue &&\n this.summaryResolver.isLibraryFile(baseSymbol.filePath)) {\n if (this.unprocessedSymbolSummariesBySymbol.has(baseSymbol)) {\n // the summary for this symbol was already added\n // -> nothing to do.\n return index!;\n }\n summary =

```
this.loadSummary(baseSymbol);\n      if (summary && summary.metadata instanceof StaticSymbol) {\n        // The summary is a reexport\n        index = this.visitStaticSymbol(summary.metadata, flags);\n        // reset the summary as it is just a reexport, so we don't want to store it.\n        summary = null;\n      }\n    } else if (index != null) {\n      // Note: == on purpose to compare with undefined!\n      // No summary and the symbol is already added -> nothing to do.\n      return index;\n    }\n    // Note: == on purpose to compare with undefined!\n    if (index == null) {\n      index = this.symbols.length;\n      this.symbols.push(baseSymbol);\n    }\n    this.indexBySymbol.set(baseSymbol, index);\n    if (summary) {\n      this.addSummary(summary);\n    }\n    return index;\n  }\n\n  private loadSummary(symbol: StaticSymbol): Summary<StaticSymbol>|null {\n    let summary = this.summaryResolver.resolveSummary(symbol);\n    if (!summary) {\n      // some symbols might originate from a plain typescript library\n      // that just exported .d.ts and .metadata.json files, i.e. where no summary\n      // files were created.\n      const resolvedSymbol = this.symbolResolver.resolveSymbol(symbol);\n      if (resolvedSymbol) {\n        summary = {symbol: resolvedSymbol.symbol, metadata: resolvedSymbol.metadata};\n      }\n    }\n    return summary;\n  }\n}\n\nclass ForJitSerializer {\n  private data: Array<{\n    summary: CompileTypeSummary,\n    metadata: CompileNgModuleMetadata|CompileDirectiveMetadata|CompilePipeMetadata|\n    CompileTypeMetadata|null,\n    isLibrary: boolean\n  }> = [];\n\n  constructor(\n      private outputCtx: OutputContext, private symbolResolver: StaticSymbolResolver,\n      private summaryResolver: SummaryResolver<StaticSymbol>) {}\n\n  addSourceType(\n      summary: CompileTypeSummary,\n      metadata: CompileNgModuleMetadata|CompileDirectiveMetadata|CompilePipeMetadata|\n      CompileTypeMetadata) {\n    this.data.push({summary, metadata, isLibrary: false});\n  }\n\n  addLibType(summary: CompileTypeSummary) {\n    this.data.push({summary, metadata: null, isLibrary: true});\n  }\n\n  serialize(exportAsArr: {symbol: StaticSymbol, exportAs: string}[]): void {\n    const exportAsBySymbol = new Map<StaticSymbol, string>();\n    for (const {symbol, exportAs} of exportAsArr) {\n      exportAsBySymbol.set(symbol, exportAs);\n    }\n    const ngModuleSymbols = new Set<StaticSymbol>();\n\n    for (const {summary, metadata, isLibrary} of this.data) {\n      if (summary.summaryKind === CompileSummaryKind.NgModule) {\n        // collect the symbols that refer to NgModule classes.\n        // Note: we can't just rely on `summary.type.summaryKind` to determine this as\n        // we don't add the summaries of all referenced symbols when we serialize type summaries.\n        // See serializeSummaries for details.\n        ngModuleSymbols.add(summary.type.reference);\n        const modSummary = <CompileNgModuleSummary>summary;\n        for (const mod of modSummary.modules) {\n          ngModuleSymbols.add(mod.reference);\n        }\n      }\n      if (!isLibrary) {\n        const fnName = summaryForJitName(summary.type.reference.name);\n        createSummaryForJitFunction(\n            this.outputCtx, summary.type.reference,\n            this.serializeSummaryWithDeps(summary, metadata!));\n      }\n    }\n\n    ngModuleSymbols.forEach((ngModuleSymbol) => {\n      if (this.summaryResolver.isLibraryFile(ngModuleSymbol.filePath)) {\n        let exportAs = exportAsBySymbol.get(ngModuleSymbol) || ngModuleSymbol.name;\n        const jitExportAsName = summaryForJitName(exportAs);\n        this.outputCtx.statements.push(o.variable(jitExportAsName)\n            .set(this.serializeSummaryRef(ngModuleSymbol))\n            .toDeclStmt(null, [o.StmtModifier.Exported]));\n      }\n    });\n  }\n\n  private serializeSummaryWithDeps(\n      summary: CompileTypeSummary,\n      metadata: CompileNgModuleMetadata|CompileDirectiveMetadata|CompilePipeMetadata|\n      CompileTypeMetadata): o.Expression {\n    const expressions: o.Expression[] = [this.serializeSummary(summary)];\n    let providers: CompileProviderMetadata[] = [];\n    if (metadata instanceof CompileNgModuleMetadata) {\n      expressions.push(...\n          // For directives / pipes, we only add the declared ones,\n          // and rely on transitively importing NgModules to get the transitive\n          // summaries.\n          metadata.declaredDirectives.concat(metadata.declaredPipes)\n              .map(type => type.reference)\n          // For modules,\n          // we also add the summaries for modules\n          // from
```

libraries.\n // This is ok as we produce reexports for all transitive modules.\n .concat(metadata.transitiveModule.modules.map(type => type.reference)\n .filter(ref => ref !== metadata.type.reference))\n .map((ref) => this.serializeSummaryRef(ref)));\n // Note: We don't use `NgModuleSummary.providers`, as that one is transitive,\n // and we already have transitive modules.\n providers = metadata.providers;\n } else if (summary.summaryKind === CompileSummaryKind.Directive) {\n const dirSummary = <CompileDirectiveSummary>summary;\n providers = dirSummary.providers.concat(dirSummary.viewProviders);\n }\n // Note: We can't just refer to the `ngsummary.ts` files for `useClass` providers (as we do for\n // declaredDirectives / declaredPipes), as we allow\n // providers without ctor arguments to skip the `@Injectable` decorator,\n // i.e. we didn't generate .ngsummary.ts files for these.\n expressions.push(\n ...providers.filter(provider => !!provider.useClass).map(provider => this.serializeSummary({\n summaryKind: CompileSummaryKind.Injectable,\n type: provider.useClass\n } as CompileTypeSummary)));\n return o.literalArr(expressions);\n }\n\n private serializeSummaryRef(typeSymbol: StaticSymbol): o.Expression {\n const jitImportedSymbol = this.symbolResolver.getStaticSymbol(\n summaryForJitFileName(typeSymbol.filePath), summaryForJitName(typeSymbol.name));\n return this.outputCtx.importExpr(jitImportedSymbol);\n }\n\n private serializeSummary(data: {[key: string]: any}): o.Expression {\n const outputCtx = this.outputCtx;\n\n class Transformer implements ValueVisitor {\n visitArray(arr: any[], context: any): any {\n return o.literalArr(arr.map(entry => visitValue(entry, this, context)));\n }\n visitStringMap(map: {[key: string]: any}, context: any): any {\n return new o.LiteralMapExpr(Object.keys(map).map(\n (key) => new o.LiteralMapEntry(key, visitValue(map[key], this, context), false)));\n }\n visitPrimitive(value: any, context: any): any {\n return o.literal(value);\n }\n visitOther(value: any, context: any): any {\n if (value instanceof StaticSymbol) {\n return outputCtx.importExpr(value);\n } else {\n throw new Error(`Illegal State: Encountered value ${value}`);\n }\n }\n }\n\n return visitValue(data, new Transformer(), null);\n}\n\n\nclass FromJsonDeserializer extends ValueTransformer {\n // TODO(issue/24571): remove '!'.\n private symbols!: StaticSymbol[];\n\n constructor(\n private symbolCache: StaticSymbolCache,\n private summaryResolver: SummaryResolver<StaticSymbol>) {\n super();\n }\n\n deserialize(libraryFileName: string, json: string): {\n moduleName: string|null,\n summaries: Summary<StaticSymbol>[],\n importAs: {symbol: StaticSymbol, importAs: StaticSymbol}[]\n } {\n const data: {moduleName: string|null, summaries: any[], symbols: any[]} = JSON.parse(json);\n const allImportAs: {symbol: StaticSymbol, importAs: StaticSymbol}[] = [];\n this.symbols = data.symbols.map(\n (serializedSymbol) => this.symbolCache.get(\n this.summaryResolver.fromSummaryFileName(serializedSymbol.filePath, libraryFileName),\n serializedSymbol.name));\n data.symbols.forEach((serializedSymbol, index) => {\n const symbol = this.symbols[index];\n const importAs = serializedSymbol.importAs;\n if (typeof importAs === 'number') {\n allImportAs.push({symbol, importAs: this.symbols[importAs]});\n } else if (typeof importAs === 'string') {\n allImportAs.push(\n {symbol, importAs: this.symbolCache.get(ngfactoryFilePath(libraryFileName), importAs)});\n }\n });\n const summaries = visitValue(data.summaries, this, null) as Summary<StaticSymbol>[];\n return {moduleName: data.moduleName, summaries, importAs: allImportAs};\n }\n\n visitStringMap(map: {[key: string]: any}, context: any): any {\n if ('__symbol' in map) {\n const baseSymbol = this.symbols[map['__symbol']];\n const members = map['members'];\n return members.length ? this.symbolCache.get(baseSymbol.filePath, baseSymbol.name, members) :\n baseSymbol;\n } else {\n return super.visitStringMap(map, context);\n }\n }\n}\n\nfunction isCall(metadata: any): boolean {\n return metadata && metadata.__symbolic === 'call';\n}\n\nfunction isFunctionCall(metadata: any): boolean {\n return isCall(metadata) && unwrapResolvedMetadata(metadata.expression) instanceof StaticSymbol;\n}\n\nfunction isMethodCallOnVariable(metadata: any): boolean {\n return isCall(metadata) && metadata.expression &&\n metadata.expression.__symbolic === 'select' &&\n unwrapResolvedMetadata(metadata.expression.expression) instanceof StaticSymbol;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of

this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileDirectiveMetadata, CompileIdentifierMetadata, CompileInjectableMetadata, CompileNgModuleMetadata, CompilePipeMetadata, CompilePipeSummary, CompileProviderMetadata, CompileShallowModuleMetadata, CompileStylesheetMetadata, CompileTypeMetadata, CompileTypeSummary, componentFactoryName, flatten, identifierName, templateSourceUrl} from '../compile_metadata';\nimport {CompilerConfig} from '../config';\nimport {ConstantPool} from '../constant_pool';\nimport {ViewEncapsulation} from '../core';\nimport {MessageBundle} from '../i18n/message_bundle';\nimport {createTokenForExternalReference, Identifiers} from '../identifiers';\nimport {InjectableCompiler} from '../injectable_compiler';\nimport {CompileMetadataResolver} from '../metadata_resolver';\nimport {HtmlParser} from '../ml_parser/html_parser';\nimport {removeWhitespaces} from '../ml_parser/html_whitespaces';\nimport {DEFAULT_INTERPOLATION_CONFIG, InterpolationConfig} from '../ml_parser/interpolation_config';\nimport {NgModuleCompiler} from '../ng_module_compiler';\nimport {OutputEmitter} from '../output/abstract_emitter';\nimport * as o from '../output/output_ast';\nimport {ParseError} from '../parse_util';\nimport {compileNgModuleFromRender2 as compileR3Module} from '../render3/r3_module_compiler';\nimport {compilePipeFromRender2 as compileR3Pipe} from '../render3/r3_pipe_compiler';\nimport {htmlAstToRender3Ast} from '../render3/r3_template_transform';\nimport {compileComponentFromRender2 as compileR3Component, compileDirectiveFromRender2 as compileR3Directive} from '../render3/view/compiler';\nimport {DomElementSchemaRegistry} from '../schema/dom_element_schema_registry';\nimport {CompiledStylesheet, StyleCompiler} from '../style_compiler';\nimport {SummaryResolver} from '../summary_resolver';\nimport {BindingParser} from '../template_parser/binding_parser';\nimport {TemplateAst} from '../template_parser/template_ast';\nimport {TemplateParser} from '../template_parser/template_parser';\nimport {error, newArray, OutputContext, syntaxError, ValueVisitor, visitValue} from '../util';\nimport {TypeCheckCompiler} from '../view_compiler/type_check_compiler';\nimport {ViewCompiler, ViewCompileResult} from '../view_compiler/view_compiler';\n\nimport {AotCompilerHost} from './compiler_host';\nimport {AotCompilerOptions} from './compiler_options';\nimport {GeneratedFile} from './generated_file';\nimport {LazyRoute, listLazyRoutes, parseLazyRoute} from './lazy_routes';\nimport {PartialModule} from './partial_module';\nimport {StaticReflector} from './static_reflector';\nimport {StaticSymbol} from './static_symbol';\nimport {StaticSymbolResolver} from './static_symbol_resolver';\nimport {createForJitStub, serializeSummaries} from './summary_serializer';\nimport {ngfactoryFilePath, normalizeGenFileSuffix, splitTypescriptSuffix, summaryFileName, summaryForJitFileName} from './util';\n\nconst enum StubEmitFlags {\n  Basic = 1 << 0,\n  TypeCheck = 1 << 1,\n  All = TypeCheck | Basic\n}\n\nexport class AotCompiler {\n  private _templateAstCache =\n      new Map<StaticSymbol, {template: TemplateAst[], pipes: CompilePipeSummary[]}>();\n  private _analyzedFiles = new Map<string, NgAnalyzedFile>();\n  private _analyzedFilesForInjectables\n      = new Map<string, NgAnalyzedFileWithInjectables>();\n\n  constructor(\n      private _config: CompilerConfig, private _options: AotCompilerOptions,\n      private _host: AotCompilerHost, readonly reflector: StaticReflector,\n      private _metadataResolver: CompileMetadataResolver, private _templateParser: TemplateParser,\n      private _styleCompiler: StyleCompiler, private _viewCompiler: ViewCompiler,\n      private _typeCheckCompiler: TypeCheckCompiler, private _ngModuleCompiler: NgModuleCompiler,\n      private _injectableCompiler: InjectableCompiler, private _outputEmitter: OutputEmitter,\n      private _summaryResolver: SummaryResolver<StaticSymbol>,\n      private _symbolResolver: StaticSymbolResolver) {}\n\n  clearCache() {\n    this._metadataResolver.clearCache();\n  }\n\n  analyzeModulesSync(rootFiles: string[]): NgAnalyzedModules {\n    const analyzeResult = analyzeAndValidateNgModules(\n        rootFiles, this._host, this._symbolResolver,\n        this._metadataResolver);\n\n    analyzeResult.ngModules.forEach(\n        ngModule =>\n this._metadataResolver.loadNgModuleDirectiveAndPipeMetadata(\n            ngModule.type.reference, true));\n    return analyzeResult;\n  }\n\n  analyzeModulesAsync(rootFiles: string[]): Promise<NgAnalyzedModules> {\n

```
const analyzeResult = analyzeAndValidateNgModules(\n        rootFiles, this._host, this._symbolResolver,
this._metadataResolver);\n    return Promise\n        .all(analyzeResult.ngModules.map(\n            ngModule =>
this._metadataResolver.loadNgModuleDirectiveAndPipeMetadata(\n                ngModule.type.reference, false)))\n
  .then(() => analyzeResult);\n  }\n\n  private _analyzeFile(fileName: string): NgAnalyzedFile {\n    let analyzedFile
= this._analyzedFiles.get(fileName);\n    if (!analyzedFile) {\n      analyzedFile =\n          analyzeFile(this._host,
this._symbolResolver, this._metadataResolver, fileName);\n      this._analyzedFiles.set(fileName, analyzedFile);\n
}\n    return analyzedFile;\n
  }\n\n  private _analyzeFileForInjectables(fileName: string): NgAnalyzedFileWithInjectables {\n    let analyzedFile
= this._analyzedFilesForInjectables.get(fileName);\n    if (!analyzedFile) {\n      analyzedFile =
analyzeFileForInjectables(\n          this._host, this._symbolResolver, this._metadataResolver, fileName);\n
this._analyzedFilesForInjectables.set(fileName, analyzedFile);\n    }\n    return analyzedFile;\n  }\n\n
findGeneratedFileNames(fileName: string): string[] {\n    const genFileNames: string[] = [];\n    const file =
this._analyzeFile(fileName);\n    // Make sure we create a .ngfactory if we have a
injectable/directive/pipe/NgModule\n    // or a reference to a non source file.\n    // Note: This is overestimating the
required .ngfactory files as the real calculation is harder.\n    // Only do this for StubEmitFlags.Basic, as adding a
type check block\n    // does not change this file (as we generate type check blocks based on NgModules).\n    if
(this._options.allowEmptyCodegenFiles
 || file.directives.length || file.pipes.length ||\n        file.injectables.length || file.ngModules.length ||
file.exportsNonSourceFiles) {\n      genFileNames.push(ngfactoryFilePath(file.fileName, true));\n      if
(this._options.enableSummariesForJit) {\n        genFileNames.push(summaryForJitFileName(file.fileName, true));\n
  }\n    }\n    const fileSuffix = normalizeGenFileSuffix(splitTypescriptSuffix(file.fileName, true)[1]);\n
file.directives.forEach((dirSymbol) => {\n      const compMeta =\n
this._metadataResolver.getNonNormalizedDirectiveMetadata(dirSymbol)!.metadata;\n      if
(!compMeta.isComponent) {\n        return;\n      }\n      // Note: compMeta is a component and therefore template is
non null.\n      compMeta.template !.styleUrls.forEach((styleUrl) => {\n        const normalizedUrl =
this._host.resourceNameToFileName(styleUrl, file.fileName);\n        if (!normalizedUrl) {\n          throw
syntaxError(`Couldn't resolve
 resource ${styleUrl} relative to ${file.fileName}`);\n        }\n        const needsShim = (compMeta.template
!.encapsulation ||\n                this._config.defaultEncapsulation) === ViewEncapsulation.Emulated;\n
genFileNames.push(_stylesModuleUrl(normalizedUrl, needsShim, fileSuffix));\n        if
(this._options.allowEmptyCodegenFiles) {\n          genFileNames.push(_stylesModuleUrl(normalizedUrl,
!needsShim, fileSuffix));\n        }\n      });\n    });\n    return genFileNames;\n  }\n\n  emitBasicStub(genFileName:
string, originalFileName?: string): GeneratedFile {\n    const outputCtx =
this._createOutputContext(genFileName);\n    if (genFileName.endsWith('.ngfactory.ts')) {\n      if
(!originalFileName) {\n        throw new Error(\n            `Assertion error: require the original file for .ngfactory.ts
stubs. File: ${\n                genFileName}`);\n      }\n      const originalFile = this._analyzeFile(originalFileName);\n
this._createNgFactoryStub(outputCtx,
 originalFile, StubEmitFlags.Basic);\n    } else if (genFileName.endsWith('.ngsummary.ts')) {\n      if
(this._options.enableSummariesForJit) {\n        if (!originalFileName) {\n          throw new Error(\n
`Assertion error: require the original file for .ngsummary.ts stubs. File: ${\n                genFileName}`);\n        }\n
  const originalFile = this._analyzeFile(originalFileName);\n        _createEmptyStub(outputCtx);\n
originalFile.ngModules.forEach(ngModule => {\n          // create exports that user code can reference\n
createForJitStub(outputCtx, ngModule.type.reference);\n        });\n      }\n    } else if
(genFileName.endsWith('.ngstyle.ts')) {\n      _createEmptyStub(outputCtx);\n    }\n    // Note: for the stubs, we don't
need a property srcFileUrl,\n    // as later on in emitAllImpls we will create the proper GeneratedFiles with the\n    //
correct srcFileUrl.\n    // This is good as e.g. for .ngstyle.ts files we can't derive\n
  // the url of components based on the genFileUrl.\n    return this._codegenSourceModule('unknown', outputCtx);\n
}\n\n  emitTypeCheckStub(genFileName: string, originalFileName: string): GeneratedFile|null {\n    const
```

```
originalFile = this._analyzeFile(originalFileName);\n    const outputCtx =
this._createOutputContext(genFileName);\n    if (genFileName.endsWith('.ngfactory.ts')) {\n
this._createNgFactoryStub(outputCtx, originalFile, StubEmitFlags.TypeCheck);\n    }\n    return
outputCtx.statements.length > 0 ?\n        this._codegenSourceModule(originalFile.fileName, outputCtx) :\n
null;\n  }\n\n  loadFilesAsync(fileNames: string[], tsFiles: string[]): Promise<\n      {analyzedModules:
NgAnalyzedModules, analyzedInjectables: NgAnalyzedFileWithInjectables[]}> {\n    const files =
fileNames.map(fileName => this._analyzeFile(fileName));\n    const loadingPromises:
Promise<NgAnalyzedModules>[] = [];\n    files.forEach(\n        file => file.ngModules.forEach(\n
   ngModule =>\n
loadingPromises.push(this._metadataResolver.loadNgModuleDirectiveAndPipeMetadata(\n
ngModule.type.reference, false))));\n    const analyzedInjectables = tsFiles.map(tsFile =>
this._analyzeFileForInjectables(tsFile));\n    return Promise.all(loadingPromises).then(_ => ({\n
          analyzedModules: mergeAndValidateNgFiles(files),\n                                    analyzedInjectables:
analyzedInjectables,\n                                    }));\n  }\n\n  loadFilesSync(fileNames: string[], tsFiles:
string[]):\n      {analyzedModules: NgAnalyzedModules, analyzedInjectables: NgAnalyzedFileWithInjectables[]}
{\n    const files = fileNames.map(fileName => this._analyzeFile(fileName));\n    files.forEach(\n        file =>
file.ngModules.forEach(\n            ngModule =>
this._metadataResolver.loadNgModuleDirectiveAndPipeMetadata(\n                ngModule.type.reference, true)));\n
   const analyzedInjectables = tsFiles.map(tsFile => this._analyzeFileForInjectables(tsFile));\n    return {\n
analyzedModules: mergeAndValidateNgFiles(files),\n      analyzedInjectables: analyzedInjectables,\n    };\n  }\n\n
private _createNgFactoryStub(\n      outputCtx: OutputContext, file: NgAnalyzedFile, emitFlags: StubEmitFlags)
{\n    let componentId = 0;\n    file.ngModules.forEach((ngModuleMeta, ngModuleIndex) => {\n      // Note: the
code below needs to executed for StubEmitFlags.Basic and StubEmitFlags.TypeCheck,\n      // so we don't change
the .ngfactory file too much when adding the type-check block.\n\n      // create exports that user code can
reference\n      this._ngModuleCompiler.createStub(outputCtx, ngModuleMeta.type.reference);\n\n      // add
references to the symbols from the metadata.\n      // These can be used by the type check block for components,\n
// and they also cause TypeScript to include these files into the program too,\n      // which will
 make them part of the analyzedFiles.\n      const externalReferences: StaticSymbol[] = [\n        // Add references that
are available from all the modules and imports.\n        ...ngModuleMeta.transitiveModule.directives.map(d =>
d.reference),\n        ...ngModuleMeta.transitiveModule.pipes.map(d => d.reference),\n
...ngModuleMeta.importedModules.map(m => m.type.reference),\n        ...ngModuleMeta.exportedModules.map(m
=> m.type.reference),\n\n        // Add references that might be inserted by the template compiler.\n
...this._externalIdentifierReferences([Identifiers.TemplateRef, Identifiers.ElementRef]),\n      ];\n\n      const
externalReferenceVars = new Map<any, string>();\n      externalReferences.forEach((ref, typeIndex) => {\n
externalReferenceVars.set(ref, `_decl${ngModuleIndex}_${typeIndex}`);\n      });\n
externalReferenceVars.forEach((varName, reference) => {\n        outputCtx.statements.push(\n
o.variable(varName)\n
  .set(o.NULL_EXPR.cast(o.DYNAMIC_TYPE))\n
.toDeclStmt(o.expressionType(outputCtx.importExpr(\n                reference, /* typeParams */ null, /*
useSummaries */ false))));\n      });\n\n      if (emitFlags & StubEmitFlags.TypeCheck) {\n        // add the type-check
block for all components of the NgModule\n        ngModuleMeta.declaredDirectives.forEach((dirId) => {\n
const compMeta = this._metadataResolver.getDirectiveMetadata(dirId.reference);\n          if
(!compMeta.isComponent) {\n            return;\n          }\n          componentId++;\n
this._createTypeCheckBlock(\n              outputCtx, `${compMeta.type.reference.name}_Host_${componentId}`,
ngModuleMeta,\n              this._metadataResolver.getHostComponentMetadata(compMeta), [compMeta.type],\n
     externalReferenceVars);\n          this._createTypeCheckBlock(\n              outputCtx,
`${compMeta.type.reference.name}_${componentId}`, ngModuleMeta, compMeta,\n
ngModuleMeta.transitiveModule.directives,
```

```
externalReferenceVars);\n      });\n    }\n  });\n\n  if (outputCtx.statements.length === 0) {\n
_createEmptyStub(outputCtx);\n  }\n }\n\n  private _externalIdentifierReferences(references:
o.ExternalReference[]): StaticSymbol[] {\n  const result: StaticSymbol[] = [];\n  for (let reference of references)
{\n    const token = createTokenForExternalReference(this.reflector, reference);\n    if (token.identifier) {\n
result.push(token.identifier.reference);\n    }\n  }\n  return result;\n }\n\n  private _createTypeCheckBlock(\n
ctx: OutputContext, componentId: string, moduleMeta: CompileNgModuleMetadata,\n    compMeta:
CompileDirectiveMetadata, directives: CompileIdentifierMetadata[],\n    externalReferenceVars: Map<any,
string>) {\n  const {template: parsedTemplate, pipes: usedPipes} =\n      this._parseTemplate(compMeta,
moduleMeta, directives);\n  ctx.statements.push(...this._typeCheckCompiler.compileComponent(\n
componentId, compMeta, parsedTemplate, usedPipes, externalReferenceVars, ctx));\n }\n\n
emitMessageBundle(analyzeResult: NgAnalyzedModules, locale: string|null): MessageBundle {\n  const errors:
ParseError[] = [];\n  const htmlParser = new HtmlParser();\n\n  // TODO(vicb): implicit tags & attributes\n
const messageBundle = new MessageBundle(htmlParser, [], {}, locale);\n\n  analyzeResult.files.forEach(file =>
{\n    const compMetas: CompileDirectiveMetadata[] = [];\n    file.directives.forEach(directiveType => {\n
const dirMeta = this._metadataResolver.getDirectiveMetadata(directiveType);\n      if (dirMeta &&
dirMeta.isComponent) {\n        compMetas.push(dirMeta);\n      }\n    });\n    compMetas.forEach(compMeta
=> {\n      const html = compMeta.template !.template !;\n      // Template URL points to either an HTML or TS
file depending on whether\n      // the file is used with `templateUrl:` or `template:`, respectively.\n
const templateUrl = compMeta.template !.templateUrl!;\n      const interpolationConfig =\n
InterpolationConfig.fromArray(compMeta.template !.interpolation);\n
errors.push(...messageBundle.updateFromTemplate(html, templateUrl, interpolationConfig)!);\n    });\n  });\n\n
if (errors.length) {\n    throw new Error(errors.map(e => e.toString()).join('\\n'));\n  }\n\n  return
messageBundle;\n }\n\n  emitAllPartialModules(\n    {ngModuleByPipeOrDirective, files}:
NgAnalyzedModules,\n    r3Files: NgAnalyzedFileWithInjectables[]): PartialModule[] {\n  const contextMap =
new Map<string, OutputContext>();\n\n  const getContext = (fileName: string): OutputContext => {\n    if
(!contextMap.has(fileName)) {\n      contextMap.set(fileName, this._createOutputContext(fileName));\n    }\n
return contextMap.get(fileName)!;\n  };\n\n  files.forEach(\n      file => this._compilePartialModule(\n
file.fileName, ngModuleByPipeOrDirective,
file.directives, file.pipes, file.ngModules,\n          file.injectables, getContext(file.fileName)));\n
r3Files.forEach(\n      file => this._compileShallowModules(\n          file.fileName, file.shallowModules,
getContext(file.fileName)));\n\n  return Array.from(contextMap.values())\n      .map(context => ({\n
fileName: context.genFilePath,\n          statements: [...context.constantPool.statements, ...context.statements],\n
}));\n }\n\n  private _compileShallowModules(\n    fileName: string, shallowModules:
CompileShallowModuleMetadata[],\n    context: OutputContext): void {\n  shallowModules.forEach(module =>
compileR3Module(context, module, this._injectableCompiler));\n }\n\n  private _compilePartialModule(\n
fileName: string, ngModuleByPipeOrDirective: Map<StaticSymbol, CompileNgModuleMetadata>,\n    directives:
StaticSymbol[], pipes: StaticSymbol[], ngModules: CompileNgModuleMetadata[],\n    injectables:
CompileInjectableMetadata[], context: OutputContext): void {\n  const errors: ParseError[] = [];\n\n  const
schemaRegistry = new DomElementSchemaRegistry();\n  const hostBindingParser = new BindingParser(\n
this._templateParser.expressionParser, DEFAULT_INTERPOLATION_CONFIG, schemaRegistry, [],\n
errors);\n\n  // Process all components and directives\n  directives.forEach(directiveType => {\n    const
directiveMetadata = this._metadataResolver.getDirectiveMetadata(directiveType);\n    if
(directiveMetadata.isComponent) {\n      const module = ngModuleByPipeOrDirective.get(directiveType)!;\n
module ||\n          error(`Cannot determine the module for component '${\n
identifierName(directiveMetadata.type)}'`);\n\n      let htmlAst = directiveMetadata.template !.htmlAst!;\n
const preserveWhitespaces = directiveMetadata!.template !.preserveWhitespaces;\n\n      if (!preserveWhitespaces)
{\n        htmlAst = removeWhitespaces(htmlAst);\n
```

```
}\n const render3Ast = htmlAstToRender3Ast(htmlAst.rootNodes, hostBindingParser);\n\n // Map of StaticType by directive selectors\n const directiveTypeBySel = new Map<string, any>();\n\n const directives = module.transitiveModule.directives.map(\n dir => this._metadataResolver.getDirectiveSummary(dir.reference));\n\n directives.forEach(directive => {\n if (directive.selector) {\n directiveTypeBySel.set(directive.selector, directive.type.reference);\n }\n });\n\n // Map of StaticType by pipe names\n const pipeTypeByName = new Map<string, any>();\n\n const pipes = module.transitiveModule.pipes.map(\n pipe => this._metadataResolver.getPipeSummary(pipe.reference));\n\n pipes.forEach(pipe => {\n pipeTypeByName.set(pipe.name, pipe.type.reference);\n });\n\n compileR3Component(\n context, directiveMetadata, render3Ast,
 this.reflector, hostBindingParser,\n directiveTypeBySel, pipeTypeByName);\n } else {\n compileR3Directive(context, directiveMetadata, this.reflector, hostBindingParser);\n }\n });\n\n pipes.forEach(pipeType => {\n const pipeMetadata = this._metadataResolver.getPipeMetadata(pipeType);\n if (pipeMetadata) {\n compileR3Pipe(context, pipeMetadata, this.reflector);\n }\n });\n\n injectables.forEach(injectable => this._injectableCompiler.compile(injectable, context));\n }\n\n emitAllPartialModules2(files: NgAnalyzedFileWithInjectables[]): PartialModule[] {\n // Using reduce like this is a select many pattern (where map is a select pattern)\n return files.reduce<PartialModule[]>((r, file) => {\n r.push(...this._emitPartialModule2(file.fileName, file.injectables));\n return r;\n }, []);\n }\n\n private _emitPartialModule2(fileName: string, injectables: CompileInjectableMetadata[]):\n PartialModule[] {\n const context = this._createOutputContext(fileName);\n\n injectables.forEach(injectable => this._injectableCompiler.compile(injectable, context));\n\n if (context.statements && context.statements.length > 0) {\n return [{fileName, statements: [...context.constantPool.statements, ...context.statements]}];\n }\n return [];\n }\n\n emitAllImpls(analyzeResult: NgAnalyzedModules): GeneratedFile[] {\n const {ngModuleByPipeOrDirective, files} = analyzeResult;\n const sourceModules = files.map(\n file => this._compileImplFile(\n file.fileName, ngModuleByPipeOrDirective, file.directives, file.pipes, file.ngModules,\n file.injectables));\n return flatten(sourceModules);\n }\n\n private _compileImplFile(\n srcFileUrl: string, ngModuleByPipeOrDirective: Map<StaticSymbol, CompileNgModuleMetadata>,\n directives: StaticSymbol[], pipes: StaticSymbol[], ngModules: CompileNgModuleMetadata[],\n injectables: CompileInjectableMetadata[]):
 GeneratedFile[] {\n const fileSuffix = normalizeGenFileSuffix(splitTypescriptSuffix(srcFileUrl, true)[1]);\n const generatedFiles: GeneratedFile[] = [];\n\n const outputCtx = this._createOutputContext(ngfactoryFilePath(srcFileUrl, true));\n\n generatedFiles.push(\n ...this._createSummary(srcFileUrl, directives, pipes, ngModules, injectables, outputCtx));\n\n // compile all ng modules\n ngModules.forEach((ngModuleMeta) => this._compileModule(outputCtx, ngModuleMeta));\n\n // compile components\n directives.forEach((dirType) => {\n const compMeta = this._metadataResolver.getDirectiveMetadata(<any>dirType);\n if (!compMeta.isComponent) {\n return;\n }\n const ngModule = ngModuleByPipeOrDirective.get(dirType);\n if (!ngModule) {\n throw new Error(`Internal Error: cannot determine the module for component ${\n identifierName(compMeta.type)}!`);\n }\n\n // compile styles\n const componentStylesheet
 = this._styleCompiler.compileComponent(outputCtx, compMeta);\n // Note: compMeta is a component and therefore template is non null.\n compMeta.template !.externalStylesheets.forEach((stylesheetMeta) => {\n // Note: fill non shim and shim style files as they might\n // be shared by component with and without ViewEncapsulation.\n const shim = this._styleCompiler.needsStyleShim(compMeta);\n generatedFiles.push(\n this._codegenStyles(srcFileUrl, compMeta, stylesheetMeta, shim, fileSuffix));\n if (this._options.allowEmptyCodegenFiles) {\n generatedFiles.push(\n this._codegenStyles(srcFileUrl, compMeta, stylesheetMeta, !shim, fileSuffix));\n }\n });\n\n // compile components\n const compViewVars = this._compileComponent(\n outputCtx, compMeta, ngModule, ngModule.transitiveModule.directives, componentStylesheet,\n fileSuffix);\n
```

```
this._compileComponentFactory(outputCtx,
 compMeta, ngModule, fileSuffix);\n    });\n    if (outputCtx.statements.length > 0 ||
this._options.allowEmptyCodegenFiles) {\n      const srcModule = this._codegenSourceModule(srcFileUrl,
outputCtx);\n      generatedFiles.unshift(srcModule);\n    }\n    return generatedFiles;\n  }\n\n  private
_createSummary(\n      srcFileName: string, directives: StaticSymbol[], pipes: StaticSymbol[],\n      ngModules:
CompileNgModuleMetadata[], injectables: CompileInjectableMetadata[],\n      ngFactoryCtx: OutputContext):
GeneratedFile[] {\n    const symbolSummaries = this._symbolResolver.getSymbolsOf(srcFileName)\n
      .map(symbol => this._symbolResolver.resolveSymbol(symbol));\n    const typeData: {\n      summary:
CompileTypeSummary,\n      metadata:
CompileNgModuleMetadata|CompileDirectiveMetadata|CompilePipeMetadata|\n      CompileTypeMetadata\n    }[]
=\n        [\n          ...ngModules.map(\n              meta => ({\n                summary:
this._metadataResolver.getNgModuleSummary(meta.type.reference)!,\n
              metadata: this._metadataResolver.getNgModuleMetadata(meta.type.reference)!\n            })),\n
...directives.map(ref => ({\n                summary: this._metadataResolver.getDirectiveSummary(ref)!,\n
              metadata: this._metadataResolver.getDirectiveMetadata(ref)!\n                        })),\n
...pipes.map(ref => ({\n                    summary: this._metadataResolver.getPipeSummary(ref)!,\n
metadata: this._metadataResolver.getPipeMetadata(ref)!\n                    })),\n          ...injectables.map(\n              ref
=> ({\n              summary: this._metadataResolver.getInjectableSummary(ref.symbol)!,\n              metadata:
this._metadataResolver.getInjectableSummary(ref.symbol)!.type\n            }))\n        ];\n    const forJitOutputCtx =
this._options.enableSummariesForJit ?\n        this._createOutputContext(summaryForJitFileName(srcFileName,
 true)) :\n        null;\n    const {json, exportAs} = serializeSummaries(\n        srcFileName, forJitOutputCtx,
this._summaryResolver, this._symbolResolver, symbolSummaries,\n        typeData,
this._options.createExternalSymbolFactoryReexports);\n    exportAs.forEach((entry) => {\n
ngFactoryCtx.statements.push(\n
o.variable(entry.exportAs).set(ngFactoryCtx.importExpr(entry.symbol)).toDeclStmt(null, [\n
o.StmtModifier.Exported\n        ]));\n    });\n    const summaryJson = new GeneratedFile(srcFileName,
summaryFileName(srcFileName), json);\n    const result = [summaryJson];\n    if (forJitOutputCtx) {\n
result.push(this._codegenSourceModule(srcFileName, forJitOutputCtx));\n    }\n    return result;\n  }\n\n  private
_compileModule(outputCtx: OutputContext, ngModule: CompileNgModuleMetadata): void {\n    const providers:
CompileProviderMetadata[] = [];\n\n    if (this._options.locale) {\n      const normalizedLocale
 = this._options.locale.replace(/_/g, '-');\n      providers.push({\n        token:
createTokenForExternalReference(this.reflector, Identifiers.LOCALE_ID),\n        useValue: normalizedLocale,\n
});\n    }\n\n    if (this._options.i18nFormat) {\n      providers.push({\n        token:
createTokenForExternalReference(this.reflector, Identifiers.TRANSLATIONS_FORMAT),\n        useValue:
this._options.i18nFormat\n      });\n    }\n\n    this._ngModuleCompiler.compile(outputCtx, ngModule, providers);\n
}\n\n  private _compileComponentFactory(\n      outputCtx: OutputContext, compMeta:
CompileDirectiveMetadata,\n      ngModule: CompileNgModuleMetadata, fileSuffix: string): void {\n    const
hostMeta = this._metadataResolver.getHostComponentMetadata(compMeta);\n    const hostViewFactoryVar =\n
this._compileComponent(outputCtx, hostMeta, ngModule, [compMeta.type], null, fileSuffix)\n
.viewClassVar;\n    const compFactoryVar = componentFactoryName(compMeta.type.reference);\n
    const inputsExprs: o.LiteralMapEntry[] = [];\n    for (let propName in compMeta.inputs) {\n      const
templateName = compMeta.inputs[propName];\n      // Don't quote so that the key gets minified...\n
inputsExprs.push(new o.LiteralMapEntry(propName, o.literal(templateName), false));\n    }\n    const outputsExprs:
o.LiteralMapEntry[] = [];\n    for (let propName in compMeta.outputs) {\n      const templateName =
compMeta.outputs[propName];\n      // Don't quote so that the key gets minified...\n      outputsExprs.push(new
o.LiteralMapEntry(propName, o.literal(templateName), false));\n    }\n\n    outputCtx.statements.push(\n
o.variable(compFactoryVar)\n            .set(o.importExpr(Identifiers.createComponentFactory).callFn([\n
o.literal(compMeta.selector), outputCtx.importExpr(compMeta.type.reference),\n
```

```
o.variable(hostViewFactoryVar), new o.LiteralMapExpr(inputsExprs),\n            new
o.LiteralMapExpr(outputsExprs),\n            o.literalArr(\n
              compMeta.template !.ngContentSelectors.map(selector => o.literal(selector)))\n            ]))\n
.toDeclStmt(\n            o.importType(\n                Identifiers.ComponentFactory,\n
[o.expressionType(outputCtx.importExpr(compMeta.type.reference))!],\n                [o.TypeModifier.Const]),\n
        [o.StmtModifier.Final, o.StmtModifier.Exported]));\n  }\n\n  private _compileComponent(\n      outputCtx:
OutputContext, compMeta: CompileDirectiveMetadata,\n      ngModule: CompileNgModuleMetadata,
directiveIdentifiers: CompileIdentifierMetadata[],\n      componentStyles: CompiledStylesheet|null, fileSuffix:
string): ViewCompileResult {\n    const {template: parsedTemplate, pipes: usedPipes} =\n
this._parseTemplate(compMeta, ngModule, directiveIdentifiers);\n    const stylesExpr = componentStyles ?
o.variable(componentStyles.stylesVar) : o.literalArr([]);\n    const viewResult =
this._viewCompiler.compileComponent(\n        outputCtx, compMeta, parsedTemplate, stylesExpr, usedPipes);\n    if (componentStyles) {\n
_resolveStyleStatements(\n          this._symbolResolver, componentStyles,
this._styleCompiler.needsStyleShim(compMeta),\n          fileSuffix);\n    }\n    return viewResult;\n  }\n\n  private
_parseTemplate(\n      compMeta: CompileDirectiveMetadata, ngModule: CompileNgModuleMetadata,\n
directiveIdentifiers: CompileIdentifierMetadata[]):\n      {template: TemplateAst[], pipes: CompilePipeSummary[]}
{\n    if (this._templateAstCache.has(compMeta.type.reference)) {\n      return
this._templateAstCache.get(compMeta.type.reference)!;\n    }\n    const preserveWhitespaces = compMeta!.template
!.preserveWhitespaces;\n    const directives =\n        directiveIdentifiers.map(dir =>
this._metadataResolver.getDirectiveSummary(dir.reference));\n    const pipes =
ngModule.transitiveModule.pipes.map(\n        pipe => this._metadataResolver.getPipeSummary(pipe.reference));\n
  const result = this._templateParser.parse(\n        compMeta, compMeta.template !.htmlAst!, directives, pipes,
ngModule.schemas,\n        templateSourceUrl(ngModule.type, compMeta, compMeta.template !),
preserveWhitespaces);\n    this._templateAstCache.set(compMeta.type.reference, result);\n    return result;\n  }\n\n
private _createOutputContext(genFilePath: string): OutputContext {\n    const importExpr =\n        (symbol:
StaticSymbol, typeParams: o.Type[]|null = null, useSummaries: boolean = true) => {\n          if (!(symbol instanceof
StaticSymbol)) {\n            throw new Error(`Internal error: unknown identifier ${JSON.stringify(symbol)}`);\n
}\n          const arity = this._symbolResolver.getTypeArity(symbol) || 0;\n          const {filePath, name, members} =\n
          this._symbolResolver.getImportAs(symbol, useSummaries) || symbol;\n          const importModule =
this._fileNameToModuleName(filePath, genFilePath);\n\n          // It should be good enough to
 compare filePath to genFilePath and if they are equal\n          // there is a self reference. However, ngfactory files
generate to .ts but their\n          // symbols have .d.ts so a simple compare is insufficient. They should be canonical\n
        // and is tracked by #17705.\n          const selfReference = this._fileNameToModuleName(genFilePath,
genFilePath);\n          const moduleName = importModule === selfReference ? null : importModule;\n\n          // If
we are in a type expression that refers to a generic type then supply\n          // the required type parameters. If there
were not enough type parameters\n          // supplied, supply any as the type. Outside a type expression the
reference\n          // should not supply type parameters and be treated as a simple value reference\n          // to the
constructor function itself.\n          const suppliedTypeParams = typeParams || [];\n          const
missingTypeParamsCount = arity - suppliedTypeParams.length;\n          const
 allTypeParams =\n              suppliedTypeParams.concat(newArray(missingTypeParamsCount,
o.DYNAMIC_TYPE));\n          return members.reduce(\n              (expr, memberName) =>
expr.prop(memberName),\n              <o.Expression>o.importExpr(\n                  new
o.ExternalReference(moduleName, name, null), allTypeParams));\n        };\n\n    return {statements: [], genFilePath,
importExpr, constantPool: new ConstantPool()};\n  }\n\n  private _fileNameToModuleName(importedFilePath:
string, containingFilePath: string): string {\n    return
this._summaryResolver.getKnownModuleName(importedFilePath) ||\n
this._symbolResolver.getKnownModuleName(importedFilePath) ||\n
```

```
this._host.fileNameToModuleName(importedFilePath, containingFilePath);\n  }\n\n  private _codegenStyles(\n srcFileUrl: string, compMeta: CompileDirectiveMetadata,\n      stylesheetMetadata: CompileStylesheetMetadata, isShimmed: boolean,\n      fileSuffix: string): GeneratedFile {\n    const outputCtx
 = this._createOutputContext(\n        _stylesModuleUrl(stylesheetMetadata.moduleUrl!, isShimmed, fileSuffix));\n const compiledStylesheet =\n        this._styleCompiler.compileStyles(outputCtx, compMeta, stylesheetMetadata, isShimmed);\n    _resolveStyleStatements(this._symbolResolver, compiledStylesheet, isShimmed, fileSuffix);\n return this._codegenSourceModule(srcFileUrl, outputCtx);\n  }\n\n  private _codegenSourceModule(srcFileUrl: string, ctx: OutputContext): GeneratedFile {\n    return new GeneratedFile(srcFileUrl, ctx.genFilePath, ctx.statements);\n  }\n\n  listLazyRoutes(entryRoute?: string, analyzedModules?: NgAnalyzedModules): LazyRoute[] {\n    const self = this;\n    if (entryRoute) {\n      const symbol = parseLazyRoute(entryRoute, this.reflector).referencedModule;\n      return visitLazyRoute(symbol);\n    } else if (analyzedModules) {\n      const allLazyRoutes: LazyRoute[] = [];\n      for (const ngModule of analyzedModules.ngModules) {\n        const lazyRoutes
 = listLazyRoutes(ngModule, this.reflector);\n        for (const lazyRoute of lazyRoutes) {\n allLazyRoutes.push(lazyRoute);\n        }\n      }\n      return allLazyRoutes;\n    } else {\n      throw new Error(`Either route or analyzedModules has to be specified!`);\n    }\n\n    function visitLazyRoute(\n        symbol: StaticSymbol, seenRoutes = new Set<StaticSymbol>(),\n        allLazyRoutes: LazyRoute[] = []): LazyRoute[] {\n      // Support pointing to default exports, but stop recursing there,\n      // as the StaticReflector does not yet support default exports.\n      if (seenRoutes.has(symbol) || !symbol.name) {\n        return allLazyRoutes;\n      }\n seenRoutes.add(symbol);\n      const lazyRoutes =\n listLazyRoutes(self._metadataResolver.getNgModuleMetadata(symbol, true)!, self.reflector);\n      for (const lazyRoute of lazyRoutes) {\n        allLazyRoutes.push(lazyRoute);\n visitLazyRoute(lazyRoute.referencedModule, seenRoutes, allLazyRoutes);\n
    }\n      return allLazyRoutes;\n    }\n  }\n}\n\nfunction _createEmptyStub(outputCtx: OutputContext) {\n  // Note: We need to produce at least one import statement so that\n  // TypeScript knows that the file is an es6 module. Otherwise our generated\n  // exports / imports won't be emitted properly by TypeScript.\n outputCtx.statements.push(o.importExpr(Identifiers.ComponentFactory).toStmt());\n}\n\n\nfunction _resolveStyleStatements(\n    symbolResolver: StaticSymbolResolver, compileResult: CompiledStylesheet, needsShim: boolean,\n    fileSuffix: string): void {\n  compileResult.dependencies.forEach((dep) => {\n dep.setValue(symbolResolver.getStaticSymbol(\n        _stylesModuleUrl(dep.moduleUrl, needsShim, fileSuffix), dep.name));\n  });\n}\n\nfunction _stylesModuleUrl(stylesheetUrl: string, shim: boolean, suffix: string): string {\n return `${stylesheetUrl}${shim ? '.shim' : ''}.ngstyle${suffix}`;\n}\n\n\nexport interface NgAnalyzedModules {\n ngModules: CompileNgModuleMetadata[];\n
  ngModuleByPipeOrDirective: Map<StaticSymbol, CompileNgModuleMetadata>;\n  files: NgAnalyzedFile[];\n symbolsMissingModule?: StaticSymbol[];\n}\n\nexport interface NgAnalyzedFileWithInjectables {\n  fileName: string;\n  injectables: CompileInjectableMetadata[];\n  shallowModules: CompileShallowModuleMetadata[];\n}\n\nexport interface NgAnalyzedFile {\n  fileName: string;\n  directives: StaticSymbol[];\n  abstractDirectives: StaticSymbol[];\n  pipes: StaticSymbol[];\n  ngModules: CompileNgModuleMetadata[];\n  injectables: CompileInjectableMetadata[];\n  exportsNonSourceFiles: boolean;\n}\n\nexport interface NgAnalyzeModulesHost {\n  isSourceFile(filePath: string): boolean;\n}\n\nexport function analyzeNgModules(\n    fileNames: string[], host: NgAnalyzeModulesHost, staticSymbolResolver: StaticSymbolResolver,\n    metadataResolver: CompileMetadataResolver): NgAnalyzedModules {\n  const files = _analyzeFilesIncludingNonProgramFiles(\n      fileNames, host, staticSymbolResolver,
 metadataResolver);\n  return mergeAnalyzedFiles(files);\n}\n\nexport function analyzeAndValidateNgModules(\n fileNames: string[], host: NgAnalyzeModulesHost, staticSymbolResolver: StaticSymbolResolver,\n metadataResolver: CompileMetadataResolver): NgAnalyzedModules {\n  return validateAnalyzedModules(\n analyzeNgModules(fileNames, host, staticSymbolResolver, metadataResolver));\n}\n\nfunction validateAnalyzedModules(analyzedModules: NgAnalyzedModules): NgAnalyzedModules {\n  if
```

(analyzedModules.symbolsMissingModule && analyzedModules.symbolsMissingModule.length) {\n const messages = analyzedModules.symbolsMissingModule.map(\n s => `Cannot determine the module for class ${s.name} in ${s.filePath}! Add ${\n s.name} to the NgModule to fix it.`);\n throw syntaxError(messages.join('\\n'));\n }\n return analyzedModules;\n}\n\n// Analyzes all of the program files,\n// including files that are not part of the program\n// but are referenced by an NgModule.\nfunction _analyzeFilesIncludingNonProgramFiles(\n fileNames: string[], host: NgAnalyzeModulesHost, staticSymbolResolver: StaticSymbolResolver,\n metadataResolver: CompileMetadataResolver): NgAnalyzedFile[] {\n const seenFiles = new Set<string>();\n const files: NgAnalyzedFile[] = [];\n\n const visitFile = (fileName: string) => {\n if (seenFiles.has(fileName) || !host.isSourceFile(fileName)) {\n return false;\n }\n seenFiles.add(fileName);\n const analyzedFile = analyzeFile(host, staticSymbolResolver, metadataResolver, fileName);\n files.push(analyzedFile);\n analyzedFile.ngModules.forEach(ngModule => {\n ngModule.transitiveModule.modules.forEach(modMeta => visitFile(modMeta.reference.filePath));\n });\n };\n fileNames.forEach((fileName) => visitFile(fileName));\n return files;\n}\n\nexport function analyzeFile(\n host: NgAnalyzeModulesHost, staticSymbolResolver: StaticSymbolResolver,\n metadataResolver: CompileMetadataResolver, fileName: string): NgAnalyzedFile {\n const abstractDirectives: StaticSymbol[] = [];\n const directives: StaticSymbol[] = [];\n const pipes: StaticSymbol[] = [];\n const injectables: CompileInjectableMetadata[] = [];\n const ngModules: CompileNgModuleMetadata[] = [];\n const hasDecorators = staticSymbolResolver.hasDecorators(fileName);\n let exportsNonSourceFiles = false;\n const isDeclarationFile = fileName.endsWith('.d.ts');\n // Don't analyze .d.ts files that have no decorators as a shortcut\n // to speed up the analysis. This prevents us from\n // resolving the references in these files.\n // Note: exportsNonSourceFiles is only needed when compiling with summaries,\n // which is not the case when .d.ts files are treated as input files.\n if (!isDeclarationFile || hasDecorators) {\n staticSymbolResolver.getSymbolsOf(fileName).forEach((symbol) => {\n const resolvedSymbol = staticSymbolResolver.resolveSymbol(symbol);\n const symbolMeta = resolvedSymbol.metadata;\n if (!symbolMeta || symbolMeta.__symbolic === 'error') {\n return;\n }\n let isNgSymbol = false;\n if (symbolMeta.__symbolic === 'class') {\n if (metadataResolver.isDirective(symbol)) {\n isNgSymbol = true;\n // This directive either has a selector or doesn't. Selector-less directives get tracked\n // in abstractDirectives, not directives. The compiler doesn't deal with selector-less\n // directives at all, really, other than to persist their metadata. This is done so that\n // apps will have an easier time migrating to Ivy, which requires the selector-less\n // annotations to be applied.\n if (!metadataResolver.isAbstractDirective(symbol)) {\n // The directive is an ordinary directive.\n directives.push(symbol);\n } else {\n // The directive has no selector and is an \"abstract\" directive, so track it\n // accordingly.\n abstractDirectives.push(symbol);\n }\n } else if (metadataResolver.isPipe(symbol)) {\n isNgSymbol = true;\n pipes.push(symbol);\n } else if (metadataResolver.isNgModule(symbol)) {\n const ngModule = metadataResolver.getNgModuleMetadata(symbol, false);\n if (ngModule) {\n isNgSymbol = true;\n ngModules.push(ngModule);\n }\n } else if (metadataResolver.isInjectable(symbol)) {\n isNgSymbol = true;\n const injectable = metadataResolver.getInjectableMetadata(symbol, null, false);\n if (injectable) {\n injectables.push(injectable);\n }\n }\n }\n if (!isNgSymbol) {\n exportsNonSourceFiles =\n exportsNonSourceFiles || isValueExportingNonSourceFile(host, symbolMeta);\n }\n });\n }\n return {\n fileName,\n directives,\n abstractDirectives,\n pipes,\n ngModules,\n injectables,\n exportsNonSourceFiles,\n };\n}\n\nexport function analyzeFileForInjectables(\n host: NgAnalyzeModulesHost, staticSymbolResolver: StaticSymbolResolver,\n metadataResolver: CompileMetadataResolver, fileName: string): NgAnalyzedFileWithInjectables {\n const injectables: CompileInjectableMetadata[] = [];\n const shallowModules: CompileShallowModuleMetadata[] = [];\n if (staticSymbolResolver.hasDecorators(fileName)) {\n staticSymbolResolver.getSymbolsOf(fileName).forEach((symbol) => {\n const resolvedSymbol =

staticSymbolResolver.resolveSymbol(symbol);\n const symbolMeta = resolvedSymbol.metadata;\n if (!symbolMeta || symbolMeta.__symbolic === 'error') {\n return;\n }\n if (symbolMeta.__symbolic === 'class') {\n if (metadataResolver.isInjectable(symbol)) {\n const injectable = metadataResolver.getInjectableMetadata(symbol, null, false);\n if (injectable) {\n injectables.push(injectable);\n }\n } else if (metadataResolver.isNgModule(symbol)) {\n const module = metadataResolver.getShallowModuleMetadata(symbol);\n if (module) {\n shallowModules.push(module);\n }\n }\n }\n });\n }\n return {fileName, injectables, shallowModules};\n}\n\nfunction isValueExportingNonSourceFile(host: NgAnalyzeModulesHost, metadata: any): boolean {\n let exportsNonSourceFiles = false;\n\n class Visitor implements ValueVisitor {\n visitArray(arr: any[], context: any): any {\n arr.forEach(v => visitValue(v, this, context));\n }\n visitStringMap(map: {[key: string]: any}, context: any): any {\n Object.keys(map).forEach((key) => visitValue(map[key], this, context));\n }\n visitPrimitive(value: any, context: any): any {}\n visitOther(value: any, context: any): any {\n if (value instanceof StaticSymbol && !host.isSourceFile(value.filePath)) {\n exportsNonSourceFiles = true;\n }\n }\n\n visitValue(metadata, new Visitor(), null);\n return exportsNonSourceFiles;\n}\n\nexport function mergeAnalyzedFiles(analyzedFiles: NgAnalyzedFile[]): NgAnalyzedModules {\n const allNgModules: CompileNgModuleMetadata[] = [];\n const ngModuleByPipeOrDirective = new Map<StaticSymbol, CompileNgModuleMetadata>();\n const allPipesAndDirectives = new Set<StaticSymbol>();\n\n analyzedFiles.forEach(af => {\n af.ngModules.forEach(ngModule => {\n allNgModules.push(ngModule);\n ngModule.declaredDirectives.forEach(\n d => ngModuleByPipeOrDirective.set(d.reference, ngModule));\n ngModule.declaredPipes.forEach(p => ngModuleByPipeOrDirective.set(p.reference, ngModule));\n });\n af.directives.forEach(d => allPipesAndDirectives.add(d));\n af.pipes.forEach(p => allPipesAndDirectives.add(p));\n });\n\n const symbolsMissingModule: StaticSymbol[] = [];\n allPipesAndDirectives.forEach(ref => {\n if (!ngModuleByPipeOrDirective.has(ref)) {\n symbolsMissingModule.push(ref);\n }\n });\n return {\n ngModules: allNgModules,\n ngModuleByPipeOrDirective,\n symbolsMissingModule,\n files: analyzedFiles\n };\n}\n\nfunction mergeAndValidateNgFiles(files: NgAnalyzedFile[]): NgAnalyzedModules {\n return validateAnalyzedModules(mergeAnalyzedFiles(files));\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {syntaxError} from '../util';\n\nexport interface Position {\n fileName: string;\n line: number;\n column: number;\n}\n\nexport interface FormattedMessageChain {\n message: string;\n position?: Position;\n next?: FormattedMessageChain[];\n}\n\nexport type FormattedError = Error&{\n chain: FormattedMessageChain;\n position?: Position;\n};\n\nconst FORMATTED_MESSAGE = 'ngFormattedMessage';\n\nfunction indentStr(level: number): string {\n if (level <= 0) return '';\n if (level < 6) return ['', ' ', '  ', '   ', '    ', '     '][level];\n const half = indentStr(Math.floor(level / 2));\n return half + half + (level % 2 === 1 ? ' ' : '');\n}\n\nfunction formatChain(chain: FormattedMessageChain|undefined, indent: number = 0): string {\n if (!chain) return '';\n const position = chain.position ?\n `${chain.position.fileName}(${chain.position.line + 1},${chain.position.column + 1})` :\n '';\n const prefix = position && indent === 0 ? `${position}: ` : '';\n const postfix = position && indent !== 0 ? ` at ${position}` : '';\n let message = `${prefix}${chain.message}${postfix}`;\n\n if (chain.next) {\n for (const kid of chain.next) {\n message += '\\n' + formatChain(kid, indent + 2);\n }\n }\n\n return `${indentStr(indent)}${message}`;\n}\n\nexport function formattedError(chain: FormattedMessageChain): FormattedError {\n const message = formatChain(chain) + '.';\n const error = syntaxError(message) as FormattedError;\n (error as any)[FORMATTED_MESSAGE] = true;\n error.chain = chain;\n error.position = chain.position;\n return error;\n}\n\nexport function isFormattedError(error: Error): error is FormattedError {\n return !!(error as any)[FORMATTED_MESSAGE];\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at

```
https://angular.io/license\n */\n\nimport {CompileSummaryKind} from '../compile_metadata';\nimport
{CompileReflector} from '../compile_reflector';\nimport {createAttribute, createComponent, createContentChild,
createContentChildren, createDirective, createHost, createHostBinding, createHostListener, createInject,
createInjectable, createInput, createNgModule, createOptional, createOutput, createPipe, createSelf, createSkipSelf,
createViewChild, createViewChildren, MetadataFactory} from '../core';\nimport * as o from
'../output/output_ast';\nimport {SummaryResolver} from '../summary_resolver';\nimport
 {syntaxError} from '../util';\n\nimport {formattedError, FormattedMessageChain} from './formatted_error';\nimport
{StaticSymbol} from './static_symbol';\nimport {StaticSymbolResolver} from './static_symbol_resolver';\n\nconst
ANGULAR_CORE = '@angular/core';\nconst ANGULAR_ROUTER = '@angular/router';\n\nconst HIDDEN_KEY
= /^\\$.*\\$$/;\n\nconst IGNORE = {\n  __symbolic: 'ignore'\n};\n\nconst USE_VALUE = 'useValue';\nconst
PROVIDE = 'provide';\nconst REFERENCE_SET = new Set([USE_VALUE, 'useFactory', 'data', 'id',
'loadChildren']);\nconst TYPEGUARD_POSTFIX = 'TypeGuard';\nconst USE_IF = 'UseIf';\n\nfunction
shouldIgnore(value: any): boolean {\n  return value && value.__symbolic == 'ignore';\n}\n\n/**\n * A static
reflector implements enough of the Reflector API that is necessary to compile\n * templates statically.\n */\nexport
class StaticReflector implements CompileReflector {\n  private annotationCache = new Map<StaticSymbol,
any[]>();\n  private shallowAnnotationCache
 = new Map<StaticSymbol, any[]>();\n  private propertyCache = new Map<StaticSymbol, {[key: string]:
any[]}>();\n  private parameterCache = new Map<StaticSymbol, any[]>();\n  private methodCache = new
Map<StaticSymbol, {[key: string]: boolean}>();\n  private staticCache = new Map<StaticSymbol, string[]>();\n
private conversionMap = new Map<StaticSymbol, (context: StaticSymbol, args: any[]) => any>();\n  private
resolvedExternalReferences = new Map<string, StaticSymbol>();\n  // TODO(issue/24571): remove '!'.\n  private
injectionToken!: StaticSymbol;\n  // TODO(issue/24571): remove '!'.\n  private opaqueToken!: StaticSymbol;\n  //
TODO(issue/24571): remove '!'.\n  ROUTES!: StaticSymbol;\n  // TODO(issue/24571): remove '!'.\n  private
ANALYZE_FOR_ENTRY_COMPONENTS!: StaticSymbol;\n  private
annotationForParentClassWithSummaryKind =\n      new Map<CompileSummaryKind,
MetadataFactory<any>[]>();\n\n  constructor(\n      private summaryResolver: SummaryResolver<StaticSymbol>,\n
   private
 symbolResolver: StaticSymbolResolver,\n      knownMetadataClasses: {name: string, filePath: string, ctor: any}[] =
[],\n      knownMetadataFunctions: {name: string, filePath: string, fn: any}[] = [],\n      private errorRecorder?:
(error: any, fileName?: string) => void) {\n    this.initializeConversionMap();\n    knownMetadataClasses.forEach(\n
     (kc) => this._registerDecoratorOrConstructor(\n            this.getStaticSymbol(kc.filePath, kc.name), kc.ctor));\n
knownMetadataFunctions.forEach(\n        (kf) => this._registerFunction(this.getStaticSymbol(kf.filePath, kf.name),
kf.fn));\n    this.annotationForParentClassWithSummaryKind.set(\n        CompileSummaryKind.Directive,
[createDirective, createComponent]);\n
this.annotationForParentClassWithSummaryKind.set(CompileSummaryKind.Pipe, [createPipe]);\n
this.annotationForParentClassWithSummaryKind.set(CompileSummaryKind.NgModule, [createNgModule]);\n
this.annotationForParentClassWithSummaryKind.set(\n        CompileSummaryKind.Injectable,\n
       [createInjectable, createPipe, createDirective, createComponent, createNgModule]);\n  }\n\n
componentModuleUrl(typeOrFunc: StaticSymbol): string {\n    const staticSymbol =
this.findSymbolDeclaration(typeOrFunc);\n    return this.symbolResolver.getResourcePath(staticSymbol);\n  }\n\n
/**\n   * Invalidate the specified `symbols` on program change.\n   * @param symbols\n   */\n
invalidateSymbols(symbols: StaticSymbol[]) {\n    for (const symbol of symbols) {\n
this.annotationCache.delete(symbol);\n      this.shallowAnnotationCache.delete(symbol);\n
this.propertyCache.delete(symbol);\n      this.parameterCache.delete(symbol);\n
this.methodCache.delete(symbol);\n      this.staticCache.delete(symbol);\n      this.conversionMap.delete(symbol);\n
  }\n  }\n\n  resolveExternalReference(ref: o.ExternalReference, containingFile?: string): StaticSymbol {\n    let key:
string|undefined = undefined;\n    if (!containingFile) {\n      key = `${ref.moduleName}:${ref.name}`;\n
```

```
    const declarationSymbol = this.resolvedExternalReferences.get(key);\n      if (declarationSymbol) return declarationSymbol;\n    }\n    const refSymbol =\n        this.symbolResolver.getSymbolByModule(ref.moduleName!, ref.name!, containingFile);\n    const declarationSymbol = this.findSymbolDeclaration(refSymbol);\n    if (!containingFile) {\n      this.symbolResolver.recordModuleNameForFileName(refSymbol.filePath, ref.moduleName!);\n      this.symbolResolver.recordImportAs(declarationSymbol, refSymbol);\n    }\n    if (key) {\n      this.resolvedExternalReferences.set(key, declarationSymbol);\n    }\n    return declarationSymbol;\n  }\n\n  findDeclaration(moduleUrl: string, name: string, containingFile?: string): StaticSymbol {\n    return this.findSymbolDeclaration(\n        this.symbolResolver.getSymbolByModule(moduleUrl, name, containingFile));\n  }\n\n  tryFindDeclaration(moduleUrl: string, name: string, containingFile?: string): StaticSymbol {\n    return this.symbolResolver.ignoreErrorsFor(\n        () => this.findDeclaration(moduleUrl, name, containingFile));\n  }\n\n  findSymbolDeclaration(symbol: StaticSymbol): StaticSymbol {\n    const resolvedSymbol = this.symbolResolver.resolveSymbol(symbol);\n    if (resolvedSymbol) {\n      let resolvedMetadata = resolvedSymbol.metadata;\n      if (resolvedMetadata && resolvedMetadata.__symbolic === 'resolved') {\n        resolvedMetadata = resolvedMetadata.symbol;\n      }\n      if (resolvedMetadata instanceof StaticSymbol) {\n        return this.findSymbolDeclaration(resolvedSymbol.metadata);\n      }\n    }\n    return symbol;\n  }\n\n  public tryAnnotations(type: StaticSymbol): any[] {\n    const originalRecorder = this.errorRecorder;\n    this.errorRecorder = (error: any, fileName?: string) => {};\n    try {\n      return this.annotations(type);\n    } finally {\n      this.errorRecorder = originalRecorder;\n    }\n  }\n\n  public annotations(type: StaticSymbol): any[] {\n    return this._annotations(\n        type, (type: StaticSymbol, decorators: any) => this.simplify(type, decorators),\n        this.annotationCache);\n  }\n\n  public shallowAnnotations(type: StaticSymbol): any[] {\n    return this._annotations(\n        type, (type: StaticSymbol, decorators: any) => this.simplify(type, decorators, true),\n        this.shallowAnnotationCache);\n  }\n\n  private _annotations(\n      type: StaticSymbol, simplify: (type: StaticSymbol, decorators: any) => any,\n      annotationCache: Map<StaticSymbol, any[]>): any[] {\n    let annotations = annotationCache.get(type);\n    if (!annotations) {\n      annotations = [];\n      const classMetadata = this.getTypeMetadata(type);\n      const parentType = this.findParentType(type, classMetadata);\n      if (parentType) {\n        const parentAnnotations = this.annotations(parentType);\n        annotations.push(...parentAnnotations);\n      }\n      let ownAnnotations: any[] = [];\n      if (classMetadata['decorators']) {\n        ownAnnotations = simplify(type, classMetadata['decorators']);\n        if (ownAnnotations) {\n          annotations.push(...ownAnnotations);\n        }\n      }\n      if (parentType &&\n          !this.summaryResolver.isLibraryFile(type.filePath) &&\n          this.summaryResolver.isLibraryFile(parentType.filePath)) {\n        const summary =\n            this.summaryResolver.resolveSummary(parentType);\n        if (summary && summary.type) {\n          const requiredAnnotationTypes =\n              this.annotationForParentClassWithSummaryKind.get(summary.type.summaryKind!)!;\n          const typeHasRequiredAnnotation = requiredAnnotationTypes.some(\n              (requiredType) =>\n                  ownAnnotations.some(ann => requiredType.isTypeOf(ann)));\n          if (!typeHasRequiredAnnotation) {\n            this.reportError(\n                formatMetadataError(\n                    metadataError(\n                        `Class ${type.name} in ${type.filePath} extends from a ${\n                            CompileSummaryKind[summary.type.summaryKind!\n                            ]} in another compilation unit without duplicating the decorator`,\n                        /* summary */ undefined,\n                        `Please add a ${\n                            requiredAnnotationTypes.map((type) => type.ngMetadataName)\n                                .join(' or ')} decorator to the class`),\n                    type),\n                type);\n          }\n        }\n      }\n      annotationCache.set(type, annotations.filter(ann => !!ann));\n    }\n    return annotations;\n  }\n\n  public propMetadata(type: StaticSymbol): {[key: string]: any[]} {\n    let propMetadata = this.propertyCache.get(type);\n    if (!propMetadata) {\n      const classMetadata = this.getTypeMetadata(type);\n      propMetadata = {};\n      const parentType = this.findParentType(type, classMetadata);\n      if (parentType) {\n        const parentPropMetadata = this.propMetadata(parentType);\n        Object.keys(parentPropMetadata).forEach((parentProp)
```

```
=> {\n          propMetadata![parentProp] = parentPropMetadata[parentProp];\n        });\n      }\n\n      const members = classMetadata['members'] || {};\n      Object.keys(members).forEach((propName) => {\n        const propData = members[propName];\n        const prop = (<any[]>propData)\n                         .find(a => a['__symbolic'] == 'property' || a['__symbolic'] == 'method');\n        const decorators: any[] = [];\n        // hasOwnProperty() is used here to make sure we do not look up methods\n        // on `Object.prototype`.\n        if (propMetadata?.hasOwnProperty(propName)) {\n          decorators.push(...propMetadata![propName]);\n        }\n        propMetadata![propName] = decorators;\n        if (prop && prop['decorators']) {\n          decorators.push(...this.simplify(type, prop['decorators']));\n        }\n      });\n      this.propertyCache.set(type, propMetadata);\n    }\n    return propMetadata;\n  }\n\n  public parameters(type: StaticSymbol): any[] {\n    if (!(type instanceof StaticSymbol)) {\n      this.reportError(\n          new Error(`parameters received ${JSON.stringify(type)} which is not a StaticSymbol`),\n          type);\n      return [];\n    }\n    try {\n      let parameters = this.parameterCache.get(type);\n      if (!parameters) {\n        const classMetadata = this.getTypeMetadata(type);\n        const parentType = this.findParentType(type, classMetadata);\n        const members = classMetadata ? classMetadata['members'] : null;\n        const ctorData = members ? members['__ctor__'] : null;\n        if (ctorData) {\n          const ctor = (<any[]>ctorData).find(a => a['__symbolic'] == 'constructor');\n          const rawParameterTypes = <any[]>ctor['parameters'] || [];\n          const parameterDecorators = <any[]>this.simplify(type, ctor['parameterDecorators'] || []);\n          parameters = [];\n          rawParameterTypes.forEach((rawParamType, index) => {\n            const nestedResult: any[] = [];\n            const paramType = this.trySimplify(type, rawParamType);\n            if (paramType) nestedResult.push(paramType);\n            const decorators = parameterDecorators ? parameterDecorators[index] : null;\n            if (decorators) {\n              nestedResult.push(...decorators);\n            }\n            parameters!.push(nestedResult);\n          });\n        } else if (parentType) {\n          parameters = this.parameters(parentType);\n        }\n        if (!parameters) {\n          parameters = [];\n        }\n        this.parameterCache.set(type, parameters);\n      }\n      return parameters;\n    } catch (e) {\n      console.error(`Failed on type ${JSON.stringify(type)} with error ${e}`);\n      throw e;\n    }\n  }\n\n  private _methodNames(type: any): {[key: string]: boolean} {\n    let methodNames = this.methodCache.get(type);\n    if (!methodNames) {\n      const classMetadata = this.getTypeMetadata(type);\n      methodNames = {};\n      const parentType = this.findParentType(type, classMetadata);\n      if (parentType) {\n        const parentMethodNames = this._methodNames(parentType);\n        Object.keys(parentMethodNames).forEach((parentProp) => {\n          methodNames![parentProp] = parentMethodNames[parentProp];\n        });\n      }\n\n      const members = classMetadata['members'] || {};\n      Object.keys(members).forEach((propName) => {\n        const propData = members[propName];\n        const isMethod = (<any[]>propData).some(a => a['__symbolic'] == 'method');\n        methodNames![propName] = methodNames![propName] || isMethod;\n      });\n      this.methodCache.set(type, methodNames);\n    }\n    return methodNames;\n  }\n\n  private _staticMembers(type: StaticSymbol): string[] {\n    let staticMembers = this.staticCache.get(type);\n    if (!staticMembers) {\n      const classMetadata = this.getTypeMetadata(type);\n      const staticMemberData = classMetadata['statics'] || {};\n      staticMembers = Object.keys(staticMemberData);\n      this.staticCache.set(type, staticMembers);\n    }\n    return staticMembers;\n  }\n\n  private findParentType(type: StaticSymbol, classMetadata: any): StaticSymbol|undefined {\n    const parentType = this.trySimplify(type, classMetadata['extends']);\n    if (parentType instanceof StaticSymbol) {\n      return parentType;\n    }\n  }\n\n  hasLifecycleHook(type: any, lcProperty: string): boolean {\n    if (!(type instanceof StaticSymbol)) {\n      this.reportError(\n          new Error(\n              `hasLifecycleHook received ${JSON.stringify(type)} which is not a StaticSymbol`),\n          type);\n    }\n    try {\n      return !!this._methodNames(type)[lcProperty];\n    } catch (e) {\n      console.error(`Failed on type ${JSON.stringify(type)} with error ${e}`);\n      throw e;\n    }\n  }\n\n  guards(type: any): {[key: string]: StaticSymbol} {\n    if (!(type instanceof StaticSymbol)) {\n      this.reportError(\n          new Error(`guards received ${JSON.stringify(type)}
```

which is not a StaticSymbol`), type);\n return {};\n }\n const staticMembers = this._staticMembers(type);\n const result: {[key: string]: StaticSymbol} = {};\n for (let name of staticMembers) {\n if (name.endsWith(TYPEGUARD_POSTFIX)) {\n let property = name.substr(0, name.length - TYPEGUARD_POSTFIX.length);\n let value: any;\n if (property.endsWith(USE_IF)) {\n property = name.substr(0, property.length - USE_IF.length);\n value = USE_IF;\n } else {\n value = this.getStaticSymbol(type.filePath, type.name, [name]);\n }\n result[property] = value;\n }\n }\n return result;\n }\n\n private _registerDecoratorOrConstructor(type: StaticSymbol, ctor: any): void {\n this.conversionMap.set(type, (context: StaticSymbol, args: any[]) => new ctor(...args));\n }\n\n private _registerFunction(type: StaticSymbol, fn: any): void {\n this.conversionMap.set(type, (context: StaticSymbol, args: any[]) => fn.apply(undefined, args));\n }\n\n private initializeConversionMap(): void {\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'Injectable'), createInjectable);\n this.injectionToken = this.findDeclaration(ANGULAR_CORE, 'InjectionToken');\n this.opaqueToken = this.findDeclaration(ANGULAR_CORE, 'OpaqueToken');\n this.ROUTES = this.tryFindDeclaration(ANGULAR_ROUTER, 'ROUTES');\n this.ANALYZE_FOR_ENTRY_COMPONENTS =\n this.findDeclaration(ANGULAR_CORE, 'ANALYZE_FOR_ENTRY_COMPONENTS');\n\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Host'), createHost);\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Self'), createSelf);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'SkipSelf'), createSkipSelf);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'Inject'), createInject);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'Optional'), createOptional);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'Attribute'), createAttribute);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'ContentChild'), createContentChild);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'ContentChildren'), createContentChildren);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'ViewChild'), createViewChild);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'ViewChildren'), createViewChildren);\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Input'), createInput);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'Output'), createOutput);\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Pipe'), createPipe);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'HostBinding'), createHostBinding);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'HostListener'), createHostListener);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'Directive'), createDirective);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'Component'), createComponent);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'NgModule'), createNgModule);\n\n // Note: Some metadata classes can be used directly with Provider.deps.\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Host'), createHost);\n this._registerDecoratorOrConstructor(this.findDeclaration(ANGULAR_CORE, 'Self'), createSelf);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'SkipSelf'), createSkipSelf);\n this._registerDecoratorOrConstructor(\n this.findDeclaration(ANGULAR_CORE, 'Optional'), createOptional);\n }\n\n /**\n * getStaticSymbol produces a Type whose metadata is known but whose implementation is not loaded.\n * All types passed to the StaticResolver should be pseudo-types returned by this method.\n *\n * @param declarationFile the absolute path of the file where the symbol is declared\n * @param name the name of the type.\n */\n getStaticSymbol(declarationFile: string, name: string, members?: string[]): StaticSymbol {\n return this.symbolResolver.getStaticSymbol(declarationFile, name, members);\n }\n\n /**\n * Simplify but discard any

```
errors\n   */\n  private trySimplify(context: StaticSymbol, value: any): any {\n    const originalRecorder =
this.errorRecorder;\n    this.errorRecorder = (error: any, fileName?: string) => {};\n    const result =
this.simplify(context, value);\n    this.errorRecorder
 = originalRecorder;\n    return result;\n  }\n\n  /** @internal */\n  public simplify(context: StaticSymbol, value:
any, lazy: boolean = false): any {\n    const self = this;\n    let scope = BindingScope.empty;\n    const calling = new
Map<StaticSymbol, boolean>();\n    const rootContext = context;\n\n    function simplifyInContext(\n        context:
StaticSymbol, value: any, depth: number, references: number): any {\n      function
resolveReferenceValue(staticSymbol: StaticSymbol): any {\n        const resolvedSymbol =
self.symbolResolver.resolveSymbol(staticSymbol);\n        return resolvedSymbol ? resolvedSymbol.metadata :
null;\n      }\n\n      function simplifyEagerly(value: any): any {\n        return simplifyInContext(context, value,
depth, 0);\n      }\n\n      function simplifyLazily(value: any): any {\n        return simplifyInContext(context, value,
depth, references + 1);\n      }\n\n      function simplifyNested(nestedContext: StaticSymbol, value: any): any {\n
 if (nestedContext === context) {\n          // If the context hasn't changed let the exception propagate unmodified.\n
    return simplifyInContext(nestedContext, value, depth + 1, references);\n        }\n        try {\n          return
simplifyInContext(nestedContext, value, depth + 1, references);\n        } catch (e) {\n          if (isMetadataError(e))
{\n            // Propagate the message text up but add a message to the chain that explains how we got\n
// here.\n            // e.chain implies e.symbol\n            const summaryMsg = e.chain ? 'references \\'' + e.symbol!.name +
'\\'' : errorSummary(e);\n            const summary = `'${nestedContext.name}' ${summaryMsg}`;\n            const chain
= {message: summary, position: e.position, next: e.chain};\n            // TODO(chuckj): retrieve the position
information indirectly from the collectors node\n            // map if the metadata is from a .ts file.\n            self.error(\n
                {\n
              message: e.message,\n                advise: e.advise,\n                context: e.context,\n                chain,\n
   symbol: nestedContext\n              },\n              context);\n          } else {\n            // It is probably an internal
error.\n            throw e;\n          }\n        }\n      }\n\n      function simplifyCall(\n          functionSymbol:
StaticSymbol, targetFunction: any, args: any[], targetExpression: any) {\n        if (targetFunction &&
targetFunction['__symbolic'] == 'function') {\n          if (calling.get(functionSymbol)) {\n            self.error(\n
{\n                message: 'Recursion is not supported',\n                summary: `called '${functionSymbol.name}'
recursively`,\n                value: targetFunction\n              },\n              functionSymbol);\n          }\n          try {\n
        const value = targetFunction['value'];\n            if (value && (depth != 0 || value.__symbolic
 != 'error')) {\n              const parameters: string[] = targetFunction['parameters'];\n              const defaults: any[] =
targetFunction.defaults;\n              args = args.map(arg => simplifyNested(context, arg))\n                  .map(arg
=> shouldIgnore(arg) ? undefined : arg);\n              if (defaults && defaults.length > args.length) {\n
args.push(...defaults.slice(args.length).map((value: any) => simplify(value)));\n              }\n
calling.set(functionSymbol, true);\n              const functionScope = BindingScope.build();\n              for (let i = 0; i <
parameters.length; i++) {\n                functionScope.define(parameters[i], args[i]);\n              }\n              const
oldScope = scope;\n              let result: any;\n              try {\n                scope = functionScope.done();\n
result = simplifyNested(functionSymbol, value);\n              } finally {\n                scope = oldScope;\n
            }\n              return result;\n            }\n          } finally {\n            calling.delete(functionSymbol);\n          }
    }\n\n        if (depth === 0) {\n          // If depth is 0 we are evaluating the top level expression that is describing
element\n          // decorator. In this case, it is a decorator we don't understand, such as a custom\n          // non-
angular decorator, and we should just ignore it.\n          return IGNORE;\n        }\n        let position:
Position|undefined = undefined;\n        if (targetExpression && targetExpression.__symbolic == 'resolved') {\n
const line = targetExpression.line;\n          const character = targetExpression.character;\n          const fileName =
targetExpression.fileName;\n          if (fileName != null && line != null && character != null) {\n            position =
{fileName, line, column: character};\n          }\n        }\n        self.error(\n            {\n              message:
FUNCTION_CALL_NOT_SUPPORTED,\n              context: functionSymbol,\n              value: targetFunction,\n              position\n            },\n
context);\n      }\n\n      function simplify(expression: any): any {\n        if (isPrimitive(expression)) {\n          return
```

```
expression;\n      }\n      if (Array.isArray(expression)) {\n        const result: any[] = [];\n        for (const item of
(<any>expression)) {\n          // Check for a spread expression\n          if (item && item.__symbolic === 'spread')
{\n            // We call with references as 0 because we require the actual value and cannot\n            // tolerate a
reference here.\n            const spreadArray = simplifyEagerly(item.expression);\n            if
(Array.isArray(spreadArray)) {\n              for (const spreadItem of spreadArray) {\n
result.push(spreadItem);\n              }\n              continue;\n            }\n          }\n          const value =
simplify(item);\n
          if (shouldIgnore(value)) {\n            continue;\n          }\n          result.push(value);\n        }\n        return
result;\n      }\n      if (expression instanceof StaticSymbol) {\n        // Stop simplification at builtin symbols or if
we are in a reference context and\n        // the symbol doesn't have members.\n        if (expression ===
self.injectionToken || self.conversionMap.has(expression) ||\n            (references > 0 &&
!expression.members.length)) {\n          return expression;\n        } else {\n          const staticSymbol =
expression;\n          const declarationValue = resolveReferenceValue(staticSymbol);\n          if (declarationValue
!= null) {\n            return simplifyNested(staticSymbol, declarationValue);\n          } else {\n            return
staticSymbol;\n          }\n        }\n      }\n      if (expression) {\n        if (expression['__symbolic']) {\n          let
staticSymbol:
 StaticSymbol;\n          switch (expression['__symbolic']) {\n            case 'binop':\n              let left =
simplify(expression['left']);\n              if (shouldIgnore(left)) return left;\n              let right =
simplify(expression['right']);\n              if (shouldIgnore(right)) return right;\n              switch
(expression['operator']) {\n                case '&&':\n                  return left && right;\n                case '||':\n
 return left || right;\n                case '|':\n                  return left | right;\n                case '^':\n                  return left
^ right;\n                case '&':\n                  return left & right;\n                case '==':\n                  return left ==
right;\n                case '!=':\n                  return left != right;\n                case '===':\n                  return left ===
right;\n                case '!==':\n
                  return left !== right;\n                case '<':\n                  return left < right;\n                case '>':\n
return left > right;\n                case '<=':\n                  return left <= right;\n                case '>=':\n
return left >= right;\n                case '<<':\n                  return left << right;\n                case '>>':\n
return left >> right;\n                case '+':\n                  return left + right;\n                case '-':\n                  return
left - right;\n                case '*':\n                  return left * right;\n                case '/':\n                  return left /
right;\n                case '%':\n                  return left % right;\n              }\n              return null;\n            case
'if':\n              let condition = simplify(expression['condition']);\n              return condition
 ? simplify(expression['thenExpression']) :\n                  simplify(expression['elseExpression']);\n
case 'pre':\n              let operand = simplify(expression['operand']);\n              if (shouldIgnore(operand)) return
operand;\n              switch (expression['operator']) {\n                case '+':\n                  return operand;\n
case '-':\n                  return -operand;\n                case '!':\n                  return !operand;\n                case '~':\n
            return ~operand;\n              }\n              return null;\n            case 'index':\n              let indexTarget =
simplifyEagerly(expression['expression']);\n              let index = simplifyEagerly(expression['index']);\n              if
(indexTarget && isPrimitive(index)) return indexTarget[index];\n              return null;\n            case 'select':\n
        const member = expression['member'];\n
              let selectContext = context;\n              let selectTarget = simplify(expression['expression']);\n              if
(selectTarget instanceof StaticSymbol) {\n                const members = selectTarget.members.concat(member);\n
            selectContext =\n                    self.getStaticSymbol(selectTarget.filePath, selectTarget.name, members);\n
            const declarationValue = resolveReferenceValue(selectContext);\n                if (declarationValue != null)
{\n                  return simplifyNested(selectContext, declarationValue);\n                } else {\n                  return
selectContext;\n                }\n              }\n              if (selectTarget && isPrimitive(member))\n                return
simplifyNested(selectContext, selectTarget[member]);\n              return null;\n            case 'reference':\n
// Note: This only has to deal with variable references, as symbol references
```

```
 have\n              // been converted into 'resolved'\n              // in the StaticSymbolResolver.\n              const name:
string = expression['name'];\n              const localValue = scope.resolve(name);\n              if (localValue !=
BindingScope.missing) {\n                return localValue;\n              }\n              break;\n            case 'resolved':\n
          try {\n                return simplify(expression.symbol);\n            } catch (e) {\n              // If an error is
reported evaluating the symbol record the position of the\n              // reference in the error so it can\n              //
be reported in the error message generated from the exception.\n              if (isMetadataError(e) &&
expression.fileName != null &&\n                  expression.line != null && expression.character != null) {\n
    e.position = {\n                  fileName: expression.fileName,\n
            line: expression.line,\n                  column: expression.character\n                };\n              }\n
  throw e;\n            }\n            case 'class':\n              return context;\n            case 'function':\n              return
context;\n            case 'new':\n            case 'call':\n              // Determine if the function is a built-in conversion\n
          staticSymbol = simplifyInContext(\n                  context, expression['expression'], depth + 1, /* references */
0);\n              if (staticSymbol instanceof StaticSymbol) {\n                if (staticSymbol === self.injectionToken ||
staticSymbol === self.opaqueToken) {\n                  // if somebody calls new InjectionToken, don't create an
InjectionToken,\n                  // but rather return the symbol to which the InjectionToken is assigned to.\n\n
   // OpaqueToken is supported too as it is required by
 the language service to\n                  // support v4 and prior versions of Angular.\n                  return context;\n
        }\n                const argExpressions: any[] = expression['arguments'] || [];\n                let converter =
self.conversionMap.get(staticSymbol);\n                if (converter) {\n                  const args =
argExpressions.map(arg => simplifyNested(context, arg))\n                                .map(arg => shouldIgnore(arg) ?
undefined : arg);\n                  return converter(context, args);\n                } else {\n                  // Determine if the
function is one we can simplify.\n                  const targetFunction = resolveReferenceValue(staticSymbol);\n
       return simplifyCall(\n                    staticSymbol, targetFunction, argExpressions, expression['expression']);\n
            }\n              }\n              return IGNORE;\n            case 'error':\n
          let message = expression.message;\n              if (expression['line'] != null) {\n                self.error(\n
       {\n                    message,\n                    context: expression.context,\n                    value: expression,\n
              position: {\n                    fileName: expression['fileName'],\n                    line:
expression['line'],\n                    column: expression['character']\n                  }\n                },\n
 context);\n              } else {\n                self.error({message, context: expression.context}, context);\n              }\n
          return IGNORE;\n            case 'ignore':\n              return expression;\n            }\n            return null;\n
 }\n        return mapStringMap(expression, (value, name) => {\n          if (REFERENCE_SET.has(name)) {\n
   if (name === USE_VALUE
 && PROVIDE in expression) {\n              // If this is a provider expression, check for special tokens that need the
value\n              // during analysis.\n              const provide = simplify(expression.provide);\n              if (provide
=== self.ROUTES || provide == self.ANALYZE_FOR_ENTRY_COMPONENTS) {\n                return
simplify(value);\n              }\n            }\n            return simplifyLazily(value);\n          }\n          return
simplify(value);\n        });\n      }\n      return IGNORE;\n    }\n\n    return simplify(value);\n  }\n\n  let
result: any;\n  try {\n    result = simplifyInContext(context, value, 0, lazy ? 1 : 0);\n  } catch (e) {\n    if
(this.errorRecorder) {\n      this.reportError(e, context);\n    } else {\n      throw formatMetadataError(e,
context);\n    }\n  }\n  if (shouldIgnore(result)) {\n    return undefined;\n  }\n  return result;\n }\n\n private
getTypeMetadata(type: StaticSymbol):
 {[key: string]: any} {\n  const resolvedSymbol = this.symbolResolver.resolveSymbol(type);\n  return
resolvedSymbol && resolvedSymbol.metadata ? resolvedSymbol.metadata :\n
{__symbolic: 'class'};\n }\n\n private reportError(error: Error, context: StaticSymbol, path?: string) {\n  if
(this.errorRecorder) {\n    this.errorRecorder(\n        formatMetadataError(error, context), (context &&
context.filePath) || path);\n  } else {\n    throw error;\n  }\n }\n\n private error(\n    {message, summary, advise,
position, context, value, symbol, chain}: {\n      message: string,\n      summary?: string,\n      advise?: string,\n
  position?: Position,\n      context?: any,\n      value?: any,\n      symbol?: StaticSymbol,\n      chain?:
```

MetadataMessageChain\n },\n reportingContext: StaticSymbol) {\n this.reportError(\n metadataError(message, summary, advise, position, symbol,\n context, chain),\n reportingContext);\n }\n}\n\ninterface Position {\n fileName: string;\n line: number;\n column: number;\n}\n\ninterface MetadataMessageChain {\n message: string;\n summary?: string;\n position?: Position;\n context?: any;\n symbol?: StaticSymbol;\n next?: MetadataMessageChain;\n}\n\ntype MetadataError = Error&{\n position?: Position;\n advise?: string;\n summary?: string;\n context?: any;\n symbol?: StaticSymbol;\n chain?: MetadataMessageChain;\n};\n\nconst METADATA_ERROR = 'ngMetadataError';\n\nfunction metadataError(\n message: string, summary?: string, advise?: string, position?: Position, symbol?: StaticSymbol,\n context?: any, chain?: MetadataMessageChain): MetadataError {\n const error = syntaxError(message) as MetadataError;\n (error as any)[METADATA_ERROR] = true;\n if (advise) error.advise = advise;\n if (position) error.position = position;\n if (summary) error.summary = summary;\n if (context) error.context = context;\n if (chain) error.chain = chain;\n if (symbol) error.symbol = symbol;\n return error;\n}\n\nfunction isMetadataError(error: Error): error is MetadataError {\n return !!(error as any)[METADATA_ERROR];\n}\n\nconst REFERENCE_TO_NONEXPORTED_CLASS = 'Reference to non-exported class';\nconst VARIABLE_NOT_INITIALIZED = 'Variable not initialized';\nconst DESTRUCTURE_NOT_SUPPORTED = 'Destructuring not supported';\nconst COULD_NOT_RESOLVE_TYPE = 'Could not resolve type';\nconst FUNCTION_CALL_NOT_SUPPORTED = 'Function call not supported';\nconst REFERENCE_TO_LOCAL_SYMBOL = 'Reference to a local symbol';\nconst LAMBDA_NOT_SUPPORTED = 'Lambda not supported';\n\nfunction expandedMessage(message: string, context: any): string {\n switch (message) {\n case REFERENCE_TO_NONEXPORTED_CLASS:\n if (context && context.className) {\n return `References to a non-exported class are not supported in decorators but ${\n context.className} was referenced.`;\n }\n break;\n case VARIABLE_NOT_INITIALIZED:\n return 'Only initialized variables and constants can be referenced in decorators because the value of this variable is needed by the template compiler';\n case DESTRUCTURE_NOT_SUPPORTED:\n return 'Referencing an exported destructured variable or constant is not supported in decorators and this value is needed by the template compiler';\n case COULD_NOT_RESOLVE_TYPE:\n if (context && context.typeName) {\n return `Could not resolve type ${context.typeName}`;\n }\n break;\n case FUNCTION_CALL_NOT_SUPPORTED:\n if (context && context.name) {\n return `Function calls are not supported in decorators but '${context.name}' was called`;\n }\n return 'Function calls are not supported in decorators';\n case REFERENCE_TO_LOCAL_SYMBOL:\n if (context && context.name) {\n return `Reference to a local (non-exported) symbols are not supported in decorators but '${\n context.name}'\n was referenced`;\n }\n break;\n case LAMBDA_NOT_SUPPORTED:\n return `Function expressions are not supported in decorators`;\n }\n return message;\n}\n\nfunction messageAdvise(message: string, context: any): string|undefined {\n switch (message) {\n case REFERENCE_TO_NONEXPORTED_CLASS:\n if (context && context.className) {\n return `Consider exporting '${context.className}'`;\n }\n break;\n case DESTRUCTURE_NOT_SUPPORTED:\n return 'Consider simplifying to avoid destructuring';\n case REFERENCE_TO_LOCAL_SYMBOL:\n if (context && context.name) {\n return `Consider exporting '${context.name}'`;\n }\n break;\n case LAMBDA_NOT_SUPPORTED:\n return `Consider changing the function expression into an exported function`;\n }\n return undefined;\n}\n\nfunction errorSummary(error: MetadataError): string {\n if (error.summary) {\n return error.summary;\n }\n switch (error.message) {\n case REFERENCE_TO_NONEXPORTED_CLASS:\n if (error.context && error.context.className) {\n return `references non-exported class ${error.context.className}`;\n }\n break;\n case VARIABLE_NOT_INITIALIZED:\n return 'is not initialized';\n case DESTRUCTURE_NOT_SUPPORTED:\n return 'is a destructured variable';\n case COULD_NOT_RESOLVE_TYPE:\n return 'could not be resolved';\n case FUNCTION_CALL_NOT_SUPPORTED:\n if (error.context && error.context.name) {\n return `calls

'${error.context.name}'`;\n }\n return `calls a function`;\n case REFERENCE_TO_LOCAL_SYMBOL:\n if (error.context && error.context.name) {\n return `references local variable ${error.context.name}`;\n }\n return `references a local variable`;\n }\n return 'contains the error';\n}\n\nfunction mapStringMap(input: {[key: string]: any}, transform: (value: any, key: string) => any):\n {[key: string]: any} {\n if (!input) return {};\n const result:
{[key: string]: any} = {};\n Object.keys(input).forEach((key) => {\n const value = transform(input[key], key);\n if (!shouldIgnore(value)) {\n if (HIDDEN_KEY.test(key)) {\n Object.defineProperty(result, key, {enumerable: false, configurable: true, value: value});\n } else {\n result[key] = value;\n }\n }\n });\n return result;\n}\n\nfunction isPrimitive(o: any): boolean {\n return o === null || (typeof o !== 'function' && typeof o !== 'object');\n}\n\ninterface BindingScopeBuilder {\n define(name: string, value: any): BindingScopeBuilder;\n done(): BindingScope;\n}\n\nabstract class BindingScope {\n abstract resolve(name: string): any;\n public static missing = {};\n public static empty: BindingScope = {resolve: name => BindingScope.missing};\n\n public static build(): BindingScopeBuilder {\n const current = new Map<string, any>();\n return {\n define: function(name, value) {\n current.set(name, value);\n return
this;\n },\n done: function() {\n return current.size > 0 ? new PopulatedScope(current) : BindingScope.empty;\n }\n };\n }\n}\n\nclass PopulatedScope extends BindingScope {\n constructor(private bindings: Map<string, any>) {\n super();\n }\n\n resolve(name: string): any {\n return this.bindings.has(name) ? this.bindings.get(name) : BindingScope.missing;\n }\n}\n\nfunction formatMetadataMessageChain(\n chain: MetadataMessageChain, advise: string|undefined): FormattedMessageChain {\n const expanded = expandedMessage(chain.message, chain.context);\n const nesting = chain.symbol ? ` in '${chain.symbol.name}'` : '';\n const message = `${expanded}${nesting}`;\n const position = chain.position;\n const next: FormattedMessageChain|undefined = chain.next ?\n formatMetadataMessageChain(chain.next, advise) :\n advise ? {message: advise} : undefined;\n return {message, position, next: next ? [next] : undefined};\n}\n\nfunction formatMetadataError(e:
Error, context: StaticSymbol): Error {\n if (isMetadataError(e)) {\n // Produce a formatted version of the and leaving enough information in the original error\n // to recover the formatting information to eventually produce a diagnostic error message.\n const position = e.position;\n const chain: MetadataMessageChain = {\n message: `Error during template compile of '${context.name}'`,\n position: position,\n next: {message: e.message, next: e.chain, context: e.context, symbol: e.symbol}\n };\n const advise = e.advise || messageAdvise(e.message, e.context);\n return formattedError(formatMetadataMessageChain(chain, advise));\n }\n return e;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Summary, SummaryResolver} from '../summary_resolver';\n\nimport {StaticSymbol,
StaticSymbolCache} from './static_symbol';\nimport {deserializeSummaries} from './summary_serializer';\nimport {stripGeneratedFileSuffix, summaryFileName} from './util';\n\nexport interface AotSummaryResolverHost {\n /**\n * Loads an NgModule/Directive/Pipe summary file\n */\n loadSummary(filePath: string): string|null;\n\n /**\n * Returns whether a file is a source file or not.\n */\n isSourceFile(sourceFilePath: string): boolean;\n /**\n * Converts a file name into a representation that should be stored in a summary file.\n * This has to include changing the suffix as well.\n * E.g.\n * `some_file.ts` -> `some_file.d.ts`\n *\n * @param referringSrcFileName the soure file that refers to fileName\n */\n toSummaryFileName(fileName: string, referringSrcFileName: string): string;\n\n /**\n * Converts a fileName that was processed by `toSummaryFileName` back into a real fileName\n * given the fileName of the library that is referrig to it.\n */\n fromSummaryFileName(fileName:
string, referringLibFileName: string): string;\n}\n\nexport class AotSummaryResolver implements SummaryResolver<StaticSymbol> {\n // Note: this will only contain StaticSymbols without members!\n private summaryCache = new Map<StaticSymbol, Summary<StaticSymbol>>();\n private loadedFilePaths = new Map<string, boolean>();\n // Note: this will only contain StaticSymbols without members!\n private importAs = new Map<StaticSymbol, StaticSymbol>();\n private knownFileNameToModuleNames = new Map<string,

```
string>();\n\n  constructor(private host: AotSummaryResolverHost, private staticSymbolCache: StaticSymbolCache)
{}\n\n  isLibraryFile(filePath: string): boolean {\n    // Note: We need to strip the .ngfactory. file path,\n    // so this
method also works for generated files\n    // (for which host.isSourceFile will always return false).\n    return
!this.host.isSourceFile(stripGeneratedFileSuffix(filePath));\n  }\n\n  toSummaryFileName(filePath: string,
referringSrcFileName:
 string) {\n    return this.host.toSummaryFileName(filePath, referringSrcFileName);\n  }\n\n
fromSummaryFileName(fileName: string, referringLibFileName: string) {\n    return
this.host.fromSummaryFileName(fileName, referringLibFileName);\n  }\n\n  resolveSummary(staticSymbol:
StaticSymbol): Summary<StaticSymbol>|null {\n    const rootSymbol = staticSymbol.members.length ?\n
this.staticSymbolCache.get(staticSymbol.filePath, staticSymbol.name) :\n        staticSymbol;\n    let summary =
this.summaryCache.get(rootSymbol);\n    if (!summary) {\n      this._loadSummaryFile(staticSymbol.filePath);\n
summary = this.summaryCache.get(staticSymbol)!;\n    }\n    return (rootSymbol === staticSymbol && summary) ||
null;\n  }\n\n  getSymbolsOf(filePath: string): StaticSymbol[]|null {\n    if (this._loadSummaryFile(filePath)) {\n
return Array.from(this.summaryCache.keys()).filter((symbol) => symbol.filePath === filePath);\n    }\n    return
null;\n  }\n\n  getImportAs(staticSymbol:
 StaticSymbol): StaticSymbol {\n    staticSymbol.assertNoMembers();\n    return this.importAs.get(staticSymbol)!;\n
}\n\n  /**\n   * Converts a file path to a module name that can be used as an `import`.\n   */\n
getKnownModuleName(importedFilePath: string): string|null {\n    return
this.knownFileNameToModuleNames.get(importedFilePath) || null;\n  }\n\n  addSummary(summary:
Summary<StaticSymbol>) {\n    this.summaryCache.set(summary.symbol, summary);\n  }\n\n  private
_loadSummaryFile(filePath: string): boolean {\n    let hasSummary = this.loadedFilePaths.get(filePath);\n    if
(hasSummary != null) {\n      return hasSummary;\n    }\n    let json: string|null = null;\n    if
(this.isLibraryFile(filePath)) {\n      const summaryFilePath = summaryFileName(filePath);\n      try {\n        json =
this.host.loadSummary(summaryFilePath);\n      } catch (e) {\n        console.error(`Error loading summary file
${summaryFilePath}`);\n        throw e;\n      }\n    }\n    hasSummary
 = json != null;\n    this.loadedFilePaths.set(filePath, hasSummary);\n    if (json) {\n      const {moduleName,
summaries, importAs} =\n          deserializeSummaries(this.staticSymbolCache, this, filePath, json);\n
summaries.forEach((summary) => this.summaryCache.set(summary.symbol, summary));\n      if (moduleName) {\n
    this.knownFileNameToModuleNames.set(filePath, moduleName);\n      }\n      importAs.forEach((importAs) =>
{\n        this.importAs.set(importAs.symbol, importAs.importAs);\n      });\n    }\n    return hasSummary;\n
}\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is
governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
*/\n\nimport {CompilerConfig} from '../config';\nimport {ViewEncapsulation} from '../core';\nimport
{DirectiveNormalizer} from '../directive_normalizer';\nimport {DirectiveResolver} from
'../directive_resolver';\nimport {Lexer} from
 '../expression_parser/lexer';\nimport {Parser} from '../expression_parser/parser';\nimport {I18NHtmlParser} from
'../i18n/i18n_html_parser';\nimport {InjectableCompiler} from '../injectable_compiler';\nimport
{CompileMetadataResolver} from '../metadata_resolver';\nimport {HtmlParser} from
'../ml_parser/html_parser';\nimport {NgModuleCompiler} from '../ng_module_compiler';\nimport
{NgModuleResolver} from '../ng_module_resolver';\nimport {TypeScriptEmitter} from
'../output/ts_emitter';\nimport {PipeResolver} from '../pipe_resolver';\nimport {DomElementSchemaRegistry} from
'../schema/dom_element_schema_registry';\nimport {StyleCompiler} from '../style_compiler';\nimport
{TemplateParser} from '../template_parser/template_parser';\nimport {UrlResolver} from '../url_resolver';\nimport
{syntaxError} from '../util';\nimport {TypeCheckCompiler} from '../view_compiler/type_check_compiler';\nimport
{ViewCompiler} from '../view_compiler/view_compiler';\n\nimport {AotCompiler} from './compiler';\nimport
 {AotCompilerHost} from './compiler_host';\nimport {AotCompilerOptions} from './compiler_options';\nimport
{StaticReflector} from './static_reflector';\nimport {StaticSymbolCache} from './static_symbol';\nimport
{StaticSymbolResolver} from './static_symbol_resolver';\nimport {AotSummaryResolver} from
```

'./summary_resolver';\n\nexport function createAotUrlResolver(\n host: {resourceNameToFileName(resourceName: string, containingFileName: string): string|null;}):\n UrlResolver {\n return {\n resolve: (basePath: string, url: string) => {\n const filePath = host.resourceNameToFileName(url, basePath);\n if (!filePath) {\n throw syntaxError(`Couldn't resolve resource ${url} from ${basePath}`);\n }\n return filePath;\n }\n };\n}\n\n/**\n * Creates a new AotCompiler based on options and a host.\n */\nexport function createAotCompiler(\n compilerHost: AotCompilerHost, options: AotCompilerOptions,\n errorCollector?: (error: any, type?: any) =>\n void): {compiler: AotCompiler, reflector: StaticReflector} {\n let translations: string = options.translations || '';\n\n const urlResolver = createAotUrlResolver(compilerHost);\n const symbolCache = new StaticSymbolCache();\n const summaryResolver = new AotSummaryResolver(compilerHost, symbolCache);\n const symbolResolver = new StaticSymbolResolver(compilerHost, symbolCache, summaryResolver);\n const staticReflector =\n new StaticReflector(summaryResolver, symbolResolver, [], [], errorCollector);\n let htmlParser: I18NHtmlParser;\n if (!!options.enableIvy) {\n // Ivy handles i18n at the compiler level so we must use a regular parser\n htmlParser = new HtmlParser() as I18NHtmlParser;\n } else {\n htmlParser = new I18NHtmlParser(\n new HtmlParser(), translations, options.i18nFormat, options.missingTranslation, console);\n }\n const config = new CompilerConfig({\n defaultEncapsulation: ViewEncapsulation.Emulated,\n useJit: false,\n missingTranslation: options.missingTranslation,\n preserveWhitespaces: options.preserveWhitespaces,\n strictInjectionParameters: options.strictInjectionParameters,\n });\n const normalizer = new DirectiveNormalizer(\n {get: (url: string) => compilerHost.loadResource(url)}, urlResolver, htmlParser, config);\n const expressionParser = new Parser(new Lexer());\n const elementSchemaRegistry = new DomElementSchemaRegistry();\n const tmplParser = new TemplateParser(\n config, staticReflector, expressionParser, elementSchemaRegistry, htmlParser, console, []);\n const resolver = new CompileMetadataResolver(\n config, htmlParser, new NgModuleResolver(staticReflector),\n new DirectiveResolver(staticReflector), new PipeResolver(staticReflector), summaryResolver,\n elementSchemaRegistry, normalizer, console, symbolCache, staticReflector, errorCollector);\n // TODO(vicb): do not pass options.i18nFormat here\n const viewCompiler = new ViewCompiler(staticReflector);\n const typeCheckCompiler = new TypeCheckCompiler(options, staticReflector);\n const compiler = new AotCompiler(\n config, options, compilerHost, staticReflector, resolver, tmplParser,\n new StyleCompiler(urlResolver), viewCompiler, typeCheckCompiler,\n new NgModuleCompiler(staticReflector),\n new InjectableCompiler(staticReflector, !!options.enableIvy), new TypeScriptEmitter(),\n summaryResolver, symbolResolver);\n return {compiler, reflector: staticReflector};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {MissingTranslationStrategy} from '../core';\n\nexport interface AotCompilerOptions {\n locale?: string;\n i18nFormat?: string;\n i18nUseExternalIds?: boolean;\n translations?: string;\n missingTranslation?: MissingTranslationStrategy;\n enableSummariesForJit?: boolean;\n preserveWhitespaces?: boolean;\n fullTemplateTypeCheck?: boolean;\n allowEmptyCodegenFiles?: boolean;\n strictInjectionParameters?: boolean;\n enableIvy?: boolean|'ngtsc';\n createExternalSymbolFactoryReexports?: boolean;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {StaticSymbolResolverHost} from './static_symbol_resolver';\nimport {AotSummaryResolverHost} from './summary_resolver';\n\n/**\n * The host of the AotCompiler disconnects the implementation from TypeScript / other language\n * services and from underlying file systems.\n */\nexport interface AotCompilerHost extends StaticSymbolResolverHost, AotSummaryResolverHost {\n /**\n * Converts a file path to a module name that can be used as an `import.\n * I.e. `path/to/importedFile.ts` should be imported by `path/to/containingFile.ts`.\n *\n * See ImportResolver.\n */\n fileNameToModuleName(importedFilePath: string, containingFilePath: string): string;\n /**\n * Converts a path that refers to a resource into an absolute filePath\n * that can be later on used for

loading the resource via `loadResource.\n */\n resourceNameToFileName(resourceName: string, containingFileName: string): string|null;\n /**\n * Loads a resource (e.g. html / css)\n */\n loadResource(path: string): Promise<string>|string;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport * as o from '../output/output_ast';\n\nexport interface PartialModule {\n fileName: string;\n statements: o.Statement[];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE
file at https://angular.io/license\n */\nimport {CompileTypeSummary} from './compile_metadata';\nimport {Type} from './core';\n\nexport interface Summary<T> {\n symbol: T;\n metadata: any;\n type?: CompileTypeSummary;\n}\n\nexport abstract class SummaryResolver<T> {\n abstract isLibraryFile(fileName: string): boolean;\n abstract toSummaryFileName(fileName: string, referringSrcFileName: string): string;\n abstract fromSummaryFileName(fileName: string, referringLibFileName: string): string;\n abstract resolveSummary(reference: T): Summary<T>|null;\n abstract getSymbolsOf(filePath: string): T[]|null;\n abstract getImportAs(reference: T): T;\n abstract getKnownModuleName(fileName: string): string|null;\n abstract addSummary(summary: Summary<T>): void;\n}\n\nexport class JitSummaryResolver implements SummaryResolver<Type> {\n private _summaries = new Map<Type, Summary<Type>>();\n\n isLibraryFile(): boolean {\n return false;\n }\n toSummaryFileName(fileName: string): string
{\n return fileName;\n }\n fromSummaryFileName(fileName: string): string {\n return fileName;\n }\n resolveSummary(reference: Type): Summary<Type>|null {\n return this._summaries.get(reference) || null;\n }\n getSymbolsOf(): Type[] {\n return [];\n }\n getImportAs(reference: Type): Type {\n return reference;\n }\n getKnownModuleName(fileName: string) {\n return null;\n }\n addSummary(summary: Summary<Type>) {\n this._summaries.set(summary.symbol, summary);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {CompileReflector} from '../compile_reflector';\nimport * as o from './output_ast';\nimport {debugOutputAstAsTypeScript} from './ts_emitter';\n\nexport function interpretStatements(\n statements: o.Statement[], reflector: CompileReflector): {[key: string]: any} {\n const ctx = new _ExecutionContext(null, null, null, new Map<string, any>());\n const visitor = new StatementInterpreter(reflector);\n visitor.visitAllStatements(statements, ctx);\n const result: {[key: string]: any} = {};\n ctx.exports.forEach((exportName) => {\n result[exportName] = ctx.vars.get(exportName);\n });\n return result;\n}\n\nfunction _executeFunctionStatements(\n varNames: string[], varValues: any[], statements: o.Statement[], ctx: _ExecutionContext,\n visitor: StatementInterpreter): any {\n const childCtx = ctx.createChildWihtLocalVars();\n for (let i = 0; i < varNames.length; i++) {\n childCtx.vars.set(varNames[i], varValues[i]);\n }\n const result = visitor.visitAllStatements(statements, childCtx);\n return result ? result.value : null;\n}\n\nclass _ExecutionContext {\n exports: string[] = [];\n\n constructor(\n public parent: _ExecutionContext|null, public instance: Object|null,\n public className: string|null, public vars: Map<string, any>)
{}\n\n createChildWihtLocalVars(): _ExecutionContext {\n return new _ExecutionContext(this, this.instance, this.className, new Map<string, any>());\n }\n}\n\nclass ReturnValue {\n constructor(public value: any) {}\n}\n\nfunction createDynamicClass(\n _classStmt: o.ClassStmt, _ctx: _ExecutionContext, _visitor: StatementInterpreter): Function {\n const propertyDescriptors: {[key: string]: any} = {};\n\n _classStmt.getters.forEach((getter: o.ClassGetter) => {\n // Note: use `function` instead of arrow function to capture `this`\n propertyDescriptors[getter.name] = {\n configurable: false,\n get: function() {\n const instanceCtx = new _ExecutionContext(_ctx, this, _classStmt.name, _ctx.vars);\n return _executeFunctionStatements([], [], getter.body, instanceCtx, _visitor);\n }\n };\n });\n _classStmt.methods.forEach(function(method: o.ClassMethod) {\n const paramNames = method.params.map(param => param.name);\n // Note: use `function`

```
 instead of arrow function to capture `this`\n    propertyDescriptors[method.name!] = {\n      writable: false,\n
configurable: false,\n      value: function(...args: any[]) {\n        const instanceCtx = new _ExecutionContext(_ctx,
this, _classStmt.name, _ctx.vars);\n        return _executeFunctionStatements(paramNames, args, method.body,
instanceCtx, _visitor);\n      }\n    };\n  });\n\n  const ctorParamNames =
_classStmt.constructorMethod.params.map(param => param.name);\n  // Note: use `function` instead of arrow
function to capture `this`\n  const ctor = function(this: Object, ...args: any[]) {\n    const instanceCtx = new
_ExecutionContext(_ctx, this, _classStmt.name, _ctx.vars);\n    _classStmt.fields.forEach((field) => {\n      (this as
any)[field.name] = undefined;\n    });\n    _executeFunctionStatements(\n        ctorParamNames, args,
_classStmt.constructorMethod.body, instanceCtx, _visitor);\n  };\n  const superClass = _classStmt.parent ?
_classStmt.parent.visitExpression(_visitor,
 _ctx) : Object;\n  ctor.prototype = Object.create(superClass.prototype, propertyDescriptors);\n  return
ctor;\n}\n\nclass StatementInterpreter implements o.StatementVisitor, o.ExpressionVisitor {\n  constructor(private
reflector: CompileReflector) {}\n  debugAst(ast: o.Expression|o.Statement|o.Type): string {\n    return
debugOutputAstAsTypeScript(ast);\n  }\n\n  visitDeclareVarStmt(stmt: o.DeclareVarStmt, ctx: _ExecutionContext):
any {\n    const initialValue = stmt.value ? stmt.value.visitExpression(this, ctx) : undefined;\n
ctx.vars.set(stmt.name, initialValue);\n    if (stmt.hasModifier(o.StmtModifier.Exported)) {\n
ctx.exports.push(stmt.name);\n    }\n    return null;\n  }\n  visitWriteVarExpr(expr: o.WriteVarExpr, ctx:
_ExecutionContext): any {\n    const value = expr.value.visitExpression(this, ctx);\n    let currCtx = ctx;\n    while
(currCtx != null) {\n      if (currCtx.vars.has(expr.name)) {\n        currCtx.vars.set(expr.name, value);\n        return
 value;\n      }\n      currCtx = currCtx.parent!;\n    }\n    throw new Error(`Not declared variable ${expr.name}`);\n
}\n  visitWrappedNodeExpr(ast: o.WrappedNodeExpr<any>, ctx: _ExecutionContext): never {\n    throw new
Error('Cannot interpret a WrappedNodeExpr.');\n  }\n  visitTypeofExpr(ast: o.TypeofExpr, ctx: _ExecutionContext):
never {\n    throw new Error('Cannot interpret a TypeofExpr');\n  }\n  visitReadVarExpr(ast: o.ReadVarExpr, ctx:
_ExecutionContext): any {\n    let varName = ast.name!;\n    if (ast.builtin != null) {\n      switch (ast.builtin) {\n
case o.BuiltinVar.Super:\n          return Object.getPrototypeOf(ctx.instance);\n        case o.BuiltinVar.This:\n
return ctx.instance;\n        case o.BuiltinVar.CatchError:\n          varName = CATCH_ERROR_VAR;\n
break;\n        case o.BuiltinVar.CatchStack:\n          varName = CATCH_STACK_VAR;\n          break;\n
default:\n          throw new Error(`Unknown builtin variable ${ast.builtin}`);\n
    }\n    }\n    let currCtx = ctx;\n    while (currCtx != null) {\n      if (currCtx.vars.has(varName)) {\n        return
currCtx.vars.get(varName);\n      }\n      currCtx = currCtx.parent!;\n    }\n    throw new Error(`Not declared variable
${varName}`);\n  }\n  visitWriteKeyExpr(expr: o.WriteKeyExpr, ctx: _ExecutionContext): any {\n    const receiver
= expr.receiver.visitExpression(this, ctx);\n    const index = expr.index.visitExpression(this, ctx);\n    const value =
expr.value.visitExpression(this, ctx);\n    receiver[index] = value;\n    return value;\n  }\n  visitWritePropExpr(expr:
o.WritePropExpr, ctx: _ExecutionContext): any {\n    const receiver = expr.receiver.visitExpression(this, ctx);\n
const value = expr.value.visitExpression(this, ctx);\n    receiver[expr.name] = value;\n    return value;\n  }\n\n
visitInvokeMethodExpr(expr: o.InvokeMethodExpr, ctx: _ExecutionContext): any {\n    const receiver =
expr.receiver.visitExpression(this, ctx);\n    const args
 = this.visitAllExpressions(expr.args, ctx);\n    let result: any;\n    if (expr.builtin != null) {\n      switch (expr.builtin)
{\n        case o.BuiltinMethod.ConcatArray:\n          result = receiver.concat(...args);\n          break;\n        case
o.BuiltinMethod.SubscribeObservable:\n          result = receiver.subscribe({next: args[0]});\n          break;\n        case
o.BuiltinMethod.Bind:\n          result = receiver.bind(...args);\n          break;\n        default:\n          throw new
Error(`Unknown builtin method ${expr.builtin}`);\n      }\n    } else {\n      result =
receiver[expr.name!].apply(receiver, args);\n    }\n    return result;\n  }\n  visitInvokeFunctionExpr(stmt:
o.InvokeFunctionExpr, ctx: _ExecutionContext): any {\n    const args = this.visitAllExpressions(stmt.args, ctx);\n
const fnExpr = stmt.fn;\n    if (fnExpr instanceof o.ReadVarExpr && fnExpr.builtin === o.BuiltinVar.Super) {\n
ctx.instance!.constructor.prototype.constructor.apply(ctx.instance, args);\n
    return null;\n    } else {\n      const fn = stmt.fn.visitExpression(this, ctx);\n      return fn.apply(null, args);\n    }\n
}\n  visitReturnStmt(stmt: o.ReturnStatement, ctx: _ExecutionContext): any {\n    return new
```

```
ReturnValue(stmt.value.visitExpression(this, ctx));\n  }\n  visitDeclareClassStmt(stmt: o.ClassStmt, ctx:
_ExecutionContext): any {\n    const clazz = createDynamicClass(stmt, ctx, this);\n    ctx.vars.set(stmt.name,
clazz);\n    if (stmt.hasModifier(o.StmtModifier.Exported)) {\n      ctx.exports.push(stmt.name);\n    }\n    return
null;\n  }\n  visitExpressionStmt(stmt: o.ExpressionStatement, ctx: _ExecutionContext): any {\n    return
stmt.expr.visitExpression(this, ctx);\n  }\n  visitIfStmt(stmt: o.IfStmt, ctx: _ExecutionContext): any {\n    const
condition = stmt.condition.visitExpression(this, ctx);\n    if (condition) {\n      return
this.visitAllStatements(stmt.trueCase, ctx);\n    } else if (stmt.falseCase != null) {\n      return
this.visitAllStatements(stmt.falseCase,
 ctx);\n    }\n    return null;\n  }\n  visitTryCatchStmt(stmt: o.TryCatchStmt, ctx: _ExecutionContext): any {\n    try
{\n      return this.visitAllStatements(stmt.bodyStmts, ctx);\n    } catch (e) {\n      const childCtx =
ctx.createChildWihtLocalVars();\n      childCtx.vars.set(CATCH_ERROR_VAR, e);\n
childCtx.vars.set(CATCH_STACK_VAR, e.stack);\n      return this.visitAllStatements(stmt.catchStmts, childCtx);\n
  }\n  }\n  visitThrowStmt(stmt: o.ThrowStmt, ctx: _ExecutionContext): any {\n    throw
stmt.error.visitExpression(this, ctx);\n  }\n  visitInstantiateExpr(ast: o.InstantiateExpr, ctx: _ExecutionContext): any
{\n    const args = this.visitAllExpressions(ast.args, ctx);\n    const clazz = ast.classExpr.visitExpression(this, ctx);\n
 return new clazz(...args);\n  }\n  visitLiteralExpr(ast: o.LiteralExpr, ctx: _ExecutionContext): any {\n    return
ast.value;\n  }\n  visitLocalizedString(ast: o.LocalizedString, context: any): any {\n    return null;\n
  }\n  visitExternalExpr(ast: o.ExternalExpr, ctx: _ExecutionContext): any {\n    return
this.reflector.resolveExternalReference(ast.value);\n  }\n  visitConditionalExpr(ast: o.ConditionalExpr, ctx:
_ExecutionContext): any {\n    if (ast.condition.visitExpression(this, ctx)) {\n      return
ast.trueCase.visitExpression(this, ctx);\n    } else if (ast.falseCase != null) {\n      return
ast.falseCase.visitExpression(this, ctx);\n    }\n    return null;\n  }\n  visitNotExpr(ast: o.NotExpr, ctx:
_ExecutionContext): any {\n    return !ast.condition.visitExpression(this, ctx);\n  }\n  visitAssertNotNullExpr(ast:
o.AssertNotNull, ctx: _ExecutionContext): any {\n    return ast.condition.visitExpression(this, ctx);\n  }\n
visitCastExpr(ast: o.CastExpr, ctx: _ExecutionContext): any {\n    return ast.value.visitExpression(this, ctx);\n  }\n
visitFunctionExpr(ast: o.FunctionExpr, ctx: _ExecutionContext): any {\n    const paramNames =
ast.params.map((param) => param.name);\n    return _declareFn(paramNames,
 ast.statements, ctx, this);\n  }\n  visitDeclareFunctionStmt(stmt: o.DeclareFunctionStmt, ctx: _ExecutionContext):
any {\n    const paramNames = stmt.params.map((param) => param.name);\n    ctx.vars.set(stmt.name,
_declareFn(paramNames, stmt.statements, ctx, this));\n    if (stmt.hasModifier(o.StmtModifier.Exported)) {\n
ctx.exports.push(stmt.name);\n    }\n    return null;\n  }\n  visitUnaryOperatorExpr(ast: o.UnaryOperatorExpr, ctx:
_ExecutionContext): any {\n    const rhs = () => ast.expr.visitExpression(this, ctx);\n\n    switch (ast.operator) {\n
case o.UnaryOperator.Plus:\n        return +rhs();\n      case o.UnaryOperator.Minus:\n        return -rhs();\n
default:\n        throw new Error(`Unknown operator ${ast.operator}`);\n    }\n  }\n  visitBinaryOperatorExpr(ast:
o.BinaryOperatorExpr, ctx: _ExecutionContext): any {\n    const lhs = () => ast.lhs.visitExpression(this, ctx);\n
const rhs = () => ast.rhs.visitExpression(this, ctx);\n\n    switch (ast.operator)
 {\n      case o.BinaryOperator.Equals:\n        return lhs() == rhs();\n      case o.BinaryOperator.Identical:\n        return
lhs() === rhs();\n      case o.BinaryOperator.NotEquals:\n        return lhs() != rhs();\n      case
o.BinaryOperator.NotIdentical:\n        return lhs() !== rhs();\n      case o.BinaryOperator.And:\n        return lhs() &&
rhs();\n      case o.BinaryOperator.Or:\n        return lhs() || rhs();\n      case o.BinaryOperator.Plus:\n        return lhs()
+ rhs();\n      case o.BinaryOperator.Minus:\n        return lhs() - rhs();\n      case o.BinaryOperator.Divide:\n
return lhs() / rhs();\n      case o.BinaryOperator.Multiply:\n        return lhs() * rhs();\n      case
o.BinaryOperator.Modulo:\n        return lhs() % rhs();\n      case o.BinaryOperator.Lower:\n        return lhs() <
rhs();\n      case o.BinaryOperator.LowerEquals:\n        return lhs() <= rhs();\n      case o.BinaryOperator.Bigger:\n
  return lhs() > rhs();\n      case o.BinaryOperator.BiggerEquals:\n
      return lhs() >= rhs();\n      default:\n        throw new Error(`Unknown operator ${ast.operator}`);\n    }\n  }\n
visitReadPropExpr(ast: o.ReadPropExpr, ctx: _ExecutionContext): any {\n    let result: any;\n    const receiver =
ast.receiver.visitExpression(this, ctx);\n    result = receiver[ast.name];\n    return result;\n  }\n
```

visitReadKeyExpr(ast: o.ReadKeyExpr, ctx: _ExecutionContext): any {\n const receiver = ast.receiver.visitExpression(this, ctx);\n const prop = ast.index.visitExpression(this, ctx);\n return receiver[prop];\n }\n visitLiteralArrayExpr(ast: o.LiteralArrayExpr, ctx: _ExecutionContext): any {\n return this.visitAllExpressions(ast.entries, ctx);\n }\n visitLiteralMapExpr(ast: o.LiteralMapExpr, ctx: _ExecutionContext): any {\n const result: {[k: string]: any} = {};\n ast.entries.forEach(entry => result[entry.key] = entry.value.visitExpression(this, ctx));\n return result;\n }\n visitCommaExpr(ast: o.CommaExpr, context: any): any {\n const values = this.visitAllExpressions(ast.parts, context);\n return values[values.length - 1];\n }\n visitAllExpressions(expressions: o.Expression[], ctx: _ExecutionContext): any {\n return expressions.map((expr) => expr.visitExpression(this, ctx));\n }\n\n visitAllStatements(statements: o.Statement[], ctx: _ExecutionContext): ReturnValue|null {\n for (let i = 0; i < statements.length; i++) {\n const stmt = statements[i];\n const val = stmt.visitStatement(this, ctx);\n if (val instanceof ReturnValue) {\n return val;\n }\n }\n return null;\n }\n}\n\nfunction _declareFn(\n varNames: string[], statements: o.Statement[], ctx: _ExecutionContext,\n visitor: StatementInterpreter): Function {\n return (...args: any[]) => _executeFunctionStatements(varNames, args, statements, ctx, visitor);\n}\n\nconst CATCH_ERROR_VAR = 'error';\nconst CATCH_STACK_VAR = 'stack';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CompileDirectiveMetadata, CompileIdentifierMetadata, CompileNgModuleMetadata, CompilePipeSummary, CompileProviderMetadata, CompileStylesheetMetadata, CompileTypeSummary, identifierName, ngModuleJitUrl, ProviderMeta, ProxyClass, sharedStylesheetJitUrl, templateJitUrl, templateSourceUrl} from '../compile_metadata';\nimport {CompileReflector} from '../compile_reflector';\nimport {CompilerConfig} from '../config';\nimport {ConstantPool} from '../constant_pool';\nimport {Type} from '../core';\nimport {CompileMetadataResolver} from '../metadata_resolver';\nimport {NgModuleCompiler} from '../ng_module_compiler';\nimport * as ir from '../output/output_ast';\nimport {interpretStatements} from '../output/output_interpreter';\nimport {JitEvaluator} from '../output/output_jit';\nimport {CompiledStylesheet, StyleCompiler} from '../style_compiler';\nimport {SummaryResolver} from '../summary_resolver';\nimport {TemplateAst} from '../template_parser/template_ast';\nimport {TemplateParser} from '../template_parser/template_parser';\nimport {Console, OutputContext, stringify, SyncAsync} from '../util';\nimport {ViewCompiler} from '../view_compiler/view_compiler';\n\nexport interface ModuleWithComponentFactories {\n ngModuleFactory: object;\n componentFactories: object[];\n}\n\n/**\n * An internal module of the Angular compiler that begins with component types,\n * extracts templates, and eventually produces a compiled version of the component\n * ready for linking into an application.\n *\n * @security When compiling templates at runtime, you must ensure that the entire template comes\n * from a trusted source. Attacker-controlled data introduced by a template could expose your\n * application to XSS risks. For more detail, see the [Security Guide](https://g.co/ng/security).\n */\nexport class JitCompiler {\n private _compiledTemplateCache = new Map<Type, CompiledTemplate>();\n private _compiledHostTemplateCache = new Map<Type, CompiledTemplate>();\n private _compiledDirectiveWrapperCache = new Map<Type, Type>();\n private _compiledNgModuleCache = new Map<Type, object>();\n private _sharedStylesheetCount = 0;\n private _addedAotSummaries = new Set<() => any[]>();\n\n constructor(\n private _metadataResolver: CompileMetadataResolver, private _templateParser: TemplateParser,\n private _styleCompiler: StyleCompiler, private _viewCompiler: ViewCompiler,\n private _ngModuleCompiler: NgModuleCompiler, private _summaryResolver: SummaryResolver<Type>,\n private _reflector: CompileReflector, private _jitEvaluator: JitEvaluator,\n private _compilerConfig: CompilerConfig, private _console: Console,\n private getExtraNgModuleProviders: (ngModule: any) => CompileProviderMetadata[]) {}\n\n compileModuleSync(moduleType: Type): object {\n return SyncAsync.assertSync(this._compileModuleAndComponents(moduleType, true));\n }\n\n compileModuleAsync(moduleType: Type): Promise<object> {\n return Promise.resolve(this._compileModuleAndComponents(moduleType, false));\n }\n\n

```
compileModuleAndAllComponentsSync(moduleType: Type): ModuleWithComponentFactories {\n    return SyncAsync.assertSync(this._compileModuleAndAllComponents(moduleType, true));\n  }\n\n compileModuleAndAllComponentsAsync(moduleType: Type): Promise<ModuleWithComponentFactories> {\n return Promise.resolve(this._compileModuleAndAllComponents(moduleType, false));\n  }\n\n getComponentFactory(component: Type): object {\n    const summary = this._metadataResolver.getDirectiveSummary(component);\n    return summary.componentFactory as object;\n  }\n\n  loadAotSummaries(summaries: () => any[]) {\n    this.clearCache();\n this._addAotSummaries(summaries);\n  }\n\n  private _addAotSummaries(fn: () => any[]) {\n    if (this._addedAotSummaries.has(fn)) {\n      return;\n    }\n    this._addedAotSummaries.add(fn);\n    const summaries = fn();\n    for (let i = 0; i < summaries.length; i++) {\n const entry = summaries[i];\n      if (typeof entry === 'function') {\n        this._addAotSummaries(entry);\n      } else {\n        const summary = entry as CompileTypeSummary;\n        this._summaryResolver.addSummary(\n {symbol: summary.type.reference, metadata: null, type: summary});\n      }\n    }\n  }\n\n  hasAotSummary(ref: Type) {\n    return !!this._summaryResolver.resolveSummary(ref);\n  }\n\n  private _filterJitIdentifiers(ids: CompileIdentifierMetadata[]): any[] {\n    return ids.map(mod => mod.reference).filter((ref) => !this.hasAotSummary(ref));\n  }\n\n  private _compileModuleAndComponents(moduleType: Type, isSync: boolean): SyncAsync<object> {\n    return SyncAsync.then(this._loadModules(moduleType, isSync), () => {\n this._compileComponents(moduleType, null);\n      return this._compileModule(moduleType);\n    });\n  }\n\n private _compileModuleAndAllComponents(moduleType: Type, isSync: boolean):\n      SyncAsync<ModuleWithComponentFactories> {\n    return SyncAsync.then(this._loadModules(moduleType, isSync), () => {\n      const componentFactories: object[] = [];\n this._compileComponents(moduleType, componentFactories);\n      return {\n        ngModuleFactory: this._compileModule(moduleType),\n        componentFactories: componentFactories\n      };\n    });\n  }\n\n  private _loadModules(mainModule: any, isSync: boolean): SyncAsync<any> {\n    const loading: Promise<any>[] = [];\n const mainNgModule = this._metadataResolver.getNgModuleMetadata(mainModule)!;\n    // Note: for runtime compilation, we want to transitively compile all modules,\n    // so we also need to load the declared directives / pipes for all nested modules.\n this._filterJitIdentifiers(mainNgModule.transitiveModule.modules).forEach((nestedNgModule) => {\n      // getNgModuleMetadata only returns null if the value passed in is not an NgModule\n      const moduleMeta = this._metadataResolver.getNgModuleMetadata(nestedNgModule)!;\n this._filterJitIdentifiers(moduleMeta.declaredDirectives).forEach((ref) => {\n        const promise =\n this._metadataResolver.loadDirectiveMetadata(moduleMeta.type.reference, ref, isSync);\n        if (promise) {\n loading.push(promise);\n        }\n      });\n      this._filterJitIdentifiers(moduleMeta.declaredPipes)\n .forEach((ref) => this._metadataResolver.getOrLoadPipeMetadata(ref));\n    });\n    return SyncAsync.all(loading);\n  }\n\n  private _compileModule(moduleType: Type): object {\n    let ngModuleFactory = this._compiledNgModuleCache.get(moduleType)!;\n    if (!ngModuleFactory) {\n      const moduleMeta = this._metadataResolver.getNgModuleMetadata(moduleType)!;\n      // Always provide a bound Compiler\n      const extraProviders = this.getExtraNgModuleProviders(moduleMeta.type.reference);\n      const outputCtx = createOutputContext();\n      const compileResult = this._ngModuleCompiler.compile(outputCtx, moduleMeta, extraProviders);\n ngModuleFactory = this._interpretOrJit(\n          ngModuleJitUrl(moduleMeta), outputCtx.statements)[compileResult.ngModuleFactoryVar];\n this._compiledNgModuleCache.set(moduleMeta.type.reference, ngModuleFactory);\n    }\n    return ngModuleFactory;\n  }\n\n  /**\n   * @internal\n   */\n  _compileComponents(mainModule: Type, allComponentFactories: object[]|null) {\n    const ngModule = this._metadataResolver.getNgModuleMetadata(mainModule)!;\n    const moduleByJitDirective = new Map<any, CompileNgModuleMetadata>();\n    const templates = new Set<CompiledTemplate>();\n\n    const transJitModules = this._filterJitIdentifiers(ngModule.transitiveModule.modules);\n    transJitModules.forEach((localMod) => {\n
```

```
const localModuleMeta = this._metadataResolver.getNgModuleMetadata(localMod)!;\n
this._filterJitIdentifiers(localModuleMeta.declaredDirectives).forEach((dirRef) => {\n
    moduleByJitDirective.set(dirRef, localModuleMeta);\n    const dirMeta =
this._metadataResolver.getDirectiveMetadata(dirRef);\n    if (dirMeta.isComponent) {\n
templates.add(this._createCompiledTemplate(dirMeta, localModuleMeta));\n    if (allComponentFactories) {\n
    const template =\n        this._createCompiledHostTemplate(dirMeta.type.reference, localModuleMeta);\n
    templates.add(template);\n    allComponentFactories.push(dirMeta.componentFactory as object);\n
}\n    }\n  });\n  });\n  transJitModules.forEach((localMod) => {\n    const localModuleMeta =
this._metadataResolver.getNgModuleMetadata(localMod)!;\n
this._filterJitIdentifiers(localModuleMeta.declaredDirectives).forEach((dirRef) => {\n    const dirMeta =
this._metadataResolver.getDirectiveMetadata(dirRef);\n    if (dirMeta.isComponent) {\n
dirMeta.entryComponents.forEach((entryComponentType) => {\n    const
 moduleMeta = moduleByJitDirective.get(entryComponentType.componentType)!;\n    templates.add(\n
  this._createCompiledHostTemplate(entryComponentType.componentType, moduleMeta));\n    });\n    }\n
});\n    localModuleMeta.entryComponents.forEach((entryComponentType) => {\n    if
(!this.hasAotSummary(entryComponentType.componentType)) {\n    const moduleMeta =
moduleByJitDirective.get(entryComponentType.componentType)!;\n    templates.add(\n
this._createCompiledHostTemplate(entryComponentType.componentType, moduleMeta));\n    }\n  });\n
});\n  templates.forEach((template) => this._compileTemplate(template));\n }\n\n clearCacheFor(type: Type) {\n
this._compiledNgModuleCache.delete(type);\n  this._metadataResolver.clearCacheFor(type);\n
this._compiledHostTemplateCache.delete(type);\n  const compiledTemplate =
this._compiledTemplateCache.get(type);\n  if (compiledTemplate) {\n
this._compiledTemplateCache.delete(type);\n
  }\n }\n\n clearCache(): void {\n  // Note: don't clear the _addedAotSummaries, as they don't change!\n
this._metadataResolver.clearCache();\n  this._compiledTemplateCache.clear();\n
this._compiledHostTemplateCache.clear();\n  this._compiledNgModuleCache.clear();\n }\n\n private
_createCompiledHostTemplate(compType: Type, ngModule: CompileNgModuleMetadata):\n
CompiledTemplate {\n  if (!ngModule) {\n    throw new Error(`Component ${\n    stringify(\n
compType)} is not part of any NgModule or the module has not been imported into your module.`);\n  }\n  let
compiledTemplate = this._compiledHostTemplateCache.get(compType);\n  if (!compiledTemplate) {\n    const
compMeta = this._metadataResolver.getDirectiveMetadata(compType);\n    assertComponent(compMeta);\n\n
const hostMeta = this._metadataResolver.getHostComponentMetadata(\n    compMeta,
(compMeta.componentFactory as any).viewDefFactory);\n
    compiledTemplate =\n    new CompiledTemplate(true, compMeta.type, hostMeta, ngModule,
[compMeta.type]);\n    this._compiledHostTemplateCache.set(compType, compiledTemplate);\n  }\n  return
compiledTemplate;\n }\n\n private _createCompiledTemplate(\n    compMeta: CompileDirectiveMetadata,
ngModule: CompileNgModuleMetadata): CompiledTemplate {\n  let compiledTemplate =
this._compiledTemplateCache.get(compMeta.type.reference);\n  if (!compiledTemplate) {\n
assertComponent(compMeta);\n    compiledTemplate = new CompiledTemplate(\n    false, compMeta.type,
compMeta, ngModule, ngModule.transitiveModule.directives);\n
this._compiledTemplateCache.set(compMeta.type.reference, compiledTemplate);\n  }\n  return
compiledTemplate;\n }\n\n private _compileTemplate(template: CompiledTemplate) {\n  if
(template.isCompiled) {\n    return;\n  }\n  const compMeta = template.compMeta;\n  const
externalStylesheetsByModuleUrl = new Map<string, CompiledStylesheet>();\n
  const outputContext = createOutputContext();\n  const componentStylesheet =
this._styleCompiler.compileComponent(outputContext, compMeta);\n  compMeta.template
!.externalStylesheets.forEach((stylesheetMeta) => {\n    const compiledStylesheet =\n
this._styleCompiler.compileStyles(createOutputContext(), compMeta, stylesheetMeta);\n
```

externalStylesheetsByModuleUrl.set(stylesheetMeta.moduleUrl!, compiledStylesheet);\n    });\n this._resolveStylesCompileResult(componentStylesheet, externalStylesheetsByModuleUrl);\n    const pipes = template.ngModule.transitiveModule.pipes.map(\n        pipe =>\n this._metadataResolver.getPipeSummary(pipe.reference));\n    const {template: parsedTemplate, pipes: usedPipes} =\n        this._parseTemplate(compMeta, template.ngModule, template.directives);\n    const compileResult = this._viewCompiler.compileComponent(\n        outputContext, compMeta, parsedTemplate, ir.variable(componentStylesheet.stylesVar),\n      usedPipes);\n    const evalResult = this._interpretOrJit(\n        templateJitUrl(template.ngModule.type, template.compMeta), outputContext.statements);\n    const viewClass = evalResult[compileResult.viewClassVar];\n  const rendererType = evalResult[compileResult.rendererTypeVar];\n    template.compiled(viewClass, rendererType);\n  }\n\n  private _parseTemplate(\n      compMeta: CompileDirectiveMetadata, ngModule: CompileNgModuleMetadata,\n      directiveIdentifiers: CompileIdentifierMetadata[]):\n      {template: TemplateAst[], pipes: CompilePipeSummary[]} {\n    // Note: ! is ok here as components always have a template.\n const preserveWhitespaces = compMeta.template !.preserveWhitespaces;\n    const directives =\n directiveIdentifiers.map(dir => this._metadataResolver.getDirectiveSummary(dir.reference));\n    const pipes = ngModule.transitiveModule.pipes.map(\n        pipe => this._metadataResolver.getPipeSummary(pipe.reference));\n return this._templateParser.parse(\n        compMeta, compMeta.template !.htmlAst!, directives, pipes, ngModule.schemas,\n templateSourceUrl(ngModule.type, compMeta, compMeta.template !), preserveWhitespaces);\n  }\n\n  private _resolveStylesCompileResult(\n      result: CompiledStylesheet, externalStylesheetsByModuleUrl: Map<string, CompiledStylesheet>) {\n    result.dependencies.forEach((dep, i) => {\n      const nestedCompileResult = externalStylesheetsByModuleUrl.get(dep.moduleUrl)!;\n      const nestedStylesArr =\n this._resolveAndEvalStylesCompileResult(\n          nestedCompileResult, externalStylesheetsByModuleUrl);\n dep.setValue(nestedStylesArr);\n    });\n  }\n\n  private _resolveAndEvalStylesCompileResult(\n      result: CompiledStylesheet,\n      externalStylesheetsByModuleUrl: Map<string, CompiledStylesheet>): string[] {\n this._resolveStylesCompileResult(result, externalStylesheetsByModuleUrl);\n    return this._interpretOrJit(\n sharedStylesheetJitUrl(result.meta, this._sharedStylesheetCount++),\n        result.outputCtx.statements)[result.stylesVar];\n  }\n\n  private _interpretOrJit(sourceUrl: string, statements: ir.Statement[]): any {\n    if (!this._compilerConfig.useJit) {\n      return interpretStatements(statements, this._reflector);\n    } else {\n      return this._jitEvaluator.evaluateStatements(\n          sourceUrl, statements, this._reflector, this._compilerConfig.jitDevMode);\n    }\n  }\n}\n\nclass CompiledTemplate {\n  private _viewClass: Function = null!;\n  isCompiled = false;\n\n  constructor(\n      public isHost: boolean, public compType: CompileIdentifierMetadata,\n      public compMeta: CompileDirectiveMetadata, public ngModule: CompileNgModuleMetadata,\n      public directives: CompileIdentifierMetadata[]) {}\n\n  compiled(viewClass: Function, rendererType: any) {\n    this._viewClass = viewClass;\n (<ProxyClass>this.compMeta.componentViewType).setDelegate(viewClass);\n    for (let prop in rendererType) {\n      (<any>this.compMeta.rendererType)[prop]\n = rendererType[prop];\n    }\n    this.isCompiled = true;\n  }\n}\n\nfunction assertComponent(meta: CompileDirectiveMetadata) {\n  if (!meta.isComponent) {\n    throw new Error(\n        `Could not compile '${identifierName(meta.type)}' because it is not a component.`);\n  }\n}\n\nfunction createOutputContext(): OutputContext {\n  const importExpr = (symbol: any) =>\n      ir.importExpr({name: identifierName(symbol), moduleName: null, runtime: symbol});\n  return {statements: [], genFilePath: '', importExpr, constantPool: new ConstantPool()};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {Component} from './core';\nimport * as o from './output/output_ast';\n\n/**\n * Provides access to reflection data about symbols that the compiler needs.\n */\nexport abstract class CompileReflector {\n

abstract parameters(typeOrFunc: /*Type*/ any): any[][];\n  abstract annotations(typeOrFunc: /*Type*/ any): any[];\n  abstract shallowAnnotations(typeOrFunc: /*Type*/ any): any[];\n  abstract tryAnnotations(typeOrFunc: /*Type*/ any): any[];\n  abstract propMetadata(typeOrFunc: /*Type*/ any): {[key: string]: any[]};\n  abstract hasLifecycleHook(type: any, lcProperty: string): boolean;\n  abstract guards(typeOrFunc: /* Type */ any): {[key: string]: any};\n  abstract componentModuleUrl(type: /*Type*/ any, cmpMetadata: Component): string;\n  abstract resolveExternalReference(ref: o.ExternalReference): any;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * Create a {@link UrlResolver} with no package prefix.\n */\nexport function createUrlResolverWithoutPackagePrefix(): UrlResolver {\n  return new UrlResolver();\n}\n\nexport
function createOfflineCompileUrlResolver(): UrlResolver {\n  return new UrlResolver('.');\n}\n\n/**\n * Used by the {@link Compiler} when resolving HTML and CSS template URLs.\n *\n * This class can be overridden by the application developer to create custom behavior.\n *\n * See {@link Compiler}\n *\n * ## Example\n *\n * {@example compiler/ts/url_resolver/url_resolver.ts region='url_resolver'}\n *\n * @security  When compiling templates at runtime, you must\n * ensure that the entire template comes from a trusted source.\n * Attacker-controlled data introduced by a template could expose your\n * application to XSS risks. For more detail, see the [Security Guide](https://g.co/ng/security).\n */\nexport interface UrlResolver {\n  resolve(baseUrl: string, url: string): string;\n}\n\nexport interface UrlResolverCtor {\n  new(packagePrefix?: string|null): UrlResolver;\n}\n\nexport const UrlResolver: UrlResolverCtor = class UrlResolverImpl {\n  constructor(private _packagePrefix: string|null
= null) {}\n\n  /**\n   * Resolves the `url` given the `baseUrl`:\n   * - when the `url` is null, the `baseUrl` is returned,\n   * - if `url` is relative ('path/to/here', './path/to/here'), the resolved url is a combination of\n   * `baseUrl` and `url`,\n   * - if `url` is absolute (it has a scheme: 'http://', 'https://' or start with '/'), the `url` is\n   * returned as is (ignoring the `baseUrl`)\n   */\n  resolve(baseUrl: string, url: string): string {\n    let resolvedUrl = url;\n    if (baseUrl != null && baseUrl.length > 0) {\n      resolvedUrl = _resolveUrl(baseUrl, resolvedUrl);\n    }\n    const resolvedParts = _split(resolvedUrl);\n    let prefix = this._packagePrefix;\n    if (prefix != null && resolvedParts != null &&\n        resolvedParts[_ComponentIndex.Scheme] == 'package') {\n      let path = resolvedParts[_ComponentIndex.Path];\n      prefix = prefix.replace(/\\/+$/, '');\n      path = path.replace(/^\\/+/, '');\n      return `${prefix}/${path}`;\n    }\n
return resolvedUrl;\n  }\n};\n\n/**\n * Extract the scheme of a URL.\n */\nexport function getUrlScheme(url: string): string {\n  const match = _split(url);\n  return (match && match[_ComponentIndex.Scheme]) || '';\n}\n\n// The code below is adapted from Traceur:\n// https://github.com/google/traceur-compiler/blob/9511c1dafa972bf0de1202a8a863bad02f0f95a8/src/runtime/url.js\n\n/**\n * Builds a URI string from already-encoded parts.\n *\n * No encoding is performed.  Any component may be omitted as either null or\n * undefined.\n *\n * @param opt_scheme The scheme such as 'http'.\n * @param opt_userInfo The user name before the '@'.\n * @param opt_domain The domain such as 'www.google.com', already\n *     URI-encoded.\n * @param opt_port The port number.\n * @param opt_path The path, already URI-encoded.  If it is not\n *     empty, it must begin with a slash.\n * @param opt_queryData The URI-encoded query data.\n * @param opt_fragment The URI-encoded fragment identifier.\n * @return The
fully combined URI.\n */\nfunction _buildFromEncodedParts(\n    opt_scheme?: string, opt_userInfo?: string, opt_domain?: string, opt_port?: string,\n    opt_path?: string, opt_queryData?: string, opt_fragment?: string): string {\n  const out: string[] = [];\n\n  if (opt_scheme != null) {\n    out.push(opt_scheme + ':');\n  }\n\n  if (opt_domain != null) {\n    out.push('//');\n\n    if (opt_userInfo != null) {\n      out.push(opt_userInfo + '@');\n    }\n\n    out.push(opt_domain);\n\n    if (opt_port != null) {\n      out.push(':' + opt_port);\n    }\n  }\n\n  if (opt_path != null) {\n    out.push(opt_path);\n  }\n\n  if (opt_queryData != null) {\n    out.push('?' + opt_queryData);\n  }\n\n  if (opt_fragment != null) {\n    out.push('#' + opt_fragment);\n  }\n\n  return out.join('');\n}\n\n/**\n * A regular expression for breaking a URI into its component parts.\n *\n * {@link https://tools.ietf.org/html/rfc3986#appendix-B} says\n * As the \"first-match-wins\" algorithm is identical

```
 to the \"greedy\"\n * disambiguation method used by POSIX regular expressions, it is natural and\n * commonplace to use a regular expression for parsing the potential five\n * components of a URI reference.\n *\n * The following line is the regular expression for breaking-down a\n * well-formed URI reference into its components.\n *\n * <pre>\n * ^(([^:/?#]+):)?(//([^/?#]*))?([^?#]*)(\\?([^#]*))?(#(.*))?\n *  12            3  4          5       6  7        8 9\n * </pre>\n *\n * The numbers in the second line above are only to assist readability; they\n * indicate the reference points for each subexpression (i.e., each paired\n * parenthesis). We refer to the value matched for subexpression <n> as $<n>.\n * For example, matching the above expression to\n * <pre>\n * http://www.ics.uci.edu/pub/ietf/uri/#Related\n * </pre>\n * results in the following subexpression matches:\n * <pre>\n *    $1 = http:\n *    $2 = http\n *    $3 = //www.ics.uci.edu\n *    $4 = www.ics.uci.edu\n *    $5 = /pub/ietf/uri/\n *    $6 = <undefined>\n *    $7 = <undefined>\n *    $8 = #Related\n *    $9 = Related\n * </pre>\n * where <undefined> indicates that the component is not present, as is the\n * case for the query component in the above example. Therefore, we can\n * determine the value of the five components as\n * <pre>\n *    scheme    = $2\n *    authority = $4\n *    path      = $5\n *    query     = $7\n *    fragment  = $9\n * </pre>\n *\n * The regular expression has been modified slightly to expose the\n * userInfo, domain, and port separately from the authority.\n * The modified version yields\n * <pre>\n *    $1 = http              scheme\n *    $2 = <undefined>       userInfo -\\\n *    $3 = www.ics.uci.edu   domain     | authority\n *    $4 = <undefined>       port     -/\n *    $5 = /pub/ietf/uri/    path\n *    $6 = <undefined>       query without ?\n *    $7 = Related           fragment without #\n * </pre>\n * @internal\n */\nconst _splitRe = new RegExp(\n    '^'
 +\n    '(?:' +\n    '([^:/?#.]+)' +  // scheme - ignore special characters\n                     // used by other URL parts such as :,\n                     // ?, /, #, and .\n    ':)?' +\n    '(?://' +\n    '(?:([^/?#]*)@)?' +              // userInfo\n    '([\\\\w\\\\d\\\\-\\\\u0100-\\\\uffff.%]*)' +  // domain - restrict to letters,\n                                                 // digits, dashes, dots, percent\n                                                 // escapes, and unicode characters.\n    '(?::([0-9]+))?' +               // port\n    ')?' +\n    '([^?#]+)?' +        // path\n    '(?:\\\\?([^#]*))?' +  // query\n    '(?:#(.*))?' +       // fragment\n    '$');\n\n/**\n * The index of each URI component in the return value of goog.uri.utils.split.\n * @enum {number}\n */\nenum _ComponentIndex {\n  Scheme = 1,\n  UserInfo,\n  Domain,\n  Port,\n  Path,\n  QueryData,\n  Fragment\n}\n\n/**\n * Splits a URI into its component parts.\n *\n * Each component can be accessed via the component
 indices; for example:\n * <pre>\n *
goog.uri.utils.split(someStr)[goog.uri.utils.CompontentIndex.QUERY_DATA];\n * </pre>\n *\n * @param uri The URI string to examine.\n * @return Each component still URI-encoded.\n *     Each component that is present will contain the encoded value, whereas\n *     components that are not present will be undefined or empty, depending\n *     on the browser's regular expression implementation.  Never null, since\n *     arbitrary strings may still look like path names.\n */\nfunction _split(uri: string): Array<string|any> {\n  return uri.match(_splitRe)!;\n}\n\n/**\n * Removes dot segments in given path component, as described in\n * RFC 3986, section 5.2.4.\n *\n * @param path A non-empty path component.\n * @return Path component with removed dot segments.\n */\nfunction _removeDotSegments(path: string): string {\n  if (path == '/') return '/';\n\n  const leadingSlash = path[0] == '/' ? '/' : '';\n  const trailingSlash = path[path.length - 1]
 === '/' ? '/' : '';\n  const segments = path.split('/');\n\n  const out: string[] = [];\n  let up = 0;\n  for (let pos = 0; pos < segments.length; pos++) {\n    const segment = segments[pos];\n    switch (segment) {\n      case '':\n      case '.':\n       break;\n      case '..':\n        if (out.length > 0) {\n          out.pop();\n        } else {\n          up++;\n        }\n        break;\n      default:\n        out.push(segment);\n    }\n  }\n\n  if (leadingSlash == '') {\n    while (up-- > 0) {\n      out.unshift('..');\n    }\n\n    if (out.length === 0) out.push('.');\n  }\n\n  return leadingSlash + out.join('/') + trailingSlash;\n}\n\n/**\n * Takes an array of the parts from split and canonicalizes the path part\n * and then joins all the parts.\n */\nfunction _joinAndCanonicalizePath(parts: any[]): string {\n  let path = parts[_ComponentIndex.Path];\n  path = path == null ? '' : _removeDotSegments(path);\n  parts[_ComponentIndex.Path] = path;\n\n  return _buildFromEncodedParts(\n      parts[_ComponentIndex.Scheme], parts[_ComponentIndex.UserInfo], parts[_ComponentIndex.Domain],\n      parts[_ComponentIndex.Port], path, parts[_ComponentIndex.QueryData],\n      parts[_ComponentIndex.Fragment]);\n}\n\n/**\n * Resolves a URL.\n * @param base The URL acting as the base
```

URL.\n * @param to The URL to resolve.\n */\nfunction _resolveUrl(base: string, url: string): string {\n  const parts = _split(encodeURI(url));\n  const baseParts = _split(base);\n\n  if (parts[_ComponentIndex.Scheme] != null) {\n  return _joinAndCanonicalizePath(parts);\n  } else {\n    parts[_ComponentIndex.Scheme] = baseParts[_ComponentIndex.Scheme];\n  }\n\n  for (let i = _ComponentIndex.Scheme; i <= _ComponentIndex.Port; i++) {\n    if (parts[i] == null) {\n      parts[i] = baseParts[i];\n    }\n  }\n\n  if (parts[_ComponentIndex.Path][0] == '/') {\n    return _joinAndCanonicalizePath(parts);\n  }\n\n  let path = baseParts[_ComponentIndex.Path];\n  if (path == null) path = '/';\n  const
 index = path.lastIndexOf('/');\n  path = path.substring(0, index + 1) + parts[_ComponentIndex.Path];\n parts[_ComponentIndex.Path] = path;\n  return _joinAndCanonicalizePath(parts);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n\n/**\n * Extract i18n messages from source code\n */\nimport {analyzeAndValidateNgModules} from '../aot/compiler';\nimport {createAotUrlResolver} from '../aot/compiler_factory';\nimport {StaticReflector} from '../aot/static_reflector';\nimport {StaticSymbolCache} from '../aot/static_symbol';\nimport {StaticSymbolResolver, StaticSymbolResolverHost} from '../aot/static_symbol_resolver';\nimport {AotSummaryResolver, AotSummaryResolverHost} from '../aot/summary_resolver';\nimport {CompileDirectiveMetadata} from '../compile_metadata';\nimport {CompilerConfig} from '../config';\nimport {ViewEncapsulation}
 from '../core';\nimport {DirectiveNormalizer} from '../directive_normalizer';\nimport {DirectiveResolver} from '../directive_resolver';\nimport {CompileMetadataResolver} from '../metadata_resolver';\nimport {HtmlParser} from '../ml_parser/html_parser';\nimport {InterpolationConfig} from '../ml_parser/interpolation_config';\nimport {NgModuleResolver} from '../ng_module_resolver';\nimport {ParseError} from '../parse_util';\nimport {PipeResolver} from '../pipe_resolver';\nimport {DomElementSchemaRegistry} from '../schema/dom_element_schema_registry';\nimport {syntaxError} from '../util';\n\nimport {MessageBundle} from './message_bundle';\n\n\n\n/**\n * The host of the Extractor disconnects the implementation from TypeScript / other language\n * services and from underlying file systems.\n */\nexport interface ExtractorHost extends StaticSymbolResolverHost, AotSummaryResolverHost {\n  /**\n   * Converts a path that refers to a resource into an absolute filePath\n   * that can be
 lateron used for loading the resource via `loadResource.\n   */\n  resourceNameToFileName(path: string, containingFile: string): string|null;\n  /**\n   * Loads a resource (e.g. html / css)\n   */\n  loadResource(path: string): Promise<string>|string;\n}\n\nexport class Extractor {\n  constructor(\n      public host: ExtractorHost, private staticSymbolResolver: StaticSymbolResolver,\n      private messageBundle: MessageBundle, private metadataResolver: CompileMetadataResolver) {}\n\n  extract(rootFiles: string[]): Promise<MessageBundle> {\n    const {files, ngModules} = analyzeAndValidateNgModules(\n        rootFiles, this.host, this.staticSymbolResolver, this.metadataResolver);\n    return Promise\n        .all(ngModules.map(\n            ngModule => this.metadataResolver.loadNgModuleDirectiveAndPipeMetadata(\n                ngModule.type.reference, false)))\n        .then(() => {\n          const errors: ParseError[] = [];\n\n          files.forEach(file => {\n            const compMetas: CompileDirectiveMetadata[] = [];\n            file.directives.forEach(directiveType => {\n              const dirMeta = this.metadataResolver.getDirectiveMetadata(directiveType);\n              if (dirMeta && dirMeta.isComponent) {\n                compMetas.push(dirMeta);\n              }\n            });\n            compMetas.forEach(compMeta => {\n              const html = compMeta.template !.template !;\n              // Template URL points to either an HTML or TS file depending on\n              // whether the file is used with `templateUrl:` or `template:`,\n              // respectively.\n              const templateUrl = compMeta.template !.templateUrl!;\n              const interpolationConfig =\n                  InterpolationConfig.fromArray(compMeta.template !.interpolation);\n              errors.push(...this.messageBundle.updateFromTemplate(\n                  html, templateUrl, interpolationConfig)!);\n            });\n          });\n\n          if (errors.length)
 {\n            throw new Error(errors.map(e => e.toString()).join('\\n'));\n          }\n\n          return this.messageBundle;\n        });\n  }\n\n  static create(host: ExtractorHost, locale: string|null):\n      {extractor: Extractor, staticReflector: StaticReflector} {\n    const htmlParser = new HtmlParser();\n\n    const urlResolver =

createAotUrlResolver(host);\n  const symbolCache = new StaticSymbolCache();\n  const summaryResolver = new AotSummaryResolver(host, symbolCache);\n  const staticSymbolResolver = new StaticSymbolResolver(host, symbolCache, summaryResolver);\n  const staticReflector = new StaticReflector(summaryResolver, staticSymbolResolver);\n\n  const config =\n      new CompilerConfig({defaultEncapsulation: ViewEncapsulation.Emulated, useJit: false});\n\n  const normalizer = new DirectiveNormalizer(\n      {get: (url: string) => host.loadResource(url)}, urlResolver, htmlParser, config);\n  const elementSchemaRegistry = new DomElementSchemaRegistry();\n
  const resolver = new CompileMetadataResolver(\n      config, htmlParser, new NgModuleResolver(staticReflector),\n      new DirectiveResolver(staticReflector), new PipeResolver(staticReflector), summaryResolver,\n      elementSchemaRegistry, normalizer, console, symbolCache, staticReflector);\n\n  // TODO(vicb): implicit tags & attributes\n  const messageBundle = new MessageBundle(htmlParser, [], {}, locale);\n\n  const extractor = new Extractor(host, staticSymbolResolver, messageBundle, resolver);\n  return {extractor, staticReflector};\n}\n\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nexport {computeMsgId} from './digest';\nexport {Extractor, ExtractorHost} from './extractor';\nexport {I18NHtmlParser} from './i18n_html_parser';\nexport {MessageBundle} from './message_bundle';\nexport {Serializer}
 from './serializers/serializer';\nexport {Xliff} from './serializers/xliff';\nexport {Xliff2} from './serializers/xliff2';\nexport {Xmb} from './serializers/xmb';\nexport {Xtb} from './serializers/xtb';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ChangeDetectionStrategy, ViewEncapsulation} from '../../core';\nimport {InterpolationConfig} from '../../ml_parser/interpolation_config';\nimport * as o from '../../output/output_ast';\nimport {ParseSourceSpan} from '../../parse_util';\nimport * as t from '../r3_ast';\nimport {R3DependencyMetadata} from '../r3_factory';\nimport {R3Reference} from '../util';\n\n\n/**\n * Information needed to compile a directive for the render3 runtime.\n */\nexport interface R3DirectiveMetadata {\n  /**\n   * Name of the directive type.\n   */\n  name: string;\n\n  /**\n * An
 expression representing a reference to the directive itself.\n   */\n  type: R3Reference;\n\n  /**\n   * An expression representing a reference to the directive being compiled, intended for use within\n   * a class definition itself.\n   *\n * This can differ from the outer `type` if the class is being compiled by ngcc and is inside\n   * an IIFE structure that uses a different name internally.\n   */\n  internalType: o.Expression;\n\n  /**\n   * Number of generic type parameters of the type itself.\n   */\n  typeArgumentCount: number;\n\n  /**\n   * A source span for the directive type.\n   */\n  typeSourceSpan: ParseSourceSpan;\n\n  /**\n   * Dependencies of the directive's constructor.\n   */\n  deps: R3DependencyMetadata[]|'invalid'|null;\n\n  /**\n   * Unparsed selector of the directive, or `null` if there was no selector.\n   */\n  selector: string|null;\n\n  /**\n   * Information about the content queries made by the directive.\n   */\n  queries: R3QueryMetadata[];\n\n  /**\n
   * Information about the view queries made by the directive.\n   */\n  viewQueries: R3QueryMetadata[];\n\n  /**\n * Mappings indicating how the directive interacts with its host element (host bindings,\n   * listeners, etc).\n   */\n  host: R3HostMetadata;\n\n  /**\n   * Information about usage of specific lifecycle events which require special treatment in the\n   * code generator.\n   */\n  lifecycle: {\n    /**\n     * Whether the directive uses NgOnChanges.\n     */\n    usesOnChanges: boolean;\n  };\n\n  /**\n   * A mapping of input field names to the property names.\n   */\n  inputs: {[field: string]: string|[string, string]};\n\n  /**\n   * A mapping of output field names to the property names.\n   */\n  outputs: {[field: string]: string};\n\n  /**\n   * Whether or not the component or directive inherits from another class\n   */\n  usesInheritance: boolean;\n\n  /**\n   * Whether or not the component or directive inherits its entire decorator from its base class.\n   */\n
 fullInheritance: boolean;\n\n  /**\n   * Reference name under which to export the directive's type in a template,\n   * if any.\n   */\n  exportAs: string[]|null;\n\n  /**\n   * The list of providers defined in the directive.\n   */\n  providers: o.Expression|null;\n}\n\n/**\n * Information needed to compile a component for the render3 runtime.\n */\nexport

interface R3ComponentMetadata extends R3DirectiveMetadata {\n /**\n * Information about the component's template.\n */\n template: {\n /**\n * Parsed nodes of the template.\n */\n nodes: t.Node[];\n\n /**\n * Any ng-content selectors extracted from the template. Contains `null` when an ng-content\n * element without selector is present.\n */\n ngContentSelectors: string[];\n };\n\n /**\n * A map of pipe names to an expression referencing the pipe type which are in the scope of the\n * compilation.\n */\n pipes: Map<string, o.Expression>;\n\n /**\n * A list of directive selectors and
an expression referencing the directive type which are in the\n * scope of the compilation.\n */\n directives: {selector: string, expression: o.Expression}[];\n\n /**\n * Whether to wrap the 'directives' and/or `pipes` array, if one is generated, in a closure.\n *\n * This is done when the directives or pipes contain forward references.\n */\n wrapDirectivesAndPipesInClosure: boolean;\n\n /**\n * A collection of styling data that will be applied and scoped to the component.\n */\n styles: string[];\n\n /**\n * An encapsulation policy for the template and CSS styles. One of:\n * - `ViewEncapsulation.Emulated`: Use shimmed CSS that emulates the native behavior.\n * - `ViewEncapsulation.None`: Use global CSS without any encapsulation.\n * - `ViewEncapsulation.ShadowDom`: Use the latest ShadowDOM API to natively encapsulate styles\n * into a shadow root.\n */\n encapsulation: ViewEncapsulation;\n\n /**\n * A collection of animation triggers that will be
used in the component template.\n */\n animations: o.Expression|null;\n\n /**\n * The list of view providers defined in the component.\n */\n viewProviders: o.Expression|null;\n\n /**\n * Path to the .ts file in which this template's generated code will be included, relative to\n * the compilation root. This will be used to generate identifiers that need to be globally\n * unique in certain contexts (such as g3).\n */\n relativeContextFilePath: string;\n\n /**\n * Whether translation variable name should contain external message id\n * (used by Closure Compiler's output of `goog.getMsg` for transition period).\n */\n i18nUseExternalIds: boolean;\n\n /**\n * Overrides the default interpolation start and end delimiters ({{ and }}).\n */\n interpolation: InterpolationConfig;\n\n /**\n * Strategy used for detecting changes in the component.\n */\n changeDetection?: ChangeDetectionStrategy;\n}\n\n/**\n * Information needed to compile a query (view or
content).\n */\nexport interface R3QueryMetadata {\n /**\n * Name of the property on the class to update with query results.\n */\n propertyName: string;\n\n /**\n * Whether to read only the first matching result, or an array of results.\n */\n first: boolean;\n\n /**\n * Either an expression representing a type or `InjectionToken` for the query\n * predicate, or a set of string selectors.\n */\n predicate: o.Expression|string[];\n\n /**\n * Whether to include only direct children or all descendants.\n */\n descendants: boolean;\n\n /**\n * An expression representing a type to read from each matched node, or null if the default value\n * for a given node is to be returned.\n */\n read: o.Expression|null;\n\n /**\n * Whether or not this query should collect only static results.\n *\n * If static is true, the query's results will be set on the component after nodes are created,\n * but before change detection runs. This means that any results that
relied upon change detection\n * to run (e.g. results inside *ngIf or *ngFor views) will not be collected. Query results are\n * available in the ngOnInit hook.\n *\n * If static is false, the query's results will be set on the component after change detection\n * runs. This means that the query results can contain nodes inside *ngIf or *ngFor views, but\n * the results will not be available in the ngOnInit hook (only in the ngAfterContentInit for\n * content hooks and ngAfterViewInit for view hooks).\n */\n static: boolean;\n}\n\n/**\n * Output of render3 directive compilation.\n */\nexport interface R3DirectiveDef {\n expression: o.Expression;\n type: o.Type;\n}\n\n/**\n * Output of render3 component compilation.\n */\nexport interface R3ComponentDef {\n expression: o.Expression;\n type: o.Type;\n}\n\n/**\n * Mappings indicating how the class interacts with its\n * host element (host bindings, listeners, etc).\n */\nexport interface R3HostMetadata {\n /**\n
* A mapping of attribute binding keys to `o.Expression`s.\n */\n attributes: {[key: string]: o.Expression};\n\n /**\n * A mapping of event binding keys to unparsed expressions.\n */\n listeners: {[key: string]: string};\n\n /**\n * A mapping of property binding keys to unparsed expressions.\n */\n properties: {[key: string]: string};\n\n specialAttributes: {styleAttr?: string; classAttr?: string;};\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AST} from

'../../expression_parser/ast';\nimport {BoundAttribute, BoundEvent, Element, Node, Reference, Template, TextAttribute, Variable} from '../r3_ast';\n\n\n/*\n * t2 is the replacement for the `TemplateDefinitionBuilder`. It handles the operations of\n * analyzing Angular templates, extracting semantic info, and ultimately producing a template\n
 * definition function which renders the template using Ivy instructions.\n *\n * t2 data is also utilized by the template type-checking facilities to understand a template enough\n * to generate type-checking code for it.\n */\n\n/**\n * A logical target for analysis, which could contain a template or other types of bindings.\n */\nexport interface Target {\n  template?: Node[];\n}\n\n/**\n * A data structure which can indicate whether a given property name is present or not.\n *\n * This is used to represent the set of inputs or outputs present on a directive, and allows the\n * binder to query for the presence of a mapping for property names.\n */\nexport interface InputOutputPropertySet {\n  hasBindingPropertyName(propertyName: string): boolean;\n}\n\n/**\n * Metadata regarding a directive that's needed to match it against template elements. This is\n * provided by a consumer of the t2 APIs.\n */\nexport interface DirectiveMeta {\n  /**\n   * Name of the directive class (used for debugging).\n   */\n  name: string;\n\n  /** The selector for the directive or `null` if there isn't one. */\n  selector: string|null;\n\n  /**\n   * Whether the directive is a component.\n   */\n  isComponent: boolean;\n\n  /**\n   * Set of inputs which this directive claims.\n   *\n   * Goes from property names to field names.\n   */\n  inputs: InputOutputPropertySet;\n\n  /**\n   * Set of outputs which this directive claims.\n   *\n   * Goes from property names to field names.\n   */\n  outputs: InputOutputPropertySet;\n\n  /**\n   * Name under which the directive is exported, if any (exportAs in Angular).\n   *\n   * Null otherwise\n   */\n  exportAs: string[]|null;\n}\n\n/**\n * Interface to the binding API, which processes a template and returns an object similar to the\n * `ts.TypeChecker`.\n *\n * The returned `BoundTarget` has an API for extracting information about the processed target.\n */\nexport interface TargetBinder<D extends DirectiveMeta> {\n  bind(target: Target): BoundTarget<D>;\n}\n\n/**\n
 * Result of performing the binding operation against a `Target`.\n *\n * The original `Target` is accessible, as well as a suite of methods for extracting binding\n * information regarding the `Target`.\n *\n * @param DirectiveT directive metadata type\n */\nexport interface BoundTarget<DirectiveT extends DirectiveMeta> {\n  /**\n   * Get the original `Target` that was bound.\n   */\n  readonly target: Target;\n\n  /**\n   * For a given template node (either an `Element` or a `Template`), get the set of directives\n   * which matched the node, if any.\n   */\n  getDirectivesOfNode(node: Element|Template): DirectiveT[]|null;\n\n  /**\n   * For a given `Reference`, get the reference's target - either an `Element`, a `Template`, or\n   * a directive on a particular node.\n   */\n  getReferenceTarget(ref: Reference): {directive: DirectiveT, node: Element|Template}|Element\n|Template|null;\n\n  /**\n   * For a given binding, get the entity to which the binding
 is being made.\n   *\n   * This will either be a directive or the node itself.\n   */\n  getConsumerOfBinding(binding: BoundAttribute|BoundEvent|TextAttribute): DirectiveT|Element\n      |Template|null;\n\n  /**\n   * If the given `AST` expression refers to a `Reference` or `Variable` within the `Target`, then\n   * return that.\n   *\n   * Otherwise, returns `null`.\n   *\n   * This is only defined for `AST` expressions that read or write to a property of an\n   * `ImplicitReceiver`.\n   */\n  getExpressionTarget(expr: AST): Reference|Variable|null;\n\n  /**\n   * Given a particular `Reference` or `Variable`, get the `Template` which created it.\n   *\n   * All `Variable`s are defined on templates, so this will always return a value for a `Variable`\n   * from the `Target`. For `Reference`s this only returns a value if the `Reference` points to a\n   * `Template`. Returns `null` otherwise.\n   */\n  getTemplateOfSymbol(symbol: Reference|Variable): Template|null;\n\n  /**\n   * Get the
 nesting level of a particular `Template`.\n   *\n   * This starts at 1 for top-level `Template`s within the `Target` and increases for `Template`s\n   * nested at deeper levels.\n   */\n  getNestingLevel(template: Template): number;\n\n  /**\n   * Get all `Reference`s and `Variables` visible within the given `Template` (or at the top level,\n   * if `null` is passed).\n   */\n  getEntitiesInTemplateScope(template: Template|null): ReadonlySet<Reference|Variable>;\n\n  /**\n   * Get a list of all the directives used by the target.\n   */\n  getUsedDirectives(): DirectiveT[];\n\n  /**\n   * Get a list of all the pipes used by the target.\n   */\n  getUsedPipes(): string[];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AST, BindingPipe, ImplicitReceiver,

MethodCall, PropertyRead, PropertyWrite, RecursiveAstVisitor,
SafeMethodCall, SafePropertyRead} from '../../expression_parser/ast';\nimport {SelectorMatcher} from '../../selector';\nimport {BoundAttribute, BoundEvent, BoundText, Content, Element, Icu, Node, Reference, Template, Text, TextAttribute, Variable, Visitor} from '../r3_ast';\n\nimport {BoundTarget, DirectiveMeta, Target, TargetBinder} from './t2_api';\nimport {createCssSelector} from './template';\nimport {getAttrsForDirectiveMatching} from './util';\n\n\n/**\n * Processes `Target`s with a given set of directives and performs a binding operation, which\n * returns an object similar to TypeScript's `ts.TypeChecker` that contains knowledge about the\n * target.\n */\nexport class R3TargetBinder<DirectiveT extends DirectiveMeta> implements TargetBinder<DirectiveT> {\n constructor(private directiveMatcher: SelectorMatcher<DirectiveT>) {}\n\n /**\n * Perform a binding operation on the given `Target` and return a `BoundTarget` which contains\n * metadata about the types referenced in
the template.\n */\n bind(target: Target): BoundTarget<DirectiveT> {\n if (!target.template) {\n // TODO(alxhub): handle targets which contain things like HostBindings, etc.\n throw new Error('Binding without a template not yet supported');\n }\n\n // First, parse the template into a `Scope` structure. This operation captures the syntactic\n // scopes in the template and makes them available for later use.\n const scope = Scope.apply(target.template);\n\n\n // Use the `Scope` to extract the entities present at every level of the template.\n const templateEntities = extractTemplateEntities(scope);\n\n // Next, perform directive matching on the template using the `DirectiveBinder`. This returns:\n // - directives: Map of nodes (elements & ng-templates) to the directives on them.\n // - bindings: Map of inputs, outputs, and attributes to the directive/element that claims\n // them. TODO(alxhub): handle multiple directives claiming an
input/output/etc.\n // - references: Map of #references to their targets.\n const {directives, bindings, references} =\n DirectiveBinder.apply(target.template, this.directiveMatcher);\n // Finally, run the TemplateBinder to bind references, variables, and other entities within the\n // template. This extracts all the metadata that doesn't depend on directive matching.\n const {expressions, symbols, nestingLevel, usedPipes} =\n TemplateBinder.apply(target.template, scope);\n return new R3BoundTarget(\n target, directives, bindings, references, expressions, symbols, nestingLevel,\n templateEntities, usedPipes);\n }\n}\n\n/**\n * Represents a binding scope within a template.\n *\n * Any variables, references, or other named entities declared within the template will\n * be captured and available by name in `namedEntities`. Additionally, child templates will\n * be analyzed and have their child `Scope`s available in `childScopes`.\n */\nclass
Scope implements Visitor {\n /**\n * Named members of the `Scope`, such as `Reference`s or `Variable`s.\n */\n readonly namedEntities = new Map<string, Reference|Variable>();\n\n /**\n * Child `Scope`s for immediately nested `Template`s.\n */\n readonly childScopes = new Map<Template, Scope>();\n\n private constructor(readonly parentScope: Scope|null, readonly template: Template|null) {}\n\n static newRootScope(): Scope {\n return new Scope(null, null);\n }\n\n /**\n * Process a template (either as a `Template` sub-template with variables, or a plain array of\n * template `Node`s) and construct its `Scope`.\n */\n static apply(template: Node[]): Scope {\n const scope = Scope.newRootScope();\n scope.ingest(template);\n return scope;\n }\n\n /**\n * Internal method to process the template and populate the `Scope`.\n */\n private ingest(template: Template|Node[]): void {\n if (template instanceof Template) {\n // Variables on an <ng-template> are defined in the inner scope.\n template.variables.forEach(node => this.visitVariable(node));\n\n // Process the nodes of the template.\n template.children.forEach(node => node.visit(this));\n } else {\n // No overarching `Template` instance, so process the nodes directly.\n template.forEach(node => node.visit(this));\n }\n }\n\n visitElement(element: Element) {\n // `Element`s in the template may have `Reference`s which are captured in the scope.\n element.references.forEach(node => this.visitReference(node));\n\n // Recurse into the `Element`'s children.\n element.children.forEach(node => node.visit(this));\n }\n\n visitTemplate(template: Template) {\n // References on a <ng-template> are defined in the outer scope, so capture them before\n // processing the template's child scope.\n template.references.forEach(node => this.visitReference(node));\n\n // Next, create an inner scope and process the template within it.\n

```
    const scope = new Scope(this, template);\n    scope.ingest(template);\n    this.childScopes.set(template, scope);\n  }\n\n  visitVariable(variable: Variable) {\n    // Declare the variable if it's not already.\n    this.maybeDeclare(variable);\n  }\n\n  visitReference(reference: Reference) {\n    // Declare the variable if it's not already.\n    this.maybeDeclare(reference);\n  }\n\n  // Unused visitors.\n  visitContent(content: Content) {}\n  visitBoundAttribute(attr: BoundAttribute) {}\n  visitBoundEvent(event: BoundEvent) {}\n  visitBoundText(text: BoundText) {}\n  visitText(text: Text) {}\n  visitTextAttribute(attr: TextAttribute) {}\n  visitIcu(icu: Icu) {}\n\n  private maybeDeclare(thing: Reference|Variable) {\n    // Declare something with a name, as long as that name isn't taken.\n    if (!this.namedEntities.has(thing.name)) {\n      this.namedEntities.set(thing.name, thing);\n    }\n  }\n\n  /**\n   * Look up a variable within this `Scope`.\n   *\n   * This can recurse into
  a parent `Scope` if it's available.\n   */\n  lookup(name: string): Reference|Variable|null {\n    if (this.namedEntities.has(name)) {\n      // Found in the local scope.\n      return this.namedEntities.get(name)!;\n    } else if (this.parentScope !== null) {\n      // Not in the local scope, but there's a parent scope so check there.\n      return this.parentScope.lookup(name);\n    } else {\n      // At the top level and it wasn't found.\n      return null;\n    }\n  }\n\n  /**\n   * Get the child scope for a `Template`.\n   *\n   * This should always be defined.\n   */\n  getChildScope(template: Template): Scope {\n    const res = this.childScopes.get(template);\n    if (res === undefined) {\n      throw new Error(`Assertion error: child scope for ${template} not found`);\n    }\n    return res;\n  }\n}\n\n/**\n * Processes a template and matches directives on nodes (elements and templates).\n *\n * Usually used via the static `apply()` method.\n */\nclass DirectiveBinder<DirectiveT
  extends DirectiveMeta> implements Visitor {\n  constructor(\n      private matcher:
SelectorMatcher<DirectiveT>,\n      private directives: Map<Element|Template, DirectiveT[]>,\n      private
bindings: Map<BoundAttribute|BoundEvent|TextAttribute, DirectiveT|Element|Template>,\n      private
references:\n          Map<Reference, {directive: DirectiveT, node: Element|Template}|Element|Template>) {}\n\n
  /**\n   * Process a template (list of `Node`s) and perform directive matching against each node.\n   *\n   * @param
template the list of template `Node`s to match (recursively).\n   * @param selectorMatcher a `SelectorMatcher`
containing the directives that are in scope for\n   * this template.\n   * @returns three maps which contain
information about directives in the template: the\n   * `directives` map which lists directives matched on each node,
the `bindings` map which\n   * indicates which directives claimed which bindings (inputs, outputs, etc), and the
`references`\n   * map
  which resolves #references (`Reference`s) within the template to the named directive or\n   * template node.\n   */\n
  static apply<DirectiveT extends DirectiveMeta>(\n      template: Node[], selectorMatcher:
SelectorMatcher<DirectiveT>): {\n    directives: Map<Element|Template, DirectiveT[]>,\n    bindings:
Map<BoundAttribute|BoundEvent|TextAttribute, DirectiveT|Element|Template>,\n    references: Map<Reference,
{directive: DirectiveT, node: Element|Template}|Element|Template>,\n  } {\n    const directives = new
Map<Element|Template, DirectiveT[]>();\n    const bindings =\n        new
Map<BoundAttribute|BoundEvent|TextAttribute, DirectiveT|Element|Template>();\n    const references =\n
new Map<Reference, {directive: DirectiveT, node: Element | Template}|Element|Template>();\n    const matcher =
new DirectiveBinder(selectorMatcher, directives, bindings, references);\n    matcher.ingest(template);\n    return
{directives, bindings, references};\n  }\n\n  private ingest(template:
  Node[]): void {\n    template.forEach(node => node.visit(this));\n  }\n\n  visitElement(element: Element): void {\n
this.visitElementOrTemplate(element.name, element);\n  }\n\n  visitTemplate(template: Template): void {\n
this.visitElementOrTemplate('ng-template', template);\n  }\n\n  visitElementOrTemplate(elementName: string, node:
Element|Template): void {\n    // First, determine the HTML shape of the node for the purpose of directive
matching.\n    // Do this by building up a `CssSelector` for the node.\n    const cssSelector =
createCssSelector(elementName, getAttrsForDirectiveMatching(node));\n\n    // Next, use the `SelectorMatcher` to
get the list of directives on the node.\n    const directives: DirectiveT[] = [];\n    this.matcher.match(cssSelector, (_,
directive) => directives.push(directive));\n    if (directives.length > 0) {\n      this.directives.set(node, directives);\n
}\n\n    // Resolve any references that are created on this node.\n    node.references.forEach(ref
```

=> {\n let dirTarget: DirectiveT|null = null;\n\n // If the reference expression is empty, then it matches the \"primary\" directive on the node\n // (if there is one). Otherwise it matches the host node itself (either an element or\n // <ng-template> node).\n if (ref.value.trim() === '') {\n // This could be a reference to a component if there is one.\n dirTarget = directives.find(dir => dir.isComponent) || null;\n } else {\n // This should be a reference to a directive exported via exportAs.\n dirTarget =\n directives.find(\n dir => dir.exportAs !== null && dir.exportAs.some(value => value === ref.value)) ||\n null;\n // Check if a matching directive was found.\n if (dirTarget === null) {\n // No matching directive was found - this reference points to an unknown target. Leave it\n // unmapped.\n return;\n }\n }\n\n if (dirTarget
!== null) {\n // This reference points to a directive.\n this.references.set(ref, {directive: dirTarget, node});\n } else {\n // This reference points to the node itself.\n this.references.set(ref, node);\n }\n });\n\n // Associate attributes/bindings on the node with directives or with the node itself.\n type BoundNode = BoundAttribute|BoundEvent|TextAttribute;\n const setAttributeBinding =\n (attribute: BoundNode, ioType: keyof Pick<DirectiveMeta, 'inputs'|'outputs'>) => {\n const dir = directives.find(dir => dir[ioType].hasBindingPropertyName(attribute.name));\n const binding = dir !== undefined ? dir : node;\n this.bindings.set(attribute, binding);\n };\n\n // Node inputs (bound attributes) and text attributes can be bound to an\n // input on a directive.\n node.inputs.forEach(input => setAttributeBinding(input, 'inputs'));\n node.attributes.forEach(attr => setAttributeBinding(attr, 'inputs'));\n if (node instanceof Template) {\n node.templateAttrs.forEach(attr => setAttributeBinding(attr, 'inputs'));\n }\n // Node outputs (bound events) can be bound to an output on a directive.\n node.outputs.forEach(output => setAttributeBinding(output, 'outputs'));\n\n // Recurse into the node's children.\n node.children.forEach(child => child.visit(this));\n }\n\n // Unused visitors.\n visitContent(content: Content): void {}\n visitVariable(variable: Variable): void {}\n visitReference(reference: Reference): void {}\n visitTextAttribute(attribute: TextAttribute): void {}\n visitBoundAttribute(attribute: BoundAttribute): void {}\n visitBoundEvent(attribute: BoundEvent): void {}\n visitBoundAttributeOrEvent(node: BoundAttribute|BoundEvent) {}\n visitText(text: Text): void {}\n visitBoundText(text: BoundText): void {}\n visitIcu(icu: Icu): void {}\n}\n\n/**\n * Processes a template and extract metadata about expressions and symbols within.\n
*\n * This is a companion to the `DirectiveBinder` that doesn't require knowledge of directives matched\n * within the template in order to operate.\n *\n * Expressions are visited by the superclass `RecursiveAstVisitor`, with custom logic provided\n * by overridden methods from that visitor.\n */\nclass TemplateBinder extends RecursiveAstVisitor implements Visitor {\n private visitNode: (node: Node) => void;\n\n private pipesUsed: string[] = [];\n\n private constructor(\n private bindings: Map<AST, Reference|Variable>,\n private symbols: Map<Reference|Variable, Template>, private usedPipes: Set<string>,\n private nestingLevel: Map<Template, number>, private scope: Scope,\n private template: Template|null, private level: number) {\n super();\n\n // Save a bit of processing time by constructing this closure in advance.\n this.visitNode = (node: Node) => node.visit(this);\n }\n\n // This method is defined to reconcile the type of TemplateBinder since
both\n // RecursiveAstVisitor and Visitor define the visit() method in their\n // interfaces.\n visit(node: AST|Node, context?: any) {\n if (node instanceof AST) {\n node.visit(this, context);\n } else {\n node.visit(this);\n }\n }\n\n /**\n * Process a template and extract metadata about expressions and symbols within.\n *\n * @param template the nodes of the template to process\n * @param scope the `Scope` of the template being processed.\n * @returns three maps which contain metadata about the template: `expressions` which interprets\n special `AST` nodes in expressions as pointing to references or variables declared within the\n * template, `symbols` which maps those variables and references to the nested `Template` which\n * declares them, if any, and `nestingLevel` which associates each `Template` with a integer\n * nesting level (how many levels deep within the template structure the `Template` is), starting\n * at 1.\n */\n static
apply(template: Node[], scope: Scope): {\n expressions: Map<AST, Reference|Variable>,\n symbols: Map<Variable|Reference, Template>,\n nestingLevel: Map<Template, number>,\n usedPipes: Set<string>,\n }

{\n  const expressions = new Map<AST, Reference|Variable>();\n  const symbols = new Map<Variable|Reference, Template>();\n  const nestingLevel = new Map<Template, number>();\n  const usedPipes = new Set<string>();\n  // The top-level template has nesting level 0.\n  const binder = new TemplateBinder(\n      expressions, symbols, usedPipes, nestingLevel, scope,\n      template instanceof Template ? template : null, 0);\n  binder.ingest(template);\n  return {expressions, symbols, nestingLevel, usedPipes};\n}\n\nprivate ingest(template: Template|Node[]): void {\n  if (template instanceof Template) {\n    // For <ng-template>s, process only variables and child nodes. Inputs, outputs, templateAttrs,\n    // and references were all processed in the
 scope of the containing template.\n    template.variables.forEach(this.visitNode);\n    template.children.forEach(this.visitNode);\n\n    // Set the nesting level.\n    this.nestingLevel.set(template, this.level);\n  } else {\n    // Visit each node from the top-level template.\n    template.forEach(this.visitNode);\n  }\n}\n\n visitElement(element: Element) {\n  // Visit the inputs, outputs, and children of the element.\n  element.inputs.forEach(this.visitNode);\n  element.outputs.forEach(this.visitNode);\n  element.children.forEach(this.visitNode);\n}\n\n visitTemplate(template: Template) {\n  // First, visit inputs, outputs and template attributes of the template node.\n  template.inputs.forEach(this.visitNode);\n  template.outputs.forEach(this.visitNode);\n  template.templateAttrs.forEach(this.visitNode);\n\n  // References are also evaluated in the outer context.\n  template.references.forEach(this.visitNode);\n\n  // Next, recurse into
 the template using its scope, and bumping the nesting level up by one.\n  const childScope = this.scope.getChildScope(template);\n  const binder = new TemplateBinder(\n      this.bindings, this.symbols, this.usedPipes, this.nestingLevel, childScope, template,\n      this.level + 1);\n  binder.ingest(template);\n}\n\nvisitVariable(variable: Variable) {\n  // Register the `Variable` as a symbol in the current `Template`.\n  if (this.template !== null) {\n    this.symbols.set(variable, this.template);\n  }\n}\n\n visitReference(reference: Reference) {\n  // Register the `Reference` as a symbol in the current `Template`.\n  if (this.template !== null) {\n    this.symbols.set(reference, this.template);\n  }\n}\n\n // Unused template visitors\n\n visitText(text: Text) {}\nvisitContent(content: Content) {}\n visitTextAttribute(attribute: TextAttribute) {}\n visitIcu(icu: Icu): void {\nObject.keys(icu.vars).forEach(key => icu.vars[key].visit(this));\n
  Object.keys(icu.placeholders).forEach(key => icu.placeholders[key].visit(this));\n}\n\n // The remaining visitors are concerned with processing AST expressions within template bindings\n\n visitBoundAttribute(attribute: BoundAttribute) {\n  attribute.value.visit(this);\n}\n\n visitBoundEvent(event: BoundEvent) {\n  event.handler.visit(this);\n}\n\n visitBoundText(text: BoundText) {\n  text.value.visit(this);\n}\n visitPipe(ast: BindingPipe, context: any): any {\n  this.usedPipes.add(ast.name);\n  return super.visitPipe(ast, context);\n}\n\n// These five types of AST expressions can refer to expression roots, which could be variables\n // or references in the current scope.\n\n visitPropertyRead(ast: PropertyRead, context: any): any {\n  this.maybeMap(context, ast, ast.name);\n  return super.visitPropertyRead(ast, context);\n}\n\n visitSafePropertyRead(ast: SafePropertyRead, context: any): any {\n  this.maybeMap(context, ast, ast.name);\n  return
 super.visitSafePropertyRead(ast, context);\n}\n\n visitPropertyWrite(ast: PropertyWrite, context: any): any {\n  this.maybeMap(context, ast, ast.name);\n  return super.visitPropertyWrite(ast, context);\n}\n\n visitMethodCall(ast: MethodCall, context: any): any {\n  this.maybeMap(context, ast, ast.name);\n  return super.visitMethodCall(ast, context);\n}\n\n visitSafeMethodCall(ast: SafeMethodCall, context: any): any {\n  this.maybeMap(context, ast, ast.name);\n  return super.visitSafeMethodCall(ast, context);\n}\n\n private maybeMap(\n    scope: Scope, ast: PropertyRead|SafePropertyRead|PropertyWrite|MethodCall|SafeMethodCall,\n    name: string): void {\n  // If the receiver of the expression isn't the `ImplicitReceiver`, this isn't the root of an\n  // `AST` expression that maps to a `Variable` or `Reference`.\n  if (!(ast.receiver instanceof ImplicitReceiver)) {\n    return;\n  }\n\n  // Check whether the name exists in the current scope.
 If so, map it. Otherwise, the name is\n  // probably a property on the top-level component context.\n  let target = this.scope.lookup(name);\n  if (target !== null) {\n    this.bindings.set(ast, target);\n  }\n}\n\n/**\n * Metadata container for a `Target` that allows queries for specific bits of metadata.\n *\n * See `BoundTarget` for documentation on the individual methods.\n */\nexport class R3BoundTarget<DirectiveT extends DirectiveMeta>

implements BoundTarget<DirectiveT> {\n  constructor(\n      readonly target: Target, private directives: Map<Element|Template, DirectiveT[]>,\n      private bindings: Map<BoundAttribute|BoundEvent|TextAttribute, DirectiveT|Element|Template>,\n      private references:\n Map<BoundAttribute|BoundEvent|Reference|TextAttribute,\n              {directive: DirectiveT, node: Element|Template}|Element|Template>,\n      private exprTargets: Map<AST, Reference|Variable>,\n      private symbols: Map<Reference|Variable, Template>,\n    private nestingLevel: Map<Template, number>,\n      private templateEntities: Map<Template|null, ReadonlySet<Reference|Variable>>,\n      private usedPipes: Set<string>) {}\n\n  getEntitiesInTemplateScope(template: Template|null): ReadonlySet<Reference|Variable> {\n    return this.templateEntities.get(template) ?? new Set();\n  }\n\n  getDirectivesOfNode(node: Element|Template): DirectiveT[]|null {\n    return this.directives.get(node) || null;\n  }\n\n  getReferenceTarget(ref: Reference): {directive: DirectiveT, node: Element|Template}|Element\n      |Template|null {\n    return this.references.get(ref) || null;\n  }\n\n  getConsumerOfBinding(binding: BoundAttribute|BoundEvent|TextAttribute): DirectiveT|Element\n  |Template|null {\n    return this.bindings.get(binding) || null;\n  }\n\n  getExpressionTarget(expr: AST): Reference|Variable|null {\n    return this.exprTargets.get(expr) || null;\n  }\n\n  getTemplateOfSymbol(symbol: Reference|Variable): Template|null {\n    return this.symbols.get(symbol)\n  || null;\n  }\n\n  getNestingLevel(template: Template): number {\n    return this.nestingLevel.get(template) || 0;\n  }\n\n  getUsedDirectives(): DirectiveT[] {\n    const set = new Set<DirectiveT>();\n    this.directives.forEach(dirs => dirs.forEach(dir => set.add(dir)));\n    return Array.from(set.values());\n  }\n\n  getUsedPipes(): string[] {\n    return Array.from(this.usedPipes);\n  }\n}\n\nfunction extractTemplateEntities(rootScope: Scope): Map<Template|null, Set<Reference|Variable>> {\n  const entityMap = new Map<Template|null, Map<string, Reference|Variable>>();\n\n  function extractScopeEntities(scope: Scope): Map<string, Reference|Variable> {\n    if (entityMap.has(scope.template)) {\n      return entityMap.get(scope.template)!;\n    }\n\n    const currentEntities = scope.namedEntities;\n\n    let templateEntities: Map<string, Reference|Variable>;\n    if (scope.parentScope !== null) {\n      templateEntities = new Map([...extractScopeEntities(scope.parentScope),\n  ...currentEntities]);\n    } else {\n      templateEntities = new Map(currentEntities);\n    }\n\n    entityMap.set(scope.template, templateEntities);\n    return templateEntities;\n  }\n\n  const scopesToProcess: Scope[] = [rootScope];\n  while (scopesToProcess.length > 0) {\n    const scope = scopesToProcess.pop()!;\n    for (const childScope of scope.childScopes.values()) {\n      scopesToProcess.push(childScope);\n    }\n    extractScopeEntities(scope);\n  }\n\n  const templateEntities = new Map<Template|null, Set<Reference|Variable>>();\n  for (const [template, entities] of entityMap) {\n    templateEntities.set(template, new Set(entities.values()));\n  }\n  return templateEntities;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n////////////////////////////////////\n// THIS FILE HAS GLOBAL SIDE EFFECT\n  //\n//        (see bottom of file)        //\n////////////////////////////////////\n\n/**\n * @module\n * @description\n * Entry point for all APIs of the compiler package.\n *\n * <div class=\"callout is-critical\">\n *   <header>Unstable APIs</header>\n *   \n *     All compiler apis are currently considered experimental and private!\n *   \n *   \n *     We expect the APIs in this package to keep on changing. Do not rely on them.\n *   \n * \n */\n\nimport * as core from './core';\nimport {publishFacade} from './jit_compiler_facade';\nimport {global} from './util';\n\nexport {CUSTOM_ELEMENTS_SCHEMA, NO_ERRORS_SCHEMA, SchemaMetadata} from './core';\nexport {core};\n\nexport * from './version';\nexport * from './template_parser/template_ast';\nexport {CompilerConfig, preserveWhitespacesDefault} from './config';\nexport * from './compile_metadata';\nexport * from './aot/compiler_factory';\nexport * from './aot/compiler';\nexport * from './aot/generated_file';\nexport * from './aot/compiler_options';\nexport * from './aot/compiler_host';\nexport * from './aot/formatted_error';\nexport * from './aot/partial_module';\nexport * from './aot/static_reflector';\nexport * from './aot/static_symbol';\nexport * from './aot/static_symbol_resolver';\nexport * from './aot/summary_resolver';\nexport {isLoweredSymbol, createLoweredSymbol} from './aot/util';\nexport {LazyRoute} from './aot/lazy_routes';\nexport * from

'./ast_path';\nexport * from './summary_resolver';\nexport {Identifiers} from './identifiers';\nexport {JitCompiler} from './jit/compiler';\nexport * from './compile_reflector';\nexport * from './url_resolver';\nexport * from './resource_loader';\nexport {ConstantPool} from './constant_pool';\nexport {DirectiveResolver} from './directive_resolver';\nexport {PipeResolver} from './pipe_resolver';\nexport {NgModuleResolver} from './ng_module_resolver';\nexport {DEFAULT_INTERPOLATION_CONFIG, InterpolationConfig} from './ml_parser/interpolation_config';\nexport
* from './schema/element_schema_registry';\nexport * from './i18n/index';\nexport * from './directive_normalizer';\nexport * from './expression_parser/ast';\nexport * from './expression_parser/lexer';\nexport * from './expression_parser/parser';\nexport * from './metadata_resolver';\nexport * from './ml_parser/ast';\nexport * from './ml_parser/html_parser';\nexport * from './ml_parser/html_tags';\nexport * from './ml_parser/interpolation_config';\nexport * from './ml_parser/tags';\nexport {LexerRange} from './ml_parser/lexer';\nexport * from './ml_parser/xml_parser';\nexport {NgModuleCompiler} from './ng_module_compiler';\nexport {ArrayType, AssertNotNull, DYNAMIC_TYPE, BinaryOperator, BinaryOperatorExpr, BuiltinMethod, BuiltinType, BuiltinTypeName, BuiltinVar, CastExpr, ClassField, ClassMethod, ClassStmt, CommaExpr, ConditionalExpr, DeclareFunctionStmt, DeclareVarStmt, Expression, ExpressionStatement, ExpressionType, ExpressionVisitor, ExternalExpr, ExternalReference, literalMap, FunctionExpr, IfStmt, InstantiateExpr, InvokeFunctionExpr, InvokeMethodExpr, LiteralArrayExpr, LiteralExpr, LiteralMapExpr, MapType, NotExpr, NONE_TYPE, ReadKeyExpr, ReadPropExpr, ReadVarExpr, ReturnStatement, StatementVisitor, ThrowStmt, TryCatchStmt, Type, TypeVisitor, WrappedNodeExpr, WriteKeyExpr, WritePropExpr, WriteVarExpr, StmtModifier, Statement, STRING_TYPE, TypeofExpr, collectExternalReferences, jsDocComment, leadingComment, LeadingComment, JSDocComment, UnaryOperator, UnaryOperatorExpr, LocalizedString} from './output/output_ast';\nexport {EmitterVisitorContext} from './output/abstract_emitter';\nexport {JitEvaluator} from './output/output_jit';\nexport * from './output/ts_emitter';\nexport * from './parse_util';\nexport * from './schema/dom_element_schema_registry';\nexport * from './selector';\nexport * from './style_compiler';\nexport * from './template_parser/template_parser';\nexport {ViewCompiler} from './view_compiler/view_compiler';\nexport {getParseErrors, isSyntaxError, syntaxError, Version} from './util';\nexport {SourceMap} from './output/source_map';\nexport * from './injectable_compiler_2';\nexport * from './render3/view/api';\nexport {BoundAttribute as TmplAstBoundAttribute, BoundEvent as TmplAstBoundEvent, BoundText as TmplAstBoundText, Content as TmplAstContent, Element as TmplAstElement, Icu as TmplAstIcu, Node as TmplAstNode, RecursiveVisitor as TmplAstRecursiveVisitor, Reference as TmplAstReference, Template as TmplAstTemplate, Text as TmplAstText, TextAttribute as TmplAstTextAttribute, Variable as TmplAstVariable} from './render3/r3_ast';\nexport * from './render3/view/t2_api';\nexport * from './render3/view/t2_binder';\nexport {Identifiers as R3Identifiers} from './render3/r3_identifiers';\nexport {R3DependencyMetadata, R3ResolvedDependencyType, compileFactoryFunction, R3FactoryMetadata, R3FactoryTarget} from './render3/r3_factory';\nexport {compileInjector, compileNgModule, R3InjectorMetadata, R3NgModuleMetadata} from './render3/r3_module_compiler';\nexport
{compilePipeFromMetadata, R3PipeMetadata} from './render3/r3_pipe_compiler';\nexport {makeBindingParser, ParsedTemplate, parseTemplate, ParseTemplateOptions} from './render3/view/template';\nexport {R3Reference} from './render3/util';\nexport {compileComponentFromMetadata, compileDirectiveFromMetadata, parseHostBindings, ParsedHostBindings, verifyHostBindings} from './render3/view/compiler';\nexport {publishFacade} from './jit_compiler_facade';\n// This file only reexports content of the `src` folder. Keep it that way.\n\n// This function call has a global side effects and publishes the compiler into global namespace for\n// the late binding of the Compiler to the @angular/core for jit compilation.\npublishFacade(global);\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/compiler';\n\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All

Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './compiler';\n"],"names":["Type","o.variable","o.Expression","o.LiteralExpr","o.FunctionExpr","o.ReturnStatement","o.INFERRED_TYPE","o.StmtModifier","o.LiteralArrayExpr","o.literalArr","o.literalMap","o.FnParam","o.DYNAMIC_TYPE","o.fn","o.ReadVarExpr","CORE","Identifiers","o.literal","o.expressionType","o.ExternalExpr","o.BinaryOperatorExpr","o.BinaryOperator","o.TypeofExpr","o.WrappedNodeExpr","Text","Icu","i18n.RecurseVisitor","_Visitor","xml.Tag","xml.Text","xml.CR","xml.serialize","xml.Declaration","xml.Doctype","digest","i18n.Message","i18n.Icu","i18n.Container","i18n.Placeholder","o.DeclareVarStmt","invalid","o.isNull","t.Template","o.importExpr","o.NONE_TYPE","o.InstantiateExpr","R3","o.NULL_EXPR","o.ifStmt","o.InvokeFunctionExpr","o.ExpressionType","CATCH_ERROR_VAR","CATCH_STACK_VAR","o.JSDocComment","o.BuiltinVar","o.UnaryOperator","o.BuiltinMethod","o.LiteralMapExpr","o.LiteralMapEntry","chars.$LF","o.ClassStmt","o.ClassField","o.ClassMethod","o.ReadPropExpr","o.typeofExpr","RecursiveAstVisitor","AstTransformer","cdAst.Interpolation","cdAst.AstTransformer","o.UnaryOperatorExpr","cdAst.ThisReceiver","cdAst.ImplicitReceiver","o.not","o.assertNotNull","cdAst.PropertyRead","cdAst.SafeMethodCall","cdAst.MethodCall","o.ExpressionStatement","cdAst.FunctionCall","o.ArrayType","o.TypeModifier","Element","visitAll","RecursiveVisitor","chars.$EOF","chars.$LT","chars.$BANG","chars.$LBRACKET","chars.$MINUS","chars.$SLASH","chars.$RBRACE","chars.$AMPERSAND","chars.$HASH","chars.$x","chars.$X","chars.$SEMICOLON","chars.$GT","chars.$COLON","chars.isAsciiLetter","chars.$EQ","chars.$SQ","chars.$DQ","chars.$LBRACE","chars.$COMMA","chars.isWhitespace","chars.$a","chars.$z","chars.$A","chars.$Z","chars.$0","chars.$9","chars.isAsciiHexDigit","chars.isNewLine","chars.$BACKSLASH","chars.$n","chars.$r","chars.$CR","chars.$v","chars.$VTAB","chars.$t","chars.$TAB","chars.$b","chars.$BSPACE","chars.$f","chars.$FF","chars.$u","chars.isOctalDigit","lex.tokenize","lex.TokenType","html.Comment","html.Expansion","lex.Token","html.ExpansionCase","html.Text","html.Element","html.Attribute","html.visitAll","TEMPLATE_ATTR_PREFIX","t.templateVisitAll","t.BoundTextAst","t.TextAst","t.AttrAst","t.VariableAst","t.NgContentAst","t.EmbeddedTemplateAst","t.ElementAst","t.BoundEventAst","t.BoundElementPropertyAst","t.ReferenceAst","t.DirectiveAst","t.BoundDirectivePropertyAst","parseStyle","TokenType","Token","chars.$SPACE","chars.isDigit","chars.$PERIOD","chars.$LPAREN","chars.$RPAREN","chars.$RBRACKET","chars.$PLUS","chars.$STAR","chars.$PERCENT","chars.$CARET","chars.$QUESTION","chars.$BAR","chars.$NBSP","chars.$_","chars.$$","chars.$e","chars.$E","chars.$BT","Parser","BIND_NAME_REGEXP","KW_BIND_IDX","KW_LET_IDX","KW_REF_IDX","KW_ON_IDX","KW_BINDON_IDX","KW_AT_IDX","IDENT_KW_IDX","IDENT_BANANA_BOX_IDX","IDENT_PROPERTY_IDX","IDENT_EVENT_IDX","t.Variable","NON_BINDABLE_VISITOR","t.Content","t.Element","t.TextAttribute","t.BoundText","t.Icu","t.BoundAttribute","t.Text","t.Reference","NonBindableVisitor","t.BoundEvent","ExpressionParser","ExpressionLexer","i18n.TagPlaceholder","i18n.IcuPlaceholder","i18n.Text","html.NodeWithI18n","o.jsDocComment","variable","serializerVisitor","localizedString","o.localizedString","o.LiteralPiece","o.PlaceholderPiece","NG_CONTENT_SELECT_ATTR","t.visitAll","core.parseSelectorToR3Selector","o.NUMBER_TYPE","isNgContainer","checkIsNgContainer","o.TYPED_NULL_EXPR","literal","core.SecurityContext","o.STRING_TYPE","core.ViewEncapsulation","core.ChangeDetectionStrategy","HOST_REG_EXP","wrapReference","VERSION","_PLACEHOLDER_TAG","_SOURCE_TAG","ml.visitAll","_VERSION","_XMLNS","_DEFAULT_SOURCE_LANG","_MARKER_TAG","_TARGET_TAG","_UNIT_TAG","_WriteVisitor","XmlToI18n","mapEntry","cpl.viewClassName","cpl.hostViewClassName","cpl.identifierName","cpl.rendererTypeName","cpl.componentFactoryName","cpl.CompileDirectiveMetadata","cpl.CompileTemplateMetadata","cpl.CompileSummaryKind","cpl.CompileNgModuleMetadata","cpl.TransitiveCompileNgModuleMetadata","cpl.tokenReference","cpl.Com

pilePipeMetadata","cpl.ProviderMeta","o.importType","o.Statement","o.Type","o.BuiltinTypeName","o.applySourceSpanToStatementIfNeeded","o.IfStmt","o.DeclareFunctionStmt","CLASS_ATTR","ViewBuilder","LOG_VAR","o.findReadVarNames","o.CommaExpr","o.applySourceSpanToExpressionIfNeeded","o.BOOL_TYPE","i18n.CloneVisitor","compileR3Module","compileR3Component","compileR3Directive","compileR3Pipe","importExpr","o.ExternalReference","USE_VALUE","BindingScope","ir.variable","ir.importExpr","global"],"mappings":";;;;;;AAAA;;;;;IAQY;AAAZ,WAAY,cAAc;IACxB,2DAAQ,CAAA;IACR,+EAAkB,CAAA;IAClB,qEAAa,CAAA;IACf,CAAC,EAJW,cAAc,8BAAd,cAAc,QAIzB;AAED,MAAa,UAAU;IAAvB;QACE,WAAM,GAAG,IAAI,GAAG,EAAE,CAAC;IAmBrB,CAAC;IAjBC,sBAAI,GAAJ,UAAK,KAAa,EAAE,KAAQ;QAC1B,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAChC,CAAC;IAED,sBAAI,GAAJ,UAAK,KAAa;QAChB,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;IAChC,CAAC;IAED,sBAAI,GAAJ,UAAK,KAAa;QAChB,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;IAChC,CAAC;IAED,wBAAM,GAAN,UAAO,KAAa;QAClB,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC;IAC5B,CAAC;IAED,wBAAM,GAAN;QACE,IAAI,CAAC,MAAM,CAAC,KAAK,EAAE,CAAC;IACtB,CAAC;IACH,iBAAC;AAAD,CAAC,AAnBD,IAmBC;AAnBY,gCAAU;AAqBvB,MAAa,YAAY;IAAzB;QACE,WAAM,GAAG,IAAI,GAAG,EAAE,CAAC;IAmBrB,CAAC;IAjBC,sBAAI,GAAJ,UAAK,KAAa,EAAE,KAAQ;QAC1B,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC;IAChC,CAAC;IAED,sBAAI,GAAJ,UAAK,KAAa;QAChB,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;IAChC,CAAC;IAED,sBAAI,GAAJ,UAAK,KAAa;QAChB,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;IAChC,CAAC;IAED,wBAAM,GAAN,UAAO,KAAa;QAClB,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC;IAC5B,CAAC;IAED,wBAAM,GAAN;QACE,IAAI,CAAC,MAAM,CAAC,KAAK,EAAE,CAAC;IACtB,CAAC;IACH,mBAAC;AAAD,CAAC,AAnBD,IAmBC;AAnBY,oCAAY;AAqBz

EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,KAAK,EAAE,QAAQ;IACf,KAAK,EAAE,QAAQ;IACf,QAAQ,EAAE,QAAQ;IAClB,OAAO,EAAE,QAAQ;IACjB,IAAI,EAAE,GAAG;IACT,MAAM,EAAE,QAAQ;IAChB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,QAAQ,EAAE,QAAQ;IAClB,OAAO,EAAE,QAAQ;IACjB,IAAI,EAAE,QAAQ;IACd,IAAI,EAAE,QAAQ;IACd,OAAO,EAAE,QAAQ;IACjB,MAAM,EAAE,QAAQ;IAChB,OAAO,EAAE,QAAQ;IACjB,IAAI,EAAE,QAAQ;IACd,IAAI,EAAE,QAAQ;IACd,KAAK,EAAE,QAAQ;IACf,OAAO,EAAE,QAAQ;IACjB,MAAM,EAAE,QAAQ;IAChB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,IAAI,EAAE,QAAQ;IACd,IAAI,EAAE,QAAQ;IACd,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,SAAS,EAAE,QAAQ;IACnB,SAAS,EAAE,QAAQ;IACnB,OAAO,EAAE,QAAQ;IACjB,IAAI,EAAE,QAAQ;IACd,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,QAAQ,EAAE,QAAQ;IAClB,MAAM,EAAE,QAAQ;IAChB,KAAK,EAAE,QAAQ;IACf,KAAK,EAAE,QAAQ;IACf,IAAI,EAAE,QAAQ;IACd,IAAI,EAAE,QAAQ;IACd,KAAK,EAAE,QAAQ;IACf,QAAQ,EAAE,QAAQ;IAClB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,KAAK,EAAE,QAAQ;IACf,KAAK,EAAE,QAAQ;IACf,MAAM,EAAE,QAAQ;IAChB,OAAO,EAAE,QAAQ;IACjB,MAAM,EAAE,QAAQ;IAChB,OAAO,EAAE,QAAQ;IACjB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,MAAM,EAAE,QAAQ;IAChB,KAAK,EAAE,QAAQ;IACf,QAAQ,EAAE,QAAQ;IAClB,KAAK,EAAE,QAAQ;IACf,KAAK,EAAE,QAAQ;IACf,KAAK,EAAE,QAAQ;IACf,QAAQ,EAAE,QAAQ;IAClB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,KAAK,EAAE,QAAQ;IACf,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,KAAK,EAAE,QAAQ;IACf,QAAQ,EAAE,QAAQ;IAClB,KAAK,EAAE,QAAQ;IACf,MAAM,EAAE,QAAQ;IAChB,KAAK,EAAE,QAAQ;IACf,KAAK,EAAE,QAAQ;IACf,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,OAAO,EAAE,QAAQ;IACjB,KAAK,EAAE,QAAQ;IACf,KAAK,EAAE,QAAQ;IACf,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,UAAU,EAAE,QAAQ;IACpB,QAAQ,EAAE,QAAQ;IAClB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,OAAO,EAAE,QAAQ;IACjB,OAAO,EAAE,QAAQ;IACjB,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,KAAK,EAAE,QAAQ;IACf,OAAO,EAAE,QAAQ;IACjB,SAAS,EAAE,QAAQ;IACnB,SAAS,EAAE,QAAQ;IACnB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,QAAQ,EAAE,QAAQ;IAClB,IAAI,EAAE,QAAQ;IACd,IAAI,EAAE,QAAQ;IACd,QAAQ,EAAE,QAAQ;IAClB,QAAQ,EAAE,QAAQ;IAClB,KAAK,EAAE,QAAQ;IACf,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,MAAM,EAAE,QAAQ;IAChB,KAAK,EAAE,QAAQ;IACf,KAAK,EAAE,QAAQ;IACf,MAAM,EAAE,QAAQ;IAChB,EAChB;AAEF;AACA;MACa,YAAY,GAAG,SAAS;AAErC,cAAA,cAAA,MAAA,EAAA,GAAA,EAAA,GAAA,EAAA,G

AC,eAAe,EAAE;QACpB,uBAAuB,GAAG,IAAI,iBAAiB,EAAE,CAAC;QAClD,eAAe,GAAG;YAChB,MAAM,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC7C,MAAM,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC7C,MAAM,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC7C,OAAO,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC9C,MAAM,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC7C,KAAK,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC5C,OAAO,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC9C,MAAM,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC7C,IAAI,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC3C,IAAI,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC3C,QAAQ,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC/C,OAAO,EAAE,IAAI,iBAAiB,CAAC,EAAC,MAAM,EAAE,IAAI,EAAC,CAAC;YAC9C,KAAK,EAAE,IAAI,iBAAiB,CAAC;gBAC7B,gB,EAAE;oBAChB,SAAS,EAAE,SAAS,EAAE,OAAO,EAAI,YAAY,EAAE,KAAK,EAAG,IAAI,EAAG,IAAI,EAAG,IAAI;oBAC1E,QAAQ,EAAG,MAAM,EAAK,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE

CAAC;KAuHlC;IArHC,OAAO,KAAK,CAAC,QAAgB;QAC3B,MAAM,OAAO,GAAkB,EAAE,CAAC;QAClC,MAAM,UAAU,GAAG,CAAC,GAAkB,EAAE,MAAmB;YACzD,IAAI,MAAM,CAAC,YAAY,CAAC,MAAM,GAAG,CAAC,IAAI,MAAM,CAAC,OAAO,IAAI,MAAM,CAAC,UAAU,CAAC,MAAM,IAAI,CAAC;gBAClF,MAAM,CAAC,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,EAAE;gBAC5B,MAAM,CAAC,OAAO,GAAG,EAAE,GAAG,CAAC,IAAI,CAAC,MAAM,CAAC,OAAO,GAAG,EAAE,CAAC;aACj

ED;;;;MAIa,eAAe;IAA5B;QAOU,gBAAW,GAAG,IAAI,GAAG,EAAgC,CAAC;QACtD,uBAAkB,GAAG,IAAI,GAAG,EAA8B,CAAC;QAC3D,cAAS,GAAG,IAAI,GAAG,EAAgC,CAAC;QACpD,qBAAgB,GAAG,IAAI,GAAG,EA8B,CAAC;QACzD,kBAAa,GAAG,IAAI,GAAG,EA6C,CAAC;QACrE,yBAAoB,GAAG,IAAI,GAAG,EA2C,CAAC;QAC1E,kBAAa,GAAG,GA0B,EAAE,CAAC;KA8LnD;IA1MC,OAAO,gBAAgB,CAAC,YA2B;QACjD,MAAM,UAAU,GAAG,IAAI,eAAe,EAAQ,CAAC;QAC/C,UAAU,CAAC,cAAc,CAAC,YAAY,EAAE,IAAI,CAAC,CAAC;QAC9

C;QAEX,IAAI,UAAU,EAAE;YACd,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,M
AAM,EAAE,CAAC,EAAE,EAAE;gBAC1C,MAAM,SAAS,GAAG,UAAU,CAAC,CAAC,CAAC,CAAC;gBAChC
,MAAM;oBACF,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,SAAS,EAAE,SAAS,EAAE,WAAW,EAAE,eAAe,CAAC
,IAAI,MAAM,CAAC;gBAC3F,MAAM;oBACF,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,gBAAgB,EAAE,SAAS,E
AAE,WAAW,EAAE,eAAe,CAAC;wBAClF,MAAM,CAAC;aACZ;SACF;QAED,IAAI,KAAK,EAAE;YACT,KA
AK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,KAAK,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,EAAE;g
BACxC,MAAM,IAAI,GAAG,KAAK,CAAC,CAAC,CAAC;gBACtB,MAAM,KAAK,GAAG,KAAK,CA
AC,CAAC,GAAG,CAAC,CAAC,CAAC;gBAE3B,MAAM,iBAAiB,GAAG,IAAI,CAAC,aAAa,CAAC,GAAG,CAAC,IAAI,CAAC,
CAAE,CAAC,gBAAgB,CAAC;gBACxD,IAAI,KAAK,EAAE,oBACT,MAAM;wBACF,IAAI,CAAC,cAAc,CAAC,iBAAiB
,EAAE,EAAE,EAAE,WAAW,EAAE,eAAe,CAAC,IAAI,MAAM,CAAC;iBACxF;gBACD,MAAM;oBACF,IAAI,
CAAC,cAAc,CAAC,iBAAiB,EAAE,KAAK,EAAE,WAAW,EAAE,eAAe,CAAC,IAAI,MAAM,CAAC;gBAE1F,
MAAM,gBAAgB,GAAG,IAAI,CAAC,oBAAoB,CAAC,GAAG,CAAC,IAAI,CAAE,CAAC;gBAC9D,IAAI,K
AAK,EAAE;oBACT,MAAM,GAAG,IAAI,CAAC,aAAa,CAAC,gBAAgB,EAAE,EAAE,EAAE,WAAW,EAAE,eAAe,
CAAC,IAAI,MAAM,CAAC;iBAC3F;gBACD,MAAM;oBACF,IAAI,CAAC,aAAa,CAAC,gBAAgB,EAAE,KAAK
,EAAE,WAAW,EAAE,eAAe,CAAC,IAAI,MAAM,CAAC;aACzF;SACF;QACD,OAAO,MAAM,CAAC;KCf;;
IAGD,cAAc,CACV,GAAsC,EAAE,IAAY,EAAE,WAAwB,EAC9E,eAAwD;QAC1D,IAAI,CAAC,GAAG,IAAI,O
AAO,IAAI,KAAK,QAAQ,EAAE;YACpC,OAAO,KAAK,CAAC;SACd;QAED,IAAI,WAAW,GAAAyB,IAAG,CAAC,GAAG,IAAI,O
AAO,IAAI,KAAK,QAAQ,EAAE;YACpC,OAAO,KAAK,CAAC;SACd;QAED,IAAI,eAAe,EAAE;YACnB,WAAW,GAAG,eAAe,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,WAAW,CAAC;SACxD;QAED,IAAI,
CAAC,WAAW,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE;YAC1B,OAAO,KAAK,CAAC;SACd;QAED,OAAO,WAAW,CAAC,GAAG,CAAC,IAAI,CAAE,CAAC;IAChC,CAAC;CACF,CAAC,CAAC;AAEH,MAAM,CAAC,OAAO,UAAU,cAAc,CAAC,GAAsC,EAAE,IAAY,EAAE,WAAwB,EACpH,eAAwD;IACxD,OAAO,IAAI,cAAc,EAAE,CAAC,cAAc,CAAC,GAAG,EAAE,IAAI,EAAE,WAAW,EAAE,eAAe,CAAC,CAAC;AACtF,CAAC;AAED,eAAe,cAAc,CAAC;;;

EAAE,KAAK,EAAE,KAAK,EAAE,WAAW,EAAE,IAAI,EAAE,WAAW,EAAE,IAAI,IAAK,IAAI,EAAE,CAAC,CAAC;AAC5E,MAAM,eAAe,GAAG,mBAAmB,CAC9C,WAAW,EACX,CAAC,QAAa,EAAE,IAAS,sBACnB,QAAQ,EAAE,KAAK,EAAE,IAAI,EAAE,WAAW,EAAE,IAAI,EAAE,WAAW,EAAE,IAAI,IAAK,IAAI,EAAE,CAAC,CAAC;AAY3E,MAAM,eAAe,GACxB,mBAAmB,CAAY,WAAW,EAAE,CAAC,MAAiB,EAAE,KAAK,GAAG,CAAC,CAAC;AAgB9E,IAAY,iBAKX;AALD,WAAY,iBAAiB;IAC3B,2EAAW,CAAA;IACX,yDAAM,CAAA;IACN,mEAAW,CAAA;IACX,2DAAO,CAAA;AACT,CAAC,EALW,iBAAiB,KAAjB,iBAAiB,QAK5B;AAED,MAAM,UAAU,GAAG,CAAC,EAAE,CAAC,EAAE,WAAW,iBAAiB,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC

QAAsB;QAChC,OAAO,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,QAAQ,CAAC,KAAK,CAAC,CAAC,CAAC;KAChD;CACF;IAEW;AAAZ,WAAY,eAAe;IACzB,2DAAO,CAAA;IACP,qDAAI,CAAA;IACJ,yDAAM,CAAA;IACN,mDAAG,CAAA;IACH,yDAAM,CAAA;IACN,6DAAQ,CAAA;IACR,6DAAQ,CAAA;IACR,qDAAI,CAAA;AACN,CAAC,EATW,eAAe,KAAf,eAAe,QAS1B;MAEY,WAAY,SAAQ,KAAK;IAAtC;;QAAA,SAAI,GAAG,aAAa,CAAC;IAAA,CAAC;CAAA;AAEtB,MAAM,CAAC,MAAM,SAAS,GAAG,IAAI,WAAW,EAAE,CAAC;AAE3C

AU,CAAC,CAAC;KACtF;IACD,YAAY,CAAC,GAAe,EAAE,UAAiC;QAC7D,OAAO,IAAI,kBAAkB,CAAC,cAAc,CAAC,YAAY,EAAE,IAAI,EAAE,GAAG,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;KACzF;IACD,KAAK,CAAC,GAAe,EAAE,UAAiC;QACtD,OAAO,IAAI,kBAAkB,CAAC,cAAc,CAAC,KAAK,EAAE,IAAI,EAAE,GAAG,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;KAClF;IACD,IAAI,CAAC,GAAe,EAAE,UAAiC;QACrD,OAAO,IAAI,kBAAkB,CAAC,cAAc,CAAC,IAAI,EAAE,IAAI,EAAE,GAAG,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;KACjF;IACD,MAAM,CAAC,GAAe,EAAE,UAAiC;QACvD,OAAO,IAAI,kBAAkB,CAAC,cAAc,CAAC,MAAM,EAAE,IAAI,EAAE,GAAG,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;KACnF;IACD,QAAQ,CAAC,GAAe,EAAE,UAAiC;QACzD,OAAO,IAAI,kBAAkB,CAAC,cAAc,CAAC,QAAQ,EAAE,IAAI,EAAE,GAAG,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;KACrF;IACD,MAAM,CAAC,GAAe,EAAE,UAAiC;QACvD,OAAO,IAAI,kBAAkB,CAAC,cAAc,CAAC,MAAM,EAAE,IAAI,EAAE,GAAG,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;KACn

AAC;KACpB;IAED,YAAY,CAAC,CAAa;QACxB,OAAO,CAAC,YAAY,YAAY,IAAI,IAAI,CAAC,IAAI,KAAK,CAAC,CAAC,IAAI,IAAI,IAAI,CAAC,KAAK,CAAC,YAAY,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC;KAC9F;IAED,UAAU;QACR,OAAO,KAAK,CAAC;KCd;IAED,eAAe,CAAC,OAA0B,EAAE,OAAY;QCtD,OAAO,OAAO,CAAC,iBAAiB,EAAE,CAAC,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC,CAAC;KCjD;IAED,UAAU,CAAC,IAAI,EAAE,CAAC,CAAC;KAGpB;IAED,UAAU,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC;KAGpB;IAED,UAAU,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC;KAGpB;IAED,UAAU,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC;KAGpB;IAED,UAAU,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC;KAGpB;IAED,UAAU,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC;KAGpB;IAED,UAAU,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC

AC3D;IAED,UAAU;QACR,OAAO,IAAI,CAAC;KACb;IAED,eAAe,CAAC,OAA0B,EAAE,OAAY;QACtD,OAAO,OAAO,CAAC,gBAAgB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAChD;CACF;MAEqB,YAAY;IAChC,YAAmB,IAAY,EAAS,UAA2B;QAAhD,SAAI,GAAJ,IAAI,CAAQ;QAAS,eAAU,GAAV,UAAU,CAAiB;KAAI;CACxE;MACY,YAAa,SAAQ,YAAY;CAAG;MAEpC,YAAa,SAAQ,YAAY;CAAG;MAExC,YAAa,SAAQ,YAAY;CAAG;IAC7C,YACa,SAAmB,EAAW,YAA4B,EAAW,WAAyB,EAAW,UAAiC;QAAQ,eAAU,GAAV,UAAU,CAAuB;QACnL,KAAK,CAAC,WAAW,EAAE,UAAU,CAAC,CAAC;KAChC;CACF;MAEqB,gBAAgB;IACpC,YAAmB,IAAY,EAAS,UAA2B;QAAhD,SAAI,GAAJ,IAAI,CAAQ;QAAS,eAAU,GAAV,UAAU,CAAiB;KAAI;CACxE;MACY,gBAAiB,SAAQ,gBAAgB;CAAG;MAEpC,gBAAiB,SAAQ,gBAAgB;CAAG;MAE5C,gBAAiB,SAAQ,gBAAgB;CAAG;IACjD,YACa,SAAmB,EAAW,YAA4B,EAAW,WAAyB,EAAW,UAAiC;QAAQ,eAAU,GAAV,UAAU,CAAuB;QACnL,KAAK,CAAC,WAAW,EAAE,UAAU,CAAC,CAAC;KAChC;CACF;MAEqB,YAAY;IAChC,YAAmB,IAAY,EAAS,UAA2B;QAAhD,SAAI,GAAJ,IAAI,CAAQ;QAAS,eAAU,GAAV,UAAU,CAAiB;KAAI;CACxE;MACY,YAAa,SAAQ,YAAY;CAAG;MAEhC,YAAa,SAAQ,YAAY;CAAG;MAEpC,YAAa,SAAQ,YAAY;CAAG;IAC7C,YACa,SAAmB,EAAW,YAA4B,EAAW,WAAyB,EAAW,UAAiC;QAAQ,eAAU,GAAV,UAAU,CAAuB;QACnL,KAAK,CAAC,WAAW,EAAE,UAAU,CAAC,CAAC;KAChC;CACF;MAEqB,YAAY;IAChC,YAAmB,IAAY,EAAS,UAA2B;QAAhD,SAAI,GAAJ,IAAI,CAAQ;QAAS,eAAU,GAAV,UAAU,CAAiB;KAAI;CACxE;MACY,YAAa,SAAQ,YAAY;CAAG;MAEpC,YAAa,SAAQ,YAAY;CAAG;MAExC,YAAa,SAAQ,YAAY;CAAG;IAC7C,YACa,SAAmB,EAAW,YAA4B,EAAW,WAAyB,EAAW,UAAiC;QAAQ,eAAU,GAV,UAAU,CAAuB;QACnL,KAAK,CAAC,WAAW,EAAE,UAAU,CAAC,CAAC;KAChC;CACF;MAEqB,YAAY;IAChC,YAAmB,IAAY,EAAS,UAA2B;QAAhD,SAAI,GAAJ,IAAI,CAAQ;QAAS,eAAU,GAAV,UAAU,CAAiB;KAAI;CACxE;MACY,YAAa,SAAQ,YAAY;CAAG;MAEpC,YAAa,SAAQ,YAAY;CAAG;MAExC,YAAa,SAAQ,YAAY;CAAG;IAC7C,YACa,SAAmB,EAAW,YAA4B,EAAW,WAAyB,EAAW,UAAiC;QAAQ,eAAU,GA

YAC3E,IAAI,CAAC,QAAQ,CAAC,YAAY,CAAC,CAAC,CAAC,QAAQ,CAAC,IAAI,oBAAoB,CAAC,IAAI,CA
AC,SAAS,EAAE,CAAC,CAAC,SAAS,CAAC,CAAC;KACjG;IAED,UAAU;QACR,OAAO,KAAK,CAAC;KACd;
IAED,eAAe,CAAC,OAA0B,EAAE,OAAY;QACtD,OAAO,OAAO,CAAC,oBAAoB,CAAC,IAAI,EAAE,OAAO,C
AAC,CAAC;KACpD;CACF;MAGY,OAAQ,SAAQ,UAAU;IACrC,YAAmB,SAAqB,EAAE,UAAiC,QAAQ,CAz
K,CAAC,SAAS,EAAE,UAAU,CAAC,CAAC;QADZ,cAAS,GAAT,SAAS,CAAY;KAEvC;IAED,YAAY,CAAC,C
AAa;QACxB,OAAO,CAAC,YAAY,OAAO,IAAI,IAAI,CAAC,SAAS,CAAC,YAAY,CAAC,CAAC,CAAC,SAAS,
CAAC,CAAC;KACzE;IAED,UAAU;QACR,OAAO,KAAK,CAAC;KACd;IAED,eAAe,CAAC,OA0B,EAAE,OA
AY;QACtD,OAAO,OAAO,CAAC,YAAY,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC5C;CACF;MAEY,aAA
c,SAAQ,UAAU;IAC3C,YAAmB,SAAqB,EAAE,UAAiC,QAAQ,CAzE,KAAK,CAAC,SAAS,CAAC,IAAI,EAAE,UAA
U,CAAC,CAAC;QADZ,cAAS,GAAT,SAAS,CAAY;KAEvC;IAED,YAAY,CAAC,CAAa;QACxB,OAAO,CAAC
,YAAY,aAAa,IAAI,IAAI,CAAC,SAAS,CAAC,YAAY,CAAC,CAAC,CAAC,SAAS,CAAC,CAAC;KAC/E;IAED,
UAAU;QACR,OAAO,KAAK,CAAC;KACd;IAED,eAAe,CAAC,OA0B,EAAE,OAAY;QACtD,OAAO,OAAO,CAAC,sB
AAsB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KACtD;CACF;MAEY,QAAS,SAAQ,UAAU;IACtC,YAAmB,SAAqB,EAAE,UAAiC,QAAQ,CAz
E,YA
AmB,KAAiB,EAAE,IAAgB,EAAE,UAAiC,QAAQ,CAvF,KAAK,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QADZ,UAAK,GAAL,KAAK,CAAY;KAEvC;IAED,YAAY,UA
AK,GAAL,KAAK,CAAY;KAEvC;IAED,YAAY,CAAC,CAAa;QACxB,OAAO,CAAC,YAAY,QAAQ,IAAI,IAAI,CAAC,
CAAC,KAAK,CAAC,YAAY,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC;KACzE;IAED,UAAU;QACR,OAAO,KAAK,CAAC;KACd;IAED,eAAe,CAAC,OA0B,EAAE,OAAY;QACtD,OAAO,OAAO,CAAC,aAAa,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC7C;CACF;MAEY,OAAQ,SAAQ,UAAU;IACrC,YAAmB,SAAqB,EAAE,UAAiC,QAAQ,CAzE,YAAY,OAAO;IAAC,IAAI,CAAC,SAAS,CAAC,YAAY,CAAC,CAAC,CAAC,SAAS,CAAC,CAAC;KAC/E;IAED,UAAU;QACR,OAAO,KAAK,CAAC;KACd;IAED,eAAe,CAAC,OA0B,EAAE,OAAY;QACtD,OAAO,OAAO,CAAC,aAAa,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC7C;CACF;MAEY,QAAS,SAAQ,UAAU;IACt

,CAAC,CAAC;KACjD;IAED,GAAG,CAAC,KAAiB;QACnB,OAAO,IAAI,aAAa,CAAC,IAAI,CAAC,QAAQ,EA
AE,IAAI,CAAC,IAAI,EAAE,KAAK,EAAE,IAAI,EAAE,IAAI,CAAC,UAAU,CAAC,CAAC;KAClF;CACF;MAG
Y,WAAY,SAAQ,UAAU;IACzC,YACW,QAAoB,EAAS,KAAiB,EAAE,IAAgB,EACvE,UAAiC;QACnC,KAAK,
CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QAFf,aAAQ,GAAR,QAAQ,CAAY;QAAS,UAAK,GAAL,KAAK,CAA
Y;KAGxD;IAED,YAAY,CAAC,CAAa;QACxB,OAAO,CAAC,YAAY,,WAAW,IAAI,IAAI,CAAC,QAAQ,CAAC,
YAAY,CAAC,CAAC,CAAC,QAAQ,CAAC;YACrE,IAAI,CAAC,KAAK,CAAC,YAAY,,CAAC,CAAC,CAAC,K
AAK,CAAC,CAAC;KACtC;IAED,UAAU;QACR,OAAO,KAAK,CAAC;KACd;IAED,eAAe,CAAC,OAA0B,EAAE
,OAAY;QACtD,OAAO,OAAO,,CAAC,gBAAgB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAChD;IAED,GAA
G,CAAC,KAAiB;QACnB,OAAO,IAAI,,YAAY,,CAAC,IAAI,CAAC,QAAQ,,EAAE,IAAI,CAAC,KAAK,,EAAE,K
AAK,,EAAE,IAAI,,EAAE,IAAI,CAAC,UAAU,,CAAC,CAAC;KAClF;CACF;MAGY,gBAAiB,SAAQ,UAAU;IAE9C
C,YAAY,,OAAqB,EAAE,IAAgB,,EAAE,UAAiC;QACpF,KAAK,,IAAI,CAAC,OAAO,,GAAG,,OAAO,,CAAC,CAAC;KACxB
B,IAAI,CAAC,OAAO,,GAAG,,OAAO,,CAAC,CAAC;KACxB;IAED,UAAU;QACR,OAAO,IAAI,,CAAC,OAAO,,CAAC,K
AAK,,CAAC,CAAC,IAAI,,CAAC,CAAC,CAAC,UAAU,,EAAE,,CAAC,CAAC;KAChD;IAED,YAAY,,CAAC,CAAa;QAC
xB,OAAO,CAAC,YAAY,,gBAAgB,,IAAI,,gBAAgB,,CAAC,IAAI,,CAAC,OAAO,,EAAE,,CAAC,CAAC,OAAO,,CA
AC,CAAC;KACnF;IACD,eAAe,CAAC,OAA0B,,EAAE,,OAAY;QACtD,OAAO,,OAAO,,CAAC,qBAAqB,,CAAC,I
AAI,,EAAE,,OAAO,,CAAC,,CAAC,,CAAC;KACrD;CACF;MAEY,eAAe,CAAC,IAAI,,YAAmB,,GAAW,,EAAS,,KAAiB,,EAAS,,M
AAe;QAA7D,QAAG,,GAAH,,GAAG,,EAAS,,UAAK,,GAAL,,KAAK,,EAAS,,WAAM,,GAAN,,MAAM
,,CAAS;KAAI;IACpF,YAAY,,CAAC,CAAkB;QAC7B,OAAO,,IAAI,,CAAC,GAAG,,KAAK,,CAAC,,CAAC,,GAAG,,I
AAI,,IAAI,,CAAC,KAAK,,CAAC,YAAY,,CAAC,,CAAC,,CAAC,KAAK,,CAAC,,CAAC;KAC/D;CACF;MAEY,cA
e,SAAQ,UAAU;IAE3C,YAAY,,OAA0B,,EAAE,IAAmB,,EAAE,UAAiC;QAC5F,QAAQ,,IAAI,,CAAC,OAAO,,CAAC,
U,CAAC,,CAAC;KACnB;IAED,UAAU;QACR,OAAO,IAAI,,CAAC,OAAO,,CAAC,YAAY,,CAAC,IAAI,,CAAC,QAAQ,,CAAC,
E;YACR,IAAI,,CAAC,SAAS,,GAAG,,IAAI,,CAAC,SAAS,,CAAC;KACjC;IAED,YAAY,,CAAC,CAAa;QACxB,O
CxB,OAAO,,CAAC,YAAY,,cAAc,,IAAI,,gBAAgB,,CAAC,IAAI,,CAAC,OAAO,,EAAE,,CAAC,CAAC,OAAO,,CAA
C,,CAAC;KACnF;IAED,UAAU;QACR,OAAO,IAAI,,CAAC,OAAO,,IAAI,,CAAC,OAAO,,CAAC,KAAK,,CAAC,CAAC,IAAI,,CAAC,CA
AC,,KAAK,,CAAC,UAAU,,EAAE,,CAAC,,CAAC;KAChD;IAED,YAAY,,CAAC,CAAa;QACxB,OAAO,,IAAI,,CAAC,OAAO,,CAAC,mB
AAmB,,CAAC,IAAI,,EAAE,,OAAO,,CAAC,,CAAC;KACn

CAAC,IAAI,CAAC,cAAc,CAAC,CAAC;KAC3C;CACF;MAGY,cAAe,SAAQ,SAAS;IAE3C,YACW,IAAY,EAAS,KAAkB,EAAE,IAAgB,EAAE,SAA0B,EAC5F,UAAiC,EAAE,eAAkC;QACvE,KAAK,CAAC,SAAS,EAAE,UAAU,EAAE,eAAe,CAAC,CAAC;QAFrC,SAAI,GAAJ,IAAI,CAAQ;QAAS,UAAK,GAAL,KAAK,CAAa;QAAS,UAAK,GAAL,KAAK,CAAa;QAAS,UAAK,GAAL,KAAK,CAAa

AAC,CAAC;KACrD;CACF;MAGY,MAAO,SAAQ,SAAS;IACnC,YACW,SAAqB,EAAS,QAAAqB,EACnD,YAAyB,EAAE,EAAE,UAAiC,EACrE,eAAkC;QACpC,KAAK,CAAC,EAAE,EAAE,UAAU,EAAE,eAAe,CAAC,CAAC;QAH9B,cAAS,GAAT,SAAS,CAAY;QAS,aAAQ,GAAR,QAAQ,CAAa;QACnD,cAAS,GAAT,SAAS,CAAY;QAkB

CAAC,UAAU,CAAC,EACvE,OAAO,CAAC,CAAC;KACd;IAED,iBAAiB,CAAC,GAAiB,EAAE,OAAY;QAC/C,
OAAO,IAAI,CAAC,aAAa,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KACzC;IAED,oBAAoB,CAAC,GAAoB,
EAAE,OAAY;QACrD,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,eAAe,CACf,GAAG,CAAC,SAAS,CAAC,eAAe,C
AAC,IAAI,EAAE,OAAO,CAAC,EAC5C,GAAG,CAAC,QAAQ,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,
EAC3C,GAAG,CAAC,SAAU,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,GAAG,CAAC,IAAI,EAAE
,GAAG,CAAC,UAAU,CAAC,EAC5E,OAAO,CAAC,CAAC;KACd;IAED,YAAY,CAAC,GAAY,EAAE,OAAY;Q
ACrC,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,OAAO,CAAC,GAAG,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,E
AAE,OAAO,CAAC,EAAE,GAAG,CAAC,UAAU,CAAC,EAAE,OAAO,CAAC,CAAC;KACzF;IAED,sBAAsB,C
AAC,GAAkB,EAAE,OAAY;QACrD,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,aAAa,CAAC,GAAG,CAAC,SAAS,
CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,GAAG,CAAC,UAAU,CAAC,EAAE,OAAO,CAAC,CAA
C;KAC/F;IAED,aAAa,CAAC,GAAa,EAAE,OAAY;QACvC,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,QAAQ,CAAC,
AAC,GAAG,CAAC,KAAK,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,GAAG,CAAC,IAAI,EAAE,G
AAG,CAAC,UAAU,CAAC,EAAE,OAAO,CAAC,CAAC;KAChG;IAED,iBAAiB,CAAC,GAAiB,EAAE,OAAY;Q
AC/C,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,YAAY,CACZ,GAAG,CAAC,MAAM,EAAE,IAAI,CAAC,kBAAk
B,CAAC,GAAG,CAAC,UAAU,EAAE,OAAO,CAAC,EAAE,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,C
AAC,EAC3F,OAAO,CAAC,CAAC;KACd;IAED,sBAAsB,CAAC,GAAsB,EAAE,OAAY;QACzD,OAAO,IAAI,CAAC,
AAC,aAAa,CACrB,IAAI,iBAAiB,CACjB,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,IAAI,CAAC,eAAe,CAAC
,IAAI,EAAE,OAAO,CAAC,EAAE,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,CAAC,EACpF,OAAO,CA
AC,CAAC;KACd;IAED,uBAAuB,CAAC,GAAuB,EAAE,OAAY;QAC3D,OAAO,IAAI,CAAC,aAAa,CACrB,IAA
I,kBAAkB,CAClB,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,GAAG,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,
CAAC,EACpD,GAAG,CAAC,GAAG,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,GAAG,CAAC,IAA
I,EAAE,GAAG,CAAC,UAAU,CAAC,EACrE,OAAO,CAAC,CAAC;KACd;IAED,iBAAiB,CAAC,GAAiB,EAAE,
OAAY;QAC/C,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,YAAY,CACZ,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,IA
C,IAAI,EAAE,OAAO,CAAC,EAAE,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAA
U,CAAC,EACpF,OAAO,CAAC,CAAC;KACd;IAED,gBAAgB,CAAC,GAAgB,EAAE,OAAY;QAC7C,OAAO,IA
AI,CAAC,aAAa,CACrB,IAAI,WAAW,CACX,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,C
AAC,EAAE,GAAG,CAAC,KAAK,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EACrF,GAAG,CAAC,IAAI,
EAAE,GAAG,CAAC,UAAU,CAAC,EAC7B,OAAO,CAAC,CAAC;KACd;IAED,qBAAqB,CAAC,GAAqB,EAAE,
OAAY;QACvD,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,gBAAgB,CAChB,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,gB
AAE,OAAY;QACvD,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,gBAAgB,CAAC,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,gBAAgB,CAAC,GAAG,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,CAAC,EAAE,OAAO,CAAC,CAAC;KACd;IAED,iBAAiB,CAAC,GAAiB,EAAE,OAAY;QAC/C,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,YAAY,CACZ,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,IAAI

AI,EAAE,OAAO,CAAC,EAAE,IAAI,CAAC,UAAU,EAAE,IAAI,CAAC,eAAe,CAAC,EACpF,OAAO,CAAC,CA
AC;KACd;IAED,eAAe,CAAC,IAAqB,EAAE,OAAY;QACjD,OAAO,IAAI,CAAC,aAAa,CACrB,IAAI,eAAe,CA
Cf,IAAI,CAAC,KAAK,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,IAAI,CAAC,UAAU,EAAE,IAAI,
CAAC,eAAe,CAAC,EACrF,OAAO,CAAC,CAAC;KACd;IAED,qBAAqB,CAAC,IAAe,EAAE,OAAY;QACjD,M
AAM,MAAM,GAAG,IAAI,CAAC,MAAO,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC3D,MA
AM,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,CAC5B,MAAM,IAAI,IAAI,WAAW,CACrB,MAAM,CA
AC,IAAI,EAAE,IAAI,CAAC,kBAAkB,CAAC,MAAM,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,MAAM,CAAC,
IAAI,EACvE,MAAM,CAAC,SAAS,CAAC,CAAC,CAAC;QAC3B,MAAM,UAAU,GAAG,IAAI,CAAC,iBAAiB;
YACrC,IAAI,WAAW,CAAC,IAAI,CAAC,iBAAiB,CAAC,IAAI,EAAE,IAAI,CAAC,iBAAiB,CAAC,MAAM,,EA
C1D,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,iBAAiB,CAAC,IAAI,EAAE,OAAO,CAAC,EAC7D,IAAI,CAAC
,iBAAiB,CAAC,IAAI,EAAE,IAAI,CAAC,iBAAiB,CAAC,SAAS,CAAC,CAAC;QACnF,MAAM,OAAO,GAAG,I
AI,CAAC,OAAO,CAAC,GAAG,CAC5B,MAAM,IAAI,IAAI,WAAW,CACrB,MAAM,CAAC,IAAI,EAAE,IAAI,CAAC,MAAM,,EAAE,IAAI,CAAC,EAAE,MA
AM,CAAC,MAAM,EAAE,IAAI,CAAC,kBAAkB,CAAC,MAAM,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,MA
AM,CAAC,IAAI,EACtF,MAAM,CAAC,SAAS,CAAC,CAAC,CAAC;QAC3B,OAAO,IAAI,CAAC,aAAa,,CACrB,IAAI,SAAS,,IAAI,,EAAE,MAAM,,EAAE,IAAI,CAAC,MAAM,,EAAE,OAAO,,EAAE,UAAU,,E
AAE,OAAO,,EAAE,IAAI,CAAC,SAAS,,EAC5E,IAAI,CAAC,UAAU,,CAAC,EACpB,OAAO,,CAAC,,CAAC;KACd
;IAED,WAAW,CAAC,IAAY,,EAAE,OAAY;QACpC,OAAO,IAAI,CAAC,aAAa,,CACrB,IAAI,MAAM,,CACN,IAAI,CAAC,SAAS,,CAAC,eAAe,,CAAC,IAAI,,EAAE,OAAO,,CAAC,EAC7C,IAAI,CAAC,kBAAkB,,CAAC,IAAI,,C
AAC,QAAQ,,EAAE,OAAO,,CAAC,EAC/C,IAAI,CAAC,kBAAkB,,CAAC,IAAI,,CAAC,SAAS,,EAAE,OAAO,,CAA
C,EAAE,IAAI,,CAAC,UAAU,,EACjE,IAAI,CAAC,eAAe,,CAAC,EACzB,OAAO,,CAAC,,CAAC;KACd;IAED,iBA
AiB,CAAC,IAAkB,,EAAE,OAAY;QACjD,OAAO,IAAI,CAAC,aAAa,,CACrB,IAAI,YAAY,,CACZ,IAAI,CAAC,kBAAkB,,CAAC,IAAI,,CAAC,kBAAkB,,CAAC,IAAI,,EAAE,OAAO,,CAAC,EAAE,IAAI,,CAAC,UA
AU,,EAAE,OAAO,,CAAC,EAAE,IAAI,,CAAC,UAAU,,EAClE,IAAI,CAAC,eAAe,,CAAC,EACzB,OAAO,,CAAC,,CAAC;KACd
;IAED,cAAc,CAAC,IAAe,,EAAE,OAAY;QAC1C,OAAO,IAAI,CAAC,aAAa,,CACrB,IAAI,SAAS,,CAAC,IAAI,,CAAC,SAAS,,EAAE,IAAI,,CAAC,MAAM,,EAAE,IAAI,,CAAC,EAAE,IAAI,,CAAC,SAAS,,CAAC,
CAC,IAAI,,CAAC,kBAAkB,,CAAC,IAAI,,CAAC,kBAAkB,,CAAC,IAAI,,EAAE,OAAO,,CAAC,EAAE,IAAI,,CAAC,UAAU,,EAAE,IAAI,,CAAC,
,CAAC,IAAI,,CAAC,eAAe,,CAAC,EAAE,IAAI,,CAAC,UAAU,,EAAE,IAAI,,CAAC,SAAS,,EAAE,OAAO,,CAAC,,CAAC;KACd;IAED,kBAAkB,,CAAC,IAAI,,CAAC,kBAAkB,,CAAC,IAAI

CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3C;IACD,qBAAqB,CAAC,GAAqB,EAAE,OAAY;QACvD,GA
AG,CAAC,QAAQ,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC5C,IAAI,CAAC,mBAAmB,CAA
C,GAAG,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC5C,OAAO,IAAI,CAAC,eAAe,CAAC,GAAG,EAAE,OA
AO,CAAC,CAAC;KAC3C;IACD,uBAAuB,CAAC,GAAuB,EAAE,OAAY;QAC3D,GAAG,CAAC,EAAE,
eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QACtC,IAAI,CAAC,mBAAmB,CAAC,GAAG,CAAC,IAAI,EA
AE,OAAO,CAAC,CAAC;QAC5C,OAAO,IAAI,CAAC,eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3
C;IACD,oBAAoB,CAAC,GAAoB,EAAE,OAAY;QACrD,GAAG,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,
OAAO,CAAC,CAAC;QAC7C,IAAI,CAAC,mBAAmB,CAAC,GAAG,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;
QAC5C,OAAO,IAAI,CAAC,eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3C;IACD,gBAAgB,CAAC,
GAAgB,EAAE,OAAY;QAC7C,OAAO,IAAI,CAAC,eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3C;I
ACD,oBAAoB,CAAC,GAAoB,EAAE,OAAY;QACrD,OAAO,IAAI,CAAC,eAAe,CAAC,GAAG,EAAE,OAAO,C
AAC,CAAC;KAC3C;IACD,iBAAiB,CAAC,GAAiB,EAAE,OAAY;QAC/C,IAAI,GAAG,CAAC,UAAU,EAAE;Y
AClB,GAAG,CAAC,UAAU,CAAC,OAAO,CAAC,IAAI,IAAI,IAAI,CAAC,SAAS,CAAC,IAAI,EAAE,OAAO,C
AAC,CAAC,CAAC;SAC/D;QACD,OAAO,IAAI,CAAC,eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3
C;IACD,oBAAoB,CAAC,GAAoB,EAAE,OAAY;QACrD,GAAG,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,
OAAO,CAAC,CAAC;QAC7C,GAAG,CAAC,QAAQ,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QA
C5C,GAAG,CAAC,SAAU,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC9C,OAAO,IAAI,CAAC,
eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3C;IACD,YAAY,CAAC,GAAY,EAAE,OAAY;QACrC,G
AAG,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC7C,OAAO,IAAI,CAAC,eAAe,C
AAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3C;IACD,sBAAsB,CAAC,GAAkB,EAAE,OAAY;QACrD,GAAG
,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC7C,OAAO,IAAI,CAAC,eAAe,CAAC
,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3C;IACD,aAAa,CAAC,GAAa,EAAE,OAAY;QACvC,GAAG,CAAC,KAAK,CAAC,eAAe,C
AAC,IAAI,EAAE,OAAO,CAAC,CAAC;QACzC,IAAI,GAAG,CAAC,UAAU,EAAE,OAAO,IAAI,CAAC,eAAe,CAAC,GAAG,
EAAE,OAAO,CAAC,CAAC;KAC3C;IACD,iBAAiB,CAAC,GAAiB,EAAE,OAAY;QAC/C,IAAI,GAAG,CAAC,kBAAk
B,CAAC,GAAG,CAAC,UAAU,EAAE,OAAO,CAAC,CAAC;QACjD,OAAO,IAAI,CAAC,eAAe,CAAC,GAAG,EAAE,OAAO,C
AAC,CAAC;KAC3C;IACD,sBAAsB,CAAC,GAAsB,EAAE,OAAY;QACzD,GAAG,CAAC,IAAI,
CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QACxC,IAAI,GAAG,CAAC,IAAI,EAAE,OAAO,CAAC,eAAe,CAAC,GAAG,EAAE,OAAO,C
AAC,CAAC;KAC3C;IACD,uBAAuB,CAAC,GAAuB,EAAE,OAAY;QAC3D,GAAG,CAAC,EAAE,
eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;QAC5C,IAAI,GAAG,CAAC,EAAE,eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3C;IACD,qBAAqB,CAAC,
GAAqB,EAAE,OAAY;QAC7D,GAAG,CAAC,EAAE,eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;QAC5C,IAAI,GAAG,CAAC,EAAE,eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC3C;IACD,iBAAiB,CAAC,GAAiB,EAAE,OAAY;QAC/C,IAAI,GAAG,CAAC,kBAAkB

IAAI,EAAE,OAAO,CAAC,CAAC;SACpC;QACD,OAAO,IAAI,CAAC;KACb;IACD,mBAAmB,CAAC,IAAyB,EAAE,OAAY;QACzD,IAAI,CAAC,IAAI,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QACzC,OAAO,IAAI,CAAC;KACb;IACD,eAAe,CAAC,IAAqB,EAAE,OAAY;QACjD,IAAI,CAAC,KAAK,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC1C,OAAO,IAAI,CAAC;KACb;IACD,qBAAqB,CAAC,IAAe,EAAE,OAAY;QACjD,IAAI,CAAC,MAAM,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC5C,OAAO,IAAI,CAAC;KACb;IACD,WAAW,CAAC,IAAa,EAAE,OAAY;QACrC,IAAI,CAAC,IAAI,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QACnD,OAAO,IAAI,CAAC;KACb;IACD,cAAc,CAAC,IAAgB,EAAE,OAAY;QAC3C,IAAI,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC9C,OAAO,IAAI,CAAC;KACb;IACD,cAAc,CAAC,IAAgB,EAAE,OAAY;QAC3C,IAAI,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC9C,OAAO,IAAI,CAAC;KACb;IACD,eAAe,CAAC,IAAiB,EAAE,OAAY;QAC7C,IAAI,CAAC,UAAU,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QAC/

AAI,YAAY,CAAC,EAAE,EAAE,IAAI,EAAE,UAAU,EAAE,UAAU,CAAC,CAAC;AAC5D,CAAC;SAEe,UAAU
,CACtB,EAAqB,EAAE,UAAwB,EAC/C,aAA8B;IAChC,OAAO,EAAE,IAAI,IAAI,GAAG,cAAc,CAAC,UAAU,C
AAC,EAAE,EAAE,UAAU,EAAE,IAAI,CAAC,EAAE,aAAa,CAAC,GAAG,IAAI,CAAC;AAC7F,CAAC;SAEe,c
AAc,CAC1B,IAAgB,EAAE,aAA8B,EAAE,UAAwB;IAC5E,OAAO,IAAI,cAAc,CAAC,IAAI,EAAE,aAAa,EAAE,
UAAU,CAAC,CAAC;AAC7D,CAAC;SAEe,UAAU,CAAC,IAAgB;IACzC,OAAO,IAAI,UAAU,CAAC,IAAI,CA
AC,CAAC;AAC9B,CAAC;SAEe,UAAU,CACtB,MAAoB,EAAE,IAAgB,EAAE,UAAiC;IAC3E,OAAO,IAAI,gB
AAgB,CAAC,MAAM,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;AACxD,CAAC;SAEe,UAAU,CACtB,MAA2D,,
EAC3D,OAAqB,IAAI;IAC3B,OAAO,IAAI,cAAc,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC,IAAI,IAAI,eAAe
,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,MAAM,CAAC,CAAC,EAAE,I
AAI,EAAE,IAAI,CAAC,CAAC;AAClF,CAAC;SAEe,UAAU,CAAC,IAAgB,EAAE,IAAgB,EAAE,IAAW,,EACt
D,UAAiC;IACnC,OAAO,IAAI,iBAAiB,CAAC,QAAQ,EAAE,IAAI,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;A
ACjE,CAAC;SAEe,GAAG,CAAC,IAAgB,EAAE,UAAiC;IACrE,OAAO,IAAI,OAAO,CAAC,IAAI,EAAE,UAAU
,CAAC,CAAC;AACvC,CAAC;SAEe,aAAa,CAAC,IAAgB,EAAE,UAAiC;IAC/E,OAAO,IAAI,aAAa,CAAC,IAAI
,EAAE,UAAU,CAAC,CAAC;AAC7C,CAAC;SAEe,EAAE,CAAC,IAAgB,EAAE,IAAiB,EAAE,IAAgB,EAAE,U
AAiC,EACzF,IAAkB;IACpB,OAAO,IAAI,YAAY,CAAC,MAAM,EAAE,IAAI,EAAE,IAAI,EAAE,UAAU,EAAE
,IAAI,CAAC,CAAC;AAChE,CAAC;SAEe,MAAM,CAClB,SAAqB,EAAE,UAAuB,EAAE,UAAwB,,EACxE,4B,EAAE,eAAkC;IACpC,OAAO,IAAI,MAAM,CAAC,SAAS,,EAAE,UAAU,,EAAE,UAAU,,EAAE,UAAU,,EAAE,
eAAe,CAAC,CAAC;AACpF,CAAC;SAEe,OAAO,CACnB,KAAU,,EAAE,IAAgB,EAAE,UAAiC;IACjE,OAAO,I
AAI,WAAW,CAAC,KAAK,,EAAE,IAAI,,EAAE,UAAU,CAAC,CAAC;AAClD,CAAC;SAEe,eAAe,CAAC,IAAgB,,EAAE,CAC3B,mB,EAAE,YAA4B,,EAAE,gBAAoC,,EACvF,WAAyB,,EAAE,UAAiC;IAC9D,OAAO,IAAI,eAAe,CAAC,MAAM,,EAAE,IAAI,,EAAE,YAAY,,EAAE,gBAAgB,,EAAE,WAAW,,EAAE,UAAU,CAAC,CAAC;AACjG

AC5C,CAAC;SAEe,SAAS,CAAC,GAAQ;IAChC,OAAO,GAAG,KAAK,IAAI,IAAI,GAAG,KAAK,SAAS,CAAC
;AAC3C,CAAC;SAEe,WAAW,CAAI,GAAgB;IAC7C,OAAO,GAAG,KAAK,SAAS,GAAG,IAAK,GAAG,GAAG
,CAAC;AACzC,CAAC;MASY,gBAAgB;IAC3B,UAAU,CAAC,GAAU,EAAE,OAAY;QACjC,OAAO,GAAG,CA
AC,GAAG,CAAC,KAAK,IAAI,UAAU,CAAC,KAAK,EAAE,IAAI,EAAE,OAAO,CAAC,CAAC,CAAC;KAC3D;
IACD,cAAc,CAAC,GAAyB,EAAE,OAAY;QACpD,MAAM,MAAM,GAAyB,EAAE,CAAC;QACxC,MAAM,CA
AC,IAAI,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,GAAG;YAC1B,MAAM,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,UA
AU,CAAC,GAAG,CAAC,GAAG,CAAC,EAAE,IAAI,EAAE,OAAO,CAAC,CAAC;SACnD,CAAC,CAAC;QAC
H,OAAO,MAAM,CAAC;KACf;IACD,cAAc,CAAC,KAAU,EAAE,OAAY;QACrC,OAAO,KAAK,CAAC;KACd;I
ACD,UAAU,CAAC,KAAU,EAAE,OAAY;QACjC,OAAO,KAAK,CAAC;KACd;CACF;AAIM,MAAM,SAAS,G
AAG;IACvB,UAAU,EAAE,CAAI,KAAmB;QACjC,IAAI,SAAS,CAAC,KAAK,CAAC,EAAE;YACpB,OAAO,CAAC,GAAG,
,KAAK,CAAC,GAAG,CAAC,CAAC;IACxB,kBAAa,CAAC,kBAAkB,CAAC,GAAG,IAAI,CAAC;IAC1C,0CAAC,W
AAW;QAAG,KAAa,CAAC,kBAAkB,CAAC,GAAG,WAAW,CAAC;IAClE,OAAO,KAAK,CAAC;AACf,CAAC;
AAED,MAAM,kBAAkB,GAAG,eAAe,CAAC;AAC3C,MAAM,kBAAkB,GAAG,eAAe,CAAC;SAE3B,aAAa,CA
AC,KAAY;IACxC,OAAQ,KAAa,CAAC,kBAAkB,CAAC,CAAC;AAC5C,CAAC;SAEe,cAAc,CAAC,cAAc,CAAC,KAAY;IAC
zC,OAAQ,KAAa,CAAC,kBAAkB,CAAC,IAAI,EAAE,CAAC;AAClD,CAAC;AAED;SACgB,YAAY,CAAC,CA
AS;IACpC,OAAO,CAAC,CAAC,CAAC,OAAO,CAAC,4BA4B,EAAE,MAAM,CAAC,CAAC;AACzD,CAAC;AAED,
MAAM,gBAAgB,GAAG,MAAM,CAAC,cAAc,EAAE,CAAC,EAAE,CAAC;AACnD,iBAAiB,CAAC,GA
AQ;IACjC,OAAO,OAAO,GAAG,KAAK,QAAQ,IAAI,IAAI,MAAM,CAAC,cAAc,CAAC,GAAG,CAAC,K
AAK,gBAAgB,CAAC;AACpG,CAAC;AAED;SACgB,cAAc,CAAC,KAAU,EAAE,OAAY;IACrD,OAAO,KAAK,CAAC;AAC
f,CAAC;AAED;SACgB,cAAc,CAAC,KAAU,EAAE,OAAY;IACrD,OAAO,KAAK,CAAC;AACf,CAAC;AAED;
SACgB,cAAc,CAAC,KAAU,EAAE,OAAY;IACrD,OAAO,KAAK,CAAC;AACf,CAAC;AAED;SACgB,cAAc,
CAAC,KAAU,EAAE,OAAY;IACrD,OAAO,KAAK,CAAC;AACf,CAAC;AAED;SACgB,cAAc,CAAC,KAAU,EAAE,
OAAY;IACrD,OAAO,KAAK,CAAC;AACf,CAAC;AAED;SACgB,cAAc,CAAC,KAAU,EAAE,OAAY;IACrD,OAAO,
KAAK,CAAC;AACf,CAAC;AAED;SACgB,cAAc,CAAC,KAAU,EAAE,OAAY;IACrD,OAAO,KAAK,CAAC;AACf,
CAAC;AAED;SACgB,cAAc,CAAC,KAAU,EAAE,OAAY;IACrD,OAAO,KAAK,CAAC;AACf,CAAC;AAED;SACgB,
cAAc,

AO,YAAY,KAAK,CAAC,CAAC,GAAG,GAAG,GAAG,GAAG,CAAC,SAAS,CAAC,CAAC,EAAE,YAAY,CAA
C,CAAC;AACpE,CAAC;AAED;;;SAGgB,iBAAiB,CAAC,IAAS;IACzC,IAAI,OAAO,IAAI,KAAK,UAAU,IAAI,I
AAI,CAAC,cAAc,CAAC,iBAAiB,CAAC,EAAE;QACxE,OAAO,IAAI,EAAE,CAAC;KCf;SAAM;QACL,OAA
O,IAAI,CAAC;KCb;AACH,CAAC;AAED;;;SAGgB,SAAS,CAAU,GAAQ;;IAGzC,OAAO,CAAC,CAAC,GAA
G,IAAI,OAAO,GAAG,CAAC,IAAI,KAAK,UAAU,CAAC;AACjD,CAAC;MAEY,OAAO;IAKlB,YAAmB,IAAY;
QAAZ,SAAI,GAAJ,IAAI,CAAQ;QAC7B,MAAM,MAAM,GAAG,IAAI,CAAC,KAAK,CAAC,GAAG,CAAC,CA
AC;QAC/B,IAAI,CAAC,KAAK,GAAG,MAAM,CAAC,CAAC,CAAC,CAAC;QACvB

C,KAAK,CAAC,KAAK,CAAC,CAAC;SACpB;QAED,OAAO,KAAK,CAAC;KACd;IAED,aAAa,CAAC,IAAS,EAAE,IAAAoB,EAAE,GAAAkB,EAAE,cAAAuB,KAAK;QAE7F,MAAM,WAAW,GAAG,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,CAAC;QAC7C,IAAI,KAAK,GAAG,IAAI,CAAC,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;QAClC,IAAI,QAAQ,GAAG,IAAI,CAAC,KAAK,CAAC;QACrB,IAAI,CAAC,KAAK,EAAE;YACV,MAAM,QAAQ,GAAG,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;YAC3C,KAAK,GAAG,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;YACvC,QAAQ,GAAG,IAAI,CAAC,KAAK,CAAC;SACzB;QAED,MAAM,MAAM,GAAG,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;QAC9B

AC5B,uBAAkB,GAAG,OAAO,CAAC;QAC7B,0BAAqB,GAAG,OAAO,CAAC;QAChC,4BAAuB,GAAG,OAAO
,CAAC;QAClC,yBAAoB,GAAG,OAAO,CAAC;QAC/B,yBAAoB,GAAG,OAAO,CAAC;QAC/B,iBAAY,GAAG,
OAAO,CAAC;QACvB,2BAAsB,GAAG,OAAO,CAAC;QACjC,kBAAa,GAAG,OAAO,CAAC;QACxB,sBAAiB,
GAAG,OAAO,CAAC;QAC5B,2BAAsB,GAAG,OAAO,CAAC;QACjC,4BAAuB,GAAG,OAAO,CAAC;QAClC,s
BAAiB,GAAG,OAAO,CAAC;QAC5B,qBAAgB,GAAG,OAAO,CAAC;QAC3B,mBAAc,GAAG,OAAO,CAAC;Q
ACzB,yBAAoB,GAAG,OAAO,CAAC;KAChC;IAjDC,gBAAgB,CAAC,GAAkB;QACjC,OAAO,GAAG,OAAO,G
AAG,CAAC,KAAK,KAAK,QAAQ,GAAG,GAAG,GAAG,GAAG,CAAC,KAAK,GAAG,GAAG,GAAG,GAAG,C
AAC,KAAK,EAAE,CAAC;KAC/E;IAED,qBAAqB,CAAC,GAAuB,EAAE,OAAe;QAC5D,OAAO,IAAI,GAAG,C
AAC,OAAO,CAAC,GAAG,CAAC,KAAK,IAAI,KAAK,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC,
CAAC,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC;KACxF;IAED,mBAAmB,CAAC,GAAqB,EAAE,OAAe;QACxD,MAAM,MAAM,GAAG,CAAC,KAAwB;YACtC,MAAM,KAAK,GAAG,CAAC,MAAM,GAAG,CAAC,KAAK,CAAC,MAAM,GAAG,GAAG
,GAAG,EAAE,CAAC;YACtC,OAAO,GAAG,KAAK,GAAG,CAAC,KAAK,CAAC,GAAG,GAAG,KAAK,EAAE,CAAC;
SACvC,CAAC;QACF,MAAM,QAAQ,GAAG,CAAC,KAAwB,GAAG,MAAM,CAAC,KAAK,CAAC,IA
AI,KAAK,CAAC,KAAK,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,CAAC;QACrE,OAAO,IAAI,G
AAG,CAAC,OAAO,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC;KAC
lD;IAED,iBAAiB,CAAC,GAAmB;QACnC,OAAO,GAAG,CAAC,KAAK,CAAC,UAAU,GAAG,MAAM,GAAG,
CAAC,KAAK,CAAC,UAAU,IAAI,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE;YAC9C,MAAM,GAAG,CAAC,K
AAK,CAAC,OAAO,CAAC,IAAI,EAAE,CAAC;KAC9D;IAED,gBAAgB,CAAC,IAAmB;QAClC,OAAO,OAAO,I
AAI,CAAC,IAAI,EAAE,CAAC;KAC3B;IAED,eAAe,CAAC,IAAkB,EAAE,OAAY;QAC9C,OAAO,UAAU,IAAI,
CAAC,IAAI,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,EAAE,CAAC;KAC7D;CAoBF;AAED,SAAS,OAA
O,CAA+B,GAA6B;IAC1E,MAAM,IAAI,KAAK,CAAC,0BAA0,WAAW,CAAC,IAAI,mBAAmB,
GAAG,CAAC,WAAW,CAAC,IAAI,EAAE,CAAC,CAAC;AAChG,SAAS,UAAU,CAAC,KAAU,EAAE,IAAY;IAC1
CjC,OAAO,CAAC,YAAYa,WAAWa,CAAC;AACpC,SAAS,mBAAmB,CAAC,IAAkB;IAC7C,OAAO,IAAI,YAAYX,WAAWa,IAAI,CAAC,MAAM,KAAK,CAAC,IAAI,IAAI,CAAC,MAAM,KAAK,CAAC,M
AAM,IAAI,2CAA2C,CAAC;AACvE;;AChWA;;;;;;;AAYA,MAAM,IAAI,GAAG,eAAe,CAAC;MAEhB,WAAW;;AACf,wCAA4B,GAAG,wB;IACzD,8BAA8B;IACpC,UAAU,EAAE,IAAI;CAEjB,B,CAAC,AACK,sBAAU,GAAG,wB,EAAE,CAAC,AAAC,AAAC,A

AW,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AACvE,+BAAmB,GAAwB;IAChD,IAAI,EAAE,qBAAqB;IAC3B,UAAU,EAAE,IAAI;CAEjB,CAAC;AACK,6BAAiB,GAAwB;IAC9C,IAAI,EAAE,oBAAoB;IAC1B,UAAU,EAAE,IAAI;CACjB,CAAC;AACK,uBAAW,GAAwB,EAAC,IAAI,EAAE,cAAc,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AAC5E,uBAAW,GAAwB,EAAC,IAAI,EAAE,cAAc,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AAC5E,qBAAS,GAAwB,EAAC,IAAI,EAAE,YAAY,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AACxE,oBAAQ,GAAwB,EAAC,IAAI,EAAE,UAAU,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AACrE,mBAAO,GAAwB,EAAC,IAAI,EAAE,MAAM,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AAChE,sBAAU,GAAwB,EAAC,IAAI,EAAE,SAAS,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AACtE,qBAAS,GAAwB,EAAC,IAAI,EAAE,QAAQ,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AACpE,oBAAQ,GAAwB,EAAC,IAAI,EAAE,OAAO,EAAE,UAAU,EAAE,IAAI,EAAC,CAAC;AACl

AS,EAAE,QAAQ,EAAC,CAAC,IAAI,qBAAqB,EAAE,CAAC;AAClF,CAAC;SAEe,gBAAgB,CAAC,QAAa;IAC
5C,OAAO,cAAc,cAAc,CAAC,EAAC,SAAS,EAAE,QAAQ,EAAC,CAAC,EAAE,CAAC;AAC/D,CAAC;SAEe,iB
AAiB,CAAC,QAAa;IAC7C,OAAO,YAAY,cAAc,CAAC,EAAC,SAAS,EAAE,QAAQ,EAAC,CAAC,EAAE,CAA
C;AAC7D,CAAC;SAEe,oBAAoB,CAAC,QAAa;IAChD,OAAO,GAAG,cAAc,CAAC,EAAC,SAAS,EAAE,QAAQ
,EAAC,CAAC,WAAW,CAAC;AAC7D,CAAC;SAEe,kBAAkB;IAC5B,2DAAI,CAAA;IACJ,qEA
AS,CAAA;IACT,mEAAQ,CAAA;IACR,uEAAU,CAAA;AACZ,CAAC,EALW,kBAAkB,KAAlB,kBAAkB,QAK7
B;SAsCe,SAAS,CAAC,KA2B;IACnD,OAAO,KAAK,CAAC,KAAK,IAAI,IAAI,GAAG,kBAAkB,CAAC,KAA
K,CAAC,KAAK,CAAC,GAAG,cAAc,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC;AAClG,CAAC;SAEe,cAAc,cA
AC,KA2B;IACxD,IAAI,KAAK,CAAC,UAAU,IAAI,IAAI,EAAE;QAC5B,OAAO,KAAK,CAAC,UAAU,CAA
C,SAAS,CAAC;KACnC;SAAM;QACL,OAAO,KAAK,CAAC,KAAK,CAAC;KACpB;AACH,CAAC;AAsCD;;;MA
GA,yBAAyB;IAIpC,YACI,EAAC,SAAS,EAAE,MAAM,EAAE,SAAS,KACuC,EAAE;QACxE,IAAI,CAAC,SA
AS,GAAG,SAAS,IAAI,CAAC;QACnC,IAAI,CAAC,MAAM,GAAG,eAAe,CAAC,MAAM,CAAC,CAAC;QACtC
CtC,IAAI,CAAC,SAAS,GAAG,eAAe,CAAC,SAAS,CAAC,CAAC;KAC7C;CACF;AAYD;;;MAGa,uBAAuB;IA
alC,YAAY,EACV,aAAa,EACb,QAAQ,EACR,WAAW,EACX,OAAO,EACP,MAAM,EACN,SAAS,EACT,mBAA
mB,EACnB,UAAU,EACV,kBAAkB,EAClB,aAAa,EACb,QAAQ,EACR,mBAAmB,EAcpB;QACC,IAAI,CAAC,a
AAa,GAAG,aAAa,CAAC;QACnC,IAAI,CAAC,QAAQ,GAAG,QAAQ,CAAC;QACzB,IAAI,CAAC,WAAW,GA
AG,WAAW,CAAC;QAC/B,IAAI,CAAC,OAAO,GAAG,OAAO,CAAC;QACvB,IAAI,CAAC,MAAM,GAAG,eA
Ae,CAAC,MAAM,CAAC,CAAC;QACtC,IAAI,CAAC,SAAS,GAAG,eAAe,CAAC,SAAS,CAAC,CAAC;QAC5
C,IAAI,CAAC,mBAAmB,GAAG,eAAe,CAAC,mBAAmB,CAAC,CAAC;QAChE,IAAI,CAAC,UAAU,GAAG,UA
AU,GAAG,OAAO,CAAC,UAAU,CAAC,GAAG,EAAE,CAAC;QACzD,IAAI,CAAC,kBAAkB,GAAG,kBAAkB,IA
AI,EAAE,CAAC;QACnD,IAAI,aAAa,IAAI,aAAa,CAAC,MAAM,IAAI,CAAC,EAAE;YAC9C,IAAI,CAAC,KAK
AK,CAAC,wDAAwD,CAAC,CAAC;SAC9D;QACD,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,aAAa,GAAG,CAAC;
QACnC,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,SAAS,GAAG,CAAC;QAClC,IAAI,CAAC,MAAM,GAAG,IAAI,
CAAC,QAAQ,GAAG,CAAC;QAChC,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,MAAM,GAAG,CAAC;QAC9B,IAAI,CAAC,
QAAQ,GAAG,IAAI,CAAC,OAAO,GAAG,CAAC;QACjC,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,QAAQ,GAAG,CAAC;
QAAQ,GAAG,QAAQ,CAAC;QACzB,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,mBAAmB,GAAG,mBAAmB,CAAC;KAChD;IAED,SAAS;
QACP,OAAO;YACL,kBAAkB,EAAE,IAAI,CAAC,kBAAkB;YAC3C,aAAa,EAAE,IAAI,CAAC,aAAa;YACjC,QAAQ,EAAE,IAAI,
CAAC,QAAQ;YACvB,WAAW,EAAE,IAAI,CAAC,WAAW;YAC7B,OAAO,EAAE,IAAI,CAAC,OAAO;YACrB,MAAM;YACnB,SAAS,EAAE,IAAI,CAAC,SAAS;YACzB,mBAAmB,EAAE,IAAI,CAAC,mBAAmB;YAC7C,UAAU,EAAE,IAAI,CAAC,UAAU;YAC3B,KAAK,EAAE,IAAI,CAAC,KAAK;SAClB;KACF;CACF;AAED;;;MAGa,yBAAyB;IAIpC,YACI,EAAC,SAAS,EAAE,MAAM,EAAE,SAAS,KACuC,EAAE;QACxE,IAAI,CAAC,SAAS,GAAG,SAAS,IAAI,CAAC;QACnC,IAAI,CAAC,MAAM,GAAG,eAAe,CAAC,MAAM,CAAC,CAAC;QACtC,IAAI,CAAC,SAAS,GAAG,eAAe,CAAC,SAAS,CAAC,CAAC;KAC7C;CACF;AAED;;;MAGa,uBAAuB;IAIlC,YACI,EAAC,SAAS,EAAE,MAAM,EAAE,SAAS,KACuC,EAAE;QACxE,IAAI,CAAC,SAAS,GAAG,SAAS,IAAI,CAAC;QACnC,IAAI,CAAC,MAAM,GAAG,eAAe,CAAC,MAAM,CAAC,CAAC;QACtC,IAAI,CAAC,SAAS,GAAG,eAAe,CAAC,SAAS,CAAC,CAAC;KAC7C

AC,CAAC,IAAI,IAAI,EAAE;oBAC7B,aAAa,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,GAAG,KAAK,CAAC;i
BACnC;aACF,CAAC,CAAC;SACJ;QACD,MAAM,SAAS,GAA4B,EAAE,CAAC;QAC9C,IAAI,MAAM,IAAI,IA
AI,EAAE;YAClB,MAAM,CAAC,OAAO,CAAC,CAAC,UAAkB;;;gBAGhC,MAAM,KAAK,GAAG,YAAY,,CAA
C,UAAU,EAAE,CAAC,UAAU,EAAE,UAAU,CAAC,CAAC,CAAC;gBACjE,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC
,CAAC,CAAC,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;aAChC,CAAC,CAAC,CAAC;SACJ;QACD,MAAM,UAAU,,
GAA4B,EAAE,CAAC;QAC/C;IAAI,OAAO,IAAI,IAAI,EAAE;YACnB,OAAO,CAAC,OAAO,CAAC,CAAC,UA
AkB;;;gBAGjC,MAAM,KAAK,GAAG,YAAY,,CAAC,UAAU,EAAE,CAAC,UAAU,EAAE,UAAU,CAAC,CAAC,
CAAC;gBACjE,UAAU,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;
aACjC,CAAC,CAAC;SACJ;QAED,OAAO,IAAI,wBAAwB,CAAC;YAClC,MAAM;YACN,IAAI;YACJ,WAAW,
EAAE,CAAC,CAAC,WAAW;YAC1B,QAAQ;YACR,QAAQ;YACR,eAAe;YACf,MAAM,EAAE,SAAS;YACjB,
OAAO,EAAE,UAAU;YACnB,aAAa;YACb,cAAc;YACd,cAAc;YACd,SAAS;YACT,aAAa;YACb,OAAO;YACP,
MAM;YACN,WAAW;YACX,eAAe;YACf,QAAQ;YACR,iBAAiB;YACjB,YAAY;YACZ,gBAAgB;SACjB,CA
AC,CAAC;KACJ;IA8FD,SAAS;QACP,OAAO;YACL,WAAW,EAAE,kBAAkB,CAAC,SAAS;YACzC,IAAI,EAAE
,IAAI,CAAC,IAAI;YACf,WAAW,EAAE,IAAI,CAAC,WAAW;SAChC;IACH,CAAC;IAED,SAAS,CAAC,KAAK;QA
CvB,QAAQ,EAAE,IAAI,CAAC,QAAQ;YACvB,MAAM,EAAE,IAAI,CAAC,MAAM;YACnB,OAAO,EAAE,IAAI,
CAAC,OAAO;YACrB,aAAa,EAAE,IAAI,CAAC,aAAa;YACjC,cAAc,EAAE,IAAI,CAAC,cAAc;YACnC,cAA
c,EAAE,IAAI,CAAC,cAAc;YACnC,SAAS,EAAE,IAAI,CAAC,SAAS;YACzB,aAAa,EAAE,IAAI,CAAC,aAAa;Y
ACjC,OAAO,EAAE,IAAI,CAAC,OAAO;YACrB,MAAM,EAAE,IAAI,CAAC,MAAM;YACnB,WAAW,EAAE,IAAI,
CAAC,WAAW;YAC7B,eAAe,EAAE,IAAI,CAAC,eAAe,EAAE,IAAI,CAAC,eAAe;YACrC,QAAQ,EAAE,IAAI,
CAAC,QAAQ,EAAE,IAAI,IAAI,CAAC,QAAQ,CAAC,SAAS,EAAE;YACpD,iBAAiB,EAAE,IAAI,CAAC,iBAAiB,C
AAC,iBAAiB;YACzC,YAAY,EAAE,IAAI,CAAC,YAAY;YAC/B,gBAAgB,EAAE,IAAI,CAAC,gBAAgB;SACxC,C
AAC;KACH;CACF;MAQY,mBAAmB;IAK9B,YAAY,EAAC,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAI5B;QACC,I
AAI,CAAC,IAAI,GAAG,IAAI,CAAC;QACjB,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC;QACjB,IAAI,CAAC,IAAI,
GAAG,IAAI,CAAC;QACjB,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC;IACnB,CAAC;IAED,SAAS,CAAC,KAAK;QA
CpB,IAED,SAAS;QACP,OAAO;YACL,WAAW,EAAE,kBAAkB,CAAC,SAAS;YACzC,IAAI,EAAE,IAAI,CAAC,
IAAI;YACf,WAAW,EAAE,IAAI,CAAC,WAAW;SAChC;IACH,CAAC;IAED,SAAS,CAAC,KAAK;QACpC,IAAI,EAAE
,IAAI,CAAC,IAAI,EAAE,IAAI,CAAC,IAAI;YACtB,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC,IAAI;
QACvB,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,
IAAI;SAChB,B,CAAC,CAAC;KACH;CACF;MAoBY,4BAA4B;CAOxC;AAED;;;MAGa,uBAAuB;IAkBlC,YAAY,EACV,CAAC,IAAI,EAAE,kBAAkB,CAAC,SAAS,EAAE,CAAC,IAAI,EAAE,kBAAkB,CAAC,SAAS,EAAE,CAAC,IAAI,EAAE,aAAa,EACb,CAAC,IAAI,EAAE,aAAa,EACb,CAAC,IAAI,EAAE,eAAe,EACf,CAAC,IAAI,EAAE,mBAAmB,EAAE,CAAC,IAAI,EAAE,mBAAmB,
B,EACnB,CAAC,IAAI,EAAE,eAAe,EACf,CAAC,IAAI,EAAE,eAAe,EACf,CAAC,IAAI,EAAE,eAAe,EACf,CAAC,IAAI,EAAE,OAAO,EAAE,CAAC,IAAI,EAAE,SAAS,EAAE,CAAC,IAAI,EAAE,gBAAgB,EAAE,CAAC,IAAI,EAAE,eAAe,EAAE,CAAC,IAAI,EAAE,eAAe,H;QACjG,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC

,CAAC,EAAE;YACzC,IAAI,CAAC,aAAa,CAAC,GAAG,CAAC,EAAE,CAAC,SAAS,CAAC,CAAC;YACrC,IA
AI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;SAC1B;KACF;IACD,oBAAoB,CAAC,EAA6B;QAC
hD,IAAI,CAAC,IAAI,CAAC,qBAAqB,CAAC,GAAG,CAAC,EAAE,CAAC,SAAS,CAAC,EAAE;YACjD,IAAI,C
AAC,qBAAqB,CAAC,GAAG,CAAC,EAAE,CAAC,SAAS,CAAC,CAAC;YAC7C,IAAI,CAAC,kBAAkB,CAAC,I
AAI,CAAC,EAAE,CAAC,CAAC;SAClC;KACF;IACD,OAAO,CAAC,EAA6B;QACnC,IAAI,CAAC,IAAI,CAAC
,QAAQ,CAAC,GAAG,CAAC,EAAE,CAAC,SAAS,CAAC,EAAE;YACpC,IAAI,CAAC,QAAQ,CAAC,GAAG,C
AAC,EAAE,CAAC,SAAS,CAAC,CAAC;YAChC,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;
SACrB;KACF;IACD,eAAe,CAAC,EAA6B;QAC3C,IAAI,CAAC,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,E
AAE,CAAC,SAAS,CAAC,EAAE;YAC5C,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,EAAE,CAAC,SAAS,CA
AC,CAAC;YACxC,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;SAC7B;KACF;IACD,SAAS,C
AAC,EAAuB;QAC/B,IAAI,CAAC,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,EAAE,CAAC,SAAS,CAAC,EAAE
;YACtC,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,EAAE,CAAC,SAAS,CAAC,CAAC;YAClC,IAAI,CAAC,OA
AO,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;SACvB;KACF;IACD,iBAAiB,CAAC,EAAiC;QACjD,IAAI,CAAC,
IAAI,CAAC,kBAAkB,CAAC,GAAG,CAAC,EAAE,CAAC,aAAa,CAAC,EAAE;YAClD,IAAI,CAAC,kBAAkB,C
AAC,GAAG,CAAC,EAAE,CAAC,aAAa,CAAC,CAAC;YAC9C,IAAI,CAAC,eAAe,CAAC,IAAI,CAAC,EAAE,C
AAC,CAAC;SAC/B;KACF;CACF;AAED,SAAS,eAAe,CAAC,GAAyB;IAChD,OAAO,GAAG,IAAI,EAAE,EAAC
;AACnB,MAEY,YAAY;IASvB,YAAY,KAAU,EAAE,EAAC,QAAQ,EAAE,QAAQ,EAAE,WAAW,EA
AE,UAAU,EAAE,IAAI,EAAE,KAAK,EAOhF;QACC,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC;QACnB,IAAI,
CAAC,QAAQ,GAAG,QAAQ,IAAI,IAAI,CAAC;QACjC,IAAI,CAAC,QAAQ,GAAG,QAAQ,IAAI,CAAC;QACzB,IAAA
I,CAAC,WAAW,GAAG,WAAW,CAAC;QAC/B,IAAI,CAAC,UAAU,GAAG,UAAU,IAAI,IAAI,IAAI,CAAC;QACrC,IAAI,
CAAC,YAAY,GAAG,IAAI,IAAI,IAAI,CAAC;QACjC,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC,CAAC,CAAC,KAAK,C
AAC;KACtB;CACF;SAAe,OAAO,CAAI,IAAkB;IAC3C,OAAO,IAAI,CAAC,MAAM,CAAC,CAAC,GAAG,EAAE,CAAC,EAAE,IAAW,EAAE,EAAE;QAAC,GAAG,CAAC,CAAC,CAAC,GAAG,IAAI;QAAC,OAAO,GAAG;IAAC,CAAC,EAAE,EAAS,CAAC;AAAA,CAAC;AAE/F,MAAM,GAAG,GAAG,OAAO,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC

C,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAEzEC,mCAAqB,GACF,EAAC,IAAI,EAAE,yBAAyB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACv

AC;AACvFC,8BAAgB,GAAwB,EAAC,IAAI,EAAE,oBAAoB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAC
vFC,8BAAgB,GAAwB,EAAC,IAAI,EAAE,oBAAoB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACvFC,8BA
AgB,GAAwB,EAAC,IAAI,EAAE,oBAAoB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACvFC,8BAAgB,GA
AwB,EAAC,IAAI,EAAE,oBAAoB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACvFC,8BAAgB,GAAwB,EA
AC,IAAI,EAAE,oBAAoB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACvFC,8BAAgB,GAAwB,EAAC,IAAI
,EAAE,oBAAoB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACvFC,8BAAgB,GAAwB,EAAC,IAAI,EAAE,o
BAAoB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAEvFC,yBAAW,GAAwB,EAAC,IAAI,EAAE,eAAe,EAA
E,UAAU,EAAED,MAAI,EAAC,CAAC;AAE7EC,2BAAa,GAAwB,EAAC,IAAI,EAAE,iBAAiB,EAAE,UAAU,E
AAED,MAAI,EAAC,CAAC;AACjFC,2BAAa,GAAwB,EAAC,IAAI,EAAE,iBAAiB,EAAE,UAAU,EAAED,MAA
I,EAAC,CAAC;AACjFC,2BAAa,GAAwB,EAAC,IAAI,EAAE,iBAAiB,EAAE,UAAU,EAAED,MAAI,EAAC,CA
AC;AACjFC,2BAAa,GAAwB,EAAC,IAAI,EAAE,iBAAiB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACjFC
,2BAAa,GAAwB,EAAC,IAAI,EAAE,iBAAiB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACjFC,2BAAa,GA
AwB,EAAC,IAAI,EAAE,iBAAiB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACjFC,2BAAa,GAAwB,EAAC,
IAAI,EAAE,iBAAiB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACjFC,2BAAa,GAAwB,EAAC,IAAI,EAAE,
iBAAiB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACjFC,2BAAa,GAAwB,EAAC,IAAI,EAAE,iBAAiB,EA
AE,UAAU,EAAED,MAAI,EAAC,CAAC;AACjFC,2BAAa,GAAwB,EAAC,IAAI,EAAE,iBAAiB,EAAE,UAAU,E
AAED,MAAI,EAAC,CAAC;AAEjFC,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,
EAAC,CAAC;AACzEC,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;
AACzEC,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACzEC,uBA
AS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACzEC,uBAAS,GAAwB,E
AAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAEzEC,0BAAY,GAAwB,EAAC,IAAI,E
AAE,gBAAgB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAE/EC,sBAAQ,GAAwB,EAAC,IAAI,EAAE,YAA
Y,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAEvEC,iCAAmB,GAAC,EAAC,IAAI,EAAE,uBAAuB,EAAE,U
AAU,EAAED,MAAI,EAAC,CAAC;AACrEC,kCAAoB,GAAC,D,EAAC,IAAI,EAAE,wBAAwB,EAAE,UAAU,EA
AED,MAAI,EAAC,CAAC;AACtEC,kCAAoB,GAAC,D,EAAC,IAAI,EAAE,wBAAwB,EAAE,UAAU,EAAED,MA
AI,EAAC,CAAC;AACtEC,kCAAoB,GAAC,D,EAAC,IAAI,EAAE,wBAAwB,EAAE,UAAU,EAAED,MAAI,EAAC,
CAAC;AACtEC,kCAAoB,GAAC,D,EAAC,IAAI,EAAE,wBAAwB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;A
ACtEC,kCAAoB,GAAC,D,EAAC,IAAI,EAAE,wBAAwB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACtEC,kC
AAoB,GAAC,D,EAAC,IAAI,EAAE,wBAAwB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACtEC,kCAAoB,GA
CD,EAAC,IAAI,EAAE,wBAAwB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACtEC,kCAAoB,GAAC,D,EAAC
,IAAI,EAAE,wBAAwB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACtEC,kCAAoB,GAAC,D,EAAC,IAAI,EA
AE,wBAAwB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAEtEC,kBAAI,GAAwB,EAAC,IAAI,EAAE,QAAQ
,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAC/DC,4BAAc,GAAC,EAAC,IAAI,EAAE,kBAAkB,EAAE,UA
AU,EAAED,MAAI,EAAC,CAAC;AACnFC,qBAAO,GAAwB,EAAC,IAAI,EAAE,WAAW,EAAE,UAAU,EAAE
D,MAAI,EAAC,CAAC;AACrEC,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAA
C,CAC;AACzEC,qBAAO,GAAwB,EAAC,IAAI,EAAE,WAAW,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;A
ACrEC,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AACzEC,6BAAe
,GAAwB,EAAC,IAAI,EAAE,mBAAmB,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AAErFC,kBAAI,GAAwB
,EAAC,IAAI,EAAE,QAAQ,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AAE/DC,0BAAY,GAAwB,EAAC,IAAI
,EAAE,cAAc,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AAC3EC,2BAAa,GAAwB,EAAC,IAAI,EAAE,iBAA
iB,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AAEjFC,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAA
U,EAAED,MAAI,EAAC,CAC;AAEzEC,oBAAM,GAAwB,EAAC,IAAI,EAAE,UAAU,EAAE,UAAU,EAAED,
MAAI,EAAC,CAC;AAEnFC,6BAAe,GAAwB,EAAC,IAAI,EAAE,mBAAmB,EAAE,UAAU,EAAED,MAAI,E
AAC,CAC;AAErFC,yBAAW,GAAwB,EAAC,IAAI,EAAE,+BAA+B,EAAE,UAAU,EAAED,MAAI,EAAC,CAA
C;AAE7EC,6BAAe,GAAwB,EAAC,IAAI,EAAE,mBAAmB,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AACrF
C,4BAAc,GAAwB,EAAC,IAAI,EAAE,kBAAkB,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AACnFC,+BAAiB
,GAAwB,EAAC,IAAI,EAAE,qBAAqB,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AAEzFC,kCAAoB,GAAC,D,
EAAC,IAAI,EAAE,wBAAwB,EAAE,UAAU,EAAED,MAAI,EAAC,CAC;AACtEC,2BAAa,GAAwB,EAAC,IAAI

,EAAE,iBAAiB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACjFC,6BAAe,GAAwB,EAAC,IAAI,EAAE,mBA
AmB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACrFC,yBAAW,GAAwB,EAAC,IAAI,EAAE,eAAe,EAAE,
UAAU,EAAED,MAAI,EAAC,CAAC;AAE7EC,6BAAe,GAAwB,EAAC,IAAI,EAAE,mBAAmB,EAAE,UAAU,E
AAED,MAAI,EAAC,CAAC;AAErFC,+BAAiB,GAAwB,EAAC,IAAI,EAAE,qBAAqB,EAAE,UAAU,EAAED,M
AAI,EAAC,CAAC;AAEzFC,kCAAoB,GAAwB;IACjD,IAAI,EAAE,wBAAwB;IAC9B,UAAU,EAAED,MAAI;C
ACjB,CAAC;AAEKC,wBAAU,GAAwB;IACvC,IAAI,EAAE,cAAc;IACpB,UAAU,EAAED,MAAI;CACjB,CAA
C;AAEKC,6BAAe,GAAwB;IAC5C,IAAI,EAAE,mBAAmB;IACzB,UAAU,EAAED,MAAI;CACjB,CAAC;AAEK
C,kCAAoB,GAAwB;IACjD,IAAI,EAAE,wBAAwB;IAC9B,UAAU,EAAED,MAAI;CACjB,CAAC;AAEKC,yBA
AW,GAAwB;IACxC,IAAI,EAAE,eAAe;IACrB,UAAU,EAAED,MAAI;CACjB,CAAC;AAEKC,4BAAc,GAAwB;
IAC3C,IAAI,EAAE,kBAAkB;IACxB,UAAU,EAAED,MAAI;CACjB,CAAC;AAEKC,iCAAmB,GAAwB;IAChD,I
AAI,EAAE,uBAAuB;IAC7B,UAAU,EAAED,MAAI;CACjB,CAAC;AAEKC,iCAAmB,GAAwB;IAChD,IAAI,EA
AE,qBAAqB;IAC3B,UAAU,EAAED,MAAI;CACjB,CAAC;AAEKC,4BAAc,GAAwB,EAAC,IAAI,EAAE,kBAA
kB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACnFC,8BAAgB,GAAwB,EAAC,IAAI,EAAE,oBAAoB,EAA
E,UAAU,EAAED,MAAI,EAAC,CAAC;AAEvFC,6BAAe,GAAwB,EAAC,IAAI,EAAE,mBAAmB,EAAE,UAAU,
EAAED,MAAI,EAAC,CAAC;AAErFC,wBAAU,GAAwB,EAAC,IAAI,EAAE,cAAc,EAAE,UAAU,EAAED,MA
AI,EAAC,CAAC;AAE3EC,0BAAY,GAAwB,EAAC,IAAI,EAAE,gBAAgB,EAAE,UAAU,EAAED,MAAI,EAAC,
CAAC;AAC/EC,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACz
EC,6BAAe,GAAwB,EAAC,IAAI,EAAE,mBAAmB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACrFC,gCAAkB,GAAwB,EAAC,IAAI,EAAE,sBAAsB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAC3FC,uBAAS,GAAwB,EAAC,IAAI,EAAE,aAAa,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACzEC,0BAAY,GAAwB,EAAC,IAAI,EAAE,gBAAgB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AAE/EC,+BAAiB,GAAwB,EAAC,IAAI,EAAE,qBAAqB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACzFC,+BAAiB,GAAwB,EAAC,IAAI,EAAE,qBAAqB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACzFC,4BAAc,GAAwB,EAAC,IAAI,EAAE,kBAAkB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACnFC,+BAAiB,GAAwB,EAAC,IAAI,EAAE,qBAAqB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACzFC,+BAAiB,GAAwB,EAAC,IAAI,EAAE,qBAAqB,EAAE,UAAU,EAAED,MAAI,EAAC,CAAC;AACz

AClB,4BAA4B,CAAC,IAAY;IACvD,OAAO,GAAG,qBAAqB,GAAG,IAAI,EAAE,CAAC;AAC3C,CAAC;SAEe,4BAA4B,CAAC,IAAY,EAAE,KAAa;IACtE,OAAO,GAAG,qBAAqB,GAAG,IAAI,IAAI,KAAK,EAAE,CAAC;ACpD,CAAC;SAEe,6BAA6B,CAAC,IAAY;IACxD,OAAO,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,IAAI,qBAAqB,CAAC;AACjD,CAAC;SAEe,wBAAwB,CAAC,IAAY;;;IAGnD,MAAM,CAAC,GAAG,IAAI,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC;IAC5B,OAAO,GAAG

O,CAAC,YAAY,CAAC,IAAI,CAAC,CAAC;KACnC;CACF;MAEY,QAAQ;IACnB,YACW,OAAe,EAAS,UAA2B,EAAS,MAAwB,EACpF,OAAqB,EAAS,aAA+C,EAC7E,QAAgB,EAAS,UAAuB,EAAS,SAAqB,EAC9E,UA2B,EAAS,eAAgC,EACpE,aAAmC,EAAS,IAAe;QAJ3D,YAAO,GAAP,OAAO,CAAQ;QAAS,eAAU,GAAV,UAAU,CAAO;QAAS,WAAM,GAAN,MAAM,CAAO;QAAS,WAAM,GAAN,MAAM,CAAO;QAAS,YAAO,GAAP,OAAO,CAAc;QAAS,aAAQ,GAAR,QAAQ,CAAO;QAAS,eAAU,GAAV,UAAU,CAAO;QAAS,SAAI,GAAJ,IAAI,CAAW

AG,YAAY,CAAC,IAAI,EAAE,QAAQ,CAAC,SAAS,CAAC,CAAC;QAC5D,IAAI,aAAa,IAAI,QAAQ,CAAC,UA
AU,IAAI,SAAS,IAAI,QAAQ,CAAC,MAAM;YACpE,UAAU,IAAI,QAAQ,CAAC,OAAO,IAAI,gBAAgB,IAAI,Q
AAQ,CAAC,aAAa;YAC5E,WAAW,IAAI,QAAQ,CAAC,QAAQ,IAAI,aAAa,IAAI,QAAQ,CAAC,UAAU;YACxE
,YAAY,IAAI,QAAQ,CAAC,SAAS,EAAE;YACtC,OAAO,IAAI,QAAQ,CACf,QAAQ,CAAC,OAAO,EAAE,aAAa
,EAAE,SAAS,EAAE,UAAU,EAAE,gBAAgB,EAAE,WAAW,EACrF,aAAa,EAAE,YAAY,EAAE,QAAQ,CAAC,
UAAU,EAAE,QAAQ,CAAC,eAAe,EAC1E,QAAQ,CAAC,aAAa,CAAC,CAAC;SAC7B;QACD,OAAO,QAAQ,C
AAC;KACjB;IAED,YAAY,CAAC,OAAgB;QAC3B,OAAO,OAAO,CAAC;KAChB;IAED,aAAa,CAAC,QAAkB;
QAC9B,OAAO,QAAQ,CAAC;KACjB;IACD,cAAc,CAAC,SAAoB;QACjC,OAAO,SAAS,CAAC;KAClB;IACD,k
BAAkB,CAAC,SAAwB;QACzC,OAAO,SAAS,CAAC;KAClB;IACD,mBAAmB,CAAC,SAAyB;QAC3C,OAAO,
SAAS,CAAC;KAClB;IACD,eAAe,CAAC,SAAqB;QACnC,OAAO,SAAS,CAAC;KAClB;IACD,SAAS,CAAC,IA
AU;QAClB,OAAO,IAAI,CAAC;KACb;IACD,cAAc,CAAC,IAAe;QAC5B,OAAO,IAAI,CAAC;KACb;IACD,QA
AQ,CAAC,GAAQ;QACf,OAAO,GAAG,CAAC;KACZ;CACF;SAEe,QAAQ,CAAS,OAAwB,EAAE,KAAa;IACtE
,MAAM,MAAM,GAAa,EAAE,CAAC;IAC5B,OAAO,CAAC,KAAK,EAAE;QACjB,MAAM,IAAI,GAAG,OAAO,CAAC,KAAK,EAAE,CAAC;QAC7B,IAAI,IAAI,KAAK,IAAI,EAAE;YACjB,MAAM,
IAAI,KAAK,CAAC,yBAAyB,CAAC,CAAC;SAC5C;QACD,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;KACnB;IACD,OAAO,MAAM,CAAC;AAChB;SAEgB,QAAQ,CAAC,KAAa,EAAE,KAAa;IACnD,MAAM,MAAM,GAAa,EAAE,CAAC;IAC5B,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,KAAK,EAAE,CAAC,EAAE,EAAE;QAC9B,MAAM,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;KAChB;IACD,OAAO,MAAM,CAAC;AAChB;SAEgB,SAAS,CAAC,KAAa,EAAE,KAAa;IACp

AAI,CAAQ;QAAS,eAAU,GAAV,UAAU,CAAiB;KAAI;IAE7F,KAAK,CAAC,OAAgB,EAAE,OAAa;QACnC,OAAO,OAAO,CAAC,gBAAgB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAChD;CACF;MAEY,cAAc;IAGzB,YAAmB,KAAU,EAAS,IAAY,EAAS,UAA2B;QAAnE,KAAK,GAAL,KAAK,CAAK;QAAS,IAAI,GAAJ,IAAI,CAAQ;QAAS,eAAU,GAAV,UAAU,CAAiB;IAAG,CAAC;CAC5F;AAED,MAAM,cAAc,GAAG,IAAI,cAAc,CAAC,gBAAgB,CAAC,CAAC;AAE5D,MAAM,UAAU,gBAAgB,CAAC,KAAU,EAAE,IAAY,EAAE,UAA2B;IACpF,OAAO,cAAc,CAAC,KAAK,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;AACjD,CAAC;AAED,MAAM,UAAU,cAAc,CAAC,KAAU,EAAE,IAAY,EAAE,UAA2B;IAClF,OAAO,IAAI,cAAc,CAAC,KAAK,EAAE,IAAI,EAAE,UAAU,CAAC,CAAC;AACvD,CAAC;AAED,MAAM,UAAU,eAAe,CAAC,KAAU,EAAE,IAAY,EAAE,UAA2B;IACn

AED;;;;MAIa,uBAAuB;IAMlC,YAAY,KAAiB;QAC3B,IAAI,CAAC,WAAW,GAAG,CAAC,KAAK,CAAC,CAAC;KAC5B;;;;IAKD,QAAQ;QACN,OAAO,IAAI,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC;KAC5B;;;;

AC,CAAC;IACjD,MAAM,GAAG,GAAG,IAAI,CAAC,MAAM,GAAG,CAAC,CAAC;IAE5B,MAAM,CAAC,GAAG,QAAQ,CAAC,EAAE,CAAC,CAAC;IACvB,IAAI,CAAC,GAAG,UAAU,EAAE,CAAC,GAAG,UAAU,EAAE,CAAC,GAAG,UAAU,EAAE,CAAC,GAAG,UAAU,EAAE,CAAC,GAAG,UAAU,CAAC;IAEnF,OAAO,CAAC,GAAG,IAAI,CAAC,CAAC,IAAI,IAAI,KAAK,EAAE,GAAG,GAAG,GAAG,EAAE,CAAC,CAAC;IAC7C,OAAO,CAAC,CAAC,CAAC,GAAG,GAAG,EAAE,IAAI,CAAC,KAAK,CAAC,IAAI,EAAE,CAAC,GAAG,GAAG,CAAC;IAE3C,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,OAAO,CAAC,MAAM,EAAE,CAAC,IAAI,EAAE,EAAE;QAC3C,MAAM,EAAE,GAAG,CAAC,EAAE,EAAE,GAAG,CAAC,EAAE,EAAE,GAAG,CAAC,EAAE

AAC,EAAE,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC,CA
AC;KACpC;IAED,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,MAAM,CAAC,KAAK,EAAE,CAAC,EAAE,MA
AM,CAAC,MAAM,CAAC,CAAC,CAAC;IAC9C,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,MAAM,CAAC,K
AAK,EAAE,CAAC,GAAG,CAAC,EAAE,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC;;IAElD,CAAC,GAAG,K
AAK,CAAC,CAAC,EAAE,GAAG,CAAC,CAAC;IAClB,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,MAAM,CA
AC,KAAK,EAAE,CAAC,GAAG,CAAC,EAAE,MAAM,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC,CAAC;IAEv
D,OAAO,GAAG,CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;AACzB,CAAC
;AAED;AACA,SAAS,GAAG,CAAC,CAAS,EAAE,CAAS,EAAE,CAAS;IAC1C,CAAC,GAAG,KAAK,CAAC,C
AAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAA
C,CAAC,IAAI,CAAC,KAAK,EAAE,CAAC;IAChD,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,C
AAC;IAAC,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,IAAI,CAAC,IAI,C
AAC,CAAC;IAC9C,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,GAAG,KA
AK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,IAAI,CAAC,KAAK,EAAE,CAAC;IAChD,CAAC,
GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CA
AC,CAAC,CAAC;IAAC,CAAC,IAAI,CAAC,KAAK,EAAE,CAAC;IAChD,CAAC,GAAG,KAAK,CAAC,CAAC,
EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CA
AC,IAI,CAAC,IAI,EAAE,CAAC;IAC/C,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IA
AC,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,IAI,CAAC,KAAK,CAAC,
CAAC;IAC/C,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,GAAG,KAAK,CA
AC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,IAI,CAAC,KAAK,EAAE,CAAC;IAChD,CAAC,GAAG,KAAK,
CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAAC,CAAC,GAAG,KAAK,CAAC,CAAC,EAAE,CAAC,C

M,OAAO,GAAG,EAAE,CAAC;IAEnB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,EAAE,C
AAC,EAAE,EAAE;QAC7B,OAAO,CAAC,CAAC,CAAC,GAAG,MAAM,CAAC,KAAK,EAAE,CAAC,GAAG,C
AAC,EAAE,MAAM,CAAC,CAAC;KAC3C;IAED,OAAO,OAAO,CAAC;AACjB,CAAC;AAED,SAAS,MAAM,C
AAC,KAAa,EAAE,KAAa;IAC1C,OAAO,KAAK,IAAI,KAAK,CAAC,MAAM,GAAG,CAAC,GAAG,KAAK,CA
AC,KAAK,CAAC,CAAC;AAClD,CAAC;AAED,SAAS,MAAM,CAAC,KAAa,EAAE,KAAa,EAAE,MAAc;IAC1
D,IAAI,IAAI,GAAG,CAAC,CAAC;IACb,IAAI,MAAM,KAAK,MAAM,CAAC,GAAG,EAAE;QACzB,IAAI,
AI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;YAC1B,IAAI,IAAI,MAAM,C
AAC,KAAK,EAAE,KAAK,GAAG,CAAC,CAAC,KAAK,EAAE,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC;SA
ClD;KACF;SAAM;QACL,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,EAAE,
EAAE;YAC1B,IAAI,IAAI,MAAM,CAAC,KAAK,EAAE,KAAK,GAAG,CAAC,CAAC,IAAI,CAAC,GAAG,CAA
C,CAAC;SAC3C;KACF;IACD,OAAO,IAAI,CAAC;AACd,CAAC;AAED,SAAS,mBAAmB,CAAC,OAAiB;IAC5
C,OAAO,OAAO,CAAC,MAAM,CAAC,CAAC,KAAK,EAAE,IAAI,KAAK,KAAK,CAAC,MAAM,CAAC,kBAA
kB,CAAC,IAAI,CAAC,CAAC,EAAE,EAAY,CAAC,CAAC;AAC/F,CAAC;AAED,SAAS,kBAAkB,CAAC,IAAY
;IACtC,IAAI,KAAK,GAAW,EAAE,CAAC;IACvB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CA
AC,EAAE,CAAC,EAAE,EAAE;QAC1B,KAAK,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,KAAK,CAAC,IAAI,CAAC,G
AAG,CAAC,CAAC,IAAI,IAAI,CAAC,CAAC;KAC3C;IACD,OAAO,KAAK,CAAC;AACf,CAAC;AAED,SAAS,
gBAAgB,CAAC,KAAa;IACrC,IAAI,GAAG,GAAG,EAAE,CAAC,MAAM,CAAC;IACpB,KAAK,IAAI,CAAC,GAAG,CA
AC,EAAE,CAAC,GAAG,GAAG,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,KAAK,CAAC,CAAC,CAAC,KAAK,EAAE,CAAC,GAAG,CAAC,EAAE,EAAE,OAAO,CAAC,CAAC;
;IAIvD,OAAO,CAAC,YAAY,CAAC,CAAC,CAAC,CAAC,CAAC,kBAAkB,CAAC,EAAE,EAAE,OAAO,CAAC,CAAC;
IAExD,OAAO,OAAO,CAAC,QAAQ,EAAE,CAAC,CAAC;AAC5B;;AC5WA;;;;;;;MAUsB,UAAU;;;IAa9B,gBAAgB,CA
AC,OAAqB;QACpC,OAAO,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC

AAW,GAAG,GAAG,CAAC,QAAQ,CAAC,GAAG,CAAC,IAAI,IAAI,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,C
AAC,CAAC;QAC/D,OAAO,IAAI,GAAG,CAAC,IAAI,GAAG,QAAQ,IAAI,WAAW,CAAC,IAAI,CAAC,EAAE,
CAAC,KAAK,GAAG,CAAC,IAAI,GAAG,CAC;KACxE;IAED,SAAS,CAAC,IAAU;QAClB,OAAO,IAAI,CAA
C,KAAK,CAAC;KACnB;IAED,gBAAgB,CAAC,IAAiB;QAChC,OAAO,QAAQ,IAAI,CAAC,oBAAoB,CAAC,IA
AI,CAAC,KAAK,CAAC,KAAK,CAAC;KAC3D;IAEO,oBAAoB,CAAC,KA4B;QACvD,MAAM,QAAQ,GAAG
,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,IAAY,KAAK,GAAG,IAAI,KAAK,KA
AK,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;QAChG,OAAO,QAAQ,CAAC
,MAAM,GAAG,CAAC,GAAG,GAAG,GAAG,QAAQ,GAAG,EAAE,CAAC;KAClD;IAED,YAAY,CAAC,OAAg
B;QAC3B,OAAO,aAAa,OAAO,CAAC,OAAO,OAAO,OAAO,CAAC,GAAG,MAAM,CAAC;KAC7D;CACF;AA
ED,MAAM,QAAQ,GAAG,IAAI,QAAQ,EAAE,CAAC;SAEhB,SAAS,CAAC,KAAa;IACrC,OAAO,KAAK,C
AC,GAAG,CAAC,CAAC,IAAU,QAAQ,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,EA
AE,CAAC,CAAC;AAC1E,CAAC;MAMY,WAAW;IAGtB,YAAqB,cAAqC;QAF1D,UAAK,GAA0B,EAAE,CAC
;QAGvC,MAAM,CAAC,IAAI,CAAC,cAAc,CAAC,OAAO,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC,KAAK,CAAC,K
AAK,CAAC,CAAC,CAAC,GAAG,SAAS,CAAC,cAAc,CAAC,CAAC,CAAC,CAAC,CAAC;SAC9C,CAAC,CAAC,CAA
C;KACJ;IAED,KAAK,CAAC,OAAiB;QACrB,OAAO,OAAO,CAAC,gBAAgB,CAAC,IAAI,CAAC,CAAC,CAAC;KACvC
;CACF;MAEY,OAAO;IAClB,YAAmB,OAAe,EAAS,GAAW;QAAnC,QAAG,GAAH,GAAG,CAAQ;QAAS,QAAG,GAAH,GAAG,CAAQ;KAAI
;CAAC;MAEvD,OAAO;IAAb;QACE,QAAG,GAAG,CAAC,CAAC;QACR,QAAG,GAAG,CAAC,CAAC;KAKV;IAHC,IAAI,KAAK,KAAK,IAAI,
CAAC,GAAG,GAAG,IAAI,CAAC,GAAG,CAAC;IAEzB,IAAI,KAAK,CAAC,KAAa,IAAI,IAAI,CAAC,GAAG,GAAG,KAAK,GAAG,IAAI,CAAC,GAAG,CAAC;CAC7D;MAEY,
QAAQ;IAAd

xD,IAAIF,EAAM,EAAE;YACZ,IAAIG,OAAW,CAAC,aAAa,EAAE,QAAQ,CAAC;YACxC,IAAIH,EAAM,EAAE;YACZ,cAAc,CAAC,kBAAkB,CAAC,QAAQ,CAAC;YAC3C,IAAIA,EAAM,EAAE;SACb,CAAC,CAAC;KACJ;IAED,IAAI,CAAC,OAAe,EAAE,GAAW;QAE/B,MAAM,IAAI,KAAK,CAAC,aAAa,CAAC,CAAC;KAChC;IAED,MAAM,CAAC,OAAqB;QAC1B,OAAOI,QAAM,CAAC,OAAO,CAAC,CAAC;KACxB;IAGD,gBAAgB,CAAC,OAAqB;QACpC,OAAOI,IAAI,uBAAuB,CAAC,OAAO,EAAE,YAAY,CAAC,CAAC;KAC3D;CACF;AAED,MAAMP,UAAQ;IACZ,SAAS,CAAC,IAAe,EAAE,OAAa;QACtC,OAAO,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAChC;IAED,cAAc,CAAC,SAAS,EAAE,OAAa;QACrC,OAAO,CAAC,OAAO,CAAC,SAAS,EAAE,OAAO,CAAC,CAAC;KACrC;CACF;AAED,MAAMQ,UAAQ,SAASR,UAAQ;IAC7B,SAAS,CAAC,IAAe,EAAE,OAAa;QACtC,OAAO,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAChC;IAED,cAAc,CAAC,SAAS,EAAE,OAAa;QACrC,OAAO,CAAC,OAAO,CAAC,SAAS,EAAE,OAAO,CAAC,CAAC;KACrC;CACF;AAED,MAAMS,UAAQ;IACZ,SAAS,CAAC,IAAe,EAAE,OAAa;QACtC,OAAO,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAChC;IAED,cAAc,CAAC,SAAS,EAAE,OAAa;QACrC,OAAO,CAAC,OAAO,CAAC,SAAS,EAAE,OAAO,CAAC,CAAC;KACrC;CACF;AAED,MAAMC

W,EAAE,CAAC,OAAO,CAAC,aAAa,EAAE,GAAG,CAAC,CAAC;AAChE;;ACrMA;;;;;;;AAaA;AACA,MAAM,8BAA8B,GAAG,MAAM,CAAC;AAE9C;;;;;AAKO,MAAM,sBAAsB,GAAG,OAAO,CAAC;AAE9C;AACO,MAAM,SAAS,GAAG,MAAM,CAAC;AACzB,MAAM,gBAAgB,GAAG,OAAO,CAAC;AAExC;AACO,MAAM,mBAAmB,GAAG,OAAO,CAAC;AAE1C;AACO,MAAM,uBAAuB,GAAG,WAAW,CAAC;AAEnD;AACO,MAAM,uBAAuB,GAAG,GAAG,CAAC;SAE3B,eAAe,CAAC,IAAY;IAC1C,OAAO,IAAI,CAAC,IAAI,KAAK,CAAC,CAAC;AACzB;AAEA;AACO,MAAM,UAAU,GAAG,CAAC,CAAC;AAC5B,MAAM,UAAU,GAAG,CAAC,CAAC;AACrB

CAAC;KACvF;IACD,OAAO,OAAO,GAAG,GAAG,GAAG,IAAI,OAAO,EAAE,GAAG,GAAG,CAAC;AAC7C,CAAC;AAED;;;;;;SAMgB,yBAAyB,CAAC,KAAa;IACrD,OAAO,GAAG,8BAA8B,GAAG,KAAK,EAAE,CAAC,WAAW,EAAE,CAAC;AACnE,CAAC;AAED;;;;SAIgB,mBAAmB,CAAC,QAAuB;IACzD,OAAO,IAAIC,cAAA,CAAC,OAAO,EAAE,CAAC,CAAC,QAAQ,CAAC,CAAC,CAAC

AAO,CAAC,OAAO,CAAC,CAAC;YACvB,aAAa,CAAC,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;SAC
5B,CAAC,CAAC;KACJ;IAED,OAAO,aAAa,CAAC;AACvB,CAAC;AAED;SACgB,kBAAkB,CAC9B,SAA8B,E
AAE,KAAuB,EAAE,IAA2B;IACtF,IAAI,UAAU,GAAGC,UAAY,CAAC,SAAS,EAAE,IAAI,EAAE,IAAI,CAAiB
,CAAC;IAErE,IAAI,KAAK,CAAC,MAAM,GAAG,CAAC,EAAE;QACpB,KAAK,IAAI,CAAC,GAAG,CAAC,E
AAE,CAAC,GAAG,KAAK,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YACrC,UAAU,GAAG,UAAU,CAAC,M
AAM,CAAC,KAAK,CAAC,CAAC,CAAC,EAAE,IAAI,CAAC,CAAC;SAChD;KACF;SAAM;;QAEL,UAAU,GA
AG,UAAU,CAAC,MAAM,CAAC,EAAE,EAAE,IAAI,CAAC,CAAC;KAC1C;IAED,OAAO,UAAU,CAAC;AACp
B,CAAC;AAED;;;;;SAKgB,0BAA0B,CAAC,aAA4B;IACrE,MAAM,EAAC,WAAW,,EAAE,OAAO,,EAAC,GAA
G,aAAa,CAAC;IAC7C,IAAI,WAAW,CAAC,MAAM,KAAK,CAAC,IAAI,OAAO,CAAC,MAAM,KAAK,CAAC,
IAAI,OAAO,CAAC,CAAC,CAAC,KAAK,EAAE,IAAI,OAAO,CAAC,CAAC,CAAC,KAAK,EAAE,EAAE;;;QA
I9F,OAAO,CAAC,CAAC;KACV;SAAM;QACL,OAAO,WAAW,CAAC,MAAM,GAAG,OAAO,CAAC,MAAM,,C
AAC;KAC5C;AACH;;AChOA;;;;;;;AAsEA,IAAY,qBAIX;AAJD,WAAY,qBAAqB;IAC/B,mEAAK,CAAA;IACL,
yEAAQ,CAAA;IACR,uEAAO,CAAA;AACT,CAAC,EAJW,qBAAqB,KAArB,qBAAqB,QAIhC;IAoBW,WAAA,
WAAY,,eAAe;IACzB,+DAAa,CAAA;IACb,+DAAa,CAAA;IACb,iEAAc,CAAA;IACd,qDAAQ,CAAA;IACR,6D
AAY,CAAA;AACd,CAAC,EANW,WAAW,KAAX,WAAW,QAMtB;;;;;;;;IAQY,WAAA,WAAY,,wBAAwB;;;;I
AIlC,yEAAS,CAAA;;;;;;IAOT,iFAAa,CAAA;;;;IAKb,iGAAqB,CAAA;;;;IAKrB,6EAAW,CAAA;IACb,+DAAa,CAAA;IACb,
AtBW,wBAAwB,,KAAxB,wBAAwB,QAAsBnC;AAmDD;;;SAGgB,sBAAsB,CAAC,IAAuB;IAC5D,MAAM,,CAAC
,GAAG1C,QAAU,CAAC,GAAG,CAAC,CAAC;IAC1B,MAAM,,UAAU,,GAAkB,EAAE,CAAC;IACrC,IAAI,YAA
Y,GAAW2C,SAAW,CAAC;;;;;;IAOvC,MAAM,,WAAW,,GAAG,CAAC,mBAAmB,,CAAC,IAAI,,CAAC;QAC1C,I
AAIxB,kBAAoB,,CAACC,cAAgB,,CAAC,EAAE,EAAE,CAAC,EAAE,IAAI,,CAAC,YAAY,,CAAC;QACnE,CAA
C,CAAC;IAEN,IAAI,QAAQ,GAAsB,IAAI,,CAAC;IACvC,IAAI,IAAI,,CAAC,MAAM,KAAK,CAAC,EAAE;;QAEtB,I
AAI,IAAI,,CAAC,IAAI,,KAAK,,SAAS,,EAAE;YAC3B,QAAQ,GAAG,IAAAwB,iB,eAAiB,,CAAC,IAAI,,CAAC
,MAAM,,KAAK,,eAAe,,CAAC,IAAI,,CAAC,CAAC,CAAC,CAAC,CAAC;SAC9D;KACF;SAAM;QACL,QAAQ,GAAG,
IAAAA,iB,eAAiB,,CAAC,IAAI,,CAAC,MAAM,,KAAK,,eAAe,,CAAC,IAAI,,CAAC,CAAC;QAC3D,IAAI,,CAAC
,OAAO,,CAAC,CAAC,CAAC,IAAI,,KAAK,,SAAS,,EAAE;YACjC,QAAQ,,CAAC,IAAI,,GAAG,,IAAI,,CAAC,CAAC
,CAAC,IAAI,,CAAC;SAC1B;KACF;IAED,OAAO,QAAQ,,IAAI,,IAAI,,CAAC;AAC1B,CAAC;AAED;;;;;;;;

QAE/F,MAAM,WAAW,GAAG,KAChB,IAAI,CAAC,YAAY,KAAK,qBAAqB,CAAC,KAAK;YAC7CsC,eAAiB;YACjBI,kBAAoB,EAAE,IAAI,CAAC,QAAQ,EAAE,YAAY,CAAC,CAAC;QAC3D,OAAO,GAAG,sBAAsB,CAAC,WAAW,CAAC,CAAC;KAC/C;SAAM,IAAI,2BAA2B,CAAC,IAAI,CAAC,EAAE;;QAE5C,OAAO,GAAG,sBAAsB,CAAC,IAAI,CAAC,UAAU,CAAC,CAAC;KAC nD;SAAM;QACL,OAAO,GAAG,QAAQ,CAAC;KACpB;IAED,IAAI,OAAO,KAAK,IAAI,EAAE;QACpB,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI5C,eAAiB,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC;KAC3C;SAAM;QACL,IAAI,CAAC,IAAI,CAAC,IAAI,CAACsC,UAAY,CAAC,aAAa,CAAC,cAAc,CAAC,CAAC,CAAC,CAAC

M,EAAE;QAClC,IAAI,UAAU,CAAC,KAAK,EAAE;YACpB,MAAM,QAAQ,GAAG,cAAc,CAAC,UAAU,CAAC
,KAAK,CAAC,CAAC;YAClD,IAAI,QAAQ,GAA6B,UAAU,CAAC,WAAW;gBAC3D,wBAAwB,CAAC,SAAS;g
BAClC,wBAAwB,CAAC,KAAK,CAAC;;;YAInC,MAAM,KAAK,GACP,QAAQ,YAAY,YAAY,GAAG,SAAS,C
AAC,UAAU,CAAC,QAAQ,CAAC,GAAGO,OAAS,CAAC,QAAQ,CAAC,CAAC;;YAG5F,IAAI,CAAC,IAAI,CA
AC;gBACR,KAAK;gBACL,SAAS,EAAE,IAAI;gBACf,QAAQ;gBACR,IAAI,EAAE,CAAC,CAAC,UAAU,CAA
C,MAAM;gBACzB,QAAQ,EAAE,CAAC,CAAC,UAAU,CAAC,UAAU;gBACjC,IAAI,EAAE,CAAC,CAAC,UA
AU,CAAC,MAAM;gBACzB,QAAQ,EAAE,CAAC,CAAC,UAAU,CAAC,UAAU;aAClC,CAAC,CAAC;SACJ;aA
AM;YACL,WAAW,CAAC,4BAA4B,CAAC,CAAC;SAC3C;KACF;IAED,OAAO,IAAI,CAAC;AACd,CAAC;AAED,SAAS,mBAAmB,CAAC,IAAAuB;IAElD,OAAQ,IAAY,CAAC,YAAY,KAAK,SAAS,CAAC;AAED,SAAS,2BAA2B,CAAC,IAAAuB;IAC1D,OAAQ,IAAY,CAAC,YAAY,KAAK,SAAS,CAAC;AAChD;;AC3aA;;;;;;;SAgCgB,iBAAiB,CAAC,IAA0B;IAC1D,IAAI,CAAC,IAAI,CAAC,MAAM,GAA4D;QAC1E,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,EAAE;YACpB,MAAM,IAAI,KAAK,CAAC,sBAAsB,CAAC,CAAC;SACzC;QACD,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,EAAE;YACpB,MAAM,IAAI,KAAK,CAAC,sBAAsB,CAAC,CAAC;SACzC

IACrC,OAAO;IACP,MAAM;IACN,QAAQ;IACR,aAAa;IACb,OAAO;CACR,CAAC;SAEc,0BAA0B,CAAC,UAA
kB,EAAE,KAAU;IACvE,IAAI,KAAK,IAAI,IAAI,IAAI,EAAE,KAAK,CAAC,OAAO,CAAC,KAAK,CAAC,IAAI
,KAAK,CAAC,MAAM,IAAI,CAAC,CAAC,EAAE;QACjE,MAAM,IAAI,KAAK,CAAC,aAAa,UAAU,iCAAiC,C
AAC,CAAC;KAC3E;SAAM,IAAI,KAAK,IAAI,IAAI,EAAE;QACxB,MAAM,KAAK,GAAG,KAAK,CAAC,CAA
C,CAAW,CAAC;QACjC,MAAM,GAAG,GAAG,KAAK,CAAC,CAAC,CAAW,CAAC;;QAE/B,8BAA8B,CAAC,
OAAO,CAAC,MAAM;YAC3C,IAAI,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,IAAI,MAAM,CAAC,IAAI,CA
AC,GAAG,CAAC,EAAE;gBAC1C,MAAM,IAAI,KAAK,CAAC,KAAK,CAAC,KAAK,OAAO,GAAG,4CAA4C,CAAC,
CAAC;aACnF;SACF,CAAC,CAAC;KACJ;AACH;;AC3CA;;;;;;;MAUa,mBAAmB;IAU9B,YAAmB,KAAa,EAAS
,GAAW;QAAjC,QAAK,GAAL,KAAK,CAAQ;QAAS,QAAG,GAAH,GAAG,CAAQ;KAAI;IATxD,OAAO,SAAS,
CAAC,OAA8B;QAC7C,OAAO,EAAE,IAAI,CAAC,OAAO,EAAE;YACrB,MAAM,KAAK,GAAG,OAAO,CAAC,KAAK;gBACzB,OAAO,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,CAAC

ACL,MAAM,EAAE,IAAI,CAAC,IAAI,IAAI,EAAE;YACvB,SAAS,EAAE,OAAO;YAClB,YAAY,EAAE,EAAE;YAChB,SAAS,EAAE,OAAO;YAClB,gBAAgB,EAAE,cAAc;YAChC,UAAU,EAAE,QAAQ;SACrB,CAAC;KACH;IAED,WAAW;QACT,OAAO,IAAI,CAAC,WAAW,GAAG,IAAI,GAAG,aAAa,GAAG,cAAc,CAAC,IAAI,CAAC,SAAS,CAAC,IAAI,EAAE,IAAI,EAAE,CAAC,CAAC,CAAC;YACpE,EAAE,CAAC;KAC9B;CACF;SAEe,cAAc,CAAC,KAAa;IAC1C,IAAI,GAAG,GAAG,IAAI,GAAG,EAAE,CAAC;IACpB,IAAI,CAAC,GAAG,CAAC,CAAC;IACV,IAAI,IAAI,GAAG,KAAK,CAAC,MAAM,CAAC;IACxB,OAAO,CAAC,GAAG,IAAI,EAAE;QACf,IAAI,IAAI,GAAG,KAAK,CAAC,UAAU,CAAC,CAAC,EAAE,CAAC;QAChC,IAAI,IAAI,GAAG,MAAM,EAAE;YACjB,GAAG,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;SACf;aAAM;YACL,IAAI,IAAI,GAAG,MAAM,EAAE;gBACjB,GAAG,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;aACf;iBAAM;gBACL,IAAI,IAAI,GAAG,MAAM,IAAI,IAAI,GAAG,MAAM,EAAE;oBAClC,IAAI,IAAI,GAAG,KAAK,CAAC,UAAU,CAAC,CAAC,EAAE,CAAC;oBAChC,IAAI,IAAI,GAAG,MAAM,IAAI,IAAI,GAAG,MAAM,EAAE;wBAClC,IAAM,KAAK,GAAG,CAAC,IAAI,GAAG,MAAM,KAAK,EAAE,GAAG,CAAC,IAAI,GAAG,MAAM,CAAC,GAAG,MAAM,CAAC;wBACvD,GAAG,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;wBACf,CAAC,EAAE,CAAC;qBACL;iBACF;aACF;SACF;QACD,CAAC,EAAE,CAAC;KACL;IACD,OAAO,GAAG,CAAC;AACb;;;

AO,IAAI,CAAC,QAAQ,CAAC,MAAM,GAAG,CAAC,GAAG,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,QAAQ,C
AAC,MAAM,GAAG,CAAC,CAAC,GAAG,IAAI,CAAC;KAClF;IAED,QAAQ;QACN,OAAO,IAAI,CAAC,WA
W;aAClB,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,MAAM,GAAG,CAAC,GAAG,aAAa,CAAC,
CAAC,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,EAAE,CAAC,GAAG,EAAE,CA
AC;aAC9E,IAAI,CAAC,IAAI,CAAC,CAAC;KAAjB;IAED,oBAAoB,CAAC,WAAmB,EAAE,eAAuB,CAAC;QA
ChE,MAAM,GAAG,GAAG,IAAI,kBAAkB,CAAC,WAAW,CAAC,CAAC;QAEhD,IAAI,iBAAiB,GAAG,KAAK,
CAAC;QAC9B,MAAM,sBAAsB,GAAG;YAC7B,IAAI,CAAC,iBAAiB,EAAE;;;;gBAItB,GAAG,CAAC,SAAS,
CAAC,WAAW,EAAE,GAAG,CAAC,CAAC,UAAU,CAAC,CAAC,EAAE,WAAW,EAAE,CAAC,EAAE,CAAC,C
AAC,CAAC;gBAC5B,iBAAiB,GAAG,IAAI,CAAC;aAC1B;SACF,CAAC;QAEF,KAAK,IAAI,CAAC,GAAG,CA
AC,EAAE,CAAC,GAAG,YAAY,EAAE,CAAC,EAAE,EAAE;YACrC,GAAG,CAAC,OAAO,EAAE,CAAC;YAC
d,sBAAsB,EAAE,CAAC;SAC1B;QAED,IAAI,CAAC,WAAW,CAAC,OAAO,CAAC,CAAC,IAAI,EAAE,OAAO;
YACrC,GAAG,CAAC,OAAO,EAAE,CAAC;YAEd,MAAM,KAAK,GAAG,IAAI,CAAC,QAAQ,CAAC;YAC5B,
MAAM,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC;YACzB,IAAI,IAAI,GAAG,IAAI,CAAC,MAAM,GAAG,YA
AY,CAAC,MAAM,CAAC;YAC7C,IAAI,OAAO,GAAG,CAAC,CAAC;;YAEhB,OAAO,OAAO,GAAG,KAAK,C
AAC,MAAM,IAAI,CAAC,KAAK,CAAC,OAAO,CAAC,EAAE;gBAChD,IAAI,IAAI,KAAK,CAAC,OAAO,CAA
C,CAAC,MAAM,CAAC;gBAC9B,IAAI,OAAO,EAAE,CAAC;aACf;YAED,IAAI,MAAM,GAAG,IAAI,CAAC,MAAM,
IAAI,OAAO,GAAG,KAAK,CAAC,MAAM,IAAI,CAAC,KAAK,CAAC,OAAO,CAAC,EAAE;gBAC3D,IAAI,IAAI,
KAAK,CAAC,OAAO,CAAC,CAAC,IAAI,EAAE;gBAC7B,IAAI,OAAO,EAAE,CAAC;aACf;YAED,IAAI,OAAO,
KAAK,CAAC,MAAM,EAAE;gBACvB,IAAI,CAAC,iBAAiB,GAAG,IAAI,CAAC;gBAC9B,MAAM;aACP;YAED,
IAAI,CAAC,QAAQ,GAAG,OAAO,CAAC;YACxB,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC;YACnB,IAAI,CAAC,
IAAI,GAAG,IAAI,CAAC;SAClB;QAED,IAAI,CAAC,iBAAiB,EAAE;YACtB,sBAAsB,CAAC,IAAI,CAAC,
IAAI,CAAC,CAAC;SACnC;QAED,OAAO,sBAAsB,CAAC;IAChC,CAAC;IAED,oBAAoB,CAAC,WAAmB,EAAE,eAAuB,CAAC;QAChE,MAAM,GAAG,GAAG,IAAI,kBAAkB,CAAC,WAAW,CAAC,CAAC;QAEhD,IAAI,iBAAiB,GAAG,KAAK,
CAAC;QAC9B,MAAM,sBAAsB,GAAG;YAC7B,IAAI,CAAC,iBAAiB,EAAE;;;;gBAItB,GAAG,CAAC,SAAS,
CAAC,WAAW,EAAE,GAAG,CAAC,CAAC,UAAU,CAAC,CAAC,EAAE,WAAW,EAAE,CAAC,EAAE,CAAC,C
AAC,CAAC;gBAC5B,iBAAiB,GAAG,IAAI,CAAC;aAC1B;SACF,CAAC;QAEF,KAAK,IAAI,CAAC,GAAG,CA
AC,EAAE,CAAC,GAAG,YAAY,EAAE,CAAC,EAAE,EAAE;YACrC,GAAG,CAAC,OAAO,EAAE,CAAC;YAEd,MAAM,KAAK,GAAG,IAAI,CAAC,QAAQ,CAAC;YAC5B,MAAM,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC;YACzB,IAAI,IAAI,GAAG,IAAI,CAAC,MAAM,GAAG,YAAY,CAAC,MAAM,CAAC;YAC7C,IAAI,OAAO,GAAG,CAAC,CAAC;;YAEhB,OAAO,OAAO,GAAG,KAAK,CAAC,MAAM,IAAI,CAAC,KAAK,CAAC,OAAO,CAAC,EAAE;gBAChD,IAAI,IAAI,KAAK,CAAC,OAAO,CAAC,CAAC,IAAI,EAAE;gBAC7B,IAAI,OAAO,EAAE,CAAC;aACf;YAED,IAAI,MAAM,GAAG,IAAI,CAAC,MAAM,IAAI,OAAO,GAAG,KAAK,CAAC,MAAM,IAAI,CAAC,KAAK,CAAC,OAAO,CAAC,EAAE;gBAC3D,IAAI,IAAI,KAAK,CAAC,OAAO,CAAC,CAAC,IAAI,EAAE;gBAC7B,IAAI,OAAO,EAAE,CAAC;aACf;YAED,IAAI,OAAO,KAAK,CAAC,MAAM,EAAE;gBACvB,IAAI,CAAC,iBAAiB,GAAG,IAAI,CAAC;gBAC9B,MAAM;aACP;YAED,IAAI,CAAC,QAAQ,GAAG,OAAO,CAAC;YACxB,IAAI,CAAC,KAAK,GAAG,KAAK,CAAC;YACnB,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC;SAClB;QAED,IAAI,CAAC,iBAAiB,EAAE;YACtB,sBAAsB,CAAC,IAAI,CAAC,

AC;QACvB,OAAO,IAAI,CAAC;KACb;IAED,eAAe,CAAC,IAAAuB,EAAE,GAA0B;QACjE,IAAI,CAAC,oBAAoB,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QACrC,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;QAC3B,IAAI,CAAC,KAAK,CAAC,eAAe,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QACtC,GAAG,CAAC,OAAO,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QACvB,OAAO,IAAI,CAAC;KACb;IAMD,WAAW,CAAC,IAAI,EAAE,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QAC/B,IAAI,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QAChB

B,OAAO,IAAI,CAAC;KACb;IACD,oBAAoB,CAAC,GAA2B,EAAE,GAA0B;QAC1E,MAAM,IAAI,KAAK,CAAC,gDAAgD,CAAC,CAAC;KACnE;IACD,eAAe,CAAC,IAAkB,EAAE,GAA0B;QAC5D,GAAG,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;QAC3B,IAAI,CAAC,IAAI,EAAE,GAAG,CAAC,IAAI,CAAC,eAAe,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;KACtC;IACD,gBAAgB,CAAC,GAAkB,EAAE,GAA0B;QAC7D,QAAQ,IAAI,CAAC,OAAO,GAAG,GAAG,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;QACrC,IAAI,CAAC,IAAI,EAAE,GAAG,CAAC,IAAI,CAAC,eAAe,CAAC,IAAI,EAAE,GAAG

gBACb,MAAM;YACR,KAAKA,cAAgB,CAAC,UAAU;gBAC9B,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,EAAE;gBACtB,KAAK,GAAG,IAAI,CAAC;gBACb,MAAM;YACR,KAAKA,cAAgB,CAAC,IAAI;gBACxB,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,KAAK;gBACzB,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,MAAM;gBAC1B,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,QAAQ;gBAC5B,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,MAAM;gBAC1B,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,KAAK;gBACzB,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,WAAW;gBAC/B,KAAK,C/B,KAAK,GAAG,IAAI,CAAC;gBACpB,MAAM;YACR,KAAKA,cAAgB,CAAC,MAAM;gBAC1B,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,YAAY;gBAChC,KAAK,GAAG,IAAI,CAAC;gBACb,MAAM;YACR,KAAKA,cAAgB,CAAC,MAAM;gBAC1B,KAAK,GAAG,GAAG,CAAC;gBACZ,MAAM;YACR,KAAKA,cAAgB,CAAC,KAAK;gBACzB

AAC,CAAC,IAAI,GAAG,EAAE;YACnB,OAAO,YAAY,GAAG,KAAK,GAAG,GAAG,CAAC;SACnC;aAAM,IA
AI,KAAK,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;YAC3B,OAAO,KAAK,CAAC;SACd;aAAM,IAAI,KAAK,CA
AC,CAAC,CAAC,IAAI,IAAI,EAAE;YAC3B,OAAO,KAAK,CAAC;SACd;aAAM;YACL,OAAO,KAAK,KAAK,
CAAC,CAAC,CAAC,EAAE,CAAC;SACxB;KACF,CAAC,CAAC;IACH,MAAM,cAAc,GAAG,WAAW,IAAI,CA
AC,oBAAoB,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;IACvE,OAAO,cAAc,GAAG,IAAI,IAAI,GAAG,GAAG,IA
AI,CAAC;AAC7C,CAAC;AAED,SAAS,aAAa,CAAC,KAAa;IAClC,IAAI,GAAG,GAAG,EAAE,CAAC;IACb,KAAK,
IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,KAAK,EAAE,CAAC,EAAE;QAC9B,GAAG,IAAI,IAAI,GAAG,CAAC,KAAK,
CAAC,GAAG,CAAC,CAAC,EAAE,EAAE;QAC9B,GAAG,IAAI,IAAI,GAAG,CAAC,KAAK,

QAC5E,MAAM,MAAM,GAAG,IAAI,CAAC,EAAE,CAAC;QACvB,IAAI,MAAM,YAAYxC,WAAa,IAAI,MAAM,CAAC,OAAO,KAAKwC,UAAY,CAAC,KAAK,EAAE;YAC5E,GAAG,CAAC,YAAa,CAAC,MAAO,CAAC,eAAe,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;YACrD,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,YAAY,CAAC,CAAC;YAC9B,IAAI,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,EAAE;gBACxB,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;gBACtB,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,IAAI,EAAE,GAAG,EAAE,GAAG,CAAC,CAAC;aAC/C;YACD,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;SACtB;aAAM;YACL,KAAK,CAAC,uBAAuB,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;SAC1C;QACD,OAAO,IAAI,CAAC;KACb;IACD,iBAAiB,CAAC,GAAG,mBAAmB,EAAE,GAA0B;QACpE,OAAO,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QAC5B,OAAO,IAAI,CAAC,IAAI,CAAC,MAAM,GAAG,CAAC,EAAE;YAC3B,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;SACvB

AU,GAAG;gBACXvC,OAAS,CAAC,YAAY,CAAC,CAAC,MAAM,EAAE;gBAChC,GAAG,UAAU;aACd,CAAC;SACH;QACD,SAAS,CAAC,kBAAkB,CAAC,UAAU,EAAE,GAAG,CAAC,CAAC;QAC9C,SAAS,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAAC;QAChC,OAAO,IAAI,CAAC,YAAY,CAAC,SAAS,EAAE,GAAG,EAAE,SAAS,CAAC,OAAO,EAAE,EAAE,gBAAgB,CAAC,CAAC,CAAC;KACjF;;;;;;;;;;IAYD,YAAY,CACR,SAAiB,EAAE,GAA0B,EAAE,EAAE,IAA0B,EAAE,EAAE,IAA0B,EAAE,CAAC,eAAe,EAAE,wBAAwB;QAC1J,1B,IAAI,MAAM,GAAG,gBAAgB,CAAC,QAAQ,EAAE,mBAAmB,CAAC,SAAS,EAAE,EAAE,CAAC;QAC1E,MAAM,UAAU,GAAG,aAAa,EAAE,EAAE,CAAC;QAC9B,MAAM,WAAW,GAAG,UAAU,EAAE,EAAE,CAAC;QAC9C,OAAO,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YACjC,MAAM,CAAC,GAAG,IAAI,CAAC,CAAC,CAAC,CAAC;YAClB,MAAM,CAAC,GAAG,IAAI,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC;YACt

AG,EAAE,CAAC;AACjB,MAAM,EAAE,GAAG,EAAE,CAAC;AACd,MAAM,QAAQ,GAAG,EAAE,CAAC;AACpB,MAAM,UAAU,GAAG,EAAE,CAAC;AACtB,MAAM,GAAG,GAAG,EAAE,CAAC;AACf,MAAM,OAAO,GAAG,EAAE,CAAC;AACnB,MAAM,OAAO,GAAG,EAAE,CAAC;AACnB,MAAM,KAAK,GAAG,EAAE,CAAC;AACjB,MAAM,KAAK,GAAG,EAAE,CAAC;AACjB,MAAM,MAAM,GAAG,EAAE,CAAC;AAClB,MAAM,MAAM,GAAG,EAAE,CAAC;AAClB,MAAM,OAAO,GAAG,EAAE,CAAC;AACnB,MAAM,MAAM,GAAG,EAAE,CAAC;AAClB,MAAM,MAAM,GAAG,EAAE,CAAC;AAClB,MAAM,UAAU,GAAG,EAAE,CAAC;AACtB,MAAM,GAAG,GAAG,GAAG,EAAE,CAAC;AACf,MAAM,GAAG,GAAG,GAAG,EAAE,CAAC;AACf,MAAM,SAAS,GAAG,EAAE,CAAC;AAErB,MAAM,EAAE,GAAG,EAAE,CAAC;AACd,MAAM,EAAE,GAAG,EAAE,CAAC;AACd,MAAM,EAAE,GAAG,EAAE,CAAC;AACd

AAC,MAAM,GAAG,CAAC,CAAC;aAClC;YACD,IAAI,SAAS,GAAG,WAAW,CAAC;YAC5B,IAAI,QAAQ,GAAG,CAAC,CAAC;YACjB,IAAI,QAAQ,GAAG,CAAC,CAAC;YAEjB,OAAO,QAAQ,GAAG,QAAQ,IAAI,WAAW,GAAG,CAAC,EAAE;gBAC7C,WAAW,EAAE,CAAC;gBACd,QAAQ,EAAE,CAAC;gBACX,IAAI,OAAO,CAAC,WAAW,CAAC,IAAI,IAAI,EAAE;oBAChC,IAAI,EAAE,QAAQ,EAAE,QAAQ,IAAI,QAAQ,EAAE;wBAC1B,MAAM;qBACP;iBACF;aACF;YAED,QAAQ,GAAG,CAAC,CAAC;YACb,QAAQ,GAAG,CAAC,CAAC;YACb,OAAO,QAAQ,GAAG,QAAQ,IAAI,IAAI,SAAS,GAAG,CAAC,EAAE;gBAC5C,SAAS,EAAE,CAAC;gBACZ,OAAO,CAAC,MAAM,GAAG,CAAC,CAAC,EAAE;gBAC5B,SAAS,EAAE,CAAC;gBACZ,IAAI,OAAO,CAAC,CAAC,SAAS,CAAC,IAAI,IAAI,EAAE;oBAC/B,IAAI,EAAE,QAAQ,EAAE,QAAQ,IAAI,QAAQ,EAAE;wBAC1B,MAAM;qBACP;iBACF;aACF;YAED,OAAO,QAAQ,GAAG,CAAC,CAAC;YACpB,OAAO,QAAQ,GAAG,CAAC,CAAC;YACpB,OAAO,QAAQ,GAAG,QAAQ,IAAI,IAAI,SAAS,GAAG,CAAC,EAAE;gBAC5C,SAAS,EAAE,CAAC;gBACZ,OAAO,CAAC,MAAM,GAAG,CAAC,CAAC,EAAE;gBAC5B,SAAS,EAAE,CAAC;gBACZ,IAAI,OAAO,CAAC,CAAC,SAAS,CAAC,IAAI,IAAI,EAAE;oBAC/B,IAAI,EAAE,QAAQ,EAAE,QAAQ,IAAI,QAAQ,EAAE;wBAC1B,MAAM;qBACP;iBACF;aACF;YAED,QAAQ,GAAG,CAAC,CAAC;YACb,QAAQ,GAAG,CAAC,CAAC;YACb

AAE,KAAmB;IACvD,OAAO,EAAC,GAAAG,EAAE,KAAK,EAAE,MAAM,EAAE,KAAK,EAAC,CAAC;AACrC,CAAC;SAEe,UAAU,CACtB,GAAAkC,EAAE,SAAAkB,KAAK;IAC7D,OAAOjD,UAAY,CAAC,MAAM,CAAC,IAAI,CAAC,GAAAG,CAAG,CAAC,CAAC,GAAAG,CAAG,CAAC,CAAC,GAAAG,CAAG,CAAC,CAAC,GAAAG,CAAG,CAAC,GAAAG,CAAG,KAAK;QACN,GAAAG;QACH,MAAM;QACN,KAAK,EAAE,GAAAG,CAAG,CAAC,GAAAG,CAAG,CAAC;KAChB,B,CAAC,CAAC,CAAC,CAAC,CAAC;AAChD;;;;;;;AA4FA;;;SAGgB,B,eAAe,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC

U,CAAC,GAAG,EAAE,CAAC;IAEpE,MAAM,cAAc,GAAG,UAAU,CAAC;QAChC,SAAS,EACL,kBAAkB,CA
AC,UAAU,CAAC,EAAC,IAAI,EAAE,QAAQ,CAAC,IAAI,EAAE,MAAM,EAAE,QAAQ,CAAC,IAAI,CAAC,SA
AS,EAAC,EAAE,GAAG,CAAC;QAC9F,WAAW,EAAE,mBAAmB,CAAC,QAAQ,CAAC,YAAY,EAAE,GAAG,
CAAC;QAC5D,SAAS,EAAE,mBAAmB,CAAC,CAAC,GAAG,UAAU,EAAE,GAAG,UAAU,CAAC,EAAE,GAA
G,CAAC;KACpE,CAAC,CAAC;IAEH,MAAM,WAAW,GAAGP,UAAY,CAACG,aAAE,CAAC,cAAc,CAAC,CA
AC,MAAM,CAAC,CAAC,cAAc,CAAC,CAAC,CAAC;IAE7E,GAAG,CAAC,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC,IAAIc,
SAAW;eACpB,SAAS;iBACP,IAAI;iBACL,CAAC,IAAIC,UAAY;mBACd,MAAM;mBACNvD,aAAe;wBACX,C
AACC,YAAc,CAAC,MAAM,CAAC;0BACpB,WAAW,CAC5B,CAAC;kBACO,EAAE;4BACS,IAAIuD,WAAa,C
AAC,IAAI,EAAE,EAAE,EAAE,EAAE,CAAC;kBAC1C,EAAE,CAAC,CAAC,CAAC;AACxB,CAAC;AAED,SA
AS,iBAAiB,CAAC,MAAoB;IAC7C,MAAM,aAAa,GAAG,IAAIC,UAAY,CAAC,MAAM,EAAE,MAAM,CAAC,C
AAC;IACzD,OAAO,IAAIA,UAAY,CAAC,aAAa,EAAE,UAAU,CAAC,CAAC;AACvD,CAAC;AAED,SAAS,WA
AW,CAAC,GAAkB;IACrC,MAAM,KAAK,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,IAAIC,UAY,CAAC,G
AAG,CAAC,IAAI,CAAC,CAAC,CAAC;IACrD,OAAO,GAAG,CAAC,MAAM,GAAG,CAAC,EAAE;QACrB,MAAM,CAAC,GAAG,GAAG,CAAC,GAAG,EAAE,CAAC;QACpB,KAAK,CAAC,CAAC,CAAC,EAAE,CAAC;KACd;IACD,OAAO,KAAK,CAAC;AACjB,CAAC;AAED,SAAS,WAAW,CAAC,GAAkB;IACnC,MAAM,KAAK,GAAG,IAAIA,UAAY,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;IAC3C,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,KAAK,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACvC,KAAK,CAAC,CAAC,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC,CAAC;KACrB

CAAQ;KAAI;IACxD,UAAU,CAAC,cAAsB;QAC/B,OAAO,IAAI,kBAAkB,CAAC,cAAc,GAAG,IAAI,CAAC,K
AAK,EAAE,cAAc,GAAG,IAAI,CAAC,GAAG,CAAC,CAAC;KACvF;CACF;MAEY,GAAG;IACd,YACW,IAAAe;
;;;IAIf,UAA8B;QAJ9B,SAAI,GAAJ,IAAI,CAAW;QAIf,eAAU,GAAV,UAAU,CAAAoB;KAAI;IAC7C,KAAK,CA
AC,OAAmB,EAAE,UAAe,IAAI;QAC5C,OAAO,IAAI,CAAC;KACb;IACD,QAAQ;QACN,OAAO,KAAK,CAAC
;KACd;CACF;MAEqB,WAAY,SAAQ,GAAG;IAC3C,YACI,IAAAe,EAAE,UAA8B,EAAS,QAA4B;QACtF,K
,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QADkC,aAAQ,GAAR,QAAQ,CAAAoB;KAAI;IAEvE;;;;;;;;;;;;;
MAaa,KAAM,SAAQ,GAAG;IAC5B,YACI,IAAAe,EAAE,UAA8B,EAAS,MAAc,EAC/D,uBAA+B,EAAS,QAAAa;Q
AC9D,KAAK,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QAFkC,WAAM,GAAN,MAAM,CAAQ;QAAC,4BAAuB
B,GAAvB,uBAAuB,CAAQ;QAAS,aAAQ,GAAR,QAAQ,CAAAoB;KAAI;IAEvE,KAAK,CAAC,OAAmB,EAAE,U
AAe,IAAI;QAC5C,OAAO,OAAO,CAAC,UAAU,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC1C;IACD,QAAA
Q;QACN,OAAO,OAAO,CAAC;KAChB;CACF;MAEY,SAAU,SAAQ,GAAG;IAChC,YACI,IAAAe,EAAE,UAA8B,EAAS,QAA4B,EAAE,EA
AE,UAAe,IAAI;;KAE7C;CACF;MAEY,gBAAiB,SAAQ,GAAG;IACvC,YACI,IAAAe,EAAE,UAA8B,EAAS,QAA4B,EAAE,EAAE,UAAe,IA
AI;QAC5C,OAAO,OAAO,CAAC,qBAAqB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KACrD;CACF;AAED;;;;;;;
;MAQa,YAAa,SAAQ,gBAAgB;IAChD,YACI,IAAAe,EAAE,UAA8B,EAAS,QAA4B,EAAE,EAAE,UAAe,IAAI;;QAC5C,aAAO,OAAO,CAAC,CAA
C,iBAAiB,+CAAzB,OAAO,EAAqB,QAAA,EAAE,IAAI,EAAE,UAAU,CAAC,IAAI,EAAE,OAAO,CAAC;KAC1
D;CACF;AAED;;;MAGa,KAAM,SAAQ,GAAG;IAC5B,YACI,IAAAe,EAAE,UAA8B,EAAS,MAAc,EAC/D,uBAA+B,EAAS,QAAAa;Q
AC9D,KAAK,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QAFkC,WAAM,GAAN,MAAM,CAAQ;QAAC,4BAAuB
B,GAAvB,uBAAuB,CAAQ;QAAS,aAAQ,GAAR,QAAQ,CAAAoB;KAAI;IAEvE,KAAK,CAAC,OAAmB,EAAE,U
AAe,IAAI;QAC5C,OAAO,OAAO,CAAC,UAAU,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC1C;IACD,QAAA
Q;QACN,OAAO,OAAO,CAAC;KAChB

,EAAE,UAA8B,EAAS,WAAkB;QACpF,KAAK,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QAD0C,gBAAW,GAAX,WAAW,CAAO;KAErF;IACD,KAAK,CAAC,OAAmB,EAAE,UAAe,IAAI;QAC5C,OAAO,OAAO,CAAC,iBAAiB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC jD;CACF;MAMY,UAAW,SAAQ,GAAG;IACjC,YAAI,EAAE,EAAE,UA A8B,EAAS,IAAqB,EACtE,MAAa;QACtB,CB,KAAK,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QAFkC,SAAI,GAAJ,IAAI,CAAiB;QACtE,MAAM,GAAN,MAAM,CAAO;KAEvB;IACD,KAAK,CAAC,OAAmB,EAAE,UAAe,IAAI;QAC5C,OAAO,OAAO,CAAC,eAAe,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC/C;CACF;MAAY,aAAc,SAAQ,GAAG;IACjC,YAAI,EAAE,EAAE,UA A8B,EAAS,OAAc,EAAE,MAAM,GAAG,KAAK;QAC1E

Ae,IAAI;QAC5C,IAAI,OAAO,CAAC,kBAAkB,EAAE;YAC9B,OAAO,OAAO,CAAC,kBAAkB,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;SAClD;QACD,OAAO,IAAI,CAAC,GAAG,CAAC,KAAK,CAAC,OAAO,EAAE,OAAO,CAAC,CAAC;KACzC;IACD,QAAQ;QACN,OAAO,GAAG,IAAI,CAAC,MAAM,OAAO,IAAI,CAAC,QAAQ,,EAAE,CAAC;KAC7C;CACF;MAuBY,eAAe;;;;;;IAM1B,YACoB,UAA8B,EAC9B,UAA8B,EAC9B,UAA8B,EAC9B

OAAO,IAAI,gBAAgB,CAAC,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,GAAG,CAAC,KAAK,C
AAC,CAAC;KAClE;IAED,iBAAiB,CAAC,GAAiB,EAAE,OAAY;QAC/C,OAAO,IAAI,YAAY,CACnB,GAAG,C
AAC,IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,QAAQ,CAAC,KAA
K,CAAC,IAAI,CAAC,EAAE,GAAG,CAAC,IAAI,CAAC,CAAC;KAAjF;IAED,kBAAkB,CAAC,GAAkB,EAAE,
OAAY;QACjD,OAAO,IAAI,aAAa,CACpB,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,GAAG,CA
AC,QAAQ,EAAE,GAAG,CAAC,QAAQ,CAAC,KAAK,CAAC,IAAI,CAAC,EAAE,GAAG,CAAC,IAAI,EAC1E,
GAAG,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC;KAC5B;IAED,qBAAqB,CAAC,GAAqB
,EAAE,OAAY;QACvD,OAAO,IAAI,gBAAgB,CACvB,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,
GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,GAAG,CAAC,IA
AI,CAAC,CAAC;KAAjF;IAED,eAAe,CAAC,GAAe,EAAE,OAAY;QAC3C,OAAO,IAAI,UAAU,CACjB,GAAG,
IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,QAAQ,CAAC,KA
AK,CAAC,IAAI,CAAC,EAAE,GAAG,CAAC,IAAI,EAC1E,GAAG,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC;KAC5B;IAED,mBAAmB,CAAC,GAAmB
,EAAE,OAAY;QACrD,OAAO,IAAI,cAAc,CACrB,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,
GAAG,CAAC,QAAQ,EAAE,GAAG,CAAC,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,GAAG,CAAC,IA
AI,CAAC,CAAC,CAAC;KAAnF;IAED,iBAAiB,CAAC,GAAiB,EAAE,OAAY;QAC7C,OAAO,IAAI,YAAY,CACnB,GAAG,C
AAC,IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,GAAG,CAAC,MAAM,CAAC,KAAK,CAAC,IAAI,C
AAC,EAAE,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC;KAAjF;IAED,iBAAiB,CAAC,GAAiB
,EAAE,OAAY;QAC7C,OAAO,IAAI,YAAY,CAAC,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,EA
AE,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,WAAW,CAAC,CAAC,CAAC;KAAnF;IAED,eAAe,CAAC,GAAe,
EAAE,OAAY;QAC3C,OAAO,IAAI,UAAU,CAAC,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,GA
AG,CAAC,IAAI,EAAE,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC,CAAC;KAAnF;IAED,
UAAU,CAAC,GAAU,EAAE,OAAY;QAC/B,OAAO,IAAI,KAAK,CAAC,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,WAAW;QAAE,GAAG,CAAC,IAAI,CAAC,QAAQ;KAAE;IAED,

AAC,KAAK,CAAC,IAAI,CAAC,CAAC;SAC9B;QACD,OAAO,GAAAG,CAAC;KACZ;IAED,UAAU,CAAC,GAAAU,EAAE,OAAAY;QACjC,OAAO,IAAI,KAAK,CAAC,GAAAG,CAAC,IAAI,EAAE,GAAAG,CAAC,UAAU,EAAE,IAAI,CAAC,QAAAQ,CAAC,GAAAG,CAAC,WAAW,CAAC,CAAC,CAAC;KAC5E;IAED,UAAU,CAAC,GAAAU,EAAE,OAAAY;QACjC,OAAO,IAAI,KAAK,CAAC,CAAZ,GAAAG,CAAC,IAAI,EAAE,GAAAG,CAAC,UAAU,EAAE,GAAAG,CAAC,MAAM,EAAE,GAAAG,CAAC,uBAAuB,EAAE,GAAAG,CAAC,QAAAQ,CAAC,CAAC,CAAC;KACtF;CACF;AAED;AACA;6BAA6B;IACxC,qBAAAQ,CAAC,GAAAU,EAAE,OAAAY;QACjC,OAAO,IAAI,KAAK,CAAC,GAAAG,CAAC,IAAI,EAAE,GAAAG,CAAC,UAAU,EAAE,GAAAG,CAAC,QAAAQ,CAAC,CAAC,CAAC;KACtF;IAED,yBAAAQ,CAAC,GAAAU,EAAE,OAAAY;QACjC,OAAO,IAAI,KAAK,CAAC,GAAAG,CAAC,IAAI,EAAE,GAAAG,CAAC,UAAU,EAAE,GAAAG,CAAC,QAAAQ,CAAC,CAAC,CAAC;KACtF;IAED,k

EAAE,GAAG,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;gBAC1D,KAAK,GAAG;oBACN,OAAO,KAAK,CAAC,WAAW,CAAC,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;gBAC3D;oBACE,MAAM,IAAI,KAAK,CAAC,0BAA0B,GAAG,CAAC,QAAQ,EAAE,CAAC,CAAC;aAC7D;SACF;QACD,OAAO,GAAG,CAAC;KACZ;IAED,WAAW,CAAC,GAAW,EAAE,OAAY;QACnC,MAAM,IAAI,GAAG,CAAC,IAAI,CAAC,IAAI,EAAE,GAAG,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;QAClC,MAAM,KAAK,GAAG,CAAC,IAAI

S,GAAT,SAAS,CAA2B;QAC7C,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,IAAI,KAAK,kBAAkB,CAAC,YAAY,CAAC;QAC/D,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC,IAAI,KAAK,kBAAkB,CAAC,SAAS,CAAC;KAC/D;CACF;IAEW;AAAZ,WAAY,kBAAkB;IAC5B,iEAAO,CAAA;IACP,2EAAY,CAAA;IACZ,qEAAS,CAAA;AACX,CAAC,EAJW,kBAAkB,KAAlB,kBAAkB,QAI7B;MASY,WAAW;;;IAGtB,YAAW,IAAY,EAAS,aAAqB,EAAS,IAAqB,EAAE,CAAE,EAAS,OAAsB,EAAS,UAA2B,EAAE,CAAE,WAA4B;QAF5J,SAAI,GAAJ,IAAI,CAAQ;QAAS,kBAAa,GAAb,aAAa,CAAQ;QAAS,SAAI,GAAJ,IAAI,CAAiB;QAAS,YAAO,GAAP,OAAO,CAAe;QAAS,eAAU,GAAV,UAAU,CAAiB;QAAE,gBAAW,GAAX,WAAW,CAAiB;QAAE,YAAO,GAAP,OAAO,CAAE;QAAS,iBAAY,GAAZ,YAAY,CAAE;QAAS,iBAAY,GAAZ,YAAY,CAAE;QAAS,iBAAY,GAAZ,YAAY

AK,CAAC,UAAU,CAAC,CAAC;IAC5F,MAAM,KAAK,GAAkB,wBAAwB,CAAC,OAAO,EAAE,SAAS,CAAC,CAAC;IAE1E,IAAI,OAAO,CAAC,oBAAoB,EAAE;QAChC,aAAa,CAAC,yBAAyB,EAAE,CAAC;KAC3C;IAED,IAAI,OAAO,CAAC,cAAc,KAAK,CAAC,IAAI,IAAI,IAAI,WAAW,CAAC,SAAS,EAAE;QACjE,OAAO,IAAI,4BAA4B,CAAC,EAAE,EAAE,UAAU,CAAC,CAAC;KACzD;SAAM,IAAI,IAAI,KAAK,WAAW,CAAC,UAAU,EAAE;QAC1C,OAAO,IAAI,4BAA4B,CAAC,EAAE,EAAE,UAAU,CAAC,CAAC;KAC5D;IAED,MAAM,WAAW,GAAG,mBAAmB,CAAC,SAAS,CAAC,CAAC,IAAI,CAAC,WAAW,CAAC,GAAG,CAAC,UAAU,CAAC,CAAC,CAAC,UAAU,CAAC,CAAC,CAAC,UAAU,CAAC,CAAC

,IAAI,EAAE,IAAI,CAAC,iBAAiB,CAAC,yBAAyB,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC;KACjG;CACF;AAED,MAAM,eAAe;IAOnB,YACY,cAA6B,EAAU,iBAA+B,EACtE,SAAiB,EAAU,qBAAsD,EACjF,cAAgC,EAAU,wBAAsC;QAFhF,mBAAc,GAAd,cAAc,CAAe;QAAU,sBAAiB,GAAjB,iBAAiB,CAAc;QACtE,cAAS,GAAT,SAAS,CAAQ;QAAU,0BAAqB,GAArB,qBAAqB,CAAiC;QACjF,mBAAc,GAAd,cAAc,CAAkB;QAAU,6BAAwB,GAAxB,wBAAwB,CAAsB;QAEhF,aAAQ,GAAG,IAAI,GAAG,IAAI,GAAG,IAAI

QAChC,MAAM,IAAI,GAAG,CAACH,OAAS,CAAC,GAAG,CAAC,WAAW,CAAC,MAAM,CAAC,CAAC,CAA
C;QACjD,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,GAAG,CAAC,OAAO,CAAC,MAAM,GAAG
,CAAC,EAAE,CAAC,EAAE,EAAE;YAC/C,IAAI,CAAC,IAAI,CAACA,OAAS,CAAC,GAAG,CAAC,OAAO,CA
AC,CAAC,CAAC,CAAC,CAAC,CAAC;YACrC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,GAAG,C
AAC,WAAW,CAAC,CAAC,CAAC,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC;SAC9D;QACD,IAAI,CA
AC,IAAI,CAACA,OAAS,CAAC,GAAG,CAAC,OAAO,CAAC,GAAG,CAAC,OAAO,CAAC,MAAM,GAAG,CA
AC,CAAC,CAAC,CAAC,CAAC;QAE1D,IAAI,IAAI,CAAC,qBAAqB,EAAE;YAC9B,OAAO,IAAI,CAAC,qBA
qB,CAAC,IAAI,CAAC,CAAC;SACzC;QACD,OAAO,GAAG,CAAC,WAAW,CAAC,MAAM,CAAC,IAAI,CAAC;YAC9
B0B,UAAY,CAAC,WAAW,CAAC,iBAAiB,CAAC,CAAC,MAAM,CAAC,IAAI,CAAC;YACxDA,UAAY,CAAC
,WAAW,CAAC,WAAW,CAAC,CAAC,MAAM,CAAC;gBAC3C,IAAI,CAAC,CAAC,CAAC,EAAElC,UAAY,,C
AAC,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC,EAAE,SAAS,EAAE,IAAI,CAAC,iBAAiB,CAAC,GAAG,CAAC,
IAAI,CAAC,CAAC;aAClF,CAAC,CAAC;KACR;IAED,cAAc,CAAC,GAAG,oB,EAAE,IAAW;QAC9C,MAAM,YA
AY,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAAC;QAChD,IAAI,YAAY,EAAE;YAChB,OAAO,IA
AI,CAAC,iBAAiB,CAAC,GAAG,EAAE,YAAY,EAAE,IAAI,CAAC,CAAC;SACxD;aAAM;YACL,0BAA
0B,CAC7B,IAAI,EAAE,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,EAAE,KAAK,CAAC,UAAU,CAAC,
CAAC,GAAG,CAAC,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,EAAE,KAAK,CAAC,UAAU,CAAC,C
AAC,CAAC,CAAC;SAC/D;IAED,eAAe,CAAC,GAAG,oB,EAAE,IAAW;QAC/C,MAAM,IAAI,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAAC;QACxC,IAAI,IAAI,EAAE;YACR,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;SAChD;aAAM;YACL,0BAA0B,CAC7B,IAAI,EAAE,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,
CAAC,CAAC;SAC/C;IAED,iBAAiB,CAAC,GAAG,oB,EAAE,IAAW,EAAE,IAAY;QAC1D,MAAM,IAAI,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAAC;QACxC,IAAI,IAAI,EAAE;YACR,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;SAChD;aAAM;YACL,0BAA0B,CAC7B,IAAI,EAAE,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,
CAAC,CAAC;SAC/C;IAED,eAAe,CAAC,GAAG,oB,EAAE,IAAW,EAAE,IAAY;QAC3D,MAAM,IAAI,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAAC;QACxC,IAAI,IAAI,EAAE;YACR,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;SAChD;aAAM;YACL,0BAA0B,CAC7B,IAAI,EAAE,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,
CAAC,CAAC;SAC/C;IAED,gBAAgB,CAAC,GAAG,oB,EAAE,IAAW,EAAE,IAAY;QAC5D,MAAM,IAAI,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAAC;QACxC,IAAI,IAAI,EAAE;YACR,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;SAChD;aAAM;YACL,0BAA0B,CAC7B,IAAI,EAAE,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,
CAAC,CAAC;SAC/C;IAED,gBAAgB,CAAC,GAAG,oB,EAAE,IAAW,EAAE,IAAY;QAC5D,MAAM,IAAI,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAAC;QACxC,IAAI,IAAI,EAAE;YACR,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;SAChD;aAAM;YACL,0BAA0B,CAC7B,IAAI,EAAE,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,
CAAC,CAAC;SAC/C;IAED,eAAe,CAAC,GAAG,oB,EAAE,IAAW,EAAE,IAAY;QAC3

C,GAAoB,EAAE,IAAW;QAC9C,OAAO,0BAA0B,CAAC,IAAI,EAAE4D,GAAK,CAAC,IAAI,CAAC,MAAM,C
AAC,GAAG,CAAC,UAAU,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC;KAC/F;IAED,kBAAkB,C
AAC,GAAwB,EAAE,IAAW;QACtD,OAAO,0BAA0B,CAC7B,IAAI,EAAEC,aAAe,CAAC,IAAI,CAAC,MAAM,
CAAC,GAAG,CAAC,UAAU,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC;KAC3E;IAED,iBAAiB,
CAAC,GAAuB,EAAE,IAAW;QACpD,MAAM,YAAY,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAA
C;QAChD,IAAI,YAAY,EAAE;YAChB,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,EAAE,YAAY,EAAE,IAAI,C
AAC,CAAC;SACxD;aAAM;YACL,IAAI,MAAM,GAAQ,IAAI,CAAC;YACvB,MAAM,wBAAwB,GAAG,IAAI,
CAAC,oBAAoB,CAAC;YAC3D,MAAM,QAAQ,GAAG,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,QAAQ,EAAA
E,KAAK,CAAC,UAAU,CAAC,CAAC;YAC7D,IAAI,QAAQ,KAAK,IAAI,CAAC,iBAAiB,EAAE;gBACvC,MAA
M,GAAG,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,IAAI,EAAE,GAAG,CAAC,QAAQ,CAAC,CAAC;gBAChD,I
AAI,MAAM,EAAE;;;oBAGV,IAAI,CAAC,oBAAoB,GAAG,wBAAwB,CAAC;oBACrD,IAAI,CAAC,yBAAyB,C
AAC,GAAG,CAAC,IAAI,CAAC,CAAC;iBAC1C;aACF;YACD,IAAI,MAAM,IAAI,IAAI,EAAE;gBAClB,MAA
M,GAAG,QAAQ,CAAC,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;aAClC;YACD,OAAO,0BAA0B,CAAC,
IAAI,EAAE,MAAM,CAAC,CAAC;SACjD;KACF;IAED,kBAAkB,CAAC,GAAAwB,EAAE,IAAW;QACtD,MAA
M,QAAQ,GAAiB,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,QAAQ,EAAE,KAAK,CAAC,UAAU,CAAC,CAA
C;QAC3E,MAAM,wBAAwB,GAAG,IAAI,CAAC,oBAAoB,CAAC;QAE3D,IAAI,OAAO,GAAAwB,IAAI,CAAC;
QACxC,IAAI,QAAQ,KAAK,IAAI,CAAC,iBAAiB,EAAE;YACvC,OAAO,IAAI,CAAC,SAAS,CAAC,SAAS,CA
AC,GAAG,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;YACzD,IAAI,EAAE,GAAG,CAAC,QAAQ,CAAC,CAAC;YACpB,IAAI,CAAC,oBAAoB,GAAG,wBAAwB,CAAC;YACrD,IAAI,CAAC,yBAAyB,C
AAC,GAAG,CAAC,IAAI,CAAC,CAAC;SACnC;QACD,OAAO,0BAA0B,CAAC,IAAI,EAAE,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,MAAM,CAAC,
GAAG,CAAC,KAAK,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC;KAChG;IAED,qBAAqB,CAAC
,GAA2B,EAAE,IAAW;QACtD,MAAM,YAAY,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CAAC,CAAC
,GAAG,CAAC,EAAE,IAAI,CAAC,CAAC;QACtB,IAAI,YAAY,EAAE;YAChB,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,EAAE,YAAY,EAAE,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC
,GAAG,CAAC,EAAE,IAAI,CAAC,CAAC,CAAC;KACtE;IAED,mBAAmB,CAAC,GAAAyB,EAAE,IAAW;QACxD,MAAM,aAAa,GAAG,IAAI,CAAC,iBAAiB,CAAC,GAAG,CAAC,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,MAAM,CAAC,
GAAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC

Y,CAAC,CAAC;;QAGnC,IAAI,SAAS,EAAE;YACb,IAAI,CAAC,gBAAgB,CAAC,SAAS,CAAC,CAAC;SAClC;;QAGD,OAAO,0BAA0B,CAAC,IAAI,EAAE,SAAS,CAAC,WAAW,CAACzD,OAAS,CAAC,IAAI,CAAC,EAAE,MAAM,CAAC,CAAC,CAAC;KACzF;;;;;;;;IASO,gBAAgB,CAAC,GAAc;QACrC,MAAM,KAAK,GAAG,CAAC,OAAO,AAAyB,CAAC,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,CAAC,CAAC

SAAS,EAAE,IAAI,CAAC,iBAAiB,CAAC,EAAE;YAC3E,MAAM,IAAI,KAAK,CAAC,aAAa,SAAS,CAAC,IAAI
,wBAAwB,CAAC,CAAC;SACtE;KACF;;;;;;;;;;;IAaO,iBAAiB,CAAC,IAAqB;QAC7C,IAAI,IAAI,CAAC,cAAc,E
AAE;YACvB,MAAM,KAAK,GAAG,IAAI,CAAC,cAAc,CAAC,KAAK,CAAC,MAAM,CAAC,IAAI,CAAC,KA
AK,CAAC,CAAC;YAC3D,MAAM,GAAG,GAAG,IAAI,CAAC,cAAc,CAAC,KAAK,CAAC,MAAM,CAAC,IAA
I,CAAC,GAAG,CAAC,CAAC;YACvD,MAAM,SAAS,GAAG,IAAI,CAAC,cAAc,CAAC,SAAS,CAAC,MAAM,
CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;YACnE,OAAO,IAAI,eAAe,CAAC,KAAK,EAAE,GAAG,EAAE,SAA
S,CAAC,CAAC;SACnD;aAAM;YACL,OAAO,IAAI,CAAC;SACb;KACF;;IAGO,yBAAyB,CAAC,IAAY;QAC5C
,IAAI,IAAI,CAAC,wBAAwB,EAAE;YACjC,IAAI,CAAC,wBAAwB,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;S
ACzC;KACF;CACF;AAED,SAAS,iBAAiB,CAAC,GAAQ,EAAE,MAAqB;IACxD,IAAI,KAAK,CAAC,OAAO,C
AAC,GAAG,CAAC,EAAE;QACd,GAAI,IAAI,CAAC,OAAO,CAAC,CAAC,KAAK,KAAK,iBAAiB,CAAC,KAAK,EA
AE,MAAM,CAAC,CAAC,CAAC;KACnE;SAAM;QACL,MAAM,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;KAClB;AACH,CAAC;AAED,MAAM,oBAAoB;IACxB,YAAmB,OAAqB;QAArB,YAAO,GAAP,OAAO,CAAc;KAAI;CAAC;KA
AI;IAC5C,yBAAyB,MAAW;IACpC,QAAQ,CAAC,IAAY;QACnB,IAAI,IAAI,CAAC,wBAAwB,CAAC,GAAG,gBAAgB,CAAC,KAAK,C
AAC,IAAI,EAAE;YACxC,gBAAgB,CAAC,KAAK,CAAC;SAC/B;QACD,OAAO,IAAI,CAAC;KACb;CACF;AAED,SAAS,mBAAmB,CAAC,SAAiB,EAAE,MAAW,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC

QAC9C,OAAO,IAAI,CAAC,iBAAiB,CACzB,OAAO,EAAE,sBAAsB,EAAE,IAAI,CAAC,6BAA6B,CAAC,CAAC;KAC1E;IAEO,iBAAiB,CAAC,OAAe,EAAE,MAAc,EAAE,YAAsB;;QAE/E,OAAO,OAAO,CAAC,OAAO,CAAC,MAAM,EAAE,UAAS,GAAG,CAAW;YACpD,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gBACR,MAAM,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC;gBAAC,IAAI,CAAC,9B,MAAM,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

C;QAChC,aAAa,GAAG,aAAa,CAAC,OAAO,CAAC,IAAI,EAAE,CAAC,CAAS,EAAE,GAAG,KAAe,KAAK,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC;QAEzF,MAAM,QAAQ,GAAG,GAAG,GAAG,aAAa,GAAG,GAAG,CAAC;QAE3C;,MAAM,kBAAkB,GAAG,CAAC,CAAS;YACnC,IAAI,OAAO,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC;YAEvB,IAAI,CAAC,OAAO,EAAE,EAAE;gBACZ,IAAI,OAAO,GAAG,EAAE,EAAE;oBACd,OAAO,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC;iBAC9B;gBAED,IAAI,CAAC,OAAO,EAAE,EAAE;oBACZ,OAAO,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC;iBAC9B;aACJ;YAED,OAAO,OAAO,CAAC;SAClB;;gBAAC

AAM,iBAAiB,GAAG,UAAU,CAAC;AACrC,MAAM,OAAO,GAAG,uDAAuD,CAAC;AACxE,MAAM,SAAS,GAAG,WAAW,CAAC;AAC9B,MAAM,aAAa,GAAG,IAAI,GAAG,CAAC,CAAC,CAAC,GAAG,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC;AAC5C,MAAM,WAAW,GAAG,IAAI,GAAG,CAAC,CAAC,CAAC,GAAG,EAAE,GAAG,CAAC,CAAC,EAAE,CAAC,GAAG,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC;MAEzC,OAAO;IAClB,YAAmB,QAAgB,EAAE,OAAO,GAAG,IAAI,CAAC,CAAC,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC

T,SAAwB,EAAE,IAA8B,EACxD,UAAqC,EACrC,OAAgB,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC;QAC3C,OAAO,IAAI,CAAC,cAAc,CAAC,SAAS,EAAE,IAAI,EAAE,UAAU,EAAE,IAAI,EAAE,KAAK,CAAC,CAAC;KACtE;IAED,cAAc,CAAC,IAA8B;QAC3C,OAAO,IAAI,CAAC,QAAU,CAAC,aAAa,KAAK,iBAAiB,CAAC,QAAQ,CAAC;KACrE;IAEO,cAAc,CAClB,SAAwB,EAAE,IA8B,EACxD,UAAqC,EAAE,IAAa,EACpD,qBA8B;QAChC,MAAM,gBAAgB,GAClB,UAAU,CAAC,MAAM,CAAC,GAAG,CAAC,UAAU,CAAC,IAAI7D,OAAS,CAAC,SAAS,CAAC,cAAc,CAAC,UAAU,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;QAC1F,MAAM,YAAY,GAAG,IAAI,CAAC,cAAc,CAAC,SAAS,EAAE,gBAAgB,CAAC,CAAC;QACtE,MAAM,CAAC,IAAI,CAAC,YAAY,CAAC,CAAC,CAAC,IAAI,CAAC,YAAY,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC;KACzD;IAEO,cAAc,CAClB,SAAwB,EAAE,IAAa,EACvC,UAAqC;QAC3C,MAAM,YAAY,GAAG,IAAI,CAAC,cAAc,CAAC,SAAS,EAAE,IAAI,CAAC,CAAC;QAC1D

AAO,CAAC,cAAc,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC9C;CACF;MAEYyD,SAAQ,SAAQ,YAAY;IACvC,YACW,IAAY,EAAS,KAAkB,EAAS,QAAgB,EACvE,UAA2B,EAAS,eAAgC,EAC7D,gBAAsC,IAAI,EAAE,IAAe;QACpE,KAAK,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;QAHf,SAAI,GAAJ,IAAI,CAAQ;QAAS,UAAK,GAAL,KAAK,CAAa;QAAS,aAAQ,GAAR,QAAQ,CAAQ;QACvE,eAAU,GAAV,UAAU,CAAiB;QAAS,oBAAe,GAAf,eAAe,CAAqB;QAC7D,qBAAgB,GAAhB,gBAAgB,CAAsB;QAAS,SAAI,GAAJ,IAAI,CAAQ;QAAS,SAAI,GAAJ,IAAI,CAAQ;QAAS,SAAI,GAAJ,IAAI,CAAQ

oD,EACjF,UAA2B,EAAE;IAC/B,MAAM,SAAS,GAAG,IAAI,UAAU,CAAC,IAAI,eAAe,CAAC,MAAM,EAAE,GAAG,CAAC,EAAE,gBAAgB,EAAE,OAAO,CAAC,CAAC;IAC9F,SAAS,CAAC,QAAQ,EAAE,CAAC;IACrB,OAAO,IAAI,cAAc,CACrB,eAAe,CAAC,SAAS,CAAC,MAAM,CAAC,EAAE,SAAS,CAAC,MAAM,EAAE,SAAS,CAAC,2BAA2B,CAAC,CAAC;AAAC,CAAC,CAAC;AAAC,CAAC,CAAC;AAAC

CAAC,iBAAiB,EAAE,IAAI,CAAC,OAAO,CAAC,OAAO,CAAC,GAAG,CAAC,CAAC,CAAC;SACxD;QACD,I
AAI,IAAI,CAAC,iBAAiB,KAAK,IAAI,EAAE;YACnC,MAAM,IAAI,UAAU,CAChB,sEAAsE,EAAE,IAAI,EAC
5E,IAAI,CAAC,OAAO,CAAC,OAAO,CAAC,IAAI,CAAC,kBAAkB,CAAC,CAAC,CAAC;SACpD;QACD,MAA
M,KAAK,GAAG,IAAI,KAAK,CACnB,IAAI,CAAC,iBAAiB,EAAE,KAAK,,EAC7B,IAAI,CAAC,OAAO,CAAC,
OAAO,CAAC,IAAI,CAAC,kBAAkB,EAAE,IAAI,CAAC,wBAAwB,CAAC,CAAC,CAAC;QAClF,IAAI,CAAC,
MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;QACxB,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC;QAC/B,I
AAI,CAAC,iBAAiB,GAAG,IAAI,CAAC;QAC9B,OAAO,KAAK,CAAC;KACd;IAEO,YAAY,CAAC,GAAW,EA
AE,IAAqB;QACrD,IAAI,IAAI,CAAC,kBAAkB,EAAE,EAAE;YAC7B,GAAG,IAAI,kFAAkF,CAAC;SAC3F;QA
CD,MAAM,KAAK,GAAG,IAAI,UAAU,CAAC,GAAG,EAAE,IAAI,CAAC,iBAAiB,EAAE,IAAI,CAAC,CAAC;
QAChE,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC;QAC/B,IAAI,CAAC,iBAAiB,GAAG,IAAI,CAAC;QAC9B,OA
AO,IAAI,iBAAiB,CAAC,KAAK,CAAC,CAAC;KACrC;IAEO,WAAW,CAAC,CAAM;QACxB,IAAI,CAAC,Y
AAY,WAAW,EAAE;YAC5B,GAAG,IAAI,CAAC,YAAY,CAAC,CAAC,CAAC,GAAG,EAAE,IAAI,CAA
C,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC;SAC9D;QACD,IAAI,CAAC,Y
AAY,iBAAiB,EAAE;YAClC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC;SAC3B;a
AAM;YACL,MAAM,CAAC,CAAC;SACT;KACF;IAEO,gBAAgB,CAAC,QAAgB;QACvC,IAAI,IAAI,CAAC,O
AAO,CAAC,IAAI,EAAE,KAAK,QAAQ,EAAE;YACpC,IAAI,CAAC,OAAO,CAAC,OAAO,EAAE,CAAC;YACvB
B,OAAO,IAAI,CAAC;SACb;QACD,OAAO,KAAK,CAAC;KACd;IAEO,+BAA+B,CAAC,QAAgB,
8BAA8B,CAAC,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,EAAE,QAAQ,CAAC,EAAE;YACjE,IAAI,CAAC,OA
AO,CAAC,OAAO,EAAE,CAAC;YACvB,OAAO,IAAI,CAAC;SACb;QACD,OAAO,KAAK,CAAC;KACd;IAEO,g
BAAgB,CAAC,QAAgB;QACvC,MAAM,QAAQ,GAAG,IAAI,CAAC,OAAO,CAAC,KAAK,EAAE,CAAC;QACtC
,IAAI,CAAC,IAAI,CAAC,gBAAgB,CAAC,QAAQ,EAAE;YACpC,MAAM,IAAI,CAAC,YAAY,,4BAA4B
,4BAA4B,CAAC,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,OAAO,CA
AC,QAAQ,CAAC,CAAC,CAAC;SACxF;KACF;IAEO,WAAW,CAAC,KAAa;QAC/B,MAAM,GAAG,GAAG,IAAI,CAAC,
MAAM,CAAC,KAAK,CAAC,CAAC;QAC7B,IAAI,GAAG,KAAK,SAAS,EAAE;YACrB,OAAO,GAAG,CAAC;SACzB
,IAAI,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,KAAK,KAAK,EAAE;YACjC,OAAO,IAAI,CAAC,OAAO,CAAC,
SAAS,,EAAE,GAAG,EAAE,GAAG,EAAE;YAClC,MAAM,IAAI,CAAC,YAAY,,OAAO,KAAK,CAAC;SACrC;QACD,
MAAM,eAAe,GAAG,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,KAAK,KAAK,EAAE;YACrD,MAAM,IAAI,CAAC,
YAAY,,OAAO,KAAK,CAAC;SAC/B;QACD,MAAM,IAAI,CAAC,YAAY,,OAAO,KAAK,CAAC;KACrC;IAEO,gBAAgB,
CAAC,KAAa;QACpC,MAAM,GAAG,GAAG,IAAI,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC;QAC/B,IAAI,GAAG,K
AAK,SAAS,EAAE;YACrB,OAAO,GAAG,CAAC;SACb;QACD

AAI,CAAC,gBAAgB,CAACC,EAAQ,CAAC,IAAI,IAAI,CAAC,gBAAgB,CAACC,EAAQ,CAAC,CAAC;YACjF,MAAM,SAAS,GAAG,IAAI,CAAC,OAAO,CAAC,KAAK,EAAE,CAAC;YACvC,IAAI,CAAC,uBAAuB,CAAC,gBAAgB,CAAC,CAAC;YAC/C,IAAI,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,IAAIC,UAAgB,EAAE;;;gBAG3C,IAAI,CAAC,OAAO,CAAC,OAAO,EAAE,CAAC;gBACvB,MAAM,UAAU,GAAG,GAAG,sBAAsB,CAAC,GAAG,GAAG,sBAAsB,CAAC,GAAG,CAAC;gBACnF,MAAM,IAAI,CAAC,YAAY,CAAC,YAAY,CAACnB,yBAAyB,IAAI,CAAC,UAAU,EAAE,IAAI,CAAC,OAAO,CAAC,CAAC,OAAO,EAAE,CAAC,CAAC;aaC7B;YACD,MAAM,MAAM,GAAG,IAAI,CAAC,OAAO,CAAC,CAAC,OAAO,EAAE,CAAC,CAAC;YACxC,IAAI,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,IAAI,CAAC,OAAO,CAAC,OAAO,EAAE,CAAC,CAAC;YAC/C

AAC,MAAM,EAAE,IAAI,CAAC,CAAC;KACvB;IAEO,eAAe,CAAC,KAAsB;QAC5C,IAAI,OAAe,CAAC;QAC
pB,IAAI,MAAc,CAAC;QACnB,IAAI,YAA6B,CAAC;QAClC,IAAI;YACF,IAAI,CAACC,aAAmB,CAAC,IAAI,C
AAC,OAAO,CAAC,IAAI,EAAE,CAAC,EAAE;gBAC7C,MAAM,IAAI,CAAC,YAAY,,CACnB,4BAA4B,CAAC,I
AAI,CAAC,OAAO,CAAC,IAAI,EAAE,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,OAAO,CAAC,KAAK,CAAC,
CAAC,CAAC;aACrF;YAED,YAAY,GAAG,IAAI,CAAC,oBAAoB,CAAC,KAAK,CAAC,CAAC;YAChD,MAA
M,GAAG,YAAY,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;YAC/B,OAAO,GAAG,YAAY,CAAC,KAAK,CAAC,CAAC,
C,CAAC,CAAC,CAAC;YAChC,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC;YAC9C,OAAO,IAAI,CAAC,
OAAO,CAAC,IAAI,EAAE,KAAKT,MAAY,IAAI,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,KAAKO,GAAS;gBA
CzE,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,KAAKX,GAAS,EAAE,EAAE;gBACxC,IAAI,CAAC,qBAAqB,EAAE,CA
AC;gBAC7B,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC;gBAC9C,IAAI,IAAI,CAAC,gBAAgB,,CAACc,C
AAS,CAAC,EAAE;oBACpC,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC;oBAC9C,IAAI,CAAC,sBAAsB,
EAAE,CAAC;iBAC/B;gBACD,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC;aAC/C;YACD,IAAI,CAAC,k
BAAkB,EAAE,CAAC;SAC3B;QAAC,OAAO,CAAC,EAAE;YACV,IAAI,CAAC,YAAY,,iBAAiB,EAAE;gBAClC
,IAAI,YAAY,EAAE;;oBAEhB,YAAY,CAAC,IAAI,GAAG,SAAS,CAAC,mBAAmB,CAAC;iBACnD;qBAAM;;;o
BAGL,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,IAAI,EAAE,KAAK,CAAC,CAAC;oBACxC,IAAI,CAAC,SAA
S,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC;iBACvB;gBACD,IAAI,OAAO;aACZ;YACD,MAAM,CAAC,CAAC;SACT;QAED,MAAM,gBAAgB,GAAG,IAAI,CAAC,iBAAiB,CAAC,OAAO,CAAC,CAAC,WAAW,CAAC;QAErE,IAAI,gBAAgB,,KAAK,cAAc,IAAI,CAAC,OAAO,CAAC,CAAC,CAAC,WAAW,CAAC,IAAI,KAAK,cAAc,
EAAE,OAAO,CAAC,CAAC;SACrG;QAED,IAAI,CAAC,YAAY,CAAC,2BAA2B,CAAC,CAAC,CAAC,MAAM,,CAAC,CAAC,CAAC,CAAC

uB,CAAC,SAAS,EAAE,CAAC,CAAC,CAAC;YAC3C,KAAK,GAAG,IAAI,CAAC,OAAO,CAAC,QAAQ,CAAC
,UAAU,CAAC,CAAC;YAC1C,IAAI,CAAC,SAAS,CAAC,CAAC,IAAI,CAAC,uBAAuB,CAAC,KAAK,CAAC,C
AAC,CAAC,CAAC;SACvD;KACF;IAEO,kBAAkB;QACxB,MAAM,SAAS,GACX,IAAI,CAAC,gBAAgB,CAAC
Z,MAAY,CAAC,GAAG,SAAS,CAAC,iBAAiB,GAAG,SAAS,CAAC,YAAY,CAAC;QAC/F,IAAI,CAAC,WAA
W,CAAC,SAAS,CAAC,CAAC;QAC5B,IAAI,CAAC,gBAAgB,CAAC,CAACO,GAAS,CAAC,SAAS,CAAC;QACjC,IAAI,CAA
C,SAAS,CAAC,EAAE,CAAC,CAAC;KACpB;IAEO,gBAAgB,CAAC,KAAsB;QAC7C,WAAW,CA
AC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QAC7C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC
;QAC9C,MAAM,aAAa,GAAG,IAAI,CAAC,qBAAqB,EAAE,CAAC;QACnD,IAAI,CAAC,uBAAuB,CAAC,eAAe
,CAAC,CAAC;QAC9C,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,CAAC;QACjC,IAAI,CAAC,SAAS,CAAC,
aAAa,CAAC,CAAC;KAC/B;IAEO,0BAA0B;QAChC,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,oBAAoB,CAA
C,CAAC;QACjD,IAAI,CAAC,gBAAgB,CAACM,OAAa,CAAC,CAAC;QACrC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,EAA
E,CAAC,CAAC;QAEnB,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,SAAS,CAAC,oBAAoB,CAAC,CAAC;QA
E9D,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC;QACrC,MAAM,SAAS,GAAG,IAAI,CAAC,UAAU,CAAC,
C,UAAU,CAACC,MAAY,CAAC,CAAC;QAChD,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,SAAS,CAAC,oBAAoB,CAAC,SAA
S,CAAC,CAAC;QACpE,IAAI,IAAI,CAAC,+B;;YAExC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAA
mB,CAAC,CAAC,CAAC;SACvC;aAAM;;YAEL,MAAM,cAAc,GAAG,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,,
CAAC,CAAC,CAAC;YACnD,IAAI,mBAAmB,KAAK,SAAS,EAAE;gBACrC,IAAI,CAAC,2BAA2B,IAAI,CAAC,
I,CAAC,cAAc,CAAC,CAAC;aACvD;SACF;QACD,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,MAAY,CAAC,CAAC;QACpC
C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC;QAE9C,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,,
CAAC,CAAC;QACrC,MAAM,IAAI,GAAG,IAAI,CAAC,UAAU,CAAC,MAAM,CAAC,MAAY,CAAC,CAAC;QAClD,IAAI,CAAC,SAAS,
SAAS,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,CAAC,CAAC;QACpE,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,MAAY,CAAC,CAAC;QAC9C,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAAmB,CAAC,CAAC,CAAC;SAChD;QACD,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,MAAY,CAAC,CAAC;QAC9C,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAAmB,CAAC,CAAC,CAAC;KAChD;IAEO,gBAAgB,CAAC,KAAsB;QAC7C,WAAW,CA
AC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QAC7C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC
;QAC9C,MAAM,aAAa,GAAG,IAAI,CAAC,qBAAqB,EAAE,CAAC;QACnD,IAAI,CAAC,uBAAuB,CAAC,eAAe
,CAAC,CAAC;QAC9C,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,CAAC;QACjC,IAAI,CAAC,SAAS,CAAC,
aAAa,CAAC,CAAC;KAC/B;IAEO,0BAA0B;QAChC,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,oBAAoB,CAA
C,CAAC;QACjD,IAAI,CAAC,gBAAgB,CAACM,OAAa,CAAC,CAAC;QACrC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,EAA
E,CAAC,CAAC;QAEnB,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,SAAS,CAAC,oBAAoB,CAAC,CAAC;QA
E9D,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC;QACrC,MAAM,SAAS,GAAG,IAAI,CAAC,UAAU,CAAC,
C,UAAU,CAACC,MAAY,CAAC,CAAC;QAChD,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,SAAS,CAAC,oBAAoB,CAAC,SAA
S,CAAC,CAAC;QACpE,IAAI,IAAI,CAAC,+B;;YAExC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAA
mB,CAAC,CAAC,CAAC;SACvC;aAAM;;YAEL,MAAM,cAAc,GAAG,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,,
CAAC,CAAC,CAAC;YACnD,IAAI,mBAAmB,KAAK,SAAS,EAAE;gBACrC,IAAI,CAAC,2BAA2B,IAAI,CAAC,
I,CAAC,cAAc,CAAC,CAAC;aACvD;SACF;QACD,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,MAAY,CAAC,CAAC;QACpC
C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC;QAE9C,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,,
CAAC,CAAC;QACrC,MAAM,IAAI,GAAG,IAAI,CAAC,UAAU,CAAC,MAAM,CAAC,MAAY,CAAC,CAAC;QAClD,IAAI,CAAC,SAAS,
SAAS,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,CAAC,CAAC;QACpE,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,MAAY,CAAC,CAAC;QAC9C,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAAmB,CAAC,CAAC,CAAC;SAChD;QACD,IAAI,CAAC,gBAAgB,CAACA,GAS,CAAC,MAAY,CAAC,CAAC;QAC9C,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAAmB,CAAC,CAAC,CAAC;KAChD;IAEO,gBAAgB,CAAC,KAAsB;QAC7C,WAAW,CA
AC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QAC7C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC
;QAC9C,MAAM,aAAa,GAAG,IAAI,CAAC,qBAAqB,EAAE,CAAC;QACnD,IAAI,CAAC,uBAAuB,CAAC,eAAe
,CAAC,CAAC;QAC9C,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,CAAC;QACjC,IAAI,CAAC,SAAS,CAAC,
aAAa,CAAC,CAAC;KAC/B;IAEO,0BAA0B;QAChC,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,oBAAoB,CAA
C,CAAC;QACjD,IAAI,CAAC,gBAAgB,CAACM,OAAa,CAAC,CAAC;QACrC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,EAA
E,CAAC,CAAC;QAEnB,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,SAAS,CAAC,oBAAoB,CAAC,CAAC;QA
E9D,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC;QACrC,MAAM,SAAS,GAAG,IAAI,CAAC,UAAU,CAAC,
C,UAAU,CAACC,MAAY,CAAC,CAAC;QAChD,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,SAAS,CAAC,oBAAoB,CAAC,SAA
S,CAAC,CAAC;QACpE,IAAI,IAAI,CAAC,+B;;YAExC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAA
mB,CAAC,CAAC,CAAC;SACvC;aAAM;;YAEL,MAAM,cAAc,GAAG,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,,
CAAC,CAAC,CAAC;YACnD,IAAI,mBAAmB,KAAK,SAAS,EAAE;gBACrC,IAAI,CAAC,2BAA2B,IAAI,CAAC,
I,CAAC,cAAc,CAAC,CAAC;aACvD;SACF;QACD,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,MAAY,CAAC,CAAC;QACpC
C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC;QAE9C,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,,
CAAC,CAAC;QACrC,MAAM,IAAI,GAAG,IAAI,CAAC,UAAU,CAAC,MAAM,CAAC,MAAY,CAAC,CAAC;QAClD,IAAI,CAAC,SAAS,
SAAS,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,CAAC,CAAC;QACpE,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,MAAY,CAAC,CAAC;QAC9C,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAAmB,CAAC,CAAC,CAAC;SAChD;QACD,IAAI,CAAC,gBAAgB,CAACA,GAS,CAAC,MAAY,CAAC,CAAC;QAC9C,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAAmB,CAAC,CAAC,CAAC;KAChD;IAEO,gBAAgB,CAAC,KAAsB;QAC7C,WAAW,CA
AC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QAC7C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC
;QAC9C,MAAM,aAAa,GAAG,IAAI,CAAC,qBAAqB,EAAE,CAAC;QACnD,IAAI,CAAC,uBAAuB,CAAC,eAAe
,CAAC,CAAC;QAC9C,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,CAAC;QACjC,IAAI,CAAC,SAAS,CAAC,
aAAa,CAAC,CAAC;KAC/B;IAEO,0BAA0B;QAChC,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,oBAAoB,CAA
C,CAAC;QACjD,IAAI,CAAC,gBAAgB,CAACM,OAAa,CAAC,CAAC;QACrC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,EAA
E,CAAC,CAAC;QAEnB,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,SAAS,CAAC,oBAAoB,CAAC,CAAC;QA
E9D,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC;QACrC,MAAM,SAAS,GAAG,IAAI,CAAC,UAAU,CAAC,
C,UAAU,CAACC,MAAY,CAAC,CAAC;QAChD,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,SAAS,CAAC,oBAAoB,CAAC,SAA
S,CAAC,CAAC;QACpE,IAAI,IAAI,CAAC,+B;;YAExC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAA
mB,CAAC,CAAC,CAAC;SACvC;aAAM;;YAEL,MAAM,cAAc,GAAG,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,,
CAAC,CAAC,CAAC;YACnD,IAAI,mBAAmB,KAAK,SAAS,EAAE;gBACrC,IAAI,CAAC,2BAA2B,IAAI,CAAC,
I,CAAC,cAAc,CAAC,CAAC;aACvD;SACF;QACD,IAAI,CAAC,gBAAgB,CAACA,GAAS,CAAC,MAAY,CAAC,CAAC;QACpC
C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC;QAE9C,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,,
CAAC,CAAC;QACrC,MAAM,IAAI,GAAG,IAAI,CAAC,UAAU,CAAC,MAAM,CAAC,MAAY,CAAC,CAAC;QAClD,IAAI,CAAC,SAAS,
SAAS,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,CAAC,CAAC;QACpE,IAAI,CAAC,gBAAgB,CAACA,GAS,CAAC,MAAY,CAAC,CAAC;QAC9C,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAAmB,CAAC,CAAC,CAAC;SAChD;QACD,IAAI,CAAC,gBAAgB,CAACA,GAS,CAAC,MAAY,CAAC,CAAC;QAC9C,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAAmB,CAAC,CAAC,CAAC;KAChD;IAEO,gBAAgB,CAAC,KAAsB;QAC7C,WAAW,CA
AC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QAC7C,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,CAAC
;QAC9C,MAAM,aAAa,GAAG,IAAI,CAAC,qBAAqB,EAAE,CAAC;QACnD,IAAI,CAAC,uBAAuB,CAAC,eAAe
,CAAC,CAAC;QAC9C,IAAI,CAAC,gBAAgB,CAACA,GAS,CAAC,CAAC;QACjC,IAAI,CAAC,SAAS,CAAC,
aAAa,CAAC,CAAC;KAC/B;IAEO,0BAA0B;QAChC,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,oBAAoB,CAA
C,CAAC;QACjD,IAAI,CAAC,gBAAgB,CAACM,OAAa,CAAC,CAAC;QACrC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,EAA
E,CAAC,CAAC;QAEnB,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,SAAS,CAAC,oBAAoB,CAAC,CAAC;QA
E9D,IAAI,CAAC,WAAW,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC;QACrC,MAAM,SAAS,GAAG,IAAI,CAAC,UAAU,CAAC,
C,UAAU,CAACC,MAAY,CAAC,CAAC;QAChD,IAAI,CAAC,uBAAuB,CAAC,eAAe,CAAC,SAAS,CAAC,oBAAoB,CAAC,SAA
S,CAAC,CAAC;QACpE,IAAI,IAAI,CAAC,+B;;YAExC,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,mBAA
mB,CAAC,CAAC,CAAC;SACvC;aAAM;;YAEL,MAAM,cAAc,GAAG,IAAI,CAAC,SAAS,CAAC,SAAS,CAAC,SAAS,,
CAAC,CAAC,CAAC;YACnD,IAAI,mBAAmB,KAAK,SAAS,EAAE;gBACrC,IAAI,CAAC,2BAA2B,IAAI,CAAC,
I,CAAC,cAAc,CAAC,CAAC;aACvD;SACF;QACD,IAAI,CAAC,gBAAgB,CAACA,G

CF;QAED,OAAO,KAAK,CAAC;KACd;IAEO,UAAU,CAAC,IAAY;QAC7B,MAAM,KAAK,GAAG,IAAI,CAAC
,OAAO,CAAC,KAAK,EAAE,CAAC;QACnC,IAAI,CAAC,iBAAiB,CAAC,IAAI,CAAC,CAAC;QAC7B,OAAO,I
AAI,CAAC,OAAO,CAAC,QAAQ,CAAC,KAAK,CAAC,CAAC;KACrC;IAEO,kBAAkB;QACxB,OAAO,IAAI,C
AAC,mBAAmB,CAAC,MAAM,GAAG,CAAC;YACtC,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,mBAAmB,C
AAC,MAAM,GAAG,CAAC,CAAC;gBAC7D,SAAS,CAAC,wBAAwB,CAAC;KACxC;IAEO,kBAAkB;QACxB,
OAAO,IAAI,CAAC,mBAAmB,CAAC,MAAM,GAAG,CAAC;YACtC,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAA
C,mBAAmB,CAAC,MAAM,GAAG,CAAC,CAAC;gBAC7D,SAAS,CAAC,oBAAoB,CAAC;KACpC;IAEO,oBA
AoB;QAC1B,IAAI,IAAI,CAAC,OAAO,CAAC,IAAI,EAAE,KAAKY,OAAa,EAAE;YACzC,OAAO,KAAK,CA
AC;SACd;QACD,IAAI,IAAI,CAAC,oBAAoB,EAAE;YAC7B,MAAM,KAAK,GAAG,IAAI,CAAC,OAAO,CAAC,
KAAK,EAAE,CAAC;YACnC,MAAM,eAAe,GAAG,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,oBAAoB,CAAC,
KAAK,CAAC,CAAC;YAC1E,IAAI,CAAC,OAAO,GAAG,KAAK,CAAC;YACrB,OAAO,CAAC,eAAe,CAAC;S
ACzB;QACD,OAAO,IAAI,CAAC;KACb;CACF;AAED,SAAS,eAAe,CAAC,IAAY;IACnC,OAAO,CAACE,IAAI,kB
kB,YAAkB,CAAC,IAAI,CAAC,IAAI,IAAI,KAAKpB,IAAU,CAAC;AAC1D,SAAS,SAAS,CAAC,IAAY;I
AC7B,OAAOoB,YAAkB,CAAC,IAAI,CAAC,IAAI,IAAI,KAAKR,GAAS,CAAC;QACvE,IAAI,KAAKX,IAAI,
KAAKI,MAAY,IAAI,IAAI,KAAKW,GAAS,CAAC;QAC5E,IAAI,KAAKf,IAAI,KAAKI,MAAY,IAAI,IAAI,KAAKW,GAAS,CAAC;A
AC9F,CAAC;AAED,SAAS,WAAW,CAAC,IAAY;IAC/B,OAAO,CAAC,IAAI,GAAGM,IAAI,GAAGC,IAAI,GAAG,
IAAI,IAAI,MAAM,IAAI,GAAGC,IAAI,GAAGC,IAAI,GAAG,IAAI,IAAI,MAAM,IAAI,GAAGC,IAAI,G
AAG,IAAI,MAAM,IAAI,GAAGC,IAAI,GAAGC,IAAI,GAAG,IAAI,CAAC;AAC3C,CAAC;AAED,SAAS,gBAAgB,CAAC,IAAY;IACpC,OAAO,IAAI,IAAI,IAAI

AAI,SAAS,GAAG,KAAK,CAAC;QACtB,IAAI,uBAAuB,EAAE;YAC3B,OAAO,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,GAAG,CAAC,IAAI,uBAAuB,CAAC,OAAO,CAAC,KAAK,CAAC,IAAI,EAAE,CAAC,KAAK,CAAC,CAAC,EAAE;gBACnF,IAAI,SAAS,KAAK,KAAK,EAAE;oBACvB,KAAK,GAAG,KAAK,CAAC,IAAI,EAAE,CAAC;aACtB,,CAAC;iBAC/B;gBACD,KAAK,CAAC,OAAO,EAAE,CAAC;aACjB;SACF;QACD,MAAM,aAAa,GAAG,IAAI,CAAC,kBAAkB,CAAC,CAAC,CAAC

AAC,CAAC;oBACtC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC;oBACtC,IAAI,CAAC,KAAA
K,CAAC,IAAI,GAAG,IAAI,CAAC,eAAe,CAAC,UAAU,EAAE,CAAC,CAAC,CAAC;iBACvD;aACF;iBAEI,IA
AI,IAAI,EAAE,KAAKG,EAAQ,EAAE;;gBAE5B,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC;g
BACtC,MAAM,UAAU,GAAG,IAAI,CAAC,KAAK,EAAE,CAAC;gBAChC,IAAI,CAAC,YAAY,CAAC,IAAI,CA
AC,aAAa,CAAC,CAAC;gBACtC,IAAI,CAAC,KAAK,CAAC,IAAI,GAAG,IAAI,CAAC,eAAe,CAAC,UAAU,EA
AE,CAAC,CAAC,CAAC;aACvD;iBAEI,IAAIiC,YAAkB,CAAC,IAAI,EAAE,CAAC,EAAE;;gBAEnC,IAAI,KAA
K,GAAG,EAAE,CAAC;gBACf,IAAI,MAAM,GAAG,CAAC,CAAC;gBACf,IAAI,QAAQ,GAAG,IAAI,CAAC,K
AAK,EAAE,CAAC;gBAC5B,OAAOA,YAAkB,CAAC,IAAI,EAAE,CAAC,IAAI,MAAM,GAAG,CAAC,CAAC,EAAE;o
BAC/C,QAAQ,GAAG,IAAI,CAAC,KAAK,EAAE,CAAC;oBACxB,KAAK,IAAI,MAAM,CAAC,aAAa,CAAC,IA
AI,EAAE,CAAC,CAAC;oBACtC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC;oBACtC,MAAM
,EAAE,CAAC;iBACV;gBACD,IAAI,CAAC,KAAK,CAAC,IAAI,GAAG,QAAQ,CAAC,KAAK,EAAE,CAAC,CA
AC,CAAC;;gBAErC,IAAI,CAAC,aAAa,GAAG,QAAQ,CAAC,aAAa,CAAC;aAC7C;iBAEI,IAAId,SAAe,CAAC,I
AAI,CAAC,aAAa,CAAC,IAAI,CAAC,EAAE;;gBAEjD,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,aAAa,CAAC,C
AAC;gBACtC,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,aAAa,CAAC;aACjC;iBAEI;;;gBAGH,IAAI,CAAC,KA
K,CAAC,IAAI,GAAG,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC;aAC3C;SACF;KACF;IAES,eAAe,CAAC,KA6B,
EAAE,MAAc;QACrE,MAAM,GAAG,GAAG,IAAI,CAAC,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,aAAa,C
AAC,MAAM,EAAE,MAAM,CAAC,CAAC;QAClE,MAAM,QAAQ,GAAG,QAAQ,CAAC,GAAG,EAAE,EAAE,
CAAC,CAAC;QACnC,IAAI,CAAC,KAAK,CAAC,QAAQ,CAAC,EAAE;YACpB,OAAO,QAAQ,CAAC;SACjB;a
AAM;YACL,KAAK,CAAC,KAAK,GAAG,KAAK,CAAC,aAAa,CAAC;YAClC,MAAM,IAAI,WAAW,CAAC,qC
AAqC,EAAE,KAAK,CAAC,CAAC;SACrE;KACF;CACF;MAEY,WAAW;IACtB,YAAmB,GAAG,IAAI,MAAM,
B;QAA3C,QAAG,GAAH,GAAG,CAAQ;KAAI;;;AC5lCpE;;;;;;;MAca,SA
AU,SAAQ,UAAU;IAKvC,YAAmB,GAAG,IAAI,MAAM,
E,KAAK,CAAC,IAAI,EAAE,
GAAG,CAAC,CAAC;QADA,gBAAW,GAAX,WAAW,CAAQ;QAE3C,IAND,OAAO,MAAM,CAAC,WAAW,E
AAE,IAAIqB,EAAE,GAAW;QACxE,OAAO,IAAI,SAAS,CAAC,WAAW,,EAAE,IAAI,EAAE,GAAG,CAAC,CAAC,CAA
C;KAC9C;CAKF;MAEY,eAAe;IAC1B,YAAmB,SAAsB,EAAS,GAAW;QAAzC,cAAS,GAAT,SAAS,CAAa;QAAS,QAAG,GAAH,GAAG,CAAQ;QA
AS,WAAW,GAAG,CAAC;QAAE,IAAI,CAAC,GAAG,GAAG,CAAC;KAAE;IAEvE,IAAI,KAAK,KAAK,OAAO,IAAI,
CAAC,SAAS,CAAC,MAAM,GAAG,IAAI,CAAC,GAAG,CAAC,MAAM,CAAC;IAEpD,IAAI,IAAI,KAAK,OAAO,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC;IAE7C

AC;aACjB;SACF;KACF;IAEO,QAAQ;QACd,MAAM,IAAI,GAAG,IAAI,CAAC,KAAK,CAAC;QACxB,IAAI,IAAI,CAAC,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,MAAM,GAAG,CAAC,EAAE;;YAExC,IAAI,CAAC,MAAM,EAAE,CAAC;SACf;QACD,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC;QACtC,OAAO,IAAI,CAAC;KCb;IAEO,UAAU,CAAC,IAAmB;QACpC,IAAI,IAAI,CAAC,MAAM,EAAE,CAAC,KAAK,CAAC,EAAE,CAAC,KAAK,CAAC,EAAE,CAAC,KAAK,CAAC

AAC,EAAE;oBACvE,kBAAkB,CAAC,GAAG,EAAE,CAAC;iBAC1B;qBAAM;oBACL,IAAI,CAAC,MAAM,CAAC,IAAI,CACZ,SAAS,CAAC,MAAM,CAAC,IAAI,EAAE,KAAK,CAAC,UAAU,EAAE,mCAAmC,CAAC,CAAC,CAAC;oBACnF,OAAO,IAAI,CAAC;iBACb;aACF;YAED,IAAI,IAAI,CAAC,KAAK,CAAC,IAAI,KAAKA,SAAa,CAAC,CAAC,CAAC,GAAG,EAAE;gBACzC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CACZ,SAAS,CAAC,MAAM,CAAC,IAAI,EAAE,KAAK,CAAC,UAAU,EAAE,mCAAmC,CAAC,CAAC,CAAC;gBACnF,OAAO,IAAI,CAAC;aACb;YAED,GAAG,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,QAAQ,EAAE,CAAC,CAAC;SAC3B;KACF;IAED,OAAY,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI

AmC;QACvE,KAAK,IAAI,UAAU,GAAG,IAAI,CAAC,aAAa,CAAC,MAAM,GAAG,CAAC,EAAE,UAAU,IAAI,CAAC,EAAE,UAAU,EAAE,EAAE;YAClF,MAAM,EAAE,GAAG,IAAI,CAAC,aAAa,CAAC,UAAU,CAAC,CAAC,CAAC;YAC1C,IAAI,EAAE,CAAC,IAAI,IAAI,QAAQ,EAAE;;;;gBAIvB,EAAE,CAAC,aAAa,GAAG,aAAa,CAAC;gBACjC,EAAE,CAAC,UAAU,CAAC,GAAG,GAAG,aAAa,KAAK,IAAI,GAAG,aAAa,CAAC,GAAG,GAAG,EAAE,CAAC,UAAU,CAAC,GAAG,CAAC;gBAEnF,IAAI,CAAC,aAAa,CAAC,MAAM,CAAC,UAAU,EAAE,IAAI,CAAC,aAAa,CAAC,MAAM,GAAG,UAAU,CAAC,GAAG,CAAC,CAAC;gBAC9E,IAAI,CAAC,aAAa,CAAC,EAAE,OAAO,IAAI,CAAC;aACpC;YAED,IAAI,CAAC,IAAI,CAAC,gBAAgB,CAAC,EAAE,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,cAAc,EAAE;gBACvD,EAAE,CAAC,OAAO,EAAE,KAAK,EAAE,CAAC;KACvB;IAED,YAAY,CAAC,UAAU,CAAC,OAAO,EAAE,KAAK,EAAE,CAAC;QACvC,IAAI,CAAC,IAAI,CAAC,gBAAgB,CAAC,EAAE,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,cAAc,EAAE;YACvD,EAAE,CAAC,OAAO,EAAE,KAAK,EAAE,CAAC;SACvB;IACL,CAAC

,EAAE,OAAO,CAAC,IAAI,CAAC,CAAC;KACvF;IAED,cAAc,CAAC,SAAyB,EAAE,OAAY;QACpD,OAAO,SAAS,CAAC,IAAI,KAAK,qBAAqB,GAAG,SAAS,GAAG,IAAI,CAAC;KACpE;IAED,SAAS,CAAC,IAAe,EAAE,OAAmC;QAC5D,MAAM,UAAU,GAAG,IAAI,CAAC,KAAK,CAAC,KAAK,CAAC,YAAY,CAAC,CAAC;QAClD,MAAM,mBAAmB,GAAG,OAAO;aAC9B,OAAO,CAAC,IAAI,YAAYJ,SAAc,IAAI,YAAY,SAAc,IAAI,YAAY,SAAc,IAAI,YAAY

AAE;;YAEvB,OAAO,IAAIA,SAAY,CACnB,aAAa,EAAE,CAAC,IAAIC,SAAc,CAAC,iBAAiB,EAAE,EAAE,EA
AE,CAAC,CAAC,eAAe,CAAC,CAAC,EAC7E,eAAe,CAAC,KAAK,EAAE,CAAC,CAAC,UAAU,EAAE,CAAC,
CAAC,UAAU,EAAE,CAAC,CAAC,UAAU,CAAC,CAAC;SACtE;QAED,OAAO,IAAID,SAAY,CACnB,aAAa,E
AAE,CAAC,IAAIC,SAAc,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,KAAK,EAAE,EAAE,CAAC,CAAC,eAAe,
CAAC,CAAC,EACpF,eAAe,CAAC,KAAK,EAAE,CAAC,CAAC,UAAU,EAAE,CAAC,CAAC,UAAU,EAAE,CA
AC,CAAC,UAAU,CAAC,CAAC;KACtE,CAAC,CAAC;IACH,MAAM,UAAU,GAAG,IAAIA,SAAc,CAAC,YAA
Y,EAAE,GAAG,CAAC,WAAW,EAAE,GAAG,CAAC,qBAAqB,CAAC,CAAC;IAChG,OAAO,IAAID,SAAY,CA
CnB,cAAc,EAAE,CAAC,UAAU,CAAC,EAAE,QAAQ,EAAE,GAAG,CAAC,UAAU,EAAE,GAAG,CAAC,UAA
U,EAAE,GAAG,CAAC,UAAU,CAAC,CAAC;AAC9F;;ACpIA;;;;;;;AAgCA;;;MAGa,OAAO;IAClB,YACW,KAA
a,EAAS,cAAsB,EAAS,UAA2B;QAAhE,UAAK,GAAL,KAAK,CAAQ;QAAS,mBAAc,GAAd,cAAc,CAAQ;QAA
S,eAAU,GAAV,UAAU,CAAiB;KAAI;IAC/E,KAAK,CAAC,OAA2B,EAAE,OAAY;QAC7C,OAAO,OAAO,CAA
C,SAAS,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KACzC;CACF;AAED;;;MAGa,YAAY;IACvB,YAAoB,oB
AAoB,EAAS,GAAG;QAAhC,yBAAoB,GAApB,oBAAoB,CAAA;QAAS,QAAG,GAAH,GAAG,CAAA;KAAI;IACzD,KA
AK,CAAC,OAA2B,EAAE,OAAY;QAC7C,OAAO,OAAO,CAAC,SAAS,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KA
CzC;CACF;AAED;;;MAGa,YAAY;IACvB,YAAoB,oBAAoB,EAAS,GAAG;QAAhC,yBAAoB,GAApB,oBAAoB,CAAA;QAAS,QAAG,GAAH,GAAG,CAAA;KAAI;IACzD,KA
AK,CAAC,OAA2B,EAAE,OAAY;QAC7C,OAAO,OAAO,CAAC,SAAS,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KA
CzC;CACF;AAED;;;MAGa,OAAO;IAClB,YACW,KAAa,EAAS,cAAsB,EAAS,UAA2B;QAAhE,UAAK,GAAL,KAAK,CAAQ;QAAS,mBAAc,GAAd,cAAc,CAAQ;QAA
S,eAAU,GAAV,UAAU,CAAiB;KAAI;IAC/E,KAAK,CAAC,OAA2B,EAAE,OAAY;QAC7C,OAAO,OAAO,CA
CnD,eAAU,GAAV,UAAU,CAAiB;KAAI;IAC/E,KAAK,CAAC,OAA2B,EAAE,OAAY;QAC7C,OAAO,OAAO,CAAC,SAAS,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KAC

ED;;;MAGa,UAAU;IACrB,YACW,IAAY,EAAS,KAAgB,EAAS,MAAiC,EAC/E,OAAwB,EAAS,UAA0B,EAC3D,UAA0B,EAAS,SAAwB,EAC3D,gBAAyB,EAAS,YAA0B,EAC5D,QAAAuB,EAAS,cAA2B,EAC3D,UAA2B,EAAS,aAAmC;QALvE,SAAI,GAAJ,IAAI,CAAQ;QAAS,UAAK,GAAL,KAAK,CAAW;QAAS,WAAM,GAAN,MAAM,CAA2B;QAC/E,YAAO,GAAP,OAAO,CAAiB;QAAS,eAAU,GAAV,UAAU,CAAgB;QAC3D,eAAU,GAAV,UAAU,CAAgB;QAAS,cAAS,GAAT,SAAS,CAAe;QAC3D,qBAAgB,GAAhB,gBAAgB,CAAS;QAAS,iBAAY,GAAZ,YAAY,CAAO;QAC3D,YAAO,GAAP,OAAO,CAAO;QAAS,mBAAc,GAAd,cAAc,CAAO;QAC3D,eAAU,GAAV,UAAU,CAAgB;QAAS,kBAAa,GAAb,aAAa,CAAS;KAAI;IAEtF,KAAK,CAAC,OAA2B,EAAE,OAAY;QAC7C,OAAO,OAAO,CAAC,YAAY,CAAC,KAAK,CAAC,OAAO,CAAC,CAAC;KAC5C;CACF;AAED;;;MAGa,mBAAmB;IAC9B,YACW,KAAgB,EAAS,OAAwB,EAAS,UAA0B,EACpF,WAAwB,EAAS,UAA0B,EAC3D,SAAwB,EAAS,gBAAyB,EAAS,YAA0B,EAC1F,QAAAuB,EAAS,UAA2B;QAAS,QAAG,GAAH,GAAG,CAAW;QAAS,YAAO,GAAP,OAAO,CAAiB;QAC/E,eAAU,GAAV,UAAU,CAAgB;QAAS,gBAAW,GAAX,WAAW,CAAa;QAAS,eAAU,GAAV,UAAU,CAAgB;QAC3D,cAAS,GAAT,SAAS,CAAe;QAAS,qBAAgB,GAAhB,gBAAgB,CAAS;QAAS,iBAAY,GAAZ,YAAY,CAAO;QAC1F,aAAQ,GAAR,QAAQ,CAAA;QAAS,eAAU,GAAV,UAAU,CAAgB;IAAI,CAAC;IAEtD,KAAK,CAAC,OAA2B,EAAE,OAAY;QAC7C,OAAO,OAAO,CAAC,YAAY,CAAC,KAAK,CAAC,OAAO,CAAC,CAAC;KAC5C;CACF;AAED;;;MAGa,kBAAkB;IAC7

CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;SACrB,CAAC,CAAC;KACJ;IAED,cAAc,CAAC,GAAiB,EAAE,OAAY;QAC5C,OAAO,IAAI,CAAC,aAAa,CAAC,OAAO,EAAE,KAAK;YACtC,KAAK,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;YAClB,KAAK,CAAC,GAAG,CAAC,cAAc,CAAC,CAAC;YAC1B,KAAK,CAAC,GAAG,CAAC,UAAU,CAAC,CAAC;SACvB,CAAC,CAAC;KACJ;IAES,aAAa,CACnB,OAAY,EACZ,EAA+E;QACjF,IAAI,OAAO,GAAY,IAAI,CAAC,GAAG,IAAI,CAAC;QAC1B,IAAI,CAAC,GAAG,IAAI,CAAC;QAC1B,IAAI,CAAC,GAAG,IAAI,CAAC,GAAG,IAAI,CAAC;QACrB

C;SAC9E,CAAC,CAAC;KACJ;IAED,IAAI,kBAAkB;;QAEpB,MAAM,aAAa,GAAkB,EAAE,CAAC;QACxC,MAAM,cAAc,GAAkB,EAAE,CAAC;QACzC,IAAI,CAAC,qBAAqB,CAAC,OAAO,CAAC,QAAQ;YACzC,IAAI,QAAQ,CAAC,KAAK,EAAE;gBAClB,cAAc,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;aAC/B;iBAAM;gBACL,aAAa,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;aAC9B;SACF,CAAC,CAAC;QACH,OAAO,aAAa,CAAC,MAAM,CAAC,cAAc,CAAC,CAAC;QAC5C,KAAK,CAAC,IAAI,CAAC,wBAAwB;QAC1B,MAAM,mBAAmB,GAAG,IAAI,CAAC,kBAAkB,CAAC,KAAK,CAAC,CAAC,CAAC

AAM,CAAC;gBACvD,eAAe;oBACX,IAAI,CAAC,GAAG,CAAC,CAAC,GAAG,KAAK,IAAI,CAAC,cAAc,CAAC,gBAAgB,CAAC,YAAY,EAAE,GAAG,EAAE,KAAK,CAAE,CAAC,CAAC;aACxF;YACD,OAAO,kBAAkB,CAAC,QAAQ,EAAE;gBAClC,WAAW,EAAE,sBAAsB;gBACnC,QAAQ,EAAE,mBAAmB;gBAC7B,IAAI,EAAE,eAAe;aACtB,CAAC,CAAC;SACJ,CAAC,CAAC;QACH,sBAAsB;YAClB,qBAAqB,CAAC,gBAAgB,EAAE,EAAE,CAAC,KAAK,EAAE,EAAE,KAAK,EAAE,EAAE,SAAS,EAAE,oBAAoB,EAAE,CAAC,CAAC,CAAC;QAC7F,IAAI,CAAC,qBAAqB,CAAC,CAAC,GAAG,CAAC,cAAc,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC;QAC9D,sBAAsB,CAAC,CAAC,GAAG,CAAC,cAAc,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC;QACrD,IAAI,CAAC,sBAAsB,CAAC,CAAC,GAAG,CAAC,cAAc,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC;QAC1D

K,EAAE,UAAU,EAAE,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,aAAa;uBACnE,KAAK,CAAC,CAAC;KAC3B;IAED,KAAK;QACH,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,aAAa,CAAC,MAAM,EAAE,CAAC,CAAC,OAAO,CAAC,CAAC,QAAQ;YACvD,IAAI,CAAC,yBAAyB,CAAC,QAAQ,CAAC,KAAK,EAAE,QAAQ,CAAC,KAAK,CAAC,CAAC;SAChE,CAAC,CAAC;QACH,IAAI,IAAI,CAAC,OAAO,CAAC,MAAM,GAAG,CAAC,CAAC,EAAE;YAC3B,MAAM,WAAW,GAAG,IAAI,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;YAC5C

;IAC5B,MAAM,gBAAgB,GAAG,IAAI,GAAG,EAAoB,CAAC;IACrD,UAAU,CAAC,OAAO,CAAC,CAAC,SAAS;QAC3B,MAAM,WAAW,GACa,EAAC,KAAK,EAAE,EAAC,UAAU,EAAE,SAAS,CAAC,IAAI,EAAC,EAAE,QAAQ,EAAE,SAAS,CAAC,IAAI,EAAC,CAAC;QAC9F,iBAAiB,CACb,WAAW,CAAC,EACZ,WAAW,GAAG,eAAe,CAAC,SAAS,GAAG,eAAe,CAAC,SAAS,EAAE,IAAI,EACnF,UAAU,EAAE,EAAE,YAAY,EAAE,EAAE,gBAAgB,iBAAiB,KAAK,CAAC,CAAC;KACvE,iBAAiB,CAAC,CAAC;;IAGH,MAAM,4BAA4B,GAAC9B,UAAU,CAAC,CAAC,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,GAAG

C,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,OAAO,EAAE,GAAG,CAAC,CAAC,CAAC;QAC/C,OAAO,EAAE,CAAC;KACX,CAAC,CAAC;IAC/B,OAAO,IAAI,gBAAgB,CAAC,eAAe,EAAE,SAAS,CAAC,CAAC;AAC1D,CAAC;AAED,MAAM,iBAAiB,GAAG,iEAAiE,CAAC;AAC5F,MAAM,6BAA6B,GAAG,0DAA0D,CAAC;AACjG,MAAM,sBAAsB,GAAG,cAAc;;AC/C7C;;;;;;;AAmBA,MAAM,wBAAwB,GAAG,GAAG,GAAG,CAAC;AACxC,MAAM,gBAAgB,GAAG,MAAM,CAAC;AAChC,MAAM,YAAY,GAAG,GAAG,GAAG,OAAO,CAAC;AACnC,MAAM,YAAY,GAAG,GAAG,GAAG,OAAO,CAAC;AACnC,MAAM,oBAAoB,GAAG,GAAG,GAAG,CAAC;AACpC,MAAM,mBAAmB,GAAG,GAAG,GAAG,CAAC;AACnC,MAAM,aAAa,GAAG,IAAI,MAAM,CAAC,KAAK,CAAC,CAAC;AACx

C,sBAAsB,CACxC,MAAM,EAAE,QAAQ,EAAE,UAAU,EAAE,iBAAiB,EAAE,mBAAmB,CAAC,CAAC;QAE1
E,KAAK,MAAM,OAAO,IAAI,QAAQ,EAAE;;;YAG9B,MAAM,WAAW,GAAG,mBAAmB,CAAC,UAAU,EAAE
,OAAO,CAAC,UAAU,CAAC,CAAC;YACxE,MAAM,GAAG,GAAG,OAAO,CAAC,GAAG,CAAC,MAAM,CAA
C;YAC/B,MAAM,OAAO,GAAG,mBAAmB,CAAC,UAAU,EAAE,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,CA
AC;YAClE,IAAI,OAAO,YAAY,eAAe,EAAE;gBACtC,MAAM,KAAK,GAAG,OAAO,CAAC,KAAK,GAAG,OA
AO,CAAC,KAAK,CAAC,MAAM,GAAG,WAAW,CAAC;gBACjE,MAAM,SAAS,GACX,OAAO,CAAC,KAAK,GAAG,mBAAmB,CAAC,UAAU,EAAE,OAAO,CAAC,KAAK,GAAG,SAAS,CAAC;gBACpF,UAAU,CAAC,IAAI,CAAC,cAAc,CAAC,EAAE,KAAK,EAAE,WAAW,EAAE,OAAO,EAAE,SA
AS,CAAC,CAAC,CAAC;aAClF;iBAAM,IAAI,OAAO,CAAC,KAAK,EAAE;gBACxB,MAAM,OAAO,GAAG,QAAQ,GAAG,WAAW,CAAC;gBACvC,UAAU,CAAC,IAAI,CAAC,cAAc,CAAC,EAAE,OAAO,EAAE,WAAW,EAAE,OAAO,EAAE,SAAS,kBAC
9D,oBAAoB,EAAE,WAAW,EAAE,OAAO,CAAC,CAAC;aACjD;SACF;KACF;;;;;;;;;;;;IAcO,sBAAsB,CAC1B,
MAAc,EAAE,QAAgB,EAAE,UAA2B,EAAE,iBAAyB,EAAE,cAAsB,EAAE,mBAA2B;QAC7H
,MAAM,UAAU,GAAG,QAAQ,GAAG,WAAW,CAAC,KAAK,GAAG,QAAQ,CAAC,KAAK,GAAG,CAAC,GAAG,UAAU
,CAAC,KAAK,CAAC,QAAQ,EAAE,CAAC,CAAC;QAE/C,IAAI,YACF,MAAM,cAAc,GAAG,QAAQ,GAAG,WAAW,CAAC,KAAK,GAAG,QAAQ,CAAC,KAAK,GAAG,CAAC,WAAW,CA
AC,qBAAqB,CAAC,CAAC,CAAC

E,WAA6B;QACjE,oBAAoB,CAAC,IAAI,CAAC,CAAC,IAAI,EAAE,GAAG,CAAC,MAAO,CAAC,CAAC,CAA
C;QAC/C,WAAW,CAAC,IAAI,CACZ,IAAI,cAAc,CAAC,IAAI,EAAE,GAAG,EAAE,kBAAkB,CAAC,OAAO,E
AAE,UAAU,EAAE,OAAO,EAAE,SAAS,CAAC,CAAC,CAAC;KAChG;IAEO,eAAe,CACnB,IAAY,EAAE,UAA
uB,EAAE,UA2B,EAAE,cAAsB,EAC1F,OAAkC,EAAE,SAAoC,EACxE,oBAAgC,EAAE,WA6B;QACjE,IAAI
,IAAI,CAAC,MAAM,KAAK,CAAC,EAAE;YACrB,IAAI,CAAC,YAAY,CAAC,8BAA8B,EAAE,UAAU,CAAC,
CAAC;SAC/D;;;;QAKD,MAAM,GAAG,GAAG,IAAI,CAAC,aAAa,CAC1B,UAAU,IAAI,WAAW,EAAE,KAAK,
EAAE,SAAS,IAAI,UAAU,EAAE,cAAc,CAAC,CAAC;QAC/E,oBAAoB,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,EAAE
,GAAG,CAAC,MAAO,CAAC,CAAC,CAAC;QAC/C,WAAW,CAAC,IAAI,CAAC,IAAI,cAAc,CAC/B,IAAI,EAAE,GAAG,EAAE,kBAAkB,CAAC,CAAC,CAAC,SAAS,EAAE,UAAU,EAAE,OAAO,EAAE,SAAS,CAAC,CAAC,CAAC;KAC/E
;IAEO,aAAa,CACjB,KAAa,EAAE,aAAsB,EAAE,UA2B,EAAE,cAAsB,EAClE,cAAsB;QACxB,MAAM,UAAU,GAAG,CAAC
,UAAU,IAAI,UAAU,CAAC,KAAK,IAAI,WAAW,EAAE,QAAQ,EAAE,CAAC;QAE9E9E,IAAI;YACF,MAAM,GAAG,GAAG,aAAa,CAAC,WAAW,CAAC,kBAAkB,CAAC,CAAC,CAAC,SAAS,EAAE,UAAU,EAAE,cAAc,CAAC,CAAC,CAAC;KAAC

E,UAAU,EAAE,UAAU,EAAE,WAAW,EAAE,YAAY,CAAC,CAAC;SACpF;aAAM;YACL,IAAI,CAAC,kBAAkB,CACnB,IAAI,EAAE,UAAU,EAAE,UAAU,EAAE,WAAW,EAAE,oBAAoB,EAAE,YAAY,CAAC,CAAC;SACpF;KACF;IAED,4BAA4B,CAAC,QAAgB,EAAE,QAAgB,EAAE,WAAoB;QAEnF,MAAM,IAAI,GAAG,IAAI,CAAC,eAAe,EAAE,eAAe,EAAE,QAAQ,EAAE,IAAI,EAAE,WAAW,CAAC,CAAC;QAC9D,OAAO,4BAA4B,CAAC,IAAI,EAAE,eAAe,EAAE,QAAQ,EAAE,IAAI,EAAE,WAAW,CAAC,CAAC;IAC1F,CAAC;IAED,4BAA4B,CAAC,IAAY,EAAE,eAAuB,EAAE,QAAgB,EAAE,IAAa,EAAE,WAAoB;QAEvH

AC,IAAI,CAAC,CAAC;QACpB,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;QACjC,OAAO,IAAI,CAAC;KACb;CACF;AAED,SAAS,gBAAgB,CAAC,IAAY;IACpC,OAAO,IAAI,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC;AACxB,4BAA4B,CAAC,QAAA+B,EAAE,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC;AAC1C

C,CAAC;AACvB;AACA,MAAM,oBAAoB,GAAG,CAAC,CAAC;AAC/B;AACA,MAAM,kBAAkB,GAAG,CAAC,CAAC;AAC7B;AACA,MAAM,eAAe,GAAG,EAAE,CAAC;AAE3B,MAAMwE,sBAAoB,GAAG,GAAG,CAAC;AACjC,MAAM,UAAU,GAAG,OAAO,CAAC;AAE3B,IAAI,kBAAgC,CAAC;AACrC,SAAS,iBAAiB;IACxB,IAAI,CAAC,kBAAkB,EAAE;QACvB,kBAAkB,GAAG,WAAW,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC,CAAC

EAAE,SAAS,EAAE,MAAM,CAAC,CAAC;KAC3D;IAED,UAAU,CAAC,iBAAkC,EAAE,SAAkB,KAAK;QACpE,MAAM,MAAM,GAAiB,iBAAiB,CAAC,MAAM,CAAC;QAEtD,IAAI,MAAM,CAAC,MAAM,IAAI,IAAI,MAAM,EAAE;;YAEhC,MAAM,eAAe,GAAG,WAAW,CAAC,iBAAiB,CAAC,SAAS,CAAC,CAAC;YACjE,MAAM,CAAC,IAAI,CAAC,GAAG,eAAe,CAAC,MAAM,CAAC;YACvC,iBAAiB,GAAG,iBAAiB,CAAC,SAAS,CAAC,eAAe,CAAC,MAAM,CAAC,CAAC;YACxE,MAAM,CAAC,IAAI,CAAC,GAAG,iBAAiB,CAAC;YACjC,MAAM,CAAC,IAAI,CAAC,KAAK,EAAE,MAAM,CAAC,CAAC;SACxE;QACD,OAAO,iBAAiB,CAAC;KAC1B;IAED,sBAAsB,CAAC,SAAmC;QACxD,IAAI,SAAS,CAAC,QAAQ,EAAE;YACtB,MAAM,CAAC,IAAI,CAAC,SAAS,CAAC,QAAQ,CAAC,CAAC;SACjC;QACD,OAAO,SAAS,CAAC,QAAQ,CAAC,MAAM,CAAC,CAAC,CAAC

C,EAAE;gBACnD,aAAa,GAAG,IAAI,CAAC,KAAK,CAAC;gBAC3B,WAAW,GAAG,cAAc,CAAC,SAAS,CAACA,sBAAAoB,CAAC,CAAC,MAAM,CAAC,CAAC;aACrE;YAED,MAAM,kBAAkB,GAAG,aAAa,IAAI,IAAI,CAAC;YACjD,IAAI,kBAAkB,EAAE;gBACtB,IAAI,kBAAkB,EAAE;oBACtB,IAAI,CAAC,YAAY,,CACb,8FAA8F,EAC9F,IAAI,CAAC,UAAU,CAAC,CAAC;iBACtB;gBACD,kBAAkB,GAAG,IAAI,CAAC;gBAC1B,MAAM,eAAe,GAAG,IAAI,CAAC;gBAC7B,MAAM,cAAc,GAAG,CAAC,CAAC;gBACzB,MAAM,cAAc,GAAG,CAAC,CAAC;gBACzB,MAAM,cAAc,GAAG,CAAC,CAAC;gBACzB,MAAM,cAAc,GAAG,CAAC,CAAC;gBACzB,MAAM,cAAc,GAAG,CAAC,CAAC;gBACzB,MAAM,cAAc,GAAG,CAAC,CAAC;aAC1B;YAED,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,CAAC,UAAU,CAAC,IAAI,CAAC,CAAC,UAAU,CAAC,IAAI,CAAC

CAAC,CAAC;YACrE,MAAM,uBAAuB,GAAG,IAAI,sBAAsB,CACtD,IAAI,CAAC,mBAAmB,EAAE,MAAM,CAAC,eAAgB,EAAE,MAAM,CAAC,iBAAiB,EAC3E,qBAAqB,EAAE,EAAE,EAAE,EAAE,EAAE,IAAI,EAAE,uBAAuB,EAAE,OAAO,CAAC,UAAU,CAAC,CAAC;YACtF,uBAAuB,CAAC,YAAY,EAAE,CAAC;YAEvC,aAAa,GAAG,IAAID,mBAAqB,CACrC,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,mBAAmB,EAAE,uBAAuB,CAAC,wBAAwB,EACjF,uBAAuB,CAAC,kBAAkB,EAC1C,uBAAuB,CAAC,2BAA2B,EAAE,uBAAuB,CAAC,YAAY,EACzF,CAAC,aAAa,CAAC,EAAE,cAAc,EAAE,OAAO,CAAC,UAAU,CAAC,CAAC;SAC1D;QAED,OAAO,aAAa,CAAC;KACtB;IAEO,UAAU,CACd,iBAA0B,EAAE,oBAAgC,EAAE,WAA6B,EAAE,YAAY,EACzG,UAAU,EAAE,YAAY,EAAE,UAAU,EAAE,YAAY,EAAE,UAAU,EAAE,YAAY,EAAE

AA+B,EAAE,UAAU,CAAC,CAAC;SAChE;QAED,UAAU,CAAC,IAAI,CAAC,IAAIJ,WAAa,CAAC,UAAU,EA
AE,KAAK,EAAE,UAAU,CAAC,CAAC,CAAC;KACnE;IAEO,eAAe,CACnB,UAAkB,EAAE,KAAa,EAAE,UA
2B,EAC9D,UAAmC;QACrC,IAAI,UAAU,CAAC,OAAO,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,EAAE;YA
ChC,IAAI,CAAC,YAAY,CAAC,uCAAuC,EAAE,UAAU,CAAC,CAAC;SACxE;aAAM,IAAI,UAAU,CAAC,MA
AM,KAAK,CAAC,EAAE;YAClC,IAAI,CAAC,YAAY,CAAC,gCAAgC,EAAE,UAAU,CAAC,CAAC;SACjE;QA
ED,UAAU,CAAC,IAAI,CAAC,IAAI,qBAAqB,CAAC,UAAU,EAAE,KAAK,EAAE,UAAU,CAAC,CAAC,CAAC
;KAC3E;IAEO,qBAAqB,CACzB,IAAY,EAAE,UAAkB,EAAE,UA2B,EAAE,SA0B,EACzF,oBAAgC,EAAE,
YA2B;QAC/D,IAAI,CAAC,cAAc,CAAC,UAAU,CAC1B,GAAG,IAAI,QAAQ,EAAE,GAAG,UAAU,CAAC,GAAG,CAAC,EAAE,oBAAoB,EACzD,EACCpF,YAAY,CAAC,CAAC;KACnB;IAEO,gBAAgB,CAAC,eAAgC,EAAE,
EAAE,kBA+B;;;;QAKxF,MAAM,UAAU,GAAG,QAAQ,CAAC,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,IAAI,CAAC,CAAC;
;QAEvD,IAAI,YAAY,GAAG,KAAK,CAAC,QAAQ,EAAE,kBAAkB,EAAE,CAAC,QAAQ
,EAAE,SAAS;YAC5D,UAAU,CAAC,IAAI,CAAC,eAAe,CAAC,GAAG,CAAC,SAAS,CAAE,CAAC,GAAG,CAAC,SA
AS,CAAC;YAC7D,YAAY,GAAG,YAAY,IAAI,QAAQ,CAAC,kBAAkB,EAAE,CAAC;SAC9D,CAAC,CAAC,QAAQ;YACL,UAAU,EAAE,UAAU,CAAC,MAAM,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC;YA
C3C,YAAY;SACb,CAAC;KACH;IAEO,oBAAoB,CACxB,iBA A0B,EAAE,WAAmB,EAAE,UAAqC,EACtF,KA
AuB,EAAE,sBA A+C,EACxE,iBAAkC,EAAE,gBAAkC,EACtE,6BA A0C;QAC5C,MAAM,iBAAiB,GAAG,IAAI,
GAAG,EAAU,CAC;QAC5C,IAAI,SAAS,GA A4B,IAAK,CAAC;QAE/C,MAAM,aAAa,GAAG,UAAU,CAAC,G
AAG,CAAC,CAAC,SAAS;YAC7C,MAAM,UAAU,GAAG,IAAI,eAAe,CAClC,iBAAiB,CAAC,KAAK,EAAE,iB
AAiB,CAAC,GAAG,EAAE,iBAAiB,CAAC,SAAS,EAC3E,aAAa,cAAc,CAAC,SAAS,CAAC,IAAI,CAAC,EAAE
,CAAC,CAAC;YAEnD,IAAI,SAAS,CAAC,WAAW,EAAE;gBACzB,SAAS,GAAG,SAAS,IAAI,QAAQ,CAAC,kBAAkB,EAAE,CAAC;aACxD;YAED,MAAM,mBAAmB,GAAG,IAAI,eAAe,CAAC,eAAe,CAAC,GAAG,CAAC,SAAS,CAAC,+BA A
C,CAAC,SAAS,EAAE,WAAW,EAAE,UAAU,CAAE,CAAC,GAAG,CAAC;YAE7F,IAAI,cAAc,GAAG,IAAI,eAAe,CAAC,eAAe,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC,
IAAI,IAAIK,uBAAyB,CAAC,iBAAiB,CAAC,IAAI,CAAC,CAAC,CAAC;;;YAGnF,cAAc,GAAG,cAAc,IAAI,QAAQ,CAAC,kBAAkB,EAAE,CAAC;YAEjE,MAAM,cAAc,GAAG,IAAI,eAAe,CAAC,eAAe,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC,
wBAAwB,CAAC,WAAW,EAAE,cAAc,CAAC,CAAC;YAE1E,MAAM,YAAY,GAAG,IAAI,eAAe,CAAC,eAAe,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,GAAG,CAAC,4
BAA4B,CAAC,SAAS,EAAE,UAAU,CAAE,CAAC,GAAG,CAAC;YAE7F,IAAI,SAAS,CAAC,WAAW,EAAE;gBACzB,SAAS,GAAG,SAAS,IAAI,QAAQ,CAAC,kBAAkB,EAAE,CAAC;aACxD;YAED,MAAM,mBAAmB,GAAG,IAAI,eAAe,CAAC,eAAe,CAAC,GAAG,CAAC,SAAS,CAAC,4BA4B,CAC5E,SAAS,CAAC,WAAW,EAAE,UAAU,CAAC,GAAG,CAAC;YAE1C,IAAI,SAAS,CAAC,WAAW,EAAE;gBACzB,SAAS,GAAG,SAAS,IAAI,QAAQ,CAAC,kBAAkB,EAAE,CAAC;aACxD;YAED,MAAM,mBAAmB,GAAG,IAAI,eAAe,CAAC,eAAe,CAAC,GAAG,CAAC,SAAS,CAAC,4BA A
M,EAAE,KAAK,EAAE,mBAAmB,EAAE,6BA6B,CAAC,CAAC;YACjF,sBAAsB,CAAC,OAAO,CAAC,CAAC,
,UAAU;gBACzC,MAAM,UAAU,GAAG,IAAI,eAAe,CAAC,eAAe,CAAC,GAAG,CAAC,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,IAAI,CAAC,SAAS,CAAC,WAAW;
qBACtD,UAAU,CAAC,sBAAsB,CAAC,SAAS,CAAC,CAAC,EAAE;oBAClD,gBAAgB,CAAC,IAAI,CAAC,IAAI,CAAC,IAA
IC,YAAc,CAAC,UAAU,CAAC,IAAI,EAAE,uBAAuB,CAAC,SAAS,CAAC,IAAI,CAAC,SAAS,CAAC,EAAE,U
AAU,CAAC,KAAK,EAAE,UAAU,CAAC,UAAU,CAAC,CAAC,CAAC;oBAC5C,gBAAgB,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI

AS,GAAG,gBAAgB,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC;;gBAG/C,IAAI,SAAS,EAAE;oBACb,6BAA6B
,CAAC,GAAG,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC;oBAClD,IAAI,CAAC,iBAAiB,CAAC,SAAS,CAAC,U
AAU,CAAC,EAAE;wBAC5C,yBAAyB,CAAC,IAAI,CAAC,IAAIE,yBAA2B,CAC1D,OAAO,EAAE,SAAS,CAA
C,IAAI,EAAE,SAAS,CAAC,UAAU,EAAE,SAAS,CAAC,UAAU,CAAC,CAAC,CAAC;qBAC3E;iBACF;aACF,C
AAC,CAAC;SACJ;KACF;IAEO,0BAA0B,CAC9B,WAAmB,EAAE,KAAuB,EAC5C,uBAAoC;QACtC,MAAM,i
BAAiB,GAAgC,EAAE,CAAC;QAE1D,KAAK,CAAC,OAAO,CAAC,CAAC,IAAoB;YACjC,IAAI,CAAC,IAAI,CAAC,IAAI,C
AAC,SAAS,IAAI,CAAC,uBAAuB,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;gBAC9D,MAAM,SA
AS,GAAG,IAAI,CAAC,cAAc,CAAC,0BAA0B,CAAC,WAAW,EAAE,IAAI,CAAC,CAAC;gBACpF,iBAAiB,CA
AC,IAAI,CACH,uBAAyB,CAAC,iBAAiB,CAAC,SAAS,CAAC,CAAC,CAAC;aAChF;SACF,CAAC,CAAC;QA
CH,OAAO,IAAI,CAAC,wBAAwB,CAAC,WAAW,EAAE,iBAAiB,CAAC,CAAC;KACtE;IAEO,wBAAwB,CAA
C,UA4B;QAC3D,OAAO,UAAU,CAAC,MAAM,CAAC,SAAS,IAAI,SAAS,CAAC,SAAS,CAAC,WAAW,CAA
C,CAAC;KACxE;IAEO,4BAA4B,CAAC,UA4B;QAC/D,OAAO,IAAI,CAAC,wBAAwB,CAAC,UAAU,CAAC;
aAC3C,GAAG,CAAC,SAAS,IAAI,cAAc,CAAC,SAAS,CAAC,SAAS,CAAC,IAAI,CAAE,CAAC,CAAC;KAClE;
IAEO,uBAAuB,CAAC,UA4B;QAC1D,OAAO,UAAU,CAAC,MAAM,CAAC,EAAE,UA2B;QACvD,MAAM,kBAAkB,GAAG,IAAI,CAAC,
7D,UAAU,CAAC,CAAC;SACjB;KACF;;;;;;;;;;IAWO,oBAAoB,CAAC,YAAqB,EAAE,OAAqB;QACvE,MAAM,
MAAM,GAAG,OAAO,CAAC,IAAI,CAAC,OAAO,CAAC,UAAU,EAAE,EAAE,CAAC,CAAC;QAEpD,IAAI,CA
AC,YAAY,IAAI,CAAC,IAAI,CAAC,eAAe,CAAC,UAAU,CAAC,MAAM,EAAE,IAAI,CAAC,QAAQ,CAAC,EA
AE;YAC5E,IAAI,QAAQ,GAAG,IAAI,MAAM,6BAA6B,CAAC;YACvD,QAAQ,IAAI,UACR,MAAM,0EAA0E,C
AAC;YACrF,IAAI,MAAM,CAAC,OAAO,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,EAAE;gBAC5B,QAAQ,I
AAI,UACR,MAAM,+HAA+H,CAAC;aAC3I;iBAAM;gBACL,QAAQ;oBACJ,8FAA8F,CAAC;aACpG;YACD,IA
AI,CAAC,YAAY,CAAC,QAAQ,EAAE,OAAO,CAAC,UAAU,CAAC,CAAC;SACjD;KACF;IAEO,+CAA+C,CA
CnD,UA4B,EAAE,YAAyC,EACvE,UA2B;QAC7B,MAAM,kBAAkB,GAAa,IAAI,CAAC,
GAAG,IAAI,CAAC,4BAA4B,CAAC,UAAU,CAAC,
AAU,CAAC,CAAC;QACnF,IAAI,CAAC,IAAI,CAAC,YAAY,CAAC,GAAG,CAAC,EAAE,EAAE,UAAU,CAAC,GAAG,C
ACb,uCAAuC,kBAAkB,CAAC,IAAI,CAAC,GAAG,CAAC,EAAE,EAAE,UAAU,CAAC,CAAC;SACxF;QACD,
YAAY,CAAC,OAAO,CAAC,IAAI;YACvB,IAAI,CAAC,YAAY,CAAC,GAAG,CAAC,oBACI,IAAI,CAAC,IAAI,0KAA0K,EAC
vL,UAAU,CAAC,CAAC;SACjB,CAAC,CAAC;KACJ;IAEO,qCAAqC,CAACzD,MAAM,CAAC,UAA4B,EAAE,MAAA
M,kBAAkB,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,CAAC,SAAS;QAAE,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,
C,KAAK;YAClB,IAAI,KAAK,CAAC,MAAM,IAAI,IAAI,IAAI,IAAI,CAAC,kBAAkB,CAAC,GAAG,CAAC,KAAK,C
AAC,IAAI,CAAC,EAAE;gBAC/D,IAAI,CAAC,YAAY,CAAC,GAAG,CAAC,oBAAoB,IAAI,CAAC,0KAA0K,EAC3L,
KAAK,CAAC,UAAU,CAAC,CAAC;aACnB;KACF;IAEO,wBAAwB,CAAC,WAAmB,EAAE,KAAuB,EAC5E,
E,UAAuC;;;QAI3F,OAAO,UAAU,CAAC,MAAM,CAAC,SAAS;YAAE,IAAI,SAAS,CAAC,IAAI,gBACtD
,CAAC,IAAI,CAAC,eAAe,CAAC,UAAU,CAAC,MAAM,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,IAAI,CAAC,CAAC,Q
AAQ
,CAAC,EAAE;gBACjF,IAAI,QAAQ,GAAG,IAAI,MAAM,kBAAkB,CAAC,SAAS,CAAC,IAAI,yCAA3C,WAAW,IAAI,CAAC;gBACpB
B,IAAI,WAAW,CAAC,UAAU,CAAC,KAAK,CAAC,EAAE;oBACjC,QAAQ;wBACJ,CAAC,IAAI,WAAW,CAAC,UAAU,CAAC,KAAK,CAAC,EAAE,CAAC,CAAC,CAAC

,IAAI,KAAK,oBAAoB,CAAC,UAAU,EAAE;;;;YAI7D,OAAO,IAAI,CAAC;SACb;QAED,MAAM,iBAAiB,GAAG,GAAAG,CAAC,KAAK,CAAC,GAAAG,CAAC,CAAC,IAAI,KAAuB,CAAC,IAAI,CAAC,IAAI,EAAE,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC;QAC7F,MAAM,QAAQ,GAAAG,wBAAwB,CAAC,GAAAG,CAAC,IAAI,EAAE,iBAAiB,CAAC,CAAC;QACvE,MAAM,cAAc,kBAAkB,CAAC,QAAQ,CAAC,kBAAkB,CAAC,QAAQ,CAAC;QAC3D,MAAM,QAAQ,GAAAG,oBAAoB,UAAU,CAAC,IAAI,EAAE,GAAAG,CAAC,QAAQ,EAAE,qBAAqB,CAAC,CAAC;QAC3F,OAAO,IAAI,IAAS,UAAU,CAAC,GAAAG,CAAC,IAAI,EAAE,UAAU,CAAC,KAAK,CAAC,GAAAG,CAAC,IAAI,EAAE,GAAAG,CAAC,KAAK,CAAC,GAAAG,CAAC,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,KAAK,EAAE,EAAE,EAAE,QAAQ,EAAE,CAAC,cAAF,CAAC,EAAE,CAAC,EAAE,GAAAG,CAAC,IAAI,EAAE,UAAU,EAAE,GAAAG,CAAC,KAAK,CAAC,GAAAG,CAAC,IAAI,EAAE,aAAa,CAAC,CAAC,CAAC;QAC1I,MAAM,IAAI,CAAC,IAAI,EAAE,YAAY,CAAC,GAAAG,CAAC,IAAI,EAAE,UAAU,EAAE,GAAAG,CAAC,KAAK,CAAC,GAAAG,CAAC,IAAI,EAAE,aAAa,CAAC,CAAC,CAAC;QAC3E

tD,SAAS,gBAAgB,CAAC,IAAe;IACvC,OAAO,IAAI,YAAYP,MAAS,IAAI,IAAI,CAAC,KAAK,CAAC,IAAI,EA
AE,CAAC,MAAM,IAAI,CAAC,CAAC;AACpE,CAAC;SAEe,uBAAuB,CAAwC,KAAU;IACvF,MAAM,GAAG,
GAAG,IAAI,GAAG,EAAU,CAAC;IAE9B,KAAK,CAAC,OAAO,CAAC,CAAC,IAAI;QACjB,IAAI,CAAC,GAA
G,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,CAAC,SAAS,CAAC,EAAE;YACjC,GAAG,CAAC,GAAG,CAAC,IA
AI,CAAC,IAAI,CAAC,SAAS,EAAE,IAAI,CAAC,CAAC;SACpC,KACF,CAAC,CAAC;IAEH,OAAO,KAAK,CA
AC,IAAI,CAAC,GAAG,CAAC,MAAM,EAAE,CAAC,CAAC;AAClC,CAAC;SAEe,iBAAiB,CAAC,GAAQ;IACx
C,IAAI,GAAG,YAAY,aAAa,EAAE;QAChC,GAAG,GAAG,GAAG,CAAC,GAAG,CAAC;KACf;IACD,OAAO,G
AAG,YAAY,SAAS,CAAC;AAClC;;ACz6BA;;;;;;;AAoBA;;;;;;;;SAQgB,KAAK,CAAC,KAAa;;;;;IAKjC,MAAM,
MAAM,GAAa,EAAE,CAAC;IAE5B,IAAI,CAAC,GAAG,CAAC,CAAC;IACV,IAAI,UAAU,GAAG,CAAC,CAA
C;IACnB,IAAI,KAAK,qBAAwB;IACjC,IAAI,UAAU,GAAG,CAAC,CAAC;IACnB,IAAI,SAAS,GAAG,CAAC,C
AAC;IAClB,IAAI,WAAW,GAAgB,IAAI,CAAC;IACpC,IAAI,cAAc,GAAG,KAAK,CAAC;IAC3B,OAAO,CAAC
,GAAG,KAAK,CAAC,MAAM,EAAE;QACvB,MAAM,KAAK,GAAG,KAAK,CAAC,UAAU,CAAC,CAAC,EAAA
E,CAAS,CAAC;QAC5C,QAAQ,KAAK;YACX;gBACE,UAAU,EAAE,CAAC;gBACb,MAAM;YACR;gBACE,U
AAU,EAAE,CAAC;gBACb,MAAM;YACR;;;gBAGE,cAAc,GAAG,IAAI,UAAU,GAAG,CAAC,CAAC;gB
AClD,IAAI,KAAK,wBAAqB;oBAC5B,KAAK,wBAAoB;iBAC1B;qBAAM,IAAI,KAAK,6BAAyB,KAAK,CAAC
,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC,yBAAqB;oBACnF,KAAK,qBAAkB;iBACxB;gBACD,MAAM;YAC
R;;gBAEE,cAAc,GAAG,CAAC,IAAI,UAAU,GAAG,CAAC,CAAC;gBAClD,IAAI,KAAK,wBAAqB;oBAC5B,KA
AK,wBAAoB;iBAC1B;qBAAM,IAAI,KAAK,6BAAyB,KAAK,CAAC,UAAU,CAAC,CAAC,GAAG,CAAC,CAA
C,yBAAqB;oBACnF,KAAK,qBAAkB;iBACxB;gBACD,MAAM;YACR;gBACE,IAAI,CAAC,WAAW,IAAI,UA
AU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBAChE,WAAW,GAAG,SAAS,CAAC,KAAK,CAAC,SAAS,CAAC,S
AAS,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC;oBAClE,UAAU,GAAG,CAAC,CA
AC;iBAChB;gBACD,MAAM;YACR;gBACE,IAAI,WAAW,IAAI,UAAU,GAAG,CAAC,IAAI,UAAU,KAAK,CA
AC,IAAI,KAAK,wBAAqB;oBACjF,MAAM,QAAQ,GAAG,KAAK,CAAC,SAAS,CAAC,UAAU,EAAE,CAAC,G
AAG,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC;oBAC3D,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GA
AG,sBAAsB,CAAC,QAAQ,CAAC,GAAG,QAAQ,CAAC,CAAC;oBACvF,SAAS,GAAG,CAAC,CAAC;oBACd,
UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,IAAI,UAAU,GAAG,CAAC,IAAI,
UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACnE,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GAAG,
sBAAsB,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC5E,SAAS,GAAG,CAAC,CAAC;oBA
Cd,UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,IAAI,CAAC,WAAW,IAAI,
UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACnE,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GAAG,
sBAAsB,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC5E,SAAS,GAAG,CAAC,CAAC;oBA
Cd,UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,MAAM;YACR;gBACE,UAAU,EAAE,
CAAC;gBACb,MAAM;YACR;gBACE,IAAI,KAAK,wBAAqB;oBAC5B,KAAK,wBAAoB;iBAC1B;qBAAM,IAAI,KAAK,
6BAAyB,KAAK,CAAC,UAAU,CAAC,CAAC,GAAG,CAAC,CAAC,yBAAqB;oBACnF,KAAK,qBAAkB;iBACxB;gBACD,
MAAM;YACR;gBACE,IAAI,CAAC,WAAW,IAAI,UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBAChE,WAAW,
GAAG,SAAS,CAAC,KAAK,CAAC,SAAS,CAAC,SAAS,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,IAAI,EAAE,
CAAC,CAAC;oBAClE,UAAU,GAAG,CAAC,CAAC;iBAChB;gBACD,MAAM;YACR;gBACE,IAAI,WAAW,IAAI,UAAU,
GAAG,CAAC,IAAI,UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACjF,MAAM,QAAQ,GAAG,KAAK,CAAC,SAAS,
CAAC,UAAU,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC;oBAC3D,MAAM,CAAC,IAAI,CAAC,WAAW,
EAAE,cAAc,GAAG,sBAAsB,CAAC,QAAQ,CAAC,GAAG,QAAQ,CAAC,CAAC;oBACvF,SAAS,GAAG,CAAC,CAAC;oBA
Cd,UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,IAAI,UAAU,GAAG,CAAC,IAAI,
UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACnE,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GAAG,
sBAAsB,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC5E,SAAS,GAAG,CAAC,CAAC;oBAC
Cd,UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,IAAI,CAAC,WAAW,IAAI,
UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACnE,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GAAG,
sBAAsB,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC5E,SAAS,GAAG,CAAC,CAAC;oBAC
Cd,UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,MAAM;YACR;gBACE,IAAI,CAAC,WAAW,
IAAI,UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBAChE,WAAW,GAAG,SAAS,CAAC,KAAK,CAAC,SAAS,CAAC,S
AAS,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC;oBAClE,UAAU,GAAG,CAAC,CA
AC;iBAChB;gBACD,MAAM;YACR;gBACE,IAAI,WAAW,IAAI,UAAU,GAAG,CAAC,IAAI,UAAU,KAAK,CA
AC,IAAI,KAAK,wBAAqB;oBACjF,MAAM,QAAQ,GAAG,KAAK,CAAC,SAAS,CAAC,UAAU,EAAE,CAAC,G
AAG,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC;oBAC3D,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GA
AG,sBAAsB,CAAC,QAAQ,CAAC,GAAG,QAAQ,CAAC,CAAC;oBACvF,SAAS,GAAG,CAAC,CAAC;oBACd,
UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,IAAI,UAAU,GAAG,CAAC,IAAI,
UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACnE,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GAAG,
sBAAsB,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC5E,SAAS,GAAG,CAAC,CAAC;oBACd,
UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,MAAM;YACR;gBACE,IAAI,WAAW,IAAI,
UAAU,GAAG,CAAC,IAAI,UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACjF,MAAM,QAAQ,GAAG,KAAK,CAAC,SAAS,
CAAC,UAAU,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC;oBAC3D,MAAM,CAAC,IAAI,CAAC,WAAW,
EAAE,cAAc,GAAG,sBAAsB,CAAC,QAAQ,CAAC,GAAG,QAAQ,CAAC,CAAC;oBACvF,SAAS,GAAG,CAAC,CAAC;oBA
Cd,UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,IAAI,CAAC,WAAW,IAAI,
UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACnE,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GAAG,
sBAAsB,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC5E,SAAS,GAAG,CAAC,CAAC;oBAC
Cd,UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,MAAM;YACR;gBACE,IAAI,WAAW,
IAAI,UAAU,GAAG,CAAC,IAAI,UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACjF,MAAM,QAAQ,GAAG,KAAK,CAAC,SAAS,
CAAC,UAAU,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC;oBAC3D,MAAM,CAAC,IAAI,CAAC,WAAW,
EAAE,cAAc,GAAG,sBAAsB,CAAC,QAAQ,CAAC,GAAG,QAAQ,CAAC,CAAC;oBACvF,SAAS,GAAG,CAAC,CAAC;oBA
Cd,UAAU,GAAG,CAAC,CAAC;oBACf,WAAW,GAAG,IAAI,CAAC;iBACpB;gBACD,IAAI,UAAU,GAAG,CAAC,IAAI,
UAAU,KAAK,CAAC,IAAI,KAAK,wBAAqB;oBACnE,MAAM,CAAC,IAAI,CAAC,WAAW,EAAE,cAAc,GAAG,
sBAAsB,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;oBAC5E,SAAS,GAAG,CAAC,CAAC;oBACd,

YACR;gBACE,OAAO,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,EAAE,KAAK,EAAE,KAAK,CAAC,KAAK,EAAE,KAAK,CAAC,UAAU,EAAE,KAAK,CAAC,IAAI,CAAC,CAAC;gBAC1F,MAAM;YACR;gBACE,OAAO,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,EAAE,KAAK,EAAE,KAAK,CAAC,KAAK,EAAE,KAAK,CAAC,UAAU,CAAC,CAAC;gBAC9E,MAAM;SACT;QACD,OAAO,OAAO,GAAG,IAAI,GAAG,KAAK,CAAC;KAC/B;IAED,wBAAwB,CAAC,IAAY,EAAE,UAAe,EAAE,UAA2B;QACjF,IAAI,OAAO,GA2B,IAAI,IAAI,GAAG,KAAK,CAAC,SAAS,CAAC,KAAK,CAAC,IAAI,CAAC,SAAS,EAAE,CAAC,CAAC,CAAC;QAC/D,MAAM,MAAM,GAAG,IAAI,CAAC,SAAS,CAAC,OAAO,EAAE,UAAU,GAAG,EAAE,KAAK;YACzD,IAAI,KAAK,KAAK,IAAI,EAAE;gBAClB,OAAO,KAAK,CAAC;aACd;YACD,IAAI,OAAO,KAAK,KAAK,QAAQ,EAAE;gBAC7B,IAAI,OAAO,CAAC,GAAG,CAAC,KAAK,CAAC,EAAE;oBACtB,OAAO,SAAS,CAAC;iBAClB;gBACD,OAAO,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;aACpB;YACD,OAAO,KAAK,CAAC;SACd,CAAC,CAAC;QACH,OAAO,MAAM,CAAC;KACf;IAED,MAAM,CAAC,OAAO,GAAG,wBAAwB,CAAC;CAC3C,CAAC,CAAC;AAEH,MAAM,CAAC,OAAO,GAAG,IAAI,CAAC;;;

AI,CAAC,cAAc,KAAK,KAAK,CAAC,MAAM,IAAI,IAAI,CAAC,iBAAiB,CAAC,EAAE;YACnE,IAAI,CAAC,2BAA2B,CAAC,KAAK,CAAC,CAAC;YACxC,aAAa,CAAC,GAAG,CAAC,WAAW,EAAER,UAAY,CAAC,KAAK,CAAC,CAAC,CAAC;SACrD;KACF;;;;;;;IAQD,wBAAwB,CAAC,cAA8B;QACrD,IAAI,IAAI,CAAC,cAAc,EAAE;YACvB,OAAO,IAAI,CAAC,yBAAyB,CAAC,cAAc,EAAE,IAAI,EAAE,IAAI,CAAC,cAAc,CAAC,CAAC;SAClF;QACD,OAAO,IAAI,CAAC;KACb;;;;;;;IAQD,wBAAwB,CAAC,cAA8B;QACrD,IAAI,IAAI,CAAC,cAAc,EAAE;YACvB,OAAO,IAAI,CAAC,yBAAyB,CAAC,cAAc,EAAE,IAAI,EAAE,KAAK,EAAE,IAAI,CAAC,cAAc,CAAC,CAAC;SACnF;QACD,OAAO,IAAI,CAAC;KACb;IAEO,yBAAyB,CAAC7B,cAA8B,EAAE,EAAEC,cAAgB,EAAE,EAAE,EAAEC,cAAgB,EAAE,EAAE,EAAE

AAC;IAC5B,MAAM,aAAa,GAAG,IAAI,CAAC,OAAO,CAAC,cAAc,CAAC,CAAC;IACnD,IAAI,aAAa,KAAK,CAAC,CAAC,EAAE;QACxB,IAAI,GAAG,aAAa,GAAG,CAAC,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC,EAAE,aAAa,CAAC,GAAG,EAAE,CAAC;QACjE,eAAe,GAAG,IAAI,CAAC;KACxB;IAED,IAAI,MAAM,GAAgB,IAAI,CAAC;IAC/B,IAAI,CAAC/B,IAAI,QAAQ,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IACzC,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC,EAAE;QAChB,MAAM,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC,CAAC;KACnC;IAED,OAAO,MAAM,CAAC;AAChB,CAAC;AAED,SAAS,aAAa,CAAC,IAAI,EAAE,IAAI;IAC/B,IAAI,IAAI,KAAK,IAAI,EAAE;QACjB,OAAO,IAAI,CAAC;KACb;IAED,IAAI,IAAI,KAAK,IAAI,EAAE;QACjB,OAAO,KAAK,CAAC;KACd;IAED,IAAI,IAAI,CAAC,MAAM,KAAK,IAAI,CAAC,MAAM,EAAE;QAC/B,OAAO,KAAK,CAAC;KACd;IAED,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACpC,IAAI,IAAI,CAAC,CAAC,CAAC,KAAK,IAAI,CAAC,CAAC,CAAC,EAAE;YACvB,OAAO,KAAK,CAAC;SACd;KACF;IAED,OAAO,IAAI,CAAC;AACd,CAAC;AAED,SAAS,YAAY,CAAC,IAAI,EAAE,IAAI;IAC9

Q,IAAI,IAAI,CAAC;KAChE;IAED,aAAa;QACX,OAAO,IAAI,CAAC,IAAI,IAAIA,WAAS,CAAC,OAAO,IAAI,IAAI,CAAC,QAAQ,IAAI,MAAM,CAAC;KAClE;IAED,kBAAkB;QAChB,OAAO,IAAI,CAAC,IAAI,IAAIA,WAAS,CAAC,OAAO,IAAI,IAAI,CAAC,QAAQ,IAAI,WAAW,CAAC;KACvE;IAED,aAAa;QACX,OAAO,IAAI,CAAC,IAAI,IAAIA,WAAS,CAAC,OAAO,IAAI,IAAI,CAAC,QAAQ,IAAI,MAAM,CAAC;KAClE;IAED,cAAc;QACZ,OAAO,IAAI,CAAC,IAAI,IAAIA,WAAS,CAAC,OAAO,IAAI,IAAI,CAAC,QAAQ,IAAI,OAAO,CAAC;KACnE;IAED,aAAa;QACX,OAAO,IAAI,CAAC,IAAI,IAAIA,WAAS,CAAC,OAAO,IAAI,IAAI,CAAC,QAAQ,IAAI,MAAM,CAAC;KAClE;IAED,OAAO;QACL,OAAO,IAAI,CAAC,IAAI,IAAIA,WAAS,CAAC,KAAK,CAAC;KACrC;IAED,QAAQ;QACN,OAAO,IAAI,CAAC,IAAI,IAAIA,WAAS,CAAC,MAAM,CAAC,KAAK,CAAC,KAAK,CAAC,KAAK,CAAC;KAC3D;IAED,QAAQ;QACN,OAAO,IAAI,CAAC,IAAI;YACf,KAAK,CAAC,KAAK,CAAC,KAAK,CAAC

CAAC;YAClB,KAAKyE,KAAW,CAAC;YACjB,KAAKxE,MAAY,CAAC;YAClB,KAAKyE,QAAc,CAAC;YAC
pB,KAAKC,MAAY;gBACf,OAAO,IAAI,CAAC,YAAY,CAAC,KAAK,EAAE,MAAM,CAAC,YAAY,CAAC,IA
AI,CAAC,CAAC,CAAC;YAC7D,KAAKC,SAAe;gBAClB,OAAO,IAAI,CAAC,mBAAmB,CAAC,KAAK,EAAE,
GAAG,EAAER,OAAa,EAAE,GAAG,CAAC,CAAC;YAClE,KAAKvE,GAAS,CAAC;YACf,KAAKW,GAAS;gB
ACZ,OAAO,IAAI,CAAC,mBAAmB,CAAC,KAAK,EAAE,MAAM,CAAC,YAAY,CAAC,IAAI,CAAC,EAAEG,
GAAS,EAAE,GAAG,CAAC,CAAC;YACpF,KAAKb,KAAW,CAAC;YACjB,KAAKa,GAAS;gBACZ,OAAO,IA
AI,CAAC,mBAAmB,CAC3B,KAAK,EAAE,MAAM,CAAC,YAAY,CAAC,IAAI,CAAC,EAAEA,GAAS,EAAE,G
AAG,EAAEA,GAAS,EAAE,GAAG,CAAC,CAAC;YACxE,KAAKR,GAAS,UAAgB;gBACnB,OAAO,IAAI,CAAC,mBA
AmB,CAAC,KAAK,EAAE,GAAG,EAAEA,UAAgB,EAAE,GAAG,CAAC,CAAC;YACrE,KAAK0E,IAAU;gBA
Cb,OAAO,IAAI,CAAC,mBAAmB,CAAC,KAAK,EAAE,GAAG,EAAEA,IAAU,EAAE,GAAG,CAAC,CAAC;YA
C/D,KAAKC,KAAW;gBACd,OAAO9D,YAAkB,CAAC,IAAI,CAAC,IAAI,CAAC;oBAAE,IAAI,CAAC,OAAO,
EAAE,CAAC;gBACrD,OAAO,IAAI,CAAC,SAAS,EAAE,CAAC;SAC3B;QAED,IAAI,CAAC,OAAO,EAAE,CA
AC;QACf,OAAO,IAAI,CAAC,KAAK,CAAC,yBAAyB,MAAM,CAAC,YAAY,CAAC,IAAI,CAAC,GAAG,EAA
E,CAAC,CAAC,CAAC;KAC7E;IAED,aAAa,CAAC,KAAa,EAAE,IAAY;QACvC,IAAI,CAAC,OAAO,EAAE,CA
AC;QACf,OAAO,iBAAiB,CAAC,KAAK,EAAE,IAAI,CAAC,KAAK,EAAE,IAAI,CAAC,CAAC;KACnD;IAGD,
YAAY,CAAC,KAAa,EAAE,GAAW;QACrC,IAAI,CAAC,OAAO,EAAE,CAAC;QACf,OAAO,gBAAgB,CAAC,K
AAK,EAAE,IAAI,CAAC,KAAK,EAAE,GAAG,CAAC,CAAC;KACjD;;;;;;;;;;IAYD,mBAAmB,CACf,KAAa,
EAAE,GAAW,EAAE,OAAe,EAAE,GAAW,EAAE,SAAkB,EAC5E,KAAc;QAChB,IAAI,CAAC,OAAO,EAAE,CAA
C;QACf,IAAI,GAAG,GAAW,GAAG,CAAC;QACtB,IAAI,IAAI,CAAC,IAAI,IAAI,OAAO,EAAE;YACxB,IAAI,CAAC,OAAO,EAAE,CAAC;SACZ;QACD,IAAI,GAAG,CAAC,IAAI,CAAC,GAAG,CAAC;QACjB,IAAI,GAAG,IAAI,CAAC,IAAI,IAAI,OAAO,EAAE;YAC3B

,CAAC,CAAC,CAAC;qBAC5D;oBACD,KAAK,IAAI,CAAC,GAAW,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE
,CAAC,EAAE,EAAE;wBAClC,IAAI,CAAC,OAAO,EAAE,CAAC;qBAChB;iBACF;qBAAM;oBACL,aAAa,GAAA
G,QAAQ,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;oBACpC,IAAI,CAAC,OAAO,EAAE,CAAC;iBAChB;gBACD,
MAAM,IAAI,MAAM,CAAC,YAAY,CAAC,aAAa,CAAC,CAAC;gBAC7C,MAAM,GAAG,IAAI,CAAC,KAAK,
CAAC;aACrB;iBAAM,IAAI,IAAI,CAAC,IAAI,IAAIzC,IAAU,EAAE;gBAClC,OAAO,IAAI,CAAC,KAAK,CAA
C,oBAAoB,EAAE,CAAC,CAAC,CAAC;aAC5C;iBAAM;gBACL,IAAI,CAAC,OAAO,EAAE,CAAC;aAChB;SA
CF;QAED,MAAM,IAAI,GAAW,KAAK,CAAC,SAAS,CAAC,MAAM,EAAE,IAAI,CAAC,KAAK,CAAC,CAAC;
QACzD,IAAI,CAAC,OAAO,EAAE,CAAC;QAEf,OAAO,cAAc,CAAC,KAAK,EAAE,IAAI,CAAC,KAAK,EAAE
,MAAM,GAAG,IAAI,CAAC,CAAC;KACzD;IAED,KAAK,CAAC,OAAe,EAAE,MAAc;QACnC,MAAM,QAAQ,
GAAW,IAAI,CAAC,KAAK,CAAC,KAAK,GAAG,MAAM,CAAC;QAC7C,OAAO,aAAa,CAChB,QAAQ,EAAE,IAAI,CAAC,K
AAK,EACpB,gBAAgB,OAAO,cAAc,QAAQ,mBAAmB,IAAI,CAAC,KAAK,GAAG,CAAC,CAAC;KACpF;CAC
F;AAED,SAAS,iBAAiB,CAAC,IAAY;IACrC,OAAO,CAACqB,EAAQ,IAAI,IAAI,IAAI,IAAI,IAAIC,EAAQ,MA
AMC,EAAQ,IAAI,IAAI,IAAI,IAAI,IAAIC,EAAQ,CAAC;SAClF,IAAI,IAAI2D,EAAQ,CAAC,KAAK,IAAI,IAAI
C,EAAQ,CAAC,CAAC;AAC/C,CAAC;SAEe,YAAY,CAAC,KAAa;IACxC,KAAK,CAAC,MAAM,OAAO,GAAG,IAAI,CAAC,
CAAC;QAAE,OAAO,KAAK,CAAC;IAC5B,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,OAAO,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;QACvC,IAAI,CAAC,iB
CpC,IAAI,CAAC,iBAAiB,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,EAAE;YAAE,OAAO,KAAK,CAAC;SAAE;KAC9D;IACD,OAAO,IAAI,CAAC;AAChB,CAAC;AAED,SAAS,cAAc,CAAC,KAAa,EAAE,IAAY,EAAE,MAAc;IAC/D,IAAI,CAAC,GAAG,CAAC,CAAC;IACV,OAAO,CAAC,GAAG,MAAM,EAAE;QACf,MAAM,IAAI,GAAG,KAAK,CAAC,UAAU,CAAC,CAAC,EAAE,CAAC;QAClC,IAAI,IAAI,GAAG,IAAI,IAAI,IAAI,GAAG,IAAI,EAAE;YAC5B,CAAC,EAAE,CAAC;SACP;aAAM,IAAI,IAAI,GAAG,IAAI,IAAI,IAAI,GAAG,IAAI,EAAE;YACnC,CAAC,IAAI,CAAC,CAAC;SACV;aAAM,IAAI,IAAI,GAAG,IAAI,IAAI,IAAI,GAAG,IAAI,EAAE;YACnC,CAAC,IAAI,CAAC,CAAC;SACV;aAAM;YACH,MAAM,IAAI,KAAK,CAAC,kBAAkB,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,

,sBAA2C,4BAA4B;QACzE,MAAM,GAAAG,GAAAG,IAAI,CAAC,gBAAgB,CAAC,KAAK,EAAE,QAAQ,EAAE,cAAc,EAAE,mBAAmB,CAAC,CAAC;QACxF,OAAO,IAAI,aAAa,CAAC,GAAAG,EAAE,KAAK,EAAE,QAAQ,EAAE,cAAc,EAAE,IAAI,CAAC,MAAM,CAAC,CAAC;KAC7E;IAEO,qBAAqB,CAAC,GAAAQ;QACpC,MAAM,OAAO,GAAAG,IAAI,IAAI,CAAC,uBAAuB,EAAE,CAAC;QACnD,GAAAG,CAAC,KAAK,CAAC,OAAO,CAAC,CAAC;QACnB,OAAO,OAAO,CAAC,MAAM,CAAC;KACvB;IAED,kBAAkB,CAAC,GAAAQ,EAAE,GAAAG,EAAE,GAAAG,EAAE,GAAAG

E,WAAW,CAAC,MAAM;0BAC9C,KAAK,EAAE,IAAI,CAAC,MAAM,EAAE,CAAC,CAAC;aACvC,UAAU,EA
AE,CAAC;QAC9B,MAAM,OAAO,GAAG,CAAC,EAAE,EAAE,EAAE,CAAC,CAAC;QACzB,OAAO,IAAI,CA
AC,sBAAsB,CAAC,OAAO,EAAE,CAAC,GAAG,CAAC,EAAE,UAAU,EAAE,QAAQ,EAAE,cAAc,CAAC,CAA
C;KAC1F;IAEO,sBAAsB,CAC1B,OAAiB,EAAE,WAAkB,EAAE,KAAa,EAAE,QAAgB,EACtE,cAAsB;QACxB,
MAAM,IAAI,GAAG,IAAI,SAAS,CAAC,CAAC,EAAE,KAAK,CAAC,MAAM,CAAC,CAAC;QAC5C,MAAM,a
AAa,GACf,IAAI,aAAa,CAAC,IAAI,EAAE,IAAI,CAAC,UAAU,CAAC,cAAc,CAAC,EAAE,OAAO,EAAE,WAA
W,CAAC,CAAC;QACnF,OAAO,IAAI,aAAa,CAAC,aAAa,EAAE,KAAK,EAAE,QAAQ,EAAE,cAAc,EAAE,IAA
I,CAAC,MAAM,CAAC,CAAC;KACvF;;;;;;;;IASD,kBAAkB,CACd,KAAa,EAAE,QAAgB,EAAC/B,sBAA2C,4BA
A4B;QACzE,MAAM,OAAO,GAAyB,EAAE,CAAC;QACzC,MAAM,WAAW,GAAyB,EAAE,CAAC;QAC7C,M
AAM,OAAO,GAAa,EAAE,CAAC;QAC7B,IAAI,CAAC,GAAG,CAAC,CAAC;QACV,IAAI,eAAe,GAAG,KAAK
,CAAC;QAC5B,IAAI,SAAS,GAAG,KAAK,CAAC;QAC7B,IAAI,EAAC,GAAG,CAAC,CAAC;QACV,IAAI,EAAC,GAAG,CAAC,CAAC;QACV,IAAI,EAAC,GAAG,CAAC,CAAC;QACV

AK,CAAC,KAAK,CAAC,MAAM,CAAC,CAAC;QAClC,IAAI,KAAK,CAAC,MAAM,GAAG,CAAC,EAAE;YA
CpB,IAAI,CAAC,YAAY,CACb,sBAAsB,mBAAmB,CAAC,KAAK,GAC3C,mBAAmB,CAAC,GAAG,iCAAiC,E
AC5D,KAAK,EACL,aAAa,IAAI,CAAC,6BAA6B,CAAC,KAAK,EAAE,CAAC,EAAE,mBAAmB,CAAC,KAAK,
EACnF,QAAQ,CAAC,CAAC;SACf;KACF;IAEO,6BAA6B,CACjC,KAAe,EAAE,YAAoB,EAAE,mBAAwC;QA
CjF,IAAI,WAAW,GAAG,EAAE,CAAC;QACrB,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,YAA
Y,EAAE,CAAC,EAAE,EAAE;YACrC,WAAW,IAAI,CAAC,GAAG,CAAC,KAAK,CAAC;gBACtB,KAAK,CAA
C,CAAC,CAAC;gBACR,GAAG,mBAAmB,CAAC,KAAK,GAAG,KAAK,CAAC,CAAC,CAAC,GAAG,mBAAm
B,CAAC,GAAG,EAAE,CAAC;SACzE;QAED,OAAO,WAAW,CAAC,MAAM,CAAC;KAC3B;;;;;IAMO,uBAAu
B,CAAC,KAAa,EAAE,aAAqB,EAAE,KAAa;QACjF,IAAI,YAAY,GAAG,IAAI,CAAC;QACrC,IAAI,WAAW,G
AAG,CAAC,CAAC;QACpB,KAAK,IAAI,CAAC,GAAG,KAAK,EAAE,CAAC,GAAG,KAAK,CAAC,MAAM,E
AAE,CAAC,EAAE,EAAE;YACzC,MAAM,IAAI,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;;;YAGtB,IAAI,OA
AO,CAAC,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC,KAAK,YAAY,KAAK,IAAI,IAAI,YAAY,KAAK,
IAAI,CAAC;gBAChF,WAAW,GAAG,CAAC,EAAE;gBACrB,KAAK,CAAC,EAAE;gBACR,YAAY,GAAG,KAAK;
,GAAG,IAAI,GAAG,IAAI,CAAC;aACpB;iBAAM,IAAI,YAAY,KAAK,IAAI,EAAE;gBAChC,IAAI,KAAK,CAAC,UAAU,CAAC,CAAC,CAAC,KAAK,aAAa,EAAE;oBACzC,WAAW,EAAE;oBACb,IAAI,WAAW,KAAK,aAAa,EAAE;wBACjC,OAAO,KAAK,GAAG,CAAC,GAAG,CAAC,GAAG,KAAK,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,IAAI,CAAC,EAAE,CAAC;qBACjE;iBACF;qBAAM;oBACL,WAAW,GAAG,CAAC,CAAC;iBACjB;aACF;SACF;QAED,OAAO,KAAK,CAAC,KAAK,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KACnC;IAEO,qBAAqB,CAAC,KAAa,EAAE,aAAqB,EAAE,KAAa;QAC/E,IAAI,YAAY,GAAG,IAAI,CAAC;QACxB,IAAI,WAAW,GAAG,CAAC,CAAC;QACpB,KAAK,IAAI,CAAC,GAAG,KAAK,EAAE,CAAC,GAAG,KAAK,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;YACzC,MAAM,IAAI,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;YACtB,IAAI,OAA

YAAY,EAAE,CAAC;KACjC;IACD,aAAa;QACX,OAAO,IAAI,CAAC,IAAI,CAAC,WAAW,EAAE,CAAC;KAC
hC;;;;;;;IAQD,eAAe,CAAC,IAAY;QAC1B,IAAI,IAAI,CAAC,wBAAwB,CAAC,IAAI,CAAC;YAAE,OAAO;QAC
hD,IAAI,CAAC,KAAK,CAAC,oBAAoB,MAAM,CAAC,YAAY,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KAC7
D;IAED,uBAAuB,CAAC,EAAU;QAChC,IAAI,IAAI,CAAC,IAAI,CAAC,UAAU,CAAC,EAAE,CAAC,EAAE;Y
AC5B,IAAI,CAAC,OAAO,EAAE,CAAC;YACf,OAAO,IAAI,CAAC;SACb;aAAM;YACL,OAAO,KAAK,CAAC;
SACd;KACF;IAED,cAAc,CAAC,QAAgB;QAC7B,IAAI,IAAI,CAAC,uBAAuB,CAAC,QAAQ,CAAC;YAAE,OA
AO;QACnD,IAAI,CAAC,KAAK,CAAC,6BAA6B,QAAQ,EAAE,CAAC,CAAC;KACrD;IAED,gBAAgB,CAAC,
GAAU;QACzB,OAAO,GAAG,cAAc,EAAE,GAAG,cAAc,EAAE,GAAG,cAAc,EAAE,CAAC;KACtD;IAED,y
BAAyB;QACvB,MAAM,CAAC,GAAG,IAAI,CAAC,IAAI,CAAC;QACpB,IAAI,CAAC,CAAC,YAAY,E
AAE,IAAI,CAAC,CAAC,CAAC,SAAS,EAAE,EAAE;YACvC,IAAI,CAAC,KAAK,CAAC,cAAc,IAAI,CAAC,gB
AAgB,CAAC,CAAC,CAAC,kCAAkC,CAAC,CAAC;YACrF,OAAO,EAAE,CAAC;SACX;aAAM,IAAI,CAAC,CAAC,YAAY,E
AAE,IAAI,CAAC,CAAC,CAAC,SAAS,EAAE,EAAE;YAC9C,IAAI,CAAC,KAAK,CAAC,cAAc,IAAI,CAAC,gB
AAgB,CAAC,CAAC,CAAC,kCAAkC,CAAC,CAAC;YACrF,OAAO,EAAE,CAAC;SACX;QACD,IAAI,CAAC,KAAK,CAAC,
OAAO,EAAE,CAAC;QAChB,OAAO,IAAI,CAAC;SACb;IAED,iBAAiB,CAAC,QAAgB;QAChC,IAAI,IAAI,CAAC,uBAAuB,CAAC,QAAQ,CAAC;YAAE,OA
AO;QACnD,IAAI,CAAC,KAAK,CAAC,6BAA6B,QAAQ,EAAE,CAAC,CAAC;KACrD;IAED,gBAAgB,CAAC,
GAAU;QACzB,OAAO,GAAG,cAAc,EAAE,GAAG,cAAc,EAAE,GAAG,cAAc,EAAE,CAAC;KACtD;IAED,cAAc,CAAC,QAAgB;QAC7B

AC,uBAAuB,CAAC,IAAI,CAAC,EAAE;YACzC,MAAM,KAAK,GAAG,IAAI,CAAC,eAAe,EAAE,CAAC;YACrC,MAAM,EAAC,KAAK,EAAC,GAAG,MAAM,CAAC,IAAI,CAAC;YAC5B,MAAM,GAAG,IAAI,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,UAAU,CAAC,KAAK,CAAC,EAAE,IAAI,EAAE,MAAM,EAAE,KAAK,CAAC,CAAC;SACpF;QACD,OAAO,MAAM,CAAC;KCf;IED,eAAe;;QAEb,IAAI,MAAM,GAAG,IAAI,CAAC,aAAa,EAAE,uBAAuB,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE;YACzE,MAAM,KAAK,GAAG,IAAI,CAAC,aAAa,EAAE,CAAC;YACn

OAAO,IAAI,CAAC,cAAc,EAAE,CAAC;KAC9B;IAED,cAAc;QACZ,IAAI,MAAM,GAAG,IAAI,CAAC,YAAY,
EAAE,CAAC;QACjC,MAAM,WAAW,GAAG,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC;QACtC,OAAO,IAAI,
EAAE;YACX,IAAI,IAAI,CAAC,wBAAwB,CAACI,OAAa,CAAC,EAAE;gBAChD,MAAM,GAAG,IAAI,CAAC,
6BAA6B,CAAC,MAAM,EAAE,KAAK,CAAC,CAAC;aAE5D;iBAAM,IAAI,IAAI,CAAC,uBAAuB,CAAC,IAAI,
CAAC,EAAE;gBAC7C,MAAM,GAAG,IAAI,CAAC,6BAA6B,CAAC,MAAM,EAAE,IAAI,CAAC,CAAC;aAE3
D;iBAAM,IAAI,IAAI,CAAC,wBAAwB,CAACrE,SAAe,CAAC,EAAE;gBACzD,IAAI,CAAC,WAAW,CAAC,iB
AAiB,CAAC,QAAQ,EAAE;oBAC3C,IAAI,CAAC,iBAAiB,EAAE,CAAC;oBACzB,MAAM,GAAG,GAAG,IAAI,
CAAC,SAAS,EAAE,CAAC;oBAC7B,IAAI,GAAG,YAAY,SAAS,EAAE;wBAC5B,IAAI,CAAC,KAAK,CAAC,4
BAA4B,CAAC,CAAC;qBAC1C;oBACD,IAAI,CAAC,iBAAiB,EAAE,CAAC;oBACzB,IAAI,CAAC,eAAe,CAAC
wE,SAAe,CAAC,CAAC;oBACtC,IAAI,IAAI,CAAC,uBAAuB,CAAC,GAAG,CAAC,KAAK,CAAC,EAAE;wBACrC,MAAM,K
AAK,GAAG,IAAI,CAAC,gBAAgB,EAAE,CAAC;wBACvC,MAAM,GAAG,IAAI,UAAU,CACnB,IAAI,CAAC,I
AAI,CAAC,WAAW,CAAC,EAAE,IAAI,CAAC,UAAU,CAAC,WAAW,CAAC,EAAE,MAAM,EAAE,GAAG,EA
AE,KAAK,CAAC,CAAC;qBAC/C;iBACJ;aACJ;SACJ;QACD,IAAI,CAAC,WAAW,CAAC,WAAW,CAAC,IAAI,CA
AC,WAAW,CAAC,EAAE,IAAI,CAAC,UAAU,CAAC,WAAW,CAAC,EAAE,MAAM,EAAE,GAAG,CAAC,CA
AC;QAC1C,IAAI,CAAC,WAAW,CAAC,WAAW,CAAC,IAAI,CAAC,WAAW,CAAC,EAAE,IAAI,CAAC,UAAU,
CAAC,WAAW,CAAC,EAAE,MAAM,EAAE,GAAG,CAAC,CAA

,MAAM,YAAY,GAAG,IAAI,CAAC,IAAI,CAAC,QAAQ,EAAE,CAAC;YAC1C,IAAI,CAAC,OAAO,EAAE,CA
AC;YACf,OAAO,IAAI,gBAAgB,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,UAAU,CA
AC,KAAK,CAAC,EAAE,YAAY,CAAC,CAAC;SAErF;aAAM,IAAI,IAAI,CAAC,KAAK,IAAI,IAAI,CAAC,MA
AM,CAAC,MAAM,EAAE;YAC3C,IAAI,CAAC,KAAK,CAAC,iCAAiC,IAAI,CAAC,KAAK,EAAE,CAAC,CAA
C;YAC1D,OAAO,IAAI,SAAS,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,UAAU,CAA
C,KAAK,CAAC,CAAC,CAAC;SAChE;aAAM;YACL,IAAI,CAAC,KAAK,CAAC,oBAAoB,IAAI,CAAC,IAAI,E
AAE,CAAC,CAAC;YAC5C,OAAO,IAAI,SAAS,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,EAAE,IAAI,C
AAC,UAAU,CAAC,KAAK,CAAC,CAAC,CAAC;SAChE;KACF;IAED,mBAAmB,CAAC,UAAkB;QACpC,MAA
M,MAAM,GAAU,EAAE,CAAC;QACzB,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,WAAW,CAAC,UAAU,CAAC,E
AAE;YACtC,GAAG;gBACD,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,SAAS,EAAE,CAAC,CAAC;aAC/B,QAAA
Q,IAAI,CAAC,wBAAwB,CAACC,MAAY,,CAAC,EAAE;SACvD;QACD,OAAO,MAAM,CAAC;KACf;IAED,eA
Ae;QACb,MAAM,IAAI,GAAoB,EAAE,CAAC;QACjC,MAAM,MAAM,GAAU,EAAE,CAAC;QACzB,MAAM,KAK
AK,GAAG,IAAI,CAAC,UAAU,CAAC;QAC9B,IAAI,CAAC,eAAe,CAACD,OAAa,,CAAC,CAAC;QACpC,IAA
I,CAAC,IAAI,CAAC,wBAAwB,CAACZ,OAAa,,CAAC,EAAE;YACjD,IAAI,CAAC,eAAe,EAAE,CAAC;YACvB,IAAI,CAAC,eAAe,CAACb,OAAa,,CAAC,CAAC;SACrC;QACD,OAAO,IAAI,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,UAAU,CAA
C,KAAK,CAAC,EAAE,IAAI,EAAE,MAAM,CAAC,CAAC;KAC/B;IAED,6BAA6B,CAAC,QAAa,EAAE,SAAAkB
,KAAK;QAClE,MAAM,KAAK,GAAG,QAAQ,CAAC,IAAI,CAAC,KAAK,CAAC;QAClC,IAAI,CAAC,IAAI,CAAC,SAAS,,GAAG
,IAAI,CAAC,UAAU,CAAC;QAC/B,IAAI,CAAC,IAAI,CAAC,yBAAyB,,EAAE,CAAC,CAAC;QACvC,MAA
M,QAAQ,GAAG,IAAI,CAAC,UAAU,CAAC,SAAS,CAAC,QAAQ,CAAC;QAC5C,IAAI,CAAC,IAAI,CAAC,wBAAwB,,CAAC
mE,OAAa,CAAC,EAAE;YAChD,IAAI,CAAC,eAAe,EAAE,CAAC;YACvB,MAAM,IAAI,GAAG,IAAI,CAAC,UAAU,CAAC,kBAAkB,,EAAE,CAAC;YACvC,IAAI,CAAC,eAAe,,EA
AE,CAAC;YACvB,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;YAC9B,MAAM,UAAU,GAAG,IAAI,CAAC,IAAI,CAAC,SAAS,,cAAc,IAAI,CAAC,IAAI,cAAc,IAAI,CAAC,IAAI,cAAc,IAAI,CAAC,IAAI

AC,GAAG,CAAC,CAAC;YAClD,IAAI,aAAa,EAAE;gBACjB,MAAM,IAAI,GAAG,CAAC;aACf;SACF,QAAQ,aAAa,EAAE;QACxB,OAAO;YACL,MAAM,EAAE,MAAM;YACd,IAAI,EAAE,IAAI,kBAAkB,CAAC,KAAK,EAAE,KAAK,GAAG,MAAM,CAAC,MAAM,CAAC;SAC3D,CAAC;KACH;;;;;;;;;;;;;;;;;;;IAuBD,qBAAqB,CAAC,WAAsC;QAC1D,MAAM,QAAQ,GAAsB,EAAE,CAAC;;;QAKvC,QAAQ,CAAC,IAAI,CAAC,GAAG,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,6BAA6B,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC;QAElF,OAAO,IAAI,CAAC,KAAK,CAAC,GAAG,CAAC,IAAI,CAAC,eAAe,EAAE,CAAC;YAC3C,MAAM,IAAI,GAAG,IAAI,CAAC,KAAK,CAAC,GAAG,EAAE,CAAC;YAC9B,IAAI,CAAC,IAAI,EAAE;gBACT,MAAM;aACP;YACD,QAAQ,CAAC,IAAI,CAAC,GAAG,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,6BAA6B,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC;SAC3F;QAED,OAAO,QAAQ,CAAC;IAClB,CAAC;IAED,6BAA6B,CAAC,WAAsC;QAClE,MAAM,QAAQ,GAAsB,EAAE,CAAC;QACvC,MAAM,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC,GAAG,EAAE,CAAC;QAC/B,IAAI,KAAK,EAAE;YACT,MAAM,IAAI,GAAG,KAAK,CAAC,IAAI,CAAC;YACxB,IAAI,IAAI,EAAE;gBACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gBACvB,IAAI,IAAI,EAAE;oBACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oBACvB,IAAI,IAAI,EAAE;wBACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wBACvB,IAAI,IAAI,EAAE;4BACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4BACvB,IAAI,IAAI,EAAE;gCACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gCACvB,IAAI,IAAI,EAAE;oCACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oCACvB,IAAI,IAAI,EAAE;wCACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wCACvB,IAAI,IAAI,EAAE;4CACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4CACvB,IAAI,IAAI,EAAE;gDACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gDACvB,IAAI,IAAI,EAAE;oDACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oDACvB,IAAI,IAAI,EAAE;wDACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wDACvB,IAAI,IAAI,EAAE;4DACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4DACvB,IAAI,IAAI,EAAE;gEACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gEACvB,IAAI,IAAI,EAAE;oEACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oEACvB,IAAI,IAAI,EAAE;wEACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wEACvB,IAAI,IAAI,EAAE;4EACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4EACvB,IAAI,IAAI,EAAE;gFACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gFACvB,IAAI,IAAI,EAAE;oFACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oFACvB,IAAI,IAAI,EAAE;wFACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wFACvB,IAAI,IAAI,EAAE;4FACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4FACvB,IAAI,IAAI,EAAE;gGACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gGACvB,IAAI,IAAI,EAAE;oGACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oGACvB,IAAI,IAAI,EAAE;wGACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wGACvB,IAAI,IAAI,EAAE;4GACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4GACvB,IAAI,IAAI,EAAE;gHACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gHACvB,IAAI,IAAI,EAAE;oHACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oHACvB,IAAI,IAAI,EAAE;wHACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wHACvB,IAAI,IAAI,EAAE;4HACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4HACvB,IAAI,IAAI,EAAE;gIACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gIACvB,IAAI,IAAI,EAAE;oIACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oIACvB,IAAI,IAAI,EAAE;wIACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wIACvB,IAAI,IAAI,EAAE;4IACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4IACvB,IAAI,IAAI,EAAE;gJACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gJACvB,IAAI,IAAI,EAAE;oJACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oJACvB,IAAI,IAAI,EAAE;wJACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wJACvB,IAAI,IAAI,EAAE;4JACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4JACvB,IAAI,IAAI,EAAE;gKACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gKACvB,IAAI,IAAI,EAAE;oKACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oKACvB,IAAI,IAAI,EAAE;wKACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wKACvB,IAAI,IAAI,EAAE;4KACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4KACvB,IAAI,IAAI,EAAE;gLACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gLACvB,IAAI,IAAI,EAAE;oLACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oLACvB,IAAI,IAAI,EAAE;wLACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wLACvB,IAAI,IAAI,EAAE;4LACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4LACvB,IAAI,IAAI,EAAE;gMACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gMACvB,IAAI,IAAI,EAAE;oMACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oMACvB,IAAI,IAAI,EAAE;wMACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wMACvB,IAAI,IAAI,EAAE;4MACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4MACvB,IAAI,IAAI,EAAE;gNACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gNACvB,IAAI,IAAI,EAAE;oNACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oNACvB,IAAI,IAAI,EAAE;wNACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wNACvB,IAAI,IAAI,EAAE;4NACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4NACvB,IAAI,IAAI,EAAE;gOACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gOACvB,IAAI,IAAI,EAAE;oOACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oOACvB,IAAI,IAAI,EAAE;wOACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wOACvB,IAAI,IAAI,EAAE;4OACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4OACvB,IAAI,IAAI,EAAE;gPACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gPACvB,IAAI,IAAI,EAAE;oPACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oPACvB,IAAI,IAAI,EAAE;wPACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wPACvB,IAAI,IAAI,EAAE;4PACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4PACvB,IAAI,IAAI,EAAE;gQACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gQACvB,IAAI,IAAI,EAAE;oQACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oQACvB,IAAI,IAAI,EAAE;wQACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wQACvB,IAAI,IAAI,EAAE;4QACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4QACvB,IAAI,IAAI,EAAE;gRACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gRACvB,IAAI,IAAI,EAAE;oRACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oRACvB,IAAI,IAAI,EAAE;wRACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wRACvB,IAAI,IAAI,EAAE;4RACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4RACvB,IAAI,IAAI,EAAE;gSACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gSACvB,IAAI,IAAI,EAAE;oSACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oSACvB,IAAI,IAAI,EAAE;wSACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wSACvB,IAAI,IAAI,EAAE;4SACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4SACvB,IAAI,IAAI,EAAE;gTACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gTACvB,IAAI,IAAI,EAAE;oTACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oTACvB,IAAI,IAAI,EAAE;wTACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wTACvB,IAAI,IAAI,EAAE;4TACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4TACvB,IAAI,IAAI,EAAE;gUACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gUACvB,IAAI,IAAI,EAAE;oUACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oUACvB,IAAI,IAAI,EAAE;wUACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wUACvB,IAAI,IAAI,EAAE;4UACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4UACvB,IAAI,IAAI,EAAE;gVACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gVACvB,IAAI,IAAI,EAAE;oVACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oVACvB,IAAI,IAAI,EAAE;wVACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wVACvB,IAAI,IAAI,EAAE;4VACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4VACvB,IAAI,IAAI,EAAE;gWACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gWACvB,IAAI,IAAI,EAAE;oWACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oWACvB,IAAI,IAAI,EAAE;wWACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wWACvB,IAAI,IAAI,EAAE;4WACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4WACvB,IAAI,IAAI,EAAE;gXACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gXACvB,IAAI,IAAI,EAAE;oXACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oXACvB,IAAI,IAAI,EAAE;wXACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wXACvB,IAAI,IAAI,EAAE;4XACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4XACvB,IAAI,IAAI,EAAE;gYACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gYACvB,IAAI,IAAI,EAAE;oYACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oYACvB,IAAI,IAAI,EAAE;wYACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wYACvB,IAAI,IAAI,EAAE;4YACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4YACvB,IAAI,IAAI,EAAE;gZACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gZACvB,IAAI,IAAI,EAAE;oZACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oZACvB,IAAI,IAAI,EAAE;wZACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wZACvB,IAAI,IAAI,EAAE;4ZACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4ZACvB,IAAI,IAAI,EAAE;gaACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gaACvB,IAAI,IAAI,EAAE;oaACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oaACvB,IAAI,IAAI,EAAE;waACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;waACvB,IAAI,IAAI,EAAE;4aACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4aACvB,IAAI,IAAI,EAAE;gbACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gbACvB,IAAI,IAAI,EAAE;obACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;obACvB,IAAI,IAAI,EAAE;wbACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wbACvB,IAAI,IAAI,EAAE;4bACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4bACvB,IAAI,IAAI,EAAE;gcACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gcACvB,IAAI,IAAI,EAAE;ocACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;ocACvB,IAAI,IAAI,EAAE;wcACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wcACvB,IAAI,IAAI,EAAE;4cACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4cACvB,IAAI,IAAI,EAAE;gdACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gdACvB,IAAI,IAAI,EAAE;odACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;odACvB,IAAI,IAAI,EAAE;wdACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wdACvB,IAAI,IAAI,EAAE;4dACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4dACvB,IAAI,IAAI,EAAE;geACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;geACvB,IAAI,IAAI,EAAE;oeACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;oeACvB,IAAI,IAAI,EAAE;weACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;weACvB,IAAI,IAAI,EAAE;4eACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4eACvB,IAAI,IAAI,EAAE;gfACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gfACvB,IAAI,IAAI,EAAE;ofACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;ofACvB,IAAI,IAAI,EAAE;wfACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;wfACvB,IAAI,IAAI,EAAE;4fACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;4fACvB,IAAI,IAAI,EAAE;ggfACR,MAAM,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC;gg

AC,IAAI,CAAC,CAAC,CAAC,WAAW,CAACpE,OAAa,CAAC,CAAC;aAC3D,IAAI,CAAC,iBAAiB,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,WAAW,CAACqE,SAAe,CAAC,CAAC;aAC/D,EAAE,IAAI,CAAC,OAAO,GAAG,iBAAiB,CAAC,QAAQ,CAAC,IAAI,CAAC,CAAC,CAAC,UAAU,CAAC,GAAG,CAAC,CAAC,EAAE;YAC3E,IAAI,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,EAAE;gBACvB,IAAI,CAAC,MAAM,CAAC,IAAI,CACZ,IAAI,WAAW,CAAC,IAAI,CAAC,IAAI,CAAC,QAAQ,EAAG,EAAE,IAAI,CAAC,KAAK,EAAE,IAAI,CAAC,YAAY,E
AAE,EAAE,IAAI,CAAC,QAAQ,CAAC,CAAC,CAAC;aAC7F;YACD,IAAI,CAAC,OAAO,EAAE,CAAC;YACf,CAAC,GAAG,IAAI,CAAC,IAAI,CAAC;SACf;KACF;CACF;AAED,MAAM,uBAAuB;IAA7B;QACE,WAAM,GAAA,EAAE,CAAC;KAuDvB;IArDC,qBAAqB,CAAC,GAAqB,EAAE,OAAY,KAAI;IAE7D,iBAAiB,EAAE,OAAY,KAAI;IAErD,kBAAkB,CAAC,GAAkB,EAAE,OAAY,KAAI;IAEvD,qBAAqB,CAAC,GAAqB,EAAE,OAAY,KAAI;IAE7D,iBAAiB,EAAE,OAAY,KAAI;IAErD,kBAAkB,CAAC,GAAkB,EAAE,OAAY,KAAI;IAEvD,qBAAqB,CAAC,GAAqB,EAAE,OAAY,KAAI;IAE7D,eAAe,CAAC,GAAe,EAAE,OAAY,KAAI;IAEjD,mBAAmB,CAAC,GAAmB,EAAE,OAAY,KAAI;IAEzD,iBAAiB,CAAC,GAAiB,EAAE,OAAY,KAAI;IAErD,iBAAiB,CAAC,GAAiB,EAAE,OAAY;QAC/C,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,WAAW,E
AAE,OAAO,CAAC,CAAC;KACzC;IAED,eAAe,CAAC,GAAe,EAAE,OAAY;QAC3C,IAAI,CAAC,QAAQ,CAAC,CAAC,GAAG,CAAC,MAAM,EAAE,OAAO,CAAC,CAAC,CAAC;KACpC;IAED,UAAU,CAAC,GAAU,EAAE,OAAY,KAAI;IAEvC,WAAW,CAAC,GAAW,EAAE,OAAY,KAAI;IAEzC,cAAc,CAAC,GAAc,EAAE,OAAY,KAAI;IAE/C,kBAAkB,CAAC,GAAkB,EAAE,OAAY,KAAI;IAEvD,gBAAgB,CAAC,GAAgB,EAAE,OAAY,KAAI;IAEnD,SAAS,CAAC,GAAS,EAAE,OAAY;QAC/C,tC,IAAI,CAAC,MAAM,CAAC,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC,CAAC;KAC3B;IAED,cAAc,CAAC,GAAc,EAAE,OAAY,KAAI;IAE/C,eAAe,CAAC,GAAe,EAAE,OAAY,KAAI;IAEjD,SAAS,CAAC,GAAS,EAAE,OAAY,KAAI;IAEzC,UAAU,CAAC,GAAU,EAAE,OAAY;QACnC,hC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI

F;IAC/F,uGAAuG;IACvG,uBAAuB;IACvB,yBAAyB;IACzB,kDAAkD;IAClD,qBAAqB;IACrB,0CAA0C;IAC1C,6BAA6B;IAC7B,kHAAkH;IAClH,8DAA8D;IAC9D,mHAAmH;IACnH,gDAAgD;IAChD,uDAAuD;IACvD,yBAAyB;IACzB,oNAAoN;IACpN,0BAA0B;IAC1B,qDAAqD;IACrD,gCAAgC;IAChC,wBAAwB;IACxB,mCAAmC;IACnC,uBAAuB;IACvB,8BAA8B;IAC9B,oCAAoC;IACpC,uCAAuC;IACvC,4BAA4B;IAC5B,8BAA8B;IAC9B,0BAA0B;IAC1B,kBAAkB;IAClB,qBAAqB;IACrB,6BAA6B;IAC7B,qBAAqB;IACrB,2BAA2B;IAC3B,iCAAiC;IACjC,yBAAyB;IACzB,8BAA8B;IAC9B,+BAA+B;IAC/B,+BAA+B;IAC/B,4BAA4B;IAC5B,0BAA0B;IAC1B,qBAAqB;IACrB,8CAA8C;IAC9C,8CAA8C;IAC9C,8CAA8C;IAC9C,8CAA8C;IAC9C,4BAA4B;IAC5B,qBAAqB;IACrB,qBAAqB;IACrB,yBAAyB;IACzB,0BAA0B;IAC1B,sBAAsB;IACtB,0BAA0B;IAC1B,gCAAgC;IAChC,yBAAyB;IACzB,oBAAoB;IACpB,0BAA0B;IAC1B,oBAAoB;IACpB,mCAAmC;IACnC,uBAAuB;IACvB,2BAA2B;IAC3B,0BAA0B;IAC1B,oCAAoC;IACpC,mBAAmB;IACnB,oBAAoB;IACpB,kBAAkB;IAClB,sBAAsB;IACtB,0BAA0B;IAC1B,qBAAqB;IACrB,6BAA6B;IAC7B,8BAA8B;IAC9B,oCAAoC;IACpC,0BAA0B;IAC1B,kDAAkD;IAClD,wBAAwB;IACxB,0BAA0B;IAC1B,kBAAkB;IAClB,6CAA6C;IAC7C,4BAA4B;IAC5B,oBAAoB;IACpB,kCAAkC;IAClC,iCAAiC;IACjC,iCAAiC;IACjC,mBAAmB;IACnB,yBAAyB;IACzB,6BAA6B;IAC7B,0BAA0B;IAC1B,uEAAuE;IACvE,+EAA+E;IAC/E,wBAAwB;IACxB,6BAA6B;IAC7B,oBAAoB;IACpB,CACrB,CAAC;AAEF,MAAM,aAAa,GAA6B;IAC9C,OAAO,EAAE,WAAW;IACpB,KAAK,EAAE,SAAS;IAChB,YAAY,EAAE,YAAY;IAC1B,WAAW,EAAE,WAAW;IACxB,UAAU,EAAE,UAAU;IACtB,UAAU,EAAE,UAAU;CACvB,CAAC;MAEW,wBAAyB,SAAQ,qBAAqB;IAGjE;QACE,KAAK,EAAE,CAAC;QAHF,YAAO,GAAA sD,EAAE,CAAC;QAItE,MAAM,CAAC,OAAO,CAAC,WAAW;YACxB,MAAM,IAAI,GAAG,iC,EAAE,CAAC;YAC9C,MAAM,CAAC,OAAO,EAAE,aAAa,CAAC,GAAG,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC;YAC7D

AAQ,CAAC,WAAW,EAAE,CAAC;QAClC,IAAI,GAAG,GAAG,eAAe,EAAE,CAAC,OAAO,GAAG,GAAG,GA
AG,QAAQ,CAAC,CAAC;QACtD,IAAI,GAAG,EAAE;YACP,OAAO,GAAG,CAAC;SACZ;QACD,GAAG,GAA
G,eAAe,EAAE,CAAC,IAAI,GAAG,QAAQ,CAAC,CAAC;QACzC,OAAO,GAAG,GAAG,GAAG,GAAG,eAAe,C
AAC,IAAI,CAAC;KACzC;IAED,iBAAiB,CAAC,QAAgB;QAChC,OAAO,aAAa,CAAC,QAAQ,CAAC,IAAI,QA
AQ,CAAC;KAC5C;IAED,8BAA8B;QAC5B,OAAO,cAAc,CAAC,IAAI,gBAAgB,CAAC,IAAY;QAC3B
,IAAI,IAAI,CAAC,WAAW,EAAE,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE;YACvC,MAAM,GAAG,GAAG,8B
AA8B,IAAI,wCAAwC;gBAClF,eAAe,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC,OAAO;gBACnC,SAAS,IAAI,o
EAAoE;gBACjF,kBAAkB,CAAC;YACvB,OAAO,EAAC,KAAK,EAAE,IAAI,EAAE,GAAG,EAAE,GAAG,EAA
C,CAAC;SAChC;aAAM;YACL,OAAO,EAAC,KAAK,EAAE,KAAK,EAAC,CAAC;SACvB;KACF;IAED,iBAAi
B,CAAC,IAAY;QAC5B,IAAI,IAAI,CAAC,WAAW,EAAE,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE;YACvC,M
AAM,GAAG,GAAG,+BAA+B,IAAI,wCAAwC;gBACnF,eAAe,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC,OAA
O,CAAC;YACxC,OAAO,EAAC,KAAK,EAAE,IAAI,EAAE,GAAG,EAAE,GAAG,EAAC,CAAC;SAChC;aAAM;
YACL,OAAO,EAAC,KAAK,EAAE,KAAK,EAAC,CAAC;SACvB;KACF;IAED,oBAAoB;QAClB,OAAO,MAA
M,CAAC,IAAI,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;KAClC;IAED,+BAA+B,CAAC,QAAgB;QAC9C,OAAO,mBAA
mB,CAAC,QAAQ,CAAC,CAAC;KACtC;IAED,4BAA4B,CAAC,aAAqB,EAAE,gBAAwB,EAAE,gBA
kB;QAE9F,IAAI,IAAI,GAAW,EAAE,CAAC;QACtB,IAAI,aAAa,GAAG,CAAC,EAAE;YACrB,IAAI,IAAI,GAAG
C,IAAI,EAAE,CAAC;QACrC,IAAI,QAAQ,GAAW,IAAK,CAAC;QAE7B,IAAI,sBAAsB,CAAC,aAAa,CAAC,IA
AI,GAAG,KAAK,CAAC,IAAI,GAAG,KAAK,GAAG,EAAE;YACrE,IAAI,OAAO,GAAG,KAAK,QAAQ,EAAE;
gBAC3B,IAAI,GAAG,IAAI,CAAC;aACb;iBAAM;gBACL,MAAM,iBAAiB,GAAG,IAAI,iBAAiB,CAAC,CAAC,CAAC
,wBAAwB,CAAC,CAAC;gBAC9D,IAAI,iBAAiB,IAAI,iBAAiB,CAAC,CAAC,CAAC,CAAC,CAAC,MAAM,IAAI,CAA
C,EAAE;oBACzC,QAAQ,GAAG,uCAAuC,gBAAgB,IAAI,GAAG,EAAE,CAAC;iBAC7E;aACF;iBAAM;gBACL,
IAAI,GAAG,EAAE,CAAC;aACX;YAED,OAAO,EAAC,IAAI,EAAE,QAAQ,EAAC,CAAC;SACzB;aAAM;YACL,OAAO,
EAAC,KAAK,EAAE,KAAK,EAAE,QAAQ,EAAE,KAAK,EAAC,CAAC;SACjC;IACH,CAAC;IAED,SAAS,sBAAsB,
CAAC,IAAY;QAC1C,OAAO,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,
CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,
IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,
CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,
CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,GAAG,CAAC,CAAC,CAAC,IAAI,
GAAG,CAAC,CAAC,CAAC

CAAC,CAAC;QAClD,IAAI,gBAAgB,CAAC,IAAI,KAAK,oBAAoB,CAAC,MAAM,EAAE;YACzD,OAAO,IAAI
,CAAC;SACb;aAAM,IAAI,gBAAgB,CAAC,IAAI,KAAK,oBAAoB,CAAC,KAAK,EAAE;YAC/D,MAAM,QAA
Q,GAAG,YAAY,CAAC,OAAO,CAAC,CAAC;YACvC,IAAI,QAAQ,KAAK,IAAI,EAAE;gBACrB,IAAI,CAAC,
MAAM,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;aAC5B;YACD,OAAO,IAAI,CAAC;SACb;aAAM,IACH,gBA
AgB,CAAC,IAAI,KAAK,oBAAoB,CAAC,UAAU;YACzD,oBAAoB,CAAC,gBAAgB,CAAC,QAAQ,CAAC,EAA
E;YACnD,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,gBAAgB,CAAC,QAAQ,CAAC,CAAC;YAC/C,OAAO,IAAI,
CAAC;SACb;;QAGD,MAAM,iBAAiB,GAAG,YAAY,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC;QAErD,MAAM
,gBAAgB,GAAqB,EAAE,CAAC;QAC9C,MAAM,WAAW,GAAmB,EAAE,CAAC;QACvC,MAAM,SAAS,GAAiB
B,EAAE,CAAC;QACnC,MAAM,UAAU,GAAkB,EAAE,CAAC;QACrC,MAAM,UAAU,GAAsB,EAAE,CAAC;Q
CzC,MAAM,aAAa,GAAmC,EAAE,CAAC;QAEzD,MAAM,wBAAwB,GAAqB,EAAE,CAAC;QACtD,MAAM,i
BAAiB,GAAiB,EAAE,CAAC;;QAG3C,IAAI,wBAAwB,GAAG,KAAK,CAAC;QAErC,MAAM,KAAK,IAAI,SAAS
,IAAI,OAAO,CAAC,KAAK,EAAE;YACrC,IAAI,UAAU,GAAG,CAAC;YAClB,MAAM,sBA
AsB,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC;;YAG9D,IAAI,iBAAiB,GAAG,KAAK,CAAC;YAE9B,IAAI,SAA
S,CAAC,IAAI,EAAE;gBAClB,aAAa,CAAC,SAAS,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC,IAAI,CAAC;aACh
D;YAED,IAAI,cAAc,CAAC,UAAU,CACC,sBAAoB,CAAC,EAAE;;gBAEnD,IAAI,wBAAwB,EAAE;oBAC5B,
IAAI,CAAC,WAAW,CACZ,8FAA8F,EAC9F,SAAS,CAAC,UAAU,CAAC,CAAC;iBAC3B;gBACD,iBAAiB,GA
AG,IAAI,CAAC;gBACzB,wBAAwB,GAAG,IAAI,CAAC;gBAChC,MAAM,aAAa,GAAG,SAAS,CAAC,KAAK,
CAAC;gBACtC,MAAM,WAAW,GAAG,cAAc,CAAC,SAAS,CAAC,sBAAoB,CAAC,MAAM,CAAC;g
BAE1E,MAAM,eAAe,GAAqB,EAAE,CAAC;gBAC7C,MAAM,mBAAmB,GAAG,SAAS,CAAC,SAAS;oBAC3C,
SAAS,CAAC,SAAS,CAAC,KAAK,CAAC,MAAM;;;;oBAIhC,SAAS,CAAC,UAAU,CAAC,KAAK,CAAC,MAA
M,GAAG,SAAS,CAAC,IAAI,CAAC,MAAM,CAAC;gBAE9D,IAAI,CAAC,aAAa,CAAC,0BAA0B,CAACzC,WA
AW,EAAE,aAAa,EAAE,SAAS,CAAC,UAAU,EAAE,mBAAmB,EAAE,EAAE,EACzE,wBAAwB,EAAE,eAAe,E
AAE,IAAI,gBAAgB,CAAC;gBACpC,iBAAiB,CAAC,IAAI,CAAC,GAAG,eAAe,CAAC,GAAG,CAACzC,I
AAI,IAAI+C,QAAU,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,UAAU,EAA
E,CAAC,CAAC,OAAO,EAAE,CAAC,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC;aAClF;iBAAM;gBACL,IAAI,
UAAU,GAAG,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,SAAS,CAAC,sBAAoB,CAAC,MAAM,CAAC;gBAE
pD,IAAI,CAAC,aAAa,CAAC,0BAA0B,CAACzC,WAAW,EAAE,aAAa,EAAE,SAAS,CAAC,UAAU,EAAE,
mBAAmB,EAAE,EAAE,EAAE,EAAE,gBAAgB,CAAC,EAAE,WAAW,EAAE,SAAS,CAAC,UAAU,EAAE,
eAAe,EAAE,IAAI,gBAAgB,CAAC;gBACpC,iBAAiB,CAAC,IAAI,CAAC,GAAG,eAAe,CAAC,GAAG,CAACzC,I
AAI,IAAI+C,QAAU,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,UAAU,EAA
E,CAAC,CAAC,OAAO,EAAE,CAAC,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC;aAClF;;gBAEL,UAA
U,GAAG,IAAI,CAAC,cAAc,CAAC,sBAAoB,CAAC,MAAM,CAAC;gBAE9D

AAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC;YACtD,MAAM,YAAY,GAAG,aAAa,YAAYA,OAAS;gBACnD;oBACE,UAAU,EAAE,aAAa,CAAC,UAAU;oBACpC,MAAM,EAAE,aAAa,CAAC,MAAM;oBAC5B,OAAO,EAAE,aAAa,CAAC,OAAO;iBAC/B;gBACD,EAAC,UAAU,EAAE,EAAE,EAAE,MAAM,EAAE,EAAE,EAAE,OAAO,,EAAE,EAAE,EAAC,CAAC;;;;YAK9C,MAAM,IAAI,GAAG,iBAAiB,IAAI,iBAAiB,GAAG,SAAS,GAAG,OAAO,CAAC,IAAI,CAAC;;YAG/E,aAAa,GAAG,IAAIjJ,QAAQ,CACzB,aAAauC,CAAC,IAAI,EAAE,YAAY,CAAC,UAAU,EACtCE,CAAC,YAAY,CAAC,MAAM,EAAE,YAAY,CAAC,OAAO,EAAE,aAAa,EAAE,CAAC,aAAa,CAAC,EAAC zE,sBAAqB,EAAE,iBAAiB,EAAE,OAAO,CAAC,UAAU,EAAE,OAAO,CAAC,eAAe,EACrF,OAAO,CAAC,aAAa,EAAE,IAAI,CAAC,CAAC,CAAC;QACD,IAAI,CAAC,iBAAiB,EAAE;;YAGnB,OAAO,IAAI,CAAC;SACb;QACD,IAAI,CAAC,cAAc,EAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;QAC7C

AmB,EAAE,gBAAgB,EAAE,OAAO,CAAC,CAAC;aAErD;iBAAM,IAAI,SAAS,CAACC,YAAU,CAAC,EAAE;gBAChC,IAAI,iBAAiB,EAAE;oBACrB,MAAM,UAAU,GAAG,SAAS,CAACK,cAAY,CAAC,CAAC;oBAC3C,MAAM,OAAO,GAAG,aAAa,CAAC,OAAO,EAAE,SAAS,CAACL,YAAU,CAAC,EAAE,UAAU,CAAC,CAAC;oBAC1E,IAAI,CAAC,aAAa,CAAC,UAAU,EAAE,KAAK,EAAE,OAAO,EAAE,OAAO,EAAE,SAAS,CAAC,SAAS,EAAE,SAAS,CAAC,CAAC;iBACzF;qBAAM;oBACL,MAAM,IAAI,CAAC,WAAW,CAAC,mDAAmD,EAAE,OAAO,CAAC,CAAC,CAAC;iBAChG;aAAE;iBAAM;gBACP,MAAM,IAAI,SAAS,CAACC,YAAU,CAAC,EAAE;gBAChC,MAAM,UAAU,GAAG,SAAS,CAAC,cAAc,CAAC,CAAC,UAAU,EAAE,KAAK,EAAE,OAAO,EAAE,OAAO,EAAE,SAAS,CAAC,SAAS,EAAE,SAAS,CAAC,CAAC;gBAC/G,MAAM,OAAO,GAAG,aAAa,CAAC,OAAO,EAAE,SAAS,CAACA,YAAU,CAAC,EAAE,UAAU,CAAC,CAAC;gBAC1E,IAAI,CAAC,aAAa,CAAC,UAAU,EAAE,KAAK,EAAE,OAAO,EAAE,OAAO,EAAE,SAAS,CAAC,SAAS,EAAE,SAAS,CAAC,CAAC;aACzF;SAAE;QACH,MAAM,IAAI,CAAC,WAAW,CAAC,qBAAqB,EAAE,OAAO,CAAC,CAAC,CAAC;KACzD;IAAE;QACD,MAAM,IAAI,CAAC,WAAW,CAAC,oBAAoB,EAAE,OAAO,CAAC,CAAC,CAAC;KACxD;IAAE;QACD,MAAM,IAAI,CAAC,WAAW,CAAC,mDAAmD,EAAE,OAAO,CAAC,CAAC,CAAC;KACvF;IAAE;QACD,MAAM,IAAI,CAAC,WAAW,CAAC,aAAa,EAAE,OAAO,CAAC,CAAC,CAAC;KACjD

AI,CAAC,IAAIS,SAAW,CAAC,UAAU,EAAE,KAAK,EAAE,UAAU,EAAE,SAAS,CAAC,CAAC,CAAC;KAC5E
;IAEO,oBAAoB,CACxB,IAAY,EAAE,UAAkB,EAAE,UA2B,EAC7D,SAAoC,EAAE,oBAAgC,EACtE,WA2B
;QAC7B,MAAM,MAAM,GAAkB,EAAE,CAAC;QACjC,IAAI,CAAC,aAAa,CAAC,UAAU,CACzB,GAAG,IAAI,
QAAQ,EAAE,GAAG,UAAU,SAAS,EAAE,UAAU,EAAE,SAAS,IAAI,UAAU,EAC5E,oBAAoB,EAAE,MAAM,
CAAC,CAAC;QAClC,SAAS,CAAC,MAAM,EAAE,WAAW,CAAC,CAAC;KAChC;IAEO,WAAW,CACf,OAAe,
EAAE,UA2B,EAC5C,QAAyB,eAAe,CAAC,KAAK;QAChD,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,IAAI,CAAC,U
AAU,CAAC,UAAU,EAAE,OAAO,EAAE,KAAK,CAAC,CAAC,CAAC;KAC9D;CACF;AAED,MAAMC,oBAAk
B;IACtB,YAAY,CAAC,GAAiB;QAC5B,MAAM,gBAAgB,GAAG,eAAe,CAAC,CAAC,GAAG,CAAC,CAAC;QAC9C,I
AAI,gBAAgB,CAAC,IAAI,KAAK,oBAAoB,CAAC,MAAM;YACrD,gBAAgB,CAAC,IAAI,KAAK,oBAAoB,CA
AC,KAAK;YACpD,gBAAgB,CAAC,IAAI,KAAK,oBAAoB,CAAC,UAAU,EAAE;;;;YAI7D,OAAO,IAAI,CAAC;
SACb;QAED,MAAM,QAAQ,GAAa1D,UAAa,CAAC,IAAI,EAAE,GAAG,CAAC,QAAQ,EAAE,IAAI,CAAC,CA
AC;QACnE,OAAO,IAAImD,OAAS,CAChB,GAAG,CAAC,IAAI,EAAEnD,UAAa,CAAC,IAAI,EAAE,GAAG,C
AAC,KAAK,CAAsB;qBACjD,EAAE,gBAAe,EAAE,EAAE,QAAQ,mBAAmB,EAAE,EAAE,GAAG,CAAC,UAA
U,EAC9E,GAAG,CAAC,eAAe,EAAE,GAAG,CAAC,aAAa,CAAC,CAAC;KAC7C;IAED,YAAY,CAAC,OAAqB
;QAChC,OAAO,IAAI,CAAC;KACb;IAED,cAAc,CAAC,SAAyB;QACtC,OAAO,IAAIoD,OAAS,CAAC,IAAI,EAAE,
IAAI,CAAC,KAAK,EAAE,SAAS,CAAC,UAAU,EAAE,SAAS,EAAE,SAAS,CAAC,IAAI,CA
AC,CAAC;KACvF;IAED,SAAS,CAAC,IAAe;QACvB,OAAO,IAAIA,OAAS,CAAC,IAAI,EAAE,IAAI,CAAC;
KACvB;IAED,SAAS,CAAC,IAAe;QACvB,OAAO,IAAIA,OAAS,CAAC,IAAI,EAAE,IAAI,CAAC;KACvB;IAE
D,SAAS,CAAC,IAAe;QACvB,OAAO,IAAIA,OAAS,CAAC,IAAI,EAAE,IAAI,CAAC;KACvB;IAED,SAAS,CAAC
,IAAe;QACvB,OAAO,IAAIA,OAAS,CAAC,IAAI,EAAE,IAAI,CAAC;KACvB;IAED,SAAS,CAAC,IAAe;Q
AAC,OAAO,IAAIA,OAAS,CAAC,IAAI,EAAE,IAAI,CAAC;KACvB;IAED,SAAS,CAAC,IAAe;QACvB,OAAO,I
AAIA,OAAS,CAAC,IAAI,EAAE,IAAI,CAAC;KACvB;IAED,SAAS,CAAC,IAAe;QACvB,OAAO,IAAIA,OAAS,
CAAC,IAAI,EAAE,IAAI,CAAC;KACvB;IAED,SAAS,CAAC,IAAe;QACvB,OAAO,IAAIA,OAAS,CAAC,IAAI,EAAE,
IAAI,CAAC;

AC,OAAO,CAAC,CAAC;KAC5B;IACD,SAAS,CAAC,IAAY,EAAE,GAAiB;QACvC,oBAAoB,CAAC,IAAI,CA
AC,SAAS,CAAC,IAAI,EAAE,IAAI,EAAE,GAAG,CAAC,CAAC;KACtD;IACD,eAAe,CAAC,IAAmB;QACjC,M
AAM,GAAG,GAAG,6BAA6B,CAAC,IAAI,EAAE,IAAI,CAAC,QAAQ,CAAC,IAAI,EAAE,IAAI,CAAC,EAAE,
CAAC,CAAC;QAC7E,GAAG,CAAC,OAAO,CAAC,CAAC,MAAM,EAAE,GAAG,KAAK,oBAAoB,CAAC,IAAI
,CAAC,YAAY,EAAE,GAAG,EAAE,GAAG,MAAM,CAAC,CAAC,CAAC;KACvF;IACD,cAAc,CAAC,IAAmB,
EAAE,KAAa;;;QAG/C,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,QAAQ,EAAE,IA2B,EAAE,KAAK,EAAE,KA
AK,CAAC,CAAC;QAC5E,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,QAAQ,EAAE,IA2B,EAAE,KAAK,EAAE
,IAAI,CAAC,CAAC;QAC3E,IAAI,CAAC,mBAAmB,EAAE,CAAC;KAC5B;IACD,aAAa,CAAC,IAAmB,EAAE,
KAAa,EAAE,MAAgB;QAChE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,OAAO,EAAE,IA2B,EAAE,KAAK,E
AAE,MAAM,CAAC,CAAC;KAC7E;IACD,gBAAgB,CAAC,IAAmB,EAAE,KAAa;;;;;QAKjD,IAAI,CAAC,SAAS
,CAAC,OAAO,CAAC,OAAO,EAAE,IA2B,EAAE,KAAK,EAAE,KAAK,CAAC,CAAC;QAC3E,IAAI,CAAC,
SAAS,CAAC,OAAO,CAAC,OAAO,EAAE,IA2B,EAAE,KAAK,EAAE,IAAI,CAAC,CAAC;KAC3E;;;;;;;;;;IAY
D,gBAAgB,CAAC,KAAa,EAAE,aAAqB,EAAE,IAAmB;QACxE,OAAO,IAAI,WAAW,CAAC,KAAK,EAAE,IA
AI,CAAC,GAAG,EAAE,IAAI,CAAC,KAAK,GAAG,CAAC,EAAE,aAAa,EAAE,IAAI,EAAE,IAAI,CAAC,SAAS
,CAAC,CAAC;KAC9F;;;;;;IAOD,qBAAqB,CAAC,OAAoB;;;QAGxC,IAAI,CAAC,OAAO,EAAE,OAAO,,CAAC,CAAC
,OAAO,CAAC,CAAC,EAAU;YACpC,MAAM,GAAG,GAAI,OAAO,CAAC,IAAY,,CAAC,GAAG,EAAE,MAAM
,CAAC,CAAC;YAC/C,MAAM,GAAG,GAAG,IAAI,CAAC,YAAY,,CAAC,GAAG,CAAC,GAAG,CAAC,IAAI,E
AAE,CAAC;YAC7C,MAAM,GAAG,GAAG,GAAG,CAAC,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,EAAE,EAAE
,OAAO,CAAC,aAAa,CAAC,CAAC,CAAC;YACrE,IAAI,GAAG,GAAP,CAAC,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,GAAG,CAAC,OAAO,CAAC,GAAG,CAAC,IAAI,,O
AAO,CAAC,EAAE,CAAC;aAAa;SACF,CAAC,CAAC;;QAGH,MAAM,QAAQ,GAAG,CAAC,OAAO,CAAC,YAAY,,C
AAC;QACtC,QAAQ,CAAC,OAAO,CAAC,CAAC,MAAM,EAAE,EAAE,GAAW;YAC1C,IAAI,CAAC,SAAS,CAAC,
YAAY,,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;YACvC,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,EAAE;gBACnC,IAAI,CA
AC,YAAY,,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,EAAE,MAAM,CAAC,CAAC;gBACnD,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,OAAO,CAAC,aAAa,CAAC,CAAC,CAAC

EAAE,CAAC,CAAC;aAC9E;;YAED,IAAI,KAAK,CAAC,IAAI,EAAE;gBACd,OAAO,QAAQ,CAAC,KAAK,CAAC,IAAI,CAAC,GAAG,OAAO,CAAC,KAAK,CAAC;qBACvC,KAAK,CAAC,MAAM,GAAG,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,IAAI,CAAC,GAAG,EAAE,CAAC,CAAC;aACtD;YACD,OAAO,OAAO,CAAC,KAAK,CAAC,CAAC;QAExB,KAAK,OAAO,QAAQ;YACnB,OAAO,QAAQ,CAAC,KAAK,EAAE,KAAK,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC;QAEvC,KAAK,OAAO,QAAQ;YACnB,OAAO,QAAQ,CAAC,KAAK,CAAC;KAChB;AACH;;AC7NA;;;;;;;AAYA,MAAM,oBAAoB;IACxB,SAAS,CAAC,IAAe;QACvB,OAAO,IAAI,CAAC,KAAK,CAAC,KAAK,CAAC;KACnB;IAED,cAAc,CAAC,SAAS,CAAC,YAAY;QACnC,OAAO,IAAI,CAAC,KAAK,CAAC,KAAK,CAAC,KAAK

CAAC,CAAC;KACrD;;IAGO,QAAQ,CAAC,GAAW,EAAE,KAA4B,EAAE,MAAe;QACzE,MAAM,KAAK,GAAG,IAAI,GAAG,EAAE,CAAC;QACxB,MAAM,QAAQ,GAAG,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,IAAI,EAAE,CAAC,GAAG,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,KAAK,IAAI,IAAI,IAAI,KAAK,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC;QAC7F,MAAM,GAAG,GAAG,MAAM,CAAC,GAAG,CAAC,MAAM,GAAG,IAAI,GAAG,MAAM,GAAG,IAAI,GAAG,MAAM,GAAG,IAAI,GAAG,CAAC;QAEzE,IAAI,OAAO,KAAK,CAAC,GAAG,CAAC,KAAK,QAAQ,EAAE;YAAE,OAAO,KAAK,CAAC,GAAG,CAAC,CAAC;SAAE;QAEjE,MAAM,CAAC,GAAG,IAAI,CAAC,GAAG,CAAC,CAAC,EAAE,MAAM,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC;QAEzC,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;QACf,OAAO,CAAC,CAAC;IACX,CAAC;IAED,SAAS,QAAQ,CAAC,GAAW,EAAE,KAAa;QAC1C,IAAI,KAAK,GAAG,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;QAC3B,IAAI,KAAK,KAAK,SAAS,EAAE;YACvB,KAAK,GAAG,IAAI,GAAG,EAAE,CAAC;YAClB,KAAK,CAAC,GAAG,CAAC,GAAG,EAAE,KAAK,CAAC,CAAC;SACvB;QACD,KAAK,CAAC,GAAG,CAAC,KAAK,EAAE,KAAK,GAAG,CAAC,CAAC,CAAC;IAC9B

AC,UAAU,CAAC,GAAG,CAAC,CAAC,IAAI,KAAK,IAAI,CAAC,KAAK,CAAC,IAAI,EAAE,OAAO,CAAC,C
AAC,EAAE,IAAI,CAAC,aAAa,CAAC,CAAC;SACnF,CAAC,CAAC;QACH,OAAO,CAAC,QAAQ,EAAE,CAAC
;QAEnB,IAAI,OAAO,CAAC,KAAK,IAAI,OAAO,CAAC,QAAQ,GAAG,CAAC,EAAE;;;;YAIzC,MAAM,KAAK,
GAAG,OAAO,CAAC,mBAAmB,CAAC,oBAAoB,CAAC,OAAO,GAAG,CAAC,IAAI,EAAE,CAAC,CAAC;YAC
lF,OAAO,CAAC,qBAAqB,GAAG,KAAK,CAAC;YACtC,OAAO,CAAC,oBAAoB,CAAC,KAAK,CAAC,GAAG;
gBACpC,IAAI,EAAE,GAAG,CAAC,WAAW;gBACrB,UAAU,EAAE,GAAG,CAAC,qBAAqB;aACtC,CAAC;YA
CF,OAAO,OAAO,CAAC,WAAW,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;SAC1C;;;;;QAMD,MAAM,MAA
M,GAAG,OAAO,CAAC,mBAAmB,CAAC,kBAAkB,CAAC,KAAK,EAAE,GAAG,CAAC,UAAU,CAAC,QAAQ,
EAAE,CAAC,CAAC;QAChG,OAAO,CAAC,oBAAoB,CAAC,MAAM,CAAC,GAAG,IAAI,CAAC,aAAa,CAAC,
CAAC,GAAG,CAAC,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,EAAE,SAAS,CAAC,CAAC;QACxF,MAAM,IA
AI,GAAG,IAAIkK,cAAmB,CAAC,OAAO,EAAE,MAAM,EAAE,GAAG,CAAC,UAAU,CAAC,CAAC;QACtE,O
AAO,OAAO,CAAC,WAAW,CAAC,GAAG,EAAE,IAAI,CAAC,CAAC;KCvC;IAED,kBAAkB,CAAC,QAA4B,
EAAE,QAAmC;QAClF,MAAM,IAAI,KAAK,CAAC,kBAAkB,CAAC,CAAC;KCrC;;;;;;;;IAUO,2BAA2B,CAC
/B,IAAY,EAAE,UA2B,EAAE,OAAkC,EAC7E,YAAqC;QACvC,MAAM,EAAC,OAAO,EAAE,WAAW,EAAC,
GAAG,IAAI,CAAC,iBAAiB,CAAC,kBAAkB,CACpE,IAAI,EAAE,UAAU,CAAC,KAAK,CAAC,QAAQ,EAAE,
EAAE,IAAI,CAAC,oBAAoB,CAAC,CAAC;;QAGlE,IAAI,WAAW,CAAC,MAAM,KAAK,CAAC,EAAE;YAC5
B,OAAO,IAAIC,MAAS,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;SACxC;;QAGD,MAAM,KAAK,GAAgB,EA
AE,CAAC;QAC9B,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,OAAO,CAAC,MAAM,GAAG,CA
AC,EAAE,CAAC,EAAE,EAAE;YAC3C,IAAI,CAAC,QAAQ,CAAC,KAAK,EAAE,OAAO,CAAC,CAAC,CAAC
,EAAE,UAAU,CAAC,CAAC;YAC7C,IAAI,CAAC,eAAe,CAAC,KAAK,EAAE,OAAO,EAAE,WAAW,CAAC,C
AAC,CAAC,EAAE,UAAU,CAAC,CAAC;SAClE;;QAED,IAAI,CAAC,QAAQ,CAAC,KAAK,EAAE,OAAO,CA
AC,OAAO,CAAC,MAAM,GAAG,CAAC,EAAE,UAAU,CAAC,CAAC;;QAG9D,wBAAwB,CAAC,KAA
K,EAAE,YAAY,CAAC,CAAC;QAE9C,OAAO,IAAInK,SAAc,CAAC,KAAK,EAAE,UAAU,CAAC,CAAC;KAC
9C;;;;;;;;IASO,QAAQ,CAACZ,KAAkB,EAAE,SA6B,EAAE,iBAAkC;QACvF,IAAI,SAAS,CAAC,CAAC,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC,CAAC,IAAI,EAAE,MAAM,
GAAG,CAAC,EAAE;;YAE7B,MAAM,UAAU,GAAG,mBAAmB,CAAC,iBAAiB,EAAE,SAAS,CAAC,CA
AC;YACrE,KAAK,CAAC,IAAI,CAAC,IAAIgL,MAAS,CAAC,KAAK,EAAE,SAAS,CAAC,CAAC,CAAC,EAAE,UAAU,CAAC,CAAC
,CAAC;SACvD;KACF;;;;;;;;;;IAWO,eAAe,CACnB,KAAkB,EAAE,OAAkC,EAAE,UA8B,EACtF,iBAAkC;QA
CpC,MAAM,UAAU,GAAG,mBAAmB,CAAC,iBAAiB,EAAE,UAAU,CAAC,CAAC;QACtE,MAAM,QAAQ,GA
AG,sBAAsB,CAAC,UAAU,CAAC,IAAI,CAAC,IAAI,eAAe,CAAC;QAC5E,MAAM,MAAM,GAAG,OAAO,CA
AC,mBAAmB,CAAC,kBAAkB,CAAC,QAAQ,EAAE,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC;QAC/F,MAAM,IAAI,
GAAG,IAAI,CAAC,iBAAiB,CAAC,MAAM,CAAC,GAAG,IAAI,CAAC,aAAa,CAAC,CAAC,GAAG,CAAC,G
AAG,CAAC;QAC/E,MAAM,EAAC,OAAO,EAAE,WAAW,EAAC,GAAG,IAAI,CAAC,iBAAiB,CAAC,kBAAkB,CAAC,
CAAC;QAC1E,MAAM,KAAK,GAAG,IAAIC,MAAS,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;QAC9C,KAAK,IAAI,
CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,OAAO,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;YAC
3C,IAAI,CAAC,QAAQ,CAAC,KAAK,EAAE,OAAO,CAAC,CAAC,CAAC,EAAE,UAAU,CAAC,CAAC;YAC7C,IAAI,CAAC,eAAe,CAAC,KAAK,EAAE,OAAO,EAAE,WAAW,CAAC,CAAC,CAAC,EAAE,UAAU,CAAC,CAAC;SAClE;;QAED,IAAI,CAAC,QAAQ,CAAC,KAAK,EAAE,OAAO,CAAC,MAAM,GAAG,CAAC,EAAE,UAAU,CAAC,CAAC;;QAGrD,wBAAwB,CAAC,KAAK,EAAE,YAAY,CAAC,CAAC;QAE9C,OAAO,KAAK;KACb;;;;;;;;;;

C,MAAM,CAAC,GAAG,CAAC,CAAC,CAAC;AACnG,CAAC;AAED,MAAM,cAAc,GAChB,6EAA6E,CAAC;AAElF,SAAS,sBAAsB,CAAC,KAAa;IAC3C,OAAO,KAAK,CAAC,KAAK,CAAC,cAAc,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;AACxC;;ACzSA;;;;;;;AA0BA,MAAM,WAAW,GAAgB,CAAC,QAAQ,EAAE,QAAQ;IAClD,IAAI,QAAQ,YAAY,oK,YAAiB,EAAE,QACzC,QAAQ,CAAC,IAAI,QAAQ,YAAY,F,cAAmB,QAAQ,CAAC,IAAI,QAAQ,YAAY,pK,OAAY,EAAE;;;;;YAKpF,QAAQ,CAAC,eAAe,GAAG,QAAQ,CAAC,IAAI,QAAQ,CAAC;SAC1C1C;QACD,QAAQ,CAAC,IAAI,GAAG,QAAQ,CAAC,IAAI,QAAQ,CAAC;KAC1B1B;IACD,OAAO,QAAQ,CAAC,IAAI,QAAQ,CAAC;AAClB,CAAC,CAAC,CAAC;AAEF;;;;;MAKa,eAAe;IAC1C,YAAY,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE

AC,OAAe,EAAE;IAC7C,IAAI,QAA0B,CAAC;IAC/B,IAAI,OAAyB,CAAC;IAC9B,IAAI,WAA6B,CAAC;IAElC,IAAI,GAAG,IAAI,CAAC,IAAI,EAAE,CAAC;IACnB,IAAI,IAAI,EAAE;QACR,MAAM,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,iBAAiB,CAAC,CAAC;QAChD,MAAM,SAAS,GAAG,IAAI,CAAC,OAAO,CAAC,CAAC,sBAAsB,CAAC,CAAC;QACxD,IAAI,cAAsB,CAAC;QAC3B,cAAc,GAAG,IAAI,CAAC,OAAO,CAAC,CAAC,cAAc,EAAE,QAAQ,CAAC;YACtB,CAAC,CAAC;QACpC,IAAI,cAAc,KAAK,IAAI,EAAE;YAC3B,MAAM,IAAI,KAAK,CAAC,GAAG,CAAC,CAAC;SACtB;QACD,IAAI,IAAI,GAAG,IAAI,CAAC,OAAO,CAAC,CAAC,cAAc,EAAE,CAAC,CAAC;QAC3C,IAAI,IAAI,KAAK,IAAI,EAAE;YACjB,MAAM,IAAI,KAAK,CAAC,GAAG,CAAC,CAAC;SACtB;QACD,IAAI,GAAG,IAAI,CAAC,OAAO,CAAC,CAAC,cAAc,EAAE,CAAC,CAAC;QACvC

C,CAAC,CAAC;KACjE;IAED,QAAQ,CAAC,GAAa,EAAE,OAAyB;QAC/C,OAAO,CAAC,IAAI,CAAC,IAAIA,
YAAc,CAAC,gBAAgB,CAAC,GAAG,CAAC,EAAE,GAAG,CAAC,UAAU,CAAC,CAAC,CAAC;KACzE;IAED,
mBAAmB,CAAC,EAAuB,EAAE,OAAyB;;QACpE,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,sBAAsB,CAAC,EA
AE,CAAC,SAAS,QAAE,EAAE,CAAC,eAAe,mCAAI,EAAE,CAAC,UAAU,CAAC,CAAC,CAAC;QAC7F,IAAI,
CAAC,EAAE,CAAC,MAAM,EAAE;YACd,EAAE,CAAC,QAAQ,CAAC,OAAO,CAAC,KAAK,IAAI,KAAK,CA
AC,KAAK,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC,CAAC;YACzD,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,s
BAAsB,CAAC,EAAE,CAAC,SAAS,QAAE,EAAE,CAAC,aAAa,mCAAI,EAAE,CAAC,UAAU,CAAC,CA
AC;SAC5F;KACF;IAED,gBAAgB,CAAC,EAAoB,EAAE,OAAyB;QAC9D,OAAO,CAAC,IAAI,CAAC,IAAI,CA
AC,sBAAsB,CAAC,EAAE,CAAC,IAAI,EAAE,EAAE,CAAC,UAAU,CAAC,CAAC,CAAC;KACnE;IAED,mBA
AmB,CAAC,EAAuB,EAAE,OAAa;QACxD,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,sBAAsB,CAAC,EAAE,CA
AC,IAAI,EAAE,EAAE,CAAC,UAAU,CAAC,CAAC,CAAC;KACnE;IAEO,sBAAsB,CAAC,IAAY,EAAE,UA2
B;QACtE,OAAO,IAAIC,gBAAkB,CAACzB,yBAAyB,CAAC,IAAI,EAAE,IAAI,CAAC,EAAE,UAAU,CAAC,
CAAC;KAC5E;IACF,gBAAAA,kBAAC;AAED,MAAMJ,mBAAiB,GAAG,IAAIyBAAyB,EAAE,CAAC;AAE1D;;;;;;;;SAQgB,+BA
A+B,CAAC,OAAqB;IAEnE,MAAM,MAAM,GAAqB,EAAE,CAAC;IACpC,OAAO,CAAC,KAAK,CAAC,OAAO
,CAAC,IAAI,IAAI,IAAI,CAAC,KAAK,CAACA,mBAAiB,CAAC,EAAE,MAAM,CAAC,CAAC,CAAC;IACrE,oB
AAoB,CAAC,MAAM,CAAC,CAAC;AACtC,CAAC;AAED,SAAS,aAAa,CAAC,OAAqB;IAC1C,MAAM,SAAS
,GAAG,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;IACnC,MAAM,OAAO,GAAG,OAAO,CAAC,KAAK,CAC
nC,MAAM,OAAO,GAAG,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;IACxD,OAAO,IAAI,eAAe,CACtB,S
AAS,CAAC,UAAU,CAAC,KAAK,EAAE,OAAO,CAAC,UAAU,CAAC,GAAG,EAAE,SAAS,CAAC,UAAU,CA
AC,SAAS,EAClF,SAAS,CAAC,UAAU,CAAC,OAAO,CAAC,CAAC,CAAC;AACpC,CAAC;AAED;;;;;;;;;AASA,SAAS,
oBAAoB,CAAC,MAAwB;IAEpD,MAAM,YAAY,GAAqB,EAAE,CAAC;IAC1C,MAAM,YAAY,GAAqB,EAAE,CAAC;IAE
9C,IAAI,MAAM,CAAC,CAAC,CAAC,YAAY,IAAI,gBAAkB,CAAC,EAAE;;QAE3C,YAAY,CAAC,IAAI,CAAC
,sBAAsB,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC;KACvE;IAED,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC,MAAM,EAAE,CAAC,EAAE,EAAE;
QACtC,MAAM,IAAI,GAAG,MAAM,CAAC,CAAC,CAAC,CAAC;QACvB,IAAI,IAAI,YAAY,gBAAkB,EAAE;YACtC
,YAAY,CAAC,IAAI,CAAC,sBAAsB,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;SACvD;KACF;IAED,OA
AO,IAAIC,gBAAkB,CAAC,YAAY,EAAE,YAAY,CAAC,CAAC;AAC5D,CAAC;AAED,SAAS,sBAAsB,CAAC,
IAAY,EAAE,UAA2B;IACxE,MAAM,IAAI,GAAG,IAAIC,UAAY,CAAC,IAAI,CAAC,CAAC;IACpC,IAAI,UAAU
,EAAE;QACd,IAAI,CAAC,UAAU,GAAG,UAAU,CAAC;KAC9B;IACD,OAAO,IAAI,CAAC;AACd,CAAC;AAED,SAAS,
eAAe,CAAC,IAAY,EAAE,IAAY,EAAE,IAAY,EAAE,IAAY,EAAE,IAAY,EAAE,IAAY,EAAE,IAAY,EAAE,
WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
EAAE,IAAI,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC

BAAoB,EAAE,OAAO,EAAE,GAAG,EAAE,MAAM,KAAK,CAAC,0BAA0B,CAAC,EAClF,QAAQ,CAAC,WA
AW,EAAE,wBAAwB,EAAE,2BAA2B,CAAC,CAAC;IACjF,MAAM,UAAU,GAAG,EAAE,CAAC;IACtB,IAAI,
KAAK,EAAE;QACT,UAAU,CAAC,IAAI,CAAC,GAAG,KAAK,CAAC,oBAAoB,EAAE,CAAC,CAAC;QACjD,
UAAU,CAAC,IAAI,CAAC,GAAG,KAAK,CAAC,oBAAoB,EAAE,CAAC,CAAC;KAClD;IACD,UAAU,CAAC,I
AAI,CAAC,GAAG,WAAW,CAAC,YAAY,CAAC,CAAC;IAE7C,MAAM,SAAS,GACX,IAAI,yBAAiC,,4BAA4B,
CAAC,IAAI,EAAE,KAAM,CAAC,GAAG,IAAI,CAAC;IAC3F,MAAM,MAAM,GAAG,WAAW,IAAI,kBAAkB,
CAAC,WAAW,CAAC,CAAC;IAC9D,MAAM,MAAM,GAAgB,EAAE,CAAC;IAE/B,IAAI,wBAAwB,CAAC,GA
AG,CAAC,iBAAiB,CAAC,EAAE;QACnD,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,IAAIU,OAAS,CAAC,iBAAiB,EAAEC,Y
AAc,CAAC,CAAC,CAAC;KAC/D;IAED,MAAM,SAAS,GAAGC,EAAI,CAAC,MAAM,EAAE,UAAU,EAAEA,EAAE,aAAaP,a
AAe,EAAE,IAAI,EAAE,MAAM,CAAC,CAAC;IAC1E,MAAM,MAAM,GAAGC,mBAAmB,CAACW,SAAS,,SAAS,,
CAAC,EAAE,SAAS,CAAC,CAAC;IACjE,IAAI,MAAM,EAAE,QAAQV,EAAE;QACV,MAAM,CAAC,IAAI,CAAC,IAAI,CAACW,OAAO,,CAAC,CAAC,KAAK,CAAC;QAChC,MAAM,CAAC,IAAI,CAAC,IAAI,CAACC,OAAO,,CAAC,CAAC,KAAK,CAAC;KAC/C;IAED,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC,IAAIC,OAAS,CAAC,iBAAiB,EAAEC,YAAc,CAAC,CAAC,CAAC,CAAC;IAEpE

AAC,IAAI,IAAI,CAAC,uBAAuB,CAAC,MAAM,EAAE;YAC3D,MAAM,UAAU,GAAmB,EAAE,CAAC;;;;YAK
tC,IAAI,IAAI,CAAC,uBAAuB,CAAC,MAAM,GAAG,CAAC,IAAI,IAAI,CAAC,uBAAuB,CAAC,CAAC,CAAC,
KAAK,GAAG,EAAE;gBACtF,MAAM,eAAe,GAAG,IAAI,CAAC,uBAAuB,CAAC,GAAG,CACpD,CAAC,IAAI,
CAAC,KAAK,GAAG,GAAGC,yBAA8B,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC;gBAC5D,UAAU,C
AAC,IAAI,CAAC,IAAI,CAAC,YAAY,CAAC,eAAe,CAAC,SAAS,CAAC,eAAe,CAAC,EAAE,IAAI,CAAC,CAA
C,CAAC;aACtF;;;;YAKD,IAAI,CAAC,mBAAmB,CAAC,IAAI,EAAErK,aAAE,CAAC,aAAa,EAAE,UAAU,gBA
AgB,IAAI,CAAC,CAAC;SAClF;QAED,IAAI,eAAe,EAAE;YACnB,OAAO,CAAC,IAAI,CAAC,IAAI,EAAE,0B
AA0B,CAAC,CAAC;SAChD;;QAGD,MAAM,kBAAkB,GAAG,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,CA
AC,EAAqB,KAAK,EAAE,EAAE,CAAC,CAAC;;QAGtF,MAAM,gBAAgB,GAAG,IAAI,CAAC,cAAc,CAAC,GA
AG,CAAC,CAAC,EAAqB,KAAK,EAAE,EAAE,CAAC,CAAC;;;;QAKlF,MAAM,iBAAiB,GAAG,IAAI,CAAC,a
AAa,CAAC,sBAAsB,EAAE,CAAC;QACtE,MAAM,eAAe,GAAG,IAAI,CAAC,aAAa,CAAC,oBAAoB,EAAE,CA
AC,MAAM,CAAC,IAAI,CAAC,cAAc,CAAC,CAAC;QAE9F,MAAM,aAAa,GAAG,GAAG,kBAAkB,CAAC,MAAM,GA
AG,CAAC;YAC/C,qBAAqB,iBAAiB,CAAC,MAAM,CAAC,kBAAkB,CAAC,CAAC,CAAC;YAC
3E,EAAE,CAAC;QAEP,MAAM,WAAW,GAAG,gBAAgB,CAAC,MAAM,GAAG,CAAC;YAC3C,qBAAqB,iBAAiB,
B,eAAe,CAAC,MAAM,CAAC,gBAAgB,CAAC,CAAC,CAAC;YAC1F,EAAE,CAAC;QAEP,OAAOjC,
EAAI;;QAEP,CAAC,IAAIF,OAAS,CAAC,YAAY,EAAEyM,WAAa,CAAC,EAAE,IAAIzM,OAAS,CAAC,YAAY
,EAAE,IAAI,CAAC,CAAC,EAAC/E;;YAEE,GAAG,IAAI,CAAC,WAAW;;YAEnB,GAAG,aAAa;;YAEhB,GAAG,
WAAW;SACf,EACDL,aAAe,EAAE,IAAI,EAAE,IAAI,CAAC,YAAY,CAAC,CAAC;KAC/C;;IAGD,QAAQ,CAA
C,IAAY;QACnB,OAAO,IAAI,CAAC,aAAa,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;KACrC;;IAGD,yBAAyB;
QACvB,IAAI,CAAC,aAAa,CAAC,yBAAyB,EAAE,CAAC;KAChD;IAEO,aAAa,CACjB,aAAqB,EAAE,SAAyC,
EAAE,EAAE,GAAmB,EACvF,WAAkD;QACpD,IAAI,GAAG,EAAE,IAAI,GAAG,EAAE,IAAI,CAAC,wBAAwB,EA
AE,CAAC;;;QAGpD,MAAM,UAAU,GAAG,IAAI,CAAC,sBAAsB,CAAC,OAAO,CAAC,EAAE,CAAC,CAAC;Q
AC3D,MAAM,UAAU,GAAG,uBAAuB,CAAC,OAAO,EAAE,IAAI,EAAE,UAAU,EAAE,MAAM,EAAE,WAAW
,CAAC,CAAC;QAC3F,IAAI,CAAC,UAAU,CAAC,iBAAiB,CAAC,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC;Q
ACtD,OAAO,IAAI,CAAC;KACb;IAEO,wBAAwB,CAACqM,UAAoB;QACnD,MAAM,UAAU,GAAG,IAAI,CA
AC,aAAa,CAAC,kBAAkB,EAAE,CAAC;QAC3D,cAAc,CAAC,UAAU,EAAE,CAAC,CAAC;QAClC,MAAM,GAAG,GAAG1M,
aAAE,CAAC,kBAAkB,CAAC,UAAU,CAAC;QACtC,MAAM,GAAG,GAAG,IAAI,CAAC,aAAa,CAAC,kBAAkB,CAAC,UAAU,CAAC;QAC
ACtD,IAAI,CAAC,aAAa,CAAC,kBAAkB,CAAC,UAAU,CAAC;QACjD,OAAO,IAAI,CAAC,aAAa,CAAC,kBAAkB,CAAC,UAAU,CAAC;QACx

GAAG,yBAAyB,CAAC,WAAW,CAAC,CAAC;YACtD,MAAM,YAAY,GAAG,IAAI,CAAC,YAAY,CAAC,UAAU,CAAC,MAAM,CAAC,CAAC;YAC1D,IAAI,GAAG,GAAG,MAAM,GAAG,kBAAkB,CAAC,SAAS,CAAC,KAAK,YAAY,EAAE,CAAC;SACrE;aAAM;YACL,MAAM,MAAM,GAAG,yBAAyB,CAAC,MAAM,CAAC,CAAC;YACjD,IAAI,GAAG,IAAI,CAAC,YAAY,CAAC,UAAU,CAAC,MAAM,CAAC,CAAC;SAC7C;QACD,OAAOA,QAAQ,CAAC,IAAI,CAAC,CAAC;KACzB;IAEO,aAAa,CAAC,OAAOoB;QACxC,MAAM,EAAC,IAAI,EAAC,IAAI,EAAC,IAAI

M,GAAG,oBAAoB,CAAC,YAAY,CAAC,CAAC;gBAClD,YAAY,CAAC,IAAI,CAAC7B,OAAS,CAAC,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,CAAC,aAAa,CAAC,OAAO,EAAE,MAAM,CAAC,CAAC,CAAC;gBAC7E,SAAS,CAAC,WAAW,CAAC,OAAO,CAAC,UAAU;oBACtC,WAAW,GAAG,IAAI,CAAC;oBACnB,QAAQ,CAAC,IAAI,CAAC;wBACZ,UAAU;wBACV,KAAK,EAAE,MAAM,IAAI,CAAC,sBAAsB,CAAC,UAAU,CAAC;qBACrD,CAAC,CAAC;iBACJ,CAAC,CAAC;aACJ;SACF,CAAC,CAAC;QACH,IAAI,QAAQ,CAAC,MAAM,GAAG,CAAC,EAAE;YACvB,iCAAiC,CAAC,SAAS,EAAE6B,OAAO,EAAE,QAAQ,CAAC,CAAC,CAAC;SACpE;QACD,IAAI,YAAY,CAAC,MAAM,GAAG,CAAC,EAAE;YAC3B,IAAI,CAAC,mBAAmB,CAAC,YAAY,CAAC,CAAC;SACxC;IACH,CAAC;IAED,SAAS,iCAAiC,CACxC,SAAsB,EACtB,OAAgB,EAChB,QAAkB;QAElB,MAAM,YAAY,GAAG,IAAI,GAAG,EAAE,CAAC;QAC/B,MAAM,QAAQ,GAAG,IAAI,GAAG,EAAE,CAAC;QAC3B,MAAM,KAAK,GAAG,IAAI,GAAG,EAAE,CAAC;QACxB

3D,OAAO,CAAC,IAAI,EAAE,WAAW,EAAE,cAAc,EAAE,OAAO,CAAC,OAAO,EAAE,cAAc,EAAE,EAAE,E
AC9E,cAAc,CAAC,CAAC;QACpB,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC,gBAAgB,CAAC,UAAU,CAAC,CA
AC,CAAC;;QAGnD,MAAM,IAAI,GAAG,IAAI,CAAC,gBAAgB,CAAC,OAAO,CAAC,UAAU,CAAC,CAAC;Q
ACvD,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,CAAC,CAAC;QAExC,MAAM,cAA
c,GAAG,IAAI,CAAC,UAAU,CAAC;QACvC,MAAM,gBAAgB,GAAG,IAAI,CAAC,uBAAuB,CAAC,YAAY,CA
AC,CAAC;;;QAIpE,IAAI,gBAAgB,KAAK,cAAc,EAAE;YACvC,IAAI,CAAC,uBAAuB,CAAC,gBAAgB,EAAE,
OAAO,CAAC,CAAC;SACzD;QAED,IAAI,IAAI,CAAC,IAAI,EAAE;YACb,IAAI,CAAC,IAAI,CAAC,aAAa,CA
AC,OAAO,CAAC,IAAK,EAAE,YAAY,CAAC,CAAC;SACtD;;;QAID,MAAM,WAAW,GAAG,CAAC,CAAC,iB
AAiB,IAAI,IAAI,CAAC,IAAI,IAAI,CAAC,mBAAmB,CAAC,OAAO,CAAC,QAAQ,CAAC;YACtC,OAAO,CAA
C,QAAQ,CAAC,MAAM,GAAG,CAAC,CAAC;QAEpF,MAAM,4BAA4B,GAAG,CAAC,cAAc,CAAC,cAAc,CAAC,oBAAoB;
YACrE,OAAO,CAAC,OAAO,CAAC,MAAM,KAAK,CAAC,IAAI,cAAc,CAAC,MAAM,KAAK,CAAC,IAAI,CA
AC,WAAW,CAAC;QAChF,MAAM,gCAAgC,GAAG,CAAC,4BAA4B,IAAI,mBAAmB,CAAC,OAAO,CAAC,Q
AAQ,CAAC,CAAC;QAE3E,IAAI,4BAA4B,EAAE;YAChC,IAAI,CAAC,mBAAmB,CACpB,OAAO,CAAC,UAA
U,EAAEoM,eAAa,GAAGvK,aAAE,CAAC,gBAAgB,GAAGA,aAAE,CAAC,OAAO,EACpE,iBAAiB,CAAC,UA
AU,CAAC,CAAC,CAAC;SACpC;aAM;YACL,IAAI,CAAC,mBAAmB,CACpB,OAAO,CAAC,eAAe,EAAEuK,
eAAa,GAAGvK,aAAE,CAAC,qBAAqB,GAAGA,aAAE,CAAC,YAAY,EACnF,iBAAiB,CAAC,UAAU,CAAC,C
AAC,CAAC;YAEnC,IAAI,iBAAiB,EAAE;gBACrB,IAAI,CAAC,mBAAmB,CAAC,OAAO,CAAC,eAAe,EAAEA
,aAAE,CAAC,eAAe,CAAC,CAAC;aACvE;YAED,IAAI,cAAc,CAAC,MAAM,GAAG,CAAC,EAAE;gBAC7B,IA
AI,CAAC,yBAAyB,CAC1B,YAAY,EAAE,cAAc,QAAE,OAAO,CAAC,eAAe,mCAAI,OAAO,CAAC,UAAU,CA
AC,CAAC;aAClF;;YAGD,IAAI,OAAO,CAAC,OAAO,CAAC,MAAM,GAAG,CAAC,EAAE;gBAC9B,MAAM,S
AAS,GAAG,OAAO,CAAC,OAAO,CAAC,GAAG,CACjC,CAAC,SAAuB,MAAM;oBAC5B,UAAU,EAAE,SAAS
,CAAC,UAAU;oBAChC,MAAM,EAAE,IAAI,CAAC,wBAAwB,CAAC,OAAO,CAAC,IAAI,EAAE,SAAS,EAAE
,YAAY,CAAC;iBAC9E,CAAC,CAAC,CAAC,gBAAgB,IAAI,CAAC,gBAAgB,CAAC,wBAAwB,CAACA,aAAE,CAAC,QAAQ,EA
AE,SAAS,CAAC,CAAC;aACvD;;;YAID,IAAI,iBAAiB,EAAE;gBACrB,IAAI,CAAC,mBAAmB,CAAC,SAAS,CAAC,OAAO,CAAC,CAA
C,eAAe,EAAE,OAAO,CAAC,IAAK,EAAE,gBAAgB,CAAC,CAAC;aAC1F;SACF;;;;;QAMD,MAAM,mBAAmB,
GAAG,cAAc,CAAC,4BAA4B,IAAI,CAAC,gCAAgC,CAAC,CAAC,CAA

6BAAM;;;4BAGL,gBAAgB,CAAC,IAAI,CAAC;gCACpB,IAAI,EAAE,QAAQ;gCACd,UAAU,EAAE,KAAK,CAAC,UAAU;gCAC5B,KAAK,EAAE,MAAM,IAAI,CAAC,sBAAsB,CAAC,KAAK,CAAC;gCAC/C,MAAM;6BACP,CAAC,CAAC;yBACJ;qBACF;yBAAM,IAAI,SAAS,wBAA4B;wBAC9C,IAAI,KAAK,YAAY,aAAa,IAAI,0BAA0B,CAAC,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,EAAE;;4BAE3E,IAAI,CAAC,6BAA6B,CAAC,mCAAmC,CAAC,KAAK,CAAC,EAAE,YAAY,EAAE,QAAQ,EAAE,KAAK,EAAE,KAAK,EAChF,MAAM,CAAC,CAAC;yBAC7B;6BAAM;4BACL,MAAM,UAAU,GAAG,KAAK,YAAY,aAAa,GAAG,CAAC,WAAW,CAAC,CAAC,CAAC,GAAG,KAAK,CAAC,CAAC,CAAC;;;4BAGjF,IAAI,iBAAiB,CAAC,IAAI,EAAE,QAAQ;gCACtC,IAAI,EAAE,KAAK,CAAC,UAAU;gCACtB,KAAK,EAAE,MAAM,IAAI,CAAC,sBAAsB,CAAC,UAAU,CAAC;gCACpD,MAAM;6BACP,CAAC,CAAC;yBACJ;qBACF;;wBAEL,IAAI,CAAC,4BAA4B,CAAC,YAAY,EAAE,KAAK,EAAE,CAAC,UAAU,EAAE,IAAI,CAAC,KAAK,CAAC,EAAE,6BAA6B,CAAC,KAAK,CAAC,EAAE,YAAY,EAAE,IAAI,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,sBAAsB,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,KAAK,CAAC,EAAE,IAAI

E,CAAC,EAChDA,OAAS,CAAC,eAAe,CAAC,WAAW,EAAE,CAAC,CAAC,CAAC;YAC9C,OAAO,iBAAiB,CAAC,UAAU,CAAAC,CAAC;SACtC,CAAC,CAAC;;QAGH,IAAI,CAAAC,wBAAwB,CAAAC,aAAa,EAAE,QAAQ,CAAAC,aAAa,CAAAC,CAAC;;QAGrE,IAAI,QAAQ,CAAAC,OAAO,KAAK,oBAAoB,EAAE;YAC7C,MAAM,CAAAC,UAAU,EAAE,MAAM,CAAAC,GAAC,tB,cAAC,qBAAqB,CAAAC,WAAW,CAAAC,CAAC;;;;;YAMrF,IAAI,UAAU,CAAAC,MAAM,GAAG,CAAAC,EAAE;gBACzB,CAAAC,yBAAyB,IAAI,CAAAC,yBAAyB,CAAC1B,aAAa,EAAE,UAAU,QAAQ,EAAE,QAAQ,CAAAC,eAAe,CAAAC,CAAC;aAAC,CAAAC,GAAG,CAAAC,CAAC;;YAGlH,CAAAC,GAAG,CAAAC,CAAC;;QAGT,CAAAC,GAAG,CAAAC,CAAC;;IAGT,CAAAC,GAAG,CAAAC,CAAC;;AAGT,CAAAC,GAAG,CAAAC,CAAC;;AAGJ,CAAAC,GAAG,CAAAC,CAAC;;AAGJ,CAAAC,GAAG,CAAAC,CAAC;;AAGJ

CAAkC,CAAC,KAAK,CAAC,EAAE,aAAa,EAAE,KAAK,CAAC,IAAI,EAAE,KAAK,EAAE,KAAK,EAClF,MAAM,CAAC,CAAC;qBACb;yBAAM;;wBAEL,gBAAgB,CAAC,IAAI,CAAC;4BACpB,IAAI,EAAE,KAAK,CAAC,IAAI;4BAChB,UAAU,EAAE,KAAK,CAAC,UAAU;4BAC5B,KAAK,EAAE,MAAM,IAAI,CAAC,sBAAsB,CAAC,KAAK,CAAC;yBAChD,CAAC,CAAC;qBACJ;iBACF;aACF;SACF,CAAC,CAAC;QAEH,IAAI,gBAAgB,CAAC,MAAM,GAAG,CAAC,EAAE;YAC/B,iCAAiC,CAAC,aAAa,EAAE,EAAE,jJ,aAAE,CAAC,QAAQ,EAAE,gBAAgB,CAAC,CAAC;SACtF;KACF;;;;;IAMO,aAAa,CAACjB,GAA0B,EAAE,IAAA0B,EAAA,EAAAC,EAAA,EAAAC,EAAA,EAAAC

CAAC,CAAC,CAAC,CAAC;KACvD;IAEO,sBAAsB,CAAC,KAAU;QACvC,MAAM,wBAAwB,GAAG,sBAAsB
,CACnD,IAAI,EAAE,IAAI,CAAC,uBAAuB,EAAE,EAAE,KAAK,EAAE,IAAI,CAAC,cAAc,EAAE,EAAE,WAA
W,CAAC,UAAU,EAC1F,MAAM,KAAK,CAAC,0BAA0B,CAAC,CAAC,CAAC;QAC7C,MAAM,OAAO,GAAG,
wBAAwB,CAAC,WAAW,CAAC;QACrD,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,wBAAwB,CAAC,KAA
K,CAAC,CAAC;QAC5D,OAAO,OAAO,CAAC;KAChB;;;;;;;IAQO,6BAA6B,CAAC,KAAU;QAC9C,MAAM,EA
AC,IAAI,EAAE,KAAK,EAAC,GACf,sBAAsB,CAAC,IAAI,EAAE,IAAI,CAAC,uBAAuB,EAAE,EAAE,KAAK,
EAAE,IAAI,CAAC,cAAc,EAAE,CAAC,CAAC;QAE/F,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,KAAK,C
AAC,CAAC;QACnC,OAAO,IAAI,CAAC;KACb;IAEO,eAAe,CAAC,WAAmB,EAAE,OAA6B;QACxE,IAAI,IA
AI,CAAC,gBAAgB,EAAE;YACzB,MAAM,QAAQ,GAAG,iBAAiB,CAAC,WAAW,EAAE,4BAA4B,CAAC,OA
AO,CAAC,CAAC,CAAC;YACvF,IAAI,CAAC,gBAAgB,CAAC,KAAK,CAAC,QAAQ,EAAE,EAAE,CAAC,WAAW,E
AAE,UAAU;gBAC5D,IAAI,CAAC,UAAU,CAAC,GAAG,CAAC,UAAU,CAAC,CAAC;aACjC,CAAC,CAAC;S
ACJ;KACF;;;;;;;;;;;;;;;;;;;;;;;IAyBO,uBAAuB,CAC3B,WAAmB,EAAE,gBAAmC,EAAE,MA0B0B,EACpF,OAAuB
,EAAE,MAAuB,EAChD,gBAAsD,EAAE,EACxD,iBAAqC,EAAE;QACzC,MAAM,WAAW,GAAG,IAAI,GAAG,
EAAU,CAAC;QACtC,MAAM,SAAS,GAAmB,EAAE,CAAC;QACrC,IAAI,eA0C,CAAC;QAE/B,IAAI,IAAI,
M,IAAI,IAAI,gBAAgB,EAAE;YACnC,MAAM,IAAI,IAAI,CAAC,IAAI,KAAK,uBAAuB,EAAE;gBAC/C,eAAe,
AAe,GAAG,IAAI,IAAI,CAAC,IAAI,EAAE;gBACjC,MAAM,SAAS,CAAC,IAAI,CAAC,gBAAgB,CAAC;aACvC;;;YAID,IAAI,IAAI,CAAC,IAAI,EAAE;gBACb,MAAM,IAAI,IAAI,CAAC,IAAI,EAAE;gBACrB,MAAM,SAAS,CAAC,IAAI,CAAC,gBAAgB,CAAC;aACvC;YAED,IAAI,CAAC,EAAE,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,CAAC,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI

EAAE,CAAC;;YAErC,MAAM,YAAY,GAAG,IAAI,CAAC,aAAa,CAAC,kBAAkB,EAAE,CAAC;YAC7D,MAAM,cAAc,GAAG,IAAI,CAAC,KAAK,CAAC;YAClC,MAAM,GAAG,GAAGtN,QAAU,CAAC,YAAY,CAAC,CAAC;YACrC,IAAI,CAAC,aAAa,CAAC,GAAG,CAAClB,cAAcB,EAAE,SAAS,CAAC,IAAI,EAAE,GAAG,mBACN,CAAC,KAAAmB,EAAE,aAAqB;;gBAEtE,MAAM,eAAe,GACjB,aAAa,GAAG,CAAC,GAAG,CAAC,uBAAuB,CAAC,aAAa,CAAC,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC;;gBAG/E,MAAM,OAAO,GAAG,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;;gBAG7B,MAAM,OAAO,GAAG,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC0C,UAAY,CAAC,YAAY,CAACG,aAAe,CAAC,SAAS,CAAC,YAAY,CAAC,YAAY,CAAC,MAAM,CAAC,YAAY,CAAC,YAAY,CAAC7B,OAAS,CAAC,YAAY,CAAC,IAAI,CAAC,YAAY,CAAC,YAAY,CAAC,YAAY,CAAC,YAAY,CAAC;gBAE/N,MAAM,OAAO,GAAG,GAAG,CAAC,GAAG,CAAC,GAAG,CAAC

AC,SAAS;QACtC,WAAW,EAAE,CAAC,UAAU;KACzB,CAAC;AACJ,CAAC;AAED,MAAM,uBAAuB,GAAG;IAC9BA,aAAE,CAAC,aAAa,EAAEA,aAAE,CAAC,aAAa,EAAEA,aAAE,CAAC,aAAa,EAAEA,aAAE,CAAC,aAAa,EAAEA,aAAE,CAAC,aAAa;IACxFA,aAAE,CAAC,aAAa,EAAEA,aAAE,CAAC,aAAa,EAAEA,aAAE,CAAC,aAAa,EAAEA,aAAE,CAAC,aAAa,EAAEA,aAAE,CAAC,aAAa;CACvE,CAAC;AAEF,SAAS,oBAAAoB,IAAAoB,IAAAC,IAAAC,IAAAC

K,EAAE,IAAI,EAAE,OAAO,CAAC,CAAC;QACxD,IAAI,KAAK,GAAG,CAAC;YAAE,QAAQ,CAAC,wBAAwB,CAAC,CAAC,CAAC,CAAC;QACpD,OAAO,QAAQ,CAAC;KACjB;;;;;;IAOD,2BAA2B,CAAC,cAAAsB;QAChD,MAAM,UAAU,GAAG,kBAAkB,GAAG,cAAc,CAAC;QACvD,IAAI,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,UAAU,CAAC,CAAC,EAAE;YAC7B,IAAI,CAAC,wBAAwB,CAAC,cAAc,CAAC,CAAC,CAAC,CAAC,CAAC;SAC/C,C;;QAED,OAAO,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC,UAAU,CAAC,EAAE,CAAC,CAAC,GAAG,CAAC,UAAU,CAAC

;AACrB,CAAC;AAED;;;;AAIA,SAAS,qBAAqB,CAAC,SAA0B;;;IAGvD,MAAM,gBAAgB,GAAGqK,yBAA8B,CAAC,SAAS,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,CAAC;IAC5E,OAAO,CAAClM,OAAS,mBAAgC,EAAE,SAAS,CAAC,gBAAgB,CAAC,CAAC,CAAC;AAClF,CAAC;AAED;;;;AAIA,SAAS,kCAAkC,CAAC,aAA4B;IACtE,QAAQ,0BAA0B,CAAC,aAAa,CAAC,CAAC,KAAK,CAAC,YAAY,CAAC,CAAC,QAAQ/C,KAAK,CAAC,YAAY,CAAC,CAAC,QAAQ,CAAC,KAAK,CAAC,YAAY,CAAC,OAAO,CAAC,aAAa,CAAC,oBAAoB,CAAC,QAAQjC,KAAK,CAAC,YAAY,CAAC,OAAO,CAAC,aAAa,CAAC,oBAAoB,CAAC,QAAQ,CAA

E,CAAC,mBAAmB,CAAC,CAAC;QAC9C;YACE,OAAO,IAAI,CAAC;KACf;AACH,CAAC;AAED,SAAS,qBA
AqB,CAAC,OAAe,EAAE,IAAqB;IACnE,MAAM,KAAK,GAAG,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CAA
C;IACpC,QAAQ,eAAe,CAAC,eAAe,CAAC,OAAO,EAAE,IAAI,CAAC,IAAI,oBAAoB,IAAI,CAAC;QACjF,KA
AK2K,eAAoB,CAAC,IAAI;YAC5B,OAAO9K,UAAY,CAACG,aAAE,CAAC,iBAAiB,CAAC,CAAC,MAAM,CA
AC,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,SAAS,CAAC,CAAC;QAC5E,KAAK2K,eAAoB,CAAC,MAAM;Y
AC9B,OAAO9K,UAAY,CAACG,aAAE,CAAC,mBAAmB,CAAC,CAAC,MAAM,CAAC,CAAC,KAAK,CAAC,E
AAE,IAAI,CAAC,SAAS,CAAC,CAAC;QAC9E,KAAK2K,eAAoB,CAAC,YAAY;YACpC,OAAO9K,UAAY,CA
ACG,aAAE,CAAC,wBAAwB,CAAC,CAAC,MAAM,CAAC,CAAC,KAAK,CAAC,EAAE,IAAI,CAAC,SAAS,C
AAC,CAAC;QACnF;YACE,OAAO,KAAK,CAAC;KAChB;AACH,CAAC;AAED,SAAS,uBAAuB,CAAC,QAAQk
B;IACjD,OAAO,QAAQ,CAAC,MAAM,KAAK,CAAC,IAAI,QAAQ,CAAC,CAAC,CAAC,YAAY6I,OAAS,CAA
C;AACnE,CAAC;AAED,SAAS,UAAU,CAAC,IAAY;IAC9B,OAAO,IAAI,YAAYK,IAAM,IAAI,CAAC,IAAI,CAAC,IAAI,WAAW,IAAI,CAAC,IAAI,YAAYH,IAAM,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI

AAM,EAAE;QACnB,aAAa,CAAC,GAAG,CAAC,UAAU,EAAErC,UAAY,CAAC,QAAQ,CAAC,CAAC,CAAC;
KACvD;AACH,CAAC;AAED;;;SAGgB,4BAA4B,CACxC,IAAyB,EAAE,YAA0B,EACrD,aAA4B;IAC9B,MAAA
M,aAAa,GAAG,mBAAmB,CAAC,IAAI,EAAE,YAAY,EAAE,aAAa,CAAC,CAAC;IAC7E,WAAW,CAAC,aAAa,
EAAE,IAAI,CAAC,CAAC;IACjC,MAAM,UAAU,GAAGkC,UAAY,CAACG,aAAE,CAAC,eAAe,CAAC,CAAC,
MAAM,CAAC,CAAC,aAAa,CAAC,YAAY,EAAE,CAAC,CAAC,CAAC;IAE3F,MAAM,UAAU,GAAG,yBAAy
B,CAAC,IAAI,CAAC,CAAC;IACnD,MAAM,IAAI,GAAG5B,cAAB,CACyB,UAAY,CAACG,aAAE,CAAC,oBAAoB,EAAE,UAAU,CAAC,CAAC,CAAC;IAEjF,OAAO,EAAC,UAAU,EAAE,IAAI,EAAC,CAAC,CAAC;AAC5B,CAAC;AAED;;;SAGgB,4BAA4B,CACxC,IAAyB,EAAE,YAA0B,EACrD,aAA4B;IAC9B,MAAM,aAAa,GAAG,mBAAmB,CAAC,IAAI,EAAE,YAAY,EAAE,aAAa,CAAC,CAAC;IAC7E,WAAW,CAAC,aAAa,EAAE,IAAI,CAAC,CAAC;IACjC,MAAM,QAAQ,GAAG,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,WAAW,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC,Q
AAQ,CAAC,CAAC;IACnE,MAAM,aAAa,GAAG,QAAQ,CAAC,CAAC,CAAC,QAAQ,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;;;IAI9C,MAAM,kBAAkB,GAAG,aAAa,CAAC,CAAC,CAAC,aAAa,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;IAEnE,MAAM,UAAU,GAAG,kBAAkB,CAAC,CAAC,CAAC,kBAAkB,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;IAEp

AC,OAAO,CAAC,CAAC,CAAC;KACpD;SAAM,IAAI,IAAI,CAAC,aAAa,KAAKkN,iBAAsB,CAAC,QAAQ,EA
AE;;QAEjE,IAAI,CAAC,aAAa,GAAGA,iBAAsB,CAAC,IAAI,CAAC;KAClD;;IAGD,IAAI,IAAI,CAAC,aAAa,K
AAKA,iBAAsB,CAAC,QAAQ,EAAE;QAC1D,aAAa,CAAC,GAAG,CAAC,eAAe,EAAE1M,OAAS,CAAC,IAAI,
CAAC,aAAa,CAAC,CAAC,CAAC;KACnE;;IAGD,IAAI,IAAI,CAAC,UAAU,KAAK,IAAI,EAAE;QAC5B,aAAa,
CAAC,GAAG,CACb,MAAM,EAAEP,UAAY,CAAC,CAAC,EAAC,GAAG,EAAE,WAAW,EAAE,KAAK,EAAE,
IAAI,CAAC,UAAU,EAAE,MAAM,EAAE,KAAK,EAAC,CAAC,CAAC,CAAC,CAAC;KACxF;;IAGD,IAAI,eA
Ae,IAAI,IAAI,IAAI,eAAe,KAAKkN,uBAA4B,CAAC,OAAO,EAAE;QACvF,aAAa,CAAC,GAAG,CAAC,iBAAi
B,EAAE3M,OAAS,CAAC,eAAe,CAAC,CAAC,CAAC;KAClE;IAED,MAAM,UAAU,GAAG0B,UAAY,CAACG,
aAAE,CAAC,eAAe,CAAC,CAAC,MAAM,CAAC,CAAC,aAAa,CAAC,YAAY,EAAE,CAAC,CAAC,CAAC;IAG
3F,MAAM,UAAU,GAAG,yBAAyB,CAAC,IAAI,CAAC,CAAC;IACnD,UAAU,CAAC,IAAI,CAAC,iBAAiB,CA
AC,IAAI,CAAC,QAAQ,CAAC,kBAAkB,CAAC,CAAC,CAAC;IACrE,MAAM,IAAI,GAAG5B,cAAgB,CAACG,
,UAAY,CAACG,aAAE,CAAC,oBAAoB,EAAE,UAAU,CAAC,CAAC,CAAC;IAEjF,OAAO,EAAC,UAAU,EAAE
,IAAI,EAAC,CAAC;AAC5B,CAAC;AAED;;;;;;;SAOgB,2BAA2B,CACvC,SAAwB,EAAE,SAAmC,EAAE,SA2
B,EAC1F,aAA4B;IAC9B,MAAM,IAAI,GAAG,cAAc,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC;IAC5C,MAAM,eAAe,
GAAG,SAAS,CAAC,IAAI,CAAC,CAAC;IAEzC,MAAM,CAAC,GAAG,IAAI,CAAC,MAAM,CAAC;IACtB,MAAM,CAAC,GAAG,eAAe,
CAAC,MAAM,CAAC;IAEhC,IAAI,CAAC,KAAK,CAAC,EAAE;QACT,OAAO,IAAI,CAAC;KACf;IAED,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,KAAK,CAAC,EAAE;QACpB,OAAO,eAAe,CAAC,CAAC,CAAC,CAAC;KAC7B;IAED,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,KAAK,CAAC,EAAE;QACpB,OAAO,IAAI,CAAC,CAAC,CAAC,CAAC;KAClB

CAAmC,CACxC,SAAmC,EAAE,SAAwB,EAC7D,SAA2B;;IAE7B,MAAM,IAAI,KAAK,CAAC,aAAa,CAAC,C
AAC;AACjC,CAAC;AAED;;;AAGA,SAAS,yBAAyB,CAC9B,OAA+B,EAAE,SAAwB;IAC3D,OAAO,OAAO,C
AAC,GAAG,CAAC,KAAK;QACtB,IAAI,IAAI,GAAsB,IAAI,CAAC;QACnC,IAAI,KAAK,CAAC,IAAI,I
AAK,CAAC,IAAI,CAAC,UAAU,EAAE;YACvC,IAAI,GAAG,CAAC,UAAU,CAAC,KAAK,CAAC,IAAI,
CAAC,UAAU,CAAC,SAAS,CAAC,CAAC;SAC9D;QACD,OAAO;YACL,EAAE,KAAK,CAAC,YAAY;
YAChC,KAAK,EAAE,KAAK,CAAC,KAAK;YAClB,SAAS,EAAE,2BAA2B,CAAC,KAAK,CAAC,SAAS,EAAE
,SAAS,CAAC;YAClE,WAAW,EAAE,KAAK,CAAC,WAAW;YAC9B,IAAI;YACJ,MAAM,EAAE,CAAC,CAAC,
KAAK,CAAC,MAAM;SACvB,CAAC;KACH,CAAC,CAAC;AACL,CAAC;AAED;;;;AAIA,SAAS,2BAA2B,CA
ChC,SAAiC,EAAE,SAAwB;IAC7D,IAAI,SAAS,CAAC,MAAM,GAAG,CAAC,IAAI,SAAS,CAAC,MAAM,I
AI,CAAC,IAAI,SAAS,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,EAAE;QACzE,OAAO,SAAS;KACjB;IAED,
MAAM,eAAe,GAAG,IAAI,GAAG,EAAE,CAAC;IAClC,KAAK,MAAM,QAAQ,IAAI,SAAS,EAAE;QAChC,KAAK
,MAAM,KAAK,IAAI,QAAQ,CAAC,KAAK,EAAE;YAClC,eAAe,CAAC,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE
,KAAK,CAAC,KAAK,CAAC;SACvC;KACF;IAED,OAAO,SAAS,CAAC,GAAG,CAAC,QAAQ,IAAI,CAAC;YAAE
,GAAG,QAAQ;YAAE,KAAK,EAAE,eAAe,CAAC,GAAG,CAAC,QAAQ,CAAC,IAAI,CAAC;SAAE,CAAC,CAAC;
AACrB,CAAC;AAED,SAAS,kBAAkB,CAAC,KAAa,EAAE,KAAa,EAAE,KAAa,EAAE,KAAa,EAAE,KAAa,
EAAE,YAA0B;IAC5E,MAAM,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,
CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAA
K,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,
CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAA
C,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,
CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,C

G,CAAC,GAAG,CAAC,KAAK,IAAIQ,OAAS,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;QAClE2B,SAAW,CA
AC;AACtC,CAAC;AAED,SAAS,yBAAyB,CAAC,IAAyB;;;IAG1D,MAAM,eAAe,GAAG,IAAI,CAAC,QAAQ,K
AAK,IAAI,GAAG,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,KAAK,EAAE,EAAE,CAAC,GAAG,IAAI,CAAC;I
AEzF,OAAO;QACL,kBAAkB,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE,IAAI,CAAC,iBAAiB,CAAC;QAC1
D,eAAe,KAAK,IAAI,GAAG,YAAY,CAAC,eAAe,CAAC,GAAGA,SAAW;QACtE,IAAI,CAAC,QAAQ,KAAK,I
AAI,GAAG,iBAAiB,CAAC,IAAI,CAAC,QAAQ,CAAC,GAAGA,SAAW;QACvE,eAAe,CAAC,IAAI,CAAC,MA
AM,CAAC;QAC5B,eAAe,CAAC,IAAI,CAAC,OAAO,CAAC;QAC7B,iBAAiB,CAAC,IAAI,CAAC,OAAO,CAA
C,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,YAAY,CAAC,CAAC;KACzD,CAAC;AACJ,CAAC;AAED;AACA,
SAAS,yBAAyB,CAC9B,WAA8B,EAAE,YA0B;IAC3E,MAAM,gBAAgB,GAAkB,EAAE,CAAC;I
AC3C,MAAM,gBAAgB,GAAkB,EAAE,CAAC;IAC3C,MAAM,aAAa,GAAG,kBAAkB,CAAC,gBAAgB,EAAE,c
AAc,CAAC,CAAC;IAE3E,WAAW,CAAC,OAAO,CAAC,CAAC,KAAsB;QACzC,MAAM,gBAAgB,GAAG,kB
AK,CAAC,MAAM,GAAGE,aAAE,eAAaA,GAAG,aAAE,CAAC,SAAS,CAAC;;QAG1E,MAAM,eAAe,G
ACjBH,UAAY,CAAC,gBAAgB,CAAC,CAAC,MAAM,CAAC,kBAAkB,CAAC,KAAK,EAAE,YAAY,CAAC,CA
AC,CAAC;QACnF,gBAAgB,CAAC,IAAI,CAAC,eAAe,CAAC,MAAM,EAAE,CAAC,CAAC;;QAGhD,MAAM,S
AAS,GAAG,aAAa,EAAE,CAAC;QAClC,MAAM,YAAY,GAAGA,UAAY,CAACG,aAAE,CAAC,SAAS,CAAC,
CAAC,MAAM,CAAC,EAAE,CAAC,CAAC;QAC3D,MAAM,OAAO,GAAGH,UAAY,CAACG,aAAE,CAAC,YAAY,CAAC,
YAAY,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC,SAAS,CAAC,GAAG,CAAC,YAAY,CAAC,CAAC,CAAC;QAC
pF,MAAM,eAAe,GAAG7C,QAAU,CAAC,YAAY,CAAC;aACnB,IAAI,CAAC,KAAK,CAAC,YAAY,CAAC;aA
CxB,GAAG,CAAC,KAAK,CAAC,KAAK,GAAG,SAAS,CAAC,IAAI,CAAC,OAAO,CAAC,GAAG,SAAS,CAA
C,CAAC;QACpF,gBAAgB,CAAC,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,eAAe,CAAC,MAAM,EAAE,CAAC,
E,CAAC,CAAC;KAC9D,CAAC,IAAI,CAAC,EAAE,GAAG,IAAI,CAAC,GAAG,GAAG,IAAI,QAAQ,GAAG,IA
AI,CAAC;IACtD,OAAOY,EAAI,CACP,IAAIF,SAAW,CAAC,YAAY,EAAE,IAAI,CAAC,YAAY,EAAE,eAAeyM,WAAa,CAAC,EAAE,IA
AIzM,OAAS,CAAC,YAAY,EAAE,IAAI,CAAC,CAAC,EAAC/E;QACE,qBAAqB,iBAA0B,gBAAgB,CAAC;QACh
E,qBAAqB,iBAA0B,gBAAgB,CAAC;KACjE,EACDL,aAAe,EAAE,IAAI,EAAE,eAAe,CAAC,CAAC;AAC9C,C
AAC;AAED;AACA,SAAS,0BAA0B,CAC/B,oBAAoC,EAAE,cAA+B,EAAE,QA
AgB,EAAE,IAAY,EACxF,aAA4B;IAC9B,MAAM,cAAc,GAAkB,EAAE,CAAC,YAAY,CAAC,CAAC;IAChD,
MAAM,YAAY,GAAG,IAAI,cAAc,CAAC,CAAC,cAAc,CAAC,CAAC,CAAC;IAExD,MAAM,EAAC,SAAS,,EAAE,SAAS,,EAAC,
C,GAAG,oBAAoB,CAAC,iBAAiB,EAAE,CAAC;IAC5D,MAAM,YAAY,GAAG,SAAS,CAAC,MAAM,CAAC,SAAS,CAAC,MAAM,CAAC;IACvD,MAAM,YAAY,GAAG,SAAS,CAAC,MAAM,CAAC,SAAS,CAAC,MAAM,CAAC;IACvD,MAAM,iBAAiB,GAAG,IAAI,cAAc,CAAC,YAAY,GAAG,YAAY,CAAC;IACzE,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,YAAY,EAAE,CAAC,EAAE,EAAE;QACrC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,YAAY,EAAE,CAAC,EAAE,EAAE;YACrC,iBAAiB,CAAC,CAAC,GAAG,YAAY,GAAG,CAAC,CAAC,GAAG,SAAS,CAAC,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC;
SAAS,CAAC,CAAC,CAAC;SACnD;KACF;IACD,MAAM,YAAY,GAAG,IAAI,cAAc,CAAC,YAAY,GAAG,YAAY,CAAC;IACpE,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,YAAY,EAAE,CAAC,EAAE,EAAE;QACrC,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,YAAY,EAAE,CAAC,EAAE,EAAE;YACrC,YAAY,CAAC,CAAC,GAAG,YAAY,GAAG,CAAC,CAAC,GAAG,SAAS,CAAC,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC;
SAAS,CAAC,CAAC,CAAC;SAC9C;KACF;IACD,OAAO,CAAC,SAAS,EAAE,SAAS,EAAE,iBAAiB,EAAE,YAAY,CAAC,CAAC;AACjE,CA

W,EAAE,WAAW,EAAC,GAAG,4BAA4B,CAAC,OAAO,CAAC,CAAC;QAEtF,MAAM,gBAAgB,GAClB,aAAa,CAAC,4BAA4B,CAAC,QAAQ,EAAE,WAAW,EAAE,WAAW,CAAC;aACzE,MAAM,CAAC,OAAO,IAAI,OAAO,KAAKwN,eAAoB,CAAC,IAAI,CAAC,CAAC;QAElE,IAAI,WAAW,GAAwB,IAAI,CAAC;QAC5C,IAAI,gBAAgB,GAAG,IAAI,CAAC;QAC5B,IAAI,CAAC,gBAAgB,IAAI,CAAC,gBAAgB,CAAC,MAAM,IAAI,CAAC,EAAE;YACtD,WAAW,GAAG,gBAAgB,CAAC,CAAC,CAAC,CAAC;SACrC;aAAM;YACL,WAAW,GAAG,IAAI,CAAC,gBAAgB,CAAC,CAAC;YACrC,gBAAgB,GAAG,gBAAgB,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;SAC9C;QAED,IAAI,WAAW,IAAI,IAAI,EAAE;YACvB,IAAI,WAAW,CAAC,MAAM,IAAI,CAAC,EAAE;gBAC3B,IAAI,WAAW,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oBAC1B,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,MAAM,IAAI,CAAC,EAAE;wBAC9B,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4BAC7B,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gCAC9B,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oCAC/B,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wCAChC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4CACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gDACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oDACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wDACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4DACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gEACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oEACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wEACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4EACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gFACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oFACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wFACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4FACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gGACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oGACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wGACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4GACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gHACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oHACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wHACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4HACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gIACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oIACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wIACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4IACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gJACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oJACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wJACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4JACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gKACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oKACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wKACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4KACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gLACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oLACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wLACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4LACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gMACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oMACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wMACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4MACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gNACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;oNACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;wNACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;4NACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,IAAI,EAAE;gOACjC,IAAI,WAAW,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

AAW,EAAC,CAAC;AAChE,CAAC;AAED,SAAS,mBAAmB,CAAC,aAA4B,EAAE,IAAa;IACtE,MAAM,SAAS,GAAqB,EAAE,CAAC;IACvC,MAAM,kBAAkB,GAAqB,EAAE,CAAC;IAChD,MAAM,YAAY,GAAkB,EAAE,CAAC;IAEvC,aAAa,CAAC,OAAO,CAAC,OAAO;QAC3B,IAAI,WAAW,GAAG,OAAO,CAAC,IAAI,IAAI,kBAAkB,CAAC,OAAO,CAAC,IAAI;YAC/D,QAAQ,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;QAC7B,CAAC,CAAC,CAAC;QAEH,IAAI,CAAC,CAAC,QAAQ,CAAC,MAAM,GAAG,CAAC,EAAE;YACzB,IAAI,CAAC,CAAC,QAAQ,CAAC,MAAM,KAAK,CAAC,EAAE;gBAC3B,IAAI,CAAC,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC,QAAQ,CAAC,MAAM,KAAK,CAAC,EAAE;oBACvC,SAAS,CAAC,IAAI,CAAC,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC,CAAC;gBAC1C,CAAC;YACH,CAAC;iBAAM,CAAC;gBACN,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC;YACnB,CAAC;QACH,CAAC;QAED,OAAO,SAAS,CAAC;IACnB,CAAC,CAAC,CAAC;IAEH,MAAM,UAAU,GAAG,IAAI,GAAG,EAAE,CAAC;IAC7B,MAAM,SAAS,GAAG,IAAI,GAAG,EAAE,CAAC;IAC5

AC,QAAQ;YACzB,IAAI,EAAE,MAAM,CAAC,IAAI;SAClB,CAAC;QACF,MAAM,GAAG,GAAG,uBAAuB,CAAC,QAAQ,CAAC,CAAC;QAC9C,OAAO,IAAI,CAAC,aAAa,CAAC,GAAG,CAAC,UAAU,EAAE,cAAc,EAAE,YAAY,EAAE,EAAE,CAAC,CAAC;KAC7E;IAED,iBAAiB,CACb,cAA+B,EAAE,YAAoB,EAAE,YAAoB,EAAE,WAAmB,EAAE,WAAmB,EAAE,WAAm

,OAAO,IAAI,CAAC,aAAa,CACrB,GAAG,CAAC,UAAU,EAAE,cAAc,EAAE,sBAAsB,EAAE,YAAY,CAAC,UA
AU,CAAC,CAAC;KACtF;IAED,cAAc,CACV,cAA+B,EAAE,YAAoB,EAAE,IAAgC;QACzF,MAAM,UAAU,GA
AG,sBAAsB,CAAC;YACxC,IAAI,EAAE,IAAI,CAAC,IAAI;YACf,IAAI,EAAEA,eAAa,CAAC,IAAI,CAAC,IAA
I,CAAC;YAC9B,YAAY,EAAE,IAAI,eAAe,CAAC,IAAI,CAAC,IAAI,CAAC;YAC5C,iBAAiB,EAAE,IAAI,CAA
C,iBAAiB;YACzC,IAAI,EAAE,gCAAgC,CAAC,IAAI,CAAC,IAAI,CAAC;YACjD,QAAQ,EAAE,IAAI,CAAC,Q
AAQ,KAAK,iBAAiB,GAAG,WAAW,CAAC,eAAe;gBAC3B,WAAW,CAAC,MAAM;YAClE,MAAM,EAAE,IA
AI,CAAC,MAAM;SACpB,CAAC,CAAC;QACH,OAAO,IAAI,CAAC,aAAa,CACrB,UAAU,CAAC,OAAO,EAAE
,cAAc,EAAE,YAAY,EAAE,UAAU,CAAC,UAAU,CAAC,CAAC;KAC9E;IAED,qBAAqB,CAAC,IAAY,EAAE,Q
AAgB,EAAE,SAAiB;QACrE,OAAO,mBAAmB,CAAC,IAAI,EAAE,QAAQ,EAAE,SAAS,CAAC,CAAC;KACvD
;;;;;;;;;;IAWO,aAAa,CACjB,GAAe,EAAE,OAA6B,EAAE,SAAiB,EAAE,aA0B;;;;QAI5B,MAAM,UAAU,GAA
gB;YAC9C,GAAG,aAAa;YAChB,IAAI,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,SAAS,EAAE,CAAC,CAAC,YAAY,
CAAC,QAAQ,CAAC,CAAC;SACpE,CAAC,CAAC;QAEH,MAAM,GAAG,GAAG,IAAI,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,SAAS,EAAE,CAAC,CAAC,YAAY,
CAAC,kBAAkB
,CAC5C,SAAS,EAAE,UAAU,EAAE,IAAI,cAAc,CAAC,OAAO,CAAC,yBAAyB,IAAI,CAAC,CAAC;QACrF,O
AAO,GAAG,CAAC,MAAM,CAAC,CAAC;KACpB;CACF;AAOD,MAAM,SAAS,GAAG,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;AACnD,MAAM,WAAW,GAAG,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;AACnD,MAAM,WAAW,GAAG,CAAC,MAAM,CAAC,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;AAEnD,MAAM,UAAU

AK,CAAC,CAAC;KAC3C;SAAM;QACL,SAAS,GAAG,IAAI,eAAe,CAAC,MAAM,CAAC,KAAK,CAAC,CAA
C;KAC/C;IACD,OAAO;QACL,KAAK,EAAE,SAAS;QAChB,SAAS,EAAE,IAAI;QACf,QAAQ,EAAE,MAAM,C
AAC,QAAQ;QACzB,IAAI,EAAE,MAAM,CAAC,IAAI;QACjB,QAAQ,EAAE,MAAM,CAAC,QAAQ;QACzB,IA
AI,EAAE,MAAM,CAAC,IAAI;QACjB,QAAQ,EAAE,MAAM,CAAC,QAAQ;KAC1B,CAAC;AACJ,CAAC;AAE
D,SAAS,gCAAgC,CAAC,OACS;IACjD,OAAO,OAAO,IAAI,IAAI,GAAG,IAAI,GAAG,OAAO,CAAC,GAAG,C
AAC,2BAA2B,CAAC,CAAC;AAC3E,CAAC;AAED,SAAS,mBAAmB,CACxB,YAAoC,EAAE,UA2B,EACjE,I
AA8B;;IAEhC,MAAM,QAAQ,GAAG,iBAAiB,CAAC,IAAI,IAAI,EAAE,CAAC,CAAC;;IAG/C,MAAM,MAAM,
GAAG,kBAAkB,CAAC,QAAQ,EAAE,UAAU,CAAC,CAAC;IACxD,IAAI,MAAM,CAAC,MAAM,EAAE;QACj
B,MAAM,IAAI,KAAK,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC,KAAiB,KAAK,KAAK,CAAC,GAAG,CAA
C,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC;KAC1E;;IAGD,KAAK,MAAM,KAAK,IAAI,YAAY;QAAE;IAChC
hC,IAAI,YAAY,CAAC,cAAc,CAAC,KAAK,CAAC,EAAE;YACtC,YAAY,CAAC,KAAK,CAAC,CAAC,CAAC,OA
AO,CAAC,GAAG;gBAC7B,IAAI,aAAa,CAAC,GAAG,CAAC,EAAE;oBACtB,QAAQ,CAAC,UAAU,CAAC,GA
AG,CAAC,gBAAgB,IAAI,KAAK,CAAC,GAAG,CAAC;iBAC5D;qBAAM,IAAI,cAAc,CAAC,GAAG,CAAC,CA
AC,EAAE;oBAC9B,QAAQ,CAAC,SAAS,CAAC,GAAG,CAAC,SAAS,IAAI,KAAK,CAAC,GAAG,GAAG,KAA
K,IAAI,CAAC,GAAG,CAAC,IAAI,IAAI,EAAE,EAAE,IAAI,CAAC,GAAG,CAAC,GAAG,CAAC;iBACxF;aAC
F,CAAC,CAAC;SACJ;KACF;IAED,OAAO,QAAQ,CAAC;AAClB,CAAC;AAED,SAAS,aAAa,CAAC,KAAU;IAC/
B,OAAO,KAAK,CAAC,cAAc,KAAK,aAAa,CAAC;AAChD,CAAC;AAED,SAAS,cAAc,CAAC,KAAU;IAChC
,OAAO,KAAK,CAAC,cAAc,KAAK,cAAc,CAAC;AACjD,CAAC;AAGD,SAAS,OAAO,CAAC,QAAQ,EAAE,KAAK
,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,

ACd,SAAS,CAAC,WAAW,CAAC,aAAa,CAAC,kBAAkB,CAAC,CAAC;aAC7D;SACF;aAAM,IAAI,SAAS,CAAC,WAAW,CAAC,WAAW,CAAC,EAAE;YAC7C,IAAI,OAAO,WAAW,CAAC,WAAW,KAAK,QAAQ,EAAE;gBAC/C,MAAM,WAAW,CAAC,2CACd,SAAS,CAAC,WAAW,CAAC,aAAa,CAAC,kBAAkB,CAAC,CAAC;aAC7D;SACF;aAAM;YACL,MAAM,WAAW,CACb,uCAAuC,SAAS,CAAC,WAAW,CAAC,aAAa,CAAC,EAAE,CAAC,CAAC;SACpF;QAED,IAAI,SAAS,CAAC,WAAW,CAAC,mBAAmB,CAAC;YAC1C,OAAO,WAAW,CAAC,mBAAmB,KAAK,SAAS,EAAE;YACxD,MAAM,WAAW,CAAC,gDACd,SAAS,CAAC,WAAW,CAAC,aAAa,CAAC,oBAAoB,CAAC,CAAC;SAC/D

C,QAAQ;YACpC,WAAW,EAAE,iBAAiB,CAAC,WAAW;YAC1C,OAAO,EAAE,iBAAiB,CAAC,OAAO;YAClC,MAAM;YACN,SAAS;YACT,kBAAkB,EAAE,iBAAiB,CAAC,kBAAkB;YACxD,UAAU,EAAE,WAAW,CAAC,UAAU;YAClC,aAAa,EAAE,WAAW,CAAC,aAAa;YACxC,QAAQ,EAAE,iBAAiB,CAAC,QAAQ;YACpC,mBAAmB;YACnB,mBAAmB,EAAE,0BAA0B,CAC3C,WAAW,CAAC,mBAAmB,EAAE,IAAI,CAAC,OAAO,CAAC,mBAAmB,CAAC;SACvE,CAAC,CAAC;KACJ;IAEO,aAAa,CACjB,SAAmB,EAAE,WAAmD,EACxE,QAAQ,EAAE,WAAW,CAAC,QAAQ;YAC9B,MAAM,UAAU,GAAG,WAAW,CAAC,QAAQ,CAAC,MAAM,CAAC;YAC/C

AAC,IAAI,CAAC,CAAC;gBAC5D,MAAM,MAAM,GAAG,IAAI,CAAC,UAAU,CAAC,MAAM,CAAC,IAAI,CA
AC,CAAC;gBAC5C,OAAO,IAAI,CAAC,0BAA0B,CAAC,QAAQ,EAAE,gBAAgB,EAAE,MAAM,EAAE,IAAI,C
AAC,CAAC;aAClF;SACF;QAED,IAAI,eAAe,EAAE;YACnB,MAAM,IAAI,KAAK,CAAC,oCAAoC,SAAS,CAA
C,IAAI,CAAC,EAAE,CAAC,CAAC;SACxE;QAED,OAAO,IAAI,CAAC;KACb;IAEO,0BAA0B,CAC9B,EAAEa,E
AAE,gBAAwC,EAAE,MAA4B,EAAE,rF,aAAmB;QAC7B,MAAM,MAAM,GAAa,EAAE,CAAC;QAC5B,MAAM,
OAAO,GAAa,EAAE,CAAC;QAC7B,MAAM,IAAI,GAA4B,EAAE,CAAC;QACzC,MAAM,OAAO,GAAyB,EAA
E,CAAC;QACzC,MAAM,CAAC,IAAI,CAAC,gBAAgB,CAAC,CAAC,OAAO,CAAC,CAAC,QAAgB;YACrD,M
AAM,KAAK,GAAG,QAAQ,CAAC,gBAAgB,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,KAAK,WAAW,CAAC
,QAAQ,CAAC,CAAC,CAAC,CAAC,CAAC;YACnF,IAAI,KAAK,EAAE;gBACT,IAAI,KAAK,CAAC,mBAAmB
,EAAE;oBAC7B,MAAM,CAAC,IAAI,CAAC,GAAG,QAAQ,KAAK,KAAK,CAAC,mBAAmB,EAAE,CAAC,CA
AC;iBAC1D;qBAAM;oBACL,MAAM,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;iBACvB;aACF;YACD,MAAM
,MAAM,GAAG,QAAQ,CAAC,gBAAgB,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,KAAK,YAAY,CAAC,QAA
Q,CAAC,CAAC,CAAC,CAAC,CAAC;YACrF,IAAI,MAAM,EAAE;gBACV,IAAI,MAAM,CAAC,mBAAmB,EA
AE;oBAC9B,OAAO,CAAC,IAAI,CAAC,GAAG,QAAQ,KAAK,MAAM,CAAC,mBAAmB,EAAE,CAAC,CAAC;
iBAC5D;qBAAM;oBACL,OAAO,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;iBACxB;aACF;YACD,MAAM,YA
AY,GAAG,gBAAgB,CAAC,QAAQ,CAAC,CAAC,MAAM,CAAC,CAAC,IAAI,iBAAiB,CAAC,QAAQ,CAAC,C
AAC,CAAC,CAAC,CAAC;YAC3F,IAAI,YAAY,CAAC,OAAO,CAAC,WAAW;gBAC9C,gBAAgB,CAAC,gBAA
gB,EAAE;oBAChC,MAAM,SAAS,GAAG,WAAW,CAAC,gBAAgB,CAAC,CAAC,CAAC,CAAC,CAAC;oBACnD,IAAI,
SAAS,KAAK,GAAG,EAAE;wBACrB,MAAM,IAAI,KAAK,CAAC,iEAAiE,CAAC,CAAC;qBACpF;yBAAM,IA
AI,SAAS,KAAK,GAAG,EAAE;wBAC5B,MAAM,IAAI,KAAK,CAAC,cACX,qFAAqF,CAAC,CAAC;qBAC5F;oBACD
,IAAI,CAAC,IAAI,WAAW,CAAC,gBAAgB,CAAC,GAAG,CAAC,GAAG,QAAQ,CAAC;iBACtD;qBAAM;oBACL,IA
AI,CAAC,IAAI,QAAQ,GAAG,CAAC,GAAG,QAAQ,CAAC;iBAClC;aACF;YACD,MAAM,CAAC,IAAI,CAAC,YAAY,CAAC,MAAM,aAAa,G
AAG,gBAAgB,CAAC,QAAQ,CAAC,CAAC,MAAM,CAAC,CAAC,IAAI,kBAAkB,CAAC,QAAQ,CAAC,CAAC
,CAAC,CAAC,CAAC;YAC7F,IAAI,aAAa,CAAC,OAAO,CAAC,YAAY;gBAChC,gBAAgB,CAAC,gBAAgB,CAAC,GAAG,CAAC,IAAI,GAAG,CAAC,IAAI,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,
IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,

QAAQ;gBACvB,QAAQ,EAAE,IAAI,CAAC,QAAQ;gBACvB,OAAO,EAAE,aAAa;gBACtB,eAAe,EAAE,IAAI,CAAC,eAAe;gBACrC,SAAS,EAAE,IAAI,CAAC,SAAS;gBACzB,aAAa,EAAE,IAAI,CAAC,aAAa;gBACjC,eAAe,EAAE,IAAI,CAAC,eAAe;gBACrC,QAAQ,EAAE,IAAI,CAAC,QAAQ;gBACvB,WAAW,EAAE,IAAI,CAAC,WAAW;gBAC7B,MAAM,EAAE,IAAI,CAAC,MAAM;gBACnB,SAAS,EAAE,IAAI,CAAC,SAAS;gBACzB,aAAa,EAAE,IAAI,CAAC,aAAa;gBACjC,UAAU,EAAE,IAAI,CAAC,UAAU;gBAC3B,aAAa,EAAE,IAAI,CAAC,aAAa;gBACjC,mBAAmB,EAAE,IAAI,CAAC,mBAAmB;aCnD,CAAC,CAAC;SCJ;aAAM;YACL,OAAO,eAAe,CAAC;gBACrB,QAAQ,EAAE,IAAI,CAAC,QAAQ;gBACvB,MAAM,EAAE,IAAI,CAAC,MAAM;gBACnB,UAAU,EAAE,IAAI,CAAC,UAAU;gBAC3B,YAAY,EAAE,IAAI,CAAC,YAAY;gBAC/B,QAAQ,EAAE,IAAI,CAAC,QAAQ;gBACvB,KAAK,EAAE,IAAI,CAAC,KAAK;gBACj

E,KAAK,EAAE,GAAG,CAAC,UAAU,EAAE,GAAG,CAAC,qBAAqB,CAAC,CAAC;SAClF;QAED,IAAI,CAAC
,MAAM,GAAG,QAAQ,CAAC;QAEvB,OAAO,GAAG,CAAC;KACZ;IAED,YAAY,CAAC,OAAqB,EAAE,OAA
Y;QAC9C,MAAM,SAAS,GAAG,iBAAiB,CAAC,OAAO,CAAC,CAAC;QAE7C,IAAI,SAAS,IAAI,IAAI,CAAC,
wBAAwB,EAAE;YAC9C,IAAI,CAAC,YAAY,CAAC,OAAO,EAAE,uDAAuD,CAAC,CAAC;YACpF,OAAO;SA
CR;QAED,MAAM,SAAS,GAAG,iBAAiB,CAAC,OAAO,CAAC,CAAC;QAE7C,IAAI,SAAS,IAAI,CAAC,IAAI,
CAAC,YAAY,EAAE;YACnC,IAAI,CAAC,YAAY,CAAC,OAAO,EAAE,mCAAmC,CAAC,CAAC;YAChE,OAA
O;SACR;QAED,IAAI,CAAC,IAAI,CAAC,WAAW,IAAI,CAAC,IAAI,CAAC,MAAM,EAAE;YACrC,IAAI,CAA
C,IAAI,CAAC,YAAY,EAAE;gBACtB,IAAI,SAAS,EAAE;;oBAEb,IAAI,CAAC,kBAAkB,IAAS,OAAO,IAAS,O
AAO,CAAC,IAAI,EAAE;wBAC5D,kBAAkB,GAAG,IAAI,CAAC;wBAC1B,MAAM,OAAO,GAAG,OAAO,CAA
C,UAAU,CAAC,OAAO,GAAG,KAAK,OAAO,CAAC,UAAU,CAAC,OAAO,EAAE,GAAG,EAAE,CAAC;;wBA
EpF,OAAO,CAAC,IAAI,CAAC,wEACT,OAAO,CAAC,UAAU,CAAC,KAAK,GAAG,OAAO,GAAG,CAAC,CA
AC;qBAC5C;oBACD,IAAI,CAAC,YAAY,GAAG,IAAI,CAAC;oBACzB,IAAI,CAAC,gBAAgB,GAAG,IAAI,CA
AC,MAAM,CAAC;oBACpC,IAAI,CAAC,cAAc,GAAG,EAAE,CAAC;oBACzB,IAAI,CAAC,oBAAoB;wBACrB,
OAAO,CAAC,KAAM,CAAC,OAAO,CAAC,2BAA2B,EAAE,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC;oBACnE
,IAAI,CAAC,wBAAwB,CAAC,OAAO,CAAC,CAAC;iBACxC;aACF;iBAAM;gBACL,IAAI,SAAS,EAAE;oBAC
b,IAAI,IAAI,CAAC,MAAM,IAAI,IAAI,CAAC,gBAAgB,EAAE;wBACxC,IAAI,CAAC,yBAAyB,CAAC,OAAO,
EAAE,IAAI,CAAC,cAAc,CAAC,CAAC;wBAC7D,IAAI,CAAC,YAAY,GAAG,KAAK,CAAC;wBAC1B,MAAM,
OAAO,GAAG,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,cAAc,EAAE,IAAI,CAAC,oBAAoB,CAAE,CAAC;;wB
AElF,MAAM,KAAK,GAAG,IAAI,CAAC,iBAAiB,CAAC,OAAO,EAAE,OAAO,CAAC,CAAC;wBACvD,OAAO
M,UAAa,CAAC,IAAI,EAAE,KAAK,CAAC,CAAC;qBACnC;yBAAM;wBACL,IAAI,CAAC,YAAY,CAAC,OAA
O,EAAE,iDAAiD,CAAC,CAAC;wBAC9E,OAAO;qBACR;iBACF;aACF;SACF;KACF;IAED,SAAS,CAAC,IAAe
,EAAE,OAAY;QACrC,IAAI,IAAI,CAAC,wBAAwB,EAAE;YACjC,IAAI,CAAC,sBAAsB,CAAC,IAAI,EAAE,OA
AO,CAAC;SACnC;QACD,OAAO,IAAI,CAAC,KAAK,CAAC,EAAE,gBAAgB,EAAE,OAAY;QACzC,IAAI,CAA
C,sBAAsB,CAAC,IAAI,EAAE,CAAC,CAAC;QAChC,IAAI,CAAC,MAAM,EAAE,CAAC,CAAC;QACd,IAAI,CAAC,
KAAK,CAAC,EAAE,gBAAgB,EAAE,OAAY;QACzC,IAAI,CAAC,sBAAsB,CAAC,IAAI,EAAE,CAAC,CAAC;QAC
hC,IAAI,CAAC,MAAM,EAAE,CAAC,CAAC;QACd,IAAI,CAAC,KAAK,CAAC,EAAE,gBAAgB,EAAE,OAAY;QACzC,IAAI,CAA
C,sBAAsB,CAAC,IAAI,EAAE,CAAC,CAAC;QAChC,IAAI,CAAC,MAAM,EAAE,CAAC,CAAC;QACd,IAAI,CAAC,KAAK,CAAC,EAAE,gBAAgB,EAAE,OAAY;QACzC,IAAI,CAAC

AAU,EAAE,EAAE,CAAC,UAAU,EAAE,EAAE,CAAC,eAAe,EACvE,EAAE,CAAC,aAAa,CAAC,CAAC;SACvB;QACD,OAAO,IAAI,CAAC;KACb;IAED,cAAc,CAAC,SAAAyB,EAAE,OAAAY;QACpD,MAAM,IAAI,KAAK,CAAC,kBAAkB,CAAC,CAAC;KACrC;IAEO,KAAK,CAAC,IAAkB,EAAE,mBAAwC;QACxE,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC;QAClB,IAAI,CAAC,YAAY,GAAG,KAAK,CAAC;QAC1B,IAAI,CAAC,WAAW,GAAG,KAAK,CAAC;QACzB,IAAI,CAAC,MAAM,GAAG,KAAK,CAAC;QACp

gB,EAAE;YAC7E,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;SAChC;KACF;;;;IAKO,wBAAwB,CAAC,IAAAe;QAC9C,IAAI,IAAI,CAAC,wBAAwB,EAAE;YACjC,IAAI,CAAC,YAAY,CAAC,IAAI,EAAE,0BAA0B,CAAC,CAAC;SACrD;aAAM;YACL,IAAI,CAAC,uBAAuB,GAAG,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC;SACtD;KACF;;;;;;IAOD,IAAY,wBAAwB;QAClC,OAAO,IAAI,CAAC,uBAAuB,KAAK,KAAK,CAAC,CAAC;KAChD;;;;;;;;;;;;;;;;IAkBO,yBAAyB,CAAC,IAAAe,EAAE,cAA2B;QAC5E,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,wBAAwB,EAAE;YACjC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC;SAC5C;QACD,OAAO;SACR;QACD,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,wBAAwB,EAAE;YACjC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC;SAC5C;QACD,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,wBAAwB,EAAE;YACjC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC;SAC5C;QACD,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,wBAAwB,EAAE;YACjC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC;SAC5C;KACF;IAED,IAAY,wBAAwB;QAClC,OAAO,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,wBAAwB,EAAE;YACtC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC;SAC5C;QACD,OAAO,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,wBAAwB,EAAE;YACtC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC;SAC5C;QACD,OAAO,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,wBAAwB,EAAE;YACtC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC;SAC5C;QACD,OAAO,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,wBAAwB,EAAE;YACt

ACd,IAAIF,GAAO,CACP,YAAY,EAAE,EAAC,cAAc,EAAE,YAAY,EAAC,EAAE,CAAC,IAAIC,MAAQ,CAAC
,MAAM,CAAC,QAAQ,CAAC,CAAC,CAAC,EAClF,IAAIC,EAAM,CAAC,EAAE,CAAC,EACd,IAAIF,GAAO,C
AAC,YAAY,EAAE,EAAC,cAAc,EAAE,YAAY,EAAC,EAAE,CAAC,IAAIC,MAAQ,CACT,GAAG,MAAM,CA
AC,SAAS,EAAE,CAAC,CAAC,CAAC,EACtF,IAAIC,EAAM,CAAC,CAAC,CAAC,CAAC,CAAC;gBACnB,WA
AW,CAAC,IAAI,CAAC,IAAIA,EAAM,CAAC,CAAC,CAAC,EAAE,eAAe,CAAC,CAAC;aAClD,CAAC,CAAC;
YAEH,MAAM,SAAS,GAAG,IAAIF,GAAO,CAAC,SAAS,EAAE,EAAC,EAAE,EAAE,OAAO,CAAC,EAAE,EA
AE,QAAQ,EAAE,MAAM,EAAC,CAAC,CAAC;YAC7E,SAAS,CAAC,QAAQ,CAAC,IAAI,CACnB,IAAIE,EAAM
,CAAC,CAAC,CAAC,EAAE,IAAIF,GAAO,CAACqM,aAAW,EAAE,EAAE,EAAE,OAAO,CAAC,SAAS,CAA
C,OAAO,CAAC,KAAK,CAAC,CAAC,EAC7E,GAAG,WAAW,CAAC,CAAC;YAEpB,IAAI,OAAO,CAAC,WA
AW,EAAE;gBACvB,SAAS,CAAC,QAAQ,CAAC,IAAI,CACnB,IAAInM,EAAM,EAAM,CAAC,CAAC,CAAC,EAAEb,Gb,IA
AIF,GAAO,CACP,MAAM,EAAE,EAAC,QAAQ,EAAE,GAAG,EAAE,IAAI,EAAE,aAAa,EAAC,EAAE,CAAC,I
AAIC,MAAQ,CAAC,OAAO,CAAC,WAAW,CAAC,CAAC,CAAC,CAAC;aAC7F;YAED,IAAI,OAAO,C
AAC,OAAO,EAAE;gBACnB,SAAS,CAAC,QAAQ,CAAC,IAAI,CACnB,IAAIE,EAAM,CAAC,CAAC,CAAC,EAAE,IAAIF,GAAO,CAAC,SAAS,CAAC,CAAC,CAAC,E
ACb,IAAIF,GAAO,CAAC,MAAM,EAAE,EAAC,QAAQ,EAAE,GAAG,EAAE,IAAI,EAAE,SAAS,EAAC,EAAE,
CAAC,IAAIC,MAAQ,CAAC,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC;aAC7F;YAED,SAAS,C
AAC,QAAQ,CAAC,IAAI,CAAC,IAAIC,EAAM,CAAC,CAAC,CAAC,CAAC,CAAC;YAEvC,UAAU,CAAC,IAA
I,CAAC,IAAIA,EAAM,CAAC,CAAC,CAAC,EAAE,SAAS,CAAC,CAAC;SAC3C,CAAC,CAAC;QAEH,MAAM,
IAAI,GAAG,IAAIF,GAAO,CAAC,MAAM,EAAE,EAAE,EAAE,CAAC,GAAG,UAAU,EAAE,IAAIE,EAAM,CA
AC,CAAC,CAAC,CAAC,CAAC;QACrE,MAAM,IAAI,GAAG,IAAIF,GAAO,CAAC,MAAM,EAAE,EAAE,CAAC;YA
CN,iBAAiB,EAAE,MAAM,IAAI,oBAAoB;YACjD,QAAQ,EAAE,WAAW;YACrB,QAAQ,EAAE,cAAc;SACzB,
EACD,CAAC,IAAIE,EAAM,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,IAAIA,EAAM,CAAC,CAAC,CAAC,CA
AC,CAAC,CAAC;QAC1C,MAAM,KAAK,GAAG,IAAIF,GAAO,CAAC,OAAO,CAAC,EAAE,EAAC,CAAC,OAAO,EAAE,Q
AAQ,EAAE,KAAK,EAAE,MAAM,EAAC,CAAC,EAAE,CAAC,IAAIE,EAAM,CAAC,CAAC,CAAC,EAAE,IAAI,EAA
E,IAAIA,EAAM,CAAC,CAAC,CAAC;QAEtC,YAAY,CAAC,IAAIF,GAAO,CAAC,WAAW,CAAC,CAAC,EAAE,CAAC,OAAO,EAAE,KAAK,EAAE,QAAQ,EAAE,KAAK,
EAAE,IAAIA,EAAM,CAAC,CAAC,CAAC,EAAE,IAAIF,GAAO,CAAC,MAAM,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC

KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,CAAC,GAAG,IAAI,EAAC,CAAC,CAAC,CAAC;SACjF;QAED,MAAM,UAAU,GACZ,IAAIpM,GAAO,CAACoM,kBAAgB,EAAE,EAAC,EAAE,EAAE,EAAE,CAAC,SAAS,EAAE,KAAK,EAAE,YAAY,EAAE,IAAI,EAAE,CAAC,GAAG,GAAG,EAAC,CAAC,CAAC;QAC1F,MAAM,UAAU,GACZ,IAAIpM,GAAO,CAACoM,kBAAgB,EAAE,EAAC,EAAE,EAAE,EAAE,CAAC,SAAS,EAAE,KAAK,EAAE,YAAY,EAAE,KAAK,EAAE,CAAC,GAAG,GAAG,EAAC,CAAC,CAAC;QAE3F,OAAO,CAAC,UAAU,EAAE,GAAG,GAAG,EAAC,CAAC,CAAC,IAAI,EAAE,GAAG,GAAG,EAAC,CAAC,CAAC,C

AC,MAAM,CAAC,GAAGA,UAAW,CAAC,IAAI,EAAE,MAAM,CAAC,SAAS,CAAC,CAAC,CAAC;QAEtD,OAAO;YACL,SAAS,EAAE,SAAS;YACpB,MAAM,EAAE,IAAI,CAAC,OAAO;SACrB,CAAC;KACH;IAED,SAAS,CAAC,IAAa,EAAE,OAAY;QACnC,OAAO,IAAI1B,MAAS,CAAC,IAAI,CAAC,KAAK,EAAE,IAAI,CAAC,UAAU,CAAC,CAAC;KACnD;IAED,YAAY,CAAC,EAAc,EAAE,OAAY;QACvC,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;KACrB;IAED,YAAY,CAAC,IAAa,EAAE,OAAY;QACtC,MAAM,QAAQ,GAAG,EAAE,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI,CAAC,SAAS,EAAE,CAAC,CAAC,CAAC,CAAC;QACpD,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,EAAE,QAAQ,CAAC,CAAC;KACjC

AAC,CAAC;YAE1D,KAAK,CAAC,IAAI,CAAC,IAAIA,EAAM,CAAC,CAAC,CAAC,EAAE,IAAI,CAAC,CAAC;SACjC,CAAC,CAAC;QAEH,MAAM,IAAI,GACN,IAAIF,GAAO,CAAC,MAAM,EAAE,EAAC,UAAU,EAAE,aAAa,EAAE,EAAE,EAAE,QAAQ,EAAC,EAAE,CAAC,GAAG,KAAK,EAAE,IAAIE,EAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;QAE9F,MAAM,KAAK,GAAG,CACrB,UAAU,EAAE,EAAE,OAAO,CAAC,UAAU,EAAE,EAAC,OAAO,EAAE,EAAE,EAAE,UAAU,EAAE,EAAE,KAAK,EAAE,EAAC,QAAQ,EAAE,MAAM,EAAE,EAAE,OAAO,EAAE,EAAE,MAAM,EAAE,IAAI,CAAC,sBAAA,oB,EAAA,EAAC,CAAC,EAAC,CAAC,CAAC,EAAE,IAAI,EAAE,EAAE,IAAI,EAAE,EAAE,IAAI,EAAE

AC,IAAIpM,GAAO,CACfoM,kBAAgB,EAChB,EAAC,EAAE,EAAE,KAAK,EAAE,KAAK,EAAE,EAAE,CAAC
,IAAI,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC,KAAK,CAAC,UAAU,KAAK,EAAE,CAAC,KAAK,CAAC,IAAI,K
AAK,KAAK,GAAG,EAAC,CAAC,CAAC,CAAC;KACjG;IAED,SAAS,CAAC,KAAkB;QAC1B,IAAI,CAAC,kB
AAkB,GAAG,CAAC,CAAC;QAC5B,OAAO,EAAE,CAAC,MAAM,CAAC,GAAG,KAAK,CAAC,GAAG,CAAC,
IAAI,IAAI,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;KAC1D;CACF;AAED;AACA,MAAM
,YAAY;IAAlB;QAOU,YAAO,GAAgB,IAAI,CAAC;KAwFrC;IAtFC,KAAK,CAAC,KAAa,EAAE,GAAW;QAC9
B,IAAI,CAAC,aAAa,GAAG,IAAI,CAAC;QAC1B,IAAI,CAAC,YAAY,GAAG,EAAE,CAAC;QAEvB,MAAM,G
AAG,GAAI,SAAS,EAAE,CAAC,KAAK,CAAC,KAAK,EAAE,GAAG,CAAC,CAAC;QAE9C,IAAI,CAAC
,OAAO,GAAG,GAAG,CAAC,MAAM,CAAC;QAC3B,IAAI,CAAC,UAAW,EAAE,GAAG,CAAC,SAAS,EAAE
,IAAI,CAAC,CAAC;QAEvC,OAAO;YACL,WAAW,EAAE,IAAI,CAAC,YAAY;YAC9B,MAAM,EAAE,IAAI
,CAAC,OAAO;YACpB,MAAM,EAAE,IAAI,CAAC,OAAO;SACrB,CAAC;KACH;IAED,YAAY,CAAC,OAAmB,E
AAE,OAAY;QAC5C,QAAQ,OAAO,CAAC,IAAI;YAClB,KAAK,WAAW,gBAAgB,IAAI,CAAC,aAAa,GAAG,I
AAI,CAAC;gBAC1B,MAAM,MAAM,GAAG,OAAO,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,IAAI,KAAK,IA
AI,CAAC,IAAI,KAAK,IAAI,CAAC,CAAC;gBAChE,IAAI,CAAC,MAAM,EAAE;oBACX,IAAI,CAAC,SAAS,,C
AAC,OAAO,EAAE,IAAIA,IA,WAAS,6BAA6B,CAAC,CAAC;iBACrE;qBAAM;oBACL,IAAI,CAAC,MAAM,EAAE,GAAG,MA
AM,CAAC,KAAK,CAAC;oBACvB,IAAI,CAAC,SAAS,xB,IAAI,CAAC,IAAI,CAAC,YAAY,CAAC,cAAc,CAAC,EAAE,CAAC,EAAE;wBACxC
,IAAI,CAAC,SAAS,,CAAC,OAAO,EAAE,mCAAmC,EAAE,EAAE,CAAC,CAAC;qBAClE;yBAAM;wBACLN,
UAAW,CAAC,IAAI,EAAE,OAAO,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC;wBAC1C,IAAI,OAAO,IAAI,CAAC,
C,aAAa,KAAK,QAAQ,EAAE;4BAC1C,IAAI,CAAC,YAAY,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,aA,CAAC;yBAC5C;6BAAM;4BACL,IAAI,CAAC,SAAS,,CAAC,OAAO,EAAE,WAAW,EAAE,uBAAuB,CAAC,CAAC;
yBAC/D;qBACF;iBACF;gBACD,MAAM;YAER,KAAK,KAAK,D,aAAW;;gBAEd,MAAM;YAER,KAAK,KAAK,M,aAAW;gBA
Cd,MAAM,cAAc,GAAG,OAAO,CAAC,eAAe,CAAC,GAAG,CAAC,MAAM,CAAC;gBAC1D,IAAI,YAAY,G
AAG,OAAO,CAAC,aAAa,CAAC,KAAK,CAAC,MAAM,CAAC;gBACzD,IAAI,OAAO,GAAG,OAAO,CAAC,
eAAe,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO,CAAC;gBAC3D,IAAI,CAAC,MAAM,CAAC,SAAS,,CAAC,KAAK,CAAC,
CAAC,cAAc,EAAE,YAAY,CAAC,CAAC;gBAC9D,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,aAAa,GAAG,SAAS,CAAC;gBAC1D,IAAI,CAAC,YAAY,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,aA,CAAC;gBAC9B,MAAM;YAER,KAAK,KAAK,M,aAAW;gBACnB,IAAI,CAAC,MAAM,CAAC,SAAS,,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,IAAI,KAAK,IAAI,CAAC,IAAI,CAAC,YAAY,CAAC,cAAc,CAAC,EAAE,CAAC,EAAE;oBACxC
,IAAI,CAAC,SAAS,,CAAC,OAAO,EAAE,mCAAmC,EAAE,EAAE,CAAC,CAAC;qBAClE;yBAAM;wBACLN,
UAAW,CAAC,IAAI,EAAE,OAAO,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC;wBAC1C,IAAI,OAAO,IAAI,CAAC,
C,aAAa,KAAK,QAAQ,EAAE;4BAC1C,IAAI,CAAC,YAAY,CAAC,EAAE,CAAC,GAAG,IAAI,CAAC,aA,CAAC;yBAC5C;6BAAM;4BACL,IAAI,CAAC,SAAS,,CAAC,OAAO,EAAE,WAAW,EAAE,uBAAuB,CAAC,CAAC;
yBAC/D;qBACF;iBACF;gBACD

AED,IAAI,CAAC,SAAS,CAAC,EAAE,EAAE,IAAI0L,kBAAgB,gCAAgC,CAAC,CAAC;gBACzE,MAAM;YAC
R,KAAK,yBAAyB;gBAC5B,MAAM,SAAS,GAAG,EAAE,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,IAAI,KAA
K,IAAI,CAAC,IAAI,KAAK,YAAY,CAAC,CAAC;gBACtE,MAAM,OAAO,GAAG,EAAE,CAAC,KAAK,CAAC,
IAAI,CAAC,CAAC,IAAI,KAAK,IAAI,CAAC,IAAI,KAAK,UAAU,CAAC,CAAC;gBAElE,IAAI,CAAC,SAAS,E
AAE;oBACd,IAAI,CAAC,SAAS,CAAC,EAAE,EAAE,IAAIA,kBAAgB,qCAAqC,CAAC,CAAC;iBAC/E;qBAA
M,IAAI,CAAC,OAAO,EAAE;oBACnB,IAAI,CAAC,SAAS,CAAC,EAAE,EAAE,IAAIA,kBAAgB,mCAAmC,CA
AC,CAAC;iBAC7E;qBAAM;oBACL,MAAM,OAAO,GAAG,SAAS,CAAC,KAAK,CAAC;oBAChC,MAAM,KA
AK,GAAG,OAAO,CAAC,KAAK,CAAC;oBAE5B,MAAM,KAAK,GAAgB,EAAE,CAAC;oBAE9B,OAAO,IAAI,CAAC,
CAAC,MAAM,CACf,IAAI1L,WAAgB,CAAC,EAAE,EAAE,OAAO,EAAE,EAAE,CAAC,UAAU,CAAC,EAC
hD,GAAG,EAAE,CAAC,QAAQ,CAAC,GAAG,CAAC,IAAI,IAAI,IAAI,CAAC,KAAK,CAAC,IAAI,EAAE,IAAI,
CAAC,CAAC,EAClD,IAAIA,WAAgB,CAAC,EAAE,EAAE,KAAK,EAAE,EAAE,CAAC,UAAU,CAAC,CAAC,
CAAC;iBACrD;gBACD,MAAM;YACR,KAAKgM,aAAW;gBACd,OAAO,EAAE,CAAC,MAAM,CAAC,GAAG,CAAC,EAAE,CAAC,GAAGJ
,UAAW,CAAC,IAAI,EAAE,EAAE,CAAC,QAAQ,CAAC,CAAC,CAAC;YACtD;gBACE,IAAI,CAAC,SAAS,,CA
AC,EAAE,EAAE,gBAAgB,CAAC,CAAC;SACxC;QAED,OAAO,IAAI,CAAC;KACb;IAED,cAAc,CAAC,GAAi
B,EAAE,OAAY;QAC5C,MAAM,OAAO,GAAiC,EAAE,CAAC;QAEjDA,UAAW,CAAC,IAAI,EAAE,GAAG,,CA
AC,KAAK,CAAC,CAAC,OAAO,CAAC,CAAC,CAAM;YAC1C,MAAM,OAAO,GAAG,CAAC,KAAK,CAAC,KAAK,CAAC,GA
AG,IAAI7L,SAAc,CAAC,CAAC,CAAC,KAAK,EAAE,GAAG,CAAC,UAAU,CAAC,CAAC;SAChE,CAAC,CA
AC;QAEH,OAAO,IAAID,KAAQ,CAAC,GAAG,CAAC,WAAW,EAAE,GAAG,CAAC,IAAI,EAAE,OAAO,,EAA
E,GAAG,CAAC,UAAU,CAAC,CAAC;KACzE;IAED,kBAAkB,CAAC,OAAyB,EAAE,OAAY;QACxD,OAAO;YACL,KAAK,EAAE,OAAO,,CAAC,KAAK;YACpB,KAAK,EAAE,EAAE,CAAC,MAAM,CAAC,8L,UAAW,CAAC,IAAI,EAAE,OAAO,,CAAC,UAAU,CAAC,CAAC;
SAC3D,CAAC;KACH;IAED,YAAY,CAAC,OAAmB,EAAE,OAAY;QAC5C,MAAM,KAAK,GAAG,EAAE,CAAC,MAAM,CAAC,OAAO,,EAAE,OAAY,CAAC;QAC9C,MAAM,KAAK,GAAG,EAAE,CAAC,MAAM,CAAC,OAAO,,EAAE,OAAY,CAAC;QAE9C,OAAO;YACL,KAAK,EAAE,KAAK,,CAAC,KAAK;YAClB,KAAK,EAAE,KAAK,,CAAC,KAAK;SACnB,CAAC;KACH;IAED,cAAc,CAAC,OAAmB,EAAE,OAAY;QAC9

E,GAAW;QAC5B,IAAI,CAAC,YAAY,GAAG,CAAC,CAAC;QACtB,IAAI,CAAC,YAAY,GAAG,EAAE,CAAC;;
;QAIvB,MAAM,GAAG,GAAG,IAAI,SAAS,EAAE,CAAC,KAAK,CAAC,GAAG,EAAE,GAAG,CAAC,CAAC;Q
AE5C,IAAI,CAAC,OAAO,GAAG,GAAG,CAAC,MAAM,CAAC;QAC1BgM,UAAW,CAAC,IAAI,EAAE,GAAG
,CAAC,SAAS,CAAC,CAAC;QAEjC,OAAO;YACL,WAAW,EAAE,IAAI,CAAC,YAAY;YAC9B,MAAM,EAAE,
IAAI,CAAC,OAAO;YACpB,MAAM,EAAE,IAAI,CAAC,OAAO;SACrB,CAAC;KACH;IAED,YAAY,CAAC,OA
AmB,EAAE,OAAY;QAC5C,QAAQ,OAAO,CAAC,IAAI;YAClB,KAAK,iBAAiB;gBACpB,IAAI,CAAC,YAAY,
EAAE,CAAC;gBACpB,IAAI,IAAI,CAAC,YAAY,GAAG,CAAC,EAAE;oBACzB,IAAI,CAAC,SAAS,CAAC,OA
AO,EAAE,IAAI,iBAAiB,8BAA8B,CAAC,CAAC;iBAC9E;gBACD,MAAM,QAAQ,GAAG,OAAO,CAAC,KAAK
,CAAC,IAAI,CAAC,CAAC,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;gBACpE,IAAI,QAAQ
,EAAE;oBACZ,IAAI,CAAC,OAAO,GAAG,QAAQ,CAAC,KAAK,CAAC;iBAC/B;gBACD,MAAM,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;gBAC
I,EAAE,OAAO,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC;gBAC5B,IAAI,CAAC,YAAY,GAAG,CAAC;gBACrB,MAAM;YACR,KAAK,gBAAgB;gBACnB,IAAI,CAAC,YAAY,EAAE,CAAC;gBACpB,MAAM;YACR,KAAK,iBAAiB;gBACpB,IAAI,CAAC,YAAY,GAAG,CAAC,EAAE;oBACrB,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;oBACjF,MAAM;iBACP;gBACD,MAAM,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;gBACpF,IAAI,CAAC,YAAY,EAAE,CAAC;gBACpB,MAAM;YACR,KAAK,gBAAgB;gBACn

,0BAA0B,CAAC,OAAO,EAC3F,OAAiB;QAJT,sBAAiB,GAAjB,iBAAiB,CAAqC;QACvD,WAAM,GAAN,MAAM,CAA6B;QACnC,kBAAa,GAAb,aAAa,CAAyC;QAG/D,IAAI,CAAC,WAAW,GAAG,IAAI,iBAAiB,CAAC,iBAAiB,EAAE,MAAM,EAAE,MAAM,EAAE,aAAc,EAAE,0BAA0B,EAAE,OAAO,CAAC,CAAC;KC7F;;IAGD,OAAO,IAAI,CAAC,OAAe,EAAE,GAAW,EAAE,UAAsB,EAAC,pD,0BAAsD,EAAC,tD,OAAiB;QACnB,MAAM,EAAC,MAAM,EAAE,gBAAgB,EAAE,CAAC,GAAG,UAAU,CAAC,IAAI,CAAC,OAAO,EAAE,GAAG,CAAC,CAAC;QACjE,MAAM,QAAQ,GAAG,UAAU,CAAC,IAAI,CAAC,OAAO,EAAE,GAAG,CAAC,CAAC;QAC/C

G,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,GAAG,IAAI,CAAC;QACxE,IAAI,KAAkB,CAAC;QAEvB,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,EAAC,GAAG,EAAE,IAAI,CAAC,OAAO,EAAE,MAAM,EAAE,IAAI,CAAC,OAAO,EAAC,CAAC,CAAC;QACnE,IAAI,CAAC,OAAO,GAAG,MAAM,CAAC;QAEtB,IAAI,IAAI,CAAC,iBAAiB,CAAC,cAAc,CAAC,EAAE,CAAC,EAAE;;;YAG7C,KAAK,GAAG,IAAI,CAAC,iBAAiB,CAAC,cAAc,CAAC,EAAE,CAAC,CAAC;YACnC,IAAI,CAAC,OAAO,GAAG,CAAC,GAAG,MAAM,GAAG,MAAM,CAAC,cAAc,CAAC,cAAc,CAAC,EAAE,CAAC,cAAc,CAAC,CAAC,CAAC;YAC5F

ACjC,OAAO,KAAK,CAAC;SACd;aAAM;YACL,OAAO,IAAI,CAAC,GAAG,CAAC,UAAU,CAAC,KAAK,CAAC,CAAC;SACnC;KACF;;;ACvDH;;;;;;;AA2BA,SAASyO,UAAQ,CAAC,GAAW,EAAE,KAAmB;IAChD,OAAO,EAAC,GAAG,EAAE,KAAK,EAAE,MAAM,EAAE,KAAK,EAAC,CAAC;AACrC,CAAC;MAEY,kBAAkB;IAC7B,YAAY,CAAC,GAAW,EAAE,KAAK,GAAG,CAAC,EAAE,MAAM,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC

CAAC,IAAI,CAAC,KAAK,CAAC,CAAC;SAC5B;KACF;;;ACtIH;;;;;;;AAQA,MAAM,uBAAuB,GAAG,kCAAkC,CAAC;AACnE,MAAM,cAAc,GAAG,6BAA6B,CAAC;AACrD,MAAM,gBAAgB,GAAG,eAAe,CAAC;AACzC,MAAM,gBAAgB,GAAG,YAAY,CAAC;SAEtB,iBAAiB,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACzE,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,wBAAwB,CAAC,QAAgB;IACzC,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAEjD,eAAe,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACvE,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,sBAAsB,CAAC,QAAgB;IACvC,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,qBAAqB,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC7E,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,4BAA4B,CAAC,QAAgB;IAC7C,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,2BAA2B,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACnF,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,kCAAkC,CAAC,QAAgB;IACnD,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,iCAAiC,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACzF,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,wCAAwC,CAAC,QAAgB;IACzD,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,uCAAuC,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC/F,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,0CAA0C,CAAC,QAAgB;IAC3D,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,yCAAyC,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACjG,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,4CAA4C,CAAC,QAAgB;IAC7D,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,2CAA2C,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACnG,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,8CAA8C,CAAC,QAAgB;IAC/D,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,6CAA6C,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACrG,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,gDAAgD,CAAC,QAAgB;IACjE,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,+CAA+C,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACvG,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,kDAAkD,CAAC,QAAgB;IACnE,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,iDAAiD,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACzG,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,oDAAoD,CAAC,QAAgB;IACrE,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,mDAAmD,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC3G,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,sDAAsD,CAAC,QAAgB;IACvE,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,qDAAqD,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC7G,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,wDAAwD,CAAC,QAAgB;IACzE,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,uDAAuD,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC/G,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,0DAA0D,CAAC,QAAgB;IAC3E,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,yDAAyD,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACjH,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,4DAA4D,CAAC,QAAgB;IAC7E,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,2DAA2D,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACnH,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,8DAA8D,CAAC,QAAgB;IAC/E,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,6DAA6D,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACrH,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,gEAAgE,CAAC,QAAgB;IACjF,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,+DAA+D,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACvH,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,kEAAkE,CAAC,QAAgB;IACnF,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,iEAAiE,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACzH,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,oEAAoE,CAAC,QAAgB;IACrF,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,mEAAmE,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC3H,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,sEAAsE,CAAC,QAAgB;IACvF,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,qEAAqE,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC7H,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,wEAAwE,CAAC,QAAgB;IACzF,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,uEAAuE,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC/H,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,0EAA0E,CAAC,QAAgB;IAC3F,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,yEAAyE,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACjI,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,4EAA4E,CAAC,QAAgB;IAC7F,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,2EAA2E,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACnI,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,8EAA8E,CAAC,QAAgB;IAC/F,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,6EAA6E,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACrI,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,gFAAgF,CAAC,QAAgB;IACjG,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,iFAAiF,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACzI,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,kFAAkF,CAAC,QAAgB;IACnG,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,mFAAmF,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC3I,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,oFAAoF,CAAC,QAAgB;IACrG,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,qFAAqF,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC7I,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,sFAAsF,CAAC,QAAgB;IACvG,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,uFAAuF,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC/I,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,wFAAwF,CAAC,QAAgB;IACzG,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,yFAAyF,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACjJ,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,0FAA0F,CAAC,QAAgB;IAC3G,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,2FAA2F,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACnJ,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,4FAA4F,CAAC,QAAgB;IAC7G,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,6FAA6F,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACrJ,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,8FAA8F,CAAC,QAAgB;IAC/G,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,+FAA+F,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACvJ,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,gGAAgG,CAAC,QAAgB;IACjH,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,iGAAiG,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACzJ,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,kGAAkG,CAAC,QAAgB;IACnH,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,mGAAmG,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC3J,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,oGAAoG,CAAC,QAAgB;IACrH,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,qGAAqG,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC7J,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,sGAAsG,CAAC,QAAgB;IACvH,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,uGAAuG,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC/J,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,wGAAwG,CAAC,QAAgB;IACzH,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,yGAAyG,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACjK,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,0GAA0G,CAAC,QAAgB;IAC3H,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,2GAA2G,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACnK,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,4GAA4G,CAAC,QAAgB;IAC7H,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,6GAA6G,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACrK,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,8GAA8G,CAAC,QAAgB;IAC/H,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,+GAA+G,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACvK,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,gHAAgH,CAAC,QAAgB;IACjI,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,iHAAiH,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACzK,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,kHAAkH,CAAC,QAAgB;IACnI,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,mHAAmH,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC3K,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,oHAAoH,CAAC,QAAgB;IACrI,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,qHAAqH,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC7K,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,sHAAsH,CAAC,QAAgB;IACvI,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,uHAAuH,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IAC/K,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,wHAAwH,CAAC,QAAgB;IACzI,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,yHAAyH,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACjL,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,0HAA0H,CAAC,QAAgB;IAC3I,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,2HAA2H,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACnL,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,4HAA4H,CAAC,QAAgB;IAC7I,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,6HAA6H,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACrL,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,8HAA8H,CAAC,QAAgB;IAC/I,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,+HAA+H,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACvL,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;AACpF,CAAC,CAAC,gIAAgI,CAAC,QAAgB;IACjJ,MAAM,QAAQ,GAAG,CAAC,OAAO,EAAE,CAAC,CAAC,OAAO,EAAE,CAAC,cAAc,EAAE,GAAG,CAAC,CAAC,CAAC;SAE/C,iIAAiI,CAAC,QAAgB,EAAE,eAAe,GAAG,KAAK;IACzL,MAAM,aAAa,GAAG,qBAAqB,CAAC,QAAQ,EAAE,eAAe,CAAC,CAAC;IACvE,OAAO,GAAG,aAAa,CAAC,CAAC,CAAC,CAAC,aAAa,sBAAsB,CAAC,aAAa,CAAC,CAAC,CAAC,CAA

QAC9D,qBAAgB,GAAG,IAAI,GAAG,EAAc,CAAC;QACzC,wBAAmB,GAAG,IAAI,GAAG,EAA0C,CAAC;KA
ShC;IAEhD,YAAY;QACV,OAAO,IAAI,CAAC,UAAU,CAAC;KACxB;IAED,aAAa,CAAC,IAAU;QACtB,MAA
M,OAAO,GAAG,IAAI,CAAC,eAAe,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;QAC/C,IAAI,CAAC,eAAe,CAA
C,MAAM,CAAC,IAAI,CAAC,CAAC;QAClC,IAAI,CAAC,4BAA4B,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;
QAC/C,IAAI,CAAC,aAAa,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;QAChC,IAAI,CAAC,UAAU,CAAC,MAA
M,CAAC,IAAI,CAAC,CAAC;QAC7B,IAAI,CAAC,gBAAgB,CAAC,MAAM,CAAC,IAAI,CAAC,CAAC;;QAEn
C,IAAI,CAAC,cAAc,CAAC,KAAK,EAAE,CAAC;QAC5B,IAAI,OAAO,EAAE;YACX,IAAI,CAAC,oBAAoB,C
AAC,aAAa,CAAC,OAAO,CAAC,CAAC;SAClD;KACF;IAED,UAAU;QACR,IAAI,CAAC,eAAe,CAAC,KAAK,
EAAE,CAAC;QAC7B,IAAI,CAAC,4BAA4B,CAAC,KAAK,EAAE,CAAC;QAC1C,IAAI,CAAC,aAAa,CAAC,KAAK,EAAE,CAAC;QAC3B,IAAI,CAAC,UAAU,CAAC,KAAK,EAAE,CAAC;QACxB,IAAI,CAAC,cAAc,C
AAC,KAAK,EAAE,CAAC;QAC5B,IAAI,CAAC,gBAAgB,CAAC,KAAK,EAAE,CAAC;QAC9B,IAAI,CAAC,oBAAoB,CAAC,oBAA
oB,CAAC,UAAU,EAAE,CAAC;KACxC;IAEO,iBAAiB,CAAC,QAAa,EAAE,IAAY;QACnD,IAAI,QAAQ,EAAE;gB
Q,IAAI,CAAC;QACzB,MAAM,UAAU,GAAwB;YACtC,IAAI,CAAC,QAAQ,EAAE;gBAC
bC,MAAM,IAAI,KAAK,CAAC,CACX,wBAAwB,IAAI,aAAa,SAAS,CAAC,QAAQ,CAAC,uBAAuB,CAAC,CAAC;aAC1F;YACD,OAAO,QA
AQ,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;SACxC,CAAC;QACF,IAAI,CAAC,UAAU,WAAW,GAAG
G,CAAC,CAAC;YACzB,QAAQ,GAAG,CAAC,CAAC;YACP,UAAW,CAAC,SAAS,GAAG,CAAC,SAAS
,CAAC;SAC3C,CAAC;;QAEI,UAAW,CAAC,cAAc,GAAG,IAAI,CAAC;QACxC,IAAI,OAAO,UAAU,CAAC,KAAK;IAEnB,iBAAiB,CAAC,OAAY,EAAE,IAAY;QAClD,IAAI,OAAO,YAAY,YAAY,EAAE;YACnC,OAAO,IAAI,CAAC,kB,IAAI,CAAC,CAAC,kBAAkB,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;SACnD;QAED,IAAI,OAAO,YAAY,SA
C/E;aAAM;YACL,OAAO,IAAI,CAAC,iBAAiB,CAAC,OAAO,EAAE,IAAI,CAAC,CAAC;SAC9C;IAED,IAAI,CAAC,IAAY,EAAE,QAAa,EAAE,IAAY;QAC5C,IAAI,CAAC,IAAI,CAAC,IAAI,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC;IAClC,CAAC

AAM,EAAE,EAAE,EAAE,cAAc,EAAE,EAAE,EAAC;YAC3D,QAAQ,EAAE,IAAIC,uBAA2B,CAAC;gBACxC,aAAa,EAAE,iBAAiB,CAAC,IAAI;gBACrC,QAAQ;gBACR,WAAW;gBACX,OAAO;gBACP,MAAM,EAAE,EAAE;gBACV,SAAS,EAAE,EAAE;gBACb,kBAAkB,EAAE,EAAE;gBACtB,UAAU,EAAE,EAAE;gBACd,QAAQ,EAAE,IAAI;gBACd,mBAAmB,EAAE,EAAE;gBACvB,aAAa,EAAE,IAAI;gBACnB,mBAAmB,EAAE,KAAK;aAC3B,CAAC;YACF,QAAQ,EAAE,IAAI;YACd,eAAe,EAAE,uBAAuB,CAAC,OAAO;YAChD,MAAM,EAAE,EAAE;YACV,OAAO,EAAE,EAAE;YACX,IAAI,EAAE,EAAE;YACR,WAAW,EAAE,IAAI;YACjB,QAAQ,EAAE,GAAG;YACb,SAAS,EAAE,EAAE;YACb,aAAa,EAAE,EAAE;YACjB,OAAO,EAAE,EAAE;YACX,MAAM,EAAE,EAAE;YACV,WAAW,EAAE,IAAI;YACf,iBAAiB,EAAE,YAAY;YAC/B,YAAY,EAAE,EAAE,EAAE

AAE,UAAU,IAAI,EAAE;gBAC5B,aAAa,EAAE,WAAW,CAAC,QAAQ,CAAC,aAAa,CAAC;gBAClD,QAAQ,EAAE,CAAC,CAAC,QAAQ,CAAC,QAAQ;gBAC7B,mBAAmB,EAAE,EAAE;gBACvB,kBAAkB,EAAE,EAAE;gBACtB,mBAAmB,EAAE,WAAW,CAAC,OAAO,CAAC,mBAAmB,CAAC;aC9D,CAAC,CAAC;SACJ;QAED,IAAI,uBAAuB,GAA4B,IAAIA,4BAA4B,EAAE,CAAC;QAC1F,IAAI,uBAAuB,GAA4B,IAAIA,4BAA4B,EAAE,CAAC;QAC1F,IAAI,wBAAwB,GAA4B,IAAIA,4BAA4B,EAAE,CAAC;QAC3

AAI,CAAC,iBAAiB,CAAC,UAAU,CAAC,IAAI,CAAC,CAAC;KAC7C;IAED,kBAAkB,CAAC,UAAe,EAAE,oB
AAmC,IAAI;QAEzE,IAAI,aAAa,GACe,IAAI,CAAC,YAAY,CAAC,UAAU,EAAEA,kBAAsB,CAAC,QAAQ,CA
AC,CAAC;QAC/F,IAAI,CAAC,aAAa,EAAE;YAClB,MAAM,UAAU,GAAG,IAAI,CAAC,mBAAmB,CAAC,UA
AU,EAAE,KAAK,EAAE,iBAAiB,CAAC,CAAC;YAClF,aAAa,GAAG,UAAU,GAAG,UAAU,CAAC,SAAS,EAA
E,GAAG,IAAI,CAAC;YAC3D,IAAI,aAAa,EAAE;gBACjB,IAAI,CAAC,aAAa,CAAC,GAAG,CAAC,UAAU,EA
AE,aAAa,CAAC,CAAC;aCnD;SACF;QACD,OAAO,aAAa,CAAC;KCtB;;;;IAKD,oCAAoC,CAAC,UAAe,EA
AE,MAAe,EAAE,eAAe,GAAG,IAAI;QAE3F,MAAM,QAAQ,GAAG,IAAI,CAAC,mBAAmB,CAAC,UAAU,EA
AE,eAAe,CAAC,CAAC;QACvE,MAAM,OAAO,GAAmB,EAAE,CAAC;QACnC,IAAI,QAAQ,EAAE;YACZ,YZ,QA
AQ,CAAC,kBAAkB,CAAC,OAAO,CAAC,CAAC,EAAE;gBCrC,MAAM,OAAO,GAAG,IAAI,CAAC,qBA
,CAAC,UAAU,EAAE,EAAE,CAAC,SAAS,EAAE,MAAM,CAAC,CAAC;gBC7E,IAAI,OAAO,EAAE,oBACX,
OAAO,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;iBCvB;aCF,CAAC,OAAO,CAAC,CAAC,CAAC;SAC
AC,OAAO,CAAC,CAAC,EAAE,KAAK,IAAI,CAAC,iBAAiB,CAAC,EAAE,EAAE,CAAC,SAAS,CAAC,CAAC;
SAC9E;QACD,OAAO,OAAO,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC,CAAC;KC7B;IAED,wBAAwB,CAAC,UA
Ae;QACtC,IAAI,WAAW,GAAG,IAAI,CAAC,mBAAmB,CAAC,UAAU,EAAE,CAAC,CAAC;QC3D,I
AAI,WAAW,EAAE;YACf,OAAO,WAAW,CAAC,SAAS,CAAC;SCpB;QAED,MAAM,YAAY,GACd,IAAI,CAAC,
UAAU,CAAC,kBAAkB,CAAC,UAAU,EAAE,cAAc,CAAC,QAAQ,CAAC,CAAC;QAEtF,WAAW,
GAAG;YACZ,IAAI,EAAE,IAAI,CAAC,gBAAgB,CAAC,UAAU,CAAC;YCvCvC,OAAO,EAAE,YAAY,CAAC,
AAO;YAChC,UAAU,EAAE,YAAY,CAAC,OAAO;YAChC,YAAY,EAAE,YAAY,CAAC,SAAS;SCrC;QAEtC,
QAEF,IAAI,CAAC,mBAAmB,CAAC,GAAG,CAAC,UAAU,EAAE,WAAW,CAAC,CAAC;QCtD,OAAO,WAA
W,CAAC;KCpB;IAED,kBAAkB,CAAC,UAAe,EAAE,eAAe,GAAG,IAAI;QACxD,MAAM,QAAQ,GAAG,IAAI,
AU,GAAG,IAAI,CAAC,mBAAmB,CAAC,UAAU,EAAE,CAAC,CAAC;QAC3D,IAAI,QAAQ,EAAE;YACZ,OAAO,
AAM,IAAI,CAAC,gBAAgB,CAAC,UAAU,CAAC;YCvCvC,OAAO,EAAE,YAAY,CAAC,OAAO;YAChC,UAAU,
AAO,YAAY,CAAC,SAAS;SCrC;QAEtC,MAAM,YAAY,GACd,IAAI,CAAC,UAAU,CAAC,kBAAkB,CAAC,UAAU,EAAE,cAAc,CAAC,QAAQ,CAAC,CAAC;QAEtF,QAAQ,
GAAG;YACT

ACb,WAAW,CACP,qBAAqB,aAAa,CAAC,YAAY,CAAC,6BAC5C,aAAa,CAAC,UAAU,CAAC,GAAG,CAAC,EACrC,UAAU,CAAC,CAAC;oBAChB,OAAO;iBACR;gBACD,IAAI,CAAC,iBAAiB;oBAAE,iBAAiB,GAAG,IAAI,GAAG,EAAE,CAAC;gBACtD,IAAI,iBAAiB,CAAC,GAAG,CAAC,YAAY,CAAC,EAAE;oBACvC,IAAI,CAAC,YAAY,CACb,WAAW,CAAC,GAAG,IAAI,CAAC,kBAAkB,CAAC,YAAY,CAAC,KAChD,SAAS,CAAC,YAAY,CAAC,4CACvB,aAAa,CAAC,UAAU,CAAC,GAAG,CAAC,EACjC,UAAU,CAAC,CAAC;oBAChB,OAAO;iBACR;gBACD,iBAAiB,CAAC,GAAG,CAAC,YAAY,CAAC,CAAC;gBACpC,MAAM,qBAAqB,GAAG,IAAI,CAAC,kBAAkB,CAAC,YAAY,EAAE,iBAAiB,CAAC,CAAC,GAAG,CAAC,YAAY,CAAC,CAAC;gBACxG,IAAI,qBAAqB,EAAE;oBACzB,IAAI,CAAC,zBAAzB,eAAe,CAAC,IAAI,CAAC,qBAAqB,CAAC,CAAC,GAAG,CAAC,YAAY,CAAC,CAAC,CAAC,CAAC;iBAC7E;qBAAM;oBACL,MAAM,4BAA4B,GAAG,IAAI,CAAC,kBAAkB,CAAC,YAAY,EAAE,sBAAsB,CAAC,CAAC,YAAY,CAAC,CAAC,CAAC,CAAC;oBACnH,IAAI,CAAC,YAAY,CACb,WAAW,CAAC,GAAG,IAAI,CAAC,kBAAkB,CAAC,YAAY,CAAC,KAChD,SAAS,CAAC,YAAY,CAAC,4CACvB,aAAa,CAAC,UAAU,CAAC,GAAG,CAAC,EACjC,UAAU,CAAC,CAAC;oBAChB,OAAO;iBACR;gBACD

AAE,KAAK,gBAAgB,CAAC,iBAAiB,CAAC,EAAE,CAAC,CAAC,CAAC;QACxE,SAAS,CAAC,OAAO,CAAC,
CAAC,QAAQ,KAAK,gBAAgB,CAAC,WAAW,CAAC,QAAQ,EAAE,WAAY,CAAC,IAAI,CAAC,CAAC,CAAC
;QAC3F,gBAAgB,CAAC,SAAS,CAAC,WAAW,CAAC,IAAI,CAAC,CAAC;QAC7C,IAAI,CAAC,cAAc,CAAC,
GAAG,CAAC,UAAU,EAAE,WAAW,CAAC,CAAC;QACjD,OAAO,WAAW,CAAC;KCpB;IAEO,gBAAgB,CA
AC,UAAgB,EAAE,kBAAwB;QACjE,IAAI,UAAU,KAAK,kBAAkB,EAAE;YCrC,IAAI,CAAC,YAAY,CACb,
WAAW,CAAC,IAAI,aAAa,CAAC,UAAU,CAAC,8BAA8B,CAAC,EAAE,UAAU,CAAC,CAAC;YC1F,OAAO,
IAAI,CAAC;SCb;QCD,OAAO,KAAK,CAAC;KCd;IAEO,kBAAkB,CAAC,IAAU;QCnC,IAAI,WAAW,CA
AC,IAAI,CAAC,EAAE;YCrB,IAAI,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,EAAE;gBAC1B,OAAO,WAAW,
CAAC;aACpB;YED,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE;gBCrB,OAAO,MAAM,CAAC;aA
Cf;YED,IAAI,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE;gBCzB,OAAO,QAAQ,CAAC;aACjB;SACF;Q
AED,IAAK,IAAY,CAAC,OAAO,EAAE;YCzB,OAAO,UAAU,CAAC;SCnB;QED,OAAO,OAAO,CAAC;K
AChB;IAGO,gBAAgB,CAAC,IAAU,EAAE,UAAgB;QCnD,MAAM,SAAS,GAAG,IAAI,CAAC,gBAAgB,CAA
C,GAAG,CAAC,IAAI,CAAC,CAAC;QClD,IAAI,SAAS,IAAI,SAAS,KAAK,UAAU,EAAE;YCzC,OAAO,
IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,EAAE;gBCrB,OAAO,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,EAAE
;YED,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE;gBCrB,OAAO,MAAM,CAAC;aACf;YED,IAAI,
IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE;gBCzB,OAAO,QAAQ,CAAC;aACjB;SACF;QED,OAAO,OA
AO,CAAC;KCd;IAEO,kBAAkB,CAAC,IAAU;QCnC,IAAI,WAAW,CAAC,IAAI,CAAC,EAAE;YCrB,IAAI,
IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,EAAE;gBAC1B,OAAO,WAAW,CAAC;aACpB;YED,IAAI,IAAI,CAAC,
MAAM,CAAC,IAAI,CAAC,EAAE;gBCrB,OAAO,MAAM,CAAC;aACf;YED,IAAI,IAAI,CAAC,UAAU,CAAC,
IAAI,CAAC,EAAE;gBCzB,OAAO,QAAQ,CAAC;aACjB;SACF;QED,OAAO,OAAO,CAAC;KCd;IAEO,kBAAkB,
CAAC,IAAU;QCnC,IAAI,WAAW,CAAC,IAAI,CAAC,EAAE;YCrB,IAAI,IAAI,CAAC,WAAW,CAAC,IAAI,
CAAC,EAAE;gBAC1B,OAAO,WAAW,CAAC;aACpB;YED,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE;
gBCrB,OAAO,MAAM,CAAC;aACf;YED,IAAI,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE;gBCzB,OAAO,
QAAQ,CAAC;aACjB;SACF;QED,OAAO,OAAO,CAAC;KCd;IAEO,kBAAkB,CAAC,IAAU;QCnC,IAAI,WAAW,
CAAC,IAAI,CAAC,EAAE;YCrB,IAAI,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,EAAE;gBAC1B,OAAO,WAAW,
CAAC;aACpB;YED,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE;gBCrB,OAAO,MAAM,CAAC;aACf;
YED,IAAI,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,EAAE;gBCzB,OAAO,QAAQ,CAAC;aACjB;SACF;QED,
OAAO,OAAO,CAAC;KCd;IAEO,kBAAkB,CAAC,IAAU;QCnC,IAAI,WAAW,CAAC,IAAI,CAAC,EAAE;YCr
B,IAAI,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,EAAE;gBAC1B,OAAO,WAAW,CAAC;aACpB;YED,IAAI,IAAI,
CAAC,MAAM,CAAC,IAAI,CAAC,EAAE;gBCrB,OAAO,MAAM,CAAC;aACf;YED,IAAI,IAAI,CAAC,UAAU,
CAAC,IAAI,CAAC,EAAE;gBCzB,OAAO,QAAQ,CAAC;aACjB;SACF;QED,OAAO,OAAO,CAAC;KCd;IAEO,
kBAAkB,CAAC,IAAU;QCnC,IAAI,WAAW,CAAC,IAAI,CAAC,EAAE;YCrB,IAAI,IAAI,CAAC,WAAW,CAAC
,IAAI,CAAC,EAAE;gBAC1B,OAAO,WAAW,CAAC;aACpB;YED,IAAI,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,EAAE
;

AEpF,IAAI,WAAW,CAAC,MAAM,KAAK,CAAC,EAAE;YAC5B,OAAO,IAAI,CAAC;SACb;QAED,MAAM,IAAI,GAAG,WAAW,CAAC,WAAW,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC;QACjD,OAAO;YACL,MAAM,EAAE,IAAI;YACZ,IAAI,EAAE,YAAY;YAClB,UAAU,EAAE,IAAI,CAAC,UAAU;YAC3B,QAAQ,EAAE,IAAI,CAAC,QAAQ;YACvB,QAAQ,EAAE,IAAI,CAAC,QAAQ;YACvB,WAAW,EAAE,IAAI,CAAC,WAAW;YAC7B,UAAU,EAAE,IAAI,CAAC,UAAU;YAC3B,IAAI,EAAE,IAAI,CAAC,IAAI;YACf,IAAI,EAAE,IAAI,CAAC,IAAI;YACf,IAAI,EAAE,IAAI,CAAC,IAAI;YACf

,UAAU,IAAI,CAAC;YACtF,IAAI,kBAAkB,IAAI,IAAI,CAAC,OAAO,CAAC,yBAAyB,EAAE;gBAChE,IAAI,CAAC,YAAY,CAAC,WAAW,CAAC,OAAO,CAAC,EAAE,UAAU,CAAC,CAAC;aACrD;SACF;QAED,OAAO,oBAAoB,CAAC;KAC7B;IAEO,iBAAiB,CAAC,KAAU;QAClC,KAAK,GAAG,iBAAiB,CAAC,KAAK,CAAC,CAAC;QACjC,IAAI,YAAsC,CAAC;QAC3C,IAAI,OAAO,KAAK,KAAK,QAAQ,EAAE;YAC7B,YAAY,GAAG,KAAK,CAAC,KAAK,CAAC,CAAC;SAC7B;aAAM;YACL,YAAY,GAAG,KAAK,CAAC;SACtB;QACD,OAAO,YAAY,CAAC;KACrB

ClD;IAED,mBAAmB,CAAC,QAA0B;QAC5C,IAAI,WAAW,GAAsC,SAAU,CAAC;QAChE,IAAI,mBAAmB,GAA4B,IAAK,CAAC;QACzD,IAAI,sBAAsB,GAA+B,IAAK,CAAC;QAC/D,IAAI,KAAK,GAA6B,IAAI,CAAC,iBAAiB,CAAC,QAAQ,CAAC,KAAK,CAAC,CAAC;QAE7E,IAAI,QAAQ,CAAC,QAAQ,EAAE;YACrB,mBAAmB;gBACf,IAAI,CAAC,0BAA0B,CAAC,QAAQ,CAAC,QAAQ,EAAE,QAAQ,CAAC,YAAY,CAAC,CAAC;YAC9E,WAAW,GAAG,mBAAmB,CAAC,MAAM,CAAC;YACzC,IAAI,QAAQ,CAAC,KAAK,KAAK,QAAQ,CAAC,QAAQ,EAAE;gBAAE,IAAI,CAAC,iBAAiB,CAAC,QAAQ,CAAC,QAAQ,EAAE;;gBAExF,IAAI,CAAC,iBAAiB,CAAC,UAAU,EAAE,mBAAmB,CAAC,CAAC;aAC3C;SACF;aAAM,IAAI,QAAQ,CAAC,UAAU,EAAE;YAC9B,sBAAsB,GAAG,IAAI,CAAC,iBAAiB,CAAC,mBAAmB,CAAC,QAAQ,CAAC,QAAQ,CAAC,UAAU,EAAE,QAAQ,CAAC,YAAY,CAAC,CAAC;YACzH,WAAW,GAAG,sBAAsB,CAAC,MAAM,CAAC;YAC5C,IAAI,QAAQ,CAAC,KAAK,KAAK,QAAQ,CAAC,QAAQ,EAAE;gBAAE,IAAI,CAAC,iBAAiB,CAAC,sBAAsB,CAAC,QAAQ,CAAC,QAAQ,EAAE;;gBAE7G,IAAI,CAAC,iBAAiB,CAAC,UAAU,EAAE,sBAAsB,CAAC,CAAC;aAC9C;SACF;aAAM,IAAI,QAAQ,CAAC,UAAU,EAAE;YAC9B,IAAI,CAAC,iBAAiB,CAAC,UAAU,EAAE,mBAAmB,CAAC,CAAC;SACzD;QAED,IAAI,QAAQ,CAAC,KAAK,KAAK,QAAQ,CAAC,QAAQ,EAAE;YACxC,IAAI,CAAC,iBAAiB,CAAC,QAAQ,CAAC,QAAQ,EAAE,QAAQ,CAAC,YAAY,CAAC,CAAC;SAClE;QAED,IAAI,QAAQ,CAAC,UAAU,EAAE;YACvB,IAAI,CAAC,iBAAiB,CAAC,QAAQ,CAAC,UAAU,EAAE,QAAQ,CAAC,YAAY,CAAC,CAAC;SACpE

AK,eAAe,CAAC,cAAc,EAAE;QAC/D,KAAK,+BAA8B;KACpC;IACD,IAAI,WAAW,CAAC,QAAQ,EAAE;QACxB,KAAK,wCAAiC;KACvC;IACD,WAAW,CAAC,cAAc,CAAC,OAAO,CAAC,CAAC,aAAa;;QAE/C,IAAI,aAAa,KAAK,cAAc,CAAC,SAAS;YAC1C,WAAW,CAAC,YAAY,KAAK,eAAe,CAAC,SAAS;YACtD,WAAW,CAAC,YAAY,KAAK,eAAe,CAAC,SAAS,EAAE;YAC1D,KAAK,IAAI,uBAAuB,CAAC,aAAa,CAAC,CAAC;SACjD;KACF,CAAC,CAAC;IACH,MAAM,EAAC,YAAY,EAAE,KAAK,EAAE,aAAa,EAAE,QAAQ,EAAC,GAAG,WAAW,CAAC,aAAa;QAC5E,WAAW,CAAC,YAAY,EAAE,KAAK,EAAE,WAAW,CAAC,SAAS,CAAC;QACvD,iBAAiB,CAAC,GAAG,EAAE,KAAK,EAAE,WAAW,CAAC,YAAY,EAAE,WAAW,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC;IACrF,CtF,OAAO;QACL,YAAY;QACZ,aAAa;QACb,KAAK,EAAE,aAAa;QACpB,QAAQ,EAAE,aAAa;QACvB

B;IACD,IAAI,GAAG,CAAC,UAAU,EAAE;QAClB,KAAK,qBAAsB;KAC5B;IACD,IAAI,GAAG,CAAC,MAAM
,EAAE;QACd,KAAK,iBAAkB;KACxB;IACD,IAAI,GAAG,CAAC,OAAO,EAAE;QACf,KAAK,kBAAmB;KACz
B;IACD,OAAO,KAAK,oBAAqB,IAAI,GAAGR,UAAY,CAAC,CAACQ,OAAS,CAAC,KAAK,CAAC,EAAE,IA
AI,CAAC,CAAC,CAAC;AACjF,CAAC;SAEe,uBAAuB,CAAC,aA6B;IACnE,IAAI,QAAQ,gBAAkB;IAC9B,QAAQ,aAAa;QACnB,KAAK,cAAc,CAAC,mBAAmB;YACrC,QAAQ,qCAAiC;YACzC,MAAM;QACR,KAAK,cAAc,CAAC,gBAAgB;YAClC,QAAQ,kCAA8B;YACtC,MAAM;QACR,KAAK,cAAc,CAAC,gBAAgB;YAClC,QAAQ,kCAA8B;YACtC,MAAM;QACR,KAAK,cAAc,CAAC,aAAa;YAC/B,QAAQ,+BAA2B;YACnC,MAAM;QACR,KAAK,cAAc,CAAC,OAAO;YACzB,QAAQ,wBAAqB;YAC7B,MAAM;QACR,KAAK,cAAc,CAAC,SAAS;YAC3B,QAAQ,0BAAuB;YAC/B,MAAM;QACR,KAAK,cAAc,CAAC,SAAS;YAC3B,QAAQ,0BAAuB;YAC/B,MAAM;QACR,KAAK,cAAc,CAAC,MAAM;YACxB,QAAQ,sBAAmB;YAC3

B,CAAC,GAAkB,EAAE,SAAc,EAAE,KAAmB;QACpF,MAAM,kBAAkB,GAAG,GAAG,cAAc,CAAC,EAAC,SAAS,EAAE,SAAS,EAAC,CAAC,WAAW,CAAC;QAChF,MAAM,mBAAmB,GACrB9C,QAAU,CAAC,kBAAkB,CAAC;aACzB,GAAG,CAAC,KAAK,CAAC;aACV,UAAU,CACPwP,UAAY,CACR,WAAW,CAAC,eAAe,EAAE,CAACvO,cAAgB,CAAC,GAAG,CAAC,UAAU,CAAC,SAAS,CAAC,CAAE,CAAC,EAAC3E,CAAC8D,YAAc,CAAC,KAAK,CAAC,CAAC,EAAC3B,CAAC,EAAC3B,CAAC,EAAC3B

KAAK,CAAC,EAAE;YAC5B,GAAG,CAAC,KAAK,CAAC,GAAG,EAAE,GAAG,CAAC,CAAC;SACrB;QACD,MAAM,MAAM,GAAG,KAAK,CAAC,qBAAqB,CAAC,GAAG,EAAE,GAAG,CAAC,CAAC;QACrD,IAAI,GAAG,CAAC,OAAO,CAAC,MAAM,KAAK,CAAC,EAAE;YAC5B,GAAG,CAAC,KAAK,CAAC,GAAG,EAAE,GAAG,EAAE,YAAY,CAAC,CAAC;SAC9B;QACD,OAAO,MAAM,CAAC;KACf;IAED,iBAAiB,CAAC,GAAmB,EAAE,GAA0B;QAC/D,IAAI,CAAC,GAAG,CAAC,gBAAgB,CAAC,GAAG,EAAE,GAAG,CAAC,KAAK,EAAE,GAAG,EAAE,GAAG,CAAC,UAAU,EAAE,GAAG,EAAE,GAAG,CAAC,CAAC;QACvE,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,IAAI,CAAC,GAAG,CAAC,KAAK,CAAC,GAAG,EAAE,GAAG,CAAC,CAAC;QAC1C,IAAI,CAAC,GAAG,CAAC,sBAAsB,CAAC,GAAG,EAAE,GAAG,CAAC,GAAG,EAAE,GAAG,EAAE,GAAG,CAAC,CAAC;QACzD

AAE;;YAE7C,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,cAAc,CAAC,CAAC;SACjC;QACD,IAAI,KAAK,CAAC,WAAW,CAACA,YAAc,CAAC,MAAM,CAAC,EAAE;YAC5C,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;SAC5B;QACD,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,KAAK,CAAC,IAAI,CAAC,CAAC;QAC5B,IAAI,CAAC,eAAe,CAAC,KAAK,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QACtC,IAAI,KAAK,CAAC,WAAW,CAAC,KAAK,CAAC,IAAI,EAAE,KAAK,CAAC,IAAI,CAAC,CAAC;QAC9C

AChB,MAAM,UAAU,GACZ,CAAcC,iBAAe,CAAC,GAAG,CAACD,iBAAe,CAAC,IAAI,CAAC,OAAO,EAAE,I
AAI,CAAC,CAAC,CAAC,UAAU,CAAC,IAAI,EAAE;gBACtF5C,YAAc,CAAC,KAAK;aACrB,CAAC,CAAC,C
AAC,MAAM,CAAC,IAAI,CAAC,UAAU,CAAC,CAAC;QAChC,IAAI,CAAC,kBAAkB,CAAC,UAAU,EAAE,G
AAG,CAAC,CAAC;QACzC,GAAG,CAAC,SAAS,EAAE,CAAC;QAChB,GAAG,CAAC,OAAO,CAAC,IAAI,EA
AE,GAAG,CAAC,CAAC;QACvB,OAAO,IAAI,CAAC;KCb;IAED,gBAAgB,CAAC,IAAmB,EAAE,GA0B;Q
AC9D,IAAI,OAAe,CAAC;QACpB,QAAQ,IAAI,CAAC,IAAI;YACf,KAAKqP,eAAiB,CAAC,IAAI;gBACzB,OA
AO,GAAG,SAAS,CAAC;gBACpB,MAAM;YACR,KAAKA,eAAiB,CAAC,OAAO;gBAC5B,OAAO,GAAG,KAA
K,CAAC;gBAChB,MAAM;YACR,KAAKA,eAAiB,CAAC,QAAQ;gBAC7B,OAAO,GAAG,UAAU,CAAC;gBAC
rB,MAAM;YACR,KAAKA,eAAiB,CAAC,MAAM;gBAC3B,OAAO,GAAG,QAAQ,CAAC;gBACnB,MAAM;YA
CR,KAAKA,eAAiB,CAAC,GAAG;gBACxB,OAAO,GAAG,QAAQ,CAAC;gBACnB,MAAM;YACR,KAAKA,eA
AiB,CAAC,MAAM;gBAC3B,OAAO,GAAG,QAAQ,CAAC;gBACnB,MAAM;YACR,KAAKA,eAAiB,CAAC,IA
AI;gBACzB,OAAO,GAAG,OAAO,CAAC;gBAClB,MAAM;YACR;gBACE,MAAM,IAAI,KAAK,CAAC,4BAA4
B,IAAI,CAAC,IAAI,EAAE,CAAC,CAAC;SAC5D;QACD,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,OAAO,CA
AC,CAAC;QACzB,OAAO,IAAI,CAAC;KCb;IAED,mBAAmB,CAAC,GAAqB,EAAE,GA0B;QACnE,GAAG,CAAC,KAAK,CAAC,eAAe,EAAE,GAA0B;QACrD,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,eAAe,EAAE,GAAG,CAAC,CAAC;QACtC,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,eA
Ae,CAAC,IAAI,IAAI,IAAI,CAAC,SAAS,CAAC,IAAI,EAAE,GAAG,CAAC,EAAE,GAAG,CAAC,UAAU,EAAE
,GAAG,EAAE,GAAG,CAAC,CAAC;YAClF,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;SACtC;QACD

CAAC,IAAI,CAAC,CAAC,CAAC;QAC1E,OAAO,YAAY,IAAI,YAAY,CAAC,IAAI,CAAC,UAAU,CAAC,QAA
Q,CAAC,CAAC;KAC/D;;;;IAKD,OAAO,CAAC,IAAU,EAAE,eAAe,GAAG,IAAI;QACxC,MAAM,KAAK,GAA
G,IAAI,CAAC,UAAU,CAAC,WAAW,CAAC,iBAAiB,CAAC,IAAI,CAAC,CAAC,CAAC;QACnE,IAAI,KAAK,
EAAE;YACT,MAAM,UAAU,GAAG,QAAQ,CAAC,KAAK,EAAE,UAAU,CAAC,QAAQ,CAAC,CAAC;YACxD
,IAAI,UAAU,EAAE;gBACd,OAAO,UAAU,CAAC;aACnB;SACF;QACD,IAAI,eAAe,EAAE;YACnB,MAAM,IA
AI,KAAK,CAAC,8BAA8B,SAAS,CAAC,IAAI,CAAC,EAAE,CAAC,CAAC;SAClE;QACD,OAAO,IAAI,CAAC;
KCb;;;AC3CH;;;;;;;;AAoBA;;;MAGa,iBAAiB;IAC5B,YAAoB,OAA2B,EAAU,SAA0B;QAA/D,YAAO/D,GAAAP,O
AAO,CAAoB;QAAU,cAAS,GAAT,SAAS,CAAiB;KAAI;IAUvF,gBAAgB,CACZ,WAAmB,EAAE,SAAmC,,
EAAE,QAAuB,EACjF,SA+B,EAAE,qBAAgD,EACjF,GAAkB;QAAE,OAAO,CAAC,IAAI,CAAC,MAAM,KAAK,GAAG,IAAI,GAAG,E
AAwB,CAAC;QAC9C,MAAM,KAAK,GAAG,IAAI,CAAC,OAAO,CAAC,CAAC,IAAI,KAAK,CAAC,GAAG,CAAC,CAAC,CAAC,IA
AI,EAAE,CAAC,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC,CAAC;QAC5D,IAAI,iBAAiB,GAAG,CAAC,CAAC;
QAC1B,MAAM,kBAAkB,GAAG,CAAC,MAAM,wB,EAAE,MAAM,yB;YAClD,MAAM,iBAAiB,GAAG,iBAAiB,EA
AE,CAAC;YAC9C,OAAO,IAAI,WAAW,CAClB,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,SAAS,EAAE,qBAAq
B,EAAE,MAAM,EAAE,SAAS,CAAC,IAAI,CAAC,SAAS,EAAC,rF,SAAS,CAAC,MAAM,EAAE,iBAAiB,EAAE,
KAAK,EAAE,MAAM,EAAE,GAAG,EAAE,kBAAkB,CAAC,CAAC;SAClF,CAAC;QAEN,MAAM,EAAE,GAAG,IAAI,CAAC,OAAO,CAAC,GAAG,kBAAkB,CAAC,CAAC;QAC/C,IAAI,EAAE,EAAE,CAAC,CAAC,
QAC7C,OAAO,CAAC,QAAQ,CAAC,EAAE,EAAE,EAAE,QAAQ,CAAC,CAAC;QAE/B,OAAO,OAAO,CAAC,KAAK,CAAC,WAAW,CAAC,CAAC;KACnC;IAED,MAAM,gBAAgB,CAAC,MAAM,sB;QAC3B,MAAM,gBAAgB,GAAG,MAAM,CAAC,MAAM,CAAC;AAEhC,MAAM,gBAAgB,GAAG,MAAM,CAAC,MAAM,CAAC;AAEhC,IAAC,QAAQ,CAAC,MAAM,CAAC,MAAM,CAAC,MAAM

IAAI,GAAG,eAAe,CAAC;YACzE,MAAM,EAAC,KAAK,EAAE,WAAW,EAAC,GAAG,sBAAsB,CAC/C,YAAY
,EAAEX,QAAU,CAAC,IAAI,CAAC,YAAY,CAAC,OAAO,CAAC,CAAC,EAAE,KAAK,EAAE,SAAS,EACtE,W
AAW,CAAC,OAAO,CAAC,CAAC;YACzB,KAAK,CAAC,IAAI,CAAC,IAAI4E,mBAAqB,CAAC,WAAW,CAA
C,CAAC,CAAC;YACnD,SAAS,CAAC,IAAI,CAAC,GAAG,KAAK,CAAC,GAAG,CACvB,CAAC,IAAiB,KAAK
gL,kCAAoC,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC,CAAC,CAAC;SACrF,CAAC,CAAC;QAEH,IAAI,CAAC,
OAAO,CAAC,OAAO,CAAC,CAAC,EAAC,UAAU,EAAE,OAAO,EAAE,KAAK,EAAC;YAChD,MAAM,SAS,
GAAG,GAAG,YAAY,EAAE,EAAE,CAAC;YACtC,MAAM,YAAY,GAAG,OAAO,KAAK,IAAI,CAAC,SAAS,G
AAG,IAAI,GAAG,eAAe,CAAC;YACzE,MAAM,EAAC,KAAK,EAAC,GAAG,oBAAoB,CAChC,YAAY,EAAE5
P,QAAU,CAAC,IAAI,CAAC,YAAY,CAAC,OAAO,CAAC,CAAC,EAAE,KAAK,EAAE,SAAS,CAAC,CAAC;Y
AC5E,SAAS,CAAC,IAAI,CAAC,GAAG,KAAK,CAAC,GAAG,CACvB,CAAC,IAAiB,KAAK4P,kCAAoC,CAA
C,IAAI,EAAE,UAAU,CAAC,CAAC,CAAC,CAAC;SACrF,CAAC,CAAC;QAEH,IAAI,IAAI,CAAC,CAAC;QAEV,MAAM,CA
AC,MAAM,EAAE;YACtB,IAAI,eAAe2B,SAAS,CAAC;YACxD,KAAK,MAAM,KAAK,IAAI,IAAI,CAAC
,MAAM,EAAE;gBAC/B,MAAM,EAAC,OAAO,EAAE,KAAK,EAAC,GAAG,IAAI,CAAC,0BAA0B,CAAC,KAA
K,CAAC,UAAU,CAAC,CAAC;gBAC3E,MAAM,SAAS,GAAG,YAAY,EAAE,EAAE,CAAC;gBACtC,MAAM,CAAC
,MAAM,YAAY,GAAG,OAAO,KAAK,IAAI,CAAC;gBACtC,MAAM,CAAC,IAAI,CAAC,SAAS,GAAG,eAAe,eAAe,CAAC;;;gBAGzE,MAAM,E
AAC,KAAK,EAAE,WAAW,EAAC,GAAG,sBAAsB,CAC/C,YAAY,EAAE5P,QAAU,CAAC,IAAI,CAAC,YAAY
,CAAC,OAAO,CAAC,CAAC,EAAE,KAAK,EAAE,SAAS,CAAC,CAAC;gBAC3B
,IAAI,KAAK,CAAC,MAAM,IAAI,CAAC,EAAE;oBACrB,MAAM,WAAW,GACb,KAAK,CAAC,KAAK,CAAC,KAAK,GAAG,
WAAW,GAAG,IAAI,CAAC,GAAG,CAAC,UAAU,CAAC,KAAK,CAAC,KAAK,CAAC,CAAC,MAAM,CAAC,
CAAC,WAAW,CAAC,CAAC;oBACtC,MAAM,CAAC,IAAI,CAAC,SAAS,GAAG,eAAe,eAAe,CAAC;;iBACrE,
CAAC,GAAG,WAAW,CAAC;iBACnB;aACF;YACD,IAAI,eAAe,EAAE;gBACnB,SAAS,GAAG,YAAY,EAAE,EAAE;gBAC5B,MAAM,QAAQ,GAAG,IAAI,CAAC,GAAG,CAAC,UAAU,CAAC,aACxD;gBACF,MAAM,CAAC,IAAI,CAAC,SAAS,GAAG,eAAe,eAAe,CAAC;;iBACrE,
MAAQ,EAAE,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;SACrF,CAAC,CAAC;QAEH,IAAI,CAAC,IAAI,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

SAAS,CAAC,IAAI,CAAC,SAAS,CAAC;QAChD,MAAM,CAAC,MAAM,CAAC,OAAO,CACjB,CAAC,KAAK,KAAK,IAAI,CAAC,OAAO,CAAC,IAAI,CACxB,EAAC,OAAO,EAAE,IAAI,CAAC,SAAS,EAAE,KAAK,EAAE,KAAK,CAAC,KAAK,EAAE,UAAU,EAAE,KAAK,CAAC,UAAU,EAAC,CAAC,CAAC,CAAC;;;;QAItF,IAAI,IAAI,CAAC,OAAO,CAAC,qBAAqB,EAAE;YACtC,MAAM,CAAC,cAAc,CAAC,OAAO,CAAC,CACzB,EAAC,QAAQ,KAAK,IAAI,CAAC,OAAO,CAAC,CAAC,OAAO,EAAE,KAAK,EAAE,QAAQ,CAAC,KAAK,EAAE,UAAU,EAAE,QAAQ,CAAC,KAAK,EAAE,UAAU,EAAC,CAAC,CAAC,CAAC;YACrG,MAAM,CAAC,OAAO,CAAC,CAAC,OAAO,CAAC,CAAC,OAAO,CAAC

AY,CAAC,WAAW,CAAC,mBAAmB,CAAC,CAAC,MAAM,CAAC,CAAC,IAAIc,cAAgB,CAAC;oBAC9E,IAAIC,eAAiB,CAAC,eAAe,EAAEzC,OAAS,CAAC,QAAQ,CAAC,aAAa,CAAC,EAAE,KAAK,CAAC;oBAChF,IAAIyC,eAAiB,CAAC,QAAQ,EAAE,MAAM,EAAE,KAAK,CAAC;oBAC9C,IAAIA,eAAiB,CAAC,MAAM,EAAE,IAAAID,cAAgB,CAAC,gBAAgB,CAAC,EAAE,KAAK,CAAC;iBAC7E,CAAC,CAAC,CAAC,CAAC;iBACJ,UAAU,CACPgM,UAAY,CAAC,WAAW,CAAC,aAAa,CAAC,EACvC,CAAClP,YAAc,CAAC,KAAK,EAAEA,EAAE,CAAC,KAAK,EAAEA,EAAE,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC;SAC/D;QAED,MAAM,kBAAkB,GAAG,CAAC,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC;YAC1C,IAAIiBAAiB,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;YAC9B,IAAIiBAAiB,EAAE,CAAC,CAAC,CAAC,CAAC;SAC9B;QAED,IAAI,CAAC,CAAC,CAAC,CAAC

EAC7C,CAAC,IAAI7P,eAAiB,CAACsC,UAAY,CAAC,WAAW,CAAC,OAAO,CAAC,CAAC,MAAM,CAAC;gB
AC9D1B,OAAS,CAAC,SAAS,CAAC;gBACpBR,UAAY,CAAC,YAAY,CAAC;gBAC1B,kBAAkB;gBAClB,gBA
AgB;aACjB,CAAC,CAAC,CAAC,EACJgP,UAAY,CAAC,WAAW,CAAC,cAAc,CAAC,EACxC,IAAI,CAAC,iB
AAiB,KAAK,CAAC,GAAG,CAAClP,YAAc,CAAC,QAAQ,CAAC,GAAG,EAAE,CAAC,CAAC;QAEnE,gBAAg
B,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;QACnC,OAAO,gBAAgB,CAAC;KACzB;IAEO,eAAe,CAAC,WA
A0B;QAChD,IAAI,QAAsB,CAAC;QAC3B,IAAI,WAAW,CAAC,MAAM,GAAG,CAAC,EAAE;YAC1B,MAAM,
QAAQ,GAAkB,EAAE,CAAC;YACnC,IAAI,CAAC,IAAI,CAAC,SAAS,CAAC,MAAM,IAAI4P,gBAAkB,CAAC,
WAAW,CAAC,CAAC,GAAG,CAAC,QAAQ,CAAC,IAAK,CAAC,EAAE;gBACjF,QAAQ,CAAC,IAAI,CAAC,Q
AAQ,CAAC,GAAG,CAAC,QAAQ,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC,CAAC,UAAU,CAAC,IAAI,CAA
C,QAAQ,CAAC,CAAC,CAAC;aACnF;YACD,QAAQ,GAAGtP,EAAI,CACX;gBACI,IAAI,CAAC,IAAI,CAAC,
WAAW,CAAC,CAAC,GAAG,CAAC,QAAQ,CAAC,IAAK,CAAC,EAAE,CAAC;gBAC5C,OAAO,gBAAgB,CAAC,
QAAQ,CAAC,CAAC,CAAC;aACnC;YACL,OAAO,QAAQ,CAAC;SACnB;QACD,IAAI,WAAW,CAAC,MAAM,GAAG,CAAC,EAAE;YACxB,MAAM,QAAQ,GAAkB,EAAE,CAAC;YACnC,IAAI,CAAC,IAAI,CAAC,SAAS,CAAC,MAAM,IAAI,WAAW,CAAC,MAAM,GAAG,CAAC,EAAE;gBAClD,QAAQ,CAAC,IAAI,CAAC,Q
AAQ,CAAC,GAAG,CAAC,QAAQ,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC,CAAC,UAAU,CAAC,IAAI,CAA
C,QAAQ,CAAC,CAAC,CAAC;aACnF;YACD,QAAQ,GAAGA

E,CAAC;QACnC,IAAI,yBAAyB,GAAuB,EAAE,CAAC;QACvD,IAAI,UAAU,GAAmB,EAAE,CAAC;QACpC,IAAI,MAAM,EAAE;YACV,MAAM,YAAY,GAAU,GAAG,CAAC,MAAM;iBACL,GAAG,CAAC,CAAC,QAAQ,MAAM;gBACb,OAAO,EAAE,QAAwB;gBACjC,QAAQ;gBACR,MAAM,EAAE,IAAW;aACpB,CAAC,CAAC;iBACP,MAAM,CAAC,eAAe,CAAC,CAAC;YACzD,IAAI,YAAY,CAAC,MAAM,EAAE;gBACvB,yBAAyB;oBACrB,YAAY,CAAC,GAAG,CAAC,CAAC,WAAW,EAAE,YAAY,KAAK,IAAI,CAAC,2BAA2B,CAAC;wBAC/E,O AAO,EAAE,WAAW,CAAC,OAAO;wBAC5B,SAAS;wBACT,YAAY;wBACZ,UAAU,EAAE,WAAW,CAAC,QAAQ,CAAC,UAAU;wBAC3C,KAAK,EAAE,WAAW,CAAC,QAAQ,CAAC,KAAK;qBAClC,CAAC,CAAC,CAAC;gBACR,SAAS,GAAG,CAAC,CAAC,CAAC,CAAC;gBAChB,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC

E,SAAS,4BAAmC;aAC7C;iBAAM,IACH,cAAc,CAAC,KAAK,CAAC,KAAK,CAAC;gBAC3B,IAAI,CAAC,SA
AS,CAAC,wBAAwB,CAAC,WAAW,CAAC,WAAW,CAAC,EAAE;gBACpE,SAAS,uBAA8B;aACxC;YACD,IA
AI,SAAS,IAAI,IAAI,EAAE;gBACrB,eAAe,CAAC,IAAI,CAACtC,UAAY,CAAC,CAACQ,OAAS,CAAC,KAAK,
CAAC,OAAO,CAAC,EAAEA,OAAS,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC;aACtF;SACF,CAAC,C
AAC;QACH,GAAG,CAAC,UAAU,CAAC,OAAO,CAAC,CAAC,GAAG;YACzB,IAAI,SAAS,GAAmB,SAAU,C
AAC;YAC3C,IAAI,CAAC,GAAG,CAAC,KAAK,EAAE;gBACd,SAAS,yBAAgC;aAC1C;iBAAM,IACH,cAAc,C
AAC,GAAG,CAAC,KAAK,CAAC;gBACzB,IAAI,CAAC,SAAS,CAAC,wBAAwB,CAAC,WAAW,CAAC,WAA
W,CAAC,EAAE;gBACpE,SAAS,uBAA8B;aACxC;YACD,IAAI,SAAS,IAAI,IAAI,EAAE;gBACrB,IAAI,CAAC,cA
Ac,CAAC,GAAG,CAAC,IAAI,CAAC,GAAG,SAAS,CAAC;gBAC1C,eAAe,CAAC,IAAI,CAACR,UAAY,CAAC,CAA
C,CAACQ,OAAS,CAAC,GAAG,CAAC,IAAI,CAAC,EAAEA,OAAS,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC,
CAAC;aACjF;SACF,CAAC,CAAC;QACH,GAAG,CAAC,OAAO,CAAC,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC;gBAC5B,IAAI,CAAC,
SAAS;YAC5B,UAAU,CAAC,IAAI,CAAC,EAAC,OAAO,EAAE,QAAQ,EAAE,QAAQ,EAAE,SAAS,EAAE,MAAM,EAAE,IAAK
,EAAC,CAAC,CAAC;SAC1E,CAAC,CAAC;QACH,GAAG,CAAC,OAAO,CAAC,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC;YAC5B,IAAI,CAAC,

ACnD,MAAM,UAAU,GAAG,MAAM,CAAC,UAAU,CAAC,GAAG,CAAC,CAAC,YAAY,MAAM;YACjB,OAAO,EAAE,cAAc;YACvB,QAAQ,EAAE,YAAY;YACtB,MAAM;SACP,CAAC,CAAC,CAAC;;;QAI7C,MAAM,UAAU,GAAG,SAAS,CAAC;QAE7B,IAAI,CAAC,KAAK,CAAC,SAAS,CAAC,GAAG,OAAO;YAC7B,UAAU,EAAE,0BAA0B,KAAK;YAC1C,OAAO,EAAE,EAAE0B,UAAY,CAAC,WAAW,CAAC,WAAW,CAAC,YAAY,CAAC,CAAC,MAAM,CAAC;gBACrD1B,OAAO,EAAE,CAAC,UAAU,CAAC;gBACrB0B,OAAO,EAAE,CAAC,KAAK,CAAC,CAAC;gBACjB1B,OAAO,EAAE,CAAC,KAAK,CAAC,CAAC;gBACj

AAW,CAAC,SAAS,CAAC,CAAC;YACtD,OAAO,MAAM,SAAS,CAAC;SACxB;QAED,MAAM,GAAG,GAAGj
C,UAAY,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,EAAE,CAAC,sCAAU,CAAC,KAAE,KAAK,EAAEO
,OAAS,CAAC,CAAC,CAAC,IAAE,CAAC,CAAC,CAAC;QAC5E,MAAM,UAAU,GAAG,IAAI,CAAC,KAAK,C
AAC,MAAM,CAAC;QACrC,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO;YACL,UAAU;YACV,SAAS;YAC
T,OAAO,EAAE0B,UAAY,CAAC,WAAW,CAAC,aAAa,CAAC,CAAC,MAAM,CAAC;gBACtD1B,OAAS,CAAC
,UAAU,CAAC;gBACrB,GAAG;aACJ,CAAC;SACH,CAAC,CAAC,CAAC;QAEpB,OAAO,CAAC,IAAAoB,KAAK
,aAAa,CAAC,UAAU,EAAE,IAAI,CAAC,CAAC;KAClE;IAEO,oBAAoB,CAAC,UA4B,EAAE,IAAY,EAAE,Q
AAgB;QAEvF,MAAM,IAAI,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,WAAW,KAAK,WAAW,CA
AC,IAAI,KAAK,IAAI,CAAE,CAAC;QAC9E,IAAI,CAAC,IAAI,EAAE;YACT,IAAI,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO;gBACzB,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC;aACjC;YACD,OAAO;SACR;QAED,IAAI,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO,EAAE;YAC3B,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC;SAC/B

OAAO,CAAC,CAAC;gBACzD,OAAO,CAAC;YACZ,OAAOG,mCAAqC,CAAC,cAAc,EAAE,UAAU,CAAC,CAAC;SAC1E,CAAC,CAAC;QACH,OAAO,EAAC,mBAAAmB,EAAE,qBAAAqB,EAAE,YAAY,EAAC,CAAC;QAElE,SAAS,sBAAAsB,CAC3B,SAAiB,EAAE,UAAgC,EAAE,WAA+B,EACpF,eAAAwB;YAC1B,MAAM,KAAK,WAAW,GAAA,kBAAkB,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC,EAAC,UAAU,EAAE,OAAO,EAAE,KAAK,EAAC;gBACzD,MAAM,SAAS,GAAG,KAAK,EAAE,KAAK,EAAE,kBAAA,EAAE,EAAE,CAAC;gBACrC,MAAM,KAAK,GAAG,KAAK,EAAE,KAAK,EAAE,kBAAA,EAAE,EAAE,CAAC;gBACj

,OAAS,CAAC,WAAW,CAAC,EAAEA,OAAS,CAAC,GAAG,GAAG,QAAQ,CAAC,IAAI,CAAC,EAAEA,OAAS,CAAC,QAAQ,CAAC,eAAe,CAAC;aAC5F,CAAC,CAAC;QACL;YACE,OAAOR,UAAY,CACf,CAACQ,OAAS,0BAA+B,EAAEA,OAAS,CAAC,QAAQ,CAAC,IAAI,CAAC,EAAE8B,SAAW,CAAC,CAAC,CAAC;QACzF;YACE,OAAOtC,UAAY,CAAC;gBAClBQ,OAAS,0BAA+B,EAAEA,OAAS,CAAC,QAAQ,CAAC,IAAI,CAAC,EAAEA,OAAS,CAAC,QAAQ,CAAC,IAAI,CAAC;aAC7F,CAAC,CAAC;QACL;;;;;YAKE,MAAM,UAAU,GAAU,SAAS,CAAC;YACpC,MAAM,IAAI,KAAK,CAAC,cAAc,UAAU,EAAE,CAAC,CAAC;KAC/C;AACH,CAAC;AAGD,SAAS,aAAa,CAAC,UAAU,CAAC;IAC3C,MAAM,SAAS,GAAG,IAAI,CAAC;IACvB

AC;;QAGH,MAAM,OAAO,GAAG,MAAM,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC,GAAG,CAAC,EAAE;YA
C1C,MAAM,MAAM,GAAG,UAAU,CAAC,gBAAgB,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,CAAC;YACz
D,MAAM,GAAG,GAAG,QAAQ,CAAC,EAAE,CAAC,CAAC;YACzB,MAAM,KAAK,GAAG,MAAM,GAAG,a
AAa,CAAC,OAAO,CAAC,GAAG,CAAC,KAAK,EAAE,MAAM,CAAC,GAAG,GAAG,CAAC,KAAK,CAAC;Y
AC5E,IAAI,kBAAkB,GAAG,IAAIkB,OAAY,CAAC,KAAK,EAAE,EAAE,EAAE,EAAE,EAAE,GAAG,CAAC,O
AAO,EAAE,GAAG,CAAC,WAAW,EAAE,EAAE,CAAC,CAAC;YAC3F,kBAAkB,CAAC,OAAO,GAAG,GAAG
,CAAC,OAAO,CAAC;YACzC,IAAI,aAAa,EAAE;gBACjB,kBAAkB,CAAC,OAAO,CAAC,OAAO,,CAC9B,CAA
C,MAAwB,KAAK,MAAM,CAAC,QAAQ,GAAG,aAAa,CAAC,MAAM,CAAC,QAAQ,CAAC,CAAC,CAAC;aA
CrF;YACD,OAAO,kBAAkB,CAAC;SAC3B,CAAC,CAAC;QAEH,OAAO,UAAU,CAAC,KAAK,CAAC,OAAO,,
EAAE,IAAI,CAAC,OAAO,CAAC,CAAC;KAChD;CACF;AAED;AACA,MAAM,mBAAoB,SAAQoO,YAAiB;IA
CjD,OAAO,CAAC,KAAkB,EAAE,MAAyB;QACnD,OAAO,MAAM,GAAG,KAAK,CAAC,GAAG,CAAC,CAAA
C,IAAI,CAAC,CAAC,KAAK,CAAC,IAAI,EAAE,MAAM,CAAC,CAAC,GAAG,KAAK,CAAC;KAC/D;IAED,m
BAAmB,CAAC,EAAuB,EAAE,MAAyB;QACpE,MAAM,SAAS,GAAG,MAAM,CAAC,CAAC,GAAG,KAAK,CAAC;QAC
AAC,SAAS,CAAE,CAAC;QACrD,MAAM,SAAS,GAAG,EAAE,MAAM,CAAC,CAAC,GAAG,KAAK,CAAC;QAC
AAC,EAAE,CAAC,SAAS,CAAE,GAAG,EAAE,CAAC,SAAS,CAAC;QACnF,MAAM,QAAQ,GAAG,EAAE,CAAA
AC,QAAQ,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,KAAK,CAAC,IAAI,EAAE,MAAM,CAAC,CAAC,
CAAC;QAC7D,OAAO,IAAIjE,cAAmB,CAC1B,EAAE,CAAC,GAAG,EAAE,EAAE,EAAE,CAAC,KAAK,EAAE,SAAS
,EAAE,SAAS,EAAE,QAAQ,EAAE,EAAE,CAAC,MAAM,EAAE,EAAE,CAAC,UAAU,EAC1E,EAAE,CAAC,e
AAe,EAAE,EAAE,CAAC,aAAa,CAAC,CAAC;KAC3C;IED,gBAAgB,CAAC,EAAoB,EAAE,MAAyB;QAC9D,
OAAO,IAAIhK,WAAgB,CAAC,EAAE,CAAC,KAAK,EAAE,MAAM,CAAC,YAAY,CAAC,EAAE,CAAC,IAAI,
CAAE,EAAE,EAAE,CAAC,UAAU,CAAC,CAAC;KACrF;IED,mBAAmB,CAAC,EAAuB,EAAE,MAAyB;QA
CpE,OAAO,IAAIiK,cAAmB,CAAC,EAAE,CAAC,KAAK,EAAE,MAAM,CAAC,YAAY,CAAC,EAAE,CAAC,I
AAI,CAAE,EAAE,EAAE,CAAC,UAAU,CAAC,CAAC;KACxF;;;AC1GH;;;;;;;MAWa,aAAa;IAIxB,YAAY,kBAAkB,GAAG,IAAI,EAAE,UAAU,GAAG,KAAK;QAHjD,WAAM,GAAG,IAAI,GAAG,EAAE,CAAC;QACnB,eAAU,GAAG,KAAK,CAAC;QAGzB,IAAI,CAAC,kBAAkB,GAAG,kBAAkB,CAAC;QAC7C,IAAI,CAAC,UAAU,GAAG,UAAU,CAAC;KAC9B;IAED,IAAI,CAAC,GAAW;QACd,IAAI,CAAC,IAAI,CAAC,UAAU,EAAE;YACpB,MAAM,IAAI,KAAK,CAAC,qCAAqC,CAAC,CAAC;SACxD;QACD,IAAI,CAAC,IAAI,CAAC,kBAAkB,EAAE;YAC5B,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;SACtB;KACF;IAED,KAAK,CAAC,GAAW;QACf,IAAI,CAAC,IAAI,CAAC,UAAU,EAAE;YACpB,MAAM,IAAI,KAAK,CAAC,qCAAqC,CAAC,CAAC;SACxD;QACD,IAAI,CAAC,IAAI,CAAC,kBAAkB,EAAE;YAC5B,IAAI,CAAC,MAAM,CAAC,MAAM,CAAC,GAAG,CAAC,CAAC;SACzB;KACF;IAED,GAAG,CAAC,GAAW;QACb,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;KAC7B;IAED,IAAI,IAAI;QACN,OAAO,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC;KACzB;;;;;;;

E,SAAS;KAChB,EACD,MAAM,GAAG,MAAM,CAAC,QAAQ,GAAG,SAAS,CAAC,CAAC;IAC1C,OAAO,EA
AC,KAAK,EAAE,KAAK,EAAE,MAAM,EAAE,MAAM,IAAI,gBAAgB,EAAE,gBAAgB,EAAC,CAAC;AAC9E;;
AC3DA;;;;;;;AAcA,MAAM,EAAE,GAAG,wBAAwB,CAAC;MAEvB,oBAAoB;IAC/B,YAAmB,MAAoB,EAAS,
QAAa;QAA1C,WAAM,GAAN,MAAM,CAAc;QAAS,aAAQ,GAAR,QAAQ,CAAK;KAAI;CAClE;AAiCD,MAA
M,wBAAwB,GAAG,CAAC,CAAC;AAEnC;;;;;;;;;MAQa,oBAAoB;IAU/B,YAAY,IAA8B,EAAU,iBAAoC,EAC5E
,eAA8C,EAC9C,aAAuD;QAFvD,SAAI,GAAJ,IAAI,CAA0B;QAAU,sBAAiB,GAAjB,iBAAiB,CAAmB;QAC5E,oB
AAe,GAAf,eAAe,CAA+B;QAC9C,kBAAa,GAAb,aAAa,CAA0C;QAZ3D,kBAAa,GAAG,IAAI,GAAG,EAAgC,
CAAC;;QAExD,oBAAe,GAAG,IAAI,GAAG,EAAsC,CAAC;;QAEhE,aAAQ,GAAG,IAAI,GAAG,EAA8B,CAAC
;QAGjD,wBAAmB,GAAG,IAAI,GAAG,EAAwB,CAAC;QAEtD,mBAAc,GAAG,IAAI,GAAG,EAA0B,CAAC;Q
ACnD,+BAA0B,GAAG,IAAI,GAAG,EAAkB,CAAC;KAKvD;IAEvE,aAAa,CAAC,YAA0B;QACtC,IAAI,YAAY,
CAAC,OAAO,CAAC,MAAM,GAAG,CAAC,EAAE;YACnC,OAAO,IAAI,CAAC,qBAAqB,CAAC,YAAY,CAAE
,CAAC;SAClD;;;;QAID,MAAM,iBAAiB,GAAG,IAAI,CAAC,yBAAyB,CAAC,YAAY,CAAC;QACxE,IA
AI,iBAAiB,EAAE;YACrB,OAAO,iBAAiB,CAAC;SAC1B;QACD,MAAM,eAAe,IAAI,GAAG,EAAE,GAAG,IAAI,CAAC,eAAe,CAAC,eAAe,CAA
C,GAAG,CAAC,YAAY,CAAC;QAC9E,KAAK,MAAM,CAAC,IAAI,CAAC,IAAI,IAAI,CAAC,aAAa,CAAC,OAAO,EAAE,CAAC;SACxB;;;;QAID
,IAAI,CAAC,gBAAgB,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC;QAC7C,KAAK,MAAM,CAAC,IAAI,CAAC,IAAI,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,G
AAG,CAAC,YAAY,CAAE,CAAC;SACvB;;;;;;;;;;IAWD,WAAW,CAAC,YA0B,EAAE,eAAwB,IAAI;QAClE,I
AAI,YAAY,CAAC,OAAO,CAAC,MAAM,EAAE;YAC/B,MAAM,UAAU,GAAG,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,YA
AY,CAAC,QAAQ,EAAE,YAAY,CAAC,IAAI,CAAC,CAAC;YAClF,MAAM,YAAY,GAAG,IAAI,CAAC,yBAAyB,CAAC,YAAY,CAAC;
W,CAAC,UAAU,EAAE,YAAY,CAAC,CAAC;YAChE,OAAO,YAAY;gBACjB,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,YAAY,
CAAC,QAAQ,EAAE,YAAY,CAAC,IAAI,EAAE,YAAY,CAAC,OAAO,CAAC;gBACpF,IAAI,CAAC,gBAAgB,CAAC,YAAY,CAAC;SACV,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC,IAAI,CAAC,CAAC;QAC
CD,MAAM,kBAAkB,GAAG,4BAA4B,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC;QAC/E,IAAI,kBAAkB,KAAA
K,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC,IAAI,CAAC,CAAC;QAC1D,MAAM,cAAc,GAAG,4BAA4B,CAAC,YAAY,CAAC,IAAI,CAAC,CAAC,CAAA
C;YACvE,MAAM,UAAU,GAAG,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,kBAAkB,EAAE,cAAc,EAAE,YAAY,CAAC,OAAO,
CAAC,CAAC;YACnF,MAAM,YAAY,GAAG,IAAI,CAAC,yBAAyB,CAAC,YAAY,CAAC;W,CAAC,UAAU,EAAE,YAAY,CAAC,CAAC;
YAChE,OAAO,YAAY,GAAG,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,YAAY,CAAC,QAAQ,CAAC,EAAC5
C,iBAAiB,CAAC,YAAY,CAAC,IAAI,CAAC,CAAC,EAAE,UAAU,CAAC,OAAO,CAAC;gBAC7D,IAAI,CAAC;SAC5
B;QACD,IAAI,MAAM,GAAG,CAAC,YAAY,CAAC,IAAI,IAAI,CAAC,eAAe,CAAC,WAAW,CAAC,YAAY,CAAC,KA
AK,IAAI,CAAC;QACnF,IAAI,CAAC,MAAM,EAAE;YACX,MAAM,IAAI,KAAK,CAAC,YAAY,CAAC,QAAQ,CAAC,GAAG,
CAAC,YAAY,CAAE,CAAC;SAC5E;;;;;IAMD,YAAY,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC;QAKrC,IAAI,eAAe,CAAC,YAAY,CAAC,QAAQ,CAAC,EAAE;YAC1C,OAAO,IAAI,CAAC,eAAe,CAAC,YAAY,CAAC;SACb,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC;QAC
C,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC;QAC5E,IAAI,CAAC,gBAAgB,CAAC,YAAY,CAAC;SACV

AC,YAA0B;QACtD,MAAM,OAAO,GAAG,YAAY,CAAC,OAAO,CAAC;QACrC,MAAM,kBAAkB,GACpB,IA
AI,CAAC,aAAa,CAAC,IAAI,CAAC,eAAe,CAAC,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC,IAAI,CAAC,CA
AC,CAAC;QACvF,IAAI,CAAC,kBAAkB,EAAE;YACvB,OAAO,IAAI,CAAC;SACb;QACD,IAAI,YAAY,GAAG
,sBAAsB,CAAC,kBAAkB,CAAC,QAAQ,CAAC,CAAC;QACvE,IAAI,YAAY,YAAY,EAAE;YACxC,OA
AO,IAAI,oBAAoB,CAC3B,YAAY,EAAE,IAAI,CAAC,eAAe,CAAC,YAAY,CAAC,QAAQ,EAAE,YAAY,CAAC
,IAAI,EAAE,OAAO,CAAC,CAAC,CAAC;SAC5F;aAAM,IAAI,YAAY,IAAI,YAAY,CAAC,UAAU,KAAK,OAA
O,EAAE;YAC9D,IAAI,YAAY,CAAC,OAAO,IAAI,OAAO,CAAC,MAAM,KAAK,CAAC,EAAE;gBAChD,OAA
O,IAAI,oBAAoB,CAAC,YAAY,EAAE,YAAY,CAAC,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAA
C,CAAC;aACjF;SACF;aAAM;YACL,IAAI,KAAK,GAAG,YAAY,CAAC;YACzB,CAAC,IAAI,KAAK,EAAE,CAAC,YAAY,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,MAAM,CAAC,IAAI,KAAK,EAAE,CAAC,EAAE,EAAE;gBAChD,KAAK,G
AAG,KAAK,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;aAC3B;YACD,OAAO,IAAI,oBAAoB,CAAC,Y
AAY,EAAE,KAAK,CAAC,CAAC;SACtD;QACD,OAAO,IAAI,CAAC;KACb;IAEO,yBAAyB,CAAC,YAA0B;Q
AC1D,MAAM,OAAO,GAAG,IAAI,CAAC,eAAe,CAAC,cAAc,CAAC,YAAY,CAAC,CAAC;QAClE,OAAO,OA
AO,GAAG,IAAI,oBAAoB,CAAC,YAAY,EAAE,OAAO,CAAC,QAAQ,CAAC,GAAG,IAAI,CAAC;KAClF;;;;;;;;;
IAUD,eAAe,CAAC,eAAuB,EAAE,IAAY,EAAE,OAAkB;QACvE,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,OAAO,CAAC,CAAC,CAAC;KACnE;;;;;;;;IASD,aAAa,CAAC,QAAgB;QAC5B,MAAM,
QAAQ,GAAG,IAAI,CAAC,iBAAiB,CAAC,QAAQ,CAAC,CAAC;QAClD,IAAI,QAAQ,CAAC,UAAU,CAAC,E
AAE;YACxB,OAAO,MAAM,CAAC,IAAI,CAAC,QAAQ,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,CAA
C,WAAW;gBACxD,MAAM,KAAK,GAAG,QAAQ,CAAC,UAAU,CAAC,CAAC,CAAC,WAAW,CAAC,CAAC;gBACjD,O
AAO,KAAK,IAAI,KAAK,CAAC,UAAU,KAAK,OAAO,IAAI,KAAK,CAAC,UAAU,CAAC;aAClE,CAAC,C
AAC;SACJ;QACD,OAAO,KAAK,CAAC;KACd;IAED,YAAY,CAAC,QAAgB;QAC3B,MAAM,cAAc,GAAG,IA
AI,CAAC,eAAe,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC;QACnE,IAAI,cAAc,CAAC,UAAU,CAAC,eAAe;YAC3C,OAAO,cAAc,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,WAAW,CAAC;QACzD,
IAAI,cAAc,CAAC,UAAU,CAAC,eAAe;YAC3C,OAAO,cAAc,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,WAAW,CAAC;QACzD,
OAAO,IAAI,CAAC;KACb;IAEO,eAAe,CAAC,IAAY,EAAE,OAAkB;QACtD,MAAM,KAAK,GAAG,IAAI,CAAC,iBAAiB,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,OAAO,CAAC,CAAC,CAAC;QACvE,IAAI,KAAK,CAAC,MAAM,KAAK,CAAC,EAAE;YACtB,MAAM,IAAI,KAAK,CAAC,
GAAG,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

AC,WAAW,CAAC,CAAC;gBAE7C,MAAM,MAAM,GAAG,IAAI,CAAC,eAAe,CAAC,QAAQ,EAAE,IAAI,CA
AC,CAAC;gBAEpD,MAAM,MAAM,GAAG,OAAO,CAAC,cAAc,CAAC,WAAW,CAAC,IAAI,OAAO,CAAC,W
AAW,CAAC,CAAC;gBAC3E,IAAI,MAAM,EAAE;;;;oBAIV,MAAM,cAAc,GAAG,IAAI,CAAC,aAAa,CAAC,M
AAM,EAAE,QAAQ,CAAC,CAAC;oBAC5D,IAAI,CAAC,cAAc,EAAE;wBACnB,IAAI,CAAC,WAAW,CAAC,I
AAI,KAAK,CAAC,wCAAwC,MAAM,SACrE,IAAI,CAAC,IAAI,CAAC,aAAa,CAAC,QAAQ,CAAC,EAAE,CA
AC,CAAC,CAAC;qBAC3C;yBAAM;wBACL,IAAI,CAAC,mBAAmB,CAAC,GAAG,CAAC,MAAM,EAAE,cAA
c,CAAC,CAAC;qBACtD;iBACF;gBACD,eAAe,CAAC,IAAI,CAChB,IAAI,CAAC,oBAAoB,CAAC,MAAM,EAA
E,QAAQ,EAAE,mBAAmB,EAAE,UAAU,CAAC,CAAC,CAAC;aACnF,CAAC,CAAC;SACJ;QACD,MAAM,aA
Aa,GAAG,IAAI,GAAG,EAAgB,CAAC;QAC9C,KAAK,MAAM,cAAc,IAAI,eAAe,EAAE;YAC5C,IAAI,CAAC,e
AAe,CAAC,GAAG,CAAC,cAAc,CAAC,MAAM,EAAE,cAAc,CAAC,CAAC;YAChE,aAAa,CAAC,GAAG,CAA
C,cAAc,CAAC,MAAM,CAAC,CAAC;SAC1C;QACD,IAAI,CAAC,cAAc,CAAC,GAAG,CAAC,QAAQ,EAAE,K
AAK,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC,CAAC;KAC9D;IAEO,oBAAoB,CACxB,YAA0B,EAAE,YAAoB,
EAAE,mBAAgC,EAClF,QAAa;;;;;;QAMf,MAAM,QAAQ,GAAG,EAAE,CAAC,IAAI,CAAC,YAAY,CAAC,QA
AQ,CAAC,CAAC;QAChD,IAAI,IAAI,CAAC,eAAe,CAAC,aAAa,CAAC,YAAY,CAAC,QAAQ,CAAC,IAAI,CA
AC,QAAQ,IAAI,QAAQ;YAClF,QAAQ,CAAC,YAAY,CAAC,KAAK,OAAO,EAAE;YACtC,MAAM,eAAe,GAAG,EAAE,CAAC,UAAU,EAAE,OAAO,EAAE,KAAK,EAAE,QAAQ,CAAC,KAAK,EAAE,CAAC,CAAC;YACrE,OAAO,IAAI,oBAAoB,CAAC,YAAY,EAAE,eAAe,CAAC,CAAC;SAChE;QACD,IAAI,iBAAmC,CAAC;QACxC,IAAI,eAAe,CAAC,aAAa,CAAC,YAAY,CAAC,QAAQ,CAAC,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,aAAa,CAAC,CAAC,CAAC,YAAY,CAAC,OAAO,CAAC,sBAAsB,EAAE,KAAK,CAAC;yBAC9H,CAAC,OAAO,CAAC,sBAAsB,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC;aACvC,CAAC,CAAC;SACJ;QACD,IAAI,CAAC,cAAc,CAAC,GAAG,CAAC,QAAQ,EAAE,iBAAiB,CAAC,CAAC;QACrD,OAAO,iBAAiB,CAAC;KAC1B;IAED,MAAM,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC;IAC5B

AC,YAAY,EAAE,IAAI,CAAC,WAAW,CAAC,YAAY,CAAC,IAAI,YAAY,CAAC,CAAC;SACjF;QACD,OAAO,IAAI,oBAAoB,CAAC,YAAY,EAAE,YAAY,CAAC,CAAC;KAC7D;IAEO,WAAW,CAAC,KAAY,EAAE,OAAsB,EAAE,IAAa;QACrE,IAAI,IAAI,CAAC,aAAa,EAAE;YACtB,IAAI,CAAC,aAAa,CAAC,KAAK,EAAE,CAAC,OAAO,IAAI,OAAO,CAAC,QAAQ,KAAK,IAAI,CAAC,CAAC;SAClE;aAM;YACL,IAAI,CAAC,MAAM,KAAK,CAAC;SACpB;;;IAKO,iBAAiB,CAAC,MAAc;QACtC,IAAI,cAAc,GAAG,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,CAAC;QACjD,IAAI,cAAc,KAAK,IAAI,EAAE;YAC3B,OAAO,cAAc,CAAC;SACvB;QACD,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,GAAG,cAAc,GAAG,IAAI,CAAC,cAAc,CAAC,MAAM,CAAC,CAAC;QAC3E,OAAO,cAAc,CAAC;;;IAIhB,cAAc,CAAC,MAAc;QACnC,IAAI,MAAM,KAAK,CAAC,EAAE;YAChB,OAAO,IAAI,CAAC;SACb;QACD,IAAI,MAAM,KAAK,CAAC,EAAE;YAChB,OAAO,IAAI,CAAC,KAAK,CAAC;SACnB

AAC,SAAS,CAAC,IAAI,CAAC,CAAC;IACjD,SAAS,CAAC,UAAU,CAAC,IAAI,CACrBlC,EAAI,CAAC,EAAE
,EAAE,CAAC,IAAIR,eAAiB,CAAC,KAAK,CAAC,CAAC,EAAE,IAAI0E,SAAW,CAACnE,YAAc,CAAC,CAA
C,CAAC,UAAU,CAAC,MAAM,EAAE;QAC3FL,YAAc,CAAC,KAAK,EAAEA,YAAc,CAAC,QAAQ;KAC9C,C
AAC,CAAC,CAAC;AACV,CAAC;AAOD,MAAM,gBAAiB,SAAQ,gBAAgB;IAa7C,YACY,cAAoC,EACpC,uBAAkC,EAAE,WAAW,CAAC,CAAC;QACzD,KAAK,CAAC,cAAc,EAAE,uBAAuB,CAAC,CAAC;QAFvC,mBAAc,GAAd,cAAc,CAAsB;QACpC,oBAAe,GAAf,eAAe,CAA+B;QAAC,gBAAW,GAAX,WAAW,CAAC,CAAC

AAQ,CAAC,IAAI,CAAC,EAAC,MAAM,EAAE,QAAQ,EAAE,QAAQ,EAAC,CAAC,CAAC;yBAC7C;qBACF;iB
ACF;gBACD,OAAO;oBACL,QAAQ,EAAE,KAAK;oBACf,IAAI,EAAE,MAAM,CAAC,IAAI;oBACjB,QAAQ,E
AAE,IAAI,CAAC,eAAe,CAAC,iBAAiB,CAAC,MAAM,CAAC,QAAQ,EAAE,IAAI,CAAC,WAAW,CAAC;oBA
CnF,QAAQ,EAAE,QAAQ;iBACnB,CAAC;aACH,CAAC;SACH,CAAC,CAAC;QACH,OAAO,EAAC,IAAI,EAA
E,QAAQ,EAAC,CAAC;KACzB;IAEO,YAAY,CAAC,KAAU,EAAE,KAAyB;QACxD,OAAO,UAAU,CAAC,KA
AK,EAAE,IAAI,EAAE,KAAK,CAAC,CAAC;KACvC;IAED,UAAU,CAAC,KAAU,EAAE,OAAY;QACjC,IAAI,
KAAK,YAAY,,YAAY,EAAE;YACjC,IAAI,UAAU,GAAG,IAAI,CAAC,cAAc,CAAC,eAAe,CAAC,KAAK,CAA
C,QAAQ,EAAE,KAAK,CAAC,IAAI,CAAC,CAAC;YACjF,MAAM,KAAK,GAAG,IAAI,CAAC,iBAAiB,CAAC,
UAAU,EAAE,OAAO,CAAC,CAAC;YAC1D,OAAO,EAAC,QAAQ,EAAE,KAAK,EAAE,OAAO,EAAE,KAAK,
CAAC,OAAO,EAAC,CAAC;SAClD;KACF;;;;;;;;IASD,cAAc,CAAC,GAAyB,EAAE,OAAY;QACpD,IAAI,GAAG
G,CAAC,YAAY,CAAC,KAAK,UAAU,EAAE;YACpC,OAAO,UAAU,CAAC,GAAG,CAAC,QAAQ,CAAC,EAAE
E,IAAI,EAAE,OAAO,CAAC,CAAC;SACjD;QACD,IAAI,GAAG,CAAC,YAAY,CAAC,KAAK,OAAO,EAAE;Y
ACjC,OAAO,GAAG,CAAC,MAAM,CAAC,CAAC;YACnB,OAAO,GAAG,CAAC,WAAW,CAAC,CAAC;SACzB;QACD,OAAO,KAAK,CAAC,cAAc,CAAC,GAAG,EAAE,OAAO,CAAC;KAC1C;;;;;IAMO,iBAAiB,CA
AC,UAAwB,EAAE,KAAyB;QAC3E,IAAI,KAAK,GAA0B,IAAI,CAAC,cAAc,CAAC,aAAa,CAAC,GAAG,CAAC,UAAU,CA
AC,CAAC;QACtE,IAAI,OAAO,GAA+B,IAAI,CAAC,QAAQ,C/C,IAAI,KAAK;YACnE,CL,IAAI,CAAC,eAAe,CAAC,aA
Aa,CAAC,UAAU,CAAC,QAAQ,CAAC,EAAE;YAC3D,IAAI,IAAI,CAAC,kCAAkC,CAAC,GAAG,CAAC,UAA
U,CAAC,EAAE;;;gBAG3D,OAAO,KAAM,CAAC;aACf;YACD,OAAO,GAAG,CAAC,WAAW,CAAC,UA
AU,CAAC,CAAC;YACvC,IAAI,OAAO,IAAI,OAAO,CAAC,QAAQ,YAAY,,YAAY,EAAE;;gBAEvD,KAAK,GA
AG,IAAI,CAAC,iBAAiB,CAAC,OAAO,CAAC,QAAQ,EAAE,KAAK,CAAC,CAAC;;gBAExD,OAAO,GAAG,IA
AI,CAAC;aAChB;SACF;;;YAGI,KAAK,IAAI,EAAE;;;;YAIX,OAAO,KAAK,CAAC,SAAS,CAAC,KAAK,EAAE,OAAO,CAAC;KAC/C;;;;;;;;

AAC,mBAAmB,CAAC,cAAc,CAAC,CAAC;qBAC7C,UAAU,CAAC,IAAI,EAAE,CAACM,YAAc,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC;aAClF;SACF,CAAC,CAAC;KACJ;IAEO,wBAAwB,CAC5B,OAA2B,EAC3B,QACmB;QACrB,MAAM,WAAW,GAAmB,CAAC,IAAI,CAAC,gBAAgB,CAAC,OAAO,CAAC,CAAC,CAAC;QACrE,IAAI,SAAS,8B,EAAE,EAAE,CAAC;QAC9C,IAAI,QAAQ,GAAG,YAAY,uBAAuB,EAAE;YAC/C,WAAW,CAAC,IAAI,CAAC,QAAQ,CAAC,WAAW,CAAC,IAAI,CAAC;;;;YAIA,QAAQ,CAAC,kBAAkB,CAAC,MAAM,CAAC,QAAQ,CAAC,aAAa,CAAC;iBACrD,GAAG,CAAC,IAAI,IAAI,IAAI,CAAC,SAAS,CAAC;;;;;iBAK3B,MAAM,CAAC,QAAQ,CAAC,gBAAgB,CAAC,OAAO,CAAC,CAAC,GAAG,CAAC,IAAI,IAAI,IAAI,CAAC,SAAS,CAAC;iBACpE,MAAM,CAAC,GAAG,IAAI,GAAG,CAAC,QAAQ,CAAC,CAAC,CAAC;iBAC7B,GAAG,CAAC,IAAI,IAAI,IAAI,CAAC,SAAS,CAAC;iBAC3B,MAAM,CAAC,QAAQ,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;;;YAGnE,SAAS,GAAG,IAAI,CAAC,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC

AED,SAAS,cAAc,CAAC,QAAa;IACnC,OAAO,MAAM,CAAC,QAAQ,CAAC,IAAI,sBAAsB,CAAC,QAAQ,CA
AC,UAAU,CAAC,YAAY,YAAY,CAAC;AACjG,CAAC;AAED,SAAS,sBAAsB,CAAC,QAAa;IAC3C,OAAO,M
AAM,CAAC,QAAQ,CAAC,IAAI,QAAQ,CAAC,UAAU,IAAI,QAAQ,CAAC,UAAU,CAAC,UAAU,KAAK,QAA
Q;QACzF,sBAAsB,CAAC,QAAQ,CAAC,UAAU,CAAC,UAAU,CAAC,YAAY,YAAY,CAAC;AACrF;;AC1fA;;;;
;;;MAsDa,WAAW;IAMtB,YACY,OAAuB,EAAU,QAA4B,EAC7D,KAAsB,EAAU,SAA0B,EAAU,EA
AU,eAA+B,EACnF,cAA6B,EAAU,aAA2B,EAClE,kBAAqC,EAAU,iBAAmC,EAClF,mBAAuC,EAAU,cAA6B,E
AC9E,gBAA+C,EAC/C,eAAqC;QAPrC,YAAO,GAAP,OAAO,CAAgB;QAAU,aAAQ,GAAR,QAAQ,CAAoB;QAC7D,
UAAK,GAAL,KAAK,CAAiB;QAAU,cAAS,GAAT,SAAS,CAAiB;QAAU,OAAE,GAAF,EAAE,CAAa;QAAU,
yB;QAAU,oBAAe,GAAf,eAAe,CAAgB;QACnF,mBAAc,GAAd,cAAc,CAAe;QAAU,kBAAa,GAAb,aAAa,CAAc
;QAClE,uBAAkB,GAAlB,kBAAkB,CAAmB;QAAU,sBAAiB,GAAjB,iBAAiB,CAAkB;QAClF,wBAAmB,GAAn
B,mBAAmB,CAAoB;QAAU,mBAAc,GAAd,cAAc,CAAe;QAC5E,qBAAgB,GAAhB,gBAAgB,CAA+B;QAC/C,oB
AAe,GAAf,eAAe,CAAsB;QAAU,gBAAW,GAAX,WAAW,CAAiB;QAAU,eAAU,GAAV,UAAU,CAAiB;QAC1
,iBAAY,GAAZ,YAAY,CAAiB;QAAU,eAAU,GAAV,UAAU,CAAiB;QAAU,eAAU,GAAV,UAAU,CAAiB;QAC
AAoC,CACnE,QAAQ,CAAC,IAAI,CAAC,SAAS,EAAE,IAAI,CAAC,CAAC,CAAC;QACxC,OAAO,aAAa,CAAC;KACtB;IAED,mBAAmB,CAAC,SAAmB;QACrC,MAAM,aAAa,GAAG,2BAA2B,CAC7C,SAAS,EAAE,IAAI,CAAC,KAAK,EAAE,IAAI,CAAC,eAAe,EAAE,IAAI,CAAC,iBAAiB,CAAC,CAAC;QACzE,OAAO,OAAO,aAAa,CAAC,CAAC,CAAC,aAAa,CAAC,CAAC,CAAC,SAAS,CAAC;IACzD,CAAC;IAED,gBAAgB,CAAC,SAAmB;QAClC,MAAM,aAAa,GAAG,2BAA2B,CAC7C,SAAS,EAAE,IAAI,CAAC,KAAK,EAAE,IAAI,CAAC,eAAe,EAAE,IAAI,CAAC,iBAAiB,CAAC,CAAC;QACzE,OAAO,OAAO,aAAa,CAAC,CAAC,CAAC,aAAa,CAAC,CAAC,CAAC,SAAS,CAAC;IACzD,CAAC;IAED,eAAe,CAAC,SAAmB;QACj

AAC;QACzD,IAAI,WAAW,CAAC,QAAQ,CAAC,eAAe,CAAC,EAAE;YACzC,IAAI,CAAC,gBAAgB,EAAE;gB
ACrB,MAAM,IAAI,KAAK,CACX,6EACI,WAAW,EAAE,CAAC,CAAC;aACxB;YACD,MAAM,YAAY,GAAG,I
AAI,CAAC,YAAY,CAAC,gBAAgB,CAAC,CAAC;YACzD,IAAI,CAAC,oBAAoB,CAAC,SAAS,EAAE,YAAY,g
BAAsB,CAAC;SACzE;aAAM,IAAI,WAAW,CAAC,QAAQ,CAAC,eAAe,CAAC,EAAE;YAChD,IAAI,IAAI,CA
AC,QAAQ,CAAC,qBAAqB,EAAE;gBACvC,IAAI,CAAC,gBAAgB,EAAE;oBACrB,MAAM,IAAI,KAAK,CACX
,6EACI,WAAW,EAAE,CAAC,CAAC;iBACxB;gBACD,MAAM,YAAY,GAAG,IAAI,CAAC,YAAY,CAAC,gBA
AgB,CAAC,CAAC;gBACzD,gBAAgB,CAAC,SAAS,CAAC,CAAC;gBAC5B,YAAY,CAAC,SAAS,CAAC,OAA
O,CAAC,QAAQ;;oBAErC,gBAAgB,CAAC,SAAS,EAAE,QAAQ,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;iBAC
tD,CAAC,CAAC;aACJ;SACF;aAAM,IAAI,WAAW,CAAC,QAAQ,CAAC,aAAa,CAAC,EAAE;YAC9C,gBAAgB
,CAAC,SAAS,CAAC,CAAC;SAC7B;;;;;;QAMD,OAAO,IAAI,CAAC,oBAAoB,CAAC,SAAS,EAAE,SAAS,CAA
C,CAAC;KACxD;IAED,iBAAiB,CAAC,WAAmB,EAAE,gBAAwB;QAC7D,MAAM,YAAY,GAAG,IAAI,CAAC
,YAAY,CAAC,gBAAgB,CAAC,CAAC;QACzD,MAAM,SAAS,GAAG,IAAI,CAAC,oBAAoB,CAAC,WAAW,C
AAC,CAAC;QACzD,IAAI,WAAW,CAAC,QAAQ,CAAC,eAAe,CAAC,EAAE;YACzC,IAAI,CAAC,oBAAoB,C
AAC,SAAS,EAAE,YAAY,oBAA0B,CAAC;SAC7E;QACD,OAAO,SAAS,CAAC,UAAU,CAAC,MAAM,GAAG,
CAAC;YAClC,IAAI,CAAC,oBAAoB,CAAC,YAAY,CAAC,QAAQ,EAAE,SAAS,CAAC;YAC3D,IAAI,CAAC;K
ACV;IAED,cAAc,CAAC,SAAmB,EAAE,OAAiB;QAEnD,MAAM,KAAK,GAAG,SAAS,CAAC,GAAG,CAAC,Q
AAQ,IAAI,IAAI,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC,CAAC;QACrE,IAAI,CAAC,oBAAoB,C
AC;QACzD,KAAK,CAAC,OAAO,CACT,IAAI,IAAI,IAAI,CAAC,SAAS,CAAC,OAAO,CAC1B,QAAQ,IACJ,IACI,CAAC,IAAI,CAAC,iBAAiB,CAAC,oCAAoC,CAAC,QAAQ,CAAC,IAAI,CAAC,SAAS,EAAE,K
AAK,CAAC,CAAC,CAAC,CAAC,CAAC;QACnD,MAAM,mBAAmB,GAAG,OAAO,CAAC,GAAG,CAAC,MA
AM,IAAI,IAAI,CAAC,0BAA0B,CAAC,MAAM,CAAC,CAAC,CAAC;QAC3F,OAAO,OAAO,CAAC,GAAG,CAAC,
CAAC,eAAe,CAAC,CAAC,IAAI,CAAC,KAAK;YACJ,eAAe,uBAAuB,CAAC,KAAK,CAAC;YAC7D,mBAAmB,EAAE,mBAAmB;SACzC,CAAC,CAAC,CAAC;KAC9C;IAED,aAAa,CAAC,SAAmB,EAAE,OAAiB;
QAElD,MAAM,KAAK,GAAG,SAAS,CAAC,GAAG,CAAC,QAAQ,IAAI,IAAI,CAAC,YAAY,CAAC,QAAQ,CA
AC,CAAC,CAAC;QACrE,IAAI,CAAC,oBAAoB,CAAC,KAAK,CAAC,OAAO,CACpC

CAAC,IAAI,CAAC,EAC1E,qBAAqB,CAAC,CAAC;oBAC3B,IAAI,CAAC,qBAAqB,CACtB,SAAS,EAAE,GAAA
G,QAAQ,CAAC,IAAI,CAAC,SAAS,CAAC,IAAI,IAAI,WAAW,EAAE,EAAE,YAAY,EAAE,QAAQ,EACnF,YA
AY,CAAC,gBAAgB,CAAC,UAAU,EAAE,qBAAqB,CAAC,CAAC;iBACtE,CAAC,CAAC;aACJ;SACF,CAAC,C
AAC;QAEH,IAAI,SAAS,CAAC,UAAU,CAAC,MAAM,KAAK,CAAC,EAAE;YACrC,gBAAgB,CAAC,SAAS,C
AAC,CAAC;SAC7B;KACF;IAEO,6BAA6B,CAAC,UAAiC;QACrE,MAAM,MAAM,GAAmB,EAAE,CAAC;QA
ClC,KAAK,IAAI,SAAS,IAAI,UAAU,EAAE;YAChC,MAAM,KAAK,GAAG,+BAA+B,CAAC,IAAI,CAAC,SAAS,C
AAC,CAAC;YACzE,IAAI,KAAK,CAAC,UAAU,EAAE;gBACpB,MAAM,CAAC,IAAI,CAAC,KAAK,CAAC,UAAU,EAAE;gBAC,MAAM,CAAC,IAAI,CAAC,
KAAK,CAAC,UAAU,CAAC,SAAS,CAAC,CAAC;aACzC;SACF;QAED,OAAO,MAAM,CAAC,KACf;IAEO,qBAAqB,CAAC,IAAiB,EAAE,CAAC,SAAS,C
AAC,CAAC;QAC1D,IAAI,CAAC,IAAI,CAAC,SAAS,CAAC,QAAQ,CAAC,SAAS,CAAC,EAAE;YACvC,IAAI,CAAC,SAAS,IAAI,GAAG;SACtB;IACH;IAEQ,kBAAkB,CAAC,IAAiB,EAAE,SAAS,EAAE,KAAK,EAAE,GAAG,EAAE,KAAK,EAAE,GAAG,IA
AI,CAAC,kBAAkB,CAAC,gBAAgB,CAAC,3D,WAAW,EAAE,QAAQ,EAAE,cAAc,EAAE,SAAS,EAAE,qBAAqB,
EAAE,GAAG,CAAC,CAAC,CAAC;KACpF;IAED,iBAAiB,CAAC,aAAgC,EAAE,MAAmB;QACrE,MAAM,MA
AM,GAAiB,CAAC;QAChC,MAAM,UAAU,GAAG,IAAI,UAAU,EAAE,CAAC;;QAGpC,MAAM,aAAa,G
AAG,IAAI,aAAa,CAAC,UAAU,EAAE,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;QAEpE,aAAa,CAAC,
KAAK,CAAC,OAAO,CAAC,IAAI;YAC9B,MAAM,SAAS,GAAG,IAAI,UAAU,CAAC,CAAC,UAAU,C
AAC,OAAO,CAAC,aAAa;gBACnC,MAAM,OAAO,GAAG,IAAI,CAAC,iBAAiB,CAAC,oBAAoB,CAAC,aAAa,
CAAC,CAAC;gBAC3E,IAAI,OAAO,IAAI,OAAO,CAAC,WAAW,EAAE;oBAClC,OAAO,CAAC,IAAI,CAAC,SAAS,C
AAC,OAAO,CAAC,QAAQ;gBACxB,MAAM,IAAI,GAAG,QAAQ,CAAC,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC,O
AAO,CAAC,CAAC;iBACzB;aACF,CAAC,SAAS,CAAC,QAAQ;gBACp

C;iBACtC;gBACD,MAAM,UAAU,GAAG,mBAAmB,CAAC,OAAO,CAAC,SAAS,EAAE,iBAAiB,CAAC,CAAC
;;gBAG7E,MAAM,kBAAkB,GAAG,IAAI,GAAG,EAAe,CAAC;gBAElD,MAAM,UAAU,GAAG,MAAM,CAAC,
gBAAgB,CAAC,UAAU,CAAC,GAAG,CACrD,GAAG,IAAI,IAAI,CAAC,iBAAiB,CAAC,mBAAmB,CAAC,GA
AG,CAAC,SAAS,CAAC,CAAC,CAAC;gBAEtE,UAAU,CAAC,OAAO,CAAC,SAAS;oBAC1B,IAAI,SAAS,CAA
C,QAAQ,EAAE;wBACtB,kBAAkB,CAAC,GAAG,CAAC,SAAS,CAAC,QAAQ,EAAE,SAAS,CAAC,IAAI,CAA
C,SAAS,CAAC,CAAC;qBACtE;iBACF,CAAC,CAAC;;gBAGH,MAAM,cAAc,GAAG,IAAI,GAAG,EAAe,CA
C;gBAE9C,MAAM,KAAK,GAAG,MAAM,CAAC,gBAAgB,CAAC,KAAK,CAAC,GAAG,CAC3C,IAAI,IAAI,IA
AI,CAAC,iBAAiB,CAAC,cAAc,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC,CAAC;gBAEnE,KAAK,CAAC,OAAO
,CAAC,IAAI;oBAChB,cAAc,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,EAAE,IAAI,CAAC,IAAI,CAAC,SAAS,C
AAC,CAAC;iBACpD,CAAC,CAAC;gBAEH,C,2BAAkB,CACd,OAAO,EAAE,iBAAiB,EAAE,UAAU,EAAE,IAA
I,CAAC,SAAS,EAAE,iBAAiB,EACzE,kBAAkB,EAAE,cAAc,CAAC,CAAC;aACzC;iBAAM;gBACL,CAC,2BAAkB,CAChB,OAAO,EAAE,iBAAiB,EAAE,IAAI,CAAC,SAAS,EAAE,iBAAiB,CAAC,CAAC;aACnF;SACF,CAAC,CA
AC;QAEH,KAAK,CAAC,OAAO,CAAC,QAAQ;YACpB,MAAM,YAAY,GAAG,IAAI,CAAC,iBAAiB,CAAC,eA
Ae,CAAC,QAAQ,CAAC,CAAC;YACtE,IAAI,YAAY,EAAE;gBAChBC,sBAAa,CAAC,OAAO,EAAE,YAAY,EA
AE,IAAI,CAAC,SAAS,CAAC,CAAC;aACtD;SACF,CAAC,CAAC;QAEH,WAAW,CAAC,OAAO,CAAC,UAAU,
IAAI,IAAI,CAAC,mBAAmB,CAAC,OAAO,CAAC,UAAU,EAAE,OAAO,CAAC,CAAC,CAAC;KAC1F;IAED,s
BAAsB,CAAC,KAAsC;;QAE3D,OAAO,KAAK,CAAC,MAAM,CAAkB,CAAC,EAAE,IAAI;YAC3C,C
AAC,CAAC,IAAI,CAAC,GAAG,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,WAW,
CAAC,CAAC,CAAC;YACrE,OAAO,CAAC,CAAC;SACV,EAAE,EAAE,CAAC,CAAC;KACR;IAEO,mBAAmB,
CAAC,QAAgB,EAAE,WAAwC;QAEpF,MAAM,OAAO,GAAG,IAAI,CAAC,oBAAoB,CAAC,QAAQ,CAAC,CA
AC;QAEpD,WAAW,CAAC,OAAO,CAAC,UAAU,IAAI,IAAI,CAAC,mBAAmB,CAAC,OAAO,CAAC,UAAU,E
AAE,OAAO,CAAC,CAAC,CAAC;QAEzF,IAAI,OAAO,CAAC,UAAU,IAAI,OAAO,CAAC,UAAU,CAAC,MAA
M,GAAG,CAAC,EAAE;YACvD,OAAO,CAAC,EAAC,QAAQ,EAAE,UAAU,EAAE,CAAC,CAAC,CAAC,CAAC,YAAY,CAAC,UAAU,EAAE,GAAG,OAAO,CAAC,UAAU,CAAC,EAAC,CAAC,CAAC,SAAS,CAAC;SAC9F;QAED,OAAO,SAAS,CAAC;KAClB;IAEO,oBAAoB,CAAC,QAAgB;QAC3C,MAAM,OAAO,GAAG,IAAI,CAAC,cAAc,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;QAClD,IAAI,OAAO,EAAE;YACX,OAAO,OAAO,CAAC;SAChB;QAED,MAAM,IAAI,GAAG,IAAI,CAAC,kBAAkB,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;QACnD,IAAI,IAAI,EAAE;YACR,IAAI,CAAC,cAAc,CAAC,GAAG,CAAC,QAAQ,EAAE,IAAI,CAAC,CAAC;SACzC;QAED,OAAO,IAAI,CAAC;KACb;IAEO,kBAAkB,CAAC,QAAgB;QACzC,MAAM,KAAK,GAAG,QAAQ,CAAC,KAAK,CAAC,GAAG,CAAC,CAAC;QAClC,IAAI,KAAK,CAAC,MAAM,GAAG,CAAC,EAAE;YACpB,OAAO,SAAS,CAAC;SAClB;QAED,MAAM,IAAI,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;QACtB,MAAM,IAAI,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;QACtB,MAAM,IAAI,GAAG,KAAK,CAAC,CAAC,CAAC,CAAC;QACtB,IAAI,IAAI,KAAK,SAAS,IAAI,IAAI,KAAK,SAAS,IAAI,IAAI,KAAK,SAAS,EAAE;YAClE,OAAO,SAAS,CAAC;SAClB;QAED,OAAO,IAAI,CAAC,mBAAmB,CAAC,IAAI,EAAE,IAAI,EAAE,IAAI,CAAC,CAAC;KACnD;IAEO,mBAAmB,CAAC,IAAY,EAAE,IAAY,EAAE,IAAY;QAClE,MAAM,OAAO,GAAG,IAAI,CAAC,cAAc,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;QAC9C,IAAI,OAAO,EAAE;YACX,MAAM,MAAM,GAAG,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;YACjC,IAAI,MAAM,EAAE;gBACV,OAAO,MAAM,CAAC;aACf;SACF;QAED,MAAM,IAAI,GAAG,IAAI,CAAC,kBAAkB,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;QAC/C,IAAI,IAAI,EAAE;YACR,MAAM,MAAM,GAAG,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;YAC9B,IAAI,MAAM,EAAE;gBACV,OAAO,MAAM,CAAC;aACf;SACF;QAED,OAAO,SAAS,CAAC;KAClB;IAEO,cAAc,CAAC,QAAgB,EAAE,WAAwC;QAC/E,MAAM,OAAO,GAAG,IAAI,CAAC,oBAAoB,CAAC,QAAQ,CAAC,CAAC;QACpD,IAAI,OAAO,EAAE;YACX,OAAO,OAAO,CAAC,UAAU,CAAC,MAAM,GAAG,CAAC,GAAG,OAAO,CAAC,UAAU,GAAG,SAAS,CAAC;SACvE;QAED,MAAM,IAAI,GAAG,IAAI,CAAC,kBAAkB,CAAC,QAAQ,CAAC,CAAC;QAC/C,IAAI,IAAI,EAAE;YACR,MAAM,MAAM,GAAG,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC;YAC9B,IAAI,MAAM,EAAE;gBACV,OAAO,MAAM,CAAC,UAAU,CAAC,MAAM,GAAG,CAAC,GAAG,MAAM,CAAC,UAAU,GAAG,SAAS,CAAC;aACrE

M,GAAG,CAAC,IAAI,IAAI,CAAC,QAAQ,CAAC,sBAAsB,EAAE;YAC3E,MAAM,SAAS,GAAG,IAAI,CAAC,oBAAoB,CAAC,UAAU,EAAE,SAAS,CAAC,CAAC;YACnE,cAAc,CAAC,OAAO,CAAC,SAAS,CAAC,CAAC;SACnC;QACD,OAAO,cAAc,CAAC;KACvB;IAEO,cAAc,CAClB,WAAmB,EAAE,UA0B,EAAE,KAAqB,EACtE,SAAoC,EAAE,EAAC9E,WAAwC,EAC9E,YAA2B;QAC7B,MAAM,eAAe,GAAG,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,YAAY,CAAC,WAAW,CAAC;aACzC,GAAG,CAAC,MAAM,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,aAAa,CAAC,MAAM,CAAC,CAAC,CAAC;QAC1G,OAAO,CAAC,GAAG,CAAC,eAAe,CAAC,CAAC;QAC7B,OAAO,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,CAAC;IAC/C,CAAC;IAEO,KAAK,CAAC,eAAe,CAAC,eAAgC;QAC5D,MAAM,OAAO,GAAG,IAAI,CAAC,eAAe,CAAC,eAAe,CAAC,CAAC;QACtD,MAAM,IAAI,GAAG,MAAM,OAAO,CAAC,GAAG,CAAC,eAAe,CAAC,GAAG,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC

Q,CAAC,QAAU,CAAC,kBAAkB,CAAC,GAAG,CAAC,QAAQ,IAAIQ,OAAS,CAAC,QAAQ,CAAC,CAAC,CA
AC;SACjF,CAAC,CAAC;aACF,UAAU,CACPwO,UAAY,CACR,WAAW,CAAC,gBAAgB,EAC5B,CAACvO,cA
AgB,CAAC,SAAS,CAAC,UAAU,CAAC,QAAQ,CAAC,IAAI,CAAC,SAAS,CAAC,CAAE,CAAC,EAClE,CAAC
8D,YAAc,CAAC,KAAK,CAAC,CAAC,EAC3B,CAACzE,YAAc,CAAC,KAAK,EAAEA,YAAc,CAAC,QAAQ,C
AAC,CAAC,CAAC,CAAC;KAC/D;IAEO,iBAAiB,CACrB,SAAwB,EAAE,QAAkC,EAC5D,QAAiC,EAAE,oBA
AiD,EACpF,eAAwC,EAAE,UAAkB;QAC9D,MAAM,EAAC,QAAQ,EAAE,cAAc,EAAE,KAAK,EAAE,SAAS,E
AAC,GAC9C,IAAI,CAAC,cAAc,CAAC,QAAQ,EAAE,QAAQ,EAAE,oBAAoB,CAAC,CAAC;QAClE,MAAM,U
AAU,GAAG,eAAe,GAAGN,QAAU,CAAC,eAAe,CAAC,SAAS,CAAC,GAAGQ,UAAY,CAAC,EAAE,CAAC,C
AAC;QAC9F,MAAM,UAAU,GAAG,IAAI,CAAC,aAAa,CAAC,gBAAgB,CAClD,SAAS,EAAE,QAAQ,EAAE,c
AAc,EAAE,UAAU,EAAE,SAAS,CAAC,CAAC;QAChE,IAAI,eAAe,EAAE;YACnB,uBAAuB,CACnB,IAAI,eAAe,EAAE,eAAe,eAAe,IAAI,CAAC,cAAc,CAAC,QAAQ,CAAC,EACnF,UAAU,CAAC,CA
AC;SACjB;QACD,OAAO,UAAU,CAAC;KACnB;IAEO,cAAc,CAClB,SAAS,CAAC,CAAC,QAAQ,CAAC,EAAE,QAAiC,EAAE,EACrE,oBAAiD;
QAEnD,IAAI,IAAI,CAAC,iBAAiB,CAAC,GAAG,CAAC,QAAQ,CAAC,IAAI,CAAC,SAAS,CAAC,EAAE;YAC
vD,OAAO,IAAI,CAAC,iBAAiB,CAAC,GAAG,CAAC,QAAQ,CAAC,IAAI,CAAC,SAAS,CAAE,CAAC;SAC7D;
QACD,MAAM,mBAAmB,GAAG,QAAS,CAAC,QAAU,CAAC,mBAAmB,CAAC;QACrE,MAAM,UAAU,GACZ
,oBAAoB,CAAC,GAAG,CAAC,GAAG,IAAI,IAAI,CAAC,iBAAiB,CAAC,mBAAmB,CAAC,GAAG,CAAC,SAA
S,CAAC,CAAC,CAAC;QAC/F,MAAM,KAAK,GAAG,QAAQ,CAAC,gBAAgB,CAAC,KAAK,CAAC,GAAG,CA
C7C,IAAI,IAAI,CAAC,iBAAiB,CAAC,cAAc,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;QACnE,M
AAM,MAAM,GAAG,IAAI,CAAC,eAAe,CAAC,KAAK,CrC,QAAQ,EAAE,QAAQ,CAAC,QAAU,CAAC,OA
AQ,EAAE,UAAU,EAAE,KAAK,EAAE,QAAQ,CAAC,OAAO,EAC3E,iBAAiB,CAAC,QAAQ,CAAC,IAAI,EAA
E,QAAQ,EAAE,QAAQ,CAAC,QAAU,CAAC,EAAE,mBAAmB,CAAC,CAAC;QAC1F,IAAI,CAAC,iBAAiB,CA
AC,GAAG,CAAC,QAAQ,CAAC,IAAI,CAAC,SAAS,EAAE,MAAM,CAAC,CAAC;QAC5D,OAAO,MAAM,CA
AC;KACf;IAEO,oBAAoB,CAAC,WAAmB;QAC9C,MAAMmQ,YAAU,GACZ,CAAC,MAAO,EAAE,EAAE,CAAC,EAAE,aA4B,I
AAI,EAAE,eAAwB,IAAI;YACnF,IAAI,EAAE,MAAM,,YAAY,,YAAY,,CAAC,EAAE;gBACrC,MAAM,IAAI,IAAI,CAAC,KAAK,CAAC,sCAAsC,CAAC,CAAC;aAC9D;YACD,OAAO,MAAM,CA
AC;SACf,CAAC;QACF,OAAOA,YAAU,CAAC;KACnB;IAEO,eAAe,CAAC,QAAQ,CAAC,EAAE,QAAQ,CAAC,EAAE,QAAQ,CAAC,EAAE

AAM,IAAI,eAAe,EAAE;YAC1B,MAAM,aAAa,GAAgB,EAAE,CAAC;YACtC,KAAK,MAAM,QAAAQ,IAAI,eAAe,CAAC,SAAS,EAAE;gBAChD,MAAM,UAAU,GAAG,cAAc,CAAC,QAAQ,EAAE,IAAI,CAAC,SAAS,CAAC,CAAC;gBAC5D,KAAK,MAAM,SAAS,IAAI,UAAU,EAAE;oBAClC,aAAa,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;iBAC/B;aACF;YACD,OAAO,aAAa,CAAC;SACtB;aAAM;YACL,MAAM,IAAI,KAAK,sDAAsD,CAAC,CAAC;SACxE;QAED,SAAS,cAAc,CAAC,CAAC,EAAE,CAAC;YAC1B,MAAM,IAAI,GAAG,EAAE,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;YAC1B,KAAK,MAAM,CAAC,IAAI,CAAC,EAAE;gBACjB,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;aACd;YACD,OAAO,IAAI,CAAC;SACb;QAED,SAAS,SAAS,CAAC,CAAC;YAClB,OAAO,CAAC,CAAC,MAAM,KAAK,CAAC,CAAC;SACvB

MAAM,CAAC,EAAE;oBAC1C,UAAU,GAAG,IAAI,CAAC;oBAClB,KAAK,CAAC,IAAI,CAAC,MAAM,CAAC
,CAAC;iBACpB;qBAAM,IAAI,gBAAgB,CAAC,UAAU,CAAC,MAAM,CAAC,EAAE;oBAC9C,MAAM,QAAQ,
GAAG,gBAAgB,CAAC,mBAAmB,CAAC,MAAM,EAAE,KAAK,CAAC,CAAC;oBACrE,IAAI,QAAQ,EAAE;w
BACZ,UAAU,GAAG,IAAI,CAAC;wBAClB,SAAS,CAAC,IAAI,CAAC,QAAQ,CAAC,CAAC;qBAC1B;iBACF;q
BAAM,IAAI,gBAAgB,CAAC,YAAY,CAAC,MAAM,CAAC,EAAE;oBAChD,UAAU,GAAG,IAAI,CAAC;oBAC
lB,MAAM,UAAU,GAAG,gBAAgB,CAAC,qBAAqB,CAAC,MAAM,EAAE,IAAI,EAAE,KAAK,CAAC,CAAC;o
BAC/E,IAAI,UAAU,EAAE;wBACd,WAAW,CAAC,IAAI,CAAC,UAAU,CAAC,CAAC;qBAC9B;iBACF;aACF;
YACD,IAAI,CAAC,UAAU,EAAE;gBACf,qBAAqB;oBACjB,qBAAqB,IAAI,6BAA6B,CAAC,IAAI,EAAE,UAA
U,CAAC,CAAC;aAC9E;SACF,CAAC,CAAC;KACJ;IACD,OAAO;QACL,QAAQ;QACR,UAAU;QACV,kBAAk
B;QAClB,KAAK;QACL,SAAS;QACT,WAAW;QACX,qBAAqB;KACtB,CAAC;AACJ,CAAC;SAEe,yBAAyB,C
ACrC,IAA0B,EAAE,oBAA0C,EACtE,gBAAyC,EAAE,QAAgB;IAC7D,MAAM,WAAW,GAAgC,EAAE,CAAC;I
ACpD,MAAM,cAAc,GAAmC,EAAE,CAAC;IAC1D,IAAI,oBAAoB,CAAC,aAAa,CAAC,QAAQ,CAAC,EAAE;
QAChD,oBAAoB,CAAC,YAAY,CAAC,QAAQ,CAAC,CAAC,OAAO,CAAC,CAAC,MAAM;YACzD,MAAM,c
AAc,GAAG,oBAAoB,CAAC,aAAa,CAAC,MAAM,CAAC,CAAC;YAClE,MAAM,UAAU,GAAG,cAAc,CAAC,
QAAQ,CAAC;YAC3C,IAAI,CAAC,UAAU,IAAI,UAAU,CAAC,UAAU,KAAK,OAAO,EAAE;gBACpD,aAAa;YACD,IAAI,UAAU,CAAC,UAAU,KAAK,OAAO,EAAE;gBACrC,IAAI,gBAAgB,CAAC,YAAY,CAAC,M
AAM,CAAC,EAAE;oBACzC,MAAM,UAAU,GAAG,gBAAgB,CAAC,qBAAqB,CAAC,MAAM,EAAE,IAAI,EA
AE,KAAK,CAAC,CAAC;oBAC/E,IAAI,UAAU,EAAE;wBACd,WAAW,CAAC,IAAI,CAAC,UAAU,CAAC,CAA
C;qBAC9B;iBACF;qBAAM,IAAI,gBAAgB,CAAC,UAAU,CAAC,MAAM,CAAC,EAAE;oBAC9C,MAAM,MAA
M,GAAG,gBAAgB,CAAC,wBAAwB,CAAC,MAAM,CAAC,CAAC;oBACjE,IAAI,MAAM,EAAE;wBACV,cAAc
c,CAAC,IAAI,CAAC,MAAM,CAAC;qBAC5B;iBACF;aACF;SACF,CAAC,CAAC;KACJ;IACD,OAAO,E
AAC,QAAQ,EAAE,WAAW,EAAE,cAAc,EAAC;AAC3C,CAAC;AAED,SAAS,6BAA6B,CAAC,IAA0B,E
AAE,QAAa;IAC9E,MAAM,OAAO;QACX,cAAc,CAAC,IAAI,CAAC,MAAM,CAAC;KAC5B;IACD,OAAO,E
AAE,OAAY;YACjC,GAAG,CAAC,OAAO,CAAC,CAAC,IAAI,UAAU,CAAC,CAAC,IAAI,EAAE,IAAI,EAAE,OAAO
,CAAC,CAAC,CAAC;SAChD;QACD,cAAc,cAAc,CAAC,GAAG,EAAE,OAAY;YACpD,MAAM,CAAC,IAAI,CAAC,
GAAG,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,GAAG,KAAK,UAAU,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,EAAE,I
AAI,EAAE,OAAO,CAAC,CAAC,CAAC,CAAC;SACxE;QACD,cAAc,cAAc,CAAC,KAAU,EAAE,OAAY,EAAE,KAAS;QAChD,UA
AU,CAAC,KAAU,EAAE,OAAY;YACjC,IAAI,KAAK,YAAY,YAAY,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,YAAY,CAAC,K
AAK,CAAC,QAAQ,CAAC,EAAE;gBACvE,aAAa,CAAC,IAAI,CAAC,KAAK,CAAC;aAC1B;iBAAM,IAAI,KAAK,YAAY,KAAK,IAAI,KAAK,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,CAAC,YAAY,CAAC,C
AAC,QAAQ,EAAE,IAAI,EAAE,OAAO,EAAE,EAAE,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,YAAY,CAAC,CAAC,CAAC;gBACrE,KAAK,MAAM,IAAI,IAAI,KAAK,EAAE;oBACxB,cAAc,CAAC,IAAI,EAAE,OAAO,EAAE,KAAK,CAAC;iBACrC;aACF;iBAAM,IAAI,KAAK,YAAY,GAAG,EAAE;gBAC/B,KAAK,MAAM,CAAC,GAAG,EAAE,KAAK,CAAC,IAAI,KAAK,EAAE;oBAChC,cAAc,CAAC,GAAG,EAAE,OAAO,EAAE,KAAK,CAAC;oBACnC,cAAc,CAAC,KAAK,EAAE,OAAO,EAAE,KAAK,CAAC;iBACtC;aACF;iBAAM,IAAI,KAAK,YAAY,GAAG,EAAE;gBAC/B,KAAK,MAAM,KAAK,IAAI,KAAK,EAAE;oBACzB,cAAc,CAAC,KAAK,EAAE,OAAO,EAAE,KAAK,CAAC;iBACtC;aACF;QACH,CAAC;KACF;IACD,OAAO,cAAc,CAAC,IAAI,EAAE,QAAQ,CAAC,CAAC;AACxC,CAAC;AAED,SAAS,gBAAgB,CAAC,IAAS,EAAE,IAAS,EAAE,KAAS;IACvD,IAAI,IAAI,KAAK,IAAI,IAAI,IAAI,KAAK,SAAS,EAAE;QACvC,OAAO,KAAK,CAAC;KACd;IAC

AK,CAAC,GAAG,GAAG,GAAG,EAAE,CAAC,CAAC;AACpD,CAAC;AAED,SAAS,WAAW,CAAC,KAAsC,E
AAE,SAAiB,CAAC;IAC7E,IAAI,CAAC,KAAK;QAAE,OAAO,EAAE,CAAC;IACtB,MAAM,QAAQ,GAAG,KA
AK,CAAC,QAAQ;QAC3B,GAAG,KAAK,CAAC,QAAQ,CAAC,QAAQ,IAAI,KAAK,CAAC,QAAQ,CAAC,IAA
I,GAAG,CAAC,IAAI,KAAK,CAAC,QAAQ,CAAC,MAAM,GAAG,CAAC,GAAG;QACrF,EAAE,CAAC;IACP,
MAAM,MAAM,GAAG,QAAQ,IAAI,MAAM,KAAK,CAAC,GAAG,GAAG,QAAQ,IAAI,GAAG,EAAE,CAAC;I
AC/D,MAAM,OAAO,GAAG,QAAQ,IAAI,MAAM,KAAK,CAAC,GAAG,OAAO,QAAQ,EAAE,GAAG,EAAE,C
AAC;IAClE,IAAI,OAAO,GAAG,GAAG,MAAM,GAAG,KAAK,CAAC,OAAO,GAAG,OAAO,EAAE,CAAC;IA
EpD,IAAI,KAAK,CAAC,IAAI,EAAE;QACd,KAAK,MAAM,GAAG,IAAI,KAAK,CAAC,IAAI,EAAE;YAC5B,O
AAO,IAAI,IAAI,GAAG,WAAW,CAAC,GAAG,EAAE,MAAM,GAAG,CAAC,CAAC,CAAC;SAChD;KACF;IAE
D,OAAO,GAAG,SAAS,CAAC,MAAM,CAAC,GAAG,OAAO,EAAE,CAAC;AAC1C,CAAC;SAEe,cAAc,CC
KAA4B;IACzD,MAAM,OAAO,GAAG,WAAW,CAAC,KAAK,CAAC,GAAG,GAAG,CAAC;IACzC,MAAM,KA
AK,GAAG,WAAW,CAAC,OAAO,CAAmB,CAAC;IACpD,KAAK,MAAM,GAAG,IAAI,KAAK,CAAC;QACpB,IAAI,C
AAC;IAChC,OAAO,KAAK,CAAC;AACf,CAAC;SAAC,eAAe,gBAAgB,CAAC,KAAY;IAC3C,IAAI,KAAY,
KAAa,CAAC,iBAAiB,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;IAC7C,IAAI,CAAC,KAAK,EAAE;QACV,KAAK
;;ACjEA;;;;;;;AAmBA,MAAM,YAAY,GAAG,eAAe,CAAC;AACrC,MAAM,cAAc,GAAG,iBAAiB,CAAC;
MAAM,cAAc,GAAG,iBAAiB,CAAC;AAEzC,MAAM,UAAU,GAAG,UAAU,CAAC;AAE9B,MAAM,MAAM,G
AAG;IACb,UAAU,EAAE,QAAQ;CACrB,CAAC;AAEF,MAAMmO,WAAS,GAAG,UAAU,CAAC;AAC7B,MAAA
M,OAAO,GAAG,SAAS,CAAC;AAC1B,MAAM,aAAa,GAAG,IAAI,GAAG,CAAC,CAACA,WAAS,EAAE,YAA
Y,EAAE,MAAM,EAAE,IAAI,EAAE,cAAc,CAAC,CAAC,CAAC;AACvF,MAAM,iBAAiB,GAAG,WAAW,CAA
C;AACtC,MAAM,MAAM,GAAG,OAAO,CAAC;AAEvB,SAAS,YAAY,CAAC,KAAU;IAC9B,OAAO,CAAC,CAC
AI,KAAK,CAAC,UAAU,IAAI,QAAQ;QAC5B,KAAK,CAAC,MAAM,KAAK,CAAC;QAClB,KAAK,CAAC,CAAC,
9C,cAAoC,EAC5C,uBAAsE,EAAE,EAAE,CAAC,xE,yBAAsE,EAAE,EAAE,CAAC,hE,aAAuD;QAJvD,oBAAe,GAAf,eAAe,CAAC,CAA+
B;QAC9C,mBAAc,GAAd,cAAc,CAAC,CAAsB;QAGpC,kBAAa,GAAb,aAAa,CAA0C;QAAxB3D,oBAAe,GAAf,eAAe,CAAC,IAAI,CAAC,
AG,EAAuB,CAAC;QACjD,2BAAsB,GAAtB,sBAAsB,CAAC,IAAI,CAAC,IAAI,CAAC,GAAG,EAAE,uBAAuB,CAAC;QAC9D,kBAAa,GAAb,aAAa,CAAC,IAAI,CAAC,IAAI,CAAC,GAAG,EAAE,cAAc,CAAC;QAC5C

AAG,CAAC,UAAW,EAAE,GAAG,CAAC,IAAK,EAAE,cAAc,CAAC,CAAC;QACtF,MAAM,iBAAiB,GAAG,IAAI,CAAC,qBAAqB,CAAC,SAAS,CAAC,CAAC;QAChE,IAAI,CAAC,cAAc,EAAE;YACnB,IAAI,CAAC,cAAc,CAAC,2BAA2B,CAAC,SAAS,CAAC,QAAQ,EAAE,GAAG,CAAC,UAAW,CAAC,CAAC;YACrF,IAAI,CAAC,cAAc,CAAC,cAAc,CAAC,iBAAiB,EAAE,SAAS,CAAC,CAAC,SAAS;QAC5E,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,cAAc,CAAC,CAAC,CAAC

AC,QAAQ;gBACpC,MAAM,QAAQ,GAAG,OAAO,CAAC,QAAQ,CAAC,CAAC;gBACnC,MAAM,IAAI,GAA
W,QAAS;qBACZ,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,YAAY,CAAC,IAAI,UAAU,IAAI,CAAC,CAAC,YAA
Y,CAAC,IAAI,QAAQ,CAAC,CAAC;gBAC1F,MAAM,UAAU,GAAU,EAAE,CAAC;;;gBAG7B,IAAI,YAAY,aA
AZ,YAAY,uBAAZ,YAAY,CAAE,cAAc,CAAC,QAAQ,GAAG;oBAC1C,UAAU,CAAC,IAAI,CAAC,GAAG,YA
Aa,CAAC,QAAQ,CAAC,CAAC,CAAC;iBAC7C;gBACD,YAAa,CAAC,QAAQ,CAAC,GAAG,UAAU,CAAC;gB
ACrC,IAAI,IAAI,IAAI,IAAI,CAAC,YAAY,CAAC,EAAE;oBAC9B,UAAU,CAAC,IAAI,CAAC,GAAG,IAAI,CA
AC,QAAQ,CAAC,IAAI,EAAE,IAAI,CAAC,YAAY,CAAC,CAAC,CAAC,CAAC;iBAC7D;aACF,CAAC,CAAC;
YACH,IAAI,CAAC,aAAa,CAAC,GAAG,CAAC,IAAI,EAAE,YAAY,CAAC,CAAC;SAC5C;QACD,OAAO,YAA
Y,CAAC;KACrB;IAEM,UAAU,CAAC,IAAkB;QAClC,IAAI,EAAE,IAAI,YAAY,CAAC,EAAE;YACnC,IAAI,CAAC,WAAW,CACZ,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;iBAC7B;aACF,CAAC,CAAC;
YACV,OAAO,EAAE,CAAC;SACX;QACD,IAAI;YACF,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;SAC7C;QAAC,OAAO,CAAC,EAAE;YACV,MAAM,IAAI,KAAK,CAAC,CAAC,CAAC,OAAO,CAAC,CAAC;SAC5B;IACH,CAAC

Y,YAAY,CAAC,EAAE;YACnC,IAAI,CAAC,WAAW,CACZ,IAAI,KAAK,CACL,6BAA6B,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,8BAA8B,CAAC,EACpF,IAAI,CAAC,CAAC;SACX;QACD,IAAI;YACF,OAAO,CAAC,CAAC,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,CAAC,UAAU,CAAC,CAAC;SAC9C;QAAC,OAAO,CAAC,EAAE;YACV,OAAO,CAAC,KAAK,CAAC,kBAAkB,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,eAAe,CAAC,EAAE,CAAC,CAAC;YACxE,MAAM,CAAC,CAAC;SACT;IAED,MAAM,CAAC,CAAC;SACT

AY,EAAE,UAAU,CAAC,EAAE,cAAc,CAAC,CAAC;KACrE;;;;;;;;IASD,eAAe,CAAC,eAAuB,EAAE,IAAY,EA
AE,OAAkB;QACvE,OAAO,IAAI,CAAC,cAAc,CAAC,eAAe,CAAC,eAAe,EAAE,IAAI,EAAE,OAAO,CAAC,CA
AC;KAC5E;;;;IAKO,WAAW,CAAC,OAAqB,EAAE,KAAU;QACnD,MAAM,gBAAgB,GAAG,IAAI,CAAC,aAA
a,CAAC;QAC5C,IAAI,CAAC,aAAa,GAAG,CAAC,KAAU,EAAE,QAAiB,QAAO,CAAC;QAC3D,MAAM,MAAA
M,GAAG,IAAI,CAAC,QAAQ,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC;QAC7C,IAAI,CAAC,aAAa,GAAG,g
BAAgB,CAAC;QACtC,OAAO,MAAM,CAAC;KCf;;IAGM,QAAQ,CAAC,OAAqB,EAAE,KAAU,EAAE,OAA
gB,KAAK;QACtE,MAAM,IAAI,GAAG,IAAI,CAAC;QAClB,IAAI,GAAG,CAAC,KAAK,GAAG,CAAC
;QAC/B,MAAM,OAAO,GAAG,IAAI,GAAG,EAAyB,CAAC;QACjD,MAAM,WAAW,GAAG,OAAO,CAAC;QA
E5B,SAAS,iBAAiB,CACtB,OAAqB,EAAE,KAAU,EAAE,KAAa,EAAE,UAAkB;YACtE,qBAAqB,CAAC,
YAA0B;gBACvD,MAAM,cAAc,GAAG,IAAI,CAAC,cAAc,CAAC,aAAa,CAAC,YAAY,CAAC,CAAC;gBACvE,
OAAO,cAAc,GAAG,cAAc,CAAC,QAAQ,GAAG,IAAI,CAAC;aCxD;YAED,SAAS,eAAe,CAAC,KAAU;gBAC
jC,OAAO,iBAAiB,CAAC,OAAO,EAAE,KAAK,EAAE,KAAK,EAAE,CAAC,CAAC,CAAC;aCpD;YAED,SAA
S,cAAc,CAAC,KAAU;gBAChC,OAAO,iBAAiB,CAAC,OAAO,EAAE,KAAK,EAAE,KAAK,EAAE,UAAU,GAA
G,CAAC,CAAC,CAAC;aCjE;YAED,SAAS,cAAc,CAAC,aA2B,EAAE,KAAU;gBAC7D,IAAI,aAAa,KAAK,OA
AO,EAAE;;oBAE7B,OAAO,iBAAiB,CAAC,aAAa,EAAE,KAAK,EAAE,KAAK,GAAG,CAAC,EAAE,UAAU,
CAAC,CAAC;iBCvE;gBACD,IAAI;oBACF,OAAO,iBAAiB,CAAC,aAAa,EAAE,KAAK,EAAE,KAAK,GAAG,
CAAC,EAAE,UAAU,CAAC,CAAC;iBCvE;gBAAC,OAAO,CAAC,EAAE;oBACV,MAAM,CAAC;iBCvE;gBACD,
OAAO,CAAC,EAAE;;;;wBAItB,MAAM,UAAU,GAAG,CAAC,CAAC,CAAC,KAAK,GAAG,eAAe,GAAG,CAAC,CAAC,CAAC,MAAO
,CAAC,IAAI,GAAG,IAAI,GAAG,YAAY,CAAC,CAAC,CAAC,CAAC;wBACvF,MAAM,OAAO,GAAG,IAAI,GAAG,
AAa,CAAC,IAAI,KAAK,UAAU,EAAE,CAAC;wBAC1C,MAAM,KAAK,GAAG,EAAE,CAAC;wBACjB,MAAM,OAAO,
AAE,QAAQ,EAAE,CAAC,CAAC,QAAQ,EAAE,IAAI,EAAE,CAAC,CAAC,KAAK,EAAC,CAAC,CAAC;;;wBAGnE,IA
AI,CAAC,KAAK,CACN;4BACE,OAAO,EAAE,CAAC,CAAC,OAAO;4BAClB,MAAM,EAAE,CAAC,CAAC,MAAM;
AAM;4BAChB,OAAO,EAAE,CAAC,CAAC,OAAO;4BAClB,KAAK;4BACL,MAAM,EAAE,aAAa;yBACtB,EA
CD,OAAO,CAAC,CAAC;qBACd;yBAAM;;wBAEL,MAAM,CAAC,CAAC;qBACT;iBACF;aCF;YAED,SAAS,
YAAY,CACjB,cAA4B,EAAE,cAAmB,EAAE,YAAiB,EAAE,gBAAqB;gBAC7F,qBAAqB;gBACrB,IAAI,cAAc,KAAK,IAAI,IAAI,cAAc,KAAK,SAAS,EAAE;oBAC3D,MAAM,IAAI,KAAK,CAAC,Y
AAY,CAAC,IAAI,UAAU,EAAE;oBAChE,MAAM,IAAI,KAAK,CAAC,YAAY,CAAC,IAAI,UAAU,EAAE;oBAC7D

ACN;oBACE,OAAO,EAAE,2BAA2B;oBACpC,OAAO,EAAE,cAAc;oBACvB,KAAK,EAAE,cAAc;oBACrB,QAAQ;iBACT,EACD,OAAO,CAAC,CAAC;aACd;YAED,SAAS,QAAQ,CAAC,UAAe;gBAC/B,IAAI,WAAW,CAAC,UAAU,CAAC,EAAE;oBAC3B,OAAO,UAAU,CAAC;iBACnB;gBACD,IAAI,KAAK,CAAC,OAAO,CAAC,UAAU,CAAC,EAAE;oBAC7B,MAAM,MAAM,GAAG,EAAE,EAAE,CAAC;oBACzB,IAAI,KAAK,CAAC,MAAM,EAAE,IAAI,WAAW,CAAC,IAAI,EAAE,UAAU,CAAC,EAAE;;;wBAEpC,IAAI,IAAI,IAAI,IAAI,CAAC,UAAU,CAAC,KAAK,CAAC,QAAQ,EAAE,EAAE;;;4BAGxC,MAAM,WAAW,GAAG,EAAE,eAAe,CAAC,IAAI,EAAE,CAAC,UAAU,CAAC,EAAE,CAAC;4BACrD,IAAI,KAAK,CAAC,WAAW,CAAC,EAAE;gCACpB,MAAM,IAAI,KAAK,CAAC,WAAW,CAAC,CAAC;6BAChC;4BACD,MAAM,CAAC,IAAI,CAAC,WAAW,CAAC,CAAC;yBAC5B;qBACJ;oBACD,OAAO,MAAM,CAAC;iBACjB;gBACD,IAAI,OAAO,UAAU,KAAK,QAAQ,EAAE;oBAChC,IAAI,UAAU,KAAK,IAAI,EAAE;wBACrB,OAAO,IAAI,CAAC;qBACf;oBACD,IAAI,UAAU,YAAY,IAAI,EAAE;wBAC5B,OAAO,UAAU,CAAC;qBACrB;oBACD,IAAI,UAAU,CAAC,WAAW,KAAK,MAAM,EAAE;wBACnC,OAAO,UAAU,CAAC;qBACrB;oBACD,IAAI,UAAU,CAAC,WAAW,KAAK,MAAM,EAAE;wBACnC,OAAO,UAAU,CAAC;qBACrB;oBACD,IAAI,UAAU,CAAC,WAAW,KAAK,OAAO,EAAE;wBACpC,OAAO,UAAU,CAAC;qBACrB;oBACD,IAAI,UAAU,CAAC,WAAW,KAAK,KAAK,EAAE;wBACl

AI,IAAI,EAAE;wCAC5B,OAAO,cAAc,CAAC,aAAa,EAAE,gBAAgB,CAAC,CAAC;qCACxD;yCAAM;wCACL,OAAO,aAAa,CAAC;qCACtB;iCACF;gCACD,IAAI,YAAY,IAAI,WAAW,CAAC,MAAM,CAAC;oCACrC,OAAO,cAAc,CAAC,aAAa,EAAE,YAAY,CAAC,MAAM,CAAC,CAAC,CAAC;gCAC7D,OAAO,IAAI,CAAC;4BACd,KAAK,WAAW;;;;gCAId,MAAM,IAAI,GAAW,UAAU,CAAC,MAAM,CAAC,CAAC;gCACxC,MAAM,UAAU,GAAG,KAAK,CAAC,OAAO,CAAC,IAAI,IAAI,IAAIA,cAAY,CAAC,OAAO,EAAE;oCACnE,UAAU,CAAC,OAAO,UAAU,CAAC;iCACnB,4BACR,KAAK,UAAU;gCACb,MAAM,IAAI,GAAW,UAAU,CAAC,MAAM,CAAC,CAAC;gCACxC,MAAM,UAAU,GAAG,KAAK,CAAC,OAAO,CAAC,IAAI,IAAI,IAAIA,cAAY,CAAC,OAAO,EAAE;oCACnE,UAAU,CAAC,OAAO,UAAU,CAAC;iCACnB,4BACR,KAAK,QAAQ;gCACX

AAE,KAAK,CAAC,EACzE,gBAAgB,CAAC,CAAC;KACvB;CACF;AA0BD,MAAM,cAAc,GAAG,iBAAiB,CAAC;AAEzC,SAAS,aAAa,CAClB,OAAe,EAAE,OAAgB,EAAE,MAAe,EAAE,QAAmB,EAAE,MAAqB,EAAC9F,OAAa,EAAE,KAA4B;IAC7C,MAAM,KAAK,GAAG,WAAW,CAAC,OAAO,CAAkB,CAAC;IACnD,KAAK,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;IACnB

F,CAAC;KACH;;AAdaA,sBAAO,GAAG,EAAE,CAAC;AACbA,oBAAK,GAAiB,EAAC,OAAO,EAAE,IAAI,IA
AIA,cAAY,CAAC,OAAO,EAAC,CAAC;AAgB9E,MAAM,cAAe,SAAQA,cAAY;IACvC,YAAoB,QAA0B;QAC5C
C,KAAK,EAAE,CAAC;QADU,aAAQ,GAAR,QAAQ,CAAkB;KAE7C;IAED,OAAO,CAAC,IAAY;QAClB,OAA
O,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,IAAI,CAAC,GAAG,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,IAA
I,CAAC,GAAGA,cAAY,CAAC,OAAO,CAAC;KACjF;CACF;AAED,SAAS,0BAA0B,CAC/B,EAAE,MA
AwB;IACvD,MAAM,QAAQ,GAAG,eAAe,CAAC,KAAK,CAAC,OAAO,EAAE,KAAK,CAAC,OAAO,CAAC,
CAAC;IAC/D,MAAM,OAAO,GAAG,KAAK,CAAC,MAAM,GAAG,QAAQ,KAAK,CAAC,MAAM,CAAC,IAAI,
GAAG,GAAG,EAAE,CAAC;IACjE,MAAM,QAAQ,GAAG,QAAQ,GAAG,OAAO,EAAE,CAAC;IACxC,MAAM,QAAQ,GAAG,eAAe,CAAC,KAAK,CAAC,QAAQ,CAAC;IAChD,MAAM,IAAI,GAAG,eAAe,CAAC,KAAK,CAAC,QAAQ,CAAC;IAC5C

O,CAAC,MAAM,EAAE,OAAO,CAAC,CAAC,CAAC;YAC/E,IAAI,UAAU,EAAE;gBACd,IAAI,CAAC,0BAA0
B,CAAC,GAAG,CAAC,QAAQ,EAAE,UAAU,CAAC,CAAC;aAC3D;YACD,QAAQ,CAAC,OAAO,CAAC,CAA
C,QAAQ;gBACxB,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,QAAQ,CAAC,MAAM,EAAE,QAAQ,CAAC,QAA
Q,CAAC,CAAC;aACvD,CAAC,CAAC;SACJ;QACD,OAAO,UAAU,CAAC;KACnB;;;ACIlH;;;;;;;SAsCgB,oBAA
oB,CAChC,IAA8F;IAEhG,OAAO;QACL,OAAO,EAAE,CAAC,QAAgB,EAAE,GAAW;YACrC,MAAM,QAAQ,
GAAG,IAAI,CAAC,sBAAsB,CAAC,GAAG,EAAE,QAAQ,CAAC,CAAC;YAC5D,IAAI,CAAC,QAAQ,EAAE;g
BACb,MAAM,WAAW,CAAC,6BAA6B,GAAG,SAAS,QAAQ,EAAE,CAAC,CAAC;aACxE;YACD,OAAO,QAA
Q,CAAC;SACjB;KACF,CAAC;AACJ,CAAC;AAED;;;SAGgB,iBAAiB,CAC7B,YAA6B,EAAE,OAA2B,EAC1D,cACQ,
cACQ;IACV,IAAI,YAAY,GAAW,OAAO,CAAC,YAAY,IAAI,EAAE,CAAC;IAEtD,MAAM,WAAW,GAAG,oB
AAoB,CAAC,YAAY,CAAC,CAAC;IACvD,MAAM,WAAW,GAAG,IAAI,iBAAiB,EAAE,CAAC;IAC5C,MAAM
,eAAe,GAAG,IAAI,kBAAkB,CAAC,YAAY,EAAE,WAAW,CAAC,CAAC;IAC1E,MAAM,cAAc,GAAG,IAAI,o
BAAoB,CAAC,YAAY,EAAE,WAAW,EAAE,eAAe,CAAC,CAAC;IAC5F,MAAM,eAAe,GAAG,IAAI,eAAe,CA
AC,eAAe,EAAE,cAAc,EAAE,EAAE,EAAE,EAAE,cAAc,CAAC,CAAC;IACjF,MAAM,UAA0B,CAAC;IAC/
B,IAAI,CAAC,CAAC,OAAO,CAAC,SAAS,EAAE;;QAEvB,UAAU,GAAG,IAAI,UAAU,CAAC;KACjD;
SAAM;QACL,UAAU,GAAG,IAAI,cAAc,CAC3B,IAAI,UAAU,EAAE,EAAE,YAAY,EAAE,OAAO,CAAC,UAA
U,EAAE,OAAO,CAAC,kBAAkB,EAAE,OAAO,CAAC,CAAC;KAC9F;IACD,MAAM,MAAM,GAAG,IAAI,cAA
c,CAAC;QAChC,oBAAoB,EAAE,iBAAiB,CAAC,QAAQ;QAChD,MAAM,EAAE,KAAK;QACb,kBAAkB,EAAE
,OAAO,CAAC,kBAAkB;QAC9C,mBAAmB,EAAE,OAAO,CAAC,mBAAmB;QAChD,yBAAyB,EAAE,OAAO,C
AAC,yBAAyB;KAC7D,CAAC,CAAC;IACH,MAAM,UAAU,GAAG,IAAI,mBAAmB,CACtC,EAAE,GAAG,EAAE,EA
AE,WAAW,EAAE,UAAU,EAAE,EAAE,EAAE,WAAW,EAAE,UAAU,EA
AE,MAAM,CAAC,CAAC;IAC7F,MAAM,gBAAgB,GAAG,IAAI,gBAAgB,CAAC,QAAQ,EAAE,CAAC,CAAC,IAAI,KAAK,EAAE,CAAC,
CAAC;IACjD,qBAAqB,GAAG,IAAI,wBAAwB,EAAE,CAAC;IAC7D,MAAM,UAAU,GAAG,IAAI,cAAc,CAAC;QAAC,UAAU,EAAE,gBAAgB,CAAC,UAAU,EAAE,EAAE,EAAE,CAAC,
AAC,CAAC;IAC/F,MAAM,QAAQ,GAAG,IAAI,iBAAiB,CAAC,UAAU,EAAE,IAAI,gBAAgB,CAAC,CAAC,
CAAC,eAAe,EAAE,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC

,CAAC,CAAC,CAAC;KAC9C;IACD,MAAM,MAAM,GAAG,OAAO,CAAC,kBAAkB,CAAC,UAAU,EAAE,QA
AQ,CAAC,CAAC;IAChE,OAAO,MAAM,GAAG,MAAM,CAAC,KAAK,GAAG,IAAI,CAAC;AACtC,CAAC;AA
ED,MAAM,iBAAiB;IAGrB,YACW,MAA8B,EAAS,QAAAqB,EAAC5D,SAAAsB,EAAS,IAAAsB;QADrD,WAAM,GA
AN,MAAM,CAAwB;QAAS,aAAQ,GAAR,QAAQ,CAAa;QAC5D,cAAS,GAAT,SAAS,CAAa;QAAS,aAAQ,GAAR,QAAQ,CAAa;QAAS,SAAI,GAAJ,I
J,IAAI,CAAkB;QAAS,YAAO,GAAP,OAAO,CAAa;KAAI;IAEpE,wBAAwB;QACtB,OAAO,IAAI,iBAAiB,CA
AC,IAAI,EAAE,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,SAAS,EAAE,IAAI,GAAG,EAAE,CAAC,CAAC;KAC3
F;CACF;AAED,MAAM,WAAW;IACf,YAAmB,KAAU;QAAV,UAAK,GAAL,KAAK,CAAK;KAAI;CAClC;AA
ED,SAAS,kBAAkB,CACvB,UAAuB,EAAE,IAAuB,EAAE,QAA8B;IAClF,MAAM,mBAAmB,GAAG,EAAE,C
AAC;IAErD,UAAU,CAAC,OAAO,CAAC,OAAO,CAAC,CAAC,MAAqB;;QAE/C,mBAAmB,CAAC,MAAM,CAAC,IAAI,
AC,IAAI,CAAC,GAAG;YACjC,YAAY,EAAE,KAAK;YACnB,GAAG,EAAE;gBACH,MAAM,WAAW,GAAG,IAAI,
AI,iBAAiB,CAAC,IAAI,EAAE,IAAI,EAAE,UAAU,CAAC,IAAI,EAAE,IAAI,CAAC,IAAI,CAAC,CAAC;gBA
ClF,OAAO,0BAA0B,CAAC,EAAE,EAAE,EAAE,EAAE,MAAM,CAAC,IAAI,EAAE,WAAW,EAAE,QAAQ,CA
AC,CAAC;aAC/E;SACF,CAAC;KACH,CAAC,CAAC;IACH,UAAU,CAAC,OAAO,CAAC,OAAO,CAAC,OAAO,CAAC,UAAS
,MAAqB;QACvD,MAAM,UAAU,GAAG,MAAM,CAAC,IAAI,
AC,IAAI,CAAC,GAAG,CAAC,KAAK,IAAI,KAAK,CAAC,IAAI,CAAC,CAAC;;IAEpE1D,MAAM,mBAAmB,CAAC,IAAI,
AG,IAAI,CAAC,IAAI,EAAE,IAAI,EAAE,UAAU,CAAC,IAAI,EAAE,IAAI,CAAC,IAAI,CAAC,CAAC;gBAC
lF,OAAO,0BAA0B,CAAC,EAAE,UAAU,EAAE,IAAI,EAAE,MAAM,CAAC,IAAI,EAAE,WAAW,EAAE,QAAQ,
CAAC,CAAC;aACzF;SACF,CAAC;KACH,CAAC,CAAC;IAEH,MAAM,cAAc,GAAG,IAAI,
AM,CAAC,GAAG,CAAC,KAAK,IAAI,KAAK,CAAC,IAAI,CAAC,CAAC;;IAEpE

O,IAAI,IAAI,EAAE;YACtB,IAAI,OAAO,CAAC,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,EAAE;gBAC7B,OA
AO,OAAO,CAAC,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,CAAC;aAClC;YACD,OAAO,GAAG,OAAO,CAA
C,MAAO,CAAC;SAC3B;QACD,MAAM,IAAI,KAAK,CAAC,yBAAyB,OAAO,EAAE,CAAC,CAAC;KCrD;IA
CD,iBAAiB,CAAC,IAAoB,EAAE,GAAsB;QAC5D,MAAM,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC,eAAe,CAAC,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QAC1D,MAAM,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC,GAAG,CAAC,IAAI,CAAC,KAAK,CAAC,eAAe,CAAC,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;QACnE

OAAO,GAAG,CAAC,KAAK,CAAC;KAClB;IACD,oBAAoB,CAAC,GAAsB,EAAE,OAAY;QACvD,OAAO,IAAI,CAAC;KACb;IACD,iBAAiB,CAAC,GAAmB,EAAE,GAAsB;QAC3D,OAAO,IAAI,CAAC,SAAS,CAAC,wBAAwB,CAAC,GAAG,CAAC,KAAK,CAAC,CAAC;KAC3D;IACD,oBAAoB,CAAC,GAAsB,EAAE,GAAsB;QACjE,IAAI,GAAG,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,GAAG,CAAC,EAAE;YAC5C,OAAO,GAAG,CAAC,QAAQ,CAAC,eAAe,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;SAChD;aAAM,IAAI,GAAG,CAAC,SAAS,CAAC,IAAI,EAAE,IAAI,GAAG,CAAC,SAAS,CAAC,IAAI,EAAE,IAAI,EAAE;YAChC,OAAO,GAAG,CAAC,SAAS,CAAC,eAAe,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;SACjE;QACD,OAAO,IAAI,CAAC,QAAQ,CAAC,IAAI,EAAE,IAAI,CAAC,CAAC;KAClC;IACD,YAAY,CAAC,GAAsB,EAAE,GAAsB;QACzD

AAO,CAAC,KAAK,IAAI,MAAM,CAAC,KAAK,CAAC,GAAG,CAAC,GAAG,KAAK,CAAC,KAAK,CAAC,eA
Ae,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC,CAAC;QACzF,OAAO,MAAM,CAAC;KACf;IACD,cAAc,CAAC,G
AAgB,EAAE,OAAY;QAC3C,MAAM,MAAM,GAAG,IAAI,CAAC,mBAAmB,CAAC,GAAG,CAAC,KAAK,EA
AE,OAAO,CAAC,CAAC;QAC5D,OAAO,MAAM,CAAC,MAAM,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC;
KAClC;IACD,mBAAmB,CAAC,WA2B,EAAE,GAAsB;QACrE,OAAO,WAAW,CAAC,GAAG,CAAC,CAAC,I
AAI,KAAK,IAAI,CAAC,eAAe,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC,CAAC;KACnE;IAED,kBAAkB,CAAC
,UAAyB,EAAE,GAAsB;QAClE,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM
,EAAE,CAAC,EAAE,EAAE;YAC1C,MAAM,IAAI,GAAG,UAAU,CAAC,CAAC,CAAC;YAC3B,MAAM
,GAAG,GAAG,IAAI,CAAC,cAAc,CAAC,IAAI,EAAE,GAAG,CAAC,CAAC;YAC3C,IAAI,GAAG,YAAY,,WAA
W,EAAE;gBAC9B,OAAO,GAAG,CAAC;aACZ;SACF;QACD,OAAO,IAAI,CAAC;KACb;CACF;AAED,SAAS,
UAAU,CACf,QAAkB,EAAE,UAAyB,EAAE,EACrE,OAA6B;IAC/B,OAAO,CAAC,GAAG,IAAW,
K,0BAA0B,CAAC,QAAQ,EAAE,IAAI,EAAE,UAAU,EAAE,GAAG,EAAE,OAAO,CAAC,CAAC;AAClG,CAA
C;AAED,MAAM8B,iBAAe,GAAG,OAAO,CAAC;AAChC,MAAMC,iBAAe,GAAG,OAAO;;ACvX/B;;;;;;;AA8B
A;;;;;;;;;MASa,WAAW;IAQtB,YACY,iBAA0C,EAAU,eAA+B,EACnF,cA6B,EAAU,aA2B,EAClE,iBAAmC,E
AAU,gBAAuC,EACpF,UA4B,EAAU,aA2B,EACjE,eA+B,EAAU,QAAiB,EAC1D,yBAAuE;QALvE,sBAAi
B,GAAjB,iBAAiB,CAAyB;QAAU,oBAAe,GAAf,eAAe,CAAgB;QACnF,mBAAc,GAAd,cAAc,CAAe;QAAU,kB
AAa,GAAb,aAAa,CAAc;QAClE,sBAAiB,GAAjB,iBAAiB,CAAkB;QAAU,qBAAgB,GAAhB,gBAAgB,CAAuB;
QACpF,eAAU,GAAV,UAAU,CAAkB;QAAU,kBAAa,GAAb,aAAa,CAAc;QACjE,oBAAe,GAAf,eAAe,CAAgB;QAAU,aAAQ,GAAR,QAAQ,CAAS;
QAC1D,8BAAyB,GAAzB,yBAAyB,CAA8C;QAb3E,2BAAsB,GAAG,CAAC,EAAE,IAAI,EAAE,IAAI,
GAAG,EAA0B,CAAC;QAC3D,+BAA0B,GAAG,CAAC,EAAE,IAAI,EAAE,IAAI,GAAG,EAA0B,CAAC;QAC/D,mBAAc,GAAG,IAAI,GAAG,EAAE,CAAC;QAC3B,uBAAkB,GAAG,IAAI,GAAG,EAAE,CAAC;QAC/B,uBAAkB,GAAG,IAAI,GAAG,EAAE,CAAC;QAC/B,2BAAsB,GAAG,IAAI,GAAG,EAAE,CAAC;QAC3C,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,IAAI,CAAC;QAC5D,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,IAAI,CAAC;QAC5D,IAAI,CAAC,sBAAsB,GAAG,IAAI,CAAC,sBAAsB,CAAC,IAAI,CAAC,IAAI,CAAC;QACpE,IAAI,CAAC,iBAAiB,GAAG,IAAI,CAAC,iBAAiB,CAAC,IAAI,CAAC,IAAI,CAAC;QAC1D,IAAI,CAAC,iBAAiB,GAAG,IAAI,CAAC,iBAAiB,CAAC,IAAI,CAAC,IAAI,CAAC;QAC1D,IAAI,CAAC,qBAAqB,GAAG,IAAI,CAAC,qBAAqB,CAAC,IAAI,CAAC,IAAI,CAAC;QAClE,IAAI,CAAC,gBAAgB,GAAG,IAAI,CAAC,gBAAgB,CAAC,IAAI,CAAC,IAAI,CAAC;QACxD,IAAI,CAAC,gBAAgB,GAAG,IAAI,CAAC,gBAAgB,CAAC,IAAI,CAAC,IAAI,CAAC;QACxD,IAAI,CAAC,oBAAoB,GAAG,IAAI,CAAC,oBAAoB,CAAC,IAAI,CAAC,IAAI,CAAC;QAChE,IAAI,CAAC,eAAe,GAAG,IAAI,CAAC,eAAe,CAAC,IAAI,CAAC,IAAI,CAAC;QACtD,IAAI,CAAC,eAAe,GAAG,IAAI,CAAC,eAAe,CAAC,IAAI,CAAC,IAAI,CAAC;QACtD,IAAI,CAAC,mBAAmB,GAAG,IAAI,CAAC,mBAAmB,CAAC,IAAI,CAAC,IAAI,CAAC;QAC9D,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,IAAI,CAAC;QACpD,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,IAAI,CAAC;QACpD,IAAI,CAAC,kBAAkB,GAAG,IAAI,CAAC,kBAAkB,CAAC,IAAI,CAAC,IAAI,CAAC;QAC5D,IAAI,CAAC,aAAa,GAAG,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,IAAI,CAAC;QAClD,IAAI,CAAC,aAAa,GAAG,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,IAAI,CAAC;QAClD,IAAI,CAAC,iBAAiB,GAAG,IAAI,CAAC,iBAAiB,CAAC,IAAI,CAAC,IAAI,CAAC;QAC1D,IAAI,CAAC,YAAY,GAAG,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,IAAI,CAAC;QAChD,IAAI,CAAC,YAAY,GAAG,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,IAAI,CAAC;QAChD,IAAI,CAAC,gBAAgB,GAAG,IAAI,CAAC,gBAAgB,CAAC,IAAI,CAAC,IAAI,CAAC;QACxD,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,IAAI,CAAC;QAC9C,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,IAAI,CAAC;QAC9C,IAAI,CAAC,eAAe,GAAG,IAAI,CAAC,eAAe,CAAC,IAAI,CAAC,IAAI,CAAC;QACtD,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC;QAC5C,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC;QAC5C,IAAI,CAAC,cAAc,GAAG,IAAI,CAAC,cAAc,CAAC,IAAI,CAAC,IAAI,CAAC;QACpD,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,IAAI,CAAC;QAC1C,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,IAAI,CAAC;QAC1C,IAAI,CAAC,aAAa,GAAG,IAAI,CAAC,aAAa,CAAC,IAAI,CAAC,IAAI,CAAC;QAClD,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,IAAI,CAAC;QACxC,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,IAAI,CAAC;QACxC,IAAI,CAAC,YAAY,GAAG,IAAI,CAAC,YAAY,CAAC,IAAI,CAAC,IAAI,CAAC;QAChD,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC;QACtC,IAAI,CAAC,OAAO,GAAG,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC;QACtC,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC,WAAW,CAAC,IAAI,CAAC,IAAI,CAAC;QAC9C,IAAI,CAAC,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC;QACpC,IAAI,CAAC,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,IAAI,CAAC,IAAI,CAAC;QACpC,IAAI,CAAC,UAAU,GAAG,IAAI,CAAC,UAAU,CAAC,IAAI,CAAC,IAAI,CAAC;QAC5C,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC;QAClC,IAAI,CAAC,KAAK,GAAG,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,IAAI,CAAC;QAClC,IAAI,CAAC,SAAS,GAAG,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,IAAI,CAAC;QAC1C,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC;QAChC,IAAI,CAAC,IAAI,GAAG,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC;QAChC,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC,IAAI,CAAC;QACx

E,MAAe;QACnD,MAAM,OAAO,GAAmB,EAAE,CAAC;QACnC,MAAM,YAAY,GAAG,IAAI,CAAC,iBAAiB,CAAC,mBAAmB,CAAC,UAAU,CAAE,CAAC;;;QAG7E,IAAI,CAAC,qBAAqB,CAAC,YAAY,CAAC,gBAAgB,CAAC,OAAO,CAAC,CAAC,OAAO,CAAC,CAAC,cAAc;;YAEvF,MAAM,UAAU,GAAG,IAAI,CAAC,iBAAiB,CAAC,mBAAmB,CAAC,cAAc,CAAE,CAAC;YAC/E,IAAI,CAAC,qBAAqB,CAAC,UAAU,CAAC,kBAAkB,CAAC,CAAC,OAAO,CAAC,CAAC,GAAG;gBACpE,MAAM,OAAO,GACT,IAAI,CAAC,iBAAiB,CAAC,qBAAqB,EAAE,GAAG,EAAE,MAAM,CAAC,CAAC;gBACzF,IAAI,OAAO,EAAE,OAAO,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC,CAAC;YAAC,IAAI,CAAC,CAAC,CAAC

YACb,MAAM,IAAI,KAAK,CAAC,aACZ,SAAS,CACL,QAAQ,CAAC,oFAAoF,CAAC,CAAC;SACxG;QACD,IAAI,gBAAgB,GAAG,IAAI,CAAC,0BAA0B,CAAC,GAAG,CAAC,QAAQ,CAAC,CAAC;QACrE,IAAI,CAAC,gBAAgB,EAAE;YACrB,MAAM,QAAQ,GAAG,IAAI,CAAC,iBAAiB,CAAC,oBAAoB,CAAC,QAAQ,CAAC,CAAC;YACvE,eAAe,CAAC,QAAQ,CAAC,CAAC;YAE1B,MAAM,QAAQ,GAAG,IAAI,CAAC,iBAAiB,CAAC,wBAAwB,CAC5D,QAAQ,EAAG,QAAQ,CAAC,gBAAgB,CAAC,cAAc,CAAC,CAAC;YACjE,gBAAgB;gBACZ,IAAI,gBAAgB,CAAC,IAAI,EAAE,QAAQ,CAAC,IAAI,EAAE,QAAQ,EAAE,QAAQ,EAAE,CAAC,QAAQ,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC;YACnF,eAAe,CAAC,0BAA0B,CAAC,GAAG,CAAC,QAAQ,EAAE,gBAAgB,CAAC,CAAC,CAAC;SACjF;QACD,OAAO,gBAAgB,CAAC;KACzB;IAED,uBAAuB,CAAC,3B,QAAQ,CAAC,kCAAkC,EAAE,QAAQ,CAAC,iCAAiC,EAAE,QAAQ,CAAC,iCAAiC,EAAE,QAAQ,CAAC,iCAAi

AFvC,WAAM,GAAN,MAAM,CAAS;QAAS,aAAQ,GAAR,QAAQ,CAA2B;QAC3D,aAAQ,GAAR,QAAQ,CAA0B;QAAS,aAAQ,GAAR,QAAQ,CAAyB;QAC5E,eAAU,GAAV,UAAU,CAA6B;QAN1C,eAAU,GAAa,IAAK,CAAC;QACrC,eAAU,GAAG,KAAK,CAAC;KAKmC;IAEtD,QAAQ,CAAC,SAAmB,EAAE,YAAiB;QAC7C,IAAI,CAAC,UAAU,GAAG,SAAS,CAAC,CAAC;QACf,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,UAAU,CAAC,iBAAkB,CAAC,CAAC,WAAW,CAAC,SAAS,CAAC,CAAC;QACrE,IAAI,CAAC,QAAQ,GAAG,IAAI,CAAC,QAAQ,CAAC,QAAQ,CAAC,CAAC,YAAa,CAAC,CAAC

,MAAM;YACR,KAAK,IAAI;gBACP,IAAI,GAAG,CAAC,MAAM,GAAG,CAAC,EAAE;oBAClB,GAAG,CAAC,GAAG,EAAE,CAAC;iBACX;qBAAM;oBACL,EAAE,EAAE,CAAC;iBACN;gBACD,MAAM;YACR;gBACE,GAAG,CAAC,IAAI,CAAC,OAAO,CAAC,CAAC;SACrB;KACF;IAED,IAAI,YAAY,IAAI,EAAE,EAAE;QACtB,OAAO,EAAE,EAAE,GAAG,CAAC,EAAE;YACf,GAAG,CAAC,OAAO,CAAC,CAAC,IAAI,CAAC,CAAC;SACnB;QAED,IAAI,GAAG,CAAC,MAAM,,KAAK,,CAAC;YAAE,GAAG,CAAC,IAAI,CAAC,GAAG,,CAAC;KACrC;IAED,OAAO,YAAY,GAAG,GAAG,CAAC,IAAI,CAAC,GAAG,,GAAa,,CAAC;AACtD,,CAAC;AAED;;;;;AAIA,SAAS,wBAAwB,CAAC,KAAY;IAC5C,IAAI,IAAI,GAAG,,KAAK,,CAAC,eAAe,,CAAC,IAAI,,CAAC,CAAC,IAAI,CAAC,CAAC;IACvC,IAAI,GAAG,IAAI,IAAI,IAAI,IAAI,GAAG,EAAE,GAAG,kBAAkB,CAAC,IAAI,,CAAC,CAAC,IAAI,CAAC;IACjE,KAAK,CAAC,eAAe,CAAC,IAAI,,CAAC,CAAC,IAAI,CAAC,GAAG,IAAI,CAAC;IAEnC,OAAO,sBAAsB,CAAC,zB,KAAK,,CAAC,eAAe,CAAC,IAAI,,CAAC,CAAC,IAAI,CAAC,CAAC;IAEtE,IAAI,MAAM,CAAC,EAAE,KAAK,CAAC,eAAe,CAAC,IAAI,,CAAC,CAAC,IAAI,CAAC,CAAC;IAC/C

AC,CAAC,CAAC;QAE1F,MAAM,UAAU,GAAG,IAAI,mBAAmB,CACtC,EAAC,GAAAG,EAAE,CAAC,GAAAW,
KAAK,IAAI,CAAC,YAAY,CAAC,GAAAG,CAAC,EAAC,EAAE,WAAW,EAAE,UAAU,EAAE,MAAM,CAAC,C
AAC;QACrF,MAAM,qBAAqB,GAAG,IAAI,wBAAwB,EAAE,CAAC;QAC7D,MAAM,QAAQ,GAAG,IAAI,uBA
AuB,CACxC,MAAM,EAAE,UAAU,EAAE,IAAI,gBAAgB,CAAC,eAAe,CAAC,EACzD,IAAI,iBAAiB,CAAC,eA
Ae,CAAC,EAAE,IAAI,YAAY,CAAC,eAAe,CAAC,EAAE,eAAe,EAC1F,qBAAqB,EAAE,UAAU,EAAE,OAAO,
EAAE,WAAW,EAAE,eAAe,CAAC,CAAC;;QAG9E,MAAM,aAAa,GAAG,IAAI,aAAa,CAAC,UAAU,EAAE,EA
AE,EAAE,EAAE,EAAE,MAAM,CAAC,CAAC;QAEpE,MAAM,SAAS,GAAG,IAAI,SAAS,CAAC,IAAI,EAAE,o
BAAoB,EAAE,aAAa,EAAE,QAAQ,CAAC,CAAC;QACrF,OAAO,EAAC,SAAS,EAAE,eAAe,EAAC,CAAC;KA
CrC;;;AC1HH;;;;;;;;ACAA;;;;;;;;ACAA;;;;;;;;ACAA;;;;;;;AAiBA;;;;;MAKa,cAAc;IACzB,YAAoB,gBAA6C;QAA7C,qBAAgB,GAAhB,gBAAgB,CAA6B;KAAI;IAE9E,IAAI,CAAC,MAAc,EAAE,OAAqB;QACzC,MAAM,CAAC,GAAG,IAAI,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;QACxC,IAAI,CAAC,CAAC,EAAE;YACP,MAAM,IAAI,KAAK,CAAC,mBAAmB,MAAM,EAAE,CAAC,CAAC;SAC9C;QACD,OAAO,CAAC,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KACzB;IAED,IAAI,CAAC,MAAc,EAAE,OAAqB;QACzC,MAAM,CAAC,GAAG,IAAI,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;QACxC,IAAI,CAAC,CAAC,EAAE;YACP,MAAM,IAAI,KAAK,CAAC,mBAAmB,MAAM,EAAE,CAAC,CAAC;SAC9C;QACD,OAAO,CAAC,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KACzB;IAED,KAAK,CAAC,MAAc,EAAE,OAAqB;QACzC,MAAM,CAAC,GAAG,IAAI,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;QACxC,IAAI,CAAC,CAAC,EAAE;YACP,MAAM,IAAI,KAAK,CAAC,mBAAmB,MAAM,EAAE,CAAC,CAAC;SAC9C;QACD,OAAO,CAAC,CAAC,KAAK,EAAE,OAAO,CAAC,CAAC;KAC1B;IAED,MAAM,CAAC,MAAc,EAAE,OAAqB;QAC1C,MAAM,CAAC,GAAG,IAAI,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;QACxC,IAAI,CAAC,CAAC,EAAE;YACP,MAAM,IAAI,KAAK,CAAC,mBAAmB,MAAM,EAAE,CAAC,CAAC;SAC9C;QACD,OAAO,CAAC,CAAC,MAAM,EAAE,OAAO,CAAC,CAAC;KAC3B;IAED,GAAG,CAAC,MAAc,EAAE,OAAqB;QACvC,MAAM,CAAC,GAAG,IAAI,CAAC,gBAAgB,CAAC,MAAM,CAAC,CAAC;QACxC,IAAI,CAAC,CAAC,EAAE;YACP,MAAM,IAAI,KAAK,CAAC,mBAAmB,MAAM,EAAE,CAAC,CAAC;SAC9C;QACD,OAAO,CAAC,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KACxB

G,EAAkC,CAAC;QAC7D,MAAM,QAAQ,GACV,IAAI,GAAG,EAAwE,CAAC;QACpF,MAAM,UAAU,GACZ,I
AAI,GAAG,EAAiF,CAAC;QAC7F,MAAM,OAAO,GAAG,IAAI,eAAe,CAAC,eAAe,EAAE,UAAU,EAAE,QAA
Q,EAAE,UAAU,CAAC,CAAC;QACvF,OAAO,CAAC,MAAM,CAAC,QAAQ,CAAC,CAAC;QACzB,OAAO,EA
AC,UAAU,EAAE,QAAQ,EAAE,UAAU,EAAC,CAAC;KAC3C;IAEO,MAAM,CAAC,QAAgB;QAC7B,QAAQ,C
AAC,OAAO,CAAC,IAAI,IAAI,IAAI,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC;KAC5C;IAED,YAAY,C
AAC,OAAgB;QAC3B,IAAI,CAAC,sBAAsB,CAAC,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;KACpD;I
AED,aAAa,CAAC,QAAkB;QAC9B,IAAI,CAAC,sBAAsB,CAAC,aAAa,EAAE,QAAQ,CAAC,CAAC;KACtD;IA
ED,sBAAsB,CAAC,WAAmB,EAAE,IAAsB;;;QAGhE,MAAM,WAAW,GAAG,iBAAiB,CAAC,WAAW,EAAE,4
BAA4B,CAAC,IAAI,CAAC,CAAC,CAAC;;QAGvF,MAAM,UAAU,GAAiB,EAAE,CAAC;QACpC,IAAI,CAAC,
OAAO,CAAC,KAAK,CAAC,WAAW,EAAE,CAAC,CAAC,EAAE,SAAS,KAAK,UAAU,CAAC,IAAI,CAAC,SA
AS,CAAC,CAAC,CAAC;QAC9E,IAAI,UAAU,CAAC,MAAM,GAAG,CAAC,IAAI,CAAC,IAAI,CAAC,UAA
U,CAAC,GAAG,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;SACvC;;QAGD,IAAI,CAAC,UAAU,CAAC,OAAO,
CAAC,GAAG;YACzB,IAAI,SAAS,GAAG,oBAAoB,IAAI,CAAC;;;;YAKtC,IAAI,GAAG,CAAC,KAAK,CAAC,IAAI,EAE
AE,KAAK,EAAE,EAAE;;gBAE3B,SAAS,GAAG,UAAU,CAAC,IAAI,CAAC,GAAG,IAAI,GAAG,CAAC,WAA
W,CAAC,IAAI,IAAI,CAAC;aAC7D;iBAAM;;gBAEL,SAAS;oBACL,UAAU,CAAC,IAAI,CACX,CACX,GAAG,IAAI,GAAG,CAAC,QAAQ,KAAK,IAAI,IAAI,GAAG,CAAC,IAAI,CAAC,KAAK,IAAI,KAAK,KAAK,G
AAG,CAAC,KAAK,CAAC,CAAC;wBACpF,IAAI,CAAC;;gBAET,IAAI,SAAS,KAAK,IAAI,EAAE;;oBAEpB,IAAI,GAAG,CAAC,KAAK,CAAC,IAAI,EAAE;;gBAExB,SAAS,GAAG,UAAU,CAAC,IAAI,CAAC,GAAG,IAAI,GAAG,CAAC,WAAW,CAAC,IAAI,IAAI,CAAC;aAC7D;;YAED,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,GAAG,SAAS,CAAC;SACxC,CAAC,CAAC;;QAGH,IAAI,CAAC,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE;YAC1B,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,GAAG,IAAI,GAAG,CAAC,WAAW,CAAC,IAAI,IAAI,CAAC;SAC3D;;QAGD

,IAAI,CAAC,SAAS,CAAC,CAAC;YAC3C,QAAQ,CAAC,QAAQ,CAAC,OAAO,CAAC,IAAI,CAAC,SAAS,CA
AC,CAAC;;YAG1C,IAAI,CAAC,YAAY,CAAC,GAAG,CAAC,QAAQ,EAAE,IAAI,CAAC,KAAK,CAAC,CAAC
;SAC7C;aAAM;;YAEL,QAAQ,CAAC,OAAO,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;SAClC;KACF;IAED,YA
AY,CAAC,OAAgB;;QAE3B,OAAO,CAAC,MAAM,CAAC,OAAO,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;QA
CvC,OAAO,CAAC,OAAO,CAAC,OAAO,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;QACxC,OAAO,CAAC,QAA
Q,CAAC,OAAO,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;KAC1C;IAED,aAAa,CAAC,QAAkB;;QAE9B,QAAQ,
CAAC,MAAM,CAAC,OAAO,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;QACxC,QAAQ,CAAC,OAAO,CAAC,O
AAO,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;QACzC,QAAQ,CAAC,aAAa,CAAC,OAAO,CAAC,IAAI,CAAC,
SAAS,CAAC,CAAC;;QAG/C,QAAQ,CAAC,UAAU,CAAC,OAAO,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;;Q
AG5C,MAAM,UAAU,GAAG,IAAI,CAAC,KAAK,CAAC,aAAa,CAAC,QAAQ,CAAC,CAAC;QACtD,MAAM,M
AAM,GAAG,IAAI,cAAc,CAC7B,IAAI,CAAC,QAAQ,EAAE,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,SAAS,EA
AE,IAAI,CAAC,YAAY,EAAE,UAAU,EAAE,QAAQ,EACpF,IAAI,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC;
QACpB,MAAM,CAAC,MAAM,CAAC,QAAQ,CAAC,CAAC;KACzB;IAED,aAAa,CAAC,QAAkB;;QAE9B,IAA
I,IAAI,CAAC,QAAQ,KAAK,IAAI,EAAE;YAC1B,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,QAAQ,EAAE,IAA
I,CAAC,QAAQ,CAAC,CAAC;SAC3C;KACF;IAED,cAAc,CAAC,SAAoB;;QAEjC,IAAI,IAAI,CAAC,QAAQ,KA
AK,IAAI,EAAE;YAC1B,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,SAAS,EAAE,IAAI,CAAC,QAAQ,,C
AAC;SAC5C;KACF;;IAID,SAAS,CAAC,IAAU,IAAI;IACxB,YAAY,CAAC,OAAgB,KAAI;IACjC,kBAAkB,CA
AC,SAAwB,KAAI;IAC/C,QAAQ,CAAC,GAAG;QACf,MAAM,CAAC,IAAI,CAAC,GAAG,CAAC,IAAI,CAAC,
CAAC,OAAO,CAAC,GAAG,IAAI,GAAG,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC
,CAAC,CAAC;QAChE,MAAM,CAAC,IAAI,CAAC,GAAG,CAAC,YAAY,CAAC,GAAG,CAAC,YAAY,CAAC,OAO,CAAC,GAAG,I
AAI,GAAG,CAAC,YAAY,CAAC,GAAG,CAAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC;KACjF;;IAI
D,mBAAmB,CAAC,SAAyB;QAC3C,SAAS,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC;KAC7B;IA
ED,eAAe,CAAC,KAAiB;QAC/B,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC;KAC3B;IAED
,cAAc,CAAC,IAAe;QAC5B,IAAI,CAAC,KAAK,CAAC,KAAK,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC;KACxB;IACD,SAA
S,CAAC,GAAgB,EAAE,OAAY;QACtC,IAAI,CAAC,SAAS,CAAC,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC;QAC7B,OAAO,KAAK,CAAC,SAAS,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KACtC;;;IAKD,iBAAiB,
CAAC,GAAiB,EAAE,OAAY;QAC/C,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC;QAC9B,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,iBAAiB,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAC9C;IA
ED,qBAAqB,CAAC,GAAqB,EAAE,OAAY;QACvD,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC;QAC9B,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,qBAAqB,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KACxD;IA
ED,kBAAkB,CAAC,GAAkB,EAAE,OAAY;QACjD,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC;QAC9B,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,kBAAkB,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KACrD;IAED
,eAAe,CAAC,GAAe,EAAE,OAAY;QAC3C,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC;QAC9B,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,eAAe,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KAClD;IAED
,cAAc,CAAC,GAAc,EAAE,OAAY;QACzC,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC;QAC9B,IAAI,CAAC,OAAO,CAAC,KAAK,CAAC,cAAc,CAAC,GAAG,EAAE,OAAO,CAAC,CAAC;KACj

CAAC,UAAU,CAAC,GAAG,CAAC,GAAG,CAAC,IAAI,IAAI,CAAC;KACzC;IAED,oBAAoB,CAAC,OAAgD;
QAEnE,OAAO,IAAI,CAAC,QAAQ,CAAC,GAAG,CAAC,OAAO,CAAC,IAAI,IAAI,CAAC;KAC3C;IAED,mBA
AmB,CAAC,IAAS;QAC3B,OAAO,IAAI,CAAC,WAAW,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,IAAI,CAAC;K
AC3C;IAED,mBAAmB,CAAC,MAA0B;QAC5C,OAAO,IAAI,CAAC,OAAO,CAAC,GAAG,CAAC,MAAM,CA
AC,IAAI,IAAI,CAAC;KACzC;IAED,eAAe,CAAC,QAAkB;QAChC,OAAO,IAAI,CAAC,YAAY,CAAC,GAAG,CAAC,CAAC,GAAG,C
AAC,QAAQ,CAAC,IAAI,CAAC,CAAC;KAC7C;IAED,iBAAiB;QACf,MAAM,GAAG,GAAG,IAAI,GAAG,EAAE,c,CAAC;QAClC,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,IAAI,IAAI,IAAI,CAAC,OAAO,CAAC,GAAG,IAAI,,
GAAG,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC;QACnE,OAAO,KAAK,CAAC,IAAI,CAAC,GAAG,CAAC,MAAM,EAAE,CAAC,CAAC;KACjC;IAED,YAAY;QACV,MAAM,GAAG,GAAG,IAAI,GAAG,EAAE,CAAC;QACtB,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,IAAI,IAAI,IAAI,CAAC,OAAO,CAAC,GAAG,IAAI,
I,CAAC,SAAS,CAAC,CAAC;KACnC;IAED,cAAc,CAAC,QAAkB;QAC/B,MAAM,GAAG,GAAG,IAAI,GAAG,EAAE,CAAC;QACtB,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,IAAI,IAAI,IAAI,CAAC,OAAO,CAAC,GAAG,IAAI,
G,IAAI,GAAG,EAAE,kD,CAAC;IAE5E,SAAS,oBAAoB,CAAC,KAAY;QACxC,IAAI,CAAC,UAAU,CAAC,OAAO,CAAC,IAAI,IAAI,IAAI,CAAC,OAAO,CAAC,GAAG,IAAI,
,KAAK,CAAC,QAAQ,CAAC,EAAE;YACjC,OAAO,SAAS,CAAC,GAAG,CAAC,KAAK,CAAC,QAAQ,CAAE,
CAAC;SACvC;QAED,MAAM,eAAe,GAAG,KAAK,CAAC,aAAa,CAAC;QAE5C,IAAI,gBAAgB,iD,CAAC;QACrC,IAAI,eAAe,CAAC,MAAM,GAAG,CAAC,EAAE;YAC9B,gBAAgB,GAAG,eAAe,CAAC,GAAG,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,
IAAI,KAAK,CAAC,WAAW,KAAK,IAAI,CAAC,EAAE;SAC9E;QAED,OAAO,gBAAgB,CAAC;KACzB;IAED,SAAS,oBAAoB,CAAC,KAAY;QACxC

tPipe","PipeResolver","defineProperty"],"mappings":";;;;;CAMC,SAAUA,EAAQC,GACI,iBAAZC,SAA0C,oBAAXC,QAAyBA,OAAOD,QAAQD,IAAYA,EAAQG,QAAQ,sBAAuBC,EAAQ,mBAAoBA,EAAQ,QAAQA,EAAQ,QAAQA,EAAQ,QAAQ

AAmBhE,UAAU2F,kBAAoB,SAAUF,GACvD,OAAItG,KAAKkF,kBAAkBhB,QAAQoC,IAAS,EACjC,CACHxE,OAAO,EACPyE,IAAK,yBAA2BD,EAAO,wCAIpC,CAAExE,OAAO,IAGxB+C,EAAmBhE,UAAU4F,gCAAkC,SAAUC,GrE,OAAO,IAAIC,EAAeD,EAAO,IAAIE,EAAaC,EAAkBC,GAAcC,EAAaC,EAAaC,EAAa

```
p) && e.indexOf(p) < 0)\n                t[p] = s[p];\n        if (s != null && typeof Object.getOwnPropertySymbols ===
\"function\")\n            for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\n                if
(e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\n                    t[p[i]] = s[p[i]];\n
}\n        return t;\n    }\n    function __decorate(decorators, target, key, desc) {\n        var c = arguments.length, r = c
< 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\n        if (typeof Reflect
=== \"object\" && typeof Reflect.decorate === \"function\")\n            r = Reflect.decorate(decorators, target, key,
desc);\n        else\n            for (var i = decorators.length - 1; i >= 0; i--)\n                if (d = decorators[i])\n
r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\n        return c > 3 && r &&
Object.defineProperty(target,
 key, r), r;\n    }\n    function __param(paramIndex, decorator) {\n        return function (target, key) {
decorator(target, key, paramIndex); };\n    }\n    function __metadata(metadataKey, metadataValue) {\n        if
(typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n            return
Reflect.metadata(metadataKey, metadataValue);\n    }\n    function __awaiter(thisArg, _arguments, P, generator) {\n
    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\n
return new (P || (P = Promise))(function (resolve, reject) {\n            function fulfilled(value) { try {\n
step(generator.next(value));\n            }\n            catch (e) {\n                reject(e);\n            } }\n            function
rejected(value) { try {\n                step(generator[\"throw\"](value));\n            }\n            catch (e) {\n
reject(e);\n            } }\n
    function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\n
step((generator = generator.apply(thisArg, _arguments || [])).next());\n        });\n    }\n    function
__generator(thisArg, body) {\n        var _ = { label: 0, sent: function () { if (t[0] & 1)\n                throw t[1]; return
t[1]; }, trys: [], ops: [] }, f, y, t, g;\n        return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof
Symbol === \"function\" && (g[Symbol.iterator] = function () { return this; }), g;\n        function verb(n) { return
function (v) { return step([n, v]); }; }\n        function step(op) {\n            if (f)\n                throw new
TypeError(\"Generator is already executing.\");\n            while (_)\n                try {\n                    if (f = 1, y && (t =
op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y,
op[1])).done)\n
                        return t;\n                    if (y = 0, t)\n                        op = [op[0] & 2, t.value];\n                    switch
(op[0]) {\n                        case 0:\n                        case 1:\n                            t = op;\n                            break;\n
                        case 4:\n                            _.label++;\n                            return { value: op[1], done: false };\n
                        case 5:\n                            _.label++;\n                            y = op[1];\n                            op = [0];\n
                            continue;\n                        case 7:\n                            op = _.ops.pop();\n                            _.trys.pop();\n
                            continue;\n                        default:\n                            if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0]
=== 6 || op[0] === 2)) {\n                                _ = 0;\n
                                continue;\n                            }\n                            if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3])))
{\n                                _.label = op[1];\n                                break;\n                            }\n                            if (op[0]
=== 6 && _.label < t[1]) {\n                                _.label = t[1];\n                                t = op;\n
                                break;\n                            }\n                            if (t && _.label < t[2]) {\n                                _.label = t[2];\n
                                _.ops.push(op);\n                                break;\n                            }\n                            if (t[2])\n
                                _.ops.pop();\n                            _.trys.pop();\n                            continue;\n                        }\n                        op =
body.call(thisArg, _);\n                } catch (e)
 {\n                    op = [6, e];\n                    y = 0;\n                } finally {\n                    f = t = 0;\n
}\n            if (op[0] & 5)\n                throw op[1];\n            return { value: op[0] ? op[1] : void 0, done: true };\n
}\n    }\n    var __createBinding = Object.create ? (function (o, m, k, k2) {\n        if (k2 === undefined)\n            k2 =
k;\n        Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n    }) : (function (o, m,
k, k2) {\n        if (k2 === undefined)\n            k2 = k;\n        o[k2] = m[k];\n    });\n    function __exportStar(m,
exports) {\n        for (var p in m)\n            if (p !== \"default\" && !exports.hasOwnProperty(p))\n
__createBinding(exports, m, p);\n    }\n    function __values(o) {\n        var s = typeof Symbol === \"function\" &&
```

```
Symbol.iterator, m = s && o[s], i = 0;\n        if (m)\n            return m.call(o);\n
        if (o && typeof o.length === \"number\")\n            return {\n                next: function () {\n                    if (o &&
i >= o.length)\n                        o = void 0;\n                    return { value: o && o[i++], done: !o };\n                }\n
    };\n        throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n    }\n    function
__read(o, n) {\n        var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n        if (!m)\n            return
o;\n        var i = m.call(o), r, ar = [], e;\n        try {\n            while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n
            ar.push(r.value);\n        }\n        catch (error) {\n            e = { error: error };\n        }\n        finally {\n
try {\n                if (r && !r.done && (m = i[\"return\"]))\n                    m.call(i);\n            }\n            finally {\n
    if (e)\n                    throw e.error;\n
            }\n        }\n        return ar;\n    }\n    function __spread() {\n        for (var ar = [], i = 0; i < arguments.length;
i++)\n            ar = ar.concat(__read(arguments[i]));\n        return ar;\n    }\n    function __spreadArrays() {\n        for
(var s = 0, i = 0, il = arguments.length; i < il; i++)\n            s += arguments[i].length;\n        for (var r = Array(s), k =
0, i = 0; i < il; i++)\n            for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n                r[k] = a[j];\n
    return r;\n    }\n    ;\n    function __await(v) {\n        return this instanceof __await ? (this.v = v, this) : new
__await(v);\n    }\n    function __asyncGenerator(thisArg, _arguments, generator) {\n        if
(!Symbol.asyncIterator)\n            throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n        var g =
generator.apply(thisArg, _arguments || []), i, q = [];\n        return i = {}, verb(\"next\"), verb(\"throw\"),
verb(\"return\"),
    i[Symbol.asyncIterator] = function () { return this; }, i;\n        function verb(n) { if (g[n])\n            i[n] = function (v)
{ return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n        function resume(n, v) {
try {\n            step(g[n](v));\n        }\n        catch (e) {\n            settle(q[0][3], e);\n        } }\n        function step(r) {
r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n        function
fulfill(value) { resume(\"next\", value); }\n        function reject(value) { resume(\"throw\", value); }\n        function
settle(f, v) { if (f(v), q.shift(), q.length)\n            resume(q[0][0], q[0][1]); }\n    }\n    function __asyncDelegator(o)
{\n        var i, p;\n        return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"),
i[Symbol.iterator] = function () { return this; }, i;\n        function verb(n, f) { i[n] = o[n] ? function (v)
    { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n    }\n    function
__asyncValues(o) {\n        if (!Symbol.asyncIterator)\n            throw new TypeError(\"Symbol.asyncIterator is not
defined.\");\n        var m = o[Symbol.asyncIterator], i;\n        return m ? m.call(o) : (o = typeof __values ===
\"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"),
i[Symbol.asyncIterator] = function () { return this; }, i);\n        function verb(n) { i[n] = o[n] && function (v) {
return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n
function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject);
}\n    }\n    function __makeTemplateObject(cooked, raw) {\n        if (Object.defineProperty) {\n
Object.defineProperty(cooked, \"raw\", { value: raw });\n
    }\n        else {\n            cooked.raw = raw;\n        }\n        return cooked;\n    };\n    var __setModuleDefault =
Object.create ? (function (o, v) {\n        Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n    }) :
function (o, v) {\n        o[\"default\"] = v;\n    };\n    function __importStar(mod) {\n        if (mod &&
mod.__esModule)\n            return mod;\n        var result = {};\n        if (mod != null)\n            for (var k in mod)\n
        if (Object.hasOwnProperty.call(mod, k))\n                    __createBinding(result, mod, k);\n
__setModuleDefault(result, mod);\n        return result;\n    }\n    function __importDefault(mod) {\n        return (mod
&& mod.__esModule) ? mod : { default: mod };\n    }\n    function __classPrivateFieldGet(receiver, privateMap)
{\n        if (!privateMap.has(receiver)) {\n            throw new TypeError(\"attempted to get private field on non-
instance\");\n        }\n        return privateMap.get(receiver);\n
    }\n    function __classPrivateFieldSet(receiver, privateMap, value) {\n        if (!privateMap.has(receiver)) {\n
    throw new TypeError(\"attempted to set private field on non-instance\");\n        }\n        privateMap.set(receiver,
value);\n        return value;\n    }\n\n    /**\n     * A mock implementation of {@link ResourceLoader} that allows
outgoing requests to be mocked\n     * and responded to within a single test, without going to the network.\n     */\n
```

```
var MockResourceLoader = /** @class */ (function (_super) {\n __extends(MockResourceLoader, _super);\n function MockResourceLoader() {\n var _this = _super.apply(this, __spread(arguments)) || this;\n _this._expectations = [];\n _this._definitions = new Map();\n _this._requests = [];\n return _this;\n }\n MockResourceLoader.prototype.get = function (url) {\n var request = new _PendingRequest(url);\n this._requests.push(request);\n return request.getPromise();\n };\n MockResourceLoader.prototype.hasPendingRequests = function () {\n return !!this._requests.length;\n };\n /**\n * Add an expectation for the given URL. Incoming requests will be checked against\n * the next expectation (in FIFO order). The `verifyNoOutstandingExpectations` method\n * can be used to check if any expectations have not yet been met.\n *\n * The response given will be returned if the expectation matches.\n */\n MockResourceLoader.prototype.expect = function (url, response) {\n var expectation = new _Expectation(url, response);\n this._expectations.push(expectation);\n };\n /**\n * Add a definition for the given URL to return the given response. Unlike expectations,\n * definitions have no order and will satisfy any matching request at any time. Also\n * unlike expectations, unused definitions do not cause `verifyNoOutstandingExpectations`\n * to return an error.\n */\n MockResourceLoader.prototype.when = function (url, response) {\n this._definitions.set(url, response);\n };\n /**\n * Process pending requests and verify there are no outstanding expectations. Also fails\n * if no requests are pending.\n */\n MockResourceLoader.prototype.flush = function () {\n if (this._requests.length === 0) {\n throw new Error('No pending requests to flush');\n }\n do {\n this._processRequest(this._requests.shift());\n } while (this._requests.length > 0);\n this.verifyNoOutstandingExpectations();\n };\n /**\n * Throw an exception if any expectations have not been satisfied.\n */\n MockResourceLoader.prototype.verifyNoOutstandingExpectations = function () {\n if (this._expectations.length === 0)\n return;\n var urls = [];\n for (var i = 0; i < this._expectations.length; i++) {\n var expectation = this._expectations[i];\n urls.push(expectation.url);\n }\n throw new Error(\"Unsatisfied requests: \" + urls.join(', '));\n };\n MockResourceLoader.prototype._processRequest = function (request) {\n var url = request.url;\n if (this._expectations.length > 0) {\n var expectation = this._expectations[0];\n if (expectation.url == url) {\n remove(this._expectations, expectation);\n request.complete(expectation.response);\n return;\n }\n }\n if (this._definitions.has(url)) {\n var response = this._definitions.get(url);\n request.complete(response == null ? null : response);\n return;\n }\n throw new Error(\"Unexpected request \" + url);\n };\n return MockResourceLoader;\n }(compiler.ResourceLoader));\n var _PendingRequest = /** @class */ (function () {\n function _PendingRequest(url) {\n var _this = this;\n this.url = url;\n this.promise = new Promise(function (res, rej) {\n _this.resolve = res;\n _this.reject = rej;\n });\n }\n _PendingRequest.prototype.complete = function (response) {\n if (response == null) {\n this.reject(\"Failed to load \" + this.url);\n }\n else {\n this.resolve(response);\n }\n };\n _PendingRequest.prototype.getPromise = function () {\n return this.promise;\n };\n return _PendingRequest;\n }());\n var _Expectation = /** @class */ (function () {\n function _Expectation(url, response) {\n this.url = url;\n this.response = response;\n }\n return _Expectation;\n }());\n function remove(list, el) {\n var index = list.indexOf(el);\n if (index > -1) {\n list.splice(index, 1);\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var MockSchemaRegistry = /** @class */ (function () {\n function MockSchemaRegistry(existingProperties, attrPropMapping, existingElements, invalidProperties, invalidAttributes) {\n this.existingProperties = existingProperties;\n this.attrPropMapping = attrPropMapping;\n this.existingElements =
```

existingElements;\n this.invalidProperties = invalidProperties;\n this.invalidAttributes = invalidAttributes;\n }\n MockSchemaRegistry.prototype.hasProperty = function (tagName, property, schemas) {\n var value = this.existingProperties[property];\n return value === void 0 ? true : value;\n };\n MockSchemaRegistry.prototype.hasElement = function (tagName, schemaMetas) {\n var value = this.existingElements[tagName.toLowerCase()];\n return value === void 0 ? true : value;\n };\n MockSchemaRegistry.prototype.allKnownElementNames = function () {\n return Object.keys(this.existingElements);\n };\n MockSchemaRegistry.prototype.securityContext = function (selector, property, isAttribute) {\n return compiler.core.SecurityContext.NONE;\n };\n MockSchemaRegistry.prototype.getMappedPropName = function (attrName) {\n return this.attrPropMapping[attrName] || attrName;\n };\n MockSchemaRegistry.prototype.getDefaultComponentElementName = function () {\n return 'ng-component';\n };\n MockSchemaRegistry.prototype.validateProperty = function (name) {\n if (this.invalidProperties.indexOf(name) > -1) {\n return { error: true, msg: \"Binding to property '\" + name + \"' is disallowed for security reasons\" };\n }\n else {\n return { error: false };\n }\n };\n MockSchemaRegistry.prototype.validateAttribute = function (name) {\n if (this.invalidAttributes.indexOf(name) > -1) {\n return {\n error: true,\n msg: \"Binding to attribute '\" + name + \"' is disallowed for security reasons\"\n };\n }\n else {\n return { error: false };\n }\n };\n MockSchemaRegistry.prototype.normalizeAnimationStyleProperty = function (propName) {\n return propName;\n };\n MockSchemaRegistry.prototype.normalizeAnimationStyleValue = function (camelCaseProp, userProvidedProp, val) {\n return { error: null, value: val.toString() };\n };\n return MockSchemaRegistry;\n }());\n\n /**\n * An implementation of {@link DirectiveResolver} that allows overriding\n * various properties of directives.\n */\n var MockDirectiveResolver = /** @class */ (function (_super) {\n __extends(MockDirectiveResolver, _super);\n function MockDirectiveResolver(reflector) {\n var _this = _super.call(this, reflector) || this;\n _this._directives = new Map();\n return _this;\n }\n MockDirectiveResolver.prototype.resolve = function (type, throwIfNotFound) {\n if (throwIfNotFound === void 0) { throwIfNotFound = true; }\n return this._directives.get(type) || _super.prototype.resolve.call(this, type, throwIfNotFound);\n };\n /**\n * Overrides the {@link core.Directive} for a directive.\n */\n MockDirectiveResolver.prototype.setDirective = function (type, metadata) {\n this._directives.set(type, metadata);\n };\n return MockDirectiveResolver;\n }(compiler.DirectiveResolver));\n\n var MockNgModuleResolver = /** @class */ (function (_super) {\n __extends(MockNgModuleResolver, _super);\n function MockNgModuleResolver(reflector) {\n var _this = _super.call(this, reflector) || this;\n _this._ngModules = new Map();\n return _this;\n }\n /**\n * Overrides the {@link NgModule} for a module.\n */\n MockNgModuleResolver.prototype.setNgModule = function (type, metadata) {\n this._ngModules.set(type, metadata);\n };\n /**\n * Returns the {@link NgModule} for a module:\n * - Set the {@link NgModule} to the overridden view when it exists or fallback to the\n * default\n * `NgModuleResolver`, see `setNgModule`.\n */\n MockNgModuleResolver.prototype.resolve = function (type, throwIfNotFound) {\n if (throwIfNotFound === void 0) { throwIfNotFound = true; }\n return this._ngModules.get(type) || _super.prototype.resolve.call(this, type, throwIfNotFound);\n };\n return MockNgModuleResolver;\n }(compiler.NgModuleResolver));\n\n var MockPipeResolver = /** @class */ (function (_super) {\n __extends(MockPipeResolver, _super);\n function MockPipeResolver(refector) {\n var _this = _super.call(this, refector) || this;\n _this._pipes = new Map();\n return _this;\n }\n /**\n * Overrides the {@link Pipe} for a pipe.\n */\n MockPipeResolver.prototype.setPipe = function (type, metadata) {\n this._pipes.set(type, metadata);\n };\n /**\n * Returns the {@link Pipe} for a pipe:\n * - Set the {@link Pipe} to the overridden view when it exists or fallback to the\n * default\n * `PipeResolver`, see `setPipe`.\n */\n MockPipeResolver.prototype.resolve =

function (type, throwIfNotFound) {\n if (throwIfNotFound === void 0) { throwIfNotFound = true; }\n var metadata = this._pipes.get(type);\n if (!metadata) {\n metadata = _super.prototype.resolve.call(this, type, throwIfNotFound);\n }\n return metadata;\n };\n return MockPipeResolver;\n }(compiler.PipeResolver));\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code\n is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // This file only reexports content of the `src` folder. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n exports.MockDirectiveResolver = MockDirectiveResolver;\n exports.MockNgModuleResolver = MockNgModuleResolver;\n exports.MockPipeResolver = MockPipeResolver;\n exports.MockResourceLoader = MockResourceLoader;\n exports.MockSchemaRegistry = MockSchemaRegistry;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}));\n//# sourceMappingURL=compiler-testing.umd.js.map\n"]}

Found in path(s):
* /compiler-11-0-5-tgz/package/bundles/compiler-testing.umd.min.js.map
MIT
No license file was found, but licenses were detected in source scan.

/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/*! *****************************************************************************
Copyright (c) Microsoft Corporation.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.
***************************************************************************** */
/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license

```
 */
```

Found in path(s):
* /compiler-11-0-5-tgz/package/bundles/compiler-testing.umd.js
* /compiler-11-0-5-tgz/package/bundles/compiler.umd.min.js
* /compiler-11-0-5-tgz/package/bundles/compiler-testing.umd.min.js
* /compiler-11-0-5-tgz/package/bundles/compiler.umd.js

# 1.437 @angular/platform-browser 11.0.5

## 1.437.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
/**
* @license Angular v11.0.5
* (c) 2010-2020 Google LLC. https://angular.io/
* License: MIT
*/
/*! *****************************************************************************
  Copyright (c) Microsoft Corporation.

  Permission to use, copy, modify, and/or distribute this software for any
  purpose with or without fee is hereby granted.

  THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH
  REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
  AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,
  INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
  LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR
  OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
  PERFORMANCE OF THIS SOFTWARE.
  ***************************************************************************** */
/**
   * @license
   * Copyright Google LLC All Rights Reserved.
   *
   * Use of this source code is governed by an MIT-style license that can be
   * found in the LICENSE file at https://angular.io/license
   */
```

Found in path(s):
* /platform-browser-11-0-5-tgz/package/bundles/platform-browser-testing.umd.min.js
* /platform-browser-11-0-5-tgz/package/bundles/platform-browser-animations.umd.min.js
* /platform-browser-11-0-5-tgz/package/bundles/platform-browser-animations.umd.js
* /platform-browser-11-0-5-tgz/package/bundles/platform-browser.umd.min.js
* /platform-browser-11-0-5-tgz/package/bundles/platform-browser.umd.js

* /platform-browser-11-0-5-tgz/package/bundles/platform-browser-testing.umd.js
No license file was found, but licenses were detected in source scan.

{"version":3,"sources":["packages/platform-browser/platform-browser.umd.js"],"names":["global","factory","exports","module","require","define","amd","self","ng","platformBrowser","common","core","this","i0","extendStatics","d","b","Object","setPrototypeOf","__proto__","Array","p","hasOwnProperty","__extends","__","constructor","prototype","create","urlParsingNode","GenericBrowserDomAdapter","_super","call","supportsDOMEvents","DomAdapter","BrowserDomAdapter","apply","arguments","makeCurrent","setRootDomAdapter","getProperty","el","name","log","error","window","console","logGroup","group","logGroupEnd","groupEnd","onAndCancel","evt","listener","addEventListener","removeEventListener","dispatchEvent","remove","node","parentNode","removeChild","getValue","value","createElement","tagName","doc","getDefaultDocument","createHtmlDocument","document","implementation","createHTMLDocument","isElementNode","nodeType","Node","ELEMENT_NODE","isShadowRoot","DocumentFragment","getGlobalEventTarget","target","body","getHistory","history","getLocation","location","getBaseHref","href","getBaseElementHref","baseElement","querySelector","getAttribute","relativePath","url","setAttribute","pathname","charAt","resetBaseElement","getUserAgent","navigator","userAgent","performanceNow","performance","now","Date","getTime","supportsCookies","getCookie","parseCookieValue","cookie","TRANSITION_ID","InjectionToken","appInitializerFactory","transitionId","injector","get","ApplicationInitStatus","donePromise","then","dom","getDOM","slice","querySelectorAll","filter","forEach","SERVER_TRANSITION_PROVIDERS","provide","APP_INITIALIZER","useFactory","deps","DOCUMENT","Injector","multi","BrowserGetTestability","init","setTestabilityGetter","addToWindow","registry","global","elem","findInAncestors","testability","findTestabilityInTree","Error","getAllTestabilities","getAllRootElements","push","callback","testabilities","count","length","didWork","decrement","didWork_","whenStable","t","getTestability","host","parentElement","exportNgVar","COMPILED","CORE_TOKENS","ApplicationRef","NgZone","inspectNativeElementR2","element","getDebugNodeR2","_createNgProbeR2","coreTokens","assign","_ngProbeTokensToMap","tokens","reduce","prev","token","ELEMENT_PROBE_PROVIDERS__PRE_R3__","NgProbeToken","Optional","ELEMENT_PROBE_PROVIDERS","EVENT_MANAGER_PLUGINS","EventManager","plugins","_zone","_this","_eventNameToPlugin","Map","manager","_plugins","reverse","eventName","handler","_findPluginFor","addGlobalEventListener","getZone","plugin","i","plugin_1","supports","set","decorators","type","Injectable","ctorParameters","Inject","args","EventManagerPlugin","_doc","SharedStylesHost","_stylesSet","Set","addStyles","styles","additions","style","has","add","onStylesAdded","getAllStyles","from","DomSharedStylesHost","_hostNodes","_styleNodes","head","_addStylesToHost","styleEl","textContent","appendChild","addHost","hostNode","removeHost","delete","ngOnDestroy","styleNode","undefined","NAMESPACE_URIS","svg","xhtml","xlink","xml","xmlns","COMPONENT_REGEX","shimContentAttribute","componentShortId","replace","shimHostAttribute","flattenStyles","compId","isArray","decoratePreventDefault","eventHandler","event","preventDefault","returnValue","DomRendererFactory2","eventManager","sharedStylesHost","appId","rendererByCompId","defaultRenderer","DefaultDomRenderer2","createRenderer","encapsulation","ViewEncapsulation","Emulated","renderer","id","EmulatedEncapsulationDomRenderer2","applyToHost","ShadowDom","ShadowDomRenderer","begin","end","String","APP_ID","data","destroy","namespace","createElementNS","createComment","createText","createTextNode","parent","newChild","insertBefore","refChild","oldChild","selectRootElement","selectorOrNode","preserveContent","nextSibling","namespaceUri","setAttributeNS","removeAttribute","removeAttributeNS","addClass","classList","removeClass","setStyle","flags","RendererStyleFlags2","DashCase","Important","setProperty","removeStyle","removeProperty","setValue","nodeValue","listen","charCodeAt","component","contentAttr","hostAttr","hostEl","shadowRoot","attachShadow","mode","nodeOrShadowRoot","DomEventsPlugin","EVENT_NAMES","pan","panstart","panmove","panend","pancancel","panleft","panright","panup","pandown","pinch","pinchstart","pinchmove","pinchend","pinchcancel","pinchin","pinchout","press","pressup","rotate","rotatestart","rotatemove","rotateend","rotatecancel","swipe","swipeleft","swiperight","swipeup","swipedown","tap","HAMMER_GESTURE_CONFIG","HAMMER_LOADER","HammerGestureConfig","events","overrides","buildHammer","mc","Hammer","options","enable","HammerGesturesPlugin","_config","loader","toLowerCase","isCustomEvent","warn","zone","cancelRegistration_1","deregister_1","catch","runOu

tsideAngular","eventObj","runGuarded","on","off","indexOf","Console","HammerModule","HAMMER_PROVIDERS__PRE_R3__","useClass","HAMMER_PROVIDERS","NgModule","providers","DomSanitizer","MODIFIER_KEYS","_keyMap","\b","\t","•","\u001b","Del","Esc","Left","Right","Up","Down","Menu","Scroll","Win","_chromeNumKeyPadMap","A","B","C","D","E","F","G","H","I","J","K","M","N","O","`","","MODIFIER_KEY_GETTERS","alt","altKey","control","ctrlKey","meta","metaKey","shift","shiftKey","KeyEventsPlugin","parseEventName","parsedEvent","outsideHandler","eventCallback","parts","split","domEventName","key","_normalizeKey","pop","fullKey","modifierName","index","splice","result","getEventFullKey","getEventKey","keyIdentifier","startsWith","fromCharCode","parseInt","substring","modifierGetter","keyName","domSanitizerImplFactory","DomSanitizerImpl","prov","defineInjectable","DomSanitizer_Factory","inject","providedIn","useExisting","forwardRef","sanitize","ctx","SecurityContext","NONE","HTML","allowSanitizationBypassAndThrow","unwrapSafeValue","_sanitizeHtml","STYLE","SCRIPT","URL","getSanitizationBypassType","_sanitizeUrl","RESOURCE_URL","bypassSecurityTrustHtml","bypassSanitizationTrustHtml","bypassSecurityTrustStyle","bypassSanitizationTrustStyle","bypassSecurityTrustScript","bypassSanitizationTrustScript","bypassSecurityTrustUrl","bypassSanitizationTrustUrl","bypassSecurityTrustResourceUrl","bypassSanitizationTrustResourceUrl","initDomAdapter","errorHandler","ErrorHandler","_document","setDocument","DomSanitizerImpl_Factory","INJECTOR","INTERNAL_BROWSER_PLATFORM_PROVIDERS","PLATFORM_ID","useValue","PLATFORM_BROWSER_ID","PLATFORM_INITIALIZER","BROWSER_SANITIZATION_PROVIDERS","Sanitizer","createPlatformFactory","platformCore","BROWSER_MODULE_PROVIDERS","INJECTOR_SCOPE","RendererFactory2","Testability","BrowserModule","parentModule","withServerTransition","params","ngModule","createMeta","Meta","CommonModule","ApplicationModule","SkipSelf","_dom","addTag","tag","forceCreation","_getOrCreateElement","addTags","tags","getTag","attrSelector","getTags","list","updateTag","selector","_parseSelector","_setMetaElementAttributes","removeTag","removeTagElement","_containsAttributes","getElementsByTagName","keys","prop","_getMetaKeyMap","attr","every","META_KEYS_MAP","httpEquiv","createTitle","Title","getTitle","title","setTitle","newTitle","BrowserTransferStateModule","win","ChangeDetectionPerfRecord","msPerTick","numTicks","AngularProfiler","ref","appRef","timeChangeDetection","config","record","isProfilerAvailable","profile","start","tick","profileEnd","toFixed","TransferState","store","onSerializeCallbacks","initState","transferState","defaultValue","hasKey","onSerialize","toJson","e","JSON","stringify","initTransferState","script","getElementById","initialState","parse","unescapeHtml","text","unescapedText","&a;","&q;","&s;","&l;","&g;","s","By","all","css","debugElement","nativeElement","elementMatches","n","matches","msMatchesSelector","webkitMatchesSelector","directive","debugNode","providerTokens","VERSION","Version","defineProperty","enumerable","disableDebugTools","enableDebugTools","makeStateKey","BROWSER_SANITIZATION_PROVIDERS","BROWSER_SANITIZATION_PROVIDERS__POST_R3__","BrowserDomAdapter","BrowserGetTestability","DomEventsPlugin","DomRendererFactory2","DomSanitizerImpl","DomSharedStylesHost","ELEMENT_PROBE_PROVIDERS","ELEMENT_PROBE_PROVIDERS__POST_R3__","HAMMER_PROVIDERS__POST_R3__","HammerGesturesPlugin","INTERNAL_BROWSER_PLATFORM_PROVIDERS","KeyEventsPlugin","NAMESPACE_URIS","SharedStylesHost","TRANSITION_ID","angular_packages_platform_browser_platform_browser_a","angular_packages_platform_browser_platform_browser_b","angular_packages_platform_browser_platform_browser_c","angular_packages_platform_browser_platform_browser_d","angular_packages_platform_browser_platform_browser_e","angular_packages_platform_browser_platform_browser_f","angular_packages_platform_browser_platform_browser_g","angular_packages_platform_browser_platform_browser_h","angular_packages_platform_browser_platform_browser_i","angular_packages_platform_browser_platform_browser_j","angular_packages_platform_browser_platform_browser_k","angular_packages_platform_browser_platform_browser_l","angular_packages_platform_browser_platform_browser_m","angular_packages_platform_browser_platform_browser_n","angular_packages_platform_browser_platform_browser_o","escapeHtml","escapeHtml","escapedText","&","\"","'","<",">","flattenStyles","initDomAdapter","shimContentAttribute","shimHostAttribute"],"mappings":";;;;;CAMC,SAAUA,EAAEQ,GAAG,iBAAiBZ,SAAS,SAAS,oBAAoBC,OAAOA,OAAOD,QAAQY,IAAI,SAAS,oBAAoBC,QAAQA,OAAOC,IAAID,OAAO,CAAC,EAAE,GAAGA,IAAIT,EAAEA,GAAGW,MAAMC,KAAKZ,EAAEa,SAAS,CAAC,CAAC,EAAEL,EAAE,CAAC,EAAE,SAASR,EAAEQ,GAAG,aAAa,IAAIT,EAAE,CAAC,EAAEe,eAAeC,EAAE,CAAC,EAAEC,SAASC,EAAE,CAAC,EAAEC,YAAYC,EAAE,CAAC,EAAEC,qBAAqBC,EAAEpB,OAAOqB,yBAAyBC,EAAEtB,OAAOuB,eAAeC,EAAExB,OAAOyB,oBAAoBC,EAAE1B,OAAO2B,sBAAsBC,EAAE5B,OAAO6B,UAAUC,EAAEF,GAAGA,EAAEG,SAASC,EAAEJ,GAAGA,EAAEK,YAAYC,EAAE,CAAC,EAAEC,EAAE,SAASC,GAAG,OAAO,SAASC,GAAG,OAAOD,EAAEC,EAAE,CAAC,EAAEC,EAAEH,EAAE,SAASI,EAAEJ,EAAE,SAASK,EAAEL,EAAE,SAASM,EAAEN,EAAE,SAASO,EAAEP,EAAE,SAASQ,EAAER,EAAE,SAASS,EAAET,EAAE,SAASU,EAAEV,EAAE,SAASW,EAAEX,EAAE,SAASY,EAAEZ,EAAE,SAASa,EAAEb,EAAE,SAASc,EAAEd,EAAE,SAASe,EAAEf,EAAE,SAASgB,EAAEhB,EAAE,SAASiB,EAAEjB,EAAE,SAASkB,EAAElB,EAAE,SAASmB,EAAEnB,EAAE,SAASoB,EAAEpB,EAAE,SAASqB,EAAErB,EAAE,SAASsB,EAAEtB,EAAE,SAASuB,EAAEvB,EAAE,SAASwB,EAAExB,EAAE,SAASyB,EAAEzB,EAAE,SAAS0B,EAAE1B,EAAE,SAAS2B,EAAE3B,EAAE,SAAS4B,EAAE5B,EAAE,SAAS6B,EAAE7B,EAAE,SAAS8B,EAAE9B,EAAE,SAAS+B,EAAE/B,EAAE,SAASgC,EAAEhC,EAAE,SAASiC,EAAEjC,EAAE,SAASkC,EAAElC,EAAE,SAASmC,EAAEnC,EAAE,SAASoC,EAAEpC,EAAE,SAASqC,EAAErC,EAAE,SAASsC,EAAEtC,EAAE,SAASuC,EAAEvC,EAAE,SAASwC,EAAExC,EAAE,SAASyC,EAAEzC,EAAE,SAAS0C,EAAE1C,EAAE,SAAS2C,EAAE3C,EAAE,SAAS4C,EAAE5C,EAAE,SAAS6C,EAAE7C,EAAE,SAAS8C,EAAE9C,EAAE,SAAS+C,EAAE/C,EAAE,SAASgD,EAAEhD,EAAE,SAASiD,EAAEjD,EAAE,SAASkD,EAAElD,EAAE,SAASmD,EAAEnD,EAAE,SAASoD,EAAEpD,EAAE,SAASqD,EAAErD,EAAE,SAASsD,EAAEtD,EAAE,SAASuD,EAAEvD,EAAE,SAASwD,EAAExD,EAAE,SAASyD,EAAEzD,EAAE,SAAS0D,EAAE1D,EAAE,SAAS2D,EAAE3D,EAAE,SAAS4D,EAAE5D,EAAE,SAAS6D,EAAE7D,EAAE,SAAS8D,EAAE9D,EAAE,SAAS+D,EAAE/D,EAAE,SAASgE,EAAEhE,EAAE,SAASiE,EAAEjE,EAAE,SAASkE,EAAElE,EAAE,SAASmE,EAAEnE,EAAE,SAASoE,EAAEpE,EAAE,SAASqE,EAAErE,EAAE,SAASsE,EAAEtE,EAAE,SAASuE,EAAEvE,EAAE,SAASwE,EAAExE,EAAE,SAASyE,EAAEzE,EAAE,SAAS0E,EAAE1E,EAAE,SAAS2E,EAAE3E,EAAE,SAAS4E,EAAE5E,EAAE,SAAS6E,EAAE7E,EAAE,SAAS8E,EAAE9E,EAAE,SAAS+E,EAAE/E,EAAE,SAASgF,EAAEhF,EAAE,SAASiF,EAAEjF,EAAE,SAASkF,EAAElF,EAAE,SAASmF,EAAEnF,EAAE,SAASoF,EAAEpF,EAAE,SAASqF,EAAErF,EAAE,SAASsF,EAAEtF,EAAE,SAASuF,EAAEvF,EAAE,SAASwF,EAAExF,EAAE,SAASyF,EAAEzF,EAAE,SAAS0F,EAAE1F,EAAE,SAAS2F,EAAE3F,EAAE,SAAS4F,EAAE5F,EAAE,SAAS6F,EAAE7F,EAAE,SAAS8F,EAAE9F,EAAE,SAAS+F,EAAE/F,EAAE,SAASgG,EAAEhG,EAAE,SAASiG,EAAEjG,EAAE,SAASkG,EAAElG,EAAE,SAASmG,EAAEnG,EAAE,SAASoG,EAAEpG,EAAE,SAASqG,EAAErG,EAAE,SAASsG,EAAEtG,EAAE,SAASuG,EAAEvG,EAAE,SAASwG,EAAExG,EAAE,SAASyG,EAAEzG,EAAE,SAAS0G,EAAE1G,EAAE,SAAS2G,EAAE3G,EAAE,SAAS4G,EAAE5G,EAAE,SAAS6G,EAAE7G,EAAE,SAAS8G,EAAE9G,EAAE,SAAS+G,EAAE/G,EAAE,SAASgH,EAAEhH,EAAE,SAASiH,EAAEjH,EAAE,SAASkH,EAAElH,EAAE,SAASmH,EAAEnH,EAAE,SAASoH,EAAEpH,EAAE,SAASqH,EAAErH,EAAE,SAASsH,EAAEtH,EAAE,SAASuH,EAAEvH,EAAE,SAASwH,EAAExH,EAAE,SAASyH,EAAEzH,EAAE,SAAS0H,EAAE1H,EAAE,SAAS2H,EAAE3H,EAAE,SAAS4H,EAAE5H,EAAE,SAAS6H,EAAE7H,EAAE,SAAS8H,EAAE9H,EAAE,SAAS+H,EAAE/H,EAAE,SAASgI,EAAEhI,EAAE,SAASiI,EAAEjI,EAAE,SAASkI,EAAElI,EAAE,SAASmI,EAAEnI,EAAE,SAASoI,EAAEpI,EAAE,SAASqI,EAAErI,EAAE,SAASsI,EAAEtI,EAAE,SAASuI,EAAEvI,EAAE,SAASwI,EAAExI,EAAE,SAASyI,EAAEzI,EAAE,SAAS0I,EAAE1I,EAAE,SAAS2I,EAAE3I,EAAE,SAAS4I,EAAE5I,EAAE,SAAS6I,EAAE7I,EAAE,SAAS8I,EAAE9I,EAAE,SAAS+I,EAAE/I,EAAE,SAASgJ,EAAEhJ,EAAE,SAASiJ,EAAEjJ,EAAE,SAASkJ,EAAElJ,EAAE,SAASmJ,EAAEnJ,EAAE,SAASoJ,EAAEpJ,EAAE,SAASqJ,EAAErJ,EAAE,SAASsJ,EAAEtJ,EAAE,SAASuJ,EAAEvJ,EAAE,SAASwJ,EAAExJ,EAAE,SAASyJ,EAAEzJ,EAAE,SAAS0J,EAAE1J,EAAE,SAAS2J,EAAE3J,EAAE,SAAS4J,EAAE5J,EAAE,SAAS6J,EAAE7J,EAAE,SAAS8J,EAAE9J,EAAE,SAAS+J,EAAE/J,EAAE,SAASgK,EAAEhK,EAAE,SAASiK,EAAEjK,EAAE,SAASkK,EAAElK,EAAE,SAASmK,EAAEnK,EAAE,SAASoK,EAAEpK,EAAE,SAASqK,EAAErK,EAAE,SAASsK,EAAEtK,EAAE,SAASuK,EAAEvK,EAAE,SAASwK,EAAExK,EAAE,SAASyK,EAAEzK,EAAE,SAAS0K,EAAE1K,EAAE,SAAS2K,EAAE3K,EAAE,SAAS4K,EAAE5K,EAAE,SAAS6K,EAAE7K,EAAE,SAAS8K,EAAE9K,EAAE,SAAS+K,EAAE/K,EAAE,SAASgL,EAAEhL,EAAE,SAASiL,EAAEjL,EAAE,SAASkL,EAAElL,EAAE,SAASmL,EAAEnL,EAAE,SAASoL,EAAEpL,EAAE,SAASqL,EAAErL,EAAE,SAASsL,EAAEtL,EAAE,SAASuL,EAAEvL,EAAE,SAASwL,EAAExL,EAAE,SAASyL,EAAEzL,EAAE,SAAS0L,EAAE1L,EAAE,SAAS2L,EAAE3L,EAAE,SAAS4L,EAAE5L,EAAE,SAAS6L,EAAE7L,EAAE,SAAS8L,EAAE9L,EAAE,SAAS+L,EAAE/L,EAAE,SAASgM,EAAEhM,EAAE,SAASiM,EAAEjM,EAAE,SAASkM,EAAElM,EAAE,SAASmM,EAAEnM,EAAE,SAASoM,EAAEpM,EAAE,SAASqM,EAAErM,EAAE,SAASsM,EAAEtM,EAAE,SAASuM,EAAEvM,EAAE,SAASwM,EAAExM,EAAE,SAASyM,EAAEzM,EAAE,SAAS0M,EAAE1M,EAAE,SAAS2M,EAAE3M,EAAE,SAAS4M,EAAE5M,EAAE,SAAS6M,EAAE7M,EAAE,SAAS8M,EAAE9M,EAAE,SAAS+M,EAAE/M,EAAE,SAASgN,EAAEhN,EAAE,SAASiN,EAAEjN,EAAE,SAASkN,EAAElN,EAAE,SAASmN,EAAEnN,EAAE,SAASoN,EAAEpN,EAAE,SAASqN,EAAErN,EAAE,SAASsN,EAAEtN,EAAE,SAASuN,EAAEvN,EAAE,SAASwN,EAAExN,EAAE,SAASyN,EAAEzN,EAAE,SAAS0N,EAAE1N,EAAE,SAAS2N,EAAE3N,EAAE,SAAS4N,EAAE5N,EAAE,SAAS6N,EAAE7N,EAAE,SAAS8N,EAAE9N,EAAE,SAAS+N,EAAE/N,EAAE,SAASgO,EAAEhO,EAAE,SAASiO,EAAEjO,EAAE,SAASkO,EAAElO,EAAE,SAASmO,EAAEnO,EAAE,SAASoO,EAAEpO,EAAE,SAASqO,EAAErO,EAAE,SAASsO,EAAEtO,EAAE,SAASuO,EAAEvO,EAAE,SAASwO,EAAExO,EAAE,SAASyO,EAAEzO,EAAE,SAAS0O,EAAE1O,EAAE,SAAS2O,EAAE3O,EAAE,SAAS4O,EAAE5O,EAAE,SAAS6O,EAAE7O,EAAE,SAAS8O,EAAE9O,EAAE,SAAS+O,EAAE/O,EAAE,SAASgP,EAAEhP,EAAE,SAASiP,EAAEjP,EAAE,SAASkP,EAAElP,EAAE,SAASmP,EAAEnP,EAAE,SAASoP,EAAEpP,EAAE,SAASqP,EAAErP,EAAE,SAASsP,EAAEtP,EAAE,SAASuP,EAAEvP,EAAE,SAASwP,EAAExP,EAAE,SAASyP,EAAEzP,EAAE,SAAS0P,EAAE1P,EAAE,SAAS2P,EAAE3P,EAAE,SAAS4P,EAAE5P,EAAE,SAAS6P,EAAE7P,EAAE,SAAS8P,EAAE9P,EAAE,SAAS+P,EAAE/P,EAAE,SAASgQ,EAAEhQ,EAAE,SAASiQ,EAAEjQ,EAAE,SAASkQ,EAAElQ,EAAE,SAASmQ,EAAEnQ,EAAE,SAASoQ,EAAEpQ,EAAE,SAASqQ,EAAErQ,EAAE,SAASsQ,EAAEtQ,EAAE,SAASuQ,EAAEvQ,EAAE,SAASwQ,EAAExQ,EAAE,SAASyQ,EAAEzQ,EAAE,SAAS0Q,EAAE1Q,EAAE,SAAS2Q,EAAE3Q,EAAE,SAAS4Q,EAAE5Q,EAAE,SAAS6Q,EAAE7Q,EAAE,SAAS8Q,EAAE9Q,EAAE,SAAS+Q,EAAE/Q,EAAE,SAASgR,EAAEhR,EAAE,SAASiR,EAAEjR,EAAE,SAASkR,EAAElR,EAAE,SAASmR,EAAEnR,EAAE,SAASoR,EAAEpR,EAAE,SAASqR,EAAErR,EAAE,SAASsR,EAAEtR,EAAE,SAASuR,EAAEvR,EAAE,SAASwR,EAAExR,EAAE,SAASyR,EAAEzR,EAAE,SAAS0R,EAAE1R,EAAE,SAAS2R,EAAE3R,EAAE,SAAS4R,EAAE5R,EAAE,SAAS6R,EAAE7R,EAAE,SAAS8R,EAAE9R,EAAE,SAAS+R,EAAE/R,EAAE,SAASgS,EAAEhS,EAAE,SAASiS,EAAEjS,EAAE,SAASkS,EAAElS,EAAE,SAASmS,EAAEnS,EAAE,SAASoS,EAAEpS,EAAE,SAASqS,EAAErS,EAAE,SAASsS,EAAEtS,EAAE,SAASuS,EAAEvS,EAAE,SAASwS,EAAExS,EAAE,SAASyS,EAAEzS,EAAE,SAAS0S,EAAE1S,EAAE,SAAS2S,EAAE3S,EAAE,SAAS4S,EAAE5S,EAAE,SAAS6S,EAAE7S,EAAE,SAAS8S,EAAE9S,EAAE,SAAS+S,EAAE/S,EAAE,SAASgT,EAAEhT,EAAE,SAASiT,EAAEjT,EAAE,SAASkT,EAAElT,EAAE,SAASmT,EAAEnT,EAAE,SAASoT,EAAEpT,EAAE,SAASqT,EAAErT,EAAE,SAASsT,EAAEtT,EAAE,SAASuT,EAAEvT,EAAE,SAASwT,EAAExT,EAAE,SAASyT,EAAEzT,EAAE,SAAS0T,EAAE1T,EAAE,SAAS2T,EAAE3T,EAAE,SAAS4T,EAAE5T,EAAE,SAAS6T,EAAE7T,EAAE,SAAS8T,EAAE9T,EAAE,SAAS+T,EAAE/T,EAAE,SAASgU,EAAEhU,EAAE,SAASiU,EAAEjU,EAAE,SAASkU,EAAElU,EAAE,SAASmU,EAAEnU,EAAE,SAASoU,EAAEpU,EAAE,SAASqU,EAAErU,EAAE,SAASsU,EAAEtU,EAAE,SAASuU,EAAEvU,EAAE,SAASwU,EAAExU,EAAE,SAASyU,EAAEzU,EAAE,SAAS0U,EAAE1U,EAAE,SAAS2U,EAAE3U,EAAE,SAAS4U,EAAE5U,EAAE,SAAS6U,EAAE7U,EAAE,SAAS8U,EAAE9U,EAAE,SAAS+U,EAAE/U,EAAE,SAASgV,EAAEhV,EAAE,SAASiV,EAAEjV,EAAE,SAASkV,EAAElV,EAAE,SAASmV,EAAEnV,EAAE,SAASoV,EAAEpV,EAAE,SAASqV,EAAErV,EAAE,SAASsV,EAAEtV,EAAE,SAASuV,EAAEvV,EAAE,SAASwV,EAAExV,EAAE,SAASyV,EAAEzV,EAAE,SAAS0V,EAAE1V,EAAE,SAAS2V,EAAE3V,EAAE,SAAS4V,EAAE5V,EAAE,SAAS6V,EAAE7V,EAAE,SAAS8V,EAAE9V,EAAE,SAAS+V,EAAE/V,EAAE,SAASgW,EAAEhW,EAAE,SAASiW,EAAEjW,EAAE,SAASkW,EAAElW,EAAE,SAASmW,EAAEnW,EAAE,SAASoW,EAAEpW,EAAE,SAASqW,EAAErW,EAAE,SAASsW,EAAEtW,EAAE,SAASuW,EAAEvW,EAAE,SAASwW,EAAExW,EAAE,SAASyW,EAAEzW,EAAE,SAAS0W,EAAE1W,EAAE,SAAS2W,EAAE3W,EAAE,SAAS4W,EAAE5W,EAAE,SAAS6W,EAAE7W,EAAE,SAAS8W,EAAE9W,EAAE,SAAS+W,EAAE/W,EAAE,SAASgX,EAAEhX,EAAE,SAASiX,EAAEjX,EAAE,SAASkX,EAAElX,EAAE,SAASmX,EAAEnX,EAAE,SAASoX,EAAEpX,EAAE,SAASqX,EAAErX,EAAE,SAASsX,EAAEtX,EAAE,SAASuX,EAAEvX,EAAE,SAASwX,EAAExX,EAAE,SAASyX,EAAEzX,EAAE,SAAS0X,EAAE1X,EAAE,SAAS2X,EAAE3X,EAAE,SAAS4X,EAAE5X,EAAE,SAAS6X,EAAE7X,EAAE,SAAS8X,EAAE9X,EAAE,SAAS+X,EAAE/X,EAAE,SAASgY,EAAEhY,EAAE,SAASiY,EAAEjY,EAAE,SAASkY,EAAElY,EAAE,SAASmY,EAAEnY,EAAE,SAASoY,EAAEpY,EAAE,SAASqY,EAAErY,EAAE,SAASsY,EAAEtY,EAAE,SAASuY,EAAEvY,EAAE,SAASwY,EAAExY,EAAE,SAASyY,EAAEzY,EAAE,SAAS0Y,EAAE1Y,EAAE,SAAS2Y,EAAE3Y,EAAE,SAAS4Y,EAAE5Y,EAAE,SAAS6Y,EAAE7Y,EAAE,SAAS8Y,EAAE9Y,EAAE,SAAS+Y,EAAE/Y,EAAE,SAASgZ,EAAEhZ,EAAE,SAASiZ,EAAEjZ,EAAE,SAASkZ,EAAElZ,EAAE,SAASmZ,EAAEnZ,EAAE,SAASoZ,EAAEpZ,EAAE,SAASqZ,EAAErZ,EAAE,SAASsZ,EAAEtZ,EAAE,SAASuZ,EAAEvZ,EAAE,SAASwZ,EAAExZ,EAAE,SAASyZ,EAAEzZ,EAAE,SAAS0Z,EAAE1Z,EAAE,SAAS2Z,EAAE3Z,EAAE,SAAS4Z,EAAE5Z,EAAE,SAAS6Z,EAAE7Z,EAAE,SAAS8Z,EAAE9Z,EAAE,SAAS+Z,EAAE/Z,EAAE,SAASga,EAAEha,EAAE,SAASia,EAAEja,EAAE,SAASka,EAAEla,EAAE,SAASma,EAAEna,EAAE,SAASoa,EAAEpa,EAAE,SAASqa,EAAEra,EAAE,SAASsa,EAAEta,EAAE,SAASua,EAAEva,EAAE,SAASwa,EAAExa,EAAE,SAASya,EAAEza,EAAE,SAAS0a,EAAE1a,EAAE,SAAS2a,EAAE3a,EAAE,SAAS4a,EAAE5a,EAAE,SAAS6a,EAAE7a,EAAE,SAAS8a,EAAE9a,EAAE,SAAS+a,EAAE/a,EAAE,SAASgb,EAAEhb,EAAE,SAASib,EAAEjb,EAAE,SAASkb,EAAElb,EAAE,SAASmb,EAAEnb,EAAE,SAASob,EAAEpb,EAAE,SAASqb,EAAErb,EAAE,SAASsb,EAAEtb,EAAE,SAASub,EAAEvb,EAAE,SAASwb,EAAExb,EAAE,SAASyb,EAAEzb,EAAE,SAAS0b,EAAE1b,EAAE,SAAS2b,EAAE3b,EAAE,SAAS4b,EAAE5b,EAAE,SAAS6b,EAAE7b,EAAE,SAAS8b,EAAE9b,EAAE,SAAS+b,EAAE/b,EAAE,SAASgc,EAAEhc,EAAE,SAASic,EAAEjc,EAAE,SAASkc,EAAElc,EAAE,SAASmc,EAAEnc,EAAE,SAASoc,EAAEpc,EAAE,SAASqc,EAAErc,EAAE,SAASsc,EAAEtc,EAAE,SAASuc,EAAEvc,EAAE,SAASwc,EAAExc,EAAE,SAASyc,EAAEzc,EAAE,SAAS0c,EAAE1c,EAAE,SAAS2c,EAAE3c,EAAE,SAAS4c,EAAE5c,EAAE,SAAS6c,EAAE7c,EAAE,SAAS8c,EAAE9c,EAAE,SAAS+c,EAAE/c,EAAE,SAASgd,EAAEhd,EAAE,SAASid,EAAEjd,EAAE,SAASkd,EAAEld,EAAE,SAASmd,EAAEnd,EAAE,SAASod,EAAEpd,EAAE,SAASqd,EAAErd,EAAE,SAASsd,EAAEtd,EAAE,SAASud,EAAEvd,EAAE,SAASwd,EAAExd,EAAE,SAASyd,EAAEzd,EAAE,SAAS0d,EAAE1d,EAAE,SAAS2d,EAAE3d,EAAE,SAAS4d,EAAE5d,EAAE,SAAS6d,EAAE7d,EAAE,SAAS8d,EAAE9d,EAAE,SAAS+d,EAAE/d,EAAE,SAASge,EAAEhe,EAAE,SAASie,EAAEje,EAAE,SAASke,EAAEle,EAAE,SAASme,EAAEne,EAAE,SAASoe,EAAEpe,EAAE,SAASqe,EAAEre,EAAE,SAASse,EAAEte,EAAE,SAASue,EAAEve,EAAE,SAASwe,EAAExe,EAAE,SAASye,EAAEze,EAAE,SAAS0e,EAAE1e,EAAE,SAAS2e,EAAE3e,EAAE,SAAS4e,EAAE5e,EAAE,SAAS6e,EAAE7e,EAAE,SAAS8e,EAAE9e,EAAE,SAAS+e,EAAE/e,EAAE,SAASgf,EAAEhf,EAAE,SAASif,EAAEjf,EAAE,SAASkf,EAAElf,EAAE,SAASmf,EAAEnf,EAAE,SAASof,EAAEpf,EAAE,SAASqf,EAAErf,EAAE,SAASsf,EAAEtf,EAAE,SAASuf,EAAEvf,EAAE,SAASwf,EAAExf,EAAE,SAASyf,EAAEzf,EAAE,SAAS0f,EAAE1f,EAAE,SAAS2f,EAAE3f,EAAE,SAAS4f,EAAE5f,EAAE,SAAS6f,EAAE7f,EAAE,SAAS8f,EAAE9f,EAAE,SAAS+f,EAAE/f,EAAE,SAASggB,EAAEhgB,EAAE,SAASigB,EAAEjgB,EAAE,SAASkgB,EAAElgB,EAAE,SAASmgB,EAAEngB,EAAE,SAASogB,EAAEpgB,EAAE,SAASqgB,EAAErgB,EAAE,SAASsgB,EAAEtgB,EAAE,SAASugB,EAAEvgB,EAAE,SAASwgB,EAAExgB,EAAE,SAASygB,EAAEzgB,EAAE,SAAS0gB,EAAE1gB,EAAE,SAAS2gB,EAAE3gB,EAAE,SAAS4gB,EAAE5gB,EAAE,SAAS6gB,EAAE7gB,EAAE,SAAS8gB,EAAE9gB,EAAE,SAAS+gB,EAAE/gB,EAAE,SAASghB,EAAEhhB,EAAE,SAASihB,EAAEjhB,EAAE,SAASkhB,EAAElhB,EAAE,SAASmhB,EAAEnhB,EAAE,SAASohB,EAAEphB,EAAE,SAASqhB,EAAErhB,EAAE,SAASshB,EAAEthB,EAAE,SAASuhB,EAAEvhB,EAAE,SAASwhB,EAAExhB,EAAE,SAASyhB,EAAEzhB,EAAE,SAAS0hB,EAAE1hB,EAAE,SAAS2hB,EAAE3hB,EAAE,SAAS4hB,EAAE5hB,EAAE,SAAS6hB,EAAE7hB,EAAE,SAAS8hB,EAAE9hB,EAAE,SAAS+hB,EAAE/hB,EAAE,SAASgiB,EAAEhiB,EAAE,SAASiiB,EAAEjiB,EAAE,SAASkiB,EAAEliB,EAAE,SAASmiB,EAAEniB,EAAE,SAASoiB,EAAEpiB,EAAE,SAASqiB,EAAEriB,EAAE,SAASsiB,EAAEtiB,EAAE,SAASuiB,EAAEviB,EAAE,SAASwiB,EAAExiB,EAAE,SAASyiB,EAAEziB,EAAE,SAAS0iB,EAAE1iB,EAAE,SAAS2iB,EAAE3iB,EAAE,SAAS4iB,EAAE5iB,EAAE,SAAS6iB,EAAE7iB,EAAE,SAAS8iB,EAAE9iB,EAAE,SAAS+iB,EAAE/iB,EAAE,SAASgjB,EAAEhjB,EAAE,SAASijB,EAAEjjB,EAAE,SAASkjB,EAAEljB,EAAE,SAASmjB,EAAEnjB,EAAE,SAASojB,EAAEpjB,EAAE,SAASqjB,EAAErjB,EAAE,SAASsjB,EAAEtjB,EAAE,SAASujB,EAAEvjB,EAAE,SAASwjB,EAAExjB,EAAE,SAASyjB,EAAEzjB,EAAE,SAAS0jB,EAAE1jB,EAAE,SAAS2jB,EAAE3jB,EAAE,SAAS4jB,EAAE5jB,EAAE,SAAS6jB,EAAE7jB,EAAE,SAAS8jB,EAAE9jB,EAAE,SAAS+jB,EAAE/jB,EAAE,SAASgkB,EAAEhkB,EAAE,SAASikB,EAAEjkB,EAAE,SAASkkB,EAAElkB,EAAE,SAASmkB,EAAEnkB,EAAE,SAASokB,EAAEpkB,EAAE,SAASqkB,EAAErkB,EAAE,SAASskB,EAAEtkB,EAAE,SAASukB,EAAEvkB,EAAE,SAASwkB,EAAExkB,EAAE,SAASykB,EAAEzkB,EAAE,SAAS0kB,EAAE1kB,EAAE,SAAS2kB,EAAE3kB,EAAE,SAAS4kB,EAAE5kB,EAAE,SAAS6kB,EAAE7kB,EAAE,SAAS8kB,EAAE9kB,EAAE,SAAS+kB,EAAE/kB,EAAE,SAASglB,EAAEhlB,EAAE,SAASilB,EAAEjlB,EAAE,SAASklB,EAAEllB,EAAE,SAASmlB,EAAEnlB,EAAE,SAASolB,EAAEplB,EAAE,SAASqlB,EAAErlB,EAAE,SAASslB,EAAEtlB,EAAE,SAASulB,EAAEvlB,EAAE,SAASwlB,EAAExlB,EAAE,SAASylB,EAAEzlB,EAAE,SAAS0lB,EAAE1lB,EAAE,SAAS2lB,EAAE3lB,EAAE,SAAS4lB,EAAE5lB,EAAE,SAAS6lB,EAAE7lB,EAAE,SAAS8lB,EAAE9lB,EAAE,SAAS+lB,EAAE/lB,EAAE,SAASgmB,EAAEhmB,EAAE,SAASimB,EAAEjmB,EAAE,SAASkmB,EAAElmB,EAAE,SAASmmB,EAAEnmB,EAAE,SAASomB,EAAEpmB,EAAE,SAASqmB,EAAErmB,EAAE,SAASsmB,EAAEtmB,EAAE,SAASumB,EAAEvmB,EAAE,SAASwmB,EAAExmB,EAAE,SAASymB,EAAEzmB,EAAE,SAAS0mB,EAAE1mB,EAAE,SAAS2mB,EAAE3mB,EAAE,SAAS4mB,EAAE5mB,EAAE,SAAS6mB,EAAE7mB,EAAE,SAAS8mB,EAAE9mB,EAAE,SAAS+mB,EAAE/mB,EAAE,SAASgnB,EAAEhnB,EAAE,SAASinB,EAAEjnB,EAAE,SAASknB,EAAElnB,EAAE,SAASmnB,EAAEnnB,EAAE,SAASonB,EAAEpnB,EAAE,SAASqnB,EAAErnB,EAAE,SAASsnB,EAAEtnB,EAAE,SAASunB,EAAEvnB,EAAE,SAASwnB,EAAExnB,EAAE,SAASynB,EAAEznB,EAAE,SAAS0nB,EAAE1nB,EAAE,SAAS2nB,EAAE3nB,EAAE,SAAS4nB,EAAE5nB,EAAE,SAAS6nB,EAAE7nB,EAAE,SAAS8nB,EAAE9nB,EAAE,SAAS+nB,EAAE/nB,EAAE,SAASgoB,EAAEhoB,EAAE,SAASioB,EAAEjoB,EAAE,SAASkoB,EAAEloB,EAAE,SAASmoB,EAAEnoB,EAAE,SAASooB,EAAEpoB,EAAE,SAASqoB,EAAEroB,EAAE,SAASsoB,EAAEtoB,EAAE,SAASuoB,EAAEvoB,EAAE,SAASwoB,EAAExoB,EAAE,SAASyoB,EAAEzoB,EAAE,SAAS0oB,EAAE1oB,EAAE,SAAS2oB,EAAE3oB,EAAE,SAAS4oB,EAAE5oB,EAAE,SAAS6oB,EAAE7oB,EAAE,SAAS8oB,EAAE9oB,EAAE,SAAS+oB,EAAE/oB,EAAE,SAASgpB,EAAEhpB,EAAE,SAASipB,EAAEjpB,EAAE,SAASkpB,EAAElpB,EAAE,SAASmpB,EAAEnpB,EAAE,SAASopB,EAAEppB,EAAE,SAASqpB,EAAErpB,EAAE,SAASspB,EAAEtpB,EAAE,SAASupB,EAAEvpB,EAAE,SAASwpB,EAAExpB,EAAE,SAASypB,EAAEzpB,EAAE,SAAS0pB,EAAE1pB,EAAE,SAAS2pB,EAAE3pB,EAAE,SAAS4pB,EAAE5pB,EAAE,SAAS6pB,EAAE7pB,EAAE,SAAS8pB,EAAE9pB,EAAE,SAAS+pB,EAAE/pB,EAAE,SAASgqB,EAAEhqB,EAAE,SAASiqB,EAAEjqB,EAAE,SAASkqB,EAAElqB,EAAE,SAASmqB,EAAEnqB,EAAE,SAASoqB,EAAEpqB,EAAE,SAASqqB,EAAErqB,EAAE,SAASsqB,EAAEtqB,EAAE,SAASuqB,EAAEvqB,EAAE,SAASwqB,EAAExqB,EAAE,SAASyqB,EAAEzqB,EAAE,SAAS0qB,EAAE1qB,EAAE,SAAS2qB,EAAE3qB,EAAE,SAAS4qB,EAAE5qB,EAAE,SAAS6qB,EAAE7qB,EAAE,SAAS8qB,EAAE9qB,EAAE,SAAS+qB,EAAE/qB,EAAE,SAASgrB,EAAEhrB,EAAE,SAASirB,EAAEjrB,EAAE,SAASkrB,EAAElrB,EAAE,SAASmrB,EAAEnrB,EAAE,SAASorB,EAAEprB,EAAE,SAASqrB,EAAErrB,EAAE,SAASsrB,EAAEtrB,EAAE,SAASurB,EAAEvrB,EAAE,SAASwrB,EAAExrB,EAAE,SAASyrB,EAAEzrB,EAAE,SAAS0rB,EAAE1rB,EAAE,SAAS2rB,EAAE3rB,EAAE,SAAS4rB,EAAE5rB,EAAE,SAAS6rB,EAAE7rB,EAAE,SAAS8rB,EAAE9rB,EAAE,SAAS+rB,EAAE/rB,EAAE,SAASgsB,EAAEhsB,EAAE,SAASisB,EAAEjsB,EAAE,SAASksB,EAAElsB,EAAE,SAASmsB,EAAEnsB,EAAE,SAASosB,EAAEpsB,EAAE,SAASqsB,EAAErsB,EAAE,SAASssB,EAAEtsB,EAAE,SAASusB,EAAEvsB,EAAE,SAASwsB,EAAExsB,EAAE,SAASysB,EAAEzsB,EAAE,SAAS0sB,EAAE1sB,EAAE,SAAS2sB,EAAE3sB,EAAE,SAAS4sB,EAAE5

AAIC,EAAgB,SAAUC,EAAGC,GAM7B,OALAF,EAAgBG,OAAOC,gBAClB,CAAEC,UAAW,cAAgBC,OAAS,SAAUL,EAAGC,GAAKD,EAAEI,UAAYH,IACvE,SAAUD,EAAGC,GAAK,IAAK,IAAIK,KAAKL,EAAGA,EAAEM,eAAeD,KAAIN,EAAEM,GAAKL,EAAEK,IAAMN,EAAGA,EAAGC,GAAI,SAAUD,EAAGC,GAAK,SAASO,IAAOC,KAAKC,YAAcV,EAAG,IAAK,IAAIM,KAAKL,EAAGA,EAAEM,eAAeD,KAAIN,EAAEM,GAAKL,EAAEK,IAAMN,EAAGA,EAAGC,GAAIA,EAAEU,UAAkB,OAANV,EAAaW,OAAOC,OAAOZ,IAAMO,EAAGG,UAAYV,EAAEU,UAAW,IAAIH,IAAMA,EAAGO,EAAI,SAAUd,EAAGC,EAAGK,EAAGS,GAAK,IAAIC,EAAIC,EAAIC,E

GACC,oBAAbgG,UAA6BA,YAK3BhJ,EAAG0H,QAAY,GAAI1H,EAAG0H,QAAY,IAAK,IAC7C9F,GAAQoB;;;;;;OAWnB,IAIIiG,EAJ4B,CAC5BC,eAAkBlJ,EAAGkJ,eACrBC,OAAUnJ,EAAGmJ,QAUjB,SAASC,EAAuBC,GAC5B,OAAOrJ,EAAGsJ,gBAAgBD,GAE9B,SAASE,EAAiBC,GACtB,IAAIC,EAAMD,EAAIE,OAAOC,MAAM,KAC3B,OAAOF,EAAIG,MAAM,EAAGH,EAAIE,OAAS,GAAGE,KAAK,KAE7C,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIP,QAE/B,OADAQ,EAAME,IAAI,IAAIC,WAAWJ,IAClBC,EAAMI,OAEjB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIL,WAAWI,GAC3B,OAAOE,mBAAmBC,OAAOC,aAAaC,MAAM,KAAMJ,IAE9D,SAASK,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlB,QAC3B,IAAK,IAAIsB,EAAI,EAAGA,EAAIJ,EAAKlB,OAAQsB,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzB,QAE/B,OADA0B,EAAMpB,IAAI,IAAIC,WAAWkB,IAClBC,EAAMlB,OAEjB,SAASoB,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlC,QAC3B,IAAK,IAAIsC,EAAI,EAAGA,EAAIJ,EAAKlC,OAAQsC,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzC,QAE/B,OADA0C,EAAMpC,IAAI,IAAIC,WAAWkC,IAClBC,EAAMlC,OAEjB,SAASoC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlD,QAC3B,IAAK,IAAIsD,EAAI,EAAGA,EAAIJ,EAAKlD,OAAQsD,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzD,QAE/B,OADA0D,EAAMpD,IAAI,IAAIC,WAAWkD,IAClBC,EAAMlD,OAEjB,SAASoD,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlE,QAC3B,IAAK,IAAIsE,EAAI,EAAGA,EAAIJ,EAAKlE,OAAQsE,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzE,QAE/B,OADA0E,EAAMpE,IAAI,IAAIC,WAAWkE,IAClBC,EAAMlE,OAEjB,SAASoE,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlF,QAC3B,IAAK,IAAIsF,EAAI,EAAGA,EAAIJ,EAAKlF,OAAQsF,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzF,QAE/B,OADA0F,EAAMpF,IAAI,IAAIC,WAAWkF,IAClBC,EAAMlF,OAEjB,SAASoF,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlG,QAC3B,IAAK,IAAIsG,EAAI,EAAGA,EAAIJ,EAAKlG,OAAQsG,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzG,QAE/B,OADA0G,EAAMpG,IAAI,IAAIC,WAAWkG,IAClBC,EAAMlG,OAEjB,SAASoG,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlH,QAC3B,IAAK,IAAIsH,EAAI,EAAGA,EAAIJ,EAAKlH,OAAQsH,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzH,QAE/B,OADA0H,EAAMpH,IAAI,IAAIC,WAAWkH,IAClBC,EAAMlH,OAEjB,SAASoH,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlI,QAC3B,IAAK,IAAIsI,EAAI,EAAGA,EAAIJ,EAAKlI,OAAQsI,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzI,QAE/B,OADA0I,EAAMpI,IAAI,IAAIC,WAAWkI,IAClBC,EAAMlI,OAEjB,SAASoI,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlJ,QAC3B,IAAK,IAAIsJ,EAAI,EAAGA,EAAIJ,EAAKlJ,OAAQsJ,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzJ,QAE/B,OADA0J,EAAMpJ,IAAI,IAAIC,WAAWkJ,IAClBC,EAAMlJ,OAEjB,SAASoJ,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlK,QAC3B,IAAK,IAAIsK,EAAI,EAAGA,EAAIJ,EAAKlK,OAAQsK,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzK,QAE/B,OADA0K,EAAMpK,IAAI,IAAIC,WAAWkK,IAClBC,EAAMlK,OAEjB,SAASoK,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlL,QAC3B,IAAK,IAAIsL,EAAI,EAAGA,EAAIJ,EAAKlL,OAAQsL,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzL,QAE/B,OADA0L,EAAMpL,IAAI,IAAIC,WAAWkL,IAClBC,EAAMlL,OAEjB,SAASoL,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlM,QAC3B,IAAK,IAAIsM,EAAI,EAAGA,EAAIJ,EAAKlM,OAAQsM,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzM,QAE/B,OADA0M,EAAMpM,IAAI,IAAIC,WAAWkM,IAClBC,EAAMlM,OAEjB,SAASoM,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlN,QAC3B,IAAK,IAAIsN,EAAI,EAAGA,EAAIJ,EAAKlN,OAAQsN,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzN,QAE/B,OADA0N,EAAMpN,IAAI,IAAIC,WAAWkN,IAClBC,EAAMlN,OAEjB,SAASoN,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlO,QAC3B,IAAK,IAAIsO,EAAI,EAAGA,EAAIJ,EAAKlO,OAAQsO,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzO,QAE/B,OADA0O,EAAMpO,IAAI,IAAIC,WAAWkO,IAClBC,EAAMlO,OAEjB,SAASoO,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlP,QAC3B,IAAK,IAAIsP,EAAI,EAAGA,EAAIJ,EAAKlP,OAAQsP,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzP,QAE/B,OADA0P,EAAMpP,IAAI,IAAIC,WAAWkP,IAClBC,EAAMlP,OAEjB,SAASoP,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlQ,QAC3B,IAAK,IAAIsQ,EAAI,EAAGA,EAAIJ,EAAKlQ,OAAQsQ,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzQ,QAE/B,OADA0Q,EAAMpQ,IAAI,IAAIC,WAAWkQ,IAClBC,EAAMlQ,OAEjB,SAASoQ,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlR,QAC3B,IAAK,IAAIsR,EAAI,EAAGA,EAAIJ,EAAKlR,OAAQsR,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzR,QAE/B,OADA0R,EAAMpR,IAAI,IAAIC,WAAWkR,IAClBC,EAAMlR,OAEjB,SAASoR,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlS,QAC3B,IAAK,IAAIsS,EAAI,EAAGA,EAAIJ,EAAKlS,OAAQsS,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzS,QAE/B,OADA0S,EAAMpS,IAAI,IAAIC,WAAWkS,IAClBC,EAAMlS,OAEjB,SAASoS,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlT,QAC3B,IAAK,IAAIsT,EAAI,EAAGA,EAAIJ,EAAKlT,OAAQsT,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzT,QAE/B,OADA0T,EAAMpT,IAAI,IAAIC,WAAWkT,IAClBC,EAAMlT,OAEjB,SAASoT,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlU,QAC3B,IAAK,IAAIsU,EAAI,EAAGA,EAAIJ,EAAKlU,OAAQsU,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzU,QAE/B,OADA0U,EAAMpU,IAAI,IAAIC,WAAWkU,IAClBC,EAAMlU,OAEjB,SAASoU,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlV,QAC3B,IAAK,IAAIsV,EAAI,EAAGA,EAAIJ,EAAKlV,OAAQsV,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzV,QAE/B,OADA0V,EAAMpV,IAAI,IAAIC,WAAWkV,IAClBC,EAAMlV,OAEjB,SAASoV,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlW,QAC3B,IAAK,IAAIsW,EAAI,EAAGA,EAAIJ,EAAKlW,OAAQsW,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzW,QAE/B,OADA0W,EAAMpW,IAAI,IAAIC,WAAWkW,IAClBC,EAAMlW,OAEjB,SAASoW,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlX,QAC3B,IAAK,IAAIsX,EAAI,EAAGA,EAAIJ,EAAKlX,OAAQsX,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzX,QAE/B,OADA0X,EAAMpX,IAAI,IAAIC,WAAWkX,IAClBC,EAAMlX,OAEjB,SAASoX,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlY,QAC3B,IAAK,IAAIsY,EAAI,EAAGA,EAAIJ,EAAKlY,OAAQsY,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzY,QAE/B,OADA0Y,EAAMpY,IAAI,IAAIC,WAAWkY,IAClBC,EAAMlY,OAEjB,SAASoY,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlZ,QAC3B,IAAK,IAAIsZ,EAAI,EAAGA,EAAIJ,EAAKlZ,OAAQsZ,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzZ,QAE/B,OADA0Z,EAAMpZ,IAAI,IAAIC,WAAWkZ,IAClBC,EAAMlZ,OAEjB,SAASoZ,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlb,QAC3B,IAAK,IAAIsb,EAAI,EAAGA,EAAIJ,EAAKlb,OAAQsb,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzb,QAE/B,OADA0b,EAAMpb,IAAI,IAAIC,WAAWkb,IAClBC,EAAMlb,OAEjB,SAASob,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlc,QAC3B,IAAK,IAAIsc,EAAI,EAAGA,EAAIJ,EAAKlc,OAAQsc,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzc,QAE/B,OADA0c,EAAMpc,IAAI,IAAIC,WAAWkc,IAClBC,EAAMlc,OAEjB,SAASoc,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKld,QAC3B,IAAK,IAAIsd,EAAI,EAAGA,EAAIJ,EAAKld,OAAQsd,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzd,QAE/B,OADA0d,EAAMpd,IAAI,IAAIC,WAAWkd,IAClBC,EAAMld,OAEjB,SAASod,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKle,QAC3B,IAAK,IAAIse,EAAI,EAAGA,EAAIJ,EAAKle,OAAQse,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIze,QAE/B,OADA0e,EAAMpe,IAAI,IAAIC,WAAWke,IAClBC,EAAMle,OAEjB,SAASoe,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlf,QAC3B,IAAK,IAAIsf,EAAI,EAAGA,EAAIJ,EAAKlf,OAAQsf,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzf,QAE/B,OADA0f,EAAMpf,IAAI,IAAIC,WAAWkf,IAClBC,EAAMlf,OAEjB,SAASof,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlgB,QAC3B,IAAK,IAAIsgB,EAAI,EAAGA,EAAIJ,EAAKlgB,OAAQsgB,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzgB,QAE/B,OADA0gB,EAAMpgB,IAAI,IAAIC,WAAWkgB,IAClBC,EAAMlgB,OAEjB,SAASoB,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlC,QAC3B,IAAK,IAAIsC,EAAI,EAAGA,EAAIJ,EAAKlC,OAAQsC,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzB,QAE/B,OADA0B,EAAMpB,IAAI,IAAIC,WAAWkB,IAClBC,EAAMlB,OAEjB,SAASoB,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlD,QAC3B,IAAK,IAAIsD,EAAI,EAAGA,EAAIJ,EAAKlD,OAAQsD,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzC,QAE/B,OADA0C,EAAMpC,IAAI,IAAIC,WAAWkC,IAClBC,EAAMlC,OAEjB,SAASoC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlE,QAC3B,IAAK,IAAIsE,EAAI,EAAGA,EAAIJ,EAAKlE,OAAQsE,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzE,QAE/B,OADA0E,EAAMpE,IAAI,IAAIC,WAAWkE,IAClBC,EAAMlE,OAEjB,SAASoE,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlF,QAC3B,IAAK,IAAIsF,EAAI,EAAGA,EAAIJ,EAAKlF,OAAQsF,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzF,QAE/B,OADA0F,EAAMpF,IAAI,IAAIC,WAAWkF,IAClBC,EAAMlF,OAEjB,SAASoF,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlG,QAC3B,IAAK,IAAIsG,EAAI,EAAGA,EAAIJ,EAAKlG,OAAQsG,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzG,QAE/B,OADA0G,EAAMpG,IAAI,IAAIC,WAAWkG,IAClBC,EAAMlG,OAEjB,SAASoG,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlH,QAC3B,IAAK,IAAIsH,EAAI,EAAGA,EAAIJ,EAAKlH,OAAQsH,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzH,QAE/B,OADA0H,EAAMpH,IAAI,IAAIC,WAAWkH,IAClBC,EAAMlH,OAEjB,SAASoH,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlI,QAC3B,IAAK,IAAIsI,EAAI,EAAGA,EAAIJ,EAAKlI,OAAQsI,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzI,QAE/B,OADA0I,EAAMpI,IAAI,IAAIC,WAAWkI,IAClBC,EAAMlI,OAEjB,SAASoI,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlJ,QAC3B,IAAK,IAAIsJ,EAAI,EAAGA,EAAIJ,EAAKlJ,OAAQsJ,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzJ,QAE/B,OADA0J,EAAMpJ,IAAI,IAAIC,WAAWkJ,IAClBC,EAAMlJ,OAEjB,SAASoJ,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlK,QAC3B,IAAK,IAAIsK,EAAI,EAAGA,EAAIJ,EAAKlK,OAAQsK,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzK,QAE/B,OADA0K,EAAMpK,IAAI,IAAIC,WAAWkK,IAClBC,EAAMlK,OAEjB,SAASoK,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlL,QAC3B,IAAK,IAAIsL,EAAI,EAAGA,EAAIJ,EAAKlL,OAAQsL,IAC7BF,EAAME,GAAKJ,EAAKK,WAAWD,GAE/B,OAAOF,EAAMI,KAAK,IAEtB,SAASC,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,EAAIzL,QAE/B,OADA0L,EAAMpL,IAAI,IAAIC,WAAWkL,IAClBC,EAAMlL,OAEjB,SAASoL,EAAcC,GACnB,IAAIC,EAAQ,IAAIC,WAAWF,GAC3B,OAAOG,mBAAmBlB,OAAOC,aAAaC,MAAM,KAAMc,IAE9D,SAASG,EAAcC,GACnB,IAAIC,EAAOC,KAAKF,GAChB,IAAIG,EAAQ,IAAIC,MAAMH,EAAKlM,QAC3B,IAAK,IAAIsM,EAAI,EAAGA,EAAIJ,EAAKlM,OAAQsM,I

ACxBhP,KAAKiP,MAAQA,EACbjP,KAAKkP,iBAAmB,IAAIxE,IAC5B1K,KAAKmP,gBAAkB,IAAIC,EAAoB
L,GAqCnD,OAnCAD,EAAoBhO,UAAUuO,eAAiB,SAAU/F,EAASmC,GAC9D,IAAKnC,IAAYmC,EACb,OAA
OzL,KAAKmP,gBAEhB,OAAQ1D,EAAK6D,eACT,KAAKrP,EAAGsP,kBAAkBC,SACtB,IAAIC,EAAWzP,KA
AKkP,iBAAiB9I,IAAIqF,EAAKiE,IAM9C,OALKD,IACDA,EAAW,IAAIE,EAAkC3P,KAAK+O,aAAc/O,KAAK
gP,iBAAkBvD,EAAMzL,KAAKiP,OACtGjP,KAAKkP,iBAAiB3D,IAAIE,EAAKiE,GAAID,IAEvCA,EAASG,Y
AAYtG,GACdmG,EAEX,KAAK,EACL,KAAKxP,EAAGsP,kBAAkBM,UAOtB,OAAO,IAAIC,EAAkB9P,KAAK
+O,aAAc/O,KAAKgP,iBAAkB1F,EAASmC,GACpF,QACI,IAAKzL,KAAKkP,iBAAiB3C,IAAId,EAAKiE,IAAK
,CACrC,IAAItD,EAASkC,EAAc7C,EAAKiE,GAAIjE,EAAKjE,EAAKW,EAAGsP,kBAAkBC,SAAUvP,KAAK
gP,iBAAkB7C,UAAUC,GAChCpM,KAAKkP,iBAAiB3D,IAAIE,EAAKiE,GAAIjE,EAAKjE,EAAKW,EAAGsP,kBAAkBC,SAAUvP,KAAK
gP,iBAAkBvD,EAAMzL,KAAKiP,OAAOnP,KAAKmP,kBAIxBL,E
AAoBhO,UAAUiP,MAAQ,aACtCjB,EAAoBhO,UAAUkP,IAAM,aAC7BlB,EA3C6B,GA6CxCA,EAAoBtD,WA
Aa,CAC7B,CAAEC,KAAMxL,EAAGyL,aAEfoD,EAAoBnD,eAAiB,WAAc,MAAO,CACtD,GACR,CAAEoB,MAAO,CAAEC,SAAU,CAAEC,KAAM,CAAEC,KAAM,CAAEC,KAAM

CwK,EAAMwE,iBAAmBA,EACzBxE,EAAMiI,OAASA,EACfjI,EAAMkI,WAAaD,EAAOE,aAAa,CAAEC,KAAM,SAC/CpI,EAAMwE,iBAAiB5B,QAAQ5C,EAAMkI,YAErC,IADA,IAAItG,EAASkC,EAAcgE,EAAU5C,GAAI4C,EAAUlG,OAAQ,IAClDhB,EAAI,EAAGA,EAAIgB,EAAO7D,OAAQ6C,IAAK,CACpC,IAAI6I,EAAQ7H,EAAOhB,GAAI6I,EAAMC,KAAKC,MAAMF,EAAMG,UAAY,KAAO,IAAMH,EAAMI,SAAW,IAAMJ,EAAMK,WAAa,IAAML,EAAMM,aAAe,IAAMN,EAAMO,aAAe,IAAMP,EAAMQ,kBAAoB,IAAMR,EAAMS,kBAAoB,IAAMT,EAAMU,kBAAoB,IAAMV,EAAMW,kBAAoB,IAAMX,EAAMY,kBAAoB,IAAMZ,EAAMa,kBAAoB,IAAMb,EAAMc,kBAAoB,IAAMd,EAAMe,kBAAoB,IAAMf,EAAMgB,kBAAoB,IAAMhB,EAAMiB,kBAAoB,IAAMjB,EAAMkB,kBAAoB,IAAMlB,EAAMmB,kBAAoB,IAAMnB,EAAMoB,kBAAoB,IAAMpB,EAAMqB,kBAAoB,IAAMrB,EAAMsB,kBAAoB,IAAMtB,EAAMuB,kBAAoB,IAAMvB,EAAMwB,kBAAoB,IAAMxB,EAAMyB,kBAAoB,IAAMzB,EAAM0B,kBAAoB,IAAM1B,EAAM2B,kBAAoB,IAAM3B,EAAM4B,kBAAoB,IAAM5B,EAAM6B,kBAAoB,IAAM7B,EAAM8B,kBAAoB,IAAM9B,EAAM+B,kBAAoB,IAAM/B,EAAMgC,kBAAoB,IAAMhC,EAAMiC,kBAAoB,IAAMjC,EAAMkC,kBAAoB,IAAMlC,EAAMmC,kBAAoB,IAAMnC,EAAMoC,kBAAoB,IAAMpC,EAAMqC,kBAAoB,IAAMrC,EAAMsC,kBAAoB,IAAMtC,EAAMuC,kBAAoB,IAAMvC,EAAMwC,kBAAoB,IAAMxC,EAAMyC,kBAAoB,IAAMzC,EAAM0C,kBAAoB,IAAM1C,EAAM2C,kBAAoB,IAAM3C,EAAM4C,kBAAoB,IAAM5C,EAAM6C,kBAAoB,IAAM7C,EAAM8C,kBAAoB,IAAM9C,EAAM+C,kBAAoB,IAAM/C,EAAMgD,kBAAoB,IAAMhD,EAAMiD,kBAAoB,IAAMjD,EAAMkD,kBAAoB,IAAMlD,EAAMmD,kBAAoB,IAAMnD,EAAMoD,kBAAoB,IAAMpD,EAAMqD,kBAAoB,IAAMrD,EAAMsD,kBAAoB,IAAMtD,EAAMuD,kBAAoB,IAAMvD,EAAMwD,kBAAoB,IAAMxD,EAAMyD,kBAAoB,IAAMzD,EAAM0D,kBAAoB,IAAM1D,EAAM2D,kBAAoB,IAAM3D,EAAM4D,kBAAoB,IAAM5D,EAAM6D,kBAAoB,IAAM7D,EAAM8D,kBAAoB,IAAM9D,EAAM+D,kBAAoB,IAAM/D,EAAMgE,kBAAoB,IAAMhE,EAAMiE,kBAAoB,IAAMjE,EAAMkE,kBAAoB,IAAMlE,EAAMmE,kBAAoB,IAAMnE,EAAMoE,kBAAoB,IAAMpE,EAAMqE,kBAAoB,IAAMrE,EAAMsE,kBAAoB,IAAMtE,EAAMuE,kBAAoB,IAAMvE,EAAMwE,kBAAoB,IAAMxE,EAAMyE,kBAAoB,IAAMzE,EAAM0E,kBAAoB,IAAM1E,EAAM2E,kBAAoB,IAAM3E,EAAM4E,kBAAoB,IAAM5E,EAAM6E,kBAAoB,IAAM7E,EAAM8E,kBAAoB,IAAM9E,EAAM+E,kBAAoB,IAAM/E,EAAMgF,kBAAoB,IAAMhF,EAAMiF,kBAAoB,IAAMjF,EAAMkF,kBAAoB,IAAMlF,EAAMmF,kBAAoB,IAAMnF,EAAMoF,kBAAoB,IAAMpF,EAAMqF,kBAAoB,IAAMrF,EAAMsF,kBAAoB,IAAMtF,EAAMuF,kBAAoB,IAAMvF,EAAMwF,kBAAoB,IAAMxF,EAAMyF,kBAAoB,IAAMzF,EAAM0F,kBAAoB,IAAM1F,EAAM2F,kBAAoB,IAAM3F,EAAM4F,kBAAoB,IAAM5F,EAAM6F,kBAAoB,IAAM7F,EAAM8F,kBAAoB,IAAM9F,EAAM+F,kBAAoB,IAAM/F,EAAMgG,kBAAoB,IAAMhG,EAAMiG,kBAAoB,IAAMjG,EAAMkG,kBAAoB,IAAMlG,EAAMmG,kBAAoB,IAAMnG,EAAMoG,kBAAoB,IAAMpG,EAAMqG,kBAAoB,IAAMrG,EAAMsG,kBAAoB,IAAMtG,EAAMuG,kBAAoB,IAAMvG,EAAMwG,kBAAoB,IAAMxG,EAAMyG,kBAAoB,IAAMzG,EAAM0G,kBAAoB,IAAM1G,EAAM2G,kBAAoB,IAAM3G,EAAM4G,kBAAoB,IAAM5G,EAAM6G,kBAAoB,IAAM7G,EAAM8G,kBAAoB,IAAM9G,EAAM+G,kBAAoB,IAAM/G,EAAMgH,kBAAoB,IAAMhH,EAAMiH,kBAAoB,IAAMjH,EAAMkH,kBAAoB,IAAMlH,EAAMmH,kBAAoB,IAAMnH,EAAMoH,kBAAoB,IAAMpH,EAAMqH,kBAAoB,IAAMrH,EAAMsH,kBAAoB,IAAMtH,EAAMuH,kBAAoB,IAAMvH,EAAMwH,kBAAoB,IAAMxH,EAAMyH,kBAAoB,IAAMzH,EAAM0H,kBAAoB,IAAM1H,EAAM2H,kBAAoB,IAAM3H,EAAM4H,kBAAoB,IAAM5H,EAAM6H,kBAAoB,IAAM7H,EAAM8H,kBAAoB,IAAM9H,EAAM+H,kBAAoB,IAAM/H,EAAMgI,kBAAoB,IAAMhI,EAAMiI,kBAAoB,IAAMjI,EAAMkI,kBAAoB,IAAMlI,EAAMmI,kBAAoB,IAAMnI,EAAMoI,kBAAoB,IAAMpI,EAAMqI,kBAAoB,IAAMrI,EAAMsI,kBAAoB,IAAMtI,EAAMuI,kBAAoB,IAAMvI,EAAMwI,kBAAoB,IAAMxI,EAAMyI,kBAAoB,IAAMzI,EAAM0I,kBAAoB,IAAM1I,EAAM2I,kBAAoB,IAAM3I,EAAM4I,kBAAoB,IAAM5I,EAAM6I,kBAAoB,IAAM7I,EAAM8I,kBAAoB,IAAM9I,EAAM+I,kBAAoB,IAAM/I,EAAMgJ,kBAAoB,IAAMhJ,EAAMiJ,kBAAoB,IAAMjJ,EAAMkJ,kBAAoB,IAAMlJ,EAAMmJ,kBAAoB,IAAMnJ,EAAMoJ,kBAAoB,IAAMpJ,EAAMqJ,kBAAoB,IAAMrJ,EAAMsJ,kBAAoB,IAAMtJ,EAAMuJ,kBAAoB,IAAMvJ,EAAMwJ,kBAAoB,IAAMxJ,EAAMyJ,kBAAoB,IAAMzJ,EAAM0J,kBAAoB,IAAM1J,EAAM2J,kBAAoB,IAAM3J,EAAM4J,kBAAoB,IAAM5J,EAAM6J,kBAAoB,IAAM7J,EAAM8J,kBAAoB,IAAM9J,EAAM+J,kBAAoB,IAAM/J,EAAMgK,kBAAoB,IAAMhK,EAAMiK,kBAAoB,IAAMjK,EAAMkK,kBAAoB,IAAMlK,EAAMmK,kBAAoB,IAAMnK,EAAMoK,kBAAoB,IAAMpK,EAAMqK,kBAAoB,IAAMrK,EAAMsK,kBAAoB,IAAMtK,EAAMuK,kBAAoB,IAAMvK,EAAMwK,kBAAoB,IAAMxK,EAAMyK,kBAAoB,IAAMzK,EAAM0K,kBAAoB,IAAM1K,EAAM2K,kBAAoB,IAAM3K,EAAM4K,kBAAoB,IAAM5K,EAAM6K,kBAAoB,IAAM7K,EAAM8K,kBAAoB,IAAM9K,EAAM+K,kBAAoB,IAAM/K,EAAMgL,kBAAoB,IAAMhL,EAAMiL,kBAAoB,IAAMjL,EAAMkL,kBAAoB,IAAMlL,EAAMmL,kBAAoB,IAAMnL,EAAMoL,kBAAoB,IAAMpL,EAAMqL,kBAAoB,IAAMrL,EAAMsL,kBAAoB,IAAMtL,EAAMuL,kBAAoB,IAAMvL,EAAMwL,kBAAoB,IAAMxL,EAAMyL,kBAAoB,IAAMzL,EAAM0L,kBAAoB,IAAM1L,EAAM2L,kBAAoB,IAAM3L,EAAM4L,kBAAoB,IAAM5L,EAAM6L,kBAAoB,IAAM7L,EAAM8L,kBAAoB,IAAM9L,EAAM+L,kBAAoB,IAAM/L,EAAMgM,kBAAoB,IAAMhM,EAAMiM,kBAAoB,IAAMjM,EAAMkM,kBAAoB,IAAMlM,EAAMmM,kBAAoB,IAAMnM,EAAMoM,kBAAoB,IAAMpM,EAAMqM,kBAAoB,IAAMrM,EAAMsM,kBAAoB,IAAMtM,EAAMuM,kBAAoB,IAAMvM,EAAMwM,kBAAoB,IAAMxM,EAAMyM,kBAAoB,IAAMzM,EAAM0M,kBAAoB,IAAM1M,EAAM2M,kBAAoB,IAAM3M,EAAM4M,kBAAoB,IAAM5M,EAAM6M,kBAAoB,IAAM7M,EAAM8M,kBAAoB,IAAM9M,EAAM+M,kBAAoB,IAAM/M,EAAMgN,kBAAoB,IAAMhN,EAAMiN,kBAAoB,IAAMjN,EAAMkN,kBAAoB,IAAMlN,EAAMmN,kBAAoB,IAAMnN,EAAMoN,kBAAoB,IAAMpN,EAAMqN,kBAAoB,IAAMrN,EAAMsN,kBAAoB,IAAMtN,EAAMuN,kBAAoB,IAAMvN,EAAMwN,kBAAoB,IAAMxN,EAAMyN,kBAAoB,IAAMzN,EAAM0N,kBAAoB,IAAM1N,EAAM2N,kBAAoB,IAAM3N,EAAM4N,kBAAoB,IAAM5N,EAAM6N,kBAAoB,IAAM7N,EAAM8N,kBAAoB,IAAM9N,EAAM+N,kBAAoB,IAAM/N,EAAMgO,kBAAoB,IAAMhO,EAAMiO,kBAAoB,IAAMjO,EAAMkO,kBAAoB,IAAMlO,EAAMmO,kBAAoB,IAAMnO,EAAMoO,kBAAoB,IAAMpO,EAAMqO,kBAAoB,IAAMrO,EAAMsO,kBAAoB,IAAMtO,EAAMuO,kBAAoB,IAAMvO,EAAMwO,kBAAoB,IAAMxO,EAAMyO,kBAAoB,IAAMzO,EAAM0O,kBAAoB,IAAM1O,EAAM2O,kBAAoB,IAAM3O,EAAM4O,kBAAoB,IAAM5O,EAAM6O,kBAAoB,IAAM7O,EAAM8O,kBAAoB,IAAM9O,EAAM+O,kBAAoB,IAAM/O,EAAMgP,kBAAoB,IAAMhP,EAAMiP,kBAAoB,IAAMjP,EAAMkP,kBAAoB,IAAMlP,EAAMmP,kBAAoB,IAAMnP,EAAMoP,kBAAoB,IAAMpP,EAAMqP,kBAAoB,IAAMrP,EAAMsP,kBAAoB,IAAMtP,EAAMuP,kBAAoB,IAAMvP,EAAMwP,kBAAoB,IAAMxP,EAAMyP,kBAAoB,IAAMzP,EAAM0P,kBAAoB,IAAM1P,EAAM2P,kBAAoB,IAAM3P,EAAM4P,kBAAoB,IAAM5P,EAAM6P,kBAAoB,IAAM7P,EAAM8P,kBAAoB,IAAM9P,EAAM+P,kBAAoB,IAAM/P,EAAMgQ,kBAAoB,IAAMhQ,EAAMiQ,kBAAoB,IAAMjQ,EAAMkQ,kBAAoB,IAAMlQ,EAAMmQ,kBAAoB,IAAMnQ,EAAMoQ,kBAAoB,IAAMpQ,EAAMqQ,kBAAoB,IAAMrQ,EAAMsQ,kBAAoB,IAAMtQ,EAAMuQ,kBAAoB,IAAMvQ,EAAMwQ,kBAAoB,IAAMxQ,EAAMyQ,kBAAoB,IAAMzQ,EAAM0Q,kBAAoB,IAAM1Q,EAAM2Q,kBAAoB,IAAM3Q,EAAM4Q,kBAAoB,IAAM5Q,EAAM6Q,kBAAoB,IAAM7Q,EAAM8Q,kBAAoB,IAAM9Q,EAAM+Q,kBAAoB,IAAM/Q,EAAMgR,kBAAoB,IAAMhR,EAAMiR,kBAAoB,IAAMjR,EAAMkR,kBAAoB,IAAMlR,EAAMmR,kBAAoB,IAAMnR,EAAMoR,kBAAoB,IAAMpR,EAAMqR,kBAAoB,IAAMrR,EAAMsR,kBAAoB,IAAMtR,EAAMuR,kBAAoB,IAAMvR,EAAMwR,kBAAoB,IAAMxR,EAAMyR,kBAAoB,IAAMzR,EAAM0R,kBAAoB,IAAM1R,EAAM2R,kBAAoB,IAAM3R,EAAM4R,kBAAoB,IAAM5R,EAAM6R,kBAAoB,IAAM7R,EAAM8R,kBAAoB,IAAM9R,EAAM+R,kBAAoB,IAAM/R,EAAMgS,kBAAoB,IAAMhS,EAAMiS,kBAAoB,IAAMjS,EAAMkS,kBAAoB,IAAMlS,EAAMmS,kBAAoB,IAAMnS,EAAMoS,kBAAoB,IAAMpS,EAAMqS,kBAAoB,IAAMrS,EAAMsS,kBAAoB,IAAMtS,EAAMuS,kBAAoB,IAAMvS,EAAMwS,kBAAoB,IAAMxS,EAAMyS,kBAAoB,IAAMzS,EAAM0S,kBAAoB,IAAM1S,EAAM2S,kBAAoB,IAAM3S,EAAM4S,kBAAoB,IAAM5S,EAAM6S,kBAAoB,IAAM7S,EAAM8S,kBAAoB,IAAM9S,EAAM+S,kBAAoB,IAAM/S,EAAMgT,kBAAoB,IAAMhT,EAAMiT,kBAAoB,IAAMjT,EAAMkT,kBAAoB,IAAMlT,EAAMmT,kBAAoB,IAAMnT,EAAMoT,kBAAoB,IAAMpT,EAAMqT,kBAAoB,IAAMrT,EAAMsT,kBAAoB,IAAMtT,EAAMuT,kBAAoB,IAAMvT,EAAMwT,kBAAoB,IAAMxT,EAAMyT,kBAAoB,IAAMzT,EAAM0T,kBAAoB,IAAM1T,EAAM2T,kBAAoB,IAAM3T,EAAM4T,kBAAoB,IAAM5T,EAAM6T,kBAAoB,IAAM7T,EAAM8T,kBAAoB,IAAM9T,EAAM+T,kBAAoB,IAAM/T,EAAMgU,kBAAoB,IAAMhU,EAAMiU,kBAAoB,IAAMjU,EAAMkU,kBAAoB,IAAMlU,EAAMmU,kBAAoB,IAAMnU,EAAMoU,kBAAoB,IAAMpU,EAAMqU,kBAAoB,IAAMrU,EAAMsU,kBAAoB,IAAMtU,EAAMuU,kBAAoB,IAAMvU,EAAMwU,kBAAoB,IAAMxU,EAAMyU,kBAAoB,IAAMzU,EAAM0U,kBAAoB,IAAM1U,EAAM2U,kBAAoB,IAAM3U,EAAM4U,kBAAoB,IAAM5U,EAAM6U,kBAAoB,IAAM7U,EAAM8U,kBAAoB,IAAM9U,EAAM+U,kBAAoB,IAAM/U,EAAMgV,kBAAoB,IAAMhV,EAAMiV,kBAAoB,IAAMjV,EAAMkV,kBAAoB,IAAMlV,EAAMmV,kBAAoB,IAAMnV,EAAMoV,kBAAoB,IAAMpV,EAAMqV,kBAAoB,IAAMrV,EAAMsV,kBAAoB,IAAMtV,EAAMuV,kBAAoB,IAAMvV,EAAMwV,kBAAoB,IAAMxV,EAAMyV,kBAAoB,IAAMzV,EAAM0V,kBAAoB,IAAM1V,EAAM2V,kBAAoB,IAAM3V,EAAM4V,kBAAoB,IAAM5V,EAAM6V,kBAAoB,IAAM7V,EAAM8V,kBAAoB,IAAM9V,EAAM+V,kBAAoB,IAAM/V,EAAMgW,kBAAoB,IAAMhW,EAAMiW,kBAAoB,IAAMjW,EAAMkW,kBAAoB,IAAMlW,EAAMmW,kBAAoB,IAAMnW,EAAMoW,kBAAoB,IAAMpW,EAAMqW,kBAAoB,IAAMrW,EAAMsW,kBAAoB,IAAMtW,EAAMuW,kBAAoB,IAAMvW,EAAMwW,kBAAoB,IAAMxW,EAAMyW,kBAAoB,IAAMzW,EAAM0W,kBAAoB,IAAM1W,EAAM2W,kBAAoB,IAAM3W,EAAM4W,kBAAoB,IAAM5W,EAAM6W,kBAAoB,IAAM7W,EAAM8W,kBAAoB,IAAM9W,EAAM+W,kBAAoB,IAAM/W,EAAMgX,kBAAoB,IAAMhX,EAAMiX,kBAAoB,IAAMjX,EAAMkX,kBAAoB,IAAMlX,EAAMmX,kBAAoB,IAAMnX,EAAMoX,kBAAoB,IAAMpX,EAAMqX,kBAAoB,IAAMrX,EAAMsX,kBAAoB,IAAMtX,EAAMuX,kBAAoB,IAAMvX,EAAMwX,kBAAoB,IAAMxX,EAAMyX,kBAAoB,IAAMzX,EAAM0X,kBAAoB,IAAM1X,EAAM2X,kBAAoB,IAAM3X,EAAM4X,kBAAoB,IAAM5X,EAAM6X,kBAAoB,IAAM7X,EAAM8X,kBAAoB,IAAM9X,EAAM+X,kBAAoB,IAAM/X,EAAMgY,kBAAoB,IAAMhY,EAAMiY,kBAAoB,IAAMjY,EAAMkY,kBAAoB,IAAMlY,EAAMmY,kBAAoB,IAAMnY,EAAMoY,kBAAoB,IAAMpY,EAAMqY,kBAAoB,IAAMrY,EAAMsY,kBAAoB,IAAMtY,EAAMuY,kBAAoB,IAAMvY,EAAMwY,kBAAoB,IAAMxY,EAAMyY,kBAAoB,IAAMzY,EAAM0Y,kBAAoB,IAAM1Y,EAAM2Y,kBAAoB,IAAM3Y,EAAM4Y,kBAAoB,IAAM5Y,EAAM6Y,kBAAoB,IAAM7Y,EAAM8Y,kBAAoB,IAAM9Y,EAAM+Y,kBAAoB,IAAM/Y,EAAMgZ,kBAAoB,IAAMhZ,EAAMiZ,kBAAoB,IAAMjZ,EAAMkZ,kBAAoB,IAAMlZ,EAAMmZ,kBAAoB,IAAMnZ,EAAMoZ,kBAAoB,IAAMpZ,EAAMqZ,kBAAoB,IAAMrZ,EAAMsZ,kBAAoB,IAAMtZ,EAAMuZ,kBAAoB,IAAMvZ,EAAMwZ,kBAAoB,IAAMxZ,EAAMyZ,kBAAoB,IAAMzZ,EAAM0Z,kBAAoB,IAAM1Z,EAAM2Z,kBAAoB,IAAM3Z,EAAM4Z,kBAAoB,IAAM5Z,EAAM6Z,kBAAoB,IAAM7Z,EAAM8Z,kBAAoB,IAAM9Z,EAAM+Z,kBAAoB,IAAM/Z,EAAMga,kBAAoB,IAAMha,EAAMia,kBAAoB,IAAMja,EAAMka,kBAAoB,IAAMla,EAAMma,kBAAoB,IAAMna,EAAMoa,kBAAoB,IAAMpa,EAAMqa,kBAAoB,IAAMra,EAAMsa,kBAAoB,IAAMta,EAAMua,kBAAoB,IAAMva,EAAMwa,kBAAoB,IAAMxa,EAAMya,kBAAoB,IAAMza,EAAM0a,kBAAoB,IAAM1a,EAAM2a,kBAAoB,IAAM3a,EAAM4a,kBAAoB,IAAM5a,EAAM6a,kBAAoB,IAAM7a,EAAM8a,kBAAoB,IAAM9a,EAAM+a,kBAAoB,IAAM/a,EAAMgb,kBAAoB,IAAMhb,EAAMib,kBAAoB,IAAMjb,EAAMkb,kBAAoB,IAAMlb,EAAMmb,kBAAoB,IAAMnb,EAAMob,kBAAoB,IAAMpb,EAAMqb,kBAAoB,IAAMrb,EAAMsb,kBAAoB,IAAMtb,EAAMub,kBAAoB,IAAMvb,EAAMwb,kBAAoB,IAAMxb,EAAMyb,kBAAoB,IAAMzb,EAAM0b,kBAAoB,IAAM1b,EAAM2b,kBAAoB,IAAM3b,EAAM4b,kBAAoB,IAAM5b,EAAM6b,kBAAoB,IAAM7b,EAAM8b,kBAAoB,IAAM9b,EAAM+b,kBAAoB,IAAM/b,EAAMgc,kBAAoB,IAAMhc,EAAMic,kBAAoB,IAAMjc,EAAMkc,kBAAoB,IAAMlc,EAAMmc,kBAAoB,IAAMnc,EAAMoc,kBAAoB,IAAMpc,EAAMqc,kBAAoB,IAAMrc,EAAMsc,kBAAoB,IAAMtc,EAAMuc,kBAAoB,IAAMvc,EAAMwc,kBAAoB,IAAMxc,EAAMyc,kBAAoB,IAAMzc,EAAM0c,kBAAoB,IAAM1c,EAAM2c,kBAAoB,IAAM3c,EAAM4c,kBAAoB,IAAM5c,EAAM6c,kBAAoB,IAAM7c,EAAM8c,kBAAoB,IAAM9c,EAAM+c,kBAAoB,IAAM/c,EAAMgd,kBAAoB,IAAMhd,EAAMid,kBAAoB,IAAMjd,EAAMkd,kBAAoB,IAAMld,EAAMmd,kBAAoB,IAAMnd,EAAMod,kBAAoB,IAAMpd,EAAMqd,kBAAoB,IAAMrd,EAAMsd,kBAAoB,IAAMtd,EAAMud,kBAAoB,IAAMvd,EAAMwd,kBAAoB,IAAMxd,EAAMyd,kBAAoB,IAAMzd,EAAM0d,kBAAoB,IAAM1d,EAAM2d,kBAAoB,IAAM3d,EAAM4d,kBAAoB,IAAM5d,EAAM6d,kBAAoB,IAAM7d,EAAM8d,kBAAoB,IAAM9d,EAAM+d,kBAAoB,IAAM/d,EAAMge,kBAAoB,IAAMhe,EAAMie,kBAAoB,IAAMje,EAAMke,kBAAoB,IAAMle,EAAMme,kBAAoB,IAAMne,EAAMoe,kBAAoB,IAAMpe,EAAMqe,kBAAoB,IAAMre,EAAMse,kBAAoB,IAAMte,EAAMue,kBAAoB,IAAMve,EAAMwe,kBAAoB,IAAMxe,EAAMye,kBAAoB,IAAMze,EAAM0e,kBAAoB,IAAM1e,EAAM2e,kBAAoB,IAAM3e,EAAM4e,kBAAoB,IAAM5e,EAAM6e,kBAAoB,IAAM7e,EAAM8e,kBAAoB,IAAM9e,EAAM+e,kBAAoB,IAAM/e,EAAMgf,kBAAoB,IAAMhf,EAAMif,kBAAoB,IAAMjf,EAAMkf,kBAAoB,IAAMlf,EAAMmf,kBAAoB,IAAMnf,EAAMof,kBAAoB,IAAMpf,EAAMqf,kBAAoB,IAAMrf,EAAMsf,kBAAoB,IAAMtf,EAAMuf,kBAAoB,IAAMvf,EAAMwf,kBAAoB,IAAMxf,EAAMyf,kBAAoB,IAAMzf,EAAM0f,kBAAoB,IAAM1f,EAAM2f,kBAAoB,IAAM3f,EAAM4f,kBAAoB,IAAM5f,EAAM6f,kBAAoB,IAAM7f,EAAM8f,kBAAoB,IAAM9f,EAAM+f,kBAAoB,IAAM/f,EAAMggb,kBAAoB,IAAMhgb,EAAMigb,kBAAoB,IAAMjgb,EAAMkgb,kBAAoB,IAAMlgb,EAAMmgb,kBAAoB,IAAMngb,EAAMogb,kBAAoB,IAAMpgb,EAAMqgb,kBAAoB,IAAMrgb,EAAMsgb,kBAAoB,IAAMtgb,EAAMugb,kBAAoB,IAAMvgb,EAAMwgb,kBAAoB,IAAMxgb,EAAMygb,kBAAoB,IAAMzgb,EAAM0gb,kBAAoB,IAAM1gb,EAAM2gb,kBAAoB,IAAM3gb,EAAM4gb,kBAAoB,IAAM5gb,EAAM6gb,kBAAoB,IAAM7gb,EAAM8gb,kBAAoB,IAAM9gb,EAAM+gb,kBAAoB,IAAM/gb,EAAMghb,kBAAoB,IAAMhhb,EAAMihb,kBAAoB,IAAMjhb,EAAMkhb,kBAAoB,IAAMlhb,EAAMmhb,kBAAoB,IAAMnhb,EAAMohb,kBAAoB,IAAMphb,EAAMqhb,kBAAoB,IAAMrhb,EAAMshb,kBAAoB,IAAMthb,EAAMuhb,kBAAoB,IAAMvhb,EAAMwhb,kBAAoB,IAAMxhb,EAAMyhb,kBAAoB,IAAMzhb,EAAM0hb,kBAAoB,IAAM1hb,EAAM2hb,kBAAoB,IAAM3hb,EAAM4hb,kBAAoB,IAAM5hb,EAAM6hb,kBAAoB,IAAM7hb,EAAM8hb,kBAAoB,IAAM9hb,EAAM+hb,kBAAoB,IAAM/hb,EAAMgib,kBAAoB,IAAMhib,EAAMiib,kBAAoB,IAAMjib,EAAMkib,kBAAoB,IAAMlib,EAAMmib,kBAAoB,IAAMnib,EAAMoib,kBAAoB,IAAMpib,EAAMqib,kBAAoB,IAAMrib,EAAMsib,kBAAoB,IAAMtib,EAAMuib,kBAAoB,IAAMvib,EAAMwib,kBAAoB,IAAMxib,EAAMyib,kBAAoB,IAAMzib,EAAM0ib,kBAAoB,IAAM1ib,EAAM2ib,kBAAoB,IAAM3ib,EAAM4ib,kBAAoB,IAAM5ib,EAAM6ib,kBAAoB,IAAM7ib,EAAM8ib,kBAAoB,IAAM9ib,EAAM+ib,kBAAoB,IAAM/ib,EAAMgjb,kBAAoB,IAAMhjb,EAAMijb,kBAAoB,IAAMjjb,EAAMkjb,kBAAoB,IAAMljb,EAAMmjb,kBAAoB,IAAMnjb,EAAMojb,kBAAoB,IAAMpjb,EAAMqjb,kBAAoB,IAAMrjb,EAAMsjb,kBAAoB,IAAMtjb,EAAMujb,kBAAoB,IAAMvjb,EAAMwjb,kBAAoB,IAAMxjb,EAAMyjb,kBAAoB,IAAMzjb,EAAM0jb,kBAAoB,IAAM1jb,EAAM2jb,kBAAoB,IAAM3jb,EAAM4jb,kBAAoB,IAAM5jb,EAAM6jb,kBAAoB,IAAM7jb,EAAM8jb,kBAAoB,IAAM9jb,EAAM+jb,kBAAoB,IAAM/jb,EAAMgkb,kBAAoB,IAAMhkb,EAAMikb,kBAAoB,IAAMjkb,EAAMkkb,kBAAoB,IAAMlkb,EAAMmkb,kBAAoB,IAAMnkb,EAAMokb,kBAAoB,IAAMpkb,EAAMqkb,kBAAoB,IAAMrkb,EAAMskb,kBAAoB,IAAMtkb,EAAMukb,kBAAoB,IAAMvkb,EAAMwkb,kBAAoB,IAAMxkb,EAAMykb,kBAAoB,IAAMzkb,EAAM0kb,kBAAoB,IAAM1kb,EAAM2kb,kBAAoB,IAAM3kb,EAAM4kb,kBAAoB,IAAM5kb,EAAM6kb,kBAAoB,IAAM7kb,EAAM8kb,kBAAoB,IAAM9kb,EAAM+kb,kBAAoB,IAAM/kb,EAAMglb,kBAAoB,IAAMhlb,EAAMilb,kBAAoB,IAAMjlb,EAAMklb,kBAAoB,IAAMllb,EAAMmlb,kBAAoB,IAAMnlb,EAAMolb,kBAAoB,IAAMplb,EAAMqlb,kBAAoB,IAAMrlb,EAAMslb,kBAAoB,IAAMtlb,EAAMulb,kBAAoB,IAAMvlb,EAAMwlb,kBAAoB,IAAMxlb,EAAMylb,kBAAoB,IAAMzlb,EAAM0lb,kBAAoB,IAAM1lb,EAAM2lb,kBAAoB,IAAM3lb,EAAM4lb,kBAAoB,IAAM5lb,EAAM6lb,kBAAoB,IAAM7lb,EAAM8lb,kBAAoB,IAAM9lb,EAAM+lb,kBAAoB,IAAM/lb,EAAMgmb,kBAAoB,IAAMhmb,EAAMimb,kBAAoB,IAAMjmb,EAAMkmb,kBAAoB,IAAMlmb,EAAMmmb,kBAAoB,IAAMnmb,EAAMomb,kBAAoB,IAAMpmb,EAAMqmb,kBAAoB,IAAMrmb,EAAMsmb,kBAAoB,IAAMtmb,EAAMumb,kBAAoB,IAAMvmb,EAAMwmb,kBAAoB,IAAMxmb,EAAMymb,kBAAoB,IAAMzmb,EAAM0mb,kBAAoB,IAAM1mb,EAAM2mb,kBAAoB,IAAM3mb,EAAM4mb,kBAAoB,IAAM5mb,EAAM6mb,kBAAoB,IAAM7mb,EAAM8mb,kBAAoB,IAAM9mb,EAAM+mb,kBAAoB,IAAM/mb,EAAMgnb,kBAAoB,IAAMhnb,EAAMinb,kBAAoB,IAAMjnb,EAAMknb,kBAAoB,IAAMlnb,EAAMmnb,kBAAoB,IAAMnnb,EAAMonb,kBAAoB,IAAMpnb,EAAMqnb,kBAAoB,IAAMrnb,EAAMsnb,kBAAoB,IAAMtnb,EAAMunb,kBAAoB,IAAMvnb,EAAMwnb,kBAAoB,IAAMxnb,EAAMynb,kBAAoB,IAAMznb,EAAM0nb,kBAAoB,IAAM1nb,EAAM2nb,kBAAoB,IAAM3nb,EAAM4nb,kBAAoB,IAAM5nb,EAAM6nb,kBAAoB,IAAM7nb,EAAM8nb,kBAAoB,IAAM9nb,EAAM+nb,kBAAoB,IAAM/nb,EAAMgob,kBAAoB,IAAMhob,EAAMiob,kBAAoB,IAAMjob,EAAMkob,kBAAoB,IAAMlob,EAAMmob,kBAAoB,IAAMnob,EAAMoob,kBAAoB,IAAMpob,EAAMqob,kBAAoB,IAAMrob,EAAMsob,kBAAoB,IAAMtob,EAAMuob,kBAAoB,IAAMvob,EAAMwob,kBAAoB,IAAMxob,EAAMyob,kBAAoB,IAAMzob,EAAM0ob,kBAAoB,IAAM1ob,EAAM2ob,kBAAoB,IAAM3ob,EAAM4ob,kBAAoB,IAAM5ob,EAAM6ob,kBAAoB,IAAM7ob,EAAM8ob,kBAAoB,IAAM9ob,EAAM+ob,kBAAoB,IAAM/ob,EAAMgpb,kBAAoB,IAAMhpb,EAAMipb,kBAAoB,IAAMjpb,EAAMkpb,kBAAoB,IAAMlpb,EAAMmpb,kBAAoB,IAAMnpb,EAAMopb,kBAAoB,IAAMppb,EAAMqpb,kBAAoB,IAAMrpb,EAAMspb,kBAAoB,IAAMtpb,EAAMupb,kBAAoB,IAAMvpb,EAAMwpb,kBAAoB,IAAMxpb,EAAMypb,kBAAoB,IAAMzpb,EAAM0pb,kBAAoB,IAAM1pb,EAAM2pb,kBAAoB,IAAM3pb,EAAM4pb,kBAAoB,IAAM5pb,EAAM6pb,kBAAoB,IAAM7pb,EAAM8pb,kBAAoB,IAAM9pb,EAAM+pb,kBAAoB,IAAM/pb,EAAMgqb,kBAAoB,IAAMhqb,EAAMiqb,kBAAoB,IAAMjqb,EAAMkqb,kBAAoB,IAAMlqb,EAAMmqb,kBAAoB,IAAMnqb,EAAMoqb,kBAAoB,IAAMpqb,EAAMqqb,kBAAoB,IAAMrqb,EAAMsqb,kBAAoB,IAAMtqb,EAAMuqb,kBAAoB,IAAMvqb,EAAMwqb,kBAAoB,IAAMxqb,EAAMyqb,kBAAoB,IAAMzqb,EAAM0qb,kBAAoB,IAAM1qb,EAAM2qb,kBAAoB,IAAM3qb,EAAM4qb,kBAAoB,IAAM5qb,EAAM6qb,kBAAoB,IAAM7qb,EAAM8qb,kBAAoB,IAAM9qb,EAAM+qb,kBAAoB,IAAM/qb,EAAMgrb,kBAAoB,IAAMhrb,EAAMirb,kBAAoB,IAAMjrb,EAAMkrb,kBAAoB,IAAMlrb,EAAMmrb,kBAAoB,IAAMnrb,EAAMorb,kBAAoB,IAAMprb,EAAMqrb,kBAAoB,IAAMrrb,EAAMsrb,kBAAoB,IAAMtrb,EAAMurb,kBAAoB,IAAMvrb,EAAMwrb,kBAAoB,IAAMxrb,EAAMyrb,kBAAoB,IAAMzrb,EAAM0rb,kBAAoB,IAAM1rb,EAAM2rb,kBAAoB,IAAM3rb,EAAM4rb,kBAAoB,IAAM5rb,EAAM6rb,kBAAoB,IAAM7rb,EAAM8rb,kBAAoB,IAAM9rb,EAAM+rb,kBAAoB,IAAM/rb,EAAMgsb,kBAAoB,IAAMhsb,EAAMisb,kBAAoB,IAAMjsb,EAAMksb,kBAAoB,IAAMlsb,EAAMmsb,kBAAoB,IAAMnsb,EAAMosb,kBAAoB,IAAMpsb,EAAMqsb,kBAAoB,IAAMrsb,EAAMssb,kBAAoB,IAAMtsb,EAAMusb,kBAAoB,IAAMvsb,EAAMwsb,kBAAoB,IAAMxsb,EAAMysb,kBAAoB,IAAMzsb,EAAM0sb,kBAAoB,IAAM1sb,EAAM2sb,kBAAoB,IAAM3sb,EAAM4sb,kBAAoB,IAAM5sb,EAAM6sb,kBAAoB,IAAM7sb,EAAM8sb,kBAAoB,IAAM9sb,EAAM+sb,kBAAoB,IAAM/sb,EAAMgtb,kBAAoB,IAAMhtb,EAAMitb,kBAAoB,IAAMjtb,EAAMktb,kBAAoB,IAAMltb,EAAMmtb,kBAAoB,IAAMntb,EAAMotb,kBAAoB,IAAMptb,EAAMqtb,kBAAoB,IAAMrtb,EAAMstb,kBAAoB,IAAMttb,EAAMutb,kBAAoB,IAAMvtb,EAAMwtb,kBAAoB,IAAMxtb,EAAMytb,kBAAoB,IAAMztb,EAAM0tb,kBAAoB,IAAM1tb,EAAM2tb,kBAAoB,IAAM3tb,EAAM4tb,kBAAoB,IAAM5tb,EAAM6tb,kBAAoB,IAAM7tb,E

KAAM,CAACiJ,QAOrF,IAyBI0B,EArBAC,EAA6B,CAC7B,CACI1P,QAASqD,EACTsM,SAAUnB,EACVlO,OAAO,EACPH,KAAAM,CAACpH,EAAOqH,SAAU0N,EAAAuB5U,EAAGsW,SAAU,CAAC,IAAAItW,EAAGiK,SAAY4K,KAEpF,CAAE/N,QAAAS8N,EAAAuB6B,SAAU3B,EAAAqB7N,KAAAM,KAAEvEyP,EAAAmBF,GAAYnBD,EACCA,SASA,OAIAhL,WAAAa,CACtB,CAAAEC,EAAGsW,SAAU/K,KAAAM,CAAAC,EAAGgEgL,UAAAWJ,MAM7C,IA8NIK,EA9NAC,EAAAgB,CAAAC,EAAGsW,SAAUC,MAAAO,UAAAW,OAAAQ,SAAAG,CAAAC,EAAGsW,SAAUC,MAAAO,UAAAW,OAAAQ,SAAAG,K

AU0b,wBAA0B,SAAUvZ,GAC3D,OAAOhD,EAAGwc,6BAA6BxZ,IAE3CiY,EAAiBpa,UAAU4b,yBAA2B,SAAUzZ,GAC5D,OAAOhD,EAAG0c,8BAA8B1Z,IAE5CiY,EAAiBpa,UAAU8b,0BAA4B,SAAU3Z,GAC7D,OAAOhD,EAAG4c,+BAA+B5Z,IAE7CiY,EAAiBpa,UAAUgc,uBAAyB,SAAU7Z,GAC1D,OAAOhD,EAAG8c,4BA9Z,IAE1CiY,EAAiBpa,UAAUkc,+BAAiC,SAAU/Z,GAClE,OAAOhD,EAAGgd,oCAAoCha,IAE3CiY,EAA1D0B,CA2DnCpE;;;;;;;;AAgBF,SAASoG,IACL5b,EAAkBG,cAAClB6F,EAAAsBC,OAE1B,SAAS4V,IAALlC,EAAKmC,UAAAC,IAAAC,EAAAC,EAAAC,E

F,EAAM6V,eAAeD,GAAOlB,EAAIkB,OAC3Fxe,GAEXgd,EAAK9d,UAAU+e,eAAiB,SAAUX,GACtC,IAAIoB,EAAOpB,EAAIrd,KAAAO,OAAS,WAC/B,OAAOye,EAAO,KAAQpB,EAAIoB,GAAAQ,KAAEtC1B,EAAK9d,UAAUmf,oBAAsB,SAAUf,EAAKtX,GAChD,IAAI4C,EAAAQxK,GAAChD,IAAAI4C,EAAAQxK,KACZ,OAAAO,OAAO8f,KAAAO,OAAO8f,KAAAjB,GAAAkB,qBAAAlB,GAAAkB,qBAAAM,OAAAM,GAAAO,EAAAQ,KAAAO,OAAAM,GAAAO,EAAAQ,KAAAO,OAAAM,GAAAO,EAAAQ,KAAAO

kB,eAAeplB,EAAS,UAAW,CACtCqlB,YAAY,EACZve,IAAK,WACD,OAAOtG,EAAO2G,WAGtBnH,EAAQgf,cAAgBA,GACxBhf,EAAQ0hB,2BAA6BA,GACrC1hB,EAAQqkB,GAAAKA,GACbrkB,EAAQwX,aAAeA,EACvBxX,EAAQ8K,sBAAwBA,EAChC9K,EAAQ+K,aAAeA,EACvB/K,EAAQuV,sBAAwBA,EAChCvV,EAAQwV,cAAgBA,EACxBxV,EAAQyV,oBAAsBA,EAC9BzV,EAAQkX,aAAeA,EACvBlX,EAAQsf,cAAgBA,EACxBtf,EAAQqhB,MAAQA,GAChBrhB,EAAQ2iB,cAAgBA,EACxB3iB,EAAQklB,QAAUA,GAClBllB,EAAQslB,kBAAhSR,SAAASA,KACL5b,EAAQ5J,EAAAuBuB,WAAWW;;;;;;;QAgStC1J,EAAQulB,iBA1SR,SAASA,GAAiBvlB,EAAQ0J,EAAQ8b,GAAUC,GAAWC,GAAWC,GAAW

```
function __rest(s, e) {\n    var t = {};\n    for (var p in s)\n        if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\n            t[p] = s[p];\n    if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\n                t[p[i]] = s[p[i]];\n        }\n    return t;\n}\nfunction __decorate(decorators, target, key, desc) {\n    var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\n    if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\")\n        r = Reflect.decorate(decorators, target, key, desc);\n    else\n        for (var i = decorators.length - 1; i >= 0; i--)\n            if (d = decorators[i])\n                r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\n}\nfunction __param(paramIndex, decorator) {\n    return function (target, key) { decorator(target, key, paramIndex); };\n}\nfunction __metadata(metadataKey, metadataValue) {\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\")\n        return Reflect.metadata(metadataKey, metadataValue);\n}\nfunction __awaiter(thisArg, _arguments, P, generator) {\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\n    return new (P || (P = Promise))(function (resolve, reject) {\n        function fulfilled(value) { try {\n            step(generator.next(value));\n        }\n        catch (e) {\n            reject(e);\n        } }\n        function rejected(value) { try {\n            step(generator[\"throw\"](value));\n        }\n        catch (e) {\n            reject(e);\n        } }\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled,\n            rejected); }\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\n    });\n}\nfunction __generator(thisArg, body) {\n    var _ = { label: 0, sent: function () { if (t[0] & 1)\n            throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function () { return this; }), g;\n    function verb(n) { return function (v) { return step([n, v]); }; }\n    function step(op) {\n        if (f)\n            throw new TypeError(\"Generator is already executing.\");\n        while (_)\n            try {\n                if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done)\n                    return t;\n                if (y = 0, t)\n                    op = [op[0] & 2, t.value];\n                switch (op[0]) {\n                    case 0:\n                    case 1:\n                        t = op;\n                        break;\n                    case 4:\n                        _.label++;\n                        return { value: op[1], done: false };\n                    case 5:\n                        _.label++;\n                        y = op[1];\n                        op = [0];\n                        continue;\n                    case 7:\n                        op = _.ops.pop();\n                        _.trys.pop();\n                        continue;\n                    default:\n                        if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) {\n                            _ = 0;\n                            continue;\n                        }\n                        if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) {\n                            _.label = op[1];\n                            break;\n                        }\n                        if (op[0] === 6 && _.label < t[1]) {\n                            _.label = t[1];\n                            t = op;\n                            break;\n                        }\n                        if (t && _.label < t[2]) {\n                            _.label = t[2];\n                            _.ops.push(op);\n                            break;\n                        }\n                        if (t[2])\n                            _.ops.pop();\n                        _.trys.pop();\n                        continue;\n                }\n                op = body.call(thisArg, _);\n            }\n            catch (e) {\n                op = [6, e];\n                y = 0;\n            }\n            finally {\n                f = t = 0;\n            }\n        if (op[0] & 5)\n            throw op[1];\n        return { value: op[0] ? op[1] : void 0, done: true };\n    }\n}\nvar __createBinding = Object.create ? (function (o, m, k, k2) {\n    if (k2 === undefined)\n        k2 = k;\n    Object.defineProperty(o, k2, { enumerable: true, get: function () { return m[k]; } });\n}) : (function (o, m, k, k2) {\n    if (k2 === undefined)\n        k2 = k;\n    o[k2] = m[k];\n});\nfunction __exportStar(m, exports) {\n    for (var p in m)\n        if (p !== \"default\" && !exports.hasOwnProperty(p))\n            __createBinding(exports, m, p);\n}\nfunction __values(o) {\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\n    if (m)\n        return
```

m.call(o);\n if (o && typeof o.length === \"number\")\n return {\n next: function () {\n if (o && i >= o.length)\n o = void 0;\n return { value: o && o[i++], done: !o };\n }\n };\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\n }\n function __read(o, n) {\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\n if (!m)\n return o;\n var i = m.call(o), r, ar = [], e;\n try {\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done)\n ar.push(r.value);\n }\n catch (error) {\n e = { error: error };\n }\n finally {\n try {\n if (r && !r.done && (m = i[\"return\"]))\n m.call(i);\n }\n finally {\n if (e)\n throw e.error;\n }\n }\n return ar;\n }\n function __spread() {\n for (var ar = [], i = 0; i < arguments.length; i++)\n ar = ar.concat(__read(arguments[i]));\n return ar;\n }\n function __spreadArrays() {\n for (var s = 0, i = 0, il = arguments.length; i < il; i++)\n s += arguments[i].length;\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\n r[k] = a[j];\n return r;\n }\n ;\n function __await(v) {\n return this instanceof __await ? (this.v = v, this) : new __await(v);\n }\n function __asyncGenerator(thisArg, _arguments, generator) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\n function verb(n) { if (g[n])\n i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\n function resume(n, v) { try {\n step(g[n](v));\n }\n catch (e) {\n settle(q[0][3], e);\n } }\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\n function fulfill(value) { resume(\"next\", value); }\n function reject(value) { resume(\"throw\", value); }\n function settle(f, v) { if (f(v), q.shift(), q.length)\n resume(q[0][0], q[0][1]); }\n }\n function __asyncDelegator(o) {\n var i, p;\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\n }\n function __asyncValues(o) {\n if (!Symbol.asyncIterator)\n throw new TypeError(\"Symbol.asyncIterator is not defined.\");\n var m = o[Symbol.asyncIterator], i;\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function (v) { resolve({ value: v, done: d }); }, reject); }\n }\n function __makeTemplateObject(cooked, raw) {\n if (Object.defineProperty) {\n Object.defineProperty(cooked, \"raw\", { value: raw });\n }\n else {\n cooked.raw = raw;\n }\n return cooked;\n }\n ;\n var __setModuleDefault = Object.create ? (function (o, v) {\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\n }) : function (o, v) {\n o[\"default\"] = v;\n };\n function __importStar(mod) {\n if (mod && mod.__esModule)\n return mod;\n var result = {};\n if (mod != null)\n for (var k in mod)\n if (Object.hasOwnProperty.call(mod, k))\n __createBinding(result, mod, k);\n __setModuleDefault(result, mod);\n return result;\n }\n function __importDefault(mod) {\n return (mod && mod.__esModule) ? mod : { default: mod };\n }\n function __classPrivateFieldGet(receiver, privateMap) {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to get private field on non-instance\");\n }\n return privateMap.get(receiver);\n }\n function __classPrivateFieldSet(receiver, privateMap, value)\n {\n if (!privateMap.has(receiver)) {\n throw new TypeError(\"attempted to set private field on non-instance\");\n }\n privateMap.set(receiver, value);\n return value;\n }\n\n /**\n * Provides DOM operations in any browser environment.\n *\n * @security Tread carefully! Interacting with the DOM directly is dangerous and\n * can introduce XSS risks.\n */\n var GenericBrowserDomAdapter = /** @class */ (function (_super) {\n __extends(GenericBrowserDomAdapter, _super);\n function

```
GenericBrowserDomAdapter() {\n            return _super.call(this) || this;\n        }\n
GenericBrowserDomAdapter.prototype.supportsDOMEvents = function () {\n            return true;\n        };\n
return GenericBrowserDomAdapter;\n    }(common.DomAdapter));\n\n    var 0 = function () {\n        if
(i0.global['Node']) {\n            return i0.global['Node'].prototype.contains || function (node) {\n
    return !!(this.compareDocumentPosition(node) & 16);\n            };\n        }\n        return undefined;\n    };\n    var
nodeContains = (0)();\n    /**\n     * A `DomAdapter` powered by full browser DOM APIs.\n     *\n     * @security
Tread carefully! Interacting with the DOM directly is dangerous and\n     * can introduce XSS risks.\n     */\n    /*
tslint:disable:requireParameterType no-console */\n    var BrowserDomAdapter = /** @class */ (function (_super)
{\n        __extends(BrowserDomAdapter, _super);\n        function BrowserDomAdapter() {\n            return _super
!== null && _super.apply(this, arguments) || this;\n        }\n        BrowserDomAdapter.makeCurrent = function () {\n
            common.setRootDomAdapter(new BrowserDomAdapter());\n        };\n
BrowserDomAdapter.prototype.getProperty = function (el, name) {\n            return el[name];\n        };\n
BrowserDomAdapter.prototype.log = function (error) {\n            if (window.console) {\n
            window.console.log && window.console.log(error);\n            }\n        };\n
BrowserDomAdapter.prototype.logGroup = function (error) {\n            if (window.console) {\n
window.console.group && window.console.group(error);\n            }\n        };\n
BrowserDomAdapter.prototype.logGroupEnd = function () {\n            if (window.console) {\n
window.console.groupEnd && window.console.groupEnd();\n            }\n        };\n
BrowserDomAdapter.prototype.onAndCancel = function (el, evt, listener) {\n            el.addEventListener(evt,
listener, false);\n            // Needed to follow Dart's subscription semantic, until fix of\n            //
https://code.google.com/p/dart/issues/detail?id=17406\n            return function () {\n
el.removeEventListener(evt, listener, false);\n            };\n        };\n
BrowserDomAdapter.prototype.dispatchEvent = function (el, evt) {\n            el.dispatchEvent(evt);\n
        };\n        BrowserDomAdapter.prototype.remove = function (node) {\n            if (node.parentNode) {\n
node.parentNode.removeChild(node);\n            }\n            return node;\n        };\n
BrowserDomAdapter.prototype.getValue = function (el) {\n            return el.value;\n        };\n
BrowserDomAdapter.prototype.createElement = function (tagName, doc) {\n            doc = doc ||
this.getDefaultDocument();\n            return doc.createElement(tagName);\n        };\n
BrowserDomAdapter.prototype.createHtmlDocument = function () {\n            return
document.implementation.createHTMLDocument('fakeTitle');\n        };\n
BrowserDomAdapter.prototype.getDefaultDocument = function () {\n            return document;\n        };\n
BrowserDomAdapter.prototype.isElementNode = function (node) {\n            return node.nodeType ===
Node.ELEMENT_NODE;\n        };\n        BrowserDomAdapter.prototype.isShadowRoot = function (node)
 {\n            return node instanceof DocumentFragment;\n        };\n
BrowserDomAdapter.prototype.getGlobalEventTarget = function (doc, target) {\n            if (target === 'window')
{\n                return window;\n            }\n            if (target === 'document') {\n                return doc;\n            }\n
  if (target === 'body') {\n                return doc.body;\n            }\n            return null;\n        };\n
BrowserDomAdapter.prototype.getHistory = function () {\n            return window.history;\n        };\n
BrowserDomAdapter.prototype.getLocation = function () {\n            return window.location;\n        };\n
BrowserDomAdapter.prototype.getBaseHref = function (doc) {\n            var href = getBaseElementHref();\n
return href == null ? null : relativePath(href);\n        };\n        BrowserDomAdapter.prototype.resetBaseElement =
function () {\n            baseElement = null;\n        };\n        BrowserDomAdapter.prototype.getUserAgent
 = function () {\n            return window.navigator.userAgent;\n        };\n
BrowserDomAdapter.prototype.performanceNow = function () {\n            // performance.now() is not available in
all browsers, see\n            // https://caniuse.com/high-resolution-time\n            return window.performance &&
window.performance.now ? window.performance.now() :\n                new Date().getTime();\n        };\n
BrowserDomAdapter.prototype.supportsCookies = function () {\n            return true;\n        };\n
BrowserDomAdapter.prototype.getCookie = function (name) {\n            return
```

```
common.parseCookieValue(document.cookie, name);\n    };\n    return BrowserDomAdapter;\n
}(GenericBrowserDomAdapter));\n  var baseElement = null;\n  function getBaseElementHref() {\n    if
(!baseElement) {\n      baseElement = document.querySelector('base');\n      if (!baseElement) {\n
return null;\n
  }\n    }\n    return baseElement.getAttribute('href');\n  }\n  // based on urlUtils.js in AngularJS 1\n  var
urlParsingNode;\n  function relativePath(url) {\n    if (!urlParsingNode) {\n      urlParsingNode =
document.createElement('a');\n    }\n    urlParsingNode.setAttribute('href', url);\n    return
(urlParsingNode.pathname.charAt(0) === '/') ? urlParsingNode.pathname :\n      '/' +
urlParsingNode.pathname;\n  }\n\n  /**\n   * @license\n   * Copyright Google LLC All Rights Reserved.\n
*\n   * Use of this source code is governed by an MIT-style license that can be\n   * found in the LICENSE file at
https://angular.io/license\n   */\n  /**\n   * An id that identifies a particular application being bootstrapped, that
should\n   * match across the client/server boundary.\n   */\n  var TRANSITION_ID = new
i0.InjectionToken('TRANSITION_ID');\n  function appInitializerFactory(transitionId, document, injector) {\n
    return function () {\n      // Wait for all application initializers to be completed before removing the styles
set by\n      // the server.\n      injector.get(i0.ApplicationInitStatus).donePromise.then(function () {\n
var dom = common.getDOM();\n        var styles =
Array.prototype.slice.apply(document.querySelectorAll(\"style[ng-transition]\"));\n        styles.filter(function
(el) { return el.getAttribute('ng-transition') === transitionId; })\n            .forEach(function (el) { return
dom.remove(el); });\n      });\n    };\n  }\n  var SERVER_TRANSITION_PROVIDERS = [\n    {\n
provide: i0.APP_INITIALIZER,\n      useFactory: appInitializerFactory,\n      deps: [TRANSITION_ID,
common.DOCUMENT, i0.Injector],\n      multi: true\n    },\n  ];\n\n  /**\n   * @license\n   * Copyright
Google LLC All Rights Reserved.\n   *\n   * Use of this source code is governed
 by an MIT-style license that can be\n   * found in the LICENSE file at https://angular.io/license\n   */\n  var
BrowserGetTestability = /** @class */ (function () {\n    function BrowserGetTestability() {\n    }\n
BrowserGetTestability.init = function () {\n      i0.setTestabilityGetter(new BrowserGetTestability());\n    };\n
  BrowserGetTestability.prototype.addToWindow = function (registry) {\n
i0.global['getAngularTestability'] = function (elem, findInAncestors) {\n        if (findInAncestors === void 0) {
findInAncestors = true; }\n        var testability = registry.findTestabilityInTree(elem, findInAncestors);\n
  if (testability == null) {\n          throw new Error('Could not find testability for element.');\n        }\n
    return testability;\n      };\n      i0.global['getAllAngularTestabilities'] = function () { return
registry.getAllTestabilities(); };\n
      i0.global['getAllAngularRootElements'] = function () { return registry.getAllRootElements(); };\n      var
whenAllStable = function (callback /** TODO #9100 */) {\n        var testabilities =
i0.global['getAllAngularTestabilities']();\n        var count = testabilities.length;\n        var didWork =
false;\n        var decrement = function (didWork_ /** TODO #9100 */) {\n          didWork = didWork ||
didWork_;\n          count--;\n          if (count == 0) {\n            callback(didWork);\n
}\n        };\n        testabilities.forEach(function (testability /** TODO #9100 */) {\n
testability.whenStable(decrement);\n        });\n      };\n      if (!i0.global['frameworkStabilizers']) {\n
    i0.global['frameworkStabilizers'] = [];\n      }\n
i0.global['frameworkStabilizers'].push(whenAllStable);\n
    };\n    BrowserGetTestability.prototype.findTestabilityInTree = function (registry, elem, findInAncestors) {\n
      if (elem == null) {\n        return null;\n      }\n      var t = registry.getTestability(elem);\n      if
(t != null) {\n        return t;\n      }\n      else if (!findInAncestors) {\n        return null;\n      }\n
    if (common.getDOM().isShadowRoot(elem)) {\n        return this.findTestabilityInTree(registry, elem.host,
true);\n      }\n      return this.findTestabilityInTree(registry, elem.parentElement, true);\n    };\n    return
BrowserGetTestability;\n  }());\n\n  /**\n   * @license\n   * Copyright Google LLC All Rights Reserved.\n
*\n   * Use of this source code is governed by an MIT-style license that can be\n   * found in the LICENSE file at
https://angular.io/license\n   */\n  var CAMEL_CASE_REGEXP = /([A-Z])/g;\n  var DASH_CASE_REGEXP
```

= /-([a-z])/g;\n function camelCaseToDashCase(input) {\n return input.replace(CAMEL_CASE_REGEXP, function () {\n var m = [];\n for (var _i = 0; _i < arguments.length; _i++) {\n m[_i] = arguments[_i];\n }\n return '-' + m[1].toLowerCase();\n });\n }\n function dashCaseToCamelCase(input) {\n return input.replace(DASH_CASE_REGEXP, function () {\n var m = [];\n for (var _i = 0; _i < arguments.length; _i++) {\n m[_i] = arguments[_i];\n }\n return m[1].toUpperCase();\n });\n }\n /**\n * Exports the value under a given `name` in the global property `ng`. For example `ng.probe` if\n * `name` is `'probe'`.\n * @param name Name under which it will be exported. Keep in mind this will be a property of the\n * global `ng` object.\n * @param value The value to export.\n */\n function exportNgVar(name,
value) {\n if (typeof COMPILED === 'undefined' || !COMPILED) {\n // Note: we can't export `ng` when using closure enhanced optimization as:\n // - closure declares globals itself for minified names, which sometimes clobber our `ng` global\n // - we can't declare a closure extern as the namespace `ng` is already used within Google\n // for typings for angularJS (via `goog.provide('ng....')`).\n var ng = i0.global['ng'] = i0.global['ng'] || {};\n ng[name] = value;\n }\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n var 0$1 = function () { return ({\n 'ApplicationRef': i0.ApplicationRef,\n 'NgZone': i0.NgZone,\n }); };\n var CORE_TOKENS = (0$1)();\n var INSPECT_GLOBAL_NAME = 'probe';\n
var CORE_TOKENS_GLOBAL_NAME = 'coreTokens';\n /**\n * Returns a {@link DebugElement} for the given native DOM element, or\n * null if the given native element does not have an Angular view associated\n * with it.\n */\n function inspectNativeElementR2(element) {\n return i0.getDebugNodeR2(element);\n }\n function _createNgProbeR2(coreTokens) {\n exportNgVar(INSPECT_GLOBAL_NAME, inspectNativeElementR2);\n exportNgVar(CORE_TOKENS_GLOBAL_NAME, Object.assign(Object.assign({}, CORE_TOKENS), _ngProbeTokensToMap(coreTokens || [])));\n return function () { return inspectNativeElementR2; };\n }\n function _ngProbeTokensToMap(tokens) {\n return tokens.reduce(function (prev, t) { return (prev[t.name] = t.token, prev); }, {});\n }\n /**\n * In Ivy, we don't support NgProbe because we have our own set of testing utilities\n * with more robust functionality.\n *\n * We shouldn't bring in NgProbe because
it prevents DebugNode and friends from\n * tree-shaking properly.\n */\n var ELEMENT_PROBE_PROVIDERS__POST_R3__ = [];\n /**\n * Providers which support debugging Angular applications (e.g. via `ng.probe`).\n */\n var ELEMENT_PROBE_PROVIDERS__PRE_R3__ = [\n {\n provide: i0.APP_INITIALIZER,\n useFactory: _createNgProbeR2,\n deps: [\n [i0.NgProbeToken, new i0.Optional()],\n ],\n multi: true,\n },\n ];\n var ELEMENT_PROBE_PROVIDERS = ELEMENT_PROBE_PROVIDERS__PRE_R3__;\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * The injection token for the event-manager plug-in service.\n *\n * @publicApi\n */\n var EVENT_MANAGER_PLUGINS = new i0.InjectionToken('EventManagerPlugins');\n
/**\n * An injectable service that provides event management for Angular\n * through a browser plug-in.\n *\n * @publicApi\n */\n var EventManager = /** @class */ (function () {\n /**\n * Initializes an instance of the event-manager service.\n */\n function EventManager(plugins, _zone) {\n var _this = this;\n this._zone = _zone;\n this._eventNameToPlugin = new Map();\n plugins.forEach(function (p) { return p.manager = _this; });\n this._plugins = plugins.slice().reverse();\n }\n /**\n * Registers a handler for a specific element and event.\n *\n * @param element The HTML element to receive event notifications.\n * @param eventName The name of the event to listen for.\n * @param handler A function to call when the notification occurs. Receives the\n * event object as an argument.\n * @returns

A callback function that can be used to remove the handler.\n */\n EventManager.prototype.addEventListener = function (element, eventName, handler) {\n var plugin = this._findPluginFor(eventName);\n return plugin.addEventListener(element, eventName, handler);\n };\n /**\n * Registers a global handler for an event in a target view.\n *\n * @param target A target for global event notifications. One of \"window\", \"document\", or \"body\".\n * @param eventName The name of the event to listen for.\n * @param handler A function to call when the notification occurs. Receives the\n * event object as an argument.\n * @returns A callback function that can be used to remove the handler.\n */\n EventManager.prototype.addGlobalEventListener = function (target, eventName, handler) {\n var plugin = this._findPluginFor(eventName);\n return plugin.addGlobalEventListener(target, eventName, handler);\n };\n /**\n * Retrieves the compilation zone in which event listeners are registered.\n */\n EventManager.prototype.getZone = function () {\n return this._zone;\n };\n /** @internal */\n EventManager.prototype._findPluginFor = function (eventName) {\n var plugin = this._eventNameToPlugin.get(eventName);\n if (plugin) {\n return plugin;\n }\n var plugins = this._plugins;\n for (var i = 0; i < plugins.length; i++) {\n var plugin_1 = plugins[i];\n if (plugin_1.supports(eventName)) {\n this._eventNameToPlugin.set(eventName, plugin_1);\n return plugin_1;\n }\n }\n throw new Error(\"No event manager plugin found for event \" + eventName);\n };\n return EventManager;\n }());\n EventManager.decorators = [\n { type: i0.Injectable }\n ];\n EventManager.ctorParameters = function () { return [\n { type: Array, decorators: [{ type: i0.Inject, args: [EVENT_MANAGER_PLUGINS,] }] },\n { type: i0.NgZone }\n ]; };\n var EventManagerPlugin = /** @class */ (function () {\n function EventManagerPlugin(_doc) {\n this._doc = _doc;\n }\n EventManagerPlugin.prototype.addGlobalEventListener = function (element, eventName, handler) {\n var target = common.getDOM().getGlobalEventTarget(this._doc, element);\n if (!target) {\n throw new Error(\"Unsupported event target \" + target + \" for event \" + eventName);\n }\n return this.addEventListener(target, eventName, handler);\n };\n return EventManagerPlugin;\n }());\n\n var SharedStylesHost = /** @class */ (function () {\n function SharedStylesHost() {\n /** @internal */\n this._stylesSet = new Set();\n }\n SharedStylesHost.prototype.addStyles = function (styles) {\n var _this = this;\n var additions = new Set();\n styles.forEach(function (style) {\n if (!_this._stylesSet.has(style)) {\n _this._stylesSet.add(style);\n additions.add(style);\n }\n });\n this.onStylesAdded(additions);\n };\n SharedStylesHost.prototype.onStylesAdded = function (additions) { };\n SharedStylesHost.prototype.getAllStyles = function () {\n return Array.from(this._stylesSet);\n };\n return SharedStylesHost;\n }());\n SharedStylesHost.decorators = [\n { type: i0.Injectable }\n ];\n var DomSharedStylesHost = /** @class */ (function (_super) {\n __extends(DomSharedStylesHost, _super);\n function DomSharedStylesHost(_doc) {\n var _this = _super.call(this) ||\n this;\n _this._doc = _doc;\n _this._hostNodes = new Set();\n _this._styleNodes = new Set();\n _this._hostNodes.add(_doc.head);\n return _this;\n }\n DomSharedStylesHost.prototype._addStylesToHost = function (styles, host) {\n var _this = this;\n styles.forEach(function (style) {\n var styleEl = _this._doc.createElement('style');\n styleEl.textContent = style;\n _this._styleNodes.add(host.appendChild(styleEl));\n });\n };\n DomSharedStylesHost.prototype.addHost = function (hostNode) {\n this._addStylesToHost(this._stylesSet, hostNode);\n this._hostNodes.add(hostNode);\n };\n DomSharedStylesHost.prototype.removeHost = function (hostNode) {\n this._hostNodes.delete(hostNode);\n };\n DomSharedStylesHost.prototype.onStylesAdded = function (additions) {\n var _this = this;\n this._hostNodes.forEach(function (hostNode) { return _this._addStylesToHost(additions, hostNode); });\n };\n DomSharedStylesHost.prototype.ngOnDestroy = function () {\n this._styleNodes.forEach(function (styleNode) { return common.getDOM().remove(styleNode); });\n };\n return DomSharedStylesHost;\n }(SharedStylesHost));\n DomSharedStylesHost.decorators = [\n { type:

```
i0.Injectable }\n    ];\n    DomSharedStylesHost.ctorParameters = function () { return [\n        { type: undefined, decorators: [{ type: i0.Inject, args: [common.DOCUMENT,] }] }\n    ]; };\n\n    var NAMESPACE_URIS = {\n 'svg': 'http://www.w3.org/2000/svg',\n        'xhtml': 'http://www.w3.org/1999/xhtml',\n        'xlink': 'http://www.w3.org/1999/xlink',\n        'xml': 'http://www.w3.org/XML/1998/namespace',\n        'xmlns': 'http://www.w3.org/2000/xmlns/',\n    };\n    var COMPONENT_REGEX = /%COMP%/g;\n    var NG_DEV_MODE = typeof ngDevMode
 === 'undefined' || !!ngDevMode;\n    var COMPONENT_VARIABLE = '%COMP%';\n    var HOST_ATTR = \"_nghost-\" + COMPONENT_VARIABLE;\n    var CONTENT_ATTR = \"_ngcontent-\" + COMPONENT_VARIABLE;\n    function shimContentAttribute(componentShortId) {\n        return CONTENT_ATTR.replace(COMPONENT_REGEX, componentShortId);\n    }\n    function shimHostAttribute(componentShortId) {\n        return HOST_ATTR.replace(COMPONENT_REGEX, componentShortId);\n    }\n    function flattenStyles(compId, styles, target) {\n        for (var i = 0; i < styles.length; i++) {\n            var style = styles[i];\n            if (Array.isArray(style)) {\n                flattenStyles(compId, style, target);\n            }\n            else {\n                style = style.replace(COMPONENT_REGEX, compId);\n                target.push(style);\n            }\n        }\n        return target;\n    }\n    function decoratePreventDefault(eventHandler) {\n        // `DebugNode.triggerEventHandler` needs to know
 if the listener was created with\n        // decoratePreventDefault or is a listener added outside the Angular context so it can handle the\n        // two differently. In the first case, the special '__ngUnwrap__' token is passed to the unwrap\n        // the listener (see below).\n        return function (event) {\n            // Ivy uses '__ngUnwrap__' as a special token that allows us to unwrap the function\n            // so that it can be invoked programmatically by `DebugNode.triggerEventHandler`. The debug_node\n            // can inspect the listener toString contents for the existence of this special token. Because\n            // the token is a string literal, it is ensured to not be modified by compiled code.\n            if (event === '__ngUnwrap__') {\n                return eventHandler;\n            }\n            var allowDefaultBehavior = eventHandler(event);\n            if (allowDefaultBehavior === false) {\n                // TODO(tbosch): move preventDefault into
 event plugins...\n                event.preventDefault();\n                event.returnValue = false;\n            }\n            return undefined;\n        };\n    }\n    var hasLoggedNativeEncapsulationWarning = false;\n    var DomRendererFactory2 = /** @class */ (function () {\n        function DomRendererFactory2(eventManager, sharedStylesHost, appId) {\n
  this.eventManager = eventManager;\n            this.sharedStylesHost = sharedStylesHost;\n            this.appId = appId;\n            this.rendererByCompId = new Map();\n            this.defaultRenderer = new DefaultDomRenderer2(eventManager);\n        }\n        DomRendererFactory2.prototype.createRenderer = function (element, type) {\n            if (!element || !type) {\n                return this.defaultRenderer;\n            }\n            switch (type.encapsulation) {\n                case i0.ViewEncapsulation.Emulated: {\n                    var renderer = this.rendererByCompId.get(type.id);\n
    if (!renderer) {\n                        renderer = new EmulatedEncapsulationDomRenderer2(this.eventManager, this.sharedStylesHost, type, this.appId);\n                        this.rendererByCompId.set(type.id, renderer);\n                    }\n                    renderer.applyToHost(element);\n                    return renderer;\n                }\n                case 1:\n
    case i0.ViewEncapsulation.ShadowDom:\n                    // TODO(FW-2290): remove the `case 1:` fallback logic and the warning in v12.\n                    if ((typeof ngDevMode === 'undefined' || ngDevMode) &&\n !hasLoggedNativeEncapsulationWarning && type.encapsulation === 1) {\n hasLoggedNativeEncapsulationWarning = true;\n                        console.warn('ViewEncapsulation.Native is no longer supported. Falling back to ViewEncapsulation.ShadowDom. The fallback will be removed in v12.');\n
    }\n                    return
 new ShadowDomRenderer(this.eventManager, this.sharedStylesHost, element, type);\n                default: {\n
    if (!this.rendererByCompId.has(type.id)) {\n                        var styles = flattenStyles(type.id, type.styles, []);\n
            this.sharedStylesHost.addStyles(styles);\n                        this.rendererByCompId.set(type.id, this.defaultRenderer);\n                    }\n                    return this.defaultRenderer;\n                }\n            }\n        };\n
  DomRendererFactory2.prototype.begin = function () { };\n        DomRendererFactory2.prototype.end = function ()
```

{ };\n return DomRendererFactory2;\n }());\n DomRendererFactory2.decorators = [\n { type: i0.Injectable }\n ];\n DomRendererFactory2.ctorParameters = function () { return [\n { type: EventManager },\n { type: DomSharedStylesHost },\n { type: String, decorators: [{ type: i0.Inject, args: [i0.APP_ID,] }] }\n ];\n };\n var DefaultDomRenderer2 = /** @class */ (function () {\n function DefaultDomRenderer2(eventManager) {\n this.eventManager = eventManager;\n this.data = Object.create(null);\n }\n DefaultDomRenderer2.prototype.destroy = function () { };\n DefaultDomRenderer2.prototype.createElement = function (name, namespace) {\n if (namespace) {\n // In cases where Ivy (not ViewEngine) is giving us the actual namespace, the look up by key\n // will result in undefined, so we just return the namespace here.\n return document.createElementNS(NAMESPACE_URIS[namespace] || namespace, name);\n }\n return document.createElement(name);\n };\n DefaultDomRenderer2.prototype.createComment = function (value) {\n return document.createComment(value);\n };\n DefaultDomRenderer2.prototype.createText = function (value) {\n return document.createTextNode(value);\n };\n DefaultDomRenderer2.prototype.appendChild = function (parent, newChild) {\n parent.appendChild(newChild);\n };\n DefaultDomRenderer2.prototype.insertBefore = function (parent, newChild, refChild) {\n if (parent) {\n parent.insertBefore(newChild, refChild);\n }\n };\n DefaultDomRenderer2.prototype.removeChild = function (parent, oldChild) {\n if (parent) {\n parent.removeChild(oldChild);\n }\n };\n DefaultDomRenderer2.prototype.selectRootElement = function (selectorOrNode, preserveContent) {\n var el = typeof selectorOrNode === 'string' ? document.querySelector(selectorOrNode) :\n selectorOrNode;\n if (!el) {\n throw new Error(\"The selector \\\"\" + selectorOrNode + \"\\\" did not match any elements\");\n }\n if (!preserveContent) {\n el.textContent = '';\n }\n return el;\n };\n DefaultDomRenderer2.prototype.parentNode = function (node) {\n return node.parentNode;\n };\n DefaultDomRenderer2.prototype.nextSibling = function (node) {\n return node.nextSibling;\n };\n DefaultDomRenderer2.prototype.setAttribute = function (el, name, value, namespace) {\n if (namespace) {\n name = namespace + ':' + name;\n // TODO(FW-811): Ivy may cause issues here because it's passing around\n // full URIs for namespaces, therefore this lookup will fail.\n var namespaceUri = NAMESPACE_URIS[namespace];\n if (namespaceUri) {\n el.setAttributeNS(namespaceUri, name, value);\n }\n else {\n el.setAttribute(name, value);\n }\n }\n else {\n el.setAttribute(name, value);\n }\n };\n DefaultDomRenderer2.prototype.removeAttribute = function (el, name, namespace) {\n if (namespace) {\n // TODO(FW-811): Ivy may cause issues here because it's passing around\n // full URIs for namespaces, therefore this lookup will fail.\n var namespaceUri = NAMESPACE_URIS[namespace];\n if (namespaceUri) {\n el.removeAttributeNS(namespaceUri, name);\n }\n else {\n // TODO(FW-811): Since ivy is passing around full URIs for namespaces\n // this could result in properties like `http://www.w3.org/2000/svg:cx=\"123\"`,\n // which is wrong.\n el.removeAttribute(namespace + \":\" + name);\n }\n }\n else {\n el.removeAttribute(name);\n }\n };\n DefaultDomRenderer2.prototype.addClass = function (el, name) {\n el.classList.add(name);\n };\n DefaultDomRenderer2.prototype.removeClass = function (el, name) {\n el.classList.remove(name);\n };\n DefaultDomRenderer2.prototype.setStyle = function (el, style, value, flags) {\n if (flags & (i0.RendererStyleFlags2.DashCase | i0.RendererStyleFlags2.Important)) {\n el.style.setProperty(style, value, flags & i0.RendererStyleFlags2.Important ? 'important' : '');\n }\n else {\n el.style[style] = value;\n }\n };\n DefaultDomRenderer2.prototype.removeStyle = function (el, style, flags) {\n if (flags & i0.RendererStyleFlags2.DashCase) {\n el.style.removeProperty(style);\n }\n else {\n // IE requires '' instead of null\n // see

```
https://github.com/angular/angular/issues/7916\n el.style[style]
 = '';\n }\n };\n DefaultDomRenderer2.prototype.setProperty = function (el, name, value) {\n
NG_DEV_MODE && checkNoSyntheticProp(name, 'property');\n el[name] = value;\n };\n
DefaultDomRenderer2.prototype.setValue = function (node, value) {\n node.nodeValue = value;\n };\n
 DefaultDomRenderer2.prototype.listen = function (target, event, callback) {\n NG_DEV_MODE &&
checkNoSyntheticProp(event, 'listener');\n if (typeof target === 'string') {\n return
this.eventManager.addGlobalEventListener(target, event, decoratePreventDefault(callback));\n }\n
return this.eventManager.addEventListener(target, event, decoratePreventDefault(callback));\n };\n return
DefaultDomRenderer2;\n }());\n var 0$2 = function () { return '@'.charCodeAt(0); };\n var AT_CHARCODE
= (0$2)();\n function checkNoSyntheticProp(name, nameKind) {\n
 if (name.charCodeAt(0) === AT_CHARCODE) {\n throw new Error(\"Found the synthetic \" + nameKind +
\" \" + name + \". Please include either \\\"BrowserAnimationsModule\\\" or \\\"NoopAnimationsModule\\\" in your
application.\");\n }\n }\n var EmulatedEncapsulationDomRenderer2 = /** @class */ (function (_super) {\n
  __extends(EmulatedEncapsulationDomRenderer2, _super);\n function
EmulatedEncapsulationDomRenderer2(eventManager, sharedStylesHost, component, appId) {\n var _this =
_super.call(this, eventManager) || this;\n _this.component = component;\n var styles =
flattenStyles(appId + '-' + component.id, component.styles, []);\n sharedStylesHost.addStyles(styles);\n
_this.contentAttr = shimContentAttribute(appId + '-' + component.id);\n _this.hostAttr =
shimHostAttribute(appId + '-' + component.id);\n return _this;\n }\n
EmulatedEncapsulationDomRenderer2.prototype.applyToHost
 = function (element) {\n _super.prototype.setAttribute.call(this, element, this.hostAttr, '');\n };\n
EmulatedEncapsulationDomRenderer2.prototype.createElement = function (parent, name) {\n var el =
_super.prototype.createElement.call(this, parent, name);\n _super.prototype.setAttribute.call(this, el,
this.contentAttr, '');\n return el;\n };\n return EmulatedEncapsulationDomRenderer2;\n
}(DefaultDomRenderer2));\n var ShadowDomRenderer = /** @class */ (function (_super) {\n
__extends(ShadowDomRenderer, _super);\n function ShadowDomRenderer(eventManager, sharedStylesHost,
hostEl, component) {\n var _this = _super.call(this, eventManager) || this;\n _this.sharedStylesHost =
sharedStylesHost;\n _this.hostEl = hostEl;\n _this.shadowRoot = hostEl.attachShadow({ mode: 'open'
});\n _this.sharedStylesHost.addHost(_this.shadowRoot);\n
        var styles = flattenStyles(component.id, component.styles, []);\n for (var i = 0; i < styles.length; i++)
{\n var styleEl = document.createElement('style');\n styleEl.textContent = styles[i];\n
_this.shadowRoot.appendChild(styleEl);\n }\n return _this;\n }\n
ShadowDomRenderer.prototype.nodeOrShadowRoot = function (node) {\n return node === this.hostEl ?
this.shadowRoot : node;\n };\n ShadowDomRenderer.prototype.destroy = function () {\n
this.sharedStylesHost.removeHost(this.shadowRoot);\n };\n ShadowDomRenderer.prototype.appendChild
= function (parent, newChild) {\n return _super.prototype.appendChild.call(this,
this.nodeOrShadowRoot(parent), newChild);\n };\n ShadowDomRenderer.prototype.insertBefore =
function (parent, newChild, refChild) {\n return _super.prototype.insertBefore.call(this,
this.nodeOrShadowRoot(parent),
 newChild, refChild);\n };\n ShadowDomRenderer.prototype.removeChild = function (parent, oldChild) {\n
        return _super.prototype.removeChild.call(this, this.nodeOrShadowRoot(parent), oldChild);\n };\n
ShadowDomRenderer.prototype.parentNode = function (node) {\n return
this.nodeOrShadowRoot(_super.prototype.parentNode.call(this, this.nodeOrShadowRoot(node)));\n };\n
return ShadowDomRenderer;\n }(DefaultDomRenderer2));\n\n var DomEventsPlugin = /** @class */ (function
(_super) {\n __extends(DomEventsPlugin, _super);\n function DomEventsPlugin(doc) {\n return
_super.call(this, doc) || this;\n }\n // This plugin should come last in the list of plugins, because it accepts
all\n // events.\n DomEventsPlugin.prototype.supports = function (eventName) {\n return true;\n
};\n DomEventsPlugin.prototype.addEventListener = function (element,
```

```
eventName, handler) {\n            var _this = this;\n            element.addEventListener(eventName, handler, false);\n
        return function () { return _this.removeEventListener(element, eventName, handler); };\n        };\n
DomEventsPlugin.prototype.removeEventListener = function (target, eventName, callback) {\n            return
target.removeEventListener(eventName, callback);\n        };\n        return DomEventsPlugin;\n
}(EventManagerPlugin));\n    DomEventsPlugin.decorators = [\n        { type: i0.Injectable }\n    ];\n
DomEventsPlugin.ctorParameters = function () { return [\n        { type: undefined, decorators: [{ type: i0.Inject,
args: [common.DOCUMENT,] }] }\n    ]; };\n\n    /**\n     * Supported HammerJS recognizer event names.\n     */\n
  var EVENT_NAMES = {\n        // pan\n        'pan': true,\n        'panstart': true,\n        'panmove': true,\n
'panend': true,\n        'pancancel': true,\n        'panleft': true,\n        'panright':
 true,\n        'panup': true,\n        'pandown': true,\n        // pinch\n        'pinch': true,\n        'pinchstart': true,\n
'pinchmove': true,\n        'pinchend': true,\n        'pinchcancel': true,\n        'pinchin': true,\n        'pinchout': true,\n
// press\n        'press': true,\n        'pressup': true,\n        // rotate\n        'rotate': true,\n        'rotatestart': true,\n
'rotatemove': true,\n        'rotateend': true,\n        'rotatecancel': true,\n        // swipe\n        'swipe': true,\n
'swipeleft': true,\n        'swiperight': true,\n        'swipeup': true,\n        'swipedown': true,\n        // tap\n        'tap':
 true,\n    };\n    /**\n     * DI token for providing [HammerJS](https://hammerjs.github.io/) support to Angular.\n     *
@see `HammerGestureConfig`\n     *\n     * @ngModule HammerModule\n     * @publicApi\n     */\n    var
HAMMER_GESTURE_CONFIG = new i0.InjectionToken('HammerGestureConfig');\n    /**\n     * Injection
 token used to provide a {@link HammerLoader} to Angular.\n     *\n     * @publicApi\n     */\n    var
HAMMER_LOADER = new i0.InjectionToken('HammerLoader');\n    /**\n     * An injectable [HammerJS
Manager](https://hammerjs.github.io/api/#hammermanager)\n     * for gesture recognition. Configures specific event
recognition.\n     * @publicApi\n     */\n    var HammerGestureConfig = /** @class */ (function () {\n        function
HammerGestureConfig() {\n            /**\n             * A set of supported event names for gestures to be used in
Angular.\n             * Angular supports all built-in recognizers, as listed in\n             * [HammerJS
documentation](https://hammerjs.github.io/).\n             */\n            this.events = [];\n            /**\n             * Maps
gesture event names to a set of configuration options\n             * that specify overrides to the default values for
specific properties.\n             *\n             * The key is a supported event name to
 be configured,\n             * and the options object contains a set of properties, with override values\n             * to be
applied to the named recognizer event.\n             * For example, to disable recognition of the rotate event, specify\n
         *  `{\"rotate\": {\"enable\": false}}`.\n             *\n             * Properties that are not present take the HammerJS
default values.\n             * For information about which properties are supported for which events,\n             * and
their allowed and default values, see\n             * [HammerJS documentation](https://hammerjs.github.io/).\n
*\n             */\n            this.overrides = {};\n        }\n        /**\n         * Creates a [HammerJS
Manager](https://hammerjs.github.io/api/#hammermanager)\n         * and attaches it to a given HTML element.\n
  * @param element The element that will recognize gestures.\n         * @returns A HammerJS event-manager
object.\n         */\n        HammerGestureConfig.prototype.buildHammer
 = function (element) {\n            var mc = new Hammer(element, this.options);\n            mc.get('pinch').set({ enable:
true });\n            mc.get('rotate').set({ enable: true });\n            for (var eventName in this.overrides) {\n
mc.get(eventName).set(this.overrides[eventName]);\n            }\n            return mc;\n        };\n        return
HammerGestureConfig;\n    }());\n    HammerGestureConfig.decorators = [\n        { type: i0.Injectable }\n    ];\n
/**\n     * Event plugin that adds Hammer support to an application.\n     *\n     * @ngModule HammerModule\n
*/\n    var HammerGesturesPlugin = /** @class */ (function (_super) {\n        __extends(HammerGesturesPlugin,
_super);\n        function HammerGesturesPlugin(doc, _config, console, loader) {\n            var _this =
_super.call(this, doc) || this;\n            _this._config = _config;\n            _this.console = console;\n            _this.loader
= loader;\n
            return _this;\n        }\n        HammerGesturesPlugin.prototype.supports = function (eventName) {\n            if
(!EVENT_NAMES.hasOwnProperty(eventName.toLowerCase()) && !this.isCustomEvent(eventName)) {\n
  return false;\n            }\n            if (!window.Hammer && !this.loader) {\n                this.console.warn(\"The \\\"\"
+ eventName + \"\\\" event cannot be bound because Hammer.JS is not \" +\n                    \"loaded and no custom
```

```
loader has been specified.\");\n                return false;\n            }\n            return true;\n        };\n
HammerGesturesPlugin.prototype.addEventListener = function (element, eventName, handler) {\n            var _this
= this;\n            var zone = this.manager.getZone();\n            eventName = eventName.toLowerCase();\n            // If
Hammer is not present but a loader is specified, we defer adding the event listener\n            // until Hammer is
loaded.\n            if (!window.Hammer
 && this.loader) {\n                // This `addEventListener` method returns a function to remove the added listener.\n
            // Until Hammer is loaded, the returned function needs to *cancel* the registration rather\n                // than
remove anything.\n                var cancelRegistration_1 = false;\n                var deregister_1 = function () {\n
  cancelRegistration_1 = true;\n                };\n                this.loader()\n                    .then(function () {\n                    //
If Hammer isn't actually loaded when the custom loader resolves, give up.\n                    if (!window.Hammer) {\n
                _this.console.warn(\"The custom HAMMER_LOADER completed, but Hammer.JS is not present.\");\n
                deregister_1 = function () { };\n                    return;\n                }\n                if
(!cancelRegistration_1) {\n                    // Now that Hammer is loaded and the listener
 is being loaded for real,\n                    // the deregistration function changes from canceling registration to
removal.\n                    deregister_1 = _this.addEventListener(element, eventName, handler);\n                }\n
            })\n                .catch(function () {\n                    _this.console.warn(\"The \\\"\" + eventName + \"\\\" event
cannot be bound because the custom \" +\n                        \"Hammer.JS loader failed.\");\n                    deregister_1
= function () { };\n                });\n            // Return a function that *executes* `deregister` (and not `deregister`
itself) so that we\n            // can change the behavior of `deregister` once the listener is added. Using a closure in\n
            // this way allows us to avoid any additional data structures to track listener removal.\n                return
function () {\n                    deregister_1();\n                };\n            }\n
    return zone.runOutsideAngular(function () {\n                // Creating the manager bind events, must be done
outside of angular\n                var mc = _this._config.buildHammer(element);\n                var callback = function
(eventObj) {\n                    zone.runGuarded(function () {\n                        handler(eventObj);\n                    });\n
            };\n                mc.on(eventName, callback);\n                return function () {\n                    mc.off(eventName,
callback);\n                    // destroy mc to prevent memory leak\n                    if (typeof mc.destroy === 'function') {\n
                        mc.destroy();\n                    }\n                };\n            });\n        };\n
HammerGesturesPlugin.prototype.isCustomEvent = function (eventName) {\n            return
this._config.events.indexOf(eventName) > -1;\n        };\n        return HammerGesturesPlugin;\n
}(EventManagerPlugin));\n    HammerGesturesPlugin.decorators
 = [\n        { type: i0.Injectable }\n    ];\n    HammerGesturesPlugin.ctorParameters = function () { return [\n        {
type: undefined, decorators: [{ type: i0.Inject, args: [common.DOCUMENT,] }] },\n        { type:
HammerGestureConfig, decorators: [{ type: i0.Inject, args: [HAMMER_GESTURE_CONFIG,] }] },\n        { type:
i0.Console },\n        { type: undefined, decorators: [{ type: i0.Optional }, { type: i0.Inject, args:
[HAMMER_LOADER,] }] }\n    ]; };\n    /**\n     * In Ivy, support for Hammer gestures is optional, so applications
must\n     * import the `HammerModule` at root to turn on support. This means that\n     * Hammer-specific code
can be tree-shaken away if not needed.\n     */\n    var HAMMER_PROVIDERS__POST_R3__ = [];\n    /**\n     *
In View Engine, support for Hammer gestures is built-in by default.\n     */\n    var
HAMMER_PROVIDERS__PRE_R3__ = [\n        {\n            provide: EVENT_MANAGER_PLUGINS,\n
useClass: HammerGesturesPlugin,\n
        multi: true,\n            deps: [common.DOCUMENT, HAMMER_GESTURE_CONFIG, i0.Console, [new
i0.Optional(), HAMMER_LOADER]]\n        },\n        { provide: HAMMER_GESTURE_CONFIG, useClass:
HammerGestureConfig, deps: [] },\n    ];\n    var HAMMER_PROVIDERS =
HAMMER_PROVIDERS__PRE_R3__;\n    /**\n     * Adds support for HammerJS.\n     *\n     * Import this
module at the root of your application so that Angular can work with\n     * HammerJS to detect gesture events.\n
*\n     * Note that applications still need to include the HammerJS script itself. This module\n     * simply sets up the
coordination layer between HammerJS and Angular's EventManager.\n     *\n     * @publicApi\n     */\n    var
HammerModule = /** @class */ (function () {\n        function HammerModule() {\n        }\n        return
```

```
HammerModule;\n    }());\n    HammerModule.decorators = [\n        { type: i0.NgModule, args: [{ providers:
HAMMER_PROVIDERS__PRE_R3__ },] }\n    ];\n\n    /**\n     * Defines supported
 modifiers for key events.\n     */\n    var MODIFIER_KEYS = ['alt', 'control', 'meta', 'shift'];\n    var
DOM_KEY_LOCATION_NUMPAD = 3;\n    // Map to convert some key or keyIdentifier values to what will be
returned by getEventKey\n    var _keyMap = {\n        // The following values are here for cross-browser
compatibility and to match the W3C standard\n        // cf https://www.w3.org/TR/DOM-Level-3-Events-key/\n
'\\b': 'Backspace',\n        '\\t': 'Tab',\n        '\\x7F': 'Delete',\n        '\\x1B': 'Escape',\n        'Del': 'Delete',\n        'Esc':
'Escape',\n        'Left': 'ArrowLeft',\n        'Right': 'ArrowRight',\n        'Up': 'ArrowUp',\n        'Down':
'ArrowDown',\n        'Menu': 'ContextMenu',\n        'Scroll': 'ScrollLock',\n        'Win': 'OS'\n    };\n    // There is a bug
in Chrome for numeric keypad keys:\n    // https://code.google.com/p/chromium/issues/detail?id=155654\n    // 1, 2,
3 ... are reported as A, B, C ...\n    var _chromeNumKeyPadMap = {\n
    'A': '1',\n        'B': '2',\n        'C': '3',\n        'D': '4',\n        'E': '5',\n        'F': '6',\n        'G': '7',\n        'H': '8',\n        'I':
'9',\n        'J': '*',\n        'K': '+',\n        'M': '-',\n        'N': '.',\n        'O': '/',\n        '\\x60': '0',\n        '\\x90': 'NumLock'\n
};\n    var 0$3 = function (event) { return event.altKey; }, 1 = function (event) { return event.ctrlKey; }, 2 = function
(event) { return event.metaKey; }, 3 = function (event) { return event.shiftKey; };\n    /**\n     * Retrieves modifiers
from key-event objects.\n     */\n    var MODIFIER_KEY_GETTERS = {\n        'alt': 0$3,\n        'control': 1,\n
'meta': 2,\n        'shift': 3\n    };\n    /**\n     * @publicApi\n     * A browser plug-in that provides support for handling
of key events in Angular.\n     */\n    var KeyEventsPlugin = /** @class */ (function (_super) {\n
__extends(KeyEventsPlugin, _super);\n        /**\n         * Initializes
 an instance of the browser plug-in.\n         * @param doc The document in which key events will be detected.\n
*/\n        function KeyEventsPlugin(doc) {\n            return _super.call(this, doc) || this;\n        }\n        /**\n         *
Reports whether a named key event is supported.\n         * @param eventName The event name to query.\n         *
@return True if the named key event is supported.\n         */\n        KeyEventsPlugin.prototype.supports = function
(eventName) {\n            return KeyEventsPlugin.parseEventName(eventName) != null;\n        };\n        /**\n         *
Registers a handler for a specific element and key event.\n         * @param element The HTML element to receive
event notifications.\n         * @param eventName The name of the key event to listen for.\n         * @param handler
A function to call when the notification occurs. Receives the\n         * event object as an argument.\n         *
@returns The key event that was registered.\n
        */\n        KeyEventsPlugin.prototype.addEventListener = function (element, eventName, handler) {\n            var
parsedEvent = KeyEventsPlugin.parseEventName(eventName);\n            var outsideHandler =
KeyEventsPlugin.eventCallback(parsedEvent['fullKey'], handler, this.manager.getZone());\n            return
this.manager.getZone().runOutsideAngular(function () {\n                return
common.getDOM().onAndCancel(element, parsedEvent['domEventName'], outsideHandler);\n            });\n        };\n
    KeyEventsPlugin.parseEventName = function (eventName) {\n            var parts =
eventName.toLowerCase().split('.');\n            var domEventName = parts.shift();\n            if ((parts.length === 0) ||
!(domEventName === 'keydown' || domEventName === 'keyup')) {\n                return null;\n            }\n            var
key = KeyEventsPlugin._normalizeKey(parts.pop());\n            var fullKey = '';\n
MODIFIER_KEYS.forEach(function (modifierName) {\n
        var index = parts.indexOf(modifierName);\n                if (index > -1) {\n                    parts.splice(index, 1);\n
            fullKey += modifierName + '.';\n                }\n            });\n            fullKey += key;\n            if (parts.length
!= 0 || key.length === 0) {\n                // returning null instead of throwing to let another plugin process the event\n
            return null;\n            }\n            // NOTE: Please don't rewrite this as so, as it will break JSCompiler property
renaming.\n            //       The code must remain in the `result['domEventName']` form.\n            // return
{domEventName, fullKey};\n            var result = {};\n            result['domEventName'] = domEventName;\n
result['fullKey'] = fullKey;\n            return result;\n        };\n        KeyEventsPlugin.getEventFullKey = function
(event) {\n            var fullKey = '';\n            var key = getEventKey(event);\n            key = key.toLowerCase();\n
            if (key === ' ') {\n                key = 'space'; // for readability\n            }\n            else if (key === '.') {\n
 key = 'dot'; // because '.' is used as a separator in event names\n            }\n
```

MODIFIER_KEYS.forEach(function (modifierName) {\n if (modifierName != key) {\n var modifierGetter = MODIFIER_KEY_GETTERS[modifierName];\n if (modifierGetter(event)) {\n fullKey += modifierName + '.';\n }\n }\n });\n fullKey += key;\n return fullKey;\n };\n /**\n * Configures a handler callback for a key event.\n * @param fullKey The event name that combines all simultaneous keystrokes.\n * @param handler The function that responds to the key event.\n * @param zone The zone in which the event occurred.\n * @returns A callback function.\n

*/\n KeyEventsPlugin.eventCallback = function (fullKey, handler, zone) {\n return function (event /** TODO #9100 */) {\n if (KeyEventsPlugin.getEventFullKey(event) === fullKey) {\n zone.runGuarded(function () { return handler(event); });\n }\n };\n };\n /** @internal */\n KeyEventsPlugin._normalizeKey = function (keyName) {\n // TODO: switch to a Map if the mapping grows too much\n switch (keyName) {\n case 'esc':\n return 'escape';\n default:\n return keyName;\n }\n };\n return KeyEventsPlugin;\n }(EventManagerPlugin));\n KeyEventsPlugin.decorators = [\n { type: i0.Injectable }\n ];\n KeyEventsPlugin.ctorParameters = function () { return [\n { type: undefined, decorators: [{ type: i0.Inject, args: [common.DOCUMENT,] }] }\n ]; };\n function getEventKey(event) {\n var key = event.key;\n if (key == null) {\n key = event.keyIdentifier;\n // keyIdentifier is defined in the old draft of DOM Level 3 Events implemented by Chrome and\n // Safari cf\n // https://www.w3.org/TR/2007/WD-DOM-Level-3-Events-20071221/events.html#Events-KeyboardEvents-Interfaces\n if (key == null) {\n return 'Unidentified';\n }\n if (key.startsWith('U+')) {\n key = String.fromCharCode(parseInt(key.substring(2), 16));\n if (event.location === DOM_KEY_LOCATION_NUMPAD && _chromeNumKeyPadMap.hasOwnProperty(key)) {\n // There is a bug in Chrome for numeric keypad keys:\n // https://code.google.com/p/chromium/issues/detail?id=155654\n // 1, 2, 3 ... are reported as A, B, C ...\n key = _chromeNumKeyPadMap[key];\n }\n }\n }\n return _keyMap[key] || key;\n }\n\n /**\n * DomSanitizer helps preventing Cross Site Scripting Security bugs (XSS) by sanitizing\n * values to be safe to use in the different DOM contexts.\n *\n * For example, when binding a URL in an `<a [href]=\"someValue\">` hyperlink, `someValue` will be\n * sanitized so that an attacker cannot inject e.g. a `javascript:` URL that would execute code on\n * the website.\n *\n * In specific situations, it might be necessary to disable sanitization, for example if the\n * application genuinely needs to produce a `javascript:` style link with a dynamic value in it.\n * Users can bypass security by constructing a value with one of the `bypassSecurityTrust...`\n * methods, and then binding to that value from the template.\n *\n * These situations should be very rare, and extraordinary care must be taken to avoid creating a\n * Cross Site Scripting (XSS) security bug!\n *\n

* When using `bypassSecurityTrust...`, make sure to call the method as early as possible and as\n * close as possible to the source of the value, to make it easy to verify no security bug is\n * created by its use.\n *\n * It is not required (and not recommended) to bypass security if the value is safe, e.g. a URL that\n * does not start with a suspicious protocol, or an HTML snippet that does not contain dangerous\n * code. The sanitizer leaves safe values intact.\n *\n * @security Calling any of the `bypassSecurityTrust...` APIs disables Angular's built-in\n * sanitization for the value passed in. Carefully check and audit all values and code paths going\n * into this call. Make sure any user data is appropriately escaped for this security context.\n * For more detail, see the [Security Guide](https://g.co/ng/security).\n *\n * @publicApi\n */\n var DomSanitizer = /** @class */ (function () {\n function DomSanitizer()\n {\n }\n return DomSanitizer;\n }());\n DomSanitizer.prov = i0.defineInjectable({ factory: function DomSanitizer_Factory() { return i0.inject(DomSanitizerImpl); }, token: DomSanitizer, providedIn: \"root\" });\n DomSanitizer.decorators = [\n { type: i0.Injectable, args: [{ providedIn: 'root', useExisting: i0.forwardRef(function () { return DomSanitizerImpl; }) },] }\n ];\n function domSanitizerImplFactory(injector) {\n return new DomSanitizerImpl(injector.get(common.DOCUMENT));\n }\n var DomSanitizerImpl = /**

@class */ (function (_super) {\n __extends(DomSanitizerImpl, _super);\n function DomSanitizerImpl(_doc) {\n var _this = _super.call(this) || this;\n _this._doc = _doc;\n return _this;\n }\n DomSanitizerImpl.prototype.sanitize = function (ctx, value) {\n if (value == null)\n return null;\n switch (ctx) {\n case i0.SecurityContext.NONE:\n return value;\n case i0.SecurityContext.HTML:\n if (i0.allowSanitizationBypassAndThrow(value, \"HTML\" /* Html */)) {\n return i0.unwrapSafeValue(value);\n }\n return i0._sanitizeHtml(this._doc, String(value));\n case i0.SecurityContext.STYLE:\n if (i0.allowSanitizationBypassAndThrow(value, \"Style\" /* Style */)) {\n return i0.unwrapSafeValue(value);\n }\n return value;\n case i0.SecurityContext.SCRIPT:\n if (i0.allowSanitizationBypassAndThrow(value, \"Script\" /* Script */)) {\n return i0.unwrapSafeValue(value);\n }\n throw new Error('unsafe value used in a script context');\n case i0.SecurityContext.URL:\n var type = i0.getSanitizationBypassType(value);\n if (i0.allowSanitizationBypassAndThrow(value, \"URL\" /* Url */)) {\n return i0.unwrapSafeValue(value);\n }\n return i0._sanitizeUrl(String(value));\n case i0.SecurityContext.RESOURCE_URL:\n if (i0.allowSanitizationBypassAndThrow(value, \"ResourceURL\" /* ResourceUrl */)) {\n return i0.unwrapSafeValue(value);\n }\n throw new Error('unsafe value used in a resource URL context (see https://g.co/ng/security#xss)');\n default:\n throw new Error(\"Unexpected SecurityContext \" + ctx + \" (see https://g.co/ng/security#xss)\");\n }\n };\n DomSanitizerImpl.prototype.bypassSecurityTrustHtml = function (value) {\n return i0.bypassSanitizationTrustHtml(value);\n };\n DomSanitizerImpl.prototype.bypassSecurityTrustStyle = function (value) {\n return i0.bypassSanitizationTrustStyle(value);\n };\n DomSanitizerImpl.prototype.bypassSecurityTrustScript = function (value) {\n return i0.bypassSanitizationTrustScript(value);\n };\n DomSanitizerImpl.prototype.bypassSecurityTrustUrl = function (value) {\n return i0.bypassSanitizationTrustUrl(value);\n };\n DomSanitizerImpl.prototype.bypassSecurityTrustResourceUrl = function (value) {\n return i0.bypassSanitizationTrustResourceUrl(value);\n };\n return DomSanitizerImpl;\n }(DomSanitizer));\n DomSanitizerImpl.prov = i0.defineInjectable({ factory: function DomSanitizerImpl_Factory() { return domSanitizerImplFactory(i0.inject(i0.INJECTOR)); }, token: DomSanitizerImpl, providedIn: \"root\" });\n DomSanitizerImpl.decorators = [\n { type: i0.Injectable, args: [{ providedIn: 'root', useFactory: domSanitizerImplFactory, deps: [i0.Injector] },] }\n ];\n DomSanitizerImpl.ctorParameters = function () { return [\n { type: undefined, decorators: [{ type: i0.Inject, args: [common.DOCUMENT,] }] }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n function initDomAdapter() {\n BrowserDomAdapter.makeCurrent();\n BrowserGetTestability.init();\n }\n function errorHandler() {\n return new i0.ErrorHandler();\n }\n function _document() {\n // Tell ivy about the global document\n i0.setDocument(document);\n return document;\n }\n var 0$4 = common.PLATFORM_BROWSER_ID;\n var INTERNAL_BROWSER_PLATFORM_PROVIDERS = [\n { provide: i0.PLATFORM_ID, useValue: 0$4 },\n { provide: i0.PLATFORM_INITIALIZER, useValue: initDomAdapter, multi: true },\n { provide: common.DOCUMENT, useFactory: _document, deps: [] },\n ];\n var BROWSER_SANITIZATION_PROVIDERS__PRE_R3__ = [\n { provide: i0.Sanitizer, useExisting: DomSanitizer },\n { provide: DomSanitizer, useClass: DomSanitizerImpl, deps: [common.DOCUMENT] },\n ];\n var BROWSER_SANITIZATION_PROVIDERS__POST_R3__ = [];\n /**\n * @security Replacing built-in sanitization providers exposes the application to XSS risks.\n * Attacker-controlled data introduced by an unsanitized provider could expose your\n * application to XSS risks. For more detail, see the [Security Guide](https://g.co/ng/security).\n * @publicApi\n */\n var BROWSER_SANITIZATION_PROVIDERS =

BROWSER_SANITIZATION_PROVIDERS__PRE_R3__;\n /**\n * A factory function that returns a `PlatformRef` instance associated with browser service\n * providers.\n *\n * @publicApi\n */\n var platformBrowser = i0.createPlatformFactory(i0.platformCore, 'browser', INTERNAL_BROWSER_PLATFORM_PROVIDERS);\n var BROWSER_MODULE_PROVIDERS = [\n BROWSER_SANITIZATION_PROVIDERS,\n { provide: i0.INJECTOR_SCOPE, useValue: 'root' },\n { provide: i0.ErrorHandler, useFactory: errorHandler, deps: [] },\n {\n provide: EVENT_MANAGER_PLUGINS,\n useClass: DomEventsPlugin,\n multi: true,\n deps: [common.DOCUMENT, i0.NgZone, i0.PLATFORM_ID]\n },\n { provide: EVENT_MANAGER_PLUGINS, useClass: KeyEventsPlugin, multi: true, deps: [common.DOCUMENT] },\n HAMMER_PROVIDERS,\n {\n provide: DomRendererFactory2,\n useClass: DomRendererFactory2,\n deps: [EventManager, DomSharedStylesHost, i0.APP_ID]\n },\n { provide: i0.RendererFactory2, useExisting: DomRendererFactory2 },\n { provide: SharedStylesHost, useExisting: DomSharedStylesHost },\n { provide: DomSharedStylesHost, useClass: DomSharedStylesHost, deps: [common.DOCUMENT] },\n { provide: i0.Testability, useClass: i0.Testability, deps: [i0.NgZone] },\n { provide: EventManager, useClass: EventManager, deps: [EVENT_MANAGER_PLUGINS, i0.NgZone] },\n ELEMENT_PROBE_PROVIDERS,\n ];\n /**\n * Exports required infrastructure for all Angular apps.\n * Included by default in all Angular apps created with the CLI\n * `new` command.\n * Re-exports `CommonModule` and `ApplicationModule`, making their\n * exports and providers available to all apps.\n *\n * @publicApi\n */\n var BrowserModule = /** @class */ (function () {\n function BrowserModule(parentModule) {\n if (parentModule) {\n throw new Error(\"BrowserModule has already been loaded. If you need access to common directives such as NgIf and NgFor from a lazy loaded module, import CommonModule instead.\");\n }\n }\n /**\n * Configures a browser-based app to transition from a server-rendered app, if\n * one is present on the page.\n *\n * @param params An object containing an identifier for the app to transition.\n * The ID must match between the client and server versions of the app.\n * @returns The reconfigured `BrowserModule` to import into the app's root `AppModule`.\n */\n BrowserModule.withServerTransition = function (params) {\n return {\n ngModule: BrowserModule,\n providers: [\n { provide: i0.APP_ID, useValue: params.appId },\n { provide: TRANSITION_ID, useExisting: i0.APP_ID },\n SERVER_TRANSITION_PROVIDERS,\n ],\n };\n };\n return BrowserModule;\n }());\n BrowserModule.decorators = [\n { type: i0.NgModule, args: [{ providers: BROWSER_MODULE_PROVIDERS, exports: [common.CommonModule, i0.ApplicationModule] },] }\n ];\n BrowserModule.ctorParameters = function () { return [\n { type: BrowserModule, decorators: [{ type: i0.Optional }, { type: i0.SkipSelf }, { type: i0.Inject, args: [BrowserModule,] }] }\n ]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Factory to create a `Meta` service instance for the current DOM document.\n */\n function createMeta() {\n return new Meta(i0.inject(common.DOCUMENT));\n }\n /**\n * A service for managing HTML `<meta>` tags.\n *\n * Properties of the `MetaDefinition` object match the attributes of the\n * HTML `<meta>` tag. These tags define document metadata that is important for\n * things like configuring a Content Security Policy, defining browser compatibility\n * and security settings, setting HTTP Headers, defining rich content for social sharing,\n * and Search Engine Optimization (SEO).\n *\n * To identify specific `<meta>` tags in a document, use an attribute selection\n * string in the format `\"tag_attribute='value string'\"`.\n * For example, an `attrSelector` value of `\"name='description'\"` matches a tag\n * whose `name` attribute has the value `\"description\"`.\n * Selectors are used with the `querySelector()` Document method,\n * in the format `meta[{attrSelector}]`.\n *\n * @see [HTML meta tag](https://developer.mozilla.org/docs/Web/HTML/Element/meta)\n * @see

[Document.querySelector()](https://developer.mozilla.org/docs/Web/API/Document/querySelector)\n *\n *\n * @publicApi\n */\n var Meta = /** @class */ (function () {\n function Meta(_doc) {\n this._doc = _doc;\n this._dom = common.getDOM();\n }\n /**\n * Retrieves or creates a specific `<meta>` tag element in the
current HTML document.\n * In searching for an existing tag, Angular attempts to match the `name` or `property` attribute\n * values in the provided tag definition, and verifies that all other attribute values are equal.\n * If an existing element is found, it is returned and is not modified in any way.\n * @param tag The definition of a `<meta>` element to match or create.\n * @param forceCreation True to create a new element without checking whether one already exists.\n * @returns The existing element with the same attributes and values if found,\n * the new element if no match is found, or `null` if the tag parameter is not defined.\n */\n Meta.prototype.addTag = function (tag, forceCreation) {\n if (forceCreation === void 0) { forceCreation = false; }\n if (!tag)\n return null;\n return this._getOrCreateElement(tag, forceCreation);\n };\n /**\n
* Retrieves or creates a set of `<meta>` tag elements in the current HTML document.\n * In searching for an existing tag, Angular attempts to match the `name` or `property` attribute\n * values in the provided tag definition, and verifies that all other attribute values are equal.\n * @param tags An array of tag definitions to match or create.\n * @param forceCreation True to create new elements without checking whether they already exist.\n * @returns The matching elements if found, or the new elements.\n */\n Meta.prototype.addTags = function (tags, forceCreation) {\n var _this = this;\n if (forceCreation === void 0) { forceCreation = false; }\n if (!tags)\n return [];\n return tags.reduce(function (result, tag) {\n if (tag) {\n result.push(_this._getOrCreateElement(tag, forceCreation));\n }\n return result;\n
}, []);\n };\n /**\n * Retrieves a `<meta>` tag element in the current HTML document.\n * @param attrSelector The tag attribute and value to match against, in the format\n * `\"tag_attribute='value string'\"`.\n * @returns The matching element, if any.\n */\n Meta.prototype.getTag = function (attrSelector) {\n if (!attrSelector)\n return null;\n return this._doc.querySelector(\"meta[\" + attrSelector + \"]\") || null;\n };\n /**\n * Retrieves a set of `<meta>` tag elements in the current HTML document.\n * @param attrSelector The tag attribute and value to match against, in the format\n * `\"tag_attribute='value string'\"`.\n * @returns The matching elements, if any.\n */\n Meta.prototype.getTags = function (attrSelector) {\n if (!attrSelector)\n return [];\n var list /*NodeList*/
= this._doc.querySelectorAll(\"meta[\" + attrSelector + \"]\");\n return list ? [].slice.call(list) : [];\n };\n /**\n * Modifies an existing `<meta>` tag element in the current HTML document.\n * @param tag The tag description with which to replace the existing tag content.\n * @param selector A tag attribute and value to match against, to identify\n * an existing tag. A string in the format `\"tag_attribute=`value string`\"`.\n * If not supplied, matches a tag with the same `name` or `property` attribute value as the\n * replacement tag.\n * @return The modified element.\n */\n Meta.prototype.updateTag = function (tag, selector) {\n if (!tag)\n return null;\n selector = selector || this._parseSelector(tag);\n var meta = this.getTag(selector);\n if (meta) {\n return this._setMetaElementAttributes(tag, meta);\n }\n return this._getOrCreateElement(tag, true);\n };\n /**\n * Removes an existing `<meta>` tag element from the current HTML document.\n * @param attrSelector A tag attribute and value to match against, to identify\n * an existing tag. A string in the format `\"tag_attribute=`value string`\"`.\n */\n Meta.prototype.removeTag = function (attrSelector) {\n this.removeTagElement(this.getTag(attrSelector));\n };\n /**\n * Removes an existing `<meta>` tag element from the current HTML document.\n * @param meta The tag definition to match against to identify an existing tag.\n */\n Meta.prototype.removeTagElement = function (meta) {\n if (meta) {\n this._dom.remove(meta);\n }\n };\n Meta.prototype._getOrCreateElement = function (meta, forceCreation) {\n if (forceCreation === void 0) { forceCreation = false;

```
}\n        if (!forceCreation) {\n            var selector = this._parseSelector(meta);\n            var elem =
this.getTag(selector);\n            // It's allowed to have multiple elements with the same name so it's not enough to\n
        // just check that element with the same name already present on the page. We also need to\n            //
check if element has tag attributes\n            if (elem && this._containsAttributes(meta, elem))\n                return
elem;\n        }\n        var element = this._dom.createElement('meta');\n
this._setMetaElementAttributes(meta, element);\n        var head = this._doc.getElementsByTagName('head')[0];\n
        head.appendChild(element);\n        return element;\n    };\n
Meta.prototype._setMetaElementAttributes = function (tag, el) {\n        var _this = this;\n
Object.keys(tag).forEach(function (prop) { return el.setAttribute(_this._getMetaKeyMap(prop),
tag[prop]); });\n        return el;\n    };\n    Meta.prototype._parseSelector = function (tag) {\n        var attr =
tag.name ? 'name' : 'property';\n        return attr + \"=\\\"\" + tag[attr] + \"\\\"\";\n    };\n
Meta.prototype._containsAttributes = function (tag, elem) {\n        var _this = this;\n        return
Object.keys(tag).every(function (key) { return elem.getAttribute(_this._getMetaKeyMap(key)) === tag[key]; });\n
};\n    Meta.prototype._getMetaKeyMap = function (prop) {\n        return META_KEYS_MAP[prop] ||
prop;\n    };\n    return Meta;\n}());\n Meta.prov = i0.defineInjectable({ factory: createMeta, token: Meta,
providedIn: \"root\" });\n Meta.decorators = [\n    { type: i0.Injectable, args: [{ providedIn: 'root', useFactory:
createMeta, deps: [] },] }\n ];\n Meta.ctorParameters = function () { return [\n    { type: undefined, decorators:
[{ type: i0.Inject, args: [common.DOCUMENT,]
}] }\n ]; };\n /**\n * Mapping for MetaDefinition properties with their correct meta attribute names\n */\n
var META_KEYS_MAP = {\n    httpEquiv: 'http-equiv'\n};\n\n/**\n * @license\n * Copyright Google
LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n /**\n * Factory to create Title service.\n
*/\n function createTitle() {\n    return new Title(i0.inject(common.DOCUMENT));\n}\n /**\n * A
service that can be used to get and set the title of a current HTML document.\n *\n * Since an Angular
application can't be bootstrapped on the entire HTML document (`<html>` tag)\n * it is not possible to bind to the
`text` property of the `HTMLTitleElement` elements\n * (representing the `<title>` tag). Instead, this service can
be used to set and get the current\n
 * title value.\n *\n * @publicApi\n */\n var Title = /** @class */ (function () {\n    function
Title(_doc) {\n        this._doc = _doc;\n    }\n    /**\n     * Get the title of the current HTML document.\n
 */\n    Title.prototype.getTitle = function () {\n        return this._doc.title;\n    };\n    /**\n     * Set the
title of the current HTML document.\n     * @param newTitle\n     */\n    Title.prototype.setTitle = function
(newTitle) {\n        this._doc.title = newTitle || '';\n    };\n    return Title;\n}());\n Title.prov =
i0.defineInjectable({ factory: createTitle, token: Title, providedIn: \"root\" });\n Title.decorators = [\n    { type:
i0.Injectable, args: [{ providedIn: 'root', useFactory: createTitle, deps: [] },] }\n ];\n Title.ctorParameters =
function () { return [\n    { type: undefined, decorators: [{ type: i0.Inject, args: [common.DOCUMENT,] }] }\n
]; };\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
 */\n var win = typeof window !== 'undefined' && window || {};\n\n /**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can
be\n * found in the LICENSE file at https://angular.io/license\n */\n var ChangeDetectionPerfRecord = /**
@class */ (function () {\n    function ChangeDetectionPerfRecord(msPerTick, numTicks) {\n
this.msPerTick = msPerTick;\n        this.numTicks = numTicks;\n    }\n    return
ChangeDetectionPerfRecord;\n}());\n /**\n * Entry point for all Angular profiling-related debug tools. This
object\n * corresponds to the `ng.profiler` in the dev console.\n */\n var AngularProfiler
= /** @class */ (function () {\n    function AngularProfiler(ref) {\n        this.appRef =
ref.injector.get(i0.ApplicationRef);\n    }\n    // tslint:disable:no-console\n    /**\n     * Exercises change
detection in a loop and then prints the average amount of\n     * time in milliseconds how long a single round of
change detection takes for\n     * the current state of the UI. It runs a minimum of 5 rounds for a minimum\n
```

```
* of 500 milliseconds.\n *\n * Optionally, a user may pass a `config` parameter containing a map of\n
* options. Supported options are:\n *\n * `record` (boolean) - causes the profiler to record a CPU profile
while\n * it exercises the change detector. Example:\n *\n * ```\n *
ng.profiler.timeChangeDetection({record: true})\n * ```\n */\n
AngularProfiler.prototype.timeChangeDetection = function (config) {\n var record
 = config && config['record'];\n var profileName = 'Change Detection';\n // Profiler is not available in
Android browsers without dev tools opened\n var isProfilerAvailable = win.console.profile != null;\n
if (record && isProfilerAvailable) {\n win.console.profile(profileName);\n }\n var start =
common.getDOM().performanceNow();\n var numTicks = 0;\n while (numTicks < 5 ||
(common.getDOM().performanceNow() - start) < 500) {\n this.appRef.tick();\n numTicks++;\n
  }\n var end = common.getDOM().performanceNow();\n if (record && isProfilerAvailable) {\n
   win.console.profileEnd(profileName);\n }\n var msPerTick = (end - start) / numTicks;\n
win.console.log(\"ran \" + numTicks + \" change detection cycles\");\n win.console.log(msPerTick.toFixed(2)
+ \" ms per check\");\n
      return new ChangeDetectionPerfRecord(msPerTick, numTicks);\n };\n return AngularProfiler;\n
}());\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n
 */\n var PROFILER_GLOBAL_NAME = 'profiler';\n /**\n * Enabled Angular debug tools that are
accessible via your browser's\n * developer console.\n *\n * Usage:\n *\n * 1. Open developer console
(e.g. in Chrome Ctrl + Shift + j)\n * 1. Type `ng.` (usually the console will show auto-complete suggestion)\n *
1. Try the change detection profiler `ng.profiler.timeChangeDetection()`\n * then hit Enter.\n *\n *
@publicApi\n */\n function enableDebugTools(ref) {\n exportNgVar(PROFILER_GLOBAL_NAME, new
AngularProfiler(ref));\n return ref;\n }\n /**\n * Disables
 Angular tools.\n *\n * @publicApi\n */\n function disableDebugTools() {\n
exportNgVar(PROFILER_GLOBAL_NAME, null);\n }\n\n /**\n * @license\n * Copyright Google LLC
All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n *
found in the LICENSE file at https://angular.io/license\n */\n function escapeHtml(text) {\n var
escapedText = {\n '&': '&a;',\n '\"': '&q;',\n '\\': '&s;',\n '<': '&l;',\n '>': '&g;',\n
};\n return text.replace(/[&\"<>]/g, function (s) { return escapedText[s]; });\n }\n function
unescapeHtml(text) {\n var unescapedText = {\n '&a;': '&',\n '&q;': '\"',\n '&s;': '\\',\n
'&l;': '<',\n '&g;': '>',\n };\n return text.replace(/&[^;]+;/g, function (s) { return unescapedText[s];
});\n }\n /**\n * Create
 a `StateKey<T>` that can be used to store value of type T with `TransferState`.\n *\n * Example:\n *\n *
```\n * const COUNTER_KEY = makeStateKey<number>('counter');\n * let value = 10;\n *\n *
transferState.set(COUNTER_KEY, value);\n * ```\n *\n * @publicApi\n */\n function
makeStateKey(key) {\n return key;\n }\n /**\n * A key value store that is transferred from the application
on the server side to the application\n * on the client side.\n *\n * `TransferState` will be available as an
injectable token. To use it import\n * `ServerTransferStateModule` on the server and
`BrowserTransferStateModule` on the client.\n *\n * The values in the store are serialized/deserialized using
JSON.stringify/JSON.parse. So only\n * boolean, number, string, null and non-class objects will be serialized and
deserialized in a\n * non-lossy manner.\n *\n * @publicApi\n */\n var TransferState
 = /** @class */ (function () {\n function TransferState() {\n this.store = {};\n
this.onSerializeCallbacks = {};\n }\n /** @internal */\n TransferState.init = function (initState) {\n
  var transferState = new TransferState();\n transferState.store = initState;\n return transferState;\n
};\n /**\n * Get the value corresponding to a key. Return `defaultValue` if key is not found.\n */\n
TransferState.prototype.get = function (key, defaultValue) {\n return this.store[key] !== undefined ?
this.store[key] : defaultValue;\n };\n /**\n * Set the value corresponding to a key.\n */\n
TransferState.prototype.set = function (key, value) {\n this.store[key] = value;\n };\n /**\n *
```
```

Remove a key from the store.\n */\n TransferState.prototype.remove = function (key) {\n delete this.store[key];\n };\n /**\n * Test whether a key exists in the store.\n */\n TransferState.prototype.hasKey = function (key) {\n return this.store.hasOwnProperty(key);\n };\n /**\n * Register a callback to provide the value for a key when `toJson` is called.\n */\n TransferState.prototype.onSerialize = function (key, callback) {\n this.onSerializeCallbacks[key] = callback;\n };\n /**\n * Serialize the current state of the store to JSON.\n */\n TransferState.prototype.toJson = function () {\n // Call the onSerialize callbacks and put those values into the store.\n for (var key in this.onSerializeCallbacks) {\n if (this.onSerializeCallbacks.hasOwnProperty(key)) {\n try {\n this.store[key] = this.onSerializeCallbacks[key]();\n }\n catch (e) {\n console.warn('Exception in onSerialize callback: ', e);\n }\n }\n }\n return JSON.stringify(this.store);\n };\n return TransferState;\n }());\n TransferState.decorators = [\n { type: i0.Injectable }\n ];\n function initTransferState(doc, appId) {\n // Locate the script tag with the JSON data transferred from the server.\n // The id of the script tag is set to the Angular appId + 'state'.\n var script = doc.getElementById(appId + '-state');\n var initialState = {};\n if (script && script.textContent) {\n try {\n initialState = JSON.parse(unescapeHtml(script.textContent));\n }\n catch (e) {\n console.warn('Exception while restoring TransferState for app ' + appId, e);\n }\n }\n return TransferState.init(initialState);\n }\n /**\n * NgModule to install on the client side while using the `TransferState` to transfer state from\n * server to client.\n *\n * @publicApi\n */\n var BrowserTransferStateModule = /** @class */ (function () {\n function BrowserTransferStateModule() {\n }\n return BrowserTransferStateModule;\n }());\n BrowserTransferStateModule.decorators = [\n { type: i0.NgModule, args: [{\n providers: [{ provide: TransferState, useFactory: initTransferState, deps: [common.DOCUMENT, i0.APP_ID] }],\n },]\n }\n ];\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * Predicates for use with {@link DebugElement}'s query functions.\n *\n * @publicApi\n */\n var By = /** @class */ (function () {\n function By() {\n }\n /**\n * Match all nodes.\n *\n * @usageNotes\n * ### Example\n *\n * {@example platform-browser/dom/debug/ts/by/by.ts region='by_all'}\n */\n By.all = function () {\n return function () { return true; };\n };\n /**\n * Match elements by the given CSS selector.\n *\n * @usageNotes\n * ### Example\n *\n * {@example platform-browser/dom/debug/ts/by/by.ts region='by_css'}\n */\n By.css = function (selector) {\n return function (debugElement) {\n return debugElement.nativeElement != null ?\n elementMatches(debugElement.nativeElement, selector) :\n false;\n };\n };\n /**\n * Match nodes that have the given directive present.\n *\n * @usageNotes\n * ### Example\n *\n * {@example platform-browser/dom/debug/ts/by/by.ts region='by_directive'}\n */\n By.directive = function (type) {\n return function (debugNode) { return debugNode.providerTokens.indexOf(type) !== -1; };\n };\n return By;\n }());\n function elementMatches(n, selector) {\n if (common.getDOM().isElementNode(n)) {\n return n.matches && n.matches(selector) ||\n n.msMatchesSelector && n.msMatchesSelector(selector) ||\n n.webkitMatchesSelector && n.webkitMatchesSelector(selector);\n }\n return false;\n }\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n /**\n * @publicApi\n */\n var VERSION = new i0.Version('11.0.5');\n\n /**\n * @license\n * Copyright Google LLC All Rights

Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n // This file only reexports content of the `src` folder. Keep it that way.\n\n /**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n /**\n * Generated bundle index. Do not edit.\n */\n\n Object.defineProperty(exports, 'getDOM', {\n enumerable: true,\n get: function () {\n return common.getDOM;\n }\n });\n exports.BrowserModule = BrowserModule;\n exports.BrowserTransferStateModule = BrowserTransferStateModule;\n exports.By = By;\n exports.DomSanitizer = DomSanitizer;\n exports.EVENT_MANAGER_PLUGINS = EVENT_MANAGER_PLUGINS;\n exports.EventManager = EventManager;\n exports.HAMMER_GESTURE_CONFIG = HAMMER_GESTURE_CONFIG;\n exports.HAMMER_LOADER = HAMMER_LOADER;\n exports.HammerGestureConfig = HammerGestureConfig;\n exports.HammerModule = HammerModule;\n exports.Meta = Meta;\n exports.Title = Title;\n exports.TransferState = TransferState;\n exports.VERSION = VERSION;\n exports.disableDebugTools = disableDebugTools;\n exports.enableDebugTools = enableDebugTools;\n exports.makeStateKey = makeStateKey;\n exports.platformBrowser = platformBrowser;\n exports.BROWSER_SANITIZATION_PROVIDERS = BROWSER_SANITIZATION_PROVIDERS;\n exports.BROWSER_SANITIZATION_PROVIDERS__POST_R3__ = BROWSER_SANITIZATION_PROVIDERS__POST_R3__;\n exports.BrowserDomAdapter = BrowserDomAdapter;\n exports.BrowserGetTestability = BrowserGetTestability;\n exports.DomEventsPlugin = DomEventsPlugin;\n exports.DomRendererFactory2 = DomRendererFactory2;\n exports.DomSanitizerImpl = DomSanitizerImpl;\n exports.DomSharedStylesHost = DomSharedStylesHost;\n exports.ELEMENT_PROBE_PROVIDERS = ELEMENT_PROBE_PROVIDERS;\n exports.ELEMENT_PROBE_PROVIDERS__POST_R3__ = ELEMENT_PROBE_PROVIDERS__POST_R3__;\n exports.HAMMER_PROVIDERS__POST_R3__ = HAMMER_PROVIDERS__POST_R3__;\n exports.HammerGesturesPlugin = HammerGesturesPlugin;\n exports.INTERNAL_BROWSER_PLATFORM_PROVIDERS = INTERNAL_BROWSER_PLATFORM_PROVIDERS;\n exports.KeyEventsPlugin = KeyEventsPlugin;\n exports.NAMESPACE_URIS = NAMESPACE_URIS;\n exports.SharedStylesHost = SharedStylesHost;\n exports.TRANSITION_ID = TRANSITION_ID;\n exports.angular_packages_platform_browser_platform_browser_a = errorHandler;\n exports.angular_packages_platform_browser_platform_browser_b = _document;\n exports.angular_packages_platform_browser_platform_browser_c = BROWSER_MODULE_PROVIDERS;\n exports.angular_packages_platform_browser_platform_browser_d = createMeta;\n exports.angular_packages_platform_browser_platform_browser_e = createTitle;\n exports.angular_packages_platform_browser_platform_browser_f = initTransferState;\n exports.angular_packages_platform_browser_platform_browser_g = EventManagerPlugin;\n exports.angular_packages_platform_browser_platform_browser_h = HAMMER_PROVIDERS__PRE_R3__;\n exports.angular_packages_platform_browser_platform_browser_i = HAMMER_PROVIDERS;\n exports.angular_packages_platform_browser_platform_browser_j = domSanitizerImplFactory;\n exports.angular_packages_platform_browser_platform_browser_k = appInitializerFactory;\n exports.angular_packages_platform_browser_platform_browser_l = SERVER_TRANSITION_PROVIDERS;\n exports.angular_packages_platform_browser_platform_browser_m = _createNgProbeR2;\n exports.angular_packages_platform_browser_platform_browser_n = ELEMENT_PROBE_PROVIDERS__PRE_R3__;\n

exports.angular_packages_platform_browser_platform_browser_o = GenericBrowserDomAdapter;\n exports.escapeHtml = escapeHtml;\n exports.flattenStyles = flattenStyles;\n exports.initDomAdapter = initDomAdapter;\n exports.shimContentAttribute = shimContentAttribute;\n exports.shimHostAttribute = shimHostAttribute;\n\n Object.defineProperty(exports, '__esModule', { value: true });\n\n}));\n//# sourceMappingURL=platform-browser.umd.js.map\n"]}

Found in path(s):
* /platform-browser-11-0-5-tgz/package/bundles/platform-browser.umd.min.js.map
No license file was found, but licenses were detected in source scan.

/**
* @license
* Copyright Google LLC All Rights Reserved.
*
* Use of this source code is governed by an MIT-style license that can be
* found in the LICENSE file at https://angular.io/license
*/

Found in path(s):
* /platform-browser-11-0-5-tgz/package/esm2015/animations/src/animations.js
* /platform-browser-11-0-5-tgz/package/esm2015/animations/src/providers.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/debug/ng_probe.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/dom_renderer.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/events/event_manager.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/security/dom_sanitization_service.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/events/dom_events.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/browser/server-transition.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/version.js
* /platform-browser-11-0-5-tgz/package/esm2015/animations/src/animation_builder.js
*
 /platform-browser-11-0-5-tgz/package/esm2015/animations/src/private_export.js
* /platform-browser-11-0-5-tgz/package/esm2015/index.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/shared_styles_host.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/browser/tools/common_tools.js
* /platform-browser-11-0-5-tgz/package/esm2015/testing/public_api.js
* /platform-browser-11-0-5-tgz/package/esm2015/testing/src/browser_util.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/events/key_events.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/platform-browser.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/browser.js
* /platform-browser-11-0-5-tgz/package/esm2015/animations/public_api.js
* /platform-browser-11-0-5-tgz/package/esm2015/animations/index.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/debug/by.js
* /platform-browser-11-0-5-tgz/package/esm2015/animations/src/module.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/events/hammer_gestures.js
*
 /platform-browser-11-0-5-tgz/package/esm2015/src/browser/browser_adapter.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/browser/meta.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/browser/generic_browser_adapter.js

* /platform-browser-11-0-5-tgz/package/esm2015/src/browser/tools/browser.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/dom/util.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/browser/transfer_state.js
* /platform-browser-11-0-5-tgz/package/esm2015/testing/index.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/browser/testability.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/private_export.js
* /platform-browser-11-0-5-tgz/package/esm2015/public_api.js
* /platform-browser-11-0-5-tgz/package/esm2015/testing/src/testing.js
* /platform-browser-11-0-5-tgz/package/esm2015/testing/src/browser.js
* /platform-browser-11-0-5-tgz/package/esm2015/src/browser/title.js
* /platform-browser-11-0-5-tgz/package/esm2015/testing/src/matchers.js
*
/platform-browser-11-0-5-tgz/package/esm2015/src/browser/tools/tools.js
No license file was found, but licenses were detected in source scan.

Angular
=======

The sources for this package are in the main [Angular](https://github.com/angular/angular) repo. Please file issues and pull requests against that repo.

Usage information and reference details can be found in [Angular documentation](https://angular.io/docs).

License: MIT

Found in path(s):
* /platform-browser-11-0-5-tgz/package/README.md
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"platform-browser-testing.umd.js","sources":["../../../../../external/npm/node_modules/tslib/tslib.es6.js","../../../../../packages/platform-browser/testing/src/browser_util.ts","../../../../../packages/platform-browser/testing/src/browser.ts","../../../../../packages/platform-browser/testing/src/testing.ts","../../../../../packages/platform-browser/testing/public_api.ts","../../../../../packages/platform-browser/testing/index.ts","../../../../../packages/platform-browser/testing/testing.ts"],"sourcesContent":["/*!
*****************************************************************************\r\nCopyright (c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS SOFTWARE.\r\n*****************************************************************************
*/\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics =

```
Object.setPrototypeOf ||\r\n        ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n
  function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d,
b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d;
}\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new
 __());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n
for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n            for (var p in s) if
(Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return
__assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if
(Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof
Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i <
p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n
  t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n
var c = arguments.length,
 r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof
Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key,
desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target,
key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport
function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex);
}\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" &&
typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport
function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ?
value : new P(function (resolve) { resolve(value); });
 }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try {
step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try {
step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ?
resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator =
generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body)
{\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n
return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" &&
(g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]);
}; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already
 executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] ||
((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n            if (y = 0, t) op =
[op[0] & 2, t.value];\r\n            switch (op[0]) {\r\n                case 0: case 1: t = op; break;\r\n                case 4:
_.label++; return { value: op[1], done: false };\r\n                case 5: _.label++; y = op[1]; op = [0]; continue;\r\n
    case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n                default:\r\n                    if (!(t = _.trys, t = t.length >
0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n                    if (op[0] === 3 && (!t ||
(op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n                    if (op[0] === 6 && _.label < t[1]) {
_.label = t[1]; t = op; break; }\r\n                    if (t && _.label < t[2]) { _.label
 = t[2]; _.ops.push(op); break; }\r\n                    if (t[2]) _.ops.pop();\r\n                    _.trys.pop(); continue;\r\n
}\r\n            op = body.call(thisArg, _);\r\n        } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n        if (op[0]
& 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n    }\r\n}\r\n\r\nexport var __createBinding
= Object.create ? (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 = k;\r\n    Object.defineProperty(o, k2, {
enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n    if (k2 === undefined) k2 =
k;\r\n    o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n    for (var p in m) if (p !==
\"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o)
{\r\n    var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n    if (m) return
m.call(o);\r\n    if (o
```

```
 && typeof o.length === \"number\") return {\r\n        next: function () {\r\n            if (o && i >= o.length) o = void 0;\r\n            return { value: o && o[i++], done: !o };\r\n        }\r\n    };\r\n    throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n    var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n    if (!m) return o;\r\n    var i = m.call(o), r, ar = [], e;\r\n    try {\r\n        while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n    }\r\n    catch (error) { e = { error: error }; }\r\n    finally {\r\n        try {\r\n            if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n        }\r\n        finally { if (e) throw e.error; }\r\n    }\r\n    return ar;\r\n}\r\n\r\nexport function __spread() {\r\n    for (var ar = [], i = 0; i < arguments.length; i++)\r\n        ar = ar.concat(__read(arguments[i]));\r\n    return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n    for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n    for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n        for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n            r[k] = a[j];\r\n    return r;\r\n};\r\n\r\nexport function __await(v) {\r\n    return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n    return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n    function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n    function resume(n, v) { try { step(g[n](v));
    } catch (e) { settle(q[0][3], e); } }\r\n    function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n    function fulfill(value) { resume(\"next\", value); }\r\n    function reject(value) { resume(\"throw\", value); }\r\n    function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n    var i, p;\r\n    return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n    function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n    if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n    var m = o[Symbol.asyncIterator], i;\r\n    return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n    function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n    function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n    if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n    return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n    Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n    o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n    if (mod && mod.__esModule) return mod;\r\n    var result = {};\r\n
    if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n    __setModuleDefault(result, mod);\r\n    return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n    return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to get private field on non-instance\");\r\n    }\r\n    return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n    if (!privateMap.has(receiver)) {\r\n        throw new TypeError(\"attempted to set private field on non-instance\");\r\n    }\r\n    privateMap.set(receiver, value);\r\n    return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
 https://angular.io/license\n */\n\nimport {getDOM as getDOM} from '@angular/common';\nimport {NgZone, global as global} from '@angular/core';\n\nexport class BrowserDetection {\n  private _overrideUa: string|null;\n  private get _ua(): string {\n    if (typeof this._overrideUa === 'string') {\n      return this._overrideUa;\n    }\n\n
```

return getDOM() ? getDOM().getUserAgent() : '';\n  }\n\n  static setup() {\n    return new BrowserDetection(null);\n  }\n\n  constructor(ua: string|null) {\n    this._overrideUa = ua;\n  }\n\n  get isFirefox(): boolean {\n    return this._ua.indexOf('Firefox') > -1;\n  }\n\n  get isAndroid(): boolean {\n    return this._ua.indexOf('Mozilla/5.0') > -1 && this._ua.indexOf('Android') > -1 &&\n        this._ua.indexOf('AppleWebKit') > -1 && this._ua.indexOf('Chrome') == -1 &&\n        this._ua.indexOf('IEMobile') == -1;\n  }\n\n  get isEdge(): boolean {\n return this._ua.indexOf('Edge') > -1;\n  }\n\n  get isIE(): boolean {\n    return this._ua.indexOf('Trident') > -1;\n  }\n\n  get isWebkit(): boolean {\n    return this._ua.indexOf('AppleWebKit') > -1 && this._ua.indexOf('Edge') == -1 &&\n        this._ua.indexOf('IEMobile') == -1;\n  }\n\n  get isIOS7(): boolean {\n return (this._ua.indexOf('iPhone OS 7') > -1 || this._ua.indexOf('iPad OS 7') > -1) &&\n this._ua.indexOf('IEMobile') == -1;\n  }\n\n  get isSlow(): boolean {\n    return this.isAndroid || this.isIE || this.isIOS7;\n  }\n\n  // The Intl API is only natively supported in Chrome, Firefox, IE11 and Edge.\n  // This detector is needed in tests to make the difference between:\n  // 1) IE11/Edge: they have a native Intl API, but with some discrepancies\n  // 2) IE9/IE10: they use the polyfill, and so no discrepancies\n  get supportsNativeIntlApi(): boolean {\n    return !!(<any>global).Intl && (<any>global).Intl !== (<any>global).IntlPolyfill;\n  }\n\n  get isChromeDesktop(): boolean {\n    return this._ua.indexOf('Chrome') > -1 && this._ua.indexOf('Mobile Safari') == -1 &&\n        this._ua.indexOf('Edge') == -1;\n  }\n\n  // \"Old Chrome\" means Chrome 3X, where there are some discrepancies in the Intl API.\n  // Android 4.4 and 5.X have such browsers by default (respectively 30 and 39).\n  get isOldChrome(): boolean {\n    return this._ua.indexOf('Chrome') > -1 && this._ua.indexOf('Chrome/3') > -1 &&\n        this._ua.indexOf('Edge') == -1;\n  }\n\n  get supportsCustomElements() {\n    return (typeof (<any>global).customElements !== 'undefined');\n  }\n\n  get supportsDeprecatedCustomCustomElementsV0() {\n return (typeof (document as any).registerElement !== 'undefined');\n  }\n\n  get supportsRegExUnicodeFlag(): boolean {\n    return RegExp.prototype.hasOwnProperty('unicode');\n  }\n\n  get supportsShadowDom() {\n    const testEl = document.createElement('div');\n    return (typeof testEl.attachShadow !== 'undefined');\n  }\n\n  get supportsDeprecatedShadowDomV0() {\n    const testEl = document.createElement('div') as any;\n    return (typeof testEl.createShadowRoot !== 'undefined');\n  }\n}\n\nexport const browserDetection: BrowserDetection = BrowserDetection.setup();\n\nexport function dispatchEvent(element: any, eventType: any): void {\n  const evt: Event = getDOM().getDefaultDocument().createEvent('Event');\n  evt.initEvent(eventType, true, true);\n getDOM().dispatchEvent(element, evt);\n}\n\nexport function createMouseEvent(eventType: string): MouseEvent {\n  const evt: MouseEvent = getDOM().getDefaultDocument().createEvent('MouseEvent');\n evt.initEvent(eventType, true, true);\n  return evt;\n}\n\nexport function el(html: string): HTMLElement {\n  return <HTMLElement>getContent(createTemplate(html)).firstChild;\n}\n\nexport function normalizeCSS(css: string): string {\n  return css.replace(/\\s+/g, ' ')\n      .replace(/:\\s/g, ':')\n      .replace(/'/g, '\"')\n      .replace(/ }/g, '}')\n .replace(/url\\((\\\"|\\s)(.+)(\\\"|\\s)\\)(\\s*)/g, (...match: string[]) => `url(\"${match[2]}\")`)\n .replace(/\\[(.+)=([^\"\\]]+)\\]/g,
 (...match: string[]) => `[${match[1]}=\"${match[2]}\"]`);\n}\n\nfunction getAttributeMap(element: any): Map<string, string> {\n  const res = new Map<string, string>();\n  const elAttrs = element.attributes;\n  for (let i = 0; i < elAttrs.length; i++) {\n    const attrib = elAttrs.item(i);\n    res.set(attrib.name, attrib.value);\n  }\n  return res;\n}\n\nconst _selfClosingTags = ['br', 'hr', 'input'];\nexport function stringifyElement(el: any /** TODO #9100 */): string {\n  let result = '';\n  if (getDOM().isElementNode(el)) {\n    const tagName = el.tagName.toLowerCase();\n\n    // Opening tag\n    result += `<${tagName}`;\n\n    // Attributes in an ordered way\n    const attributeMap = getAttributeMap(el);\n    const sortedKeys = Array.from(attributeMap.keys()).sort();\n    for (const key of sortedKeys) {\n      const lowerCaseKey = key.toLowerCase();\n      let attValue = attributeMap.get(key);\n\n      if (typeof attValue !== 'string') {\n        result += ` ${lowerCaseKey}`;\n      } else {\n        // Browsers order style rules differently. Order them alphabetically for consistency.\n        if (lowerCaseKey === 'style') {\n          attValue = attValue.split(/; ?/).filter(s => !!s).sort().map(s => `${s};`).join(' ');\n        }\n\n        result += ` ${lowerCaseKey}=\"${attValue}\"`;\n      }\n    }\n    result += '>';\n\n    // Children\n    const childrenRoot = templateAwareRoot(el);\n    const children = childrenRoot ? childrenRoot.childNodes : [];\n    for (let j = 0; j < children.length; j++) {\n      result +=

stringifyElement(children[j]);\n  }\n\n  // Closing tag\n  if (_selfClosingTags.indexOf(tagName) == -1) {\n  result += `</${tagName}>`;\n  }\n } else if (isCommentNode(el)) {\n  result += `<!--${el.nodeValue}-->`;\n } else {\n  result += el.textContent;\n }\n\n return result;\n}\n\nexport function createNgZone(): NgZone {\n return new NgZone({enableLongStackTrace: true, shouldCoalesceEventChangeDetection:
false});\n}\n\nexport function isCommentNode(node: Node): boolean {\n return node.nodeType ===
Node.COMMENT_NODE;\n}\n\nexport function isTextNode(node: Node): boolean {\n return node.nodeType ===
Node.TEXT_NODE;\n}\n\nexport function getContent(node: Node): Node {\n if ('content' in node) {\n  return
(<any>node).content;\n } else {\n  return node;\n }\n}\n\nexport function templateAwareRoot(el: Node): any {\n
return getDOM().isElementNode(el) && el.nodeName === 'TEMPLATE' ? getContent(el) : el;\n}\n\nexport
function setCookie(name: string, value: string) {\n // document.cookie is magical, assigning into it assigns/overrides
one cookie value, but does\n // not clear other cookies.\n document.cookie = encodeURIComponent(name) + '=' +
encodeURIComponent(value);\n}\n\nexport function supportsWebAnimation(): boolean {\n return typeof
(<any>Element).prototype['animate'] === 'function';\n}\n\nexport function hasStyle(element: any, styleName:
string, styleValue?: string|null):
boolean {\n const value = element.style[styleName] || '';\n return styleValue ? value == styleValue : value.length >
0;\n}\n\nexport function hasClass(element: any, className: string): boolean {\n return
element.classList.contains(className);\n}\n\nexport function sortedClassList(element: any): any[] {\n return
Array.prototype.slice.call(element.classList, 0).sort();\n}\n\nexport function createTemplate(html: any):
HTMLElement {\n const t = getDOM().getDefaultDocument().createElement('template');\n t.innerHTML = html;\n
return t;\n}\n\nexport function childNodesAsList(el: Node): any[] {\n const childNodes = el.childNodes;\n const
res = [];\n for (let i = 0; i < childNodes.length; i++) {\n  res[i] = childNodes[i];\n }\n return res;\n}\n","/**\n *
@license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-
style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {APP_ID,
createPlatformFactory,
NgModule, NgZone, PLATFORM_INITIALIZER, platformCore, PlatformRef, StaticProvider} from
'@angular/core';\nimport {BrowserModule, BrowserDomAdapter as BrowserDomAdapter,
ELEMENT_PROBE_PROVIDERS as ELEMENT_PROBE_PROVIDERS} from '@angular/platform-
browser';\n\nimport {BrowserDetection, createNgZone} from './browser_util';\n\nfunction initBrowserTests() {\n
BrowserDomAdapter.makeCurrent();\n BrowserDetection.setup();\n}\n\nconst
_TEST_BROWSER_PLATFORM_PROVIDERS: StaticProvider[] =\n  [{provide: PLATFORM_INITIALIZER,
useValue: initBrowserTests, multi: true}];\n\n/**\n * Platform for testing\n *\n * @publicApi\n */\nexport const
platformBrowserTesting =\n  createPlatformFactory(platformCore, 'browserTesting',
_TEST_BROWSER_PLATFORM_PROVIDERS);\n\n/**\n * NgModule for testing.\n *\n * @publicApi\n
*/\n@NgModule({\n exports: [BrowserModule],\n providers: [\n  {provide: APP_ID, useValue: 'a'},\n
ELEMENT_PROBE_PROVIDERS,\n  {provide: NgZone, useFactory: createNgZone},\n
]\n})\nexport class BrowserTestingModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights
Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the
LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public
APIs of the platform-browser/testing package.\n */\nexport * from './browser';\n","/**\n * @license\n * Copyright
Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n
* found in the LICENSE file at https://angular.io/license\n */\n\n/// <reference types=\"jasmine\" />\n\n/**\n *
@module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from
'./src/testing';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code
is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n//
This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and
during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n//
names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from
'./index';\n\nexport {createNgZone as angular_packages_platform_browser_testing_testing_a} from

'./src/browser_util';"],"names":["getDOM","global","NgZone","BrowserDomAdapter","PLATFORM_INITIALIZE
R","createPlatformFactory","platformCore","NgModule","BrowserModule","APP_ID","ELEMENT_PROBE_PRO
VIDERS"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC;QA
C7B,aAAa,GAAG,MAAM,CAAC,cAAc;aAChC,EAAE,SAAS,EAAE,EAAE,EAAE,YAAY,KAAK,IAAI,UAAU,
CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,SAAS,GAAG,CAAC,CAAC,EAAE,CAAC;YAC5E,UAAU,CAAC,EA
AE,CAAC,IAAI,KAAK,IAAI,CAAC,IAAI,CAAC;gBAAE,IAAI,CAAC,CAAC,cAAc,CAAC,CAAC,CAAC;oBA
AE,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;QAC/E,OAAO,aAAa
,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAC/B,CAAC,CAAC;aAEc,SAAS,CAAC,CAAC,EAAE,CAAC;QAC1B
aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;QACpB,SAAS,EAAE;QACvC,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,GAAG,MAAM,CAAC,MAAM,CAAC,CAAC,IAAI,
CAAC,CAAC,EAAE,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,EAAE,IAAI,EAAE,EAAE,CAAC,
CAAC;IACzF,CAAC;IAEM,QAAQ,GAAG;QAClB,QAAQ,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC;YAAS,KAAK,IAAI,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;gBAAC,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;gBAAC,KAAK,IAAI,CAAC,IAAI,CAAC;oBAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC;wBAAE,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;aAAC;YAAC,OAAO,CAAC,CAAC;QAAC,CAAC,CAAC;QAC1M,OAAO,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;IAC3C,CAAC;IAEM,SAAS,CAAC,CAAC,EAAE,CAAC;QACjB,IAAI,CAAC,GAAG,EAAE,CAAC;QACX,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;QAC/F,IAAI,CAAC,CAAC,IAAI,IAAI,IAAI,OAAO,MAAM,CAAC,qBAAqB,KAAK,UAAU;YAAE,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC,qBAAqB,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,CAAC,EAAE;gBAAE,IAAI,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,SAAS,CAAC,oBAAoB,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;oBAAE,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;aAAE;QAC9O,OAAO,CAAC,CAAC;IACb,CAAC;IAEM,UAAU,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI;QAC7C,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,MAAM,GAAG,IAAI,KAAK,IAAI,GAAG,IAAI,GAAG,MAAM,CAAC,wBAAwB,CAAC,MAAM,EAAE,GAAG,CAAC,GAAG,IAAI,EAAE,CAAC,CAAC;QAC3H,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,CAAC,GAAG,OAAO,CAAC,QAAQ,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI,CAAC,CAAC;aAC/G,KAAK,IAAI,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE;YAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC;gBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC;QAC1J,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,EAAE,CAAC,CAAC;IAChE,CAAC;IAEM,UAAU,CAAC,WAAW,EAAE,aAAa;QAC1C,OAAO,UAAU,MAAM,EAAE,GAAG,IAAI,aAAa,CAAC,MAAM,EAAE,GAAG,EAAE,WAAW,CAAC,CAAC,CAAC;IAC7E,CAAC;IAEM,SAAS,CAAC,CAAC,EAAE,CAAC;QACnB,IAAI,OAAO,OAAO,KAAK,QAAQ,IAAI,OAAO,OAAO,CAAC,SAAS,KAAK,UAAU;YAAE,OAAO,OAAO,CAAC,SAAS,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IACnH,CAAC;IAEM,SAAS,CAAC,OAAO,EAAE,UAAU,EAAE,CAAC,EAAE,SAAS;QAChD,SAAS,KAAK,CAAC,KAAK,IAAI,OAAO,KAAK,YAAY,CAAC,GAAG,KAAK,GAAG,IAAI,CAAC,CAAC,UAAU,OAAO,IAAI,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;QAC7G,OAAO,KAAK,CAAC,KAAK,GAAG,CAAC,GAAG,OAAO,CAAC,EAAE,UAAU,OAAO,EAAE,MAAM;YAAE,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE;YAAC,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC;aAAE,OAAO,CAAC,EAAE;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;aAAE;YAAC,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;YAAC,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,IAAI,EAAE,CAAC;QAAC,CAAC,CAAC;IAC1T,CAAC;IAEM,WAAW,CAAC,OAAO,EAAE,IAAI;QAC9B,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,EAAE,GAAG,EAAE,CAAC,EAAE,CAAC,GAAG,EAAE,IAAI,EAAE,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,CAAC,EAAE,EAAE,EAAE

AAC,CAAC;aAAE,EAAE;YAC9F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,
MAAM,CAAC,KAAK,CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,E
AAE,QAAQ,CAAC,CAAC,EAAE;YAC9G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAA
O,EAAE,UAAU,IAAI,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,CAAC;aAEe
,WAAW,CAAC,OAAO,EAAE,IAAI;QACrC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAA
E,cAAa,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAA
E,EAAE,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,EAAE,I
AAI,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,EAAE,I
AAI,CAAC,CAAC,CAAC,EAAE,EAAE,OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CAAC,Q
AAQ,CAAC,GAAG,cAAa,OAAO,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzJ,SAAS,IAAI,CAAC,C
AAC,IAAI,OAAO,UAAU,CAAC,IAAI,OAAO,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,E
AAE,CAAC,EAAE;QAClE,SAAS,IAAI,CAAC,EAAE;YACZ,IAAI,CAAC;gBAAE,MAAM,IAAI,SAAS,CAAC,i
CAAiC,CAAC,CAAC;YAC9C,OAAO,CAAC;gBAAE,MAAM,IAAI;oBACV,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,K
AAK,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,GAAG,EA
AE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,QAA
Q,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CA
AC,IAAI,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,C
AAC,EAAE,IAAI;wBAAE,OAAO,CAAC,CAAC;oBAC7J,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC;wBAAE,E
AAE,GAAG,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC;oBA
CxC,QAAQ,EAAE,CAAC,CAAC;wBACT,KAAK,CAAC,CAAC;wBAAC,KAAK,CAAC;4BAAE,CAAC,
GAAG,EAAE,CAAC;4BAAC,MAAM;wBAC9B,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4B
AAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC;wBAC
xD,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CA
AC,CAAC;4BAAC,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC;4BAAC,SAAS;wBACjD,KAAK,CAAC;4BAAE,
EAAE,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC;4BAAC,CAAC,CAAC,IAAI,CAAC,GAAG,E
AAE,CAAC;4BAAC,SAAS;wBACjD;4BACI,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,GA
AG,CAAC,CAAC,MAAM,GAAG,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAA
C,KAAK,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,E
AAE;gCAAE,CAAC,GAAG,CAAC,CAAC;gCAAC,SAAS;6BAAE;4BAC5G,IAAI,EAAE,CAAC,CAAC,CAAC,
KAAK,CAAC,KAAK,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,I
AAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,CA
AC,KAAK,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACtF,IAAI,EAAE,CAAC,C
AAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CA
AC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BAC9G,IAAI,EAAE,CAAC,
CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,C
AAC,GAAG,EAAE,CAAC,CAAC;gCAAC,SAAS;6BAAE;4BACrE,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,GA
AG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC;gCAAC,M
AAM;6BAAE;4BACrE,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gC
AAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACnE,IAAI,EAAE,CAAC,
CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,SAAS;6BAAE;4BACtE,IAAI,EAAE,CAAC,
CAAC,GAAG,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAC,SAAS;6BAAE;4BACtE,IAAI,
AAI,CAAC,EAAE,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACnE,IAAI,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;gCAAE,C
AAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC,CAAC;4BACtB,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;4BAAC,SAAS;yBAAE;wBAC9C,IAAI,EAAE,CAAC,
SAAS;qBAAE;oBAC9C,IAAI,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;iBA
C9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;oBAAC,C
AAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;oBAAE,EAAE,GAAG,CAAC,CAAC,GAAG,CAAC,CAAC;iBAAE;YAC1D
D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC,CAAC;YAAC,
OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAAK,C
AAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;IACpF,CAAC;IAEM,IAAI,CAAC,CAAC;IACb,IAAI,CAAC,EAAE,MAAM,
AM,IAAI,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QAC9D,IAAI,EAAE,CAAC,EAAE,KAAK,
AAE,GAAG,CAAC,CAAC;QAAC,IAAI,EAAE,cAAc,EAAE,CAAC,cAAc,EAAE,CAAC,cAAc,EAAE,CAAC,cAAc,EAAE,UAAU,EA
AE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC;IA

CzF,CAAC,KAAK,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;IACjB,CAAC,CAAC,CAAC;aAEa,YAAY,CAAC,CAAC,EAAE,OAAO;QACnC,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,CAAC,SAAS,CAAC,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI

AC,KAAK,IAAI,MAAM,CAAC,OAAO,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,KAAK,EAAE,EAAE,CAAC,CAAC,MAAM;YAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;IACtF,CAAC;aAEe,gBAAgB,CAAC,CAAC;QAC9B,IAAI,CAAC,EAAE,CAAC,CAAC;QACT,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,EAAE,UAAU,CAAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QAC5I

AI,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC;oBAC3E,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,aAAa,CAAC,GAAG,CAAC,CAAC,IAAI,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,QAAAQ,CAAC,IAAI,CAAC,CAAC;oBACxE,IAAI,CAAC,GAAG,CAAC,OAAO,CAAC,UAAU,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC;aACxC;;;WAAA;QAED,sBAAI,oCAAM;iBAAV;gBAAA,iBAAA;gBAAA,OAAA,KAAA,CAAA,IAAA,CAAA,IAAA,EAAA,SAAA,CAAA,CAAA,C

AAM,OAAO,GAAG,EAAE,CAAC,OAAO,CAAC,WAAW,EAAE,CAAC;;YAGzC,MAAM,IAAI,MAAI,OAAS,CAAC;;YAGxB,IAAM,YAAY,GAAG,eAAe,CAAC,EAAE,CAAC,CAAC;YACzC,IAAM,UAAU,GAAG,KAAK,CAAC,IAAI,CAAC,YAAY,CAAC,IAAI,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC;;gBAC1D,KAAkB,IAAA,SAAA,UAAA,CAAA,UAAA,CAAA,EAAA,CAAA,GAAA,SAAA,CAAA,IAAA,I

in path(s):
* /platform-browser-11-0-5-tgz/package/bundles/platform-browser-testing.umd.js.map
No license file was found, but licenses were detected in source scan.

{"version":3,"file":"testing.js","sources":["../../../../../../packages/platform-browser/testing/src/browser_util.ts","../../../../../../packages/platform-browser/testing/src/browser.ts","../../../../../../packages/platform-browser/testing/src/testing.ts","../../../../../../packages/platform-browser/testing/public_api.ts","../../../../../../packages/platform-browser/testing/index.ts","../../../../../../packages/platform-browser/testing/testing.ts"],"sourcesContent":["/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getDOM as getDOM} from '@angular/common';\nimport {NgZone, global as global} from '@angular/core';\n\nexport class BrowserDetection {\n  private _overrideUa: string|null;\n  private get _ua(): string {\n    if (typeof this._overrideUa ===
'string') {\n      return this._overrideUa;\n    }\n\n    return getDOM() ? getDOM().getUserAgent() : '';\n  }\n\n  static setup() {\n    return new BrowserDetection(null);\n  }\n\n  constructor(ua: string|null) {\n    this._overrideUa = ua;\n  }\n\n  get isFirefox(): boolean {\n    return this._ua.indexOf('Firefox') > -1;\n  }\n\n  get isAndroid(): boolean {\n    return this._ua.indexOf('Mozilla/5.0') > -1 && this._ua.indexOf('Android') > -1 &&\n        this._ua.indexOf('AppleWebKit') > -1 && this._ua.indexOf('Chrome') == -1 &&\n        this._ua.indexOf('IEMobile') == -1;\n  }\n\n  get isEdge(): boolean {\n    return this._ua.indexOf('Edge') > -1;\n  }\n\n  get isIE(): boolean {\n    return this._ua.indexOf('Trident') > -1;\n  }\n\n  get isWebkit(): boolean {\n    return this._ua.indexOf('AppleWebKit') > -1 && this._ua.indexOf('Edge') == -1 &&\n        this._ua.indexOf('IEMobile') == -1;\n  }\n\n  get isIOS7(): boolean {\n    return (this._ua.indexOf('iPhone OS 7') > -1 || this._ua.indexOf('iPad OS 7') > -1) &&\n        this._ua.indexOf('IEMobile') == -1;\n  }\n\n  get isSlow(): boolean {\n    return this.isAndroid || this.isIE || this.isIOS7;\n  }\n\n  // The Intl API is only natively supported in Chrome, Firefox, IE11 and Edge.\n  // This detector is needed in tests to make the difference between:\n  // 1) IE11/Edge: they have a native Intl API, but with some discrepancies\n  // 2) IE9/IE10: they use the polyfill, and so no discrepancies\n  get supportsNativeIntlApi(): boolean {\n    return !!(<any>global).Intl && (<any>global).Intl !== (<any>global).IntlPolyfill;\n  }\n\n  get isChromeDesktop(): boolean {\n    return this._ua.indexOf('Chrome') > -1 && this._ua.indexOf('Mobile Safari') == -1 &&\n        this._ua.indexOf('Edge') == -1;\n  }\n\n  // \"Old Chrome\" means Chrome 3X, where there are some discrepancies in the Intl API.\n  // Android 4.4 and 5.X have such browsers by default (respectively 30 and 39).\n  get isOldChrome(): boolean {\n    return this._ua.indexOf('Chrome') > -1 && this._ua.indexOf('Chrome/3') > -1 &&\n        this._ua.indexOf('Edge') == -1;\n  }\n\n  get supportsCustomElements() {\n    return (typeof (<any>global).customElements !== 'undefined');\n  }\n\n  get supportsDeprecatedCustomCustomElementsV0() {\n    return (typeof (document as any).registerElement !== 'undefined');\n  }\n\n  get supportsRegExUnicodeFlag(): boolean {\n    return RegExp.prototype.hasOwnProperty('unicode');\n  }\n\n  get supportsShadowDom() {\n    const testEl = document.createElement('div');\n    return (typeof testEl.attachShadow !== 'undefined');\n  }\n\n  get supportsDeprecatedShadowDomV0() {\n    const testEl = document.createElement('div') as any;\n    return (typeof testEl.createShadowRoot !== 'undefined');\n  }\n}\n\nexport const browserDetection: BrowserDetection = BrowserDetection.setup();\n\nexport function dispatchEvent(element: any, eventType: any): void {\n  const evt: Event = getDOM().getDefaultDocument().createEvent('Event');\n
  evt.initEvent(eventType, true, true);\n  getDOM().dispatchEvent(element, evt);\n}\n\nexport function createMouseEvent(eventType: string): MouseEvent {\n  const evt: MouseEvent = getDOM().getDefaultDocument().createEvent('MouseEvent');\n  evt.initEvent(eventType, true, true);\n  return evt;\n}\n\nexport function el(html: string): HTMLElement {\n  return <HTMLElement>getContent(createTemplate(html)).firstChild;\n}\n\nexport function normalizeCSS(css: string):

string {\n  return css.replace(/\\s+/g, ' ')\n      .replace(/:\\s/g, ':')\n      .replace(/'/g, '\"')\n      .replace(/ }/g, '}')\n  .replace(/url\\((\\\"|\\s)(.+)(\\\"|\\s)\\)(\\s*)/g, (...match: string[]) => `url(\"${match[2]}\")`)\n  .replace(/\\[(.+)=([^\"\\]]+)\\]/g, (...match: string[]) => `[${match[1]}=\"${match[2]}\"]`);\n}\n\nfunction getAttributeMap(element: any): Map<string, string> {\n  const res = new Map<string, string>();\n  const elAttrs = element.attributes;\n  for (let i = 0; i < elAttrs.length; i++) {\n    const attrib = elAttrs.item(i);\n    res.set(attrib.name, attrib.value);\n  }\n  return res;\n}\n\nconst _selfClosingTags = ['br', 'hr', 'input'];\nexport function stringifyElement(el: any /** TODO #9100 */): string {\n  let result = '';\n  if (getDOM().isElementNode(el)) {\n    const tagName = el.tagName.toLowerCase();\n\n    // Opening tag\n    result += `<${tagName}`;\n\n    // Attributes in an ordered way\n    const attributeMap = getAttributeMap(el);\n    const sortedKeys = Array.from(attributeMap.keys()).sort();\n    for (const key of sortedKeys) {\n      const lowerCaseKey = key.toLowerCase();\n      let attValue = attributeMap.get(key);\n\n      if (typeof attValue !== 'string') {\n        result += ` ${lowerCaseKey}`;\n      } else {\n        // Browsers order style rules differently. Order them alphabetically for consistency.\n        if (lowerCaseKey === 'style') {\n          attValue = attValue.split(/; ?/).filter(s => !!s).sort().map(s => `${s};`).join(' ');\n        }\n\n        result += ` ${lowerCaseKey}=\"${attValue}\"`;\n      }\n    }\n    result += '>';\n\n    // Children\n    const childrenRoot = templateAwareRoot(el);\n    const children = childrenRoot ? childrenRoot.childNodes : [];\n    for (let j = 0; j < children.length; j++) {\n      result += stringifyElement(children[j]);\n    }\n\n    // Closing tag\n    if (_selfClosingTags.indexOf(tagName) == -1) {\n      result += `</${tagName}>`;\n    }\n  } else if (isCommentNode(el)) {\n    result += `<!--${el.nodeValue}-->`;\n  } else {\n    result += el.textContent;\n  }\n\n  return result;\n}\n\nexport function createNgZone(): NgZone {\n  return new NgZone({enableLongStackTrace: true, shouldCoalesceEventChangeDetection: false});\n}\n\nexport function isCommentNode(node: Node): boolean {\n  return node.nodeType === Node.COMMENT_NODE;\n}\n\nexport function isTextNode(node: Node): boolean {\n  return node.nodeType === Node.TEXT_NODE;\n}\n\nexport function getContent(node: Node): Node {\n  if ('content'\n  in node) {\n    return (<any>node).content;\n  } else {\n    return node;\n  }\n}\n\nexport function templateAwareRoot(el: Node): any {\n  return getDOM().isElementNode(el) && el.nodeName === 'TEMPLATE' ? getContent(el) : el;\n}\n\nexport function setCookie(name: string, value: string) {\n  // document.cookie is magical, assigning into it assigns/overrides one cookie value, but does\n  // not clear other cookies.\n  document.cookie = encodeURIComponent(name) + '=' + encodeURIComponent(value);\n}\n\nexport function supportsWebAnimation(): boolean {\n  return typeof (<any>Element).prototype['animate'] === 'function';\n}\n\nexport function hasStyle(element: any, styleName: string, styleValue?: string|null): boolean {\n  const value = element.style[styleName] || '';\n  return styleValue ? value == styleValue : value.length > 0;\n}\n\nexport function hasClass(element: any, className: string): boolean {\n  return element.classList.contains(className);\n}\n\nexport function sortedClassList(element:
  any): any[] {\n  return Array.prototype.slice.call(element.classList, 0).sort();\n}\n\nexport function createTemplate(html: any): HTMLElement {\n  const t = getDOM().getDefaultDocument().createElement('template');\n  t.innerHTML = html;\n  return t;\n}\n\nexport function childNodesAsList(el: Node): any[] {\n  const childNodes = el.childNodes;\n  const res = [];\n  for (let i = 0; i < childNodes.length; i++) {\n    res[i] = childNodes[i];\n  }\n  return res;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {APP_ID, createPlatformFactory, NgModule, NgZone, PLATFORM_INITIALIZER, platformCore, PlatformRef, StaticProvider} from '@angular/core';\nimport {BrowserModule, BrowserDomAdapter as BrowserDomAdapter, ELEMENT_PROBE_PROVIDERS as ELEMENT_PROBE_PROVIDERS} from '@angular/platform-browser';\n\nimport
  {BrowserDetection, createNgZone} from './browser_util';\n\nfunction initBrowserTests() {\n  BrowserDomAdapter.makeCurrent();\n  BrowserDetection.setup();\n}\n\nconst _TEST_BROWSER_PLATFORM_PROVIDERS: StaticProvider[] =\n    [{provide: PLATFORM_INITIALIZER, useValue: initBrowserTests, multi: true}];\n\n/**\n * Platform for testing\n *\n * @publicApi\n */\nexport const

platformBrowserTesting =\n createPlatformFactory(platformCore, 'browserTesting',
_TEST_BROWSER_PLATFORM_PROVIDERS);\n\n/**\n * NgModule for testing.\n *\n * @publicApi\n
*/\n@NgModule({\n exports: [BrowserModule],\n providers: [\n {provide: APP_ID, useValue: 'a'},\n
ELEMENT_PROBE_PROVIDERS,\n {provide: NgZone, useFactory: createNgZone},\n ]\n})\nexport class
BrowserTestingModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of
this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\n/**\n * @module\n
* @description\n * Entry point for all public APIs of the platform-browser/testing package.\n */\nexport * from
'./browser';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is
governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n///
<reference types=\"jasmine\" />\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this
package.\n */\nexport * from './src/testing';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n
*\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at
https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the
TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts
when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n
* Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {createNgZone as
angular_packages_platform_browser_testing_testing_a} from
'./src/browser_util';"],"names":["getDOM","global","BrowserDomAdapter","ELEMENT_PROBE_PROVIDERS"],"
mappings":";;;;;;;;;;AAAA;;;;;;;MAWa,gBAAgB;IAc3B,YAAY,EAAAe;QACzB,IAAI,CAAC,WAAW,GAAG,EAAAE,CAAC;KACvB;IAdD,IAAY,GAAG;QACb,IAAI,OAAO,IAAI,CAAC,WAAW,KAAK,QAAQ;QAAE,OAAO,IAAI,CAAC,WAAW,CAAC;KACnE;IAAA,CAAC;IAAA,CAAC;IAAA,CAAC

O,MAAM,CAAC,YAAY,KAAK,WAAW,EAAE;KACrD;IAED,IAAI,6BAA6B;QAC/B,MAAM,MAAM,GAAG,QAAQ,CAAC,aAAa,CAAC,KAAK,CAAQ,CAAC;QACpD,QAAQ,OAAO,MAAM,CAAC,gBAAgB,KAAK,WAAW,EAAE;KACzD;CACF;AAEM,MAAM,gBAAgB,GAAqB,gBAAgB,CAAC,KAAK,EAAE,CAAC;SAE3D,aAAa,CAAC,OAAY,EAAE,SAAc;IACxD,MAAM,GAAG,GAAG,gBAAgB,CAAC,OAAO,CAAC,CAAC;IACtC,GAAG,CAAC,kBAAkB,EAAE,CAAC;IACzB,GAAG,CAAC,WAAW,CAAC,SAAS,CAAC,CAAC;IAC3B,OAAO,GAAG,CAAC;AACb,CAAC;SAEe,gBAAgB,CAAC,OAAY,EAAE,SAAc;IAC3D,MAAM,GAAG,GAAG,gBAAgB,CAAC,OAAO,CAAC,CAAC;IACtC,GAAG,CAAC,kBAAkB,EAAE,CAAC;IACzB,GAAG,CAAC,cAAc,CAAC,SAAS,CAAC,CAAC;IAC9

AAC,KAAK,CAAC,SAAS,CAAC,IAAI,EAAE,CAAC;IAC7C,OAAO,UAAU,GAAG,KAAK,IAAI,UAAU,GAAG
,KAAK,CAAC,MAAM,GAAG,CAAC,CAAC;AAC7D,CAAC;SAEe,QAAQ,CAAC,OAAY,EAAE,SAAiB;IACtD,
OAAO,OAAO,CAAC,SAAS,CAAC,QAAQ,CAAC,SAAS,CAAC,CAAC;AAC/C,CAAC;SAEe,eAAe,CAAC,OA
AY;IAC1C,OAAO,KAAK,CAAC,SAAS,CAAC,KAAK,CAAC,IAAI,CAAC,OAAO,CAAC,SAAS,EAAE,CAAC,
CAAC,CAAC,IAAI,EAAE,CAAC;AACjE,CAAC;SAEe,cAAc,CAAC,IAAS;IACtC,MAAM,CAAC,GAAG,OA
AM,EAAE,CAAC,kBAAkB,EAAE,CAAC,aAAa,CAAC,UAAU,CAAC,CAAC;IAClE,CAAC,CAAC,SAAS,GAA
G,IAAI,CAAC;IACnB,OAAO,CAAC,CAAC;AACX,CAAC;SAEe,gBAAgB,CAAC,EAAQ;IACvC,MAAM,UAA
U,GAAG,EAAE,CAAC,UAAU,CAAC;IACjC,MAAM,GAAG,GAAG,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC;IACf,KAAK,IAAI,CAAC,G
AAG,CAAC,EAAE,CAAC,GAAG,UAAU,CAAC,MAAM,EAAE,CAAC,CAAC,EAAE,EAAE;QAC1C,GAAG,CAAC,C
AAC,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC,CAAC,CAAC;KACxB;IACD,OAAO,GAAG,CAAC;AACb;;AC1PA;;;
;;;AAYA,SAAS,gBAAgB;IACvBE,kBAAiB,CAAC,WAAW,EAAE,CAAC;IAChC,gBAAgB,CAAC,KAAK,EAAE,
E,CAAC;AAC3B,CAAC;AAED,MAAM,gCAAgC,GAAC,CAAC,EAAC,OAAO,EAAE,oBAAoB,EAAE,QAAQ,
EAAE,gBAAgB,EAAE,KAAK,EAAE,IAAI,EAAC,CAAC,CAAC;AAE/E;;;;;MAKa,sBAAsB,GAC/B,CAAC,YAAY,EAAE,gBAAgB,EAAE,gCAAgC;AAVlE;;;YAYYC,WAAU,CAAC,WAAW,EAAE,CAAC;AAAA,oBAAoB;;;YAAC,QAAQ,CAAC,SAAA
C;gBACnD,OAAO,EAAE,CAAC,EAAE,CAAC,aAAa,CAAC,aAAa,CAAC;gBAAC,QAAQ,CAAC,SAAS,CAAC,
CAAC,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,CAAC,CAAC,CAAC,CAAC

browser/platform-browser.ts"],"sourcesContent":["/*!
 *****************************************************************************\r\nCopyright (c) Microsoft Corporation.\r\n\r\nPermission to use, copy, modify, and/or distribute this software for any\r\npurpose with or without fee is hereby granted.\r\n\r\nTHE SOFTWARE IS PROVIDED \"AS IS\" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH\r\nREGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY\r\nAND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT,\r\nINDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM\r\nLOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR\r\nOTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR\r\nPERFORMANCE OF THIS SOFTWARE.\r\n***************************************************************************** */\r\n/* global Reflect, Promise */\r\n\r\nvar extendStatics = function(d, b) {\r\n    extendStatics = Object.setPrototypeOf ||\r\n        ({ __proto__: [] } instanceof Array && function (d, b) { d.__proto__ = b; }) ||\r\n        function (d, b) { for (var p in b) if (b.hasOwnProperty(p)) d[p] = b[p]; };\r\n    return extendStatics(d, b);\r\n};\r\n\r\nexport function __extends(d, b) {\r\n    extendStatics(d, b);\r\n    function __() { this.constructor = d; }\r\n    d.prototype = b === null ? Object.create(b) : (__.prototype = b.prototype, new __());\r\n}\r\n\r\nexport var __assign = function() {\r\n    __assign = Object.assign || function __assign(t) {\r\n        for (var s, i = 1, n = arguments.length; i < n; i++) {\r\n            s = arguments[i];\r\n            for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p)) t[p] = s[p];\r\n        }\r\n        return t;\r\n    }\r\n    return __assign.apply(this, arguments);\r\n}\r\n\r\nexport function __rest(s, e) {\r\n    var t = {};\r\n    for (var p in s) if (Object.prototype.hasOwnProperty.call(s, p) && e.indexOf(p) < 0)\r\n        t[p] = s[p];\r\n    if (s != null && typeof Object.getOwnPropertySymbols === \"function\")\r\n        for (var i = 0, p = Object.getOwnPropertySymbols(s); i < p.length; i++) {\r\n            if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n                t[p[i]] = s[p[i]];\r\n        }\r\n    return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n    var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n    if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n    else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n    return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n    return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n    if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n    function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n    return new (P || (P = Promise))(function (resolve, reject) {\r\n        function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n        function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n        function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n        step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n    });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n    var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n    return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n    function verb(n) { return function (v) { return step([n, v]); }; }\r\n    function step(op) {\r\n        if (f) throw new TypeError(\"Generator is already executing.\");\r\n        while (_) try {\r\n            if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n            if (y = 0, t) op = [op[0] & 2, t.value];\r\n            switch (op[0]) {\r\n                case 0: case 1: t = op; break;\r\n                case 4: _.label++; return { value: op[1], done: false };\r\n                case 5: _.label++; y = op[1]; op = [0]; continue;\r\n                case 7: op = _.ops.pop();

_.trys.pop(); continue;\r\n default:\r\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n if (t[2]) _.ops.pop();\r\n _.trys.pop(); continue;\r\n }\r\n op = body.call(thisArg, _);\r\n } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n if (m) return m.call(o);\r\n if (o && typeof o.length === \"number\") return {\r\n next: function () {\r\n if (o && i >= o.length) o = void 0;\r\n return { value: o && o[i++], done: !o };\r\n }\r\n };\r\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n if (!m) return o;\r\n var i = m.call(o), r, ar = [], e;\r\n try {\r\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n }\r\n catch (error) { e = { error: error }; }\r\n finally {\r\n try {\r\n if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n }\r\n finally { if (e) throw e.error; }\r\n }\r\n return ar;\r\n}\r\n\r\nexport function __spread() {\r\n for (var ar = [], i = 0; i < arguments.length; i++)\r\n ar = ar.concat(__read(arguments[i]));\r\n return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n for (var a = arguments[i], j = 0, jl = a.length; j < jl; j++, k++)\r\n r[k] = a[j];\r\n return r;\r\n};\r\n\r\nexport function __await(v) {\r\n return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i;\r\n function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n function fulfill(value) { resume(\"next\", value); }\r\n function reject(value) { resume(\"throw\", value); }\r\n function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n var i, p;\r\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"),\r\n i[Symbol.iterator] = function () { return this; }, i;\r\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v) : v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var m = o[Symbol.asyncIterator], i;\r\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o, v) {\r\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n if (mod && mod.__esModule) return mod;\r\n var result = {};\r\n if (mod !=

null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n __setModuleDefault(result, mod);\r\n return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to get private field on non-instance\");\r\n }\r\n return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to set private field on non-instance\");\r\n }\r\n privateMap.set(receiver, value);\r\n return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DomAdapter as DomAdapter} from '@angular/common';\n\n\n/**\n * Provides DOM operations in any browser environment.\n *\n * @security Tread carefully! Interacting with the DOM directly is dangerous and\n * can introduce XSS risks.\n */\nexport abstract class GenericBrowserDomAdapter extends DomAdapter {\n constructor() {\n super();\n }\n\n supportsDOMEvents(): boolean {\n return true;\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {parseCookieValue as parseCookieValue, setRootDomAdapter as setRootDomAdapter} from '@angular/common';\nimport {global as global} from '@angular/core';\n\nimport {GenericBrowserDomAdapter} from './generic_browser_adapter';\n\nconst nodeContains: (this: Node, other: Node) => boolean = (() => {\n if (global['Node']) {\n return global['Node'].prototype.contains || function(this: Node, node: any) {\n return !!(this.compareDocumentPosition(node) & 16);\n };\n }\n\n return undefined as any;\n})();\n\n/**\n * A `DomAdapter` powered by full browser DOM APIs.\n *\n * @security Tread carefully! Interacting with the DOM directly is dangerous and\n * can introduce XSS risks.\n */\n/* tslint:disable:requireParameterType no-console */\nexport class BrowserDomAdapter extends GenericBrowserDomAdapter {\n static makeCurrent() {\n setRootDomAdapter(new BrowserDomAdapter());\n }\n getProperty(el: Node, name: string): any {\n return (<any>el)[name];\n }\n\n log(error: string): void {\n if (window.console) {\n window.console.log && window.console.log(error);\n }\n }\n\n logGroup(error: string): void {\n if (window.console) {\n window.console.group && window.console.group(error);\n }\n }\n\n logGroupEnd(): void {\n if (window.console) {\n window.console.groupEnd && window.console.groupEnd();\n }\n }\n\n onAndCancel(el: Node, evt: any, listener: any): Function {\n el.addEventListener(evt, listener, false);\n // Needed to follow Dart's subscription semantic, until fix of\n // https://code.google.com/p/dart/issues/detail?id=17406\n return () => {\n el.removeEventListener(evt, listener, false);\n };\n }\n dispatchEvent(el: Node, evt: any) {\n el.dispatchEvent(evt);\n }\n remove(node: Node): Node {\n if (node.parentNode) {\n node.parentNode.removeChild(node);\n }\n return node;\n }\n getValue(el: any): string {\n return el.value;\n }\n createElement(tagName: string, doc?: Document): HTMLElement {\n doc = doc || this.getDefaultDocument();\n return doc.createElement(tagName);\n }\n createHtmlDocument(): HTMLDocument {\n return document.implementation.createHTMLDocument('fakeTitle');\n }\n getDefaultDocument(): Document {\n return document;\n }\n\n isElementNode(node: Node): boolean {\n return node.nodeType === Node.ELEMENT_NODE;\n }\n\n isShadowRoot(node: any): boolean {\n return node instanceof DocumentFragment;\n }\n\n getGlobalEventTarget(doc: Document, target: string): EventTarget|null {\n if (target === 'window') {\n return window;\n }\n if (target === 'document') {\n return doc;\n }\n if (target === 'body') {\n return doc.body;\n }\n return null;\n }\n getHistory(): History {\n return window.history;\n }\n getLocation(): Location {\n return window.location;\n }\n getBaseHref(doc: Document): string|null {\n const href = getBaseElementHref();\n return href == null ? null : relativePath(href);\n }\n resetBaseElement(): void {\n baseElement = null;\n }\n getUserAgent(): string {\n return window.navigator.userAgent;\n }\n performanceNow(): number {\n // performance.now() is not available in all browsers, see\n // https://caniuse.com/high-resolution-time\n return window.performance &&

window.performance.now ? window.performance.now() :\n new Date().getTime();\n }\n\n supportsCookies(): boolean {\n return true;\n }\n\n getCookie(name: string): string|null {\n return parseCookieValue(document.cookie, name);\n }\n}\n\nlet baseElement: HTMLElement|null = null;\nfunction getBaseElementHref(): string|null {\n if (!baseElement) {\n baseElement = document.querySelector('base')!;\n if (!baseElement) {\n return null;\n }\n }\n return baseElement.getAttribute('href');\n}\n\n//
based on urlUtils.js in AngularJS 1\nlet urlParsingNode: any;\nfunction relativePath(url: any): string {\n if (!urlParsingNode) {\n urlParsingNode = document.createElement('a');\n }\n urlParsingNode.setAttribute('href', url);\n return (urlParsingNode.pathname.charAt(0) === '/') ? urlParsingNode.pathname :\n '/' + urlParsingNode.pathname;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT, getDOM as getDOM} from '@angular/common';\nimport {APP_INITIALIZER, ApplicationInitStatus, Inject, InjectionToken, Injector, StaticProvider} from '@angular/core';\n\n/**\n * An id that identifies a particular application being bootstrapped, that should\n * match across the client/server boundary.\n */\nexport const TRANSITION_ID
= new InjectionToken('TRANSITION_ID');\n\nexport function appInitializerFactory(transitionId: string, document: any, injector: Injector) {\n return () => {\n // Wait for all application initializers to be completed before removing the styles set by\n // the server.\n injector.get(ApplicationInitStatus).donePromise.then(() => {\n const dom = getDOM();\n const styles: any[] =\n Array.prototype.slice.apply(document.querySelectorAll(`style[ng-transition]`));\n styles.filter(el => el.getAttribute('ng-transition') === transitionId)\n .forEach(el => dom.remove(el));\n });\n };\n}\n\nexport const SERVER_TRANSITION_PROVIDERS: StaticProvider[] = [\n {\n provide: APP_INITIALIZER,\n useFactory: appInitializerFactory,\n deps: [TRANSITION_ID, DOCUMENT, Injector],\n multi: true\n },\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found
in the LICENSE file at https://angular.io/license\n */\n\nimport {getDOM as getDOM} from '@angular/common';\nimport {GetTestability, setTestabilityGetter, Testability, TestabilityRegistry, global as global} from '@angular/core';\n\nexport class BrowserGetTestability implements GetTestability {\n static init() {\n setTestabilityGetter(new BrowserGetTestability());\n }\n\n addToWindow(registry: TestabilityRegistry): void {\n global['getAngularTestability'] = (elem: any, findInAncestors: boolean = true) => {\n const testability = registry.findTestabilityInTree(elem, findInAncestors);\n if (testability == null) {\n throw new Error('Could not find testability for element.');\n }\n return testability;\n };\n\n global['getAllAngularTestabilities'] = () => registry.getAllTestabilities();\n\n global['getAllAngularRootElements'] = () => registry.getAllRootElements();\n\n const whenAllStable = (callback: any /** TODO #9100 */) => {\n const testabilities = global['getAllAngularTestabilities']();\n let count = testabilities.length;\n let didWork = false;\n const decrement = function(didWork_: any /** TODO #9100 */) {\n didWork = didWork || didWork_;\n count--;\n if (count == 0) {\n callback(didWork);\n }\n };\n testabilities.forEach(function(testability: any /** TODO #9100 */) {\n testability.whenStable(decrement);\n });\n };\n\n if (!global['frameworkStabilizers']) {\n global['frameworkStabilizers'] = [];\n }\n global['frameworkStabilizers'].push(whenAllStable);\n }\n\n findTestabilityInTree(registry: TestabilityRegistry, elem: any, findInAncestors: boolean):\n Testability|null {\n if (elem == null) {\n return null;\n }\n const t = registry.getTestability(elem);\n if (t != null) {\n return t;\n } else if (!findInAncestors) {\n return null;\n }\n if (getDOM().isShadowRoot(elem)) {\n return this.findTestabilityInTree(registry, (<any>elem).host, true);\n }\n return this.findTestabilityInTree(registry, elem.parentElement, true);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {global as global} from '@angular/core';\n\nconst CAMEL_CASE_REGEXP = /([A-Z])/g;\nconst DASH_CASE_REGEXP = /-([a-z])/g;\n\n\nexport function camelCaseToDashCase(input: string): string {\n return input.replace(CAMEL_CASE_REGEXP, (...m: string[]) =>

'-' + m[1].toLowerCase());\n}\n\nexport function dashCaseToCamelCase(input: string): string {\n  return input.replace(DASH_CASE_REGEXP, (...m: string[]) => m[1].toUpperCase());\n}\n\n/**\n * Exports the value under a given `name` in the global property `ng`. For example `ng.probe` if\n * `name` is `'probe'`.\n * @param name Name under which it will be exported. Keep
 in mind this will be a property of the\n * global `ng` object.\n * @param value The value to export.\n */\nexport function exportNgVar(name: string, value: any): void {\n  if (typeof COMPILED === 'undefined' || !COMPILED) {\n    // Note: we can't export `ng` when using closure enhanced optimization as:\n    // - closure declares globals itself for minified names, which sometimes clobber our `ng` global\n    // - we can't declare a closure extern as the namespace `ng` is already used within Google\n    //   for typings for angularJS (via `goog.provide('ng....')`).\n    const ng = global['ng'] = (global['ng'] as {[key: string]: any} | undefined) || {};\n    ng[name] = value;\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {APP_INITIALIZER, ApplicationRef, DebugNode, NgProbeToken, NgZone, Optional, Provider,
 getDebugNodeR2} from '@angular/core';\n\nimport {exportNgVar} from '../util';\n\nconst CORE_TOKENS = (() => ({\n                    'ApplicationRef': ApplicationRef,\n                    'NgZone': NgZone,\n}))();\n\nconst INSPECT_GLOBAL_NAME = 'probe';\nconst CORE_TOKENS_GLOBAL_NAME = 'coreTokens';\n\n/**\n * Returns a {@link DebugElement} for the given native DOM element, or\n * null if the given native element does not have an Angular view associated\n * with it.\n */\nexport function inspectNativeElementR2(element: any): DebugNode|null {\n  return getDebugNodeR2(element);\n}\n\nexport function _createNgProbeR2(coreTokens: NgProbeToken[]): any {\n  exportNgVar(INSPECT_GLOBAL_NAME, inspectNativeElementR2);\n  exportNgVar(CORE_TOKENS_GLOBAL_NAME, {...CORE_TOKENS, ..._ngProbeTokensToMap(coreTokens || [])});\n  return () => inspectNativeElementR2;\n}\n\nfunction _ngProbeTokensToMap(tokens: NgProbeToken[]): {[name: string]: any} {\n  return tokens.reduce((prev: any, t: any) => (prev[t.name] = t.token, prev), {});\n}\n\n/**\n * In Ivy, we don't support NgProbe because we have our own set of testing utilities\n * with more robust functionality.\n *\n * We shouldn't bring in NgProbe because it prevents DebugNode and friends from\n * tree-shaking properly.\n */\nexport const ELEMENT_PROBE_PROVIDERS__POST_R3__ = [];\n\n/**\n * Providers which support debugging Angular applications (e.g. via `ng.probe`).\n */\nexport const ELEMENT_PROBE_PROVIDERS__PRE_R3__: Provider[] = [\n  {\n    provide: APP_INITIALIZER,\n    useFactory: _createNgProbeR2,\n    deps: [\n      [NgProbeToken, new Optional()],\n    ],\n    multi: true,\n  },\n];\n\nexport const ELEMENT_PROBE_PROVIDERS = ELEMENT_PROBE_PROVIDERS__PRE_R3__;\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getDOM as getDOM} from '@angular/common';\nimport {Inject, Injectable, InjectionToken, NgZone} from '@angular/core';\n\n/**\n * The injection token for the event-manager plug-in service.\n *\n * @publicApi\n */\nexport const EVENT_MANAGER_PLUGINS =\n    new InjectionToken<EventManagerPlugin[]>('EventManagerPlugins');\n\n/**\n * An injectable service that provides event management for Angular\n * through a browser plug-in.\n *\n * @publicApi\n */\n@Injectable()\nexport class EventManager {\n  private _plugins: EventManagerPlugin[];\n  private _eventNameToPlugin = new Map<string, EventManagerPlugin>();\n\n  /**\n   * Initializes an instance of the event-manager service.\n   */\n  constructor(@Inject(EVENT_MANAGER_PLUGINS) plugins: EventManagerPlugin[], private _zone: NgZone) {\n    plugins.forEach(p => p.manager = this);\n    this._plugins = plugins.slice().reverse();\n  }\n\n  /**\n   * Registers a handler for a specific element and event.\n   *\n   * @param element The HTML element to receive event notifications.\n
   * @param eventName The name of the event to listen for.\n   * @param handler A function to call when the notification occurs. Receives the\n   * event object as an argument.\n   * @returns  A callback function that can be used to remove the handler.\n   */\n  addEventListener(element: HTMLElement, eventName: string, handler: Function): Function {\n    const plugin = this._findPluginFor(eventName);\n    return

plugin.addEventListener(element, eventName, handler);\n }\n\n /**\n * Registers a global handler for an event in a target view.\n *\n * @param target A target for global event notifications. One of \"window\", \"document\", or \"body\".\n * @param eventName The name of the event to listen for.\n * @param handler A function to call when the notification occurs. Receives the\n * event object as an argument.\n * @returns A callback function that can be used to remove the handler.\n */\n addGlobalEventListener(target: string, eventName: string, handler: Function):
Function {\n const plugin = this._findPluginFor(eventName);\n return plugin.addGlobalEventListener(target, eventName, handler);\n }\n\n /**\n * Retrieves the compilation zone in which event listeners are registered.\n */\n getZone(): NgZone {\n return this._zone;\n }\n\n /** @internal */\n _findPluginFor(eventName: string): EventManagerPlugin {\n const plugin = this._eventNameToPlugin.get(eventName);\n if (plugin) {\n return plugin;\n }\n\n const plugins = this._plugins;\n for (let i = 0; i < plugins.length; i++) {\n const plugin = plugins[i];\n if (plugin.supports(eventName)) {\n this._eventNameToPlugin.set(eventName, plugin);\n return plugin;\n }\n }\n throw new Error(`No event manager plugin found for event ${eventName}`);\n }\n}\n\nexport abstract class EventManagerPlugin {\n constructor(private _doc: any) {}\n\n // TODO(issue/24571): remove '!'.\n manager!: EventManager;\n\n abstract supports(eventName: string): boolean;\n\n abstract addEventListener(element: HTMLElement, eventName: string, handler: Function): Function;\n\n addGlobalEventListener(element: string, eventName: string, handler: Function): Function {\n const target: HTMLElement = getDOM().getGlobalEventTarget(this._doc, element);\n if (!target) {\n throw new Error(`Unsupported event target ${target} for event ${eventName}`);\n }\n return this.addEventListener(target, eventName, handler);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT, getDOM as getDOM} from '@angular/common';\nimport {Inject, Injectable, OnDestroy} from '@angular/core';\n\n@Injectable()\nexport class SharedStylesHost {\n /** @internal */\n protected _stylesSet = new Set<string>();\n\n addStyles(styles: string[]): void {\n const additions = new Set<string>();\n styles.forEach(style => {\n if (!this._stylesSet.has(style)) {\n this._stylesSet.add(style);\n additions.add(style);\n }\n });\n this.onStylesAdded(additions);\n }\n\n onStylesAdded(additions: Set<string>): void {}\n\n getAllStyles(): string[] {\n return Array.from(this._stylesSet);\n }\n}\n\n@Injectable()\nexport class DomSharedStylesHost extends SharedStylesHost implements OnDestroy {\n private _hostNodes = new Set<Node>();\n private _styleNodes = new Set<Node>();\n constructor(@Inject(DOCUMENT) private _doc: any) {\n super();\n this._hostNodes.add(_doc.head);\n }\n\n private _addStylesToHost(styles: Set<string>, host: Node): void {\n styles.forEach((style: string) => {\n const styleEl = this._doc.createElement('style');\n styleEl.textContent = style;\n this._styleNodes.add(host.appendChild(styleEl));\n });\n }\n\n addHost(hostNode: Node): void {\n this._addStylesToHost(this._stylesSet, hostNode);\n this._hostNodes.add(hostNode);\n }\n\n removeHost(hostNode: Node): void {\n this._hostNodes.delete(hostNode);\n }\n\n onStylesAdded(additions: Set<string>): void {\n this._hostNodes.forEach(hostNode => this._addStylesToHost(additions, hostNode));\n }\n\n ngOnDestroy(): void {\n this._styleNodes.forEach(styleNode => getDOM().remove(styleNode));\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {APP_ID, Inject, Injectable, Renderer2, RendererFactory2, RendererStyleFlags2, RendererType2, ViewEncapsulation} from '@angular/core';\n\nimport {EventManager} from './events/event_manager';\nimport {DomSharedStylesHost} from './shared_styles_host';\n\nexport const NAMESPACE_URIS: {[ns: string]: string} = {\n 'svg': 'http://www.w3.org/2000/svg',\n 'xhtml': 'http://www.w3.org/1999/xhtml',\n 'xlink': 'http://www.w3.org/1999/xlink',\n 'xml': 'http://www.w3.org/XML/1998/namespace',\n 'xmlns': 'http://www.w3.org/2000/xmlns/',\n};\n\nconst COMPONENT_REGEX = /%COMP%/g;\nconst NG_DEV_MODE = typeof ngDevMode === 'undefined' || !!ngDevMode;\n\nexport const COMPONENT_VARIABLE = '%COMP%';\nexport const HOST_ATTR = `_nghost-${COMPONENT_VARIABLE}`;\nexport const

```
CONTENT_ATTR = `_ngcontent-${COMPONENT_VARIABLE}`;\n\nexport function
shimContentAttribute(componentShortId: string): string {\n  return
CONTENT_ATTR.replace(COMPONENT_REGEX, componentShortId);\n}\n\nexport function
shimHostAttribute(componentShortId: string): string {\n  return HOST_ATTR.replace(COMPONENT_REGEX,
componentShortId);\n}\n\nexport function flattenStyles(\n    compId: string, styles: Array<any|any[]>, target:
string[]): string[] {\n  for (let i = 0; i < styles.length; i++) {\n    let style = styles[i];\n\n    if (Array.isArray(style)) {\n
    flattenStyles(compId, style, target);\n    } else {\n
  style = style.replace(COMPONENT_REGEX, compId);\n      target.push(style);\n    }\n  }\n  return
target;\n}\n\nfunction decoratePreventDefault(eventHandler: Function): Function {\n  //
`DebugNode.triggerEventHandler` needs to know if the listener was created with\n  // decoratePreventDefault or is a
listener added outside the Angular context so it can handle the\n  // two differently. In the first case, the special
'__ngUnwrap__' token is passed to the unwrap\n  // the listener (see below).\n  return (event: any) => {\n    // Ivy
uses '__ngUnwrap__' as a special token that allows us to unwrap the function\n    // so that it can be invoked
programmatically by `DebugNode.triggerEventHandler`. The debug_node\n    // can inspect the listener toString
contents for the existence of this special token. Because\n    // the token is a string literal, it is ensured to not be
modified by compiled code.\n    if (event === '__ngUnwrap__') {\n      return eventHandler;\n    }\n\n    const
allowDefaultBehavior
 = eventHandler(event);\n    if (allowDefaultBehavior === false) {\n      // TODO(tbosch): move preventDefault into
event plugins...\n      event.preventDefault();\n      event.returnValue = false;\n    }\n\n    return undefined;\n
};\n}\n\nlet hasLoggedNativeEncapsulationWarning = false;\n\n@Injectable()\nexport class DomRendererFactory2
implements RendererFactory2 {\n  private rendererByCompId = new Map<string, Renderer2>();\n  private
defaultRenderer: Renderer2;\n\n  constructor(\n      private eventManager: EventManager, private sharedStylesHost:
DomSharedStylesHost,\n      @Inject(APP_ID) private appId: string) {\n    this.defaultRenderer = new
DefaultDomRenderer2(eventManager);\n  }\n\n  createRenderer(element: any, type: RendererType2|null):
Renderer2 {\n    if (!element || !type) {\n      return this.defaultRenderer;\n    }\n    switch (type.encapsulation) {\n
case ViewEncapsulation.Emulated: {\n      let renderer = this.rendererByCompId.get(type.id);\n
   if (!renderer) {\n        renderer = new EmulatedEncapsulationDomRenderer2(\n            this.eventManager,
this.sharedStylesHost, type, this.appId);\n        this.rendererByCompId.set(type.id, renderer);\n      }\n
(<EmulatedEncapsulationDomRenderer2>renderer).applyToHost(element);\n      return renderer;\n    }\n    case
1:\n    case ViewEncapsulation.ShadowDom:\n      // TODO(FW-2290): remove the `case 1:` fallback logic and
the warning in v12.\n      if ((typeof ngDevMode === 'undefined' || ngDevMode) &&\n
!hasLoggedNativeEncapsulationWarning && type.encapsulation === 1) {\n
hasLoggedNativeEncapsulationWarning = true;\n        console.warn(\n            'ViewEncapsulation.Native is no
longer supported. Falling back to ViewEncapsulation.ShadowDom. The fallback will be removed in v12.');\n
}\n\n      return new ShadowDomRenderer(this.eventManager, this.sharedStylesHost, element, type);\n    default:
{\n      if (!this.rendererByCompId.has(type.id))
 {\n        const styles = flattenStyles(type.id, type.styles, []);\n        this.sharedStylesHost.addStyles(styles);\n
this.rendererByCompId.set(type.id, this.defaultRenderer);\n      }\n      return this.defaultRenderer;\n    }\n  }\n
}\n\n  begin() {}\n  end() {}\n}\n\nclass DefaultDomRenderer2 implements Renderer2 {\n  data: {[key: string]: any}
= Object.create(null);\n\n  constructor(private eventManager: EventManager) {}\n\n  destroy(): void {}\n\n
destroyNode: null;\n\n  createElement(name: string, namespace?: string): any {\n    if (namespace) {\n      // In cases
where Ivy (not ViewEngine) is giving us the actual namespace, the look up by key\n      // will result in undefined,
so we just return the namespace here.\n      return document.createElementNS(NAMESPACE_URIS[namespace] ||
namespace, name);\n    }\n\n    return document.createElement(name);\n  }\n\n  createComment(value: string): any
{\n    return document.createComment(value);\n
  }\n\n  createText(value: string): any {\n    return document.createTextNode(value);\n  }\n\n  appendChild(parent:
any, newChild: any): void {\n    parent.appendChild(newChild);\n  }\n\n  insertBefore(parent: any, newChild: any,
refChild: any): void {\n    if (parent) {\n      parent.insertBefore(newChild, refChild);\n    }\n  }\n\n
```

removeChild(parent: any, oldChild: any): void {\n if (parent) {\n parent.removeChild(oldChild);\n }\n }\n\n selectRootElement(selectorOrNode: string|any, preserveContent?: boolean): any {\n let el: any = typeof selectorOrNode === 'string' ? document.querySelector(selectorOrNode) :\n selectorOrNode;\n if (!el) {\n throw new Error(`The selector \"${selectorOrNode}\" did not match any elements`);\n }\n if (!preserveContent) {\n el.textContent = '';\n }\n return el;\n }\n\n parentNode(node: any): any {\n return node.parentNode;\n }\n\n nextSibling(node:
any): any {\n return node.nextSibling;\n }\n\n setAttribute(el: any, name: string, value: string, namespace?: string): void {\n if (namespace) {\n name = namespace + ':' + name;\n // TODO(FW-811): Ivy may cause issues here because it's passing around\n // full URIs for namespaces, therefore this lookup will fail.\n const namespaceUri = NAMESPACE_URIS[namespace];\n if (namespaceUri) {\n el.setAttributeNS(namespaceUri, name, value);\n } else {\n el.setAttribute(name, value);\n }\n } else {\n el.setAttribute(name, value);\n }\n }\n\n removeAttribute(el: any, name: string, namespace?: string): void {\n if (namespace) {\n // TODO(FW-811): Ivy may cause issues here because it's passing around\n // full URIs for namespaces, therefore this lookup will fail.\n const namespaceUri = NAMESPACE_URIS[namespace];\n if (namespaceUri) {\n el.removeAttributeNS(namespaceUri, name);\n } else
{\n // TODO(FW-811): Since ivy is passing around full URIs for namespaces\n // this could result in properties like `http://www.w3.org/2000/svg:cx=\"123\"`,\n // which is wrong.\n el.removeAttribute(`${namespace}:${name}`);\n }\n } else {\n el.removeAttribute(name);\n }\n }\n\n addClass(el: any, name: string): void {\n el.classList.add(name);\n }\n\n removeClass(el: any, name: string): void {\n el.classList.remove(name);\n }\n\n setStyle(el: any, style: string, value: any, flags: RendererStyleFlags2): void {\n if (flags & (RendererStyleFlags2.DashCase | RendererStyleFlags2.Important)) {\n el.style.setProperty(style, value, flags & RendererStyleFlags2.Important ? 'important' : '');\n } else {\n el.style[style] = value;\n }\n }\n\n removeStyle(el: any, style: string, flags: RendererStyleFlags2): void {\n if (flags & RendererStyleFlags2.DashCase) {\n el.style.removeProperty(style);\n } else {\n //
IE requires '' instead of null\n // see https://github.com/angular/angular/issues/7916\n el.style[style] = '';\n }\n }\n\n setProperty(el: any, name: string, value: any): void {\n NG_DEV_MODE && checkNoSyntheticProp(name, 'property');\n el[name] = value;\n }\n\n setValue(node: any, value: string): void {\n node.nodeValue = value;\n }\n\n listen(target: 'window'|'document'|'body'|any, event: string, callback: (event: any) => boolean):\n () => void {\n NG_DEV_MODE && checkNoSyntheticProp(event, 'listener');\n if (typeof target === 'string') {\n return <() => void>this.eventManager.addGlobalEventListener(\n target, event, decoratePreventDefault(callback));\n }\n return <() => void>this.eventManager.addEventListener(\n target, event, decoratePreventDefault(callback)) as () => void;\n }\n}\n\nconst AT_CHARCODE = (() => '@'.charCodeAt(0))();\nfunction checkNoSyntheticProp(name: string, nameKind: string) {\n if (name.charCodeAt(0)
=== AT_CHARCODE) {\n throw new Error(`Found the synthetic ${nameKind} ${\n name}. Please include either \"BrowserAnimationsModule\" or \"NoopAnimationsModule\" in your application.`);\n }\n}\n\nclass EmulatedEncapsulationDomRenderer2 extends DefaultDomRenderer2 {\n private contentAttr: string;\n private hostAttr: string;\n\n constructor(\n eventManager: EventManager, sharedStylesHost: DomSharedStylesHost,\n private component: RendererType2, appId: string) {\n super(eventManager);\n const styles = flattenStyles(appId + '-' + component.id, component.styles, []);\n sharedStylesHost.addStyles(styles);\n\n this.contentAttr = shimContentAttribute(appId + '-' + component.id);\n this.hostAttr = shimHostAttribute(appId + '-' + component.id);\n }\n\n applyToHost(element: any) {\n super.setAttribute(element, this.hostAttr, '');\n }\n\n createElement(parent: any, name: string): Element {\n const el = super.createElement(parent, name);\n super.setAttribute(el, this.contentAttr, '');\n return el;\n }\n}\n\nclass ShadowDomRenderer extends DefaultDomRenderer2 {\n private shadowRoot: any;\n\n constructor(\n eventManager: EventManager, private sharedStylesHost: DomSharedStylesHost,\n private hostEl: any, component: RendererType2) {\n super(eventManager);\n this.shadowRoot = (hostEl as any).attachShadow({mode: 'open'});\n

this.sharedStylesHost.addHost(this.shadowRoot);\n    const styles = flattenStyles(component.id, component.styles, []);\n    for (let i = 0; i < styles.length; i++) {\n      const styleEl = document.createElement('style');\n styleEl.textContent = styles[i];\n      this.shadowRoot.appendChild(styleEl);\n    }\n  }\n\n  private nodeOrShadowRoot(node: any): any {\n    return node === this.hostEl ? this.shadowRoot : node;\n  }\n\n  destroy() {\n    this.sharedStylesHost.removeHost(this.shadowRoot);\n  }\n\n  appendChild(parent: any, newChild: any): void {\n    return super.appendChild(this.nodeOrShadowRoot(parent), newChild);\n  }\n  insertBefore(parent: any, newChild: any, refChild: any): void {\n    return super.insertBefore(this.nodeOrShadowRoot(parent), newChild, refChild);\n  }\n  removeChild(parent: any, oldChild: any): void {\n    return super.removeChild(this.nodeOrShadowRoot(parent), oldChild);\n  }\n parentNode(node: any): any {\n    return this.nodeOrShadowRoot(super.parentNode(this.nodeOrShadowRoot(node)));\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT} from '@angular/common';\nimport {Inject, Injectable} from '@angular/core';\n\nimport {EventManagerPlugin} from './event_manager';\n\n@Injectable()\nexport class DomEventsPlugin extends EventManagerPlugin {\n constructor(@Inject(DOCUMENT) doc: any) {\n    super(doc);\n  }\n\n  // This plugin should come last in the list of plugins, because it accepts all\n  // events.\n  supports(eventName: string): boolean {\n    return true;\n  }\n\n  addEventListener(element: HTMLElement, eventName: string, handler: Function): Function {\n element.addEventListener(eventName, handler as EventListener, false);\n    return () => this.removeEventListener(element, eventName, handler as EventListener);\n  }\n\n  removeEventListener(target: any, eventName: string, callback: Function): void {\n    return target.removeEventListener(eventName, callback as EventListener);\n  }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT} from '@angular/common';\nimport {Inject, Injectable, InjectionToken, NgModule, Optional, Provider, Console as Console} from '@angular/core';\n\nimport {EVENT_MANAGER_PLUGINS, EventManagerPlugin} from './event_manager';\n\n\n\n/**\n * Supported HammerJS recognizer event names.\n */\nconst EVENT_NAMES = {\n  // pan\n  'pan': true,\n  'panstart': true,\n  'panmove': true,\n  'panend': true,\n  'pancancel': true,\n  'panleft': true,\n  'panright': true,\n  'panup': true,\n  'pandown': true,\n  // pinch\n  'pinch': true,\n  'pinchstart': true,\n  'pinchmove': true,\n  'pinchend': true,\n  'pinchcancel': true,\n  'pinchin': true,\n  'pinchout': true,\n  // press\n  'press': true,\n  'pressup': true,\n  // rotate\n  'rotate': true,\n  'rotatestart': true,\n  'rotatemove': true,\n  'rotateend': true,\n  'rotatecancel': true,\n  // swipe\n  'swipe': true,\n  'swipeleft': true,\n  'swiperight': true,\n  'swipeup': true,\n  'swipedown': true,\n  // tap\n  'tap': true,\n};\n\n/**\n * DI token for providing [HammerJS](https://hammerjs.github.io/) support to Angular.\n * @see `HammerGestureConfig`\n *\n * @ngModule HammerModule\n * @publicApi\n */\nexport const HAMMER_GESTURE_CONFIG = new InjectionToken<HammerGestureConfig>('HammerGestureConfig');\n\n\n\n/**\n * Function that loads HammerJS, returning a promise that is resolved once HammerJs is loaded.\n *\n * @publicApi\n */\nexport type HammerLoader = () => Promise<void>;\n\n/**\n * Injection token used to provide a {@link HammerLoader} to Angular.\n *\n * @publicApi\n */\nexport const HAMMER_LOADER = new InjectionToken<HammerLoader>('HammerLoader');\n\nexport interface HammerInstance {\n  on(eventName: string, callback?: Function): void;\n  off(eventName: string, callback?: Function): void;\n  destroy?(): void;\n}\n\n/**\n * An injectable [HammerJS Manager](https://hammerjs.github.io/api/#hammermanager)\n * for gesture recognition. Configures specific event recognition.\n * @publicApi\n */\n@Injectable()\nexport class HammerGestureConfig {\n  /**\n   * A set of supported event names for gestures to be used in Angular.\n   * Angular supports all built-in recognizers, as listed in\n   * [HammerJS documentation](https://hammerjs.github.io/).\n   */\n  events: string[] = [];\n\n  /**\n   * Maps gesture event names to a set of configuration options\n   * that specify overrides to the default values for specific properties.\n   *\n   * The key is a supported event name to be

configured,\n * and the options object contains a set of properties, with override values\n * to be applied to the named recognizer event.\n * For example, to disable recognition of the rotate event, specify\n * `{\"rotate\": {\"enable\": false}}`.\n *\n * Properties that are not present take the HammerJS default values.\n * For information about which properties are supported for which events,\n * and their allowed and default values, see\n * [HammerJS documentation](https://hammerjs.github.io/).\n *\n */\n overrides: {[key: string]: Object} = {};\n\n /**\n * Properties whose default values can be overridden for a given event.\n * Different sets of properties apply to different events.\n * For information about
which properties are supported for which events,\n * and their allowed and default values, see\n * [HammerJS documentation](https://hammerjs.github.io/).\n */\n options?: {\n cssProps?: any;\n domEvents?: boolean;\n enable?: boolean | ((manager: any) => boolean);\n preset?: any[];\n touchAction?: string;\n recognizers?: any[];\n inputClass?: any;\n inputTarget?: EventTarget;\n };\n\n /**\n * Creates a [HammerJS Manager](https://hammerjs.github.io/api/#hammermanager)\n * and attaches it to a given HTML element.\n * @param element The element that will recognize gestures.\n * @returns A HammerJS event-manager object.\n */\n buildHammer(element: HTMLElement): HammerInstance {\n const mc = new Hammer!(element, this.options);\n\n mc.get('pinch').set({enable: true});\n mc.get('rotate').set({enable: true});\n\n for (const eventName in this.overrides) {\n mc.get(eventName).set(this.overrides[eventName]);\n }\n\n return mc;\n }\n}\n\n/**\n * Event plugin that adds Hammer support to an application.\n *\n * @ngModule HammerModule\n */\n@Injectable()\nexport class HammerGesturesPlugin extends EventManagerPlugin {\n constructor(\n @Inject(DOCUMENT) doc: any,\n @Inject(HAMMER_GESTURE_CONFIG) private _config: HammerGestureConfig, private console: Console,\n @Optional() @Inject(HAMMER_LOADER) private loader?: HammerLoader|null) {\n super(doc);\n }\n\n supports(eventName: string): boolean {\n if (!EVENT_NAMES.hasOwnProperty(eventName.toLowerCase()) && !this.isCustomEvent(eventName)) {\n return false;\n }\n\n if (!(window as any).Hammer && !this.loader) {\n this.console.warn(\n `The \"${eventName}\" event cannot be bound because Hammer.JS is not ` +\n `loaded and no custom loader has been specified.`);\n return false;\n }\n\n return true;\n }\n\n addEventListener(element: HTMLElement, eventName: string, handler: Function): Function {\n const zone = this.manager.getZone();\n eventName = eventName.toLowerCase();\n\n // If Hammer is not present but a loader is specified, we defer adding the event listener\n // until Hammer is loaded.\n if (!(window as any).Hammer && this.loader) {\n // This `addEventListener` method returns a function to remove the added listener.\n // Until Hammer is loaded, the returned function needs to *cancel* the registration rather\n // than remove anything.\n let cancelRegistration = false;\n let deregister: Function = () => {\n cancelRegistration = true;\n };\n\n this.loader()\n .then(() => {\n // If Hammer isn't actually loaded when the custom loader resolves, give up.\n if (!(window as any).Hammer) {\n this.console.warn(\n `The custom HAMMER_LOADER completed, but Hammer.JS is not present.`);\n deregister = () => {};\n return;\n }\n\n if (!cancelRegistration) {\n // Now that Hammer is loaded and the listener is being loaded for real,\n // the deregistration function changes from canceling registration to removal.\n deregister = this.addEventListener(element, eventName, handler);\n }\n })\n .catch(() => {\n this.console.warn(\n `The \"${eventName}\" event cannot be bound because the custom ` +\n `Hammer.JS loader failed.`);\n deregister = () => {};\n });\n\n // Return a function that *executes* `deregister` (and not `deregister` itself) so that we\n // can change the behavior of `deregister` once the listener is added. Using a closure in\n // this way allows us to avoid any additional data structures to track listener removal.\n return () => {\n deregister();\n };\n }\n\n return zone.runOutsideAngular(() => {\n // Creating the manager bind events, must
be done outside of angular\n const mc = this._config.buildHammer(element);\n const callback = function(eventObj: HammerInput) {\n zone.runGuarded(function() {\n handler(eventObj);\n });\n };\n mc.on(eventName, callback);\n return () => {\n mc.off(eventName, callback);\n // destroy mc to prevent memory leak\n if (typeof mc.destroy === 'function') {\n mc.destroy();\n }\n };\n });\n

}\n\n  isCustomEvent(eventName: string): boolean {\n    return this._config.events.indexOf(eventName) > -1;\n  }\n}\n\n/**\n * In Ivy, support for Hammer gestures is optional, so applications must\n * import the `HammerModule` at root to turn on support. This means that\n * Hammer-specific code can be tree-shaken away if not needed.\n */\nexport const HAMMER_PROVIDERS__POST_R3__ = [];\n\n/**\n * In View Engine, support for Hammer gestures is built-in by default.\n */\nexport const HAMMER_PROVIDERS__PRE_R3__: Provider[] = [\n  {\n    provide: EVENT_MANAGER_PLUGINS,\n    useClass: HammerGesturesPlugin,\n    multi: true,\n    deps: [DOCUMENT, HAMMER_GESTURE_CONFIG, Console, [new Optional(), HAMMER_LOADER]]\n  },\n  {provide: HAMMER_GESTURE_CONFIG, useClass: HammerGestureConfig, deps: []},\n];\n\nexport const HAMMER_PROVIDERS = HAMMER_PROVIDERS__PRE_R3__;\n\n/**\n * Adds support for HammerJS.\n *\n * Import this module at the root of your application so that Angular can work with\n * HammerJS to detect gesture events.\n *\n * Note that applications still need to include the HammerJS script itself. This module\n * simply sets up the coordination layer between HammerJS and Angular's EventManager.\n *\n * @publicApi\n */\n@NgModule({providers: HAMMER_PROVIDERS__PRE_R3__})\nexport class HammerModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT, getDOM as getDOM} from '@angular/common';\nimport {Inject, Injectable, NgZone} from '@angular/core';\nimport {EventManagerPlugin} from './event_manager';\n\n/**\n * Defines supported modifiers for key events.\n */\nconst MODIFIER_KEYS = ['alt', 'control', 'meta', 'shift'];\n\nconst DOM_KEY_LOCATION_NUMPAD = 3;\n\n// Map to convert some key or keyIdentifier values to what will be returned by getEventKey\nconst _keyMap: {[k: string]: string} = {\n  // The following values are here for cross-browser compatibility and to match the W3C standard\n  // cf https://www.w3.org/TR/DOM-Level-3-Events-key/\n  '\\b': 'Backspace',\n  '\\t': 'Tab',\n  '\\x7F': 'Delete',\n  '\\x1B': 'Escape',\n  'Del': 'Delete',\n  'Esc': 'Escape',\n  'Left': 'ArrowLeft',\n  'Right': 'ArrowRight',\n  'Up': 'ArrowUp',\n  'Down': 'ArrowDown',\n  'Menu': 'ContextMenu',\n  'Scroll': 'ScrollLock',\n  'Win': 'OS'\n};\n\n// There is a bug in Chrome for numeric keypad keys:\n// https://code.google.com/p/chromium/issues/detail?id=155654\n// 1, 2, 3 ... are reported as A, B, C ...\nconst _chromeNumKeyPadMap = {\n  'A': '1',\n  'B': '2',\n  'C': '3',\n  'D': '4',\n  'E': '5',\n  'F': '6',\n  'G': '7',\n  'H': '8',\n  'I': '9',\n  'J': '*',\n  'K': '+',\n  'M': '-',\n  'N': '.',\n  'O': '/',\n  '\\x60': '0',\n  '\\x90': 'NumLock'\n};\n\n\n\n/**\n * Retrieves modifiers from key-event objects.\n */\nconst MODIFIER_KEY_GETTERS: {[key: string]: (event: KeyboardEvent) => boolean} = {\n  'alt': (event: KeyboardEvent) => event.altKey,\n  'control': (event: KeyboardEvent) => event.ctrlKey,\n  'meta': (event: KeyboardEvent) => event.metaKey,\n  'shift': (event: KeyboardEvent) => event.shiftKey\n};\n\n/**\n * @publicApi\n * A browser plug-in that provides support for handling of key events in Angular.\n */\n@Injectable()\nexport class KeyEventsPlugin extends EventManagerPlugin {\n  /**\n   * Initializes an instance of the browser plug-in.\n   * @param doc The document in which key events will be\n  detected.\n   */\n  constructor(@Inject(DOCUMENT) doc: any) {\n    super(doc);\n  }\n\n  /**\n   * Reports whether a named key event is supported.\n   * @param eventName The event name to query.\n   * @return True if the named key event is supported.\n   */\n  supports(eventName: string): boolean {\n    return KeyEventsPlugin.parseEventName(eventName) != null;\n  }\n\n  /**\n   * Registers a handler for a specific element and key event.\n   * @param element The HTML element to receive event notifications.\n   * @param eventName The name of the key event to listen for.\n   * @param handler A function to call when the notification occurs. Receives the\n   * event object as an argument.\n   * @returns The key event that was registered.\n   */\n  addEventListener(element: HTMLElement, eventName: string, handler: Function): Function {\n    const parsedEvent = KeyEventsPlugin.parseEventName(eventName)!;\n\n    const outsideHandler =\n        KeyEventsPlugin.eventCallback(parsedEvent['fullKey'],\n  handler, this.manager.getZone());\n\n    return this.manager.getZone().runOutsideAngular(() => {\n      return getDOM().onAndCancel(element, parsedEvent['domEventName'], outsideHandler);\n    });\n  }\n\n  static parseEventName(eventName: string): {fullKey: string, domEventName: string}|null {\n    const parts: string[] = eventName.toLowerCase().split('.');\n\n    const domEventName = parts.shift();\n    if ((parts.length === 0) ||

!(domEventName === 'keydown' || domEventName === 'keyup')) {\n return null;\n }\n\n const key = KeyEventsPlugin._normalizeKey(parts.pop()!);\n\n let fullKey = '';\n MODIFIER_KEYS.forEach(modifierName => {\n const index: number = parts.indexOf(modifierName);\n if (index > -1) {\n parts.splice(index, 1);\n fullKey += modifierName + '.';\n }\n });\n fullKey += key;\n\n if (parts.length != 0 || key.length === 0) {\n // returning null instead of throwing to let another plugin process the event\n return null;\n }\n\n // NOTE: Please don't rewrite this as so, as it will break JSCompiler property renaming.\n // The code must remain in the `result['domEventName']` form.\n // return {domEventName, fullKey};\n const result: {fullKey: string, domEventName: string} = {} as any;\n result['domEventName'] = domEventName;\n result['fullKey'] = fullKey;\n return result;\n }\n\n static getEventFullKey(event: KeyboardEvent): string {\n let fullKey = '';\n let key = getEventKey(event);\n key = key.toLowerCase();\n if (key === ' ') {\n key = 'space'; // for readability\n } else if (key === '.') {\n key = 'dot'; // because '.' is used as a separator in event names\n }\n MODIFIER_KEYS.forEach(modifierName => {\n if (modifierName != key) {\n const modifierGetter = MODIFIER_KEY_GETTERS[modifierName];\n if (modifierGetter(event)) {\n fullKey += modifierName + '.';\n }\n }\n });\n fullKey += key;\n return fullKey;\n }\n\n /**\n * Configures a handler callback for a key event.\n * @param fullKey The event name that combines all simultaneous keystrokes.\n * @param handler The function that responds to the key event.\n * @param zone The zone in which the event occurred.\n * @returns A callback function.\n */\n static eventCallback(fullKey: any, handler: Function, zone: NgZone): Function {\n return (event: any /** TODO #9100 */) => {\n if (KeyEventsPlugin.getEventFullKey(event) === fullKey) {\n zone.runGuarded(() => handler(event));\n }\n };\n }\n\n /** @internal */\n static _normalizeKey(keyName: string): string {\n // TODO: switch to a Map if the mapping grows too much\n switch (keyName) {\n case 'esc':\n return 'escape';\n default:\n return keyName;\n }\n }\n}\n\nfunction getEventKey(event: any): string {\n let key = event.key;\n if (key == null) {\n key = event.keyIdentifier;\n // keyIdentifier is defined in the old draft of DOM Level 3 Events implemented by Chrome and\n // Safari cf\n // https://www.w3.org/TR/2007/WD-DOM-Level-3-Events-20071221/events.html#Events-KeyboardEvents-Interfaces\n if (key == null) {\n return 'Unidentified';\n }\n if (key.startsWith('U+')) {\n key = String.fromCharCode(parseInt(key.substring(2), 16));\n if (event.location === DOM_KEY_LOCATION_NUMPAD && _chromeNumKeyPadMap.hasOwnProperty(key)) {\n // There is a bug in Chrome for numeric keypad keys:\n // https://code.google.com/p/chromium/issues/detail?id=155654\n // 1, 2, 3 ... are reported as A, B, C ...\n key = (_chromeNumKeyPadMap as any)[key];\n }\n }\n }\n\n return _keyMap[key] || key;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT} from '@angular/common';\nimport {forwardRef, Inject, Injectable, Injector, Sanitizer, SecurityContext, _sanitizeHtml as _sanitizeHtml, _sanitizeUrl as _sanitizeUrl, allowSanitizationBypassAndThrow as allowSanitizationBypassOrThrow, bypassSanitizationTrustHtml as bypassSanitizationTrustHtml, bypassSanitizationTrustResourceUrl as bypassSanitizationTrustResourceUrl, bypassSanitizationTrustScript as bypassSanitizationTrustScript, bypassSanitizationTrustStyle as bypassSanitizationTrustStyle, bypassSanitizationTrustUrl as bypassSanitizationTrustUrl, BypassType as BypassType, getSanitizationBypassType as getSanitizationBypassType, unwrapSafeValue as unwrapSafeValue} from '@angular/core';\n\nexport {SecurityContext};\n\n\n\n/**\n * Marker interface for a value that's safe to use in a particular context.\n *\n * @publicApi\n */\nexport interface SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as HTML.\n *\n * @publicApi\n */\nexport interface SafeHtml extends SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as style (CSS).\n *\n * @publicApi\n */\nexport interface SafeStyle extends SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as JavaScript.\n *\n * @publicApi\n */\nexport interface SafeScript extends SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as a URL linking to a document.\n *\n * @publicApi\n */\nexport interface SafeUrl

```
extends SafeValue {}\n\n/**\n * Marker interface for a value that's safe to use as a URL to load executable code from.\n *\n * @publicApi\n */\nexport interface SafeResourceUrl extends SafeValue {}\n\n/**\n * DomSanitizer helps preventing Cross Site Scripting Security bugs (XSS) by sanitizing\n * values to be safe to use in the different DOM contexts.\n *\n * For example, when binding a URL in an `<a [href]=\"someValue\">` hyperlink, `someValue` will be\n * sanitized so that an attacker cannot inject e.g. a `javascript:` URL that would execute code on\n * the website.\n *\n * In specific situations, it might be necessary to disable sanitization, for example if the\n * application genuinely needs to produce a `javascript:` style link with a dynamic value in it.\n * Users can bypass security by constructing a value with one of the `bypassSecurityTrust...`\n * methods, and then binding to that value from the template.\n *\n * These situations should be very rare, and extraordinary care must be taken to avoid creating a\n * Cross Site Scripting (XSS) security bug!\n *\n * When using `bypassSecurityTrust...`, make sure to call the method as early as possible and as\n * close as possible to the source of the value, to make it easy to verify no security bug is\n * created by its use.\n *\n * It is not required (and not recommended) to bypass security if the value is safe, e.g. a URL that\n * does not start with a suspicious protocol, or an HTML snippet that does not contain dangerous\n * code. The sanitizer leaves safe values intact.\n *\n * @security Calling any of the `bypassSecurityTrust...` APIs disables Angular's built-in\n * sanitization for the value passed in. Carefully check and audit all values and code paths going\n * into this call. Make sure any user data is appropriately escaped for this security context.\n * For more detail, see the [Security Guide](https://g.co/ng/security).\n *\n * @publicApi\n */\n@Injectable({providedIn: 'root', useExisting: forwardRef(() => DomSanitizerImpl)})\nexport abstract class DomSanitizer implements Sanitizer {\n  /**\n   * Sanitizes a value for use in the given SecurityContext.\n   *\n   * If value is trusted for the context, this method will unwrap the contained safe value and use\n   * it directly. Otherwise, value will be sanitized to be safe in the given context, for example\n   * by replacing URLs that have an unsafe protocol part (such as `javascript:`). The implementation\n   * is responsible to make sure that the value can definitely be safely used in the given context.\n   */\n  abstract sanitize(context: SecurityContext, value: SafeValue|string|null): string|null;\n\n  /**\n   * Bypass security and trust the given value to be safe HTML. Only use this when the bound HTML\n   * is unsafe (e.g. contains `<script>` tags) and the code should be executed. The sanitizer will\n   * leave safe HTML intact, so in most situations this method should not be used.\n   *\n   * **WARNING:** calling this method with untrusted user data exposes your application to XSS\n   * security risks!\n   */\n  abstract bypassSecurityTrustHtml(value: string): SafeHtml;\n\n  /**\n   * Bypass security and trust the given value to be safe style value (CSS).\n   *\n   * **WARNING:** calling this method with untrusted user data exposes your application to XSS\n   * security risks!\n   */\n  abstract bypassSecurityTrustStyle(value: string): SafeStyle;\n\n  /**\n   * Bypass security and trust the given value to be safe JavaScript.\n   *\n   * **WARNING:** calling this method with untrusted user data exposes your application to XSS\n   * security risks!\n   */\n  abstract bypassSecurityTrustScript(value: string): SafeScript;\n\n  /**\n   * Bypass security and trust the given value to be a safe style URL, i.e. a value that can be used\n   * in hyperlinks or `<img src>`.\n   *\n   * **WARNING:** calling this method with untrusted user data exposes your application to XSS\n   * security risks!\n   */\n  abstract bypassSecurityTrustUrl(value: string): SafeUrl;\n\n  /**\n   * Bypass security and trust the given value to be a safe resource URL, i.e. a location that may\n   * be used to load executable code from, like `<script src>`, or `<iframe src>`.\n   *\n   * **WARNING:** calling this method with untrusted user data exposes your application to XSS\n   * security risks!\n   */\n  abstract bypassSecurityTrustResourceUrl(value: string): SafeResourceUrl;\n}\n\nexport function domSanitizerImplFactory(injector: Injector) {\n  return new DomSanitizerImpl(injector.get(DOCUMENT));\n}\n\n@Injectable({providedIn: 'root', useFactory: domSanitizerImplFactory, deps: [Injector]})\nexport class DomSanitizerImpl extends DomSanitizer {\n  constructor(@Inject(DOCUMENT) private _doc: any) {\n    super();\n  }\n\n  sanitize(ctx: SecurityContext, value: SafeValue|string|null): string|null {\n    if (value == null) return null;\n    switch (ctx) {\n      case SecurityContext.NONE:\n        return value as string;\n      case SecurityContext.HTML:\n        if (allowSanitizationBypassOrThrow(value, BypassType.Html)) {\n          return unwrapSafeValue(value);\n        }\n        return _sanitizeHtml(this._doc, String(value));\n      case SecurityContext.STYLE:\n        if
```

(allowSanitizationBypassOrThrow(value, BypassType.Style)) {\n return unwrapSafeValue(value);\n }\n return value as string;\n case SecurityContext.SCRIPT:\n if (allowSanitizationBypassOrThrow(value, BypassType.Script)) {\n return unwrapSafeValue(value);\n }\n throw new Error('unsafe value used in a script context');\n case SecurityContext.URL:\n const type = getSanitizationBypassType(value);\n if (allowSanitizationBypassOrThrow(value, BypassType.Url)) {\n return unwrapSafeValue(value);\n }\n return _sanitizeUrl(String(value));\n case SecurityContext.RESOURCE_URL:\n if (allowSanitizationBypassOrThrow(value, BypassType.ResourceUrl)) {\n return unwrapSafeValue(value);\n }\n throw new Error(\n 'unsafe value used in a resource URL context (see https://g.co/ng/security#xss)');\n default:\n throw new Error(`Unexpected SecurityContext ${ctx} (see https://g.co/ng/security#xss)`);\n }\n }\n\n bypassSecurityTrustHtml(value: string): SafeHtml {\n return bypassSanitizationTrustHtml(value);\n }\n bypassSecurityTrustStyle(value: string): SafeStyle {\n return bypassSanitizationTrustStyle(value);\n }\n bypassSecurityTrustScript(value: string): SafeScript {\n return bypassSanitizationTrustScript(value);\n }\n bypassSecurityTrustUrl(value: string): SafeUrl {\n return bypassSanitizationTrustUrl(value);\n }\n bypassSecurityTrustResourceUrl(value: string): SafeResourceUrl {\n return bypassSanitizationTrustResourceUrl(value);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {CommonModule, DOCUMENT, PLATFORM_BROWSER_ID as PLATFORM_BROWSER_ID} from '@angular/common';\nimport {APP_ID, ApplicationModule, createPlatformFactory, ErrorHandler, Inject, ModuleWithProviders, NgModule, NgZone, Optional, PLATFORM_ID, PLATFORM_INITIALIZER, platformCore, PlatformRef, RendererFactory2, Sanitizer, SkipSelf, StaticProvider, Testability, Console as Console, INJECTOR_SCOPE as INJECTOR_SCOPE, setDocument} from '@angular/core';\n\nimport {BrowserDomAdapter} from './browser/browser_adapter';\nimport {SERVER_TRANSITION_PROVIDERS, TRANSITION_ID} from './browser/server-transition';\nimport {BrowserGetTestability} from './browser/testability';\nimport {ELEMENT_PROBE_PROVIDERS} from './dom/debug/ng_probe';\nimport {DomRendererFactory2} from './dom/dom_renderer';\nimport {DomEventsPlugin} from './dom/events/dom_events';\nimport {EVENT_MANAGER_PLUGINS, EventManager} from './dom/events/event_manager';\nimport {HAMMER_PROVIDERS} from './dom/events/hammer_gestures';\nimport {KeyEventsPlugin} from './dom/events/key_events';\nimport {DomSharedStylesHost, SharedStylesHost} from './dom/shared_styles_host';\nimport {DomSanitizer, DomSanitizerImpl} from './security/dom_sanitization_service';\n\nexport function initDomAdapter() {\n BrowserDomAdapter.makeCurrent();\n BrowserGetTestability.init();\n}\n\nexport function errorHandler(): ErrorHandler {\n return new ErrorHandler();\n}\n\nexport function _document(): any {\n // Tell ivy about the global document\n setDocument(document);\n return document;\n}\n\nexport const INTERNAL_BROWSER_PLATFORM_PROVIDERS: StaticProvider[] = [\n {provide: PLATFORM_ID, useValue: PLATFORM_BROWSER_ID},\n {provide: PLATFORM_INITIALIZER, useValue: initDomAdapter, multi: true},\n {provide: DOCUMENT, useFactory: _document, deps: []},\n];\n\nconst BROWSER_SANITIZATION_PROVIDERS__PRE_R3__: StaticProvider[] = [\n {provide: Sanitizer, useExisting: DomSanitizer},\n {provide: DomSanitizer, useClass: DomSanitizerImpl, deps: [DOCUMENT]},\n];\n\nexport const BROWSER_SANITIZATION_PROVIDERS__POST_R3__ = [];\n\n/**\n * @security Replacing built-in sanitization providers exposes the application to XSS risks.\n * Attacker-controlled data introduced by an unsanitized provider could expose your\n * application to XSS risks. For more detail, see the [Security Guide](https://g.co/ng/security).\n * @publicApi\n */\nexport const BROWSER_SANITIZATION_PROVIDERS = BROWSER_SANITIZATION_PROVIDERS__PRE_R3__;\n\n/**\n * A factory function that returns a `PlatformRef` instance associated with browser service\n * providers.\n *\n * @publicApi\n */\nexport const platformBrowser: (extraProviders?: StaticProvider[]) => PlatformRef =\n createPlatformFactory(platformCore, 'browser', INTERNAL_BROWSER_PLATFORM_PROVIDERS);\n\nexport const BROWSER_MODULE_PROVIDERS: StaticProvider[] = [\n

BROWSER_SANITIZATION_PROVIDERS,\n {provide: INJECTOR_SCOPE, useValue: 'root'},\n {provide: ErrorHandler, useFactory: errorHandler, deps: []},\n {\n provide: EVENT_MANAGER_PLUGINS,\n useClass: DomEventsPlugin,\n multi: true,\n deps: [DOCUMENT, NgZone, PLATFORM_ID]\n },\n {provide: EVENT_MANAGER_PLUGINS, useClass: KeyEventsPlugin, multi: true, deps: [DOCUMENT]},\n HAMMER_PROVIDERS,\n {\n provide: DomRendererFactory2,\n useClass: DomRendererFactory2,\n deps: [EventManager, DomSharedStylesHost, APP_ID]\n },\n {provide: RendererFactory2, useExisting: DomRendererFactory2},\n {provide: SharedStylesHost, useExisting: DomSharedStylesHost},\n {provide: DomSharedStylesHost, useClass: DomSharedStylesHost, deps: [DOCUMENT]},\n {provide: Testability, useClass: Testability, deps: [NgZone]},\n {provide: EventManager, useClass: EventManager, deps: [EVENT_MANAGER_PLUGINS, NgZone]},\n ELEMENT_PROBE_PROVIDERS,\n];\n\n/**\n * Exports required infrastructure for all Angular apps.\n * Included by default in all Angular apps created with the CLI\n * `new` command.\n * Re-exports `CommonModule` and `ApplicationModule`, making their\n * exports and providers available to all apps.\n *\n * @publicApi\n */\n@NgModule({providers: BROWSER_MODULE_PROVIDERS, exports: [CommonModule, ApplicationModule]})\nexport class BrowserModule {\n constructor(@Optional() @SkipSelf() @Inject(BrowserModule) parentModule: BrowserModule|null) {\n if (parentModule) {\n throw new Error(\n `BrowserModule has already been loaded. If you need access to common directives such as NgIf and NgFor from a lazy loaded module, import CommonModule instead.`);\n }\n }\n\n /**\n * Configures a browser-based app to transition from a server-rendered app, if\n * one is present on the page.\n *\n * @param params An object containing an identifier for the app to transition.\n * The ID must match between the client and server versions of the app.\n * @returns The reconfigured `BrowserModule` to import into the app's root `AppModule`.\n */\n static withServerTransition(params: {appId: string}): ModuleWithProviders<BrowserModule> {\n return {\n ngModule: BrowserModule,\n providers: [\n {provide: APP_ID, useValue: params.appId},\n {provide: TRANSITION_ID, useExisting: APP_ID},\n SERVER_TRANSITION_PROVIDERS,\n ],\n };\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT, DomAdapter as DomAdapter, getDOM as getDOM} from '@angular/common';\nimport {Inject, Injectable, inject} from '@angular/core';\n\n/**\n * Represents the attributes of an HTML `<meta>` element. The element itself is\n * represented by the internal `HTMLMetaElement`.\n *\n * @see [HTML meta tag](https://developer.mozilla.org/docs/Web/HTML/Element/meta)\n * @see `Meta`\n *\n * @publicApi\n */\nexport type MetaDefinition = {\n charset?: string;\n content?: string;\n httpEquiv?: string;\n id?: string;\n itemprop?: string;\n name?: string;\n property?: string;\n scheme?: string;\n url?: string;\n}&{\n // TODO(IgorMinar): this type looks wrong\n [prop: string]: string;\n};\n\n/**\n * Factory to create a `Meta` service instance for the current DOM document.\n */\nexport function createMeta() {\n return new Meta(inject(DOCUMENT));\n}\n\n/**\n * A service for managing HTML `<meta>` tags.\n *\n * Properties of the `MetaDefinition` object match the attributes of the\n * HTML `<meta>` tag. These tags define document metadata that is important for\n * things like configuring a Content Security Policy, defining browser compatibility\n * and security settings, setting HTTP Headers, defining rich content for social sharing,\n * and Search Engine Optimization (SEO).\n *\n * To identify specific `<meta>` tags in a document, use an attribute selection\n * string in the format `\"tag_attribute='value string'\"`.\n * For example, an `attrSelector` value of `\"name='description'\"` matches a tag\n * whose `name` attribute has the value `\"description\"`.\n * Selectors are used with the `querySelector()` Document method,\n * in the format `meta[{attrSelector}]`.\n *\n * @see [HTML meta tag](https://developer.mozilla.org/docs/Web/HTML/Element/meta)\n * @see [Document.querySelector()](https://developer.mozilla.org/docs/Web/API/Document/querySelector)\n *\n *\n * @publicApi\n */\n@Injectable({providedIn: 'root', useFactory: createMeta, deps: []})\nexport class Meta {\n private _dom: DomAdapter;\n constructor(@Inject(DOCUMENT) private _doc: any) {\n this._dom = getDOM();\n }\n /**\n * Retrieves or creates a specific `<meta>` tag element in the current HTML

```
document.\n   * In searching for an existing tag, Angular attempts to match the `name` or `property` attribute\n   *
values in the provided tag definition, and verifies that all other attribute values are equal.\n   * If an existing element
is found, it is returned and is not modified in any way.\n   * @param tag The definition of a `<meta>` element to
match or create.\n   * @param forceCreation True to create a new element without checking whether one already
exists.\n   * @returns The existing element with the same attributes and values if found,\n   * the new element if no
match is found, or `null` if the tag parameter is not defined.\n   */\n  addTag(tag: MetaDefinition, forceCreation:
boolean = false): HTMLMetaElement|null {\n    if (!tag) return null;\n    return this._getOrCreateElement(tag,
 forceCreation);\n  }\n\n  /**\n   * Retrieves or creates a set of `<meta>` tag elements in the current HTML
document.\n   * In searching for an existing tag, Angular attempts to match the `name` or `property` attribute\n   *
values in the provided tag definition, and verifies that all other attribute values are equal.\n   * @param tags An
array of tag definitions to match or create.\n   * @param forceCreation True to create new elements without
checking whether they already exist.\n   * @returns The matching elements if found, or the new elements.\n   */\n
addTags(tags: MetaDefinition[], forceCreation: boolean = false): HTMLMetaElement[] {\n    if (!tags) return [];\n
return tags.reduce((result: HTMLMetaElement[], tag: MetaDefinition) => {\n      if (tag) {\n
result.push(this._getOrCreateElement(tag, forceCreation));\n      }\n      return result;\n    }, []);\n  }\n\n  /**\n   *
Retrieves a `<meta>` tag element in the current HTML document.\n
 * @param attrSelector The tag attribute and value to match against, in the format\n   * `\"tag_attribute='value
string'\"`.\n   * @returns The matching element, if any.\n   */\n  getTag(attrSelector: string):
HTMLMetaElement|null {\n    if (!attrSelector) return null;\n    return
this._doc.querySelector(`meta[${attrSelector}]`) || null;\n  }\n\n  /**\n   * Retrieves a set of `<meta>` tag elements in
the current HTML document.\n   * @param attrSelector The tag attribute and value to match against, in the format\n
 * `\"tag_attribute='value string'\"`.\n   * @returns The matching elements, if any.\n   */\n  getTags(attrSelector:
string): HTMLMetaElement[] {\n    if (!attrSelector) return [];\n    const list /*NodeList*/ =
this._doc.querySelectorAll(`meta[${attrSelector}]`);\n    return list ? [].slice.call(list) : [];\n  }\n\n  /**\n   * Modifies
an existing `<meta>` tag element in the current HTML document.\n   * @param tag The tag description with which
to replace the existing tag content.\n
   * @param selector A tag attribute and value to match against, to identify\n   * an existing tag. A string in the
format `\"tag_attribute=`value string`\"`.\n   * If not supplied, matches a tag with the same `name` or `property`
attribute value as the\n   * replacement tag.\n   * @return The modified element.\n   */\n  updateTag(tag:
MetaDefinition, selector?: string): HTMLMetaElement|null {\n    if (!tag) return null;\n    selector = selector ||
this._parseSelector(tag);\n    const meta: HTMLMetaElement = this.getTag(selector)!;\n    if (meta) {\n      return
this._setMetaElementAttributes(tag, meta);\n    }\n    return this._getOrCreateElement(tag, true);\n  }\n\n  /**\n   *
Removes an existing `<meta>` tag element from the current HTML document.\n   * @param attrSelector A tag
attribute and value to match against, to identify\n   * an existing tag. A string in the format `\"tag_attribute=`value
string`\"`.\n   */\n  removeTag(attrSelector: string): void {\n    this.removeTagElement(this.getTag(attrSelector)!);\n
  }\n\n  /**\n   * Removes an existing `<meta>` tag element from the current HTML document.\n   * @param meta
The tag definition to match against to identify an existing tag.\n   */\n  removeTagElement(meta:
HTMLMetaElement): void {\n    if (meta) {\n      this._dom.remove(meta);\n    }\n  }\n\n  private
_getOrCreateElement(meta: MetaDefinition, forceCreation: boolean = false):\n      HTMLMetaElement {\n    if
(!forceCreation) {\n      const selector: string = this._parseSelector(meta);\n      const elem: HTMLMetaElement =
this.getTag(selector)!;\n      // It's allowed to have multiple elements with the same name so it's not enough to\n      //
just check that element with the same name already present on the page. We also need to\n      // check if element has
tag attributes\n      if (elem && this._containsAttributes(meta, elem)) return elem;\n    }\n    const element:
HTMLMetaElement = this._dom.createElement('meta') as HTMLMetaElement;\n
this._setMetaElementAttributes(meta,
 element);\n    const head = this._doc.getElementsByTagName('head')[0];\n    head.appendChild(element);\n    return
element;\n  }\n\n  private _setMetaElementAttributes(tag: MetaDefinition, el: HTMLMetaElement):
HTMLMetaElement {\n    Object.keys(tag).forEach(\n        (prop: string) =>
```

el.setAttribute(this._getMetaKeyMap(prop), tag[prop]));\n  return el;\n }\n\n private _parseSelector(tag: MetaDefinition): string {\n  const attr: string = tag.name ? 'name' : 'property';\n  return `${attr}=\"${tag[attr]}\"`;\n }\n\n private _containsAttributes(tag: MetaDefinition, elem: HTMLMetaElement): boolean {\n  return Object.keys(tag).every(\n      (key: string) => elem.getAttribute(this._getMetaKeyMap(key)) === tag[key]);\n }\n\n private _getMetaKeyMap(prop: string): string {\n  return META_KEYS_MAP[prop] || prop;\n }\n}\n\n/**\n * Mapping for MetaDefinition properties with their correct meta attribute names\n */\nconst META_KEYS_MAP: {[prop:
string]: string;} = {\n httpEquiv: 'http-equiv'\n};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT, getDOM as getDOM} from '@angular/common';\nimport {Inject, Injectable, inject} from '@angular/core';\n\n\n/**\n * Factory to create Title service.\n */\nexport function createTitle() {\n return new Title(inject(DOCUMENT));\n}\n\n/**\n * A service that can be used to get and set the title of a current HTML document.\n *\n * Since an Angular application can't be bootstrapped on the entire HTML document (`<html>` tag)\n * it is not possible to bind to the `text` property of the `HTMLTitleElement` elements\n * (representing the `<title>` tag). Instead, this service can be used to set and get the current\n * title value.\n *\n * @publicApi\n */\n@Injectable({providedIn: 'root', useFactory: createTitle, deps:
[]})\nexport class Title {\n constructor(@Inject(DOCUMENT) private _doc: any) {}\n /**\n  * Get the title of the current HTML document.\n  */\n getTitle(): string {\n  return this._doc.title;\n }\n\n /**\n  * Set the title of the current HTML document.\n  * @param newTitle\n  */\n setTitle(newTitle: string) {\n  this._doc.title = newTitle || '';\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nconst win = typeof window !== 'undefined' && window || <any>{};\nexport {win as window};\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getDOM as getDOM} from '@angular/common';\nimport {ApplicationRef, ComponentRef} from '@angular/core';\nimport
{window} from './browser';\n\nexport class ChangeDetectionPerfRecord {\n constructor(public msPerTick: number, public numTicks: number) {}\n}\n\n/**\n * Entry point for all Angular profiling-related debug tools. This object\n * corresponds to the `ng.profiler` in the dev console.\n */\nexport class AngularProfiler {\n appRef: ApplicationRef;\n\n constructor(ref: ComponentRef<any>) {\n  this.appRef = ref.injector.get(ApplicationRef);\n }\n\n // tslint:disable:no-console\n /**\n  * Exercises change detection in a loop and then prints the average amount of\n  * time in milliseconds how long a single round of change detection takes for\n  * the current state of the UI. It runs a minimum of 5 rounds for a minimum\n  * of 500 milliseconds.\n  *\n  * Optionally, a user may pass a `config` parameter containing a map of\n  * options. Supported options are:\n  *\n  * `record` (boolean) - causes the profiler to record a CPU profile while\n  * it exercises the change
detector. Example:\n  *\n  * ```\n  * ng.profiler.timeChangeDetection({record: true})\n  * ```\n  */\n timeChangeDetection(config: any): ChangeDetectionPerfRecord {\n  const record = config && config['record'];\n const profileName = 'Change Detection';\n  // Profiler is not available in Android browsers without dev tools opened\n  const isProfilerAvailable = window.console.profile != null;\n  if (record && isProfilerAvailable) {\n window.console.profile(profileName);\n  }\n  const start = getDOM().performanceNow();\n  let numTicks = 0;\n  while (numTicks < 5 || (getDOM().performanceNow() - start) < 500) {\n   this.appRef.tick();\n   numTicks++;\n  }\n  const end = getDOM().performanceNow();\n  if (record && isProfilerAvailable) {\n window.console.profileEnd(profileName);\n  }\n  const msPerTick = (end - start) / numTicks;\n window.console.log(`ran ${numTicks} change detection cycles`);\n window.console.log(`${msPerTick.toFixed(2)}
ms per check`);\n\n  return new ChangeDetectionPerfRecord(msPerTick, numTicks);\n }\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {ComponentRef} from '@angular/core';\nimport {exportNgVar} from '../../dom/util';\nimport {AngularProfiler} from

'./common_tools';\n\nconst PROFILER_GLOBAL_NAME = 'profiler';\n\n/**\n * Enabled Angular debug tools that are accessible via your browser's\n * developer console.\n *\n * Usage:\n *\n * 1. Open developer console (e.g. in Chrome Ctrl + Shift + j)\n * 1. Type `ng.` (usually the console will show auto-complete suggestion)\n * 1. Try the change detection profiler `ng.profiler.timeChangeDetection()`\n * then hit Enter.\n *\n * @publicApi\n */\nexport function enableDebugTools<T>(ref: ComponentRef<T>): ComponentRef<T> {\n exportNgVar(PROFILER_GLOBAL_NAME, new AngularProfiler(ref));\n return ref;\n}\n\n/**\n * Disables Angular tools.\n *\n * @publicApi\n */\nexport function disableDebugTools(): void {\n exportNgVar(PROFILER_GLOBAL_NAME, null);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {DOCUMENT} from '@angular/common';\nimport {APP_ID, Injectable, NgModule} from '@angular/core';\n\nexport function escapeHtml(text: string): string {\n const escapedText: {[k: string]: string} = {\n '&': '&a;',\n '"': '&q;',\n '\\': '&s;',\n '<': '&l;',\n '>': '&g;',\n };\n return text.replace(/[&"<>]/g, s => escapedText[s]);\n}\n\nexport function unescapeHtml(text: string): string {\n const unescapedText: {[k: string]: string} = {\n '&a;': '&',\n '&q;': '"',\n '&s;': '\\',\n '&l;': '<',\n '&g;': '>',\n };\n return text.replace(/&[^;]+;/g, s => unescapedText[s]);\n}\n\n/**\n * A type-safe key to use with `TransferState`.\n *\n * Example:\n *\n * ```\n * const COUNTER_KEY = makeStateKey<number>('counter');\n * let value = 10;\n *\n * transferState.set(COUNTER_KEY, value);\n * ```\n *\n * @publicApi\n */\nexport type StateKey<T> = string&{__not_a_string: never};\n\n/**\n * Create a `StateKey<T>` that can be used to store value of type T with `TransferState`.\n *\n * Example:\n *\n * ```\n * const COUNTER_KEY = makeStateKey<number>('counter');\n * let value = 10;\n *\n * transferState.set(COUNTER_KEY, value);\n * ```\n *\n * @publicApi\n */\nexport function makeStateKey<T = void>(key: string): StateKey<T> {\n return key as StateKey<T>;\n}\n\n/**\n * A key value store that is transferred from the application on the server side to the application\n * on the client side.\n *\n * `TransferState` will be available as an injectable token. To use it import\n * `ServerTransferStateModule` on the server and `BrowserTransferStateModule` on the client.\n *\n * The values in the store are serialized/deserialized using JSON.stringify/JSON.parse. So only\n * boolean, number, string, null and non-class objects will be serialized and deserialized in a\n * non-lossy manner.\n *\n * @publicApi\n */\n@Injectable()\nexport class TransferState {\n private store: {[k: string]: {}|undefined} = {};\n private onSerializeCallbacks: {[k: string]: () => {} | undefined} = {};\n\n /** @internal */\n static init(initState: {}) {\n const transferState = new TransferState();\n transferState.store = initState;\n return transferState;\n }\n\n /**\n * Get the value corresponding to a key. Return `defaultValue` if key is not found.\n */\n get<T>(key: StateKey<T>, defaultValue: T): T {\n return this.store[key] !== undefined ? this.store[key] as T : defaultValue;\n }\n\n /**\n * Set the value corresponding to a key.\n */\n set<T>(key: StateKey<T>, value: T): void {\n this.store[key] = value;\n }\n\n /**\n * Remove a key from the store.\n */\n remove<T>(key: StateKey<T>): void {\n delete this.store[key];\n }\n\n /**\n * Test whether a key exists in the store.\n */\n hasKey<T>(key: StateKey<T>) {\n return this.store.hasOwnProperty(key);\n }\n\n /**\n * Register a callback to provide the value for a key when `toJson` is called.\n */\n onSerialize<T>(key: StateKey<T>, callback: () => T): void {\n this.onSerializeCallbacks[key] = callback;\n }\n\n /**\n * Serialize the current state of the store to JSON.\n */\n toJson(): string {\n // Call the onSerialize callbacks and put those values into the store.\n for (const key in this.onSerializeCallbacks) {\n if (this.onSerializeCallbacks.hasOwnProperty(key)) {\n try {\n this.store[key] = this.onSerializeCallbacks[key]();\n } catch (e) {\n console.warn('Exception in onSerialize callback: ', e);\n }\n }\n }\n return JSON.stringify(this.store);\n }\n}\n\nexport function initTransferState(doc: Document, appId: string) {\n // Locate the script tag with the JSON data transferred from the server.\n // The id of the script tag is set to the Angular appId + 'state'.\n const script = doc.getElementById(appId + '-state');\n let initialState = {};\n if (script && script.textContent) {\n try {\n initialState = JSON.parse(unescapeHtml(script.textContent));\n } catch (e) {\n console.warn('Exception while restoring TransferState for app ' + appId, e);\n }\n }\n return TransferState.init(initialState);\n}\n\n/**\n *

NgModule to install on the client side while using the `TransferState` to transfer state from\n * server to client.\n *\n * @publicApi\n */\n@NgModule({\n  providers: [{provide: TransferState, useFactory: initTransferState, deps: [DOCUMENT, APP_ID]}],\n})\nexport class BrowserTransferStateModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {getDOM as getDOM} from '@angular/common';\nimport {DebugElement, DebugNode, Predicate, Type} from '@angular/core';\n\n\n\n/**\n * Predicates for use with {@link DebugElement}'s query functions.\n *\n * @publicApi\n */\nexport class By {\n  /**\n   * Match all nodes.\n   *\n   * @usageNotes\n   * ### Example\n   *\n * {@example platform-browser/dom/debug/ts/by/by.ts region='by_all'}\n   */\n  static all(): Predicate<DebugNode> {\n    return () => true;\n  }\n\n  /**\n   * Match elements by the given CSS selector.\n   *\n   * @usageNotes\n   * ### Example\n   *\n   * {@example platform-browser/dom/debug/ts/by/by.ts region='by_css'}\n   */\n  static css(selector: string): Predicate<DebugElement> {\n    return (debugElement) => {\n      return debugElement.nativeElement != null ?\n          elementMatches(debugElement.nativeElement, selector) :\n          false;\n    };\n  }\n\n  /**\n   * Match nodes that have the given directive present.\n   *\n   * @usageNotes\n   * ### Example\n   *\n   * {@example platform-browser/dom/debug/ts/by/by.ts region='by_directive'}\n   */\n  static directive(type: Type<any>): Predicate<DebugNode> {\n    return (debugNode) => debugNode.providerTokens!.indexOf(type) !== -1;\n  }\n}\n\nfunction elementMatches(n: any, selector: string): boolean {\n  if (getDOM().isElementNode(n)) {\n    return n.matches && n.matches(selector) ||\n        n.msMatchesSelector && n.msMatchesSelector(selector) ||\n        n.webkitMatchesSelector && n.webkitMatchesSelector(selector);\n  }\n\n  return false;\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {getDOM} from '@angular/common';\nexport {BROWSER_SANITIZATION_PROVIDERS as BROWSER_SANITIZATION_PROVIDERS, BROWSER_SANITIZATION_PROVIDERS__POST_R3__ as BROWSER_SANITIZATION_PROVIDERS__POST_R3__, initDomAdapter as initDomAdapter, INTERNAL_BROWSER_PLATFORM_PROVIDERS as INTERNAL_BROWSER_PLATFORM_PROVIDERS} from './browser';\nexport {BrowserDomAdapter as BrowserDomAdapter} from './browser/browser_adapter';\nexport {TRANSITION_ID as TRANSITION_ID} from './browser/server-transition';\nexport {BrowserGetTestability as BrowserGetTestability} from './browser/testability';\nexport {escapeHtml as escapeHtml} from './browser/transfer_state';\nexport {ELEMENT_PROBE_PROVIDERS as ELEMENT_PROBE_PROVIDERS} from './dom/debug/ng_probe';\nexport {DomRendererFactory2 as DomRendererFactory2, flattenStyles as flattenStyles, NAMESPACE_URIS as NAMESPACE_URIS, shimContentAttribute as shimContentAttribute, shimHostAttribute as shimHostAttribute} from './dom/dom_renderer';\nexport {DomEventsPlugin as DomEventsPlugin} from './dom/events/dom_events';\nexport {HammerGesturesPlugin as HammerGesturesPlugin} from './dom/events/hammer_gestures';\nexport {KeyEventsPlugin as KeyEventsPlugin} from './dom/events/key_events';\nexport {DomSharedStylesHost as DomSharedStylesHost, SharedStylesHost as SharedStylesHost} from './dom/shared_styles_host';\nexport {DomSanitizerImpl as DomSanitizerImpl} from './security/dom_sanitization_service';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of the common package.\n */\n\nimport {Version} from '@angular/core';\n\n/**\n * @publicApi\n */\nexport const VERSION = new Version('11.0.5');\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nexport {BrowserModule, platformBrowser} from './browser';\nexport {Meta, MetaDefinition} from './browser/meta';\nexport {Title} from './browser/title';\nexport {disableDebugTools, enableDebugTools} from './browser/tools/tools';\nexport {BrowserTransferStateModule, makeStateKey, StateKey, TransferState} from './browser/transfer_state';\nexport {By} from './dom/debug/by';\nexport

{EVENT_MANAGER_PLUGINS, EventManager} from './dom/events/event_manager';\nexport {HAMMER_GESTURE_CONFIG, HAMMER_LOADER, HAMMER_PROVIDERS__POST_R3__ as HAMMER_PROVIDERS__POST_R3__, HammerGestureConfig, HammerLoader, HammerModule} from './dom/events/hammer_gestures';\nexport {DomSanitizer, SafeHtml, SafeResourceUrl, SafeScript, SafeStyle, SafeUrl, SafeValue} from './security/dom_sanitization_service';\n\nexport * from './private_export';\nexport {VERSION} from './version';\n// This must be exported so it doesn't get tree-shaken away prematurely\nexport {ELEMENT_PROBE_PROVIDERS__POST_R3__ as ELEMENT_PROBE_PROVIDERS__POST_R3__} from './dom/debug/ng_probe';\n","/**\n
 * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/platform-browser';\n// This file only reexports content of the `src` folder. Keep it that way.\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verification. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport
 {BROWSER_MODULE_PROVIDERS as angular_packages_platform_browser_platform_browser_c,_document as angular_packages_platform_browser_platform_browser_b,errorHandler as angular_packages_platform_browser_platform_browser_a} from './src/browser';\nexport {GenericBrowserDomAdapter as angular_packages_platform_browser_platform_browser_o} from './src/browser/generic_browser_adapter';\nexport {createMeta as angular_packages_platform_browser_platform_browser_d} from './src/browser/meta';\nexport {SERVER_TRANSITION_PROVIDERS as angular_packages_platform_browser_platform_browser_l,appInitializerFactory as angular_packages_platform_browser_platform_browser_k} from './src/browser/server-transition';\nexport {createTitle as angular_packages_platform_browser_platform_browser_e} from './src/browser/title';\nexport {initTransferState as angular_packages_platform_browser_platform_browser_f} from './src/browser/transfer_state';\nexport {ELEMENT_PROBE_PROVIDERS__PRE_R3__ as angular_packages_platform_browser_platform_browser_n,_createNgProbeR2
 as angular_packages_platform_browser_platform_browser_m} from './src/dom/debug/ng_probe';\nexport {EventManagerPlugin as angular_packages_platform_browser_platform_browser_g} from './src/dom/events/event_manager';\nexport {HAMMER_PROVIDERS as angular_packages_platform_browser_platform_browser_i,HAMMER_PROVIDERS__PRE_R3__ as angular_packages_platform_browser_platform_browser_h} from './src/dom/events/hammer_gestures';\nexport {domSanitizerImplFactory as angular_packages_platform_browser_platform_browser_j} from './src/security/dom_sanitization_service';"],"names":["DomAdapter","global","setRootDomAdapter","parseCookieValue","InjectionToken","ApplicationInitStatus","getDOM","APP_INITIALIZER","DOCUMENT","Injector","setTestabilityGetter","ApplicationRef","NgZone","getDebugNodeR2","NgProbeToken","Optional","Injectable","Inject","ViewEncapsulation","APP_ID","RendererStyleFlags2","Console","NgModule","forwardRef","SecurityContext","allowSanitizationBypassOrThrow","unwrapSafeValue","_sanitizeHtml","getSanitizationBypassType","_sanitizeUrl","bypassSanitizationTrustHtml","bypassSanitizationTrustStyle","bypassSanitizationTrustScript","bypassSanitizationTrustUrl","bypassSanitizationTrustResourceUrl","ErrorHandler","setDocument","PLATFORM_BROWSER_ID","PLATFORM_ID","PLATFORM_INITIALIZER","Sanitizer","createPlatformFactory","platformCore","INJECTOR_SCOPE","RendererFactory2","Testability","CommonModule","ApplicationModule","SkipSelf","inject","window","Version"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC;QAC7B,aAAa,GAAG,MAAM,CAAC,cAAc;aAChC,EAAE,SAAS,EAAE,EAAE,EAAE,YAAY,KAAK,IAAI,UAAU,CAAC,EAAE,CAAC,CAAC,SAAS,GAAG,CAAC,CAAC,EAAE,CAAC;YACtE,UAAU,CAAC,EAAE,CAAC,EAAE,KAAK,IAAI,CAAC,IAAI,CAAC;gBAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC;oBAAE,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;QAC/F,OAAO,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAC/B,CAAC,CAAC;IAEF,SAAS,SAAS,CAAC,CAAC,EAAE,CAAC;QACnB,IAAI,OAAO,CAAC,KAAK,UAAU,IAAI,CAAC,KAAK,IAAI;YACrC,MAAM,IAAI,SAAS,CAAC,sBAAsB,GAAG,MAAM,CAAC,CAAC,CAAC,GAAG,+BAA+B,CAAC,CAAC;QAC9F,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;QACpB,SAAS,EAAE,KAAK,IAAI,CAAC,WAAW,GAAG,CAAC,CAAC;QACrC,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,GAAG,MAAM,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,EAAE,IAAI,EAAE,EAAE,CAAC,CAAC;IAC3F,CAAC;IAED,IAAI,QAAQ,GAAG;QACX,QAAQ,GAAG,MAAM,CAAC,MAAM,IAAI,SAAS,QAAQ,CAAC,CAAC;YAC3C,KAAK,IAAI,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;gBAClD,CAAC,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC;gBACjB,KAAK,IAAI,CAAC,IAAI,CAAC;oBAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC;wBAAE,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;aAC5E;YACD,OAAO,CAAC,CAAC;QACb,CAAC,CAAC;QACF,OAAO,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;IAC3C,CAAC,CAAC;IAEF,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC;QAChB,IAAI,CAAC,GAAG,EAAE,CAAC;QACX,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,IAAI,CAAC,GAAG,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;QAC5F,IAAI,CAAC,IAAI,IAAI,IAAI,OAAO,MAAM,CAAC,qBAAqB,KAAK,UAAU;YAC/D,KAAK,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,MAAM,CAAC,qBAAqB,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,EAAE,CAAC,EAAE;gBAC9D,IAAI,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,IAAI,MAAM,CAAC,SAAS,CAAC,oBAAoB,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;oBAAE,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;aAC5F;QACL,OAAO,CAAC,CAAC;IACb,CAAC;IAED,SAAS,UAAU,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI;QAC7C,IAAI,CAAC,GAAG,SAAS,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,GAAG,CAAC,GAAG,MAAM,GAAG,IAAI,KAAK,IAAI,GAAG,IAAI,GAAG,MAAM,CAAC,wBAAwB,CAAC,MAAM,EAAE,GAAG,CAAC,GAAG,IAAI,EAAE,CAAC,EAAE,CAAC,CAAC;QAC3H,IAAI,OAAO,OAAO,KAAK,UAAU,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,CAAC,GAAG,OAAO,CAAC,QAAQ,CAAC,UAAU,EAAE,MAAM,EAAE,GAAG,EAAE,IAAI,CAAC,CAAC;aAC7H,KAAK,IAAI,CAAC,GAAG,UAAU,CAAC,MAAM,GAAG,CAAC,EAAE,CAAC,IAAI,CAAC,EAAE,CAAC,EAAE;YAAE,IAAI,CAAC,GAAG,UAAU,CAAC,CAAC,CAAC;gBAAE,CAAC,GAAG,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,CAAC,MAAM,EAAE,GAAG,CAAC,KAAK,CAAC,CAAC;QAC3J,OAAO,CAAC,GAAG,CAAC,IAAI,CAAC,IAAI,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC;IACjE,CAAC;IAED,SAAS,OAAO,CAAC,UAAU,EAAE,SAAS;QAClC,OAAO,UAAU,MAAM,EAAE,GAAG,IAAI,SAAS,CAAC,MAAM,EAAE,GAAG,EAAE,UAAU,EAAE,SAAS,CAAC,CAAC,CAAC;IACnF,CAAC;IAED,SAAS,UAAU,CAAC,WAAW,EAAE,aAAa;QAC1C,IAAI,OAAO,OAAO,KAAK,UAAU,IAAI,OAAO,OAAO,CAAC,QAAQ,KAAK,UAAU;YAAE,OAAO,OAAO,CAAC,QAAQ,CAAC,WAAW,EAAE,aAAa,CAAC,CAAC;IACpI,CAAC;IAED,SAAS,SAAS,CAAC,OAAO,EAAE,UAAU,EAAE,CAAC,EAAE,SAAS;QAChD,SAAS,KAAK,CAAC,KAAK,IAAI,IAAI,KAAK,YAAY,CAAC,GAAG,KAAK,GAAG,IAAI,CAAC,CAAC,UAAU,OAAO,IAAI,KAAK,CAAC,KAAK,CAAC,CAAC,CAAC,CAAC;QAC/F,OAAO,KAAK,CAAC,KAAK,CAAC,GAAG,OAAO,CAAC,EAAE,UAAU,OAAO,EAAE,MAAM;YACrD,SAAS,SAAS,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,IAAI,CAAC,KAAK,CAAC,CAAC,CAAC;oBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;YAAC,CAAC;YAC1E,SAAS,QAAQ,CAAC,KAAK,IAAI,IAAI;gBAAE,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,CAAC;oBAAE,MAAM,CAAC,CAAC,CAAC,CAAC;YAAC,CAAC;YAC7E,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;YAC5G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,EAAE,CAAC,IAAI,EAAE,CAAC;QACvE,CAAC,CAAC,CAAC;IACP,CAAC;IAED,SAAS,WAAW,CAAC,OAAO,EAAE,IAAI;QAC9B,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,cAAa,IAAI,CAAC,CAAC,CAAC,MAAM,CAAC,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAAE,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC

E,CAAC,IAAI,KAAK,IAAI,CAAC,IAAI,CAAC;gBAAE,IAAI,CAAC,CAAC,cAAc,CAAC,CAAC,CAAC;oBAA
E,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC;QAC/E,OAAO,aAAa,
CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;IAC/B,CAAC,CAAC;aAEc,SAAS,CAAC,CAAC,EAAE,CAAC;QAC
1B,aAAa,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;QACpB,SAAS,EAAE,KAAK,IAAI,CAAC,WAAW,GAAG,
CAAC,CAAC,EAAE;QACvC,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,GAAG,MAAM,CAAC,MAAM,
CAAC,CAAC,CAAC,IAAI,EAAE,CAAC,SAAS,GAAG,CAAC,CAAC,SAAS,EAAE,IAAI,EAAE,EAAE,CAAC,
CAAC;IACzF,CAAC;IAEM,IAAI,QAAQ,GAAG;QAClB,QAAQ,GAAG,MAAM,CAAC,MAAM,IAAI,SAAS,QA
AQ,CAAC,CAAC;YAC3C,KAAK,IAAI,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,SAAS,CAAC
,MAAM,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE;gBACjD,SAAS,GAAG,SAAS,CAAC,CAAC,
CAAC,CAAC;gBAAC,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,cAAc,CAAC,IAAI,CAAC,SAAS,EAAE
CAAC,IAAI,CAAC,CAAC,CAAC,SAAS,CAAC,IAAI,CAAC;wBAAE,SAAS,CAAC,IAAI,CAAC,GAAG,CAAC,
CAAC,CAAC;aAChF;YAAC,OAAO,CAAC,CAAC;SACZ;QAAC,OAAO,QAAQ,CAAC,KAAK,CAAC,IAAI,EAAE
IAAI,EAAE,SAAS,CAAC,CAAC;IAC3C,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,EAAE,CAAC;QACvB,IAAI
,CAAC,GAAG,EAAE,CAAC;QACX,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,cAAc,CAAC,IAAI,CAAC;YAAE
C,cAAc,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,GAA
G,CAAC;gBAC/C,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;QACjC,OAAO,CAAC,CAAC;IAC
C,IAAI,IAAI,OAAO,MAAM,CAAC,qBAAqB,KAAK,UAAU;YAC/D,CAAC,CAAC,IAAI,KAAK,IAAI,CAAC,GAAG,CAAC,E
AAE,CAAC,GAAG,MAAM,CAAC,qBAAqB,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,
EAAE,CAAC,EAAE,EAAE;gBACpE,IAAI,CAAC,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,G
AAG,CAAC,IAAI,MAAM,CAAC,SAAS,CAAC,oBAAoB,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC,CAA
C,CAAC,CAAC;oBAC1E,CAAC,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;aAAC,
CAAC,CAAC,CAAC;SACzB;QAAC,OAAO,CAAC,CAAC;IACf,CAAC,CAAC;aAEc,IAAI,CAAC,CAAC,EAAE,CAAC;QACzB,IAAI,
CAAC,GAAG,EAAE,CAAC;QACX,KAAK,IAAI,CAAC,IAAI,CAAC,EAAE,IAAI,cAAc,CAAC,IAAI,CAAC,SAAS,EAAE
CAAC,IAAI,CAAC,CAAC,CAAC,SAAS,CAAC,IAAI,CAAC;YAAE,SAAS,CAAC,IAAI,CAAC,GAAG,CAAC,
CAAC,CAAC;IAC/B,CAAC;aAEe,UAAU,CAAC,CAAC,EAAE,CAAC;QAC9B,IAAI,

E,cAAa,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,
CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAA
E,EAAE,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,EAAE,I
AAI,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,EAAE,I
AAI,CAAC,CAAC,CAAC,EAAE,EAAE,OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CAAC,Q
AAQ,CAAC,GAAG,cAAa,OAAO,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzJ,SAAS,IAAI,CAAC,C
AAC,IAAI,OAAO,UAAU,CAAC,IAAI,OAAO,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,E
AAE,CAAC,EAAE;QAClE,SAAS,IAAI,CAAC,EAAE;YACZ,IAAI,CAAC;gBAAE,MAAM,IAAI,SAAS,CAAC,iCAAiC,CAAC,CAAC;YAC9D,OAAO,CAAC;gBAAE,IAAI;oBACV,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,KAAK,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,GAAG,EA
AE,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,QAA
Q,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CA
AC,IAAI,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,C
AAC,EAAE,IAAI;wBAAE,OAAO,CAAC,CAAC;oBAC7J,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC;wBAAE,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC;wBAAE,E
AAE,GAAG,CAAC,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC;oBA
CxC,QAAQ,EAAE,CAAC,CAAC,CAAC;wBACT,KAAK,CAAC,CAAC;wBAAC,KAAK,CAAC;4BAAE,CAAC,
GAAG,EAAE,CAAC;4BAAC,MAAM;wBAC9B,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4B
AAC,OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC;wBAC
xD,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CA
AC,CAAC;4BAAC,EAAE,GAAG,CAAC,CAAC,CAAC,CAAC;4BAAC,SAAS;wBACjD,KAAK,CAAC;4BAAE,
EAAE,GAAG,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,IAAI,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC;4BAAC,SAAS;wBACjD;4BACI,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,CAAC,GAAG,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,MAAM,GAAG,CAAC,CAAC,CAAC,CAA
C,KAAK,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,IAAI,EAAE,CAAC,CAAC,CAAC,KAAK,CAAC,CAAC,E
AAE;gCAAE,CAAC,GAAG,CAAC,CAAC;gCAAC,SAAS;6BAAE;4BAC5G,IAAI,EAAE,CAAC,CAAC,CAAC,
KAAK,CAAC,KAAK,CAAC,CAAC,KAAK,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,I
AAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CAAC,CA
AC,KAAK,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACtF,IAAI,EAAE,CAAC,C
AAC,CAAC,KAAK,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gCAAE,CA
AC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC;gCAAC,CAAC,GAAG,EAAE,CAAC;gCAAE,M
AAM;6BAAE;4BACrE,IAAI,CAAC,IAAI,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC,EAAE;gC
AAE,CAAC,CAAC,KAAK,GAAG,CAAC,CAAC,CAAC,CAAC;gCAAC,IA
AI,CAAC,EAAE,CAAC,CAAC;gCAAC,MAAM;6BAAE;4BACnE,IAAI,CAAC,CAAC,CAAC,CAAC;gCAAE,C
AAC,CAAC,GAAG,CAAC,GAAG,EAAE,CAAC;4BACtB,IAAI,CAAC,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC;4B
AAC,SAAS;qBAC9B;oBACD,EAAE,GAAG,IAAI,CAAC,IAAI,CAAC,OAAO,EAAE,CAAC,CAAC,CAAC;iBA
C9B;gBAAC,OAAO,CAAC,EAAE;oBAAE,EAAE,GAAG,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC;oBAAC,C
AAC,GAAG,CAAC,CAAC;iBAAE;wBAAS;oBAAE,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC;iBAAE;YAC1
D,IAAI,EAAE,CAAC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,EAAE,CAAC,CAAC,CAAC,CAAC;YAAC,
OAAO,EAAE,KAAK,EAAE,EAAE,CAAC,CAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,GAAG,KAAK,C
AAC,EAAE,IAAI,EAAE,IAAI,EAAE,CAAC;SACpF;IACL,CAAC;IAEM,CAAC,GAAG,IAAI,CAAC,MAAM,CAAC,eAAa,GAAG,MAAM,CAAC,MA
AM,IAAI,UAAS,CAAC,EAAE,CAAC,EAAE,EAAE;QAC9C,IAAI,EAAE,KAAK,CAAC,IAAI,EAAE,KAAK,CAAC;YAAE,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QAC5D,IAAI,CAAC,GAAG,EAAE,CAAC,MAAM,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,GAAG,CAAC,EAAE,CAAC,EAAE,EAAE,CAAC,EAAE,UAAU,EA
AE,IAAI,EAAE,GAAG,EAAE,cAAa,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC;IA
CzF,CAAC,KAAK,UAAS,CAAC,EAAE,CAAC,EAAE,CAAC,EAAE;QAAE

AI,CAAC,GAAG,OAAO,MAAM,KAAK,UAAU,IAAI,MAAM,CAAC,QAAQ,EAAE,CAAC,GAAG,CAAC,IAAI
,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC;QAC9E,IAAI,CAAC;YAAE,OAAO,CAAC,C
AAC,IAAI,CAAC,CAAC,CAAC,CAAC;QACxB,IAAI,CAAC,IAAI,OAAO,CAAC,CAAC,MAAM,KAAK,QAA
Q;YAAE,OAAO;gBAC1C,IAAI,EAAE;oBACF,IAAI,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,MAAM;wBAAE,
CAAC,GAAG,KAAK,CAAC,CAAC;oBACnC,OAAO,EAAE,KAAK,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,E
AAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC,EAAE,CAAC;iBAC3C;aACJ,CAAC;QACF,MAAM,IAAI,SAAS,
CAAC,CAAC,GAAG,yBAAyB,GAAG,iCAAiC,CAAC,CAAC;IAC3F,CAAC;aAEe,MAAM,CAAC,CAAC,EAAE
,CAAC;QACvB,IAAI,CAAC,GAAG,OAAO,MAAM,KAAK,UAAU,IAAI,CAAC,CAAC,MAAM,CAAC,QAAQ,
CAAC,CAAC;QAC3D,IAAI,CAAC,CAAC;YAAE,OAAO,CAAC,CAAC;QACjB,IAAI,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,GAAG,EAAE,CAAC,CA
AC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE,EAAE,GAAG,EAAE,EAAE,CAAC,CAAC;QACjC,IAAI;Y
ACA,OAAO,CAAC,CAAC,KAAK,KAAK,CAAC,IAAI,CAAC,EAAE,GAAG,CAAC,KAAK,CAAC,CAAC,CAA
C,GAAG,CAAC,CAAC,IAAI,EAAE,EAAE,IAAI;gBAAE,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,KAAK,CA
AC,CAAC;SAC9E;QACD,OAAO,KAAK,EAAE;YAAE,CAAC,GAAG,EAAE,KAAK,EAAE,KAAK,EAAE,CAA
C;SAAE;gBAC/B;YACJ,IAAI;gBACA,IAAI,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,KAAK,CAAC,GAAG,CA
AC,CAAC,QAAQ,CAAC,CAAC;oBAAE,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC;aACpD;oBACO;gBA
AE,IAAI,CAAC;oBAAE,MAAM,CAAC,CAAC,KAAK,CAAC;aAAE;SACpC;QACD,OAAO,EAAE,EAAE,CAAC;IACd
,CAAC;aAEe,QAAQ;QACpB,KAAK,IAAI,EAAE,GAAG,EAAE,EAAE,CAAC,GAAG,CAAC,EAAE,GAAG,SAAS,CAAC,EAAE,GA
AG,SAAS,CAAC,MAAM,EAAE,CAAC,EAAE;YAC9C,IAAI,CAAC,GAAG,SAAS,CAAC,EAAE,CAAC;YACrB,IAAI,CAAC,CAAC,MAAM,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,CAAC

I,CAAC,OAAO,EAAE,UAAU,CAAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,CAAC,QAAQ,CA
AC,EAAE,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,
CAAC;QAC5I,SAAS,IAAI,CAAC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAA
C,CAAC,CAAC,GAAG,UAAU,CAAC,IAAI,OAAO,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,KAAK,EA
AE,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,CAAC,KAK,
QAAQ,EAAE,GAAG,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,EAAE,GAAG,CAAC,C
AAC,EAAE;IACnJ,CAAC;aAEe,aAAa,CAAC,CAAC;QAC3B,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM
,IAAI,SAAS,CAAC,sCAAsC,CAAC,CAAC;QACvF,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,aAAa,C
AAC,EAAE,CAAC,CAAC;QACnC,OAAO,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAA
C,GAAG,OAAO,QAAQ,KAAK,UAAU,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,CAA
C,QAAQ,CAAC,EAAE,EAAE,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OA
AO,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,GAAG,cAAc,O
AAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC;QACjN,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,C
AAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,IAAI,UAAU,CAAC,IAAI,OAAO,IAAI,OAAO,CAAC,UAAU,
OAAO,EAAE,MAAM,IAAI,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,MAAM,C
AAC,OAAO,EAAE,MAAM,EAAE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,EAAE,CAA
C,CAAC,EAAE,CAAC,EAAE;QAChK,SAAS,MAAM,CAAC,OAAO,EAAE,MAAM,EAAE,CAAC,EAAE,CAAC,IAAI,CAA
C,IAAI,OAAO,CAAC,OAAO,CAAC,CAAC,CAAC,CAAC,CAAC,IAAI,CAAC,UAAS,CAAC,IAAI,OAAO,CAAC,EAA
E,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,CAAC,EAAE,CAAC,CAAC,EAAE,EAAE,MAAM,CAAC,CAAC,E
AAE;IAChI,CAAC;aAEe,oBAAoB,CAAC,MAAM,EAAE,GAAG;QAC5C,IAAI,MAAM,CAAC,cAAc,EAAE;YA
AE,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,KAAK,EAAE,EAAE,KAAK,EAAE,GAAG,EAAE,CAAC,CAA
C;SAAE;aAAM;YAAE,MAAM,CAAC,GAAG,GAAG,GAAG,CAAC;SAAE;QAC/G,OAAO,MAAM,CAAC;IAC
lB,CAAC;IAAA,CAAC;IAEF,IAAI,kBAAkB,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,EAAE,CAAC;
QACnD,MAAM,CAAC,cAAc,CAAC,CAAC,EAAE,SAAS,EAAE,EAAE,UAAU,EAAE,IAAI,EAAE,KAAK,EAA
E,CAAC,EAAE,CAAC,CAAC;IACxE,CAAC,IAAI,UAAS,CAAC,EAAE,CAAC;QACd,CAAC,CAAC,SAAS,CA
AC,GAAG,CAAC,CAAC;IACrB,CAAC,CAAC;aAEc,cAAc,CAAC,CAAC,EAAE,CAAC;QAC/B,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,cAAc,IAAI,kBAAkB,IAAI,CAAC,CAAC,MAAM,CAAC,
CAAC,UAAU;YAAE,OAAO,GAAG,CAAC;QACtC,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC;QAC1C,IAAI,CAAC,IAAI,IAAI,EAAE;YAAE,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,IAAI,CAAC,CAAC,EAAE,
CAAC,CAAC;QAAA,CAAC;QAC1C,IAAI,CAAC,KAAK,QAAQ;YAAE,MAAM,IAAI,SAAS,CAAC,8CAA8C,CAAC;QACvF,OAAO,CAAC,KAAK,QAAQ,GAAG,MAAM,GAAG,MAAM,EAAE,CAAC,CAAC;IAC7C,CAAC;IAED,IAAI,WAAW,GAAG,cAAc,CAAC,MAAM,CAAC,SAAS,EAAE,QAAQ,CAAC,CAAC;IAC7D,IAAI,CAAC,WAAW,EAAE;QAAE,MAAM,IAAI,SAAS,CAAC,uCAAuC,CAAC;IAAA,CAAC;IAEjF,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,IAAI,CAAC,CAAC,EAAE,CAAC,CAAC;IACpC,IAAI,CAAC,KAAK,QAAQ;QAAE,MAAM,IAAI,SAAS,CAAC,8CAA8C,CAAC;IAAA,CAAC;IACx

EAAE;gBAClB,MAAM,CAAC,OAAO,CAAC,QAAQ,IAAI,MAAM,CAAC,OAAO,CAAC,QAAQ,EAAE,CAAC;aACtD;SACF;QAED,uCAAW,GAAX,UAAY,EAAQ,EAAE,GAAQ,EAAE,QAAa;YAC3C,EAAE,CAAC,gBAAgB,CAAC,GAAG,EAAE,QAAQ,EAAE,KAAK,CAAC,CAAC;;;YAG1C,OAAO;gBACL,EAAE,CAAC,mBAAmB,CAAC,GAAG,EAAE,QAAQ,EAAE,KAAK,CAAC,CAAC;aAC9C,CAAC;SACH;QACD,yCAAa,GAAb,UAAc,EAAQ,EAAE,GAAQ,EAAE,QAAa;YAC7C,EAAE,CAAC,mBAAmB,CAAC,GAAG,EAAE,QAAQ,EAAE,KAAK,CAAC,CAAC;YAC7C,OAAO,IAAI,CAAC;SACb;QACD,kCAAM,GAAN,UAAO,EAAQ,EAAE,GAAQ,EAAE,QAAa;YACtC,EAAE,CAAC,gBAAgB,CAAC,GAAG,EAAE,QAAQ,EAAE,KAAK,CAAC,CAAC;YAC1C,OAAO,IAAI,CAAC;SACb;QACD,kCAAM,GAAN,UAAO,EAAQ,EAAE,GAAQ,EAAE,QAAa;YACtC

,IAAI,KAAK,GAAG,aAAa,CAAC,MAAM,CAAC;gBACjC,IAAI,OAAO,GAAG,KAAK,CAAC;gBACpB,IAAM,SAAS,GAAG,UAAS,QAAAa;oBACtC,OAAO,GAAG,OAAO,IAAI,QAAQ,CAAC;oBAC9B,KAAK,EAAE,CAAC;oBACR,IAAI,KAAK,IAAI,CAAC,EAAE;wBACd,QAAQ,CAAC,OAAO,CAAC,CAAC;qBACnB;iBACF,CAAC;gBACF,aAAa,CAAC,OAAO,CAAC,UAAS,WAAAgB;oBAC7C,WAAW,CAAC,UAAU,CAAC,SAAS,CAAC,CAAC;iBACnC,CAAC,CAAC;aACJ,CAAC;YAEF,IAAI,CAACA,UAAM,CAAC,sBAAsB,CAAC,EAAE;gBACnCA,UAAM,CAAC,sBAAsB,CAAC,GAAG,UAAS,QAAAa;oBACxC,OAAO,GAAG,OAAO,IAAI,QAAQ,CAAC;oBAC9B,KAAK,EAAE,CAAC;oBACR,IAAI,KAAK,IAAI,CAAC,EAAE;wBACd,QAAQ,CAAC,OAAO,CAAC,CAAC;qBACnB;iBACF,CAAC;aACH;YACD,IAAM,CAAC,GAAG,IAAI,CAAC,CAAC,CAAC,CAAC;YAClB

CAA2C,SAAW,CAAC,CAAC;SACzE;;;;gBAhEFY,aAAU;;;4CAQIC,SAAM,SAAC,qBAAqB;gBAxBCL,SAAM;;;QAoFhD,4BAAoB,IAAS;YAAT,SAAI,GAAJ,IAAI,CAAK;SAAI;QASjC,mDAAsB,GAAtB,UAAuB,OAAe,EAAE,SAAiB,EAAE,OAAiB;YAC1E,IAAM,MAAM,GAAgB,N,cAAA,CAAO,OAAO,CAAC,CAAC;YAC5C,IAAM,OAAO,GAAG,IAAI,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;YACrC,IAAM,MAAM,GAAG,IAAI,CAAC,IAAI,CAAC,SAAS,CAAC,CAAC;YACp

AC,IAAI,CAAC,EAAE,CAAC,CAAC;oBAClD,IAAI,CAAC,QAAQ,EAAE;wBACb,QAAQ,GAAG,IAAI,iCAAiC,CAC5C,IAAI,CAAC,YAAY,EAAE,IAAI,CAAC,gBAAgB,EAAE,IAAI,EAAE,IAAI,CAAC,KAAK,CAAC,CAAC;wBAChE,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE,EAAE,QAAQ,CAAC,CAAC;qBAC9C;oBACmC,QAAS,CAAC,WAAW,CAAC,OAAO,CAAC,CAAC;oBACnE,OAAO,QAAQ,CAAC;iBACjB;gBACD,KAAK,CAAC,CAAC;gBACP,KAAKA,oBAAiB,CAAC,SAAS;;oBAE9B,IAAI,CAAC,OAAO,SAAS,KAAK,WAAW,IAAI,SAAS;wBAC9C,mCAAmC,IAAI,IAAI,CAAC,aAAa,KAAK,CAAC,EAAE;wBACpE,mCAAmC,GAAG,IAAI,CAAC;wBAC3C,OAAO,CAAC,IAAI,CACR,oIAAoI,CAAC,CAAC;qBAC3I;oBAED,OAAO,IAAI,iBAAiB,CAAC,IAAI,CAAC,YAAY,EAAE,IAAI,CAAC,gBAAgB,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC;gBACxF,SAAS;oBACP,IAAI,CAAC,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE,EAAE,CAAC,EAAE;wBACvC,MAAM,MAAM,GAAG,aAAa,CAAC,IAAI,CAAC,EAAE,EAAE,IAAI,CAAC,MAAM,EAAE,EAAE,CAAC,CAAC;wBACvD,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,SAAS,CAAC,MAAM,CAAC,CAAC;wBACxC,IAAI,CAAC,gBAAgB,CAAC,GAAG,CAAC,IAAI,CAAC,EAAE,EAAE,IAAI,CAAC,CAAC;qBAC1C;oBACD

F;QAED,yCAAW,GAAX,UAAY,EAAO,EAAE,IAAY,EAAE,KAAU;YAC3C,WAAW,IAAI,oBAAoB,CAAC,IAAI,EAAE,UAAU,CAAC,CAAC;YACtD,EAAE,CAAC,IAAI,CAAC,GAAG,KAAK,CAAC;SAClB;QAED,sCAAAQ,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAS,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAU,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAW,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAY,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAa,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAc,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAe,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAgB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAiB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAkB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAmB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAoB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAqB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAsB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAuB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAwB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAyB,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA0B,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA2B,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA4B,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA6B,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA8B,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA+B,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAgC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAiC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAkC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAmC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAoC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAqC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAsC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAuC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAvC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAwC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAxC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAyC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAzC,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA0C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA1C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA2C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA3C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA4C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA4C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA5C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA6C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA7C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA8C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA8C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA9C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA+C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA+C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA/C,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAgD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAgD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAhD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAiD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAiD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAjD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAkD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAkD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAlD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAmD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAmD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAnD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAoD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAApD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAqD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAArD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAsD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAtD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAuD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAvD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAwD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAxD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAyD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAyD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAzD,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA0D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA1D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA2D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA3D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA4D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA4D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA5D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA6D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA7D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA8D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA8D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA9D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA+D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA+D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA/D,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAgE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAgE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAhE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAiE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAiE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAjE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAkE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAkE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAlE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAmE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAmE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAnE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAoE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAApE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAqE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAArE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAsE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAtE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAuE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAvE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAwE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAxE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAyE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAyE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAzE,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA0E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA1E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA2E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA3E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA4E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA4E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA5E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA6E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA7E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA8E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA8E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA9E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA+E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA+E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA/E,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAgF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAgF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAhF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAiF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAiF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAjF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAkF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAkF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAlF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAmF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAmF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAnF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAoF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAApF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAqF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAArF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAsF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAtF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAuF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAvF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAwF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAxF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAyF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAyF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAAzF,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA0F,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA1F,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA2F,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA3F,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,CAAC,CAAC;QACnC,CAAC;QAED,sCAAA4F,GAAR,UAAS,SAAS,EAAE,KAAa;YAC/B,IAAI,CAAC,SAAS,CAAC,SAAS,EAAE,KAAK,

QACjB,UAAU,EAAE,IAAI;QAChB,aAAa,EAAE,IAAI;QACnB,SAAS,EAAE,IAAI;QACf,UAAU,EAAE,IAAI;;QAEhB,OAAO,EAAE,IAAI;QACb,SAAS,EAAE,IAAI;;QAEf,QAAQ,EAAE,IAAI;QACd,aAAa,EAAE,IAAI;QACnB,YAAY,EAAE,IAAI;QAClB,WAAW,EAAE,IAAI;QACjB,cAAc,EAAE,IAAI;;QAEpB,OAAO,EAAE,IAAI;QACb,WAAW,EAAE,IAAI;QACjB,YAAY,EAAE,IAAI;QAClB,SAAS,EAAE,IAAI;QACf,WAAW,EAAE,IAAI;;QAEjB,KAAK,EAAE,IAAI;KACZ,CAAC;IAEF;;;;;;;QAOa,qBAAqB,GAAG,IAAIJ,iBAAc,CAAsB,qBAAqB,EAAE;IAUpG;;;;;QAKa,aAAa,GAAG,IAAIA,iBAAc,CAAe,cAAc,EAAE;IAQ9E;;;;;;QAKA;;;;;;YAOE,WAAM,GAAG,EAAE,EAAC;;;;;;;;;;;;;;;;YAkBtB,cAAS,GAA4B,EAAE,EAAC;SAAsC;;;;;;;QAOzF,yCAAW,GAAX,UAAY,OAAoB;YAC9B,IAAM,EAAE,GAAG,IAAI,CAAC,SAAS,CAAC,OAAO,CAAC,CAAC;YACnC,IAAI,EAAE,KAAK,CAAC,CAAC,EAAE;gBACb,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC;aAC9B;QACH,CAAC;QAED

AAa;QACrB,QAAQ,EAAE,YAAY;QACtB,KAAK,EAAE,IAAI;KACZ,CAAC;IAEF;IACA;IACA;IACA,IAAM,
mBAAmB,GAAG;QAC1B,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAAG;QA
CR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAA
G;QACR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE
,GAAG;QACR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAAG;QACR,GAAG,EAAE,GAAG;QACR,MAAM,
EAAE,GAAG;QACX,MAAM,EAAE,SAAS;KAClB,CAAC;eAOO,UAAC,KAAoB,IAAK,OAAA,KAAK,CAAC,
MAAM,GAAA,,OAClC,UAAC,KAAoB,IAAK,OAAA,KAAK,CAAC,OAAO,GAAA,,OAC1C,UAAC,KAAoB,IA
AK,OAAA,KAAK,CAAC,OAAO,GAAA,,OACtC,UAAC,KAAoB,IAAK,OAAA,KAAK,CAAC,QAAQ,GAAA;IA
PnD;;;IAGA,IAAM,oBAAoB,GAAuD;QAC/E,KAAK,MAAwC;QAC7C,SAAS,IAAyC;QAClD,MAAM,IAAyC;Q
AC/C,OAAO,IAA0C;KAClD,CAAC;IAEF;;;;;QAKqC,mCAAkB;;;;;QAKrD,yBAA8B,GAAQ;mBACpC,kBAAM,
GAAG,CAAC;SACX;;;;;;QAOD,kCAAQ,GAAR,UAAS,SAAiB,EAAE,OAAsB,EAAE,SAAiB,EAAE,SA
AS,CAAC,IAAI,IAAI,CAAC;SAC1D;;;;;;;;;QAUD,0CAAgB,GAAhB,UAAiB,OAAoB,EAAE,SAAiB,EAAE,OAAi
B;YACzE,IAAM,WAAW,GAAG,eAAe,CAAC,cAAc,CAAC;YAE/D,IAAM,cAAc,GAAG,eAAe,CAAC,aAAa,CAAC,WAAW,CAAC,cAAc,CAAC,
eAAe,CAAC,aAAa,CAAC,WAAW,CAAC,SAAS,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,OAAO,CAAC,OAA
O,EAAE,CAAC,CAAC;YAE3F,OAAO,IAAI,CAAC,OAAO,CAAC,OAAO,EAAE,CAAC,iBAAiB,CAAC;gBAC
9C,OAAOhB,cAAM,EAAE,CAAC,WAAW,CAAC,OAAO,EAAE,WAAW,CAAC,cAAc,CAAC,EAAE,cAAc,CA
AC,CAAC;aACnF,CAAC,CAAC;SACJ;QAEM,8BAAc,GAArB,UAAsB,SAAiB,EAAE,OAAsB,EAAE,SAAiB,EAAE,SAAS,CAAC,WAAW,,EAAE,CAAC,KAAK,,EAAE,CAAC,GAAG,,CAAC,CAAC;YAE3D,IAAM,YAAY,GAAG,eAAe,CAAC,cAAc,CAAC;YACnC,IAAI,CAAC,KAAK,,EAAE,CAAC,KAAK,,CAAC,MAAM,,KAAK,,CAAC,CAAC,KAAK,,EAAE,YAAY,,KA
AK,SAAS,IAAI,,YAAY,,KAAK,,OAAO,,CAAC,EAAE;gBACrF,OAAO,IAAI,,CAAC;aACb;YAED,IAAM,GAAG,,
GAAG,eAAe,CAAC,aAAa,CAAC,KAAK,,CAAC,GAAG,,EAAG,,CAAC,CAAC;YAExD,IAAI,OAAO,,EAAG,
EAAE,CAAC;YACjB,aAAa,CAAC,OAAO,,CAAC,UAAA,YAAY;gBAChC,IAAM,OAAO,,CAAC,UAAA,KAAK;oBACjB,IAAM,KAAK,,CAAC,KAAK,,CAAC,KAAK,,CAAC,KAAK,,CAAC,KAAK,,CAAC,O
AAO,,CAAC,YAAY,,CAAC,CAAC;gBAClD,IAAI,,KAAK,,GAAG,,CAAC,CAAC,KAAK,,EAAE,CAAC,KAAK,,CAAC,KAAK,,EAAE;oBACtC,OAAO,,CAAC,KAAK,,CAAC,KAAK,,CAAC,KAAK,,CAAC;oBAC1B,OAAO,,IAAI,,CAAC;iBAC/B;aACF,CAAC,CAAC;YACH,OAAO,IAAI,,GAAG,,CAAC;YAEf,IAAI,,KAAK,,GAAG,,CAAC,CAAC,KAAK,,EAAE,CAAC,KAAK,,CAAC,MAAM,,IAAI,,CAAC,CAAC,KAAK,,I
AAI,,GAAG,,CAAC,CAAC,MAAM,,KAAK,,CAAC,EAAE;;gBAEzC,OAAO,IAAI,,CAAC;aACb;;;;YAKD,IAAM,MAAM,,GAA4
C,EAAS,CAAC;YAClE,IAAM,cAAc,GAAG,eAAe,CAAC,aAAa,CAAC,cAAc,CAAC,GAAG,,YAAY,,CAAC;YACtD,IAAI,CAAC,KAAK,,EAAE,CAAC,KAAK,,CAAC,MAAM,,CAAC,CAAC,KAAK,,EAAE,YAAY,,CAAC;YACtD,IAAI,CAAC,KAAK,,EAAE,CAAC,KAAK,,CAAC,SAAS

AAuB,CAAC,QAAkB;QACxD,OAAO,IAAI,gBAAgB,CAAC,QAAQ,CAAC,GAAG,CAACf,eAAQ,CAAC,CAAA
C,CAAC;IACtD,CAAC;;QAGqC,oCAAY;QAChD,0BAAsC,IAAS;YAA/C,YACE,iBAAO,SACR;YAFqC,UAAI,
GAAJ,IAAI,CAAK;;SAE9C;QAED,mCAAQ,GAAR,UAAS,GAAW,EAAE,KAA4B;YAAlD,iBAAsD;QAAtB,
gBAAE,OAAO,IAAI,CAAC;YAC/B,QAAQ,GAAG;gBACT,KAAKgB,kBAAe,CAAC,IAAI;oBACvB,QAAO,
KAAe,CAAC;gBACzB,KAAKA,kBAAe,CAAC,IAAI;oBACvB,IAAIC,mCAA8B,CAAC,KAAK,oBAAkB,EAA
E;wBAC1D,OAAOC,mBAAe,CAAC,KAAK,CAAC,CAAC;qBAC/B;oBACD,OAAOC,iBAAa,CAAC,IAAI,CA
AC,IAAI,EAAE,MAAM,CAAC,KAAK,CAAC,CAAC,CAAC;gBACjD,KAAKH,kBAAe,CAAC,KAAK;oBACxB,IAAIC,mCA8B,CAAC,KAAK,sBAAmB,EAAE;wBAC3D,OAAOC,mBAAe,CAAC,KAAK,CAAC,CAAC;qBAC/B;oBACD,OAAO,KAAe,CAAC;gBACzB,KAAKA,kBAAe,CAAC,KAAKF,oBAAiB,CAAC,MAAM;oBACpD,QAAOI,mCA8B,CAAC,
KAAK,wBAAoB,EAAE;wBAC5D,OAAOD,mBAAe,CAAC,KAAK,CAAC,CAAC;qBAC/B;oBACD,OAAO,KAAe,CAAC;gBACzB,KAAKA,kBAAe,CAAC,KAAKF,oBAAiB,CAAC,MAAM,uCAAAA,oBAAiB,CAAC,MAAM,CAAC,uCAAAA,oBAAiB,CAAC,MAAM,CAAC,uCAAAA,oBAAiB,CAAC,MAAM,CAAC

AC;SACH;;;;gBA1BFG,WAAQ,SAAC,EAAC,SAAS,EAAE,wBAAwB,EAAE,OAAO,EAAE,CAACwB,mBAAY,EAAEC,oBAAiB,CAAC,EAAC;;;gBAEhB,aAAa,uBAAzEhC,WAAQ,YAAIiC,WAAQ,YAAI/B,SAAM,SAAC,aAAa;;;ICxG3D;;;;;;;IAmCA;;;aAGgB,UAAU;QACxB,OAAO,IAAI,IAAI,CAACgC,WAAQ,CAACzC,eAAQ,CAAC,CAAC,CAAC;IACtC,CAAC;IAED;;;;;;;;;;;;;;;;;;;;;QAyBE,cAAsC,IAAS;YAAT,SAAI,GAAJ,IAAI,CAAK;QAAC,CAAC;IAC7C,CAAC,IAAI,CAAC,IAAI,GAAGF,CAAC;;;;;;;;;;QAWd,qBAAM,GAAN,UAAO,EAAE,CAAC;SACtB;;;;;;;;;;QAWD,qBAAM,GAAN,UAAO,EAAE,aAA8B;YACxC,IAAI,CAAC,GAAG,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC

Q,GAAR,QAAQ,CAAQ;SAAI;wCAClE;KAAA,IAAA;IAED;;;;IAIA;QAGE,yBAAY,GAAsB;YAChC,IAAI,CAAC,MAAM,GAAG,GAAG,CAAC,QAAQ,CAAC,GAAG,CAACG,iBAAc,CAAC,CAAC;SAChD;;;;;;;;;;;;;;;;QAmBD,6CAAmB,GAAnB,UAAoB,MAAW;YAC7B,IAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YAC1C,IAAM,WAAW,GAAG,kBAAkB,CAAC,;;YAEvC,IAAM,mBAAmB,GAAG,GAAG,uC,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YAC3D,IAAI,MAAM,IAAI,CAAC,IAAI,MAAM,IAAI,CAAC,EAAE;gBAC9B,OAAO,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;aACtC;YAED,IAAM,MAAM,GAAG,IAAI,CAAC,MAAM,CAAC,GAAG,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC;YAC5C

IAAI,IAAI;oBACrC,cAAc,CAAC,YAAY,CAAC,aAAa,EAAE,QAAQ,CAAC;oBACpD,KAAK,CAAC;aACX,CAAC;SACH;;;;;;;;;QAUM,YAAS,GAAhB,UAAiB,IAAe;YAC9B,OAAO,UAAC,SAAS,IAAK,OAAA,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,EAA9B,CAA8B,CAAC;QAC9D,CAAC;QAED,sBAAW,iBAAO;iBAAlB,cAAuB,OAAO,IAAI,CAAC,QAAQ,CAAC,OAAO,CAAC,CAAC,CAAC;;;WAAA;QAEtD,sBAAW,kBAAQ;iBAAnB,cAAwB,OAAO,IAAI,CAAC,QAAQ,CAAC,QAAQ,CAAC,CAAC,CAAC;;;WAAA;QAEz

p.length; i++) {\r\n
if (e.indexOf(p[i]) < 0 && Object.prototype.propertyIsEnumerable.call(s, p[i]))\r\n t[p[i]] = s[p[i]];\r\n }\r\n return t;\r\n}\r\n\r\nexport function __decorate(decorators, target, key, desc) {\r\n var c = arguments.length, r = c < 3 ? target : desc === null ? desc = Object.getOwnPropertyDescriptor(target, key) : desc, d;\r\n if (typeof Reflect === \"object\" && typeof Reflect.decorate === \"function\") r = Reflect.decorate(decorators, target, key, desc);\r\n else for (var i = decorators.length - 1; i >= 0; i--) if (d = decorators[i]) r = (c < 3 ? d(r) : c > 3 ? d(target, key, r) : d(target, key)) || r;\r\n return c > 3 && r && Object.defineProperty(target, key, r), r;\r\n}\r\n\r\nexport function __param(paramIndex, decorator) {\r\n return function (target, key) { decorator(target, key, paramIndex); }\r\n}\r\n\r\nexport function __metadata(metadataKey, metadataValue) {\r\n if (typeof Reflect === \"object\" && typeof Reflect.metadata === \"function\") return Reflect.metadata(metadataKey, metadataValue);\r\n}\r\n\r\nexport function __awaiter(thisArg, _arguments, P, generator) {\r\n function adopt(value) { return value instanceof P ? value : new P(function (resolve) { resolve(value); }); }\r\n return new (P || (P = Promise))(function (resolve, reject) {\r\n function fulfilled(value) { try { step(generator.next(value)); } catch (e) { reject(e); } }\r\n function rejected(value) { try { step(generator[\"throw\"](value)); } catch (e) { reject(e); } }\r\n function step(result) { result.done ? resolve(result.value) : adopt(result.value).then(fulfilled, rejected); }\r\n step((generator = generator.apply(thisArg, _arguments || [])).next());\r\n });\r\n}\r\n\r\nexport function __generator(thisArg, body) {\r\n var _ = { label: 0, sent: function() { if (t[0] & 1) throw t[1]; return t[1]; }, trys: [], ops: [] }, f, y, t, g;\r\n return g = { next: verb(0), \"throw\": verb(1), \"return\": verb(2) }, typeof Symbol === \"function\" && (g[Symbol.iterator] = function() { return this; }), g;\r\n function verb(n) { return function (v) { return step([n, v]); }; }\r\n function step(op) {\r\n if (f) throw new TypeError(\"Generator is already executing.\");\r\n while (_) try {\r\n if (f = 1, y && (t = op[0] & 2 ? y[\"return\"] : op[0] ? y[\"throw\"] || ((t = y[\"return\"]) && t.call(y), 0) : y.next) && !(t = t.call(y, op[1])).done) return t;\r\n if (y = 0, t) op = [op[0] & 2, t.value];\r\n switch (op[0]) {\r\n case 0: case 1: t = op; break;\r\n case 4: _.label++; return { value: op[1], done: false };\r\n case 5: _.label++; y = op[1]; op = [0]; continue;\r\n case 7: op = _.ops.pop(); _.trys.pop(); continue;\r\n default:\r\n if (!(t = _.trys, t = t.length > 0 && t[t.length - 1]) && (op[0] === 6 || op[0] === 2)) { _ = 0; continue; }\r\n if (op[0] === 3 && (!t || (op[1] > t[0] && op[1] < t[3]))) { _.label = op[1]; break; }\r\n if (op[0] === 6 && _.label < t[1]) { _.label = t[1]; t = op; break; }\r\n if (t && _.label < t[2]) { _.label = t[2]; _.ops.push(op); break; }\r\n if (t[2]) _.ops.pop();\r\n _.trys.pop(); continue;\r\n }\r\n op = body.call(thisArg, _);\r\n } catch (e) { op = [6, e]; y = 0; } finally { f = t = 0; }\r\n if (op[0] & 5) throw op[1]; return { value: op[0] ? op[1] : void 0, done: true };\r\n }\r\n}\r\n\r\nexport var __createBinding = Object.create ? (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n Object.defineProperty(o, k2, { enumerable: true, get: function() { return m[k]; } });\r\n}) : (function(o, m, k, k2) {\r\n if (k2 === undefined) k2 = k;\r\n o[k2] = m[k];\r\n});\r\n\r\nexport function __exportStar(m, exports) {\r\n for (var p in m) if (p !== \"default\" && !exports.hasOwnProperty(p)) __createBinding(exports, m, p);\r\n}\r\n\r\nexport function __values(o) {\r\n var s = typeof Symbol === \"function\" && Symbol.iterator, m = s && o[s], i = 0;\r\n if (m) return m.call(o);\r\n if (o && typeof o.length === \"number\") return {\r\n next: function () {\r\n if (o && i >= o.length) o = void 0;\r\n return { value: o && o[i++], done: !o };\r\n }\r\n };\r\n throw new TypeError(s ? \"Object is not iterable.\" : \"Symbol.iterator is not defined.\");\r\n}\r\n\r\nexport function __read(o, n) {\r\n var m = typeof Symbol === \"function\" && o[Symbol.iterator];\r\n if (!m) return o;\r\n var i = m.call(o), r, ar = [], e;\r\n try {\r\n while ((n === void 0 || n-- > 0) && !(r = i.next()).done) ar.push(r.value);\r\n }\r\n catch (error) { e = { error: error }; }\r\n finally {\r\n try {\r\n if (r && !r.done && (m = i[\"return\"])) m.call(i);\r\n }\r\n finally { if (e) throw e.error; }\r\n }\r\n return ar;\r\n}\r\n\r\nexport function __spread() {\r\n for (var ar = [], i = 0; i < arguments.length; i++)\r\n ar = ar.concat(__read(arguments[i]));\r\n return ar;\r\n}\r\n\r\nexport function __spreadArrays() {\r\n for (var s = 0, i = 0, il = arguments.length; i < il; i++) s += arguments[i].length;\r\n for (var r = Array(s), k = 0, i = 0; i < il; i++)\r\n for (var a = arguments[i], j = 0, jl =

a.length; j < jl; j++, k++)\r\n r[k] = a[j];\r\n return r;\r\n};\r\n\r\nexport function __await(v) {\r\n return this instanceof __await ? (this.v = v, this) : new __await(v);\r\n}\r\n\r\nexport function __asyncGenerator(thisArg, _arguments, generator) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var g = generator.apply(thisArg, _arguments || []), i, q = [];\r\n return i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"),
i[Symbol.asyncIterator] = function () { return this; }, i;\r\n function verb(n) { if (g[n]) i[n] = function (v) { return new Promise(function (a, b) { q.push([n, v, a, b]) > 1 || resume(n, v); }); }; }\r\n function resume(n, v) { try { step(g[n](v)); } catch (e) { settle(q[0][3], e); } }\r\n function step(r) { r.value instanceof __await ? Promise.resolve(r.value.v).then(fulfill, reject) : settle(q[0][2], r); }\r\n function fulfill(value) { resume(\"next\", value); }\r\n function reject(value) { resume(\"throw\", value); }\r\n function settle(f, v) { if (f(v), q.shift(), q.length) resume(q[0][0], q[0][1]); }\r\n}\r\n\r\nexport function __asyncDelegator(o) {\r\n var i, p;\r\n return i = {}, verb(\"next\"), verb(\"throw\", function (e) { throw e; }), verb(\"return\"), i[Symbol.iterator] = function () { return this; }, i;\r\n function verb(n, f) { i[n] = o[n] ? function (v) { return (p = !p) ? { value: __await(o[n](v)), done: n === \"return\" } : f ? f(v)
: v; } : f; }\r\n}\r\n\r\nexport function __asyncValues(o) {\r\n if (!Symbol.asyncIterator) throw new TypeError(\"Symbol.asyncIterator is not defined.\");\r\n var m = o[Symbol.asyncIterator], i;\r\n return m ? m.call(o) : (o = typeof __values === \"function\" ? __values(o) : o[Symbol.iterator](), i = {}, verb(\"next\"), verb(\"throw\"), verb(\"return\"), i[Symbol.asyncIterator] = function () { return this; }, i);\r\n function verb(n) { i[n] = o[n] && function (v) { return new Promise(function (resolve, reject) { v = o[n](v), settle(resolve, reject, v.done, v.value); }); }; }\r\n function settle(resolve, reject, d, v) { Promise.resolve(v).then(function(v) { resolve({ value: v, done: d }); }, reject); }\r\n}\r\n\r\nexport function __makeTemplateObject(cooked, raw) {\r\n if (Object.defineProperty) { Object.defineProperty(cooked, \"raw\", { value: raw }); } else { cooked.raw = raw; }\r\n return cooked;\r\n};\r\n\r\nvar __setModuleDefault = Object.create ? (function(o,
v) {\r\n Object.defineProperty(o, \"default\", { enumerable: true, value: v });\r\n}) : function(o, v) {\r\n o[\"default\"] = v;\r\n};\r\n\r\nexport function __importStar(mod) {\r\n if (mod && mod.__esModule) return mod;\r\n var result = {};\r\n if (mod != null) for (var k in mod) if (Object.hasOwnProperty.call(mod, k)) __createBinding(result, mod, k);\r\n __setModuleDefault(result, mod);\r\n return result;\r\n}\r\n\r\nexport function __importDefault(mod) {\r\n return (mod && mod.__esModule) ? mod : { default: mod };\r\n}\r\n\r\nexport function __classPrivateFieldGet(receiver, privateMap) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to get private field on non-instance\");\r\n }\r\n return privateMap.get(receiver);\r\n}\r\n\r\nexport function __classPrivateFieldSet(receiver, privateMap, value) {\r\n if (!privateMap.has(receiver)) {\r\n throw new TypeError(\"attempted to set private field on non-instance\");\r\n }\r\n privateMap.set(receiver, value);\r\n return value;\r\n}\r\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationBuilder, AnimationFactory, AnimationMetadata, AnimationOptions, AnimationPlayer, sequence} from '@angular/animations';\nimport {DOCUMENT} from '@angular/common';\nimport {Inject, Injectable, RendererFactory2, RendererType2, ViewEncapsulation} from '@angular/core';\n\nimport {AnimationRenderer} from './animation_renderer';\n\n@Injectable()\nexport class BrowserAnimationBuilder extends AnimationBuilder {\n private _nextAnimationId = 0;\n private _renderer: AnimationRenderer;\n\n constructor(rootRenderer: RendererFactory2, @Inject(DOCUMENT) doc: any) {\n super();\n const typeData =\n {id: '0', encapsulation: ViewEncapsulation.None, styles: [], data: {animation: []}} as\n RendererType2;\n this._renderer = rootRenderer.createRenderer(doc.body, typeData) as AnimationRenderer;\n }\n\n build(animation: AnimationMetadata|AnimationMetadata[]): AnimationFactory {\n const id = this._nextAnimationId.toString();\n this._nextAnimationId++;\n const entry = Array.isArray(animation) ? sequence(animation) : animation;\n issueAnimationCommand(this._renderer, null, id, 'register', [entry]);\n return new BrowserAnimationFactory(id, this._renderer);\n }\n}\n\nexport class BrowserAnimationFactory extends AnimationFactory {\n constructor(private _id: string, private _renderer:

AnimationRenderer) {\n  super();\n  }\n\n  create(element: any, options?: AnimationOptions): AnimationPlayer {\n  return new RendererAnimationPlayer(this._id, element, options || {}, this._renderer);\n  }\n}\n\nexport class RendererAnimationPlayer implements AnimationPlayer {\n  public parentPlayer: AnimationPlayer|null = null;\n  private _started = false;\n\n  constructor(\n  public id: string, public element: any, options: AnimationOptions,\n  private _renderer: AnimationRenderer) {\n  this._command('create', options);\n  }\n\n  private _listen(eventName: string, callback: (event: any) => any): () => void {\n  return this._renderer.listen(this.element, `@@${this.id}:${eventName}`, callback);\n  }\n\n  private _command(command: string, ...args: any[]) {\n  return issueAnimationCommand(this._renderer, this.element, this.id, command, args);\n  }\n\n  onDone(fn: () => void): void {\n  this._listen('done', fn);\n  }\n\n  onStart(fn: () => void): void {\n  this._listen('start', fn);\n  }\n\n  onDestroy(fn: () => void): void {\n  this._listen('destroy', fn);\n  }\n\n  init(): void {\n  this._command('init');\n  }\n\n  hasStarted(): boolean {\n  return this._started;\n  }\n\n  play(): void {\n  this._command('play');\n  this._started = true;\n  }\n\n  pause(): void {\n  this._command('pause');\n  }\n\n  restart(): void {\n  this._command('restart');\n  }\n\n  finish(): void {\n  this._command('finish');\n  }\n\n  destroy(): void {\n  this._command('destroy');\n  }\n\n  reset(): void {\n  this._command('reset');\n  }\n\n  setPosition(p: number): void {\n  this._command('setPosition', p);\n  }\n\n  getPosition(): number {\n  return this._renderer.engine.players[+this.id]?.getPosition() ?? 0;\n  }\n\n  public totalTime = 0;\n}\n\nfunction issueAnimationCommand(\n  renderer: AnimationRenderer, element: any, id: string, command: string, args: any[]): any {\n  return renderer.setProperty(element, `@@${id}:${command}`, args);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationTriggerMetadata} from '@angular/animations';\nimport {AnimationEngine as AnimationEngine} from '@angular/animations/browser';\nimport {Injectable,
  NgZone, Renderer2, RendererFactory2, RendererStyleFlags2, RendererType2} from '@angular/core';\n\nconst ANIMATION_PREFIX = '@';\nconst DISABLE_ANIMATIONS_FLAG = '@.disabled';\n\n// Define a recursive type to allow for nested arrays of `AnimationTriggerMetadata`. Note that an\n// interface declaration is used as TypeScript prior to 3.7 does not support recursive type\n// references, see https://github.com/microsoft/TypeScript/pull/33050 for details.\ntype NestedAnimationTriggerMetadata = AnimationTriggerMetadata|RecursiveAnimationTriggerMetadata;\ninterface RecursiveAnimationTriggerMetadata extends Array<NestedAnimationTriggerMetadata> {}\n\n@Injectable()\nexport class AnimationRendererFactory implements RendererFactory2 {\n  private _currentId: number = 0;\n  private _microtaskId: number = 1;\n  private _animationCallbacksBuffer: [(e: any) => any, any][] = [];\n  private _rendererCache = new Map<Renderer2, BaseAnimationRenderer>();\n  private _cdRecurDepth = 0;\n  private promise: Promise<any>
  = Promise.resolve(0);\n\n  constructor(\n  private delegate: RendererFactory2, private engine: AnimationEngine, private _zone: NgZone) {\n  engine.onRemovalComplete = (element: any, delegate: Renderer2) => {\n  // Note: if an component element has a leave animation, and the component\n  // a host leave animation, the view engine will call `removeChild` for the parent\n  // component renderer as well as for the child component renderer.\n  // Therefore, we need to check if we already removed the element.\n  if (delegate &&
  delegate.parentNode(element)) {\n  delegate.removeChild(element.parentNode, element);\n  }\n  };\n  }\n\n  createRenderer(hostElement: any, type: RendererType2): Renderer2 {\n  const EMPTY_NAMESPACE_ID = '';\n\n  // cache the delegates to find out which cached delegate can\n  // be used by which cached renderer\n  const delegate = this.delegate.createRenderer(hostElement, type);\n  if (!hostElement || !type ||
  !type.data || !type.data['animation']) {\n  let renderer: BaseAnimationRenderer|undefined =
  this._rendererCache.get(delegate);\n  if (!renderer) {\n  renderer = new BaseAnimationRenderer(EMPTY_NAMESPACE_ID, delegate, this.engine);\n  // only cache this result when the base renderer is used\n  this._rendererCache.set(delegate, renderer);\n  }\n  return renderer;\n  }\n\n  const componentId = type.id;\n  const namespaceId = type.id + '-' + this._currentId;\n  this._currentId++;\n\n  this.engine.register(namespaceId, hostElement);\n\n  const registerTrigger = (trigger:

NestedAnimationTriggerMetadata) => {\n if (Array.isArray(trigger)) {\n trigger.forEach(registerTrigger);\n } else {\n this.engine.registerTrigger(componentId, namespaceId, hostElement, trigger.name, trigger);\n }\n };\n const animationTriggers = type.data['animation'] as NestedAnimationTriggerMetadata[];\n animationTriggers.forEach(registerTrigger);\n\n return new AnimationRenderer(this, namespaceId, delegate, this.engine);\n }\n\n begin() {\n this._cdRecurDepth++;\n if (this.delegate.begin) {\n this.delegate.begin();\n }\n }\n\n private _scheduleCountTask() {\n // always use promise to schedule microtask instead of use Zone\n this.promise.then(() => {\n this._microtaskId++;\n });\n }\n\n /** @internal */\n scheduleListenerCallback(count: number, fn: (e: any) => any, data: any) {\n if (count >= 0 && count < this._microtaskId) {\n this._zone.run(() => fn(data));\n return;\n }\n\n if (this._animationCallbacksBuffer.length == 0) {\n Promise.resolve(null).then(() => {\n this._zone.run(() => {\n this._animationCallbacksBuffer.forEach(tuple => {\n const [fn, data] = tuple;\n fn(data);\n });\n this._animationCallbacksBuffer = [];\n });\n });\n }\n\n this._animationCallbacksBuffer.push([fn, data]);\n }\n\n end() {\n this._cdRecurDepth--;\n\n // this is to prevent animations from running twice when an inner\n // component does CD when a parent component instead has inserted it\n if (this._cdRecurDepth == 0) {\n this._zone.runOutsideAngular(() => {\n this._scheduleCountTask();\n this.engine.flush(this._microtaskId);\n });\n }\n if (this.delegate.end) {\n this.delegate.end();\n }\n }\n\n whenRenderingDone(): Promise<any> {\n return this.engine.whenRenderingDone();\n }\n}\n\nexport class BaseAnimationRenderer implements Renderer2 {\n constructor(\n protected namespaceId: string, public delegate: Renderer2, public engine: AnimationEngine) {\n this.destroyNode = this.delegate.destroyNode ? (n) => delegate.destroyNode!(n) : null;\n }\n\n get data() {\n return this.delegate.data;\n }\n\n destroyNode: ((n: any) => void)|null;\n\n destroy(): void {\n this.engine.destroy(this.namespaceId, this.delegate);\n this.delegate.destroy();\n }\n\n createElement(name: string, namespace?: string|null|undefined) {\n return this.delegate.createElement(name, namespace);\n }\n\n createComment(value: string) {\n return this.delegate.createComment(value);\n }\n\n createText(value: string) {\n return this.delegate.createText(value);\n }\n\n appendChild(parent: any, newChild: any): void {\n this.delegate.appendChild(parent, newChild);\n this.engine.onInsert(this.namespaceId, newChild, parent, false);\n }\n\n insertBefore(parent: any, newChild: any, refChild: any, isMove: boolean = true): void {\n this.delegate.insertBefore(parent, newChild, refChild);\n // If `isMove` true than we should animate this insert.\n this.engine.onInsert(this.namespaceId, newChild, parent, isMove);\n }\n\n removeChild(parent: any, oldChild: any, isHostElement: boolean): void {\n this.engine.onRemove(this.namespaceId, oldChild, this.delegate, isHostElement);\n }\n\n selectRootElement(selectorOrNode: any, preserveContent?: boolean) {\n return this.delegate.selectRootElement(selectorOrNode, preserveContent);\n }\n\n parentNode(node: any) {\n return this.delegate.parentNode(node);\n }\n\n nextSibling(node: any) {\n return this.delegate.nextSibling(node);\n }\n\n setAttribute(el: any, name: string, value: string, namespace?: string|null|undefined): void {\n this.delegate.setAttribute(el, name, value, namespace);\n }\n\n removeAttribute(el: any, name: string, namespace?: string|null|undefined): void {\n this.delegate.removeAttribute(el, name, namespace);\n }\n\n addClass(el: any, name: string): void {\n this.delegate.addClass(el, name);\n }\n\n removeClass(el: any, name: string): void {\n this.delegate.removeClass(el, name);\n }\n\n setStyle(el: any, style: string, value: any, flags?: RendererStyleFlags2|undefined): void {\n this.delegate.setStyle(el, style, value, flags);\n }\n\n removeStyle(el: any, style: string, flags?: RendererStyleFlags2|undefined): void {\n this.delegate.removeStyle(el, style, flags);\n }\n\n setProperty(el: any, name: string, value: any): void {\n if (name.charAt(0) == ANIMATION_PREFIX && name == DISABLE_ANIMATIONS_FLAG) {\n this.disableAnimations(el, !!value);\n } else {\n this.delegate.setProperty(el, name, value);\n }\n }\n\n setValue(node: any, value: string): void {\n this.delegate.setValue(node, value);\n }\n\n listen(target: any, eventName: string, callback: (event: any) => boolean | void): () => void {\n return this.delegate.listen(target,

eventName, callback);\n  }\n\n  protected disableAnimations(element: any, value: boolean) {\n this.engine.disableAnimations(element, value);\n  }\n}\n\nexport class AnimationRenderer extends BaseAnimationRenderer implements Renderer2 {\n  constructor(\n      public factory: AnimationRendererFactory, namespaceId: string, delegate: Renderer2,\n      engine: AnimationEngine) {\n    super(namespaceId, delegate, engine);\n
    this.namespaceId = namespaceId;\n  }\n\n  setProperty(el: any, name: string, value: any): void {\n    if (name.charAt(0) == ANIMATION_PREFIX) {\n      if (name.charAt(1) == '.' && name == DISABLE_ANIMATIONS_FLAG) {\n        value = value === undefined ? true : !!value;\n this.disableAnimations(el, value as boolean);\n      } else {\n        this.engine.process(this.namespaceId, el, name.substr(1), value);\n      }\n    } else {\n      this.delegate.setProperty(el, name, value);\n    }\n  }\n\n  listen(target: 'window'|'document'|'body'|any, eventName: string, callback: (event: any) => any):\n      () => void {\n if (eventName.charAt(0) == ANIMATION_PREFIX) {\n      const element = resolveElementFromTarget(target);\n    let name = eventName.substr(1);\n      let phase = '';\n      // @listener.phase is for trigger animation callbacks\n // @@listener is for animation builder callbacks\n      if (name.charAt(0) != ANIMATION_PREFIX) {\n        [name, phase] = parseTriggerCallbackName(name);\n
      }\n      return this.engine.listen(this.namespaceId, element, name, phase, event => {\n        const countId = (event as any)['_data'] || -1;\n        this.factory.scheduleListenerCallback(countId, callback, event);\n      });\n    }\n    return this.delegate.listen(target, eventName, callback);\n  }\n}\n\nfunction resolveElementFromTarget(target: 'window'|'document'|'body'|any): any {\n  switch (target) {\n    case 'body':\n      return document.body;\n    case 'document':\n      return document;\n    case 'window':\n      return window;\n    default:\n      return target;\n  }\n}\n\nfunction parseTriggerCallbackName(triggerName: string) {\n  const dotIndex = triggerName.indexOf('.');\n const trigger = triggerName.substring(0, dotIndex);\n  const phase = triggerName.substr(dotIndex + 1);\n  return [trigger, phase];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license
 that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AnimationBuilder} from '@angular/animations';\nimport {AnimationDriver, AnimationEngine as AnimationEngine, AnimationStyleNormalizer as AnimationStyleNormalizer, CssKeyframesDriver as CssKeyframesDriver, NoopAnimationDriver as NoopAnimationDriver, supportsWebAnimations as supportsWebAnimations, WebAnimationsDriver as WebAnimationsDriver, WebAnimationsStyleNormalizer as WebAnimationsStyleNormalizer} from '@angular/animations/browser';\nimport {DOCUMENT} from '@angular/common';\nimport {Inject, Injectable, InjectionToken, NgZone, Provider, RendererFactory2} from '@angular/core';\nimport {DomRendererFactory2 as DomRendererFactory2} from '@angular/platform-browser';\n\nimport {BrowserAnimationBuilder} from './animation_builder';\nimport {AnimationRendererFactory} from './animation_renderer';\n\n@Injectable()\nexport class InjectableAnimationEngine extends AnimationEngine {\n  constructor(\n
    @Inject(DOCUMENT) doc: any, driver: AnimationDriver, normalizer: AnimationStyleNormalizer) {\n super(doc.body, driver, normalizer);\n  }\n}\n\nexport function instantiateSupportedAnimationDriver() {\n  return supportsWebAnimations() ? new WebAnimationsDriver() : new CssKeyframesDriver();\n}\n\nexport function instantiateDefaultStyleNormalizer() {\n  return new WebAnimationsStyleNormalizer();\n}\n\nexport function instantiateRendererFactory(\n    renderer: DomRendererFactory2, engine: AnimationEngine, zone: NgZone) {\n return new AnimationRendererFactory(renderer, engine, zone);\n}\n\n/**\n * @publicApi\n */\nexport const ANIMATION_MODULE_TYPE =\n    new InjectionToken<'NoopAnimations'|'BrowserAnimations'>('AnimationModuleType');\n\nconst SHARED_ANIMATION_PROVIDERS: Provider[] = [\n  {provide: AnimationBuilder, useClass: BrowserAnimationBuilder},\n  {provide: AnimationStyleNormalizer, useFactory: instantiateDefaultStyleNormalizer},\n  {provide: AnimationEngine, useClass: InjectableAnimationEngine},
  {\n    provide: RendererFactory2,\n    useFactory: instantiateRendererFactory,\n    deps: [DomRendererFactory2, AnimationEngine, NgZone]\n  }\n];\n\n/**\n * Separate providers from the actual module so that we can do a local

modification in Google3 to\n * include them in the BrowserModule.\n */\nexport const BROWSER_ANIMATIONS_PROVIDERS: Provider[] = [\n  {provide: AnimationDriver, useFactory: instantiateSupportedAnimationDriver},\n  {provide: ANIMATION_MODULE_TYPE, useValue: 'BrowserAnimations'}, ...SHARED_ANIMATION_PROVIDERS\n];\n\n/**\n * Separate providers from the actual module so that we can do a local modification in Google3 to\n * include them in the BrowserTestingModule.\n */\nexport const BROWSER_NOOP_ANIMATIONS_PROVIDERS: Provider[] = [\n  {provide: AnimationDriver, useClass: NoopAnimationDriver},\n  {provide: ANIMATION_MODULE_TYPE, useValue: 'NoopAnimations'}, ...SHARED_ANIMATION_PROVIDERS\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n
 *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {NgModule} from '@angular/core';\nimport {BrowserModule} from '@angular/platform-browser';\n\nimport {BROWSER_ANIMATIONS_PROVIDERS, BROWSER_NOOP_ANIMATIONS_PROVIDERS} from './providers';\n\n/**\n * Exports `BrowserModule` with additional [dependency-injection providers](guide/glossary#provider)\n * for use with animations. See [Animations](guide/animations).\n * @publicApi\n */\n@NgModule({\n  exports: [BrowserModule],\n  providers: BROWSER_ANIMATIONS_PROVIDERS,\n})\nexport class BrowserAnimationsModule {\n}\n\n/**\n * A null player that must be imported to allow disabling of animations.\n * @publicApi\n */\n@NgModule({\n  exports: [BrowserModule],\n  providers: BROWSER_NOOP_ANIMATIONS_PROVIDERS,\n})\nexport class NoopAnimationsModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source
 code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nexport {BrowserAnimationBuilder as BrowserAnimationBuilder, BrowserAnimationFactory as BrowserAnimationFactory} from './animation_builder';\nexport {AnimationRenderer as AnimationRenderer, AnimationRendererFactory as AnimationRendererFactory} from './animation_renderer';\nexport {InjectableAnimationEngine as InjectableAnimationEngine} from './providers';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all animation APIs of the animation browser package.\n */\nexport {BrowserAnimationsModule, NoopAnimationsModule} from './module';\n\nexport {ANIMATION_MODULE_TYPE} from './providers';\n\nexport * from './private_export';\n","/**\n * @license\n *
 Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/animations';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verifcation. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {BaseAnimationRenderer as angular_packages_platform_browser_animations_animations_f} from './src/animation_renderer';\nexport
 {BROWSER_ANIMATIONS_PROVIDERS as angular_packages_platform_browser_animations_animations_d,BROWSER_NOOP_ANIMATIONS_PROVIDERS as angular_packages_platform_browser_animations_animations_e,instantiateDefaultStyleNormalizer as angular_packages_platform_browser_animations_animations_b,instantiateRendererFactory as angular_packages_platform_browser_animations_animations_c,instantiateSupportedAnimationDriver as angular_packages_platform_browser_animations_animations_a} from './src/providers';"],"names":["ViewEncapsulation","sequence","AnimationBuilder","Injectable","RendererFactory2","Inject","DOCUMENT","AnimationFactory","AnimationEngine","NgZone","AnimationDriver","AnimationStyleN

ormalizer","supportsWebAnimations","WebAnimationsDriver","CssKeyframesDriver","WebAnimationsStyleNormalizer","InjectionToken","DomRendererFactory2","NoopAnimationDriver","NgModule","BrowserModule"],"mappings":";;;;;;;;;;;;IAAA;;;;;;;;;;;;;IAcA;IAEA,IAAI,aAAa,GAAG,UAAS,CAAC,EAAE,CAAC;QAC7B,aAAa,GAAG,GAAG,MAAM,CAAC,cAAc;aACnC,EAAE,SAAS,EAAE,EAAE,YAAY,KAAK,IAAI,UAAU,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,SAAS,GAAG,CAAC,KAAK,IAAI,CAAC,GAAG,EAAE

E;YAC9F,SAAS,IAAI,CAAC,MAAM,IAAI,MAAM,CAAC,IAAI,GAAG,OAAO,CAAC,MAAM,CAAC,KAAK,
CAAC,GAAG,KAAK,CAAC,MAAM,CAAC,KAAK,CAAC,CAAC,IAAI,CAAC,SAAS,EAAE,QAAQ,CAAC,CA
AC,EAAE;YAC9G,IAAI,CAAC,CAAC,SAAS,GAAG,SAAS,CAAC,KAAK,CAAC,OAAO,EAAE,UAAU,IAAI,E
AAE,CAAC,EAAE,IAAI,EAAE,CAAC,CAAC;SACzE,CAAC,CAAC;IACP,CAAC;aAEe,WAAW,CAAC,OAAO,
EAAE,IAAI;QACrC,IAAI,CAAC,GAAG,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,EAAE,cAAa,IAAI,CAAC,CA
AC,CAAC,CAAC,GAAG,CAAC;gBAAE,MAAM,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,OAAO,CAAC,CA
AC,CAAC,CAAC,CAAC,EAAE,EAAE,IAAI,EAAE,EAAE,EAAE,GAAG,EAAE,EAAE,EAAE,EAAE,CAAC,E
AAE,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACjH,OAAO,CAAC,GAAG,EAAE,IAAI,EAAE,IAAI,CAAC,
CAAC,CAAC,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC,CAAC,EAAE,QAAQ,EAAE,IAAI,CAAC,CAAC,CAAC
,EAAE,EAAE,OAAO,MAAM,KAAK,UAAU,KAAK,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,GAAG,cAAa,
OAAO,IAAI,CAAC,EAAE,CAAC,EAAE,CAAC,CAAC;QACzJ,SAAS,IAAI,CAAC,CAAC,IAAI,OAAO,UAAU,
CAAC,IAAI,OAAO,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,EAAE;QACl
E,SAAS,IAAI,CAAC,EAAE;YACZ,IAAI,CAAC;gBAAE,MAAM,IAAI,SAAS,CAAC,iCAAiC,CAAC,CAAC;YA
C9D,OAAO,CAAC;gBAAE,IAAI;oBACV,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC,KAAK,CAAC,GAAG,EAA
E,CAAC,CAAC,CAAC,GAAG,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,
GAAG,CAAC,CAAC,OAAO,CAAC,KAAK,CAAC,CAAC,GAAG,CAAC,CAAC,QAAQ,CAAC,KAAK,CAAC,C
AAC,IAAI,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC,C
AAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,EAAE,EAAE,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI;wBAAE
,OAAO,CAAC,CAAC;oBAC7J,IAAI,CAAC,GAAG,CAAC,EAAE,CAAC;wBAAE,EAAE,GAAG,CAAC,EAAE,
CAAC,CAAC,CAAC,GAAG,CAAC,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC;oBACxC,QAAQ,EAAE,KAAK
,CAAC,CAAC;wBACT,KAAK,CAAC,CAAC;wBAAC,KAAK,CAAC;4BAAE,CAAC,GAAG,EAAE,CAAC;4BA
AC,MAAM;wBAC9B,KAAK,CAAC;4BAAE,CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,OAAO,EAAE,KAAK
,EAAE,EAAE,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC;wBACxD,KAAK,CAAC;4BAAE,
CAAC,CAAC,KAAK,EAAE,CAAC;4BAAC,CAAC,GAAG,EAAE,CAAC,CAAC,CAAC,CAAC;4BAAC,EAAE,
GAAG,CAAC,CAAC,CAAC,CAAC;4BAAC,SAAS;wBACjD,KAAK,CAAC;4BAAE,EAAE,GAAG,CAAC,CAAC,CA
AC,GAAG,EAAE,CAAC;4BAAC,SAAS;wBACjD,IAAI,EAAE,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC

EAAE,CAAC,EAAE,CAAC,EAAE,EAAE;QACtB,IAAI,EAAE,KAAK,SAAS;YAAE,EAAE,GAAG,CAAC,CAAC;QAC7B,CAAC,CAAC,EAAE,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC;IACjB,CAAC,CAAC,CAAC;aAEa,YAAY,CAAC,CAAC,EAAE,OAAO;QACnC,KAAK,IAAI,CAAC,IAAI,CAAC;YAAE,IAAI,CAAC,IAAI,CAAC,KAAK,SAAS,IAAI,CAAC,OAAO,CAAC,cAAc,CAAC,CAAC,CAAC;gBAAE,eAAe,CAAC,OAAO,EAAE,CAAC,EAAE,CAAC,CAAC;IACvG,CAAC,CAAC,CAAC;QAAE,aAAa,CAAC,aAAa,CAAC,CAAC,CAAC;QAAE,CAAC,CAAC,CAAC,CAAC;QAAE,CAAC,CAAC,CAAC,CAAC;QAAE,CAAC

OAAO,EAAE,KAAK,CAAC,CAAC,EAAE;QAClD,SAAS,MAAM,CAAC,CAAC,EAAE,CAAC,IAAI,IAAI,CAA
C,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,KAAK,EAAE,EAAE,CAAC,CAAC,MAAM;YAAE,MAAM,CAAC
,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,C
AAC,CAAC,EAAE;IACtF,CAAC;aAEe,gBAAgB,CAAC,CAAC;QAC9B,IAAI,CAAC,EAAE,CAAC,CAAC;QA
CT,OAAO,CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,EAAE,UAAU,C
AAC,IAAI,MAAM,CAAC,CAAC,EAAE,CAAC,EAAE,IAAI,CAAC,QAAQ,CAAC,EAAE,CAAC,CAAC,MAA
M,CAAC,QAAQ,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAAE,CAAC,CAAC;QAC5I,SAAS,IAAI,CA
AC,CAAC,EAAE,CAAC,IAAI,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,CAAC,CAAC,GAAG,UAU,
CAAC,IAAI,OAAO,CAAC,CAAC,GAAG,CAAC,CAAC,IAAI,EAAE,KAAK,EAAE,OAAO,CAAC,CAAC,CAA
C,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,IAAI,EAAE,CAAC,KAAK,QAAQ,CAAC,GAAG,CAAC,G
AAG,CAAC,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,EAAE,GAAG,CAAC,CAAC,EAAE;IACnJ,CAAC;aAE
e,aAAa,CAAC,CAAC;QAC3B,IAAI,CAAC,MAAM,CAAC,aAAa;YAAE,MAAM,IAAI,SAAS,C,sCAAsC,C
AAC,CAAC;QACvF,IAAI,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,EAAE,CAAC,CAAC;QAC
nC,OAAO,CAAC,GAAG,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,IAAI,CAAC,GAAG,OAAO,QAAQ,KAAK,
UAAU,GAAG,QAAQ,CAAC,CAAC,CAAC,GAAG,CAAC,CAAC,MAAM,CAAC,QAAQ,CAAC,EAAE,EAAE,
CAAC,GAAG,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,EAAE,IAAI,CAAC,OAAO,CAAC,EAAE,IAAI,CAAC,
QAAQ,CAAC,EAAE,CAAC,CAAC,MAAM,CAAC,aAAa,CAAC,GAAG,cAAc,OAAO,IAAI,CAAC,EAAE,EAA
E,CAAC,CAAC,CAAC;QACjN,SAAS,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,IAAI,CAAC,CAAC,CAAC,GAAG,CAAC,CA
AC,CAAC,IAAI,UAAU,CAAC,IAAI,OAAO,IAAI,OAAO,CAAC,UAAU,OAAO,EAAE,MAAM,IAAI,CA
AC,GAAG,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,CAAC,EAAE,MAAM,CAAC,OAAO,EAAE,MAAM,EA
AE,CAAC,CAAC,IAAI,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC,EAAE,CAAC,CAAC,EAAE,CAAC,EAAE;Q
AChK,SAAS,MAAM,CAAC,OAAO,EAAE,MAAM,EAAE,CAAC,EAAE,CAAC,IAAI,OAAO,CAAC,OAAO,CA
AC,CAAC,CAAC,CAAC,IAAI,CAAC,UAAS,CAAC,IAAI,OAAO,CAAC,EAAE,KAAK,EAAE,CAAC,EAAE,IA
AI,EAAE,CAAC,EAAE,CAAC,CAAC,EAAE,EAAE,MAAM,CAAC,CAAC,EAAE;IAChI,CAAC;aAEoB,kB,oBAAoB
,CAAC,MAAM,EAAE,GAAG;QAC5C,IAAI,MAAM,CAAC,cAAc;YAAE,MAAM,CAAC,cAAc,CAAC,MAAM,CAAC,M
AAM,EAAE,KAAK,EAAE,EAAE,KAAK,EAAE,GAAG,EAAE,CAAC,CAAC;SAAE;aAAM;YAAE,MAAM,CA
AC,GAAG,GAAG,GAAG,CAAC;SAAE;IAAC,CAAC;aAEC,QAAQ,CAAC,OAAO,MAAM,CAAC;IAAC,CAAC;aAEC,IA
kB,GAAG,MAAM,CAAC,MAAM,IAAI,UAAS,CAAC,IAAI,OAAO,CAAC,EAAE,KAAK,EAAE,CAAC,EAAE,IA
C,CAAC,EAAE,SAAS,EAAE,UAAU,EAAE,IAAI,EAAE,KAAK,EAAE,CAAC,EAAE,IAAI,CAAC,CAAC,EAAE,IAC
xE,CAAC,IAAI,UAAS,CAAC,EAAE,CAAC;QACd,CAAC,CAAC,SAAS,CAAC,GAAG,CAAC,CAAC;IACrB,B,CA
AC,CAAC;aAEc,YAAY,CAAC,GAAG;QAC5B,IAAI,GAAG,CAAC,UAAU;YAAE,OAAO,GAAG,CAAC,UAAU,CAAC,UU;YAAE,OAAO,GAAG,CA
G,CAAC;QACtC,IAAI,MAAM,GAAG,EAAE,EAAE,CAAC;QAChB,IAAI,GAAG,IAAI,GAAG,EAAE,IAAI,MAAM,CAAC,SAAS,CAAC,cAAc,CAAC,IAAI,CAAC,GAAG,EAAE,CAAC,CAAC,EAAE,
C,IAAI,GAAG;gBAAE,IAAI,MAAM,CAAC,cAAc,IAAI,MAAM,CAAC,wBAAwB,EAAE;oBAAE,IAAI,IAAI,GAAG,MAAM,CAAC,wBAAwB,CAAC,GAAG,EAAE,CAAC,CAAC;oBAAE,IAAI,CAAC,IAAI,IAAI,IAAI,CAAC,GAAG,IAAI,IAAI,CAAC,GAAG,EAAE;wBAAE,MAAM,CAAC,cAAc,CAAC,MAAM,EAAE,CAAC,EAAE,IAAI,CAAC;qBAAE;iBAAE;qBAAM;oBAAE,MAAM,CAAC,CAAC,CAAC,GAAG,GAAG,CAAC,CAAC,CAAC;iBAAE;aAAE;QAAC,MAAM,CAAC,UAAU,GAAG,GAAG,CAAC;QAAC,OAAO,MAAM,CAAC;IAAC,CAAC;aAEC,eAAe,CAAC,GAAG;QAAI,OAAO,GAAG,IAAI,GAAG,CAAC,UAAU,GAAG,GAAG,GAAG,EAAE,SAAS,EAAE,GAAG,EAAE,CAAC;IAAC,CAAC;aAEC,sBAAsB,CAAC,QAAQ,EAAE,UAAU;QAAI,IAAI,CAAC,UAAU,IAAI,QAAQ,IAAI,UAAU,CAAC,MAAM,KAAK,CAAC;YAAE,OAAO,UAAU,CAAC;QAAC,IAAI,MAAM,GAAG,QAAQ,CAAC,MAAM,CAAC,UAAU,CAAC,MAAM,CAAC,CAAC;QAAC,OAAO,MAAM,GAAG,UAAU,CAAC,MAAM,CAAC;IAAC,CAAC;aAEC,YAAY,CAAC,MAAM,EAAE,QAAQ;QAAI,IAAI,QAAQ,KAAK,SAAS,IAAI,QAAQ,GAAG,MAAM,CAAC,MAAM;YAAE,QAAQ,GAAG,MAAM,CAAC,MAAM,CAAC;QAAC,OAAO,MAAM,CAAC,MAAM,CAAC,QAAQ,GAAG,MAAM,CAAC,MAAM,CAAC,KAAK,QAAQ,CAAC;IAAC,CAAC;aAEC,QAAQ,CAAC,MAAM,EAAE,YAAY,EAAE,QAAQ;QAAI,IAAI,QAAQ,KAAK,SAAS,IAAI,QAAQ,GAAG,MAAM,CAAC,MAAM;YAAE,QAAQ,GAAG,MAAM,CAAC,MAAM,CAAC;QAAC,OAAO,MAAM,CAAC,OAAO,CAAC,YAAY,EAAE,QAAQ,CAAC,KAAK,QAAQ,CAAC;IAAC,CAAC;aAEC,WAAW,CAAC,MAAM,EAAE,YAAY,EAAE,QAAQ;QAAI,IAAI,QAAQ,KAAK,SAAS,IAAI,QAAQ,GAAG,MAAM,CAAC,MAAM;YAAE,QAAQ,GAAG,MAAM,CAAC,MAAM,CAAC;QAAC,OAAO,MAAM,CAAC,OAAO,CAAC,YAAY,EAAE,QAAQ,CAAC,KAAK,CAAC,CAAC,CAAC;IAAC,CAAC;aAEC,QAAQ,CAAC,MAAM,EAAE,QAAQ;QAAI,IAAI,QAAQ,KAAK,SAAS,IAAI,QAAQ,GAAG,MAAM,CAAC,MAAM;YAAE,QAAQ,GAAG,MAAM,CAAC,MAAM,CAAC;QAAC,OAAO,MAAM,CAAC,MAAM,CAAC,QAAQ,GAAG,MAAM,CAAC,MAAM,CAAC,KAAK,QAAQ

;YACzE,qBAAqB,CAAC,IAAI,CAAC,SAAS,EAAE,IAAI,EAAE,EAAE,EAAE,UAAU,EAAE,CAAC,KAAK,CA
AC,CAAC,CAAC;YACrE,OAAO,IAAI,uBAAuB,CAAC,EAAE,EAAE,IAAI,CAAC,SAAS,CAAC,CAAC;SACx
D;;KAlBH,CAA6CC,2BAAgB;;gBAD5DC,eAAU;;;gBAJiBC,qBAAgB;gDASGC,WAAM,SAACC,eAAQ;;;QAiB
jB,2CAAgB;QAC3D,iCAAoB,GAAW,EAAU,SAA4B;YAArE,iBAAqE;QAAD,
AG,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;;;SAEpE;QAED,wCAAM,GAAN,UAAO,OAAY,EAAE,OAAY,EAAE,OA0B
;YAC7C,OAAO,IAAI,uBAAuB,CAAC,IAAI,CAAC,GAAG,EAAE,OAAO,EAAE,OAAO,IAAI,EAAE,EAAE,IA
AI,CAAC,SAAS,CAAC,CAAC;SACtF;sCACF;KARD,CAA6CC,2BAAgB,GAQ5D;IAED;QAIE,iCACW,EAAU,
EAAS,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;YAAS,
O,CAAK;YAC9B,cAAS,GAAT,SAAS,CAAS;YAAS,eAAS,GAAT,SAAS,CAAS;YAAS,
AmB;YALjC,iBAAY,GAAyB,IAAI,CAAC;YACzC,aAAQ,GAAR,SAAS,CAAS;YAAS,
AK,CAAC;YAqElB,cAAS,GAAT,SAAS,CAAS;YAAS,
AC,CAAC;YAhEnB,IAAI,CAAC,QAAQ,CAAC,QAAQ,EAAE,OAAO,CA
AC,CAAC;SAClC;QAEO,yCAAO,GAAP,UAAQ,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
AC,MAAM,CAAC,IAAI,CAAC,OAAO,EAAE,OAAK,IAAI,CAAC,EAAE,SAAI,SAAW,EAAE,QAAQ,CAAC,C
AAC;SACnF;QAEO,0CAAQ,GAAR,UAAS,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
Ad,6BAAc;;YAC9C,qBAAqB,CAAC,IAAI,CAAC,SAAS,EAAE,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,
EAAE,EAAE,OAAO,EAAE,IAAI,CAAC,CAAC;SACpF;QAED,wCAAM,GAAN,UAAO,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
AC,OAAO,CAAC,MAAM,EAAE,EAAE,CAAC,CAAC;SAC1B;QAED,yCAAO,GAAP,UAAQ,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
AI,CAAC,OAAO,CAAC,OAAO,EAAE,EAAE,CAAC,CAAC;SAC3B;QAED,2CAAS,GAAT,UAAU,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
CtB,IAAI,CAAC,OAAO,CAAC,SAAS,EAAE,EAAE,CAAC,CAAC;SAC7B;QAED,sCAAI,GAAJ,UAAK,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
AC,QAAQ,CAAC,MAAM,CAAC,CAAC;SACvB;QAED,yCAAO,GAAP,UAAQ,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
AC;SACtB;QAED,sCAAI,GAAJ,UAAK,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
C,QAAQ,CAAC,MAAM,CAAC,CAAC;SACvB;QAED,yCAAO,GAAP,UAAQ,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
CAAC;SACxB;QAED,sCAAI,GAAJ,UAAK,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
W,QAAQ,CAAC,MAAM,CAAC,CAAC;SACvB;QAED,yCAAO,GAAP,UAAQ,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
AI,CAAC,QAAQ,CAAC,MAAM,CAAC,CAAC;SACvB;QAED,sCAAI,GAAJ,UAAK,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
C,OAAO,CAAC,MAAM,CAAC,CAAC;SACvB;QAED,yCAAO,GAAP,UAAQ,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
a,EAAE,CAAC,CAAC,CAAC;SACjC;QAED,sCAAI,GAAJ,UAAK,OAAY,EAAE,OAAY,EAAE,OAAyB,EAAE,CAAQ;YAAU,eAAS,GAAT,SAAS,CAAS;
M,CAAC,OAAO,CAAC,CAAC,IAAI,CAAC,CAAC,EAAE,EAAE,CAAC,0CAAE,WAAW,qCAAM,CAAC,CAAC;SACpE;sCAGF;KAAA,IAAA;IAED,SAAS,qBAAqB,CAAC,QAAQ,EAAE,OAAO,EAAE,OAAO,EAAE,OAAO

WAAW,EAAE,WAAW,EAAE,WAAW,EAAE,OAAO,CAAC,IAAI,EAAE,OAAO,CAAC,CAAC;iBAC3F;aACF,CAAC;YACF,IAAM,iBAAiB,GAAG,IAAI,CAAC,IAAI,CAAC,WAAW,CAAqC,CAAC;YACrF,iBAAiB,CAAC,OAAO,CAAC,eAAe,CAAC,CAAC;YAE3C,OAAO,IAAI,iBAAiB,CAAC,IAAI,EAAE,WAAW,EAAE,QAAQ,EAAE,IAAI,CAAC,MAAM,CAAC,CAAC;SACxE;QAED,wCAAK,GAAL;YACE,IAAI,CAAC,aAAa,EAAE,CAAC;YACrB,IAAI,IAAI,CAAC,QAAQ,CAAC,KAAK,EAAE;gBACvB,IAAI,CAAC,QAAQ,CAAC,KAAK,EAAE,CAAC;aACvB;QACH,CAAC;QAED,qDAAkB;YAChB,OAAO,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;QACjC,CAAC;QAED,gDAAa,GAAb;YACE,IAAI,CAAC,OAAO,CAAC,IAAI,CAAC,IAAI,CAAC,CAAC;QAC1B

AED,wCAAQ,GAAR,UAAS,EAAO,EAAE,KAAa,EAAE,KAAU,EAAE,KAAqC;YAChF,IAAI,CAAC,QAAQ,CAAC,QAAQ,CAAC,EAAE,EAAE,KAAK,EAAE,KAAK,EAAE,KAAK,CAAC,CAAC;SACjD;QAED,2CAAW,GAAX,UAAY,EAAO,EAAE,KAAa,EAAE,KAAqC;YACvE,IAAI,CAAC,QAAQ,CAAC,WAAW,CAAC,EAAE,EAAE,EAAE,EAAE,KAAK,EAAE,KAAK,CAAC,CAAC;SAC7C;QAED,2CAAW,GAAX,UAAY,EAAO,EAAE,KAAa,EAAE,KAAqC;YACvE,IAAI,CAAC,QAAQ,CAAC,WAAW,CAAC,EAAE,EAAE,IAAY,EAAE,KAAK,EAAE,KAAK,CAAC,CAAC;SAC3C;QAED,2CAAW,GAAX,UAAY,EAAO,EAAE,KAAa,EAAE,KAAqC;YACvE,IAAI,CAAC,QAAQ,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,IAAI,gBAAgB,IAAI,IAAI,IAAI,uBAAuB,EAAE;gBACjF,IAAI,CAAC,QAAQ,CAAC,iBAAiB,CAAC,EAAE,EAAE,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC;aACnD;QAED,2CAAW,GAAX,UAAY,EAAO,EAAE,KAAa,EAAE,KAAqC;YACvE,IAAI,CAAC,QAAQ,CAAC,QAAQ,CAAC,WAAW,CAAC,EAAE,EAAE,IAAY,EAAE,KAAK,EAAE,KAAK,CAAC,CAAC;SAC3C;QAED,2CAAW,GAAX,UAAY,EAAO,EAAE,KAAa,EAAE,KAAqC;YACvE,IAAI,CAAC,QAAQ,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC,IAAI,gBAAgB,IAAI,IAAI,IAAI,uBAAuB,EAAE;gBACjF,IAAI,CAAC,QAAQ,CAAC,iBAAiB,CAAC,EAAE,EAAE,EAAE,CAAC,CAAC,KAAK,CAAC,CAAC,CAAC;aACnD

C,EAAC;QAC3E,EAAC,OAAO,EAAE,qBAAqB,EAAE,QAAQ,EAAE,mBAAmB,EAAC;OAAK,0BAA0B,EAC9F;IAEF;;;;QAIa,iCAAiC;QAC5C,EAAC,OAAO,EAAEA,uBAAe,EAAE,QAAQ,EAAEQ,4BAAmB,EAAC;QACzD,EAAC,OAAO,EAAE,qBAAqB,EAAE,QAAQ,EAAE,gBAAgB,EAAC;OAAK,0BAA0B;;ICrE7F;;;;;;IAYA;;;;;;QASA;;;;;gBAJCC,aAAQ,SAAC;oBACRC,OAAO,EAAE,CAAC,EAAE,OAAO,EAAE,EAAE,CAAC,EAAE,aAAa,EAAE,6BAAa,EAAE,CAAC,EAAE,eAAe,EAAE,4BAA4B;iBACxG;;IAID;;;;;QAQA;;;;;gBAJCA,aAAQ,SAAC;oBACRC,OAAO,EAAE,CAAC,EAAE,OAAO,EAAE,EAAE,CAAC,EAAE,aAAa,EAAE,6BAAa,EAAE,CAAC,EAAE,eAAe,EAAE,iCAAiC;iBAC/G;;IAID;;;;;;

}\n\n hasStarted(): boolean {\n return this._started;\n }\n\n play(): void {\n this._command('play');\n this._started = true;\n }\n\n pause(): void {\n this._command('pause');\n }\n\n restart(): void {\n this._command('restart');\n }\n\n finish(): void {\n this._command('finish');\n }\n\n destroy(): void {\n this._command('destroy');\n }\n\n reset(): void {\n this._command('reset');\n }\n\n setPosition(p: number): void {\n this._command('setPosition',
p);\n }\n\n getPosition(): number {\n return this._renderer.engine.players[+this.id]?.getPosition() ?? 0;\n }\n\n public totalTime = 0;\n}\n\nfunction issueAnimationCommand(\n renderer: AnimationRenderer, element: any, id: string, command: string, args: any[]): any {\n return renderer.setProperty(element, `@@${id}:${command}`, args);\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nimport {AnimationTriggerMetadata} from '@angular/animations';\nimport {AnimationEngine as AnimationEngine} from '@angular/animations/browser';\nimport {Injectable, NgZone, Renderer2, RendererFactory2, RendererStyleFlags2, RendererType2} from '@angular/core';\n\nconst ANIMATION_PREFIX = '@';\nconst DISABLE_ANIMATIONS_FLAG = '@.disabled';\n\n// Define a recursive type to allow for nested arrays of `AnimationTriggerMetadata`. Note that
an\n// interface declaration is used as TypeScript prior to 3.7 does not support recursive type\n// references, see https://github.com/microsoft/TypeScript/pull/33050 for details.\ntype NestedAnimationTriggerMetadata = AnimationTriggerMetadata|RecursiveAnimationTriggerMetadata;\ninterface RecursiveAnimationTriggerMetadata extends Array<NestedAnimationTriggerMetadata> {}\n\n@Injectable()\nexport class AnimationRendererFactory implements RendererFactory2 {\n private _currentId: number = 0;\n private _microtaskId: number = 1;\n private _animationCallbacksBuffer: [(e: any) => any, any][] = [];\n private _rendererCache = new Map<Renderer2, BaseAnimationRenderer>();\n private _cdRecurDepth = 0;\n private promise: Promise<any> = Promise.resolve(0);\n\n constructor(\n private delegate: RendererFactory2, private engine: AnimationEngine, private _zone: NgZone) {\n engine.onRemovalComplete = (element: any, delegate: Renderer2) => {\n // Note: if an component element has a leave
animation, and the component\n // a host leave animation, the view engine will call `removeChild` for the parent\n // component renderer as well as for the child component renderer.\n // Therefore, we need to check if we already removed the element.\n if (delegate && delegate.parentNode(element)) {\n delegate.removeChild(element.parentNode, element);\n }\n };\n }\n\n createRenderer(hostElement: any, type: RendererType2): Renderer2 {\n const EMPTY_NAMESPACE_ID = '';\n\n // cache the delegates to find out which cached delegate can\n // be used by which cached renderer\n const delegate = this.delegate.createRenderer(hostElement, type);\n if (!hostElement || !type || !type.data || !type.data['animation']) {\n let renderer: BaseAnimationRenderer|undefined = this._rendererCache.get(delegate);\n if (!renderer) {\n renderer = new BaseAnimationRenderer(EMPTY_NAMESPACE_ID, delegate, this.engine);\n // only cache this
result when the base renderer is used\n this._rendererCache.set(delegate, renderer);\n }\n return renderer;\n }\n\n const componentId = type.id;\n const namespaceId = type.id + '-' + this._currentId;\n this._currentId++;\n\n this.engine.register(namespaceId, hostElement);\n\n const registerTrigger = (trigger: NestedAnimationTriggerMetadata) => {\n if (Array.isArray(trigger)) {\n trigger.forEach(registerTrigger);\n } else {\n this.engine.registerTrigger(componentId, namespaceId, hostElement, trigger.name, trigger);\n }\n };\n const animationTriggers = type.data['animation'] as NestedAnimationTriggerMetadata[];\n animationTriggers.forEach(registerTrigger);\n\n return new AnimationRenderer(this, namespaceId, delegate, this.engine);\n }\n\n begin() {\n this._cdRecurDepth++;\n if (this.delegate.begin) {\n this.delegate.begin();\n }\n }\n\n private _scheduleCountTask() {\n // always use promise to schedule microtask instead of use Zone\n this.promise.then(() => {\n this._microtaskId++;\n });\n }\n\n /** @internal */\n scheduleListenerCallback(count: number, fn: (e: any) => any, data: any) {\n if (count >= 0 && count < this._microtaskId) {\n this._zone.run(() => fn(data));\n return;\n }\n\n if (this._animationCallbacksBuffer.length == 0) {\n Promise.resolve(null).then(() => {\n this._zone.run(() =>

{\n this._animationCallbacksBuffer.forEach(tuple => {\n const [fn, data] = tuple;\n fn(data);\n });\n this._animationCallbacksBuffer = [];\n });\n });\n }\n\n this._animationCallbacksBuffer.push([fn, data]);\n }\n\n end() {\n this._cdRecurDepth--;\n\n // this is to prevent animations from running twice when an inner\n // component does CD when a parent component instead has inserted it\n if (this._cdRecurDepth == 0) {\n this._zone.runOutsideAngular(() => {\n this._scheduleCountTask();\n this.engine.flush(this._microtaskId);\n });\n }\n if (this.delegate.end) {\n this.delegate.end();\n }\n }\n\n whenRenderingDone(): Promise<any> {\n return this.engine.whenRenderingDone();\n }\n}\n\nexport class BaseAnimationRenderer implements Renderer2 {\n constructor(\n protected namespaceId: string, public delegate: Renderer2, public engine: AnimationEngine) {\n this.destroyNode = this.delegate.destroyNode ? (n) => delegate.destroyNode!(n) : null;\n }\n\n get data() {\n return this.delegate.data;\n }\n\n destroyNode: ((n: any) => void)|null;\n\n destroy(): void {\n this.engine.destroy(this.namespaceId, this.delegate);\n this.delegate.destroy();\n }\n\n createElement(name: string, namespace?: string|null|undefined) {\n return this.delegate.createElement(name, namespace);\n }\n\n createComment(value: string) {\n return this.delegate.createComment(value);\n }\n\n createText(value: string) {\n return this.delegate.createText(value);\n }\n\n appendChild(parent: any, newChild: any): void {\n this.delegate.appendChild(parent, newChild);\n this.engine.onInsert(this.namespaceId, newChild, parent, false);\n }\n\n insertBefore(parent: any, newChild: any, refChild: any, isMove: boolean = true): void {\n this.delegate.insertBefore(parent, newChild, refChild);\n // If `isMove` true than we should animate this insert.\n this.engine.onInsert(this.namespaceId, newChild, parent, isMove);\n }\n\n removeChild(parent: any, oldChild: any, isHostElement: boolean): void {\n this.engine.onRemove(this.namespaceId, oldChild, this.delegate, isHostElement);\n }\n\n selectRootElement(selectorOrNode: any, preserveContent?: boolean) {\n return this.delegate.selectRootElement(selectorOrNode, preserveContent);\n }\n\n parentNode(node: any) {\n return this.delegate.parentNode(node);\n }\n\n nextSibling(node: any) {\n return this.delegate.nextSibling(node);\n }\n\n setAttribute(el: any, name: string, value: string, namespace?: string|null|undefined): void {\n this.delegate.setAttribute(el, name, value, namespace);\n }\n\n removeAttribute(el: any, name: string, namespace?: string|null|undefined): void {\n this.delegate.removeAttribute(el, name, namespace);\n }\n\n addClass(el: any, name: string): void {\n this.delegate.addClass(el, name);\n }\n\n removeClass(el: any, name: string): void {\n this.delegate.removeClass(el, name);\n }\n\n setStyle(el: any, style: string, value: any, flags?: RendererStyleFlags2|undefined): void {\n this.delegate.setStyle(el, style, value, flags);\n }\n\n removeStyle(el: any, style: string, flags?: RendererStyleFlags2|undefined): void {\n this.delegate.removeStyle(el, style, flags);\n }\n\n setProperty(el: any, name: string, value: any): void {\n if (name.charAt(0) == ANIMATION_PREFIX && name == DISABLE_ANIMATIONS_FLAG) {\n this.disableAnimations(el, !!value);\n } else {\n this.delegate.setProperty(el, name, value);\n }\n }\n\n setValue(node: any, value: string): void {\n this.delegate.setValue(node, value);\n }\n\n listen(target: any, eventName: string, callback: (event: any) => boolean | void): () => void {\n return this.delegate.listen(target, eventName, callback);\n }\n\n protected disableAnimations(element: any, value: boolean) {\n this.engine.disableAnimations(element, value);\n }\n}\n\nexport class AnimationRenderer extends BaseAnimationRenderer implements Renderer2 {\n constructor(\n public factory: AnimationRendererFactory, namespaceId: string, delegate: Renderer2,\n engine: AnimationEngine) {\n super(namespaceId, delegate, engine);\n this.namespaceId = namespaceId;\n }\n\n setProperty(el: any, name: string, value: any): void {\n if (name.charAt(0) == ANIMATION_PREFIX) {\n if (name.charAt(1) == '.' && name == DISABLE_ANIMATIONS_FLAG) {\n value = value === undefined ? true : !!value;\n this.disableAnimations(el, value as boolean);\n } else {\n this.engine.process(this.namespaceId, el, name.substr(1), value);\n }\n } else {\n this.delegate.setProperty(el, name, value);\n }\n }\n\n listen(target: 'window'|'document'|'body'|any, eventName: string, callback: (event: any) => any):\n () => void {\n if (eventName.charAt(0) == ANIMATION_PREFIX) {\n const element = resolveElementFromTarget(target);\n let name = eventName.substr(1);\n let phase = '';\n // @listener.phase is for trigger animation callbacks\n // @@listener is for animation builder callbacks\n if (name.charAt(0) != ANIMATION_PREFIX) {\n [name,

phase] = parseTriggerCallbackName(name);\n }\n return this.engine.listen(this.namespaceId, element, name, phase, event => {\n const countId = (event as any)['_data'] || -1;\n this.factory.scheduleListenerCallback(countId, callback, event);\n });\n }\n return this.delegate.listen(target, eventName, callback);\n }\n}\n\nfunction resolveElementFromTarget(target: 'window'|'document'|'body'|any): any {\n switch (target) {\n case 'body':\n return document.body;\n case 'document':\n return document;\n case 'window':\n return window;\n default:\n return target;\n }\n}\n\nfunction parseTriggerCallbackName(triggerName: string) {\n const dotIndex = triggerName.indexOf('.');\n const trigger = triggerName.substring(0, dotIndex);\n const phase = triggerName.substr(dotIndex + 1);\n return [trigger, phase];\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {AnimationBuilder} from '@angular/animations';\nimport {AnimationDriver, AnimationEngine as AnimationEngine, AnimationStyleNormalizer as AnimationStyleNormalizer, CssKeyframesDriver as CssKeyframesDriver, NoopAnimationDriver as NoopAnimationDriver, supportsWebAnimations as supportsWebAnimations, WebAnimationsDriver as WebAnimationsDriver, WebAnimationsStyleNormalizer as WebAnimationsStyleNormalizer} from '@angular/animations/browser';\nimport {DOCUMENT} from '@angular/common';\nimport {Inject, Injectable, InjectionToken, NgZone, Provider, RendererFactory2} from '@angular/core';\nimport {DomRendererFactory2 as DomRendererFactory2} from '@angular/platform-browser';\n\nimport {BrowserAnimationBuilder} from './animation_builder';\nimport {AnimationRendererFactory} from './animation_renderer';\n\n@Injectable()\nexport class InjectableAnimationEngine extends AnimationEngine {\n constructor(\n @Inject(DOCUMENT) doc: any, driver: AnimationDriver, normalizer: AnimationStyleNormalizer) {\n super(doc.body, driver, normalizer);\n }\n}\n\nexport function instantiateSupportedAnimationDriver() {\n return supportsWebAnimations() ? new WebAnimationsDriver() : new CssKeyframesDriver();\n}\n\nexport function instantiateDefaultStyleNormalizer() {\n return new WebAnimationsStyleNormalizer();\n}\n\nexport function instantiateRendererFactory(\n renderer: DomRendererFactory2, engine: AnimationEngine, zone: NgZone) {\n return new AnimationRendererFactory(renderer, engine, zone);\n}\n\n/**\n * @publicApi\n */\nexport const ANIMATION_MODULE_TYPE =\n new InjectionToken<'NoopAnimations'|'BrowserAnimations'>('AnimationModuleType');\n\nconst SHARED_ANIMATION_PROVIDERS: Provider[] = [\n {provide: AnimationBuilder, useClass: BrowserAnimationBuilder},\n {provide: AnimationStyleNormalizer, useFactory: instantiateDefaultStyleNormalizer},\n {provide: AnimationEngine, useClass: InjectableAnimationEngine}, {\n provide: RendererFactory2,\n useFactory: instantiateRendererFactory,\n deps: [DomRendererFactory2, AnimationEngine, NgZone]\n }\n];\n\n/**\n * Separate providers from the actual module so that we can do a local modification in Google3 to\n * include them in the BrowserModule.\n */\nexport const BROWSER_ANIMATIONS_PROVIDERS: Provider[] = [\n {provide: AnimationDriver, useFactory: instantiateSupportedAnimationDriver},\n {provide: ANIMATION_MODULE_TYPE, useValue: 'BrowserAnimations'},\n ...SHARED_ANIMATION_PROVIDERS\n];\n\n/**\n * Separate providers from the actual module so that we can do a local modification in Google3 to\n * include them in the BrowserTestingModule.\n */\nexport const BROWSER_NOOP_ANIMATIONS_PROVIDERS: Provider[] = [\n {provide: AnimationDriver, useClass: NoopAnimationDriver},\n {provide: ANIMATION_MODULE_TYPE, useValue: 'NoopAnimations'},\n ...SHARED_ANIMATION_PROVIDERS\n];\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\nimport {NgModule} from '@angular/core';\nimport {BrowserModule} from '@angular/platform-browser';\n\nimport {BROWSER_ANIMATIONS_PROVIDERS, BROWSER_NOOP_ANIMATIONS_PROVIDERS} from './providers';\n\n/**\n * Exports `BrowserModule` with additional [dependency-injection providers](guide/glossary#provider)\n * for use with animations. See [Animations](guide/animations).\n * @publicApi\n */\n@NgModule({\n exports: [BrowserModule],\n providers:

BROWSER_ANIMATIONS_PROVIDERS,\n})\nexport class BrowserAnimationsModule {\n}\n\n/**\n * A null player that must be imported to allow disabling of animations.\n * @publicApi\n */\n@NgModule({\n  exports: [BrowserModule],\n  providers: BROWSER_NOOP_ANIMATIONS_PROVIDERS,\n})\nexport class NoopAnimationsModule {\n}\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\nexport {BrowserAnimationBuilder as BrowserAnimationBuilder, BrowserAnimationFactory as BrowserAnimationFactory} from './animation_builder';\nexport {AnimationRenderer as AnimationRenderer, AnimationRendererFactory as AnimationRendererFactory} from './animation_renderer';\nexport {InjectableAnimationEngine as InjectableAnimationEngine} from './providers';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all animation APIs of the animation browser package.\n */\nexport {BrowserAnimationsModule, NoopAnimationsModule} from './module';\n\nexport {ANIMATION_MODULE_TYPE} from './providers';\n\nexport * from './private_export';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n/**\n * @module\n * @description\n * Entry point for all public APIs of this package.\n */\nexport * from './src/animations';\n","/**\n * @license\n * Copyright Google LLC All Rights Reserved.\n *\n * Use of this source code is governed by an MIT-style license that can be\n * found in the LICENSE file at https://angular.io/license\n */\n\n// This file is not used to build this module. It is only used during editing\n// by the TypeScript language service and during build for verifcation. `ngc`\n// replaces this file with production index.ts when it rewrites private symbol\n// names.\n\nexport * from './public_api';\n","/**\n * Generated bundle index. Do not edit.\n */\n\nexport * from './index';\n\nexport {BaseAnimationRenderer as angular_packages_platform_browser_animations_animations_f} from './src/animation_renderer';\nexport {BROWSER_ANIMATIONS_PROVIDERS as angular_packages_platform_browser_animations_animations_d,BROWSER_NOOP_ANIMATIONS_PROVIDERS as angular_packages_platform_browser_animations_animations_e,instantiateDefaultStyleNormalizer as angular_packages_platform_browser_animations_animations_b,instantiateRendererFactory as angular_packages_platform_browser_animations_animations_c,instantiateSupportedAnimationDriver as angular_packages_platform_browser_animations_animations_a} from './src/providers';"],"names":["AnimationEngine","AnimationStyleNormalizer","supportsWebAnimations","WebAnimationsDriver","CssKeyframesDriver","WebAnimationsStyleNormalizer","DomRendererFactory2","NoopAnimationDriver"],"mappings":";;;;;;;;;;;;AAAA;;;;;;;MACa,uBAAwB,SAAQ,gBAAgB;IAI3D,YAAY,YAA8B,EAAE,aAAoB,EAAE,QAAiB,EAAE,SAAqB,EAAE,SAAqB,EAAE,SAAq

CAAC;QAhEnB,IAAI,CAAC,QAAQ,CAAC,QAAQ,EAAE,OAAO,CAAC,CAAC;KAClC;IAEO,OAAO,CAAC,SAAiB,EAAE,QAA6B;QAC9D,OAAO,IAAI,CAAC,SAAS,CAAC,MAAM,CAAC,IAAI,CAAC,OAAO,EAAE,KAAK,IAAI,CAAC,EAAE,IAAI,SAAS,EAAE,EAAE,QAAQ,CAAC,CAAC;KACnF;IAEO,QAAQ,CAAC,OAAe,EAAE,GAAG;QAAW,OAAO,IAAI,CAAC,EAAE,IAAI,CAAC,SAAS,CAAC,EAAE,IAAI,CAAC,EAAE,IAAI,CAAC,SAAS,CAAC,EAAE,IAAI,CAAC,EAAE,IAAI,CAAC,OAAO,EAAE,IAAI,CAAC,EAAE,IAAI,CAAC,EAAE,IAAI,CAAC,SAAS,CAAC

AM,CAAC,EAAE,EAAE,IAAI,CAAC,GAAG,KAAK,CAAC;wBACzB,EAAE,CAAC,IAAI,CAAC,CAAC;qBAC
V,CAAC,CAAC;oBACH,IAAI,CAAC,yBAAyB,GAAG,EAAE,CAAC;iBACrC,CAAC,CAAC;aACJ,CAAC,CAA
C;SACJ;QAED,IAAI,CAAC,yBAAyB,CAAC,IAAI,CAAC,CAAC,EAAE,EAAE,IAAI,CAAC,CAAC,CAAC;KA
CjD;IAED,GAAG;QACD,IAAI,CAAC,aAAa,EAAE,CAAC;;;QAIrB,IAAI,IAAI,CAAC,aAAa,IAAI,CAAC,EAAE
;YAC3B,IAAI,CAAC,KAAK,CAAC,iBAAiB,CAAC;gBAC3B,IAAI,CAAC,kBAAkB,EAAE,CAAC;gBAC1B,IA
AI,CAAC,MAAM,CAAC,KAAK,CAAC,IAAI,CAAC,YAAY,CAAC,CAAC;aACtC,CAAC,CAAC;SACJ;QACD,I
AAI,IAAI,CAAC,QAAQ,CAAC,GAAG,EAAE;YACrB,IAAI,CAAC,QAAQ,CAAC,GAAG,EAAE,CAAC;SACrB
;KACF;IAED,iBAAiB;QACf,OAAO,IAAI,CAAC,MAAM,CAAC,iBAAiB,EAAE,CAAC;KACxC;;;YA/GF,UAA
U;;;YAX4B,gBAAgB;YAD3BA,gBAAe;YACvB,MAAM;;MA6Hb,qBAAqB;IAChC,YAAc,WAAmB,EAAS,QA
AmB,EAAS,MAAuB;QAA/E,gBAAW,GAAX,WAAW,CAAQ;QAAS,aAAQ,GAAR,QAAQ,CAAW;QAAS,WAA
M,GAAN,MAAM,CAAiB;QAC3F,IAAI,CAAC,WAAW,GAAG,IAAI,CAAC,QAAQ,CAAC,WAAW,GAAG,CA
AC,CAAC,KAAK,QAAQ,CAAC,WAAY,CAAC,CAAC,CAAC,GAAG,IAAI,CAAC;KACvF;IAED,IAAI,IAAI;Q
ACN,OAAO,IAAI,CAAC,QAAQ,CAAC,IAAI,CAAC;KAC3B;IAID,OAAO;QACL,IAAI,CAAC,MAAM,CAAC,
OAAO,CAAC,IAAI,CAAC,WAAW,EAAE,IAAI,CAAC,QAAQ,CAAC,CAAC;QACrD,IAAI,CAAC,QAAQ,CAA
C,OAAO,EAAE,CAAC;KACzB;IAED,aAAa,CAAC,IAAY,EAAE,SAAiC;QAC3D,OAAO,IAAI,CAAC,QAAQ,C
AAC,aAAa,CAAC,IAAI,EAAE,SAAS,CAAC,CAAC;KACrD;IAED,aAAa,CAAC,KAAa;QACzB,OAAO,IAAI,C
AAC,QAAQ,CAAC,aAAa,CAAC,KAAK,CAAC,CAAC,CAAC;KAC3C;IAED,UAAU,CAAC,KAAa;QACtB,OAAO,IA
AI,CAAC,QAAQ,CAAC,UAAU,CAAC,KAAK,CAAC,CAAC,CAAC;KACxC;IAED,WAAW,CAAC,MAAW,EAAE,QA
Aa;QACpC,IAAI,CAAC,QAAQ,CAAC,WAAW,CAAC,MAAM,EAAE,QAAQ,CAAC,CAAC;QAC5C,IAAI,CAAC,MAAM,
CAAC,QAAQ,CAAC,IAAI,CAAC,WAAW,EAAE,QAAQ,CAAC,CAAC,CAAC;KAC9C;IAED,EAAE,CAAC,KAAa,E
AAE,QAAQ,EAAE,MAAM,EAAE,KAAK,CAAC,CAAC,CAAC;KACjE;IAED,YAAY,CAAC,MAAW,EAAE,QAAa,EAAE,QAAa,EAAE,SAAkB,IAAI;QAC5E,IAAI,CAAC,QAAQ,C
AAC,YAAY,CAAC,MAAM,EAAE,QAAQ,EAAE,QAAQ,CAAC,CAAC,CAAC;;QAEvD,IAAI,CAAC,MAAM,CAAC,
QAAQ,CAAC,IAAI,CAAC,WAAW,EAAE,QAAQ,CAAC,CAAC,CAAC;KAClE;IAED,WAAW,CAAC,MAAW,EAAE,QA
AsB;QAC5D,IAAI,CAAC,MAAM,CAAC,QAAQ,CAAC,IAAI,CAAC,WAAW,EAAE,QAAQ,CAAC,CAAC,CAAC;KAC
hF;IAED,iBAAiB,CAAC,cAAmB,EAAE,eAAyB;QAC9D,OAAO,IAAI,CAAC,QAAQ,CAAC,iBAAiB,CAAC,cAAc,EAAE,eAAe,C
AAC,CAAC;KACzE;IAED,UAAU,CAAC,IAAS;QAClB,OAAO,IAAI,CAAC,QAAQ,CAAC,UAAU,CAAC,IAAI,CAAC,CAAC,CAAC;KACvC;IAED,WAAW,CAAC,KAAU;QACpB,OAAO,IAAI,CAAC,QAAQ,C
AAC,WAAW,CAAC,KAAK,CAAC,CAAC,CAAC;KACxC;IAED,YAAY,CAAC,KAAU,EAAE,QAAa,EAAE,QAAa;QACnD,IAAI,CAAC,QAAQ,CAAC,YAAY,CAAC,KAAK,EAAE,QAAQ,EAAE,QAAQ,CAAC,CAAC,CAAC;KAC
xC;IAED,YAAY,CAAC,KAAU,EAAE,QAAa,EAAE,QAAa;QACnD,IAAI,CAAC,QAAQ,CAAC,YAAY,CAAC,KAAK,EAAE,QAAQ,EAAE,QAAQ,CAAC,CAAC,CAAC;KACxC;IAED,eAAe,CAAC,KAAU,EAAE,QAAa,EAAE,QAAa;QACtD,IAAI,CAAC,QAAQ,CAAC,eAAe,CAAC,KAAK,EAAE,QAAQ,EAAE,QAAQ,CAAC,CAAC,CAAC;KAC
3C;IAED,UAAU,CAAC,KAAU,EAAE,QAAa,EAAE,QAAa;QACjD,IAAI,CAAC,QAAQ,CAAC,UAAU,CAAC,KAAK,EAAE,QAAQ,EAAE,QAAQ,CAAC,CAAC,CAAC;KACa

AC,MAAM,CAAC,CAAC,CAAC,IAAI,gBAAgB,EAAE;YACtC,IAAI,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,GAAG,IAAI,IAAI,IAAI,uBAAuB,EAAE;gBAC5D,KAAK,GAAG,KAAK,KAAK,SAAS,GAAG,IAAI,GAAG,CAAC,CAAC,KAAK,CAAC;gBAC7C,IAAI,CAAC,iBAAiB,CAAC,EAAE,EAAE,KAAgB,CAAC,CAAC;aAC9C;iBAAM;gBACL,IAAI,CAAC,MAAM,CAAC,OAAO,CAAC,IAAI,CAAC,WAAW,EAAE,EAAE,EAAE,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,EAAE,KAAK,CAAC,CAAC;aAClE;SACF;aAAM;YACL,IAAI,CAAC,QAAQ,CAAC,WAAW,CAAC,EAAE,EAAE,IAAI,EAAE,KAAK,CAAC,CAAC;SAC5C;KACF;IAED,MAAM,CAAC,MAAsC,EAAE,SAAiB,EAAE,QAA6B;QAE7F,IAAI,SAAS,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,gBAAgB,EAAE;YAC3C,MAAM,OAAO,GAAG,wBAAwB,CAAC,MAAM,CAAC,CAAC;YACjD,IAAI,IAAI,GAAG,SAAS,CAAC,CAAC,CAAC,CAAC,CAAC;YAC/B,IAAI,KAAK,GAAG,EAAE,CAAC;;YAGf,IAAI,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,gBAAgB,EAAE;gBACtC,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;gBACpB,IAAI,GAAG,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;aACvB;YAED,KAAK,MAAM,IAAI,IAAI,IAAI,CAAC,KAAK,CAAC,GAAG,CAAC,EAAE;gBAClC,IAAI,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,IAAI,gBAAgB,EAAE;oBACtC,IAAI,CAAC,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;oBACpB,IAAI,GAAG,IAAI,CAAC,MAAM,CAAC,CAAC,CAAC,CAAC;iBACvB;gBAED

## 1.438.1 Available under license :

No license file was found, but licenses were detected in source scan.

{ key: 17, boss: 12, name: "Peter F. Croker", nation: "Ireland", title: "Chairman of the Committee on Confidentiality", headOf: "The Committee on Confidentiality" },
{ key: 31, boss: 17, name: "Michael Anselme Marc Rosette", nation: "Seychelles", title: "Vice Chairman of the Committee on Confidentiality" },
{ key: 32, boss: 17, name: "Kensaku Tamaki", nation: "Japan", title: "Vice Chairman of the Committee on Confidentiality" },
{ key: 33, boss: 17, name: "Osvaldo Pedro Astiz", nation: "Argentina", title: "Member of the Committee on Confidentiality" },
{ key: 34, boss: 17, name: "Yuri Borisovitch Kazmin", nation: "Russia", title: "Member of the Committee on Confidentiality" },
Flag images are from <a href="https://openmoji.org/">OpenMoji</a> – the open-source emoji and icon project.
License: CC BY-SA 4.0.

Found in path(s):
* /gojs-2-2-14-1-tgz/package/samples/orgChartStatic.html
No license file was found, but licenses were detected in source scan.

/*
*  Copyright (C) 1998-2022 by Northwoods Software Corporation. All Rights Reserved.
*/
/**
* Copyright 2010-2016 Mike Bostock
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without modification,
* are permitted provided that the following conditions are met:
*
* * Redistributions of source code must retain the above copyright notice, this
*   list of conditions and the following disclaimer.
*
* * Redistributions in binary form must reproduce the above copyright notice,
*   this list of conditions and the following disclaimer in the documentation
*   and/or other materials provided with the distribution.
*
* * Neither the name of the author nor the names of contributors may be used to
*   endorse or promote products derived from this software without specific prior
*   written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
 "AS IS" AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
* WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
* DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR
* ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
* (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;

* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
* ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
* SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/extensionsJSM/VirtualizedPackedLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/VirtualizedPackedLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/VirtualizedPackedLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PackedLayout.ts
*
/gojs-2-2-14-1-tgz/package/extensionsJSM/PackedLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/PackedLayout.ts
No license file was found, but licenses were detected in source scan.

/**
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Go Cloud Storage Manager
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/storage/GoCloudStorageManager.ts
* /gojs-2-2-14-1-tgz/package/projects/storage/GoCloudStorageManager.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* FLOOR PLANNER: WALL RESHAPING TOOL
* Used to reshape walls via their endpoints in a Floorplan
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/WallReshapingTool.js
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/WallReshapingTool.ts
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* FLOOR PLANNER - WALL BUILDING TOOL
* Used to construct new Walls in a Floorplan with mouse clicking / mouse point
* Depends on functionality in Floorplan.js

*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/FloorPlanner-WallBuildingTool.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* FLOOR PLANNER: WALL RESHAPING TOOL
* Used to reshape walls via their endpoints in a Floorplan
* Depends on functionality in Floorplan.js
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/FloorPlanner-WallReshapingTool.js
No license file was found, but licenses were detected in source scan.

/*
*  Copyright (C) 1998-2022 by Northwoods Software Corporation. All Rights Reserved.
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/extensionsTS/Buttons.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/SwimLaneLayout.js
* /gojs-2-2-14-1-tgz/package/extensions/LinkLabelDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/NodeLabelDraggingScript.ts
* /gojs-2-2-14-1-tgz/package/extensions/ExtendedBrush.js
* /gojs-2-2-14-1-tgz/package/extensions/Robot.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DrawCommandHandler.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/TextEditor.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/TreeMapScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/RadialLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PolylineLinkingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/PortShiftingTool.ts
* /gojs-2-2-14-1-tgz/package/extensions/DragCreatingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TextEditorSelectBox.ts
*
 /gojs-2-2-14-1-tgz/package/extensionsTS/Robot.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RoundedRectangles.js
* /gojs-2-2-14-1-tgz/package/projects/maximalSource/maximal.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LightBoxContextMenu.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/GuidedDraggingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SerpentineLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ScrollingTable.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/PanelLayoutFlow.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ParallelLayout.ts

* /gojs-2-2-14-1-tgz/package/extensionsJSM/PanelLayoutFlow.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SwimLaneLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/HyperlinkScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/OverviewResizingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ResizeMultipleTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SectorReshapingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RescalingTool.ts
*
/gojs-2-2-14-1-tgz/package/extensionsTS/Robot.js
* /gojs-2-2-14-1-tgz/package/projects/bpmn/BPMNScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DragZoomingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SectorReshapingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ArrangingLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ZoomSlider.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/PolylineLinkingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/TextEditorScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/OverviewResizingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ArrangingLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/Templates.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LinkShiftingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DragCreatingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/RadialScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RealtimeDragSelectingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/OverviewResizingTool.js
*
/gojs-2-2-14-1-tgz/package/extensionsTS/DoubleTreeLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/GuidedDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DimensioningLink.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TextEditorSelectBox.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PackedScript.js
* /gojs-2-2-14-1-tgz/package/extensions/RescalingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkLabelOnPathDraggingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ColumnResizingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/GeometryReshapingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/TextEditor.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/GeometryReshapingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RadialLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DoubleTreeLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/DrawCommandHandlerScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/OverviewResizingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LightBoxContextMenu.ts
*
/gojs-2-2-14-1-tgz/package/extensionsJSM/ParallelLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/RobotScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/NonRealtimeDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SpiralLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/TreeMapScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/OrthogonalLinkReshapingScript.js

* /gojs-2-2-14-1-tgz/package/extensionsJSM/NodeLabelDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ZoomSlider.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LinkLabelOnPathDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/RealtimeDragSelectingScript.js
* /gojs-2-2-14-1-tgz/package/extensions/TableLayout.js
* /gojs-2-2-14-1-tgz/package/extensions/TextEditorSelectBox.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/GuidedDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RescalingTool.js
* /gojs-2-2-14-1-tgz/package/extensions/RadialLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Arrowheads.ts
*
/gojs-2-2-14-1-tgz/package/extensionsTS/DragCreatingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkLabelDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/TableScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DragZoomingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LocalStorageCommandHandler.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/GeometryReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/HyperlinkText.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ScrollingTable.ts
* /gojs-2-2-14-1-tgz/package/projects/puppeteer/puppet2.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LocalStorageCommandHandler.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/FishboneLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/DataInspector.js
* /gojs-2-2-14-1-tgz/package/projects/bpmn/BPMNClasses.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DrawCommandHandler.ts
* /gojs-2-2-14-1-tgz/package/projects/puppeteer/puppet.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DataInspector.ts
*
/gojs-2-2-14-1-tgz/package/extensionsTS/ResizeMultipleScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TableLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/RescalingScript.js
* /gojs-2-2-14-1-tgz/package/extensions/ZoomSlider.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PolylineLinkingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/CurvedLinkReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/SpiralScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/NodeLabelDraggingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ResizeMultipleTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SpotRotatingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SpotRotatingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/RadialScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PolygonDrawingTool.ts
* /gojs-2-2-14-1-tgz/package/extensions/NodeLabelDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkShiftingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/RobotScript.ts
*
/gojs-2-2-14-1-tgz/package/extensionsTS/ScrollingTableScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SnapLinkReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ArrangingScript.js

* /gojs-2-2-14-1-tgz/package/extensionsTS/RealtimeDragSelectingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/CheckBoxesScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ParallelRouteLink.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/PackedScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/OrthogonalLinkReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ColumnResizingScript.js
* /gojs-2-2-14-1-tgz/package/extensions/SectorReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SerpentineLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ScrollingTableScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/PanelLayoutFlow.js
* /gojs-2-2-14-1-tgz/package/extensions/TextEditor.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ArrangingScript.ts
*
/gojs-2-2-14-1-tgz/package/extensionsTS/SerpentineScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/DrawCommandHandler.ts
* /gojs-2-2-14-1-tgz/package/extensions/SnapLinkReshapingTool.js
* /gojs-2-2-14-1-tgz/package/projects/maximalSource/maximal-index.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/Arrowheads.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PortShiftingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Quadtree.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PanelLayoutFlow.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/GeometryReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SnapLinkReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ZoomSlider.ts
* /gojs-2-2-14-1-tgz/package/extensions/OverviewResizingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/NonRealtimeDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SectorReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/extensions/RoundedRectangles.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DragCreatingTool.js
*
/gojs-2-2-14-1-tgz/package/extensionsTS/LinkLabelOnPathDraggingScript.js
* /gojs-2-2-14-1-tgz/package/extensions/Figures.js
* /gojs-2-2-14-1-tgz/package/extensions/ParallelRouteLink.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DimensioningScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Templates.js
* /gojs-2-2-14-1-tgz/package/extensions/GeometryReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SerpentineLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/PanelLayoutFlowScript.js
* /gojs-2-2-14-1-tgz/package/projects/puppeteer/renderSvg.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/FreehandDrawingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/FreehandDrawingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DataInspectorScript.js
* /gojs-2-2-14-1-tgz/package/extensions/LightBoxContextMenu.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ParallelLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/TreeMapLayout.js
* /gojs-2-2-14-1-tgz/package/extensions/LinkLabelOnPathDraggingTool.js
*

/gojs-2-2-14-1-tgz/package/extensions/DragZoomingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PolygonDrawingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SectorReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SpiralScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RoundedRectangles.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/BalloonLink.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Templates.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ArrangingLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RotateMultipleScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/Buttons.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/Figures.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/RowResizingTool.js
* /gojs-2-2-14-1-tgz/package/projects/minimalSourceBrowserify/minimal-index.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/FishboneLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ParallelScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TextEditorRadioButtons.js
*
/gojs-2-2-14-1-tgz/package/extensionsTS/TableScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkLabelDraggingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SnapLinkReshapingScript.ts
* /gojs-2-2-14-1-tgz/package/extensions/PortShiftingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/PolygonDrawingTool.js
* /gojs-2-2-14-1-tgz/package/projects/minimalSource/minimal-index.ts
* /gojs-2-2-14-1-tgz/package/extensions/GuidedDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensions/FishboneLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/TextEditorRadioButtons.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ResizeMultipleTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/FreehandDrawingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/BalloonLinkScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RotateMultipleTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/LightBoxContextMenu.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ResizeMultipleTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SerpentineScript.js
*
/gojs-2-2-14-1-tgz/package/extensionsTS/TreeMapLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SnapLinkReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensions/ParallelLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/CurvedLinkReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ParallelLayout.js
* /gojs-2-2-14-1-tgz/package/extensions/SpotRotatingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ZoomSliderScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/FreehandDrawingTool.ts
* /gojs-2-2-14-1-tgz/package/extensions/DrawCommandHandler.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ArrangingLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ScrollingTable.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SectorReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RealtimeDragSelectingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SectorReshapingTool.js

* /gojs-2-2-14-1-tgz/package/extensionsTS/ZoomSliderScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/FishboneLayout.js
*
/gojs-2-2-14-1-tgz/package/extensionsJSM/DrawCommandHandler.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/CurvedLinkReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ScrollingTable.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DataInspector.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/LocalStorageCommandHandlerScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ParallelScript.js
* /gojs-2-2-14-1-tgz/package/extensions/NonRealtimeDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DragCreatingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/CheckBoxesScript.js
* /gojs-2-2-14-1-tgz/package/extensions/RotateMultipleTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DimensioningScript.js
* /gojs-2-2-14-1-tgz/package/extensions/PanelLayoutFlow.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SpiralLayout.ts
* /gojs-2-2-14-1-tgz/package/extensions/BalloonLink.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Figures.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PolylineLinkingTool.ts
*
/gojs-2-2-14-1-tgz/package/extensionsJSM/NonRealtimeDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/SwimLaneLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RadialLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LightBoxContextMenu.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/PolylineLinkingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/NonRealtimeDraggingScript.ts
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/NodeLabelDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/Arrowheads.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ParallelRouteScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/BalloonLinkScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/Quadtree.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SpotRotatingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RowResizingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DragZoomingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/FreehandDrawingScript.ts
*
/gojs-2-2-14-1-tgz/package/extensionsTS/PanelLayoutFlowScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RealtimeDragSelectingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/TextEditorSelectBox.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/HyperlinkText.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/DragZoomingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/GeometryReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensions/ArrangingLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DrawCommandHandlerScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Quadtree.ts
* /gojs-2-2-14-1-tgz/package/projects/bpmn/BPMNClasses.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Figures.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/BalloonLink.js

* /gojs-2-2-14-1-tgz/package/extensionsJSM/DoubleTreeLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PortShiftingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DragZoomingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/SpotRotatingScript.ts
*
/gojs-2-2-14-1-tgz/package/extensionsTS/GuidedDraggingScript.js
* /gojs-2-2-14-1-tgz/package/extensions/LocalStorageCommandHandler.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/NonRealtimeDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/LocalStorageCommandHandlerScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RoundedRectangles.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DragCreatingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkLabelOnPathDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TextEditor.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Buttons.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RescalingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ColumnResizingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TextEditorRadioButtons.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/ColumnResizingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ParallelRouteScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkLabelOnPathDraggingTool.js
*
/gojs-2-2-14-1-tgz/package/extensionsTS/Figures.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/FreehandDrawingTool.js
* /gojs-2-2-14-1-tgz/package/extensions/Arrowheads.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Robot.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LinkLabelOnPathDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RadialLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/DoubleTreeLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/OrthogonalLinkReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TreeMapLayout.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/SnapLinkReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/extensions/Templates.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkShiftingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/PortShiftingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ColumnResizingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/NodeLabelDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/OrthogonalLinkReshapingTool.ts
*
/gojs-2-2-14-1-tgz/package/extensionsTS/CurvedLinkReshapingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/HyperlinkText.js
* /gojs-2-2-14-1-tgz/package/extensions/OrthogonalLinkReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RowResizingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/PortShiftingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkLabelDraggingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/SnapLinkReshapingScript.js
* /gojs-2-2-14-1-tgz/package/extensions/SpiralLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ZoomSlider.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/GuidedDraggingTool.js

* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkShiftingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RoundedRectangles.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/PolylineLinkingTool.js
* /gojs-2-2-14-1-tgz/package/extensions/SwimLaneLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RowResizingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/NonRealtimeDraggingScript.js
*
/gojs-2-2-14-1-tgz/package/projects/minimalSource/minimal.ts
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/DataInspector.ts
* /gojs-2-2-14-1-tgz/package/extensions/TreeMapLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/NodeLabelDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Arrowheads.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/PolygonDrawingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RotateMultipleTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LinkShiftingTool.ts
* /gojs-2-2-14-1-tgz/package/extensions/RowResizingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkShiftingScript.js
* /gojs-2-2-14-1-tgz/package/extensions/DataInspector.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RealtimeDragSelectingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Robot.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/LinkLabelDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TextEditor.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/CurvedLinkReshapingScript.js
*
/gojs-2-2-14-1-tgz/package/extensionsTS/LocalStorageCommandHandler.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/HyperlinkScript.js
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/DataInspector.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TableLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/HyperlinkText.js
* /gojs-2-2-14-1-tgz/package/extensions/ColumnResizingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RescalingTool.ts
* /gojs-2-2-14-1-tgz/package/extensions/RealtimeDragSelectingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/OverviewResizingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LinkLabelDraggingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DimensioningLink.ts
* /gojs-2-2-14-1-tgz/package/extensions/FreehandDrawingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ResizeMultipleScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/OverviewResizingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/PolygonDrawingTool.ts
*
/gojs-2-2-14-1-tgz/package/extensions/TextEditorRadioButtons.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/GuidedDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/PolygonDrawingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ParallelRouteLink.js
* /gojs-2-2-14-1-tgz/package/extensions/ResizeMultipleTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/ParallelRouteLink.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/TreeMapLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/CurvedLinkReshapingTool.js

* /gojs-2-2-14-1-tgz/package/projects/minimalSourceBrowserify/minimal.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/OrthogonalLinkReshapingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/BalloonLink.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/DragZoomingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SpiralLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/TextEditorScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DimensioningLink.ts
* /gojs-2-2-14-1-tgz/package/extensions/Buttons.js
*
/gojs-2-2-14-1-tgz/package/extensionsTS/PortShiftingScript.ts
* /gojs-2-2-14-1-tgz/package/extensions/PolylineLinkingTool.js
* /gojs-2-2-14-1-tgz/package/extensions/SerpentineLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DimensioningLink.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RotateMultipleScript.ts
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/NodeLabelDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SpotRotatingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/FishboneScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/TextEditorRadioButtons.js
* /gojs-2-2-14-1-tgz/package/extensions/DimensioningLink.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RotateMultipleTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/NodeLabelDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensions/DoubleTreeLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/SerpentineLayout.ts
* /gojs-2-2-14-1-tgz/package/extensions/LinkShiftingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/FishboneLayout.ts
*
/gojs-2-2-14-1-tgz/package/extensions/ScrollingTable.js
* /gojs-2-2-14-1-tgz/package/extensions/CurvedLinkReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/TableLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/RescalingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/FishboneScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/GeometryReshapingTool.ts
* /gojs-2-2-14-1-tgz/package/projects/bpmn/BPMNScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DataInspector.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/Templates.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/RotateMultipleTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/LocalStorageCommandHandler.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/OrthogonalLinkReshapingTool.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/BalloonLink.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/SpotRotatingScript.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ColumnResizingScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/DragCreatingTool.js
*
/gojs-2-2-14-1-tgz/package/extensionsTS/SpiralLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/DataInspectorScript.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/SwimLaneLayout.js
* /gojs-2-2-14-1-tgz/package/extensionsJSM/LinkLabelDraggingTool.ts
* /gojs-2-2-14-1-tgz/package/extensionsJSM/Buttons.ts

* /gojs-2-2-14-1-tgz/package/extensionsTS/TextEditorSelectBox.js
* /gojs-2-2-14-1-tgz/package/extensionsTS/ParallelRouteLink.ts
* /gojs-2-2-14-1-tgz/package/extensionsTS/TableLayout.ts
* /gojs-2-2-14-1-tgz/package/extensions/PolygonDrawingTool.js
* /gojs-2-2-14-1-tgz/package/extensions/HyperlinkText.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* FLOOR PLANNER CODE: TEMPLATES - WALLS
* GraphObject templates for Wall Groups, Wall Part Nodes (and their dependecies) used in the Floor Planner sample
* Includes Wall Group, Palette Wall Node, Window Node, Door Node
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/FloorPlanner-Templates-Walls.js
No license file was found, but licenses were detected in source scan.

The GoJS source code is subject to the terms of our license,

Found in path(s):
* /gojs-2-2-14-1-tgz/package/intro/source.html
No license file was found, but licenses were detected in source scan.

/*
  *  Copyright (C) 1998-2022 by Northwoods Software Corporation. All Rights Reserved.
  */

Found in path(s):
* /gojs-2-2-14-1-tgz/package/extensionsTS/Quadtree.js
No license file was found, but licenses were detected in source scan.

NOTE: Unless you have purchased a Development and Distribution License, your usage of any Licensed Software and related Documentation is governed by an Evaluation License.
<dt>“Intellectual Property Right”</dt><dd>means any U.S. or foreign patent, copyright, trade secret, trademark, industrial property, or other proprietary or intellectual property right of any kind.</dd>
<dt>“License”</dt><dd>means Northwoods' grant to you of a non-exclusive, non-transferable right to use a Licensed Product, subject to and in accordance with the terms and conditions of this Agreement.  There are two different types of Licenses - an Evaluation License and a Development and Distribution License.</dd>
<dt>“License Effective Date”</dt><dd>means the date on which Customer first installs any Licensed Software on a computer for evaluation purposes, or, if the Customer purchased a
 Development and Distribution License, the date on which Customer placed the order therefor.</dd>
<dt>“Development and Distribution License”</dt><dd>means a License permitting Customer to use a Licensed Product in accordance with the provisions of Section 2.1.1(b) below and the further terms and conditions of this Agreement.</dd>

<dt>“Sample Code”</dt><dd>means the Source Code version of the computer software supplied by Northwoods and described as “sample code”</dt><dd>in the Documentation, which computer software is intended to illustrate how to use the Licensed Software. For the avoidance of doubt, Sample Code is part of the Documentation and not part of the Licensed Software.</dd>
The Licensed Software may include a duration limitation that tracks the License Term and may disable the Licensed Software when the License Term expires. If Customer purchases a Development and Distribution License for the Licensed Product, Northwoods will provide Customer
with a software code which, when activated, will deactivate any such duration limitation.
<li><u>Development and Distribution License</u>. If the License is a Development and Distribution License, then:
<h3>2.3 Proprietary Rights</h3>
<h3>2.4 Confidentiality</h3>
2.4.1 Customer agrees that each Licensed Product is confidential and proprietary to Northwoods. Customer agrees to hold each Licensed Product in confidence and not to disclose such Licensed Product without the prior written approval of Northwoods, except:
<li>as required by applicable law, rule, or regulation, or by an order of a court or governmental or law enforcement agency or other authority, each of competent jurisdiction, provided that Customer shall have used reasonable efforts to secure confidential treatment of any such information to be disclosed, or</li>
<li>If the License is a Development and Distribution License, then Northwoods warrants (the “Limited Warranty”) that the Licensed Software
will, for a period of thirty (30) days following the date on which the Licensed Software was first delivered to Customer (the “Limited Warranty Period”), function substantially as set forth in the Documentation therefor. The Limited Warranty is only for the benefit of Customer. The Limited Warranty shall not apply to an Evaluation License.</li>
<li>EXCEPT FOR THE LIMITED WARRANTY (WHICH APPLIES ONLY TO A DEVELOPMENT AND DISTRIBUTION LICENSE, AND NOT TO AN EVALUATION LICENSE), EACH LICENSED PRODUCT IS PROVIDED “AS IS” AND NORTHWOODS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO ANY LICENSED PRODUCT. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, NORTHWOODS DISCLAIMS AND EXCLUDES ANY AND ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, AND ANY OTHER IMPLIED WARRANTY ARISING OUT OF OR IN CONNECTION WITH THE DELIVERY, USE, OR PERFORMANCE OF ANY LICENSED PRODUCT.</li>
Copyright
© 1999-2021 Northwoods Software Corporation. All rights reserved.

Found in path(s):
* /gojs-2-2-14-1-tgz/package/license.html
UNRECOGNIZED LICENSE; MD5 sum: f0b1e7a74eea978358c4327f6ac7da50
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/storage/index.css

No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* FLOOR PLANNER CODE: TEMPLATES - FURNITURE
* GraphObject templates for interactional furniture nodes (and their dependecies) used in the Floor Planner sample
* Includes Default Node (Furniture), MultiPurpose Node
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/FloorPlanner-Templates-Furniture.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Go One Drive
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/storage/GoOneDrive.ts
* /gojs-2-2-14-1-tgz/package/projects/storage/GoOneDrive.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Floorplan Class
* A Floorplan is a Diagram with special rules
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/Floorplan.ts
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/Floorplan.js
No license file was found, but licenses were detected in source scan.

// Permission is hereby granted, free of charge, to any person obtaining a copy
// of this software and associated documentation files (the 'Software'), to
// deal in the Software without restriction, including without limitation the
// rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
// sell copies of the Software, and to permit persons to whom the Software is
// furnished to do so, subject to the following conditions:
// The above copyright notice and this permission notice shall be included in
// all copies or substantial portions of the Software.

// copy of this software and associated documentation files (the
// "Software"), to deal in the Software without restriction, including
// without limitation the rights to use, copy, modify, merge, publish,
// distribute, sublicense, and/or sell copies of the Software, and to permit
// in all copies or substantial portions of the Software.
/* Copyright
2013 Google Inc. All Rights Reserved.

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Bit reading helpers
*/
// Permission is granted to anyone to use this software for any purpose,
// 1. The origin of this software must not be misrepresented; you must not
// 2. Altered source versions must be plainly marked as such, and must not be
// 3. This notice may not be removed or altered from any source distribution.
/** @preserve
(c) 2012 by Cédric Mesnil. All rights reserved.

Redistribution
and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

```
 */
/*
* MIT LICENSE
* Copyright (c) 2011 Devon Govett
*
* Permission is hereby granted, free of charge, to any person obtaining a copy of this
* software and associated documentation files (the "Software"), to deal in the Software
* without restriction, including without limitation the rights to use, copy, modify, merge,
* publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons
* to whom the Software is furnished to do so, subject to the following conditions:
*
* The above copyright notice and this permission notice shall be included in all copies or
* substantial portions of the Software.
*
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING
* BUT NOT LIMITED TO
 THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
* NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE
FOR ANY CLAIM,
* DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM,
* OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.
*/
// one allocated and free to use, and we maintain at most two
/**
* Copyright (c) 2014-present, Facebook, Inc.
*
* This source code is licensed under the MIT license found in the
* LICENSE file in the root directory of this source tree.
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/pdf/pdfkit.js
No license file was found, but licenses were detected in source scan.

you may do so only under the terms of the <a href="license.html" target="_blank">Evaluation License
Agreement</a>.

Found in path(s):
* /gojs-2-2-14-1-tgz/package/download.html
ISC
No license file was found, but licenses were detected in source scan.

// Permission is hereby granted, free of charge, to any person obtaining a
// copy of this software and associated documentation files (the
// "Software"), to deal in the Software without restriction, including
```

// without limitation the rights to use, copy, modify, merge, publish,
// distribute, sublicense, and/or sell copies of the Software, and to permit
// The above copyright notice and this permission notice shall be included
// in all copies or substantial portions of the Software.

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/pdf/blob-stream.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* GoCloudStorage.js
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/storage/GoCloudStorage.js
* /gojs-2-2-14-1-tgz/package/projects/storage/GoCloudStorage.ts
No license file was found, but licenses were detected in source scan.

{ key: 17, boss: 12, name: "Peter F. Croker", nation: "Ireland", title: "Chairman of the Committee on Confidentiality", headOf: "The Committee on Confidentiality" },
{ key: 31, boss: 17, name: "Michael Anselme Marc Rosette", nation: "Seychelles", title: "Vice Chairman of the Committee on Confidentiality" },
{ key: 32, boss: 17, name: "Kensaku Tamaki", nation: "Japan", title: "Vice Chairman of the Committee on Confidentiality" },
{ key: 33, boss: 17, name: "Osvaldo Pedro Astiz", nation: "Argentina", title: "Member of the Committee on Confidentiality" },
{ key: 34, boss: 17, name: "Yuri Borisovitch Kazmin", nation: "Russia", title: "Member of the Committee on Confidentiality" },

Found in path(s):
* /gojs-2-2-14-1-tgz/package/samples/magnifier.html
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Go Local Storage
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/storage/GoLocalStorage.ts
* /gojs-2-2-14-1-tgz/package/projects/storage/GoLocalStorage.js
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Go DropBox
*/
```

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/storage/GoDropBox.js
* /gojs-2-2-14-1-tgz/package/projects/storage/GoDropBox.ts
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Go Net Core (unfinished)
*/
```

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/storage/GoNetCore.ts
* /gojs-2-2-14-1-tgz/package/projects/storage/GoNetCore.js
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Go Google Drive
*/
```

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/storage/GoGoogleDrive.ts
* /gojs-2-2-14-1-tgz/package/projects/storage/GoGoogleDrive.js
No license file was found, but licenses were detected in source scan.

```
/* Copyright (C) 1998-2022 by Northwoods Software Corporation. All Rights Reserved. */
```

Found in path(s):
* /gojs-2-2-14-1-tgz/package/assets/js/goDoc.js
* /gojs-2-2-14-1-tgz/package/samples/indexList.js
* /gojs-2-2-14-1-tgz/package/api/assets/search.js
No license file was found, but licenses were detected in source scan.

```
/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
```

* Floorplan Class
* A Floorplan is a Diagram with special rules
* Dependencies: Floorplanner-Templates-General.js, Floorplanner-Templates-Furniture.js, Floorplanner-Templates-Walls.js
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/Floorplan.js
No license file was found, but licenses were detected in source scan.

/*
*  Copyright (C) 1998-2022 by Northwoods Software Corporation. All Rights Reserved.
*/
/**
   * Copyright 2010-2016 Mike Bostock
   * All rights reserved.
   *
   * Redistribution and use in source and binary forms, with or without modification,
   * are permitted provided that the following conditions are met:
   *
   * * Redistributions of source code must retain the above copyright notice, this
   *   list of conditions and the following disclaimer.
   *
   * * Redistributions in binary form must reproduce the above copyright notice,
   *   this list of conditions and the following disclaimer in the documentation
   *   and/or other materials provided with the distribution.
   *
   * * Neither the name of the author nor the names of contributors may be used to
   *   endorse or promote products derived from this software without specific prior
   *   written permission.
   *

   * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
   * ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
   * WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
   * DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR
   * ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
   * (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
   * LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
   * ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
   * (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
   * SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
   */

Found in path(s):
* /gojs-2-2-14-1-tgz/package/extensionsTS/PackedLayout.js

* /gojs-2-2-14-1-tgz/package/extensionsTS/VirtualizedPackedLayout.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* FLOOR PLANN UI CLASS
* Handle GUI manipulation (showing/changing data, populating windows, etc) for Floorplanner.html
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/FloorplanUI.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* FLOOR PLANNER CODE: TEMPLATES - GENERAL
* General GraphObject templates used in the Floor Planner sample
* Includes Context Menu, Diagram, Default Group, AngleNode, DimensionLink, PointNode
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/FloorPlanner-Templates-General.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Floorplanner app-specific tweaks to the basic Data Inspector class
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/DataInspectorOverrides.js
* /gojs-2-2-14-1-tgz/package/projects/floorplannerTS/src/DataInspectorOverrides.ts
No license file was found, but licenses were detected in source scan.

attribution: '© <a href="https://www.mapbox.com/about/maps/">Mapbox</a> © <a
href="http://www.openstreetmap.org/copyright">OpenStreetMap</a>',

Found in path(s):
* /gojs-2-2-14-1-tgz/package/samples/leaflet.html
No license file was found, but licenses were detected in source scan.

/*

* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Floorplan Filesystem Class
* Handles Floorplan-specific saving / loading model data events
* Attached to a specific instance of Floorplan (via constructor); can be assigned to Floorplan.floorplanFilesystem
* Currently only supports saving / loading from localstorage
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/FloorplanFilesystem.js
No license file was found, but licenses were detected in source scan.

/*
* Copyright (C) 1998-2022 by Northwoods Software Corporation
* All Rights Reserved.
*
* Floorplanner Constants
*/

Found in path(s):
* /gojs-2-2-14-1-tgz/package/projects/floorplanner/Floorplanner-Constants.js

# 1.439 html5lib 1.0.1

## 1.439.1 Available under license :

Copyright (c) 2006-2013 James Graham, Geoffrey Sneddon, and
other contributors

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE,

ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2006-2013 James Graham and other contributors

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF
OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# 1.440 annotations 2.0.1

## 1.440.1 Available under license :

Copyright (c) 2006-2013 Doctrine Project

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies
of the Software, and to permit persons to whom the Software is furnished to do
so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

# 1.441 netbase 5.4

## 1.441.1 Available under license :

This package was created by Peter Tobias tobias@et-inf.fho-emden.de on
Wed, 24 Aug 1994 21:33:28 +0200 and maintained by Anthony Towns
<ajt@debian.org> until 2001.
It is currently maintained by Marco d'Itri <md@linux.it>.

Copyright 1994-2010 Peter Tobias, Anthony Towns and Marco d'Itri

The programs in this package are distributed under the terms of the GNU
General Public License, version 2 as distributed by the Free Software
Foundation. On Debian systems, a copy of this license may be found in
/usr/share/common-licenses/GPL-2.

# 1.442 python-certifi 2018.1.18

## 1.442.1 Available under license :

This packge contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov  3 19:04:19 2011#
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt).  This file can be found in the mozilla source tree:
http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#
It contains the certificates in PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.#

***** BEGIN LICENSE BLOCK *****
This Source Code Form is subject to the terms of the Mozilla Public License,
v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain
one at http://mozilla.org/MPL/2.0/.

***** END LICENSE BLOCK *****
@(#) $RCSfile: certdata.txt,v $
 $Revision: 1.80 $ $Date: 2011/11/03 15:11:58 $

# 1.443 python-certifi 2019.9.11

## 1.443.1 Available under license :

This packge contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov  3 19:04:19 2011#
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt).  This file can be found in the mozilla source tree:
http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#
It contains the certificates in PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.#

***** BEGIN LICENSE BLOCK *****
This Source Code Form is subject to the terms of the Mozilla Public License,
v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain
one at http://mozilla.org/MPL/2.0/.

***** END LICENSE BLOCK *****
@(#) $RCSfile: certdata.txt,v $
 $Revision: 1.80 $ $Date: 2011/11/03 15:11:58 $

# 1.444 python-certifi 2019.09.11

## 1.444.1 Available under license :

This packge contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov  3 19:04:19 2011#
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt).  This file can be found in the mozilla source tree:
http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#
It contains the certificates in PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.#

***** BEGIN LICENSE BLOCK *****
This Source Code Form is subject to the terms of the Mozilla Public License,
v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain
one at http://mozilla.org/MPL/2.0/.

***** END LICENSE BLOCK *****

@(#) $RCSfile: certdata.txt,v $
$Revision: 1.80 $ $Date: 2011/11/03 15:11:58 $

# 1.445 reflectasm 1.11.9

## 1.445.1 Available under license :

No license file was found, but licenses were detected in source scan.

/**
* Copyright (c) 2008, Nathan Sweet
*  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
*
*  1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
*  2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
*  3. Neither the name of Esoteric Software nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
 AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*
*/

Found in path(s):
* /reflectasm-1-11-9-sources-2-jar/com/esotericsoftware/reflectasm/MethodAccess.java
* /reflectasm-1-11-9-sources-2-jar/com/esotericsoftware/reflectasm/ConstructorAccess.java
* /reflectasm-1-11-9-sources-2-jar/com/esotericsoftware/reflectasm/PublicConstructorAccess.java
* /reflectasm-1-11-9-sources-2-jar/com/esotericsoftware/reflectasm/FieldAccess.java
* /reflectasm-1-11-9-sources-2-jar/com/esotericsoftware/reflectasm/AccessClassLoader.java

# 1.446 postgre-sql 15.1-15.1

## 1.446.1 Available under license :

This regular expression package was originally developed by Henry Spencer.
It bears the following copyright notice:

**********

Copyright (c) 1998, 1999 Henry Spencer.  All rights reserved.

Development of this software was funded, in part, by Cray Research Inc.,
UUNET Communications Services Inc., Sun Microsystems Inc., and Scriptics
Corporation, none of whom are responsible for the results.  The author
thanks all of them.

Redistribution and use in source and binary forms -- with or without
modification -- are permitted for any purpose, provided that
redistributions in source form retain this entire copyright notice and
indicate the origin and nature of any modifications.

I'd appreciate being given credit for this package in the documentation
of software which uses it, but that is not a requirement.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
 OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.  IN NO EVENT SHALL
HENRY SPENCER BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

**********

PostgreSQL adopted the code out of Tcl 8.4.1.  Portions of regc_locale.c
and re_syntax.n were developed by Tcl developers other than Henry; these
files bear the Tcl copyright and license notice:

**********

This software is copyrighted by the Regents of the University of
California, Sun Microsystems,
 Inc., Scriptics Corporation, ActiveState
Corporation and other parties.  The following terms apply to all files
associated with the software unless explicitly disclaimed in
individual files.

The authors hereby grant permission to use, copy, modify, distribute,
and license this software and its documentation for any purpose, provided
that existing copyright notices are retained in all copies and that this
notice is included verbatim in any distributions. No written agreement,
license, or royalty fee is required for any of the authorized uses.
Modifications to this software may be copyrighted by their authors
and need not follow the licensing terms described here, provided that
the new terms are clearly indicated on the first page of each file where
they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY
FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES
ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY
DERIVATIVES THEREOF,
EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE
IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE
NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR
MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the
U.S. government, the Government shall have only "Restricted Rights"
in the software and related documentation as defined in the Federal
Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you
are acquiring the software on behalf of the Department of Defense, the
software shall be classified as "Commercial Computer Software" and the
Government shall have only "Restricted Rights" as defined in Clause
252.227-7013 (c) (1) of DFARs. Notwithstanding the foregoing, the
authors
grant the U.S. Government and others acting in its behalf
permission to use and distribute the software in accordance with the
terms specified in this license.

**********

Subsequent modifications to the code by the PostgreSQL project follow
the same license terms as the rest of PostgreSQL.
PostgreSQL Database Management System
(formerly known as Postgres, then as Postgres95)

Portions Copyright (c) 1996-2022, PostgreSQL Global Development Group

Portions Copyright (c) 1994, The Regents of the University of California

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose, without fee, and without a written agreement
is hereby granted, provided that the above copyright notice and this
paragraph and the following two paragraphs appear in all copies.

IN NO EVENT SHALL THE UNIVERSITY OF CALIFORNIA BE LIABLE TO ANY PARTY FOR
DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING
LOST PROFITS, ARISING OUT OF THE USE OF THIS SOFTWARE AND ITS
DOCUMENTATION, EVEN IF THE UNIVERSITY OF CALIFORNIA HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

THE UNIVERSITY OF CALIFORNIA SPECIFICALLY DISCLAIMS ANY WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE.
THE SOFTWARE PROVIDED HEREUNDER IS
ON AN "AS IS" BASIS, AND THE UNIVERSITY OF CALIFORNIA HAS NO OBLIGATIONS TO
PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

# 1.447 lz4-java 1.8.0

## 1.447.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and

do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all

other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.448 istack-commons 3.0.12

## 1.448.1 Available under license :

/*
* DO NOT ALTER OR REMOVE COPYRIGHT NOTICES OR THIS HEADER.
*

* Copyright (c) YYYY Oracle and/or its affiliates. All rights reserved.
*
* The contents of this file are subject to the terms of either the GNU
* General Public License Version 2 only ("GPL") or the Common Development
* and Distribution License("CDDL") (collectively, the "License").  You
* may not use this file except in compliance with the License.  You can
* obtain a copy of the License at
* http://glassfish.java.net/public/CDDL+GPL_1_1.html
* or packager/legal/LICENSE.txt.  See the License for the specific
* language governing permissions and limitations under the License.
*
* When distributing the software, include this License Header Notice in each
* file and include the License file at packager/legal/LICENSE.txt.
*
* GPL Classpath Exception:
* Oracle designates this particular file as subject to the "Classpath"
* exception as provided by Oracle in the GPL Version 2 section of the License
* file that
 accompanied this code.
*
* Modifications:
* If applicable, add the following below the License Header, with the fields
* enclosed by brackets [] replaced by your own identifying information:
* "Portions Copyright [year] [name of copyright owner]"
*
* Contributor(s):
* If you wish your version of this file to be governed by only the CDDL or
* only the GPL Version 2, indicate your decision by adding "[Contributor]
* elects to include this software in this distribution under the [CDDL or GPL
* Version 2] license."  If you don't indicate a single choice of license, a
* recipient has the option to distribute your version of this file under
* either the CDDL, the GPL Version 2 or to extend the choice of license to
* its licensees as provided above.  However, if you add GPL Version 2 code
* and therefore, elected the GPL Version 2 license, then the option applies
* only if the new code is made subject to such option by the copyright
* holder.
*/
COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)Version 1.1

1. Definitions.

1.1. "Contributor" means each individual or entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Software, prior Modifications used by a Contributor (if any), and the Modifications made by that particular Contributor.

1.3. "Covered Software" means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.

1.4. "Executable" means the Covered Software in any form other than Source Code.

1.5. "Initial Developer" means the individual or entity that first makes Original Software available under this License.

1.6. "Larger Work" means a work which combines Covered Software or portions thereof with code not governed by the terms of this License.

1.7. "License" means this
document.

1.8. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means the Source Code and Executable form of any of the following:

A. Any file that results from an addition to, deletion from or modification of the contents of a file containing Original Software or previous Modifications;

B. Any new file that contains any part of the Original Software or previous Modification; or

C. Any new file that is contributed or otherwise made available under the terms of this License.

1.10. "Original Software" means the Source Code and Executable form of computer software code that is originally released under this License.

1.11. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable
by grantor.

1.12. "Source Code" means (a) the common form of computer software code in which modifications are made and (b) associated documentation included in or with such code.

1.13. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants.

2.1. The Initial Developer Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, the Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer, to use, reproduce, modify, display, perform, sublicense and distribute the Original Software (or portions thereof), with or without Modifications, and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using or selling of Original Software, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Software (or portions thereof).

(c) The licenses granted in Sections 2.1(a) and (b) are effective on the date Initial Developer first distributes or otherwise makes the Original Software available to a third party under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: (1) for code that You delete from the Original Software, or (2) for infringements caused by: (i) the modification of the Original Software, or (ii) the combination of the
Original Software with other software or devices.

2.2. Contributor Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof), either on an unmodified basis, with other Modifications, as Covered Software and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: (1) Modifications made by that Contributor (or portions thereof);
and (2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) The licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first distributes or otherwise makes the Modifications available to a third party.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: (1) for any code that Contributor has deleted from the Contributor Version; (2) for infringements caused by: (i) third party modifications of Contributor Version, or (ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or (3) under Patent Claims infringed by Covered Software in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Availability of Source Code.

Any Covered Software that You distribute or otherwise make available in Executable form must also be made available

in Source Code form and that Source Code form must be distributed only under the terms of this License. You must include a copy of this License with every copy of the Source Code form of the Covered Software You distribute or otherwise make available. You must inform recipients of any such Covered Software in Executable form as to how they can obtain such Covered Software in Source Code form in a reasonable manner on or through a medium customarily used for software exchange.

3.2. Modifications.

The Modifications that You create or to which You contribute are governed by the terms of this License. You represent that You believe Your Modifications are Your original creation(s) and/or You have sufficient rights to grant the rights conveyed by this License.

3.3. Required Notices.

You must include a notice in each of Your Modifications that identifies You as the Contributor of the Modification. You may not remove or alter any copyright, patent or trademark notices contained within the Covered Software, or any notices of licensing or any descriptive text giving attribution to any Contributor or the Initial Developer.

3.4. Application of Additional Terms.

You may not offer or impose any terms on any Covered Software in Source Code form that alters or restricts the applicable version of this License or the recipients' rights hereunder. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, you may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.5. Distribution of Executable Versions.

You may distribute the Executable form of the Covered Software under the terms of this License or under the terms of a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable form does not attempt to limit or alter the recipient's rights in the Source Code form from the rights set forth in this License. If You distribute the Covered Software in Executable form under a different license, You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.6. Larger Works.

You may create a Larger Work by combining Covered Software with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Software.

4. Versions of the License.

4.1. New Versions.

Oracle is the initial license steward and may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Except as provided in Section 4.3, no one other than the license steward has the right to modify this License.

4.2. Effect of New Versions.

You may always continue to use, distribute or otherwise make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. If the Initial Developer includes a notice in the Original Software prohibiting it from being distributed or otherwise made available under any subsequent version of the License, You must distribute
and make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. Otherwise, You may also choose to use, distribute or otherwise make the Covered Software available under the terms of any subsequent version of the License published by the license steward.

4.3. Modified Versions.

When You are an Initial Developer and You want to create a new license for Your Original Software, You may create and use a modified version of this License if You: (a) rename the license and remove any references to the name of the license steward (except to note that the license differs from this License); and (b) otherwise make it clear that the license contains terms which differ from this License.

5. DISCLAIMER OF WARRANTY.

COVERED SOFTWARE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED
SOFTWARE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED SOFTWARE IS WITH YOU. SHOULD ANY COVERED SOFTWARE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED SOFTWARE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

6. TERMINATION.

6.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

6.2. If You assert a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the
Initial Developer or Contributor against whom You assert such claim is referred to as "Participant") alleging that the Participant Software (meaning the Contributor Version where the Participant is a Contributor or the Original Software where the Participant is the Initial Developer) directly or indirectly infringes any patent, then any and all

rights granted directly or indirectly to You by such Participant, the Initial Developer (if the Initial Developer is not the Participant) and all Contributors under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively and automatically at the expiration of such 60 day notice period, unless if within such 60 day period You withdraw Your claim with respect to the Participant Software against such Participant either unilaterally or pursuant to a written agreement with Participant.

6.3. If You assert a patent infringement claim against Participant alleging that the Participant Software directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

6.4. In the event of termination under Sections 6.1 or 6.2 above, all end user licenses that have been validly granted by You or any distributor hereunder prior to termination (excluding licenses granted to You by any distributor) shall survive termination.

7. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED SOFTWARE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER
INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

8. U.S. GOVERNMENT END USERS.

The Covered Software is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" (as that term is defined at 48 C.F.R. ? 252.227-7014(a)(1)) and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4
(June 1995), all U.S. Government End Users acquire Covered Software with only those rights set forth herein. This U.S. Government Rights clause is in lieu of, and supersedes, any other FAR, DFAR, or other clause or provision that addresses Government rights in computer software under this License.

9. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by the law of the jurisdiction specified in a notice contained within the Original Software (except to the extent applicable law, if any, provides otherwise), excluding such jurisdiction's conflict-of-law provisions. Any litigation relating to this License shall be subject to the jurisdiction of the courts located in the

jurisdiction and venue specified in a notice contained within the Original Software, with the losing party responsible for costs, including, without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License. You agree that You alone are responsible for compliance with the United States export administration regulations (and the export control laws and regulation of any other countries) when You use, distribute or otherwise make available any Covered Software.

10. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

---

NOTICE PURSUANT TO SECTION 9 OF THE COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)

The code released under the CDDL shall be governed by the laws of the State of California (excluding conflict-of-law provisions). Any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California and the state courts of the State of California, with venue lying in Santa Clara County, California.

The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc. 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities
for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish
to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee
is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify
your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these
conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source
code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This

alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable
runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative
works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of
this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free
software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other

system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software
Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision
will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING
ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

One line to give the program's name
and a brief idea of what it does.

Copyright (C)

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision
comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program

is a subroutine library,
you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

"CLASSPATH" EXCEPTION TO THE GPL VERSION 2

Certain source files distributed by Oracle are subject to the following clarification and special exception to the GPL Version 2, but only where Oracle has expressly included in the particular source file's header the words "Oracle designates this particular file as subject to the "Classpath" exception as provided by Oracle in the License file that accompanied this code."

Linking this library statically or dynamically with other modules is making a combined work based on this library. Thus, the terms and conditions of the GNU General Public License Version 2 cover the whole combination.

As a special exception, the copyright holders of this library give you permission to link this library with independent modules to produce an executable, regardless
of the license terms of these independent modules, and to copy and distribute the resulting executable under terms of your choice, provided that you also meet, for each linked independent module, the terms and conditions of the license of that module. An independent module is a module which is not derived from or based on this library. If you modify this library, you may extend this exception to your version of the library, but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version.

# 1.449 jaxb-core 2.3.6

## 1.449.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the

outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity
exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications,
including but not limited to software source code, documentation
source, and configuration files.

"Object" form shall mean any form resulting from mechanical
transformation or translation of a Source form, including but
not limited to compiled object code, generated documentation,
and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or
Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial
revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of

this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed

as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct,

indirect, special,
incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Apache CXF
Copyright 2006-2011 The Apache Software Foundation

This product includes software developed at
The Apache Software Foundation (http://www.apache.org/).

# 1.450 jaxb-api 2.3.1

## 1.450.1 Available under license :

COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)Version 1.1

1. Definitions.

1.1. "Contributor" means each individual or entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Software, prior Modifications used by a Contributor (if any), and the Modifications made by that particular Contributor.

1.3. "Covered Software" means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.

1.4. "Executable" means the Covered Software in any form other than Source Code.

1.5. "Initial Developer" means the individual or entity that first makes Original Software available under this License.

1.6. "Larger Work" means a work which combines Covered Software or portions thereof with code not governed by the terms of this License.

1.7. "License" means this
document.

1.8. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means the Source Code and Executable form of any of the following:

A. Any file that results from an addition to, deletion from or modification of the contents of a file containing Original Software or previous Modifications;

B. Any new file that contains any part of the Original Software or previous Modification; or

C. Any new file that is contributed or otherwise made available under the terms of this License.

1.10. "Original Software" means the Source Code and Executable form of computer software code that is originally released under this License.

1.11. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable

by grantor.

1.12. "Source Code" means (a) the common form of computer software code in which modifications are made and (b) associated documentation included in or with such code.

1.13. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants.

2.1. The Initial Developer Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, the Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer, to use, reproduce, modify, display, perform, sublicense and distribute the Original Software (or portions thereof), with or without Modifications, and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using or selling of Original Software, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Software (or portions thereof).

(c) The licenses granted in Sections 2.1(a) and (b) are effective on the date Initial Developer first distributes or otherwise makes the Original Software available to a third party under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: (1) for code that You delete from the Original Software, or (2) for infringements caused by: (i) the modification of the Original Software, or (ii) the combination of the
Original Software with other software or devices.

2.2. Contributor Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Contributor to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof), either on an unmodified basis, with other Modifications, as Covered Software and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: (1) Modifications made by that Contributor (or portions thereof);

and (2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) The licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first distributes or otherwise makes the Modifications available to a third party.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: (1) for any code that Contributor has deleted from the Contributor Version; (2) for infringements caused by: (i) third party modifications of Contributor Version, or (ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or (3) under Patent Claims infringed by Covered Software in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Availability of Source Code.

Any Covered Software that You distribute or otherwise make available in Executable form must also be made available
in Source Code form and that Source Code form must be distributed only under the terms of this License. You must include a copy of this License with every copy of the Source Code form of the Covered Software You distribute or otherwise make available. You must inform recipients of any such Covered Software in Executable form as to how they can obtain such Covered Software in Source Code form in a reasonable manner on or through a medium customarily used for software exchange.

3.2. Modifications.

The Modifications that You create or to which You contribute are governed by the terms of this License. You represent that You believe Your Modifications are Your original creation(s) and/or You have sufficient rights to grant the rights conveyed by this License.

3.3. Required Notices.

You must include a notice in each of Your Modifications that identifies You as the Contributor of the Modification. You may not remove or alter any copyright, patent or trademark notices
contained within the Covered Software, or any notices of licensing or any descriptive text giving attribution to any Contributor or the Initial Developer.

3.4. Application of Additional Terms.

You may not offer or impose any terms on any Covered Software in Source Code form that alters or restricts the applicable version of this License or the recipients' rights hereunder. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, you may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You
offer.

3.5. Distribution of Executable Versions.

You may distribute the Executable form of the Covered Software under the terms of this License or under the terms of a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable form does not attempt to limit or alter the recipient's rights in the Source Code form from the rights set forth in this License. If You distribute the Covered Software in Executable form under a different license, You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.6. Larger Works.

You may create a Larger Work by combining Covered Software
with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Software.

4. Versions of the License.

4.1. New Versions.

Oracle is the initial license steward and may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Except as provided in Section 4.3, no one other than the license steward has the right to modify this License.

4.2. Effect of New Versions.

You may always continue to use, distribute or otherwise make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. If the Initial Developer includes a notice in the Original Software prohibiting it from being distributed or otherwise made available under any subsequent version of the License, You must distribute
and make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. Otherwise, You may also choose to use, distribute or otherwise make the Covered Software available under the terms of any subsequent version of the License published by the license steward.

4.3. Modified Versions.

When You are an Initial Developer and You want to create a new license for Your Original Software, You may create and use a modified version of this License if You: (a) rename the license and remove any references to the name of the license steward (except to note that the license differs from this License); and (b) otherwise make it clear that the license contains terms which differ from this License.

5. DISCLAIMER OF WARRANTY.

COVERED SOFTWARE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED

SOFTWARE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED SOFTWARE IS WITH YOU. SHOULD ANY COVERED SOFTWARE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED SOFTWARE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

6. TERMINATION.

6.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

6.2. If You assert a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the
Initial Developer or Contributor against whom You assert such claim is referred to as "Participant") alleging that the Participant Software (meaning the Contributor Version where the Participant is a Contributor or the Original Software where the Participant is the Initial Developer) directly or indirectly infringes any patent, then any and all rights granted directly or indirectly to You by such Participant, the Initial Developer (if the Initial Developer is not the Participant) and all Contributors under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively and automatically at the expiration of such 60 day notice period, unless if within such 60 day period You withdraw Your claim with respect to the Participant Software against such Participant either unilaterally or pursuant to a written agreement with Participant.

6.3. If You assert a patent infringement claim against Participant alleging that the Participant Software directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

6.4. In the event of termination under Sections 6.1 or 6.2 above, all end user licenses that have been validly granted by You or any distributor hereunder prior to termination (excluding licenses granted to You by any distributor) shall survive termination.

7. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED SOFTWARE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER
INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND

LIMITATION MAY NOT APPLY TO YOU.

8. U.S. GOVERNMENT END USERS.

The Covered Software is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" (as that term is defined at 48 C.F.R. ? 252.227-7014(a)(1)) and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4
(June 1995), all U.S. Government End Users acquire Covered Software with only those rights set forth herein. This U.S. Government Rights clause is in lieu of, and supersedes, any other FAR, DFAR, or other clause or provision that addresses Government rights in computer software under this License.

9. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by the law of the jurisdiction specified in a notice contained within the Original Software (except to the extent applicable law, if any, provides otherwise), excluding such jurisdiction's conflict-of-law provisions. Any litigation relating to this License shall be subject to the jurisdiction of the courts located in the jurisdiction and venue specified in a notice contained within the Original Software, with
the losing party responsible for costs, including, without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License. You agree that You alone are responsible for compliance with the United States export administration regulations (and the export control laws and regulation of any other countries) when You use, distribute or otherwise make available any Covered Software.

10. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein
is intended or shall be deemed to constitute any admission of liability.

---

NOTICE PURSUANT TO SECTION 9 OF THE COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)
The code released under the CDDL shall be governed by the laws of the State of California (excluding conflict-of-law provisions). Any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California and the state courts of the State of California, with venue lying in Santa Clara County, California.

The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc. 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended
to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities
for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish
to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such

program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee
is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify
your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these
conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to

exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source
code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable
runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative
works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not

responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of
this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free
software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software
Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision
will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE

STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

One line to give the program's name
and a brief idea of what it does.

Copyright (C)

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision
comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library,
you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

"CLASSPATH" EXCEPTION TO THE GPL VERSION 2

Certain source files distributed by Oracle are subject to the following clarification and special exception to the GPL Version 2, but only where Oracle has expressly included in the particular source file's header the words "Oracle designates this particular file as subject to the "Classpath" exception as provided by Oracle in the License file that accompanied this code."

Linking this library statically or dynamically with other modules is making a combined work based on this library. Thus, the terms and conditions of the GNU General Public License Version 2 cover the whole combination.

As a special exception, the copyright holders of this library give you permission to link this library with independent modules to produce an executable, regardless
of the license terms of these independent modules, and to copy and distribute the resulting executable under terms of your choice, provided that you also meet, for each linked independent module, the terms and conditions of the license of that module. An independent module is a module which is not derived from or based on this library. If you modify this library, you may extend this exception to your version of the library, but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version.
/*
* DO NOT ALTER OR REMOVE COPYRIGHT NOTICES OR THIS HEADER.
*
* Copyright (c) 2003-2017 Oracle and/or its affiliates. All rights reserved.
*
* The contents of this file are subject to the terms of either the GNU
* General Public License Version 2 only ("GPL") or the Common Development

* and Distribution License("CDDL") (collectively, the "License"). You
* may not use this file except in compliance with the License. You can
* obtain a copy of the License at
* https://oss.oracle.com/licenses/CDDL+GPL-1.1
* or LICENSE.txt. See the License for the specific
* language governing permissions and limitations under the License.
*
* When distributing the software, include this License Header Notice in each
* file and include the License file at LICENSE.txt.
*
* GPL Classpath Exception:
* Oracle designates this particular file as subject to the "Classpath"
* exception as provided by Oracle in the GPL Version 2 section of the License
* file that accompanied this code.
*
*
Modifications:
* If applicable, add the following below the License Header, with the fields
* enclosed by brackets [] replaced by your own identifying information:
* "Portions Copyright [year] [name of copyright owner]"
*
* Contributor(s):
* If you wish your version of this file to be governed by only the CDDL or
* only the GPL Version 2, indicate your decision by adding "[Contributor]
* elects to include this software in this distribution under the [CDDL or GPL
* Version 2] license." If you don't indicate a single choice of license, a
* recipient has the option to distribute your version of this file under
* either the CDDL, the GPL Version 2 or to extend the choice of license to
* its licensees as provided above. However, if you add GPL Version 2 code
* and therefore, elected the GPL Version 2 license, then the option applies
* only if the new code is made subject to such option by the copyright
* holder.
*/

# 1.451 activation-api 1.2.0

## 1.451.1 Available under license :

COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL) Version 1.1

1. Definitions.

1.1. "Contributor" means each individual or entity that creates or
contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original
Software, prior Modifications used by a Contributor (if any), and
the Modifications made by that particular Contributor.

1.3. "Covered Software" means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.

1.4. "Executable" means the Covered Software in any form other than Source Code.

1.5. "Initial Developer" means the individual or entity that first makes Original Software available under this License.

1.6. "Larger Work" means a work which combines Covered Software or portions thereof with code not governed by the terms of this License.

1.7. "License" means this document.

1.8. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means the Source Code and Executable form of any of the following:

A. Any file that results from an addition to, deletion from or modification of the contents of a file containing Original Software or previous Modifications;

B. Any new file that contains any part of the Original Software or previous Modification; or

C. Any new file that is contributed or otherwise made available under the terms of this License.

1.10. "Original Software" means the Source Code and Executable form of computer software code that is originally released under this License.

1.11. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation,
method, process,
and apparatus claims, in any patent Licensable by grantor.

1.12. "Source Code" means (a) the common form of computer software code in which modifications are made and (b) associated documentation included in or with such code.

1.13. "You" (or "Your") means an individual or a legal entity

exercising rights under, and complying with all of the terms of, this License. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants.

2.1. The Initial Developer Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, the Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or trademark) Licensable by Initial Developer, to use, reproduce, modify, display, perform, sublicense and distribute the Original Software (or portions thereof), with or without Modifications, and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using or selling of Original Software, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Software (or portions thereof).

(c) The licenses granted in Sections 2.1(a) and (b) are effective on the date Initial Developer first distributes or otherwise makes the Original Software available to a third party under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: (1) for code that You delete from the Original Software, or (2) for infringements caused by: (i) the modification of the Original Software, or (ii) the combination of the Original Software with other software or devices.

2.2. Contributor Grant.

Conditioned upon Your compliance with Section 3.1 below and subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

(a) under intellectual property rights (other than patent or

trademark) Licensable by Contributor to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof), either on an unmodified basis, with other Modifications, as Covered Software and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor
Version (or portions of such
combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: (1) Modifications made by that Contributor (or portions thereof); and (2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) The licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first distributes or otherwise makes the Modifications available to a third party.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: (1) for any code that Contributor has deleted from the Contributor Version; (2) for infringements caused by: (i) third party modifications of Contributor Version, or (ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or (3) under Patent Claims infringed by Covered Software
in the absence of
Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Availability of Source Code.

Any Covered Software that You distribute or otherwise make available in Executable form must also be made available in Source Code form and that Source Code form must be distributed only under the terms of this License. You must include a copy of this License with every copy of the Source Code form of the Covered Software You distribute or otherwise make available. You must inform recipients of any such Covered Software in Executable form as to how they can obtain such Covered Software in Source Code form in a reasonable manner on or through a medium customarily used for software exchange.

3.2. Modifications.

The Modifications that You create or to which You contribute are governed by the terms of this License. You represent that You

believe Your Modifications are Your original creation(s) and/or You have sufficient rights to grant the rights conveyed by this License.

3.3. Required Notices.

You must include a notice in each of Your Modifications that identifies You as the Contributor of the Modification. You may not remove or alter any copyright, patent or trademark notices contained within the Covered Software, or any notices of licensing or any descriptive text giving attribution to any Contributor or the Initial Developer.

3.4. Application of Additional Terms.

You may not offer or impose any terms on any Covered Software in Source Code form that alters or restricts the applicable version of this License or the recipients' rights hereunder. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, you may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.5. Distribution of Executable Versions.

You may distribute the Executable form of the Covered Software under the terms of this License or under the terms of a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable form does not attempt to limit or alter the recipient's rights in the Source Code form from the rights set forth in this License. If You distribute the Covered Software in Executable form under a different license, You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.6. Larger Works.

You may create a Larger Work by combining Covered Software with

other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Software.

4. Versions of the License.

4.1. New Versions.

Oracle is the initial license steward and may publish revised and/or new versions of this License from time to time. Each version will be given a distinguishing version number. Except as provided in Section 4.3, no one other than the license steward has the right to modify this License.

4.2. Effect of New Versions.

You may always continue to use, distribute or otherwise make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. If the Initial Developer includes a notice in the Original Software prohibiting it from being distributed or otherwise made available under any subsequent version of the License, You must distribute and make the Covered Software available under the terms of the version of the License under which You originally received the Covered Software. Otherwise, You may also choose to use, distribute or otherwise make the Covered Software available under the terms of any subsequent version of the License published by the license steward.

4.3. Modified Versions.

When You are an Initial Developer and You want to create a new license for Your Original Software, You may create and use a modified version of this License
if You: (a) rename the license and
remove any references to the name of the license steward (except to note that the license differs from this License); and (b) otherwise make it clear that the license contains terms which differ from this License.

5. DISCLAIMER OF WARRANTY.

COVERED SOFTWARE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED SOFTWARE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGING. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF

THE COVERED SOFTWARE IS WITH YOU. SHOULD ANY COVERED SOFTWARE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED SOFTWARE IS AUTHORIZED
HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

6. TERMINATION.

6.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

6.2. If You assert a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You assert such claim is referred to as "Participant") alleging that the Participant Software (meaning the Contributor Version where the Participant is a Contributor or the Original Software where the Participant is the Initial Developer) directly or indirectly infringes any patent, then any and all rights granted directly or indirectly to You by such Participant, the Initial Developer (if the
Initial Developer is not the Participant) and all Contributors under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively and automatically at the expiration of such 60 day notice period, unless if within such 60 day period You withdraw Your claim with respect to the Participant Software against such Participant either unilaterally or pursuant to a written agreement with Participant.

6.3. If You assert a patent infringement claim against Participant alleging that the Participant Software directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

6.4. In the event of termination
under Sections 6.1 or 6.2 above,
all end user licenses that have been validly granted by You or any distributor hereunder prior to termination (excluding licenses granted to You by any distributor) shall survive termination.

7. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED SOFTWARE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY
RESULTING FROM SUCH
PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

8. U.S. GOVERNMENT END USERS.

The Covered Software is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" (as that term is defined at 48 C.F.R. 252.227-7014(a)(1)) and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Software with only those rights set forth herein. This U.S. Government Rights clause is in lieu of, and supersedes, any other FAR, DFAR, or other clause or provision that addresses Government rights in computer

software under this License.

9. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by the law of the jurisdiction specified in a notice contained within the Original Software (except to the extent applicable law, if any, provides otherwise), excluding such jurisdiction's conflict-of-law provisions. Any litigation relating to this License shall be subject to the jurisdiction of the courts located in the jurisdiction and venue specified in a notice contained within the Original Software, with the losing party responsible for costs, including, without

limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License. You agree that You alone are responsible for compliance with the United States export administration regulations (and the export control laws and regulation of any other countries) when You use, distribute or otherwise make available any Covered Software.

10. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

---

NOTICE PURSUANT TO SECTION 9 OF THE COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL)

The code released under the CDDL shall be governed by the laws of the State of California (excluding conflict-of-law provisions). Any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California and the state courts of the State of California, with venue lying in Santa Clara County, California.

The GNU General Public License (GPL) Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor
Boston, MA 02110-1335
USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to

share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.
This General Public
License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute
copies of such a program, whether gratis
or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making
the program
proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this
License; they are outside its scope. The act of running
the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy
and distribute
such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice

that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in

accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs,
unless that component itself accompanies the
executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works.
These actions are
prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or

otherwise) that contradict the conditions of this License,
they do not
excuse you from the conditions of this License. If you cannot distribute
so as to satisfy simultaneously your obligations under this License and
any other pertinent obligations, then as a consequence you may not
distribute the Program at all. For example, if a patent license would
not permit royalty-free redistribution of the Program by all those who
receive copies directly or indirectly through you, then the only way you
could satisfy both it and this License would be to refrain entirely from
distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software
distribution system, which is implemented
by public license practices. Many people have made generous
contributions to the wide range of software distributed through that
system in reliance on consistent application of that system; it is up to
the author/donor to decide if he or she is willing to distribute
software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be
a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License may
add an explicit geographical distribution limitation excluding those
countries, so that distribution is permitted only in or among countries
not thus excluded. In such case, this License incorporates the
limitation as if written in the body of this License.

9. The Free Software Foundation
may publish revised and/or new
versions of the General Public License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and
conditions either of that version or of any later version published by

the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

One line to give the program's name and a brief
idea of what it does.
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1335 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version
69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type
`show w'. This is free software, and you are welcome to redistribute
it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the
appropriate parts of the General Public License. Of course, the commands
you use may be called something other than `show w' and `show c'; they
could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
program `Gnomovision' (which makes passes at compilers) written by
James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your

program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications
with the library. If this is what you want to do, use the GNU Library
General Public License instead of this License.

#

Certain source files distributed by Oracle America, Inc. and/or its
affiliates are subject to the following clarification and special
exception to the GPLv2, based on the GNU Project exception for its
Classpath libraries, known as the GNU Classpath Exception, but only
where Oracle has expressly included in the particular source file's
header the words "Oracle designates this particular file as subject to
the "Classpath" exception as provided by Oracle in the LICENSE file
that accompanied this code."

You should also note that Oracle includes multiple, independent
programs in this software package. Some of those programs are provided
under licenses deemed incompatible with the GPLv2 by the Free Software
Foundation and
others. For example, the package includes programs
licensed under the Apache License, Version 2.0. Such programs are
licensed to you under their original licenses.

Oracle facilitates your further distribution of this package by adding
the Classpath Exception to the necessary parts of its GPLv2 code, which
permits you to use that code in combination with other independent
modules not licensed under the GPLv2. However, note that this would
not permit you to commingle code under an incompatible license with
Oracle's GPLv2 licensed code by, for example, cutting and pasting such
code into a file also containing Oracle's GPLv2 licensed code and then
distributing the result. Additionally, if you were to remove the
Classpath Exception from any of the files to which it applies and
distribute the result, you would likely be required to license some or
all of the other code in that distribution under the GPLv2 as well, and
since the GPLv2 is incompatible with the license terms of some items
included
in the distribution by Oracle, removing the Classpath
Exception could therefore effectively compromise your ability to
further distribute the package.

Proceed with caution and we recommend that you obtain the advice of a
lawyer skilled in open source matters before removing the Classpath
Exception or making modifications to this package which may
subsequently be redistributed and/or involve the use of third party
software.

CLASSPATH EXCEPTION
Linking this library statically or dynamically with other modules is
making a combined work based on this library.  Thus, the terms and
conditions of the GNU General Public License version 2 cover the whole
combination.

As a special exception, the copyright holders of this library give you
permission to link this library with independent modules to produce an
executable, regardless of the license terms of these independent
modules, and to copy and distribute the resulting executable under
terms of your choice, provided that you also meet,
 for each linked
independent module, the terms and conditions of the license of that
module.  An independent module is a module which is not derived from or
based on this library.  If you modify this library, you may extend this
exception to your version of the library, but you are not obligated to
do so.  If you do not wish to do so, delete this exception statement
from your version.

# 1.452 objenesis 3.2

## 1.452.1 Available under license :

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction,
and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by
the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all
other entities that control, are controlled by, or are under common
control with that entity. For the purposes of this definition,
"control" means (i) the power, direct or indirect, to cause the
direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the
outstanding shares, or (iii) beneficial ownership
of such entity.

"You" (or "Your") shall mean an individual or Legal Entity

exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial
revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the

Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this
License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding
those notices that do not
pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents

of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions

for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the
content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct,
indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,

work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

# 1.453 activation-api 1.2.2

## 1.453.1 Available under license :

Copyright (c) 2018 Oracle and/or its affiliates. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- Neither the name of the Eclipse Foundation, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Eclipse Distribution License - v 1.0
Copyright (c) 2007, Eclipse Foundation, Inc. and its licensors.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
Neither the name of the Eclipse Foundation, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR

PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
# Notices for Jakarta Activation

This content is produced and maintained by Jakarta Activation project.

* Project home: https://projects.eclipse.org/projects/ee4j.jaf

## Copyright

All content is the property of the respective authors or their employers. For
more information regarding authorship of content, please consult the listed
source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms
of the Eclipse Distribution License v. 1.0,
which is available at http://www.eclipse.org/org/documents/edl-v10.php.

SPDX-License-Identifier: BSD-3-Clause

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jaf

## Third-party Content

This project leverages the following third party content.

JUnit (4.12)

* License: Eclipse Public License

# 1.454 jsr305 3.0.2

## 1.454.1 Available under license :

No license file was found, but licenses were detected in source scan.

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

```
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
 <modelVersion>4.0.0</modelVersion>
 <parent>
  <groupId>org.sonatype.oss</groupId>
  <artifactId>oss-parent</artifactId>
  <version>7</version>
  <relativePath />
 </parent>

 <groupId>com.google.code.findbugs</groupId>
 <artifactId>jsr305</artifactId>
 <version>3.0.2</version>
 <packaging>jar</packaging>

 <url>http://findbugs.sourceforge.net/</url>
 <name>FindBugs-jsr305</name>
 <description>JSR305 Annotations for Findbugs</description>
 <licenses>
  <license>
   <name>The Apache Software License, Version 2.0</name>
   <url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
   <distribution>repo</distribution>
  </license>
 </licenses>

 <prerequisites>
  <maven>3.0</maven>
 </prerequisites>

 <scm>
  <connection>scm:git:https://code.google.com/p/jsr-305/</connection>
  <developerConnection>scm:git:https://code.google.com/p/jsr-305/</developerConnection>
  <url>https://code.google.com/p/jsr-305/</url>
 </scm>

 <build>
  <plugins>
   <plugin>
    <groupId>org.apache.maven.plugins</groupId>
    <artifactId>maven-javadoc-plugin</artifactId>
    <version>2.9.1</version>
    <executions>
     <execution>
      <phase>package</phase>
      <goals>
       <goal>jar</goal>
      </goals>
      <configuration>
```

```
    <quiet>true</quiet>
   </configuration>
  </execution>
 </executions>
</plugin>
<plugin>
 <groupId>org.apache.maven.plugins</groupId>
 <artifactId>maven-compiler-plugin</artifactId>
 <version>3.0</version>
 <configuration>
  <source>1.5</source>
  <target>1.5</target>
 </configuration>
</plugin>
<plugin>
 <groupId>org.apache.maven.plugins</groupId>
<artifactId>maven-source-plugin</artifactId>
<version>2.4</version>
<executions>
 <execution>
  <id>attach-sources</id>
  <goals>
   <goal>jar-no-fork</goal>
  </goals>
 </execution>
</executions>
</plugin>
<plugin>
<groupId>org.apache.felix</groupId>
<artifactId>maven-bundle-plugin</artifactId>
<version>2.4.0</version>
<extensions>true</extensions>
<executions>
 <execution>
  <id>bundle-manifest</id>
  <phase>process-classes</phase>
  <goals>
   <goal>manifest</goal>
  </goals>
 </execution>
</executions>
<configuration>
 <instructions>
  <Bundle-SymbolicName>org.jsr-305</Bundle-SymbolicName>
  <Bundle-Name>${project.name}</Bundle-Name>
  <Export-Package>javax.annotation;javax.annotation.concurrent;javax.annotation.meta</Export-Package>
  </instructions>
</configuration>
```

```
    </plugin>
    <plugin>
     <groupId>org.apache.maven.plugins</groupId>
     <artifactId>maven-jar-plugin</artifactId>
     <version>2.4</version>
     <configuration>
      <archive>
       <manifestFile>${project.build.outputDirectory}/META-INF/MANIFEST.MF</manifestFile>
      </archive>
     </configuration>
    </plugin>
    <plugin>
     <groupId>org.sonatype.plugins</groupId>
     <artifactId>nexus-staging-maven-plugin</artifactId>
     <version>1.6.3</version>
     <extensions>true</extensions>
     <configuration>
      <serverId>ossrh</serverId>
      <nexusUrl>https://oss.sonatype.org/</nexusUrl>
      <autoReleaseAfterClose>true</autoReleaseAfterClose>
     </configuration>
    </plugin>
    <plugin>
     <groupId>org.apache.maven.plugins</groupId>
     <artifactId>maven-gpg-plugin</artifactId>
     <version>1.5</version>
     <executions>
      <execution>
       <id>sign-artifacts</id>
       <phase>verify</phase>
       <goals>
        <goal>sign</goal>
       </goals>
      </execution>
     </executions>
    </plugin>
   </plugins>
 </build>
</project>
```

Found in path(s):
* /jsr305-3-0-2-14-jar/META-INF/maven/com.google.code.findbugs/jsr305/pom.xml
No license file was found, but licenses were detected in source scan.

```
Manifest-Version: 1.0
Bundle-Description: JSR305 Annotations for Findbugs
Bundle-License: http://www.apache.org/licenses/LICENSE-2.0.txt
Bundle-SymbolicName: org.jsr-305
```

Archiver-Version: Plexus Archiver
Built-By: lan
Bnd-LastModified: 1490936130302
Bundle-ManifestVersion: 2
Tool: Bnd-2.1.0.20130426-122213
Export-Package: javax.annotation;uses:="javax.annotation.meta";version
="3.0.2",javax.annotation.concurrent;version="3.0.2",javax.annotation
.meta;uses:="javax.annotation";version="3.0.2"
Bundle-Name: FindBugs-jsr305
Bundle-Version: 3.0.2
Created-By: Apache Maven Bundle Plugin
Build-Jdk: 1.8.0_101

Found in path(s):
* /jsr305-3-0-2-14-jar/META-INF/MANIFEST.MF

# 1.455 activation 1.2.2

## 1.455.1 Available under license :

Copyright (c) 2018 Oracle and/or its affiliates. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

- Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

- Neither the name of the Eclipse Foundation, Inc. nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS
IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO,
THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING

NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

# Notices for Jakarta Activation

This content is produced and maintained by Jakarta Activation project.

* Project home: https://projects.eclipse.org/projects/ee4j.jaf

## Copyright

All content is the property of the respective authors or their employers. For more information regarding authorship of content, please consult the listed source code repository logs.

## Declared Project Licenses

This program and the accompanying materials are made available under the terms of the Eclipse Distribution License v. 1.0,
which is available at http://www.eclipse.org/org/documents/edl-v10.php.

SPDX-License-Identifier: BSD-3-Clause

## Source Code

The project maintains the following source code repositories:

* https://github.com/eclipse-ee4j/jaf

## Third-party Content

This project leverages the following third party content.

JUnit (4.12)

* License: Eclipse Public License

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries.To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

©2025 Cisco Systems, Inc. All rights reserved.